Seismic Data Processing Report

Carried out by: **CGGVeritas**

For: ***Origin Energy***

Area: ***Block T/44P, Offshore Tasmania***
Central Bass Strait, Australia

Survey: ***Silvereye 3D Marine***

Method: ***3D Pre-Stack Time Migration Processing***

Date: ***February 2008 – August 2008***

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Table of Contents

TABLE OF CONTENTS II

1. INTRODUCTION 1

1.1. Scope of Report 1
1.2. Purpose and Objectives of Processing 1
1.3. Location Map 2

2. DATA ACQUISITION 4

2.1. Data Acquisition Parameters 4
2.2. Processing Parameters 5

3. PROCESSING SEQUENCE 6

3.1. Final Processing Sequence 6

4. PROCESSING AND PARAMETER TESTING 8

4.1. Processing Parameters 8

5. CONCLUSIONS & FURTHER WORK 19

APPENDICES 20

5.1. List of Lines Processed 20
5.2. Processing Details 22
5.2.1. Silvereye 3D Processing Grid *22*
5.2.2. Silvereye 3D Processing Polygon *23*
5.3. Processing Personnel 23
5.4. Final Processing Deliverables 24
5.5. SEGY Definition 25

1. Introduction

1.1. Scope of Report

This report describes the seismic data processing of the Silvereye 3D marine dataset for Origin Energy. This dataset lies within block T/44P, offshore Tasmania, Central Bass Strait, Australia. The processing volume is 320km^2.

The processing is covered by contract number P.O.6174 and registered under CGGVeritas crew number 501p1et.

This report contains links to technical notes containing details of testing, QCs and images, and links to the appendices. These are available automatically in the electronic format of the report.

1.2. Purpose and Objectives of Processing

The key objectives of the processing project were as follows:

- Optimise resolution within the EVCM (Eastern View Coal Measures) reservoir unit as well as optimising resolution of the large and small scale faults
- Optimum multiple attenuation; multiples caused by numerous coal/sand and volcanic/shale interfaces
- Improve S/N; signal attenuation and imaging problems are caused by the presence of volcanics (laccoliths, dykes and sills) and thick coal sequences throughout the Bass Basin
- Basement horizon definition
- Amplitude preservation for identification of Direct Hydrocarbon Indicators

More information on processing objectives can be found in
ORIGIN_BASS_StartUp_3D_Silvereye

1.3. Location Map

The survey area was situated in block T/44P approximately half way between the mainland and Tasmania in the Central Bass Strait. The water depth varied from around 50m to 70m. The figure below shows the location of the Silvereye 3D survey.

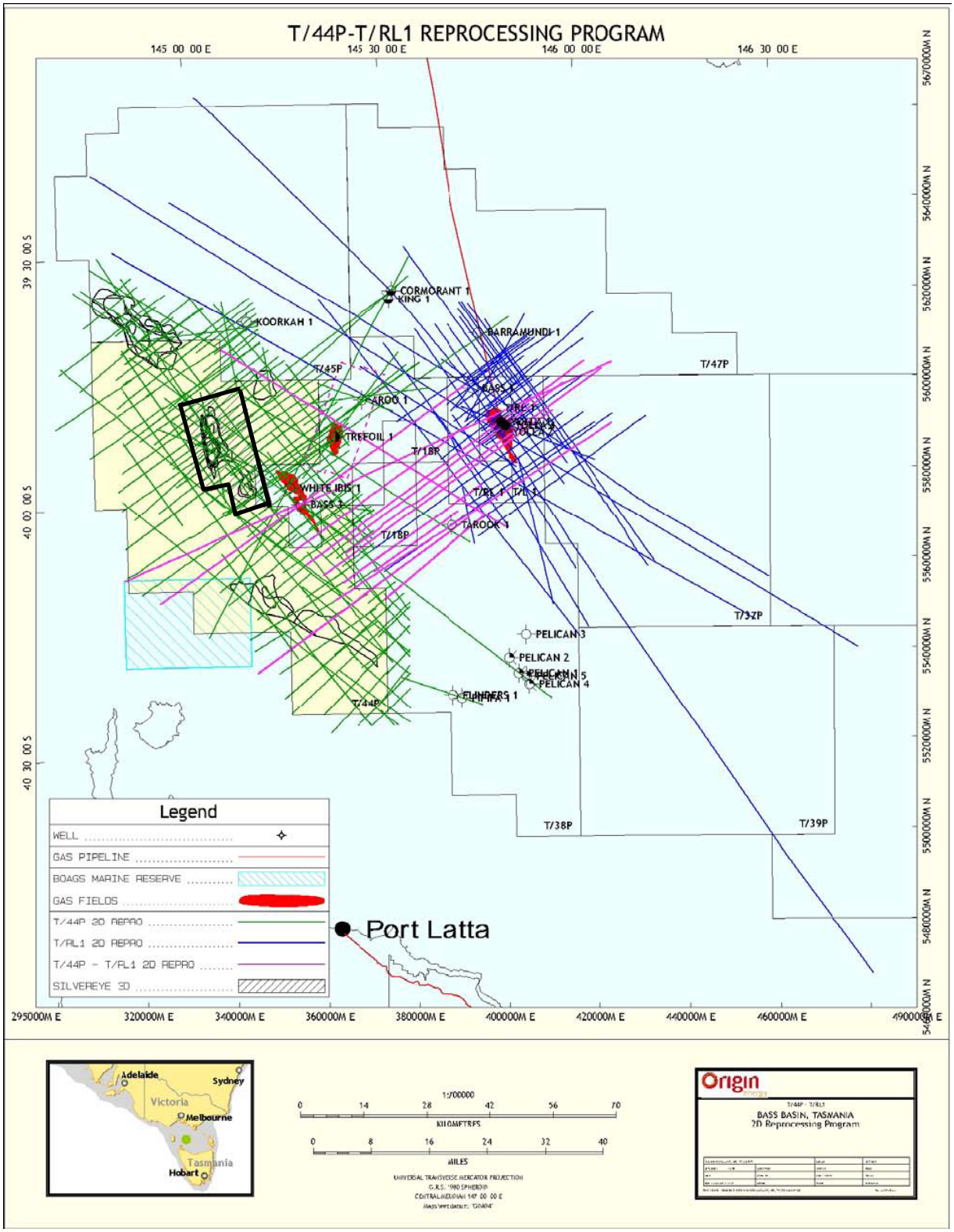


Figure 1: Survey location map (survey boundary in thick black lines)

The figure below shows the Silvereye 3D survey area to be processed.

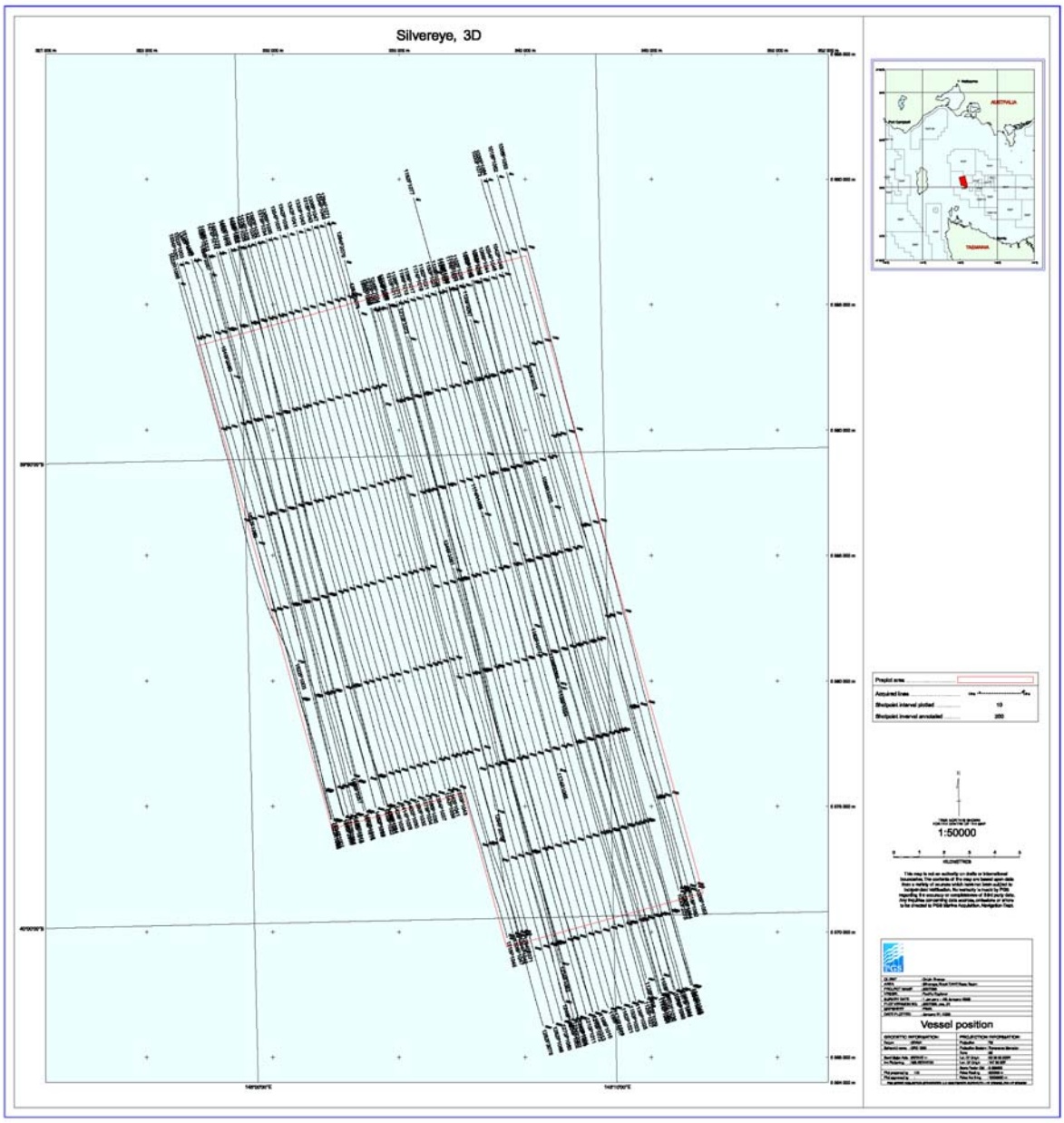


Figure 2: Post plotted vessel positions

2. Data Acquisition

2.1. Data Acquisition Parameters

The data were acquired in January 2008 by the PGS M/V Pacific Explorer. The following table summarises the parameters used in the acquisition.

Country of Survey	Australia
Area of Survey	Central Bass Strait
Block/Tenement	T/44P
Survey Name	Silvereye 3D Marine
Data Type	Marine 3D
Volume	320km ^{2}
Acquisition Record Length	6144ms
Acquisition Sample Interval	2ms
Acquisition Filter Applied	4.6Hz @ 6dB/oct – 206Hz @ 215.2dB/oct
No. of Source Arrays	Dual array, flip-flop configuration
Source Separation	50m
Shot Interval	18.75m (flip-flop)
Source Volume	3090 cu. in.
Source Pressure	2000 psi
Source Depth	6m ±1m
Streamer Separation	100m
Streamer Length	6000m
No. Streamers	6
Channel Interval	12.5m
No. Channels	480
Streamer Depth	7m ±1m (in bad weather down to 9m ±1m)
2D Inline Near Offset	120m
Crossline Interval	6.25m
Inline Interval	25m
Acquisition Sequence Nos	1 to 79
Acquisition Heading	165º / 345º
Nominal Fold Coverage	80
Digital Filter Delay	58ms

Table 1: Data acquisition parameters

2.2. Processing Parameters

The following table lists the parameters used in the processing:

Processing Record Length	6000ms
Processing Sample Interval	2ms
Grid Size (CDP x IL)	12.5m x 25m
Polarity	Increase in seismic impedance = positive value
Geodetic Information	
Projection	UTM Zone 55 (South)
Survey Datum	GDA94
Ellipsoid	GRS1980
Semi Major Axis	6378137m
1/Flattening	298.257222101
Central Meridian	147º East
Latitude of Origin	0º
Scale Factor	0.9996
False Easting	500,000m
False Northing	10,000,000m

Table 2: Data processing parameters

3. Processing Sequence

3.1. Final Processing Sequence

1. Navigation reformat
2. Reformat seismic data from SEGD to CGGV internal format
3. Seismic and navigation data merge
4. Instrument delay +58ms
5. Cut data record length to 6000ms
6. Maintain a sample of 2ms (with anti-alias filter applied)
7. Amplitude recovery, multiply amplitudes by $(T/250)^2$
8. De-bias and Low Cut Filter: 3Hz
9. Apply shot and trace edits from the observers logs
10. Swell Noise Attenuation in SP domain followed by channel domain
11. Linear Radon
    a. start time 2600ms and 600ms taper (inner cables)
    b. start time 1600ms and 600ms taper (outer cables)
12. DBS and LNA in Tau-P domain
    a. Gap: 48ms, Op: 300ms, Window: 0-2200ms
13. K-notch Filter
14. SRME, subtraction in CDP domain
15. 1st pass velocity analysis - lines 2km apart
16. Trace drop (with anti-alias filter)
17. Time variant Hi-Res Radon de-multiple (with wrap around trace interpolation)
18. Targeted source and channel amplitude correction
19. Gun and cable static corrections (including spectral correction for cable depth ghost)
20. Tidal static Corrections
21. Zero Phase + Spectral Amplitude
    a. 3Hz 18db/Oct, 110Hz 100dB/Oct
22. Q Comp, phase only Q140
23. T/V High Cut Filter
    a. 0-2000ms: 150Hz, 110dB/Oct
    b. 2500-6000ms: 120Hz,100dB/Oct
24. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
25. 3D binning, regularization and missing trace restoration
26. Back off T2 spherical divergence and replace with TV
27. Production Kirchhoff PSTM using smoothed 2nd pass velocities:

   a. Input/output grid size 12.5m x 25m at 2ms
   b. 4km aperture
   c. 75° dip limit, using Ray-trace parameter
   d. 6km maximum migration depth

28. High density RMO on 25m x 25m grid
29. Amplitude Q compensation, time variant Q
   a. 16dB gain limited
   b. 0-800ms Q=200
   c. 1000-6000ms Q=140
30. Exponential gain: 1dB/sec
31. Time variant residual Radon demultiple
   a. 0-1400ms, DTCUT 320ms
   b. 2000-6000ms, DTCUT 240ms
32. Linear Radon on Offset Classes 50-80 only, application time 2000ms-4000ms
33. Angle mutes
   a. Full Stack: 6-32º
   b. Near Stack: 6-16º
   c. Mid Stack: 16-26º
   d. Far Stack: 26-36º
34. Stack

4. Processing and Parameter Testing

The following section describes the tests conducted and each processing stage applied to the Silvereye 3D data. Technical notes with detailed test results for each processing step were provided to Origin throughout the project; these are included in this report as hyperlinks.

The following two test lines were selected due to variable weather conditions:

- sail line 1342, seq. no. 039 – good conditions test line, streamers at 7m
- sail line 1234, seq. no. 007 – bad conditions test line, streamers at 9m, 3-5m swell

The majority of pre-processing tests were carried out on these two test lines. Where necessary, testing was carried out on other sail lines, or 3D ILs and XLs, depending on the step being tested and specific structures and characteristics.

4.1. Processing Parameters

- **REFORMAT AND SEISMIC/NAVIGATION MERGE**

The SEG-D field seismic data and raw navigation data in NAV-P1 format were reformatted to CGGVeritas' internal format. The seismic and navigation data were merged for each sail line by synchronizing common header information from both datasets.

- **DATA SAMPLE INTERVAL**

The sample interval was maintained at 2ms, with the application of the following high cut anti alias filter: 206Hz @ 215.2dB/oct.

See Technote2_Resampling for re-sampling testing.

The data record length was cut to 6000ms as part of the contract requirement.

A correction of +58ms was applied to the dataset to compensate for the digital filter delay in the recording system.

- **TRUE AMPLITUDE RECOVERY**

An initial reversible spherical divergence correction was performed to compensate for the effects of geometrical spreading. In this case, compensation was performed on non-NMO corrected data. Each sample was multiplied by $(T/250)^2$ where T = time of sample.

- **DE-BIAS & LOW CUT FILTERING**

The raw Silvereye 3D field data demonstrates a DC-bias effect, which can be described as noise. This noise should be removed as soon as possible within the processing sequence to improve the S/N ratio and allow any future noise attenuation programs to be

more effective. This can be carried out by re-centering each trace around zero amplitude (de-bias), or by the application of a low cut filter, or through a combination of both.

See Technote1_LC-Debias for testing details.

The following was applied to remove the DC-bias and low frequency noise:

De-bias + Butterworth Low cut filter of 3Hz/18dB

See QC1_Reformat_NTC for QCs from the data reformat and near trace cube.

- **TRACE EDITS**

Shot, trace and channel edits were carried out as indicated in the observer's reports.

- **SWELL NOISE ATTENUATION**

CGGVeritas swell noise attenuation process (SPARC) relies on the differentiation between predictable and unpredictable signal, allowing attenuation of random noise as un-predictable signal while maintaining predictable signal such as reflections, diffractions and multiple.

Swell noise is also seen to have characteristic frequency content. From this, random noise attenuation can be designed to have stronger application in different frequency bands. To do this we define an energy threshold parameter which analyses the ratio between a trace's energy and an average value. From this, impulsive noise can be identified.

The data was split in to six frequency bands (0-5, 5-10, 10-20, 20-30, 30-40, 40-60 Hz) and a different set of parameters was then applied to each band. The main focus was on the two lowest bands, 0-5 and 5-10Hz, as this is where the majority of the swell noise lies. The sorting of the input data was also found to have a large impact on the efficiency of the swell noise attenuation process, with shot points sorted back to back being the optimum domain. The process was first applied in the SP domain and then a second pass was applied to common receivers, with both passes using the same parameters.

After swell noise attenuation, a number of different processing flows were tested to determine the order of application of SRME, Tau-P DBS and Linear Noise Attenuation in the Tau-P domain. It was found that applying the DBS and Linear Noise Attenuation within the same Tau-P transform, before the SRME, gave the best result. The chosen production flow is detailed in the sections below. See the following for testing details:

Technote3_SRME_FLOW
Technote3_SRME_FLOW_add
Technote3_SRME_FLOW_add2
Technote3_SRME_FLOW_add3 – 2ms vs. 4ms tests
Technote3_SRME_FLOW_add4_rev
Technote3_SRME_FLOW_add5
Technote3_SRME_FLOW_add6
Technote3_SRME_FLOW_add7

- **LINEAR RADON**

During testing, an initial linear noise attenuation process, carried out through the application of a linear radon transform was found to be necessary. Linear Radon was applied in the deeper section only, before the Tau-P transform, to reduce low freq noise in the near offset.

Linear Radon

- ***Inner cables - start time 2600ms and 600ms taper***
- ***Outer cables - start time 1600ms and 600ms taper***
- ***Signal is preserved between DTMIN = -1000ms and DTCUT = 700ms***
- ***Linear noise is removed between DTCUT = 700ms and DTMAX = 6200ms***

- **PREDICTIVE DECONVOLUTION AND LINEAR NOISE ATTENUATION IN TAU-P DOMAIN**

Three different types of Tau-P mute were tested, mild, medium and strong and the medium mute was chosen. The mute with and without water bottom protection were tested. In the deeper dataset, no water bottom protection gave a better image.

The following parameters were used:

Tau-P Transform

- ***Record Length extended to 12000ms prior to transform***
- ***1500 p traces***
- ***Pmin = -999000 equivalent slowness of -3000m/s***
- ***Pmax = +666000 equivalent slowness of 1500m/s (water)***

Mute defined by value of p-offset:

For positive p-offset values:

Time	*P Trace Offset*
T0	*+666000,*
T54	*+663574,*
T100	*+588361,*
T200	*+467000,*
T300	*+408820,*
T400	*+379705,*
T565	*+355443,*
T1099	*+343311,*
T2142	*+333607,*
T3797	*+319049,*
T4947	*+292361,*
T5495	*+217148,*
T6000	*+132229,*
T11200	*+120000,*

For negative p-offset values:

Time	*P Trace Offset*
T14	*-999000,*
T34	*-666000,*
T304	*-459771,*
T910	*-343312,*
T1360	*-302066,*

T2054	***-272951,***
T3296	***-246262,***
T3959	***-238984,***
T5858	***-224426,***
T7000	***-222000,***
T11200	***-207443,***

Mute without water bottom protection

The first pass of multiple attenuation, to target short/medium period multiples, was performed by predictive deconvolution applied in the τ-p domain. For τ-p deconvolution, multiples are periodic over P traces, allowing for a deconvolution operator varying with P traces. CGGVeritas' predictive deconvolution module performs a time variant predictive deconvolution and uses gapped operators, which consist of one impulse at time zero, followed by a series of zeroes (Gap) and an active operator length.

The following parameters were used:

Predictive Deconvolution

- ***Gap = 48ms***
- ***Active Operator Length = 300ms***
- ***Design Window = 0-2200ms***

- **K-NOTCH FILTER**

A K-notch filter was used to attenuate aliasing on the far offsets. It gave the best result when applied after the Tau-P transform.

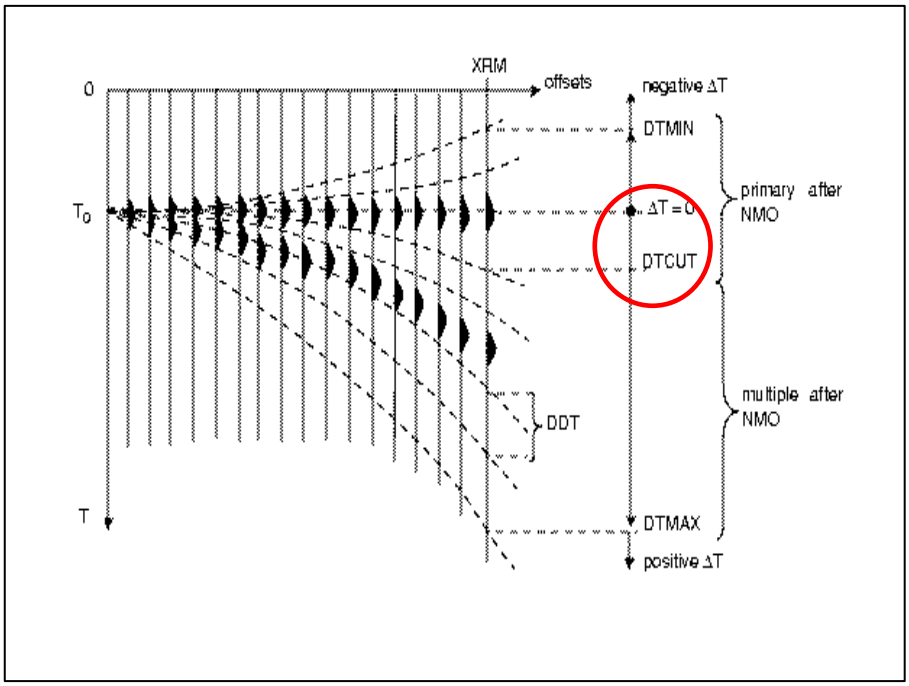
- **2D SURFACE RELATED MULTIPLE ELIMINATION**

The second step in the demultiple process of this data set was a two phase 2D surface related multiple attenuation process. First, the modelling of multiples is performed in the CDP (2D) domain. Second is the subtraction of multiples previously modelled. The subtraction is of least square type, performing a least square fit between data and modelled multiples prior to subtraction. No signal pattern recognition techniques to discriminate real and multiple events prior to subtraction are performed.

See QC2_PROD1 for QCs of the production string from swell noise attenuation through to SRME.

- **HIGH RESOLUTION RADON DEMULTIPLE**

The accompanying diagram shows the principle parameters tested for HR RADON de-multiple. For the CGGVeritas Hi-Resolution RADON module, RAMUR, data is transformed into the "Radon" domain along "p" curves at DDT intervals. Data outside DTMAX to DTMIN boundaries will not be transformed into the "Radon" space. The DTCUT parameter defines the primary model. The diagram shows multiple and primary events after NMO correction.



In this process the accuracy of the velocity field to flatten the real event is important. Prior to the Radon demultiple, a velocity field on lines 2km apart was manually picked by CGGVeritas and QC'd by Origin.

Several DTCUT parameters were tested in order to best remove the multiples without attenuating real events. Radon was also tested with and without interpolation beforehand. See the following for testing:

Technote4_RADON
Technote4_RADON_add1

Prior to Radon was a trace drop from 6.25m to 12.5m CDP spacing, as stipulated in the contract. An FK anti-alias filter was applied from time zero.

Time Variant High Resolution Radon Demultiple

- ***Mild stretch mute applied***
- ***Wrap around trace interpolation in receiver domain to double fold of 2D CDPs***
- ***Values defined at far offset TWT for NMO corrected data:***

  DTMIN = -480ms
  DTMAX = 4000ms
  DDT = 16ms
  DTCUT = 300ms between 600ms & 900ms + 400ms taper
  DTCUT = 240ms between 1400ms & 6000ms + 400ms taper

See QC3_HI-RES_RADON for QCs of the production Hi-Res Radon demultiple, compared with the previous processing step, SRME.

- **TARGETED SOURCE AND CHANNEL AMPLITUDE CORRECTION**

Targeted source and channel amplitude corrections were applied selected window at time 900ms-2000ms.

See Technote7_SourceCH_GainCorr
Technote7_SourceCH_GainCorr_add1
Technote7_SourceCH_GainCorr_add2

The gun and cable static corrections were applied at this point; gun correction of 6m and cable corrections of 7m, 8m and 9m.

- **TIDAL STATIC CORRECTION**

Origin provided CGGVeritas with the Mean Indian Spring Water tidal statics. In order to correct the data to Mean Sea Level, Origin approved the use of the averaged Mean Indian Spring Water tidal static to produce an estimate of Mean Sea Level.

See Technote6_TIDALSTATIC

- **ZERO-PHASE FILTER DERIVATION, SPECTRAL CORRECTION, Q COMPENSATION**

Zero phasing was performed deterministically from the supplied far field signature. The testing took into account the varied cable depths (due to bad swell noise). The following show the processes used to derive and test the zero phase and spectral correction filters, and test Q compensation:

Technote5_ZP
Technote5_ZP_add1
Technote5_ZP_add2
Technote5_ZP_add3_rev
Technote5_ZP_add4
Technote5_ZP_add5

The following zero phase and spectral amplitude filters were applied, taking into account cable depths of 7m, 8m and 9m:

3Hz 18db/Oct, 110Hz 100dB/Oct

The following Q compensation was applied:

Phase only Q140

The following time variant high cut filter was tested and applied:

0-2000ms = 150Hz, 110dB/Oct
2500-6000ms = 120Hz,100dB/Oct

See QC4_ZP_Q for QCs of the production to this point.

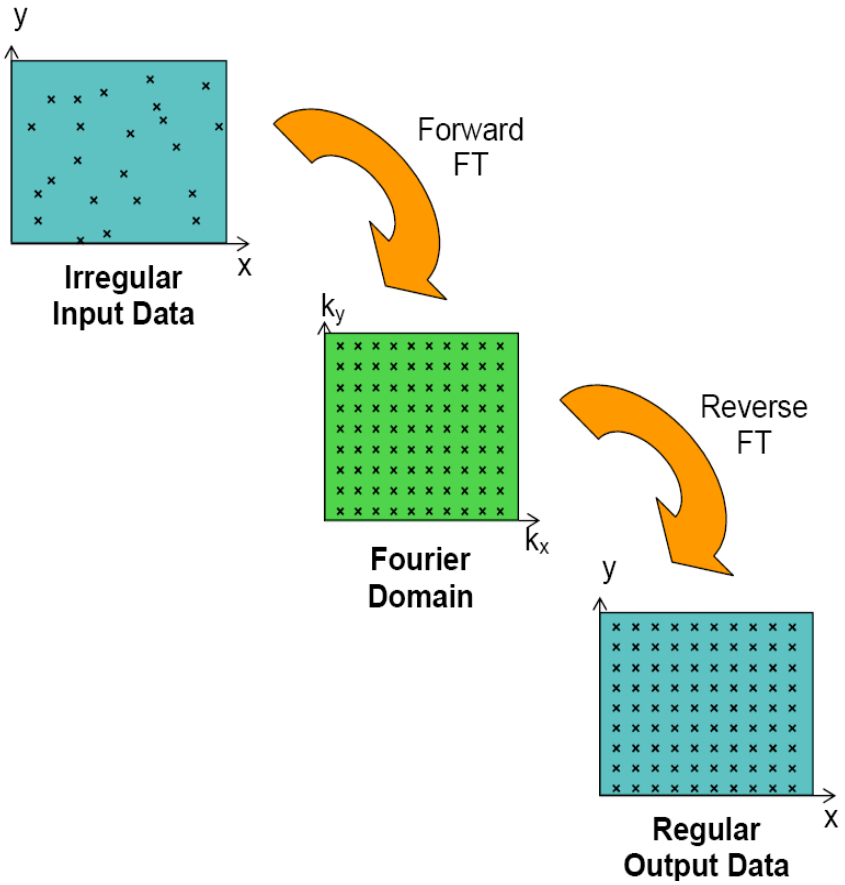
- **3D BINNING AND REGULARISATION**

3D seismic data is inconsistent across the volume within three domains:

- Midpoint – the midpoint of seismic traces do not fall exactly on bin centre
- Offset – the offset is not identical for all traces in an offset class
- Azimuth – the azimuth is not consistent across the survey

All three domains affect the timing and amplitude of events and produce non-orthogonal patterns within the data. Kirchhoff migration algorithms can struggle with non-consistent operators produced with inconsistencies within the data, leaving migration smiles. Bin centring in the offset domain can help to reduce migration artefacts, giving a cleaner result.

This process was performed using CGGVeritas' "REG3D" program. This program performs the regularisation of data along two directions using Fourier Reconstruction. The input data are transformed using an irregular 2D Fourier decomposition that respects the input data positions. The reverse transform maps the data to a regular grid.



See Technote8_REG_MIG for binning and regularisation tests, followed by PreSTM tests.

Binning and Regularisation

- ***Input grid = 12.5m x 25m***
- ***Output grid = 12.5m x 25m***
- ***Anti-alias filter 1.2***
- ***Missing trace restoration***
- ***Bin centring in both the inline and crossline directions***

- **PSTM VELOCITY ANALYSIS**

A 3D Kirchhoff PSTM was run on a 1km x 1km grid. This was used as the input to the V2 velocity analysis, which was manually picked by CGGVeritas and QC'd by Origin.

- **FULL KIRCHHOFF PRSTM**

Prior to the final pre-stack time migration, the $(T/250)^2$ spherical divergence was backed off and replaced with a TV spherical divergence correction, using the V2 velocity and an offset term.

The production pre-stack time migration was performed with full Kirchhoff migration using CGGVeritas' module TIKIM. The Kirchhoff pre-stack time migration treats each output sample as the apex of a diffraction curve. Input samples are summed along the diffraction curve, which is characterised by a locally defined RMS velocity. The reflector image is thus built by constructive interference.

The main parameters tested for this process were the aperture length and the imaging dip limit. For the aperture length 3.5, 4, 4.5, 5 and 6km half lengths were compared, with a 4km half aperture chosen as being suitable for this dataset. Dip limits of 60, 70, 75, 80 and 90 degrees were compared, with the 75 degree dip limit being the most appropriate, allowing sufficient imaging without introducing noise to the shallow section. A random noise attenuation in the offset domain prior to migration was tested, but was found not to have a significant uplift on this dataset. A time variant smoothing of the input V2 velocity field was tested and gave a better imaging result.

See the following for testing details:
Technote9_PSTM
Technote9_PSTM_add1
Technote9_PSTM_add2
Technote9_PSTM_add3
Technote9_PSTM_add4
Technote9_PSTM_add5

Pre-Stack Time Migration

- ***Input grid: 12.5m x 25m***
- ***Output grid: 12.5m x 25m***
- ***Record Length: 6000ms***
- ***Sample interval: 2ms***
- ***Half Aperture Length: 4km***
- ***Dip Limit: 75°***
- ***Raytrace parameter***
- ***Input smooth V2 velocity: smoothing T0-3sec = 1.25km, T3-6sec = 1.5km***

See Technote9_PSTMQC for QCs of the full PSTM.

- **RESIDUAL VELOCITY ANALYSIS ON A 25 X 25M GRID**

A high density residual velocity analysis was performed to correct for the remaining move-out, using CGGVeritas' automatic bispectral picking program, HDPIC4. HDPIC4 generates volumes of rms velocity and anelliptical (ETA) moveout parameters, which performs an anisotropic velocity update.

A reference velocity field, along with user defined maximum and minimum values of velocity and anellipticity, are used to define the 3D picking corridor used by HDPIC4. In this case the smoothed V2 velocity field was used as the reference field.

The primary criteria used for residual velocity analysis testing is gather flatness and therefore stack response. Any erroneous picks are removed and the raw VRMS and ETA fields generated by HDPIC4 are filtered using geostatistical methods to define a smoother VRMS and ETA field.

See Technote11_HDPIC for initial testing.

After the initial tests, there was evidence that more tests were needed. The next tests were designed step by step, with the decision taken on the best parameters at each step, before moving onto the next step. CDPs, Normal Stacks (6-32 degrees) and Far Angle Stacks (30-45 degrees) were chosen to view the different effects at each step. The decisions for every step were based on the Far Angle Stacks.

The first step tested was to get a reasonable result for filtering DN and T0 with input of the test 48 degrees pre HDPIC and velocity scan 11% in the target zone. Four different filters were tested: 125m, 250m, 500m and 1000m. The 500m filter was chosen for the next step.

The second step tested was to get the correct mute definition as pre condition of HDPIC. Parameters used for this test were, filter DN, T0, 500ms and corridor of velocity scan 11% in target zone. Three different mutes were tested: 48, 42 and 36 degrees. A 36 degree mute was chosen.

The third step tested was to get the best percentage of corridor velocity scan. Five different velocity scan were tested, 2%, 4%, 6%, 8% and 11%. 6% corridor of velocity scan was chosen.

The last step was to apply all the chosen parameters to get the best HDPIC result.

See step by step HDPIC testing in Technote11_HDPIC_add1.

Residual Move-Out Correction parameters

- ***Pre conditioning mute pre-HDPIC: 36 Degrees***
- ***Corridor velocity scan: 6%***
- ***VRMS and ETA Filter: 500m***
- ***Fields output on 25 x 25m grid***

- **Q COMPENSATION – AMPLITUDE ONLY**

Typically, in recorded seismic data, we observe an increasing loss of amplitude and phase distortion of the wavelet with time. This amplitude distortion is due to a frequency dependent attenuation while the phase distortion is due to dispersion, which is the variation of the seismic velocity in fluid filled rocks as a function of frequency. The frequency dependence of dispersion is exponential, where the higher frequency components travel more quickly than the low frequency ones. Various Q values were tested along with different gain limits. A time variant amplitude only Q was applied because a phase only Q correction had already been applied prior to migration.

See Technote12_QCOMP

Amplitude only Q Compensation
- ***Amplitude only, gain limited to 16dB***
- ***Time variant Q: T0-800ms Q=200; T1000-6000ms Q=140***

- **EXPONENTIAL GAIN**

It was decided to apply an exponential gain to the final gathers, with 1, 2, 3 and 4dB/sec all being tested, see Technote15_ExpGain.

The following exponential gain was applied:
- ***1dB/sec***

- **RESIDUAL RADON DEMULTIPLE**

For the second pass of RADON demultiple, various DTCUT values between 80-400ms were tested, along with time variant options.

See Technote13_ResRADON for testing.

Time Variant Residual Radon Demultiple:
- ***0-1400ms, DTCUT 320ms***
- ***2000-6000ms, DTCUT 240ms***

- **LINEAR RADON**

The gathers still contained some residual linear noise on the far offsets, which was too close to potential primary signal before migration to fully remove. A linear radon process was tested, see Technote10_LinRadon.

Linear Radon
- ***Offset classes 50-80 only***
- ***Application time 2000ms-4000ms***

- **FINAL ANGLE MUTE FOR STACKING**

Based on the CDP gather displays it was agreed that flat and consistent data was available up to 32 degrees of incidence for the full stack and up to 36 degrees for the far stack.

A variety of angles were tested for inner and outer mutes, see Technote14_AngleMute.

Final Angle Mutes:
- ***Full Stack: 6-32º***
- ***Near Stack: 6-16º***
- ***Mid Stack: 16-26º***
- ***Far Stack: 26-36º***

It was agreed that no post stack processing was necessary as the processes applied resulted in a relatively noise free dataset, suitable for interpretation.

The following shows a comparison QC between the post stack migration (sent to Origin as an intermediate product) and the final pre-stack time migration product:
Technote16_PrSTM_comparison

- **AVO ATTRIBUTE DATA:**

The following AVO attribute data stacks were produced for the Silvereye 3D dataset. They were produced using an input data angle range of 6 - 32˚. The fitting algorithm used was the Andrew's robust statistic fitting algorithm.

See Technote17_AVO_Int_GA
Technote17_AVO_Int_GA_add1

AVO Attributes:
- ***Intercept***
- ***Gradient***

5. Conclusions & Further Work

Extensive testing was carried out at each of the processing steps to select not only the best set of parameters but the optimum sequence of application. Final parameters were approved by *Origin* prior to production. Stringent quality control on the part of *CGGVeritas* was performed at each processing step to ensure the quality of the data was improved as the processing progressed. Quality control involved the review at each processing step of SP / CDP gathers, inline / crossline stacks, amplitude maps, timeslices and statistical graphs where necessary.

The processing sequence incorporating many of *CGGVeritas'* latest algorithms was applied and the objective of producing a good quality, high resolution, amplitude preserved product has been achieved. The resolution of fault blocks and fault planes within the EVCM reservoir and along the Basement are particularly sharp. The generation of correct and detailed velocity fields was a key element to the success of producing a high quality result.

A primary objective of this processing project was to effectively and safely remove as much as possible of the strong multiple energy content present in this dataset. This was achieved through the application of a 4-pass demultiple approach that worked very well on this dataset: Tau-p DBS, 2D SRME, and 2 passes of High Resolution RADON demultiple.

The main problem encountered during the processing was keeping to the schedule. The extensive testing of parameters and testing of the production sequence was not included in the project schedule, hence the final product was delayed. However, the lengthy testing benefited the data and a high quality final product was delivered.

Further work which could benefit this dataset is AVO analysis and also PSDM.

No evaluation was made of the potential for the reduction in Infill that may have been possible with the latest interpolation and regularisation tools. The key problem for implementation for further surveys is the lack of evaluation tools on board a vessel of such processes, and the ways of estimating infill remain primitive, having not changed since the early 1990s. Prior to acquiring another 3D in this area a simple trace drop test prior to the binning will show the size of acquisition hole that can be accommodated without data loss.

Appendices

5.1. List of Lines Processed

Sail Line	Sequence Number	Direction	First SP	Last SP
OS073D 1534P1	001	345	2066	841
OS073D 1258P1	002	165	1001	2567
OS073D 1522P1	003	345	1720	841
OS073D 1246P1	004	165	1001	2567
OS073D 1510P1	005	345	2066	841
OS073D 1234P2	007	165	1001	2567
OS073D 1498P1	008	345	2066	841
OS073D 1222P1	009	165	1001	2567
OS073D 1486P1	010	345	2067	841
OS073D 1210P1	011	165	1001	2567
OS073D 1486F1	012	345	2067	841
OS073D 1198P1	013	165	1001	2567
OS073D 1474P1	014	345	2067	841
OS073D 1198F1	015	165	1001	2567
OS073D 1462P1	016	345	2067	841
OS073D 1186P1	017	165	1001	2567
OS073D 1462F1	018	345	2067	841
OS073D 1174P1	019	165	1001	2567
OS073D 1450P1	020	345	2067	841
OS073D 1162P1	021	165	1001	2567
OS073D 1438P1	022	345	2067	841
OS073D 1150P1	023	165	1001	2567
OS073D 1426P1	024	345	2067	841
OS073D 1138P1	025	165	1001	2567
OS073D 1426F1	026	345	2067	841
OS073D 1126P1	027	165	1001	2567
OS073D 1414P1	028	345	2067	841
OS073D 1126F1	029	165	1001	2567
OS073D 1402P1	030	345	2067	841
OS073D 1114P1	031	165	1001	2567
OS073D 1390P1	032	345	2067	841
OS073D 1102P1	033	165	1001	2567
OS073D 1378P1	034	345	2068	841
OS073D 1366P1	035	345	2068	841
OS073D 1102F1	036	165	1001	2567
OS073D 1354P1	037	345	2068	841
OS073D 1090P1	038	165	1001	2567
OS073D 1342P1	039	345	2068	841
OS073D 1078P1	040	165	1001	2567
OS073D 1342F1	041	345	2068	841
OS073D 1078F1	042	165	1001	2567
OS073D 1330P1	043	345	2068	841
OS073D 1318P1	044	345	2407	841
OS073D 1066P1	045	165	1001	2567

Sail Line		Sequence Number	Direction	First SP	Last SP
OS073D	1054P1	046	165	1001	2567
OS073D	1306P1	047	345	2407	841
OS073D	1042P1	048	165	1001	2567
OS073D	1294P1	049	345	2407	841
OS073D	1090F1	050	165	1001	2567
OS073D	1438F1	051	345	2067	841
OS073D	1234F1	052	165	1001	2447
OS073D	1006P1	053	345	2407	841
OS073D	1138F1	054	165	1001	1920
OS073D	1138F2	056	165	1872	2527
OS073D	1498F2	057	345	1986	881
OS073D	1510F2	060	345	2066	1100
OS073D	1246F1	061	165	1580	2527
OS073D	1018P1	062	345	2407	841
OS073D	1270P1	063	165	1001	2567
OS073D	1030P1	064	345	2407	841
OS073D	1174R1	065	165	1482	2049
OS073D	1522R1	066	345	2066	881
OS073D	1126F3	067	165	1081	2527
OS073D	1282P1	068	165	1001	2567
OS073D	1522F1	069	345	2066	1455
OS073D	1066R1	070	165	1507	2567
OS073D	1294F1	071	345	2407	841
OS073D	1210F1	072	165	1001	2567
OS073D	1030F1	073	345	2407	841
OS073D	1030F2	075	345	2407	1310
OS073D	1162F1	077	345	1780	841
OS073D	1282F3	078	165	1001	2567
OS073D	1294F2	079	345	2140	930

5.2. Processing Details

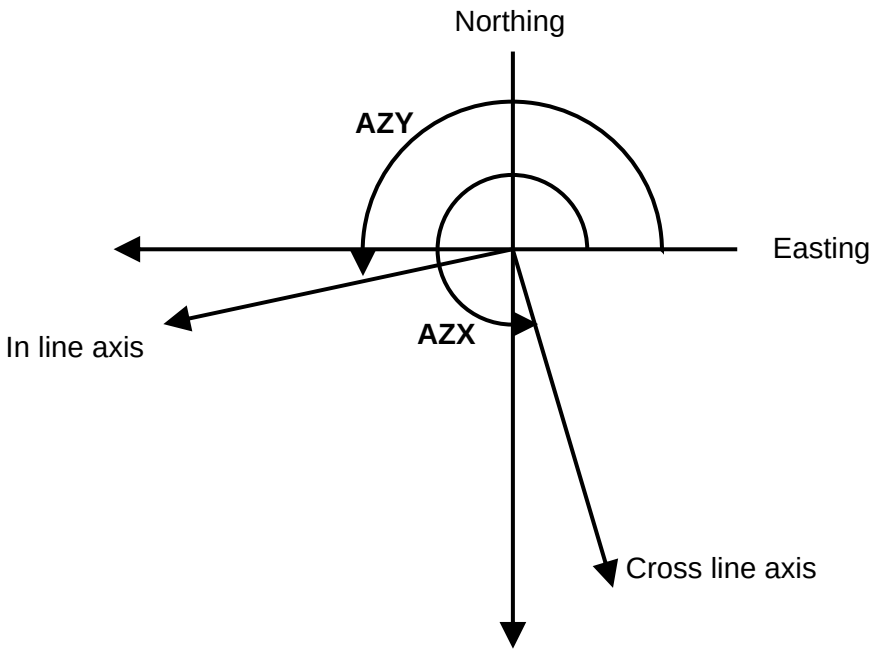
5.2.1. Silvereye 3D Processing Grid

The dataset was processed on the GDA94 PSTM datum grid as per the provided input navigation data.

	IN LINE	CROSS LINE
First line number:	**990**	**458**
Last line number:	**1550**	**3054**
	IN LINE : BIN 0	CROSS LINE: BIN 0
Grid origin:	Y0	X0
(Center of BIN)	**361826.34**	**5612053.12**

AZX= 4.9818465878 radians anti-clockwise from east

AZY= 3.4110502610 radians anti-clockwise from east



BIN size:	In line: 25 meters, inc. 1	Cross line: 12.5 meters, inc. 1
Other remarks:	In Line axis is ⊥ to In Line direction Cross Line axis is ⊥ to Cross Line direction	

5.2.2. Silvereye 3D Polygon

The GDA94, UTM55S coordinates for the full fold polygon are:

X	Y	Crossline	Inline
340024.21	5596944.63	701	1001
347042.68	5571533.56	2810	1001
339259.10	5569383.76	2810	1324
337561.89	5575528.68	2300	1324
332351.79	5574109.12	2298	1540
327035.53	5593357.19	701	1540

5.3. Processing Personnel

For CGGVeritas:

Imam Sarjono – Processing Team Leader

Pierre Plasterie – Geophysical Supervisor

Nigel Mudge – Production Supervisor

Karen Pandya – Senior Geophysicist

Subhash Chandra – Geophysicist

Michelle D'Alessio – Student Geophysicist

For Origin:

Randall Taylor – Chief Geophysicist

Emma Brand – Geophysicist

Darren Rutley – Geophysicist

John Cant – Seismic Processing Consultant

Bruce Hawkes – Seismic Processing Consultant

Progress reports were sent to the clients by e-mail attachment weekly on Thursdays, see WEEKLY_REPORTS

5.4. Final Processing Deliverables

The following items have been delivered to Origin:

Deliverable Product	Media	Quantity	Tape Numbers
Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External hard drive	1	Hard drive 3 & Hard drive 4
Post-migration CDP gathers – NMO corrected	External hard drive	1	Hard drive 1 & Hard drive 2
Preliminary post-stack migration	3 x DVD	1	N/A
Final migrated stack	DVD	2	Copy 1 DVD001-DVD004 Copy 2 DVD017-DVD020
Near, mid, far migrated angle stacks	DVD	2	Copy 1 DVD005-DVD016 Copy 2 DVD021-DVD032
AVO intercept (robust method using angles 6-32 deg.)	DVD	2	Copy 1 DVD033-DVD036 Copy 2 DVD041-DVD044
AVO gradient (robust method using angles 6-32 deg.)	DVD	2	Copy 1 DVD037-DVD040 Copy 2 DVD045-DVD048
Bin centre coords, ASCII format	DVD	2	Copy 1 DVD068 Copy 2 DVD069
Final migration velocities, RMS & SH, in western format, 250m x 250m Final stacking velocities, RMS & SH, in western format, 250m x 250m	DVD	2	Copy 1 DVD066 Copy 2 DVD067
Final stacking velocities, RMS & SH, in SEGY format, 12.5m x 25m	DVD	2	Copy 1 DVD049-DVD056 Copy 2 DVD057-DVD064
Processing report	CD	2	CD001

5.5. SEGY Definition

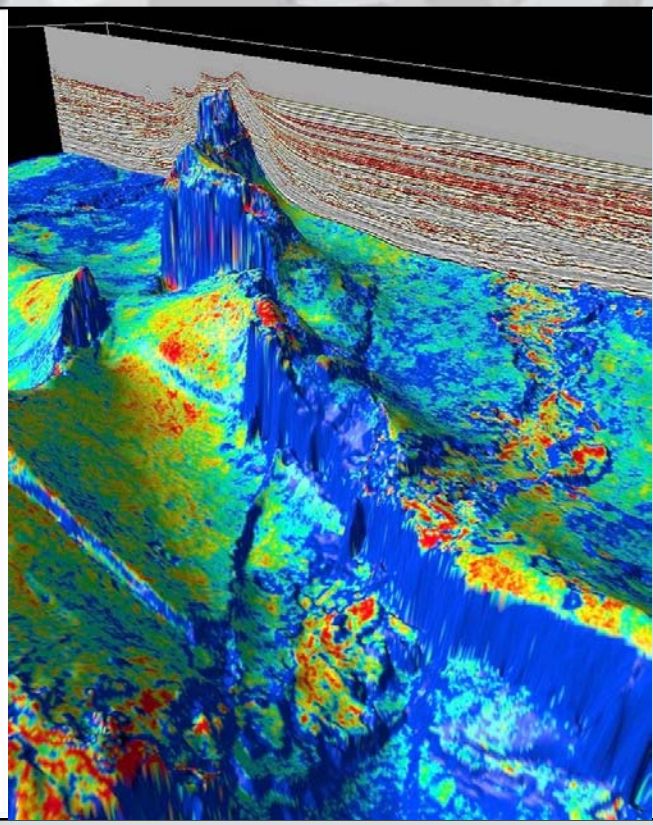
The following table describes the SEGY header locations, provided by Origin, that have been used to produce the SEGY products for this project.

Standard SEGY Headers	Byte Location	Format
Trace number within line	1-4	Integer
Trace number within tape	13-16	Integer
3D inline number	17-20	Integer
3D CDP / crossline number	21-24	Integer
Trace number within tape	25-28	Integer
Trace identification flag: seismic data = 1	29-30	Integer
Stacking fold	33-34	Integer
Data use: production data = 1	35-36	Integer
Cable depth	41-44	Integer
Source depth	49-52	Integer
Scale factor for depths = 1	69-70	Integer
Scale factor for XYs = 1	71-72	Integer
Bin centre X coord, m	73-76	Integer
Bin centre y coord, m	77-80	Integer
Coordinate units : meters = 1	89-90	Integer
Time of first sample	109-110	Integer
Time of last sample	111-112	Integer
First live sample	113-114	Integer
Number of samples	115-116	Integer
Sample interval	117-118	Integer
Year of acquisition	157-158	Integer
Day of year	159-160	Integer
Time basis	167-168	Integer
Tidal static	181-184	Integer
Inline number	197-198	Integer
CDP / crossline number	201-204	Integer

END OF DOCUMENT

Project Start-Up Meeting
Bass Basin 3D Silvereye
for
Origin Energy
CGGVeritas project number 501p1et

10th March 2008



Outline

- CGGVeritas / Origin Teams
- Scope of work
- Area map
- Acquisition parameters
- Processing objectives
- Processing sequence
- Expected processing issues
- Schedule
- Workstation and link to the Perth office

Outline

- **CGGVeritas / Origin Teams**
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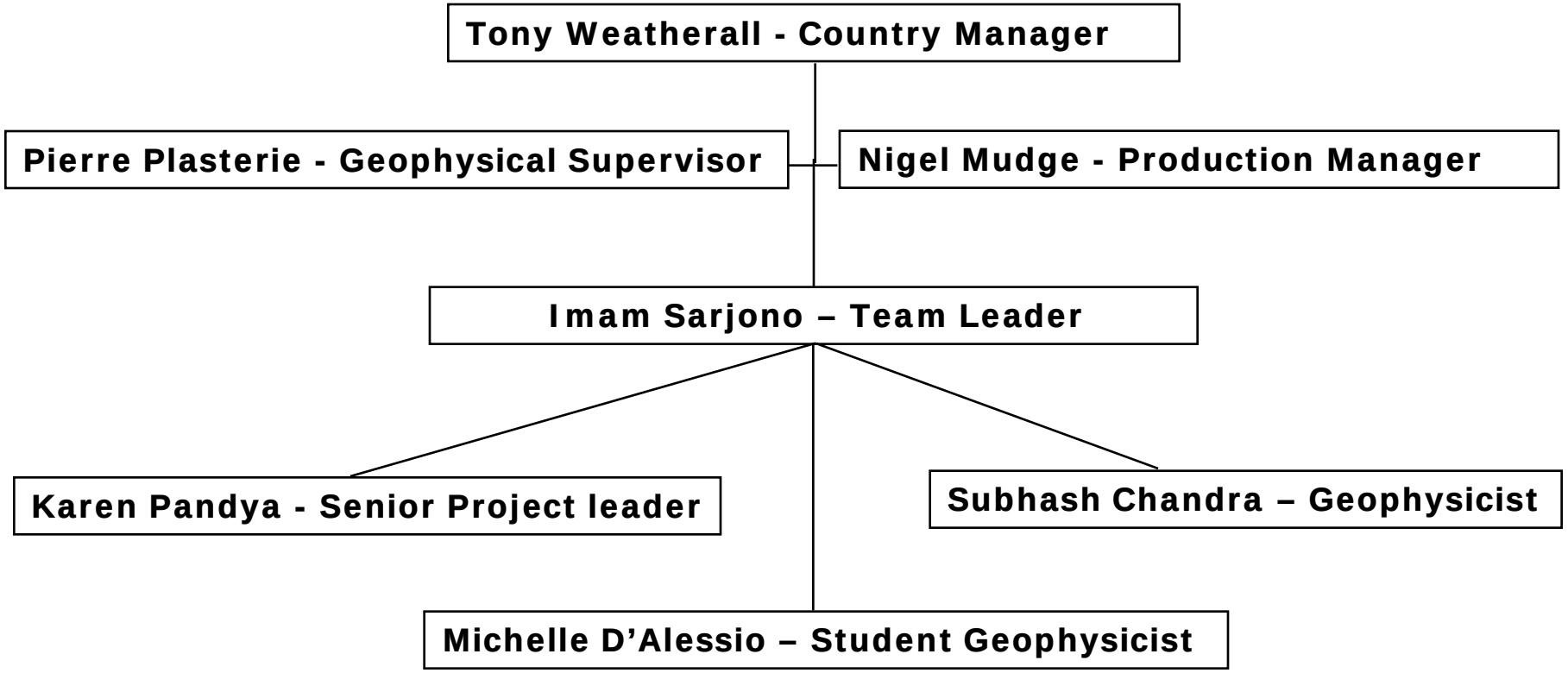
CGGVeritas Processing Team-Perth



Origin Processing Team

Origin Energy

Randall Taylor – 04 19 80 41 05

Emma Brand – 04 03 92 44 76
07 38 58 06 73

Daren Rutley

Consultants

John Cant

Bruce Hawks

Outline

- CGGVeritas / Origin Teams
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Work Scope

Survey Location

Offshore Bass Basin Blocks T/44P

Survey Size

320km^2

Processing

PSTM Time processing sequence

Outline

- CGGVeritas / Origin Teams
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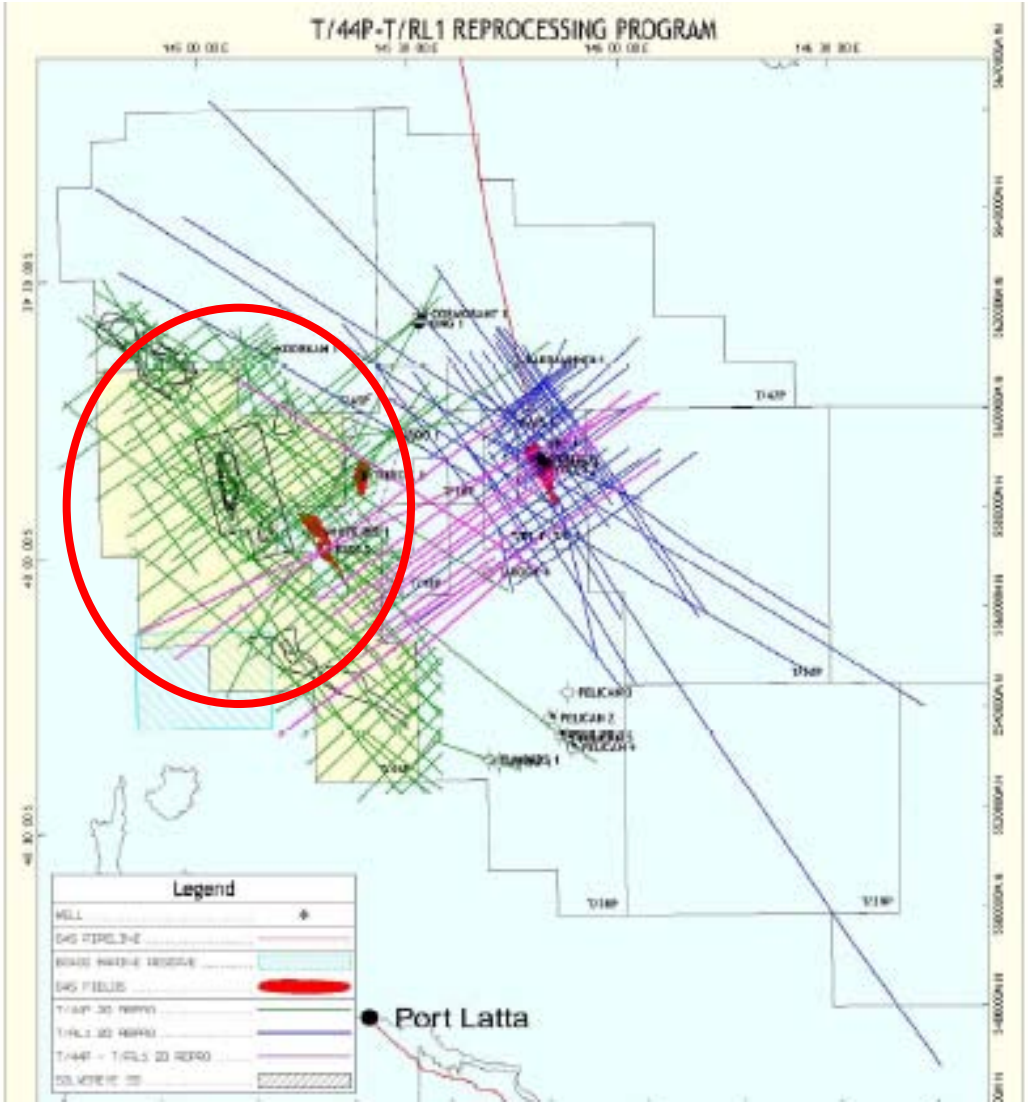
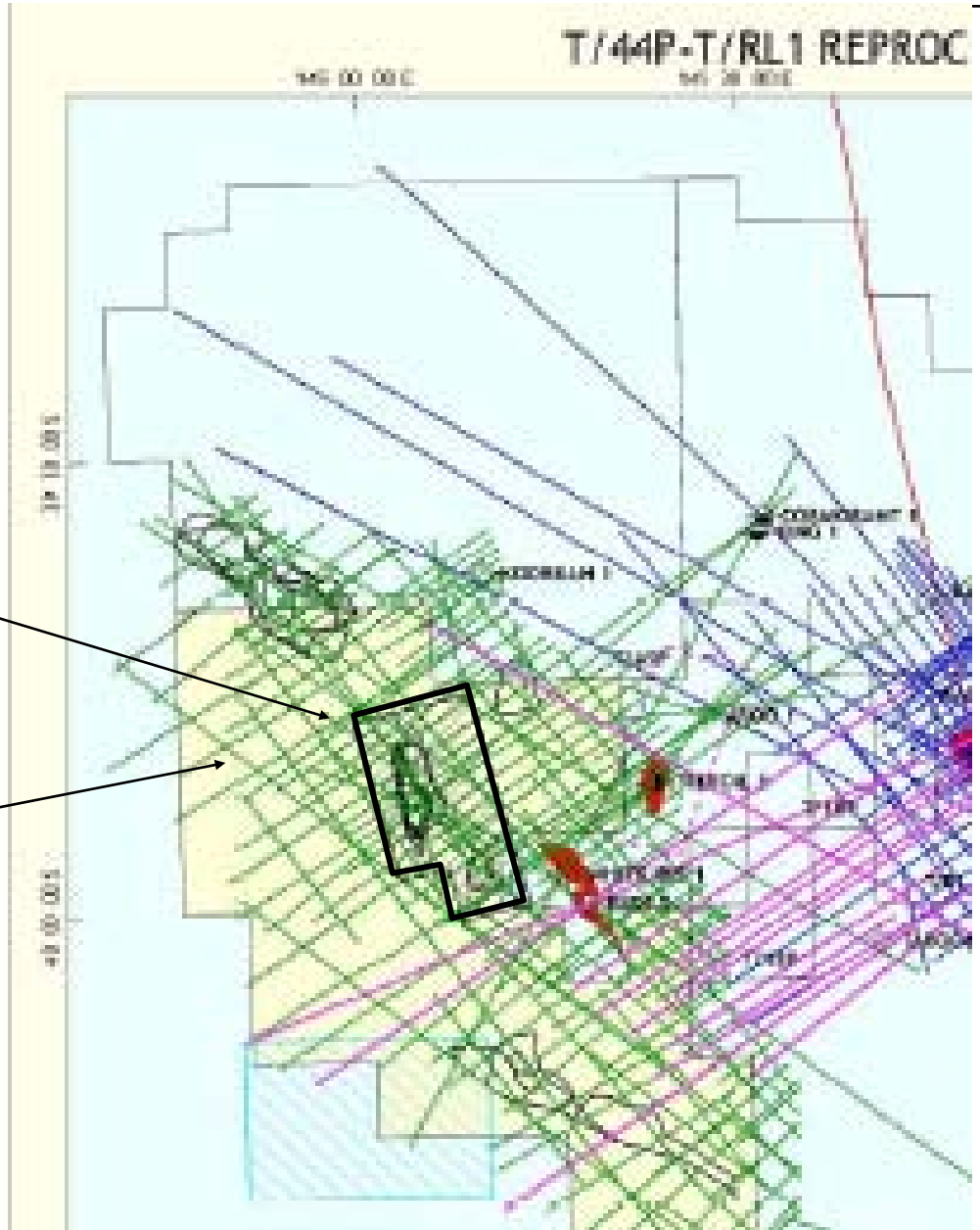
Area Map



Area Map


T/44P-T/RL1 REPROC
Silvereye 3D
TQH5 2D survey (1985)
(1975 survey not processed)

Outline

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- Different vintages issues
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Acquisition parameters

Survey definition	
Acquisition mode	3D, Dual source
Line orientation	164.56deg / 344.56deg
Energy Source	
Number of sources	2
Air pressure	2000 psi
Volume	3090in^3
Source separation	50m
Source depth	6m (+/-1.25m)
Shot interval per source line	37.5m (flip-flip), 18.75m (flip-flop)
Streamer	
Number of streamers	6
Streamer length	6000m
Streamer separation	100m
Streamer depth	7m (+/-1m) in bad weather down to 9m (+/-1m)
Traces per streamer	480
Group interval	12.5m
Data recording	
Record Length	6000ms
Sample rate	2ms
Low-cut filter hyodrophone	4.6Hz / 6 dB/Oct
High-cut filter hydrophone	206Hz / 215.2 dB/Oct
Format	SEGD – 8036 on 3592

Survey Details

1 source (6m depth +/- 1m)

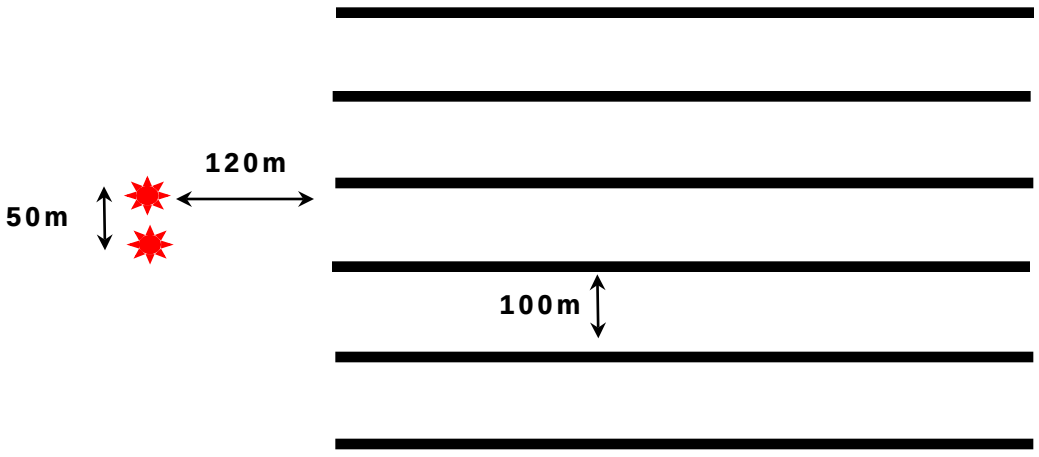
Streamer notch = 125Hz

1 streamer (7m depth +/- 1m)/(9m depth +/- 1m)

Source notch = 107Hz / 83Hz (2ms SI)

Streamer length 6000m (group interval 12.5m)

Near offset 120m



Acquisition direction: 165 / 345 degrees

Acquisition Geometry :

$$\text{Nominal Fold} = \frac{\text{No. channels x group int}}{\text{2 x SP int (flip – flip)}} = \frac{480 \times 12.5}{2 \times 37.5} = 80$$

$$\text{CDP Interval} = \frac{\text{Group int}}{2} = \frac{12.5}{2} = 6.25\text{m}$$

Move up = SP int / CDP int = 6

Processing Geometry :

Nominal Fold post SP interpolation

$$\text{(for HR Radon)} = \frac{480 \times 12.5}{2 \times 18.75} = 160$$

CDP Interval post trace sum / drop

$$= \frac{25}{2} = 12.5\text{m}$$

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Processing objectives

- The primary goals of the processing are:
  - Optimise resolution within the EVCM reservoir section as well as the large and small scale faulting
  - Multiple removal caused by numerous coal/sand, volcanic/shale interfaces
  - Improve S/N - signal attenuation and imaging problems are caused by the presence of volcanics (laccoliths, dykes and sills) and thick coal sequences throughout the Bass Basin
  - Basement horizon definition
  - Amplitude preservation for identification of Direct Hydrocarbon Indicators

  - *Consider resolution vs. lateral continuity vs. cost*

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Reformat

- Transcription of data to CGGVeritas Internal Format
- Geometry update
- Seismic and navigation merge
- Shot & Trace Edits as per observers logs
- AA filter for re-sampling BT(0,0,100,110) - > option to be confirmed
- Re-sampling from 2ms to 4ms - > option to be confirmed

QC

- Data Ranges
- Trace numbering checking
- SP Gathers every 5km
- In-line stack per sail line (vels. ??)
- NT Data
- RMS Amplitude per shot (target window)
- RMS Amplitude per shot (whole trace)
- MAX amplitude per shot (whole trace)
- XY attribute maps

TEST

N/A

Pre-processing 1

- Low cut filter
- Instrument delay
- SDC (T/250)2
- Gun and Cable statics
- Swell Noise Attenuation
- Zero phasing
- Tidal statics

QC

- Data Ranges
- Trace numbering checking
- SP Gathers every 5km
- In-line stack per sail line (vels. ??)
- NT Data
- RMS Amplitude per shot (target window)
- RMS Amplitude per shot (whole trace)
- MAX amplitude per shot (whole trace)
- XY attribute maps

TEST

Low Cut Filter

3Hz,4Hz,5Hz,6Hz, 18dB

SP before, after

Swell Noise Attenuation

1 or 2 passes back to back SP SP
(before after)

Linear noise removal and de-multiple 1

- Tau-P Mute for linear noise attenuation in HR Tau-P domain
- Predictive deconvolution in Tau-P domain

TEST

- Tau-p mutes, SP , CDP gathers and Stacks Before, after and difference evaluations
- Gaps = 32ms, 48ms
- OL = 180ms, 240ms, 320ms, centred on WB.
- Autocorrelations of Stack (before & after) and in SP Tau-P domain

QC

- Data Ranges
- SP Gathers every 5km
- Stack per line (Velocity field ??)

De-multiple 2, 2D SRME

- Surface Related Multiple Attenuation in 2D
- Anti-Alias K filter
- Alternate trace drop
- Surface Related Multiple Attenuation in 3D

QC

- Data Ranges
- SP Gathers every 5km
- Stack per sail line (Regional Velocity field)
- CDP Gathers every 5km

TEST

- NT plot (Comparison of multiple model to input seismic)
- Local adaptive Substraction : short, long window, x2 passes, Subtraction domain
- SP gathers, 2D CDP gathers and Stacks
- Before, after and difference evaluations

Velocity analysis 1

- **Mild Radon applied pre-analysis**
- **Velocity analysis manual picking on 2km x 2km (Geovel)**

QC

- **Velocity Analysis Stack**
  - **Before analysis**
  - **After analysis**
- **NMO corrected CDP gathers**
  - **Before analysis**
  - **After analysis**
- **ISO Velocity displays**
- **RMS and Interval velocities fields**

TEST

- Mild Radon DTCUT value

High resolution radon

- 2D CDP sorting
- High Resolution Radon using 2km x 2km velocities
- Surface consistent scaling (not applied on 2D re-processing)
- CMP gathers archive (if pre-processing done at 2ms)
- AA filter and resample to 4ms (if pre-processing done at 2ms)

QC

- Data Ranges
- Stack per sail line (Velocity field)
- 2D CDP Gathers every 5km

TEST

- Multiple rejections window
- Application start times
- 2D CDP gather and stack before and after, difference evaluation

Velocity analysis 2 (PSTM)

- Kirchoff Pre-Stack time migration using V1 (output 1kmx1km)
- Manual velocity analysis @ 1km x 1km (in Geovel) -> V2
- Derivation of Eta field from V2

QC

- NMO corrected CDP gathers.

  Before / After analysis
- ISO Velocity displays
- Interval and RMS velocity fields
- Semblance spectrum QC
- Mini stacks

Binning

- **Data regularization in offset domain**
- **Noise attenuation**
- **Alternate trace drop (6.25m to 12.5m bin size)**
- **Cross-line (Fourier reconstruction) bin centering**

TEST

- Flexible binning
- 3D trace restoration within offset volumes to fill holes
- Regularization to obtain unique distribution within CMP gathers
- FXY decon, or other noise attenuation techniques to ensure clean migration after XL bin centring

Final PSTM and velocity analysis 3

- **Final Kirchoff Pre-Stack time migration using V2 and Eta2 (output bin 12.5mx25m, 3.5km aperture option 4km aperture)**
- **Dense automatic velocity analysis @ CDP interval (RMO)**

QC

- **Velocity Analysis Stack.**
  Before / After analysis
- **NMO corrected CDP gathers.**
  Before / After analysis
- **ISO Velocity displays**
- **Interval and RMS velocity fields**
- **Semblance spectrum QC on test lines only (in Geovel)**

TEST

- Migration

  Aperture:

  20,30,40,60,A = f (t)

Residual Radon and noise attenuation

- High Resolution Radon
- Pre-stack noise filtering if required (% noise add back after radon or FXY decon)

TEST

Radon

- Multiple rejections window
- Application start times
- CDP gather and stack before and after, difference evaluation

Noise filtering

% noise add back after Radon

FXY decon (no parameters for prediction filter)

QC

- NMO corrected CDP gathers.

  Before / After Radon / noise attenuation
- Stacks display with preliminary mute

  Before / After Radon / noise attenuation

Stack

- Inner & Outer mutes
- Stack full offsets
- Angle mutes

TEST

Inner Outer mutes

- Angle mutes tests

Angles mutes

Near/Mid/Far from Inner / Outer above

Super far option

QC

- NMO corrected CDP gathers

  Before / After

- Stacks display with preliminary mute

  Before / After Radon

Deliverables

Product	Format	Media	No. Copies
Pre-migration CDP gathers - no NMO	SEGY	DLT or hard drive	1
Post-migration CDP gathers	SEGY	DLT or hard drive	1
Prelim post-stack migration	SEGY	DVD	1
Raw migrated stacks	SEGY	DVD/DLT	2
Filtered / scaled migrated stacks	SEGY	DVD/DLT	2
Angle stacks	SEGY	DVD/DLT	2
AVO intercept, gradient	SEGY	DVD/DLT	2
Final vels	Western	CD/DVD	1
CMP-SP relation	ASCII	CD/DVD	1
CMP coord data	ASCII	CD/DVD	1
Processing report	Ms Word	CD/DVD	1

Test lines

2 selected due to variable weather conditions:

Good test line: Sail line 1342, seq no 039

- Streamers at 7m

Bad test line: Sail line 1234, seq no 007

- Streamers at 9m, 3-5m swell

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Expected processing issues

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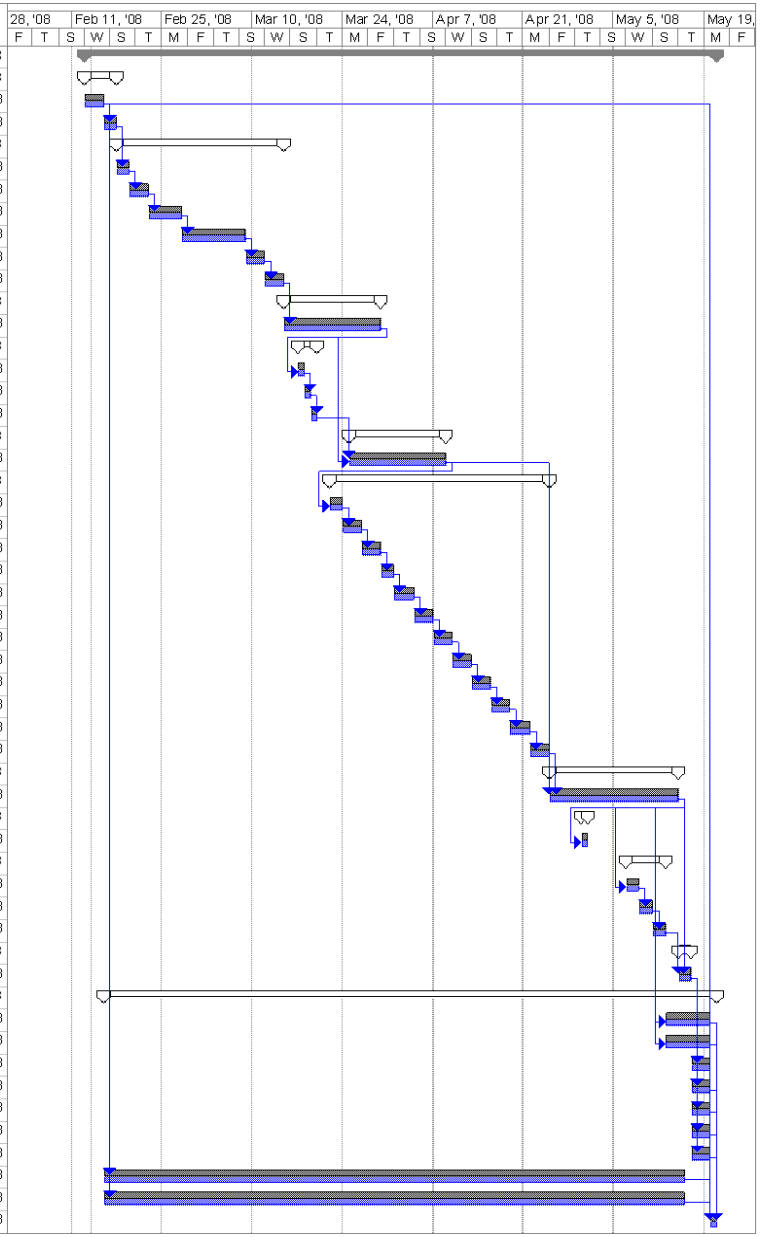
3D Processing Anticipated Timing

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D-320sqkm-14weeks**	**98 days**	**Wed 2/13/08**	**Wed 5/21/08**
1	**1 Project Acquisition and Start-Up**	**5 days**	**Wed 2/13/08**	**Mon 2/18/08**
2	1.1 Field Tape Transcription and Seismic Navigation Merge	3 days	Wed 2/13/08	Sat 2/16/08
3	1.2 Resample to 4ms	2 days	Sat 2/16/08	Mon 2/18/08
4	**2 Pre-Processing 1-Testing**	**26 days**	**Mon 2/18/08**	**Sat 3/15/08**
5	2.1 Spherical Divergence Correction	2 days	Mon 2/18/08	Wed 2/20/08
6	2.2 Trace Edit, Noise burst/Swell Noise removal	3 days	Wed 2/20/08	Sat 2/23/08
7	2.3 Tau-P Linear noise removal	5 days	Sat 2/23/08	Thu 2/28/08
8	2.4 2D SRME (option for 3D SRME with increase in cost and timing)	10 days	Thu 2/28/08	Sun 3/9/08
9	2.5 Tau-P Deconvolution	3 days	Sun 3/9/08	Wed 3/12/08
10	2.6 Wavelet shaping, zero phasing (or earlier in seq if filter requires)	3 days	Wed 3/12/08	Sat 3/15/08
11	**3 Pre-Processing 1-Production**	**15 days**	**Sat 3/15/08**	**Sun 3/30/08**
12	3.1 Production of pre-processing1	15 days	Sat 3/15/08	Sun 3/30/08
13	**4 Pre-processing 2-Testing**	**3 days**	**Mon 3/17/08**	**Thu 3/20/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Mon 3/17/08	Tue 3/18/08
15	4.2 Radon Demult (High Resolution)	1 day	Tue 3/18/08	Wed 3/19/08
16	4.3 2:1 adjacent trace sum / trace decimation	1 day	Wed 3/19/08	Thu 3/20/08
17	**5 Pre-Processing 2-Production**	**15 days**	**Tue 3/25/08**	**Wed 4/9/08**
18	5.1 Production of pre-processing2	15 days	Tue 3/25/08	Wed 4/9/08
19	**6 3D Processing-Testing**	**34 days**	**Sat 3/22/08**	**Fri 4/25/08**
20	6.1 CMP Binning (12.5m x 25m bins)	2 days	Sat 3/22/08	Mon 3/24/08
21	6.2 Surface consistent amplitude correction or other amplitude scaling	3 days	Mon 3/24/08	Thu 3/27/08
22	6.3 Missing trace interpolation	3 days	Thu 3/27/08	Sun 3/30/08
23	6.4 PSTM for vels	2 days	Sun 3/30/08	Tue 4/1/08
24	6.5 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Tue 4/1/08	Fri 4/4/08
25	6.6 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	3 days	Fri 4/4/08	Mon 4/7/08
26	6.7 RMO Velocity Analysis	3 days	Mon 4/7/08	Thu 4/10/08
27	6.8 Residual Radon Demultiple	3 days	Thu 4/10/08	Sun 4/13/08
28	6.9 Acquisition footprint removal if deemed necessary	3 days	Sun 4/13/08	Wed 4/16/08
29	6.10 Q-compensation or other w avelet shaping if required	3 days	Wed 4/16/08	Sat 4/19/08
30	6.11 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Sat 4/19/08	Tue 4/22/08
31	6.12 Trace mute	3 days	Tue 4/22/08	Fri 4/25/08
32	**7 3D Processing-Production**	**20 days**	**Fri 4/25/08**	**Thu 5/15/08**
33	7.1 Production of 3D Processing	20 days	Fri 4/25/08	Thu 5/15/08
34	**8 Return of field data tapes to Origin**	**1 day**	**Wed 4/30/08**	**Thu 5/1/08**
35	8.1 Return of field data	1 day	Wed 4/30/08	Thu 5/1/08
36	**9 Stack and Post Stack-Testing**	**6 days**	**Wed 5/7/08**	**Tue 5/13/08**
37	9.1 CDP Stack	2 days	Wed 5/7/08	Fri 5/9/08
38	9.2 Gun and cable statics	2 days	Fri 5/9/08	Sun 5/11/08
39	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Sun 5/11/08	Tue 5/13/08
40	**10 Stack and Post Stack-Production**	**2 days**	**Thu 5/15/08**	**Sat 5/17/08**
41	10.1 Production of Stack and Post Stack	2 days	Thu 5/15/08	Sat 5/17/08
42	**11 Archivies and Closedown**	**95 days**	**Sat 2/16/08**	**Wed 5/21/08**
43	11.1 Archive of Post Migration CDP gathers	7 days	Tue 5/13/08	Tue 5/20/08
44	11.2 Archive of Post Migration CDP gathers-no NMO	7 days	Tue 5/13/08	Tue 5/20/08
45	11.3 Prelim post-stack migration	3 days	Sat 5/17/08	Tue 5/20/08
46	11.4 Archive Of Raw Migrated Stack	3 days	Sat 5/17/08	Tue 5/20/08
47	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Sat 5/17/08	Tue 5/20/08
48	11.6 Archive of Angle Stacks	3 days	Sat 5/17/08	Tue 5/20/08
49	11.7 Archive of AVO Intercept Gradient	3 days	Sat 5/17/08	Tue 5/20/08
50	11.8 Archive Of Processing Support Data	90 days	Sat 2/16/08	Fri 5/16/08
51	11.9 Creation by CGGV and acceptance of processing report by Origin	90 days	Sat 2/16/08	Fri 5/16/08
52	11.10 Completion of all contractural processing/archives	1 day	Tue 5/20/08	Wed 5/21/08



3D Processing Timing milestones

Target Dates – Milestones	

- All vintages reformatted by:
- Pre-processing sequence by:
- Velocity analysis 1(manual) by:
- Migration by:
- Velocity analysis 2 (manual) by:
- Velocity analysis 3 (HDPIC) by:
- Post stack post processing by:

Outline

- CGGVeritas / Origin Teams
- Scope of work
- Area map
- Acquisition parameters
- Processing objectives
- Processing sequence
- Schedule
- **Workstation and link to the Perth office**

Client Workstation for vel. picking & QC

A Linux workstation will be installed in client's premises in Brisbane

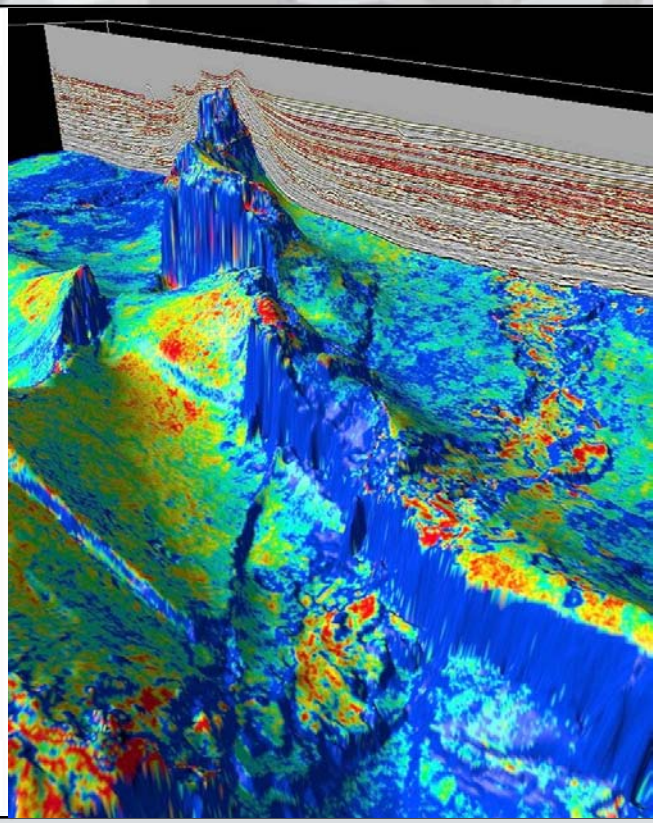
It will contain 160Gb + 750Gb = 910Gb of disk

The following softwares will be available:

-Chronovista 4.0
-GCT environment (Geopad + interactive GCT applications)
-Pace velocity picking workstation

The link will be primarily used between Perth and Brisbane. WS will be sent first without link but USB disk can be used to transfer data until the link becomes available

Technical Note 2
Data Resampling
Silvereye 3D



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Data Resampling

Details

The data set has been acquired at a sample interval of 2ms.

For processing purposes the data will resample the data to be 3ms or 4ms.

High cut filter 100Hz high cut anti-alias filter was tested before re-sample.

Test Line

- Verification was carried out on sail line OS073D1342P1039, acq sequence number 039.
- This line is typical of the data received so far

Profile ID SEQ039

Data Resampling

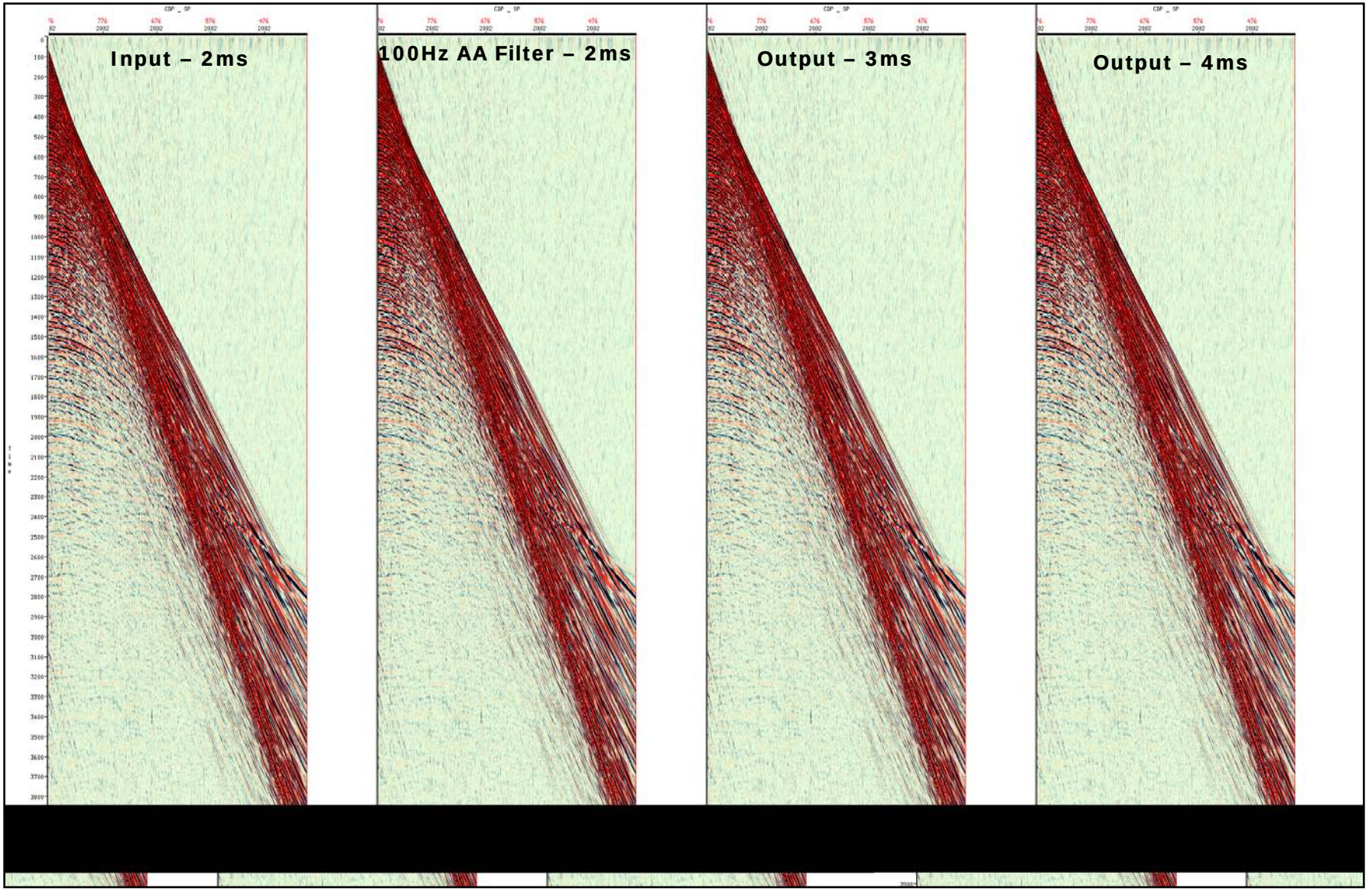
Conclusions & Recommendations

CGGVeritas recommend the application of a 100Hz High cut anti-alias filter before the data is Resampled.

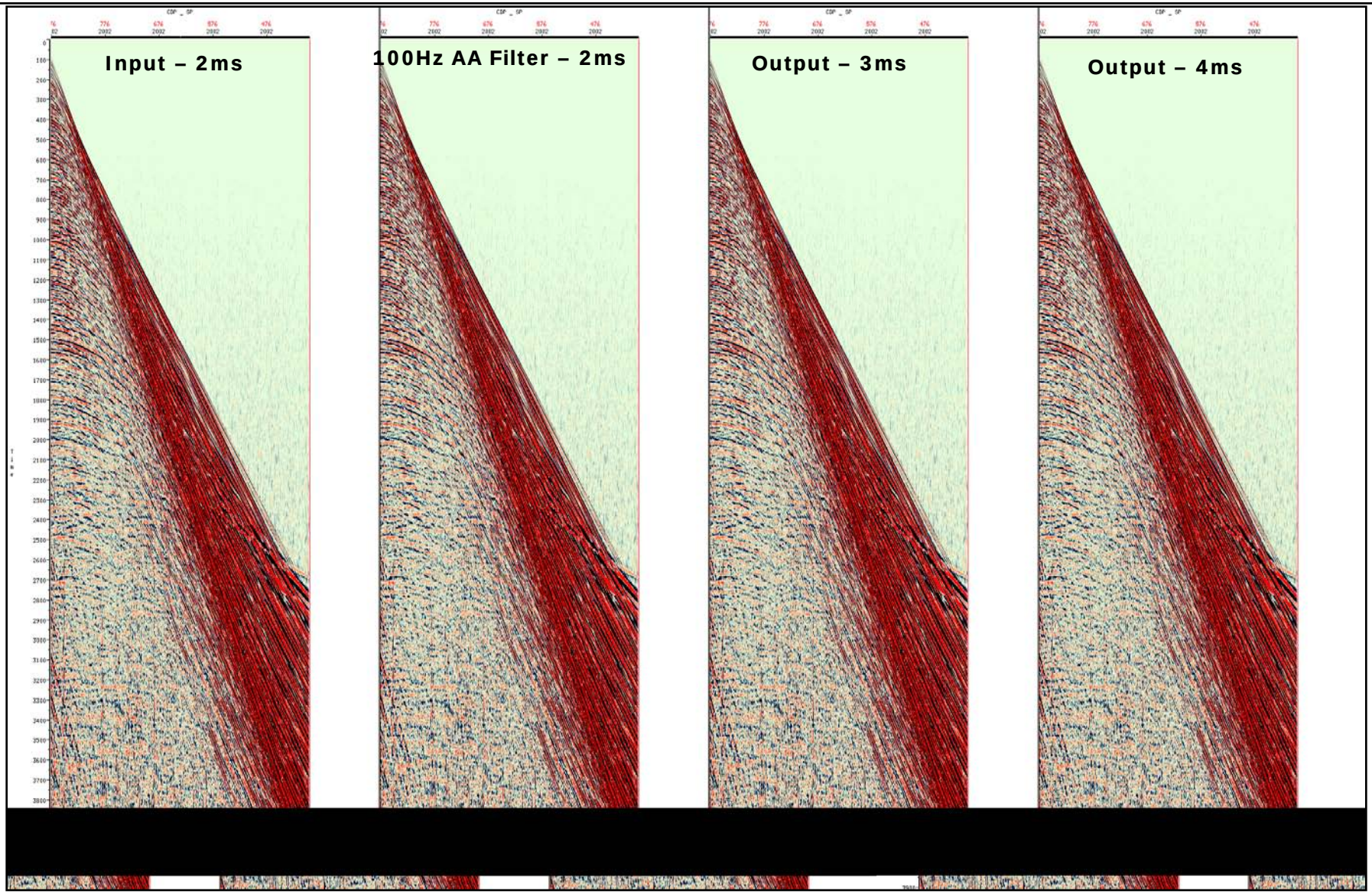
Proposed Processing Sequence to date :

1. **Reformat of Seismic and navigation data to CGGVeritas internal format**
2. **Application of de-bias and 3Hz Low Cut filter**
3. **Resampling of Data from 2ms to 4ms, with 100Hz high cut anti-alias filter applied**

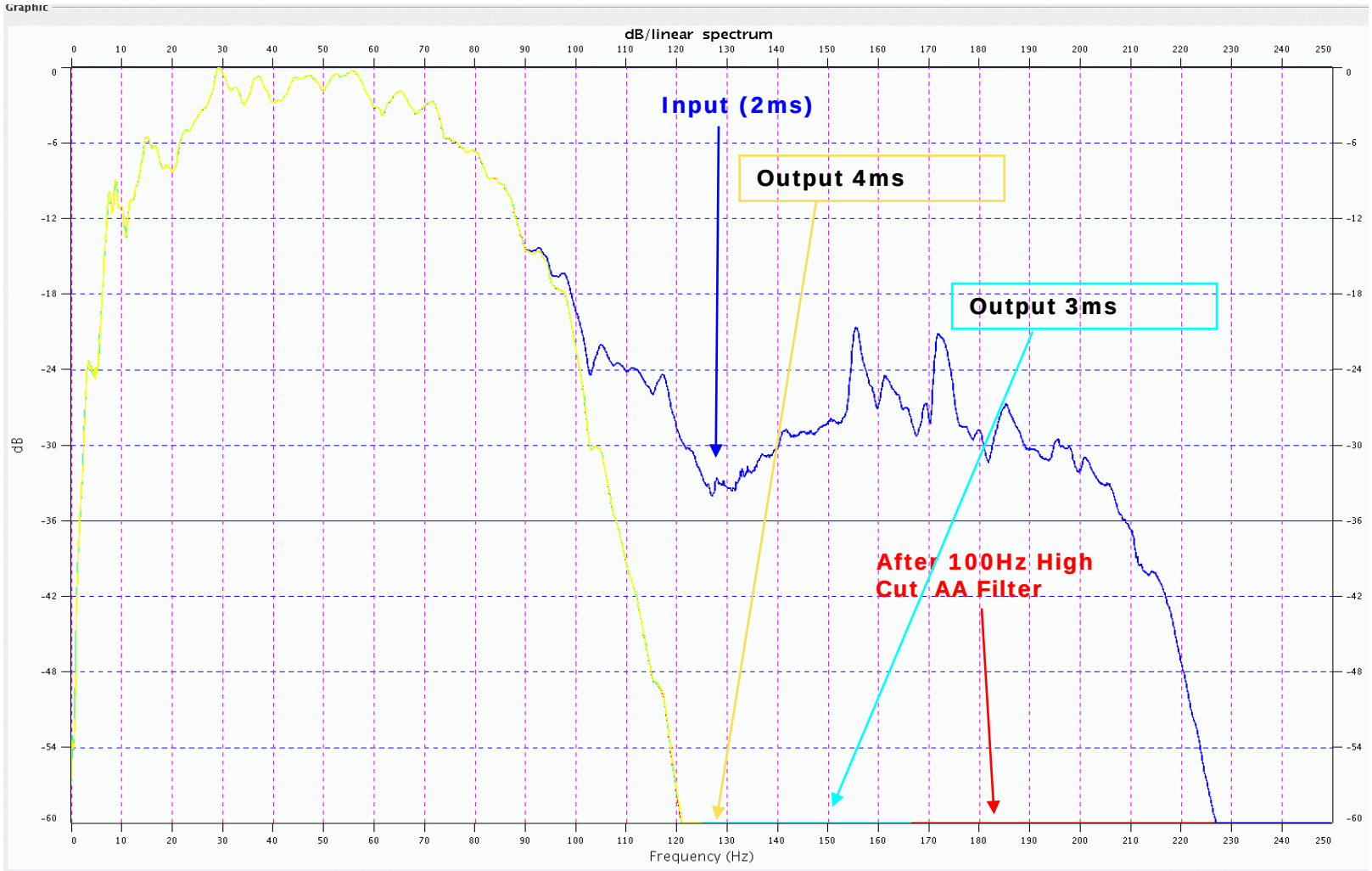
SP Gather SEQ039 – Before & After Data Resampling



SP Gather SEQ039 – Before & After Data Resampling, with Amplitude recovery



SP Gather SEQ039 – Spectra Before & After Data Resampling



	Hide	Curve color	ID	Data Name	Gather	First trace	Last trace	Start time(ms)	End time(ms)	Maximum a...
Remove			5	hc100hz	0	1	480	0	6 000	327 241 1...
Remove			6	input	0	1	480	0	6 000	327 238 9...
Remove			7	resamp3	0	1	480	0	6 000	218 266 2...
Remove			8	resamp4	0	1	480	0	6 000	163 702 2...

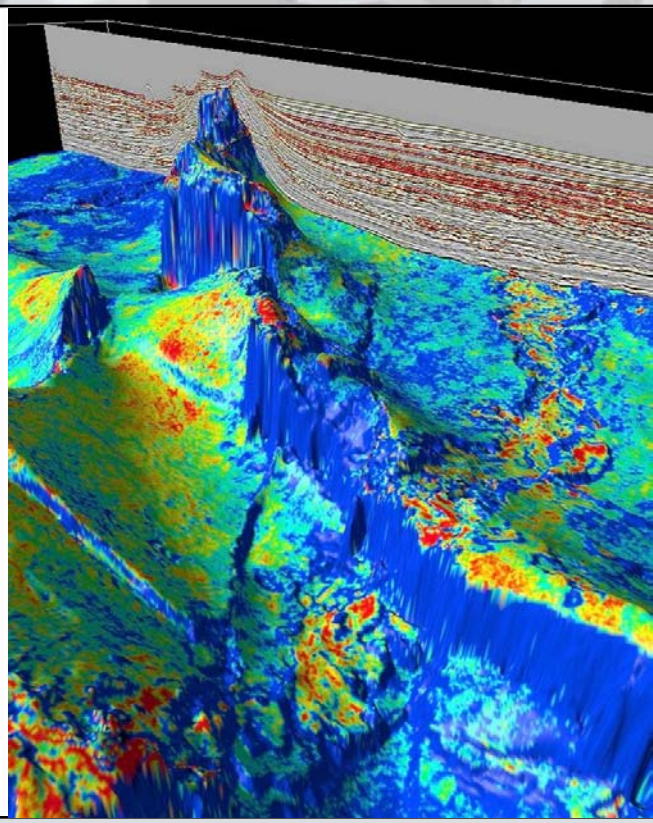
Conclusions & Recommendations

CGGVeritas recommend the application of a 100Hz High cut anti-alias filter before the data is Resampled.

Proposed Processing Sequence to date :

1. **Reformat of Seismic and navigation data to CGGVeritas internal format**
2. **Application of de-bias and 3Hz Low Cut filter**
3. **Resampling of Data from 2ms to 4ms, with 100Hz high cut anti-alias filter applied**

Technical Note 1
Low Cut Filter and De-Bias
Silvereye 3D



CGGVERITAS

Details

The Silvereye data set displays a strong DC bias which needs to be corrected for before any further processing can be applied. This correction can be carried out by re-centering each trace around zero amplitude (de-bias), or by the application of a low cut filter, or through a combination of both.

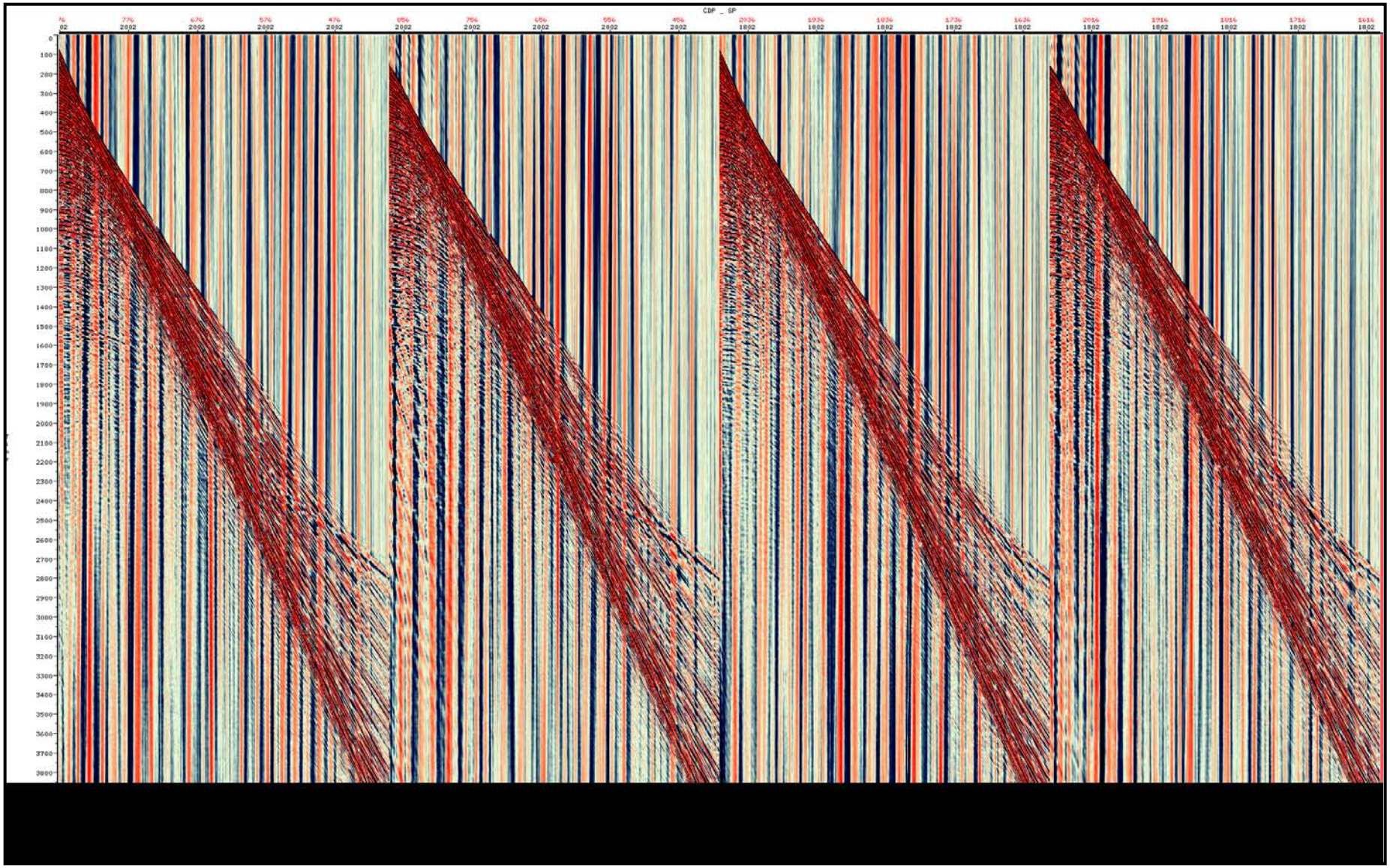
Test Line

- Verification was carried out on sail line OS073D1342P1039, acq sequence number 039.
- This line is typical of the data received so far

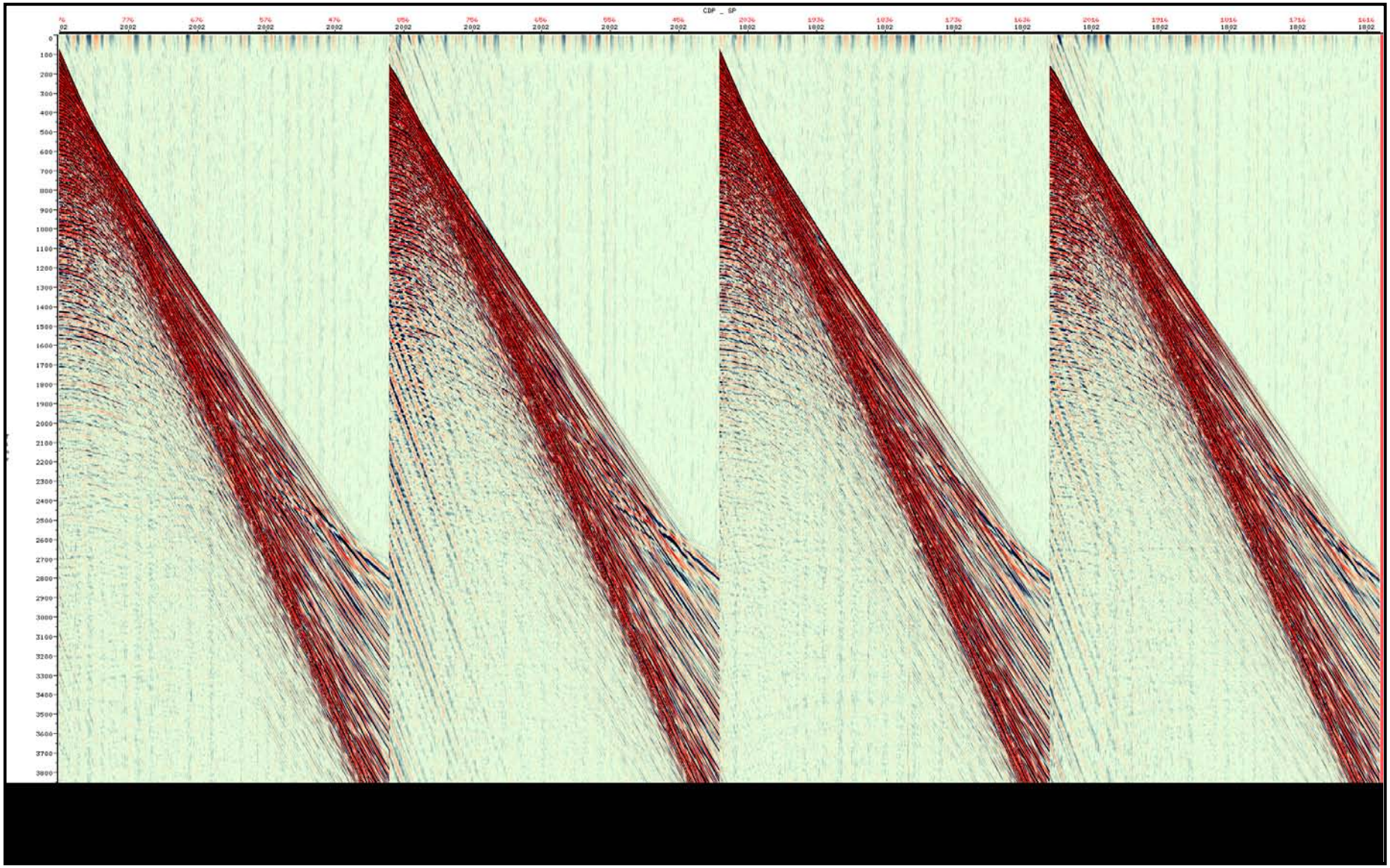
Profile ID SEQ039

LC Filter & De-Bias

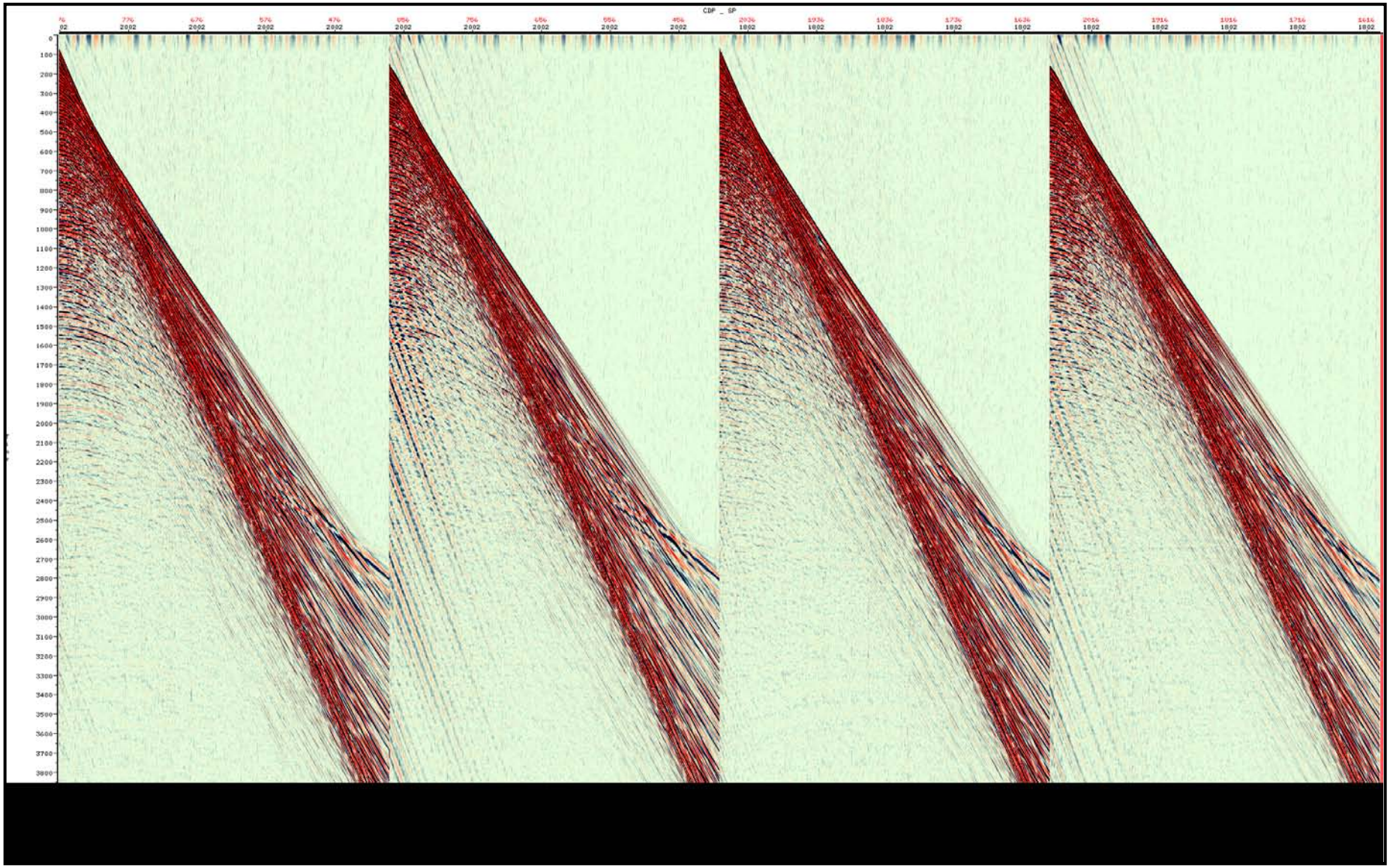
SP Gather SEQ039 – Raw SP



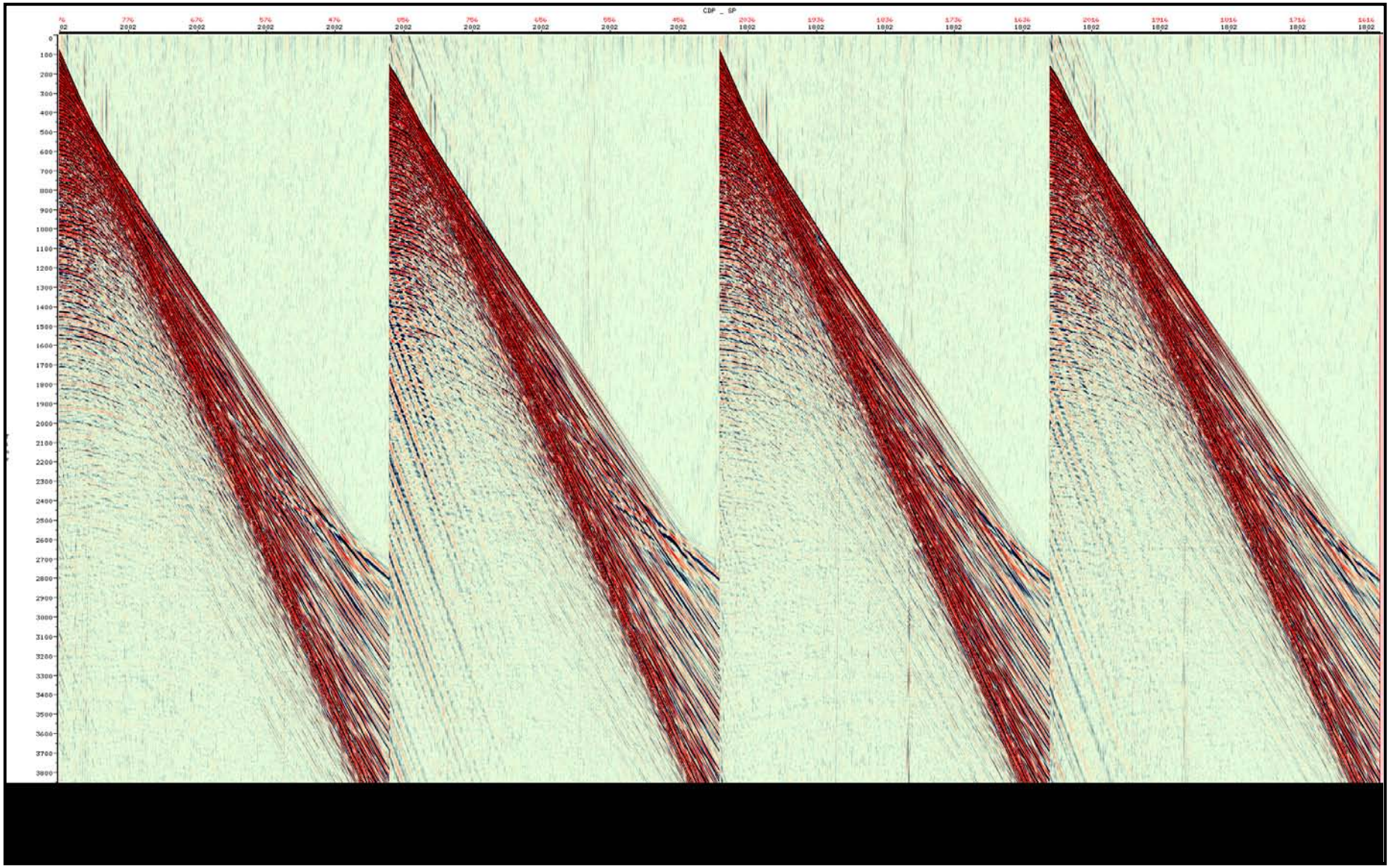
SP Gather SEQ039 – Raw SP+3Hz LC



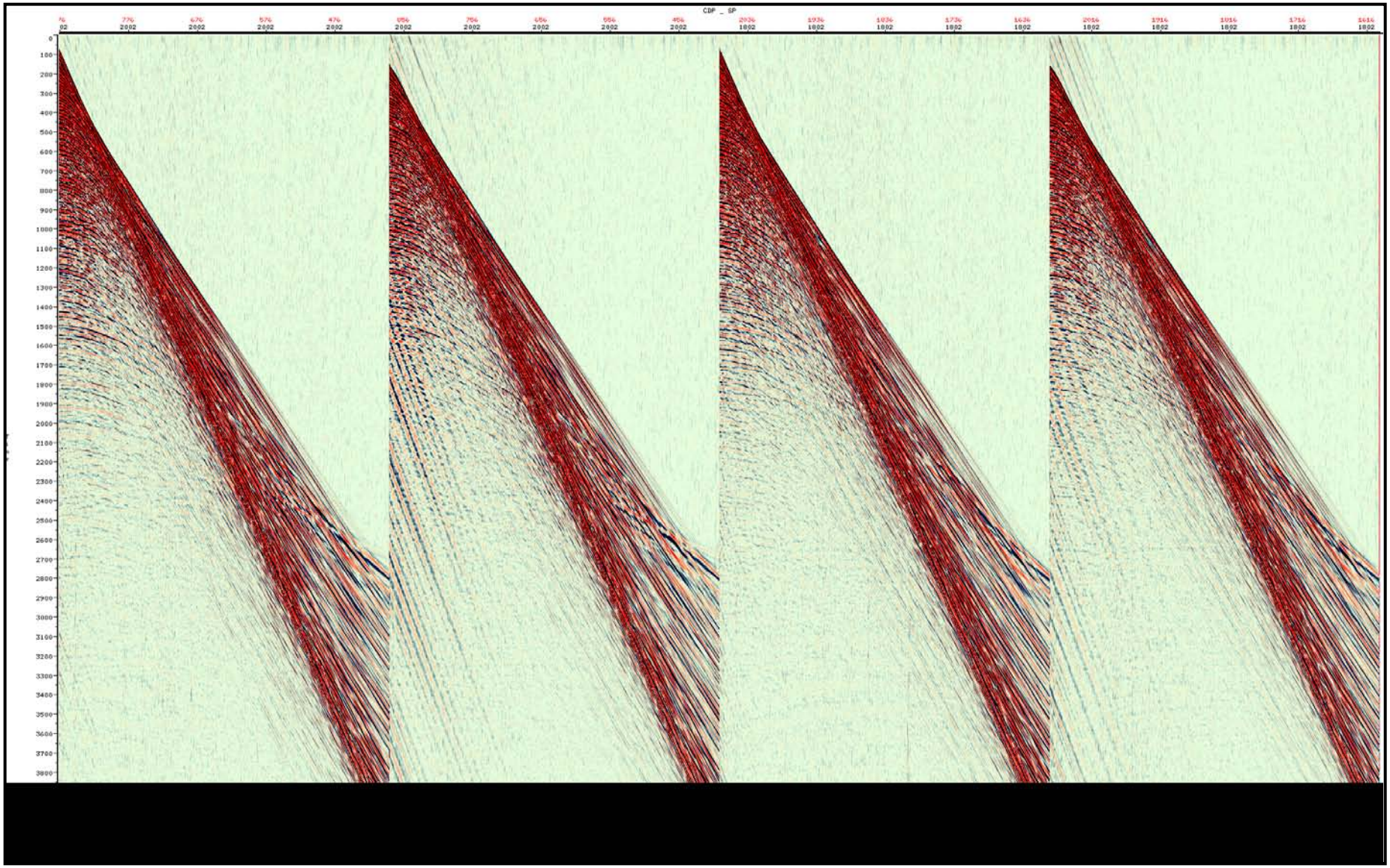
SP Gather SEQ039 – Raw SP+4Hz LC



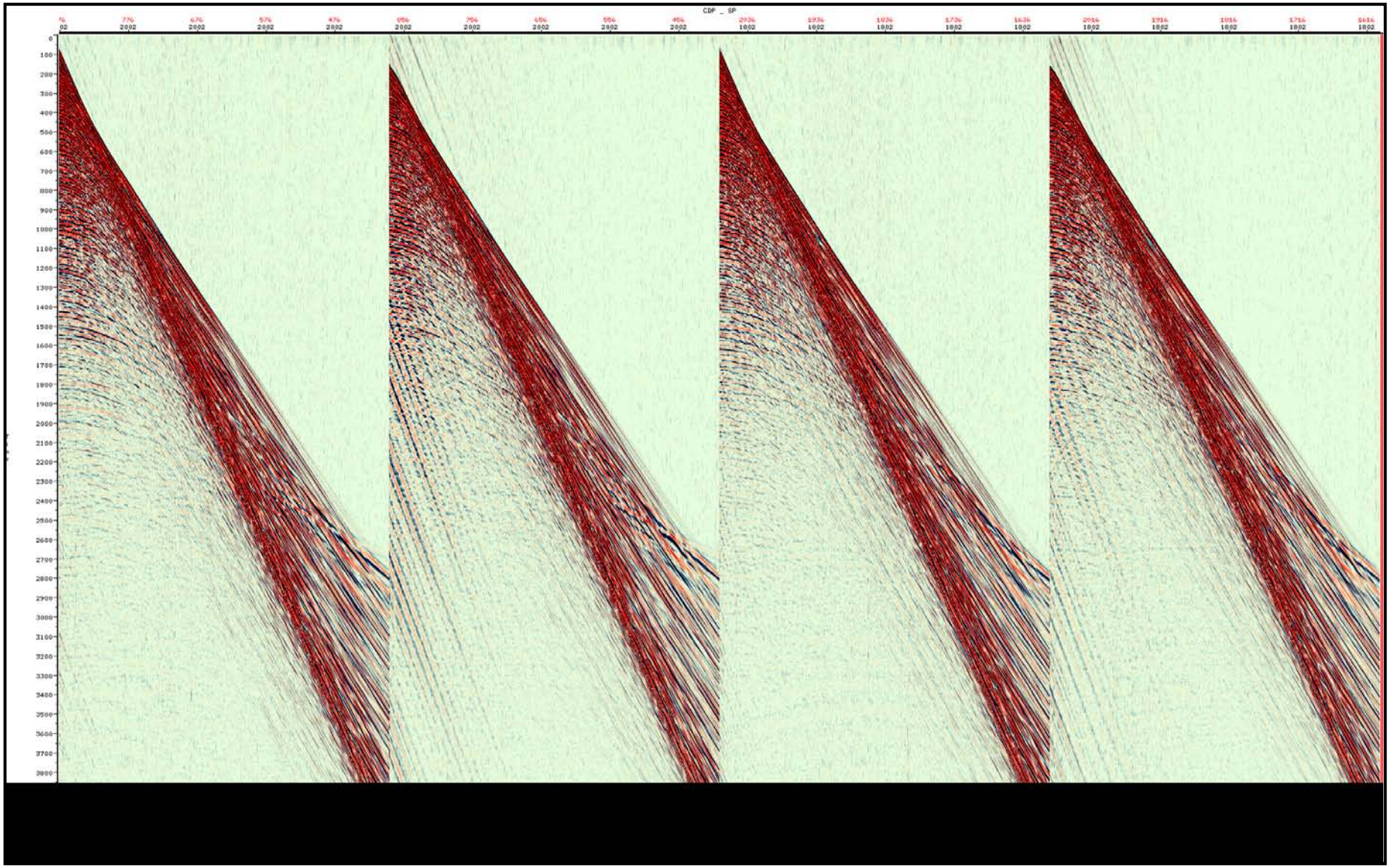
SP Gather SEQ039 – Raw SP+De-bias



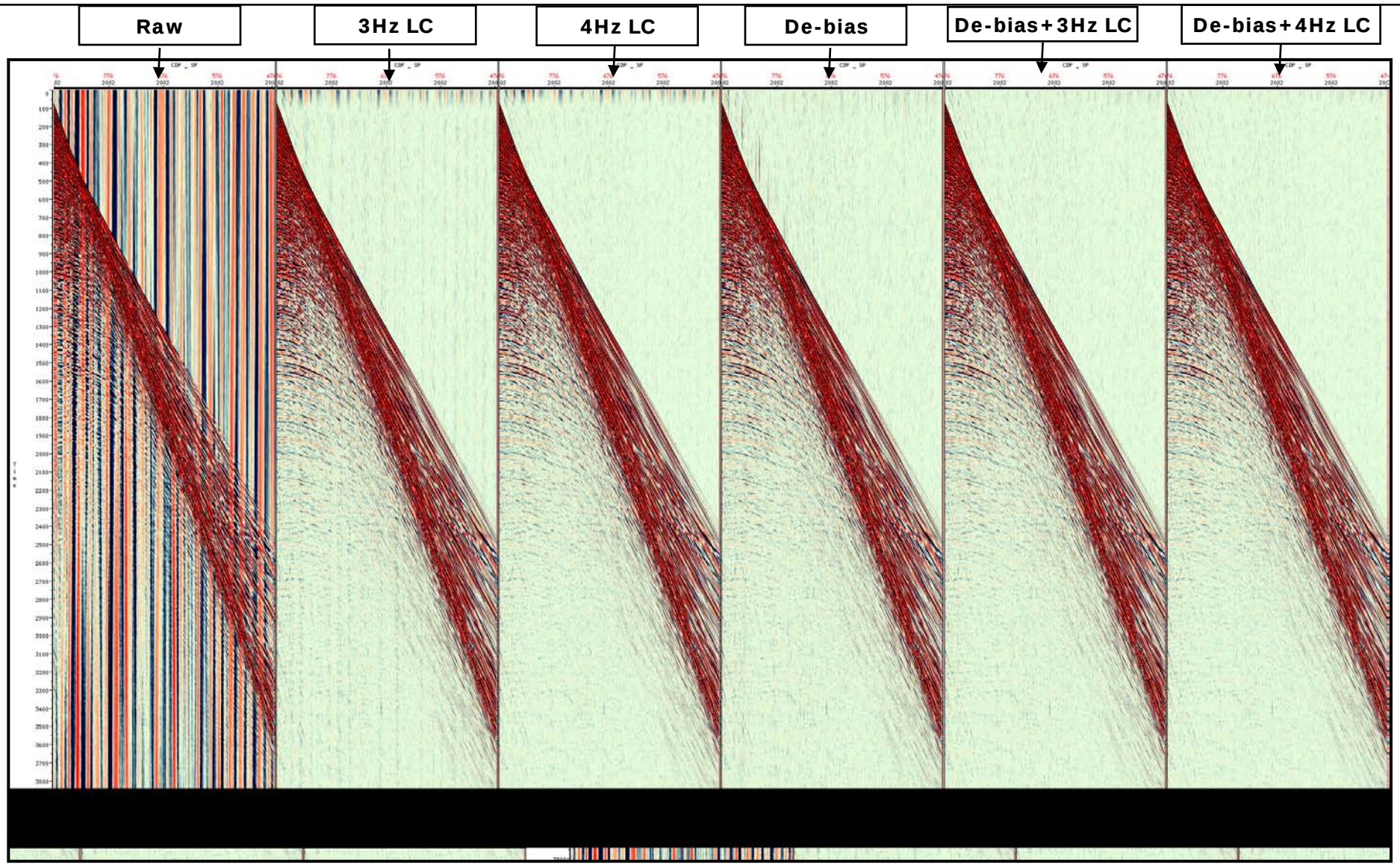
SP Gather SEQ039 – Raw SP+De-bias+3Hz LC



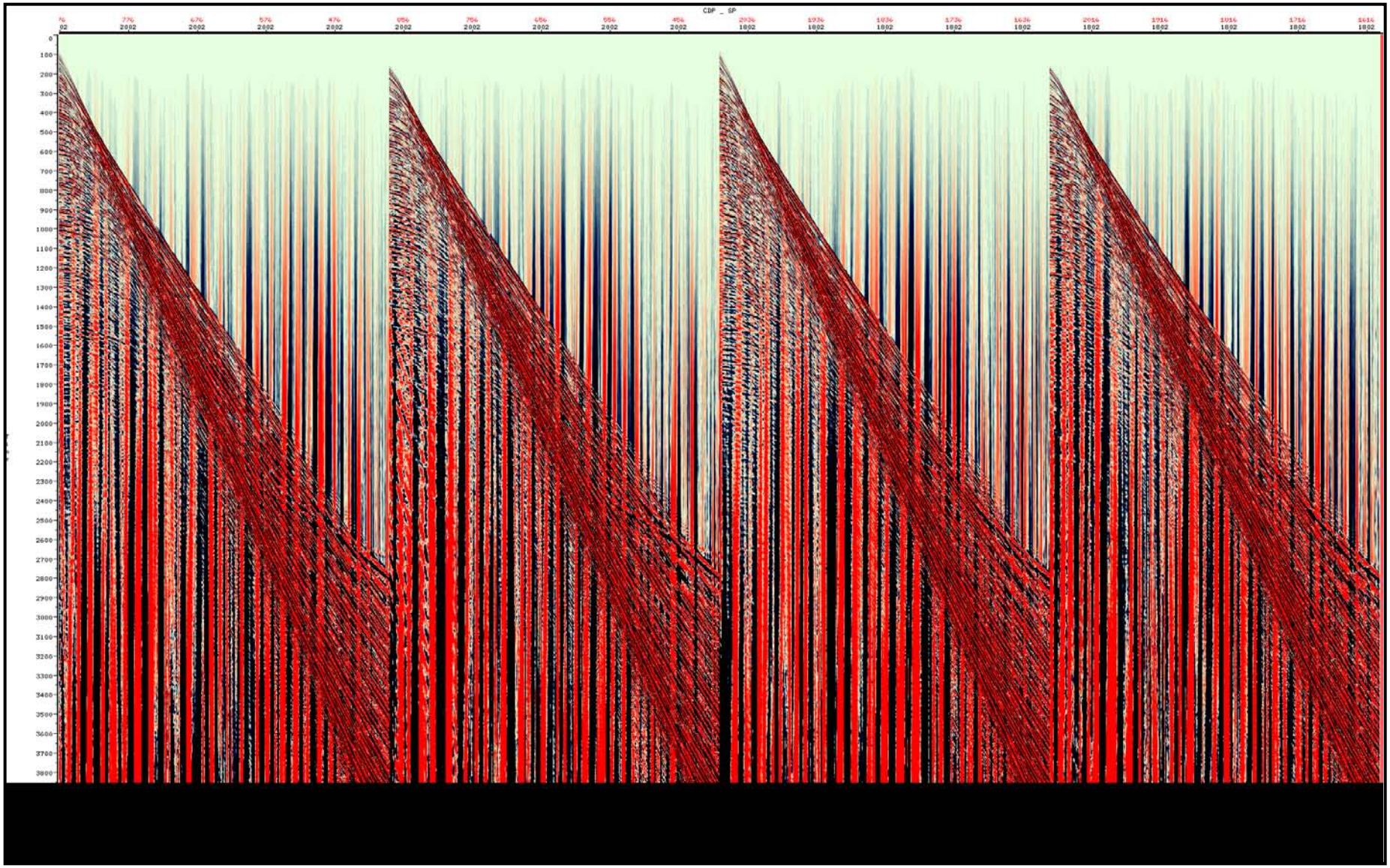
SP Gather SEQ039 – Raw SP+De-bias+4Hz LC



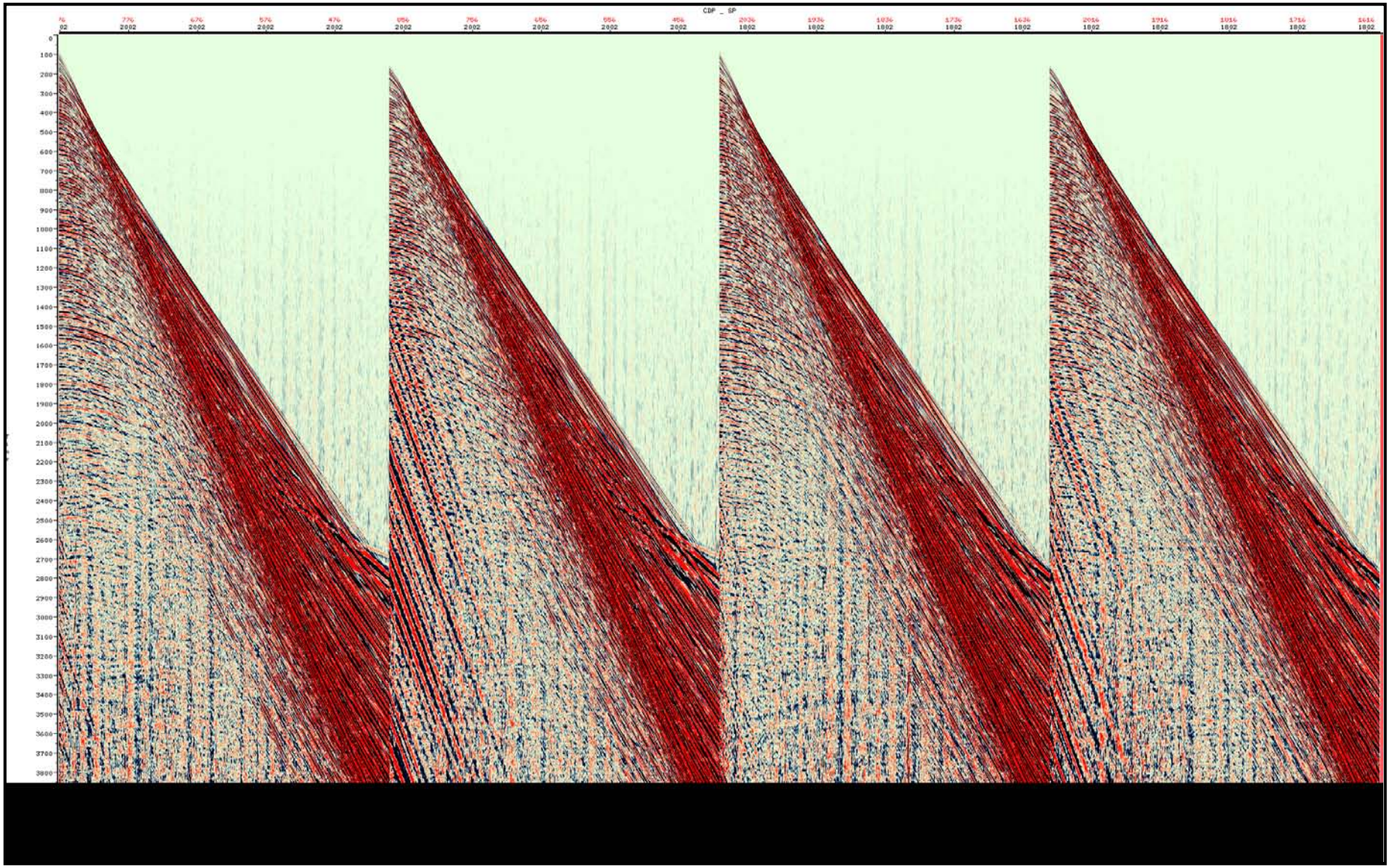
SP Gather SEQ039 : Raw SP - De-bias+ LC



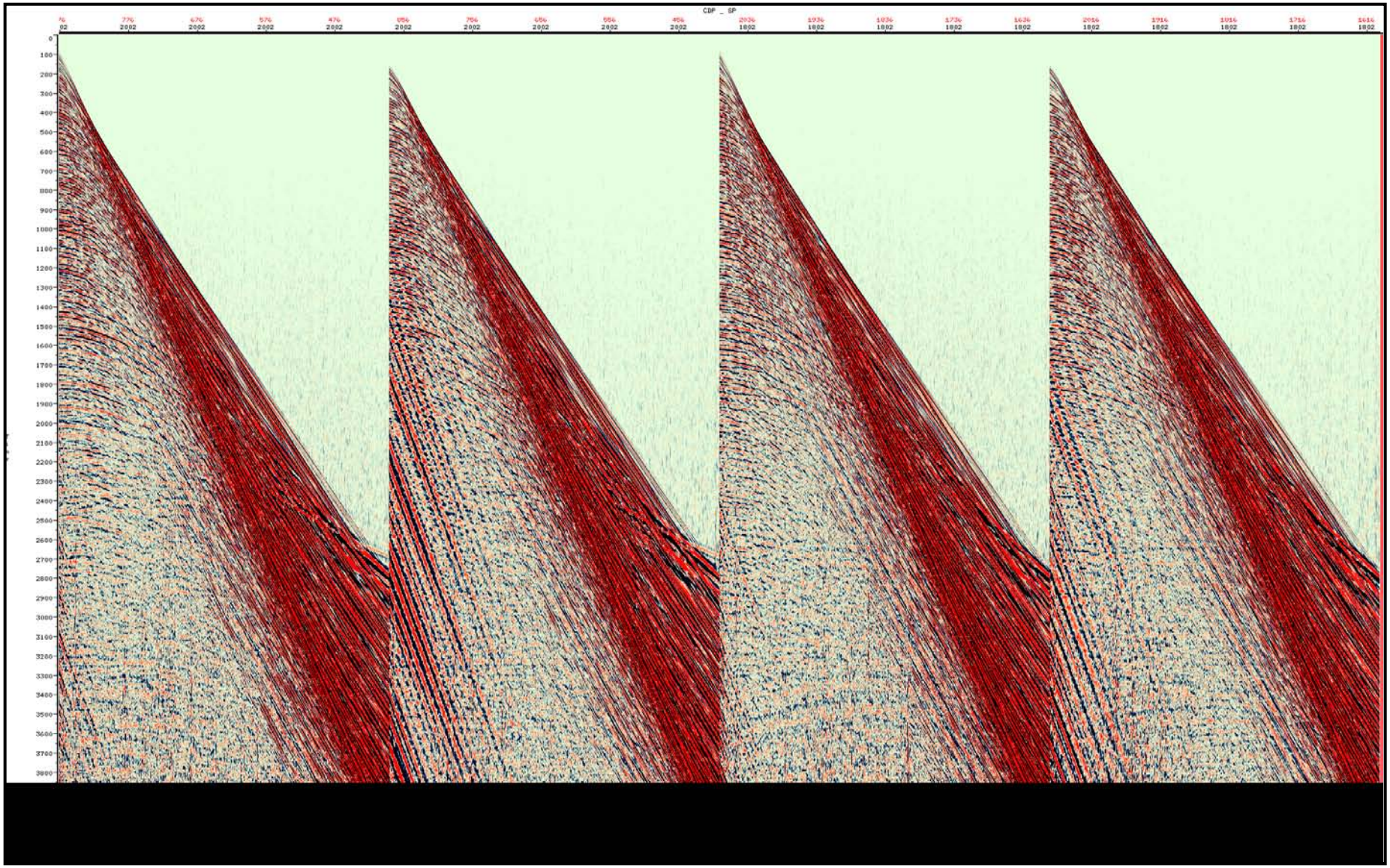
SP Gather SEQ039 – Amp Recov SP



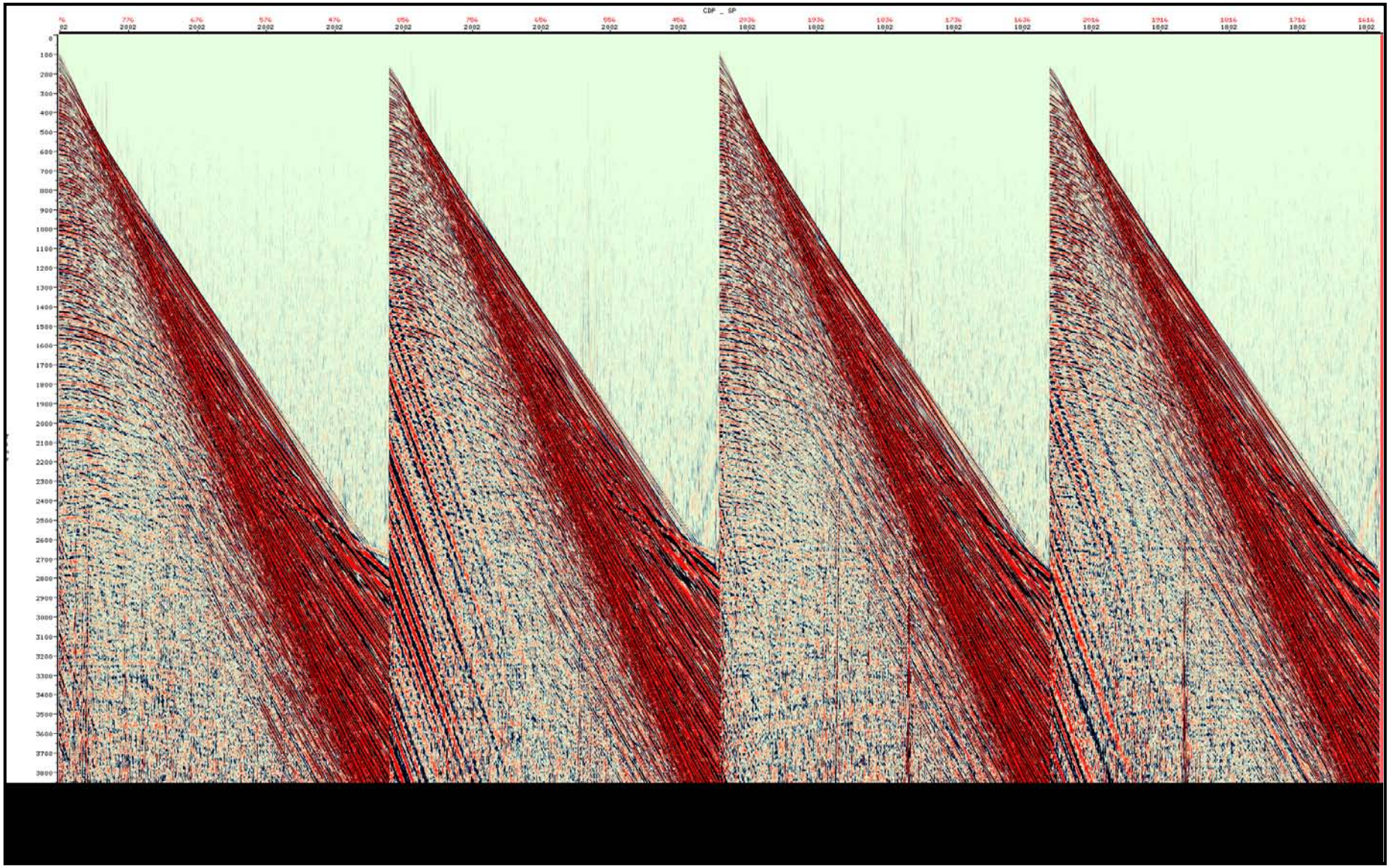
SP Gather SEQ039 – Amp Recov SP+3Hz LC



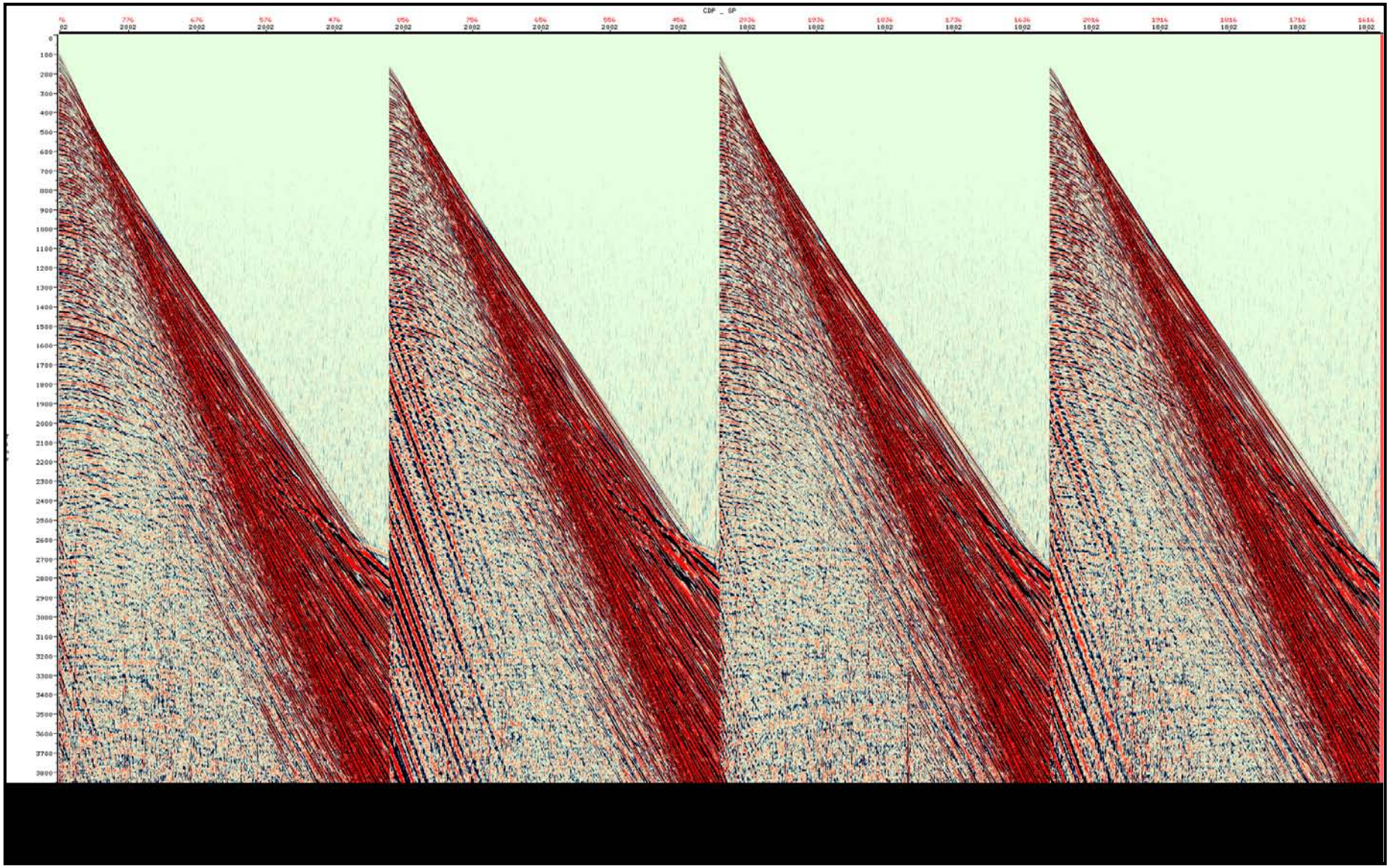
SP Gather SEQ039 – Amp Recov SP+4Hz LC



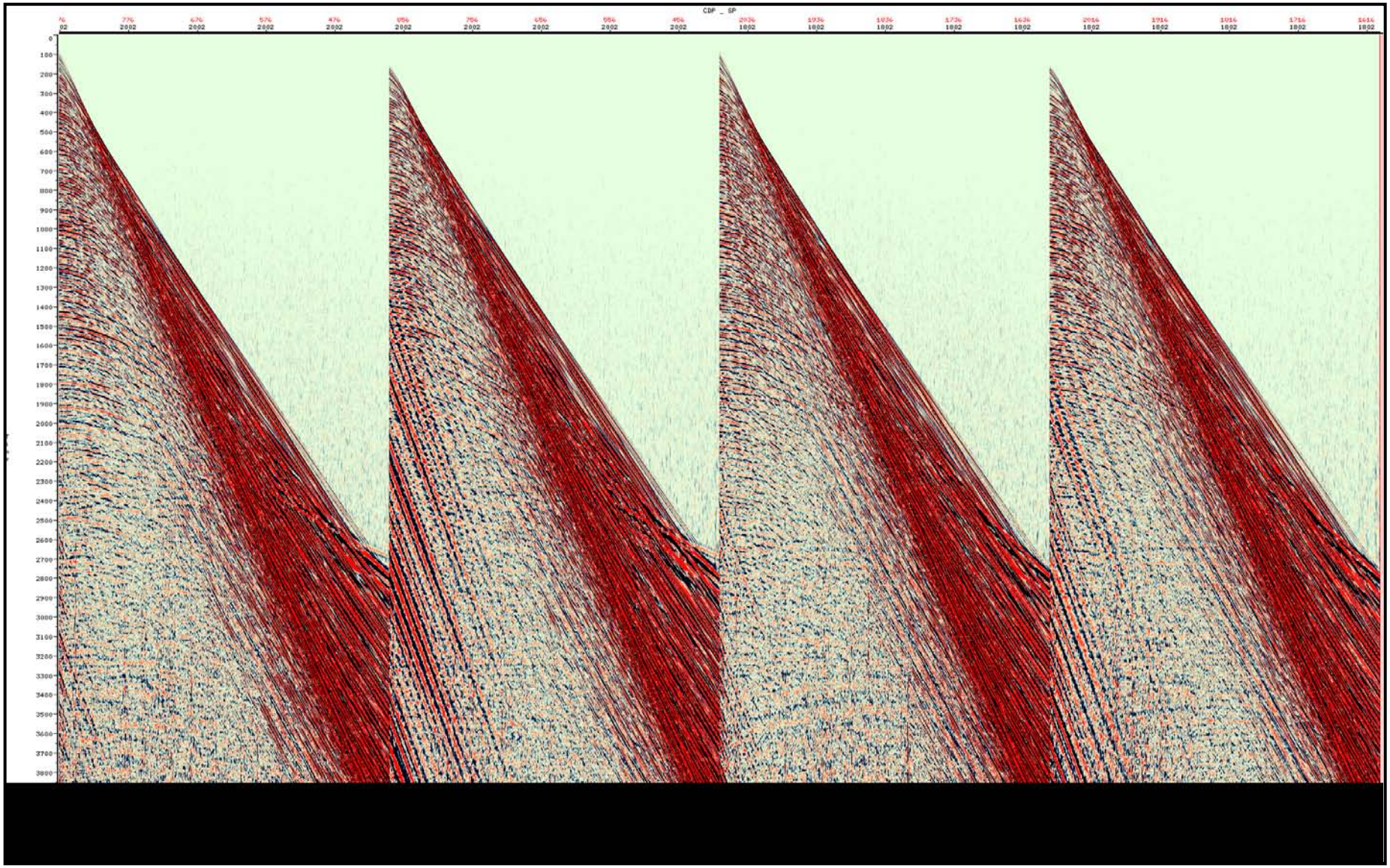
SP Gather SEQ039 – Amp Recov SP+De-bias



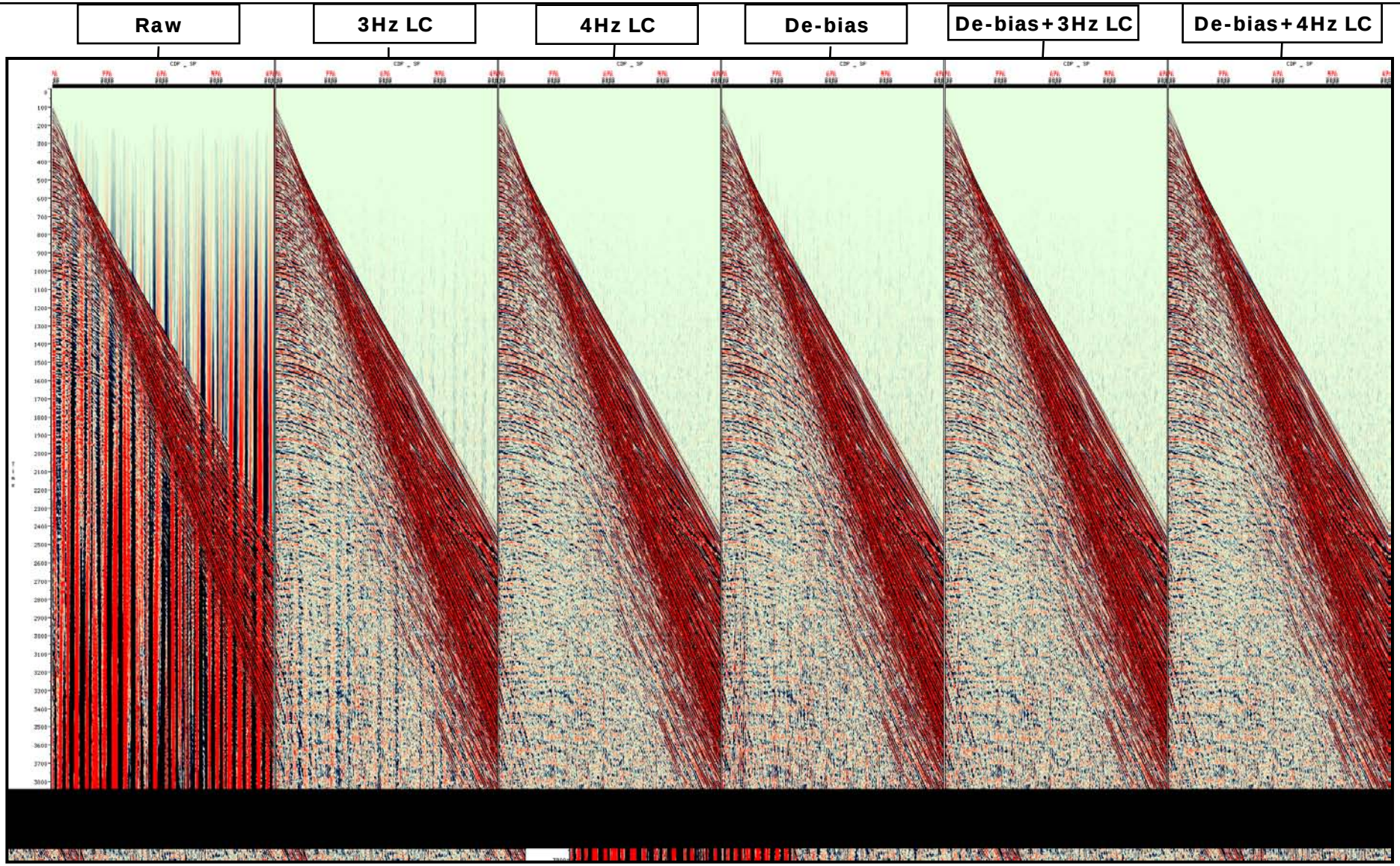
SP Gather SEQ039 – Amp Recov SP+De-bias+3Hz LC



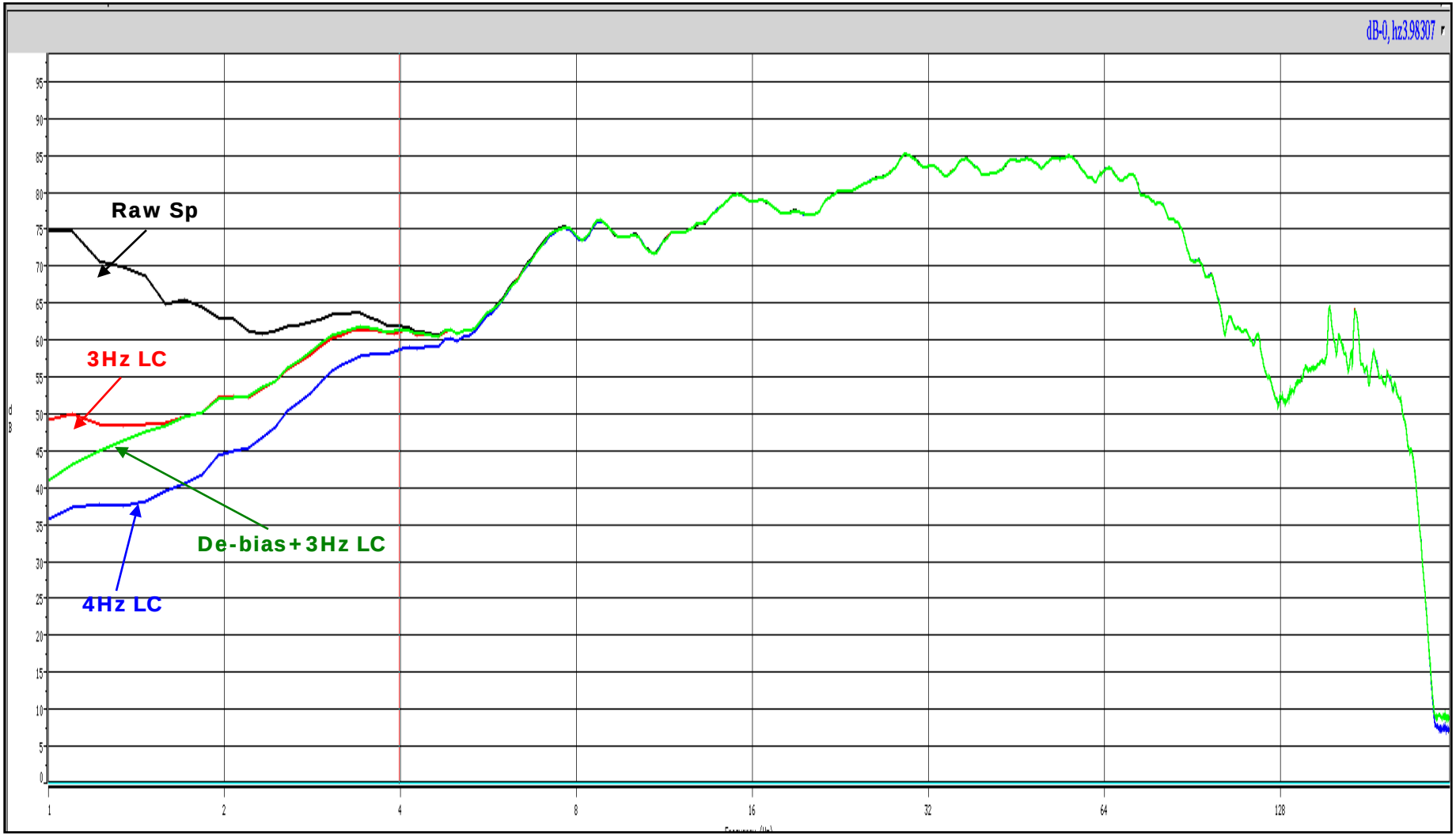
SP Gather SEQ039 – Amp Recov SP+De-bias+4Hz LC



SP Gather SEQ039 : Amp Recov - De-bias+ LC



SEQ007 – Spectra dB / Octave



Conclusions & Recommendations

CGGVeritas recommends the application of a de-bias at the beginning of the processing sequence to ensure the integrity of any further processes applied to this data set. This is best done by the combination of a trace centering around zero amplitude (de-bias) and a 3Hz low cut filter. A 3Hz low cut filter alone leaves behind some of the strong bias within the dataset. This is removed well by a 4hz low cut filter, but the combination of a trace centering around zero amplitude and a 3Hz low cut filter avoids any unnecessary attenuation of low frequencies.

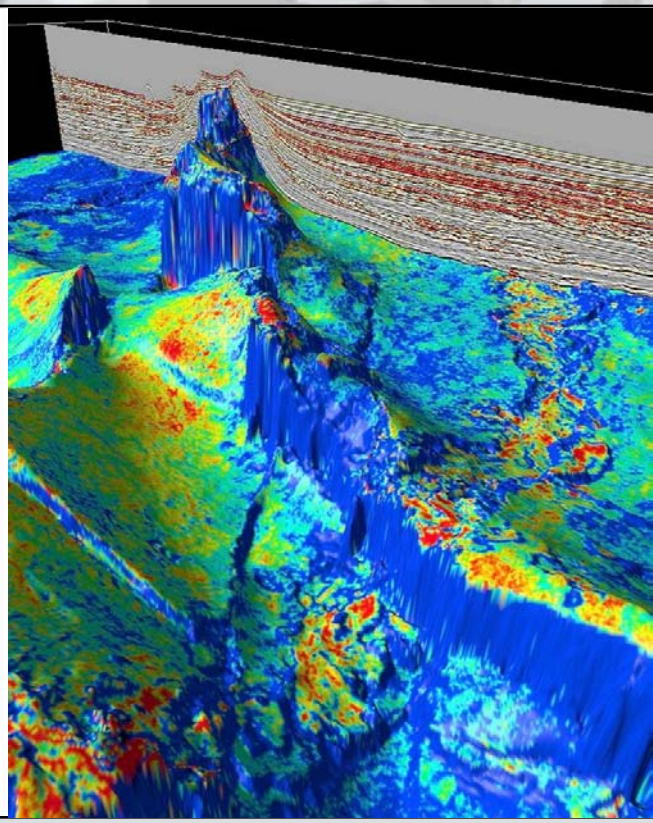
Proposed Processing Sequence to date :

1. **Reformat of Seismic and navigation data to CGGVeritas internal format**
2. **Cut record length to 6000ms (58ms recording delay)**
3. **Application of de-bias & 3Hz low cut filter**

QC Production 1

Data Reformat & Near Trace Cube

Silvereye 3D



CGGVERITAS

Data Reformat

This PowerPoint shows QCs from the data reformat and near trace cube.

Details

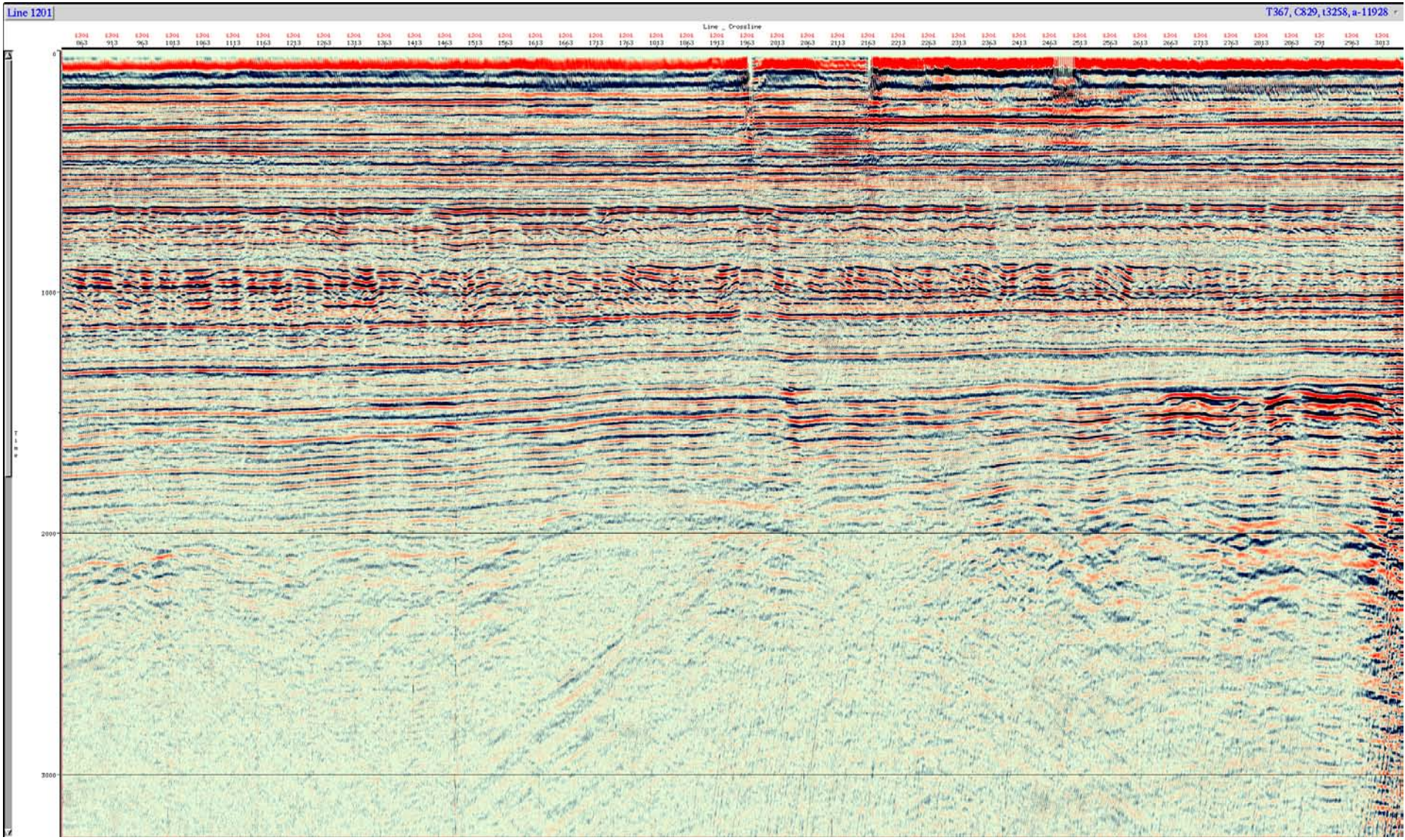
Processing so far:

- Reformat & Seismic/Navigation merge
- Conversion of field data to CGG internal format
- Instrument delay - phase 58ms
- Cut data to 6000ms
- Maintain a sample of 2ms (with appropriate anti-alias filter applied)
- Amplitude recovery, multiply amplitudes by (T/250)2
- De-bias and low cut filter: 3Hz
- Assign 3D geometry – 12.5m x 25m

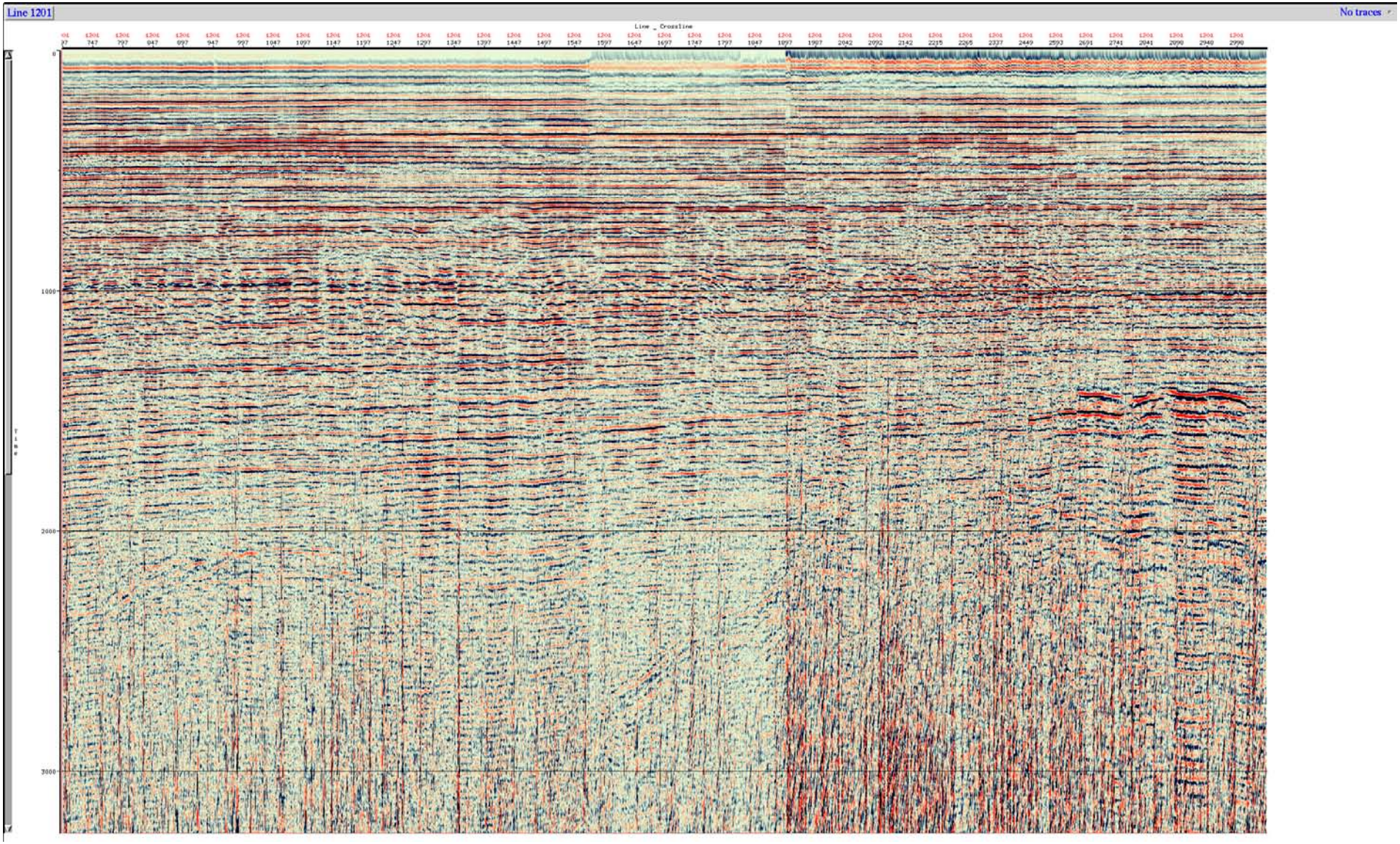
QCs

- Example inlines, crosslines and time slices
- The full fold polygon taken from page 75 of the Acquisition Report is displayed on the time slices in both X, Y and IL, CDP
- Near offset QC from the reformat stage

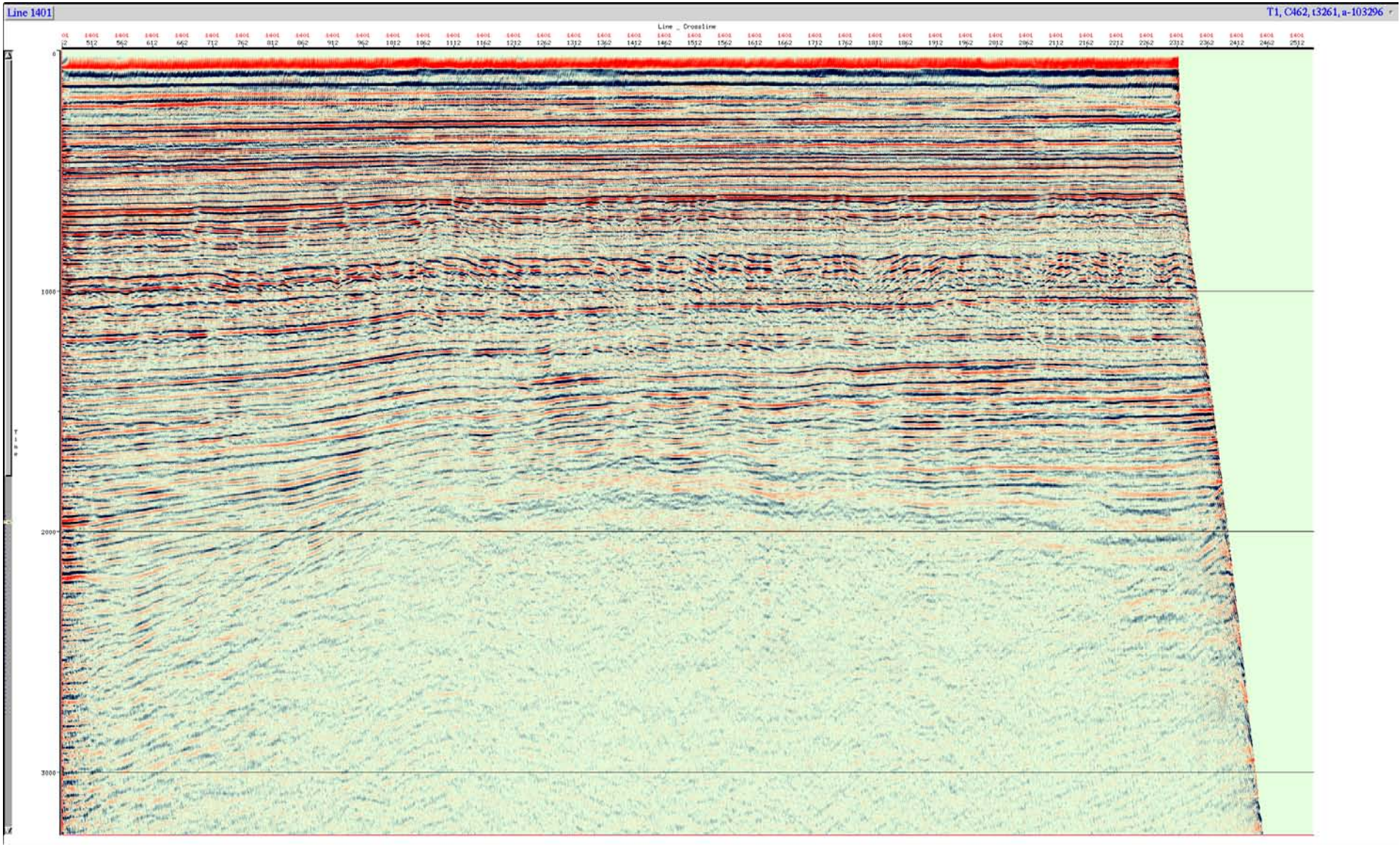
Reformat stack IL1201



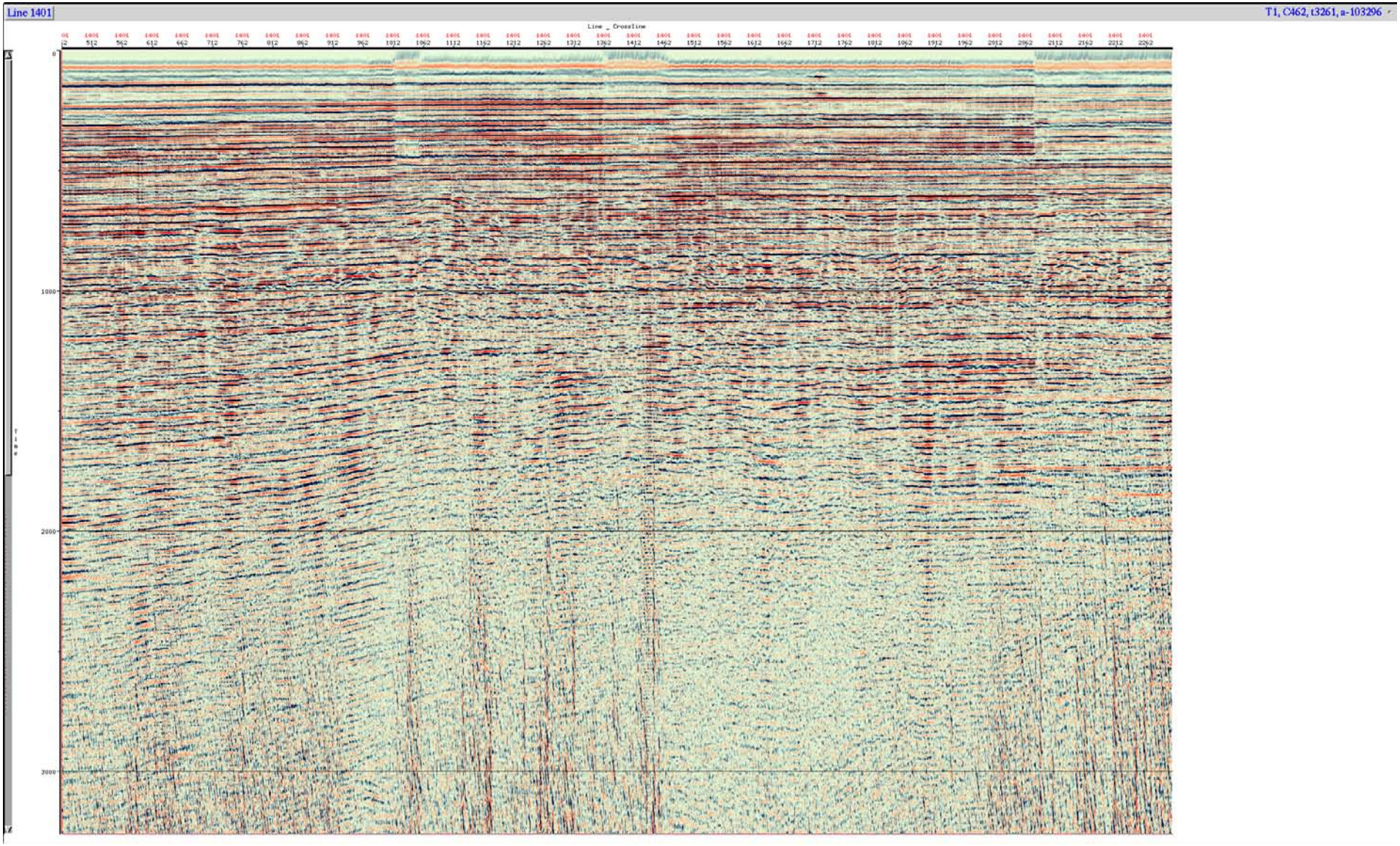
NTC stack IL1201



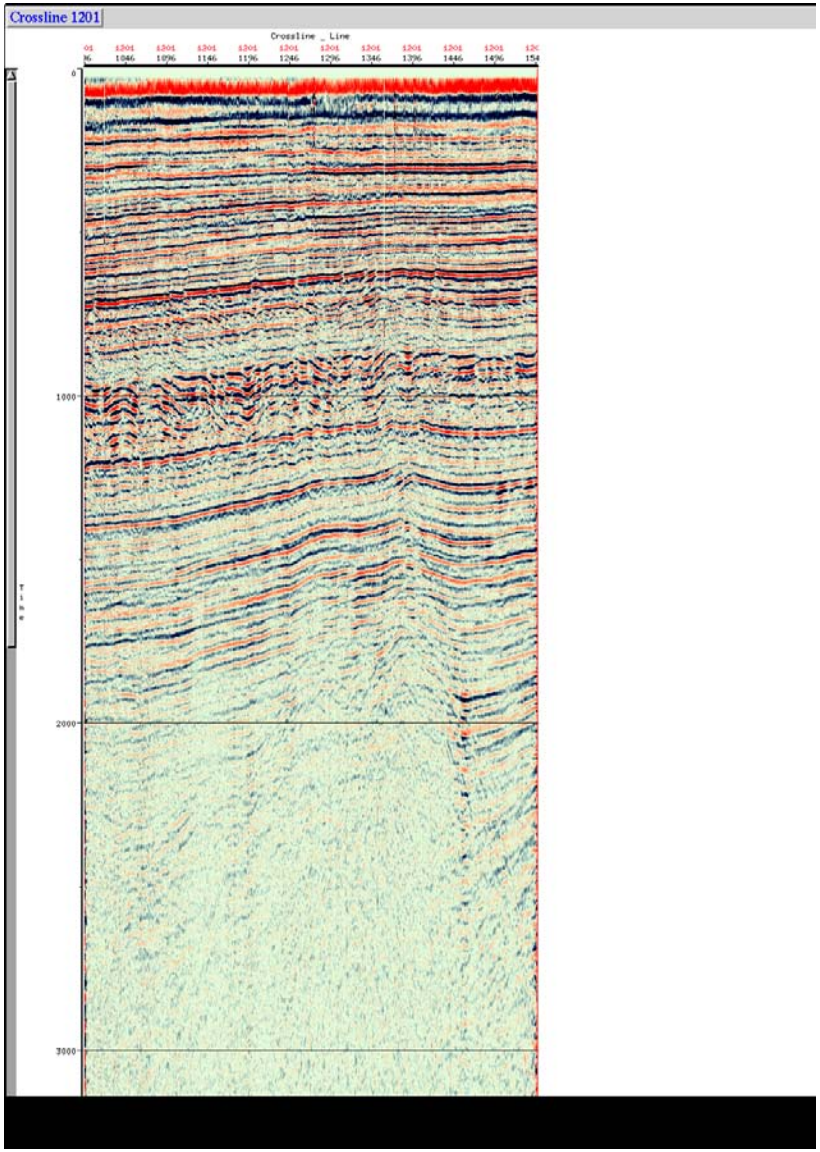
Reformat stack IL1401



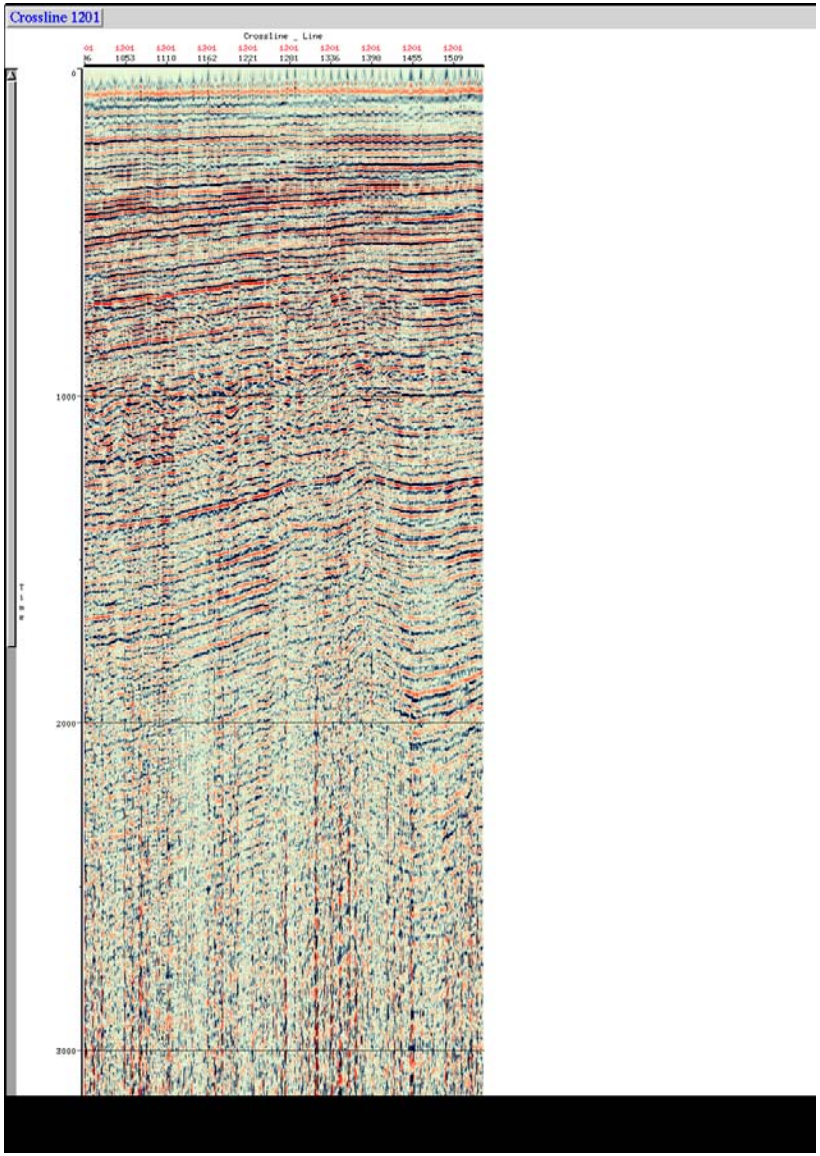
NTC stack IL1401



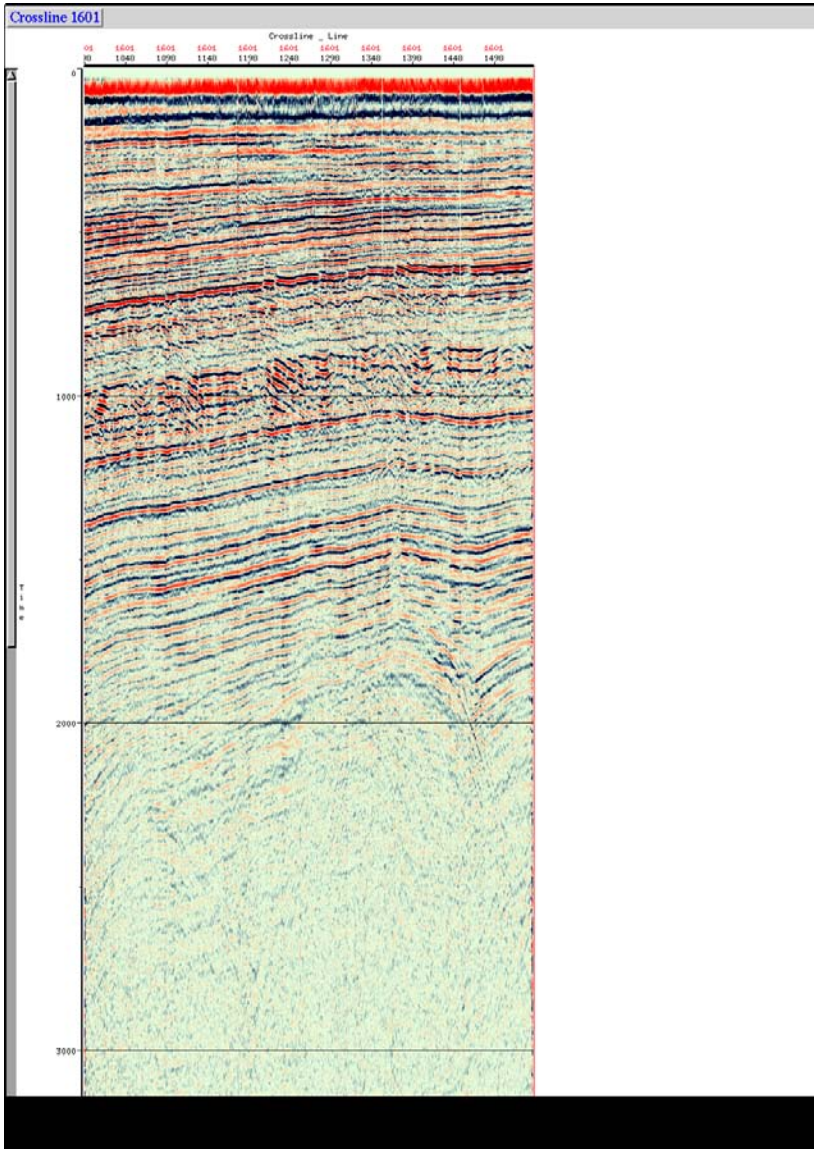
Reformat stack XL1201



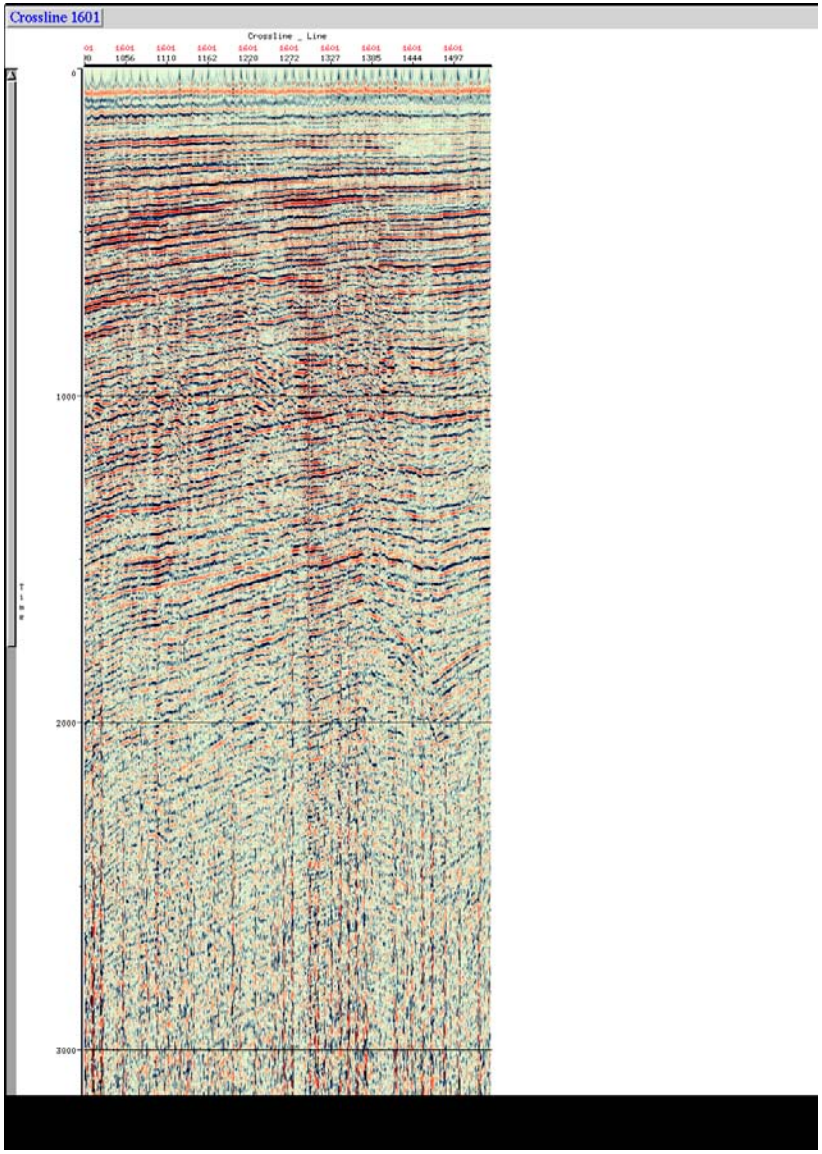
NTC stack XL1201



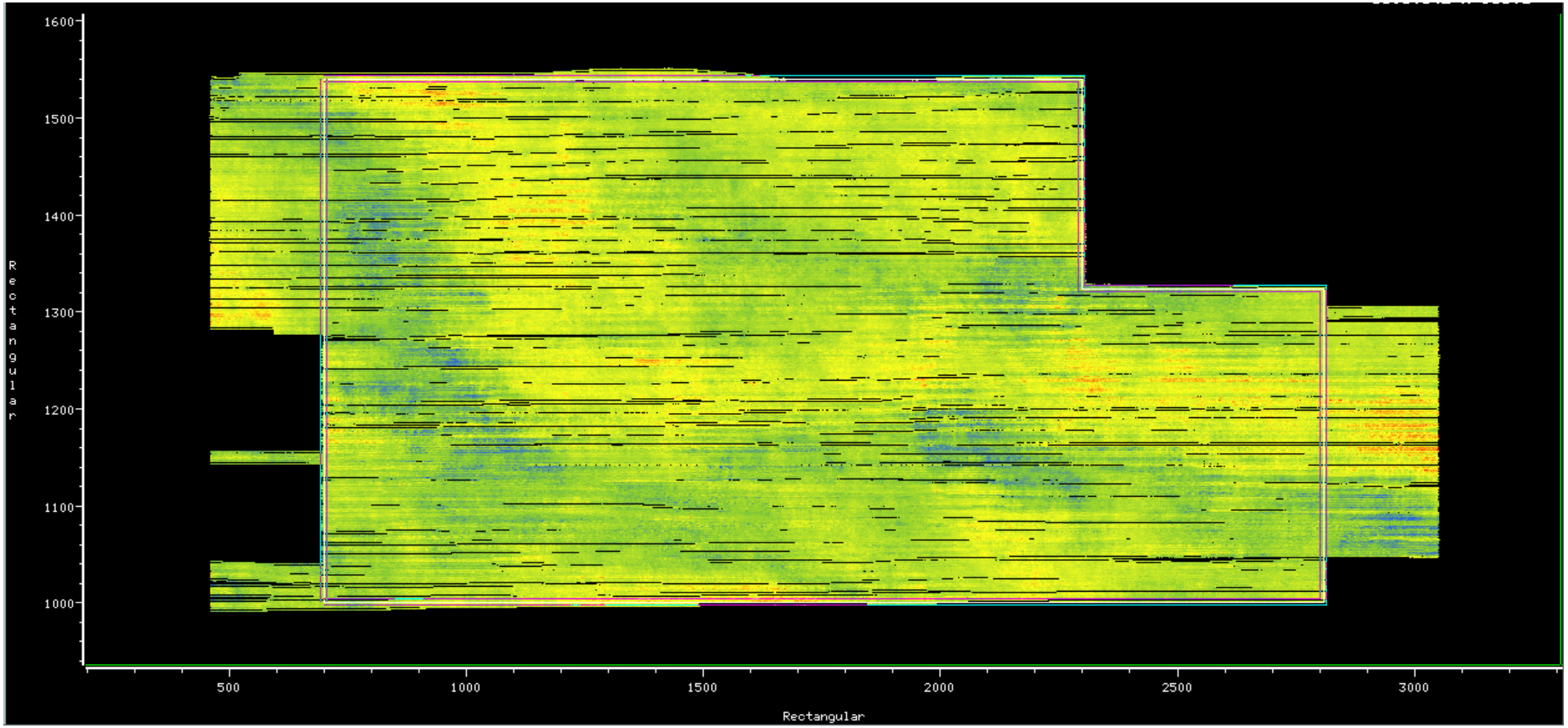
Reformat stack XL1601



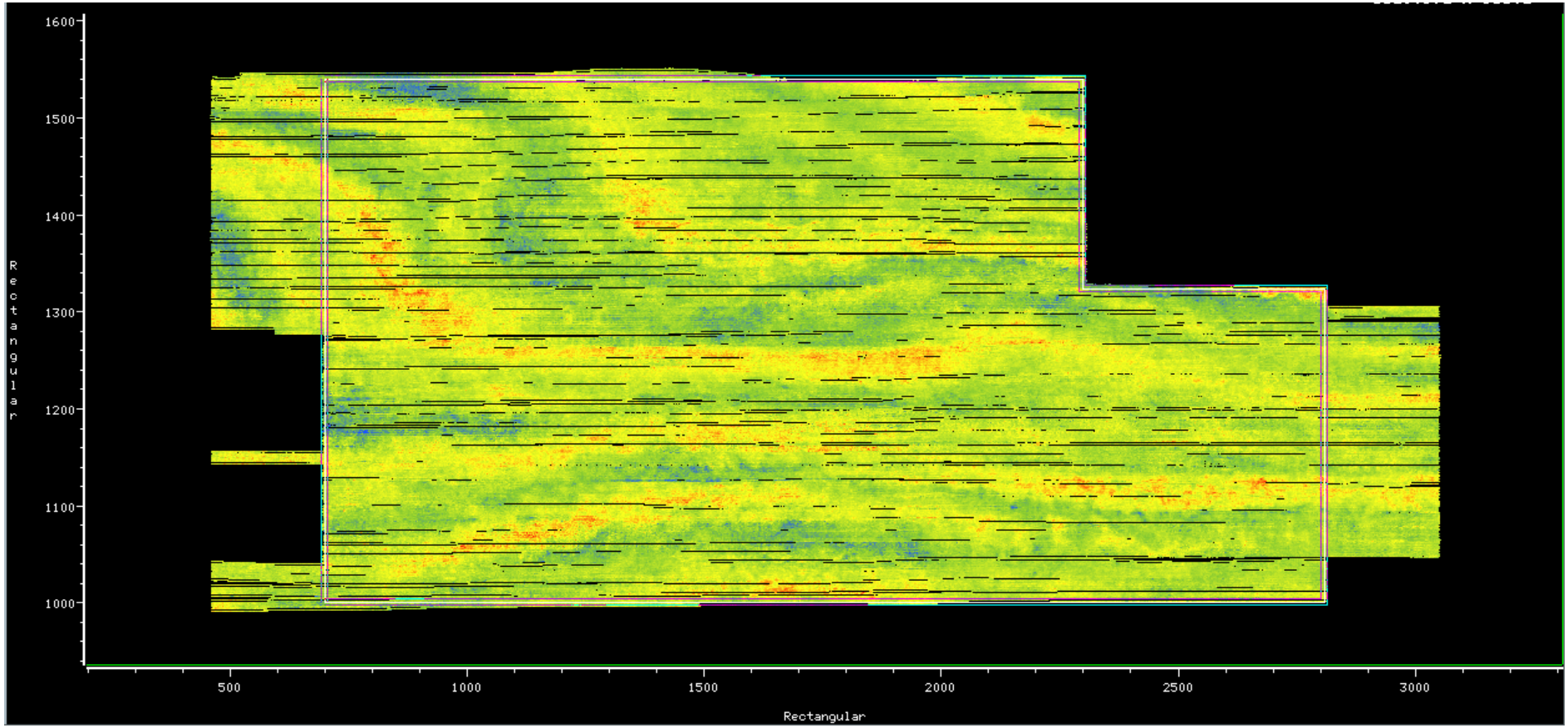
NTC stack XL1601



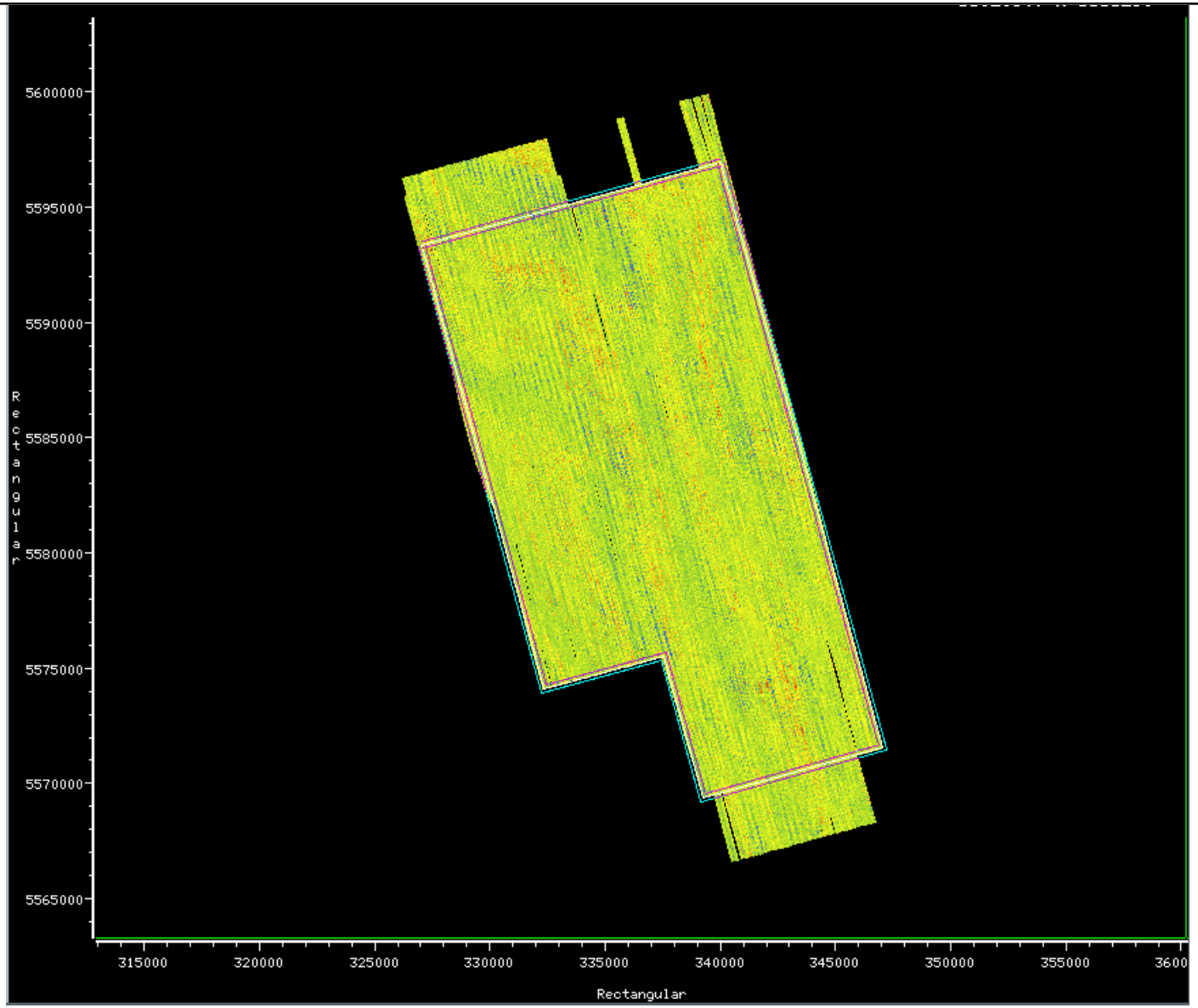
NTC time slice 250ms



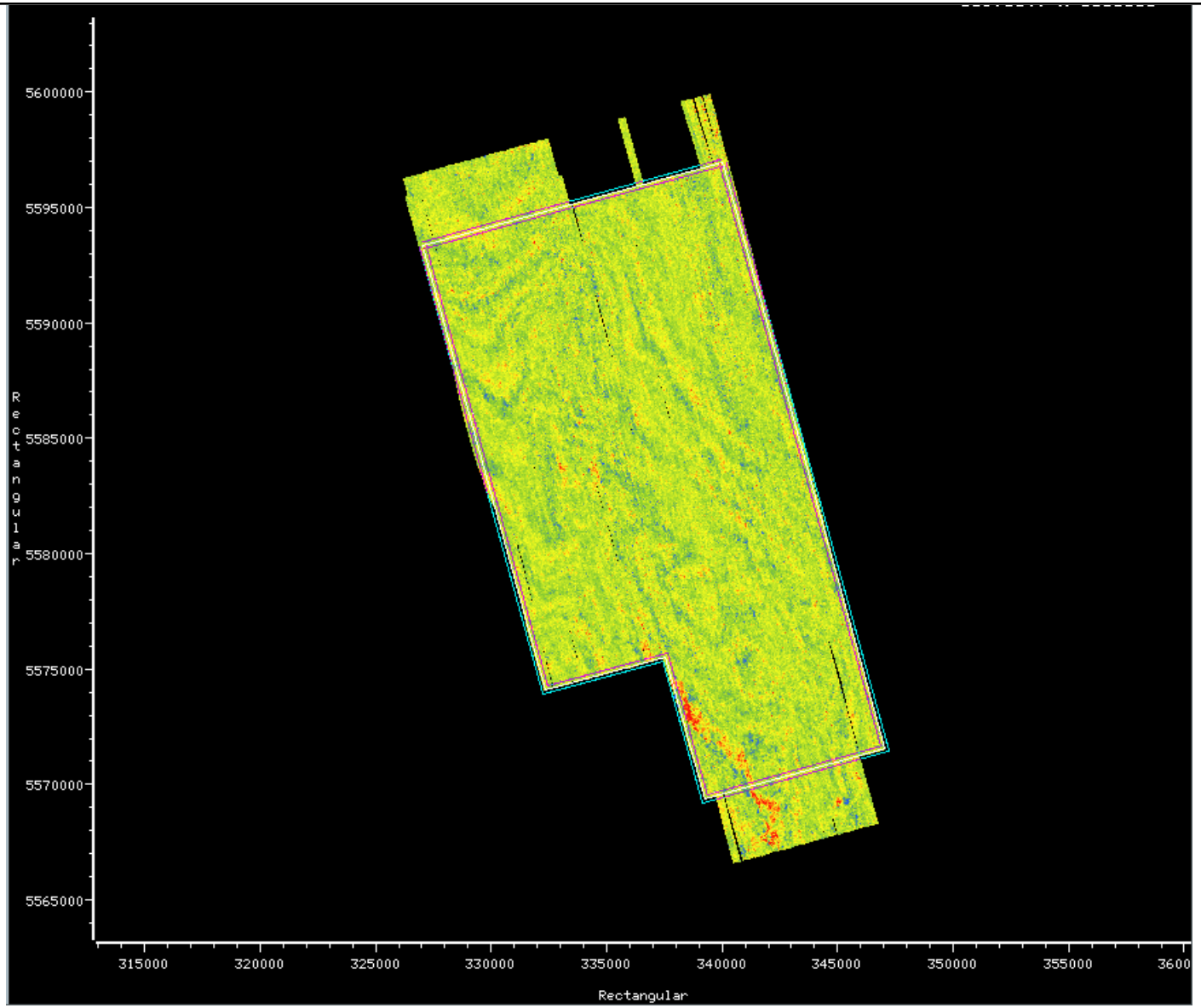
NTC time slice 500ms



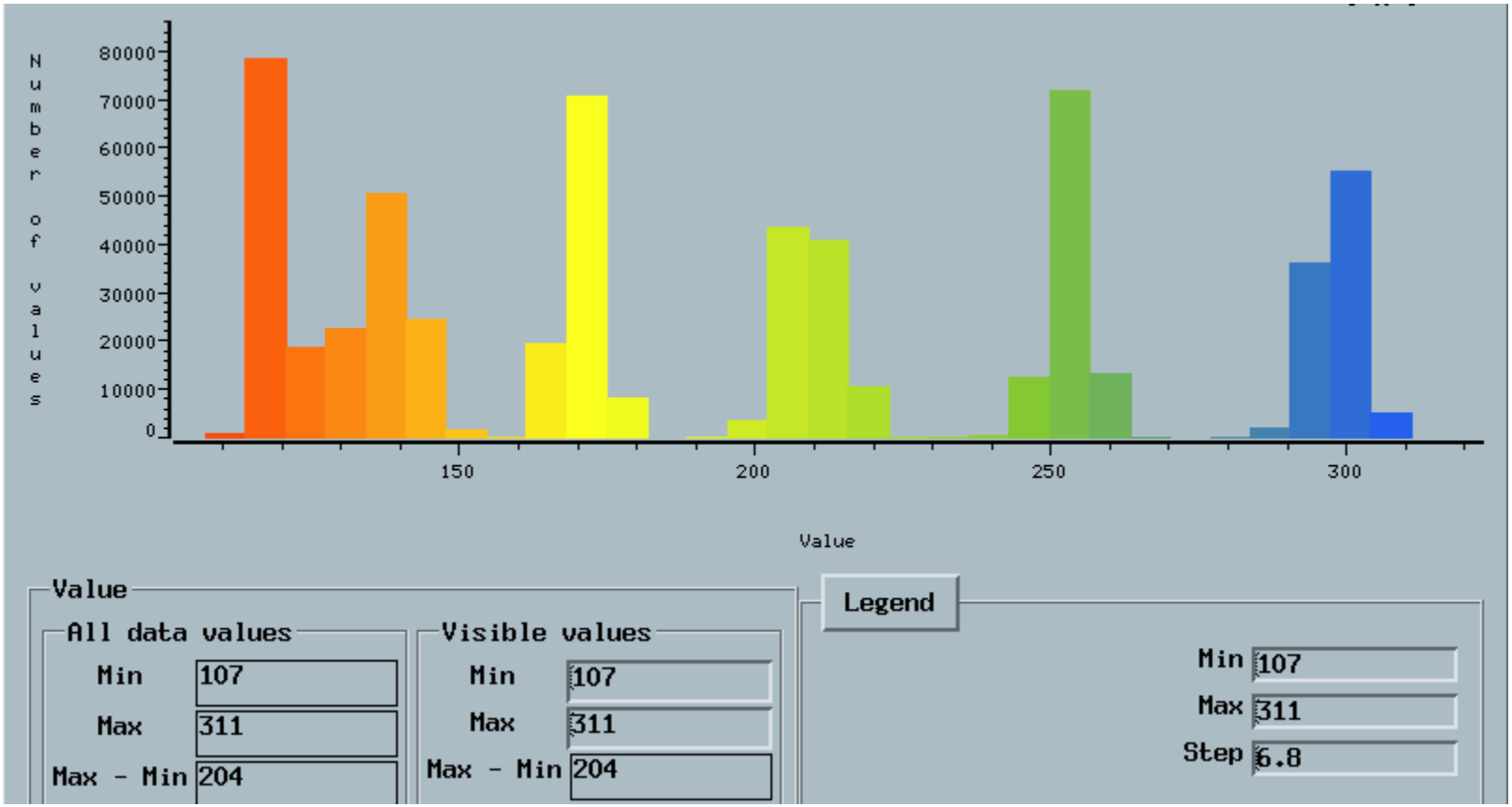
Reformat time slice 500ms



Reformat time slice 1500ms

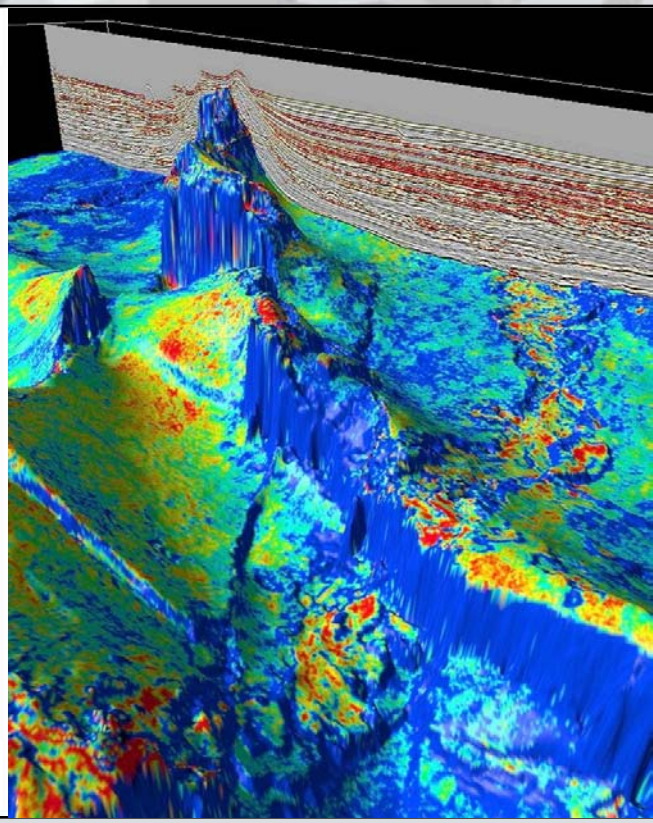


Near offset QC



Near offset range: 107m – 311m

Technical Note 3
SRME FLOW
Silvereye 3D



CGGVERITAS

Introduction

Testing was carried out on sail line OS073D1342P1039 (Seq:039).

The data are selected on cable 3 (channel number:961-1440).

- CGGV have also tested seq 007 with the same flow.

.

Processing Sequence to date

Processing Sequence to date

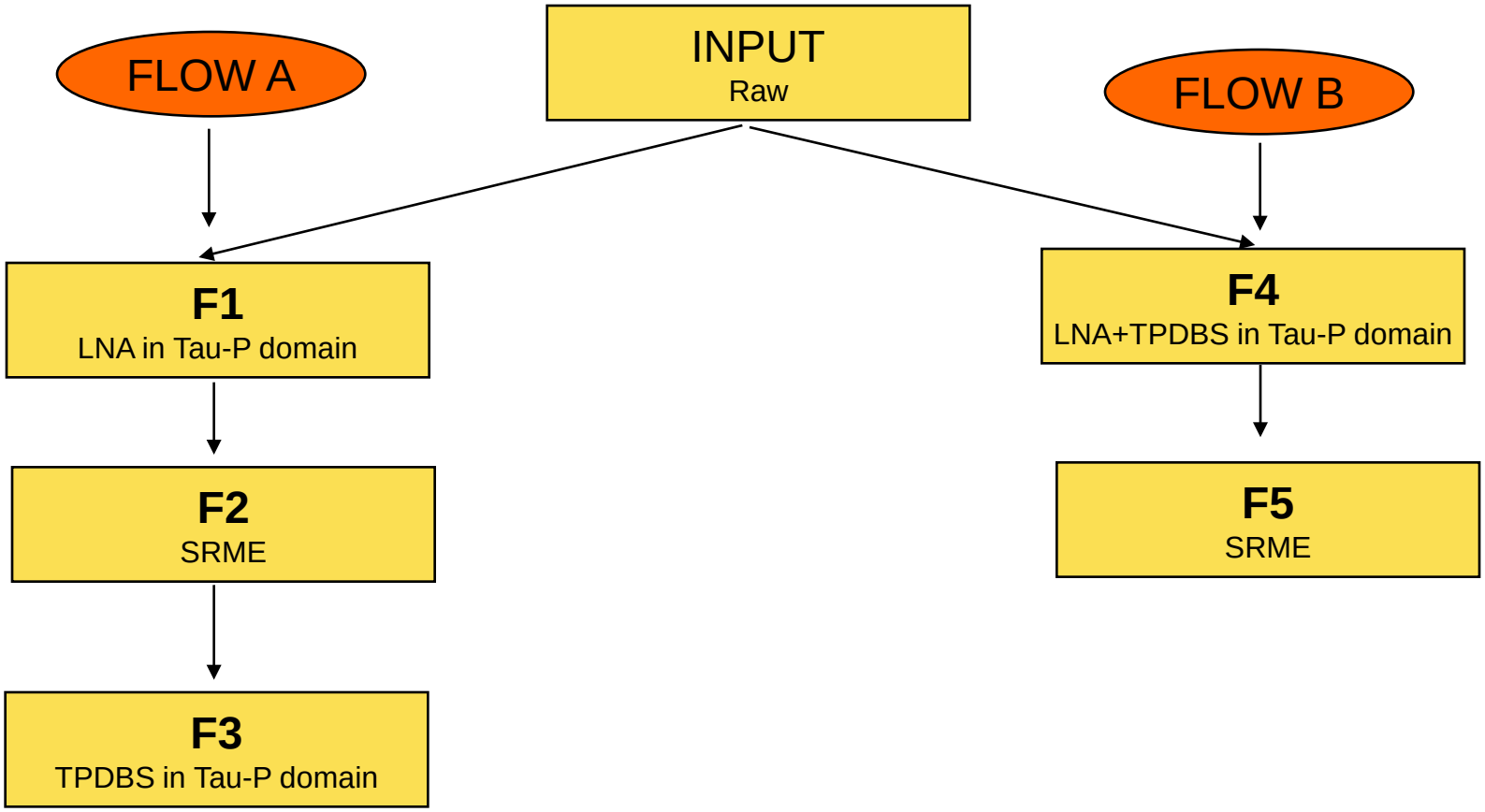
- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Resample from 2ms to 4ms, with 100Hz Anti-alias filter applied)
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in Channel domain
- KNotch Filter

Current Test

- **Flow A:**
  - LNA in Tau-P domain
  - SRME, subtraction in cdp domain
  - DBS in Tau-P domain, Gap 48ms, Op: 300ms, Window: 0-2200ms

- **Flow B:**
  - LNA and DBS in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain
  -

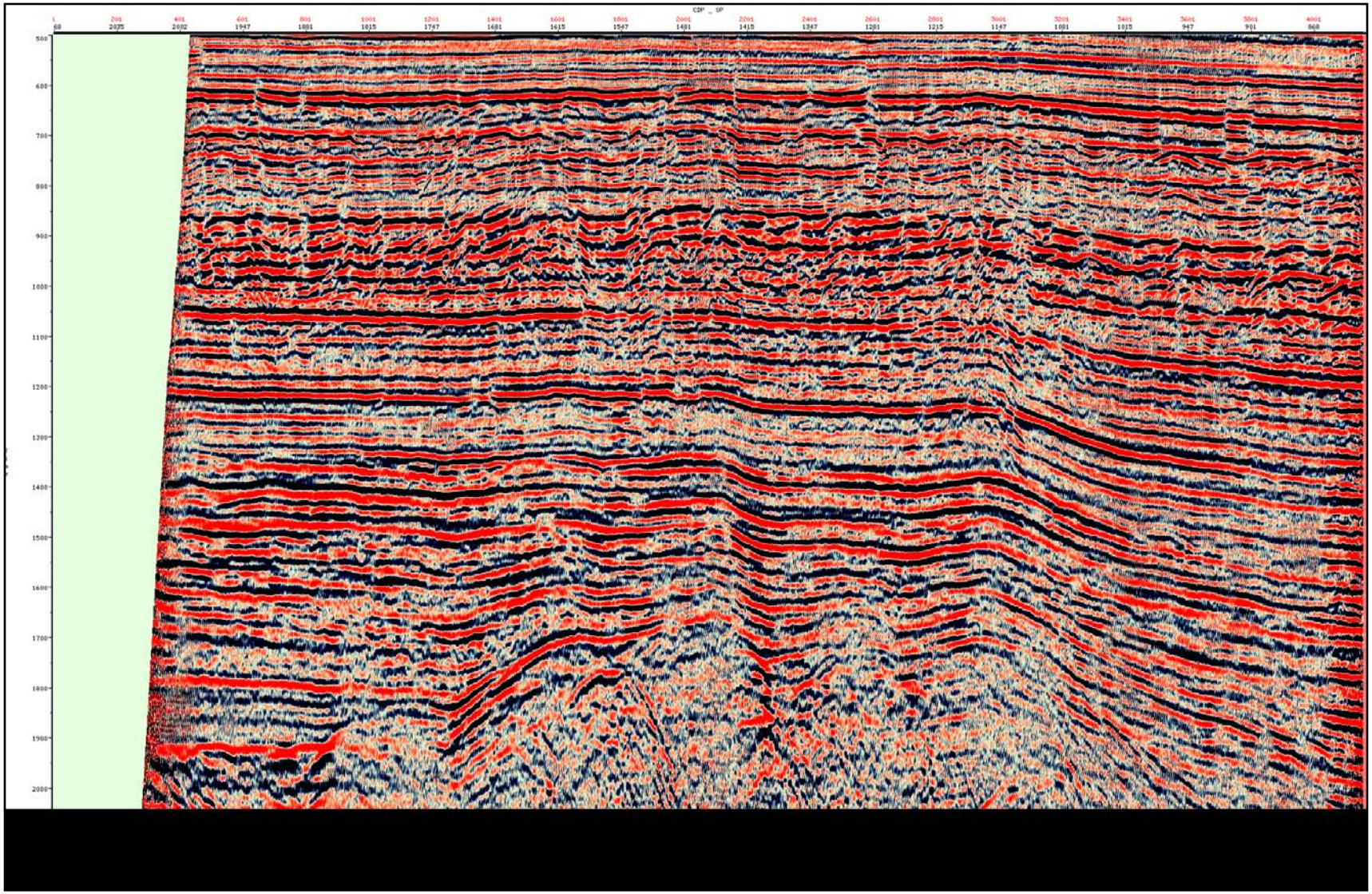
SRME


FLOW A
INPUT
Raw
FLOW B
F1
LNA in Tau-P domain
F4
LNA+TPDBS in Tau-P domain
F2
SRME
F5
SRME
F3
TPDBS in Tau-P domain

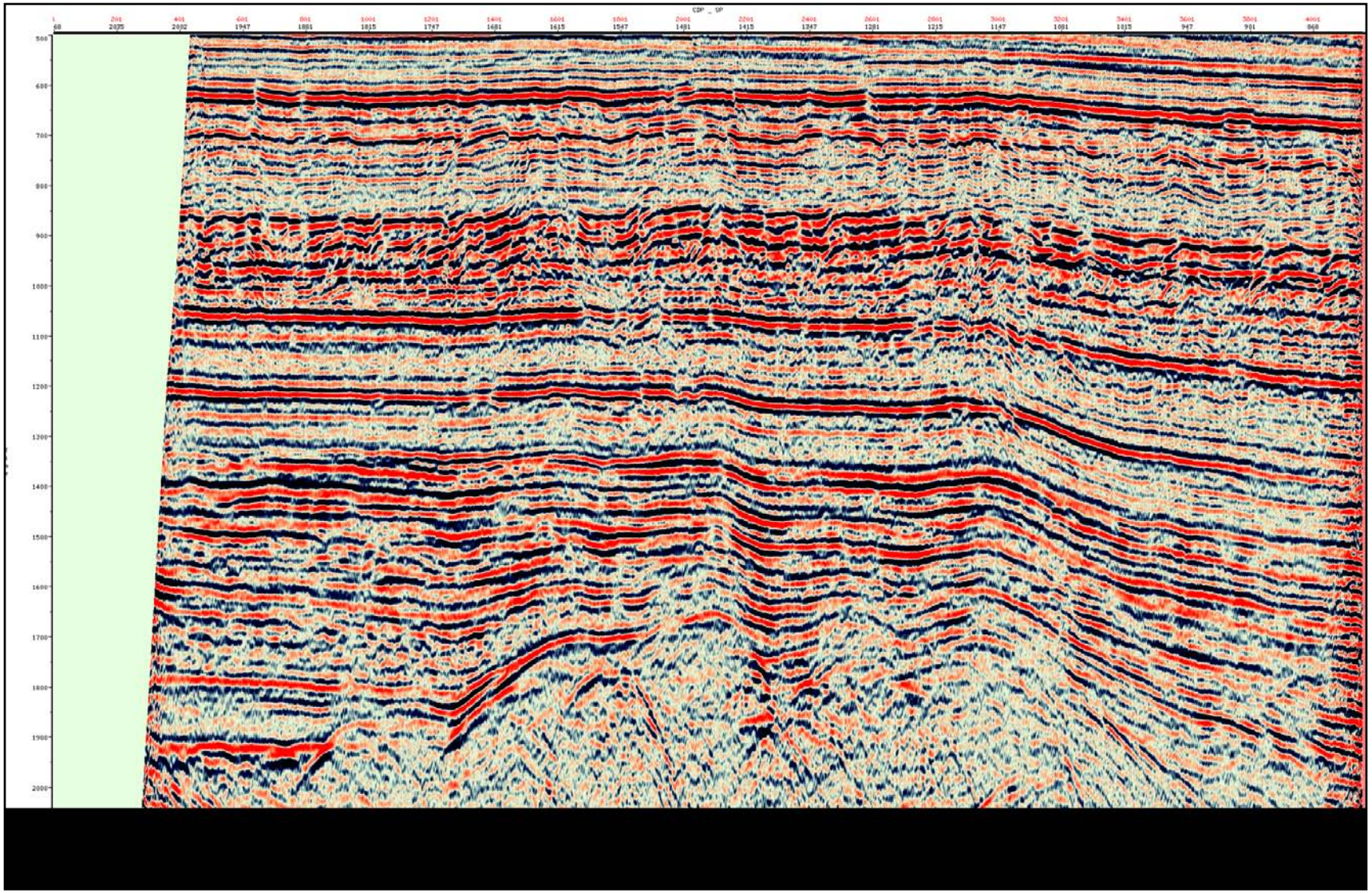
Profile ID SEQ039

SRME FLOW

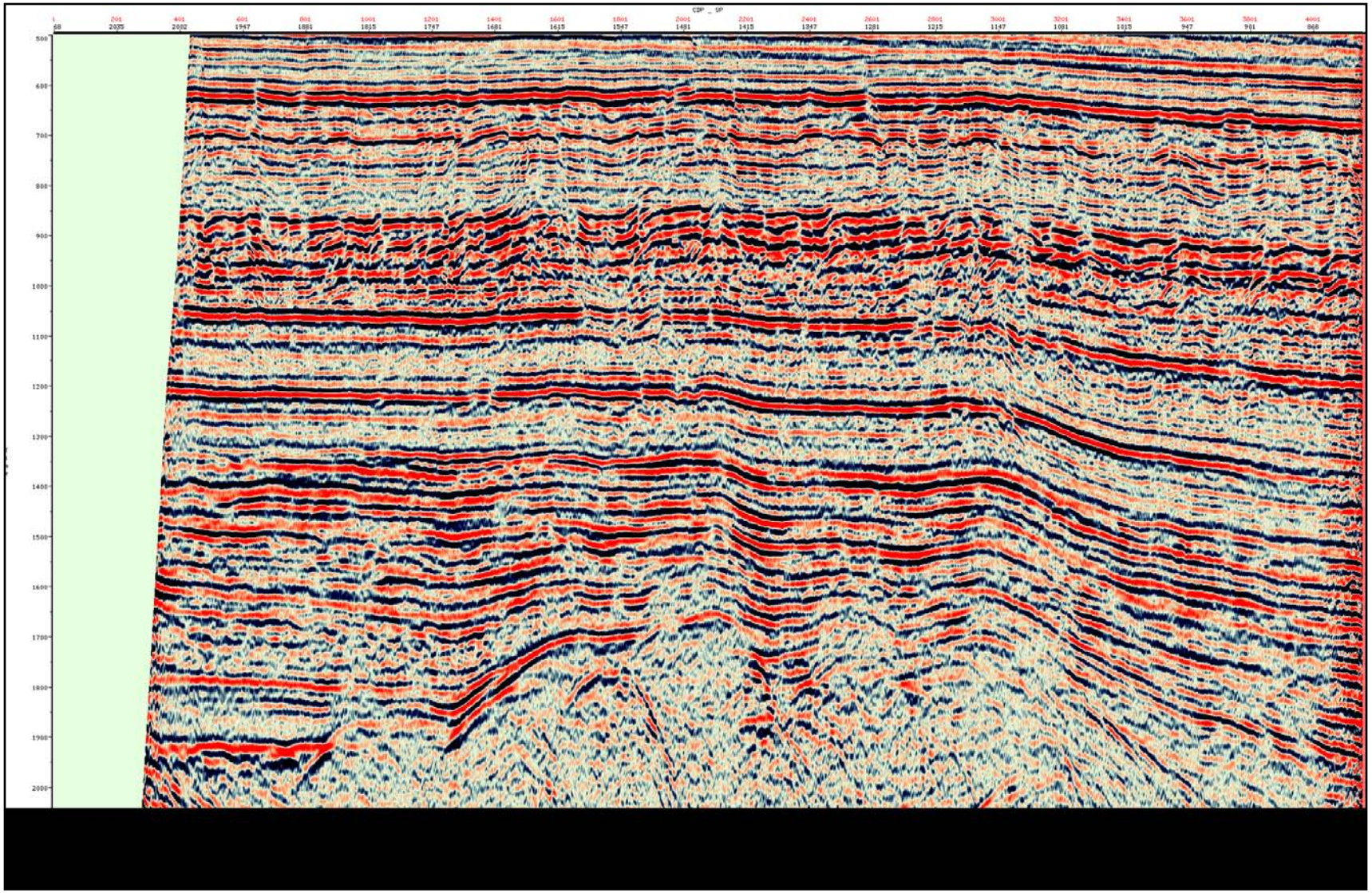
Stack SEQ039 – INP (Raw)



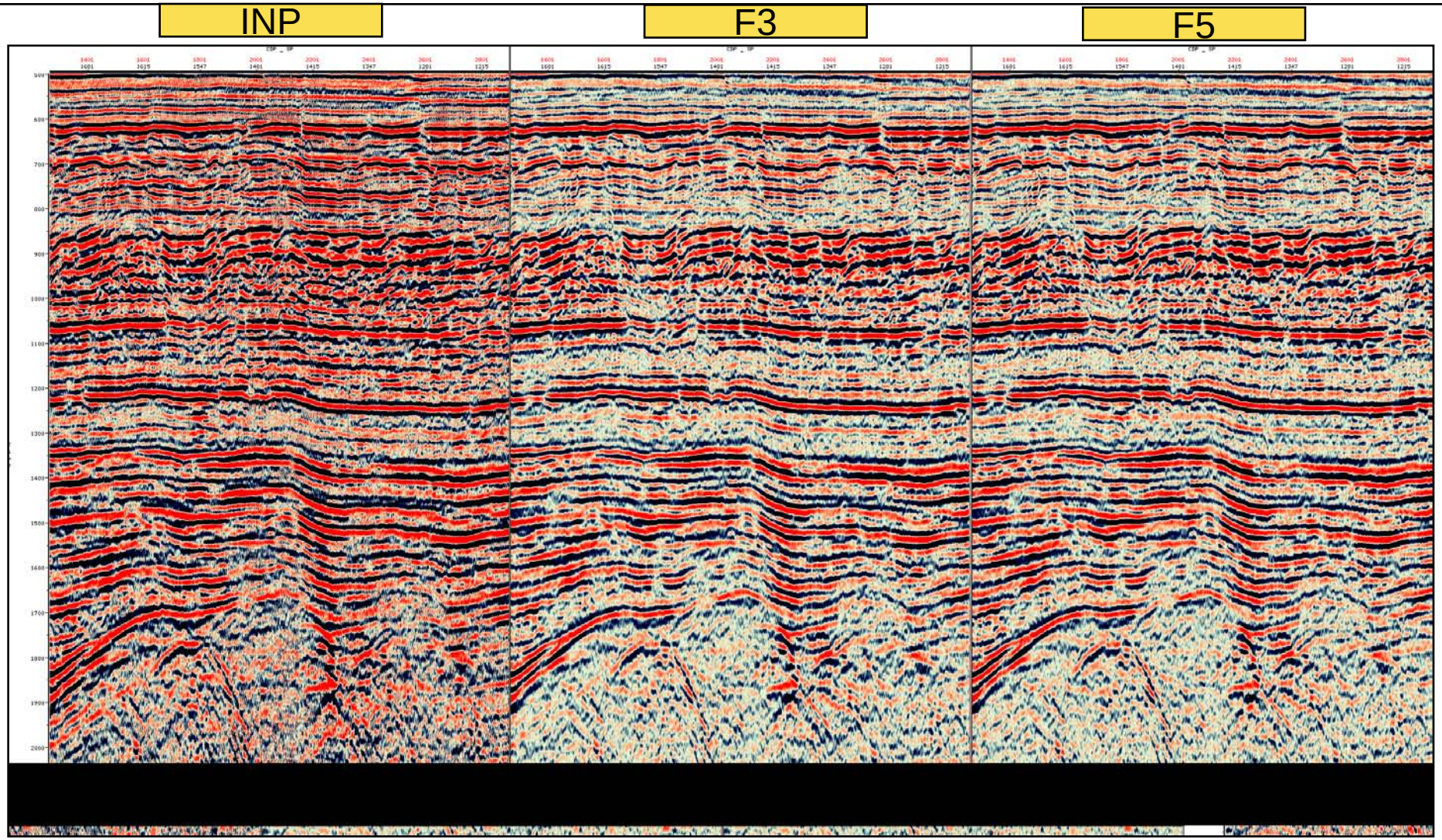
Stack SEQ039 – F3 (SRME+TPDBS)



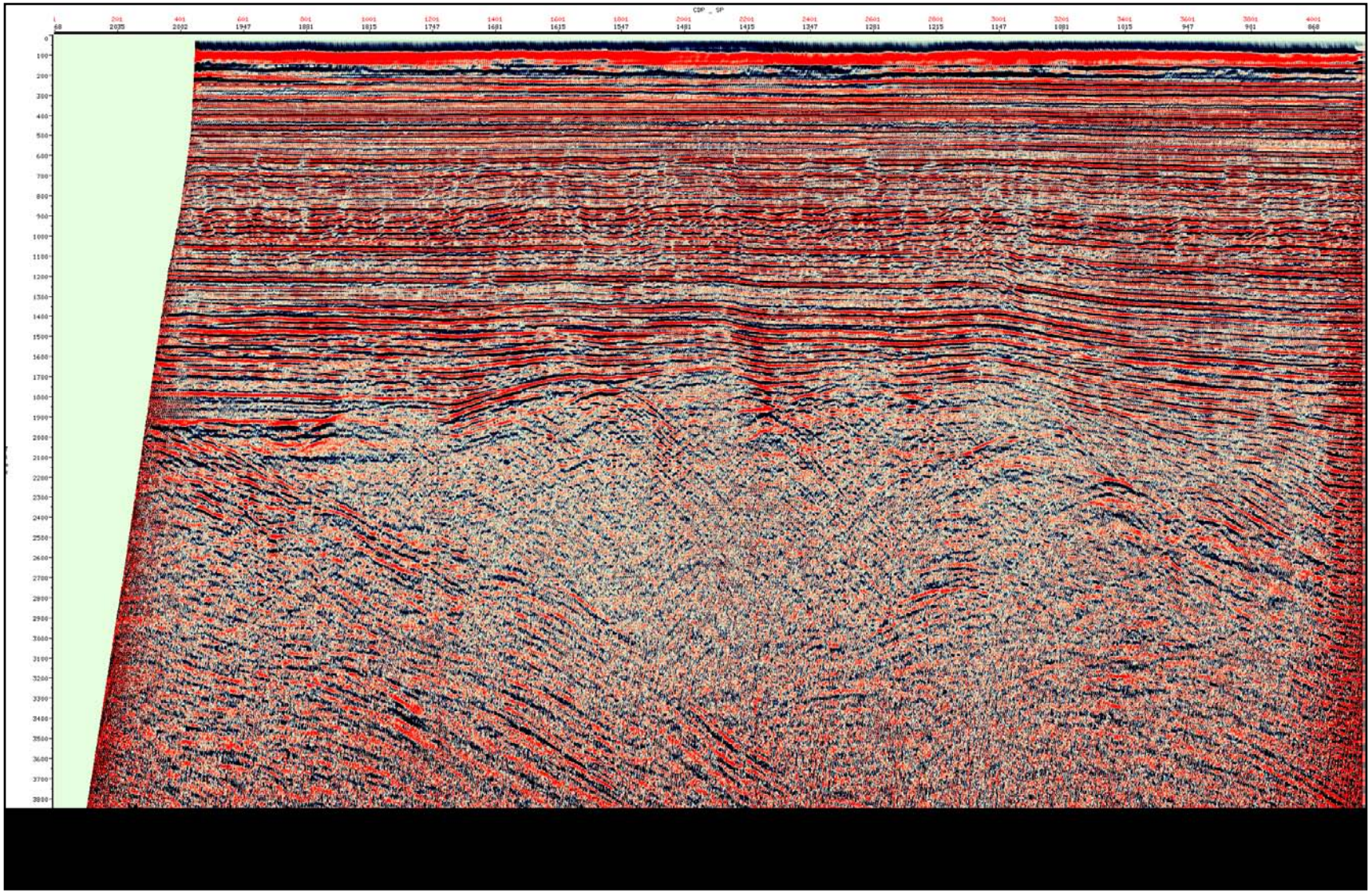
Stack SEQ039 – F5 (TPDBS+SRME)



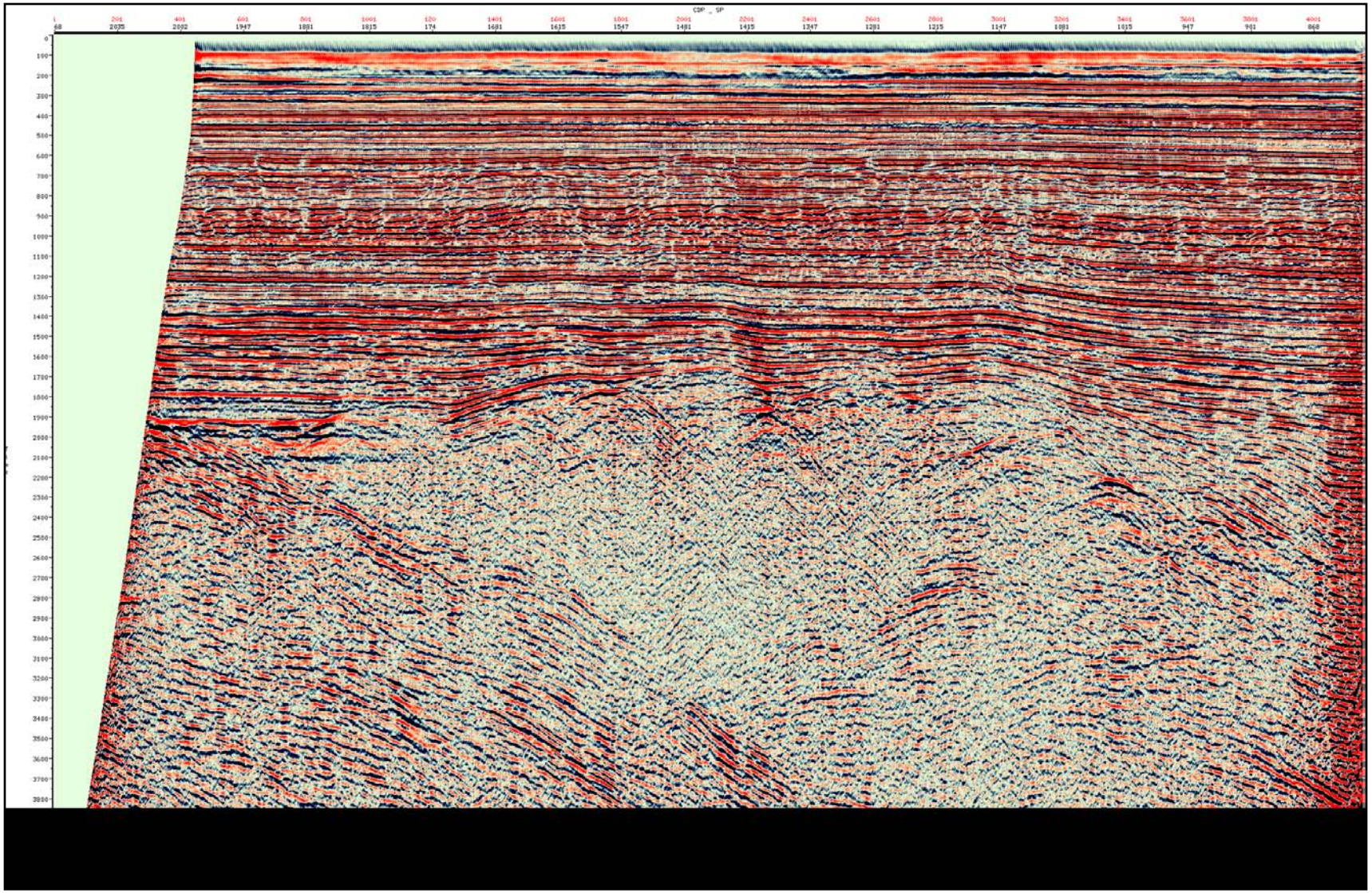
Stack SEQ039 – INP,F3,F5



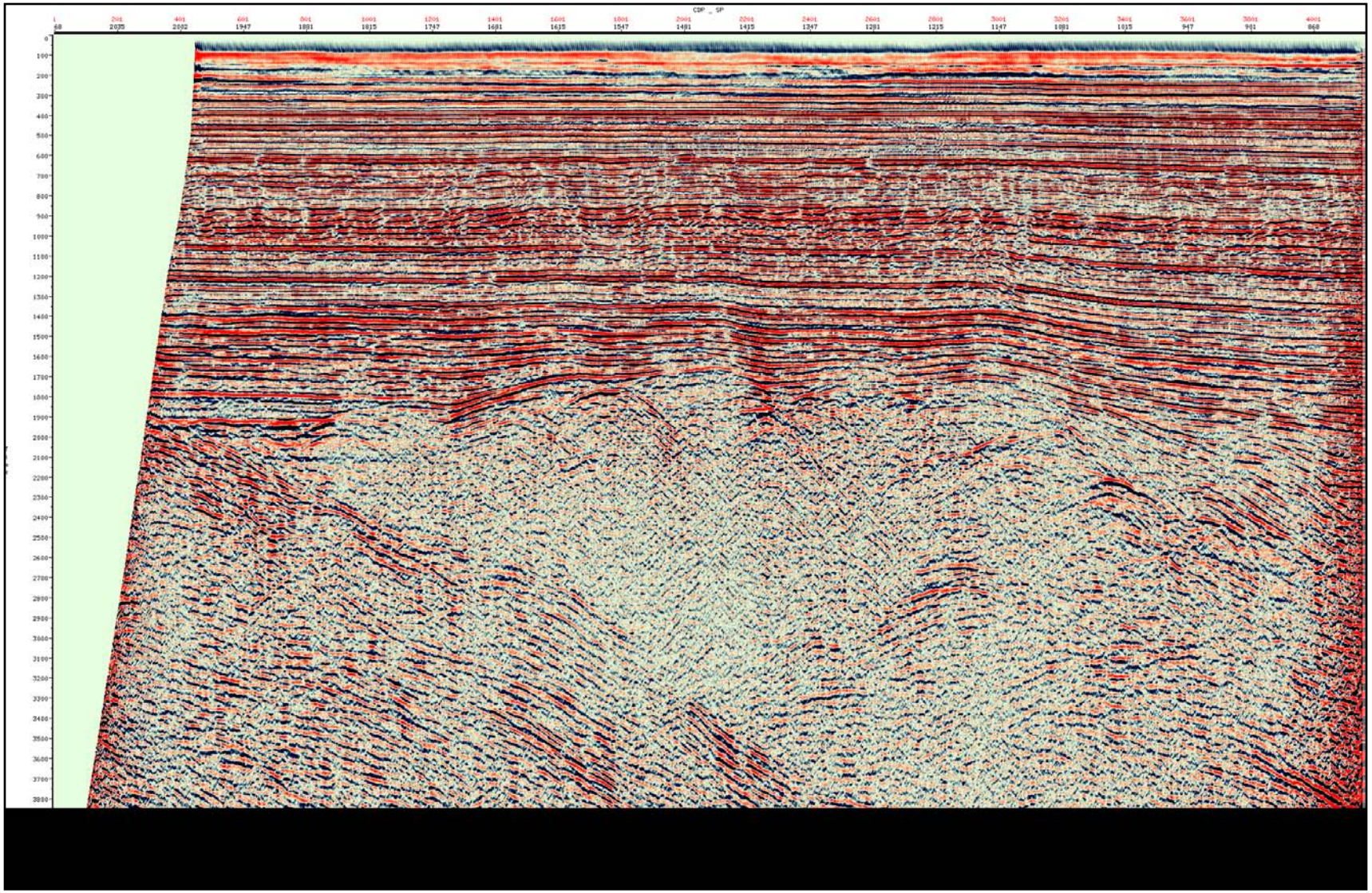
Stack SEQ039 – INP (Raw)



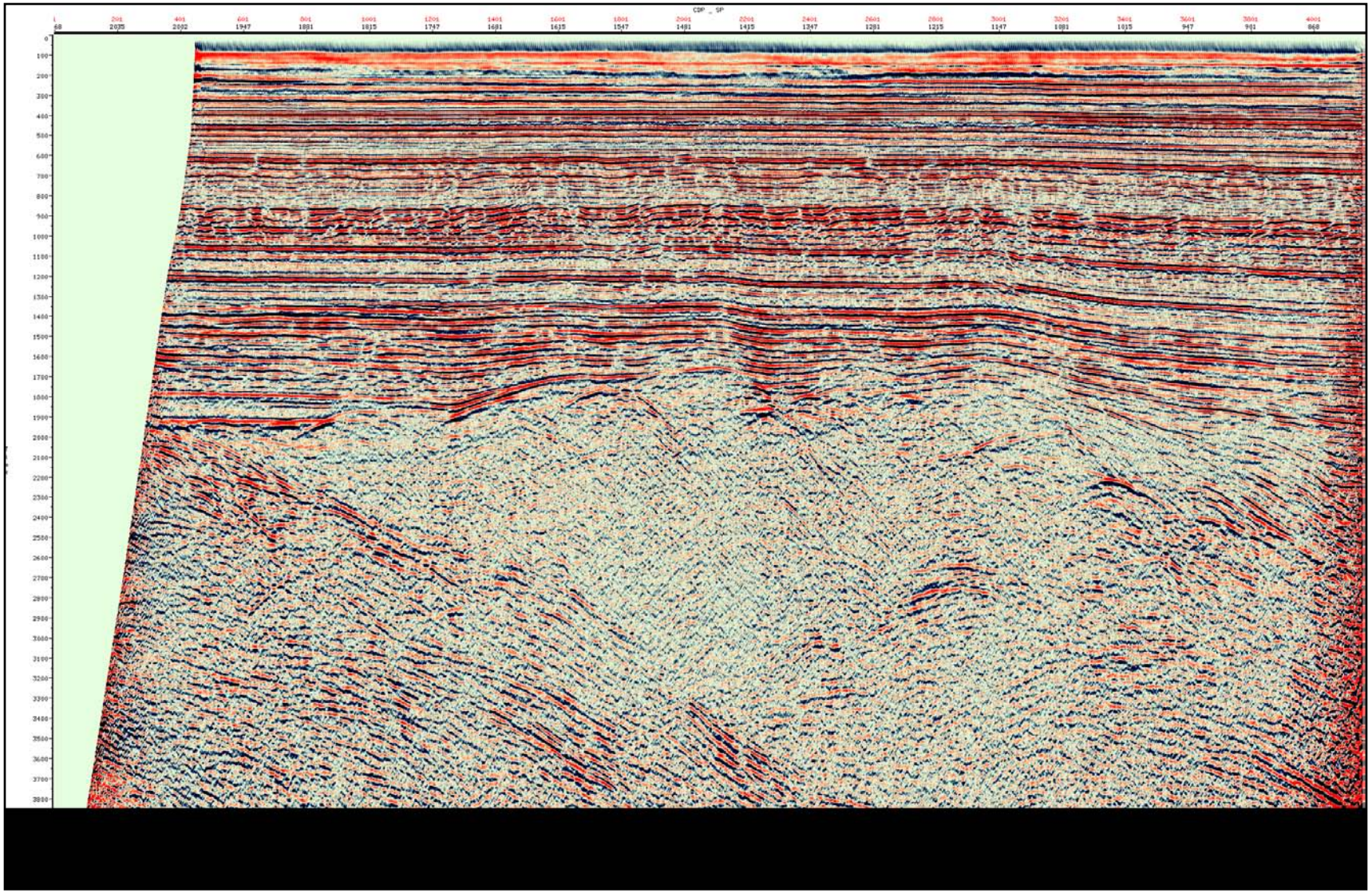
Stack SEQ039 – F1



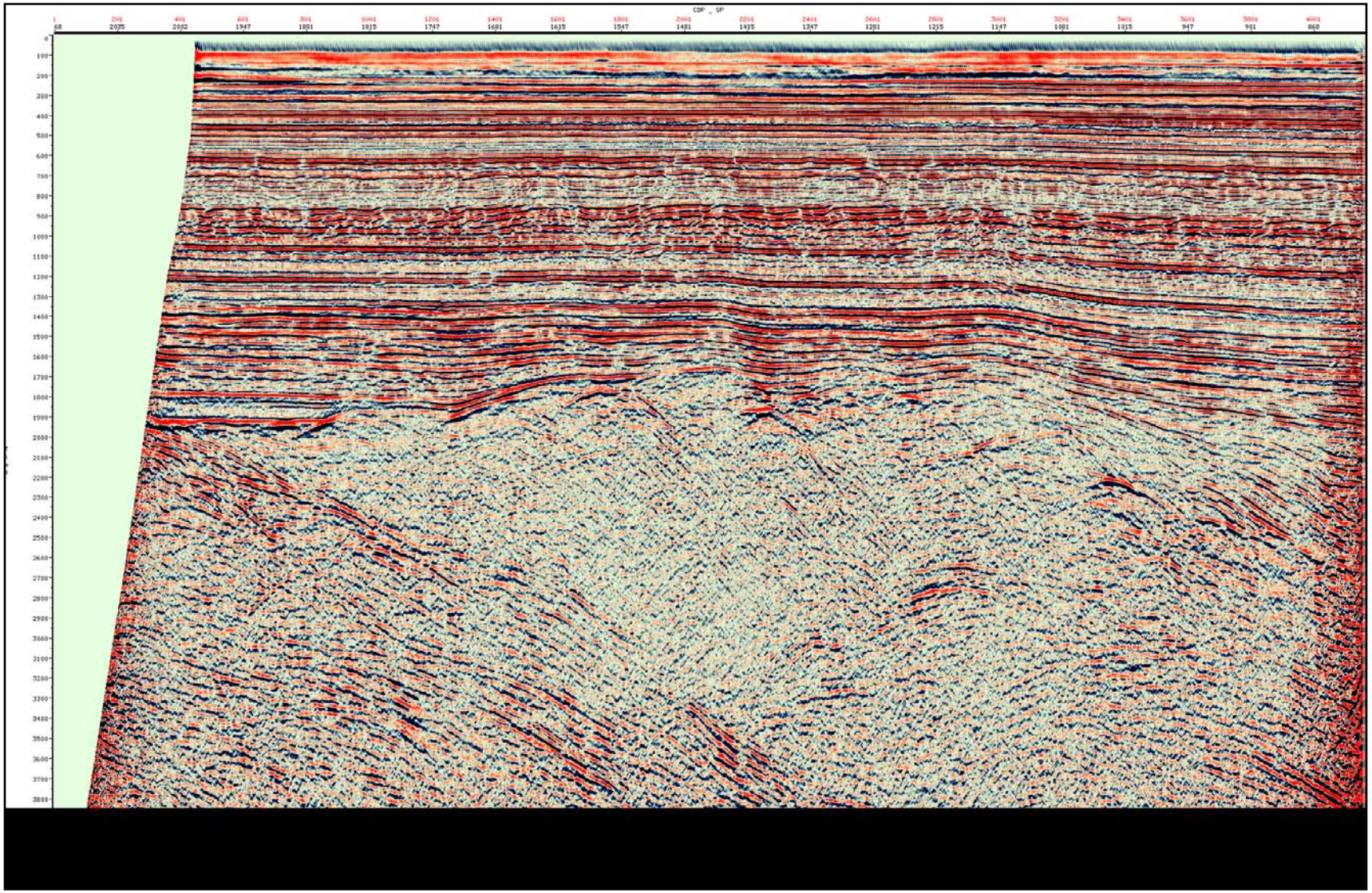
Stack SEQ039 – F2



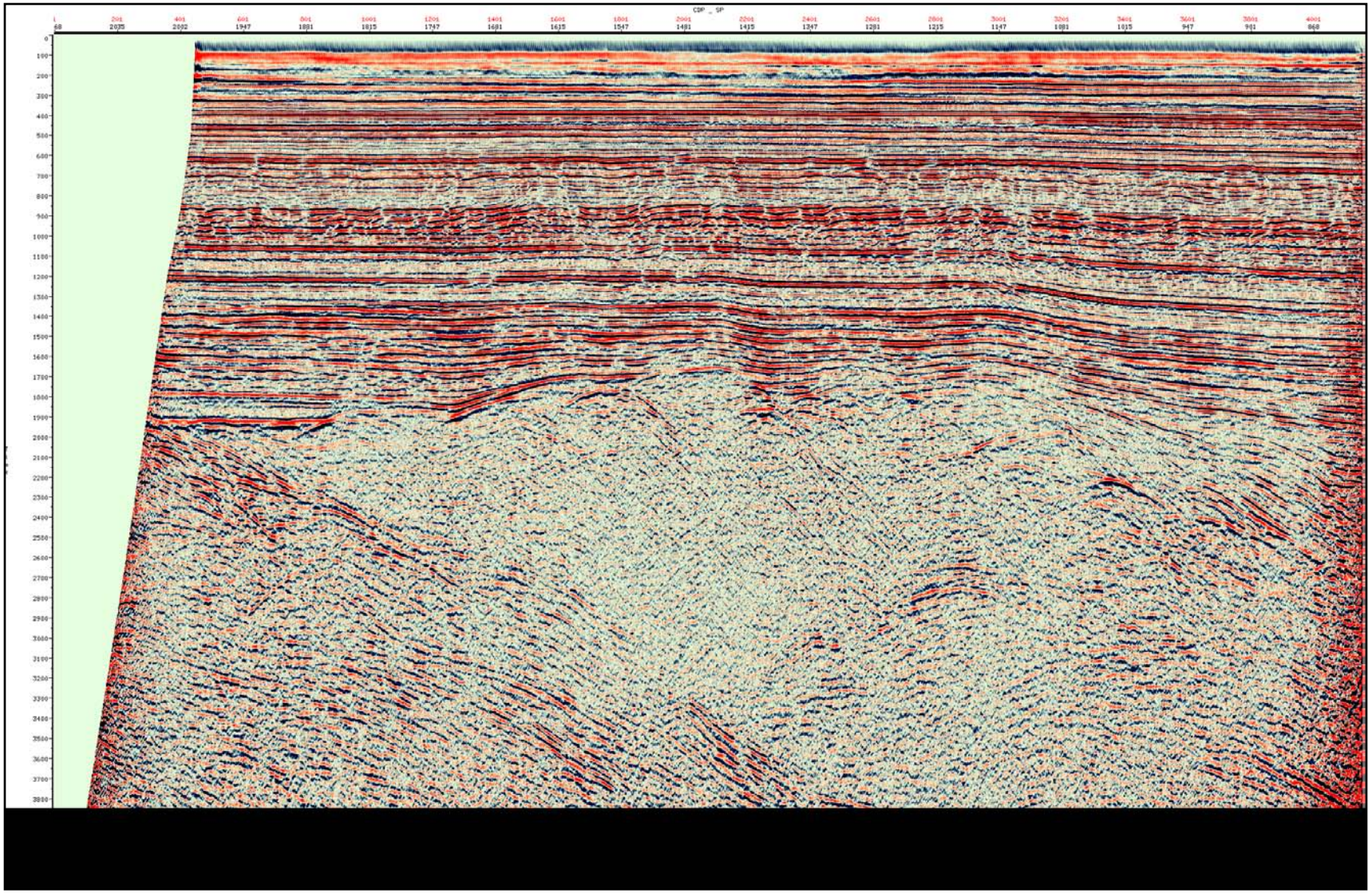
Stack SEQ039 – F3



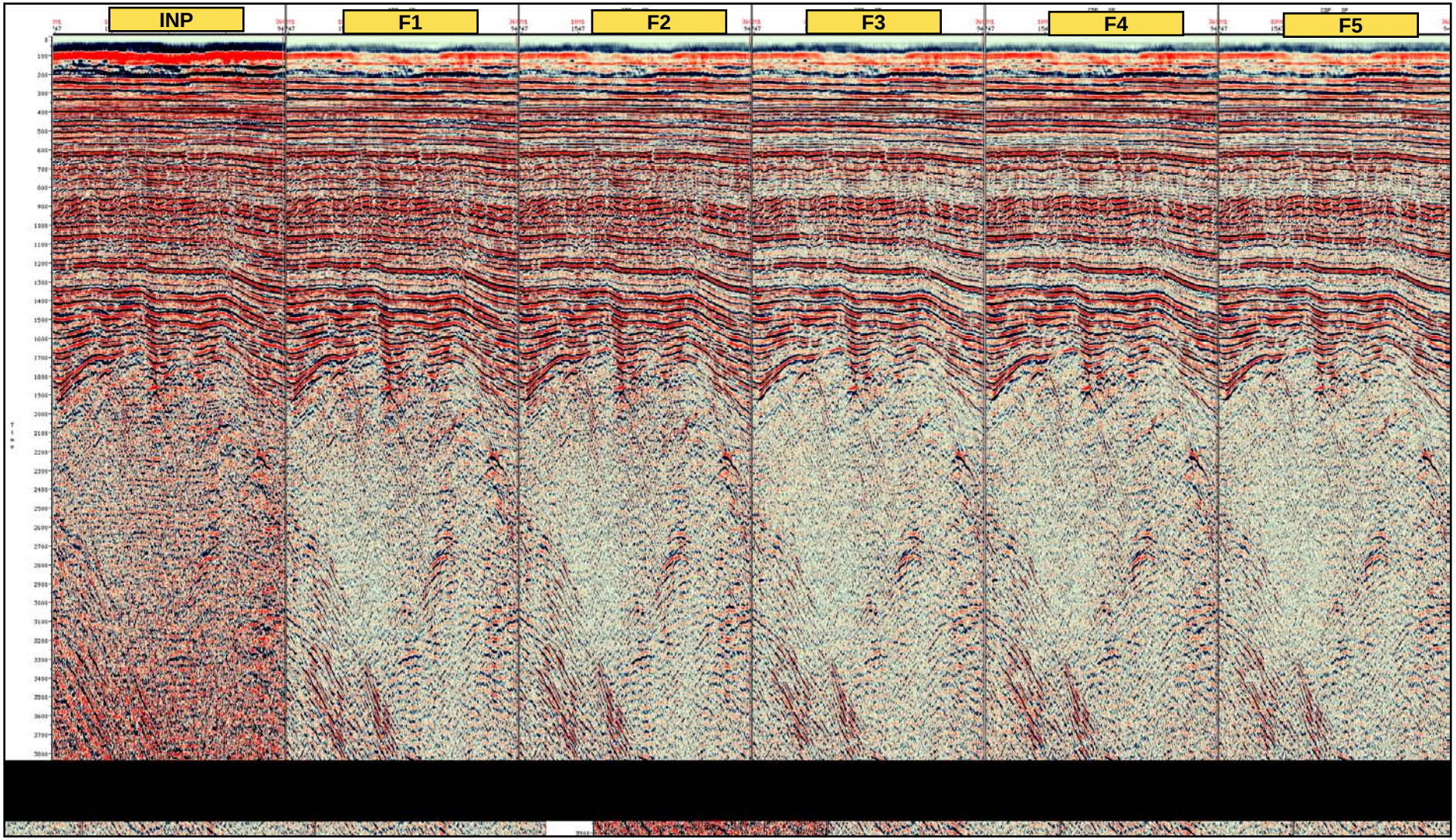
Stack SEQ039 – F4



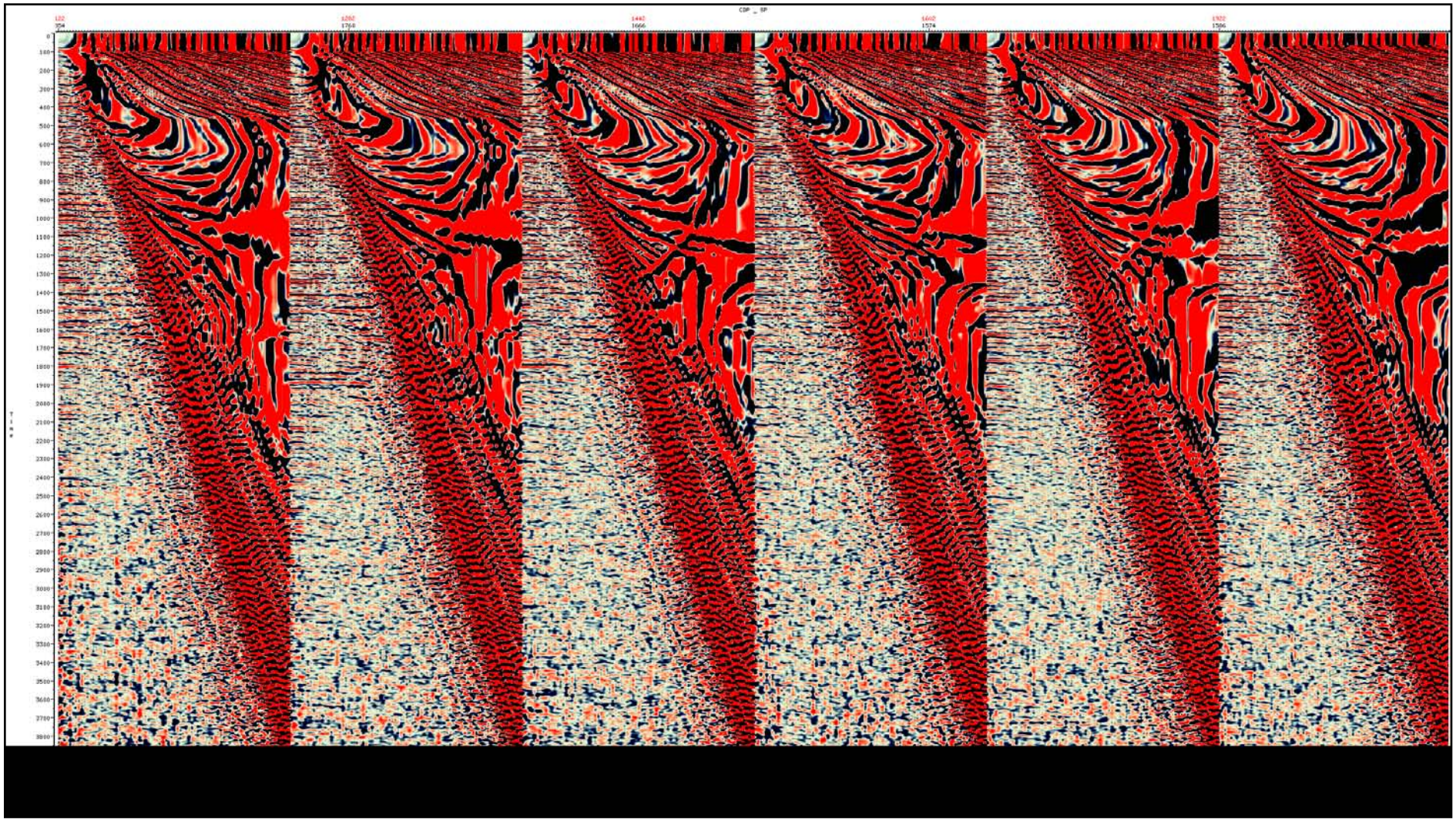
Stack SEQ039 – F5



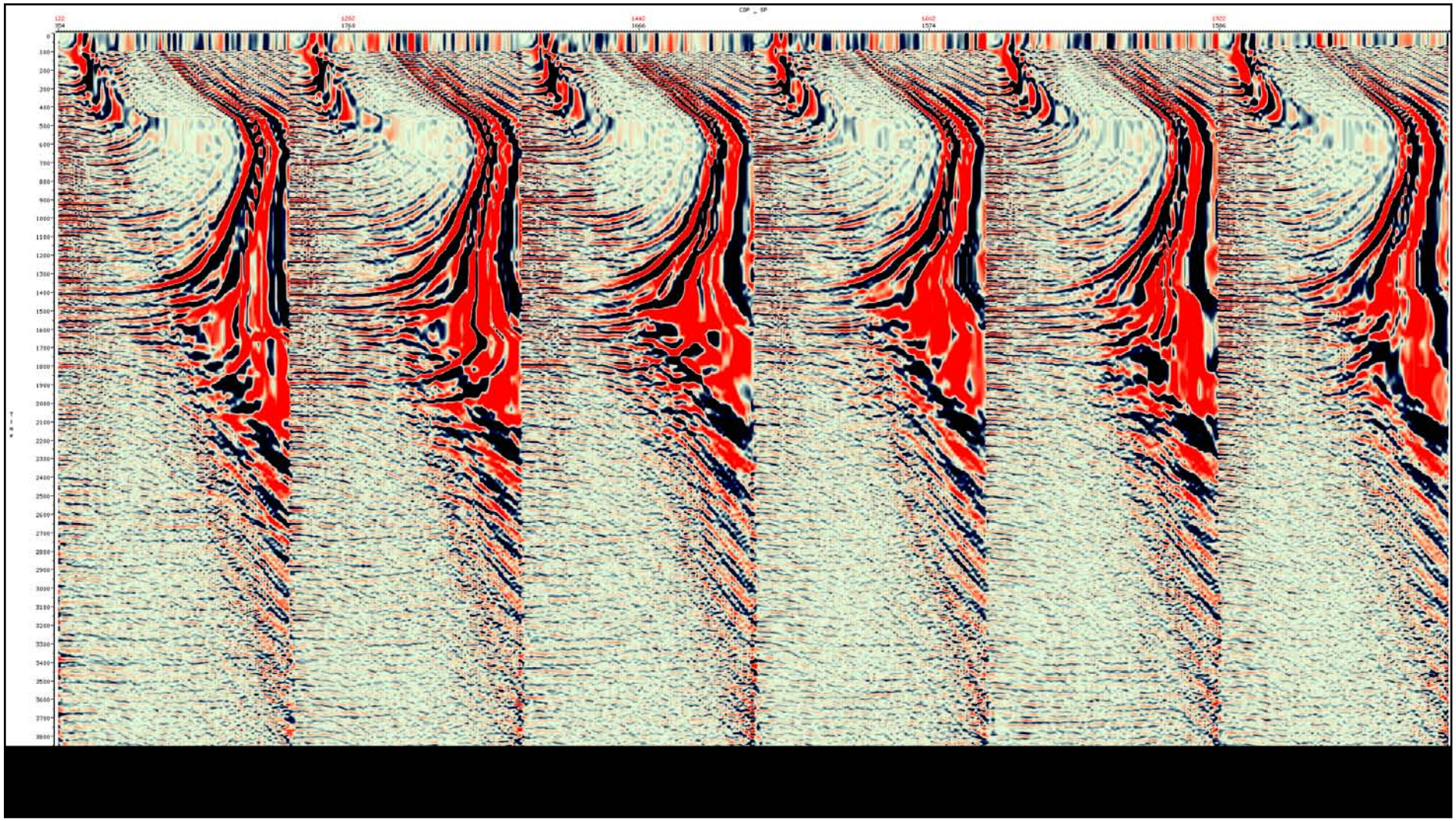
Stack SEQ039 – INPUT,F1,F2,F3,F4,F5



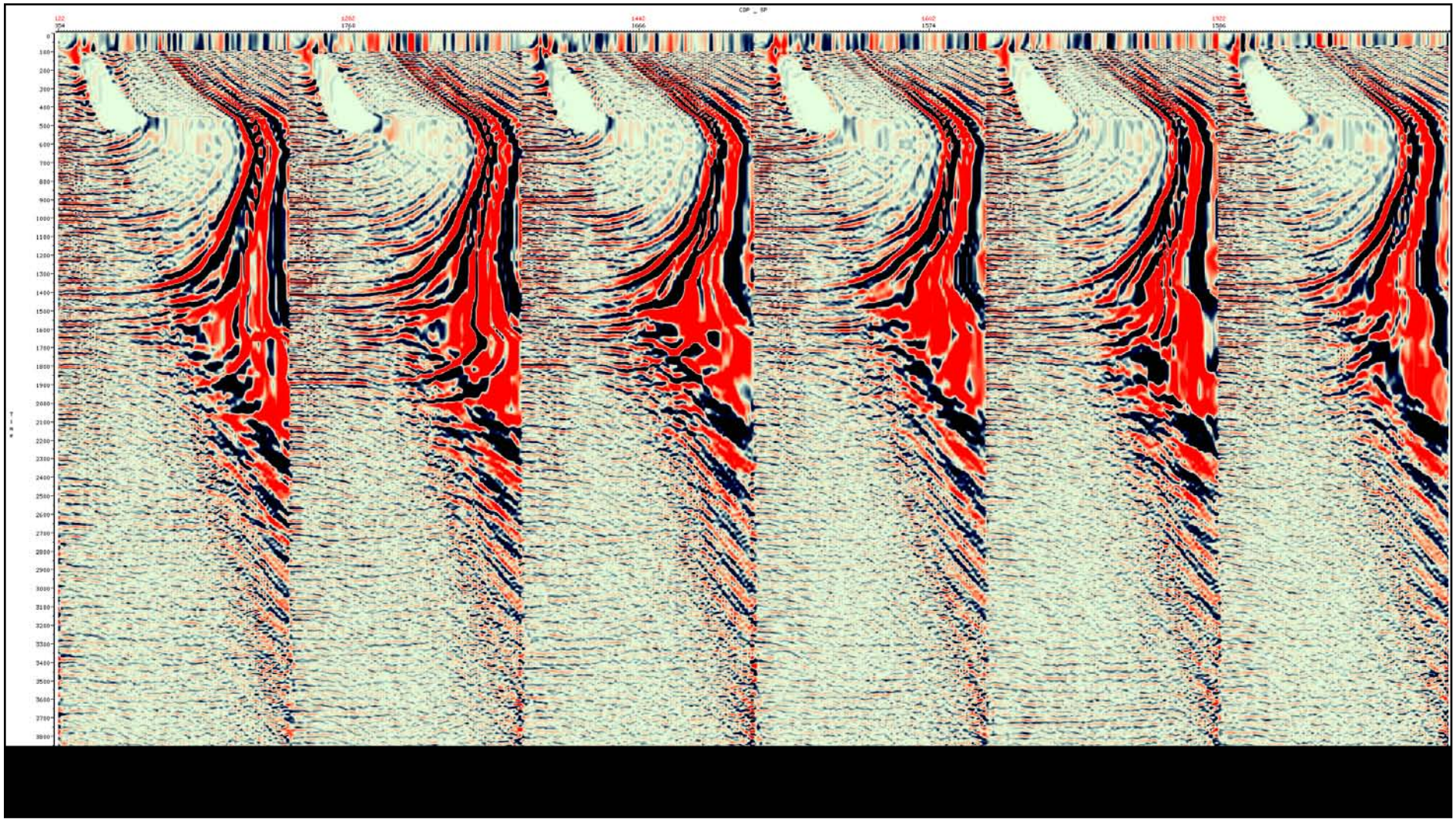
CDP SEQ039 – INP (Raw)



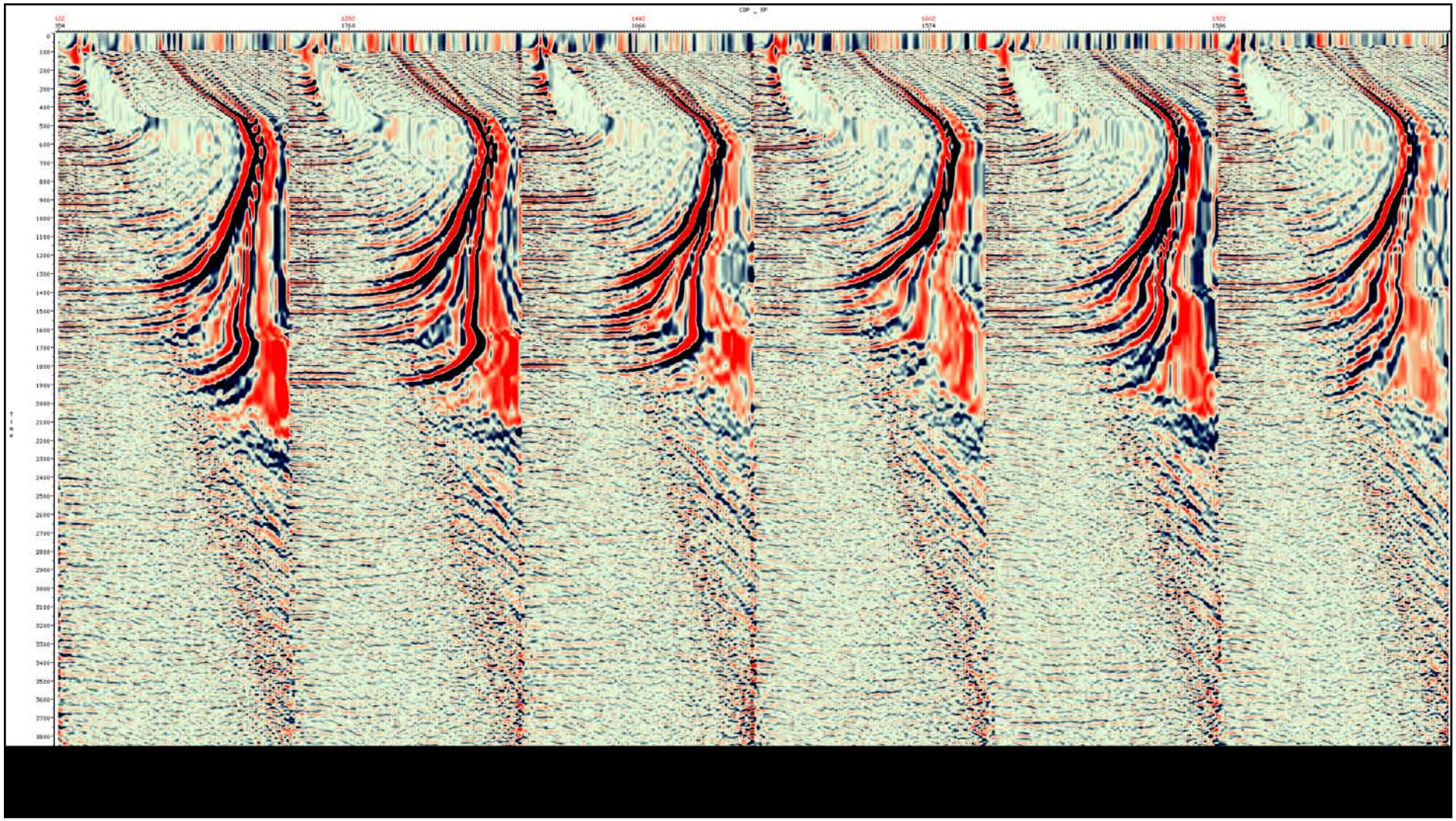
CDP SEQ039 – F1 (LNA)



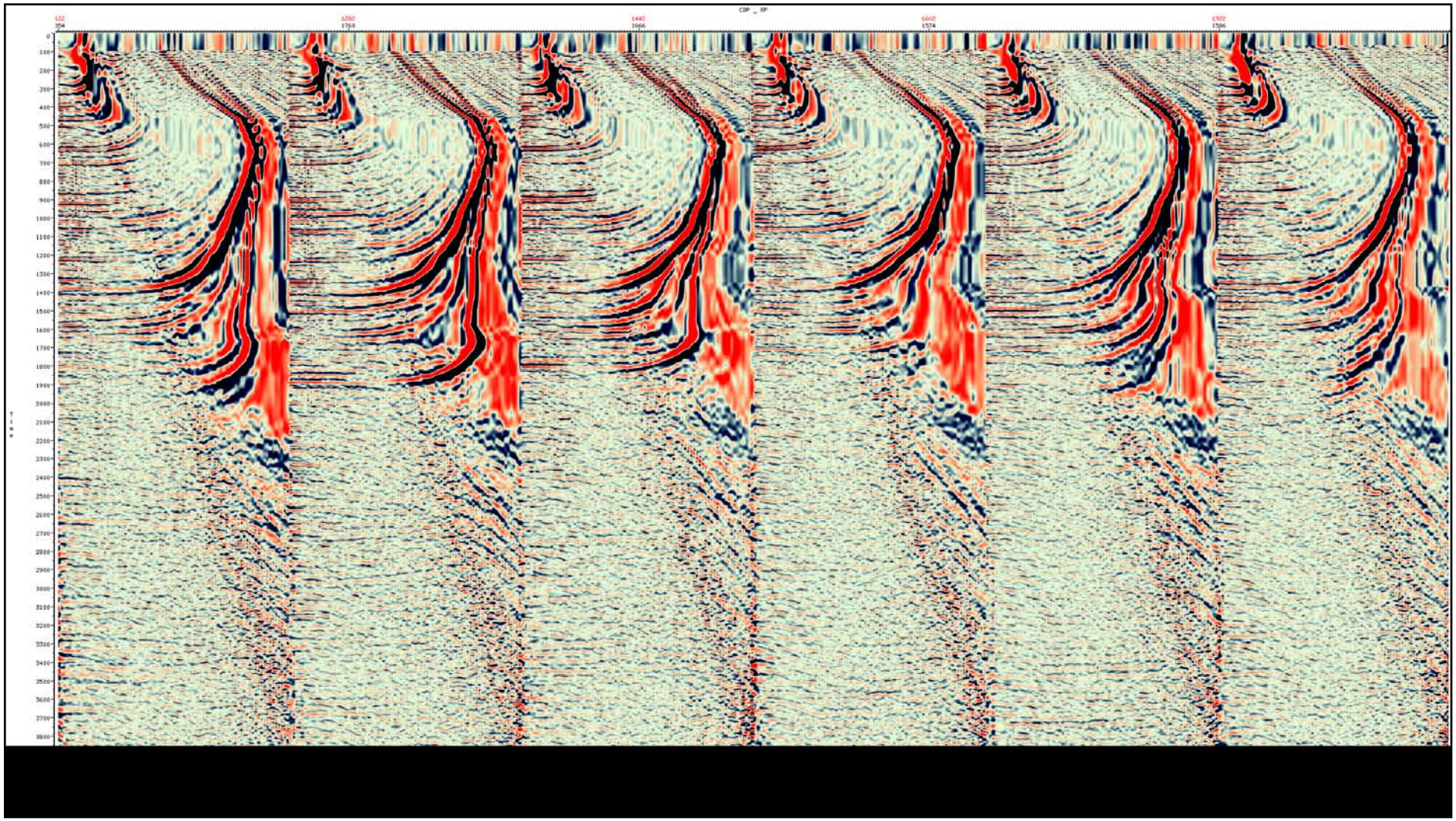
CDP SEQ039 – F2 (SRME)



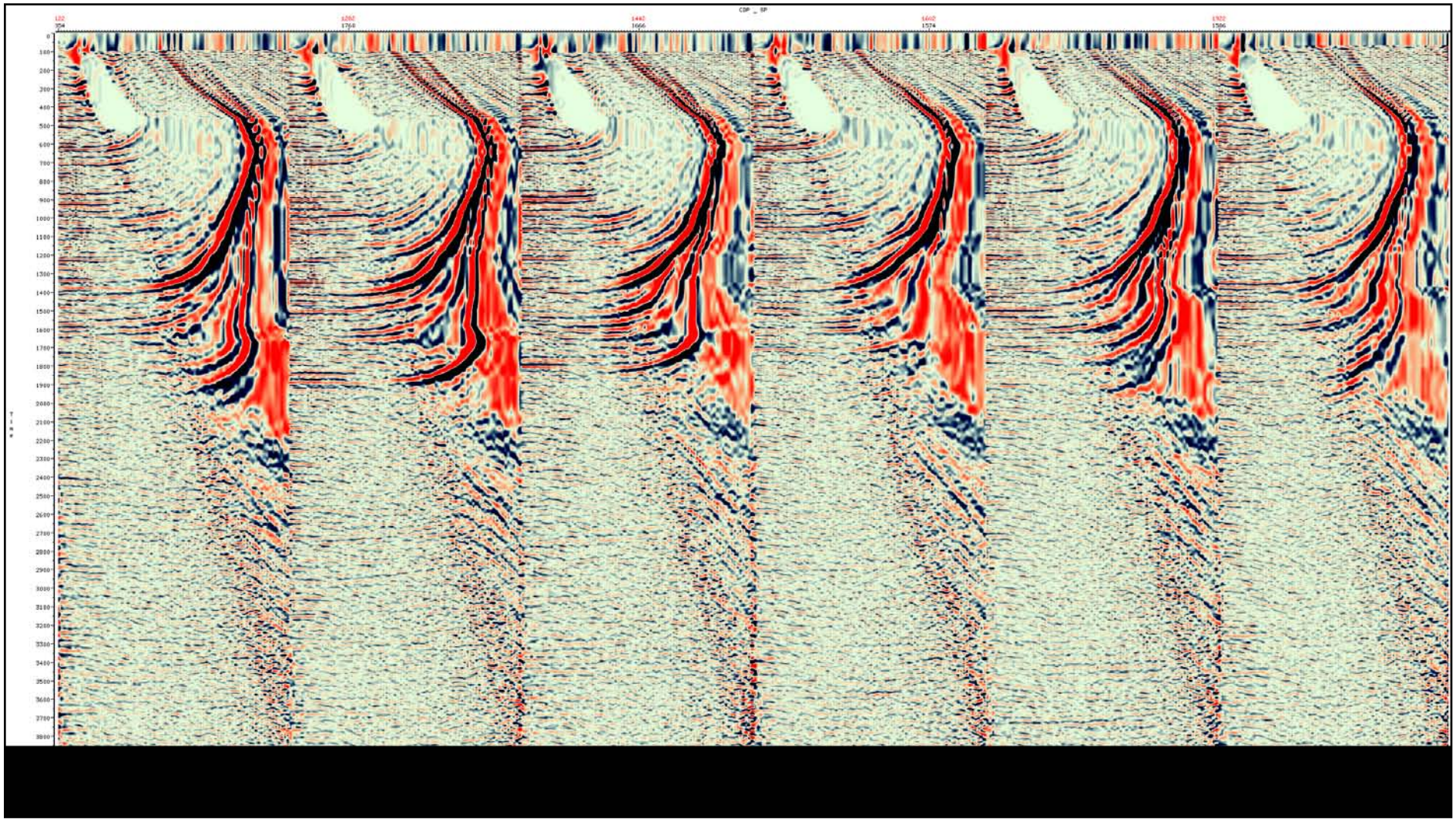
CDP SEQ039 – F3 (SRME+TPDBS)



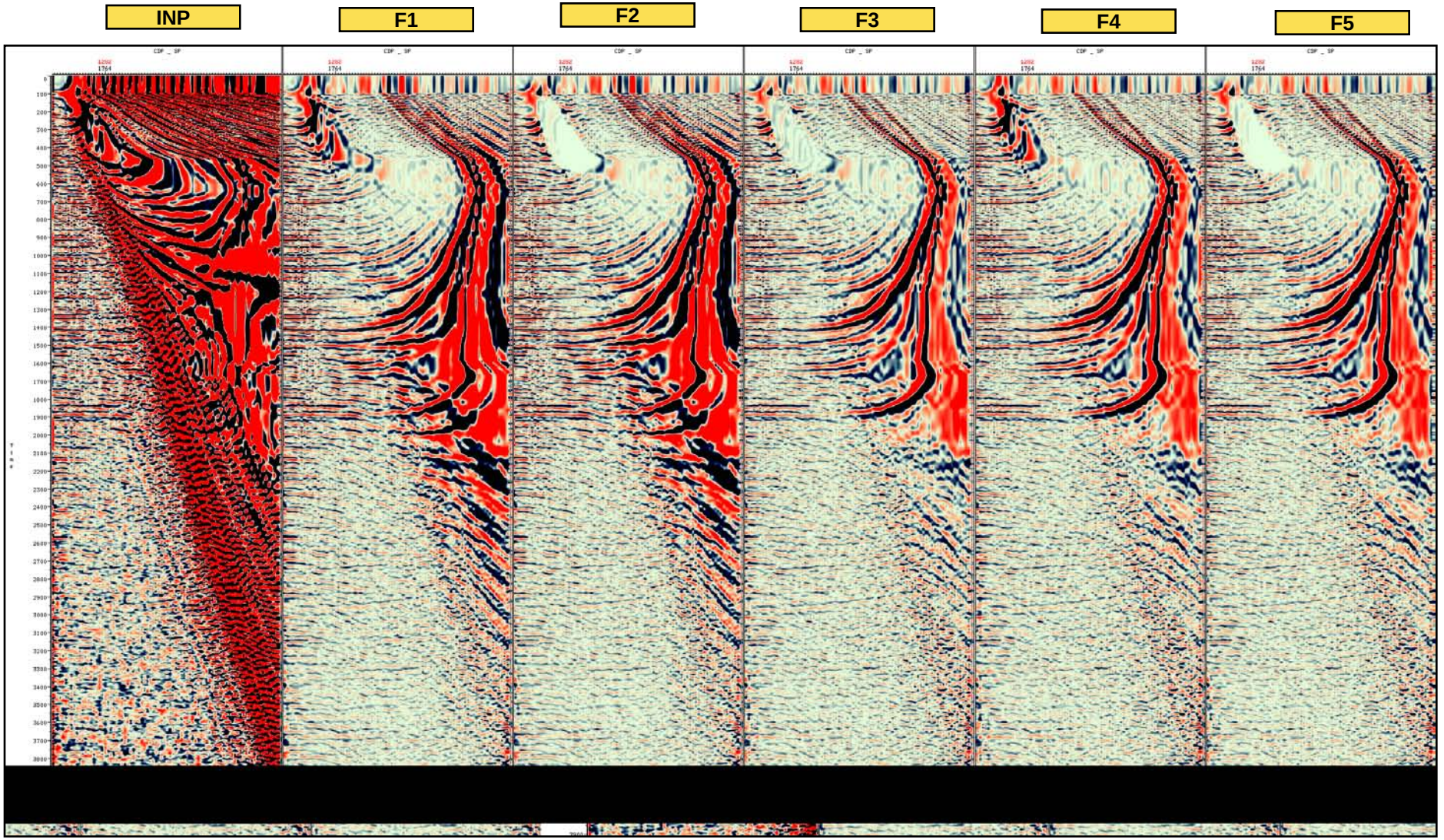
CDP SEQ039 – F4 (TPDBS)



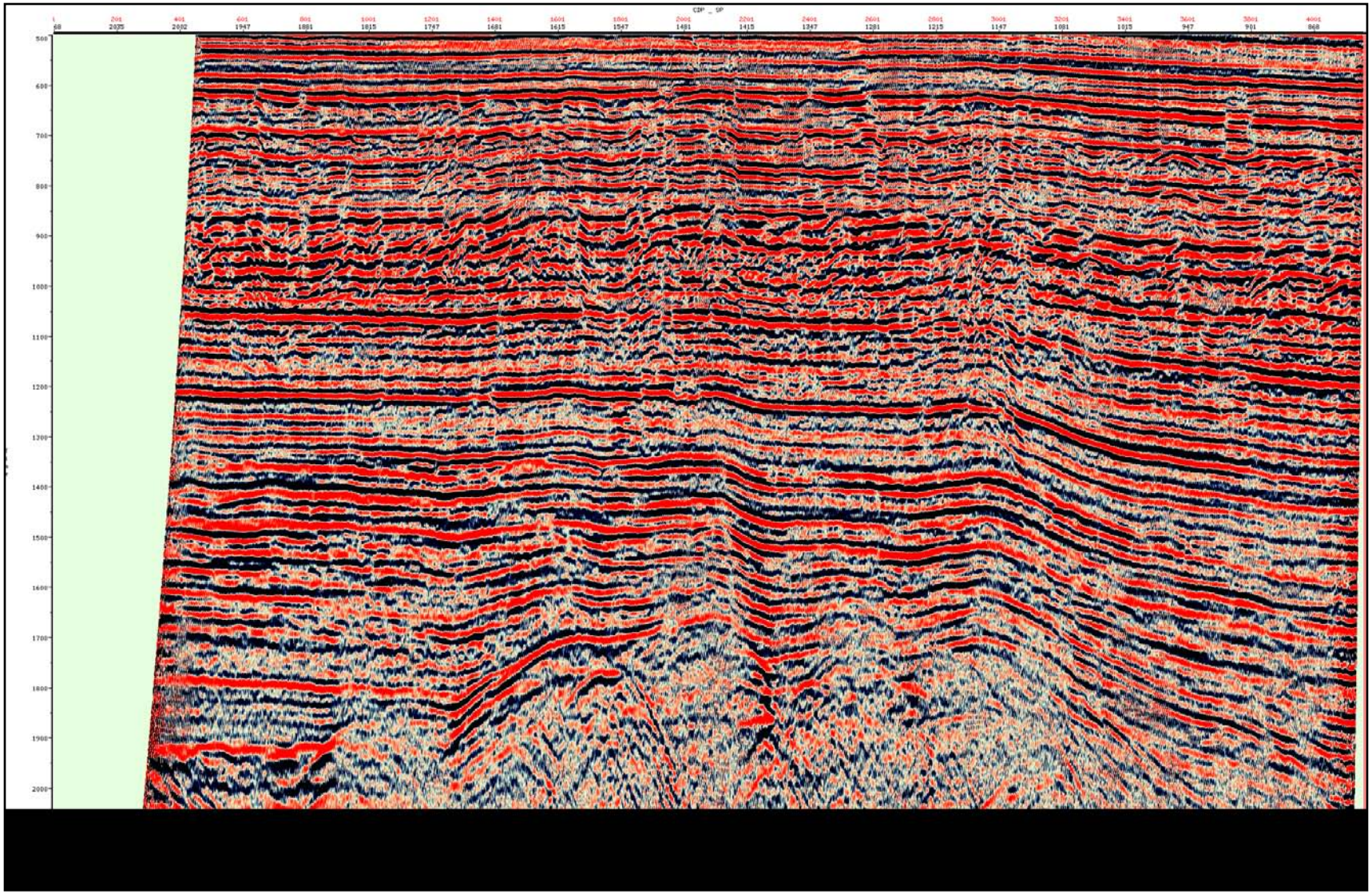
CDP SEQ039 – F5 (TPDBS+SRME)



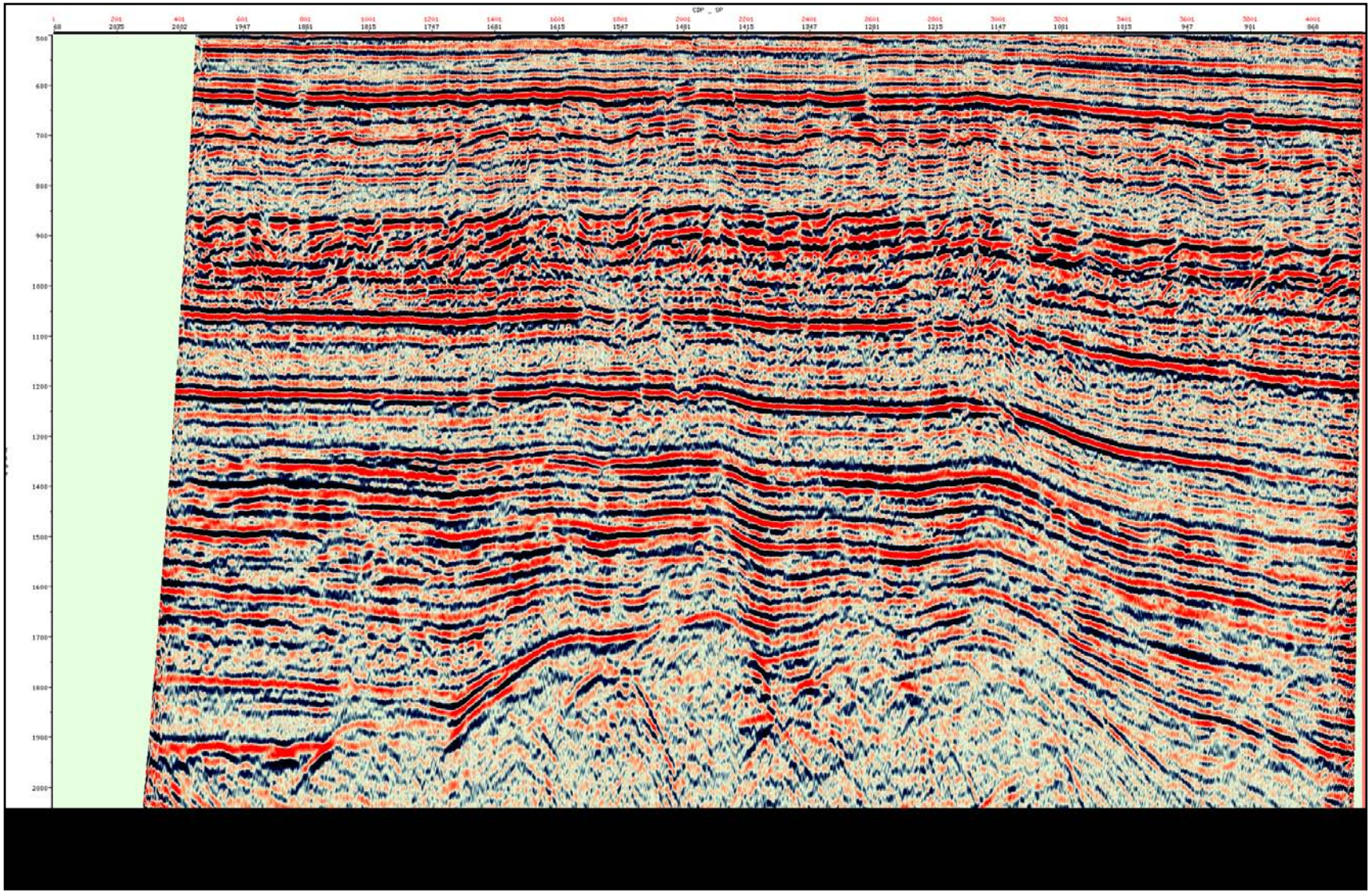
Stack SEQ039 – INP,F1,F2,F3,F4,F5



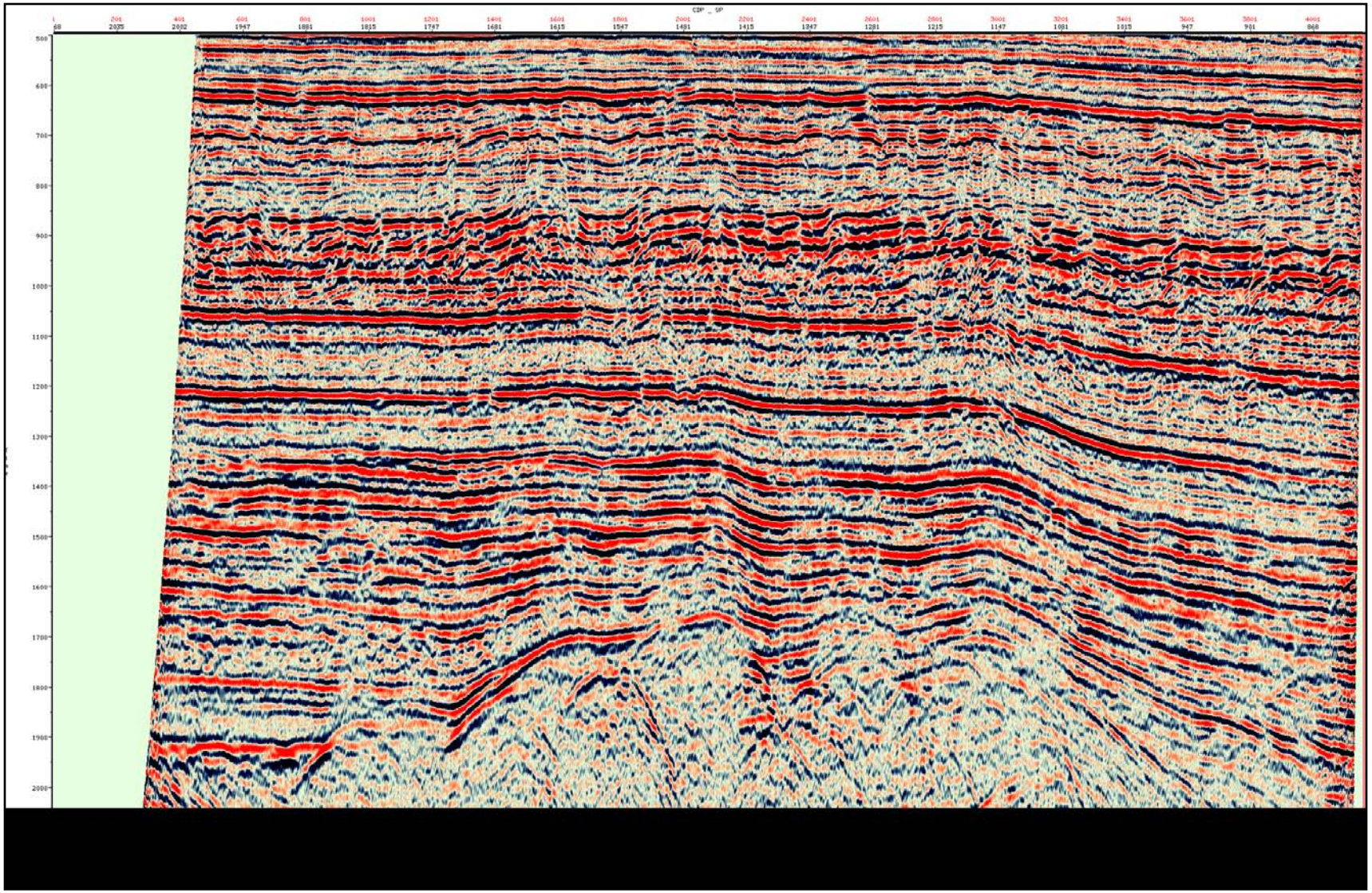
Angle Stack 6-30DEG SEQ039 – INP (Raw)



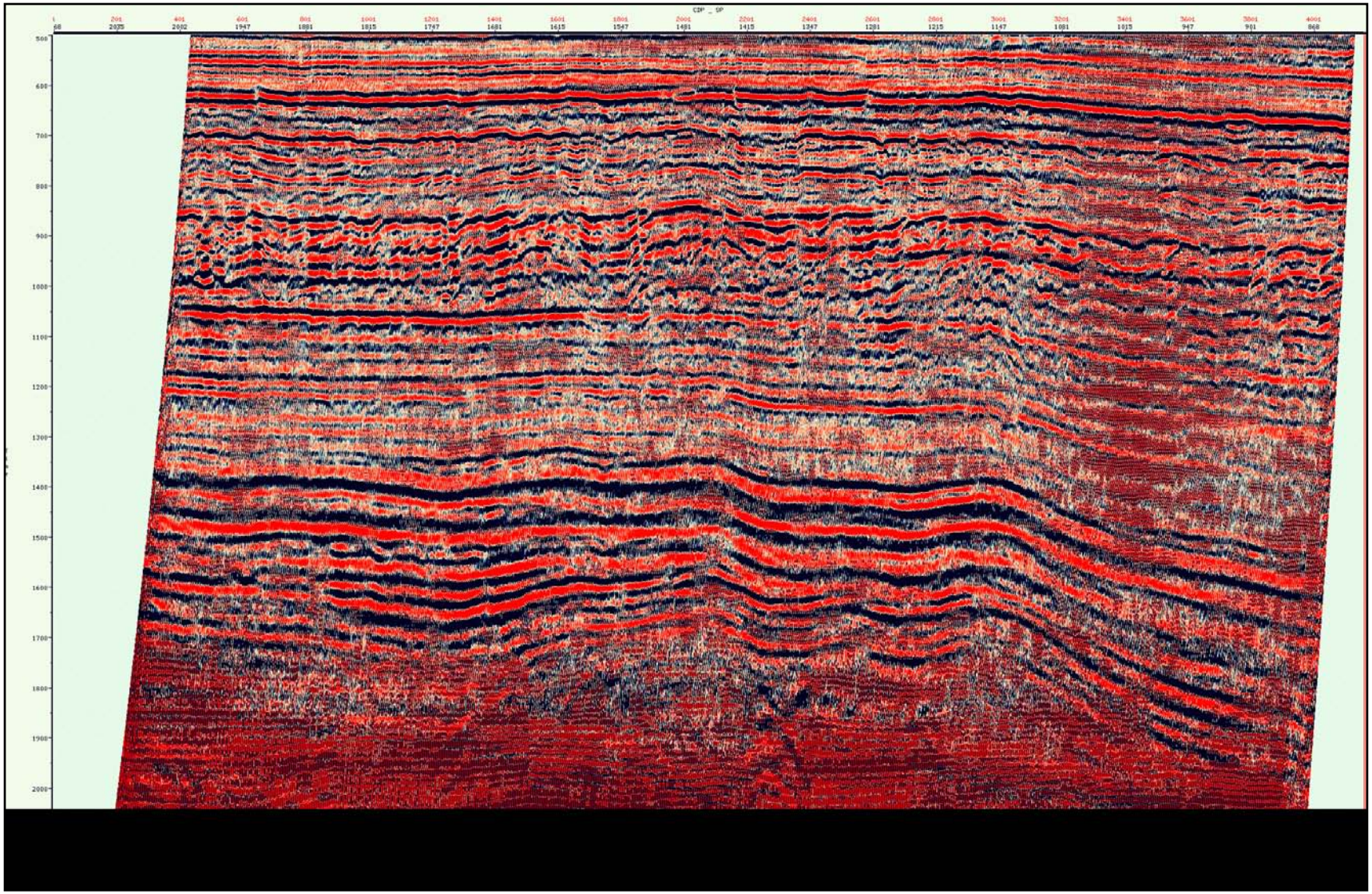
Angle Stack 6-30DEG SEQ039 – F3 (SRME+TPDBS)



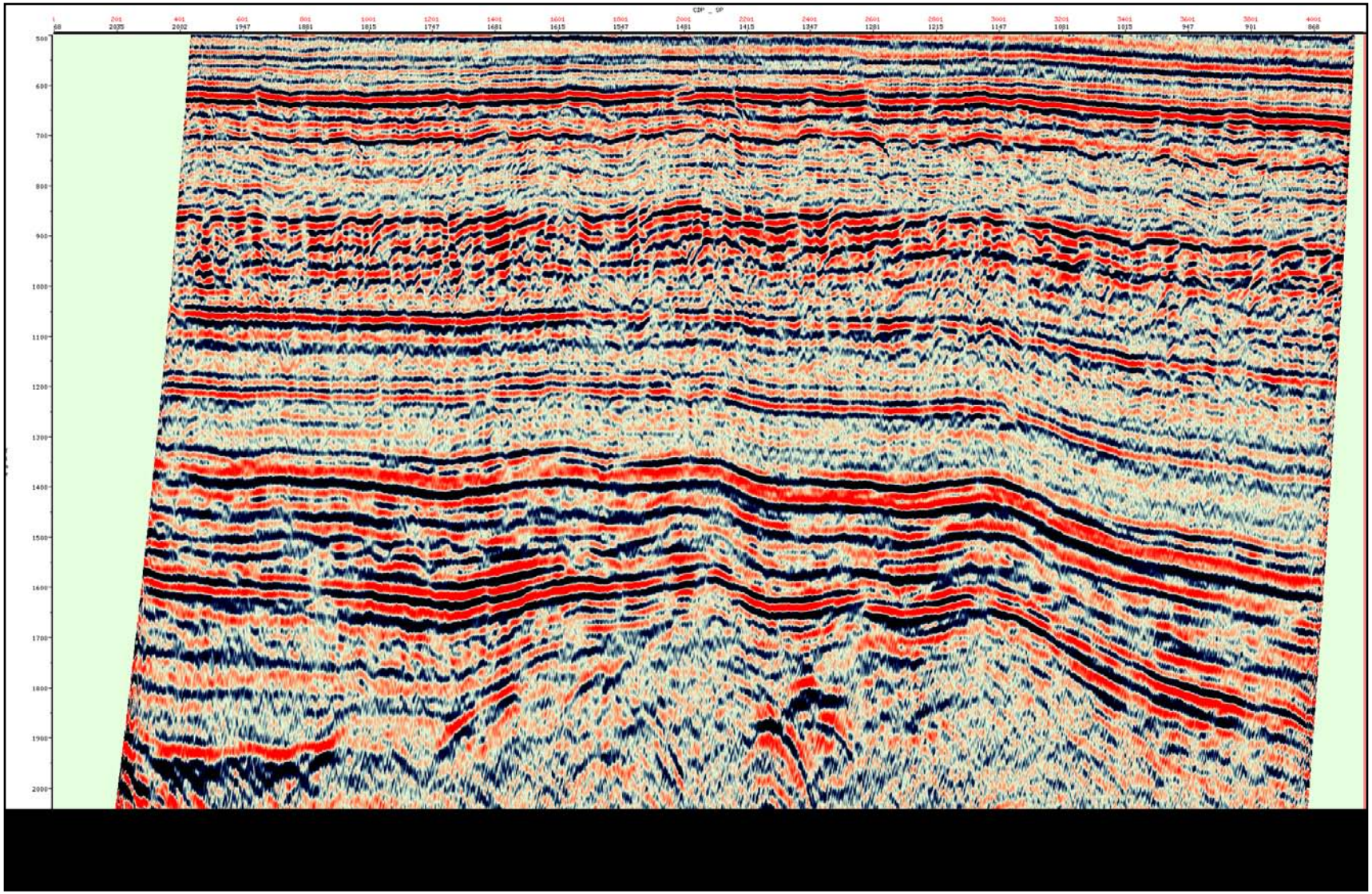
Angle Stack 6-30DEG SEQ039 – F5 (TPDBS+SRME)



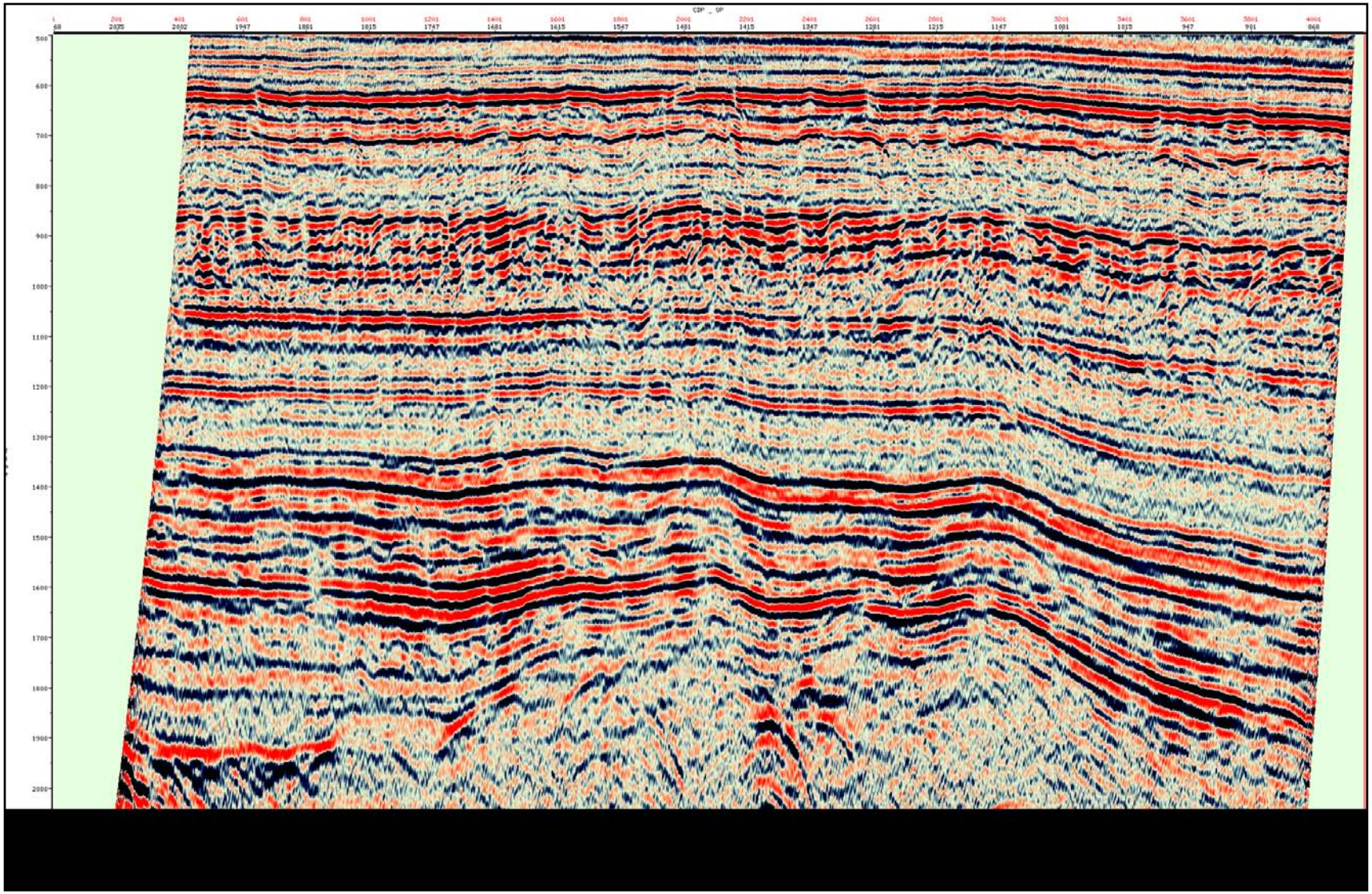
Angle Stack 30-45DEG SEQ039 – INP (Raw)



Angle Stack 30-45DEG SEQ039 – F3 (SRME+TPDBS)



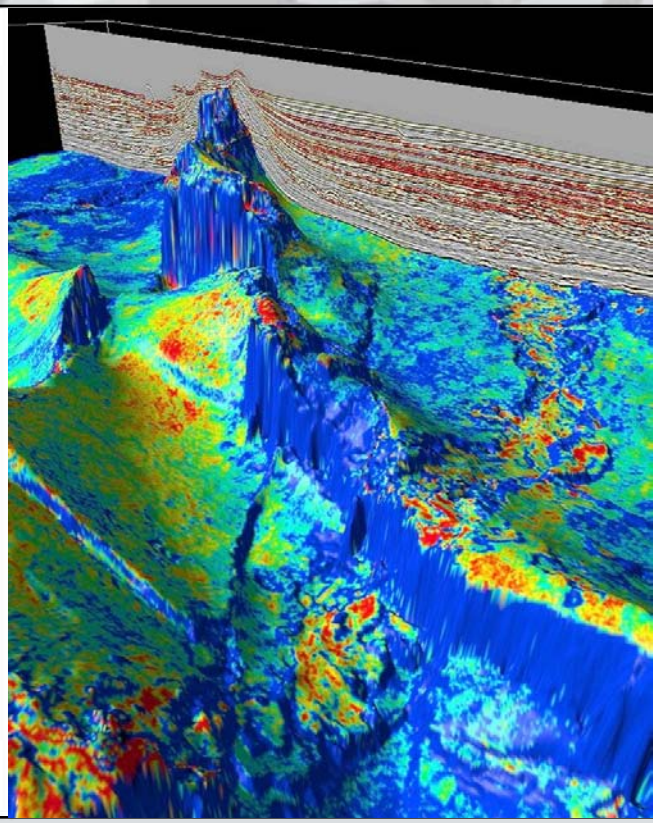
Angle Stack 30-45DEG SEQ039 – F5 (TPDBS+SRME)



CONCLUSION & RECOMENDATIONS

- **The difference between two flows is not significant.**
- **CGGV recommend using Flow B (LNA+DBS in Tau-P domain follow with SRME), mainly because of its only transform to Tau-P domain one time.**

Technical Note 3
SRME FLOW
(Add)
Silvereye 3D



CGGVERITAS

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The data are selected on cable 3 (channel number:961-1440).

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Current Test

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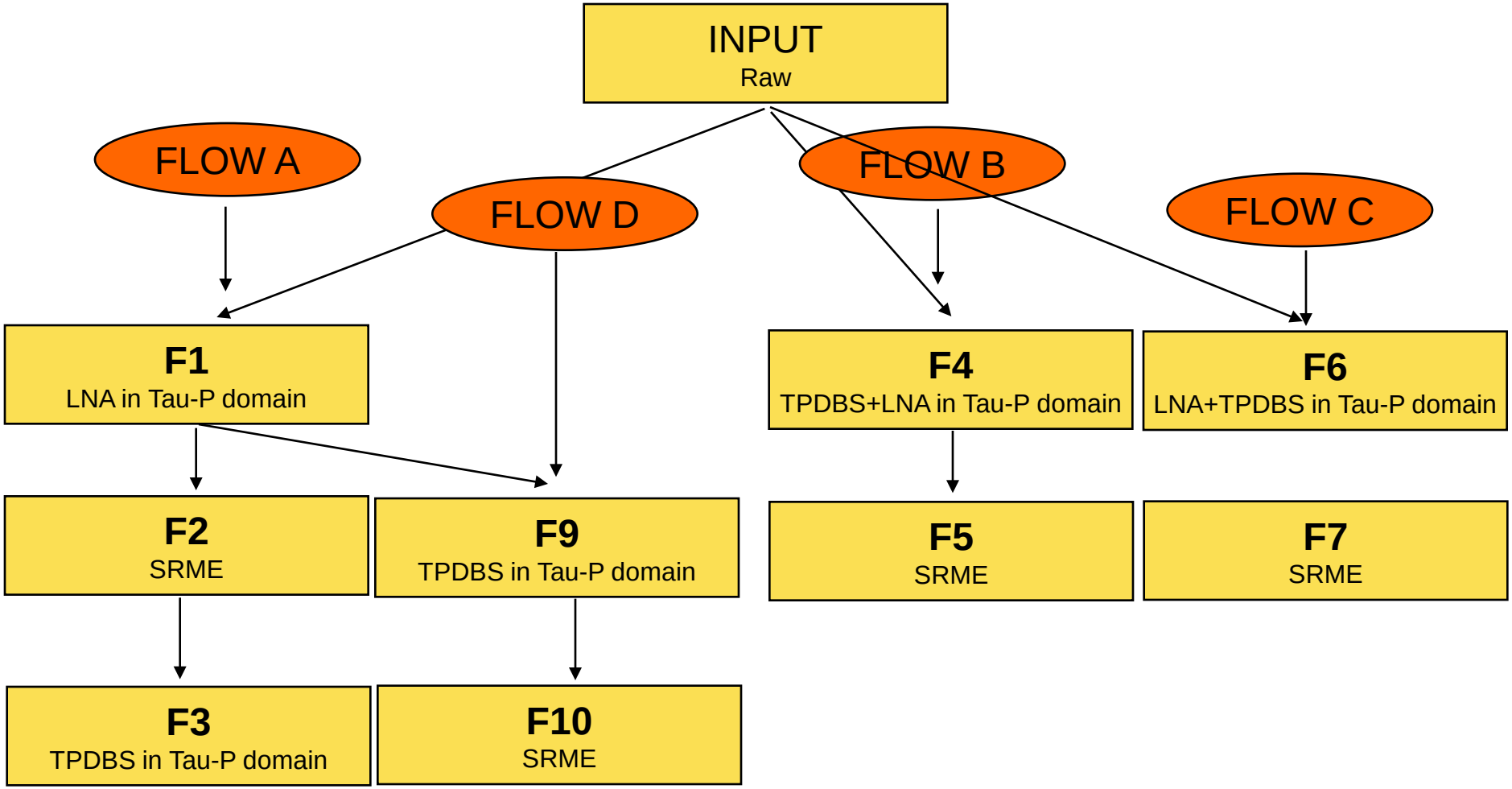
  - SRME, subtraction in cdp domain
  - DBS in Tau-P domain, Gap 48ms, Op: 300ms, Window: 0-2200ms
- **Flow B:**
  - DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain
- **Flow C:**
  - LNA, DBS in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain
- **Flow D:**
  - LNA in Tau-P domain
  - DBS in Tau-P domain, Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain

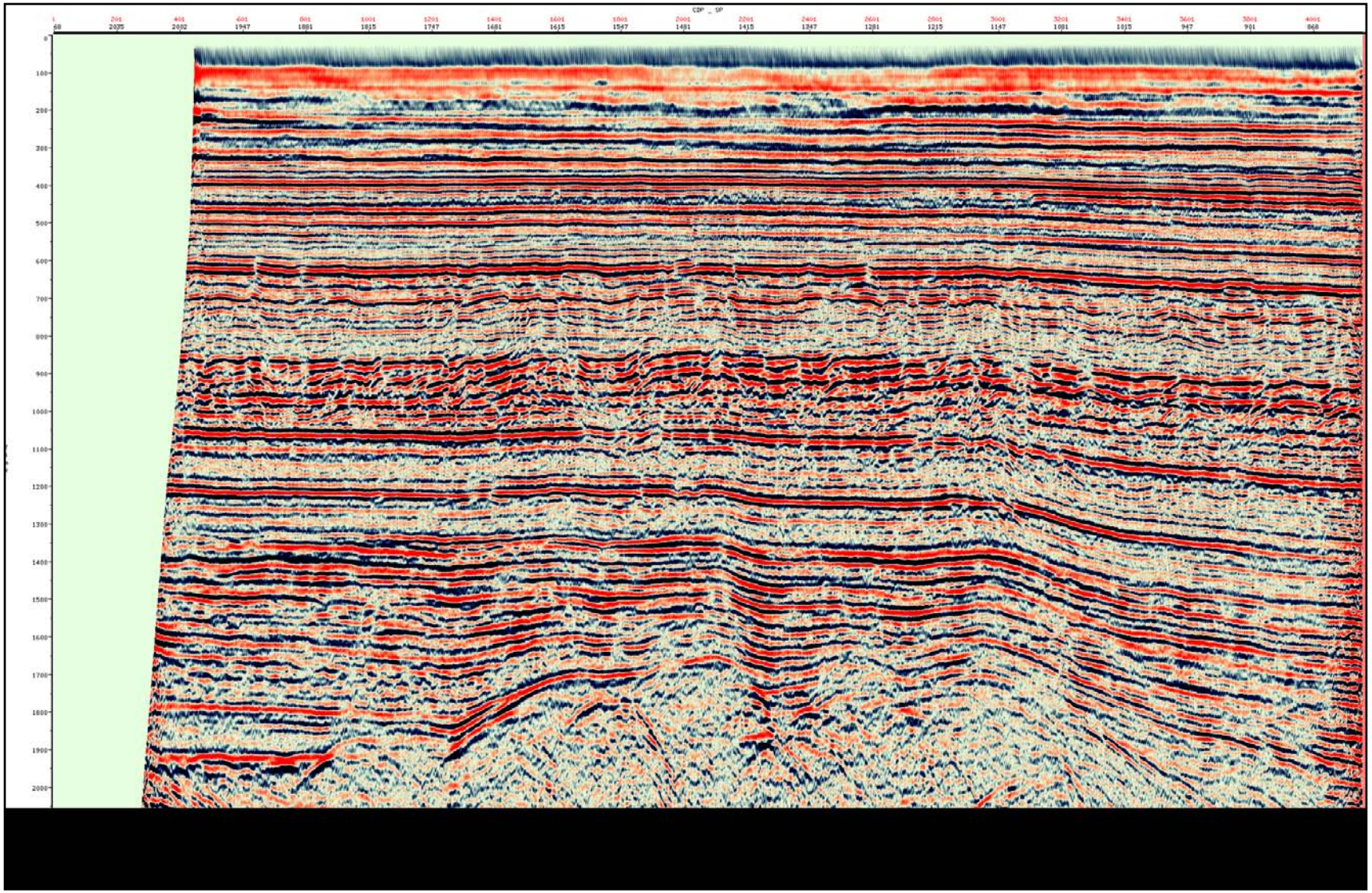
SRME


INPUT
Raw
FLOW A
FLOW D
FLOW B
FLOW C
F1
LNA in Tau-P domain
F4
TPDBS+LNA in Tau-P domain
F6
LNA+TPDBS in Tau-P domain
F2
SRME
F9
TPDBS in Tau-P domain
F5
SRME
F7
SRME
F3
TPDBS in Tau-P domain
F10
SRME

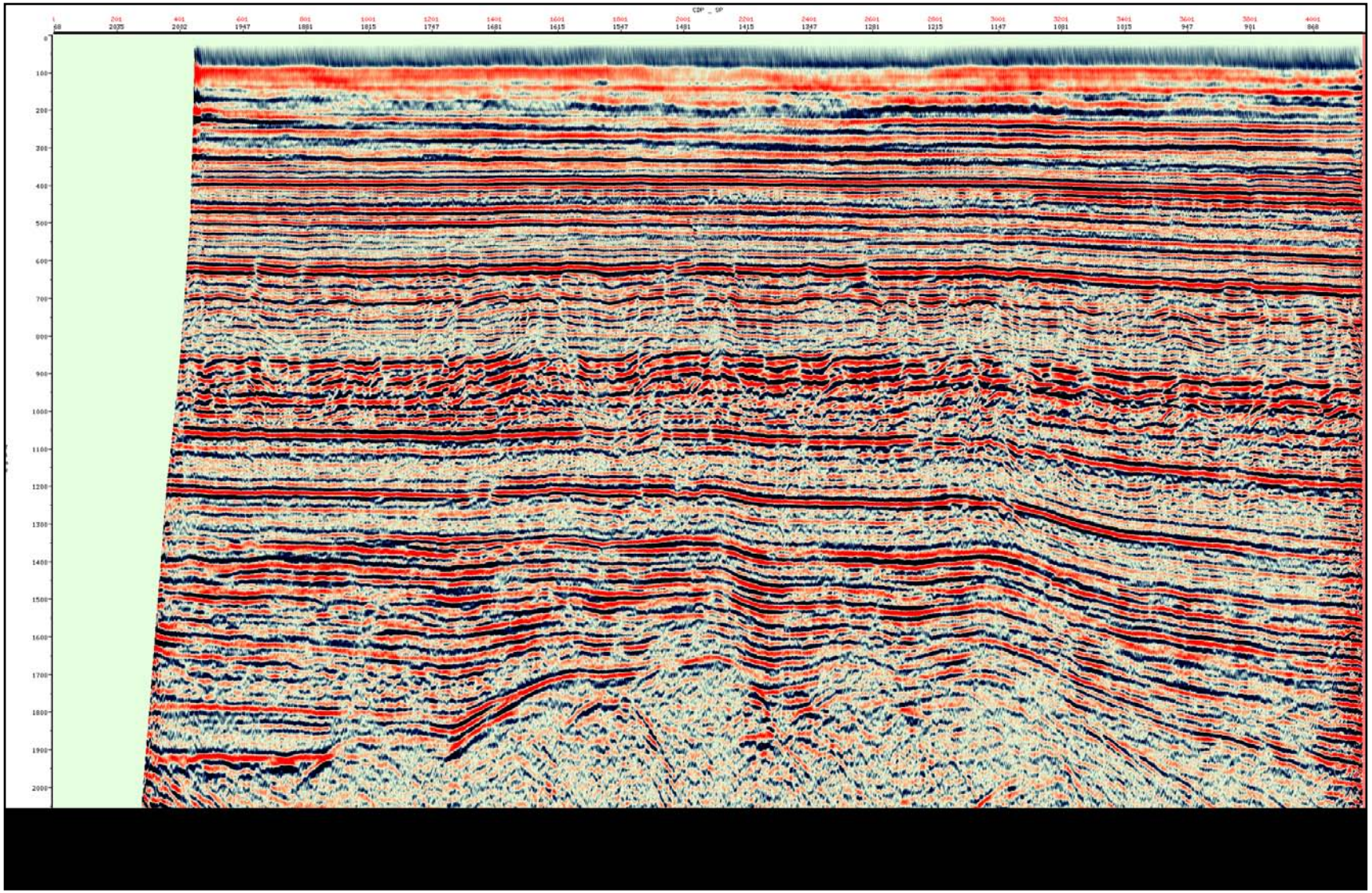
Profile ID SEQ039

SRME FLOW

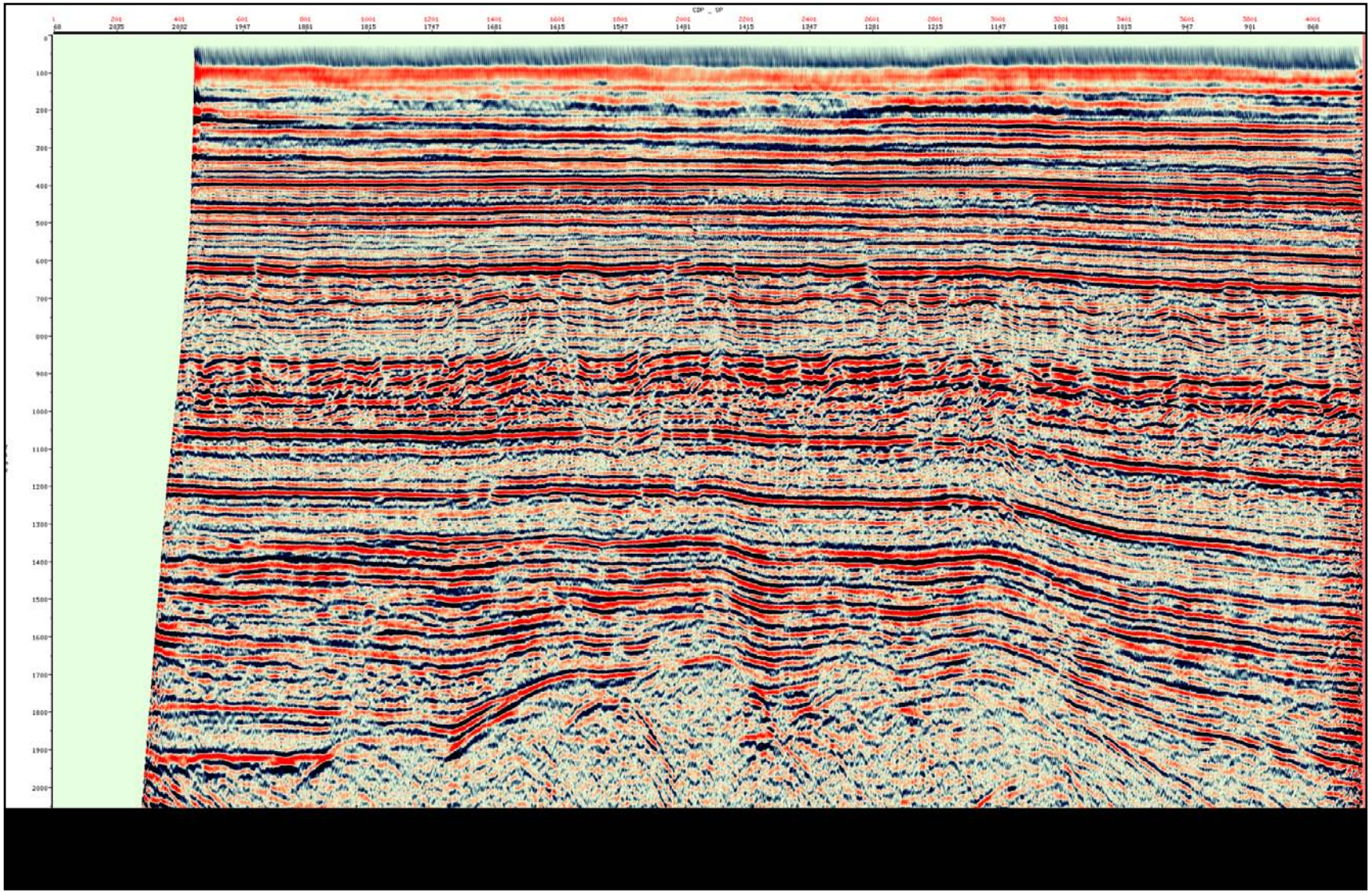
Stack SEQ039 – F3



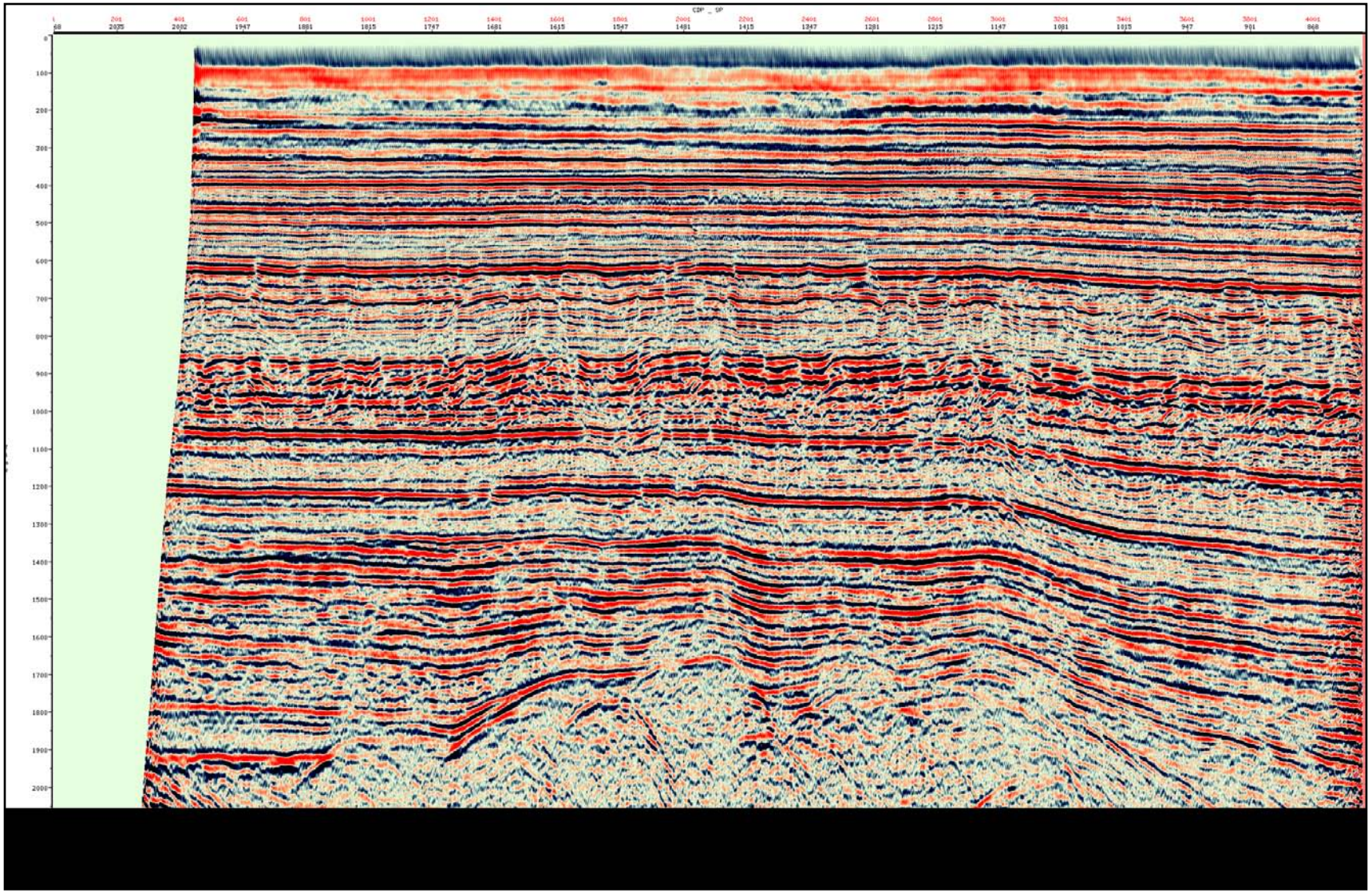
Stack SEQ039 – F5



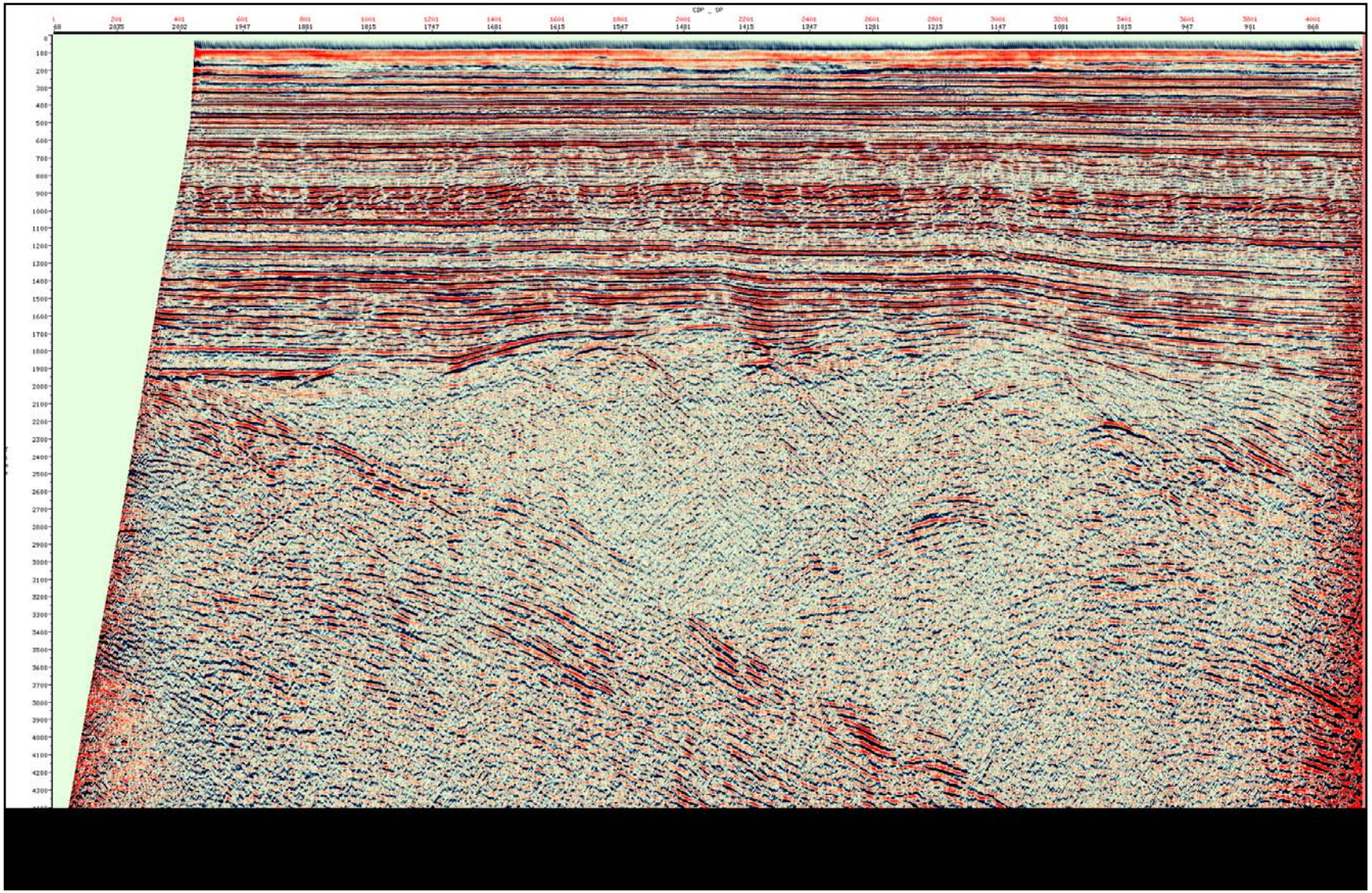
Stack SEQ039 – F7



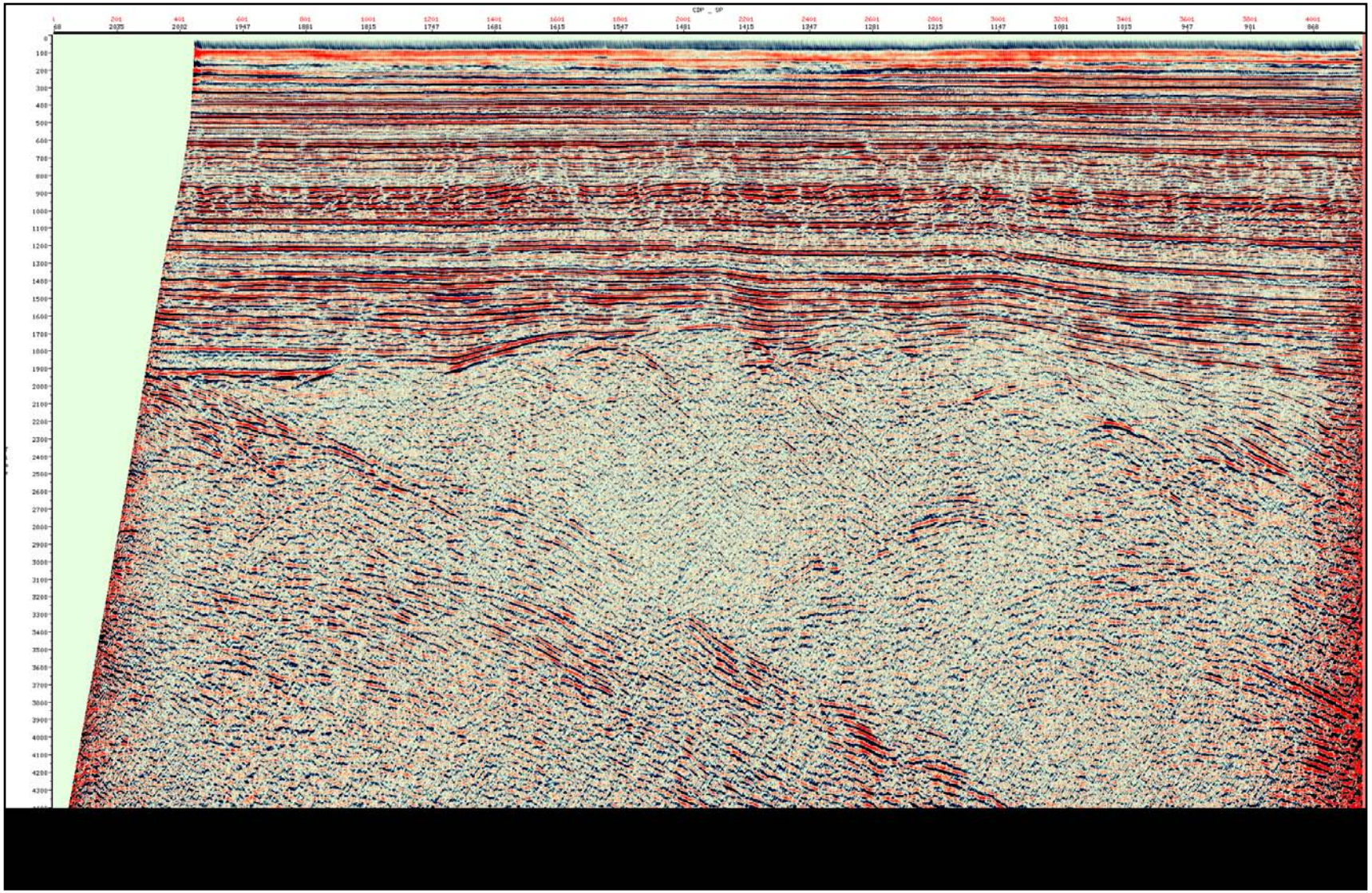
Stack SEQ039 – F10



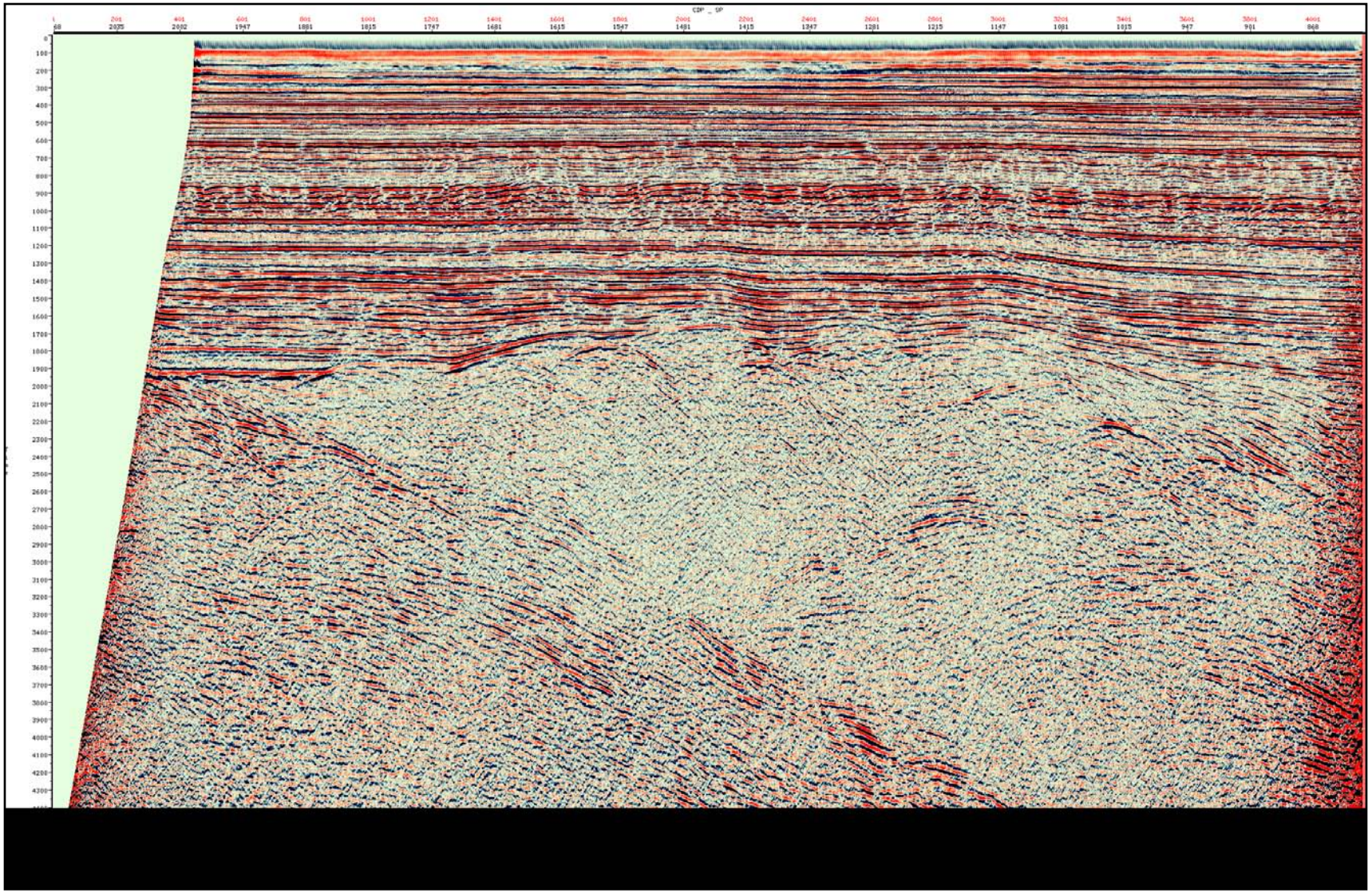
Stack SEQ039 – F3



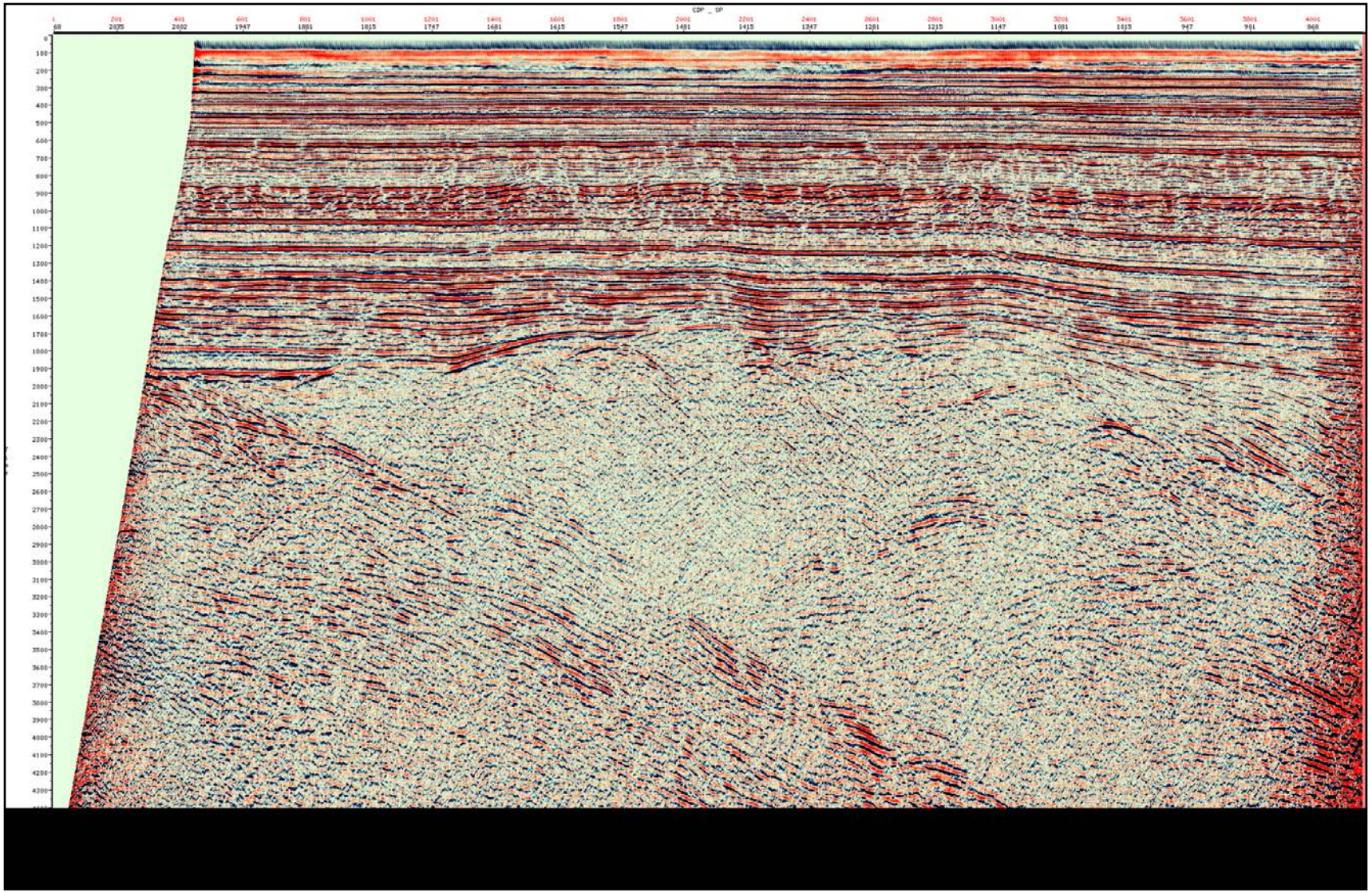
Stack SEQ039 – F5



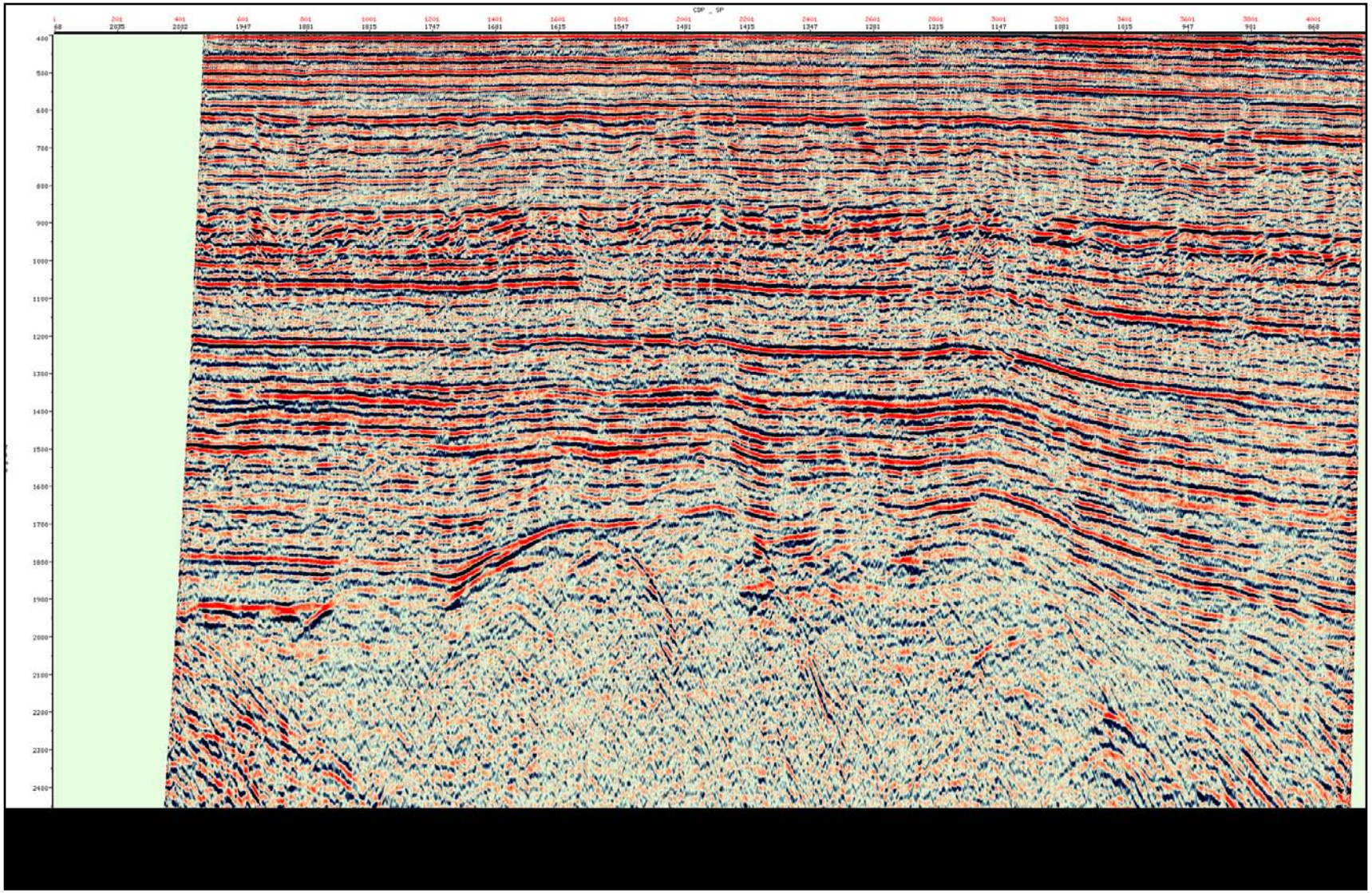
Stack SEQ039 – F7



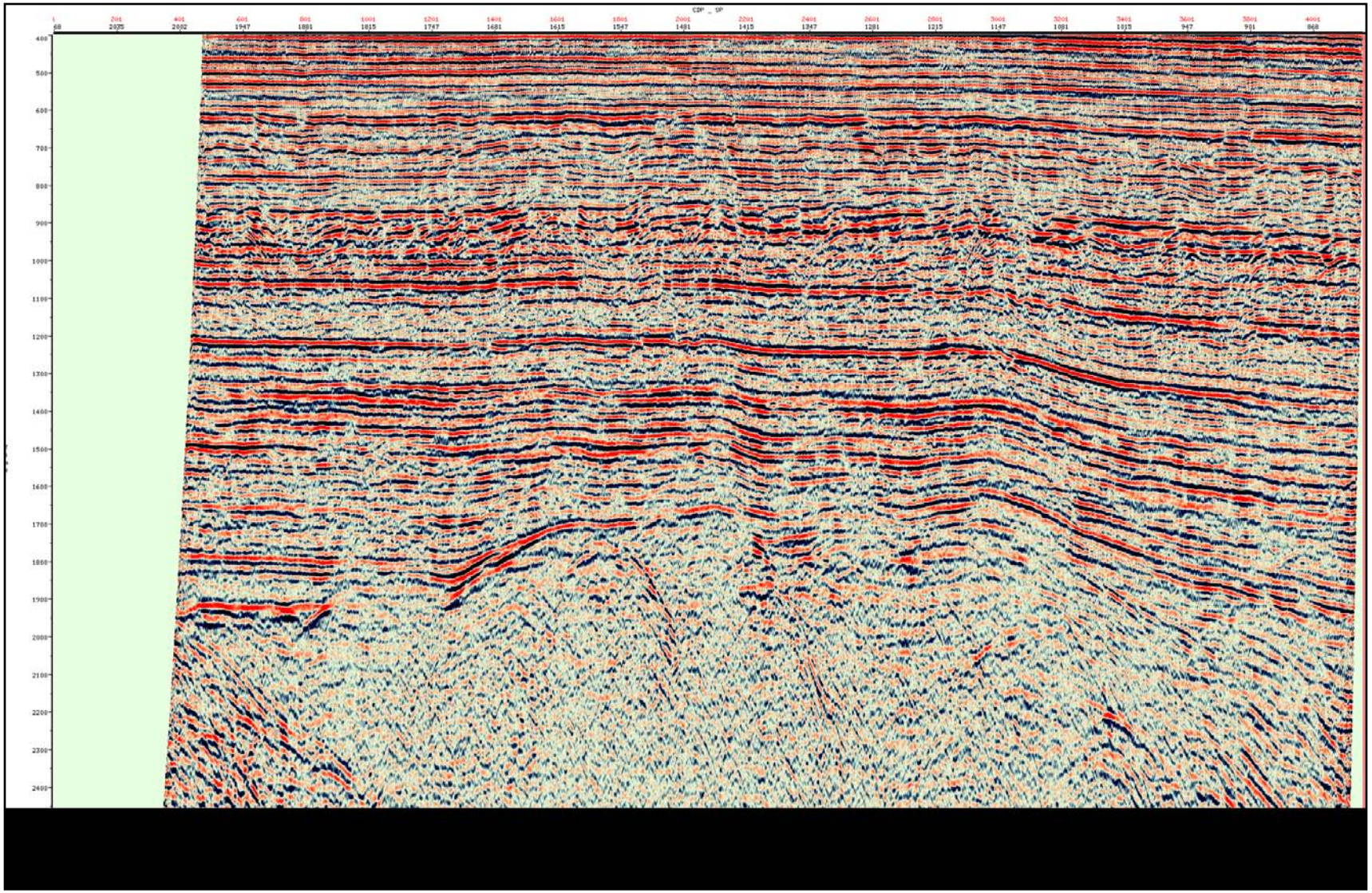
Stack SEQ039 – F10



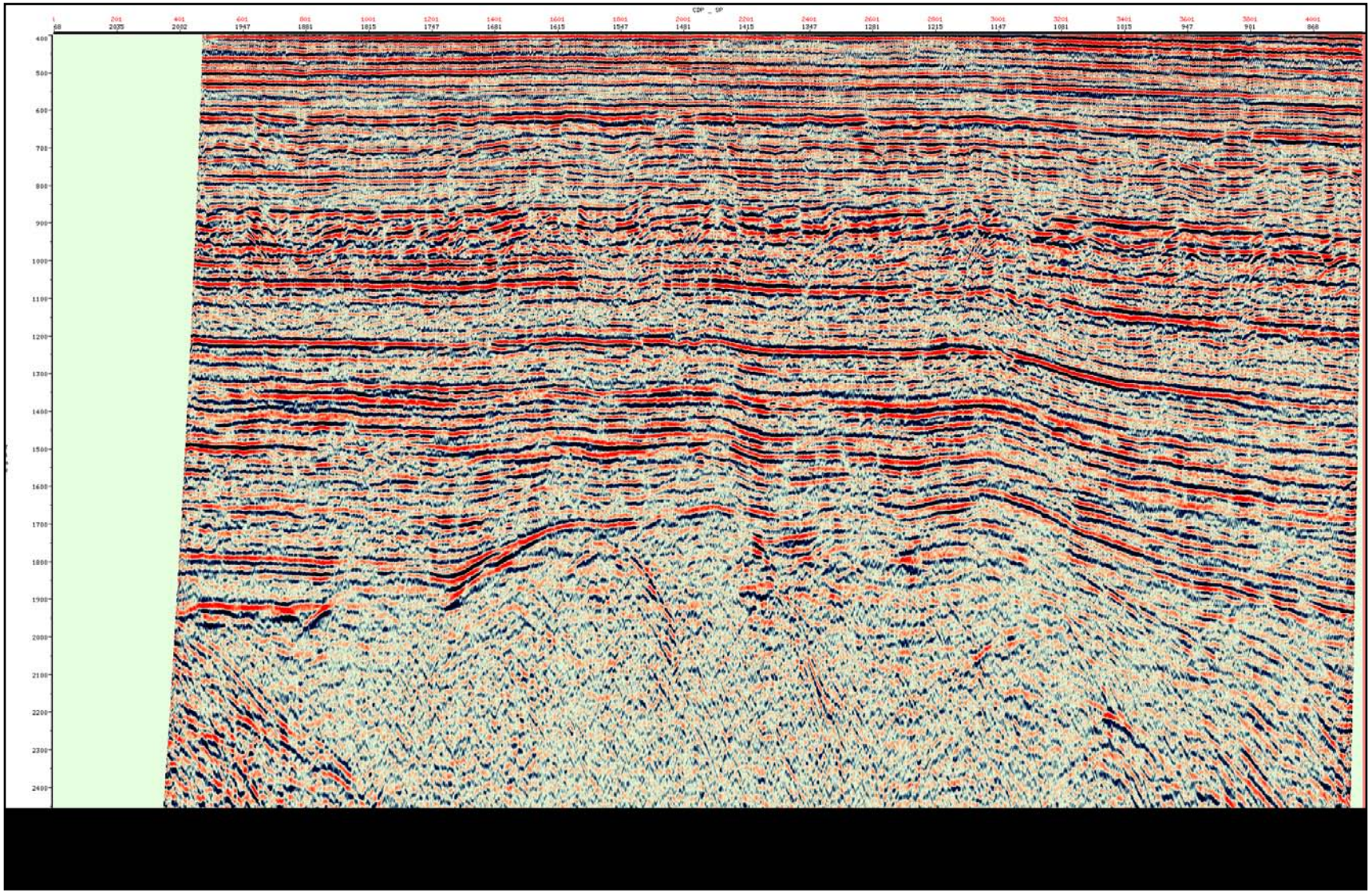
Angle Stack 6-17 Deg SEQ039 – F3



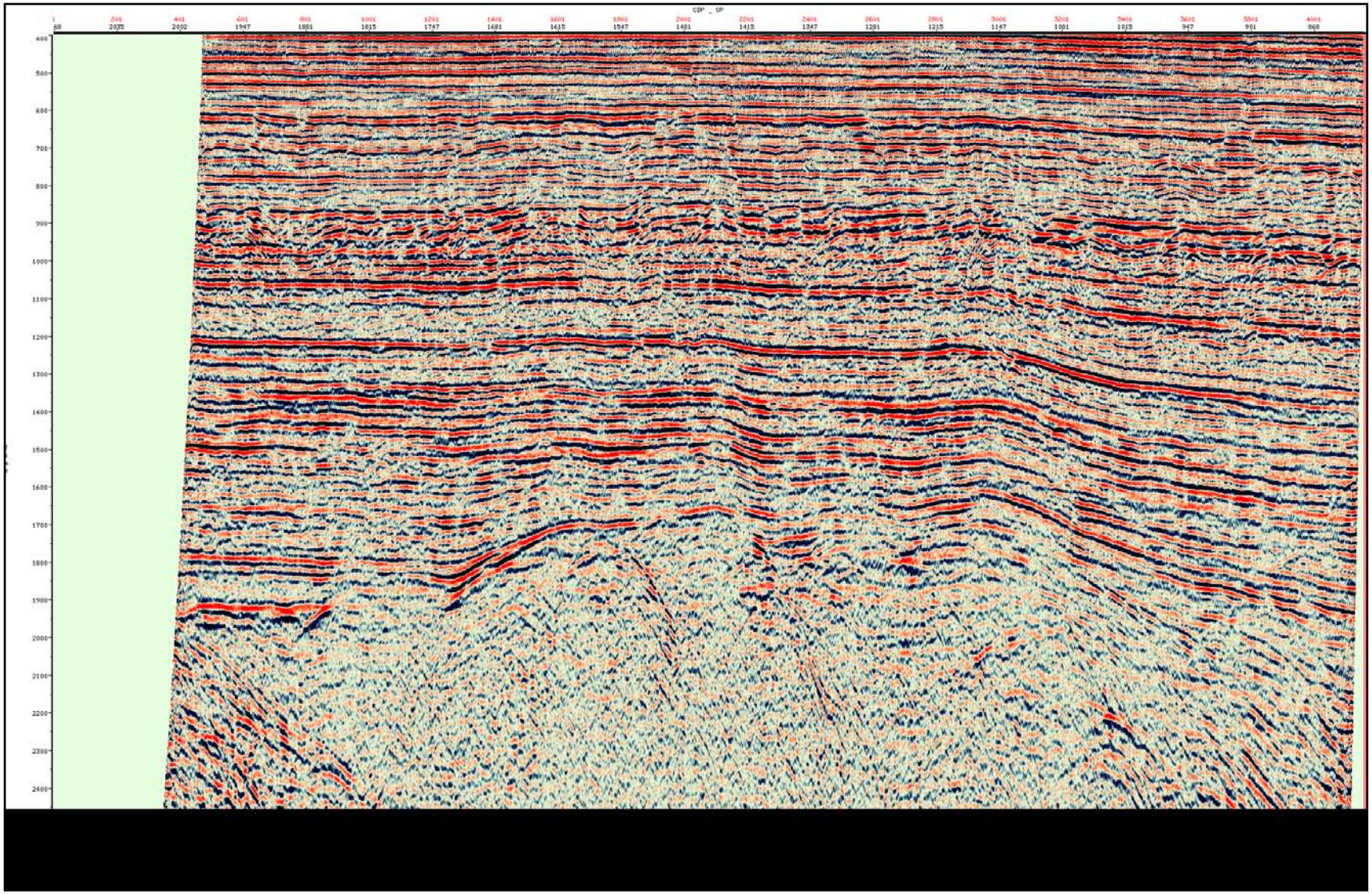
Angle Stack 6-17 Deg SEQ039 – F5



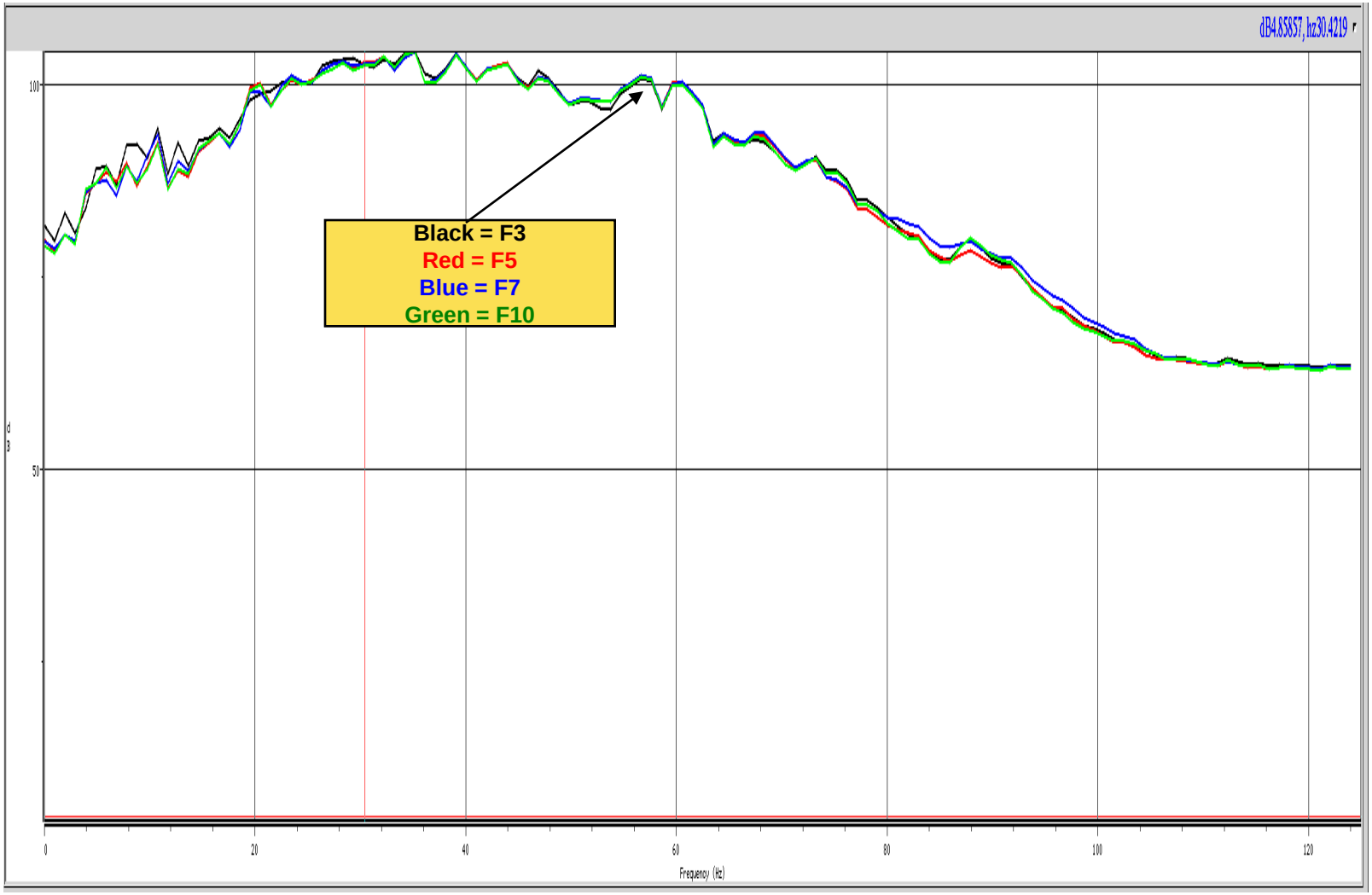
Angle Stack 6-17 Deg SEQ039 – F7



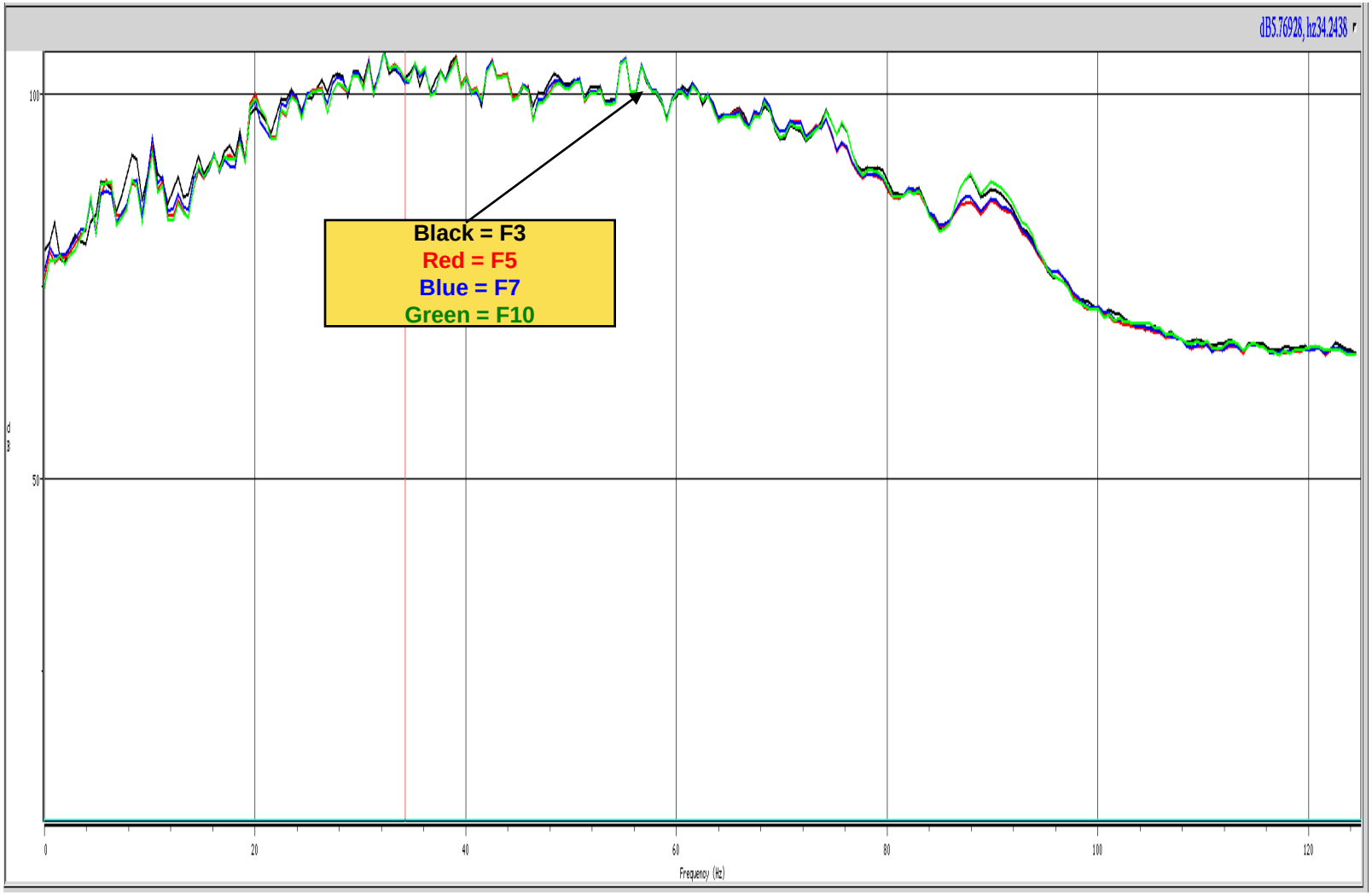
Angle Stack 6-17 Deg SEQ039 – F10



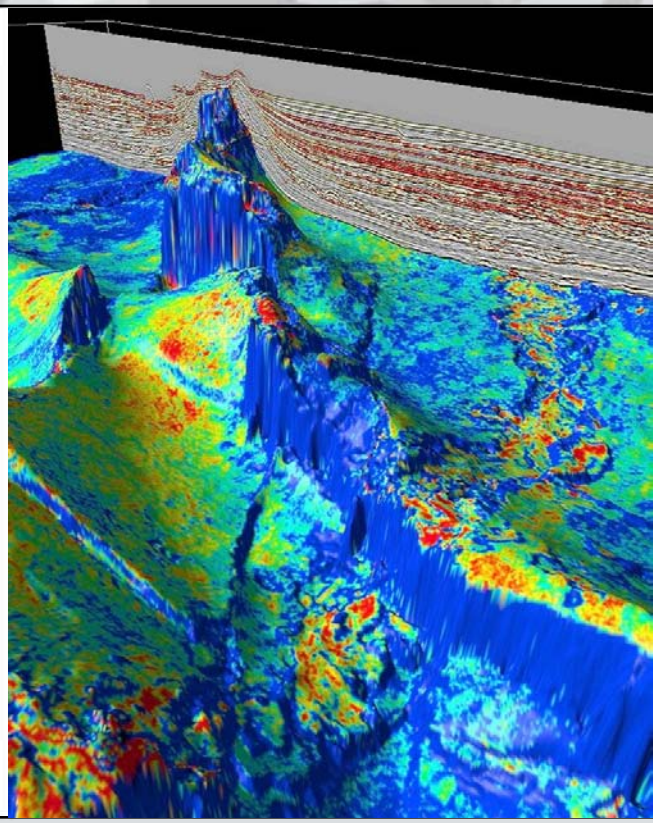
Spectrum of Angle Stack 6-17 Deg (Target Geology) SEQ039 – F3,F5,F7,F10



Spectrum of Angle Stack 6-17 Deg (Whole Geology) SEQ039 – F3,F5,F7,F10



Technical Note 3
SRME FLOW
(Add2)
Silvereye 3D



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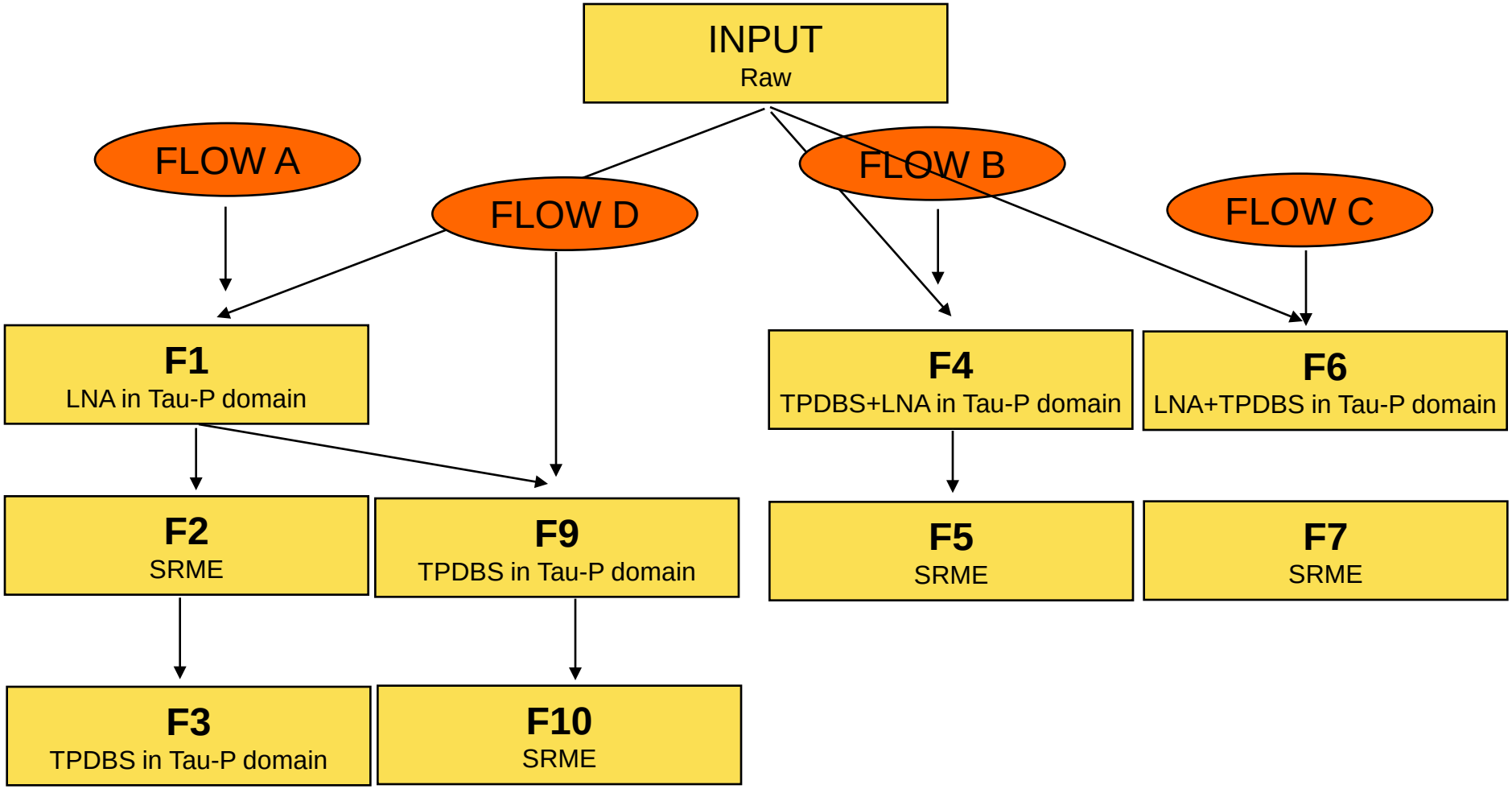
  - DBS in Tau-P domain, Gap 48ms, Op: 300ms, Window: 0-2200ms
- **Flow B:**
  - DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain
- **Flow C:**
  - LNA, DBS in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain
- **Flow D:**
  - LNA in Tau-P domain
  - DBS in Tau-P domain, Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain

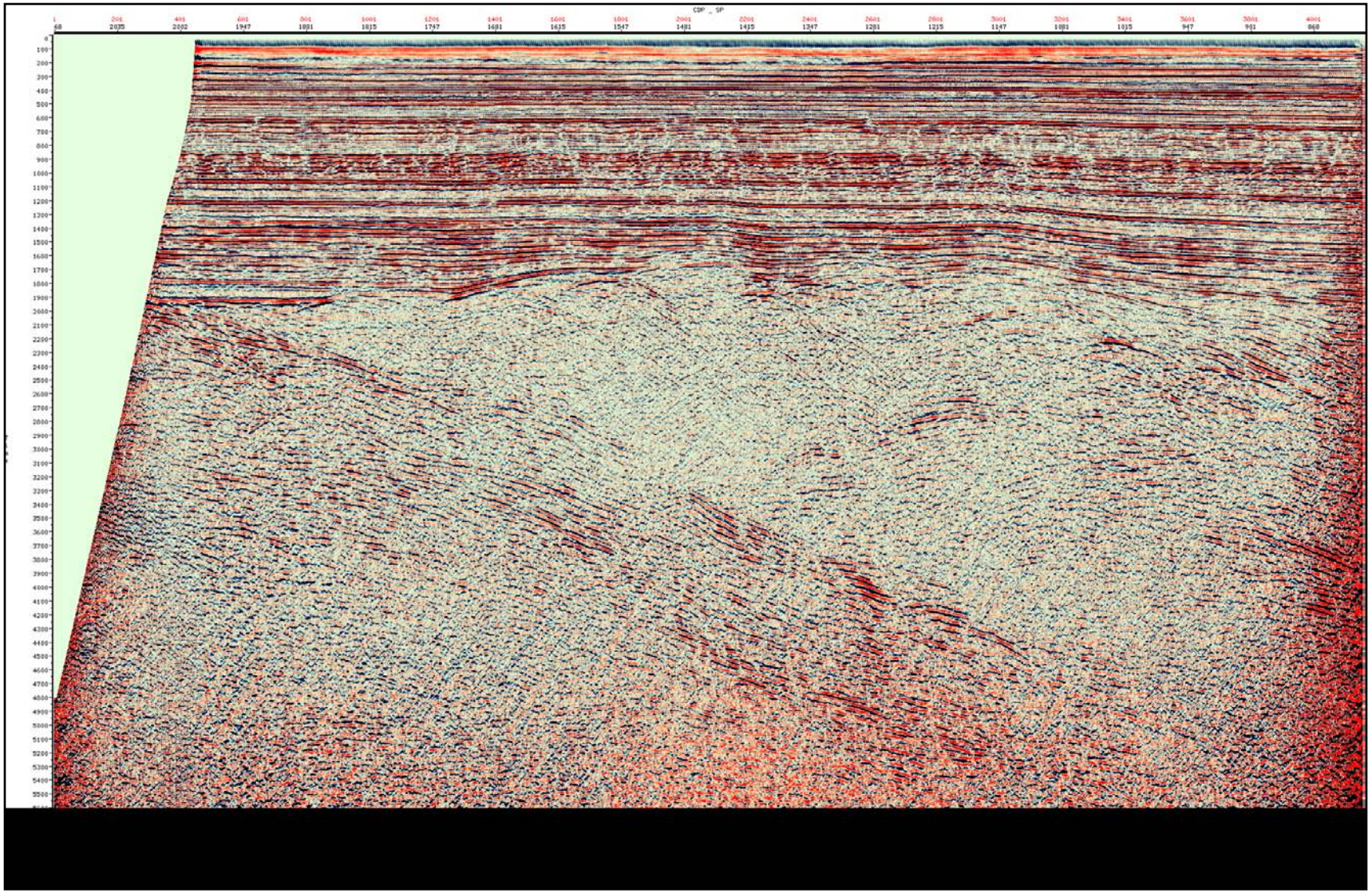
SRME


INPUT
Raw
FLOW A
FLOW D
FLOW B
FLOW C
F1
LNA in Tau-P domain
F4
TPDBS+LNA in Tau-P domain
F6
LNA+TPDBS in Tau-P domain
F2
SRME
F9
TPDBS in Tau-P domain
F5
SRME
F7
SRME
F3
TPDBS in Tau-P domain
F10
SRME

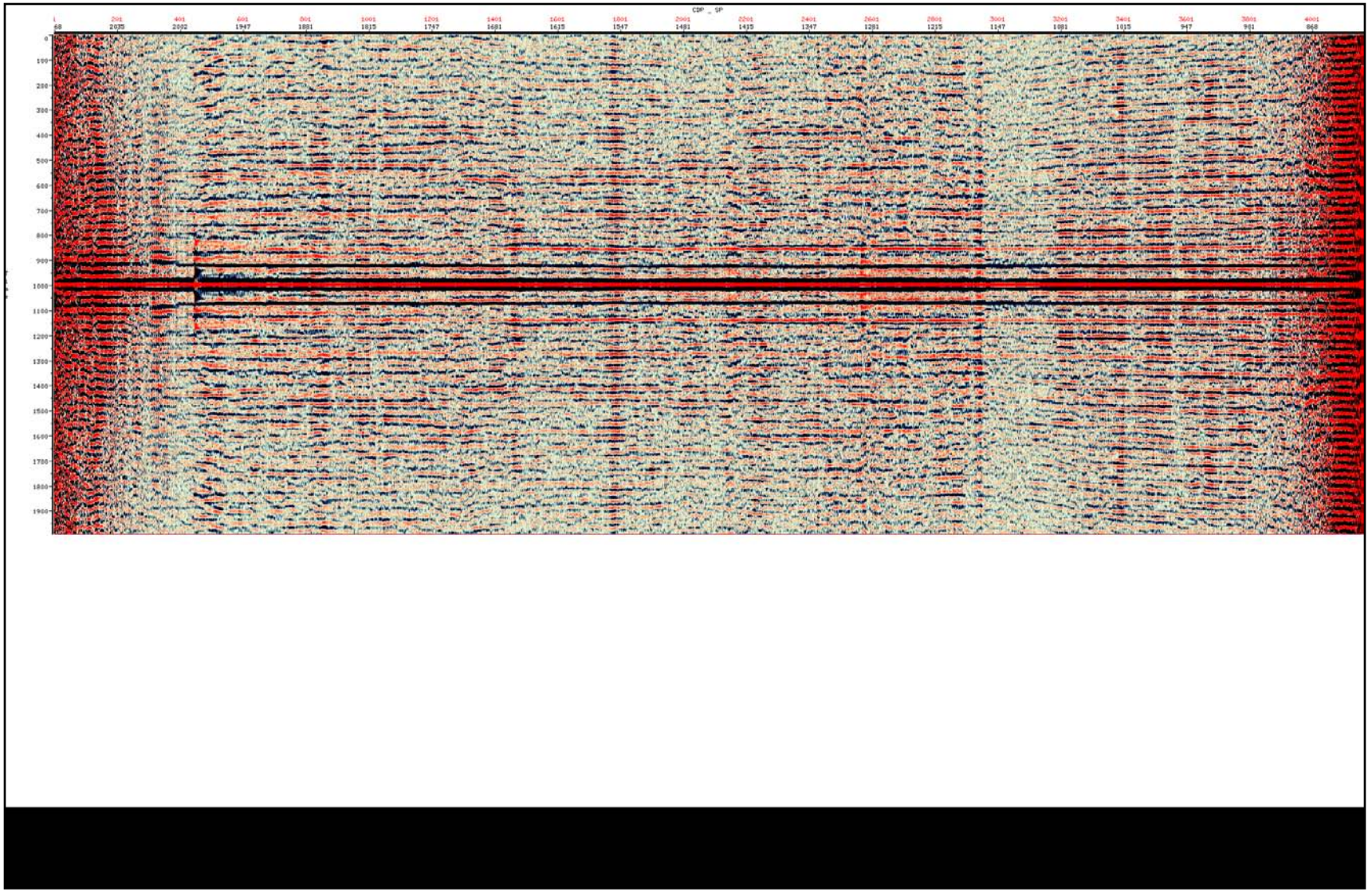
Profile ID SEQ039

SRME FLOW

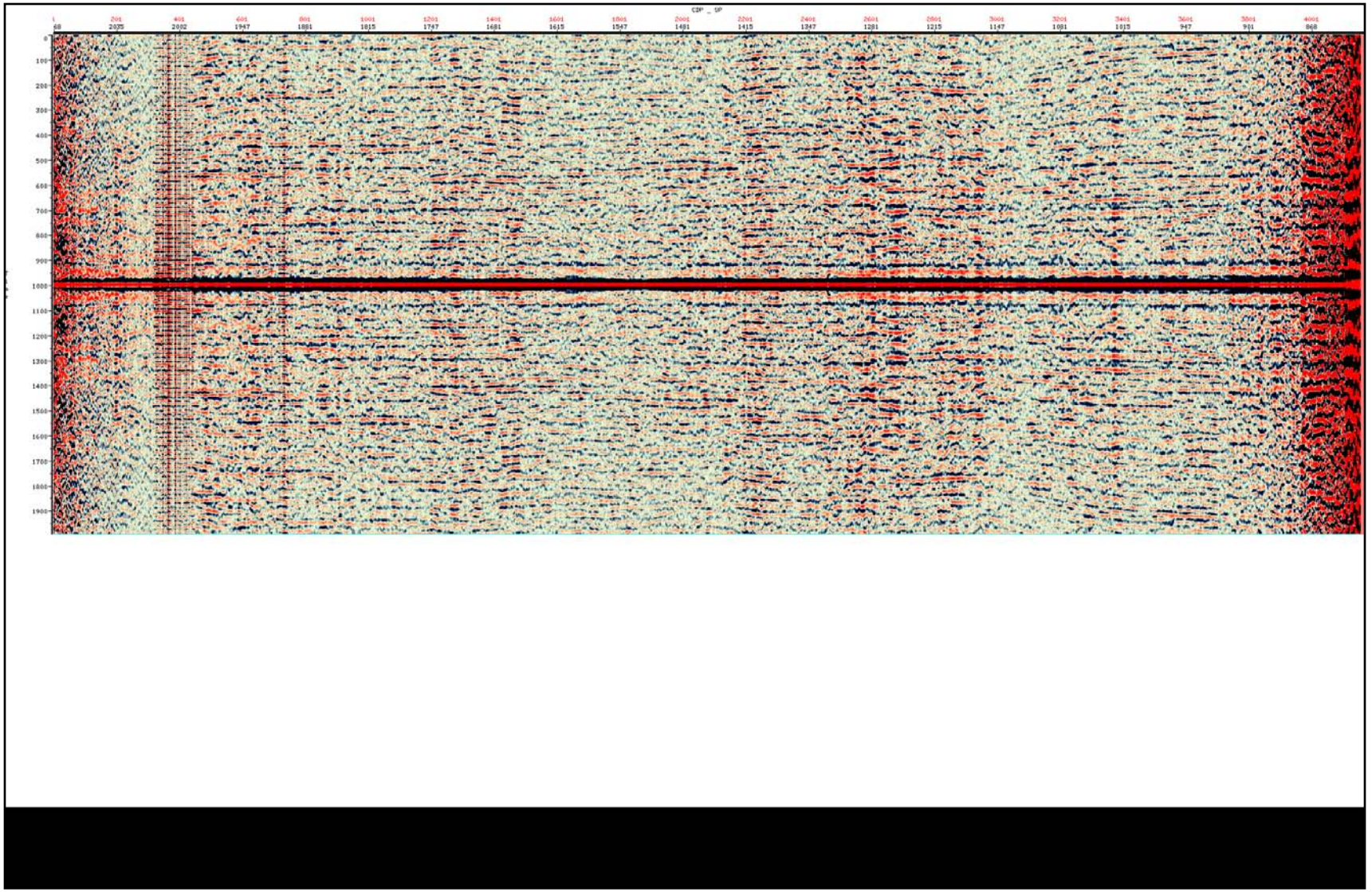
Stack SEQ039 – Test Area (Whole Trace)



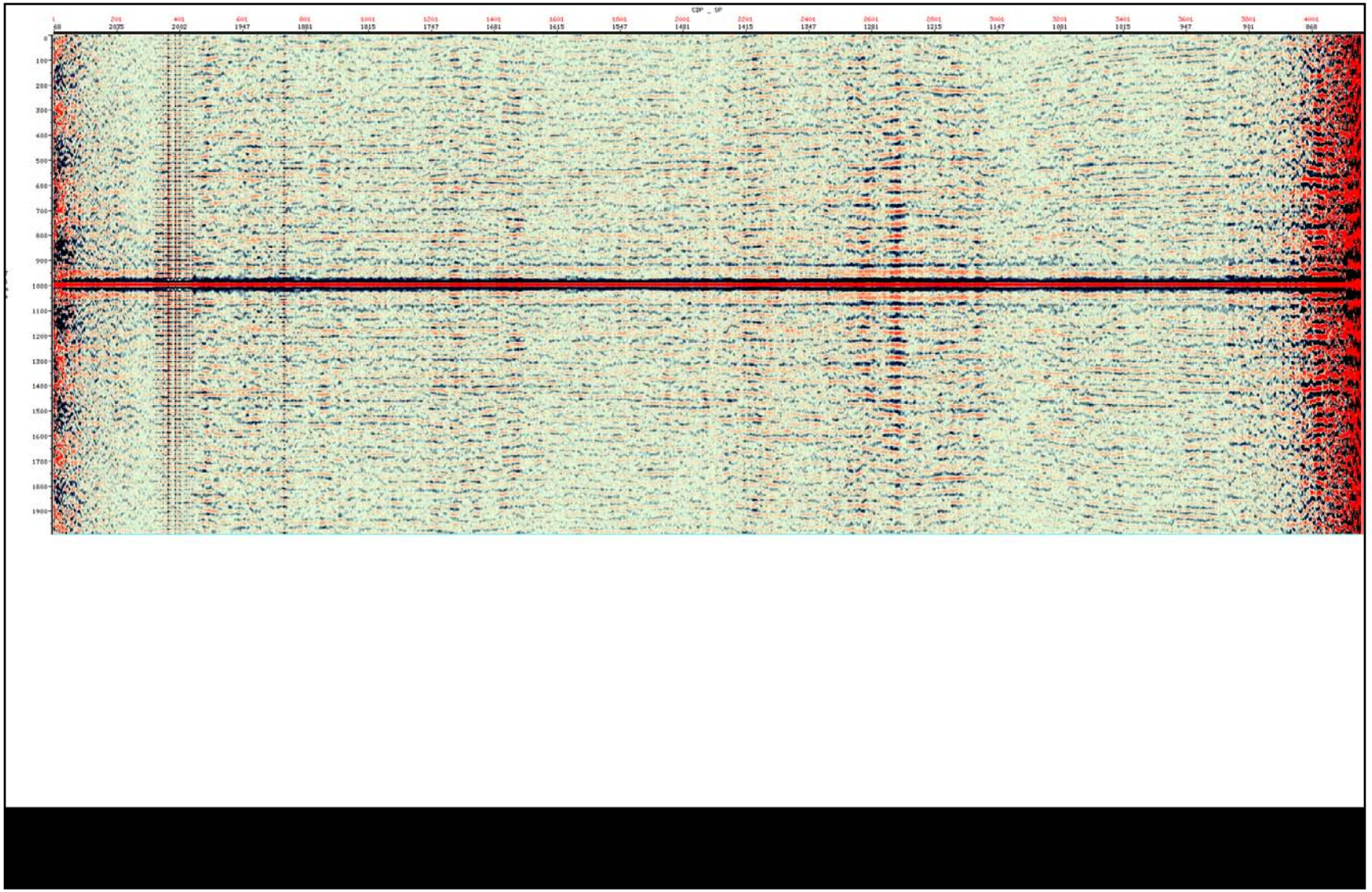
AC of Stack SEQ039 – Whole Trace F0 (Input)



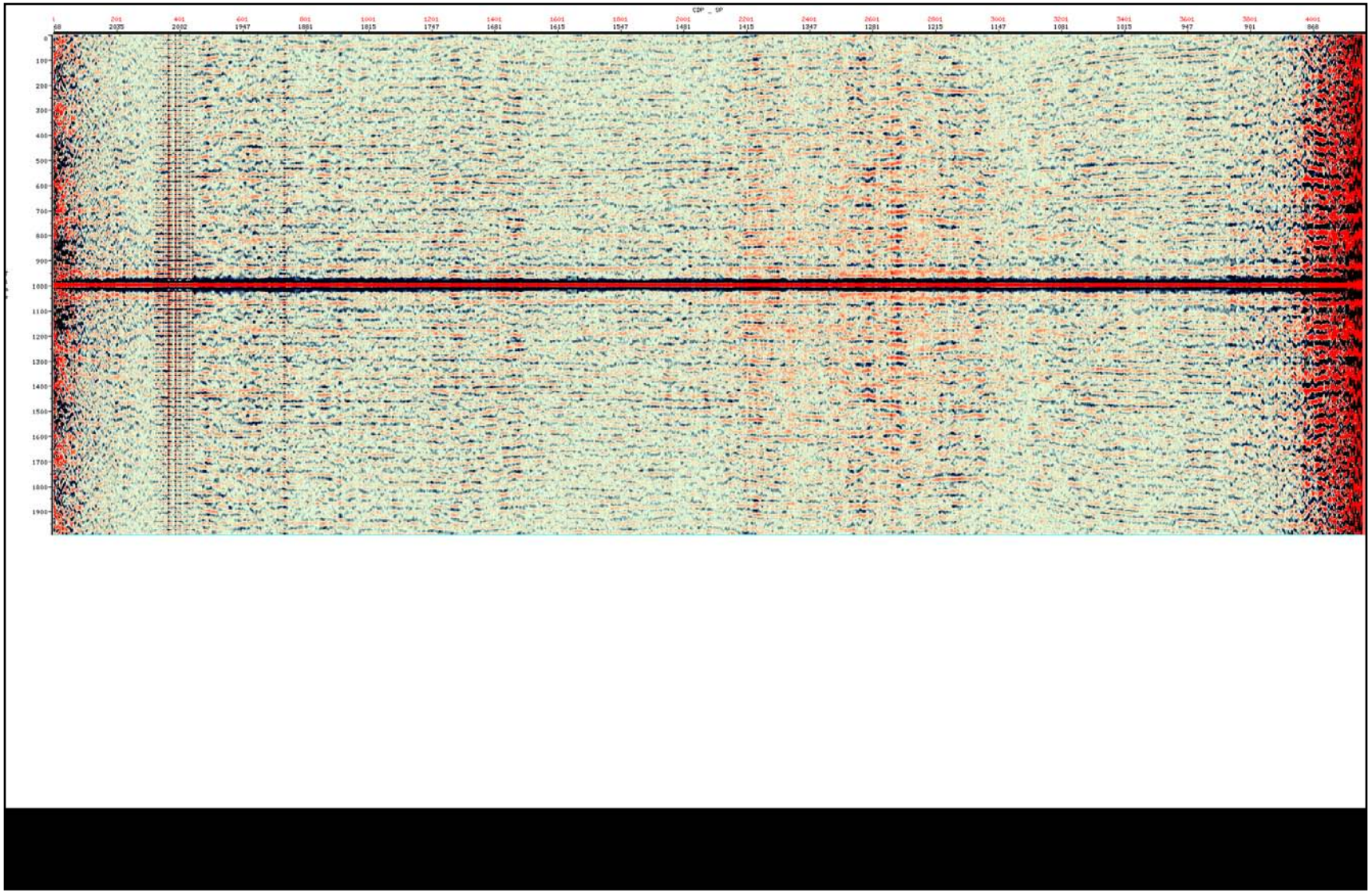
AC of Stack SEQ039 – Whole Trace F3



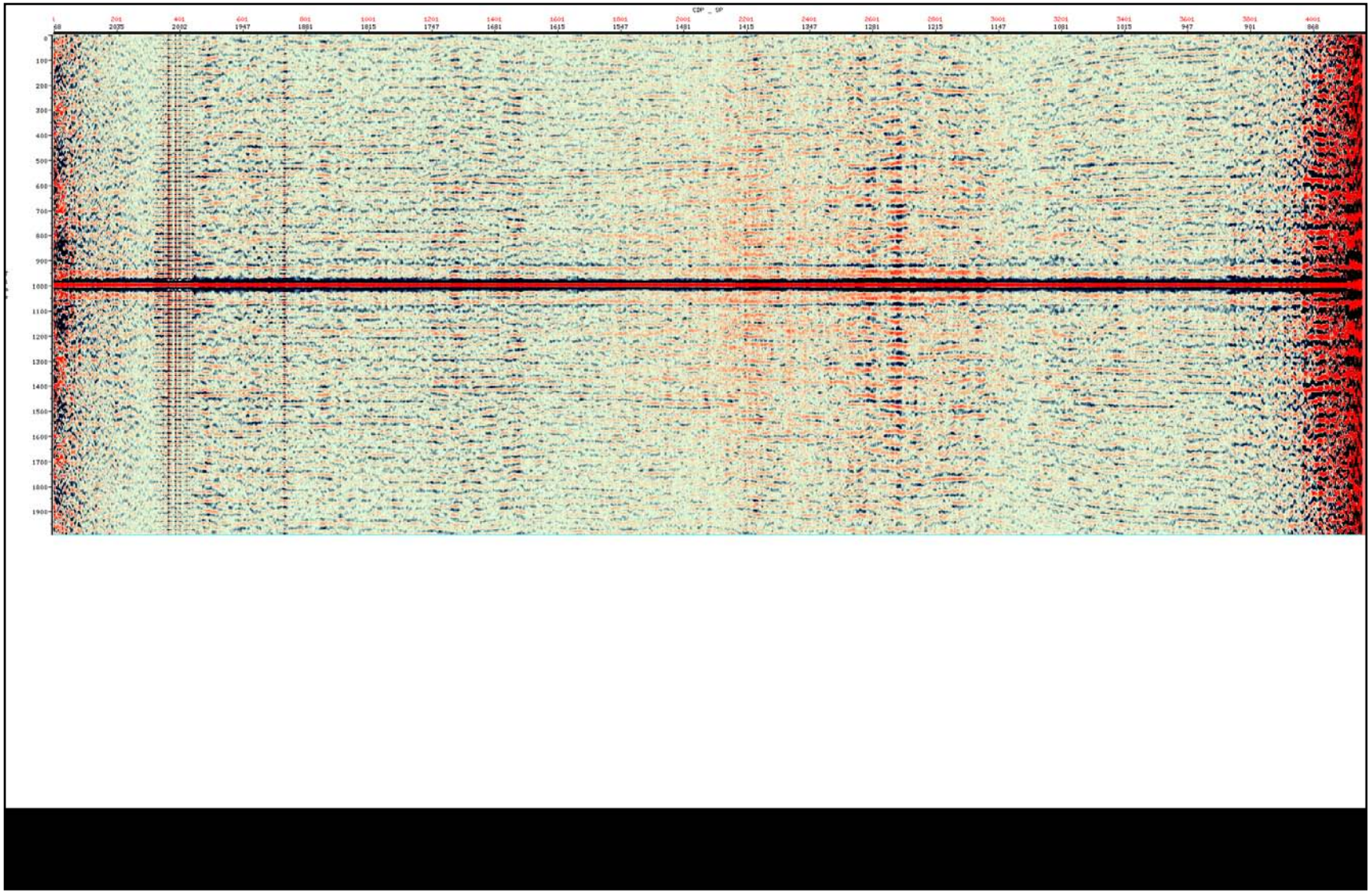
AC of Stack SEQ039 – Whole Trace F5



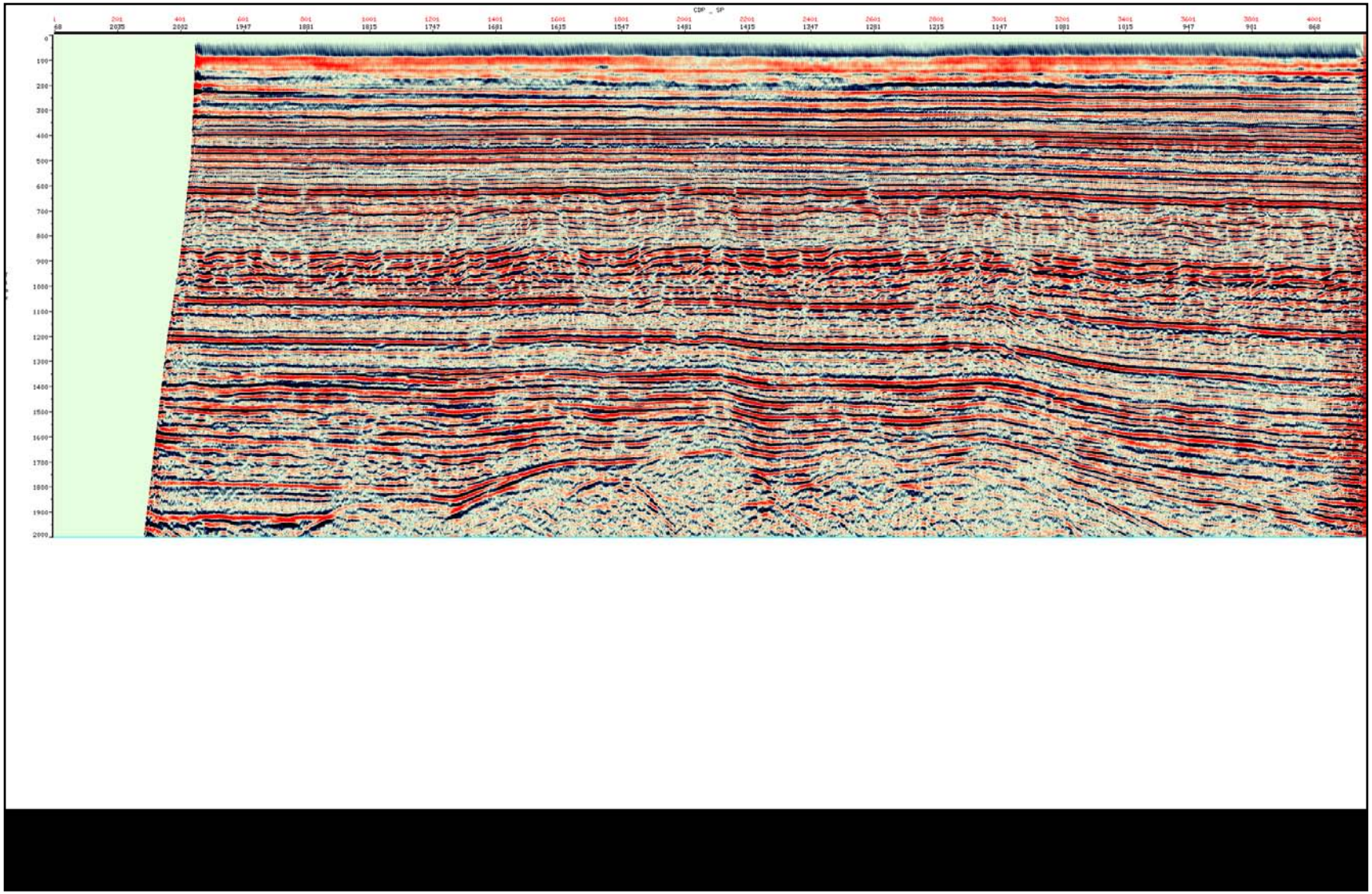
AC of Stack SEQ039 – Whole Trace F7



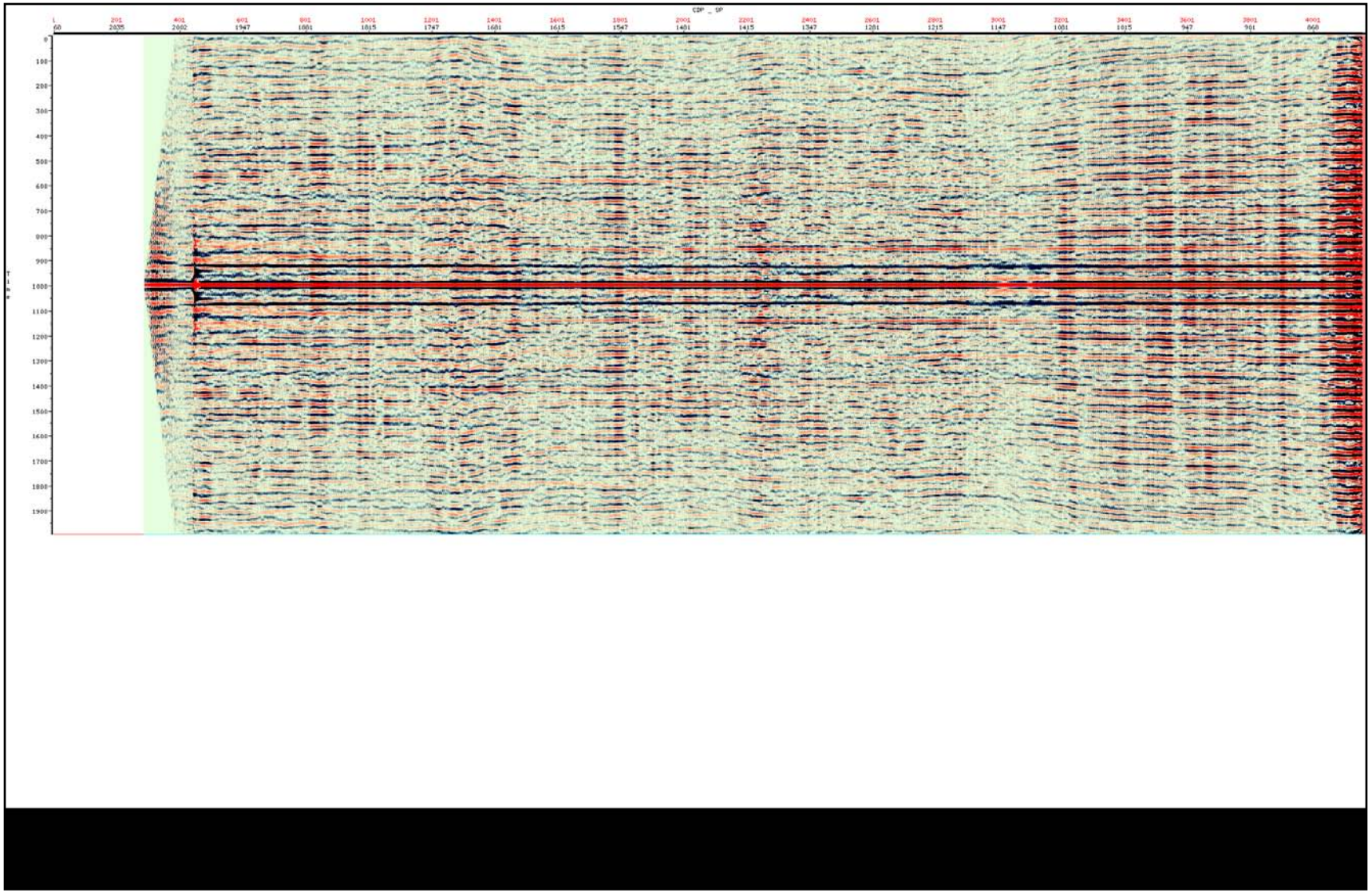
AC of Stack SEQ039 – Whole Trace F10



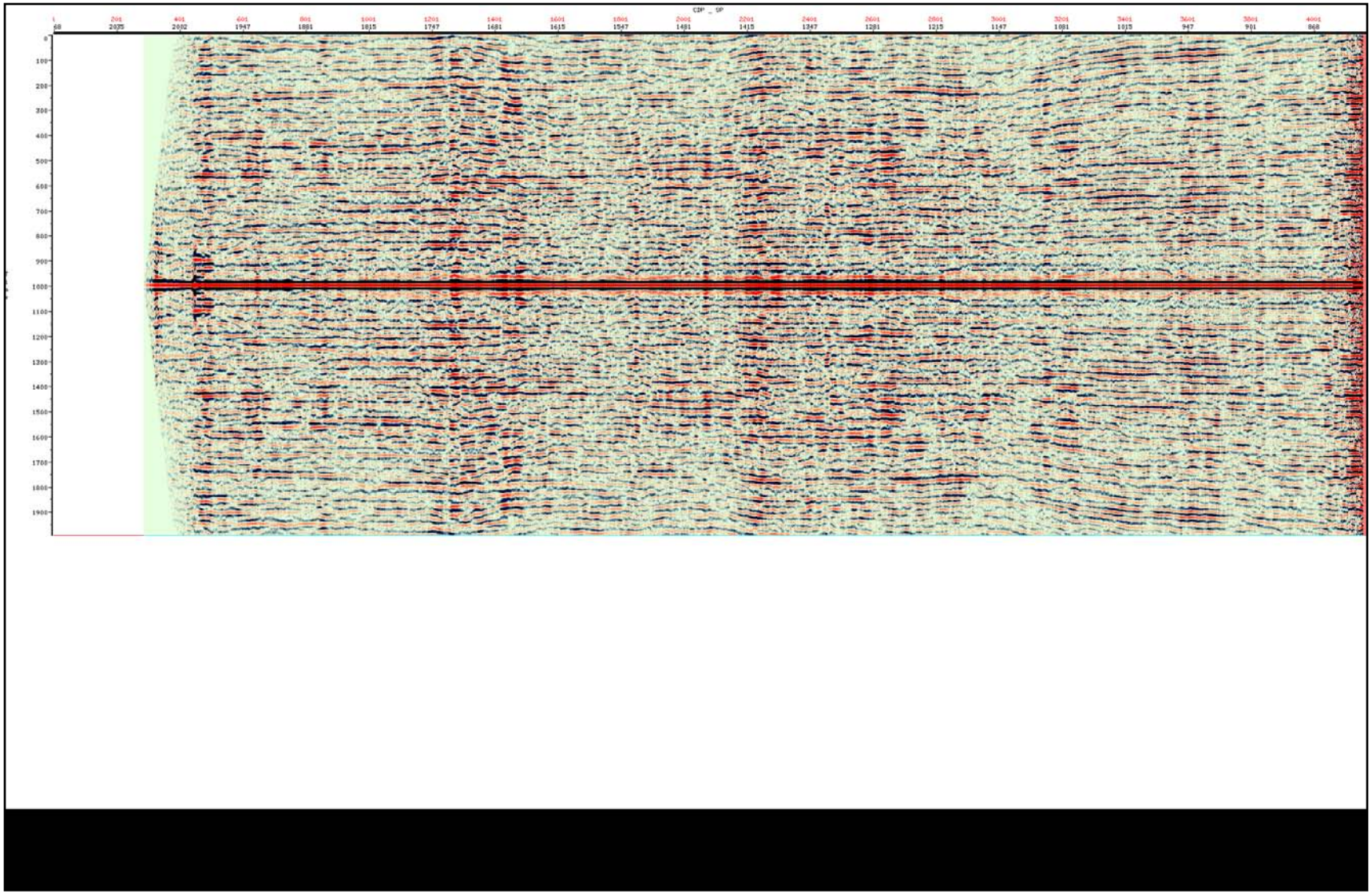
Stack SEQ039 – Test Area (0-2sec)



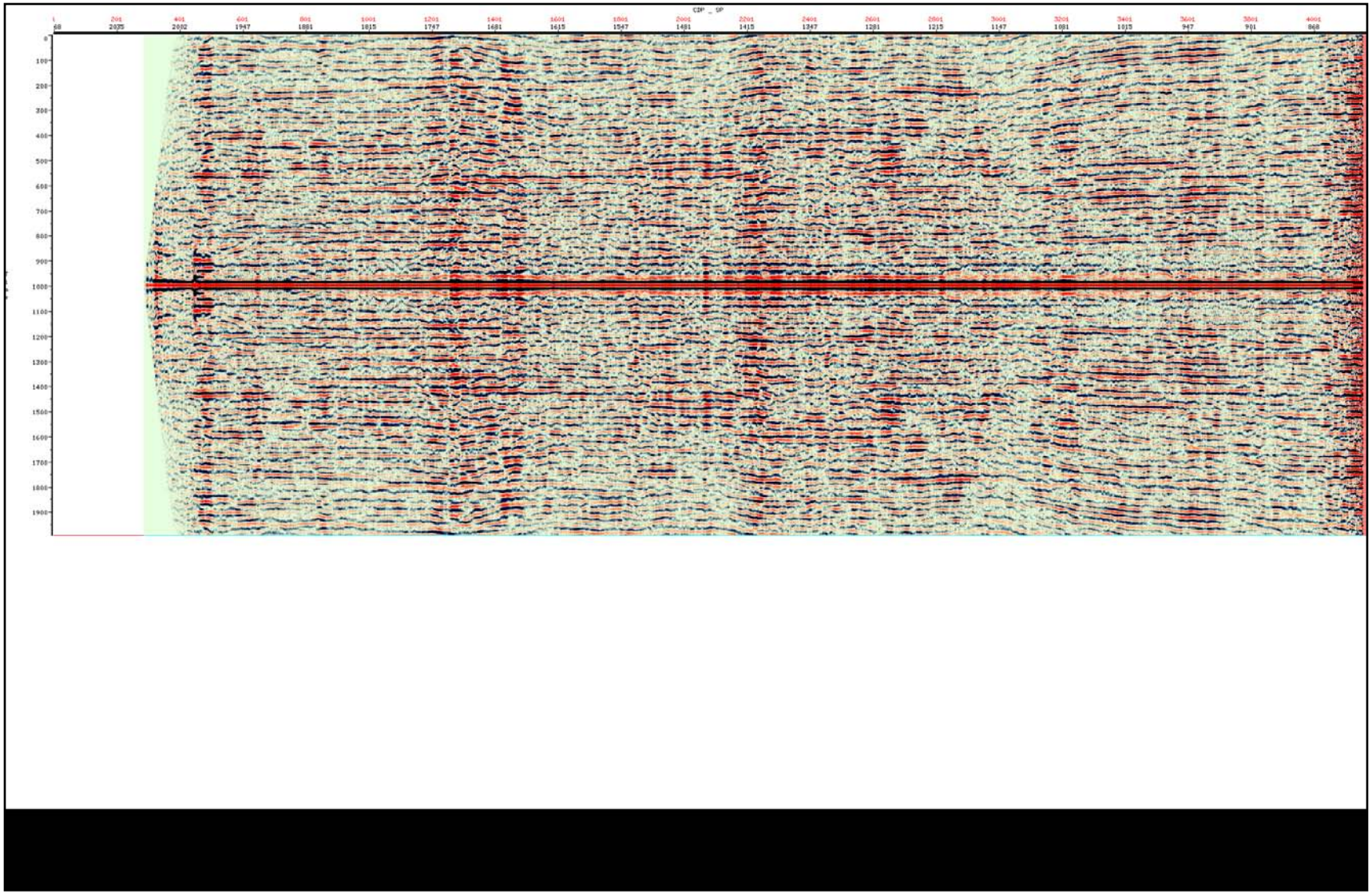
AC of NTG SEQ039 – 0-2sec F0



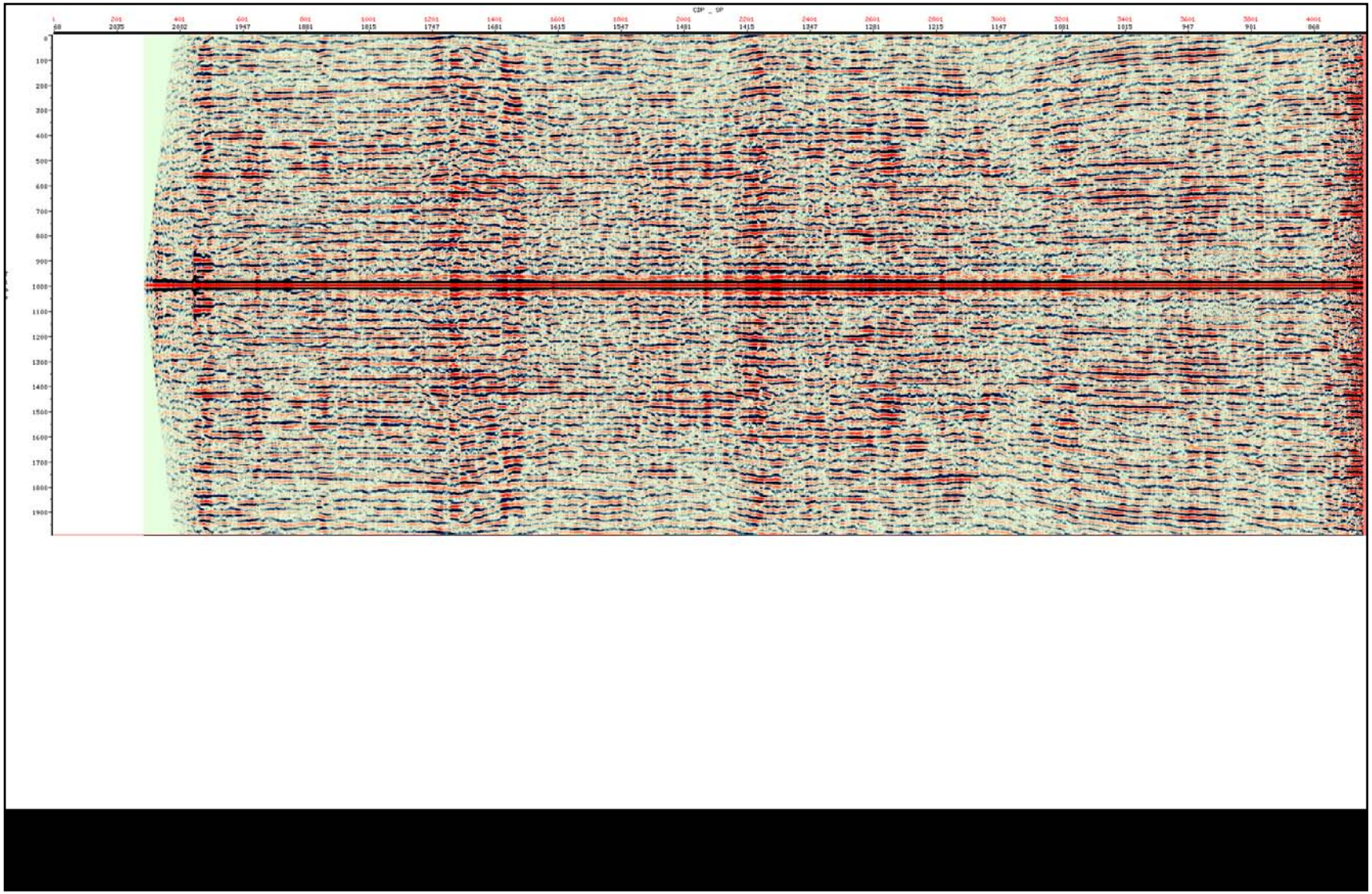
AC of Stack SEQ039 – 0-2sec F3



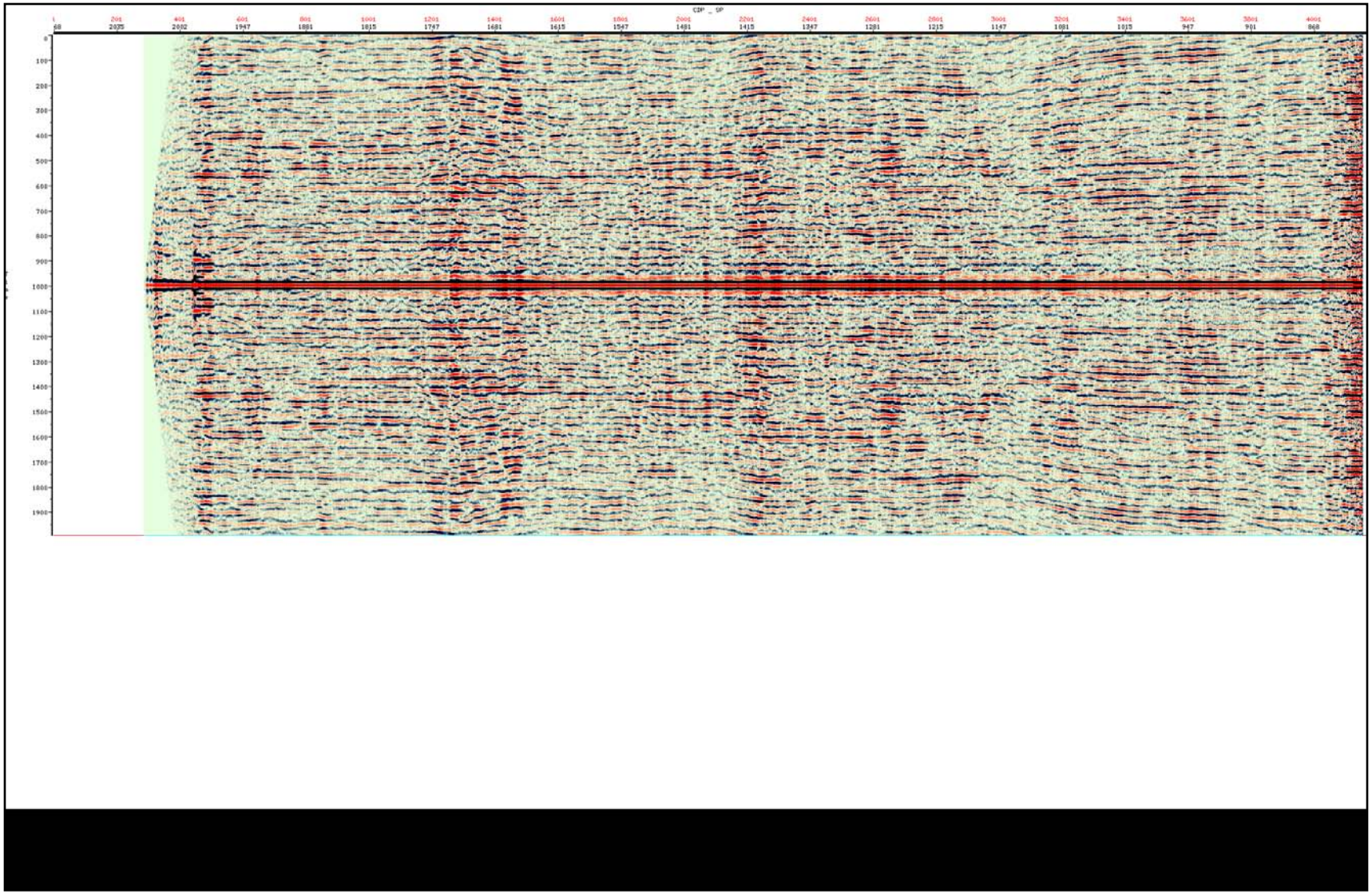
AC of Stack SEQ039 – 0-2sec F5



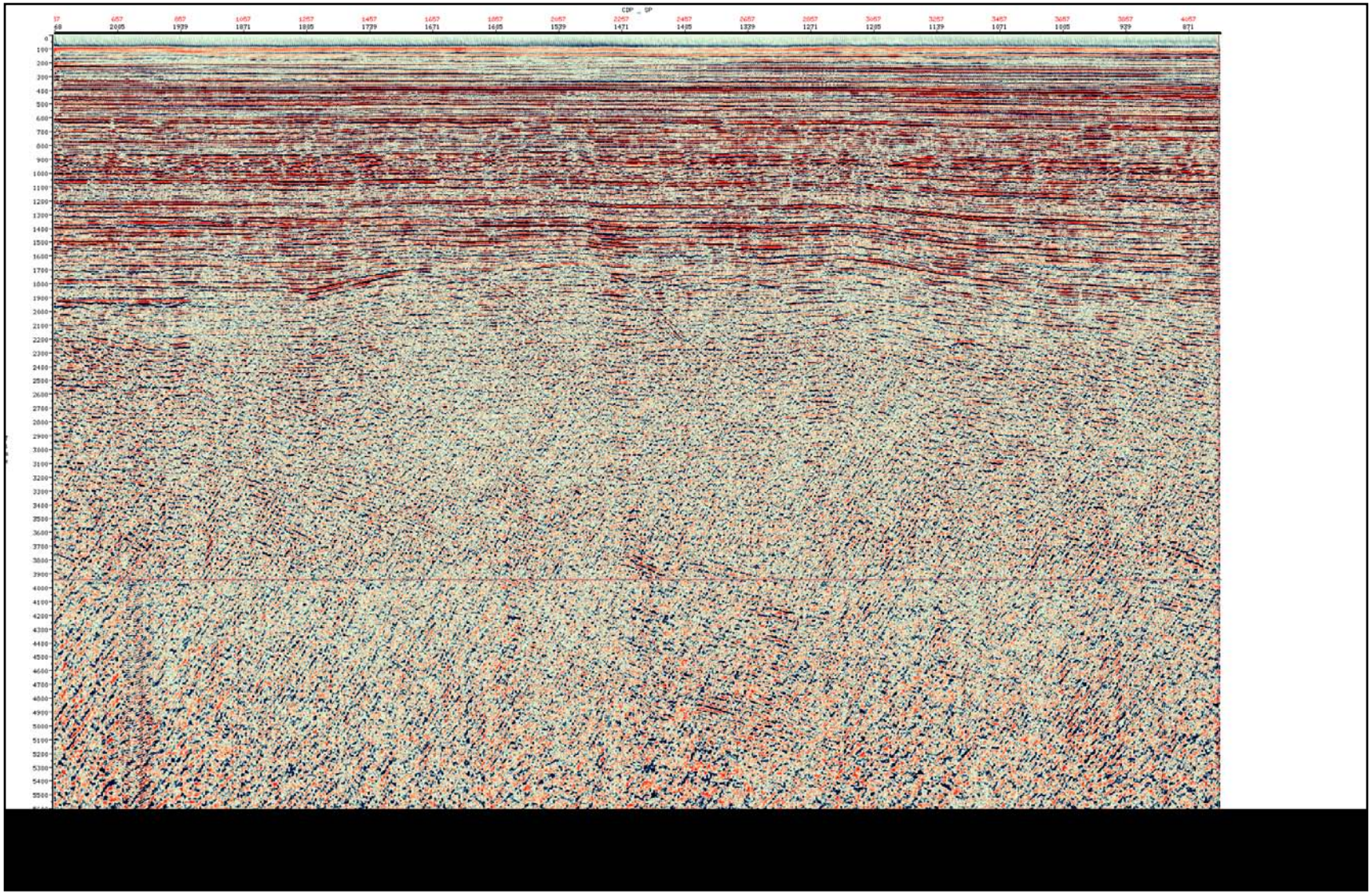
AC of Stack SEQ039 – 0-2sec F7



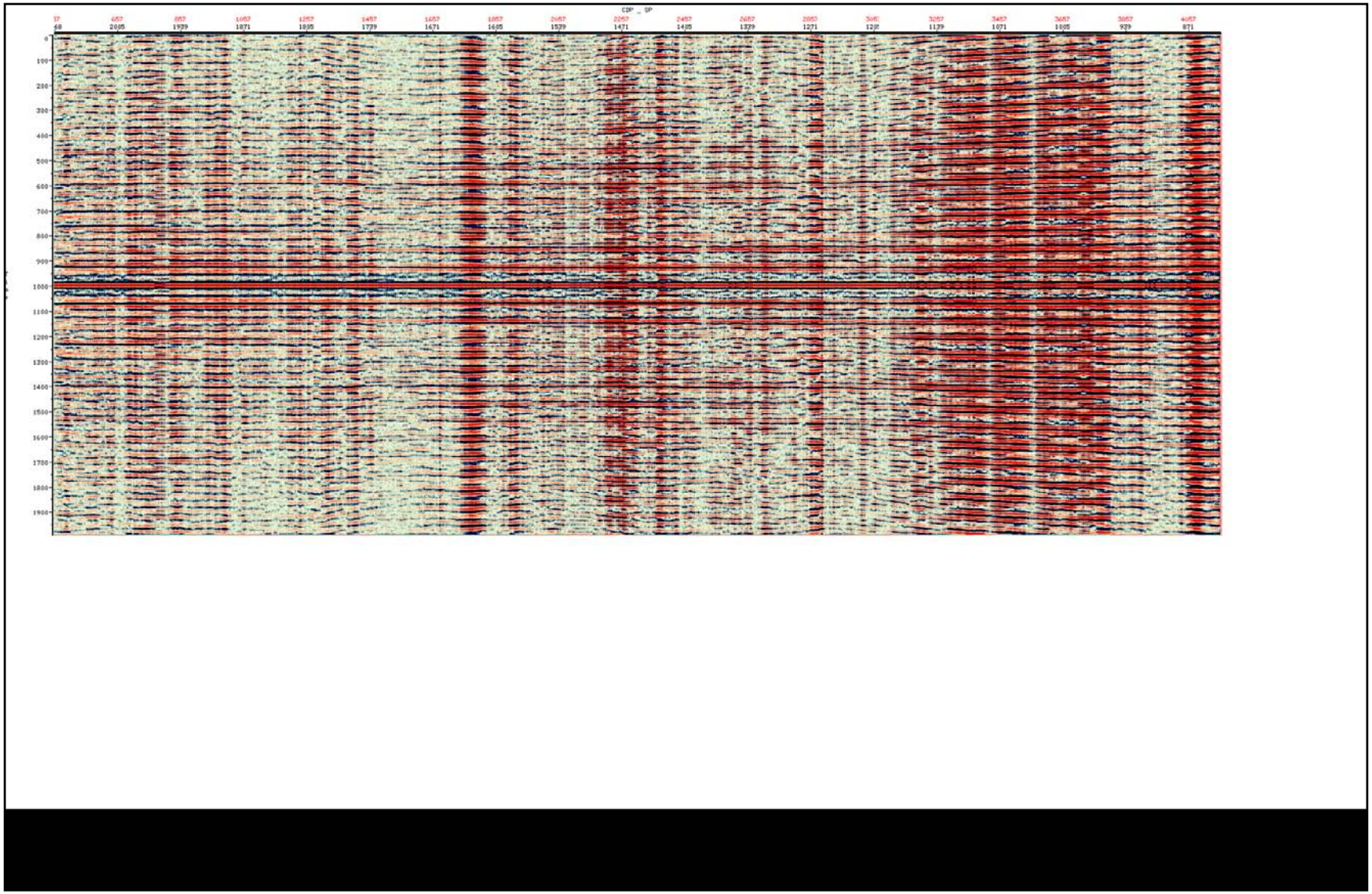
AC of Stack SEQ039 – 0-2sec F10



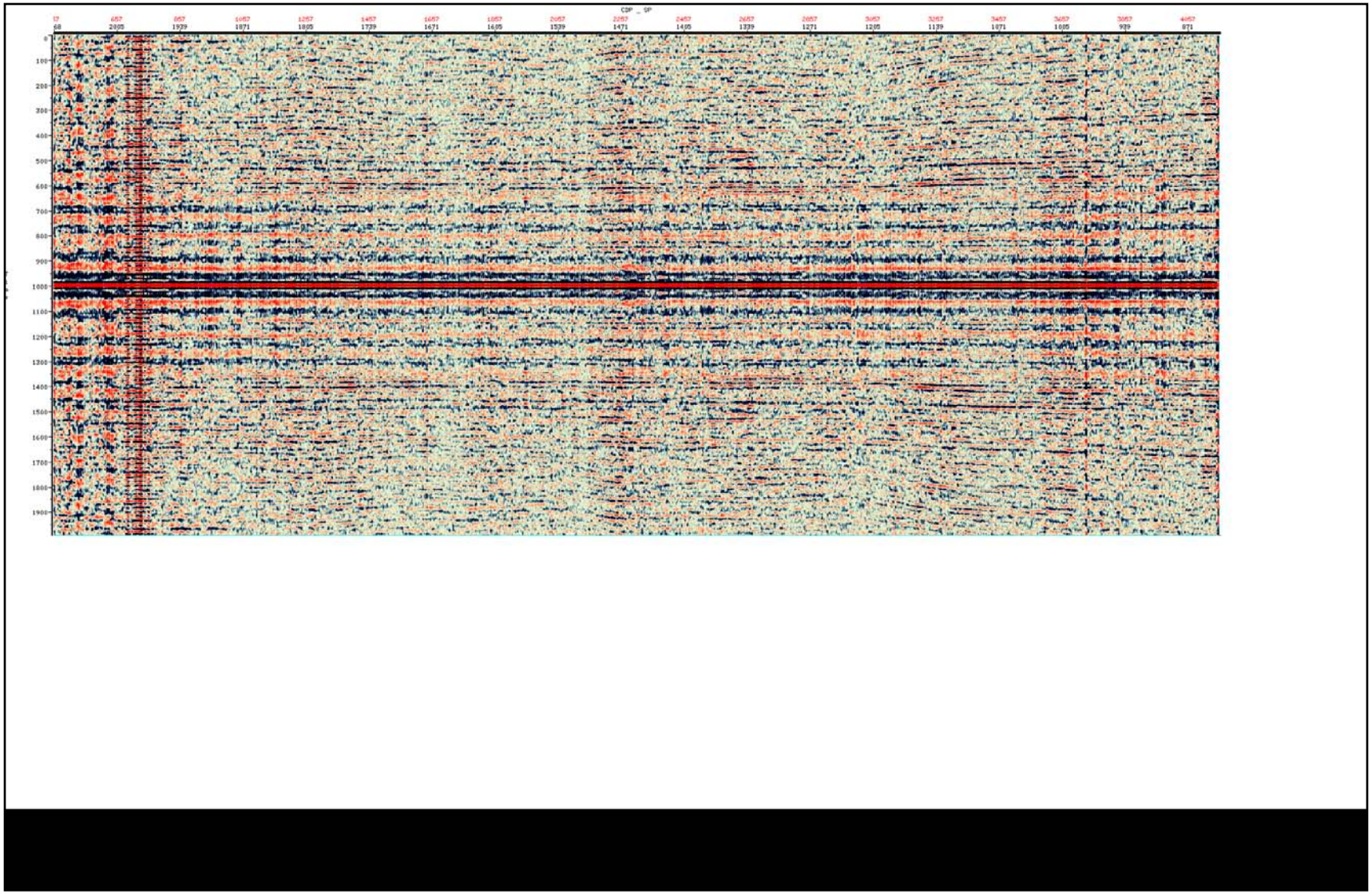
NTG SEQ039 – Test Area (Whole Trace)



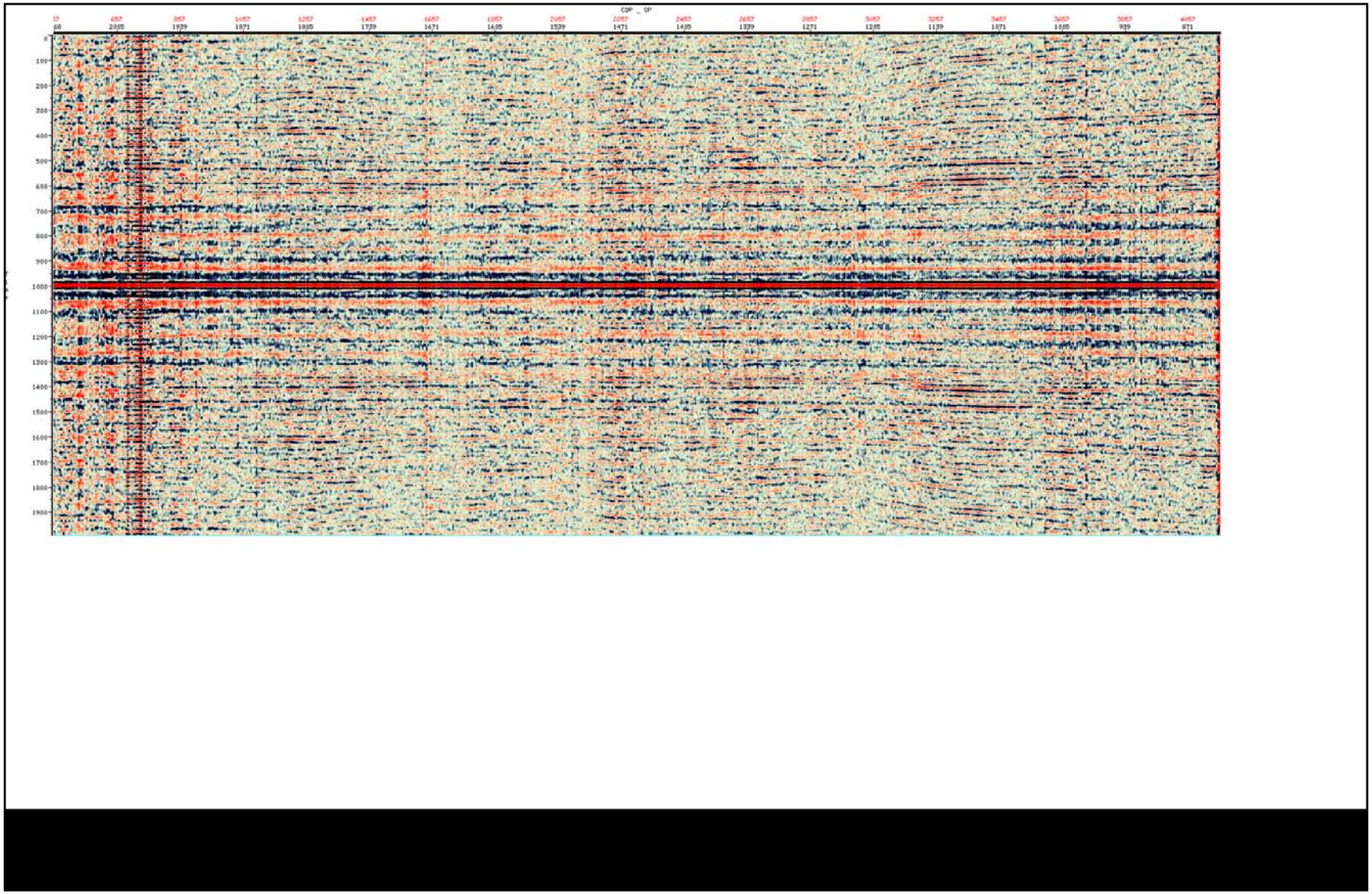
AC of NTG SEQ039 – Whole Trace F0 (Input)



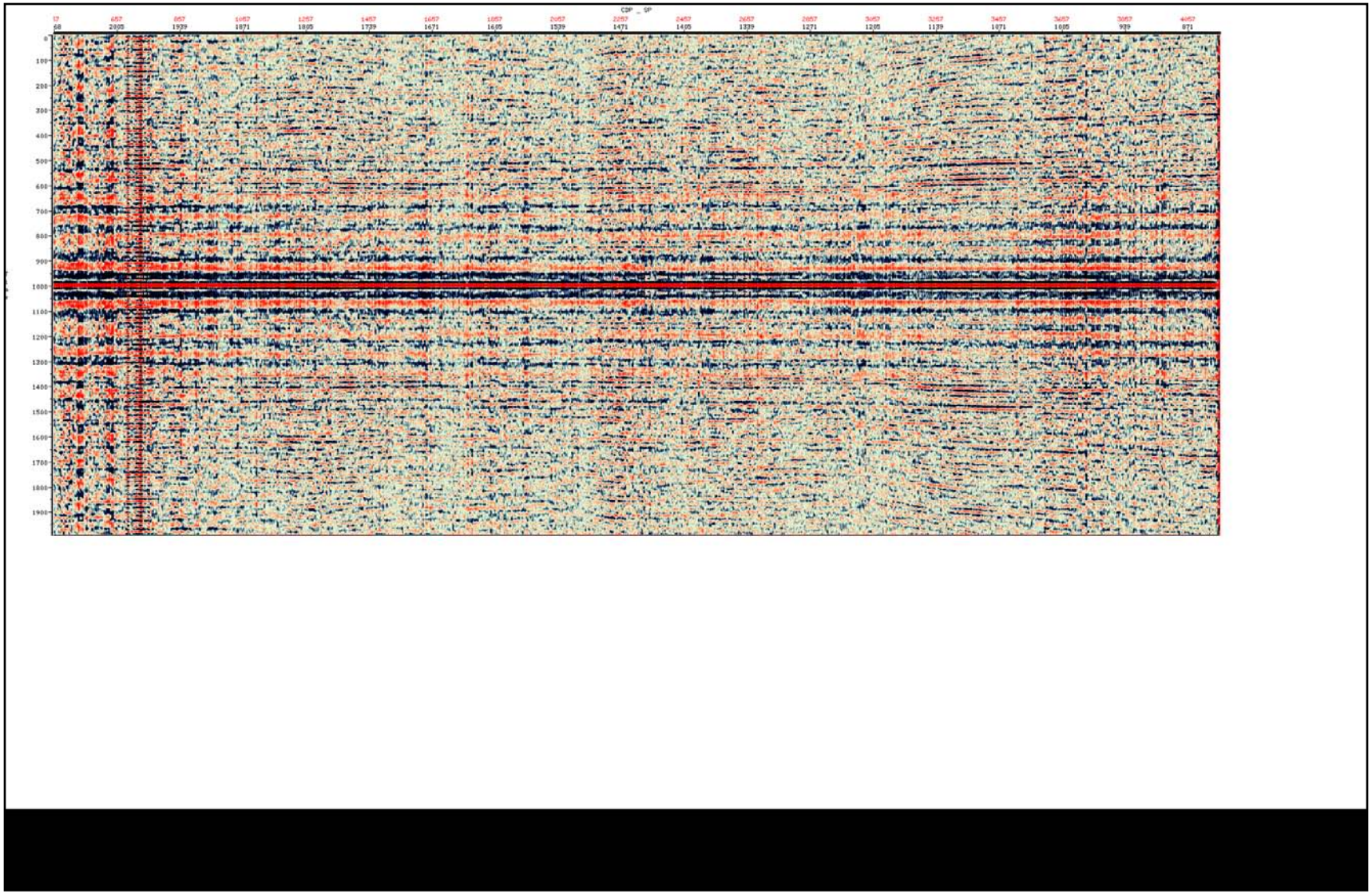
AC of NTG SEQ039 – Whole Trace F3



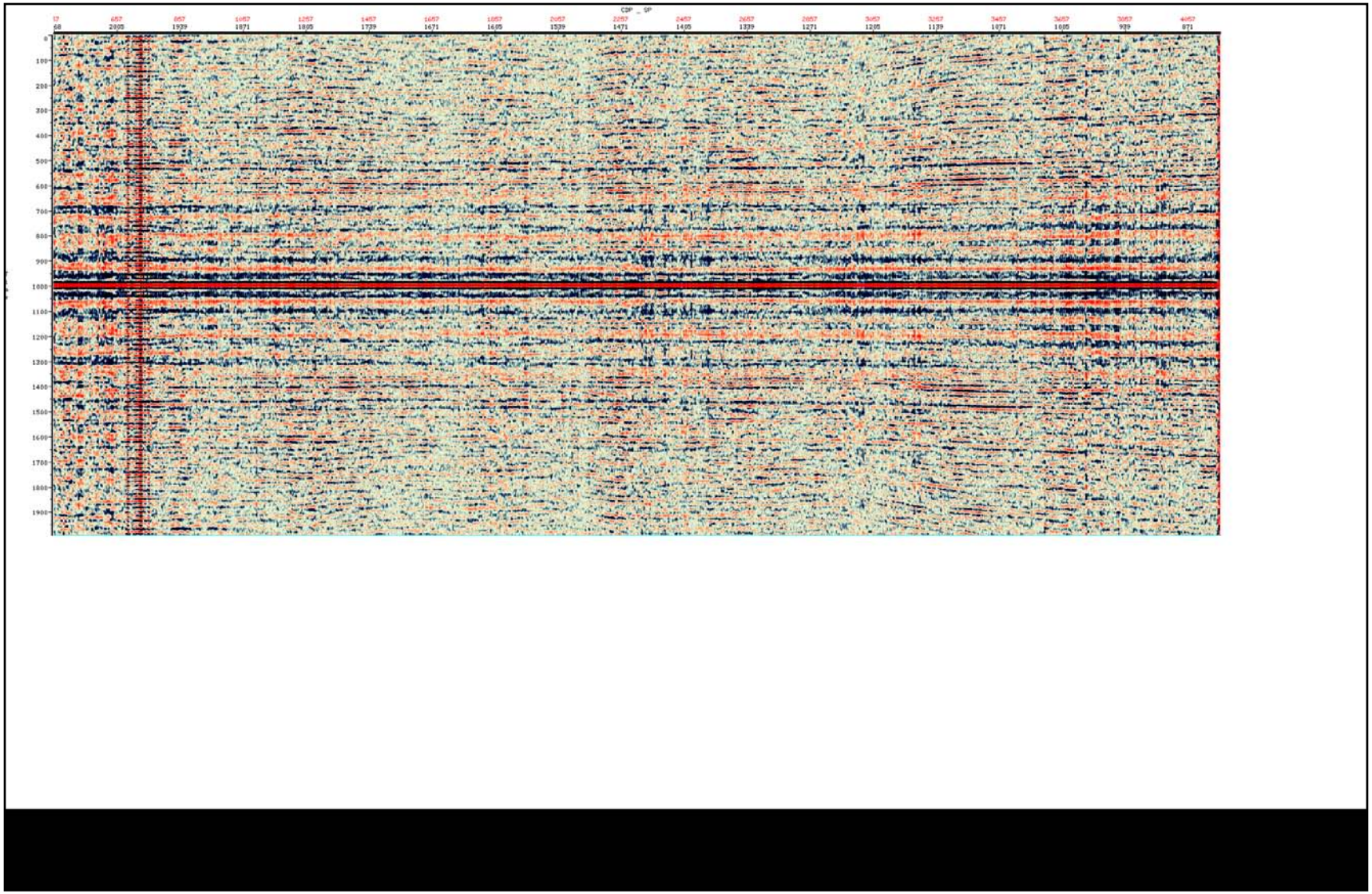
AC of NTG SEQ039 – Whole Trace F5



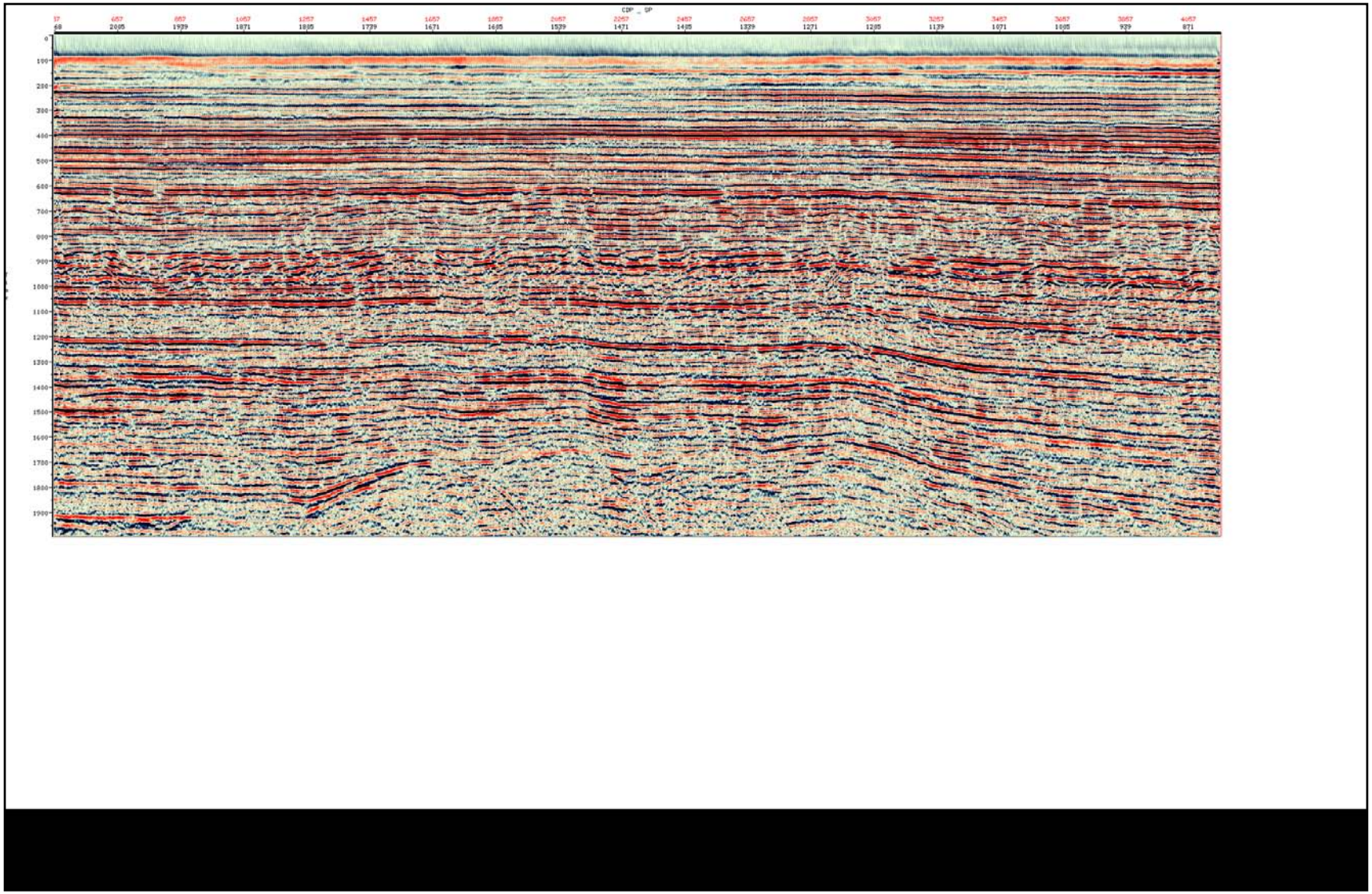
AC of NTG SEQ039 – Whole Trace F7



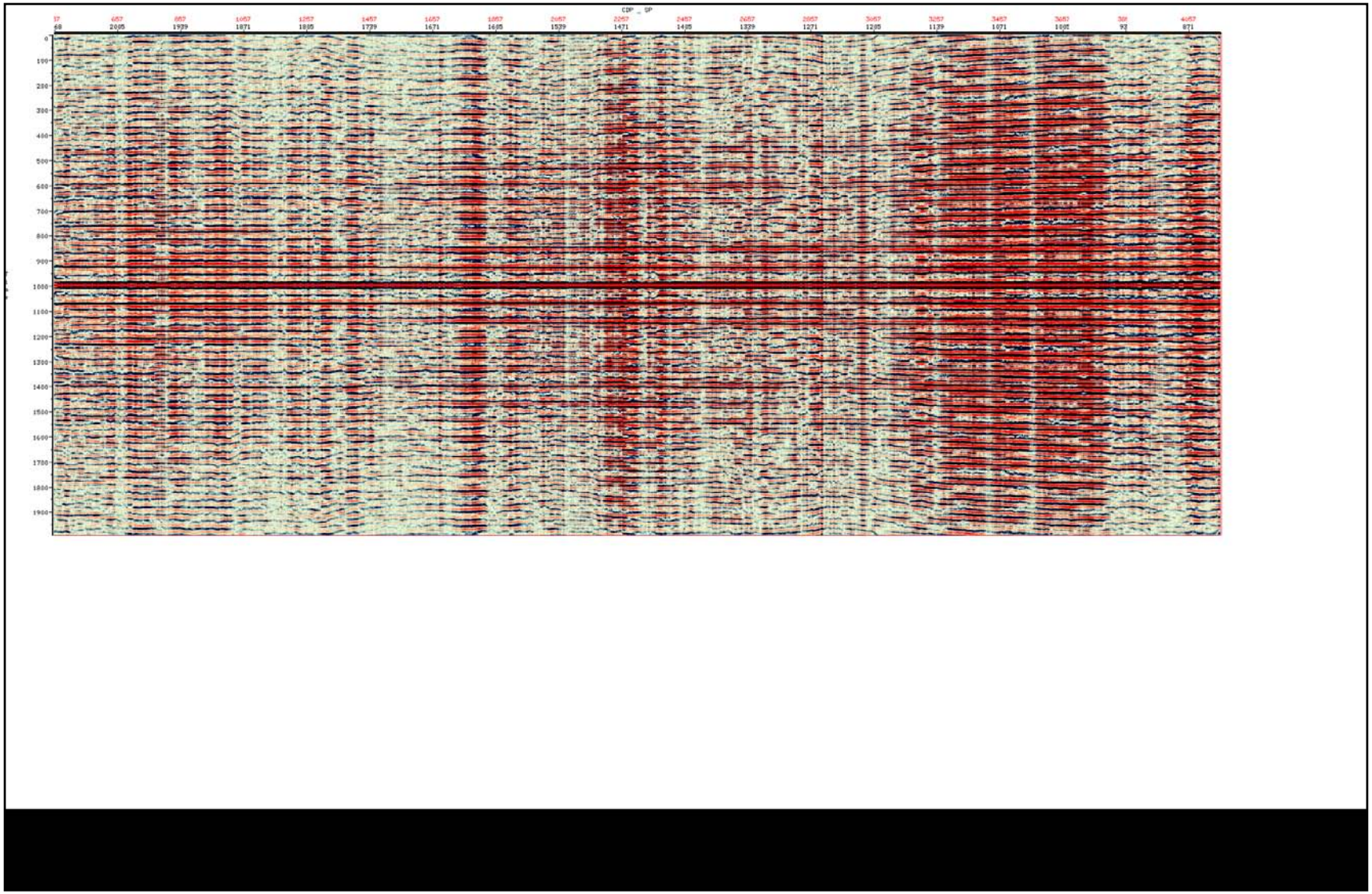
AC of NTG SEQ039 – Whole Trace F10



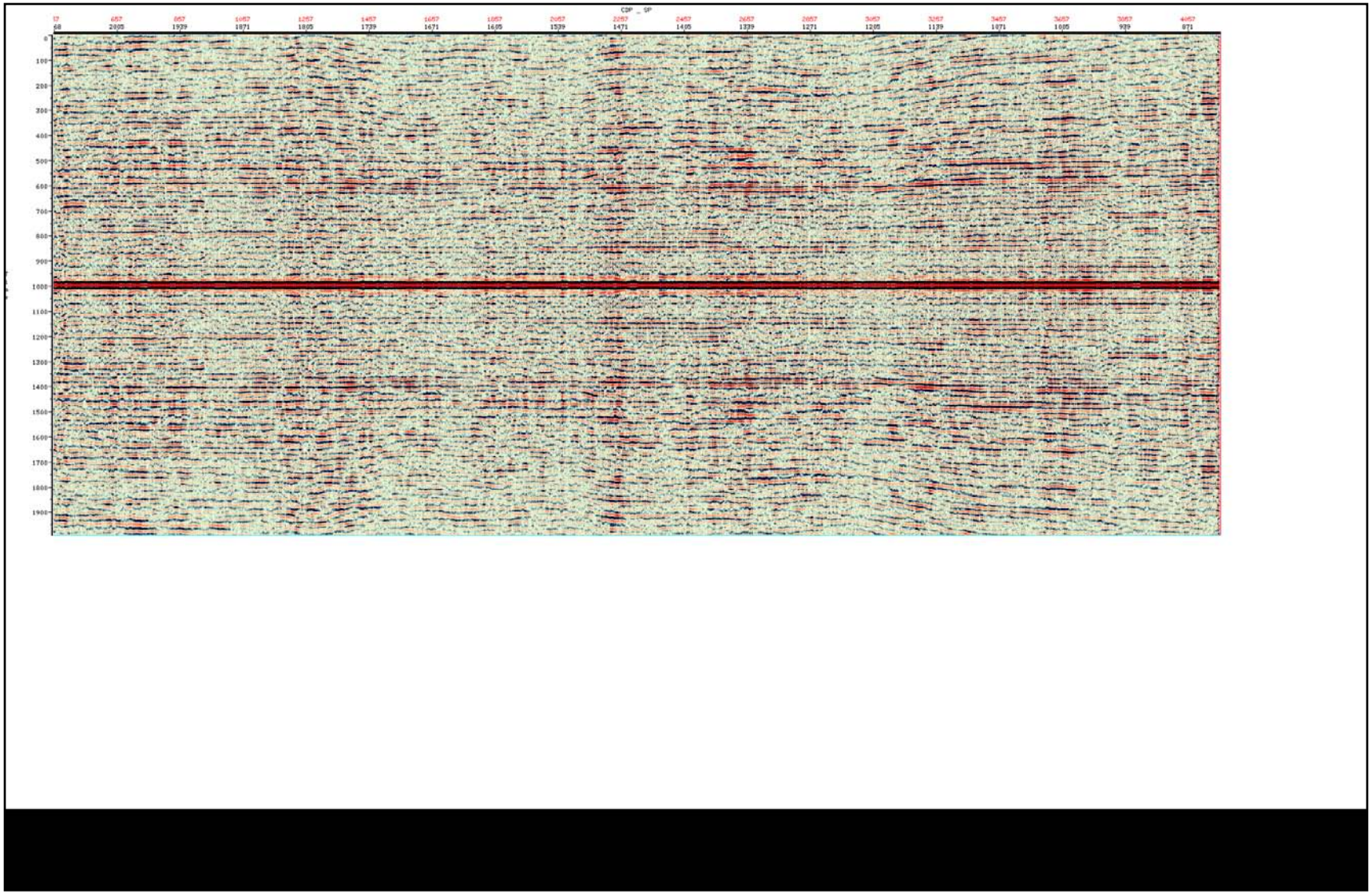
NTG SEQ039 – Test Area (0-2sec)



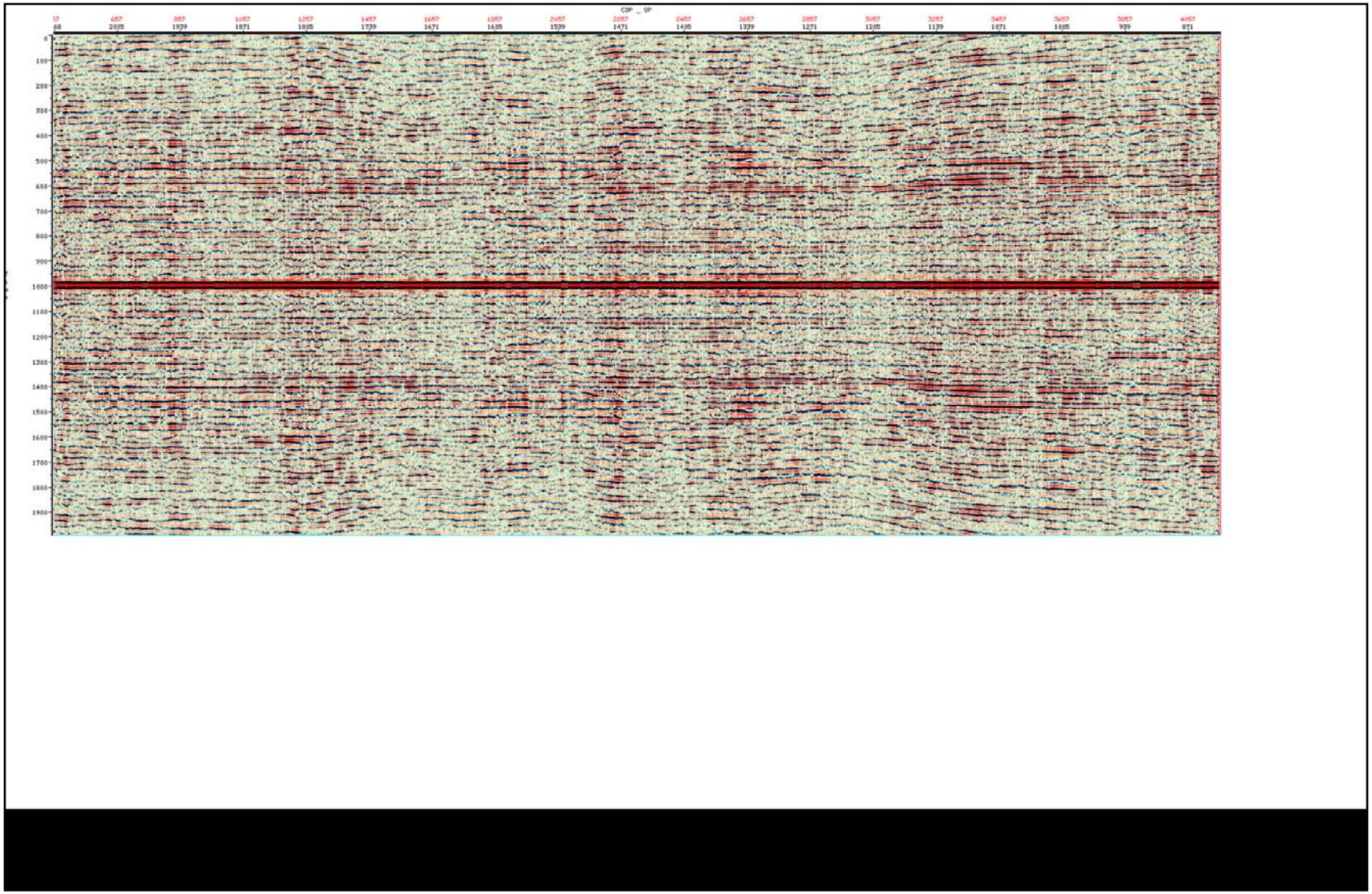
AC of NTG SEQ039 – 0-2sec F0



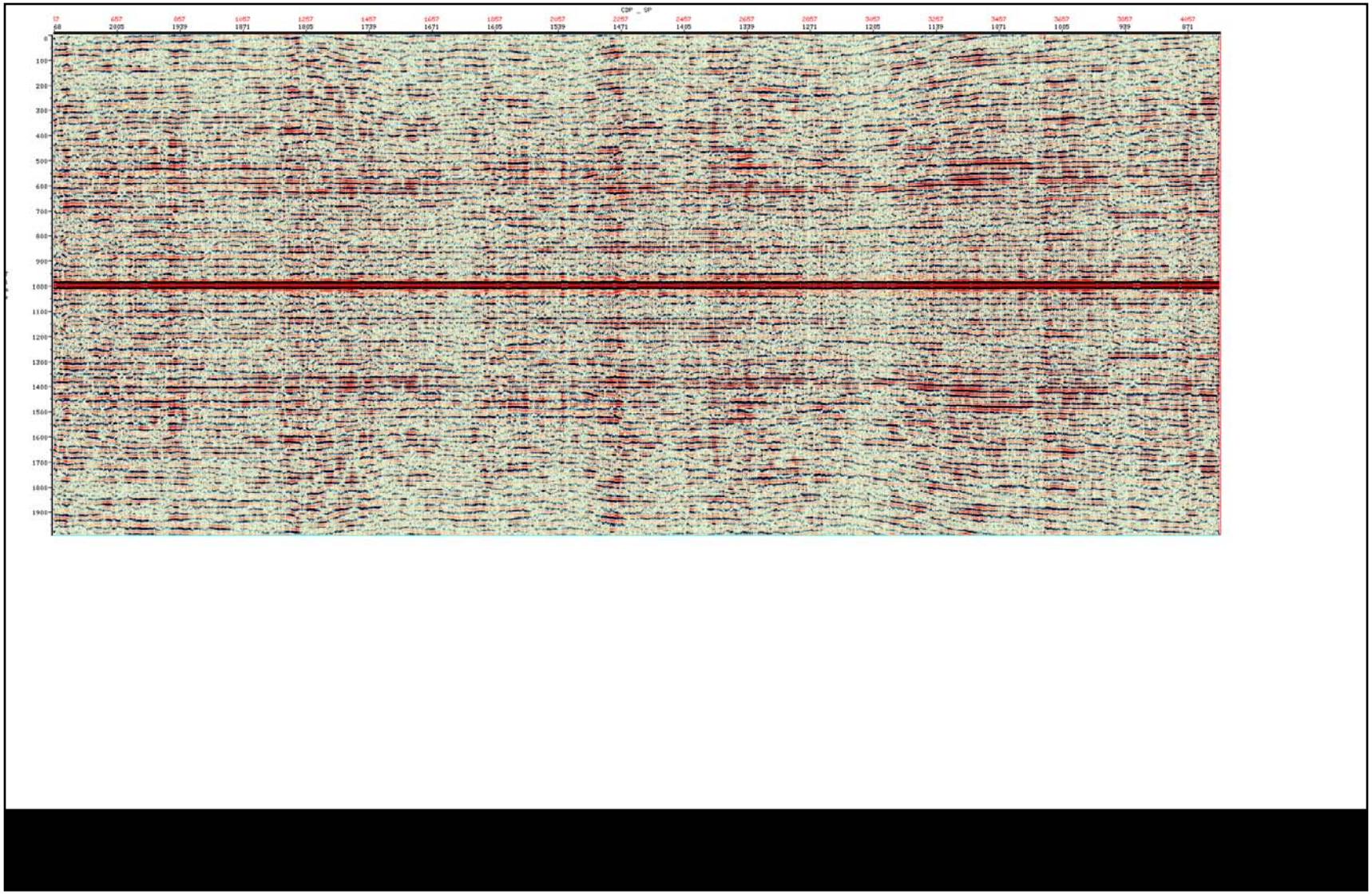
AC of NTG SEQ039 – 0-2sec F3



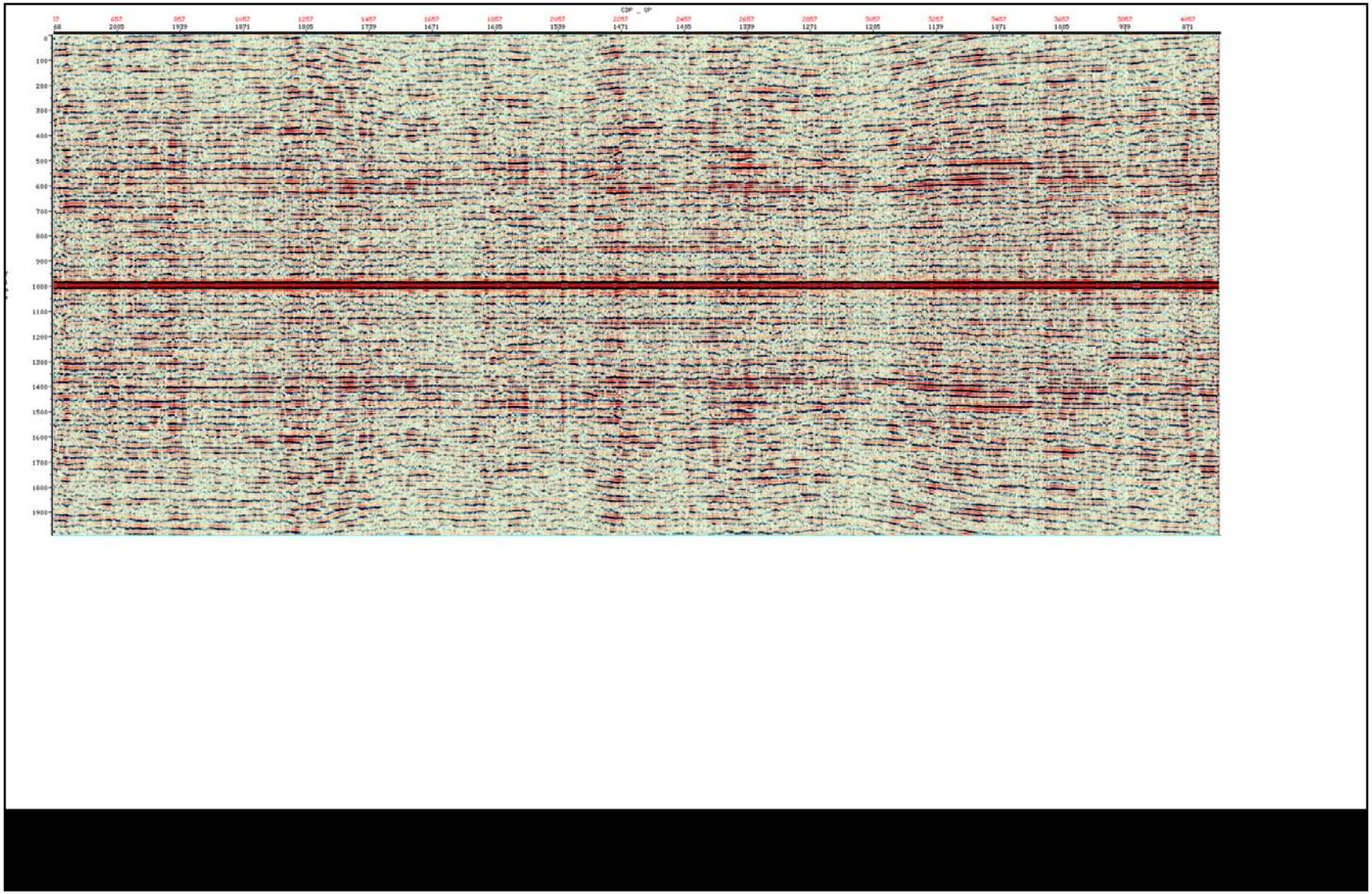
AC of NTG SEQ039 – 0-2sec F5



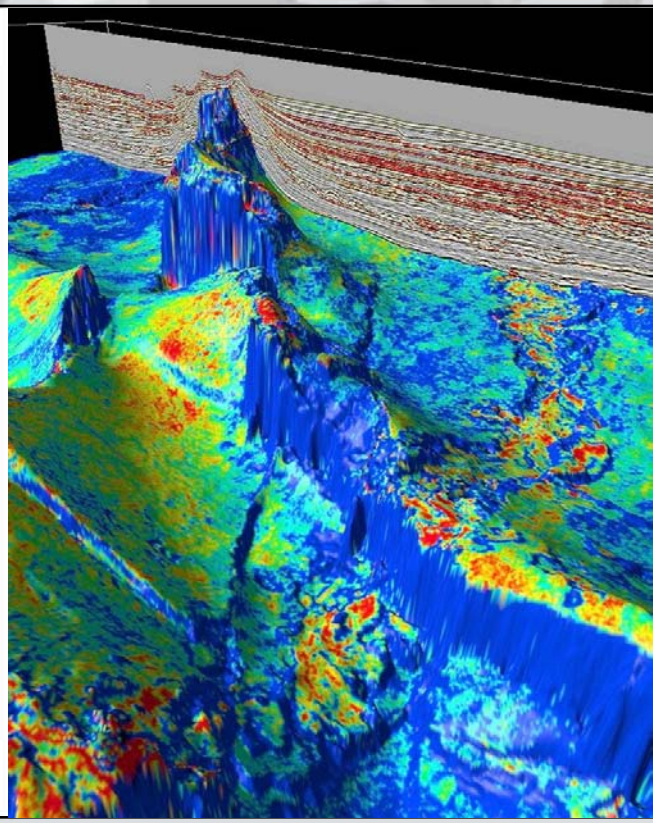
AC of NTG SEQ039 – 0-2sec F7



AC of NTG SEQ039 – 0-2sec F10



Technical Note 3
SRME FLOW
(Add3)
Silvereye 3D



Introduction

Testing was carried out on sail line OS073D1342P1039 (Seq:039).

The data are selected on cable 3 (channel number:961-1440).

.

Processing Sequence to date

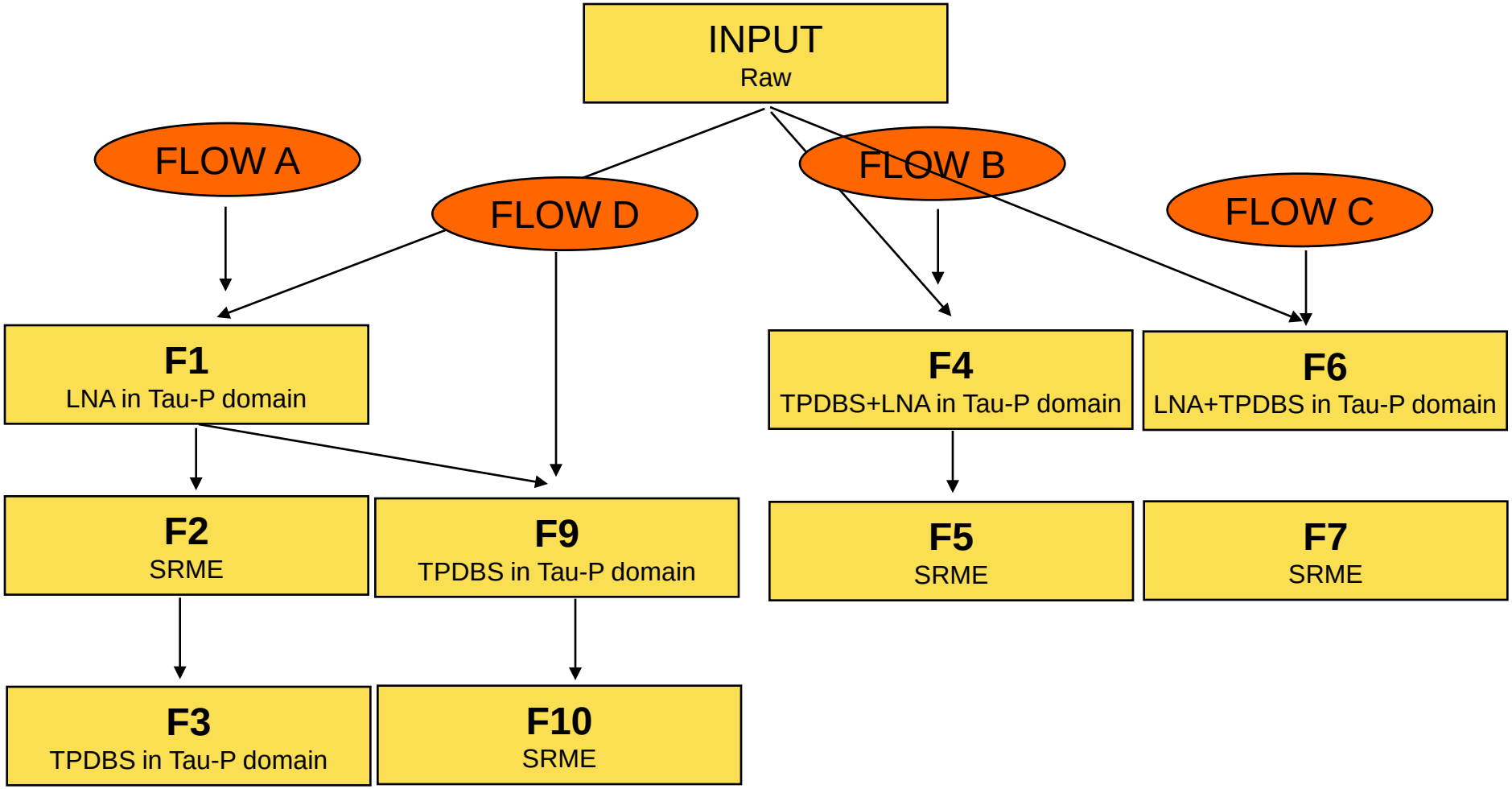
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Resample from 2ms to 4ms, with 100Hz Anti-alias filter applied)
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in Channel domain
- KNotch Filter

Current Test

- **Flow A:**
  - LNA in Tau-P domain
  - SRME, subtraction in cdp domain
  - DBS in Tau-P domain, Gap 48ms, Op: 300ms, Window: 0-2200ms
- **Flow B:**
  - DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain
- **Flow C:**
  - LNA, DBS in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain
- **Flow D:**
  - LNA in Tau-P domain
  - DBS in Tau-P domain, Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain

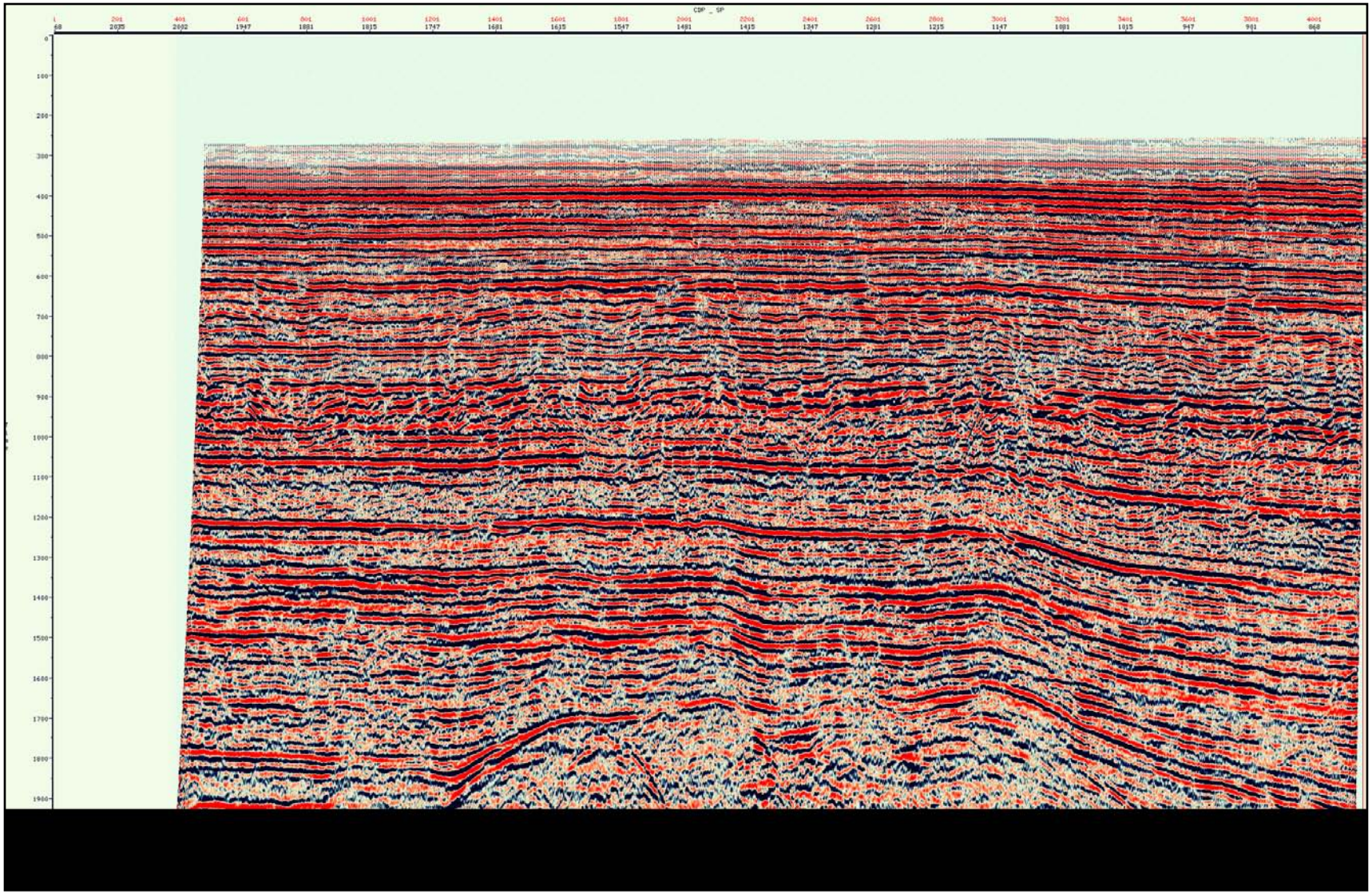
SRME


INPUT
Raw
FLOW A
FLOW D
FLOW B
FLOW C
F1
LNA in Tau-P domain
F4
TPDBS+LNA in Tau-P domain
F6
LNA+TPDBS in Tau-P domain
F2
SRME
F9
TPDBS in Tau-P domain
F5
SRME
F7
SRME
F3
TPDBS in Tau-P domain
F10
SRME

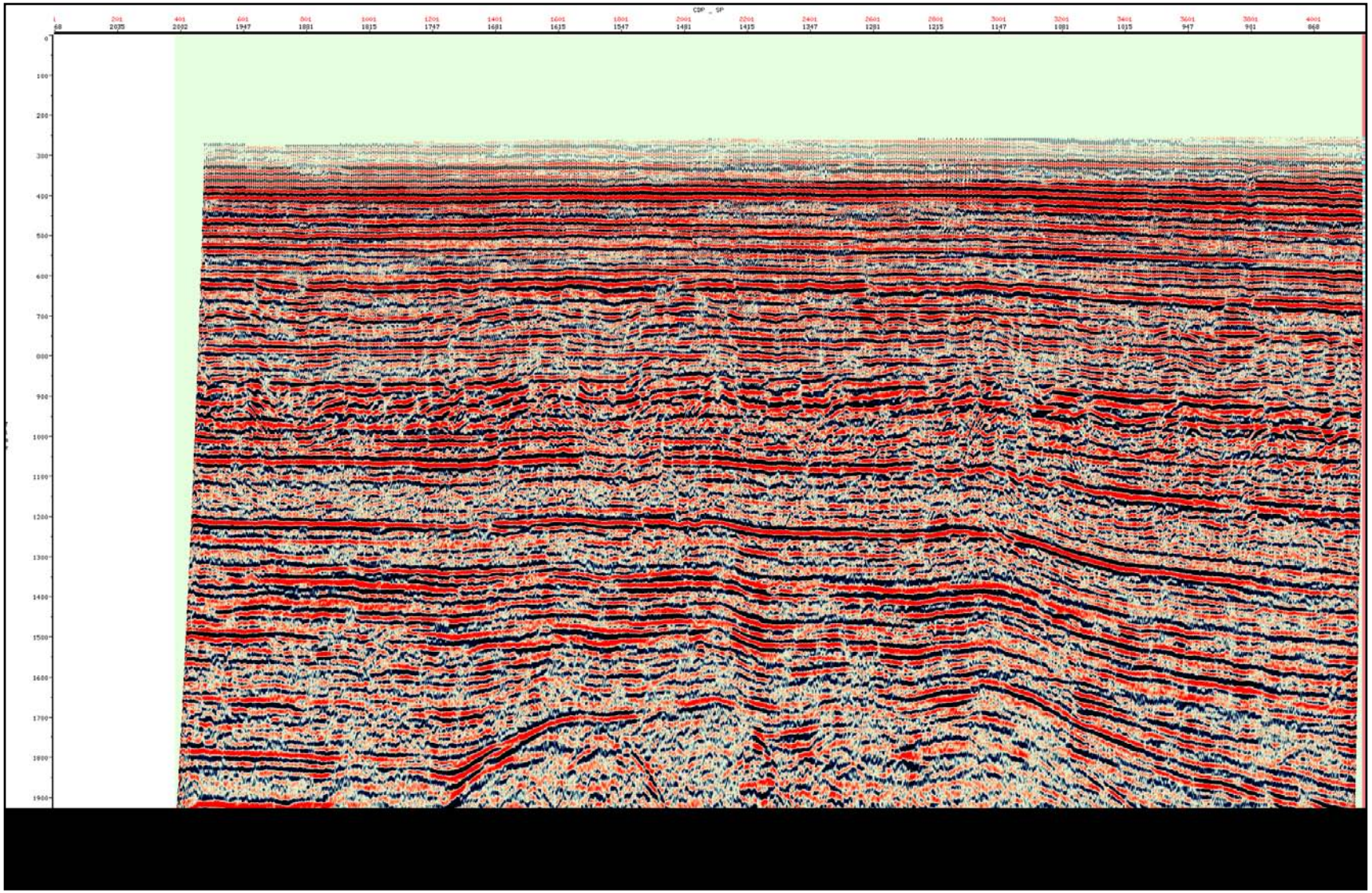
Profile ID SEQ039

SRME FLOW

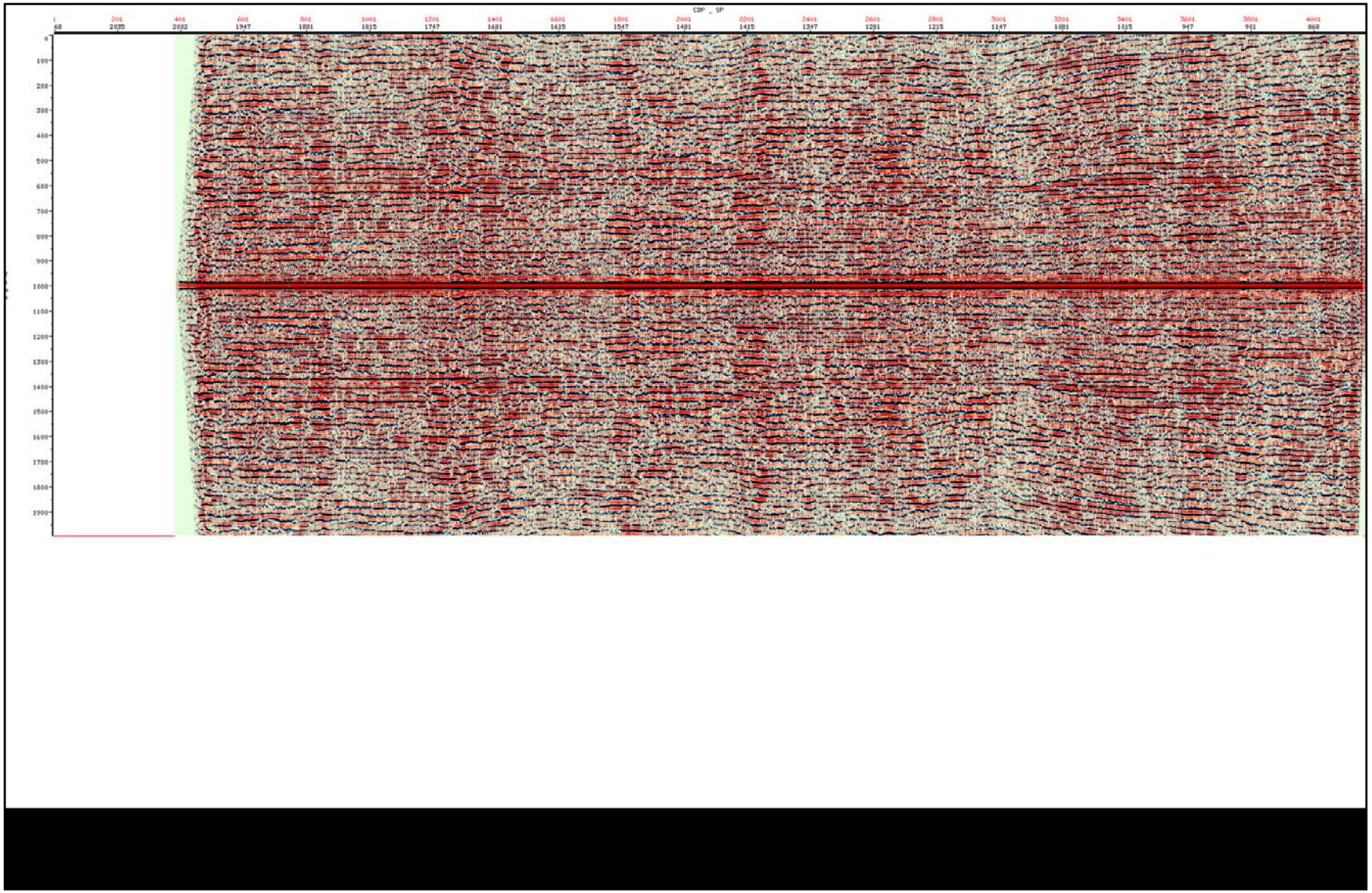
Angle Stack 6-17 Deg SEQ039 – F5 2ms



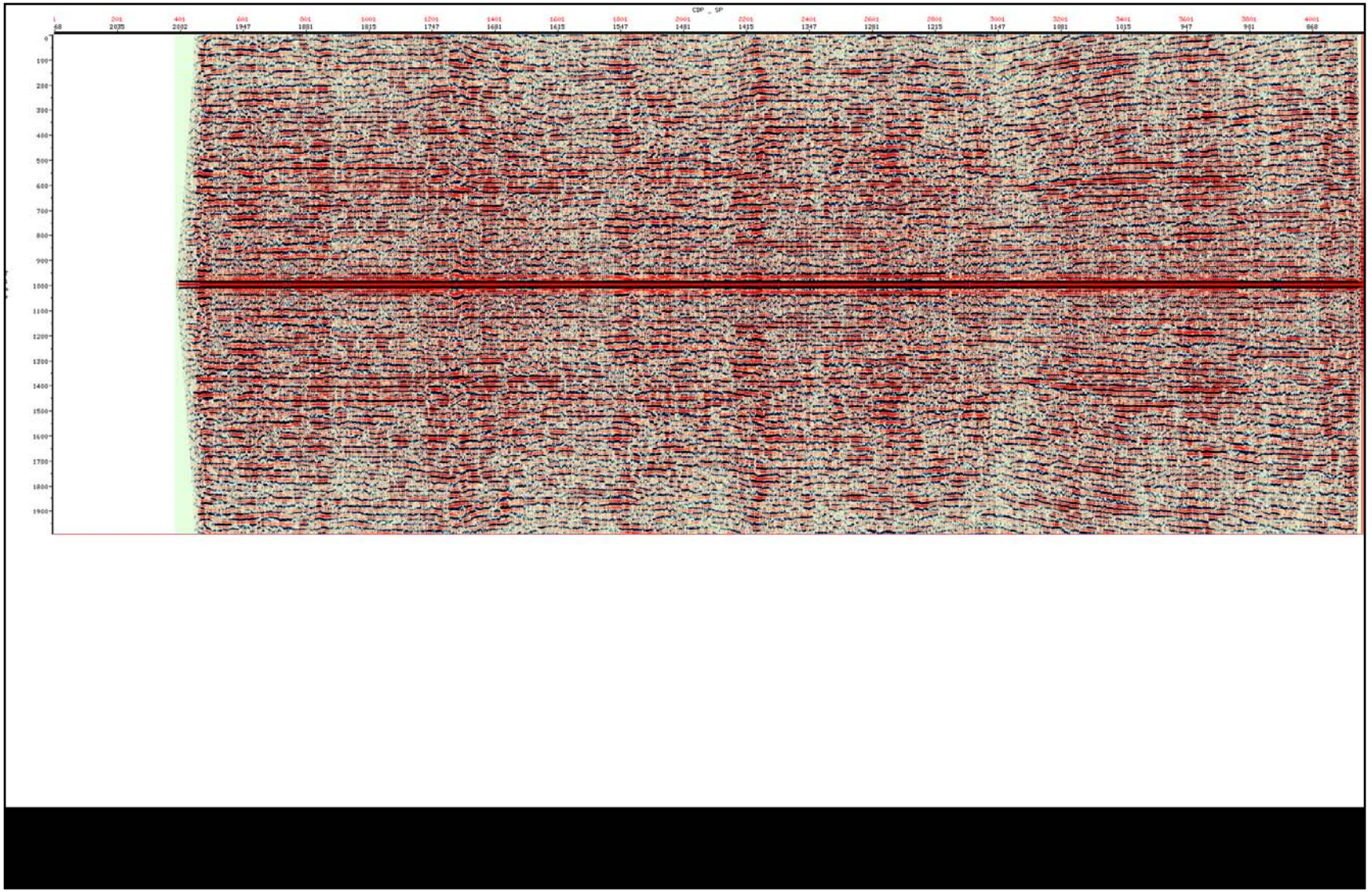
Angle Stack 6-17 Deg SEQ039 – F5 4ms



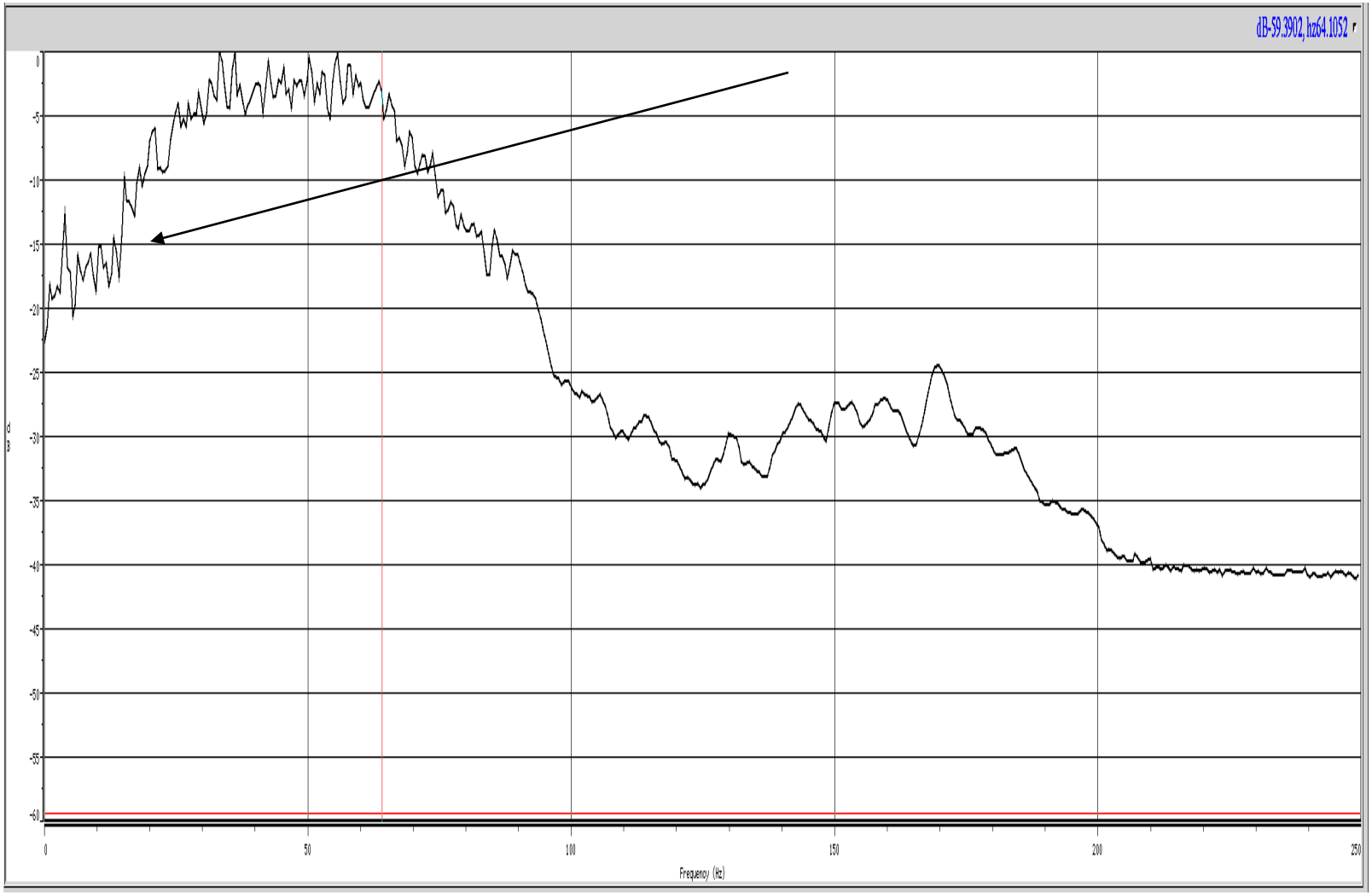
AC Stack SEQ039 – F5 2ms



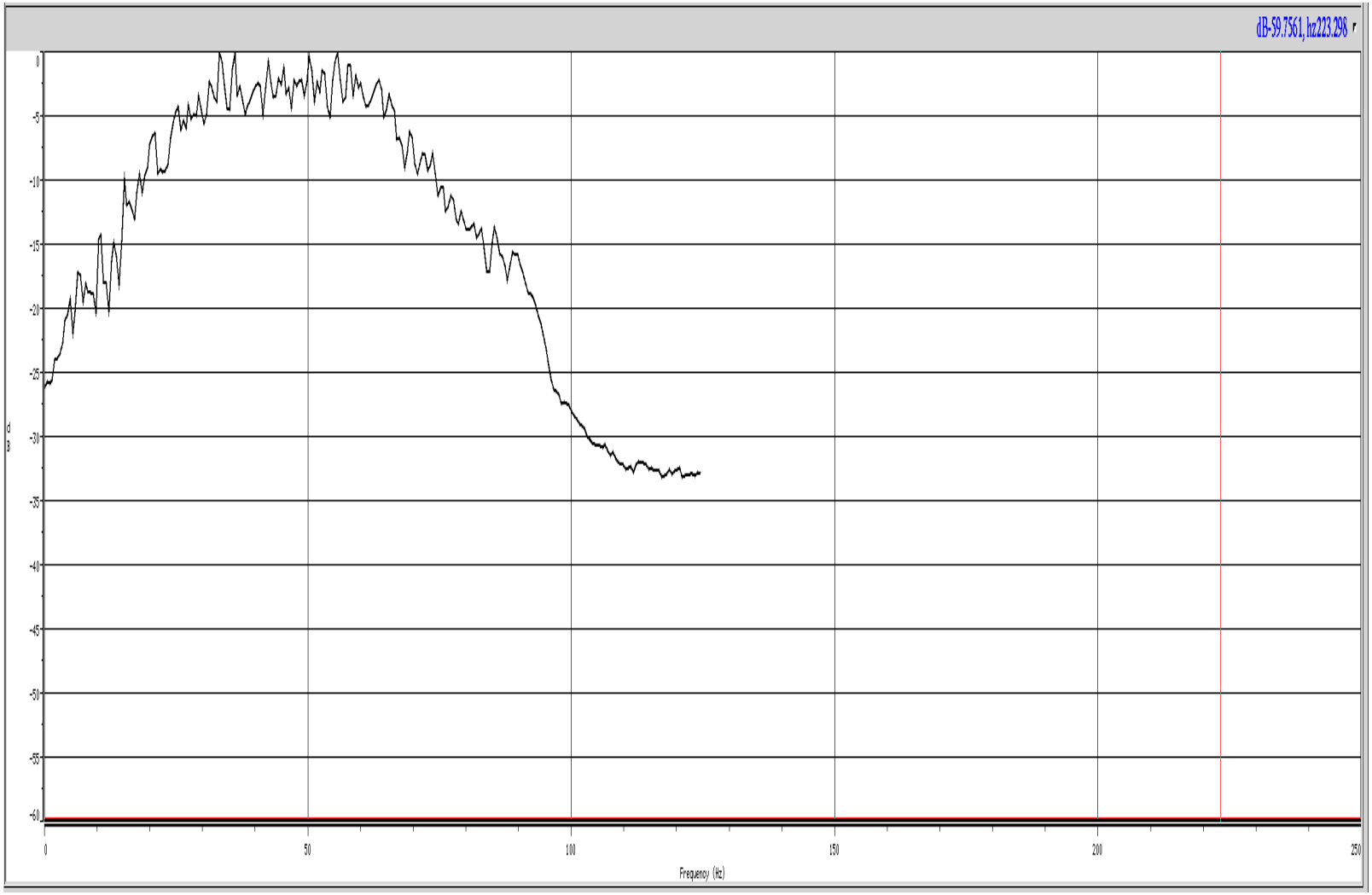
AC Stack SEQ039 – F5 4ms



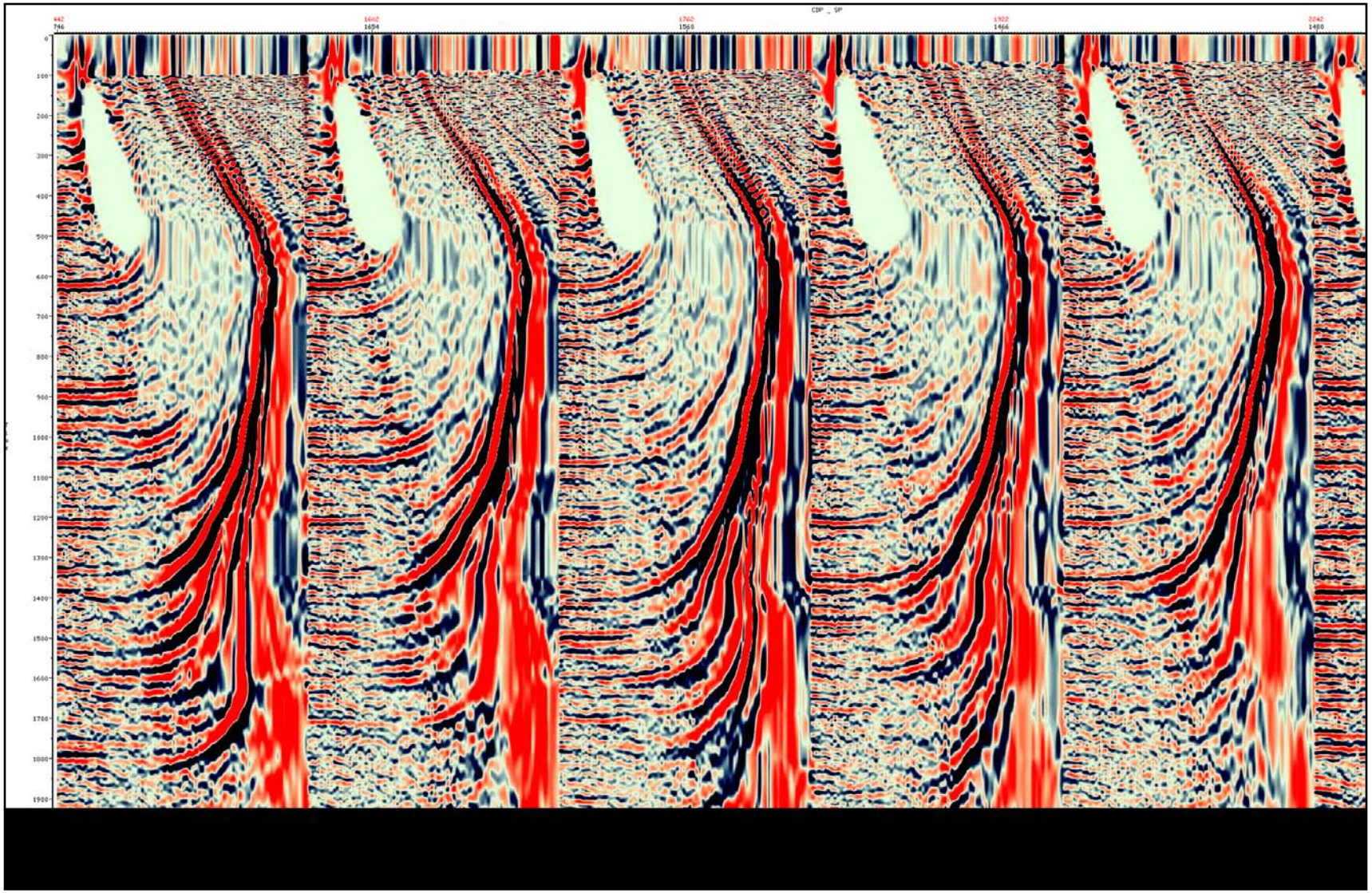
Spectrum Stack SEQ039 – F5 2ms



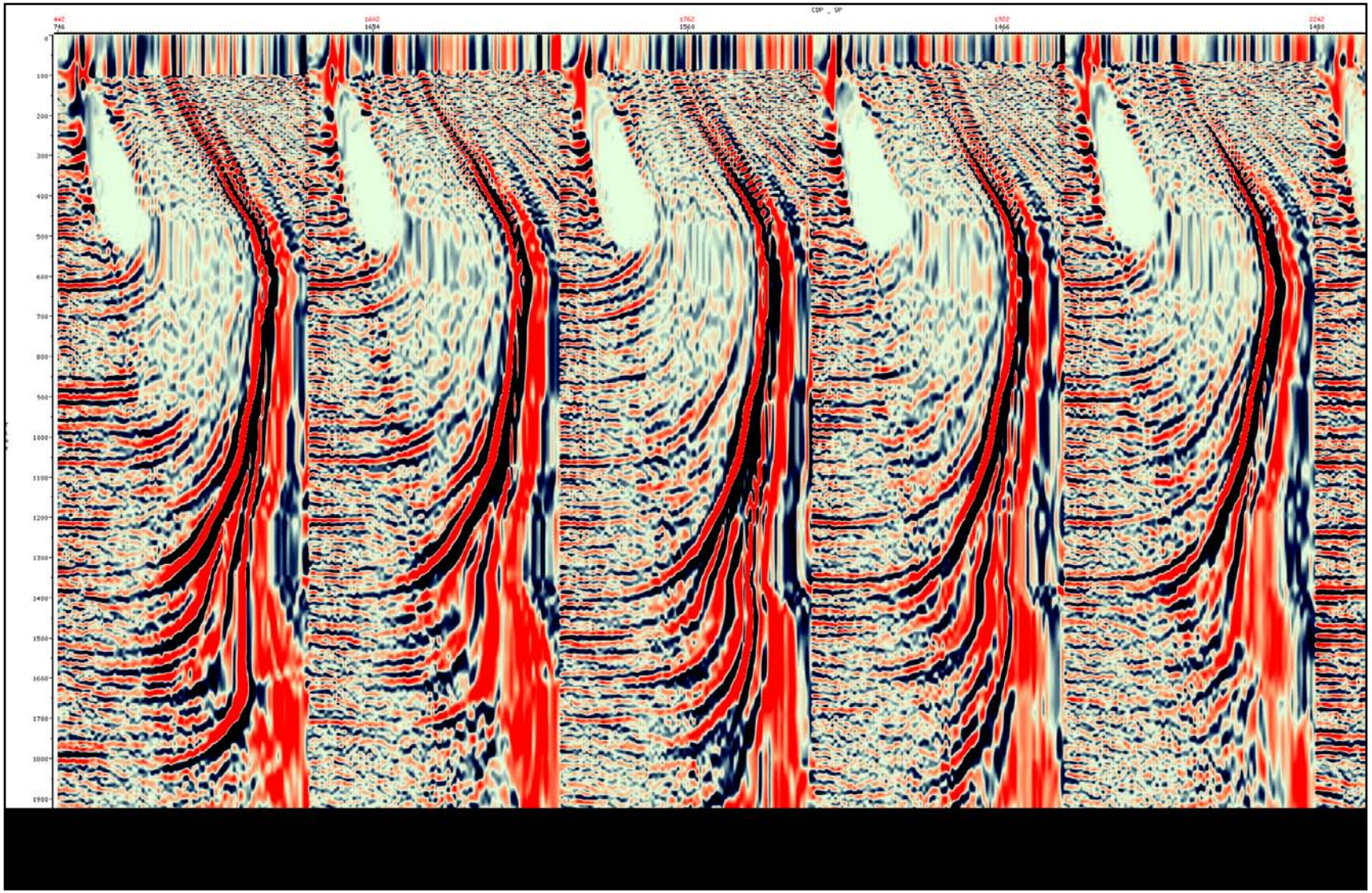
Spectrum Stack SEQ039 – F5 4ms



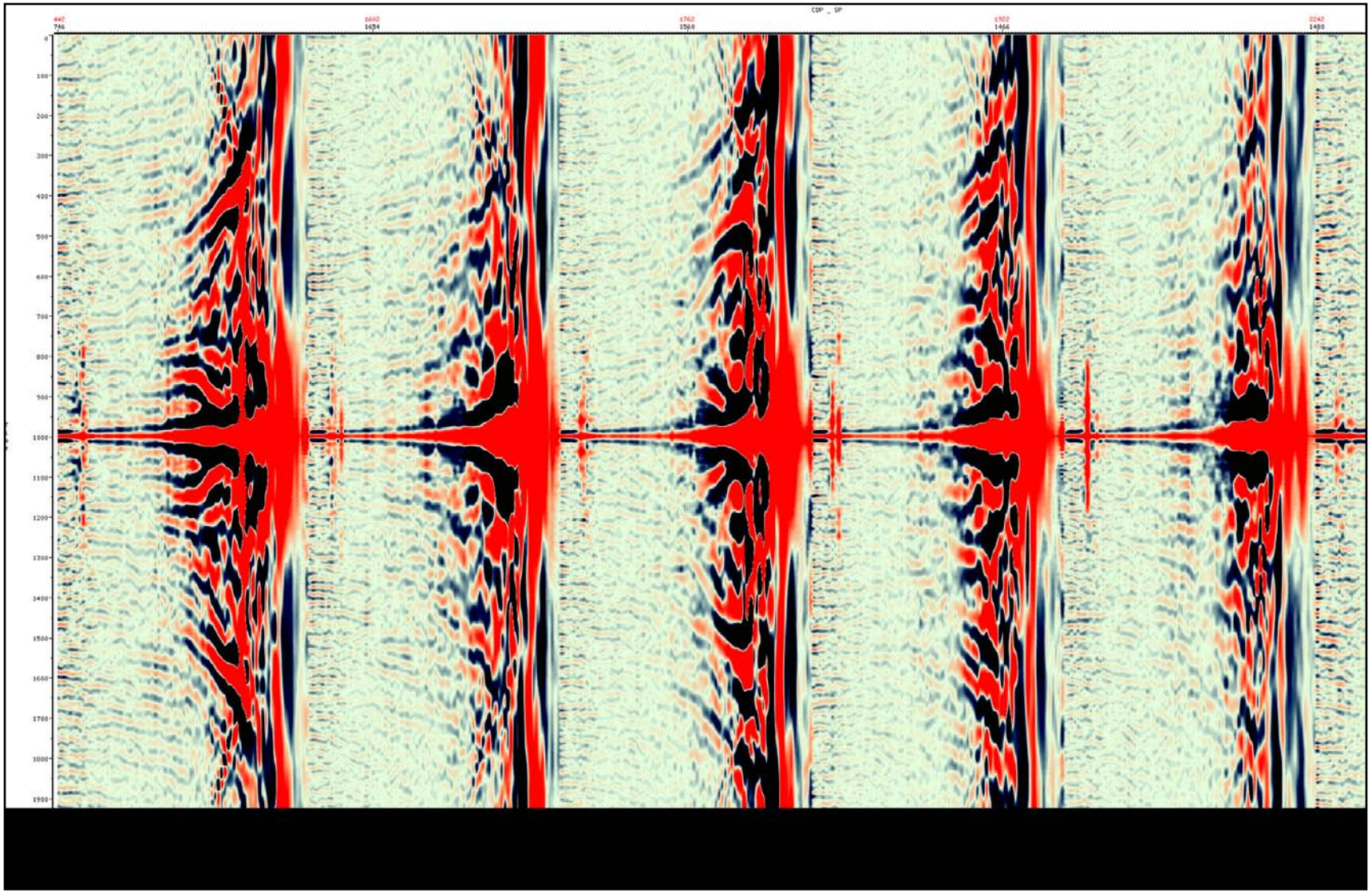
CDP SEQ039 – F5 2ms



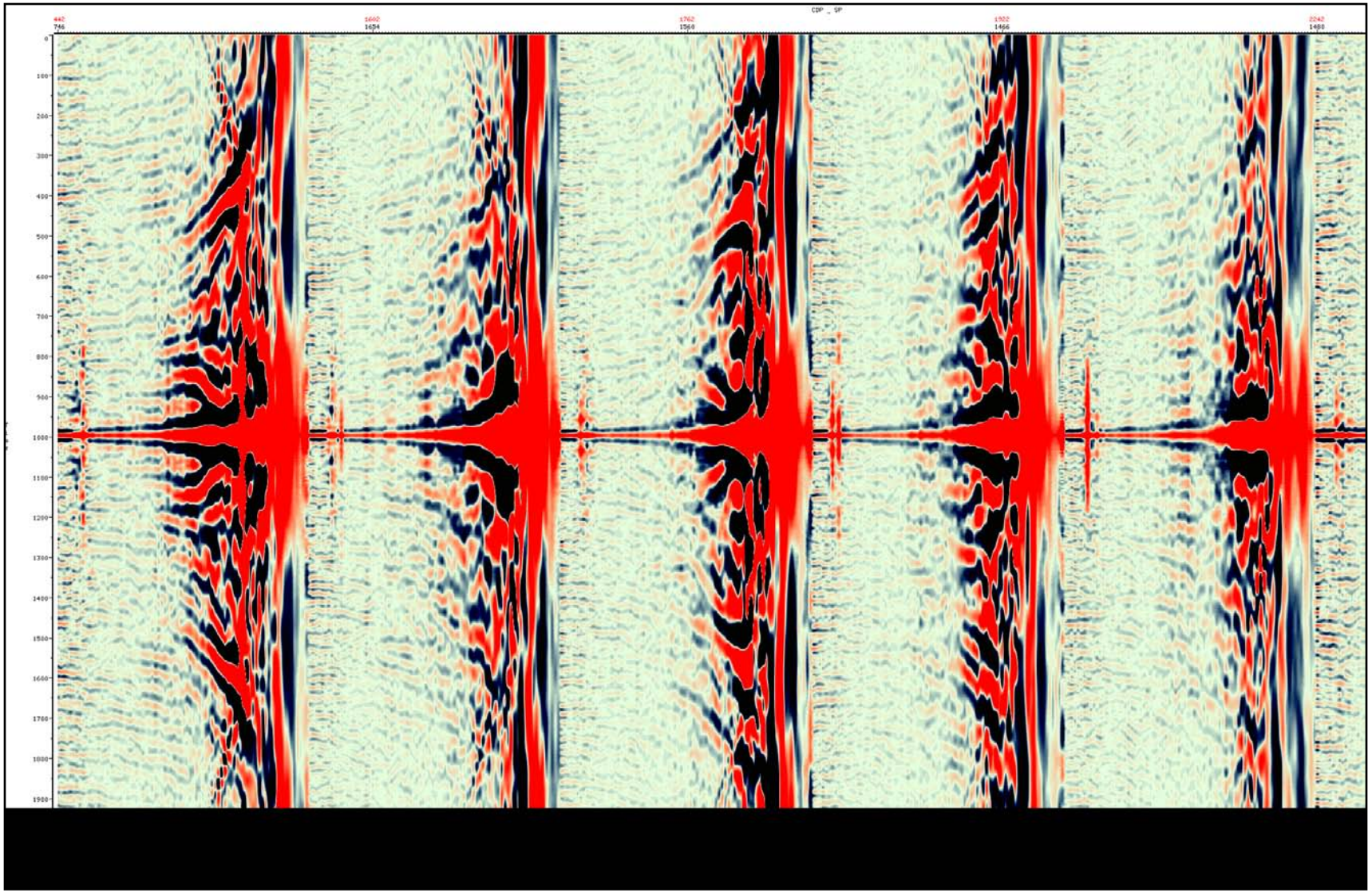
CDP SEQ039 – F5 4ms



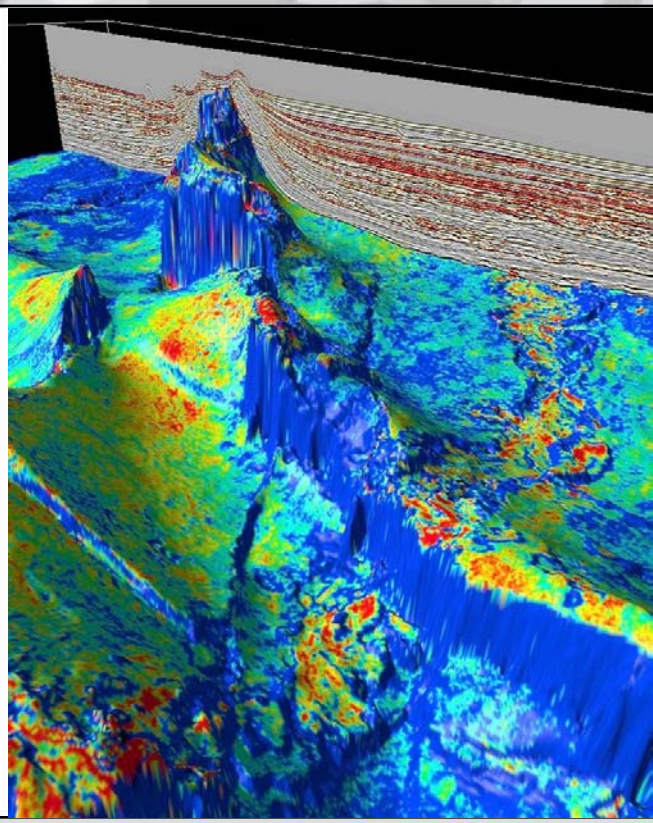
AC CDP SEQ039 – F5 2ms



AC CDP SEQ039 – F5 4ms



Technical Note 3
SRME FLOW
(Add4)
Silvereye 3D



Introduction

Testing was carried out on sail line OS073D1342P1039 (Seq:039).

The data are selected on cable 3 (channel number:961-1440).

This test was done to revised wrong coding job in the Swell Noise Attenuation process to create “SP mirror”.

.

Processing Sequence to date

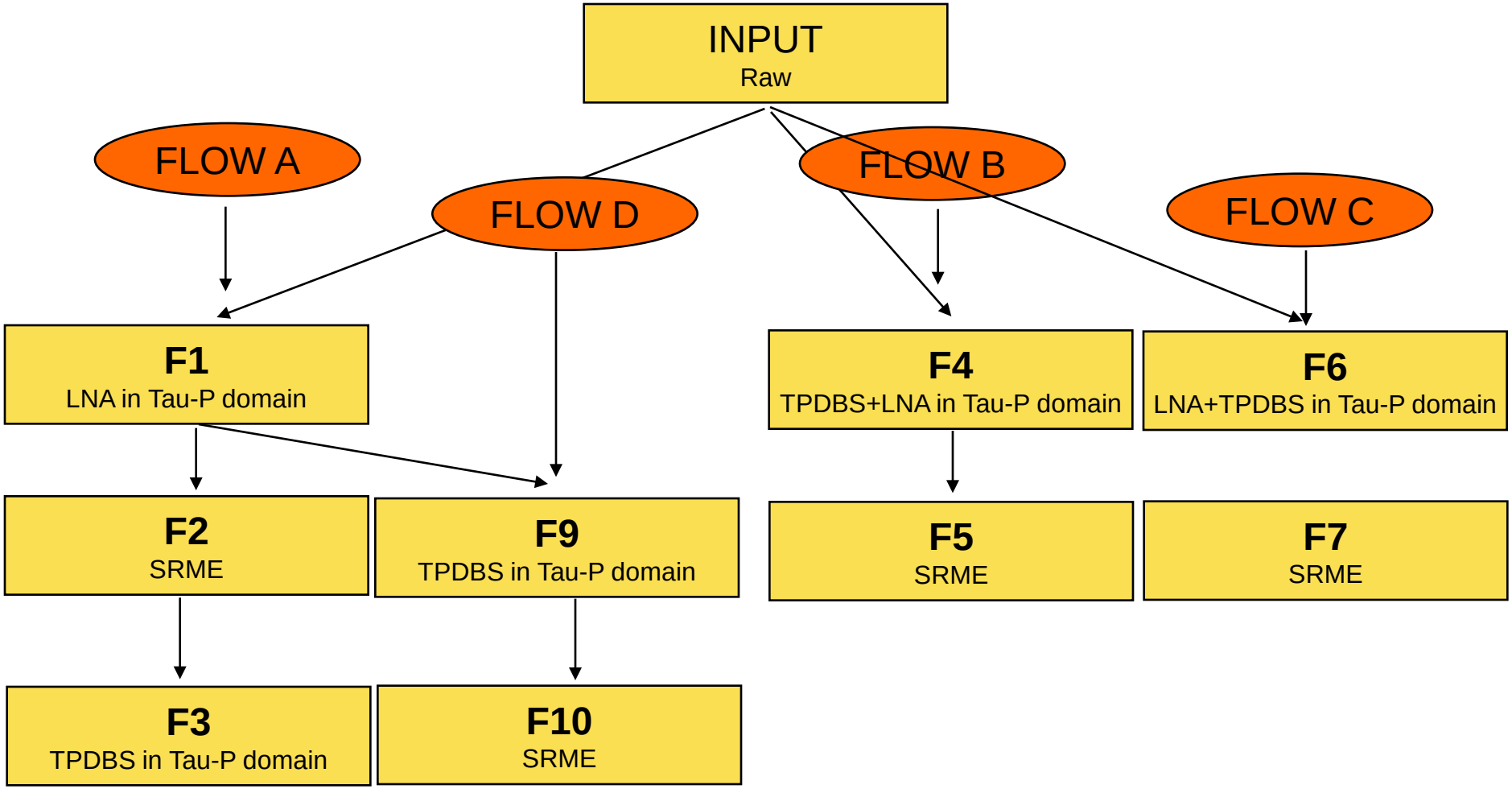
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Resample from 2ms to 4ms, with 100Hz Anti-alias filter applied)
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- **Swell Noise Attenuation in SP domain follow with Channel domain (Revised SP mirror problem).**
- KNotch Filter

Current Test

- **Flow A:**
  - LNA in Tau-P domain
  - SRME, subtraction in cdp domain
  - DBS in Tau-P domain, Gap 48ms, Op: 300ms, Window: 0-2200ms
- **Flow B:**
  - DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain
- **Flow C:**
  - LNA, DBS in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain
- **Flow D:**
  - LNA in Tau-P domain
  - DBS in Tau-P domain, Gap 48ms, Op: 300ms, Window: 0-2200ms
  - SRME, subtraction in cdp domain

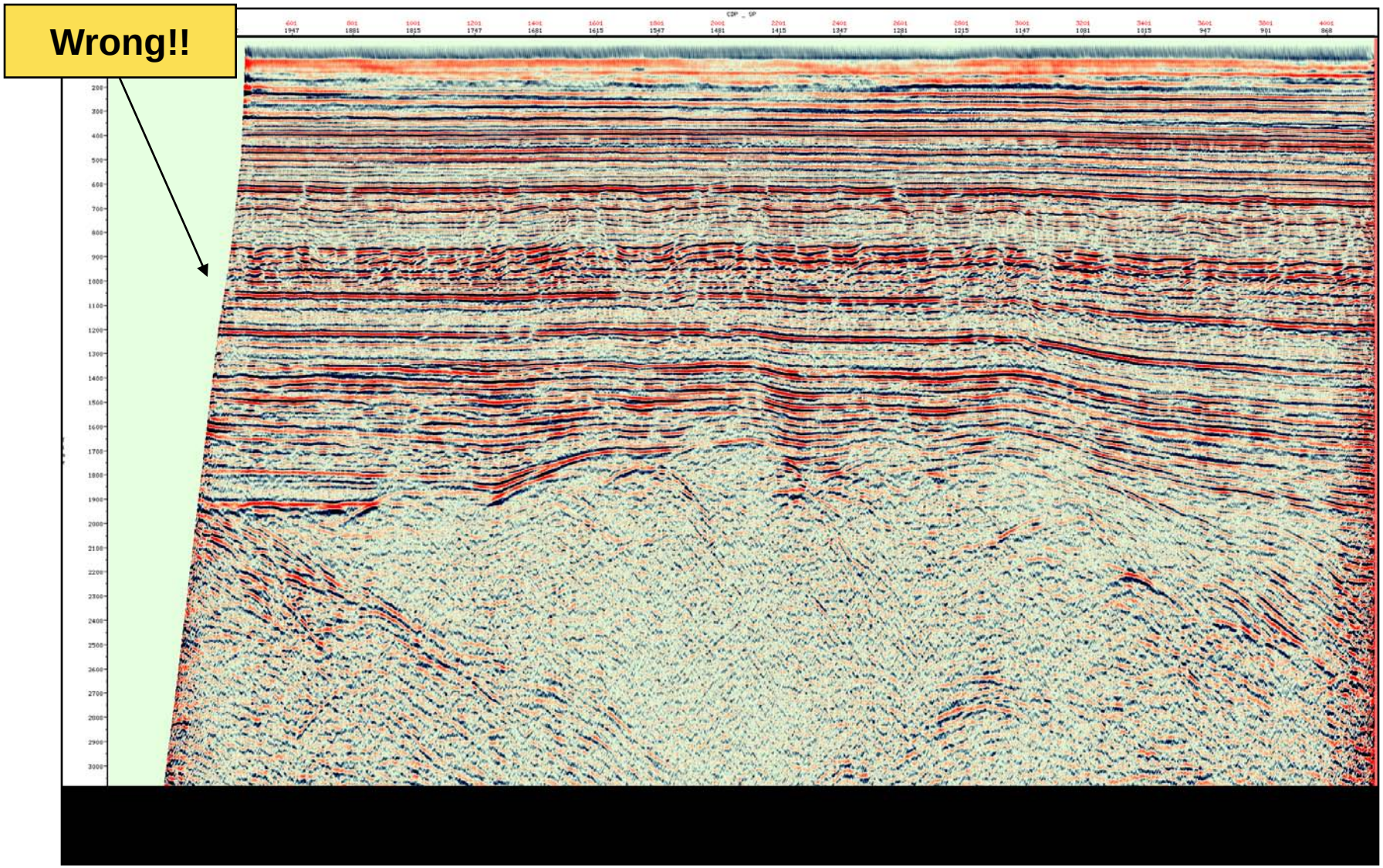
SRME


INPUT
Raw
FLOW A
FLOW D
FLOW B
FLOW C
F1
LNA in Tau-P domain
F4
TPDBS+LNA in Tau-P domain
F6
LNA+TPDBS in Tau-P domain
F2
SRME
F9
TPDBS in Tau-P domain
F5
SRME
F7
SRME
F3
TPDBS in Tau-P domain
F10
SRME

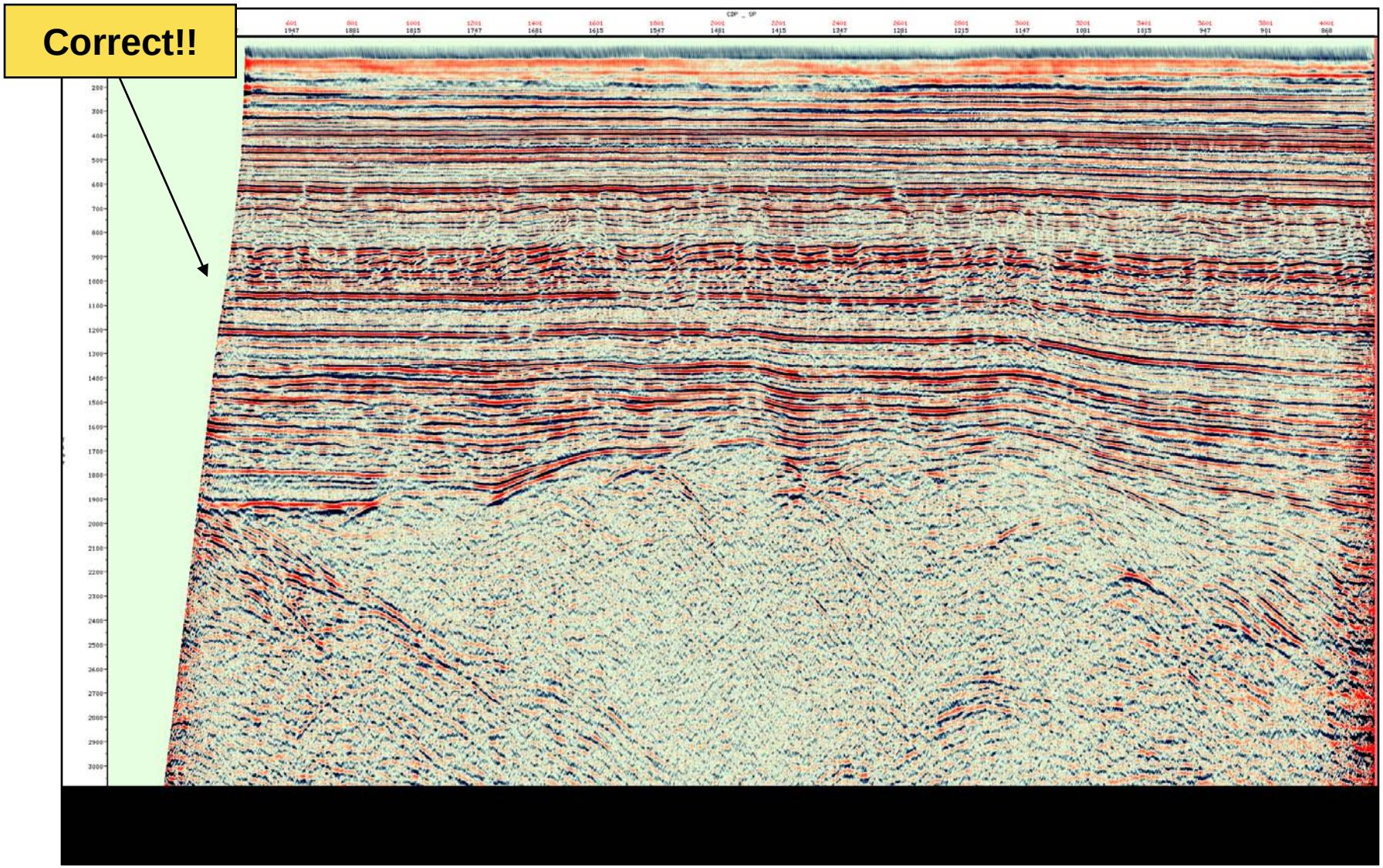
Profile ID SEQ039

SRME FLOW

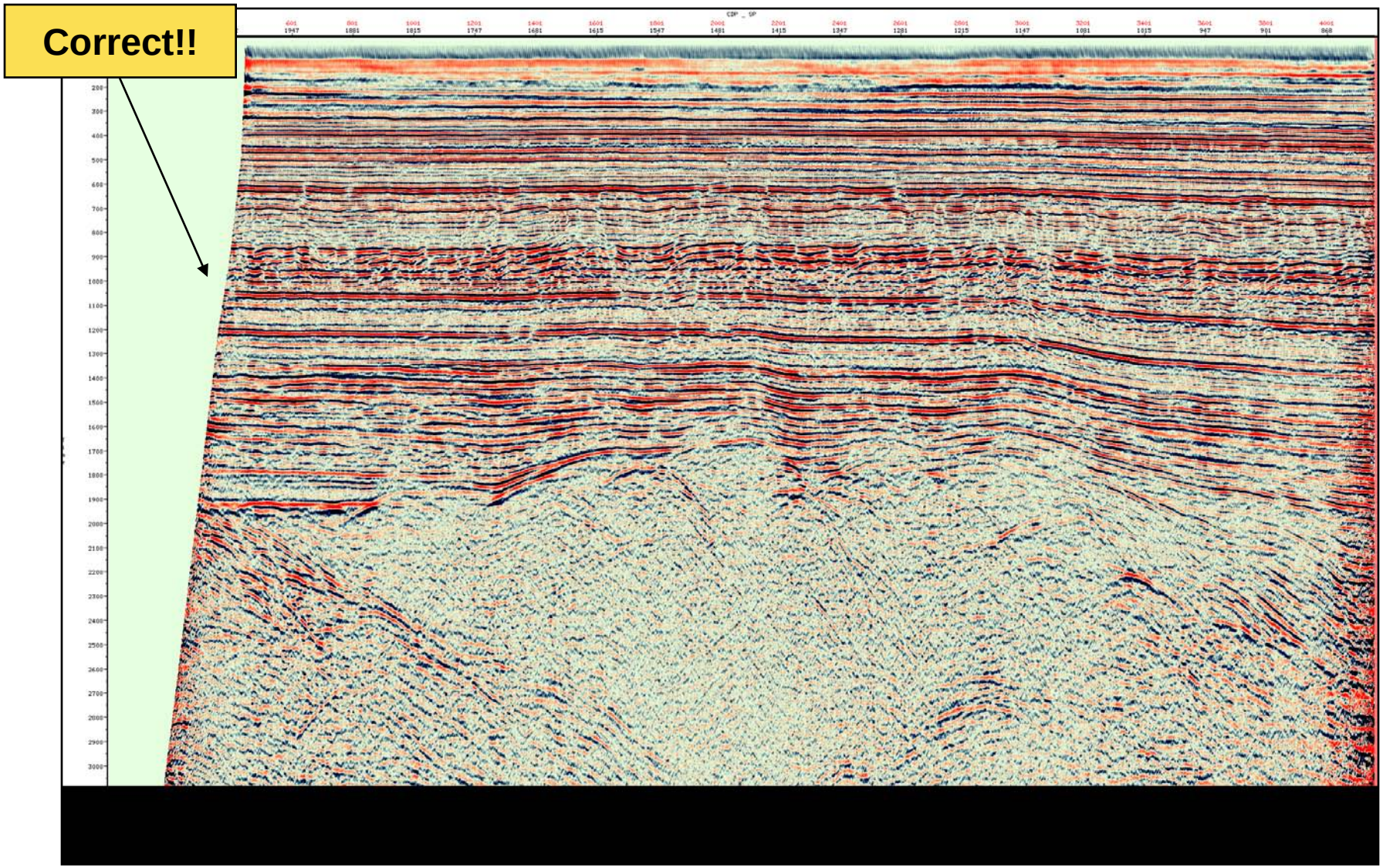
Stack (T-X mute) SEQ039 – SRME (F5) – 4ms Old parameter



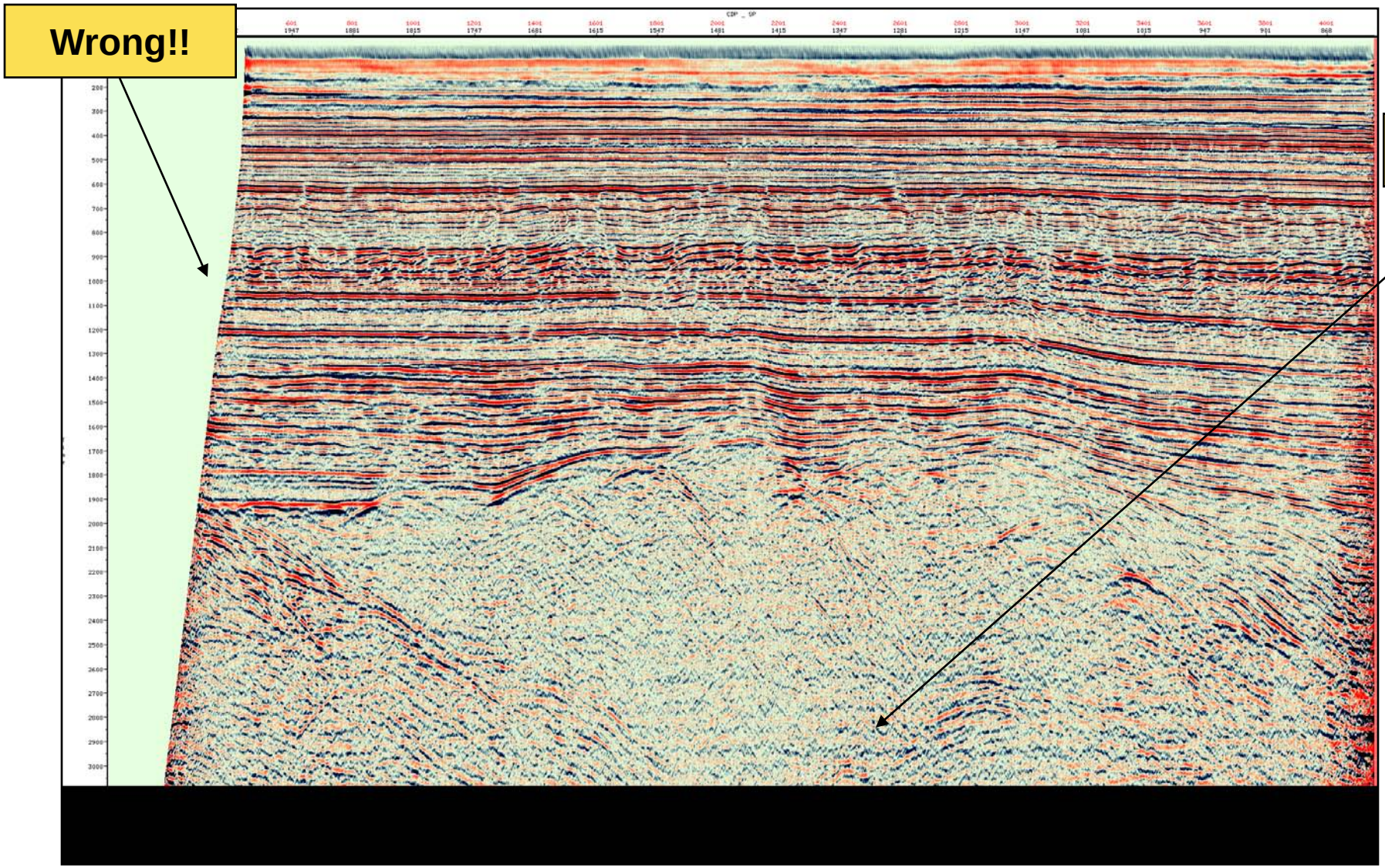
Stack (T-X mute) SEQ039 – TPDBS (F4) – 4ms New parameter



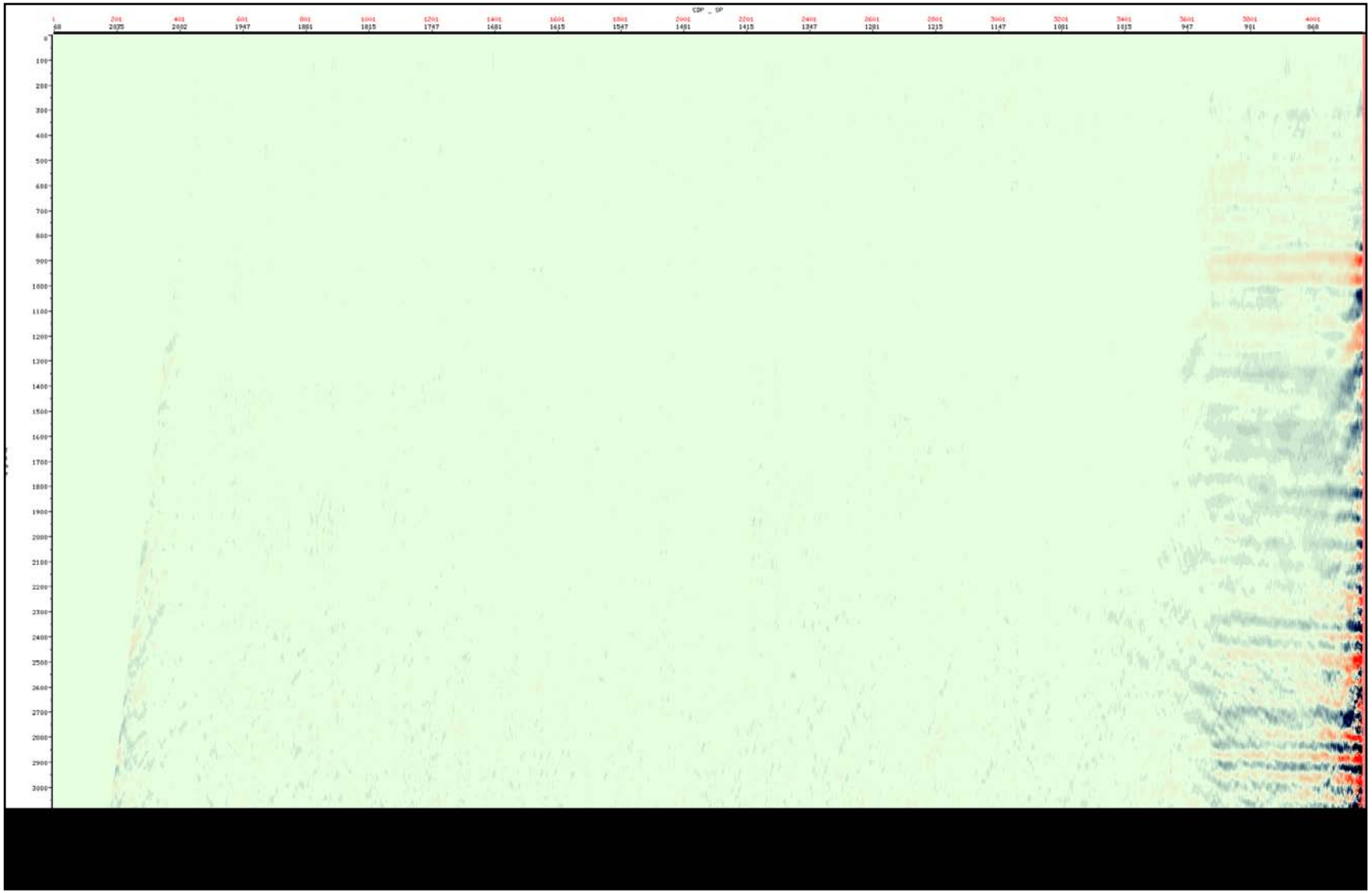
Stack (T-X mute) SEQ039 – SRME (F5) – 2ms New parameter



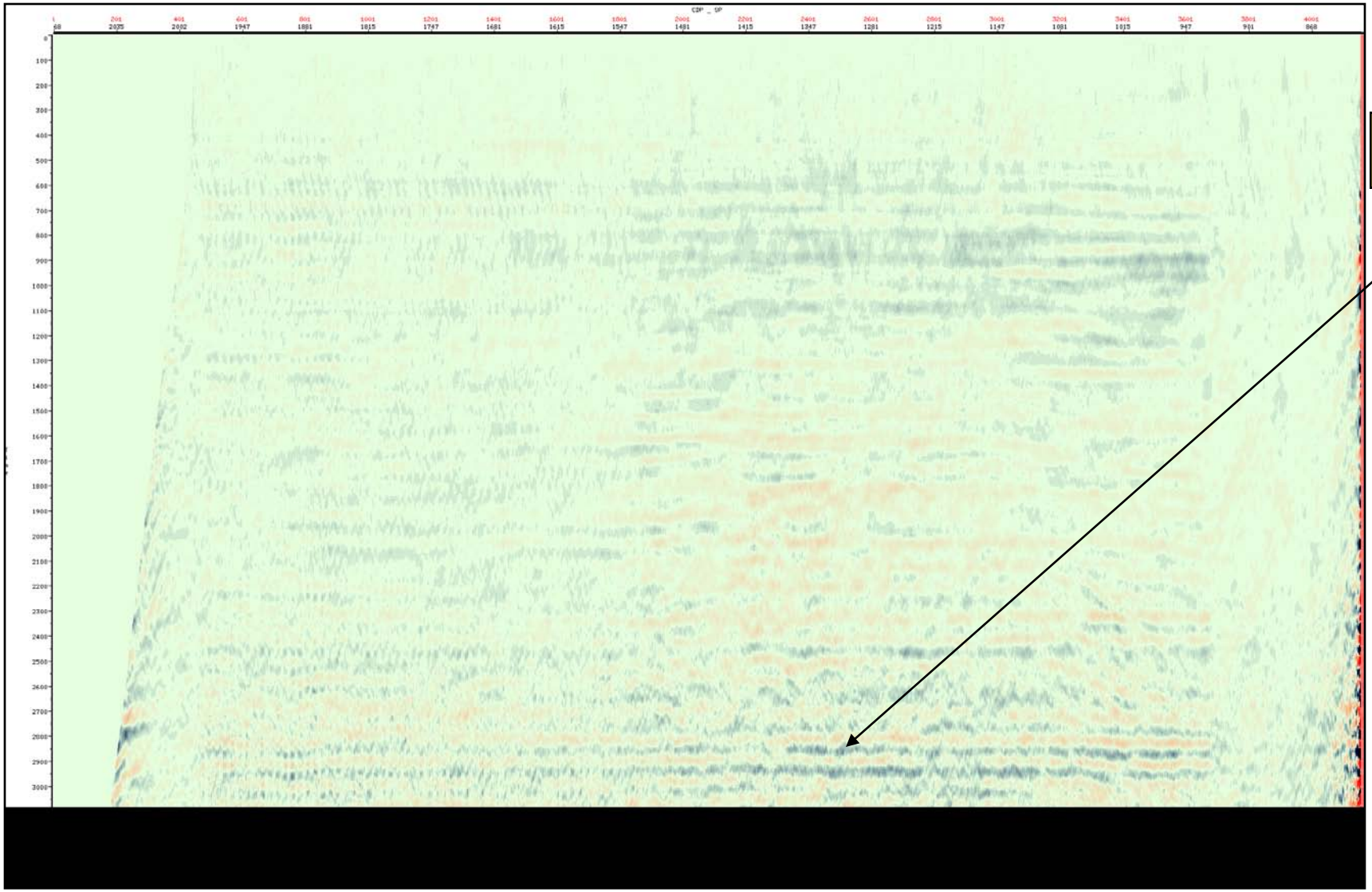
Stack (T-X mute) SEQ039 – SRME (F5) – 2ms Old parameter



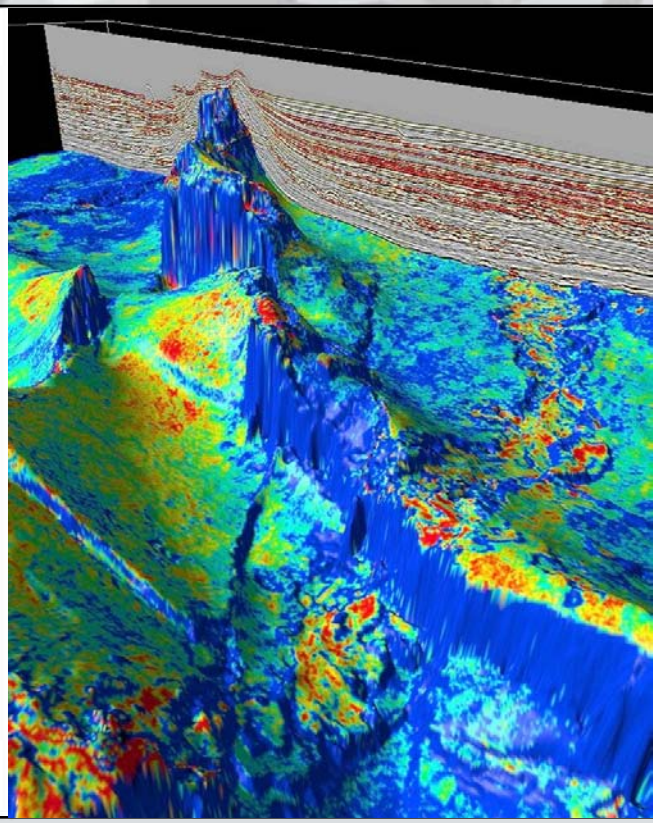
Difference SEQ039 – SRME (F5) – 4ms Old vs New parameter



Difference SEQ039 – SRME (F5) – 2ms Old vs New parameter



Technical Note 3
SRME FLOW
(Add5)
Silvereye 3D



Introduction

Testing was carried out on sail line OS073D1342P1039 (Seq:039).

The data are selected on cable 3 (channel number:961-1440).

This test was done to fine tune parameters and flow of TPLNA, to solve low freq noise problem in the near offset.

Processing Sequence to date

Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Resample from 2ms to 4ms, with 100Hz Anti-alias filter applied)
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain (Revised SP mirror problem).

Current Test

- **Knotch:**

  - Knotch application

  before TPLNA,

  after TPLNA,

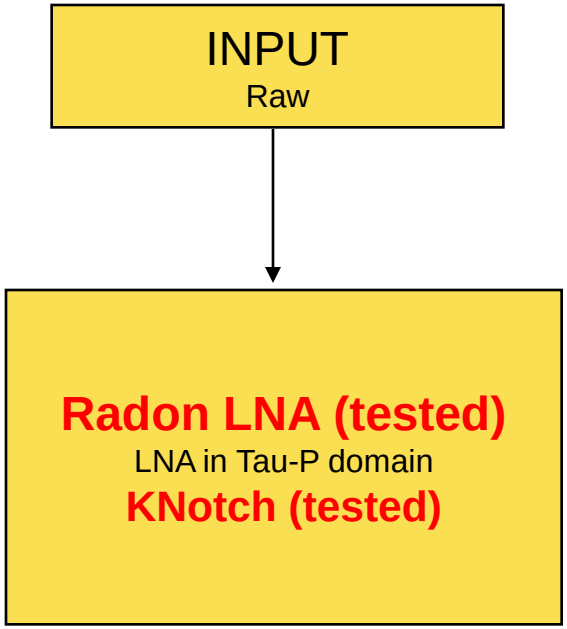
  before and after TPLNA

  - Linear Radon

  par1: Start time 3000ms with 200ms taper

  par2: Start time 2600ms with 600ms taper

Current Test

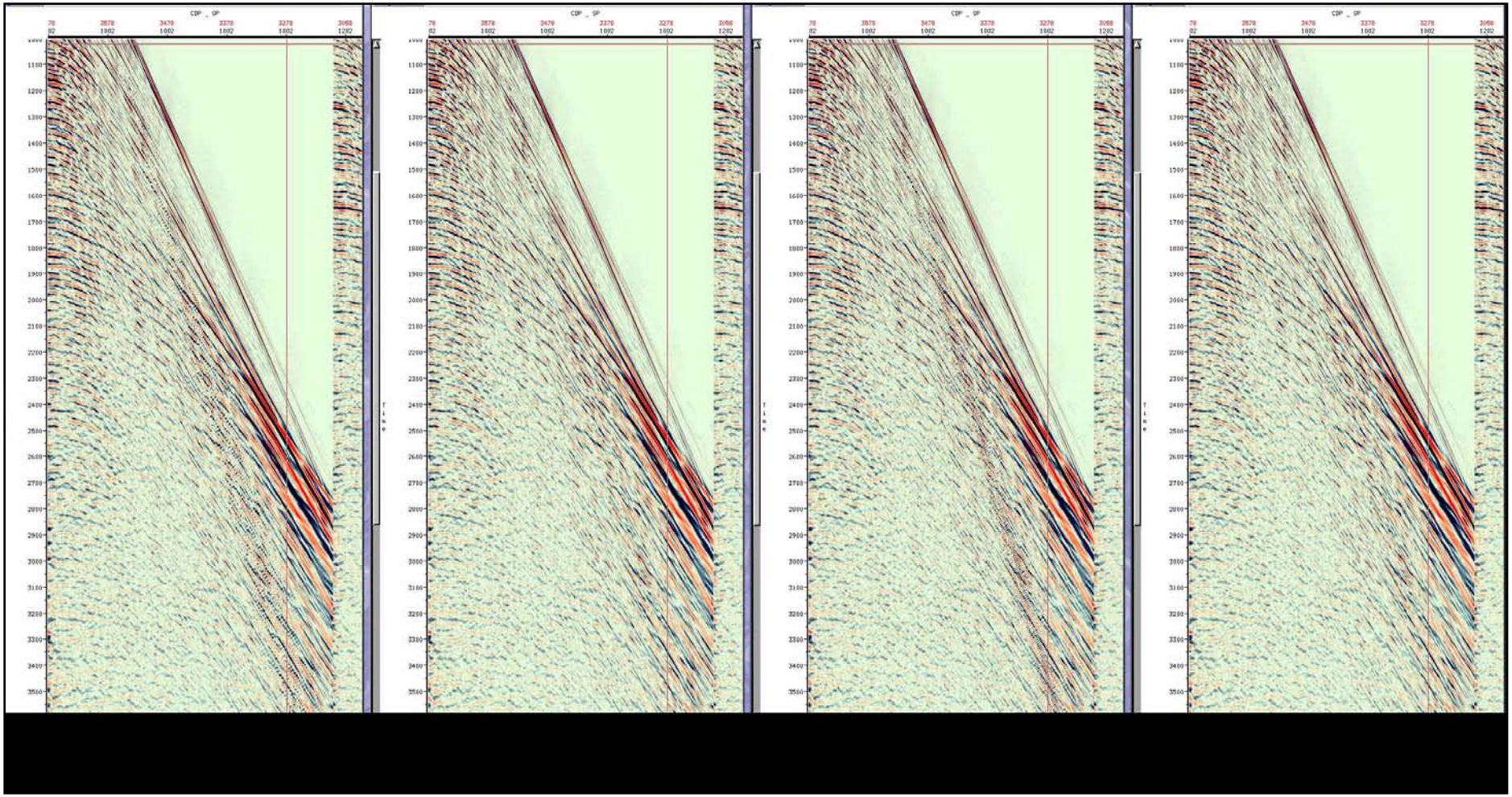


Profile ID SEQ039

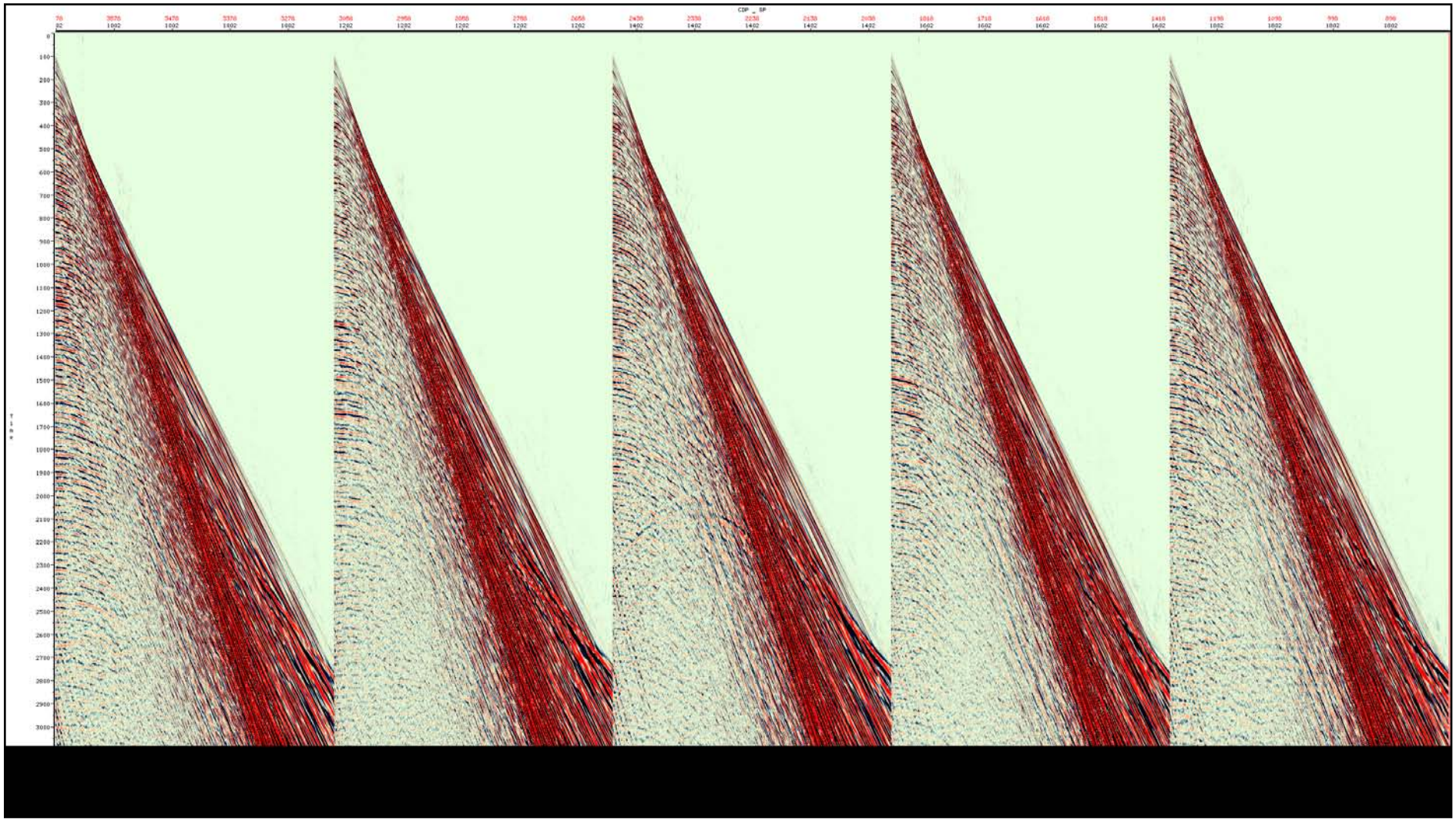
SRME Flow

SP SEQ039 – TPLNA: Knotch

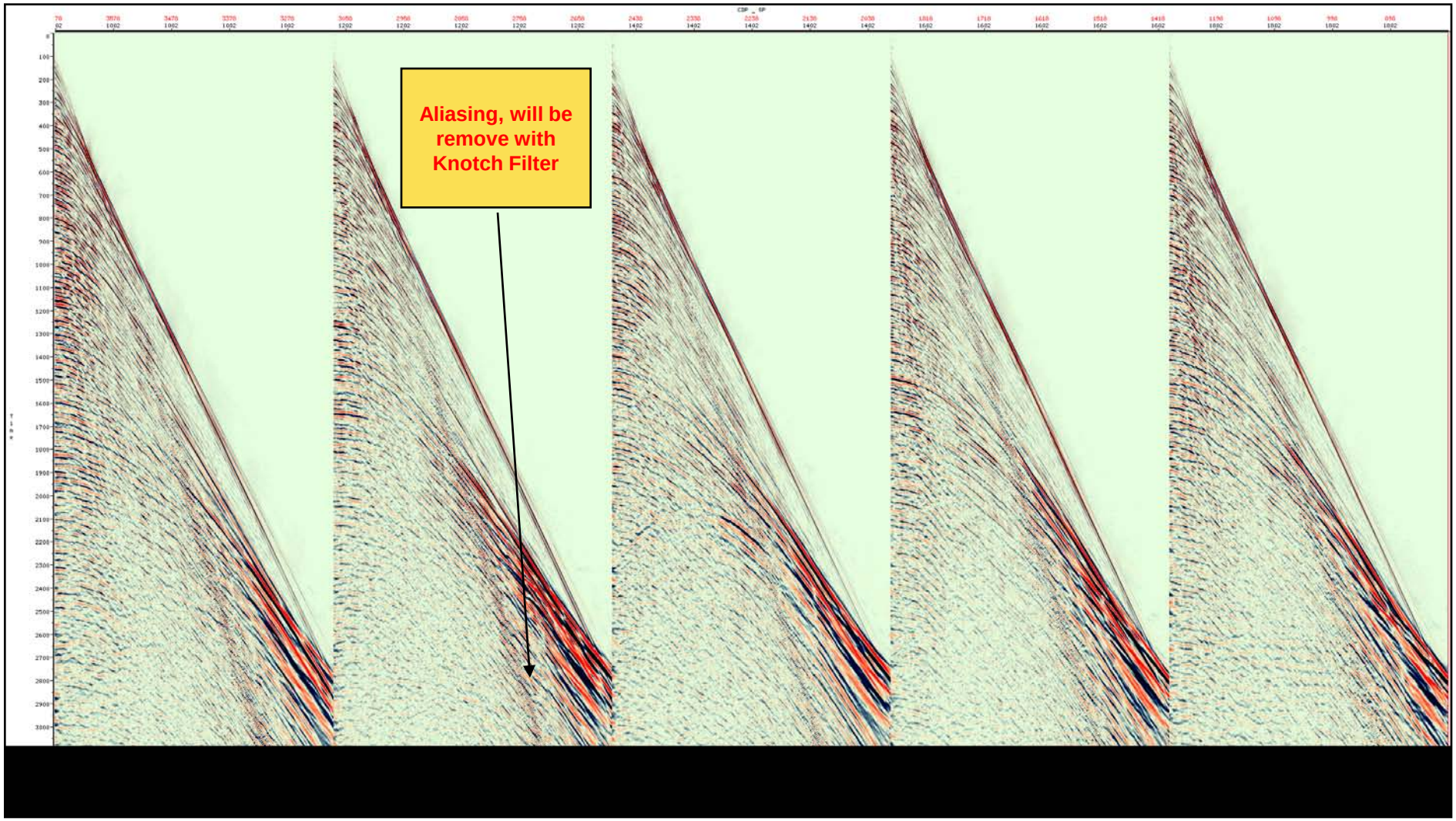
Apply KNotch Before TPLNA	Apply KNotch Before and after TPLNA	TPLNA No Knotch applied	KNotch after TPLNA



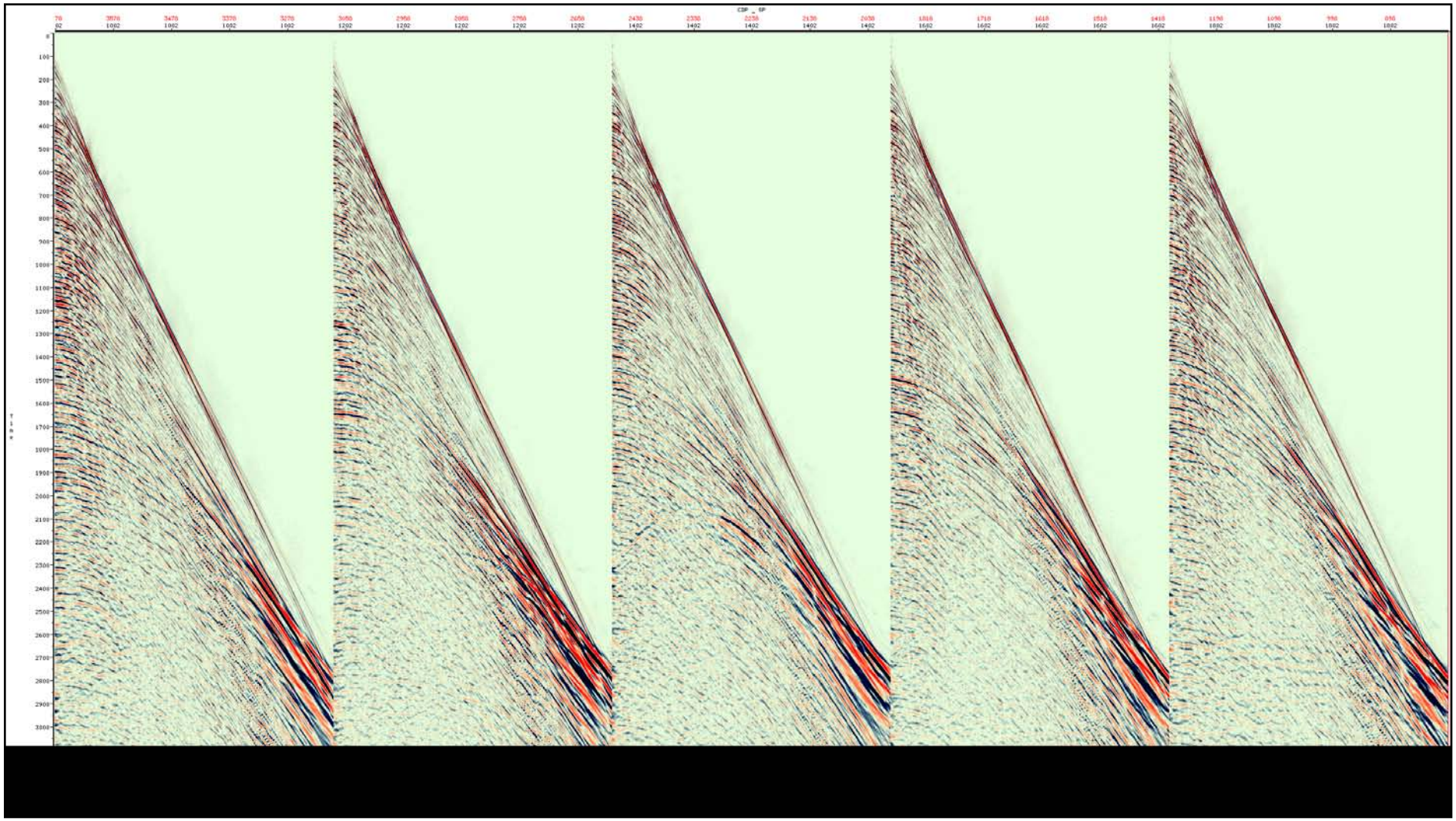
SP SEQ039 – Input



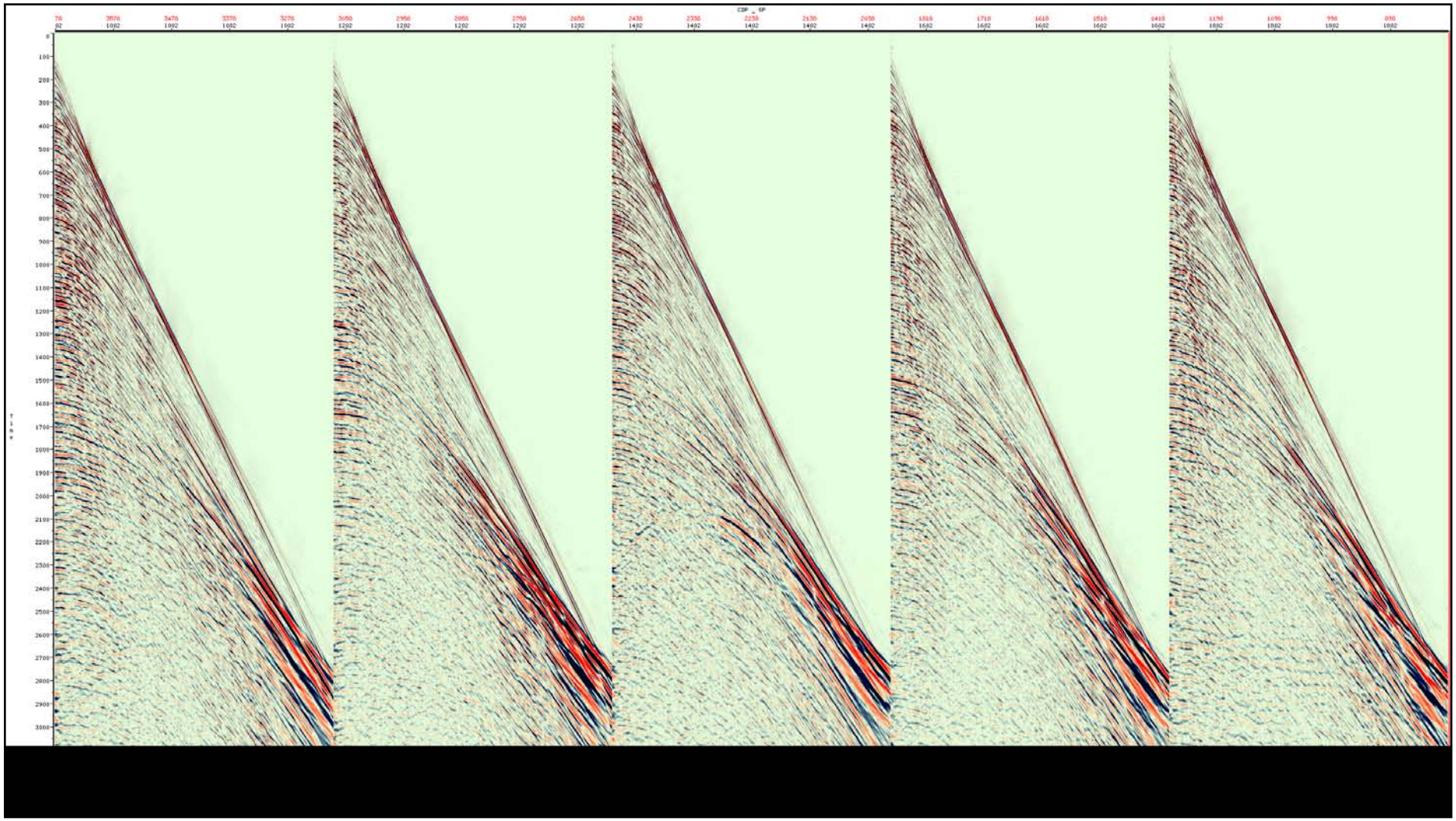
SP SEQ039 – TPLNA: No Knotch



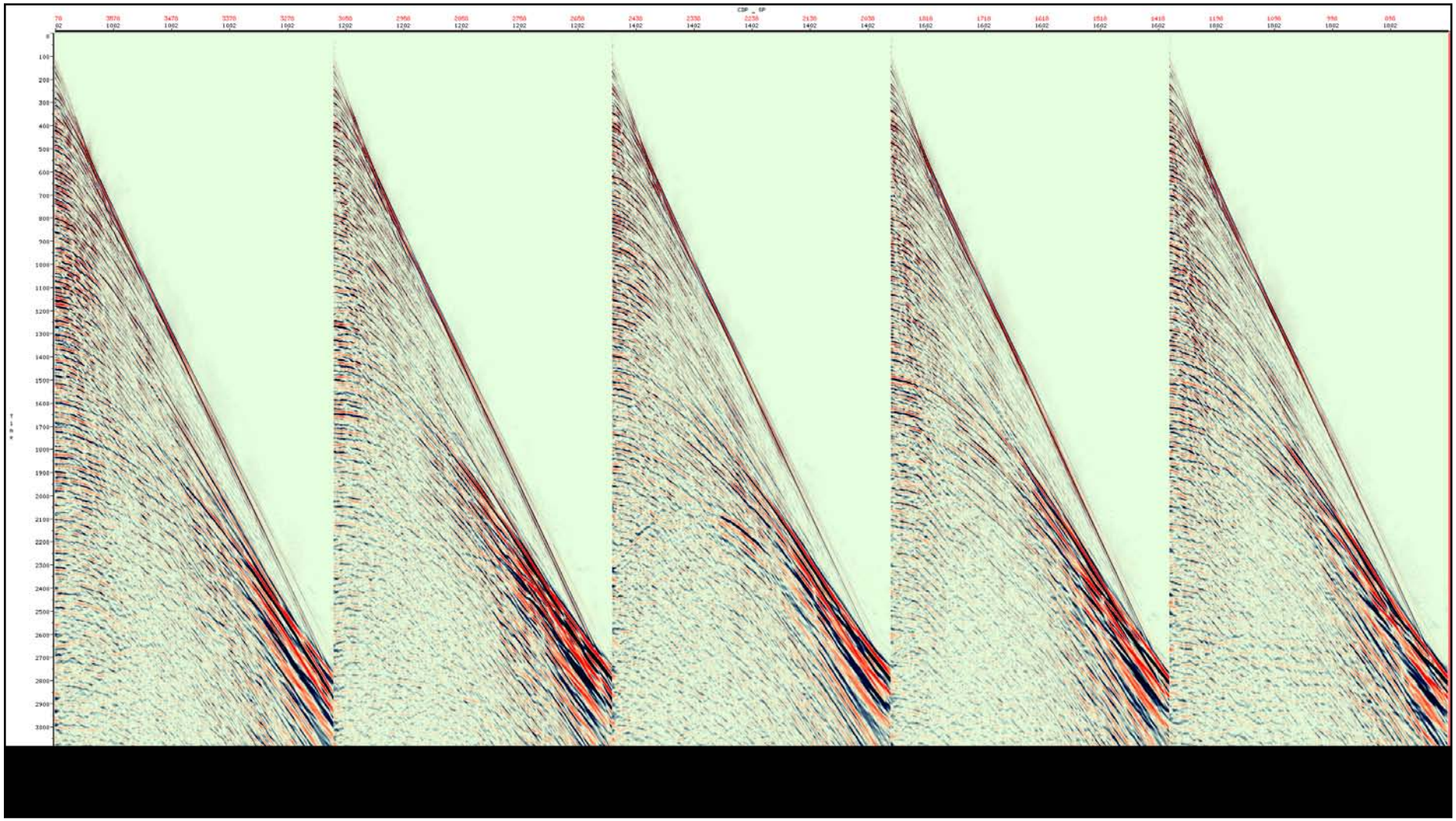
SP SEQ039 – TPLNA: Knotch Before TPLNA (Original parameter)



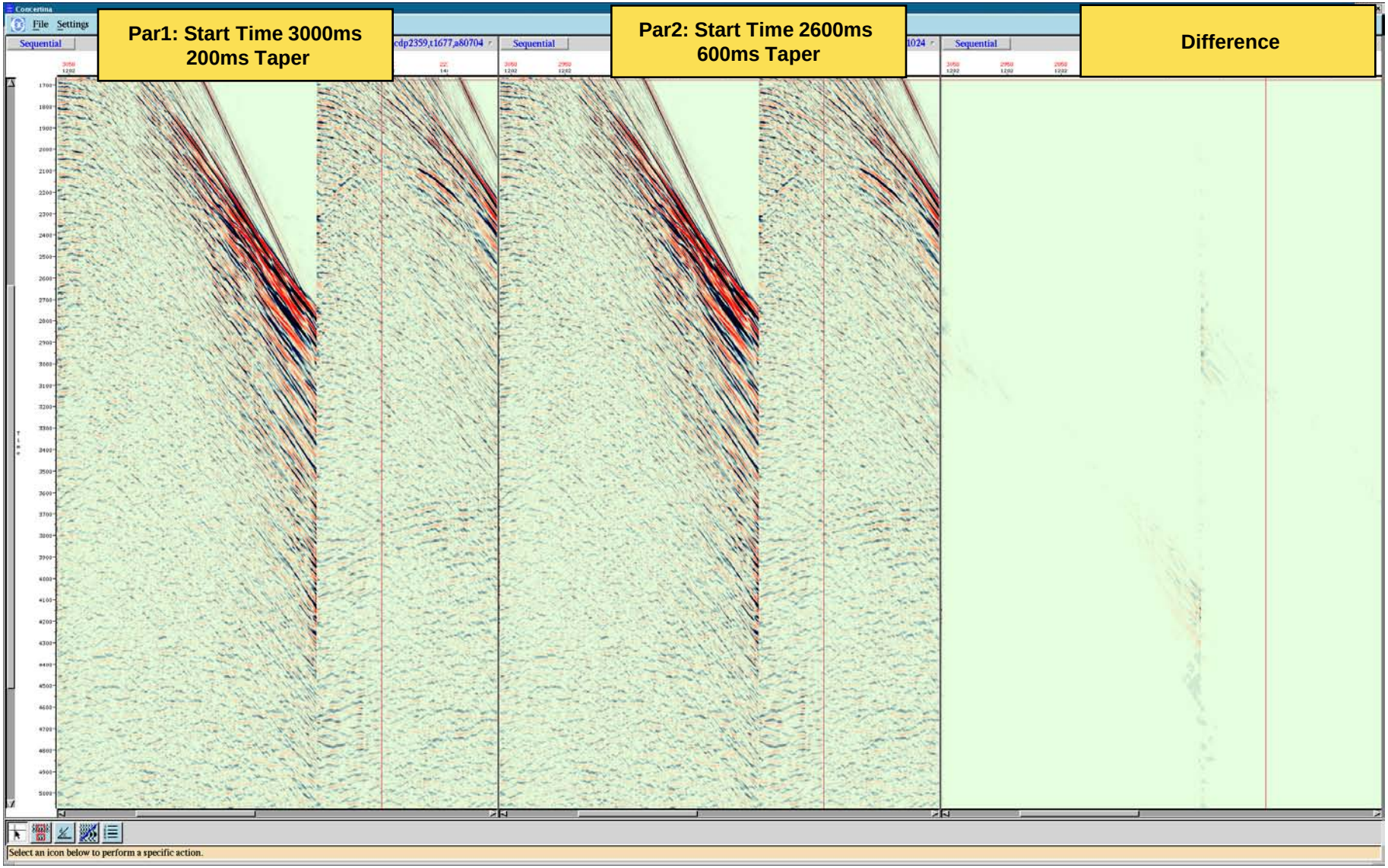
SP SEQ039 – TPLNA: Knotch After TPLNA



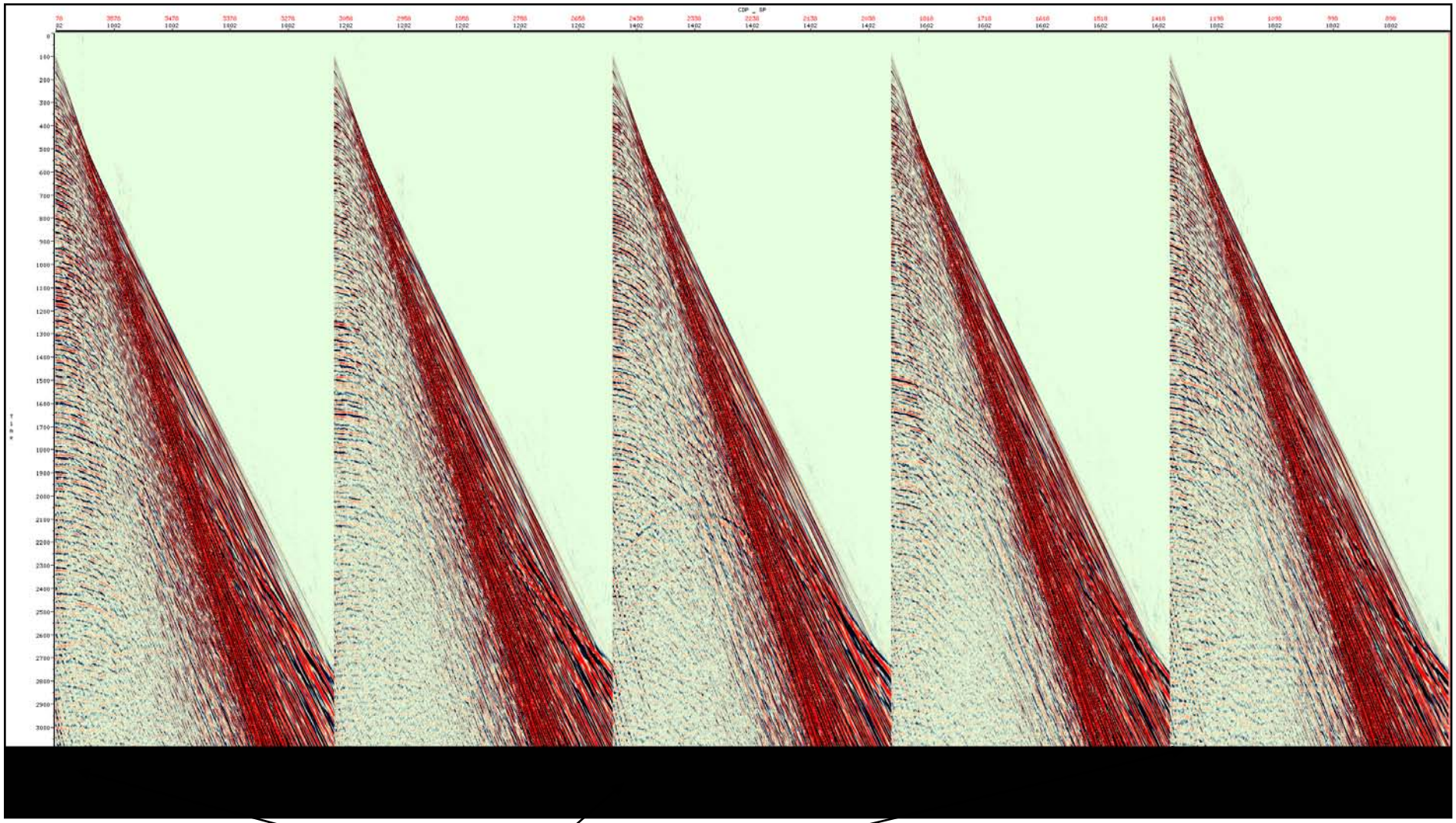
SP SEQ039 – TPLNA: Knotch Before and After TPLNA



SP SEQ039 – TPLNA: Apply RADON LNA before TP LNA

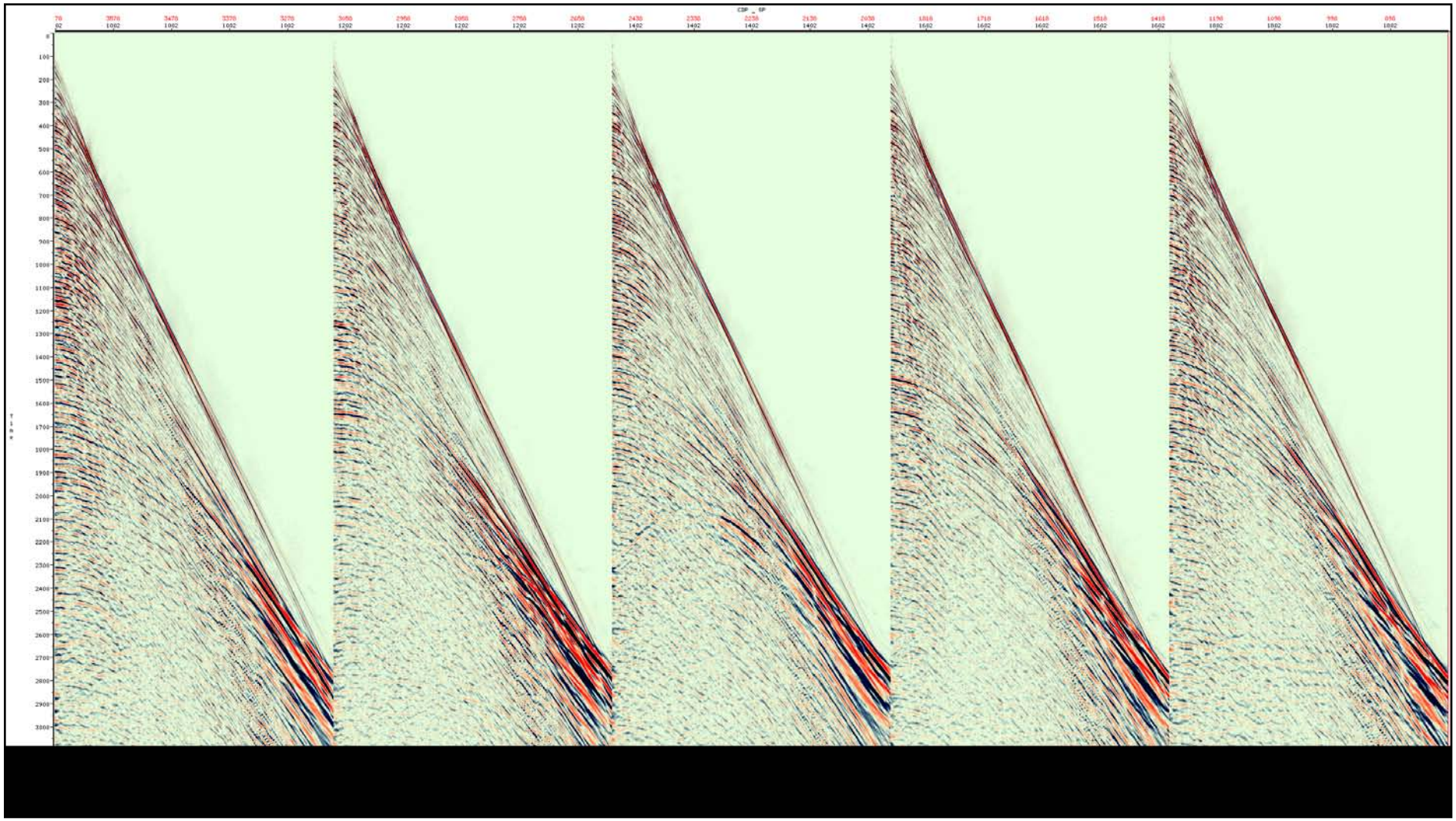


SP SEQ039 – Input

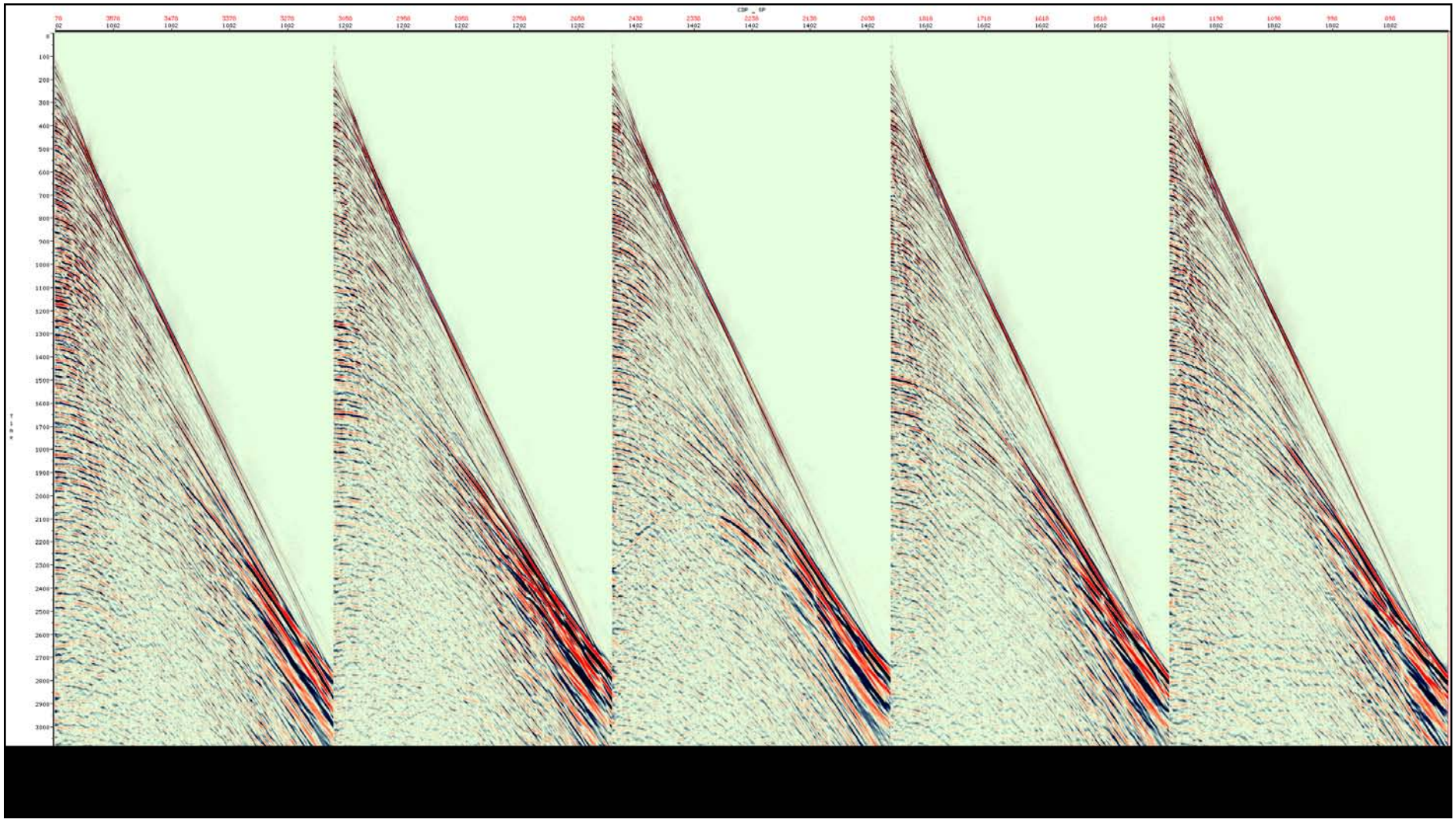


Create low freq noise after
Tau-P transform, need to remove before transform

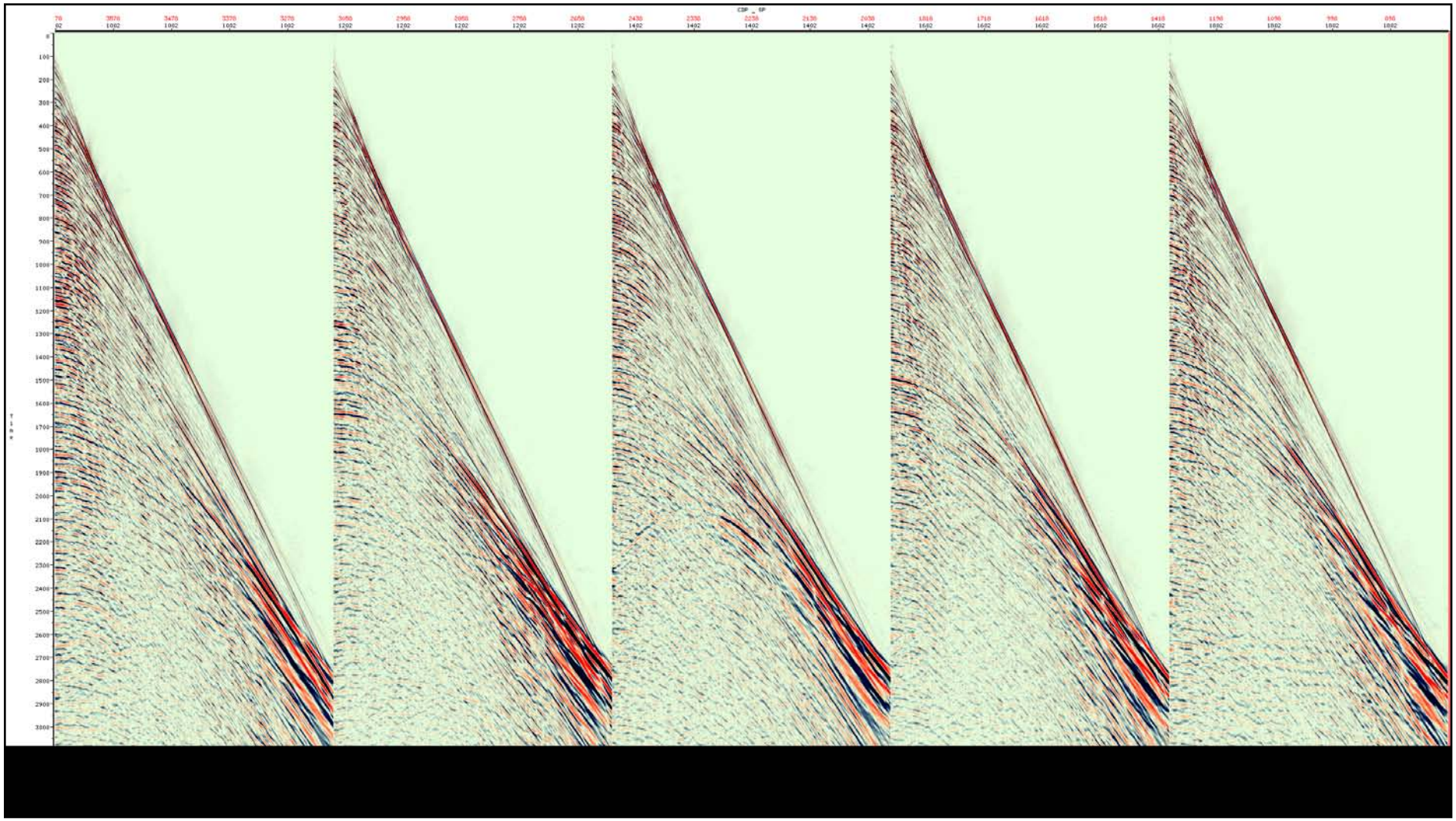
SP SEQ039 – TP LNA (Original parameters)



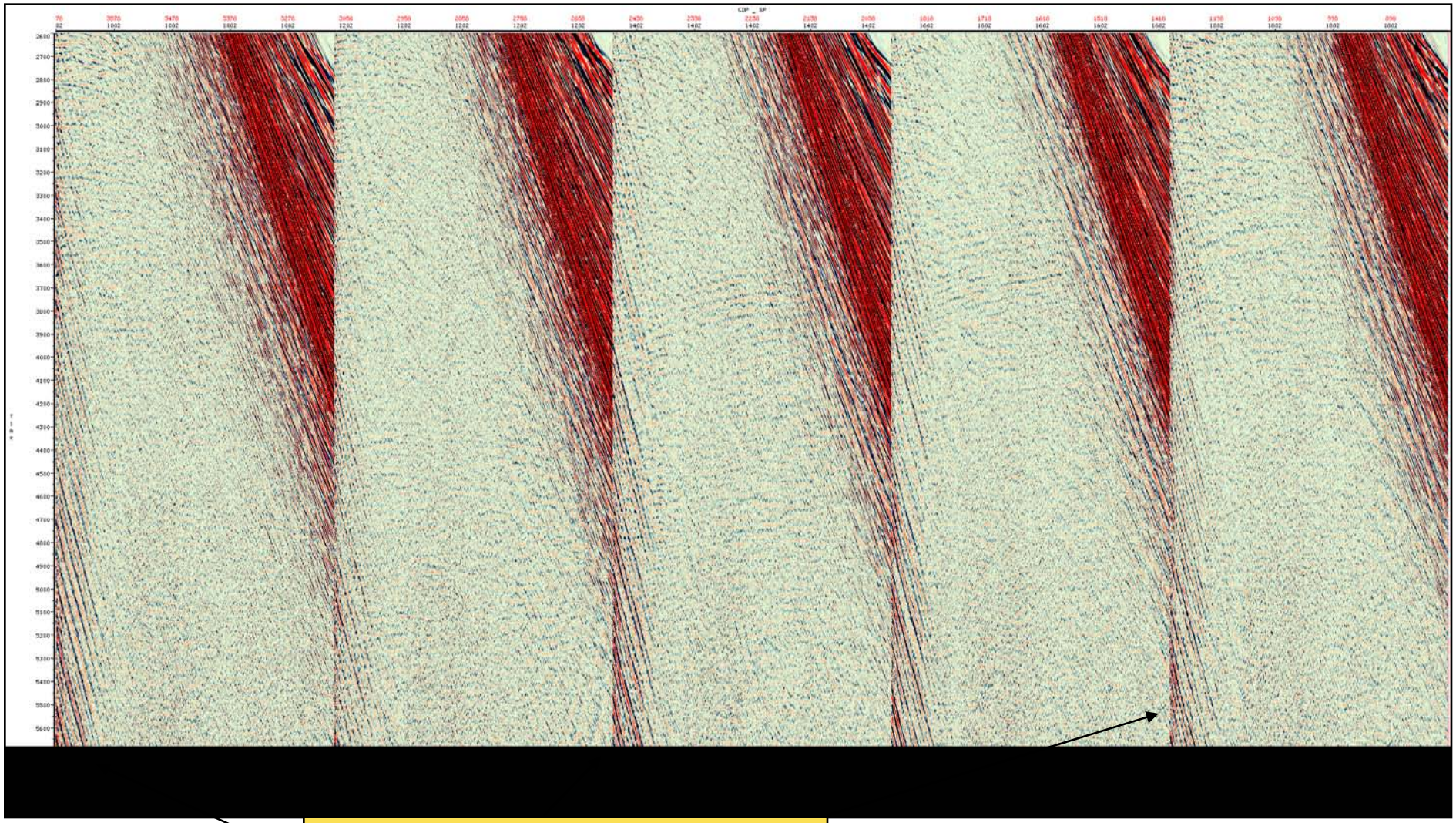
SP SEQ039 – TP LNA: Linear Radon (par1) + TPLNA + Knotch



SP SEQ039 – TP LNA: Linear Radon (par2) + TPLNA + Knotch

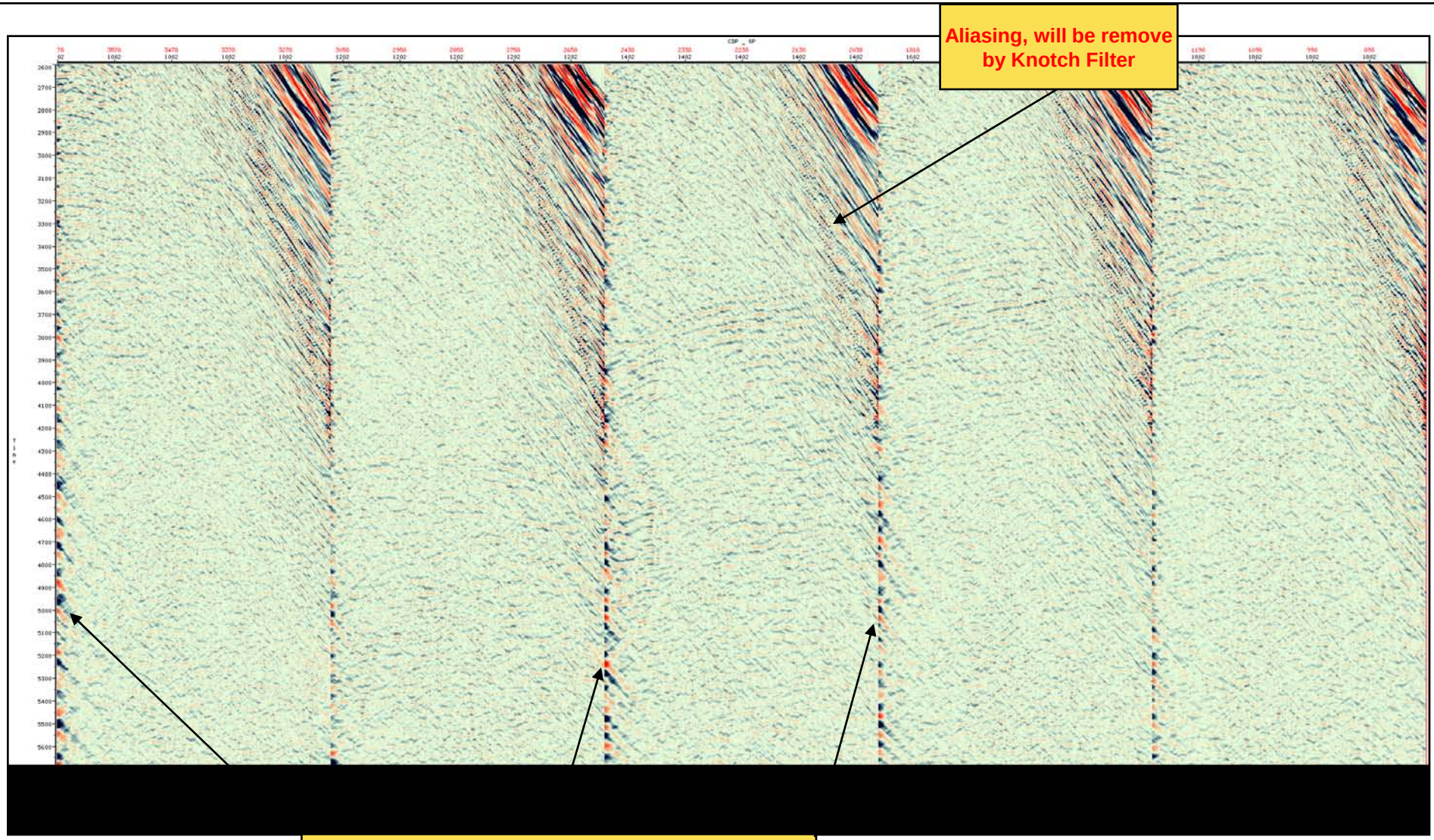


SP SEQ039 – Input

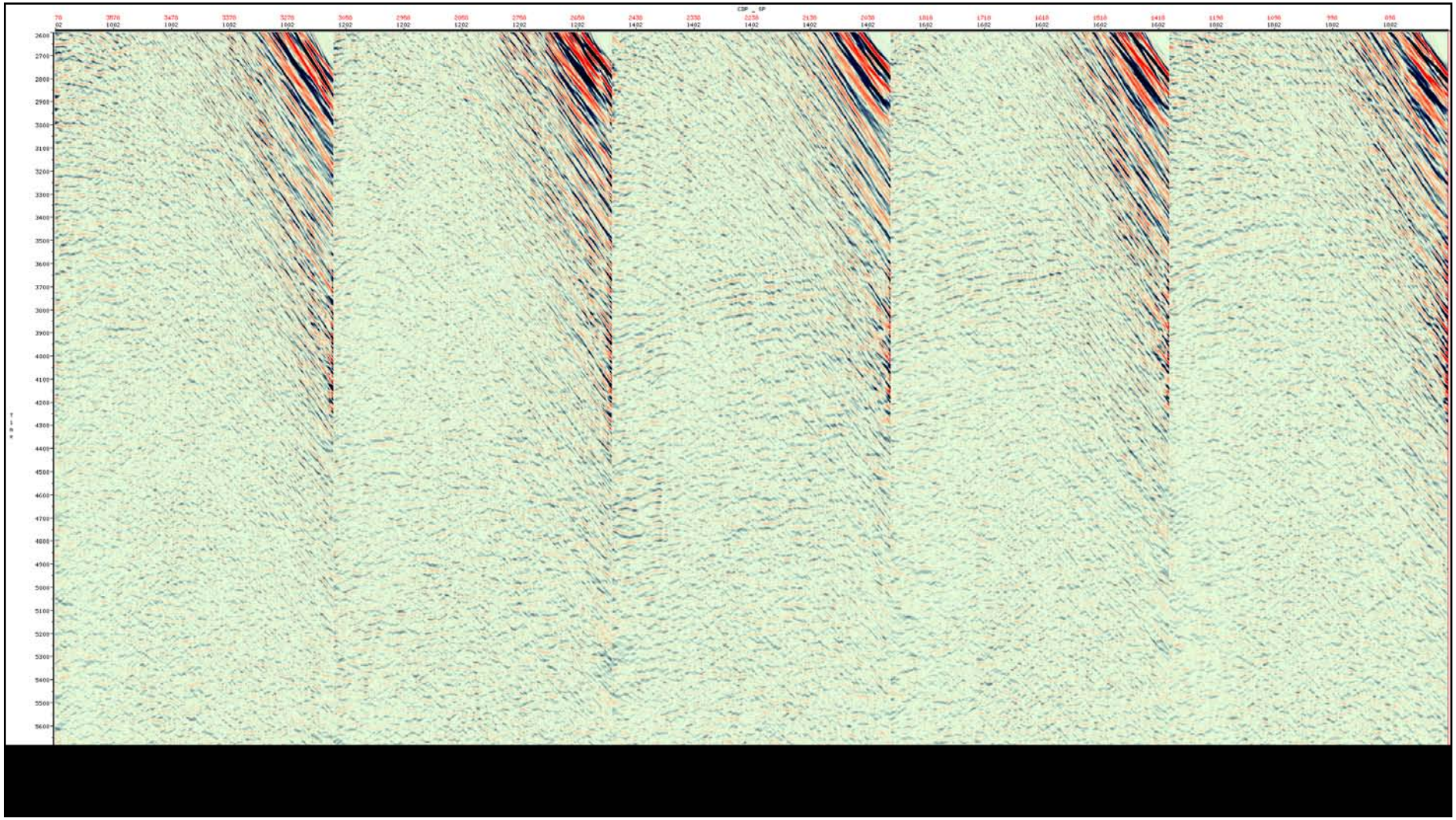


Create low freq noise after
Tau-P transform, need to remove before transform

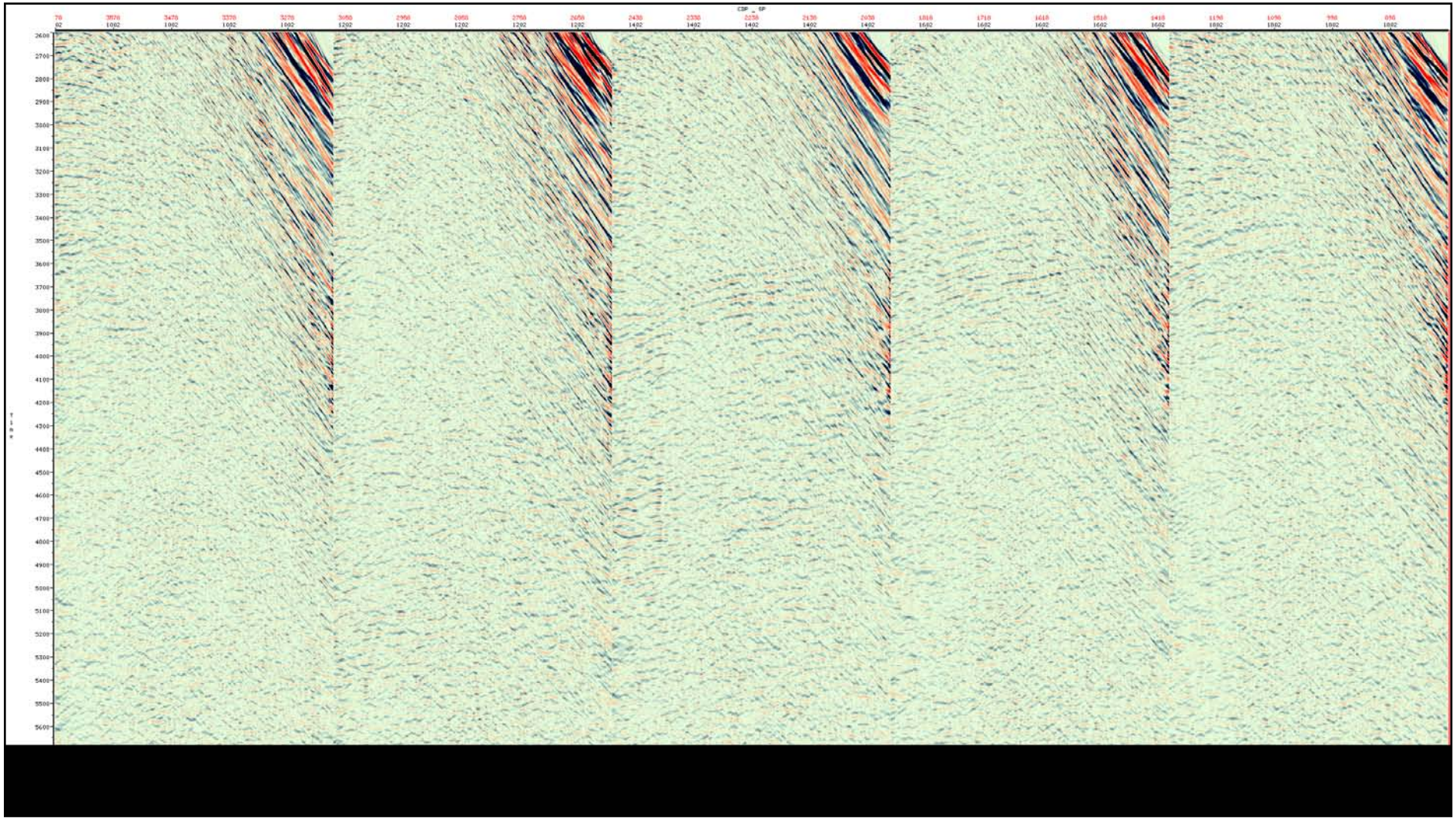
SP SEQ039 – TP LNA (Original parameters)



SP SEQ039 – TP LNA Test: Linear Radon (par1) + TPLNA + Knotch



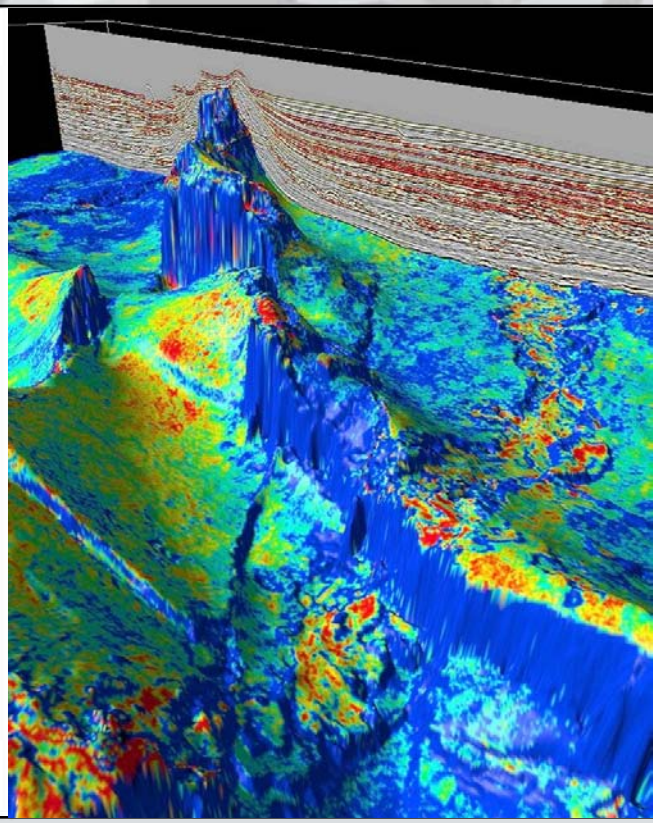
SP SEQ039 – TP LNA Test: Linear Radon (par2) + TPLNA + Knotch



Conclusions & Recommendations

- **Knotch application after TPLNA gave better result**
- **Linear RADON apply in the deeper part data only before TPLNA reduce a lot of low freq noise in the near offset after transform.**

Technical Note 3
SRME FLOW
(Add6)
Silvereye 3D



CGGVERITAS

Introduction

Testing was carried out on sail line OS073D1342P1039 (Seq:039).

The data are selected on cable 3 (channel number:961-1440).

This test was done to compare near and far angle stack between original parameter and revised parameter in Tau-P DBS step.

Processing Sequence to date

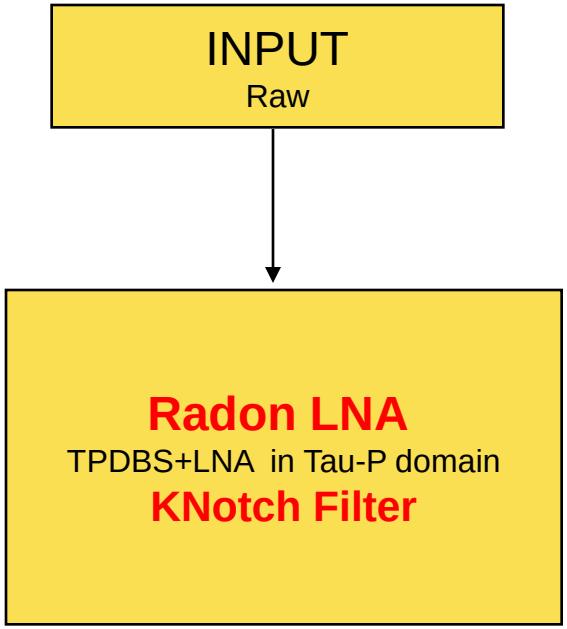
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain (Revised SP mirror problem).

Current Test

- **Knotch:**
  - **Original parameters (before TPDBS)**
  - **Revised parameters (after TPDBS)**
- **Linear Radon:**
  - **Original parameters (not applied)**
  - **Revised parameters (apply before TPDBS, start time 2600ms with 600ms taper)**

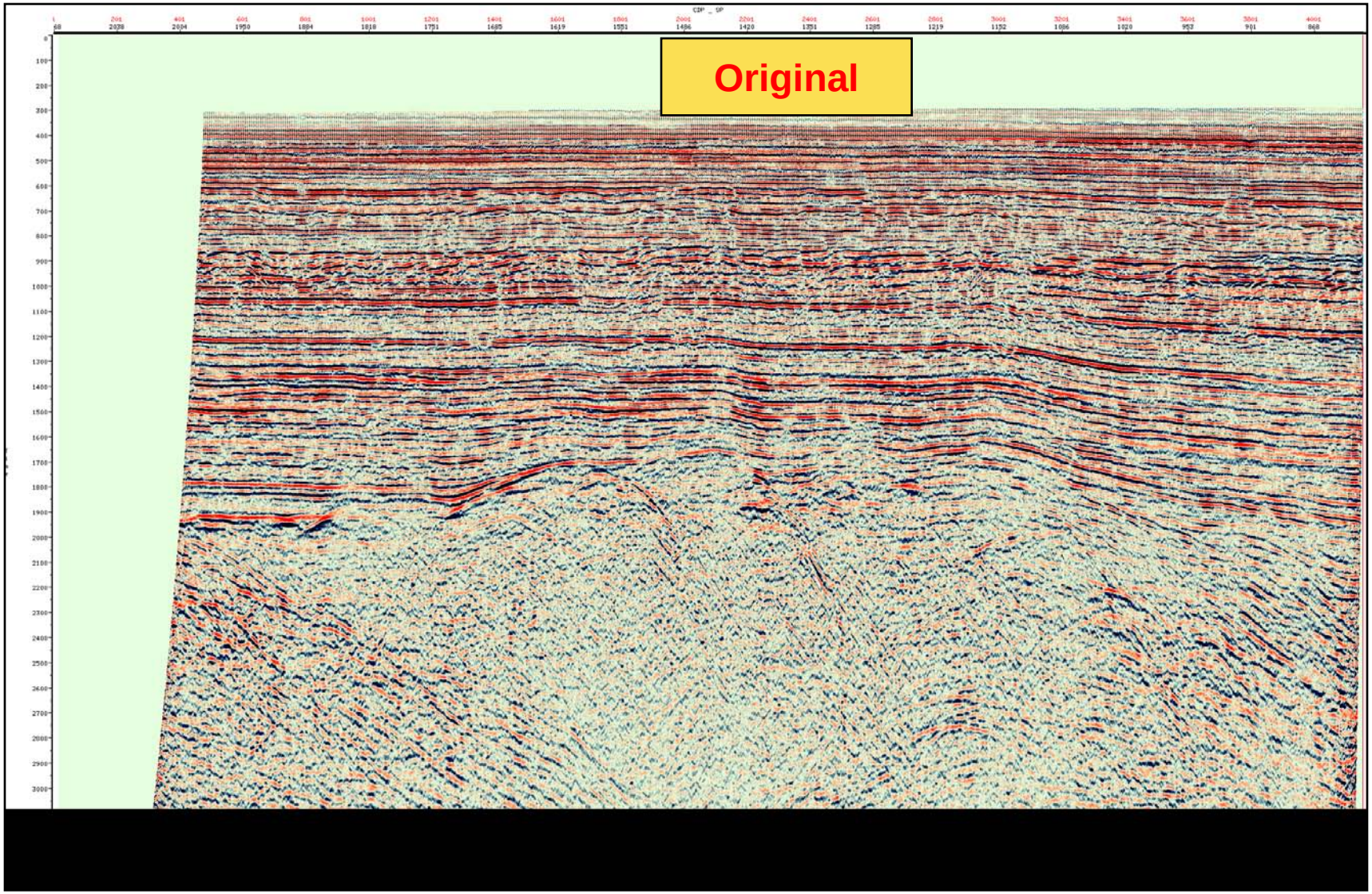
Current Test



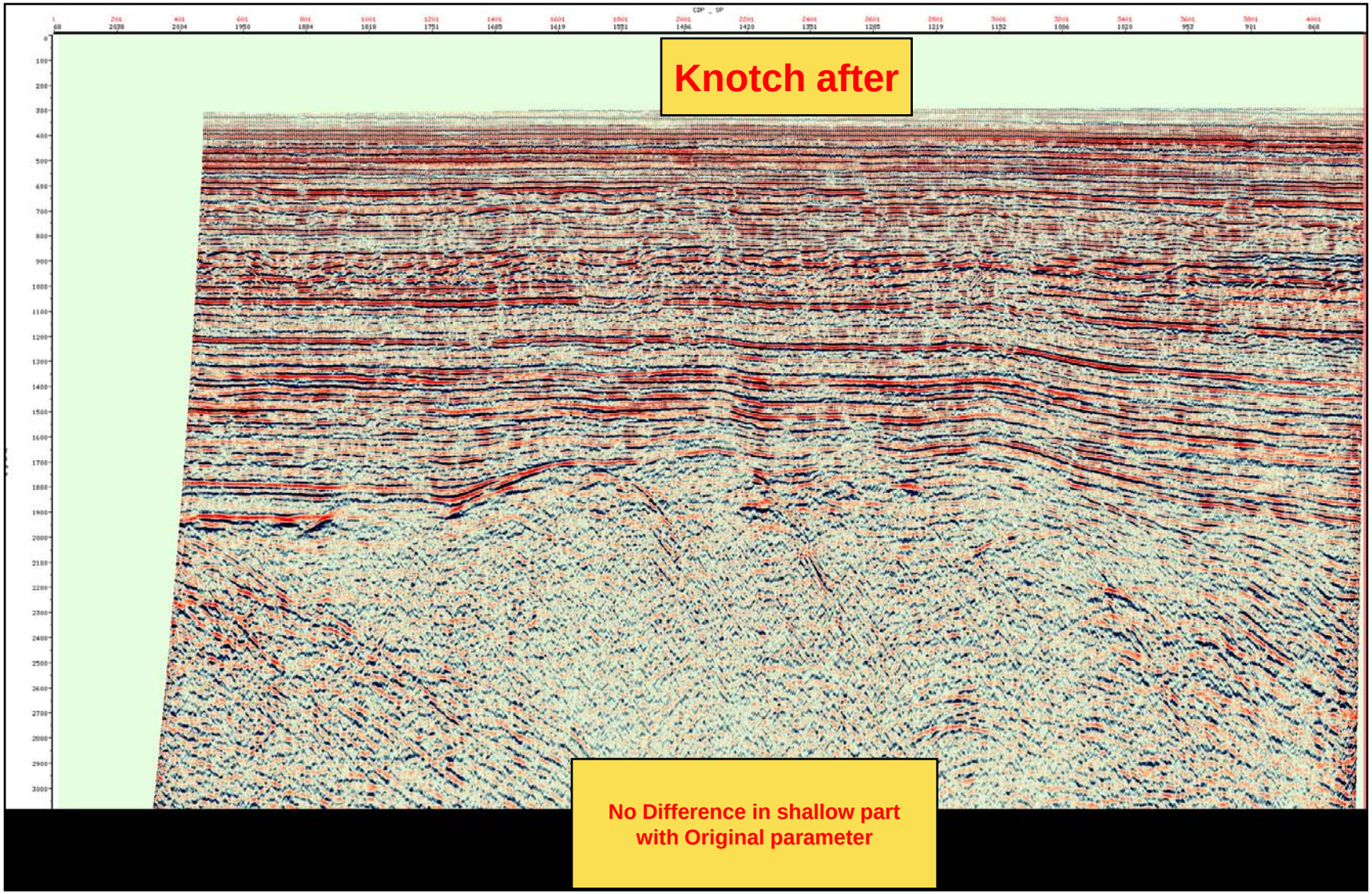
Profile ID SEQ039

SRME Flow

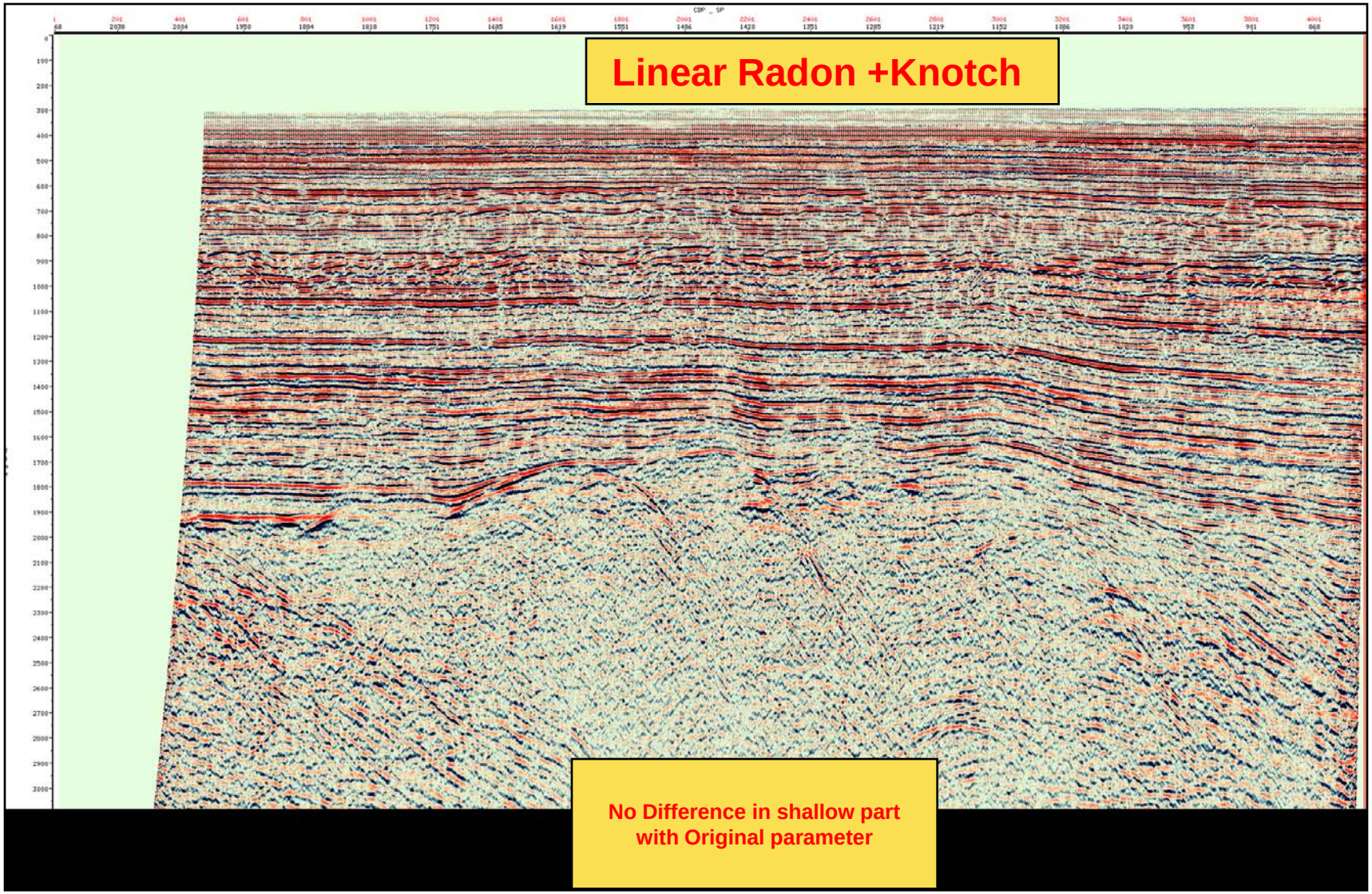
Near Stack (3-15 Deg) SEQ039 – TPDBS: KNotch before TPDBS (Original parameters)



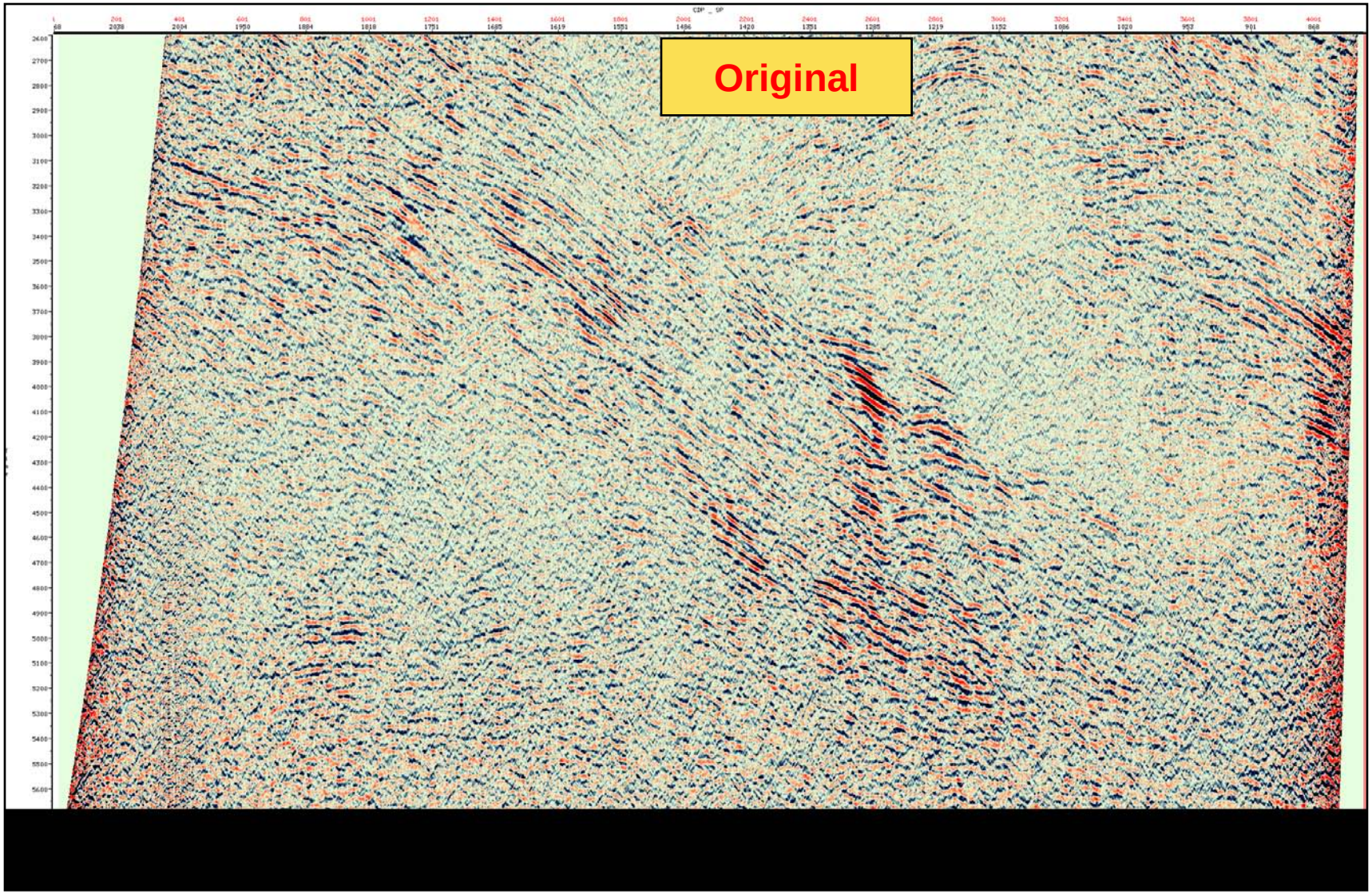
Near Stack (3-15 Deg) SEQ039 – TPDBS: KNotch apply after TPDBS



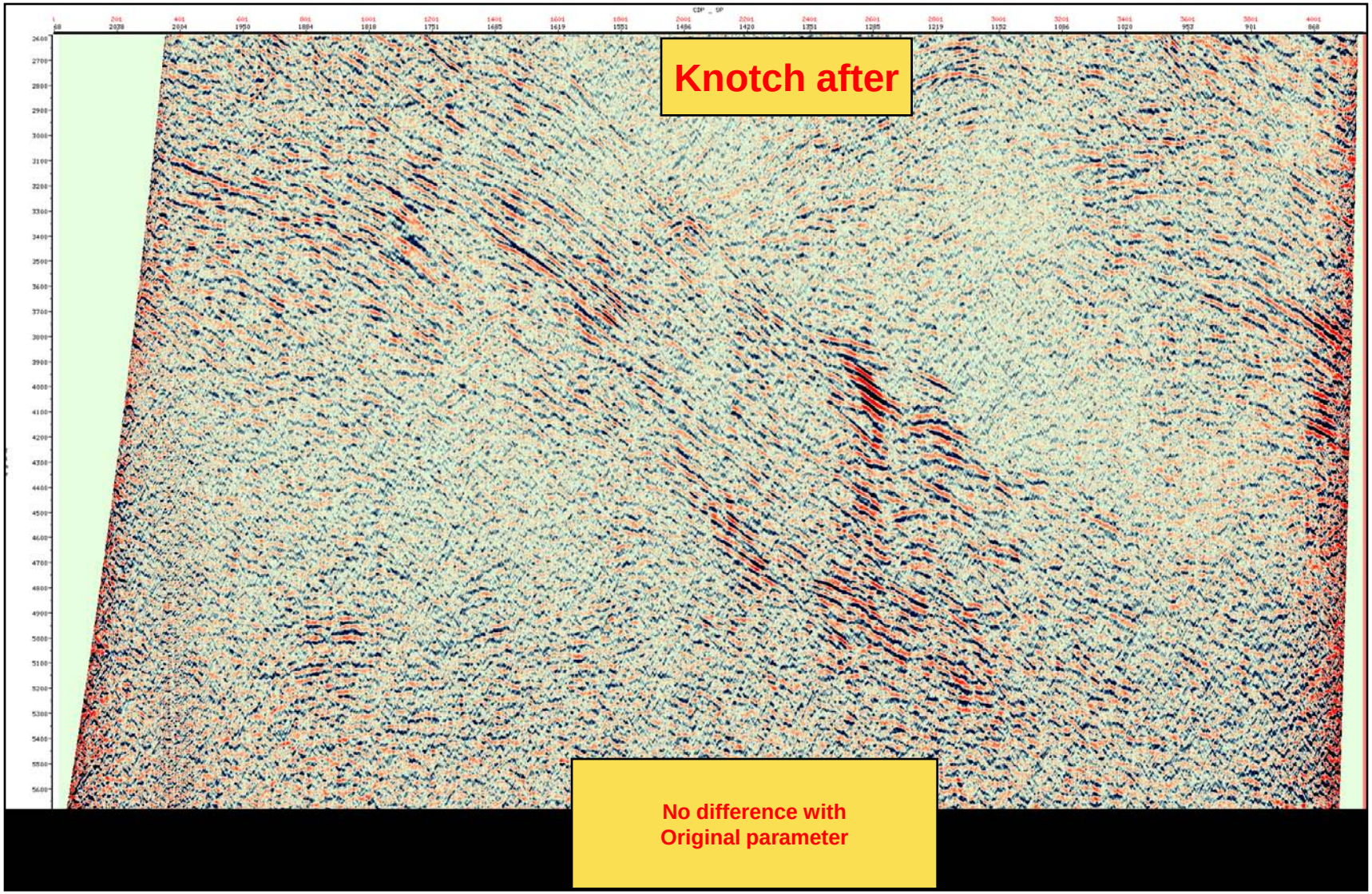
Near Stack (3-15 Deg) SEQ039 – TPDBS: Linear Radon and KNotch applied



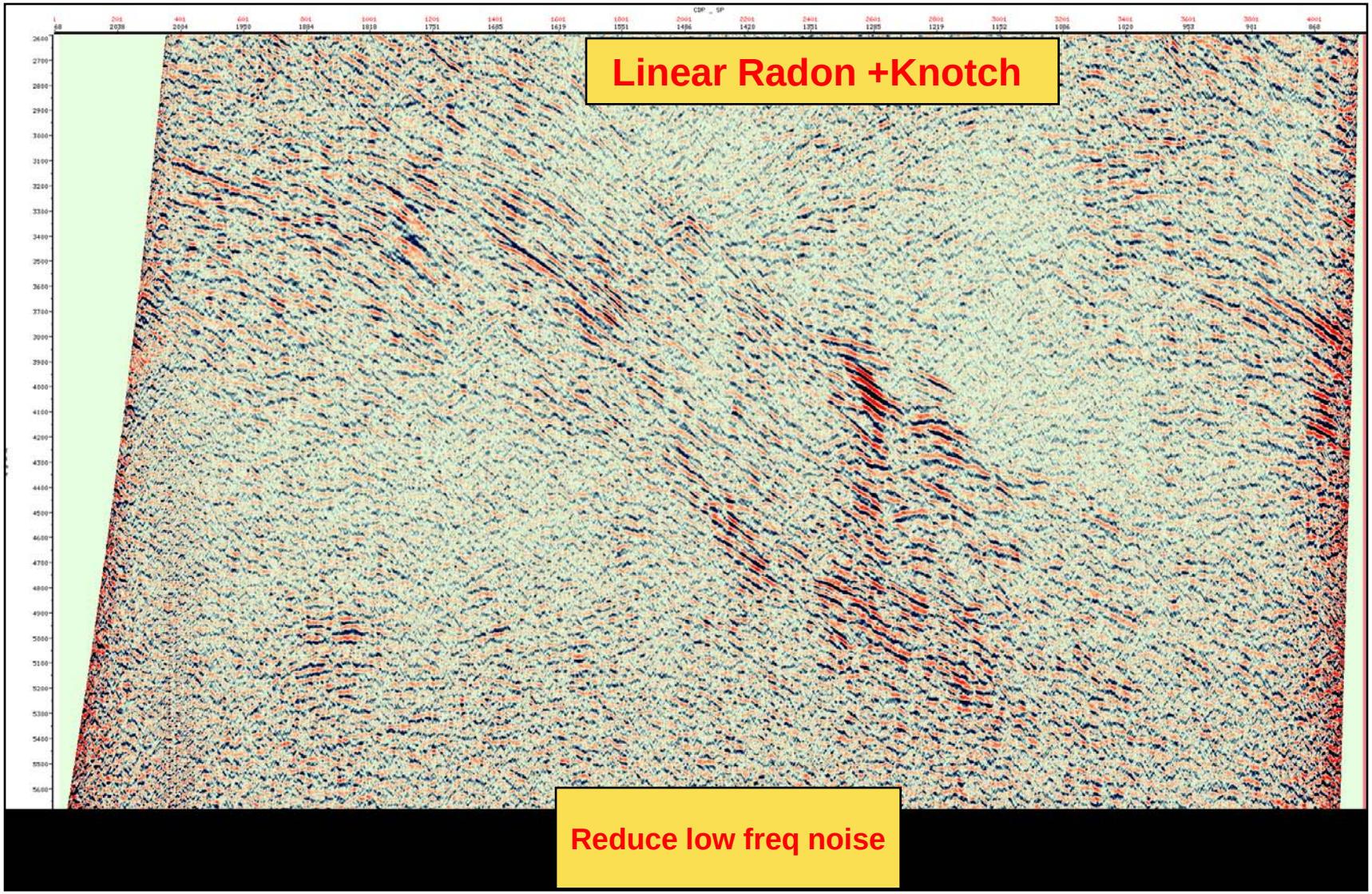
Near Stack (3-15 Deg) SEQ039 – TPDBS: KNotch before TPDBS (Original parameters)



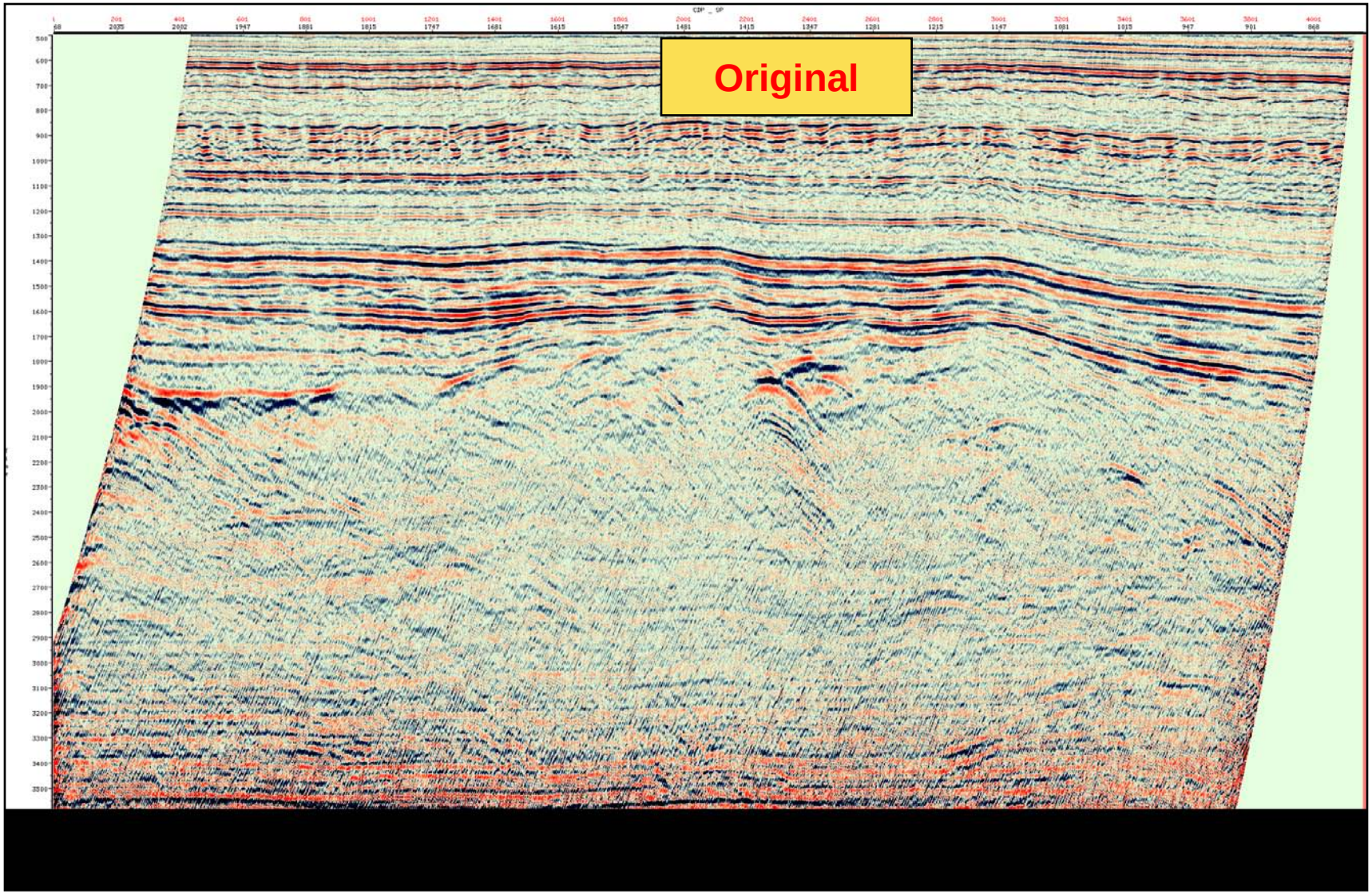
Near Stack (3-15 Deg) SEQ039 – TPDBS: KNotch apply after TPDBS



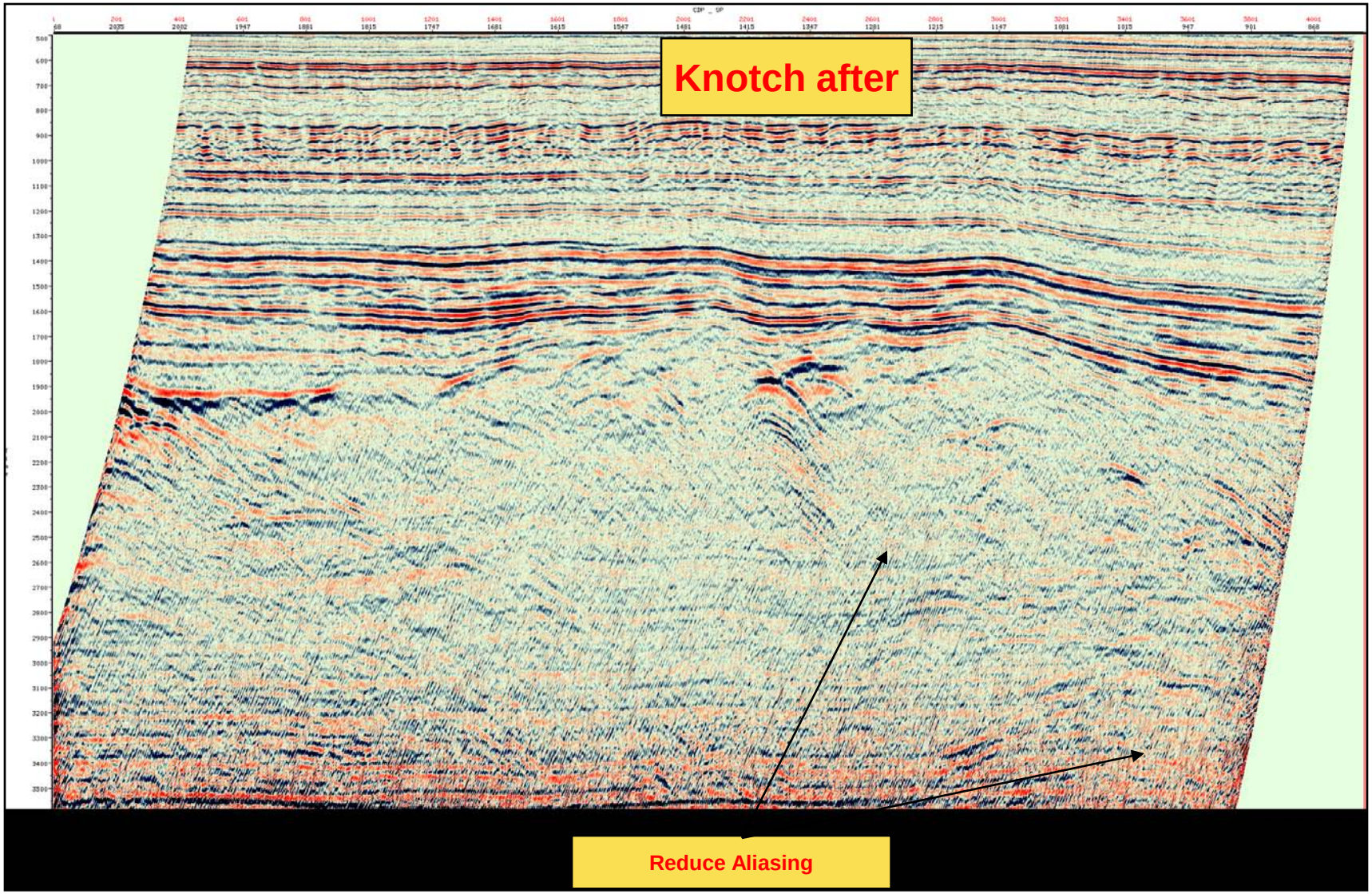
Near Stack (3-15 Deg) SEQ039 – TPDBS: Linear Radon and KNotch applied



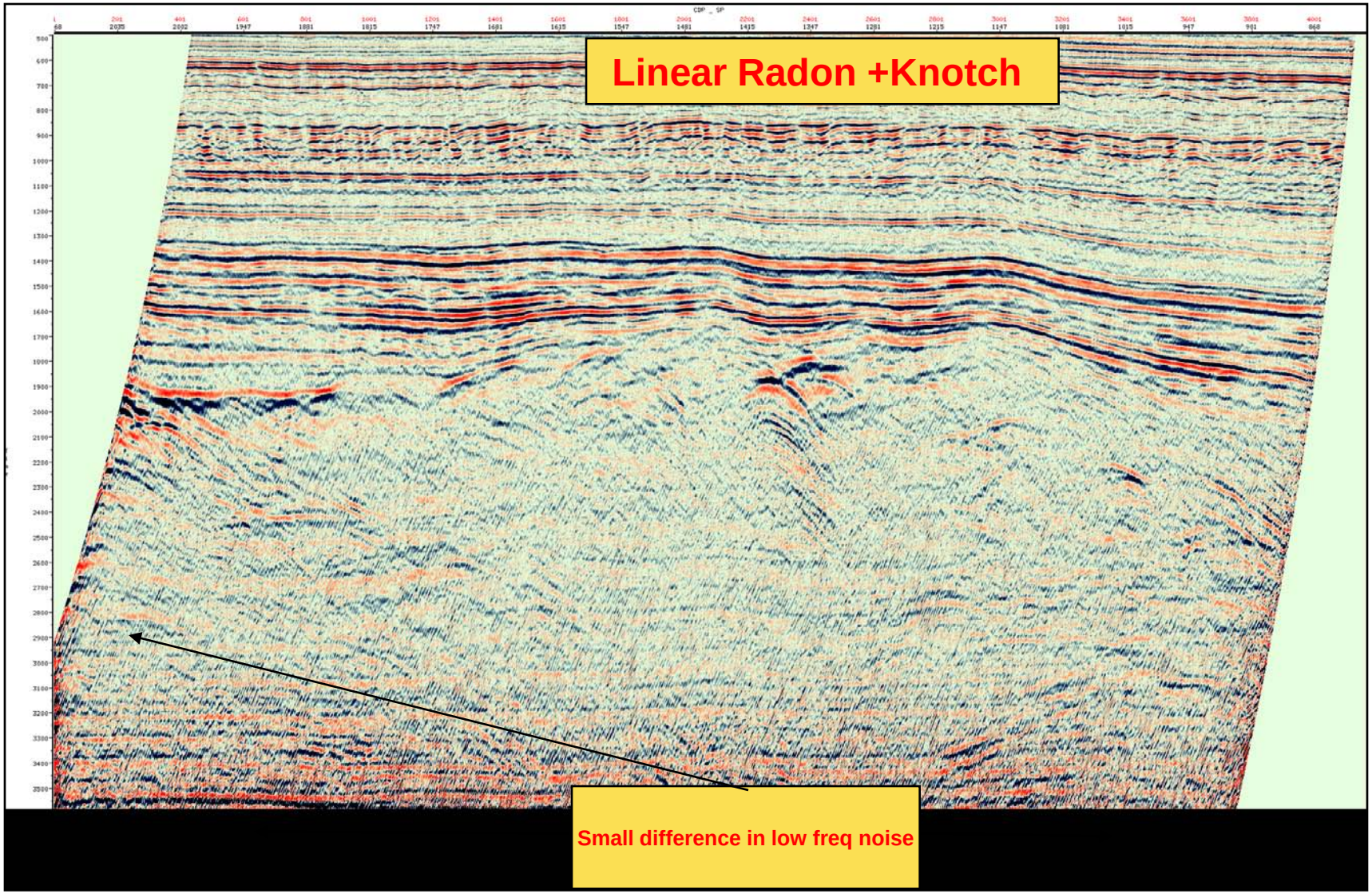
Far Stack (30-45 Deg) SEQ039 – TPDBS: KNotch before TPDBS (Original parameters)



Near Stack (30-45 Deg) SEQ039 – TPDBS: KNotch apply after TPDBS



Near Stack (30-45 Deg) SEQ039 – TPDBS: Linear Radon and KNotch applied

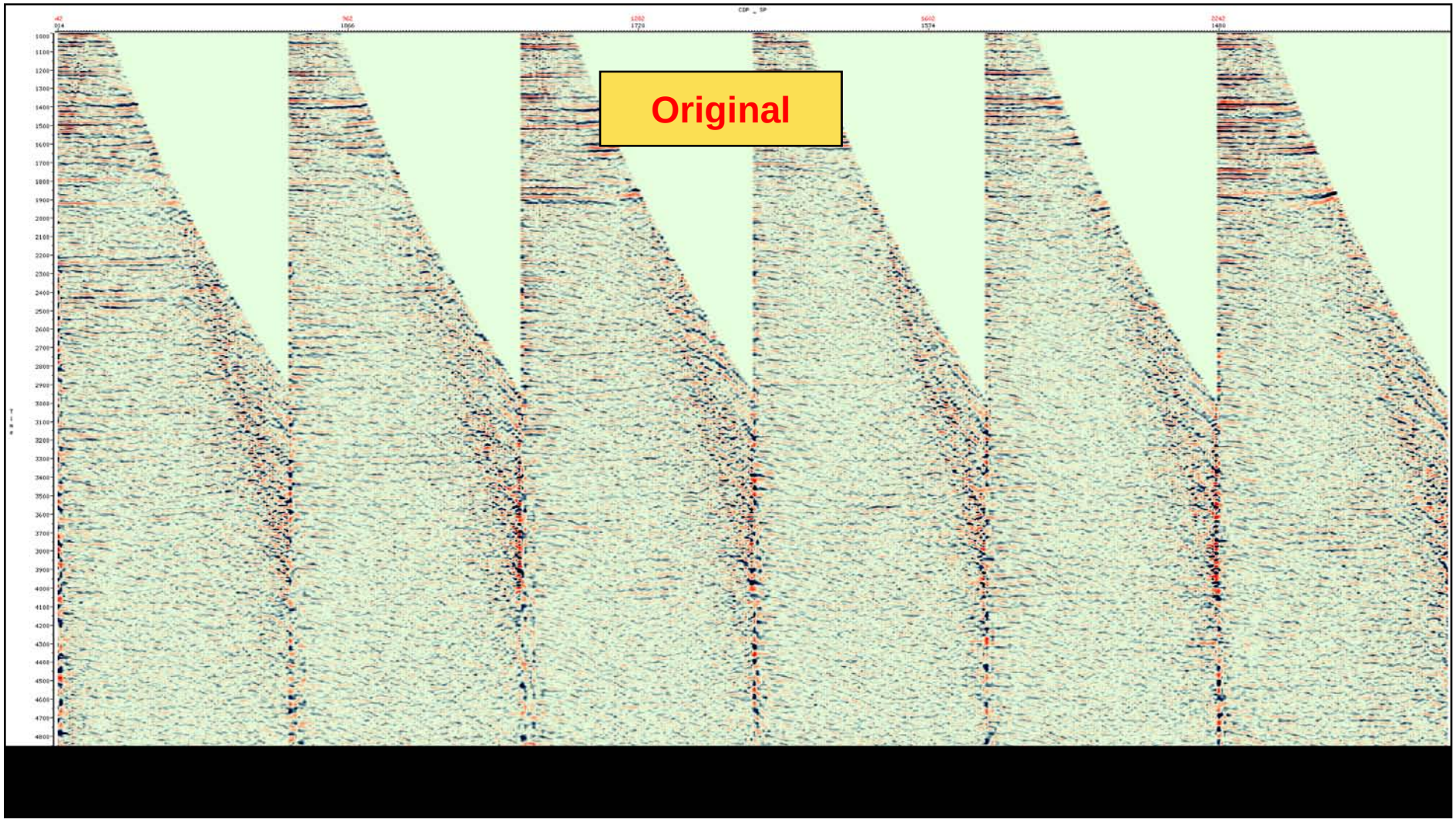


Conclusions & Recommendations

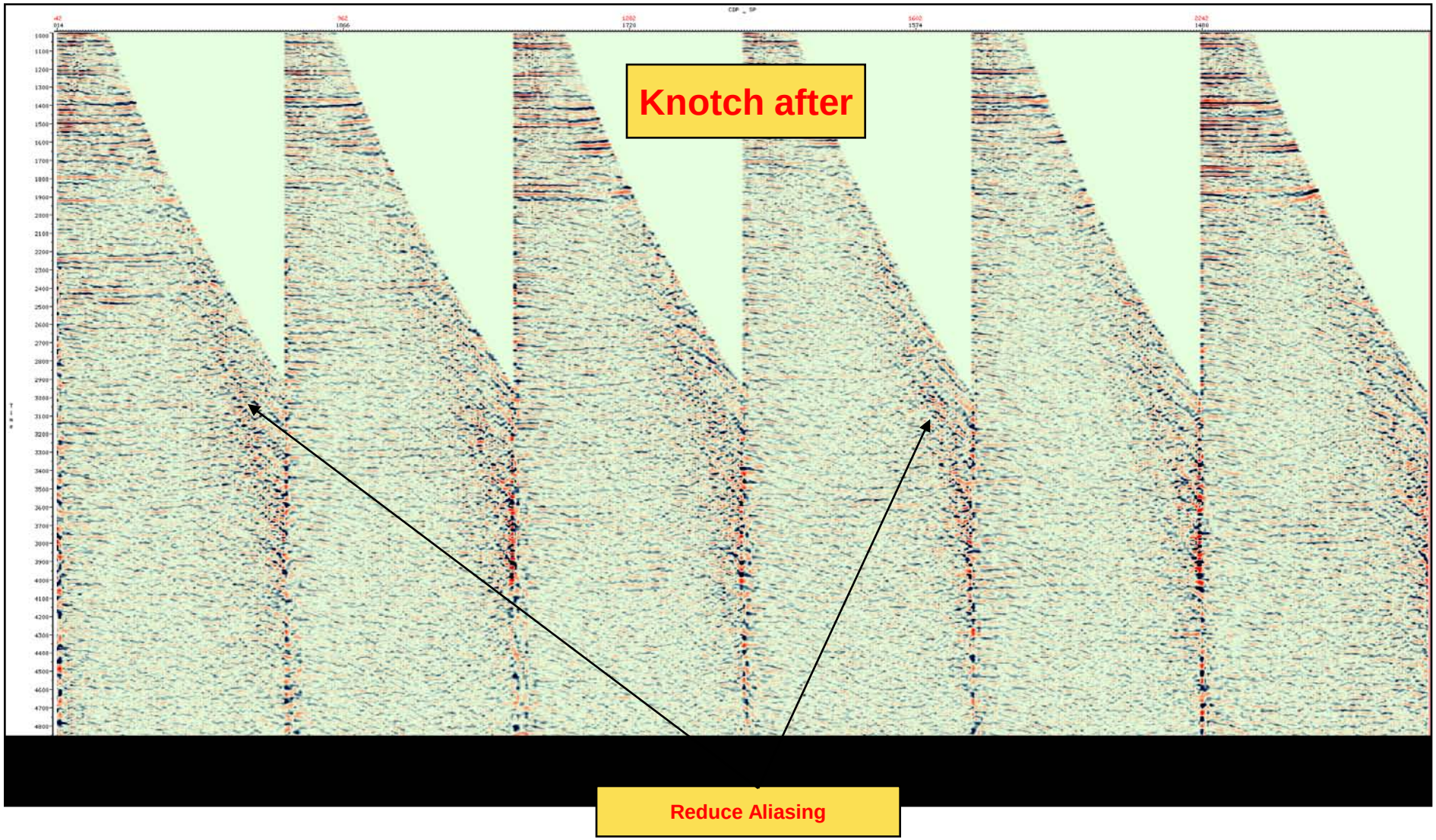
CGGV Recommend:

- **Linear Radon before TPDBS, start time 2600ms with 600ms taper**
- **Knotch after TPDBS**

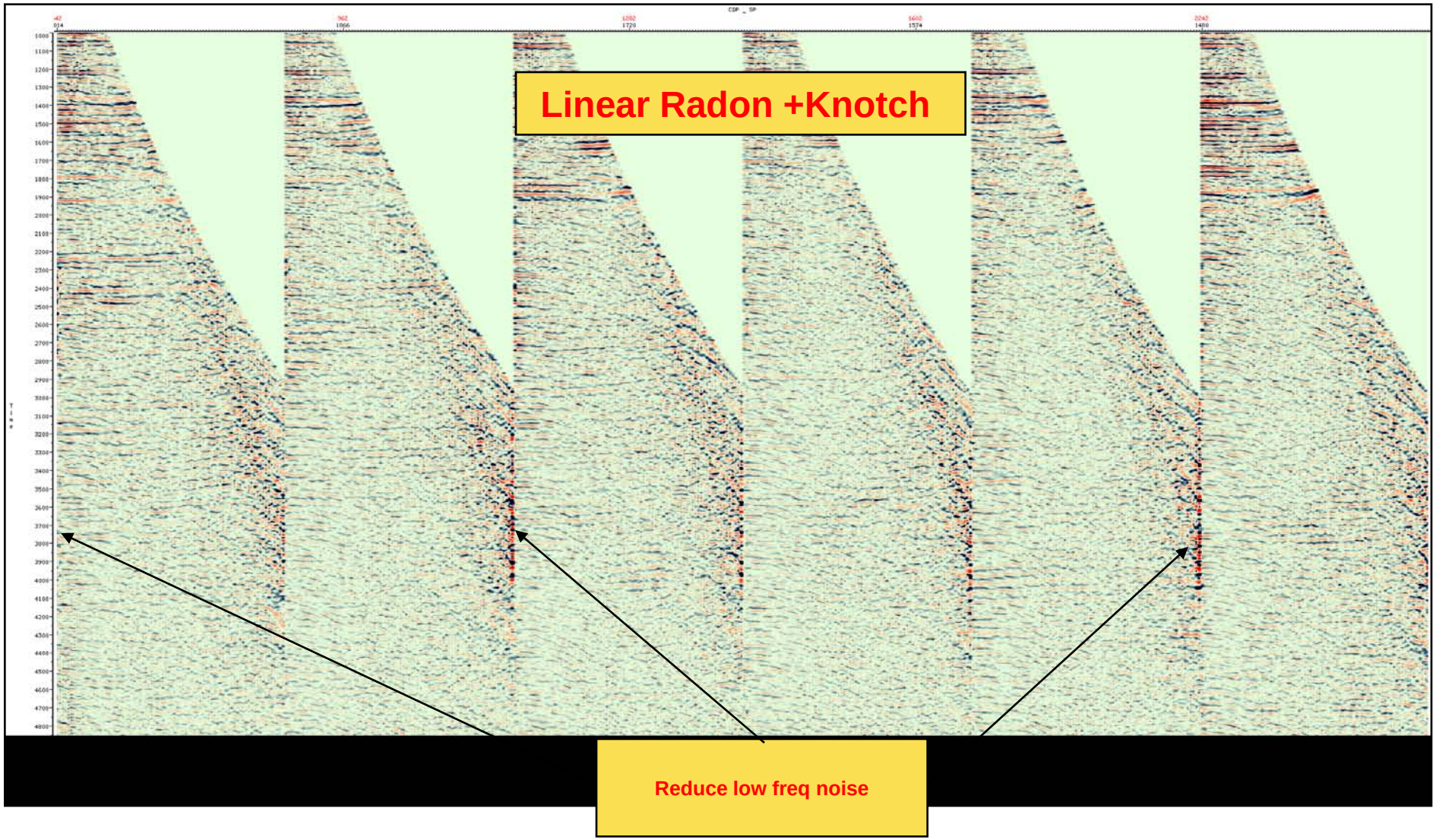
CDP Gather (0-45 Deg) SEQ039 – TPDBS: KNotch before TPDBS (Original parameters)



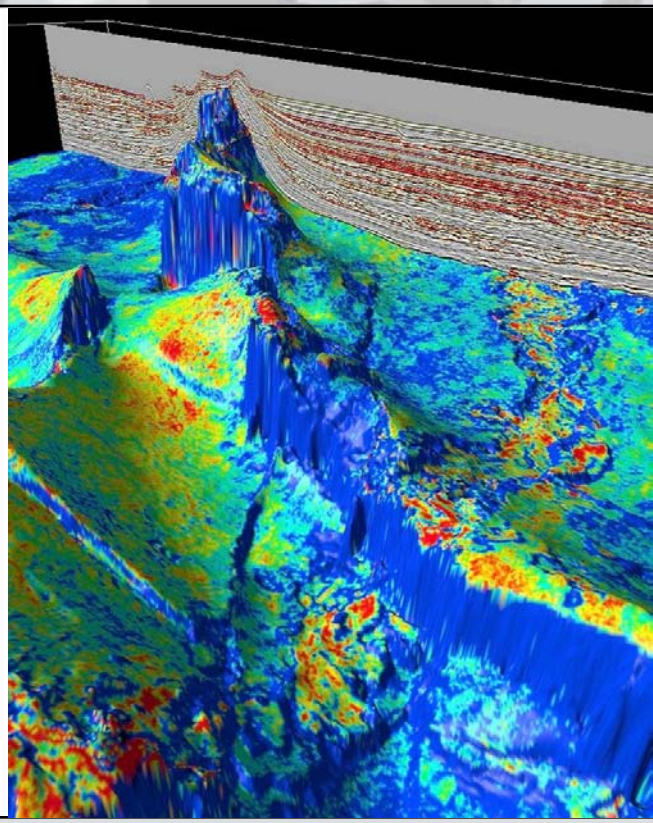
Near Stack (30-45 Deg) SEQ039 – TPDBS: KNotch apply after TPDBS



Near Stack (30-45 Deg) SEQ039 – TPDBS: Linear Radon and KNotch applied



Technical Note 3
SRME FLOW
(Add7)
Silvereye 3D



Introduction

Testing was carried out on sail line OS073D1342P1039 (Seq:039).

The data are selected on cable 6 (Outer Cable).

Processing Sequence to date

Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain (Revised SP mirror problem).

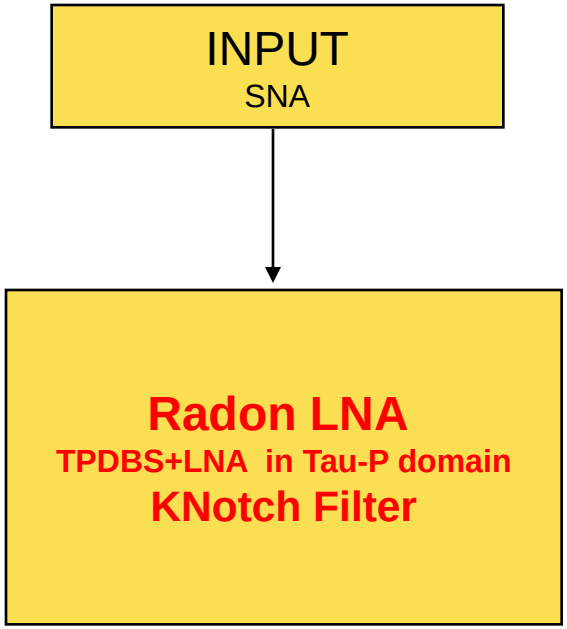
Current Test (Only for Outer Cable)

- **Linear Radon:**

  - Original parameters (apply before TPDBS, start time 2600ms with 600ms taper)

  - Revised parameters (apply before TPDBS, start time 1600ms with 600ms taper)

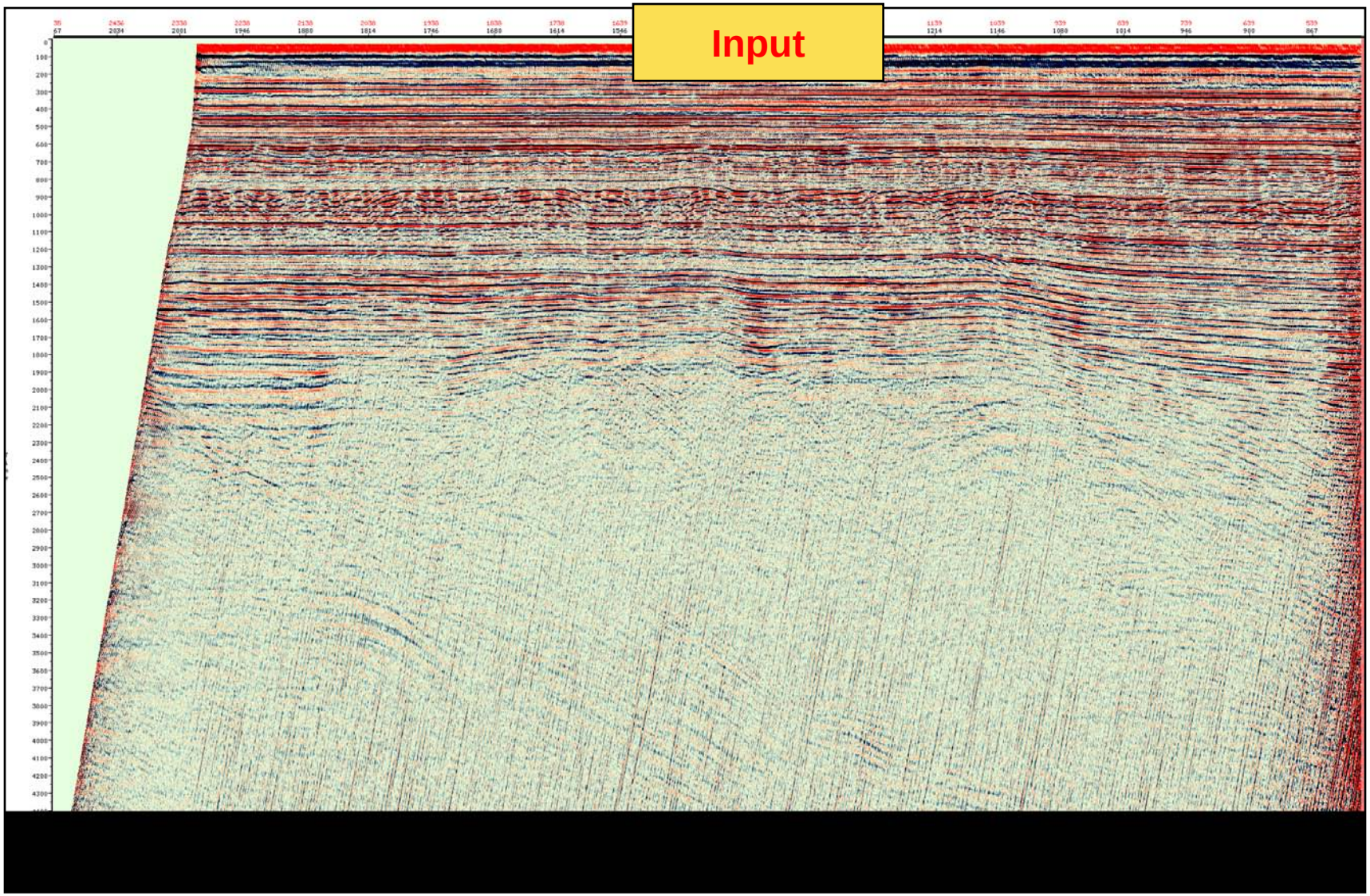
Current Test



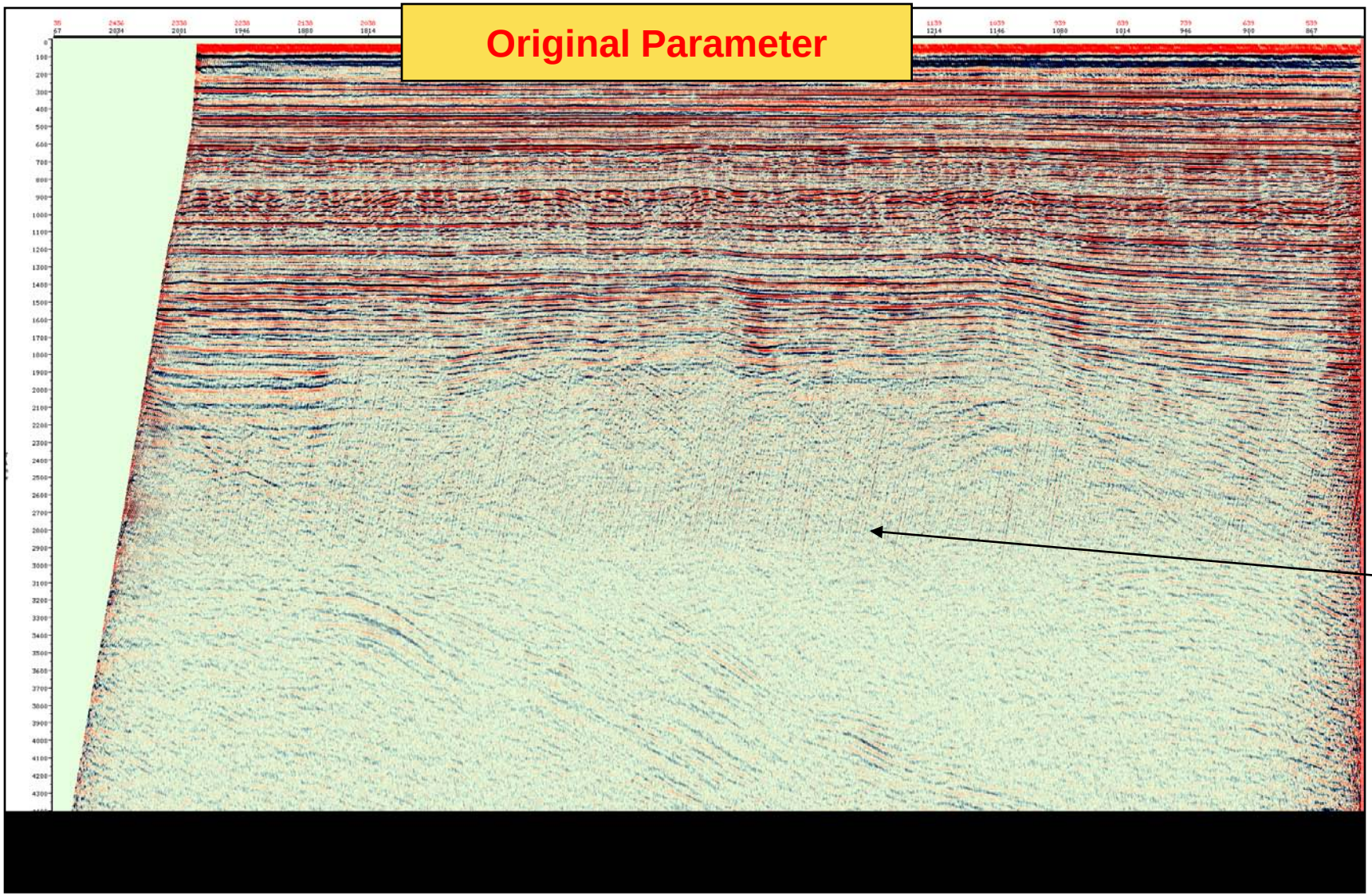
Profile ID SEQ039

SRME Flow

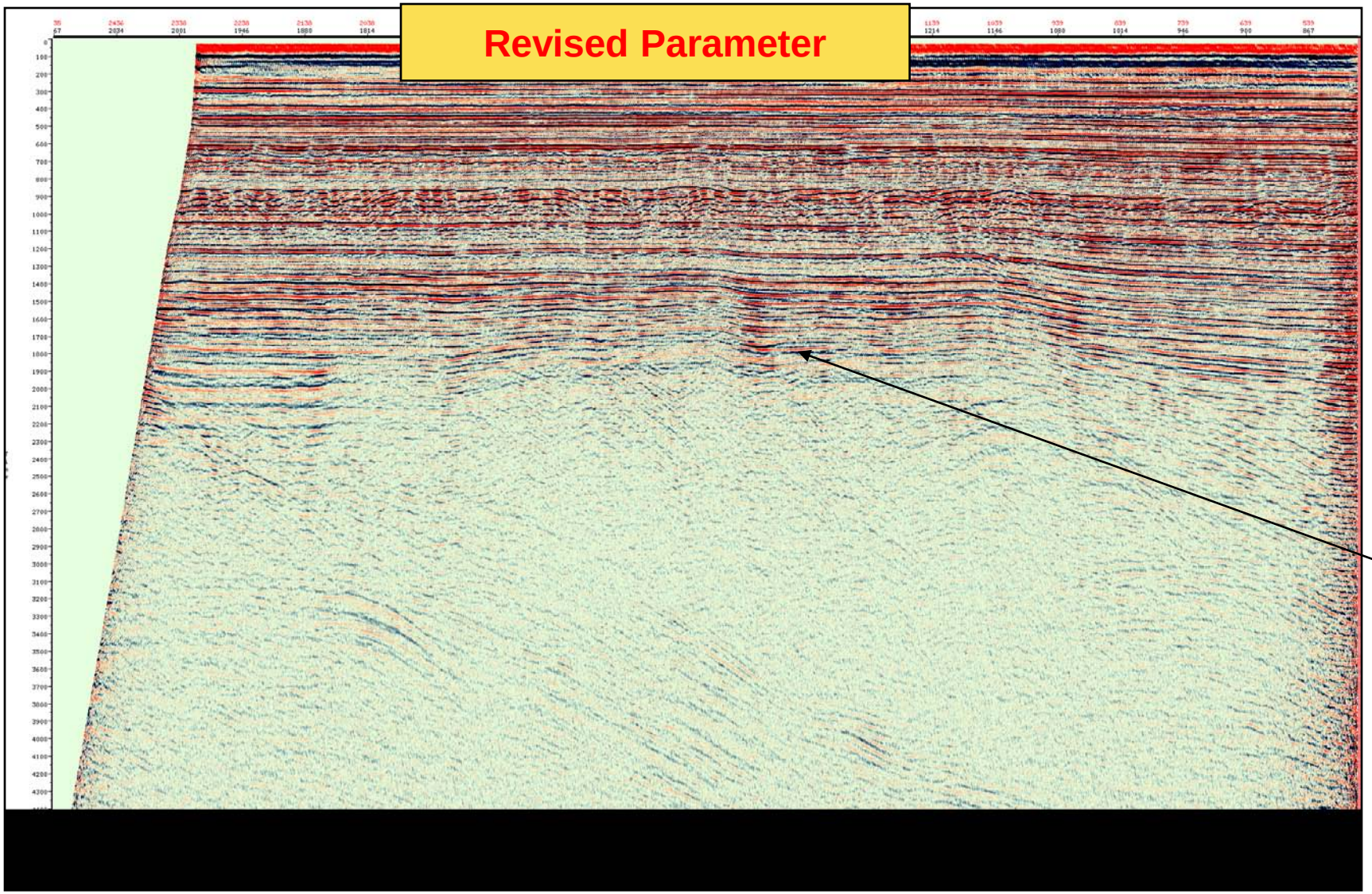
Stack SEQ039 : Input (No Linear Radon)



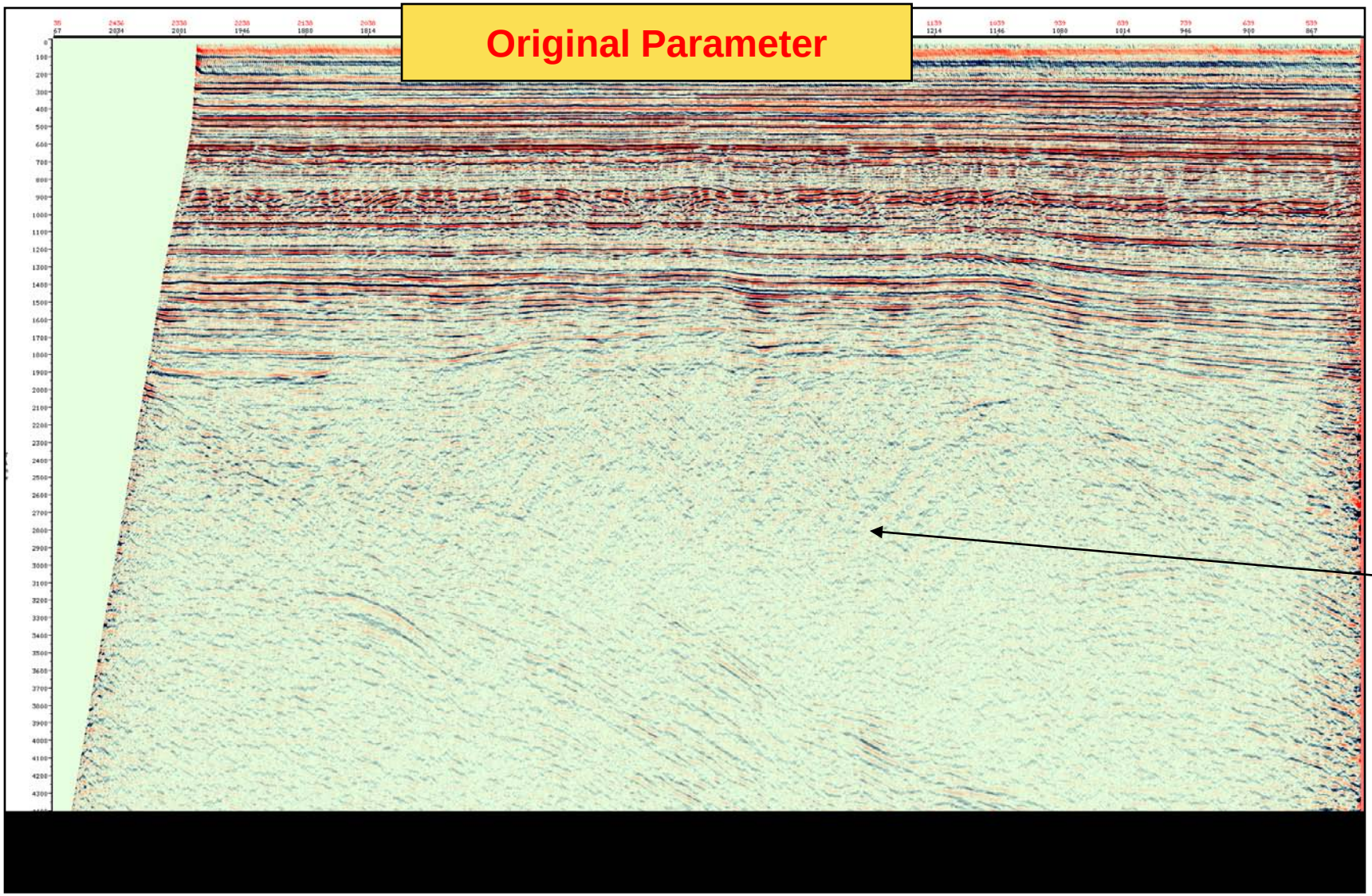
Stack SEQ039 – Linear Radon (Apply at 2600ms 600ms taper)



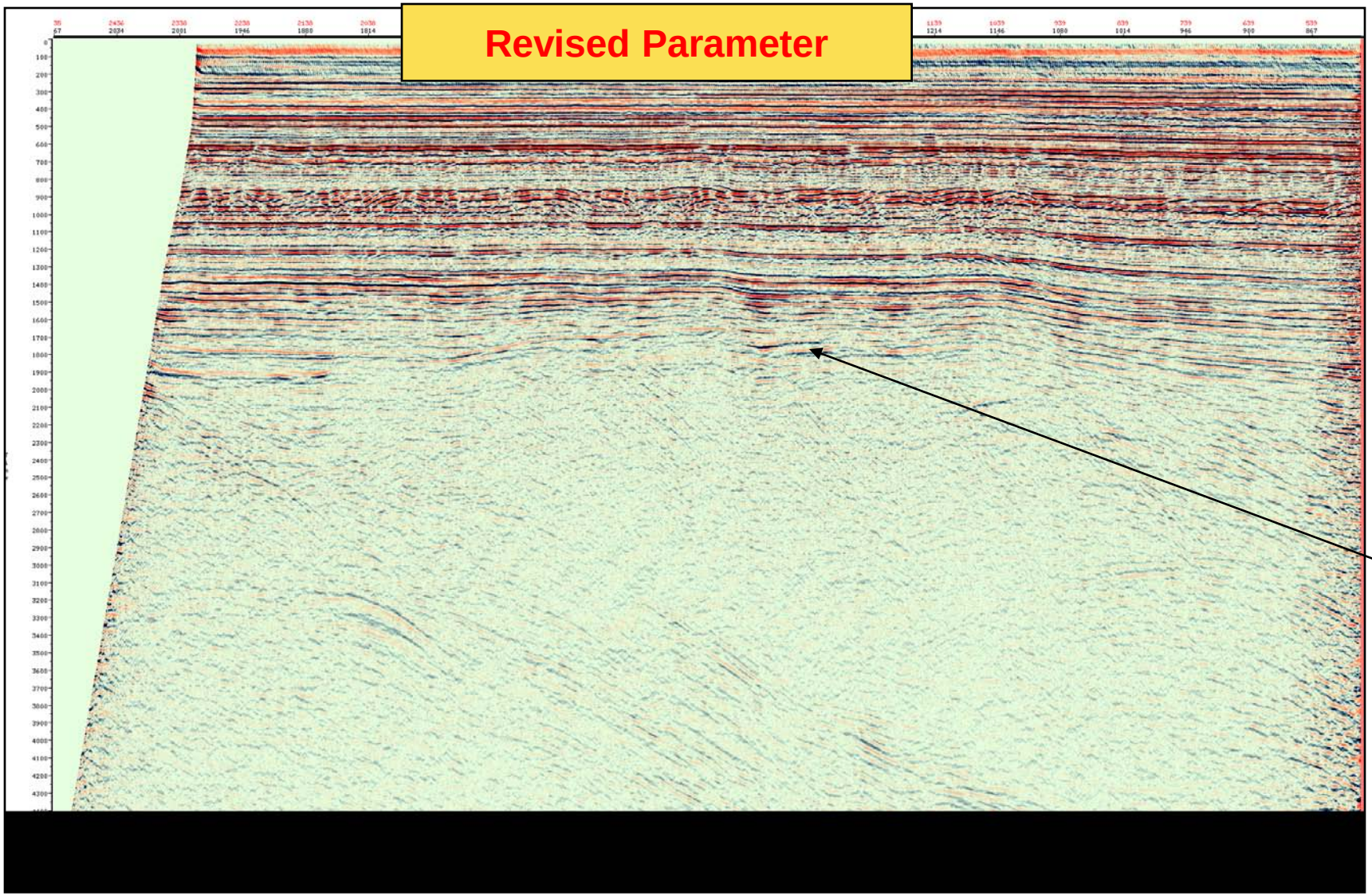
Stack SEQ039 – Linear Radon (Apply at 1600ms 600ms taper)



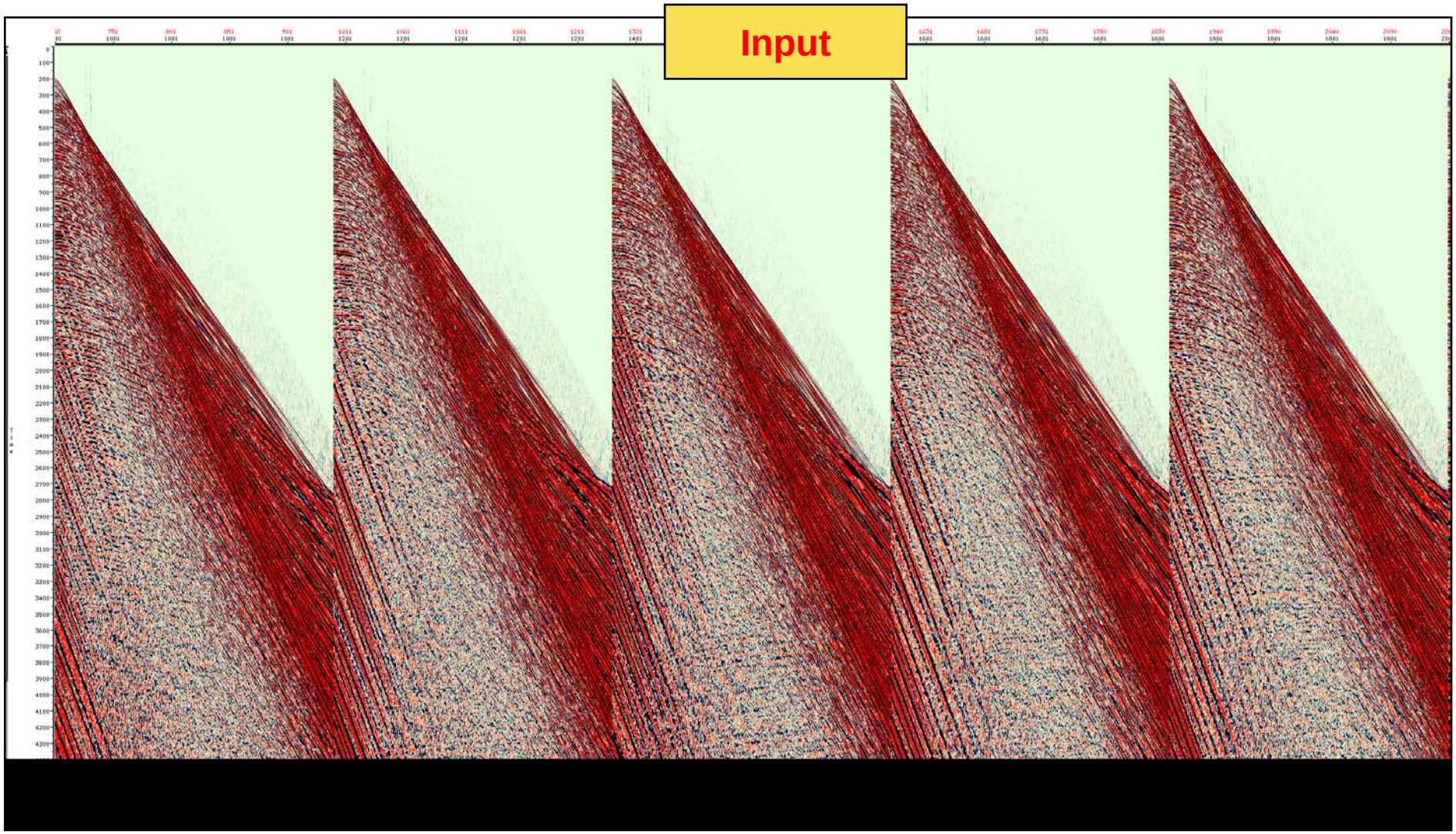
Stack SEQ039 – TPDBS (With Linear Radon apply at 2600ms 600ms taper)



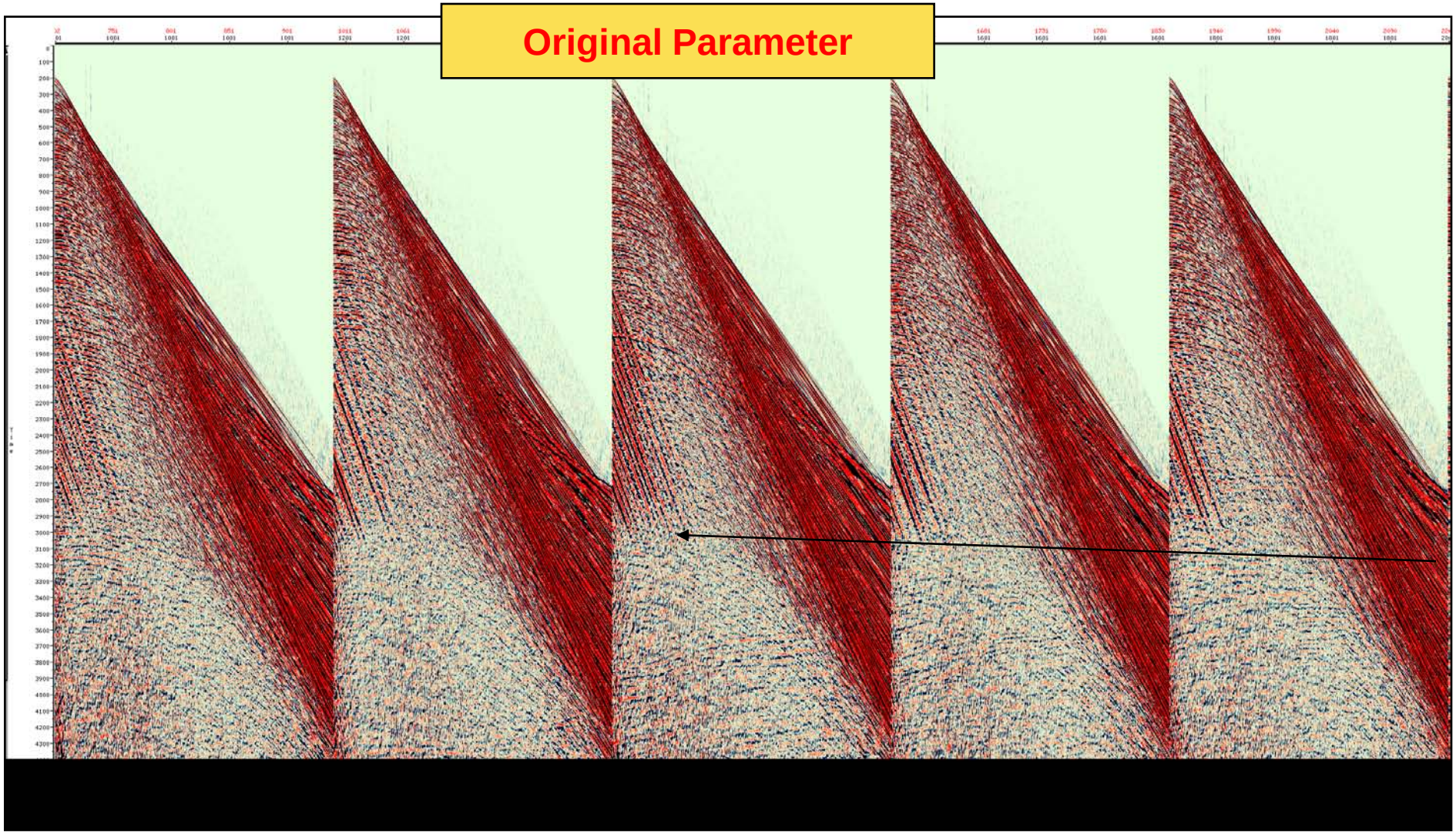
Stack SEQ039 – TPDBS (with Linear Radon Apply at 1600ms 600ms taper)



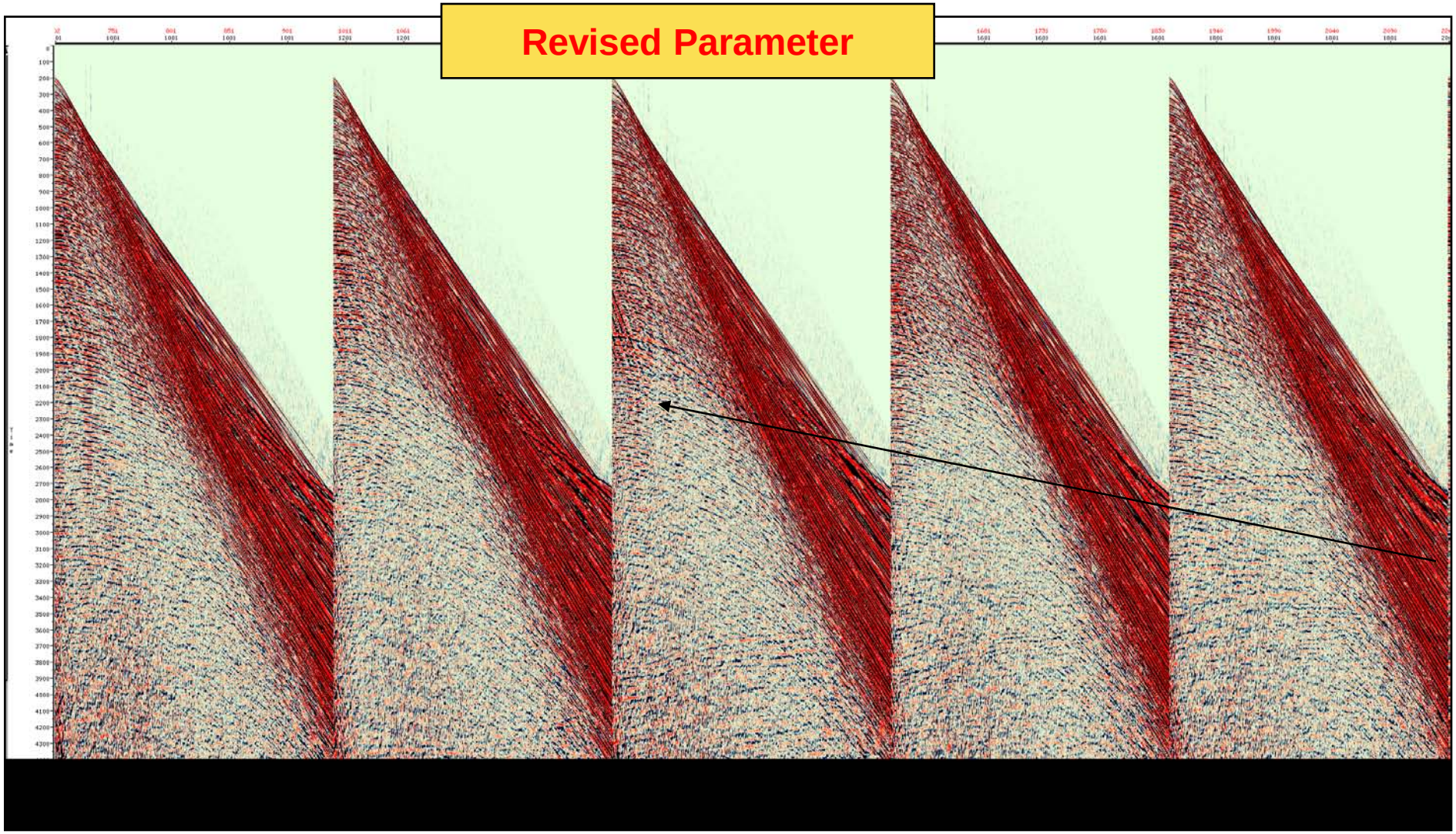
SP SEQ039 : Input (No Linear Radon)



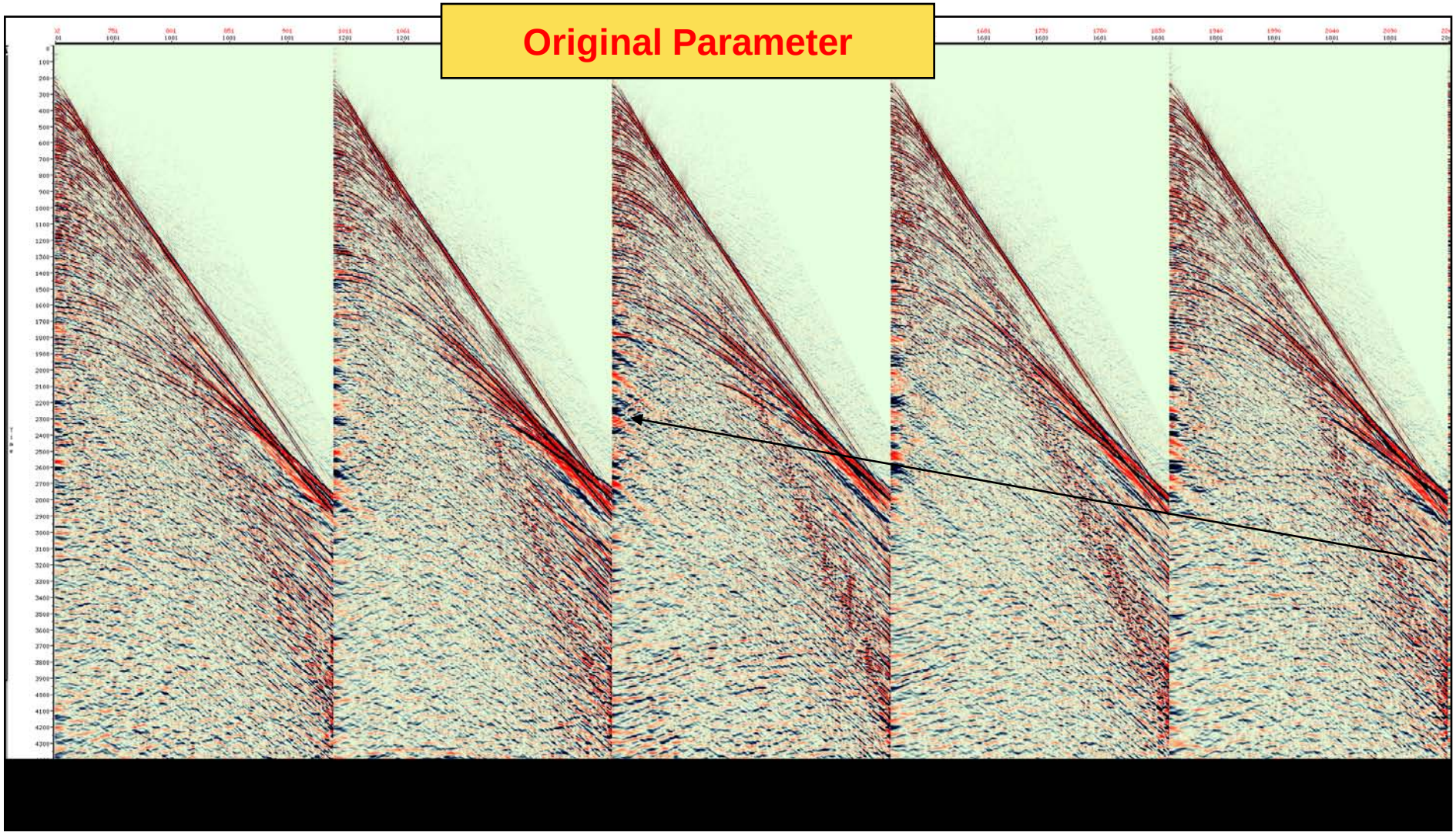
SP SEQ039 – Linear Radon (Apply at 2600ms 600ms taper)



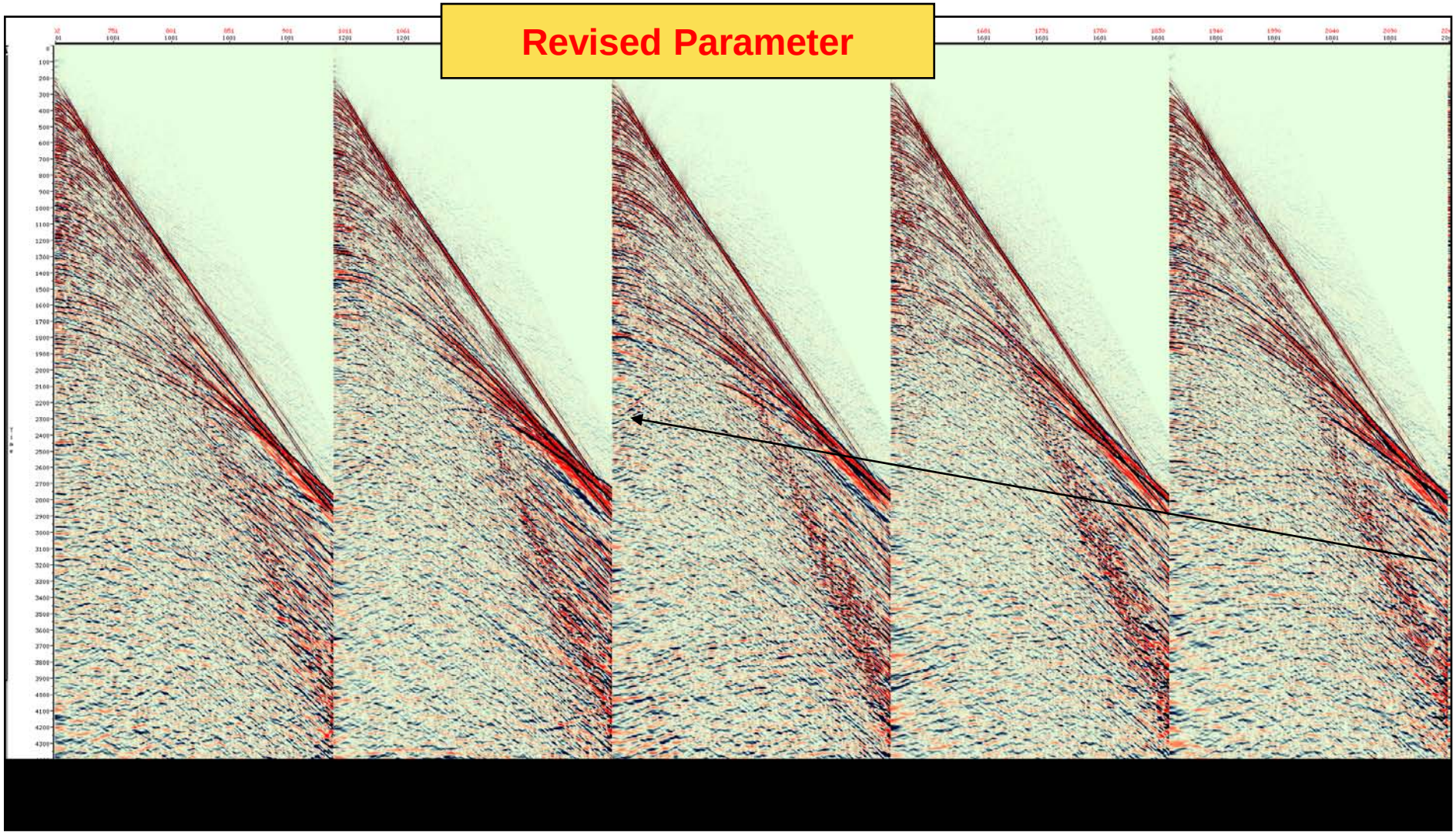
SP SEQ039 – Linear Radon (Apply at 1600ms 600ms taper)



SP SEQ039 – TPDBS (with Linear Radon apply at 2600ms 600ms taper)



SP SEQ039 – TPDBS (with Linear Radon apply at 1600ms 600ms taper)



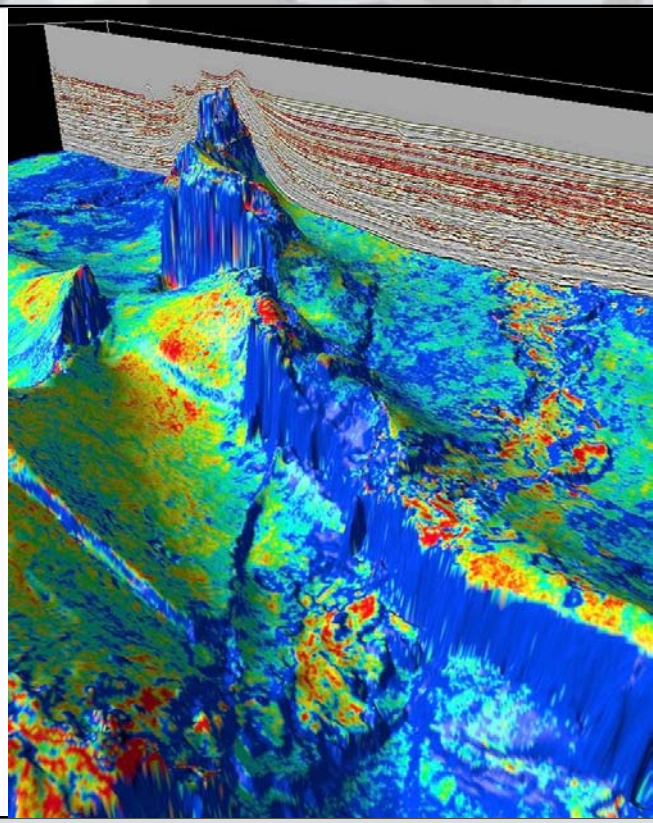
Conclusions & Recommendations

CGGV Recommend:

For Outer Cable (Cable 1 and 6)

- **Linear Radon before TPDBS, start time 1600ms with 600ms taper**

QC 2
Production String 1:
Swell Noise Attenuation to SRME
Silvereye 3D



Production 1: Swell Noise Attenuation to SRME

This PowerPoint shows QCs of the production string from swell noise attenuation through to SRME.

Details

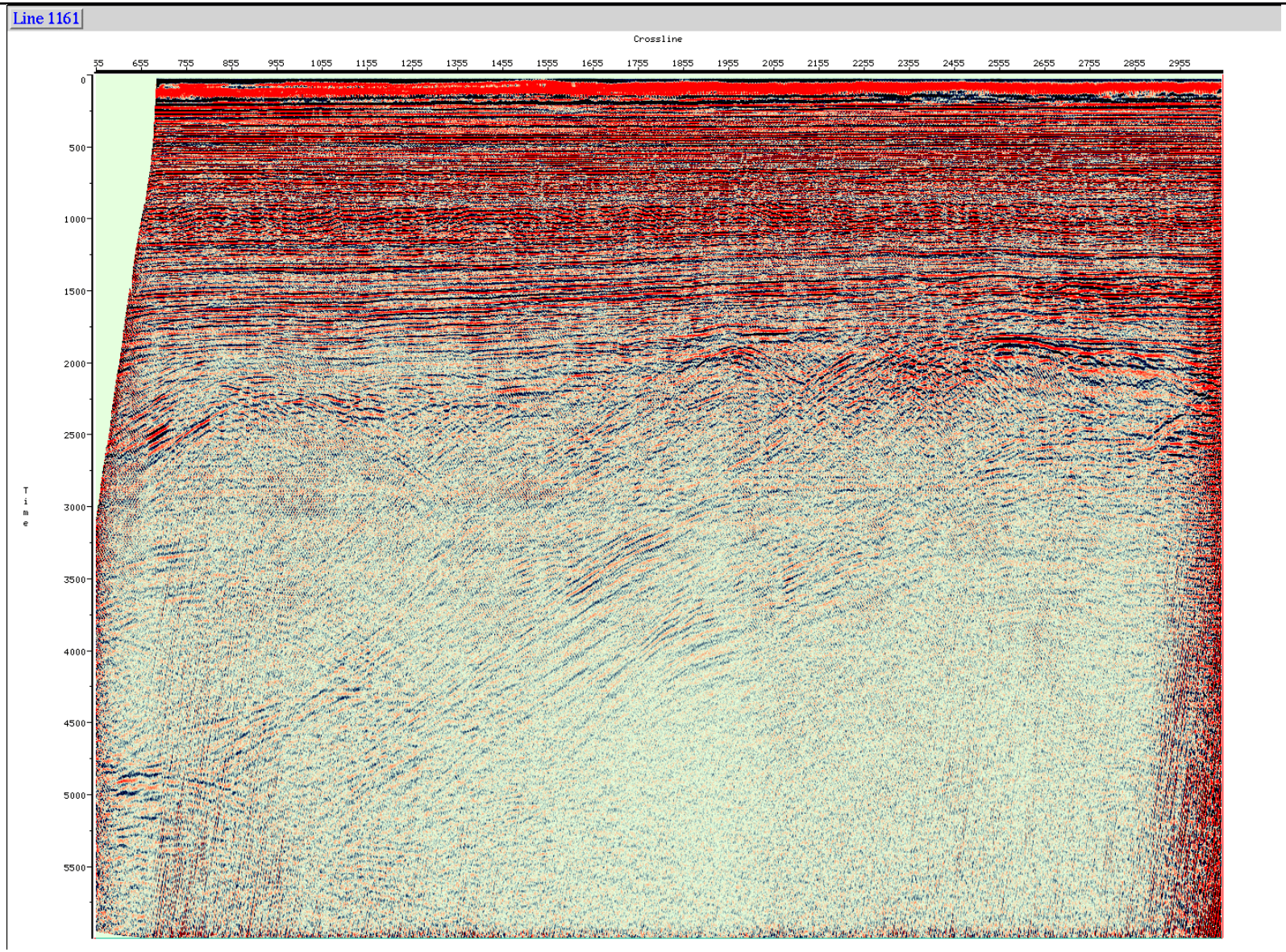
Processing so far:

- Reformat field data to CGGV internal format
- Seismic/Navigation merge
- Instrument delay - phase 58ms
- Cut data to 6000ms
- Maintain a sample of 2ms (with appropriate anti-alias filter)
- Amplitude recovery, multiply amplitudes by (T/250)2
- De-bias and low cut filter: 3Hz
- Obs log editing
- Swell noise attenuation in SP domain followed by channel domain
- Linear radon: start time inner cables 2600ms, 600ms taper; start time outer cables 1600ms, 600ms taper
- DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
- Knotch filter
- SRME, subtraction in CDP domain

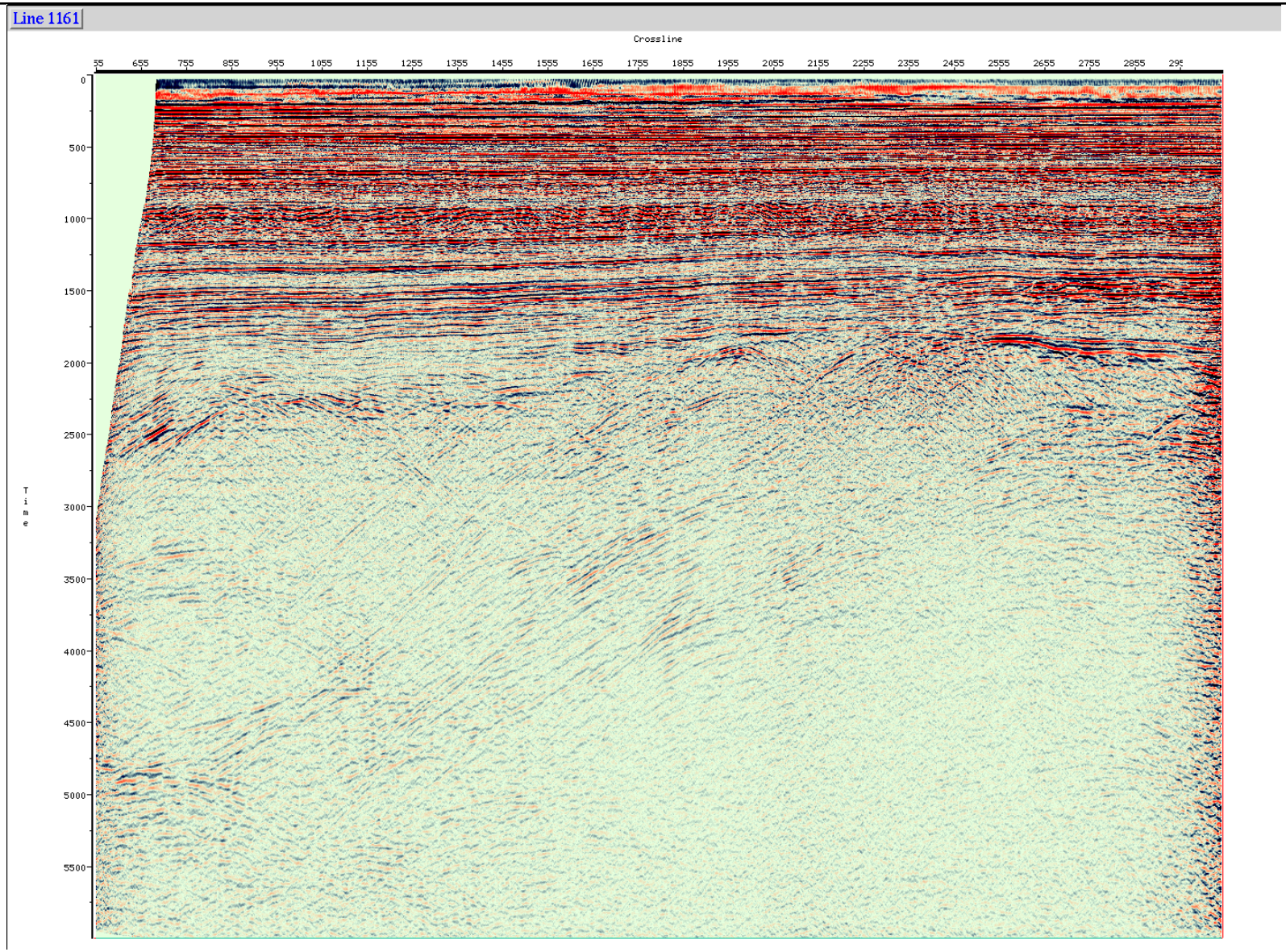
QCs

- Example inlines, crosslines and time slices after swell noise attenuation and after SRME.

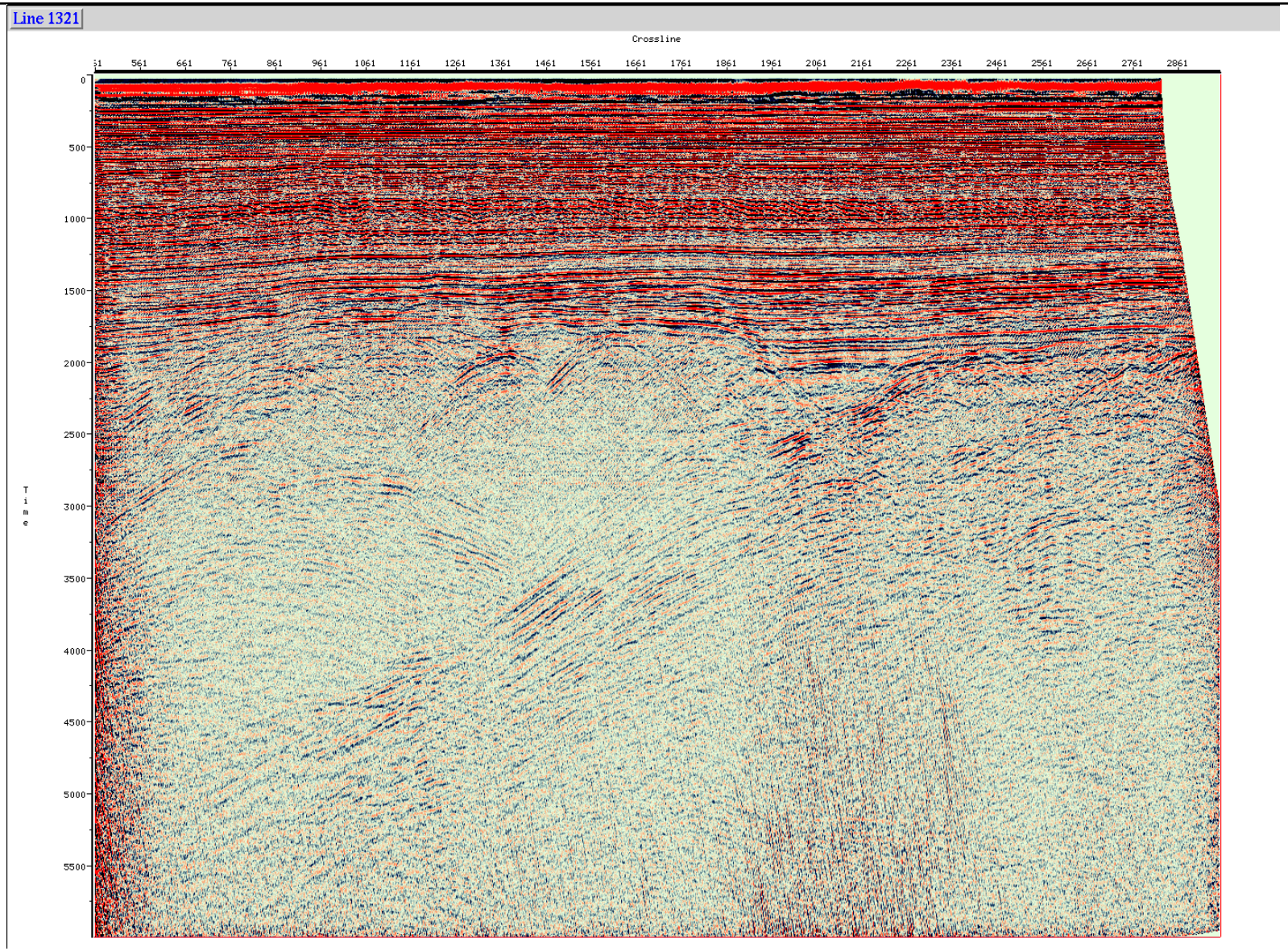
IL1161 stack after swell noise attenuation



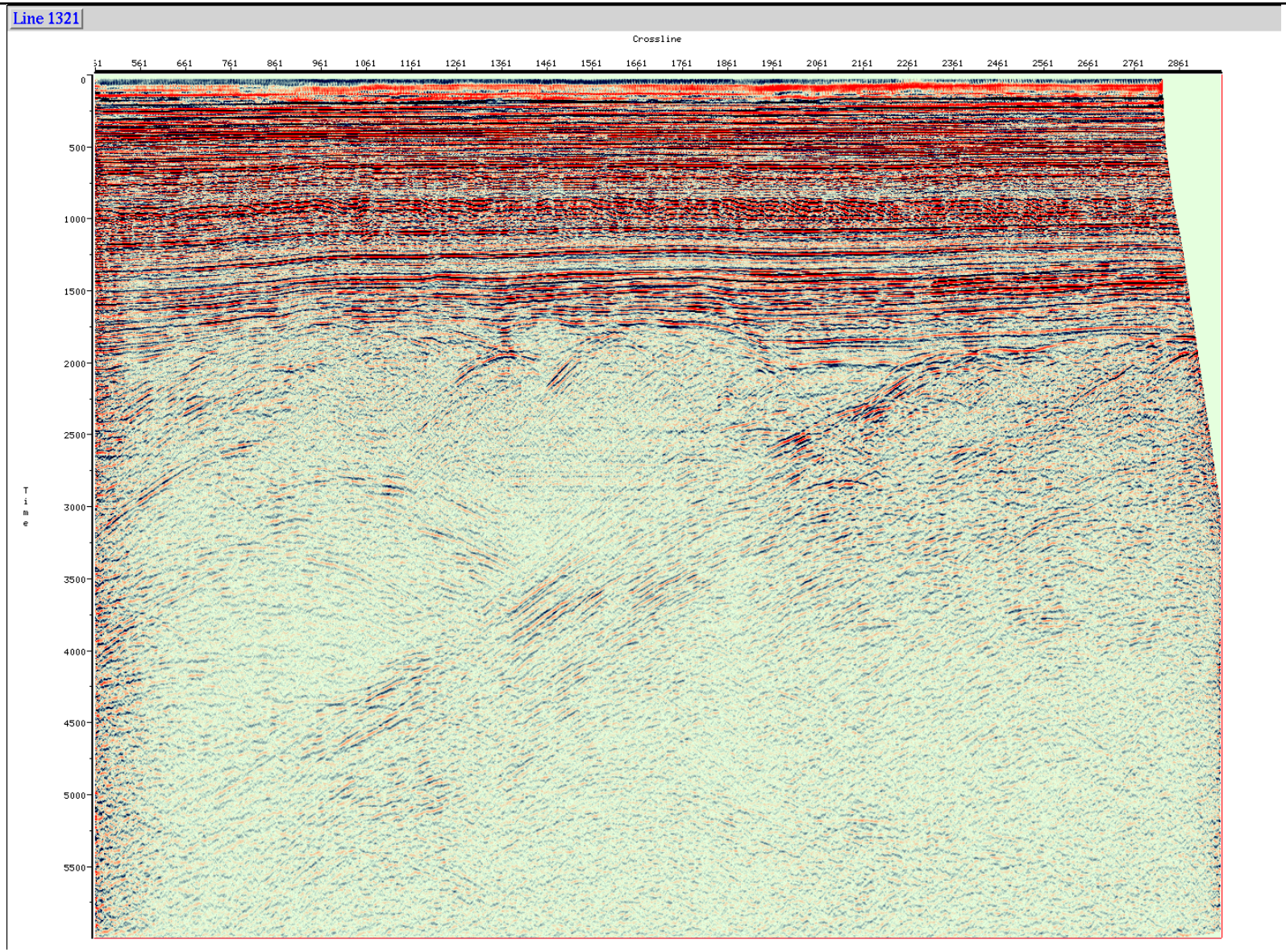
IL1161 stack after SRME



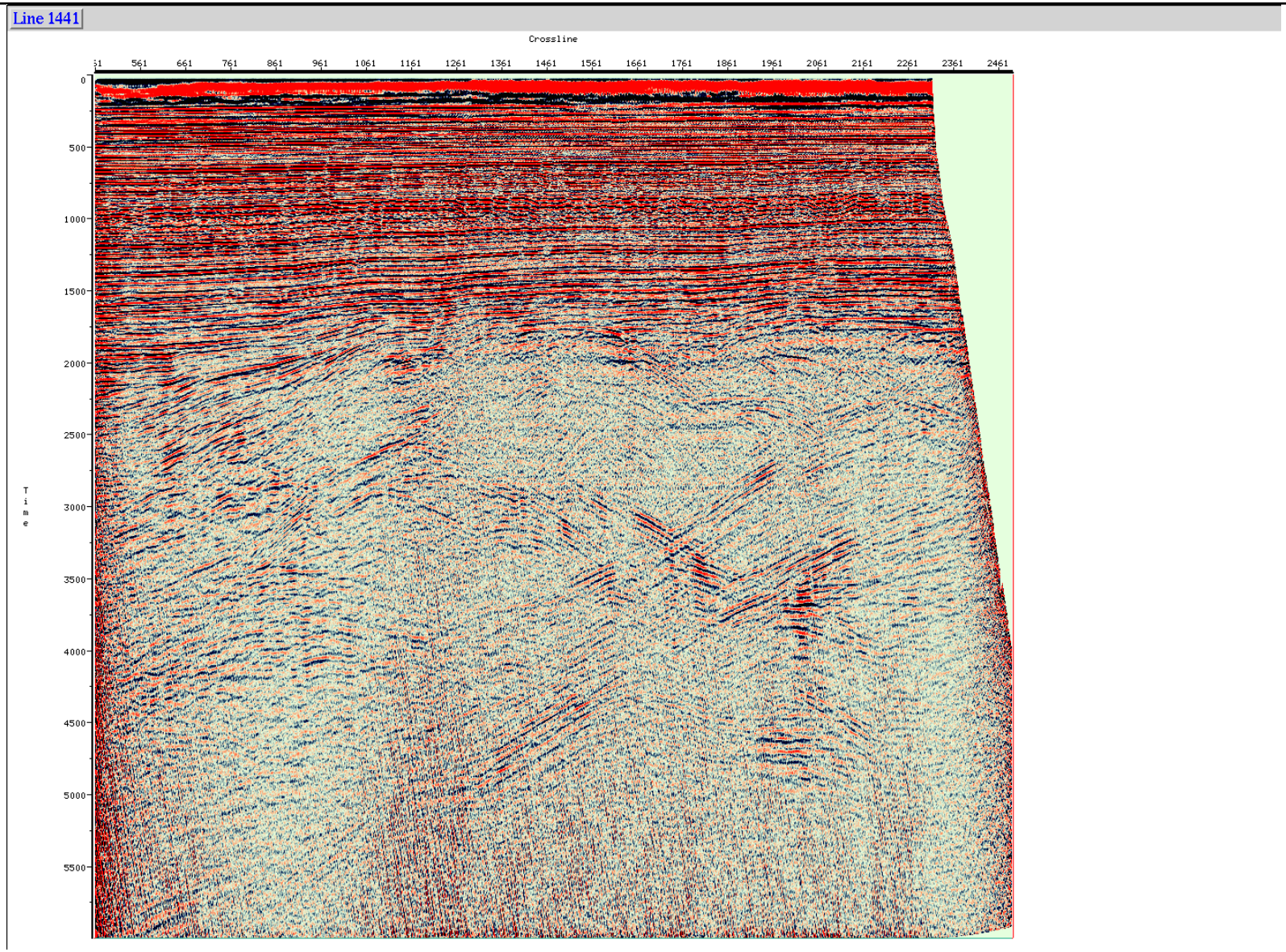
IL1321 stack after swell noise attenuation



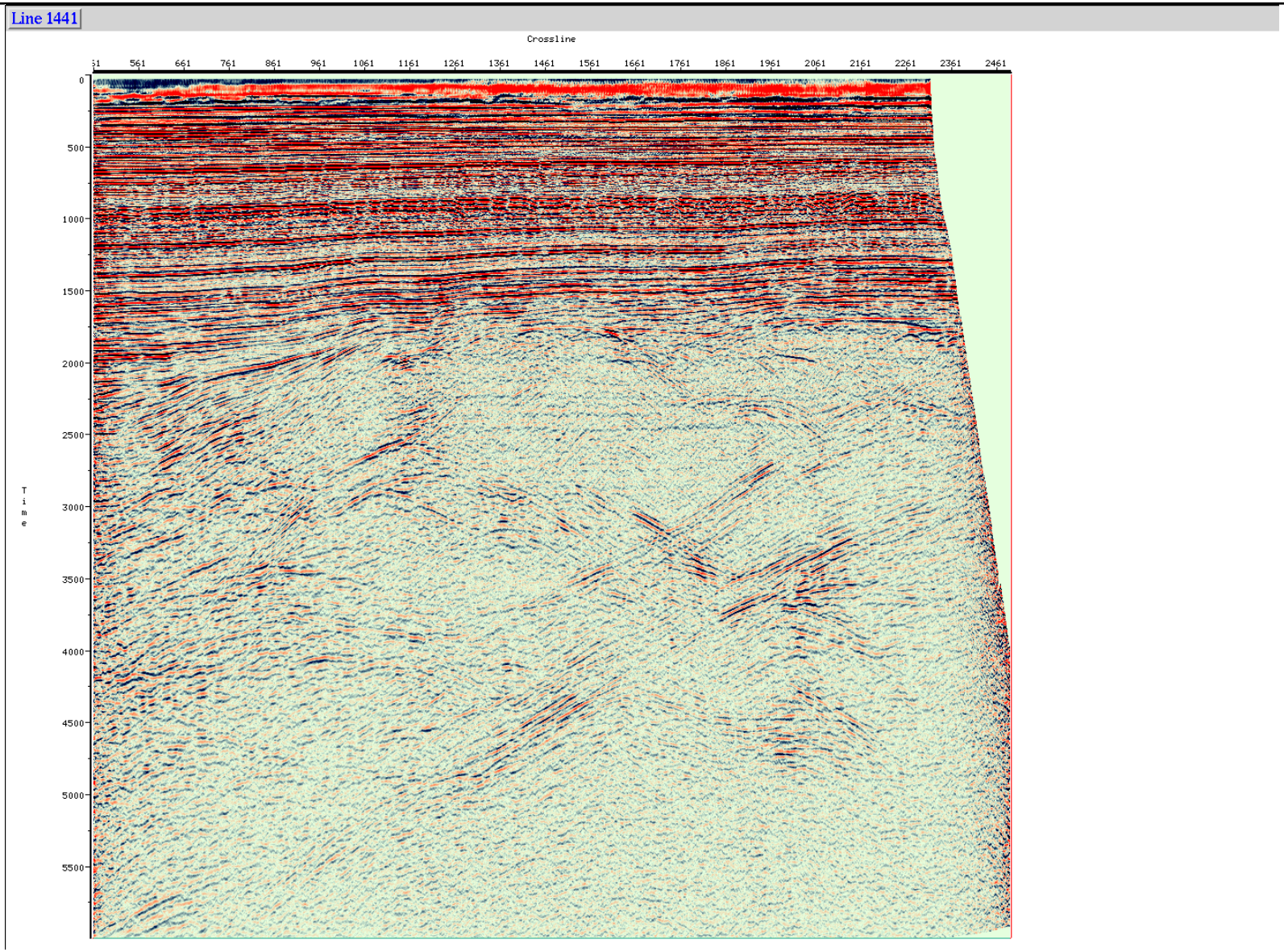
IL1321 stack after SRME



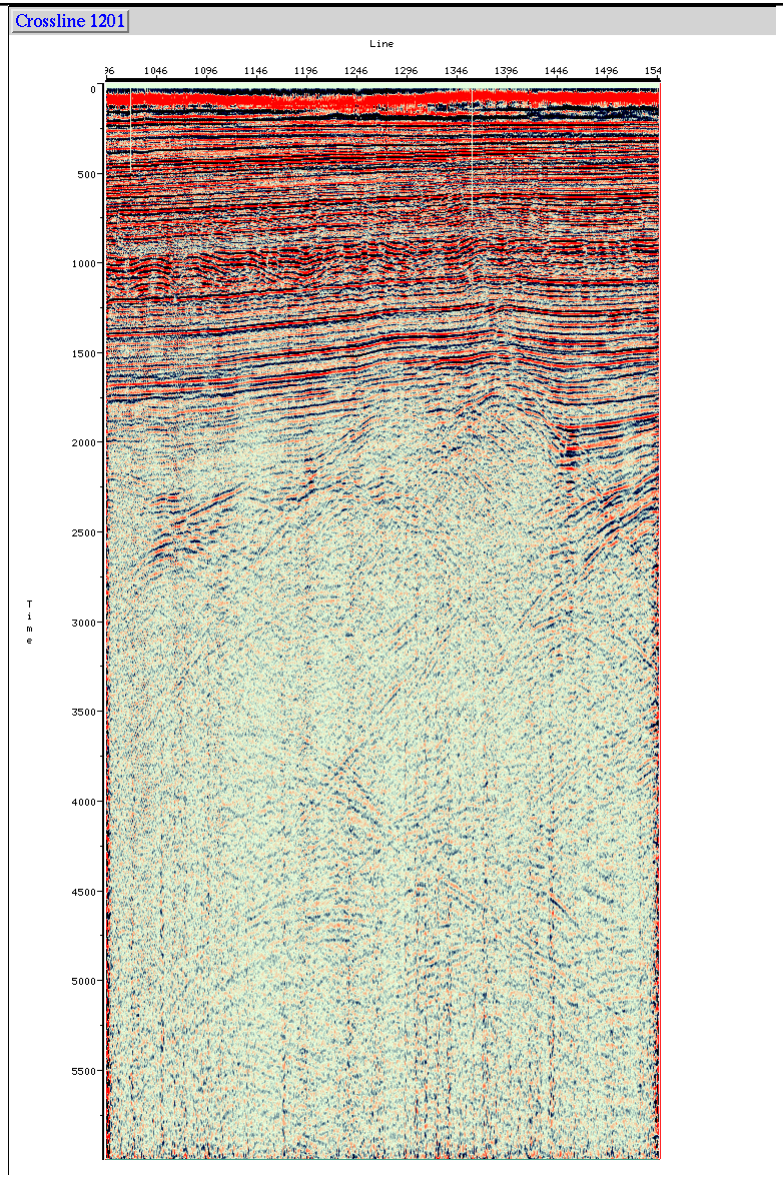
IL1441 stack after swell noise attenuation



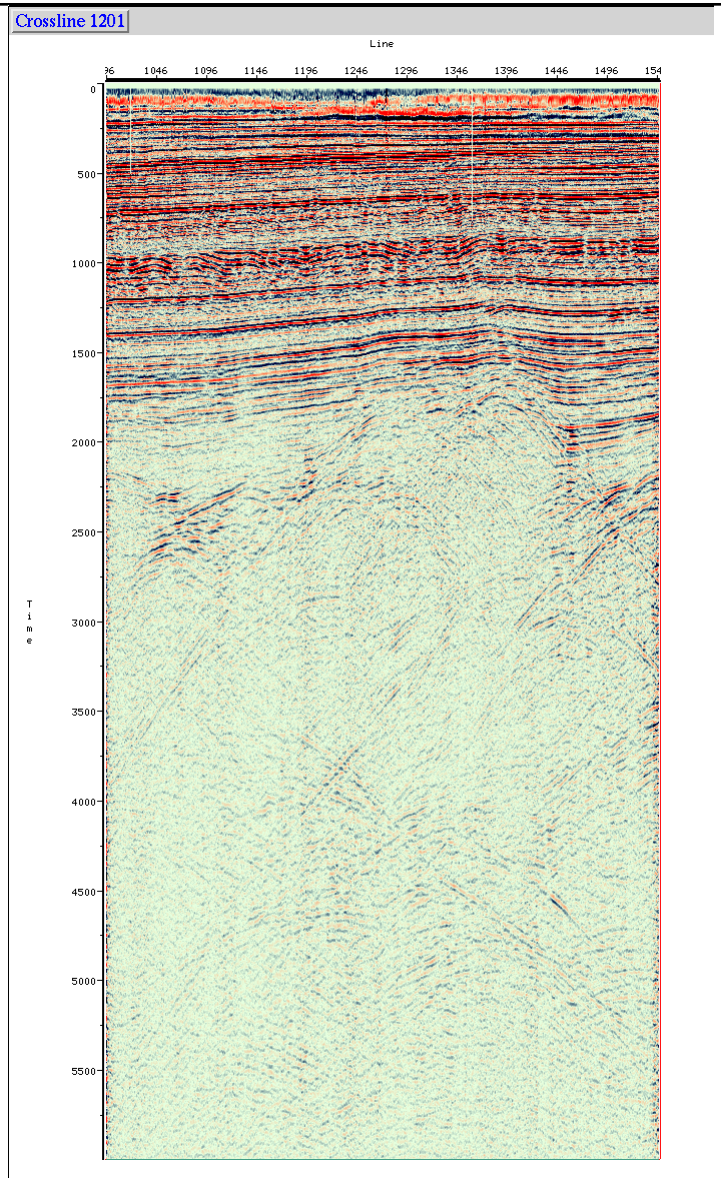
IL1441 stack after SRME



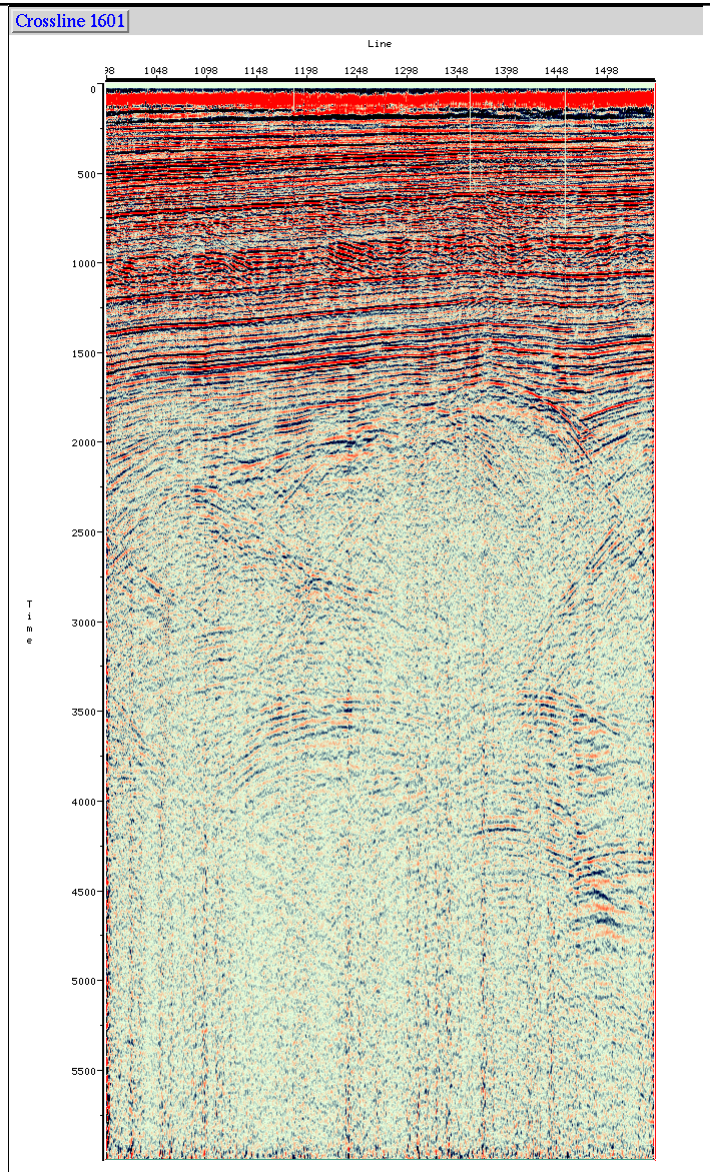
XL1201 stack after swell noise attenuation



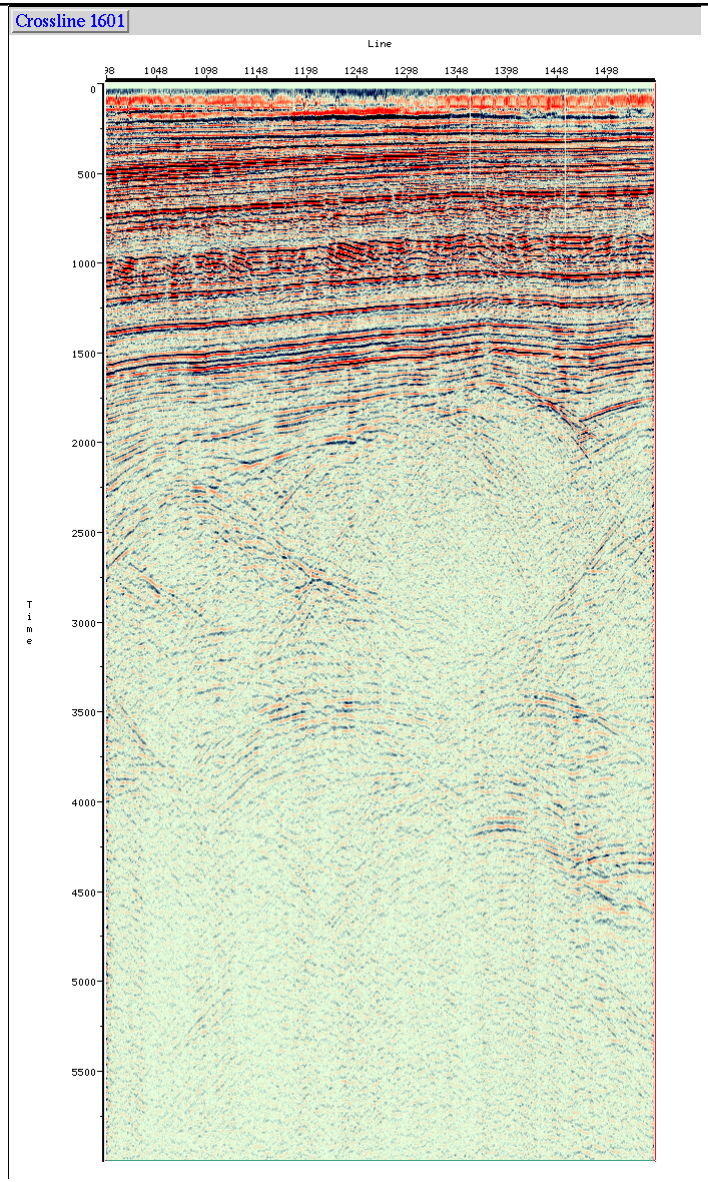
XL1201 stack after SRME



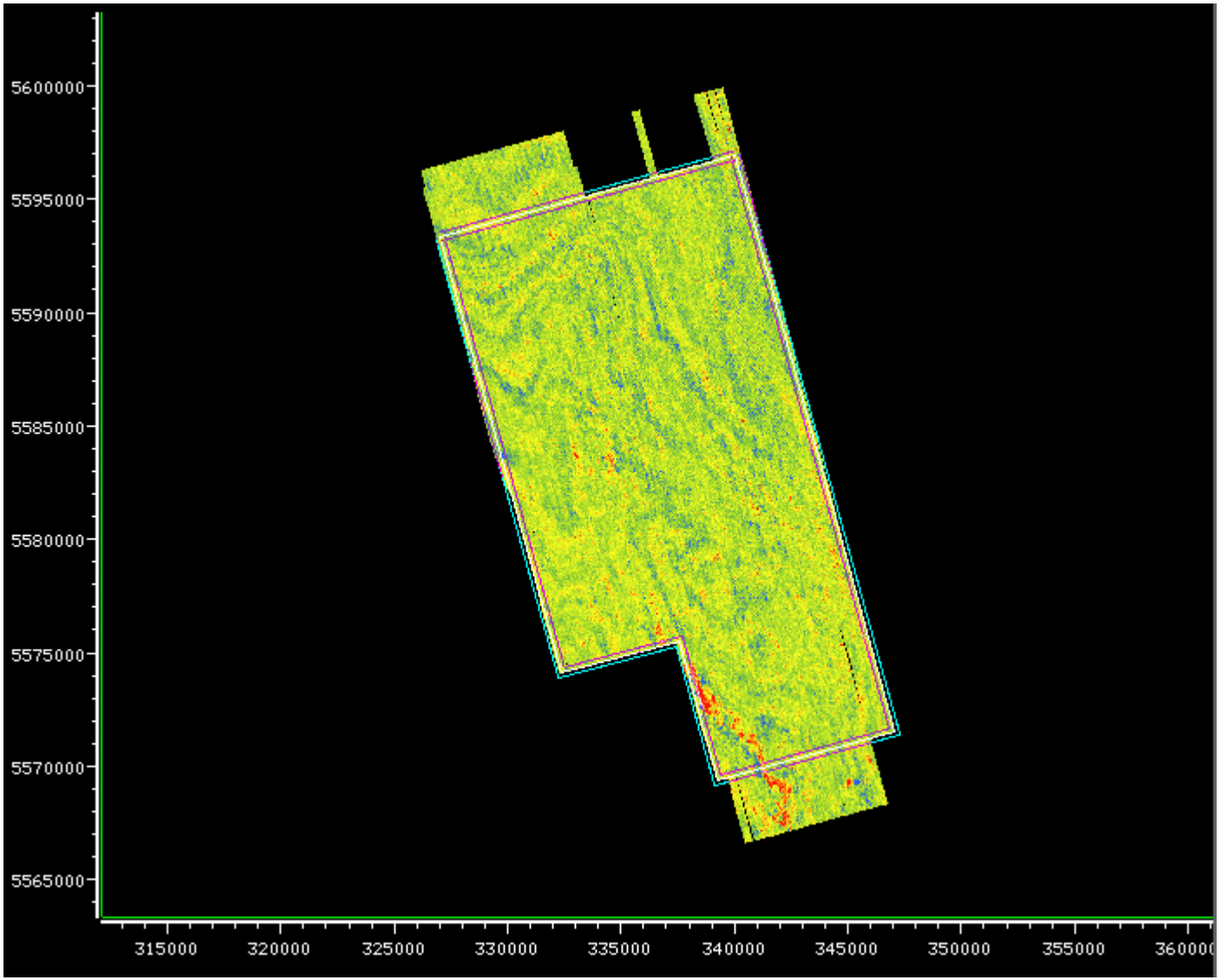
XL1601 stack after swell noise attenuation



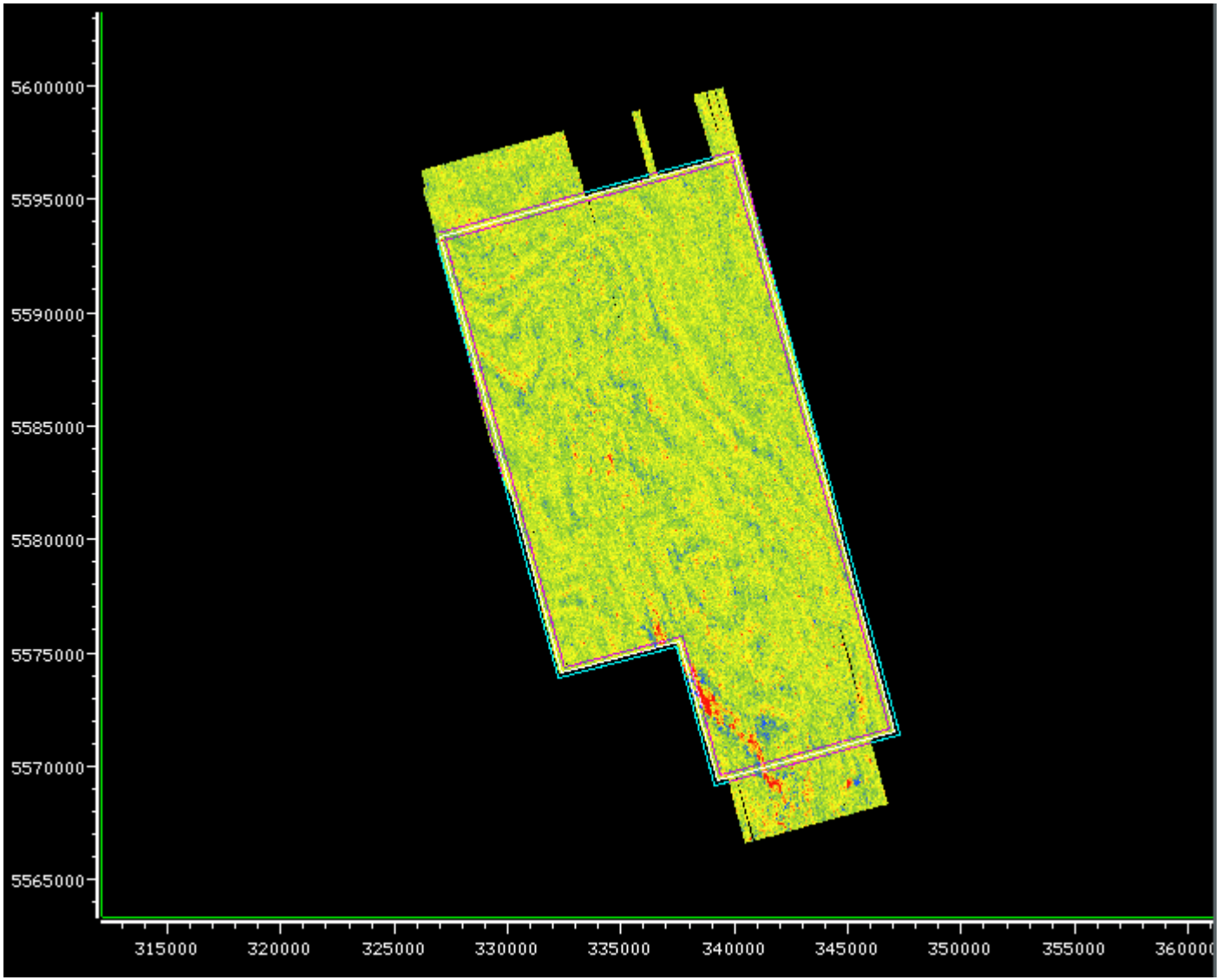
XL1601 stack after SRME



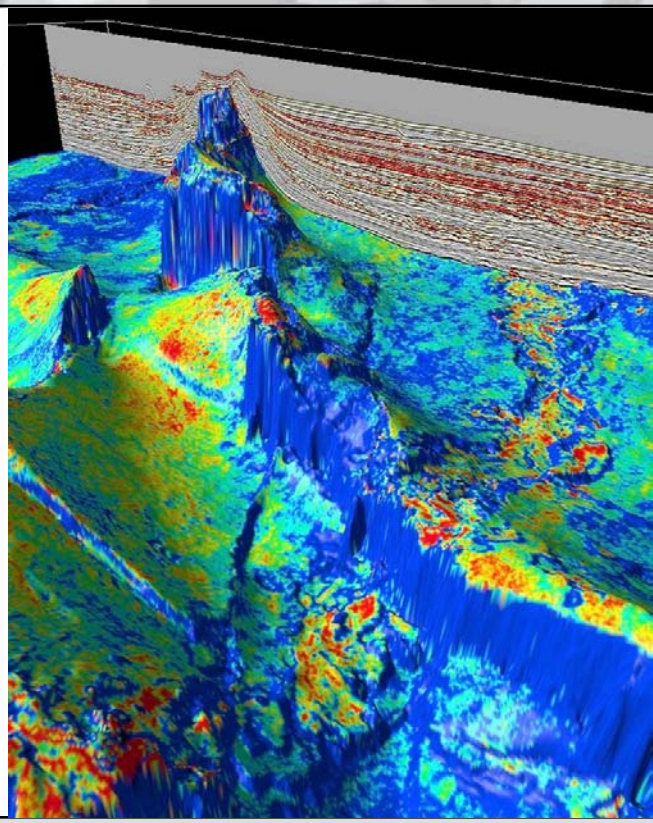
1500ms time slice after swell noise attenuation



1500ms time slice after SRME



Technical Note 4
Radon De-multiple
Silvereye 3D



CGGVERITAS

Introduction

Testing was carried out on sail line OS073D1342P1039 (Seq:039).

The data are selected on cable 3.

Processing Sequence to date

Processing Sequence to date

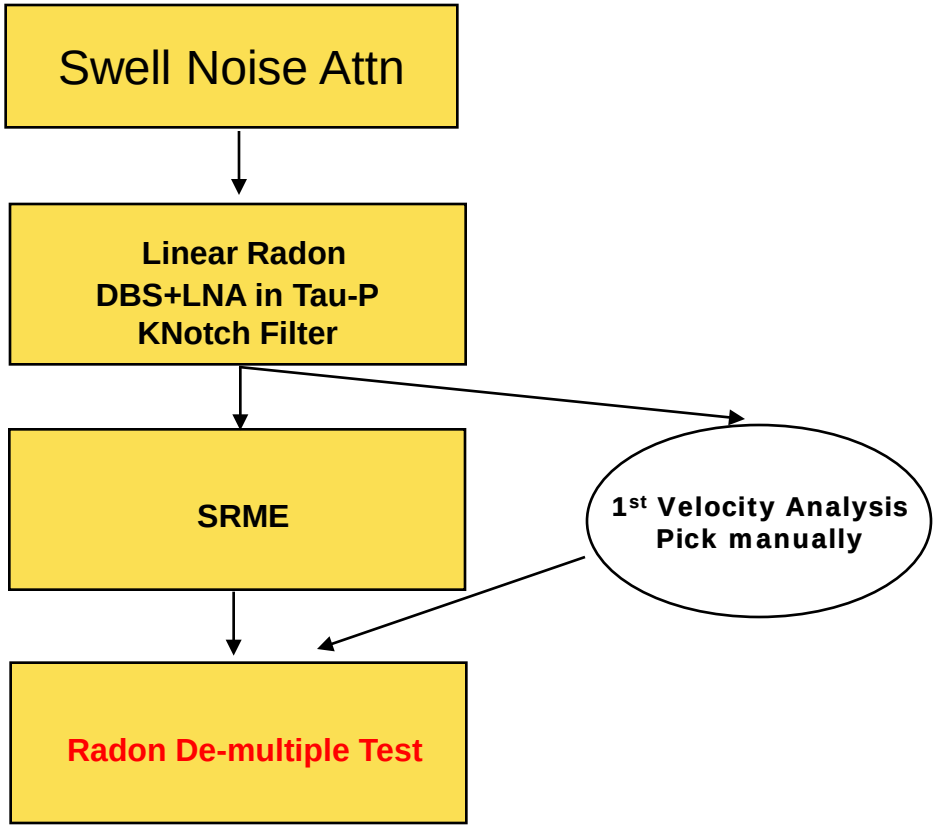
- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain

Current Test

HR Parabolic Radon De-multiple:

- DTCUT, 400,340,300,240,200,140ms

Current Test



HR Radon Demultiple

Introduction

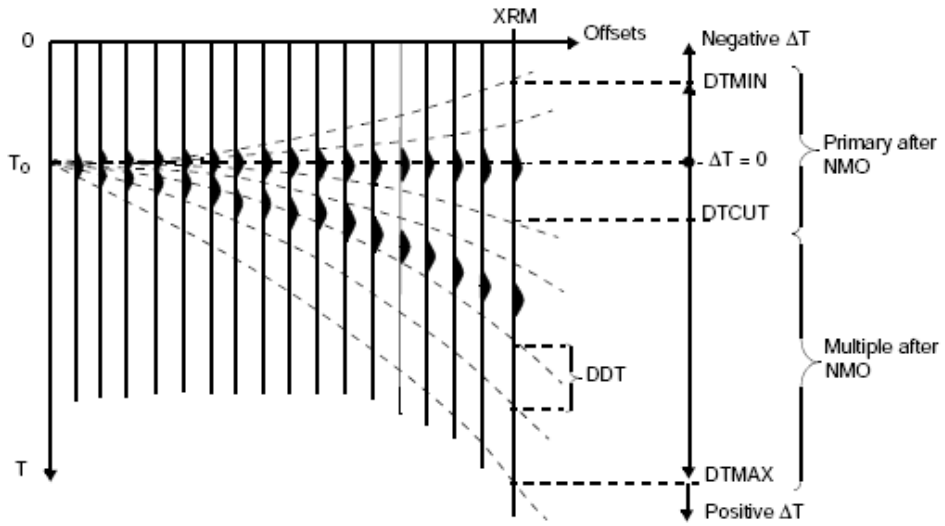
Testing was carried out on sail line GPAT00-2868 (Profile ID:A037), sail line GPAT00-2676 (Profile ID: A065) and sail line GPAT00-2172 (Profile ID: A111).

The data are selected on cable 3 (channel number:961-1440).

CDP displayed every 2nd trace (ch: 961-1440,I2).

Stack displayed every 4th cdp.

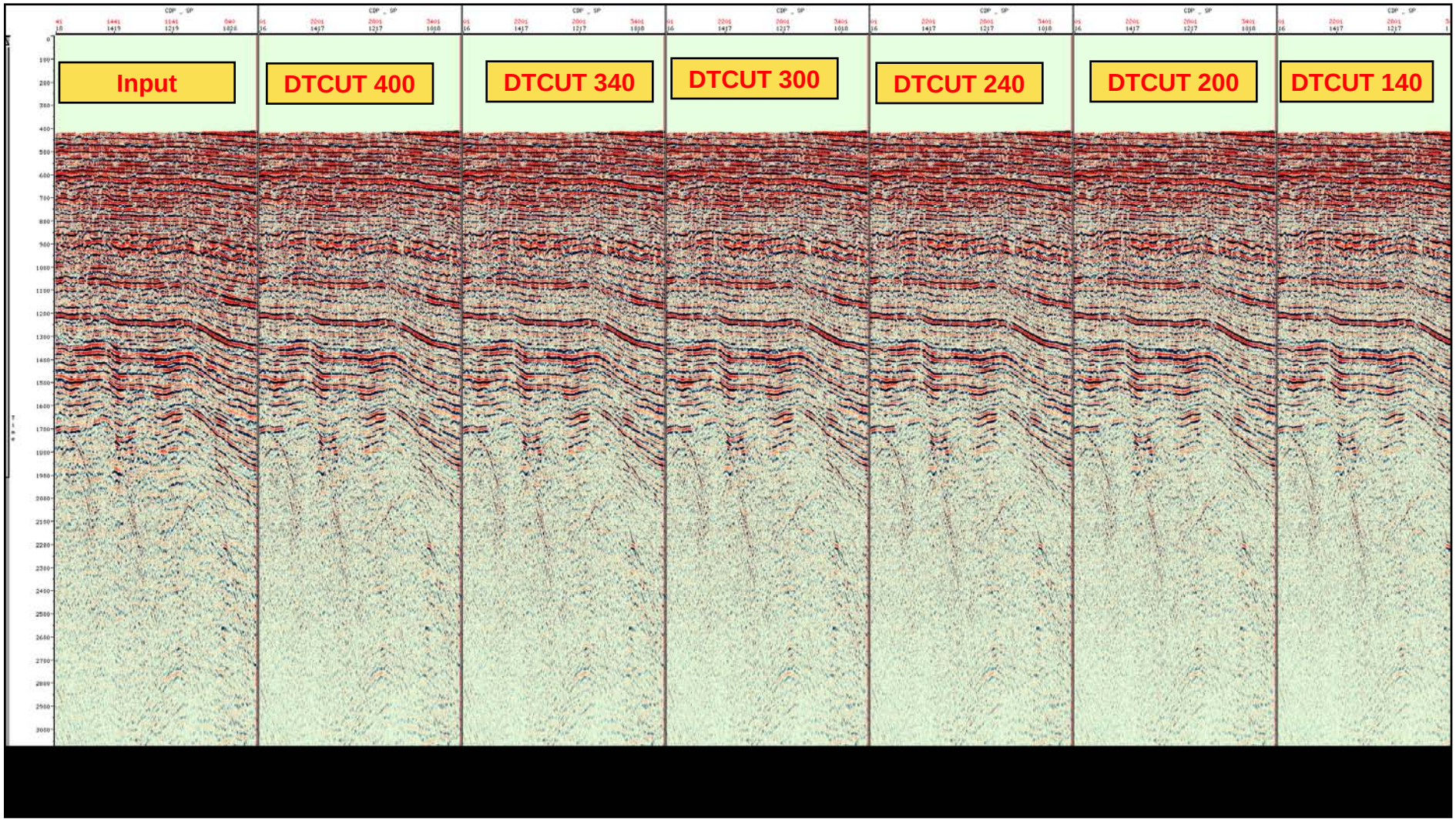
- The RADON is coded using the following parameters, referring to the diagram below :
  - DTMIN-480ms
  - DTMAX4500ms
  - XRM 6100m



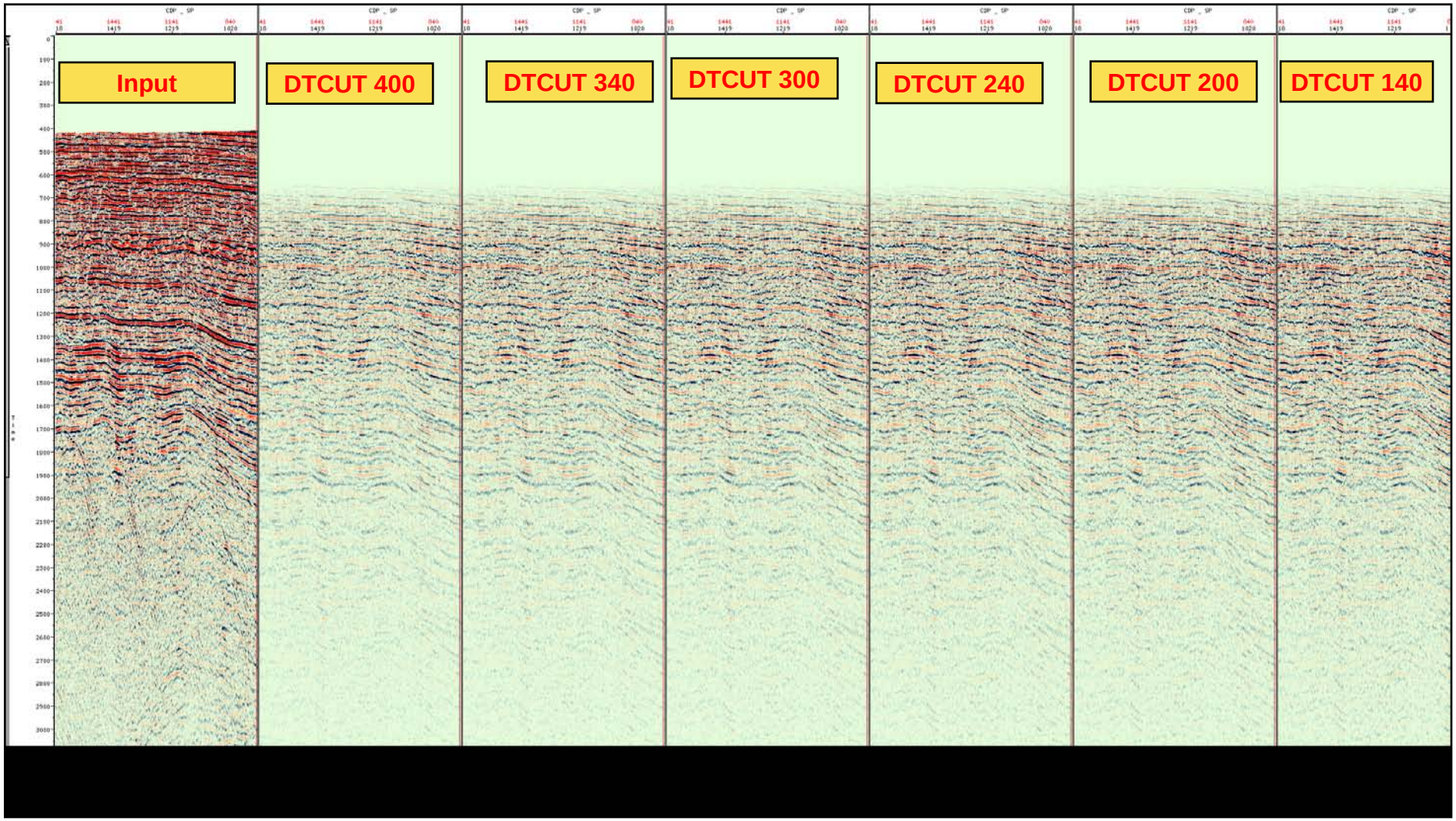
Profile ID SEQ039

Radon De-multiple

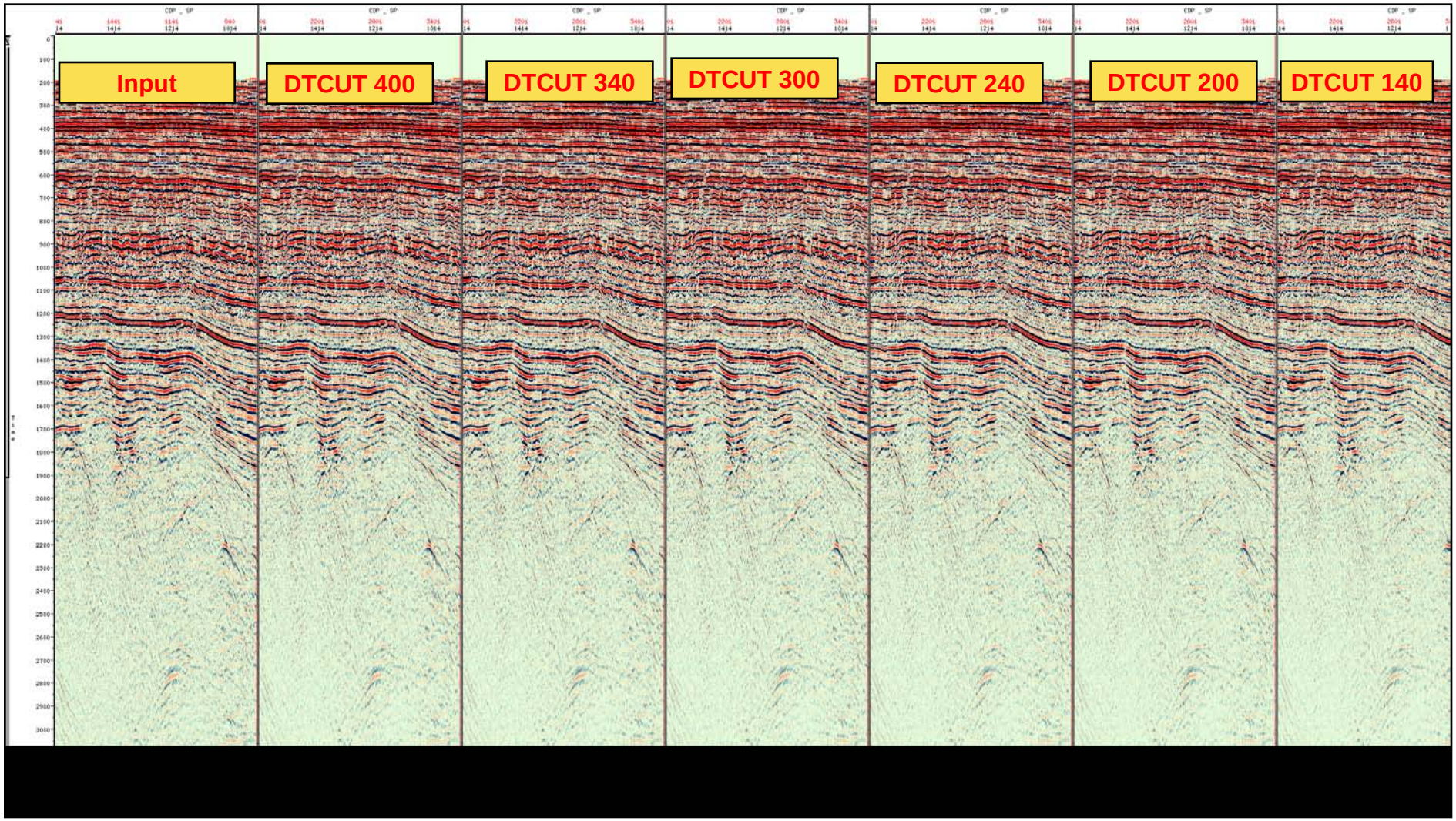
Near Stack (3-15 DEG) : Radon De-multiple



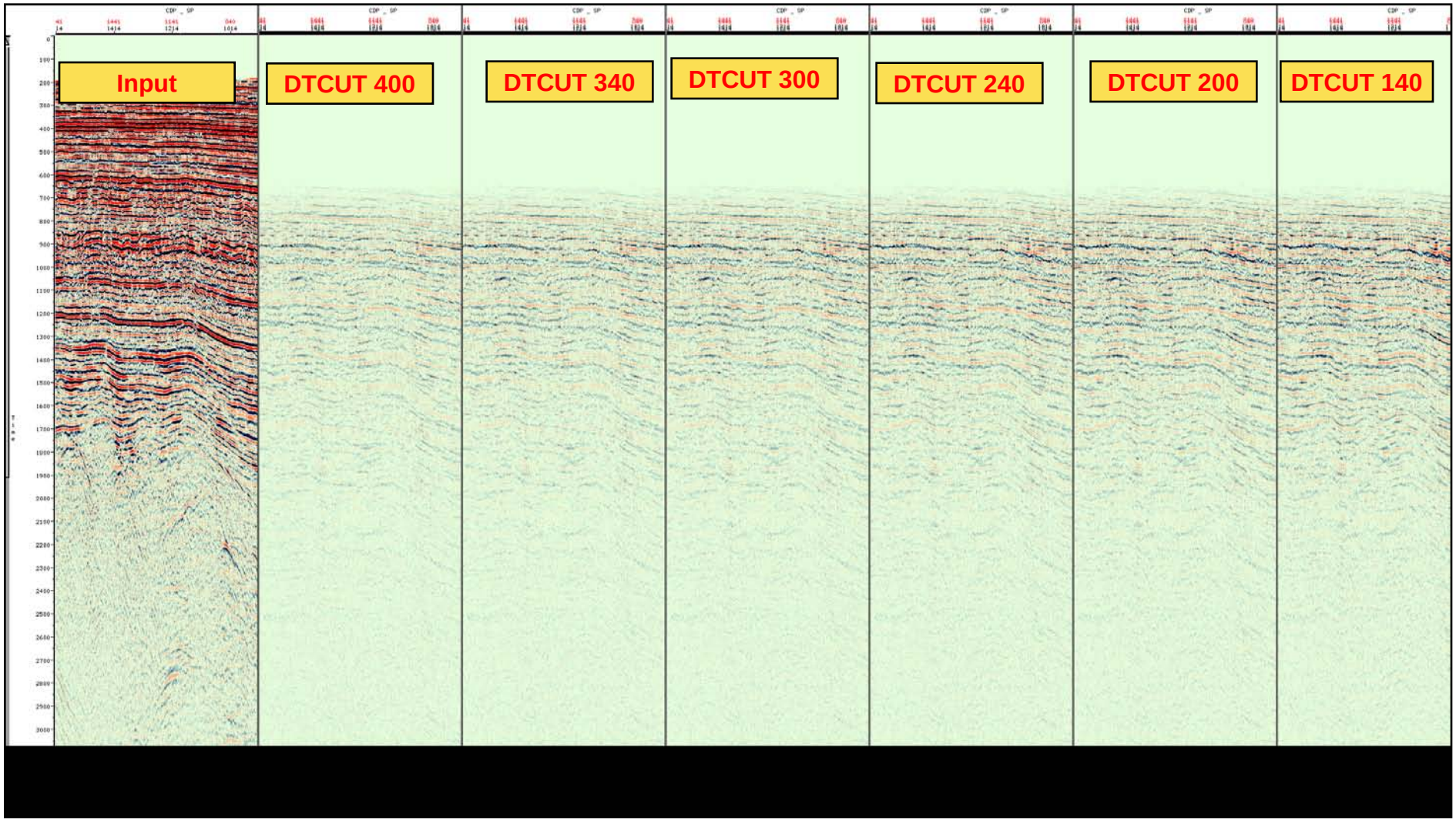
Near Stack (3-15 DEG): Difference of Radon De-multiple



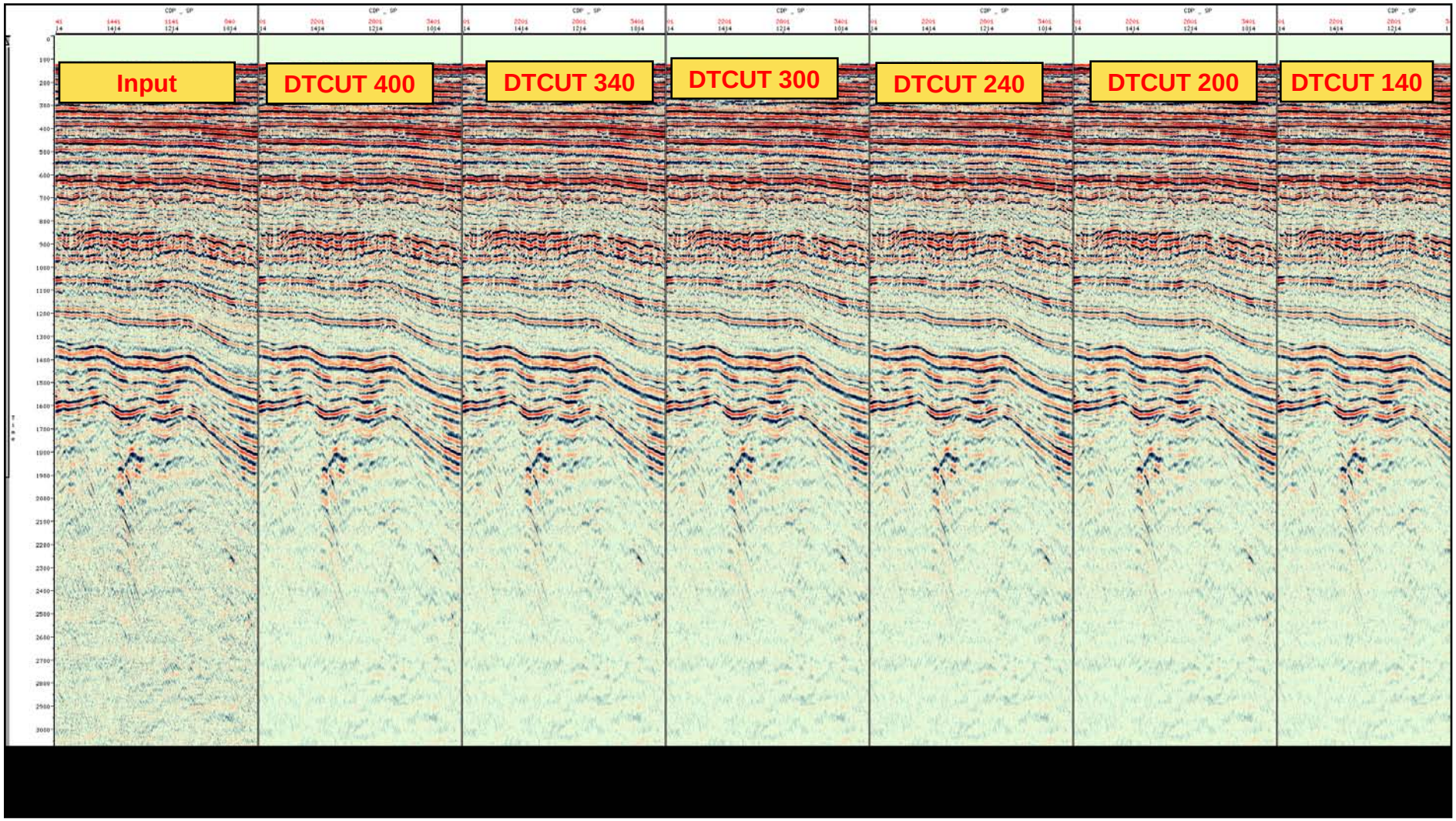
Full Stack (6-32 DEG) : Radon De-multiple



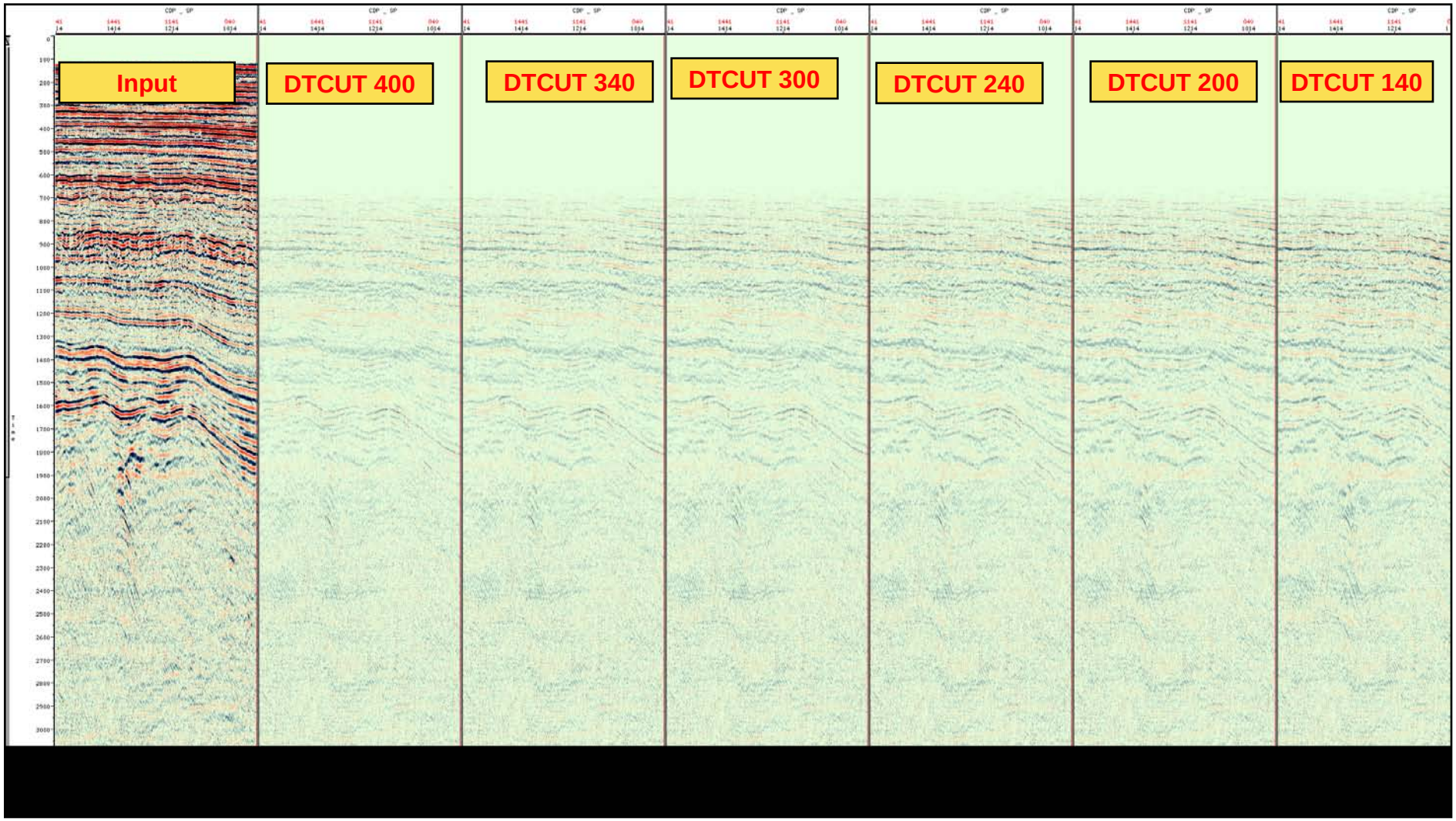
Full Stack (6-32 DEG): Difference of Radon De-multiple



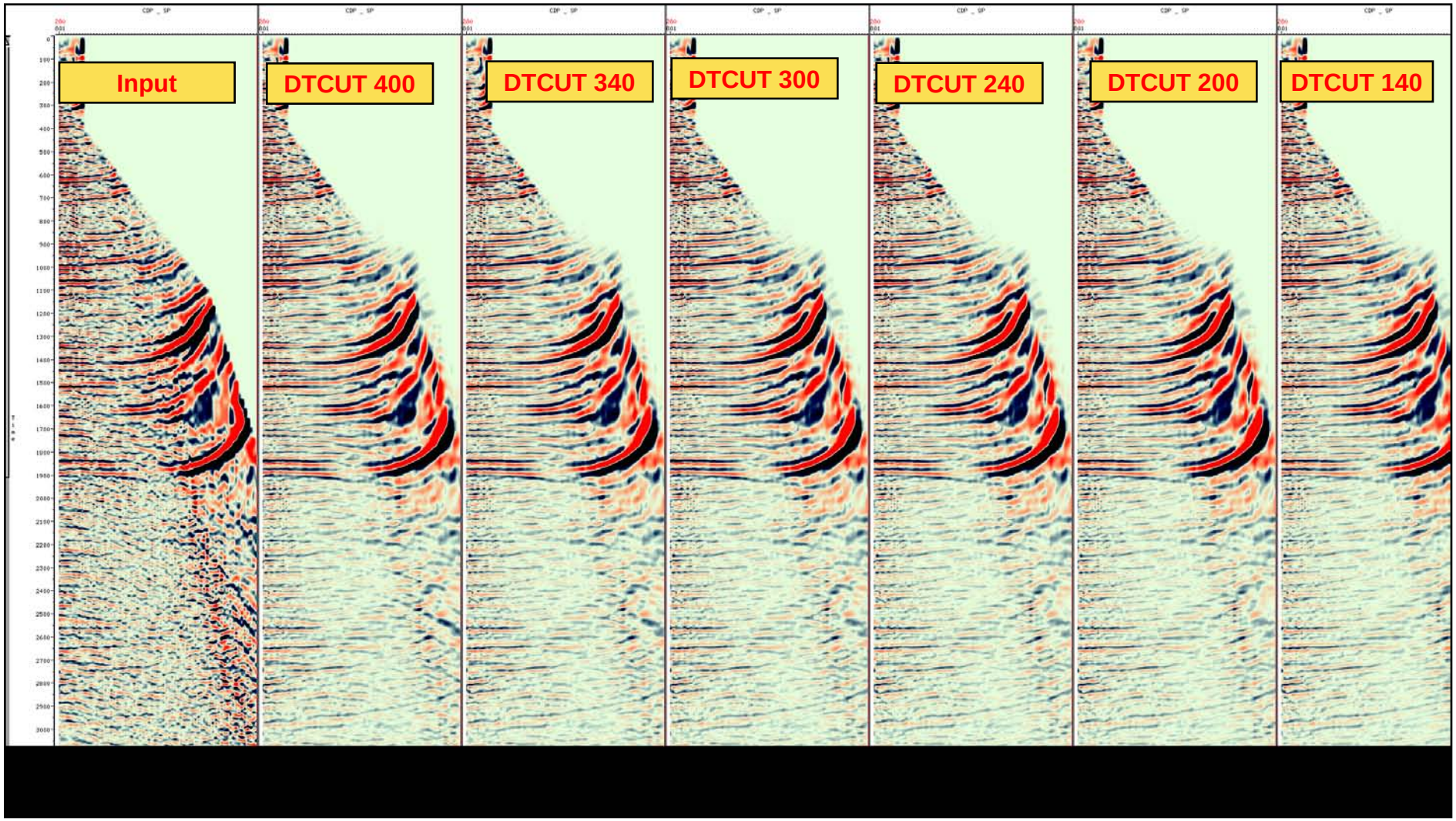
Far Stack (30-45 DEG) : Radon De-multiple



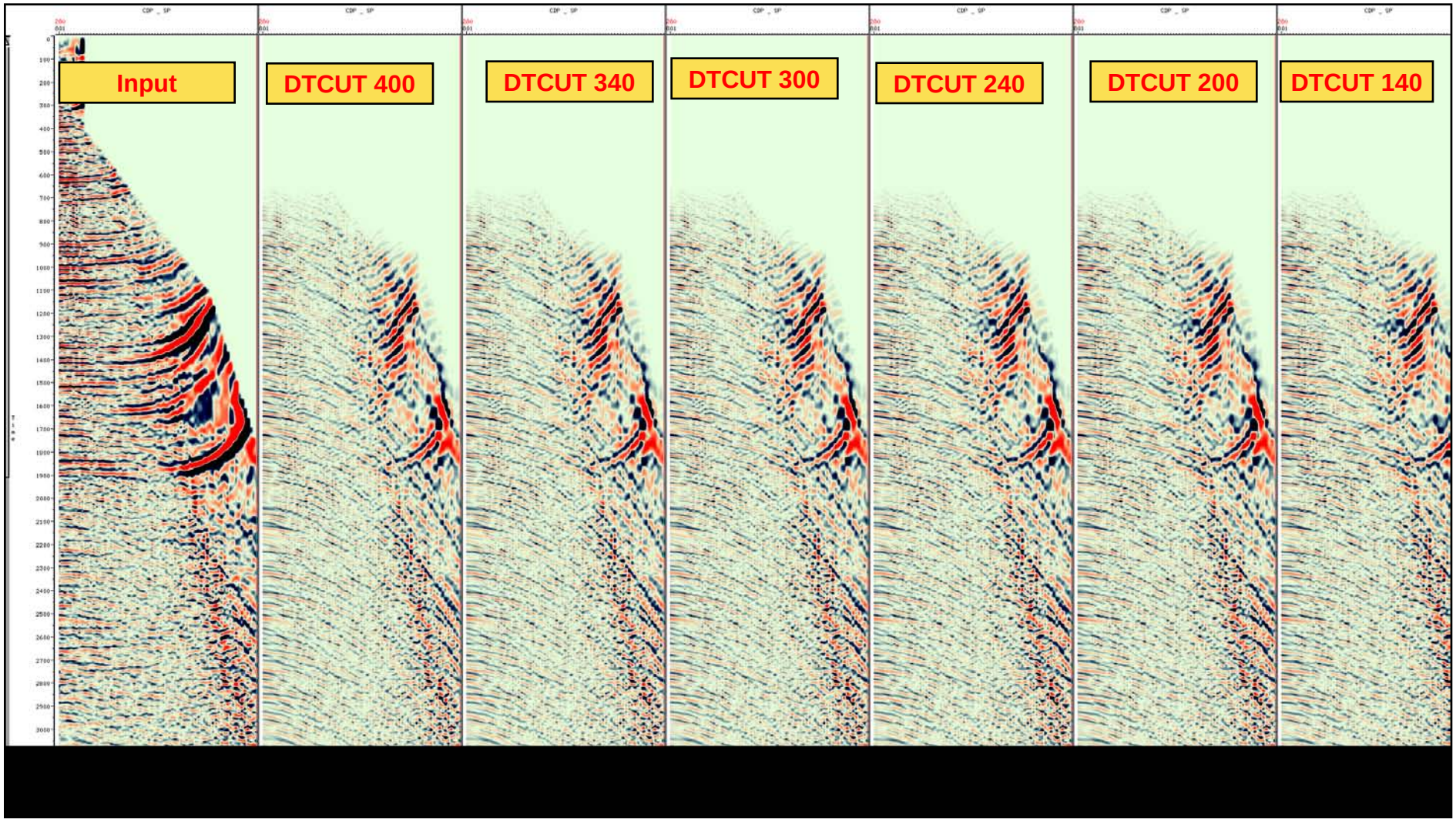
Far Stack (30-45 DEG) : Difference of Radon De-multiple



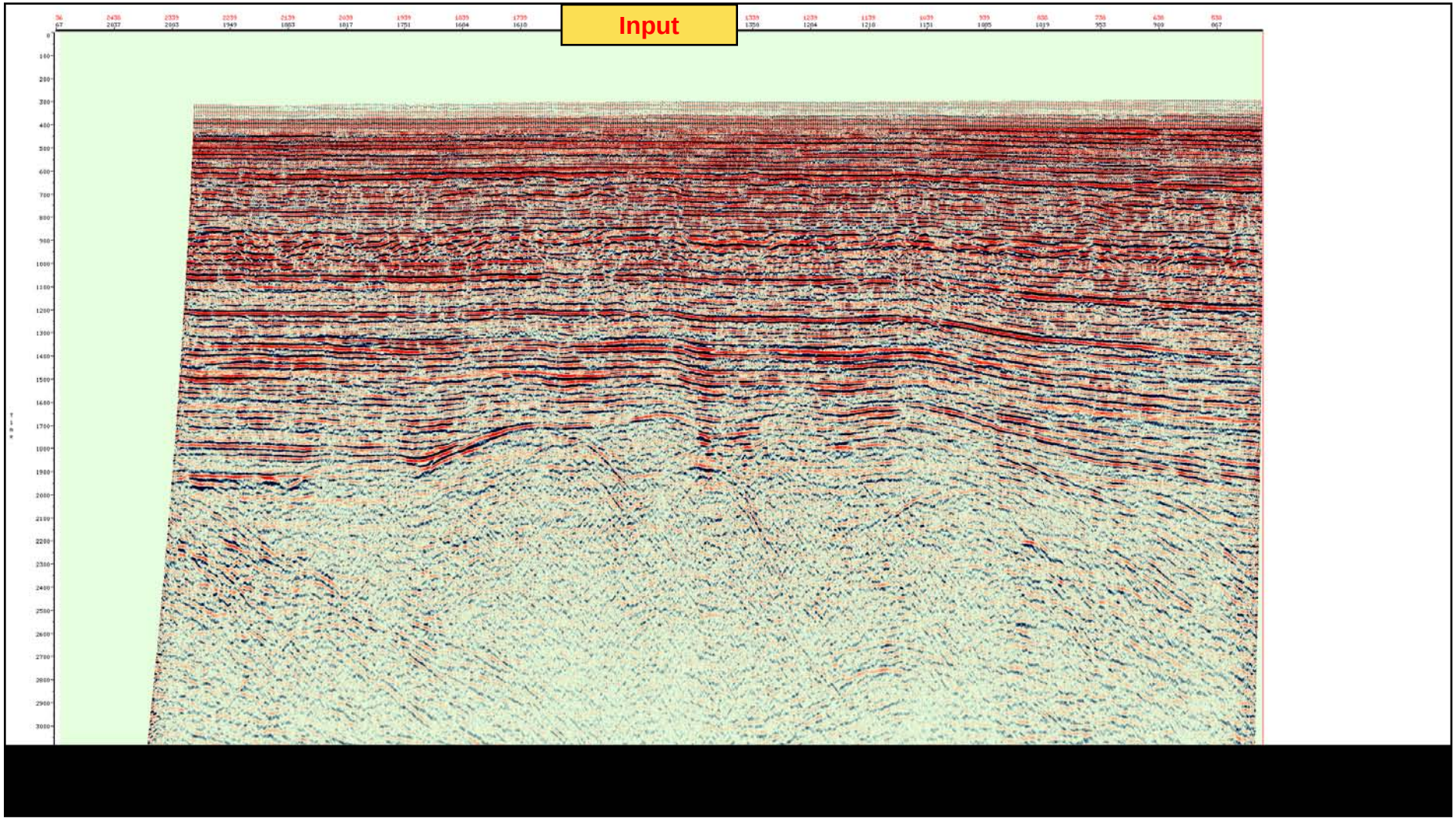
DCP Gather: Radon De-multiple



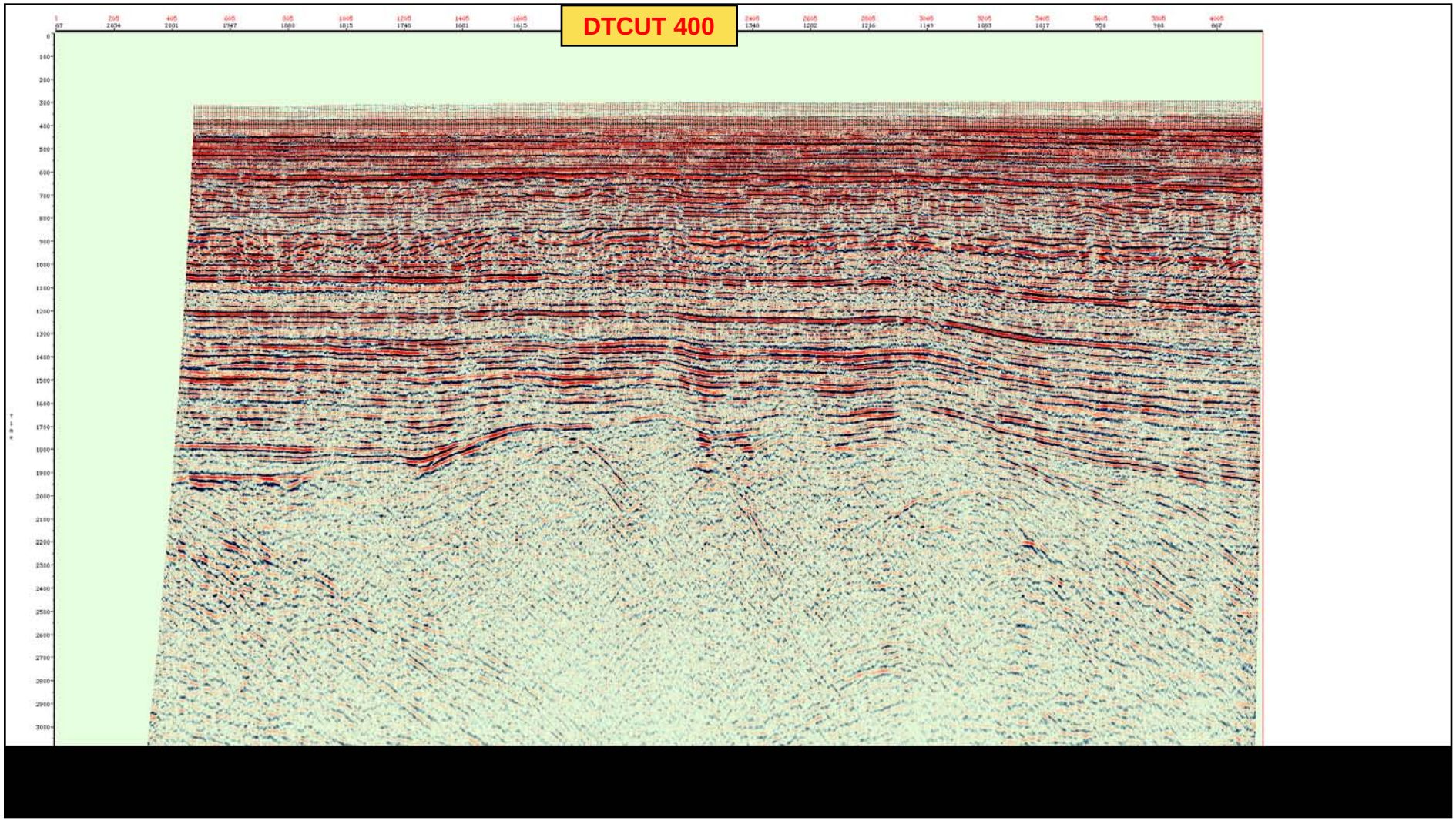
DCP Gather: Difference of Radon De-multiple



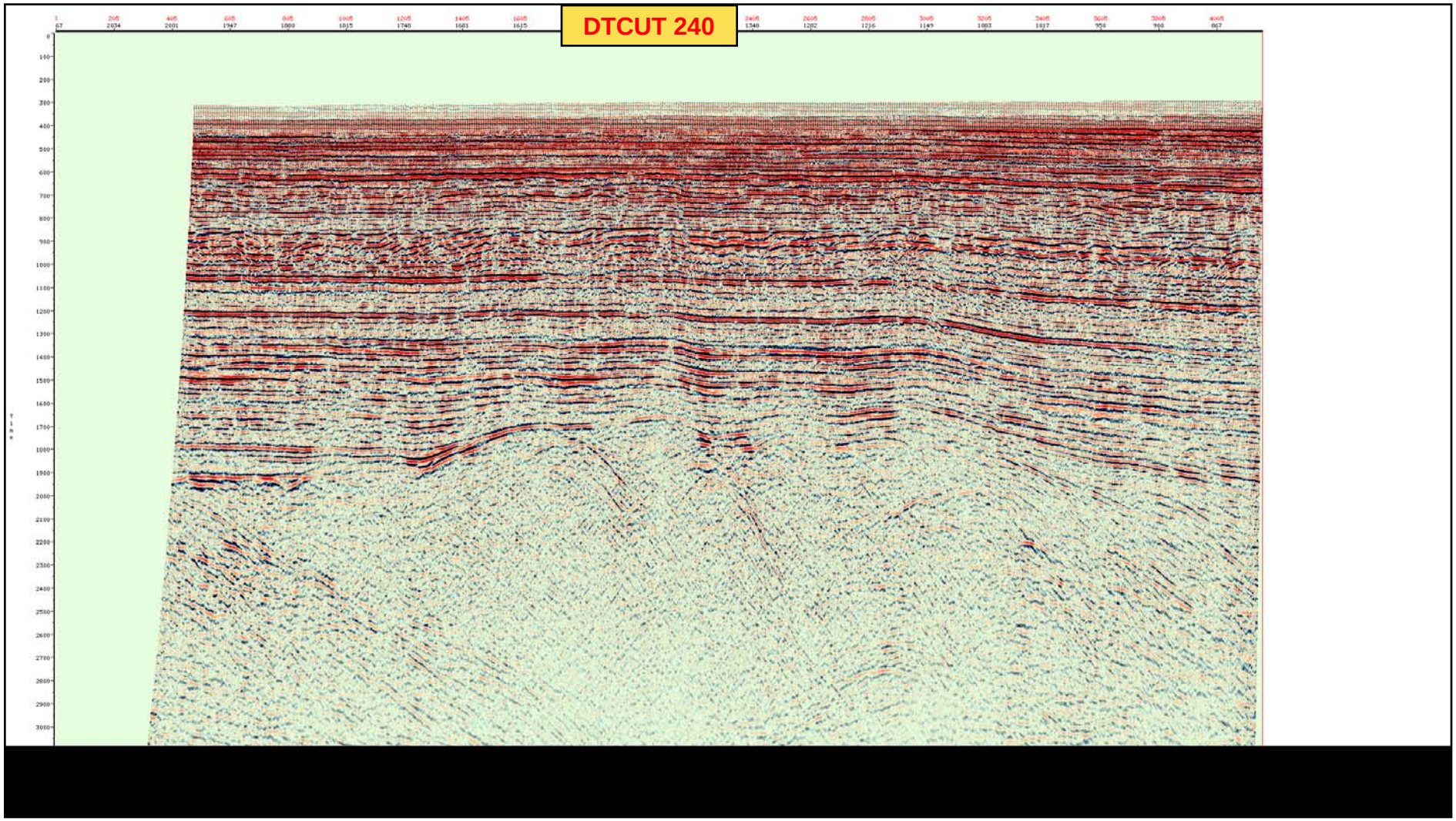
Near Stack (3-15 DEG) : Input



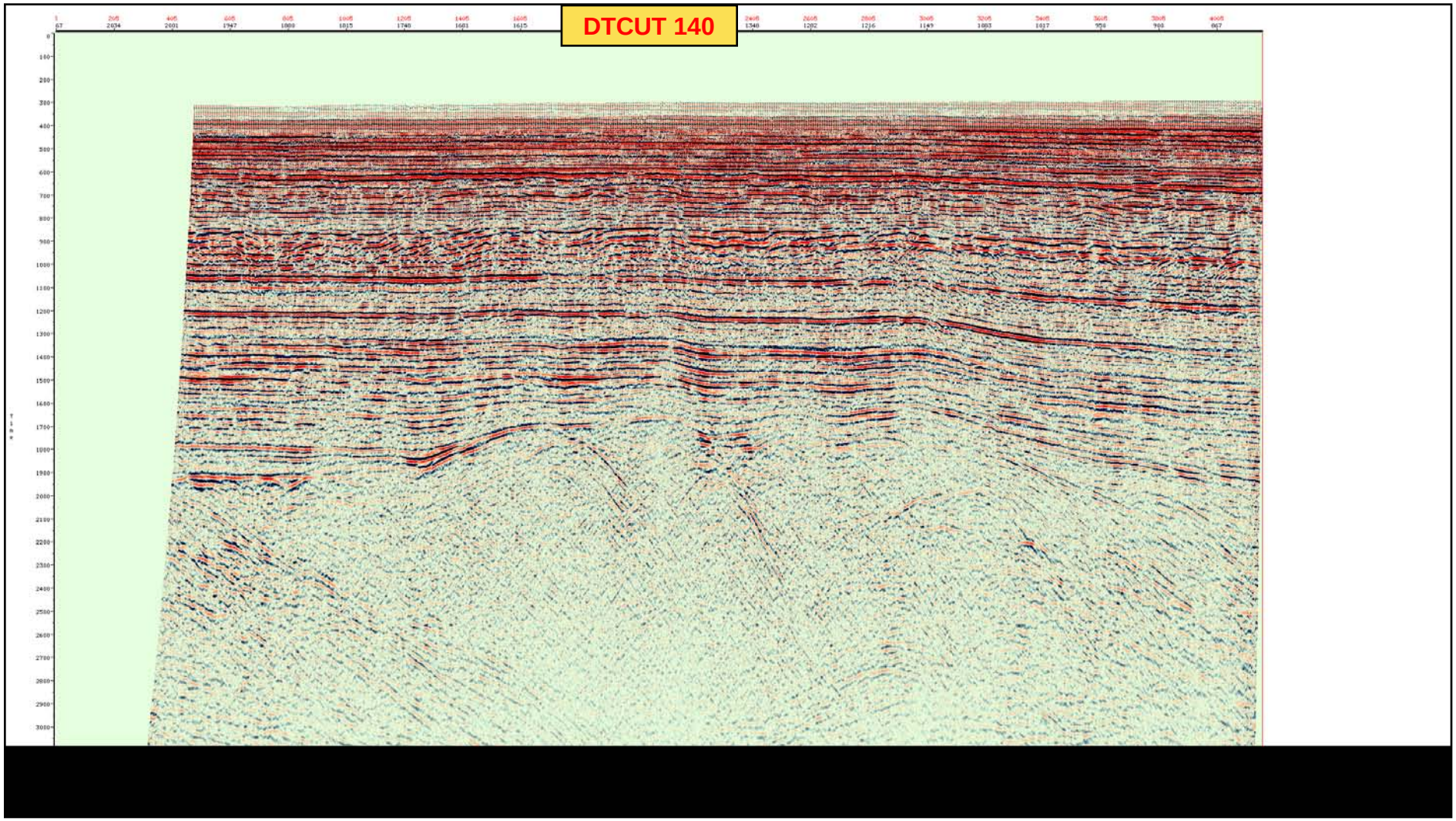
Near Stack (3-15 DEG) : DTCUT 400



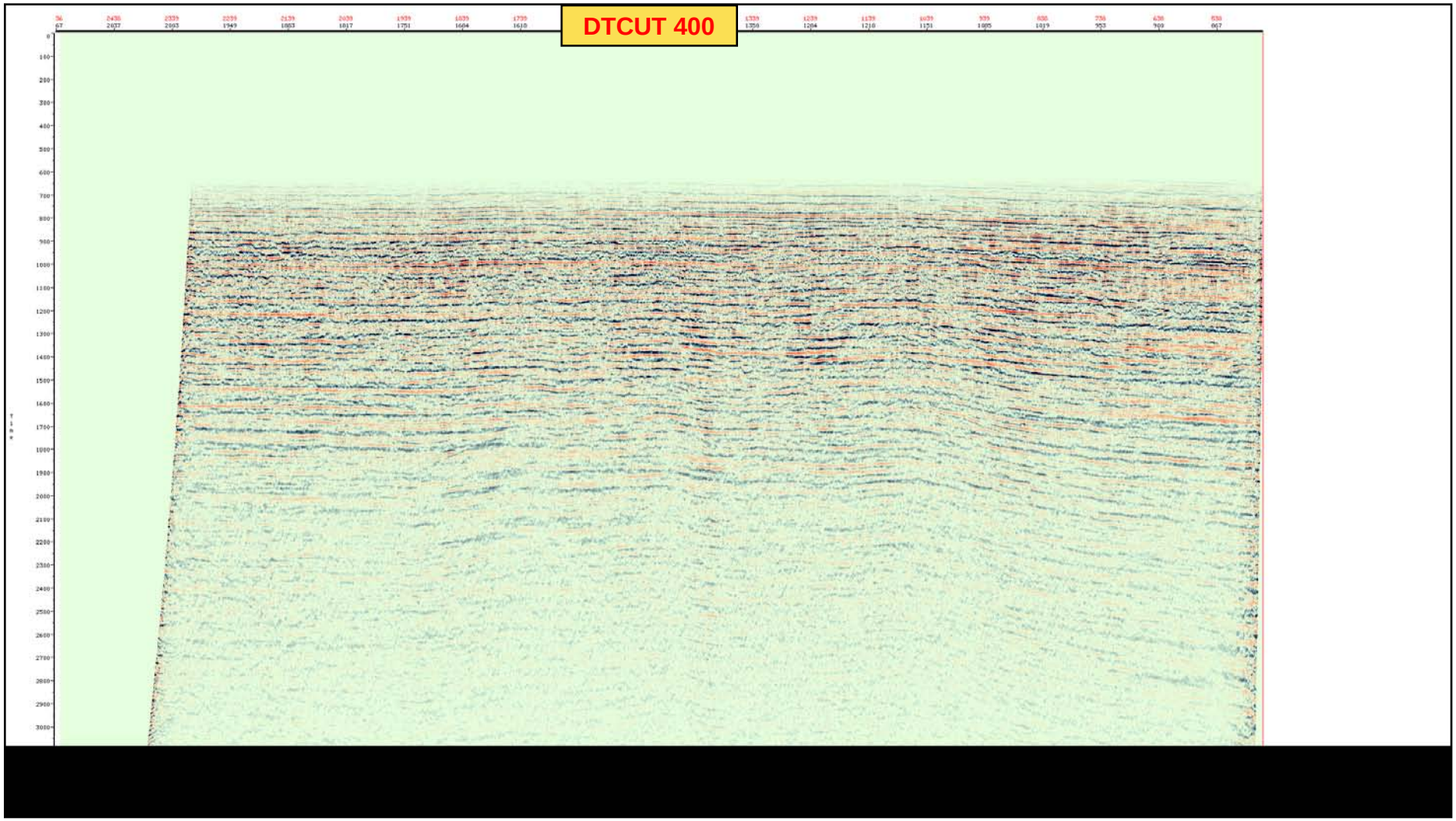
Near Stack (3-15 DEG) : DTCUT 240



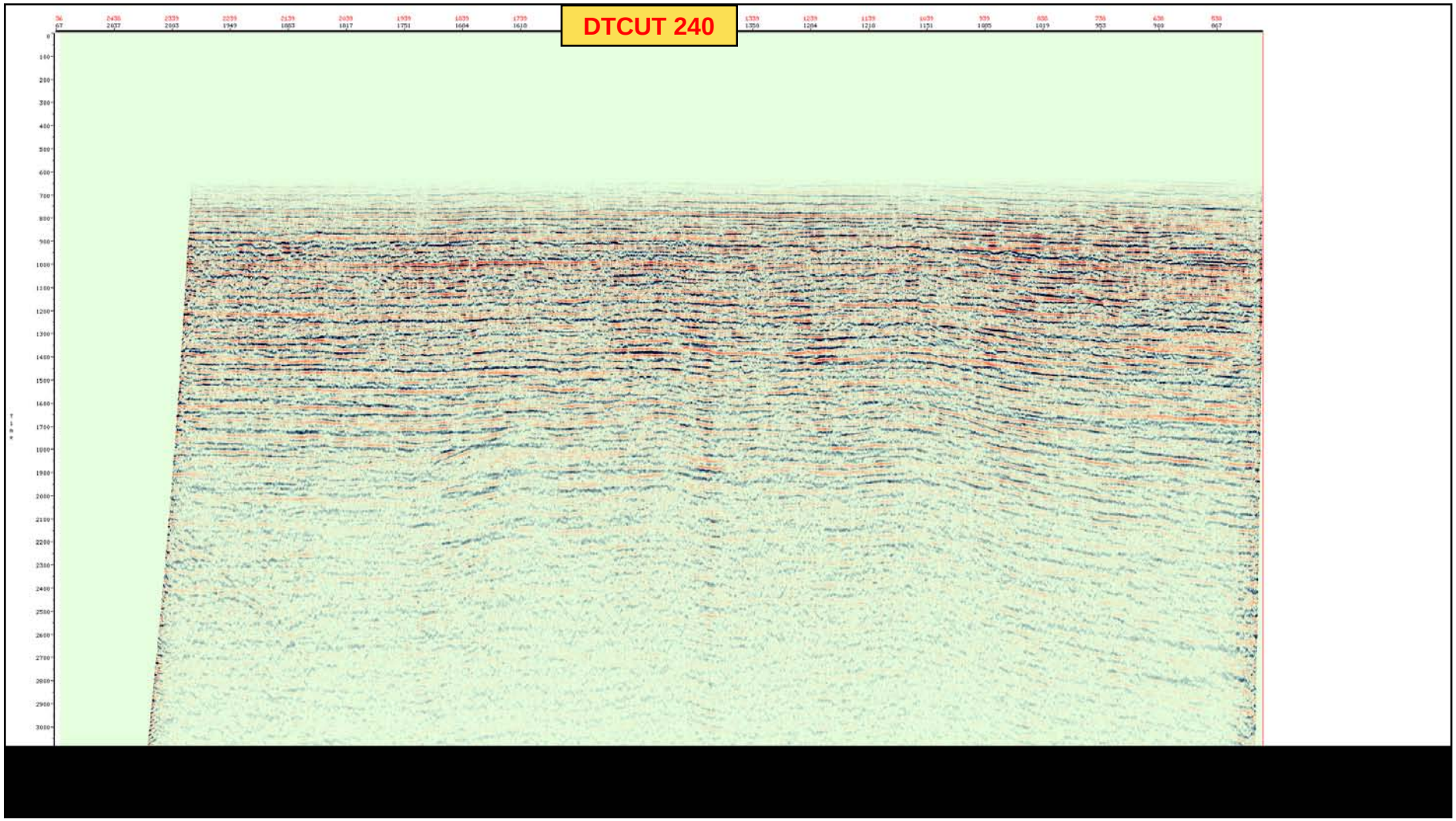
Near Stack (3-15 DEG) : DTCUT 140



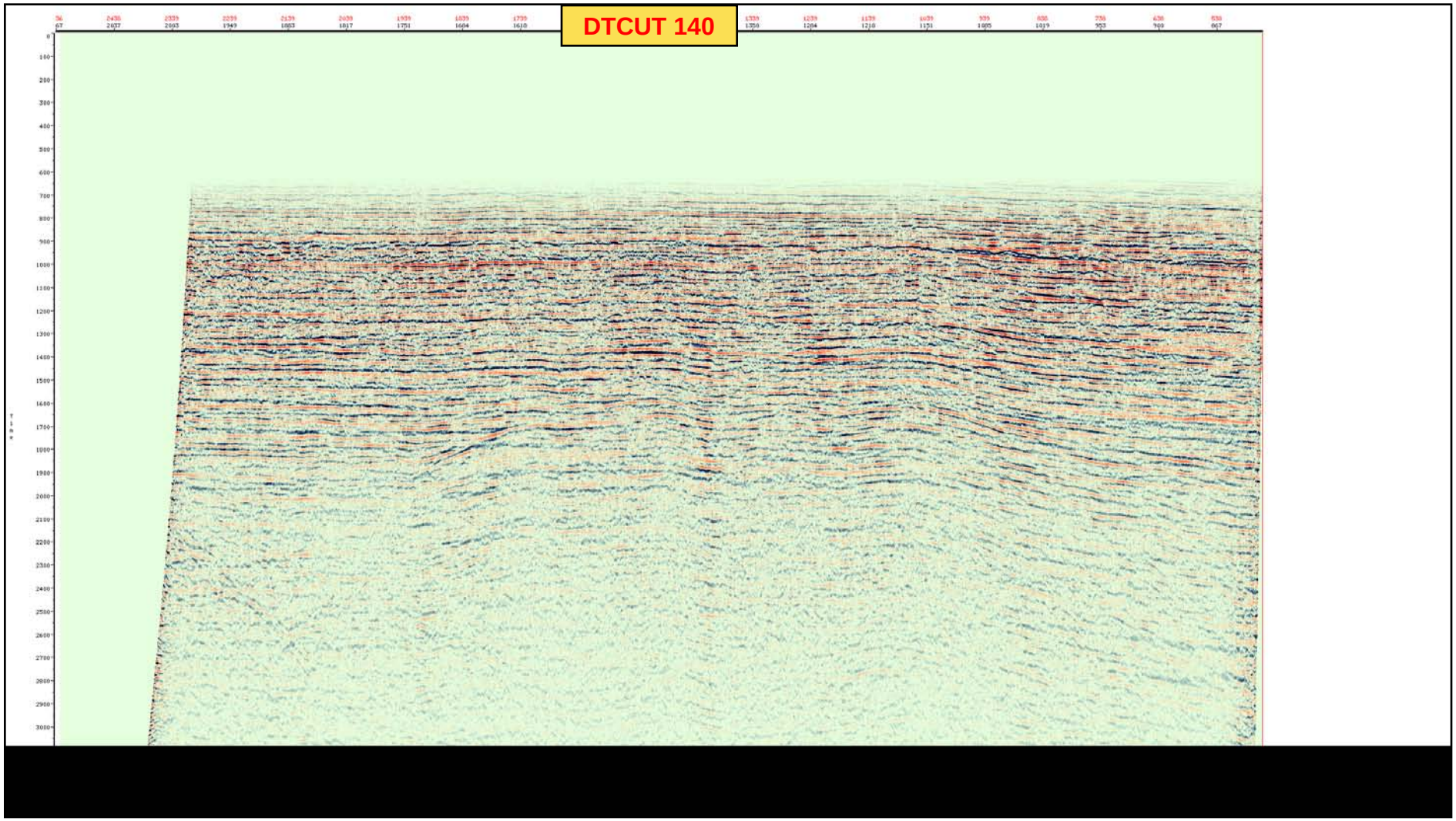
Near Stack (3-15 DEG) : Difference of DTCUT 400



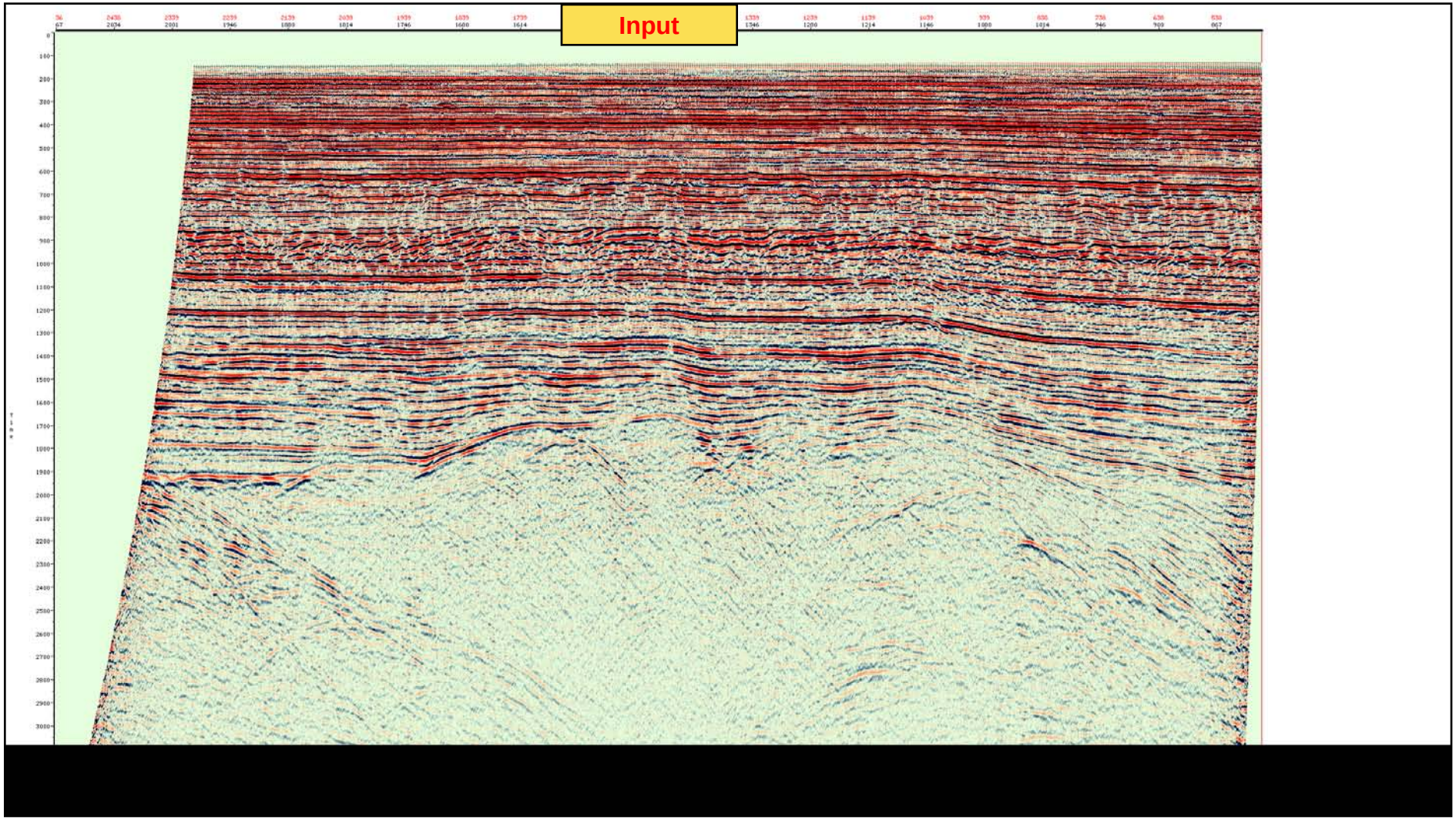
Near Stack (3-15 DEG) : Difference of DTCUT 240



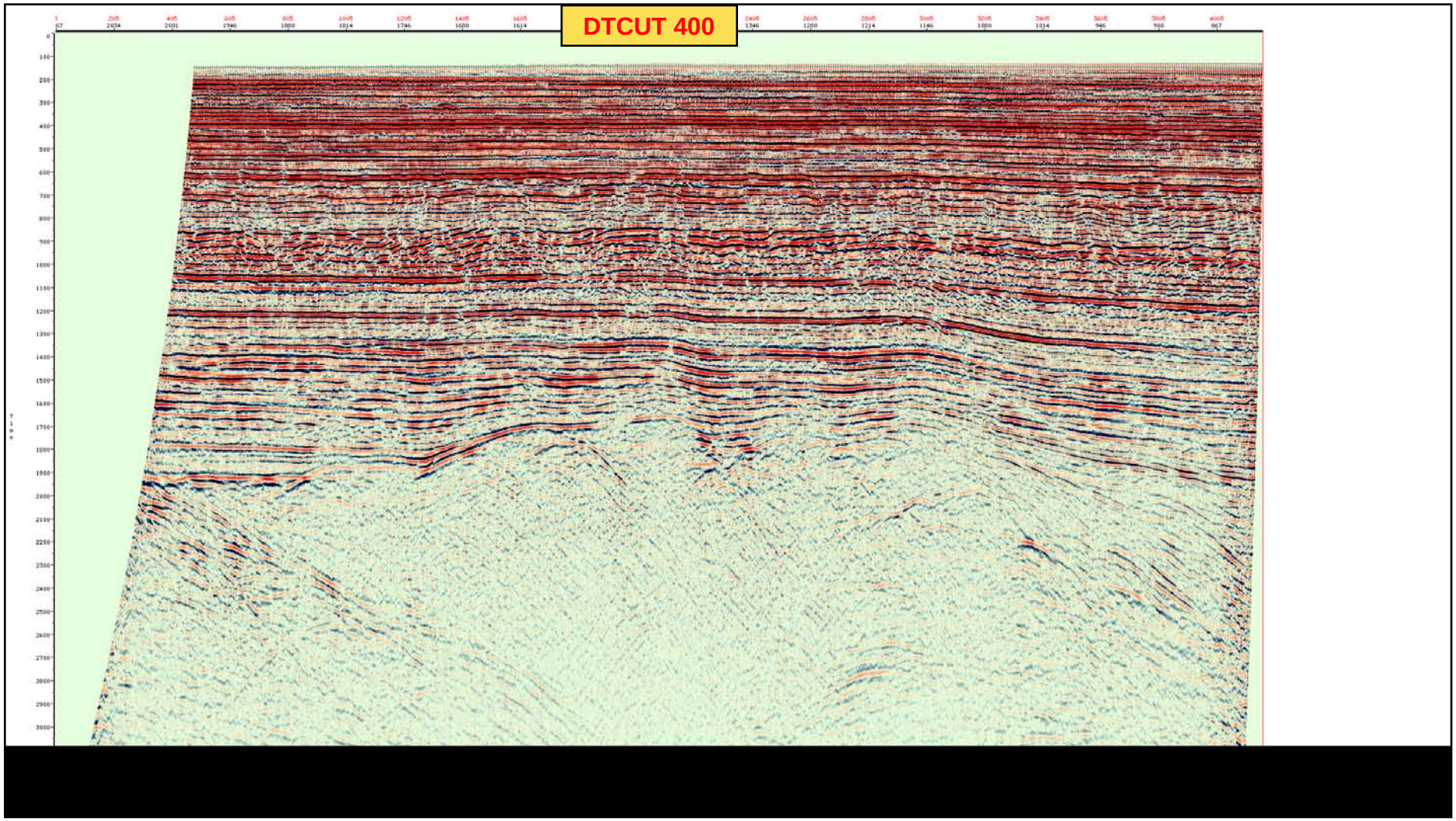
Near Stack (3-15 DEG) : Difference of DTCUT 140



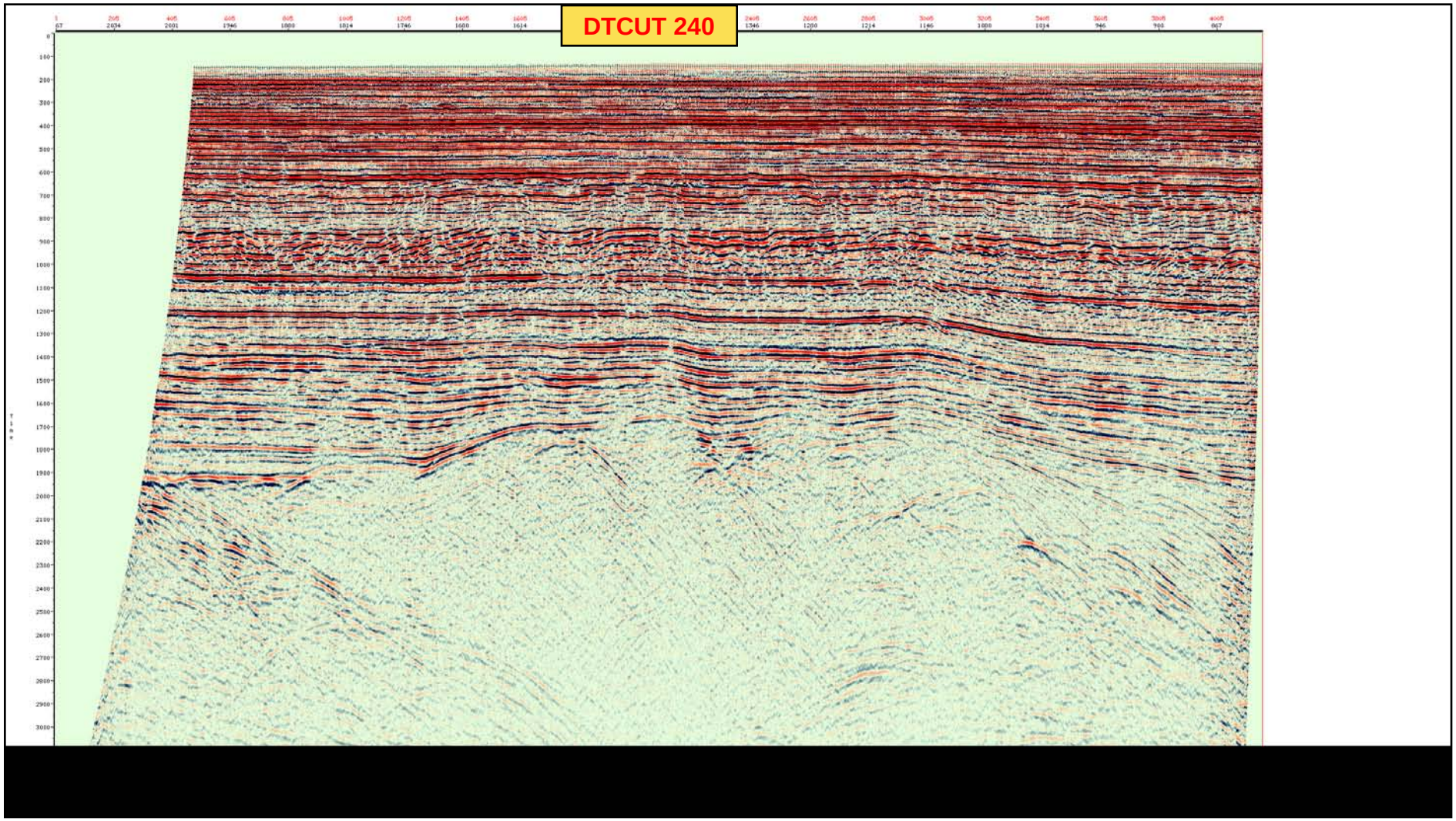
Full Stack (6-32 DEG) : Input



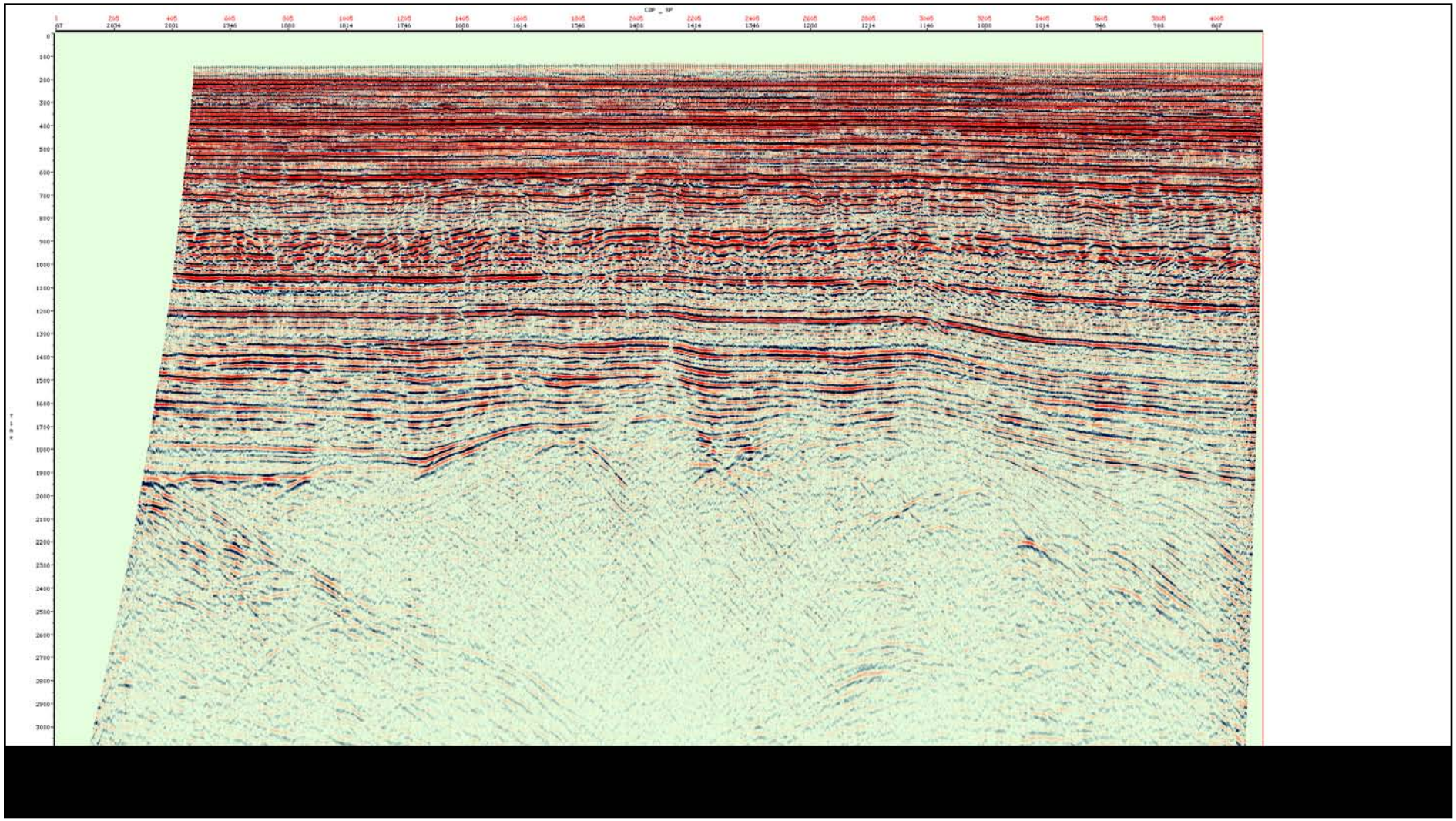
Full Stack (6-32 DEG) : DTCUT400



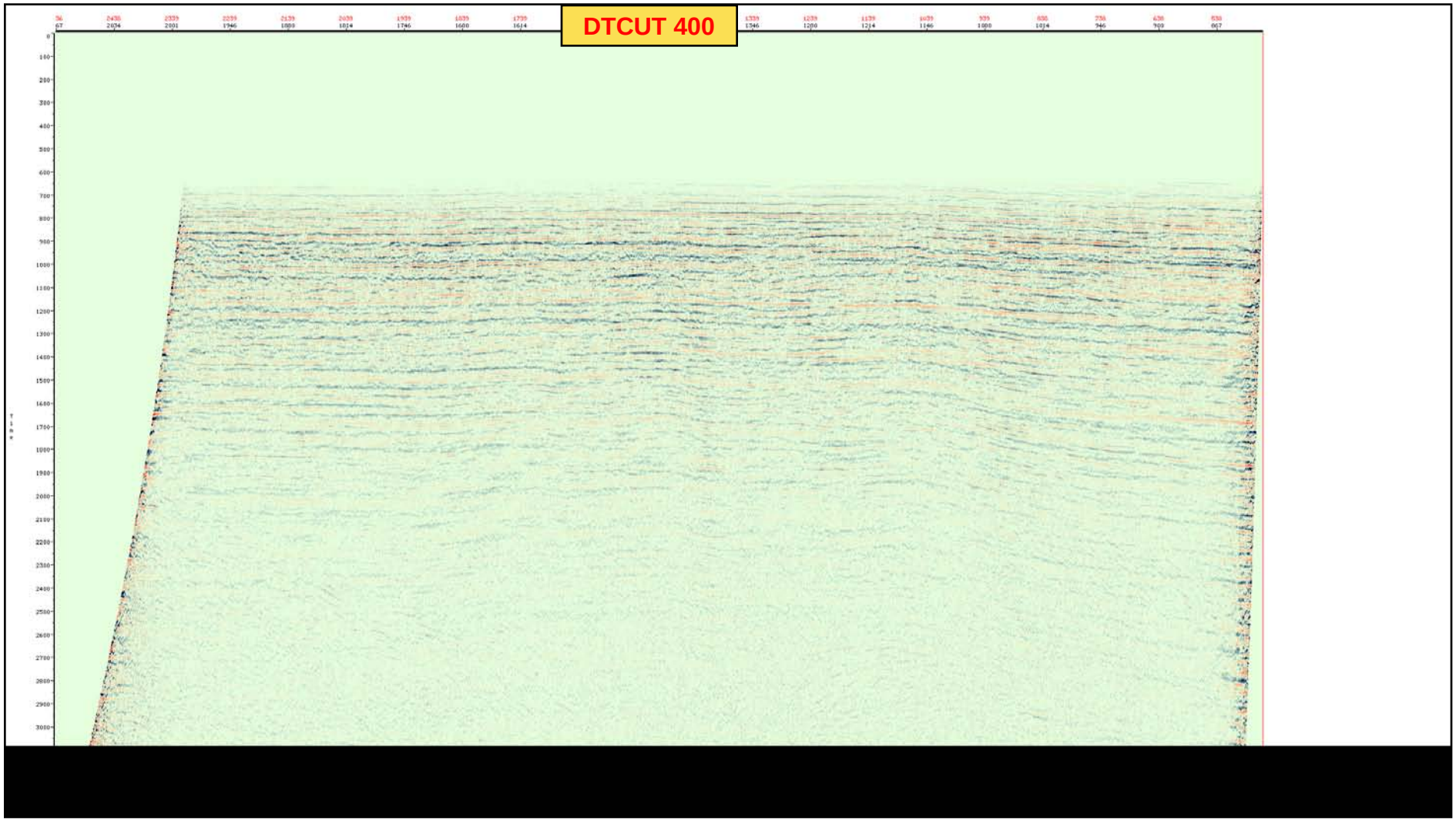
Full Stack (6-32 DEG) : DTCUT240



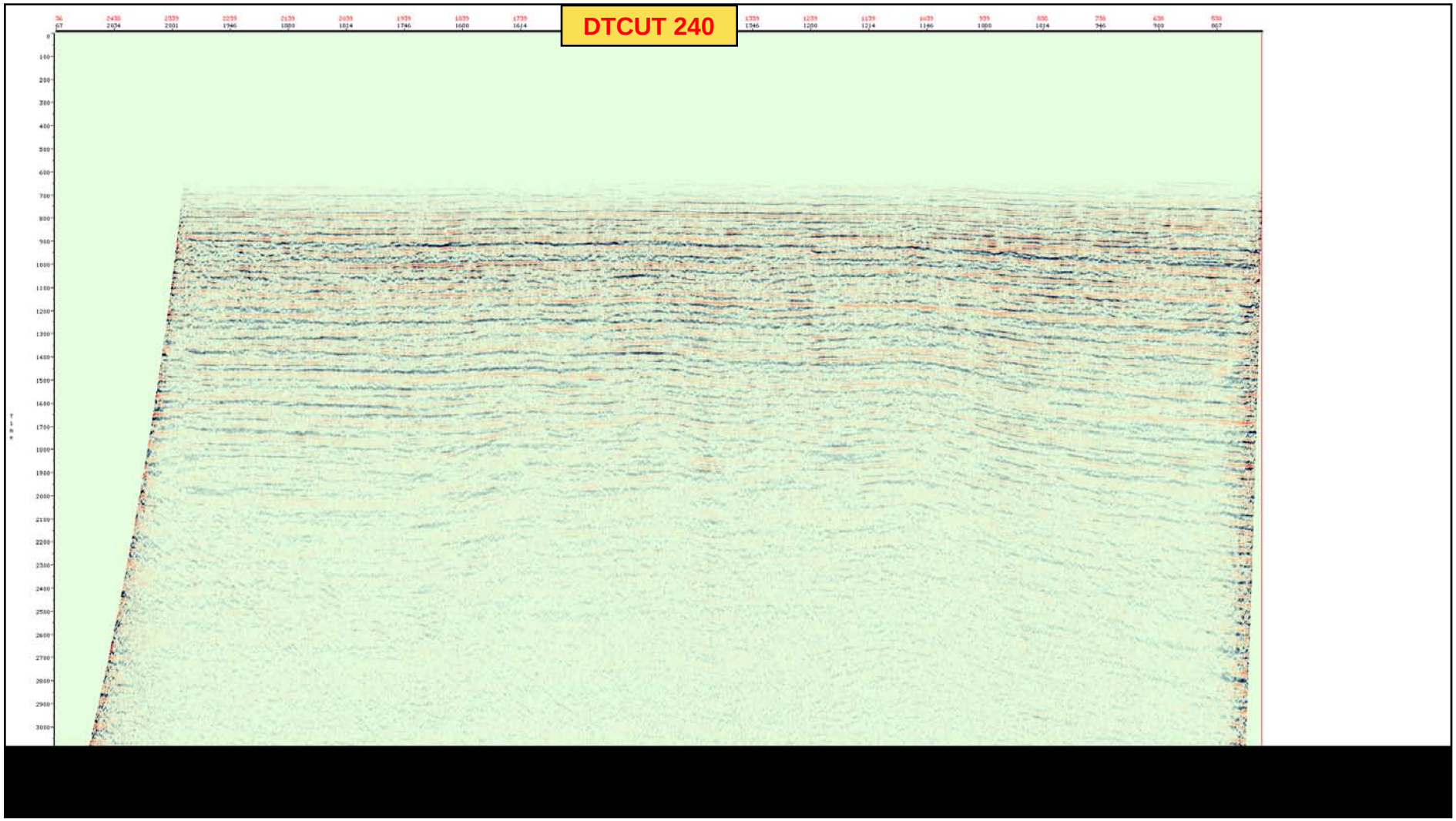
Full Stack (6-32 DEG) : DTCUT140



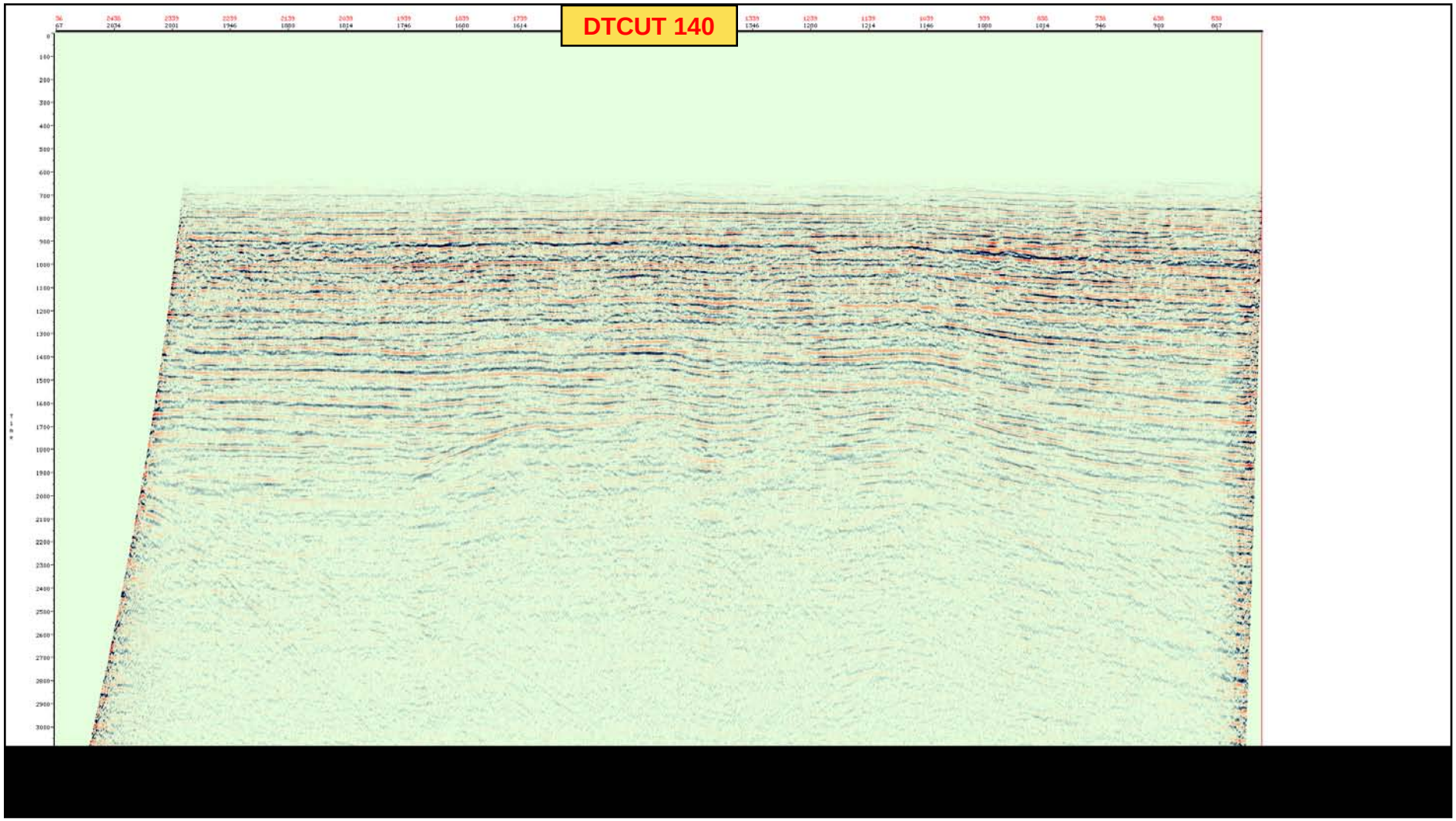
Full Stack (6-32 DEG) : Difference of DTCUT400



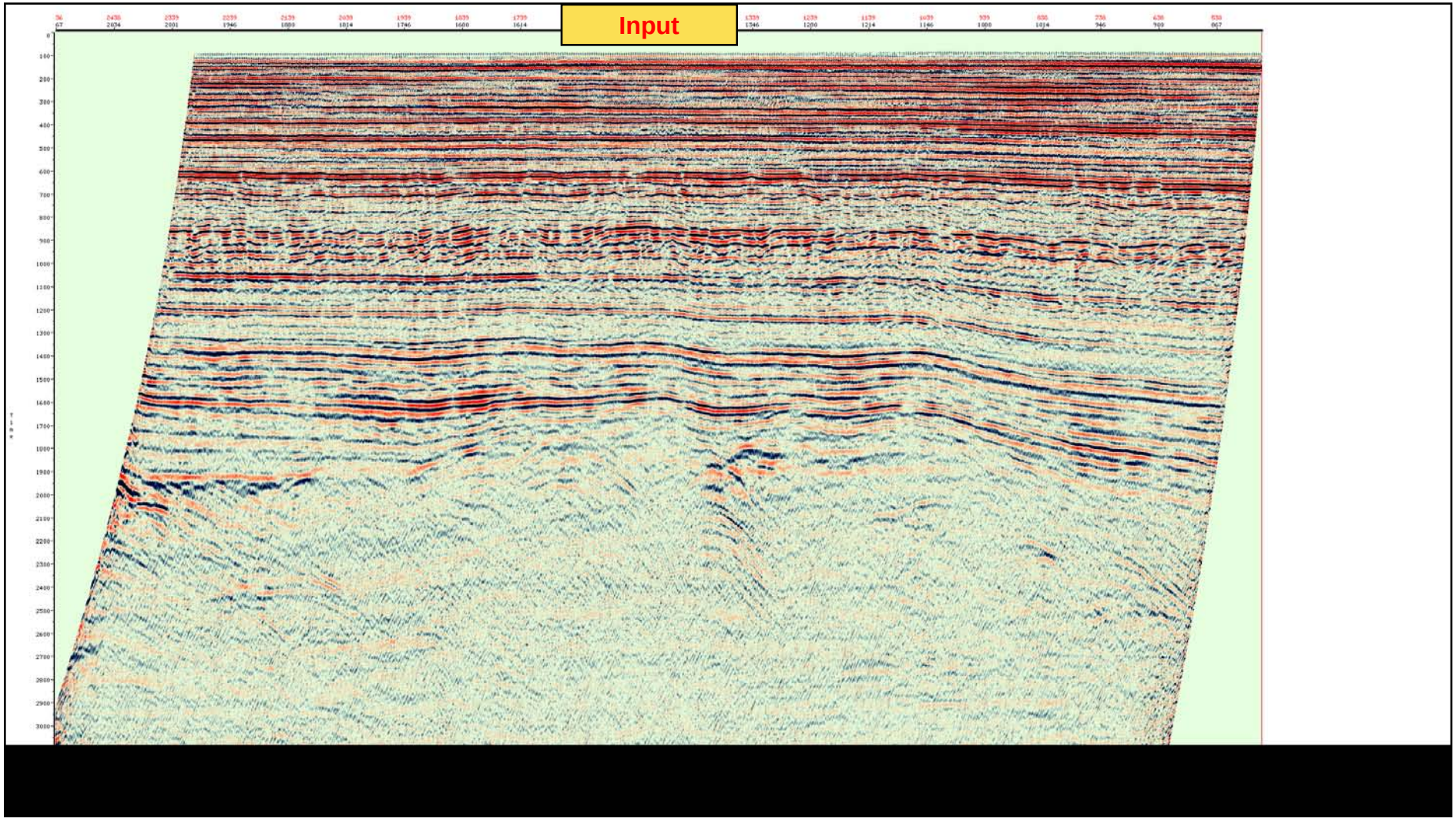
Full Stack (6-32 DEG) : Difference of DTCUT240



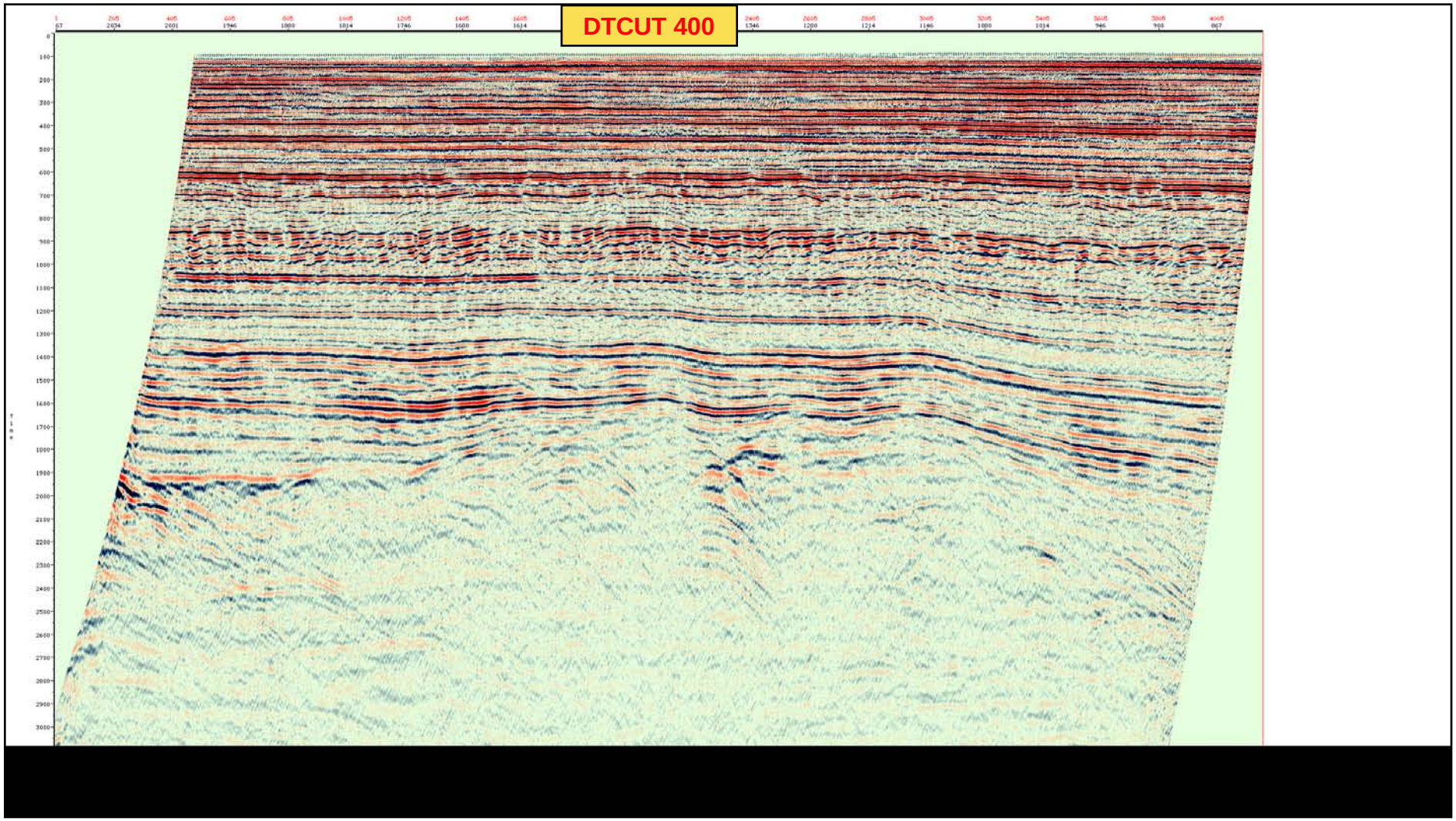
Full Stack (6-32 DEG) : Difference of DTCUT140



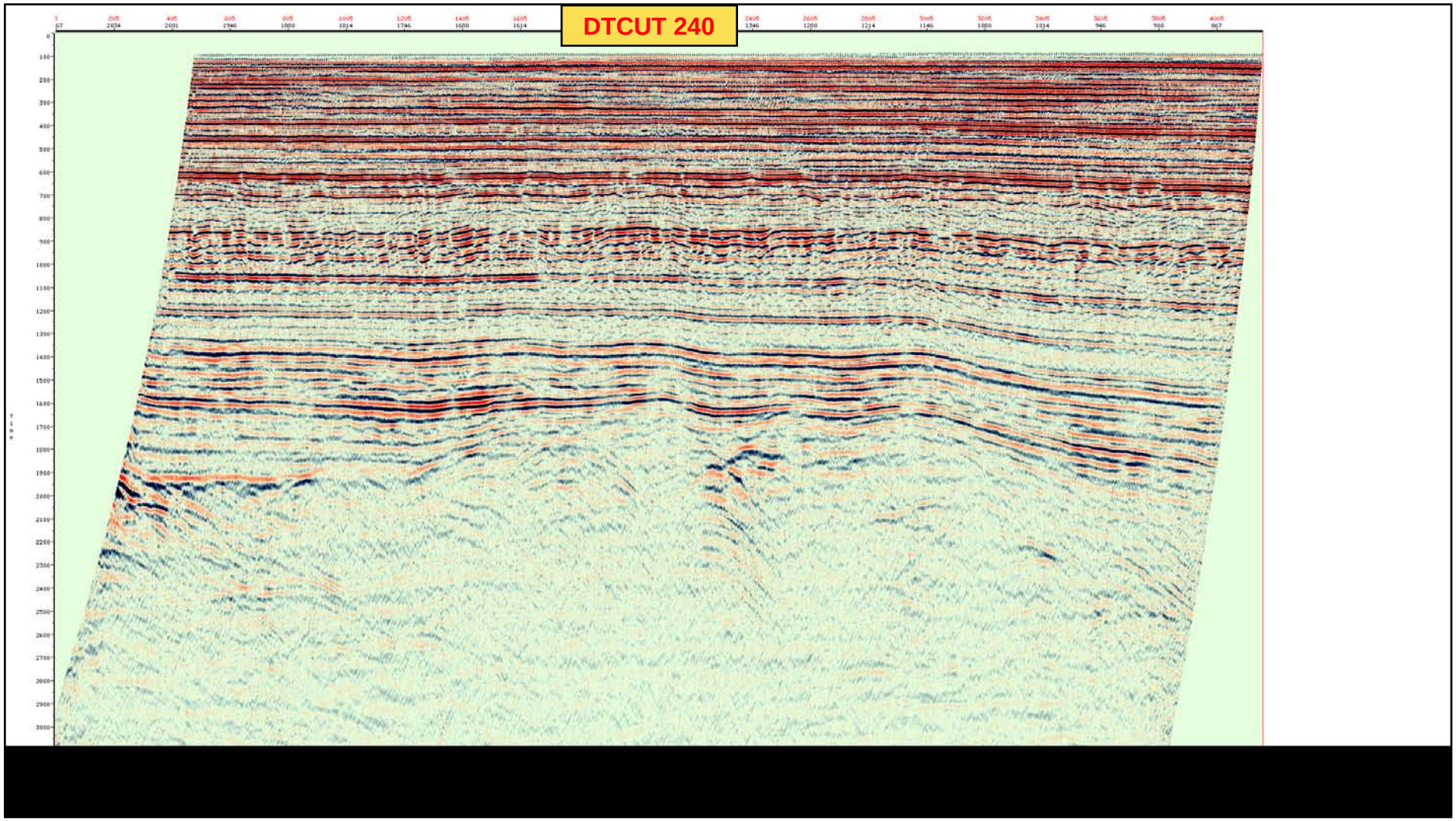
Far Stack (30-45 DEG) : Input



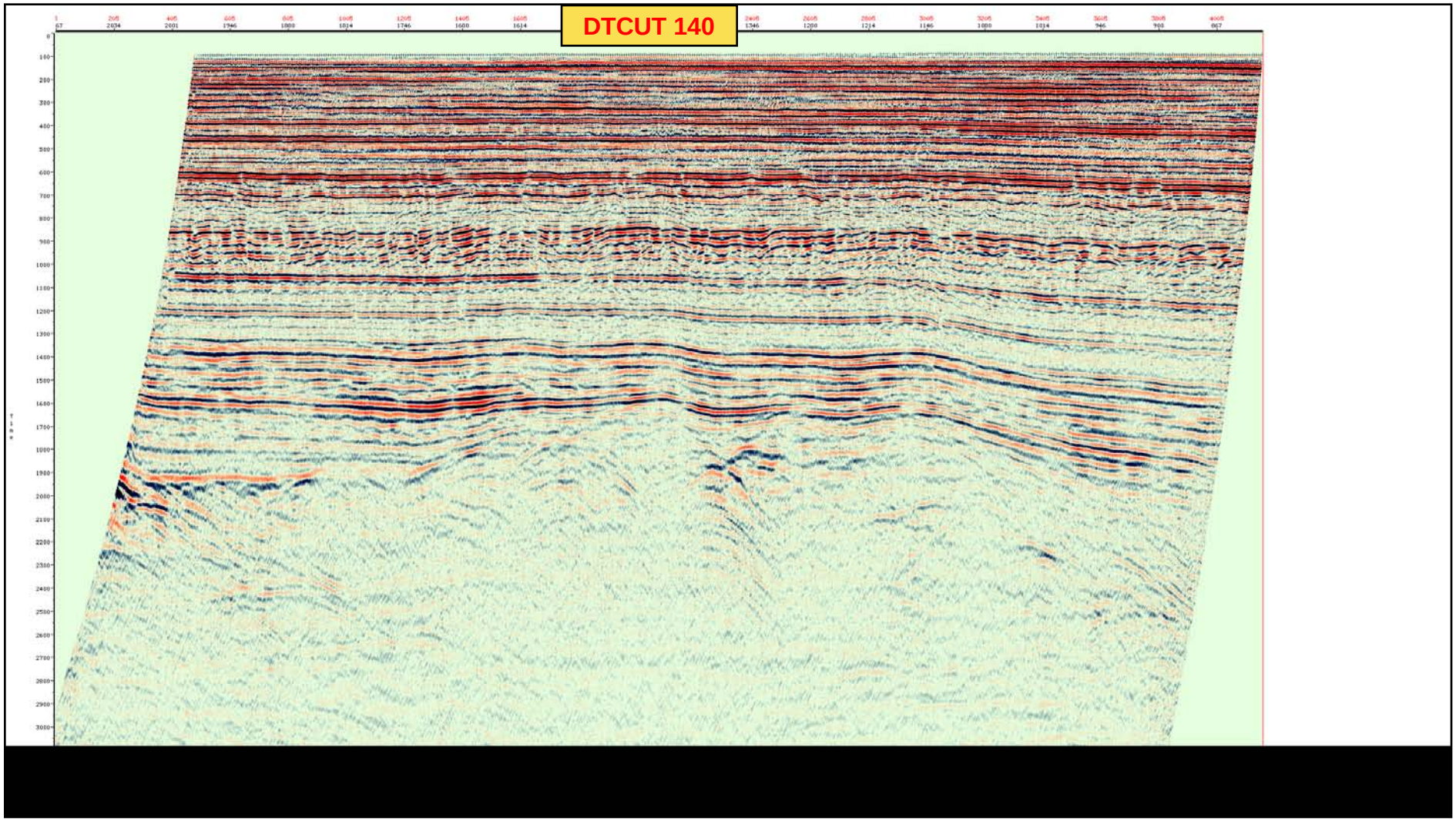
Far Stack (30-45 DEG) : DTCUT 400



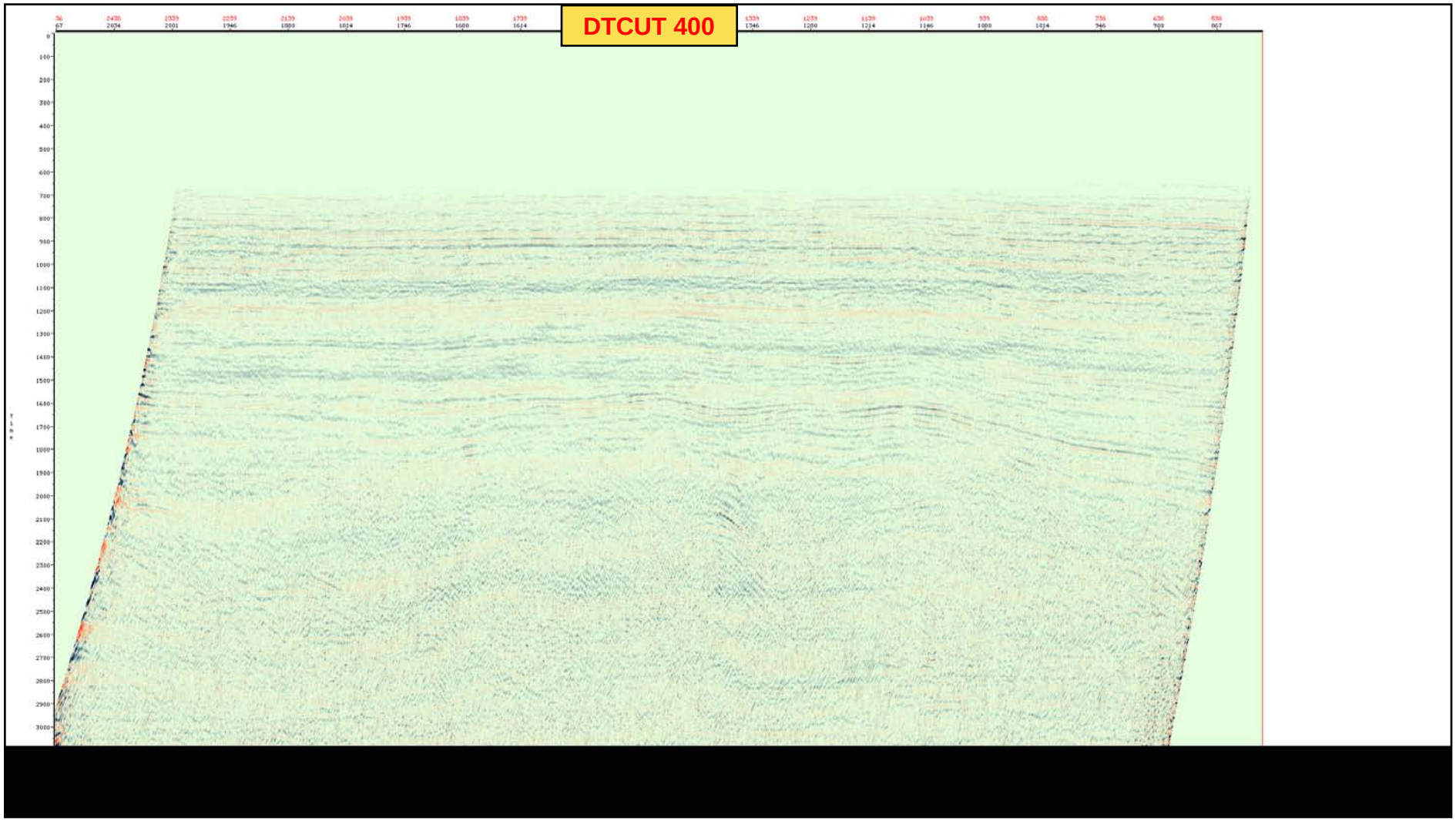
Far Stack (30-45 DEG) : DTCUT 240



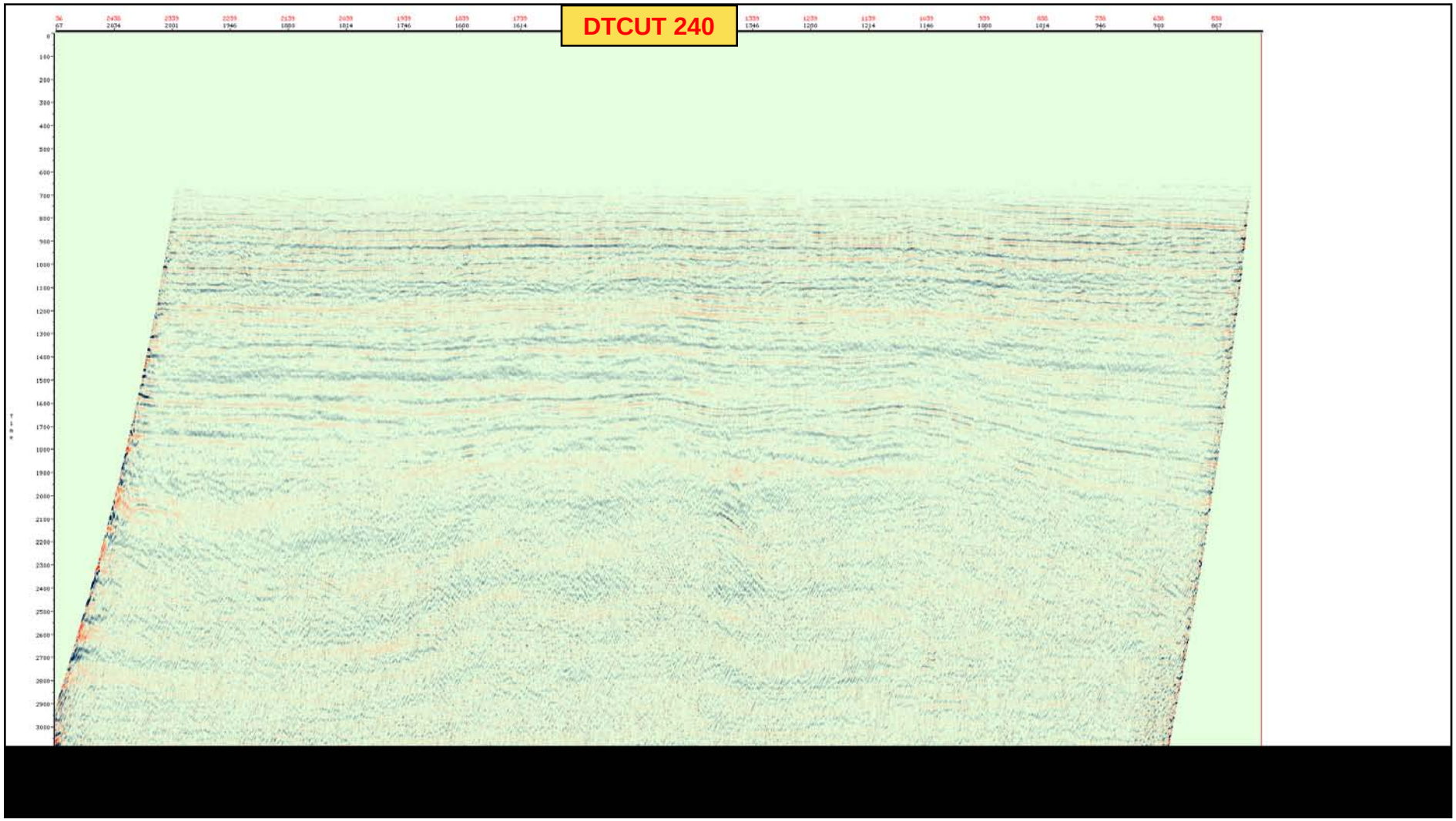
Far Stack (30-45 DEG) : DTCUT 140



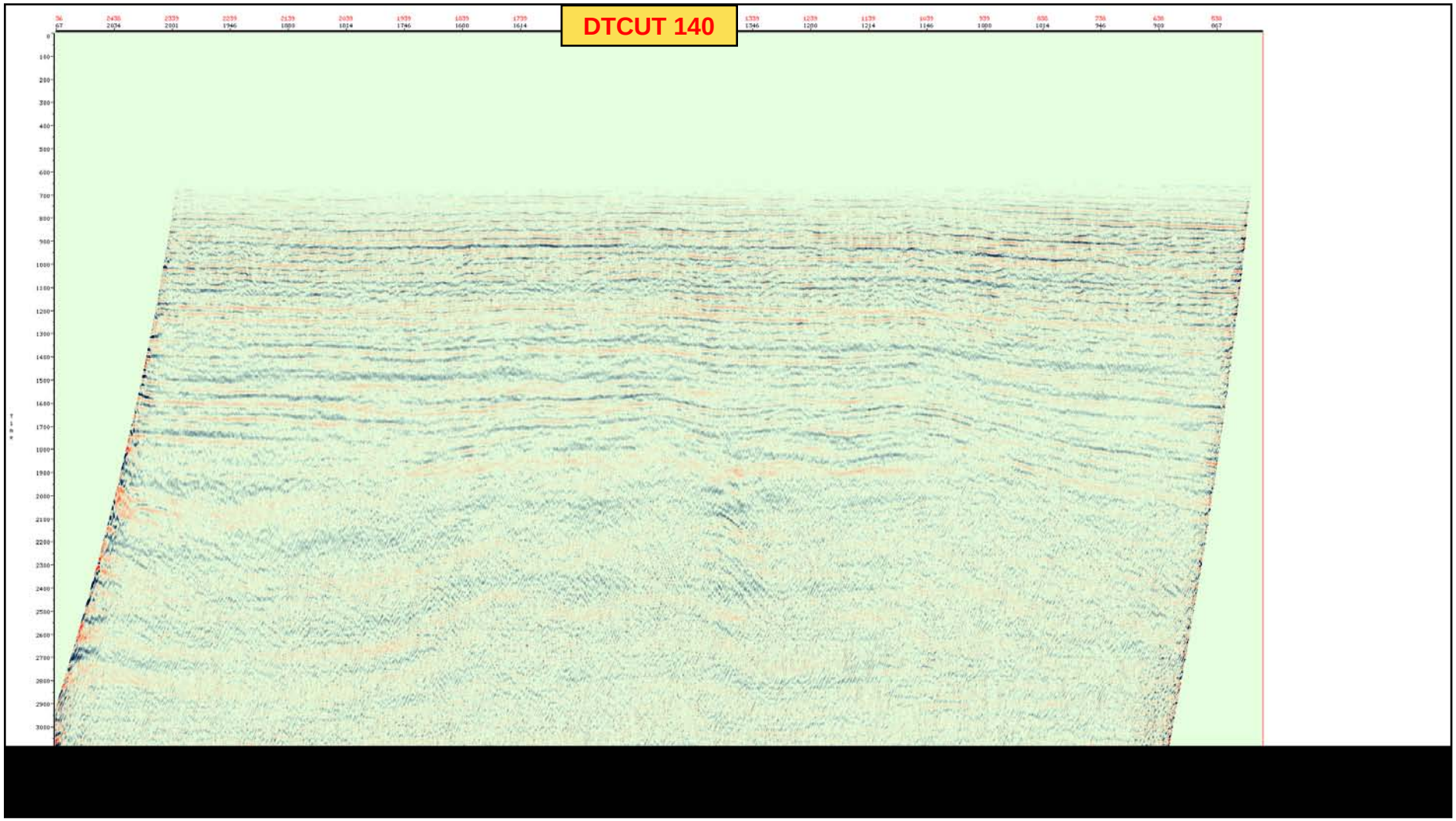
Far Stack (30-45 DEG) : Difference of DTCUT 400



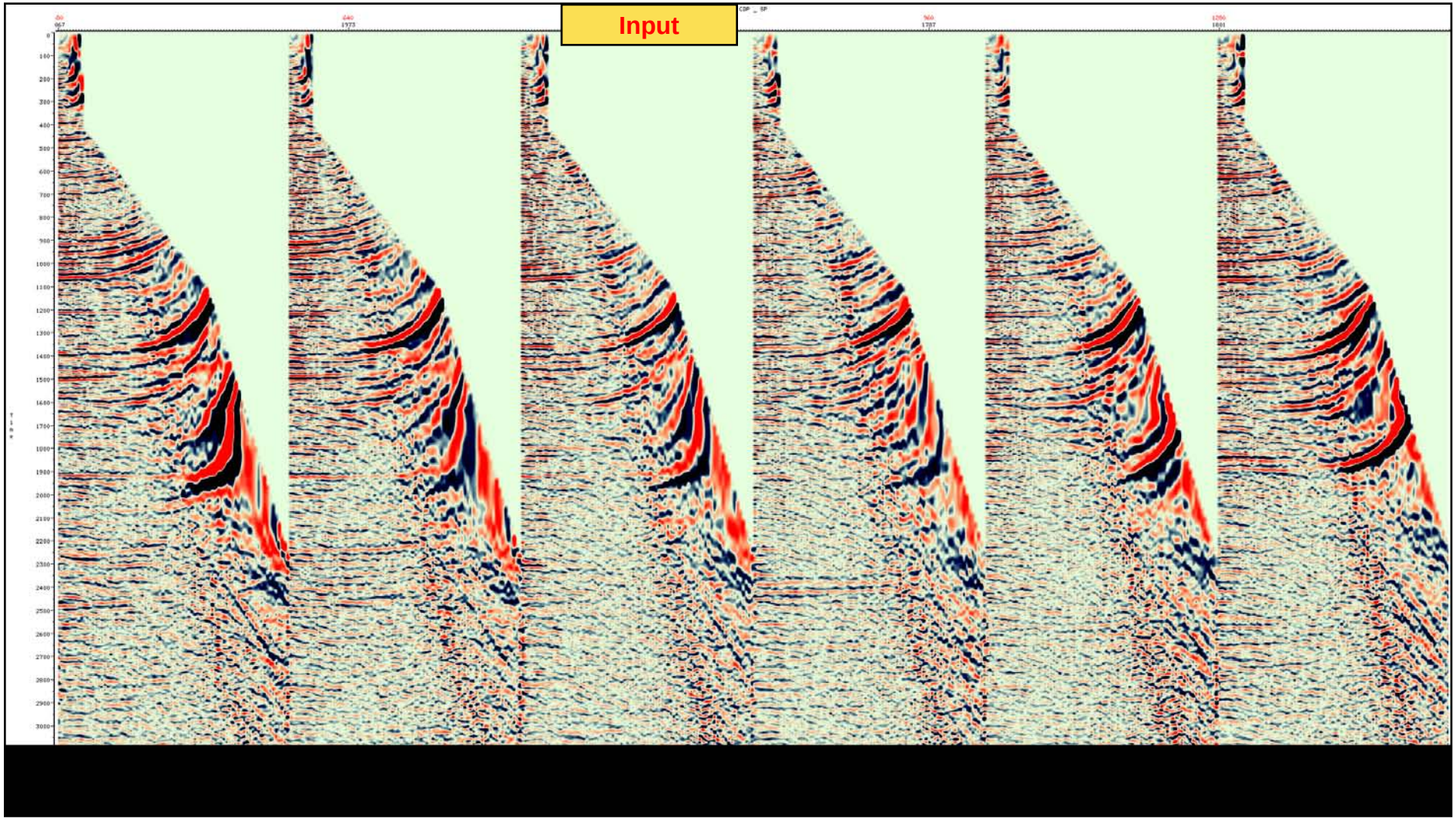
Far Stack (30-45 DEG) : Difference of DTCUT 240



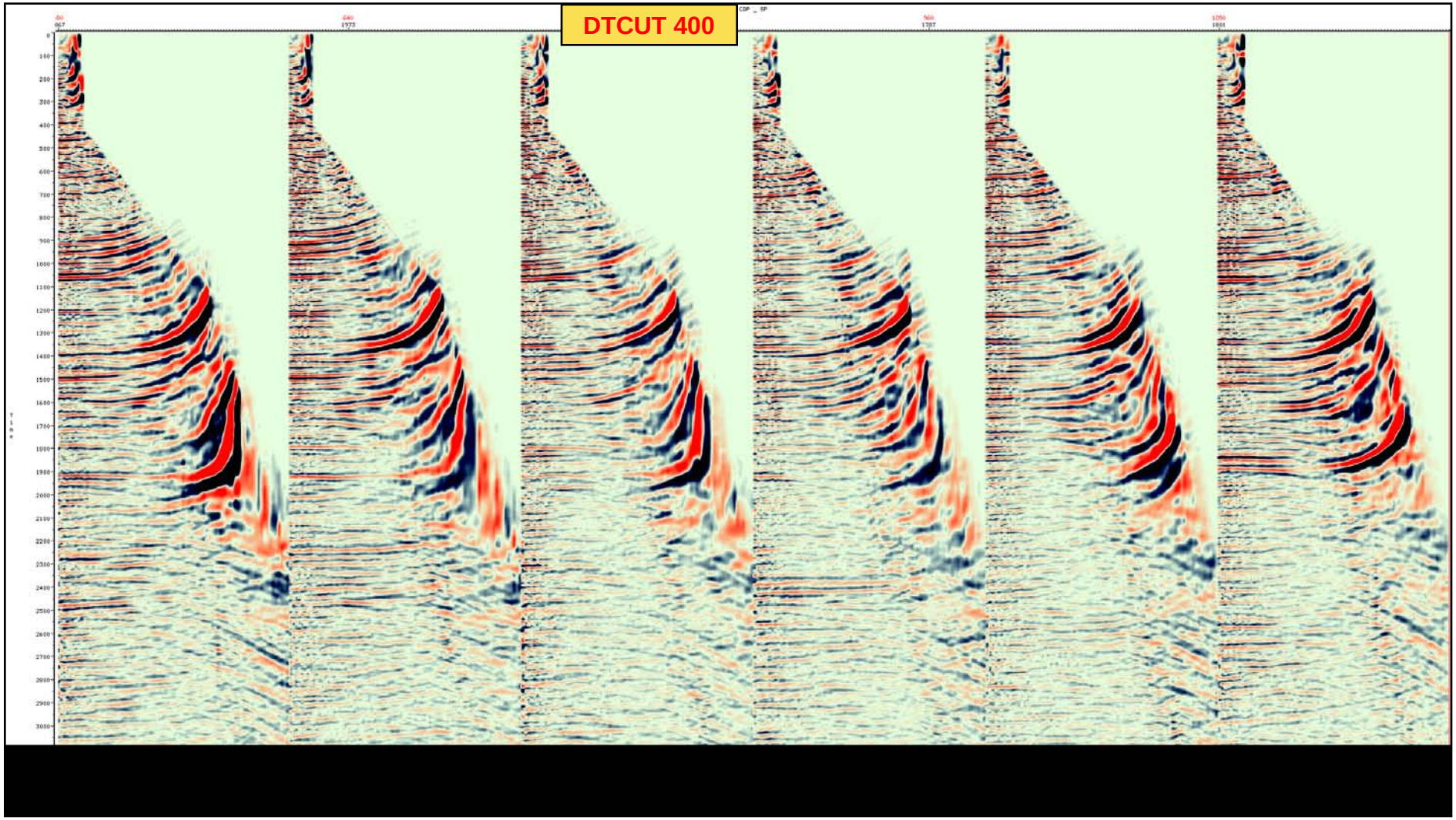
Far Stack (30-45 DEG) : Difference of DTCUT 140



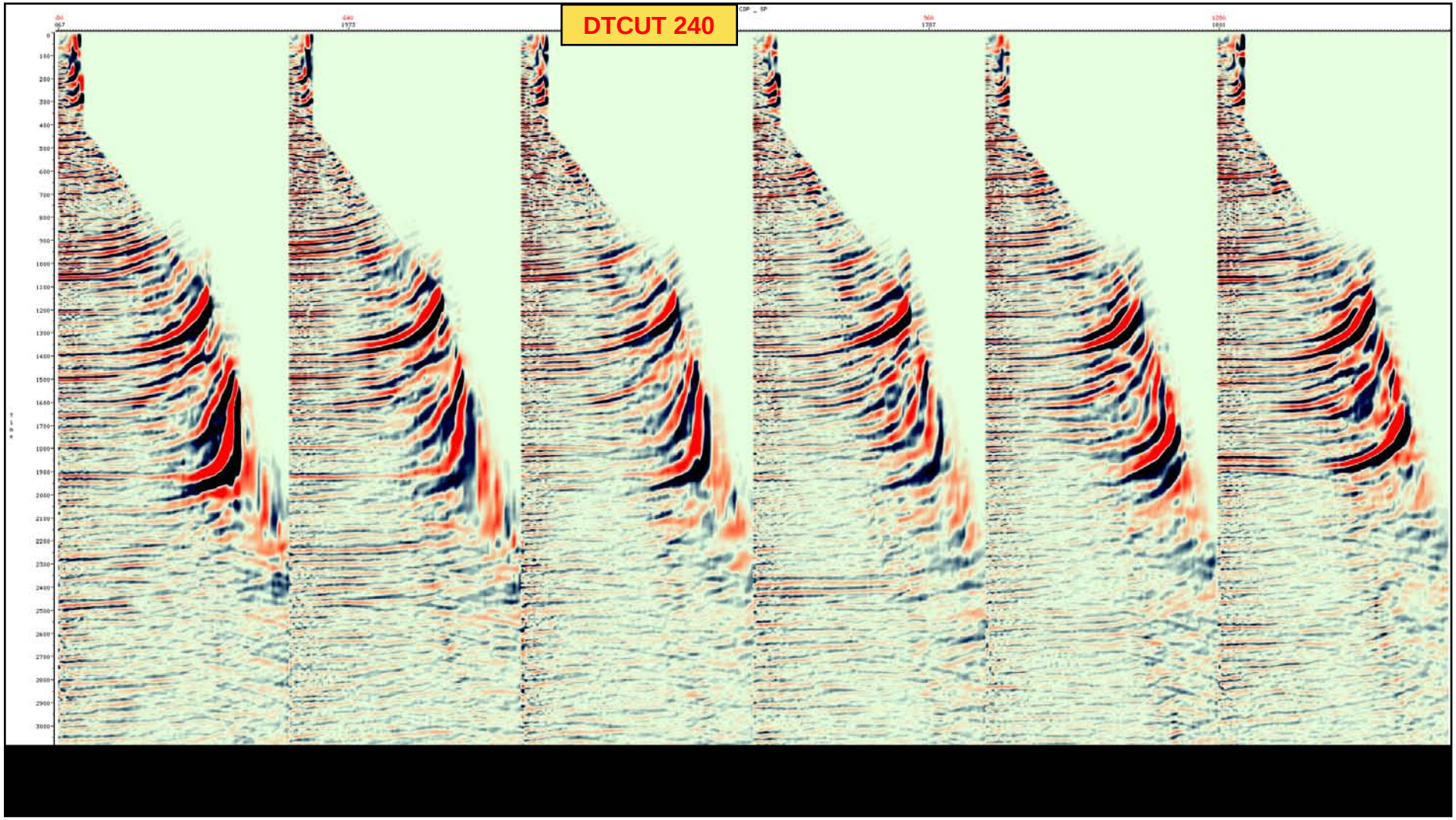
CDP Gather: Input



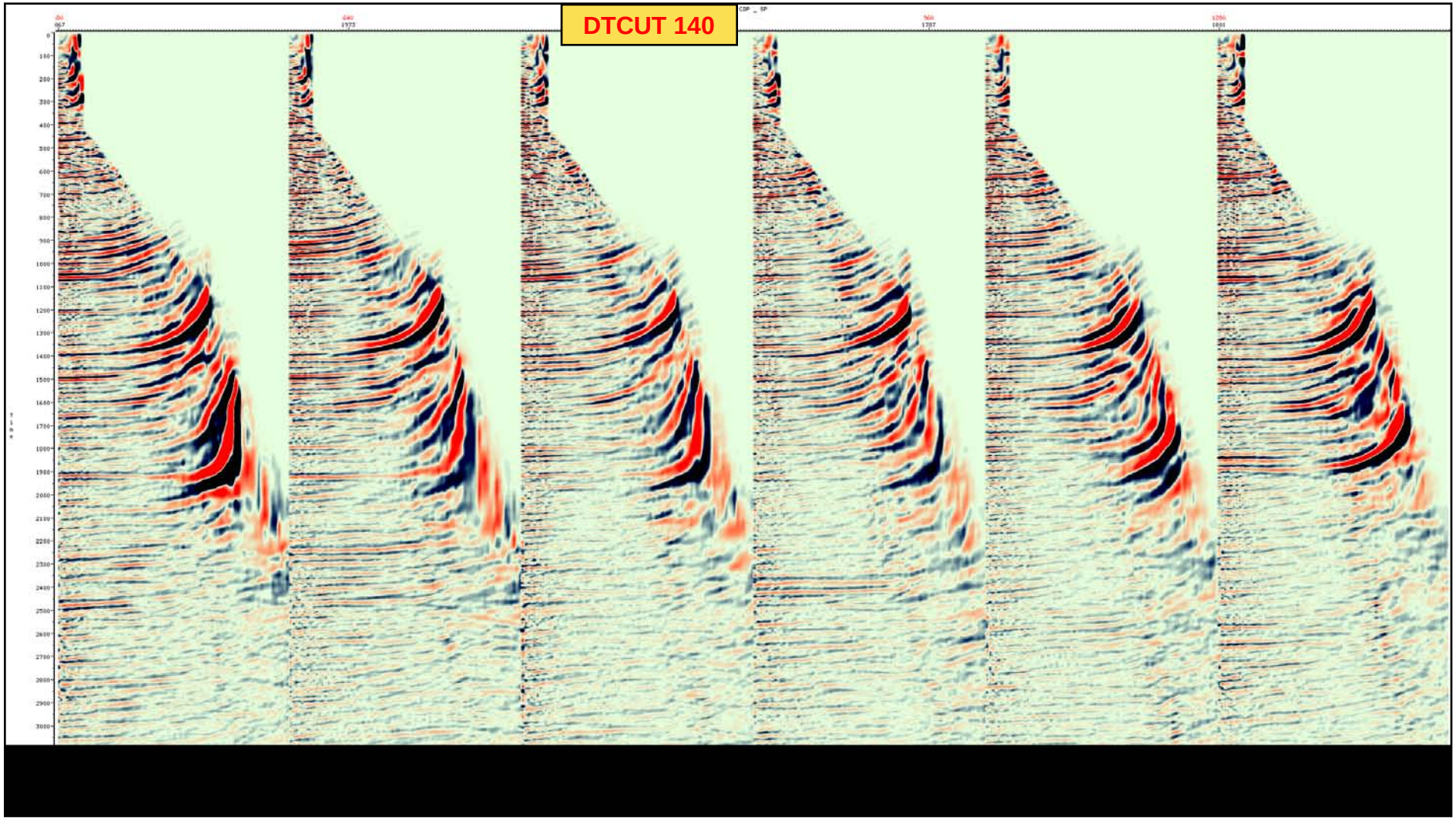
CDP Gather: DTCUT 400



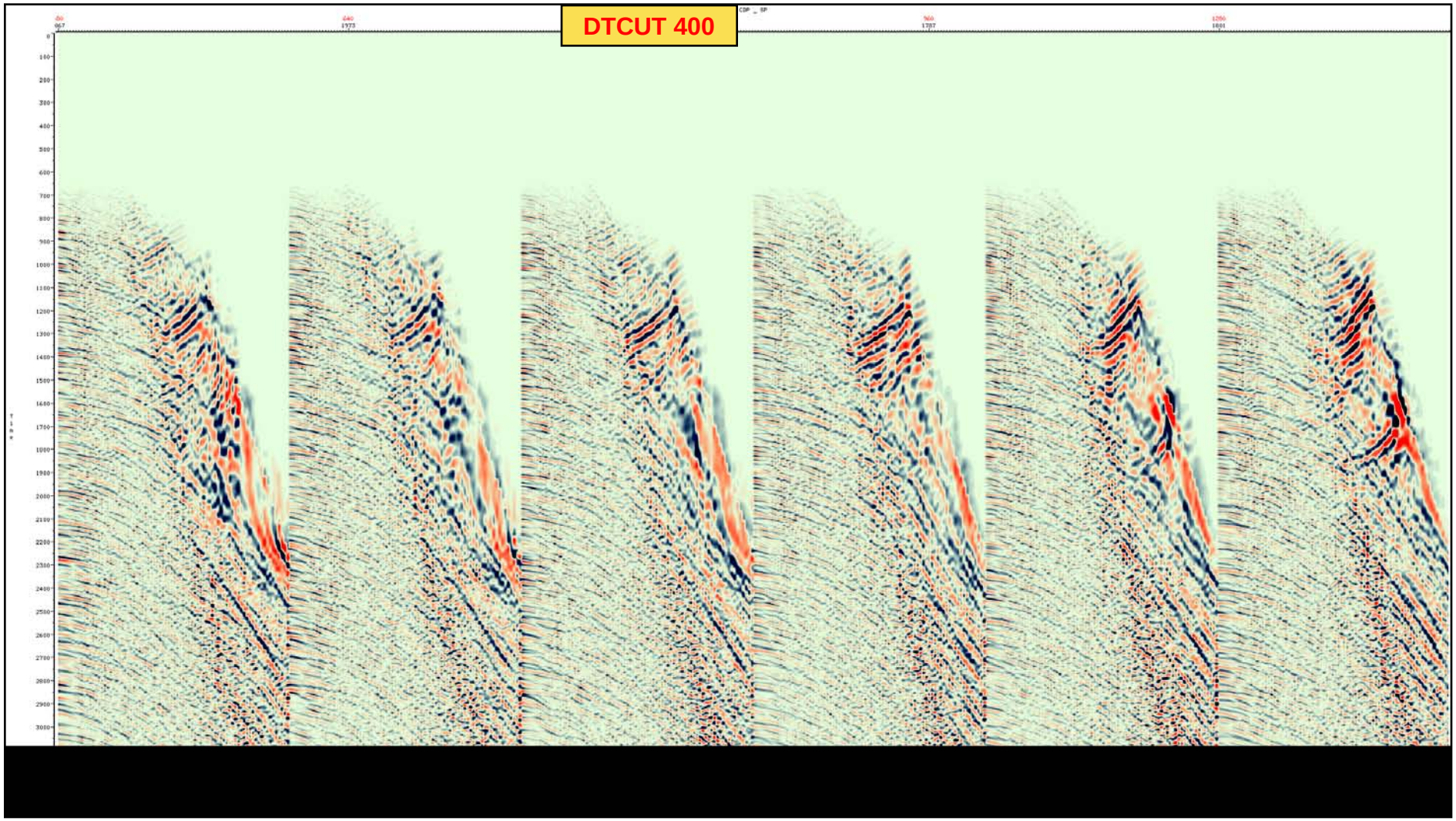
CDP Gather: DTCUT 240



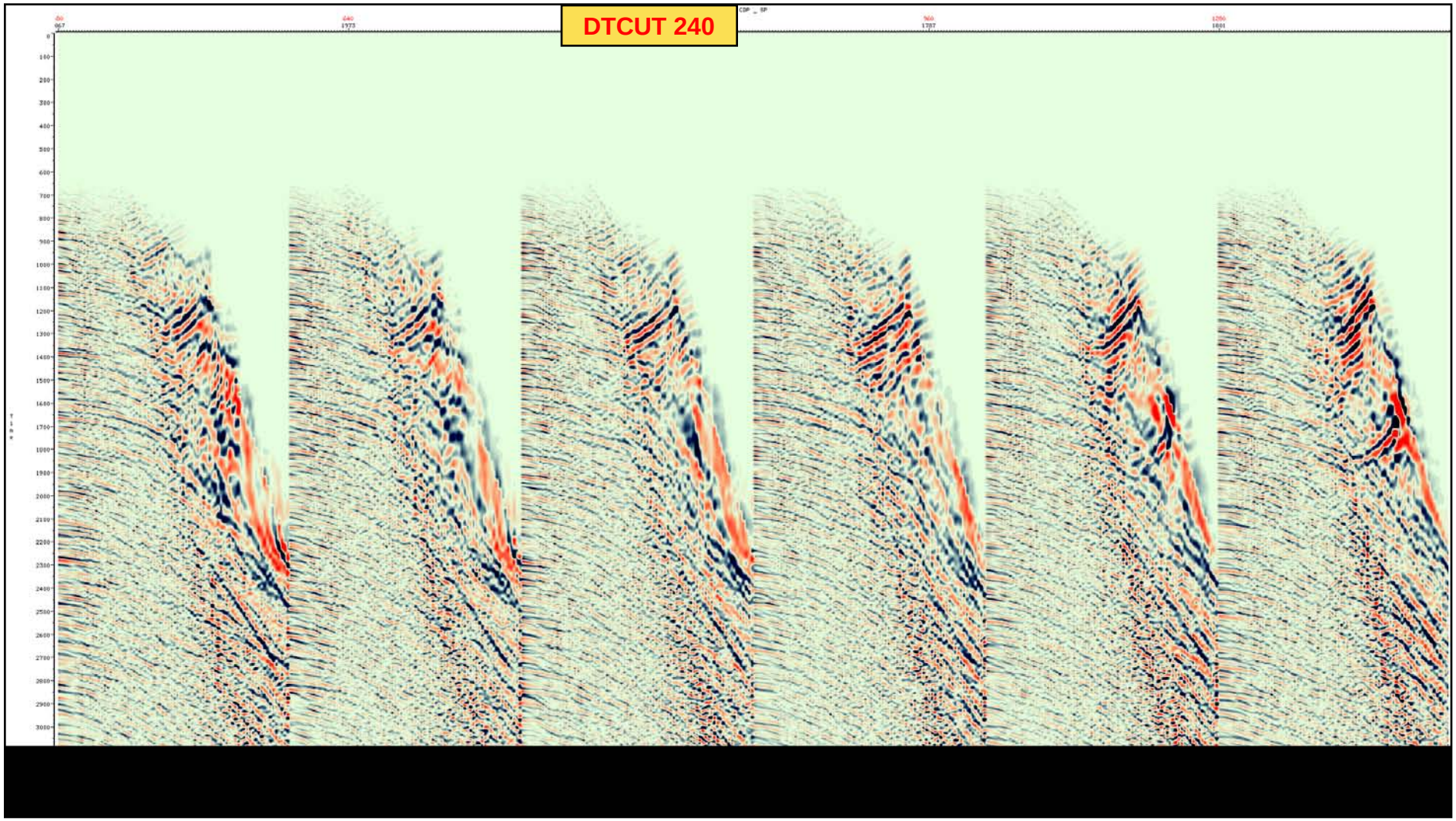
CDP Gather: DTCUT 140



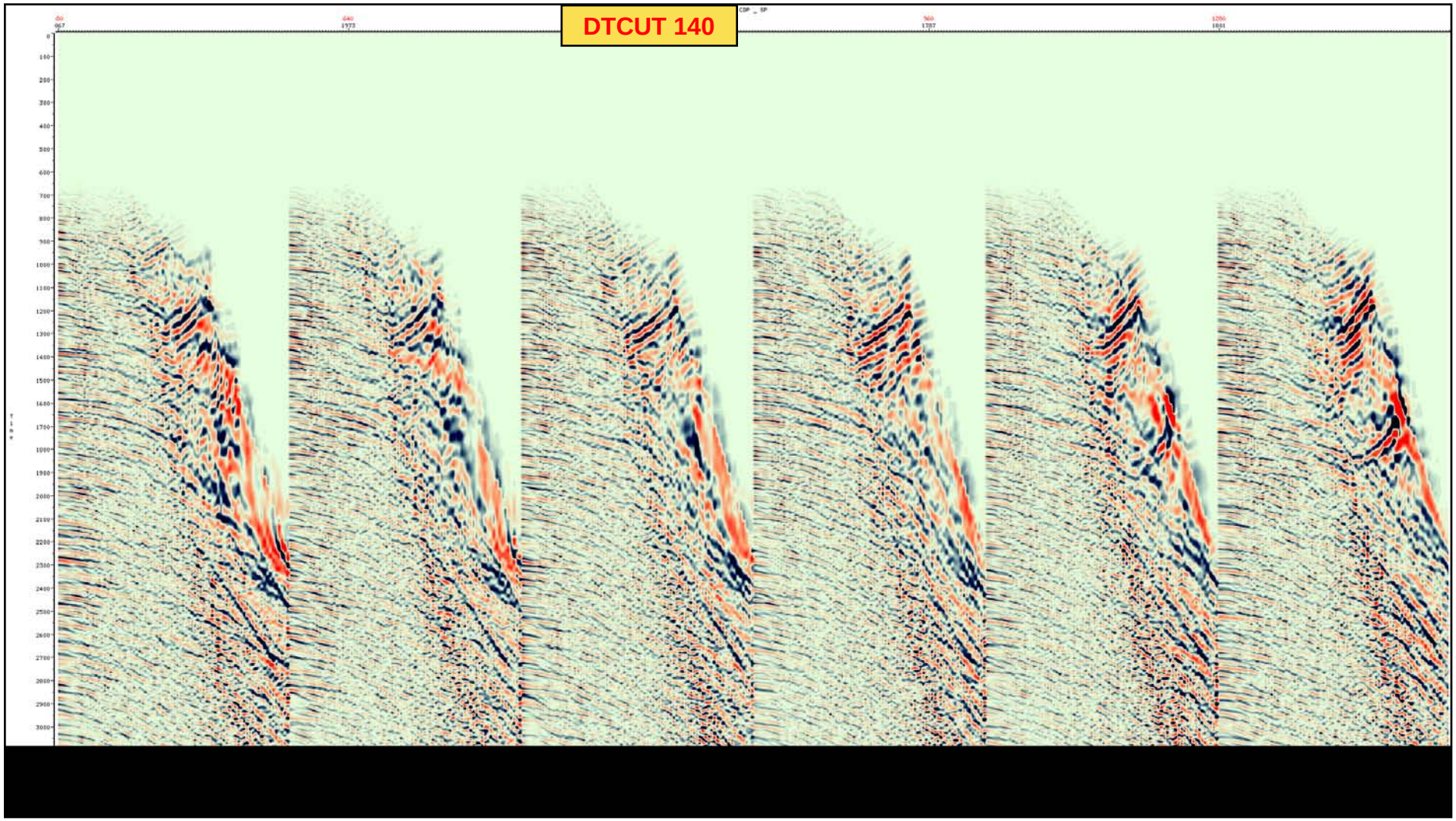
CDP Gather: Difference of DTCUT 400



CDP Gather: Difference of DTCUT 240



CDP Gather: Difference of DTCUT 140

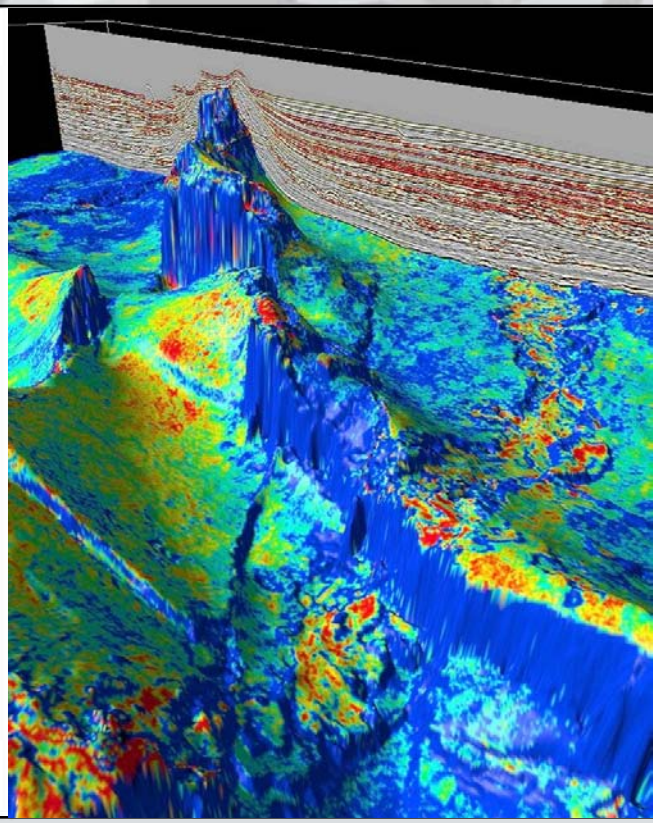


CONCLUSION & RECOMENDATIONS

- The application of the parabolic Hi-Res RADON cleans the CMP gathers of most remnant multiple, particularly as the DTCUT decreases.
- Too small a DTCUT (140ms) are too strong when velocity control is not perfect. A tighter DTCUT can be used post-migration when final RMO velocities have been applied.

- **CGG recommends using a parabolic Hi-Res RADON with a DTCUT of 240ms**

Technical Note 4
(add1)
Radon De-multiple
Silvereye 3D



CGGVERITAS

Introduction

Testing was carried out on sail line OS073D1342P1039 (Seq:039).

The data are selected on cable 3.

Processing Sequence to date

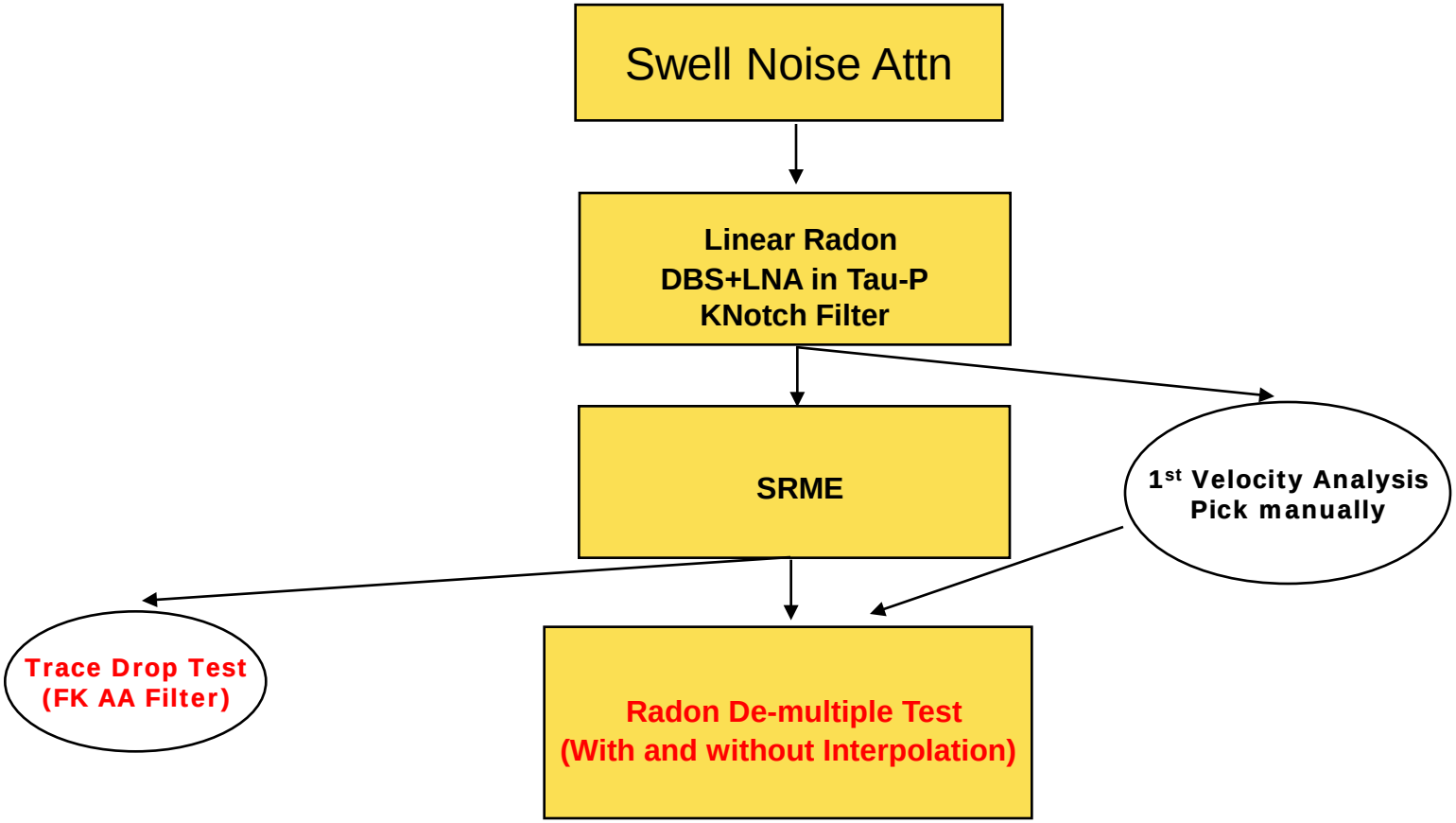
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain

Current Test

- **Trace Drop**
  FK AA Filter (apply from time 0ms)
- **HR Parabolic Radon De-multiple (DTCUT 240ms):**
  With and Without Interpolation before Radon

Current Test



HR Radon Demultiple

Introduction

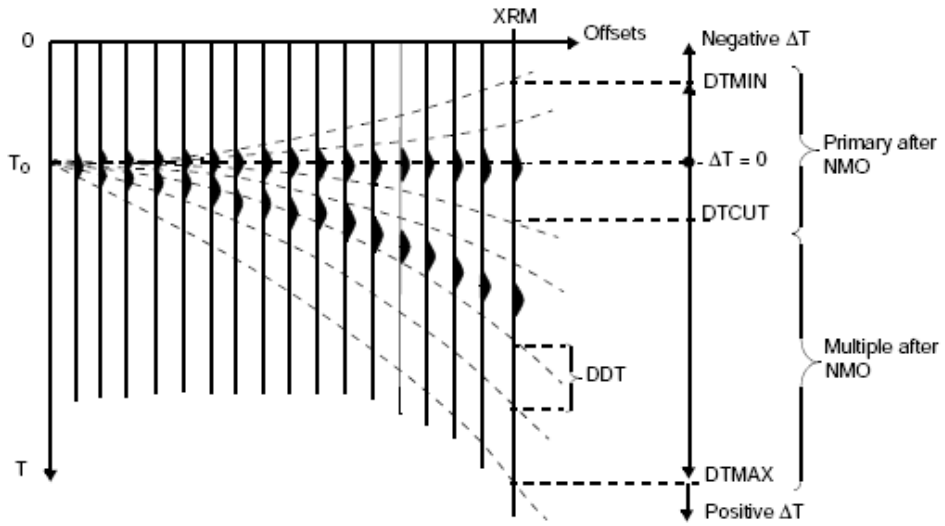
Testing was carried out on sail line GPAT00-2868 (Profile ID:A037), sail line GPAT00-2676 (Profile ID: A065) and sail line GPAT00-2172 (Profile ID: A111).

The data are selected on cable 3 (channel number:961-1440).

CDP displayed every 2nd trace (ch: 961-1440,I2).

Stack displayed every 4th cdp.

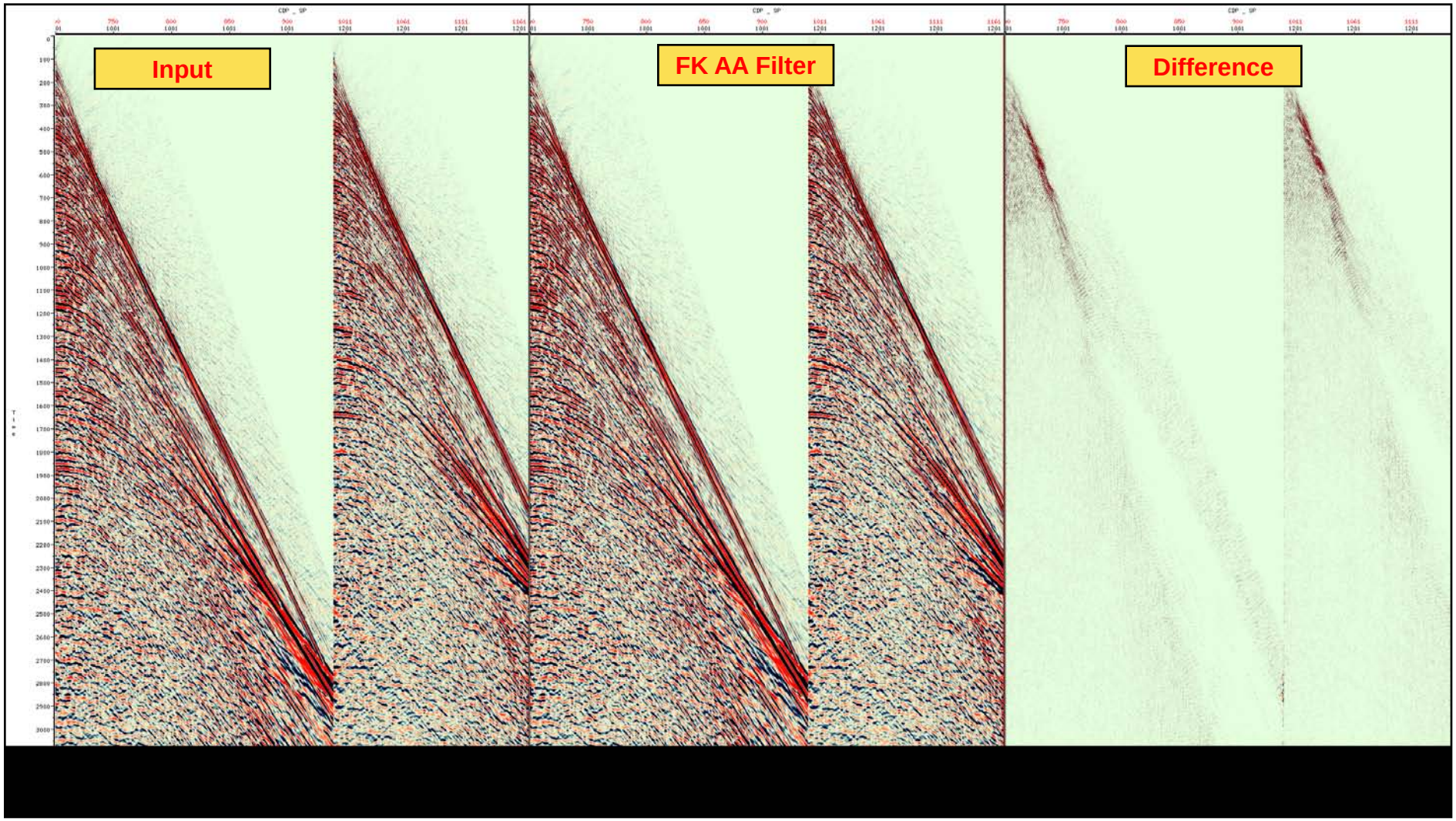
- The RADON is coded using the following parameters, referring to the diagram below :
  - DTMIN-480ms
  - DTMAX4500ms
  - XRM 6100m



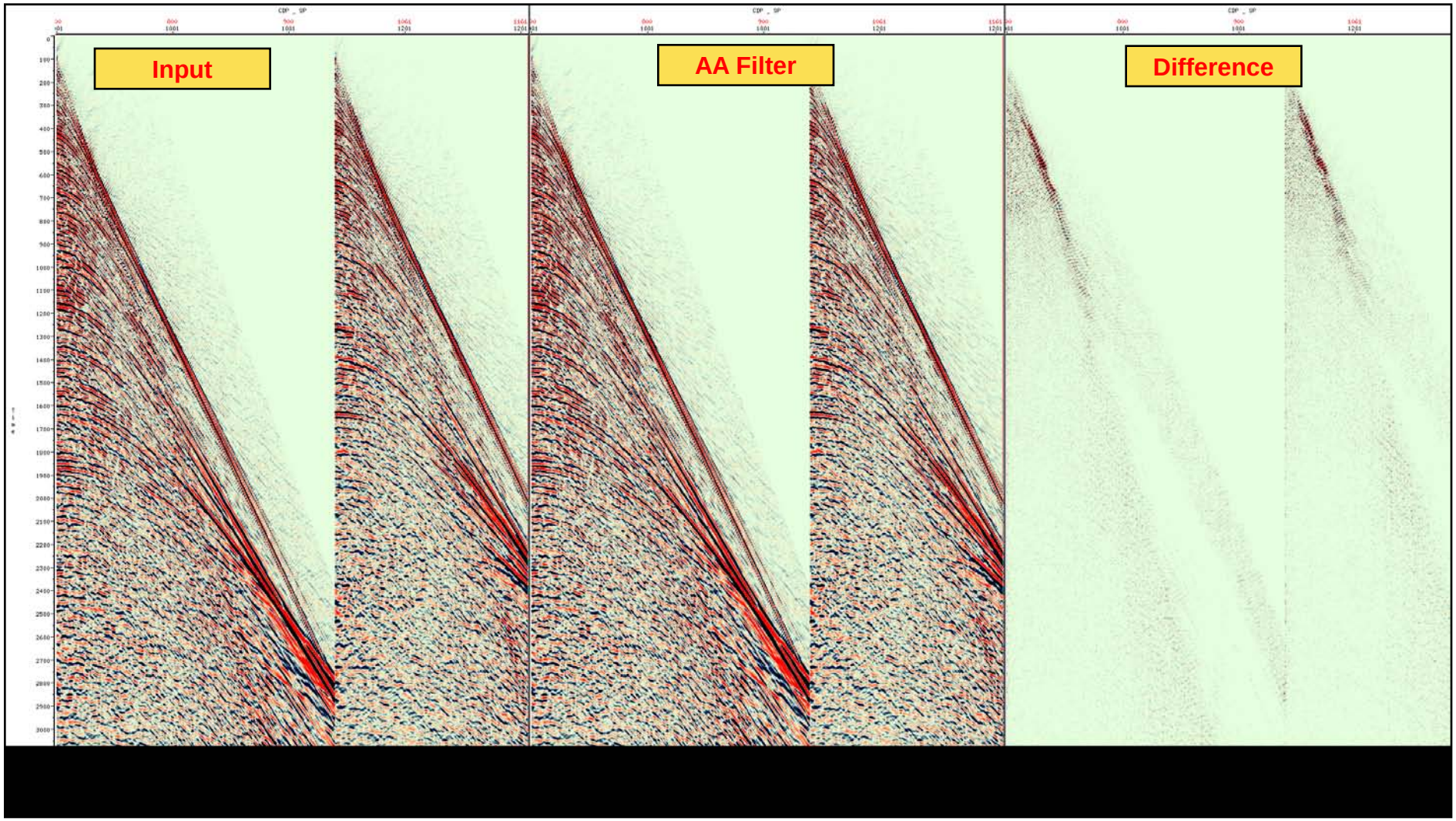
Profile ID SEQ039

FK AA for Trace Drop

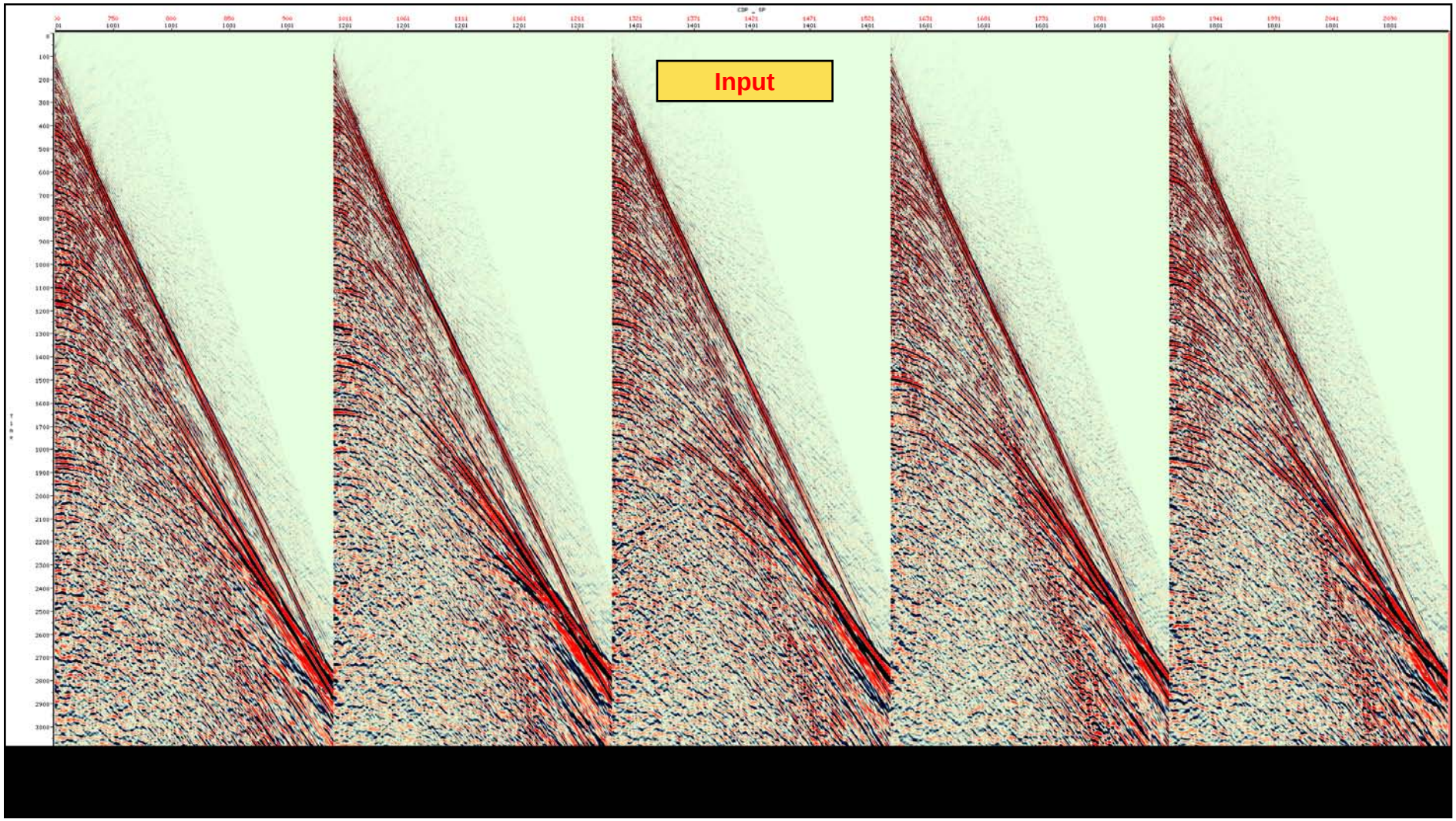
SP (SEQ 039): BEFORE TRACE DROP



SP (SEQ 039): AFTER TRACE DROP



SP (SEQ 039): BEFORE TRACE DROP



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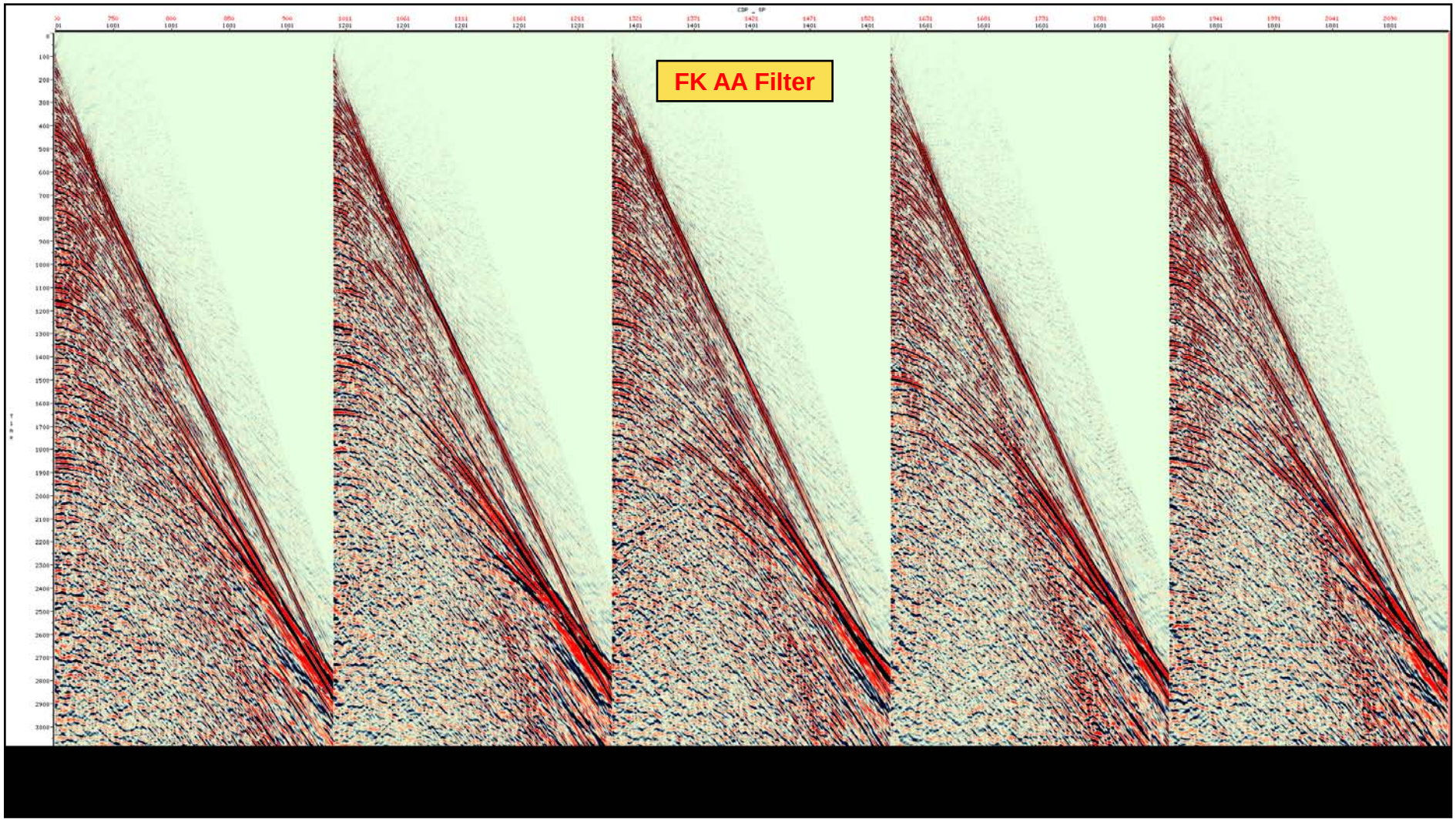

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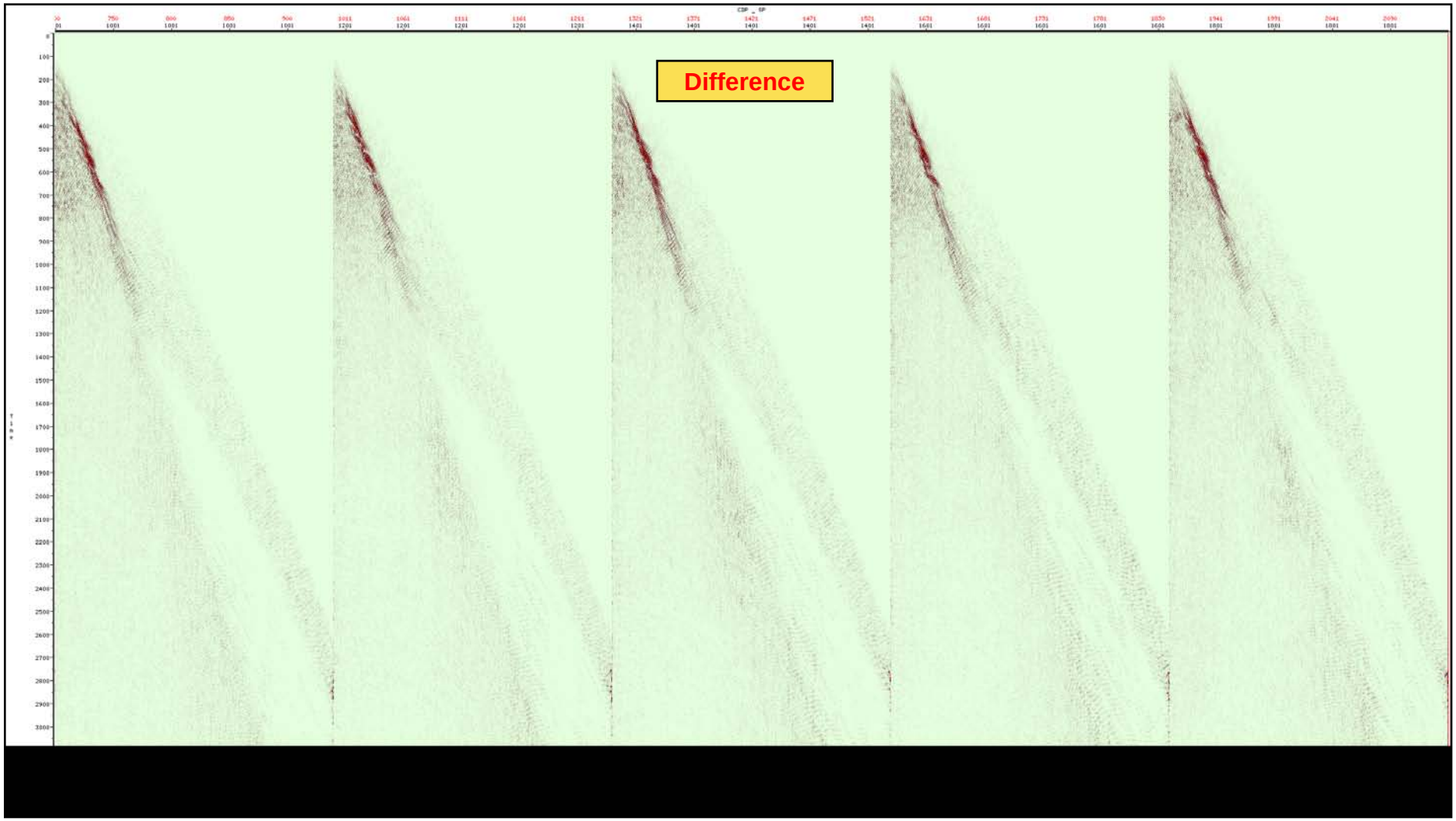

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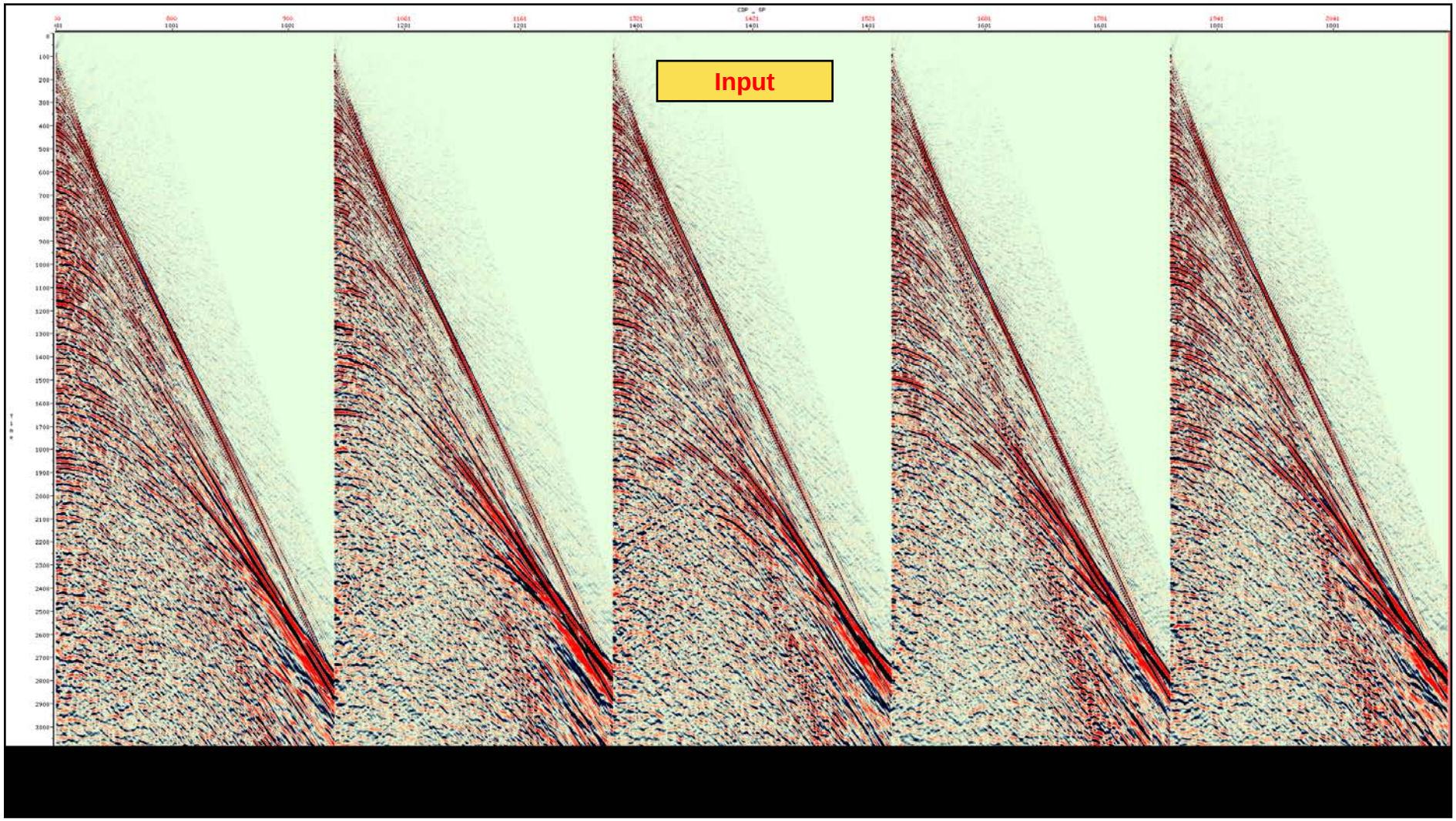

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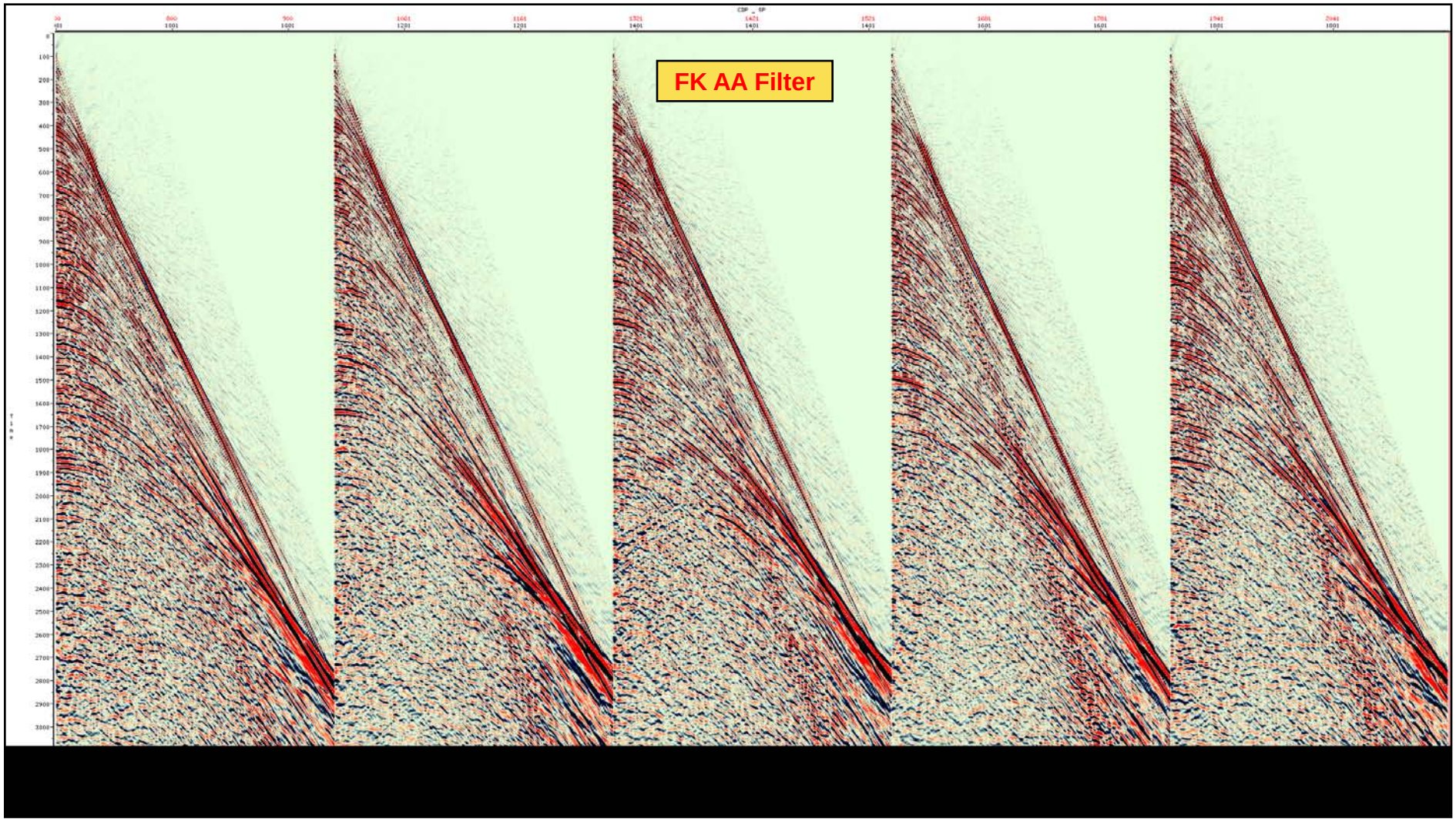
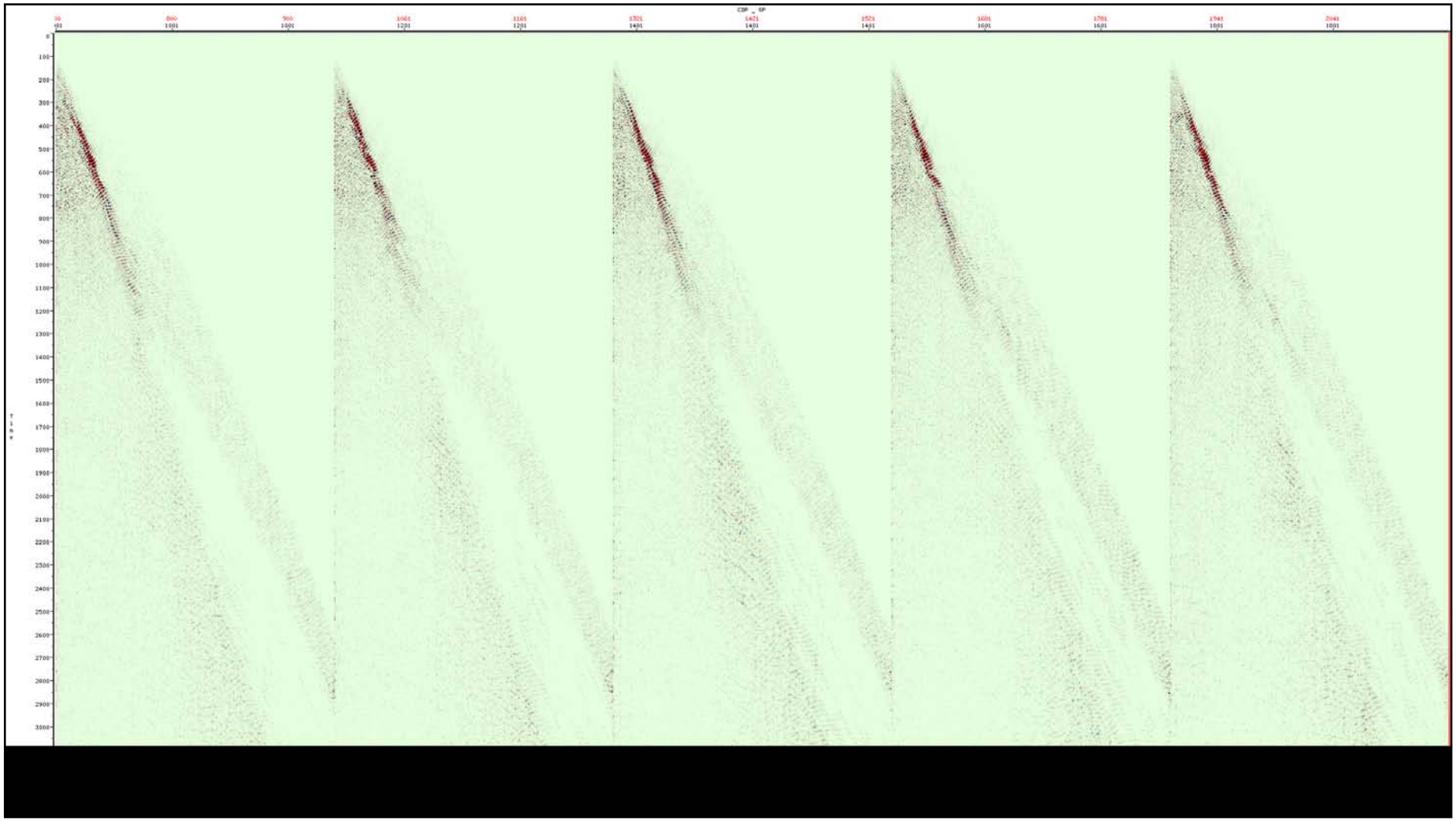


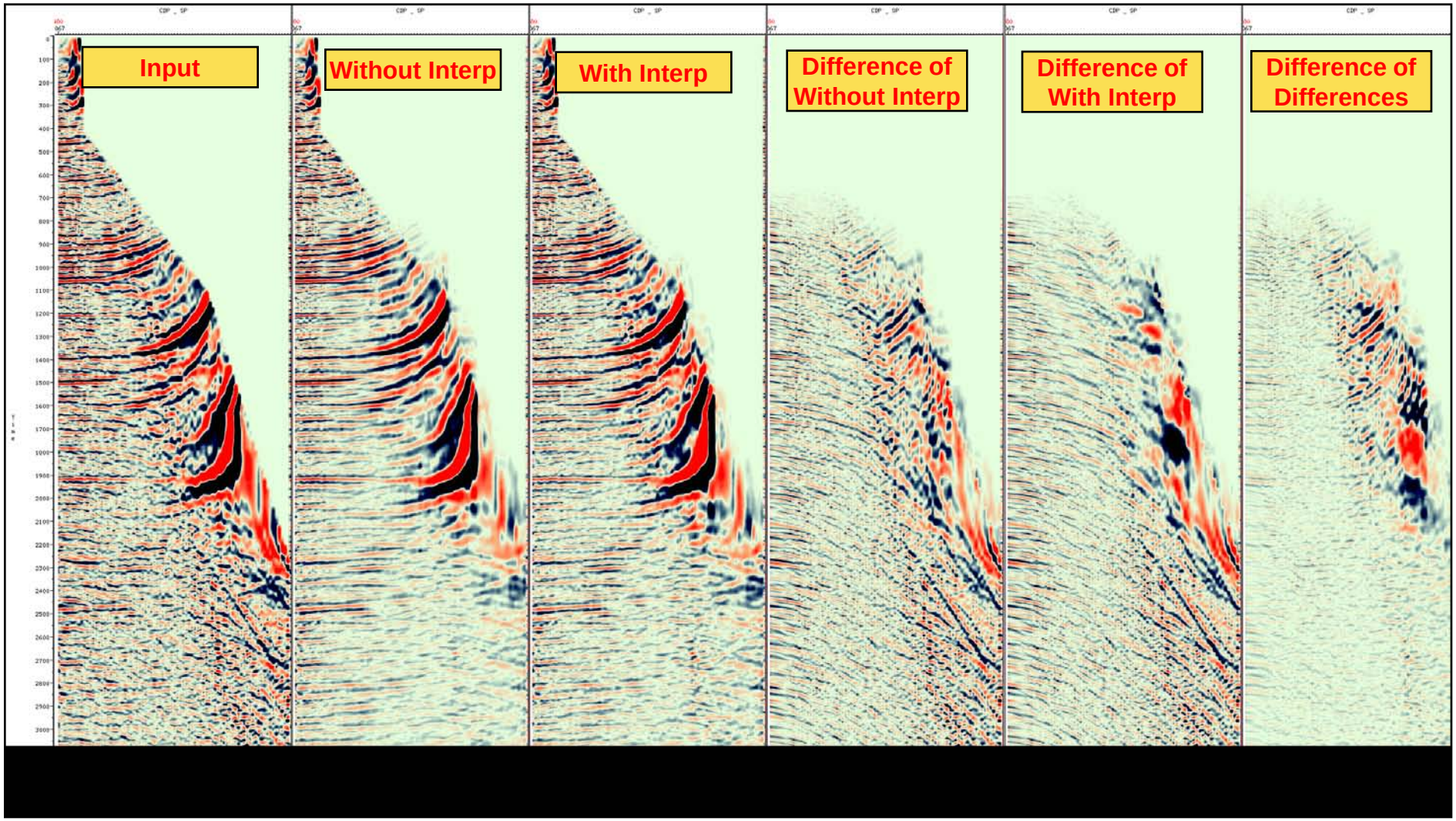
SP (SEQ 039): AFTER TRACE DROP



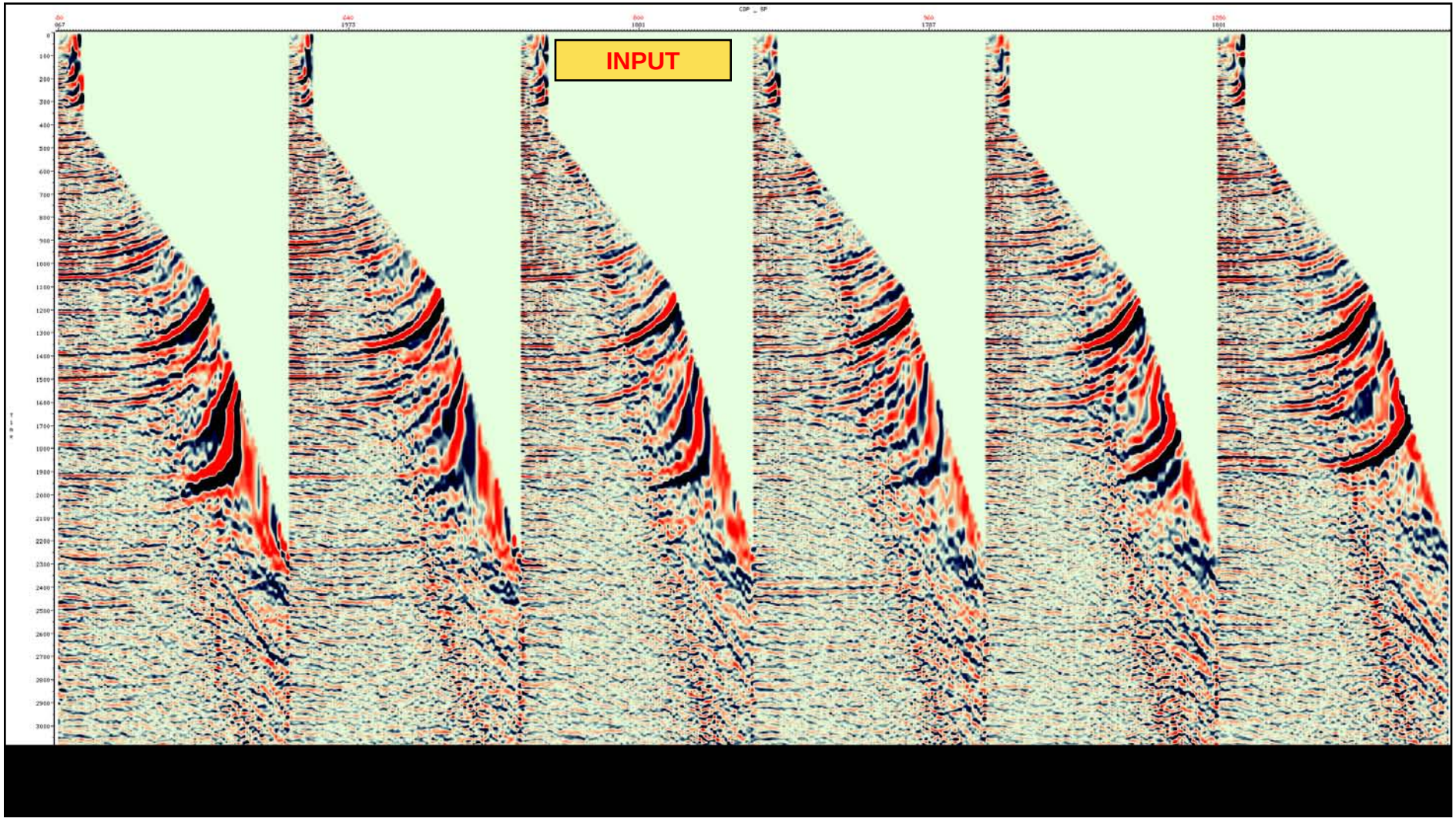
Profile ID SEQ039

Radon De-multiple

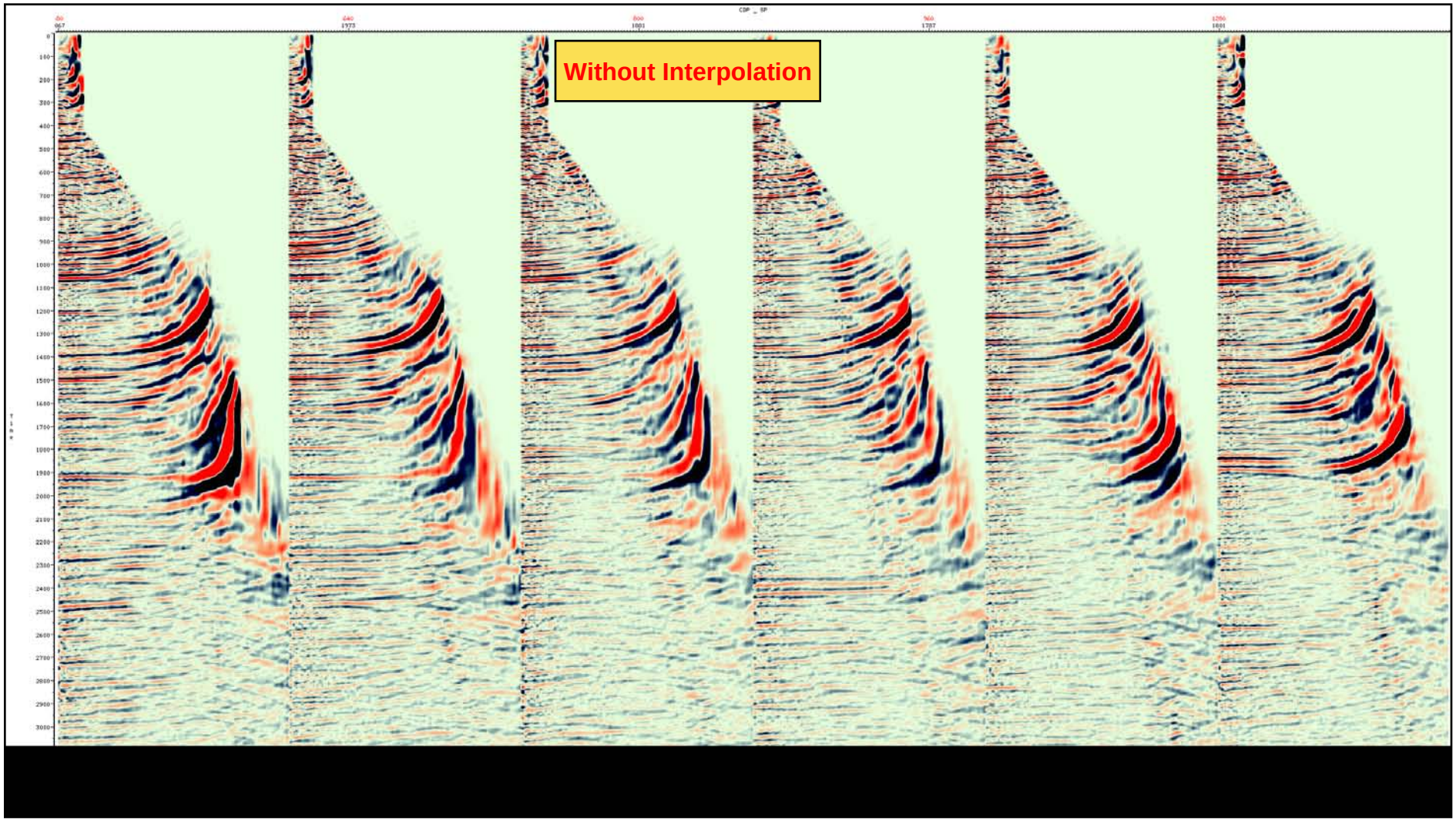
SP SEQ-039: RADON without/with Interpolation



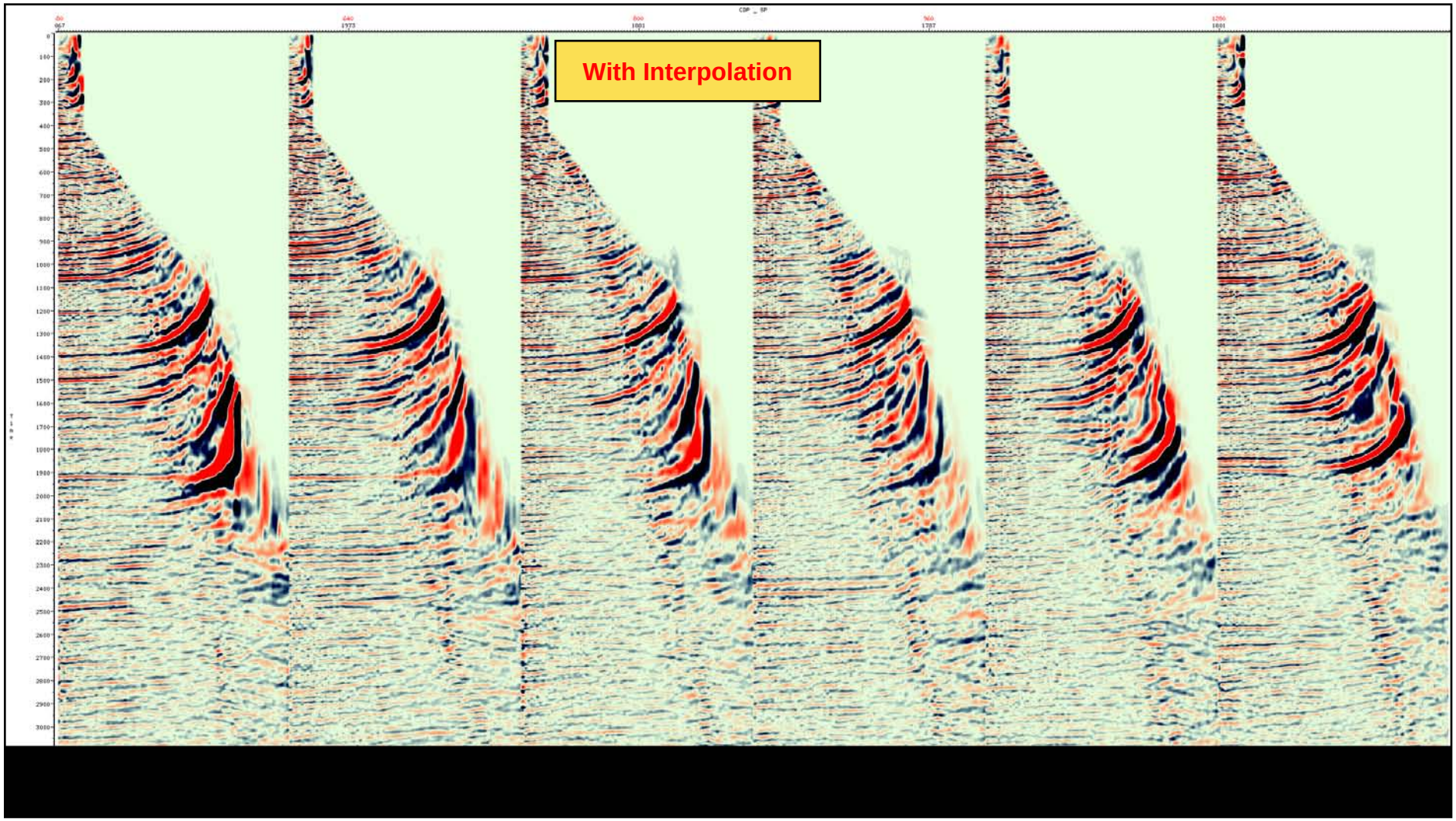
SP SEQ-039: INPUT RADON



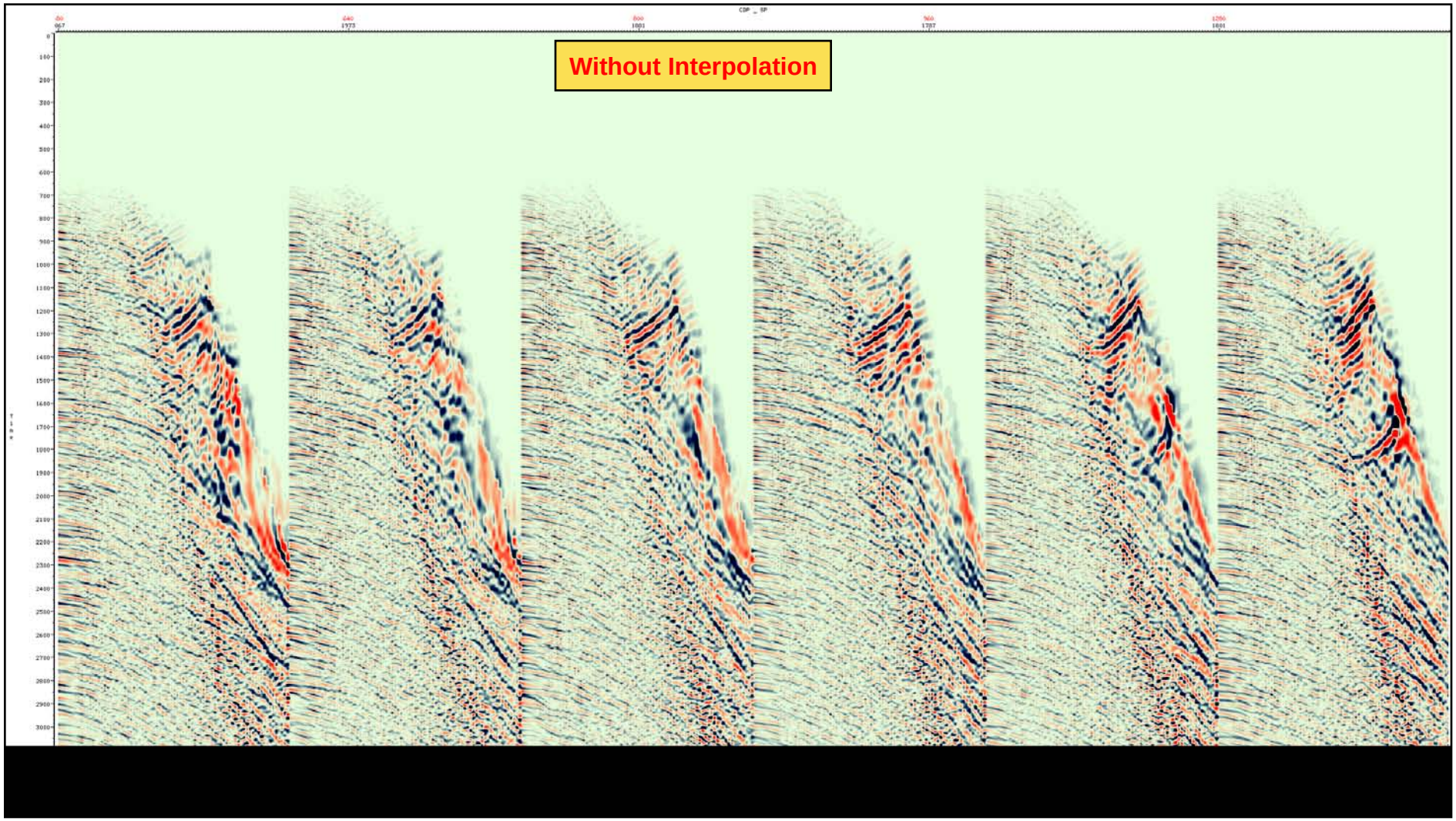
SP SEQ-039: RADON



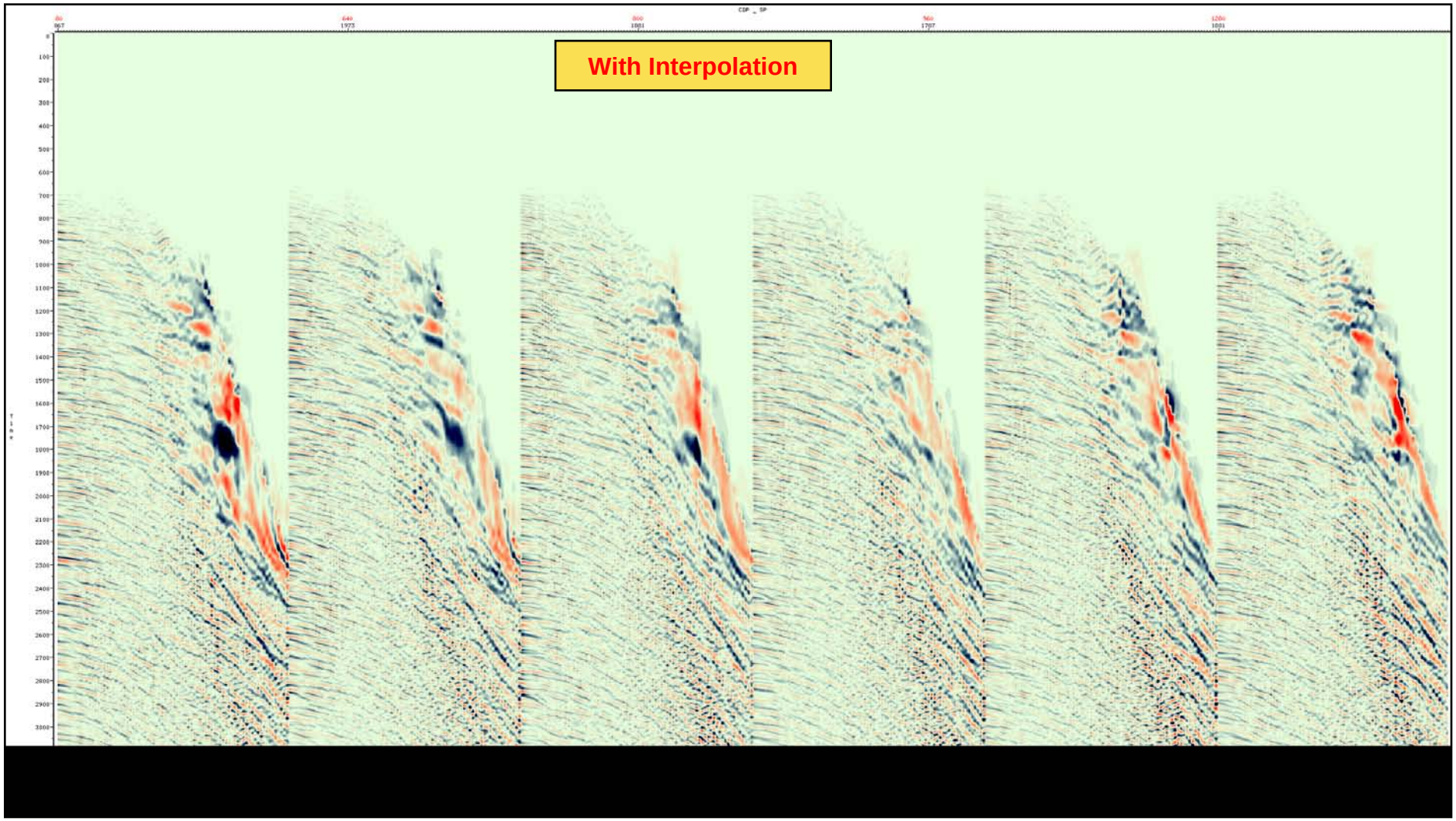
SP SEQ-039: RADON



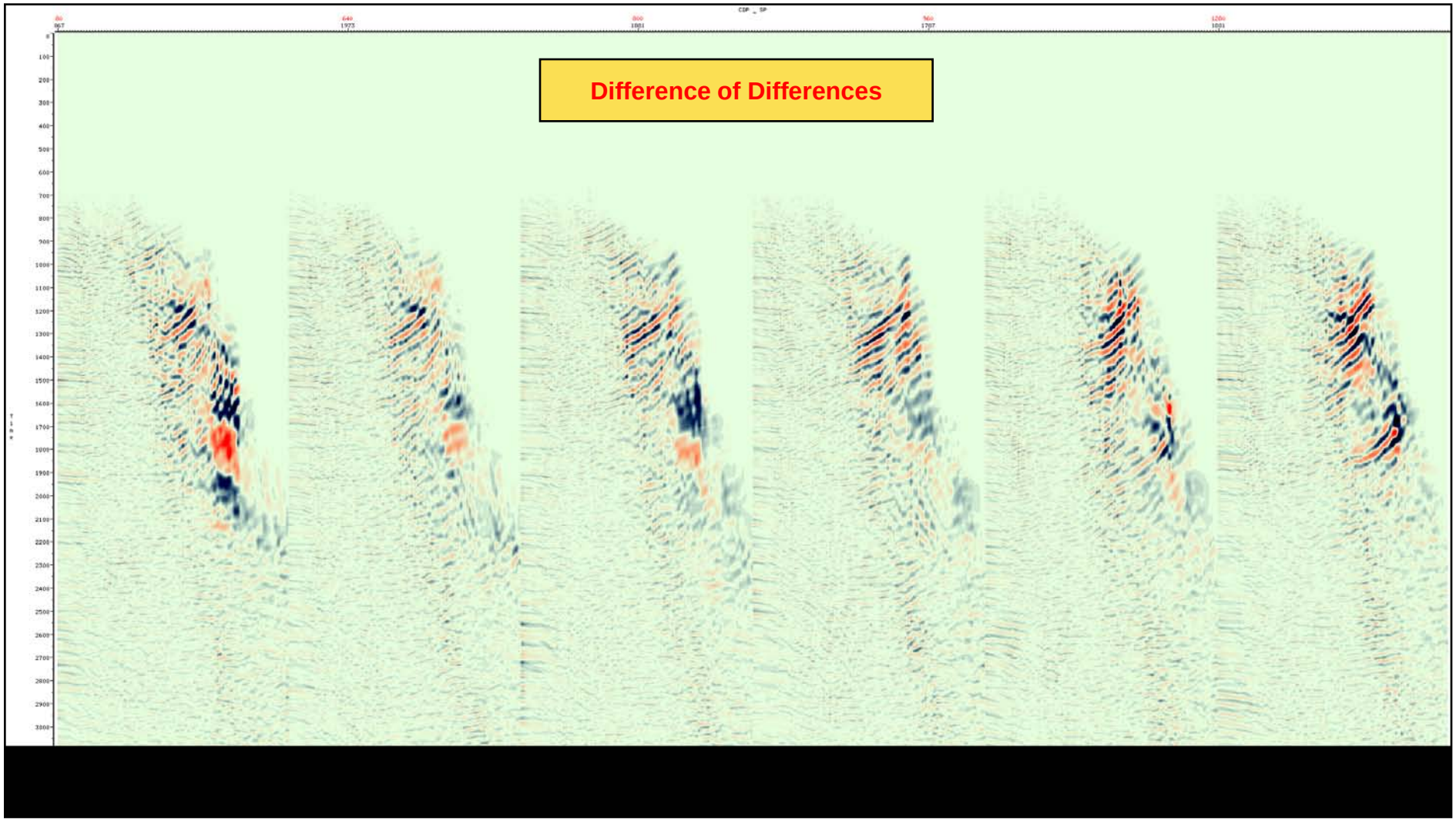
SP SEQ-039: Difference of RADON



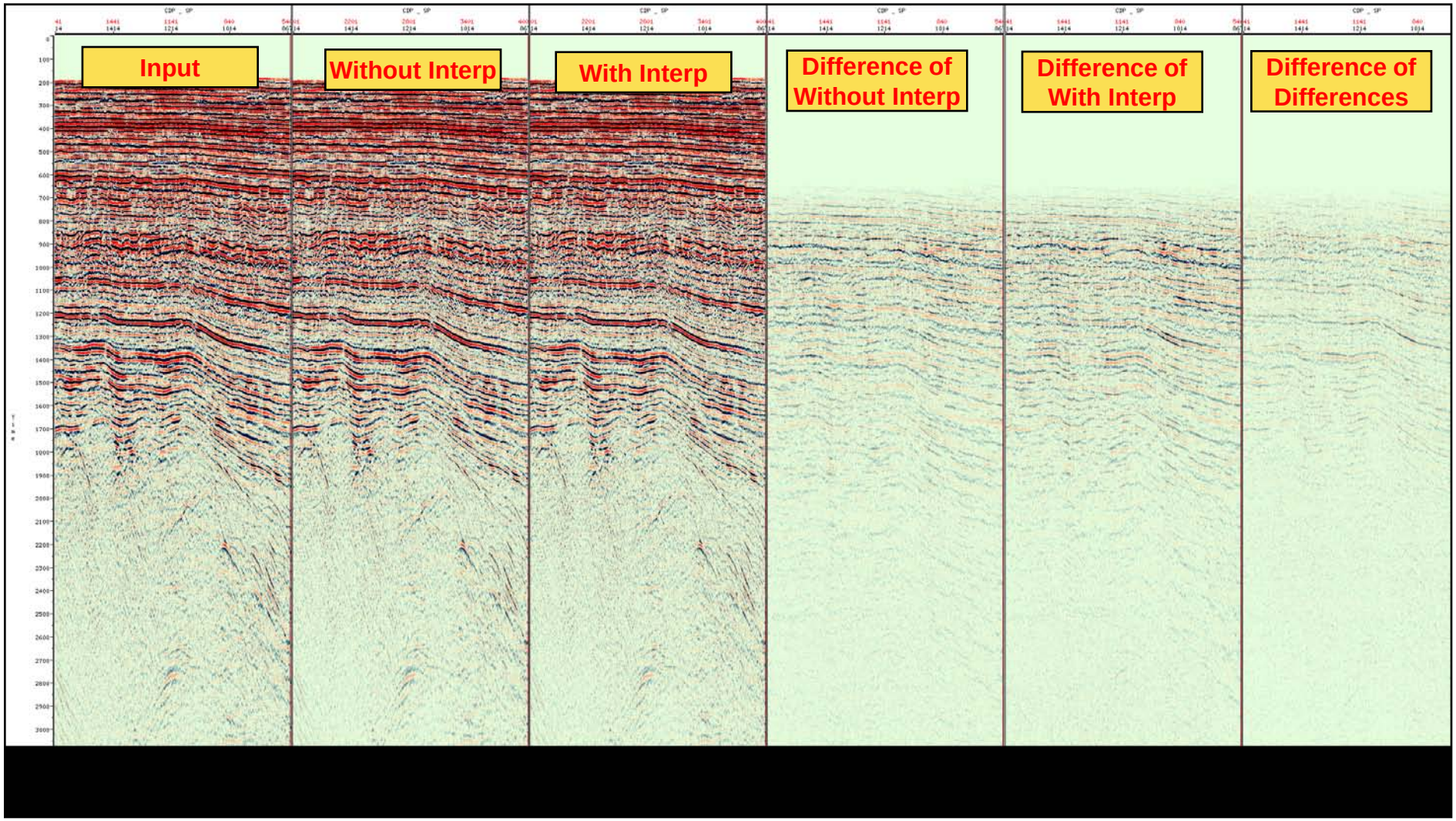
SP SEQ-039: Difference of RADON



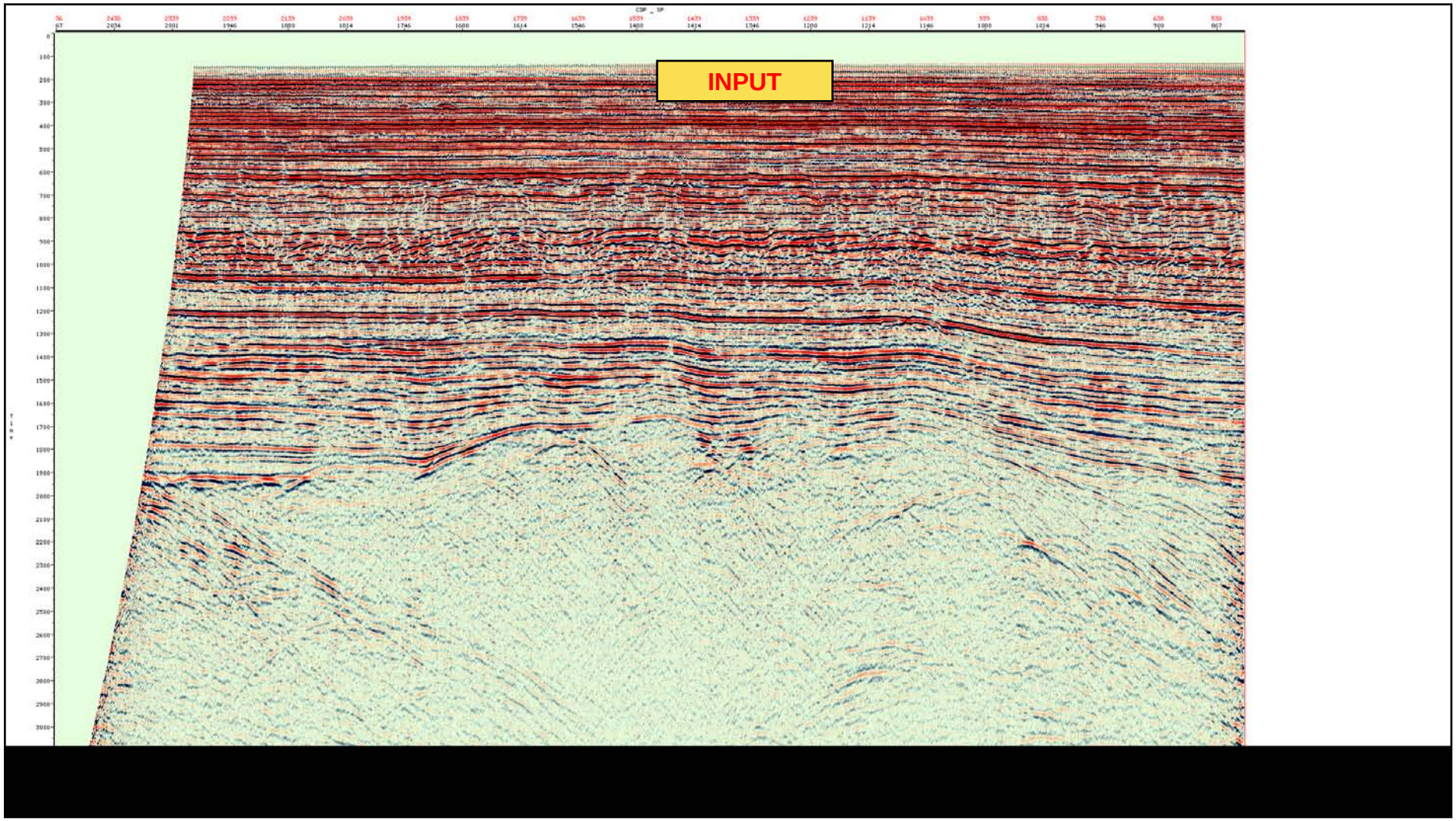
SP SEQ-039: Difference of the Difference



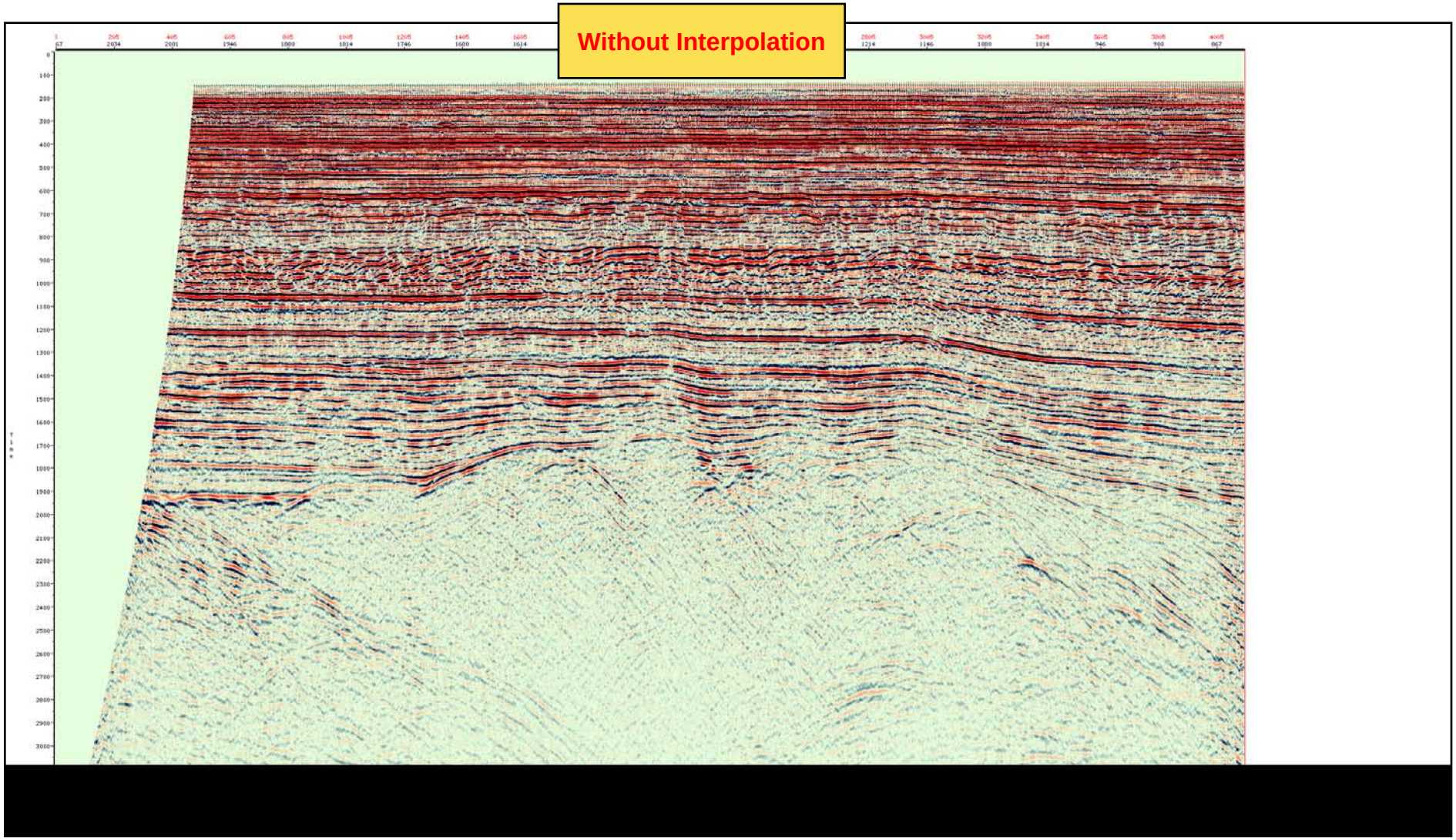
Full Stack (6-32 Deg) SEQ-039:RADON without/with Interpolation



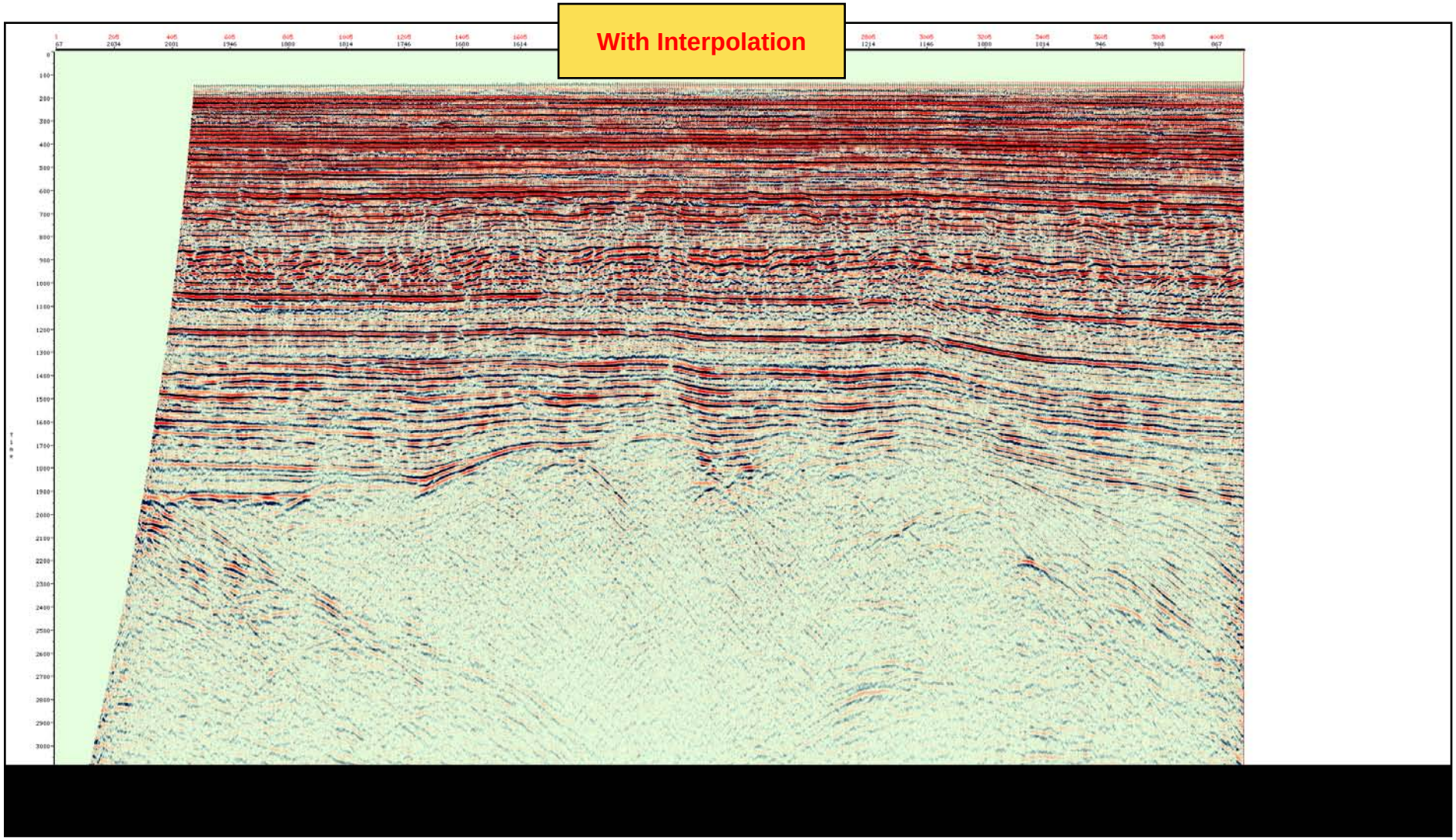
Full Stack (6-32 Deg) SEQ-039: INPUT RADON



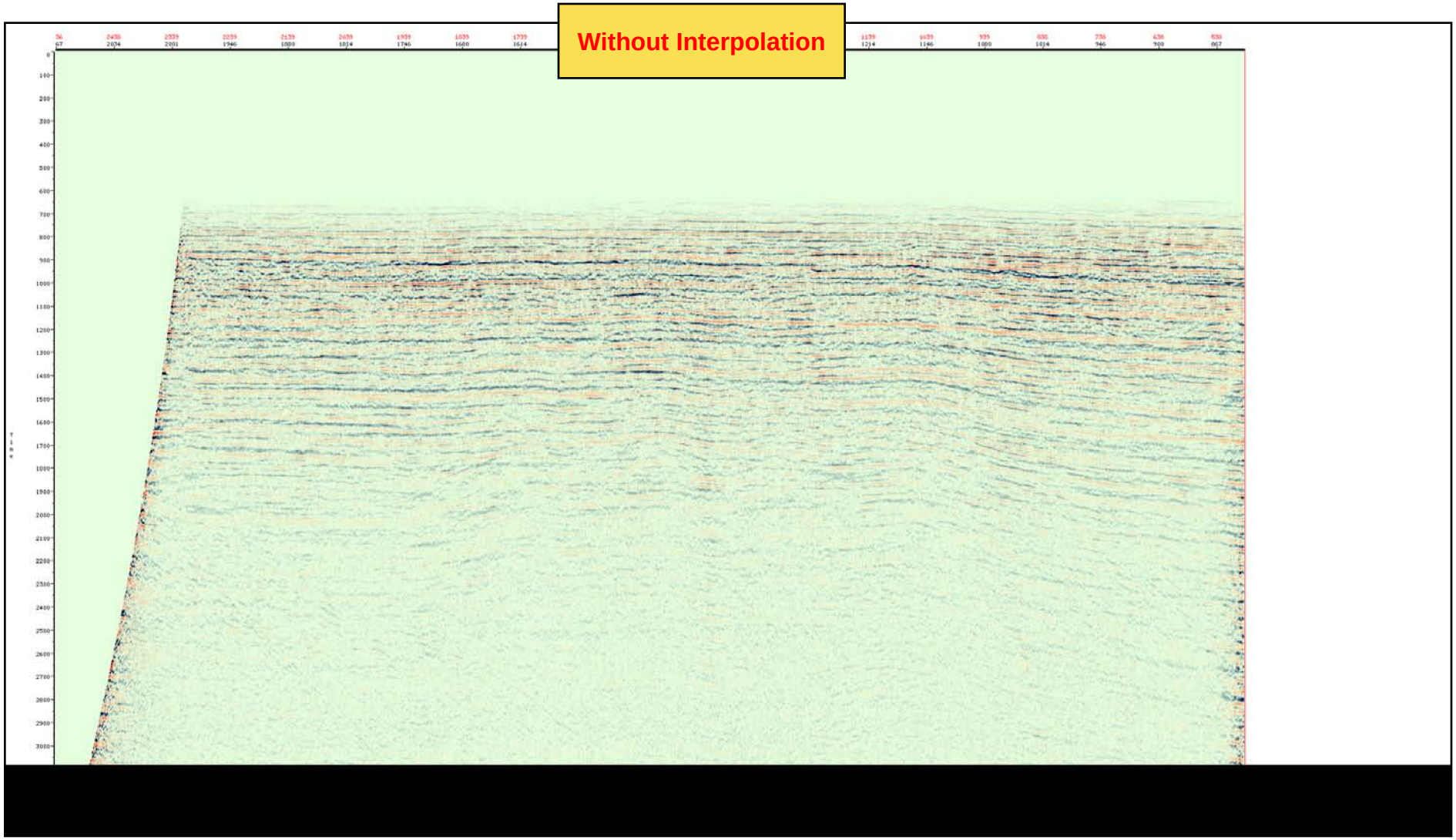
Full Stack (6-32 Deg) SEQ-039): RADON



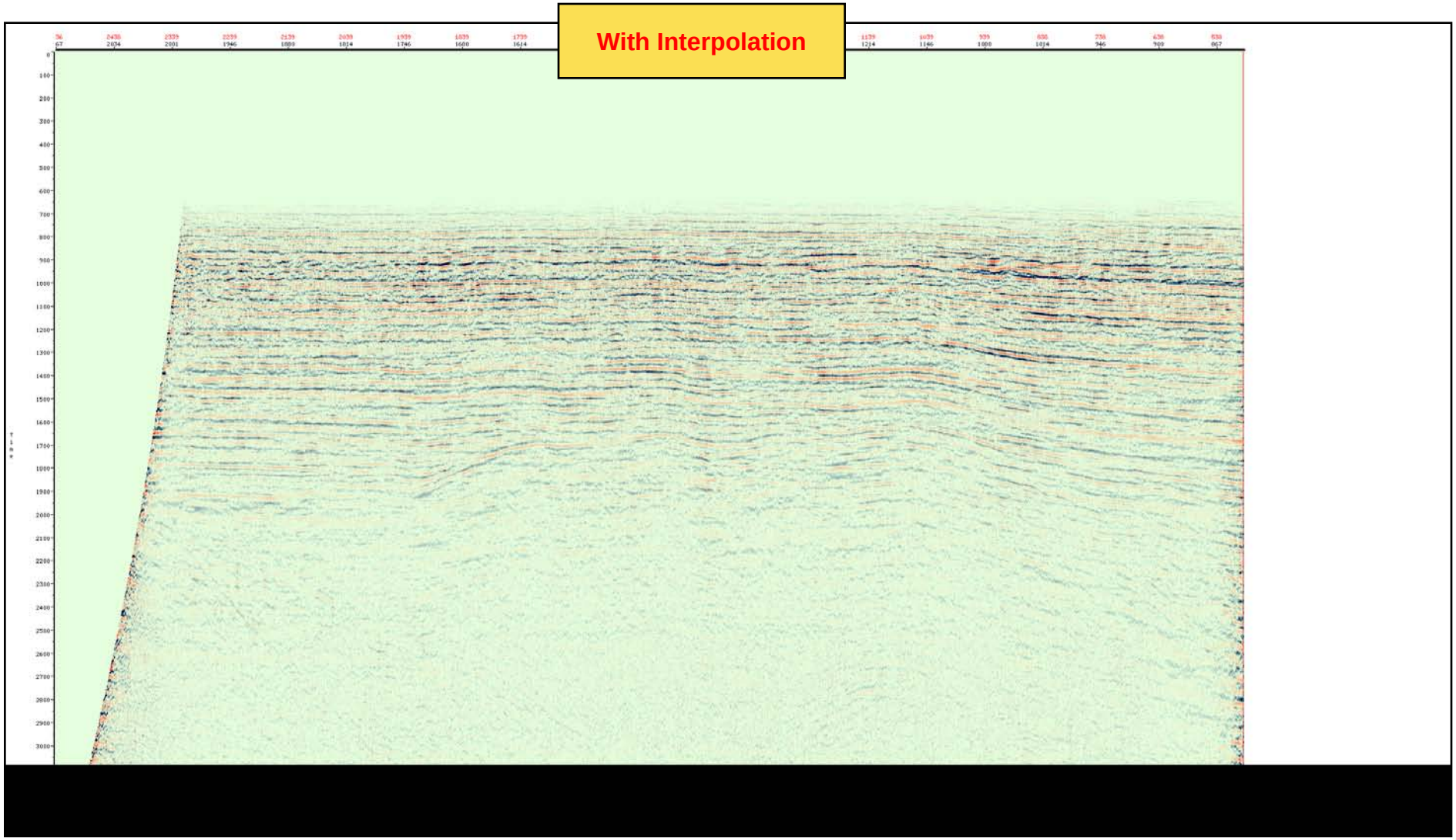
Full Stack (6-32 Deg) SEQ-039: RADON



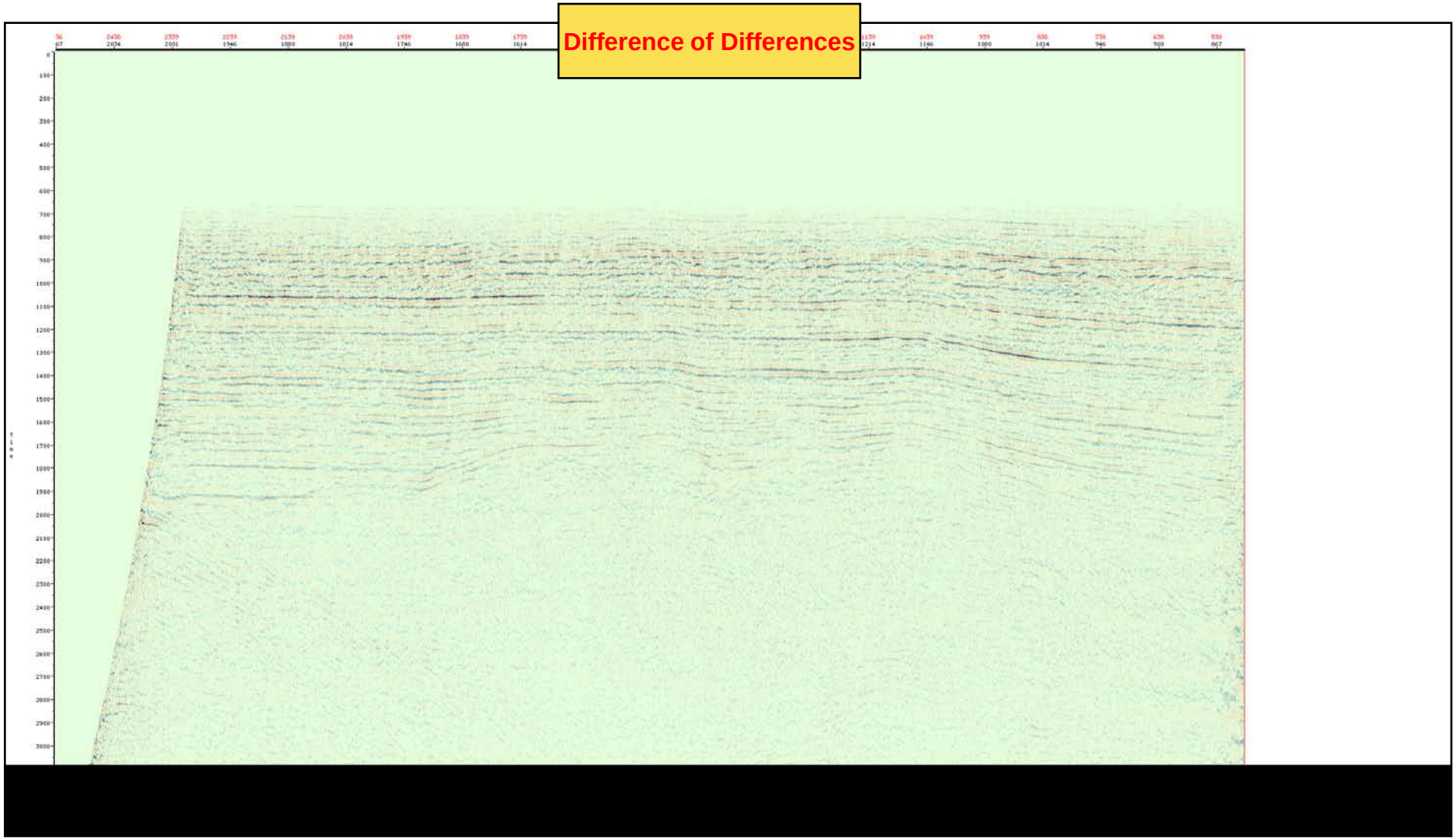
Full Stack (6-32 Deg) SEQ-039: Difference of RADON



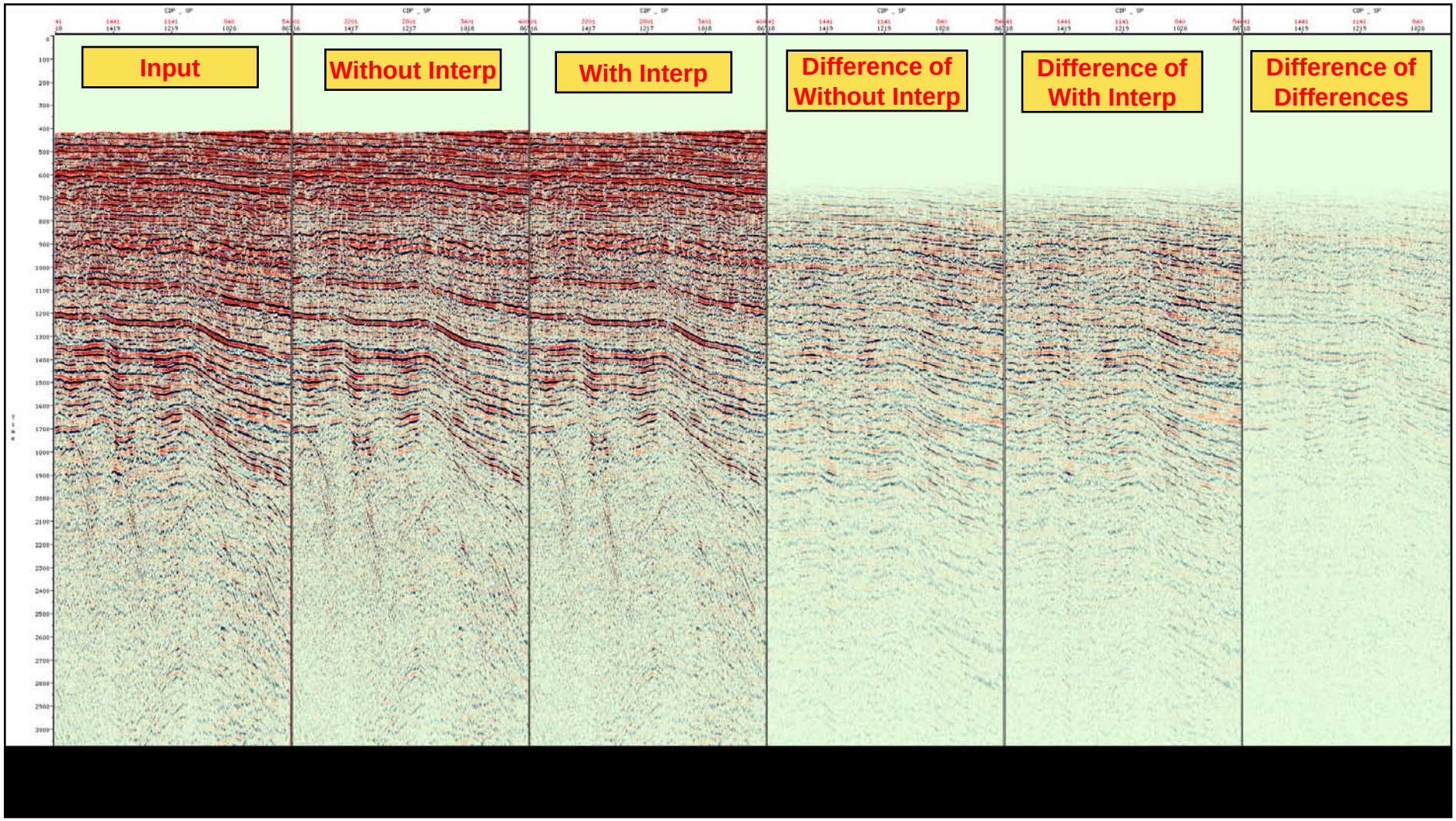
Full Stack (6-32 Deg) SEQ-039: Difference of RADON



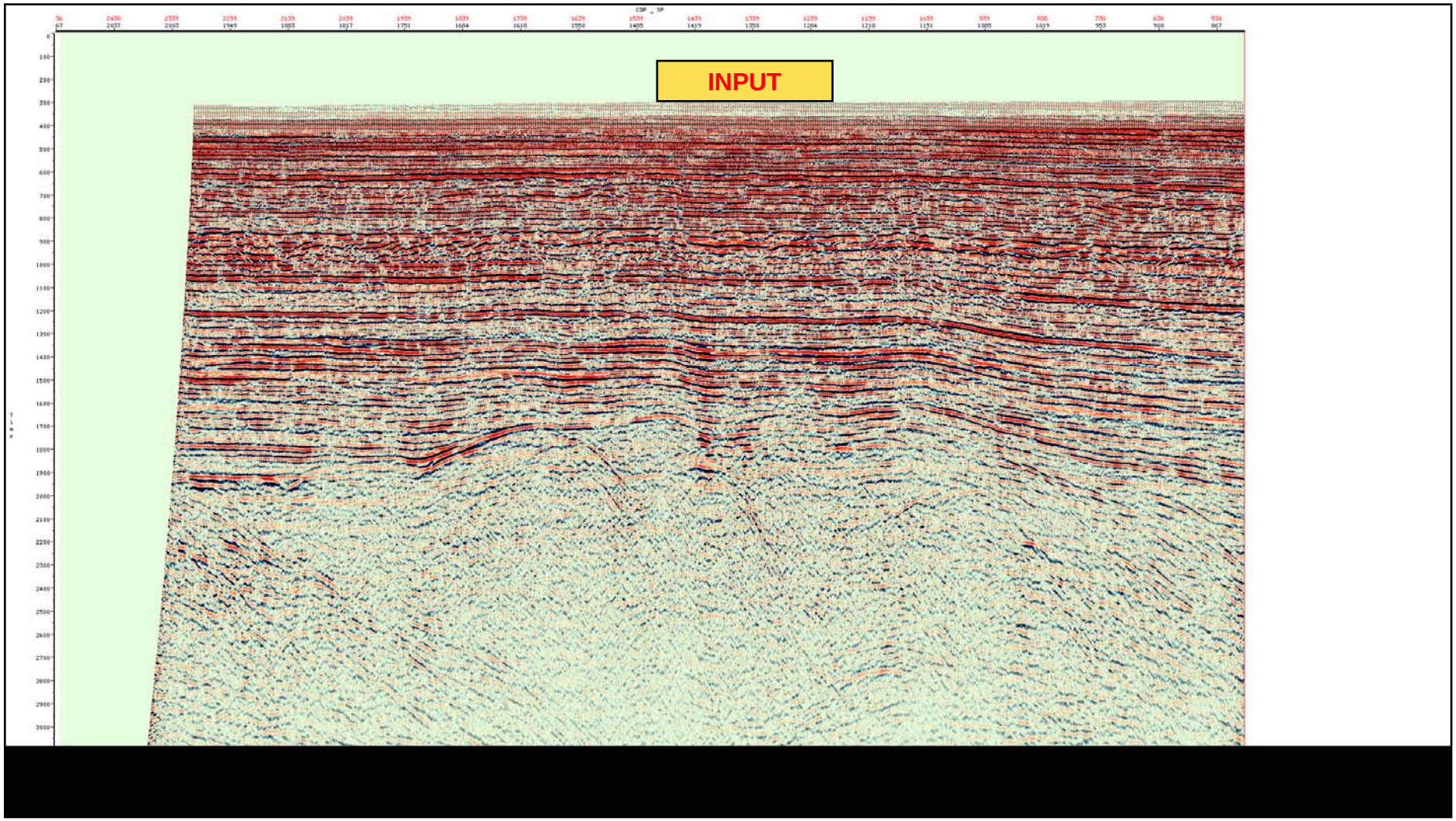
Full Stack (6-32 Deg) SEQ-039: Difference of RADON



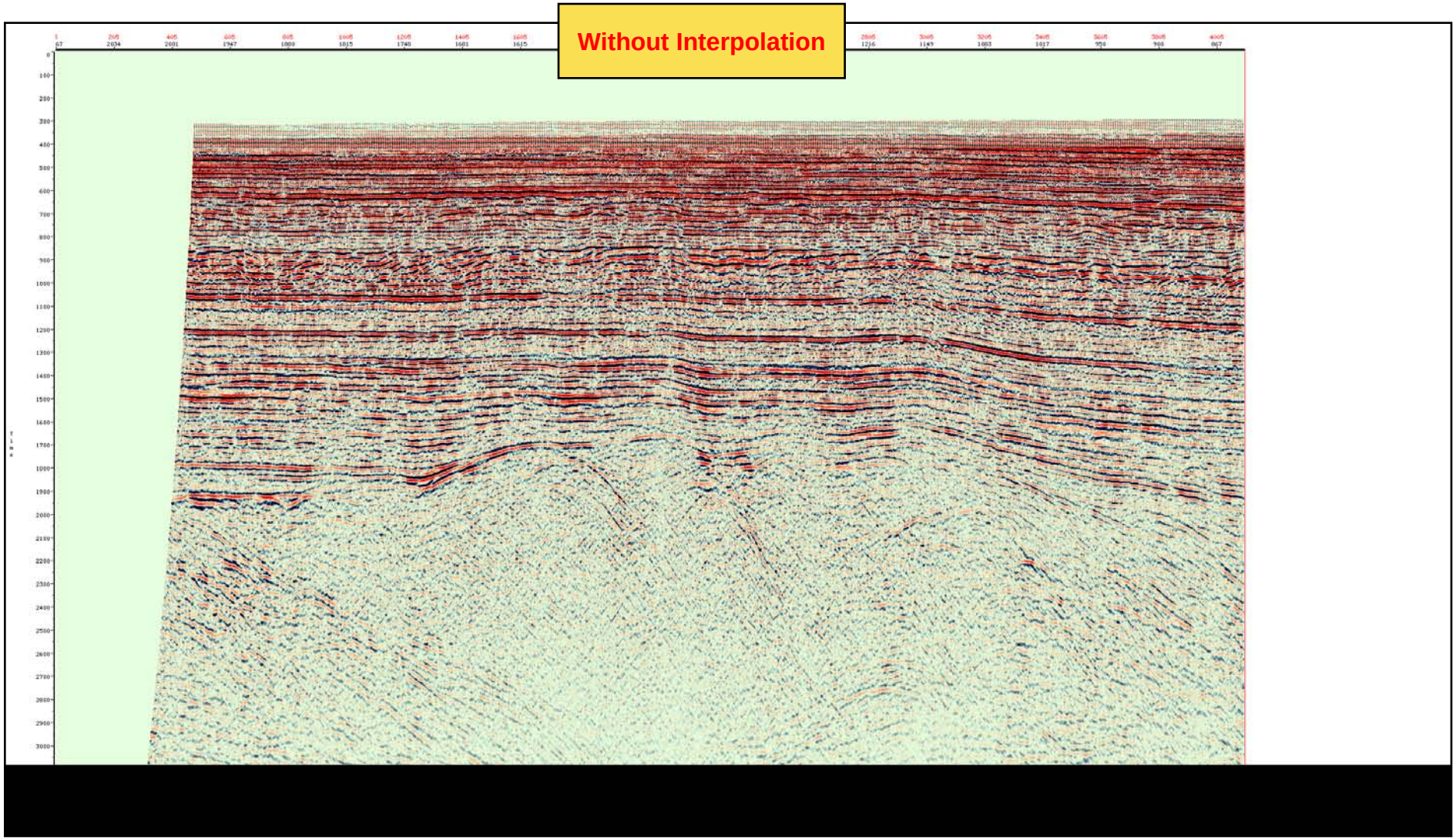
Near Stack (3-15) SEQ-039:RADON without/with Interpolation



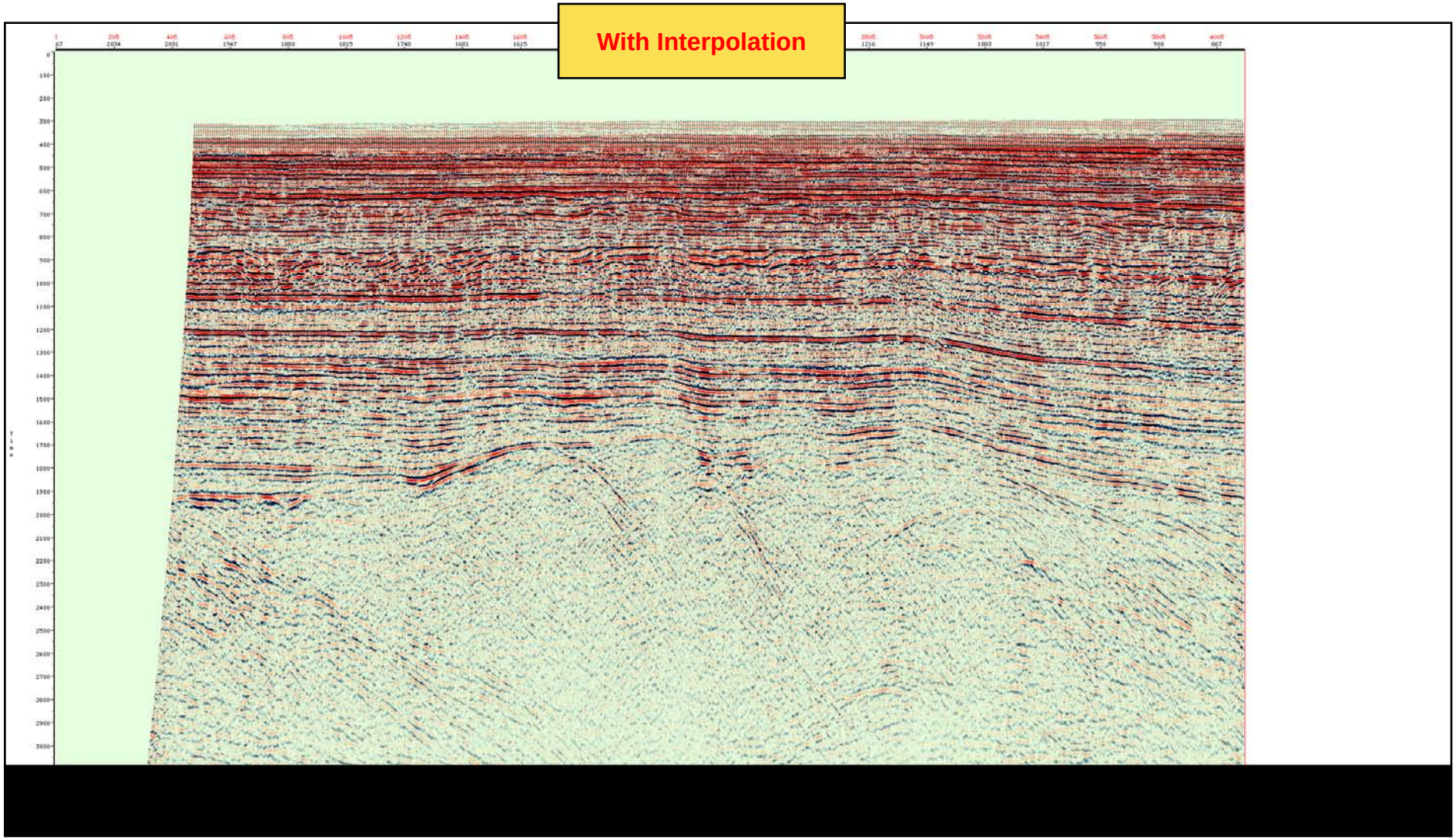
Near Stack (3-15 Deg) SEQ-039: INPUT RADON



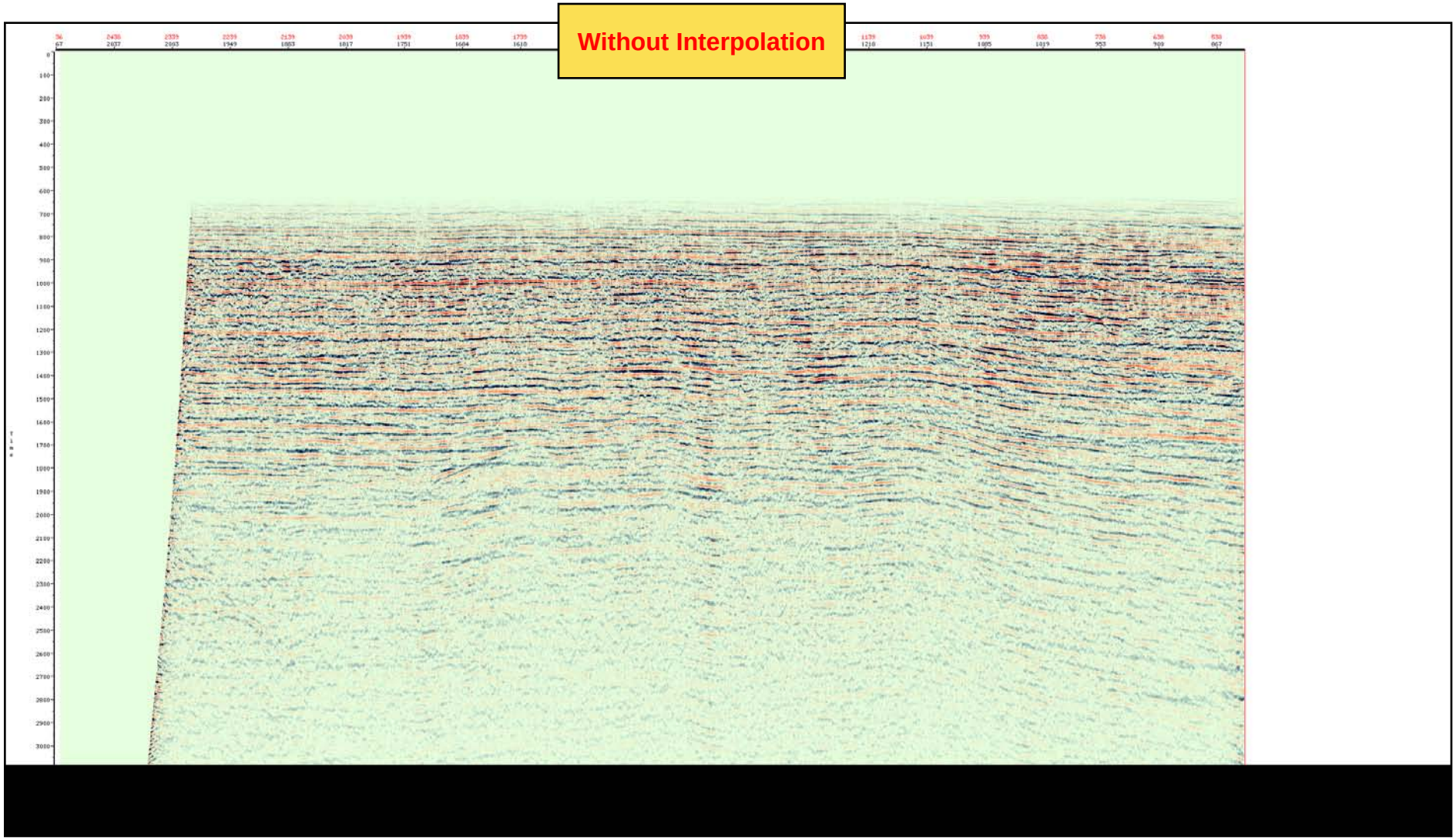
Near Stack (3-15 Deg) SEQ-039): RADON



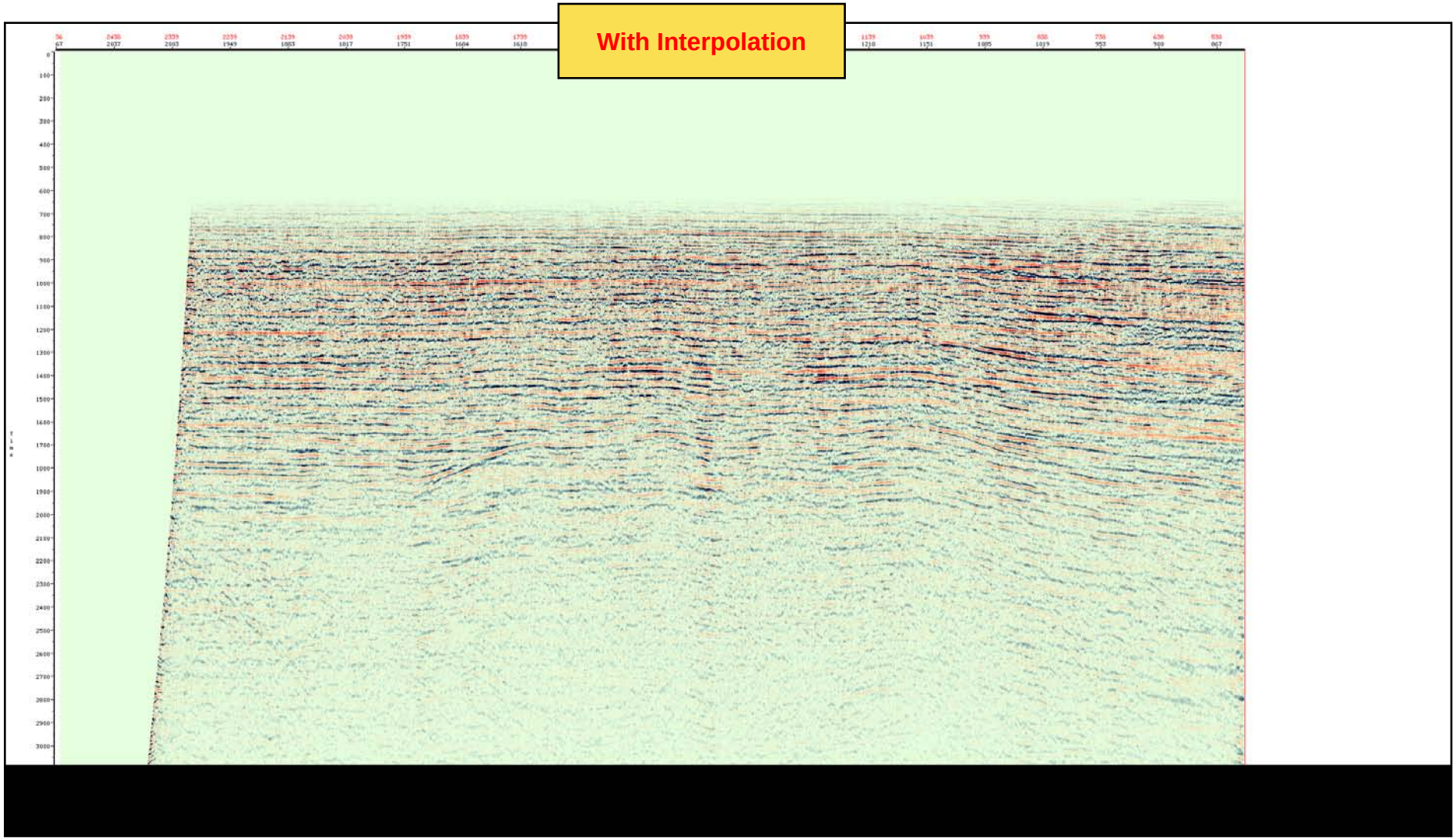
Near Stack (3-15 Deg) SEQ-039): RADON



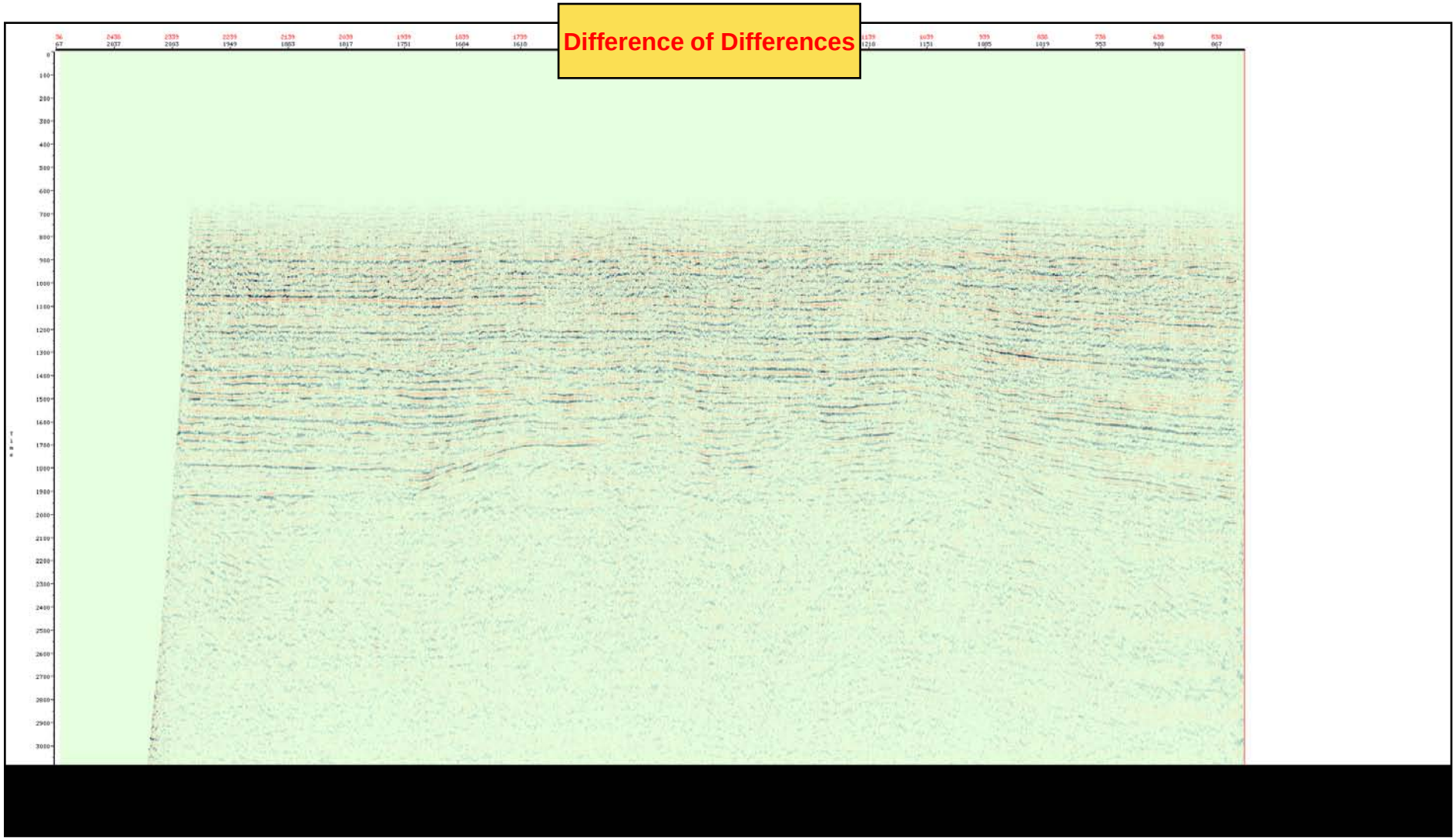
Near Stack (3-15 Deg) SEQ-039: Difference of RADON



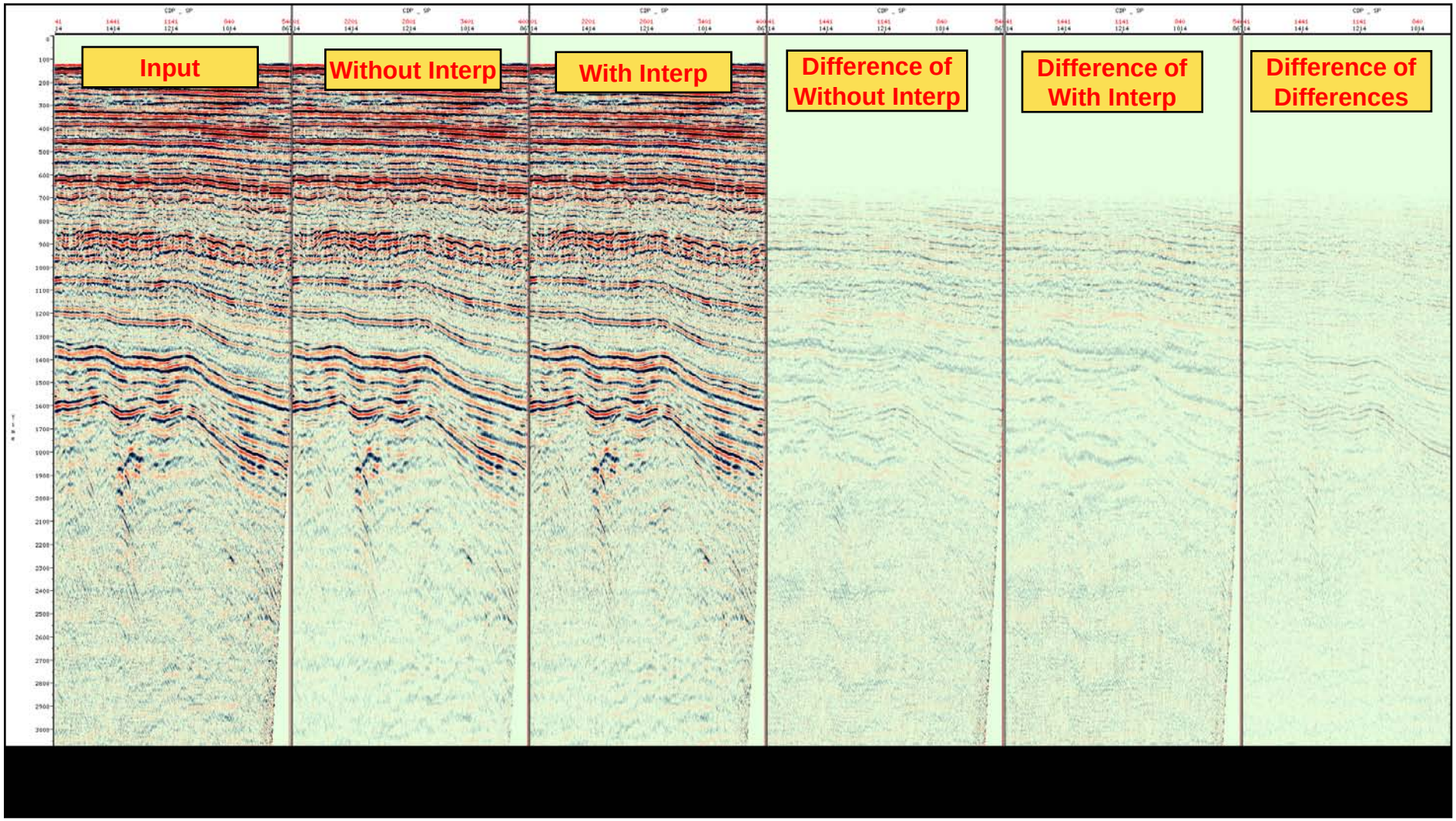
Near Stack (3-15 Deg) SEQ-039: Difference of RADON



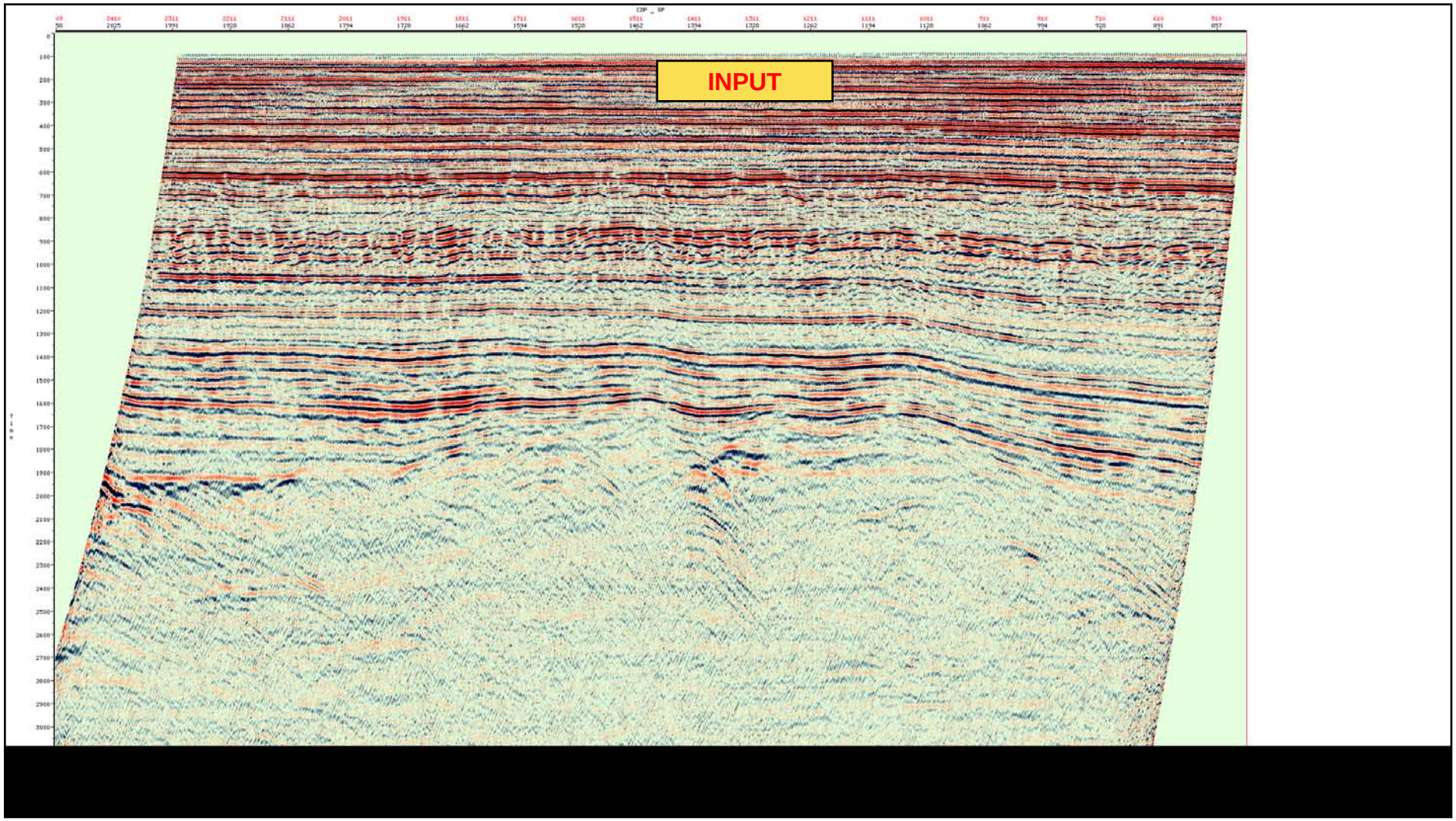
Near Stack (3-15 Deg) SEQ-039: Difference of RADON



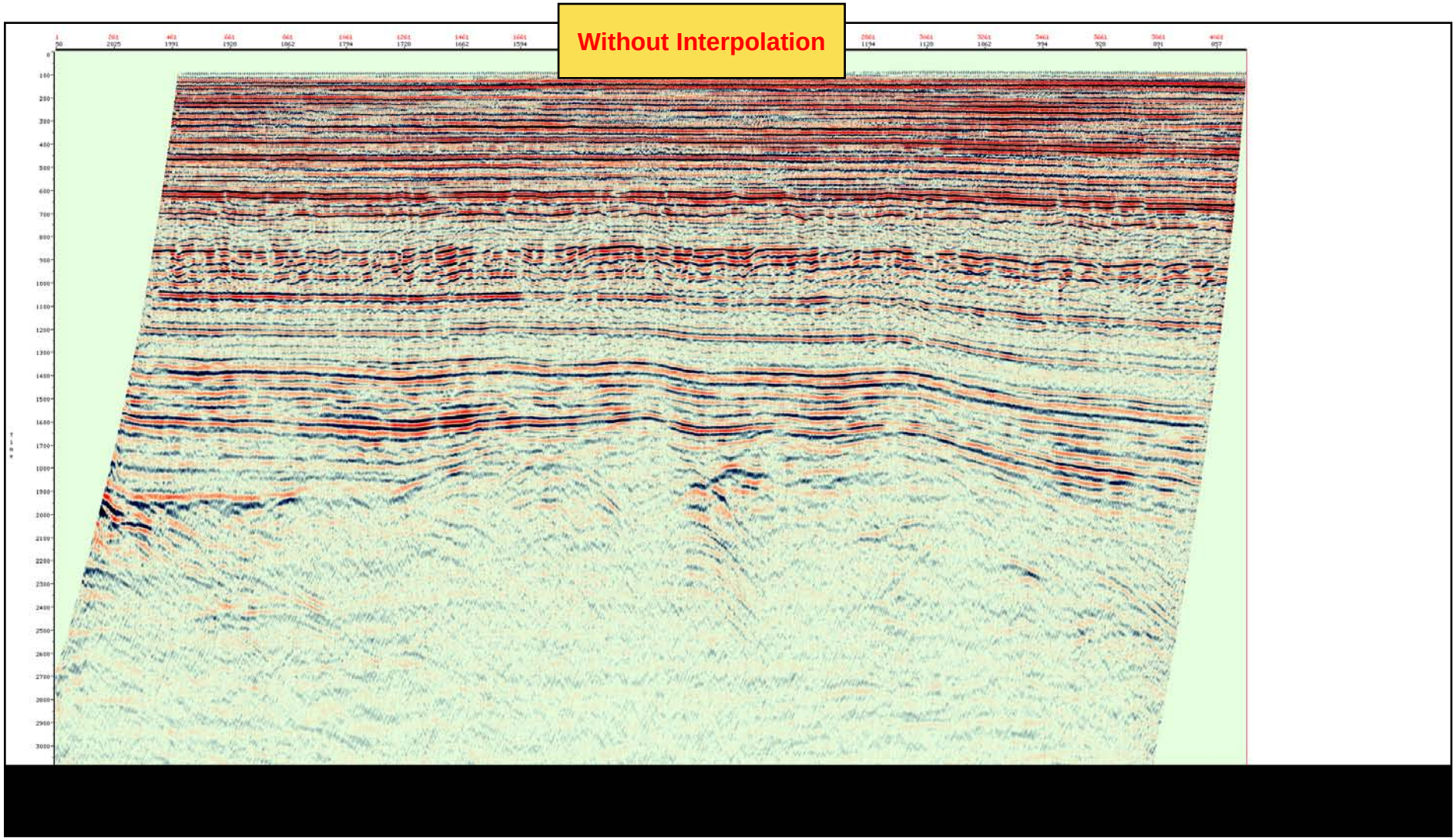
Far Stack (30-45) SEQ-039:RADON without/with Interpolation



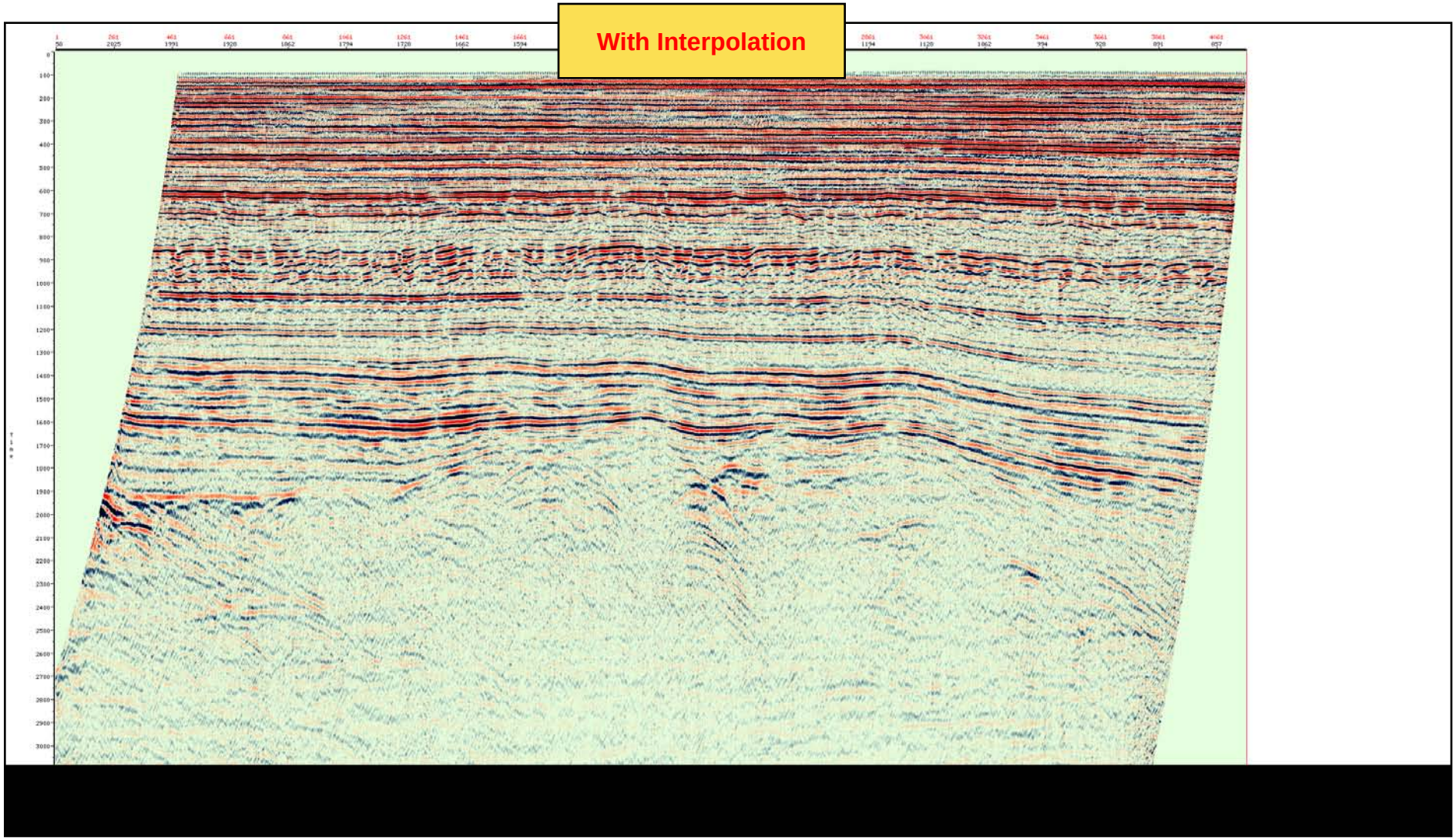
Far Stack (30-45 Deg) SEQ-039: INPUT RADON



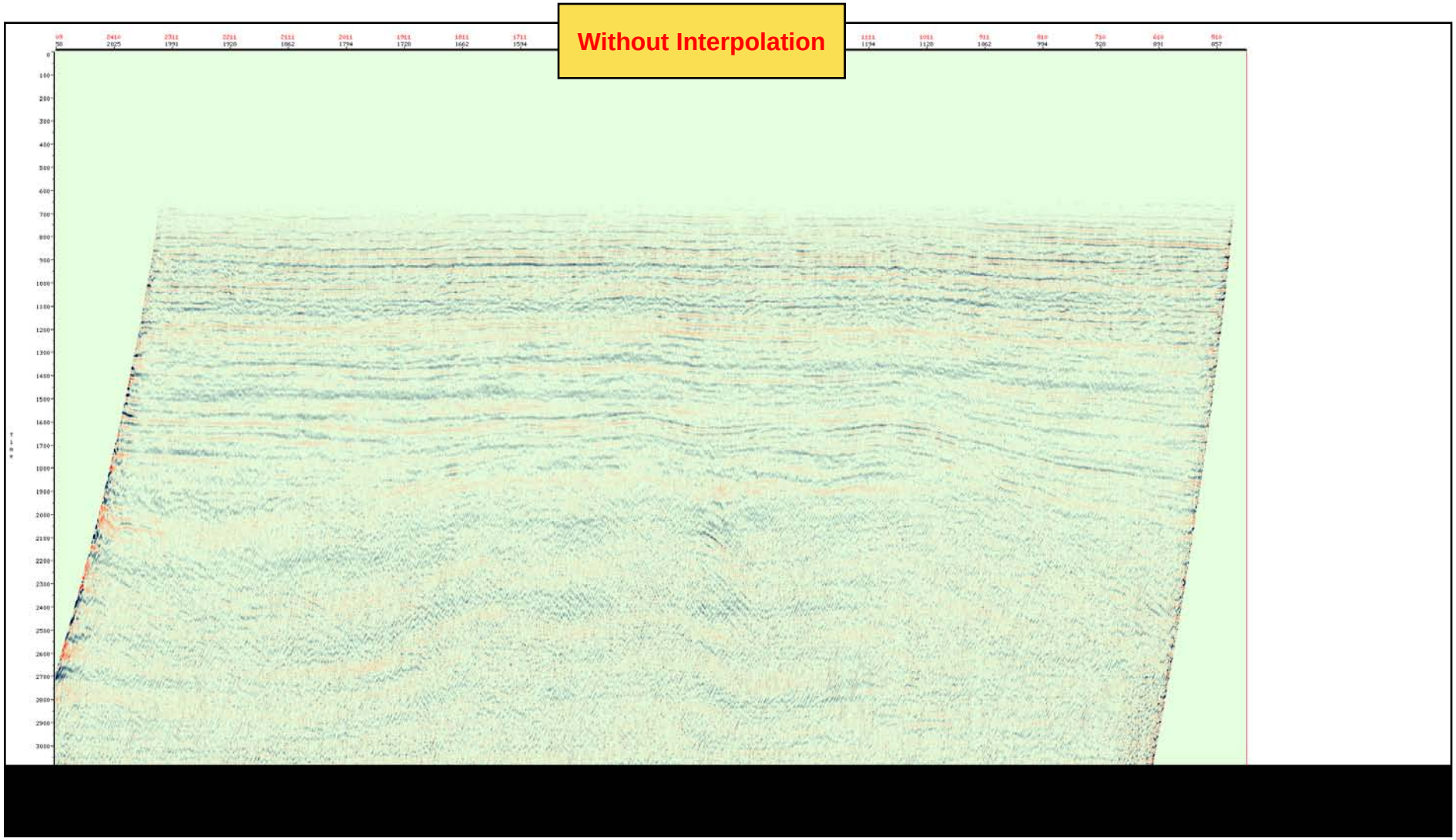
Far Stack (30-45 Deg) SEQ-039): RADON



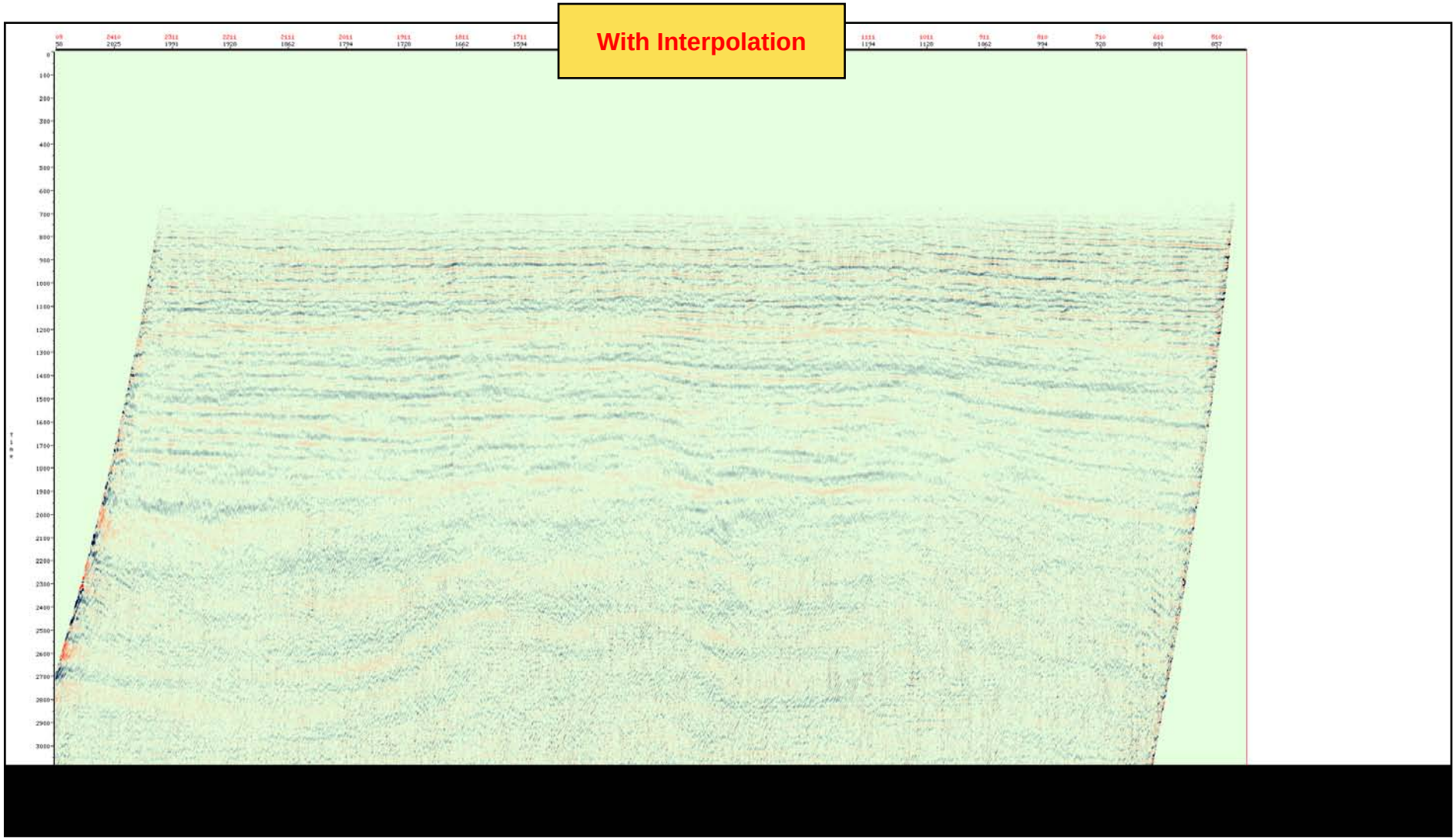
Far Stack (30-45 Deg) SEQ-039): RADON



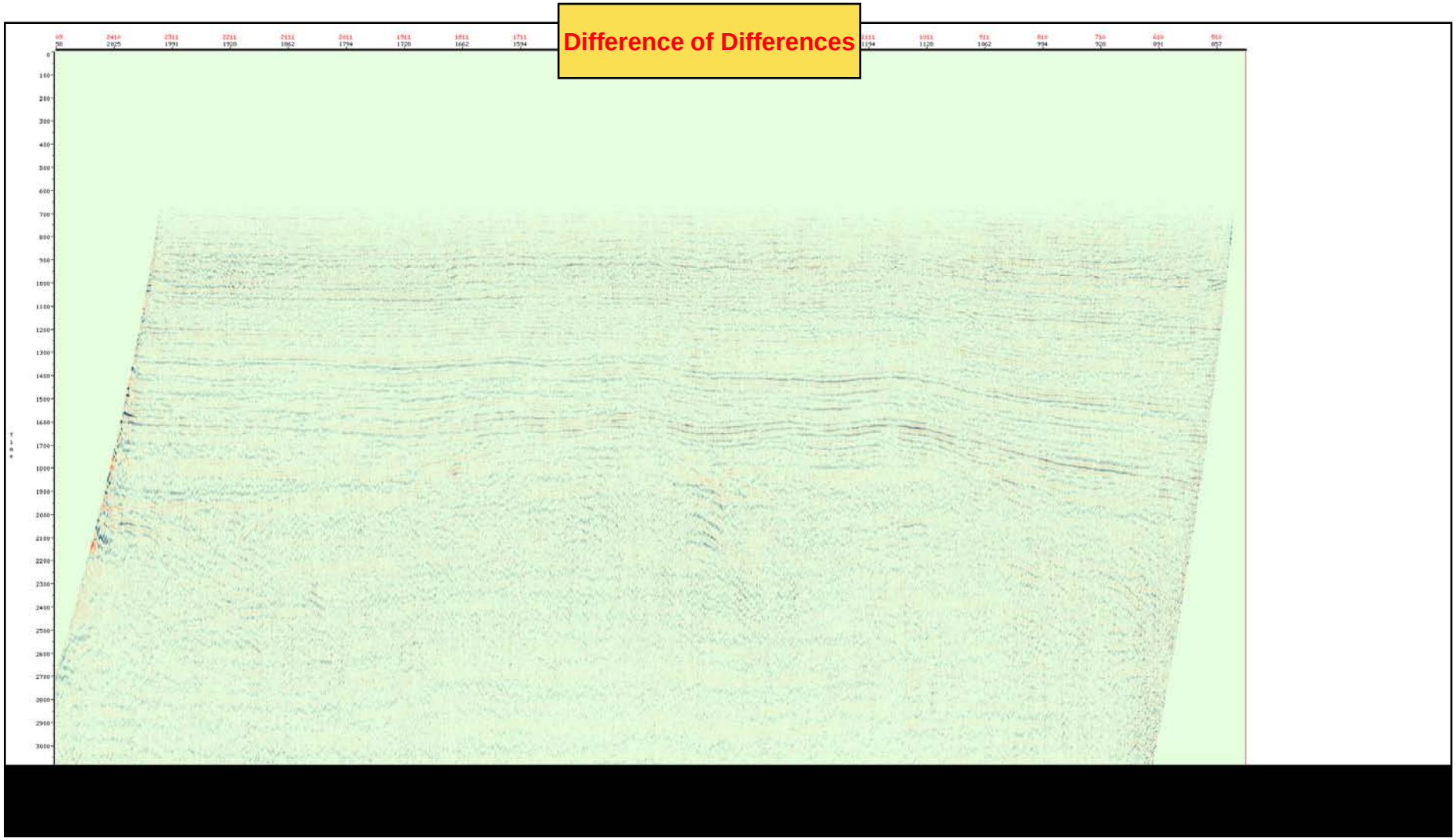
Far Stack (30-45 Deg) SEQ-039: Difference of RADON



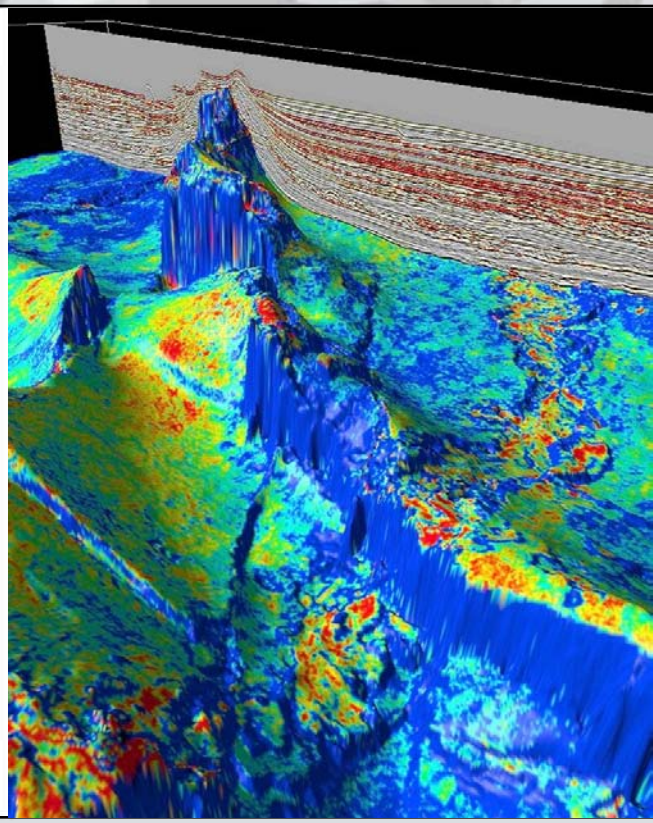
Far Stack (30-45 Deg) SEQ-039: Difference of RADON



Near Stack (3-15 Deg) SEQ-039: Difference of RADON



QC Production 3
Hi-Res Radon Demultiple
Silvereye 3D



CGGVERITAS

Hi-Res Radon Demultiple

This PowerPoint shows QCs of the production Hi-Res Radon demultiple, compared with the previous processing step, SRME.

Processing sequence to date

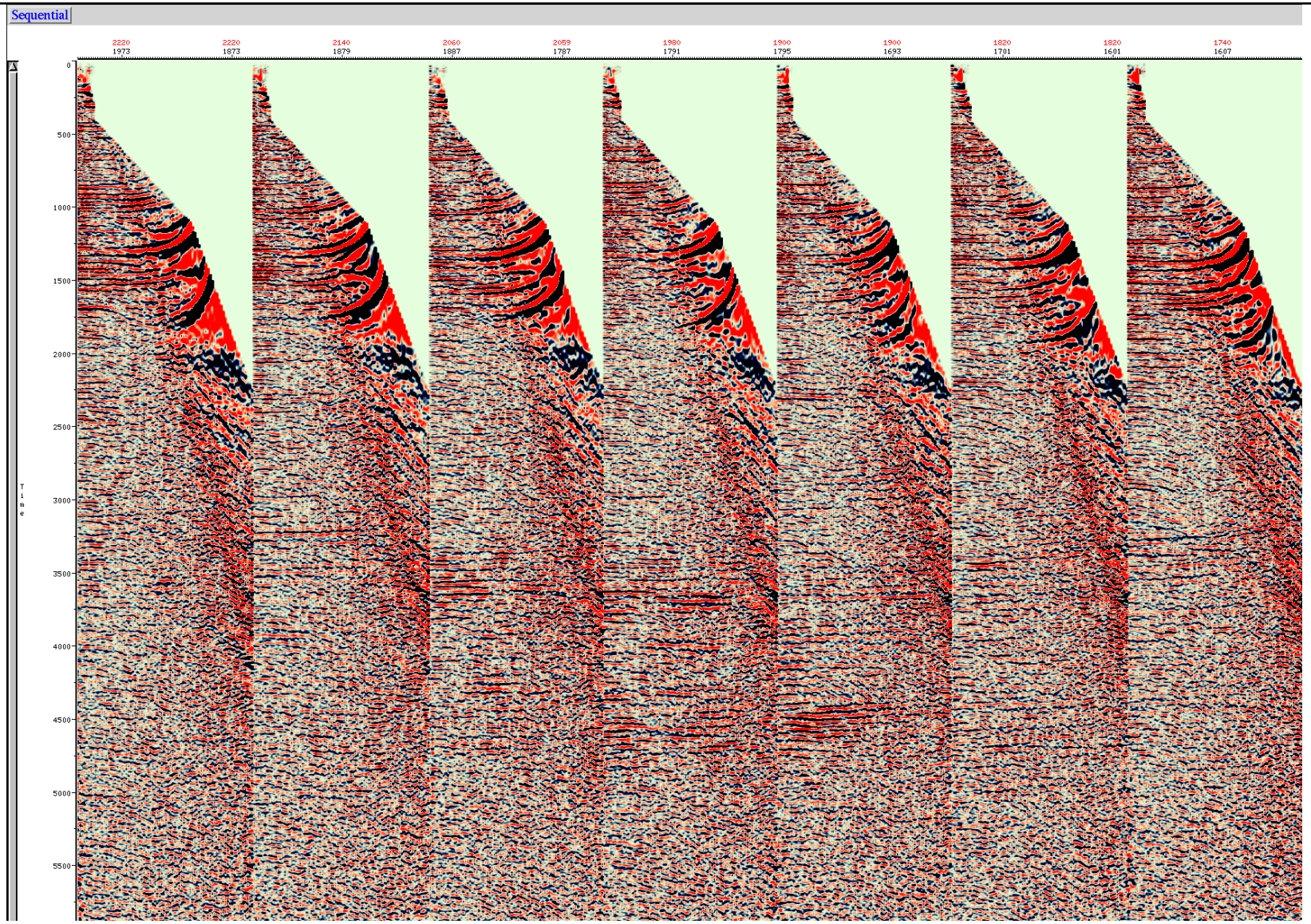
- Reformat field data to CGGV internal format
- Seismic/Navigation merge
- Instrument delay - phase 58ms
- Cut data to 6000ms
- Maintain a sample of 2ms (with appropriate anti-alias filter)
- Amplitude recovery, multiply amplitudes by (T/250)2
- De-bias and low cut filter: 3Hz
- Obs log editing
- Hi-Res Radon in SP domain followed by channel domain
- Linear radon: start time inner cables 2600ms, 600ms taper; start time outer cables 1600ms, 600ms taper
- DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
- Knotch filter
- SRME, subtraction in CDP domain
- 1st pass velocity analysis
- Trace drop (with anti-alias filter)
- Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)

QCs

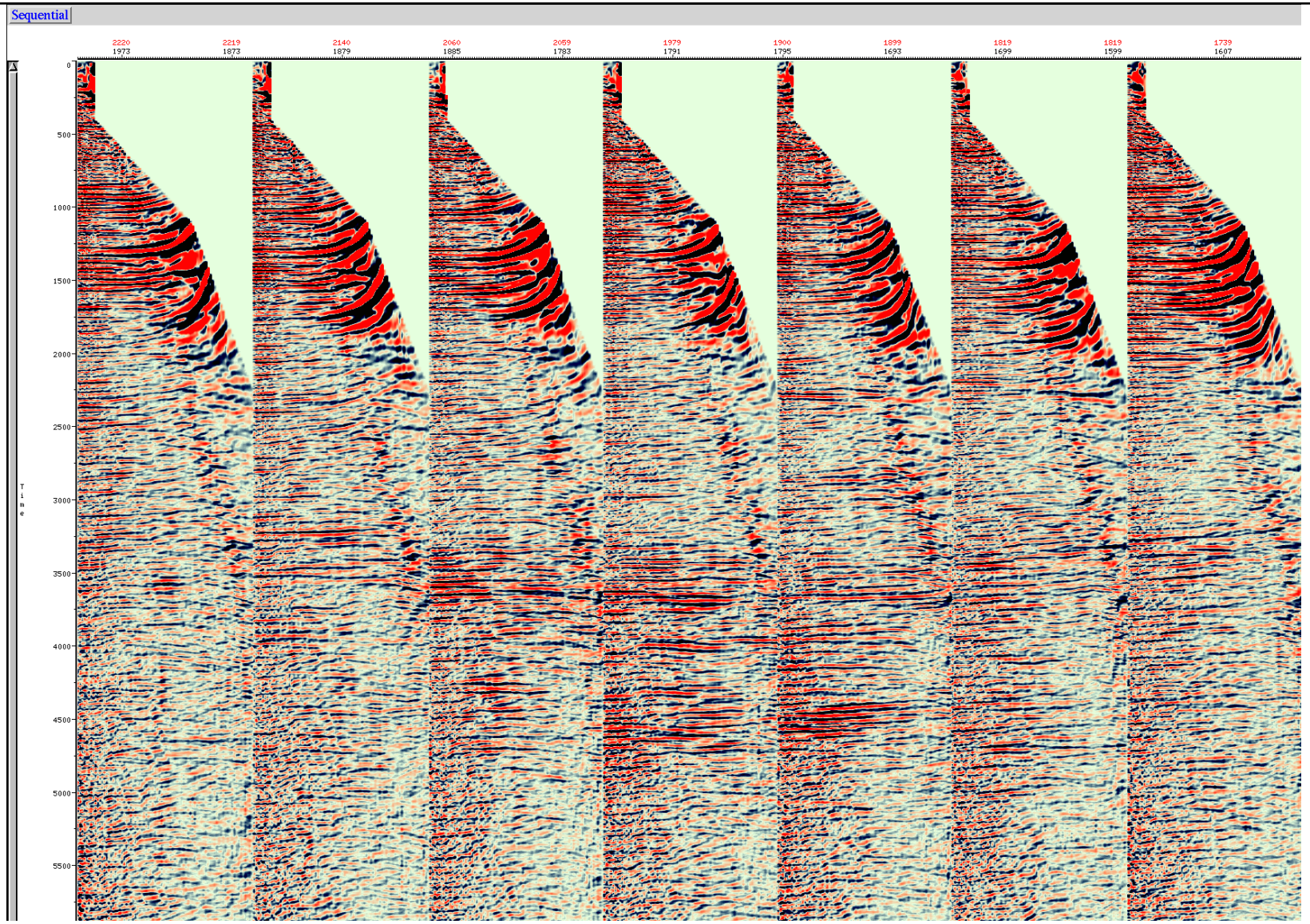
- Example CDPs, inlines, crosslines and time slices after SRME and after Hi-Res Radon demultiple.

  All CDP and stack displays have the 1st pass velocity field applied, therefore, the only differences are trace drop and Hi-Res Radon demultiple.

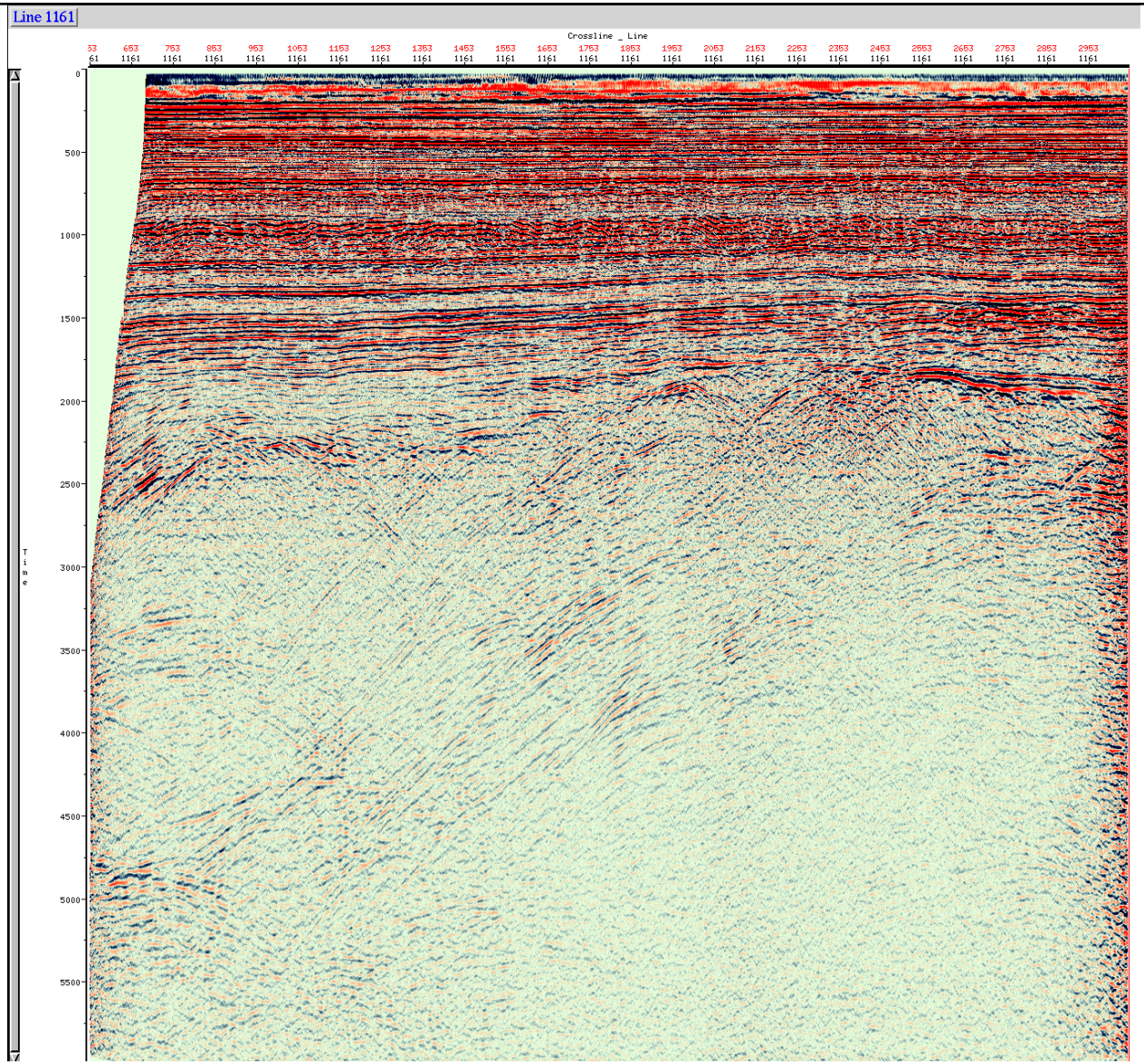
Seq 051 CDPs after SRME



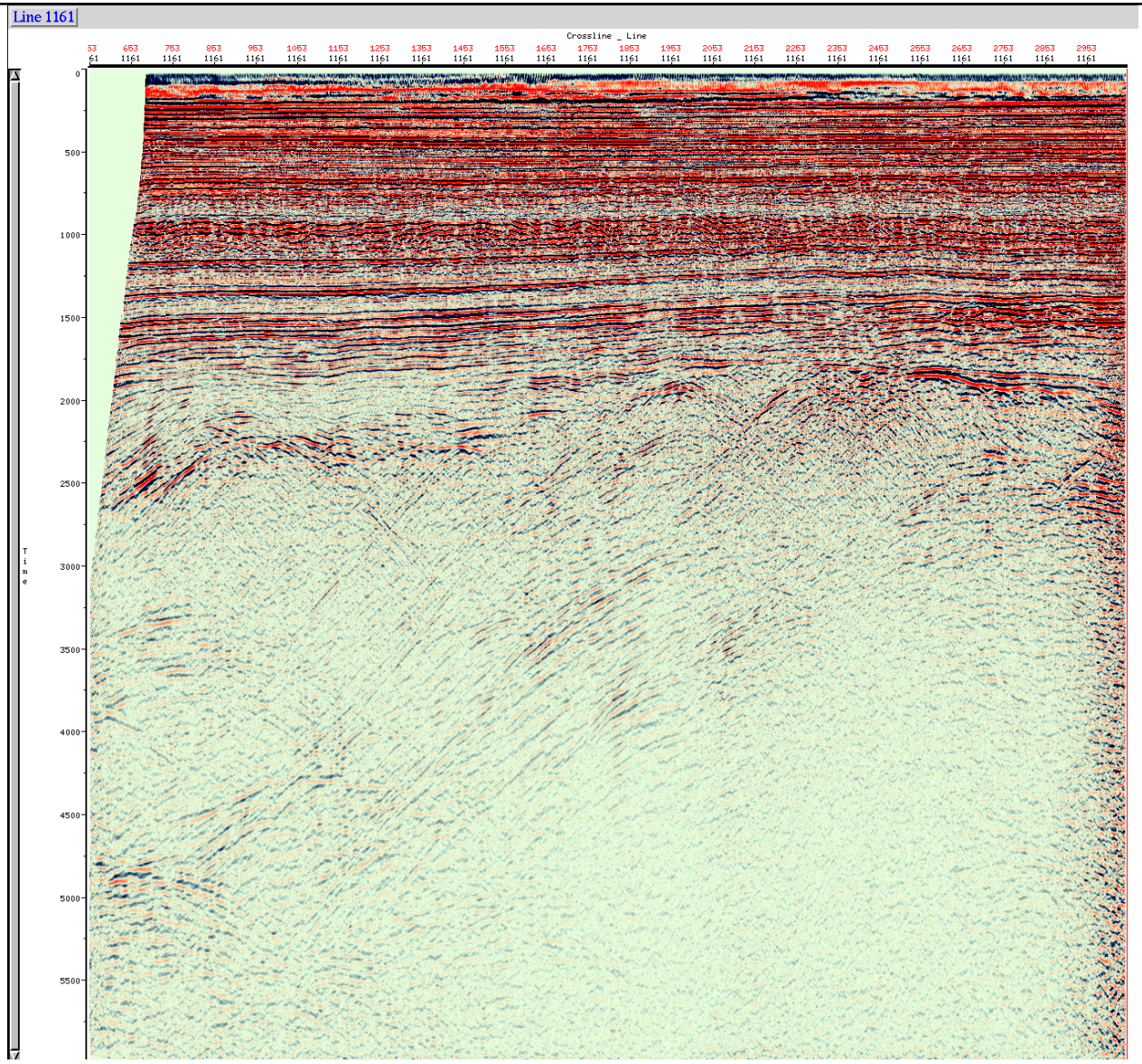
Seq 051 CDPs after Hi-Res Radon demultiple



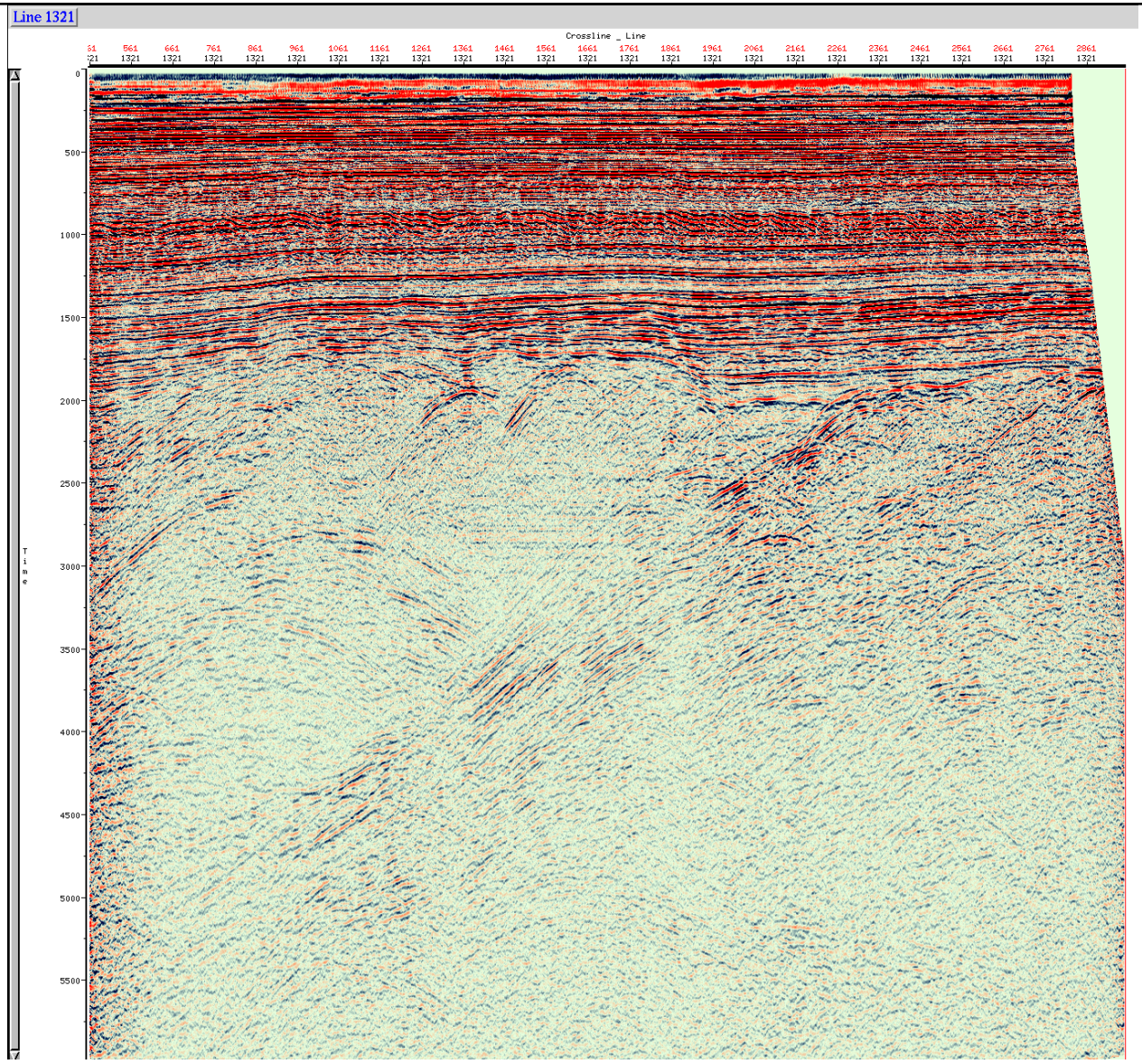
IL1161 stack after SRME



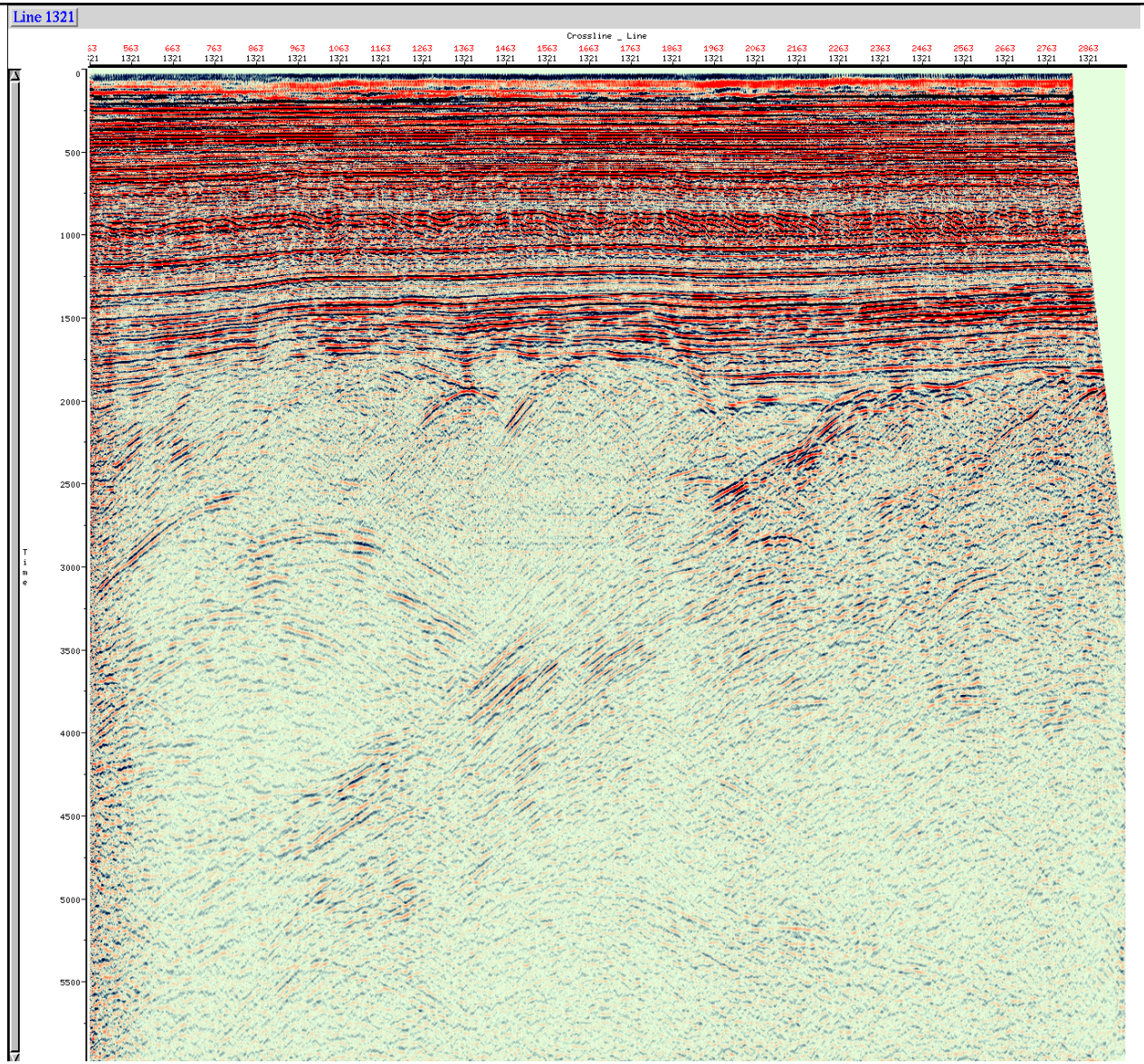
IL1161 stack after Hi-Res Radon demultiple



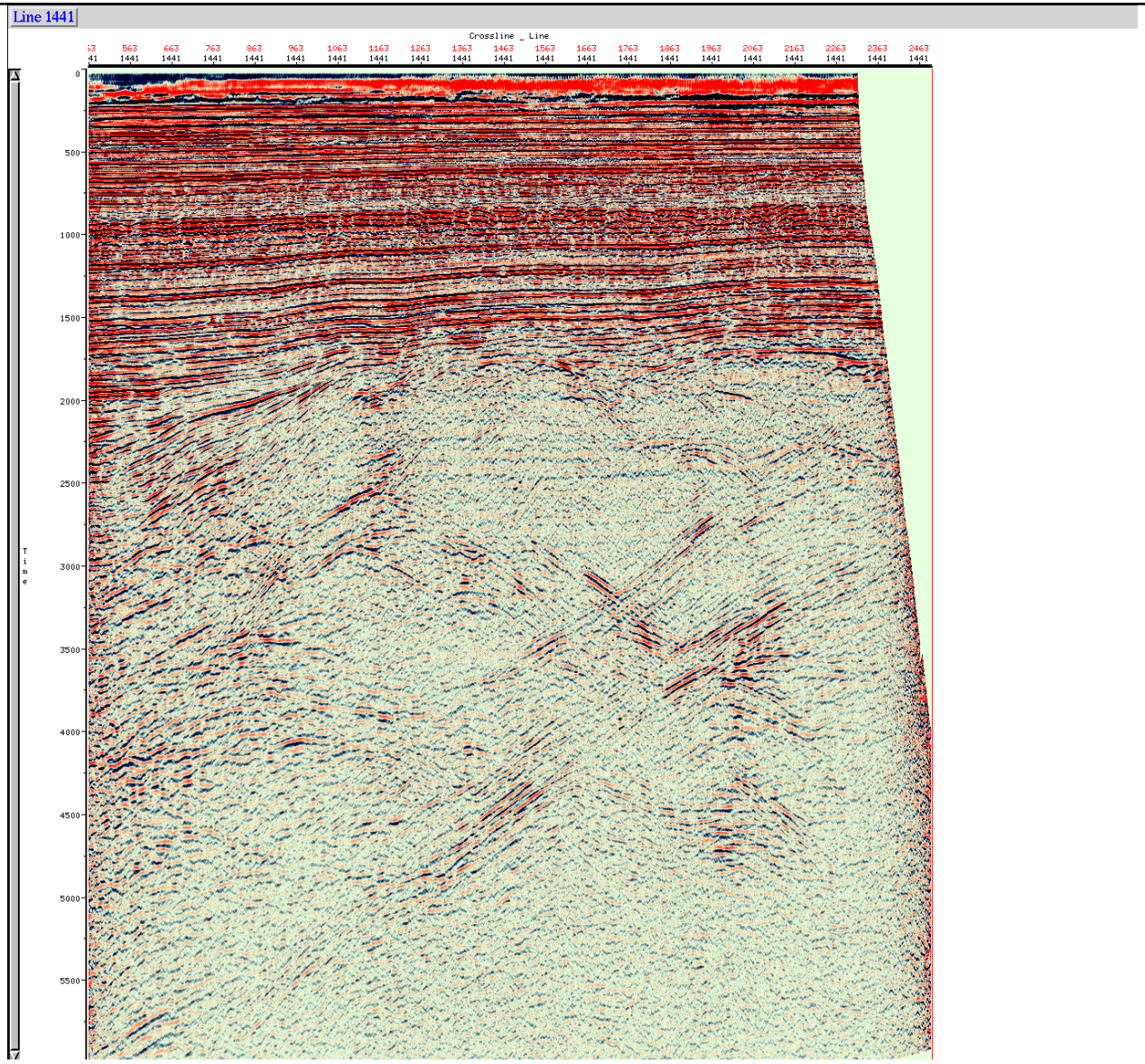
IL1321 stack after SRME



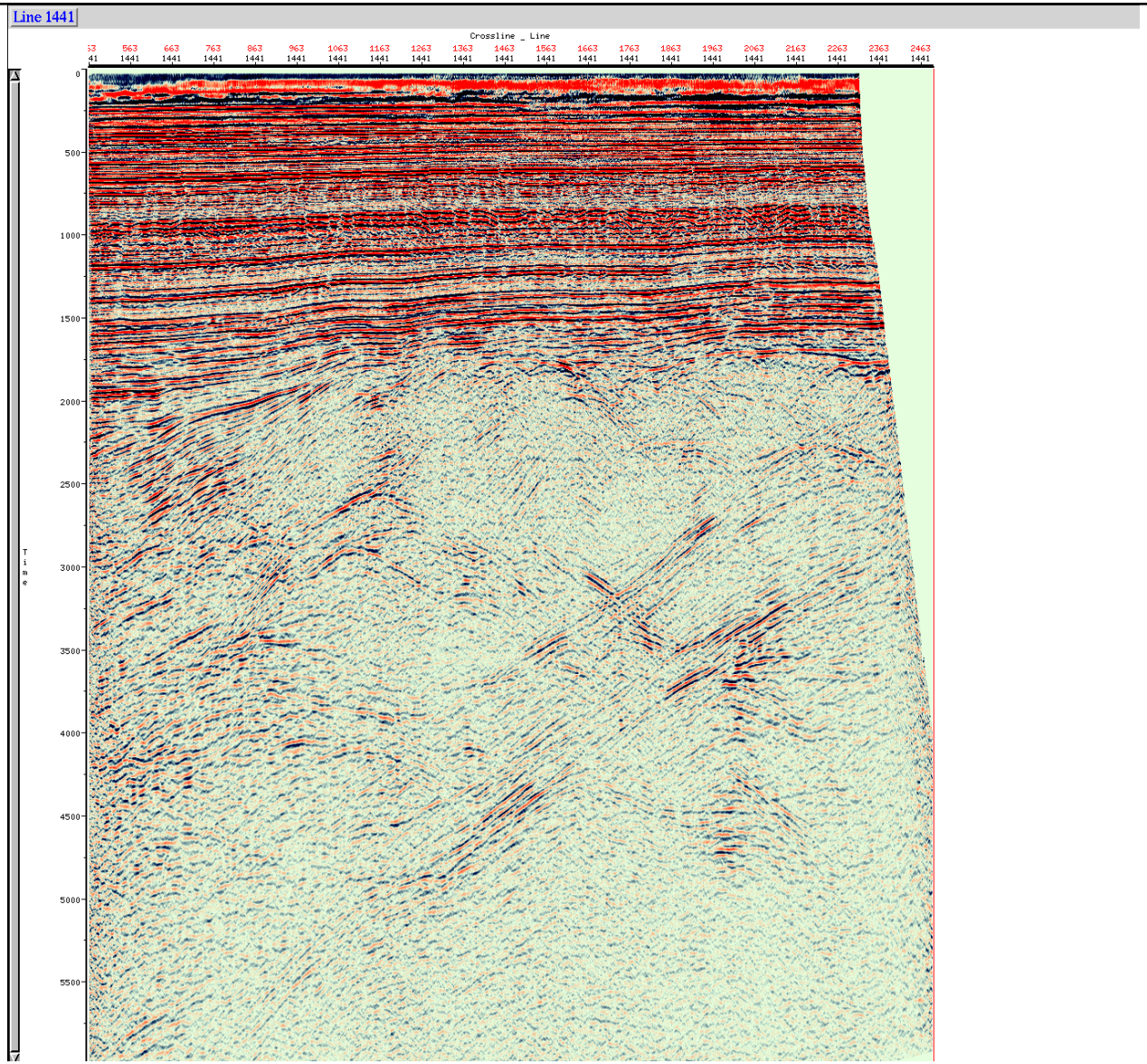
IL1321 stack after Hi-Res Radon demultiple



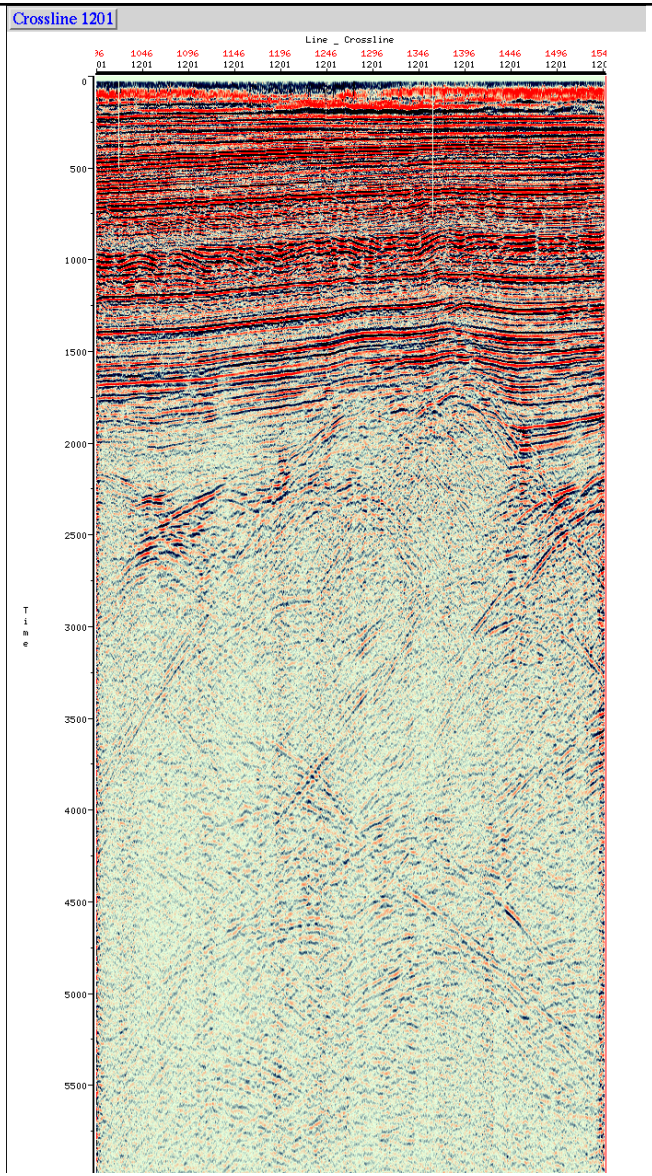
IL1441 stack after SRME



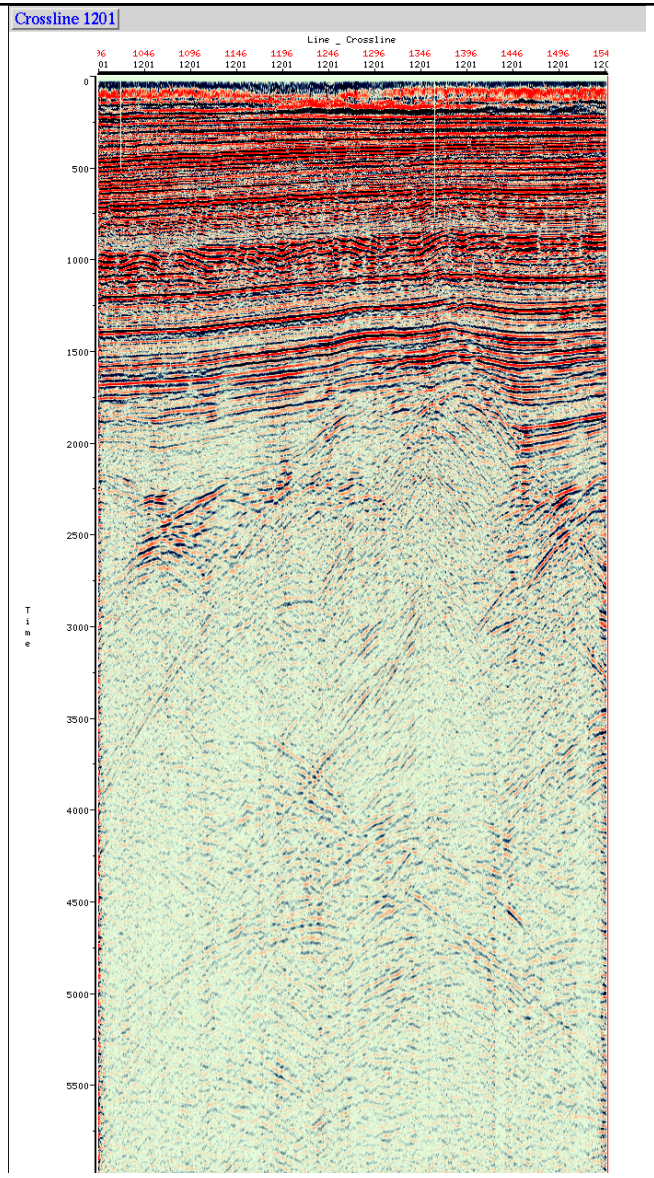
IL1441 stack after Hi-Res Radon demultiple



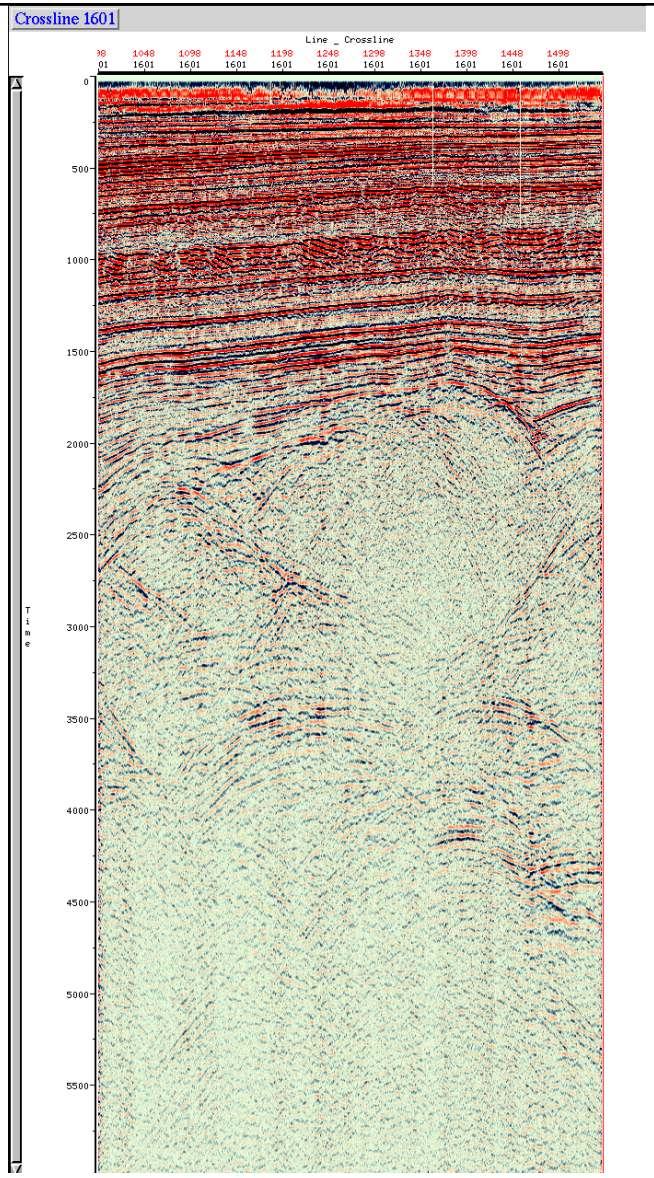
XL1201 stack after SRME



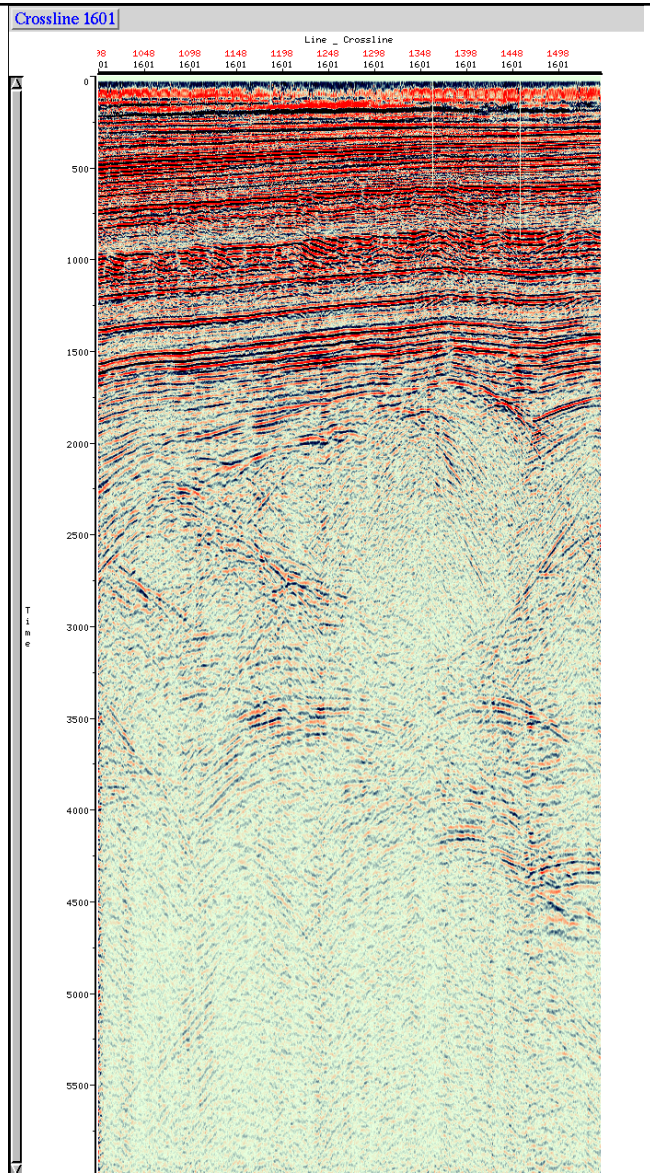
XL1201 stack after Hi-Res Radon demultiple



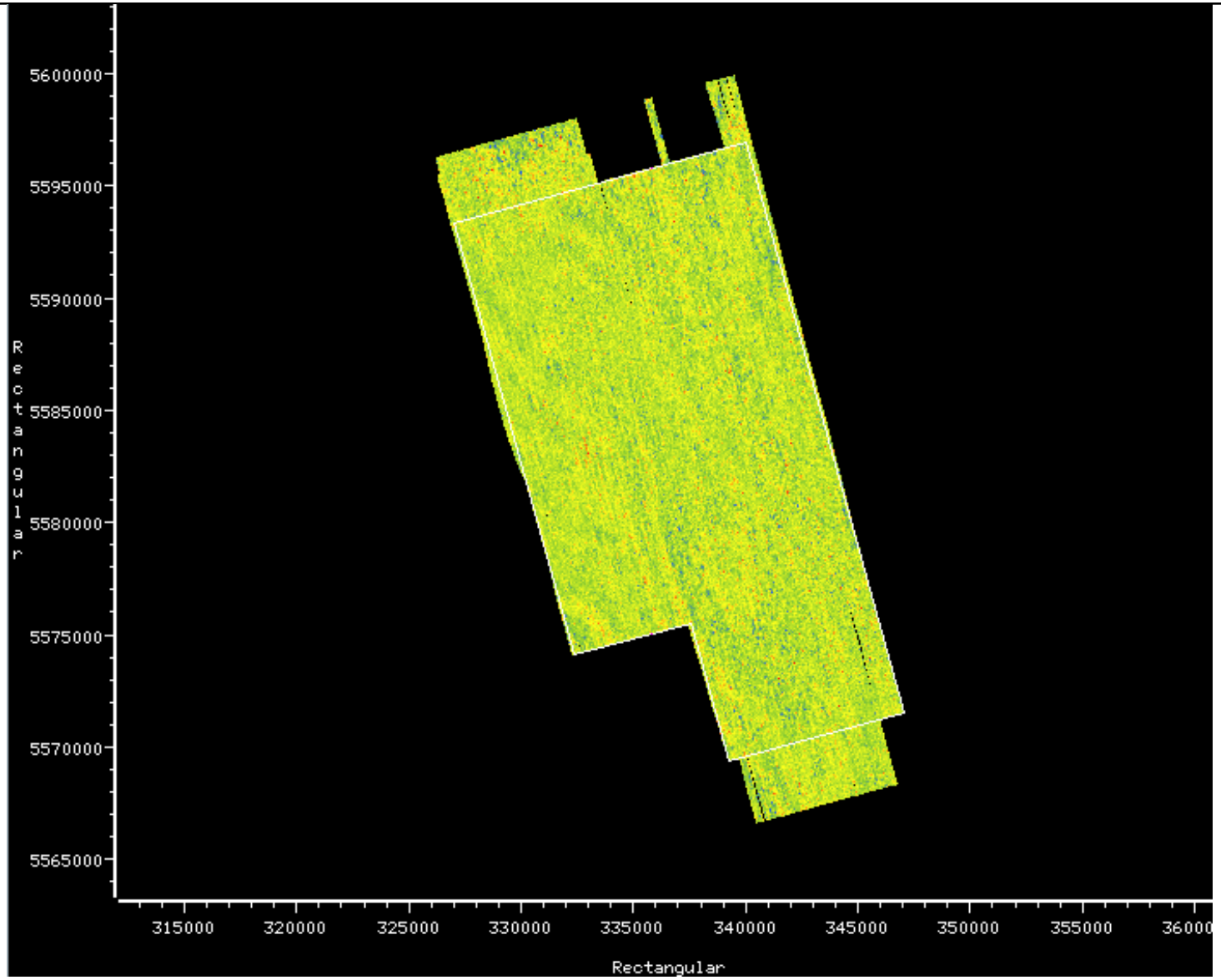
XL1601 stack after SRME



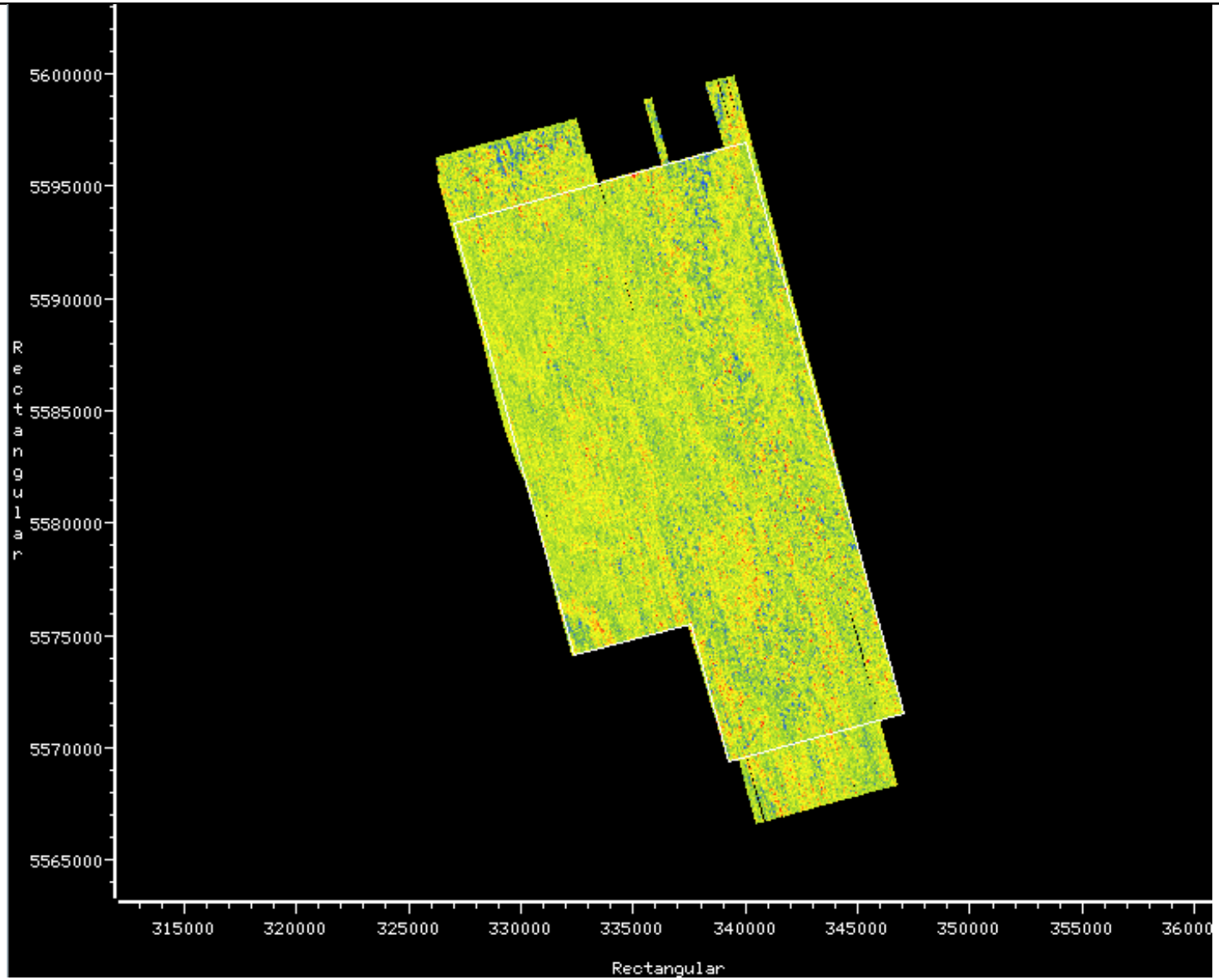
XL1601 stack after Hi-Res Radon demultiple



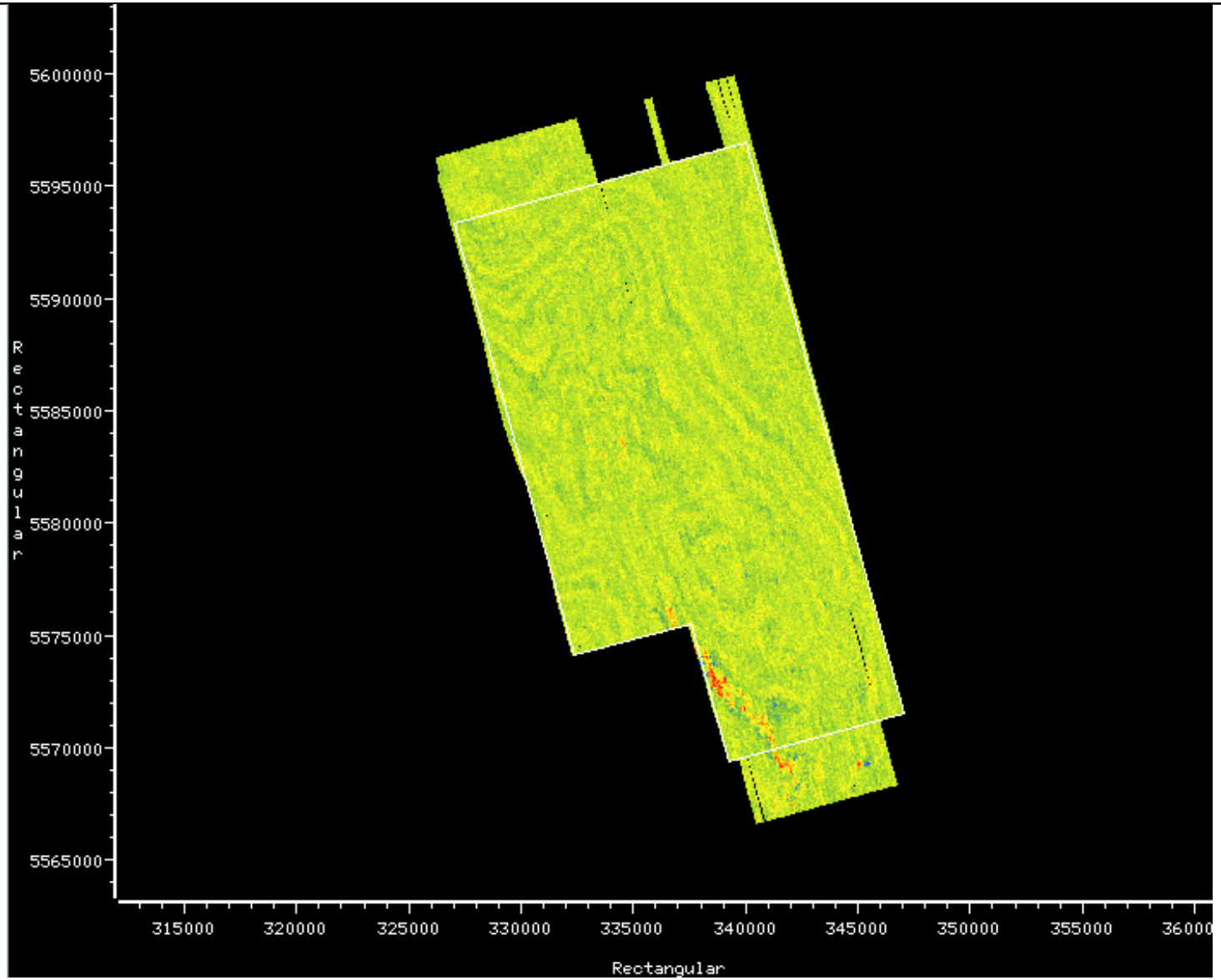
1000ms time slice after SRME



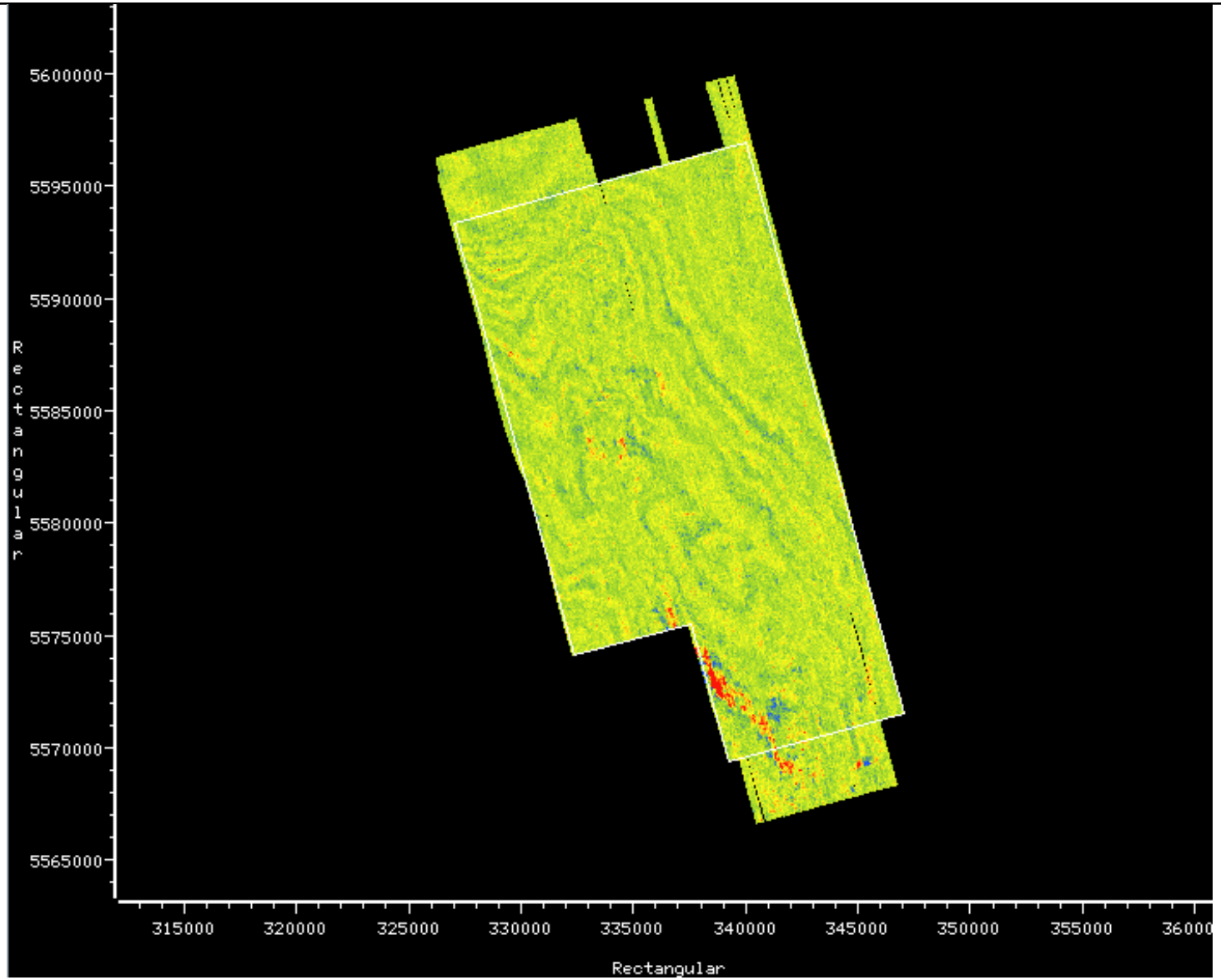
1000ms time slice after Hi-Res Radon demultiple



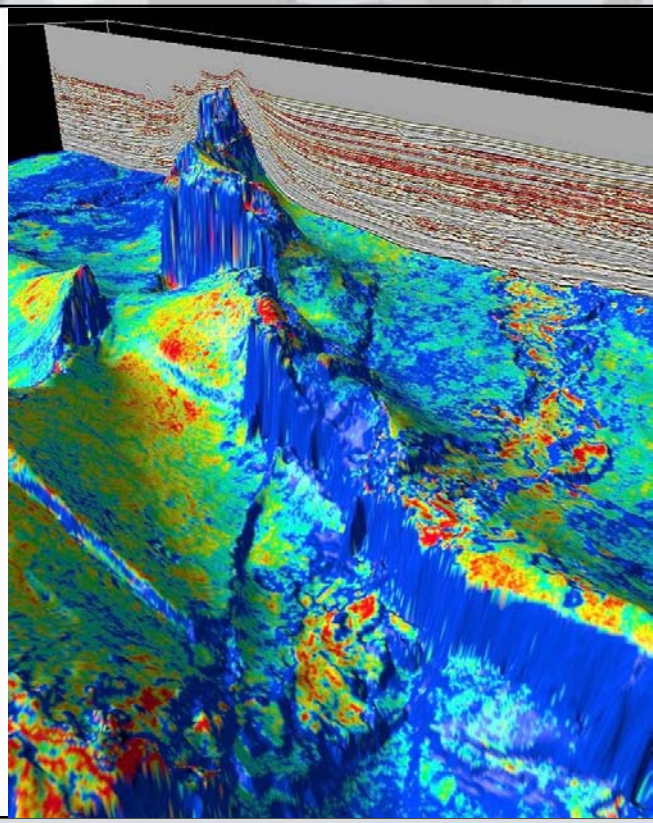
1500ms time slice after SRME



1500ms time slice after Hi-Res Radon demultiple



Technical Note 7
Source and Channel Gain Correction Tests
Silvereye 3D



CGGVERITAS

Processing Sequence to date

Processing Sequence to date

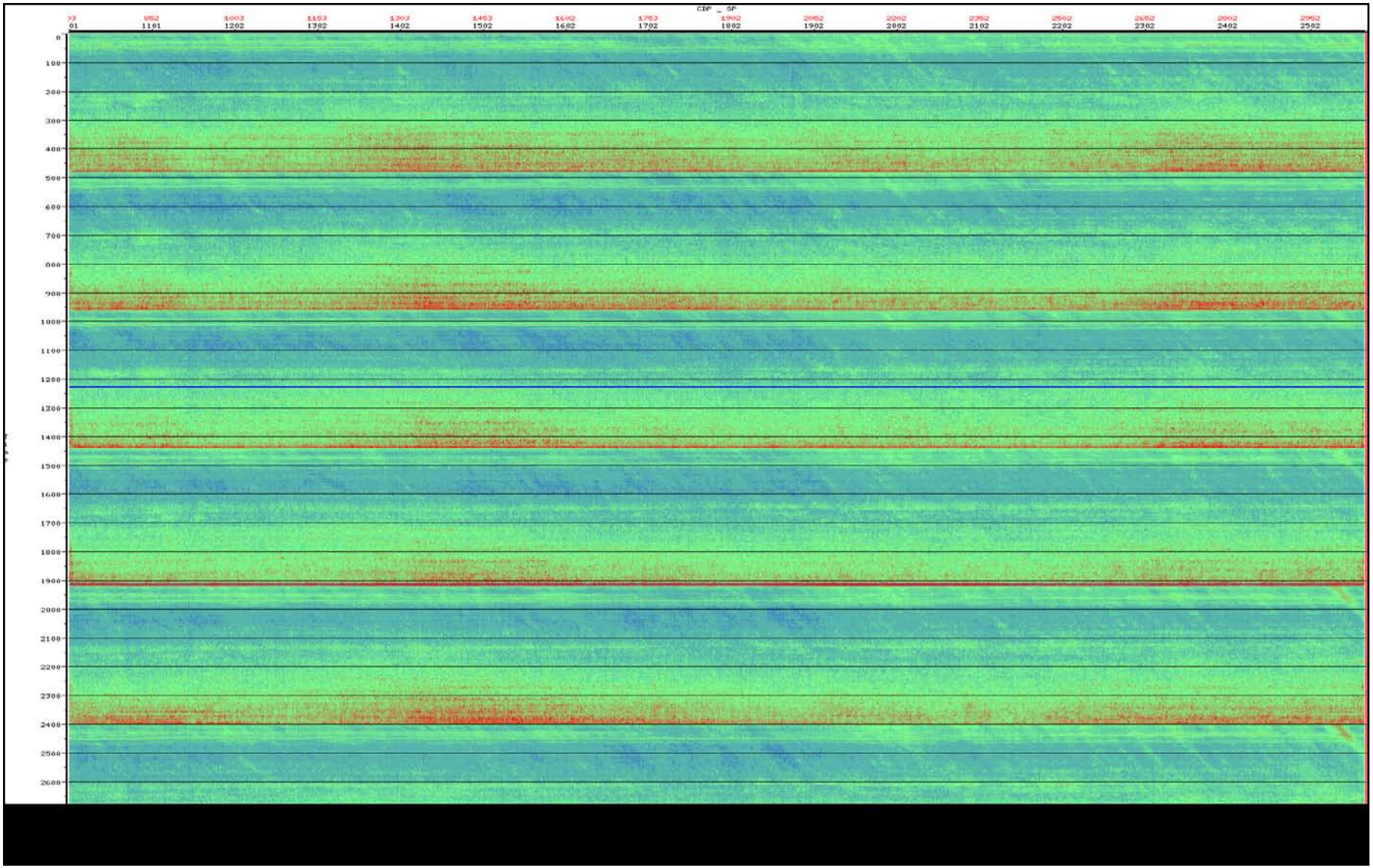
- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain

Current Test

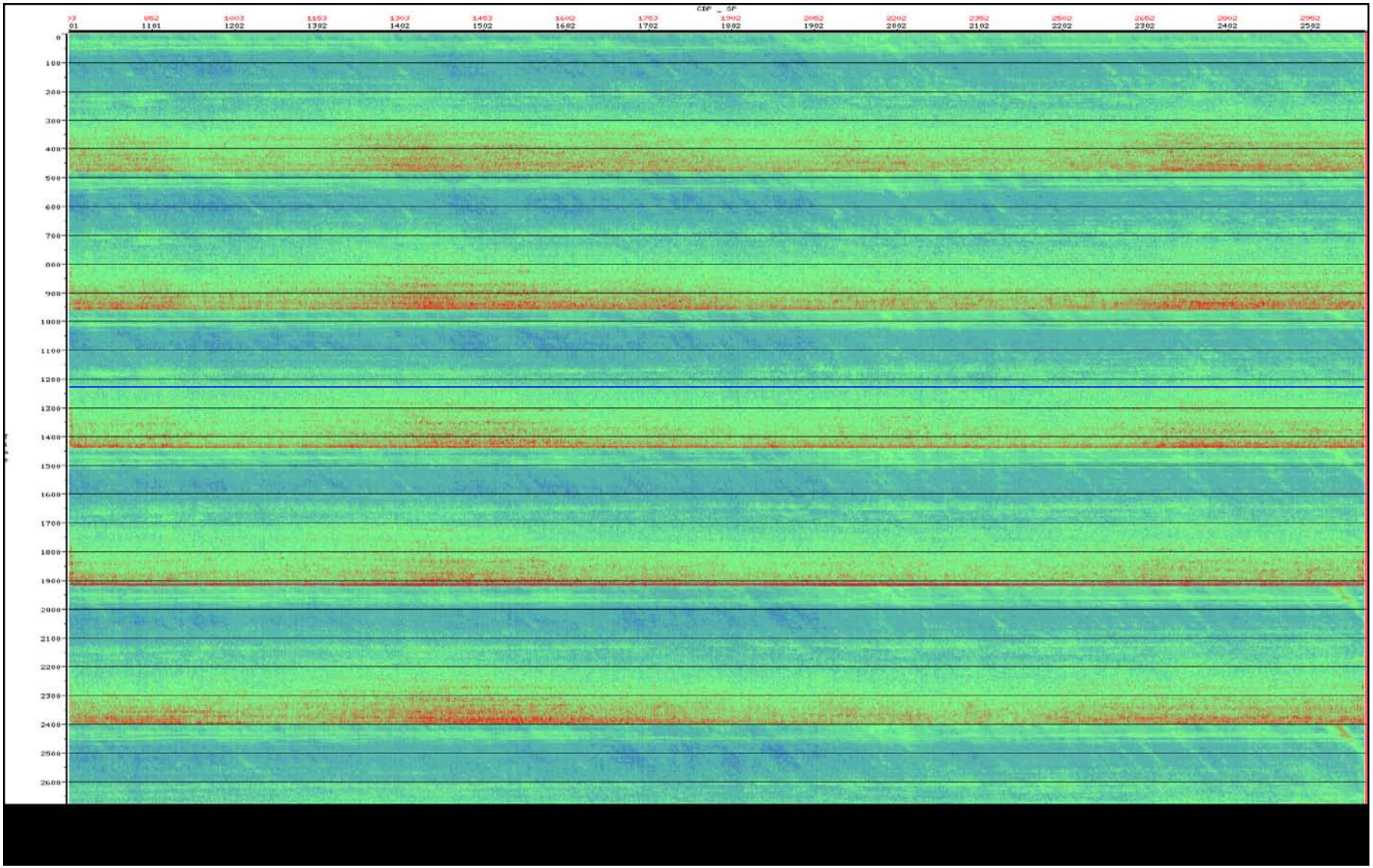
Source and Channel correction test:

- Test was done in rms amplitude whole traces

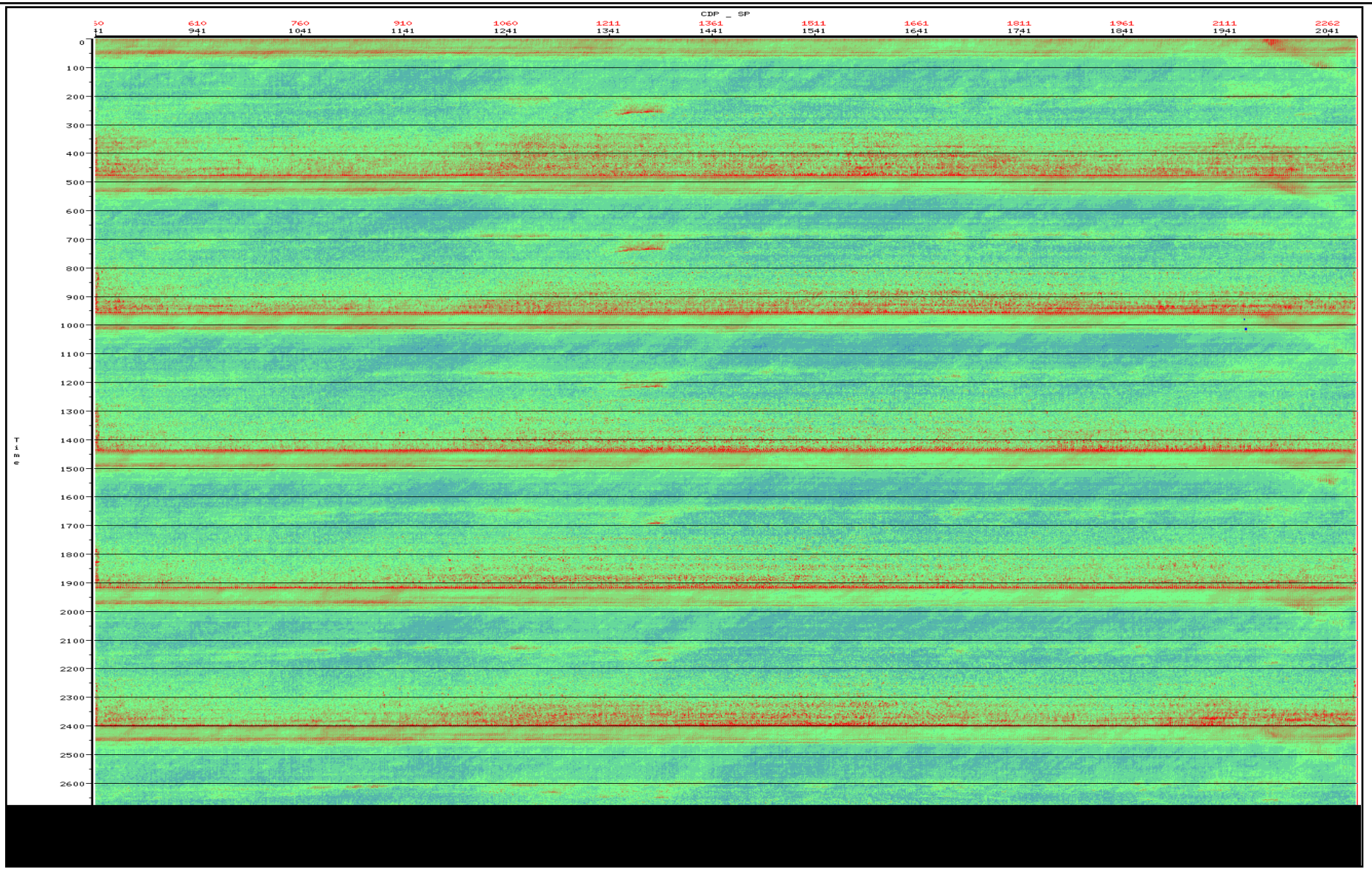
RMS AMPLITUDE - 007: Without Gain



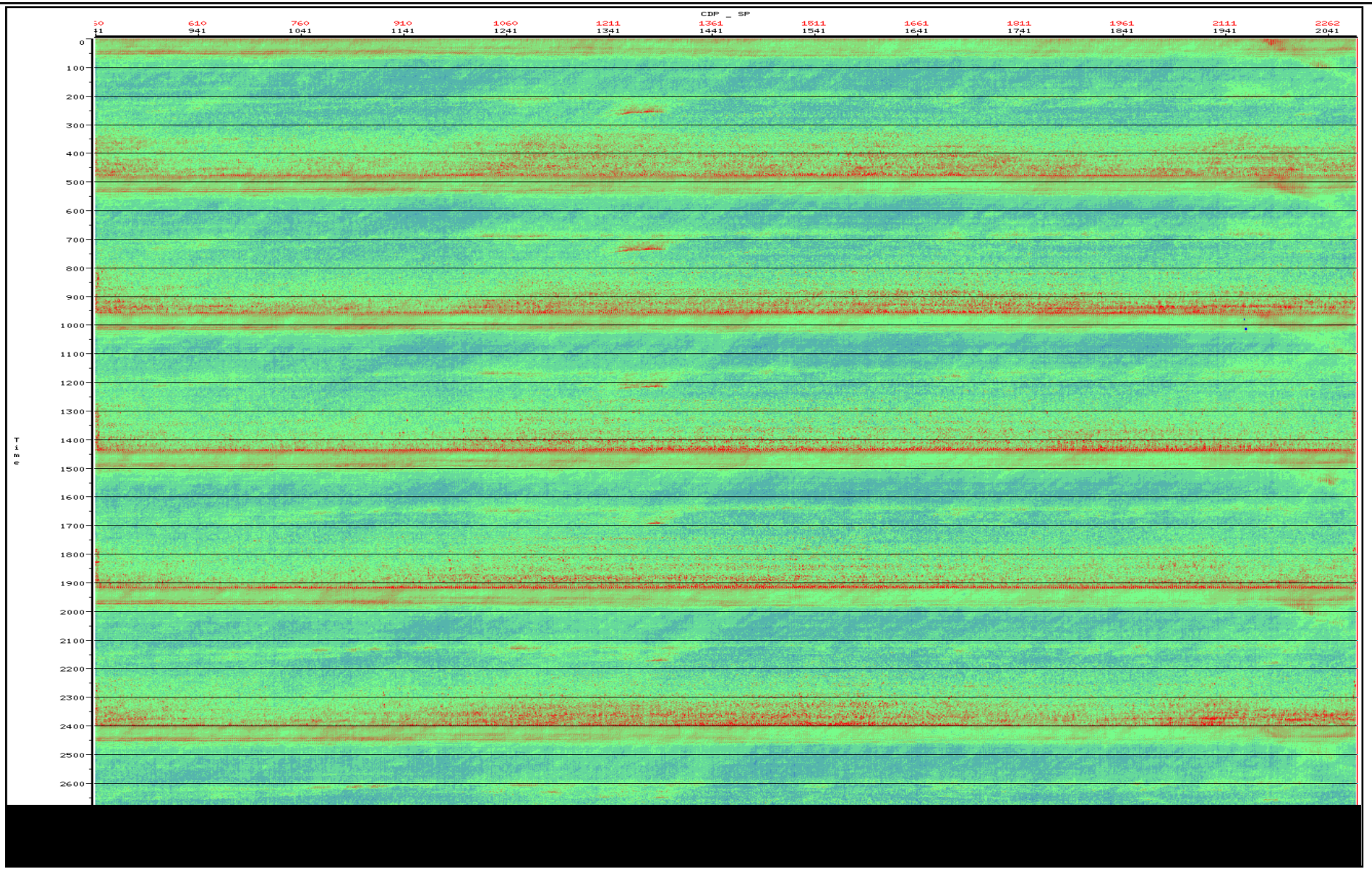
RMS AMPLITUDE - 007: With Gain



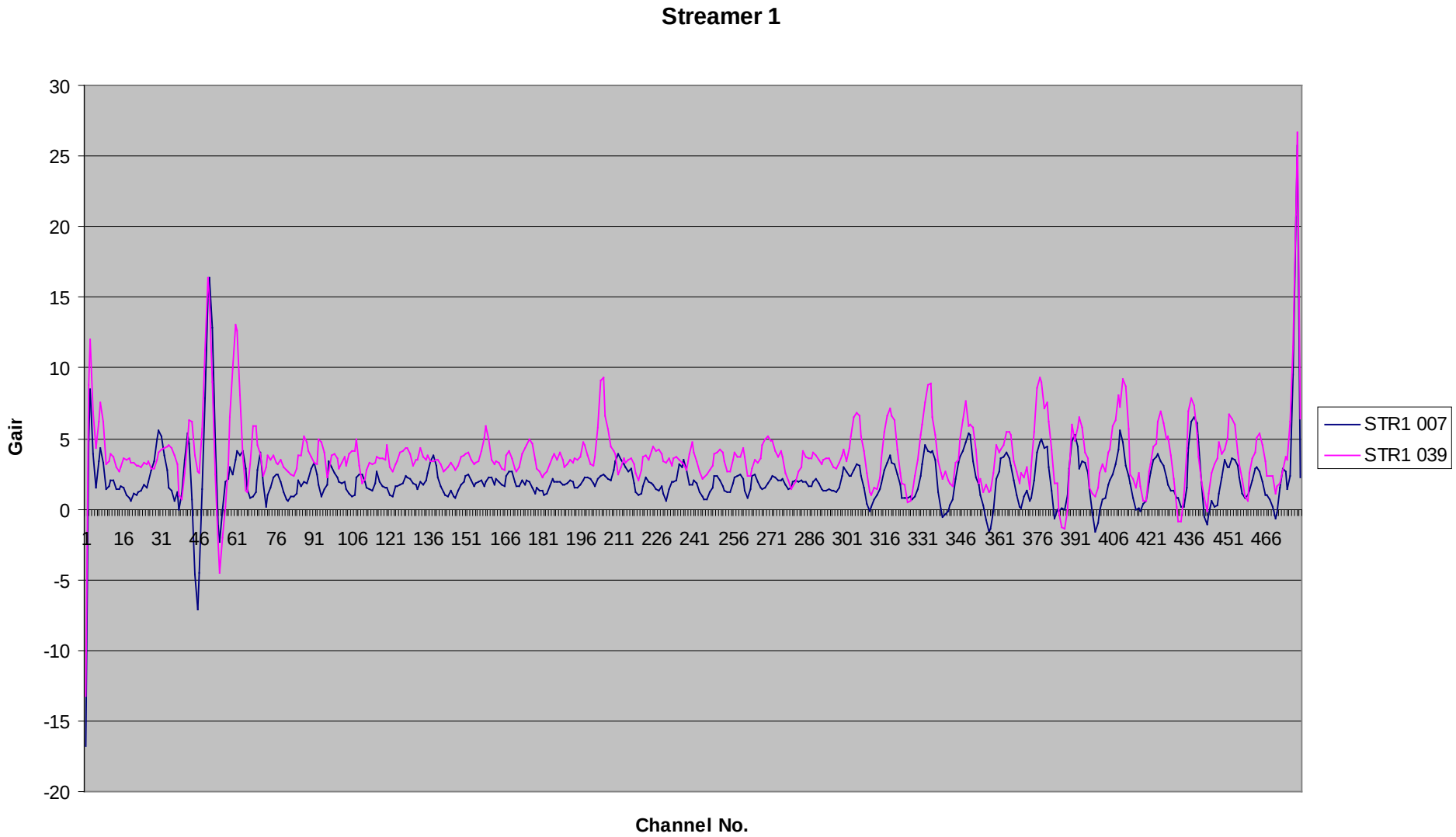
RMS AMPLITUDE - 039: Without Gain



RMS AMPLITUDE - 039: With Gain



Streamer 1


Streamer 1
Gair
30
25
20
15
10
5
0
-5
-10
-15
-20
1
16
31
46
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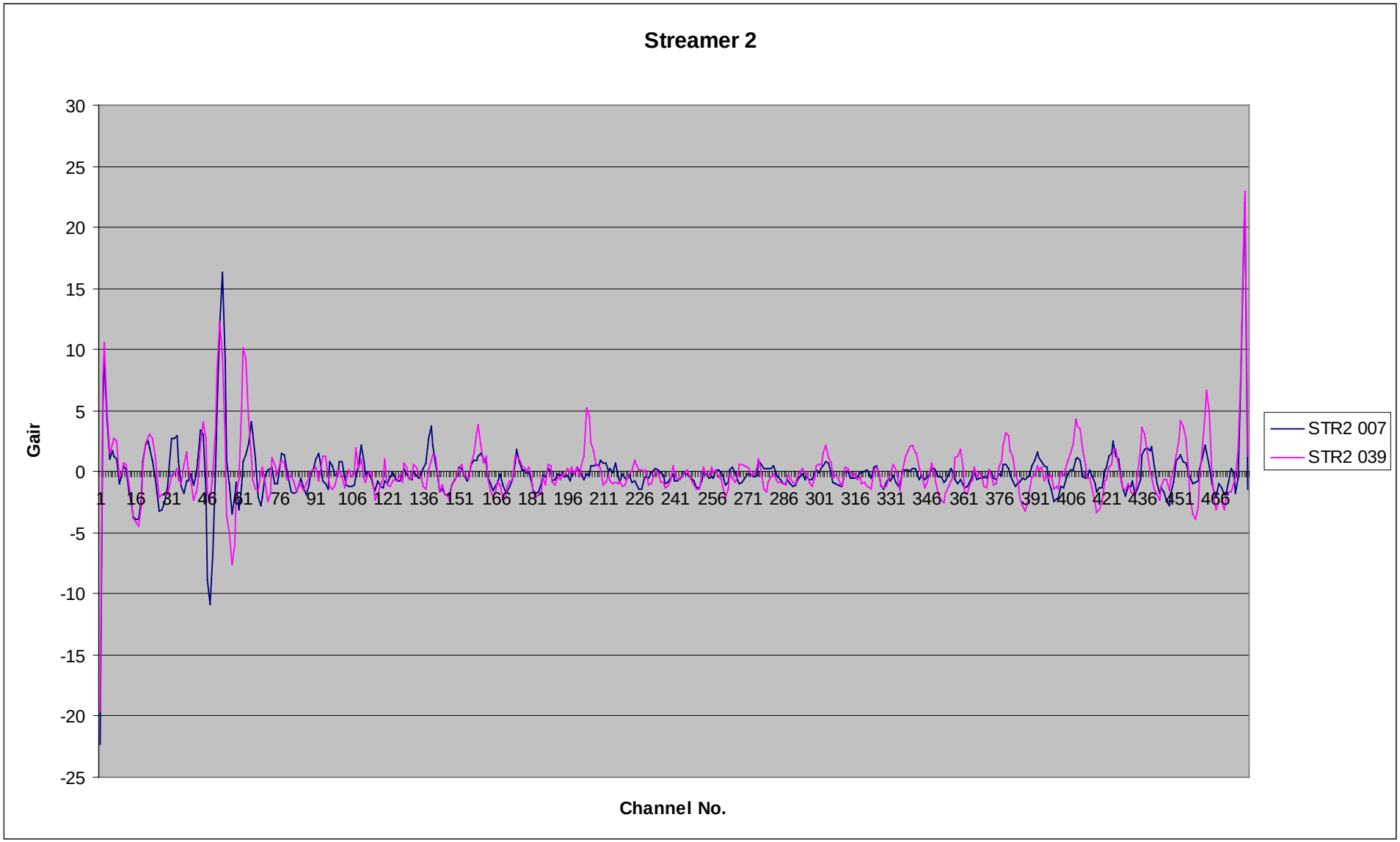
76
91
106
121
136
151
166
181
196
211
226
241
256
271
286
301
316
331
346
361
376
391
406
421
436
451
466
Channel No.
STR1 007
STR1 039

Streamer 2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Gair
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15
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-5
-10
-15
-20
-25
1
16
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76
91
106
121
136
151
166
181
196
211
226
241
256
271
286
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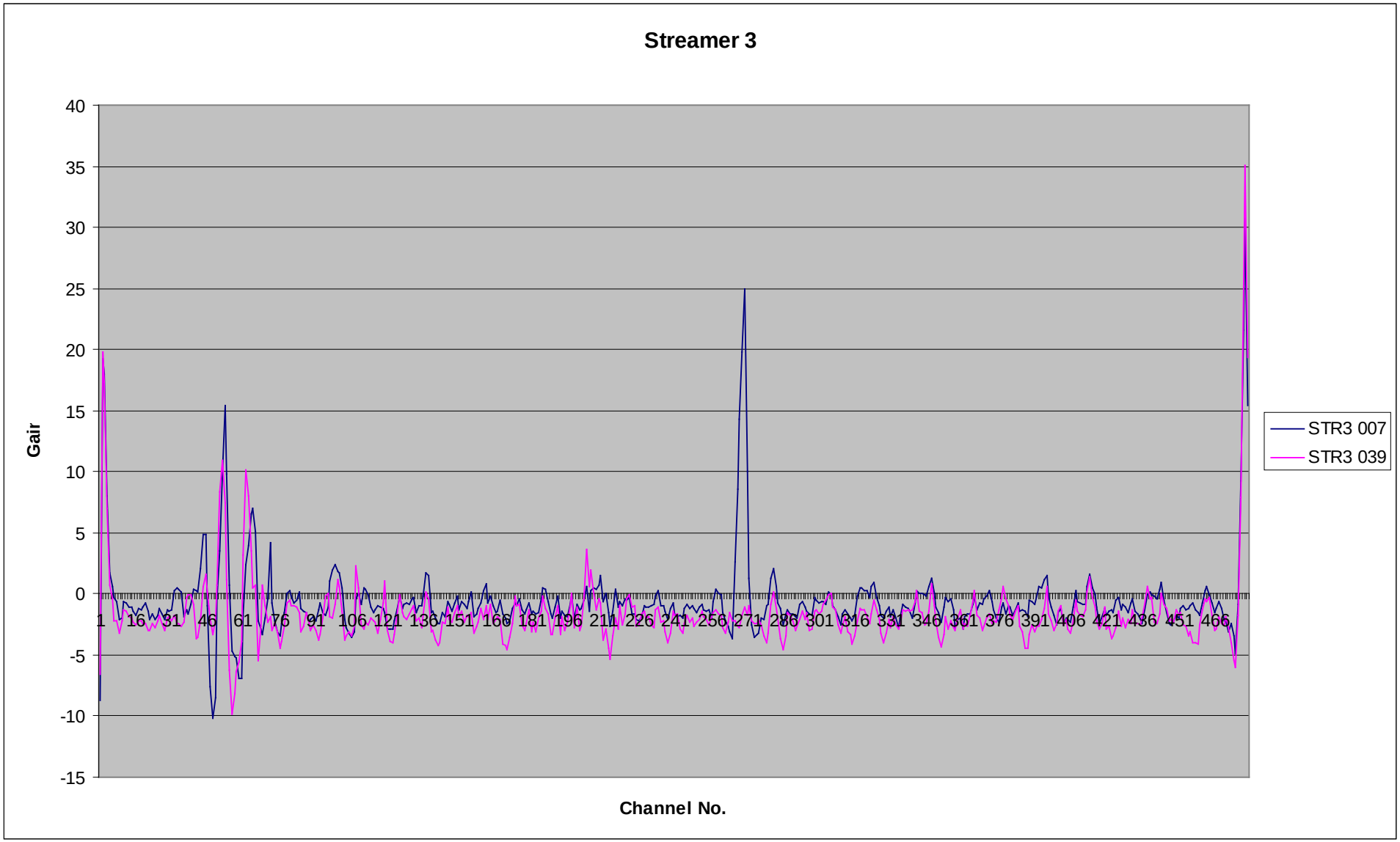
316
331
346
361
376
391
406
421
436
451
466
Channel No.
STR2 007
STR2 039

Streamer 3


Streamer 3
Gair
40
35
30
25
20
15
10
5
0
-5
-10
-15
1
16
31
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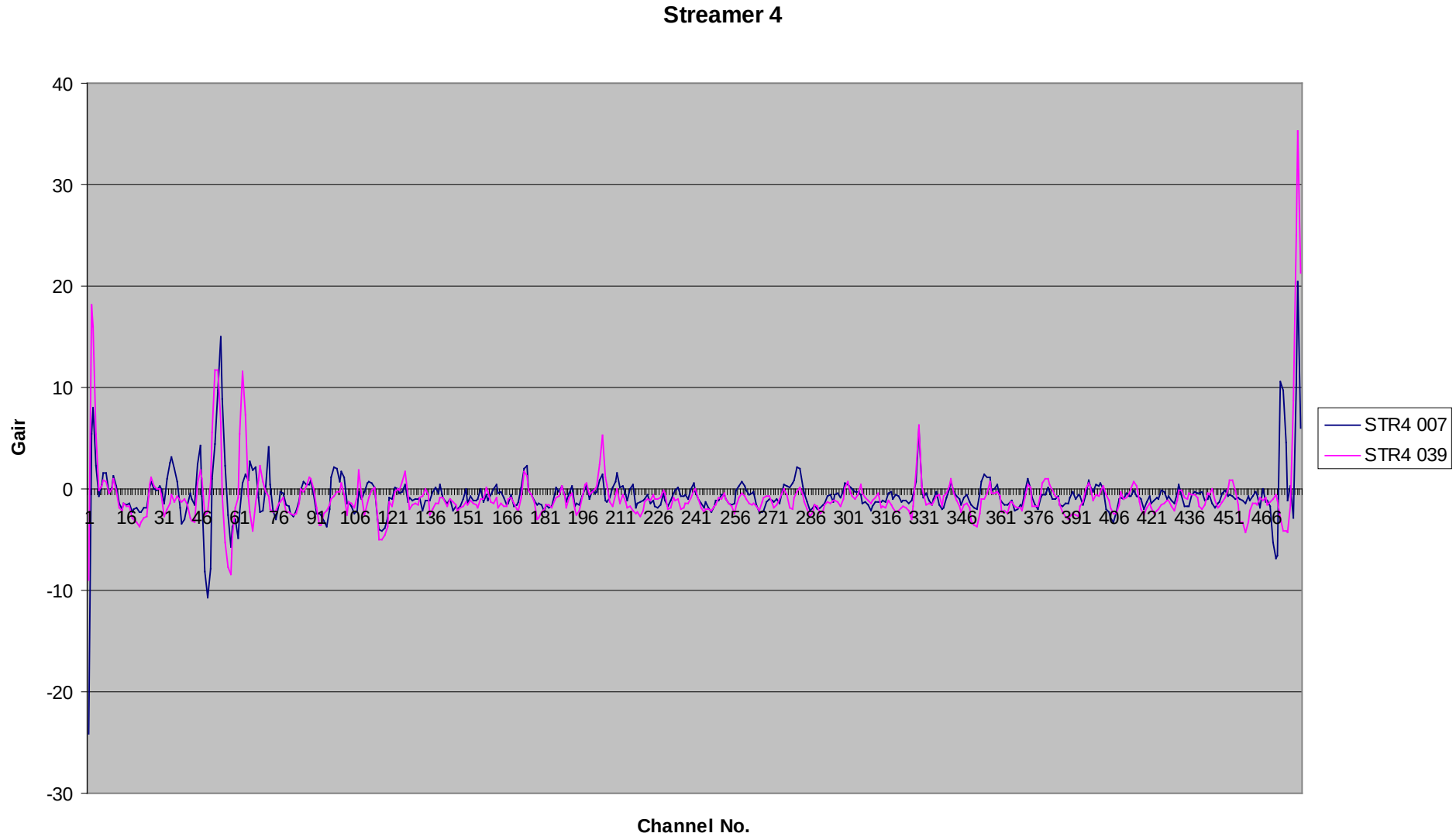
61
76
91
106
121
136
151
166
181
196
211
226
241
256
271
286
301
316
331
346
361
376
391
406
421
436
451
466
Channel No.
STR3 007
STR3 039

Streamer 4


Streamer 4
40
30
20
10
0
-10
-20
-30
Gair
1
16
31
46
61
76
91
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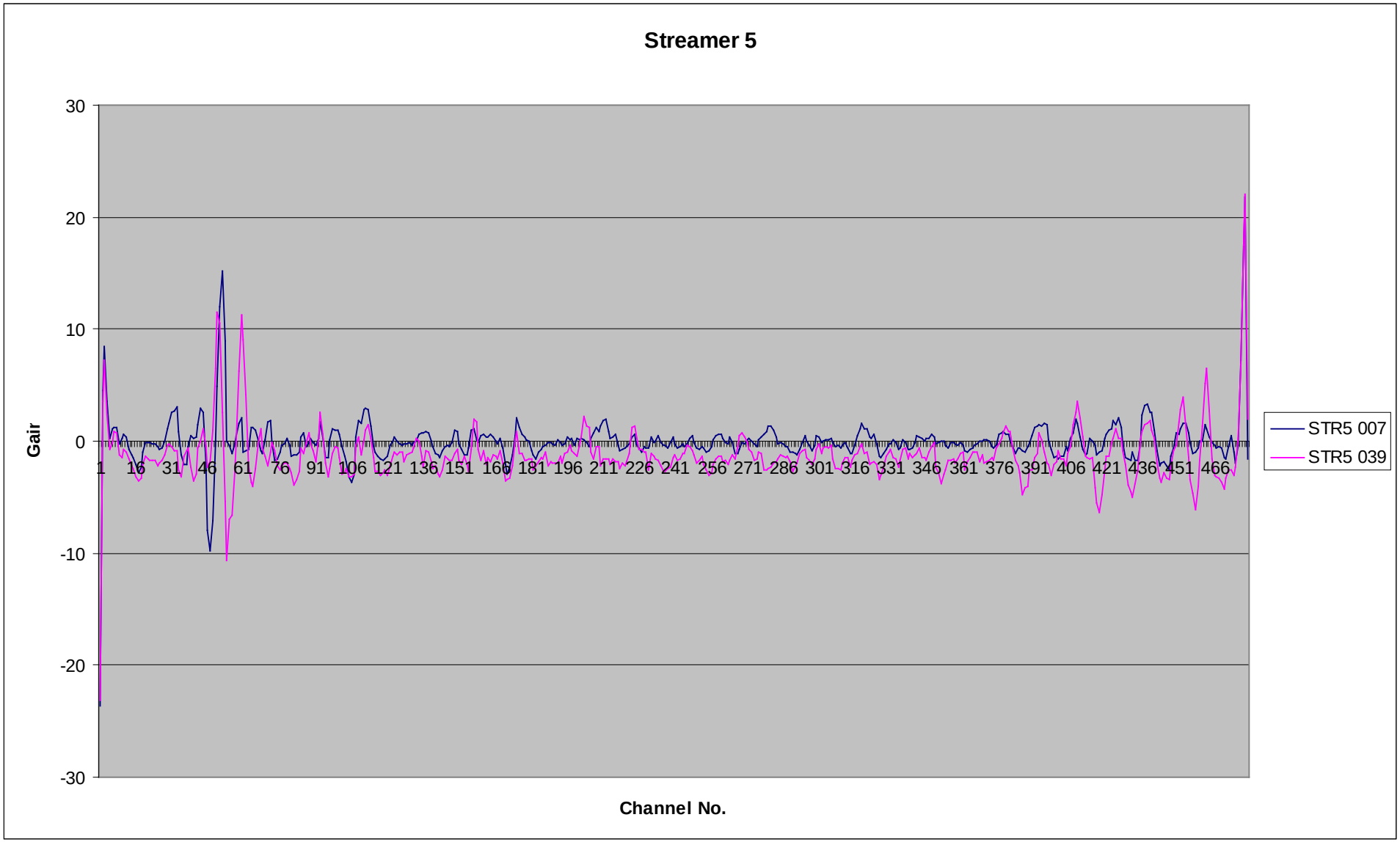
136
151
166
181
196
211
226
241
256
271
286
301
316
331
346
361
376
391
406
421
436
451
466
Channel No.
STR4 007
STR4 039

Streamer 5


Streamer 5
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0
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-20
-30
Gair
1
16
31
46
61
76
91
106
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166
181
196
211
226
241
256
271
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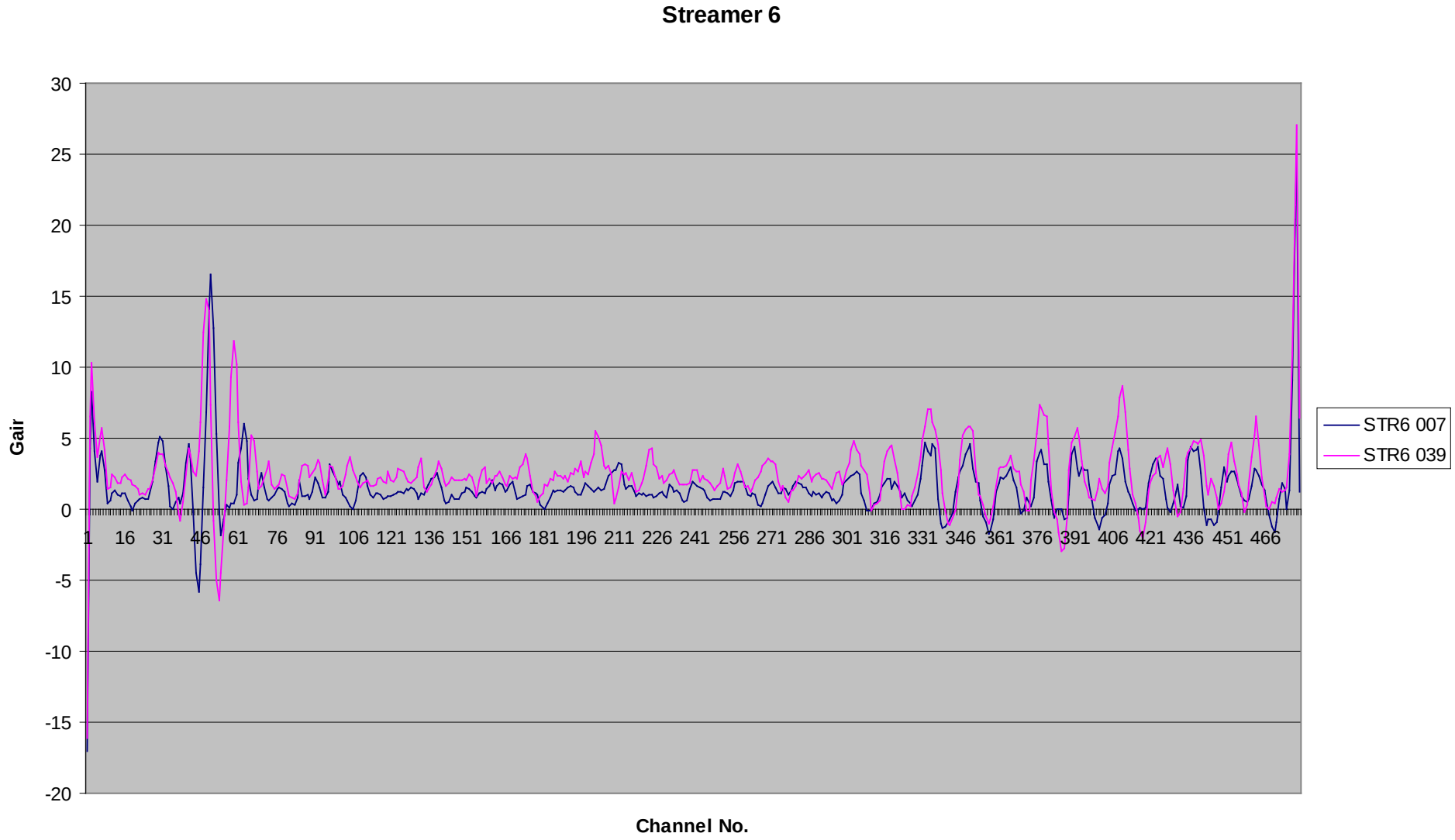
406
421
436
451
466
Channel No.
STR5 007
STR5 039

Streamer 6


Streamer 6
Gair
30
25
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15
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-5
-10
-15
-20
1
16
31
46
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181
196
211
226
241
256
271
286
301
316
331
346
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436
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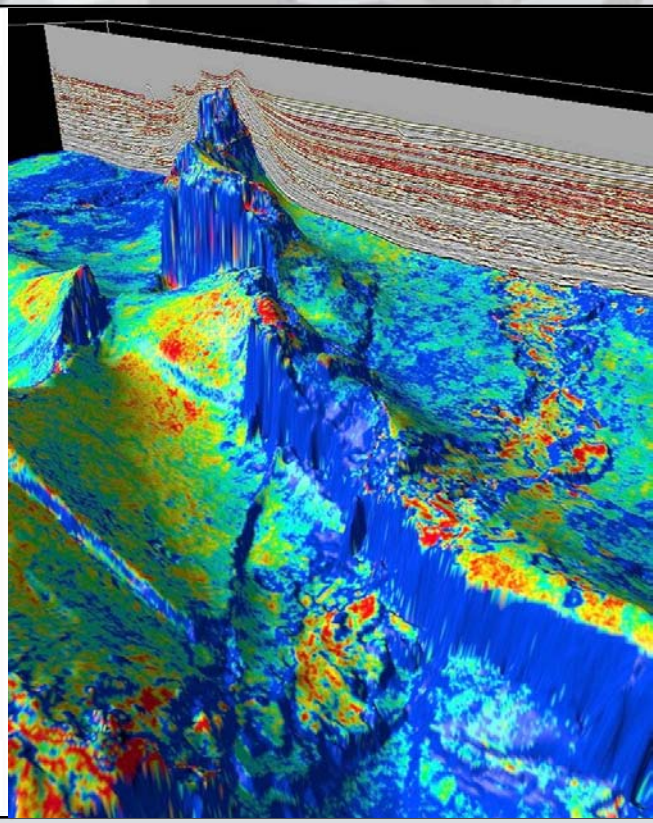
Channel No.
STR6 007
STR6 039

Technical Note 7
Source and Channel Gain Correction Tests
Silvereye 3D



CGGVERITAS

Processing Sequence to date

Processing Sequence to date

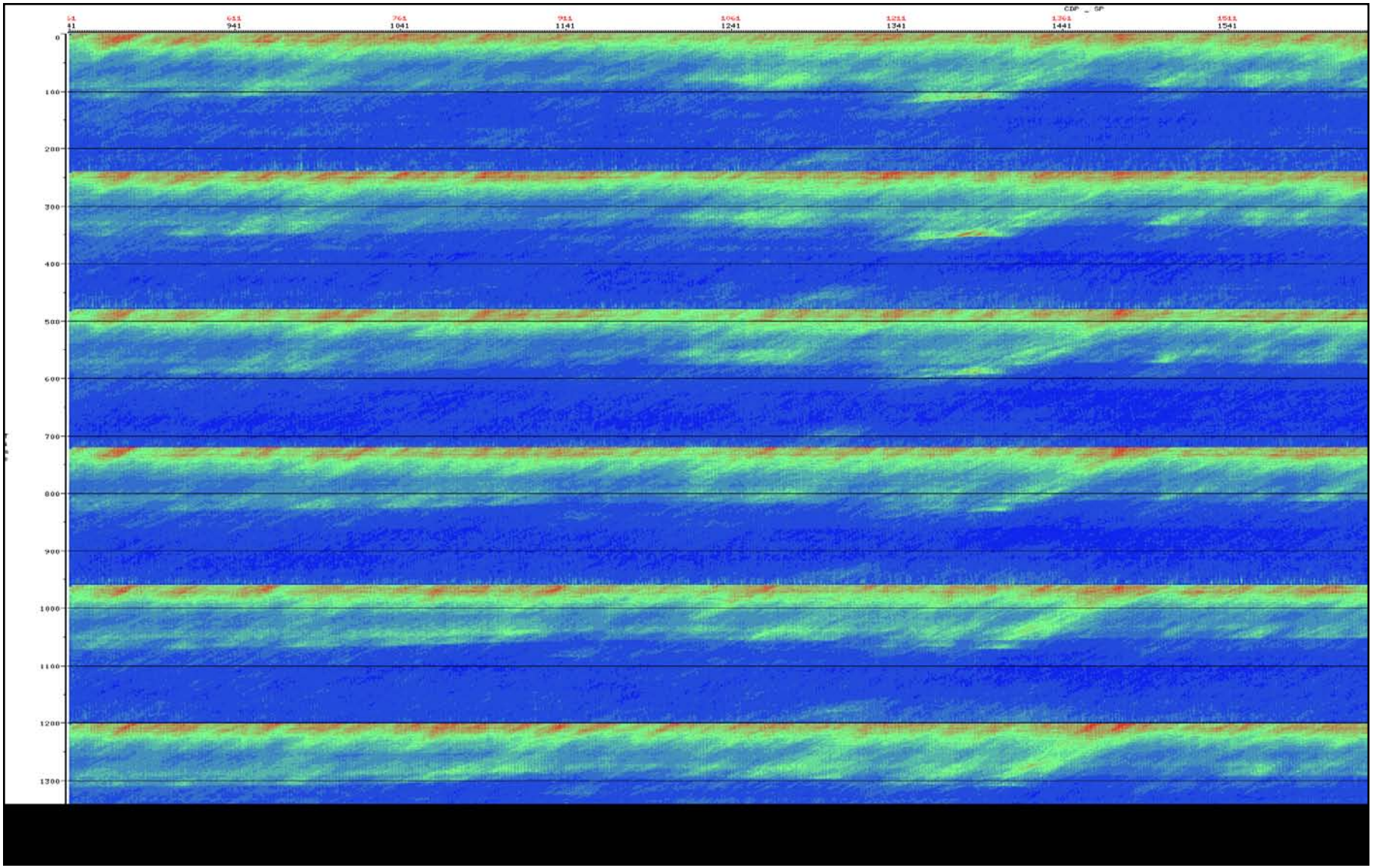
- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- Radon Demultiple

Current Test

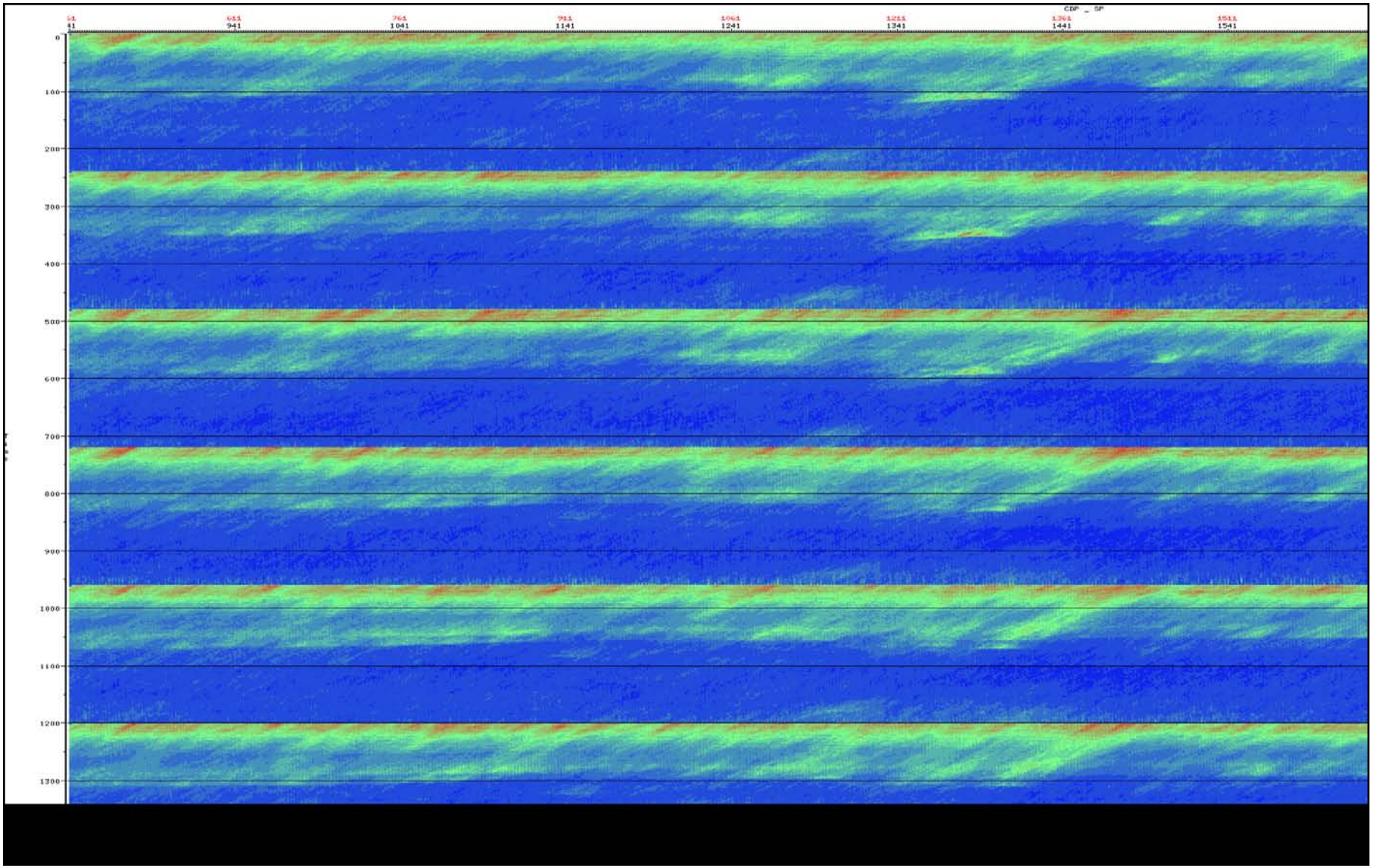
Source and Channel correction test:

- Test was done in rms amplitude selected window: Time 900ms-2000ms

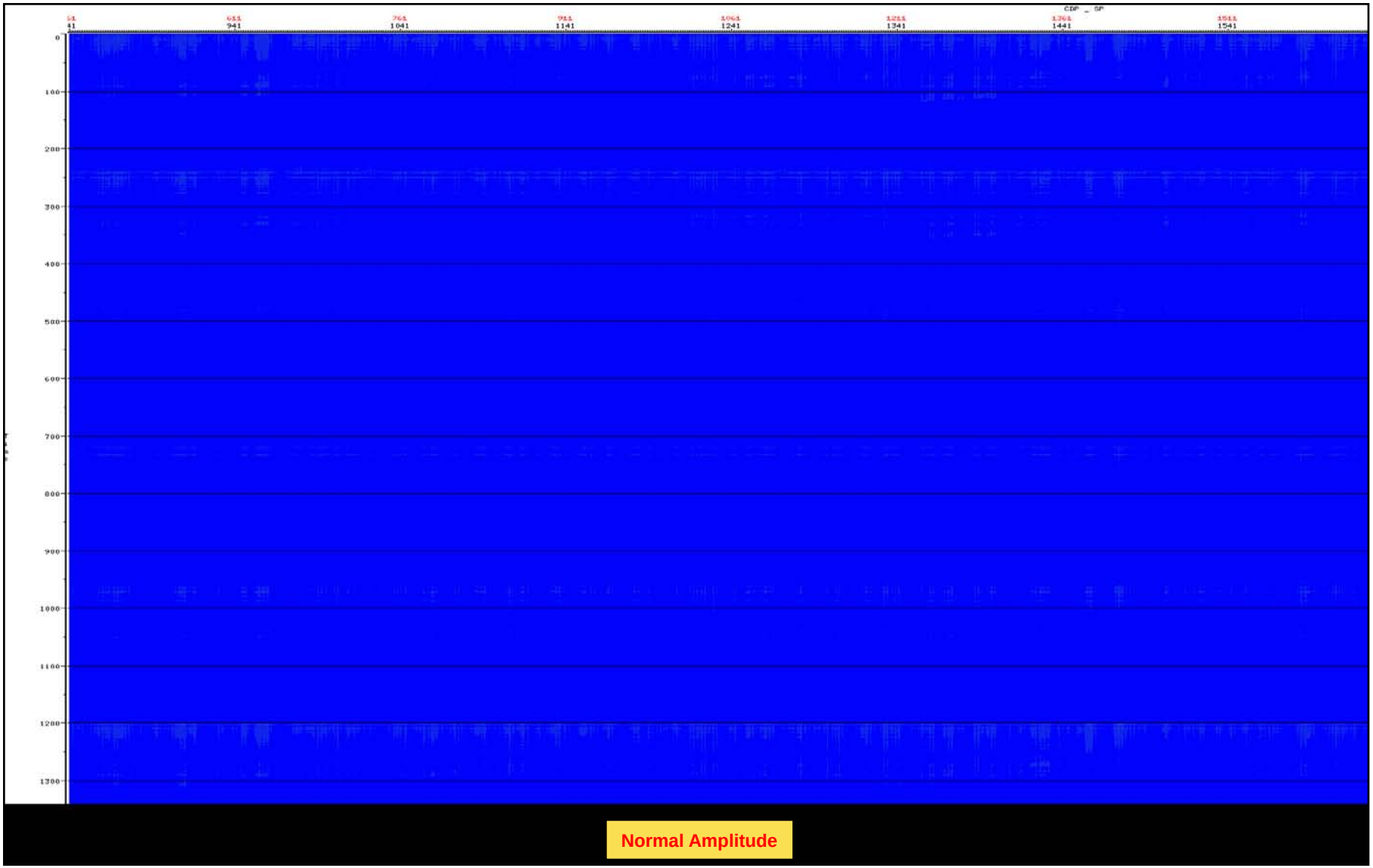
RMS AMPLITUDE - 039: Without Gain



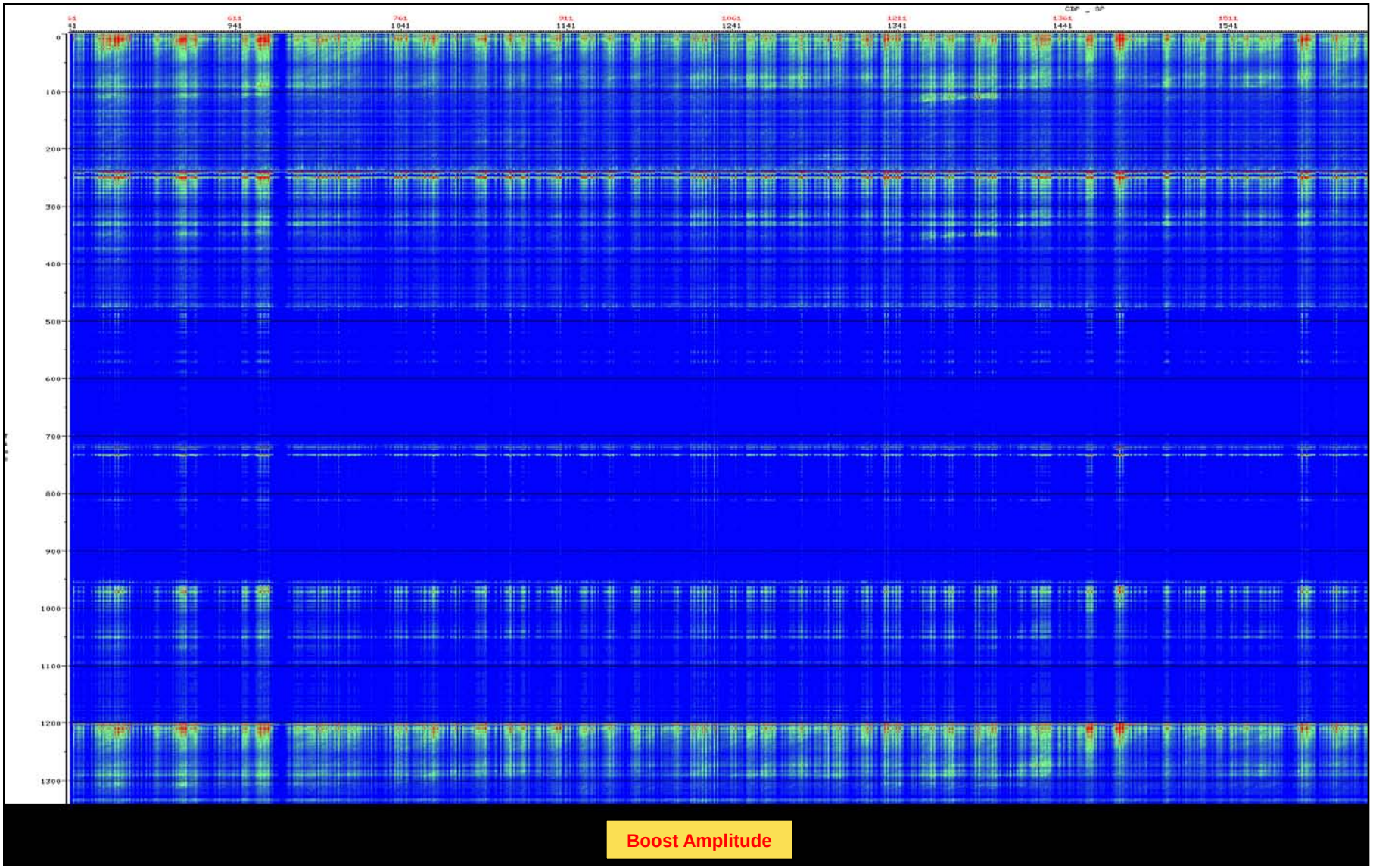
RMS AMPLITUDE - 039: With Gain



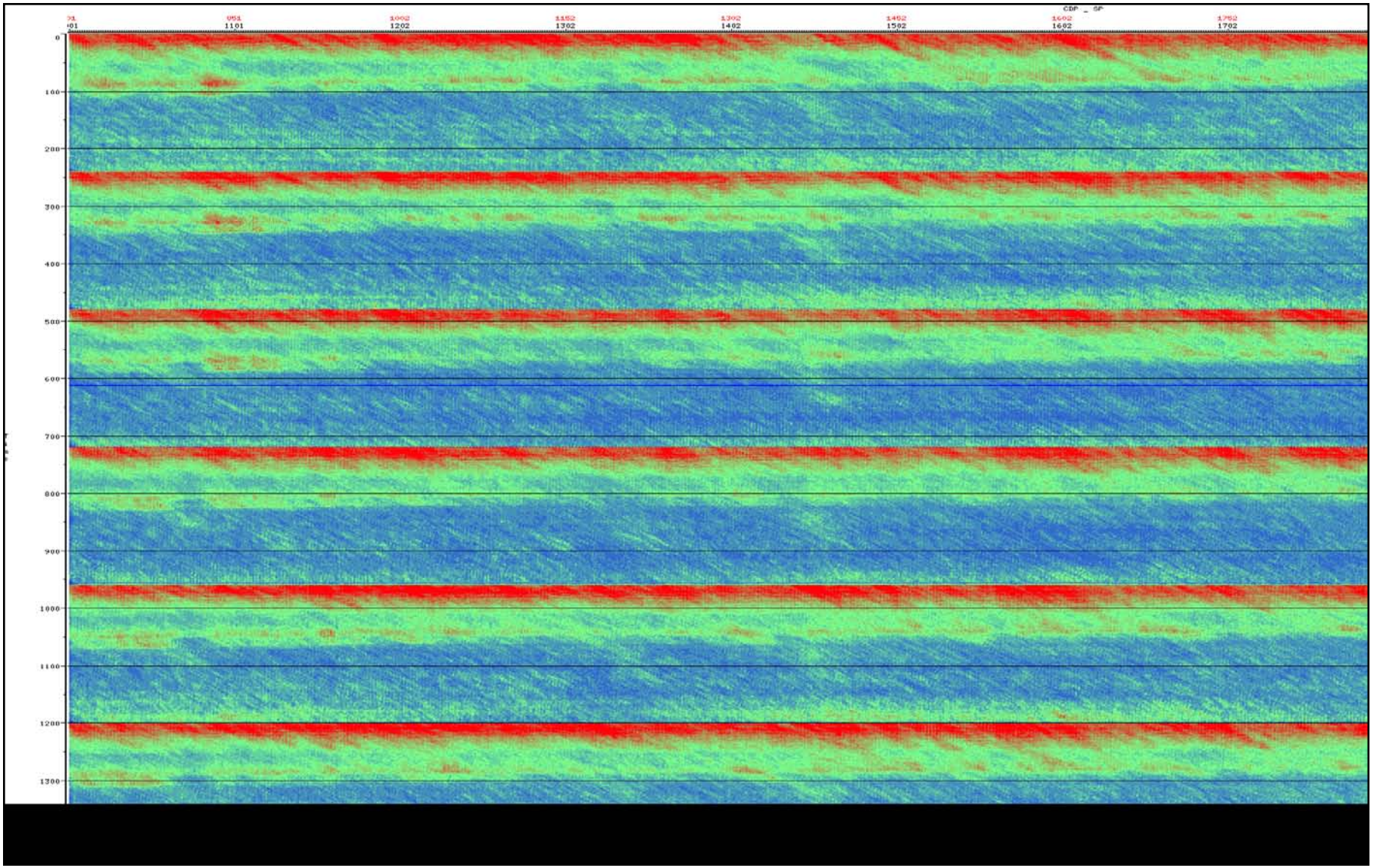
RMS AMPLITUDE - 039: Difference



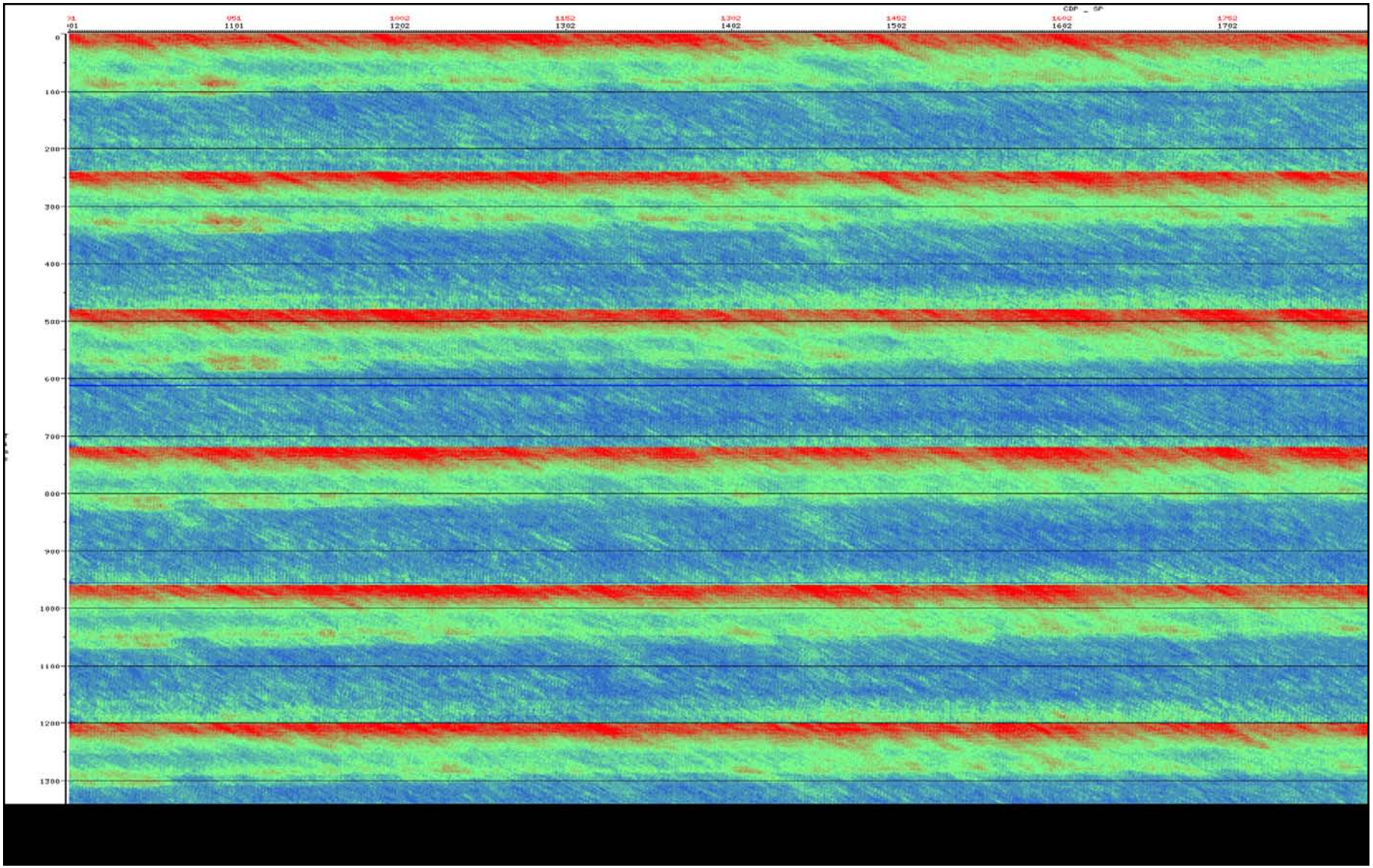
RMS AMPLITUDE - 039: Difference



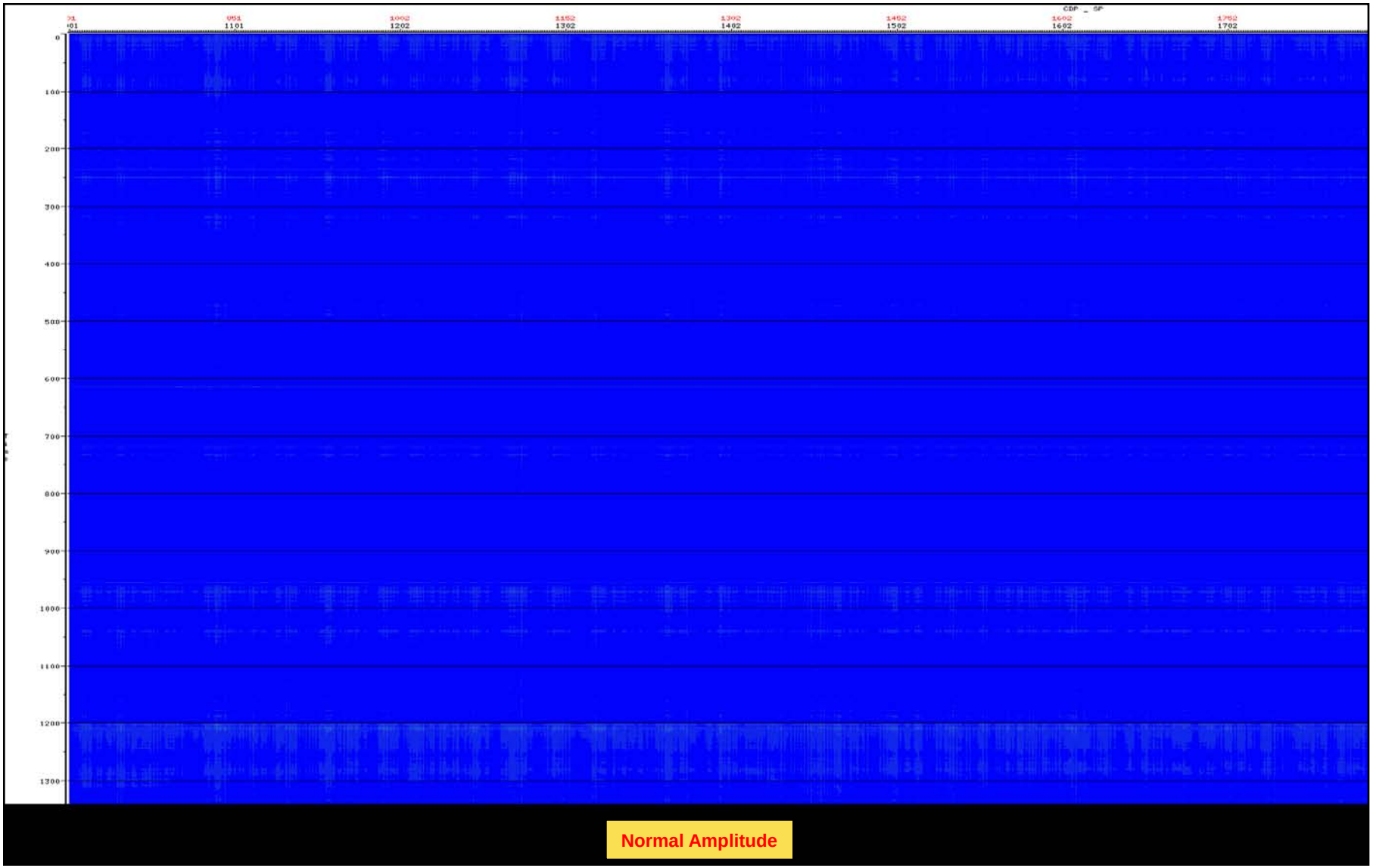
RMS AMPLITUDE - 007: Without Gain



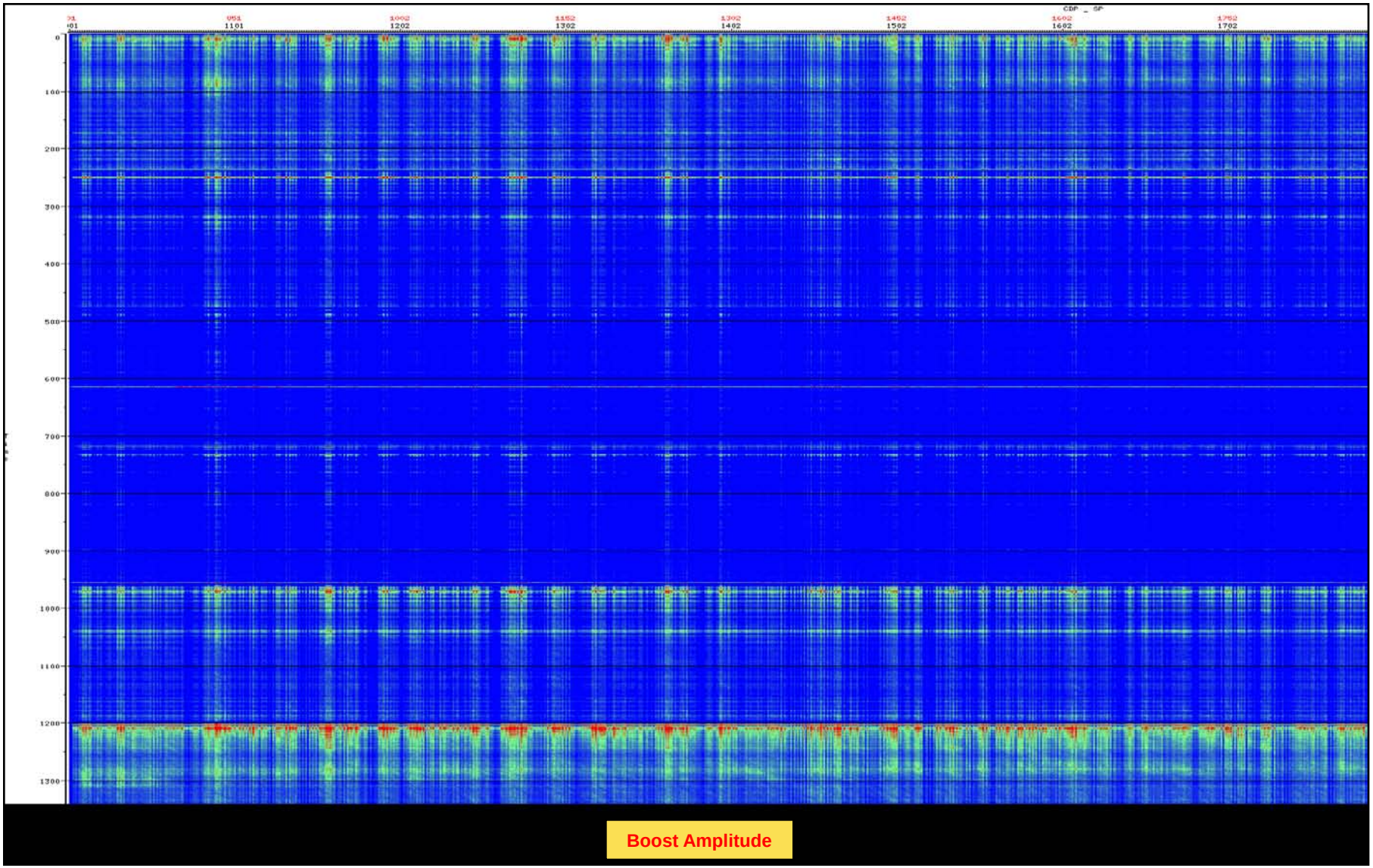
RMS AMPLITUDE - 007: With Gain



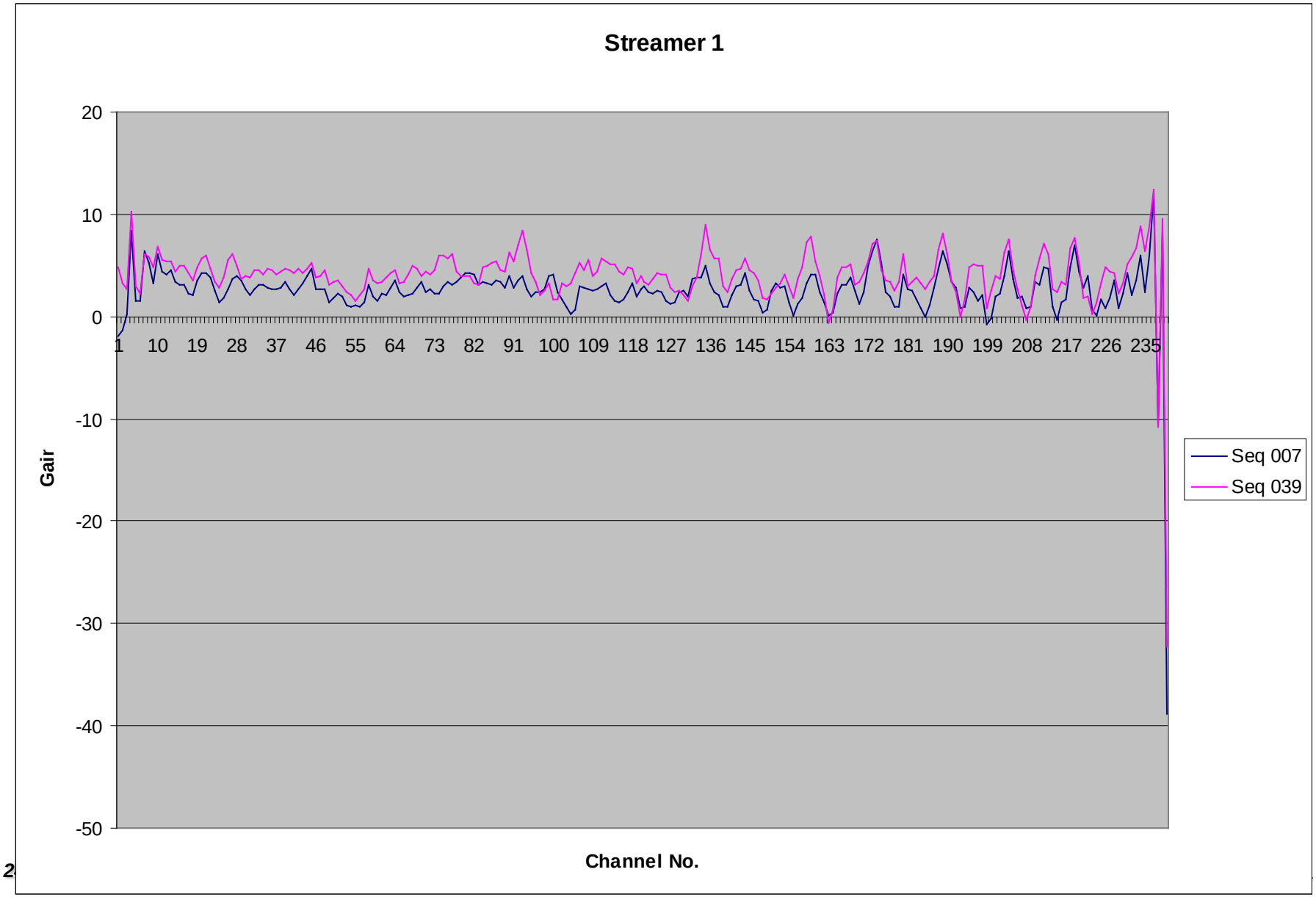
RMS AMPLITUDE - 007: Difference



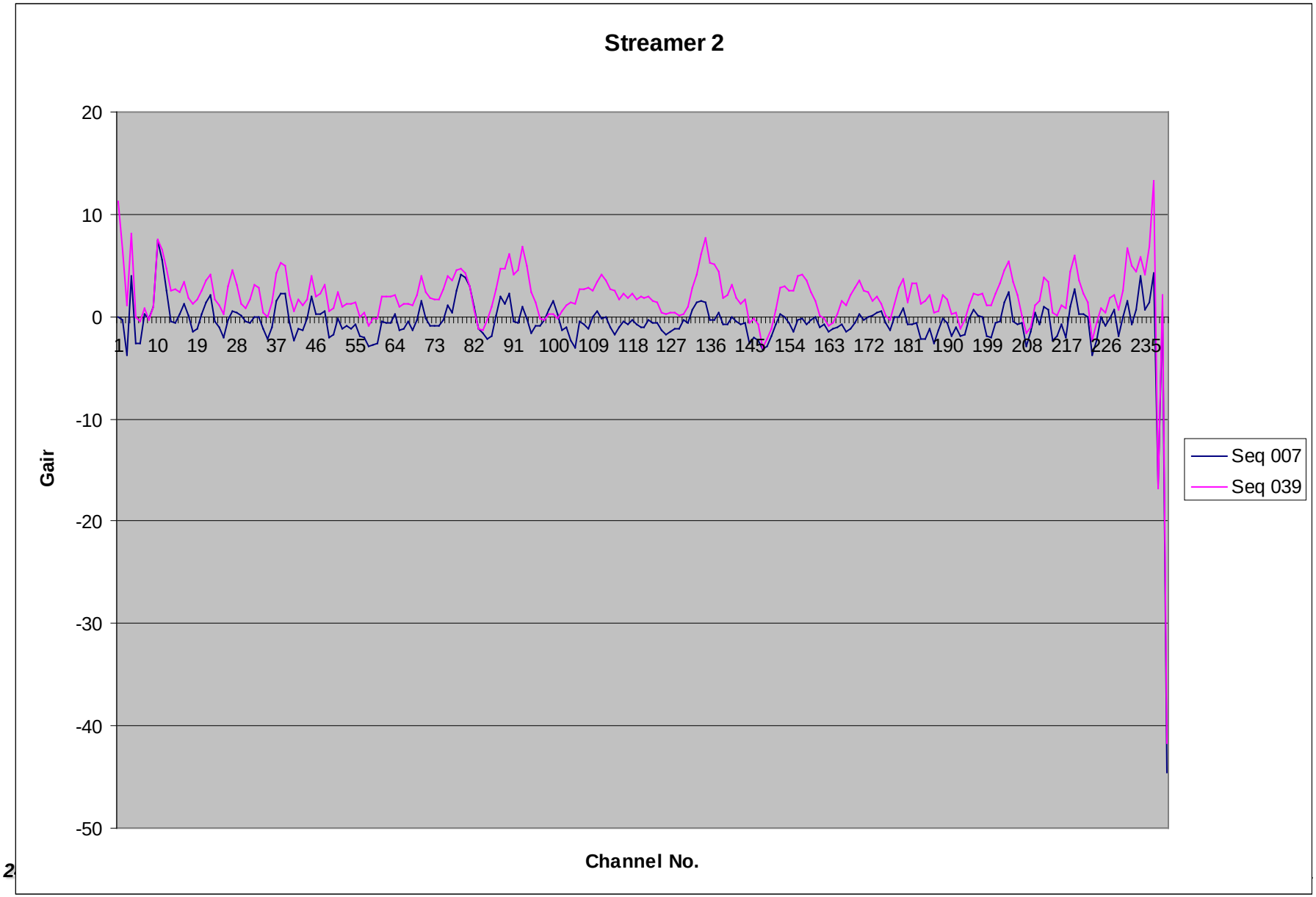
RMS AMPLITUDE - 007: Difference



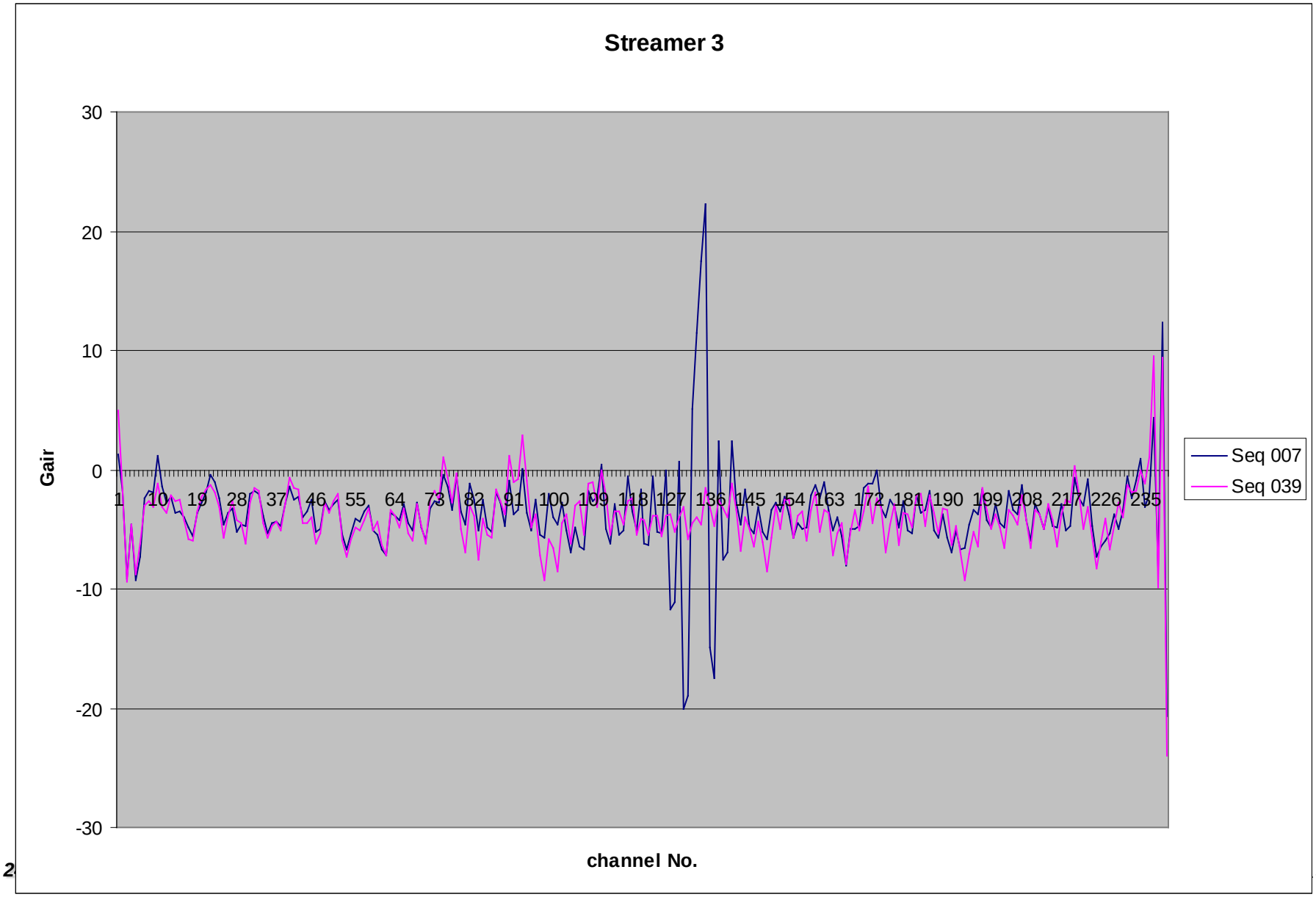
Streamer 1


Streamer 1
20
10
0
-10
-20
-30
-40
-50
Gair
1
10
19
28
37
46
55
64
73
82
91
100
109
118
127
136
145
154
163
172
181
190
199
208
217
226
235
Channel No.
Seq 007
Seq 039

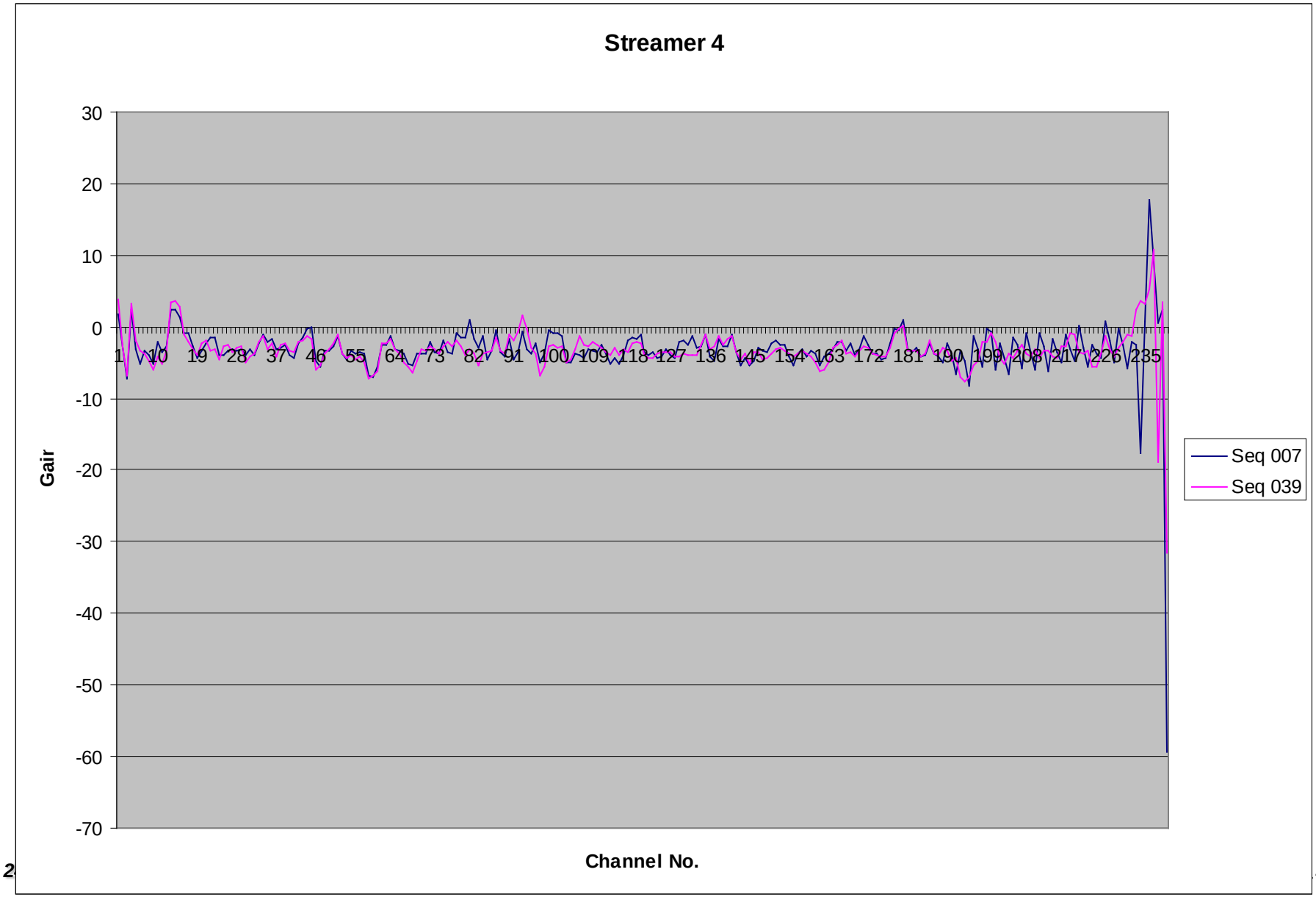
Streamer 2


Streamer 2
20
10
0
-10
-20
-30
-40
-50
Gair
1
10
19
28
37
46
55
64
73
82
91
100
109
118
127
136
145
154
163
172
181
190
199
208
217
226
235
Channel No.
Seq 007
Seq 039

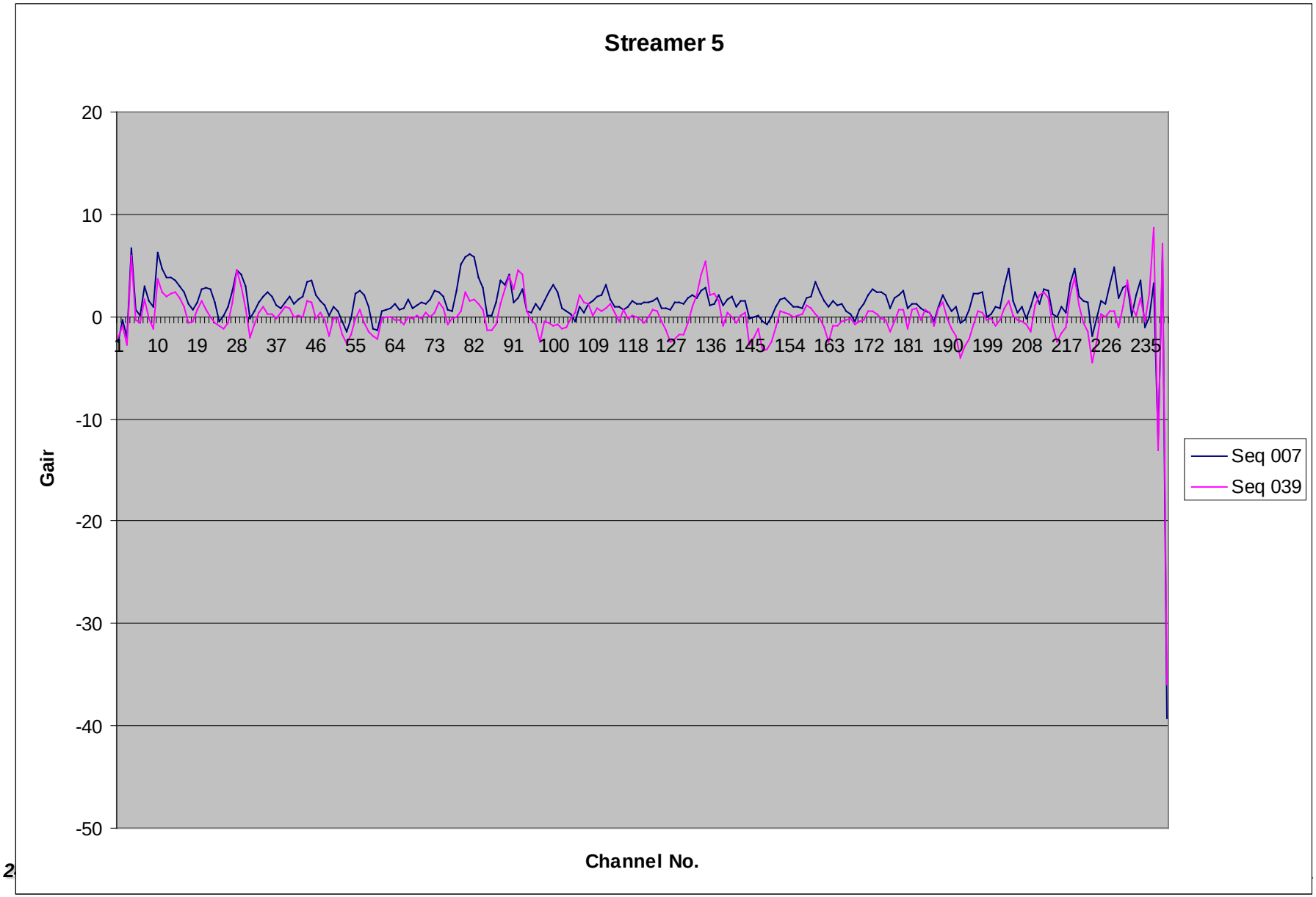
Streamer 3


Streamer 3
30
20
10
0
-10
-20
-30
Gair
1
10
19
28
37
46
55
64
73
82
91
100
109
118
127
136
145
154
163
172
181
190
199
208
217
226
235
channel No.
Seq 007
Seq 039

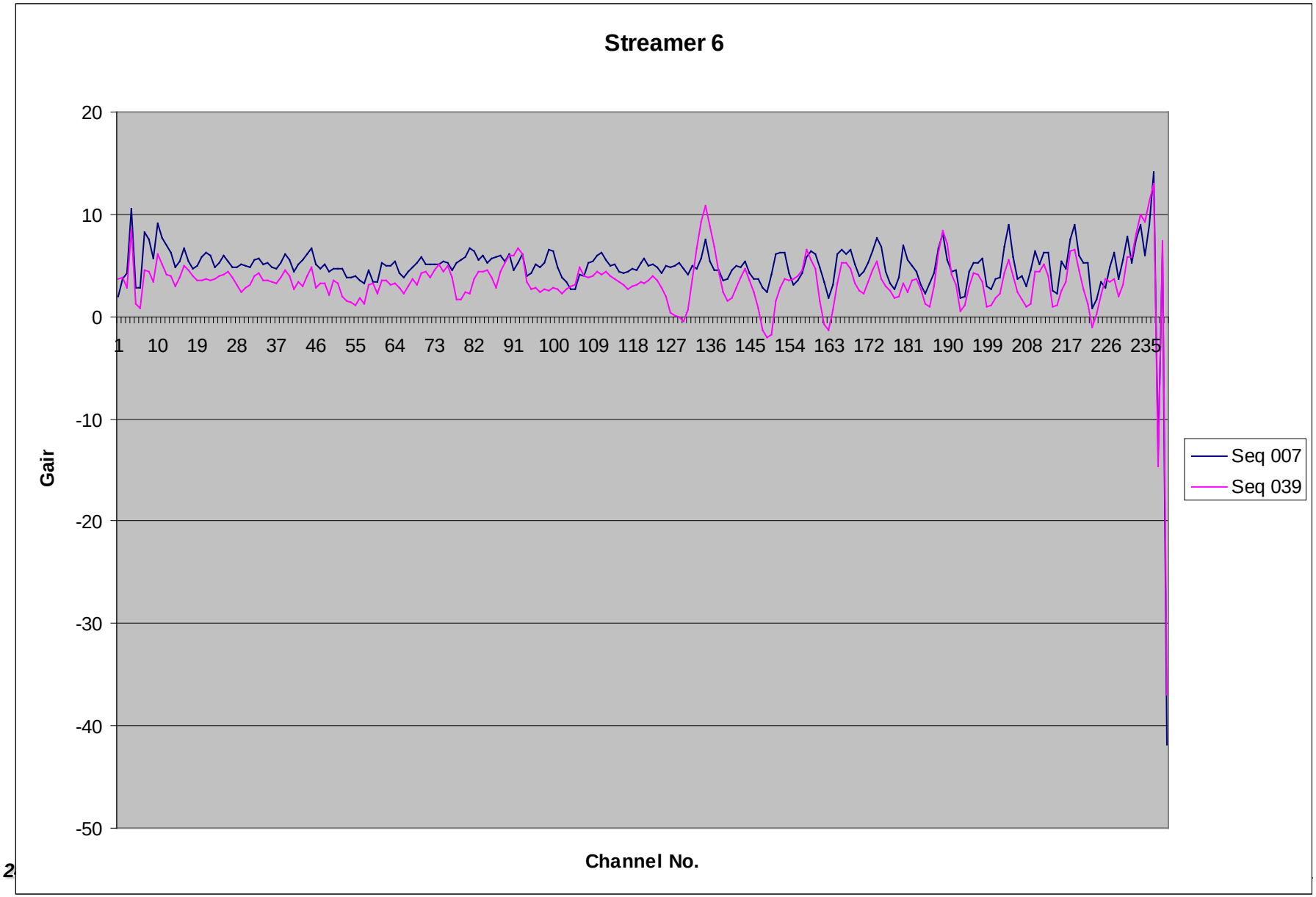
Streamer 4


Streamer 4
30
20
10
0
-10
-20
-30
-40
-50
-60
-70
Gair
1
10
19
28
37
46
55
64
73
82
91
100
109
118
127
136
145
154
163
172
181
190
199
208
217
226
235
Channel No.
Seq 007
Seq 039

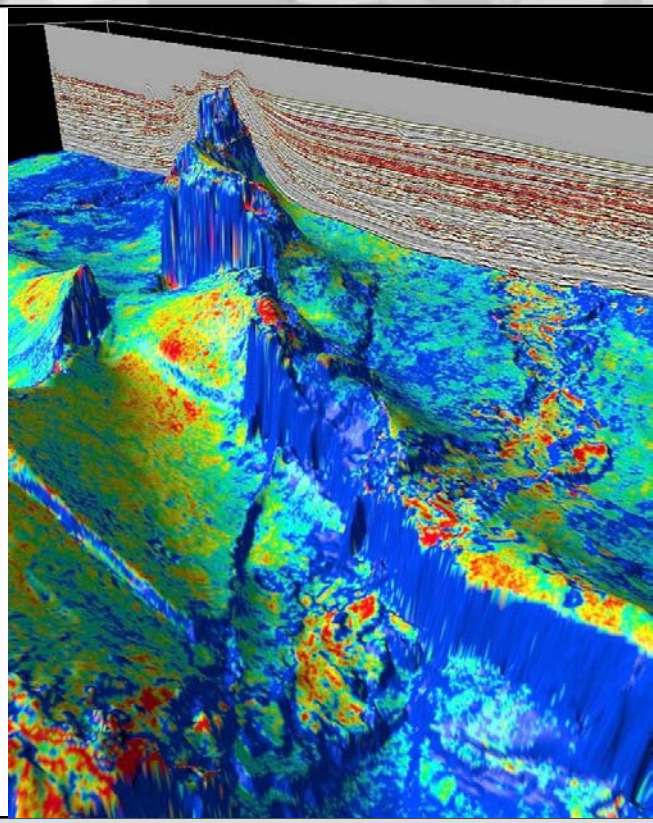
Streamer 5


Streamer 5
20
10
0
-10
-20
-30
-40
-50
Gair
1
10
19
28
37
46
55
64
73
82
91
100
109
118
127
136
145
154
163
172
181
190
199
208
217
226
235
Channel No.
Seq 007
Seq 039

Streamer 6


Streamer 6
20
10
0
-10
-20
-30
-40
-50
Gair
1 10 19 28 37 46 55 64 73 82 91 100 109 118 127 136 145 154 163 172 181 190 199 208 217 226 235
Channel No.
Seq 007
Seq 039

Technical Note 7
Source and Channel Gain Correction Tests
Silvereye 3D



CGGVERITAS

Processing Sequence to date

Processing Sequence to date

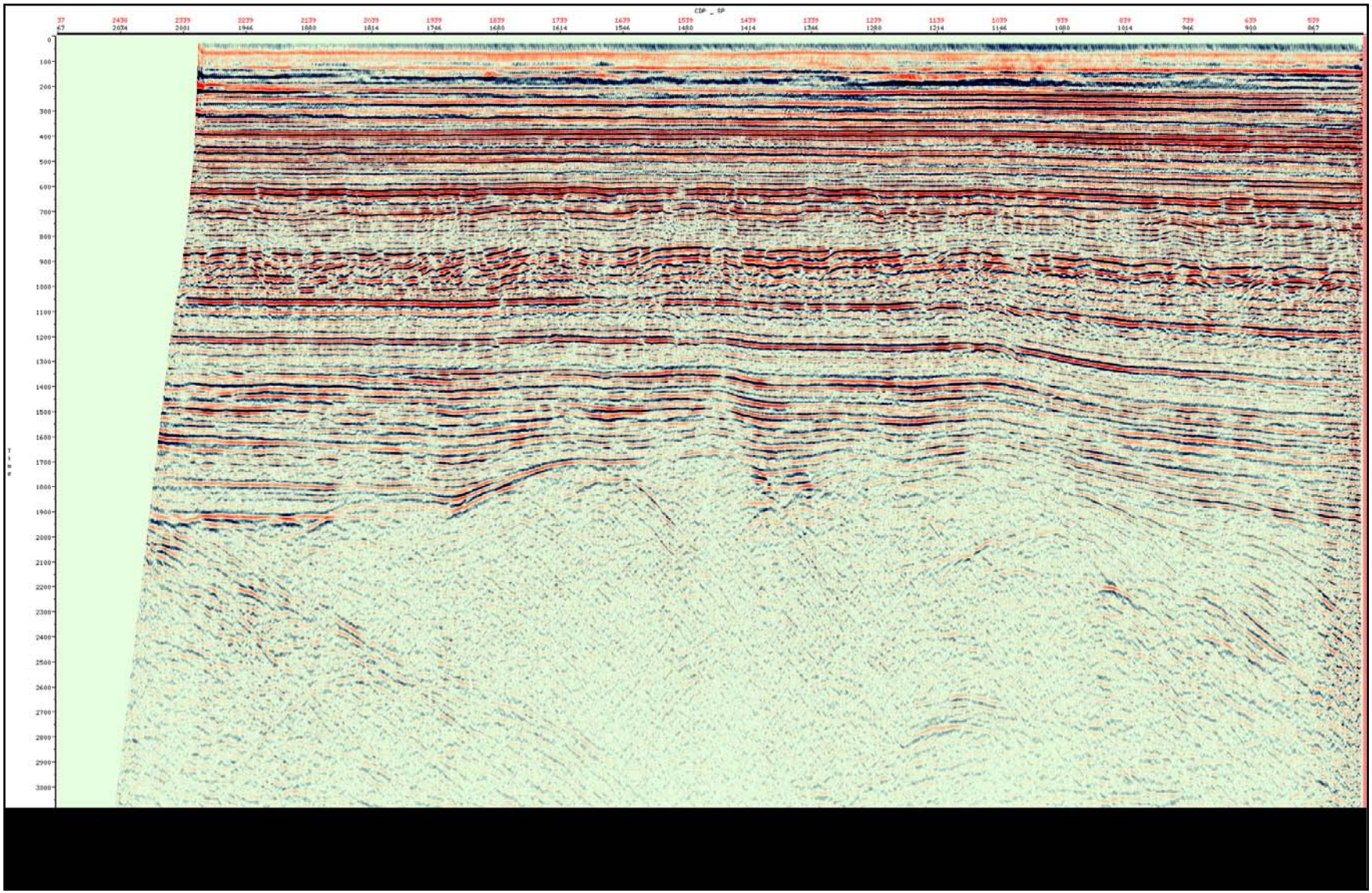
- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- Radon Demultiple

Current Test

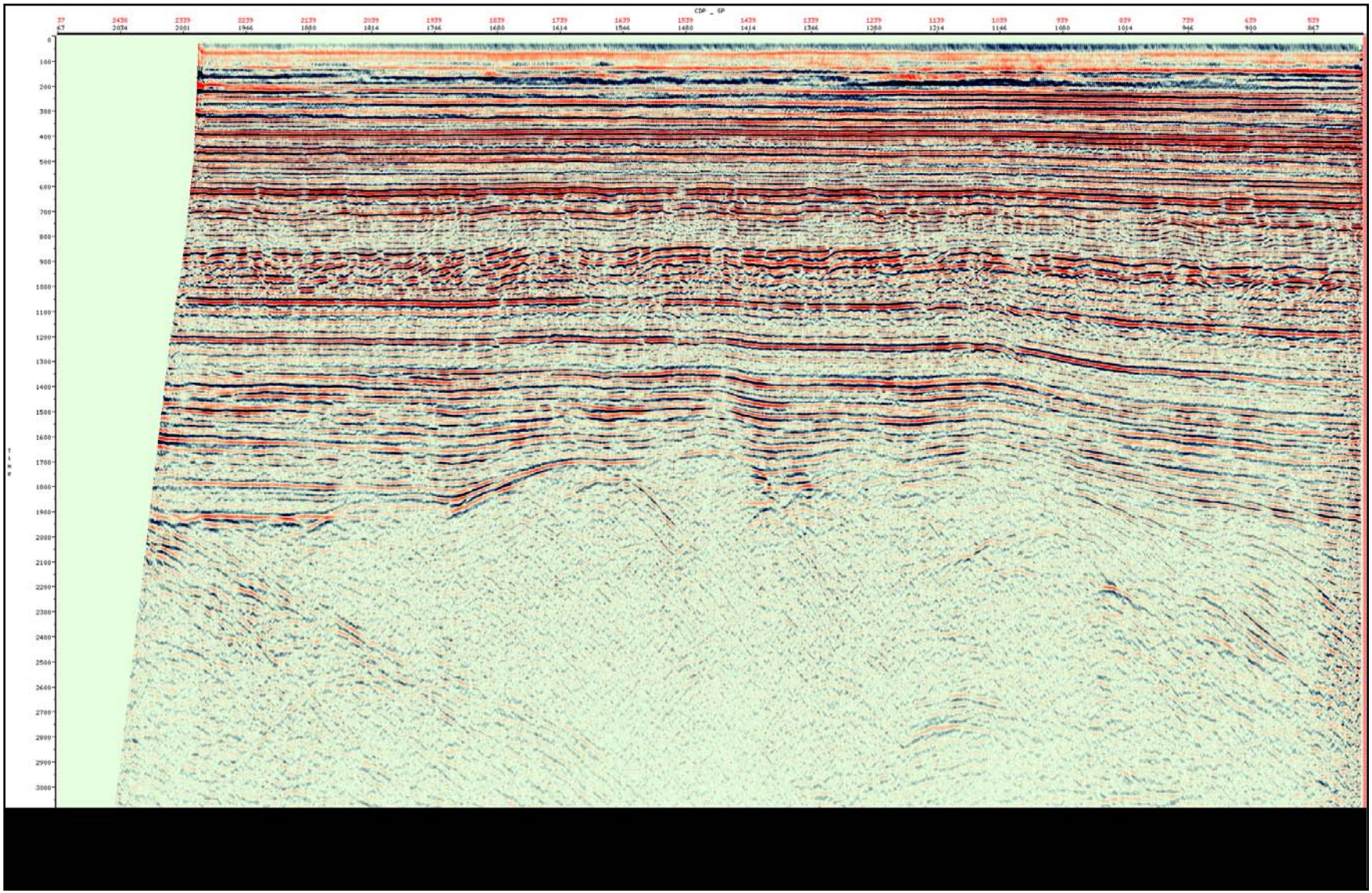
Source and Channel correction test:

- Stack and CDP Gather with and without Gain

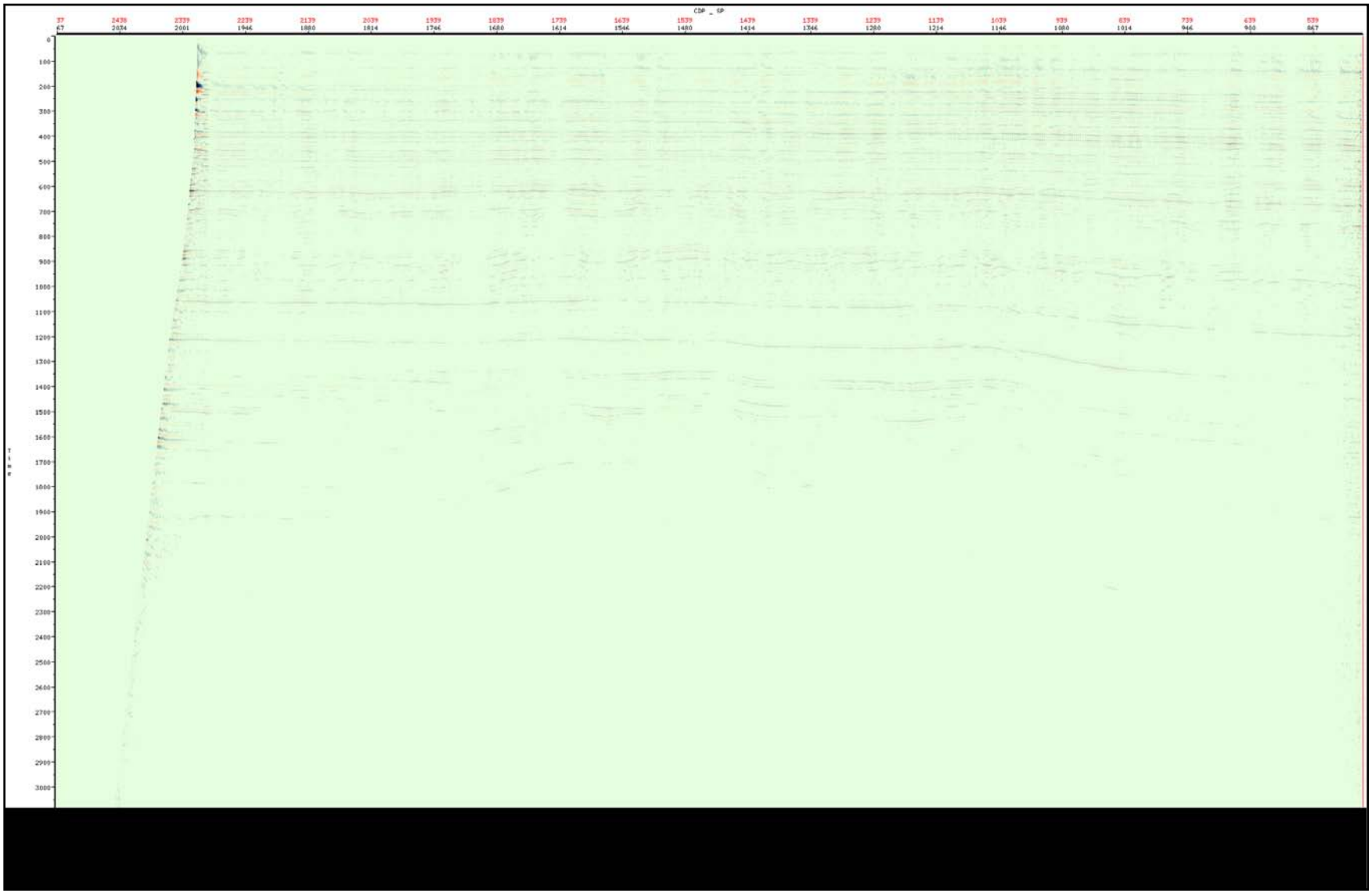
STACK Cable 3 (Inner) – 039: Without Gain



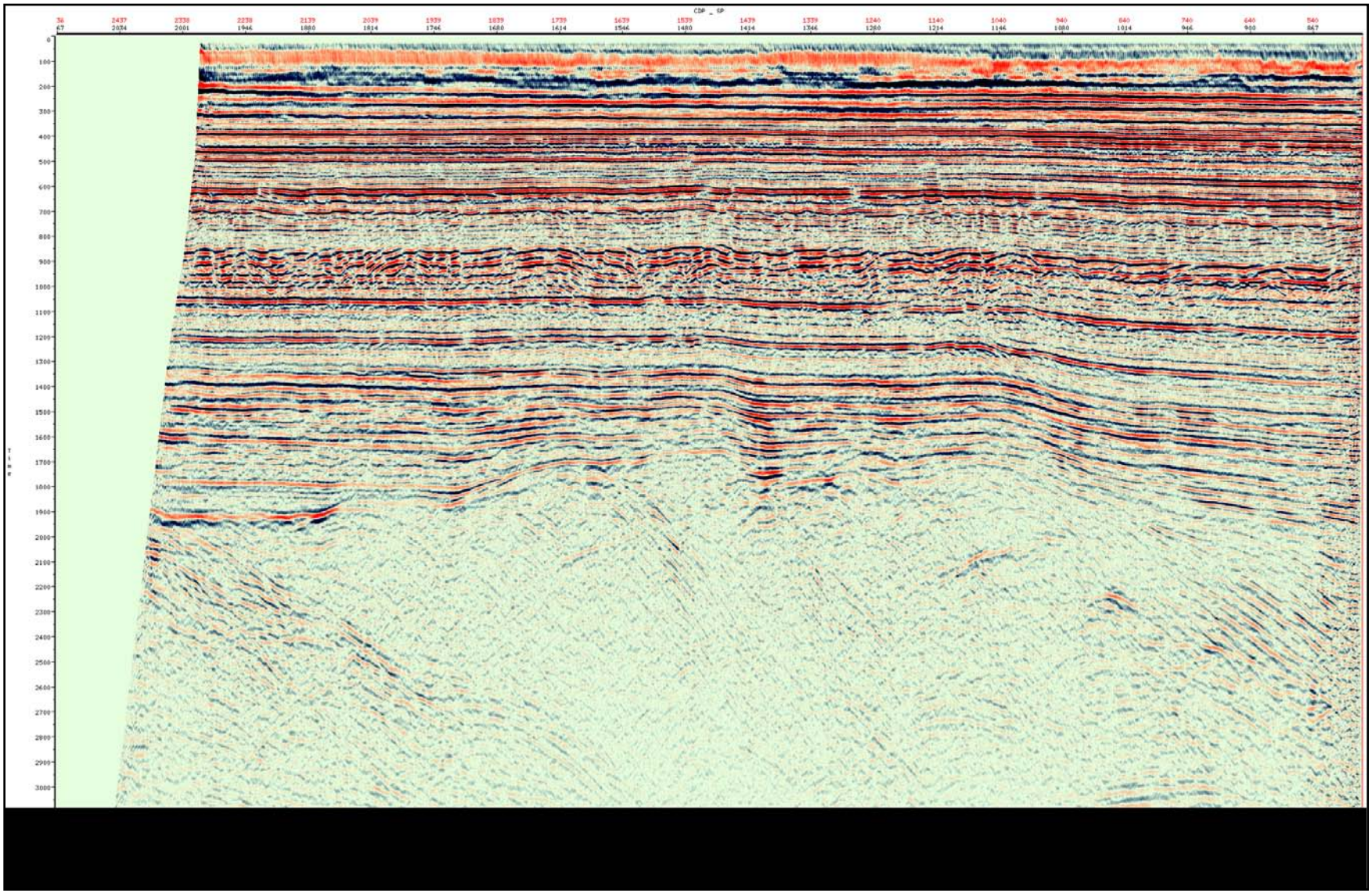
STACK Cable 3 (Inner) – 039: With Gain



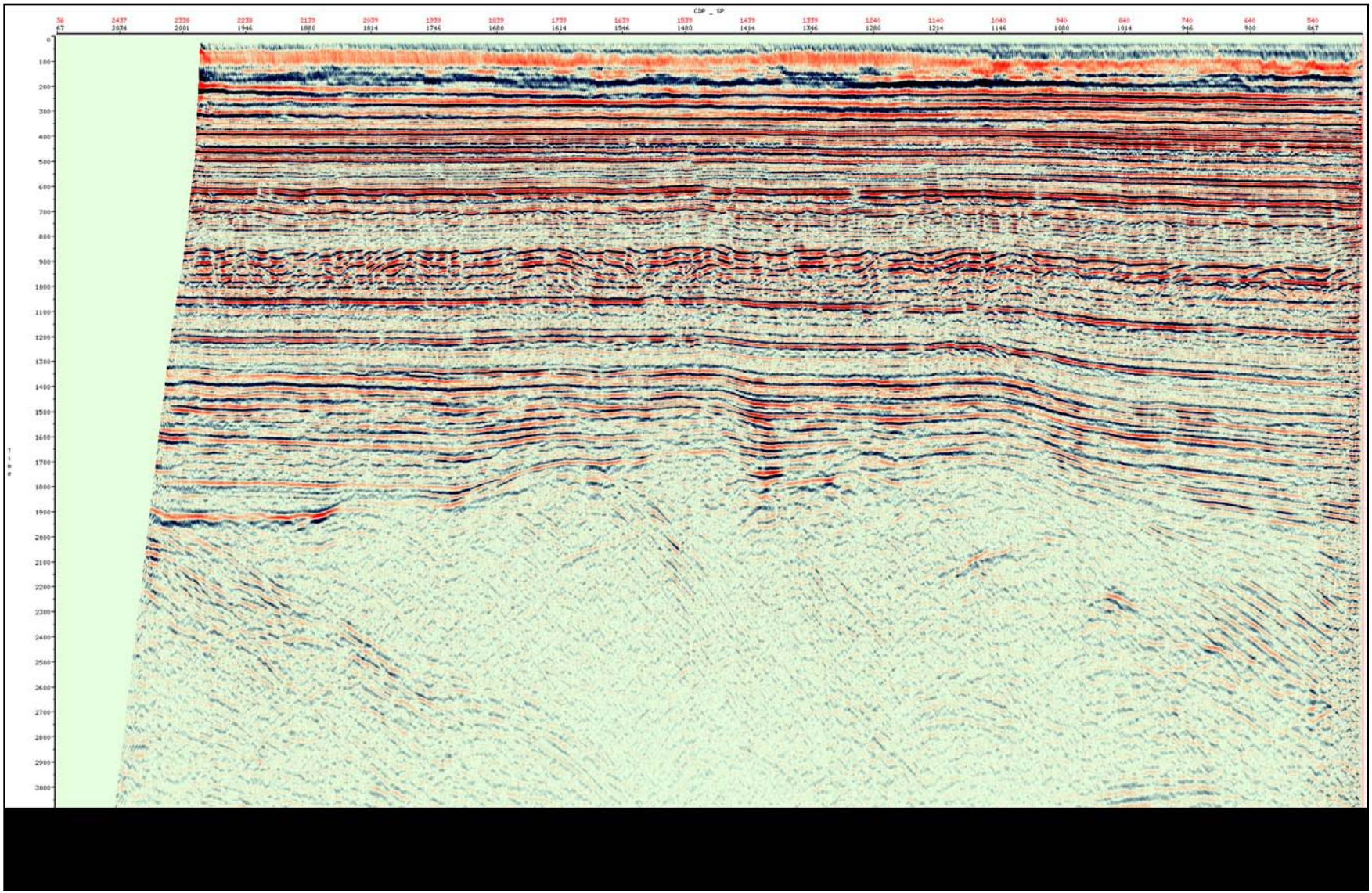
STACK Cable 3 (Inner) – 039: Difference



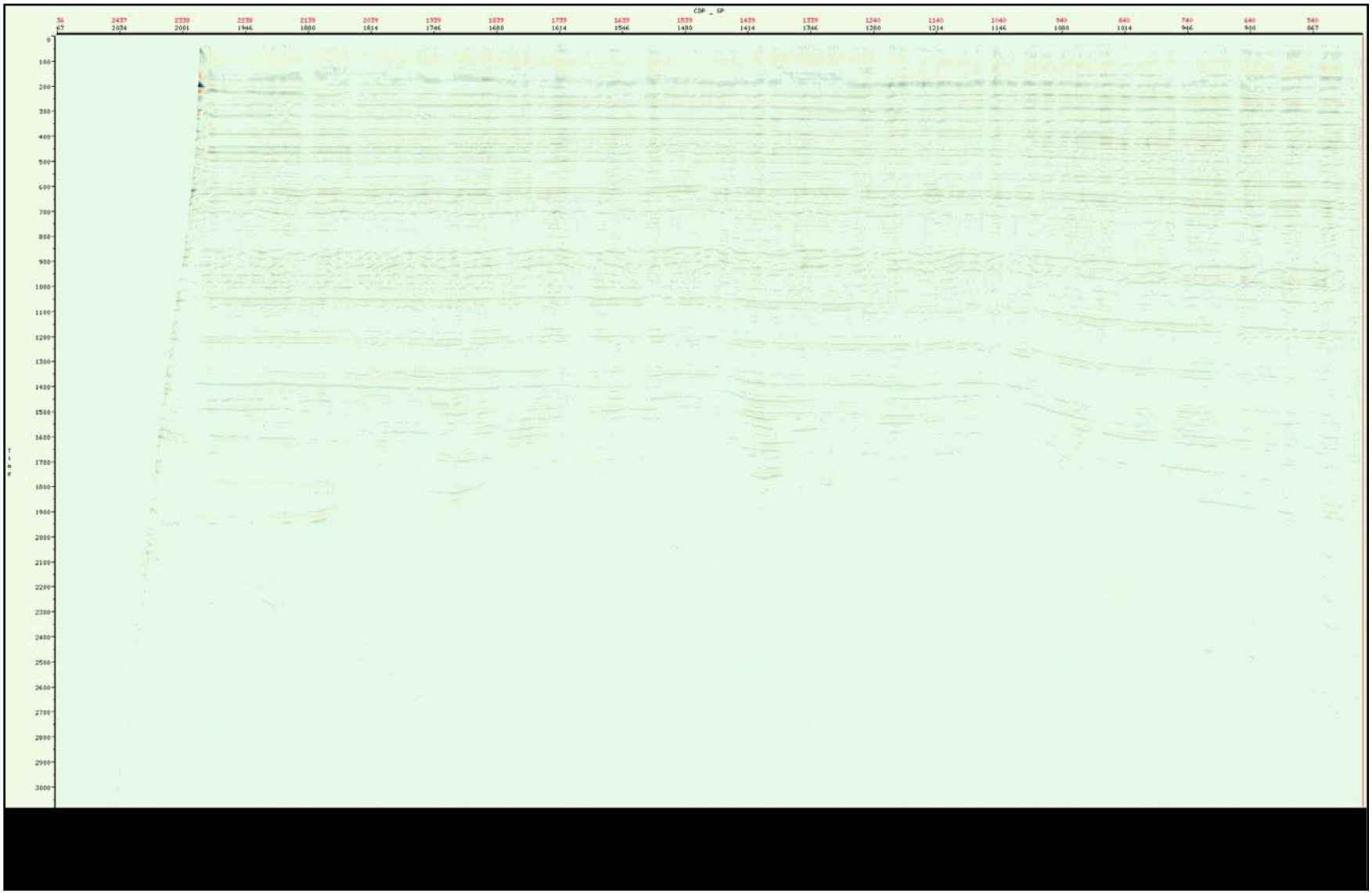
STACK Cable 6 (Outer) – 039: Without Gain



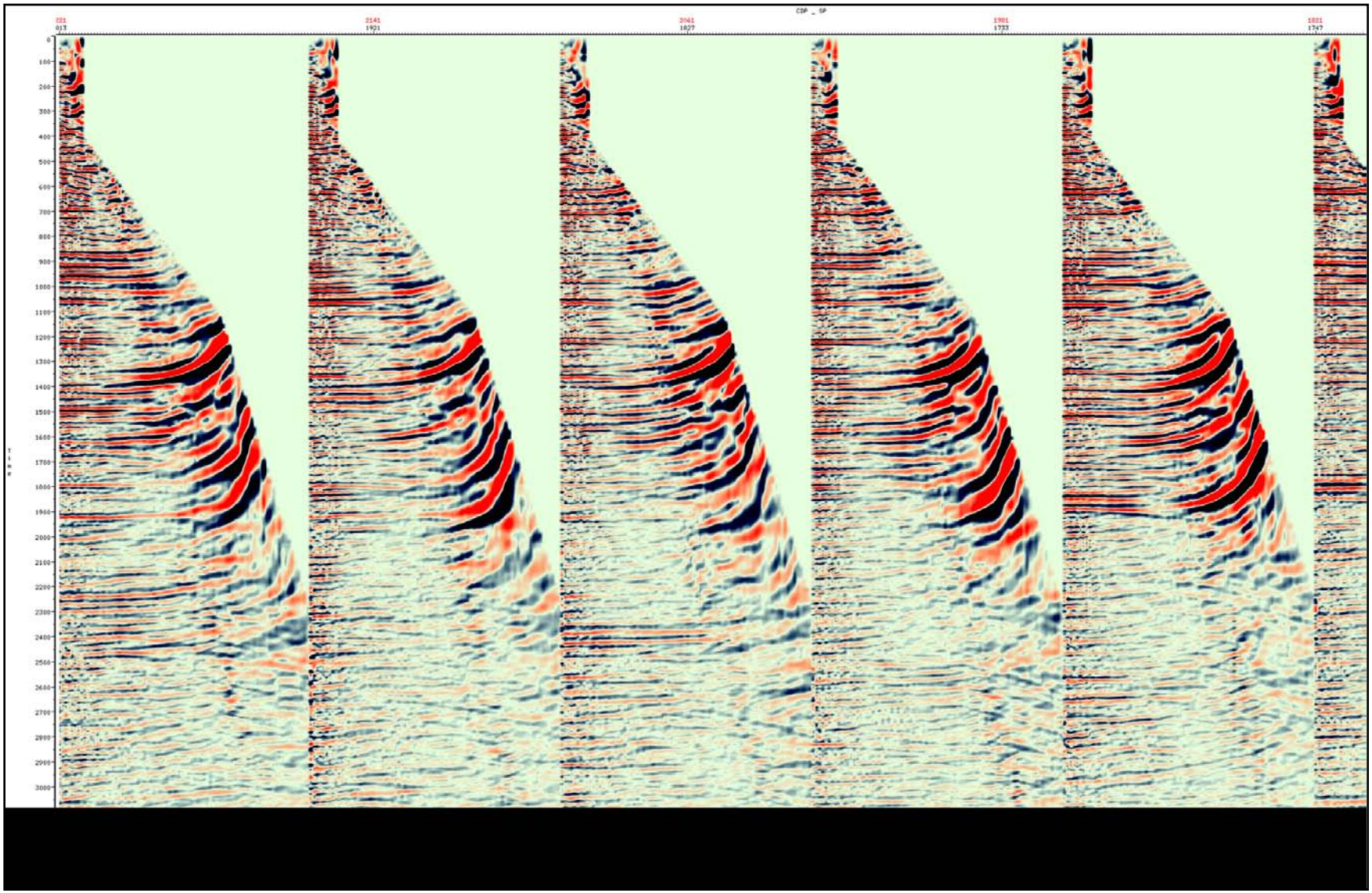
STACK Cable 6 (Outer) – 039: With Gain



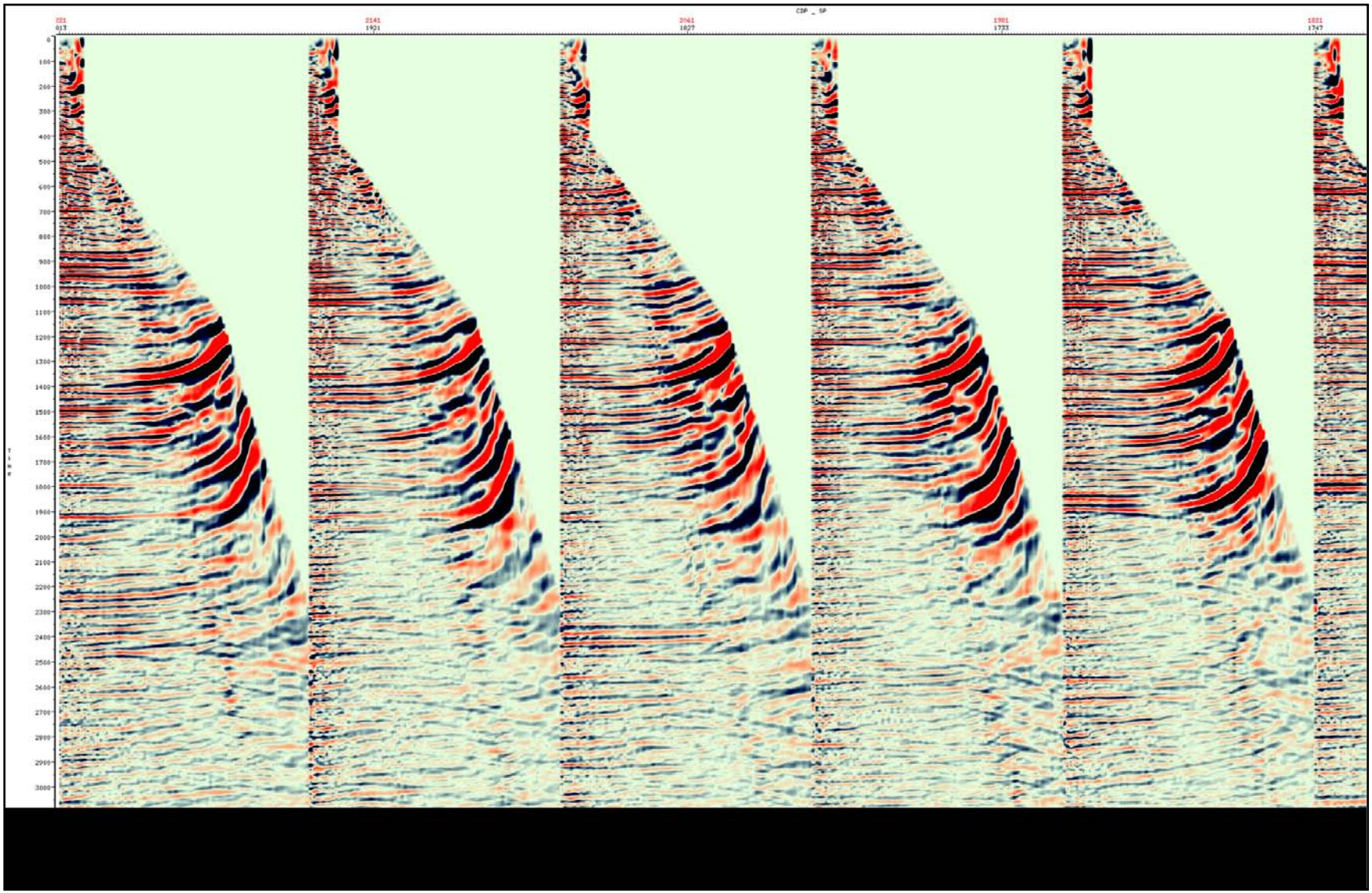
STACK Cable 6 (Outer) – 039: Difference



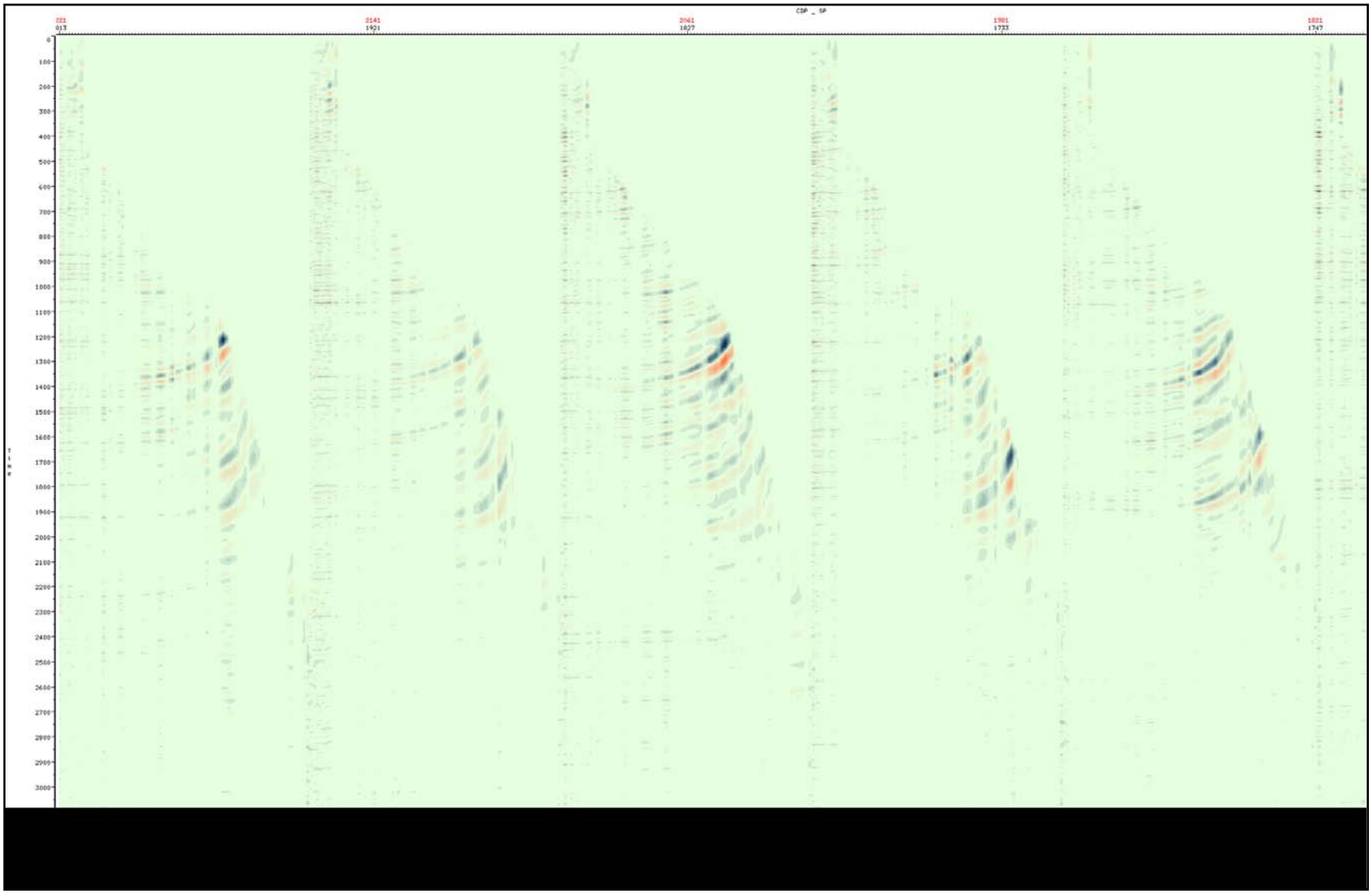
CDP Cable 3 (Inner) – 039: Without Gain



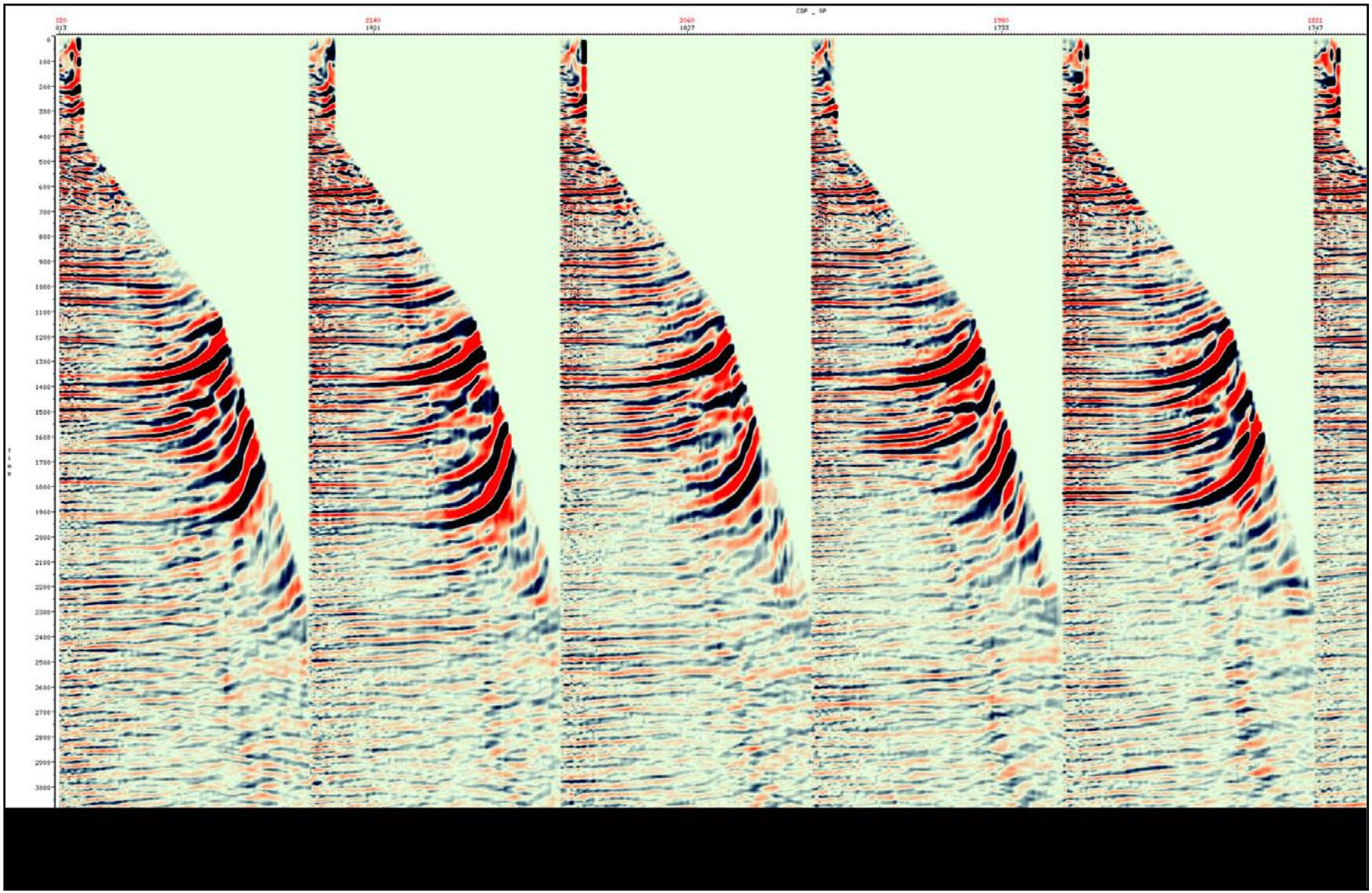
CDP Cable 3 (Inner) – 039: With Gain



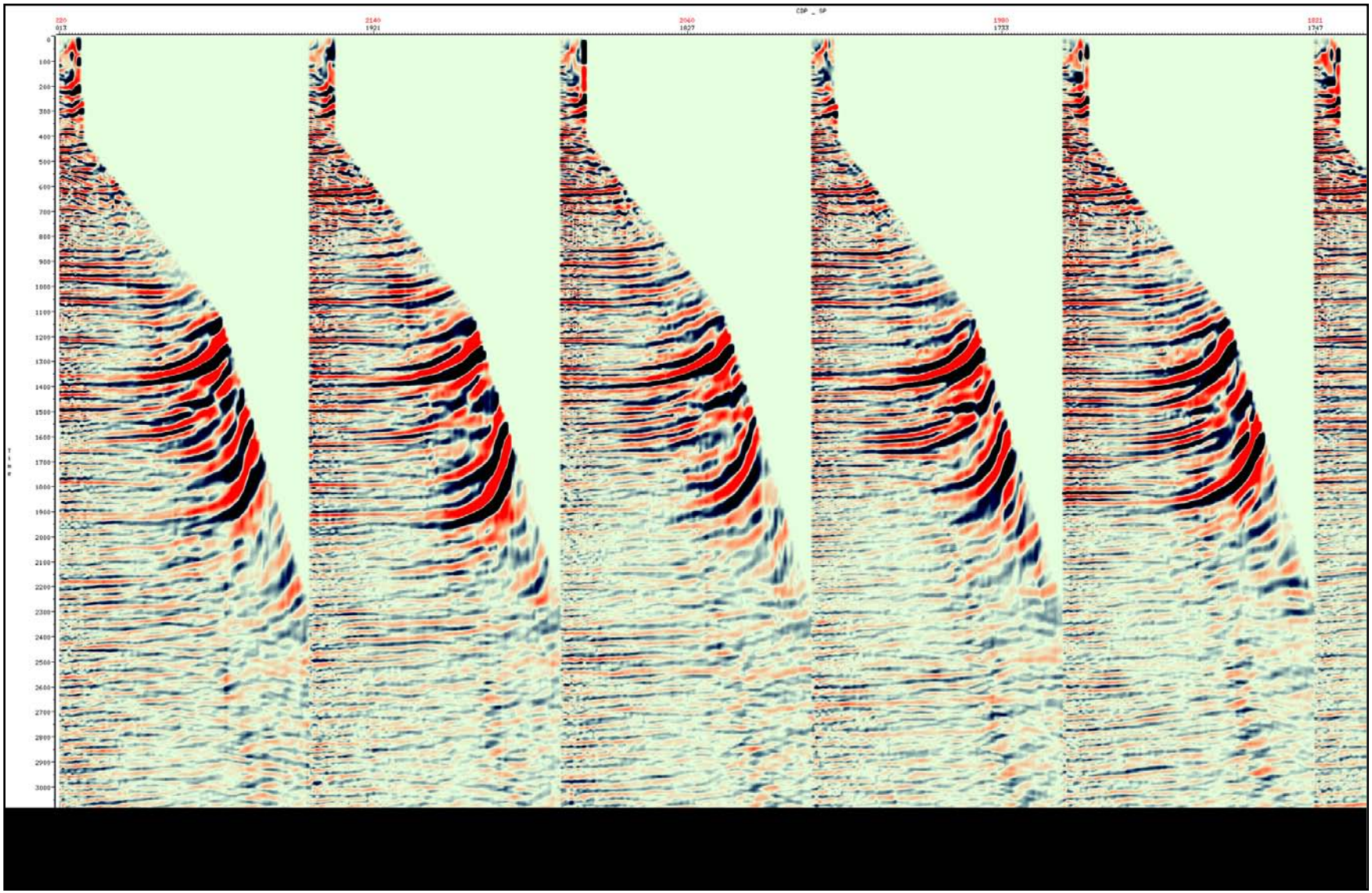
CDP Cable 3 (Inner) – 039: Difference



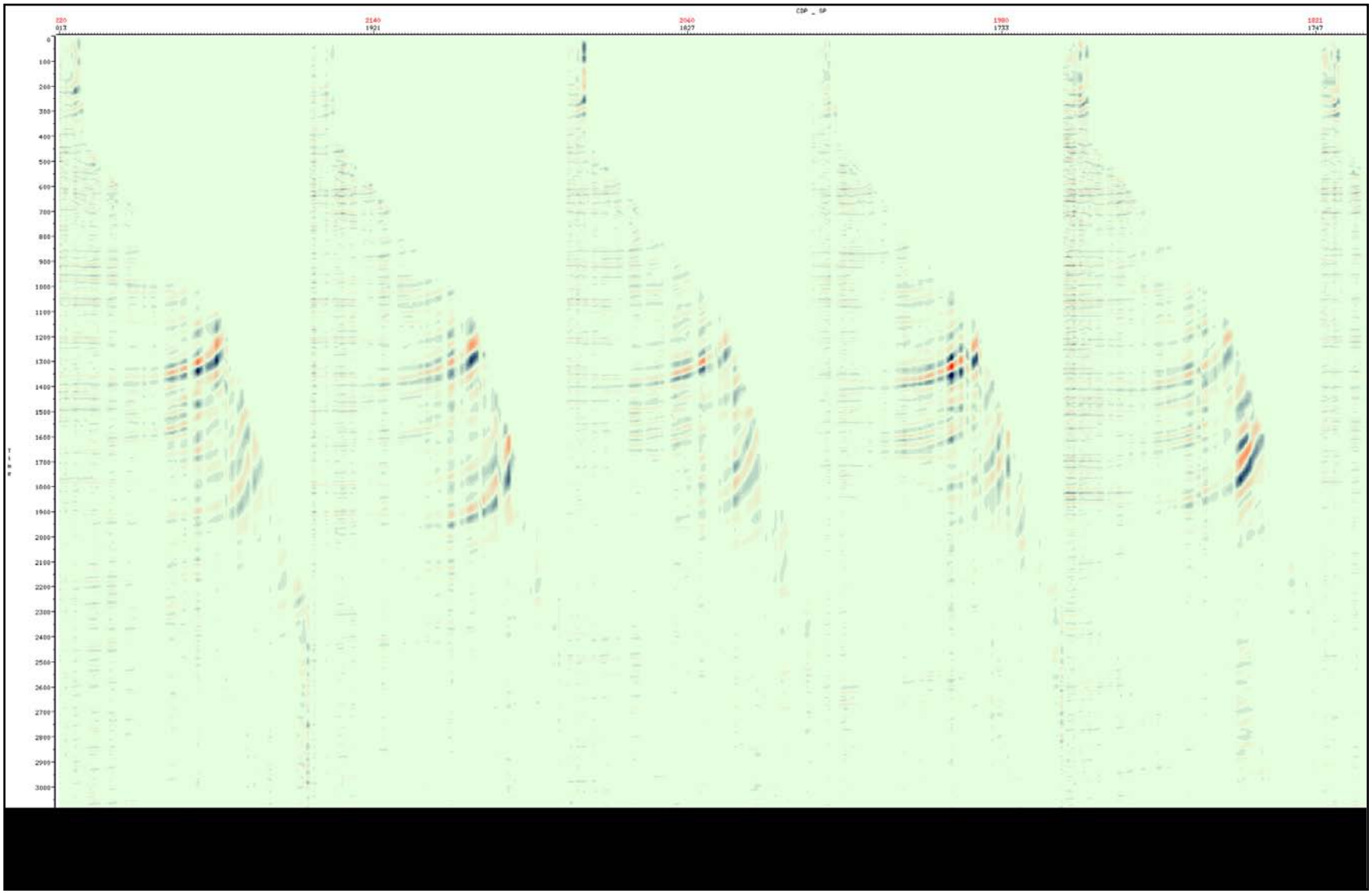
CDP Cable 6 (Outer) – 039: Without Gain



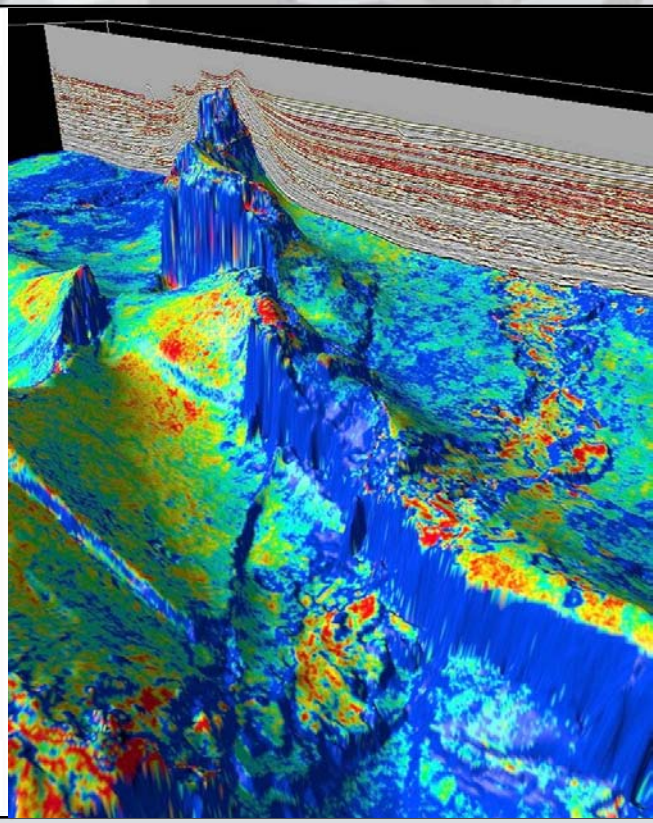
CDP Cable 6 (Outer) – 039: With Gain



CDP Cable 6 (Outer) – 039: Difference



Technical Note 6
Tidal Static
Silvereye 3D



Introduction

This test was done to see application tidal static.

- ***Without Tidal Static***
- ***With Tidal Static***

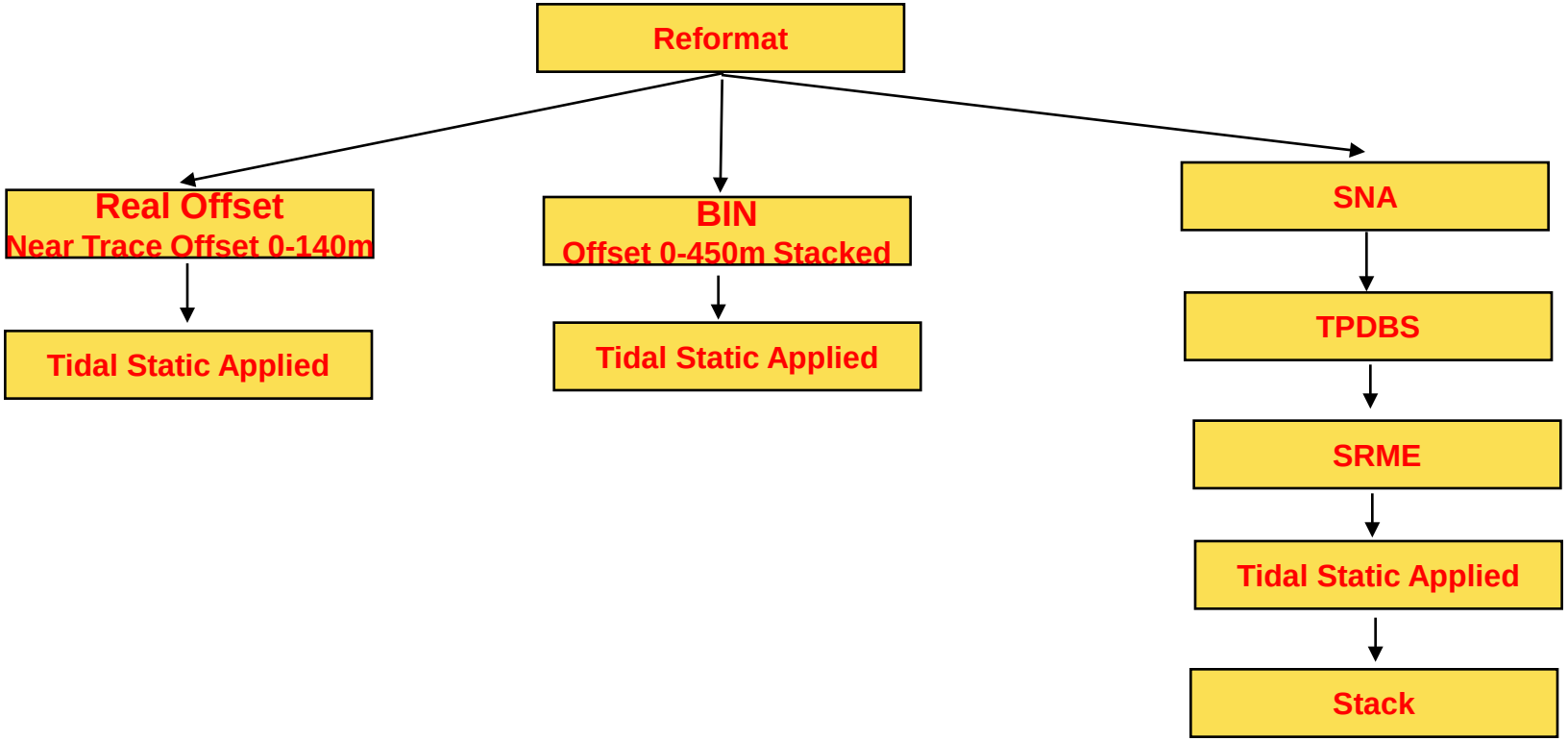
The comparison was done in four dataset:

1. **Crossline stack after SRME**
2. **Crossline of Stacked NTC, Offset 0-450m (BIN)**
3. **Crossline of Real Offset NTC, Offset 0-140m**
4. **Time slice of Stacked NTC, Offset 0-450m (BIN), Time 500ms and 1500ms**

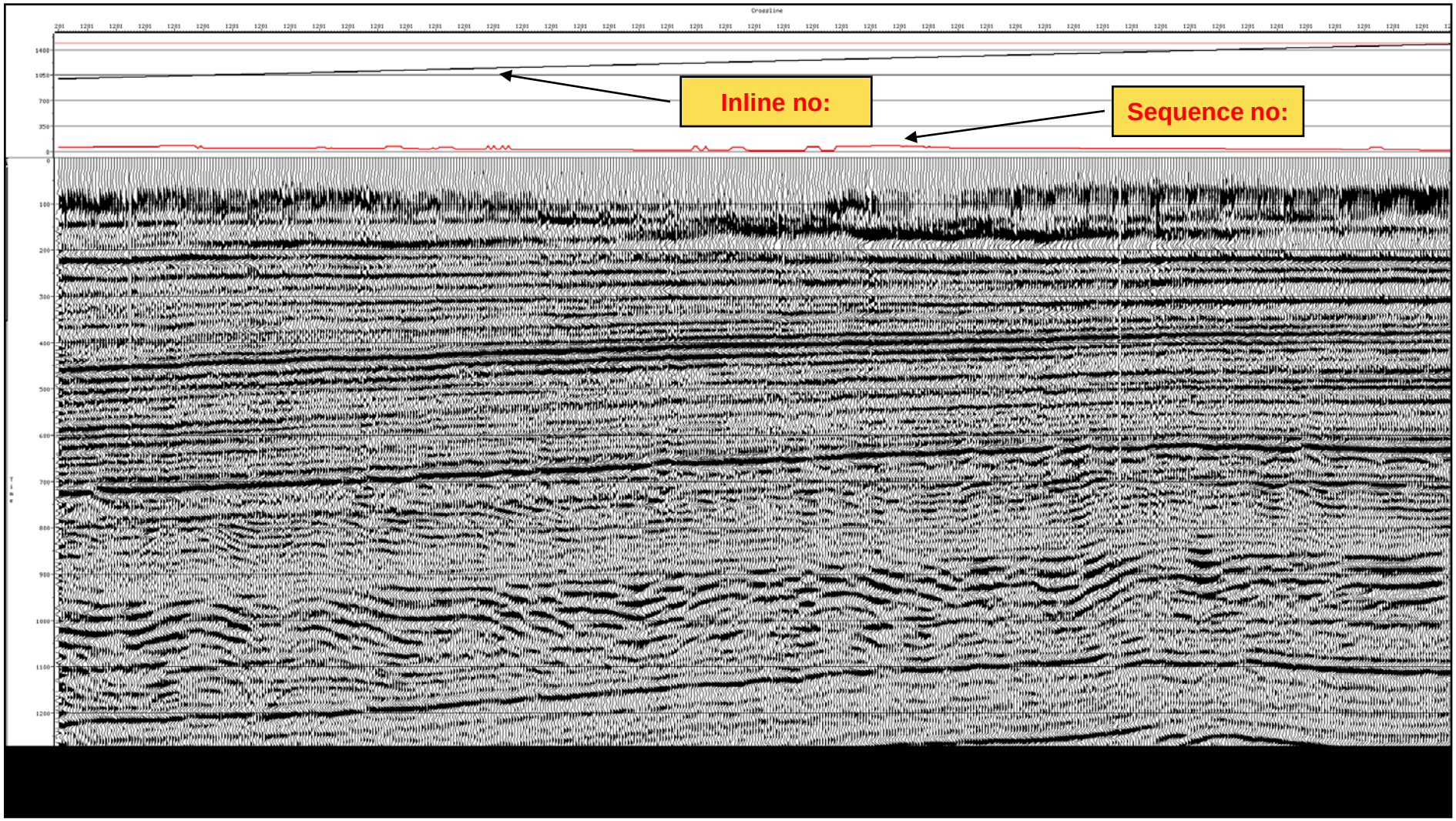
Crossline-NTC

Tidal Static

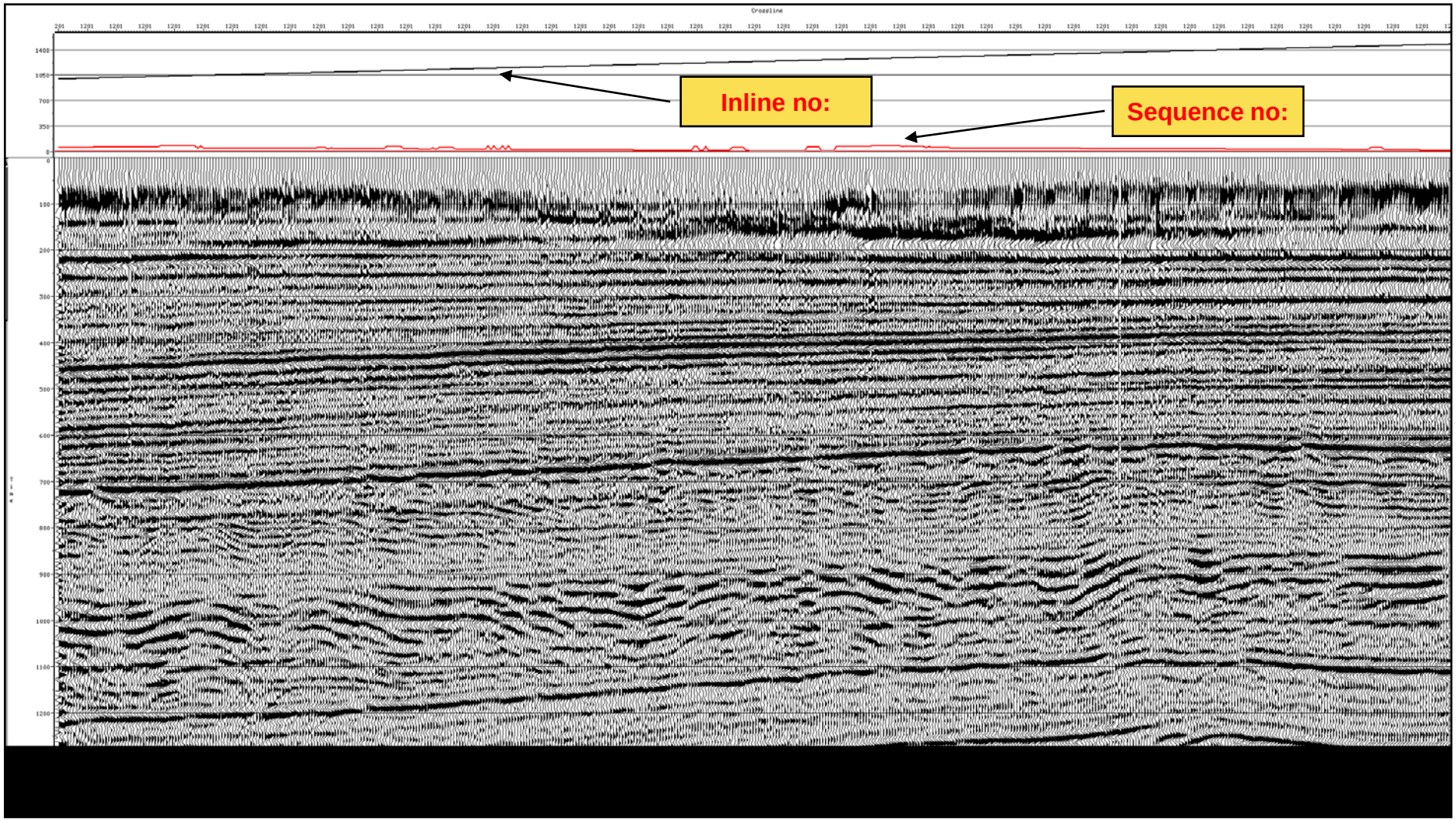
Proc Flow : Tidal Static Application



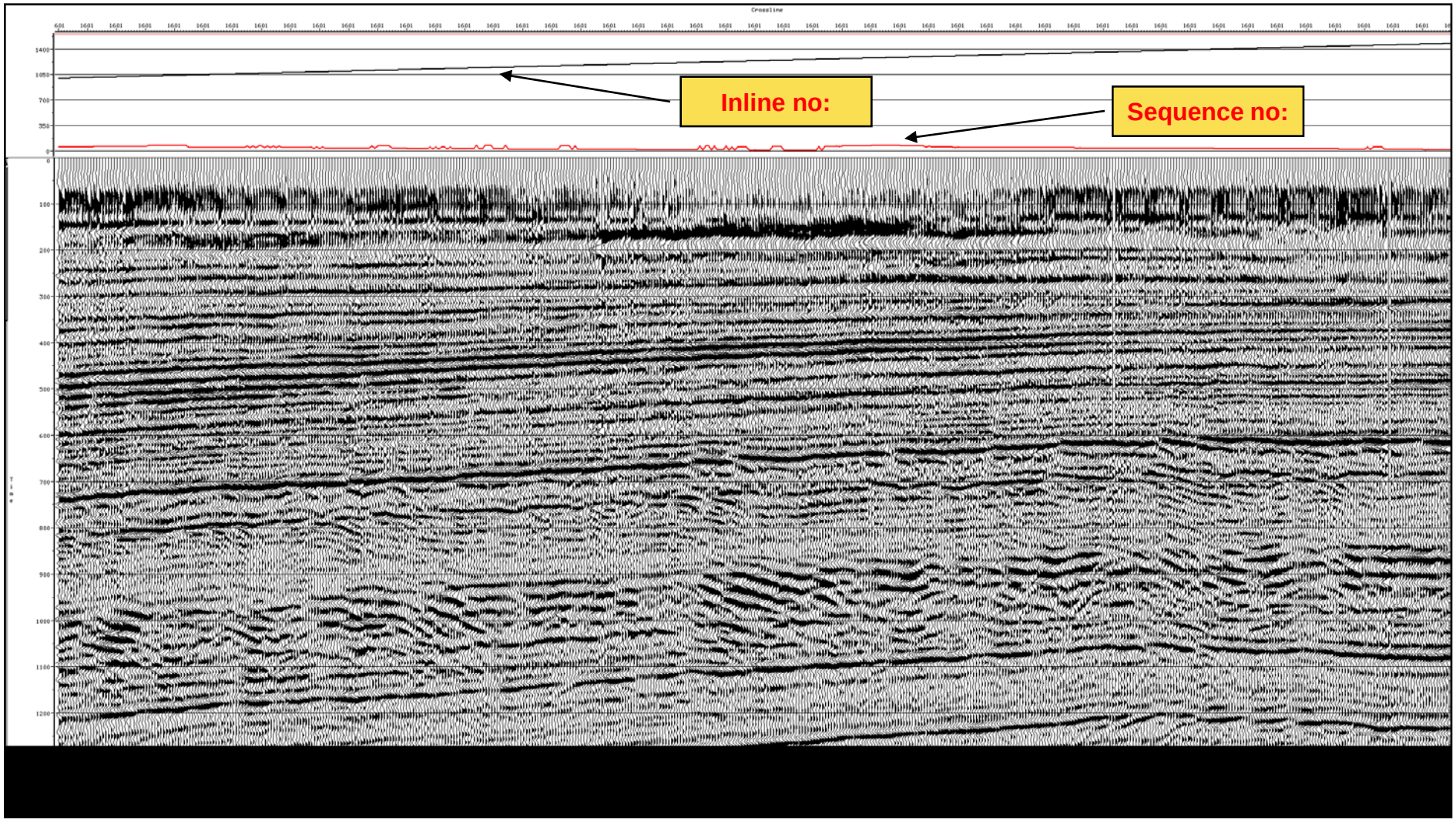
XL1201-STACK : Without Tidal Static



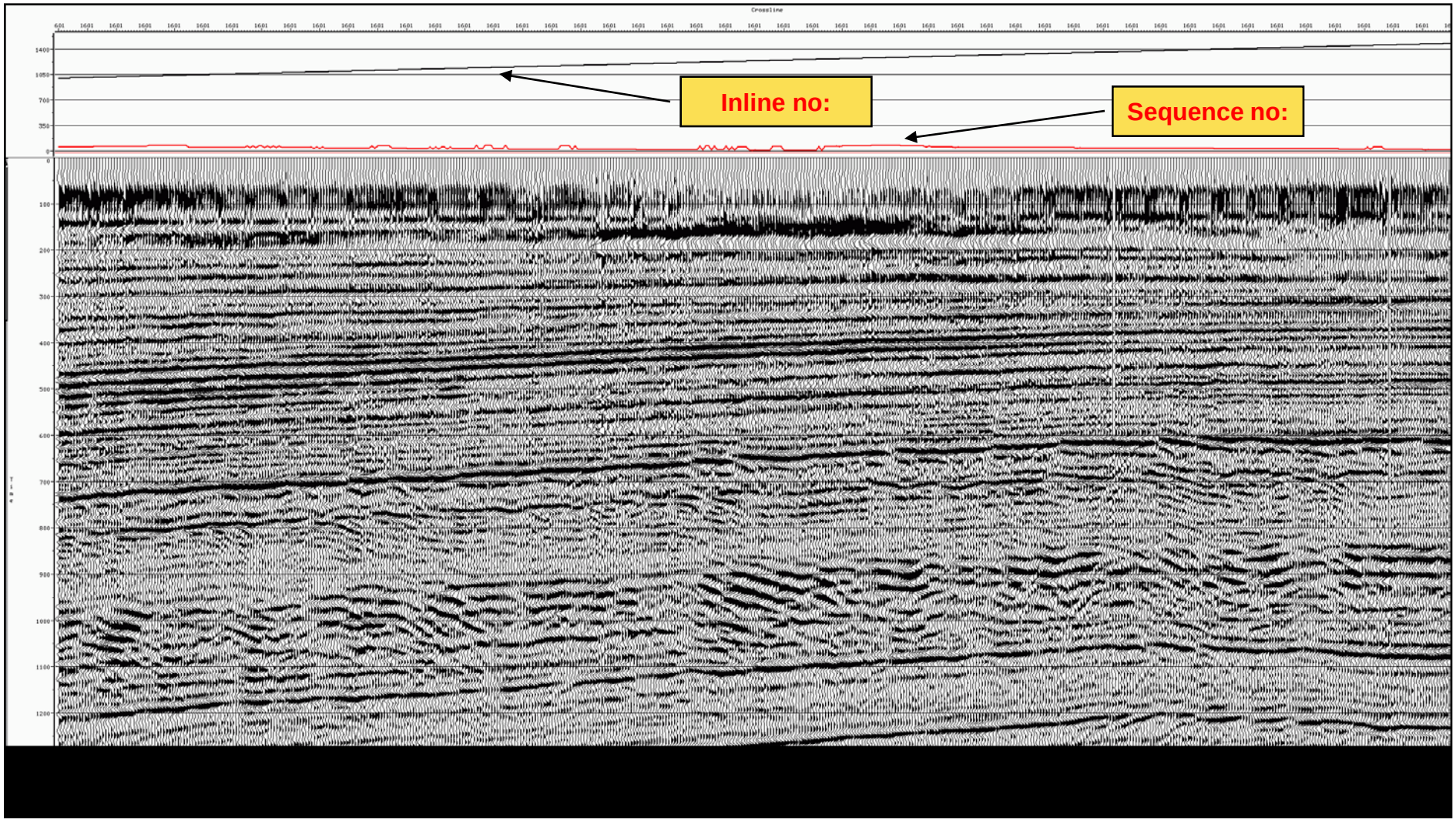
XL1201-STACK : With Tidal Static



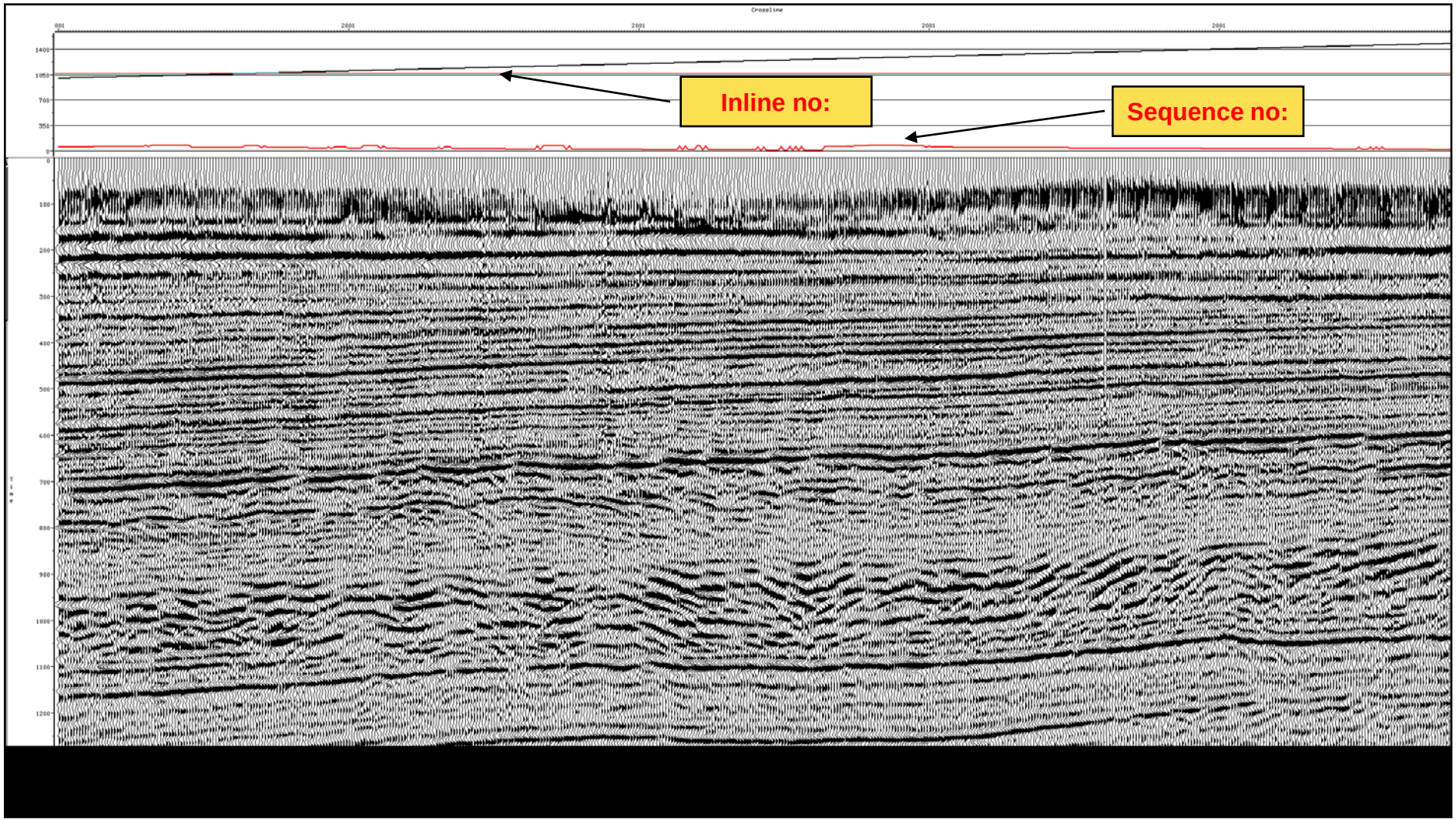
XL1601-STACK : Without Tidal Static



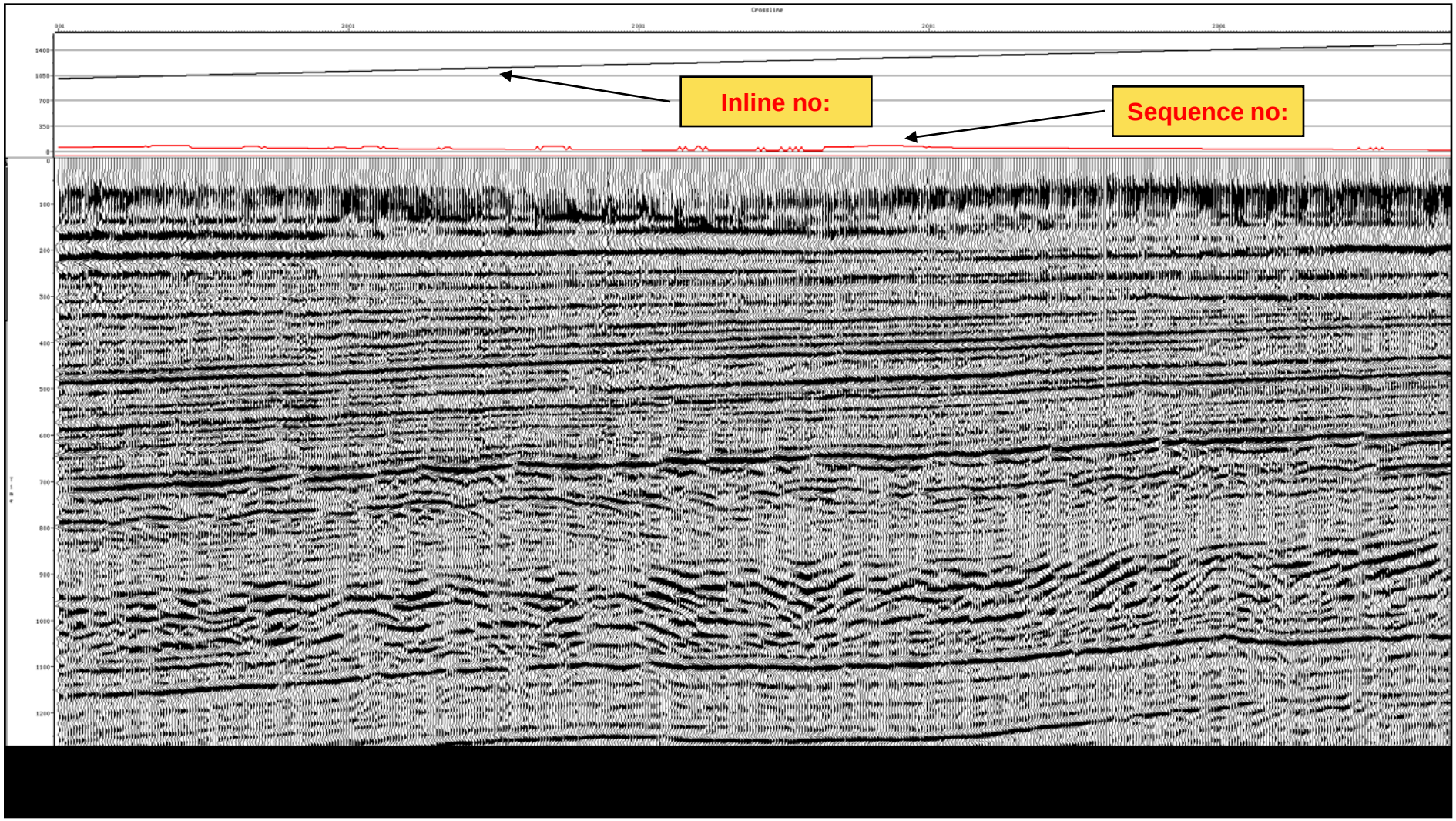
XL1601-STACK : With Tidal Static



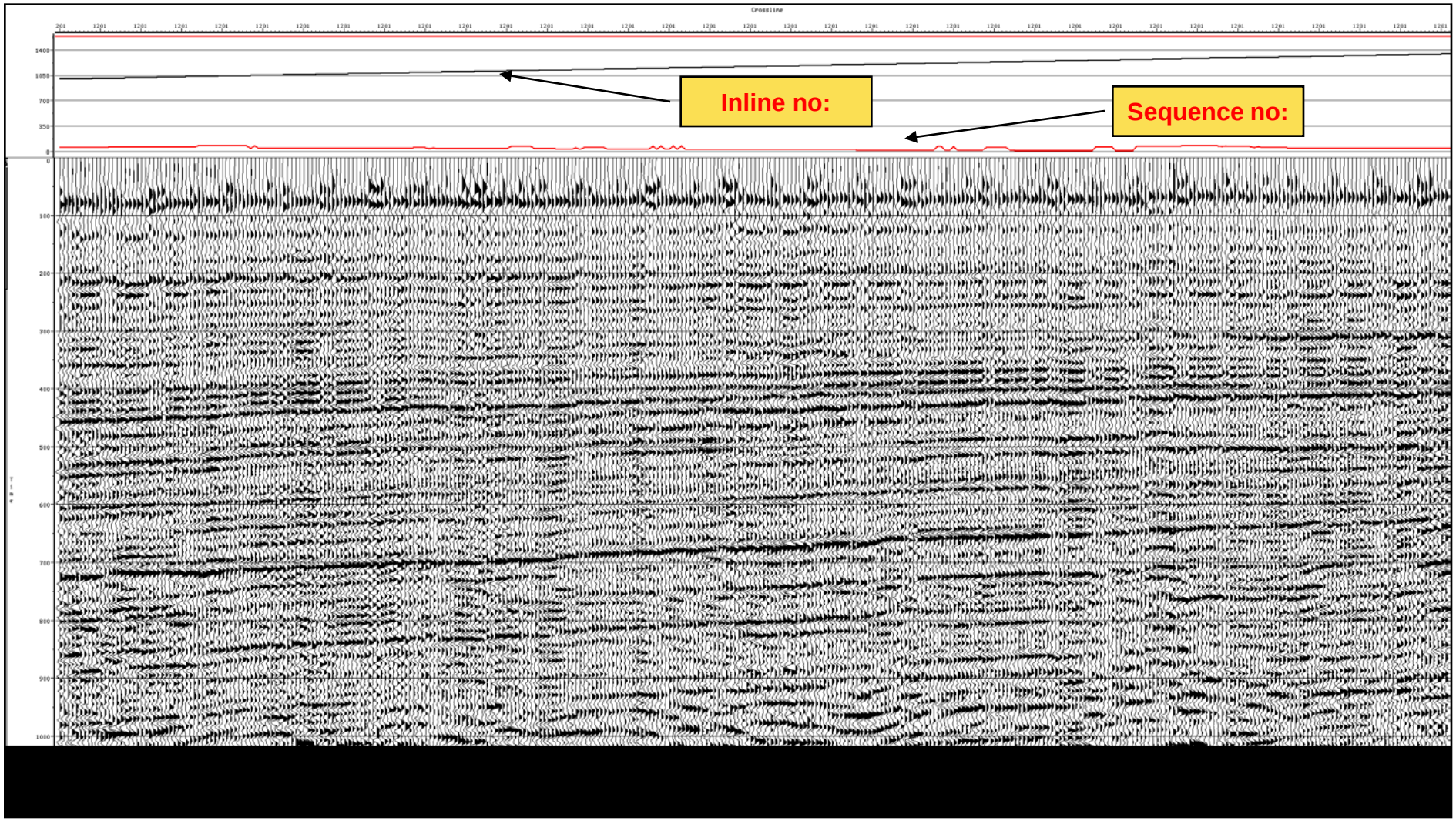
XL2001-STACK : Without Tidal Static



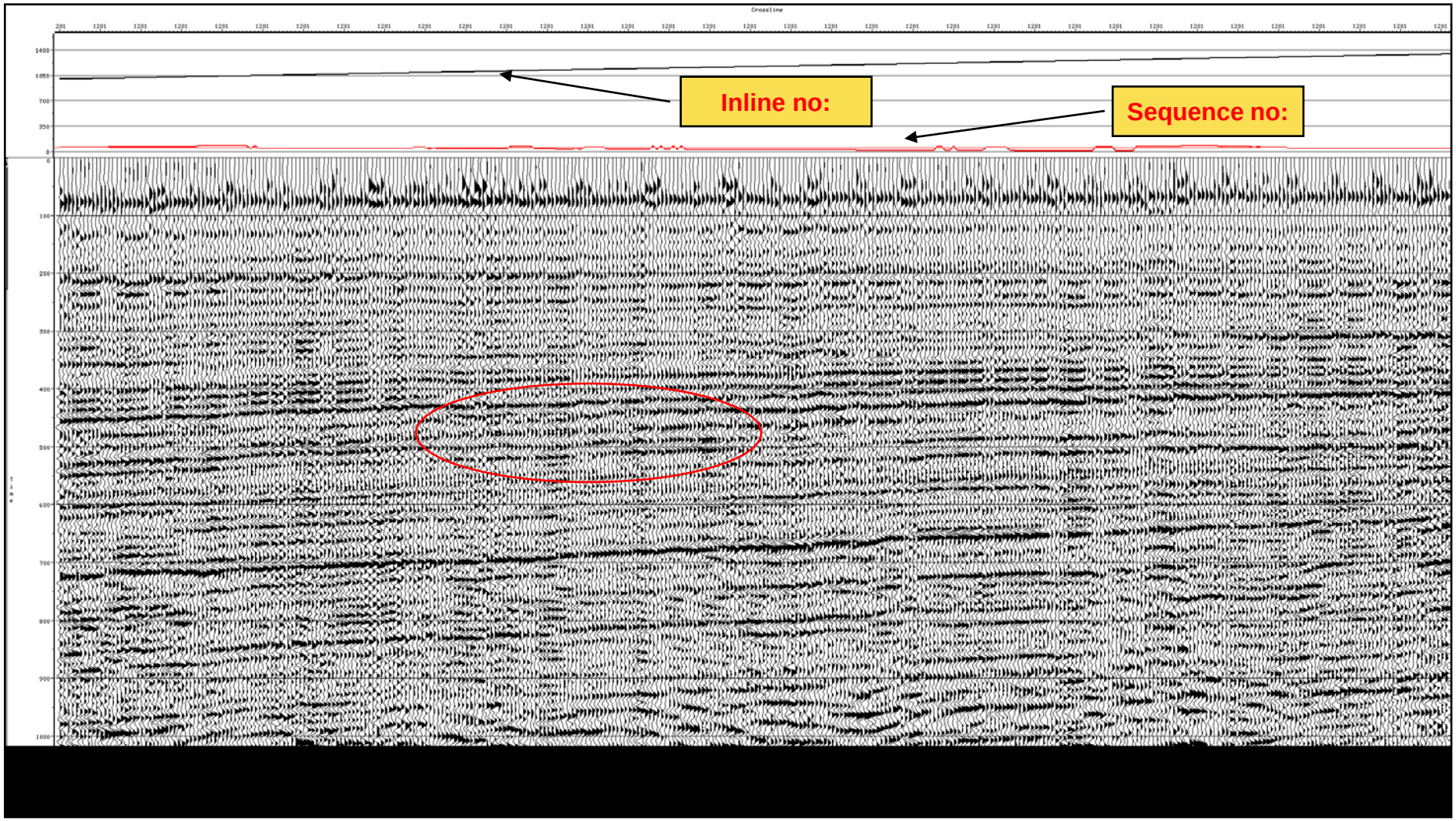
XL2001-STACK : With Tidal Static



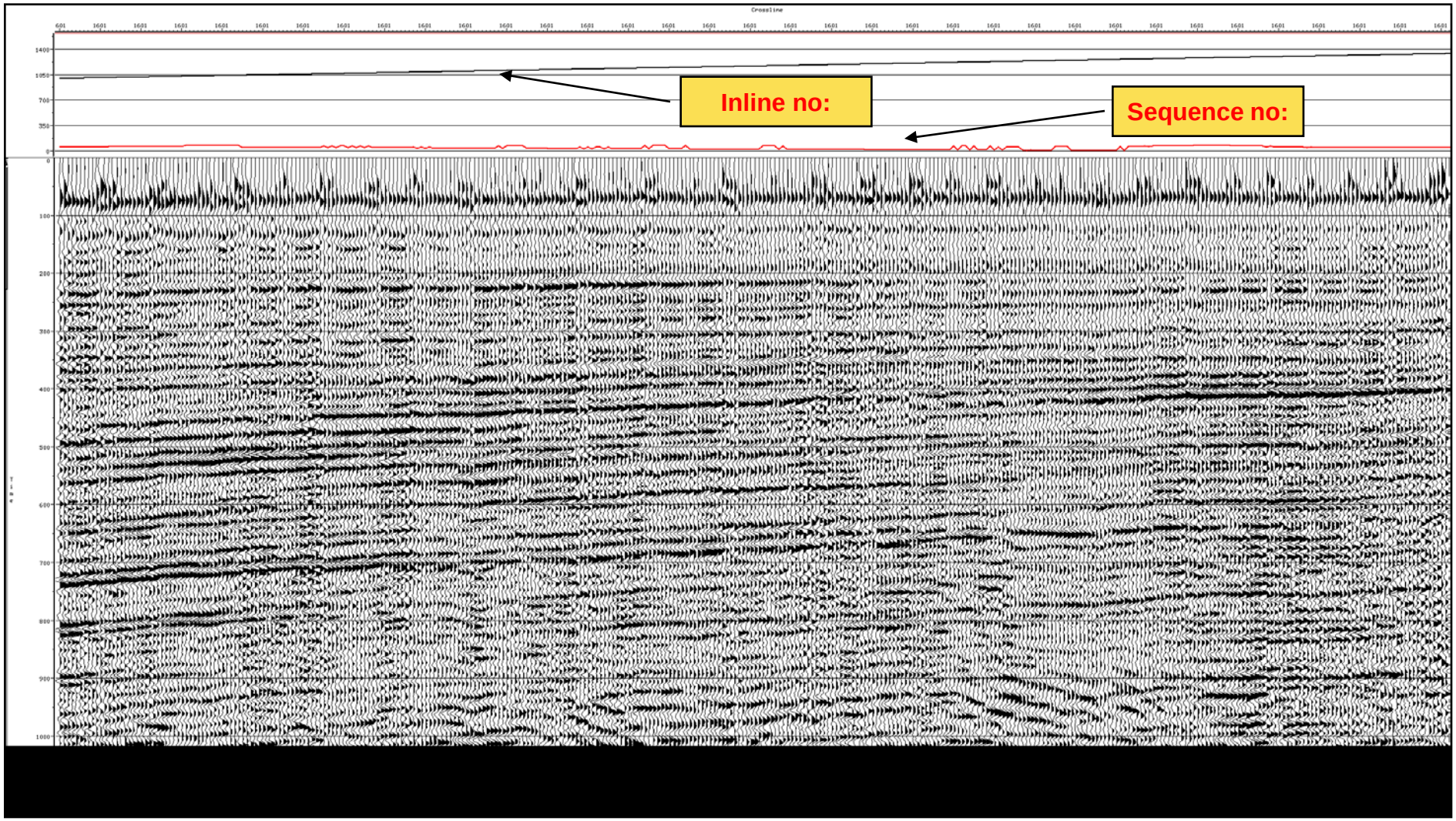
XL1201-NTC (BIN) : Without Tidal Static



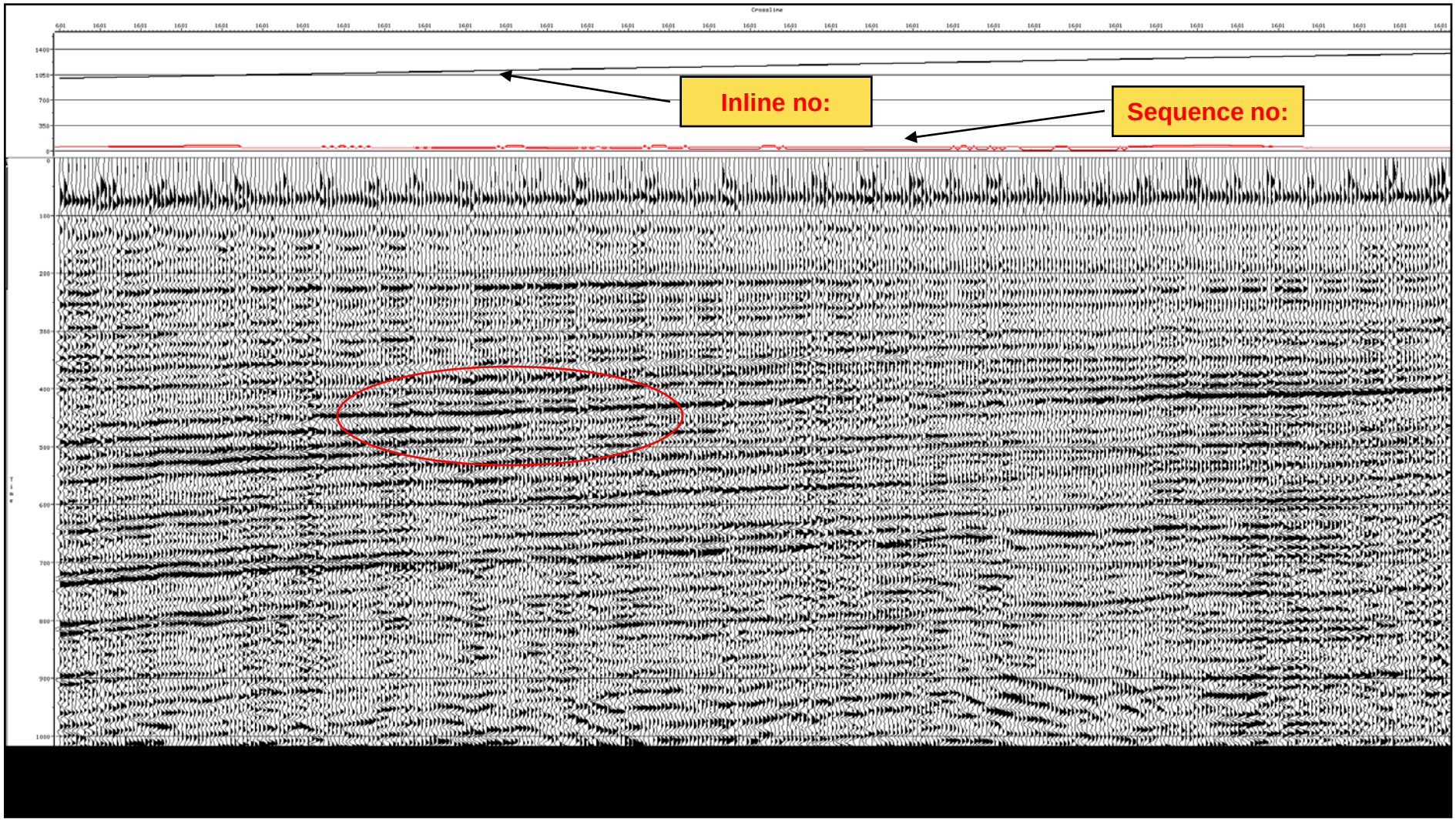
XL1201-NTC (BIN) : With Tidal Static



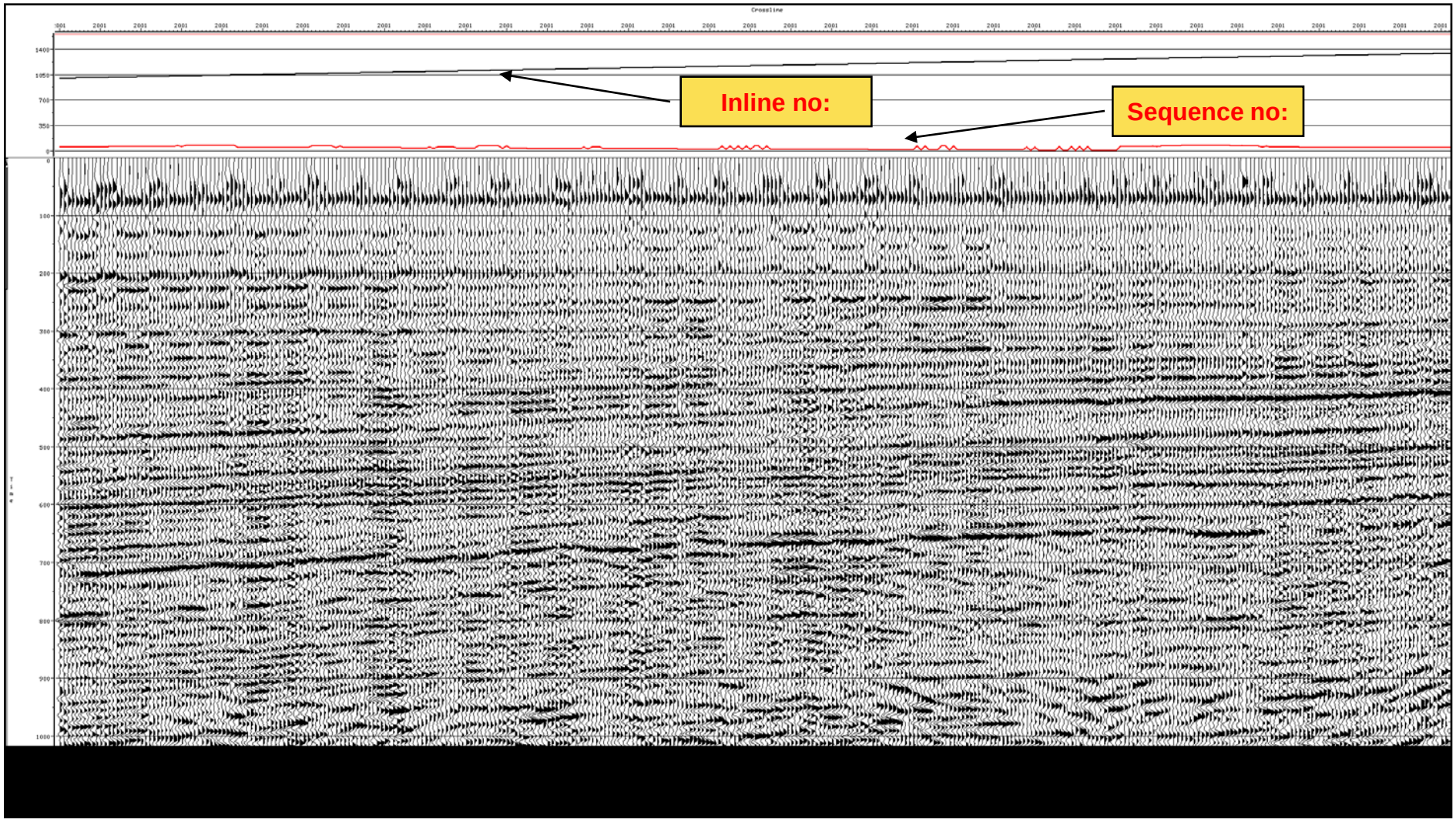
XL1601-NTC (BIN) : Without Tidal Static



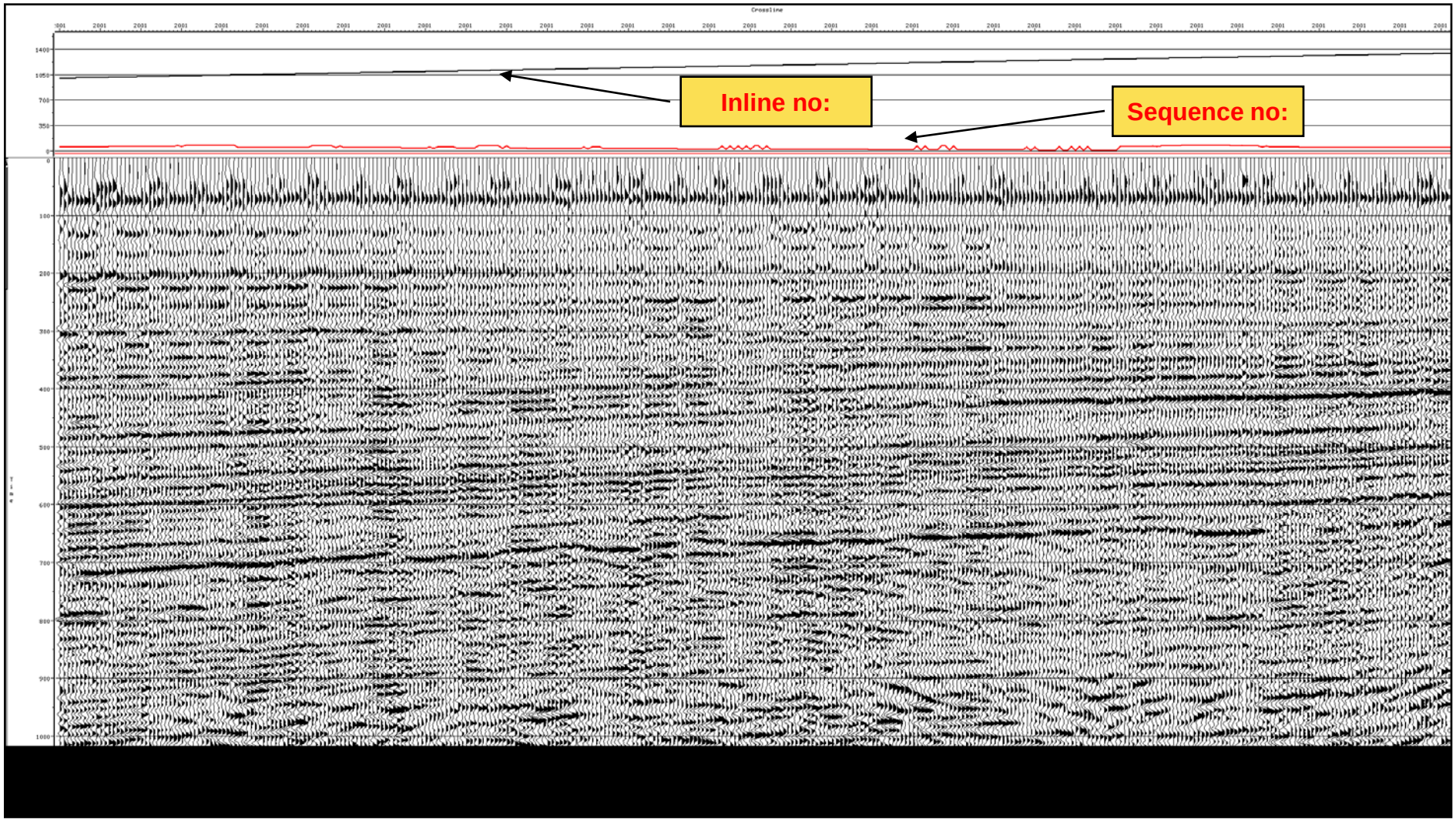
XL1601-NTC (BIN) : With Tidal Static



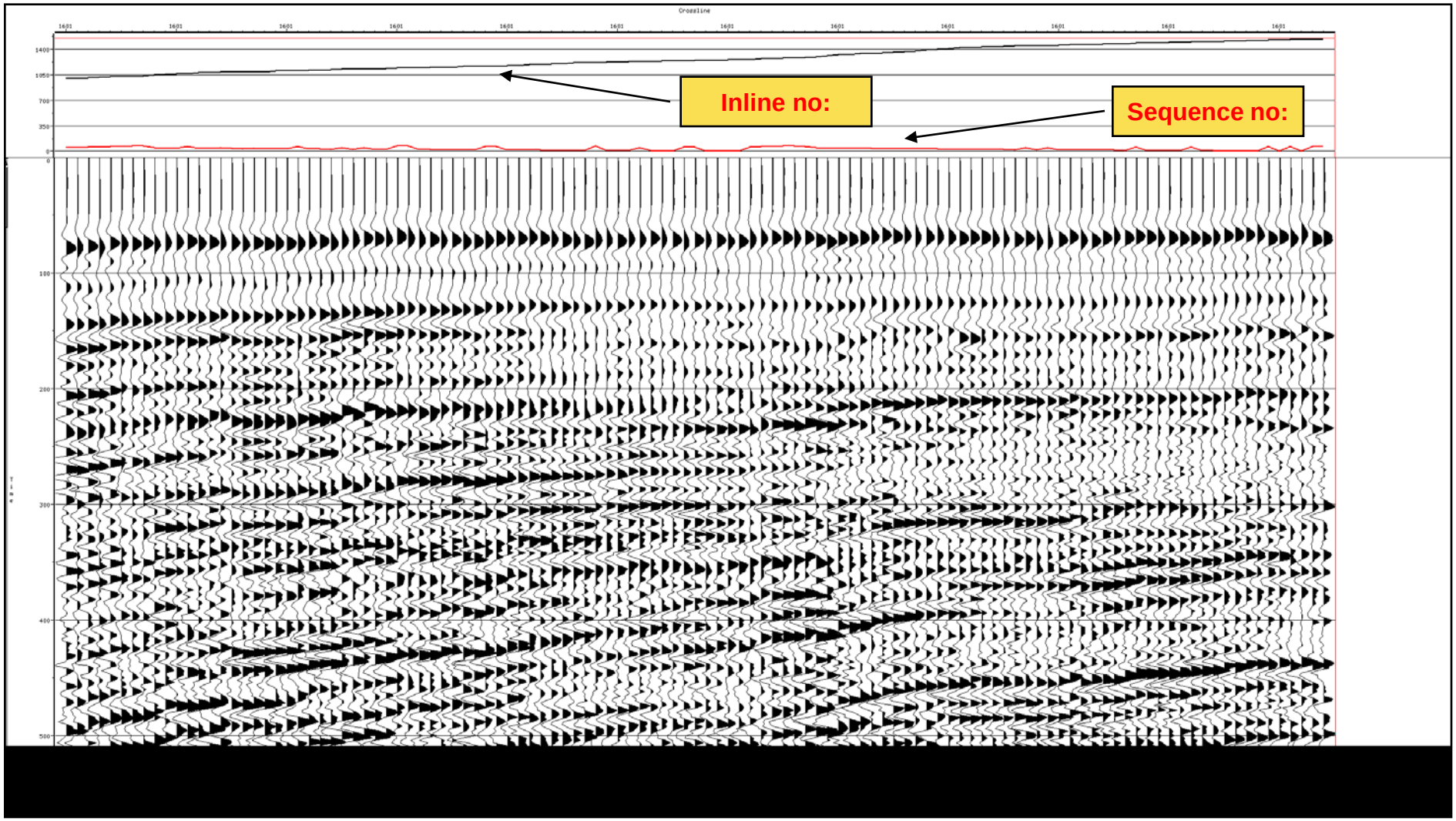
XL2001-NTC (BIN) : Without Tidal Static



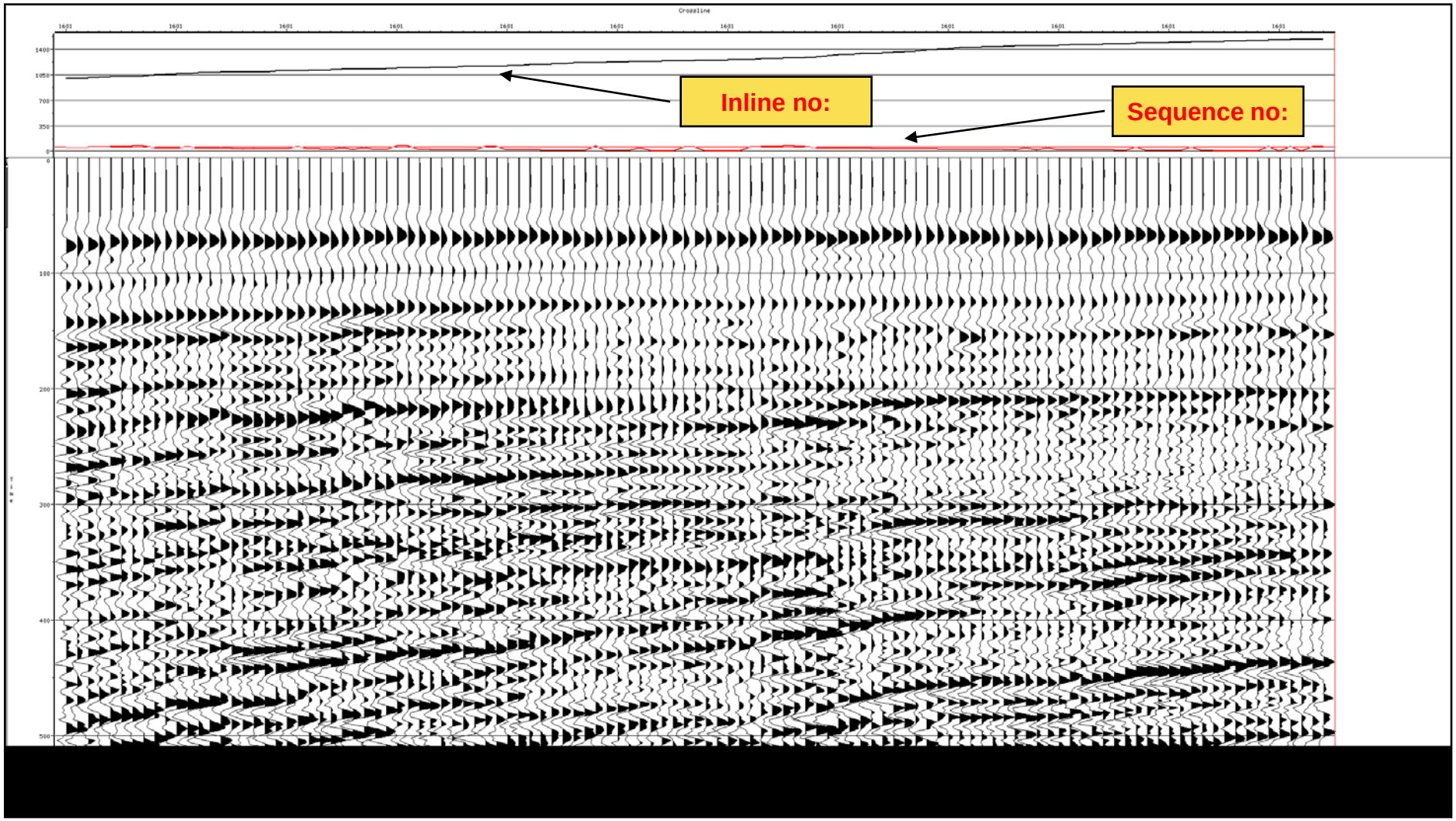
XL2001-NTC (BIN) : With Tidal Static



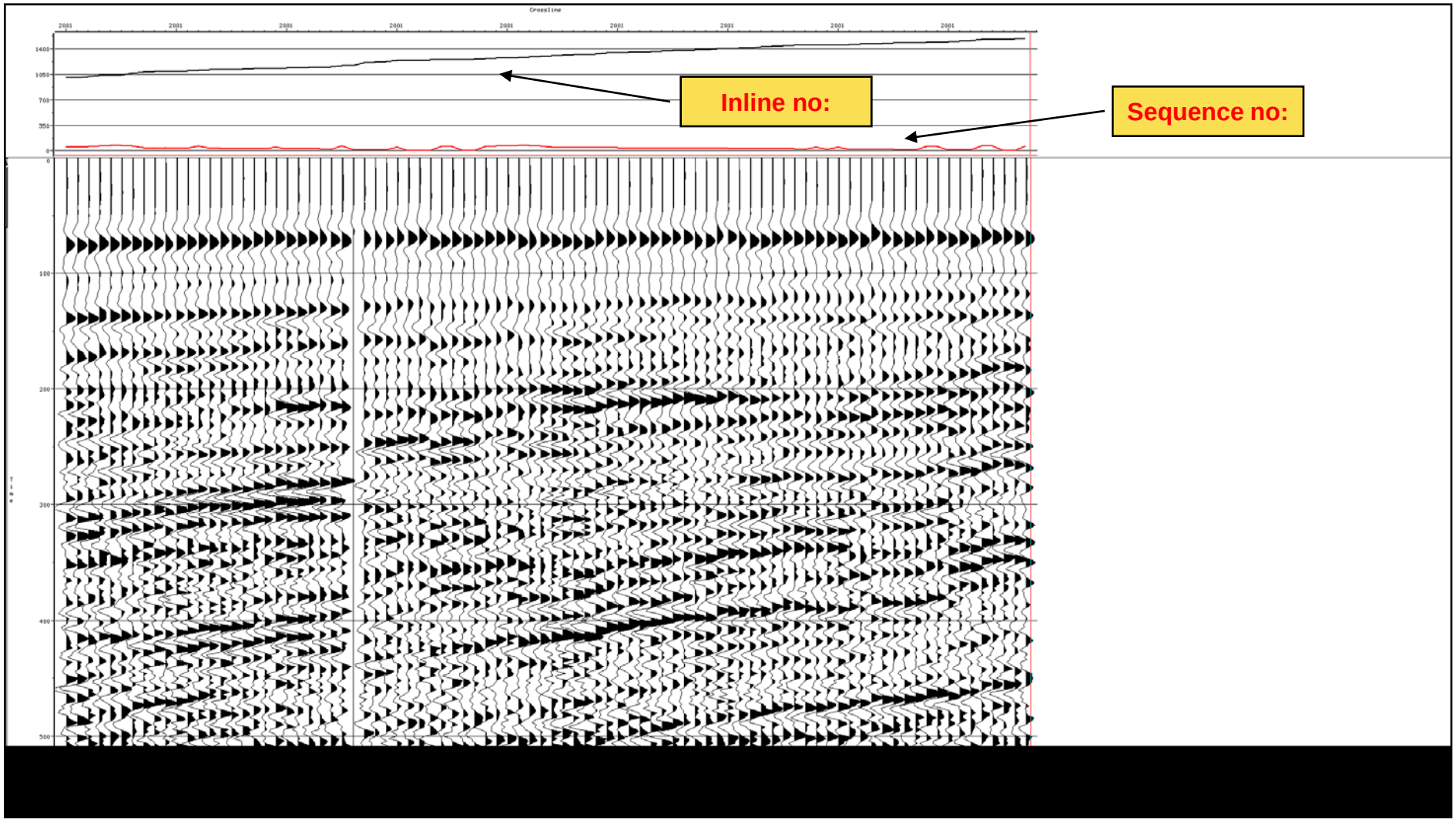
XL1601-NTC (Real Offset 0-140m) : Without Tidal Static



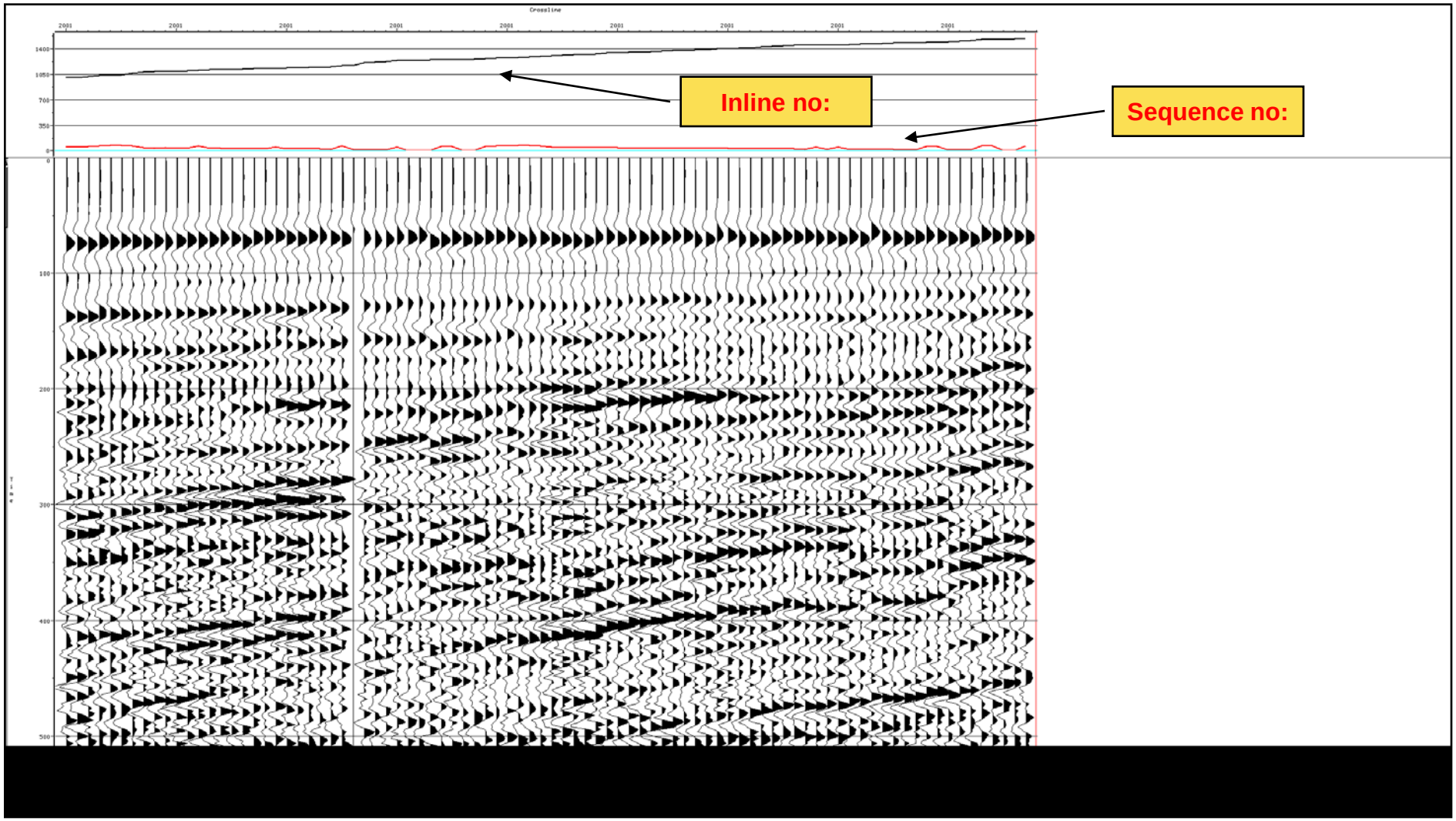
XL1601-NTC (Real Offset 0-140m) : With Tidal Static



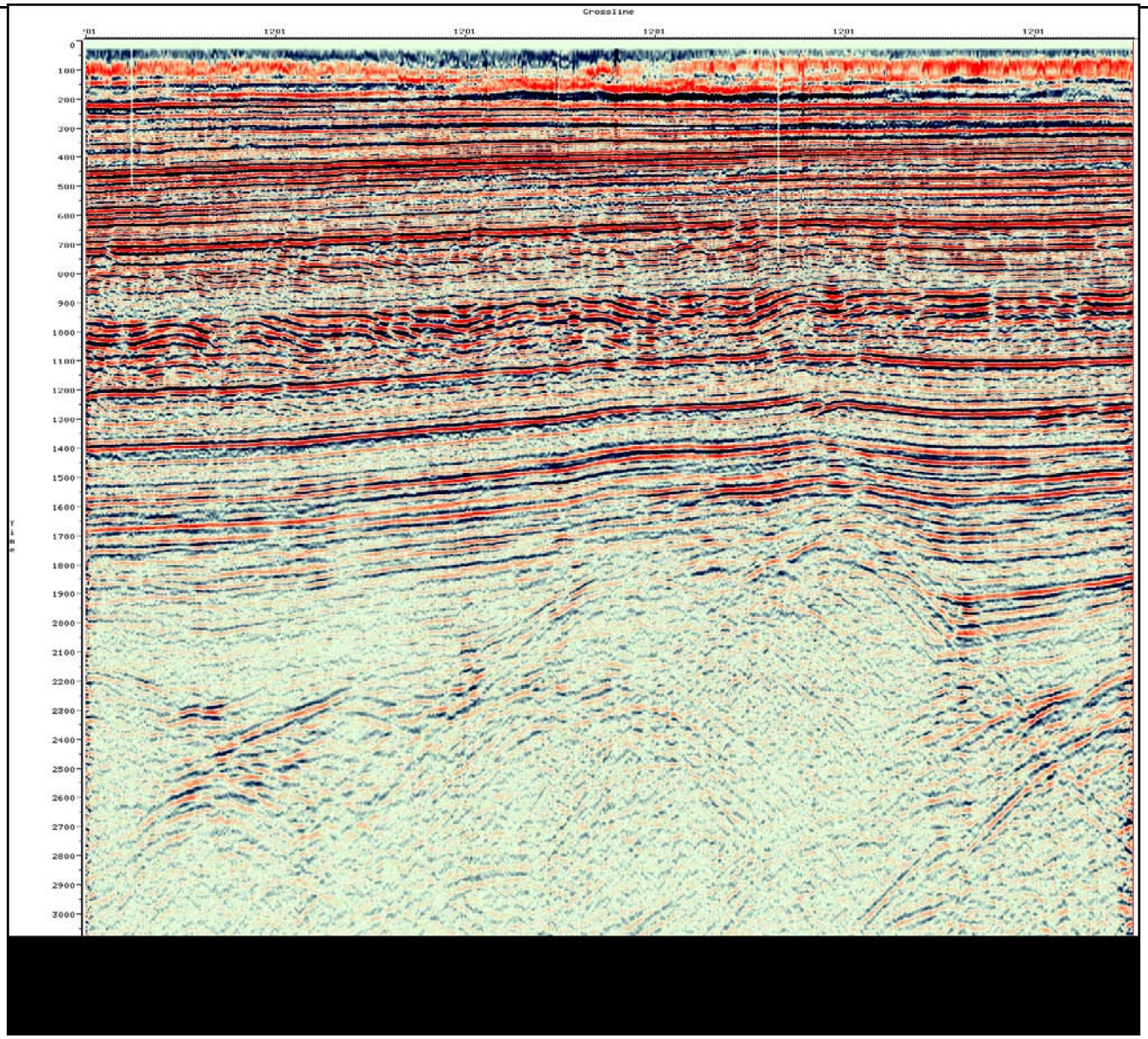
XL2001-NTC (Real Offset 0-140m) : Without Tidal Static



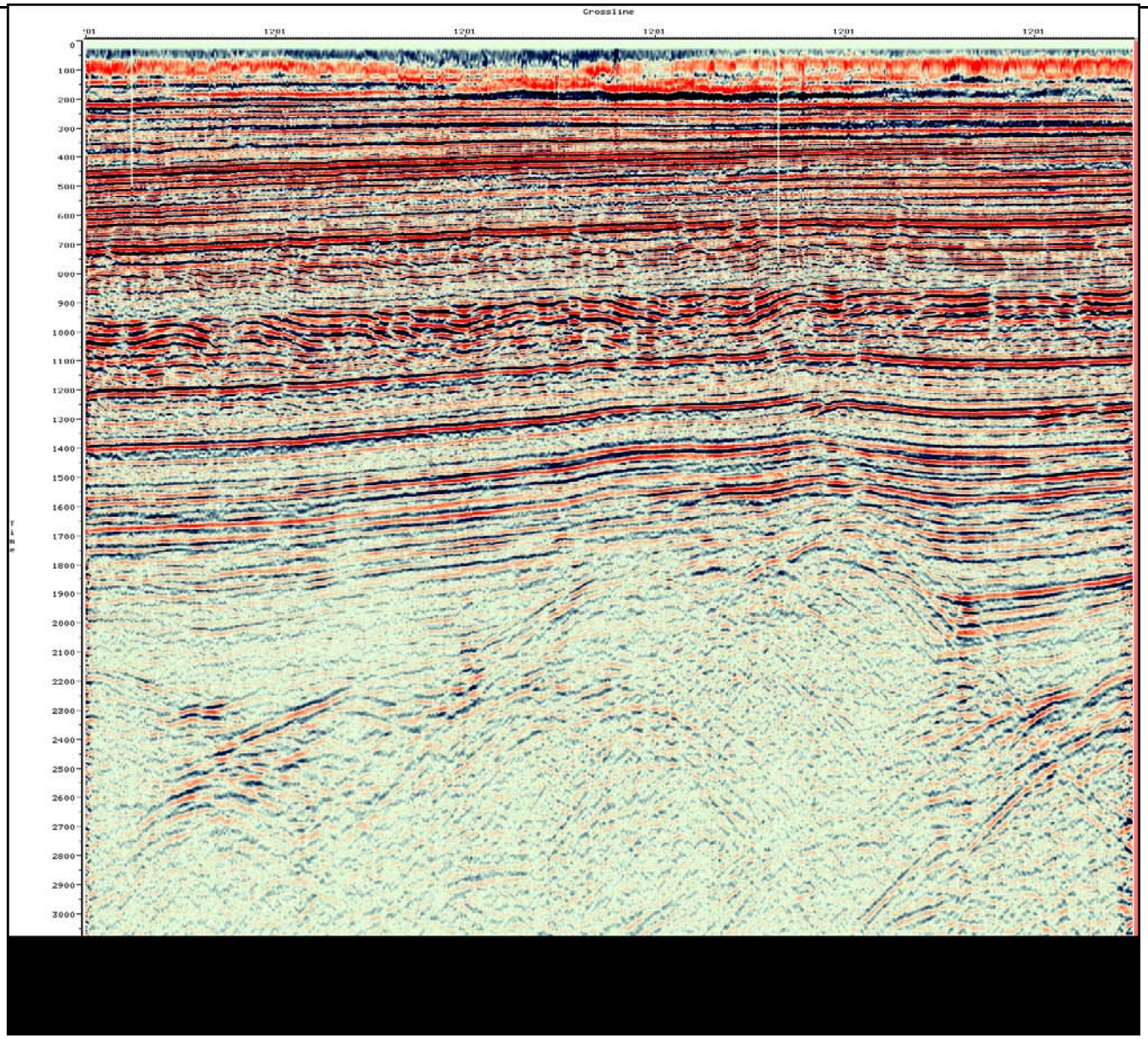
XL2001-NTC (Real Offset 0-140m) : With Tidal Static



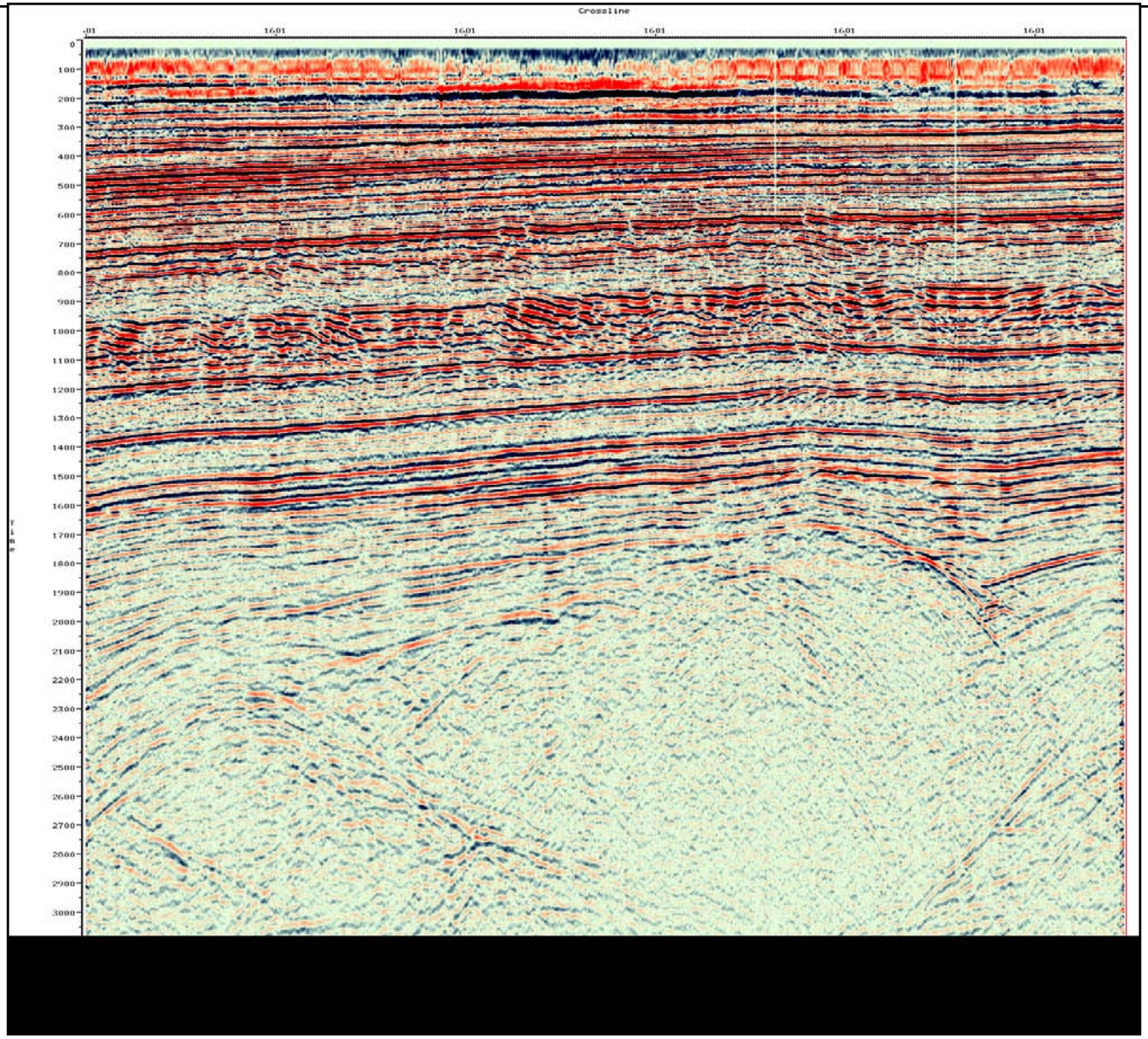
XL1201-STACK : Without Tidal Static



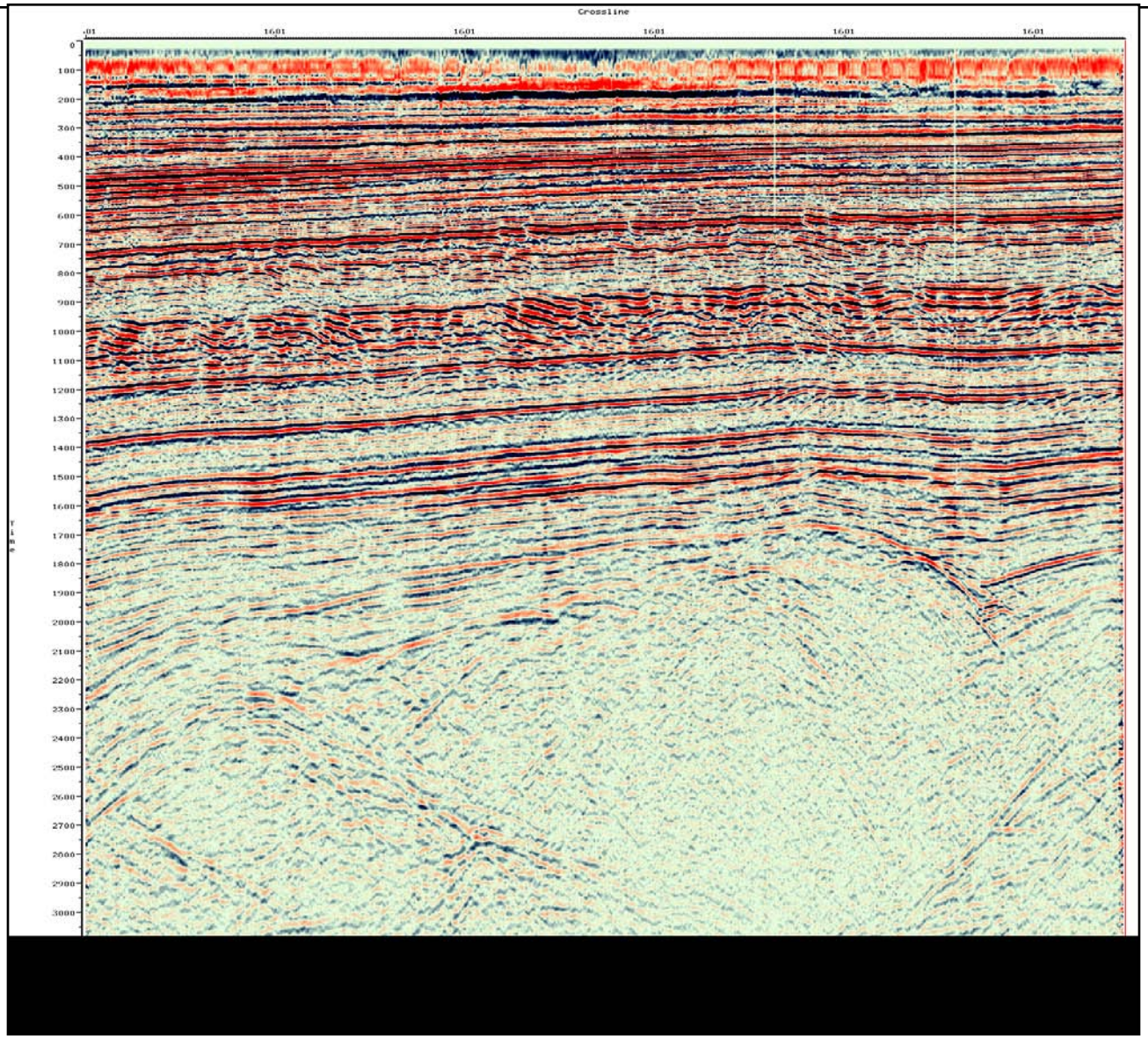
XL1201-STACK : With Tidal Static



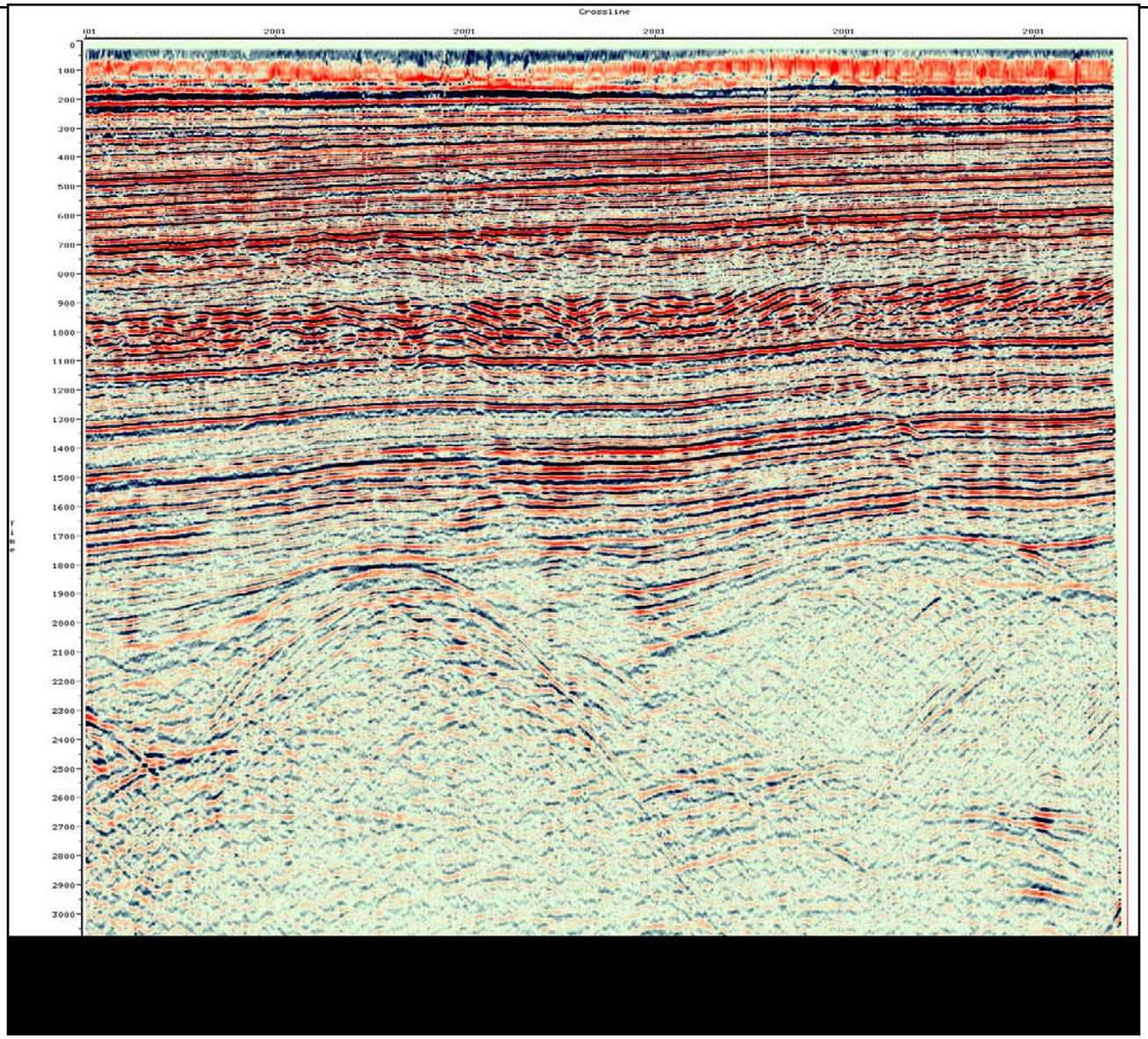
XL1601-STACK : Without Tidal Static



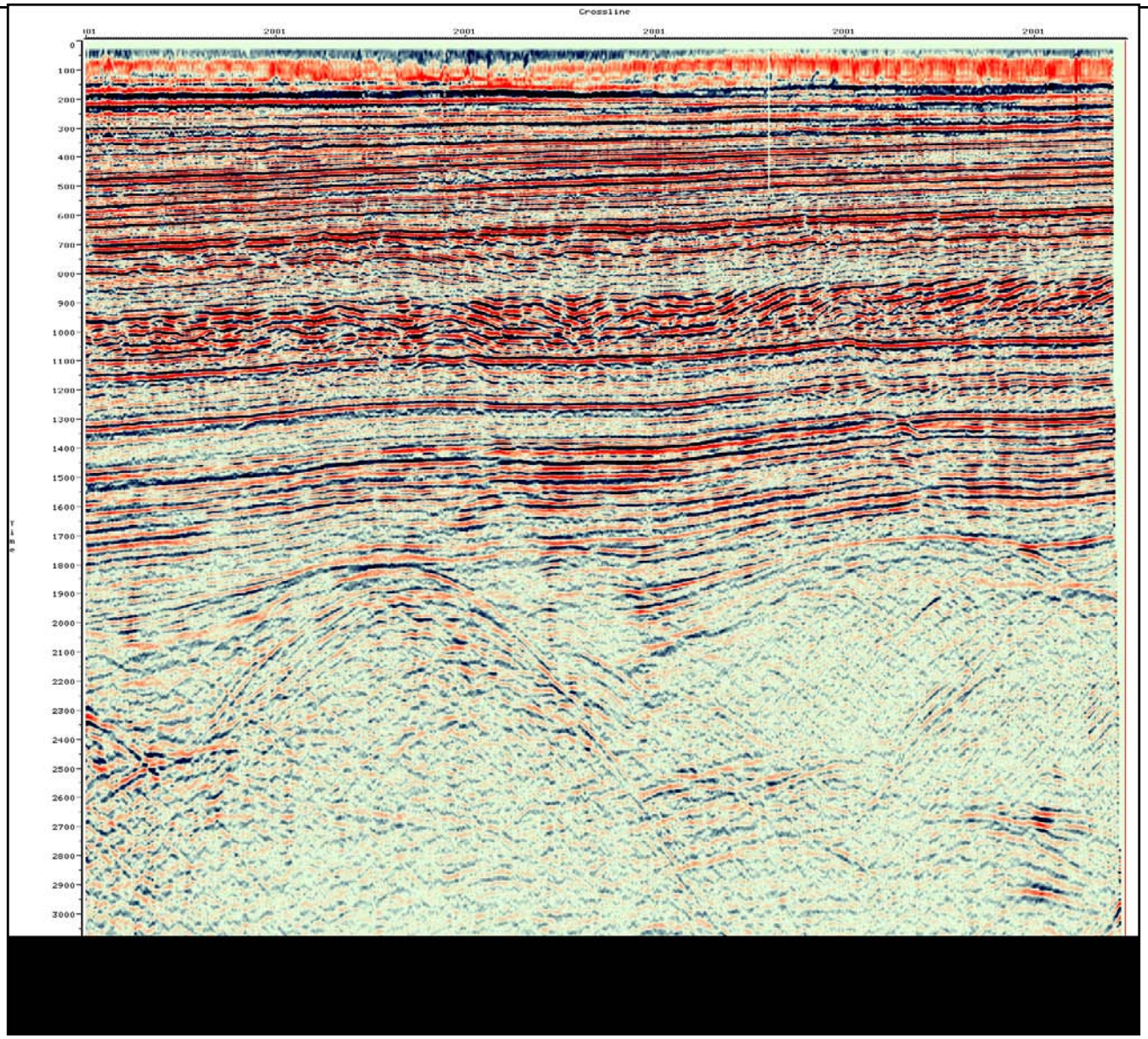
XL1601-STACK : With Tidal Static



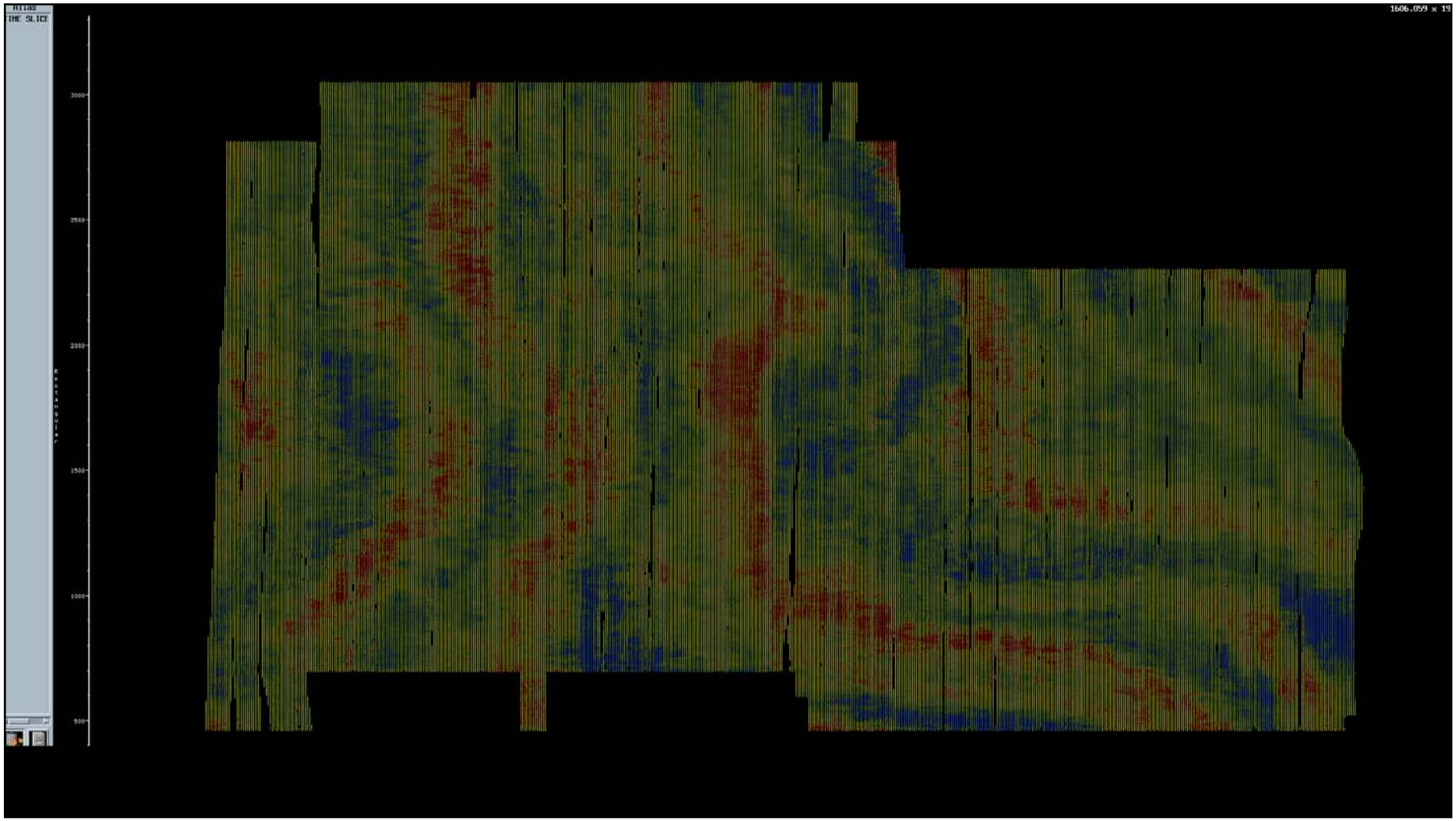
XL2001-STACK : Without Tidal Static



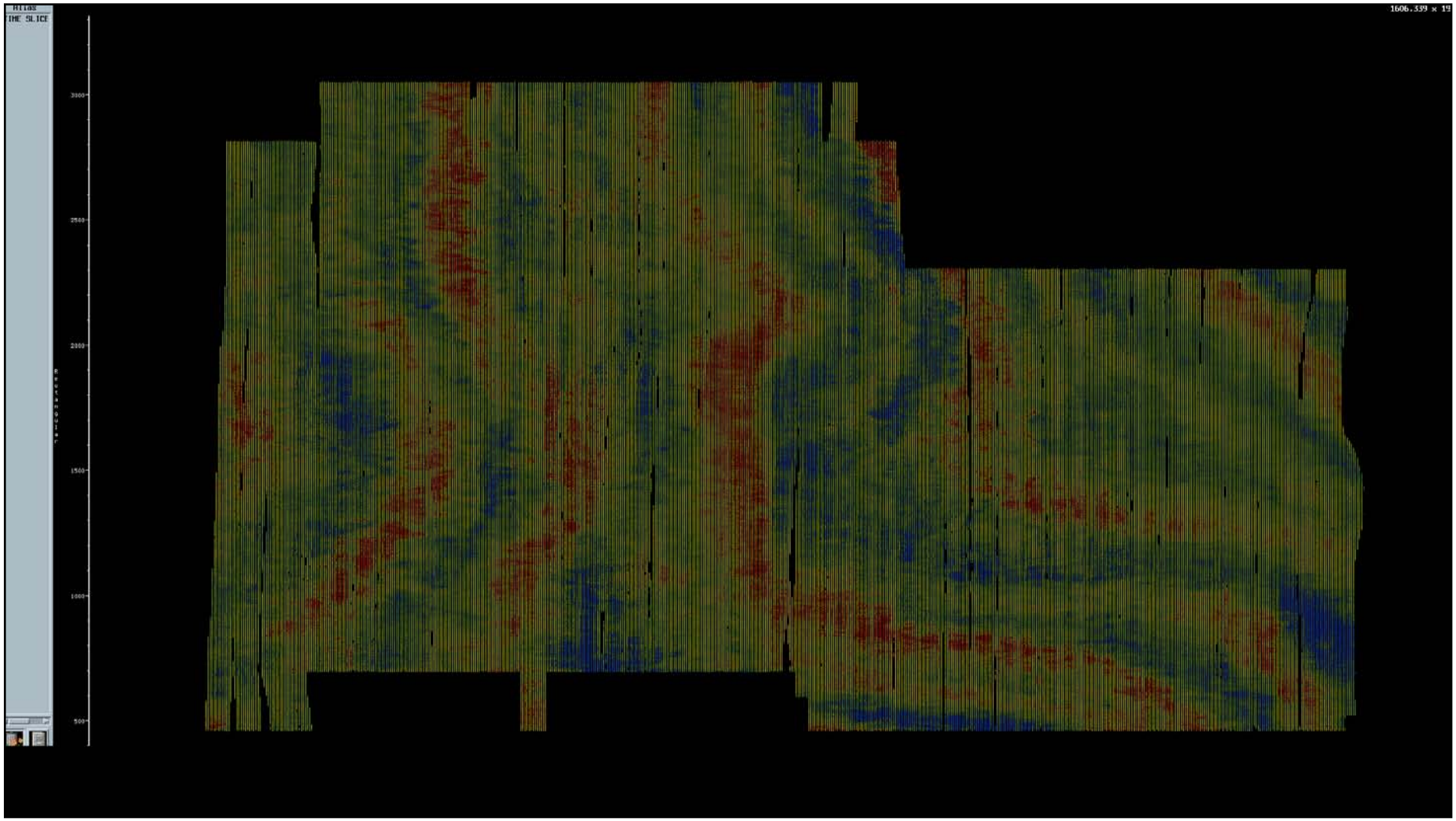
XL2001-STACK : With Tidal Static



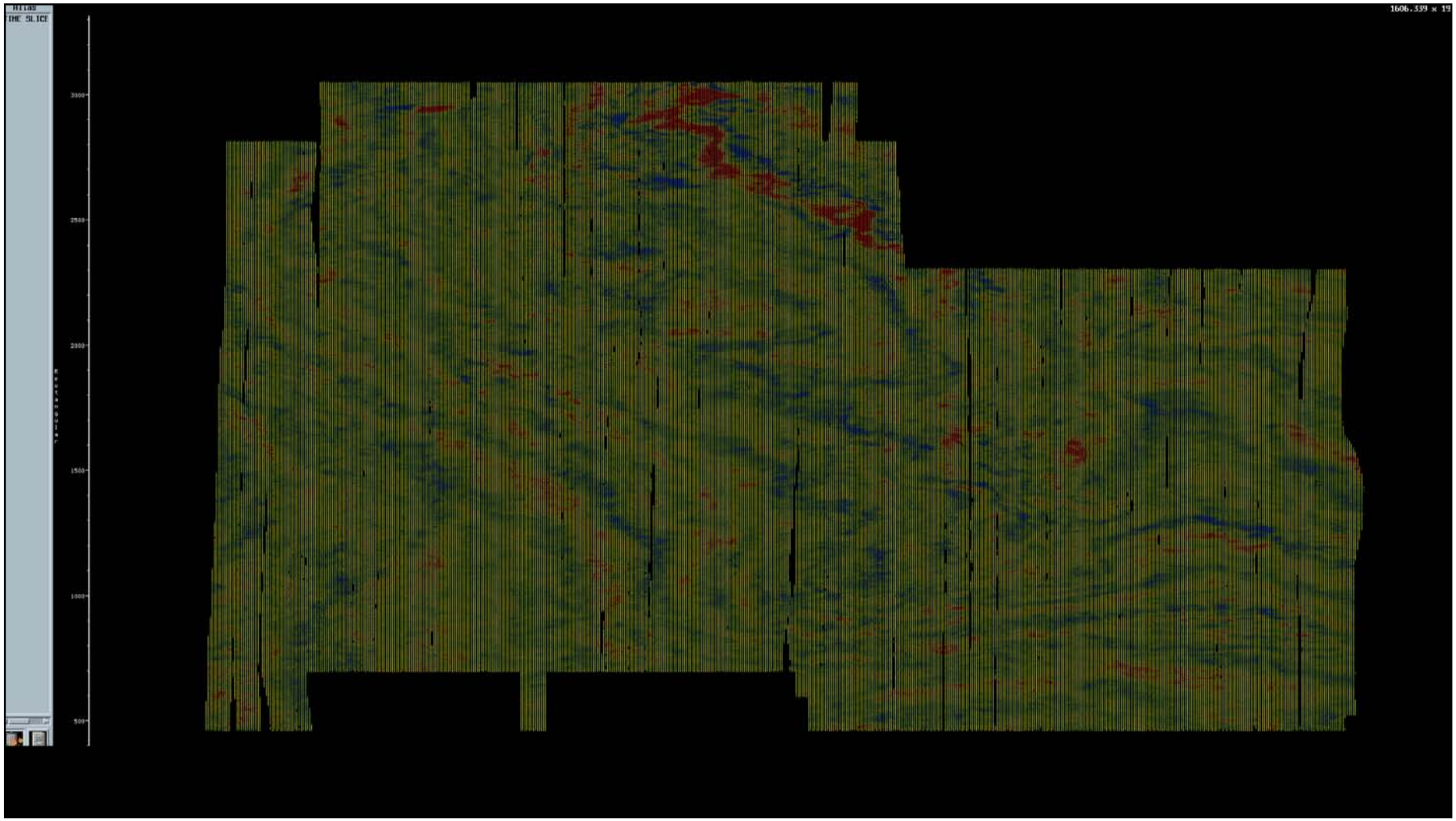
Time Slice 500ms : Without Tidal Static



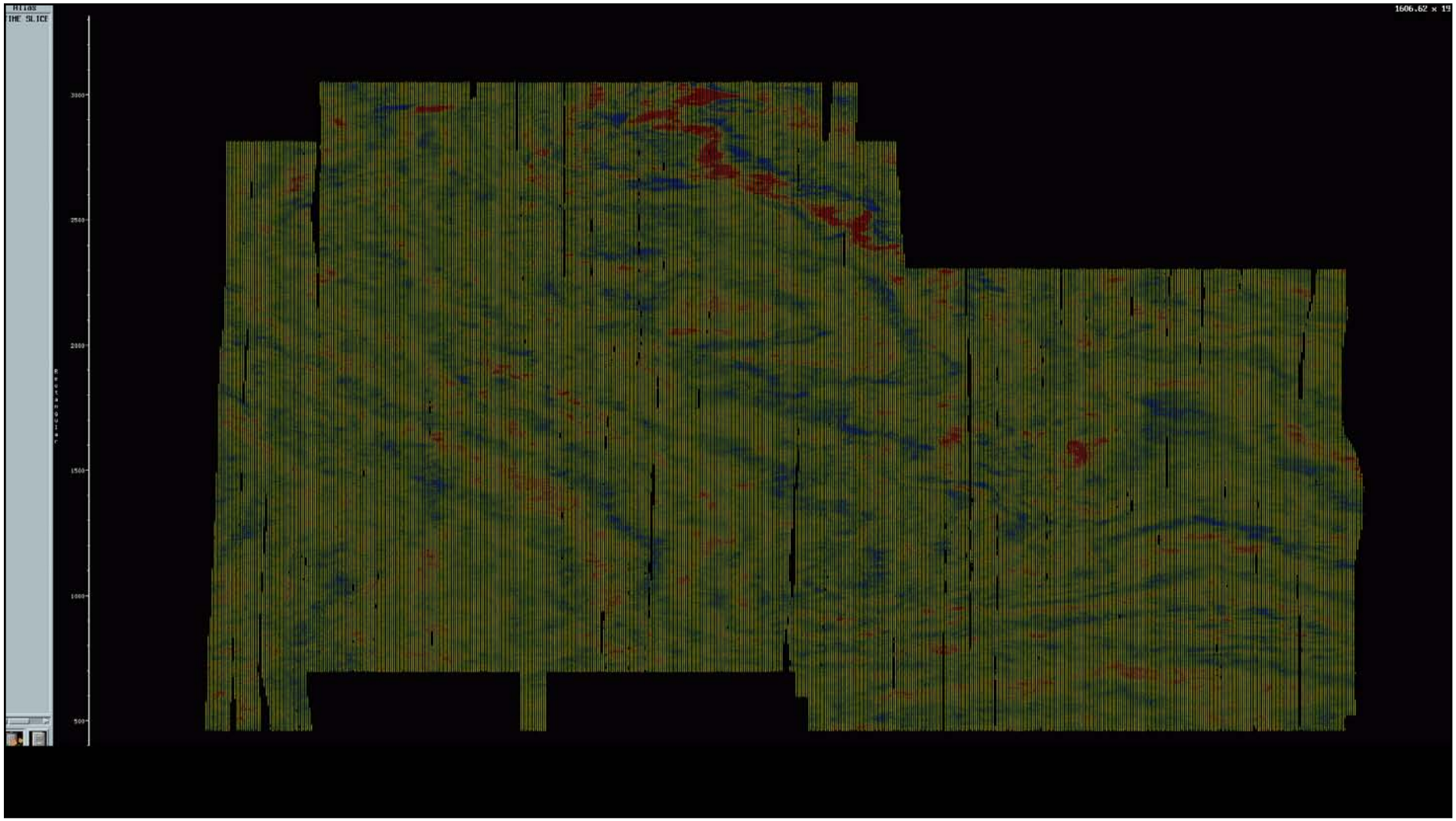
Time Slice 500ms : With Tidal Static



Time Slice 1500ms : Without Tidal Static



Time Slice 1500ms : With Tidal Static

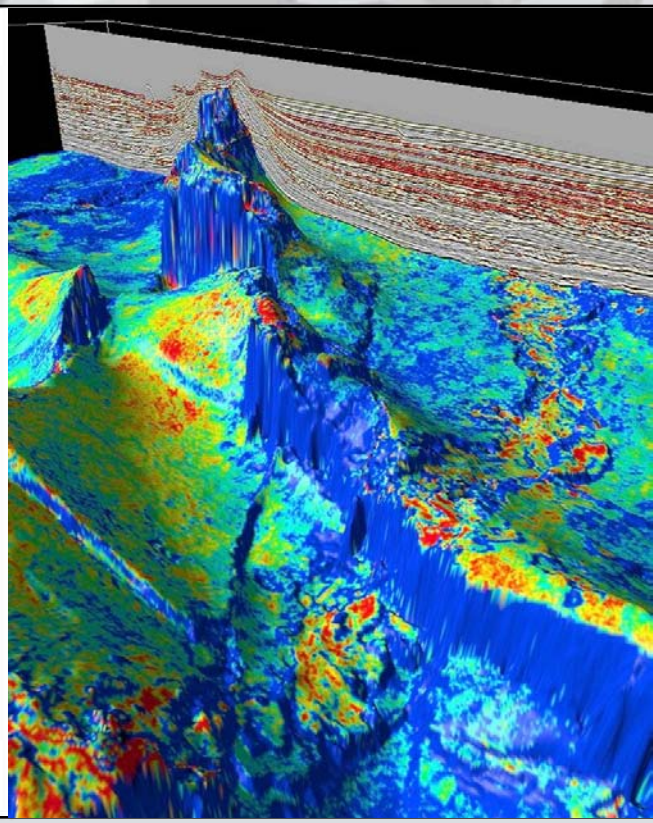


Conclusions & Recommendations

CGGV Recommend:

- Apply Tidal Static.

Technical Note 5
Zerophase Filter
Silvereye 3D



CGGVERITAS

Introduction

Testing was carried out on sail line OS073D1342P1039 (Seq:039).

The data are selected on cable 3.

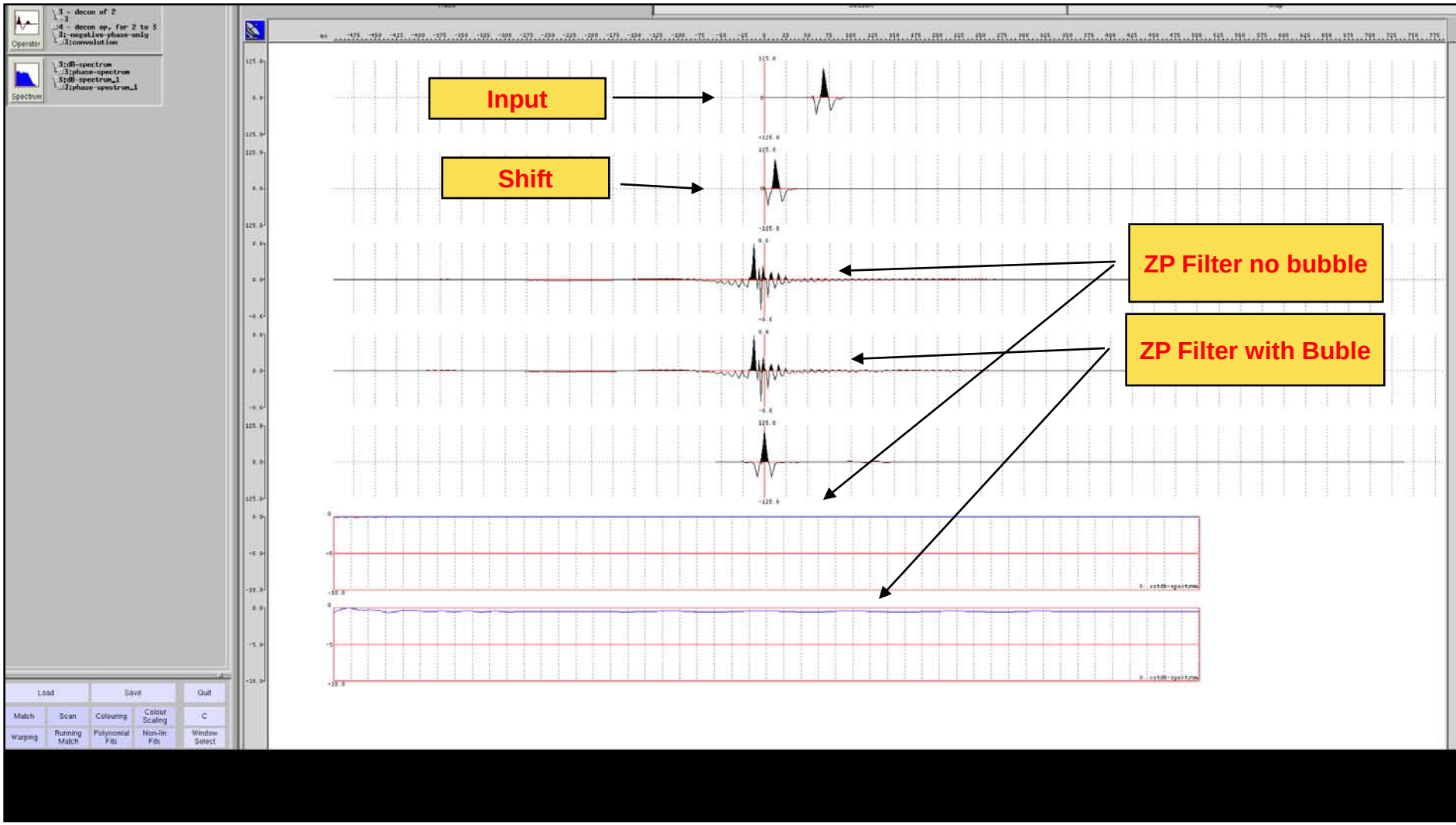
FFS:

- **with source and receiver ghost applied,**
- **SI=2ms**
- **Source depth= 6m**
- **Streamer depth=7m**

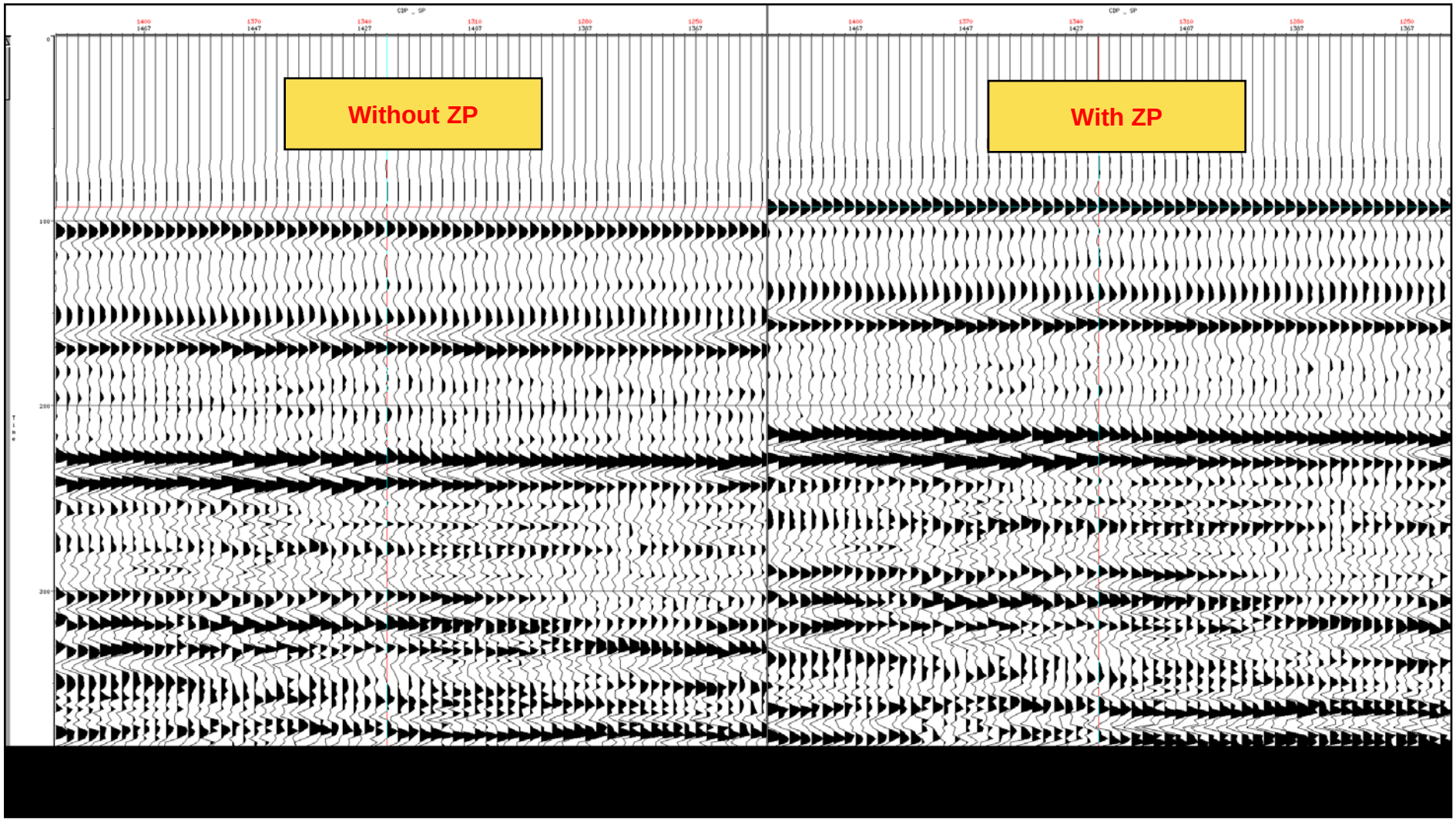
Profile ID SEQ039

Zerophase

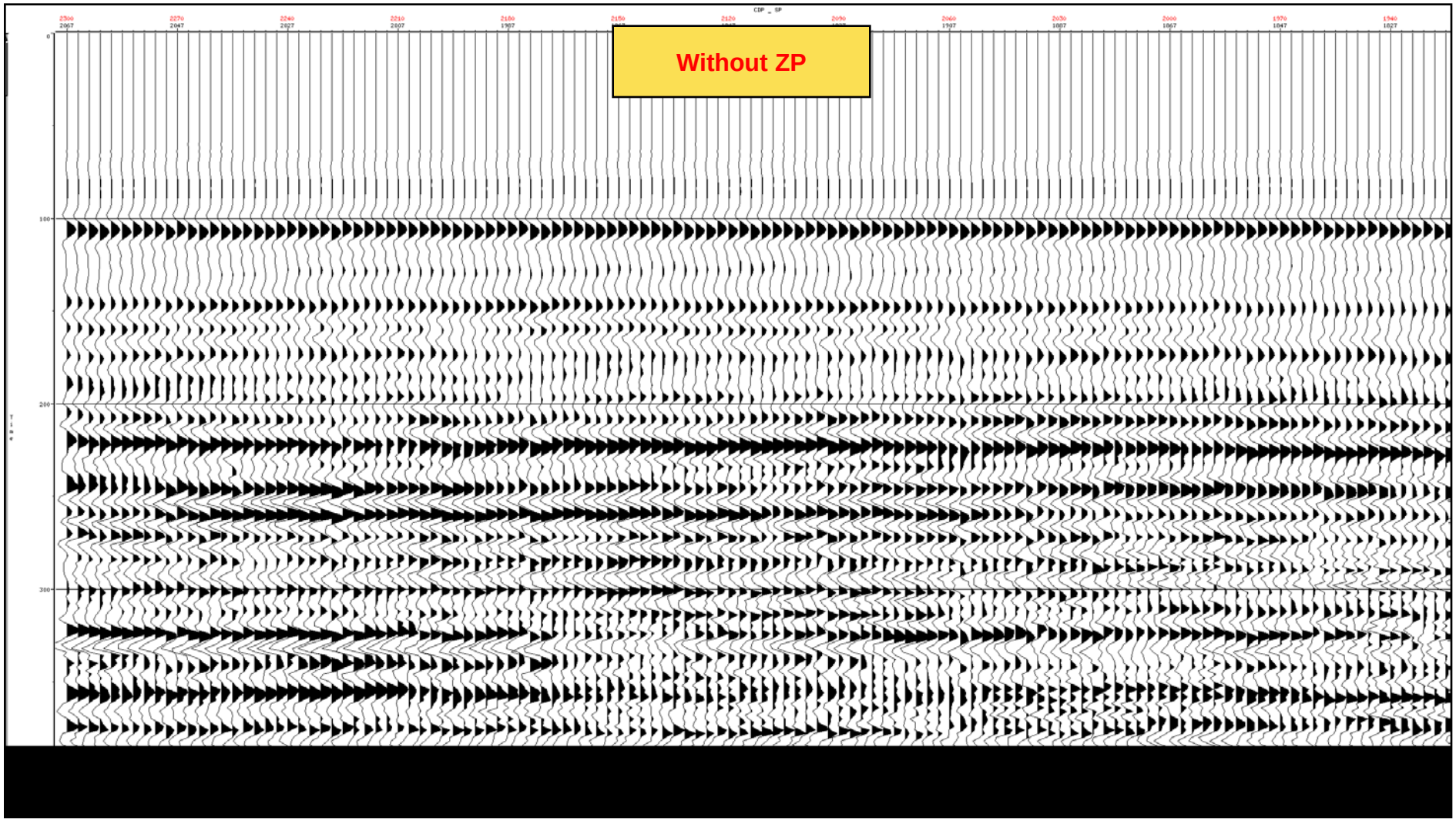
FLOW : Zero Phase



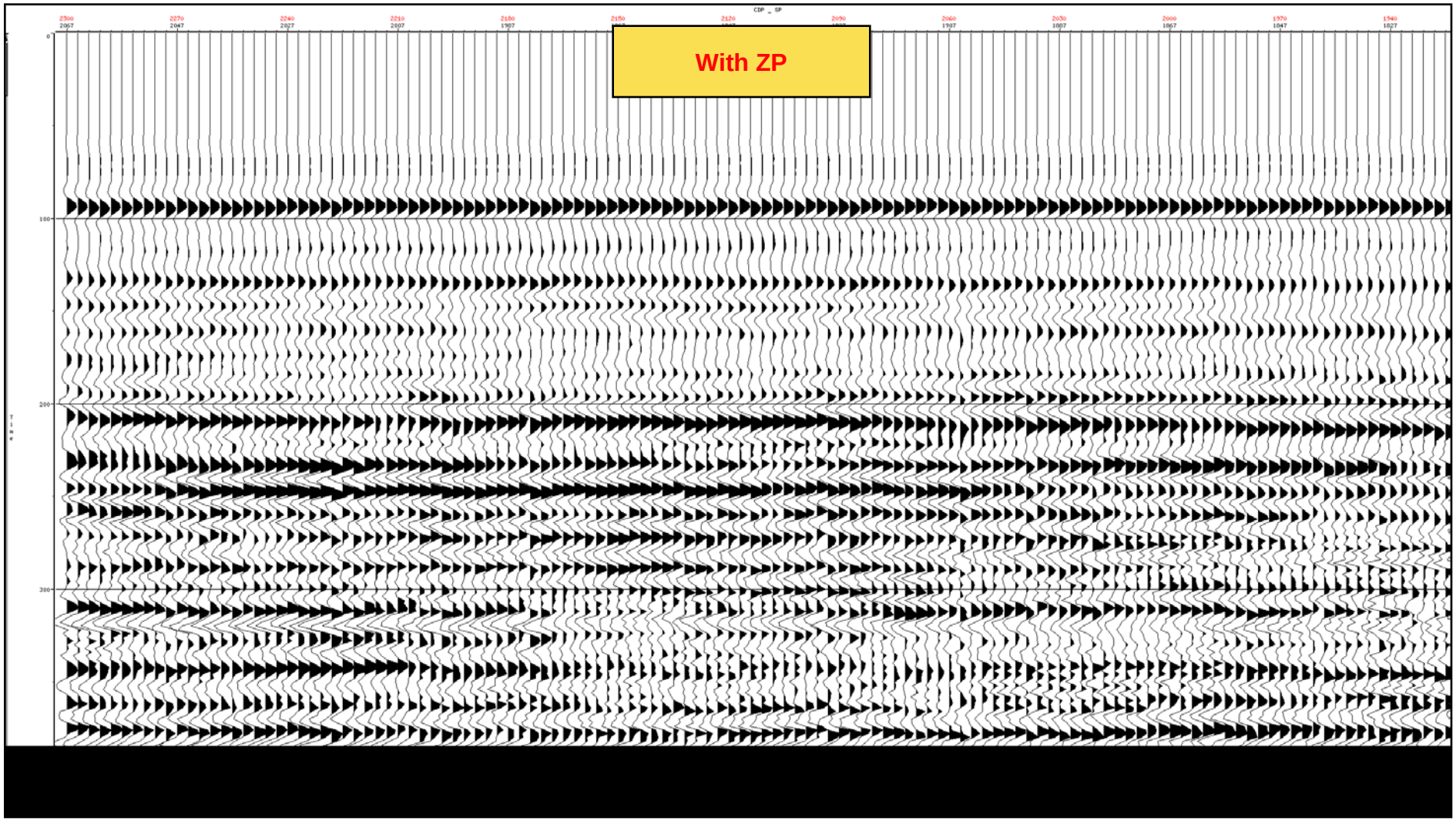
NTG : ZP



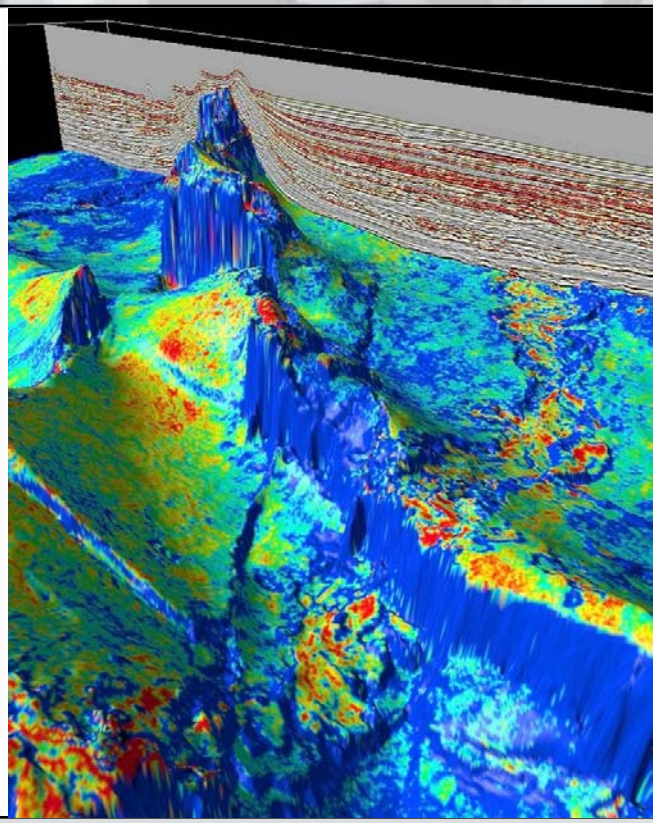
NTG : WITHOUT ZP



NTG : WITH ZP



Technical Note 5
Zerophase Filter
Silvereye 3D



CGGVERITAS

Introduction

FFS:

- **with source,**
- **SI=2ms**
- **Source depth= 6m**

Two method ofVariation in Cable depth tested:

1. Fix 1.0m for all Cable depth (5,6,7,8,9,10m)

2. Vary: 5m +/- 0.8m

6m +/- 1.0m

7m +/- 1.2m

8m +/- 1.6m

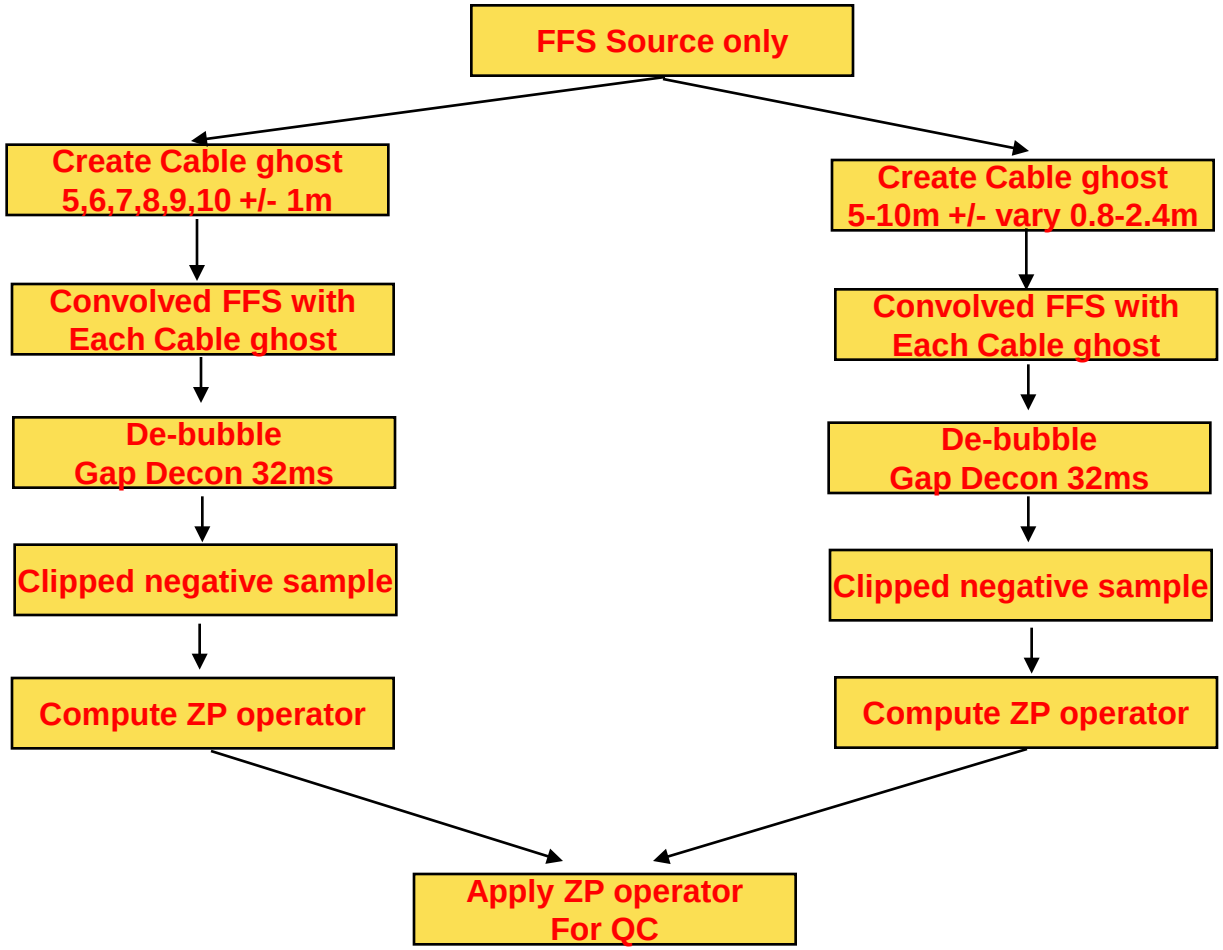
9m +/- 1.9m

10m +/- 2.4m

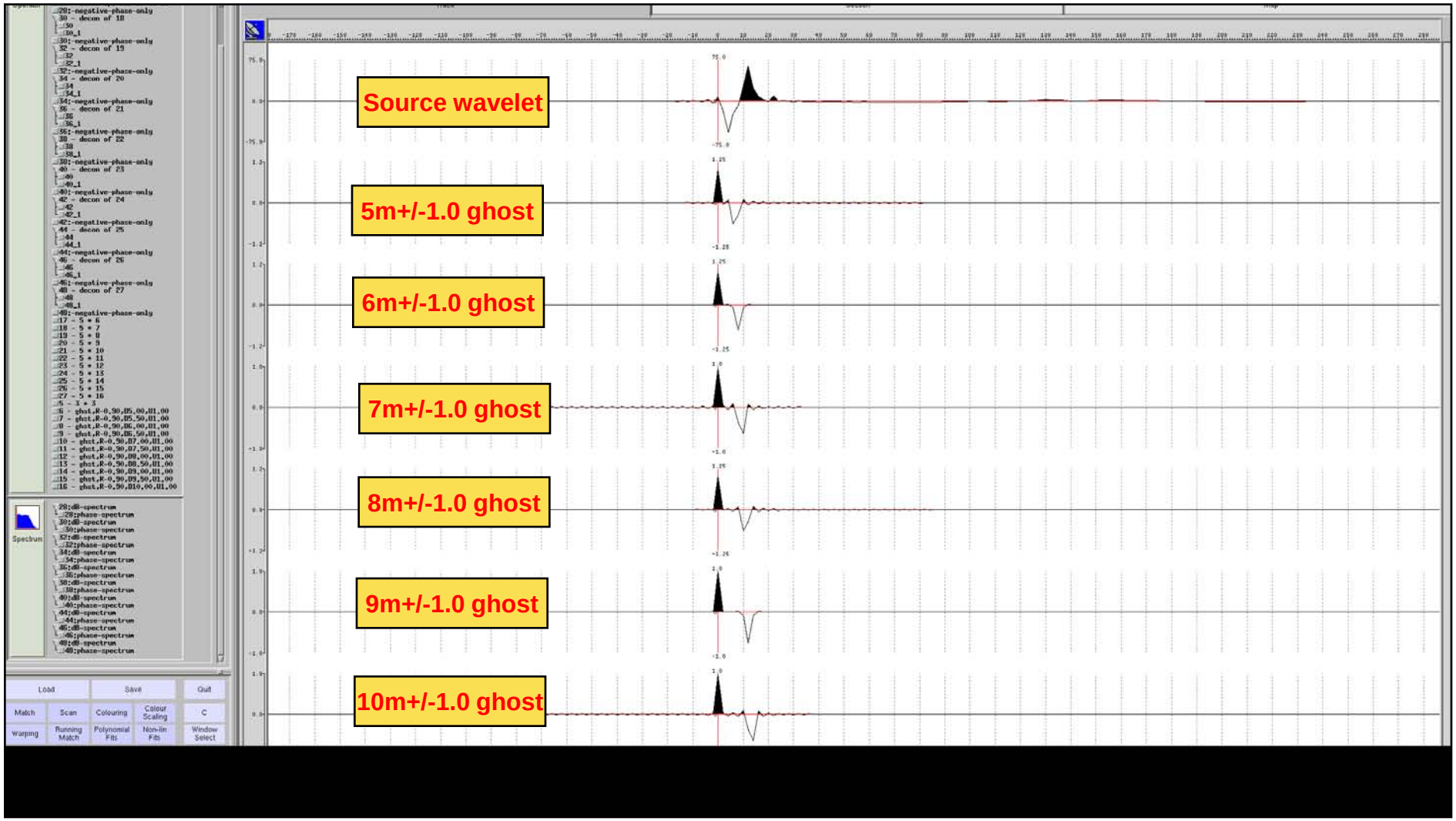
Profile ID SEQ039

Zerophase

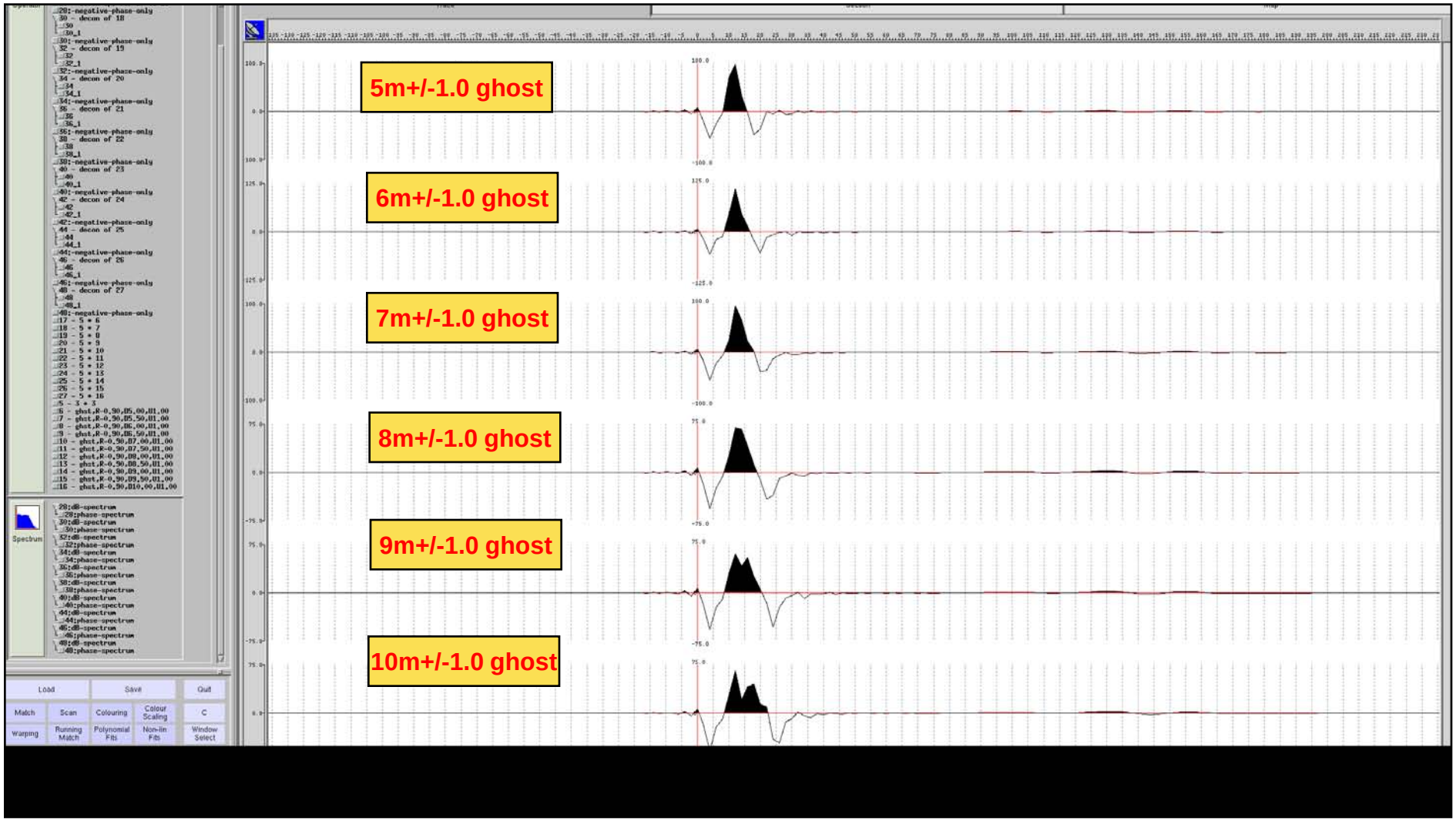
FLOW : ZeroPhase



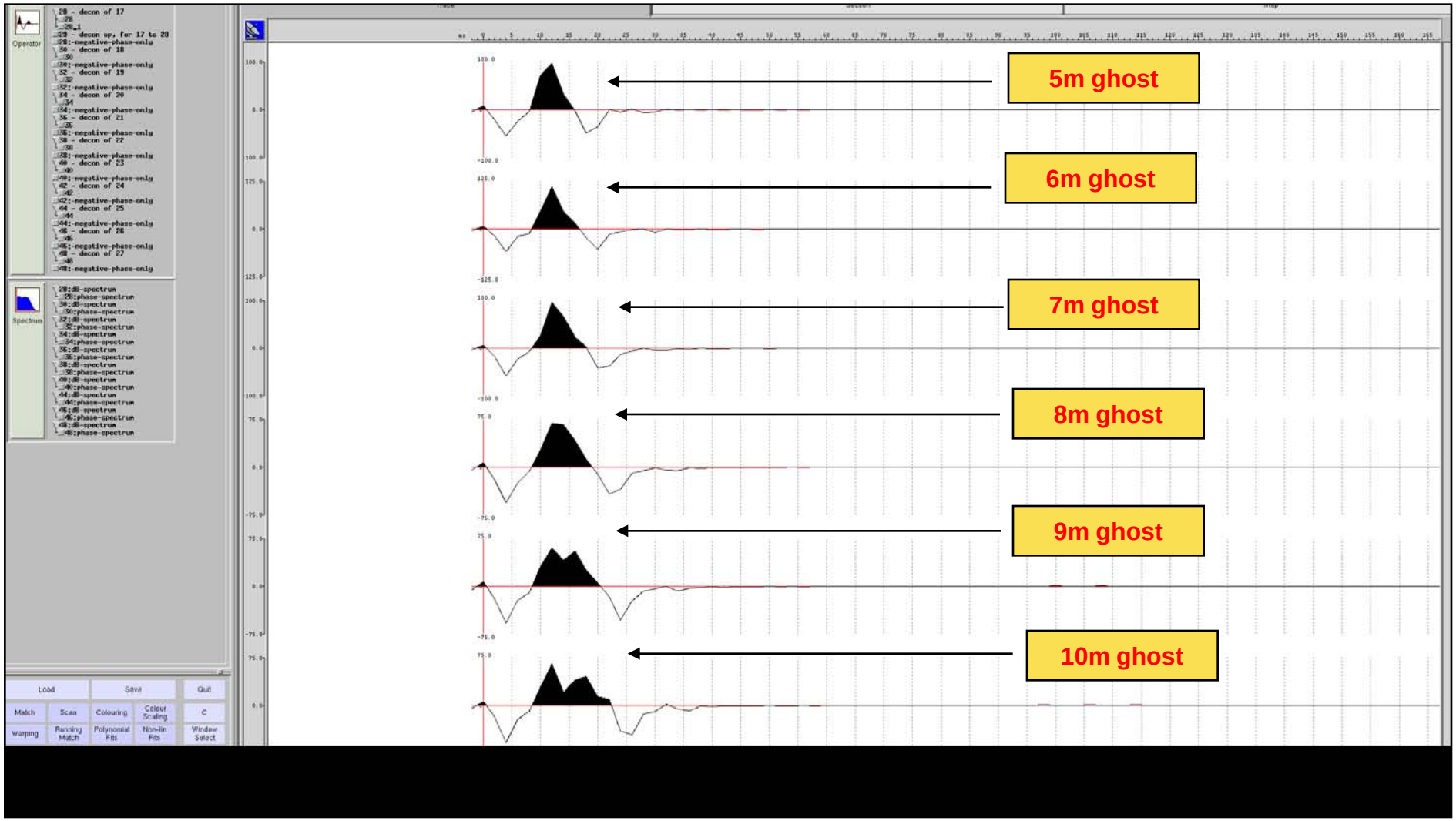
FLOW : Wavelet and Cable Ghost (+/- 1.0m)



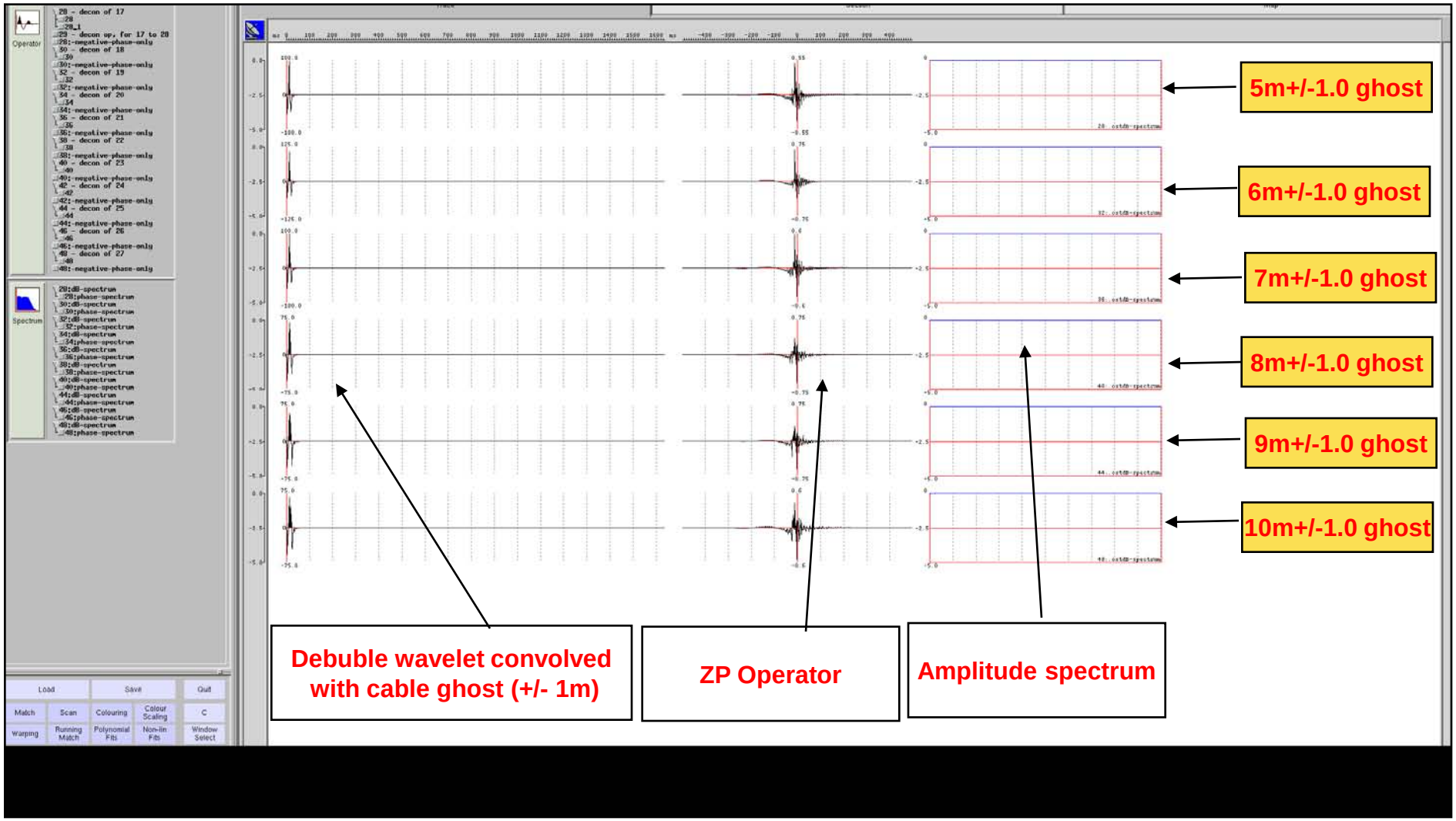
FLOW : Source wavelet convolved with Cable Ghost (+/- 1.0m)



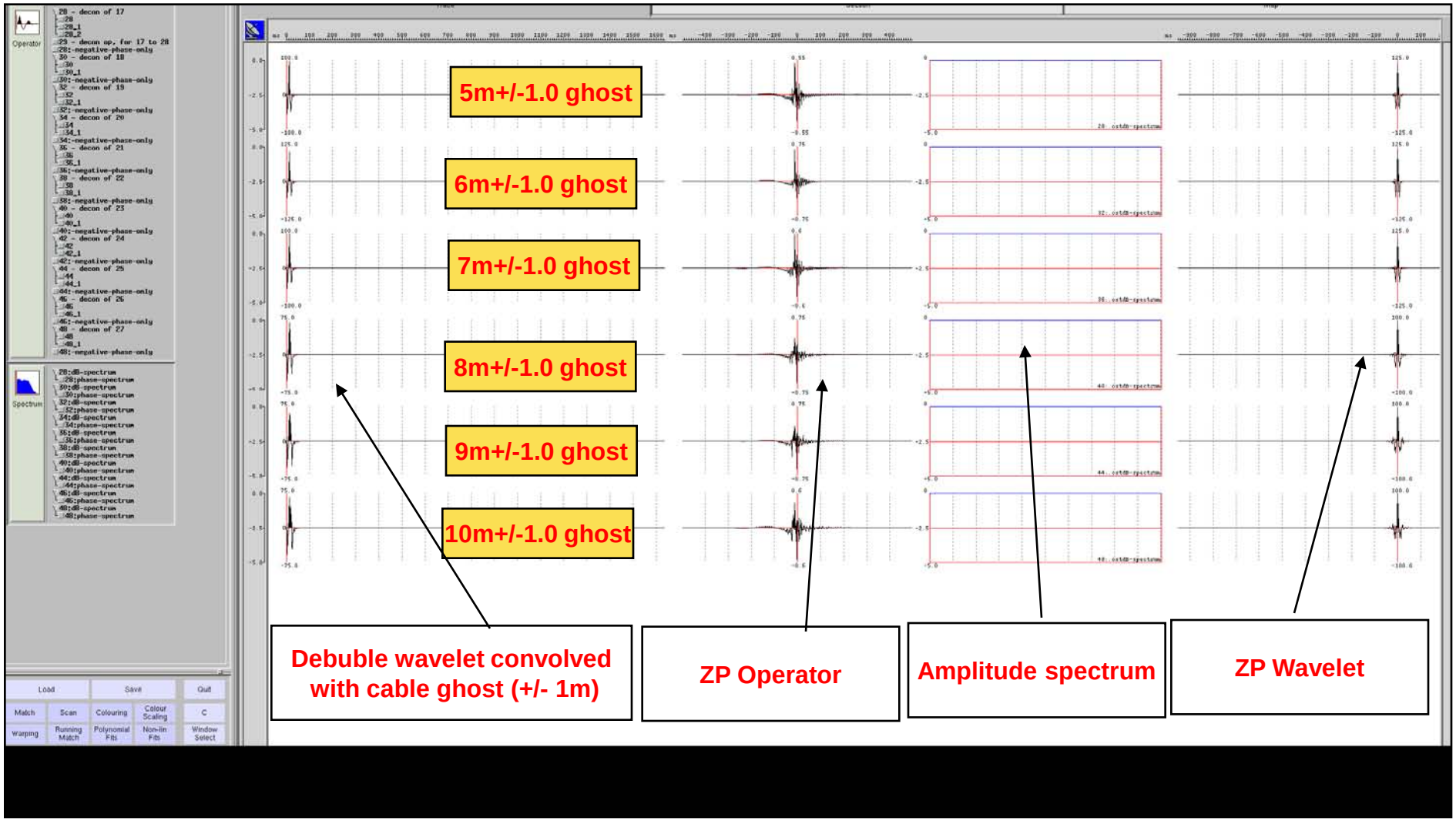
FLOW : De-bubble Wavelet convolved with cable ghost (+/- 1.0m)



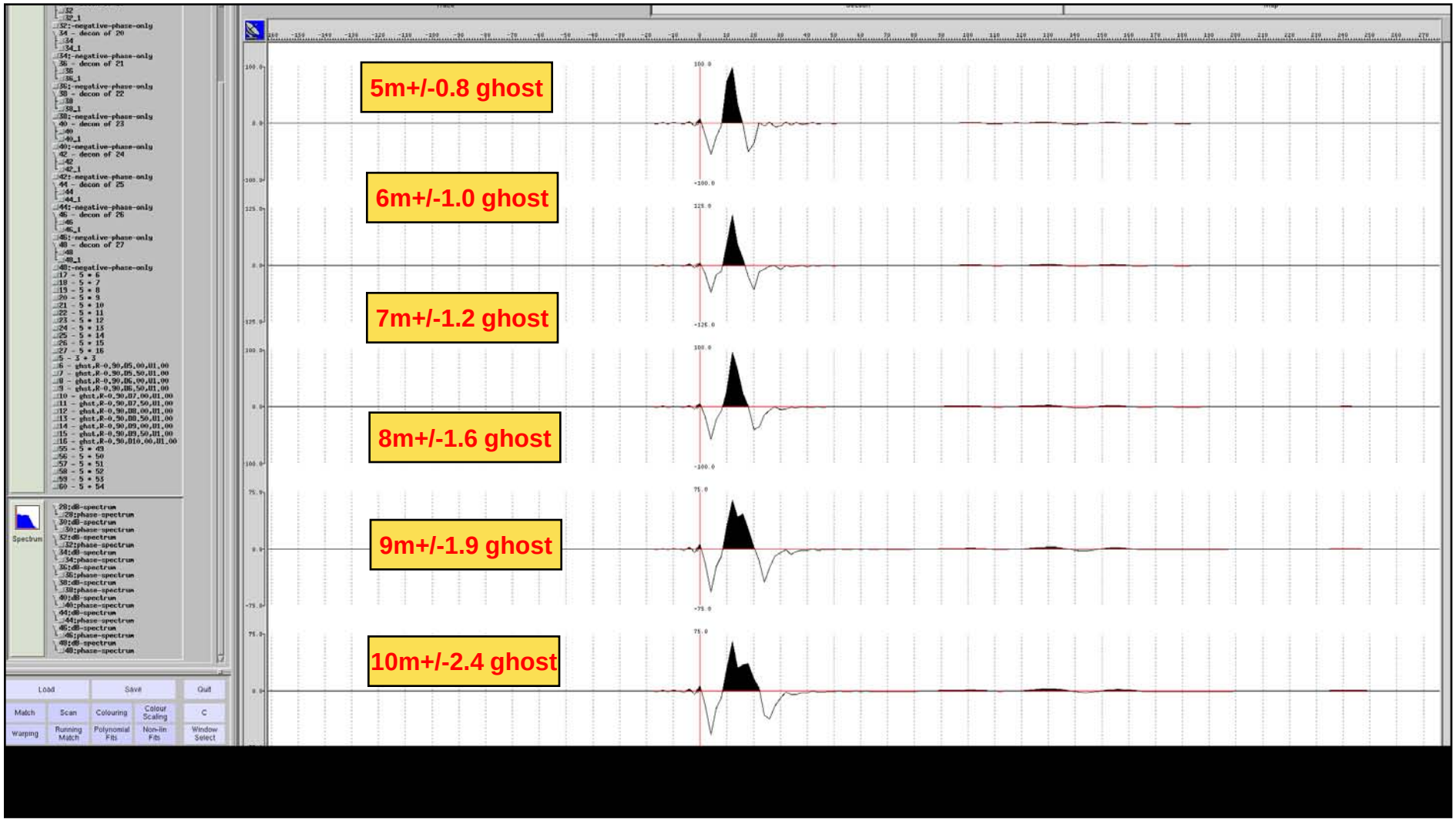
FLOW : Zero Phase Filter



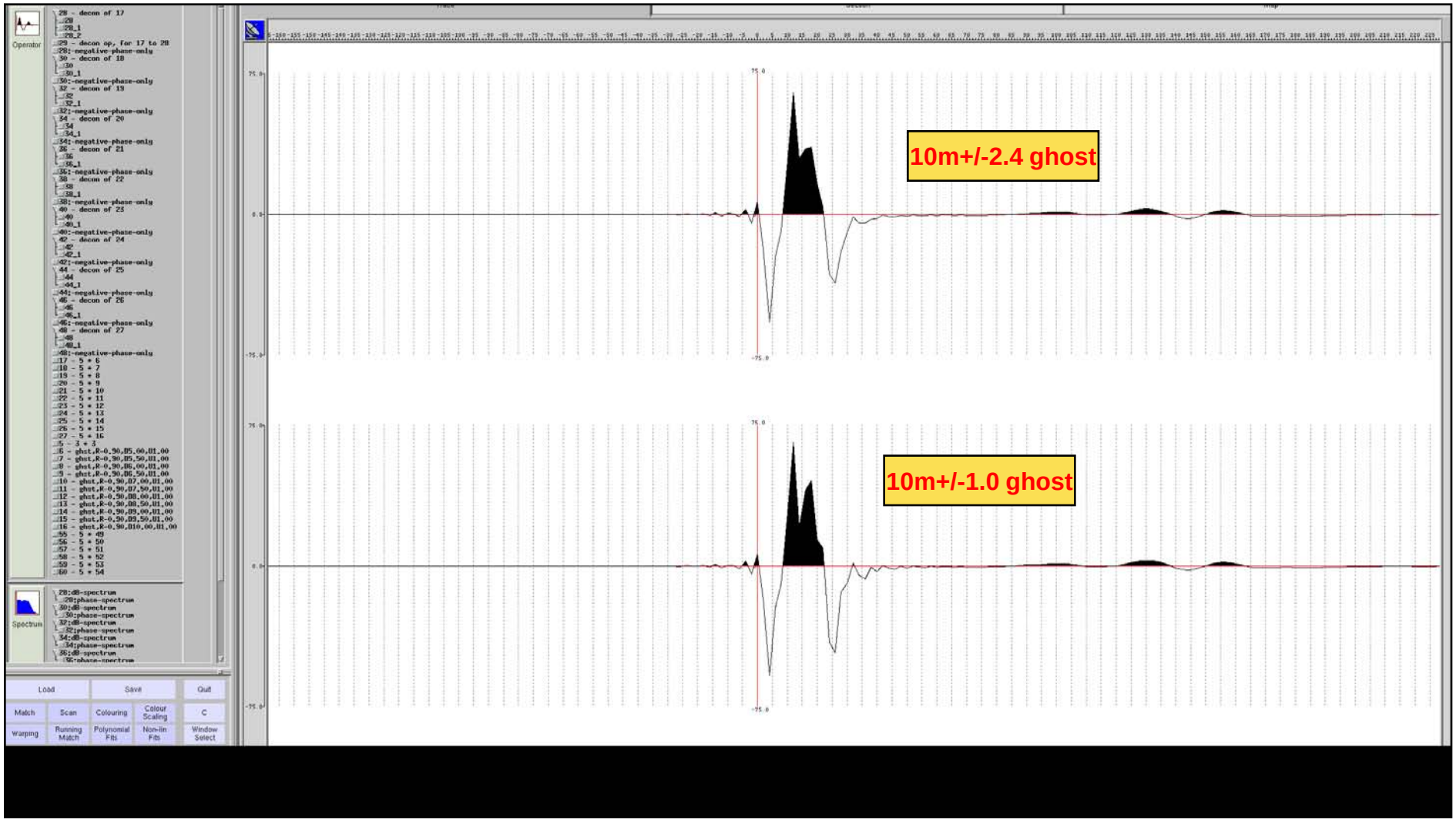
FLOW : Zero Phase



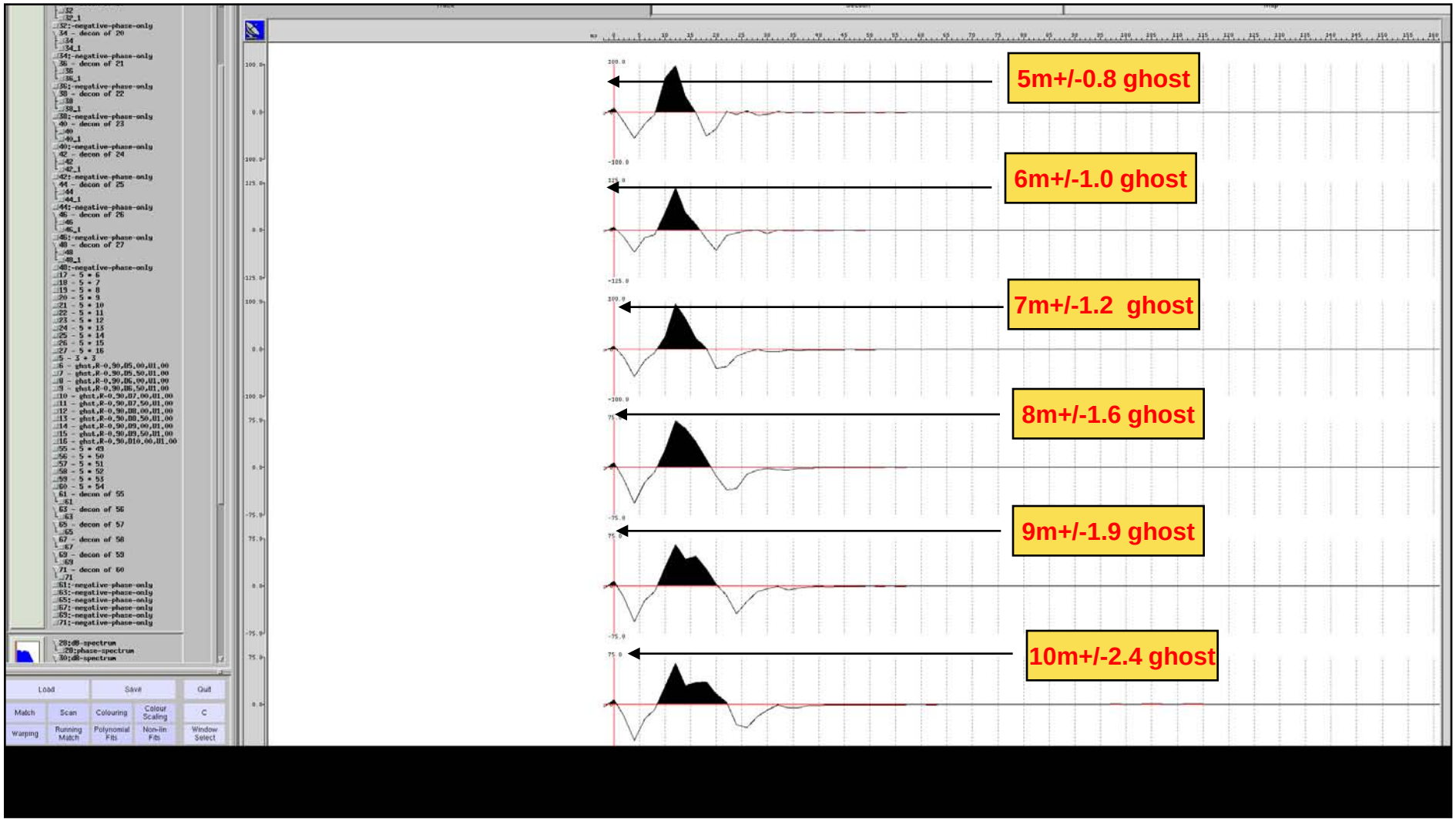
FLOW : Source wavelet convolved with Cable Ghost



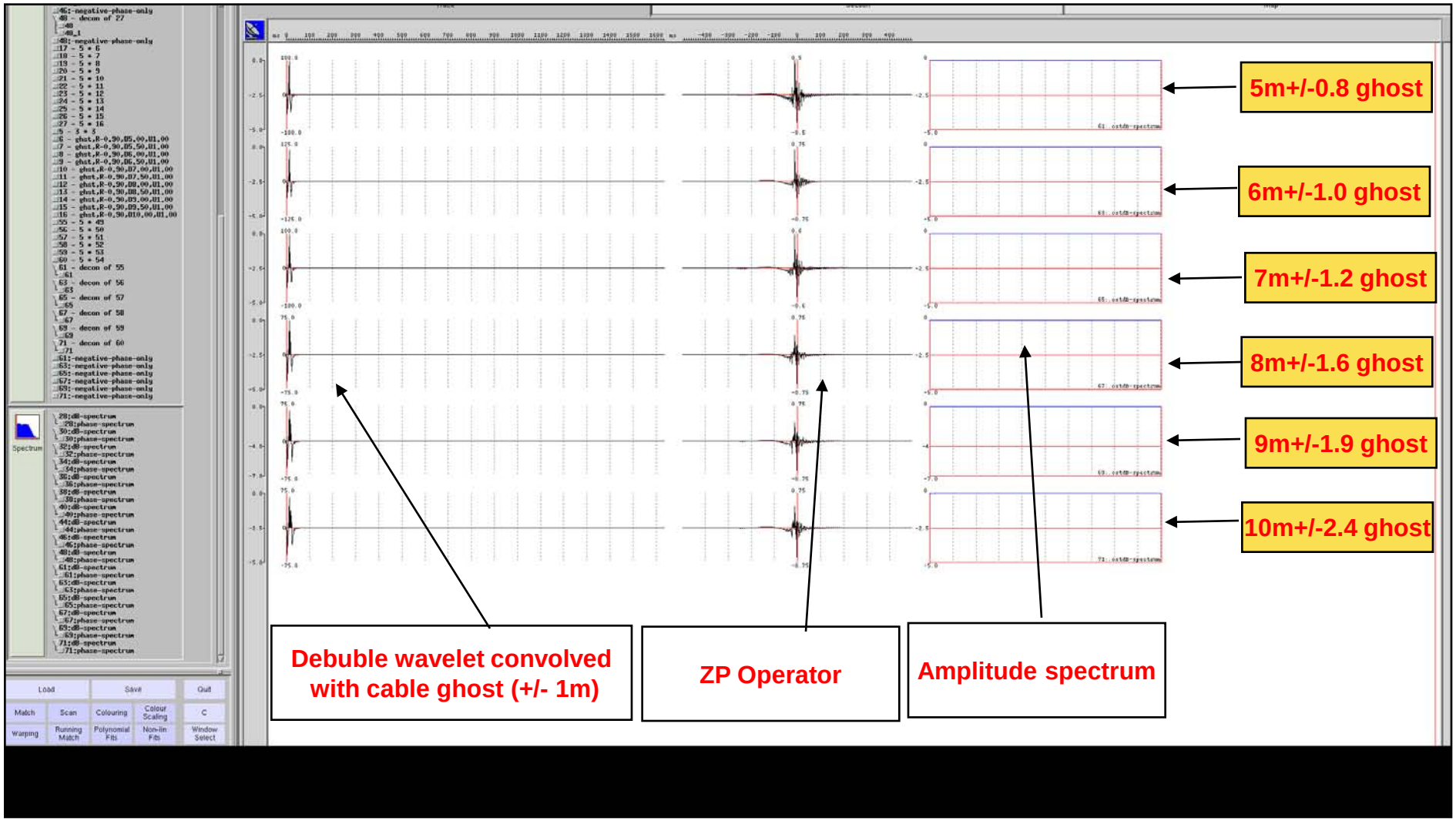
FLOW : Source wavelet convolved with Cable Ghost



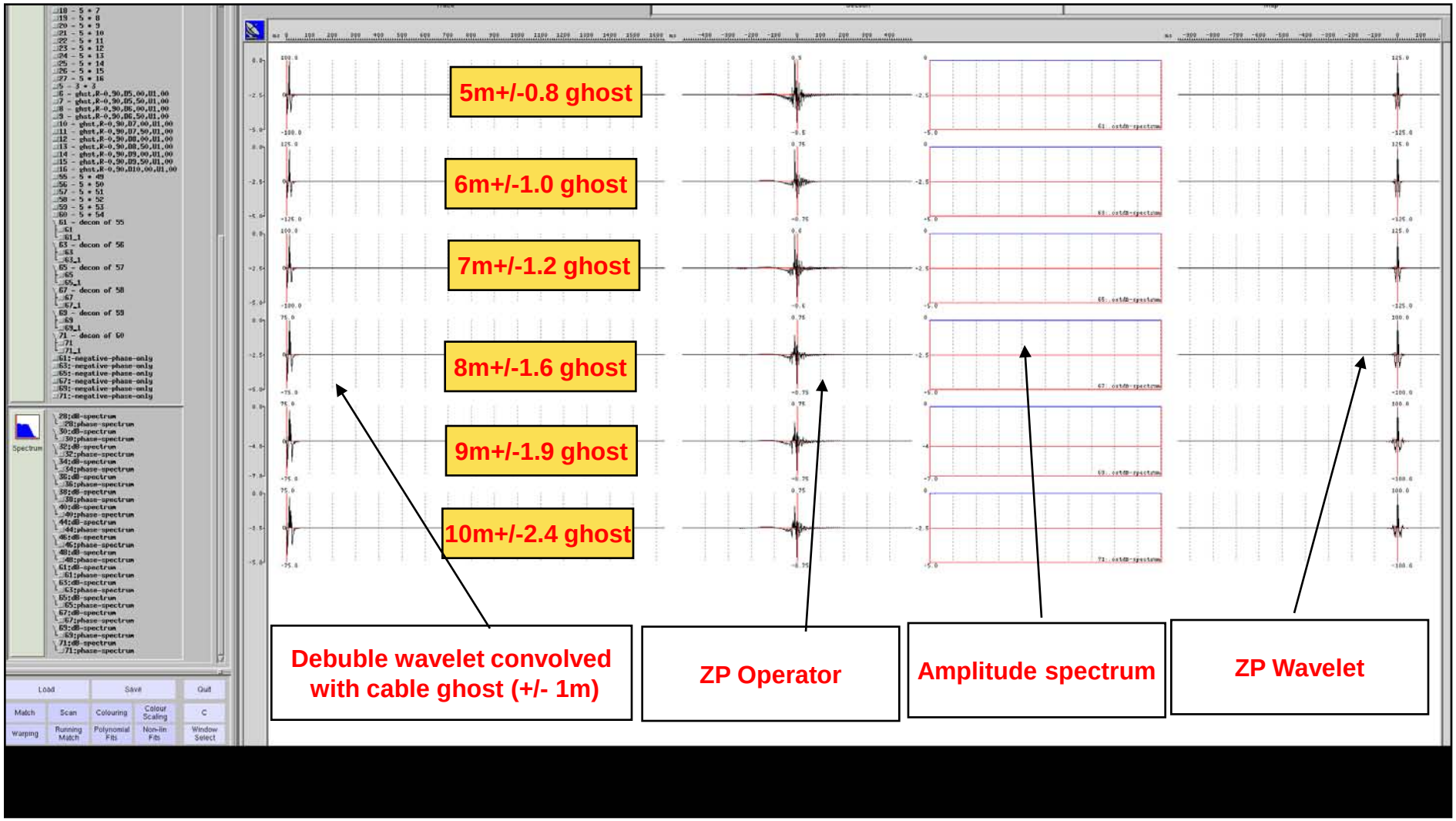
FLOW : De-bubble Wavelet convolved with cable ghost (+/- 1.0m)



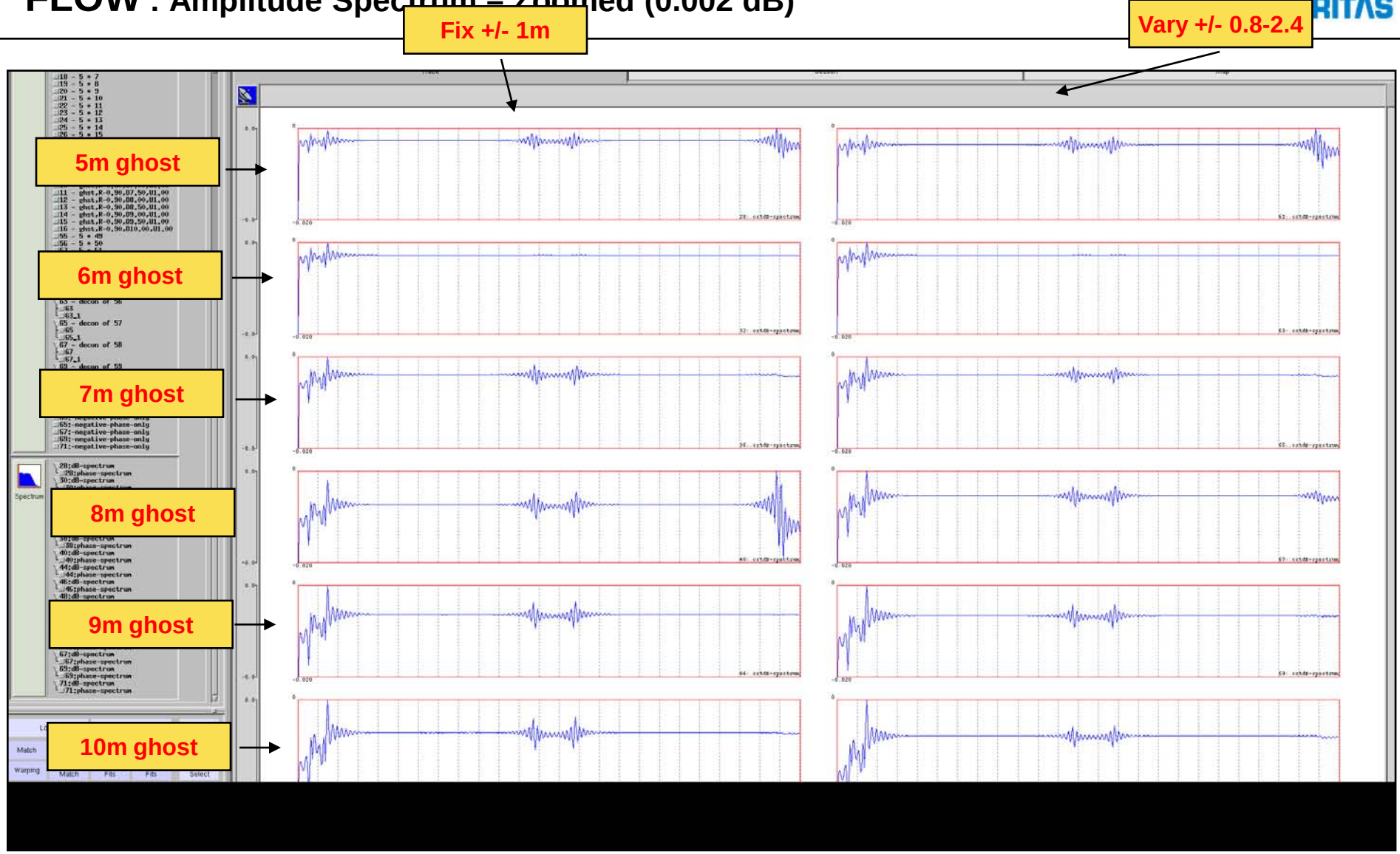
FLOW : Zero Phase Filter



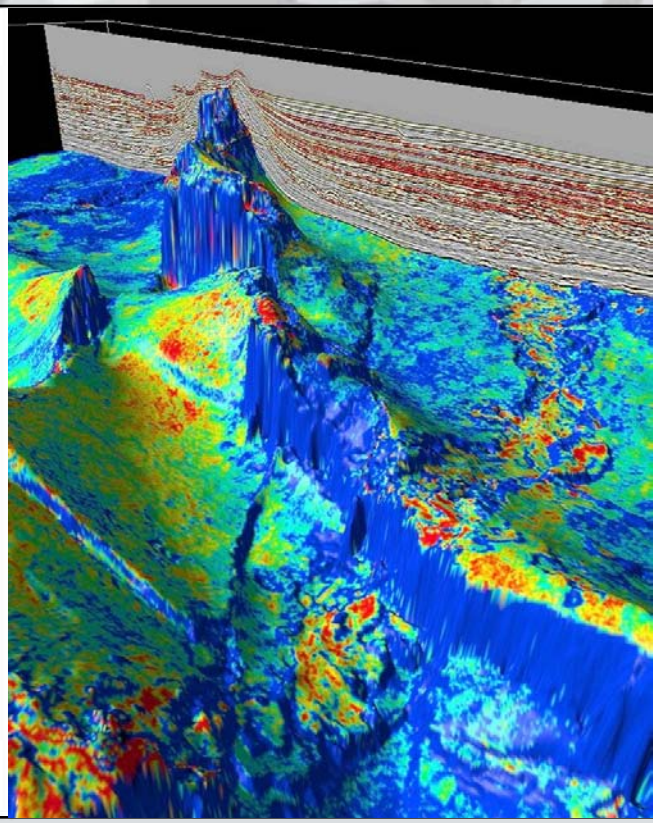
FLOW : Zero Phase



FLOW : Amplitude Spectrum – Zoomed (0.002 dB)



Technical Note 5
Zerophase Filter
Silvereye 3D



CGGVERITAS

Introduction

This test was done to see application of zero phase filter with two methods,

Fixed receiver Ghost (7m) and variable receiver Ghost (7-9m).

- ***Without ZP***
- ***7m Receiver Ghost ZP***
- ***Vary (7-9m) Receiver Ghost ZP***

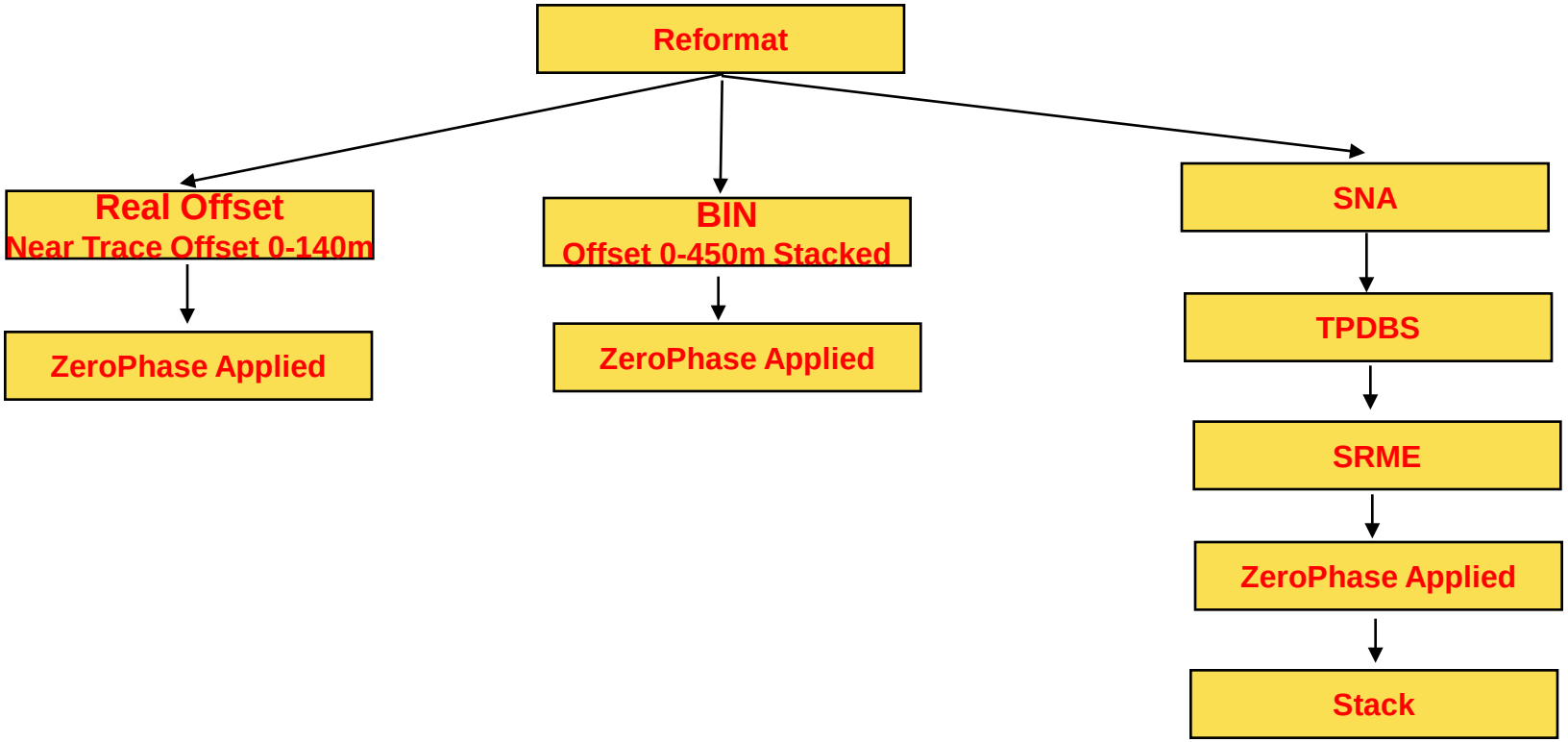
The comparison was done in three dataset:

1. **Crossline stack after SRME**
2. **Crossline of Stacked NTC, Offset 0-450m (BIN)**
3. **Crossline of Real Offset NTC, Offset 0-140m**

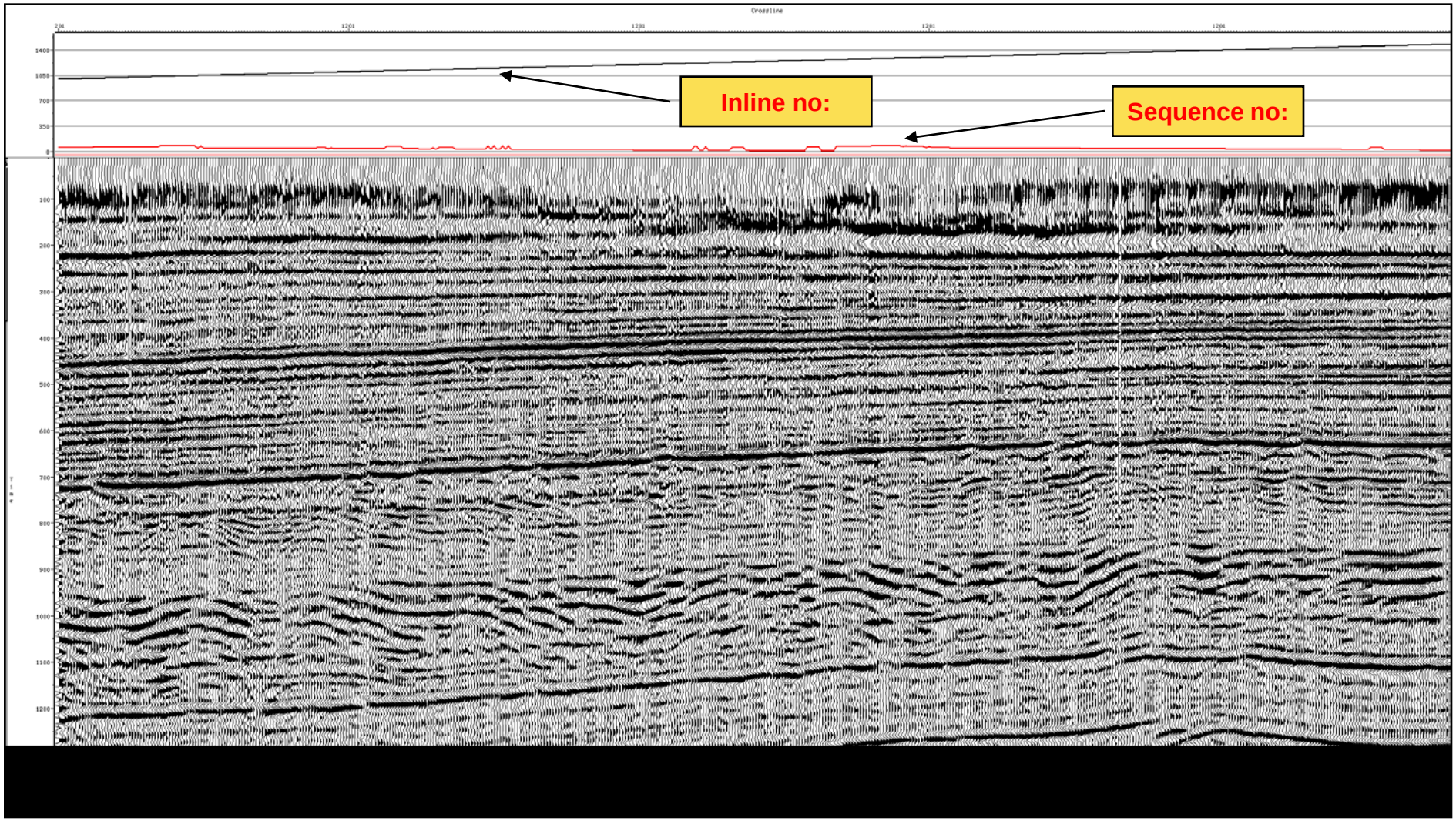
Profile ID SEQ039

Zerophase

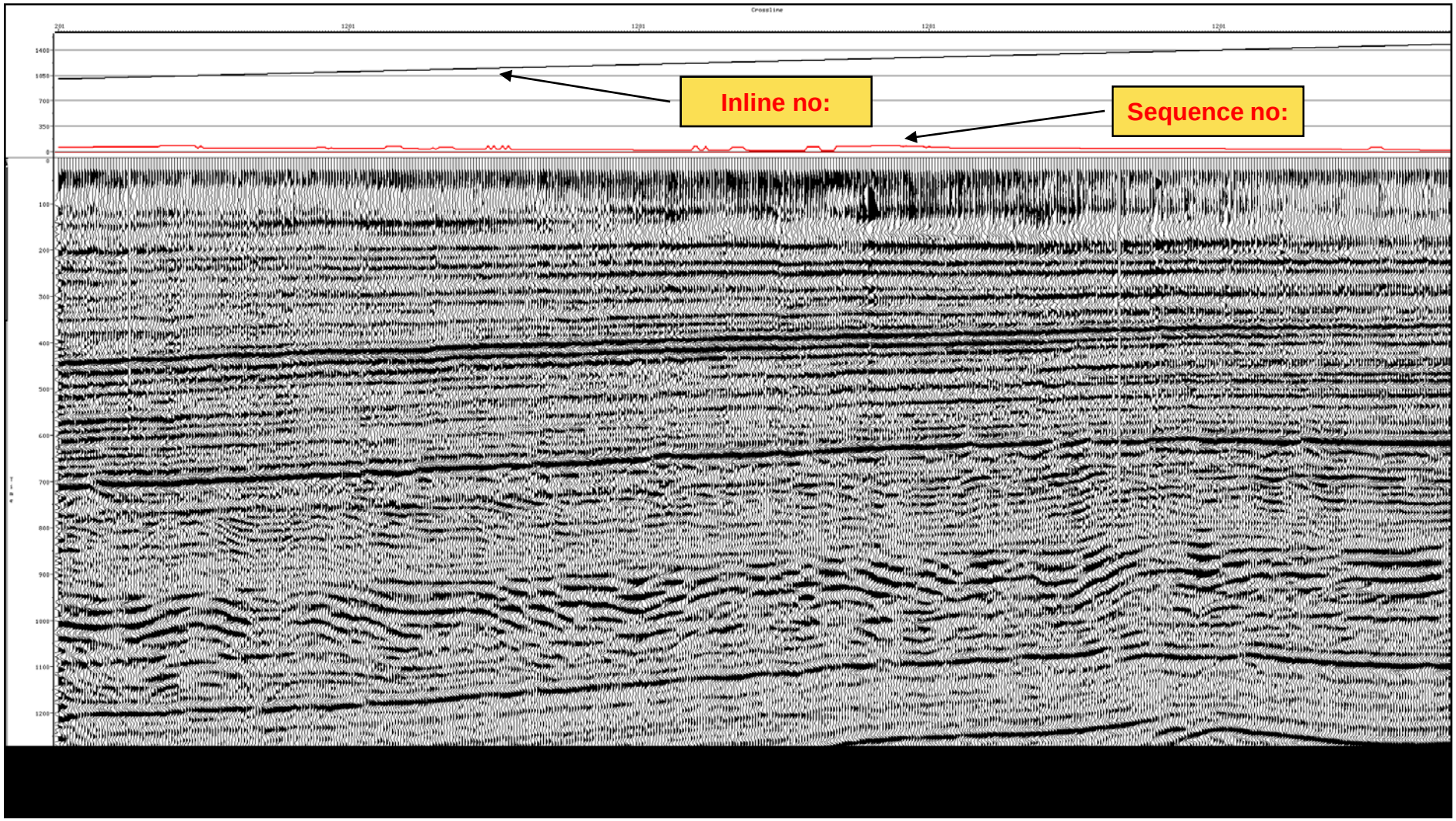
Proc Flow : ZeroPhase



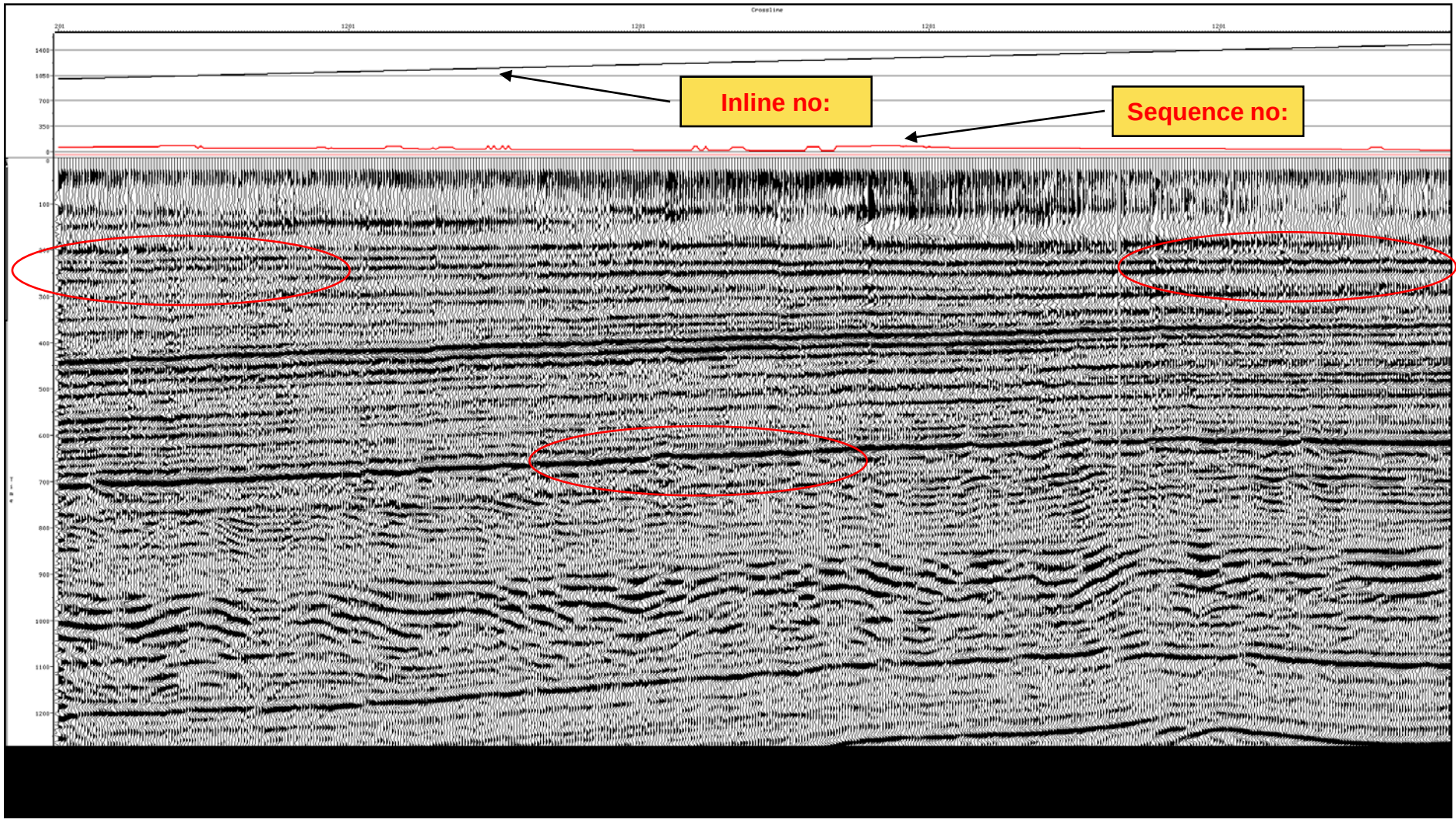
XL1201-STACK : No ZP



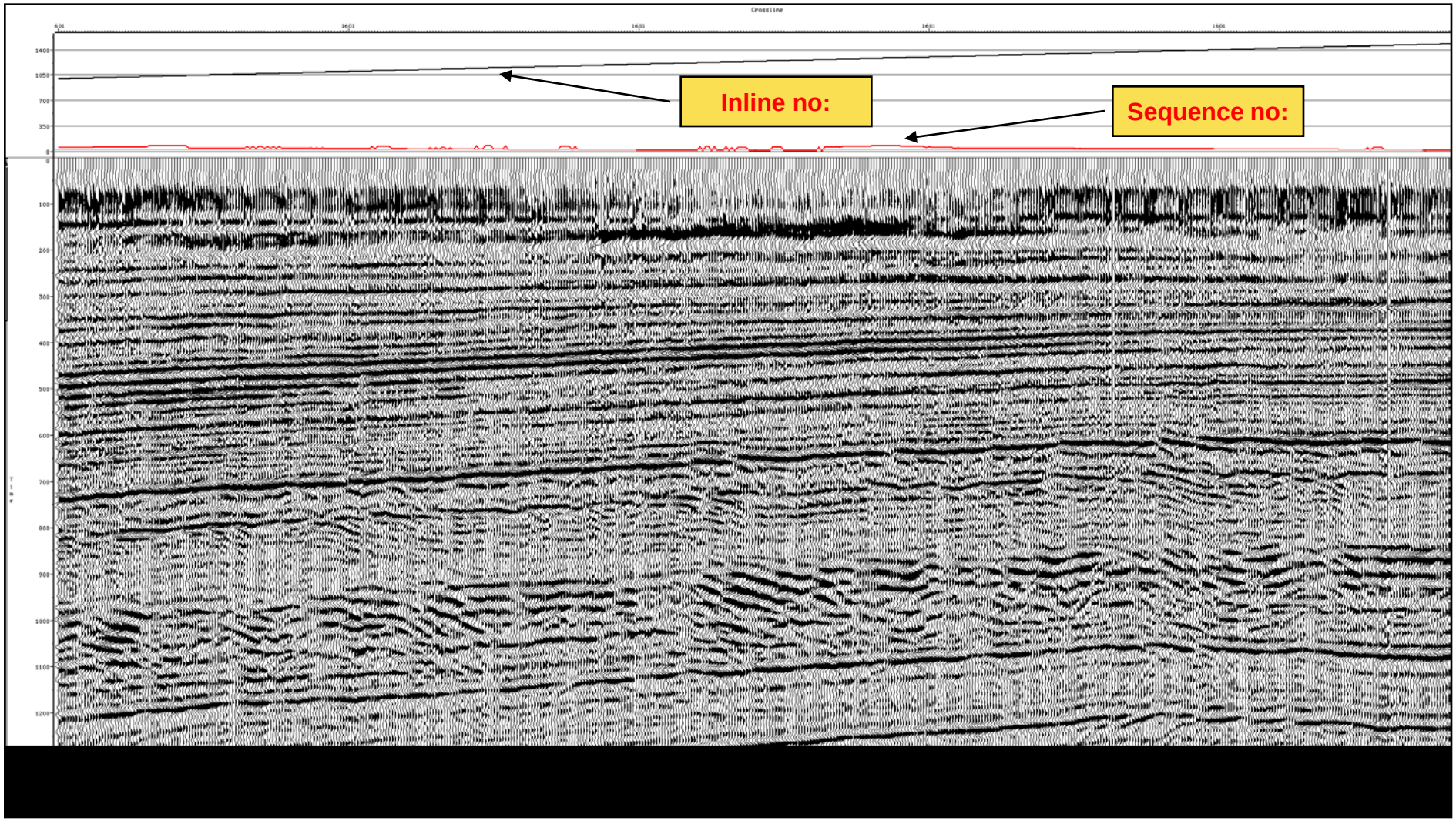
XL1201-STACK : 7M REC GHOST ZP



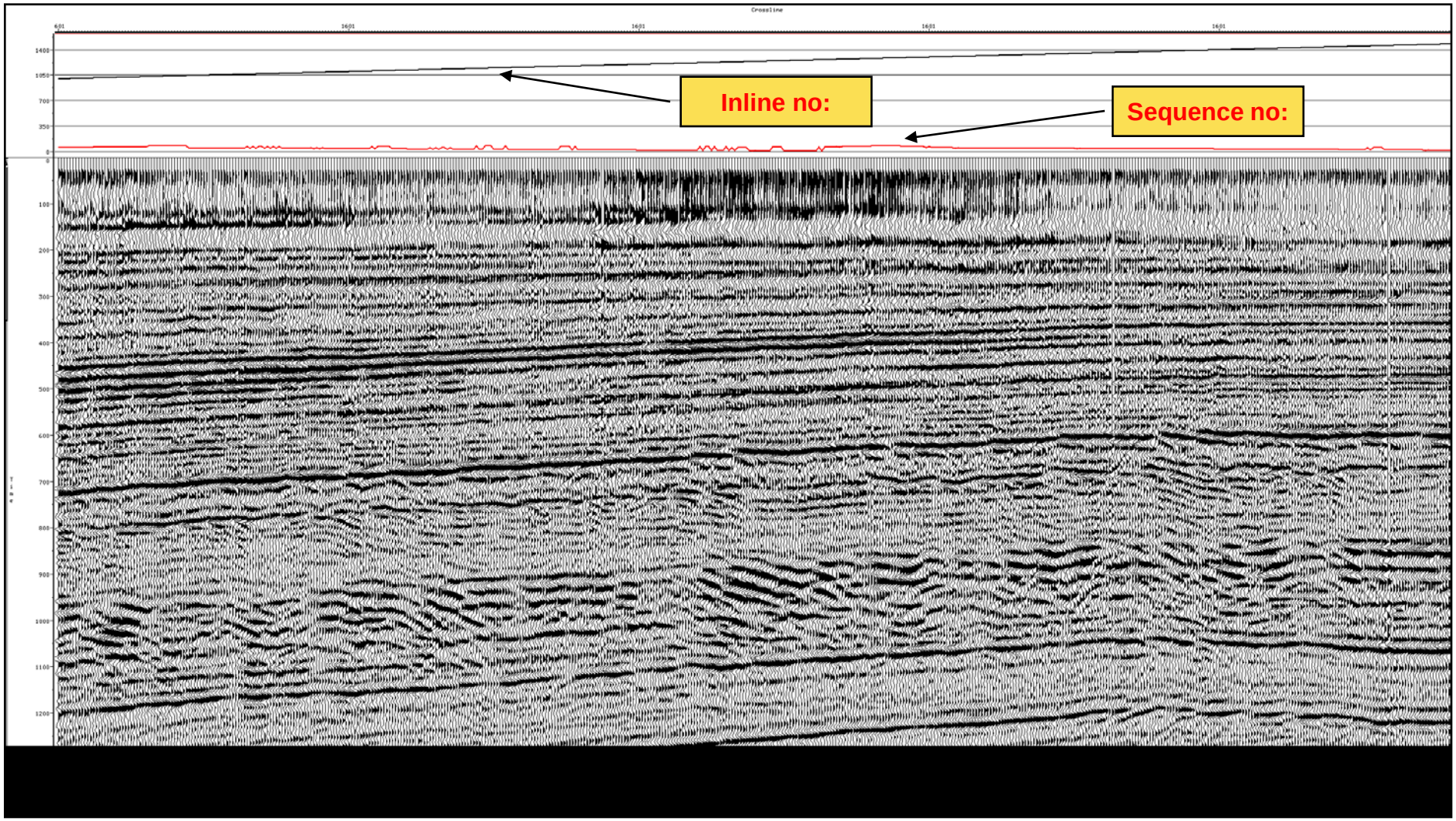
XL1201-STACK : VARY (7-9M) REC GHOST ZP



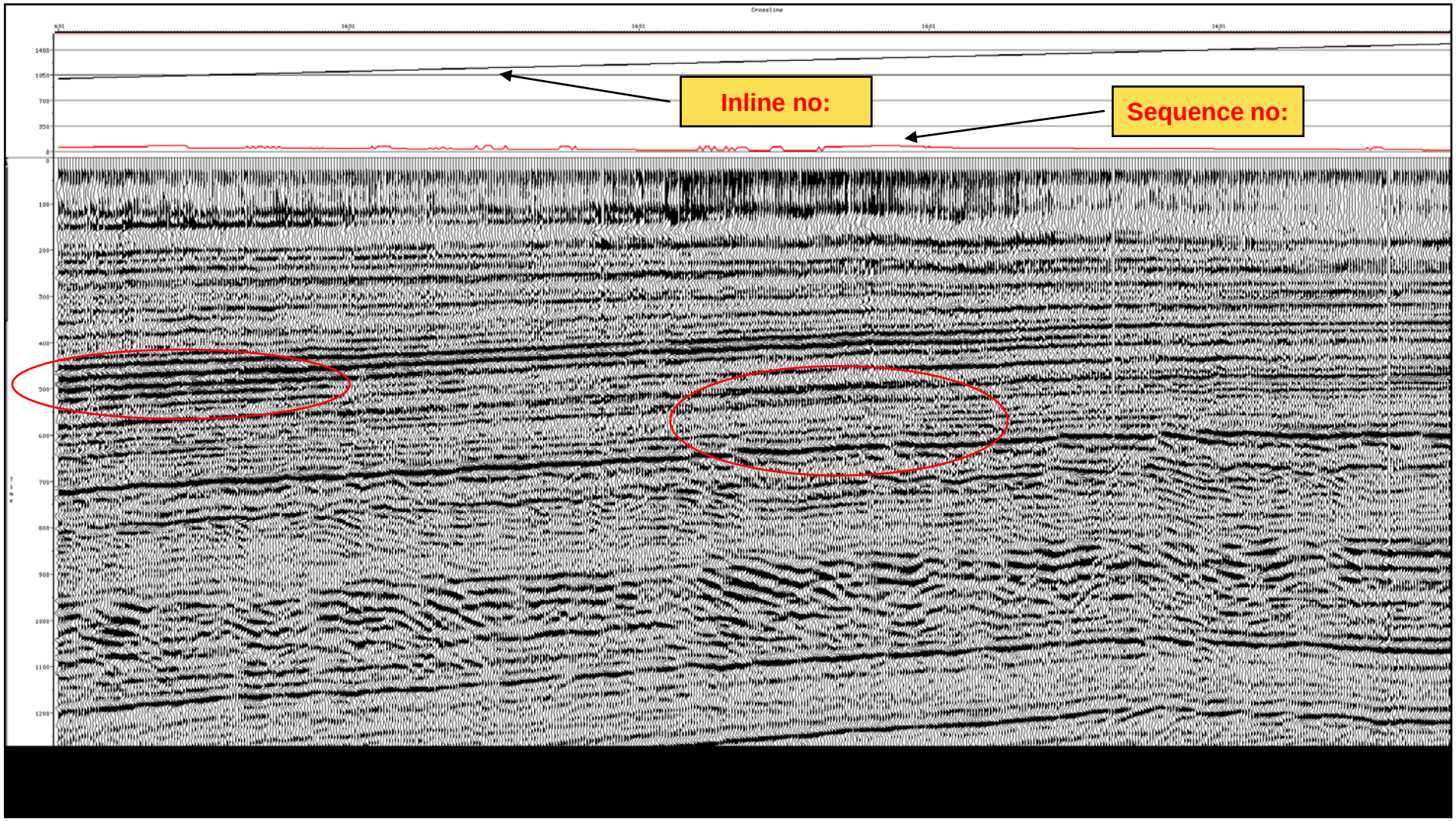
XL1601-STACK : No ZP



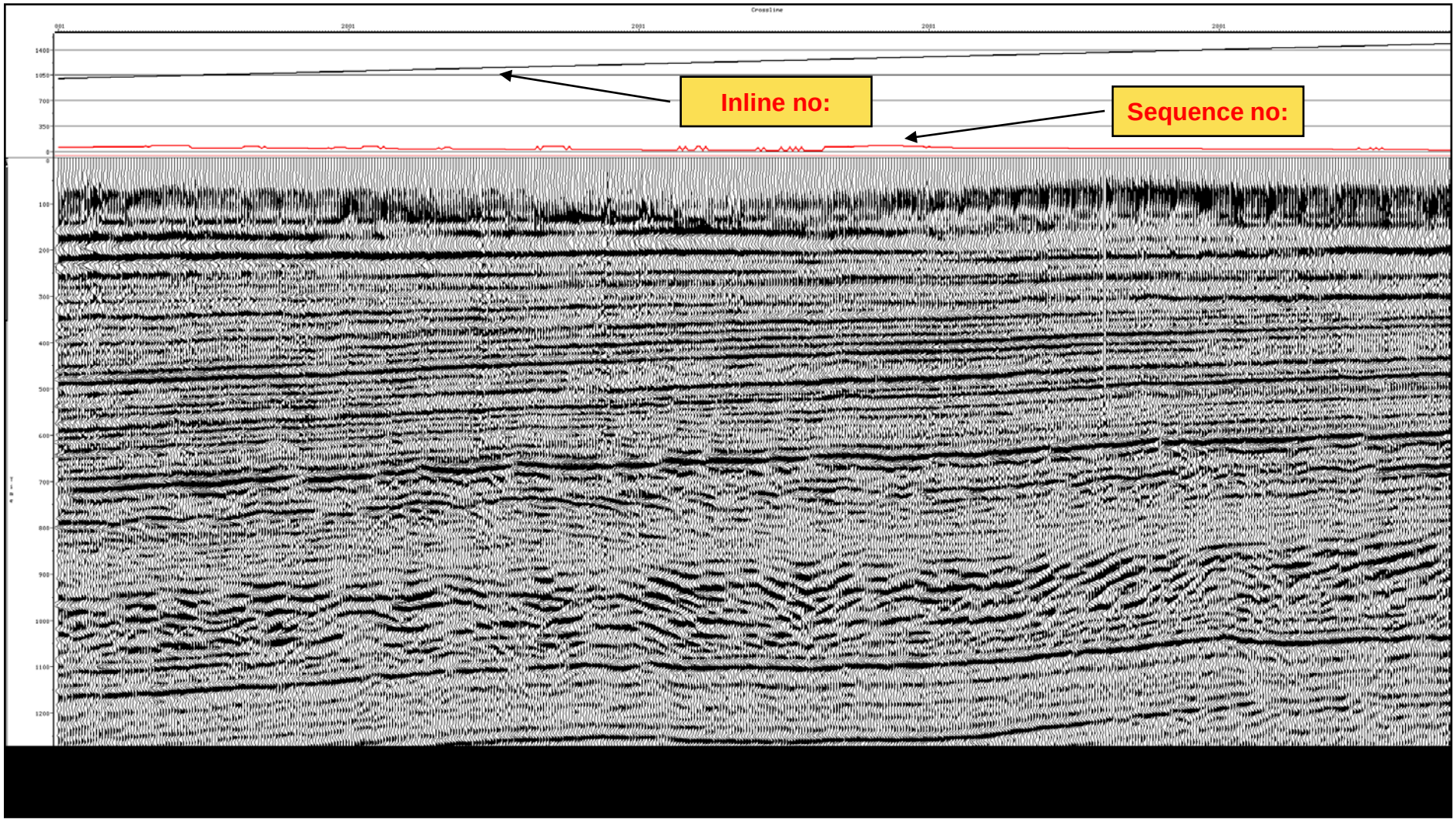
XL1601-STACK : 7M REC GHOST ZP



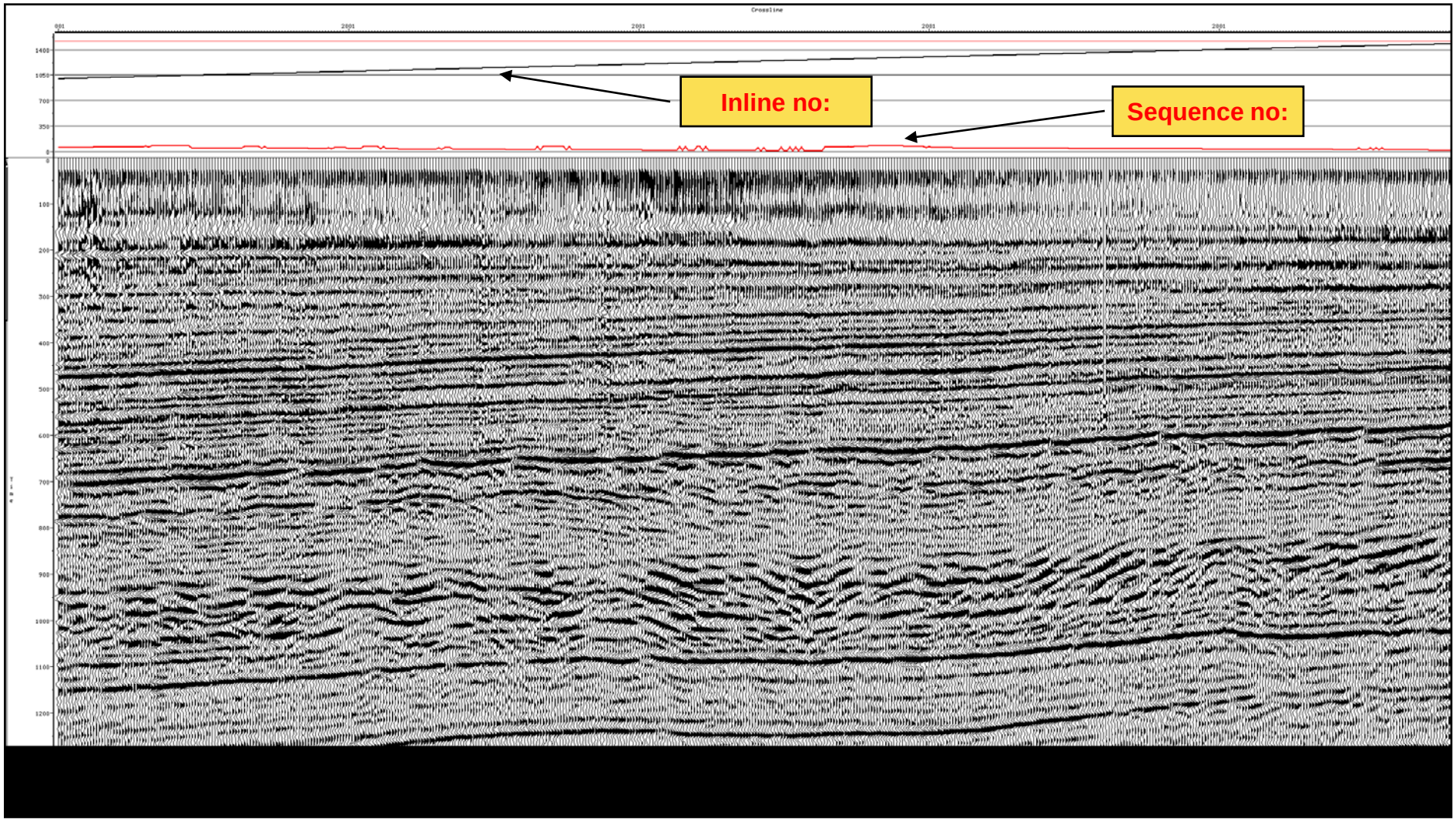
XL1601-STACK : VARY (7-9M) REC GHOST ZP



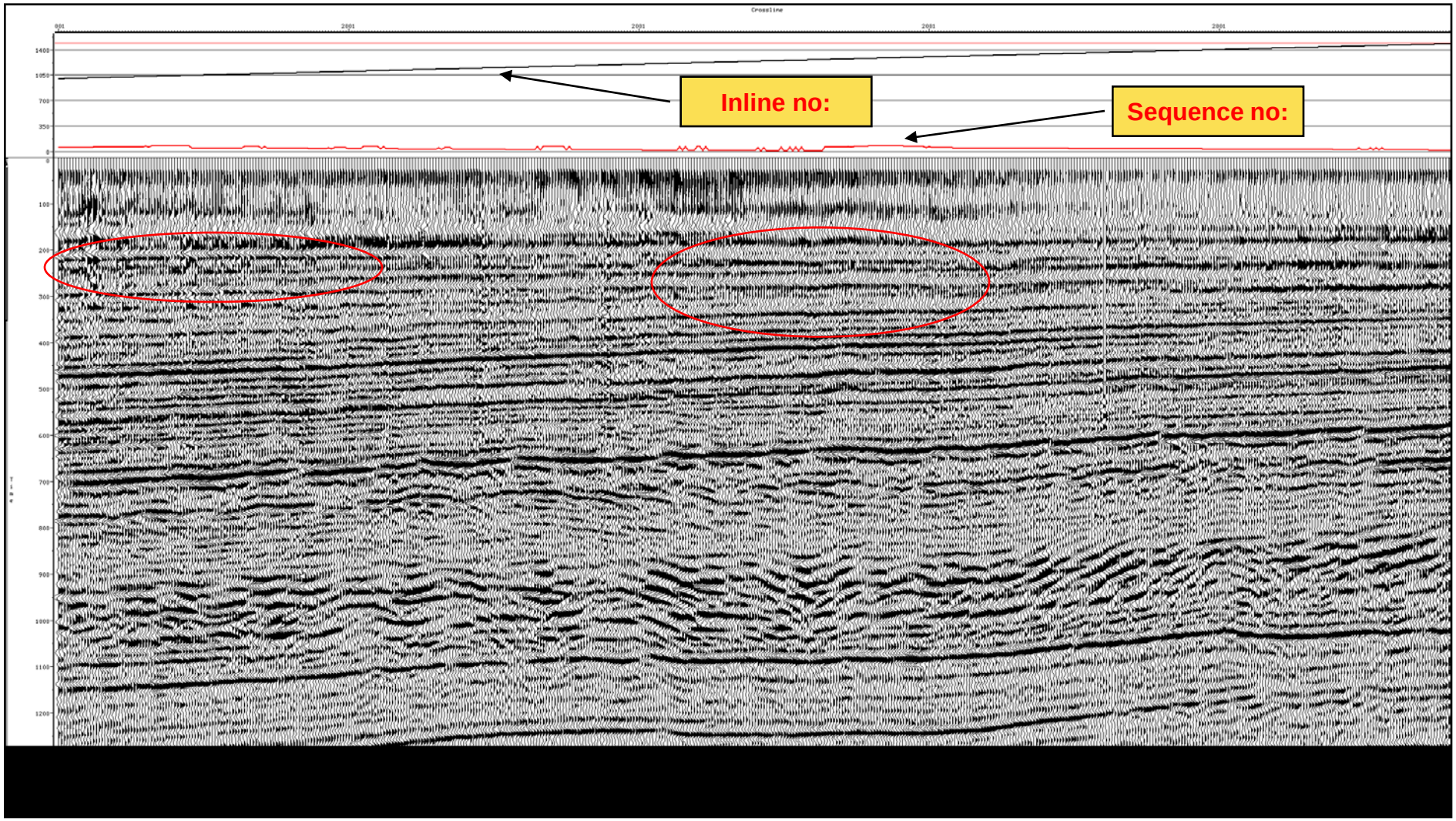
XL2001-STACK : No ZP



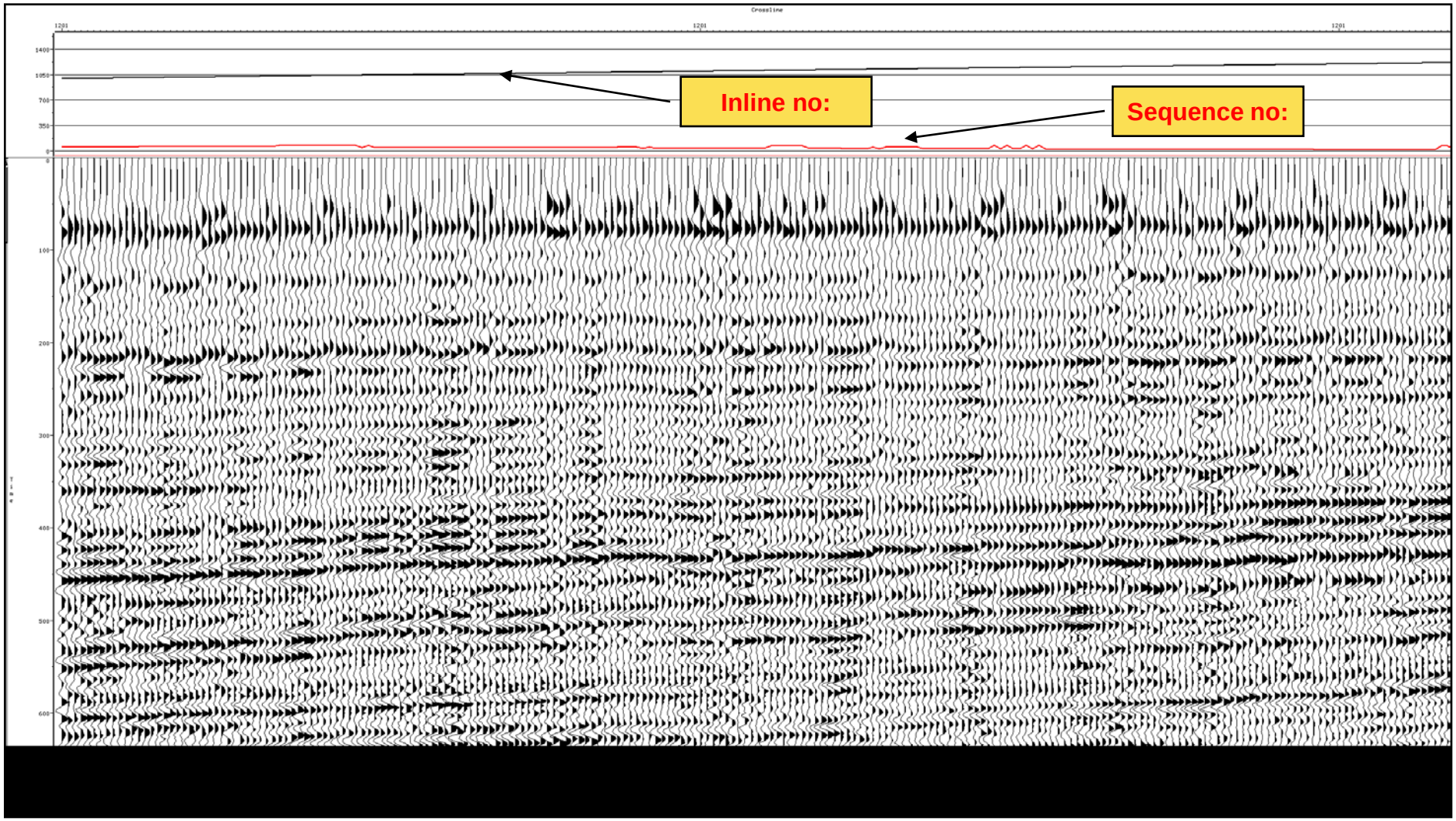
XL2001-STACK : 7M REC GHOST ZP



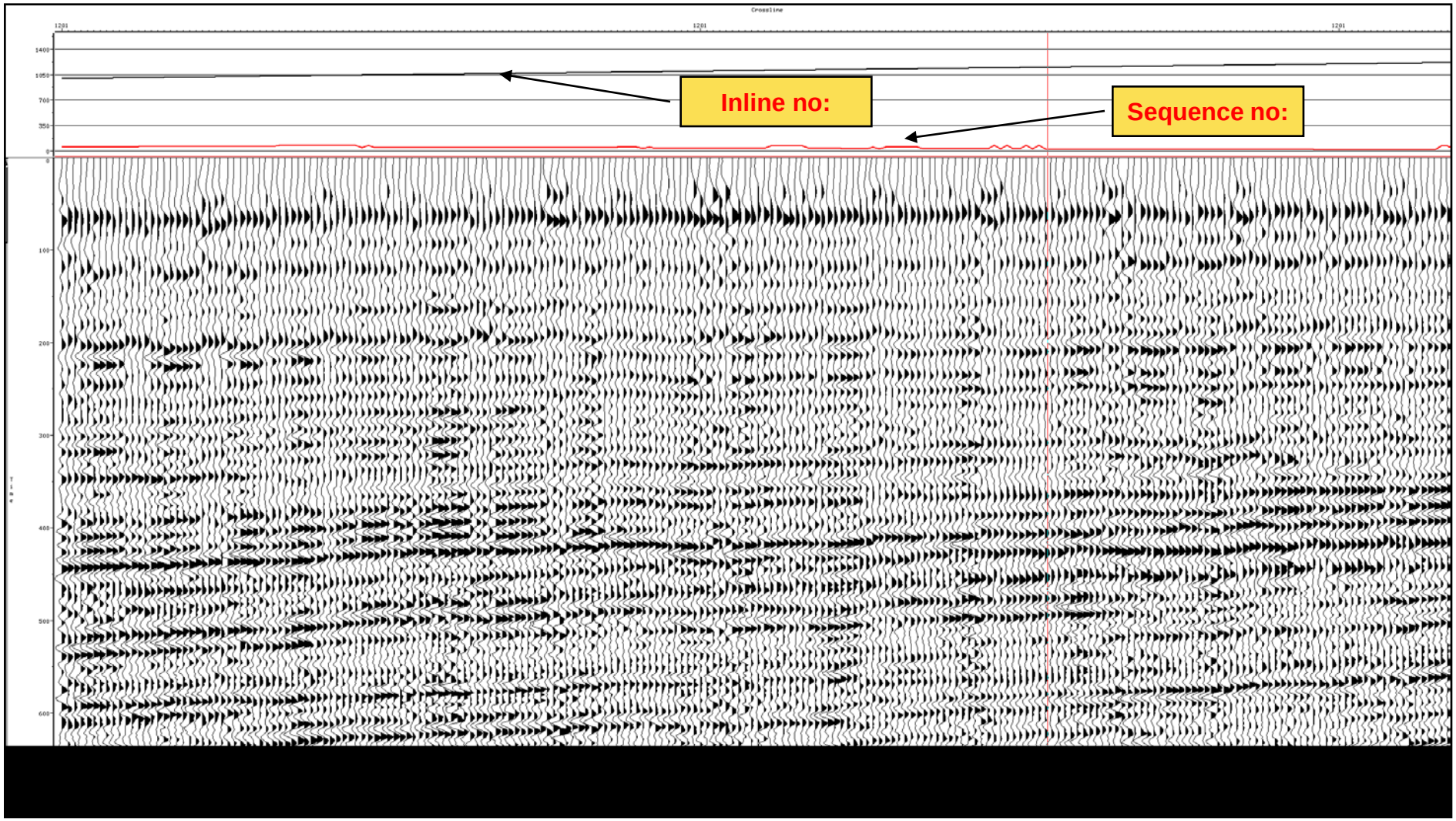
XL2001-STACK : VARY (7-9M) REC GHOST ZP



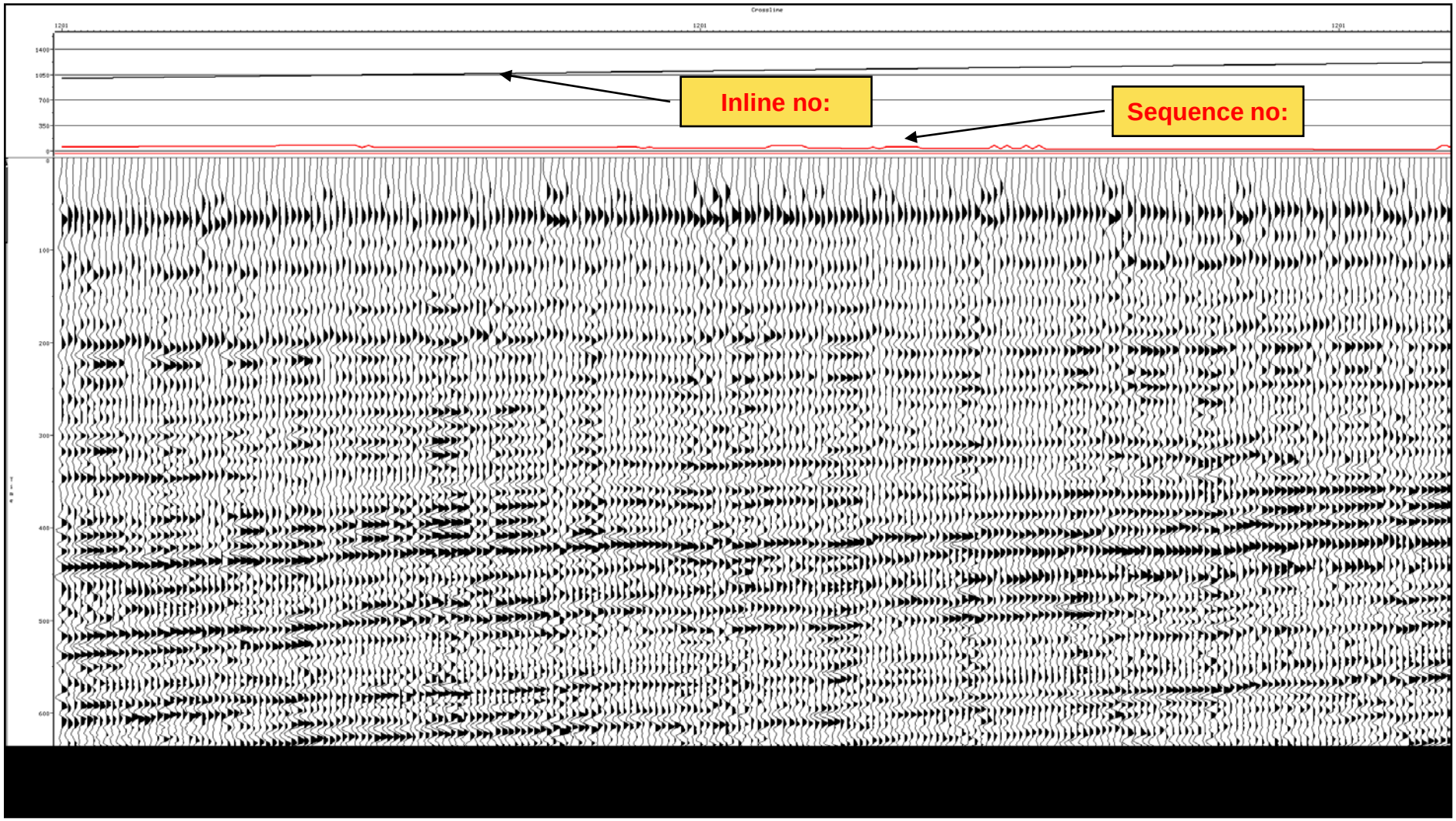
XL1201-NTC (BIN) : No ZP



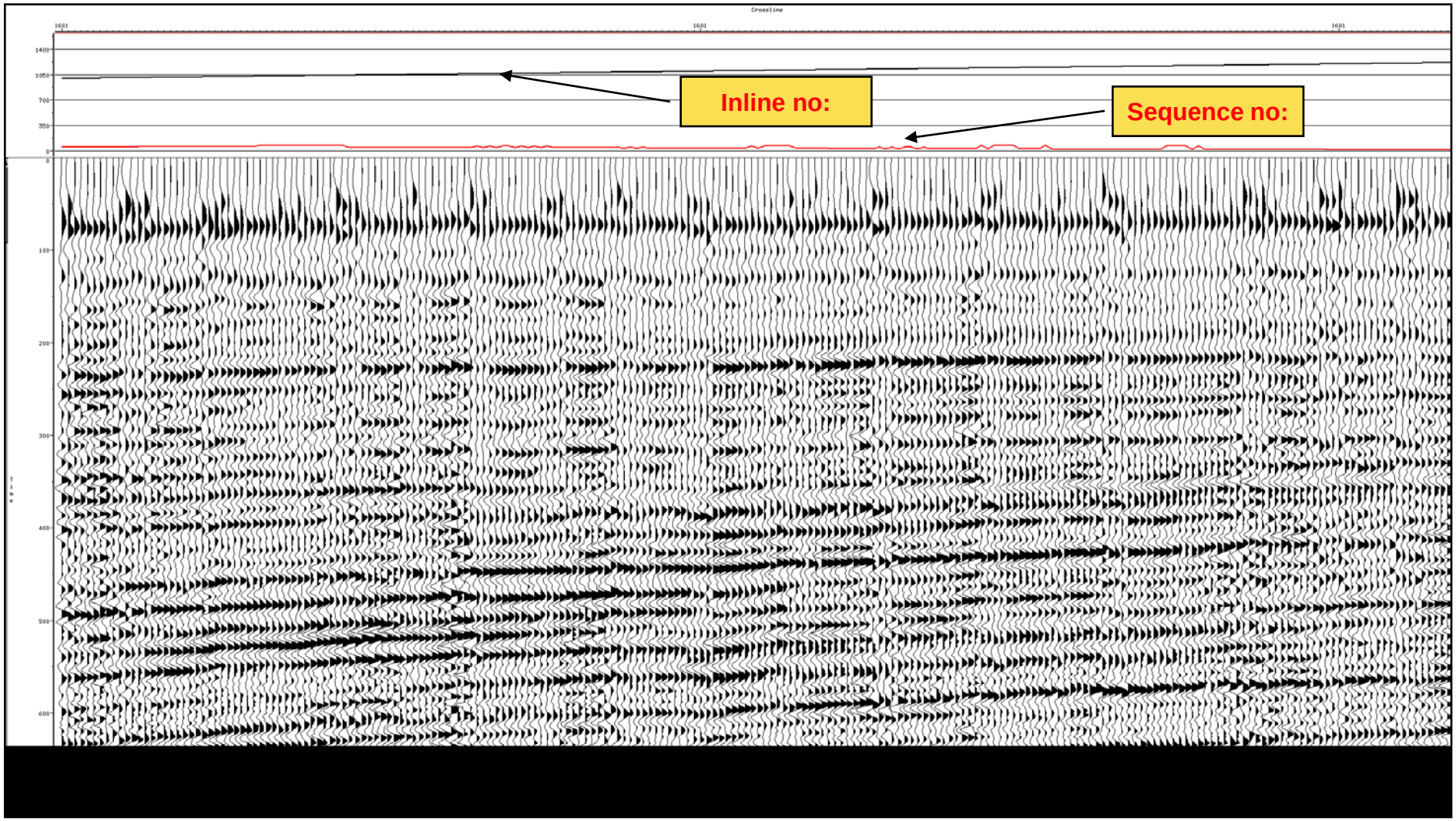
XL1201-NTC (BIN) : 7M REC GHOST ZP



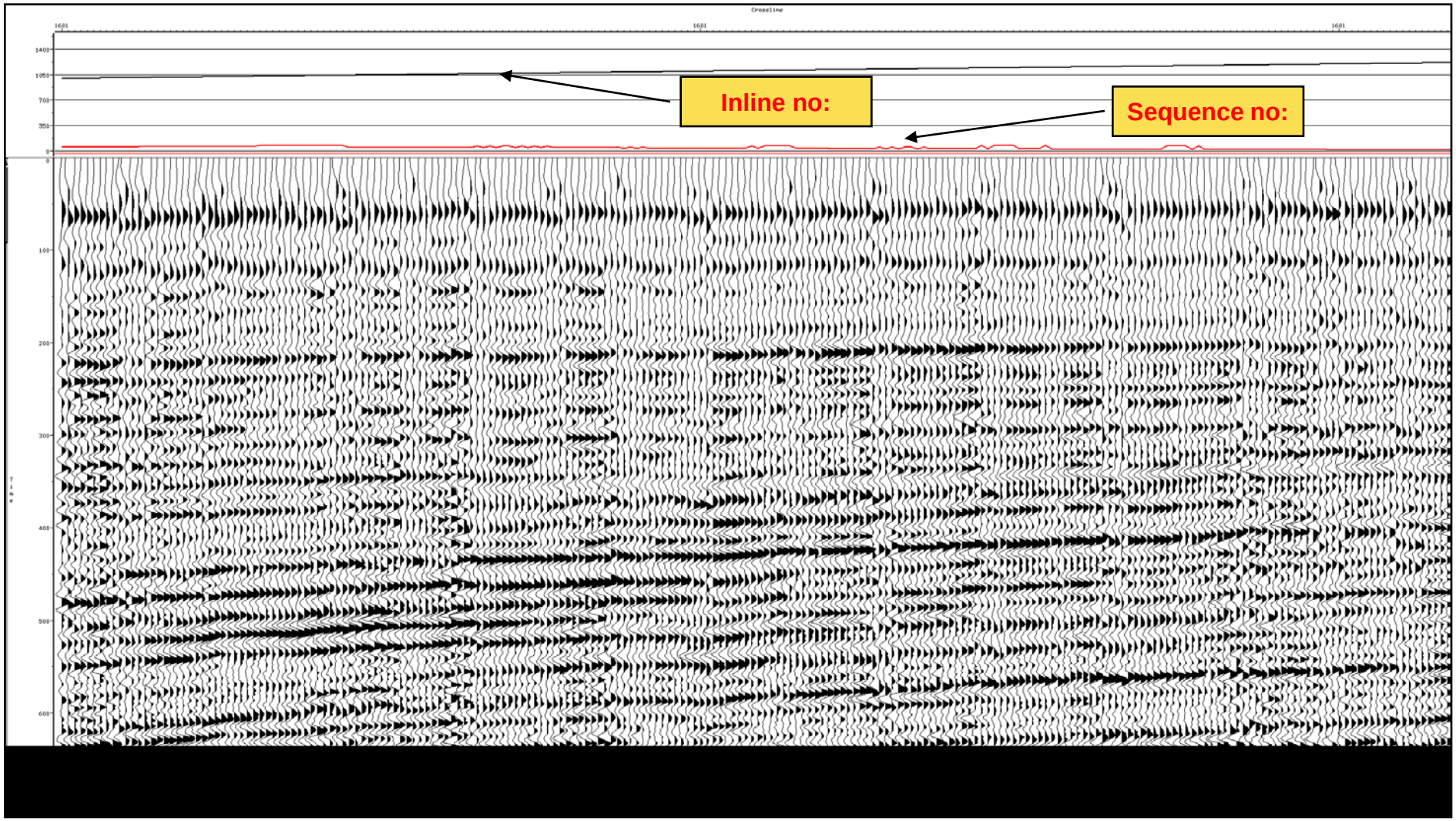
XL1201-NTC (BIN) : VARY (7-9M) REC GHOST ZP



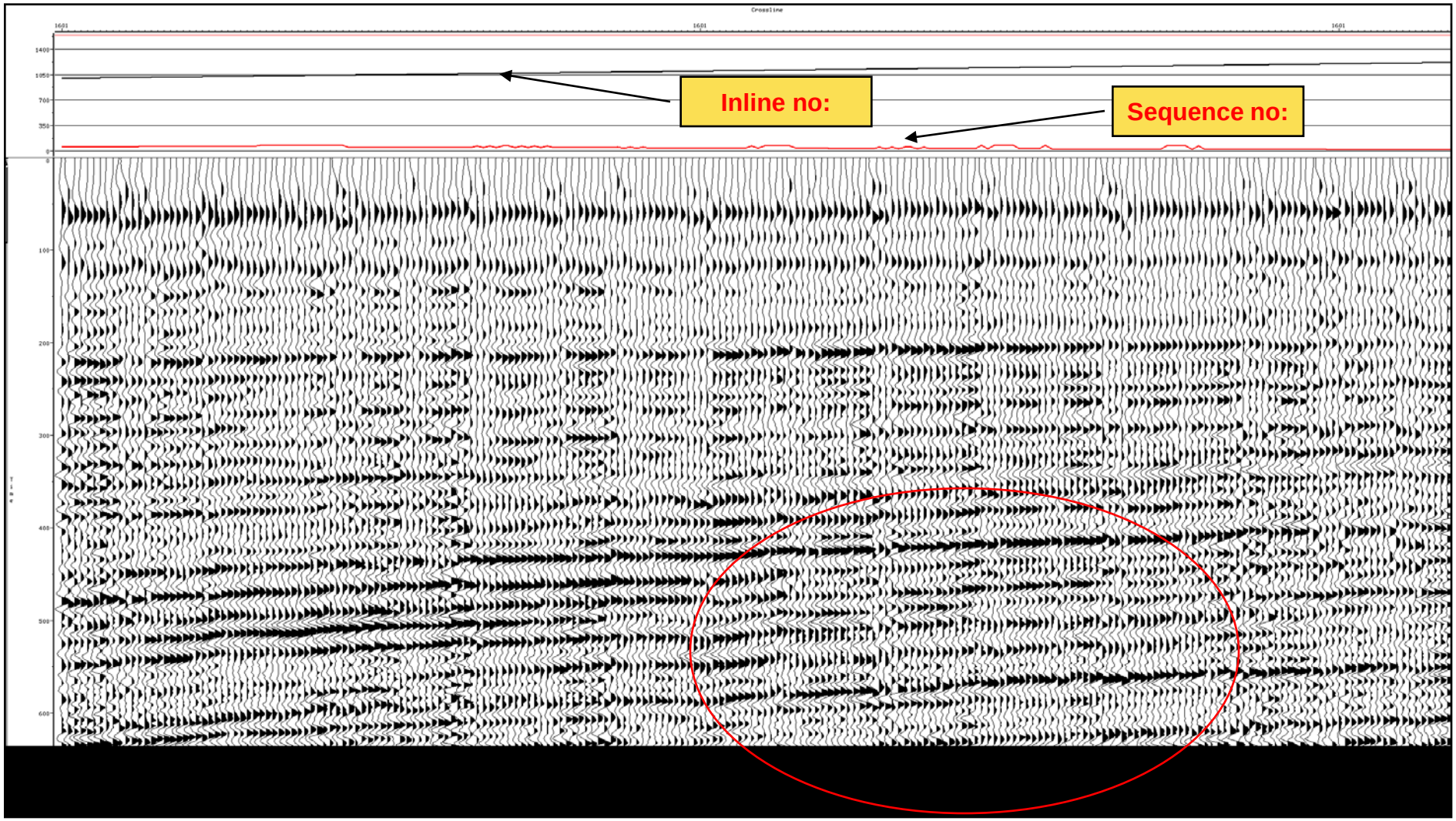
XL1601-NTC (BIN) : No ZP



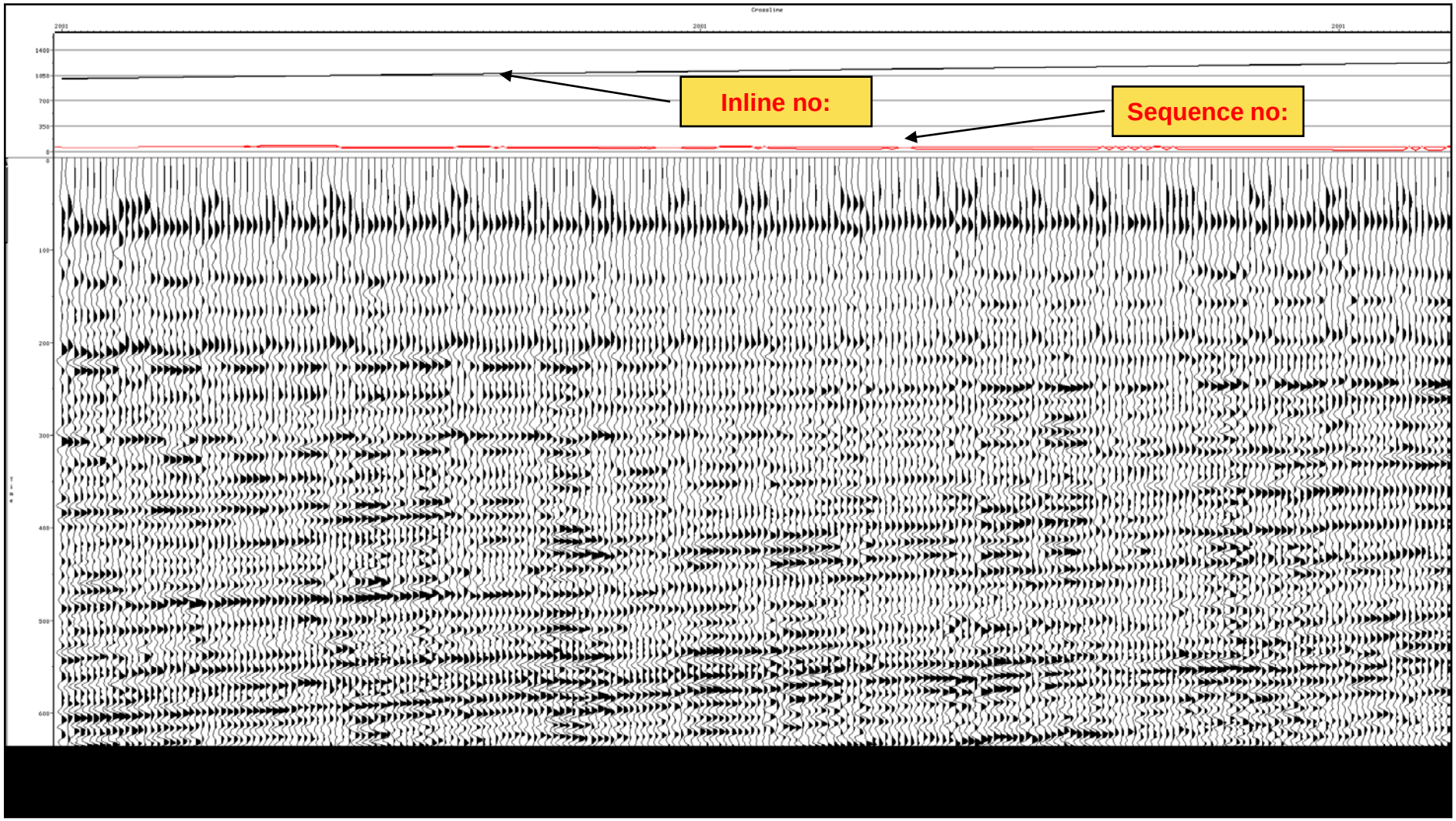
XL1601-NTC (BIN) : 7M REC GHOST ZP



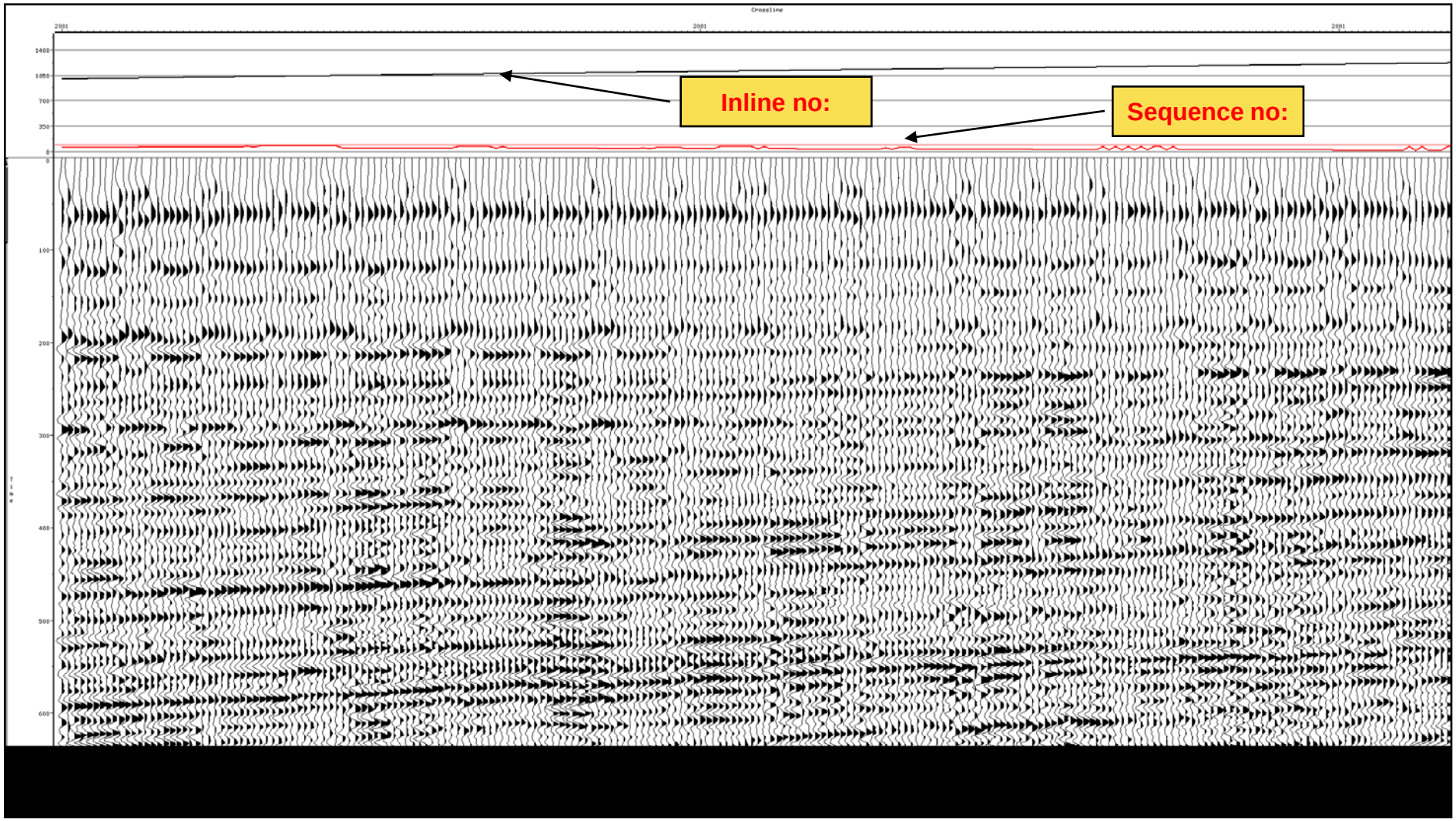
XL1601-NTC (BIN) : VARY (7-9M) REC GHOST ZP



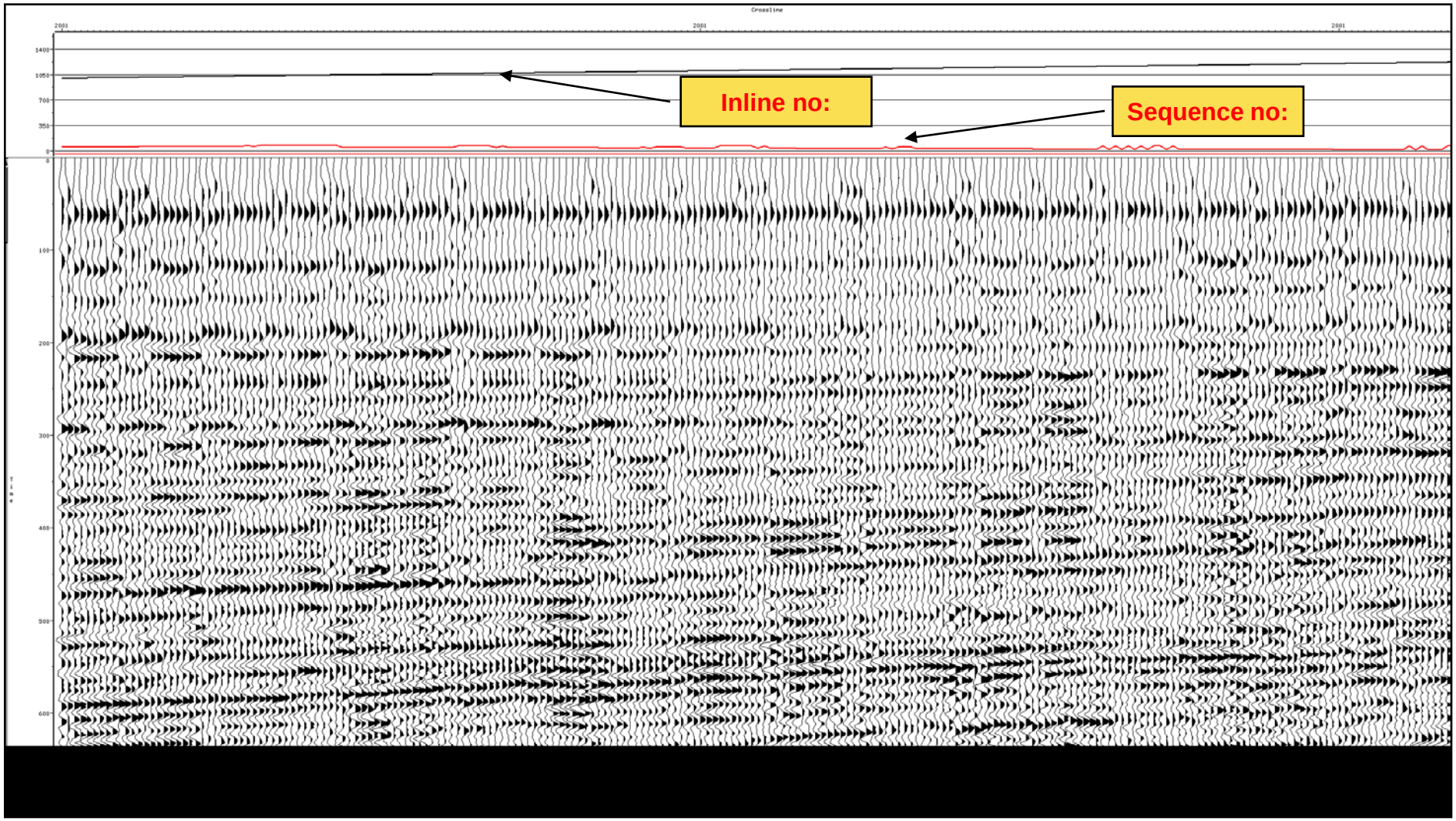
XL2001-NTC (BIN) : No ZP



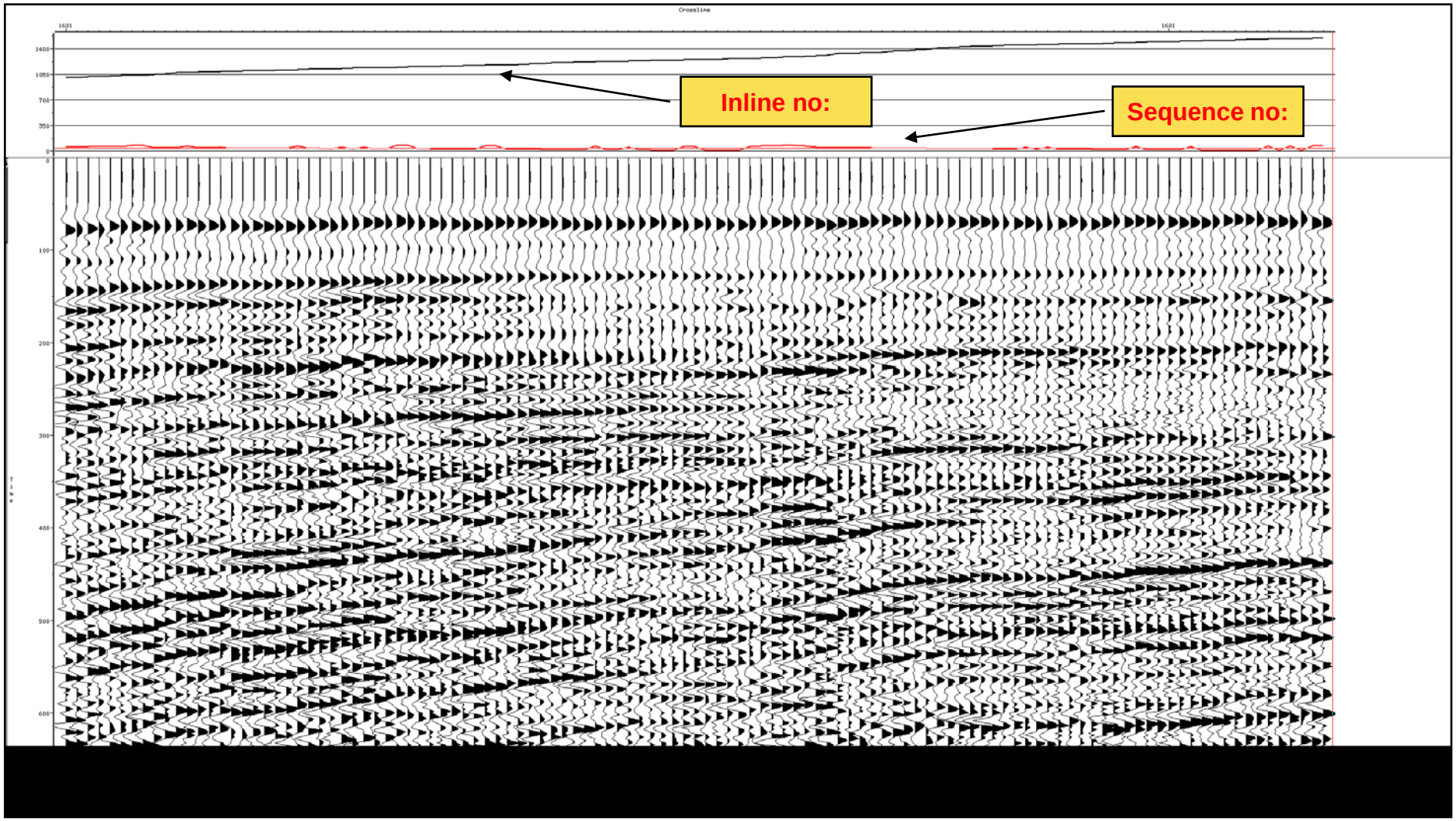
XL2001-NTC (BIN) : 7M REC GHOST ZP



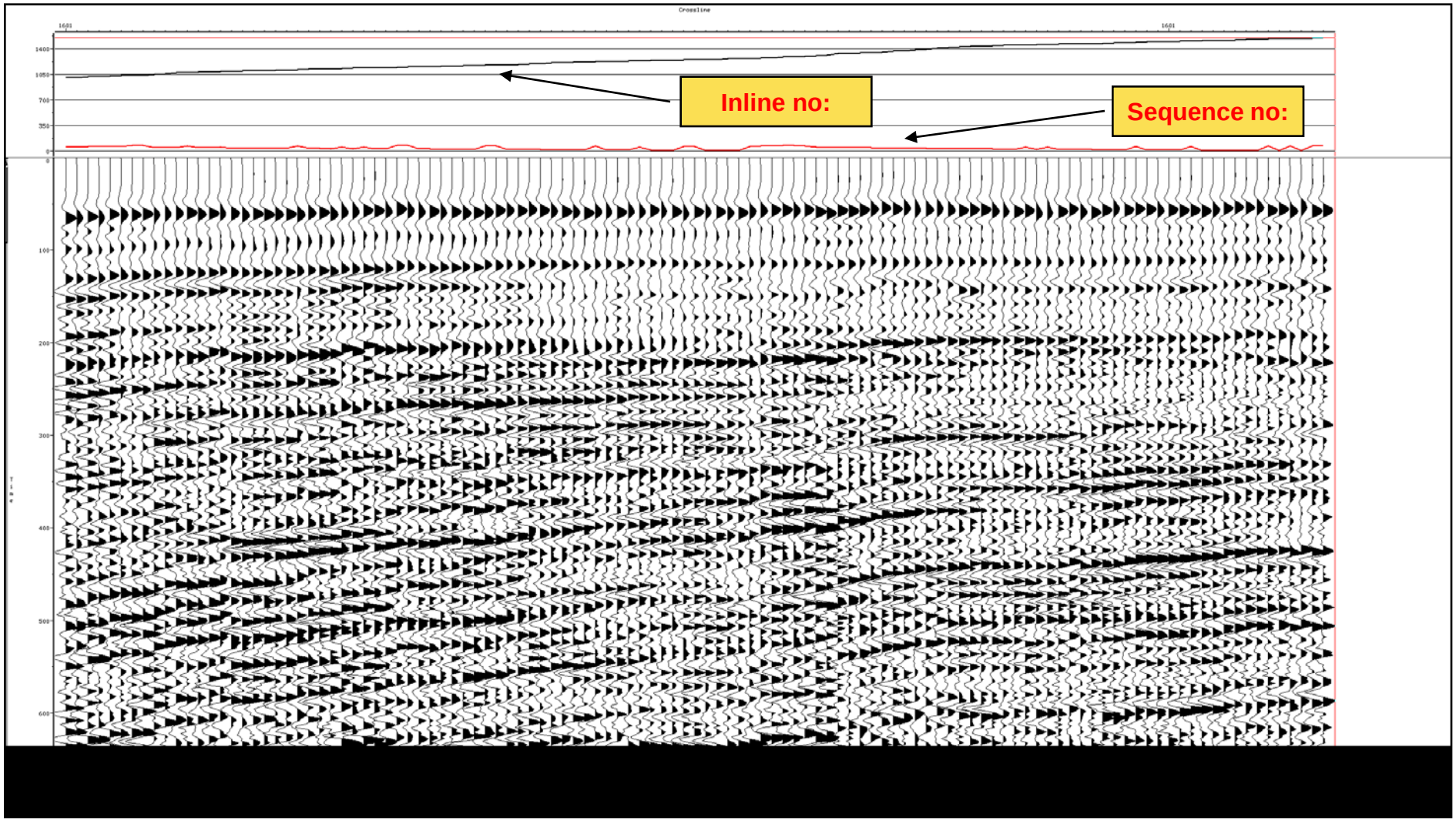
XL2001-NTC (BIN) : VARY (7-9M) REC GHOST ZP



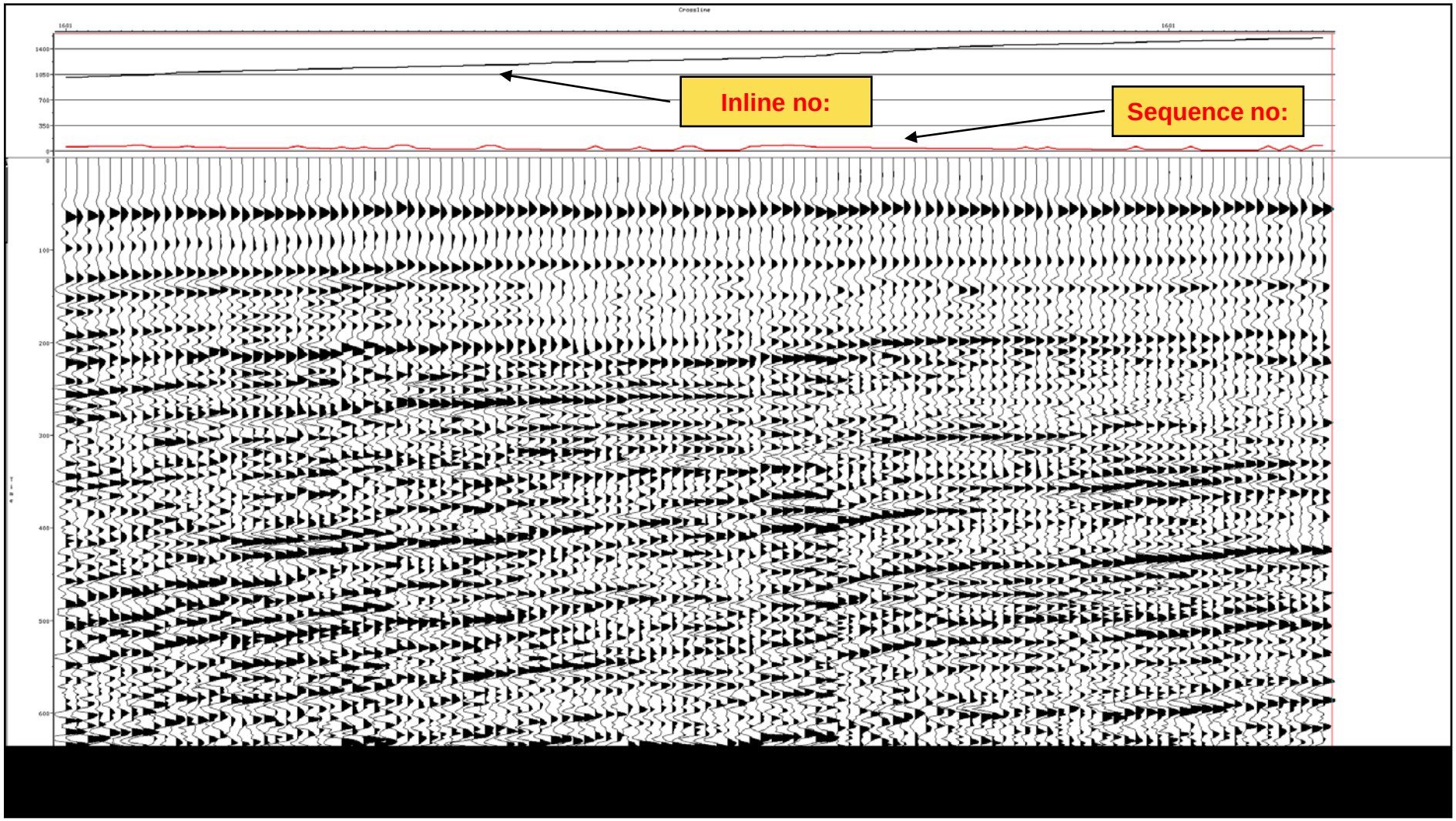
XL1601-NTC (Real Offset 0-140m) : No ZP



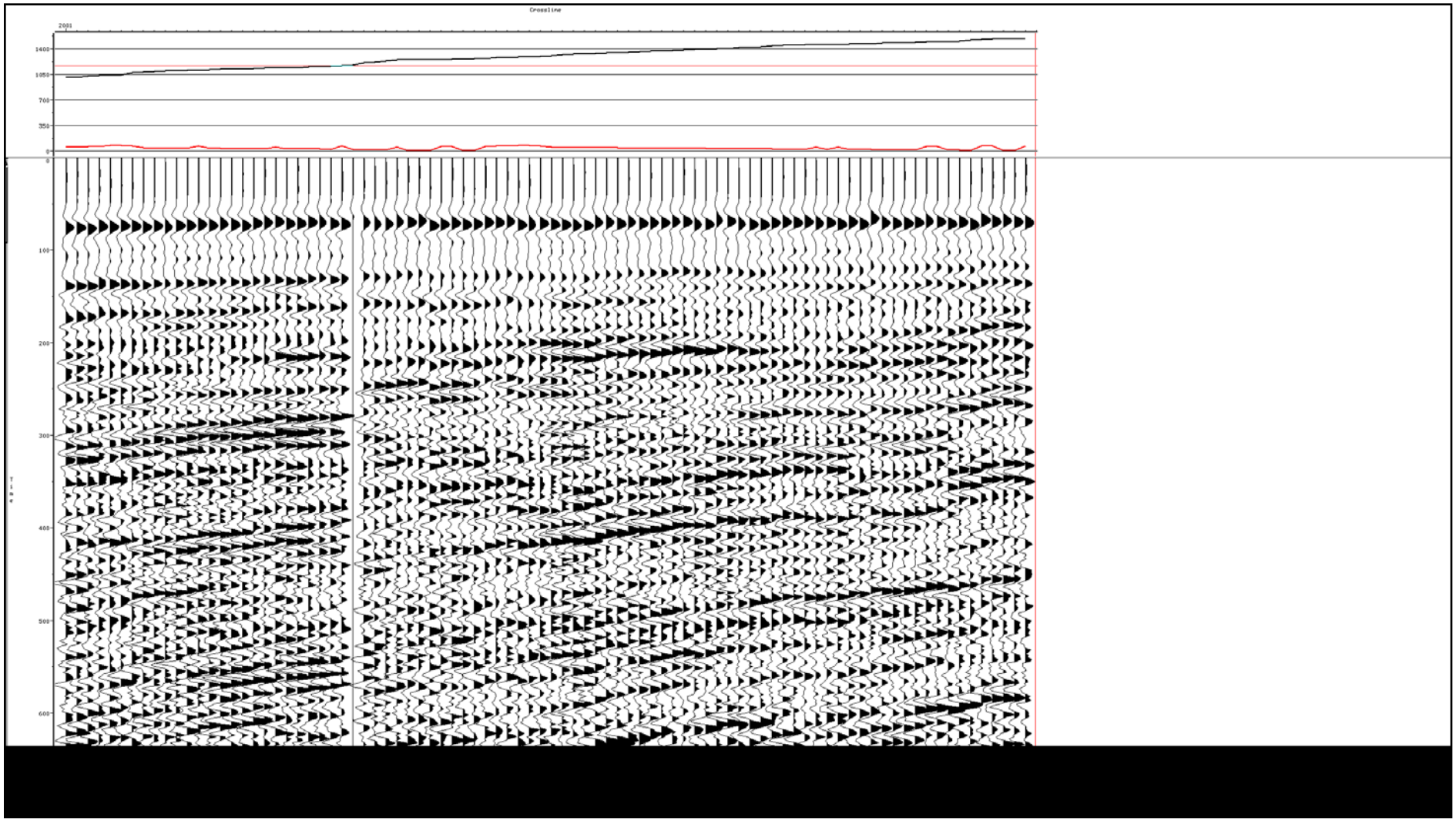
XL1601-NTC (Real Offset 0-140m) : 7M REC GHOST ZP



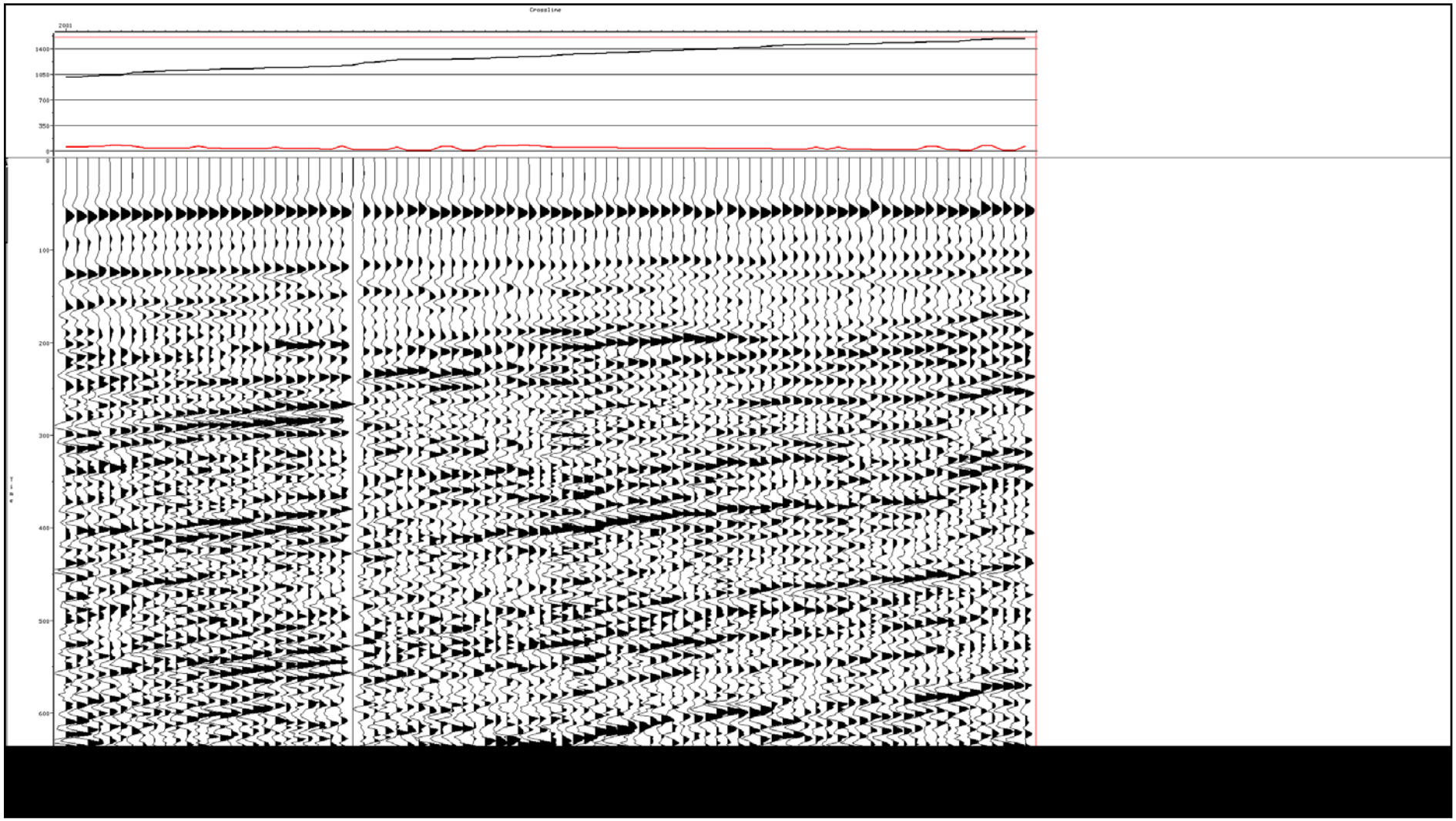
XL1601-NTC (Real Offset 0-140m) : VARY (7-9M) REC GHOST ZP



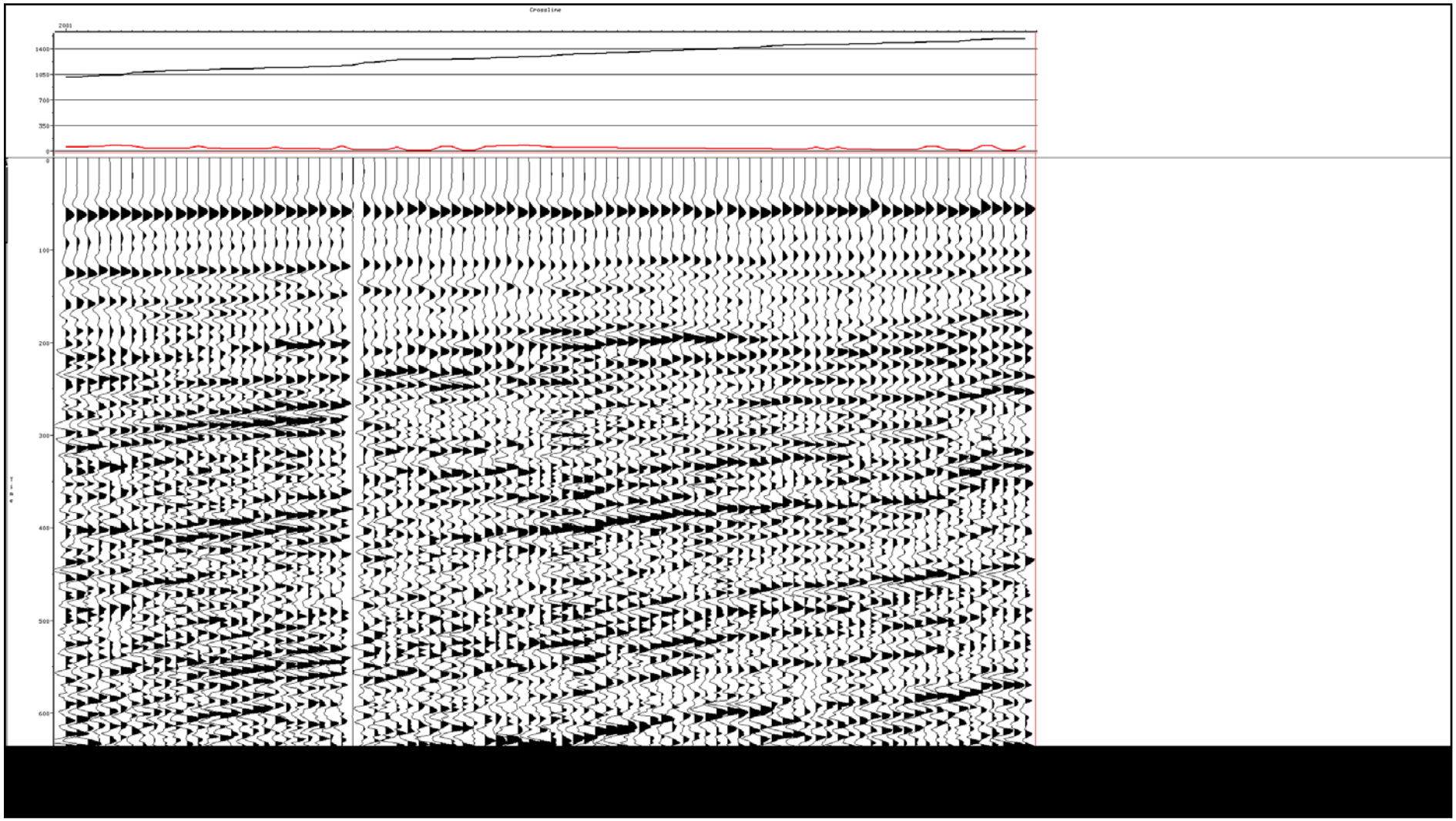
XL2001-NTC (Real Offset 0-140m) : No ZP



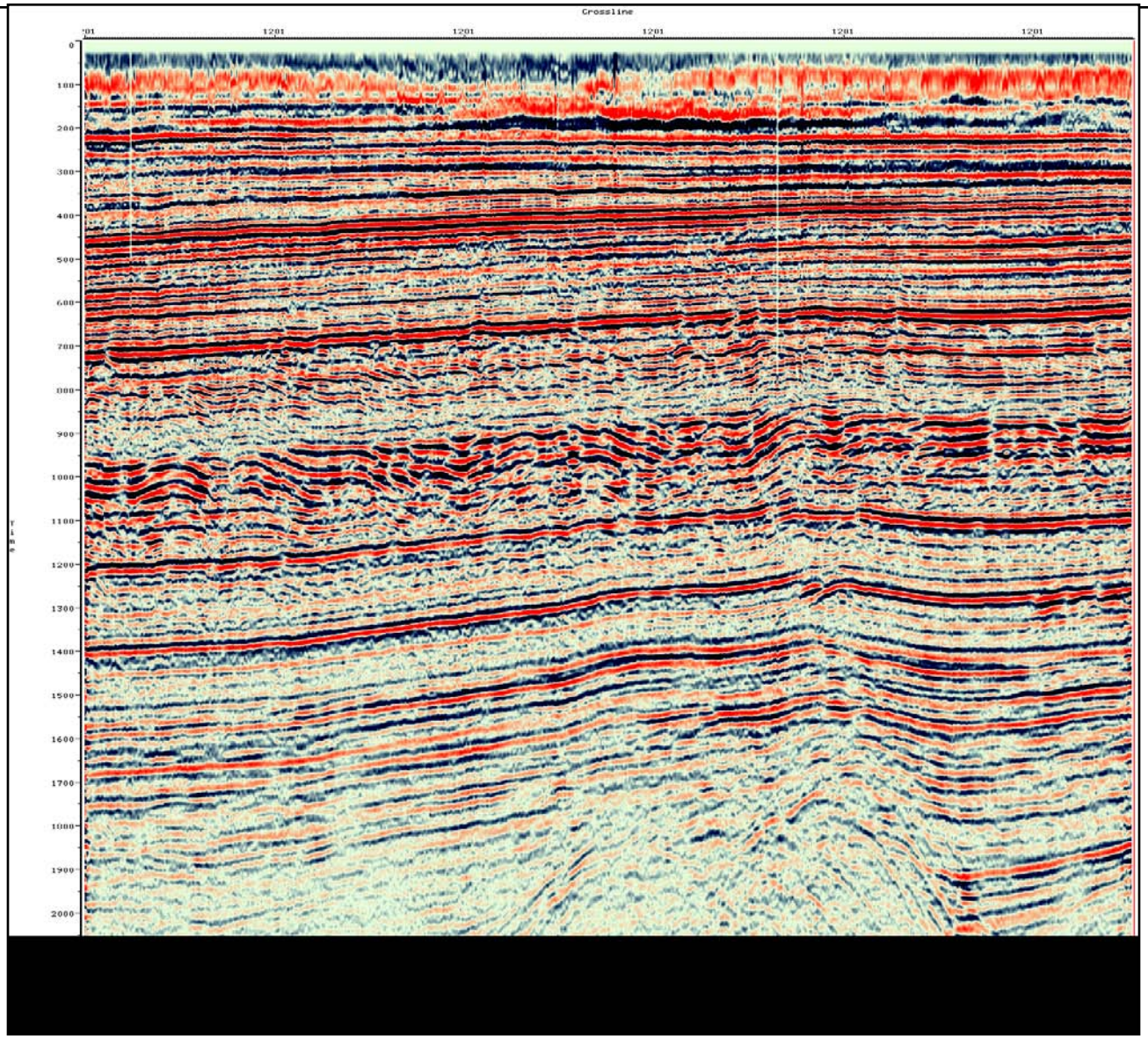
XL2001-NTC (Real Offset 0-140m) : 7M REC GHOST ZP



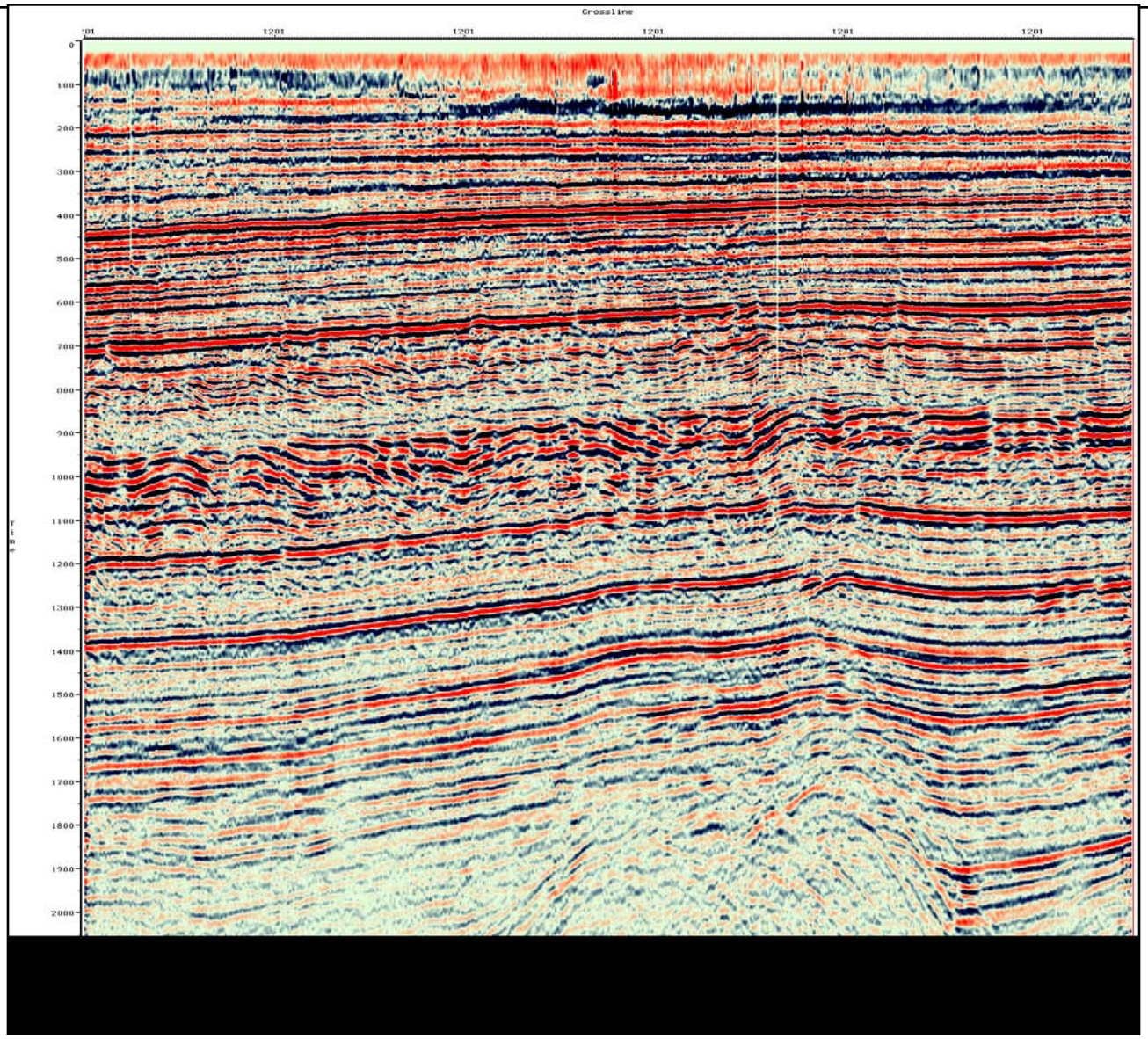
XL2001-NTC (Real Offset 0-140m) : VARY (7-9M) REC GHOST ZP



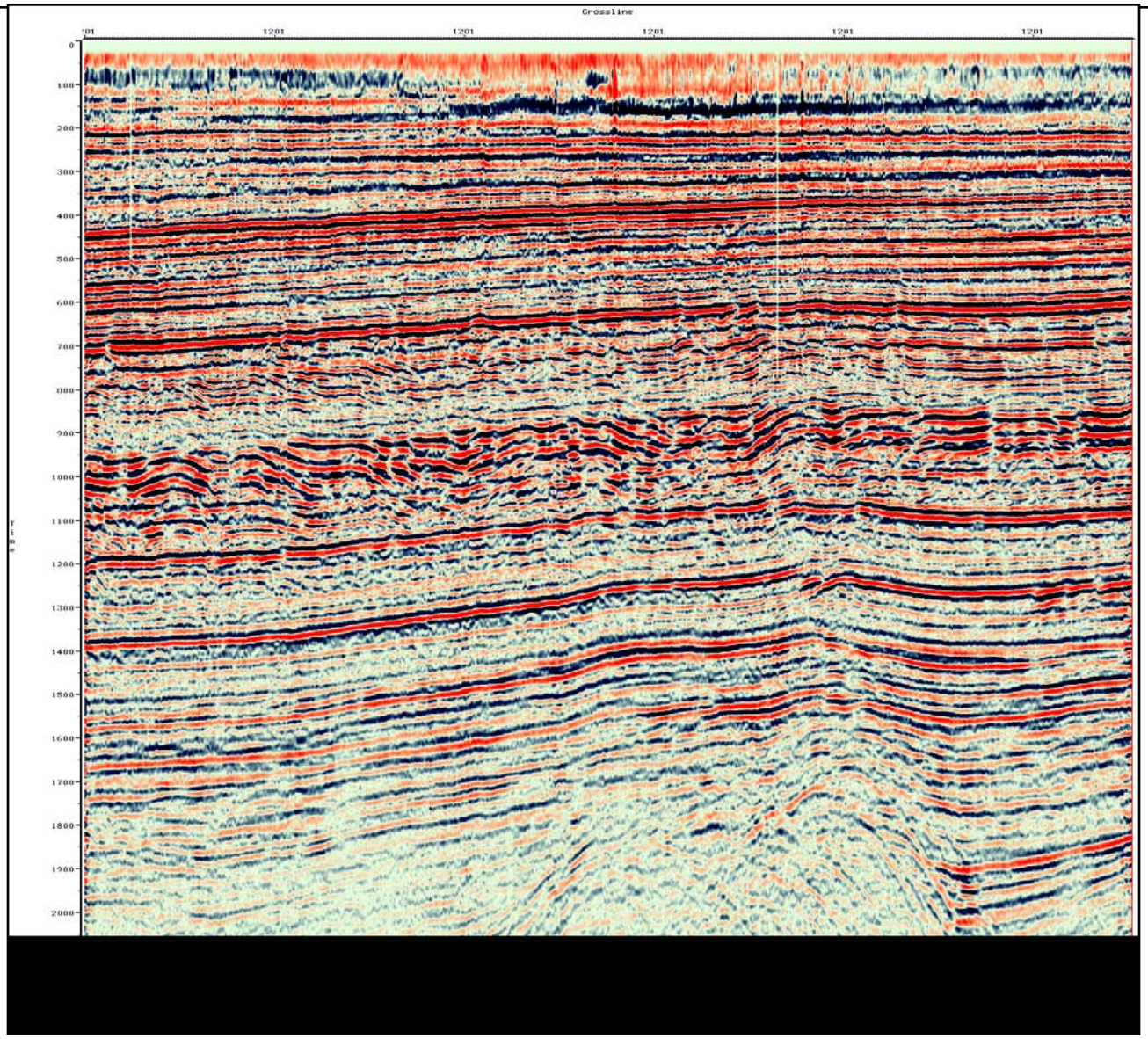
XL1201-STACK : No ZP



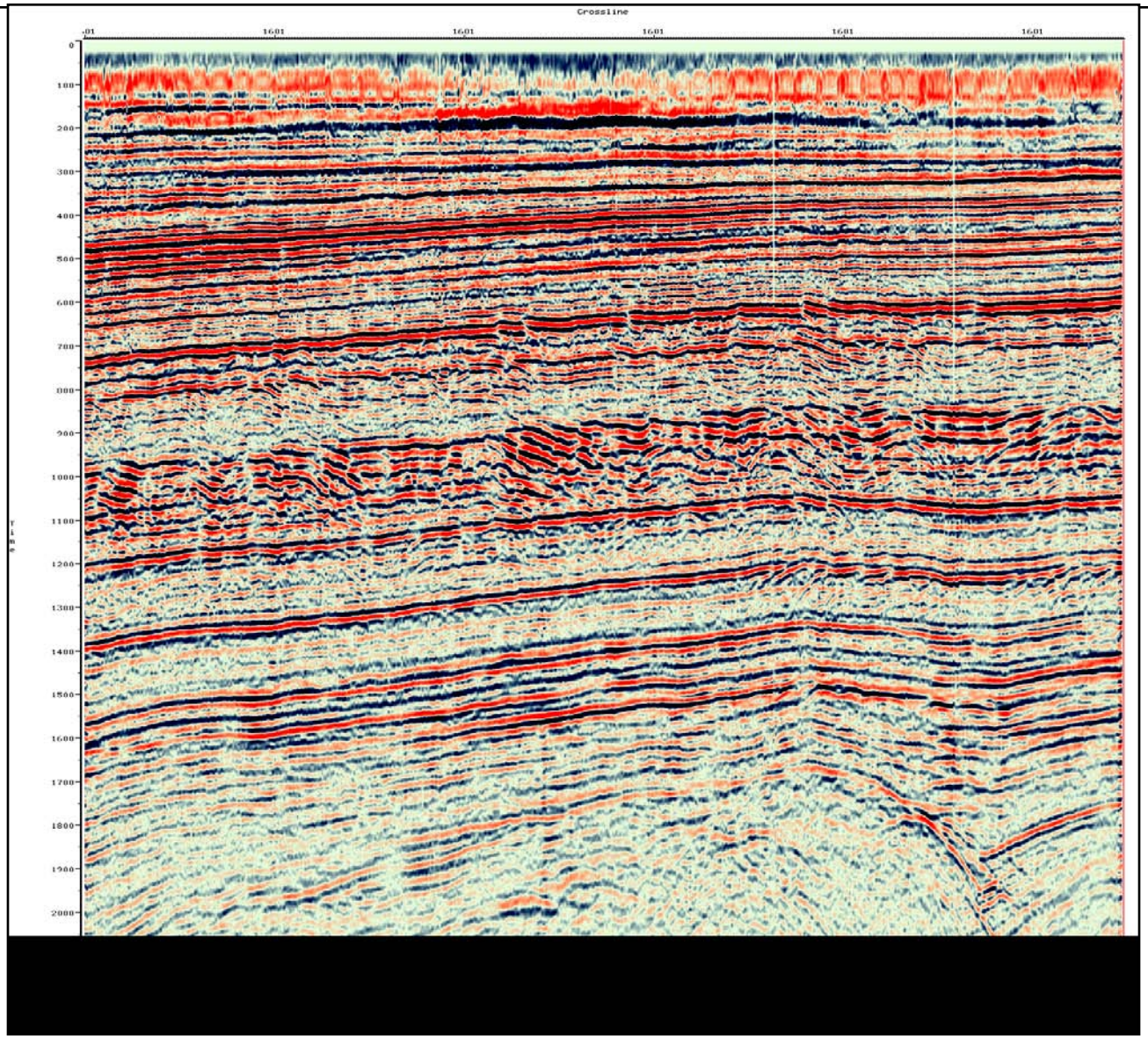
XL1201-STACK : 7M REC GHOST ZP



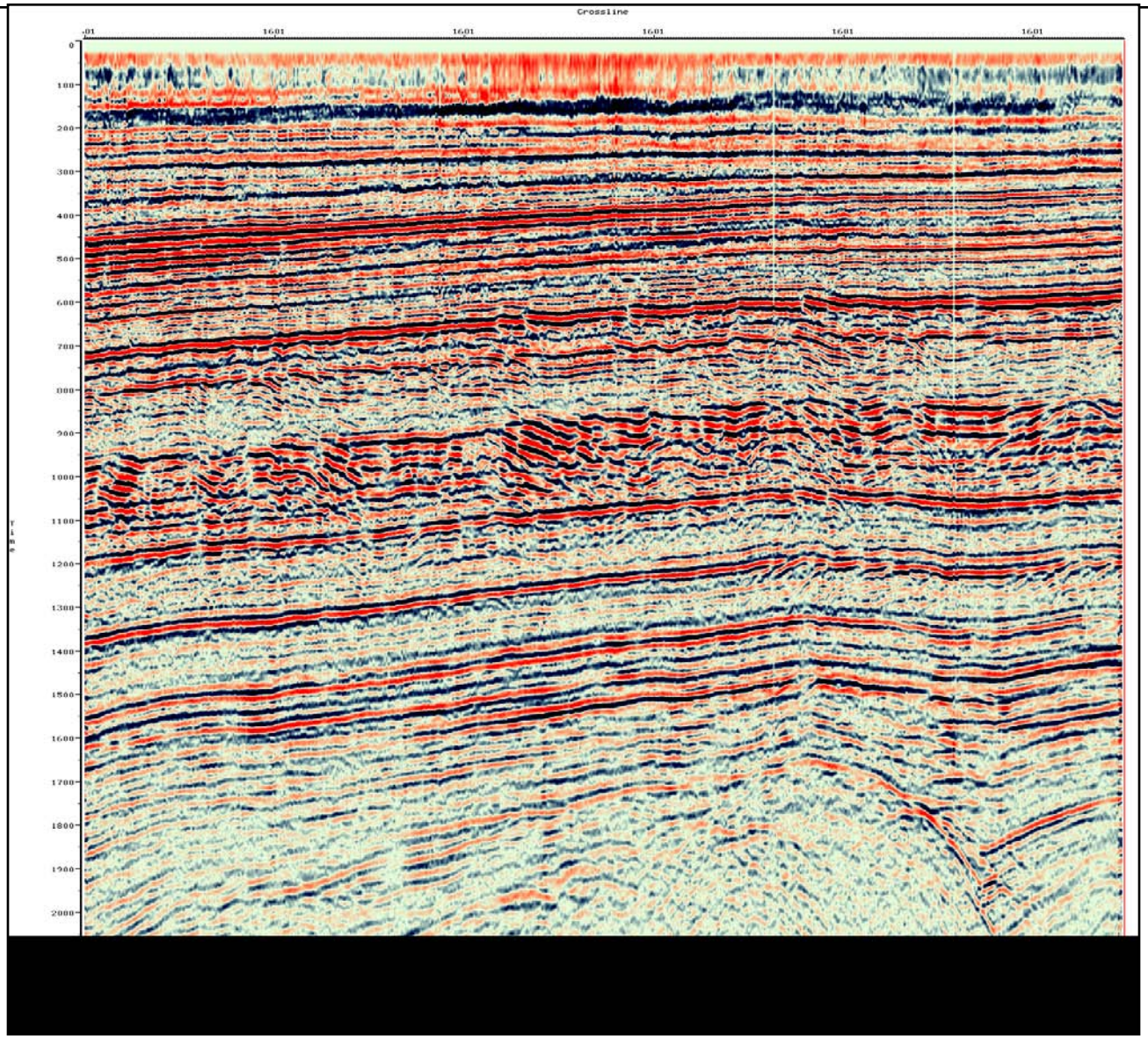
XL1201-STACK : VARY (7-9M) REC GHOST ZP



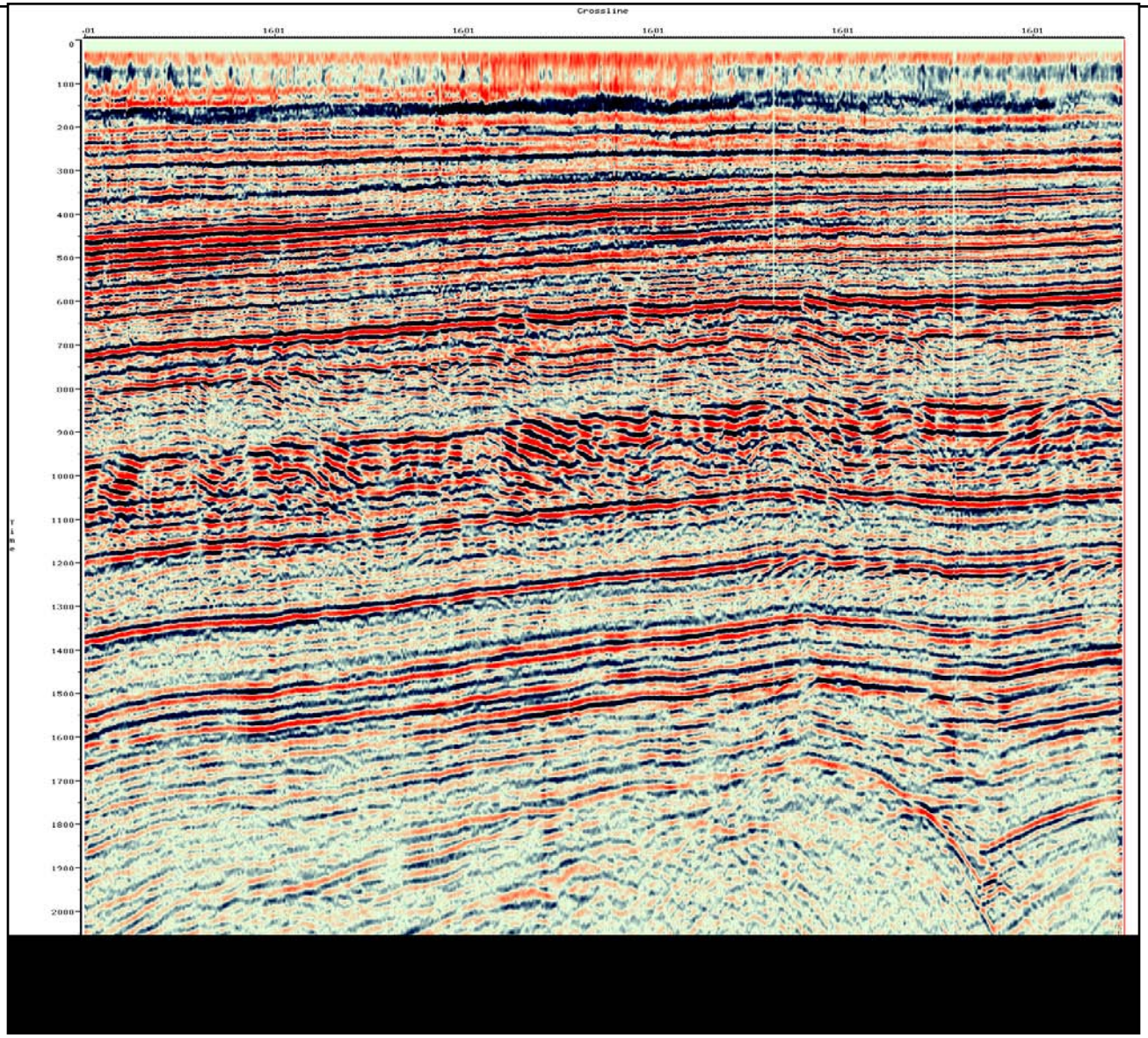
XL1601-STACK : No ZP



XL1601-STACK : 7M REC GHOST ZP



XL1601-STACK : VARY (7-9M) REC GHOST ZP



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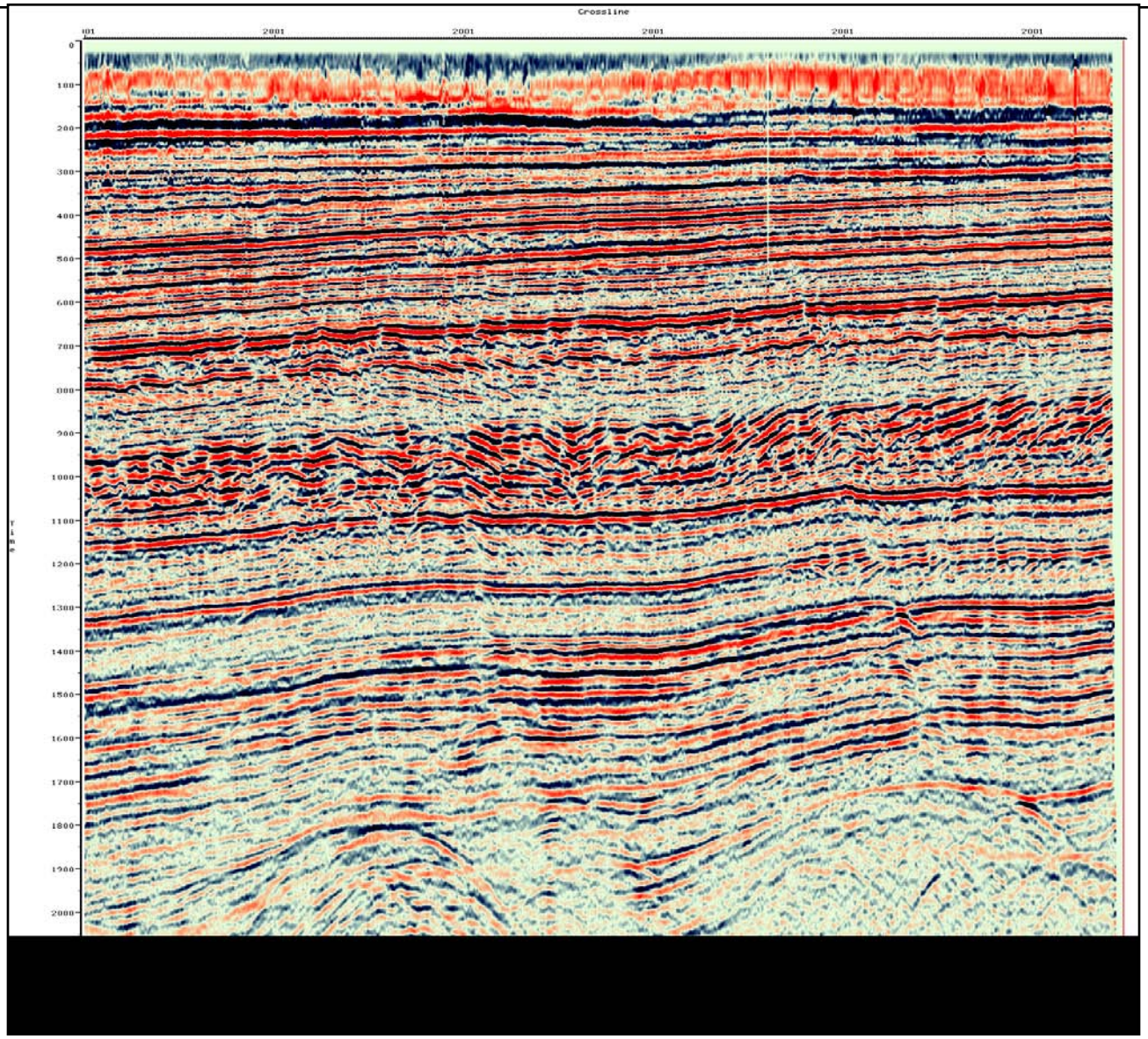
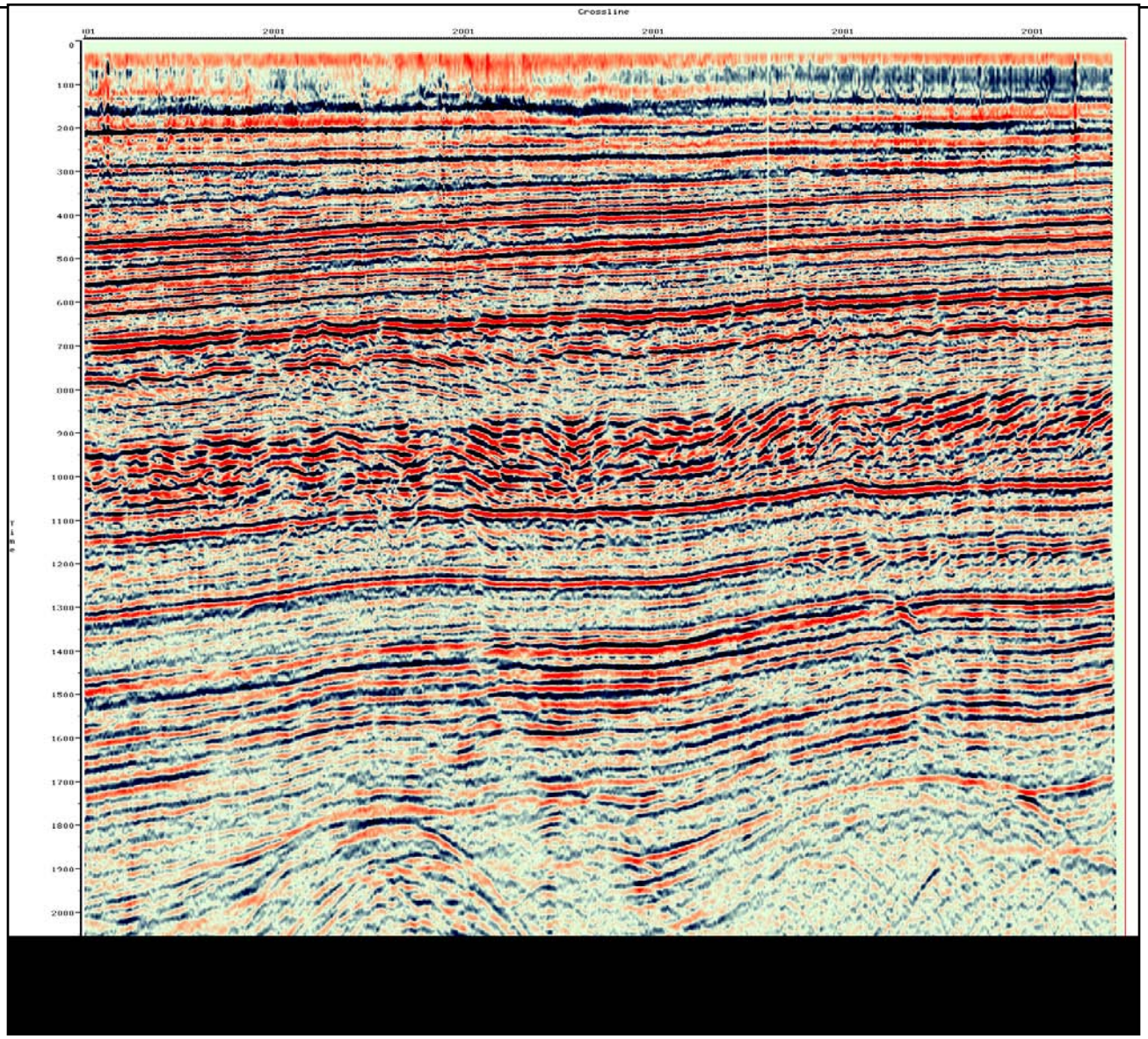
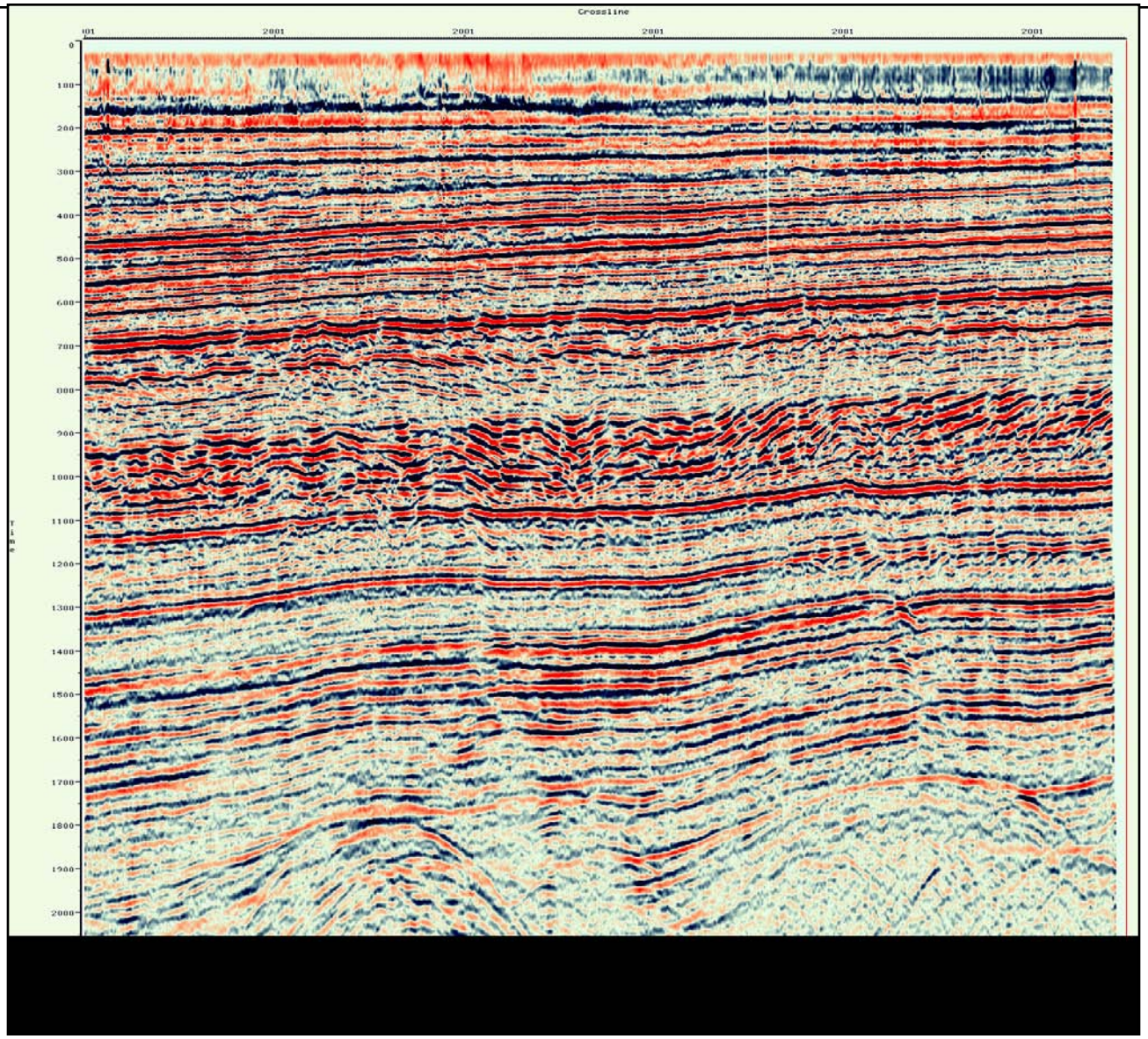


XL2001-STACK : 7M REC GHOST ZP



XL2001-STACK : VARY (7-9M) REC GHOST ZP

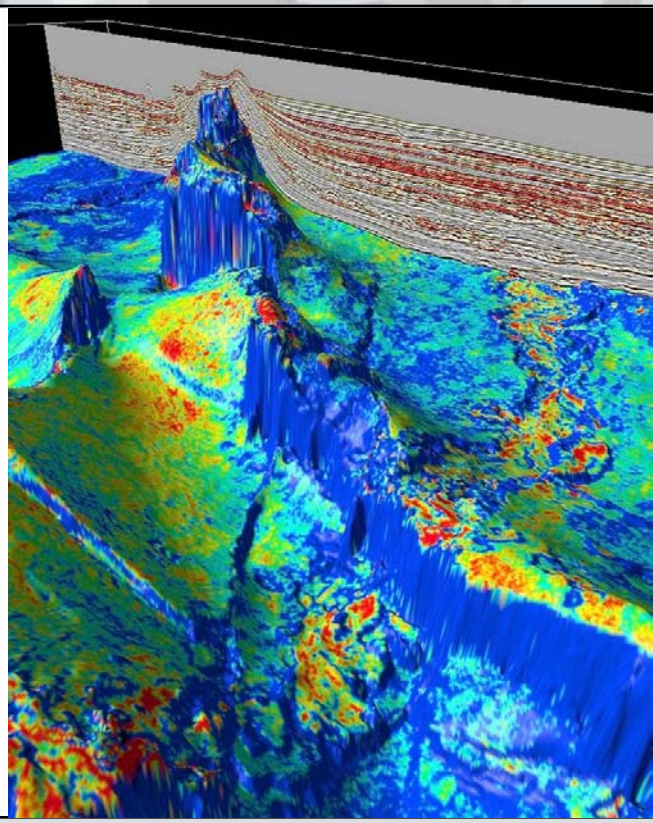


Conclusions & Recommendations

CGGV Recommend:

- Zero phase with vary (7-9m) receiver ghost.

Technical Note 5
Zerophase Filter
Silvereye 3D



CGGVERITAS

Introduction

This test was done to see application of zero phase filter.

The comparison was done in three dataset:

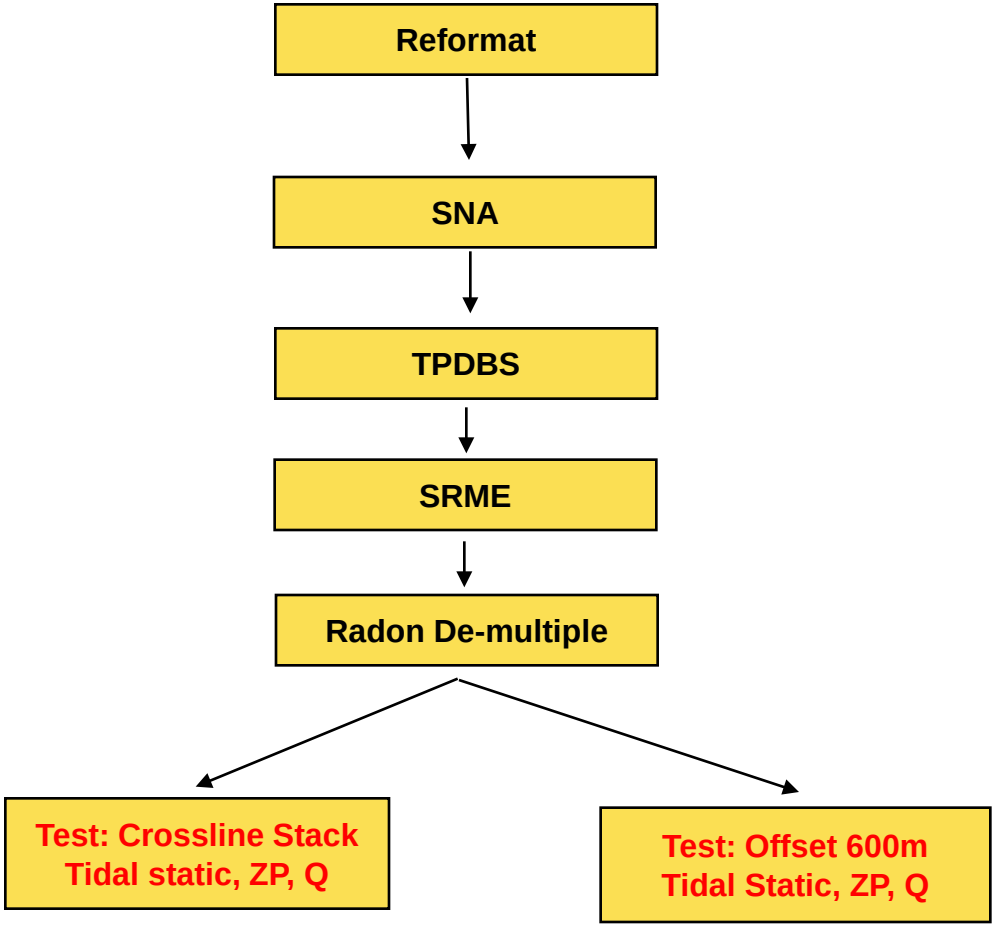
1. **Raw**
2. **Raw+Tidal Static**
3. **Raw+Tidal Static+ ZP**
4. **Raw+Tidal Static+ZP+Spectral Correction (Model1)**
5. **Raw+Tidal Static+ZP+Spectral Correction (Model1)+ QComp**
6. **Raw+Tidal Static+ZP+QComp**
7. **Raw+Tidal Static+ZP+Spectral Correction (Model2)**
8. **Raw+Tidal Static+ZP+Spectral Correction (Model2)+ QComp**

QCOMP with Q=140 Gain Limited: 12 dB

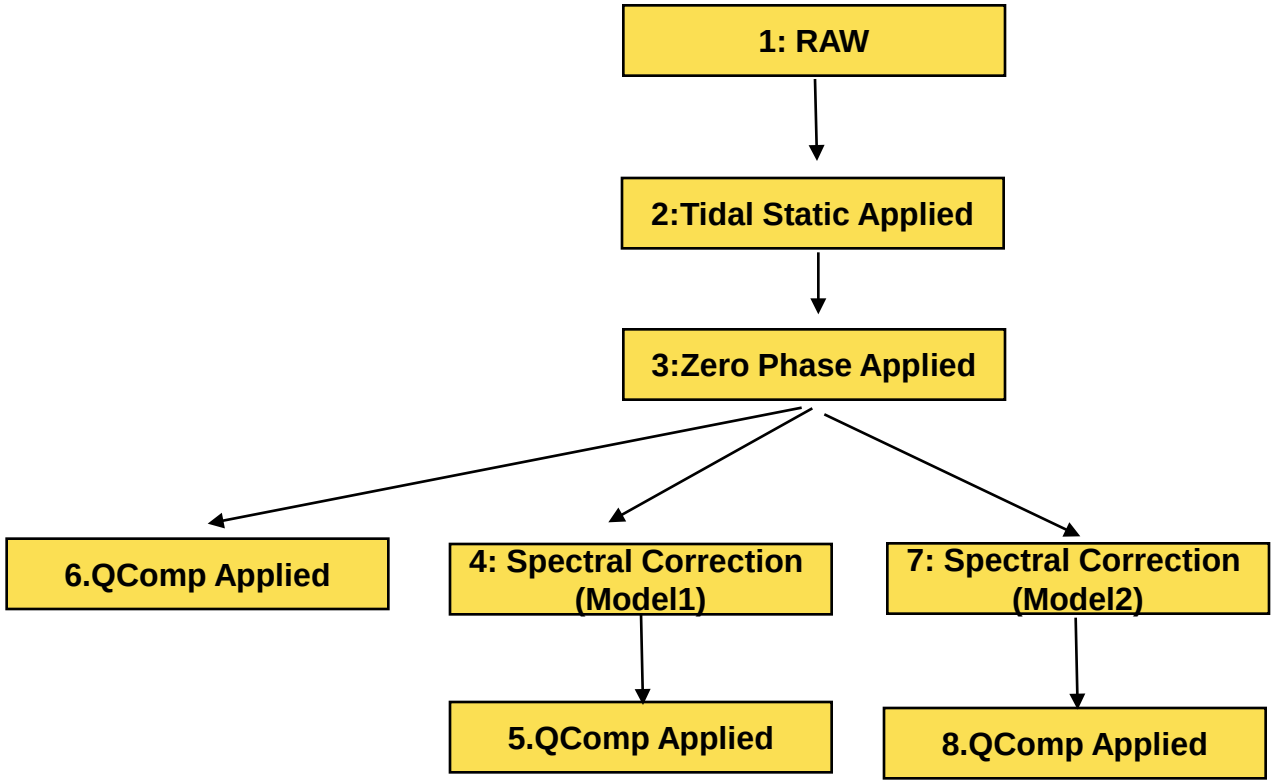
Zero-phase Filter Test

Crossline-Offset

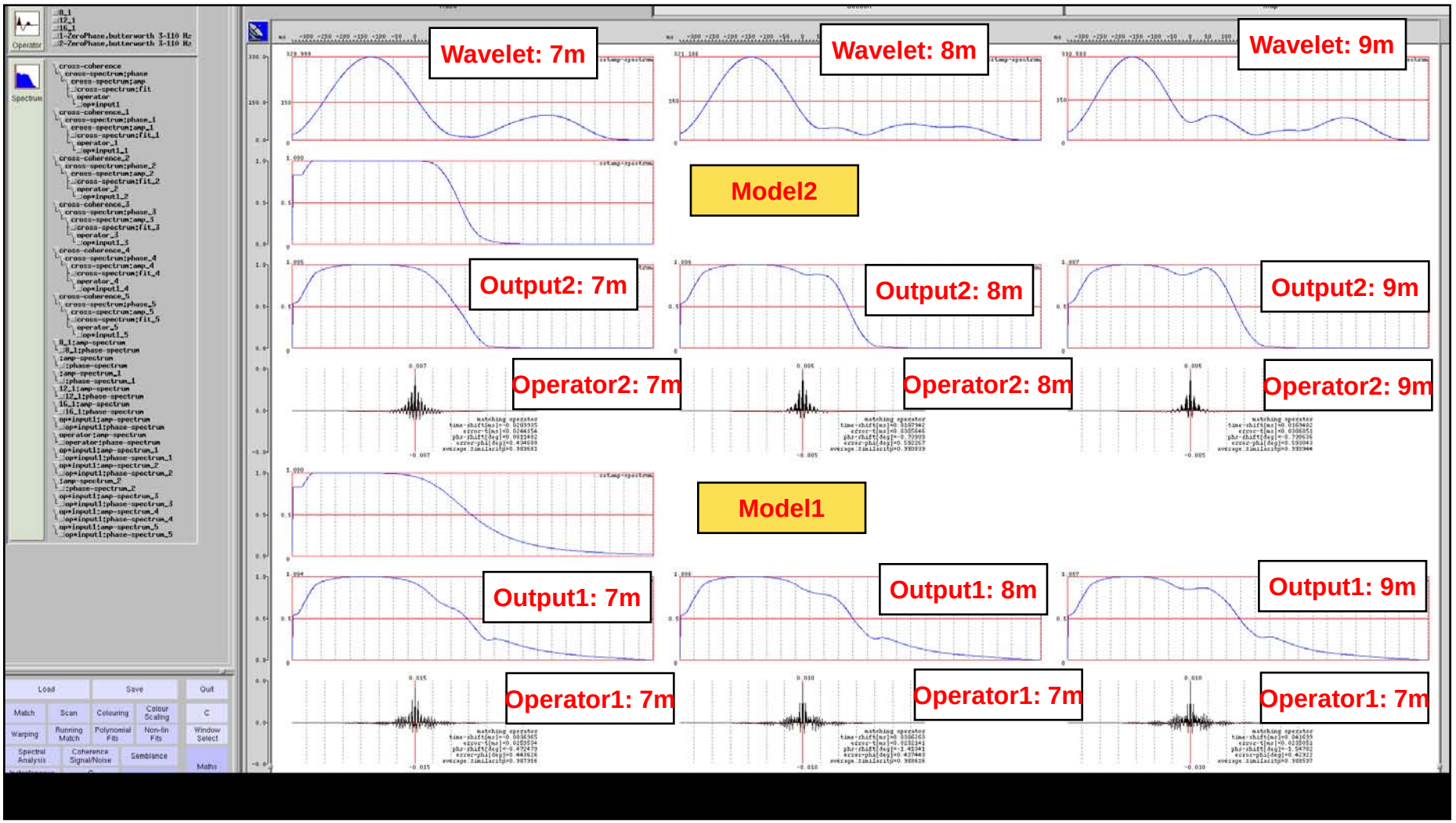
Input Dataset: Processing Flow



Zerophase Flow: ID Number



Spectral Correction Flow: Amplitude Spectrum, Operator



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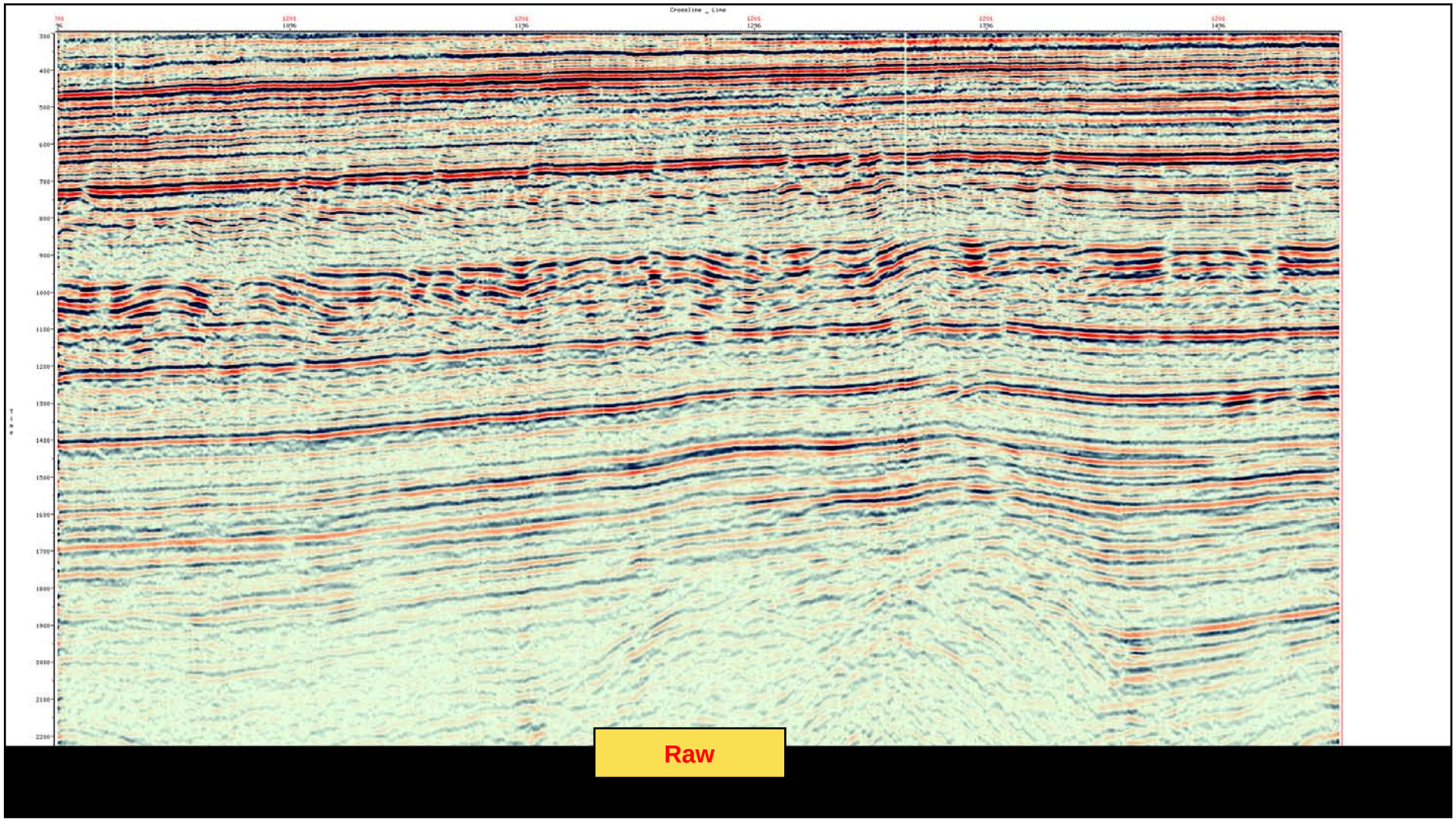

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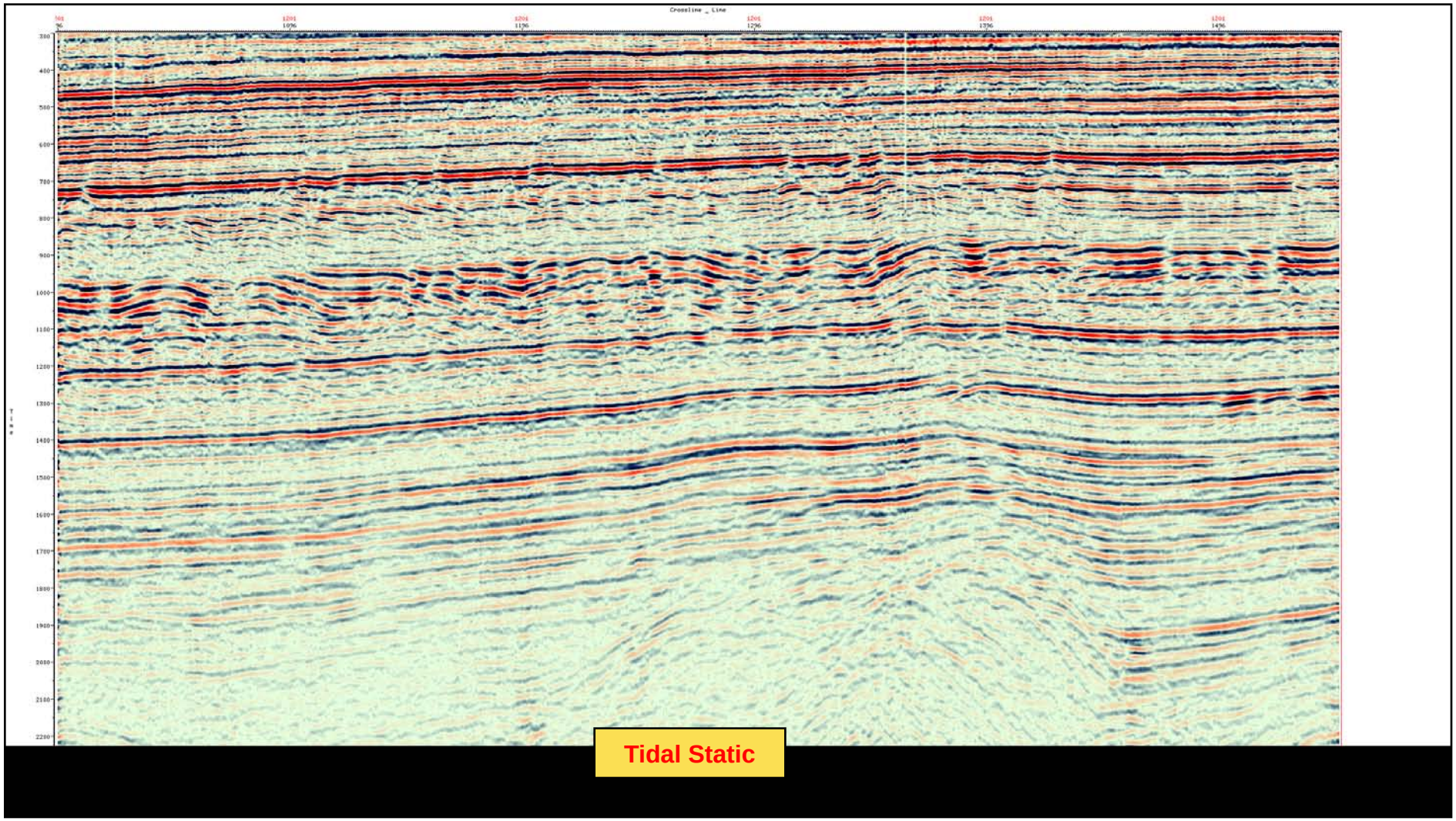

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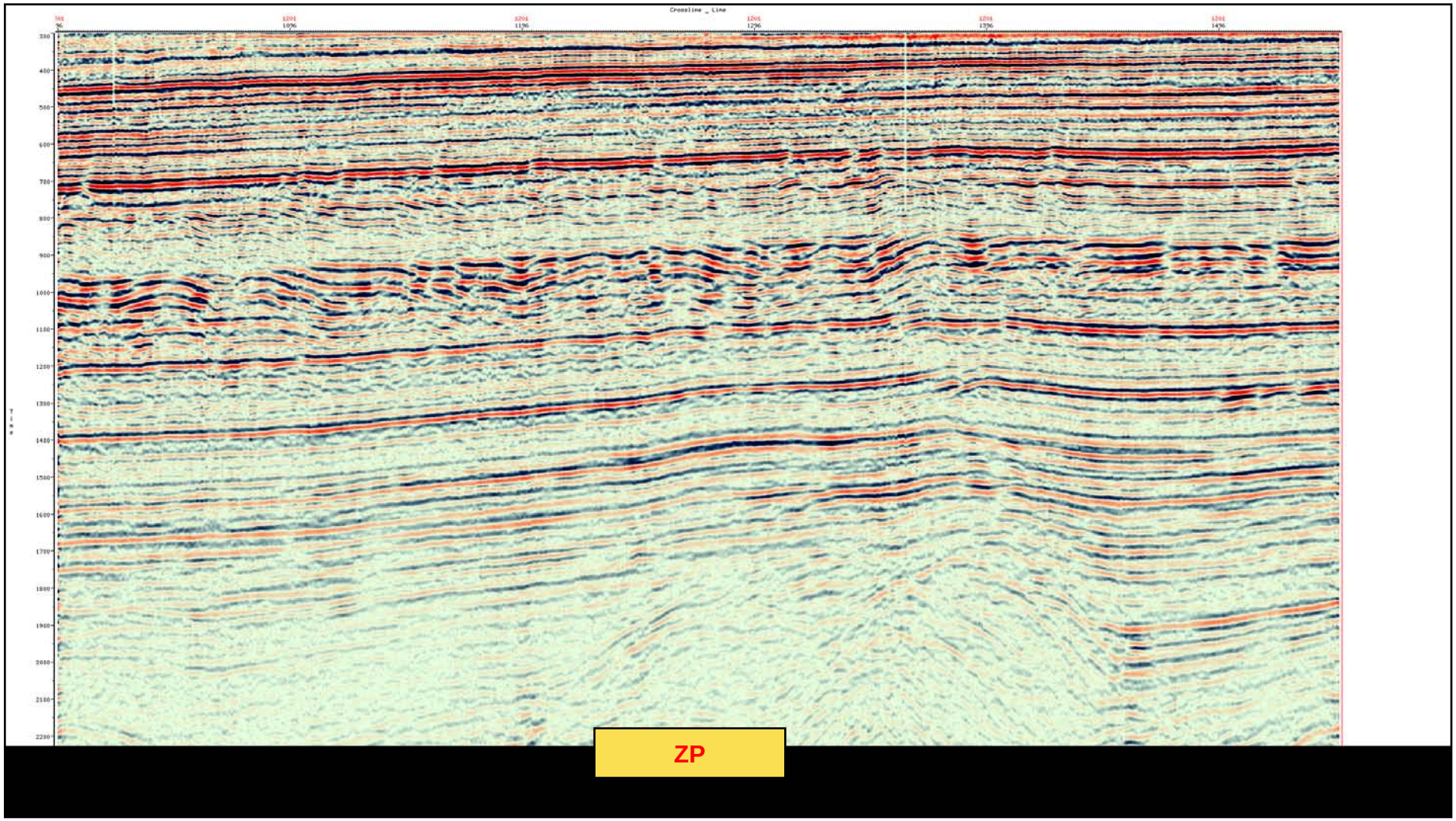

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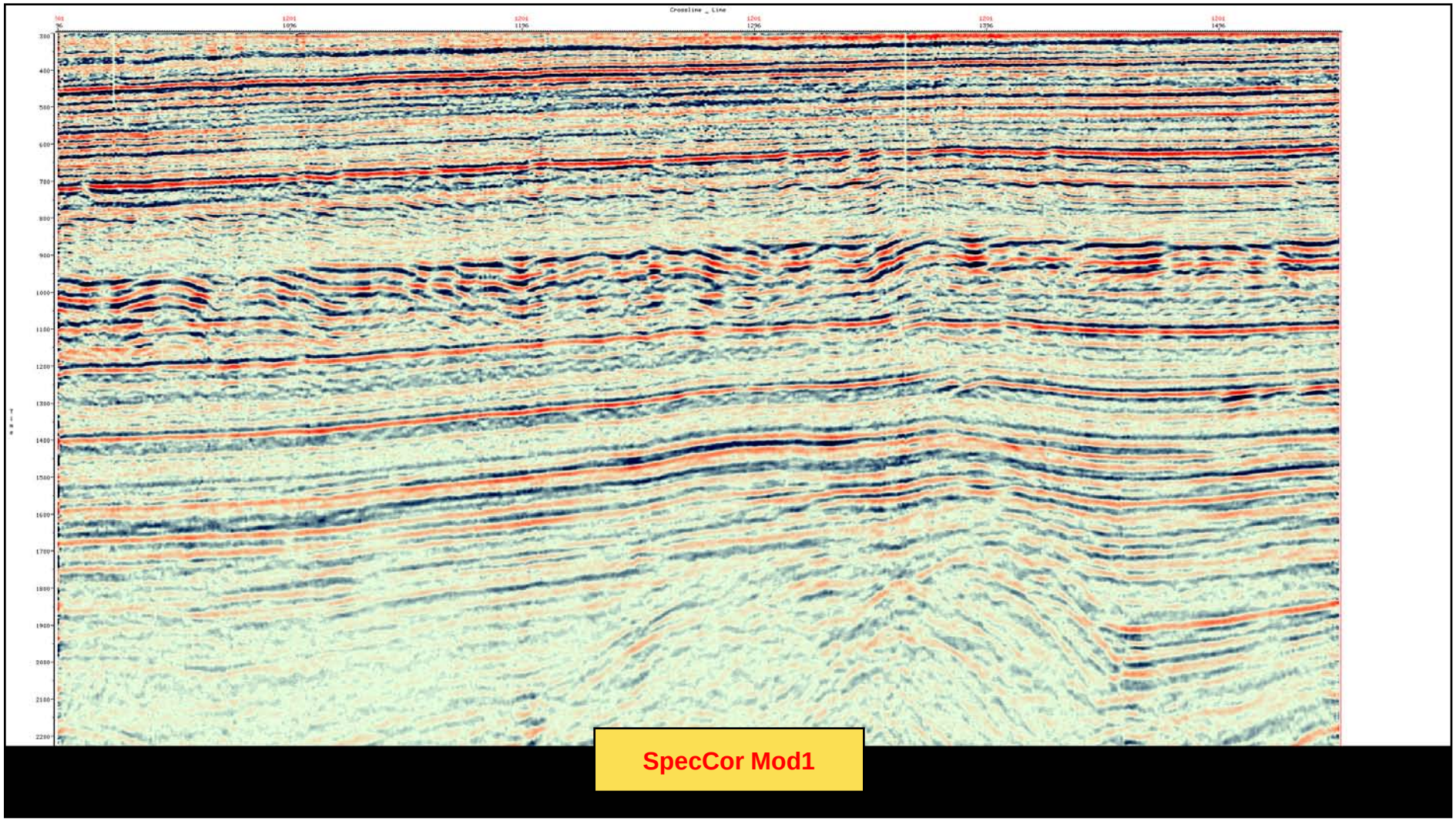

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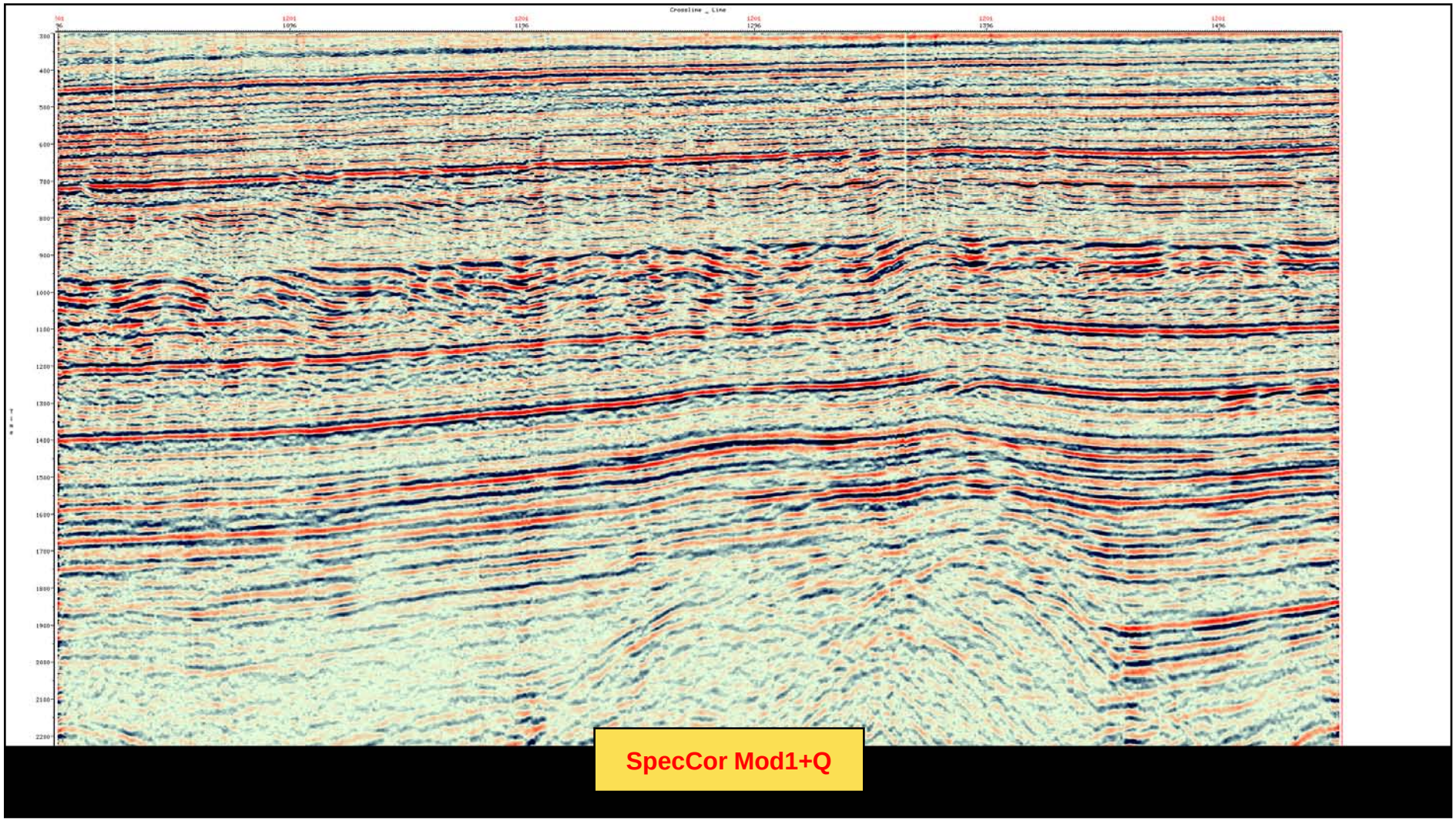
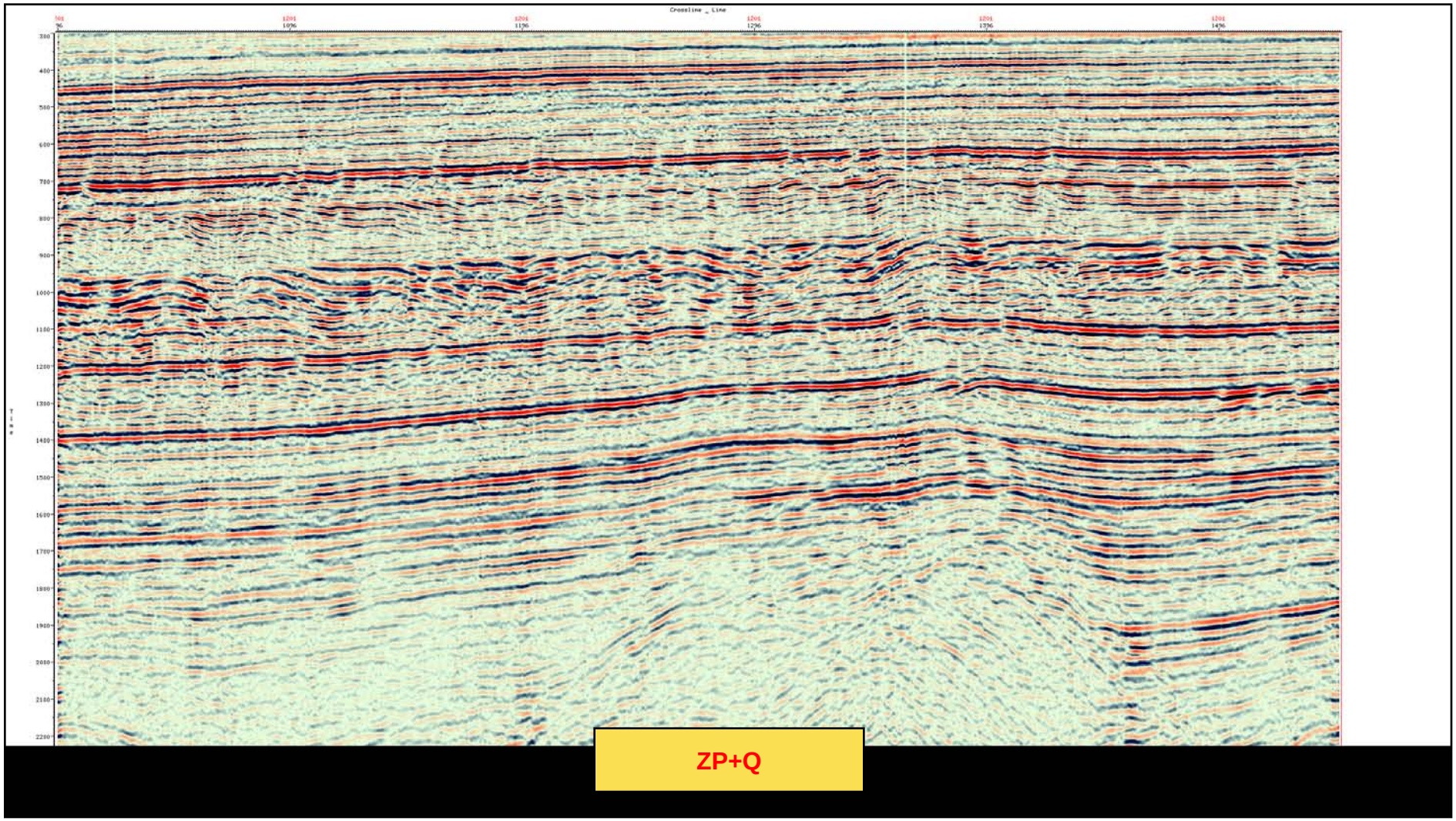
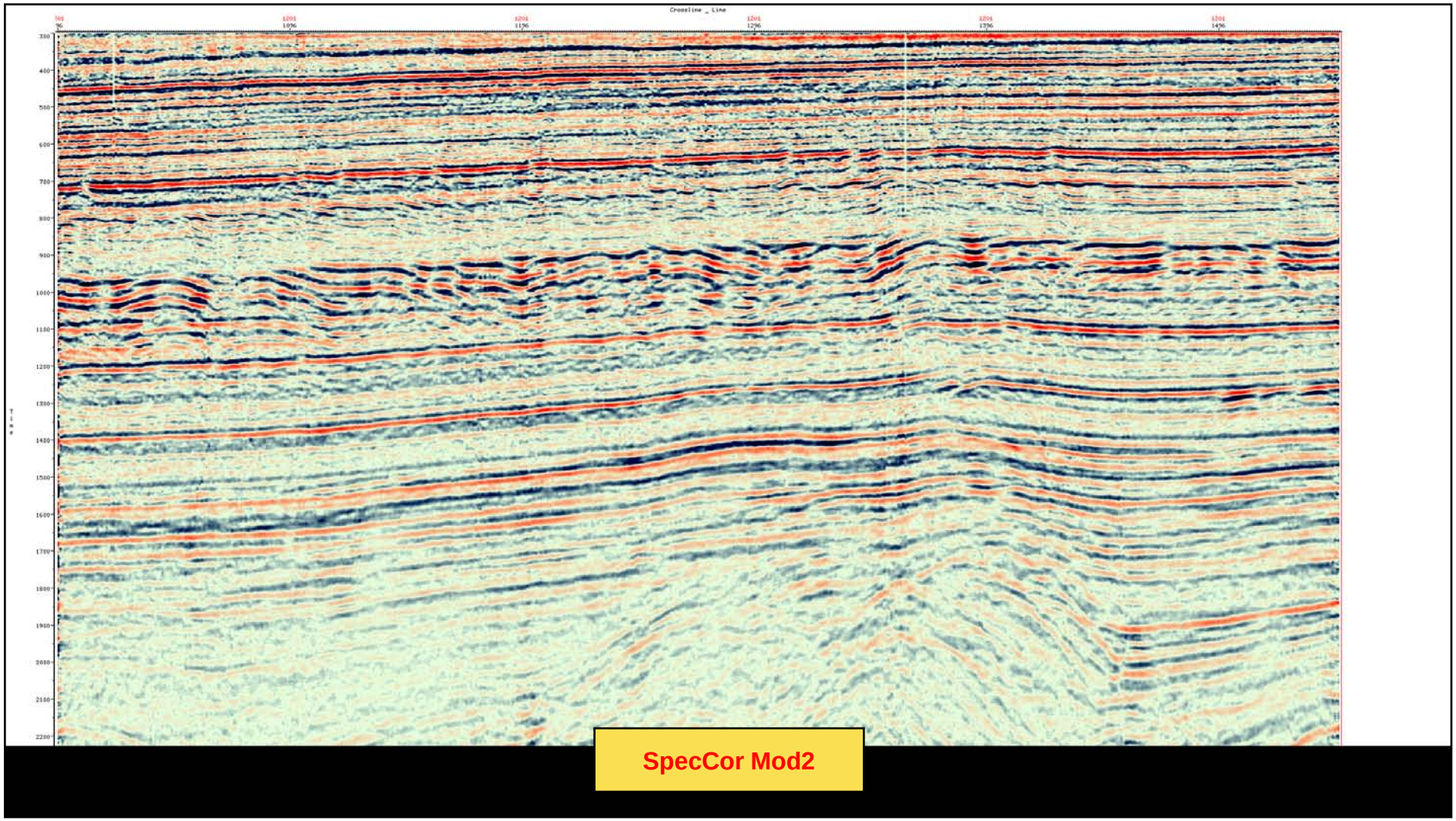


XL1201-STACK: 6



XL1201-STACK: 7



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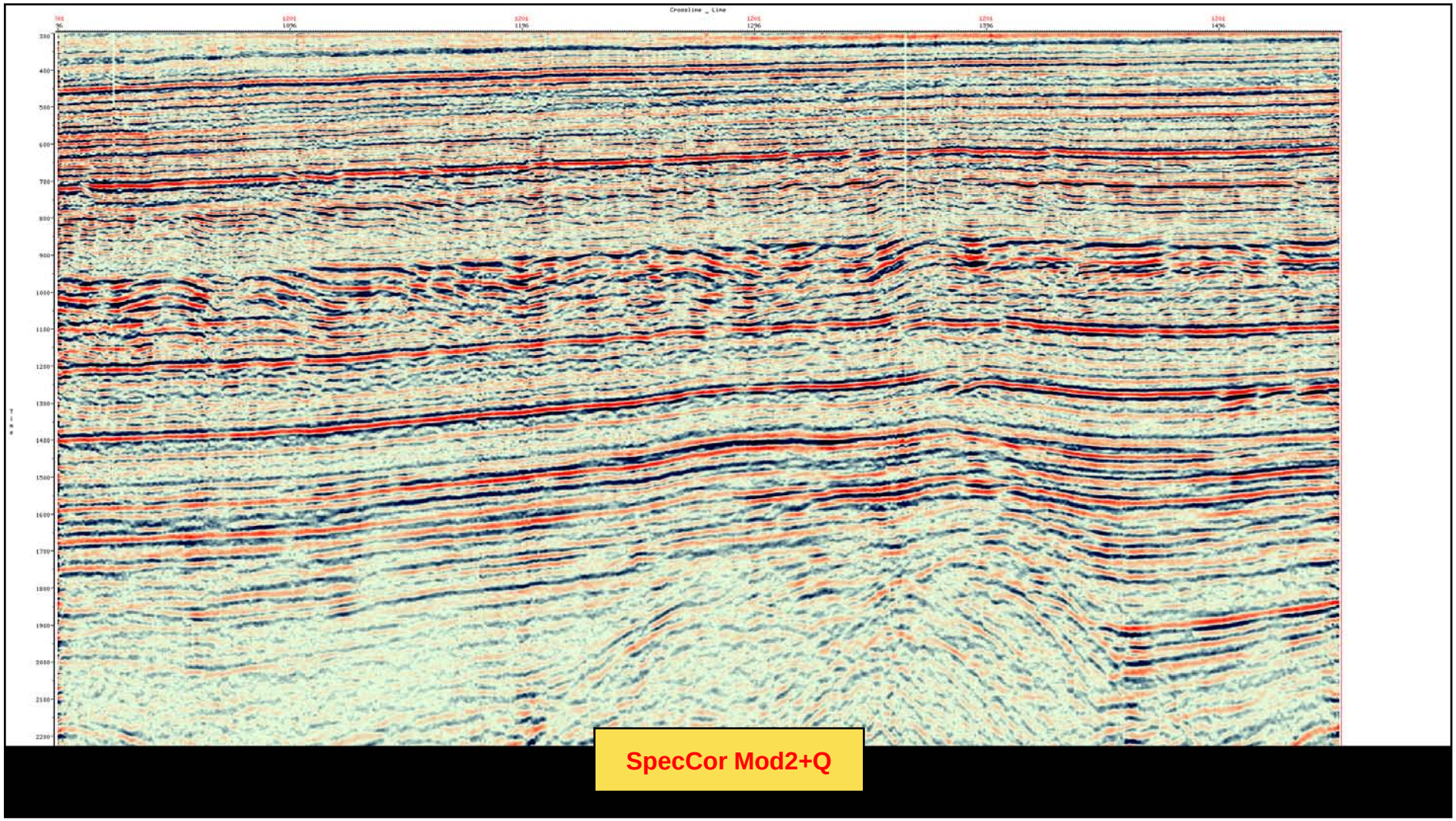

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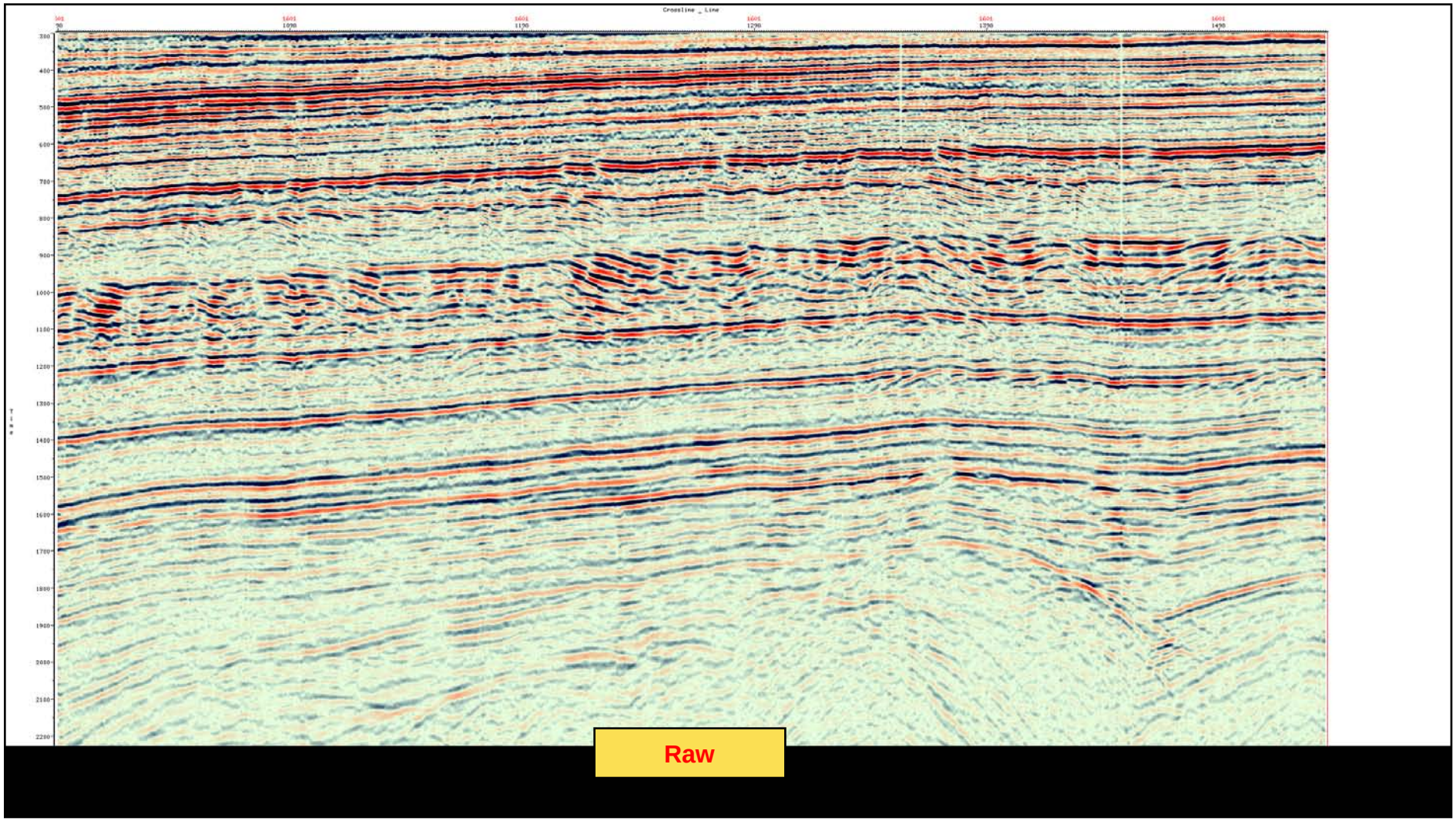

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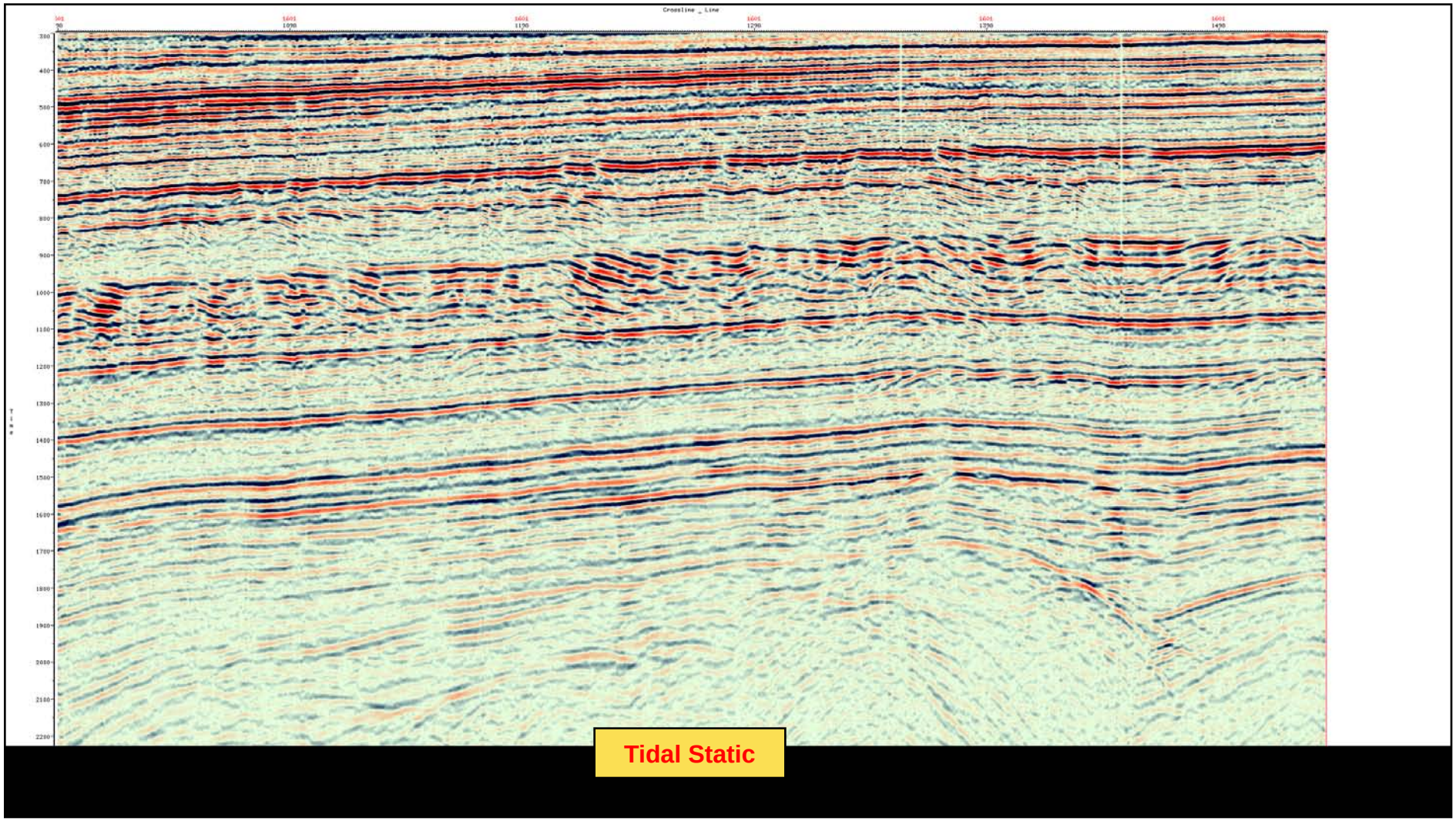

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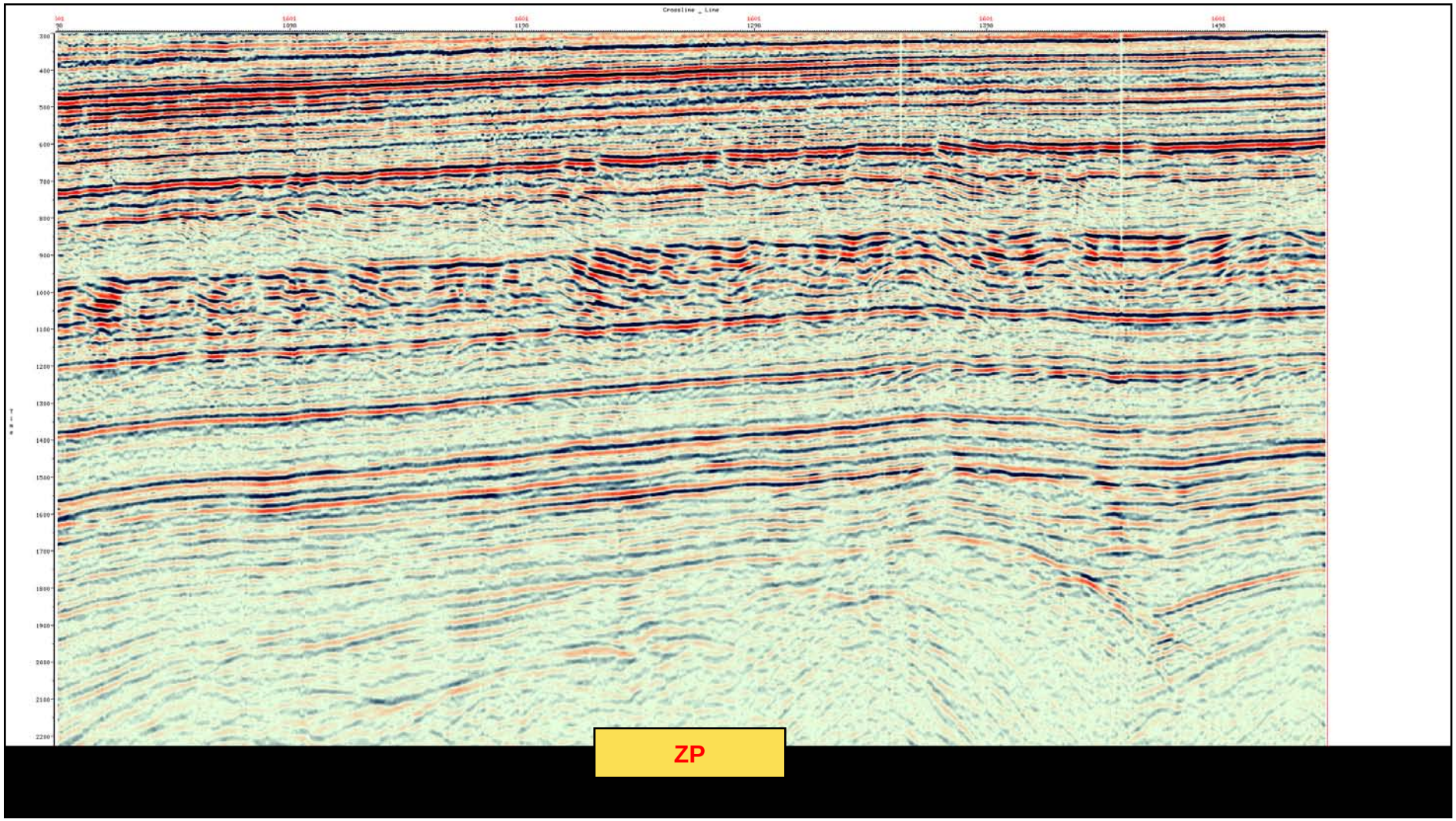

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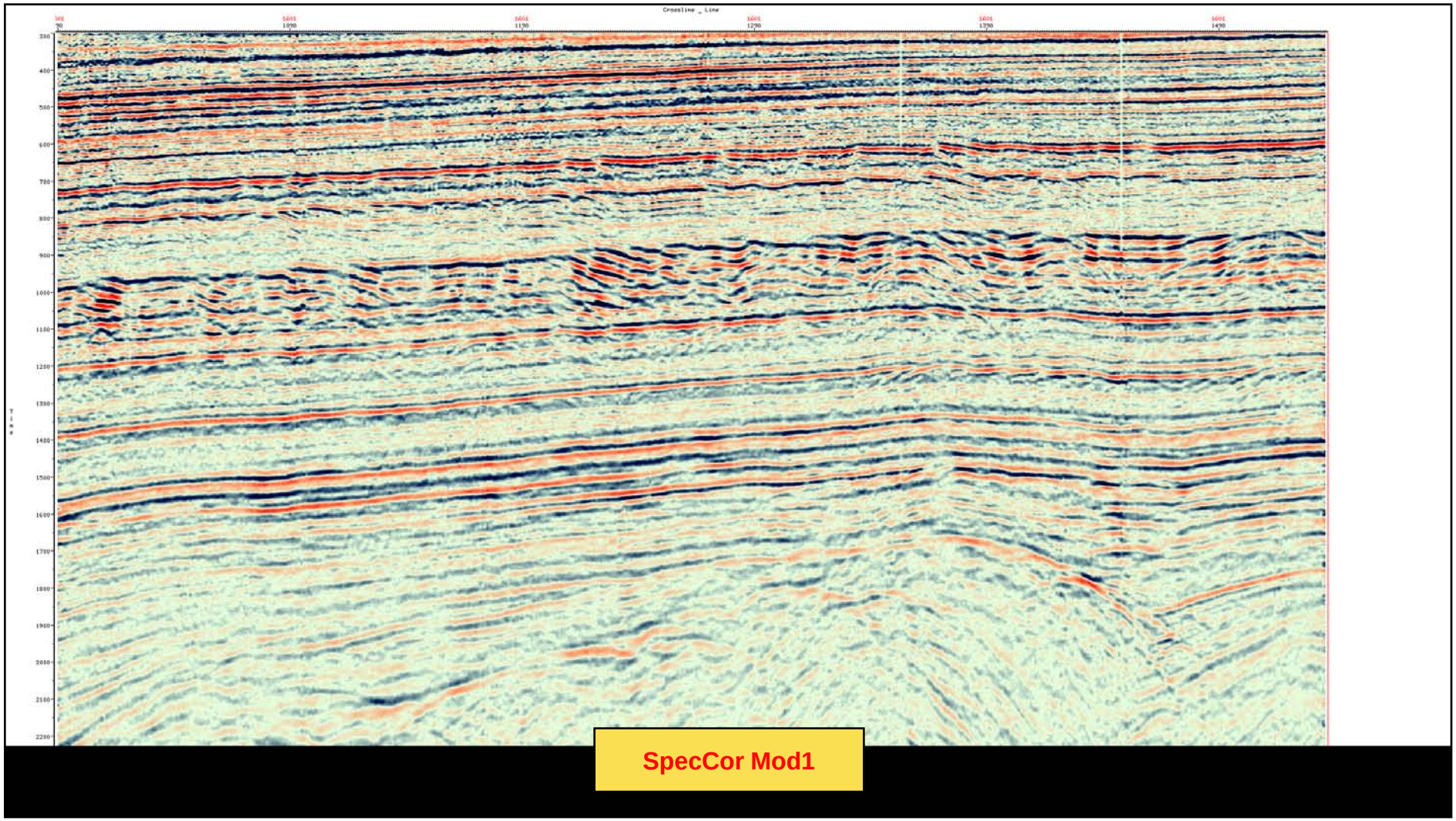

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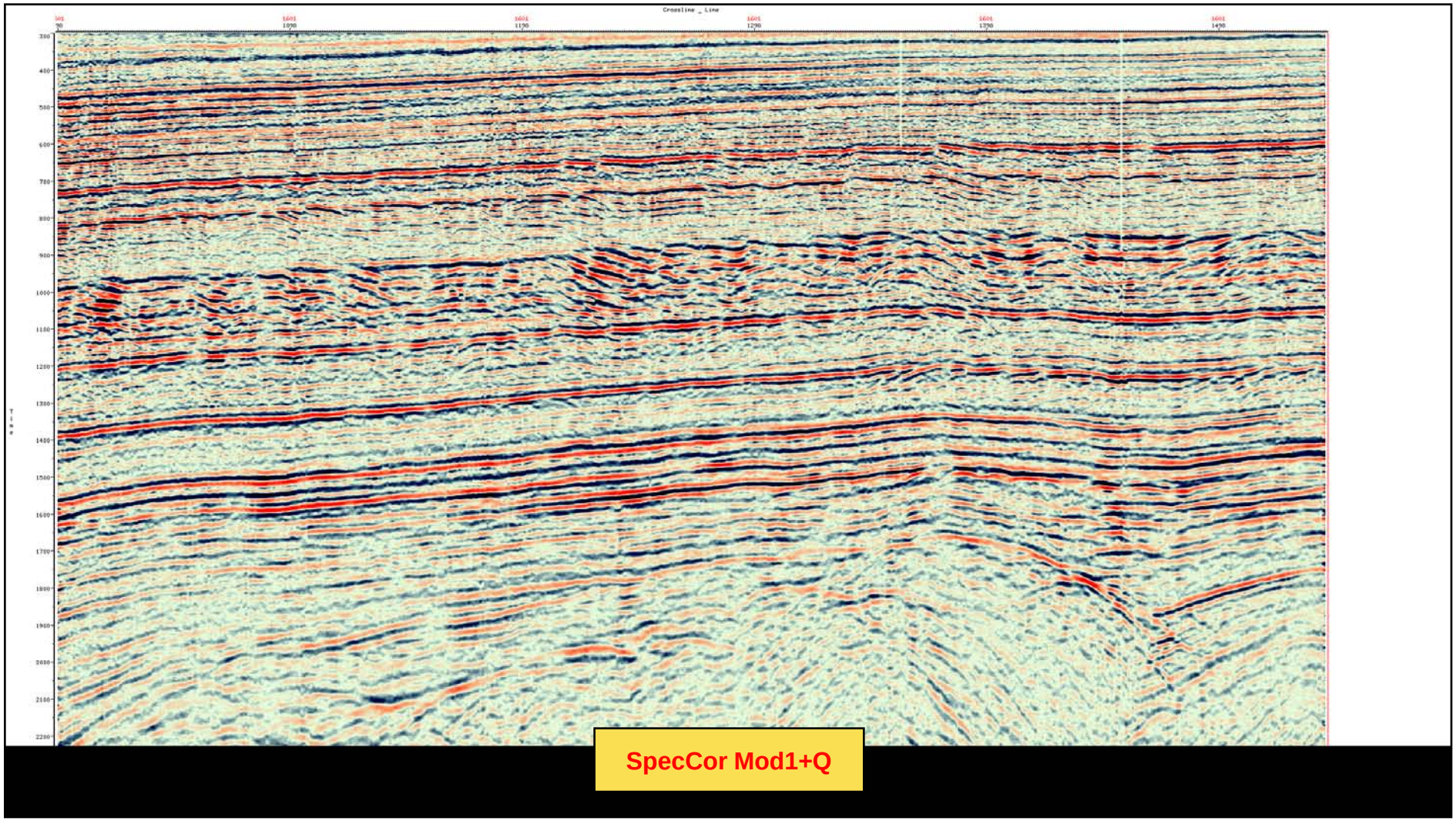

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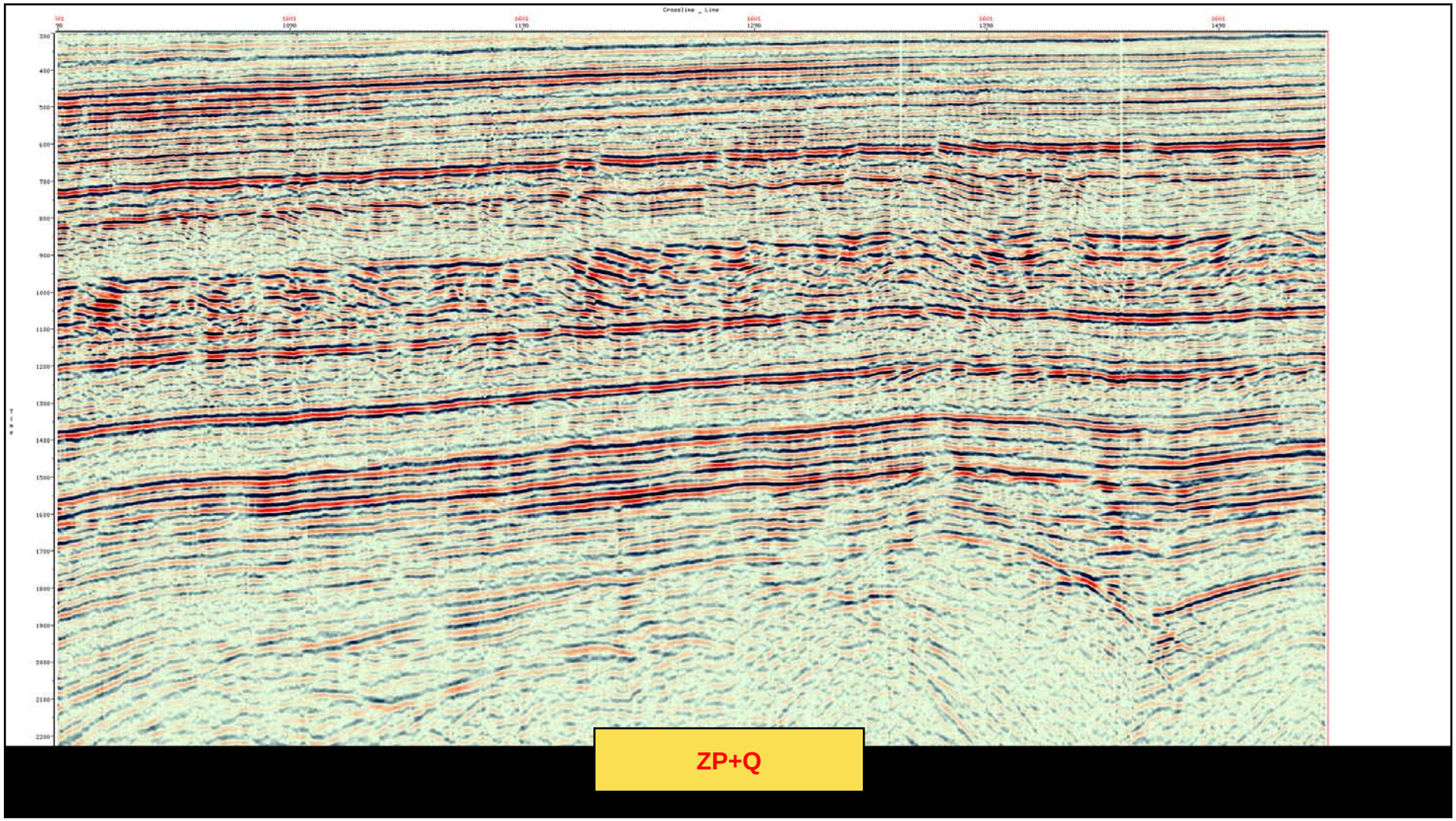

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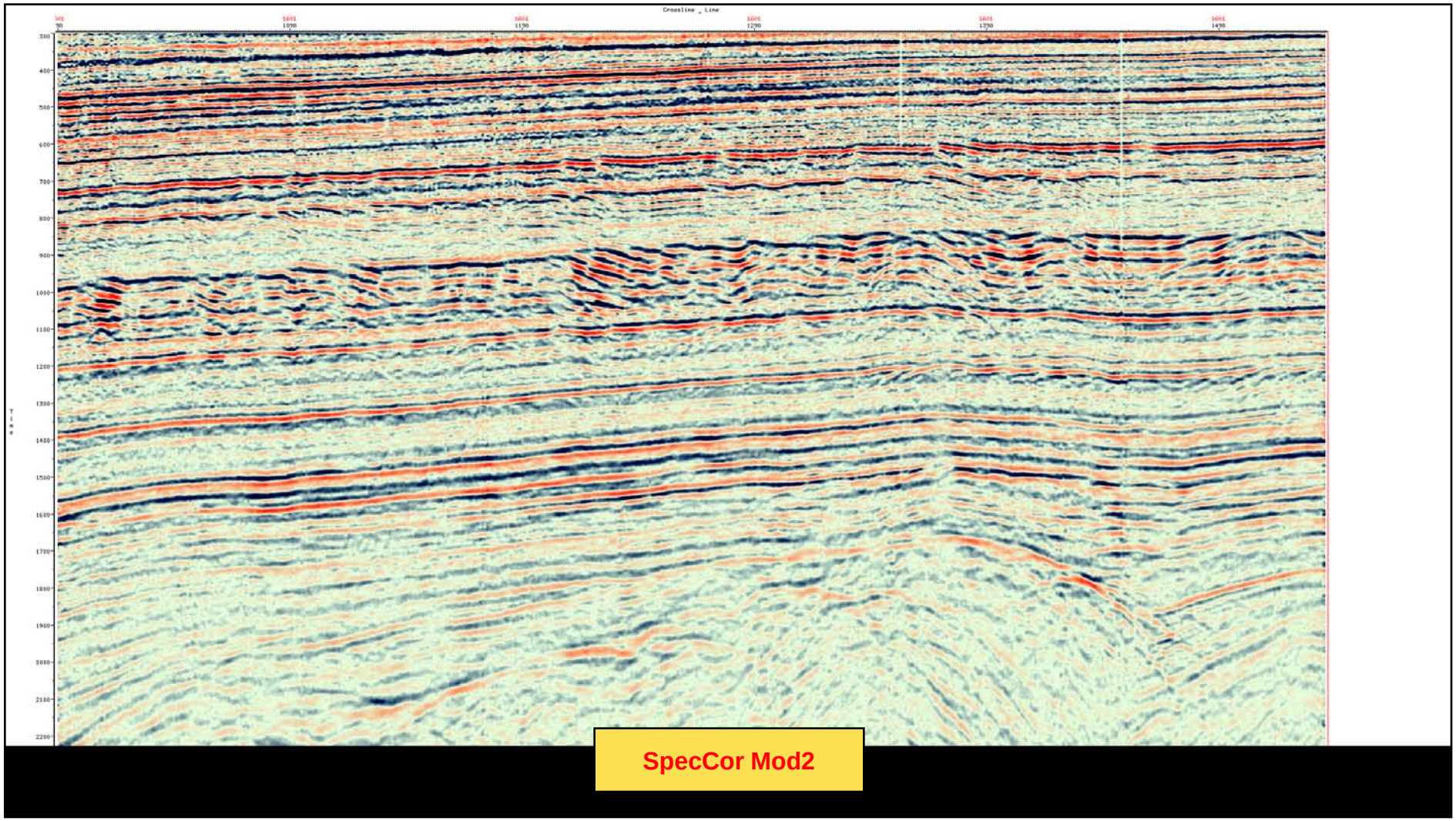

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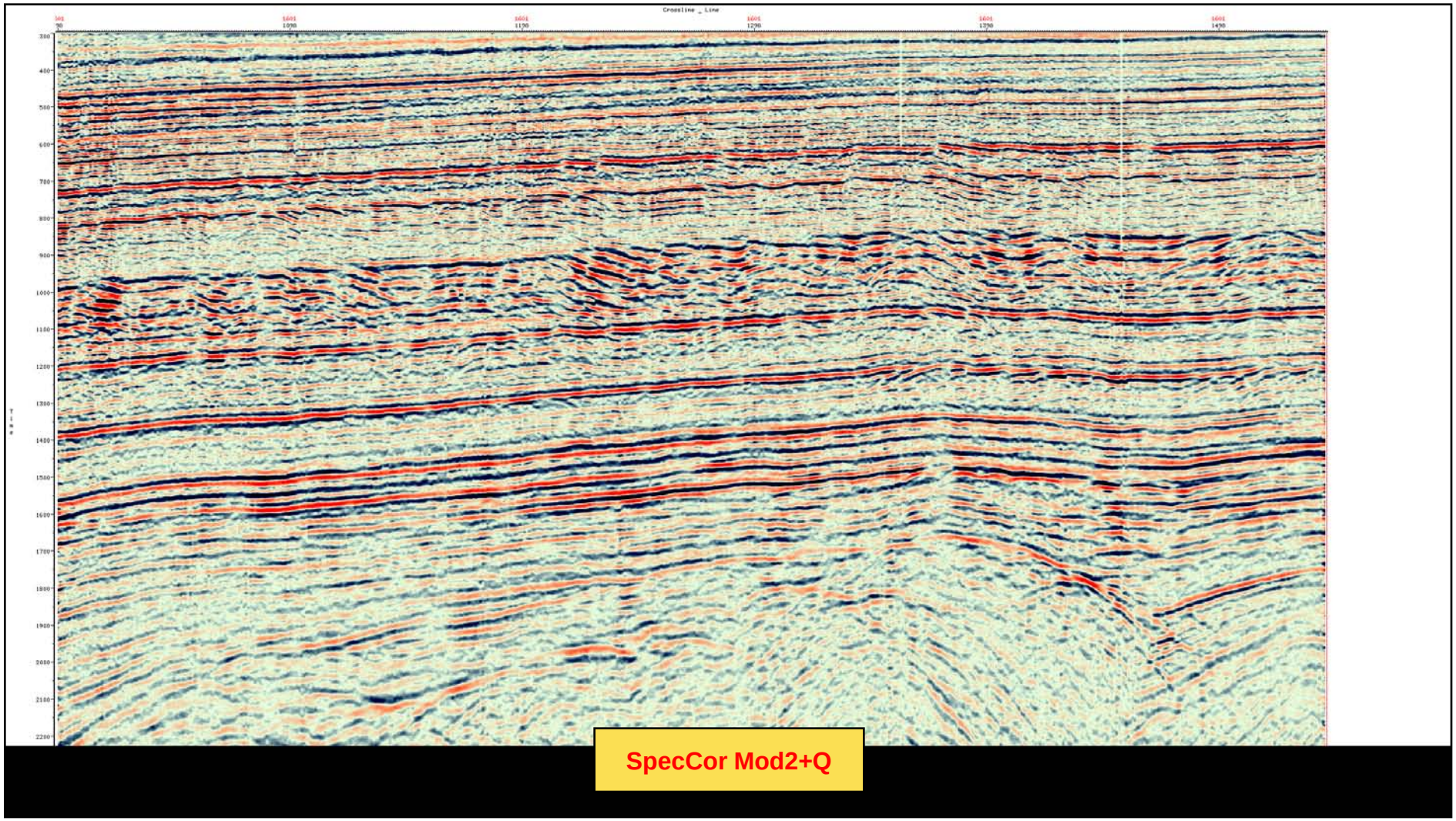
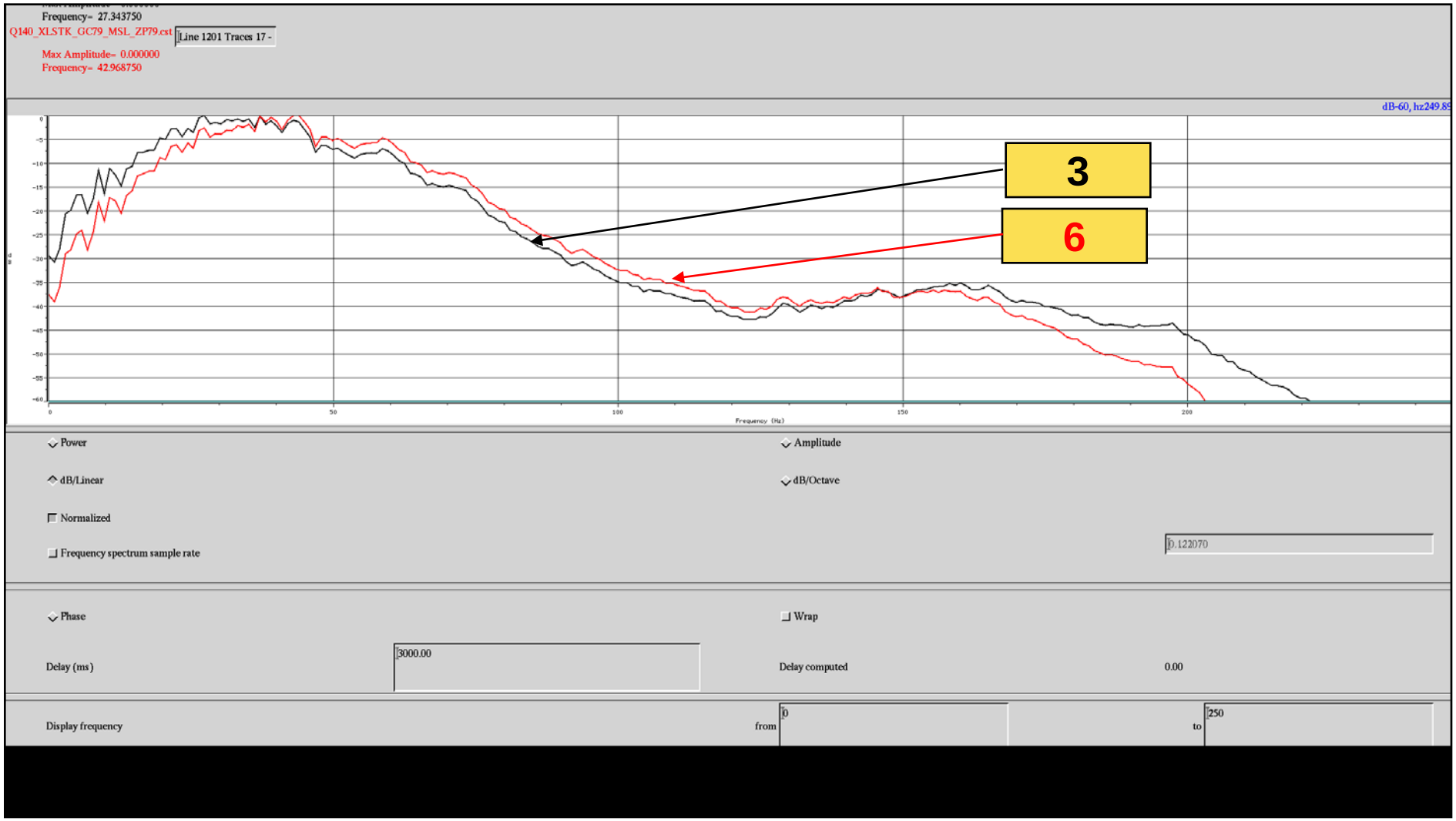
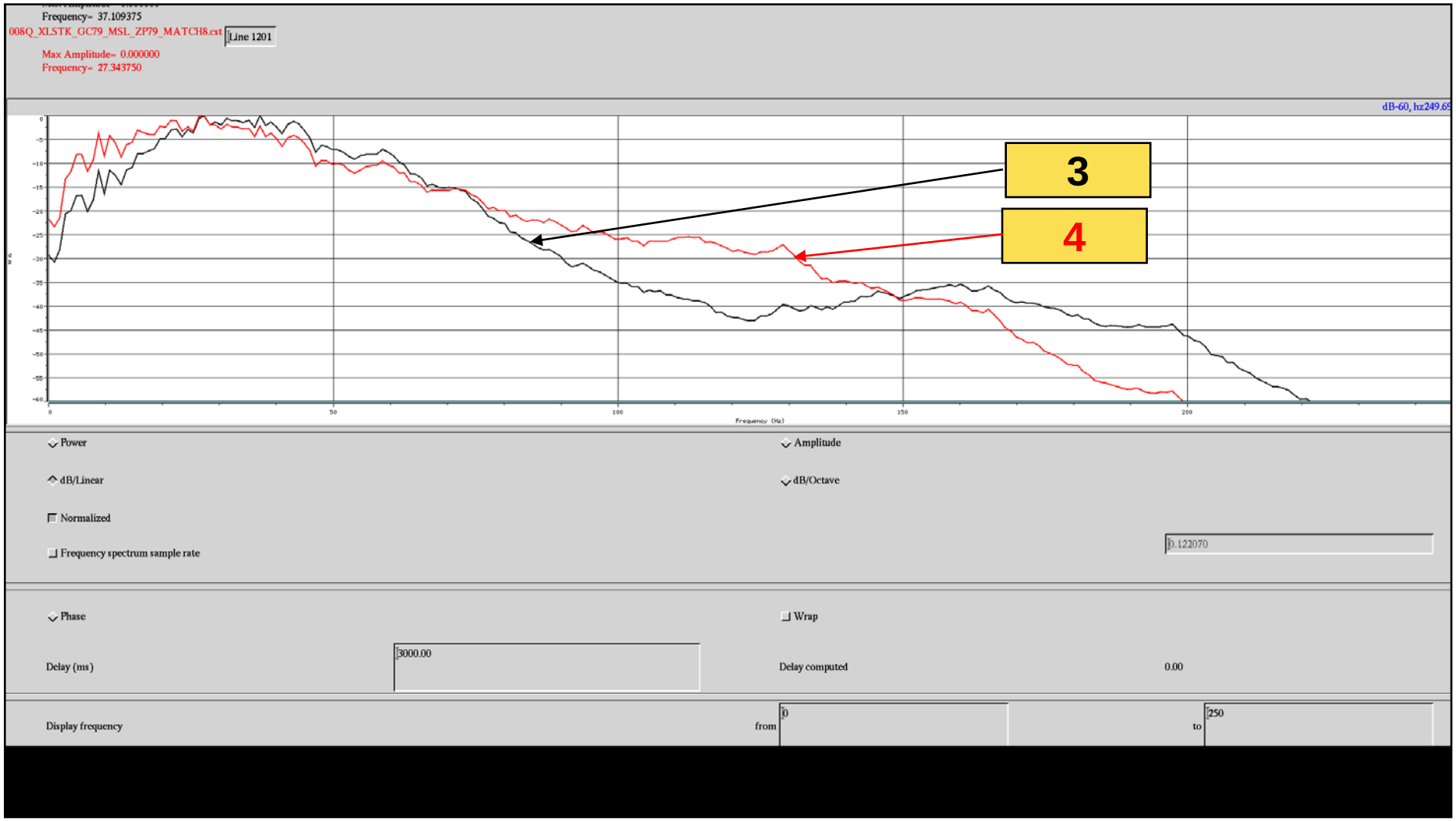


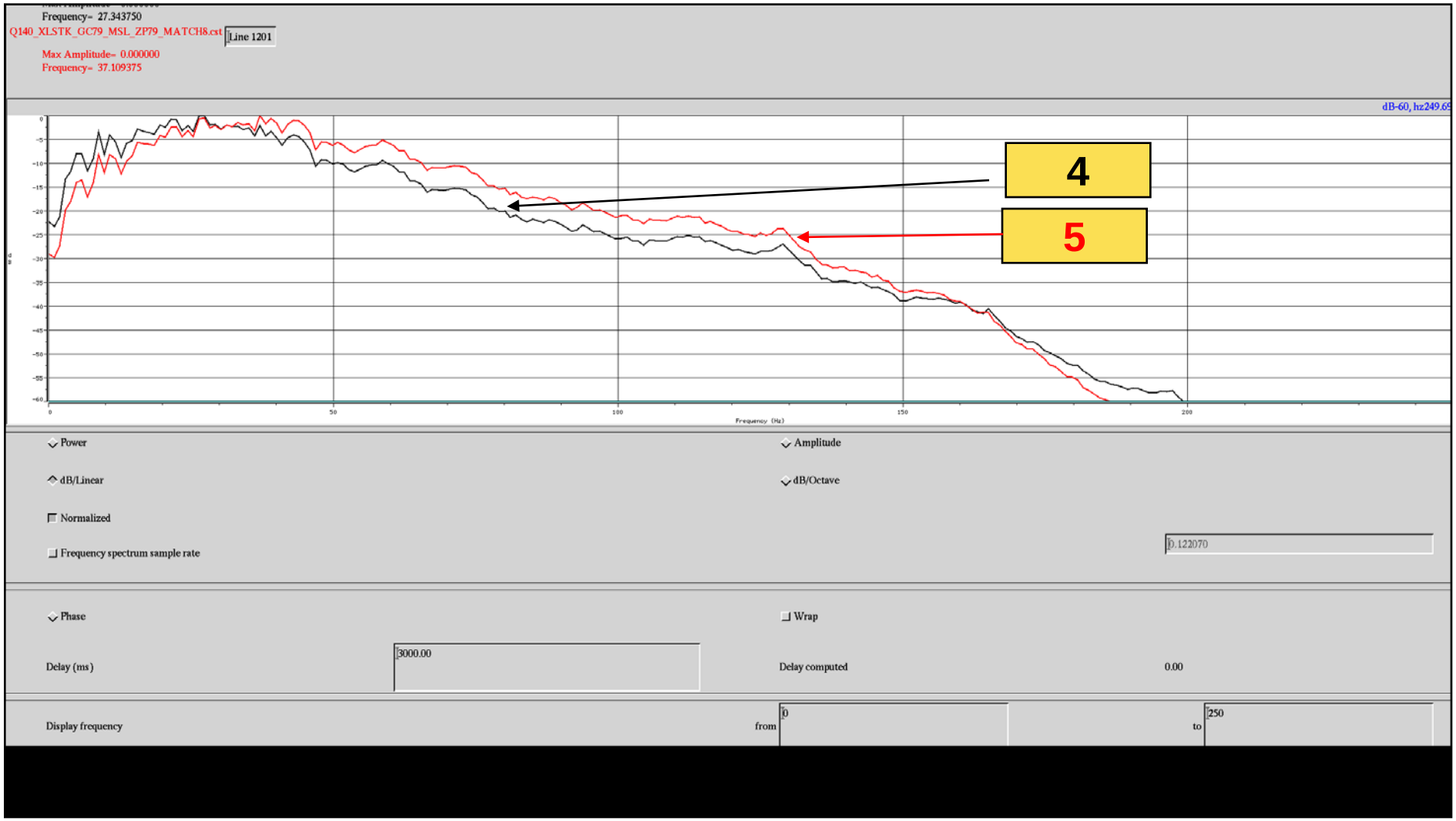
Stack Spectrum: 3vs6 – Q Comp Effect no Spectral Cor



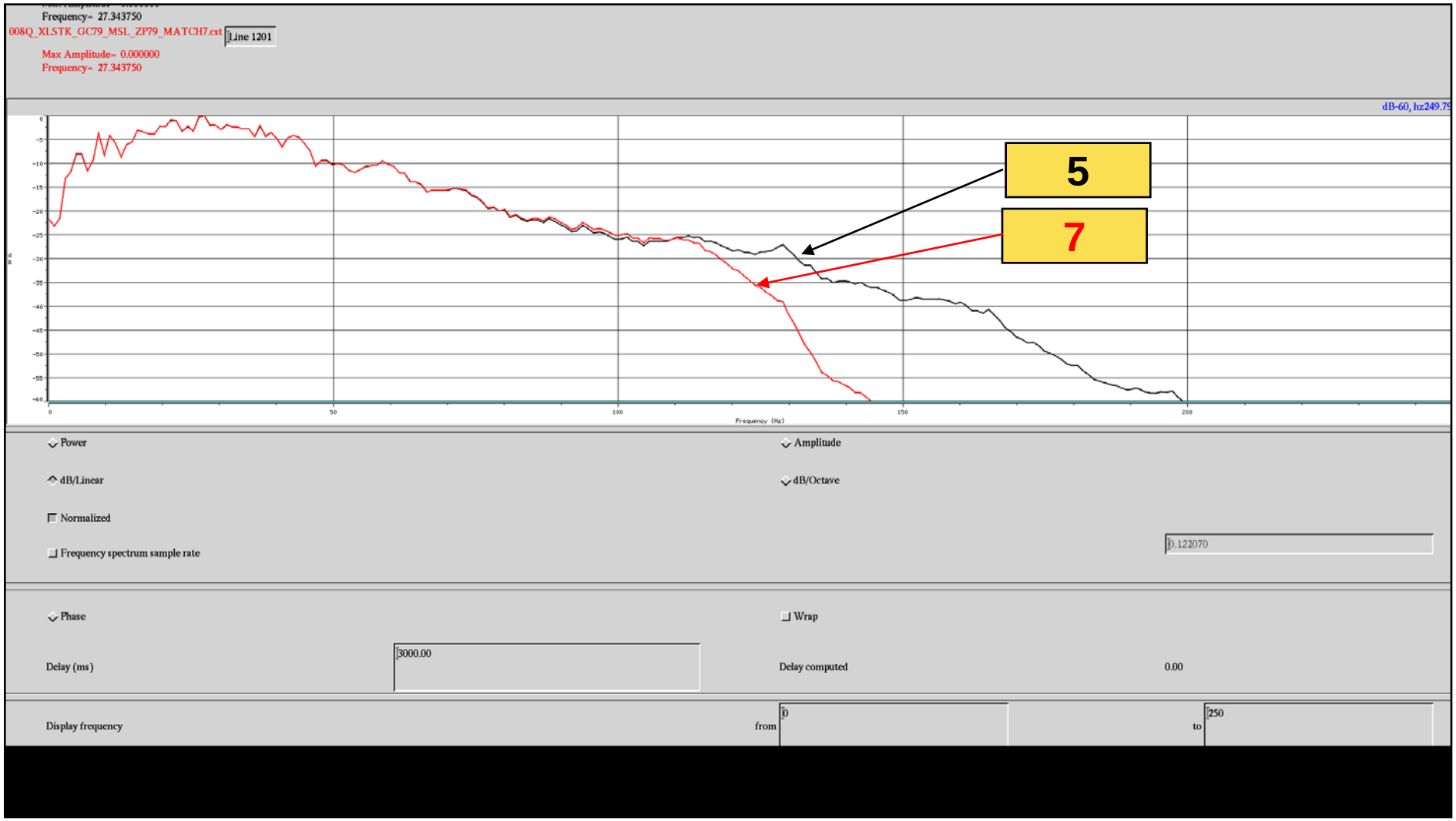
Stack Spectrum: 3vs4 – Spectral Correction Effect



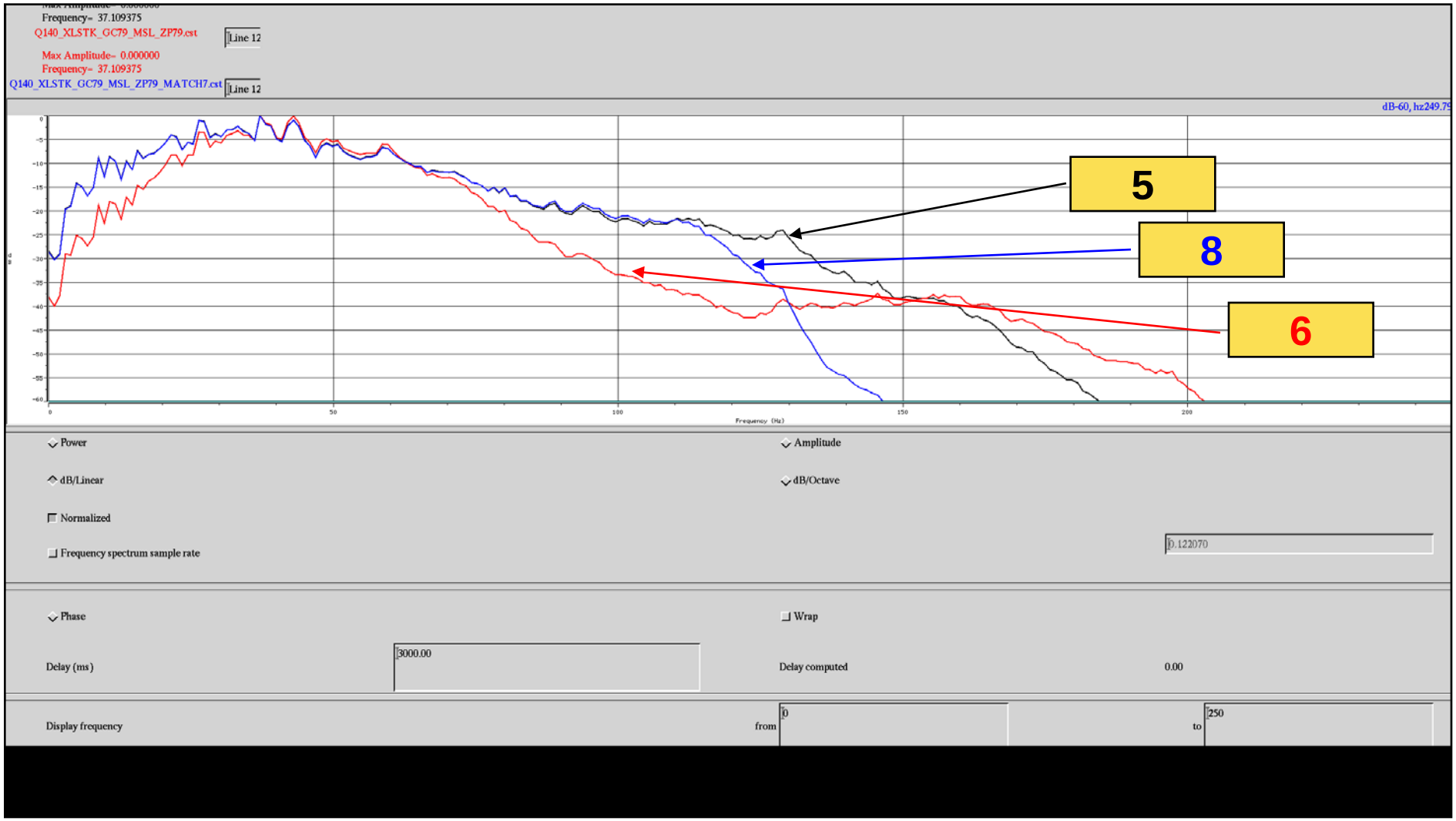
Stack Spectrum: 4vs5 – Q Comp Effect with Spectral Cor



Stack Spectrum: 5vs7 – Effect of Difference Model



Stack Spectrum: 5vs6vs8 – Spectrum Stability



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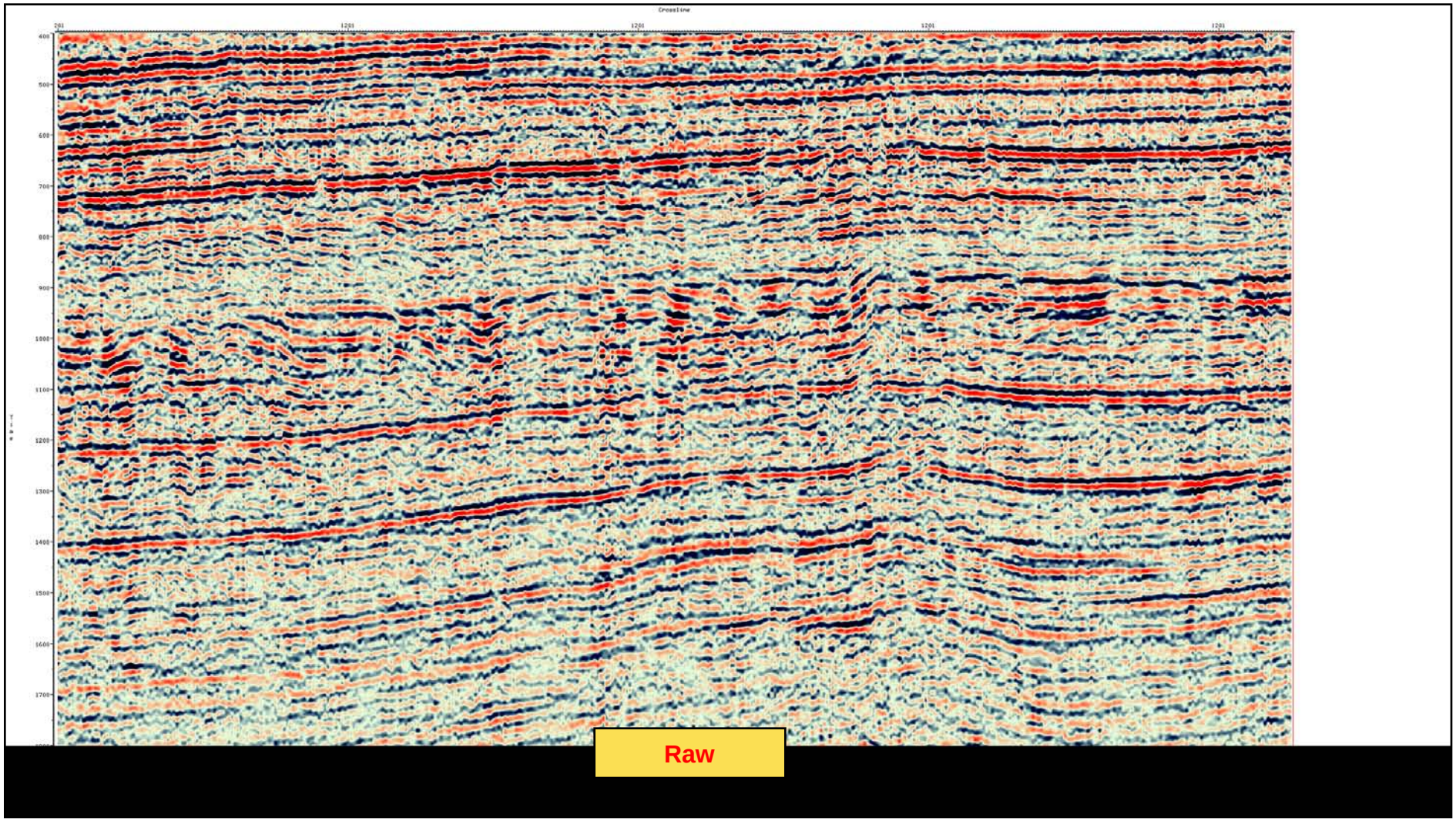

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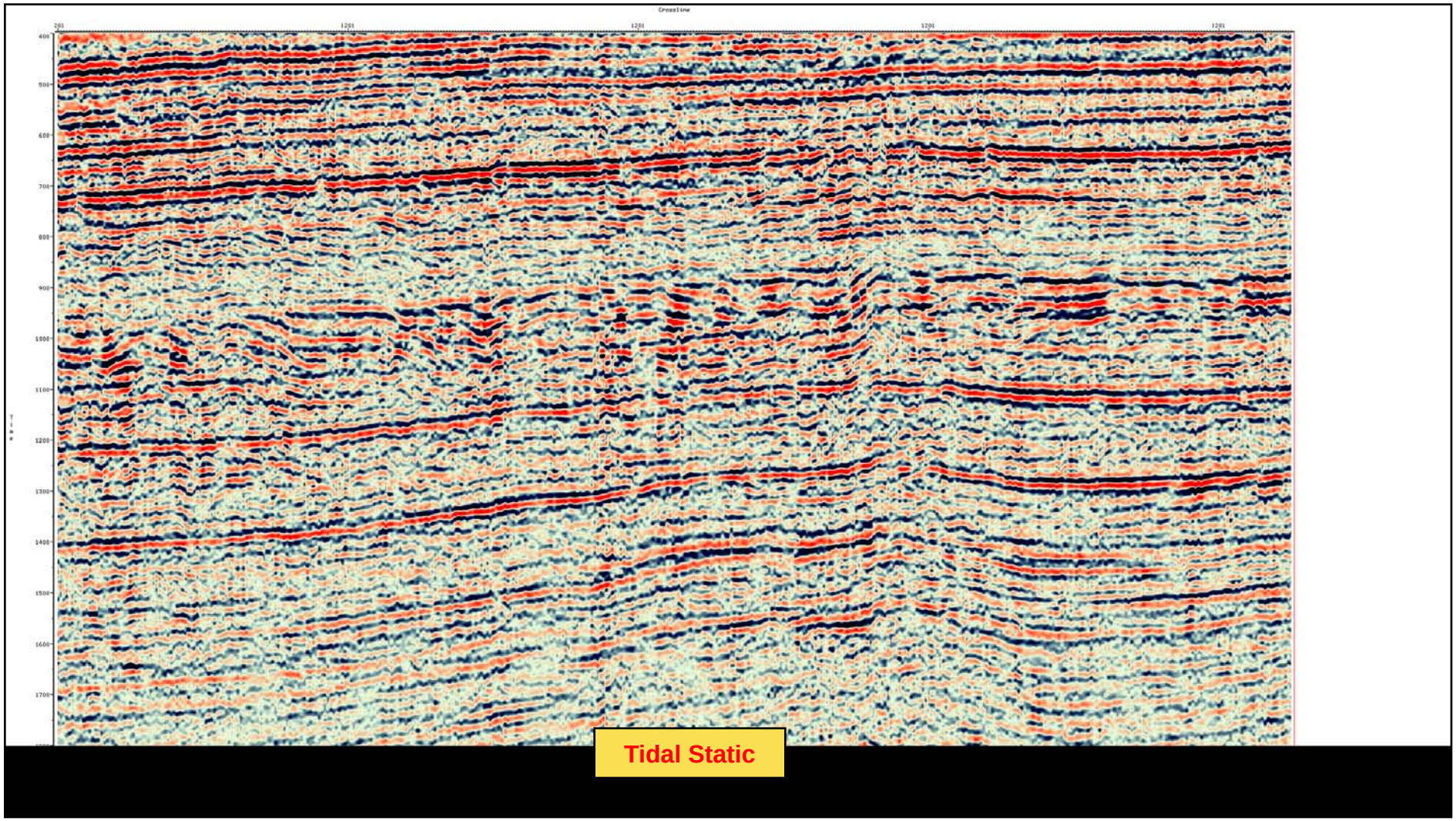
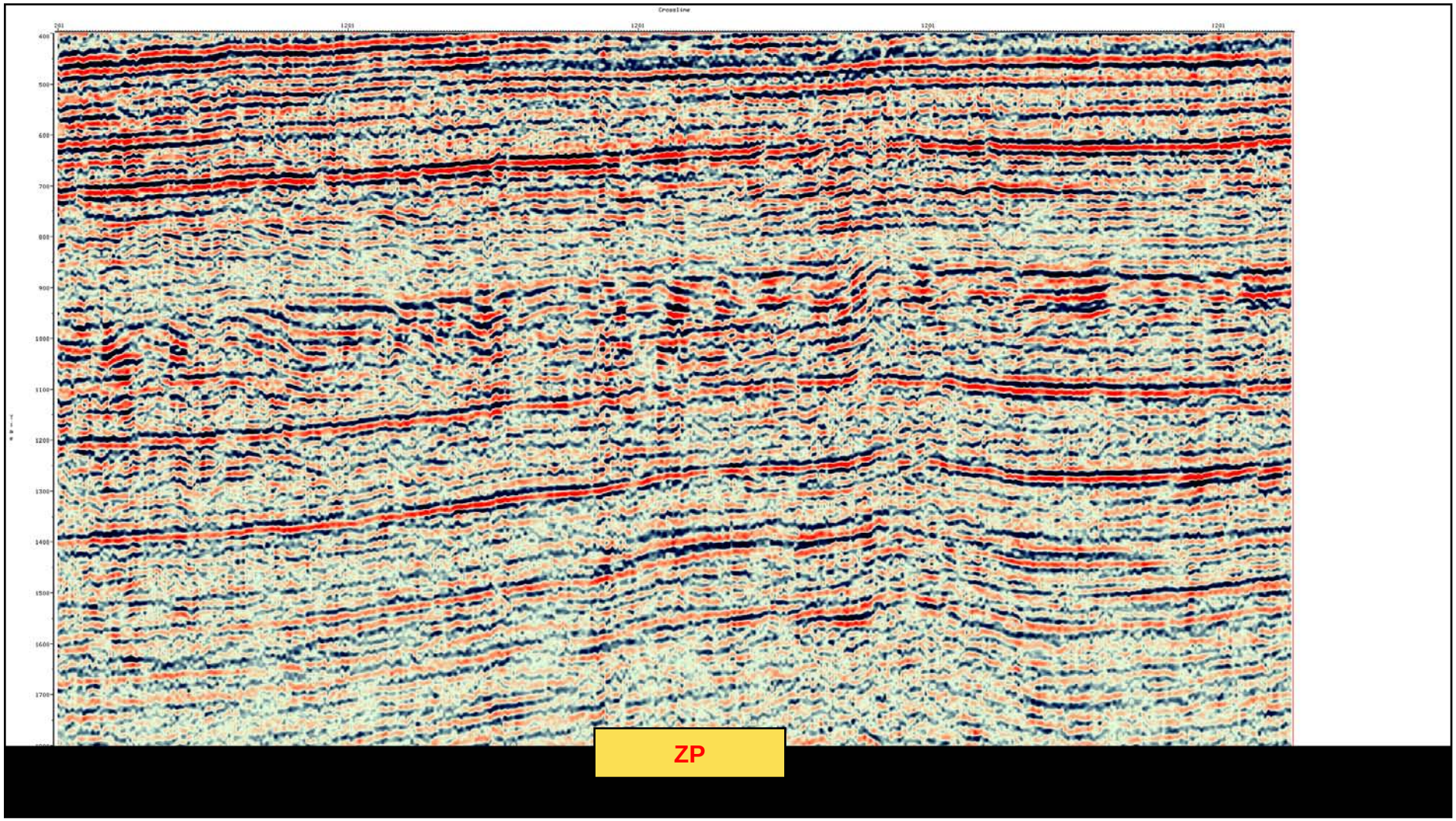


XL1201- Single Offset (600ms): 3



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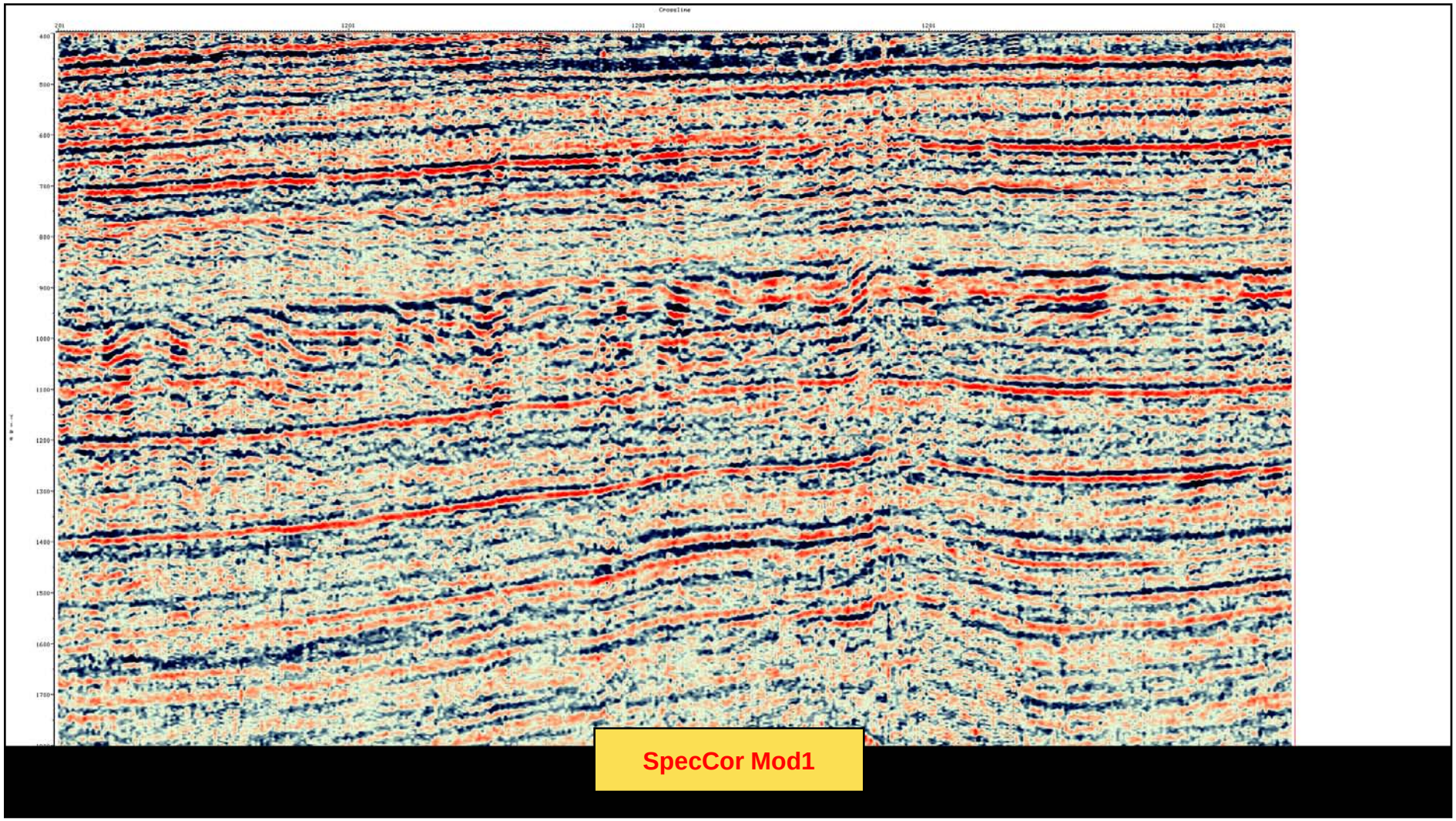
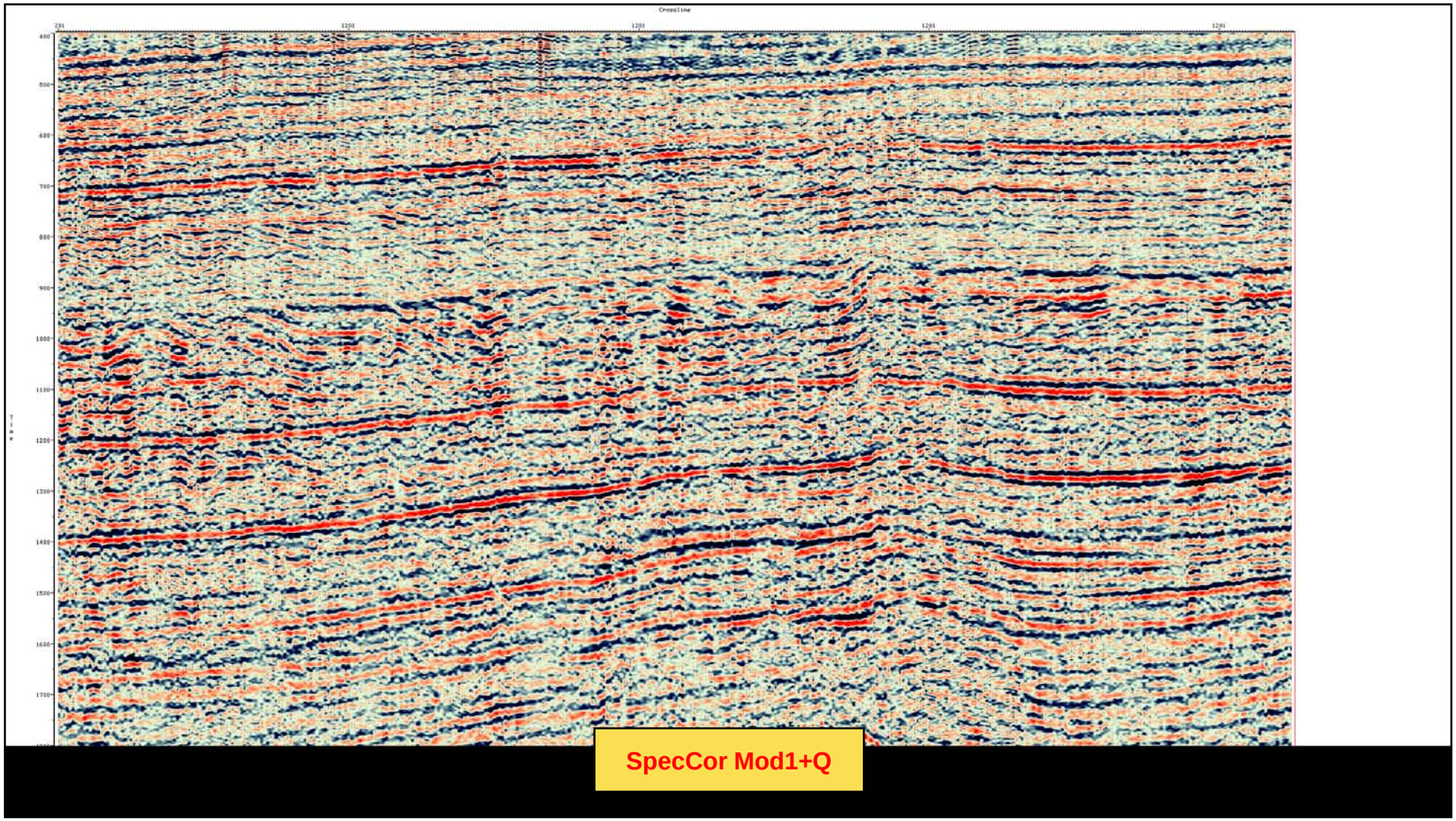
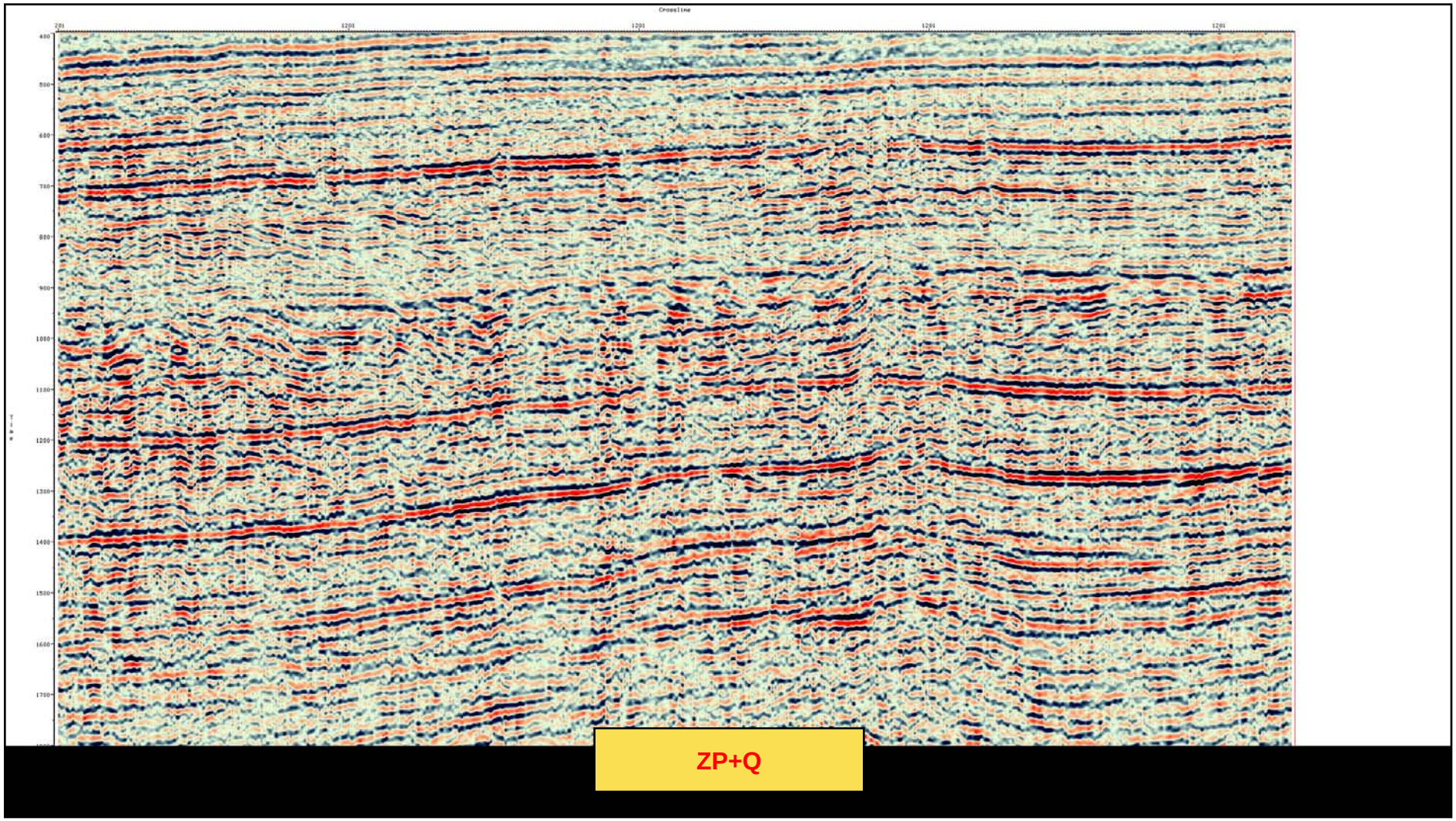


XL1201- Single Offset (600ms): 5



XL1201- Single Offset (600ms): 6



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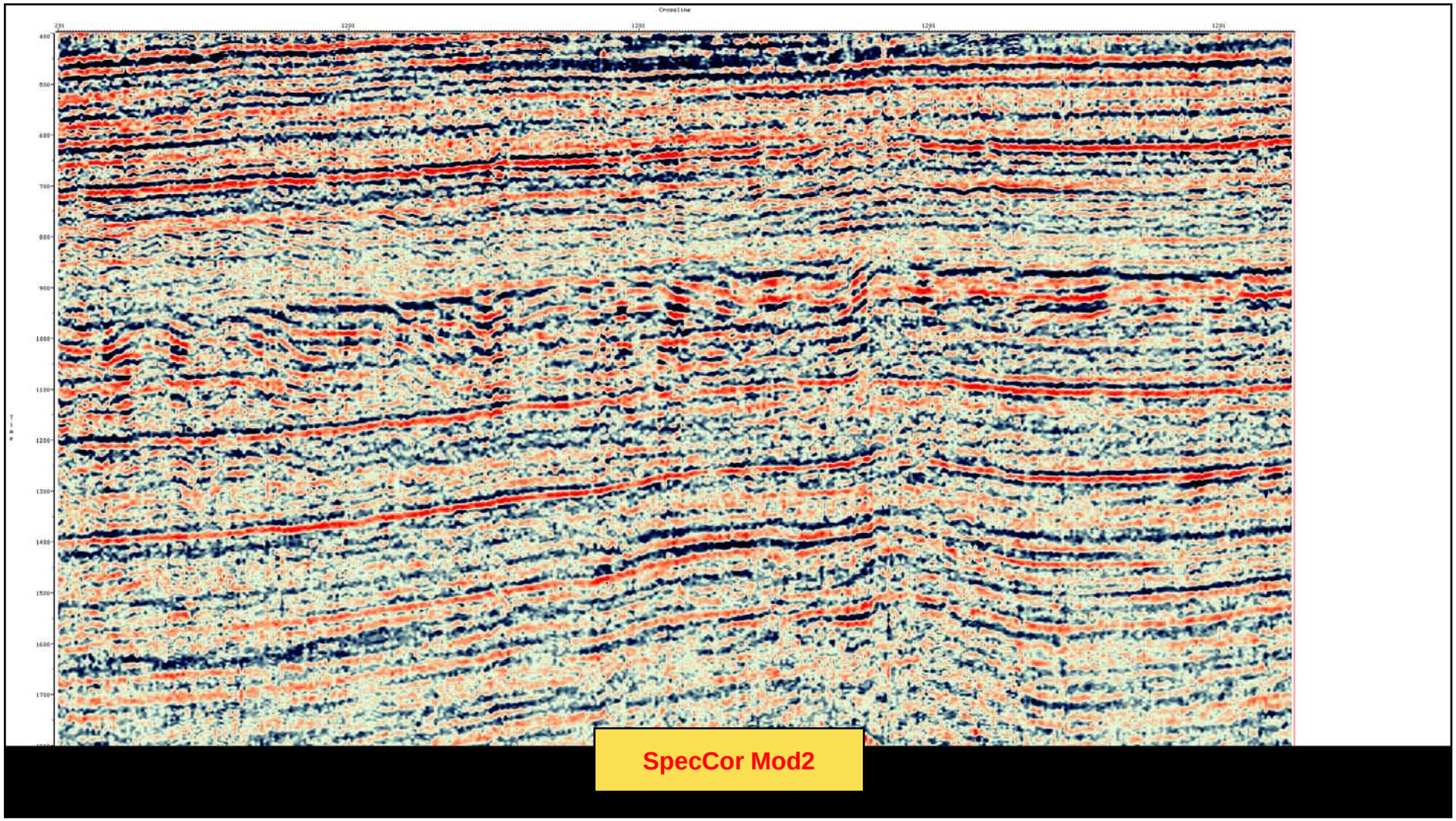
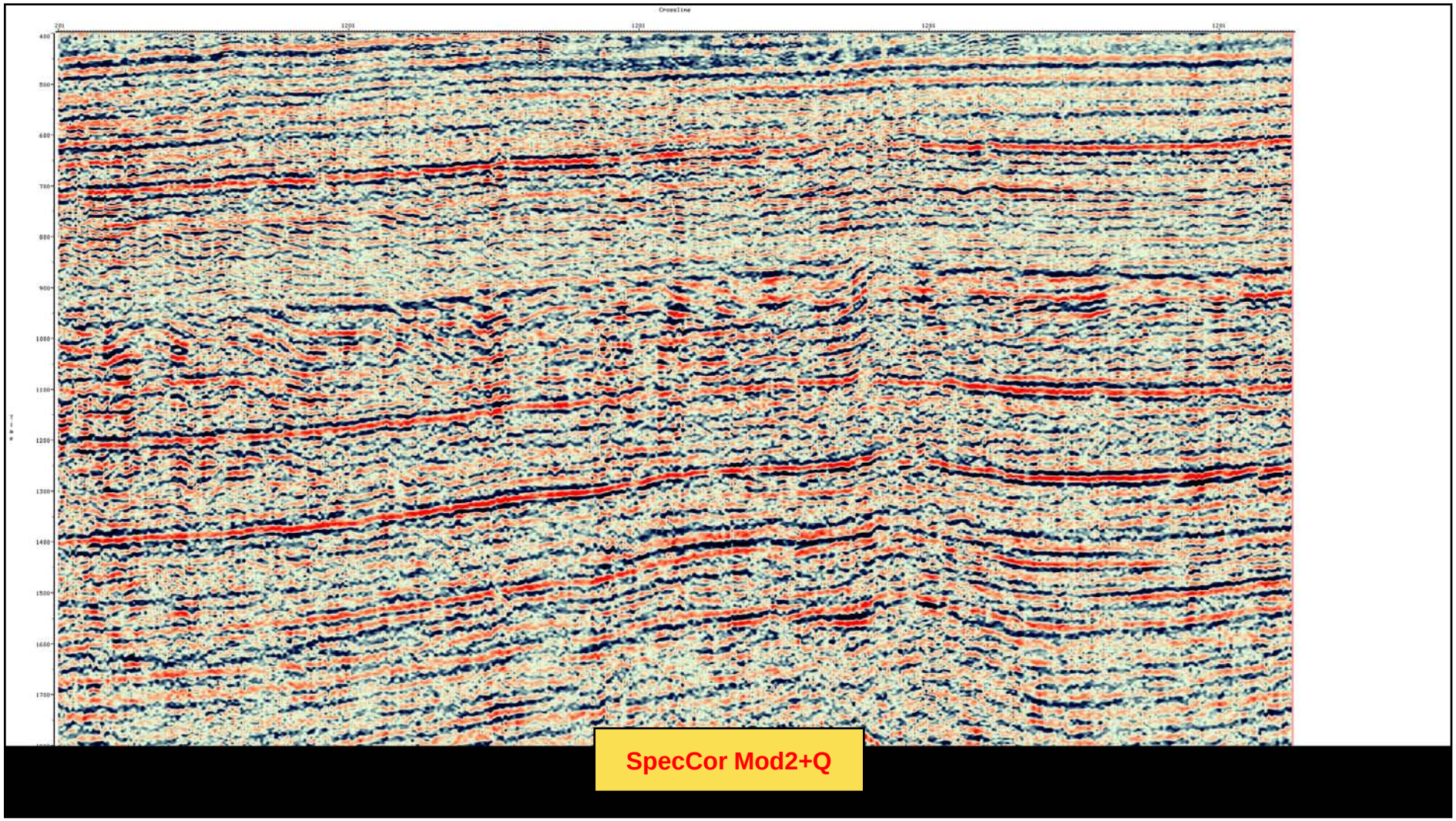


XL1201- Single Offset (600ms): 8



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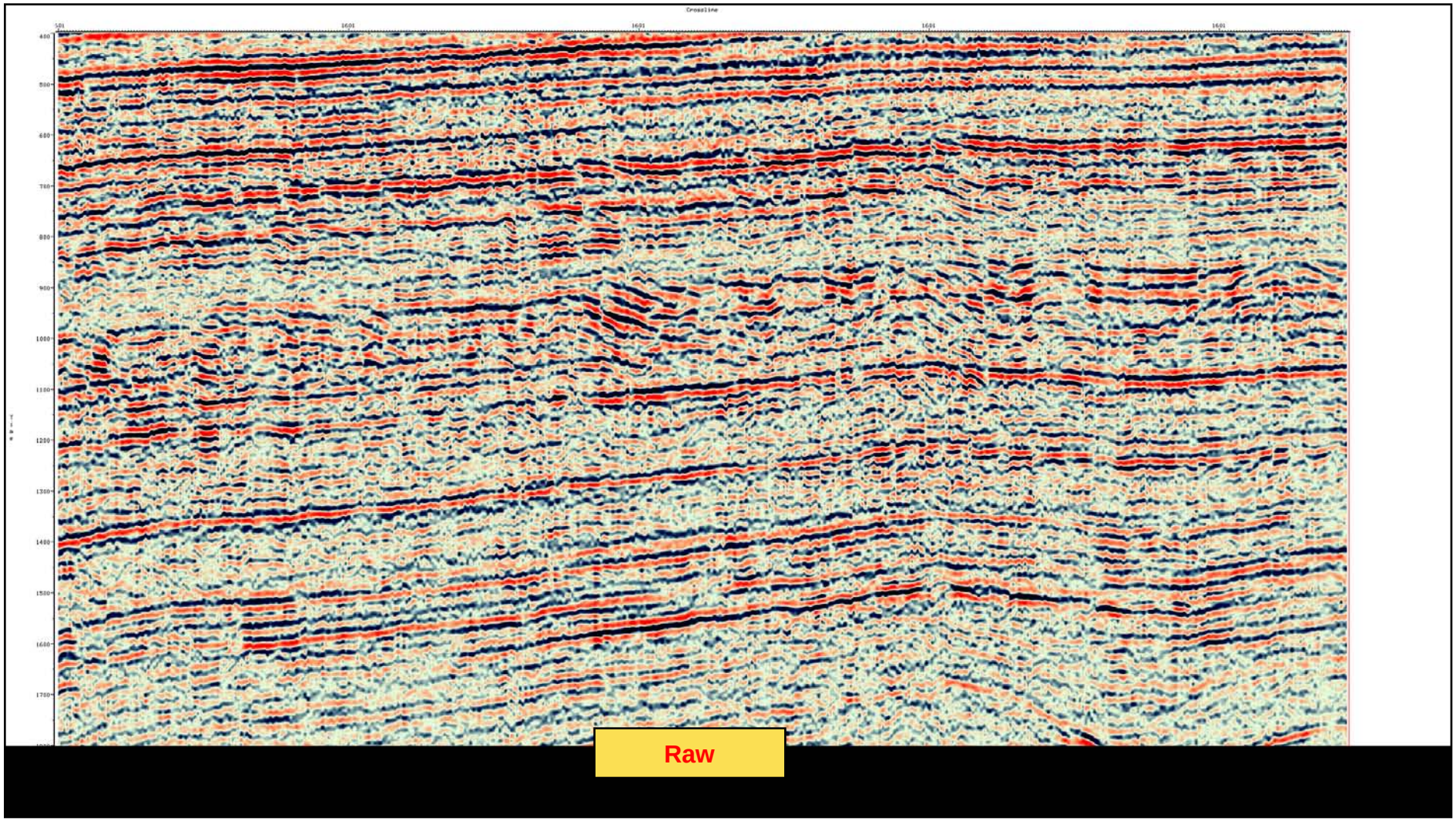

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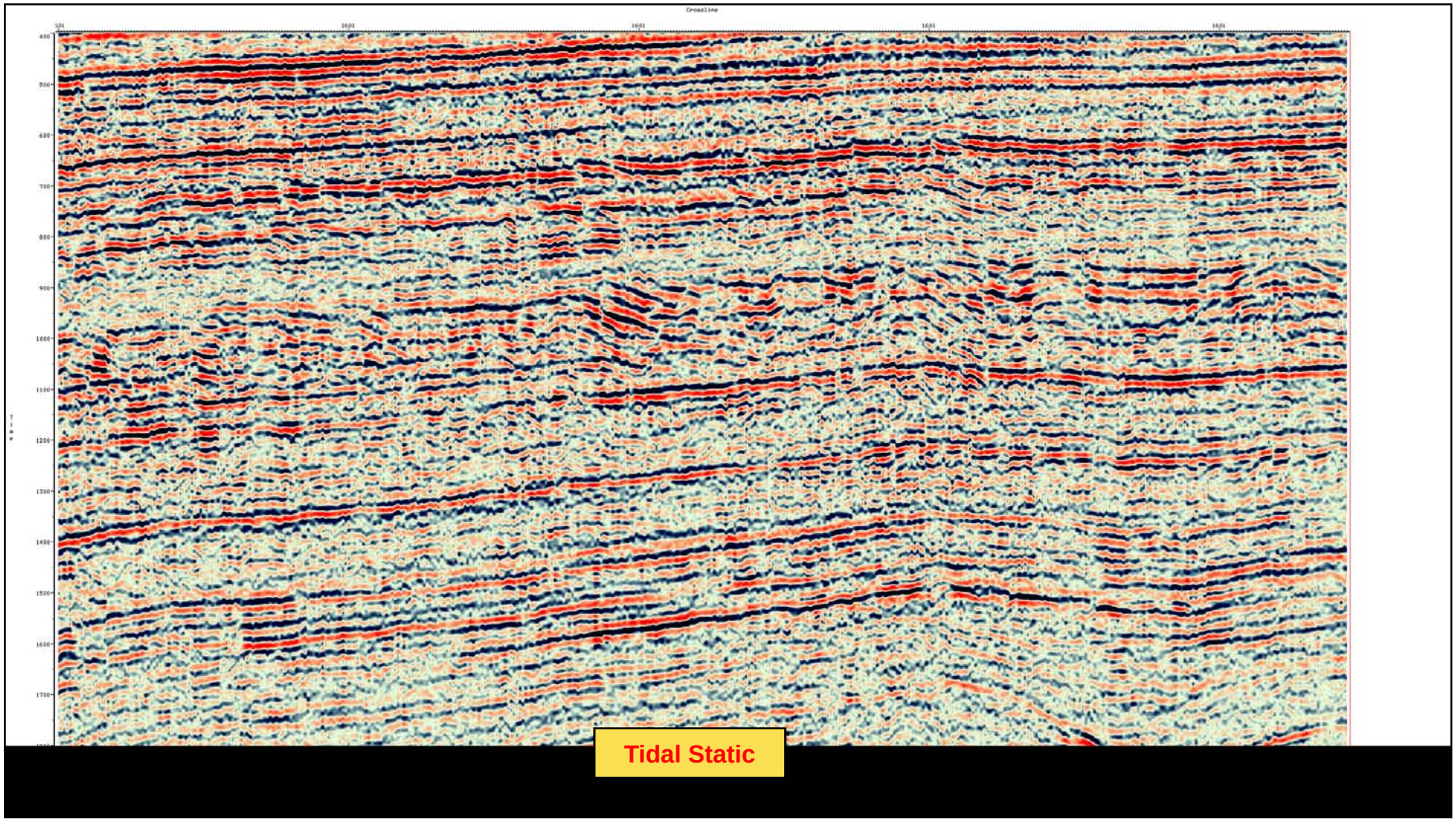

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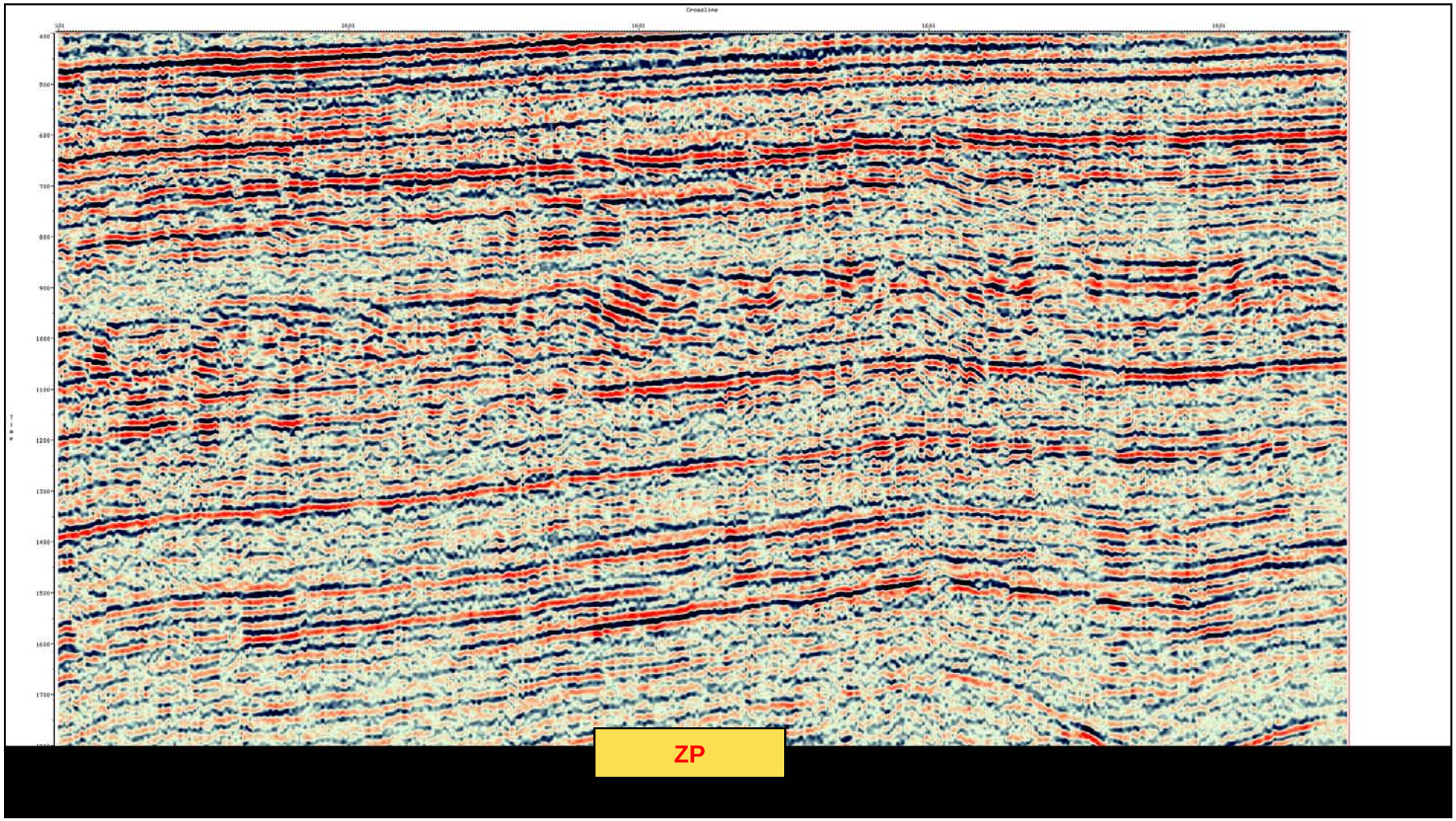

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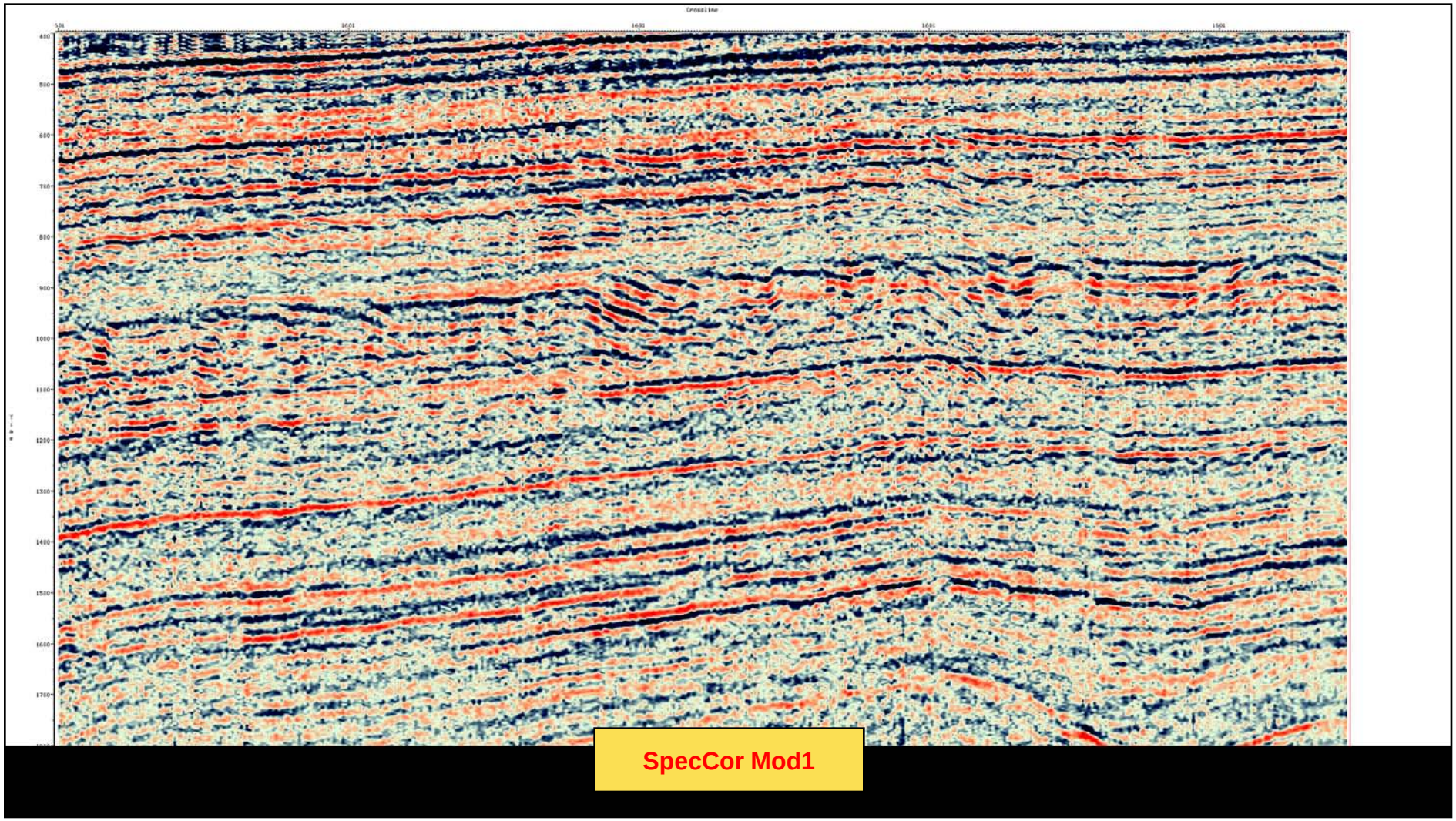
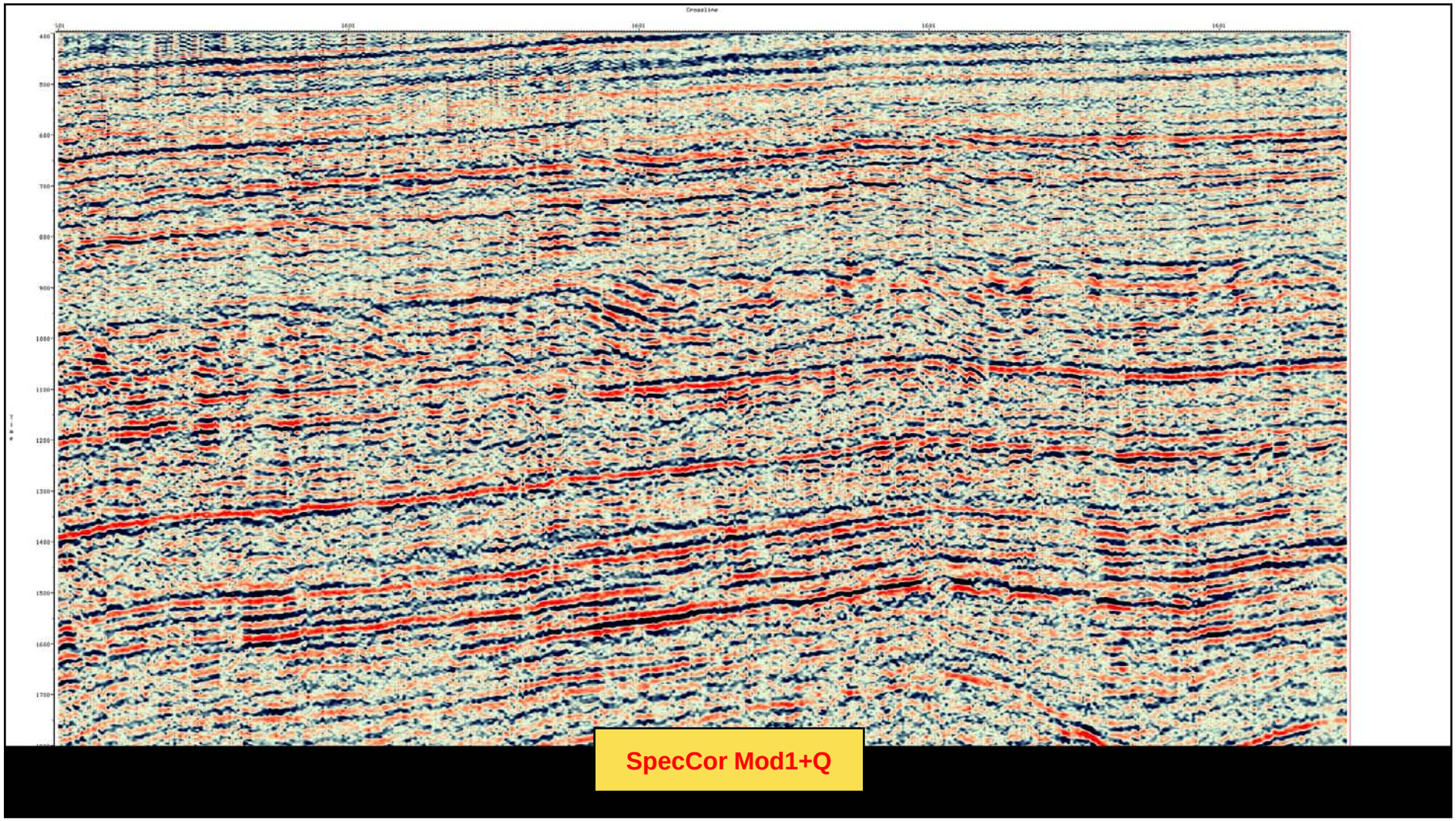
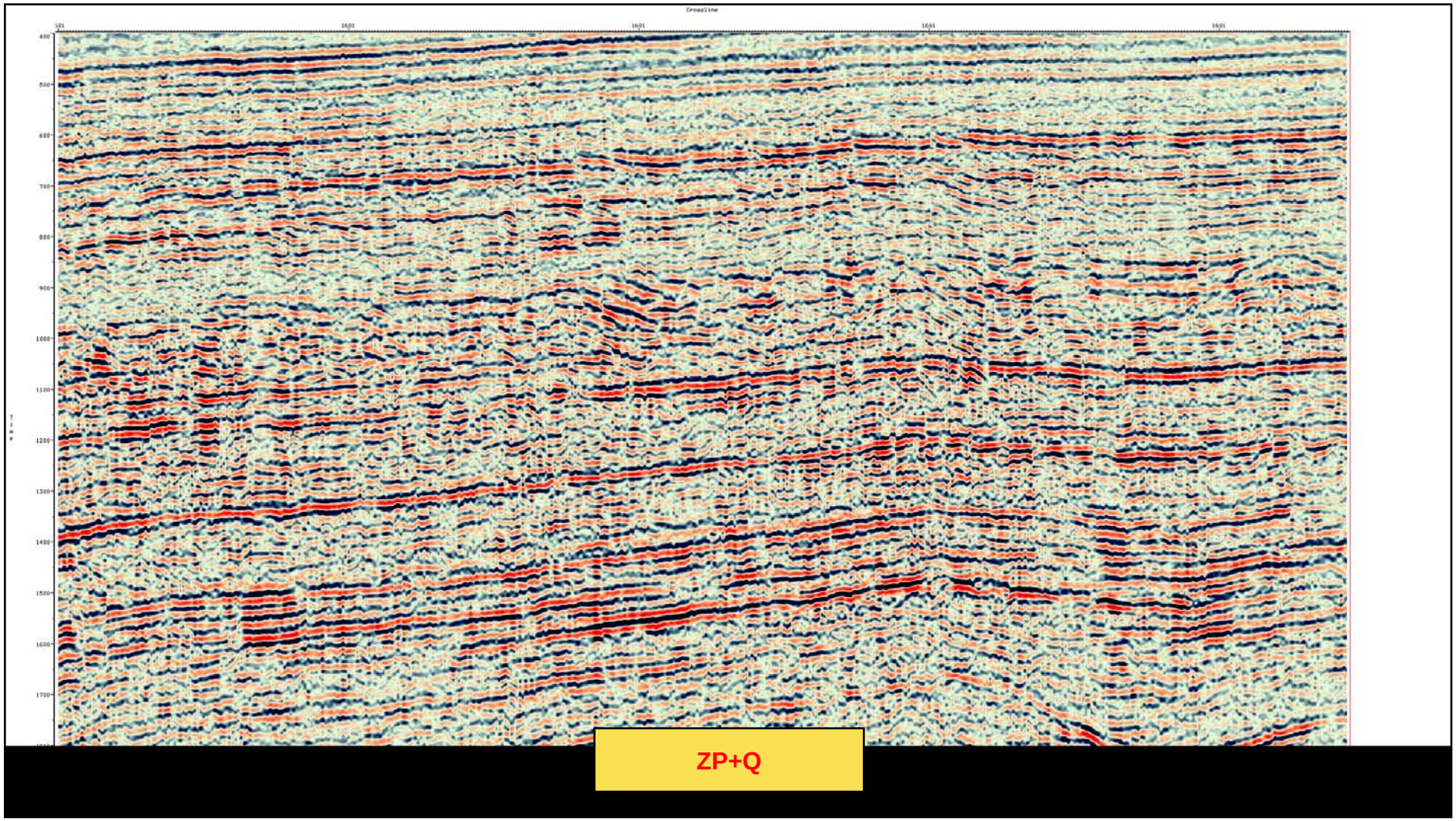


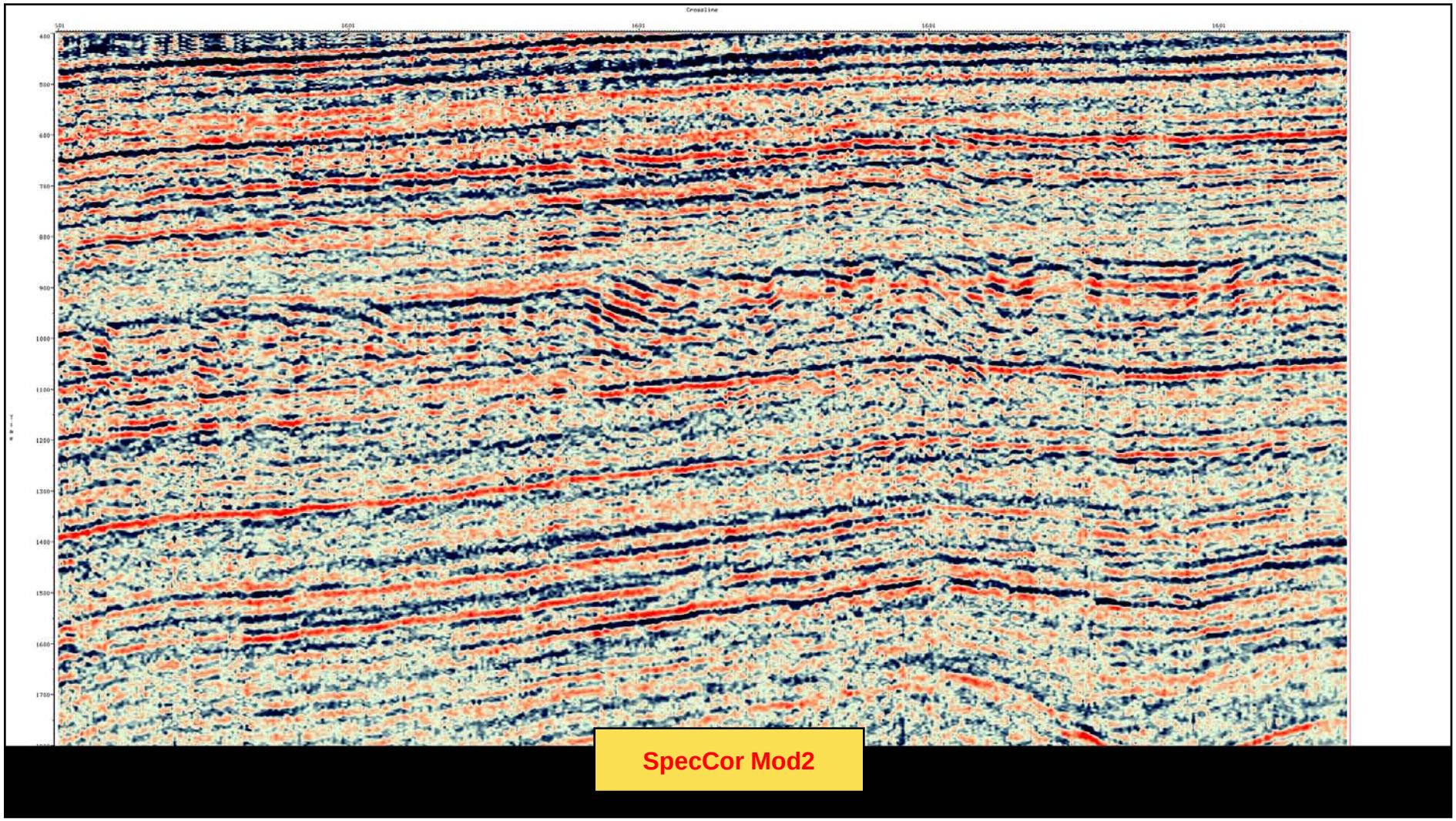
XL1601- Single Offset (600ms): 5



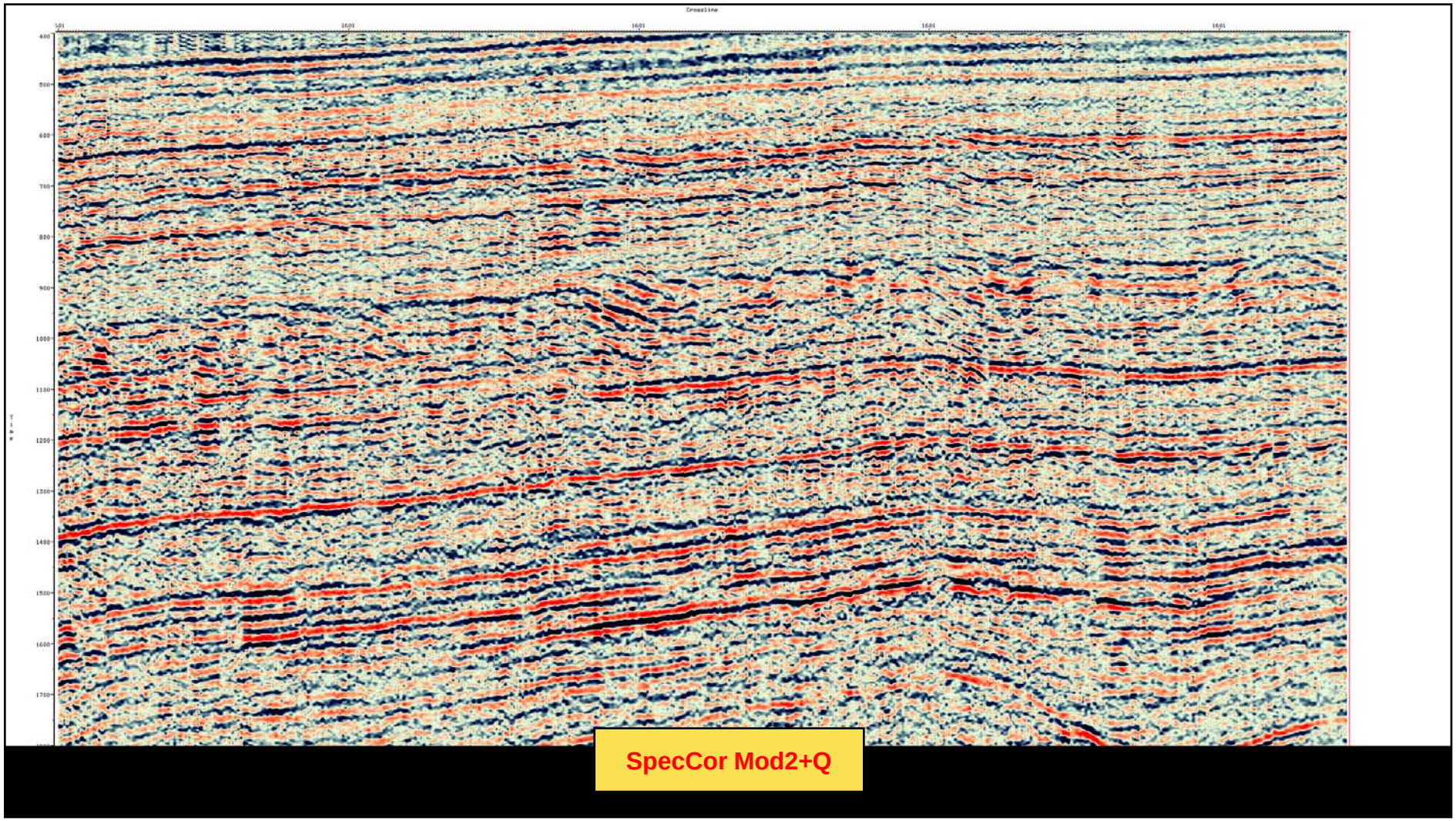
XL1601- Single Offset (600ms): 6



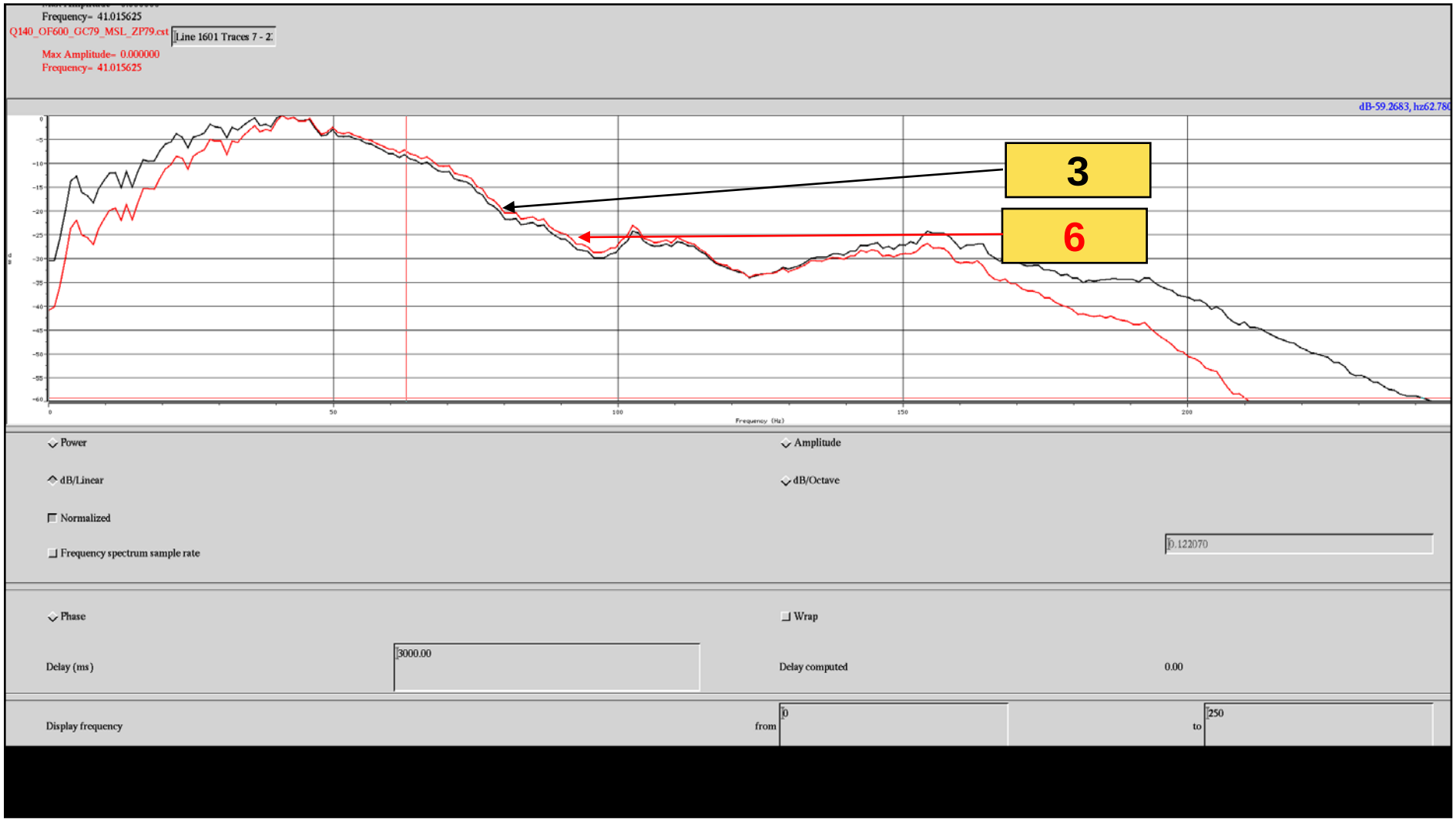
XL1601- Single Offset (600ms): 7



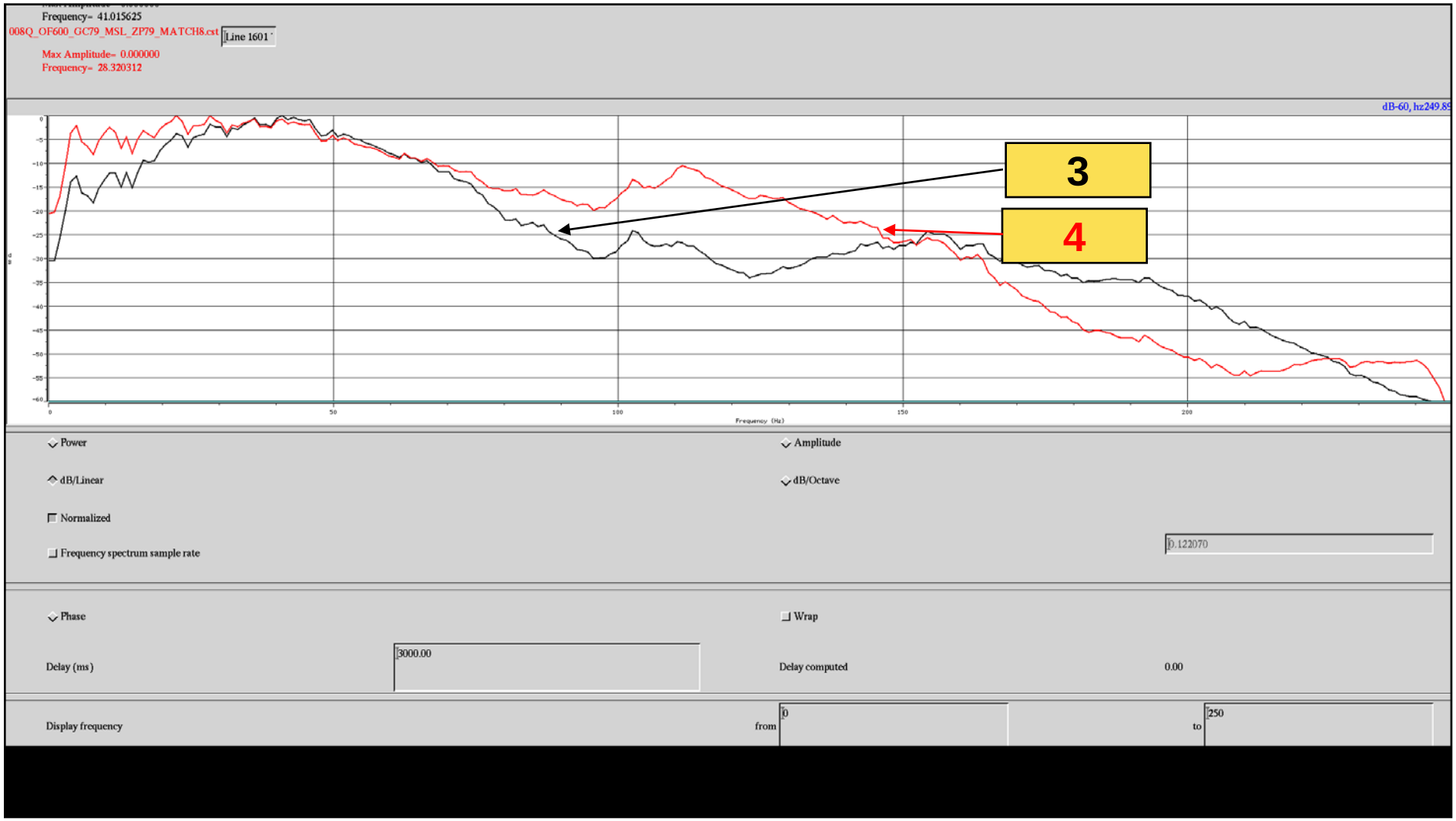
XL1601- Single Offset (600ms): 8



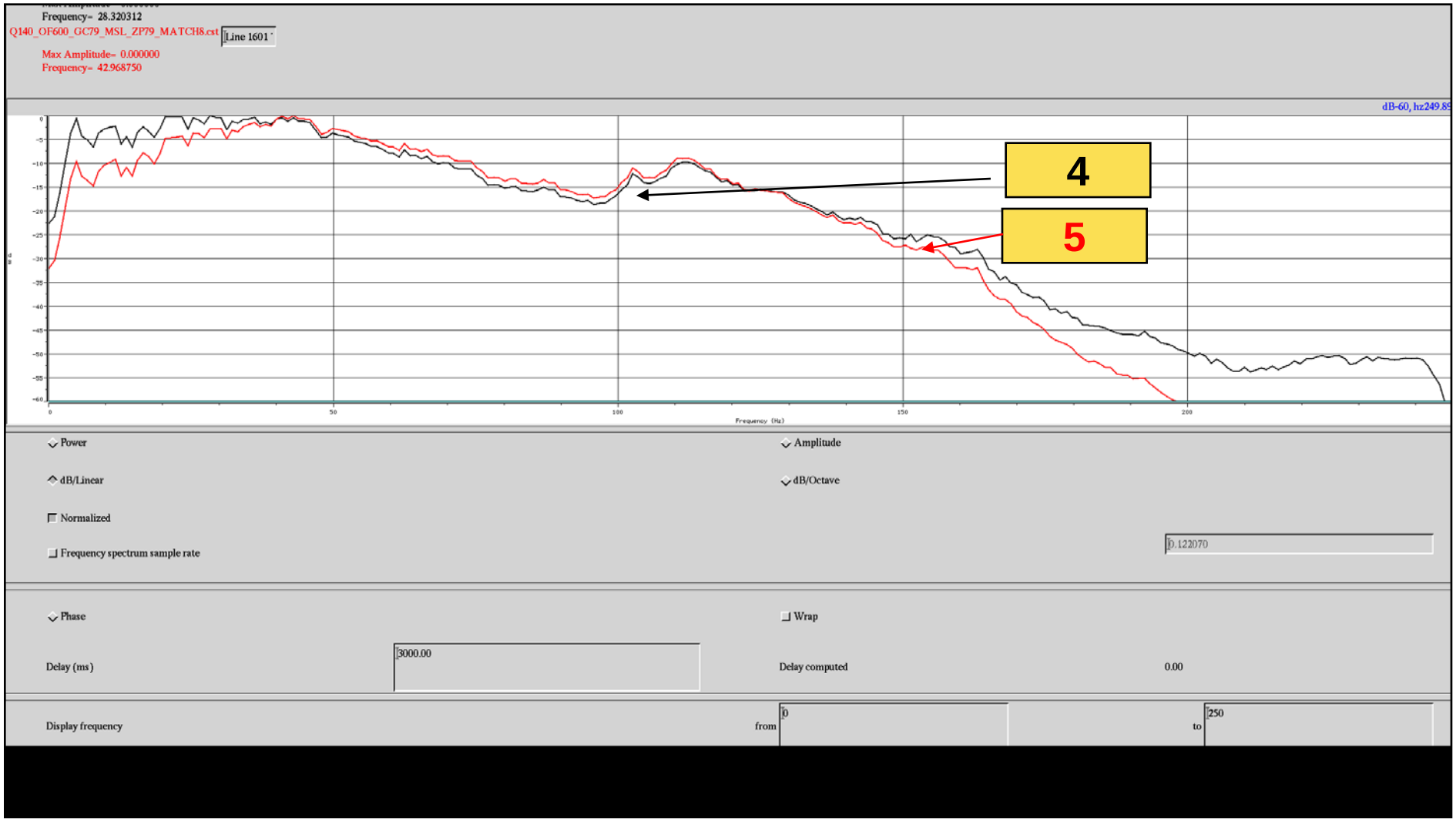
Offset Spectrum: 3vs6 – Q Comp Effect no Spectral Cor



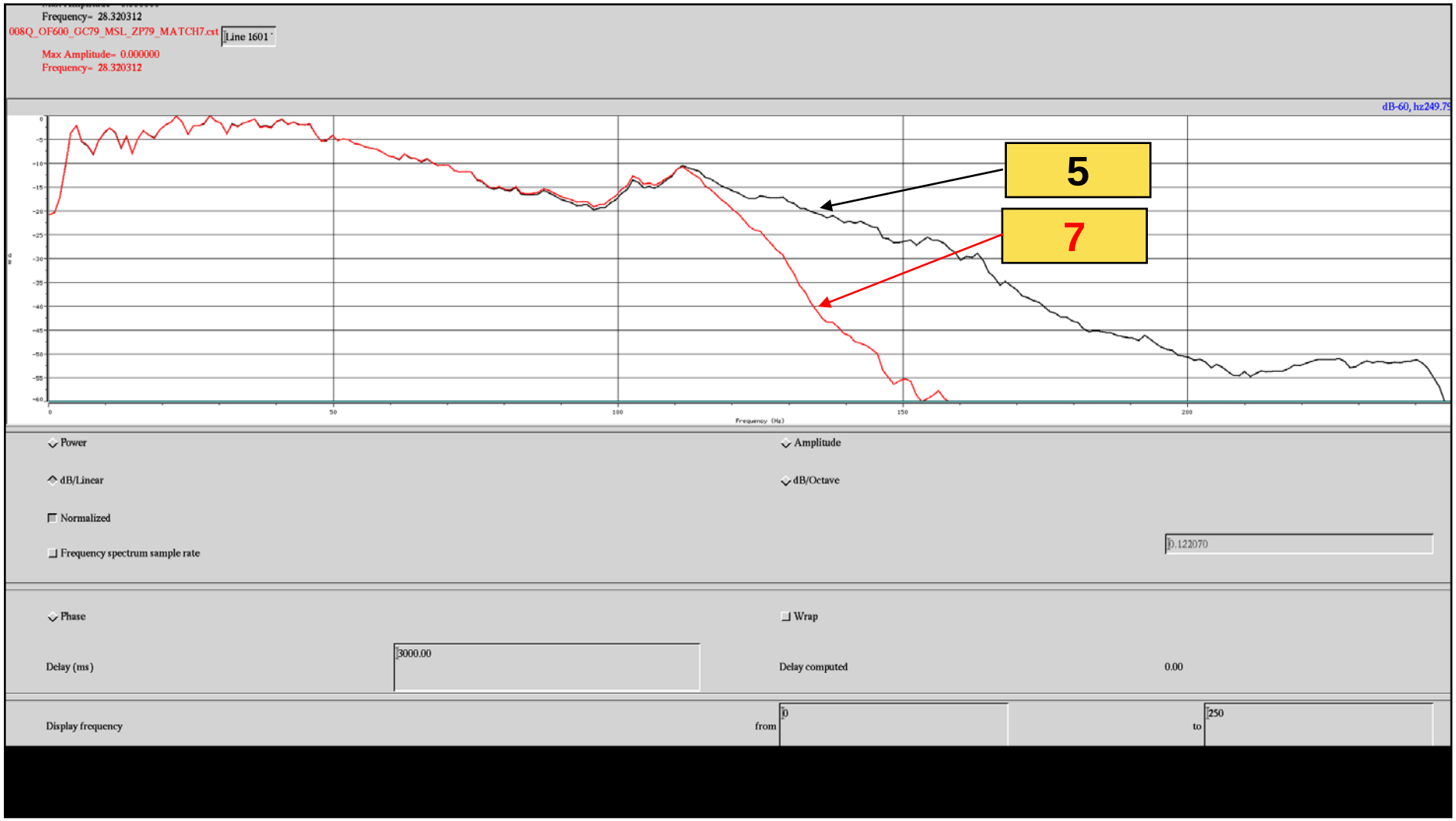
Offset Spectrum: 3vs4 – Spectral Correction Effect



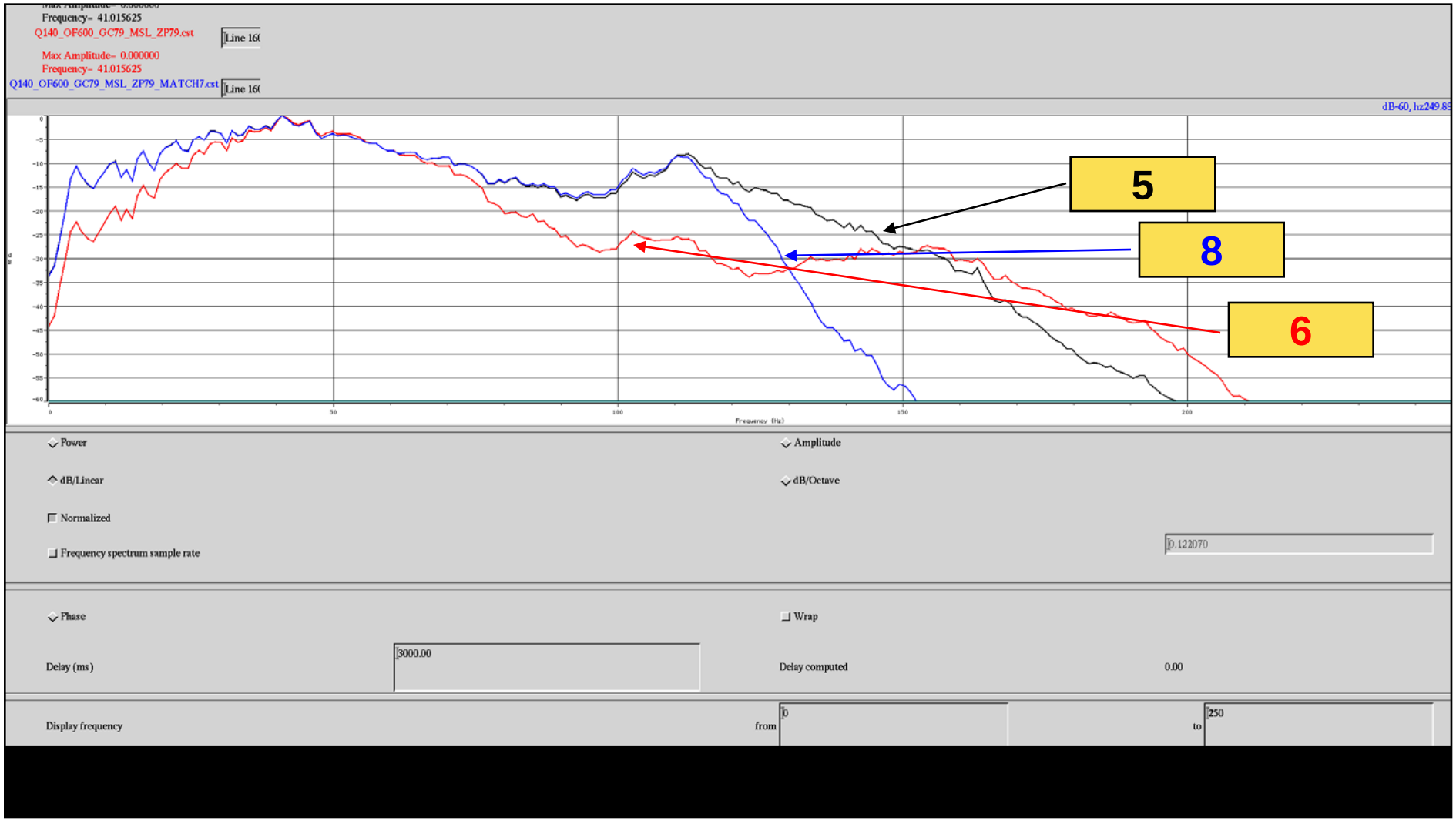
Offset Spectrum: 4vs5 – Q Comp Effect with Spectral Cor



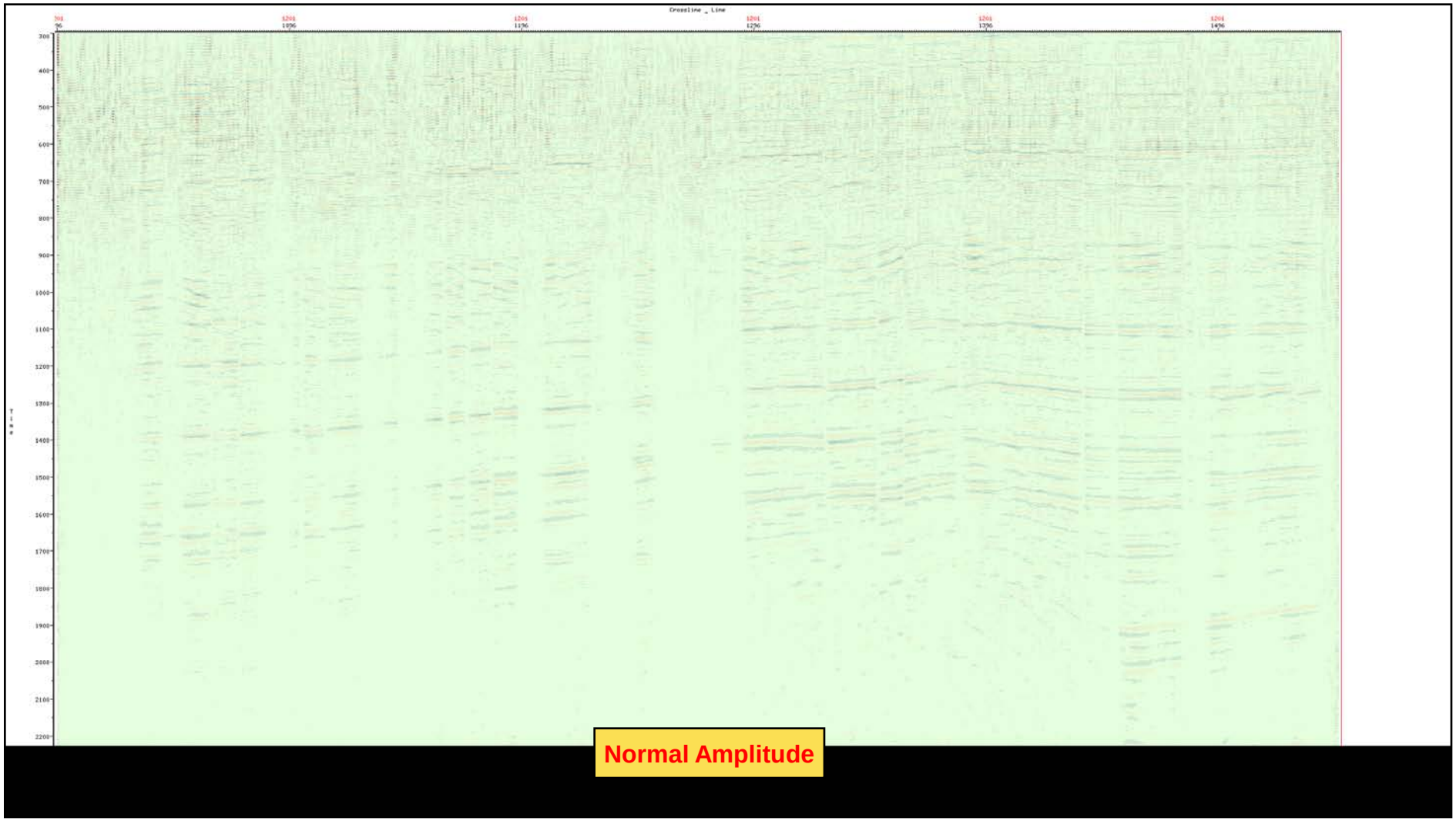
Offset Spectrum: 5vs7 – Effect of Difference Model



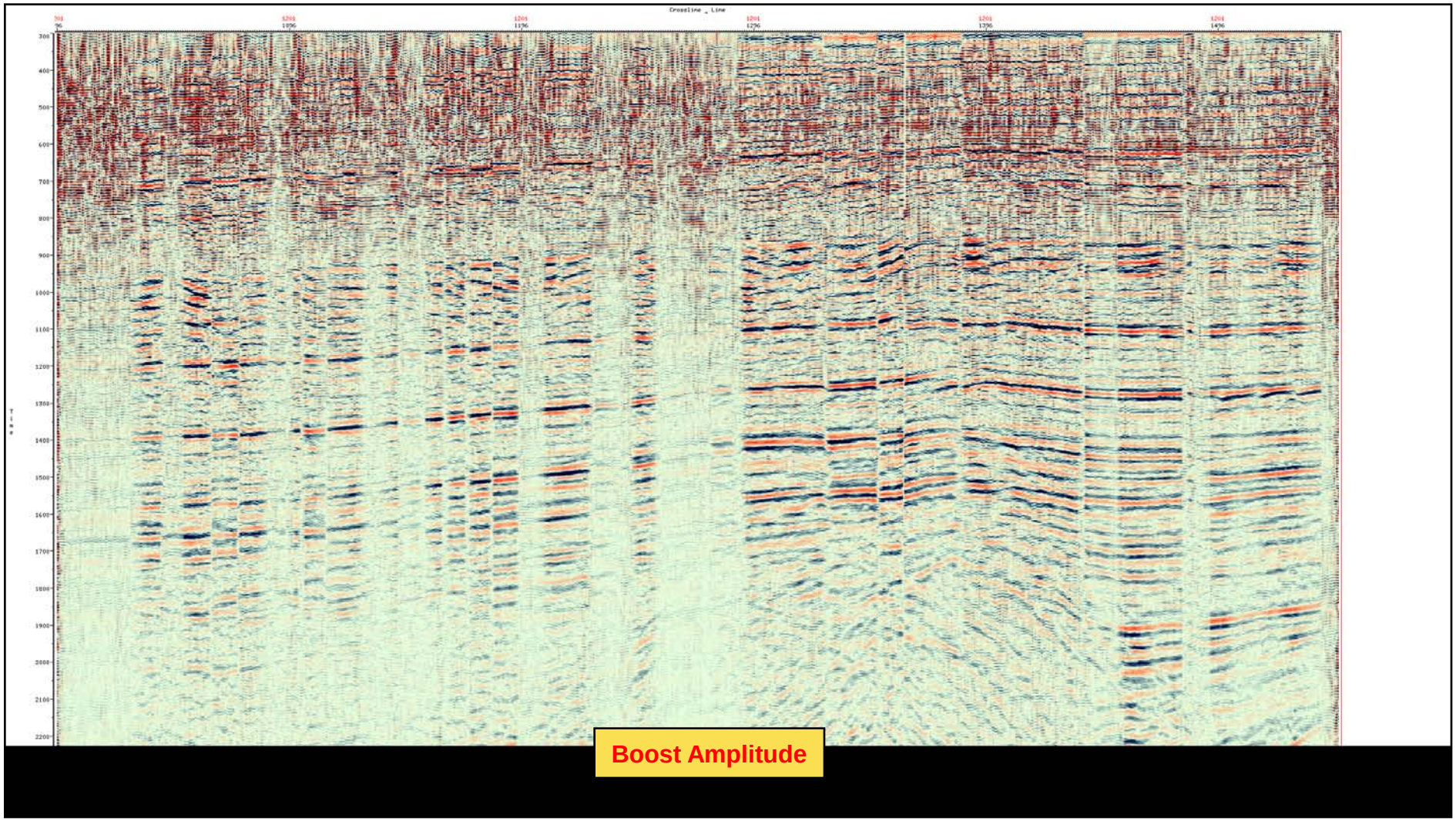
Offset Spectrum: 5vs6vs8 – Spectrum Stability



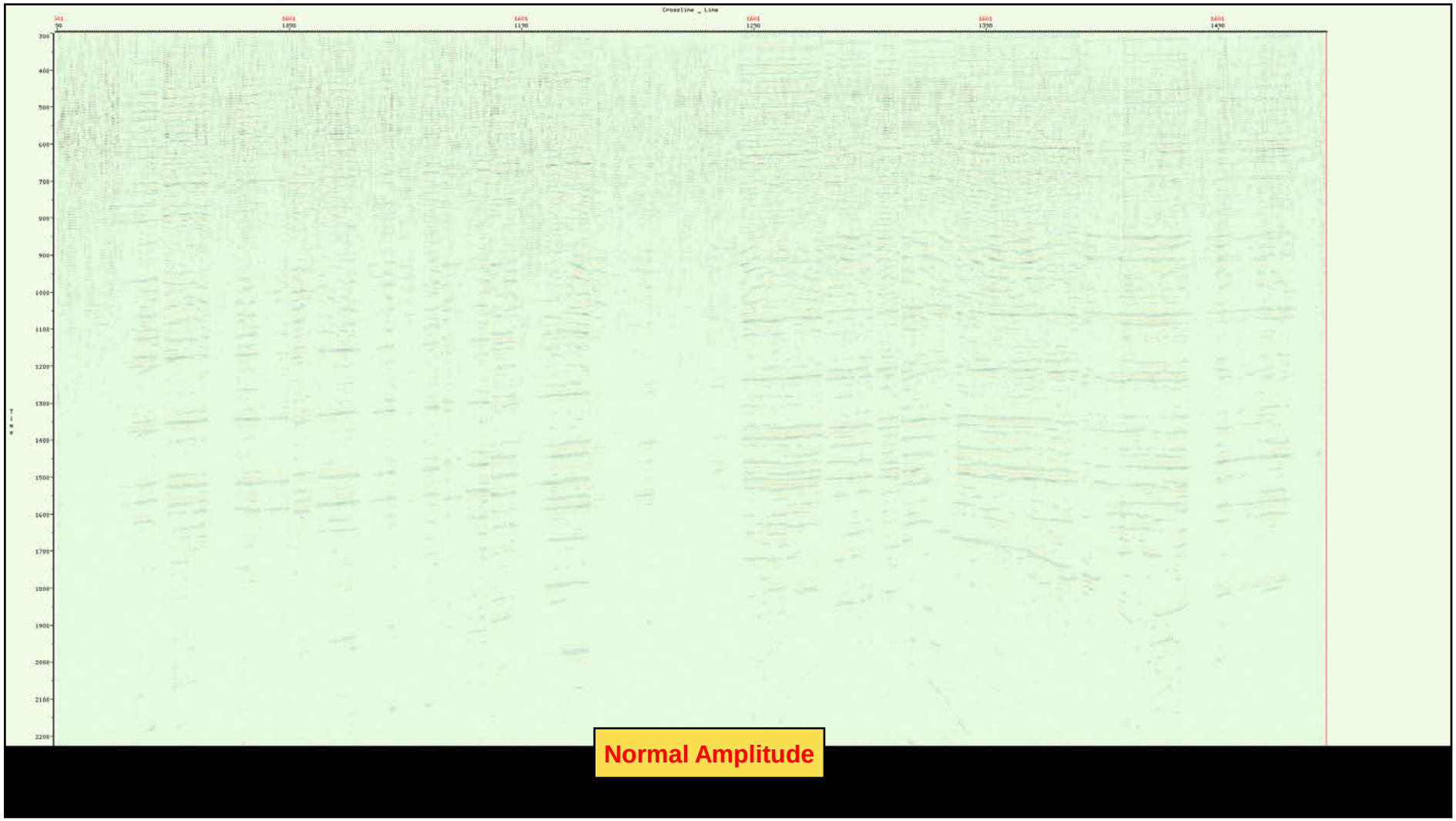
XL1201-Stack Difference: 5-8



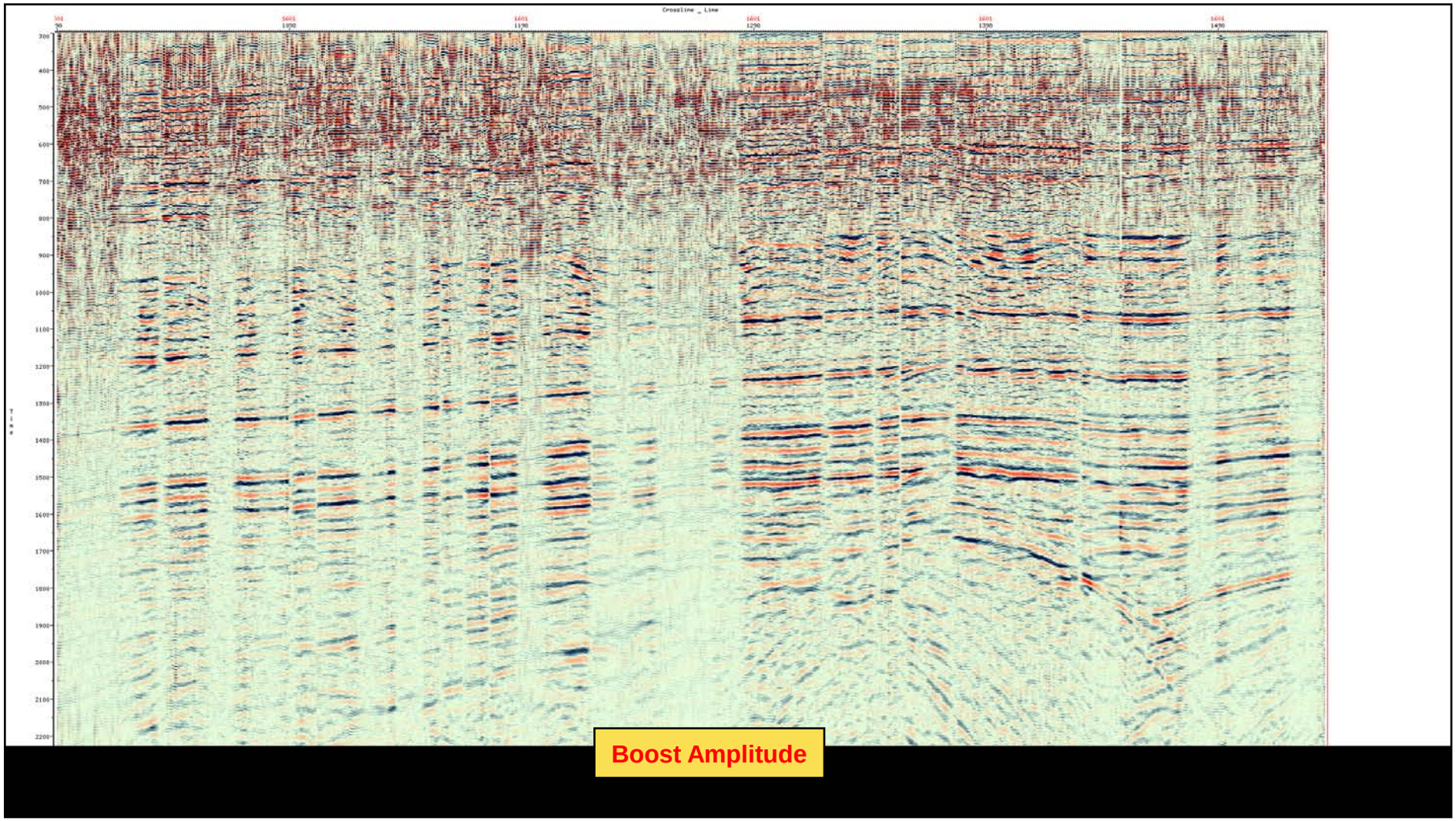
XL1201-Stack Difference: 5-8



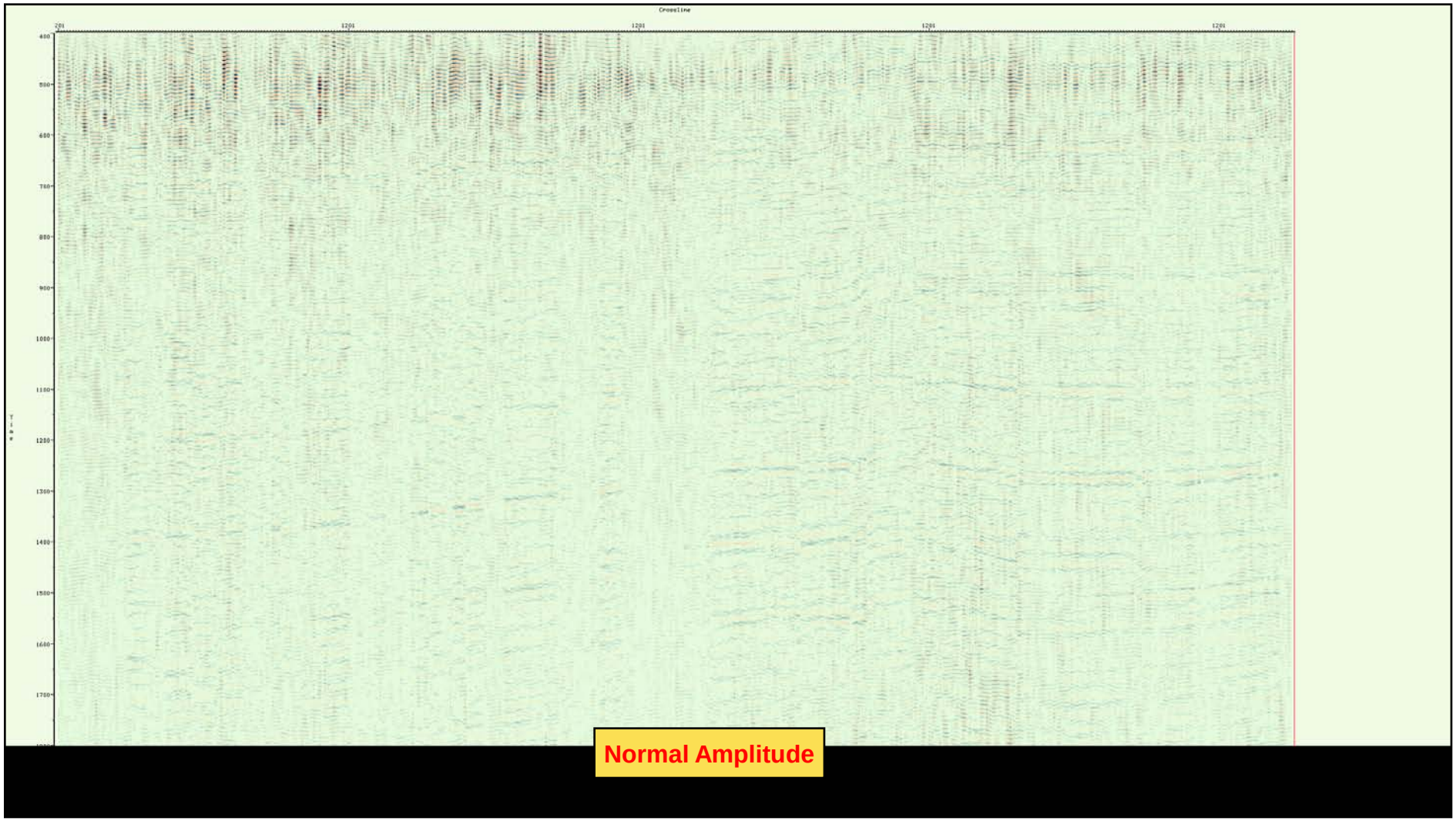
XL1601-Stack Difference: 5-8



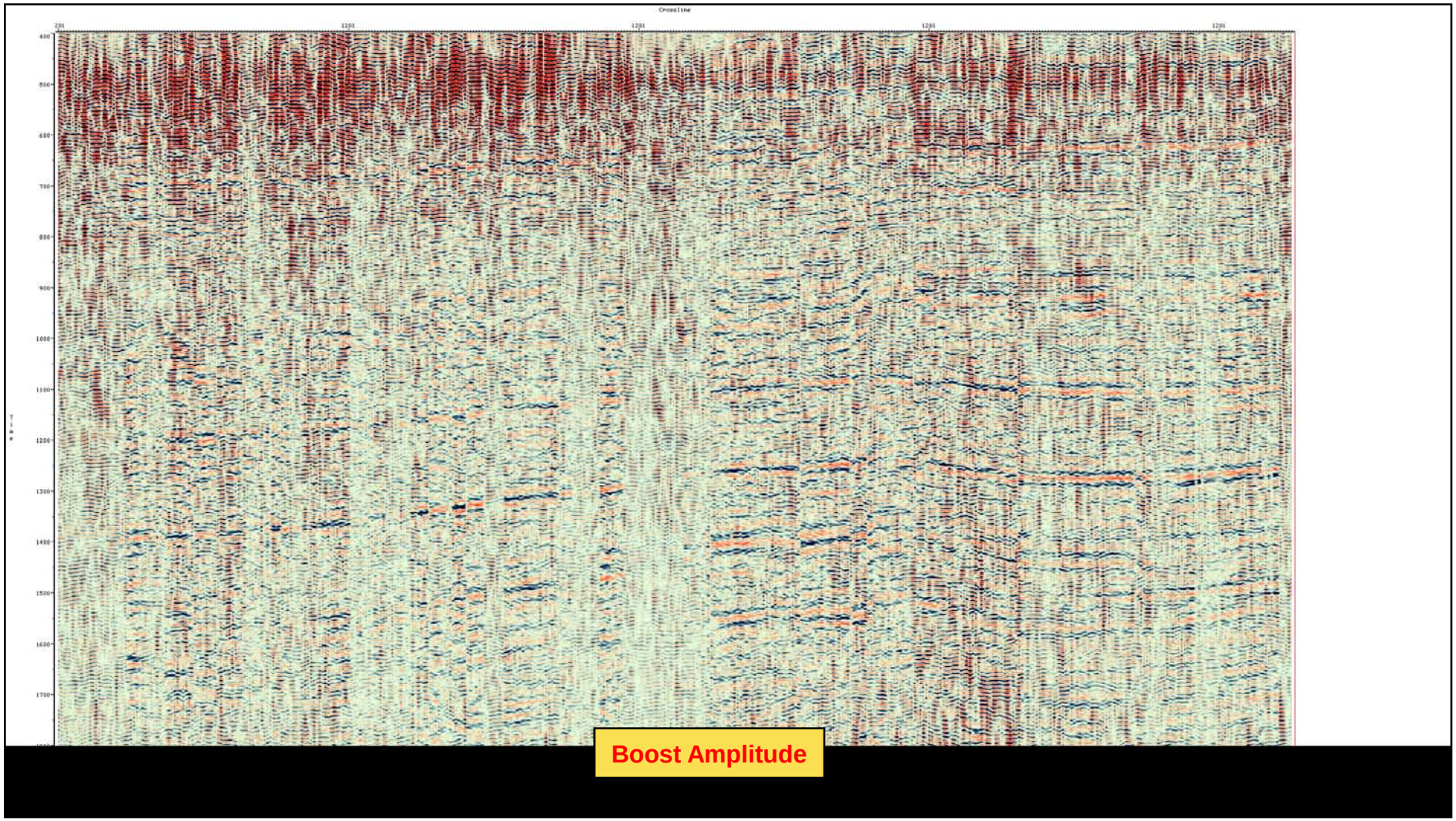
XL1601-Stack Difference: 5-8



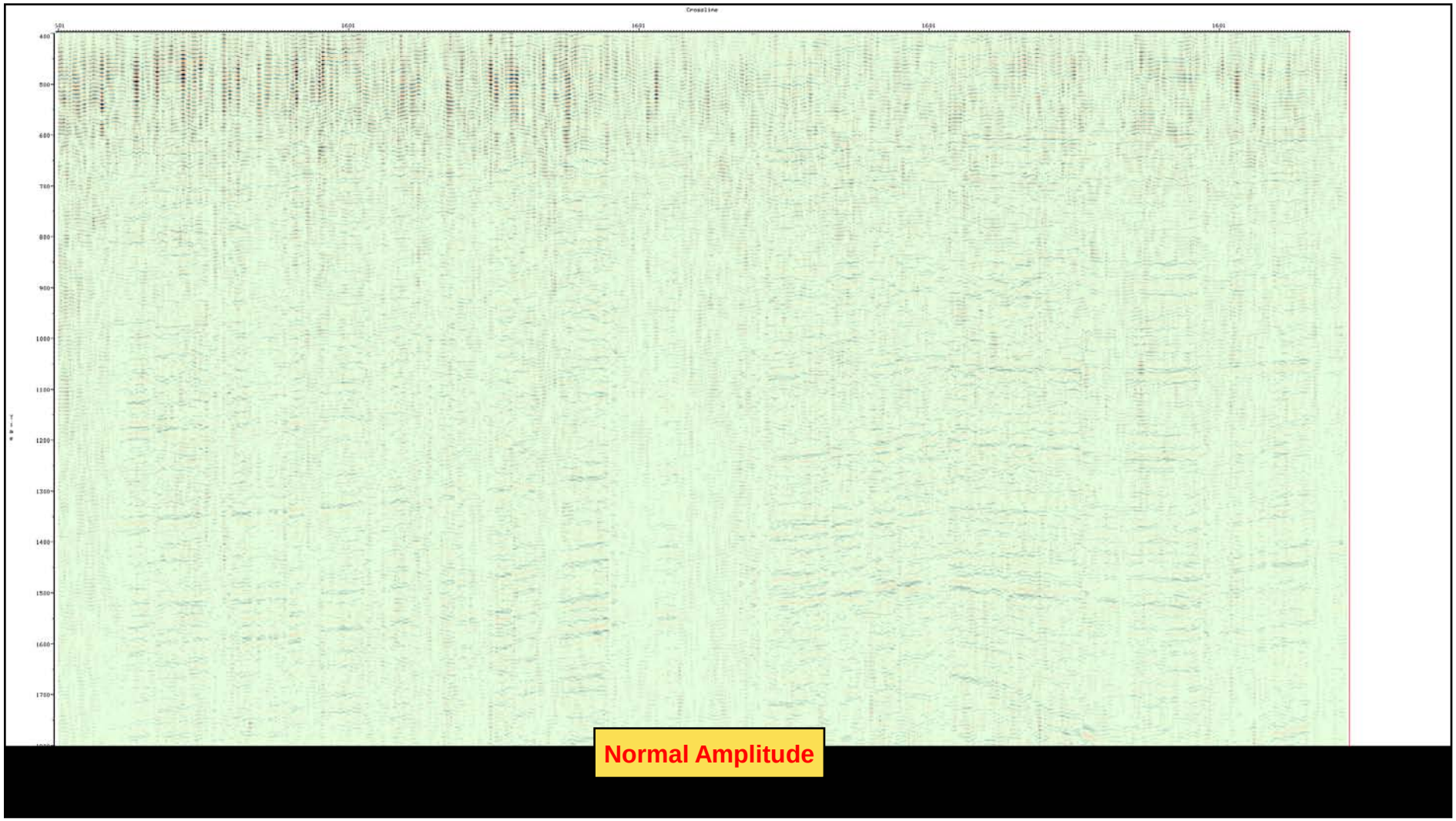
XL1201- Single Offset (600ms) Difference: 5-8



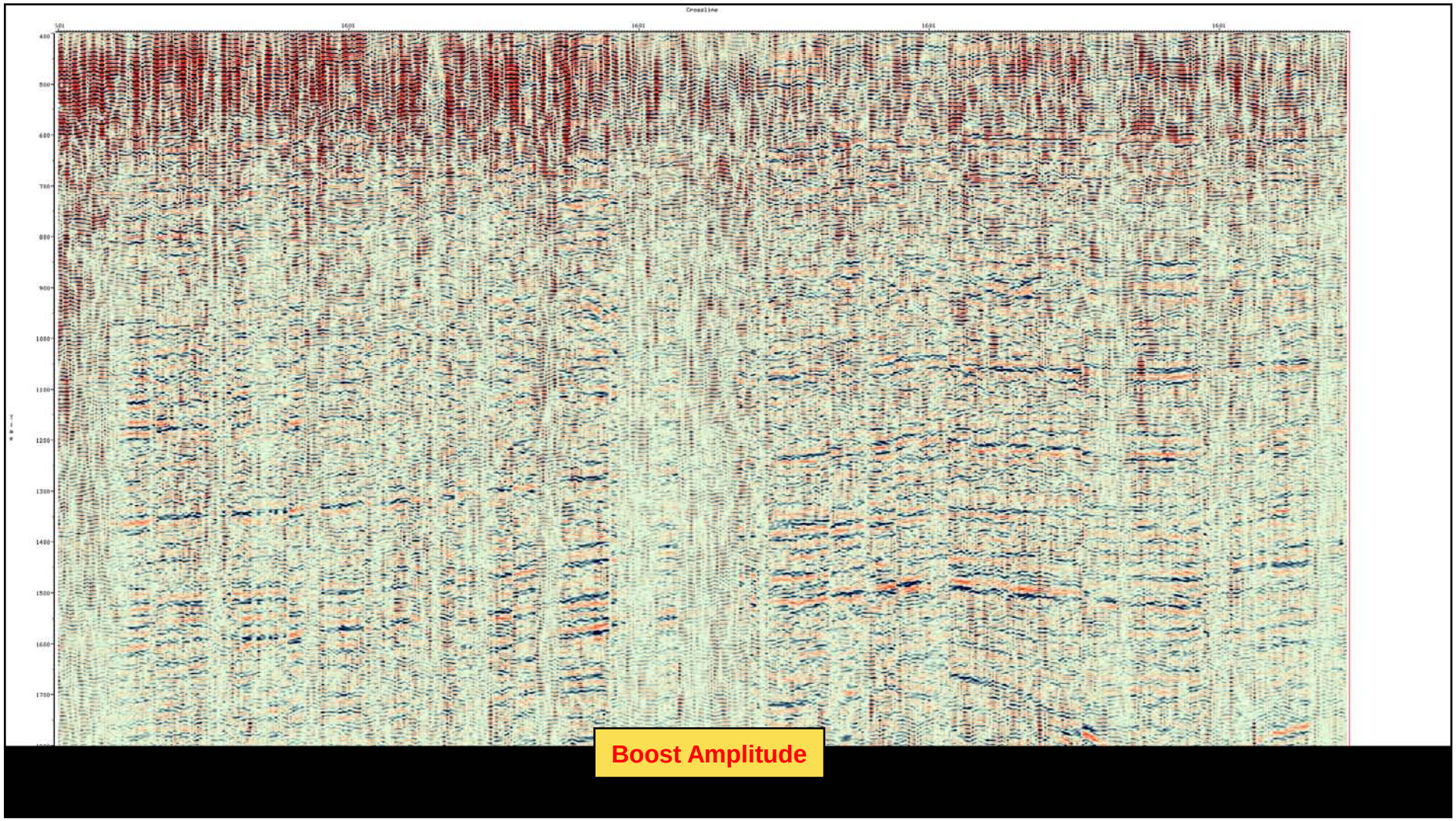
XL1201- Single Offset (600ms) Difference: 5-8



XL1601- Single Offset (600ms) Difference: 5-8



XL1601- Single Offset (600ms) Difference: 5-8

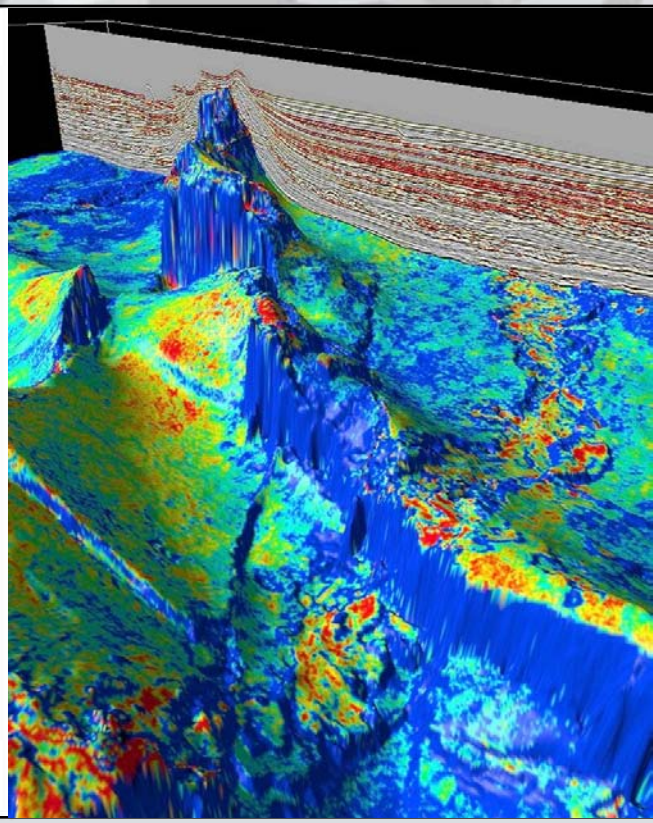


Conclusions & Recommendations

CGGV Recommend:

- Zero phase with spectral correction from model1.

Technical Note 5
Zerophase Filter
Silvereye 3D



CGGVERITAS

Introduction

This test was done to see application of zero phase filter.

The comparison was done in three dataset:

1. **Raw**
2. **Raw+Tidal Static**
3. **Raw+Tidal Static+ ZP**
4. **Raw+Tidal Static+ZP+Spectral Correction (Model1)**
5. **Raw+Tidal Static+ZP+Spectral Correction (Model1)+ QComp**
6. **Raw+Tidal Static+ZP+QComp**
7. **Raw+Tidal Static+ZP+Spectral Correction (Model2)**
8. **Raw+Tidal Static+ZP+Spectral Correction (Model2)+ QComp**

QCOMP with Q=140 Gain Limited: 12 dB

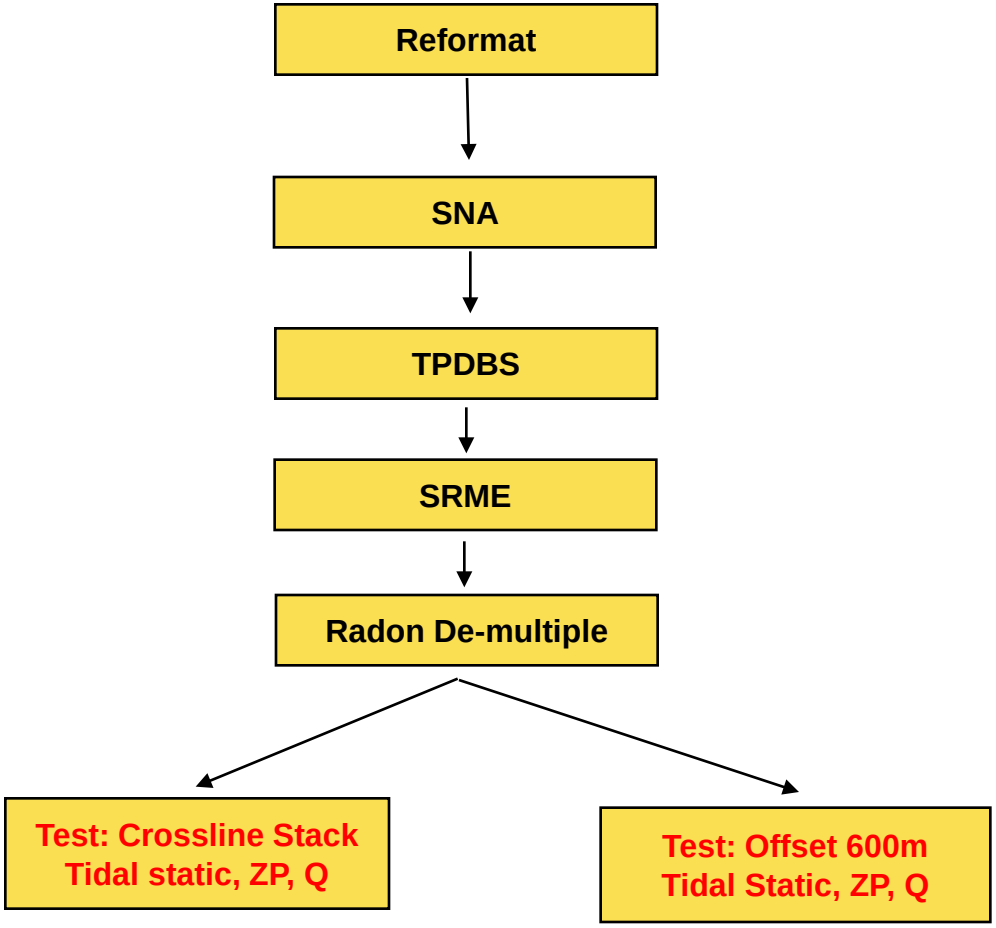
Spectral Correction: - Model1 : BT (3 Hz, 18 dB/Oct, 110 Hz, 30 dB/Oct)

- Model2: BT (3Hz, 18 dB/Oct, 110 Hz, 30dB/Oct)

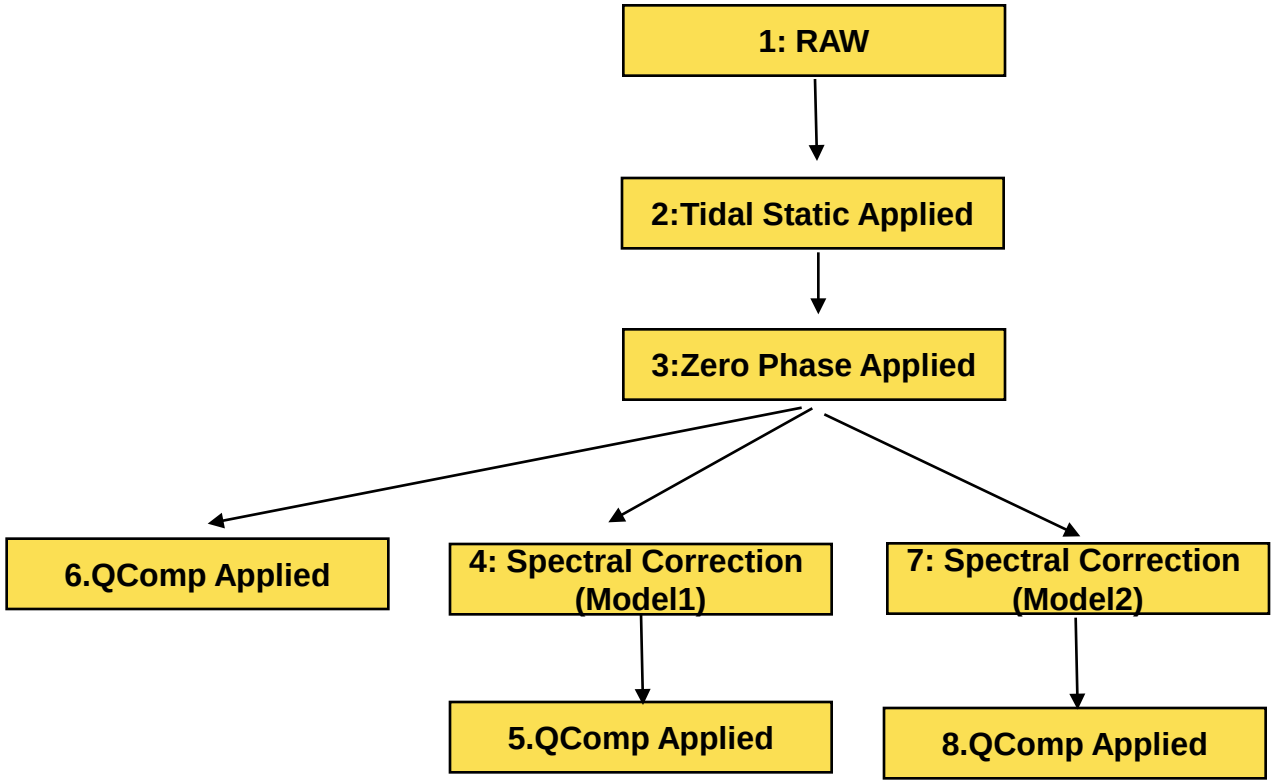
Zero-phase Filter Test

Crossline-Offset

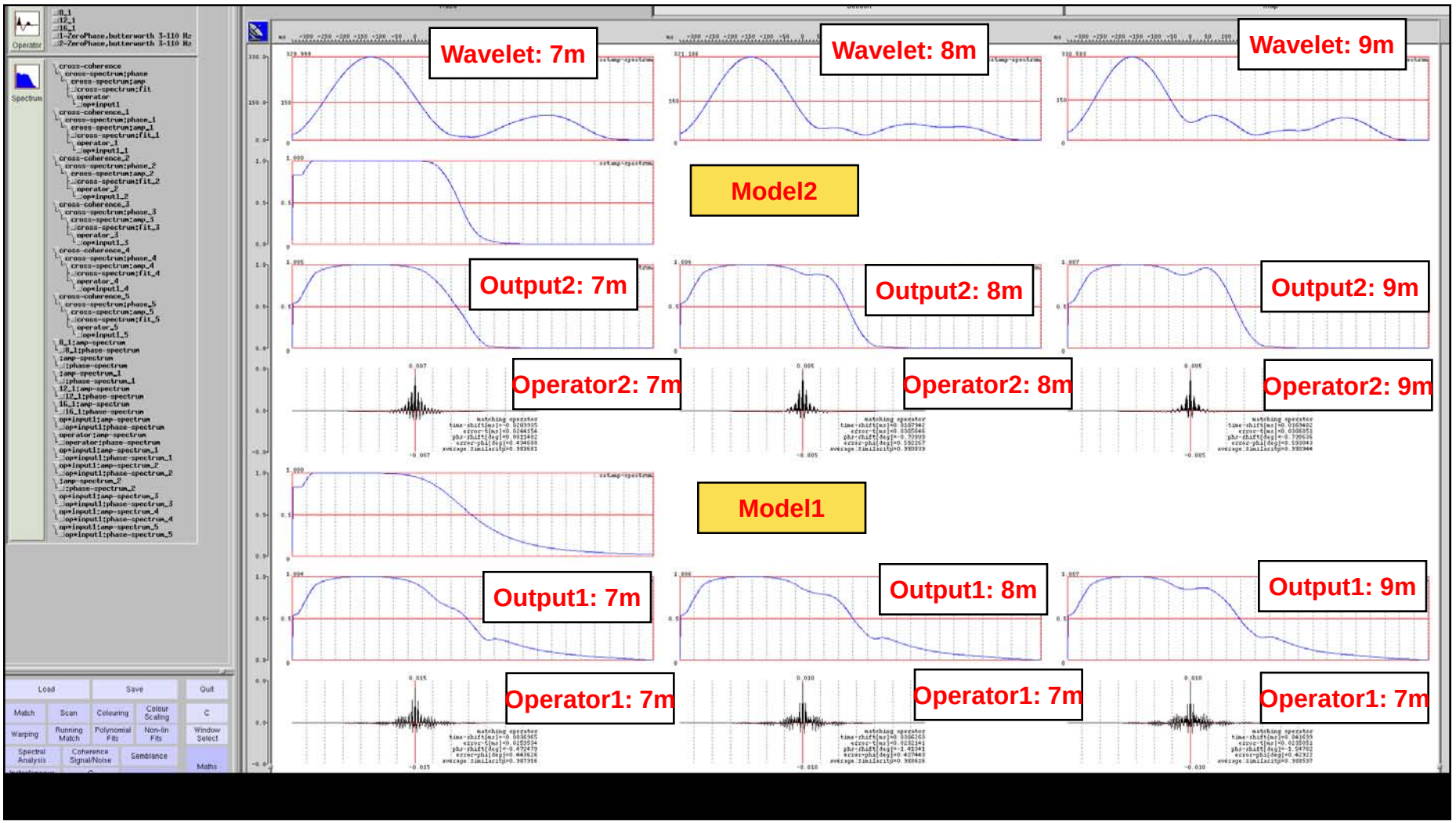
Input Dataset: Processing Flow



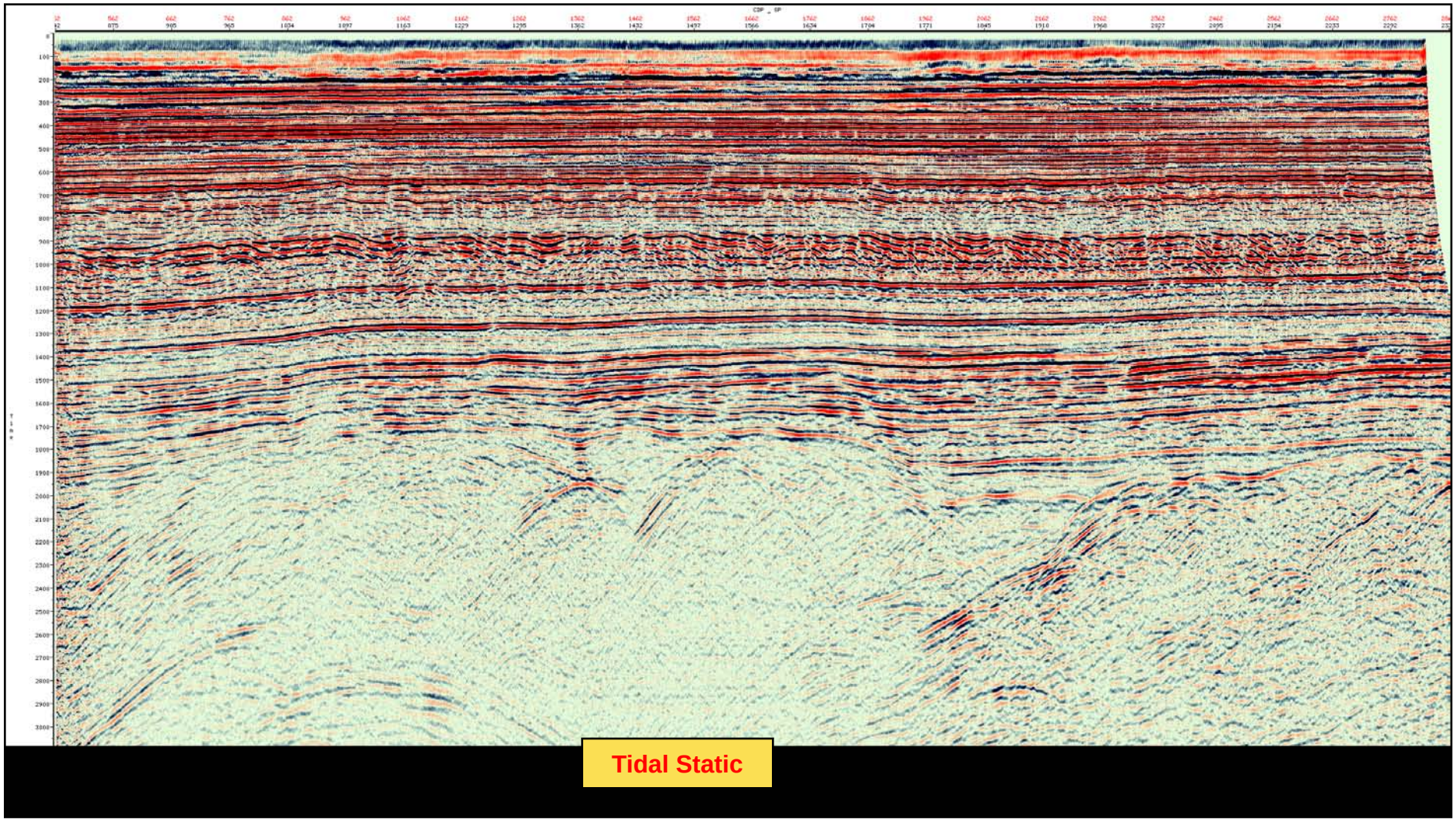
Zerophase Flow: ID Number



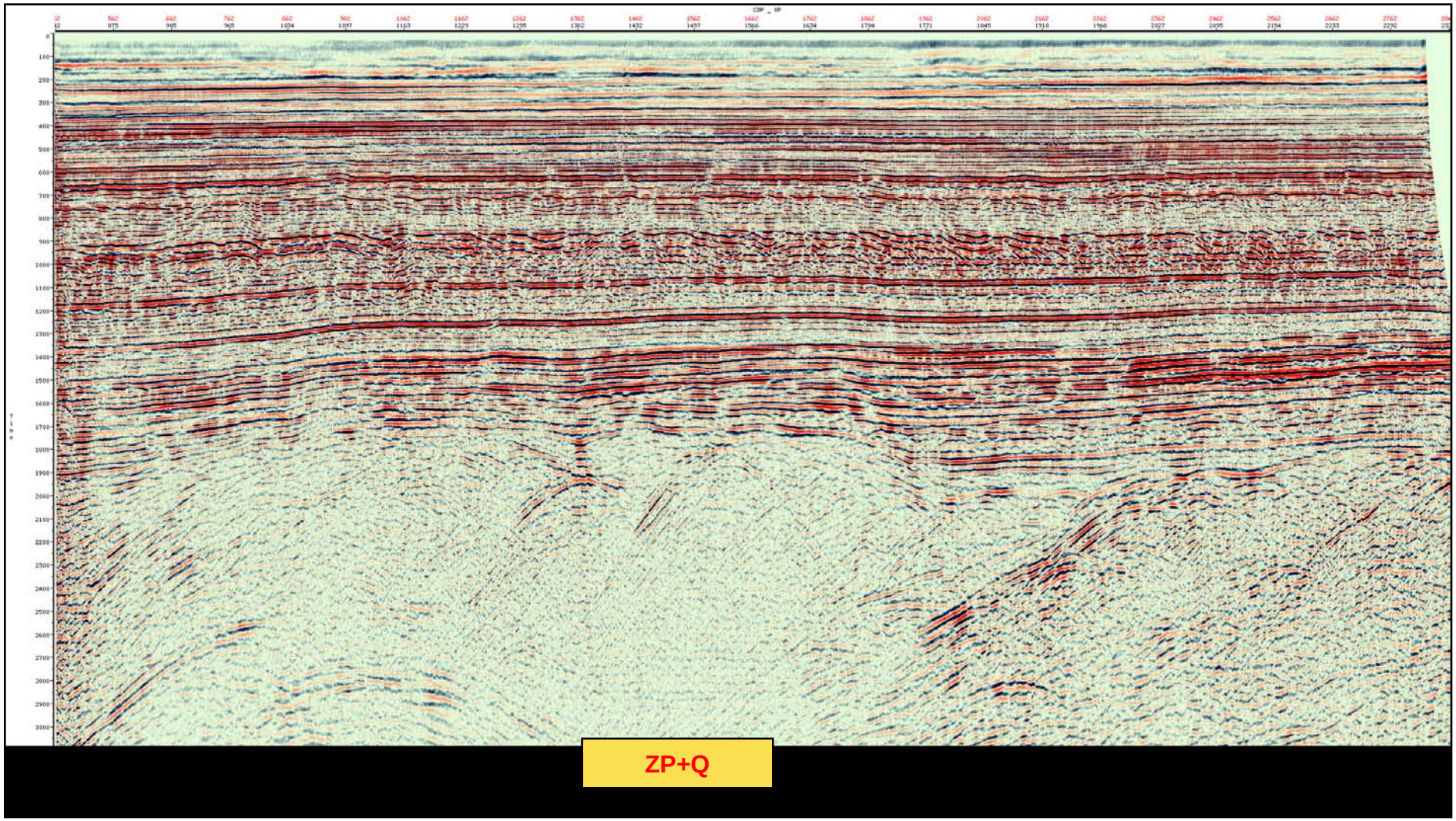
Spectral Correction Flow: Amplitude Spectrum, Operator



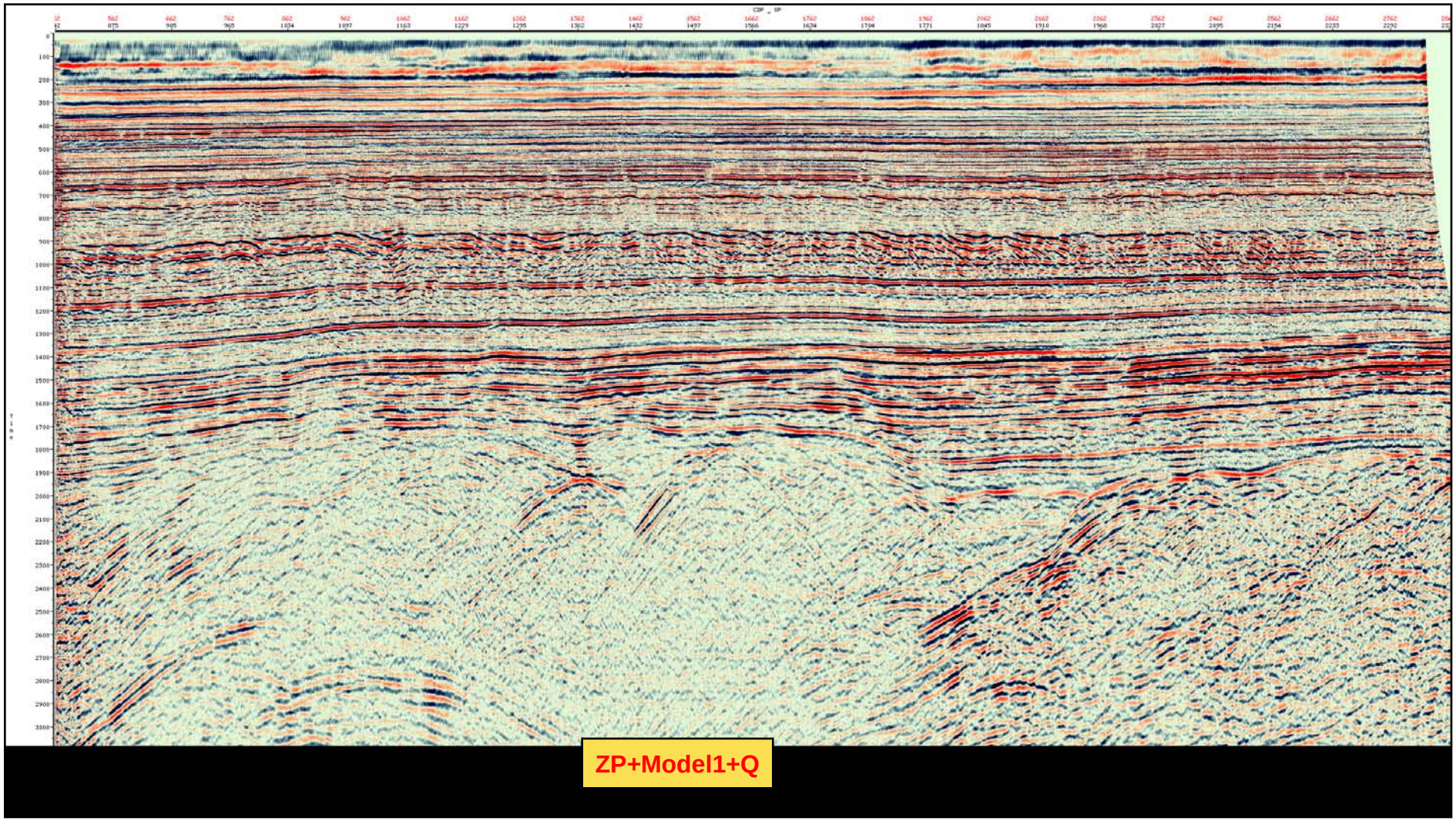
INLINE-STACK: 2



INLINE-STACK: 6



INLINE-STACK: 5



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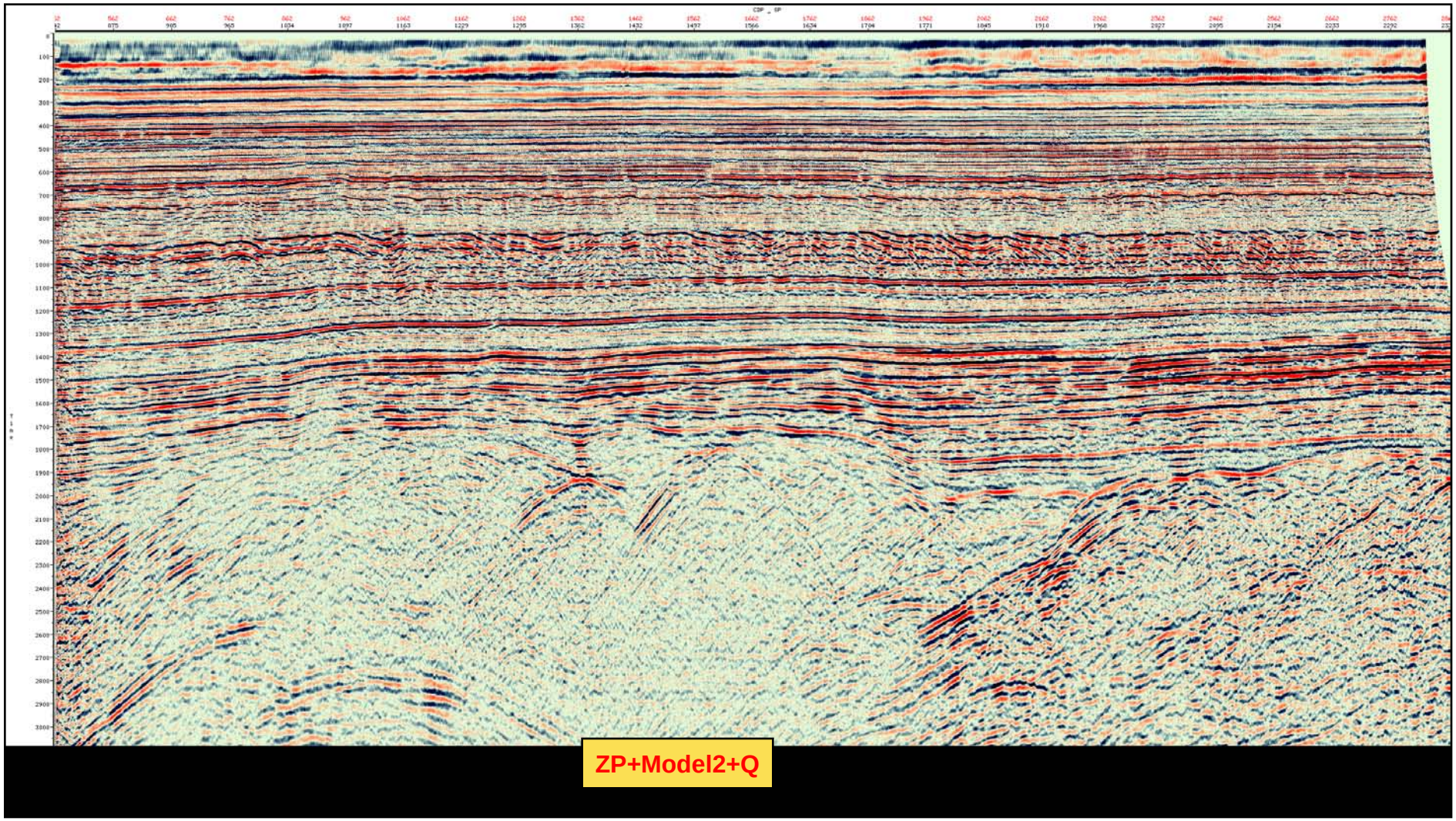
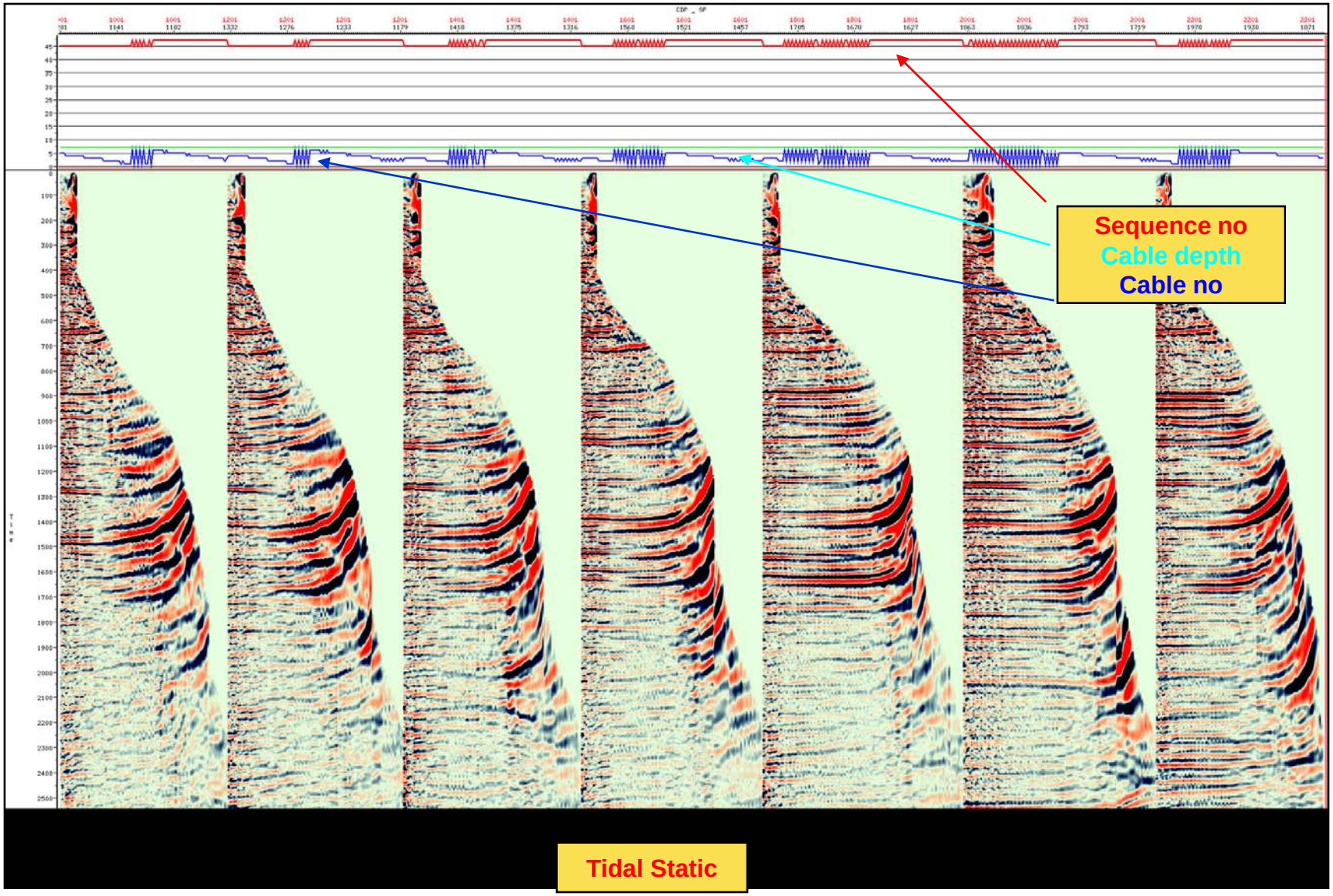
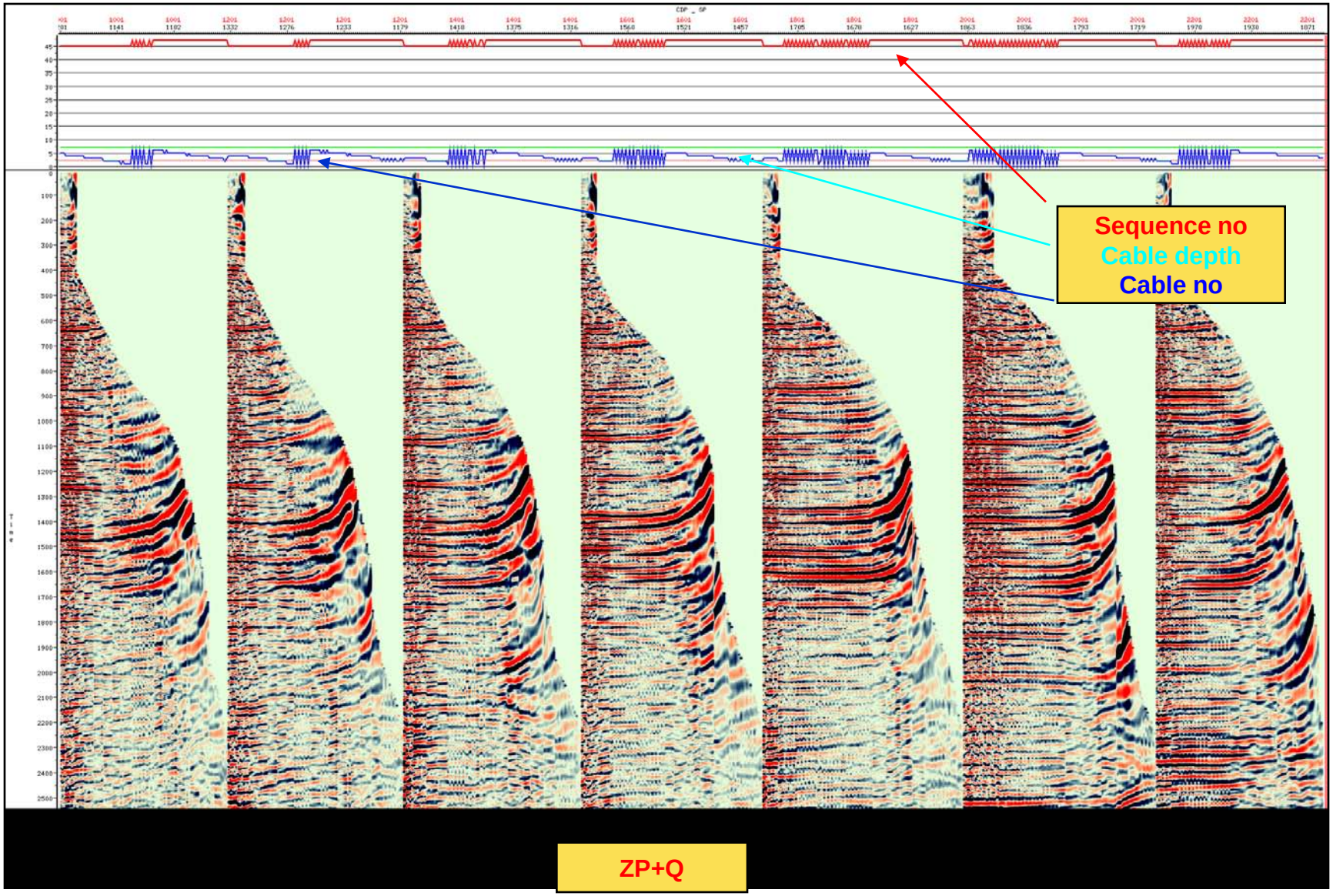


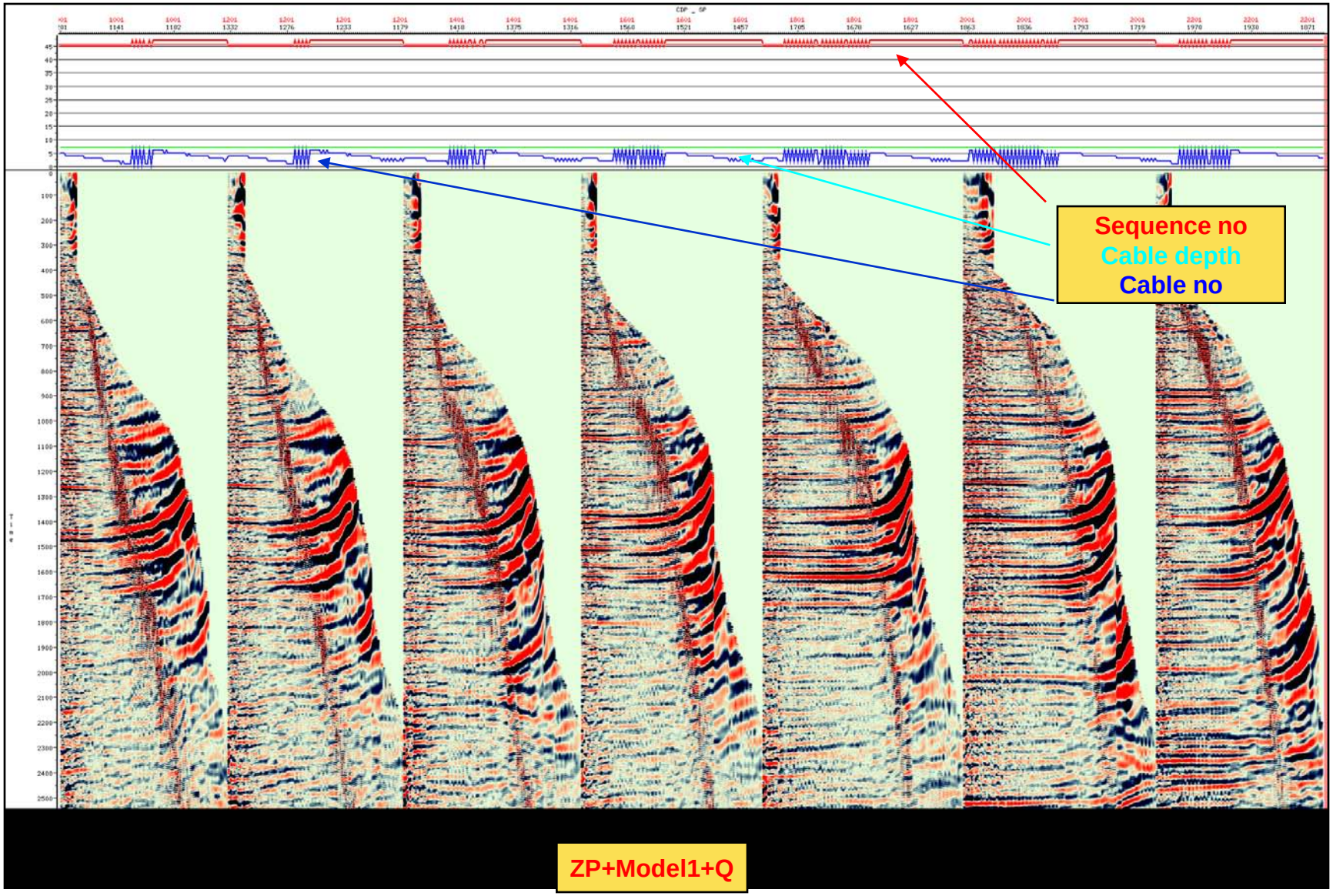
INLINE-CDP: 2



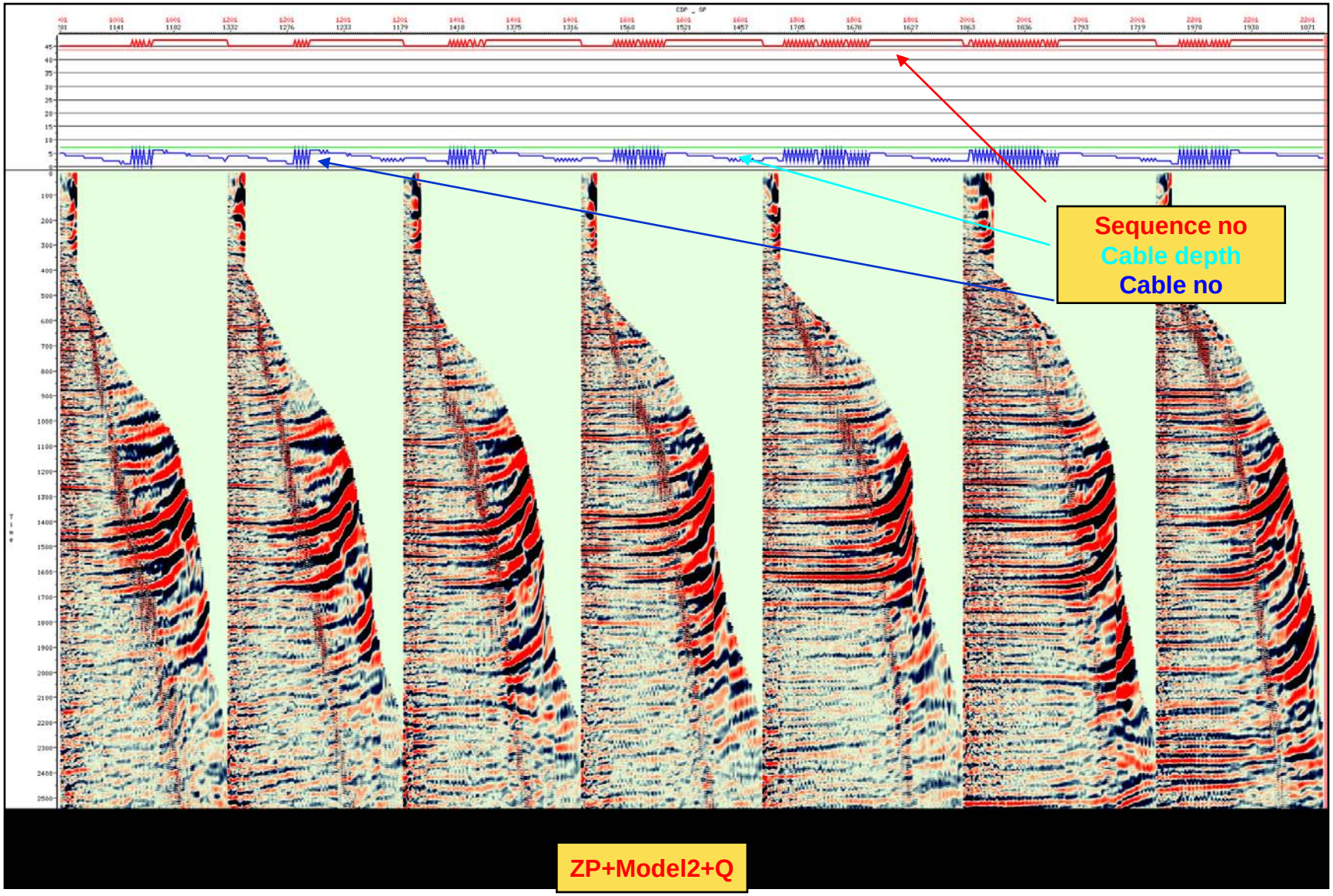
INLINE-CDP: 6



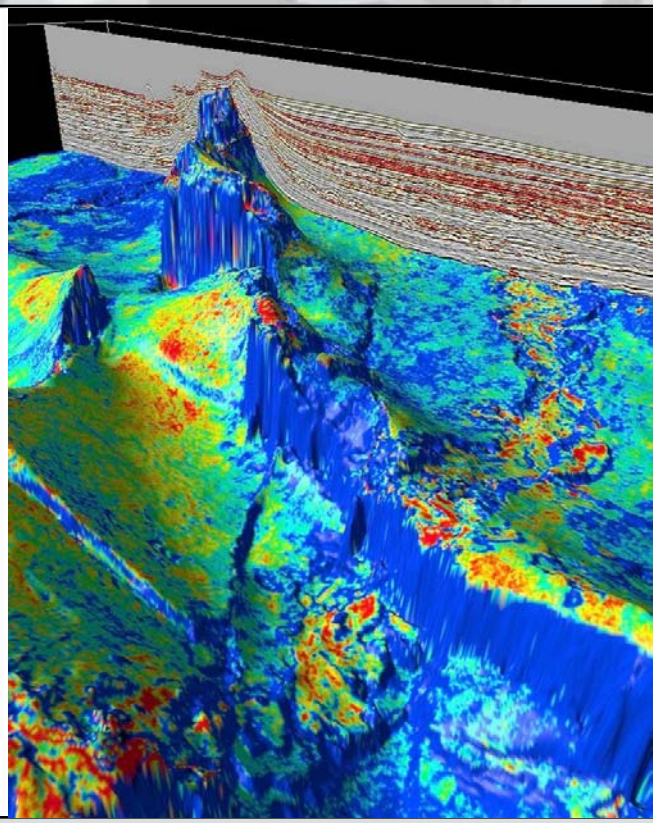
INLINE-CDP: 5



INLINE-CDP: 8



Technical Note 5
Zerophase Filter
Silvereye 3D



CGGVERITAS

Introduction

This test was done to reduce High frequency noise after application ZP+Spectral Amplitude (Model2)+ QComp using High Cut Filter.

The comparison was done in Non NMO 2D CDP Gather after Radon De-multiple:

- Input (ZP+ Spec Amp Model+ QCOMP)

- HC Filter 100Hz, 110dB/Oct, 110Hz, 110dB/Oct, 120Hz, 110dB/Oct, 130Hz, 110dB/Oct, 140Hz, 110dB/Oct, 150Hz, 110dB/Oct, 160Hz, 110dB/Oct, 170 Hz 110 dB/Oc

- Time Variant High Cut Filter

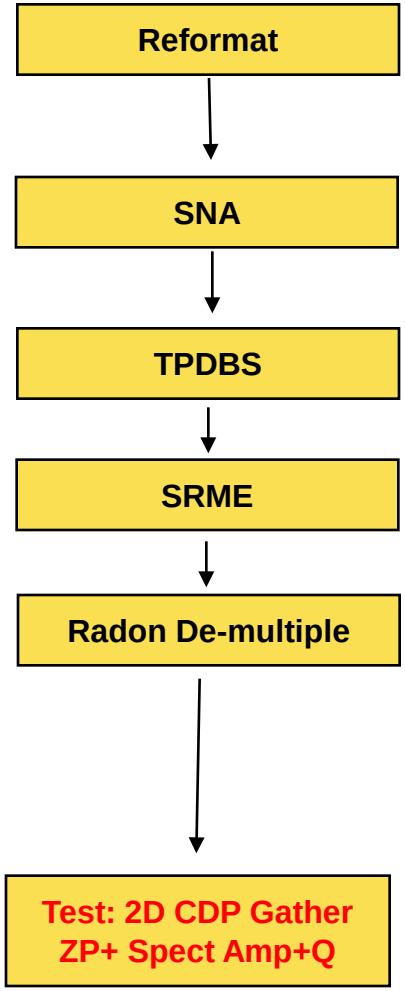
0-2000ms = 150Hz, 110dB/Oct

2500-6000ms= 120Hz,100dB/Oct

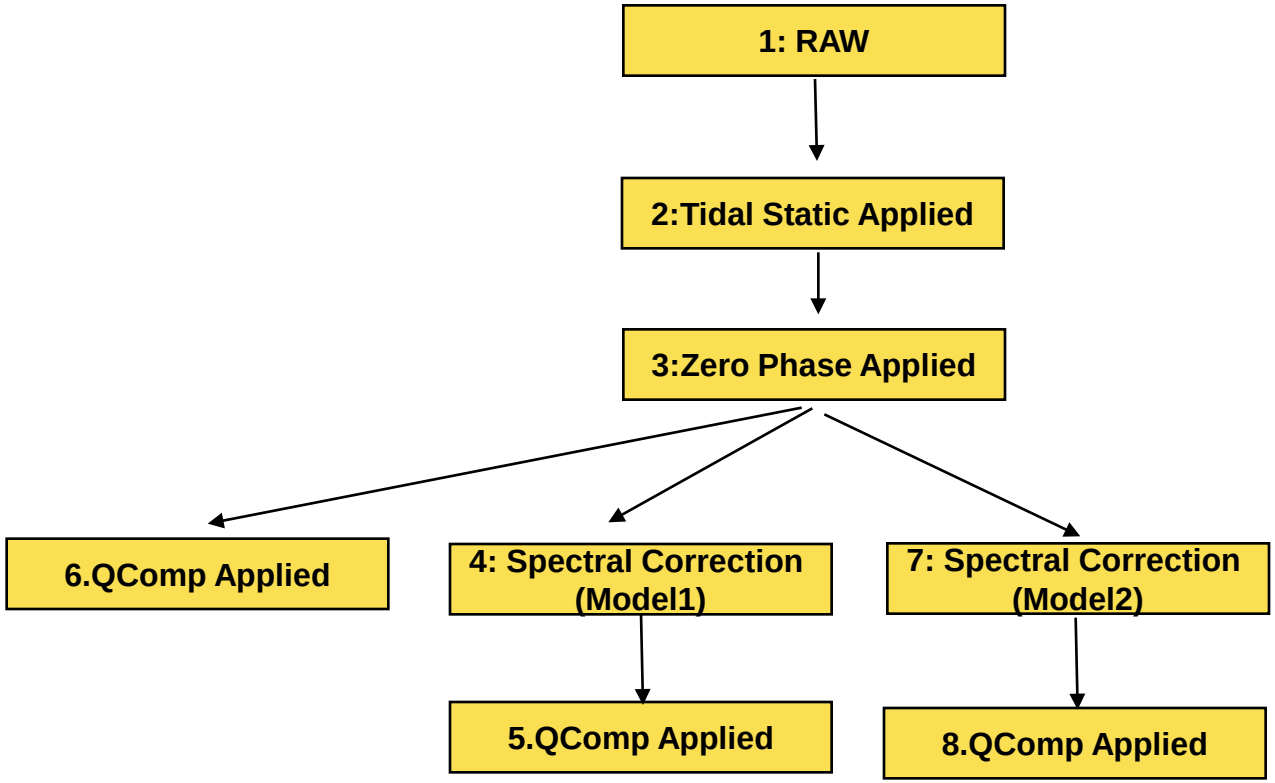
Zero-phase Filter Test

Crossline-Offset

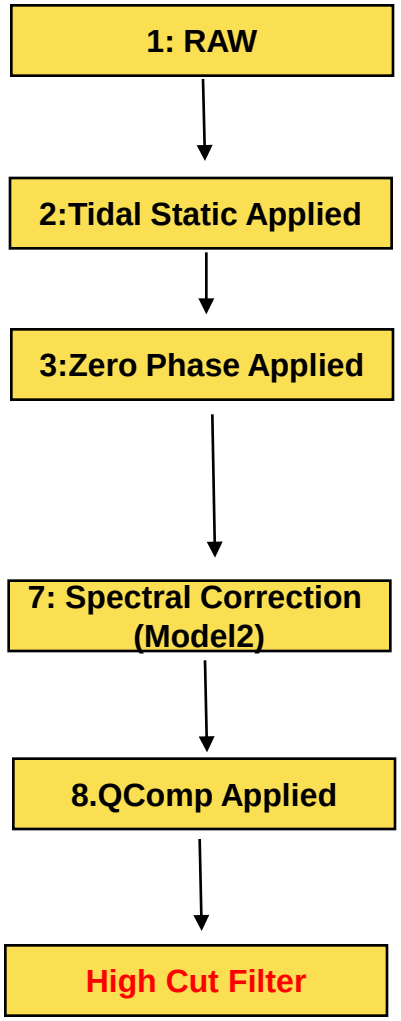
Input Dataset: Processing Flow



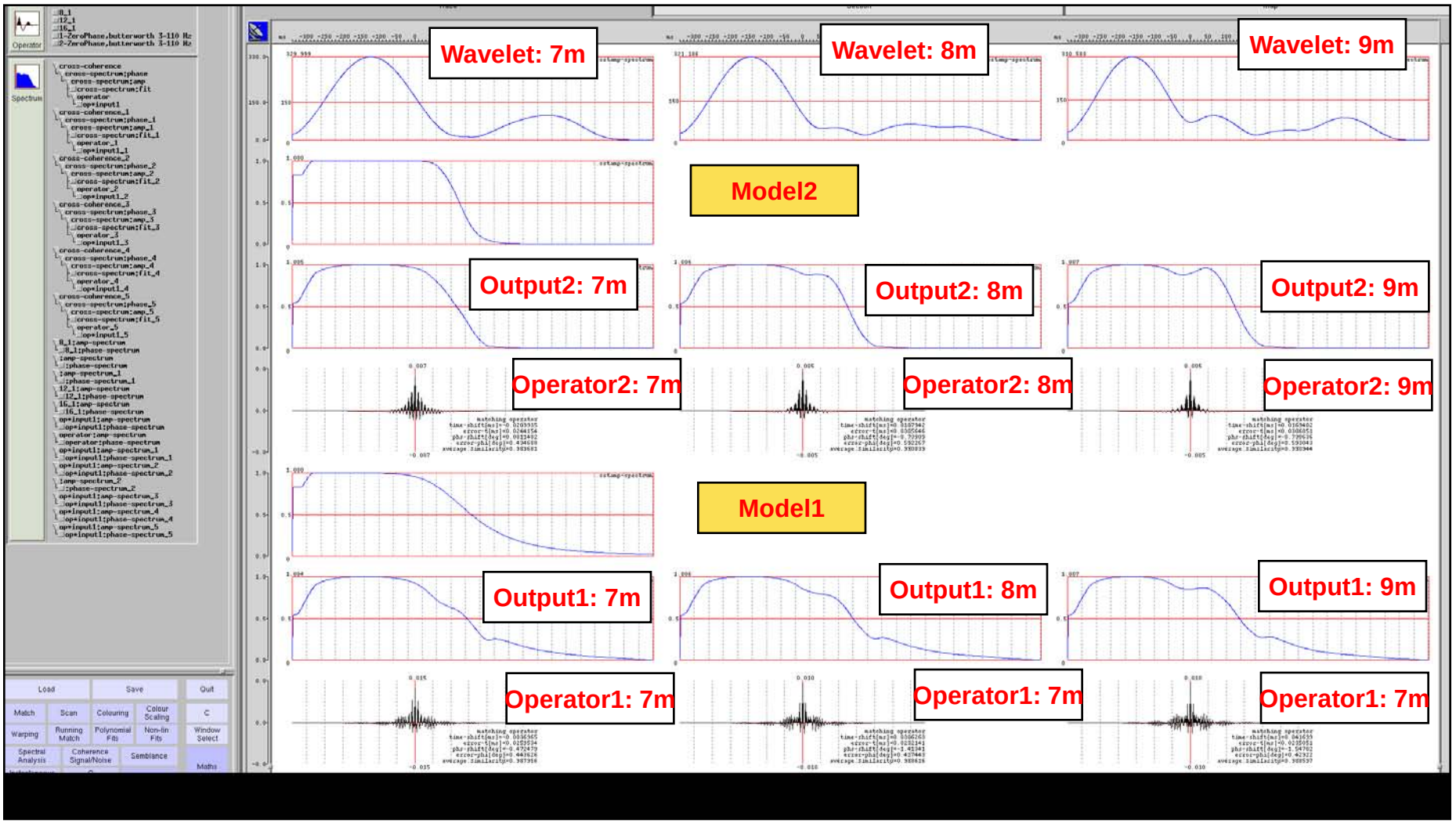
Zerophase Flow: ID Number



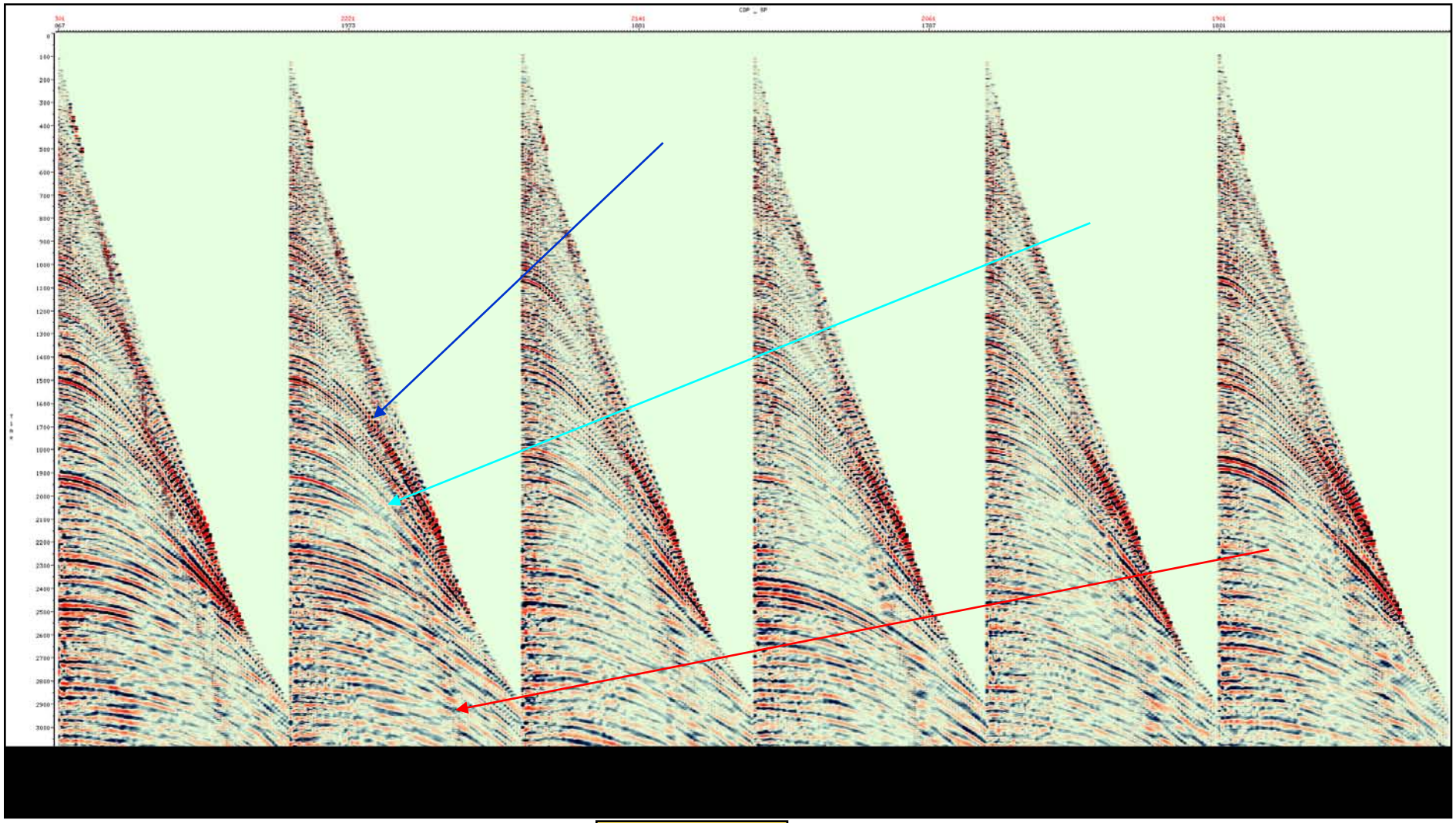
Zerophase Flow: ID Number



Spectral Correction Flow: Amplitude Spectrum, Operator

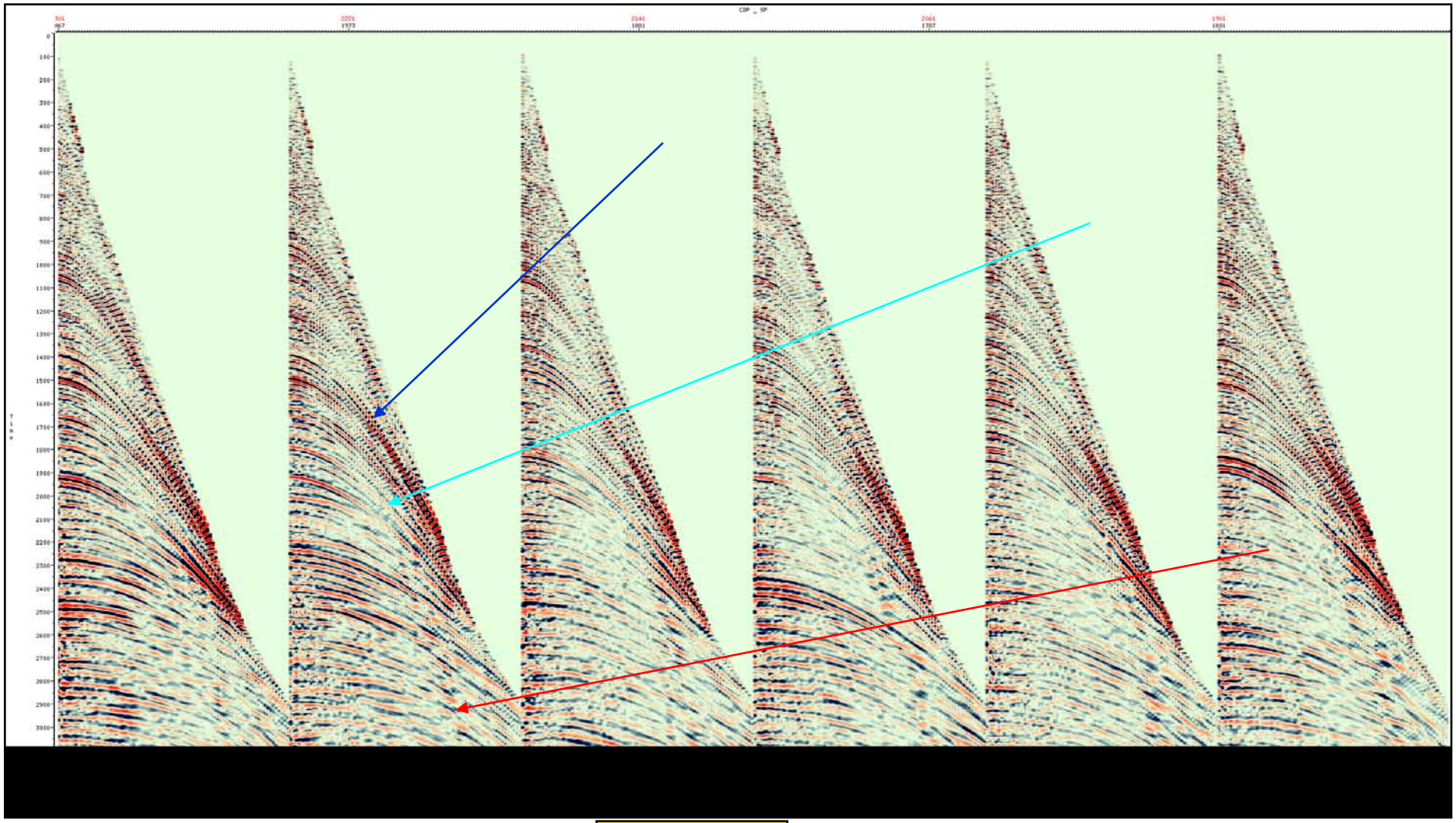


2D CDP No NMO: 7 (Input)



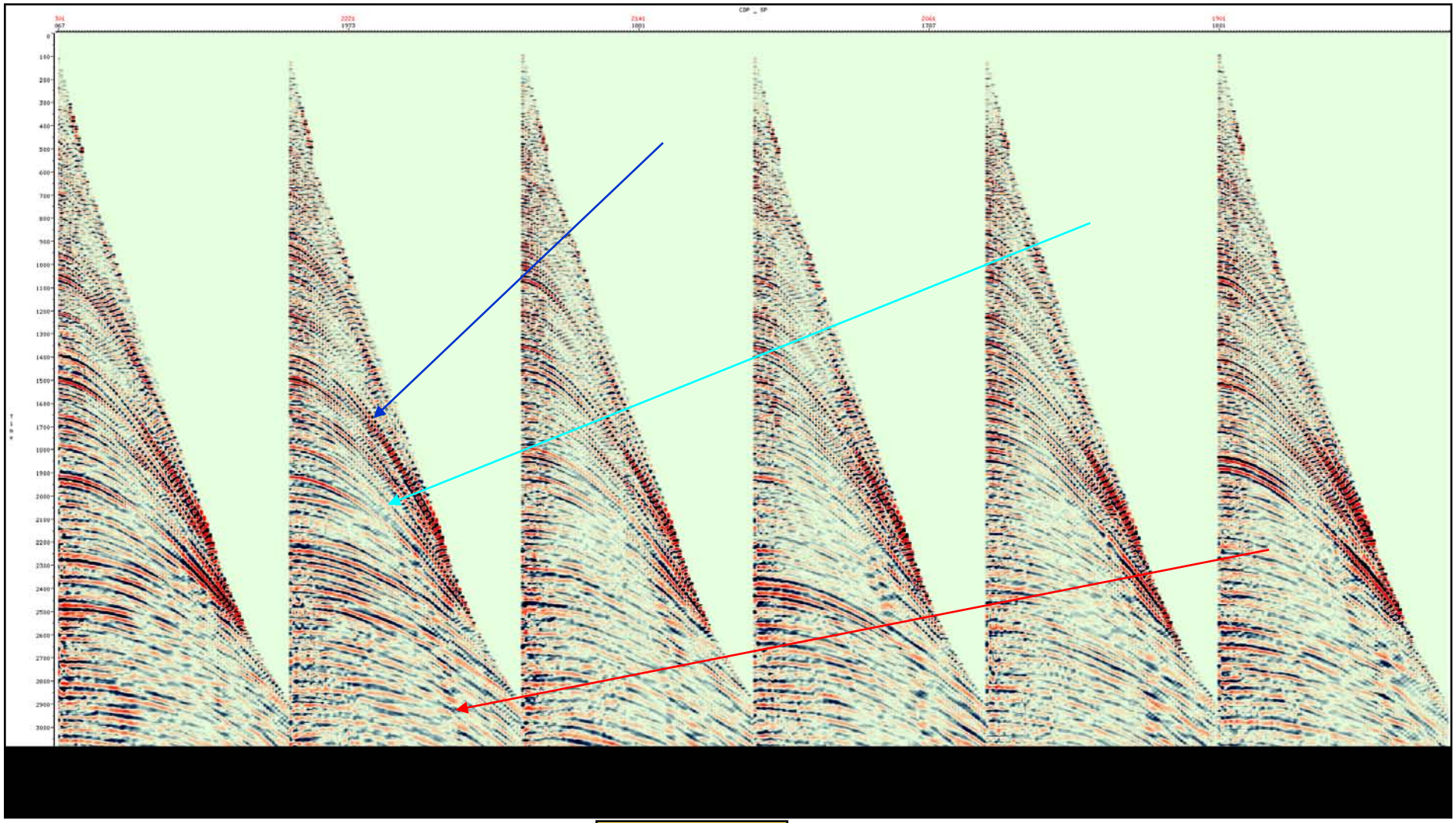
ZP+Model2+Q

2D CDP No NMO: 7 + HC Filter (100 Hz, 110dB/Oct)



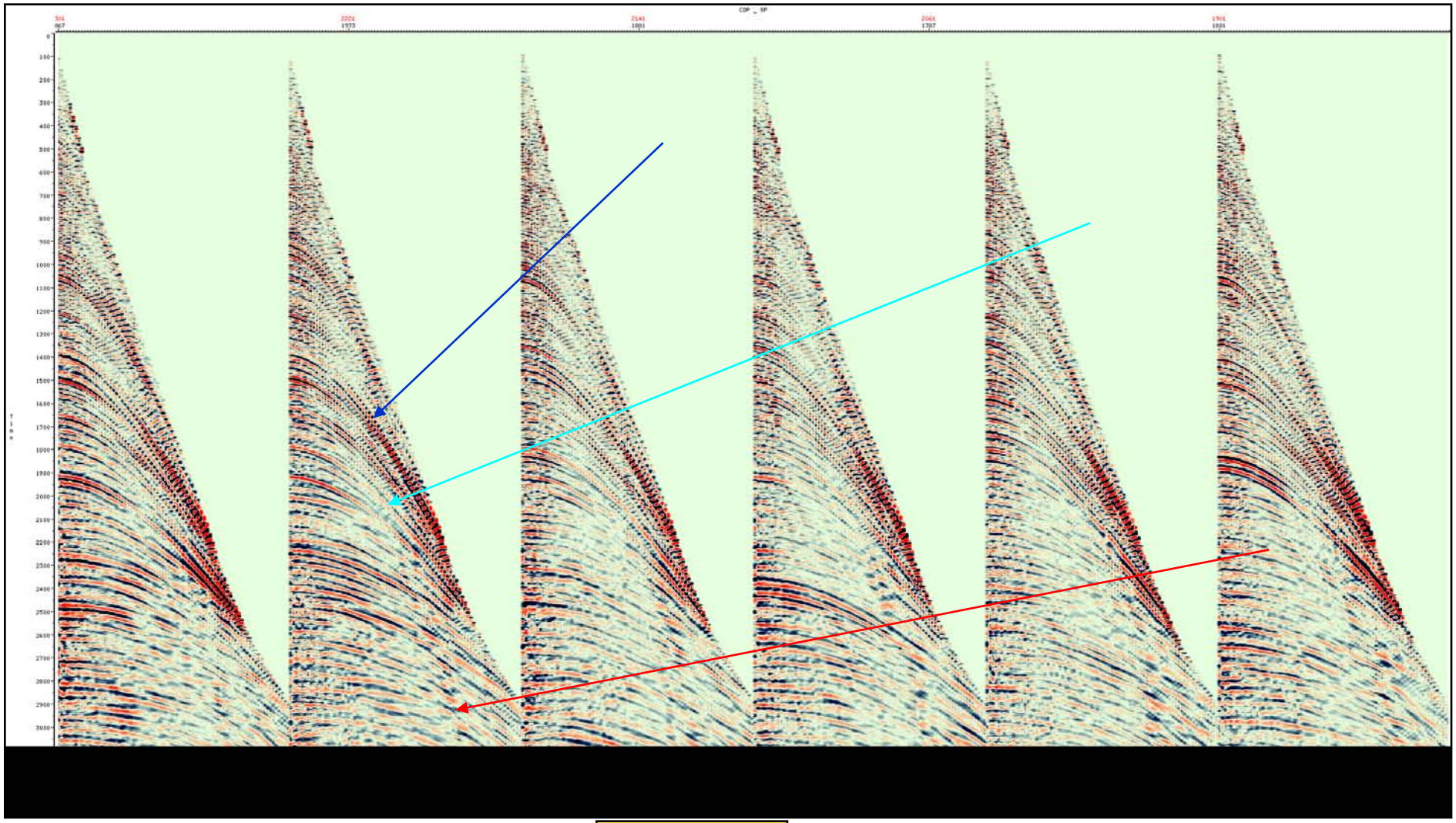
HC 100 hz

2D CDP No NMO: 7 + HC Filter (110 Hz, 110dB/Oct)



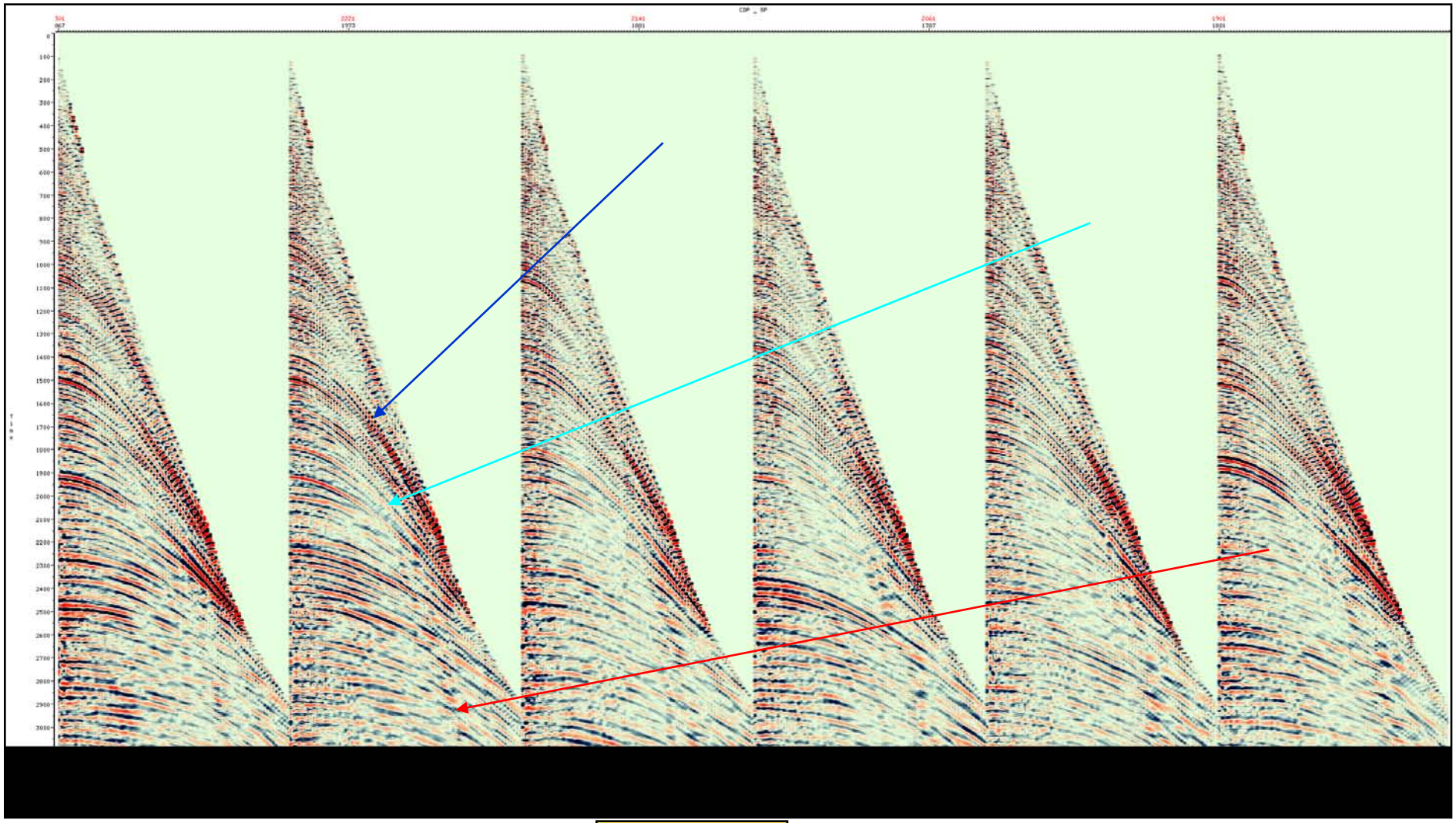
HC 110 hz

2D CDP No NMO: 7 + HC Filter (120 Hz, 110dB/Oct)



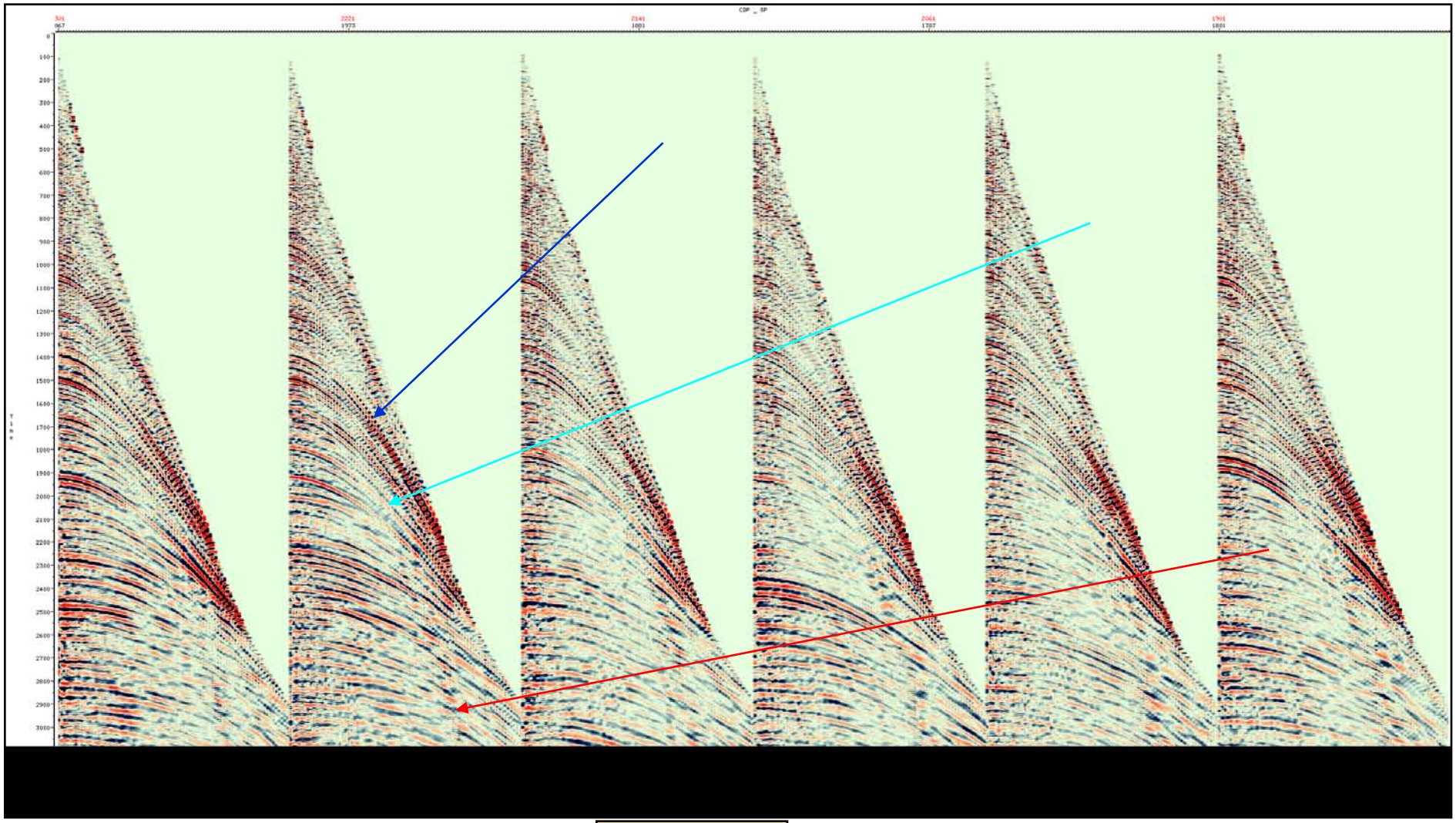
HC 120 hz

2D CDP No NMO: 7 + HC Filter (130 Hz, 110dB/Oct)



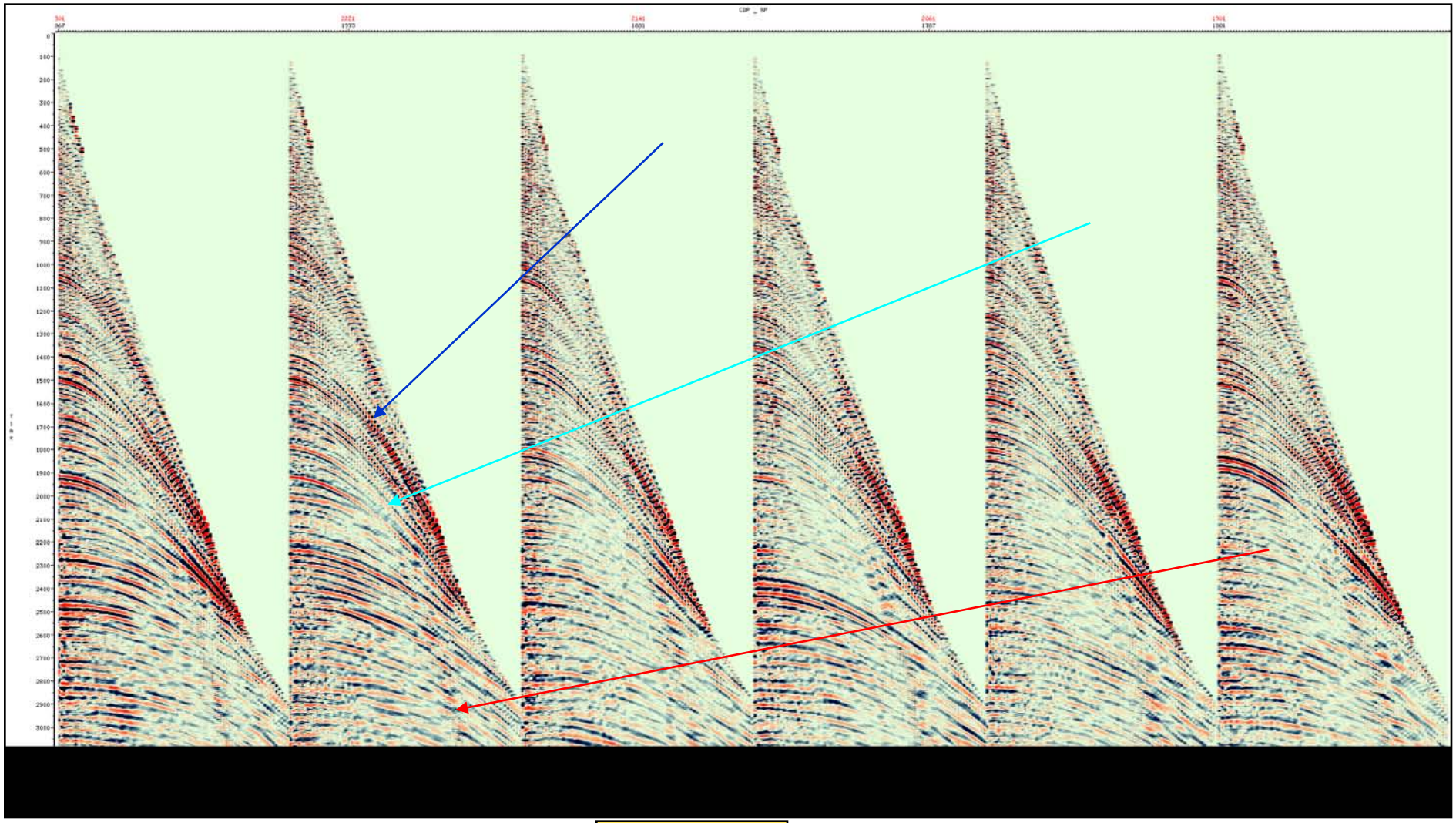
HC 130 hz

2D CDP No NMO: 7 + HC Filter (140 Hz, 110dB/Oct)



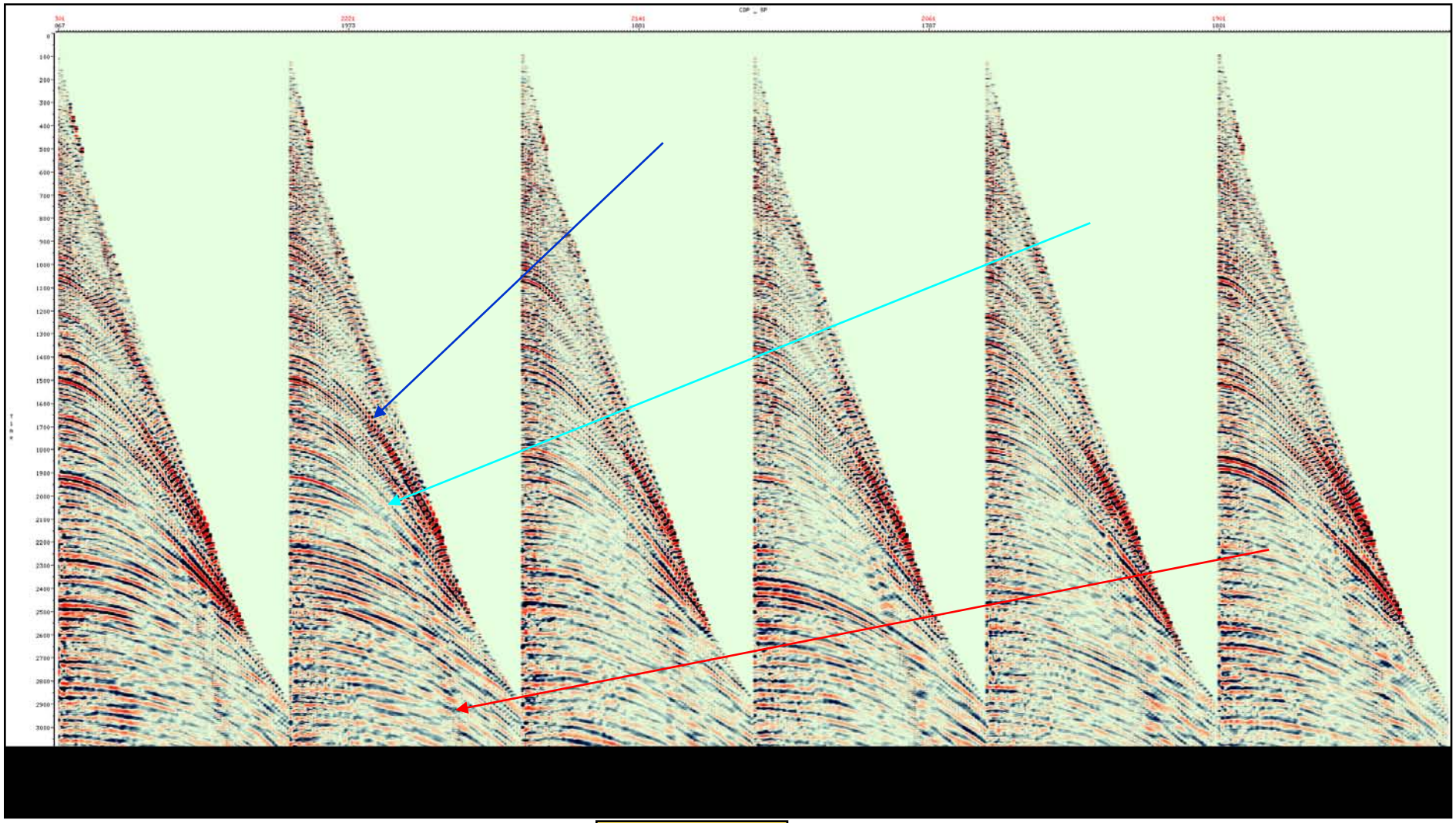
HC 140 hz

2D CDP No NMO: 7 + HC Filter (150 Hz, 110dB/Oct)



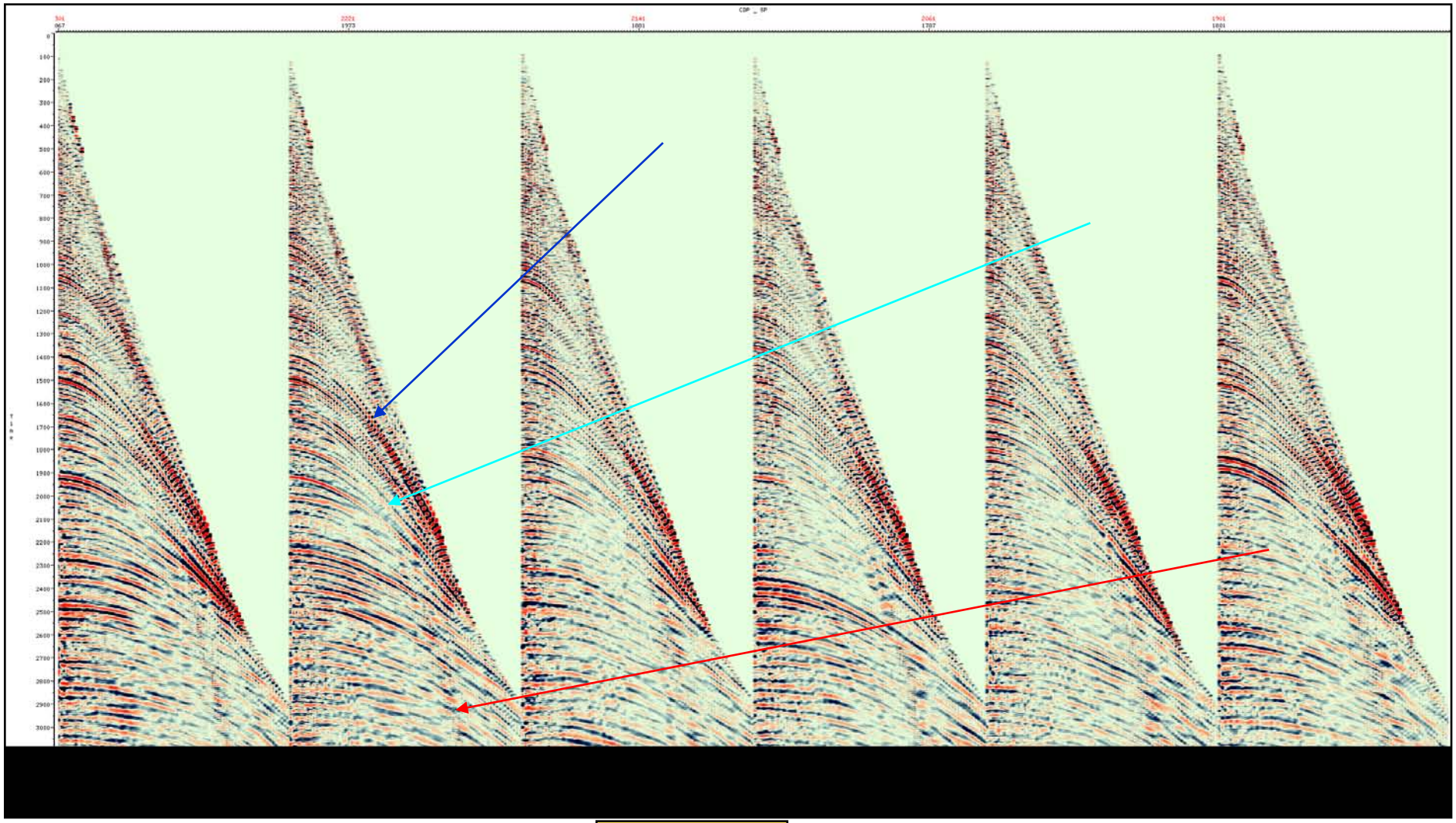
HC 150 hz

2D CDP No NMO: 7 + HC Filter (160 Hz, 110dB/Oct)



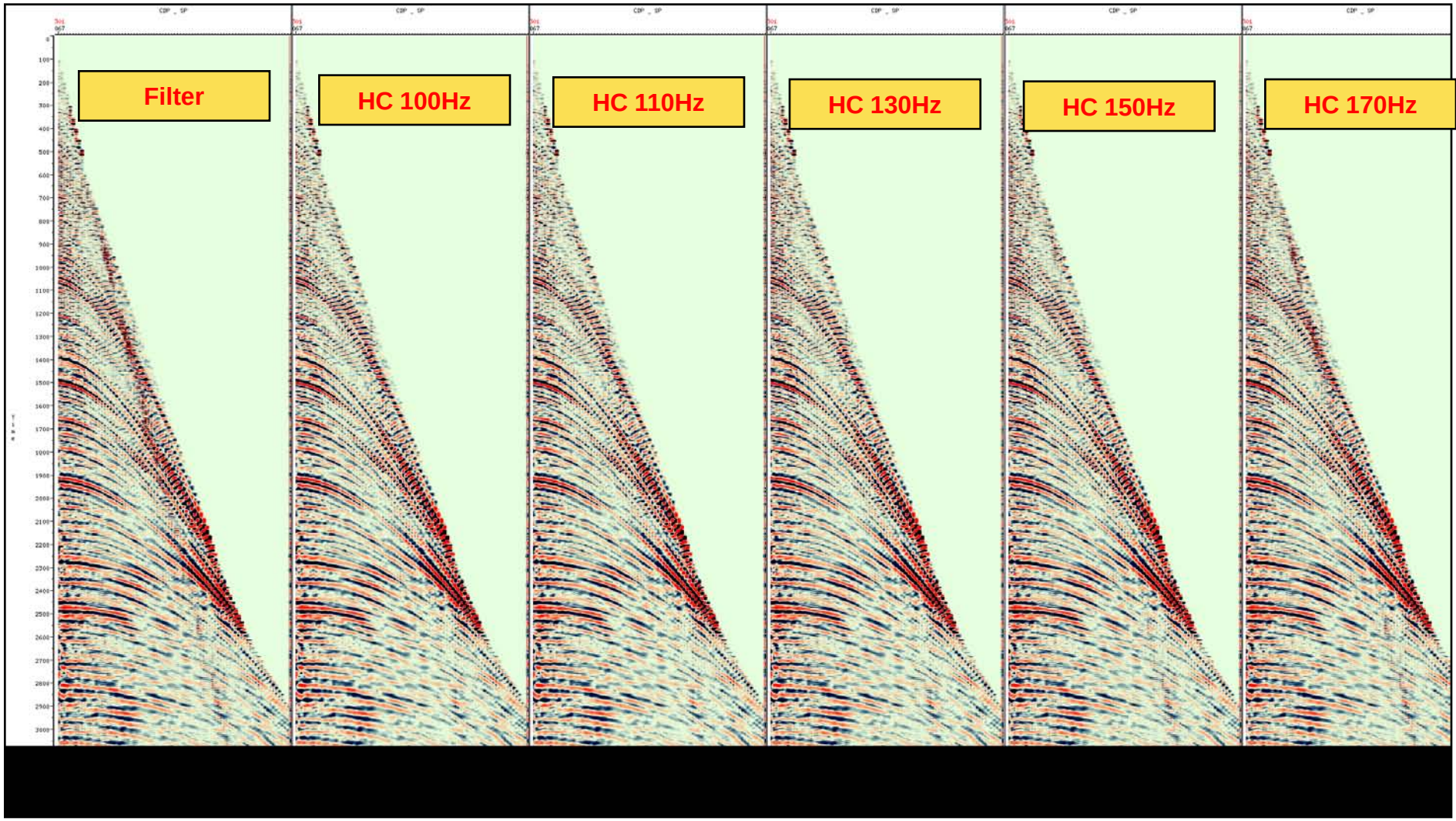
HC 160 hz

2D CDP No NMO: 7 + HC Filter (170 Hz, 110dB/Oct)

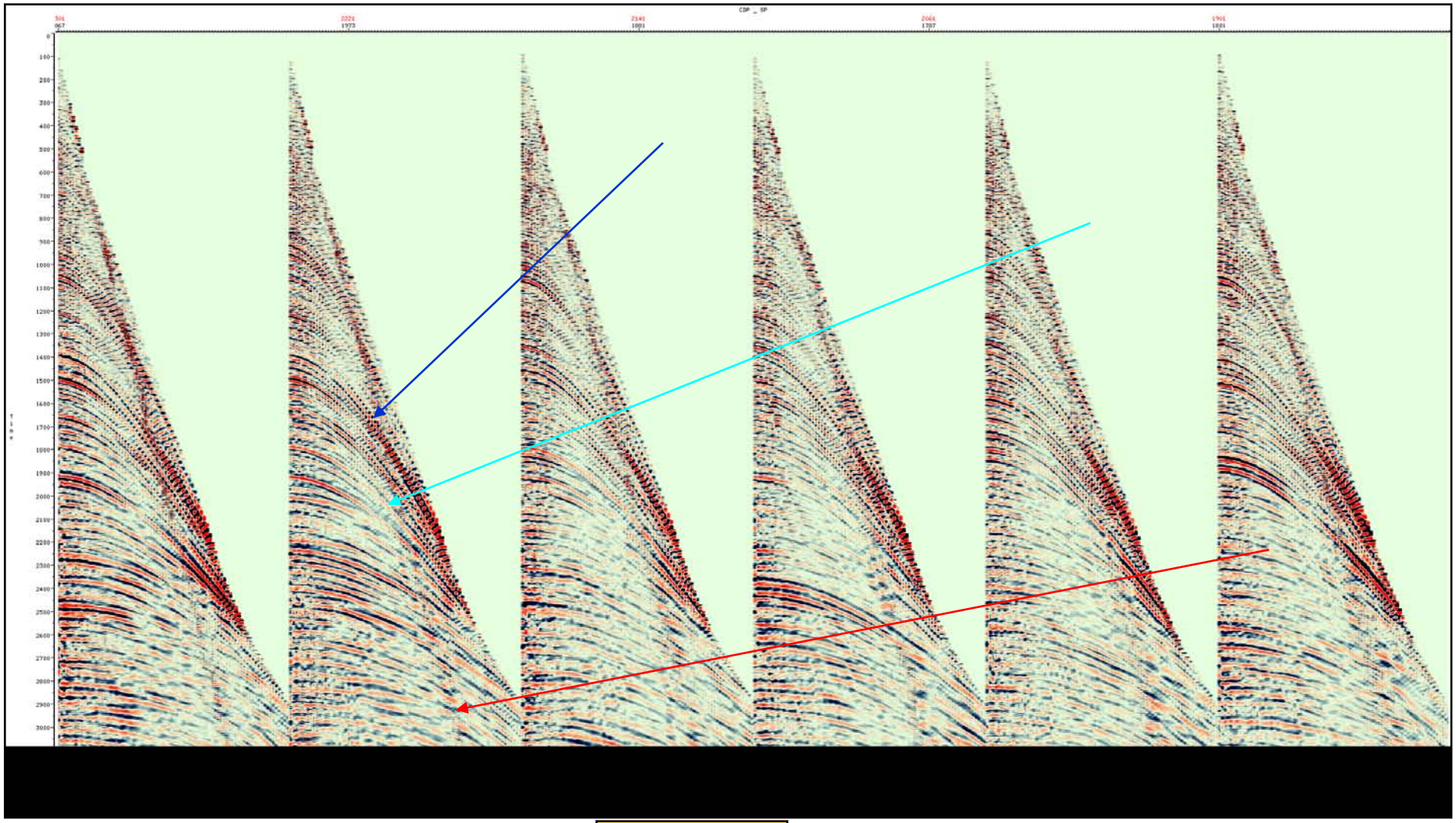


HC 170 hz

2D CDP No NMO: HC Filter(100Hz,110Hz,130Hz,150Hz,170Hz)

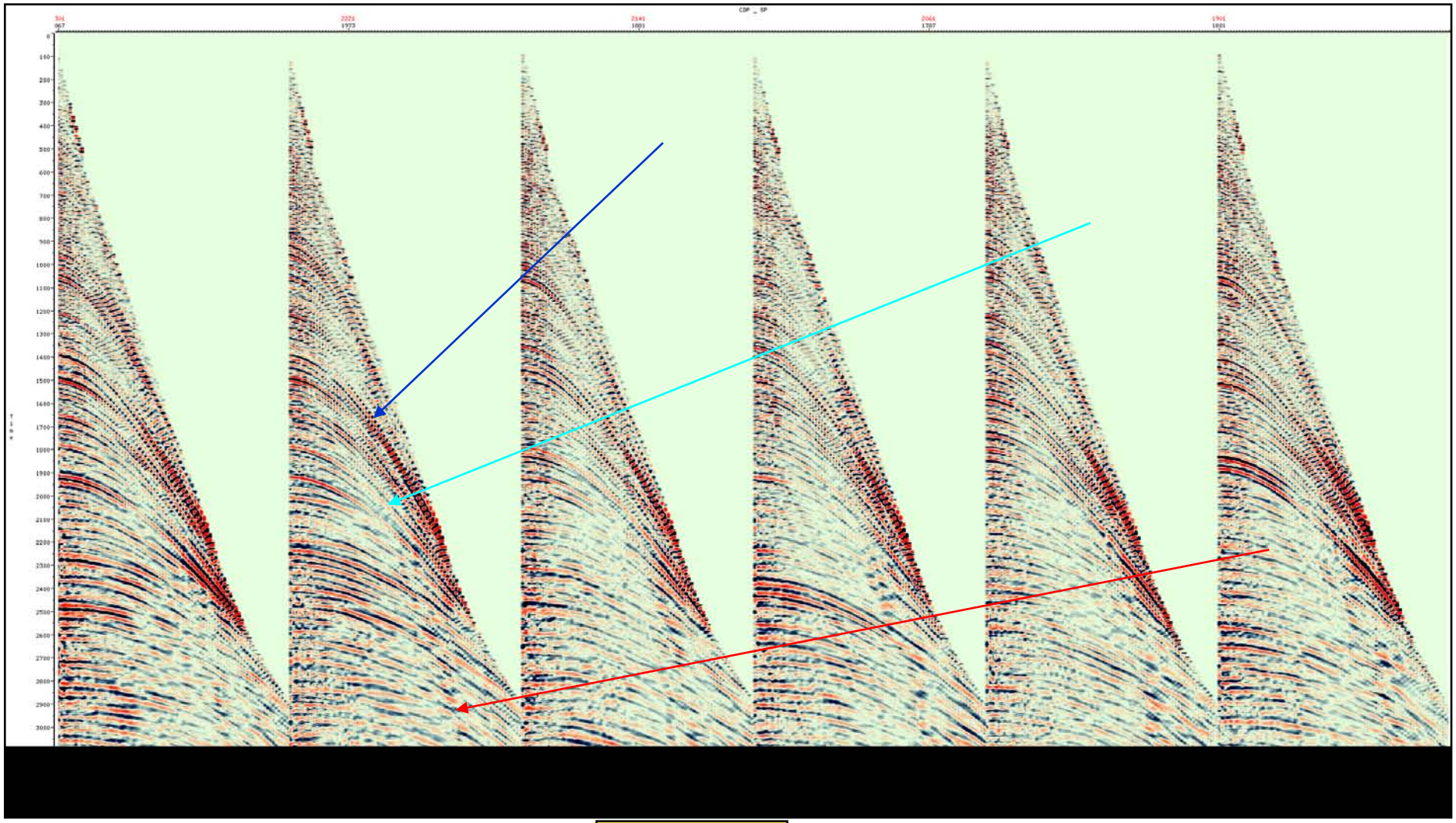


2D CDP No NMO: 7 (Input)



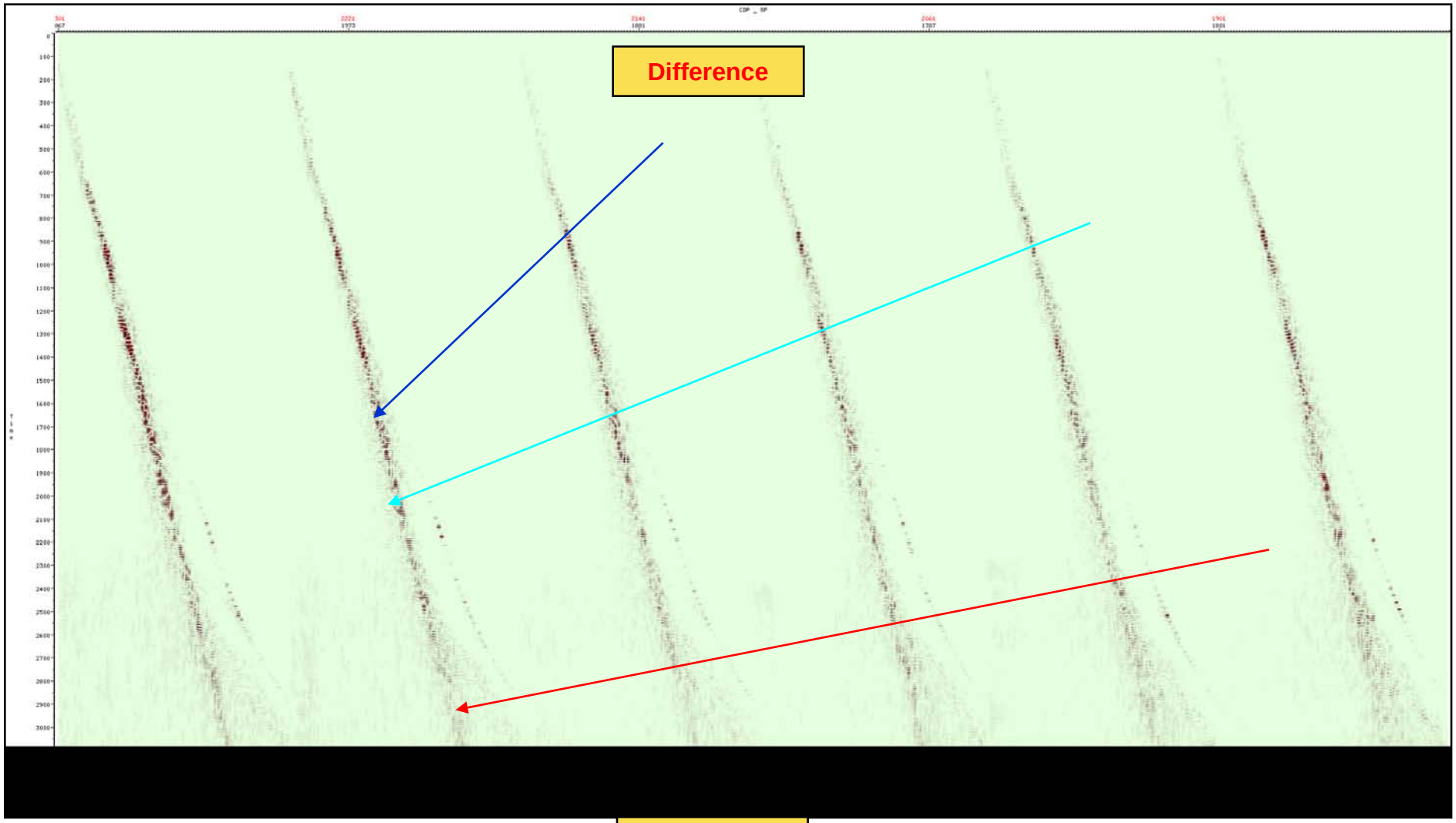
ZP+Model2+Q

2D CDP No NMO: Time variant Filter, 0-2000ms=150Hz , 2500-6000ms=120Hz

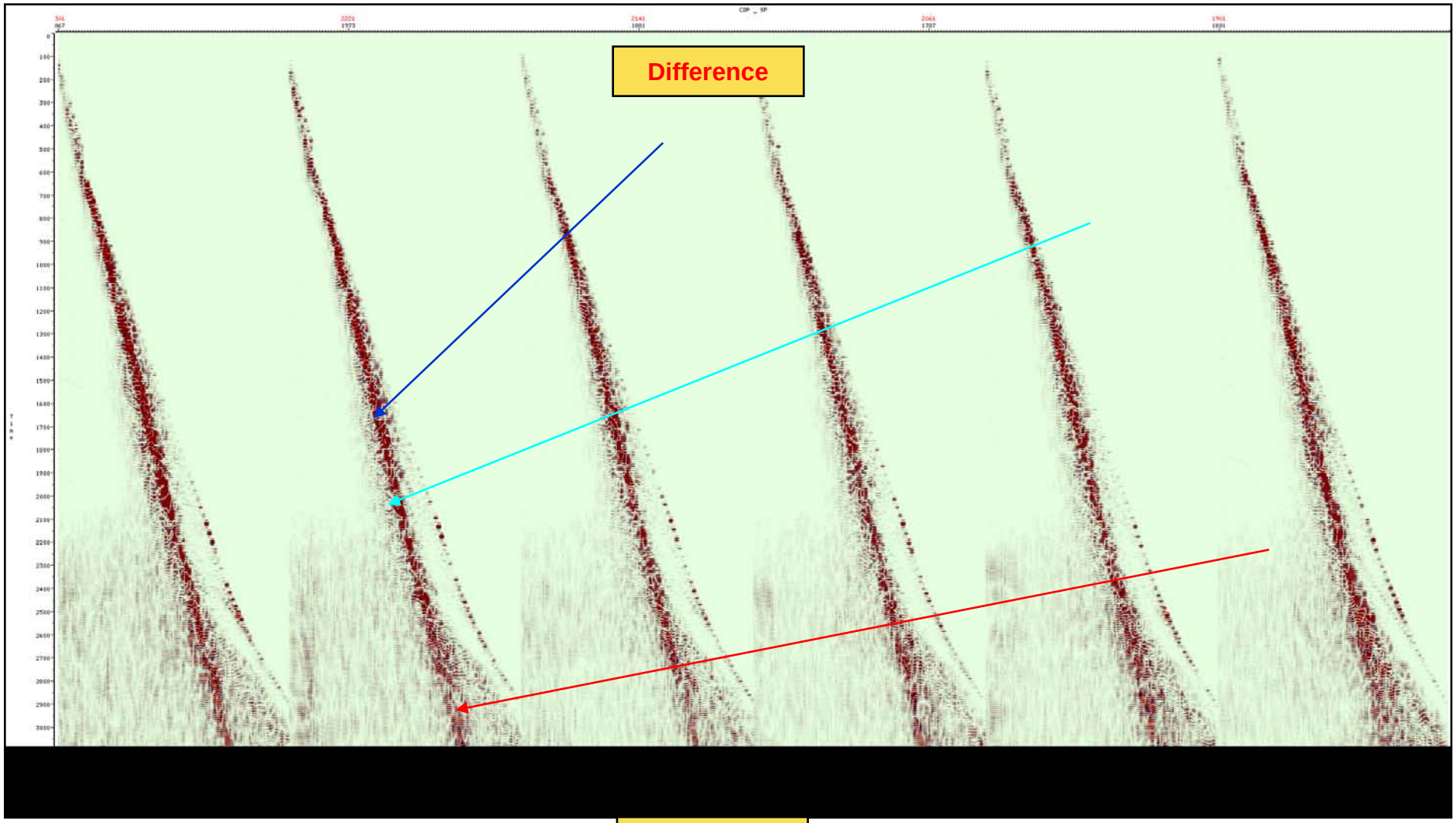


TV HC Filter

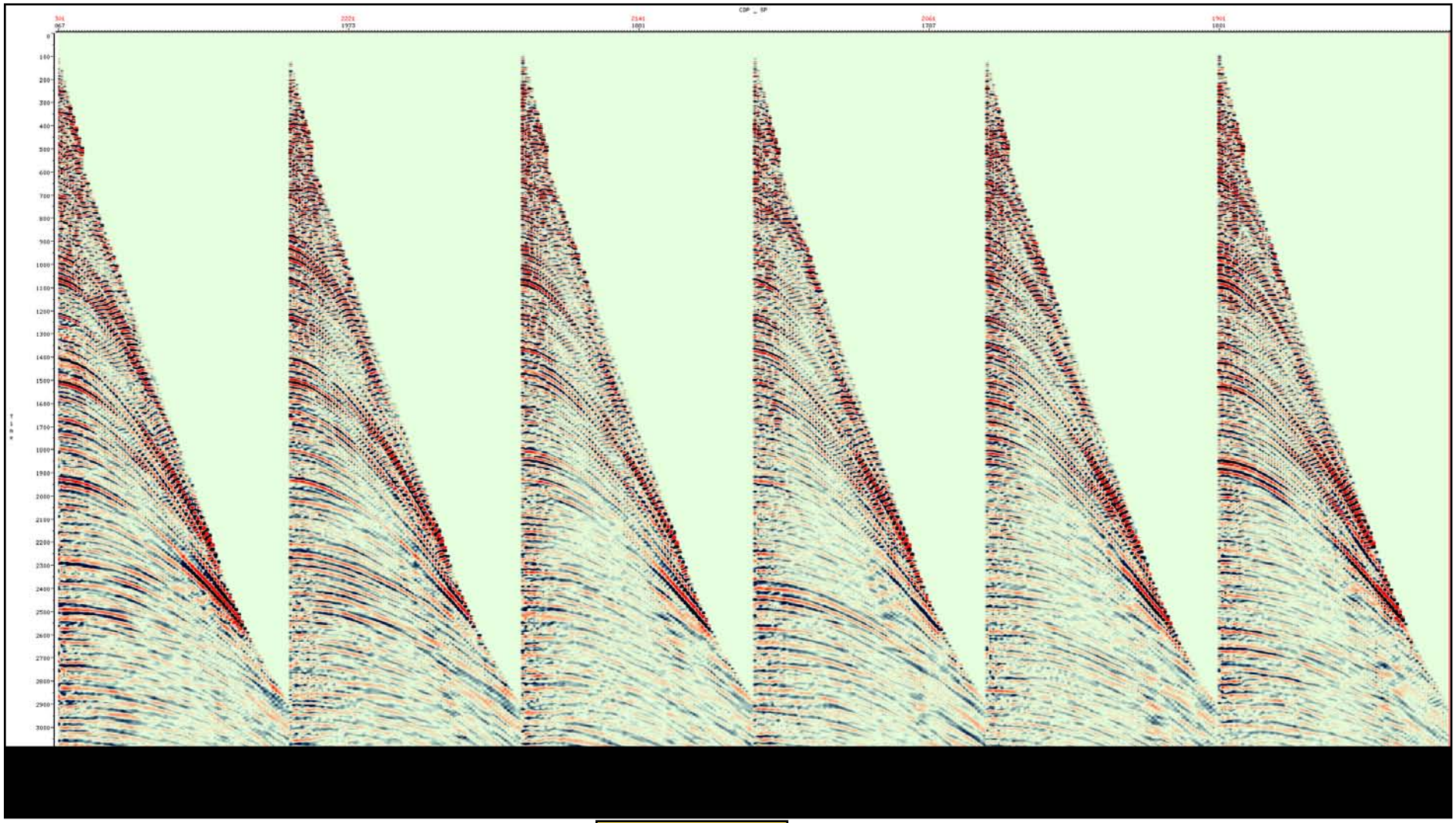
2D CDP No NMO: Difference of HC Time variant Filter



2D CDP No NMO: Difference of HC Time variant Filter

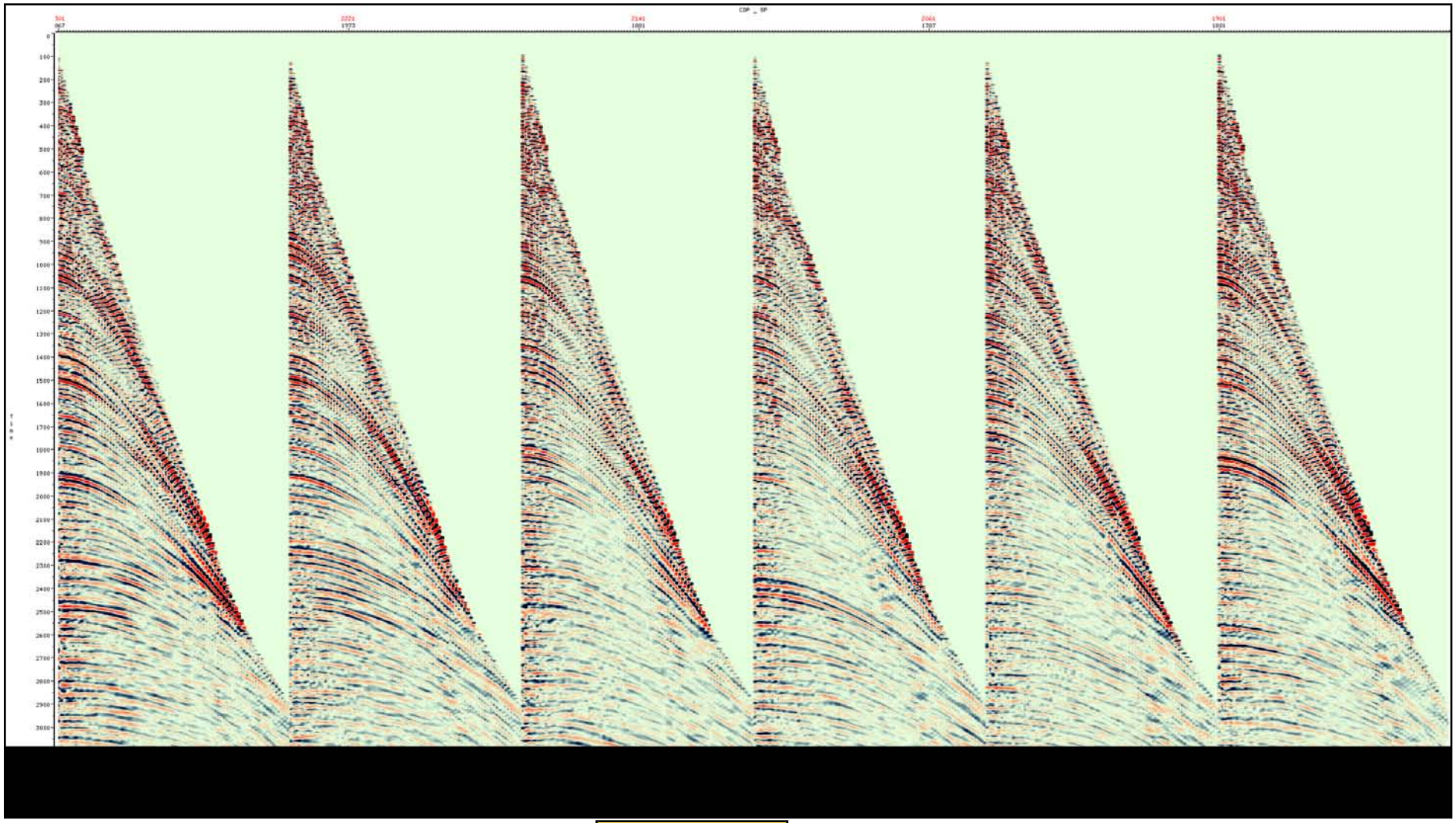


2D CDP No NMO: 2



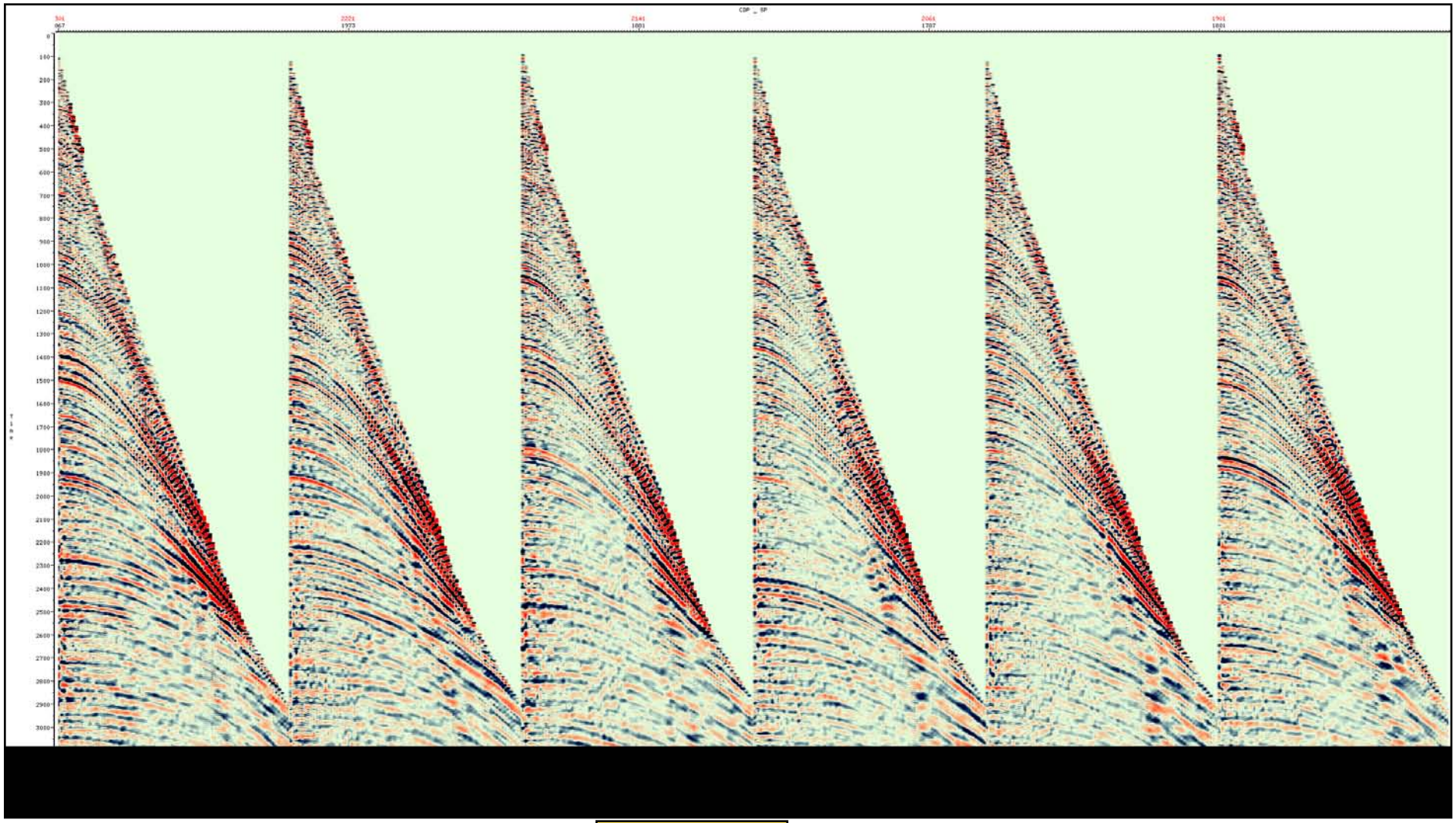
Tidal Static

2D CDP No NMO: 3



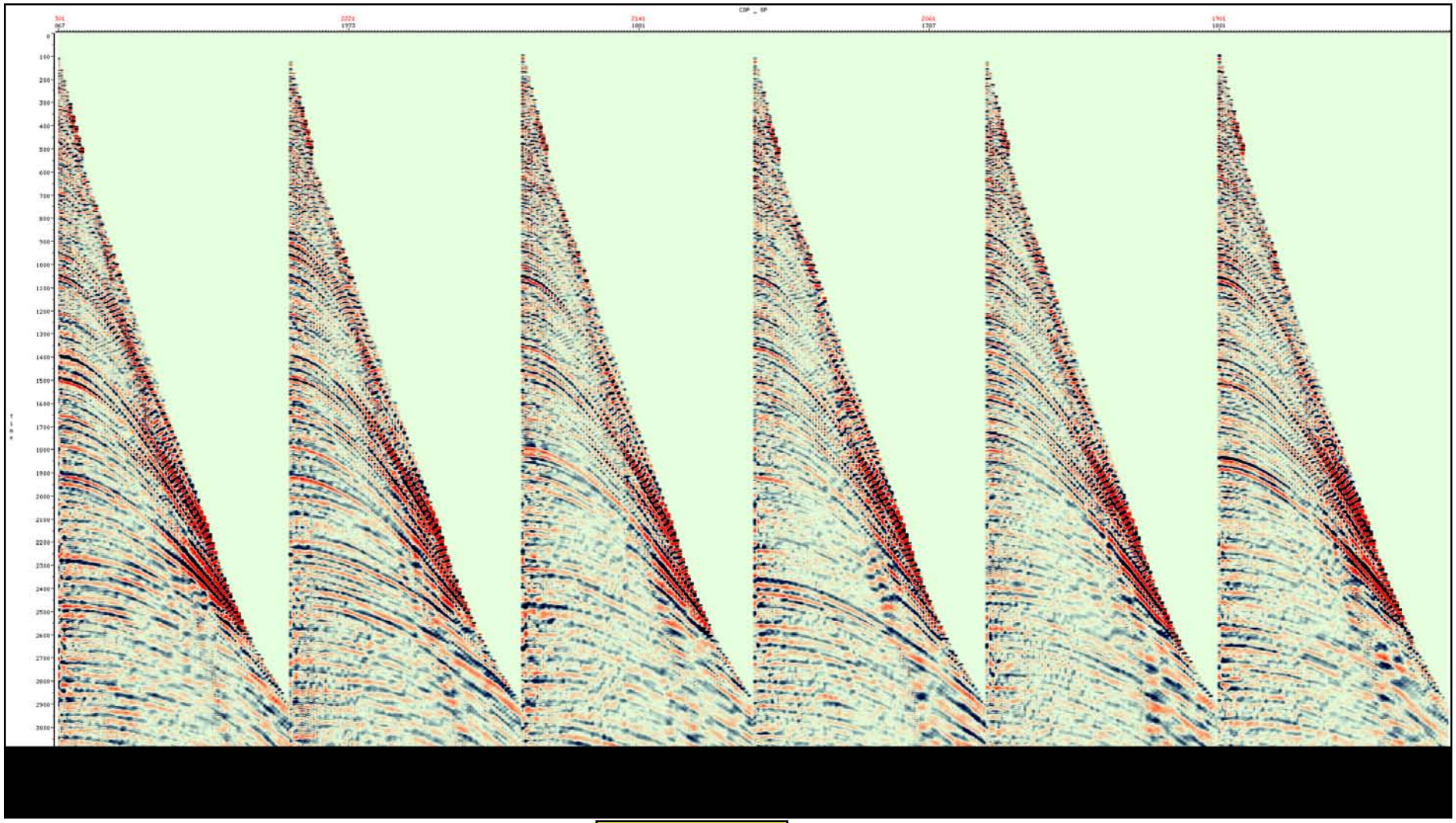
ZP

2D CDP No NMO: 4



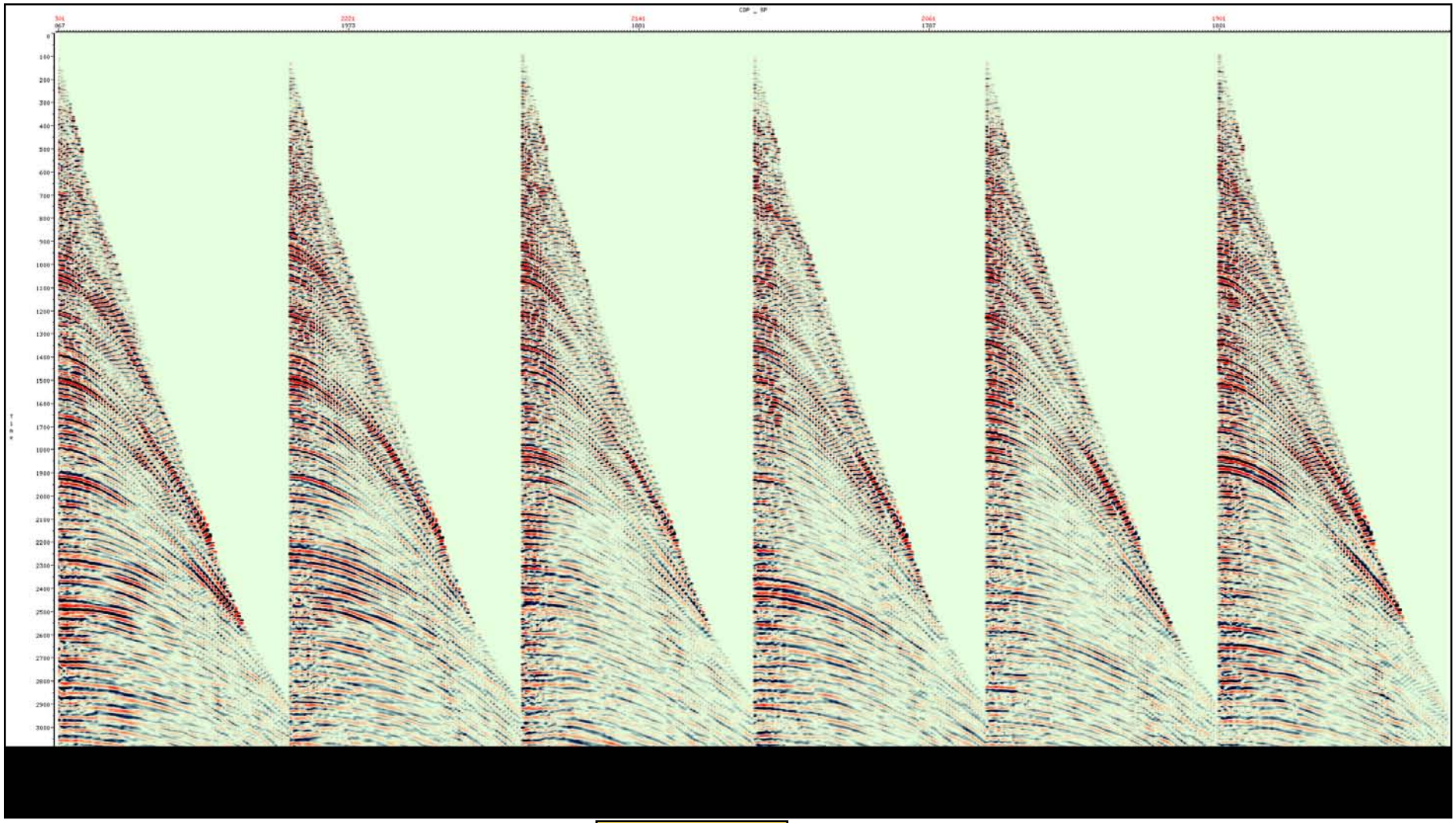
ZP+Model1

2D CDP No NMO: 7



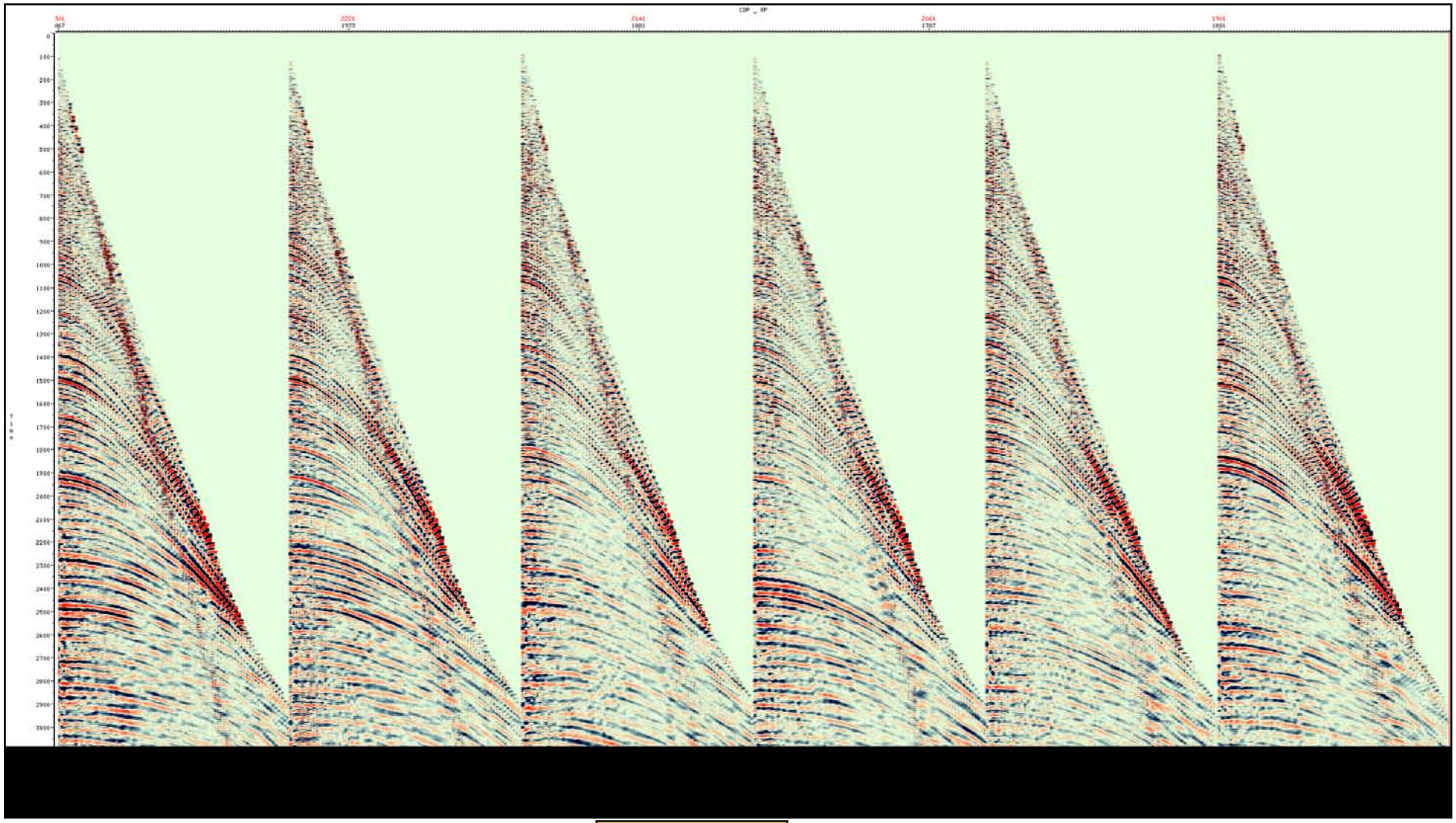
ZP+Model2

2D CDP No NMO: 6



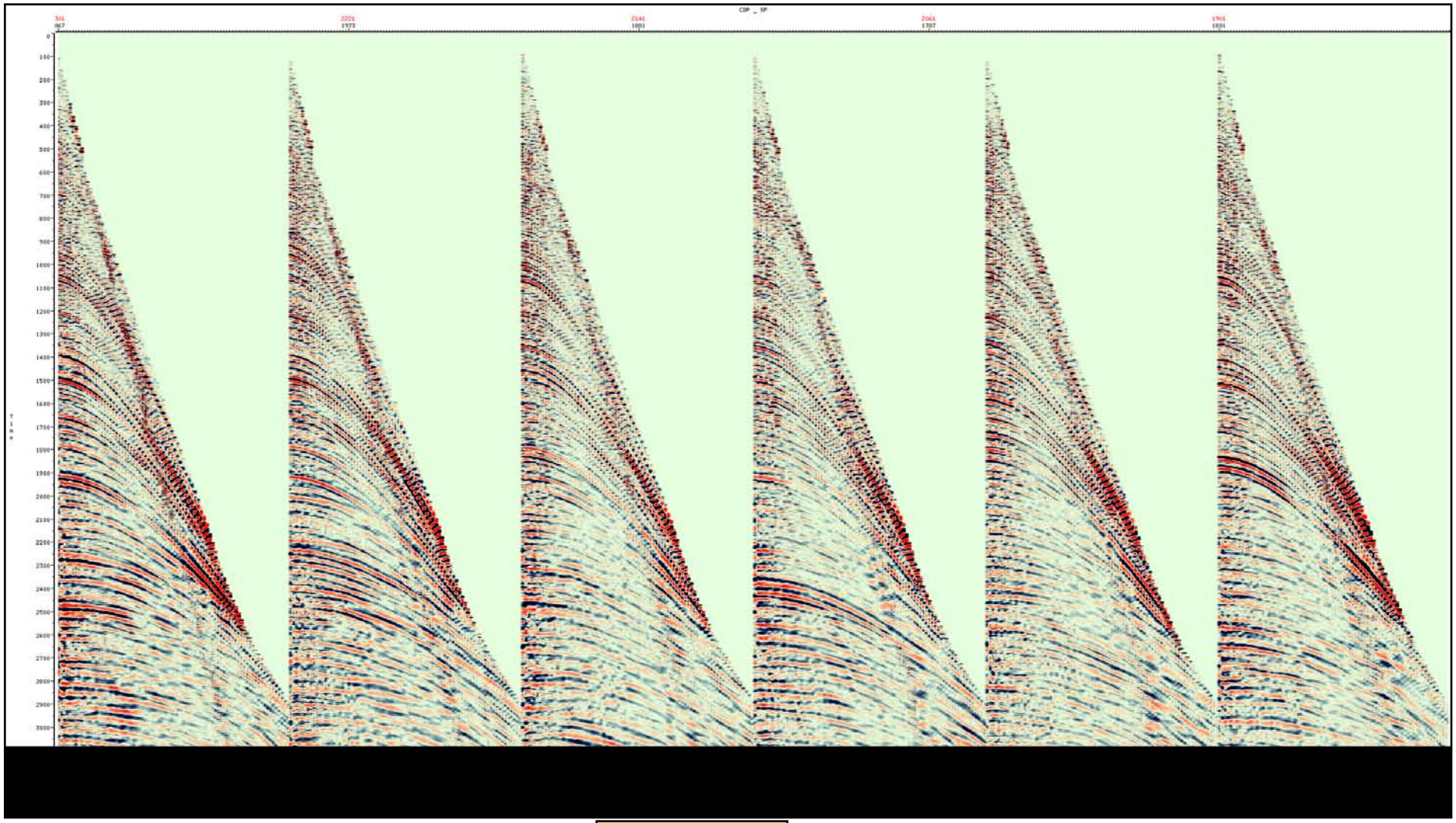
ZP+Q

2D CDP No NMO: 5



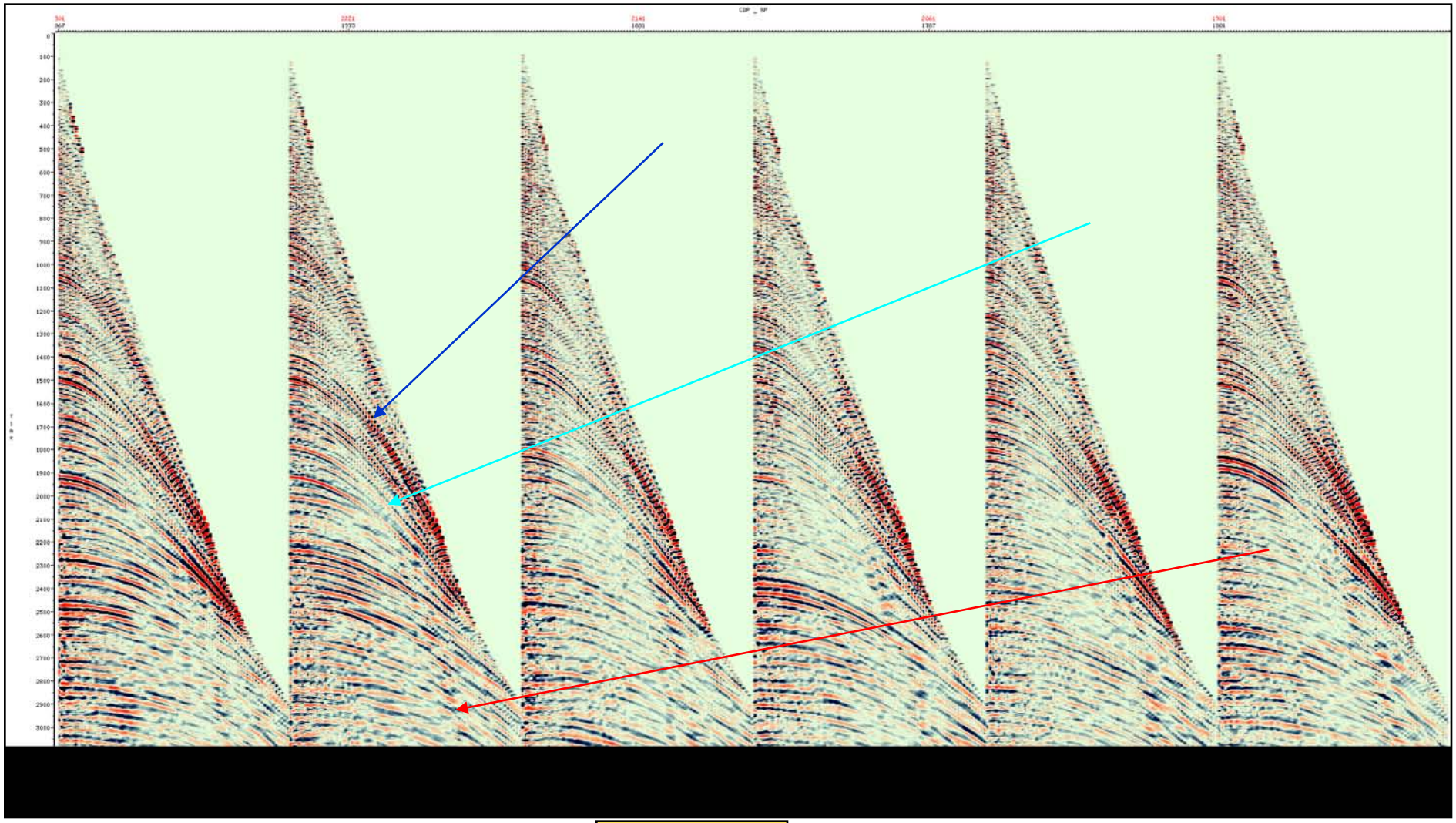
ZP+Model1+Q

2D CDP No NMO: 8



ZP+Model2+Q

2D CDP No NMO: Time variant Filter, 0-2000ms=150Hz , 2500-6000ms=120Hz

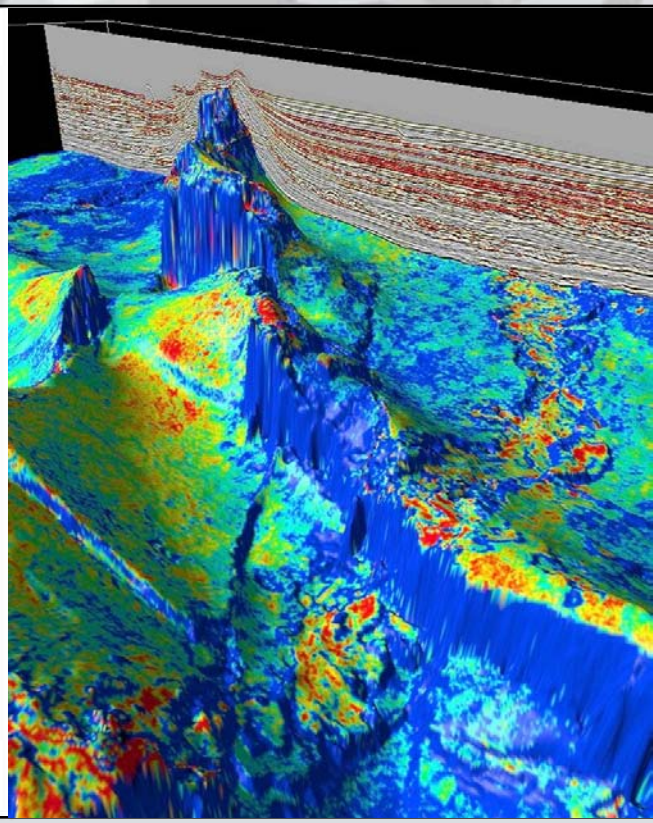


TV HC Filter

QC Production 4

Tidal Statics, Zero Phase, Q Comp

Silvereye 3D



CGGVERITAS

QC Production 4

This PowerPoint shows QCs of the Production 4 (processes in **bold** below) compared with the previous processing step, Hi-Res Radon demultiple.

Processing sequence to date

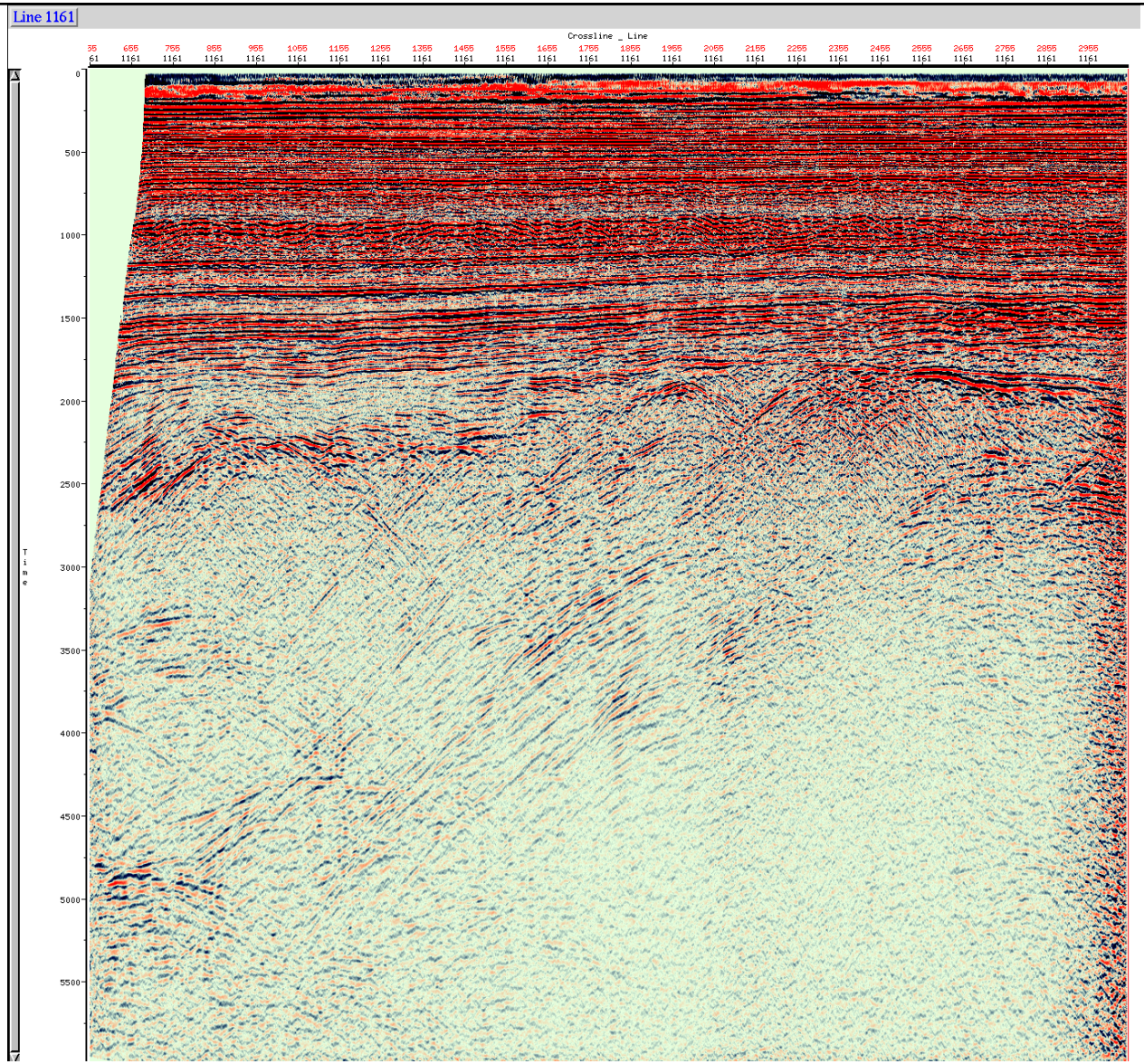
- Reformat field data to CGGV internal format
- Seismic/Navigation merge
- Instrument delay - phase 58ms
- Cut data to 6000ms
- Maintain a sample of 2ms (with appropriate anti-alias filter)
- Amplitude recovery, multiply amplitudes by (T/250)2
- De-bias and low cut filter: 3Hz
- Obs log editing
- Hi-Res Radon in SP domain followed by channel domain
- Linear radon: start time inner cables 2600ms, 600ms taper; start time outer cables 1600ms, 600ms taper
- DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
- Knotch filter
- Production 4, subtraction in CDP domain
- 1st pass velocity analysis
- Trace drop (with anti-alias filter)
- Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
- **Targeted source and channel amplitude correction**
- **Tidal statics**
- **Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct**
- **Q Comp, phase only Q140**
- **T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct**

} **Production 4**

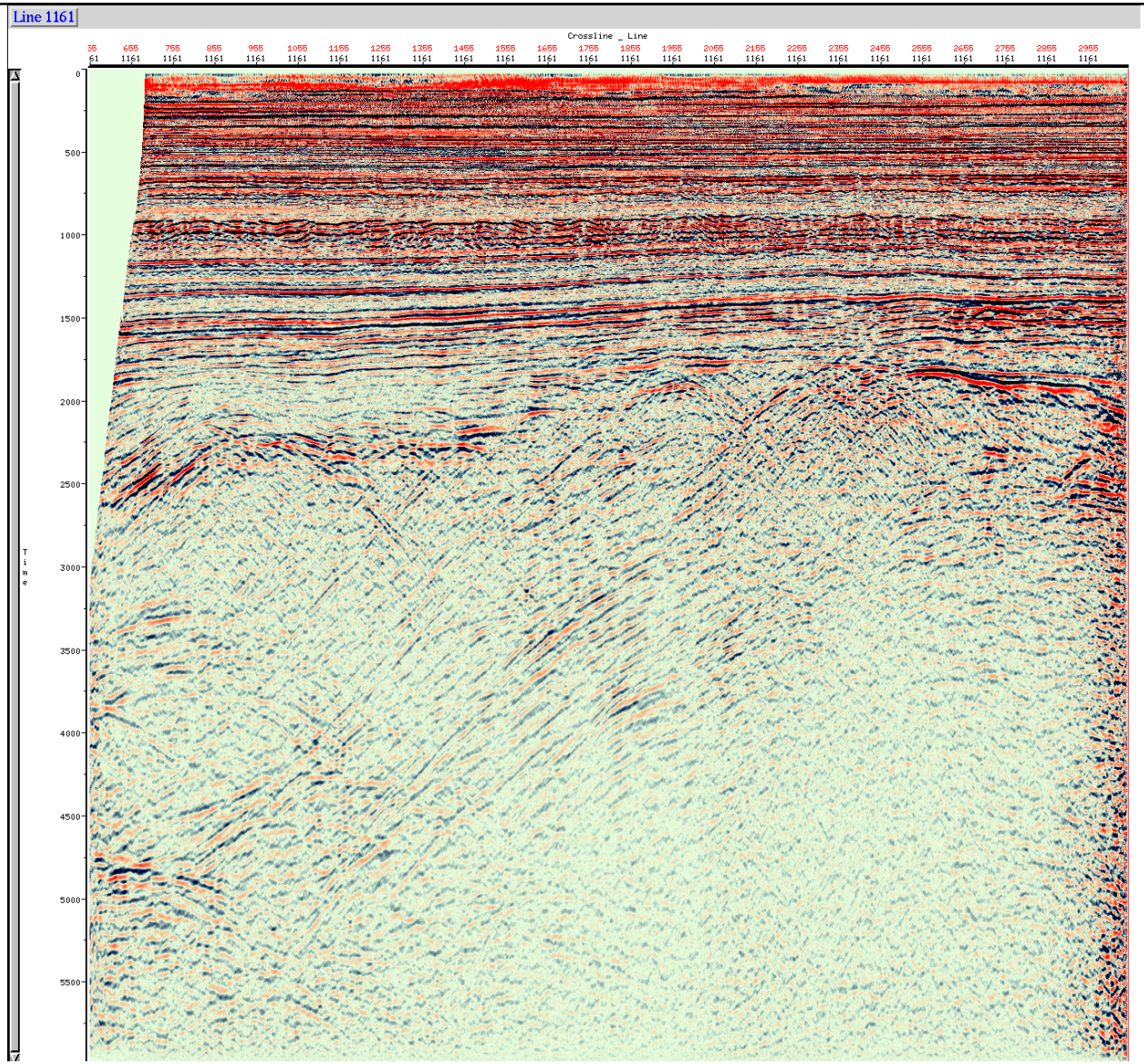
QCs

- Example inlines, crosslines and time slices after Production 4 and after Hi-Res Radon demultiple.

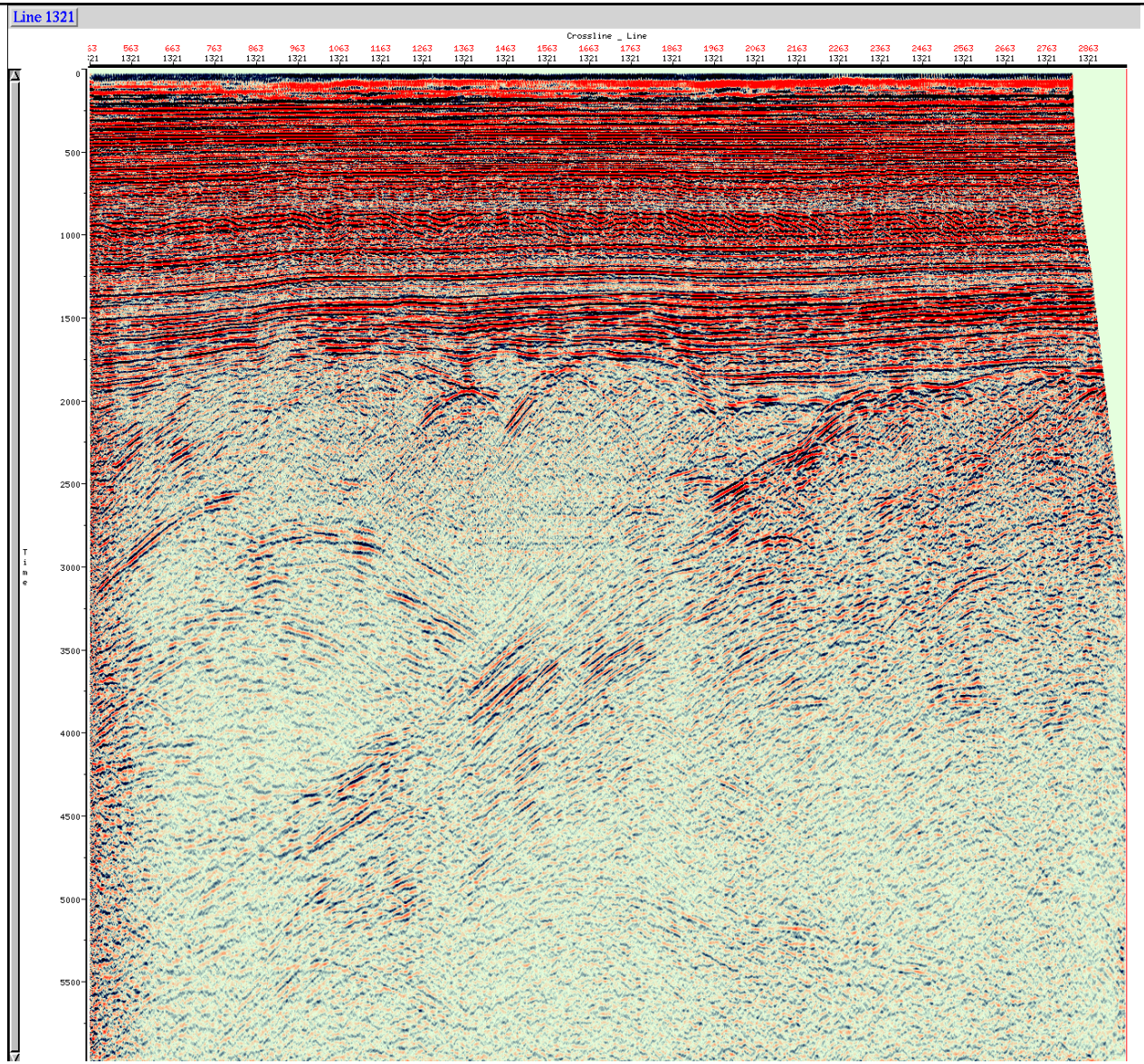
IL1161 stack after Hi-Res Radon demultiple



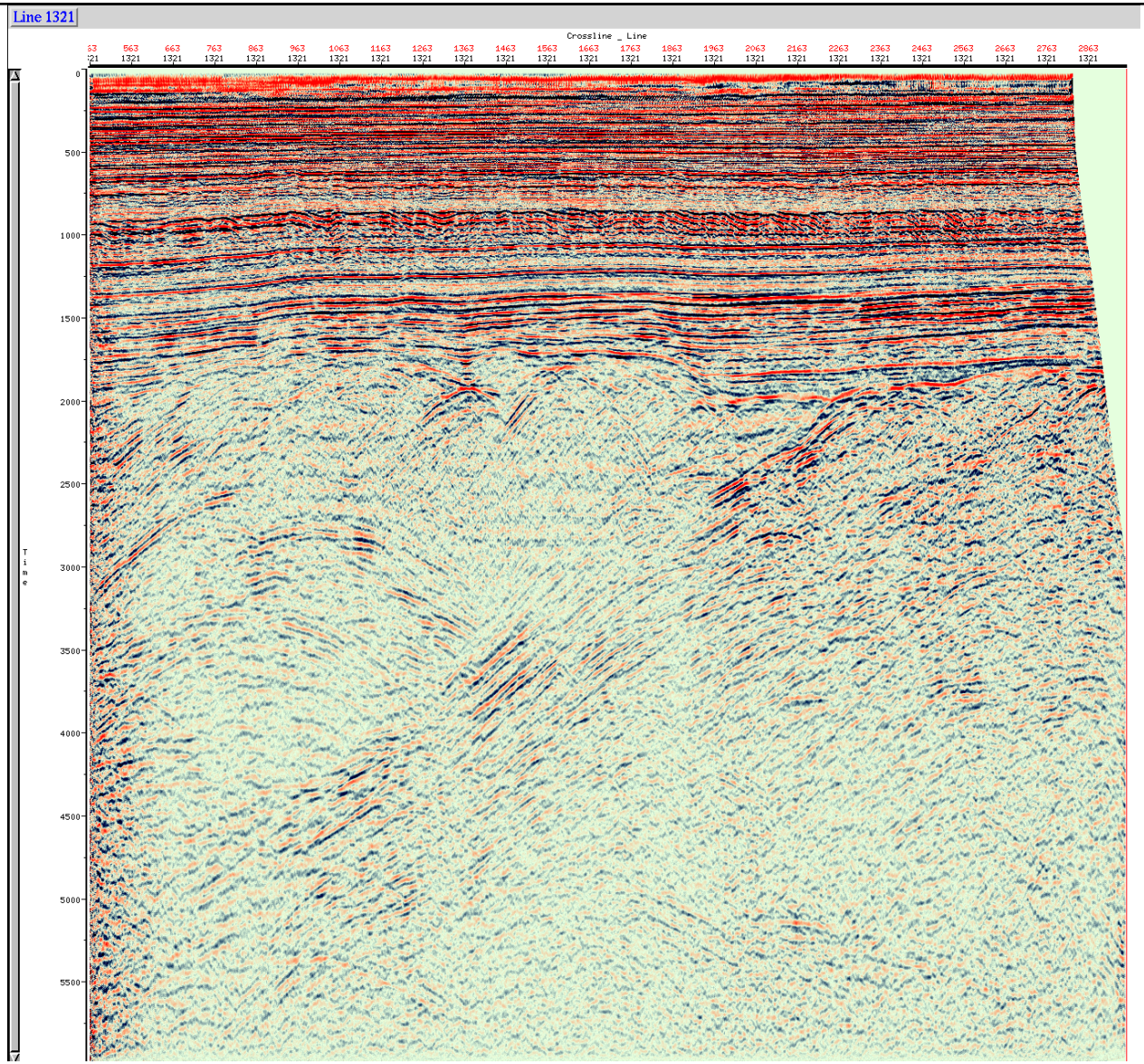
IL1161 stack after Production 4



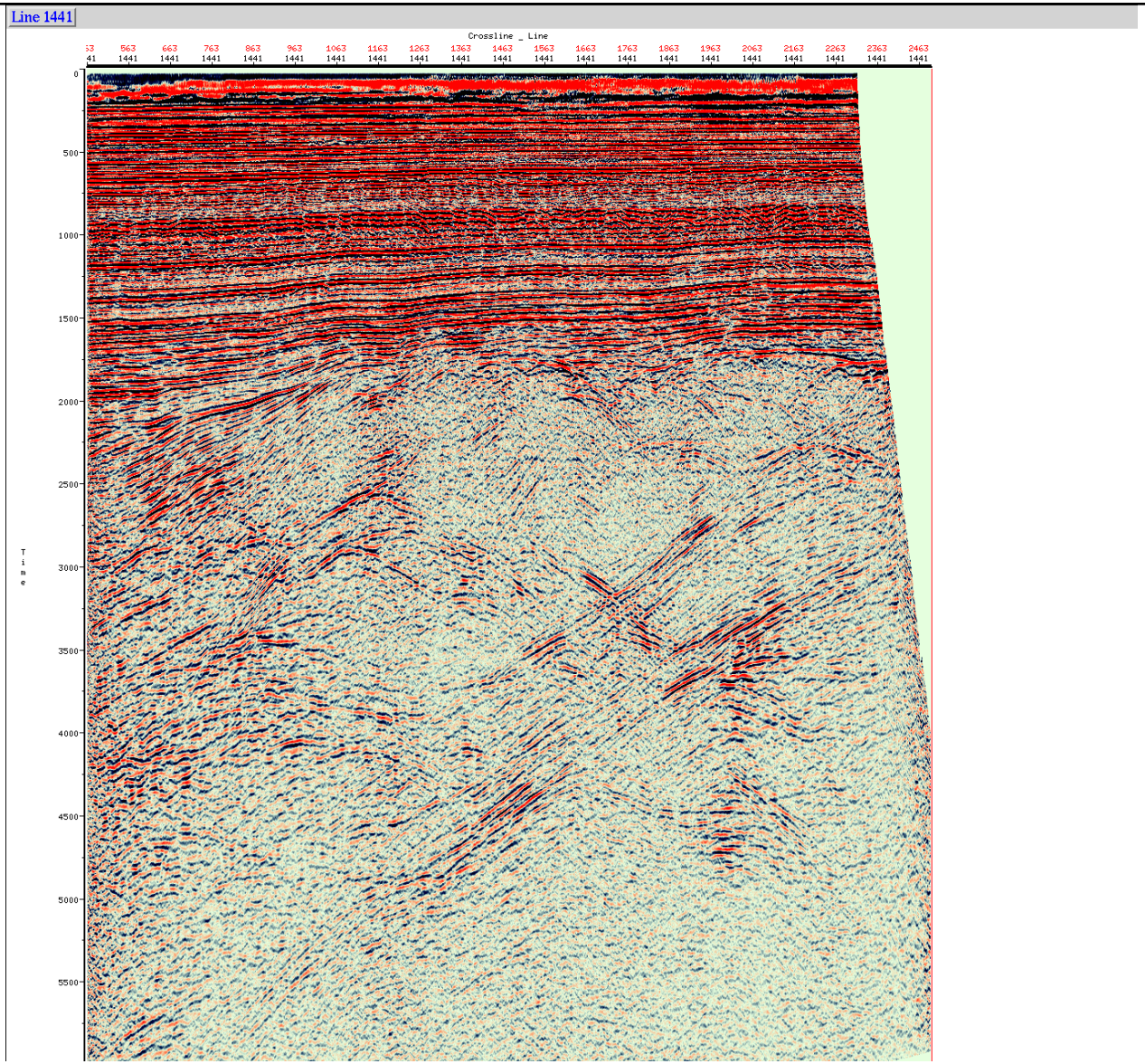
IL1321 stack after Hi-Res Radon demultiple



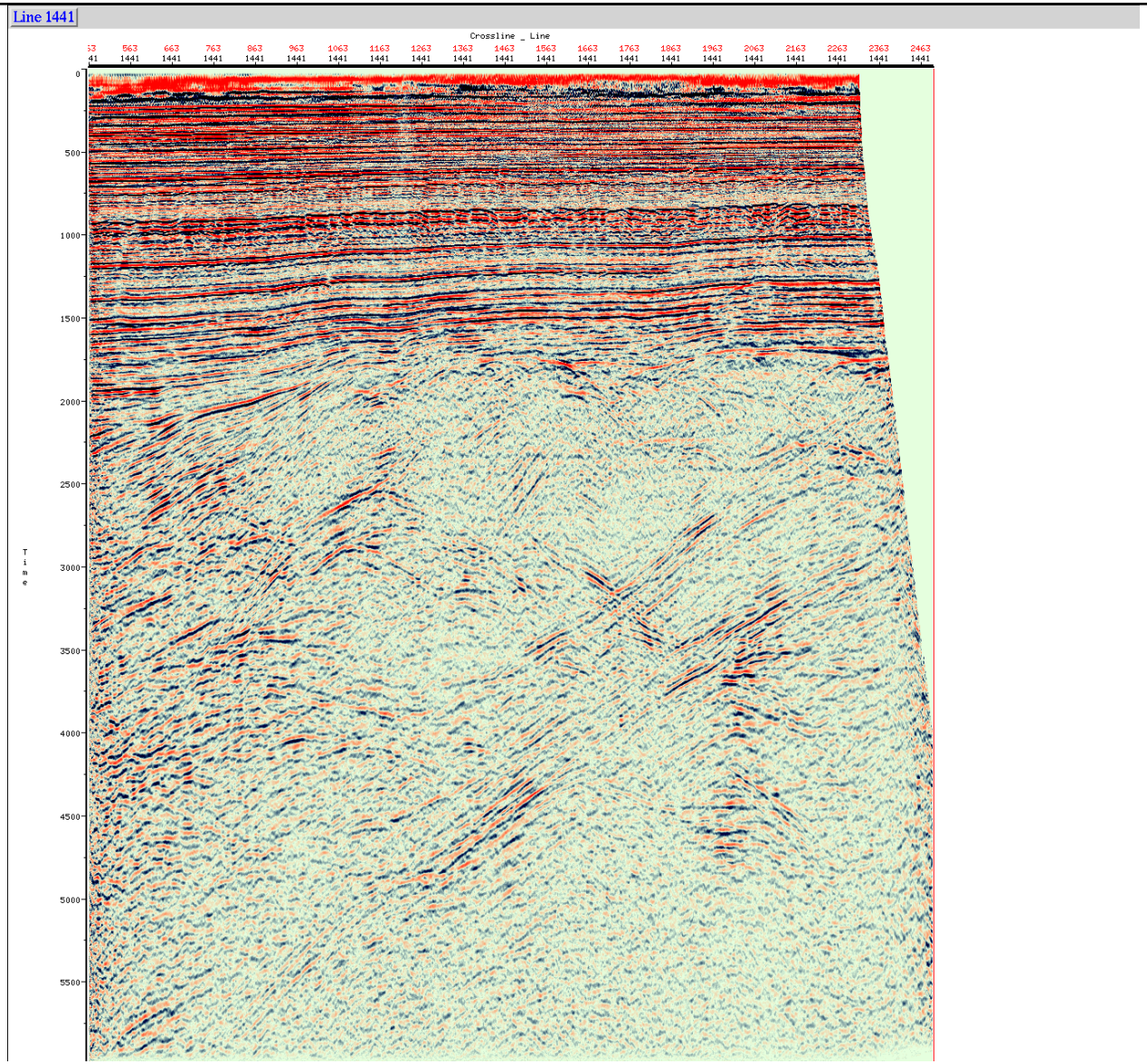
IL1321 stack after Production 4



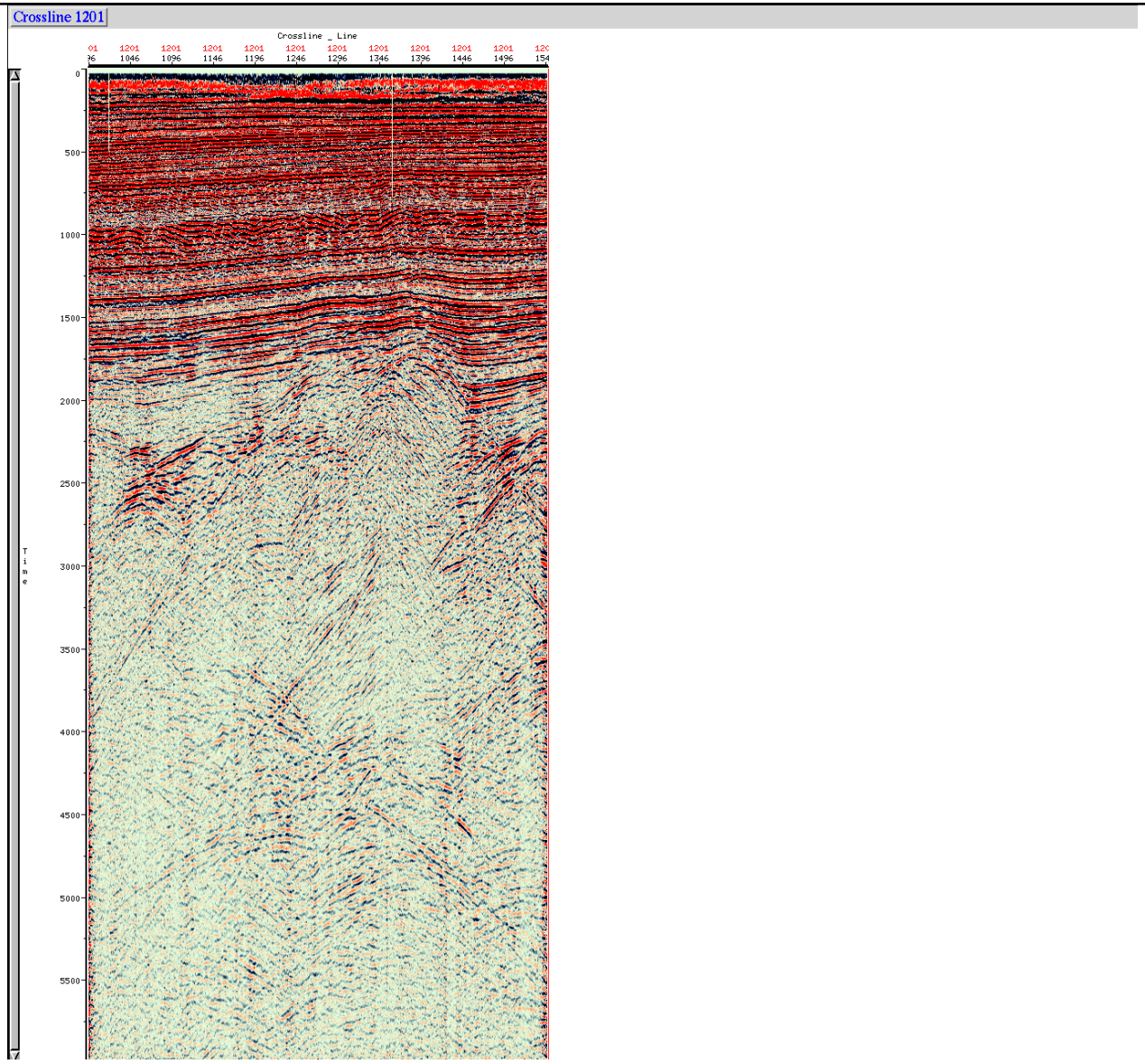
IL1441 stack after Hi-Res Radon demultiple



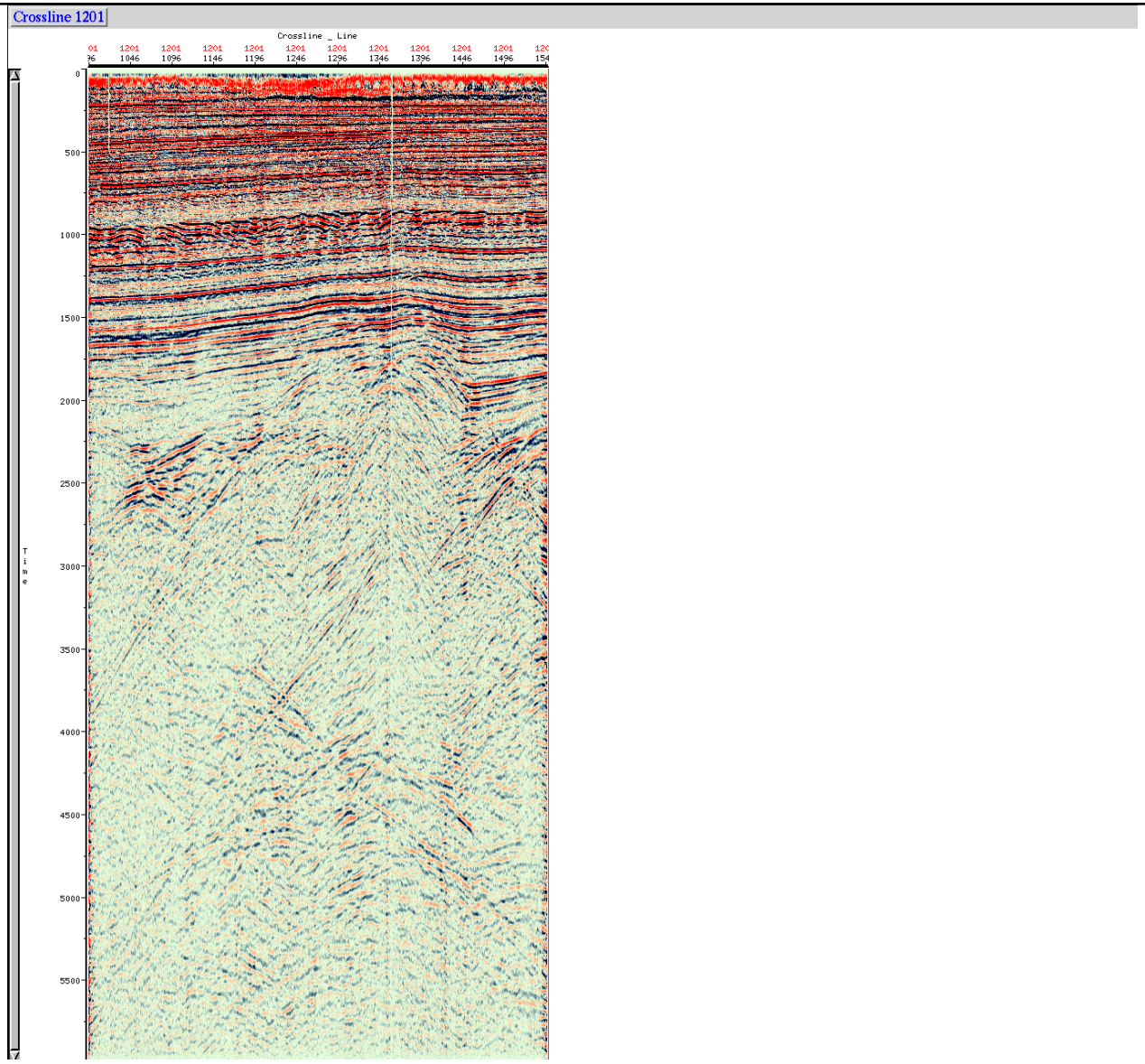
IL1441 stack after Production 4



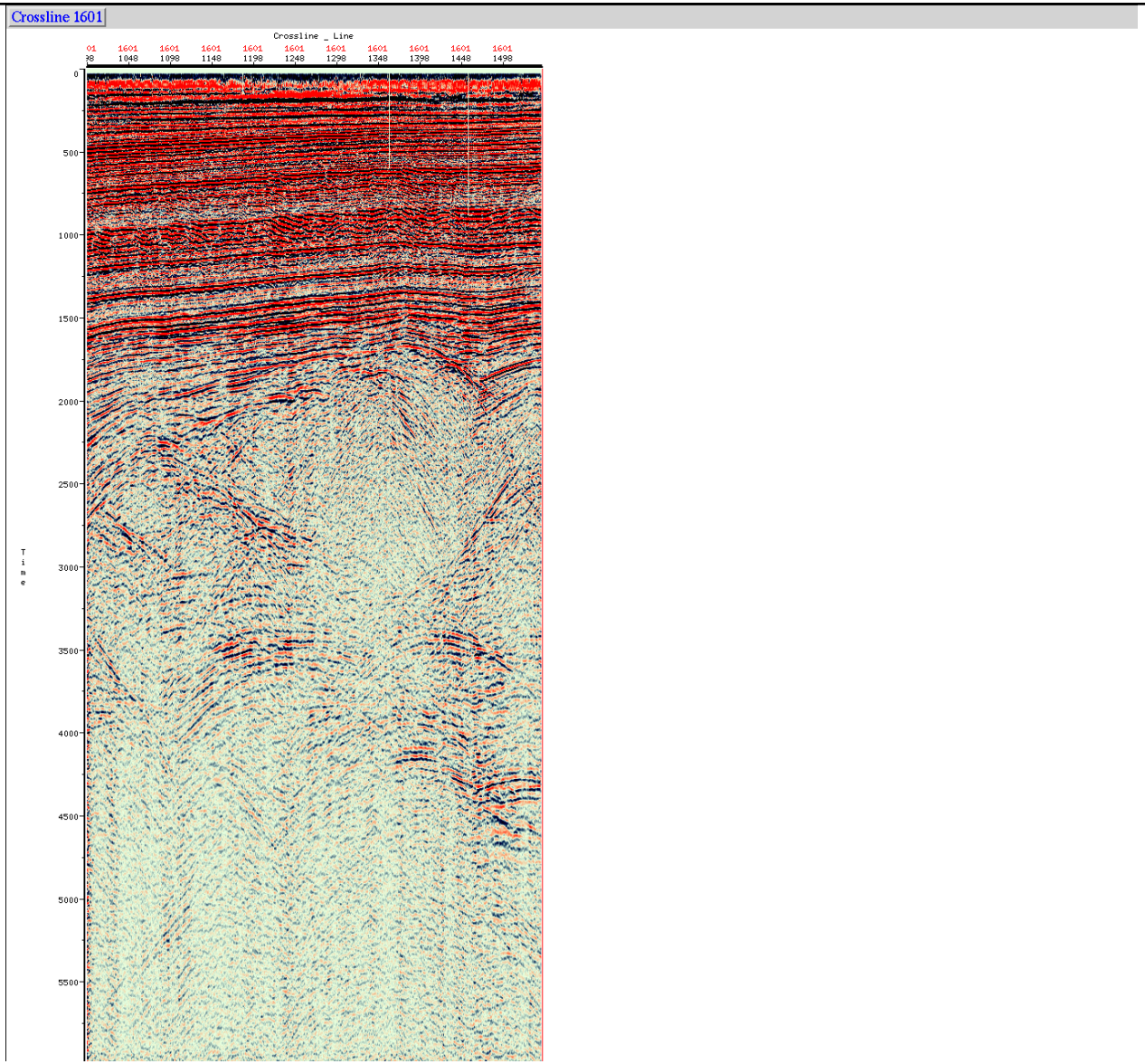
XL1201 stack after Hi-Res Radon demultiple



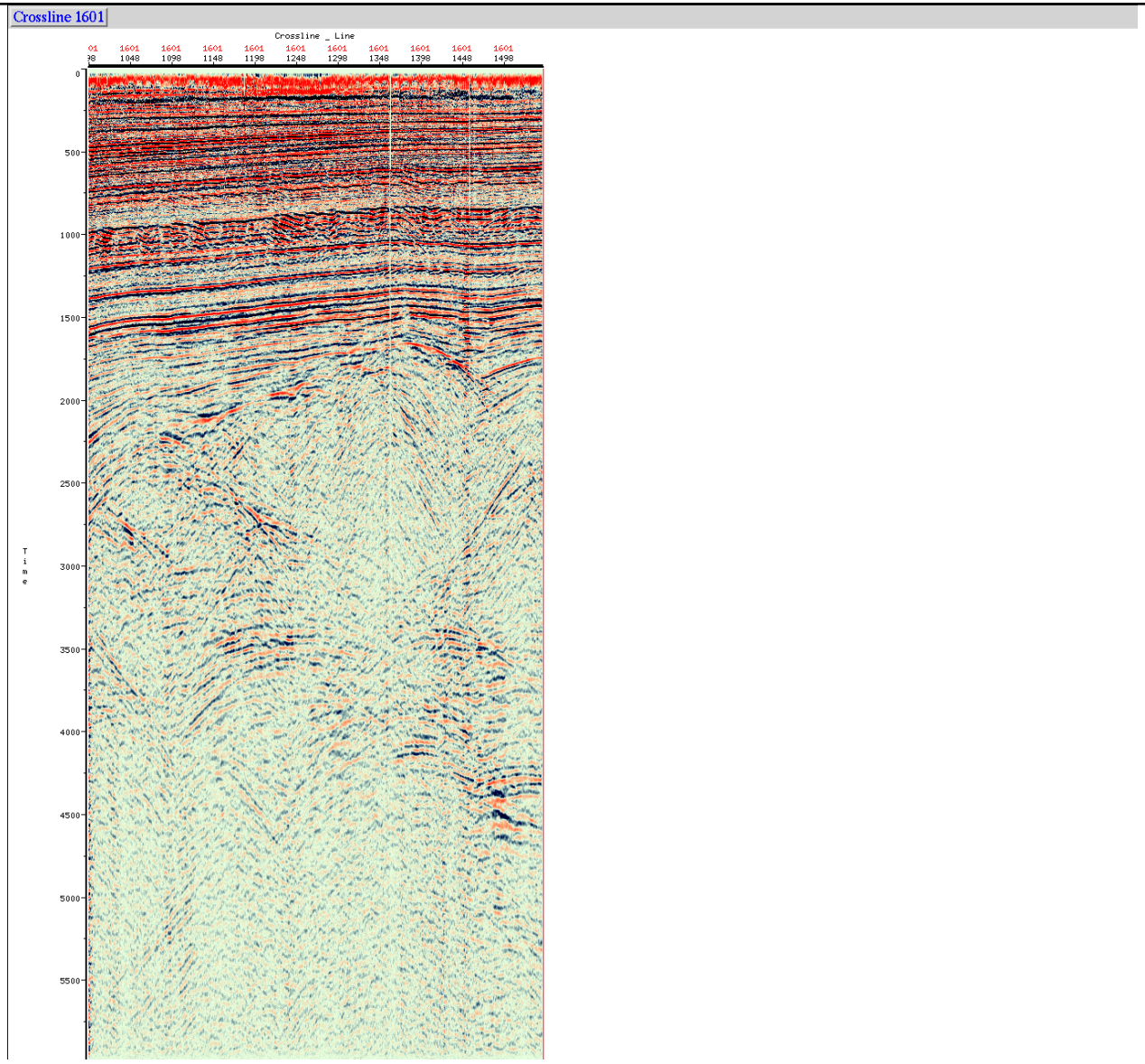
XL1201 stack after Production 4



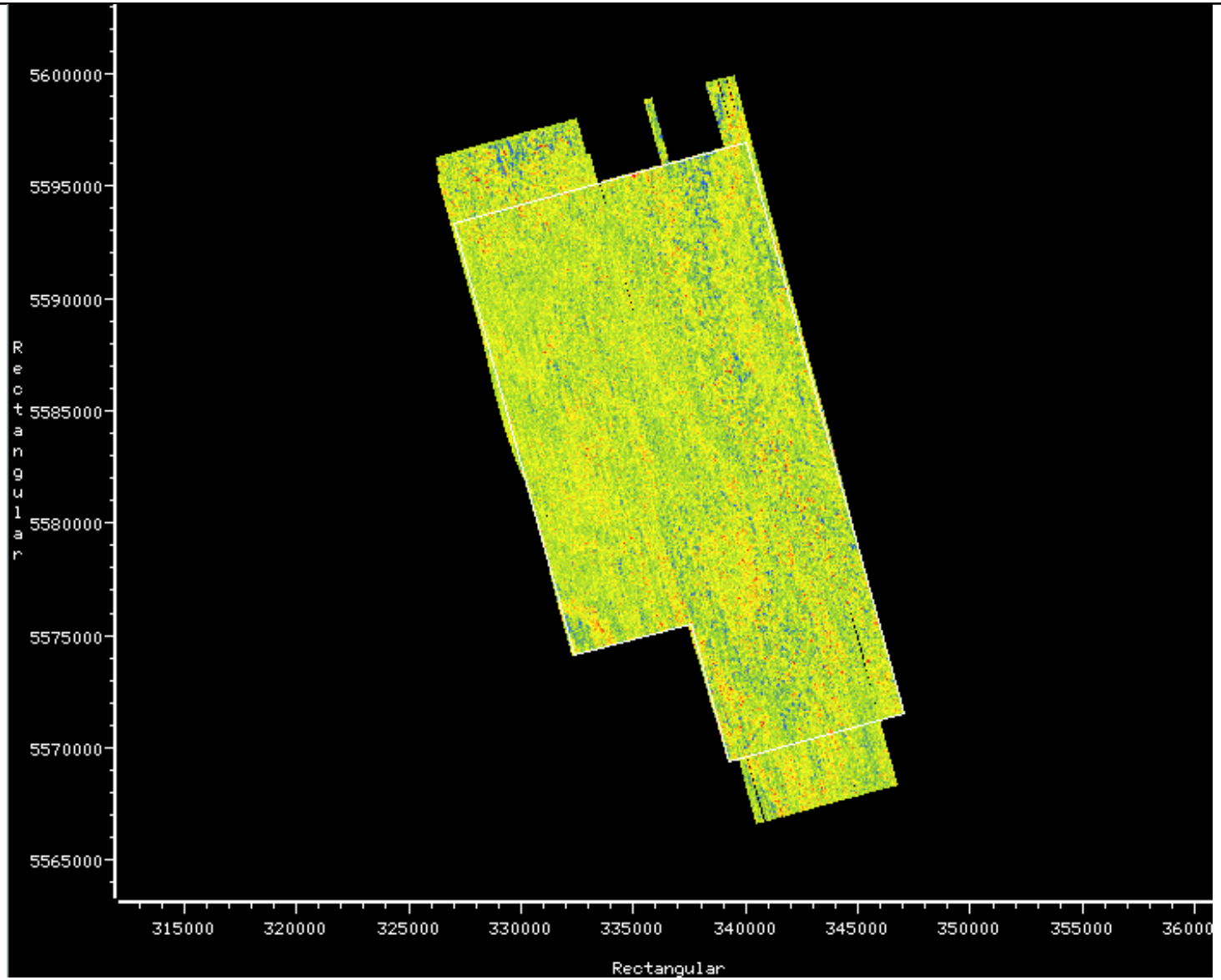
XL1601 stack after Hi-Res Radon demultiple



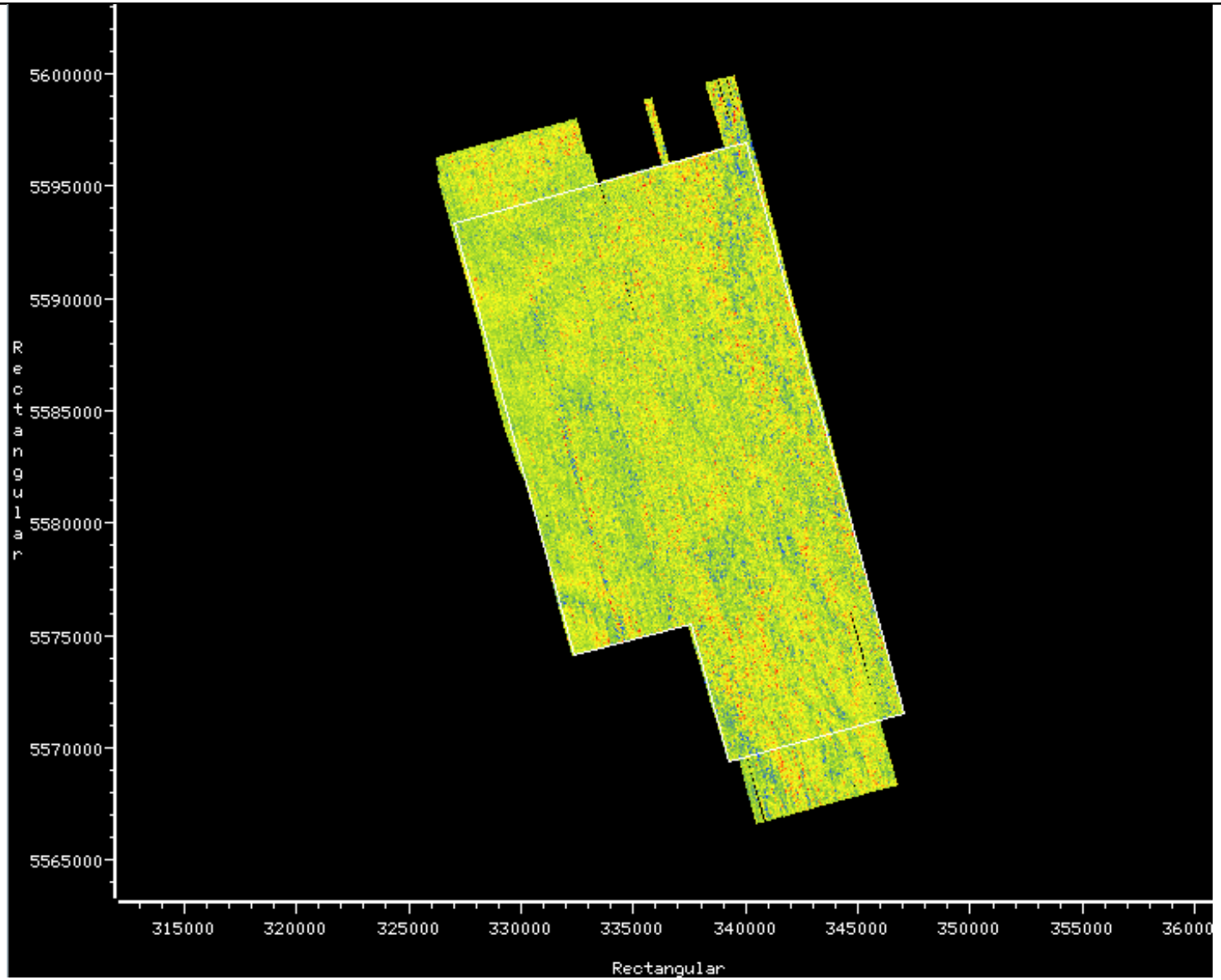
XL1601 stack after Production 4



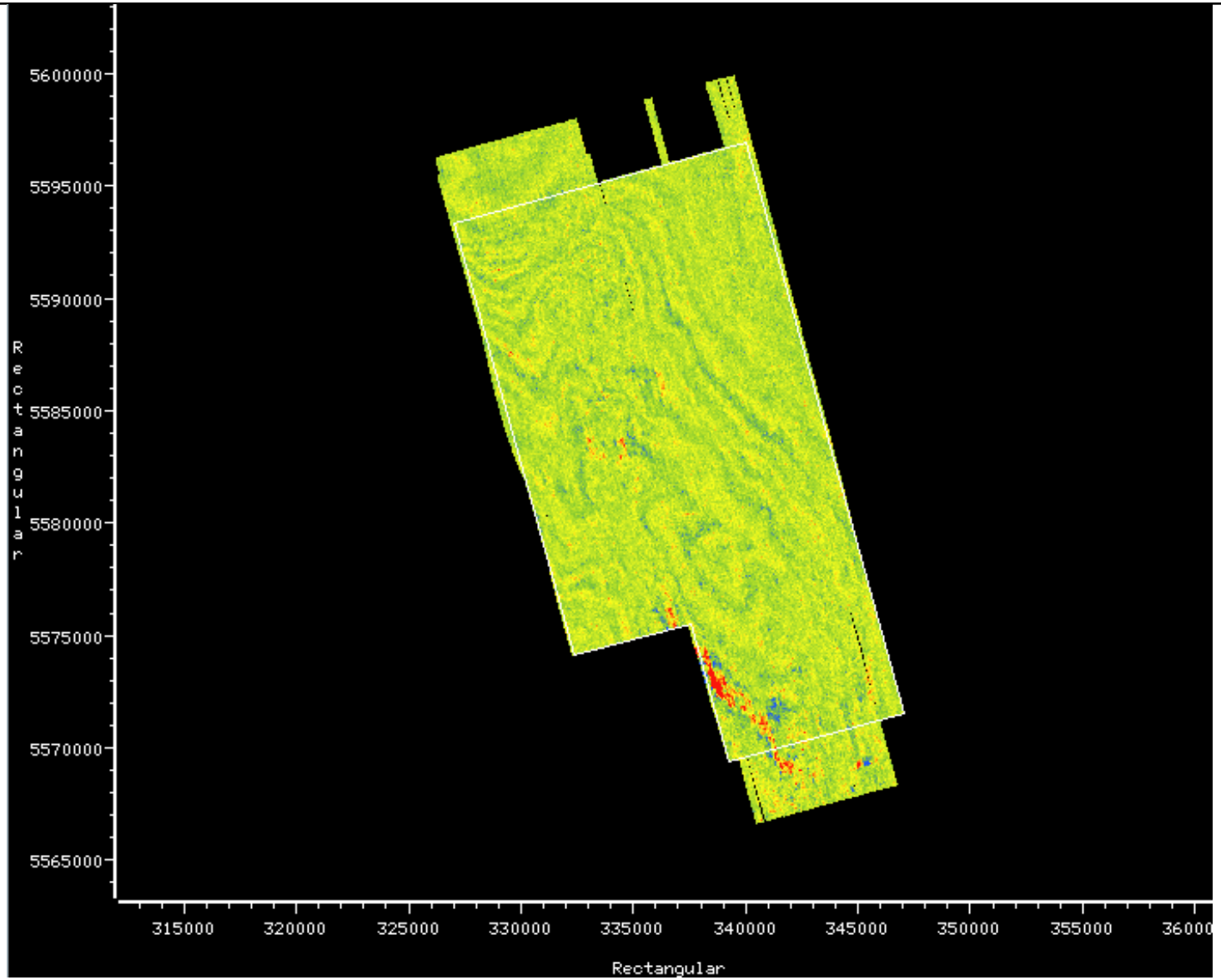
1000ms time slice after Hi-Res Radon demultiple



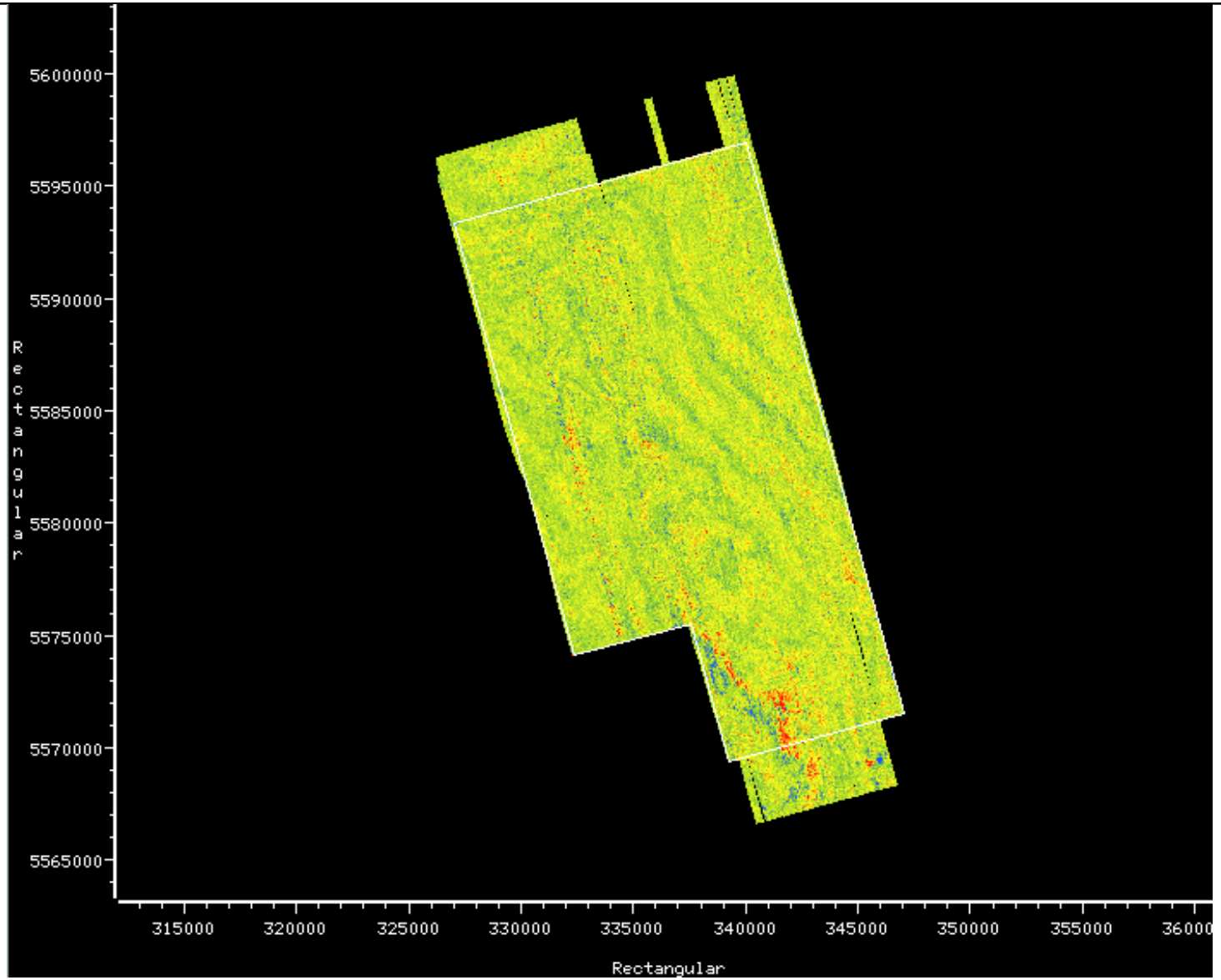
1000ms time slice after Production 4



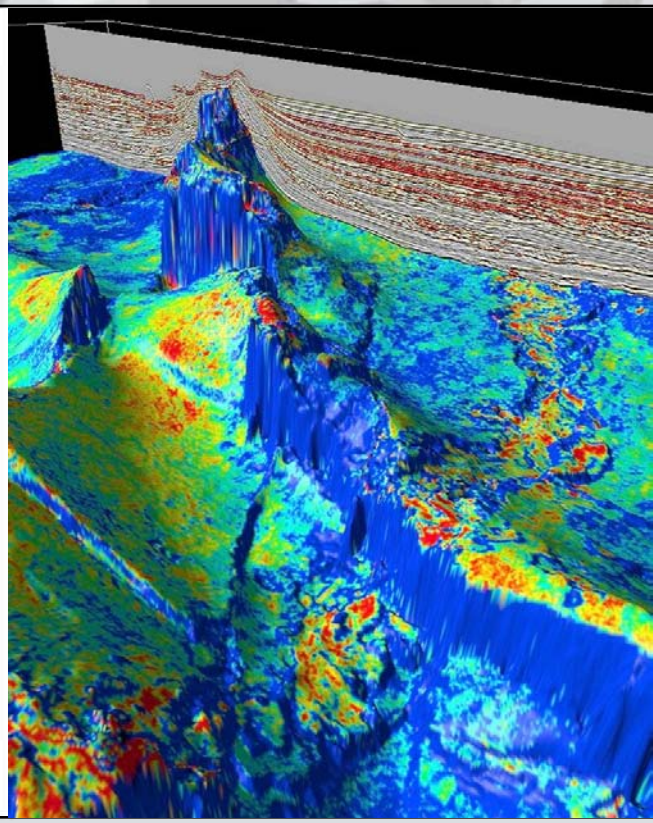
1500ms time slice after Hi-Res Radon demultiple



1500ms time slice after Production 4



Technical Note 8
REG-PreSTM
Silvereye 3D



Introduction

Testing was carried out on Offset Class 10 825-899m), inline range 1050-1350, cdp range 1700-2700.

Test:

1. REG3D - Binning, Regularization, Missing trace restoration
2. PreSTM

Processing Sequence to date

Processing Sequence to date

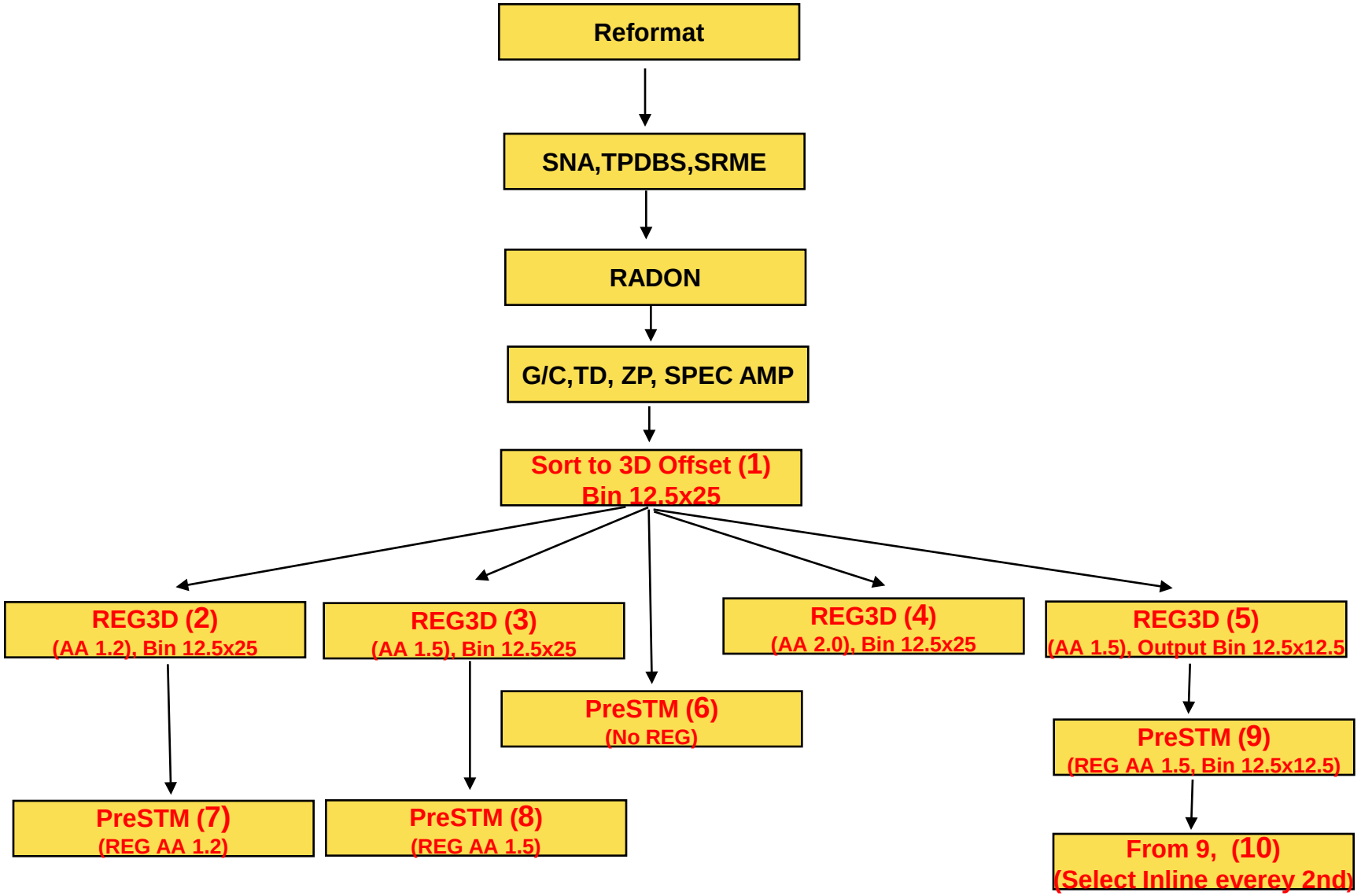
- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset

Current Test

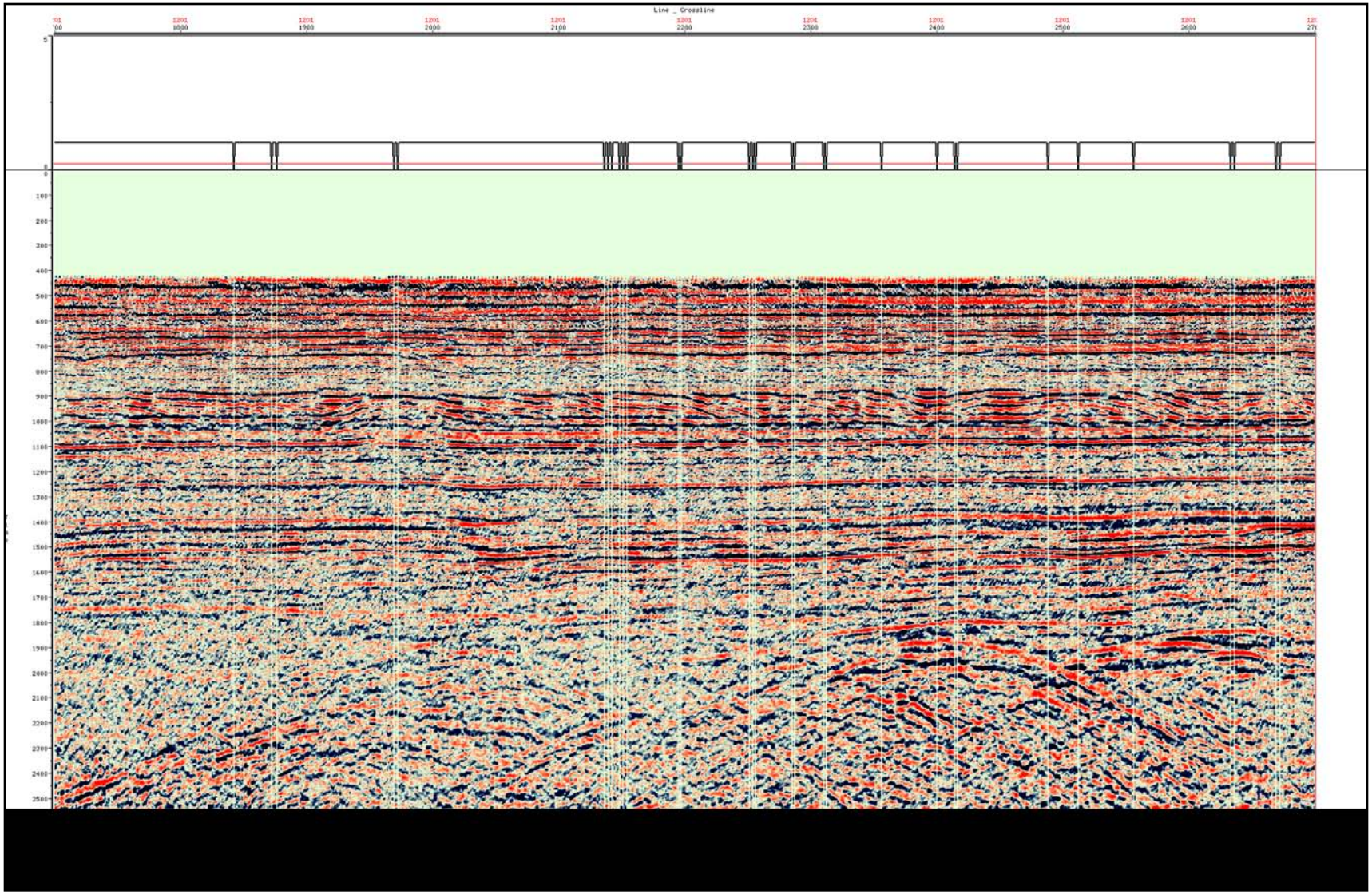
- **REG3d (Binning , regularization, Missing trace restoration)**
- **PreSTM**

REG3D-PreSTM

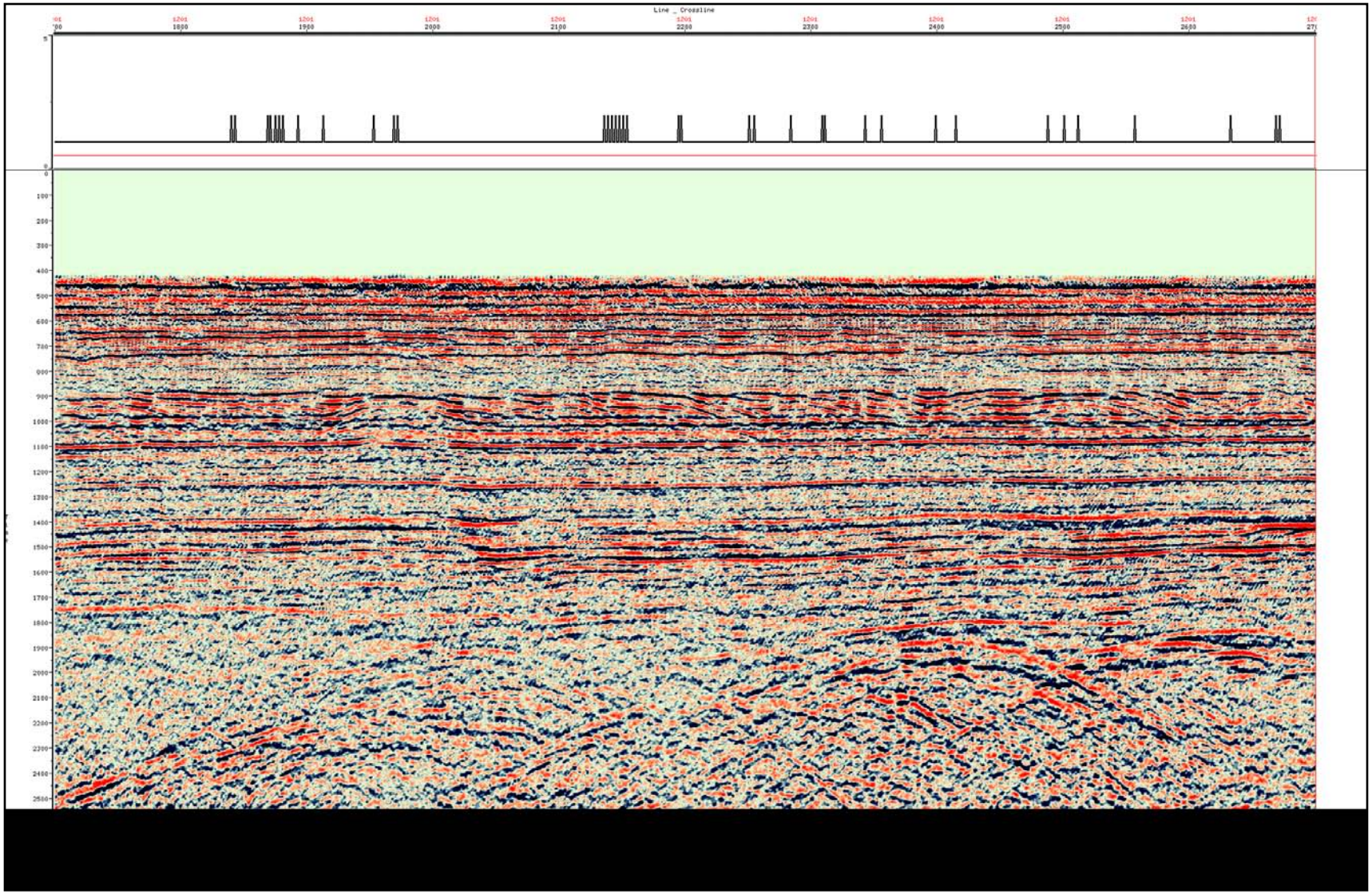
Proc Flow: REG - PreSTM



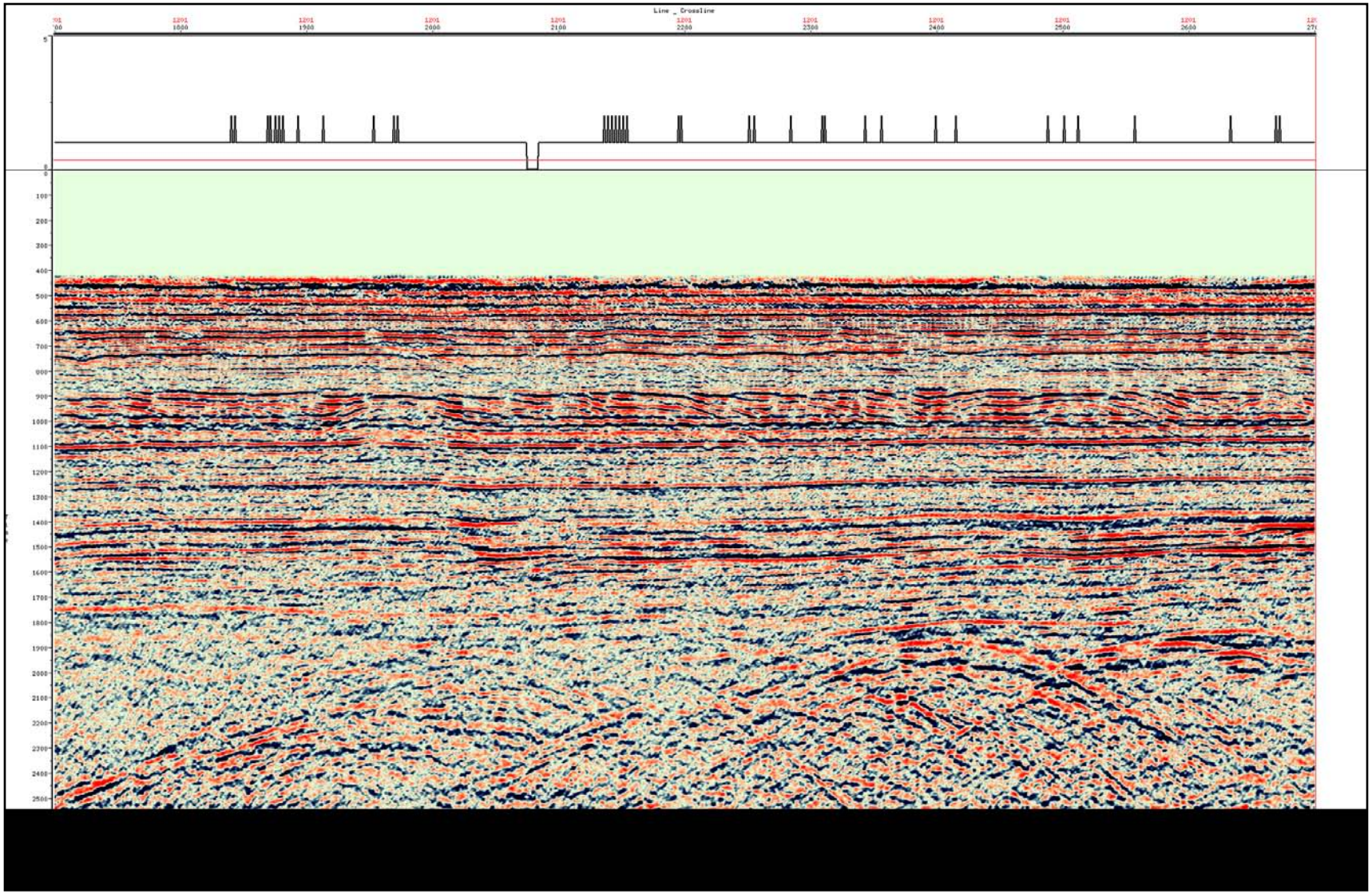
Inline - OC 10: Input (1)



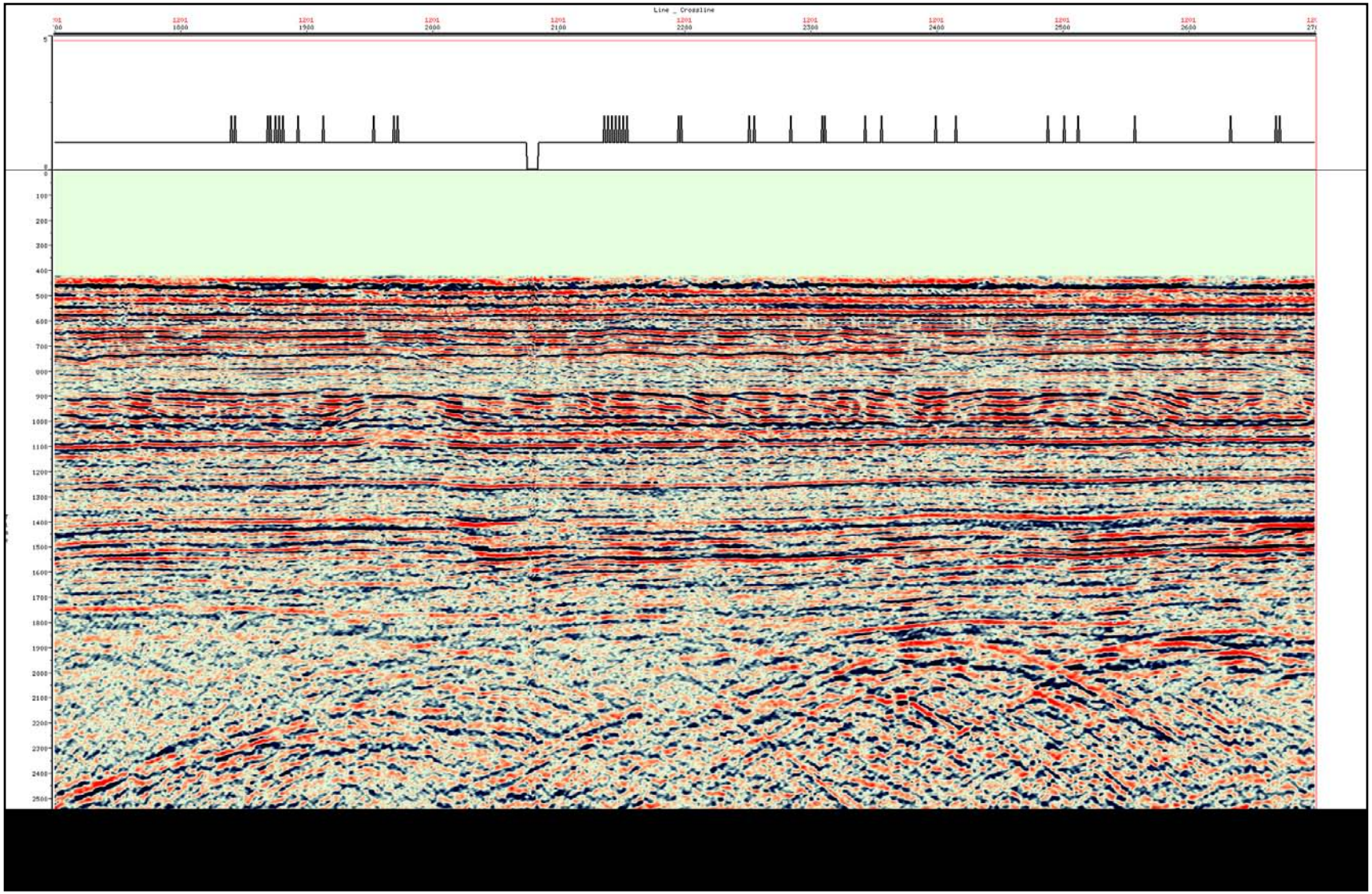
Inline - OC 10: REG3D AA 1.2 (2)



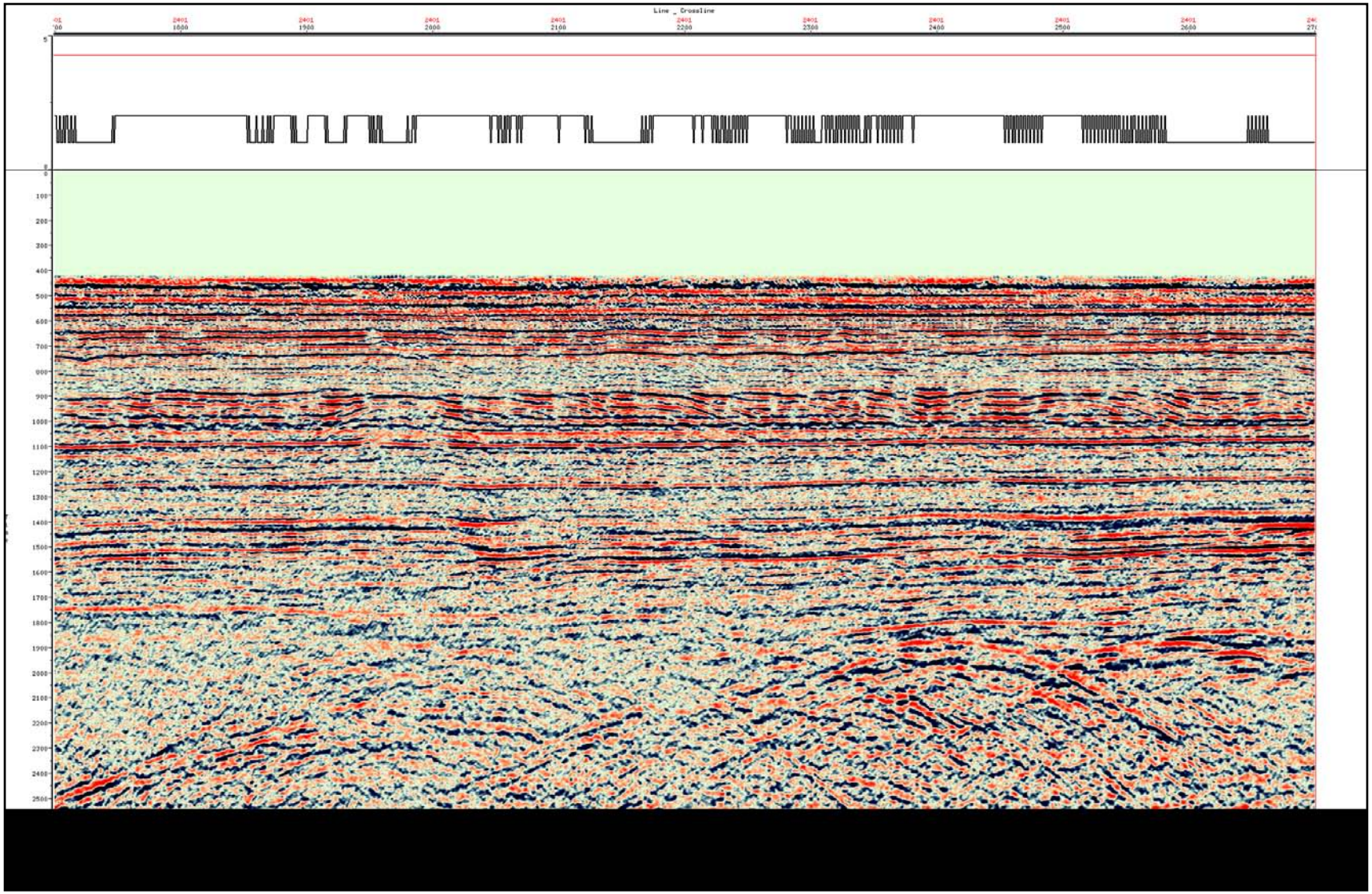
Inline - OC 10: REG3D AA 1.5 (3)



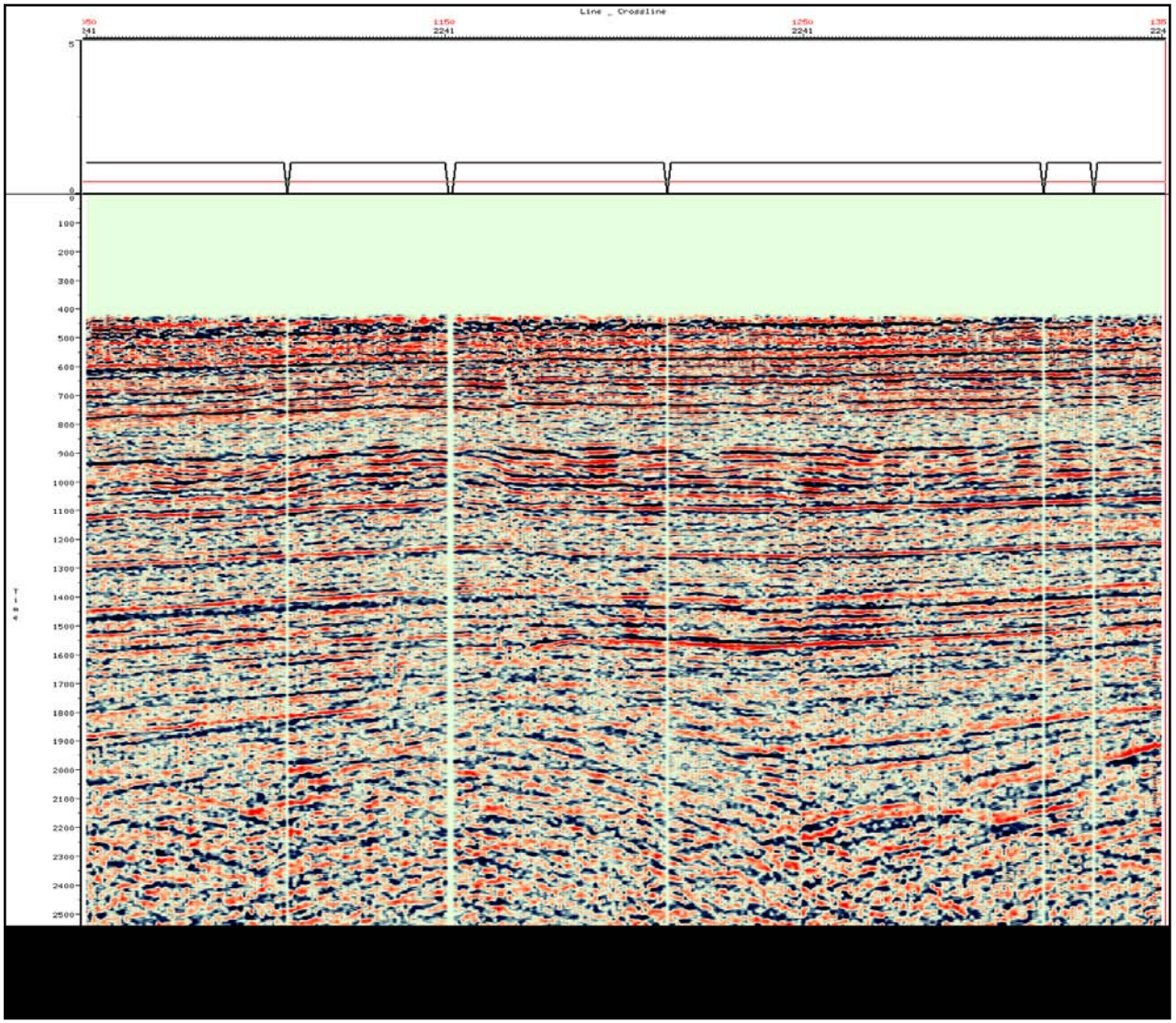
Inline - OC 10: REG3D AA 2 (4)



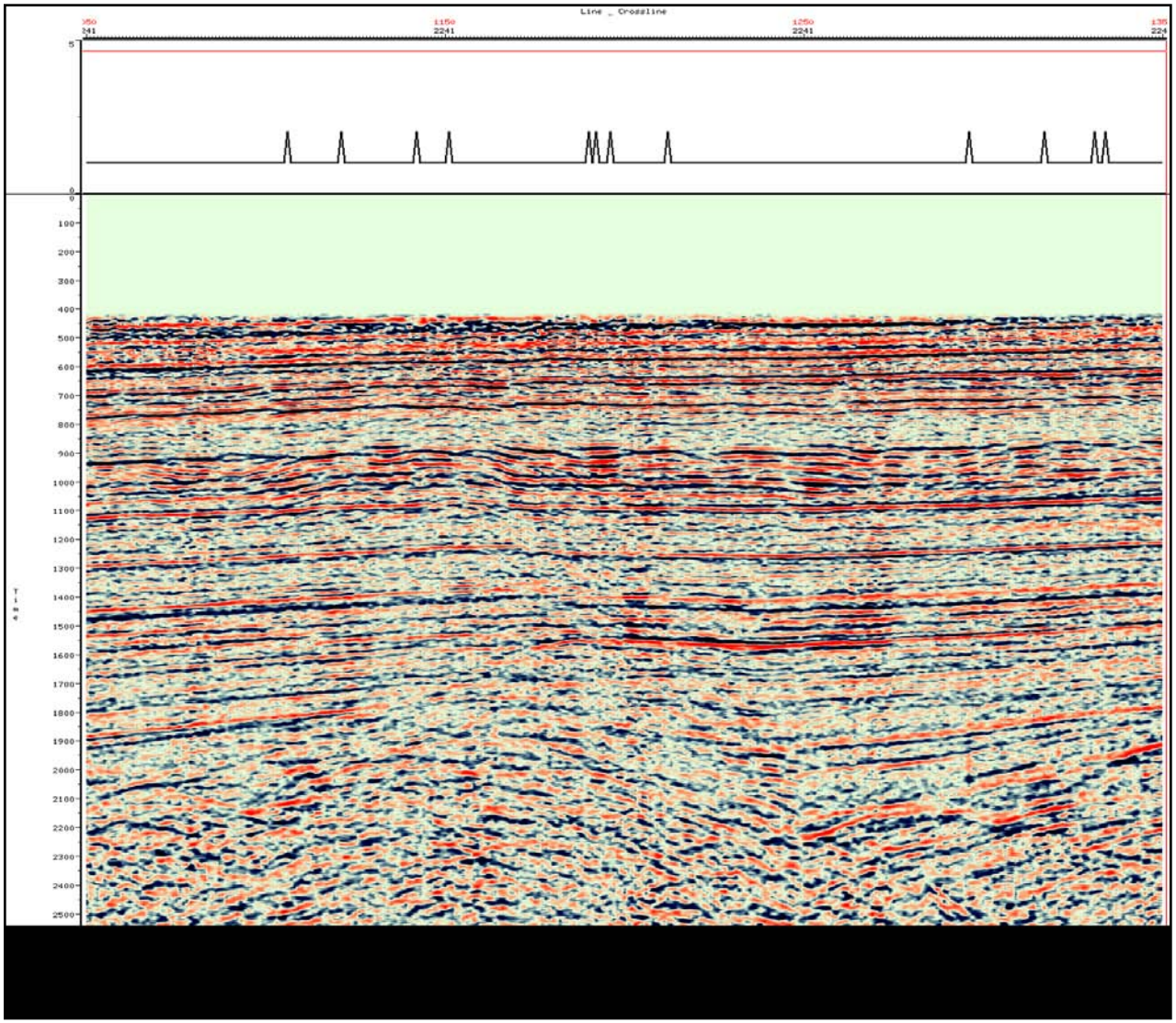
Inline - OC 10: REG3D AA 1.5 Output Bin 12.5x12.5 (5)



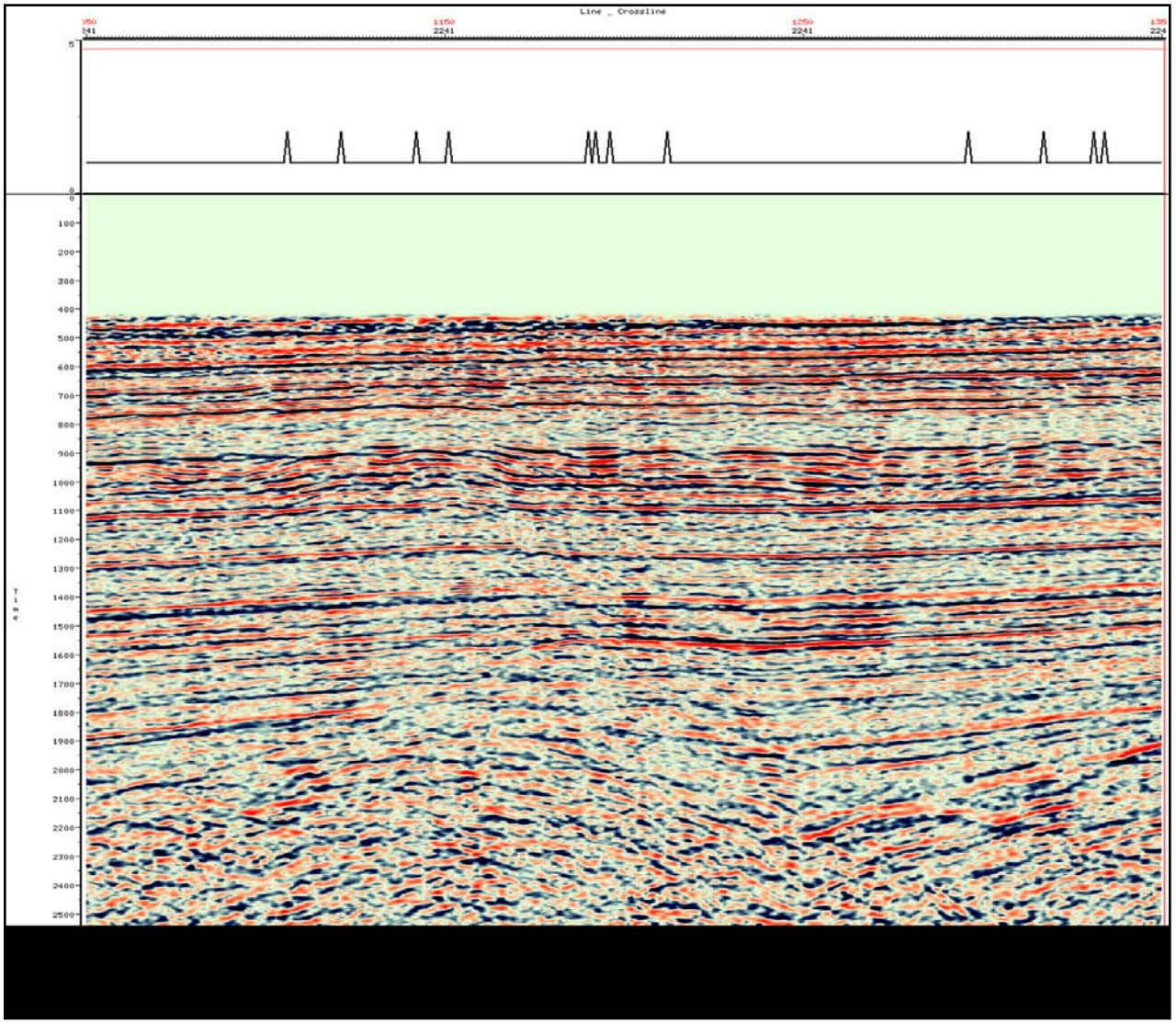
X-line - OC 10: Input (1)



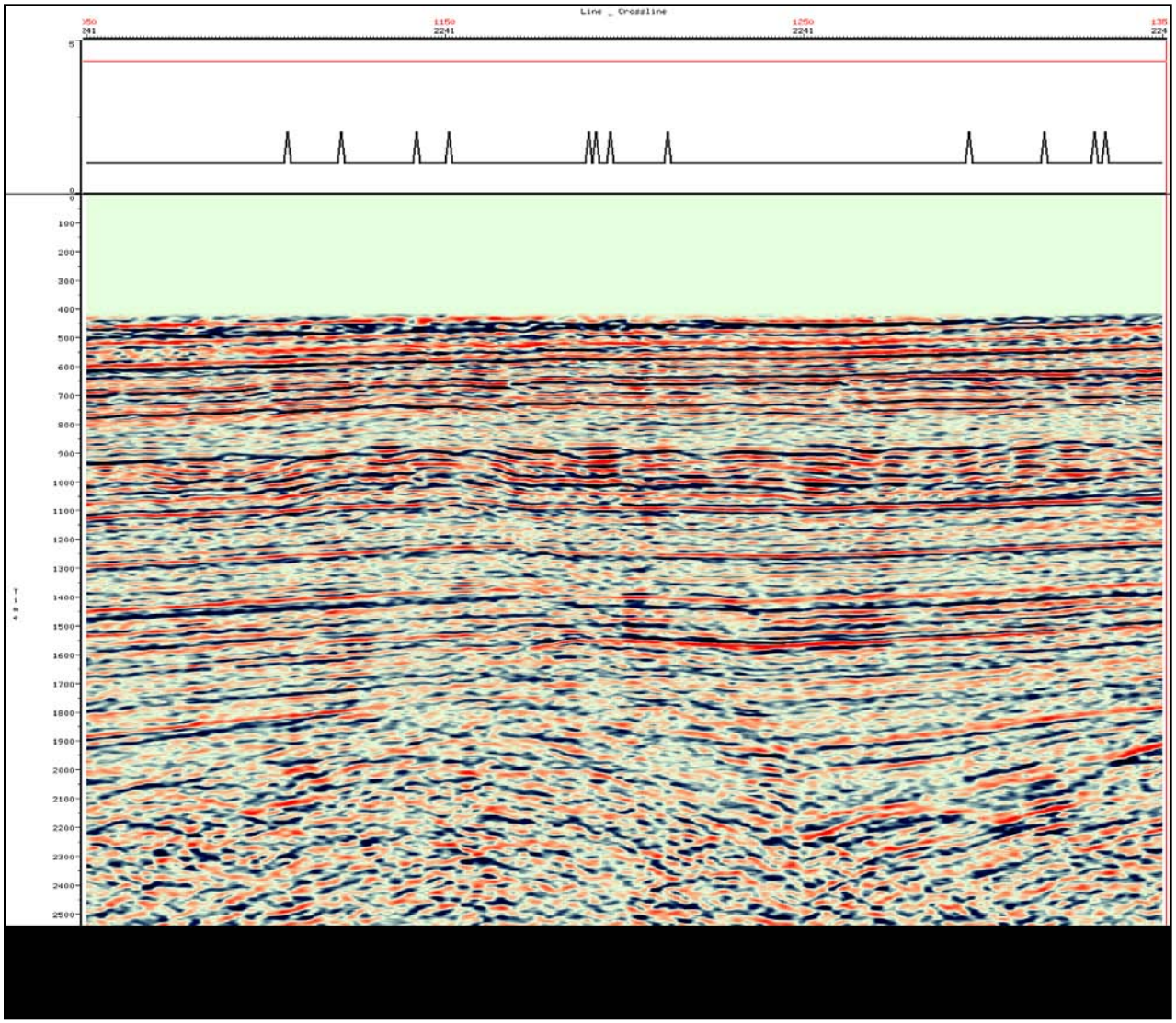
X-line - OC 10: REG3D AA 1.2 (2)



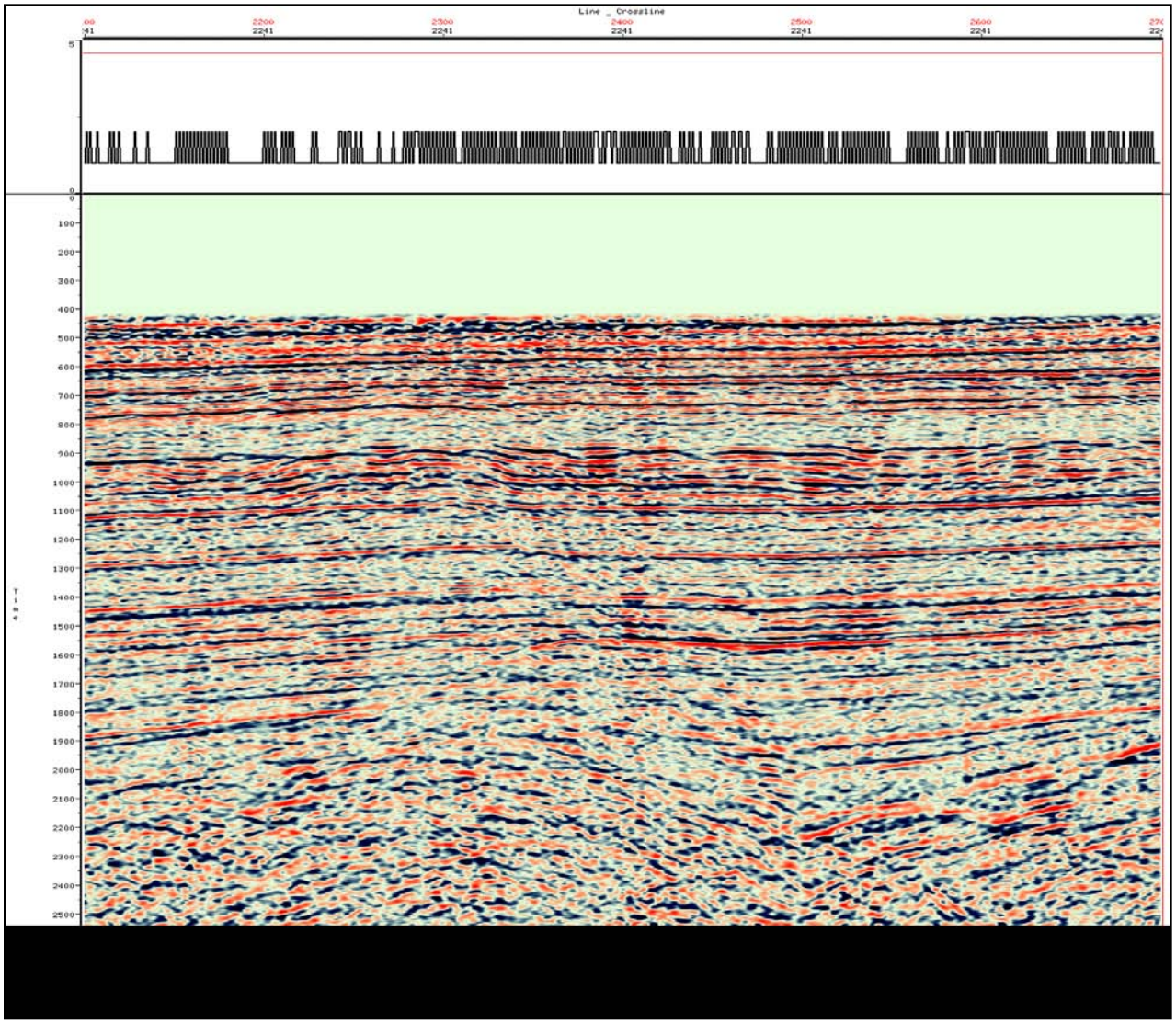
X-line - OC 10: REG3D AA 1.5 (3)



X-line - OC 10: REG3D AA 2 (4)

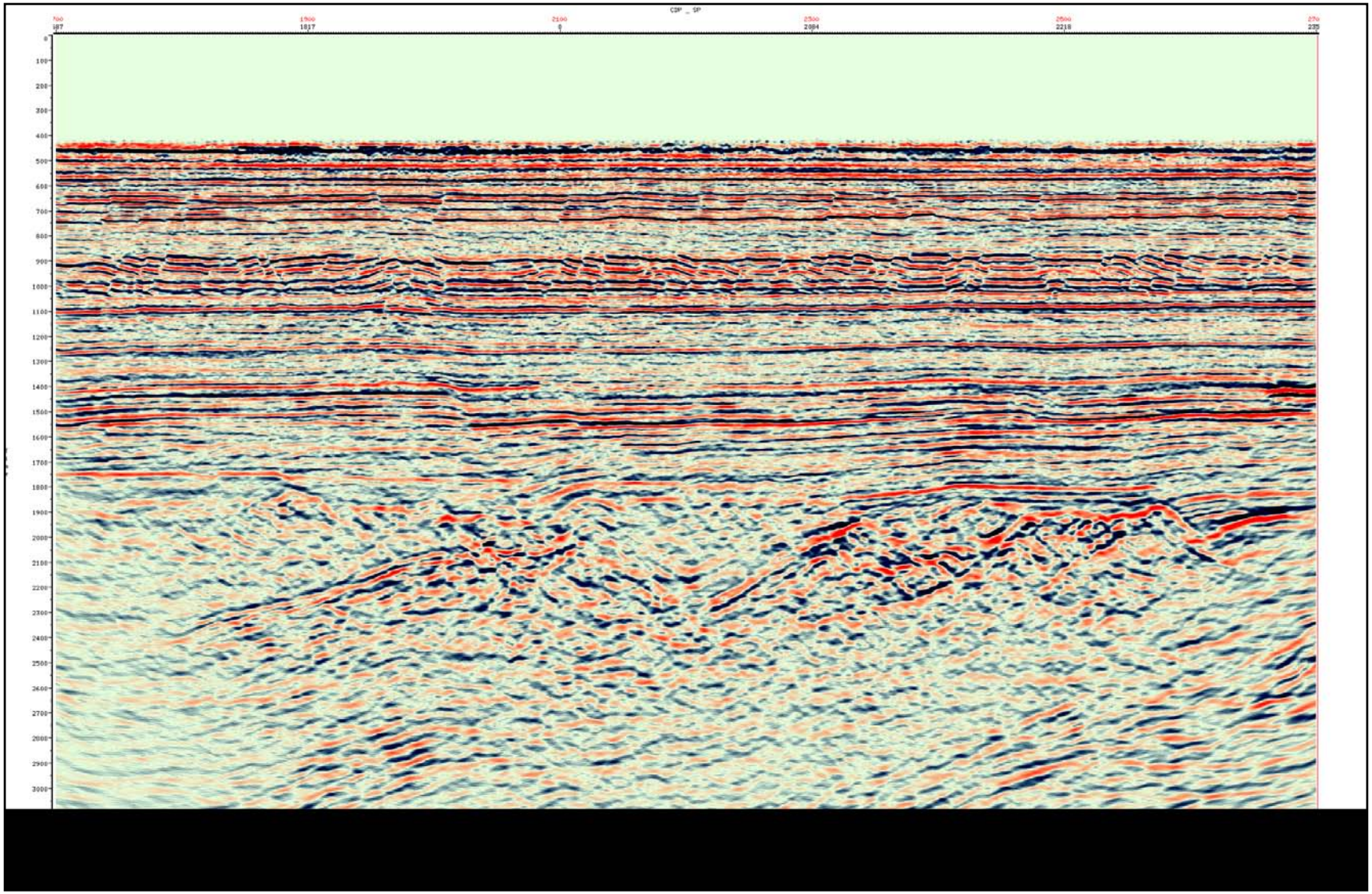


X-line - OC 10: REG3D AA 1.5 Output Bin 12.5x12.5 (5)

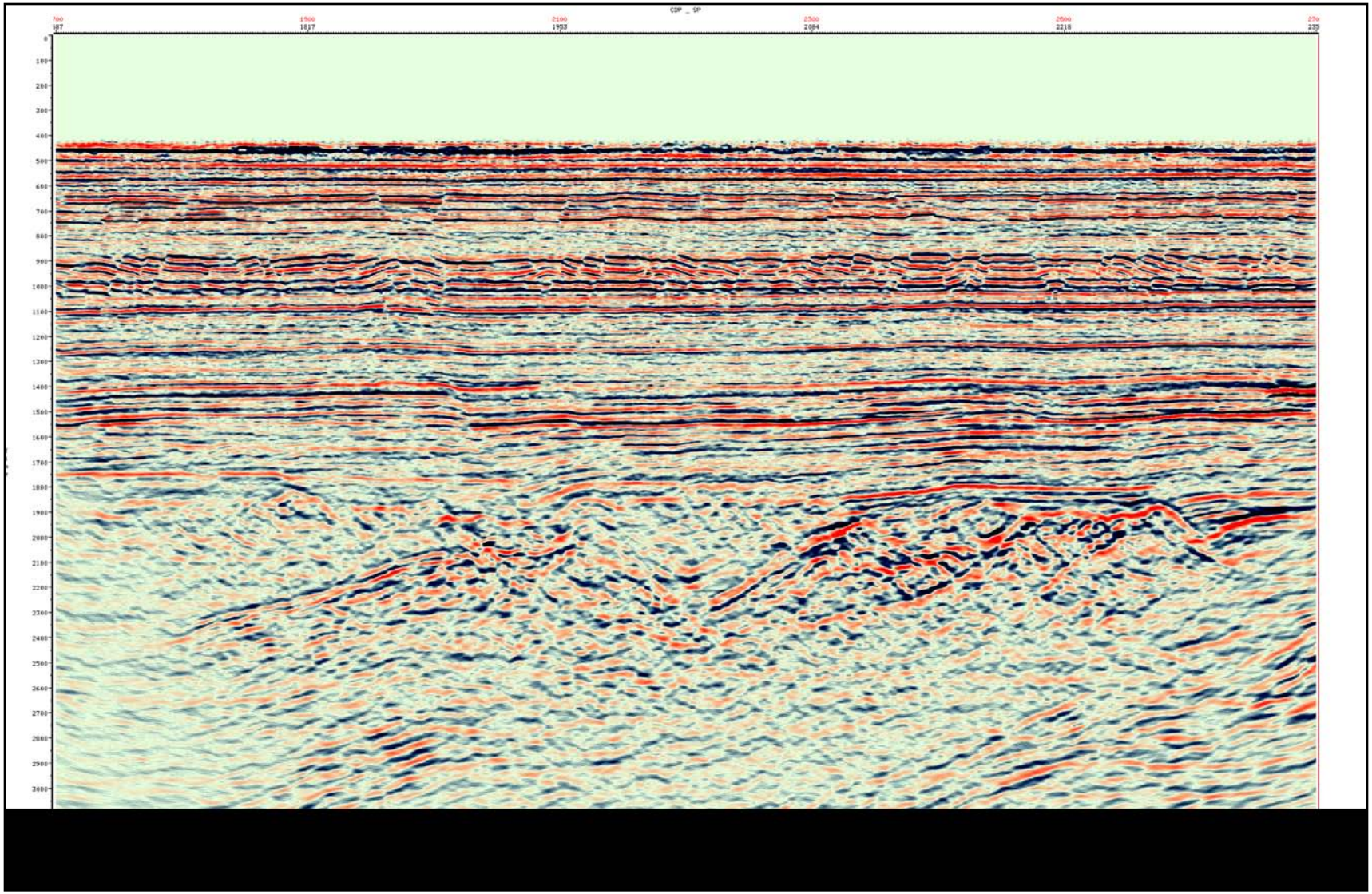


REG-PreSTM

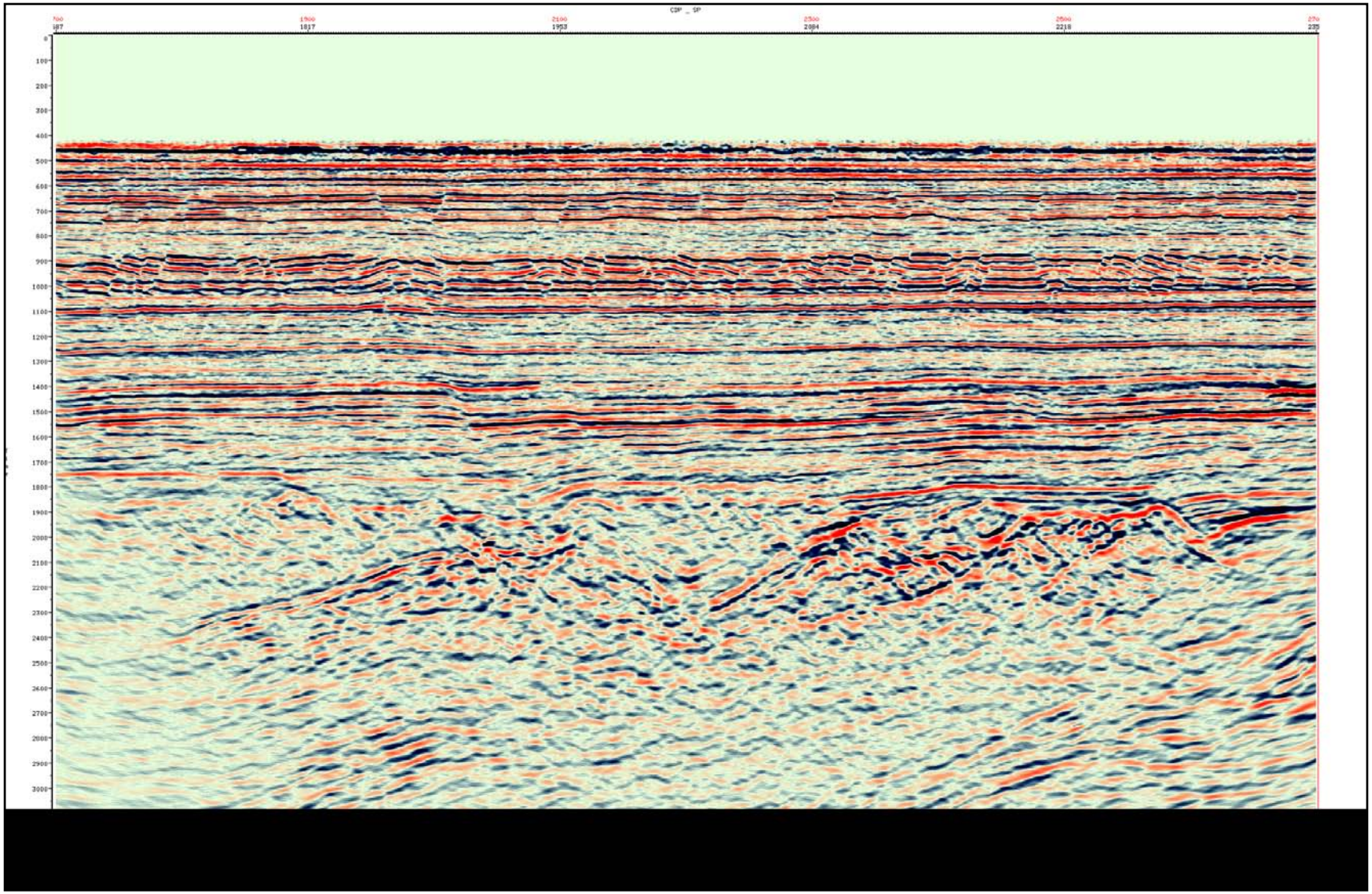
Inline - OC 10: PreSTM of No REG3D (6)



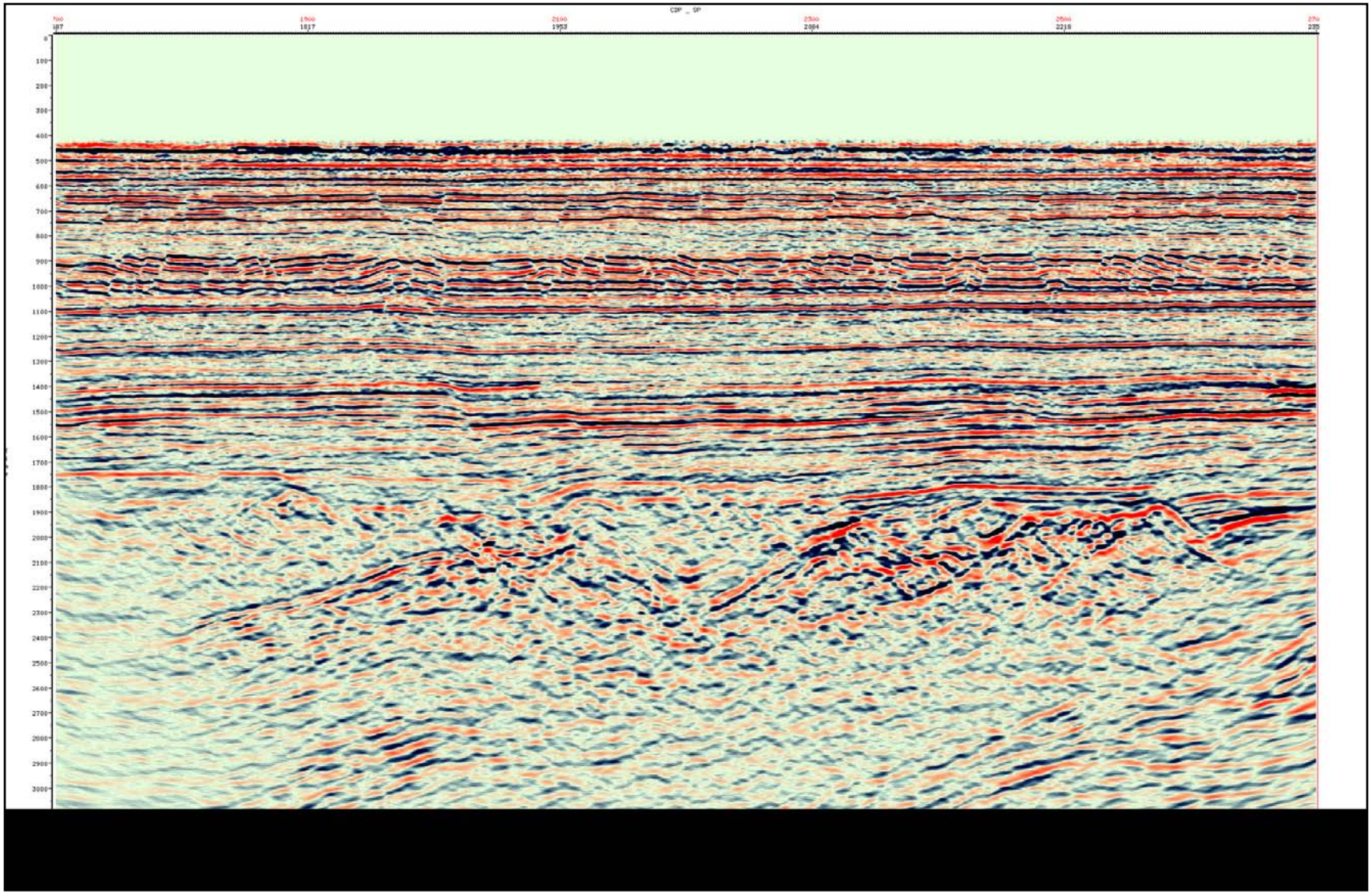
Inline - OC 10: PreSTM of REG3D AA 1.2 (7)



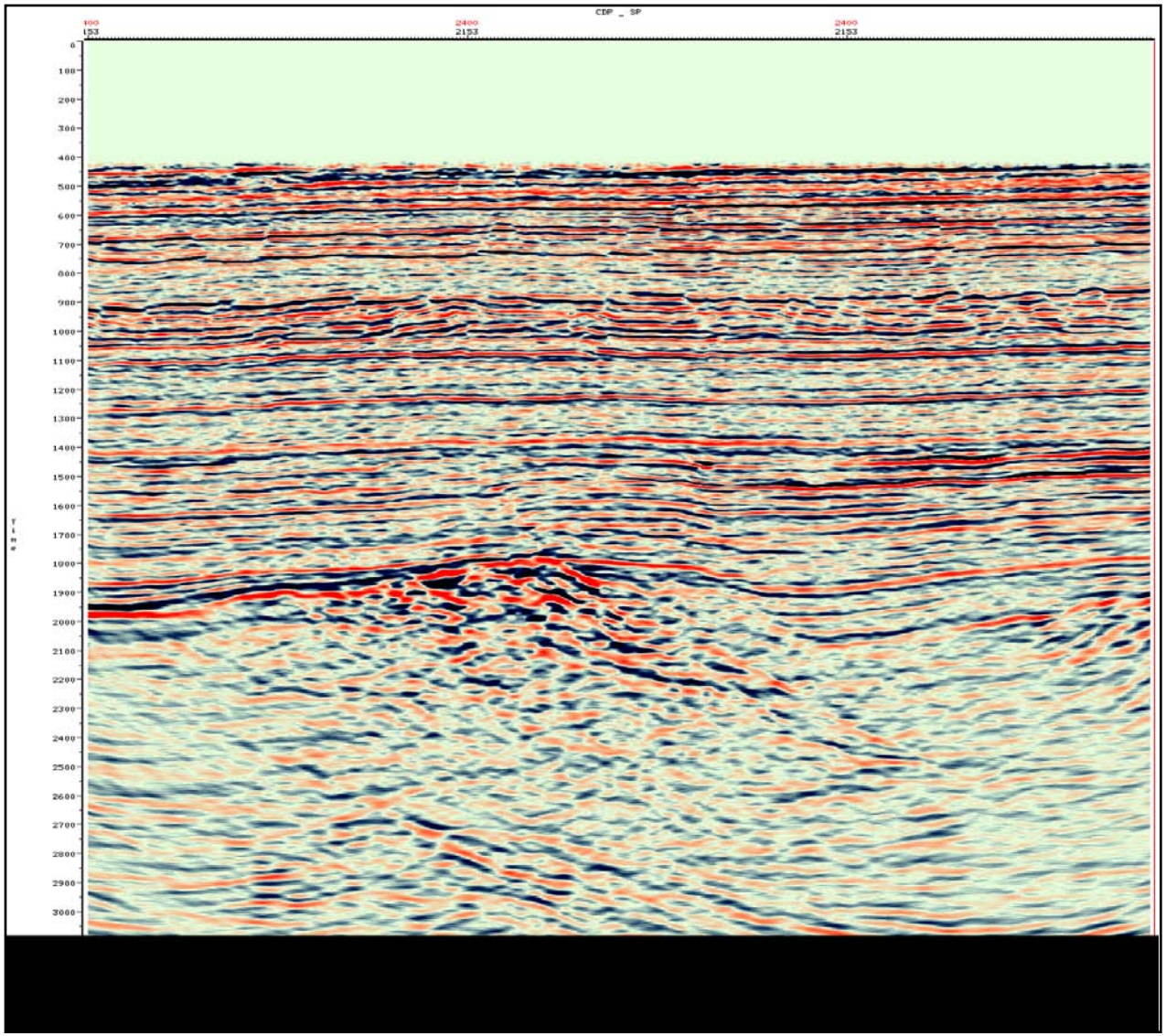
Inline - OC 10: PreSTM of REG3D AA 1.5 (8)



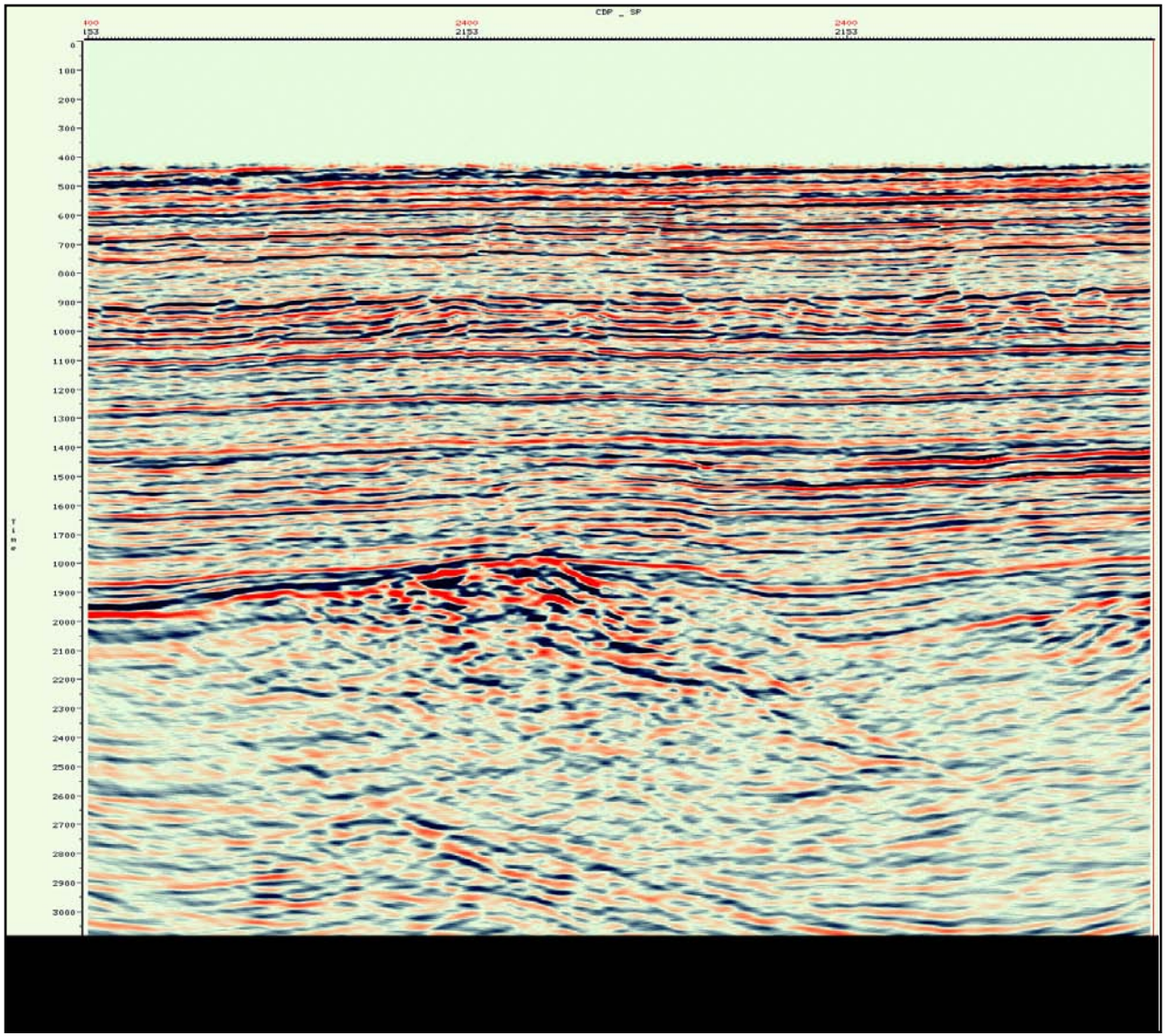
Inline - OC 10: Pre STM of REG3D AA 1.5 Bin 12.5x12.5 (9)



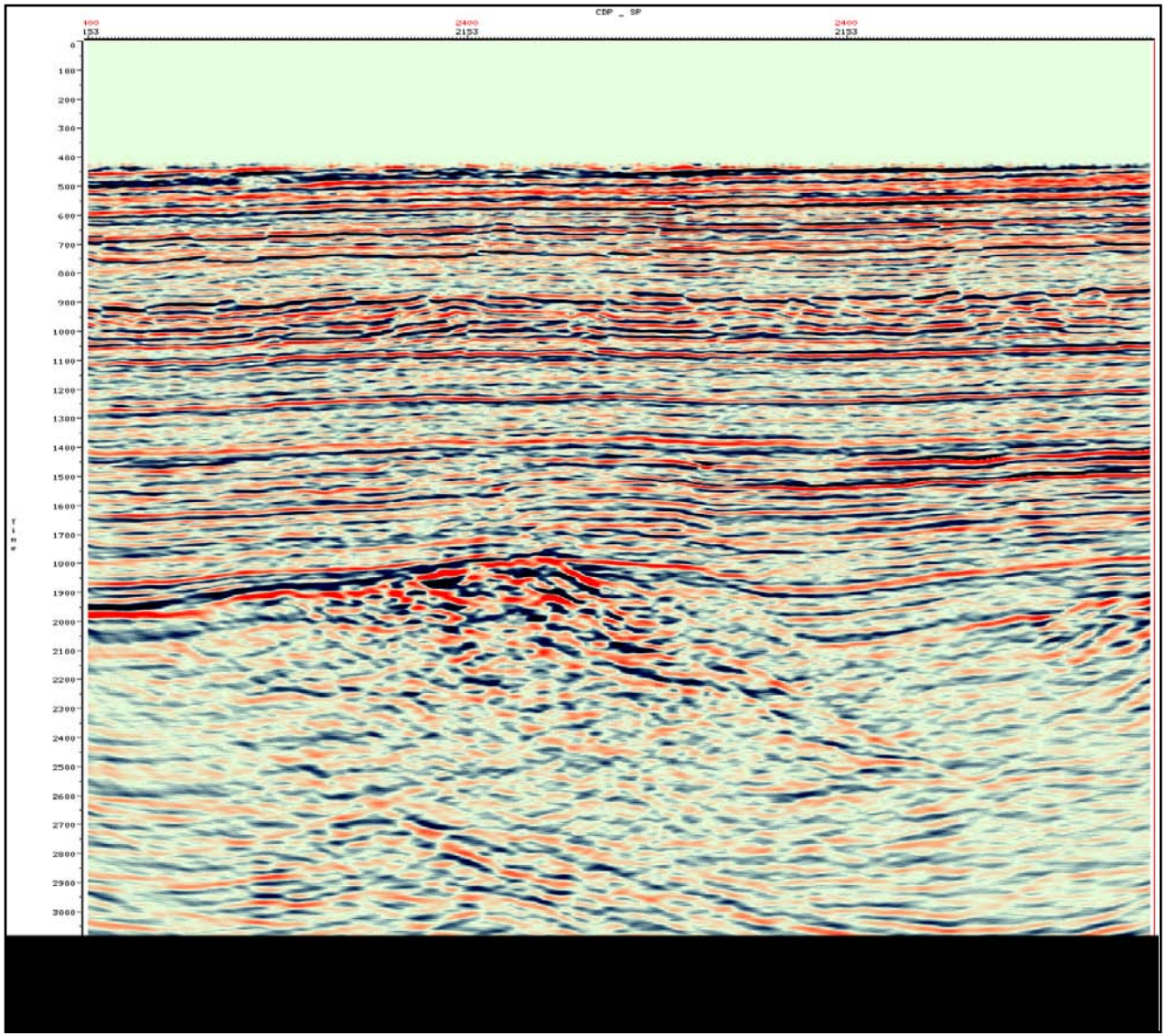
X-line - OC 10: PreSTM of No REG3D (6)



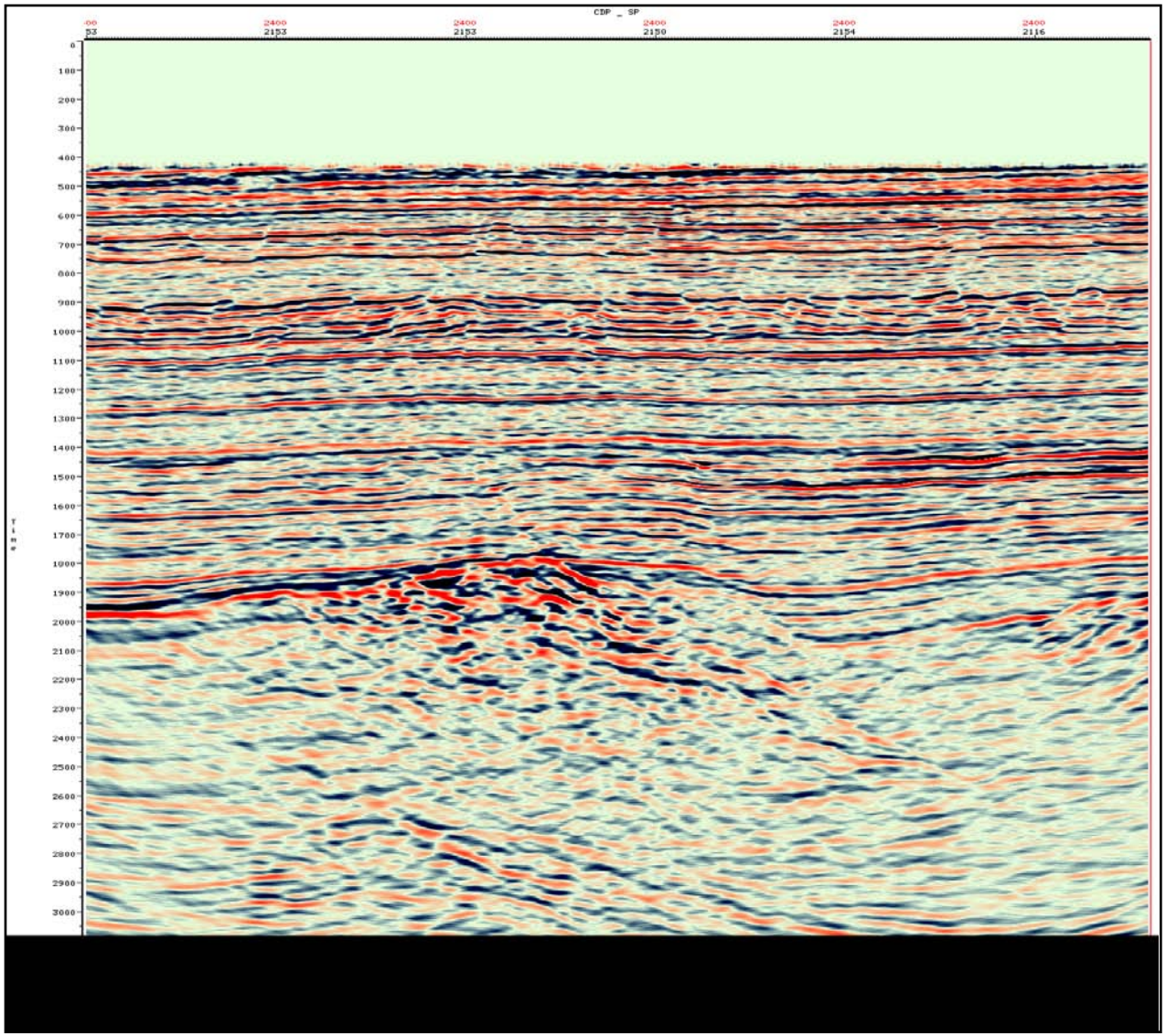
X-line - OC 10: PreSTM of REG3D AA 1.2 (7)



X-line - OC 10: PreSTM of REG3D AA 1.5 (8)

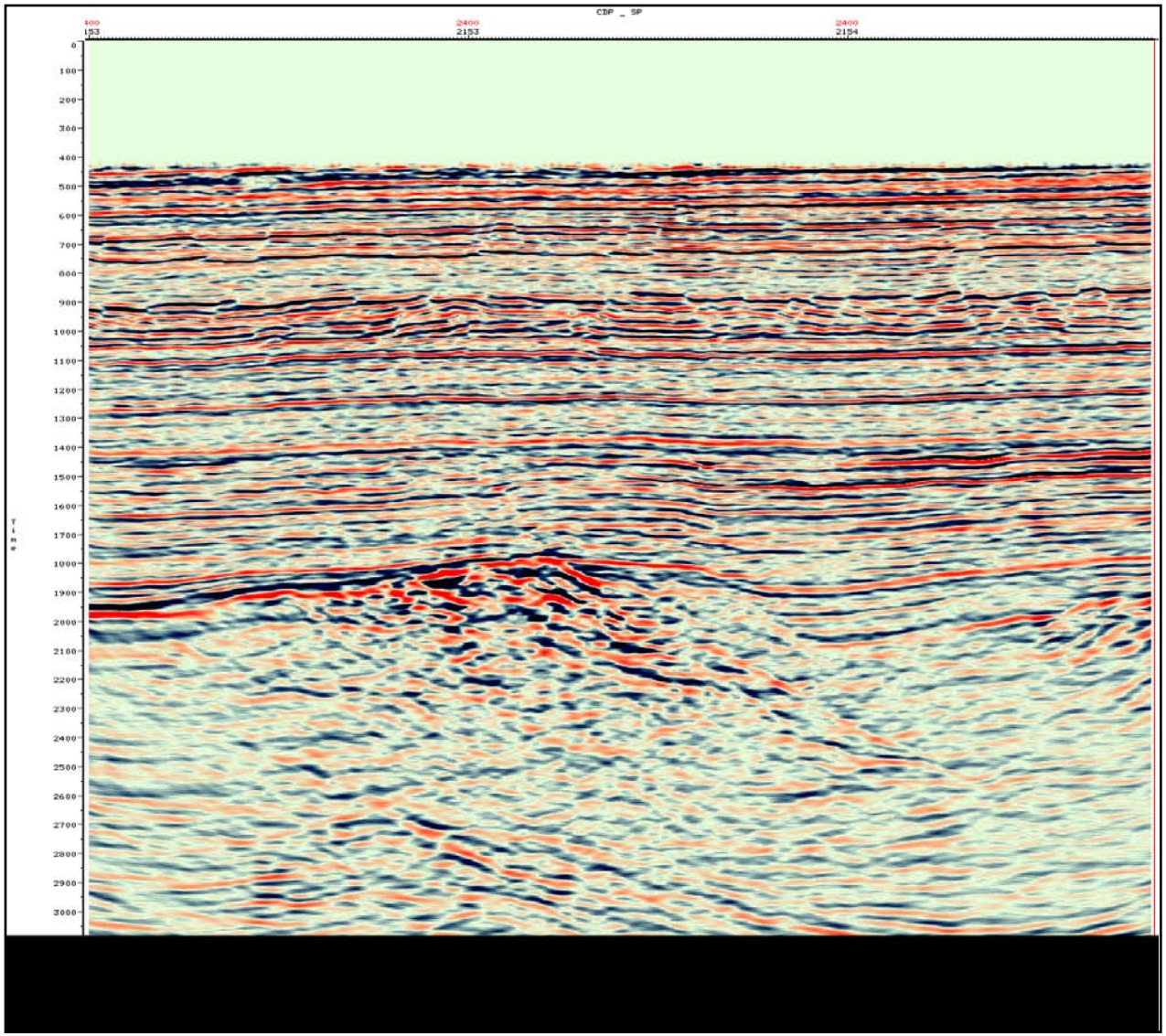


X-line - OC 10: PreSTM of REG3D AA 1.5 Bin 12.5x12.5 (9)



Note:
Trace twice,
Reduce horizontal
Half scale of 6,7,8

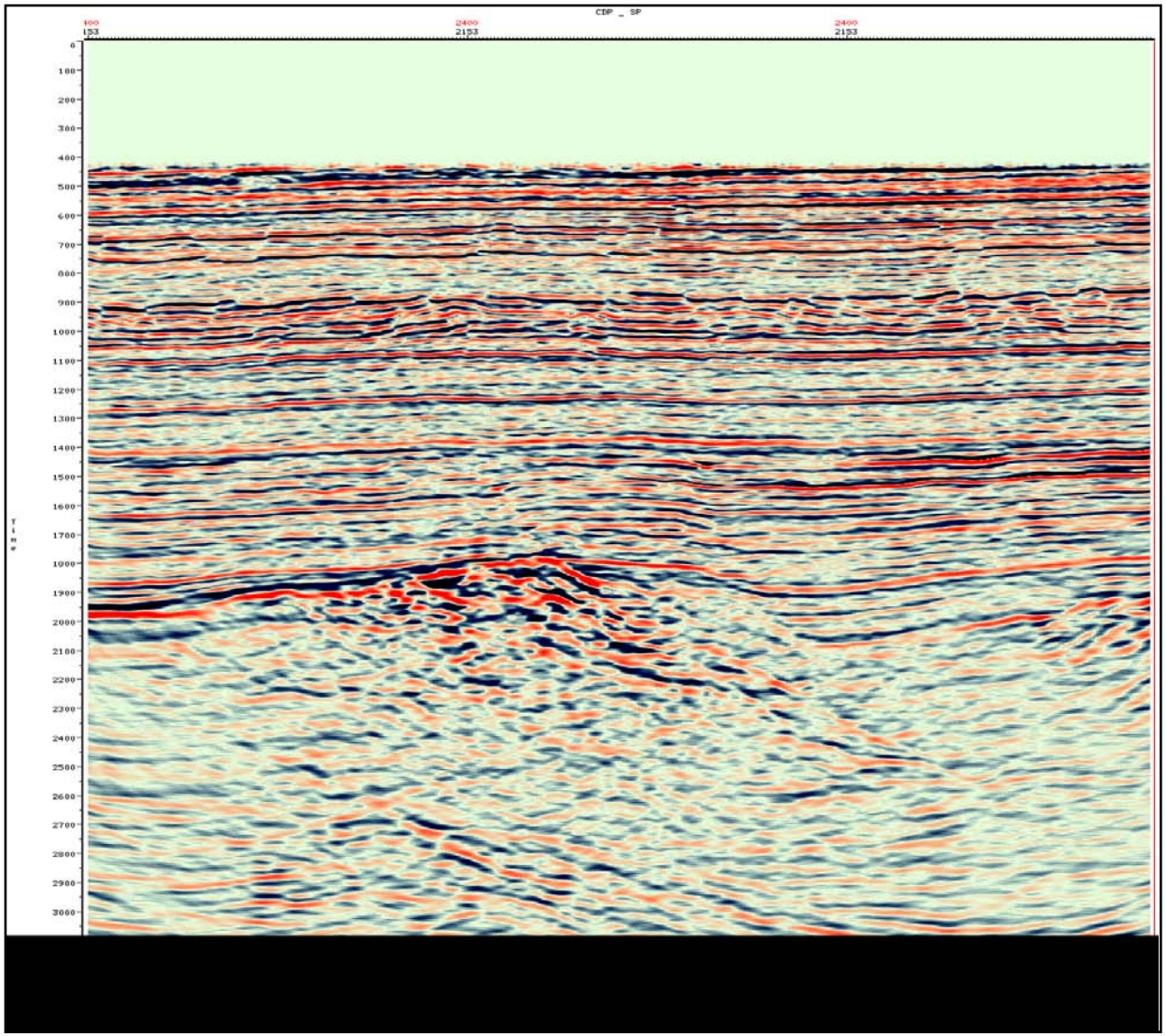
X-line- OC 10: PreSTM of REG3D AA 1.5 Bin 12.5x12.5 (10)



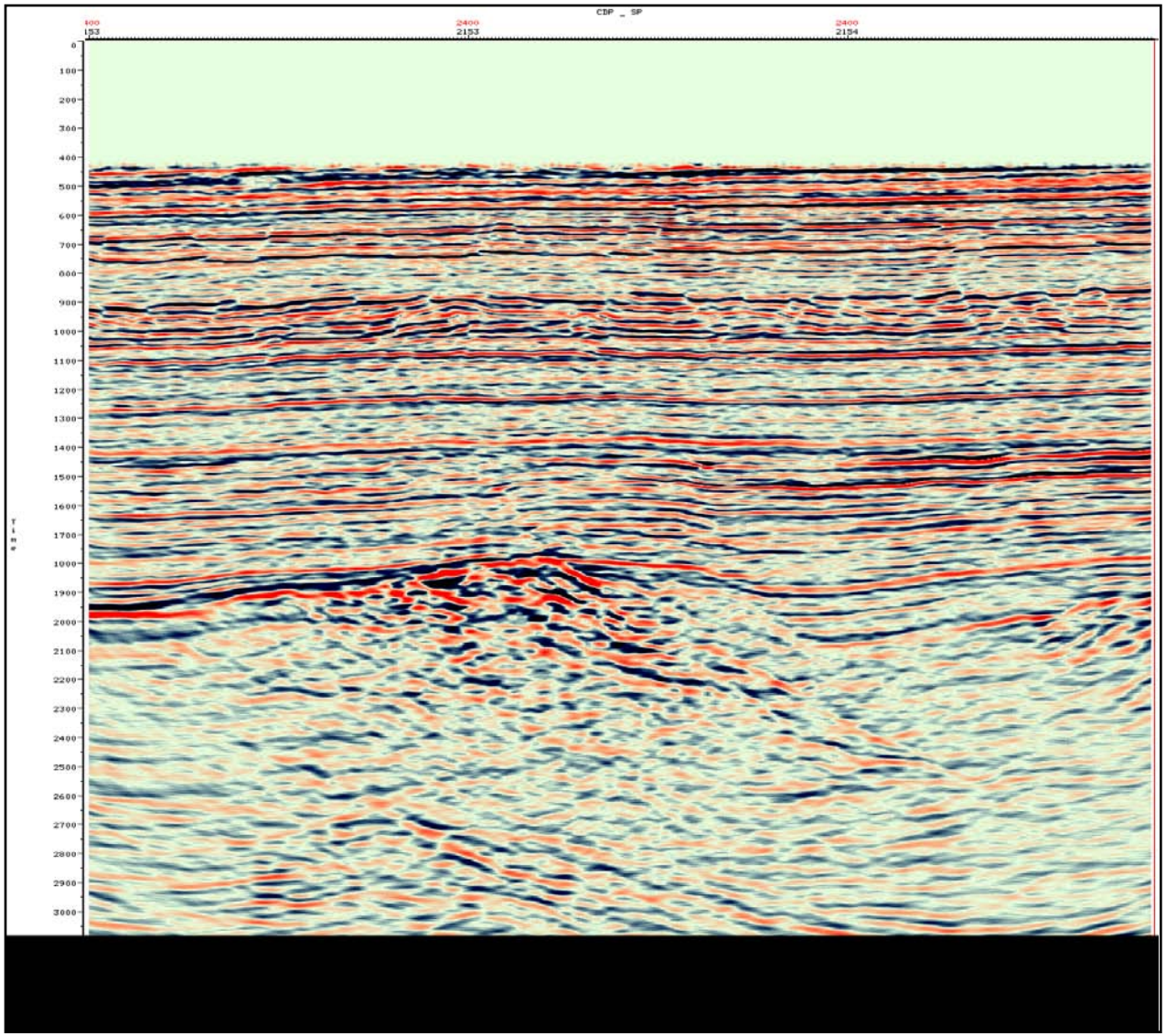
Note:
Selected every Second trace, Same horizontal Scale with 6,7,8

PreSTM

X-line - OC 10: PreSTM 12.5x25 (8)

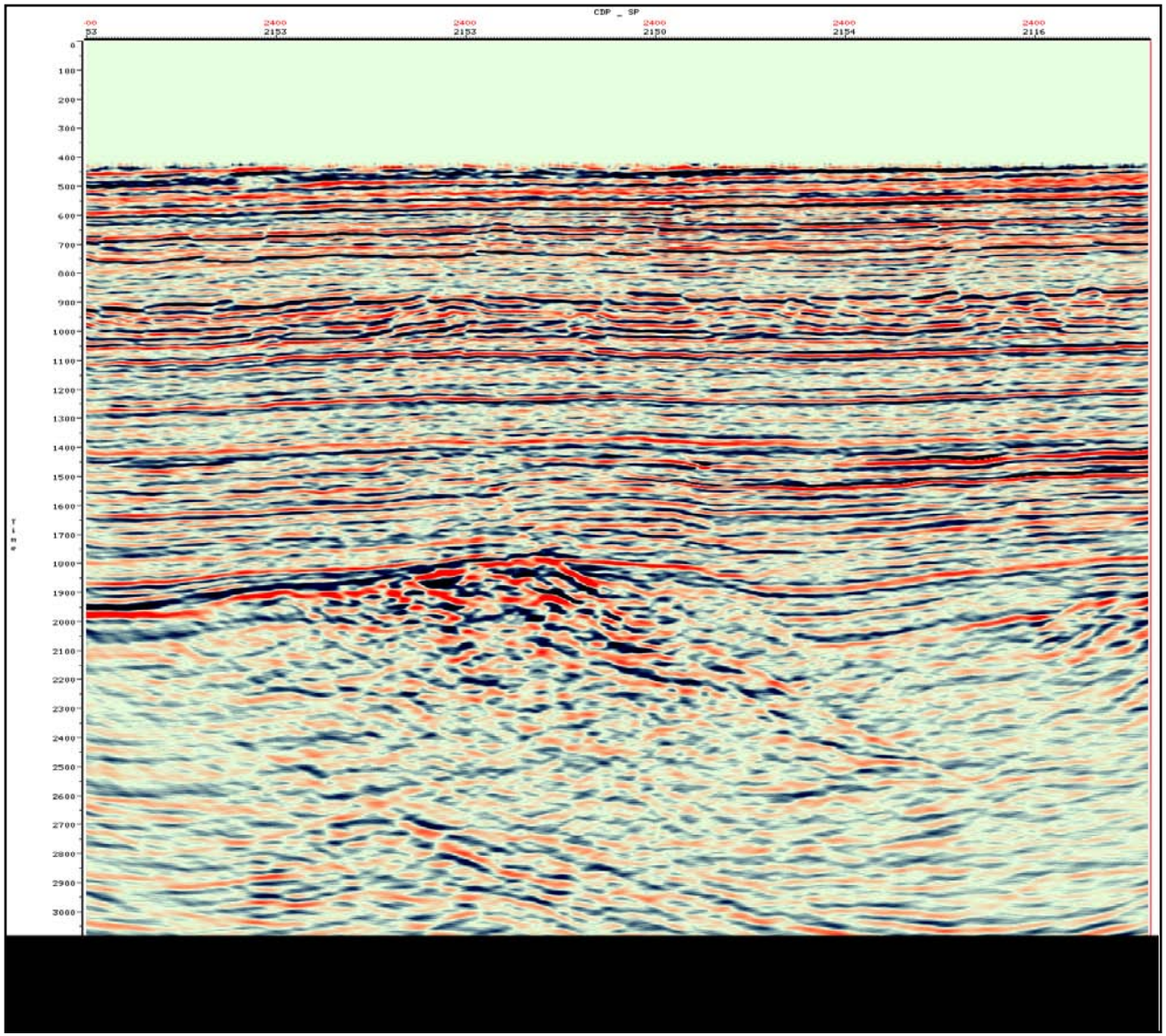


X-line- OC 10: PreSTM of REG3D AA 1.5 12.5x12.5 (10)



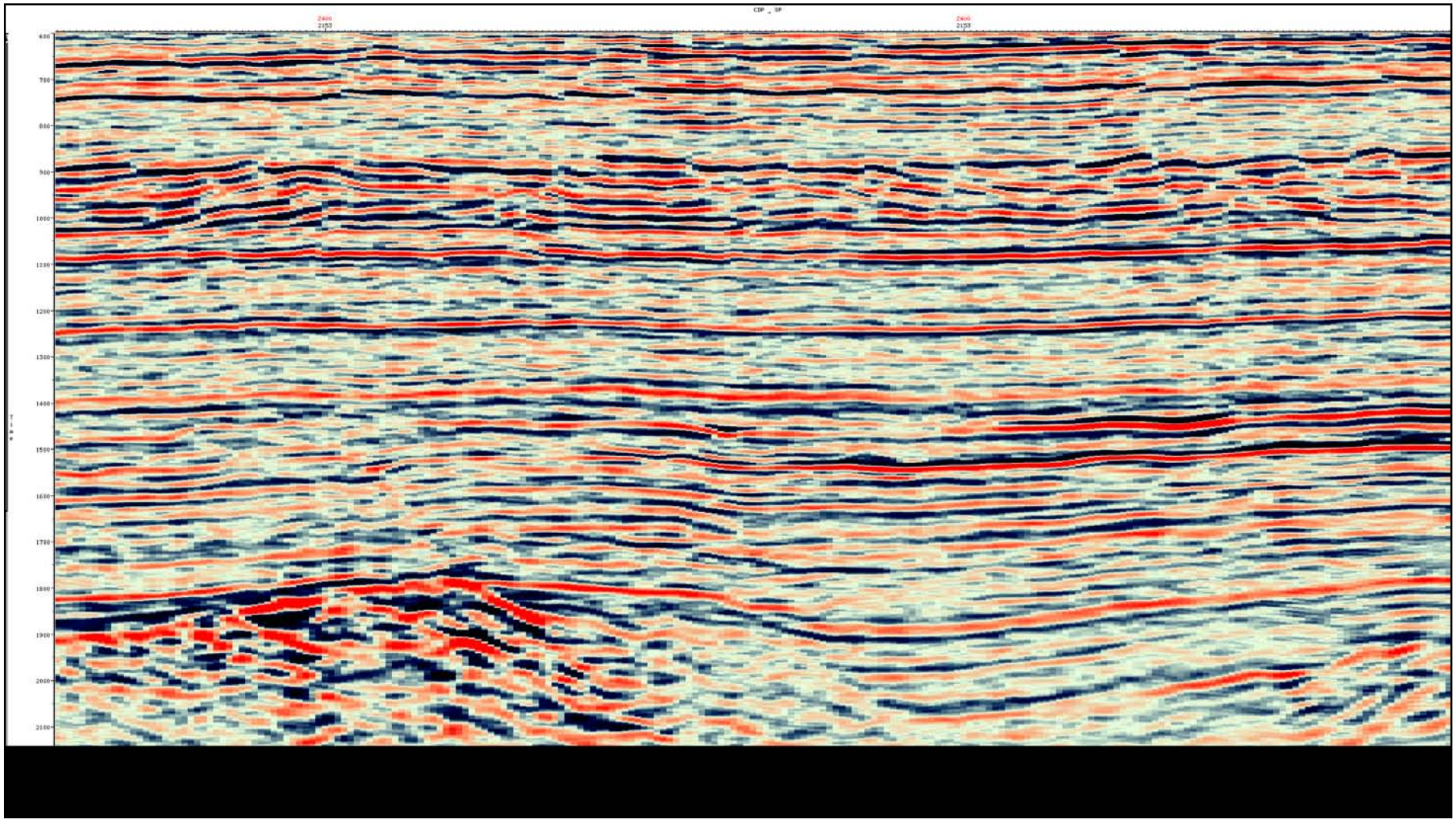
Note:
Selected every Second trace, Same horizontal Scale with 6,7,8

X-line - OC 10: PreSTM of REG3D AA 1.5 Bin 12.5x12.5 (9)



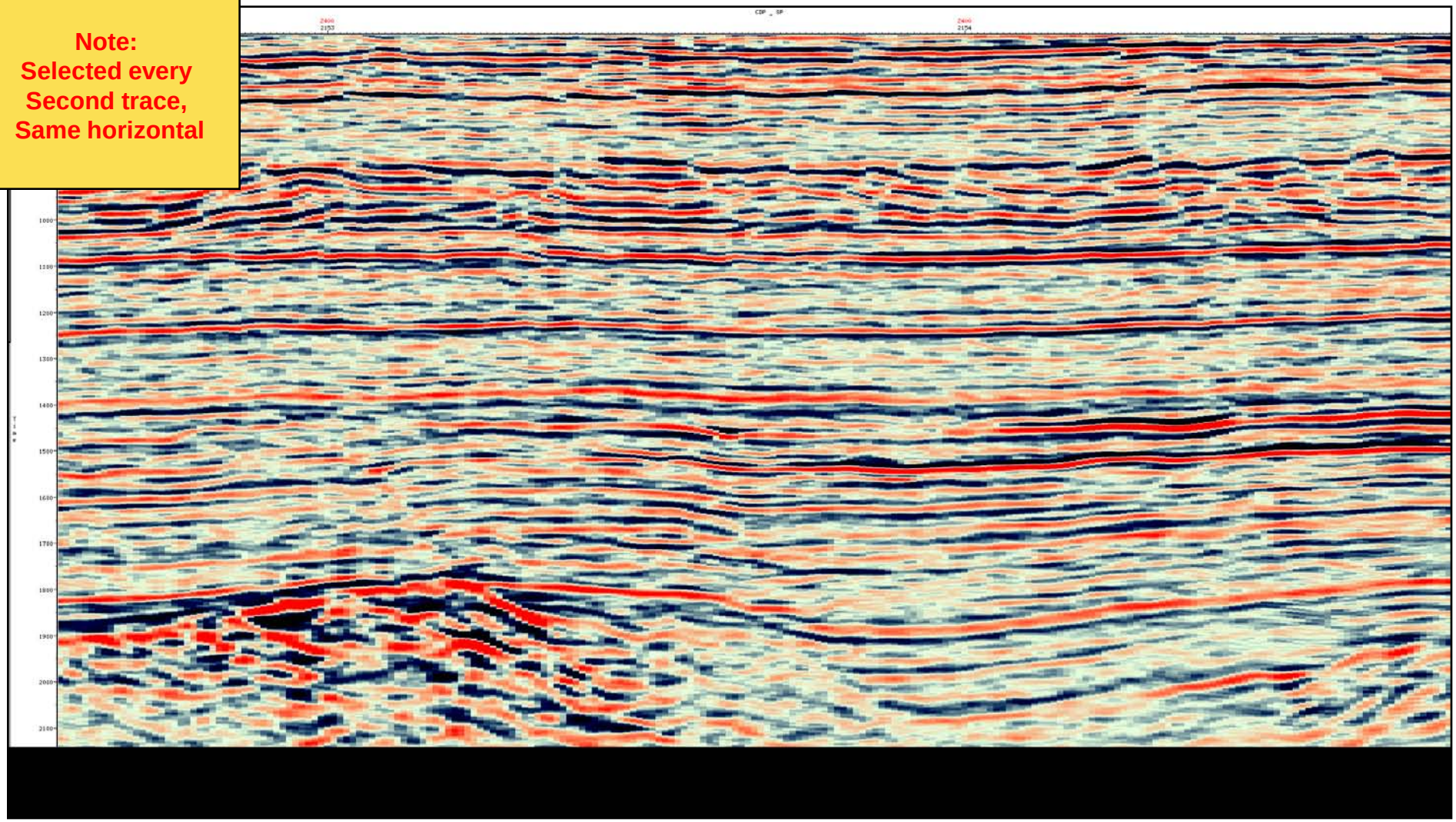
Note:
Trace twice,
Reduce horizontal
Half scale of 6,7,8

X-line - OC 10: PreSTM 12.5x25 (8)

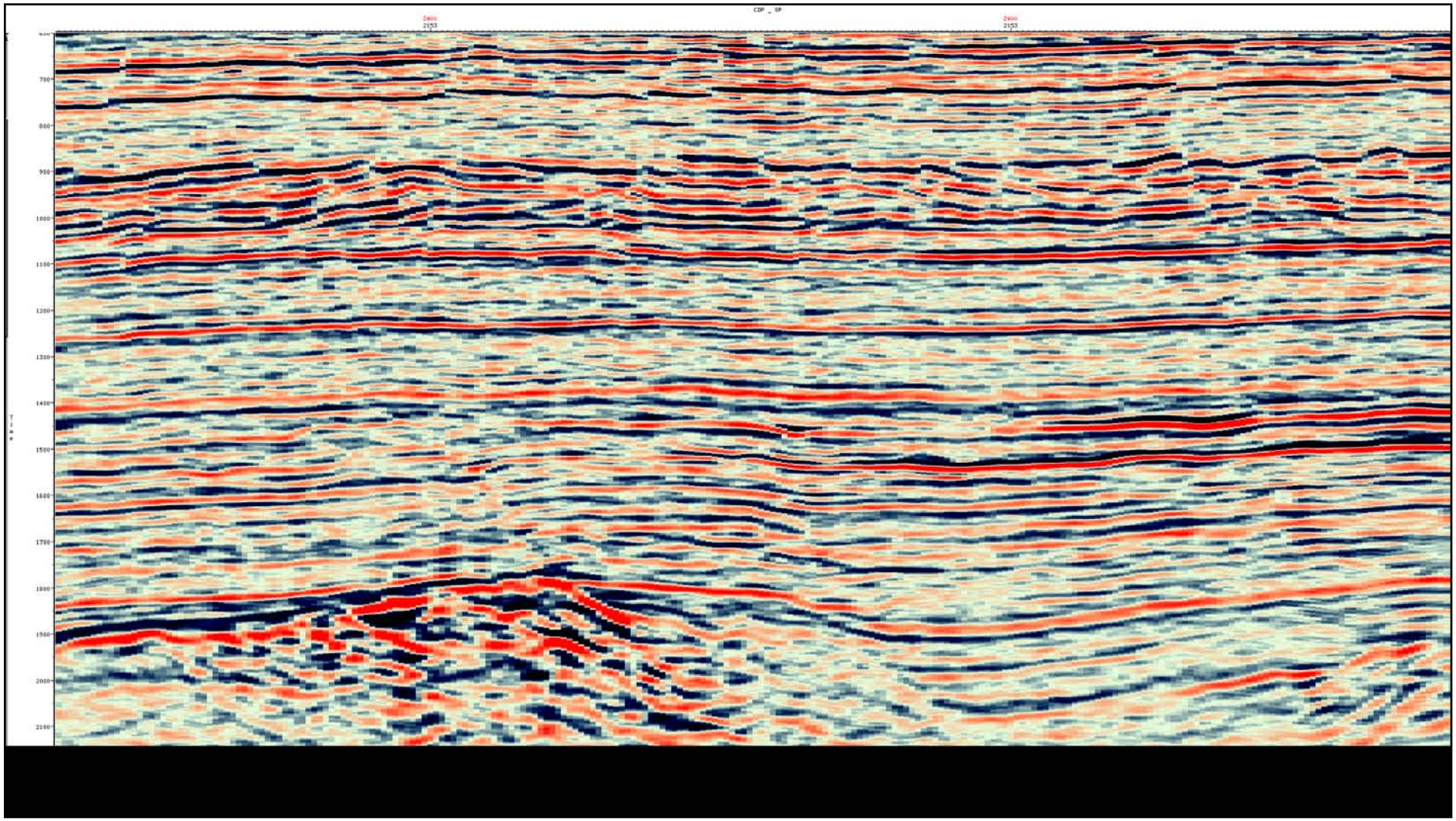


X-line- OC 10: PreSTM of REG3D AA 1.5 12.5x12.5 (10)

Note:
Selected every Second trace, Same horizontal



X-line - OC 10: PreSTM 12.5x25 (8)



X-line- OC 10: PreSTM of REG3D AA 1.5 12.5x12.5 (9)

Note:
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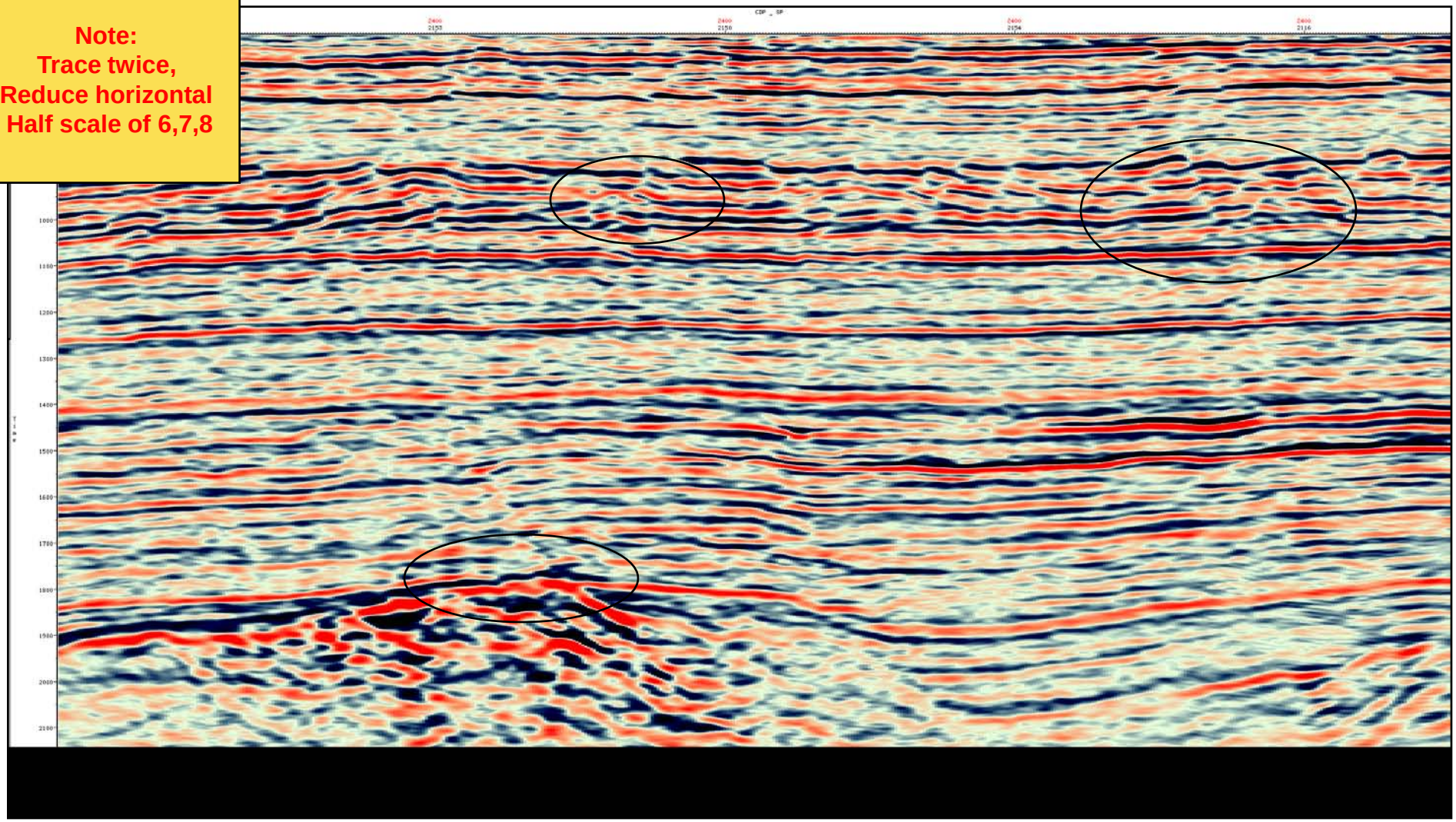
Half scale of 6,7,8



Conclusions & Recommendations

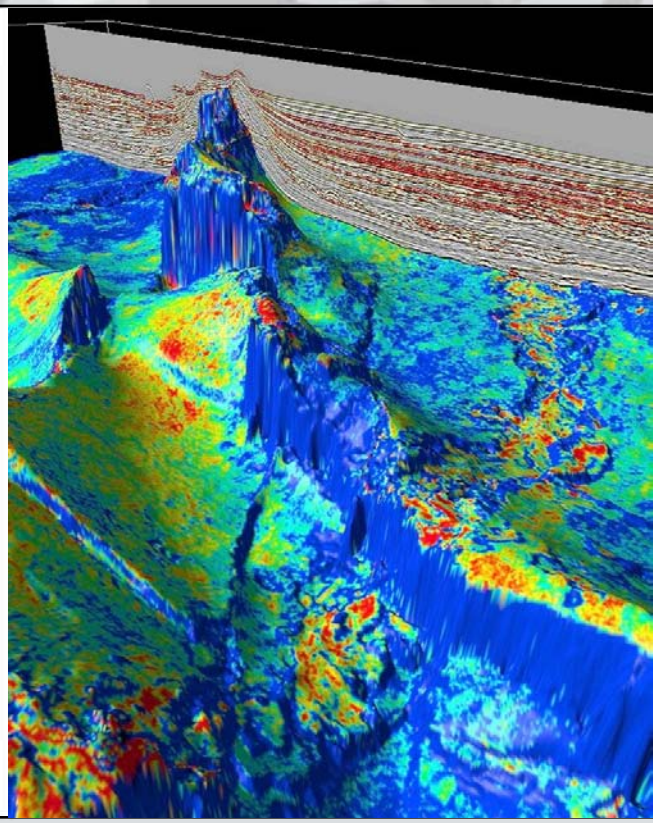
CGGV Recommend:

- REG3D with AA 1.5.

- Small difference between PreSTM with Input/output 12.5x25 (8) compare with input 12.5x12.5/output 12.5x12.5 (9), it is better it the fracture or fault plane definition with 12.5x12.5 in/out.

- PreSTM with input/Output 12.5x25 (8) have a similar result compare with in 12.5x12.5 and out 12.5x25 (10).

Technical Note 9
PSTM
Silvereye 3D



CGGVERITAS

Introduction

Testing was carried out on Offset Class 10 (825-899m), inline range 990-1400Test:

1. Random Noise Attenuation in offset Domain
2. PSTM, Dip limit (60,70,80,90 degrees) and aperture (3500,4000,4500,5000 and 6000m)

Processing Sequence to date

Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
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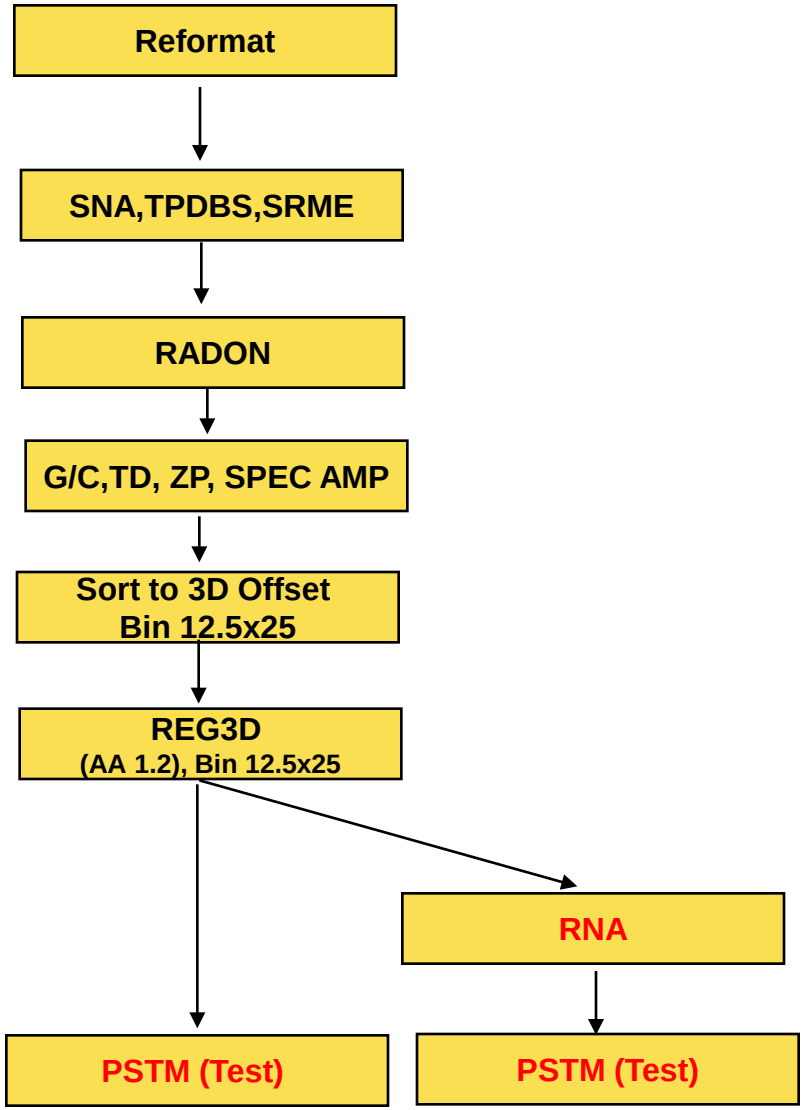
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D

Current Test

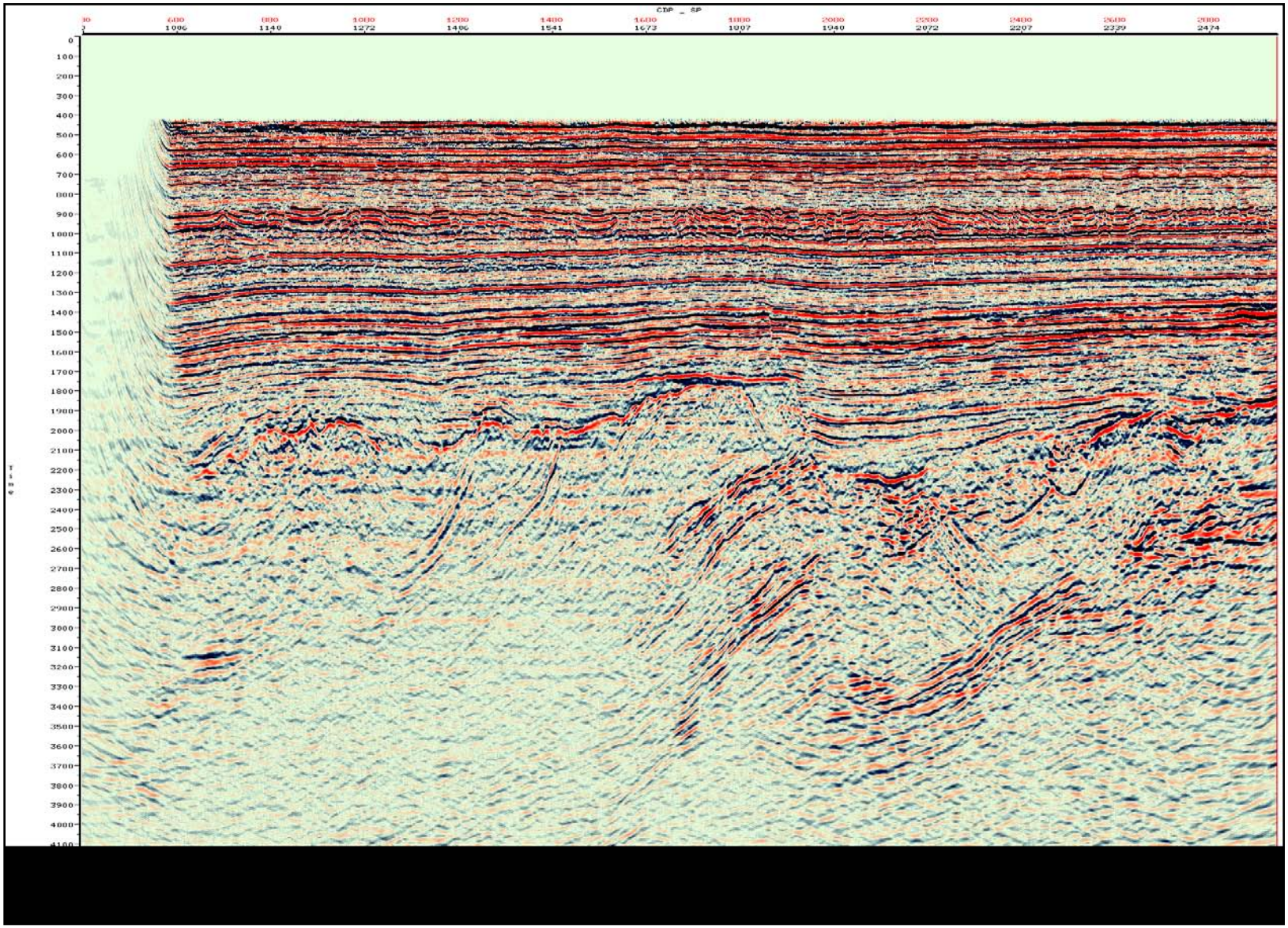
- **Random Noise Attenuation in offset domain**
- **PSTM, Diplimit and aperture**

Proc Flow: PSTM

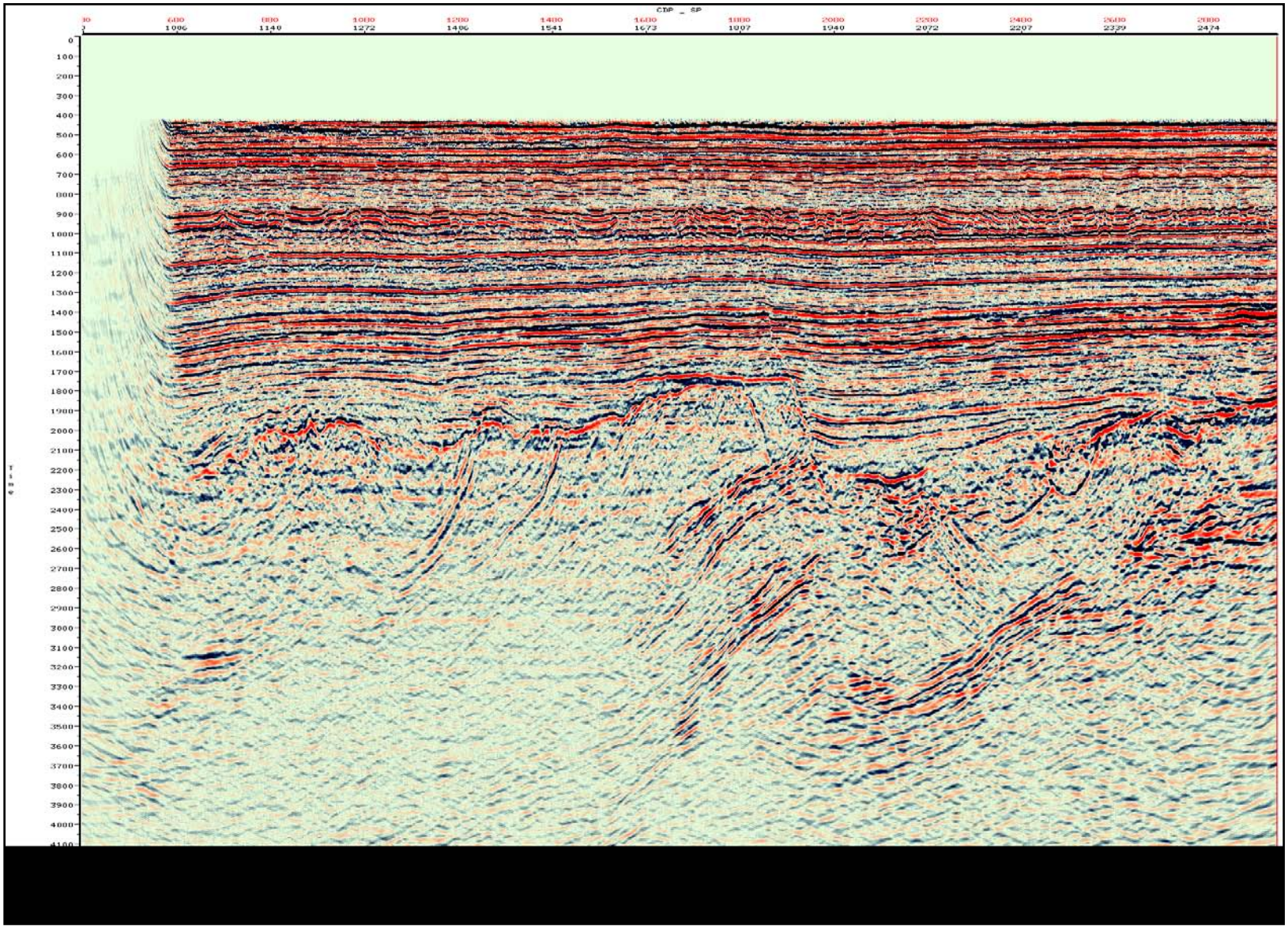


DIP LIMIT

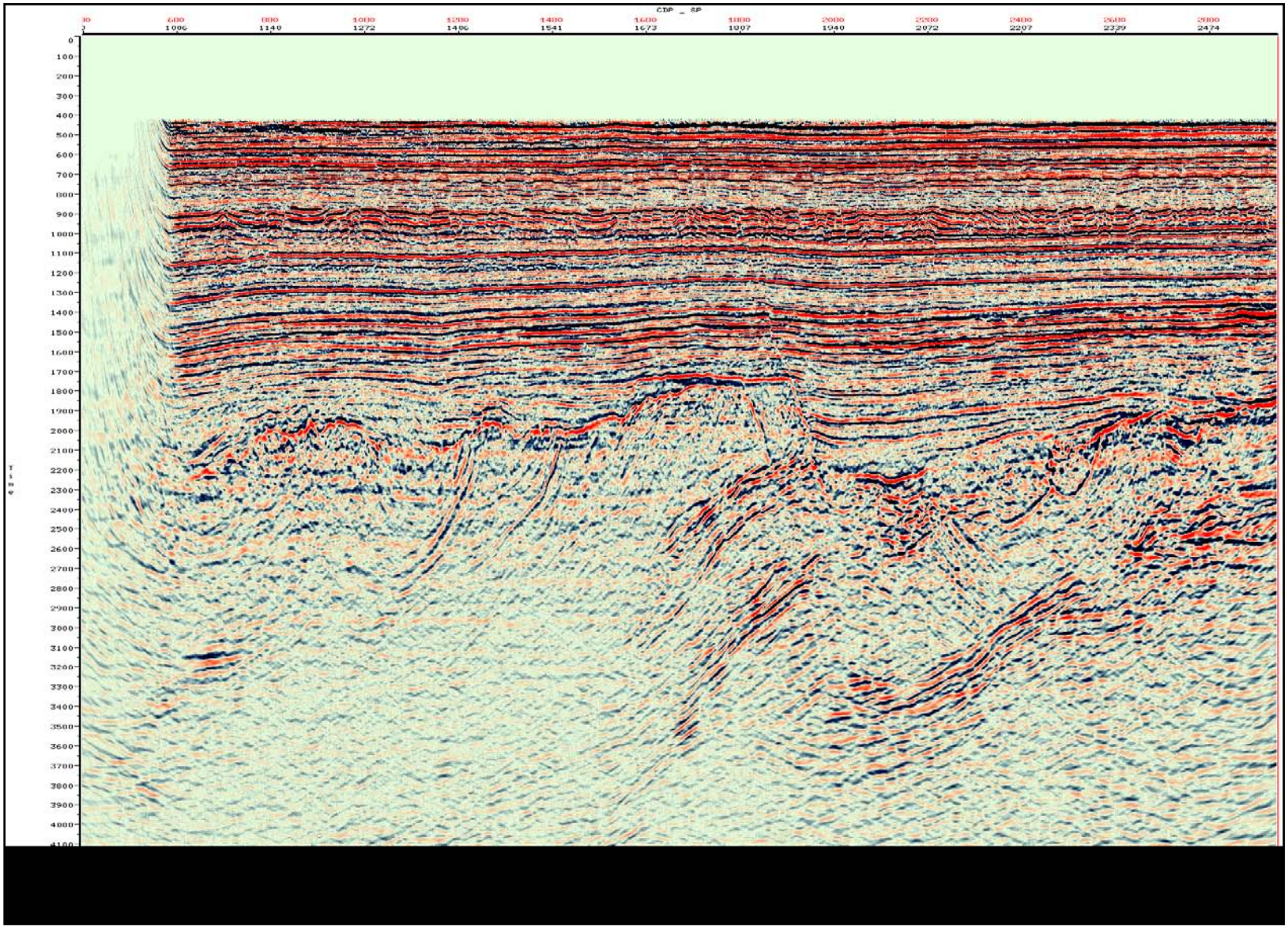
Inline - OC 10: PSTM DIP LIM 60 APER: 3500M



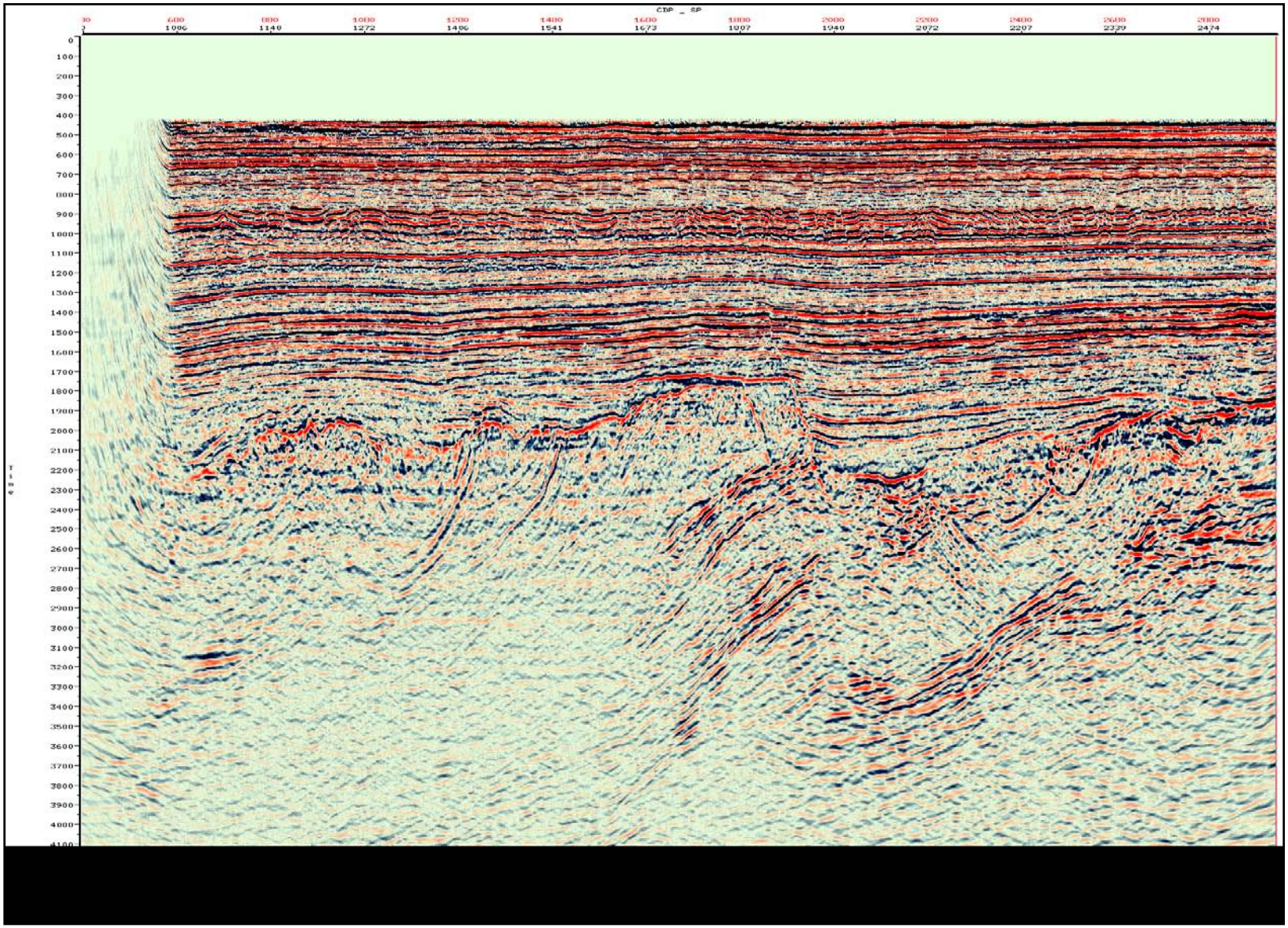
Inline - OC 10: PSTM DIP LIM 70 APER: 3500M



Inline - OC 10: PSTM DIP LIM 80 APER: 3500M

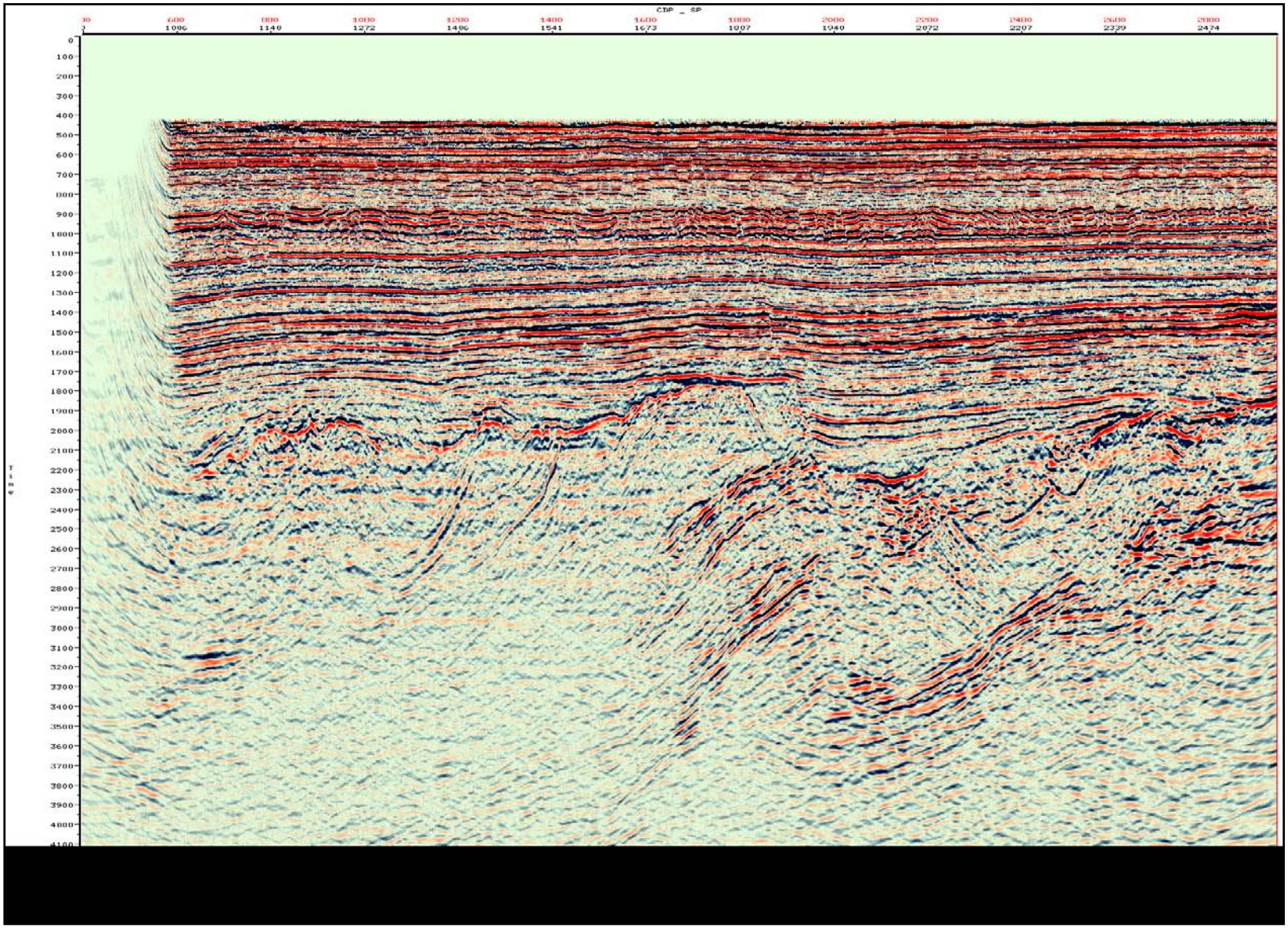


Inline - OC 10: PSTM DIP LIM 90 APER: 3500M

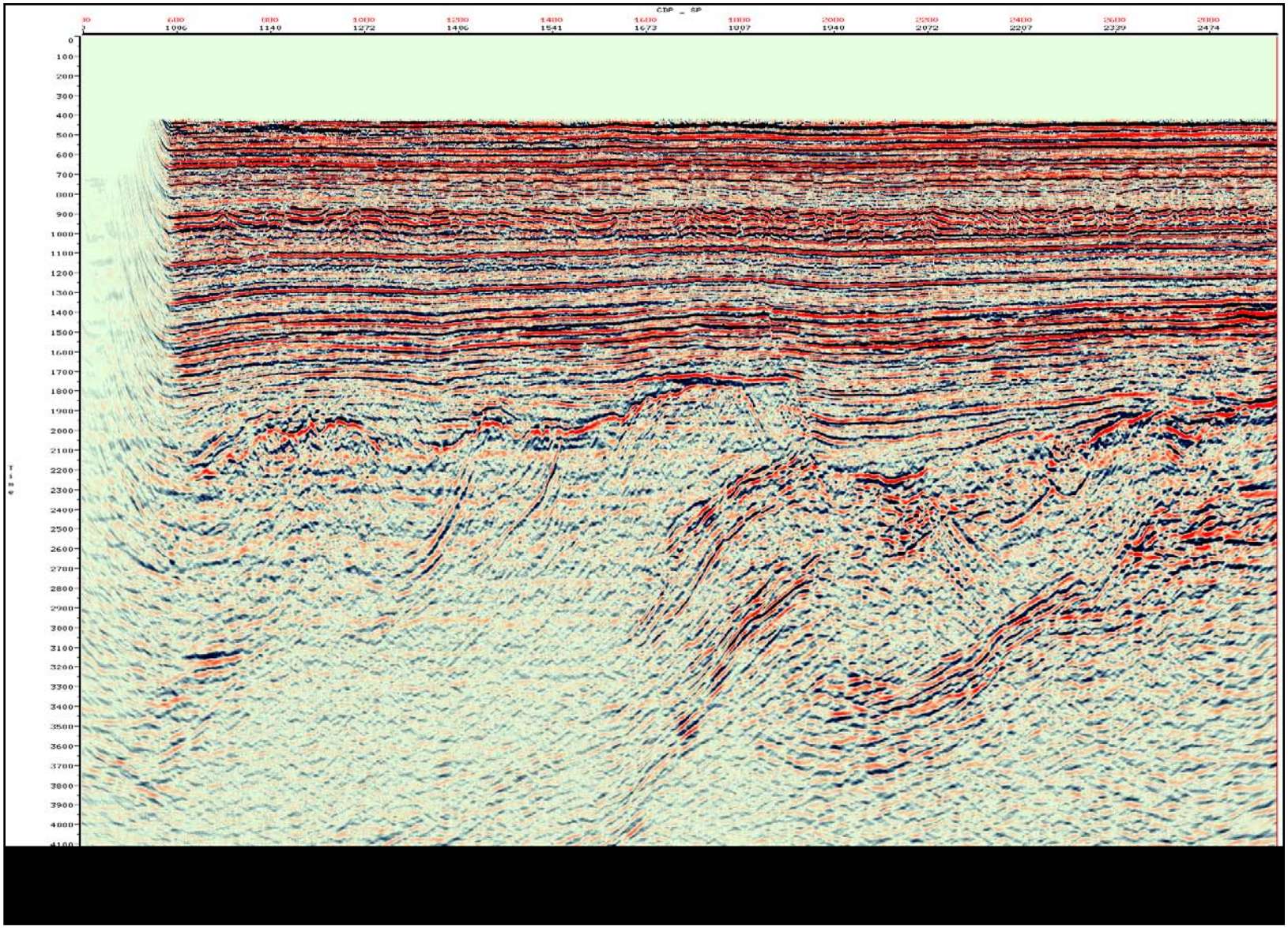


APERTURE

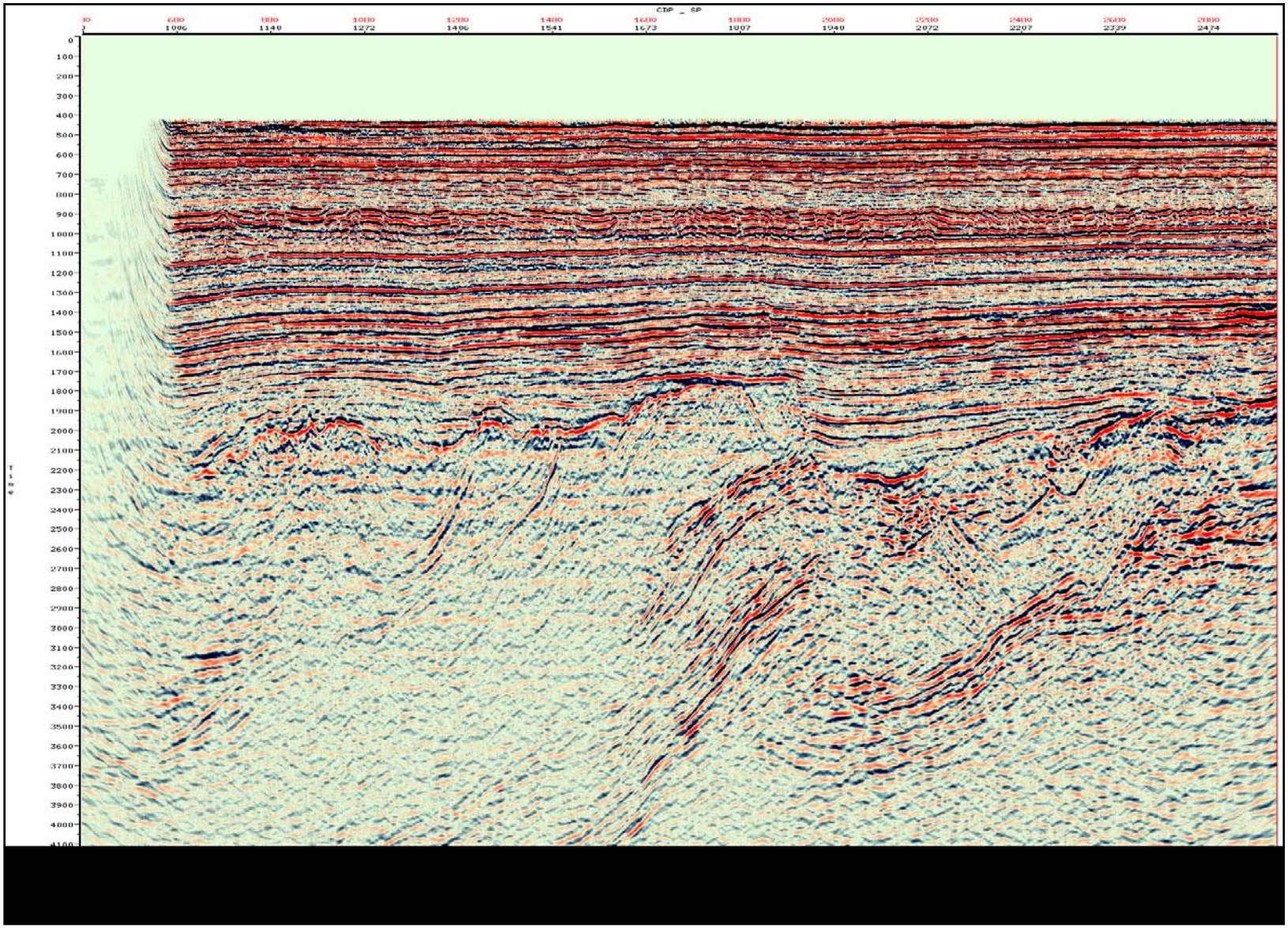
Inline - OC 10: PSTM DIP LIM 60 APER: 3500M



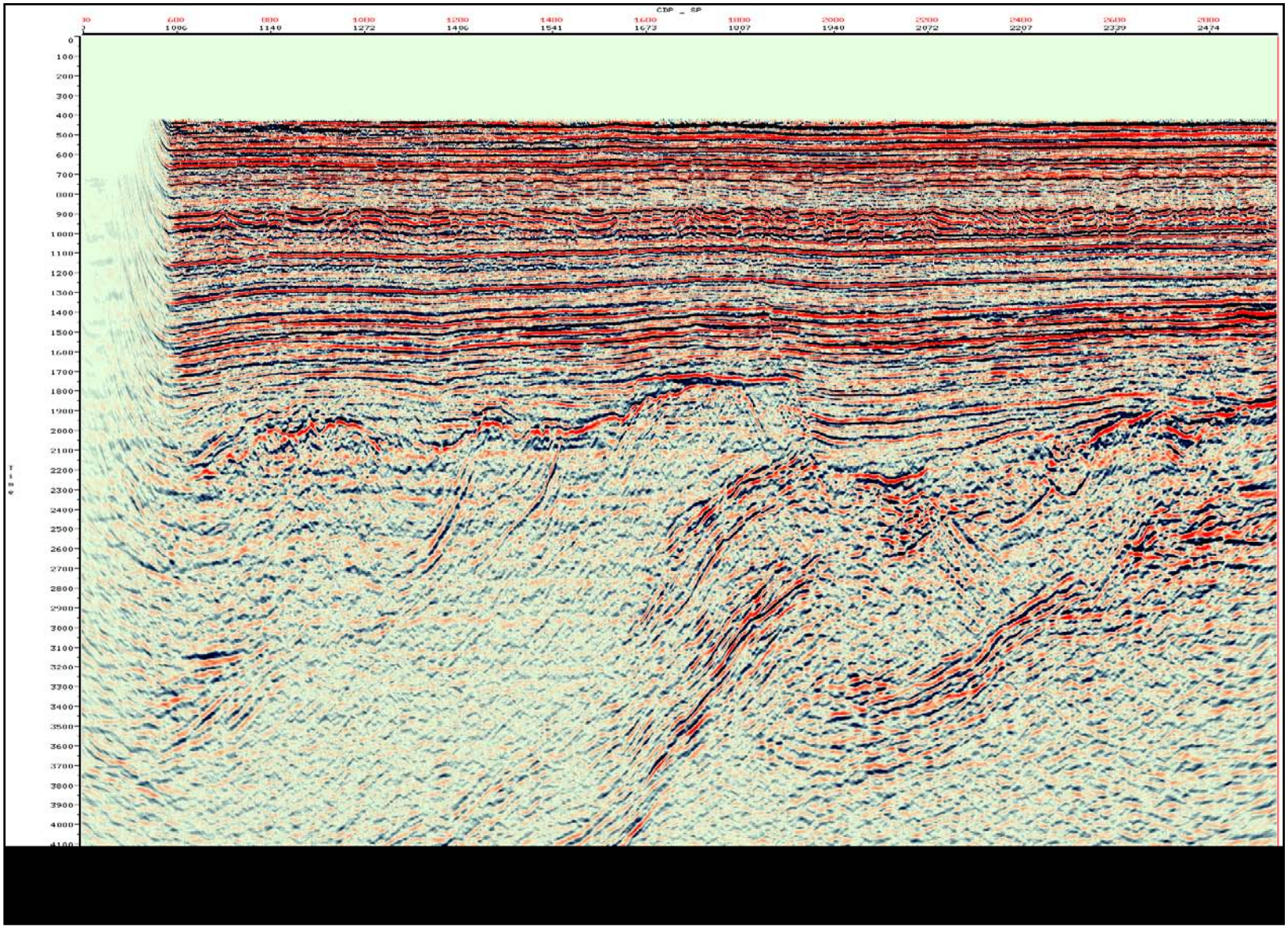
Inline - OC 10: PSTM DIP LIM 60 APER: 4000M



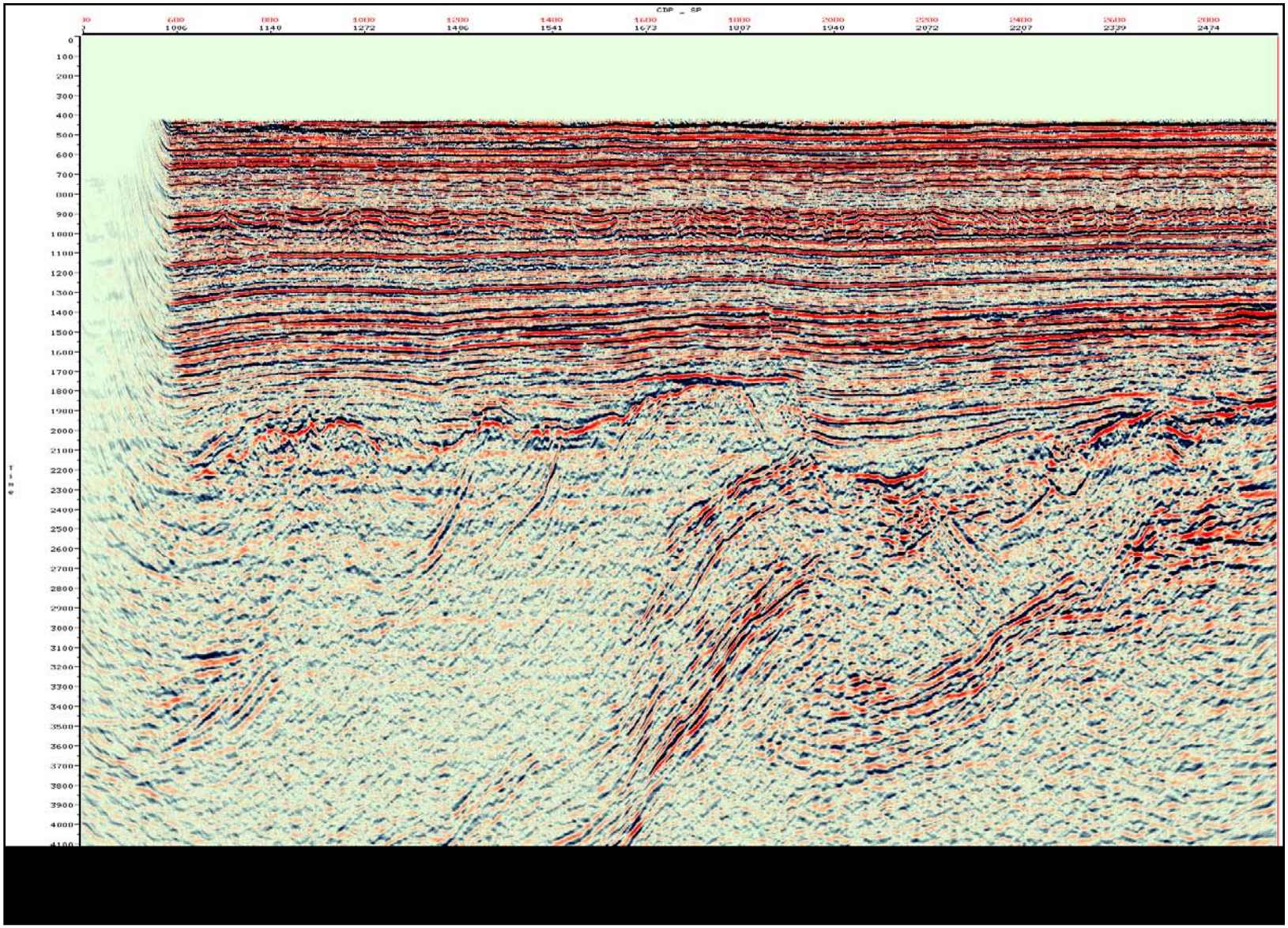
Inline - OC 10: PSTM DIP LIM 60 APER: 4500M



Inline - OC 10: PSTM DIP LIM 60 APER: 5000M

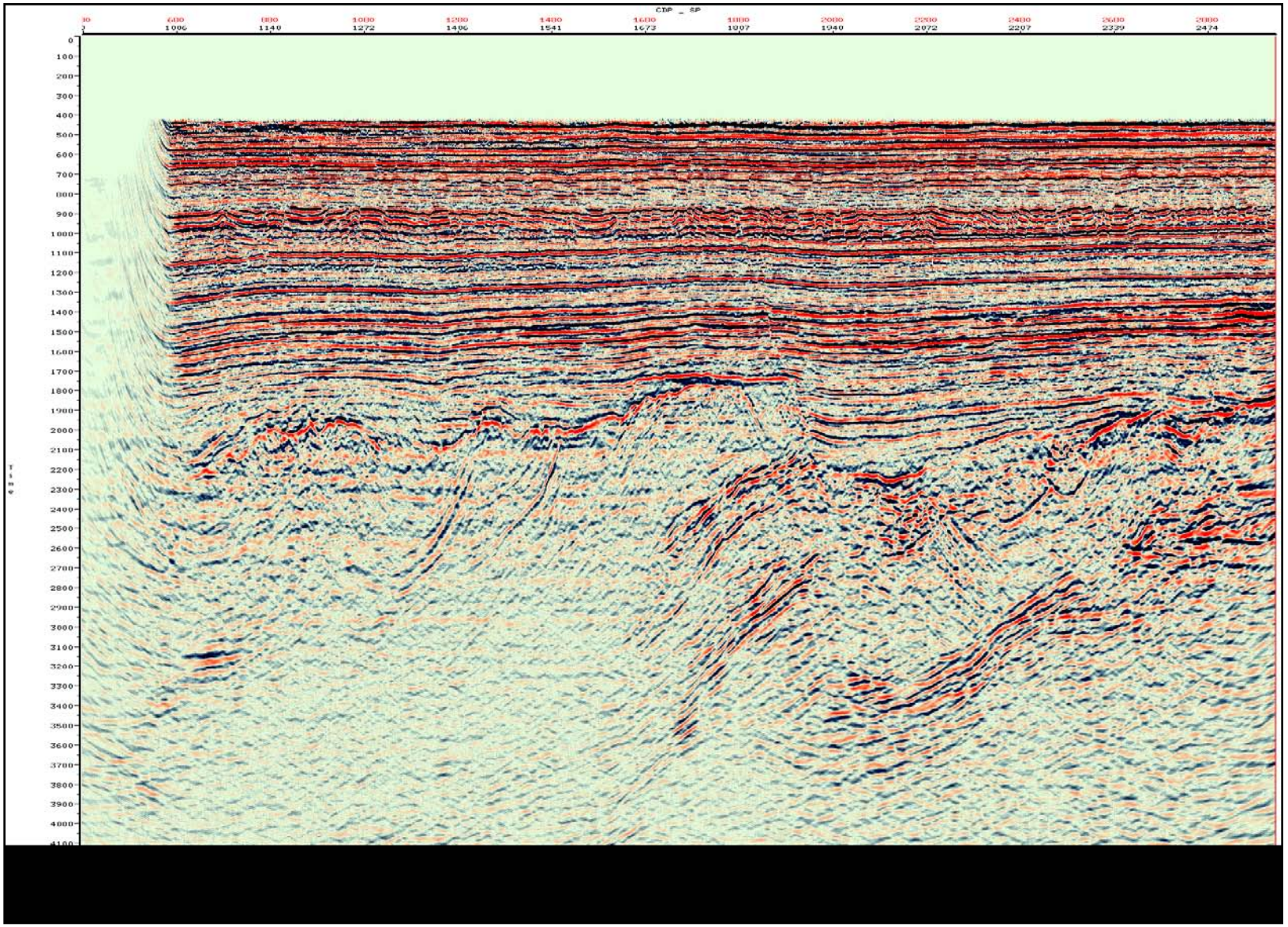


Inline - OC 10: PSTM DIP LIM 60 APER: 6000M

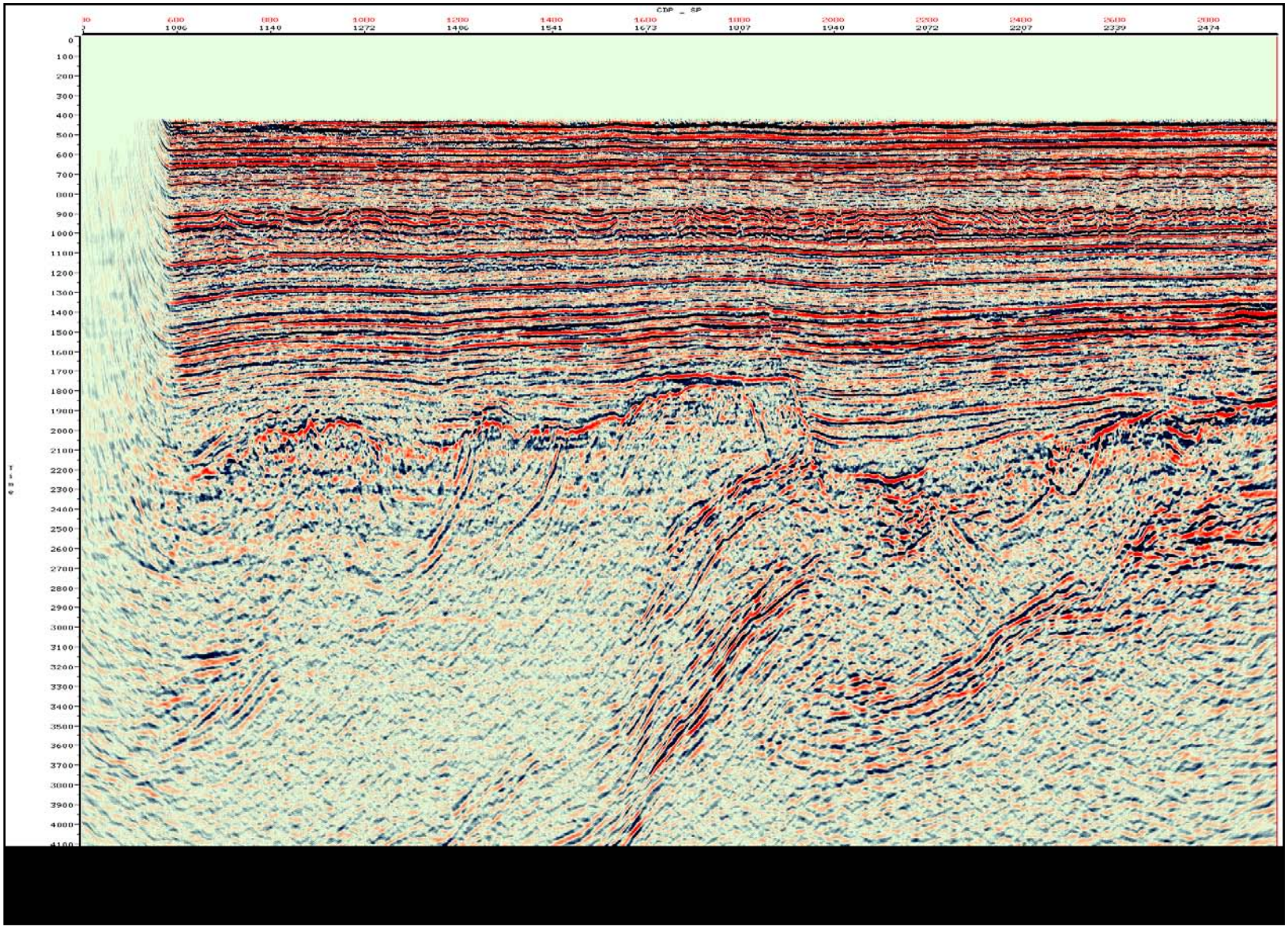


DIP LIMIT AND APERTURE

Inline - OC 10: PSTM DIP LIM 60 APER: 3500M

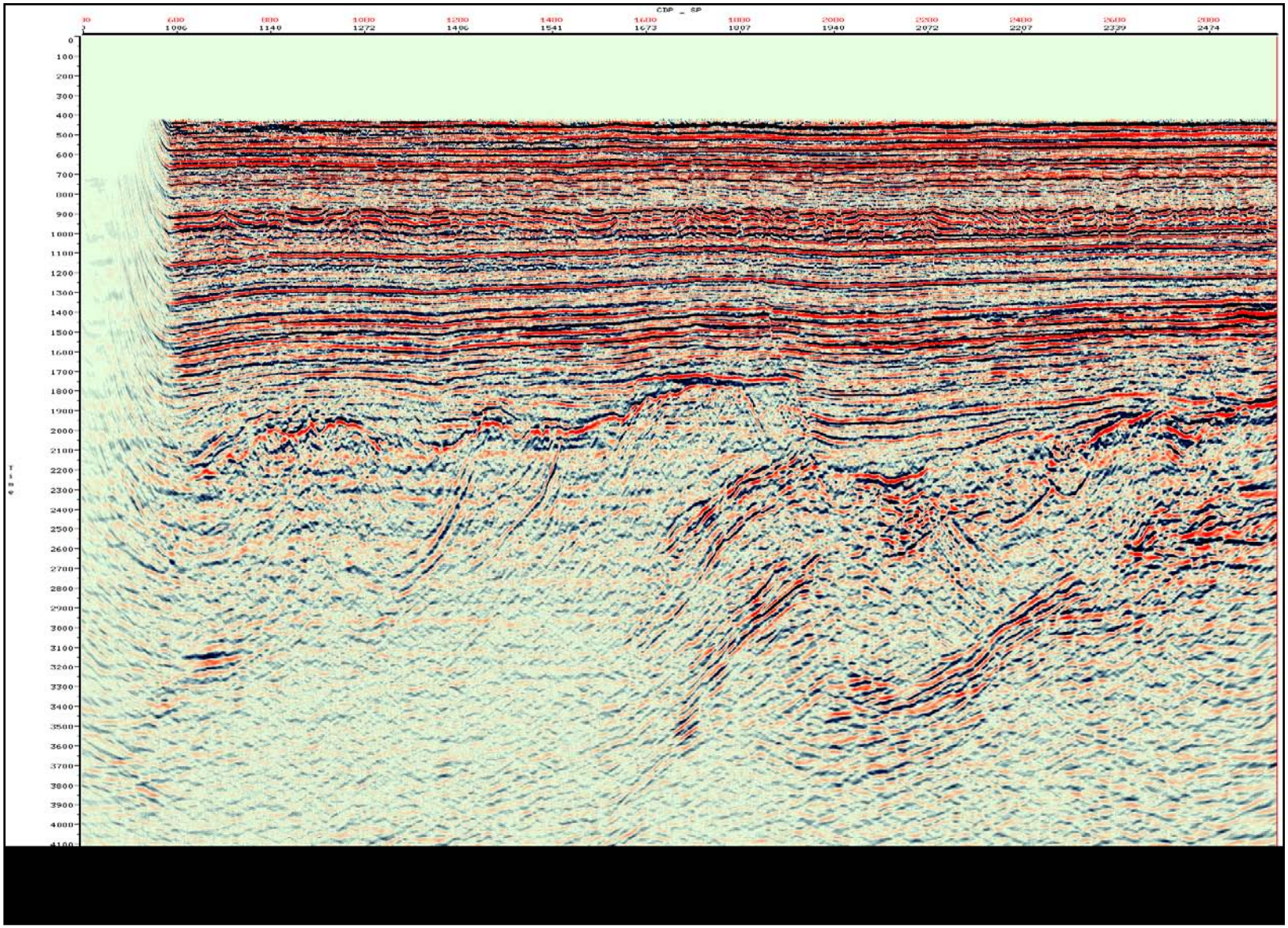


Inline - OC 10: PSTM DIP LIM 90 APER: 6000M

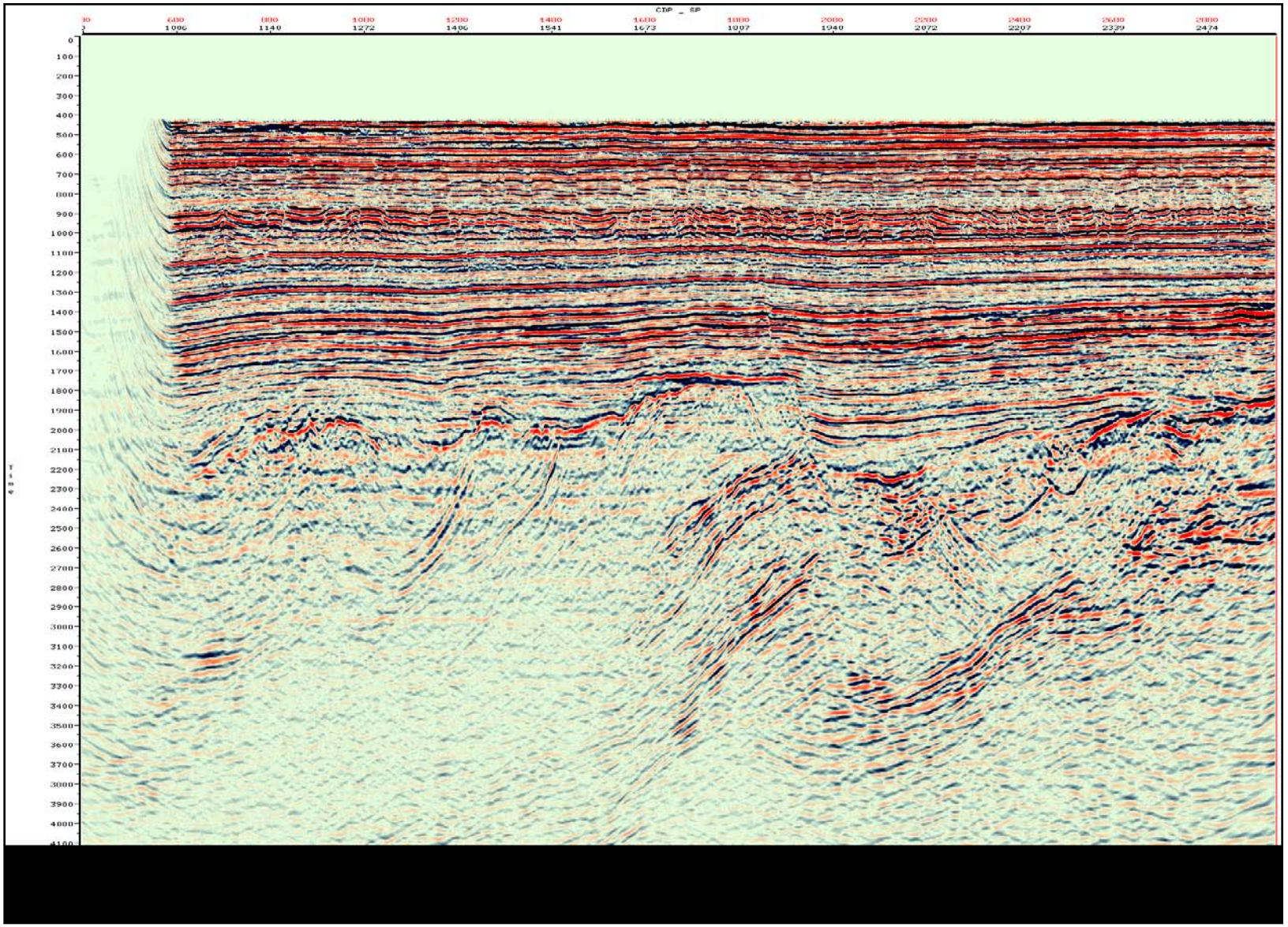


RNA Before PSTM

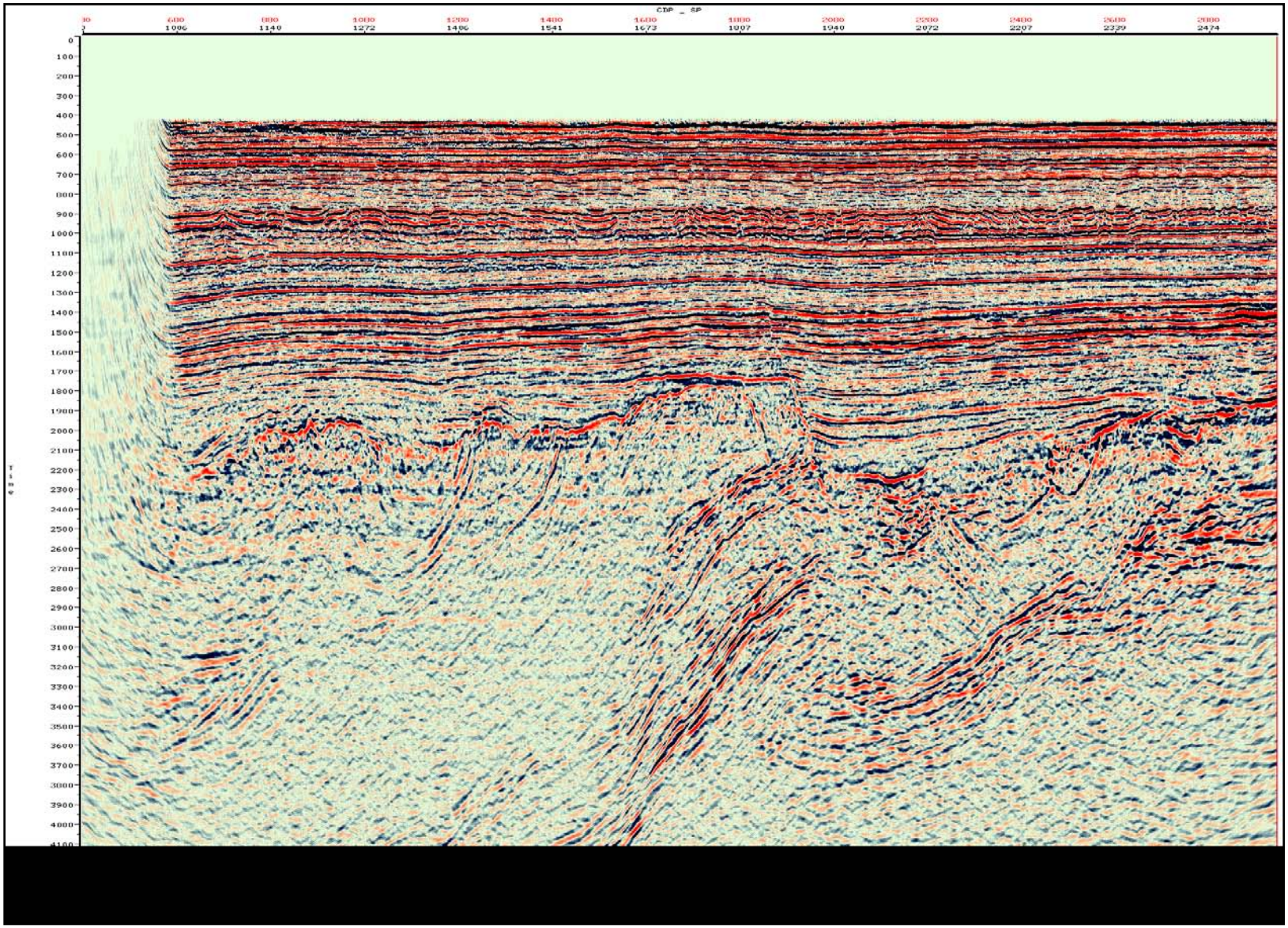
Inline - OC 10: PSTM DIP LIM 60 APER: 3500M, No RNA



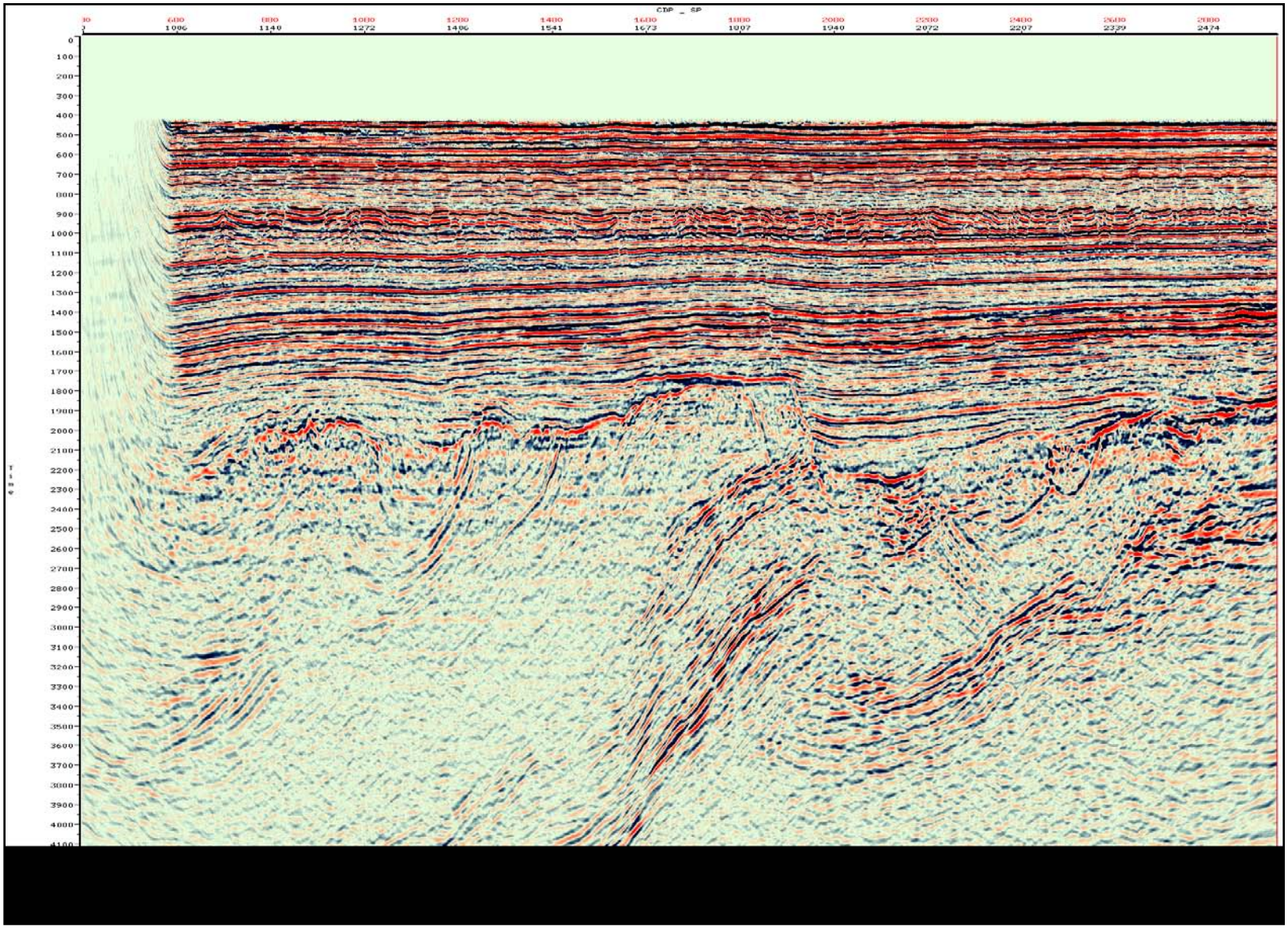
Inline - OC 10: PSTM DIP LIM 60 APER: 3500M, RNA



Inline - OC 10: PSTM DIP LIM 90 APER: 6000M, No RNA

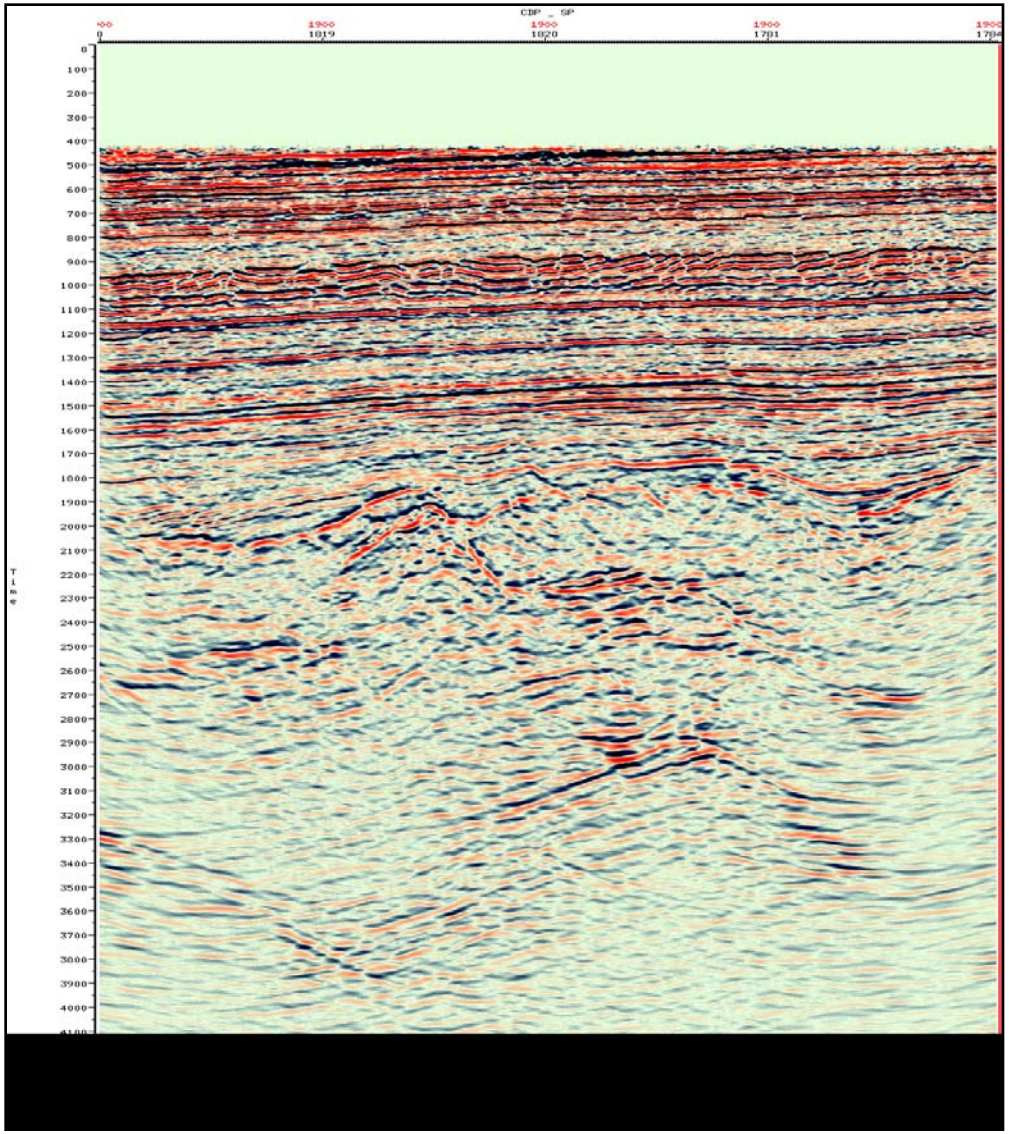


Inline - OC 10: PSTM DIP LIM 90 APER: 6000M, RNA

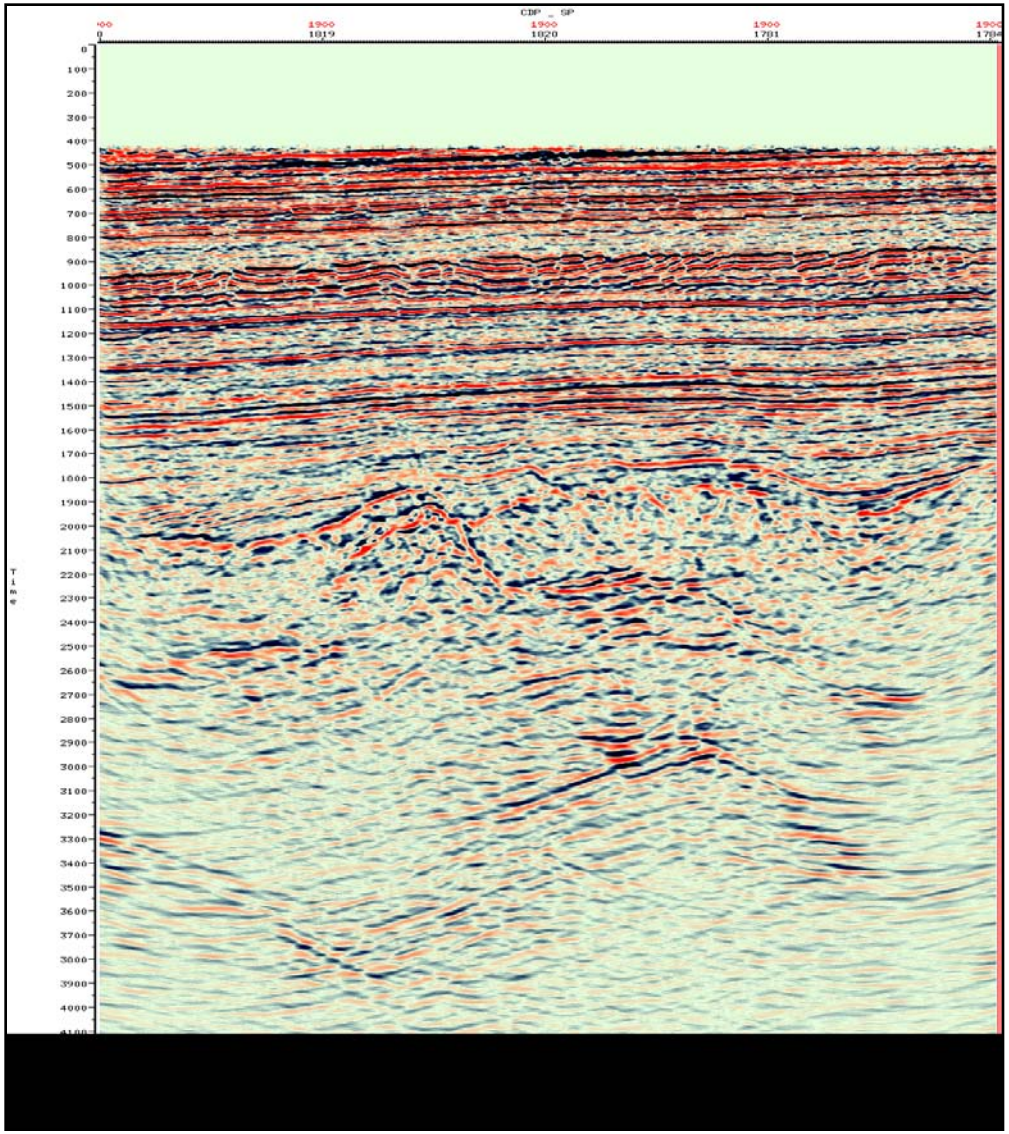


DIP LIMIT

Xline - OC 10: PSTM DIP LIM 60 APER: 3500M

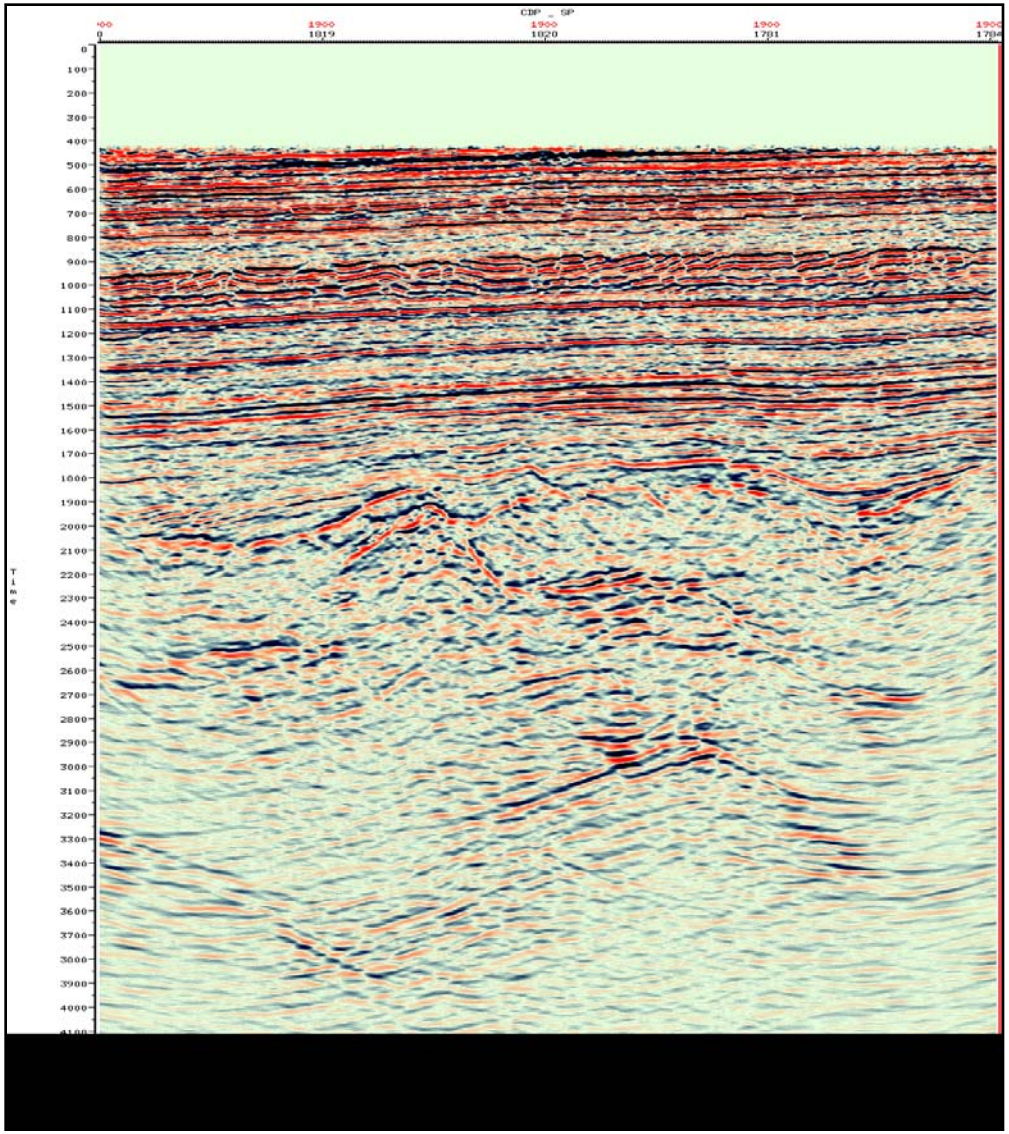


Xline - OC 10: PSTM DIP LIM 90 APER: 3500M

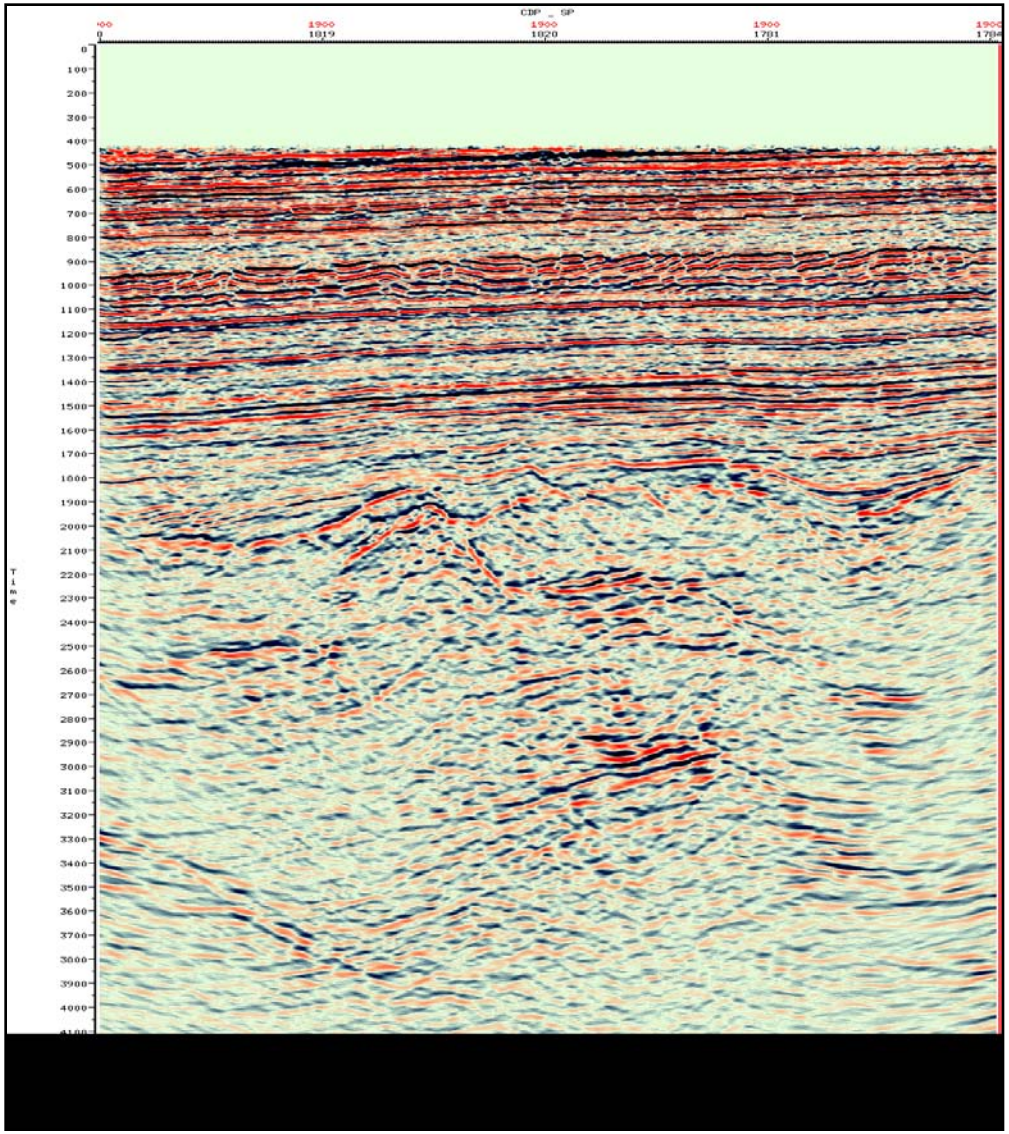


APERTURE

Xline - OC 10: PSTM DIP LIM 60 APER: 3500M

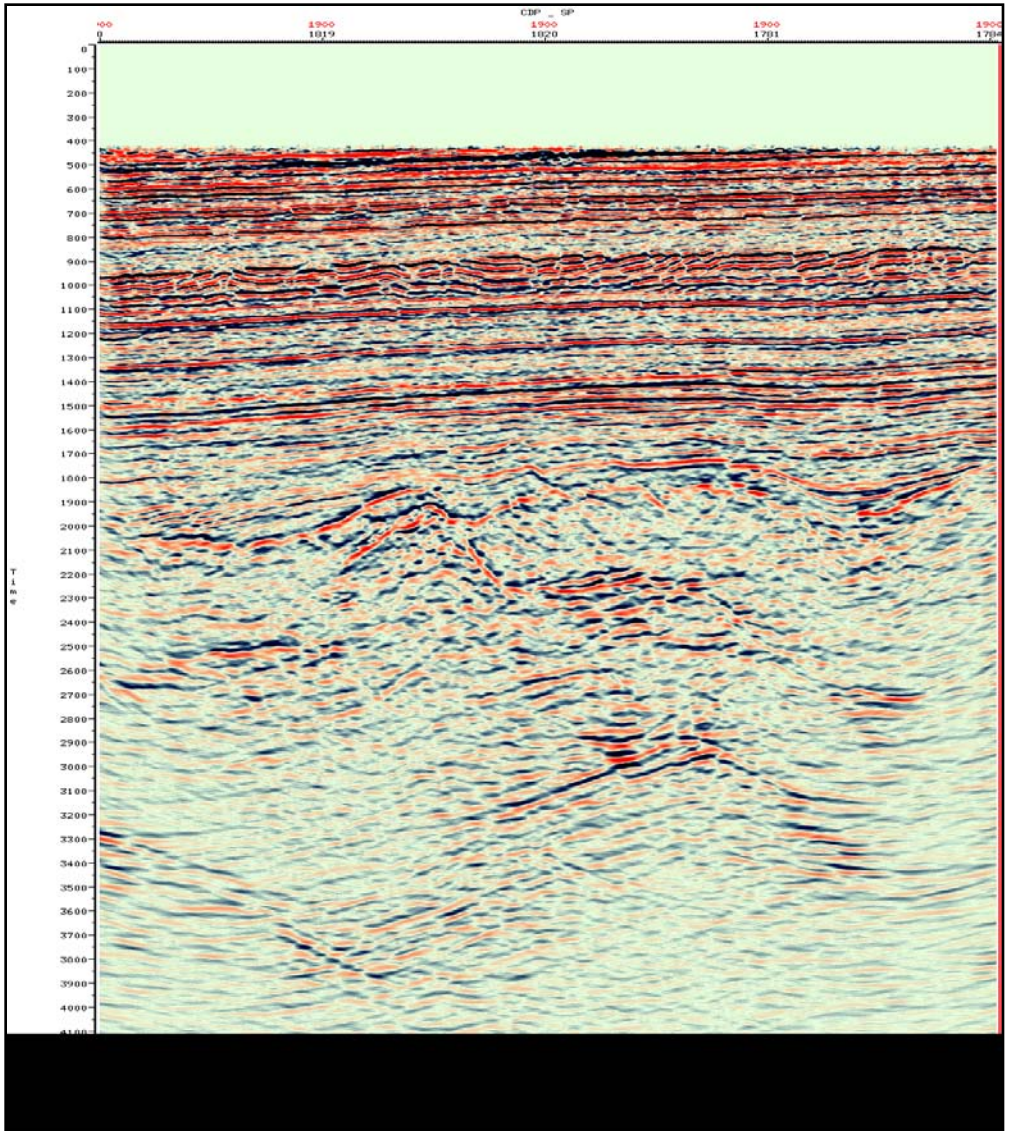


Xline - OC 10: PSTM DIP LIM 60 APER: 6000M

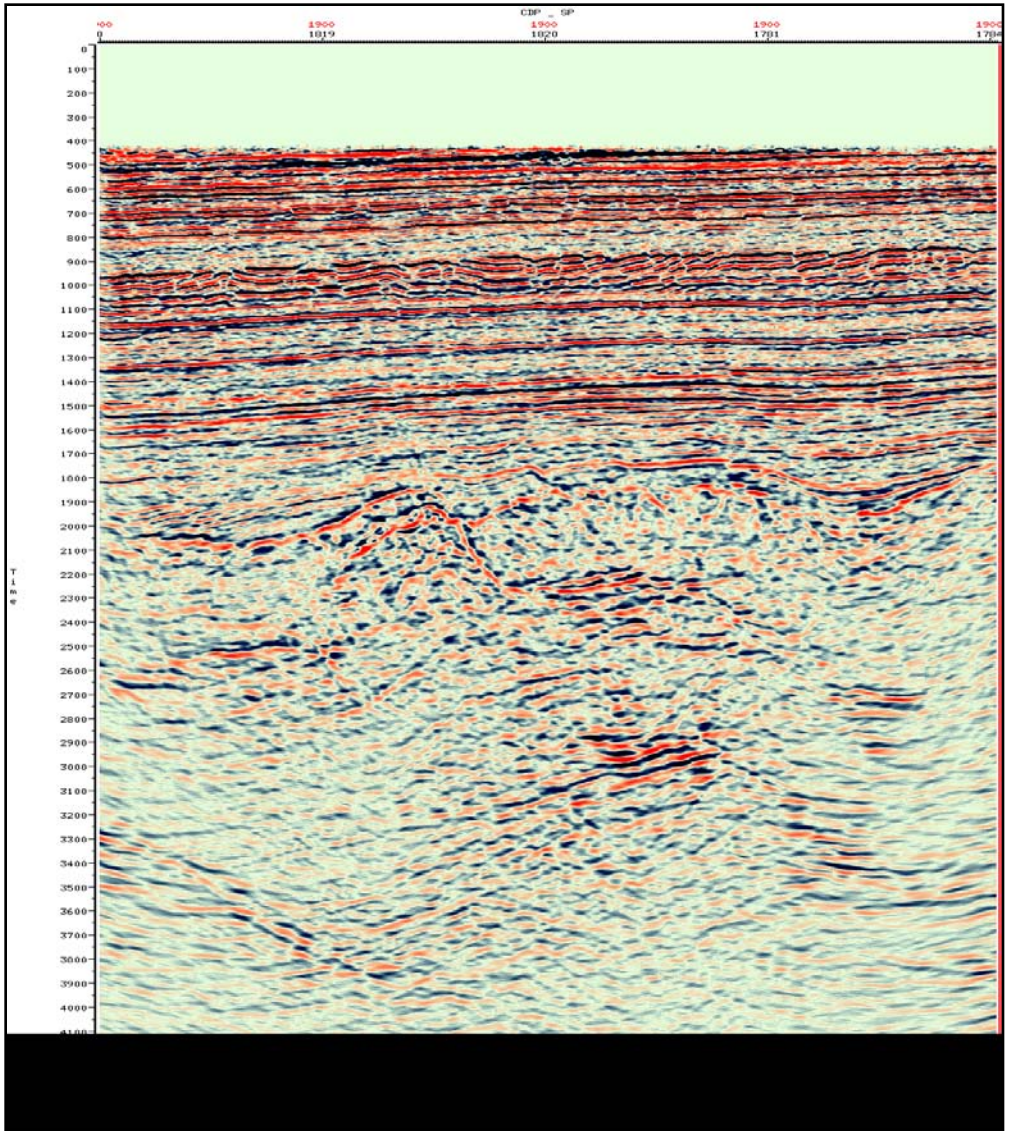


DIPLIMIT AND APERTURE

Xline - OC 10: PSTM DIP LIM 60 APER: 3500M

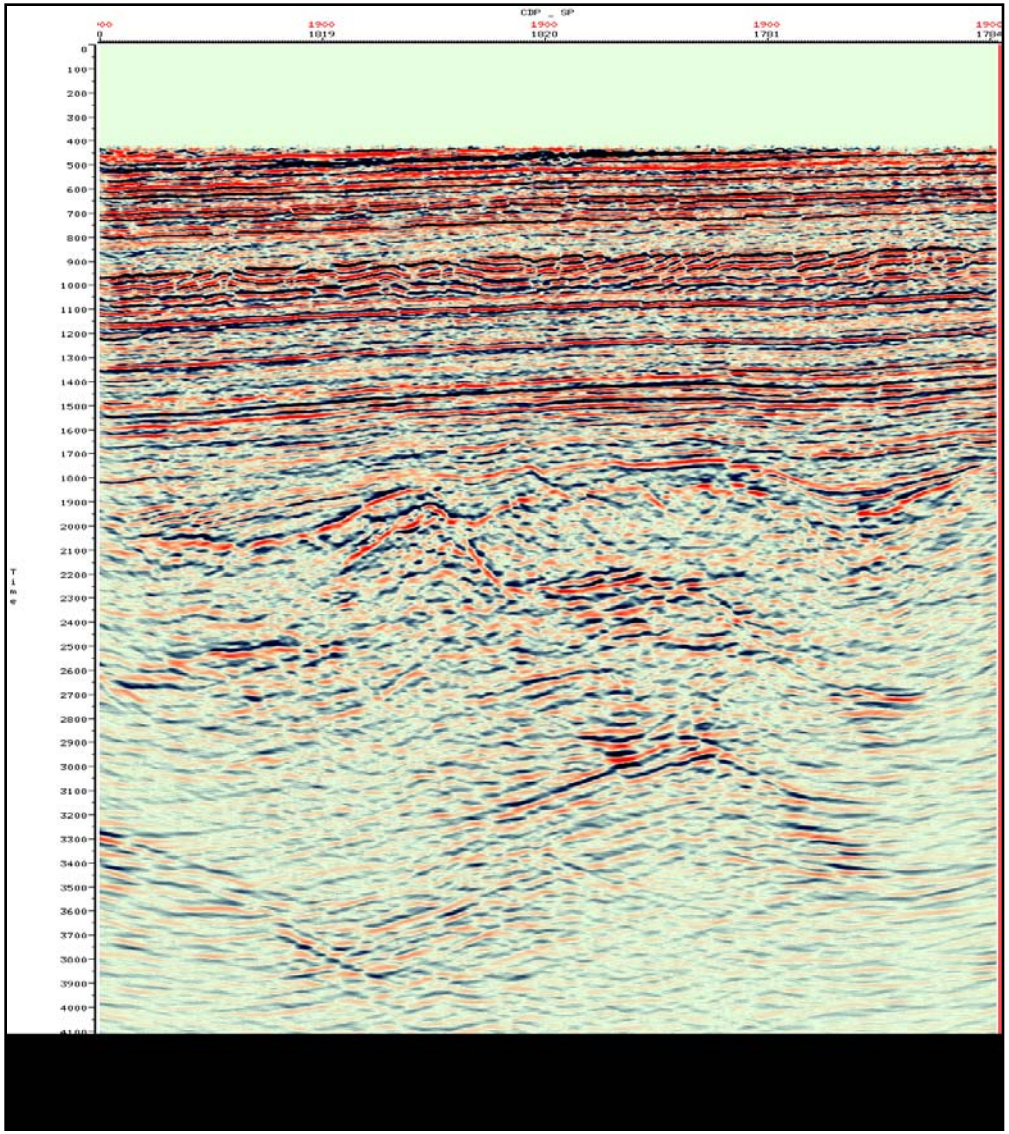


Xline - OC 10: PSTM DIP LIM 90 APER: 6000M

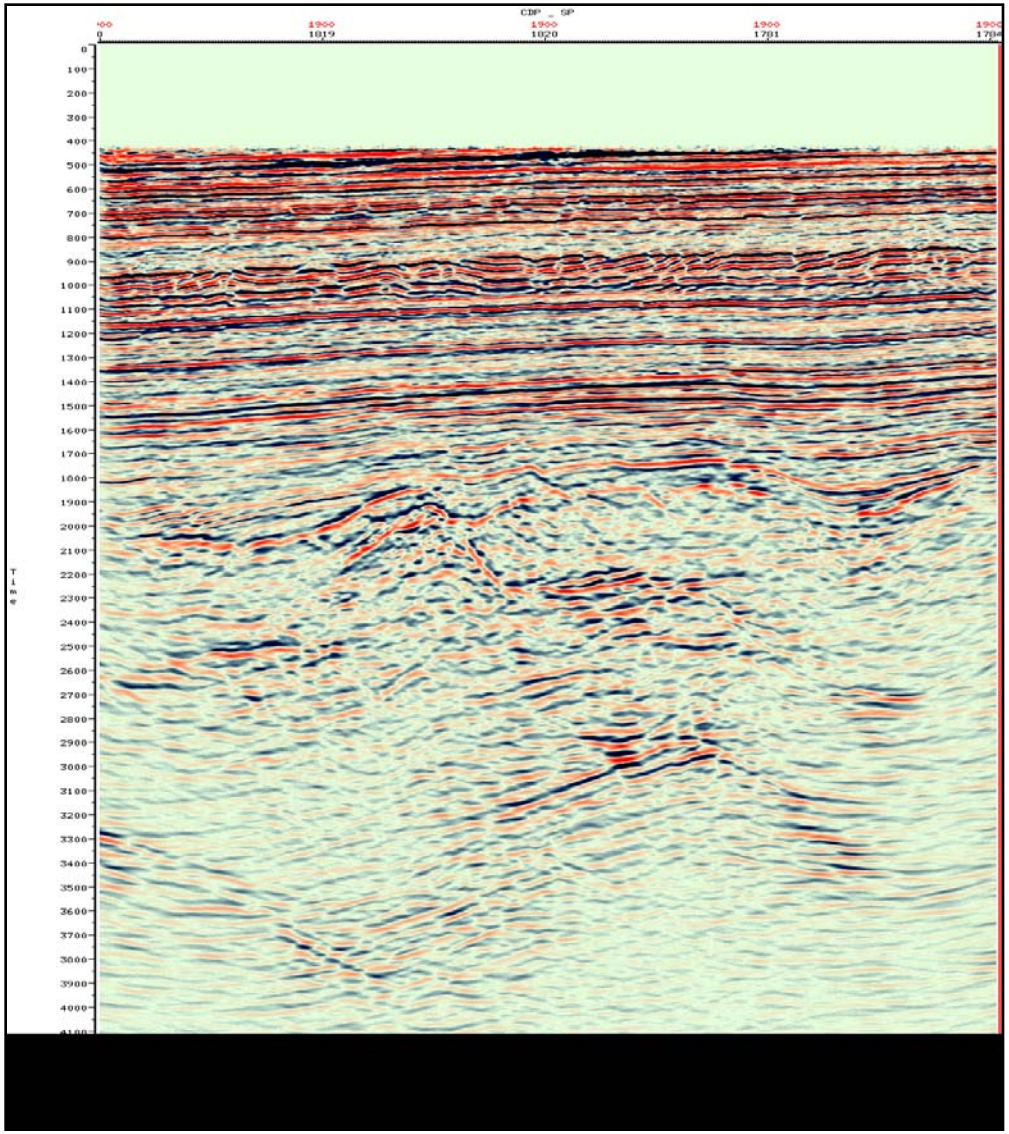


RNA

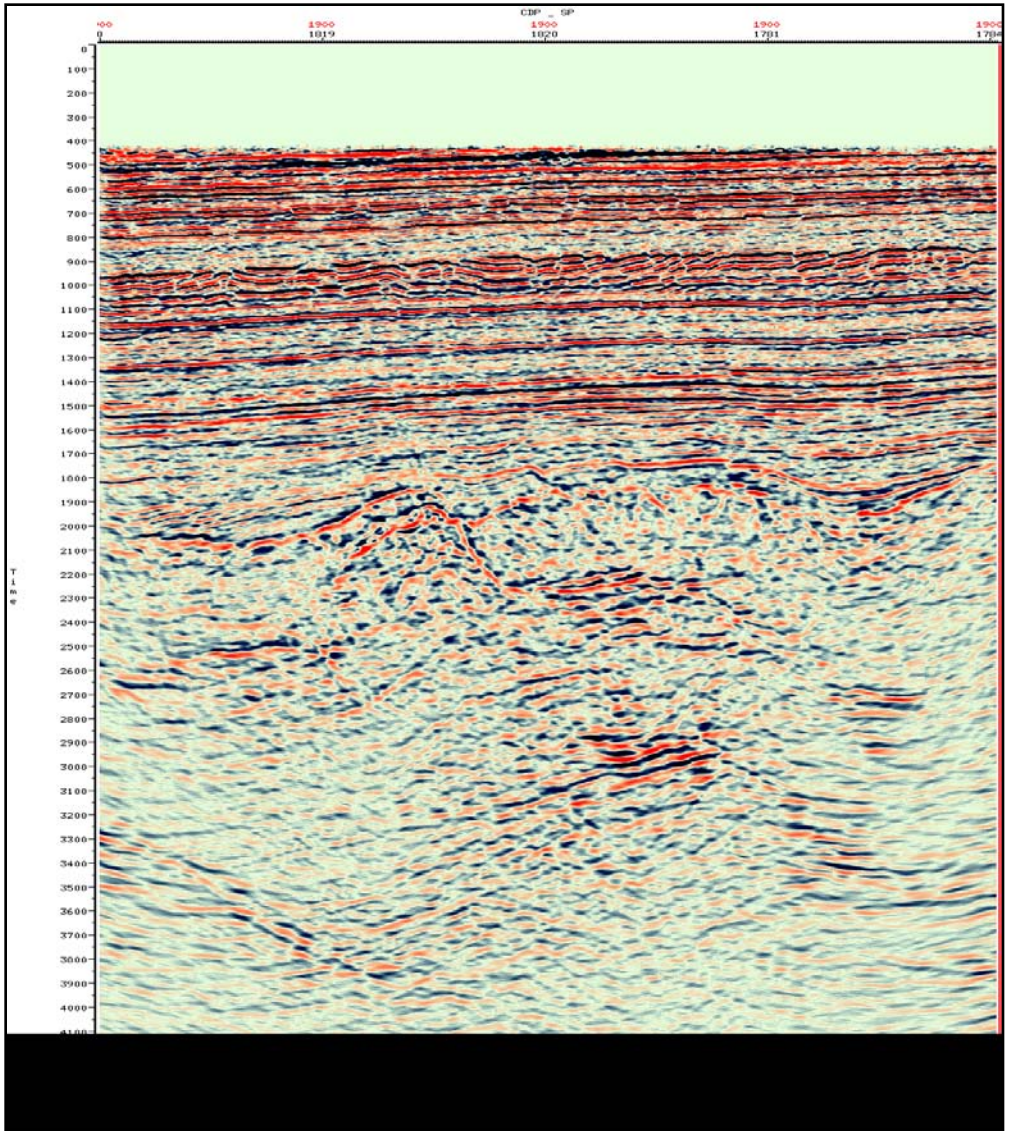
Xline - OC 10: PSTM DIP LIM 60 APER: 3500M, NO RNA



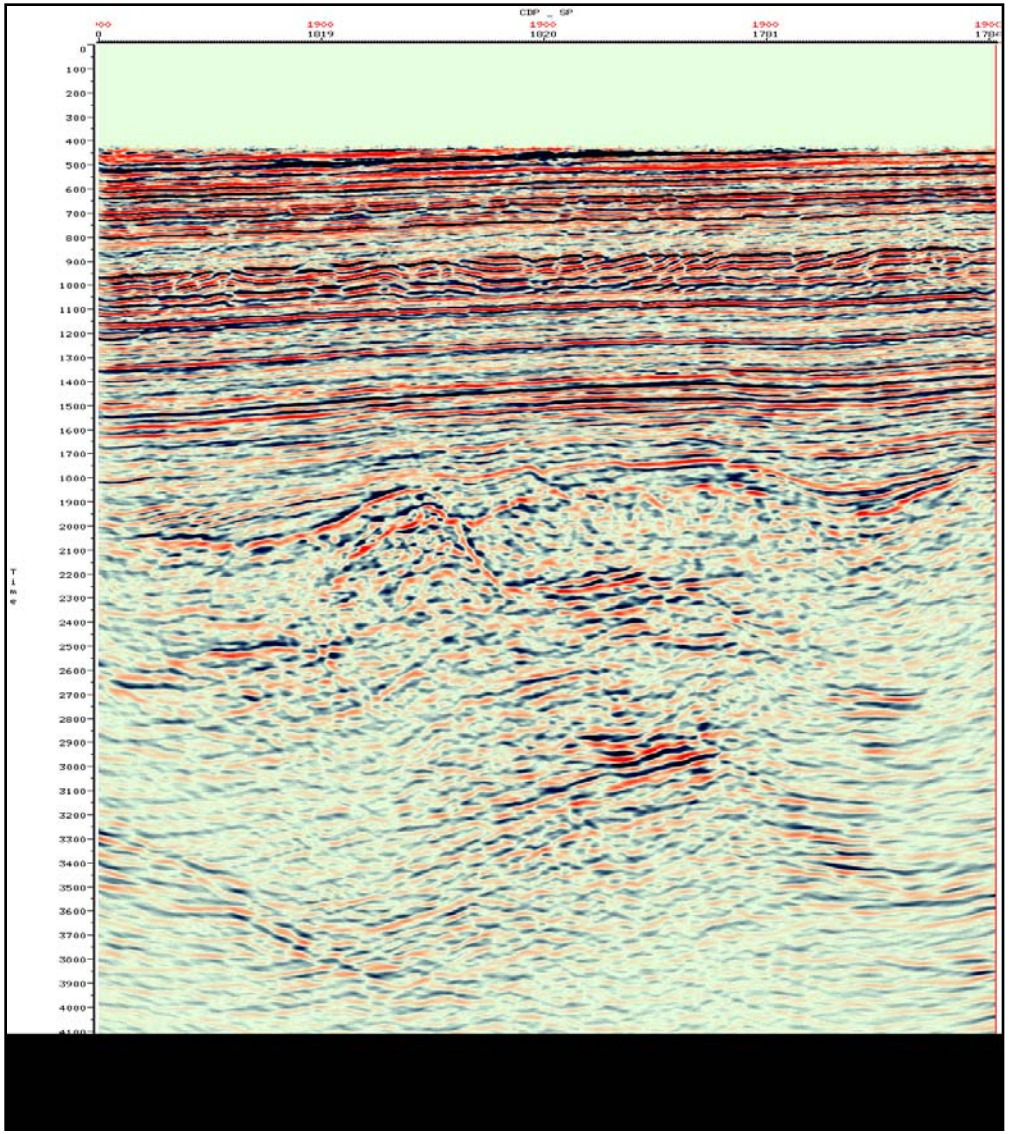
Xline - OC 10: PSTM DIP LIM 60 APER: 3500M, RNA



Xline - OC 10: PSTM DIP LIM 90 APER: 6000M, NO RNA



Xline - OC 10: PSTM DIP LIM 90 APER: 6000M, NO RNA



Conclusions & Recommendations

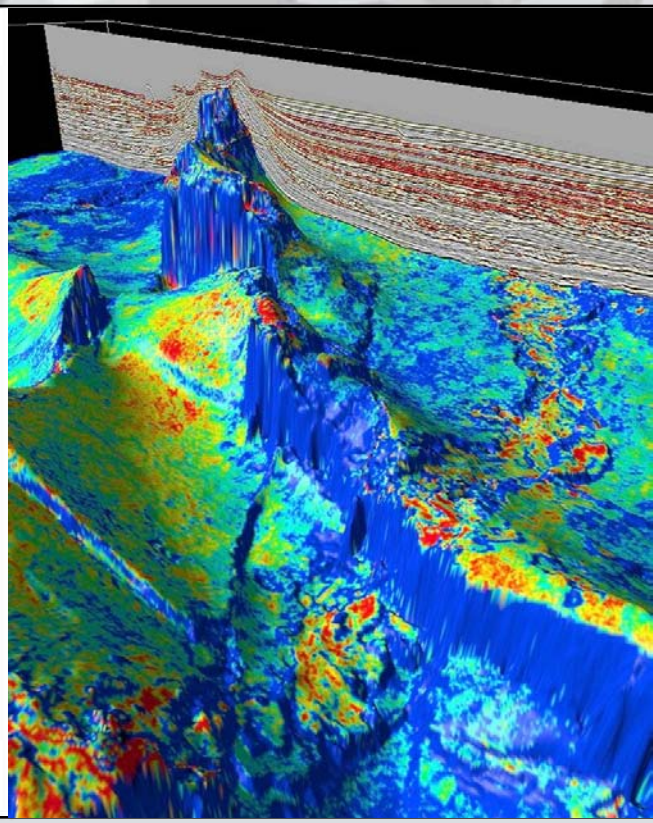
CGGV Recommend:

- Random Noise Attenuation before PSTM

- Dip limit 90 degrees

- Aperture 6000m

Technical Note 9
PSTM
Silvereye 3D



CGGVERITAS

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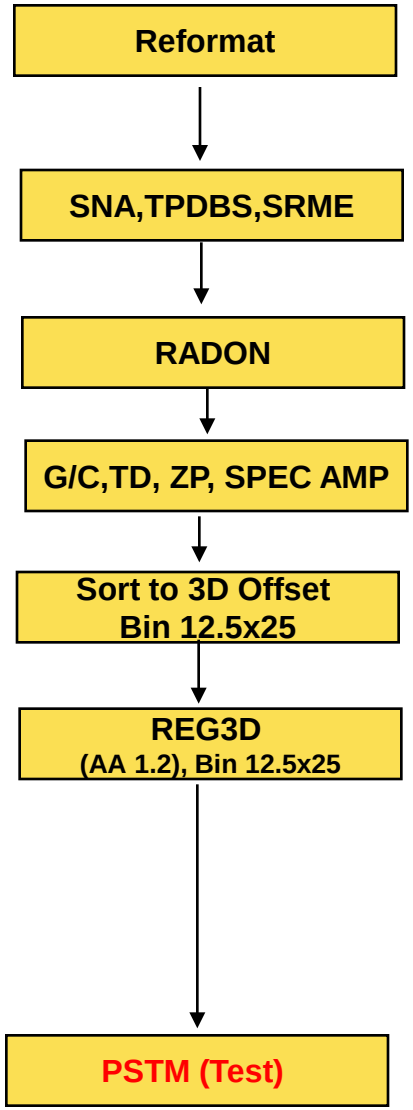
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D

Current Test

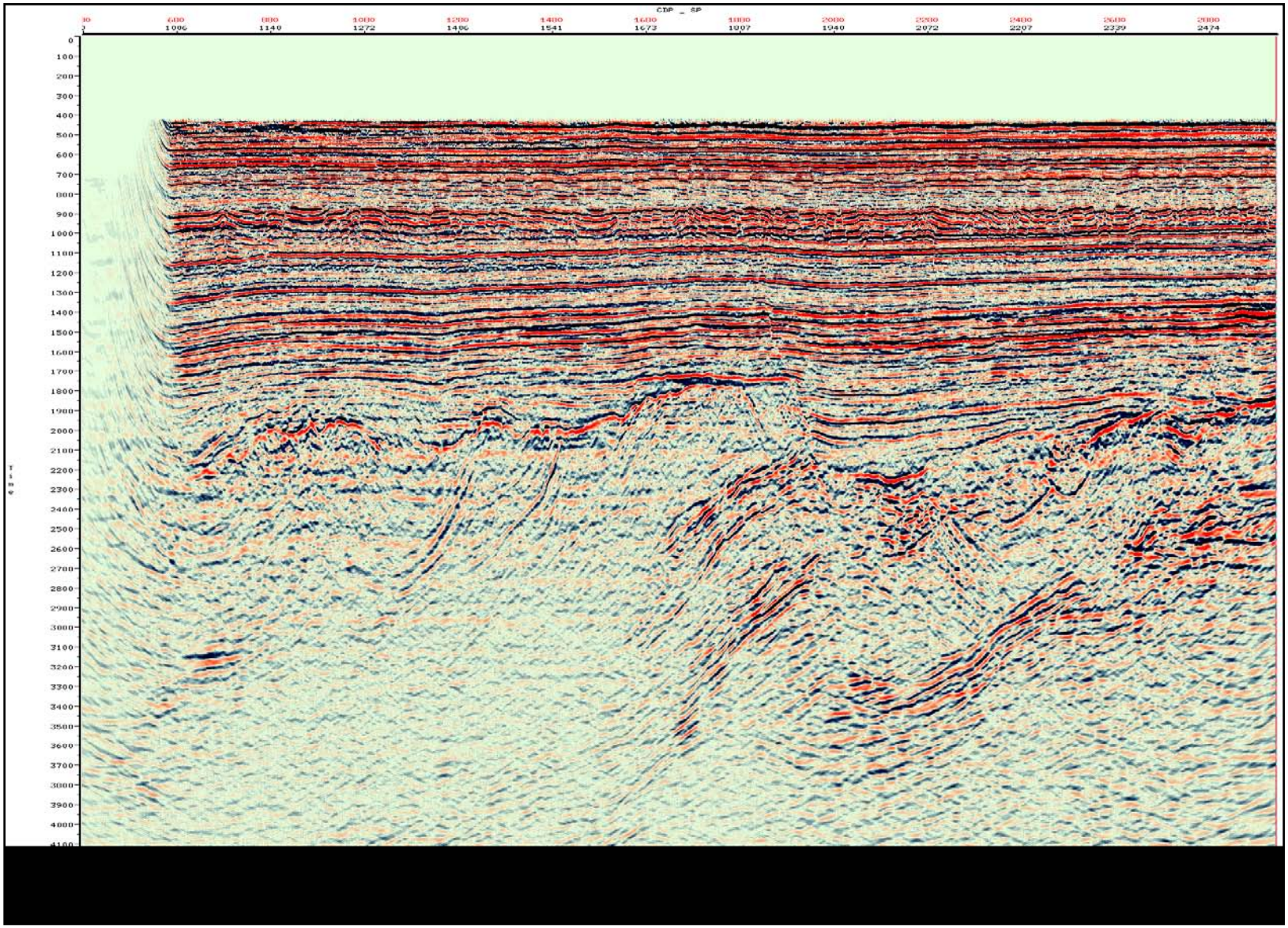
- **PSTM, Diplimit and aperture**

Proc Flow: PSTM

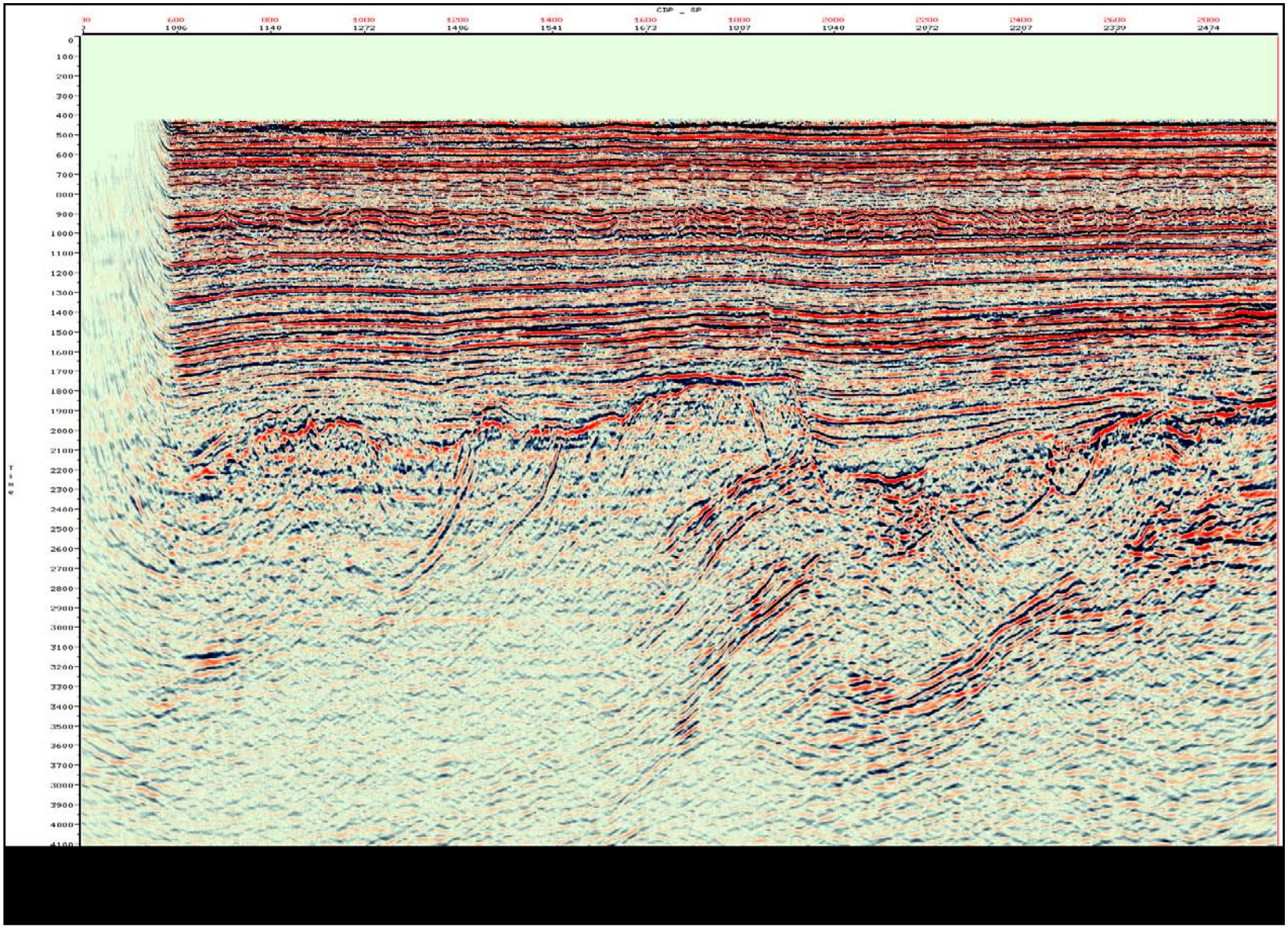


APERTURE 3500m to 6000m

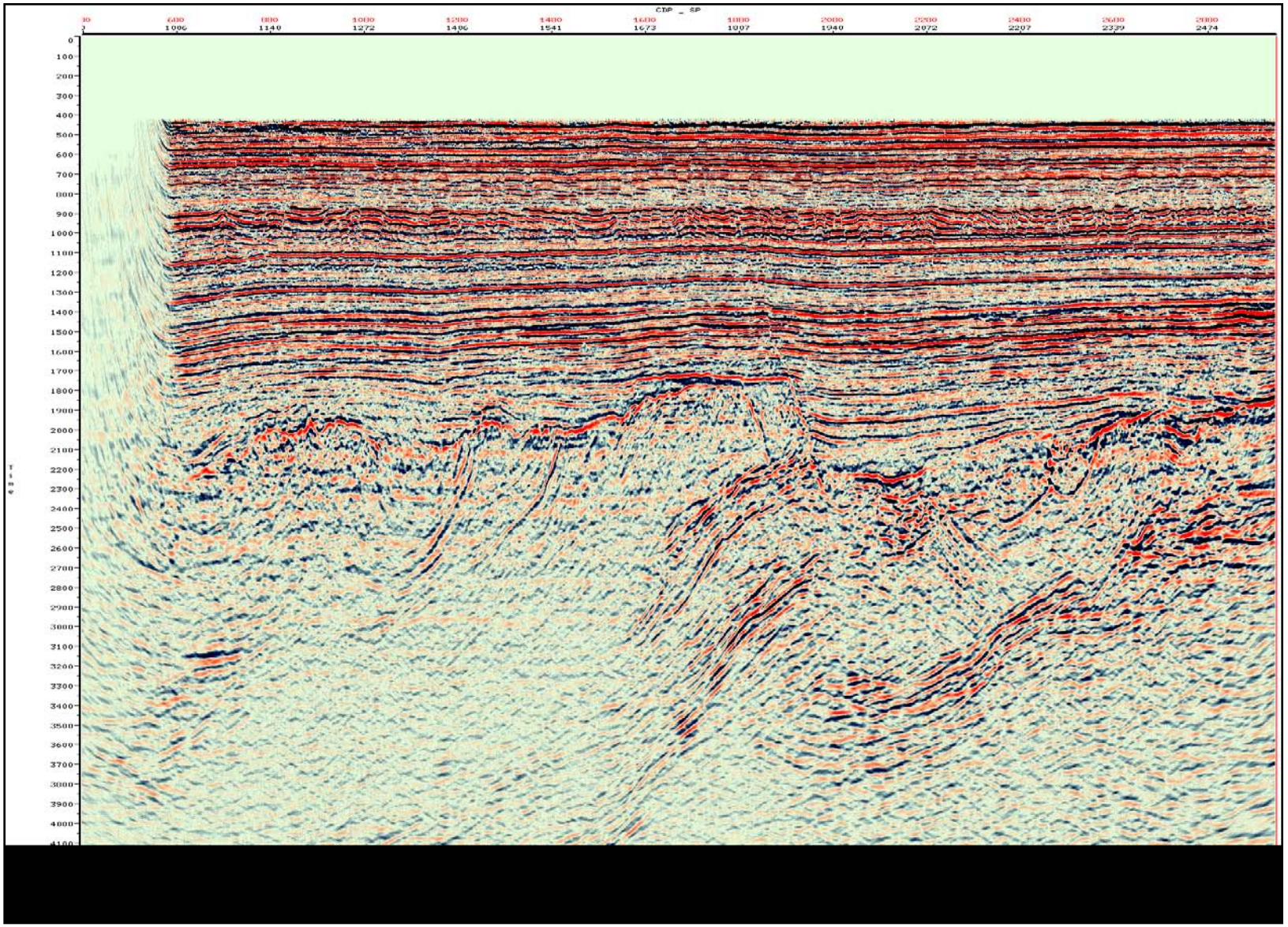
Inline - OC 10: PSTM DIP LIM 60 APER: 3500M



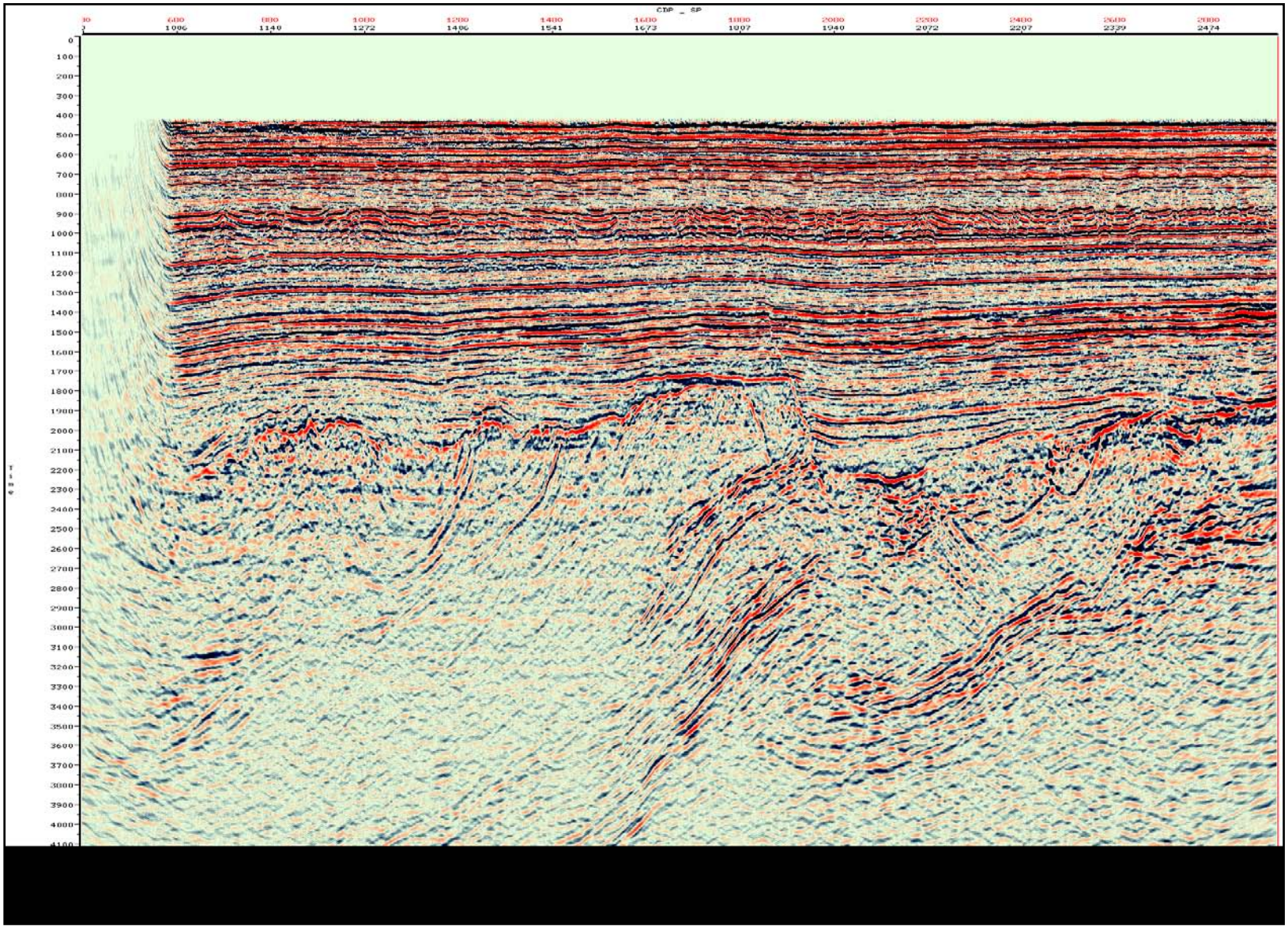
Inline - OC 10: PSTM DIP LIM 80 APER: 3500M



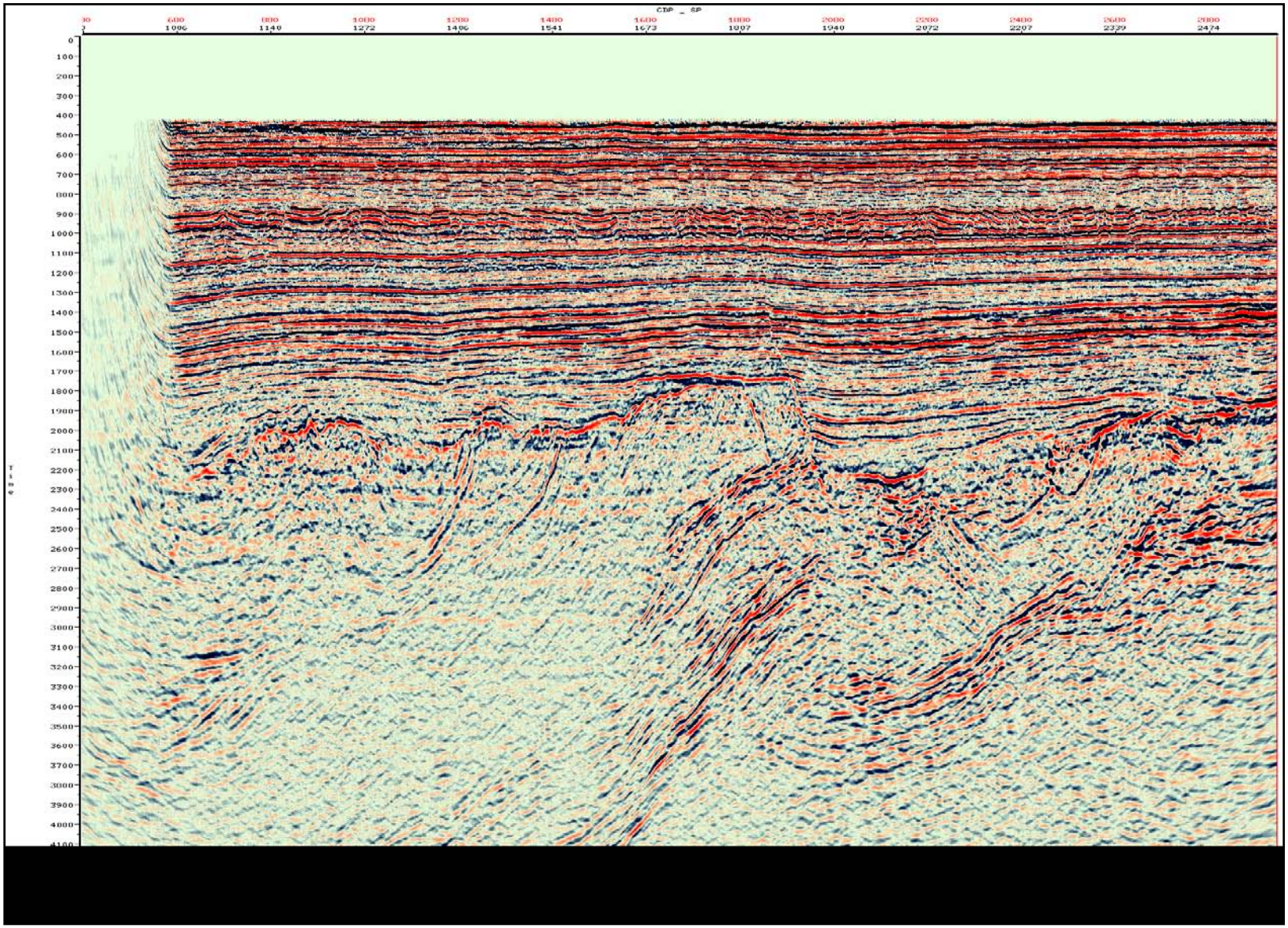
Inline - OC 10: PSTM DIP LIM 80 APER: 4000M



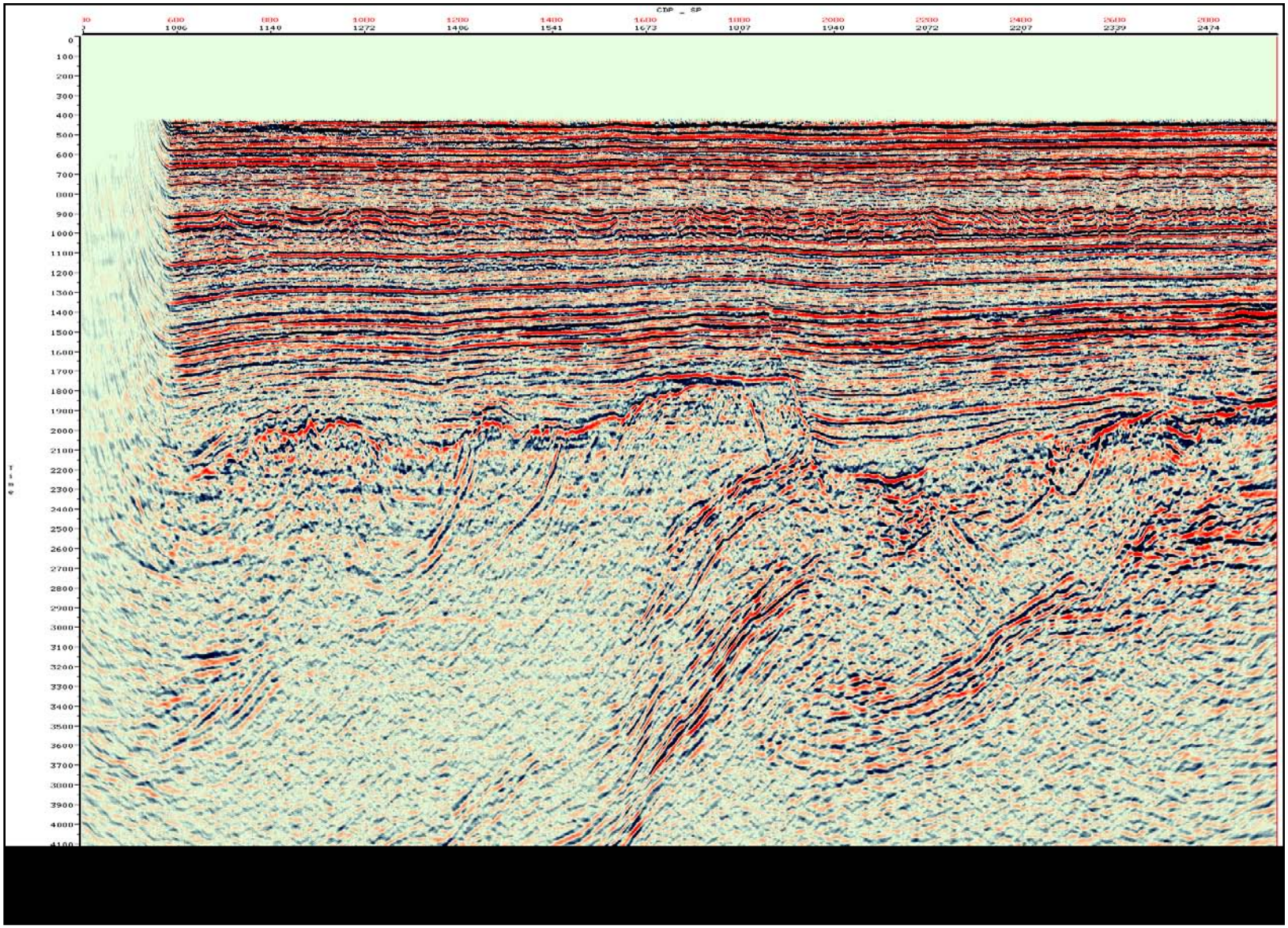
Inline - OC 10: PSTM DIP LIM 80 APER: 4500M



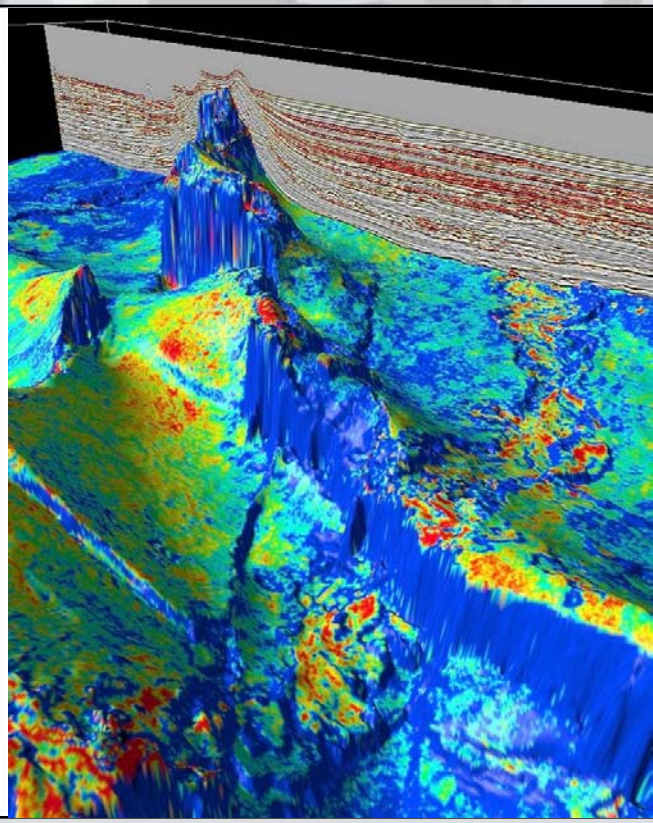
Inline - OC 10: PSTM DIP LIM 80 APER: 5000M



Inline - OC 10: PSTM DIP LIM 80 APER: 6000M



Technical Note 9
PSTM
Silvereye 3D



CGGVERITAS

Introduction

Testing was carried out on OC 10,20,30,40,50,60,70.

Test:

PSTM, Diplimit 80 degrees and aperture 4000m

Processing Sequence to date

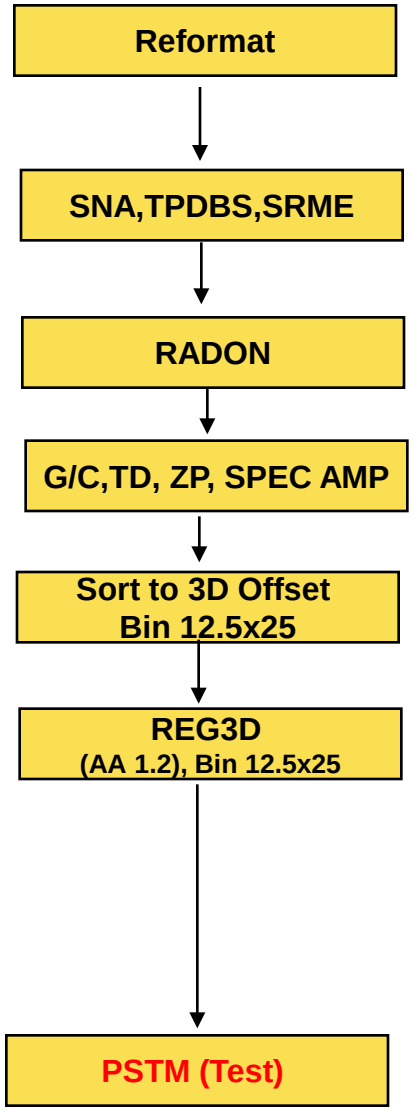
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D

Current Test

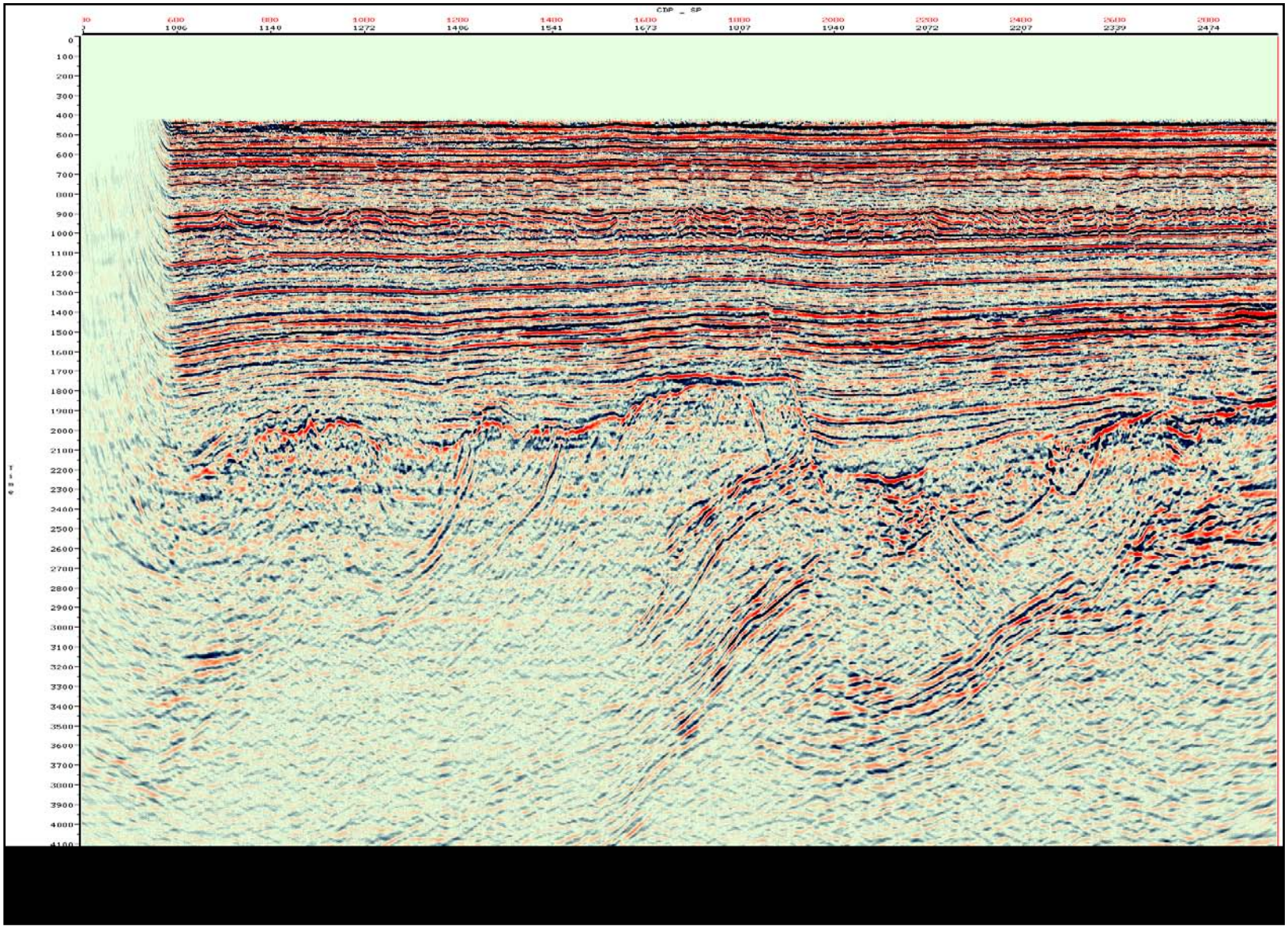
- **PSTM, Diplimit and aperture**

Proc Flow: PSTM

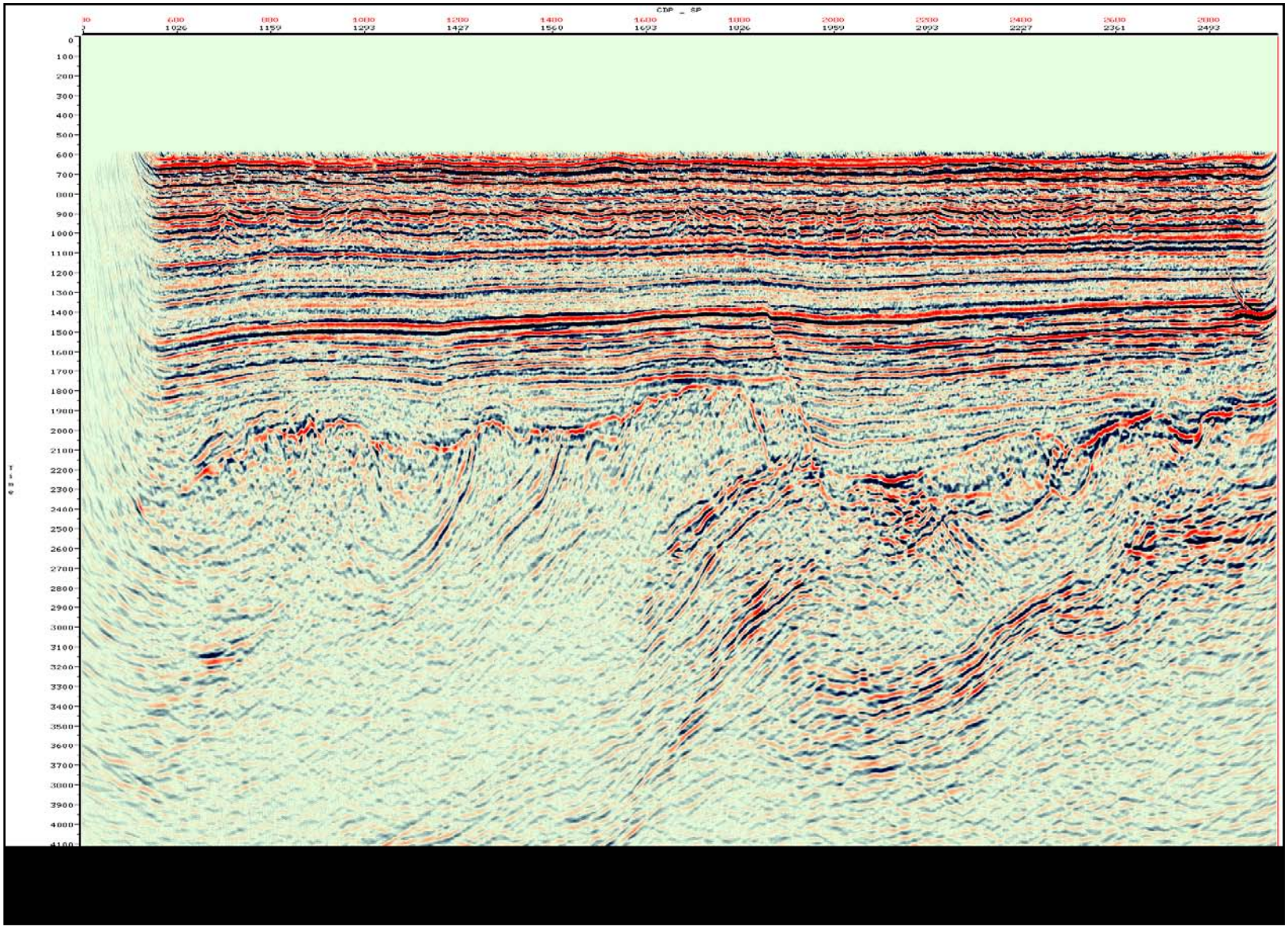


APERTURE 4KM, DIPLIM 80

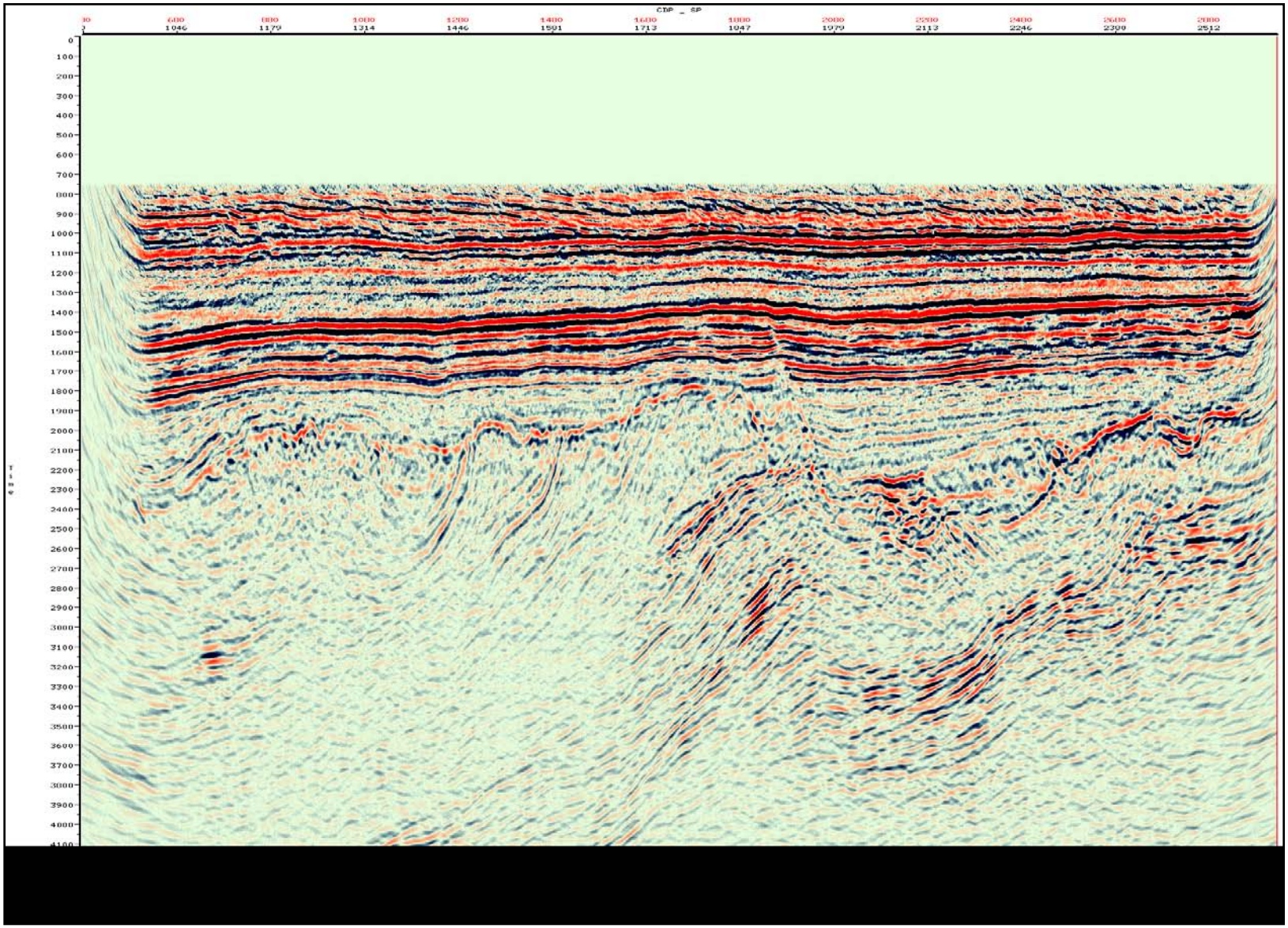
Inline - OC 10: PSTM DIP LIM 80 APER: 4000M



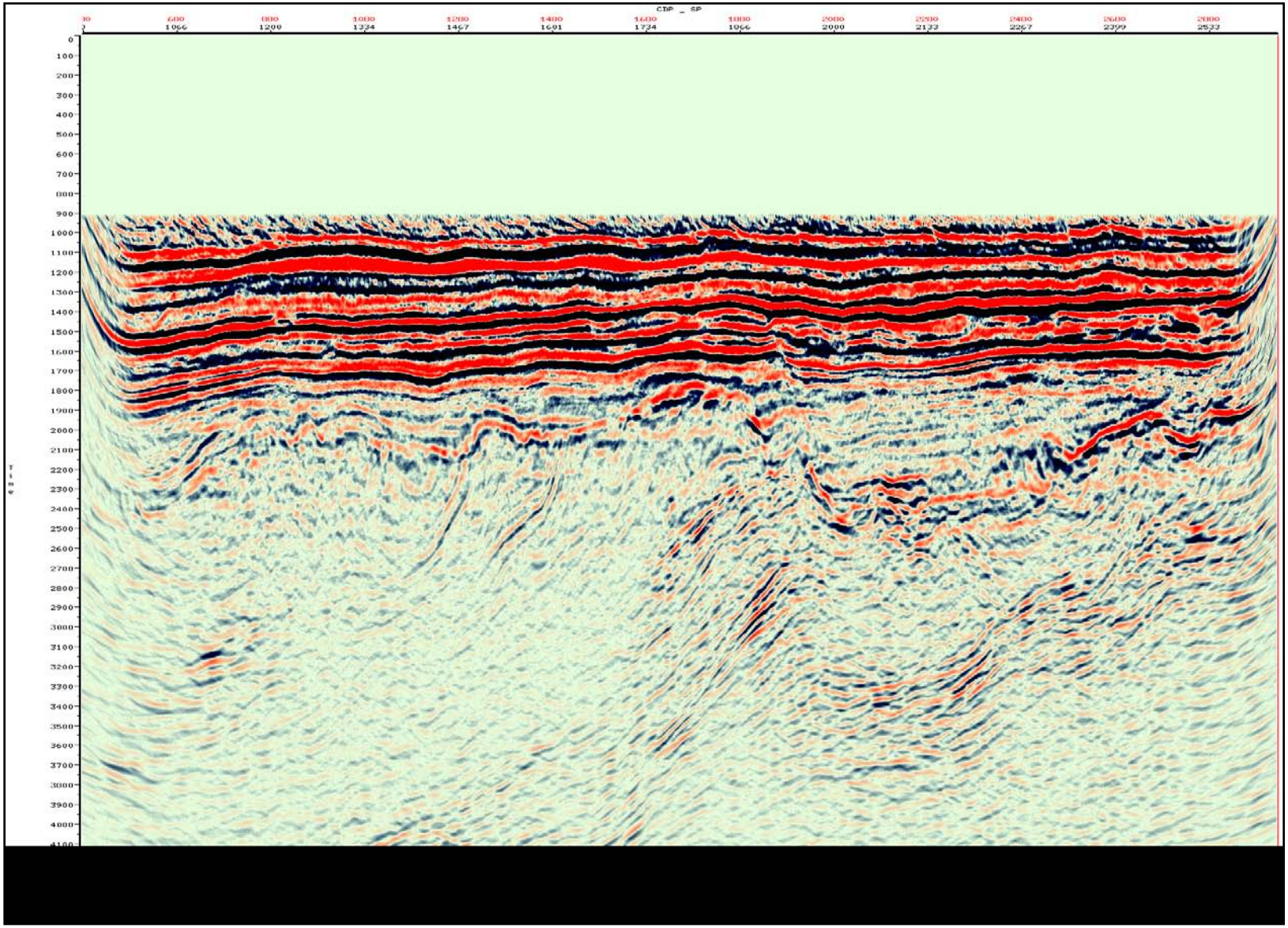
Inline - OC 20: PSTM DIP LIM 80 APER: 4000M



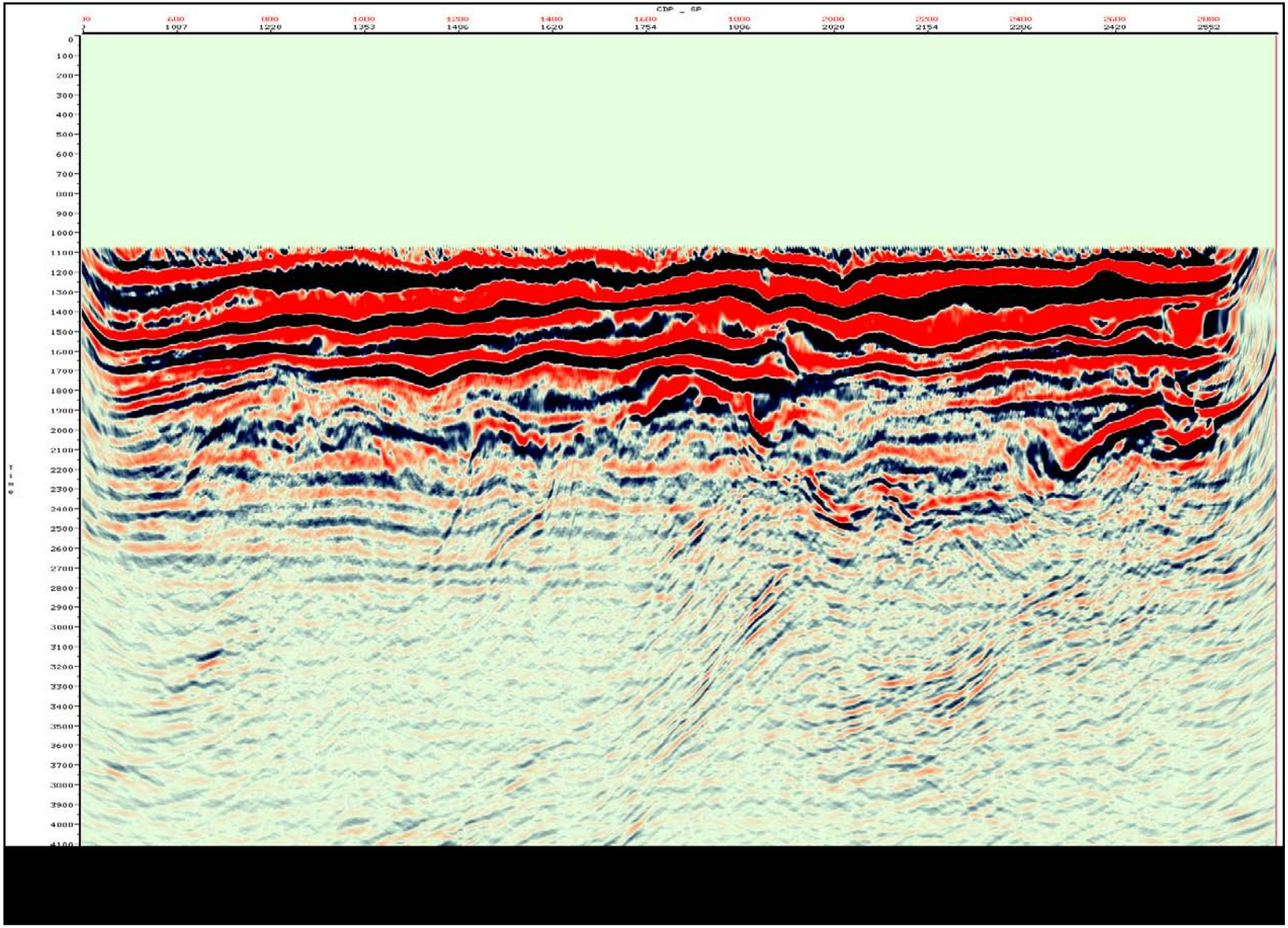
Inline - OC 30: PSTM DIP LIM 80 APER: 4000M



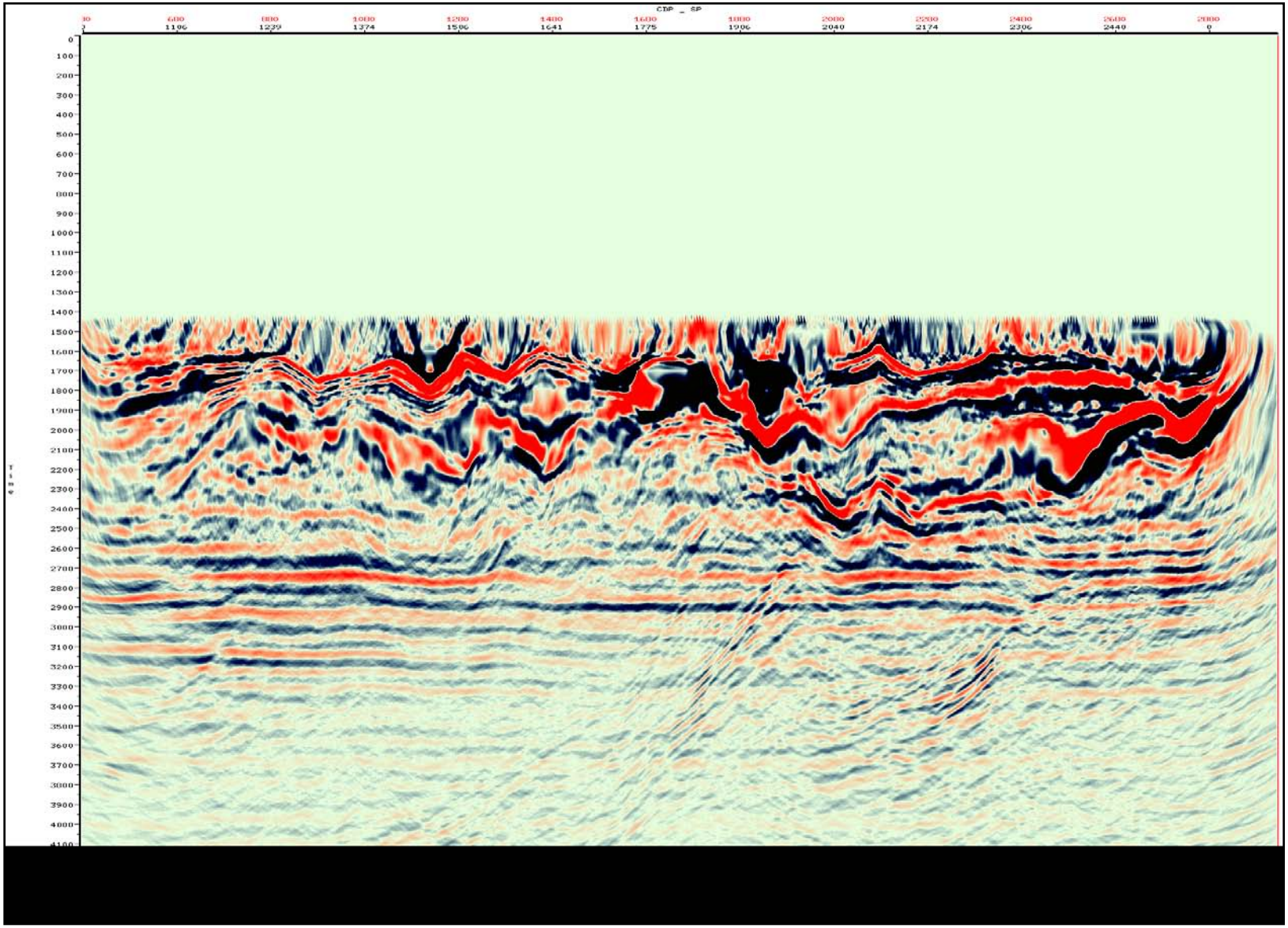
Inline - OC 40: PSTM DIP LIM 80 APER: 4000M



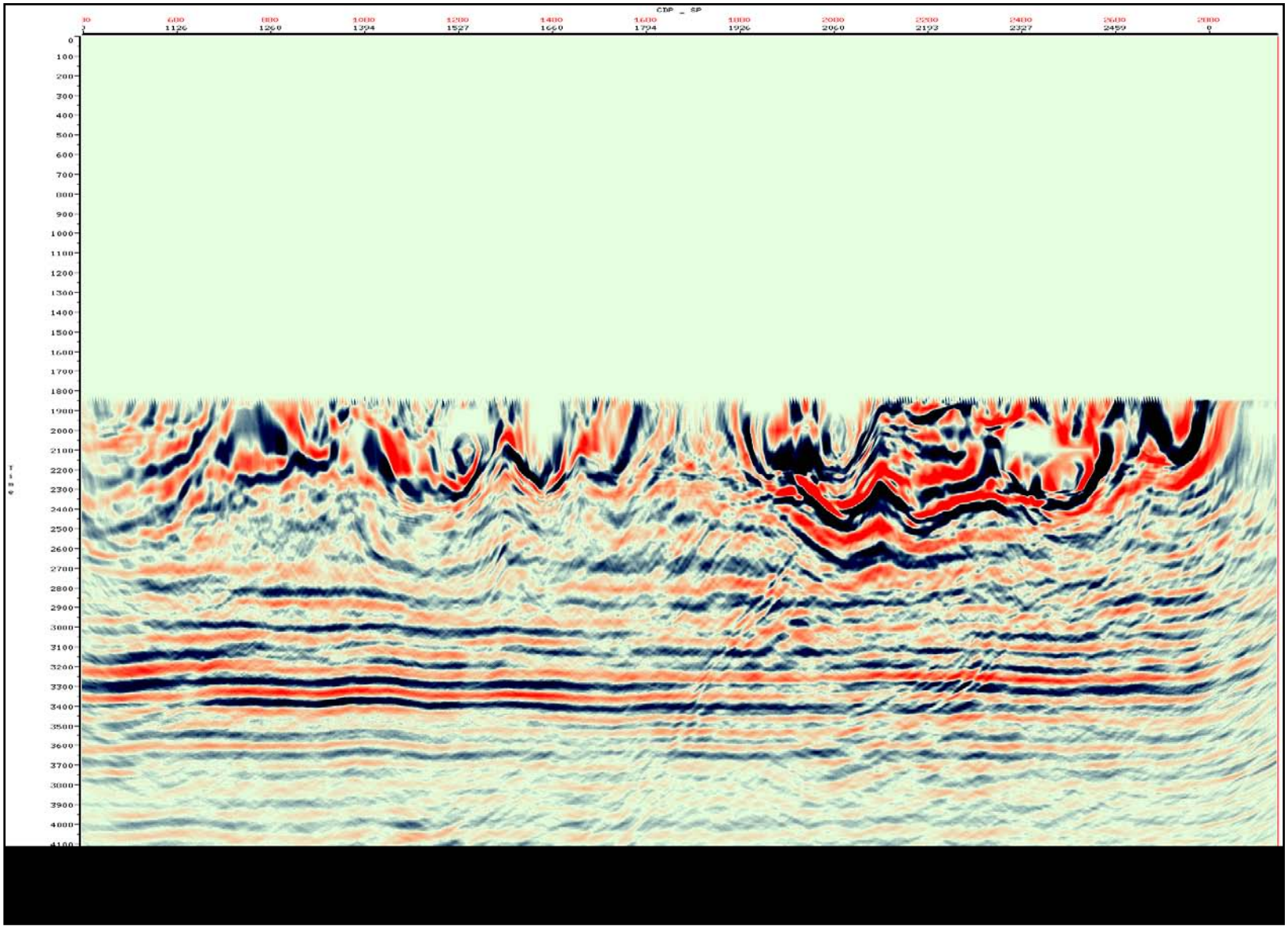
Inline - OC 50: PSTM DIP LIM 80 APER: 4000M



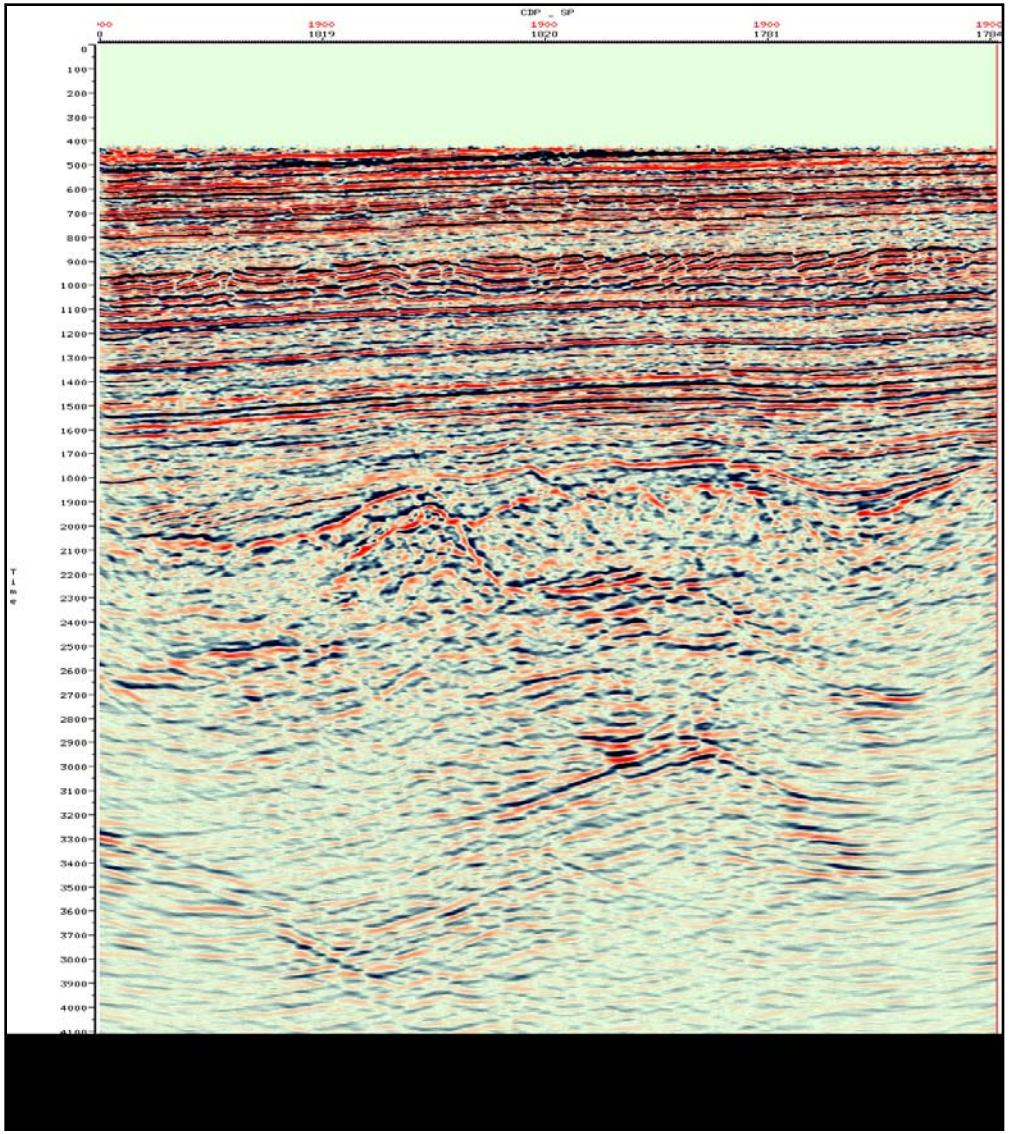
Inline - OC 60: PSTM DIP LIM 80 APER: 4000M



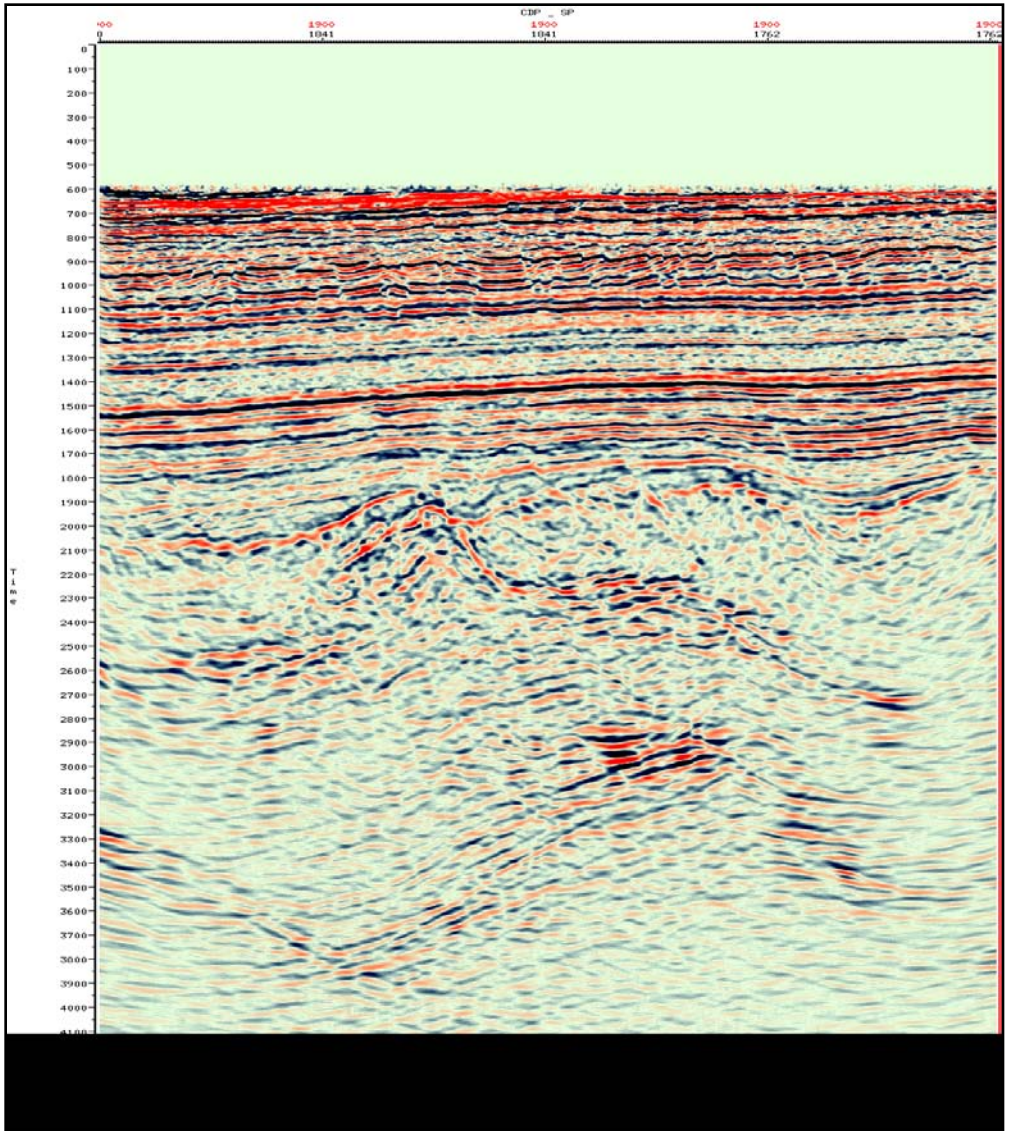
Inline - OC 70: PSTM DIP LIM 80 APER: 4000M



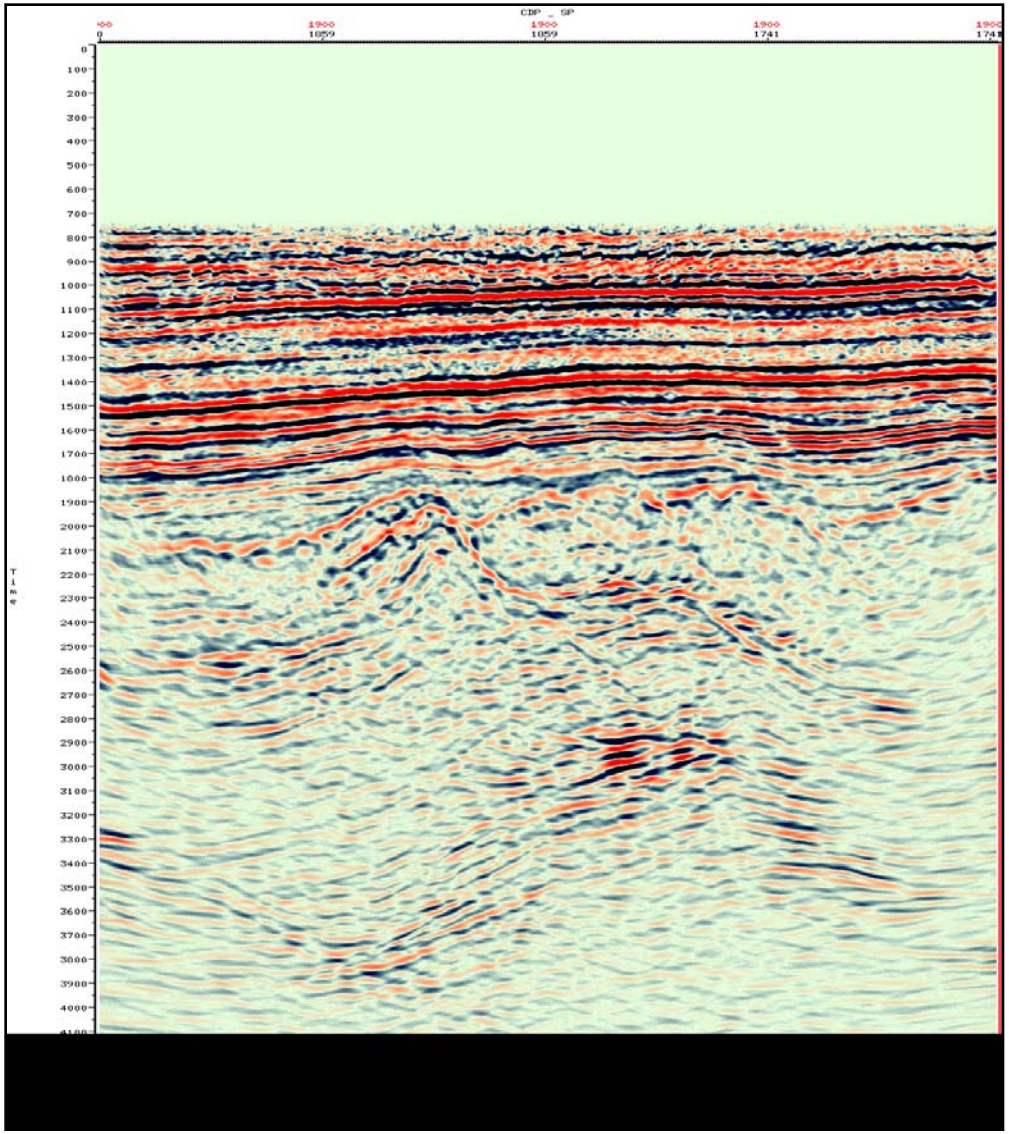
X-line - OC 10: PSTM DIP LIM 80 APER: 4000M



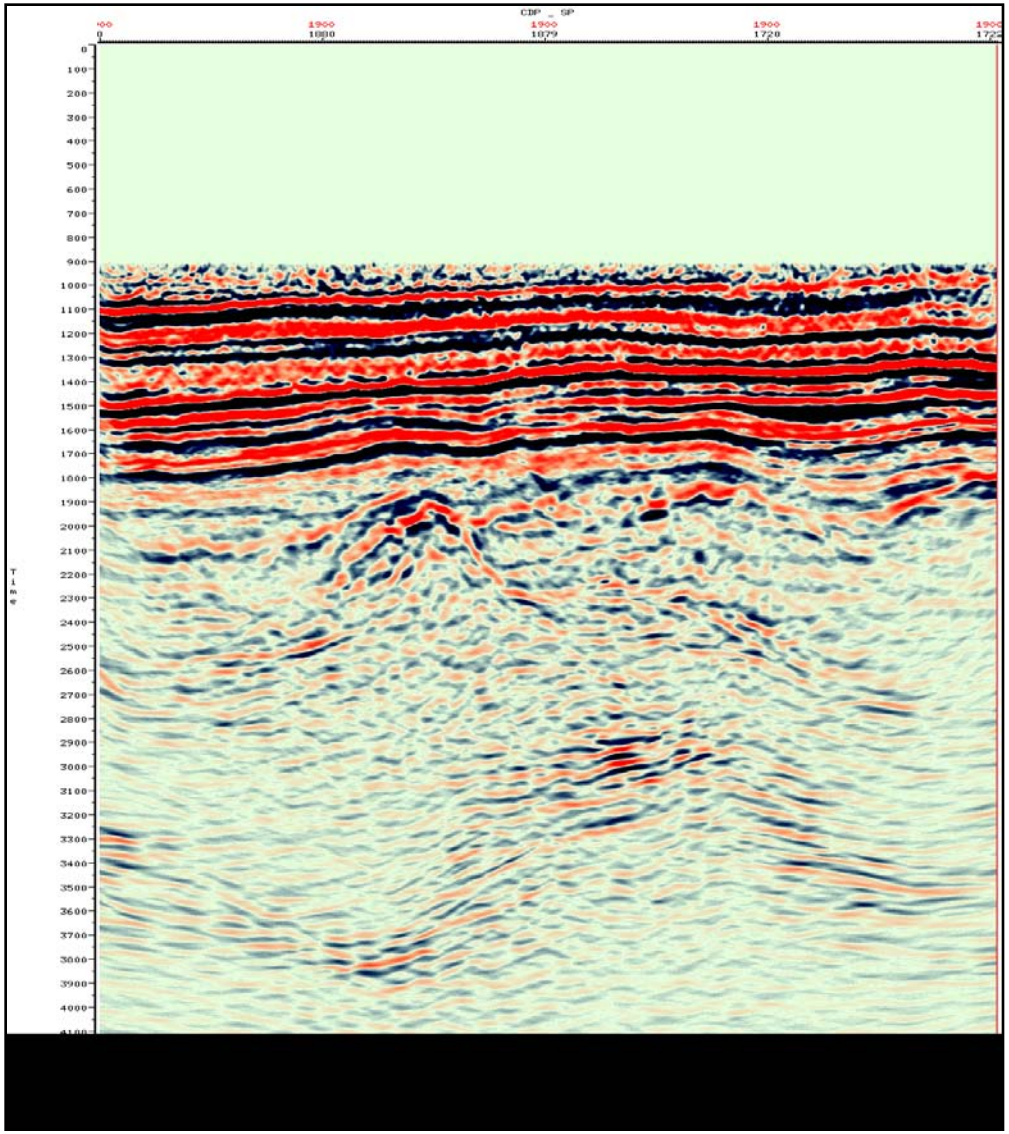
X-line - OC 20: PSTM DIP LIM 80 APER: 4000M



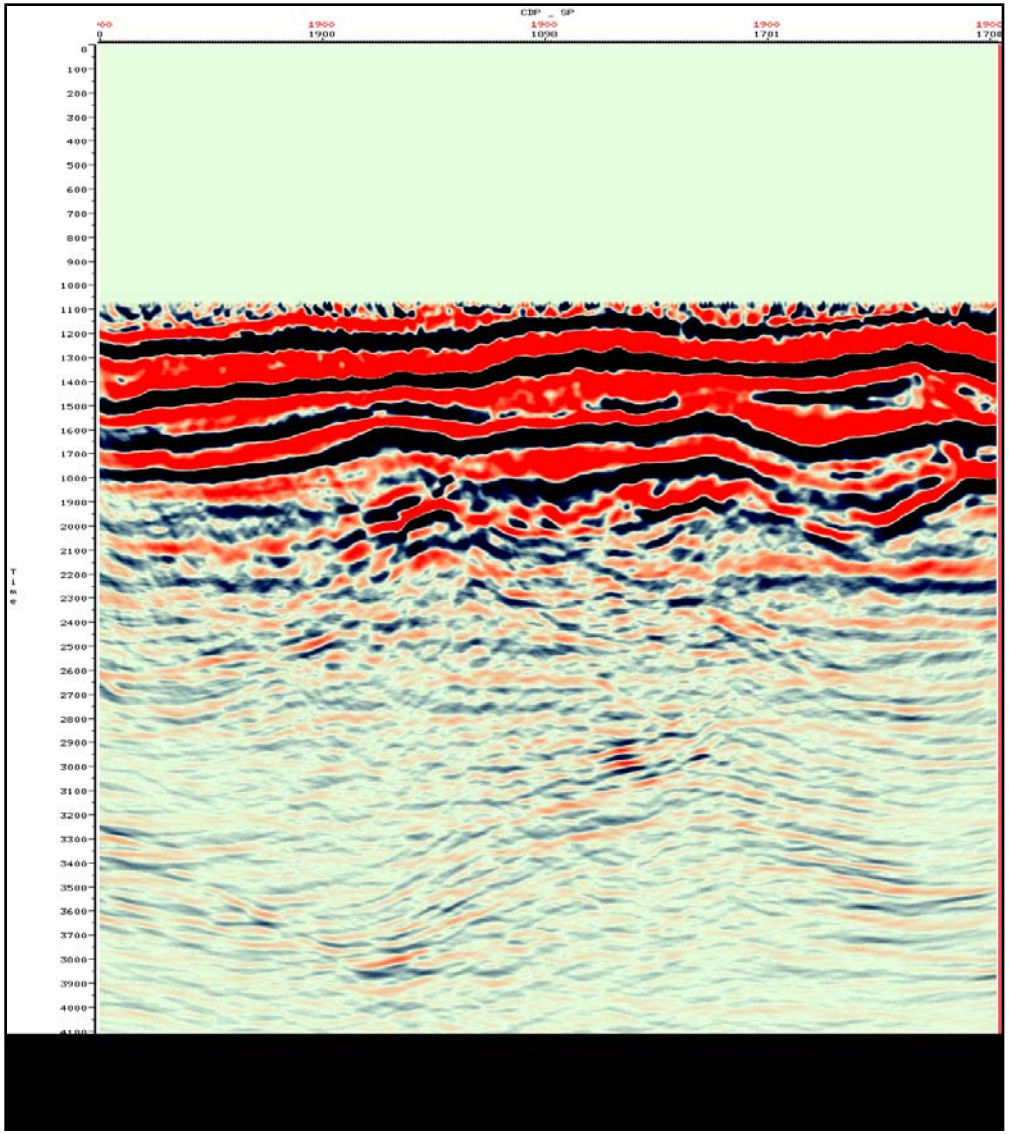
X-line - OC 30: PSTM DIP LIM 80 APER: 4000M



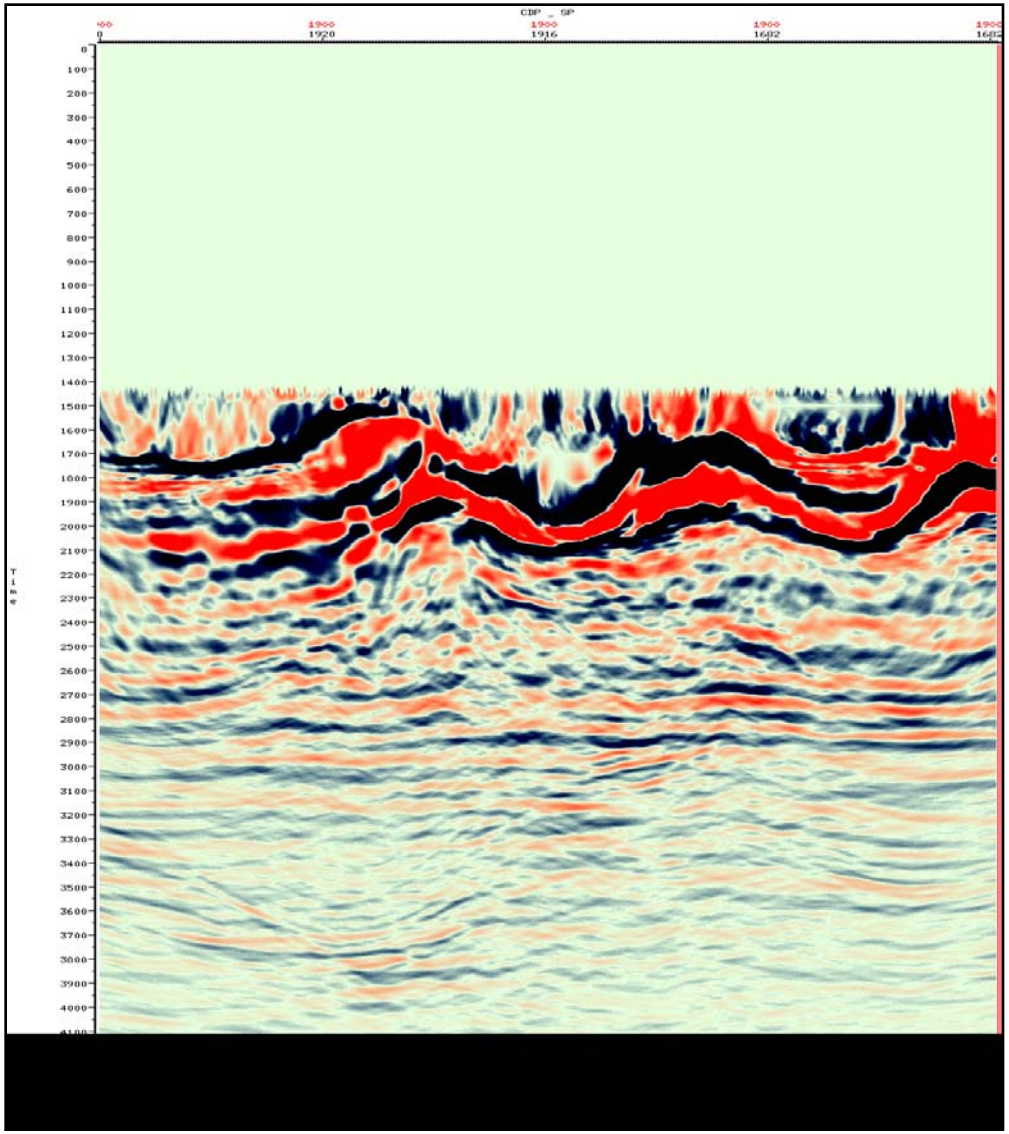
X-line - OC 40: PSTM DIP LIM 80 APER: 4000M



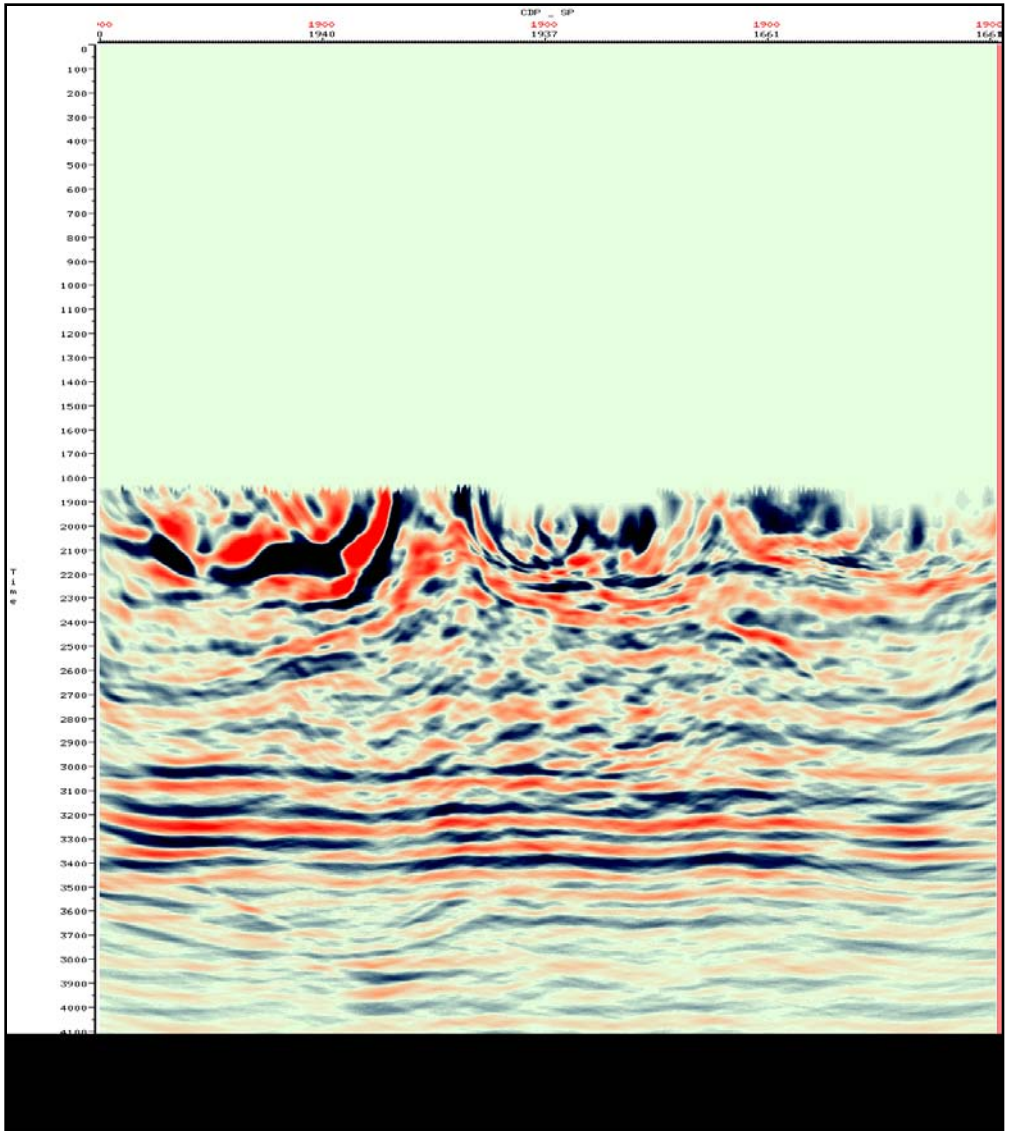
X-line - OC 50: PSTM DIP LIM 80 APER: 4000M



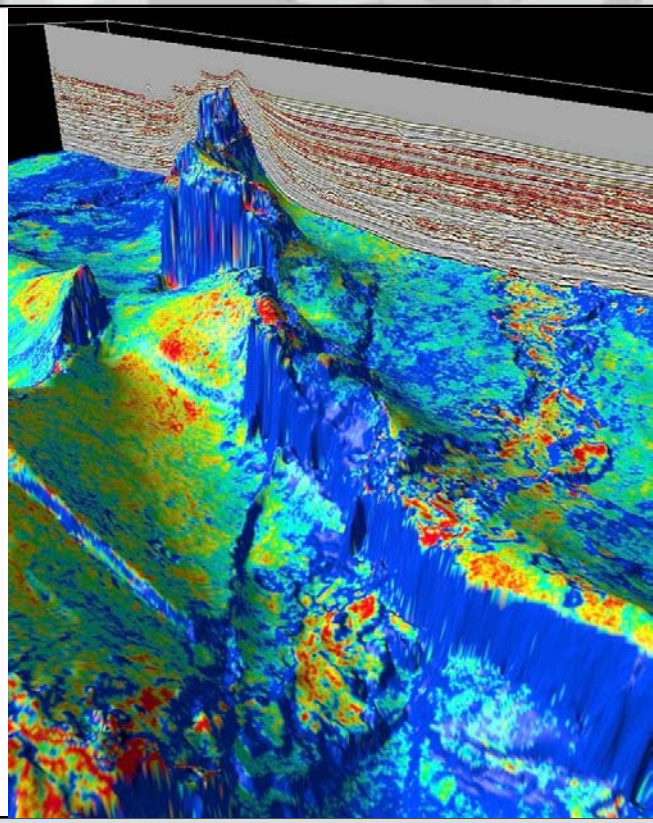
X-line - OC 60: PSTM DIP LIM 80 APER: 4000M



X-line - OC 70: PSTM DIP LIM 80 APER: 4000M



Technical Note 9
PSTM
Silvereye 3D



CGGVERITAS

Introduction

Testing was carried out on OC 10.

Parameters: Dip lim: 75 Degrees, Aperture: 4000m.

Velocity: V2 qc'ed by Bruce (without smoothing)

Test:

- Ray Trace
- Spherical Divergence Correction before Migration, (T/250)2 and using V2 velocity field.

Processing Sequence to date

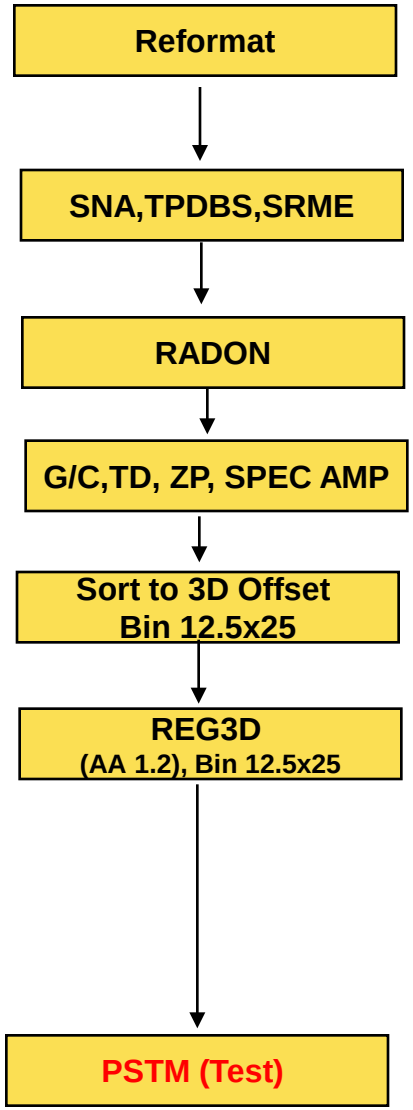
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D

Current Test

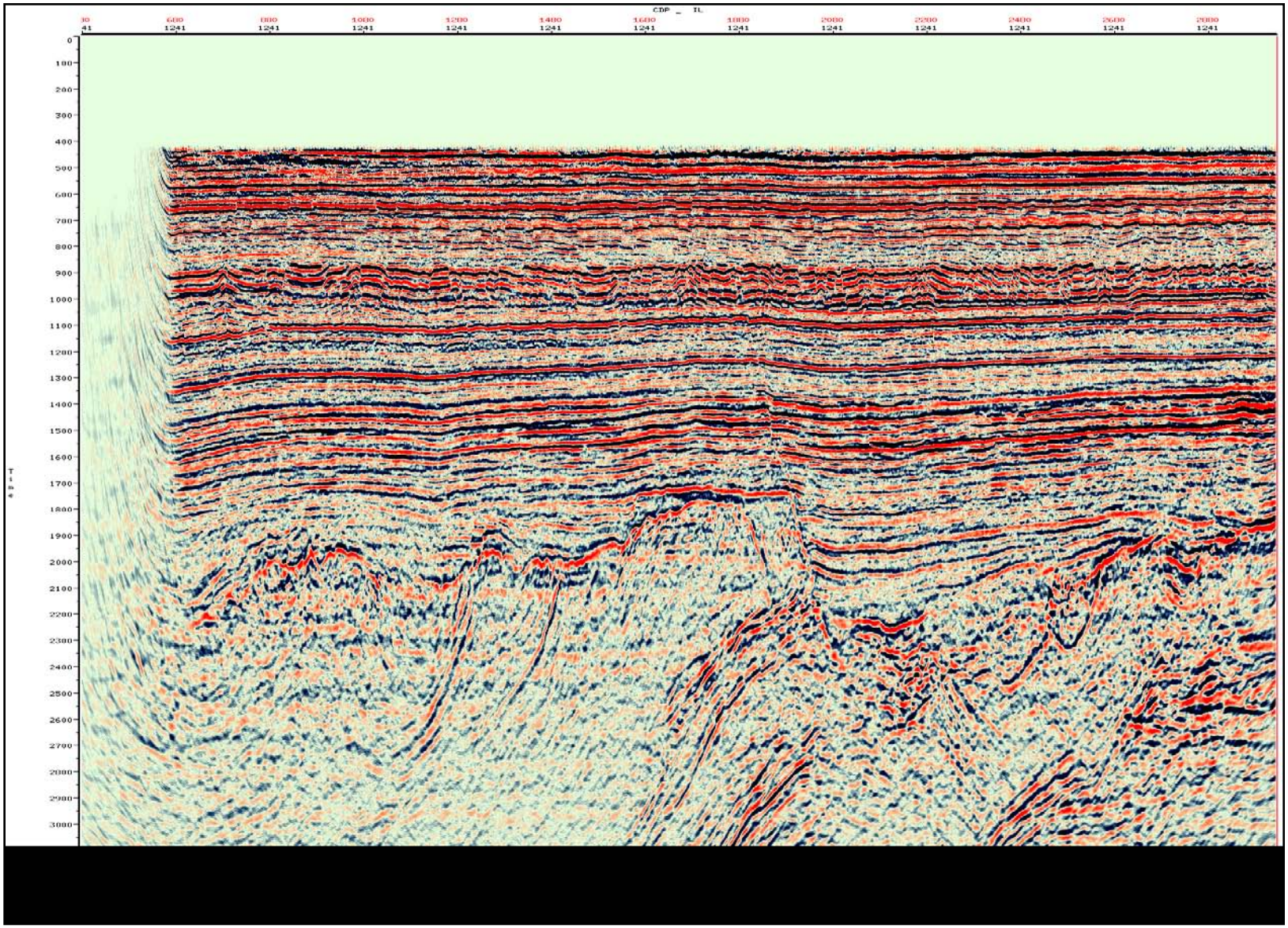
- **Ray Trace**
- **Spherical Divergence Correction**

Proc Flow: PSTM

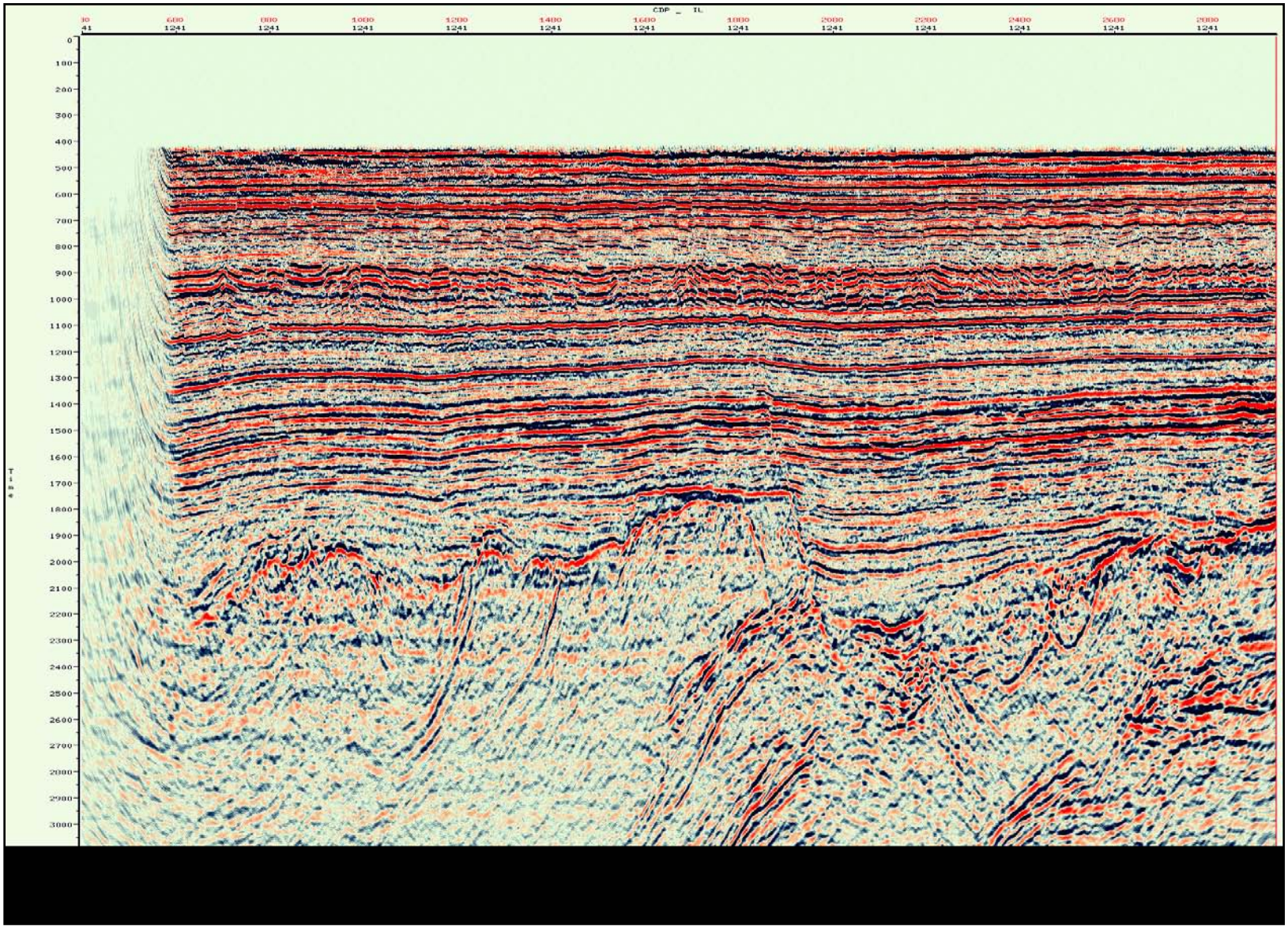


RAYTRACE

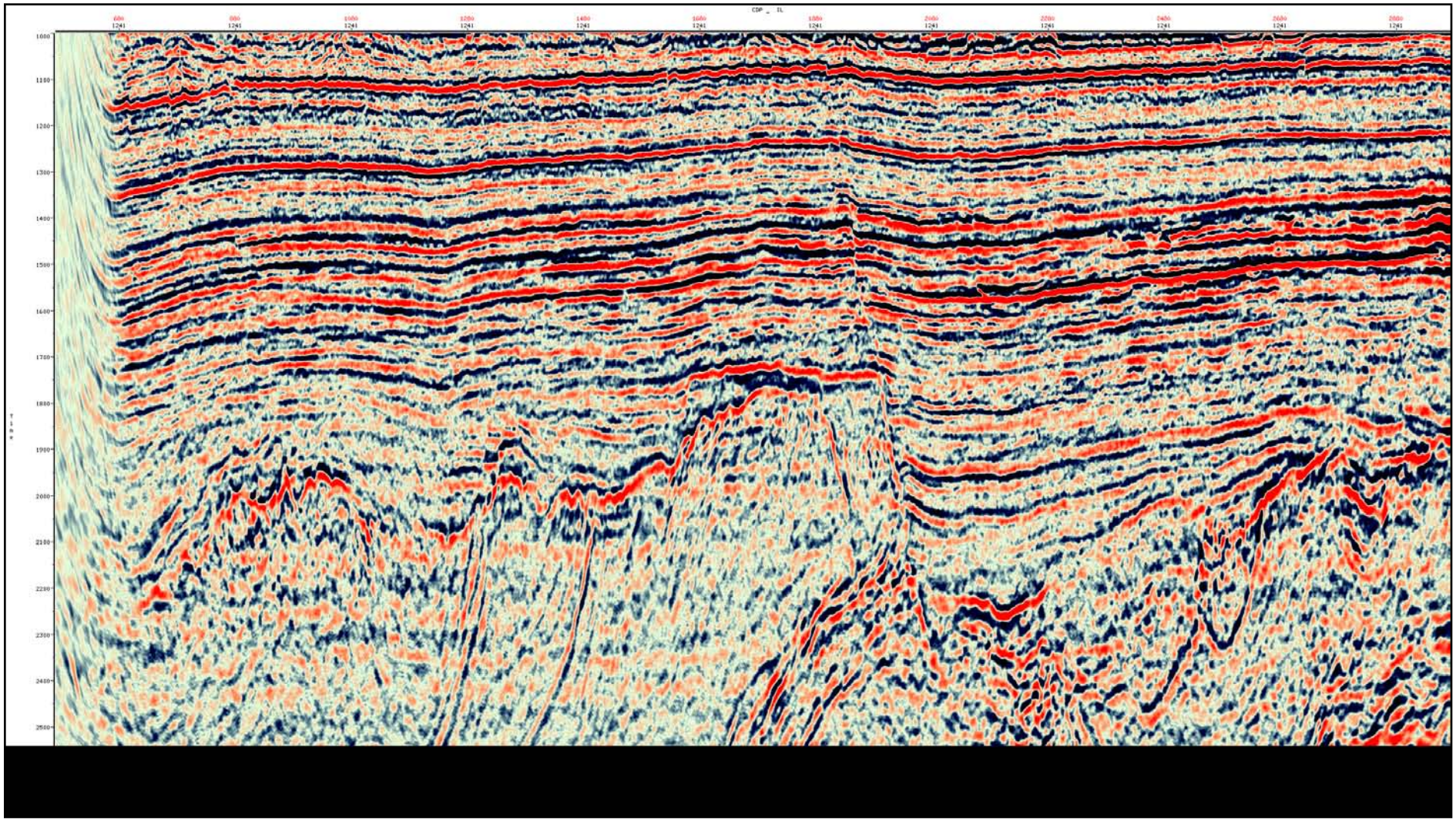
Inline - OC 10: No Raytrace



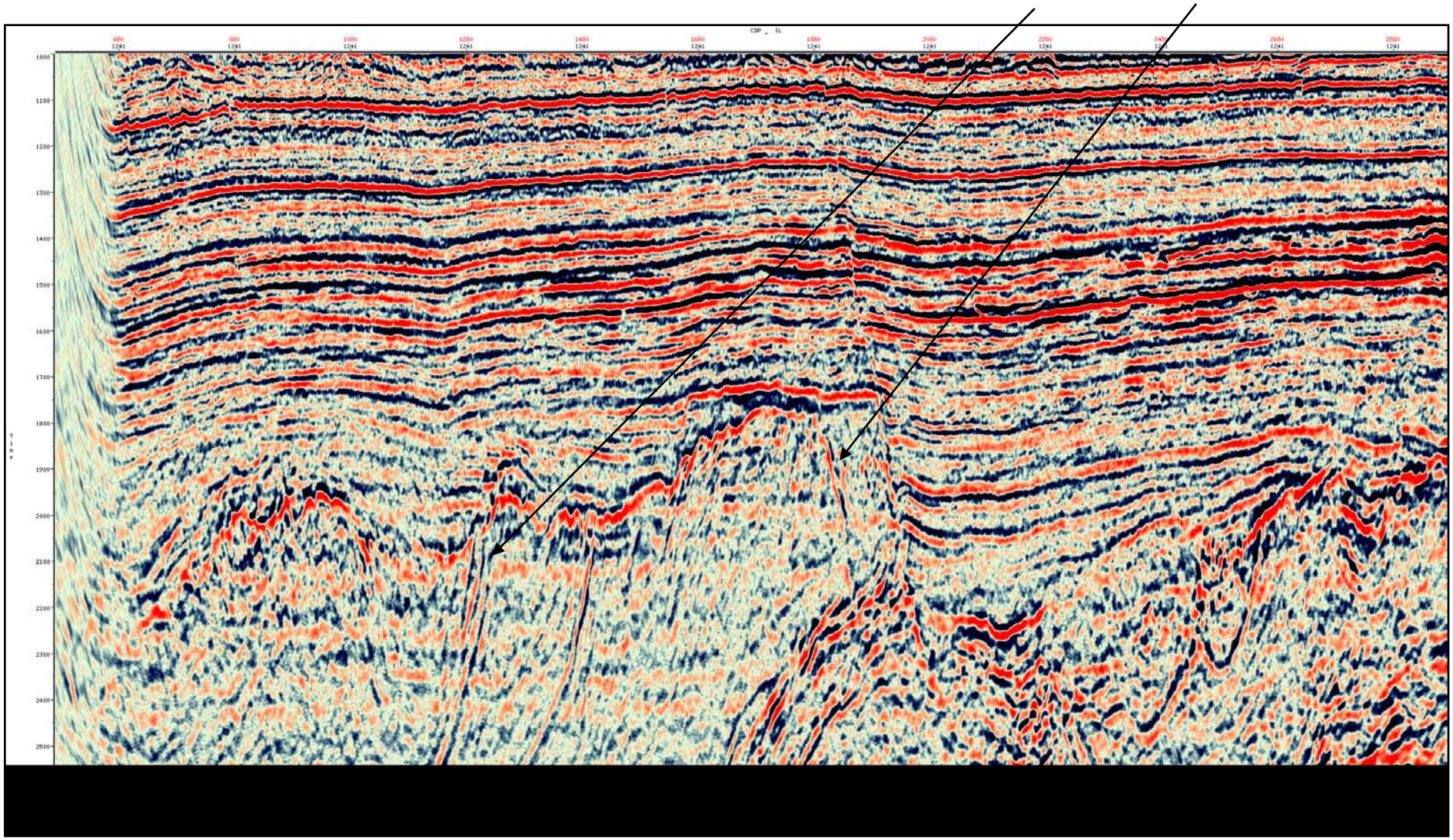
Inline - OC 10: Raytrace



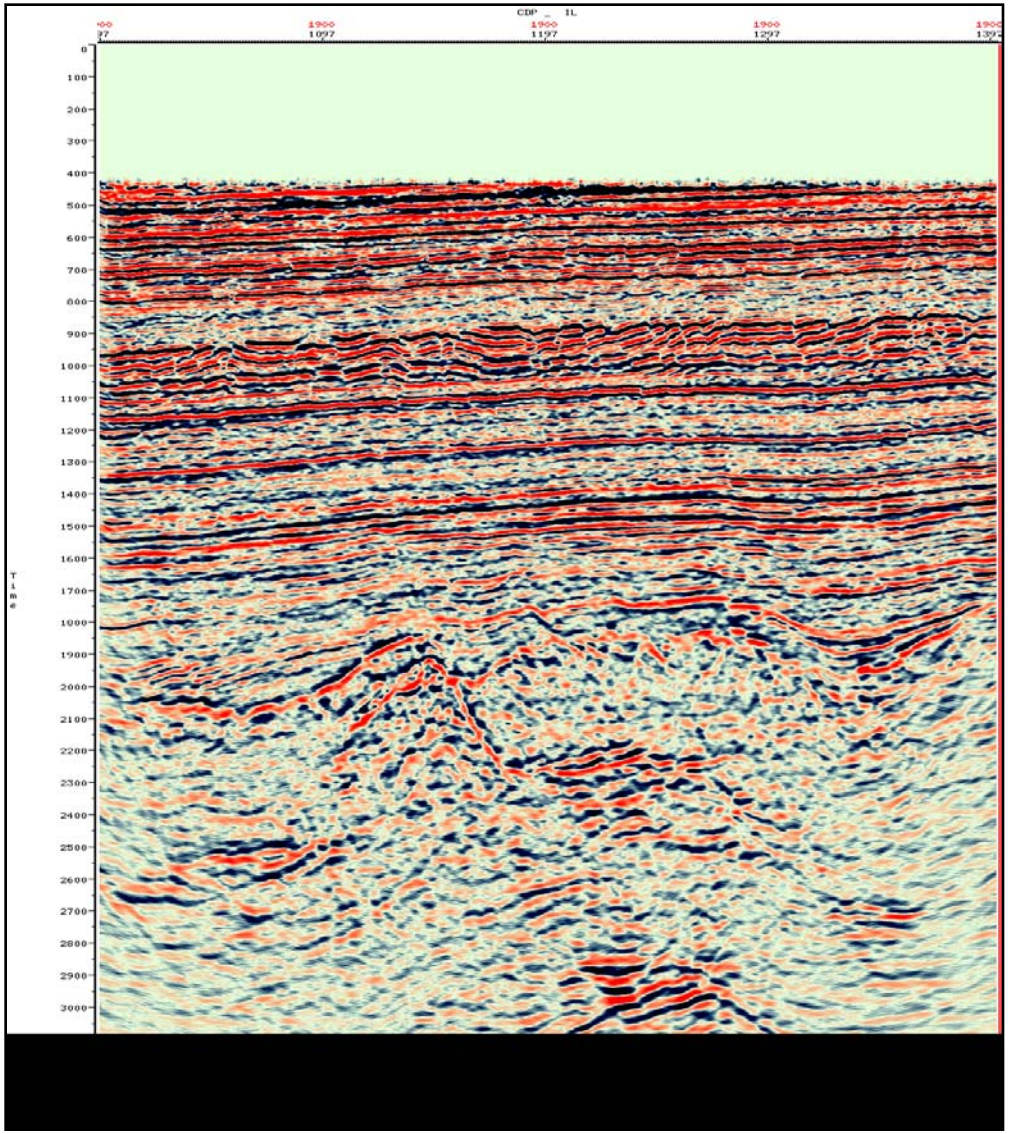
Inline - OC 10: No Raytrace (Zoom)



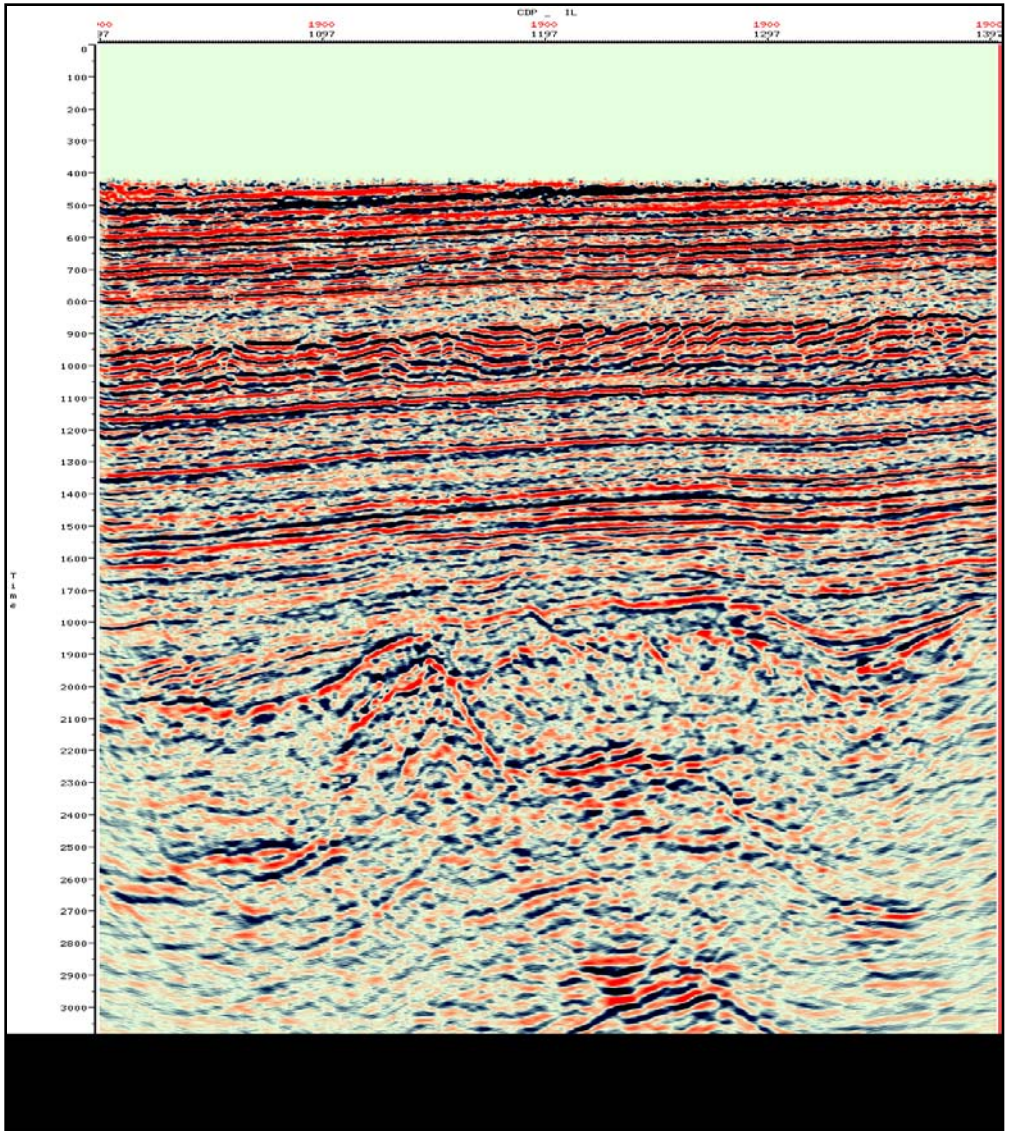
Inline - OC 10: Raytrace (Zoom)



X-line - OC 10: No Raytrace

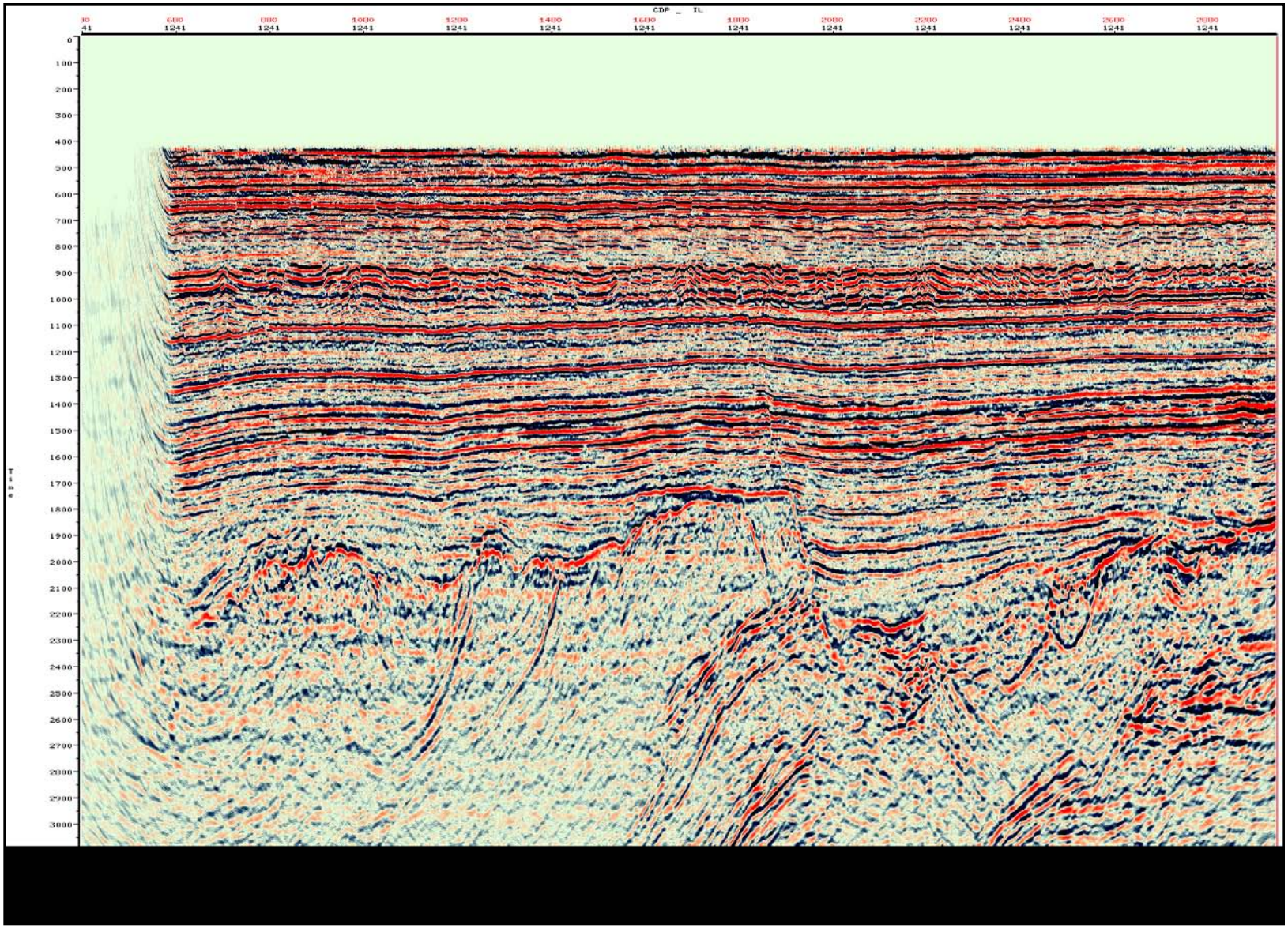


X-line - OC 10: Raytrace

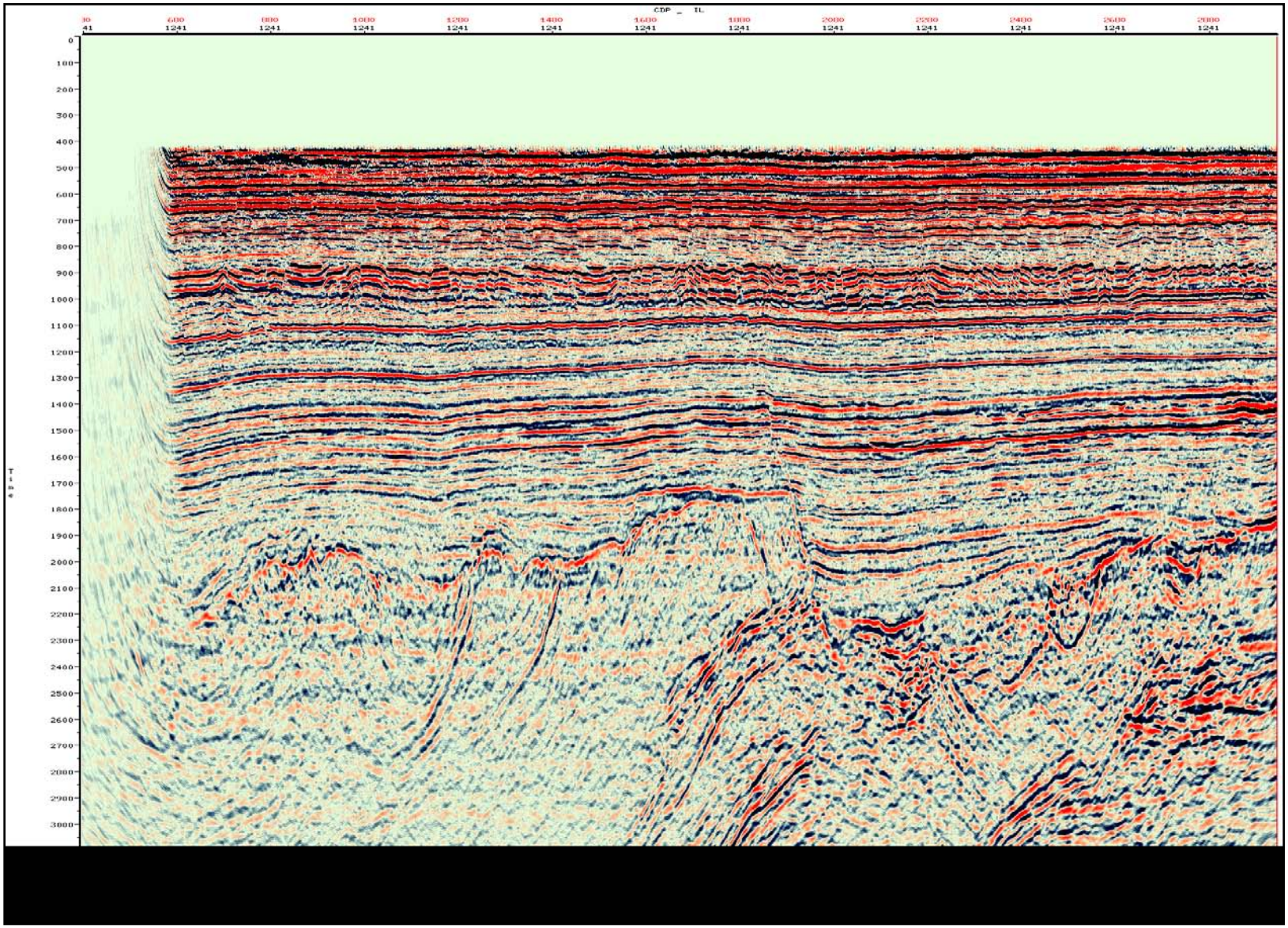


SPHERICAL DIVERGENCE COR

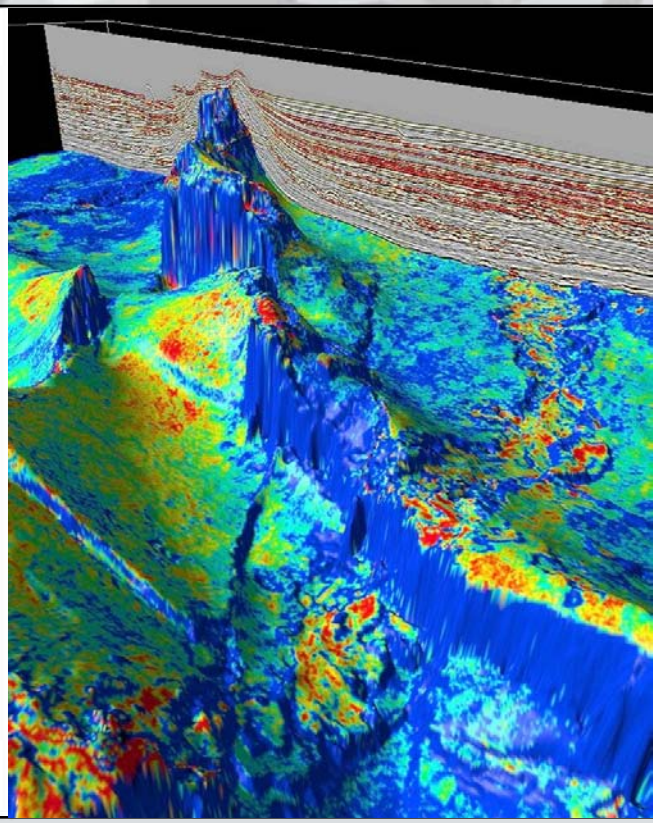
Inline - OC 10: T2



Inline - OC 10: Using V2 Velocity Field



Technical Note 9
PSTM
Silvereye 3D



CGGVERITAS

Introduction

Testing was carried out on OC 10.

Parameters: Dip lim: 75 Degrees, Aperture: 4000m.

Velocity: V2 qc'ed by Bruce (with/without smoothing)

Use Raytrace parameters

Test:

- Smooth velocity T0-3000ms smoothing: 1.25 km

  T3000-T6000 smoothing: 1.5km

Processing Sequence to date

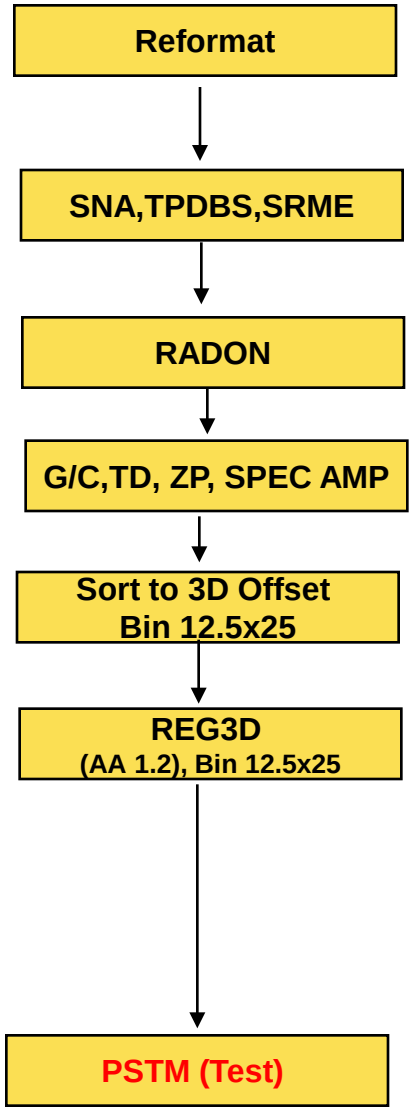
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D

Current Test

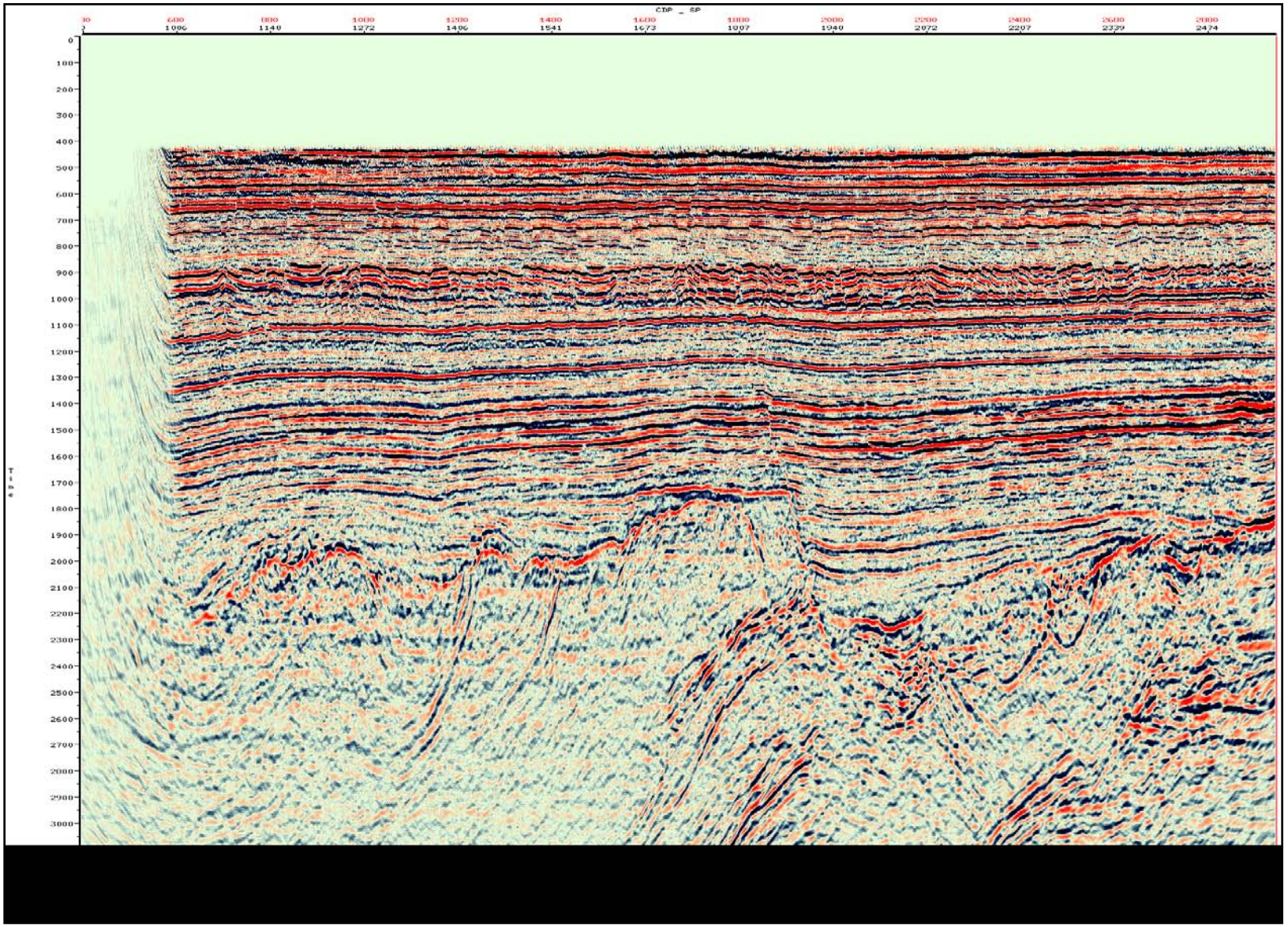
- **Smooth Velocity**

Proc Flow: PSTM

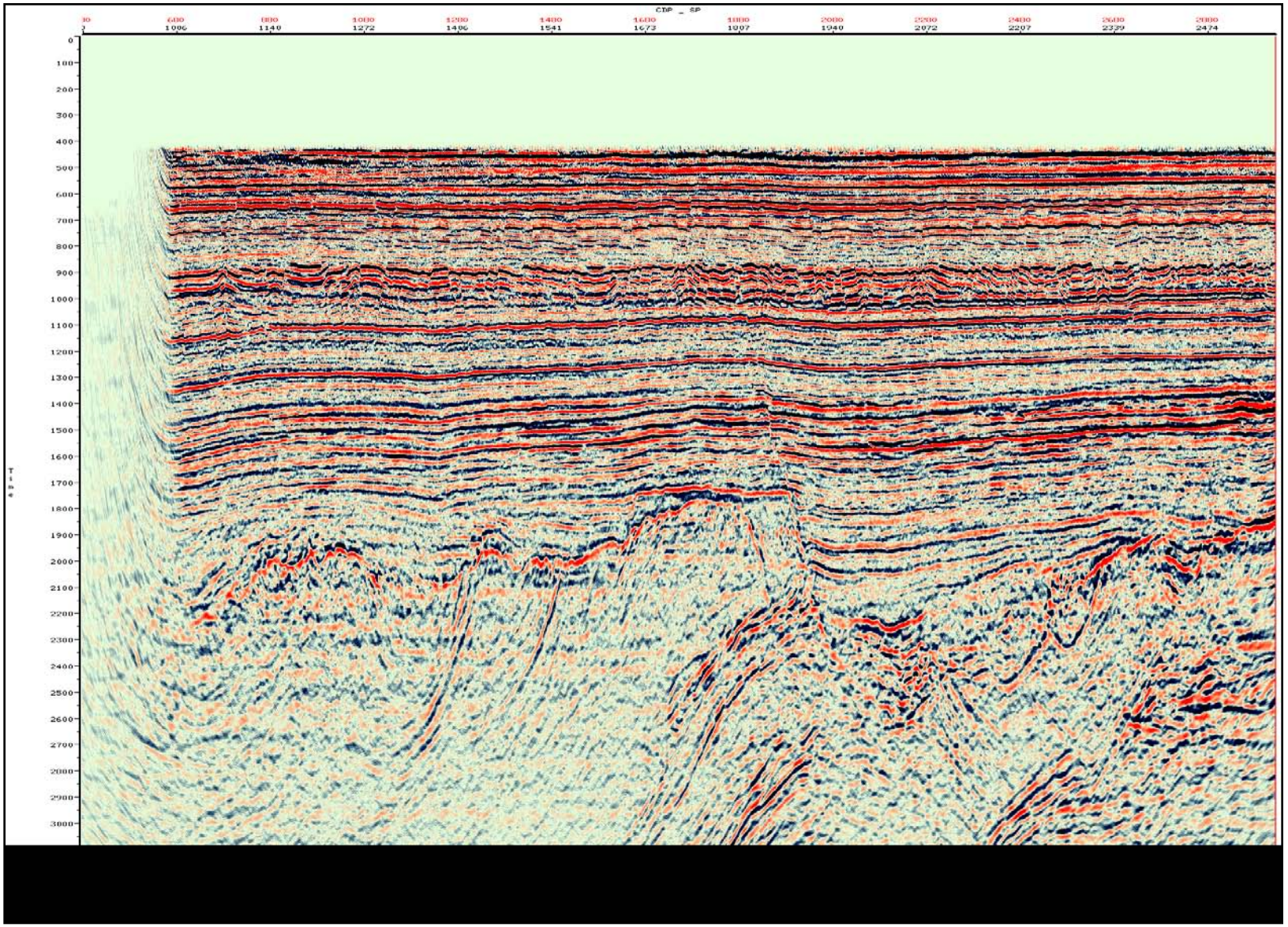


SMOOTH VEL

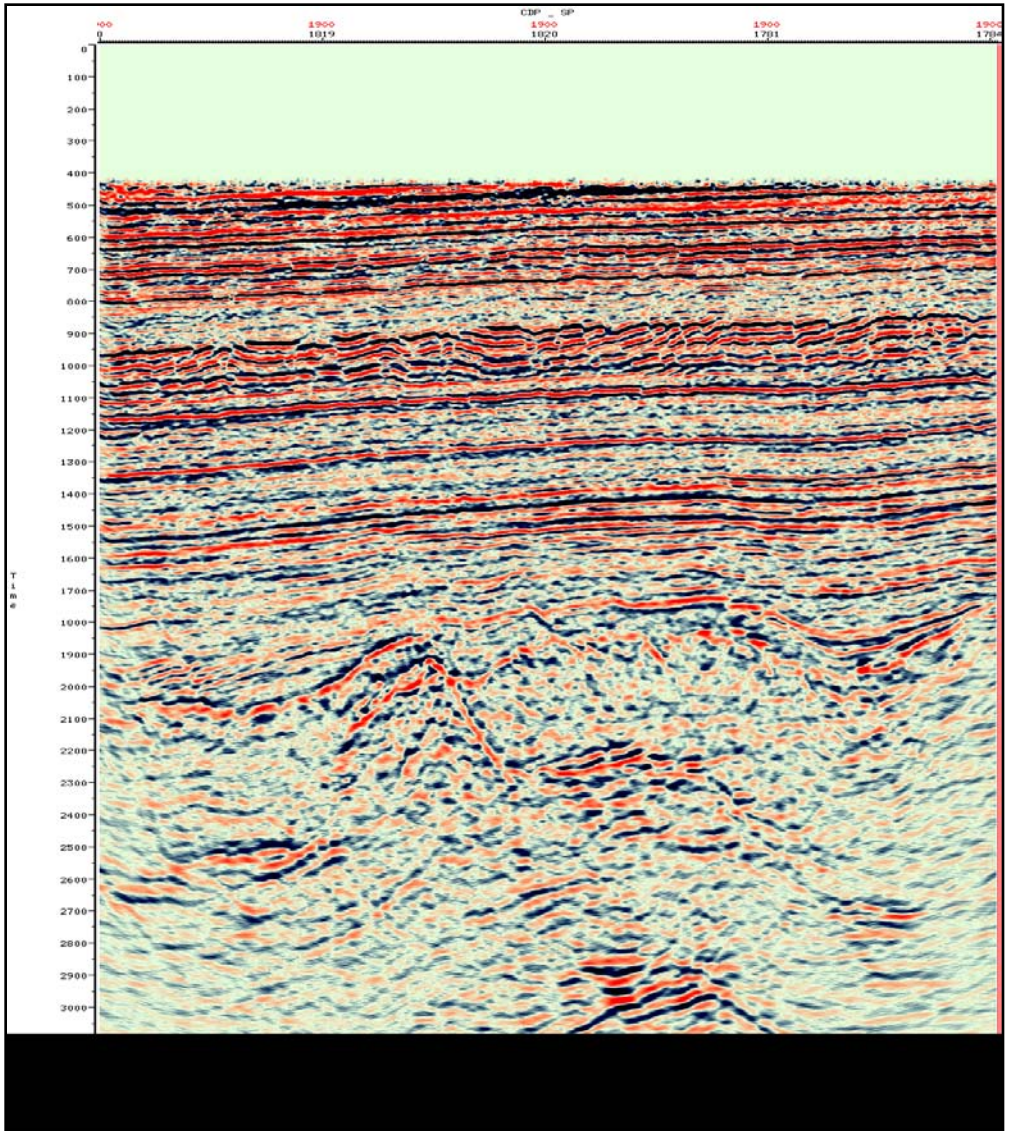
ILine OC10: No smooth Velocity



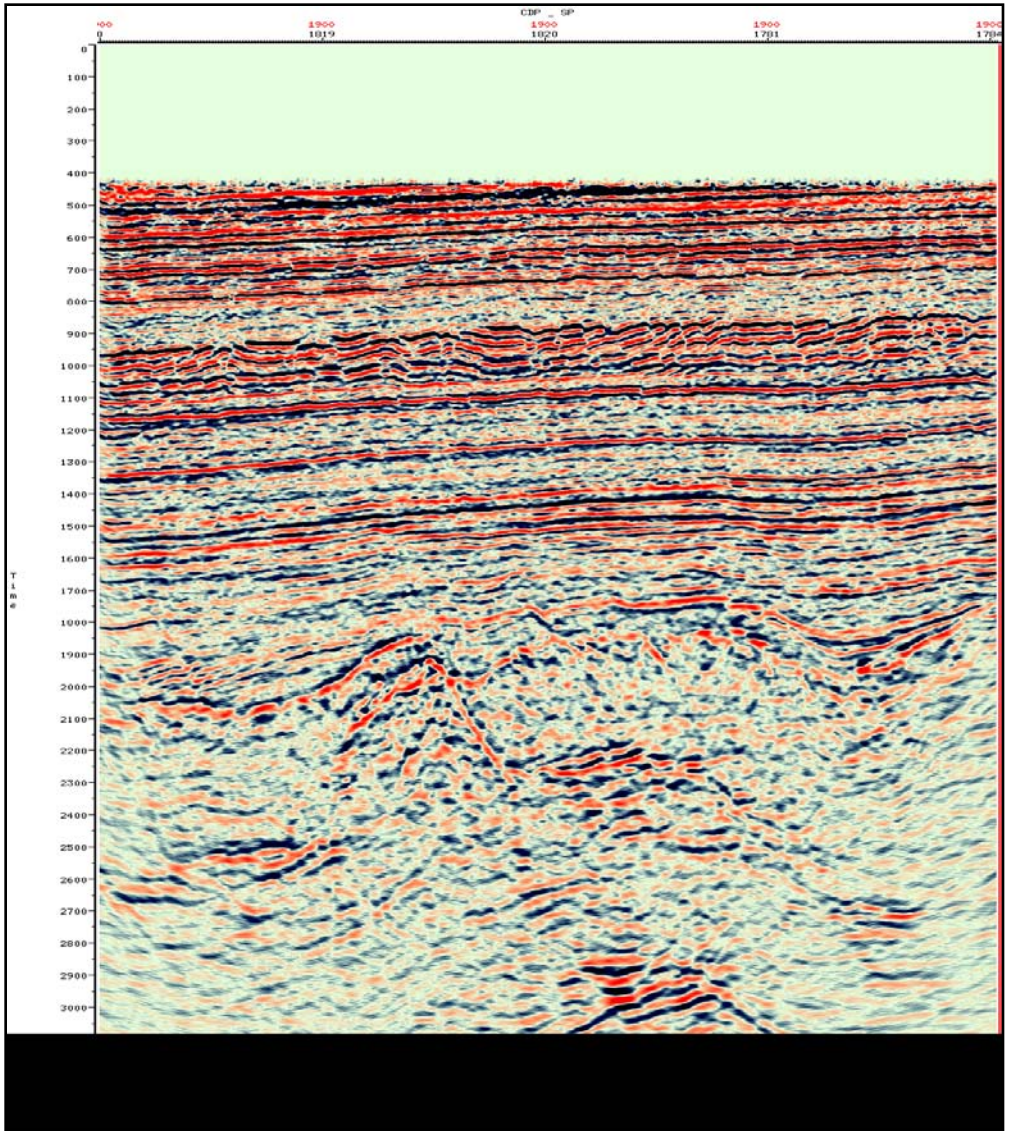
ILine OC10: Smooth Velocity



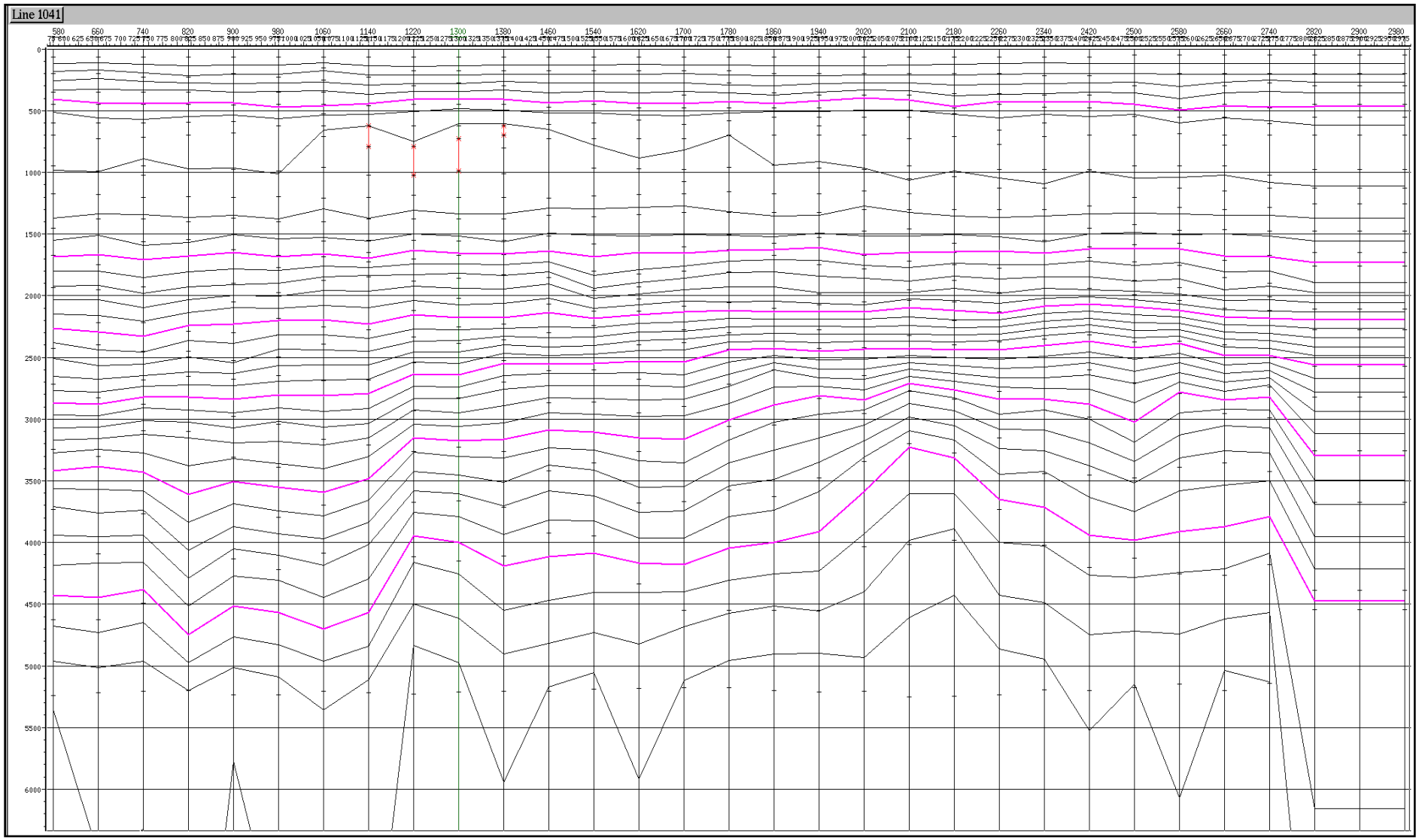
XLine OC10: No smooth Velocity



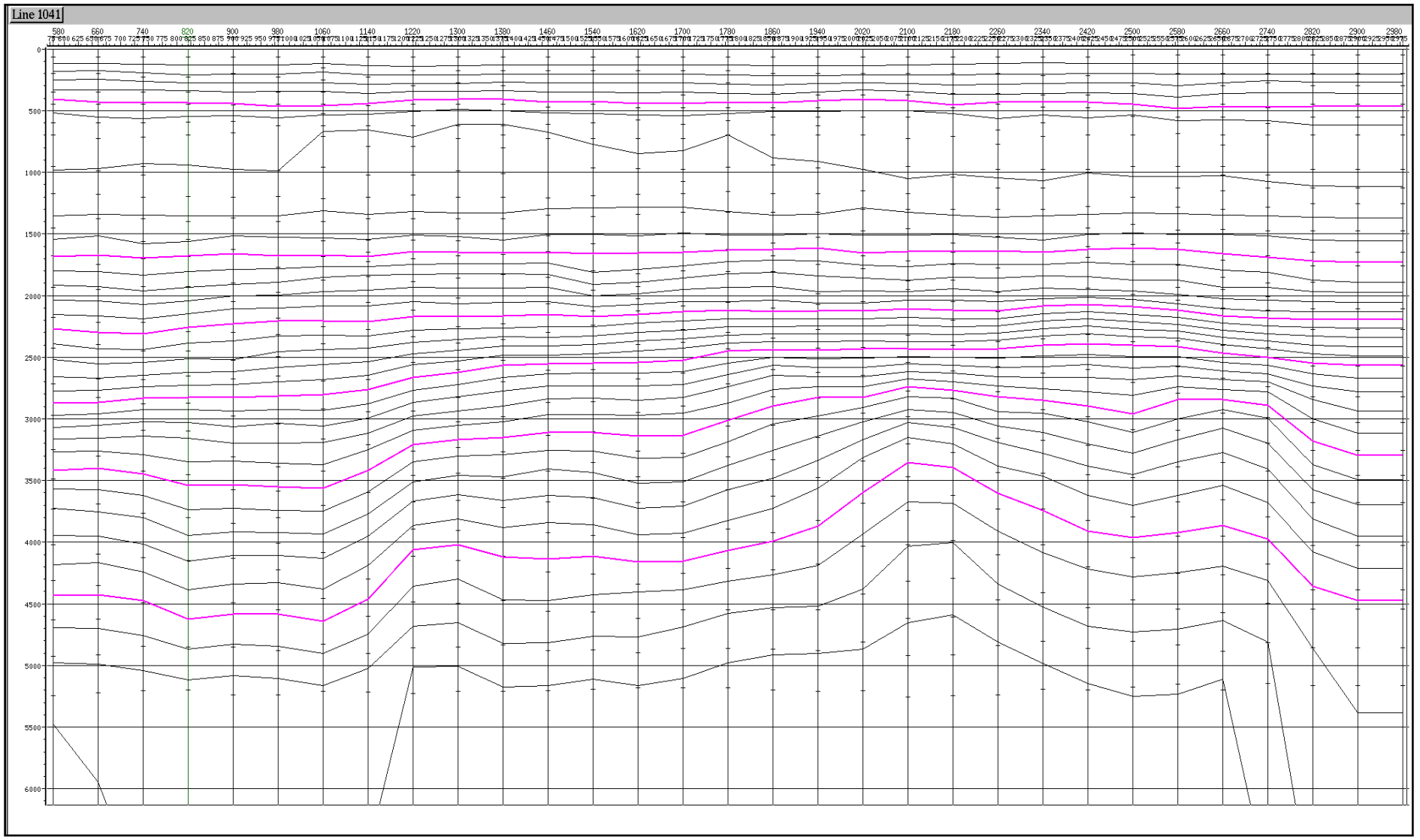
XLine OC10: Smooth Velocity



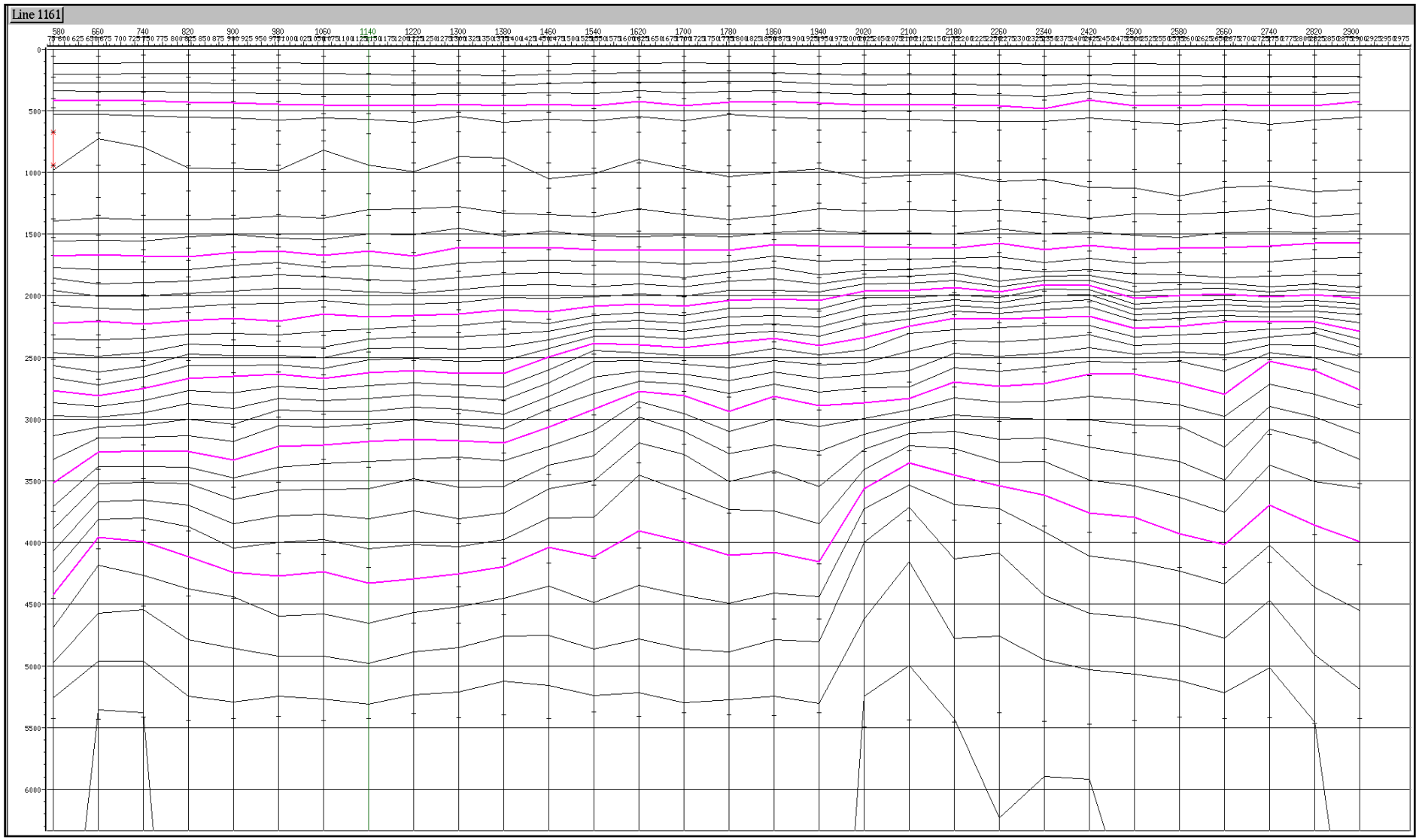
Velocity: Line 1041 No smooth



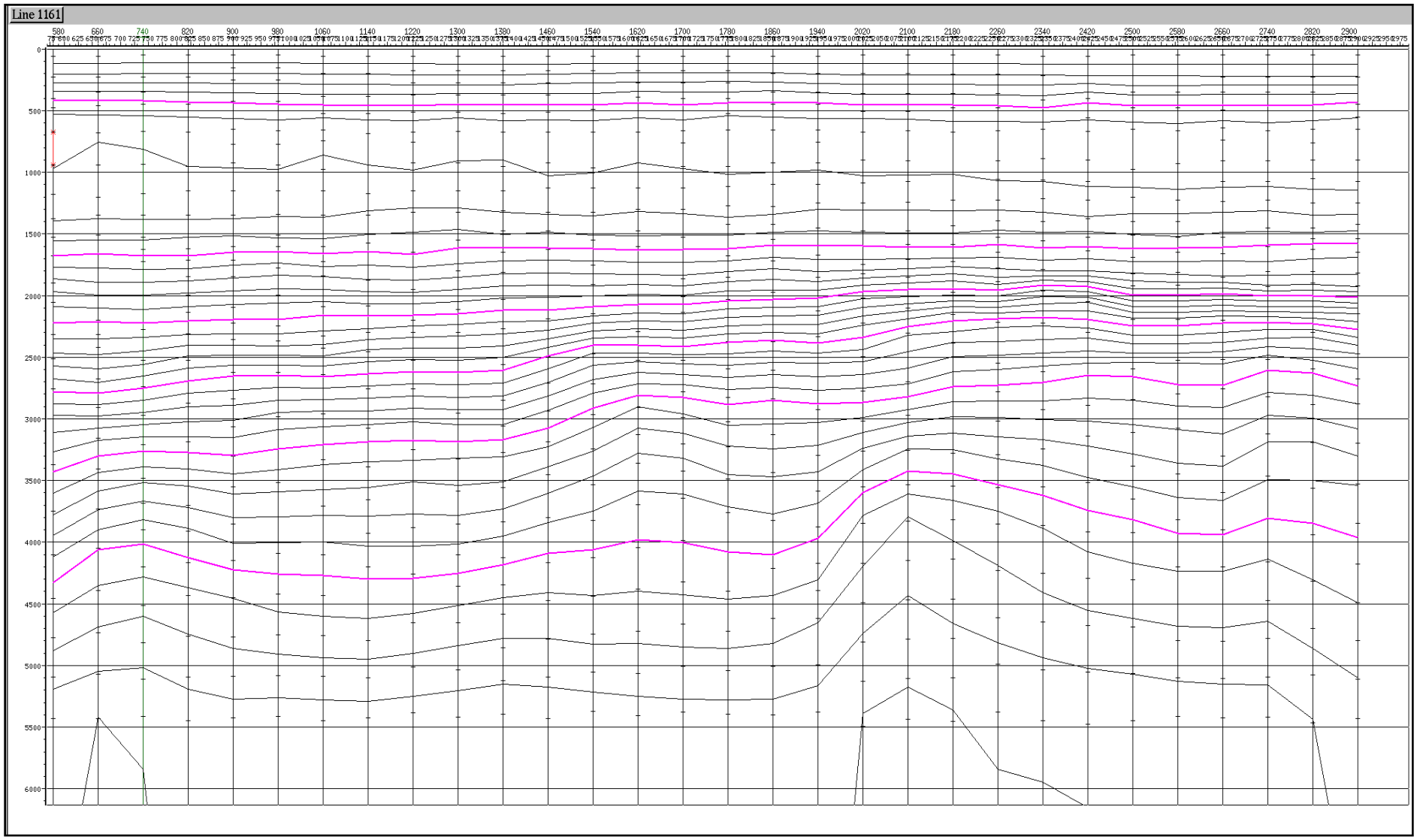
Velocity: Line 1041 Smooth



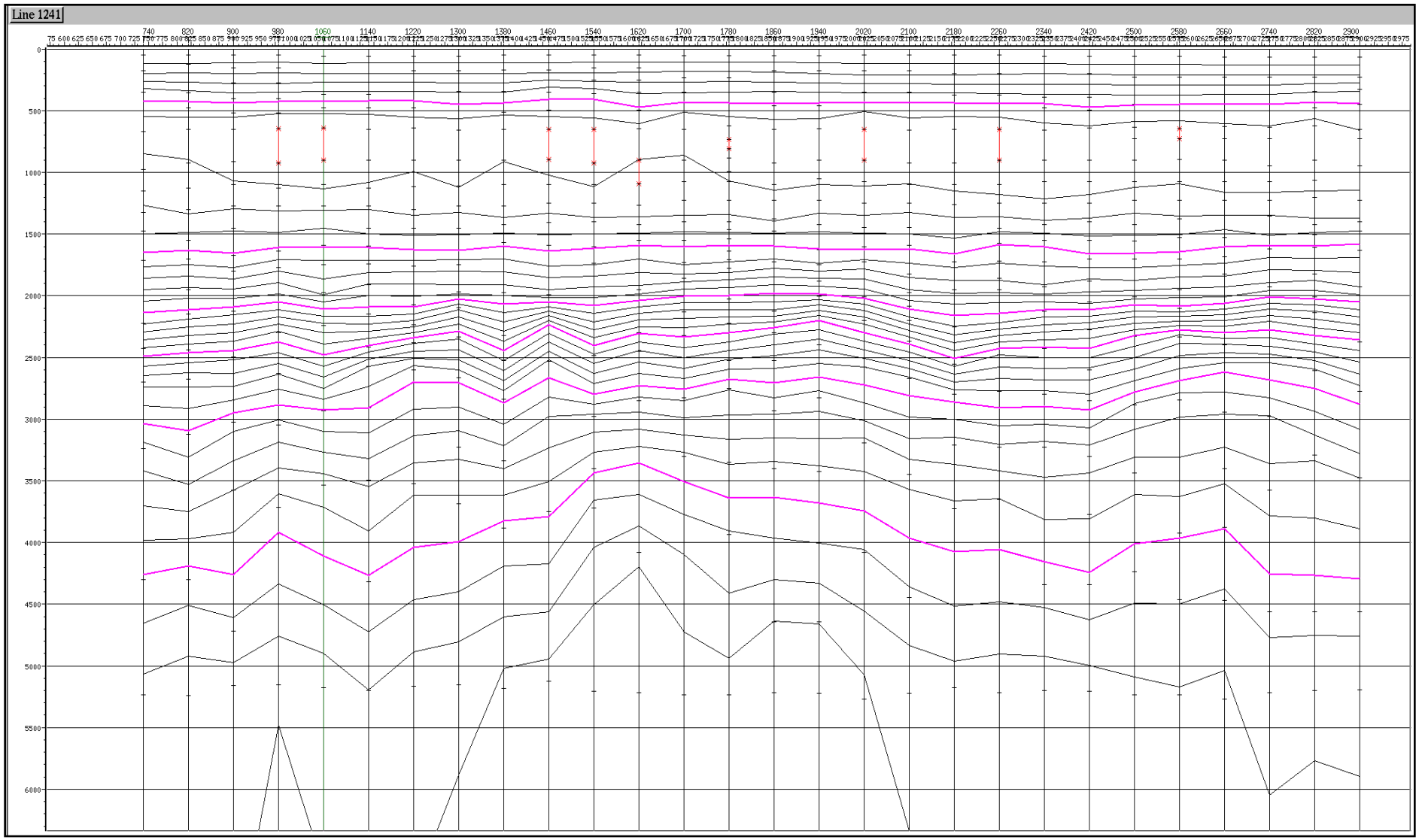
Velocity: Line 1161 No smooth



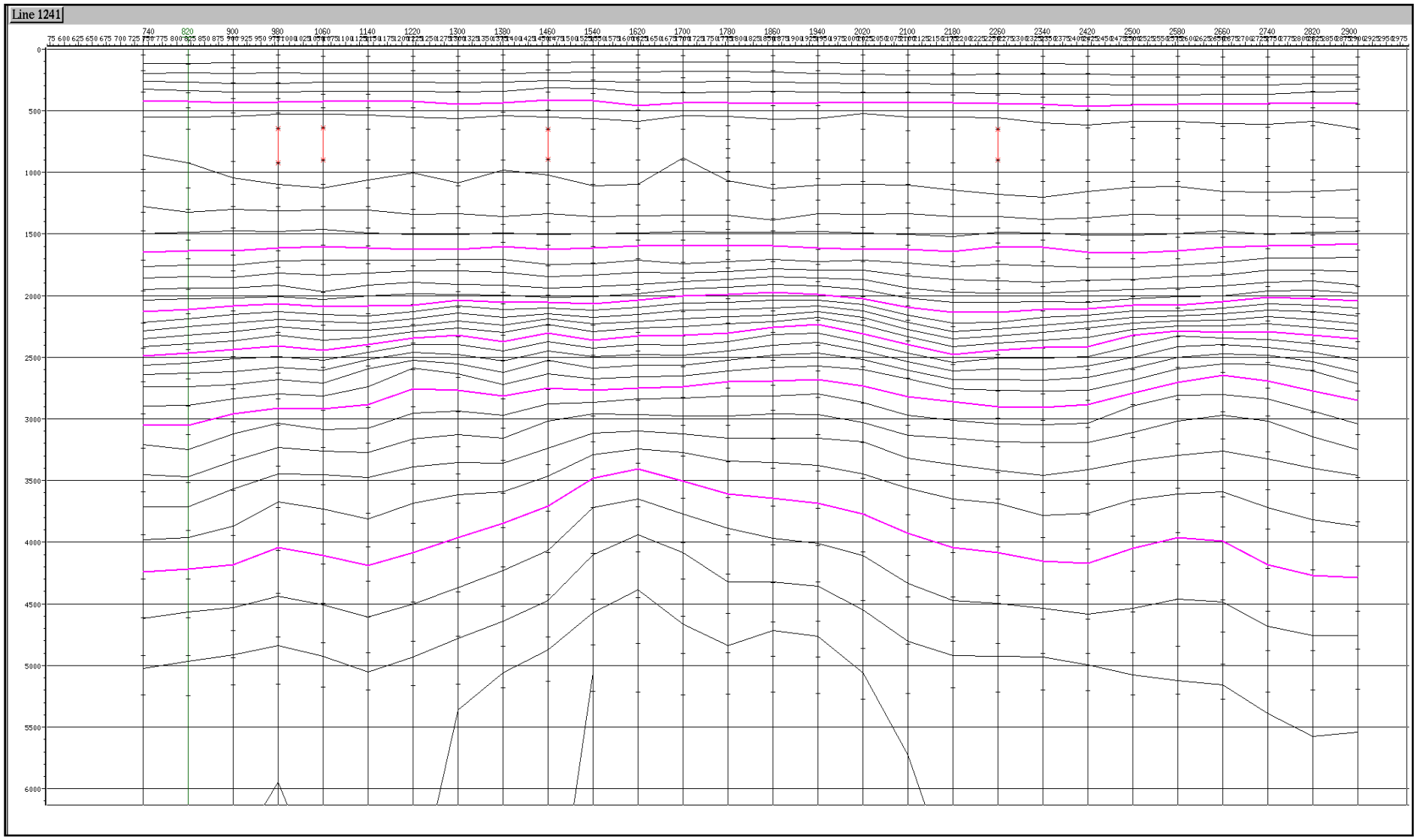
Velocity: Line 1161 Smooth



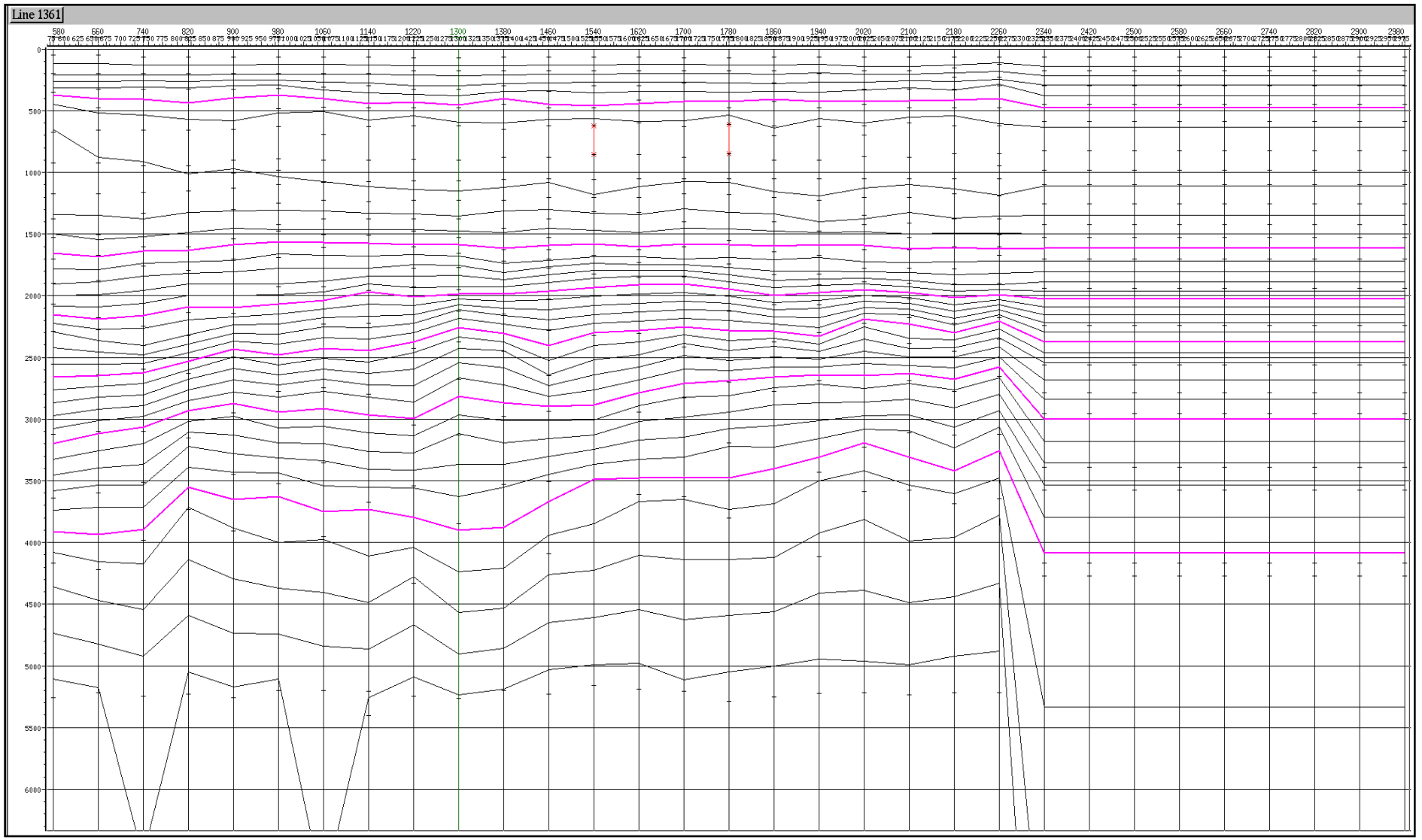
Velocity: Line 1241 No smooth



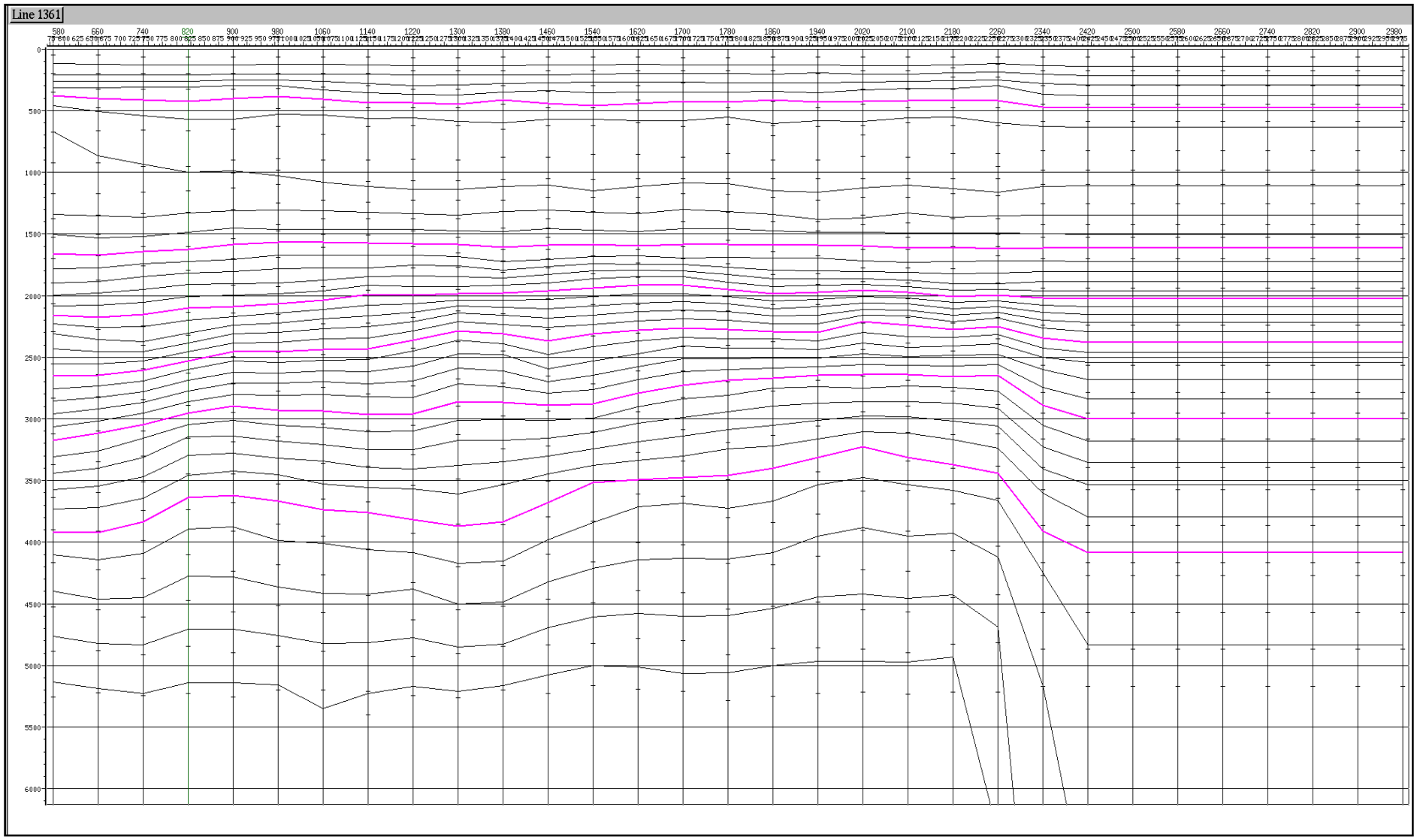
Velocity: Line 1241 Smooth



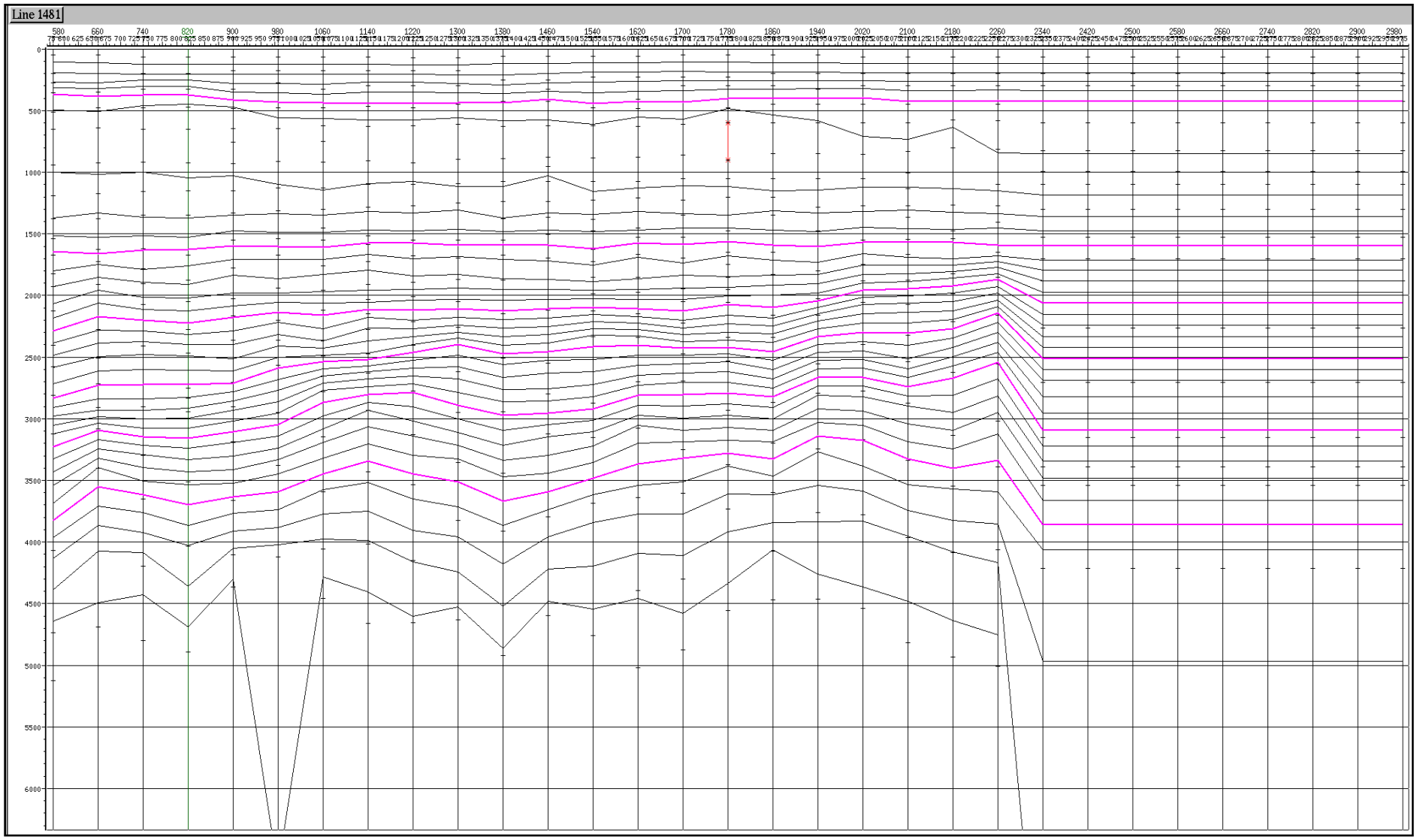
Velocity: Line 1361 No smooth



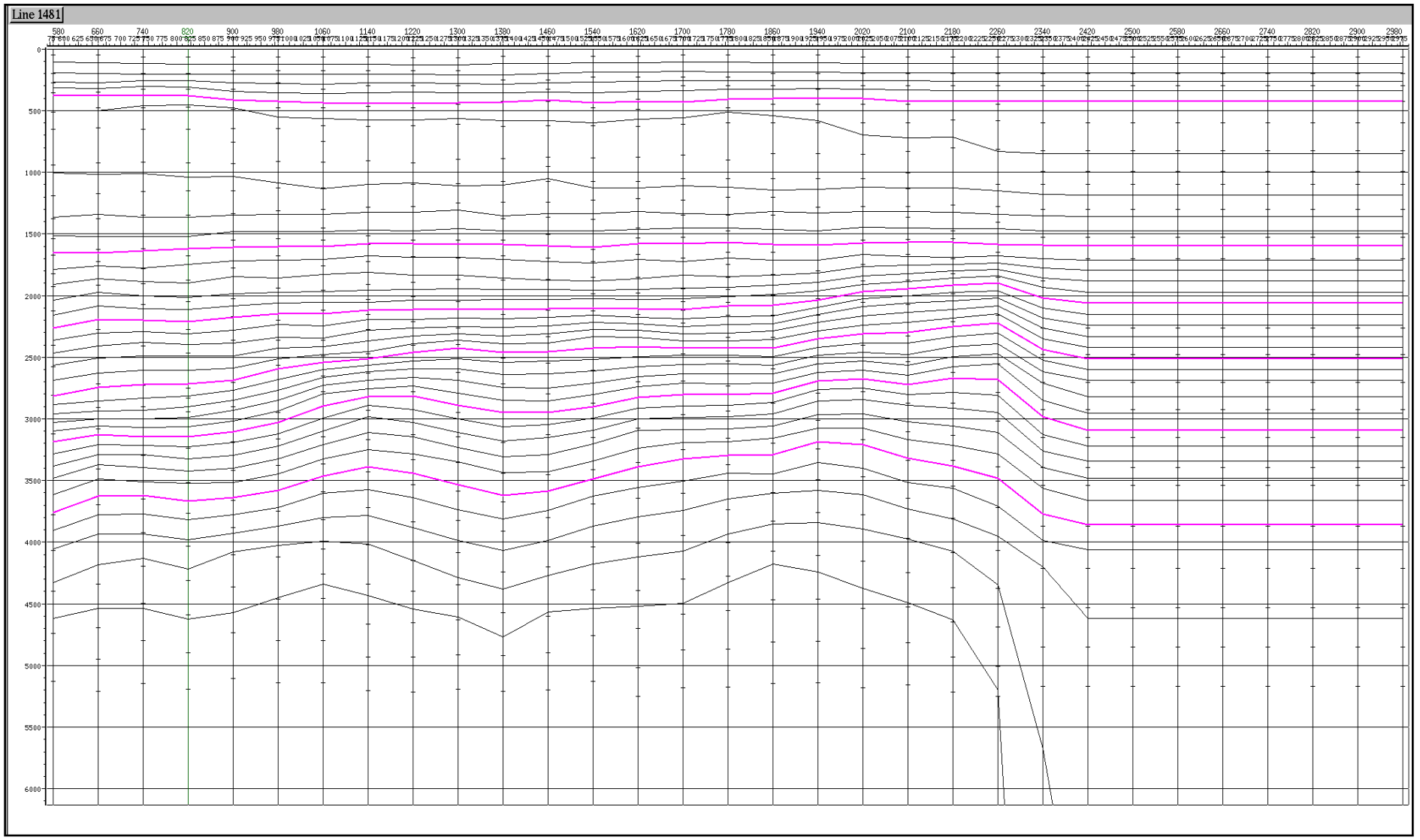
Velocity: Line 1361 Smooth



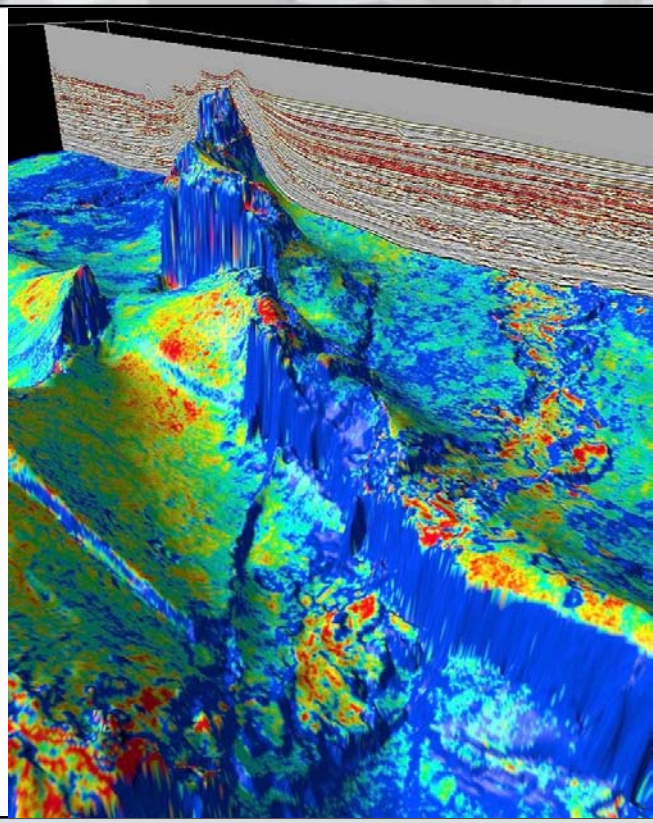
Velocity: Line 1481 No smooth



Velocity: Line 1481 Smooth



Technical Note 9
PSTM
Silvereye 3D



CGGVERITAS

Introduction

This ppt shows the PSTM qc for IL 1081, 1161, 1241.

Processing Sequence to date

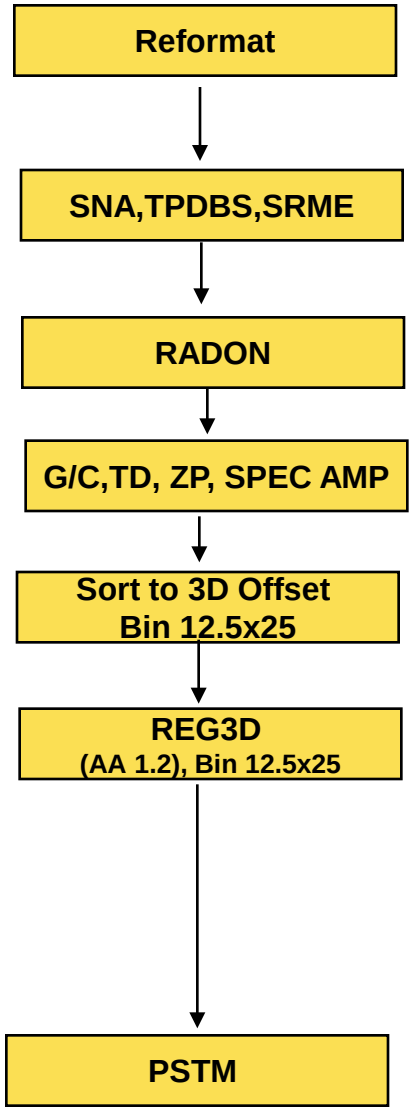
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D
- PSTM

Current Test

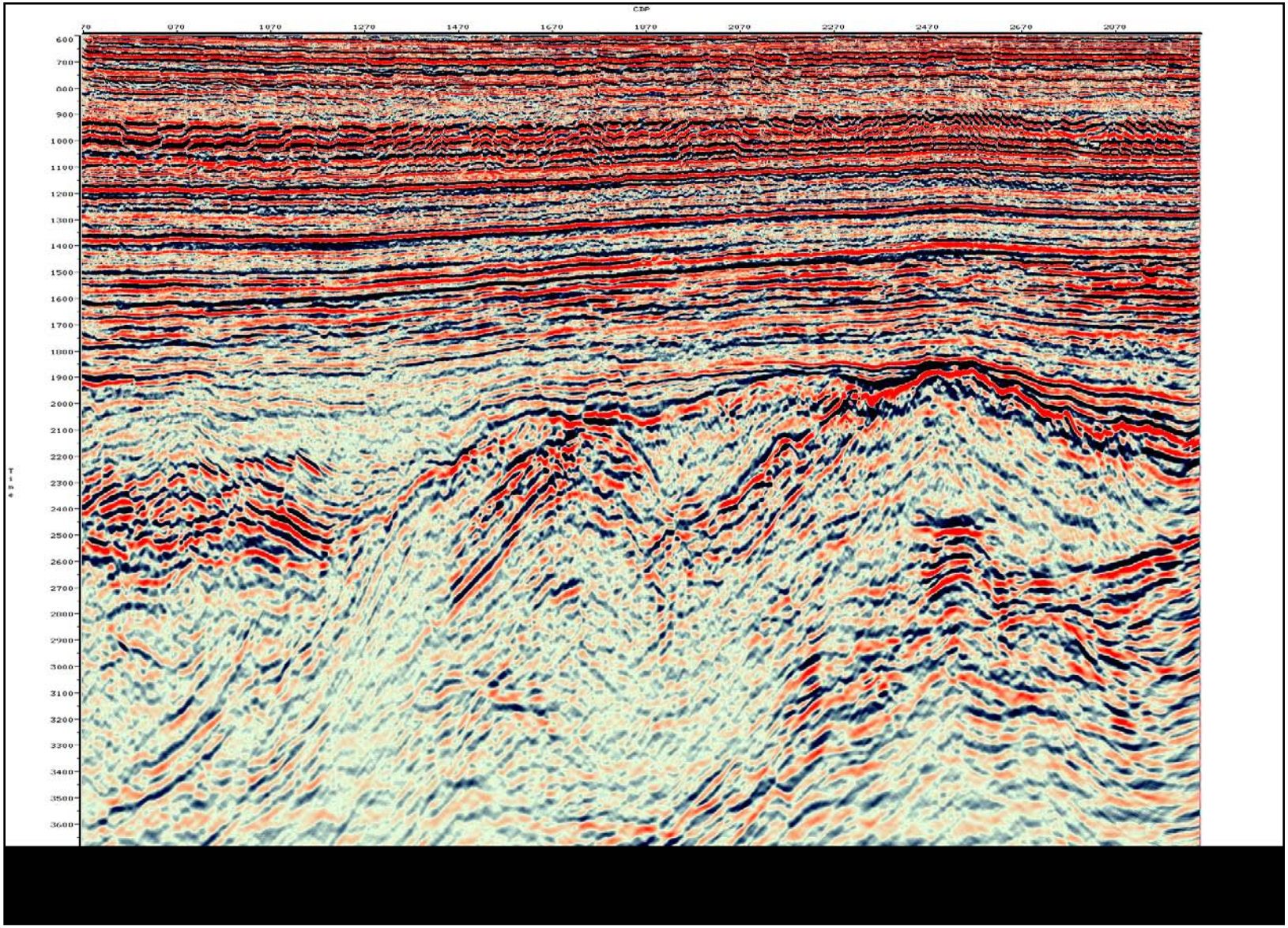
- **QC Production**

Proc Flow: PSTM

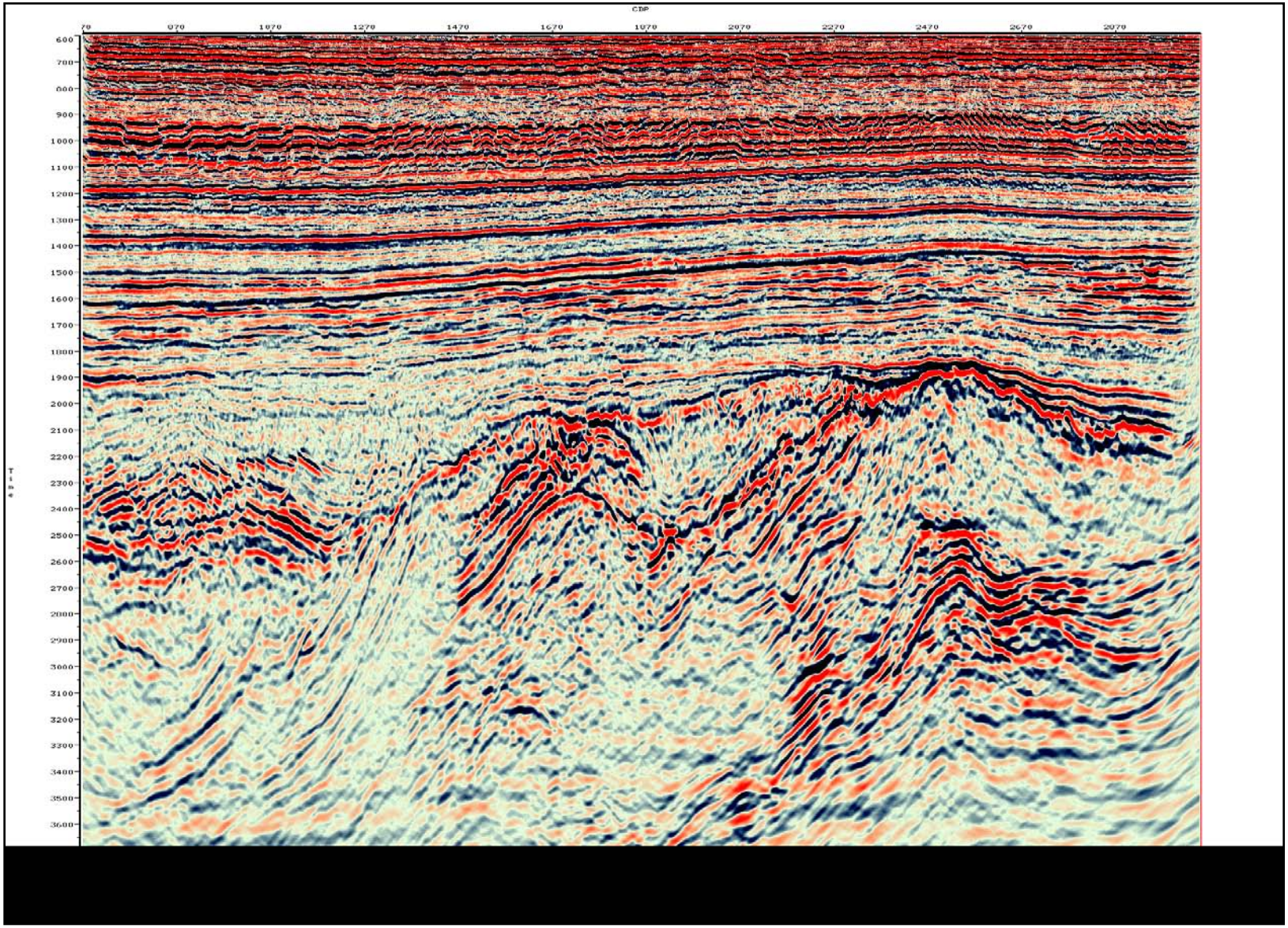


PSTM QC

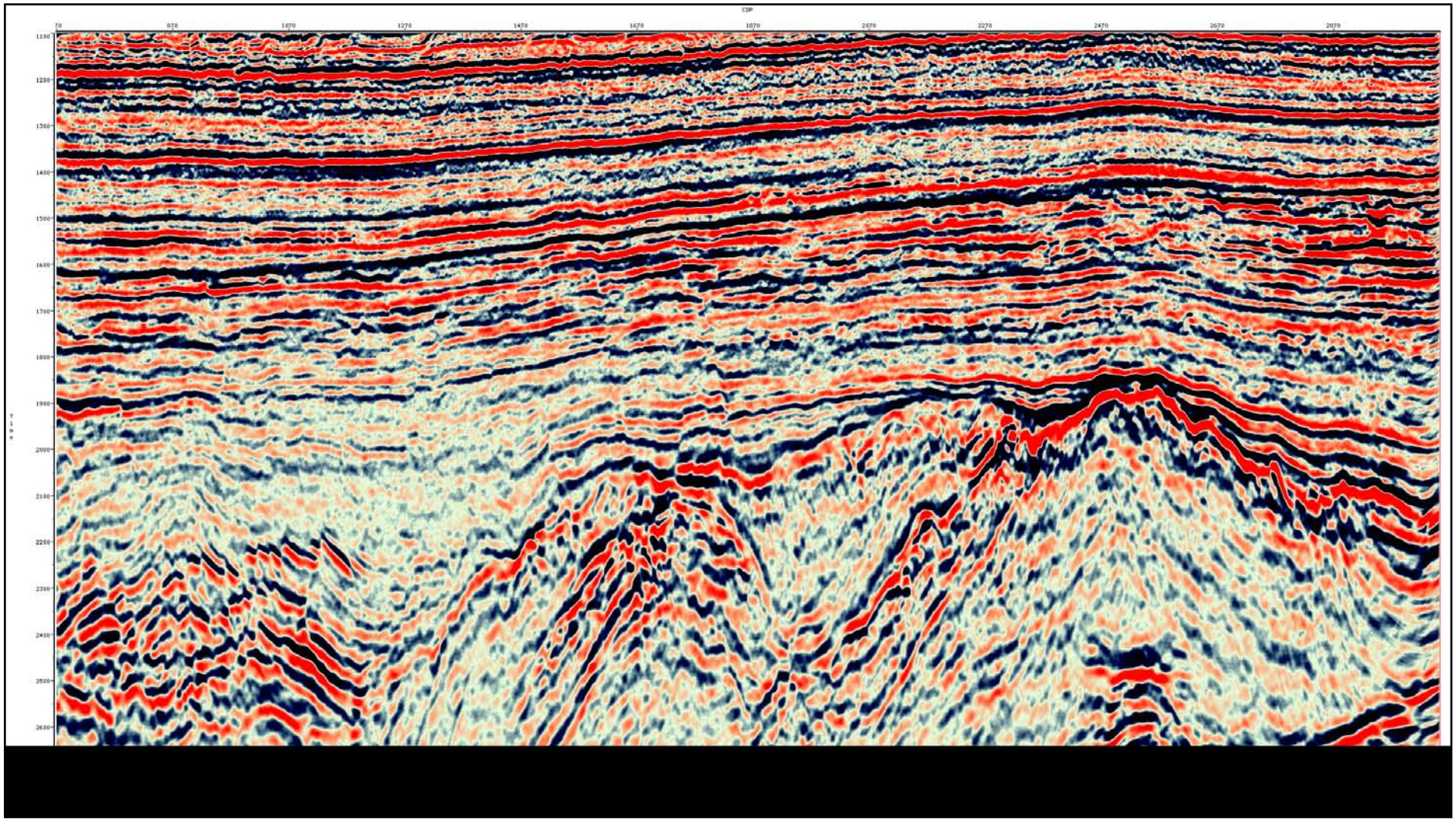
IL 1081: Post STM



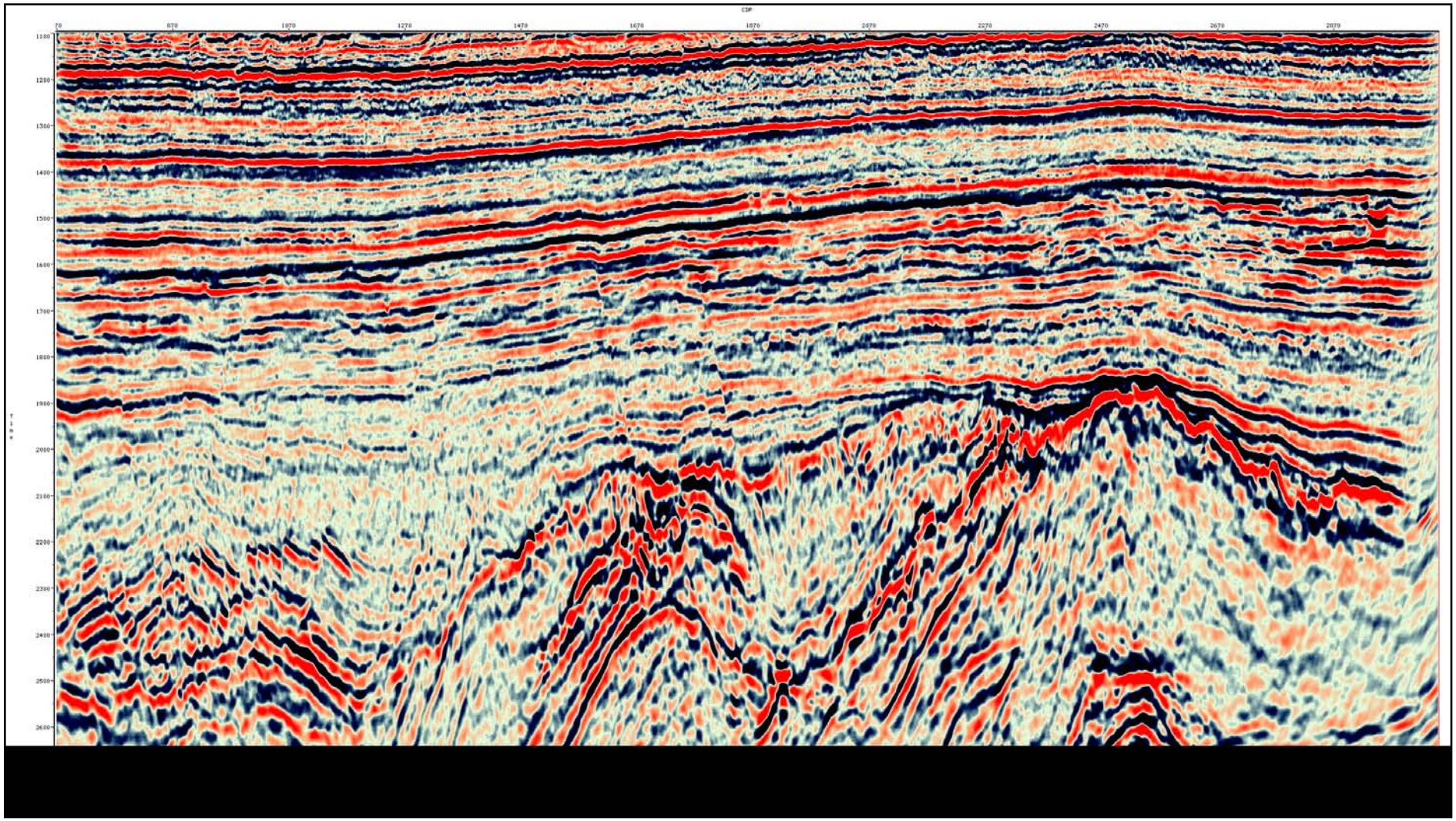
IL 1081: Pre STM



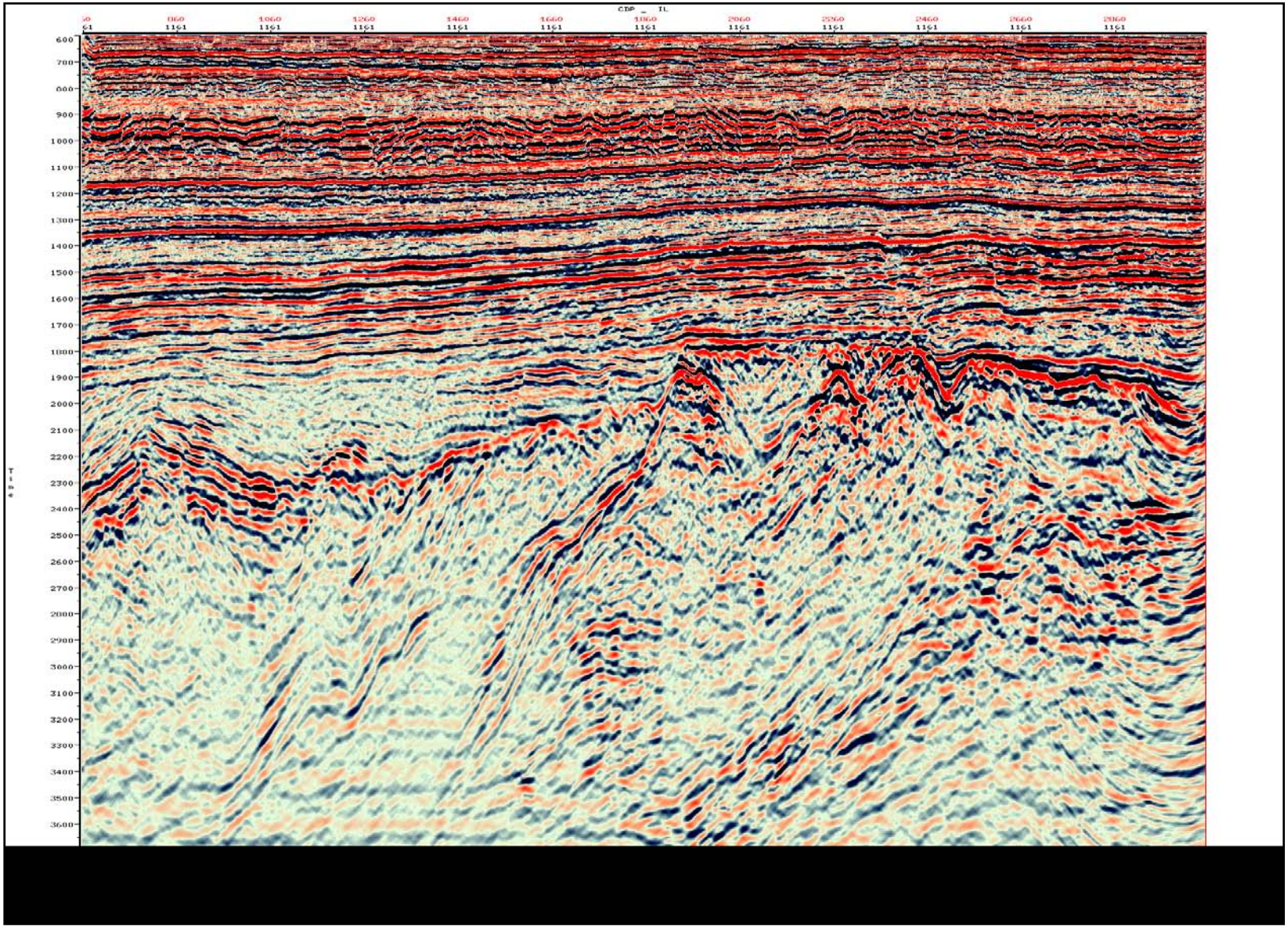
IL 1081: Post STM (Zoom)



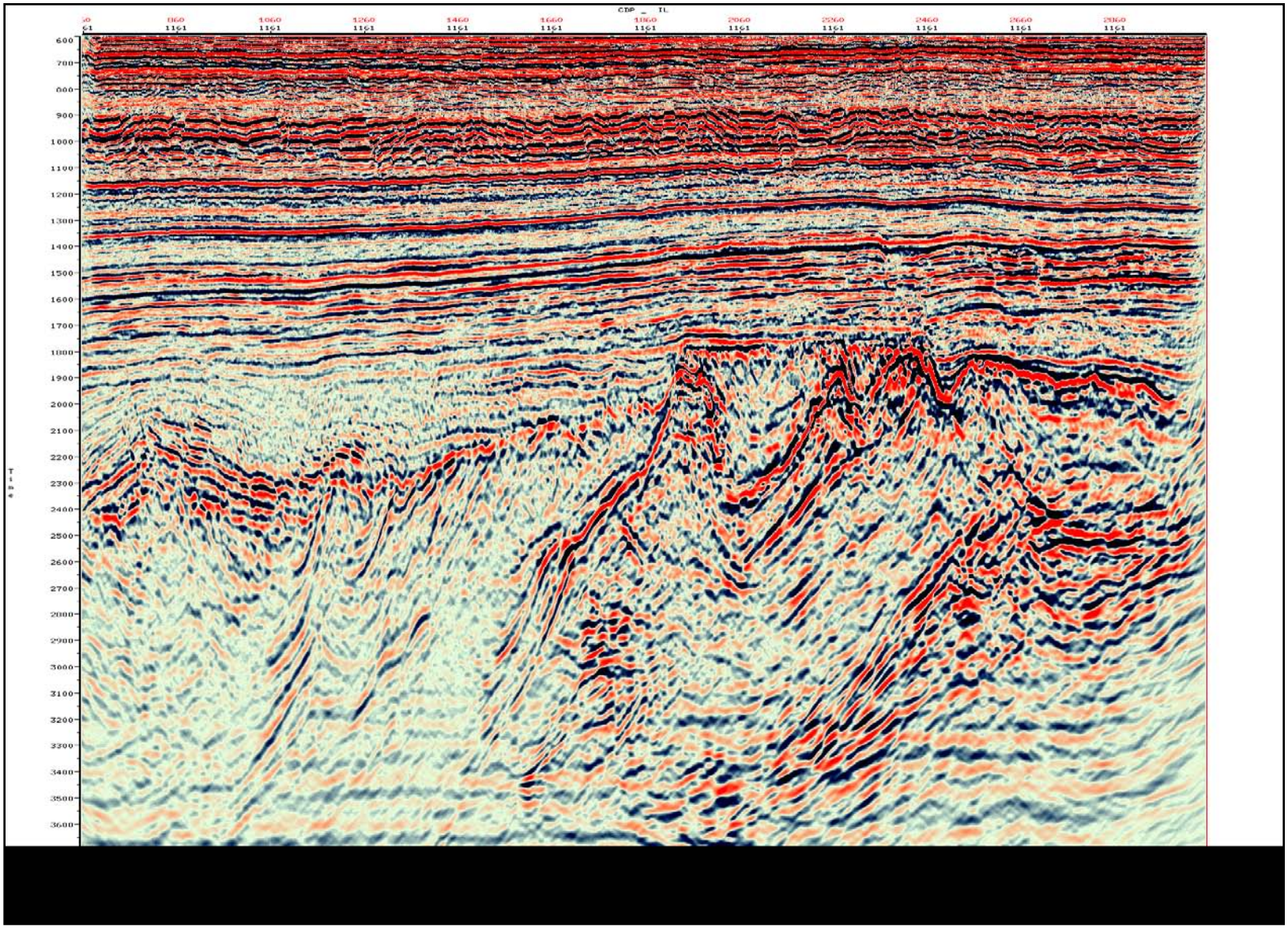
IL 1081: Pre STM (Zoom)



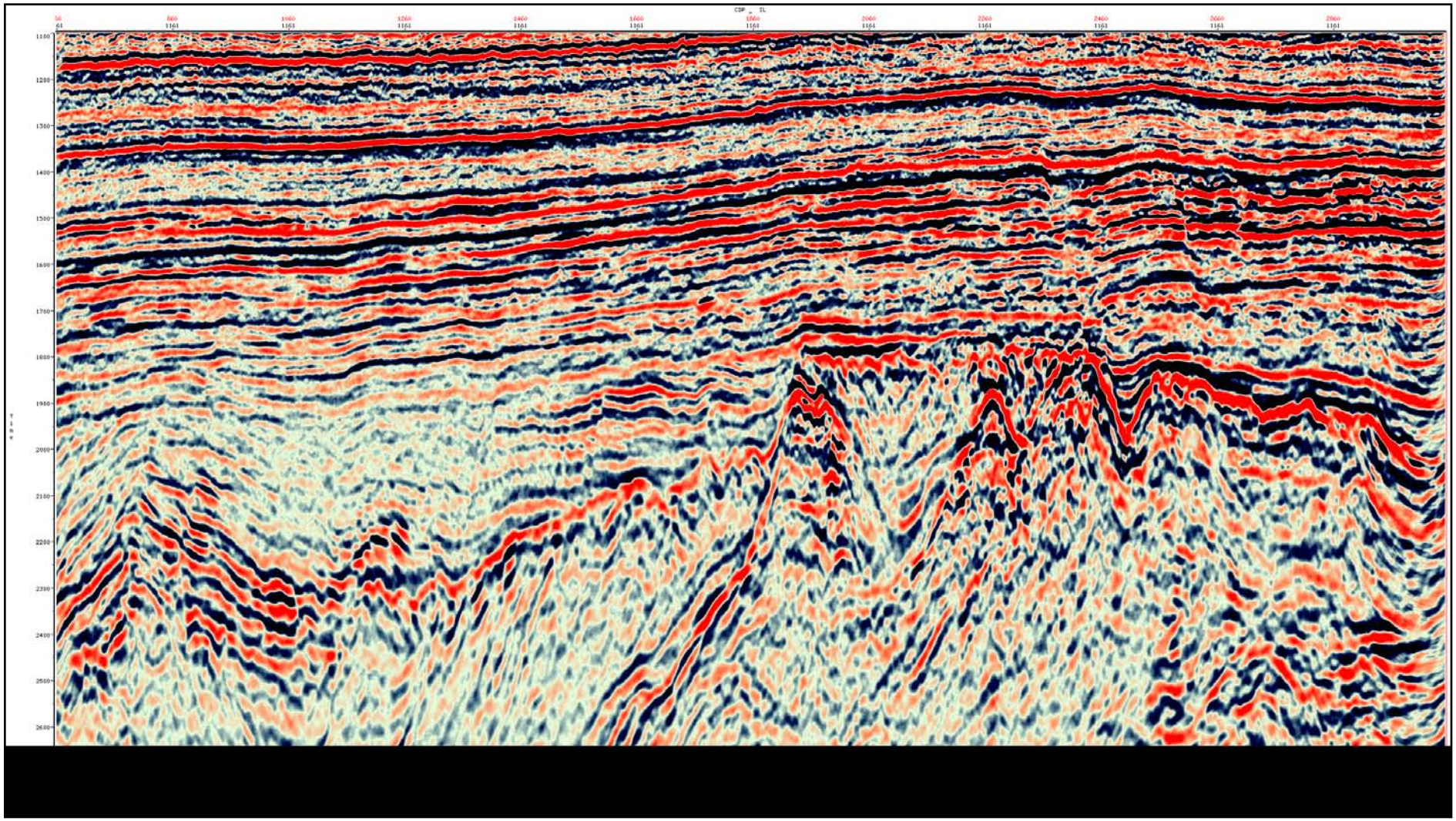
IL 1161: Post STM



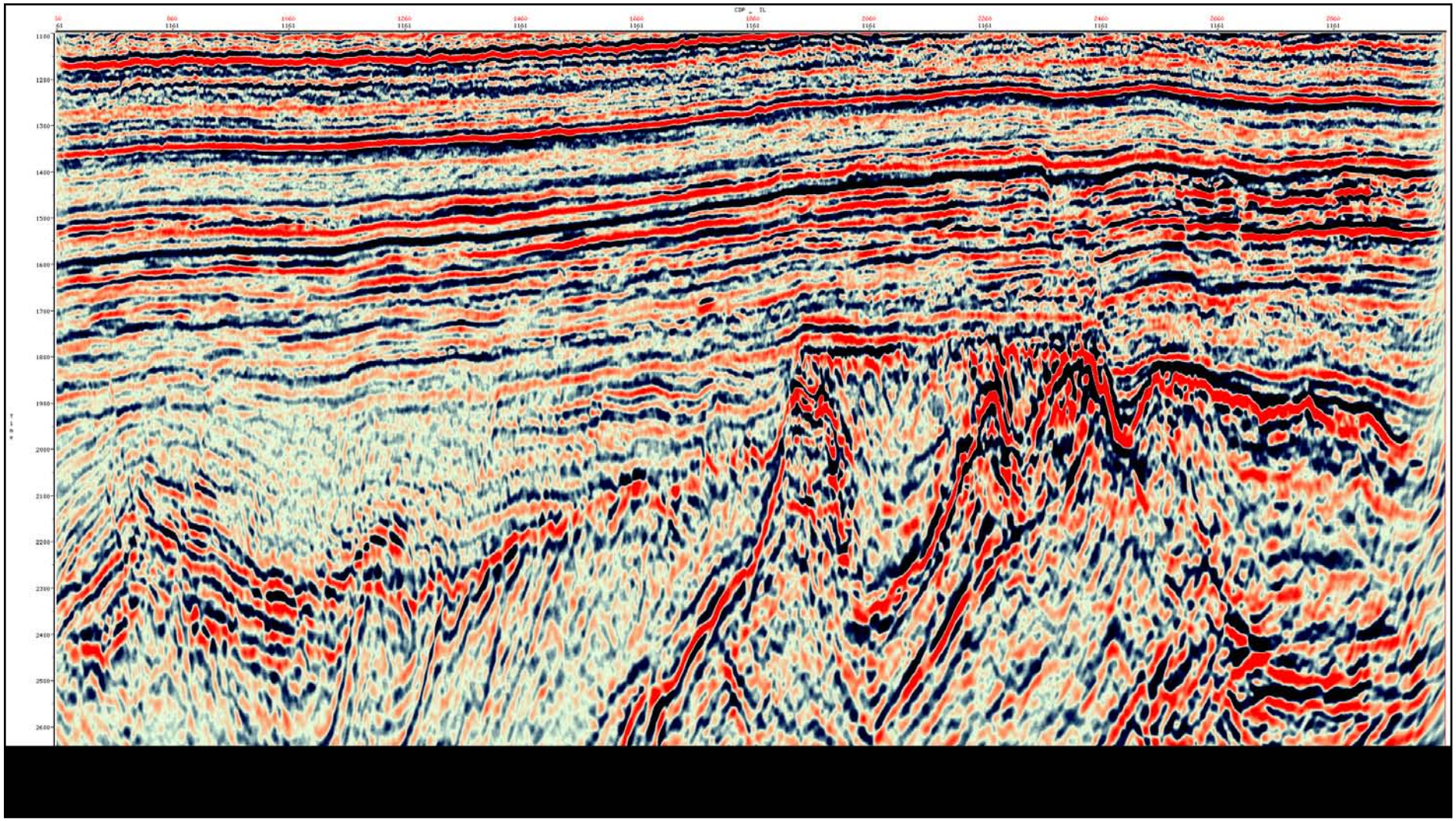
IL 1161: Pre STM



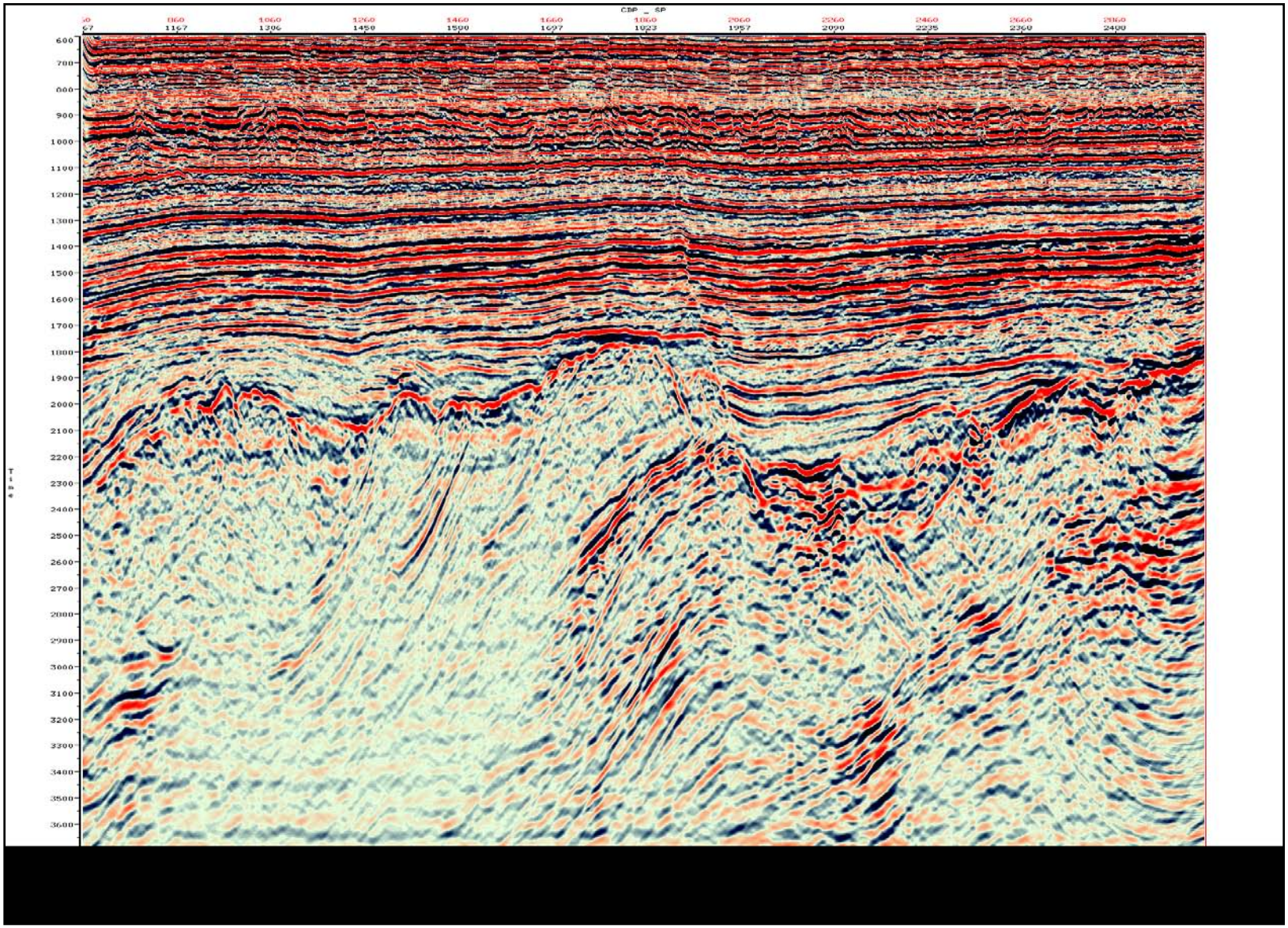
IL 1161: Post STM (Zoom)



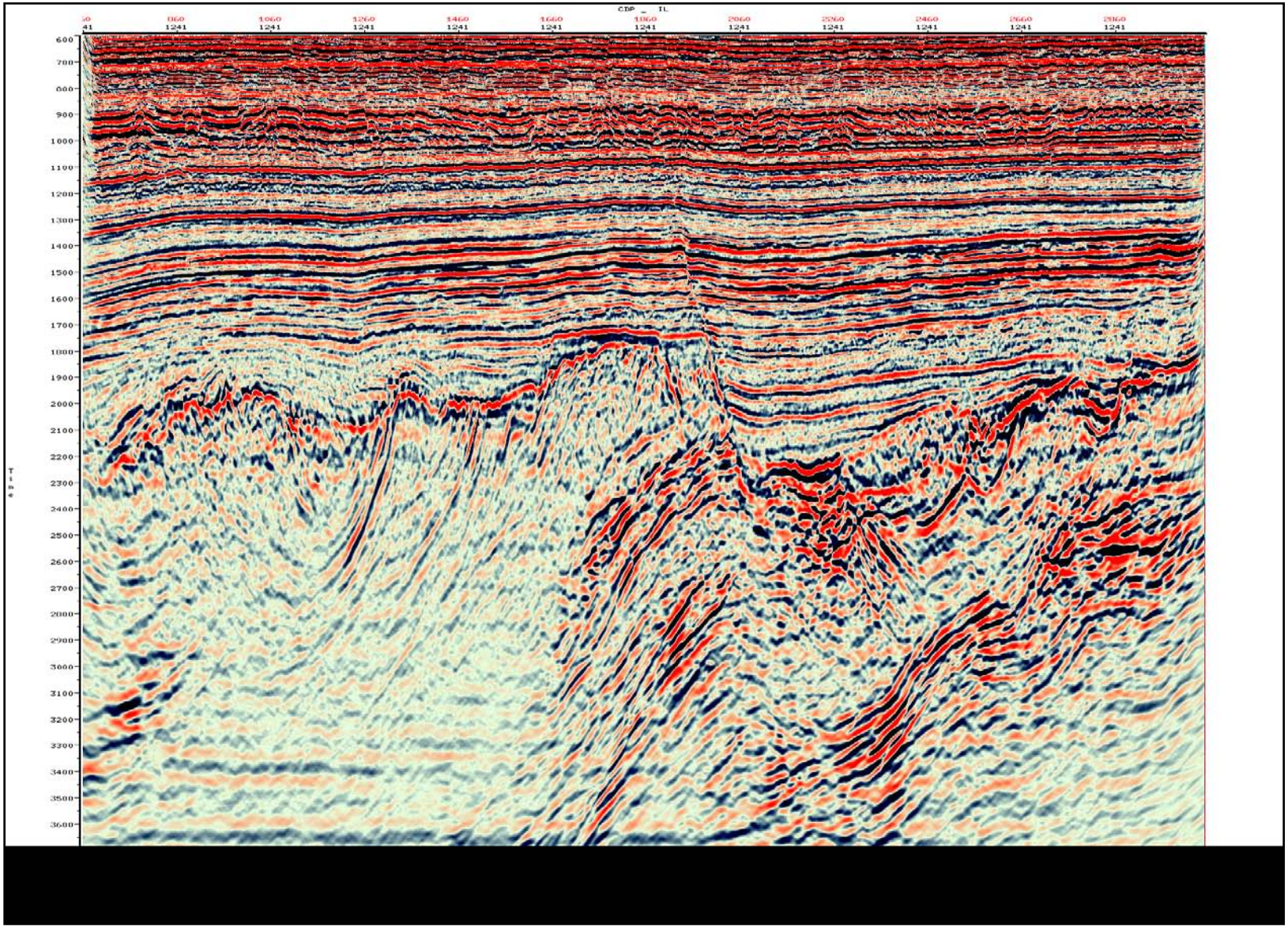
IL 1161: Pre STM (Zoom)



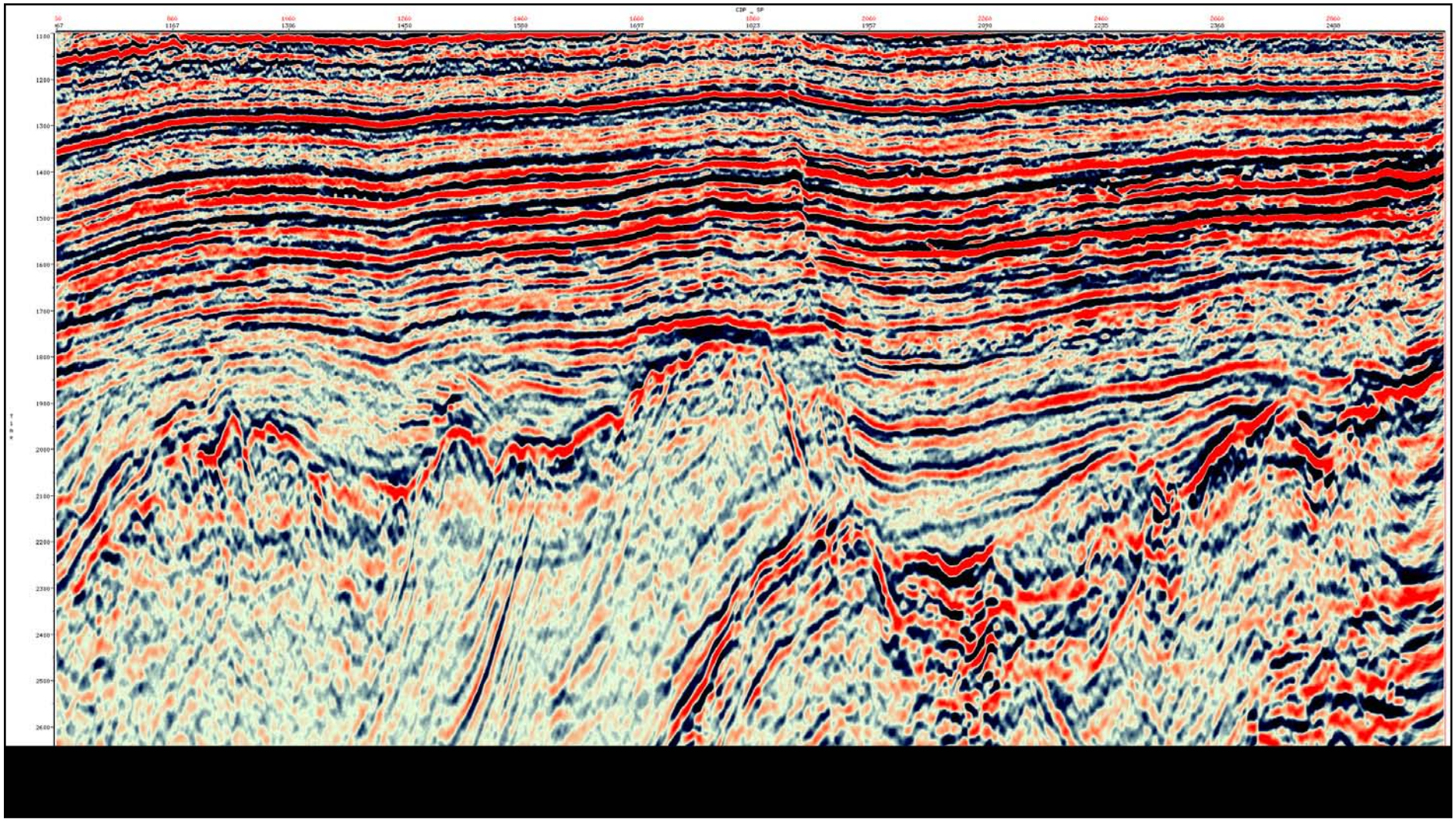
IL 1241: Post STM



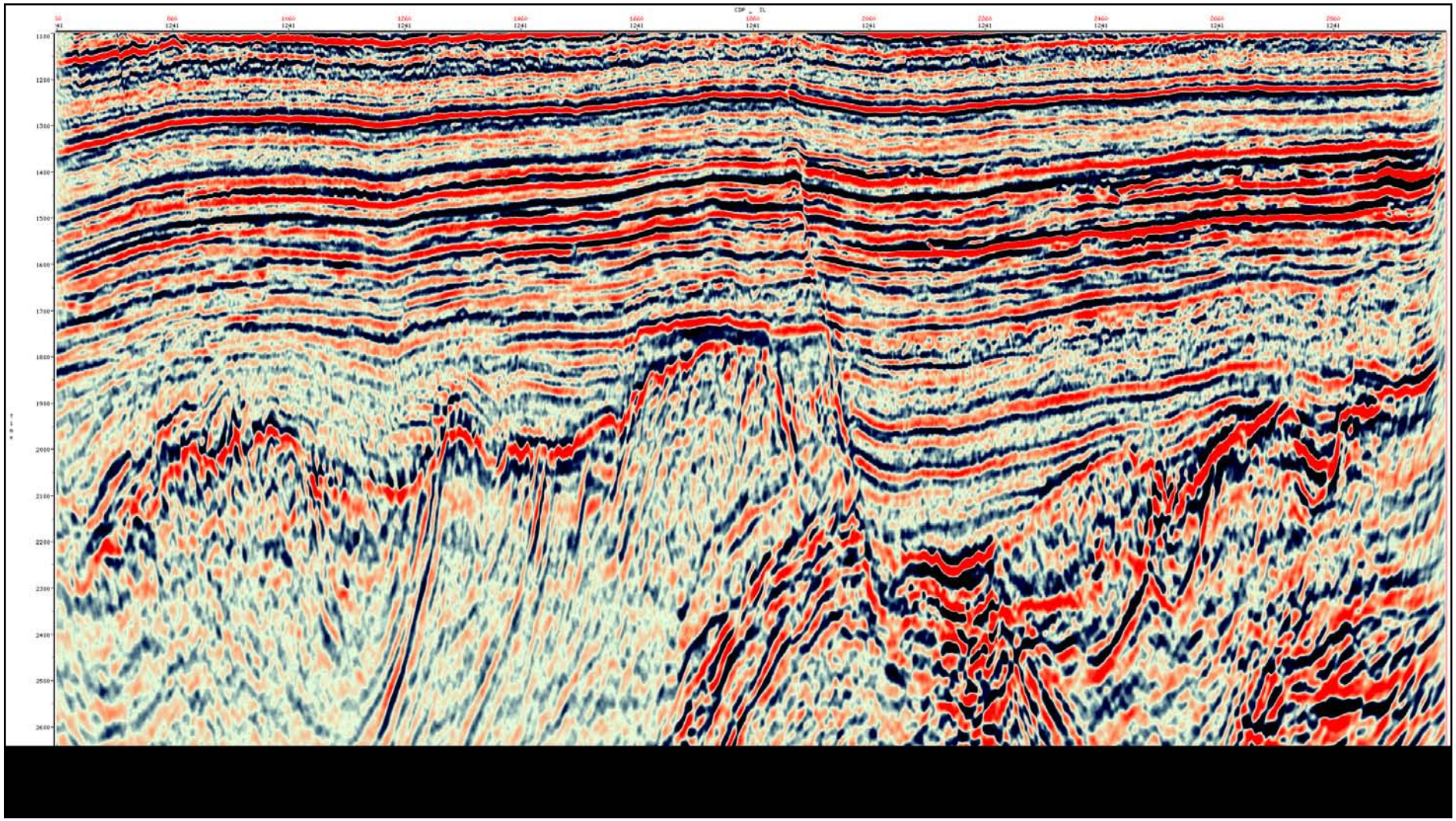
IL 1241: Pre STM



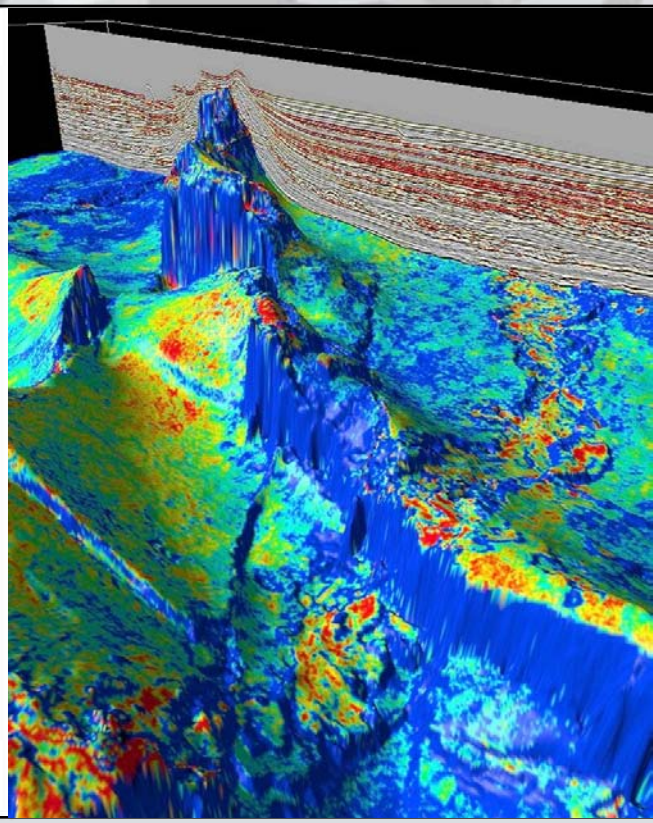
IL 1241: Post STM (Zoom)



IL 1241: Pre STM (Zoom)



Technical Note 11
HDPIC
Silvereye 3D



Introduction

HDPIC testing was carried out on inline 1241. The gathers input to HDPIC were conditioned with a 48 degree incident angle mute to reduce influence of very far offset effects.

3 Different smoothing filters were tested:

1. Mild Smoothed (125 m smoother)
2. Mid Smoothed (250 m smoother)
3. Strong Smoothed (1km smoother)

Exponential gain of 2 dB/sec was applied to the stack and cdp in this ppt to boost amplitude in the deep section, the stacks in this PPT were generated with a 6-32 degrees mute. A “Far angle” stack was generated over incident angles 30-45 degrees.

Processing Sequence to date

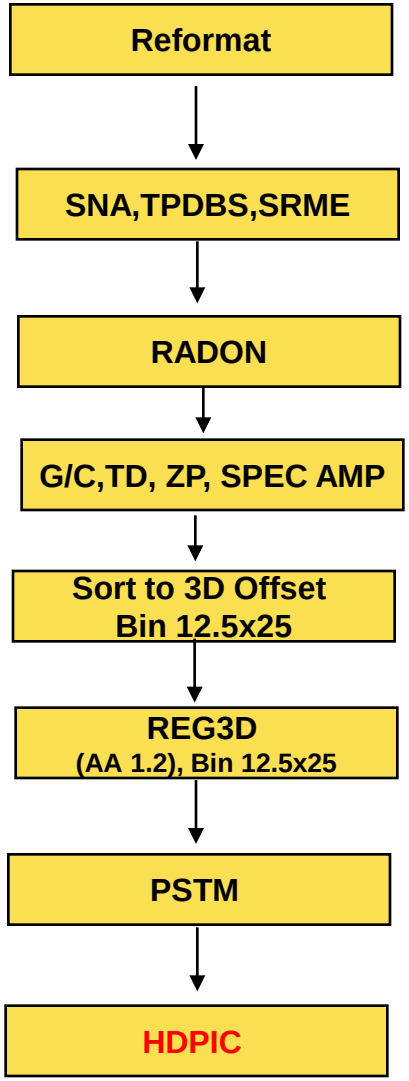
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D
- Replace T2 with TV Ursin (offset term)
- PSTM: Ray Trace, Dip Lim 75, Aperture 4 km, Smoothed V2 Velocity

Current Test

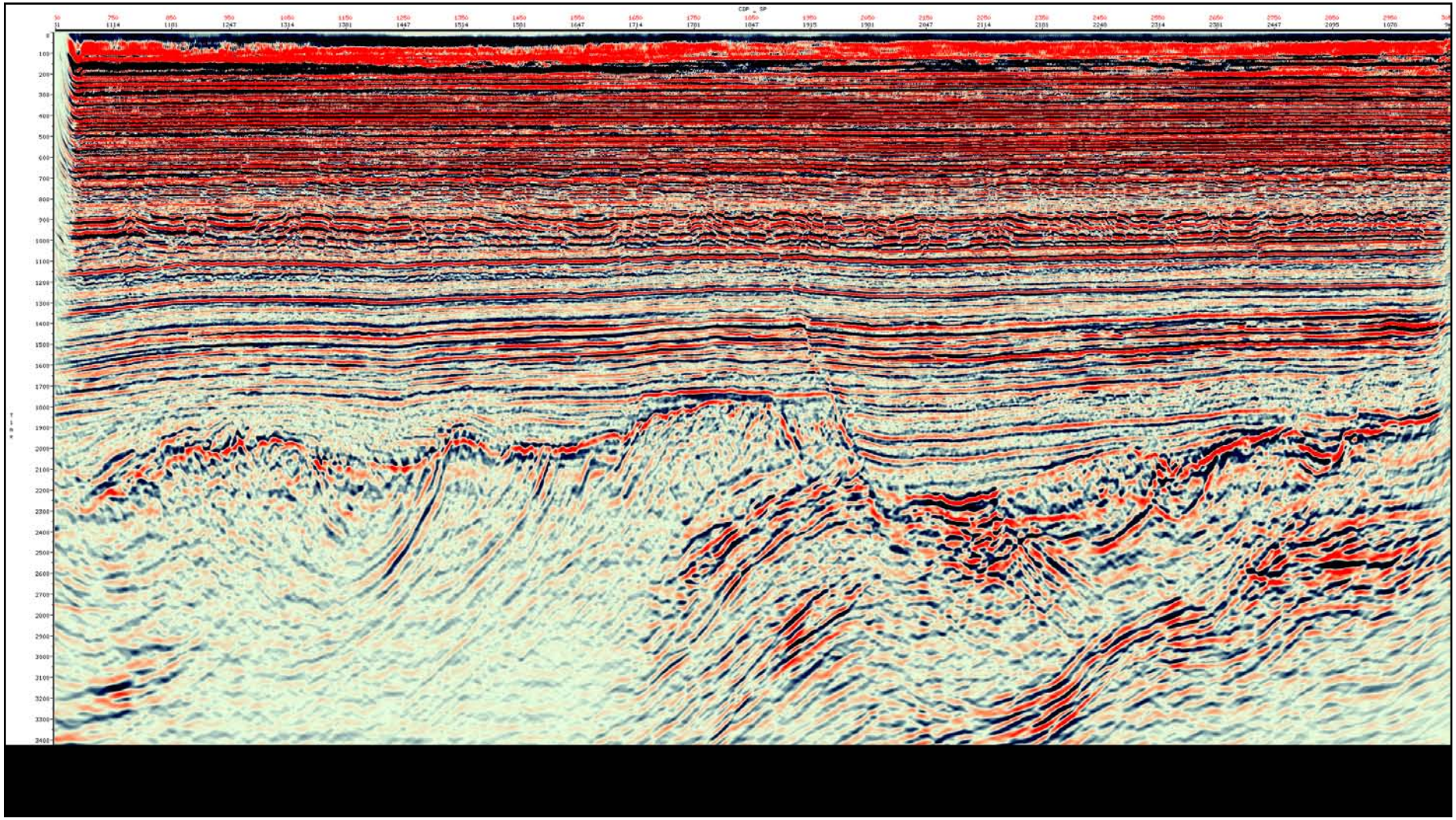
- **HDPIC**

Proc Flow: HDPIC

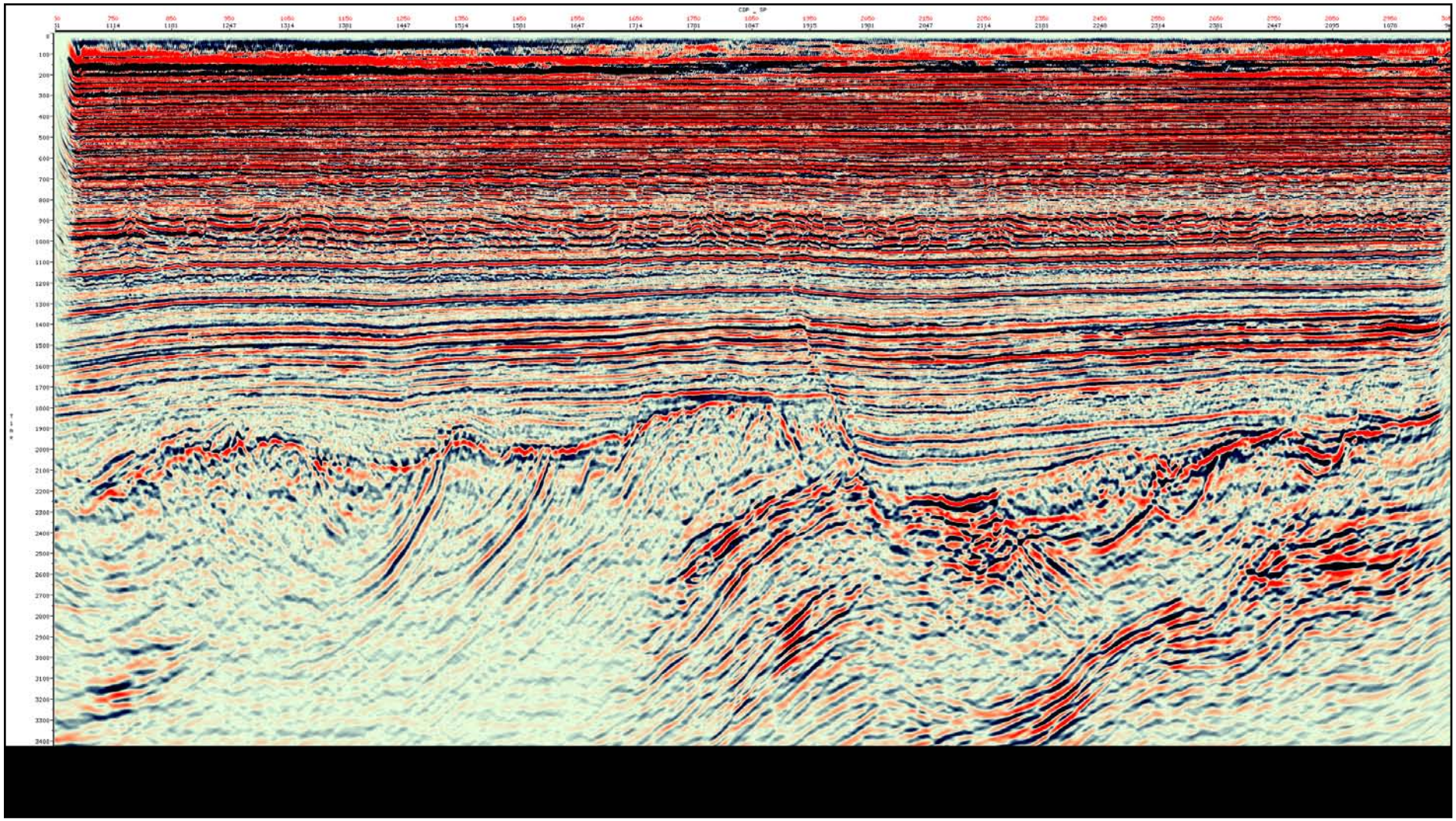


HDPIC

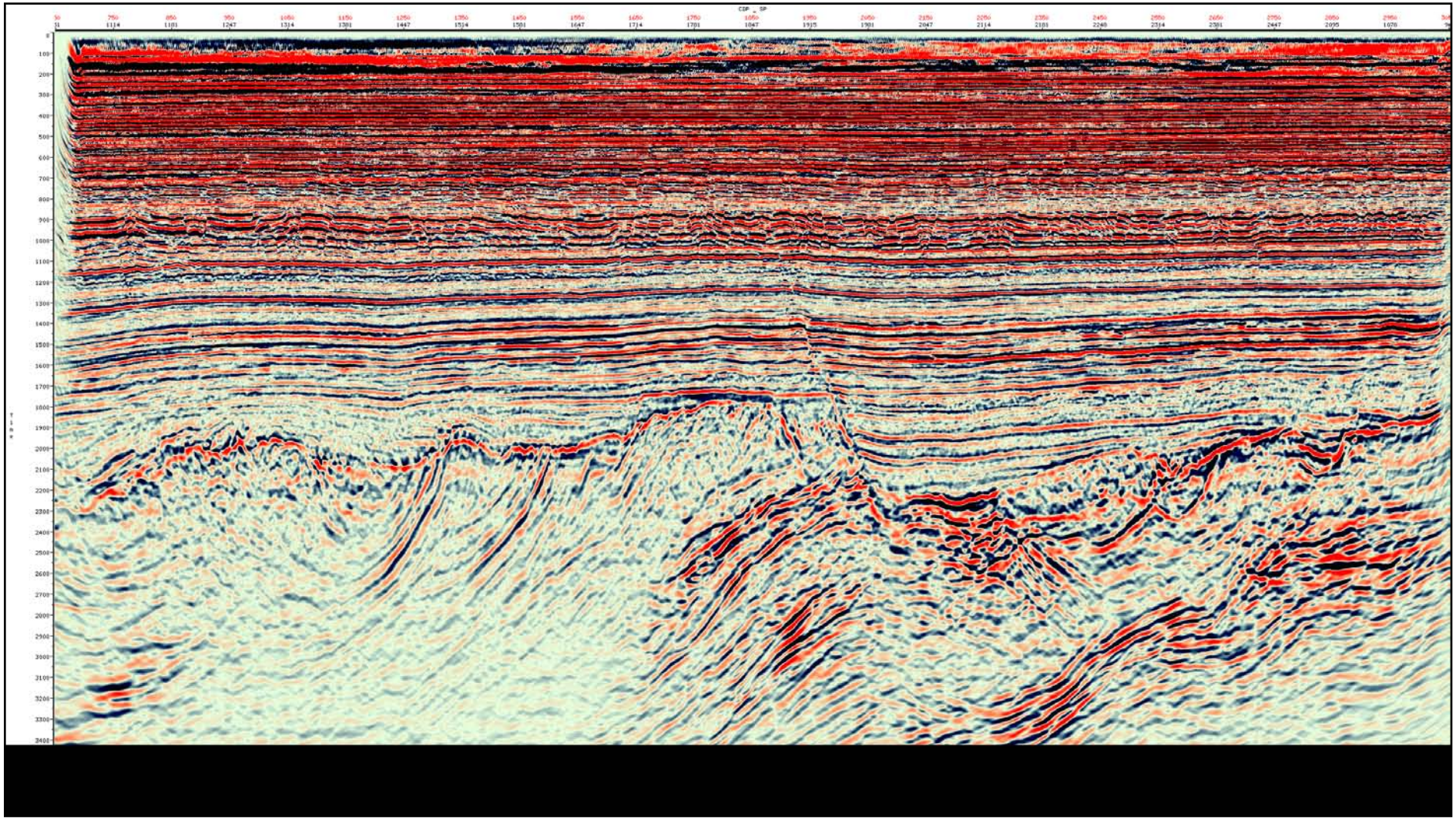
Stack (6-32 Deg) - IL 1241: V2



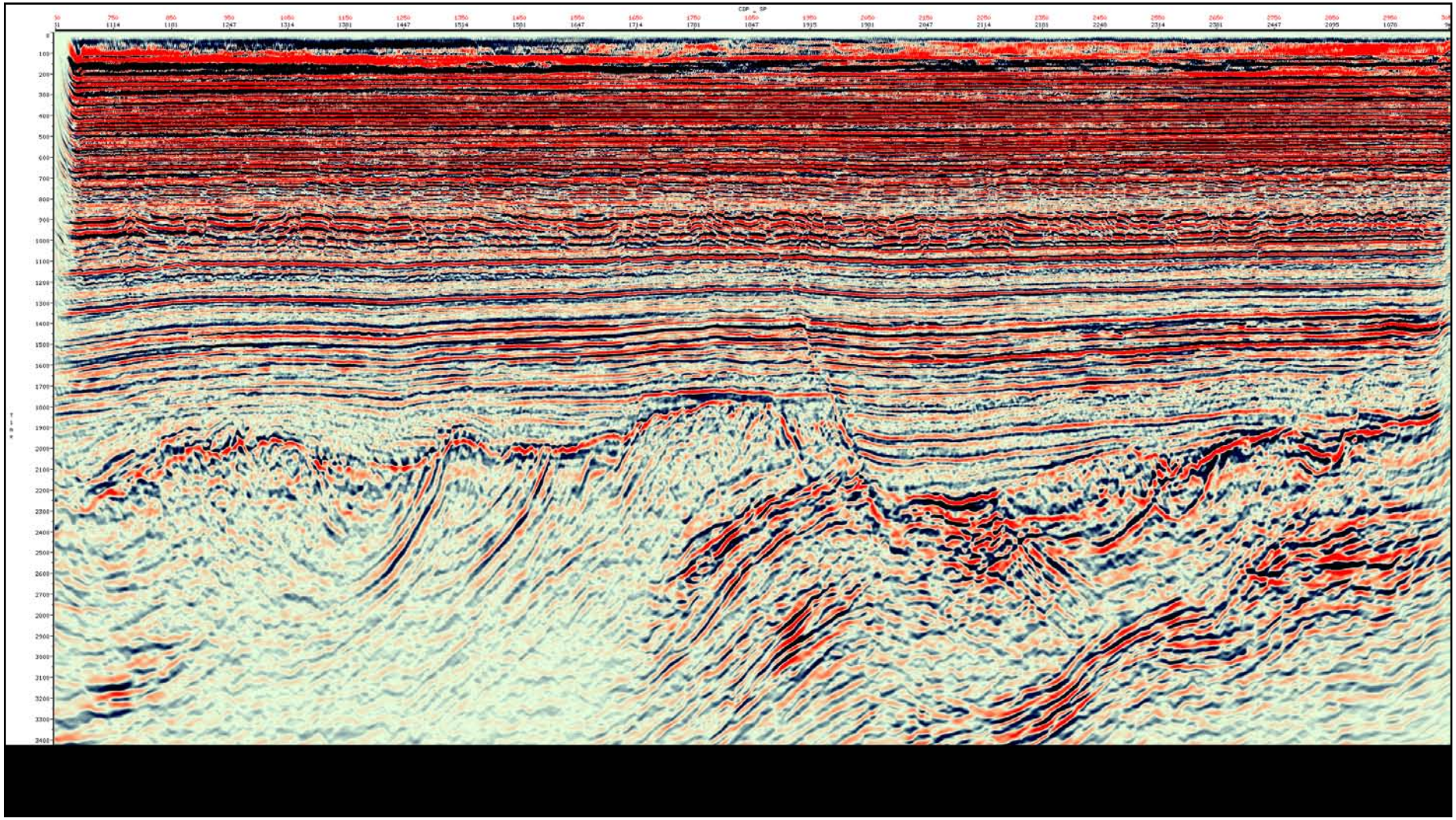
Stack (6-32 Deg) - IL 1241: HDPIC (Strong Smoothed)



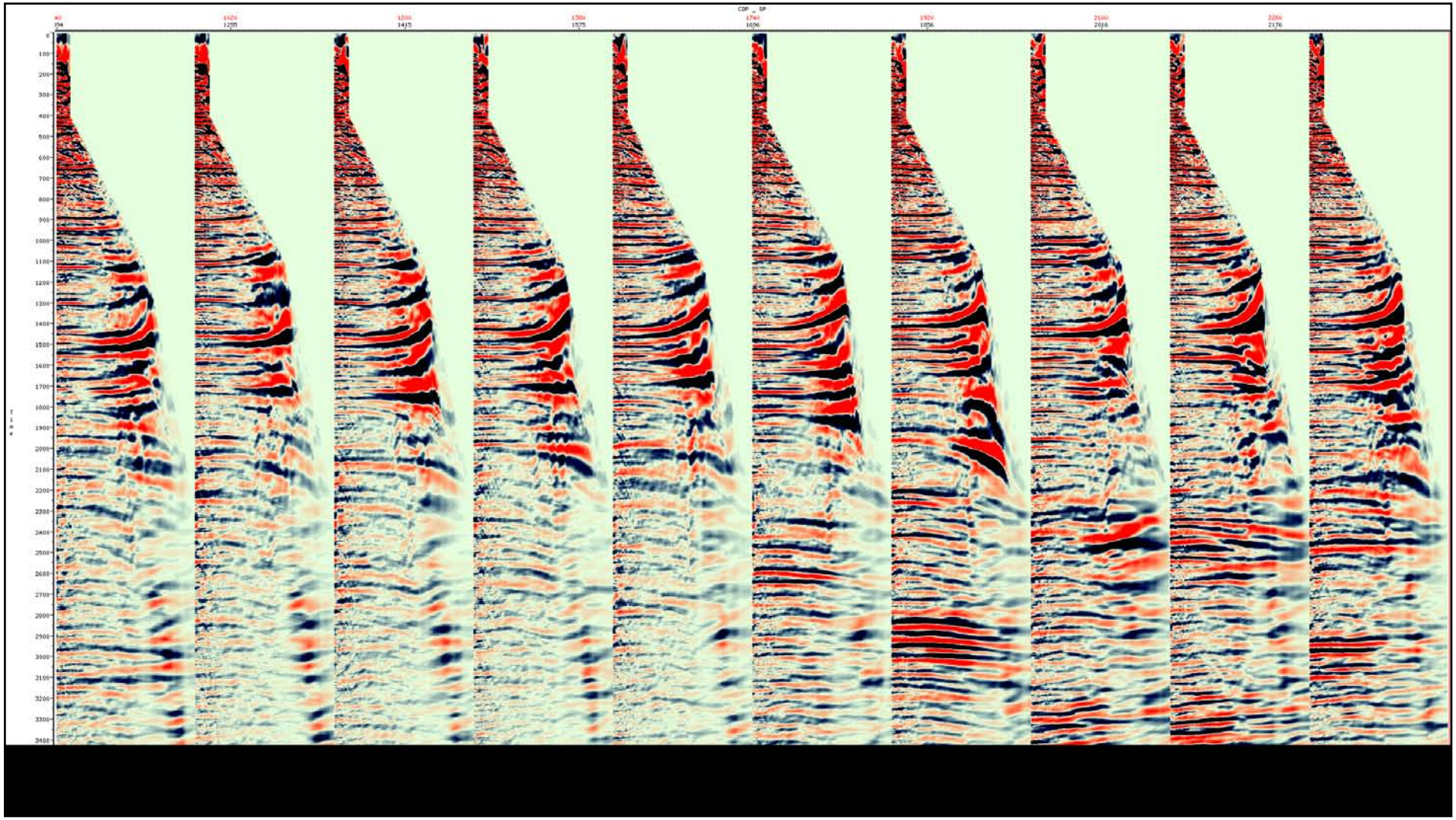
Stack (6-32 Deg) - IL 1241: HDPIC (Mid Smoothed)



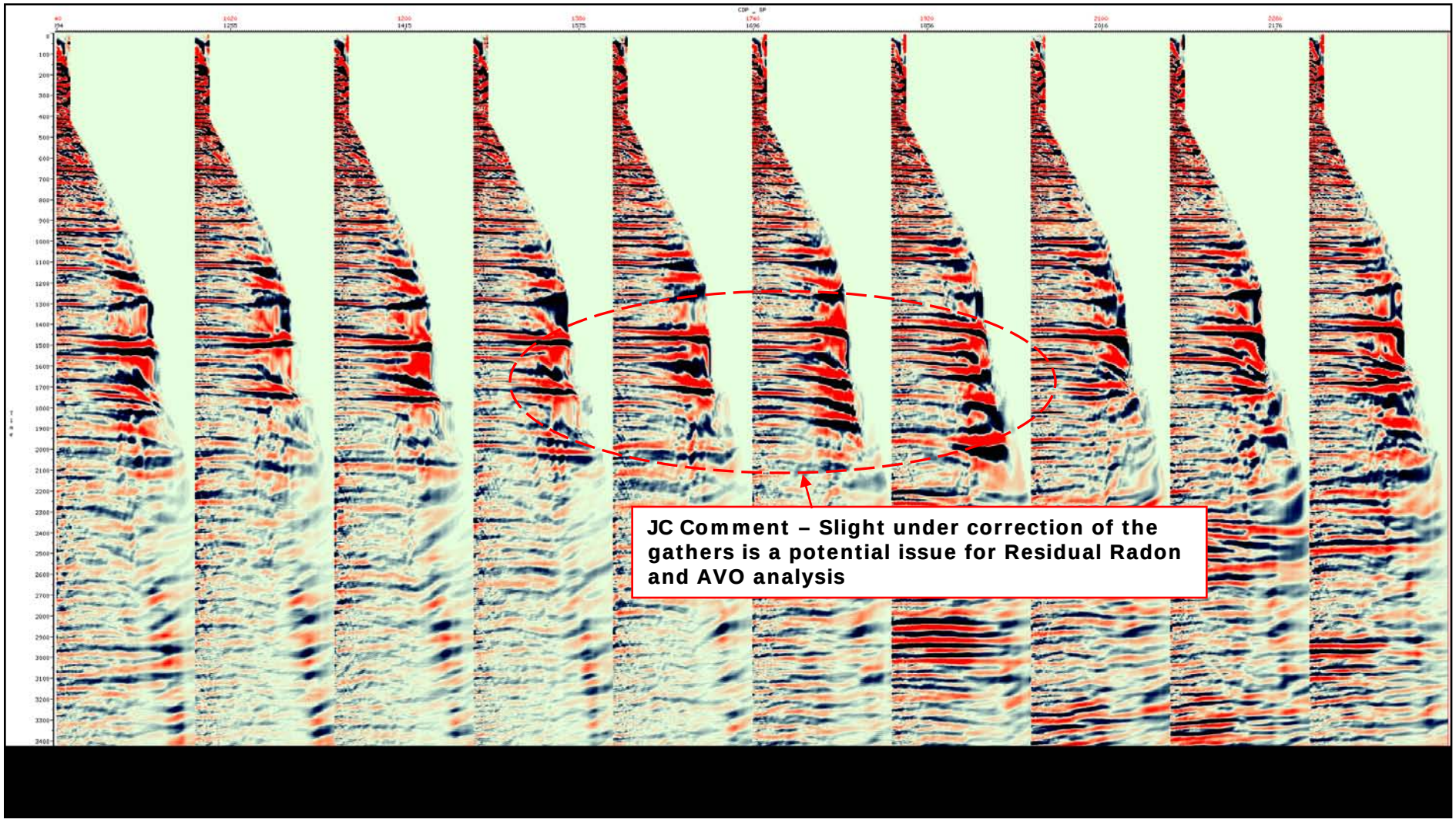
Stack (6-32 Deg) - IL 1241: HDPIC (Mild Smoothed)



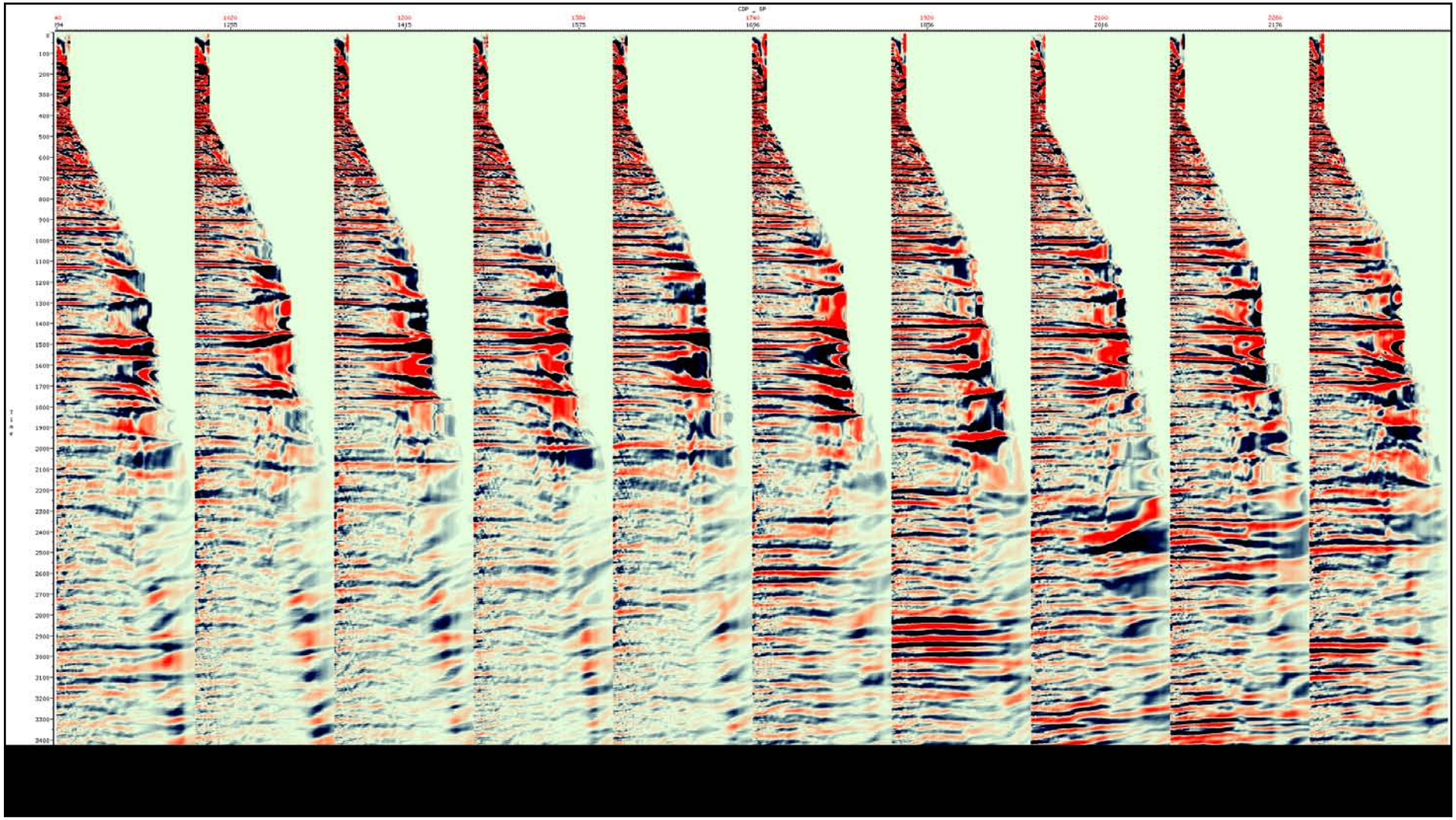
CDP - IL 1241: V2



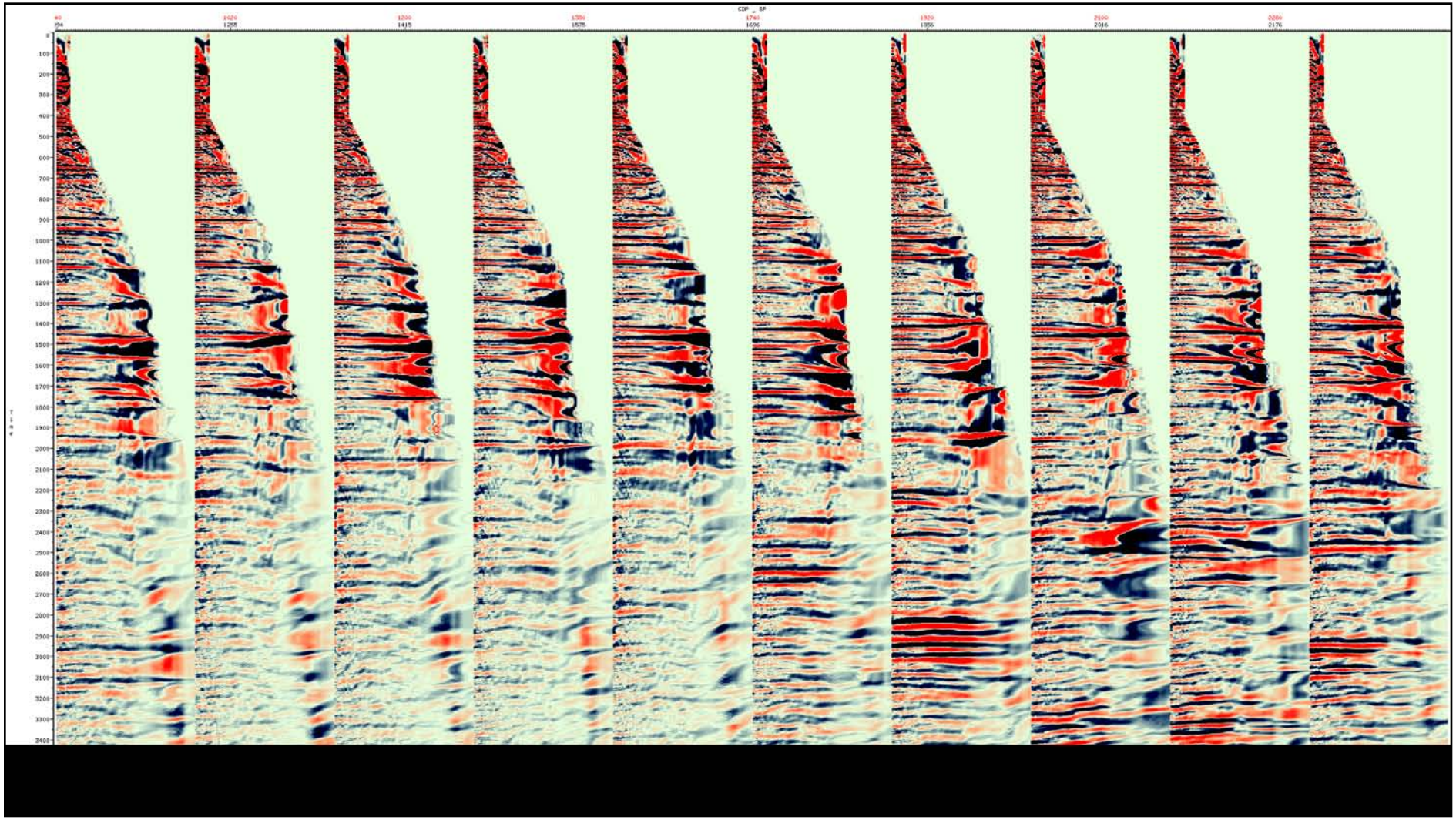
CDP - IL 1241: HDPIC (Strong Smoothed)



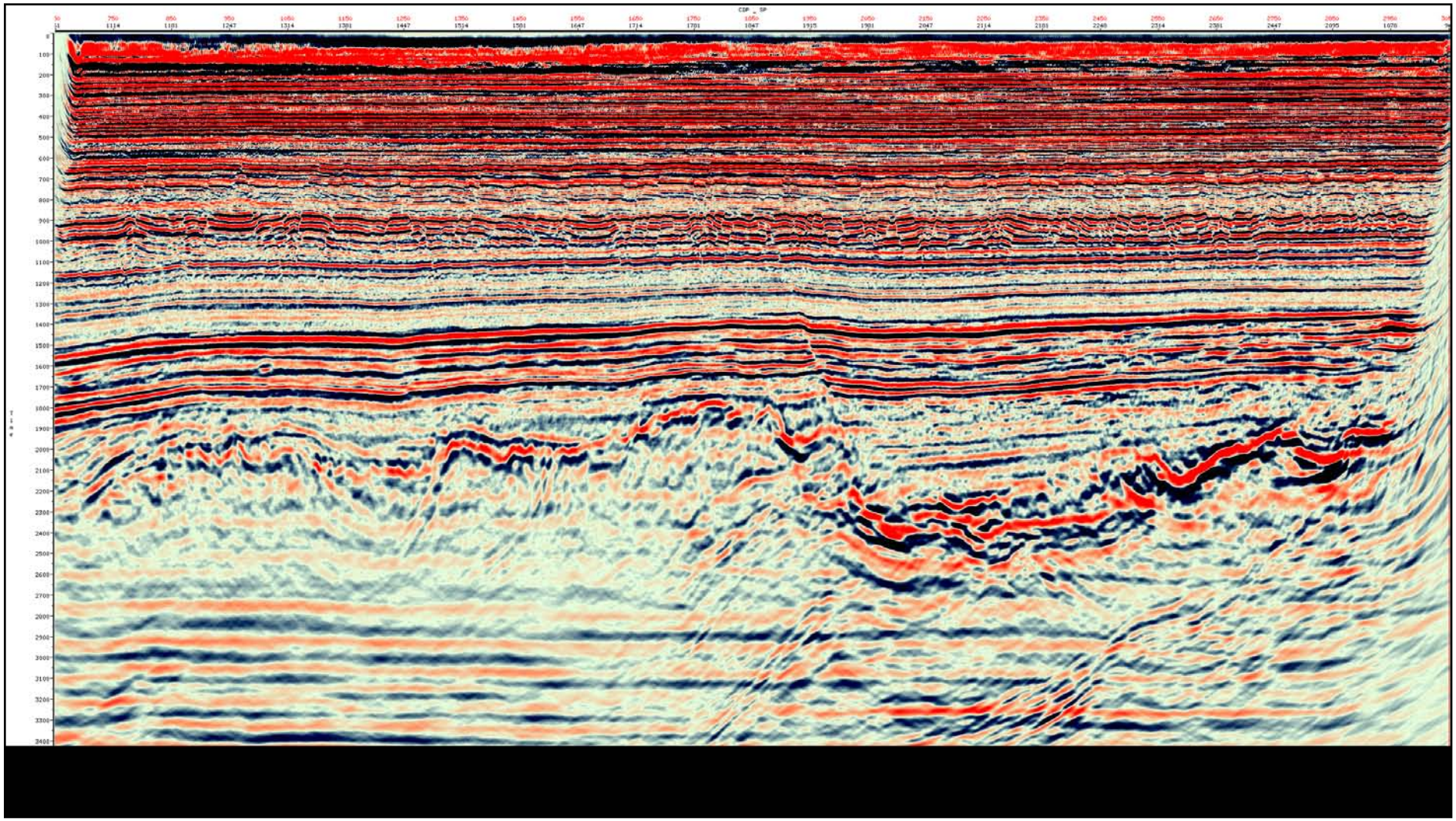
CDP - IL 1241: HDPIC (Mid Smoothed)



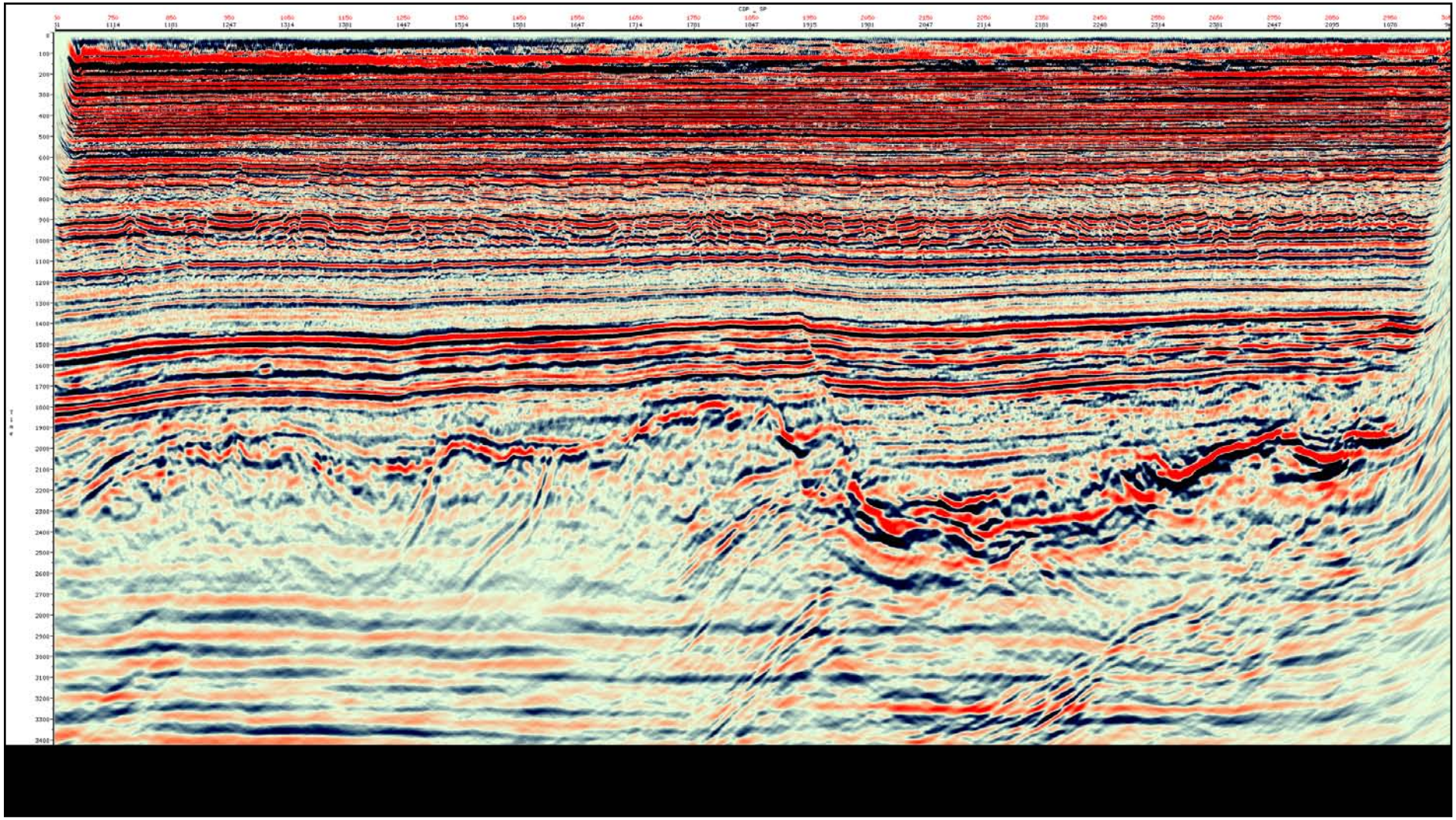
CDP - IL 1241: HDPIC (Mild Smoothed)



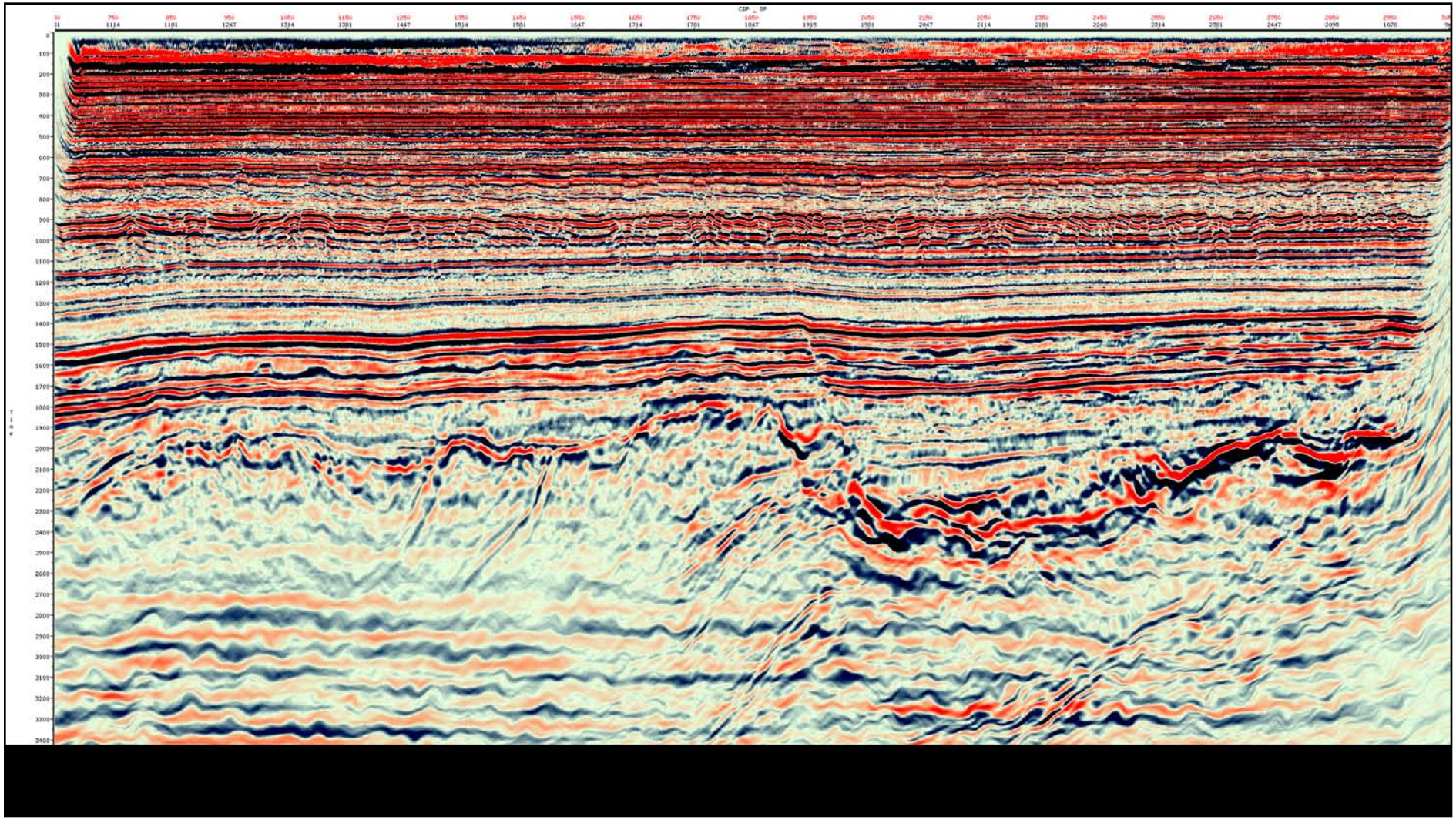
Far Stack (30-45 Deg) - IL 1241: V2



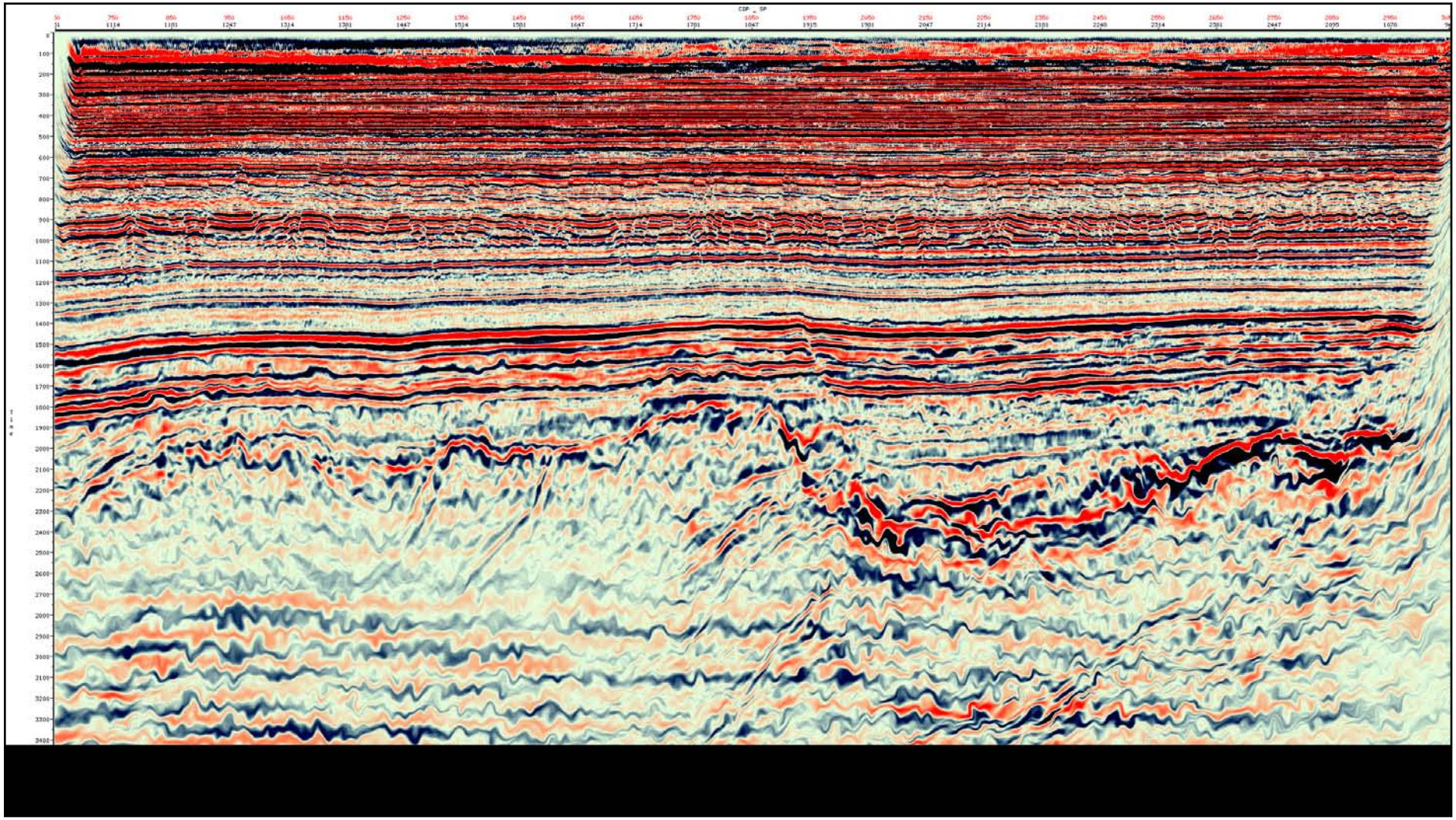
Far Stack (30-45 Deg) - IL 1241: HDPIC (Strong Smoothed)



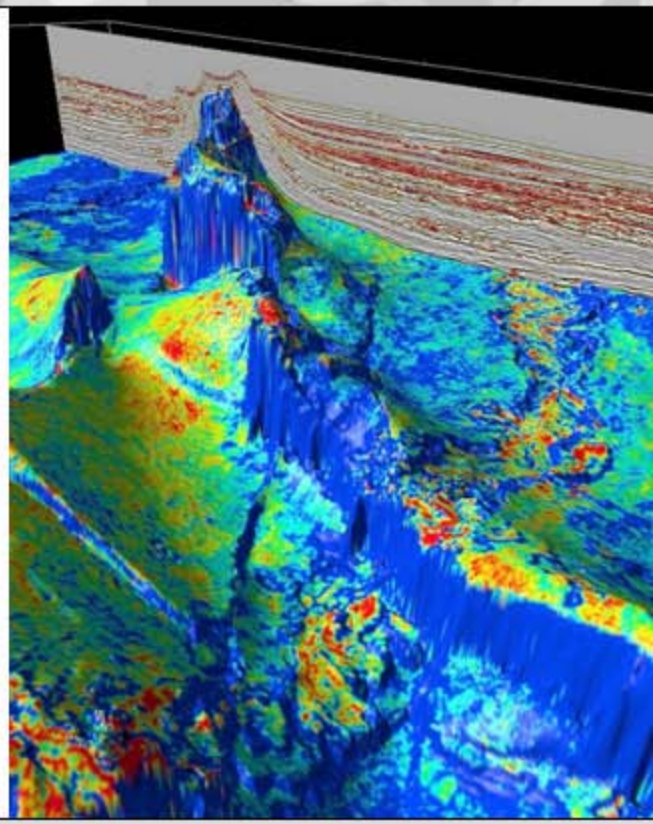
Far Stack (30-45 Deg) - IL 1241: HDPIC (Mid Smoothed)



Far Stack (30-45 Deg) - IL 1241: HDPIC (Mild Smoothed)



Technical Note 11
HDPIC
Silvereye 3D



CGGVERITAS

Introduction

HDPIC testing was carried out on inline 1241.

Test was done in 4 step, below the step:

- Smoothing DN and TO Filter parameter
- Mute definition for pre condition of HDPIC
- Percentage of corridor velocity parameter test,

  the percentage value at the target zone (around time 1600ms) and increased with time.

4. Apply all the best parameters from point 1), 2) 3).

Reference is output of Pre STM using V2 velocity.

Processing Sequence to date

Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
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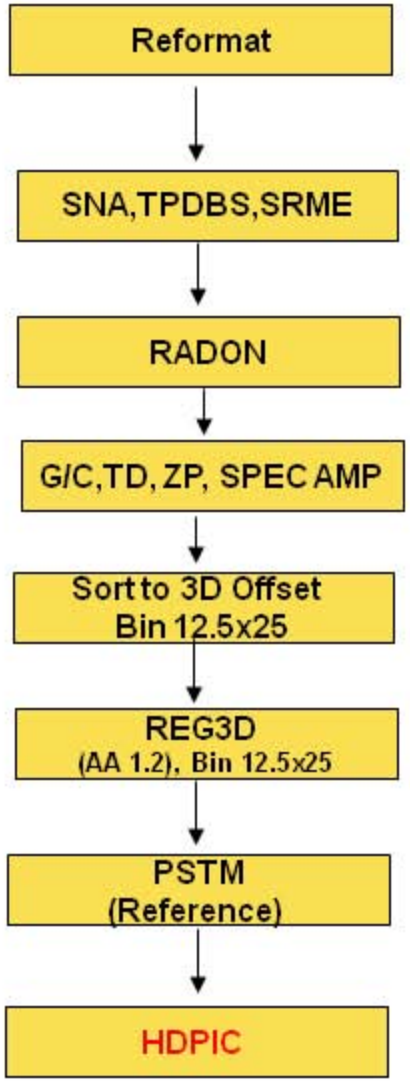
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D
- Replace T2 with TV Ursin (offset term)
- PSTM: Ray Trace, Dip Lim 75, Aperture 4 km, Smoothed V2 Velocity

Current Test

- **HDPIC**

Proc Flow: HDPIC



HDPIC, Filter DN and T0

Step1:

The aim of this step is get the reasonable result for smoothing DN and T0.

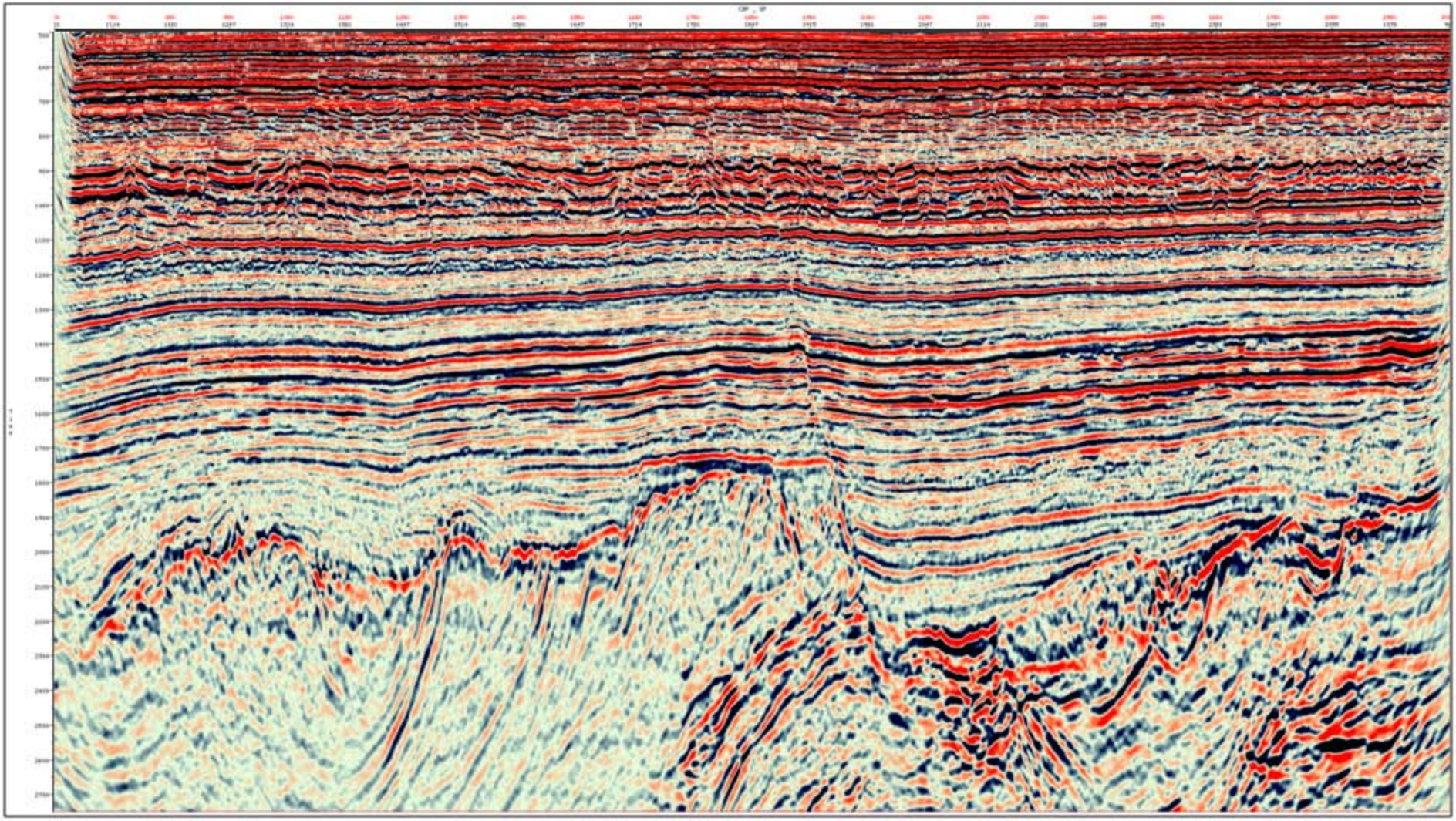
Parameter used in this test:

- **Mute 48 degree pre HDPIC**
- **corridor for velocity scan used 11% in the target zone (around time 1600ms).**

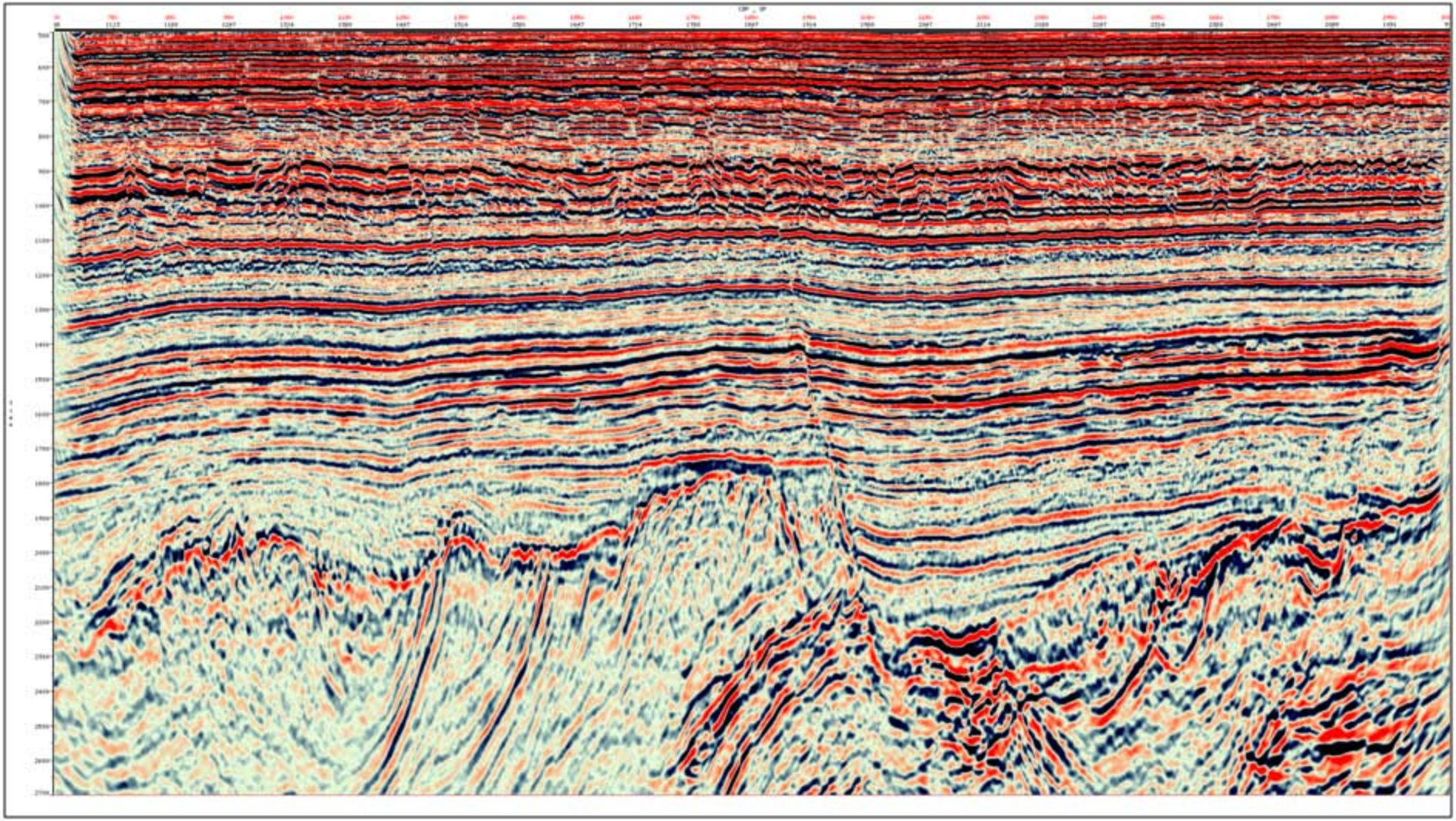
Four different Filter tested: 125m, 250m, 500m, and 1000m.

- **JC suggested to use 500m Filter**

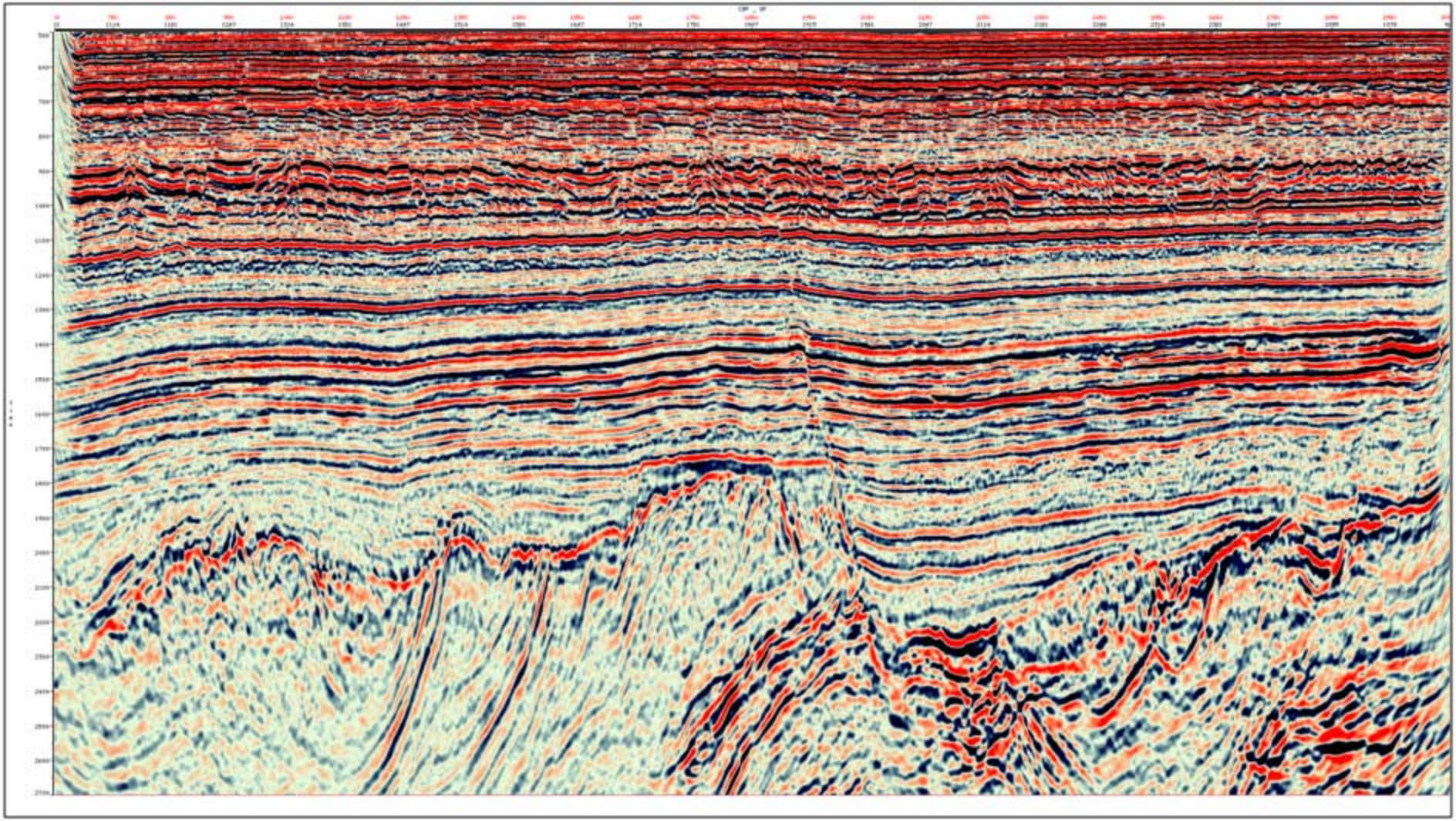
Stack (6-32 Deg) - IL 1241: Reference (V2 PSTM Output)



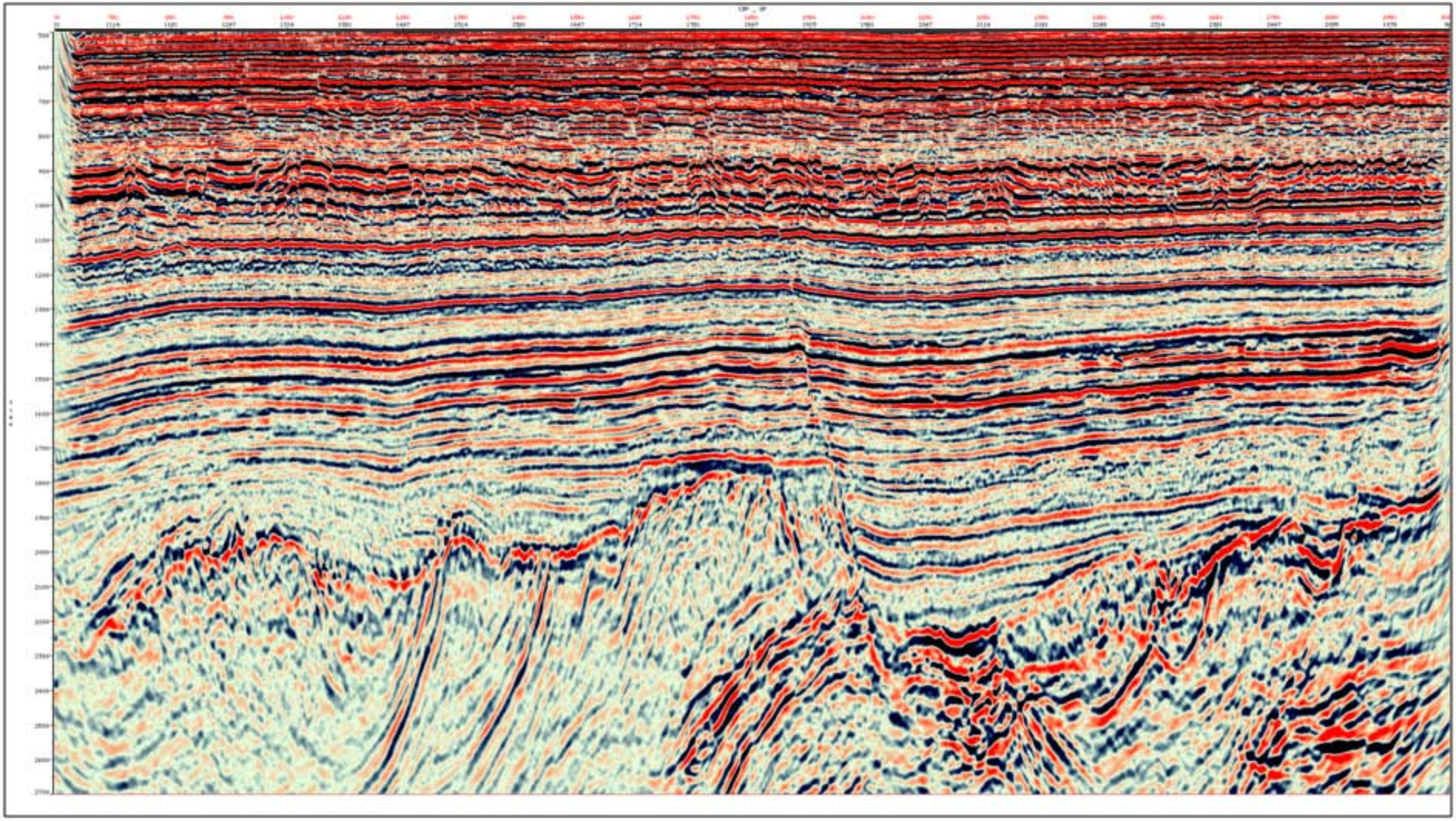
Stack (6-32 Deg) - IL 1241: Filter: 125M



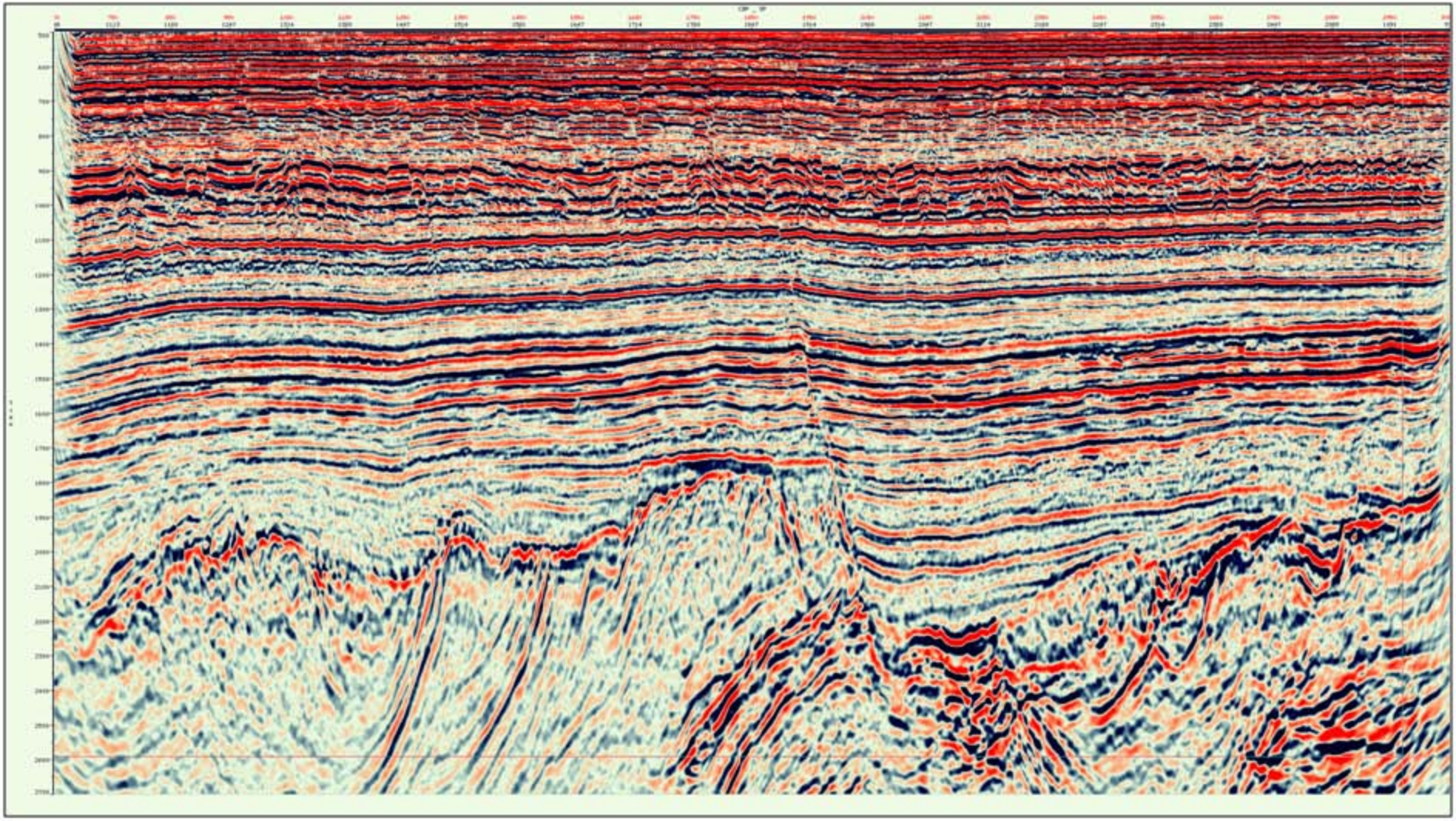
Stack (6-32 Deg) - IL 1241: Filter: 250M



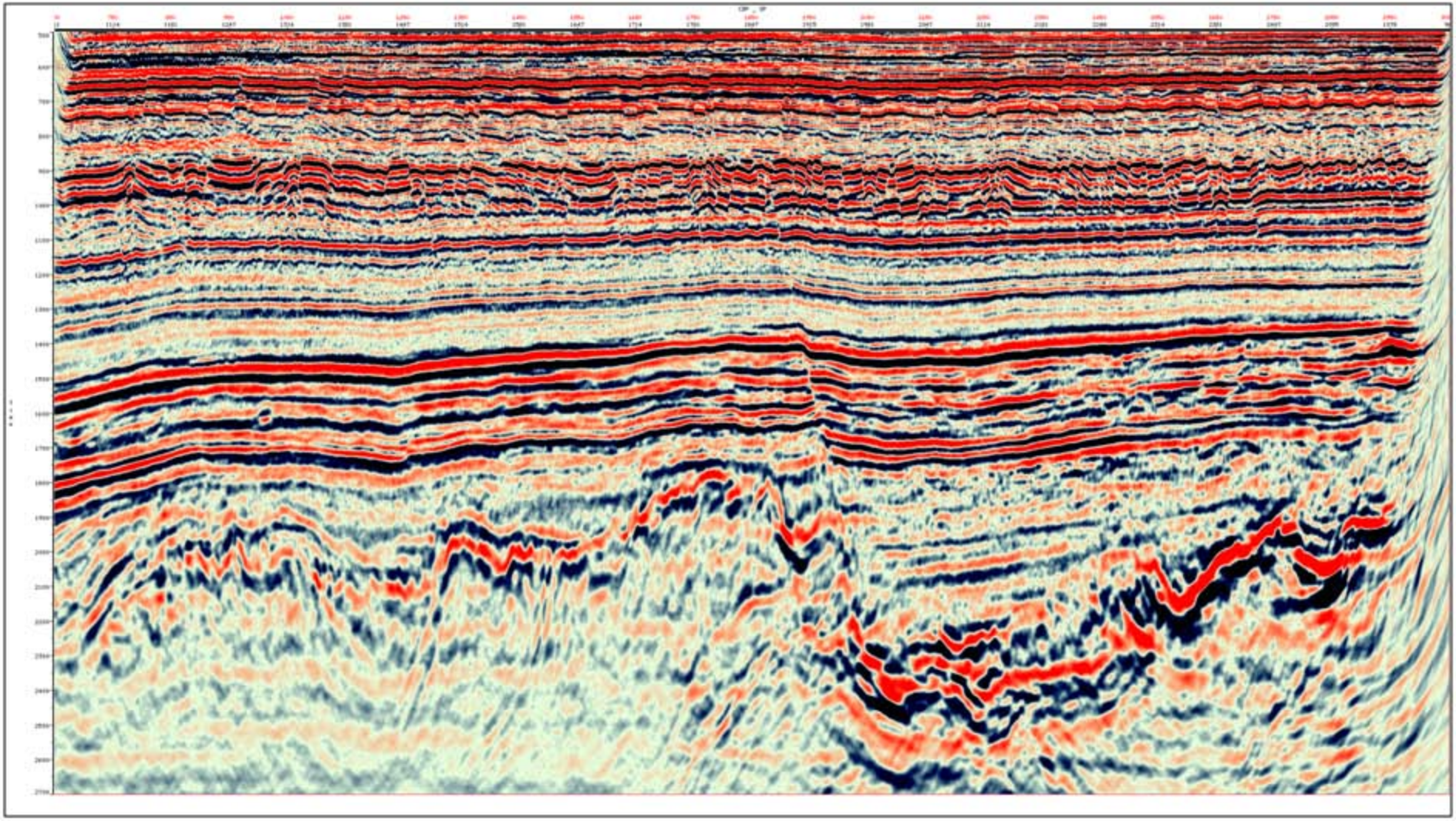
Stack (6-32 Deg) - IL 1241: Filter: 500M



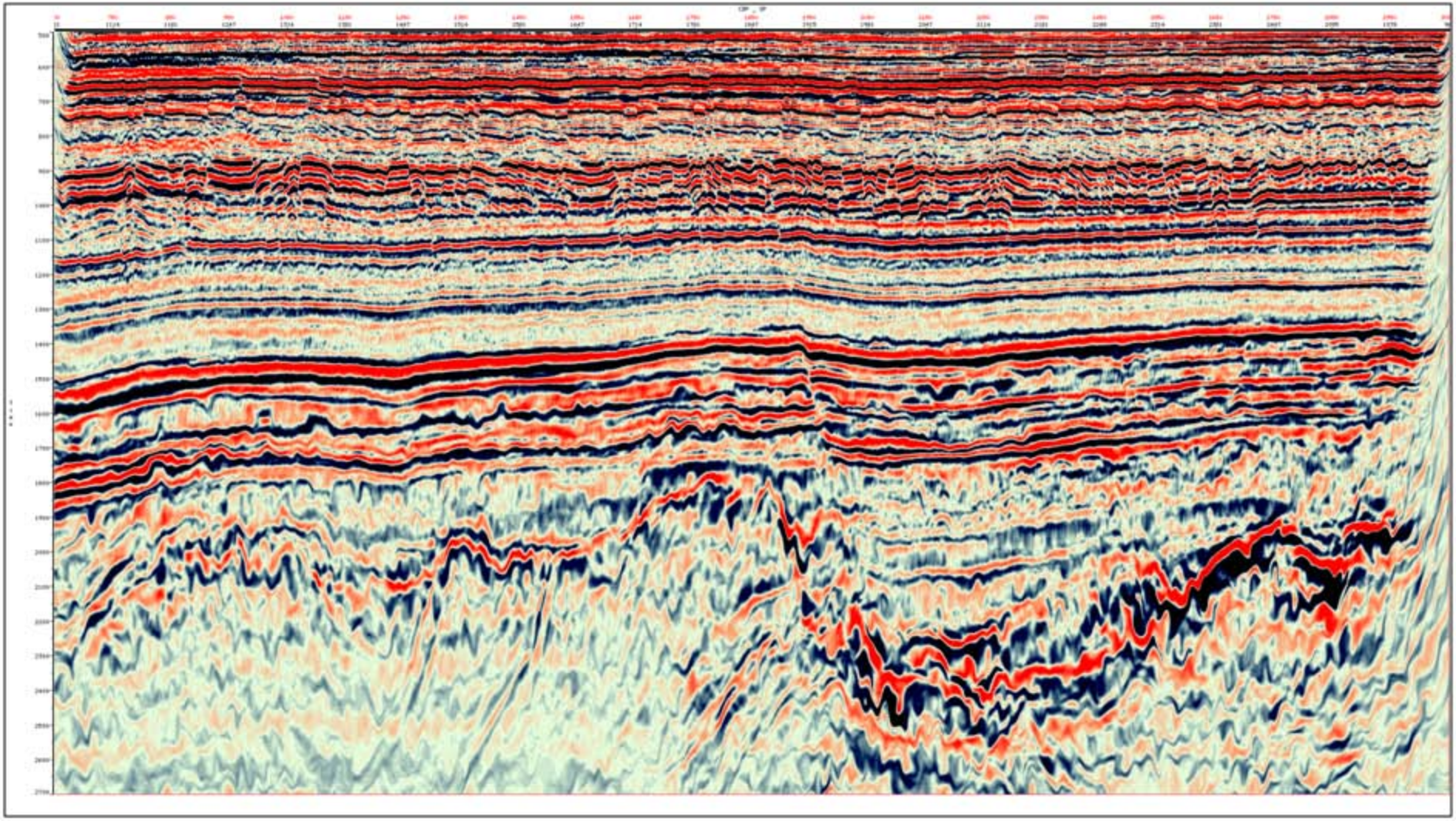
Stack (6-32 Deg) - IL 1241: Filter: 1000M



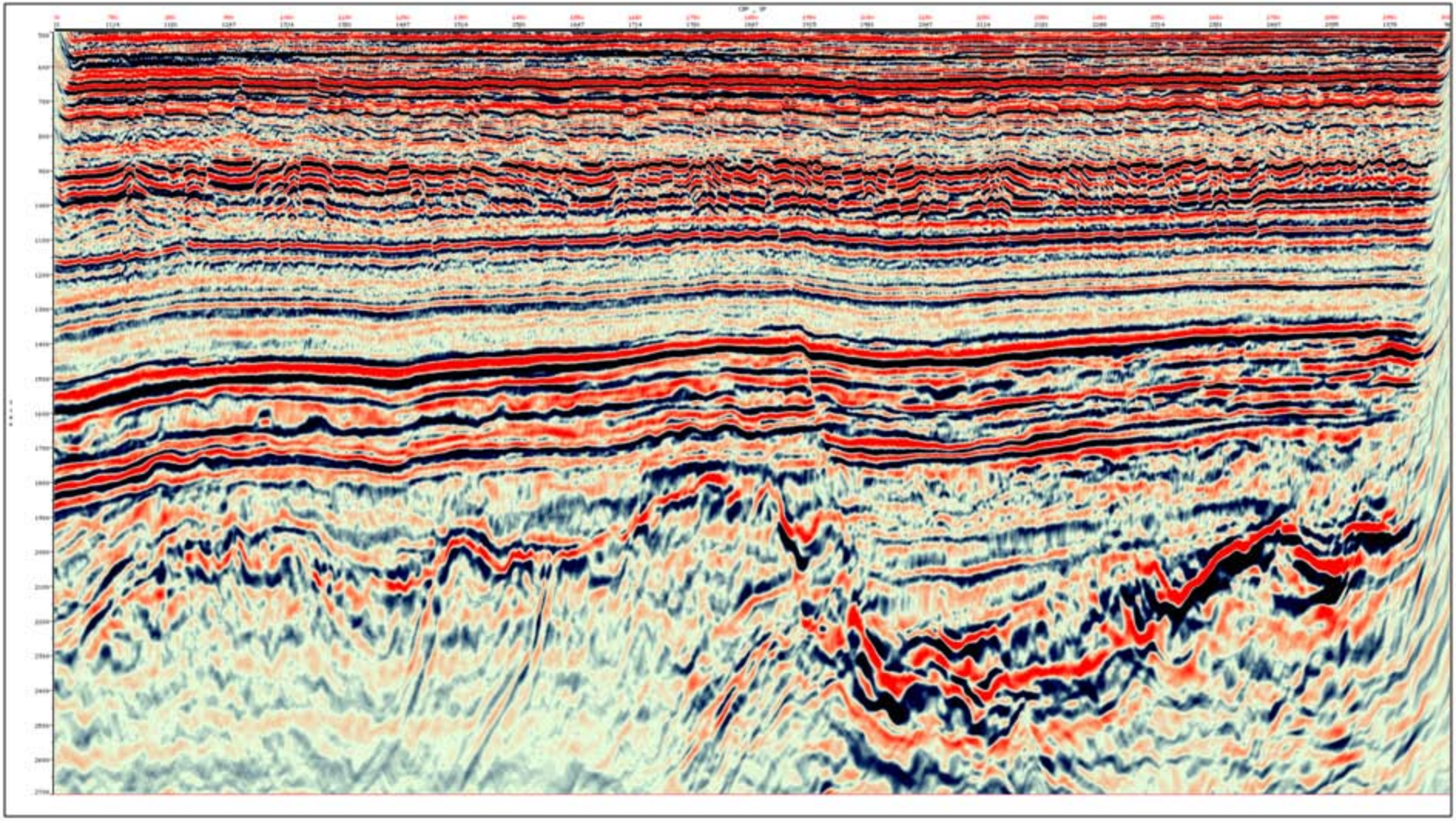
Far Stack (30-45 Deg) - IL 1241: Reference



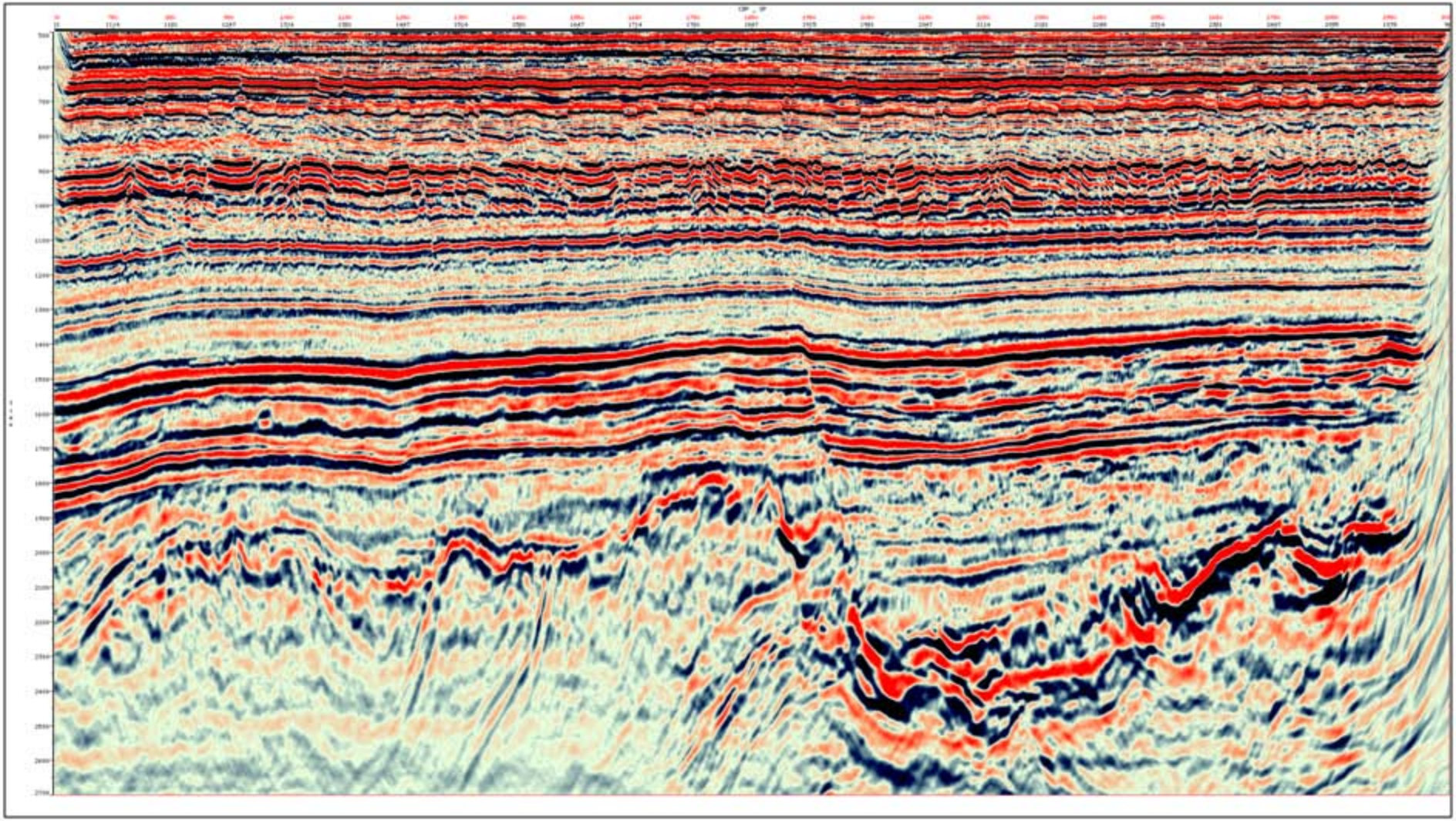
Far Stack (30-45 Deg) - IL 1241: Filter: 125M



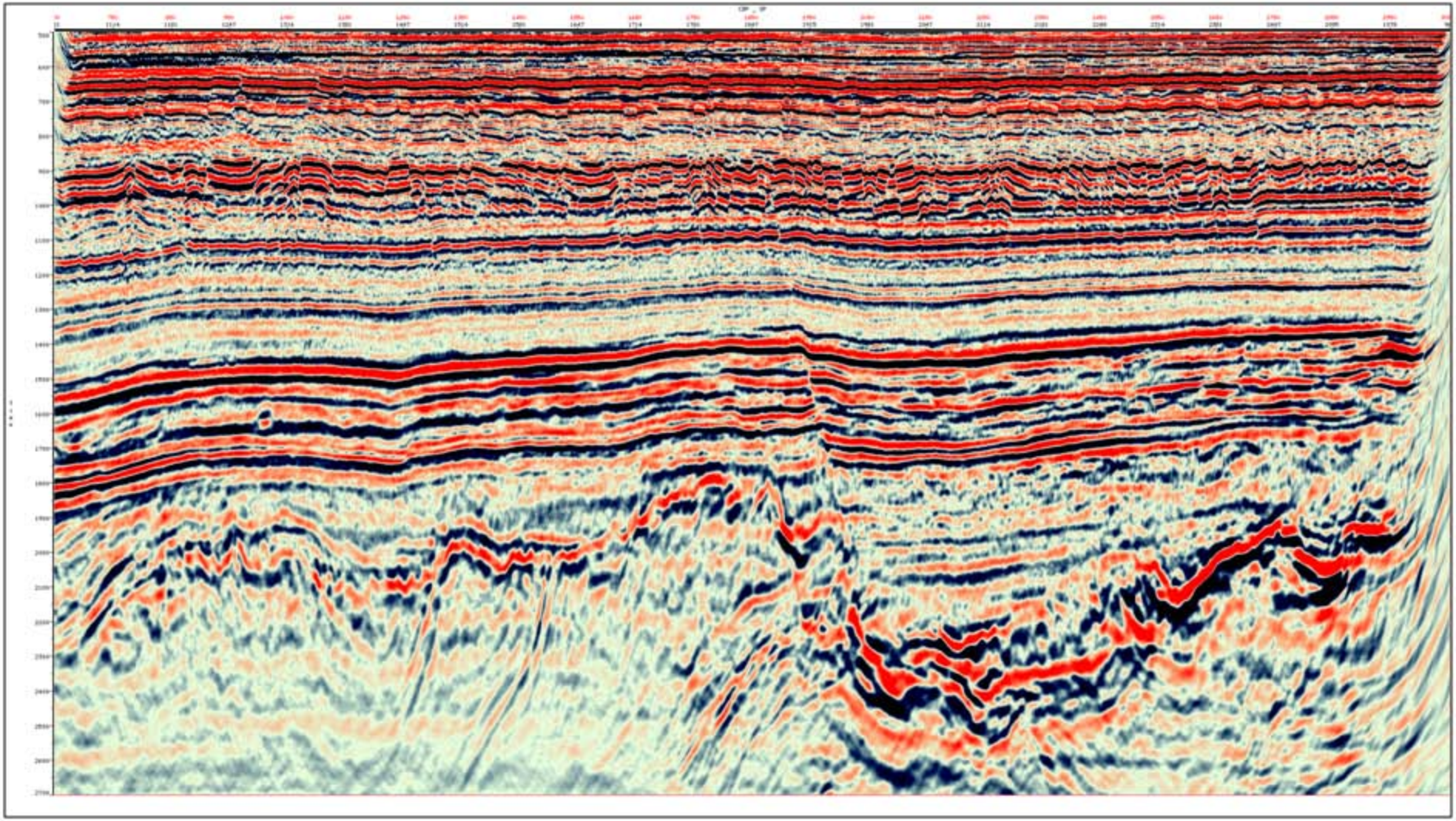
Far Stack (30-45 Deg) - IL 1241: Filter: 250M



Far Stack (30-45 Deg) - IL 1241: Filter: 500M



Far Stack (30-45 Deg) - IL 1241: Filter: 1000M



HDPIC, Muted pre HDPIC

Step2:

The aim of this step is get the correct mute definition as pre condition for the HDPIC.

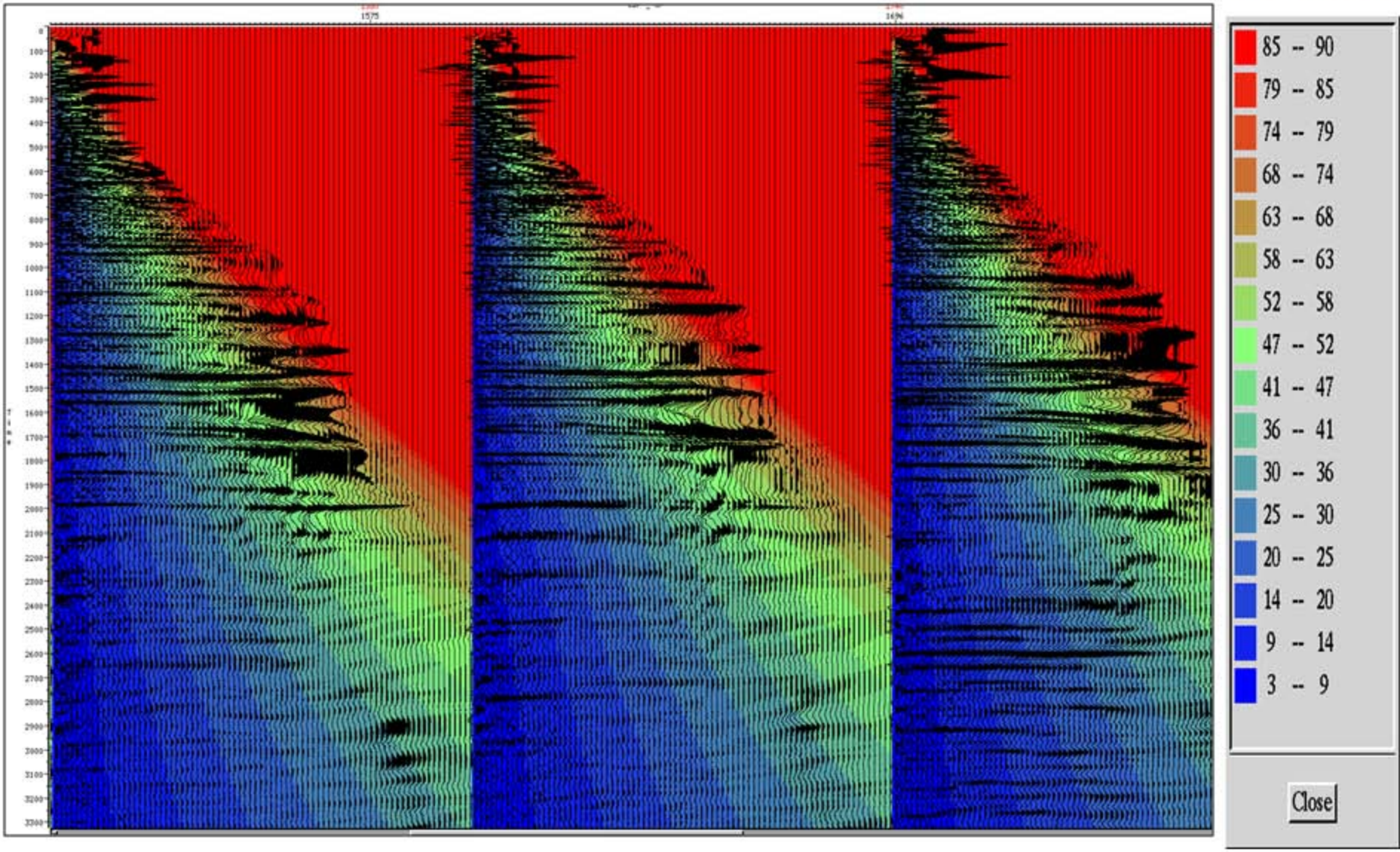
Parameter used in this test:

- **Filter for DN and T0 used 500 m for this test,**
- **corridor for velocity scan used 11% in the target zone.**

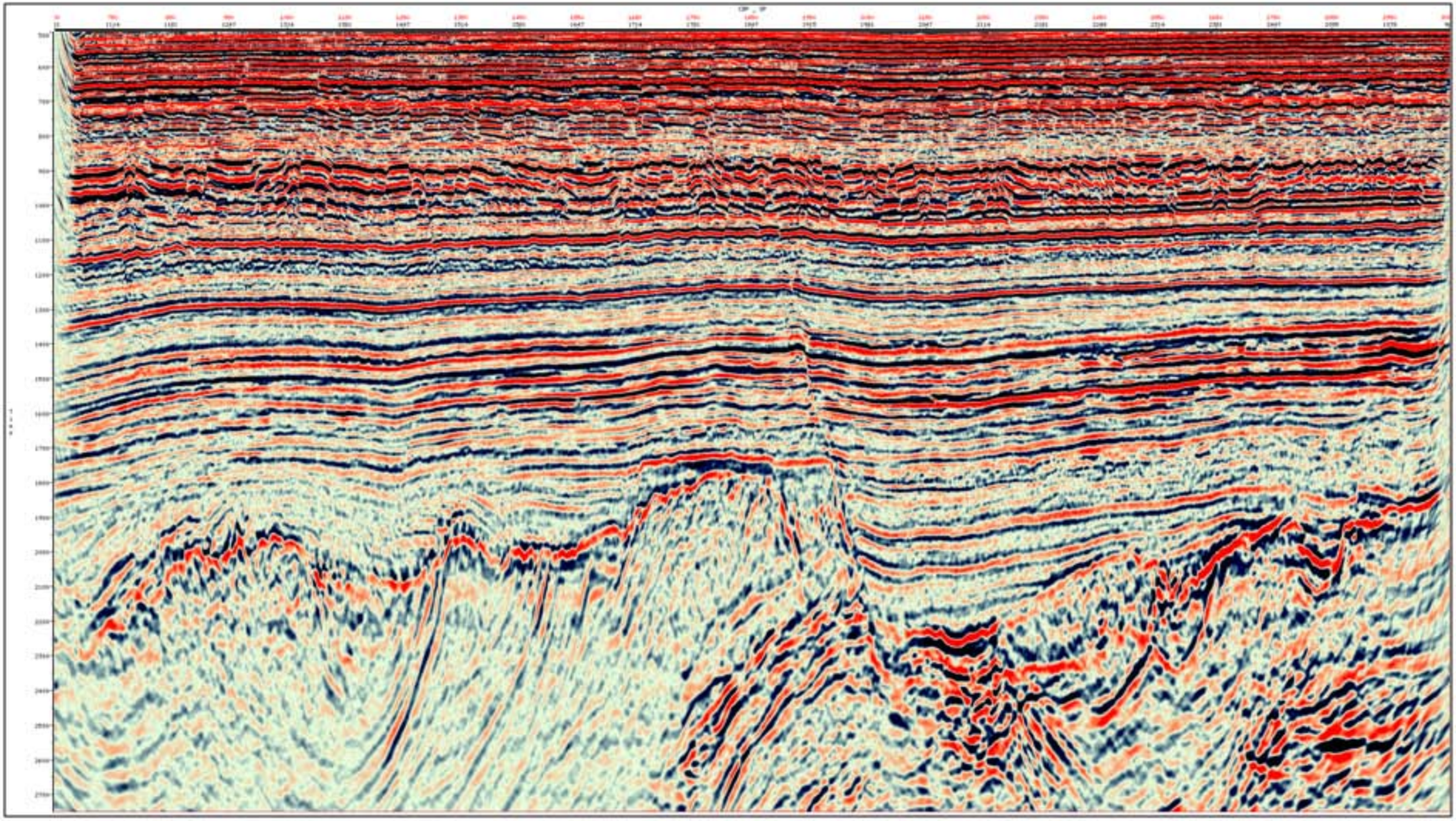
Three different mute tested: 48 deg, 42 deg and 36 deg.

- **36 Degrees mute for input HDPIC give stable result in the HDPIC**
- **JC suggested to use 36 Degrees mute as pre condition for HDPIC**

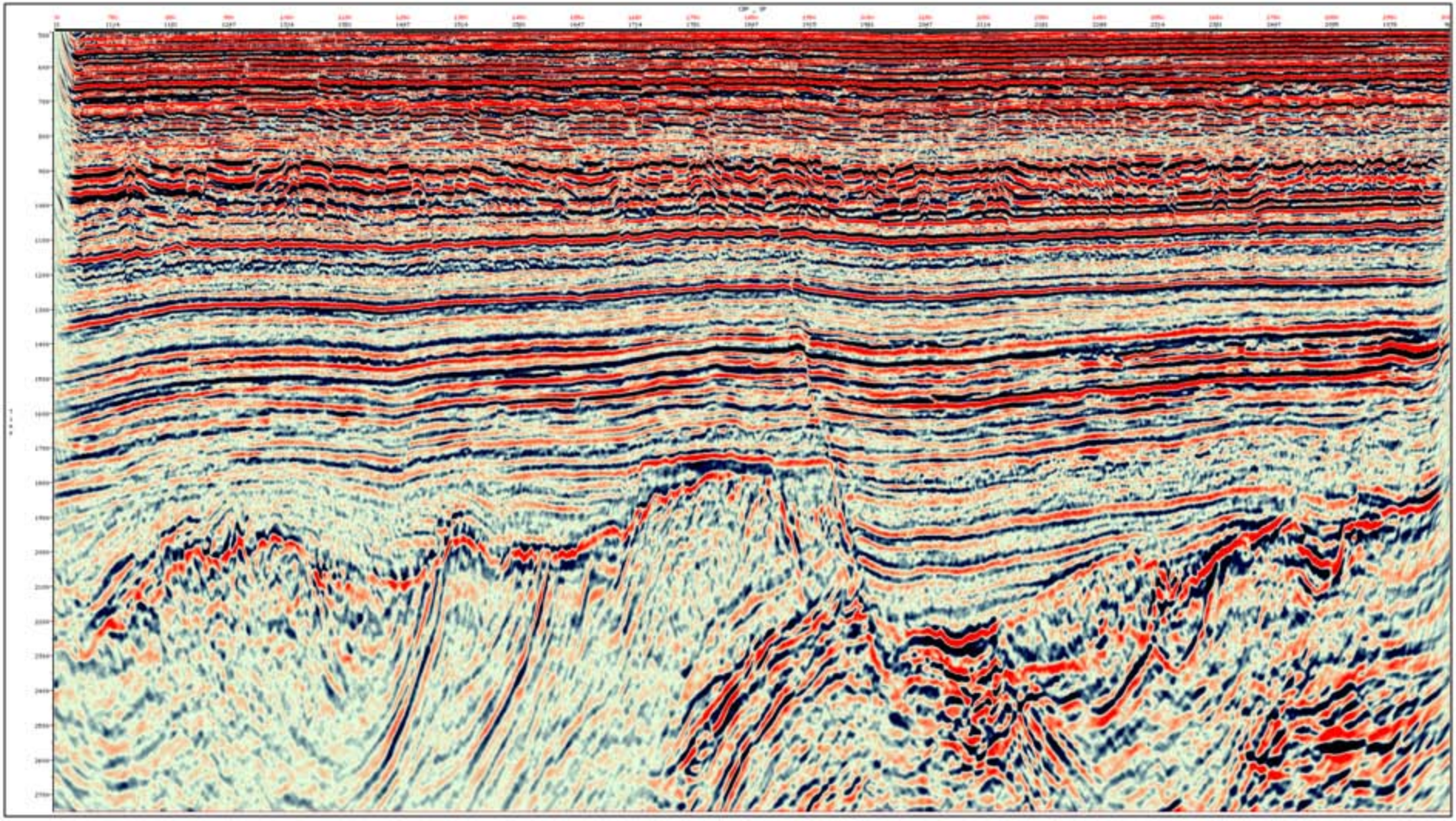
IL-1241: Angle Mute



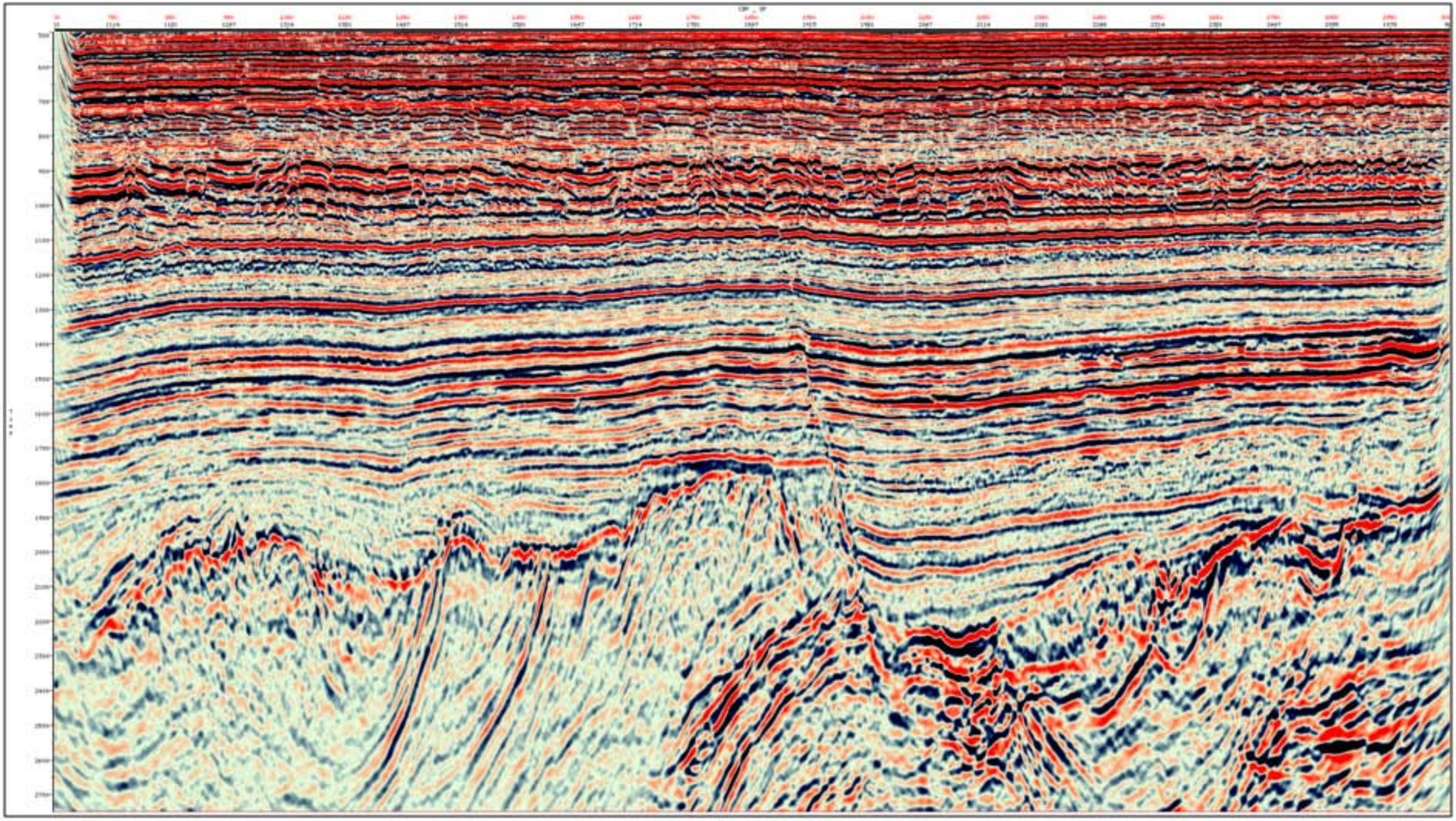
Stack (6-32 Deg) - IL 1241: Reference (V2 PSTM Output)



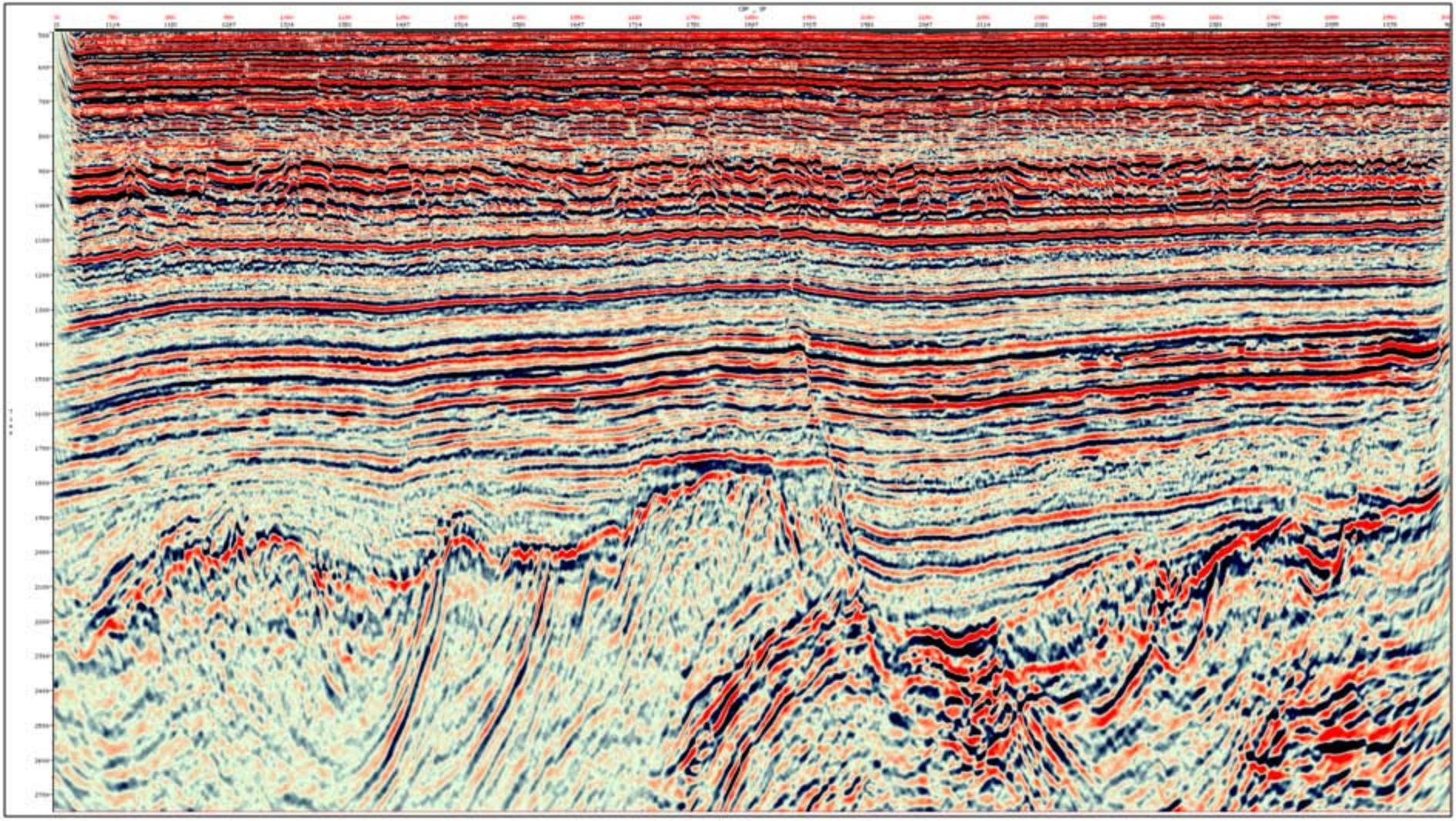
Stack (6-32 Deg) - IL 1241: 48 Deg Mute Pre HDPIC



Stack (6-32 Deg) - IL 1241: 42 Deg Mute Pre HDPIC

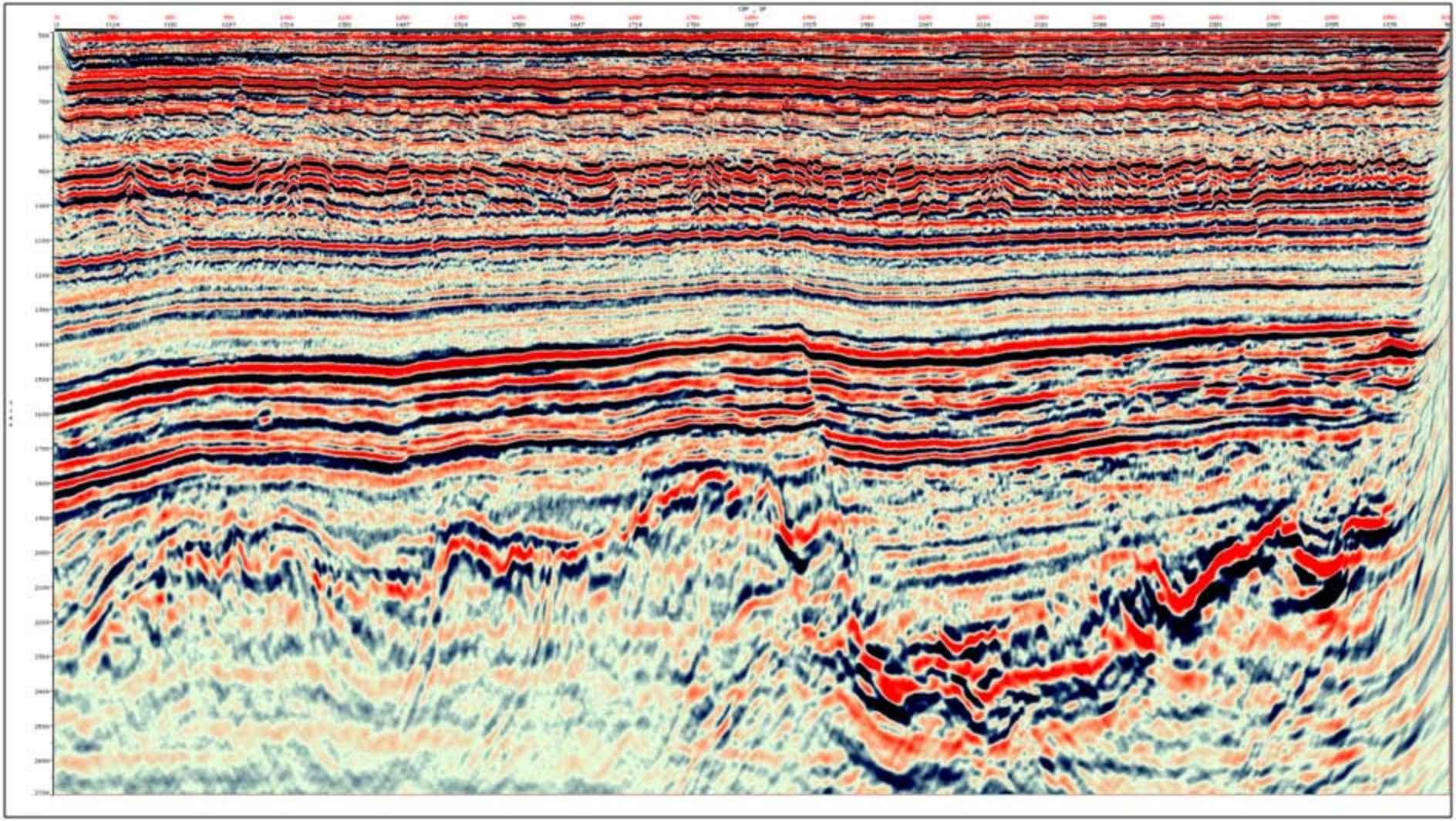


Stack (6-32 Deg) - IL 1241: 36 Deg Mute Pre HDPIC

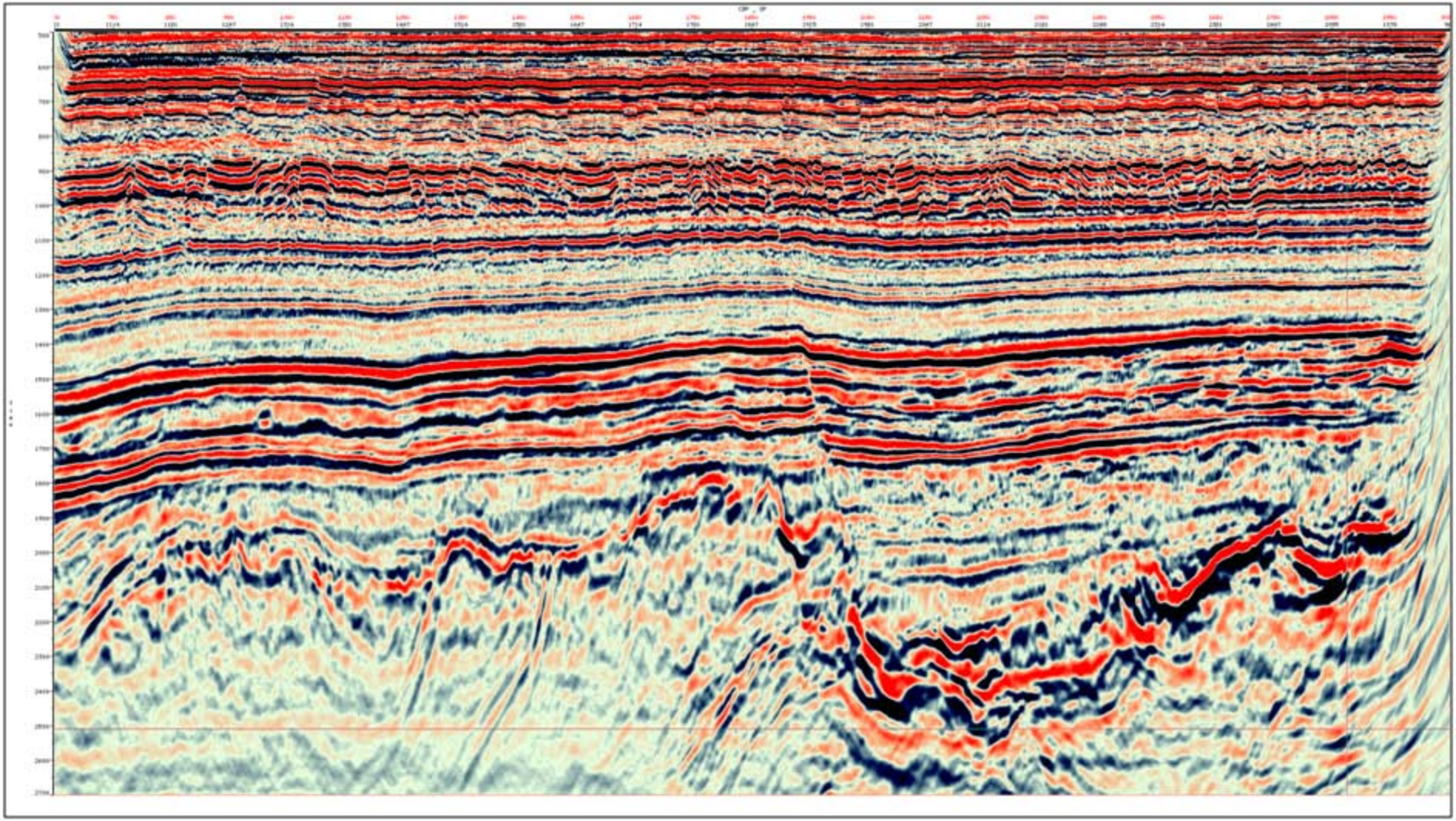


All of the varios mutes used on ninput to HDPIC result in a stable velocity field out to 32 deg incident angle

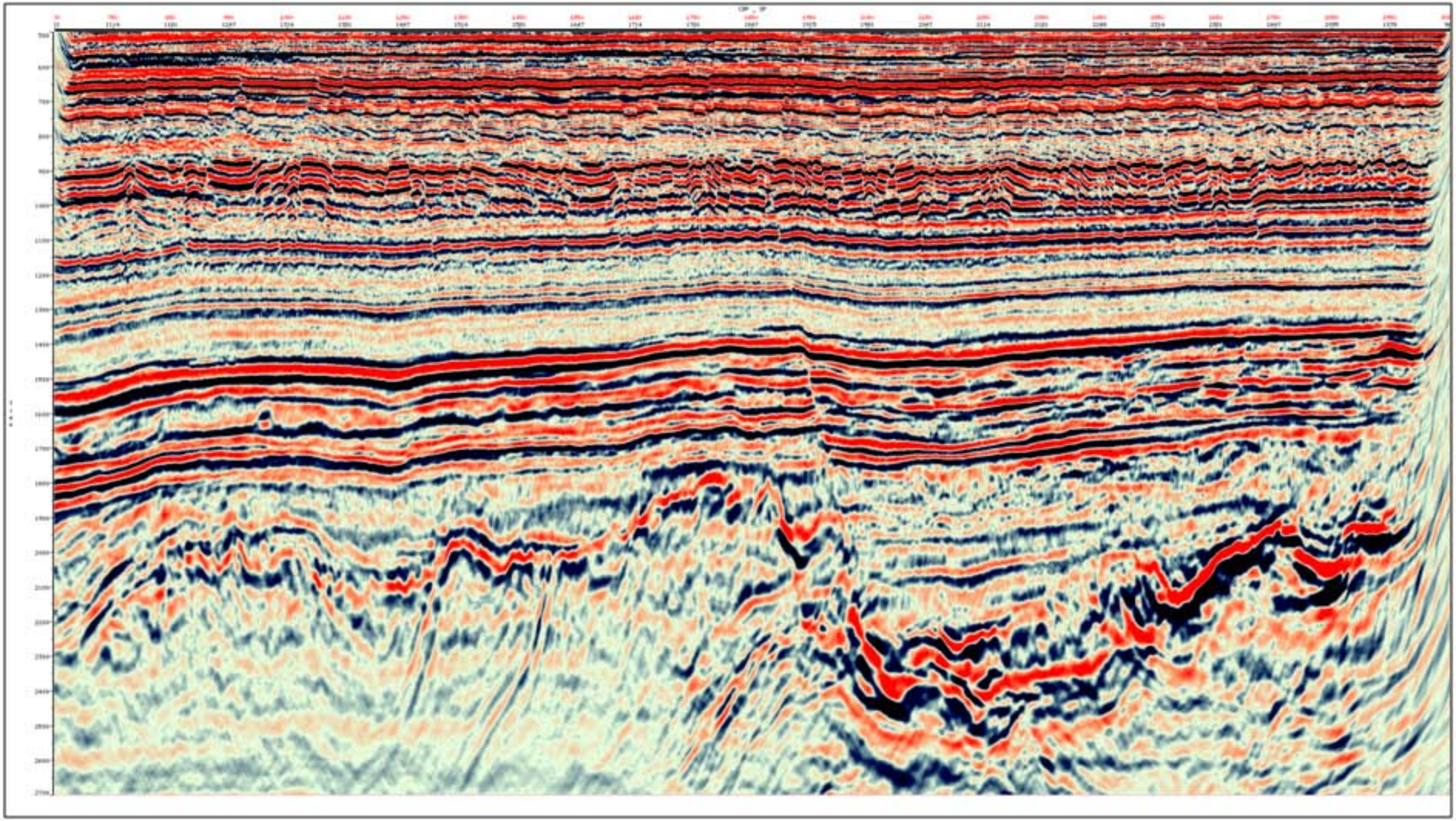
Far Stack (30-45 Deg) - IL 1241: Reference (V2 PSTM Output)



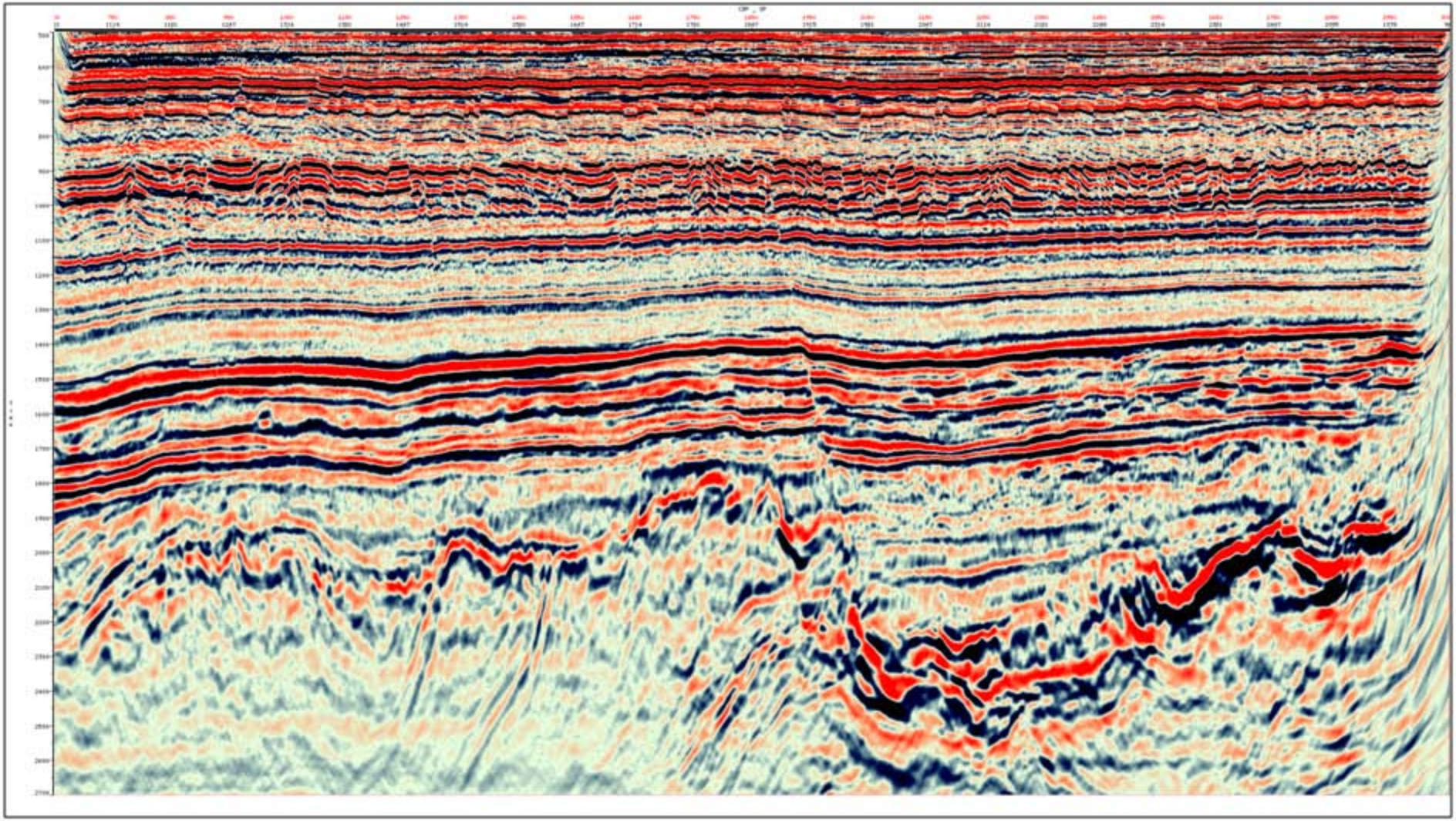
Far Stack (30-45 Deg) - IL 1241: 48 Deg Mute Pre HDPIC



Far Stack (30-45 Deg) - IL 1241: 42 Deg Mute Pre HDPIC



Far Stack (30-45 Deg) - IL 1241: 36 Deg Mute Pre HDPIC



HDPIC, Corridor Velocity

Step3:

The aim of this step is best percentage of corridor velocity scan.

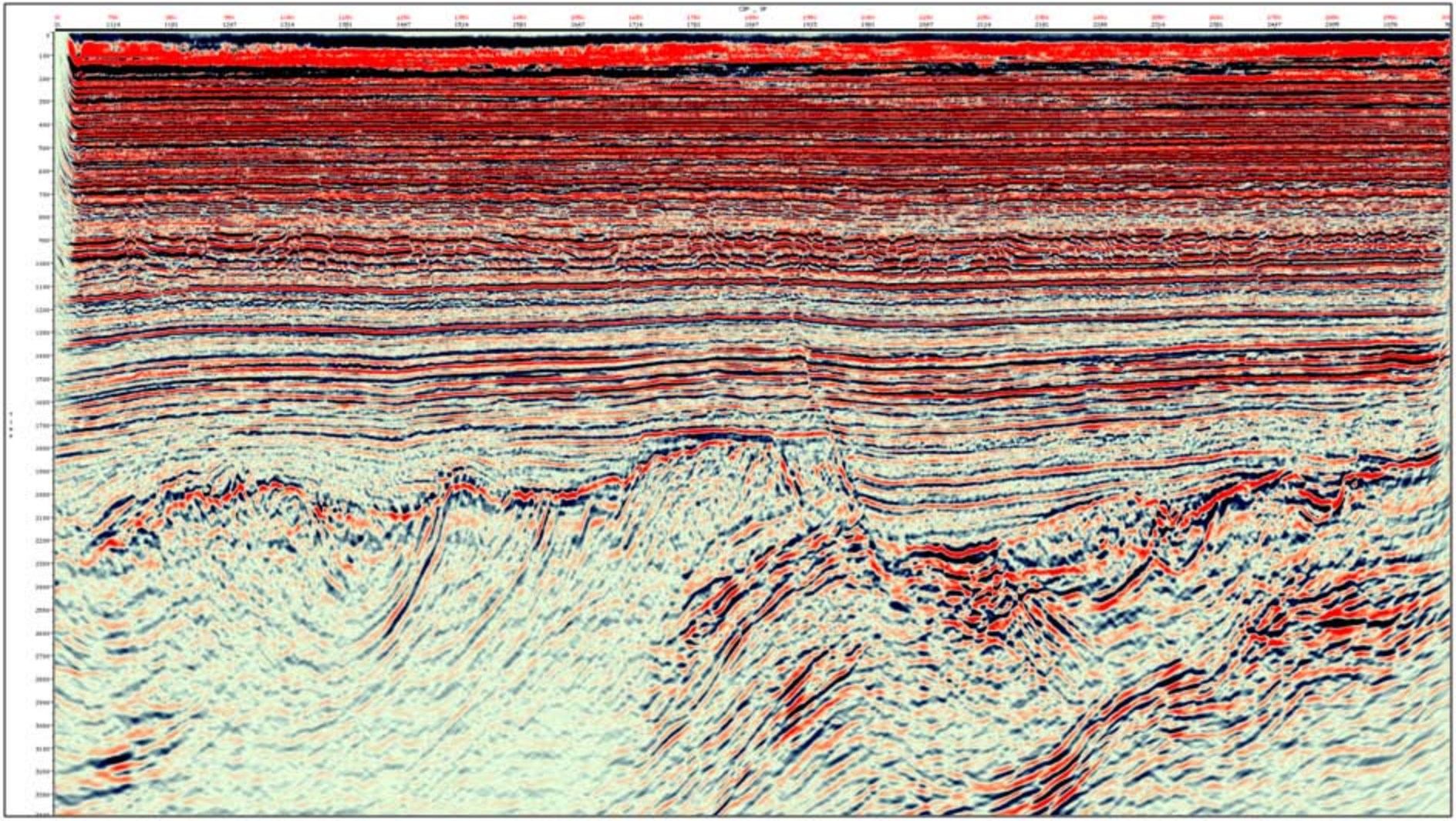
Parameter used in this test:

- **Filter for DN and T0 used 500 m for this test,**
- **Mute 48 degrees pre HDPIC.**

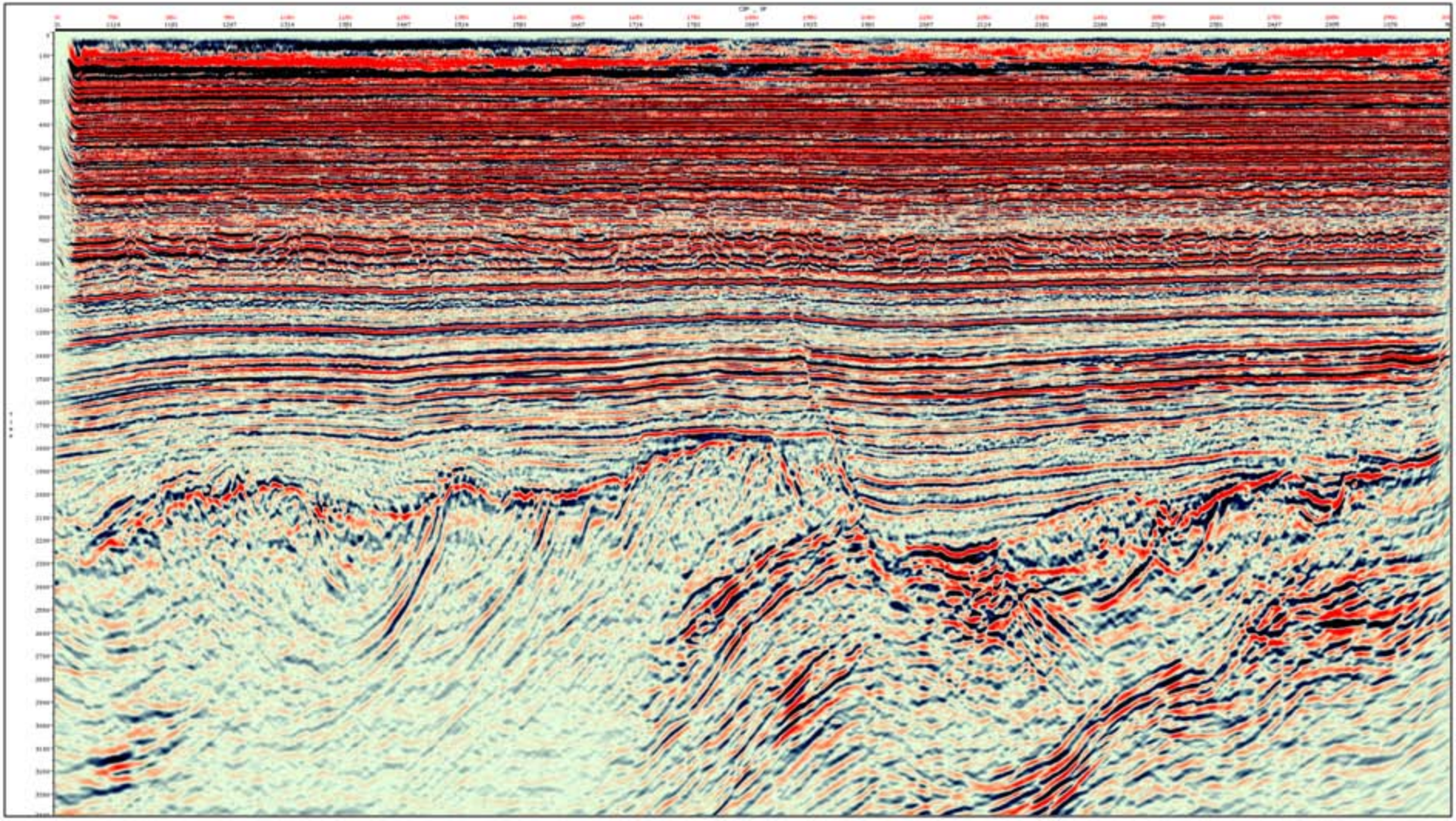
Five different percentage was tested: 2%, 4%, 6%, 8% and 11%.

- **JC suggested to use 6% of corridor velocity scan.**

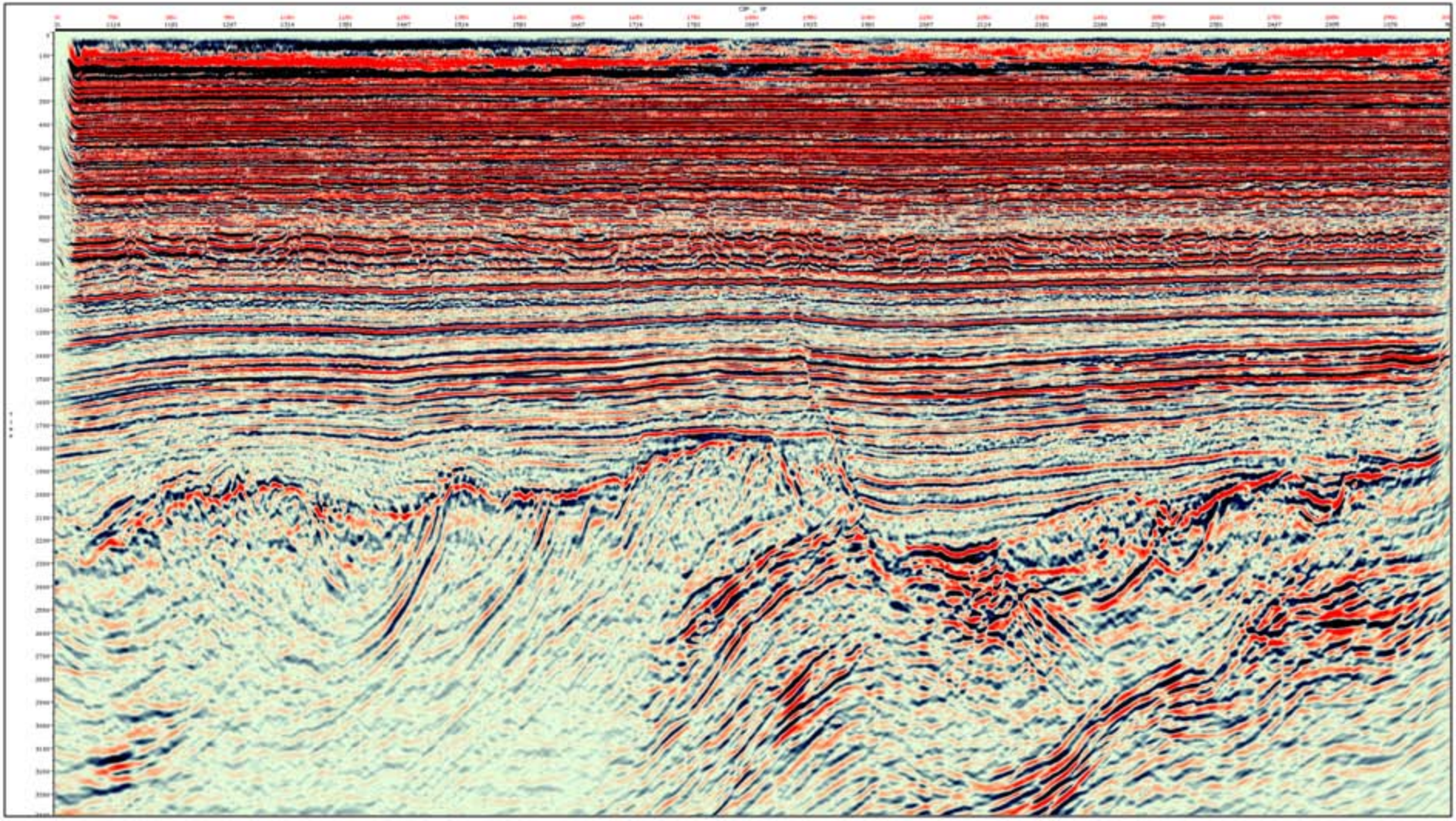
Stack (6-32 Deg) - IL 1241: Reference (V2 PSTM Output)



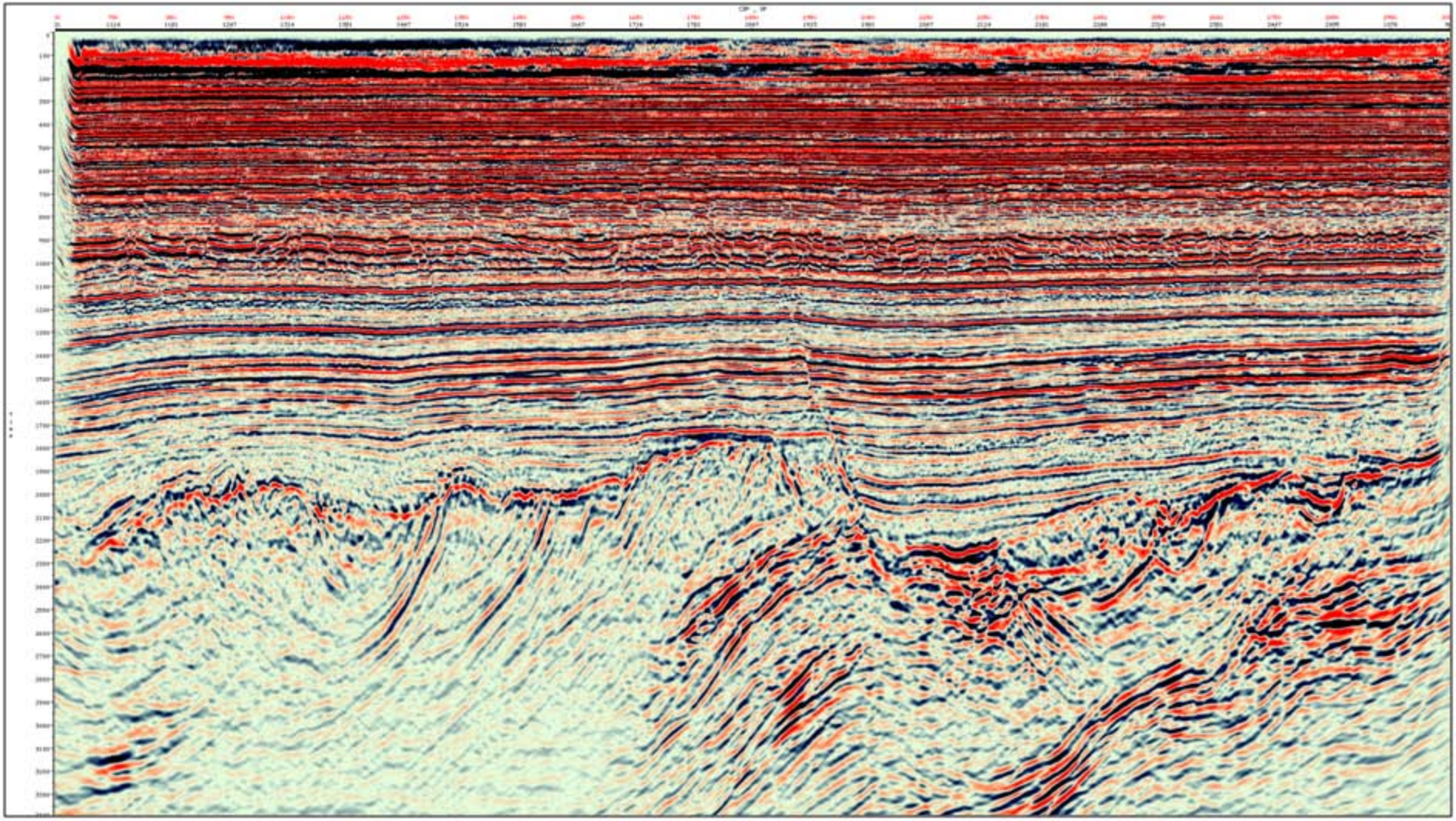
Stack (6-32 Deg) - IL 1241: 2%



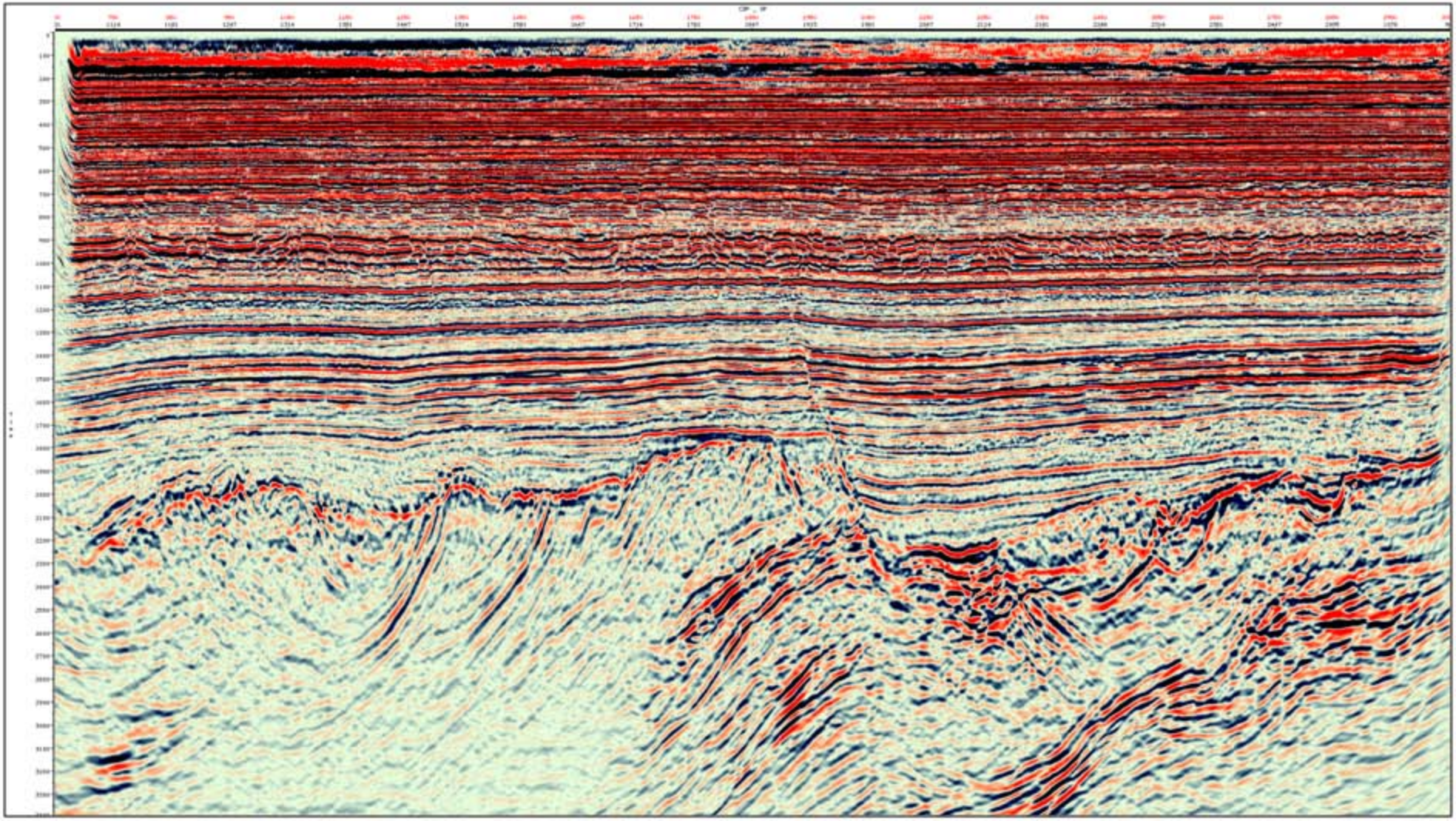
Stack (6-32 Deg) - IL 1241: 4%



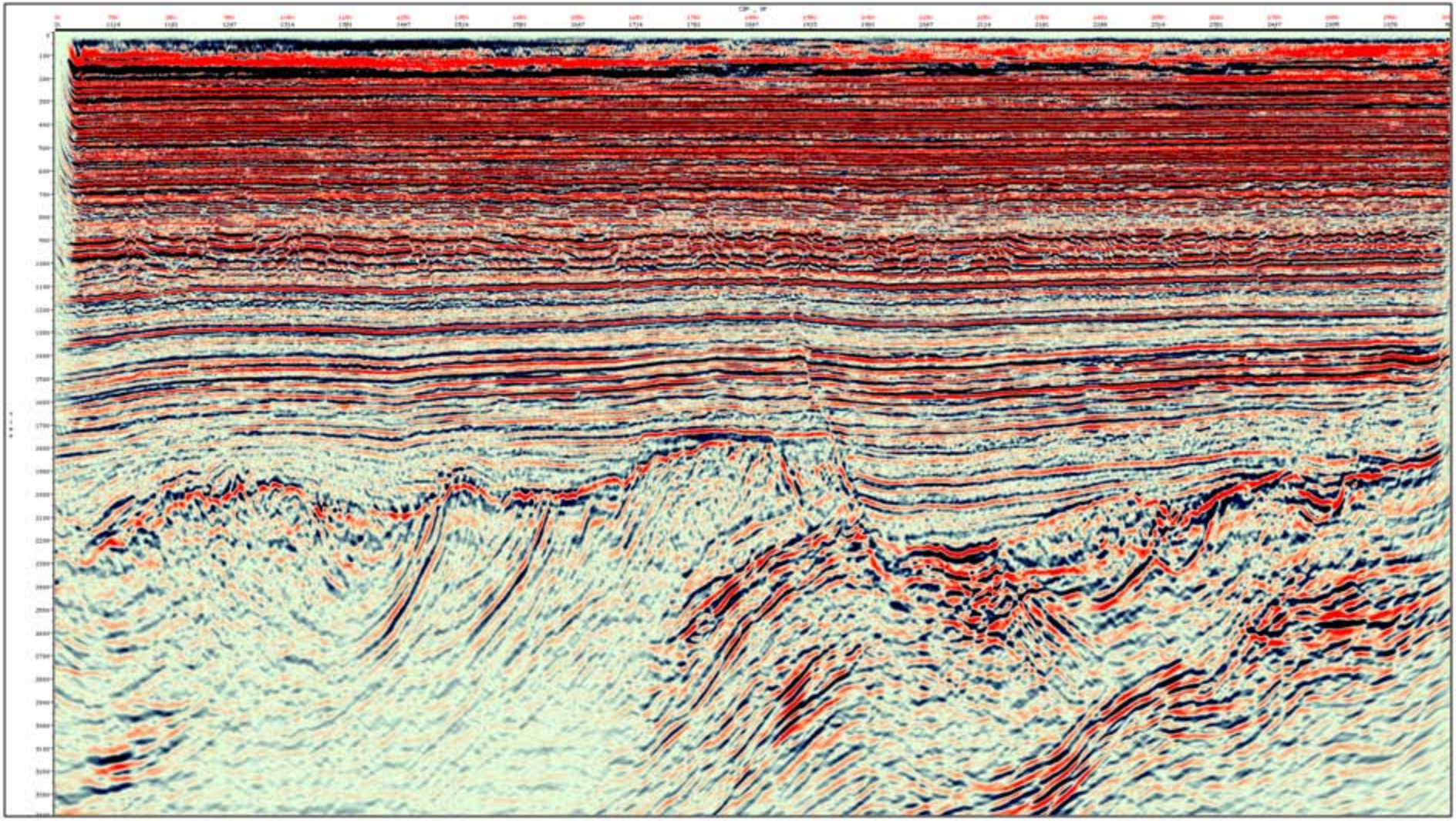
Stack (6-32 Deg) - IL 1241: 6%



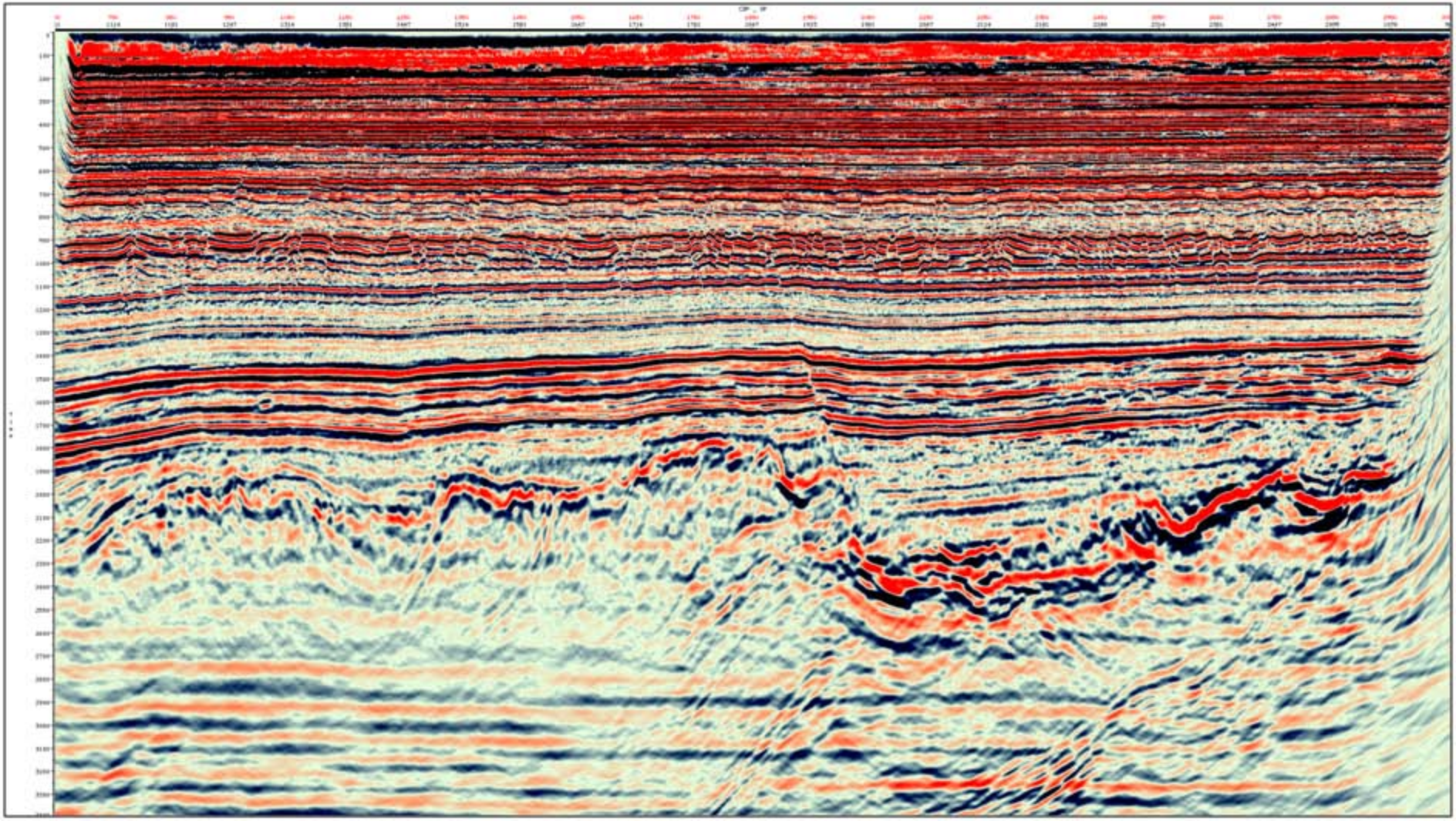
Stack (6-32 Deg) - IL 1241: 8%



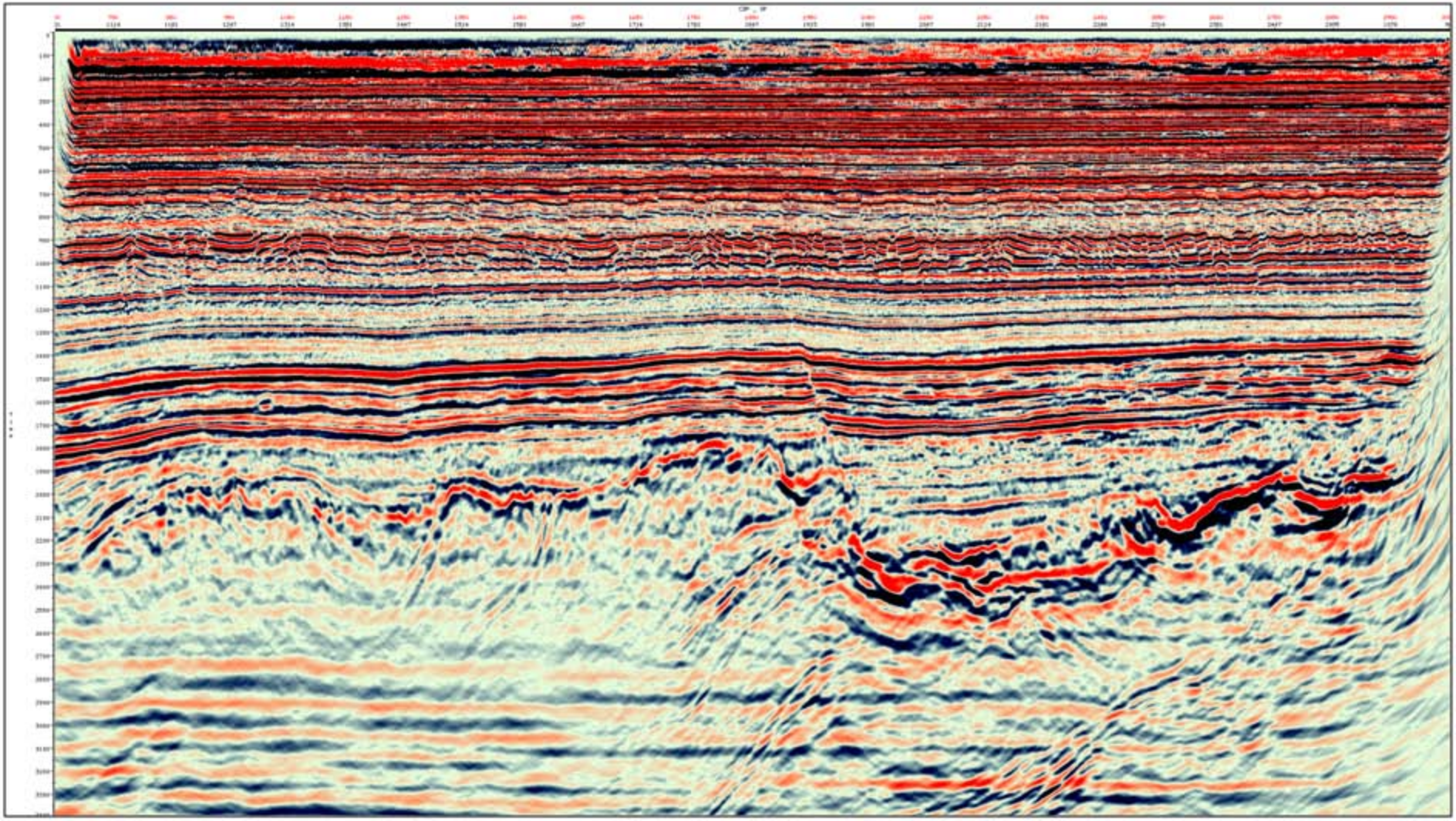
Stack (6-32 Deg) - IL 1241: 11%



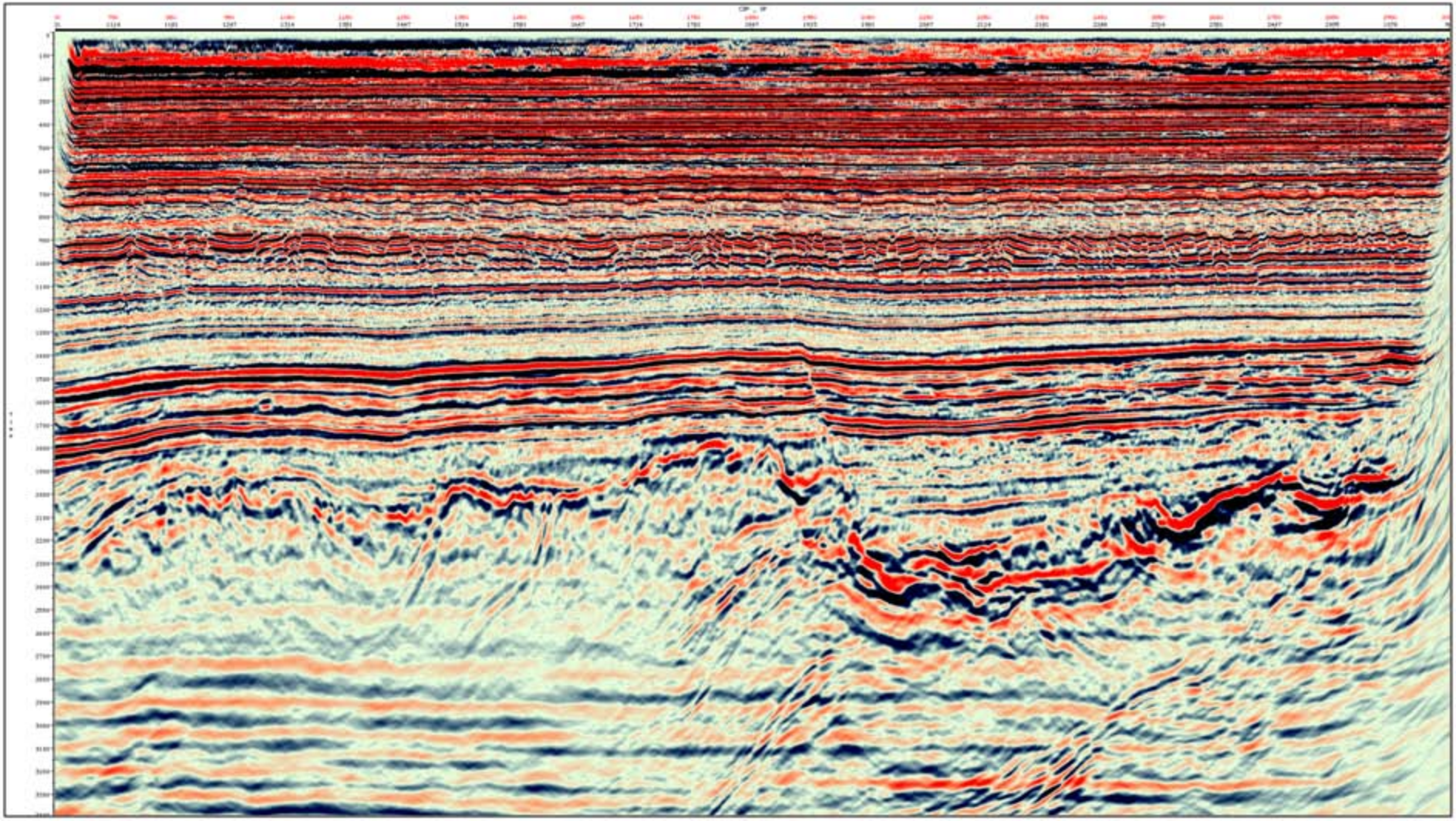
Far Stack (30-45 Deg) - IL 1241: Reference



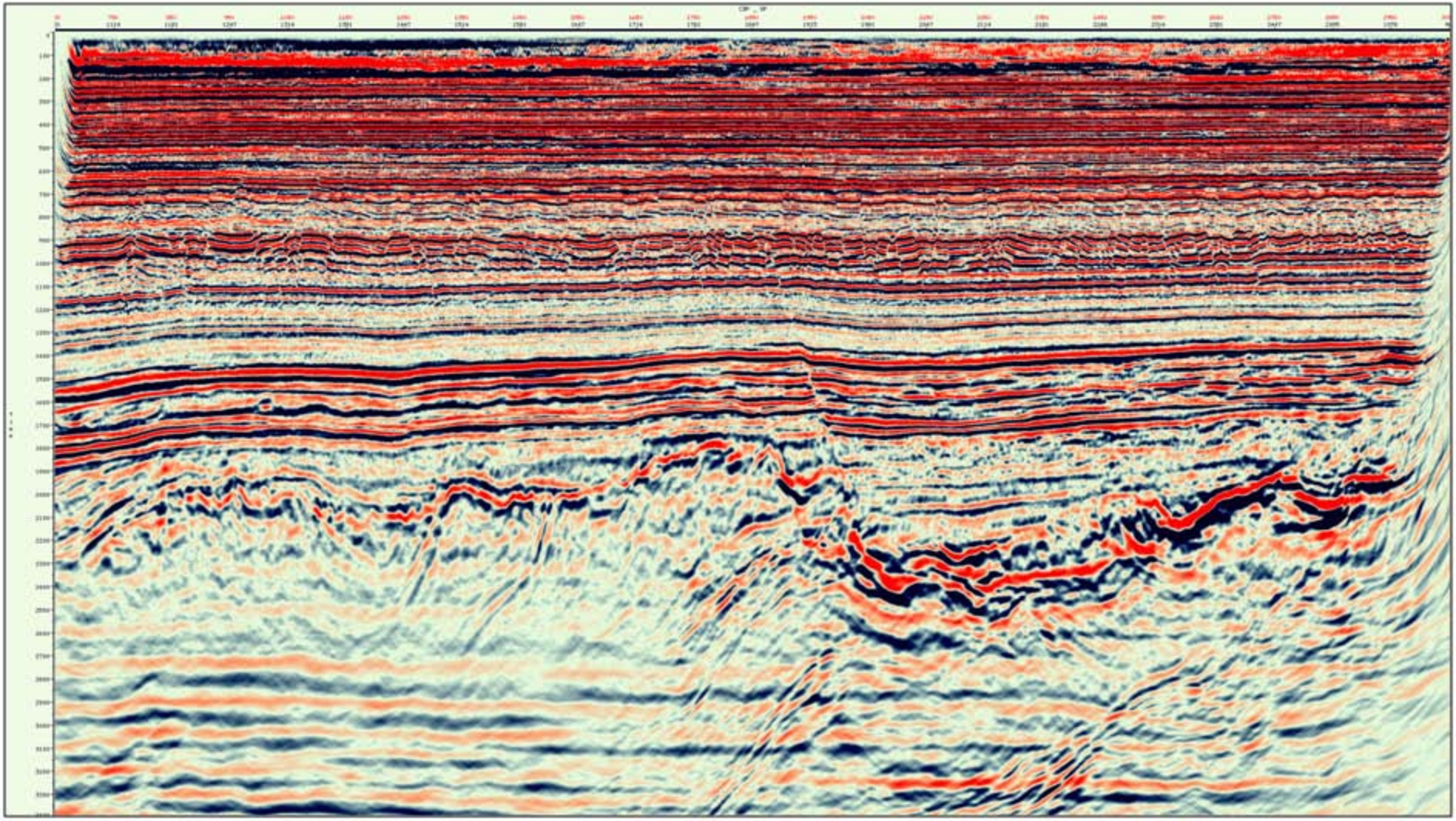
Far Stack (30-45 Deg) - IL 1241: 2%



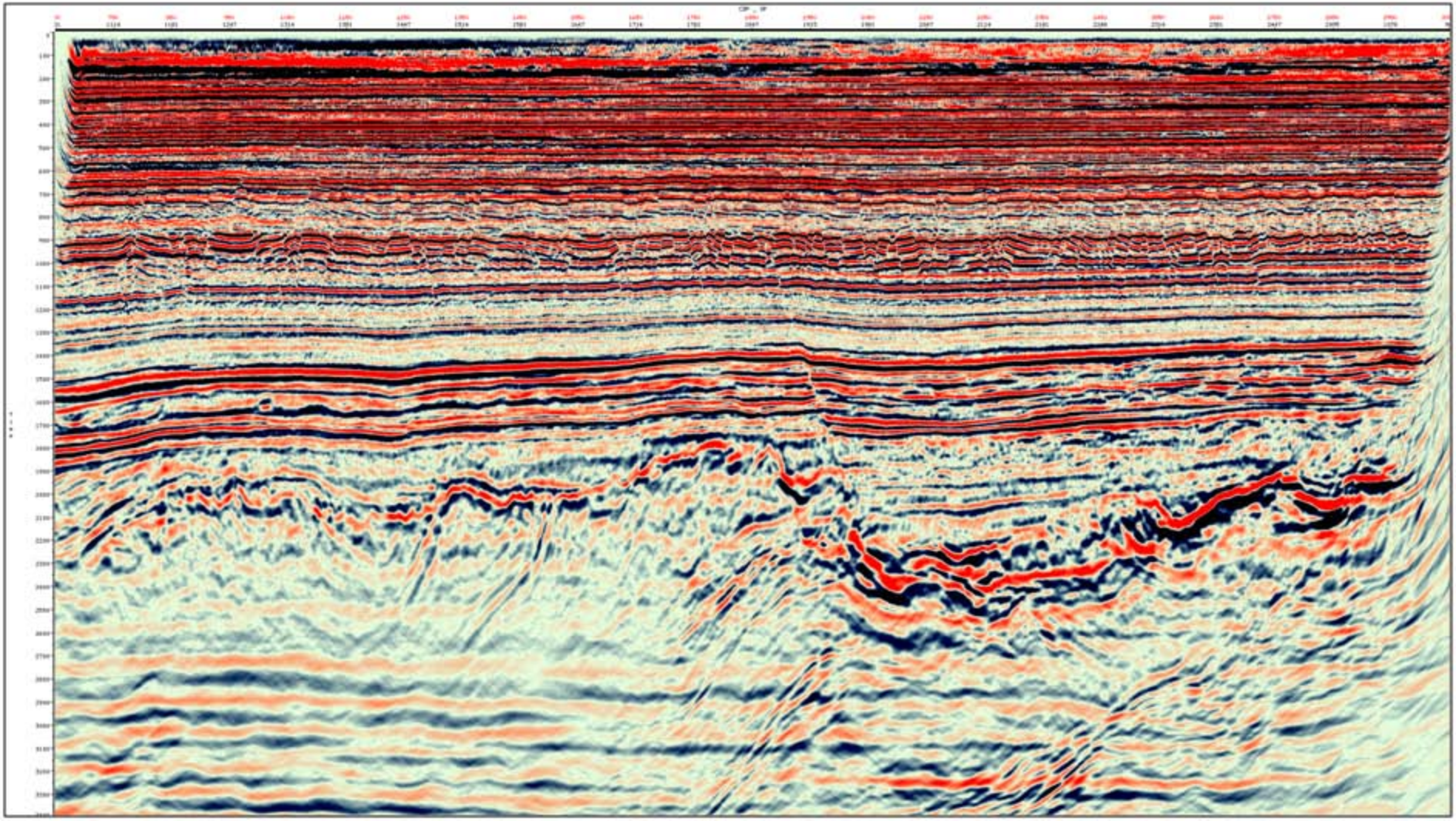
Far Stack (30-45 Deg) - IL 1241: 4%



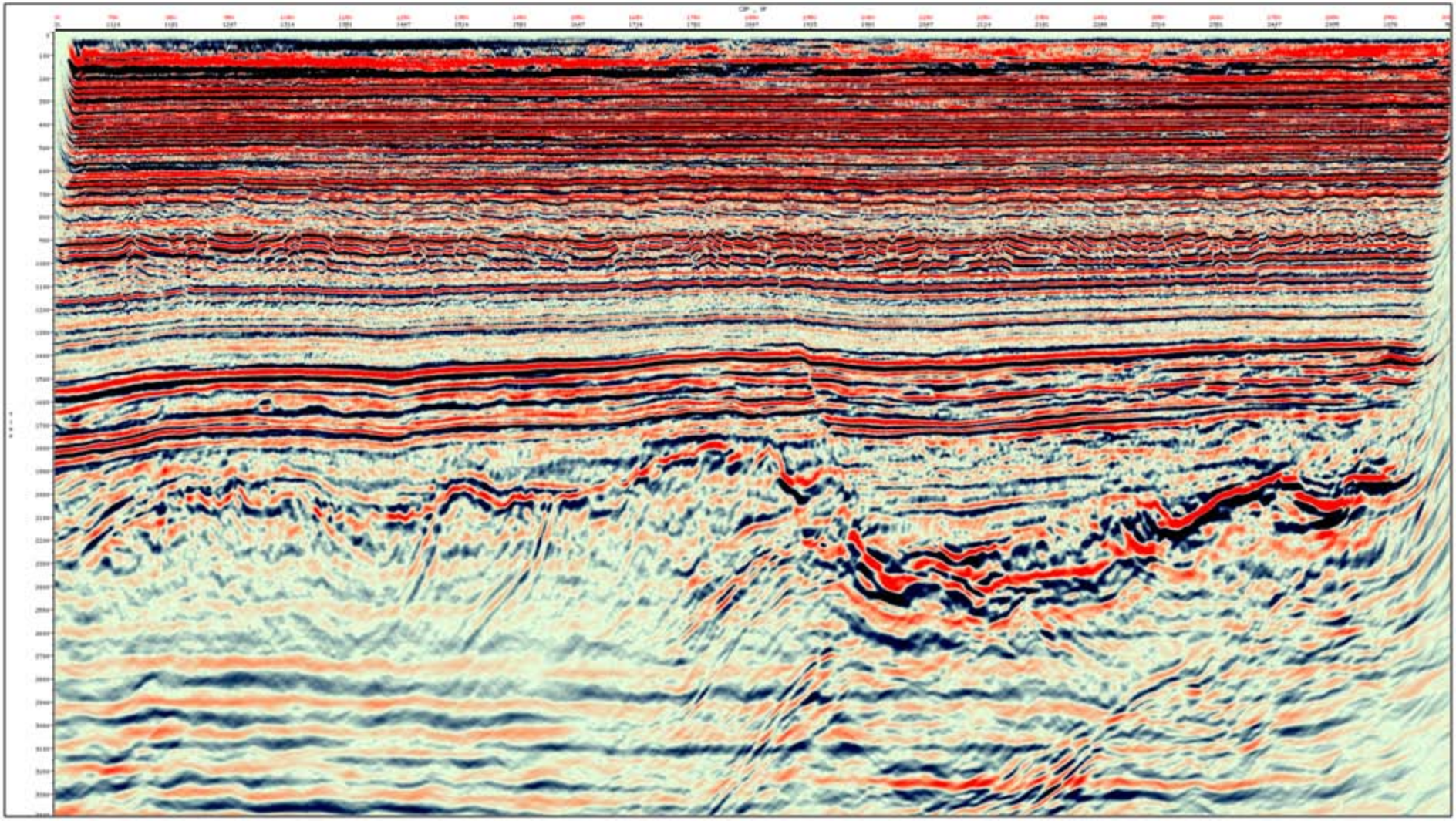
Far Stack (30-45 Deg) - IL 1241: 6%



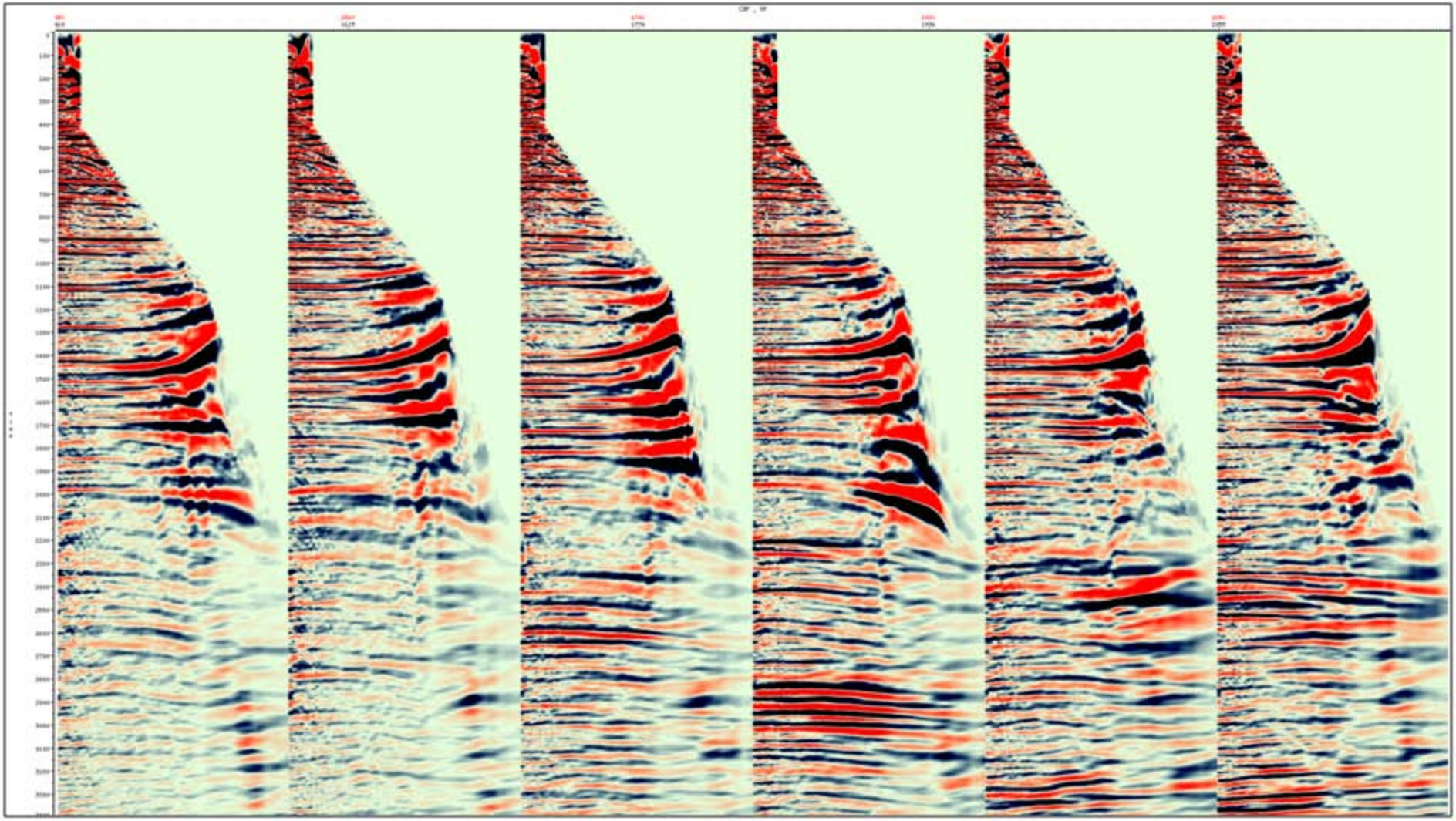
Far Stack (30-45 Deg) - IL 1241: 8%



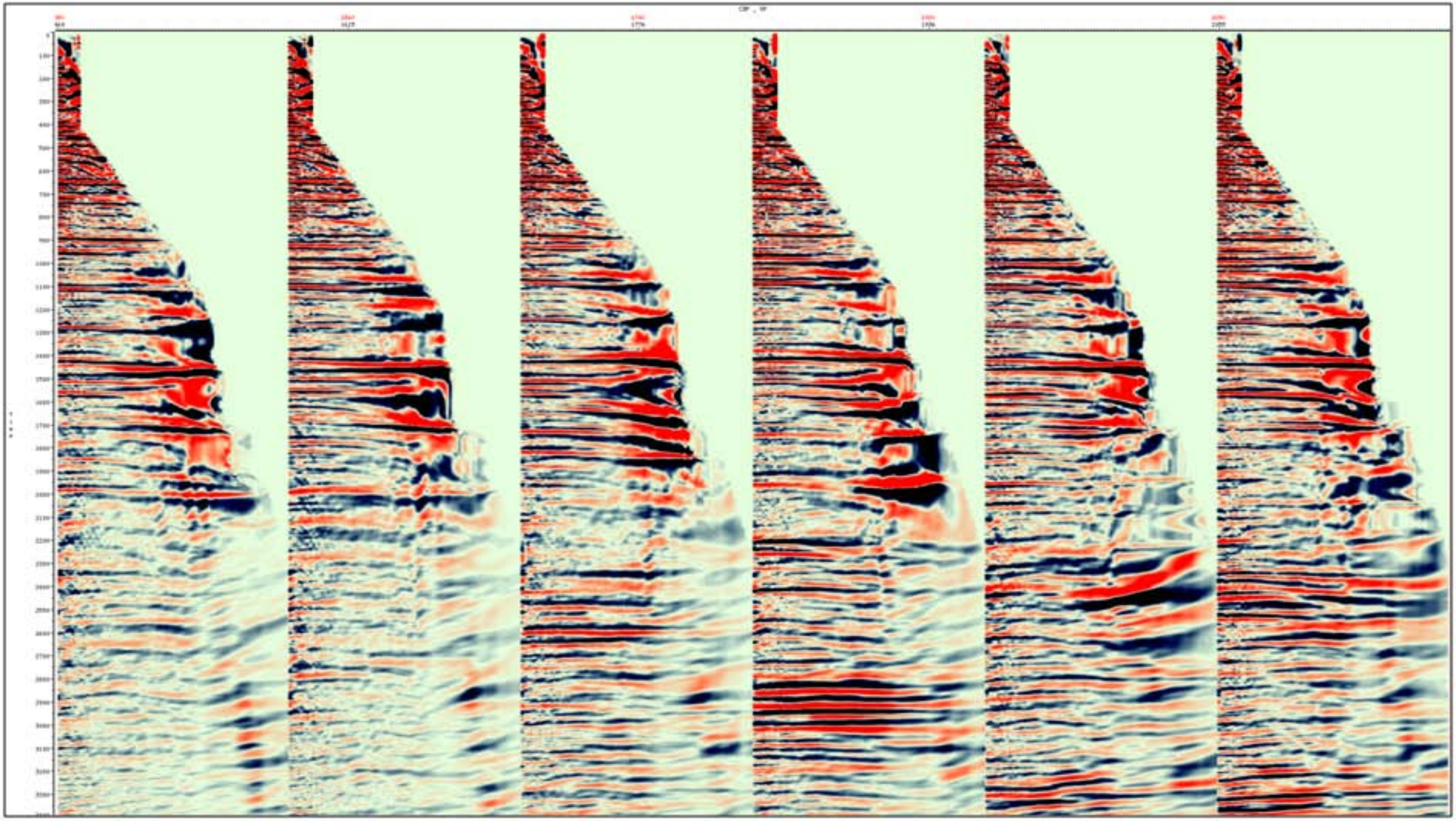
Far Stack (30-45 Deg) - IL 1241: 11%



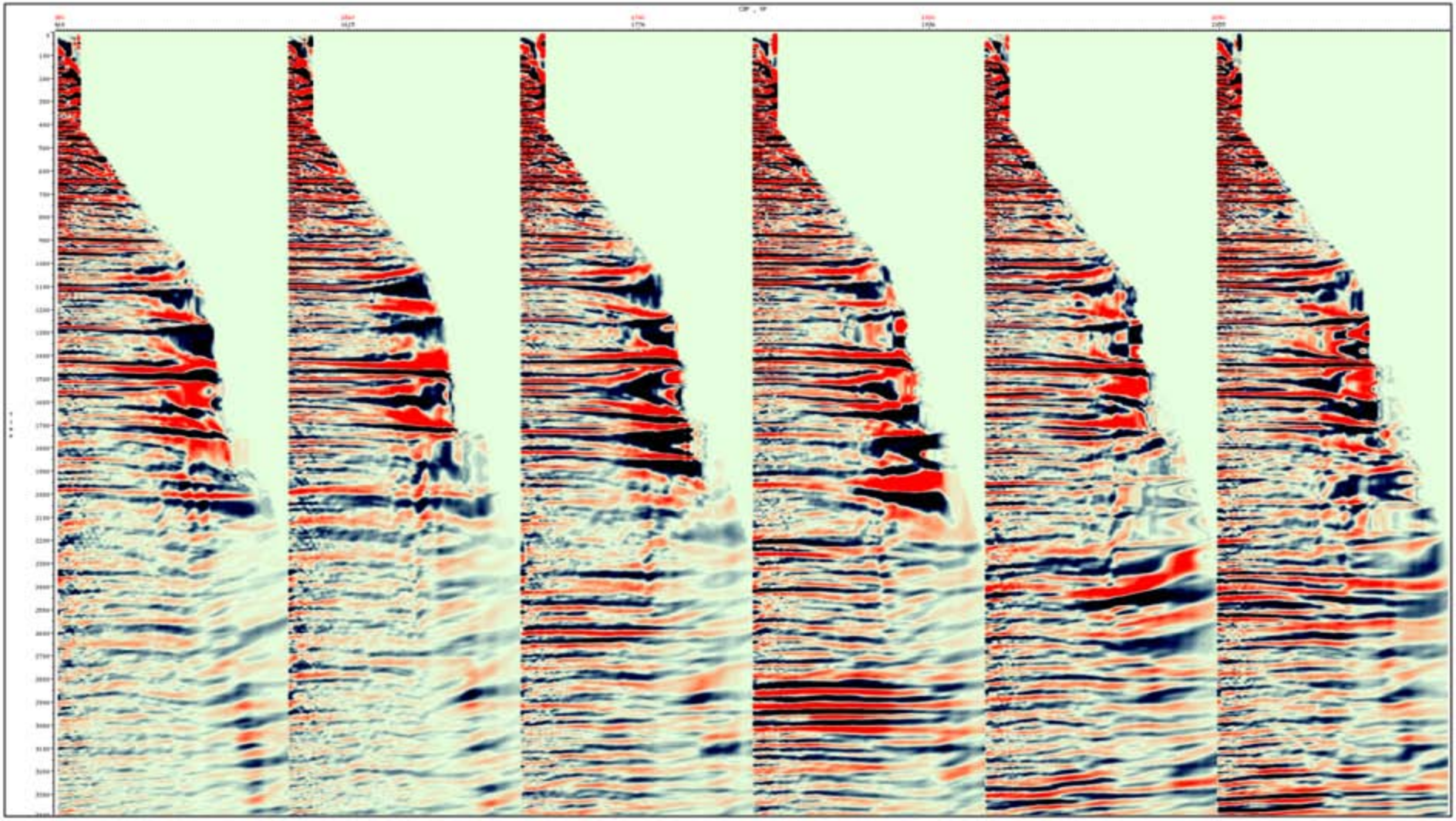
CDP - IL 1241: Reference (V2 PSTM Output)



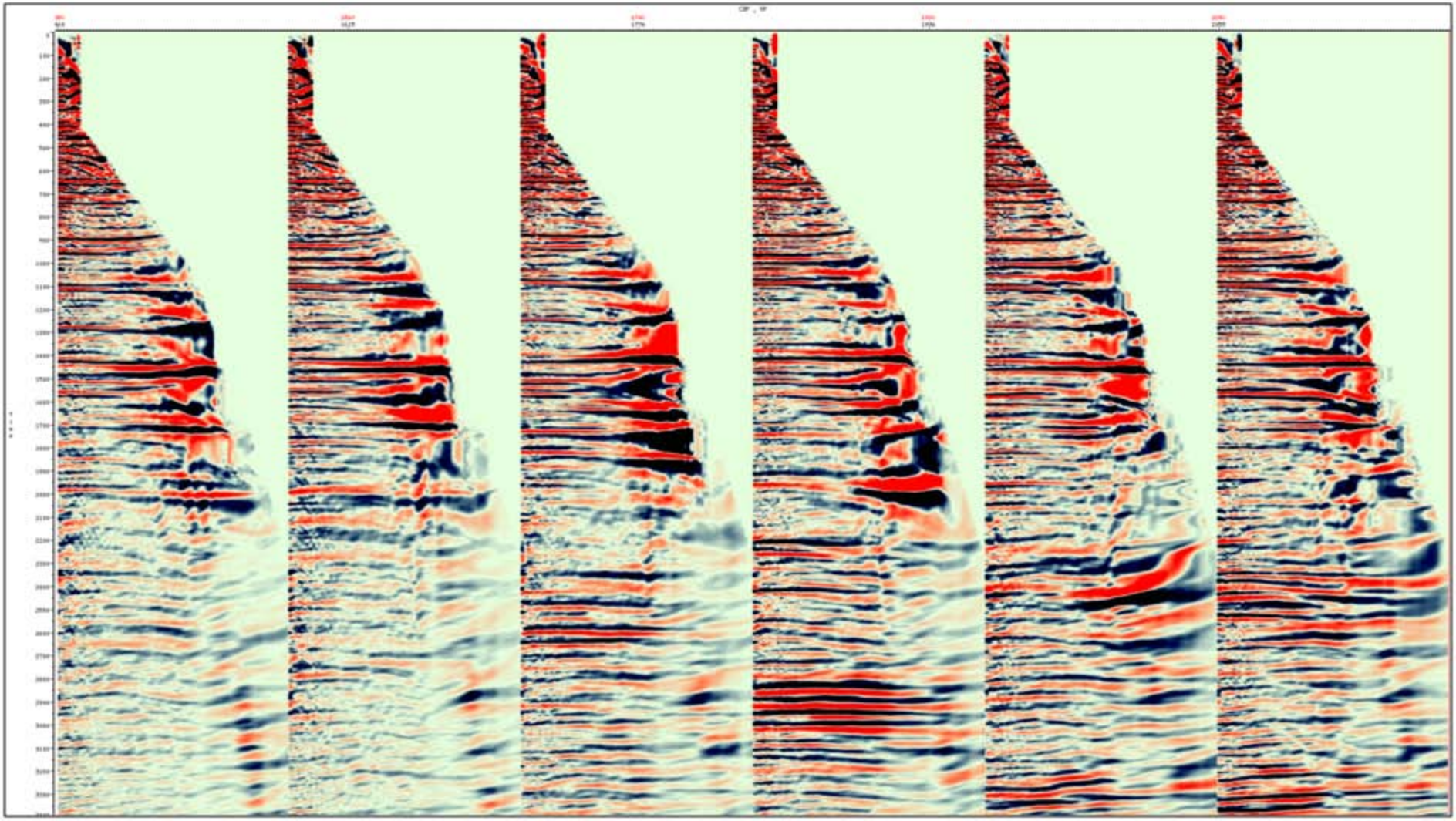
CDP - IL 1241: Filter 500m, Mute 48 Deg, Corridor 11%



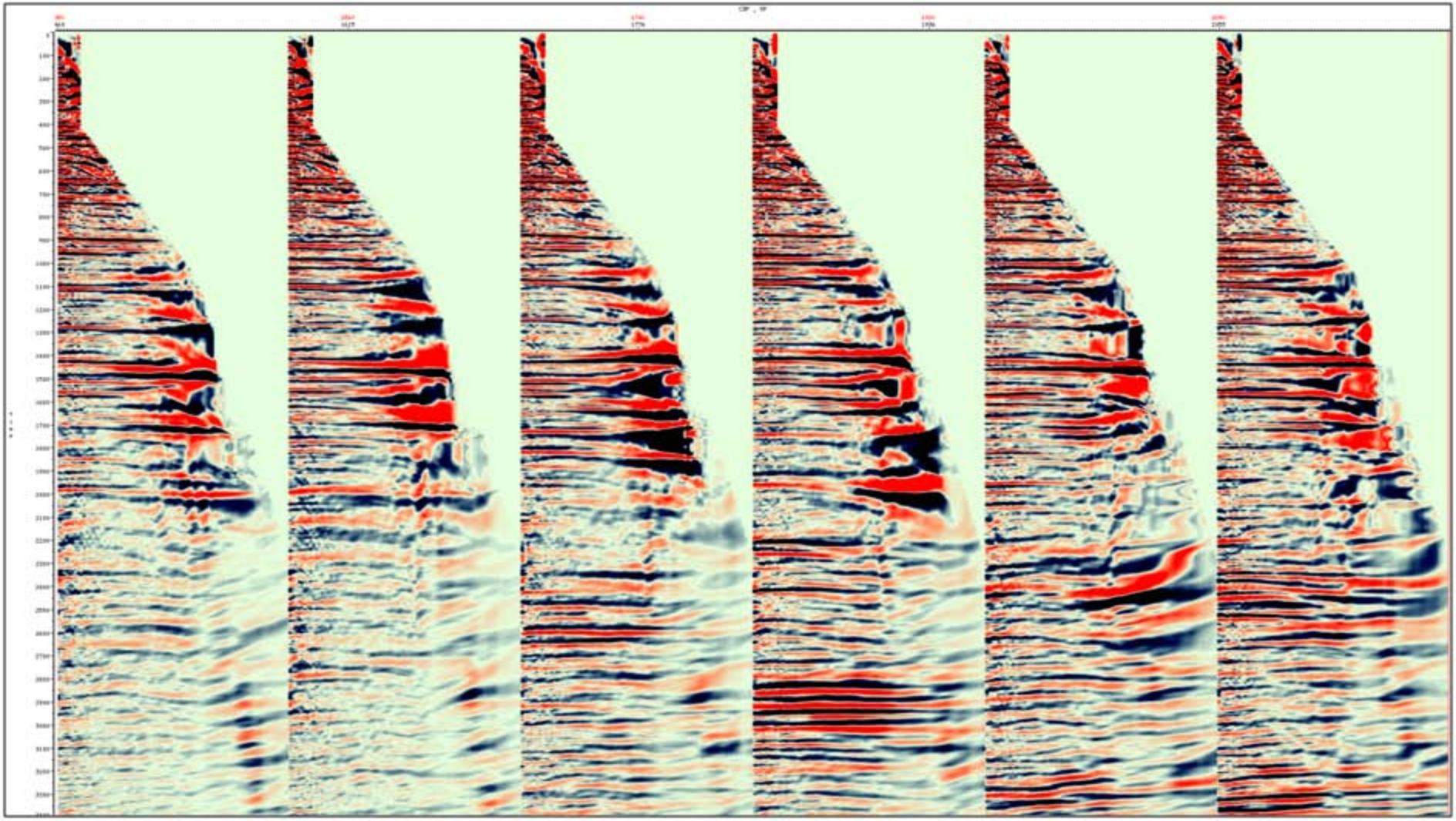
CDP - IL 1241: Filter 500m, Mute 36 Deg, Corridor 11%



CDP - IL 1241: Filter 500m, Mute 48 Deg, Corridor 4%



CDP - IL 1241: Filter 500m, Mute 36 Deg, Corridor 4%



HDPIC, All chosen paramet

Step4:

The aim of this step is to apply all parameter chosen from previous test.

Parameter used in this test:

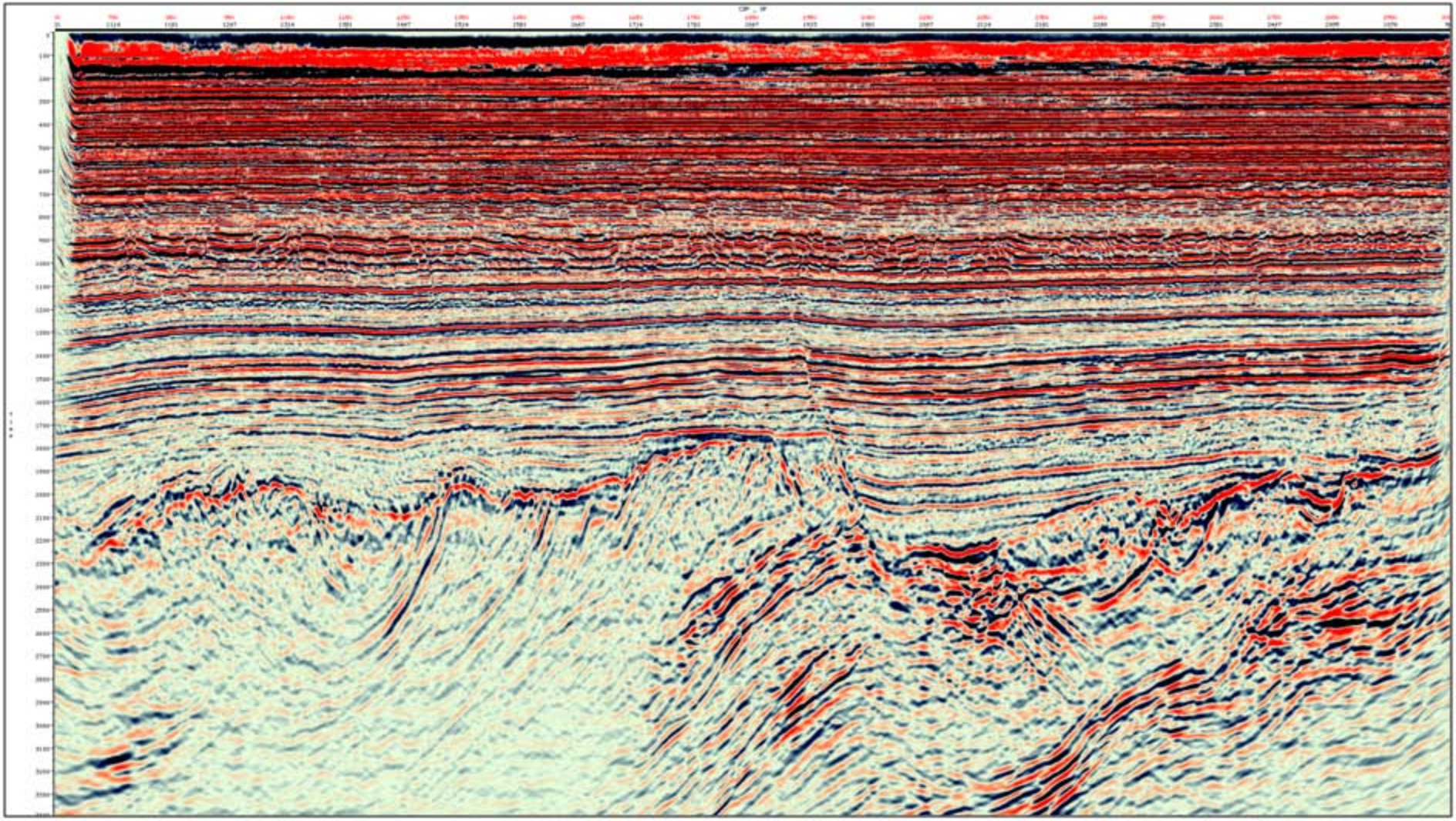
- **Filter for DN and T0 used 500 m for this test,**
- **Mute 36 degrees pre HDPIC.**
- **4% velocity scan**

Two different of far angle stack was tested:

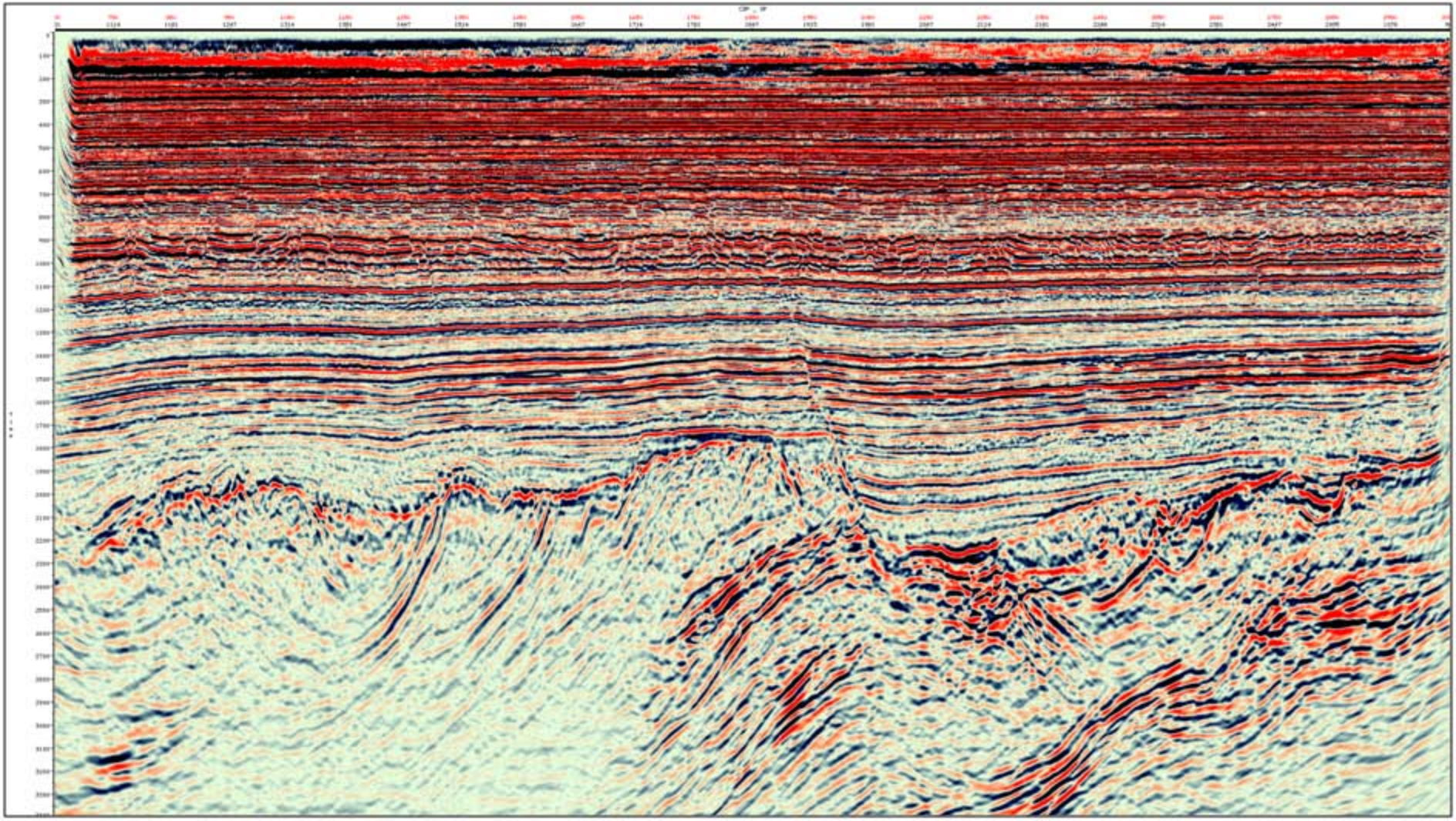
1. **Far Angle stack 30-45 degrees**
2. **Far Angle stack 25-36 degrees**

- **JC suggested to use far angle stack up to 36 degrees.**
- **JC suggested to choose 6% corridor velocity scan**

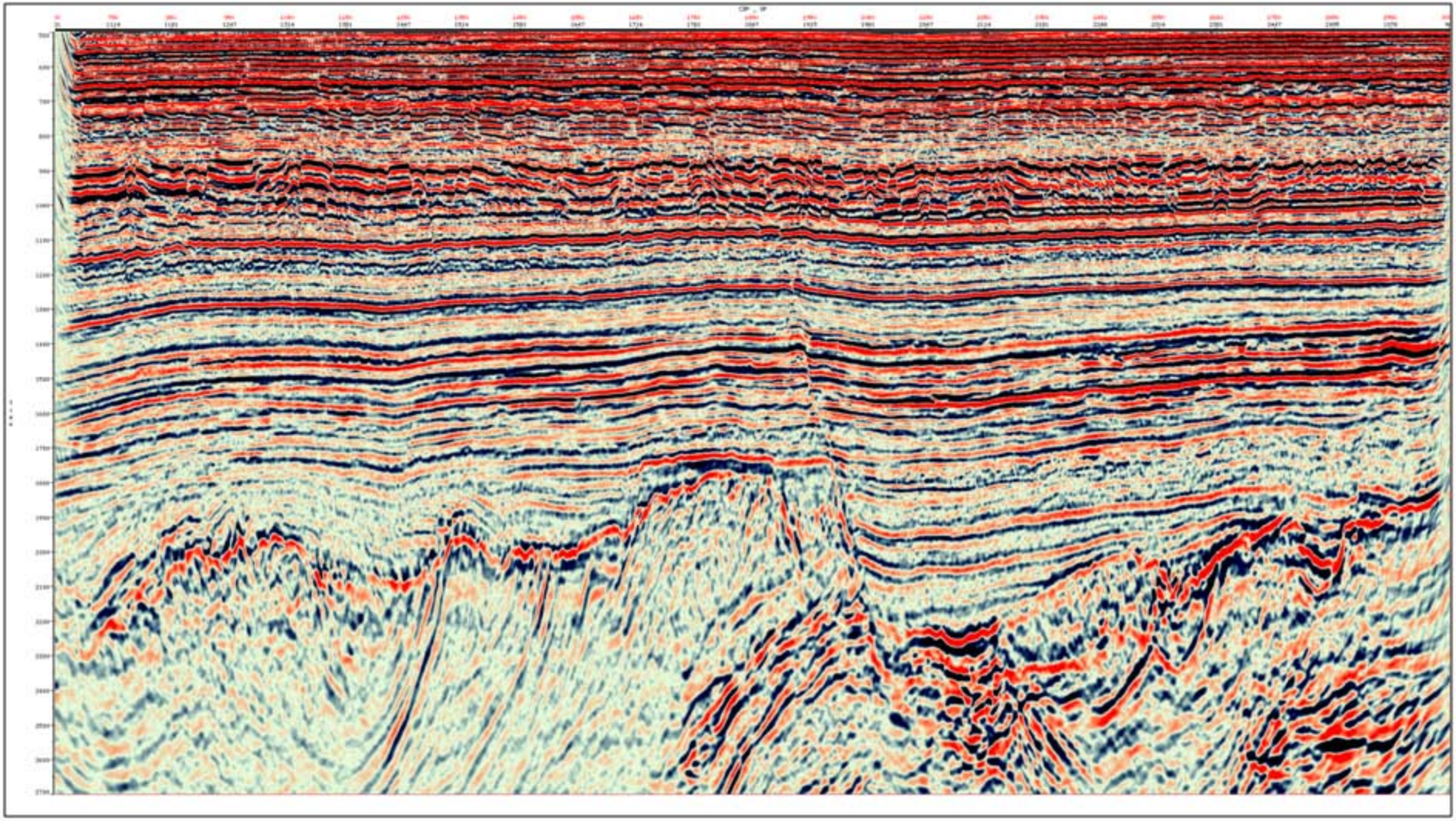
Stack (6-32 Deg) - IL 1241: Reference



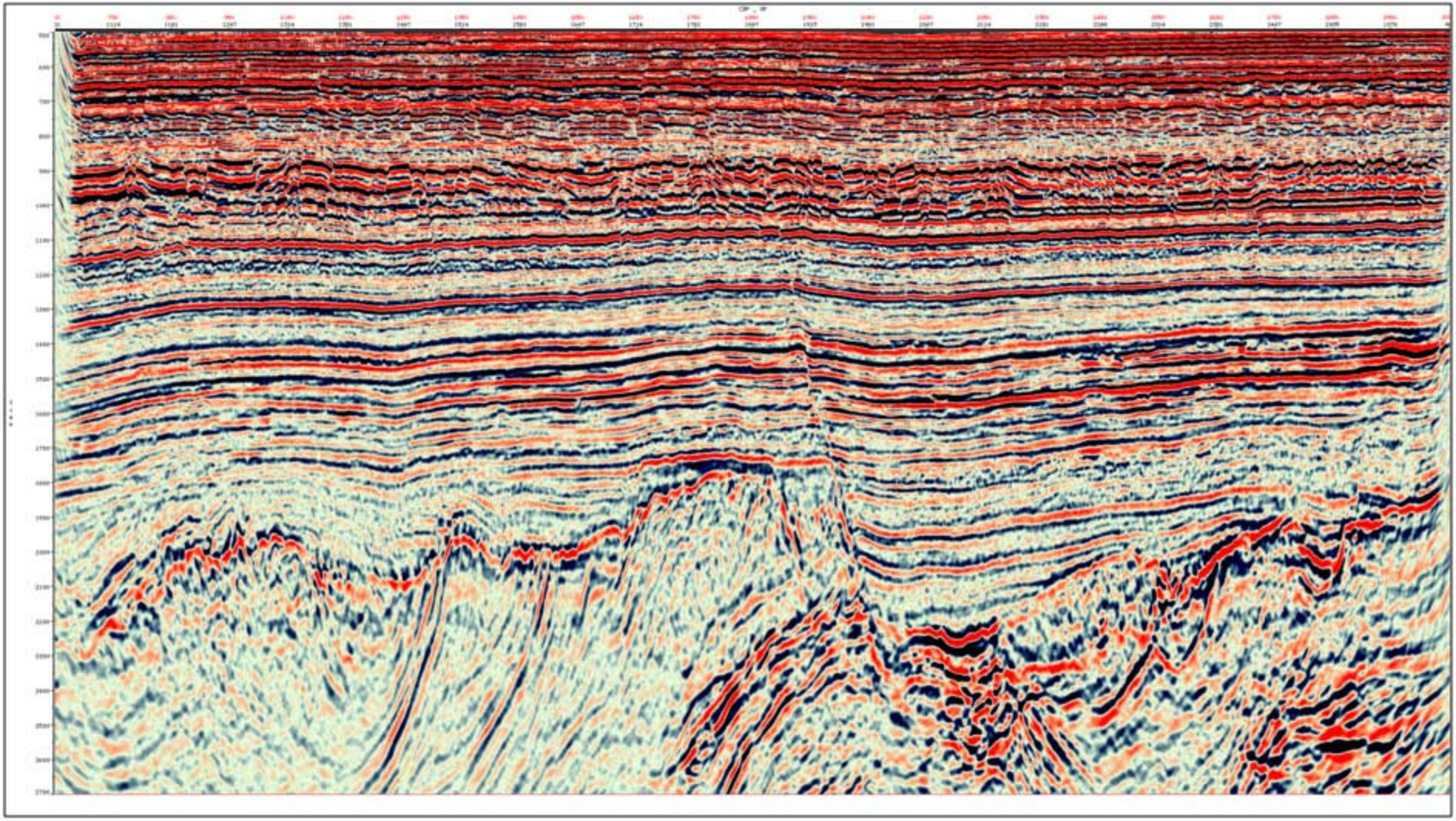
Stack (6-32 Deg) - IL 1241: HDPIC (all parameters)



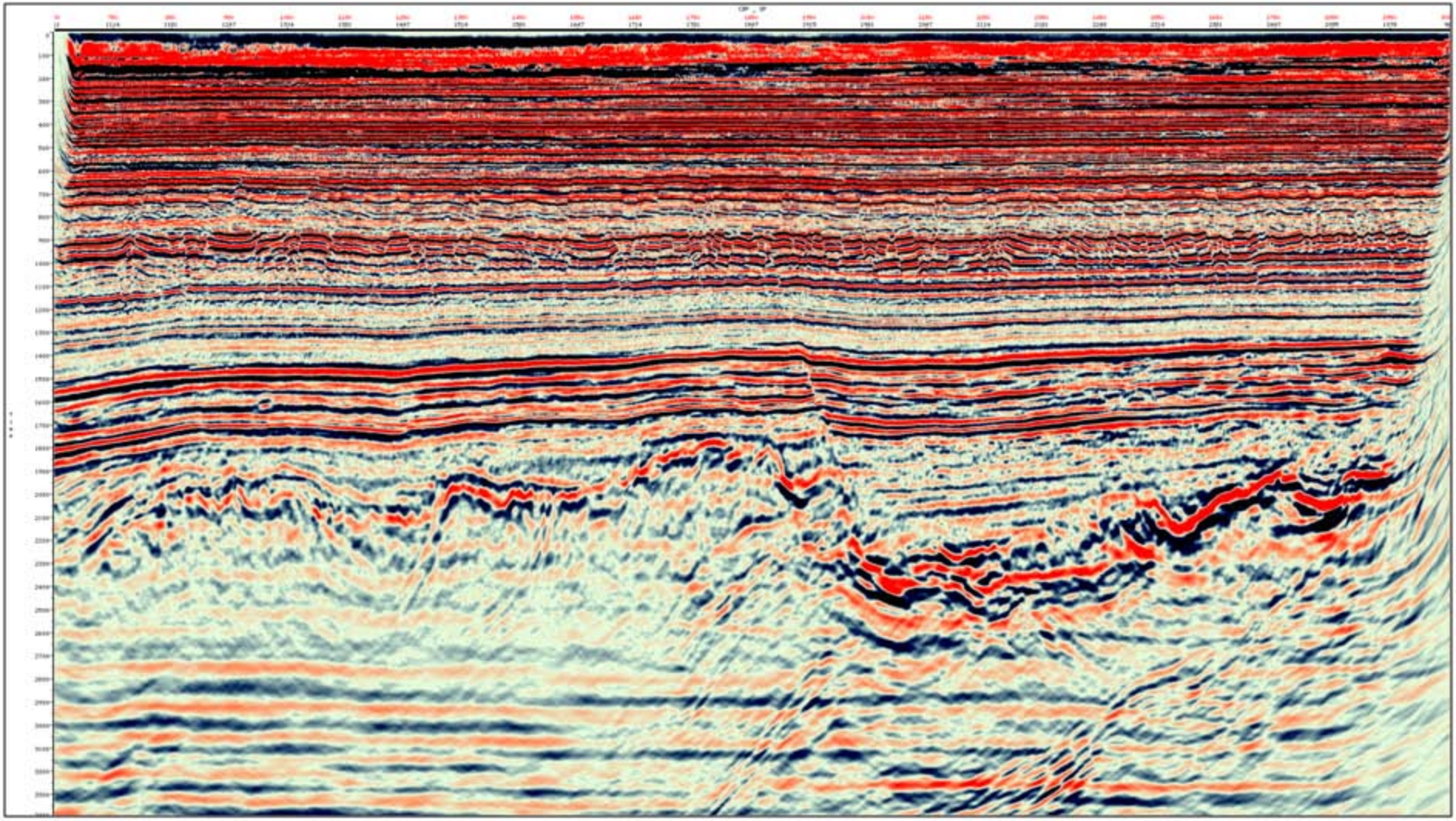
Zoomed Stack (6-32 Deg) - IL 1241: Reference



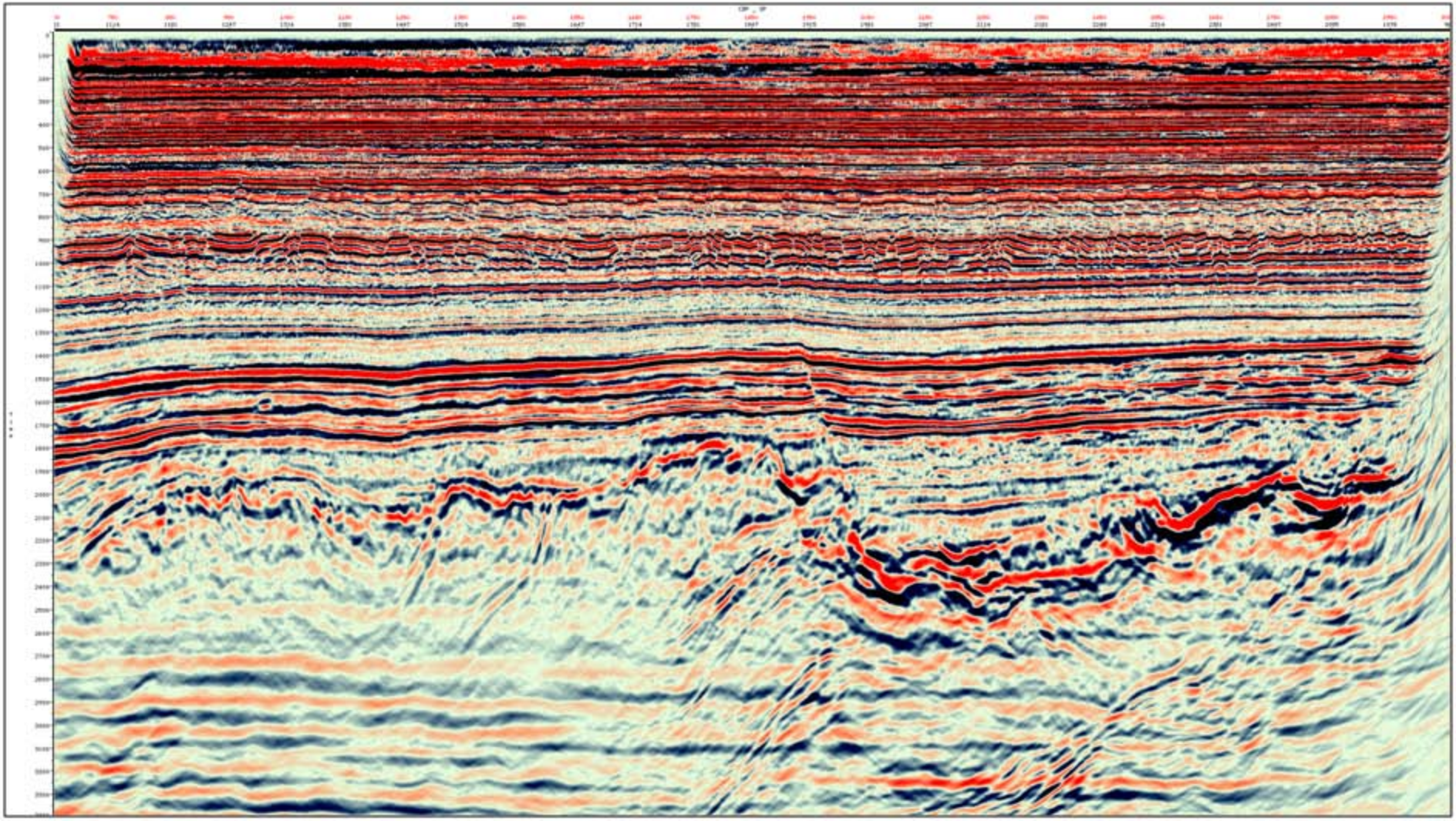
Zoomed Stack (6-32 Deg) - IL 1241: HDPIC (all par)



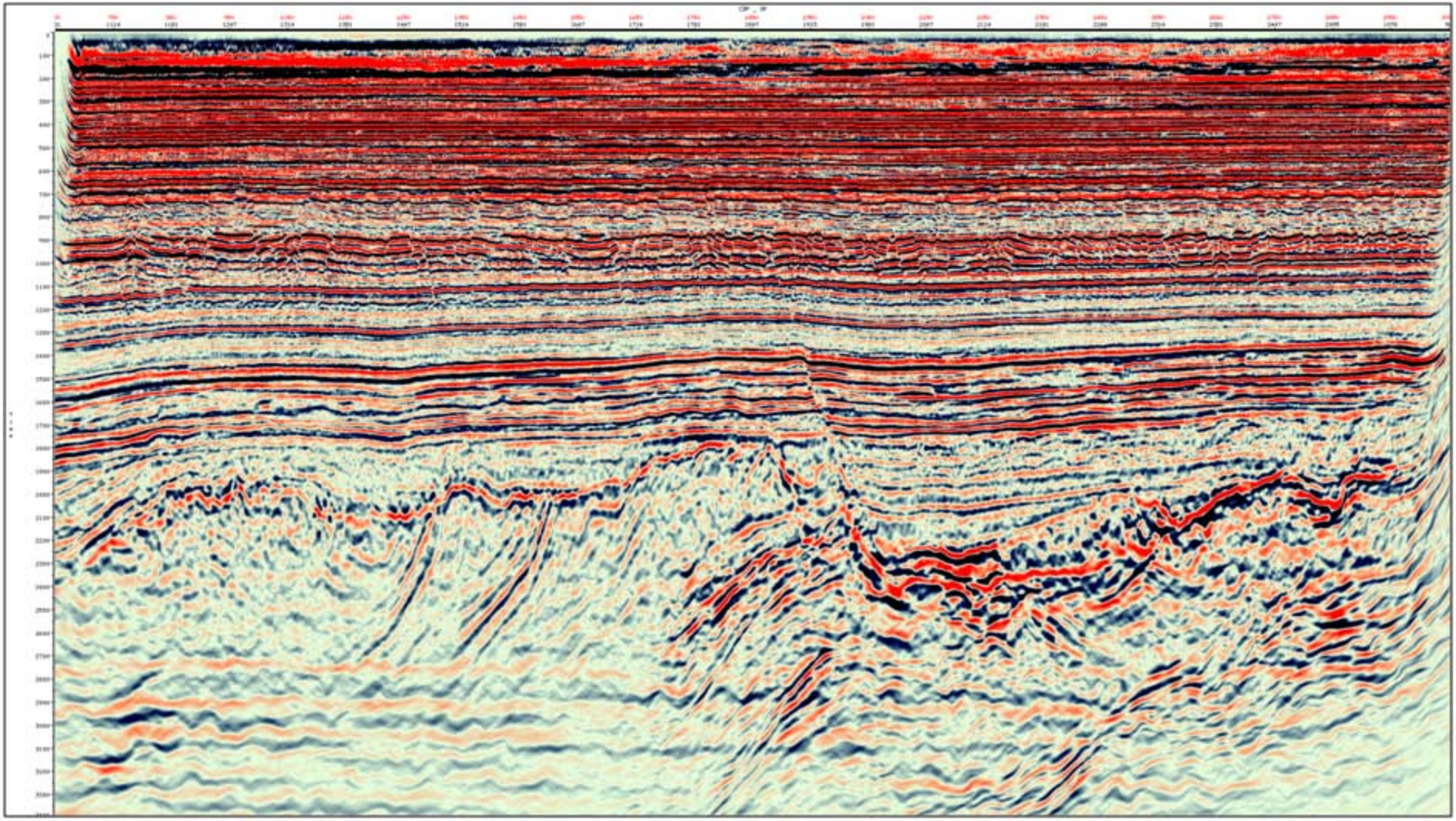
Far Stack (6-32 Deg) - IL 1241: Reference



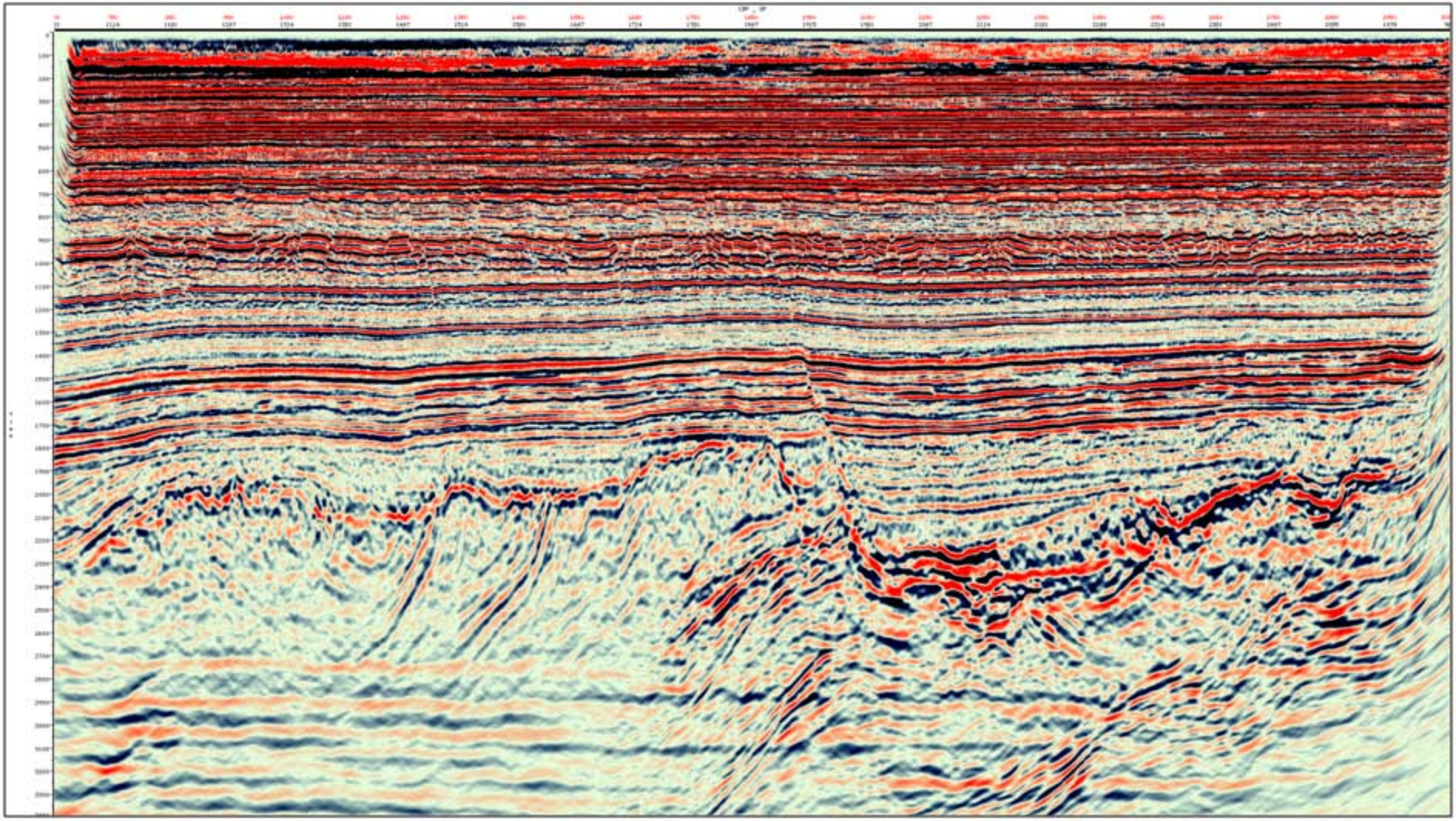
Far Stack (30-45 Deg) - IL 1241: HDPIC (all parameters)



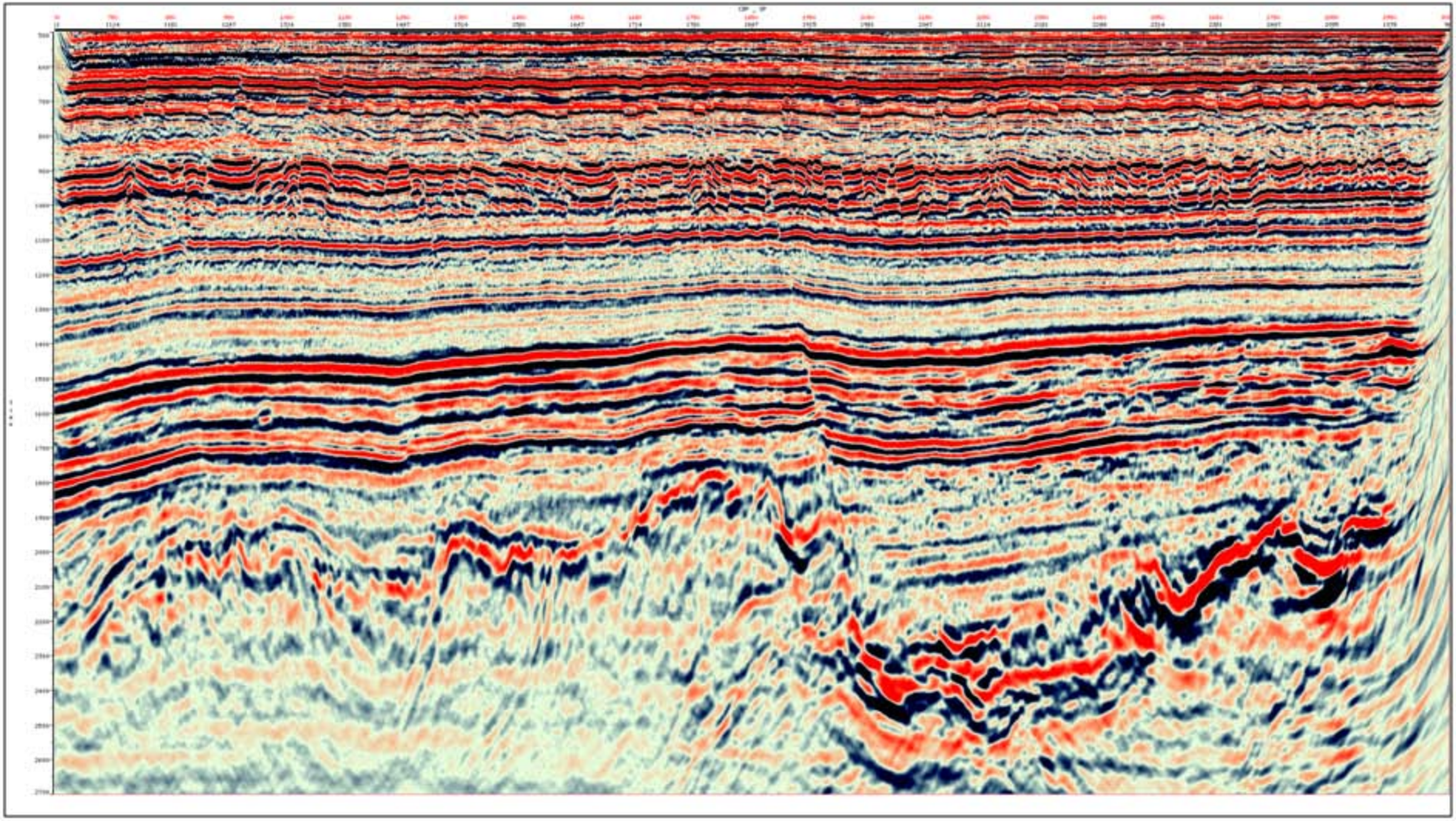
Far Stack (25-36 Deg) - IL 1241: Reference



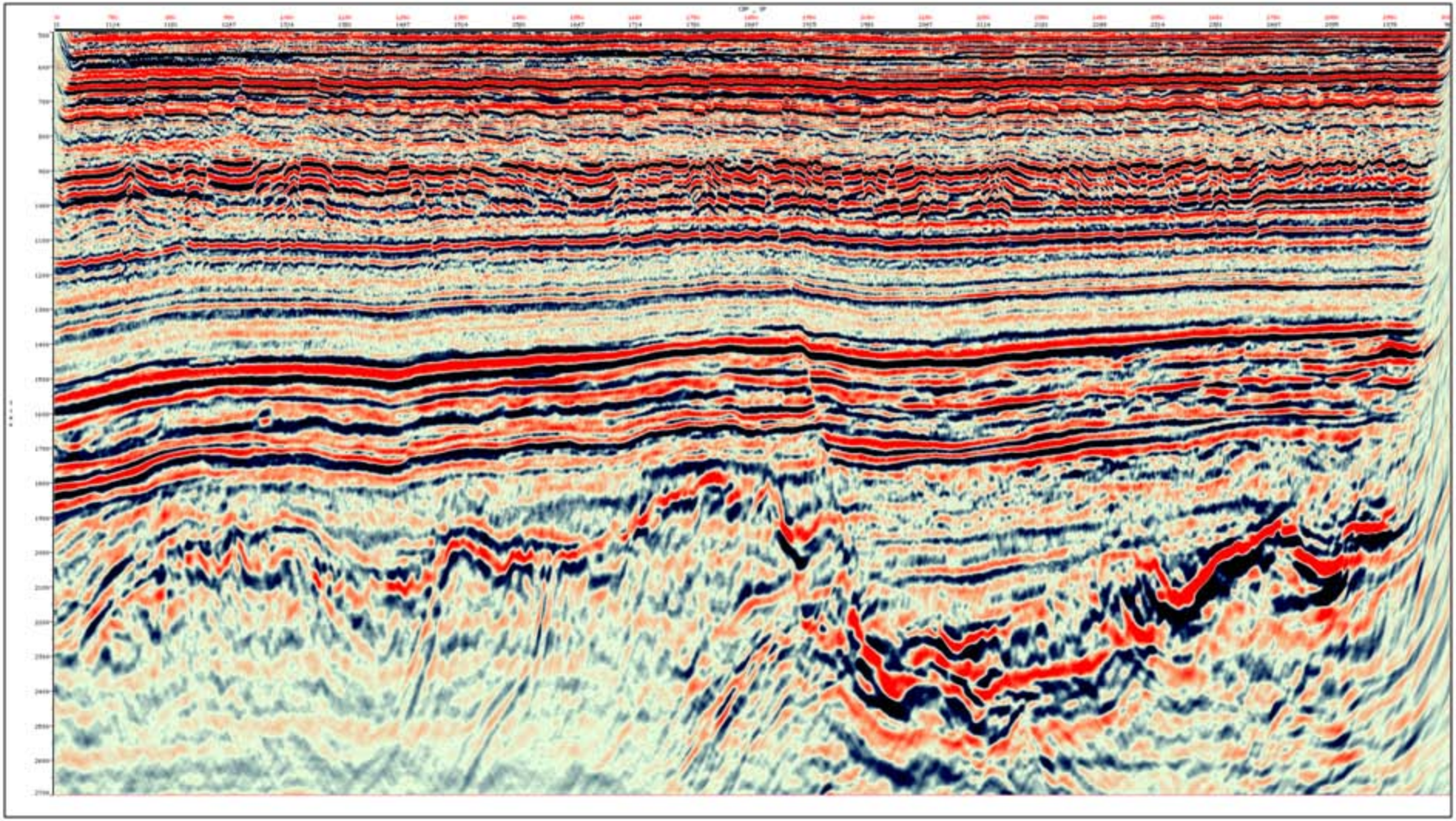
Far Stack (25-36 Deg) - IL 1241: HDPIC (all parameters)



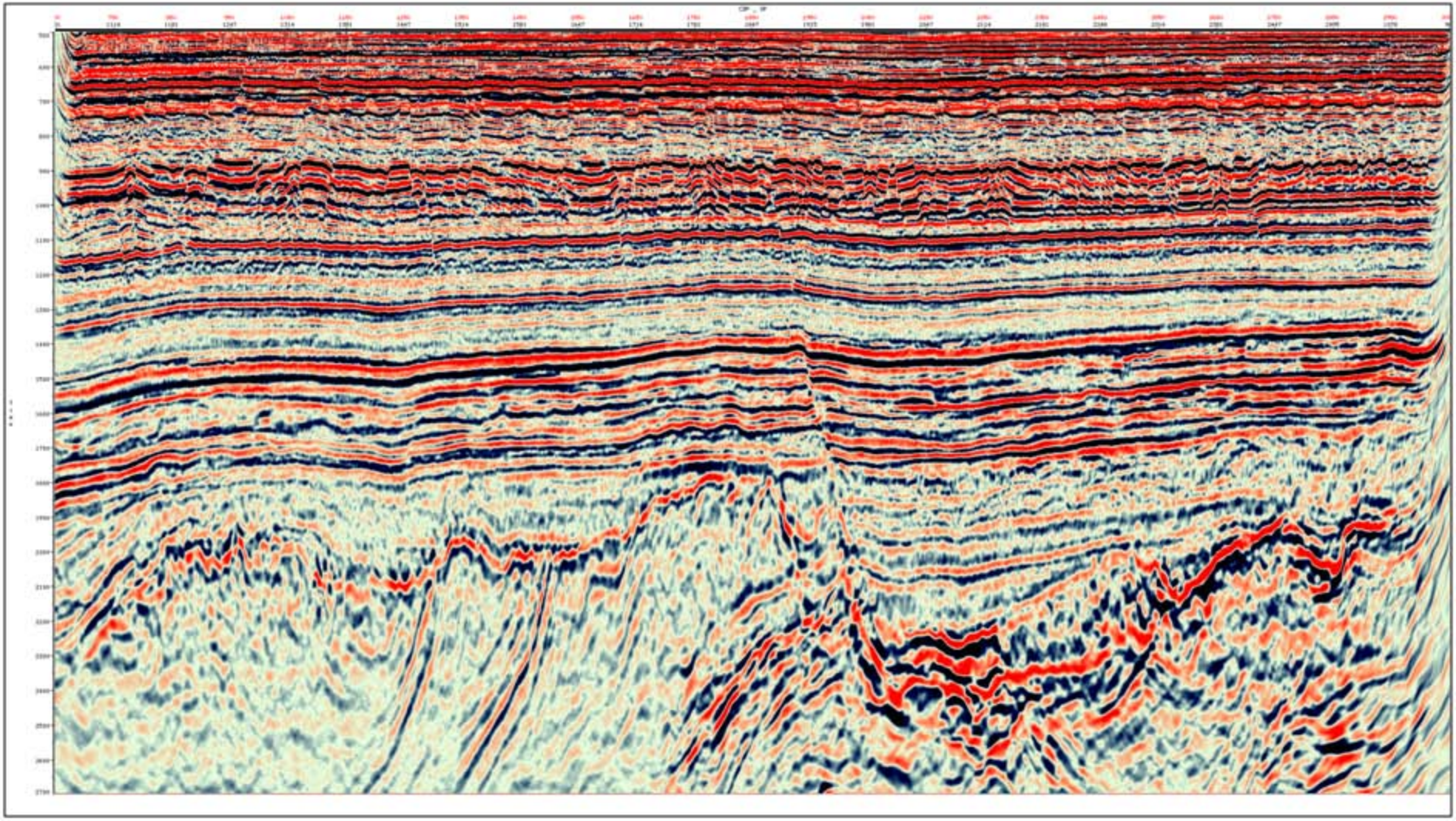
Zoomed Far Stack (30-45 Deg) - IL 1241: Reference



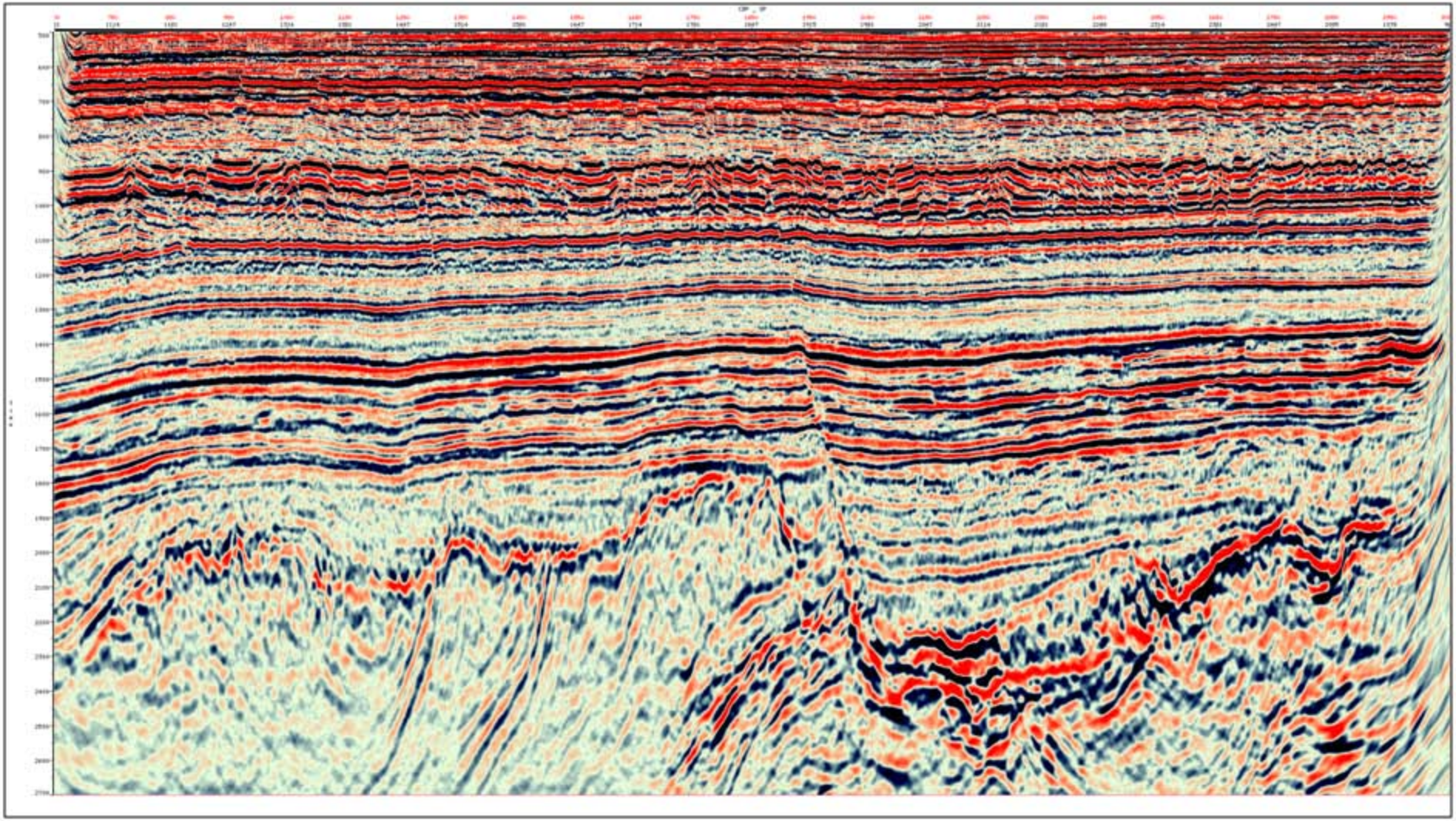
Zoomed Far Stack (30-45 Deg) - IL 1241: HDPIC (all par)



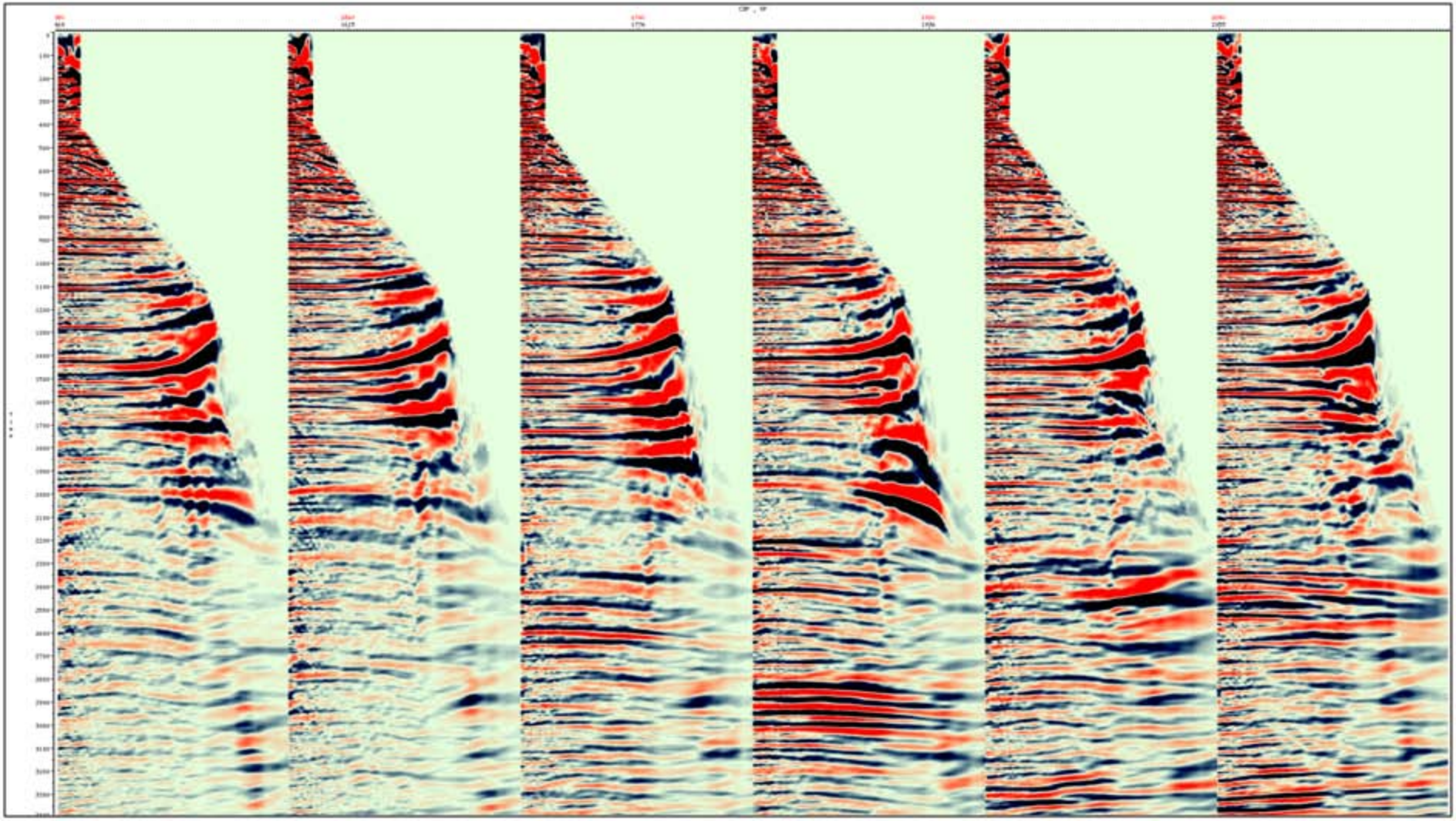
Zoomed Far Stack (25-36 Deg) - IL 1241: Reference



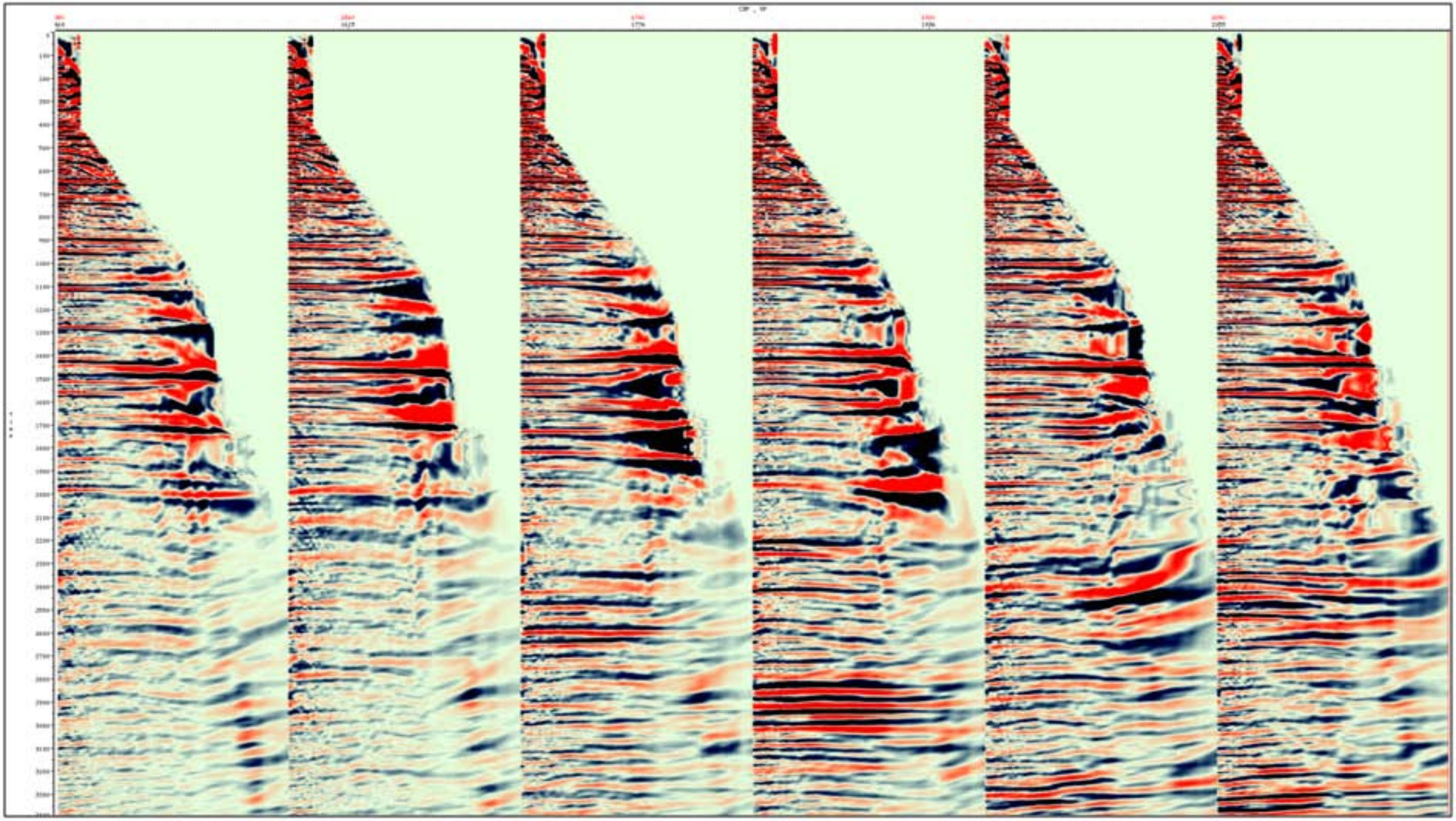
Zoomed Far Stack (25-36 Deg) - IL 1241: HDPIC (all par)



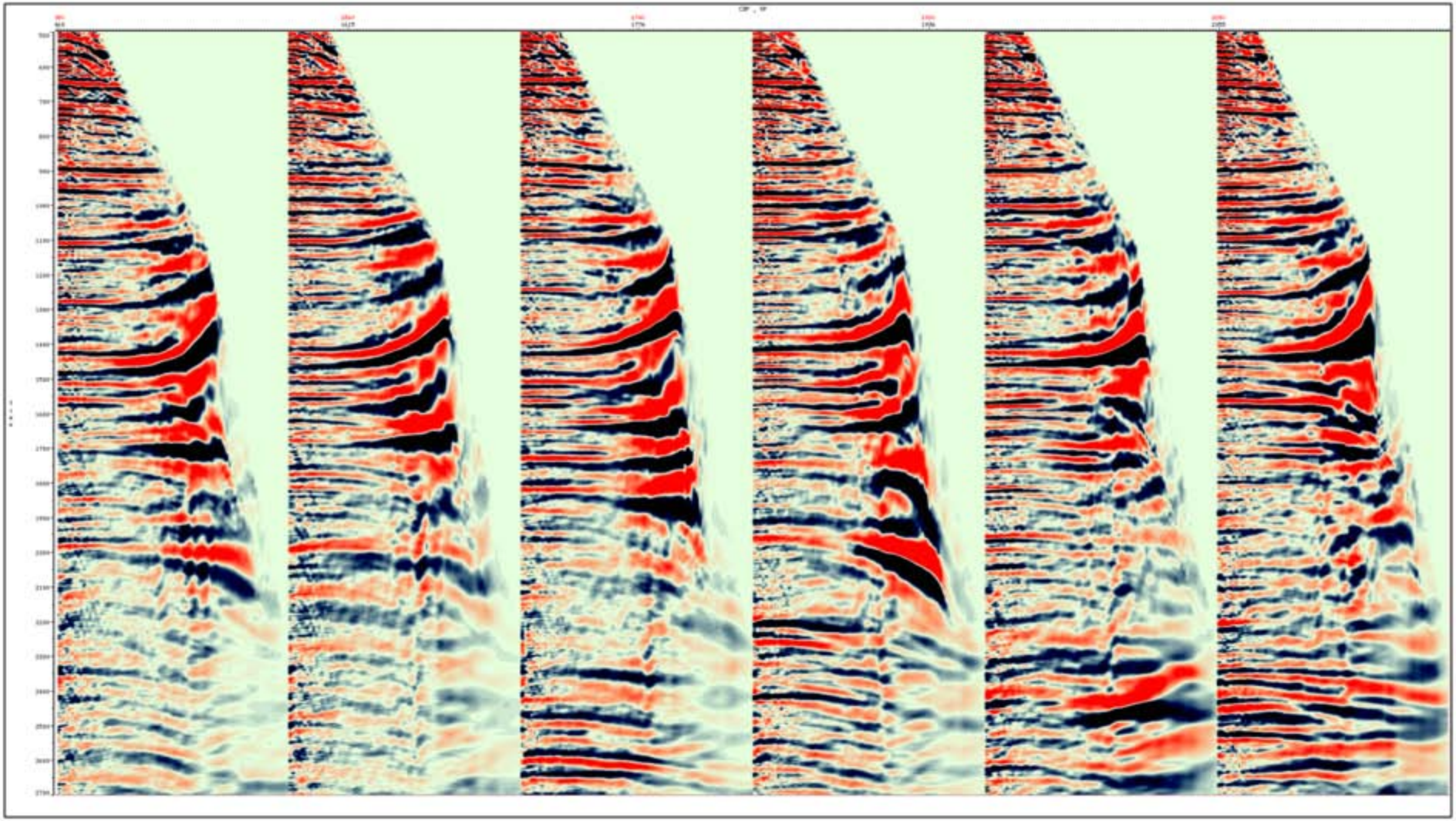
CDP - IL 1241: Reference (V2 PSTM Output)



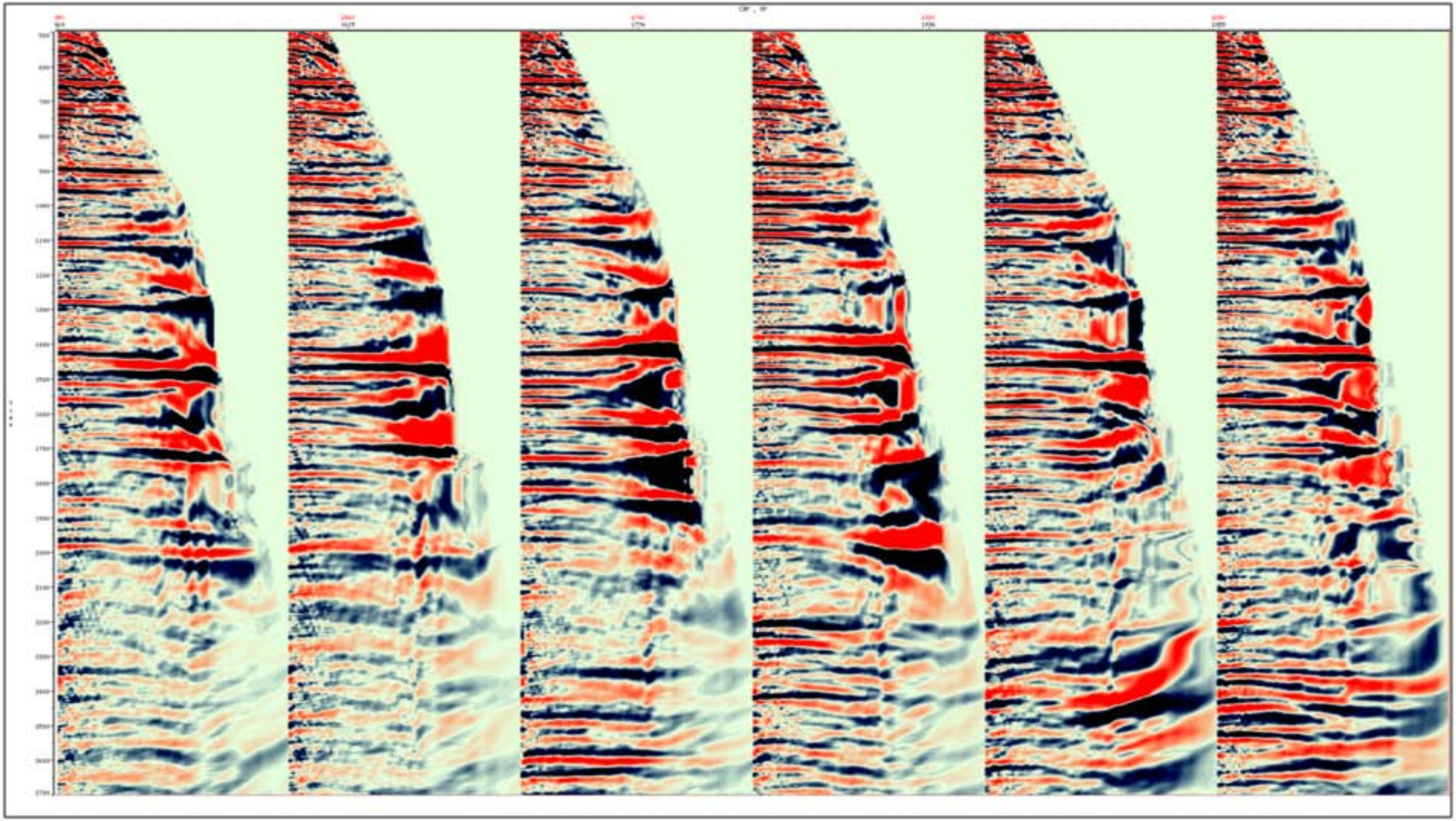
CDP - IL 1241: HDPIC (all parameter)



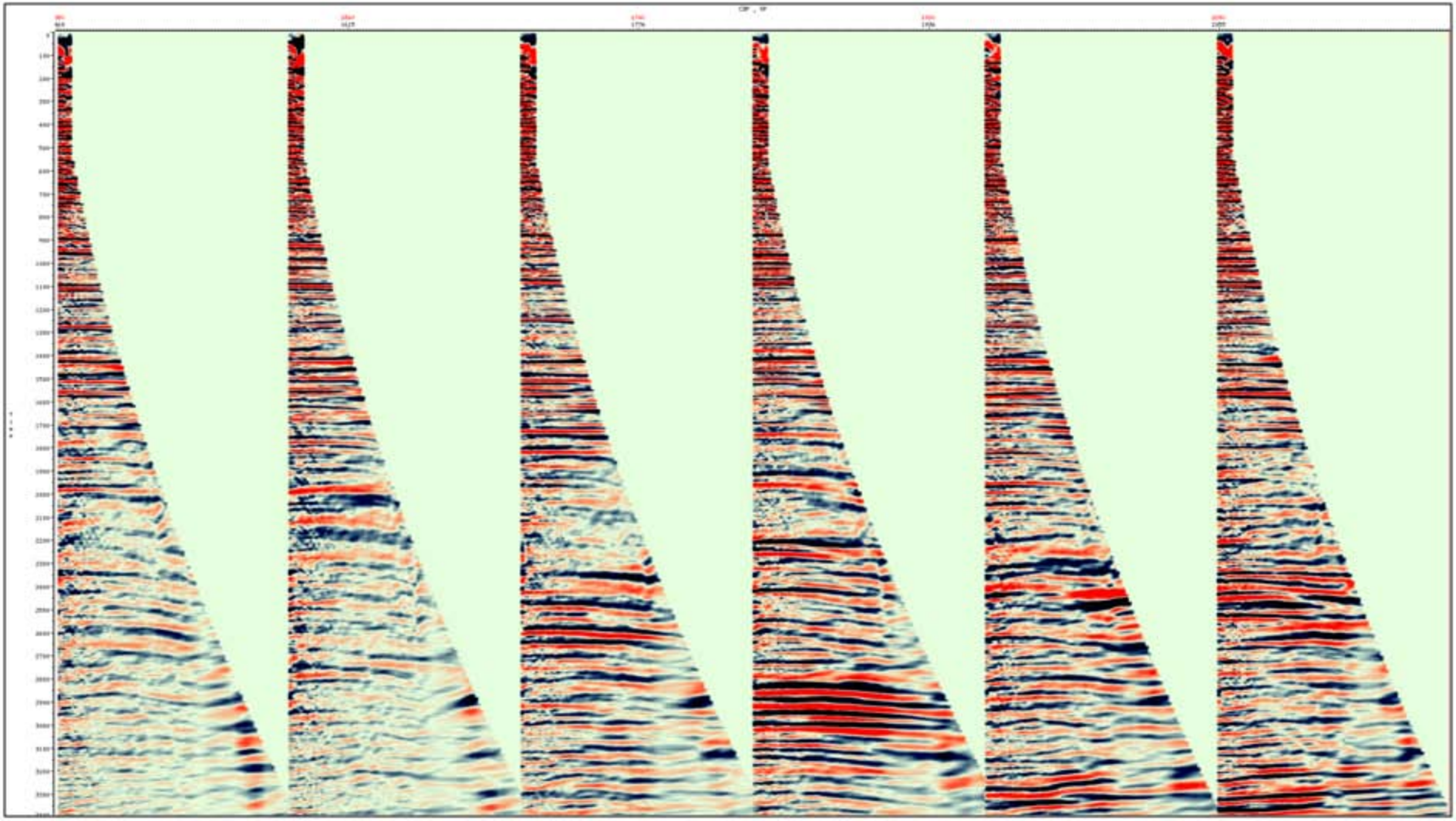
Zoomed CDP - IL 1241: Reference (V2 PSTM Output)



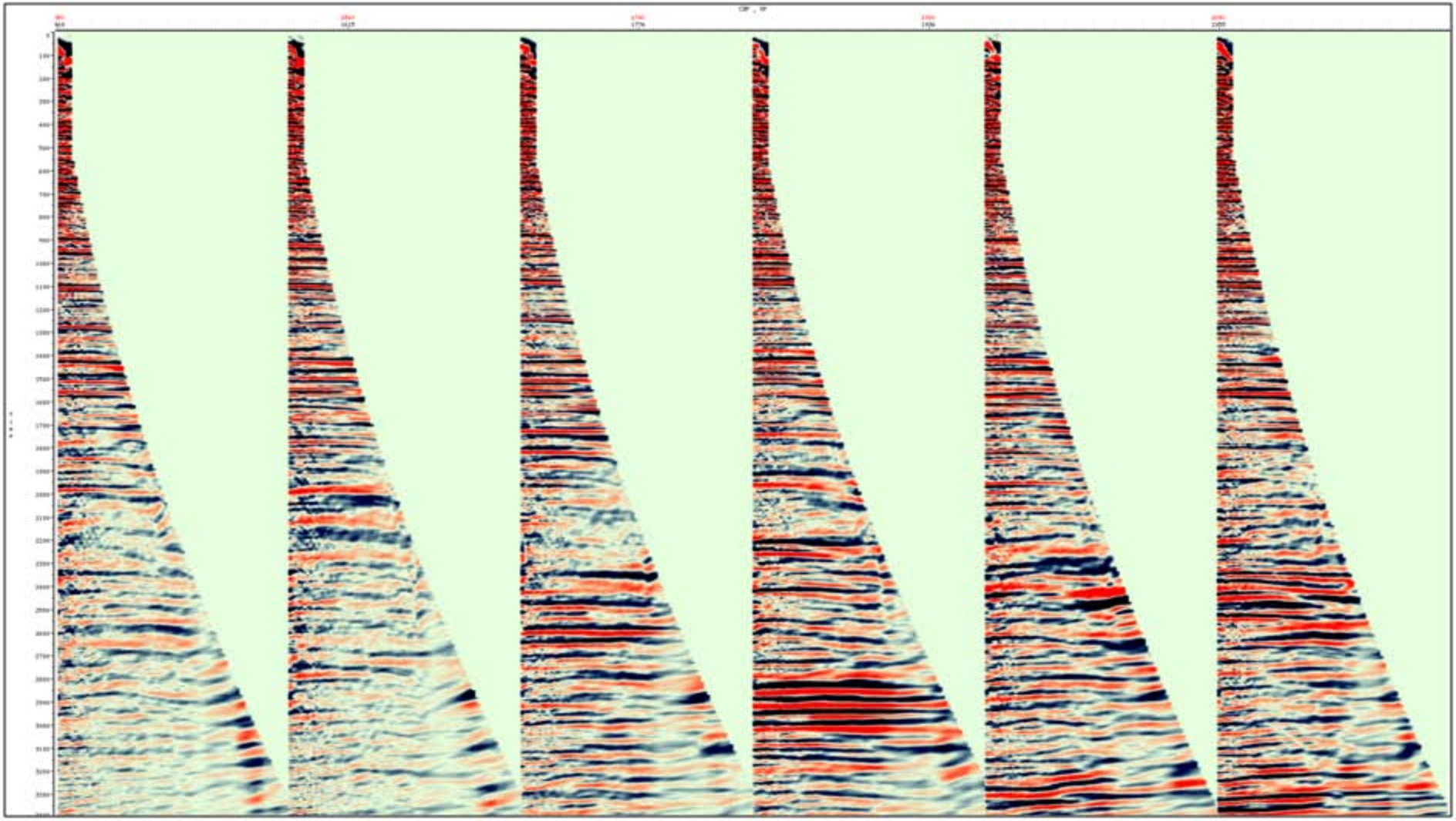
Zoomed CDP - IL 1241: HDPIC (all parameters)



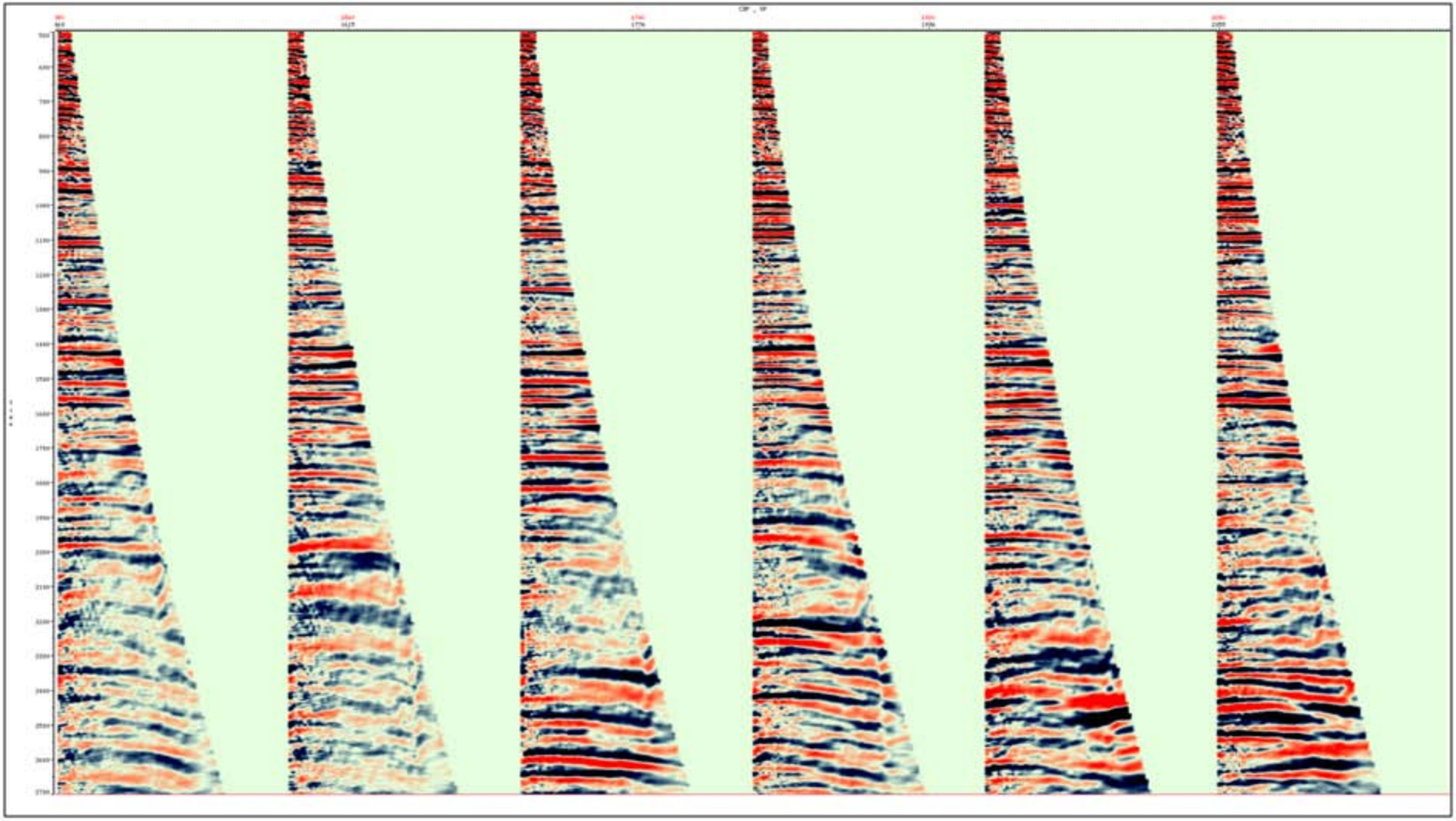
CDP - IL 1241: Reference (Muted with 36 Degrees)



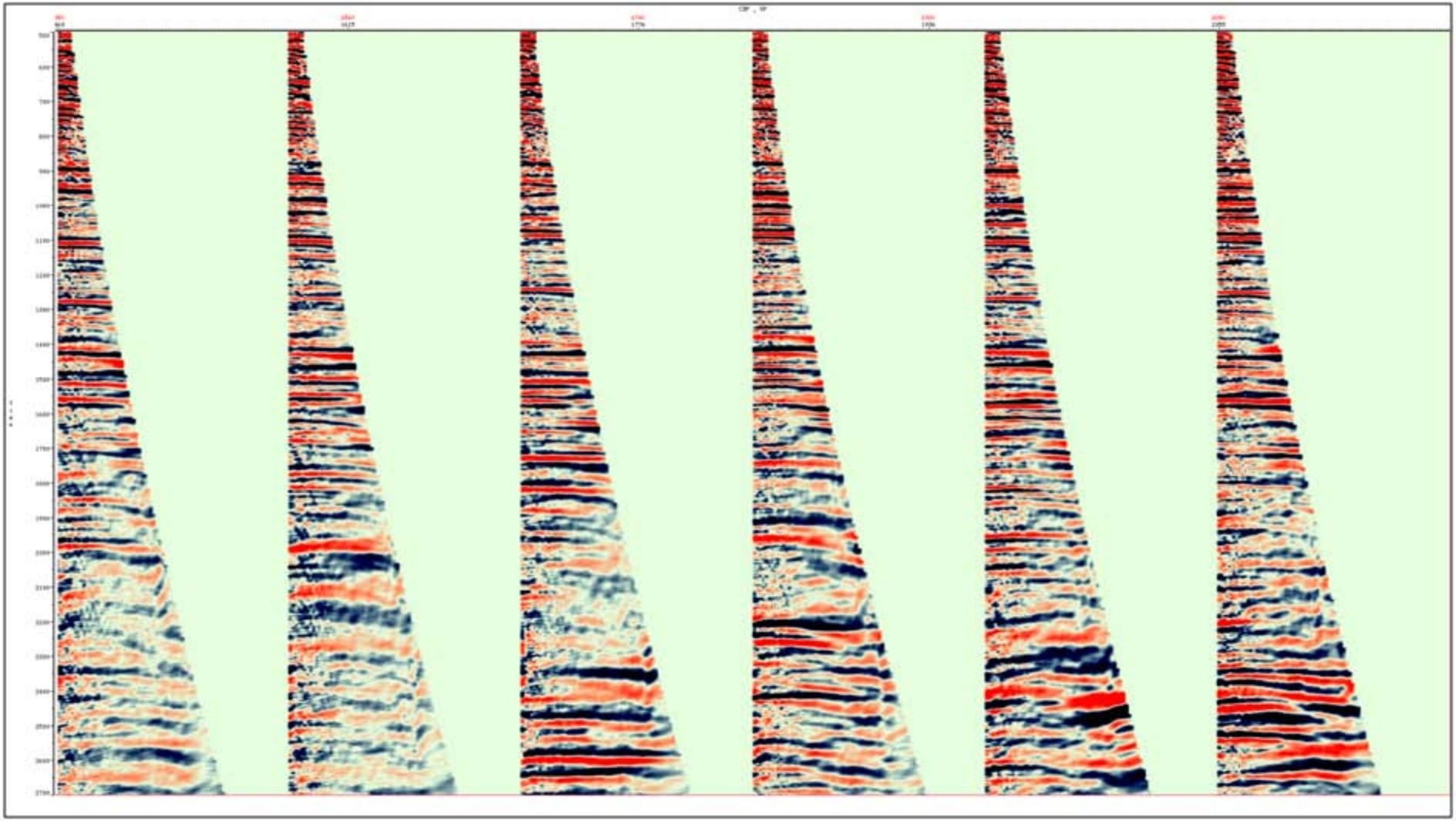
CDP - IL 1241: HDPIC (Muted with 36 Degrees)



Zoomed CDP - IL 1241: Reference (Muted with 36 Deg)



Zoomed CDP - IL 1241: HDPIC (Muted with 36 Deg)

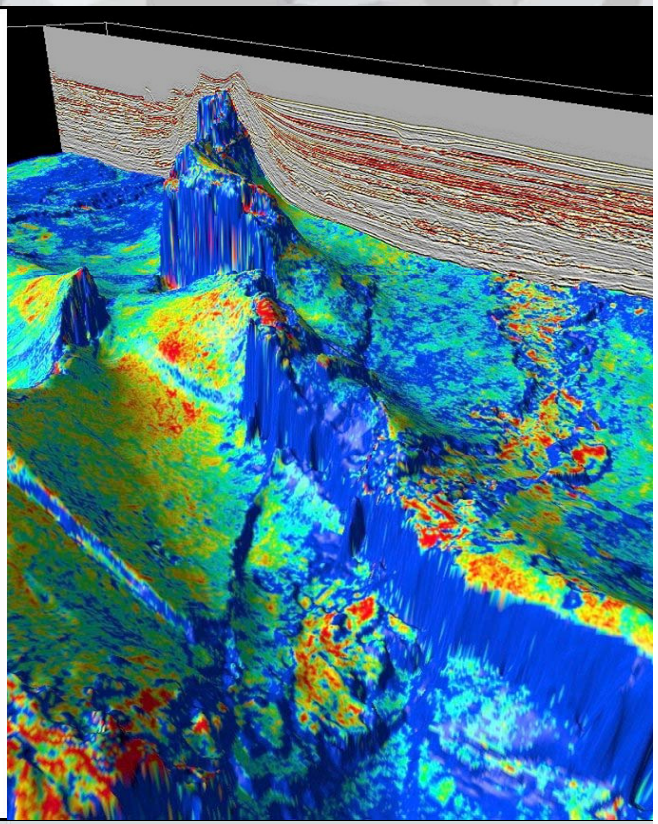


Summary

From the HDPIC step by step test, we summaries the best parameters are:

- **Filter DN and T0 using 500m**
- **Pre condition mute for HDPIC with 36 Degrees incident angle mute**
- **Corridor velocity scan in the target zone (around 1600ms): 6%**
- **Gathers are not muted to 36 degrees, but the velocity field may be considered unsuitable beyond this angle.**
- **The Final Far Stack is recommended to be limited to 36 degrees accordingly. An "extra-far" stack beyond 36 degrees (eg out to 45/48 degrees) may be useful for qualitative work, but is not recommended for quantitative work.**

Technical Note 12
QCompensation
Silvereye 3D



Introduction

Q Comp testing was carried out on inline 1241.

Test was done in two step:

1. Using constant Q=140, gain limited was tested with four different value: 8, 12, 15 and 20

JC suggested to use Gain limited 16.

2. Using Gain limited 16, Q was tested, with different value: 100, 110, 120, 130, 140, 150, 160, and 200.

- JC suggested to do Q estimation test.
- JC suggested to do time variant Q, around 800ms using Q200 and follow with the best Q below that.

GLIM= Gain limited

Processing Sequence to date

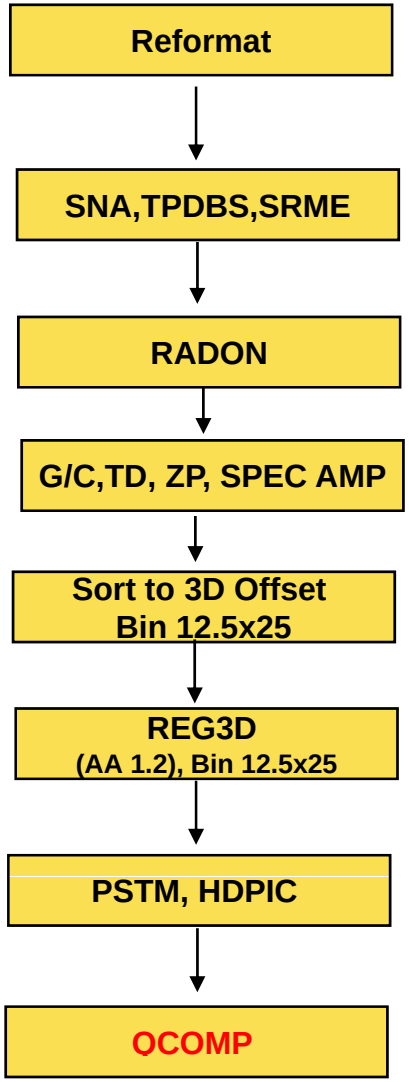
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D
- Replace T2 with TV Ursin (offset term)
- PSTM: Ray Trace, Dip Lim 75, Aperture 4 km, Smoothed V2 Velocity
- HDPIC

Current Test

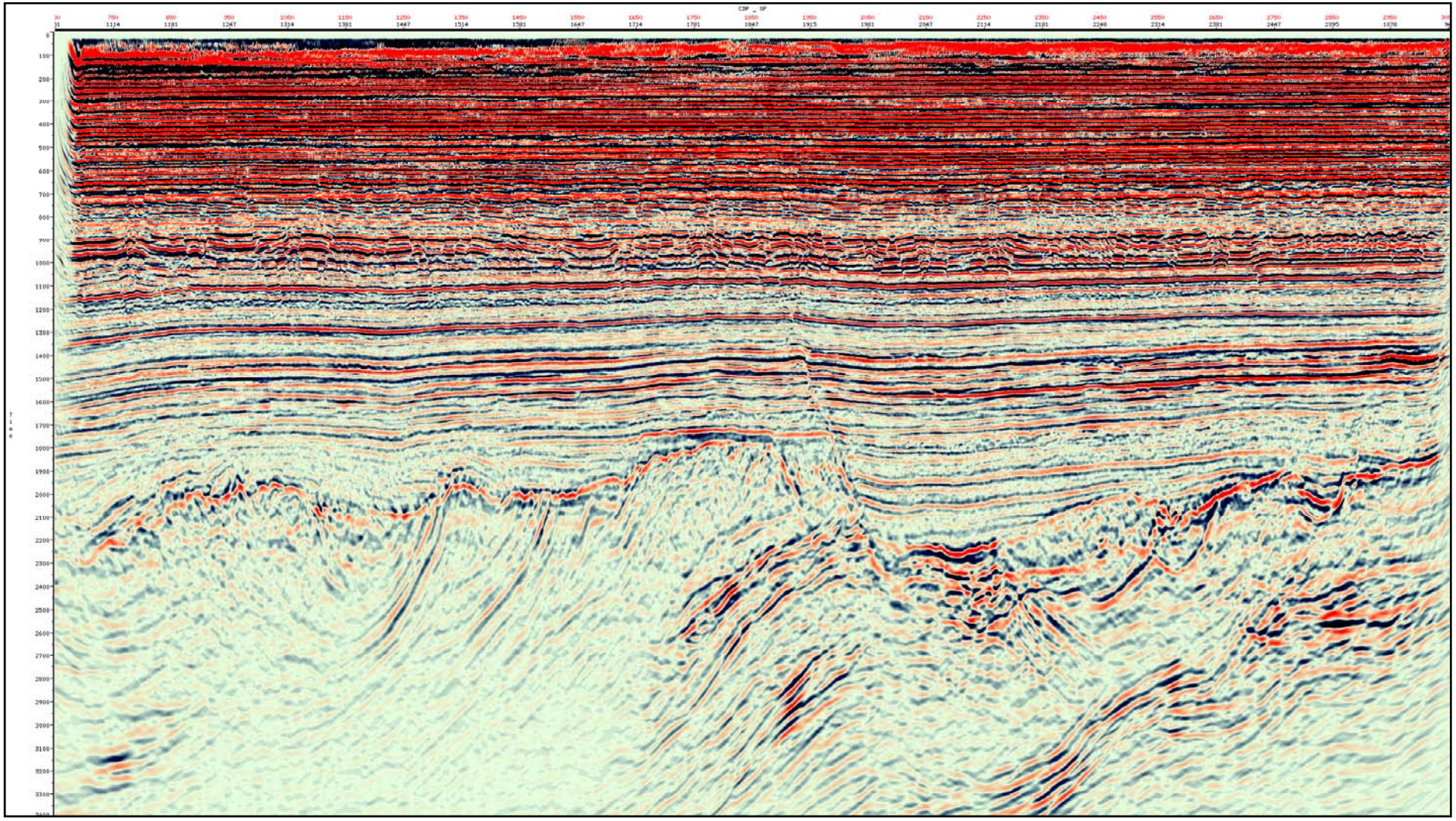
- **QCompensation, Phase and amplitude**

Proc Flow: HDPIC

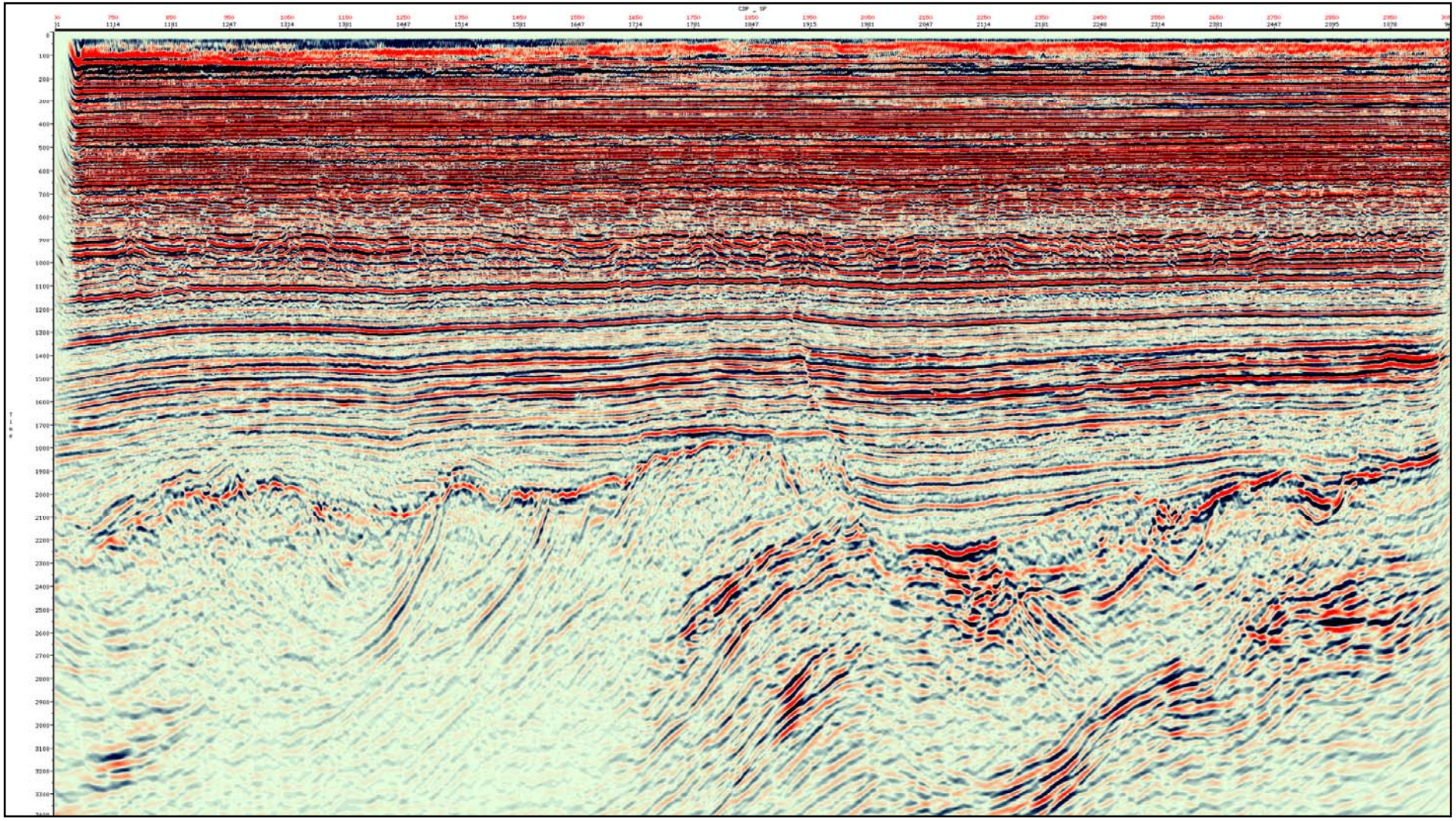


QCOMP, Gain Limited

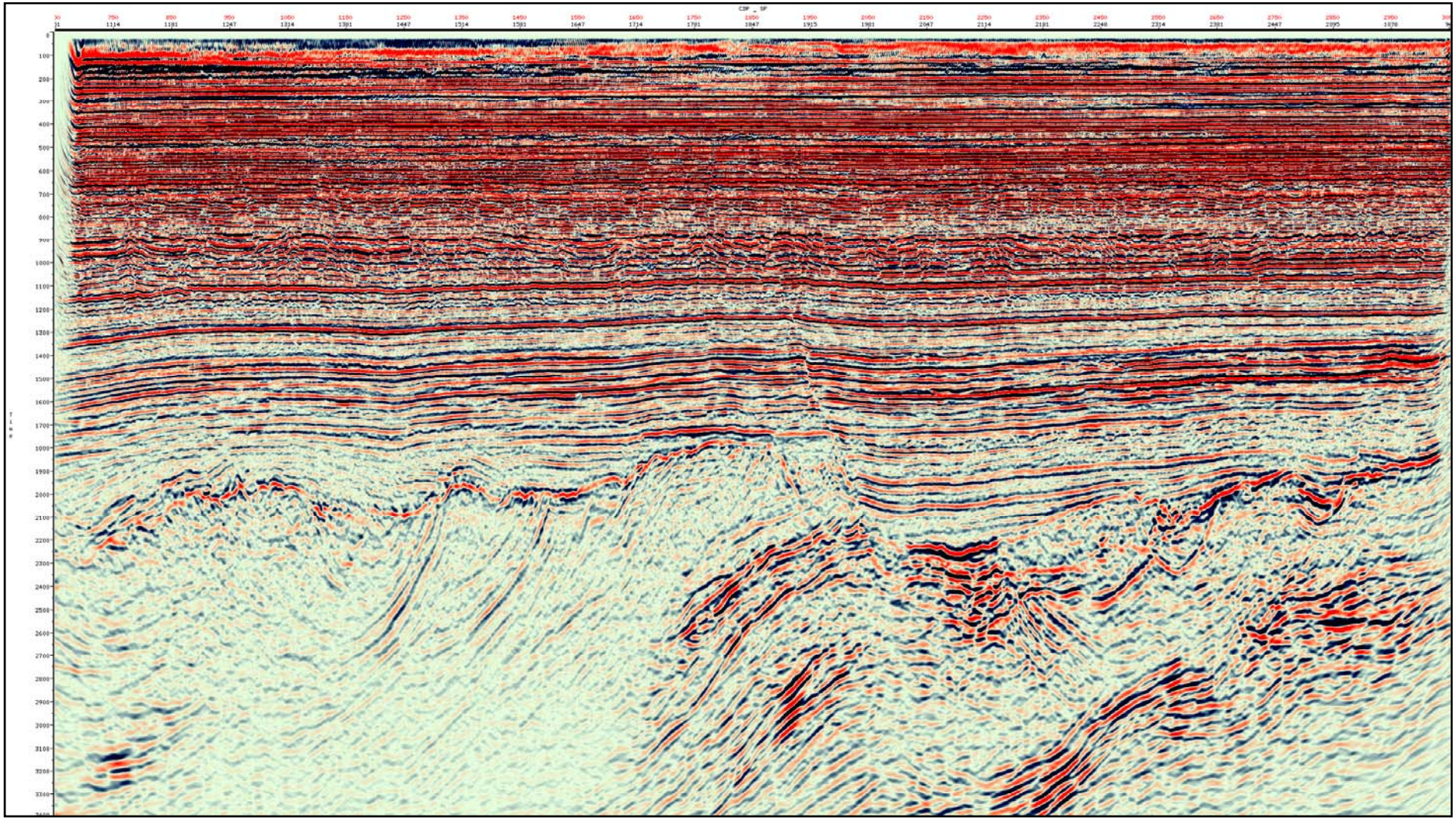
Stack (6-32 Deg) - IL 1241: Reference (no Q)



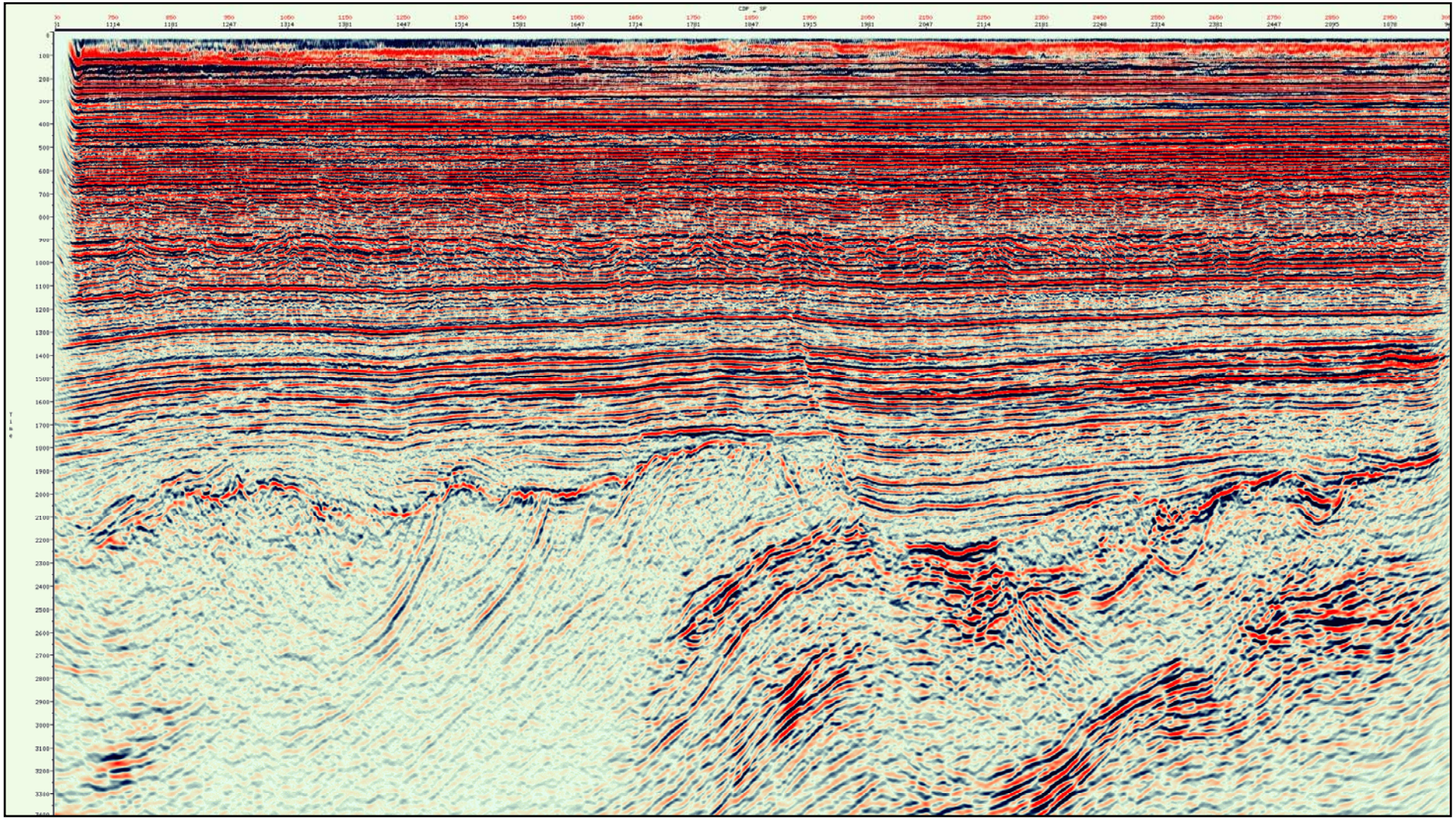
Stack (6-32 Deg) - IL 1241: Q 140 GLIM 8



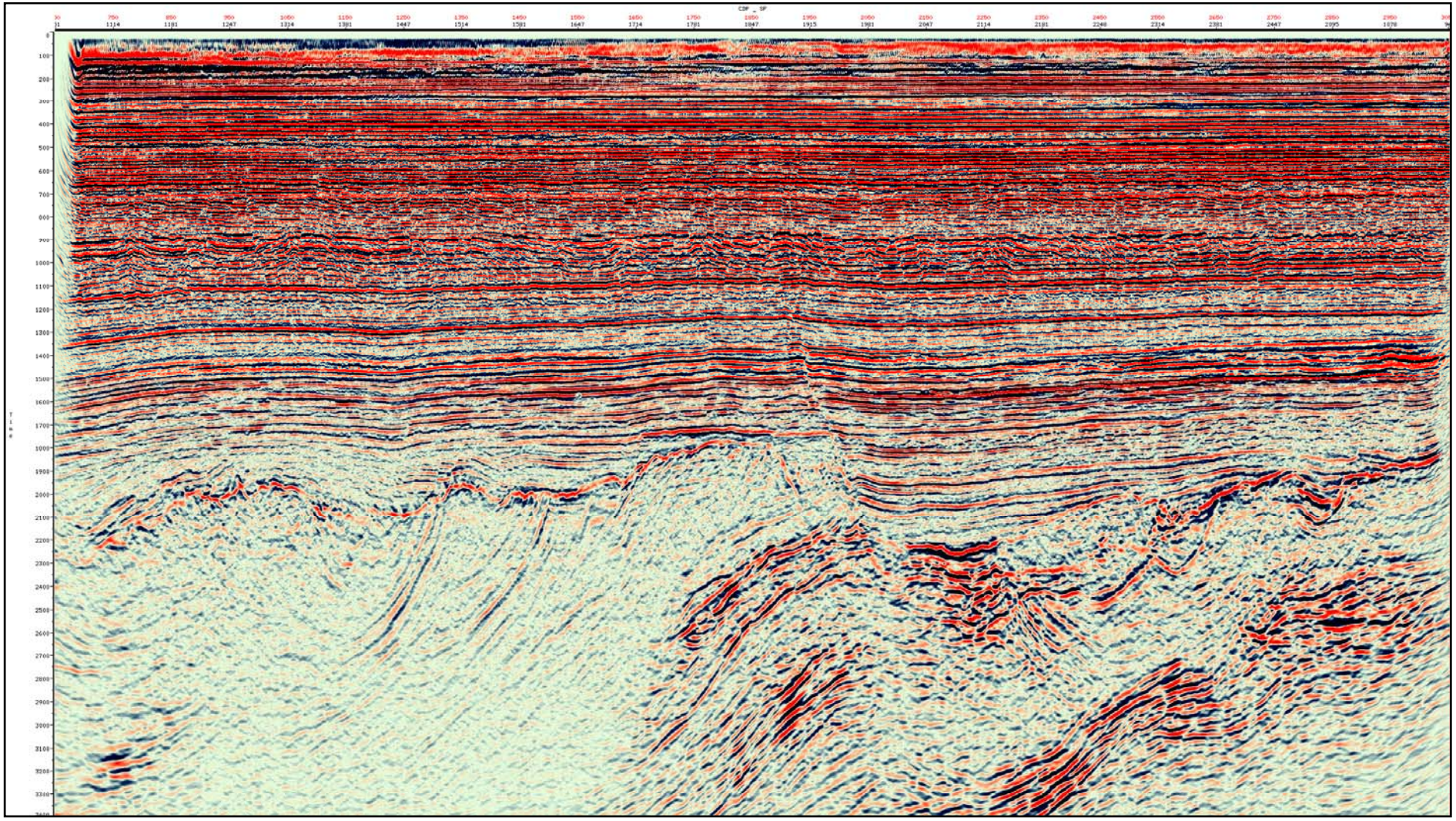
Stack (6-32 Deg) - IL 1241: Q 140 GLIM 12



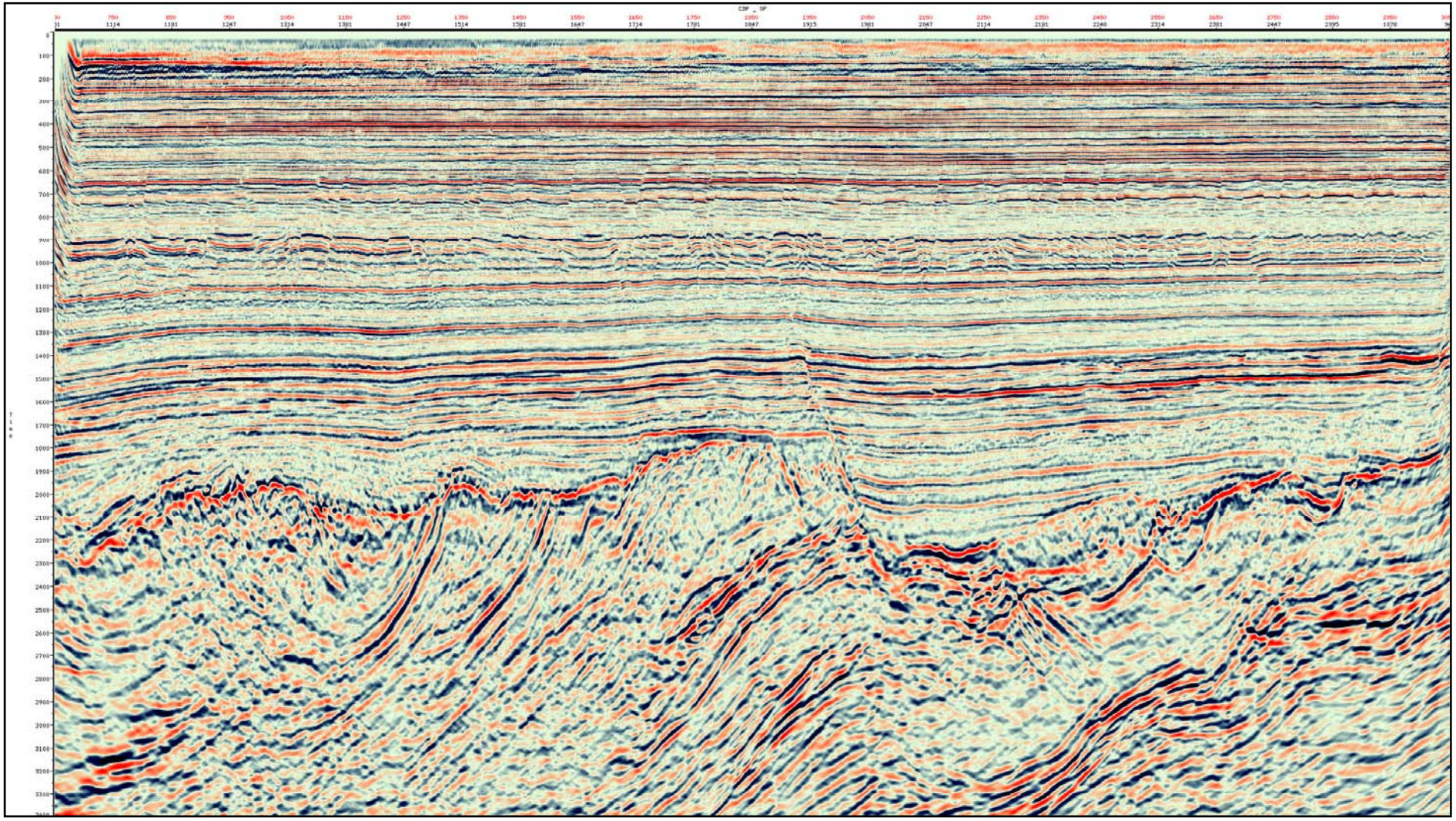
Stack (6-32 Deg) - IL 1241: Q 140 GLIM 15



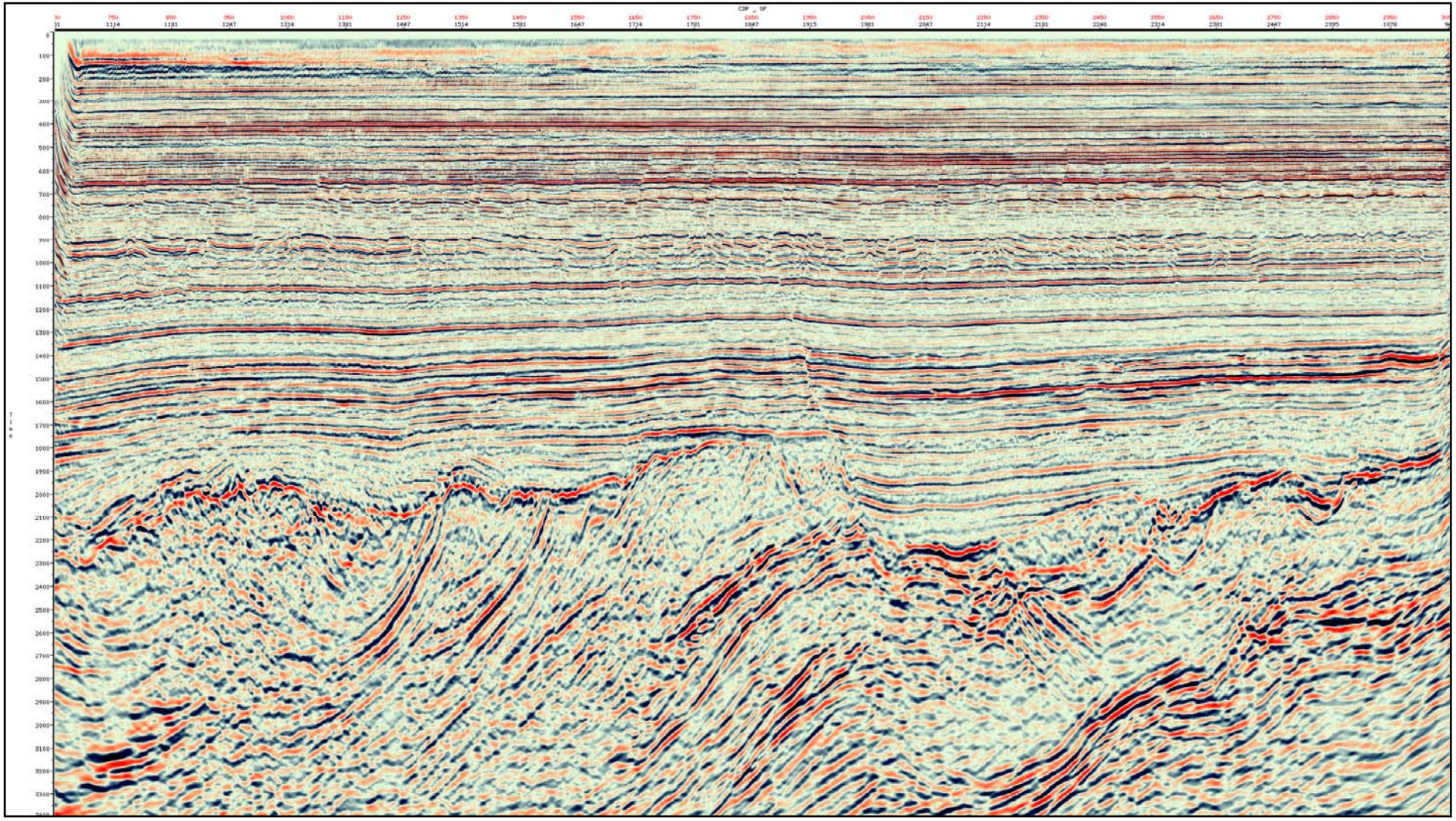
Stack (6-32 Deg) - IL 1241: Q 140 GLIM 20



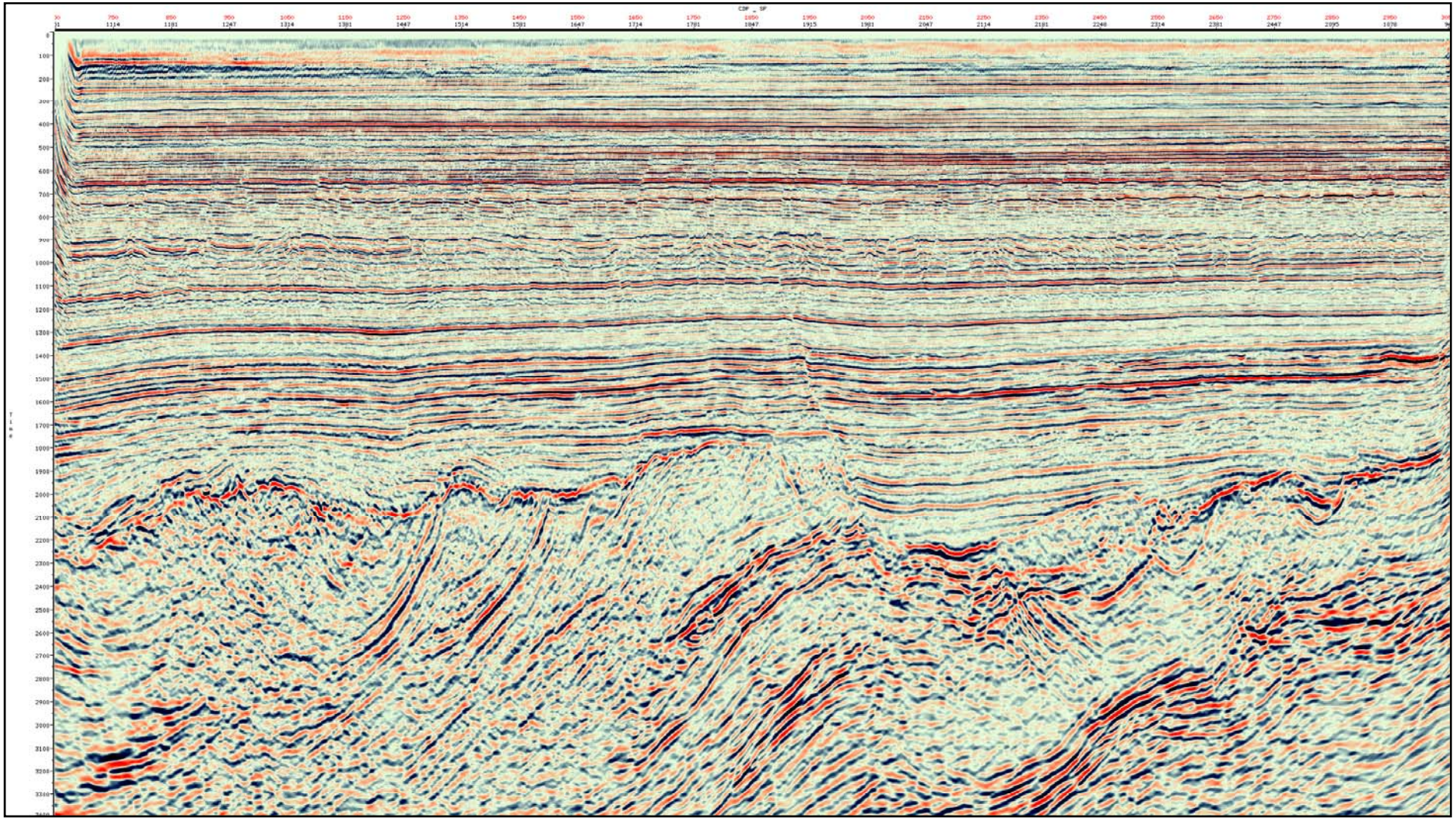
AGC Stack (6-32 Deg) - IL 1241: Reference (no Q)



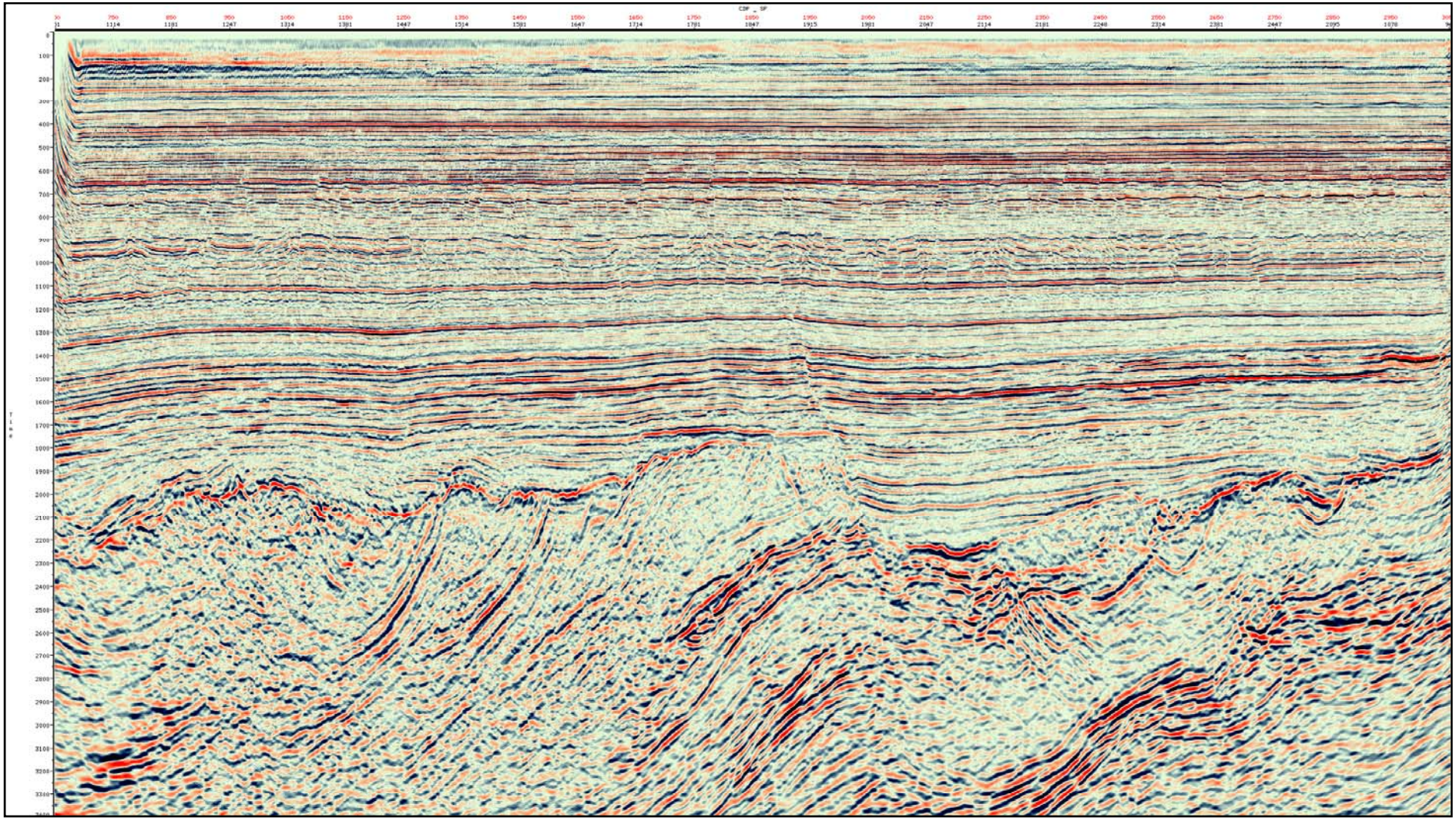
AGC Stack (6-32 Deg) - IL 1241: Q 140 GLIM 8



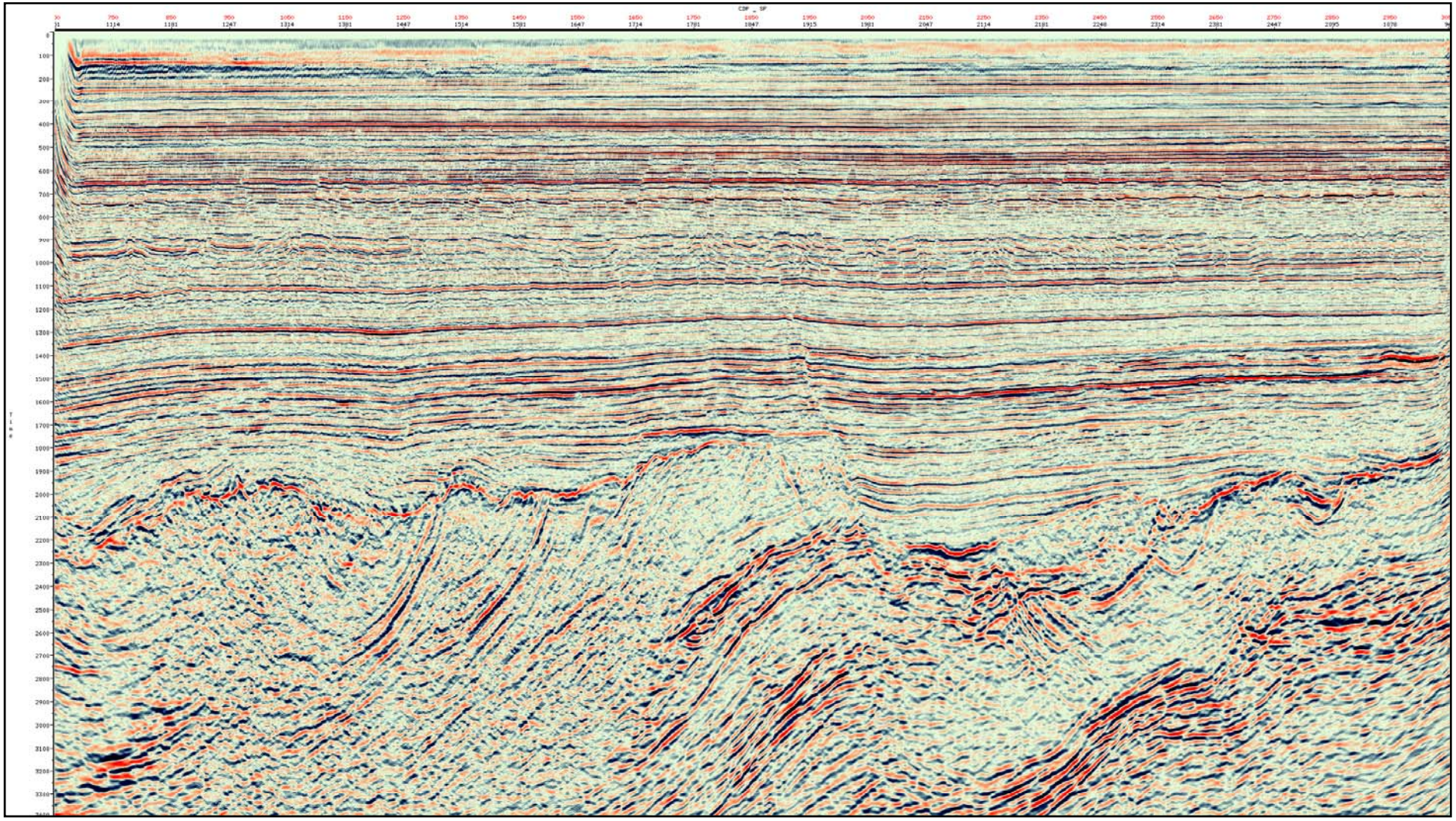
AGC Stack (6-32 Deg) - IL 1241: Q 140 GLIM 12



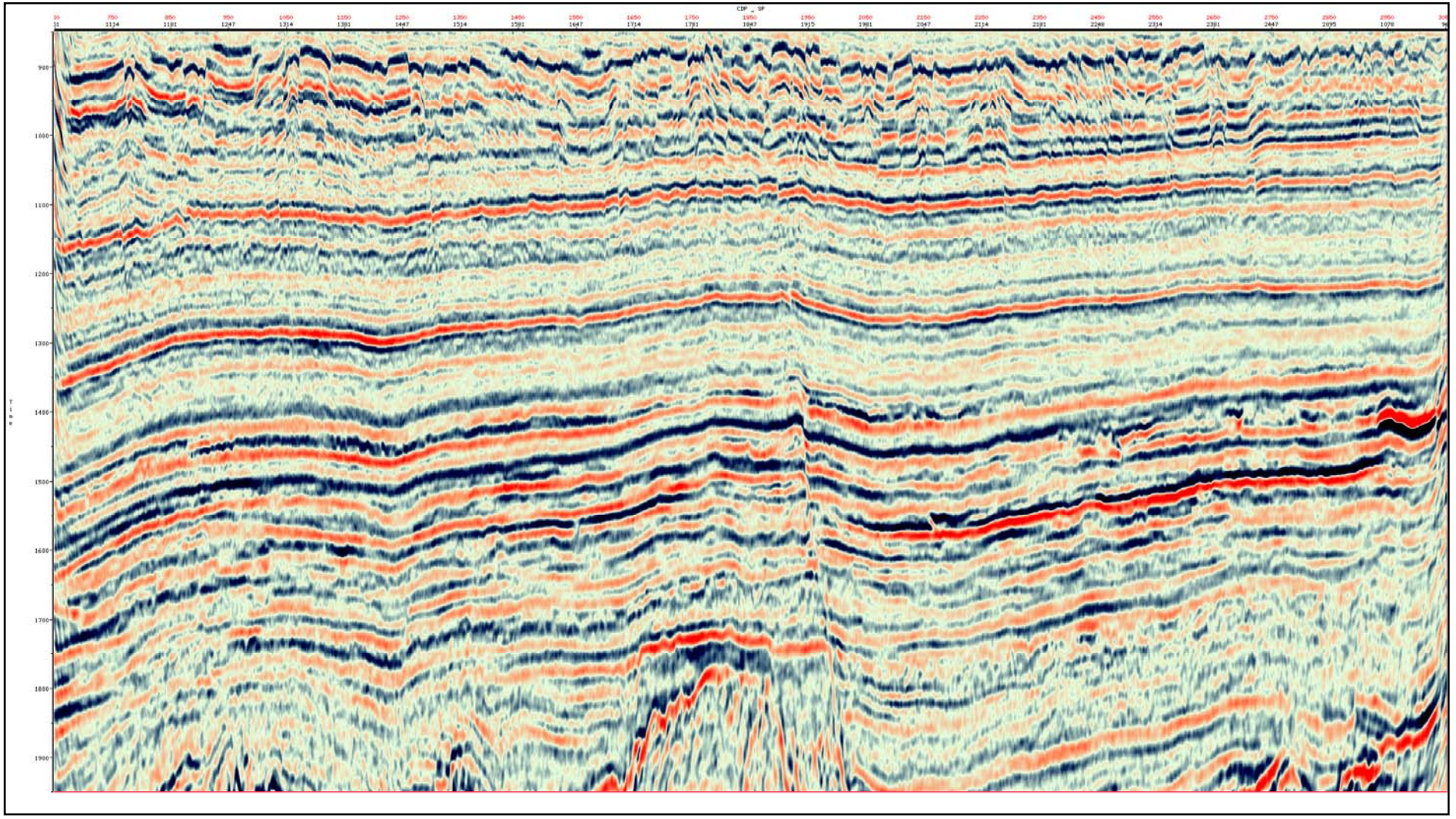
AGC Stack (6-32 Deg) - IL 1241: Q 140 GLIM 15



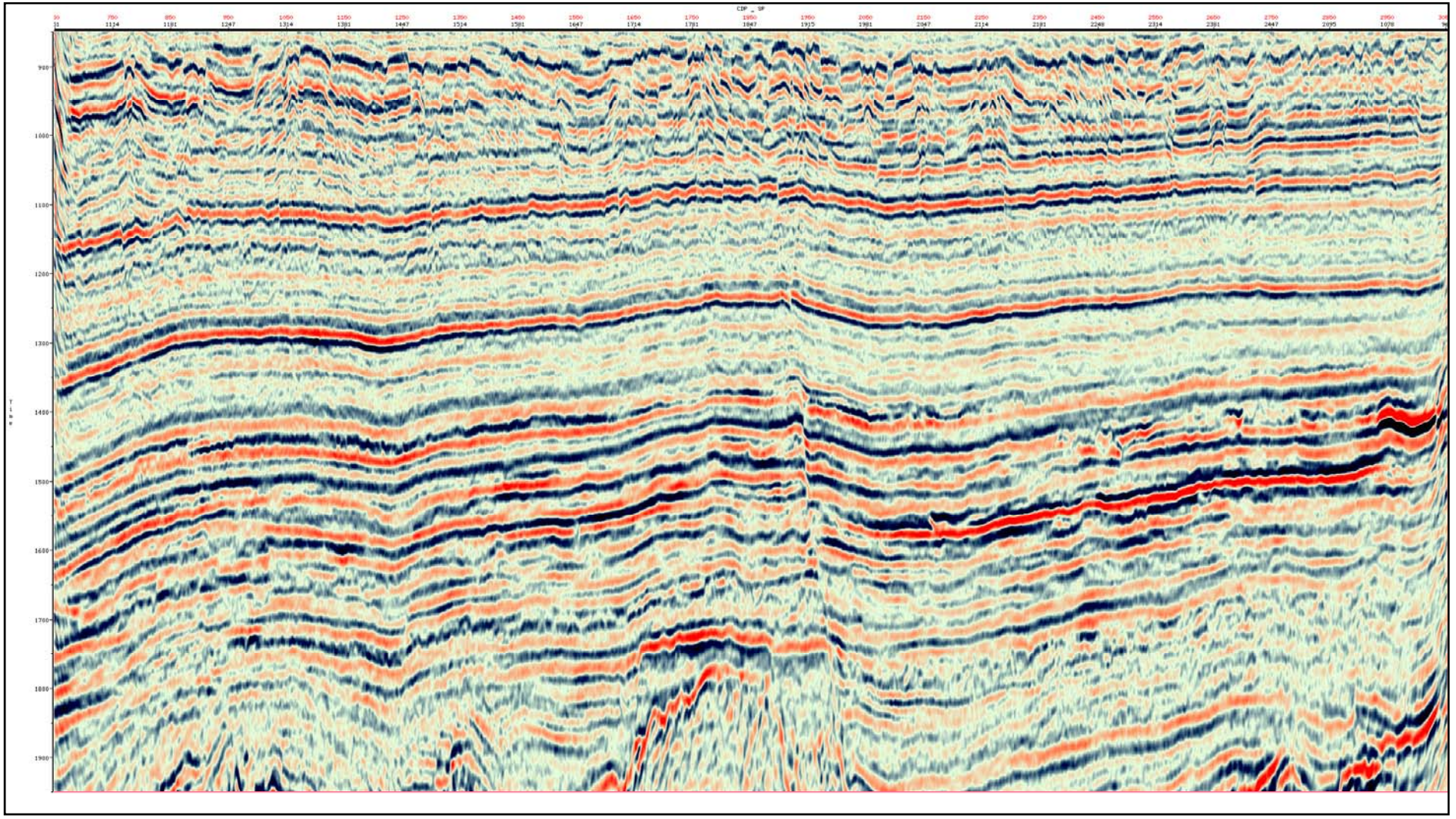
AGC Stack (6-32 Deg) - IL 1241: Q 140 GLIM 20



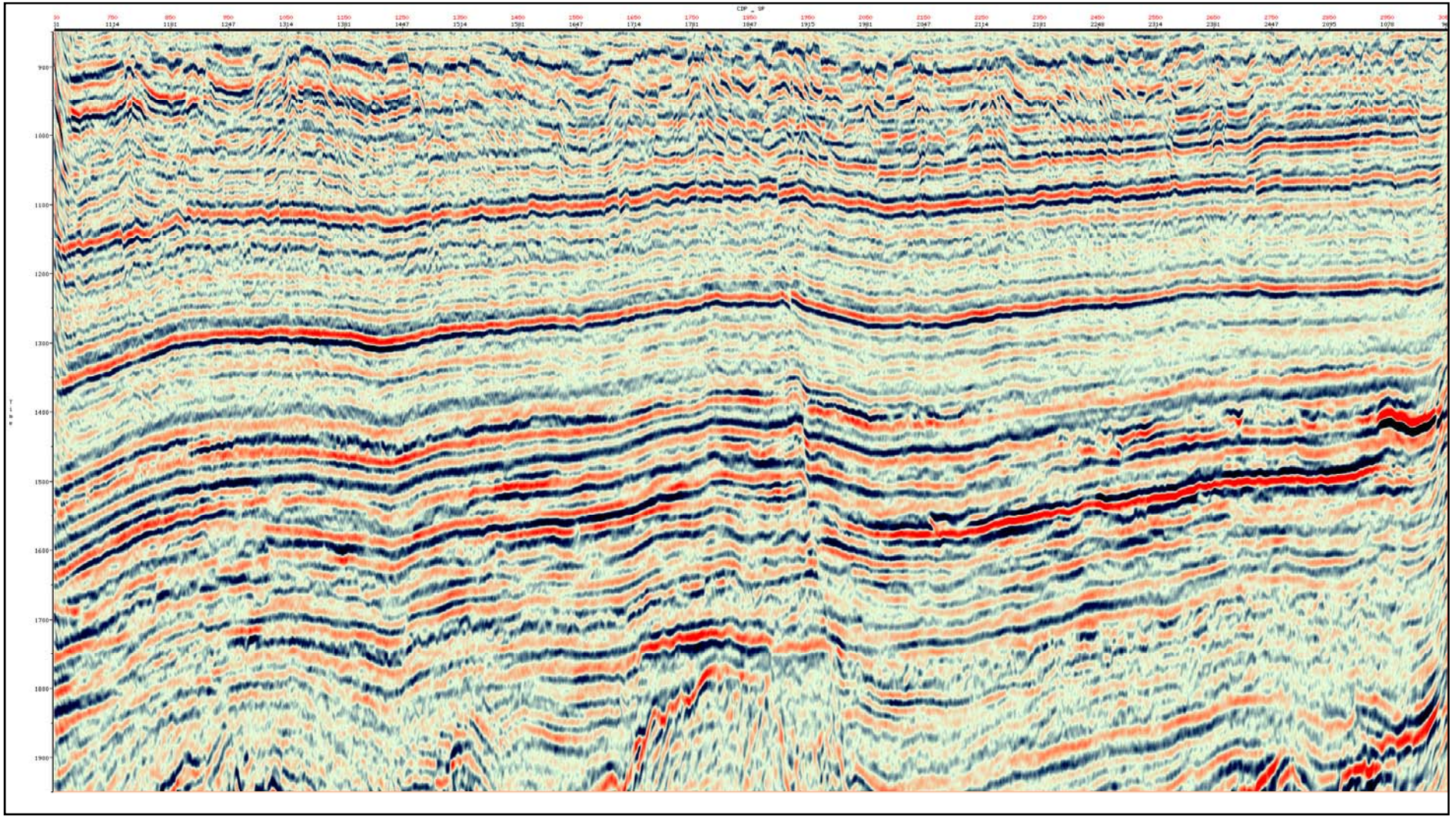
Zoomed AGC Stack (6-32 Deg) - IL 1241: Reference (no Q)



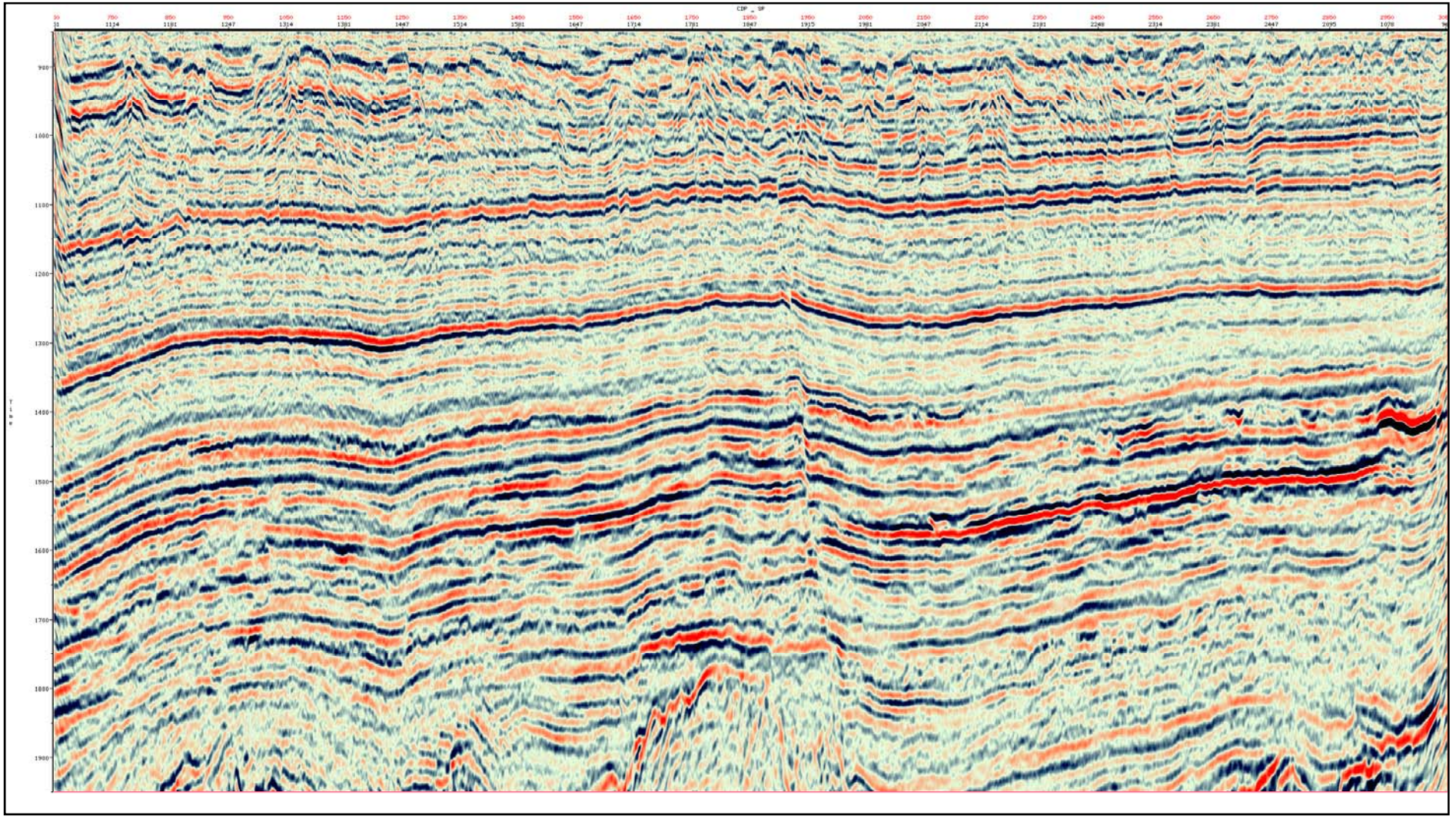
Zoomed AGC Stack (6-32 Deg) - IL 1241: Q 140 GLIM 8



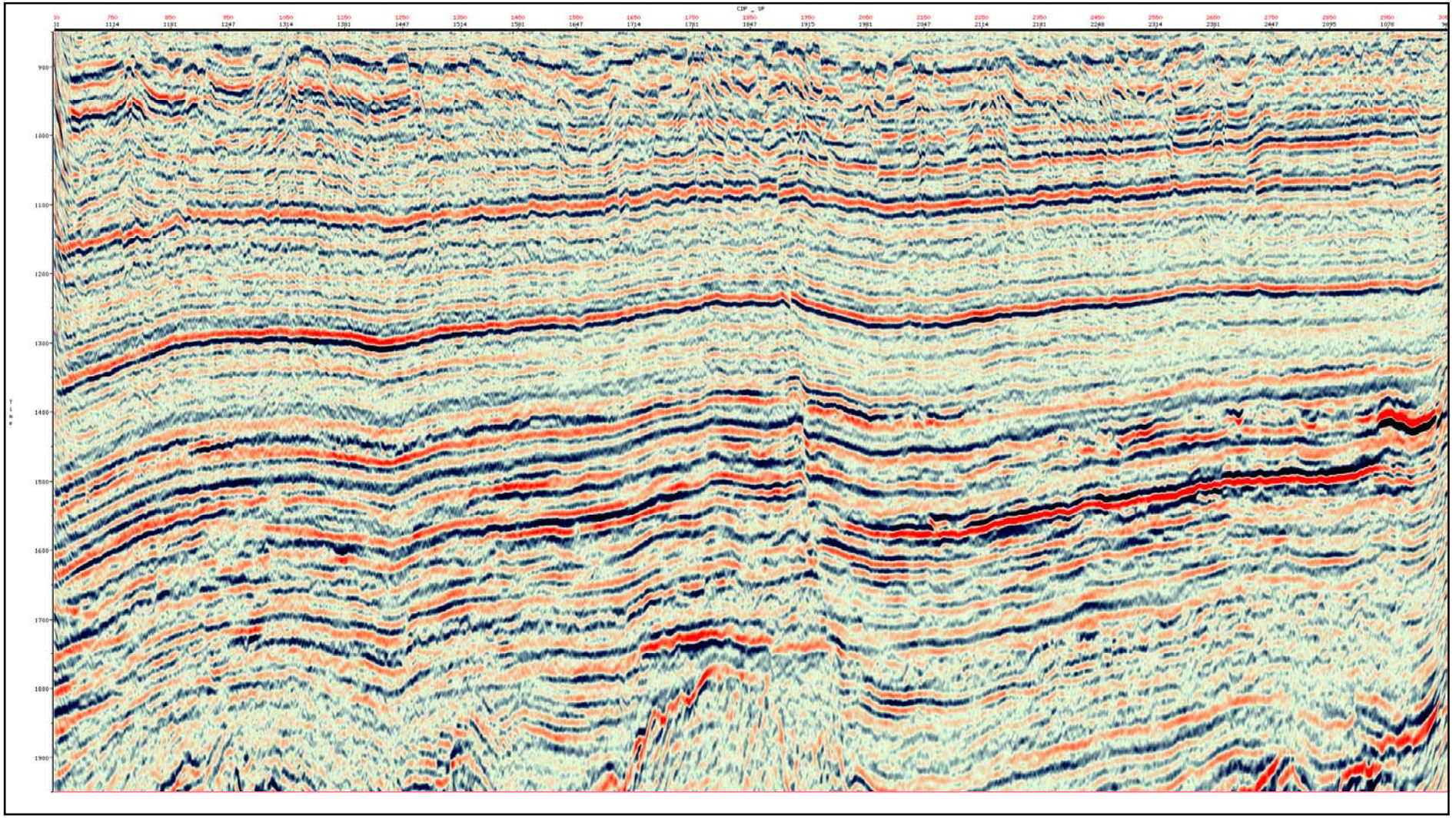
Zoomed AGC Stack (6-32 Deg) - IL 1241: Q 140 GLIM 12



Zoomed AGC Stack (6-32 Deg) - IL 1241: Q 140 GLIM 15

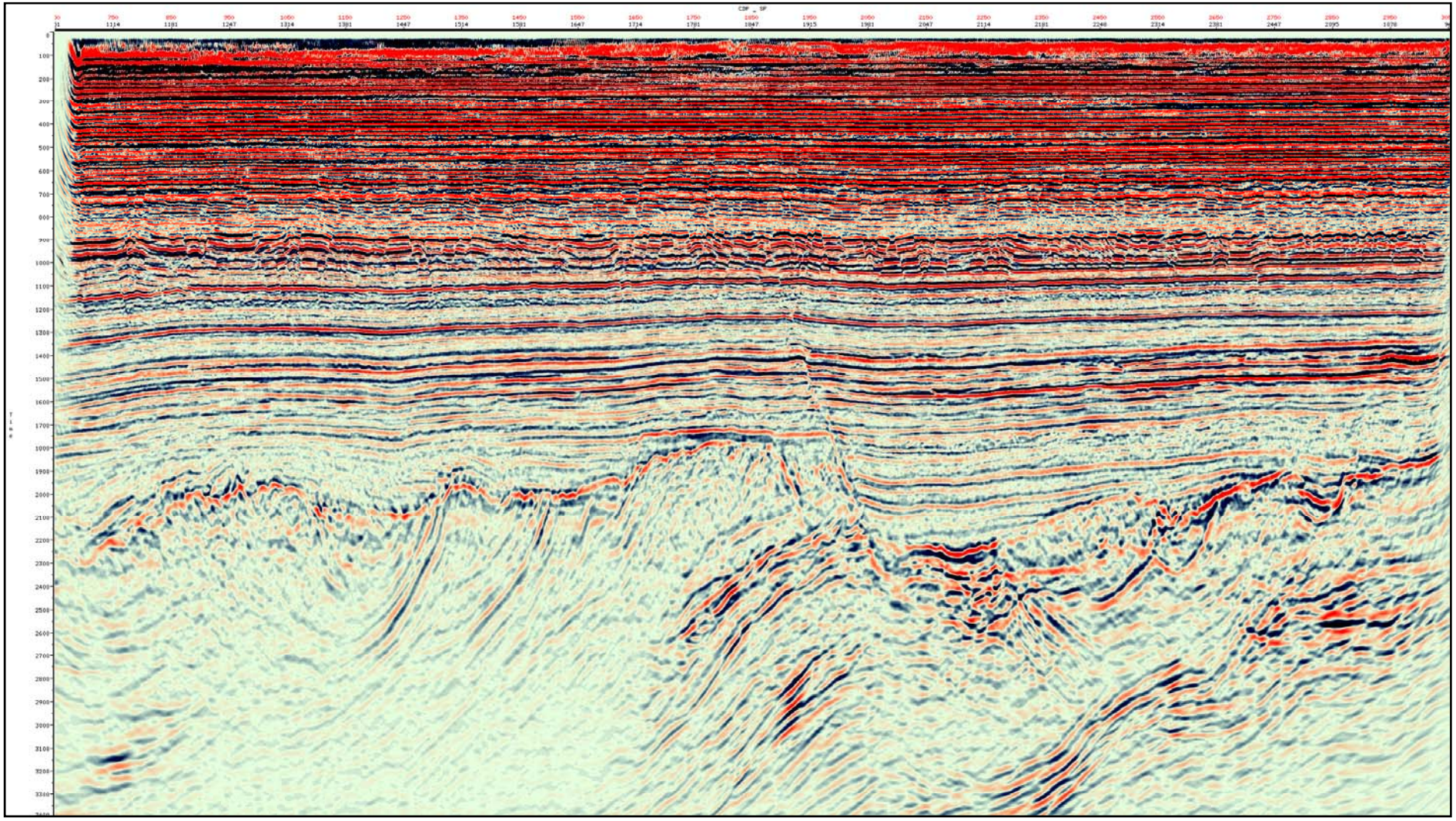


Zoomed AGC Stack (6-32 Deg) - IL 1241: Q 140 GLIM 20

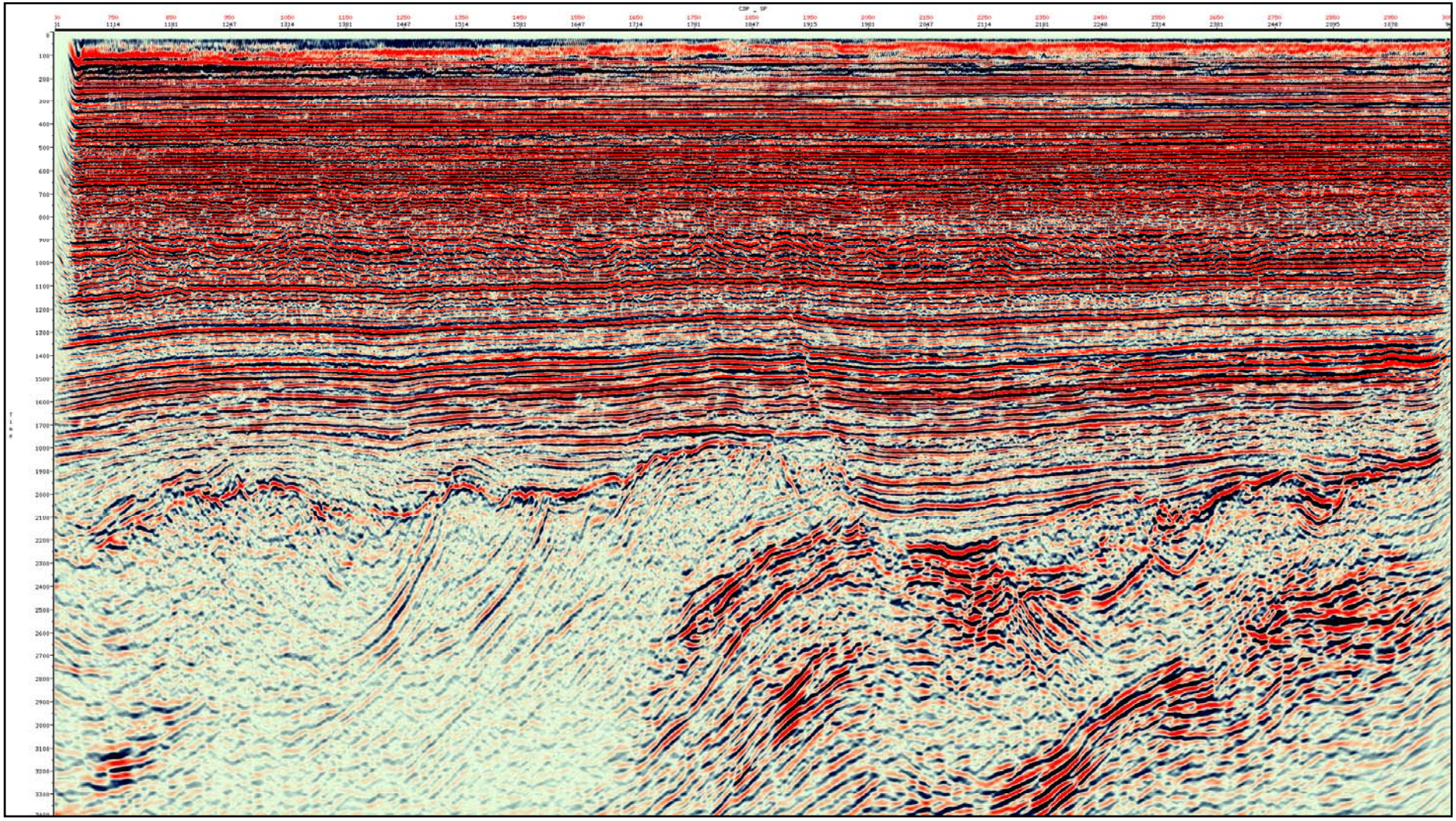


QCOMP, Q

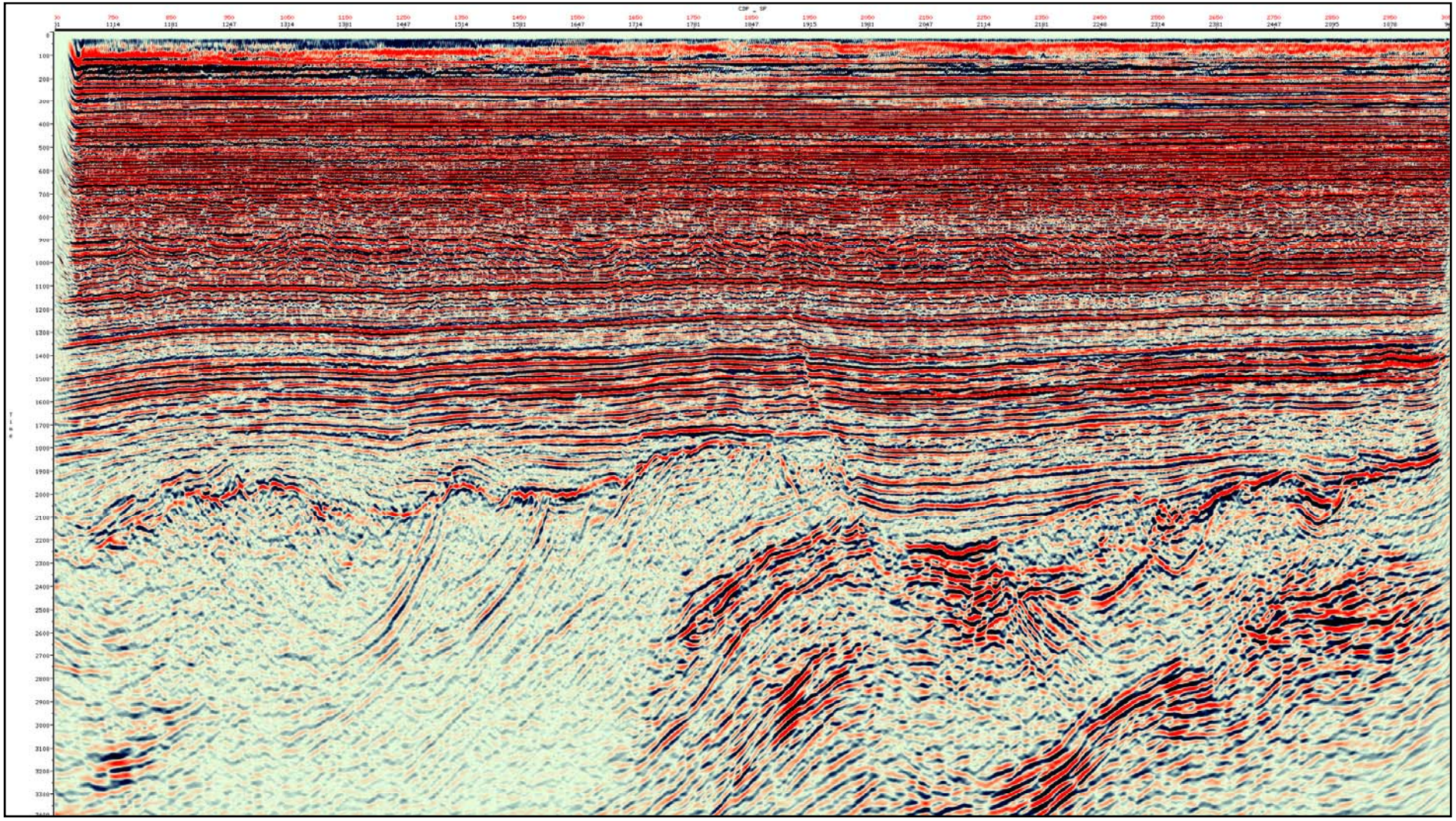
Stack (6-32 Deg) - IL 1241: Reference (no Q)



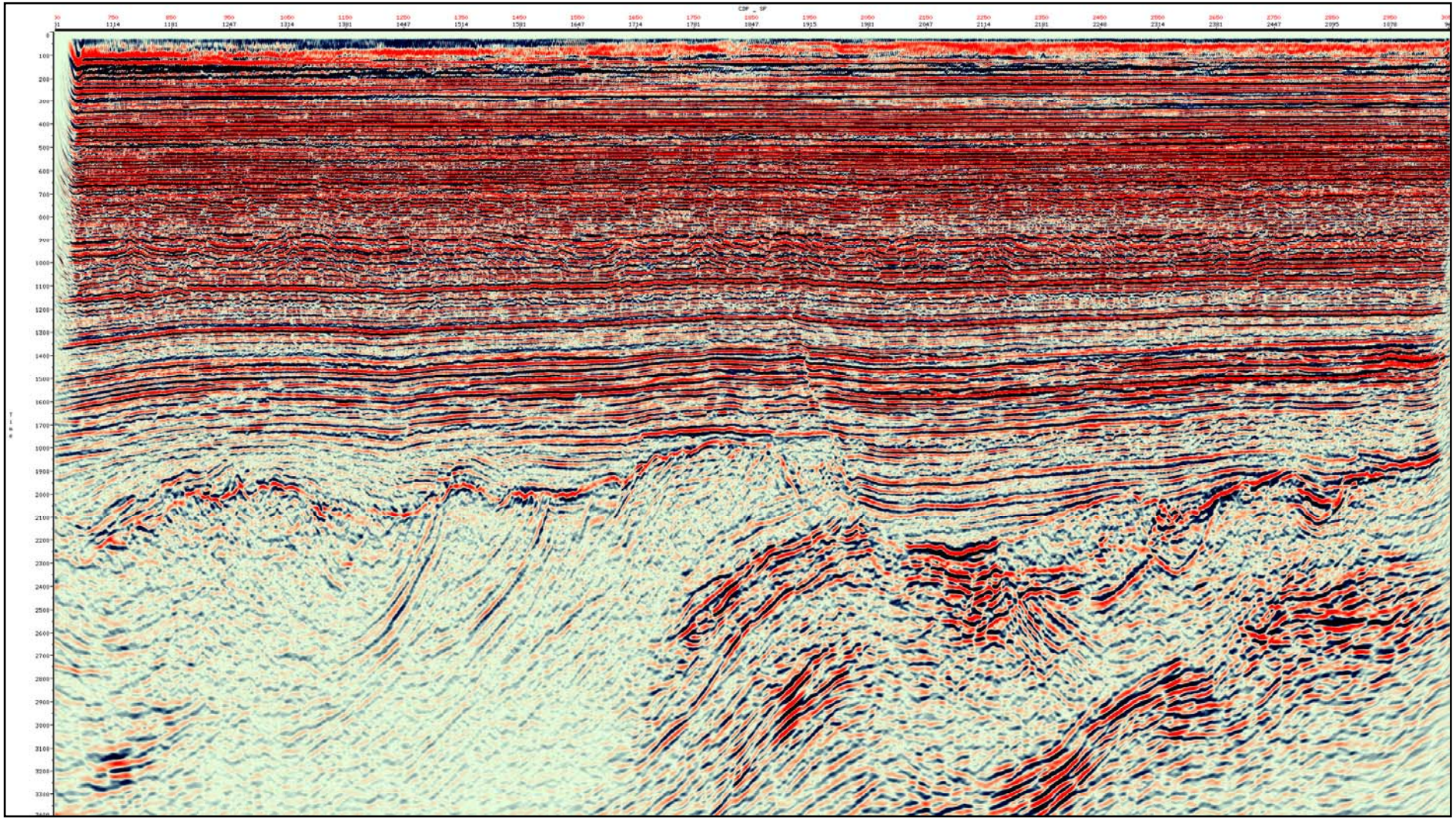
Stack (6-32 Deg) - IL 1241: GLIM 16, Q 100



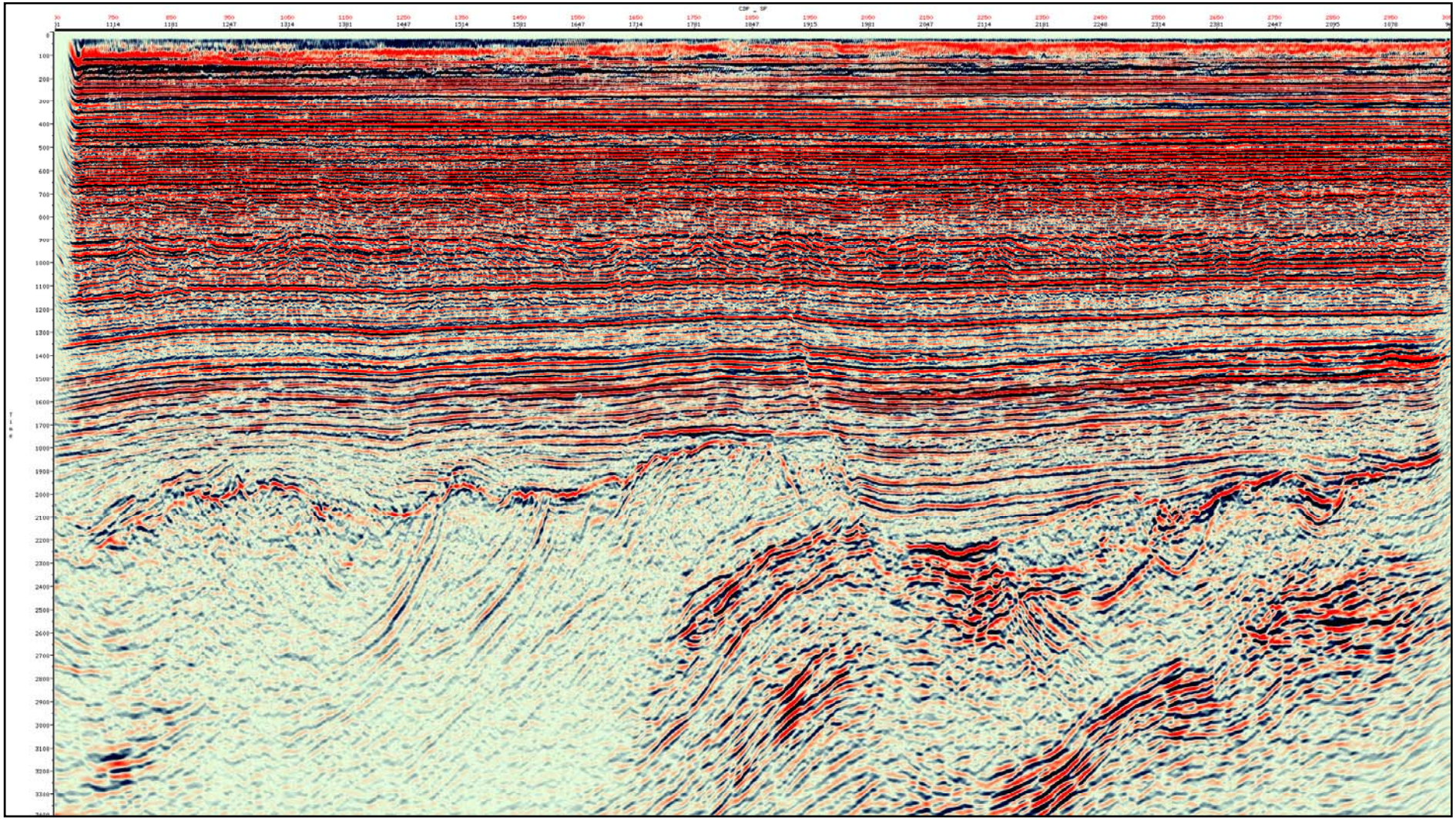
Stack (6-32 Deg) - IL 1241: GLIM 16, Q 110



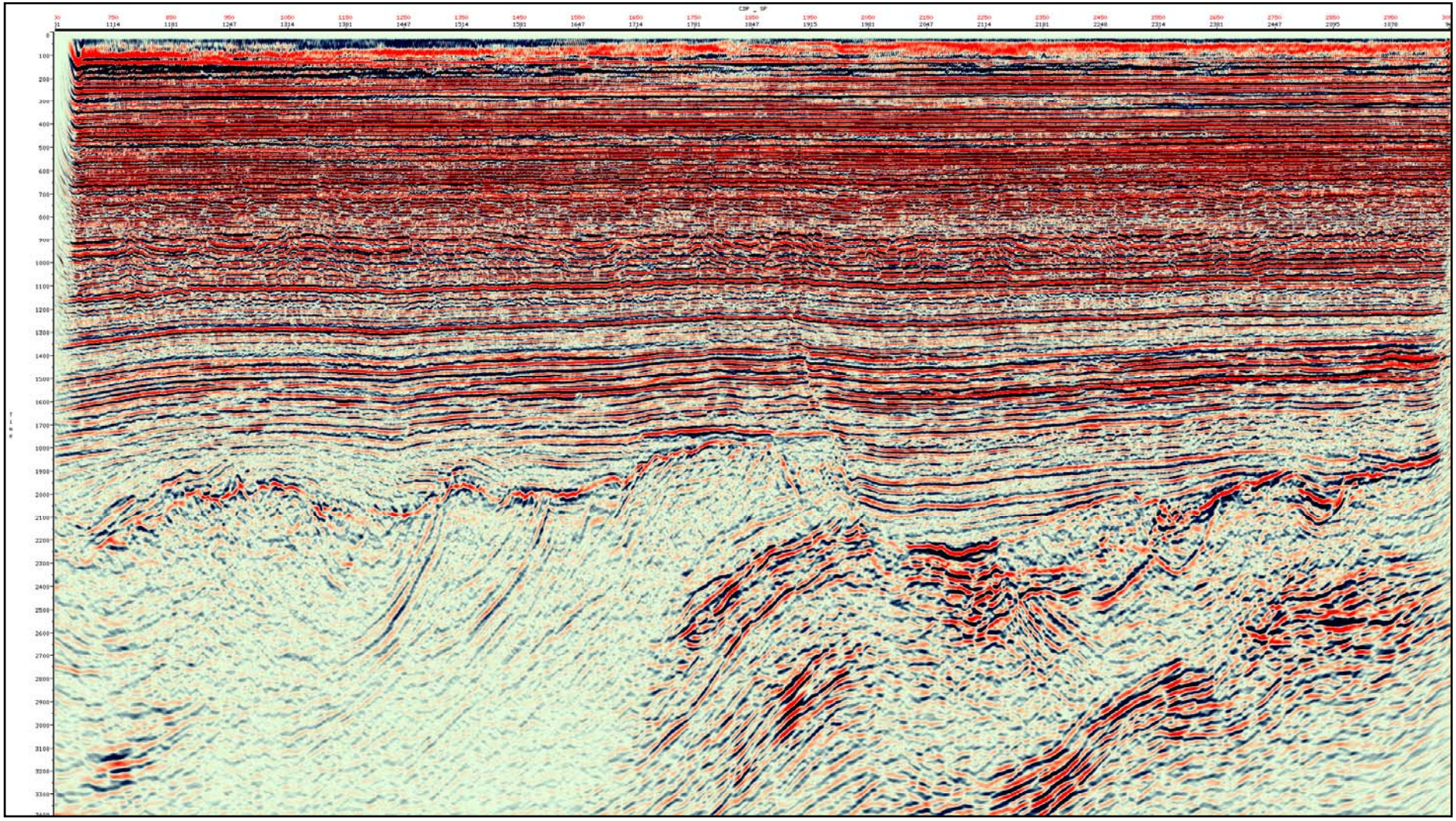
Stack (6-32 Deg) - IL 1241: GLIM 16, Q 120



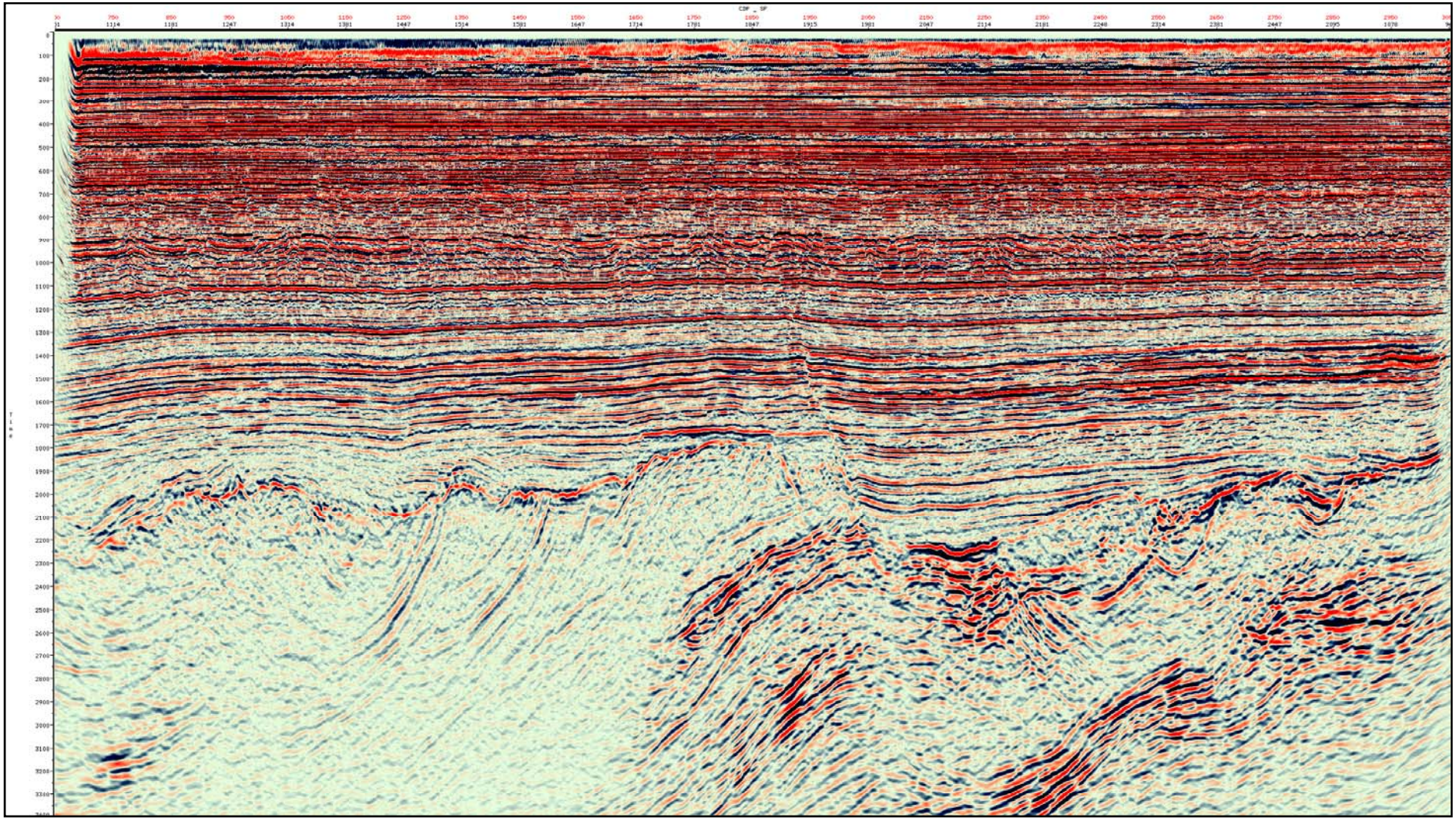
Stack (6-32 Deg) - IL 1241: GLIM 16, Q 130



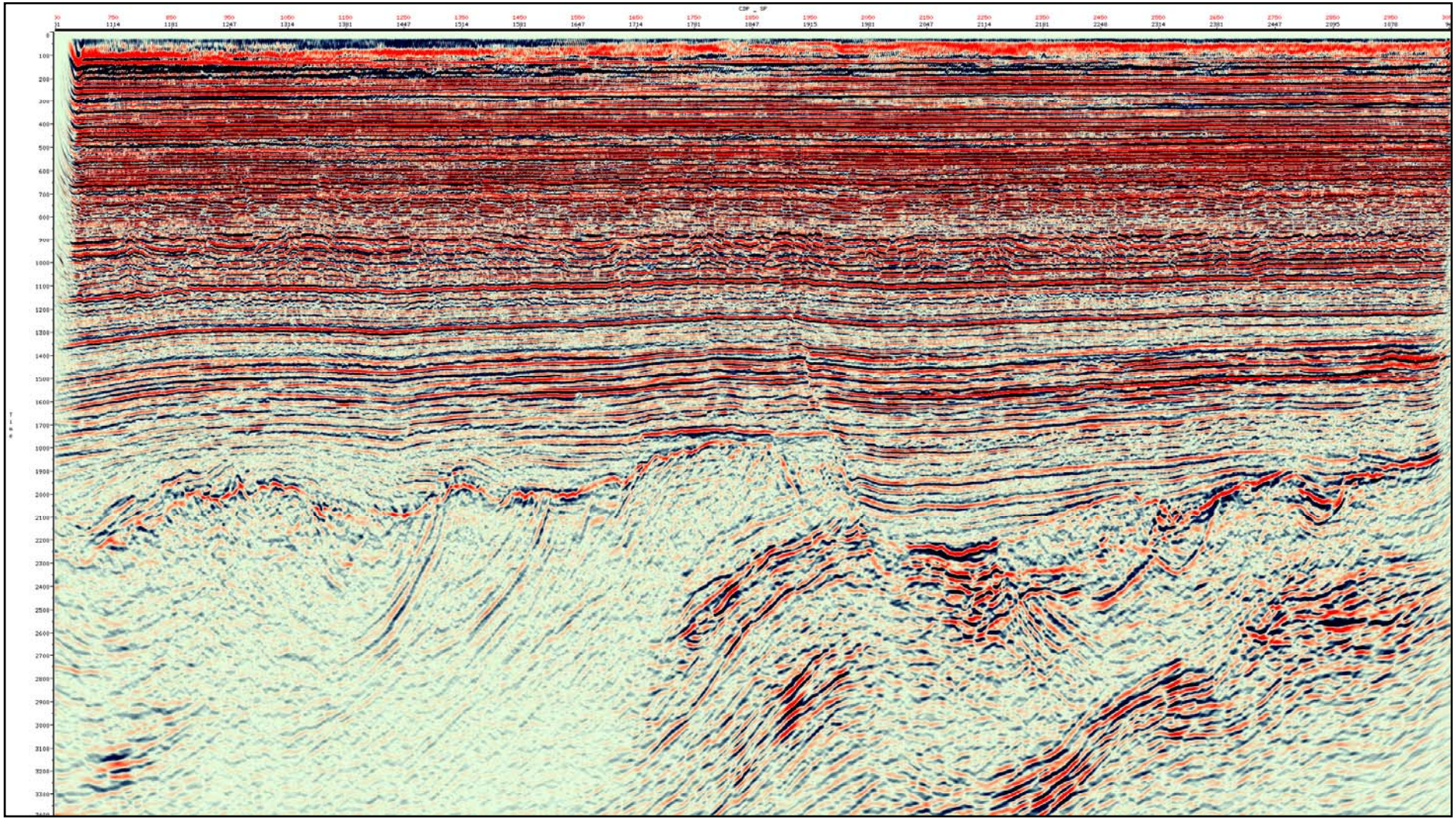
Stack (6-32 Deg) - IL 1241: GLIM 16, Q 140



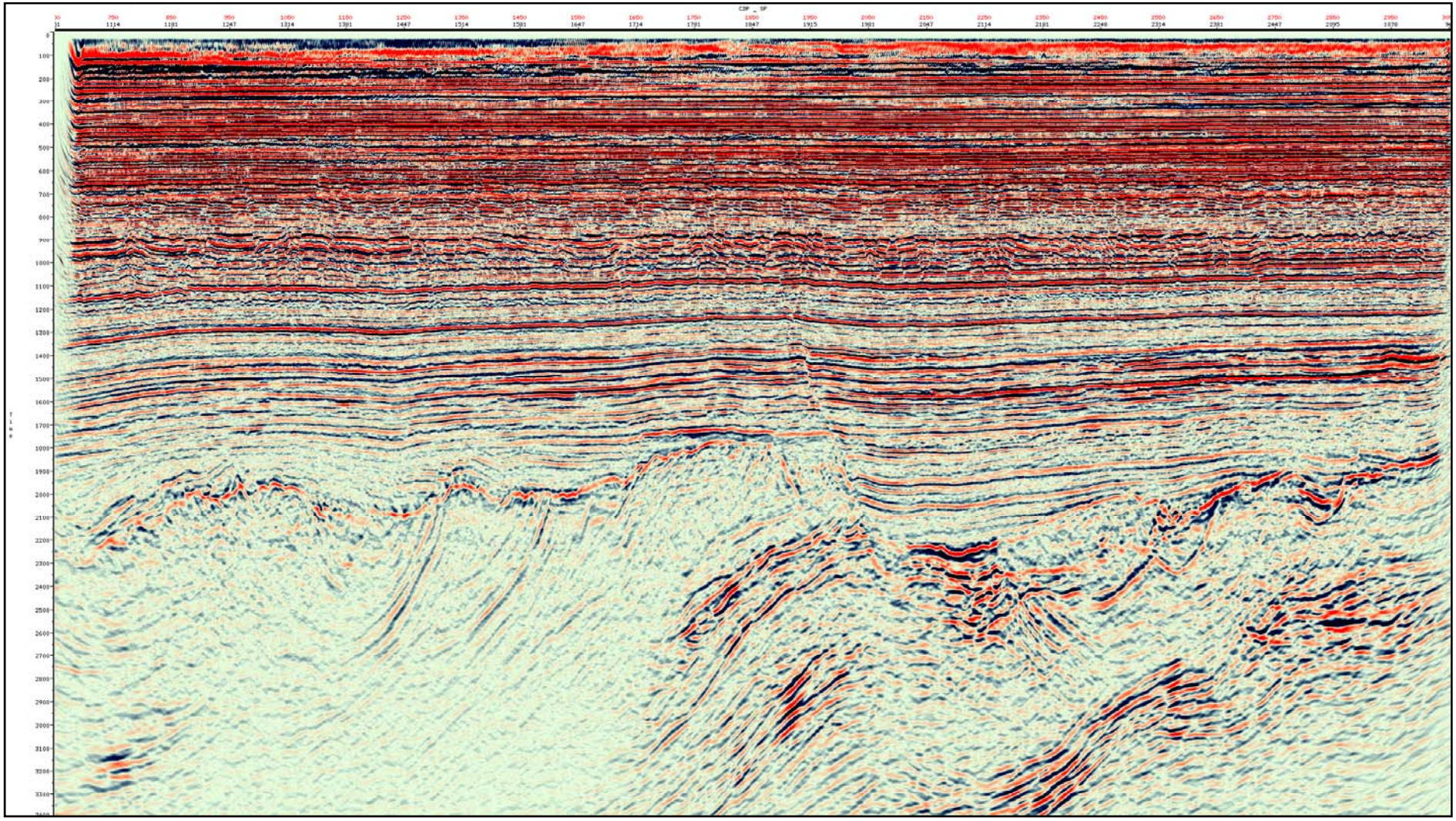
Stack (6-32 Deg) - IL 1241: GLIM 16, Q 150



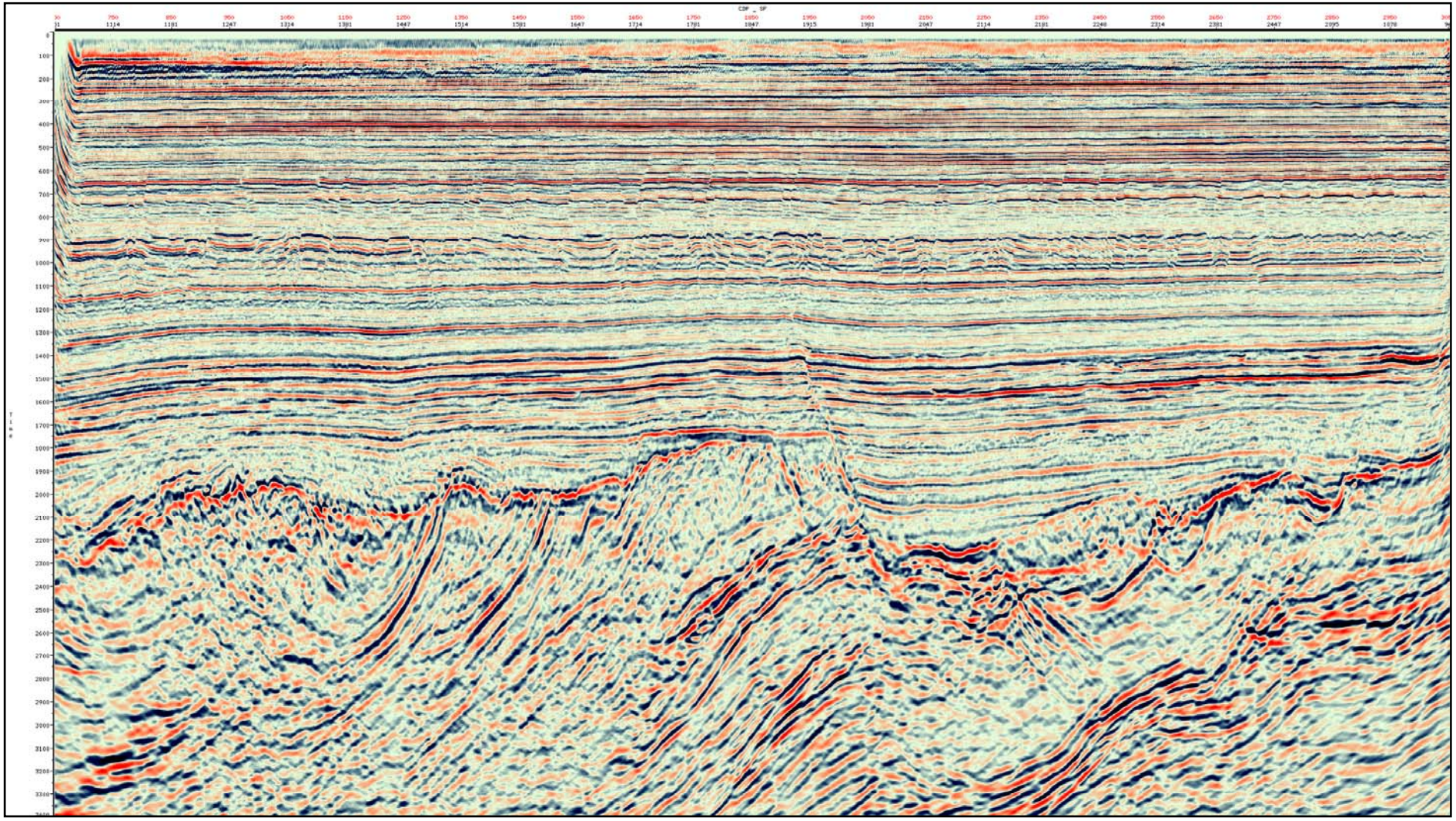
Stack (6-32 Deg) - IL 1241: GLIM 16, Q 160



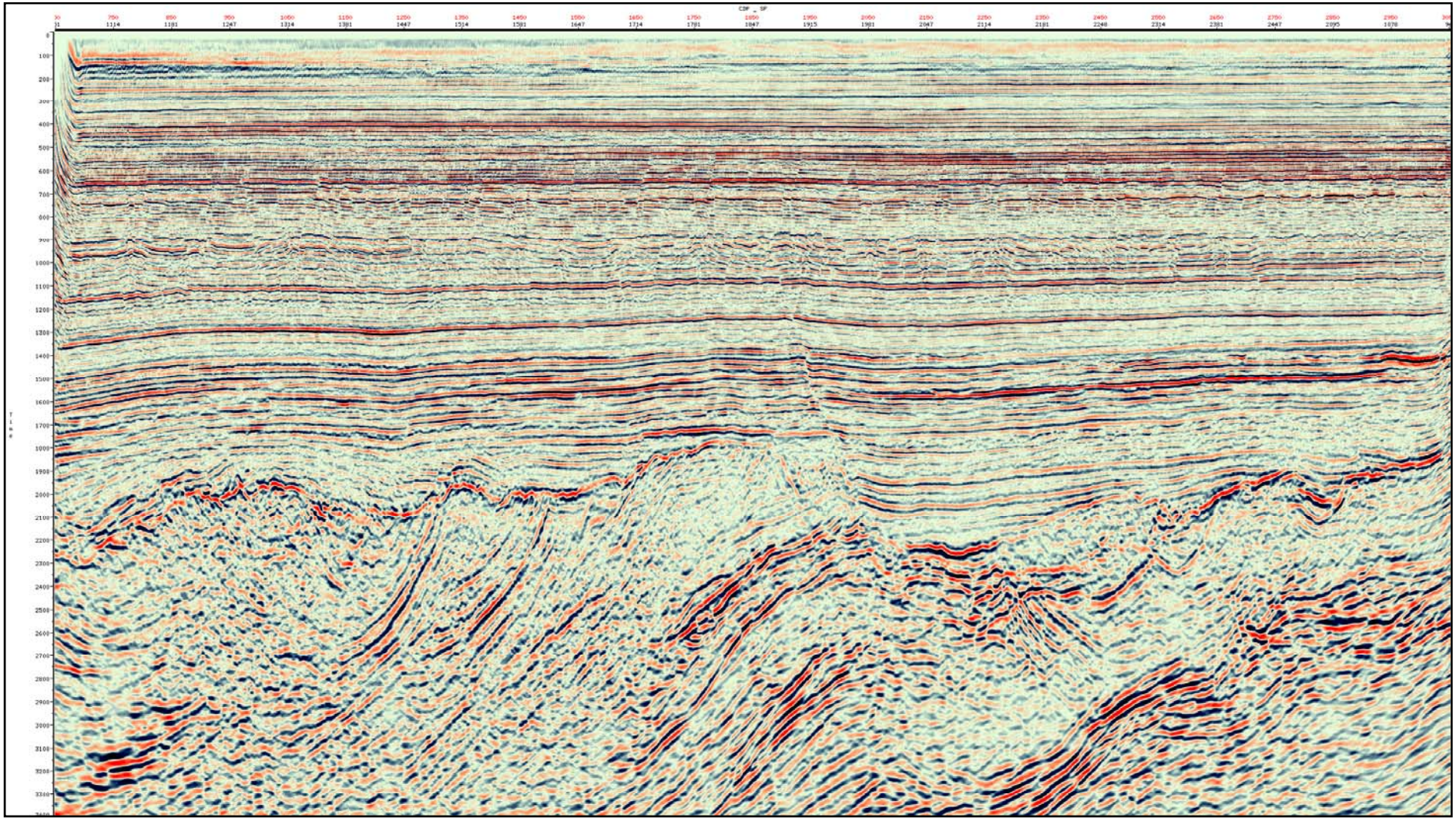
Stack (6-32 Deg) - IL 1241: GLIM 16, Q 200



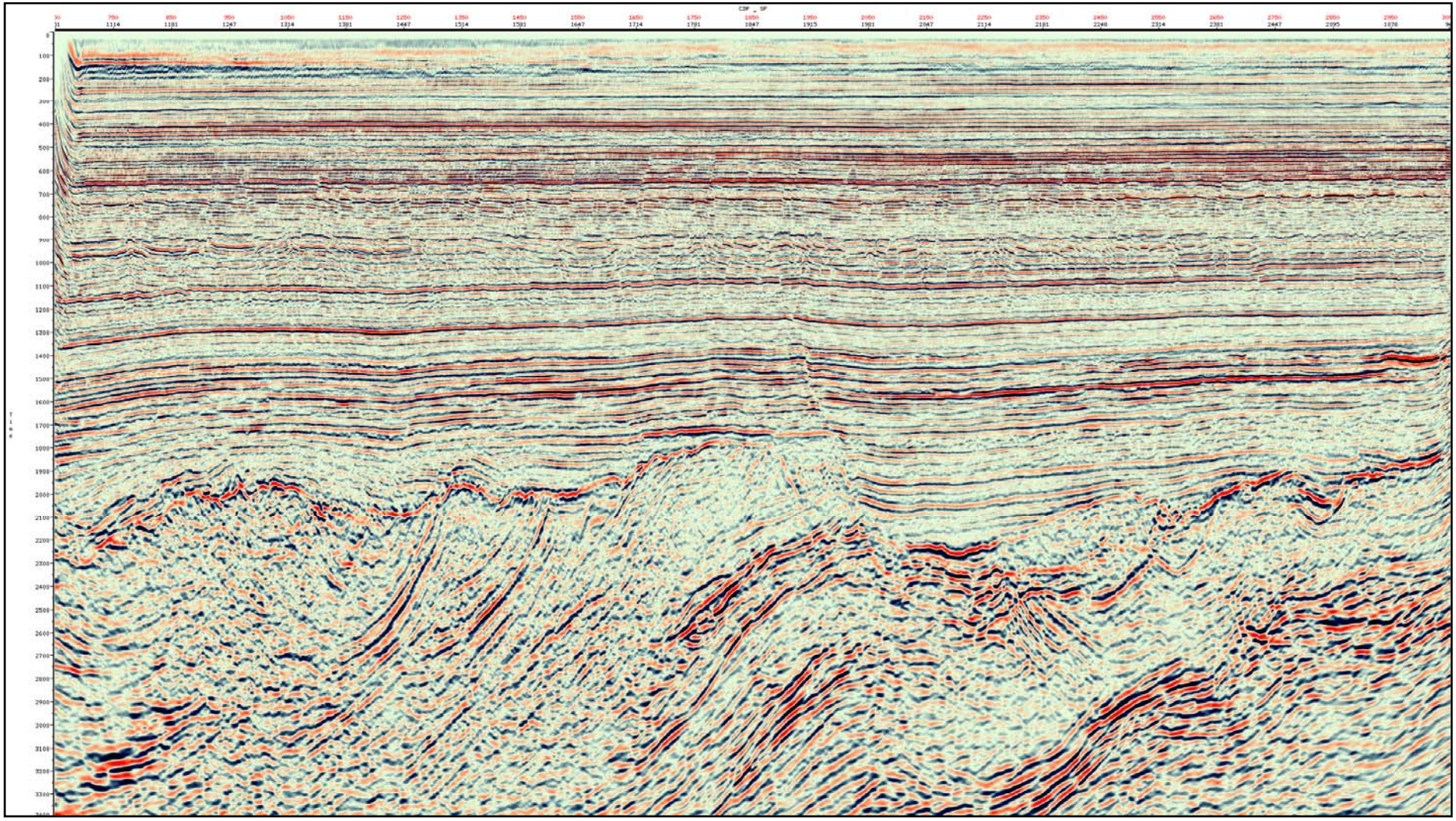
AGC Stack (6-32 Deg) - IL 1241: Reference (no Q)



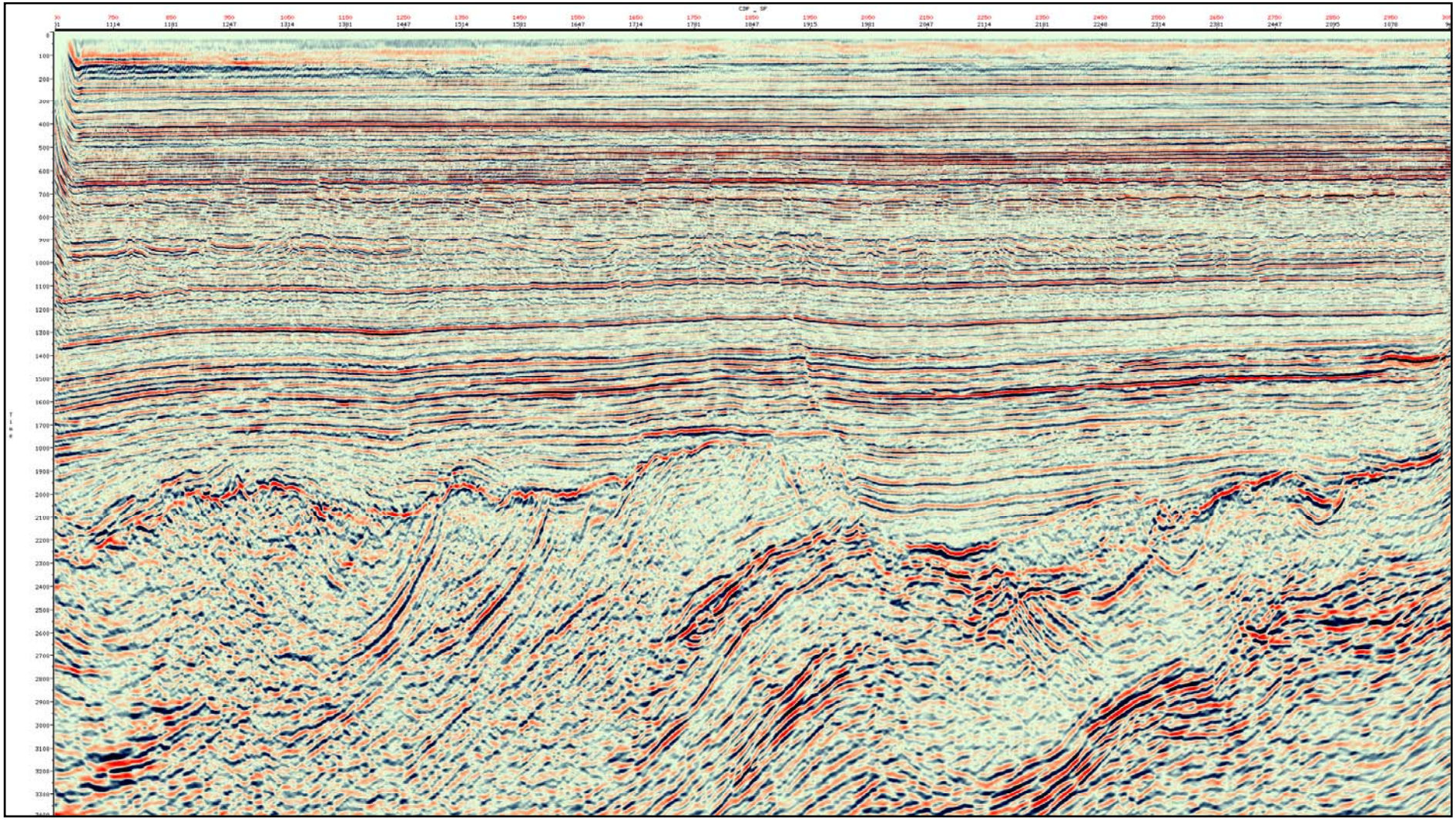
AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 100



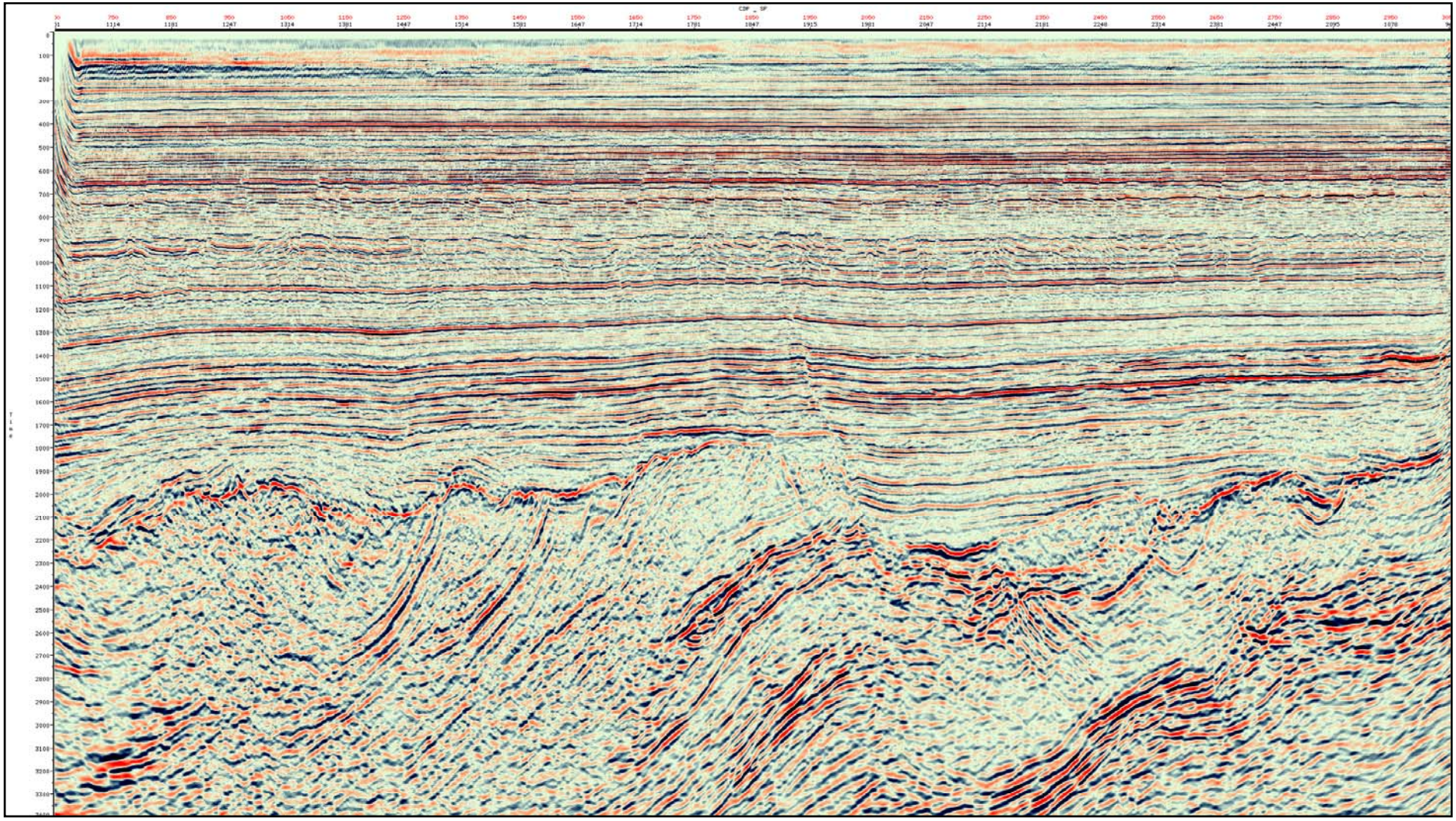
AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 110



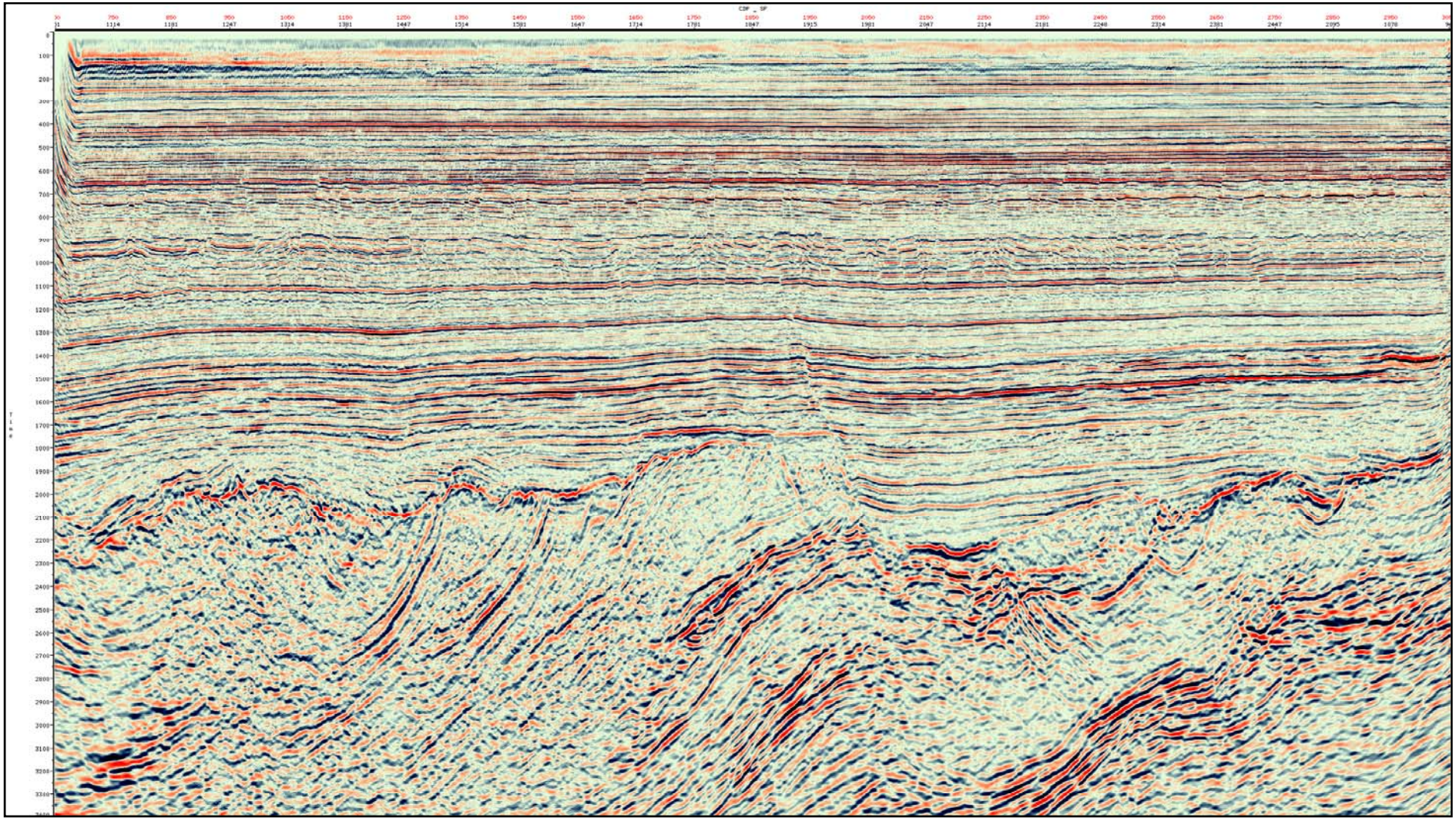
AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 120



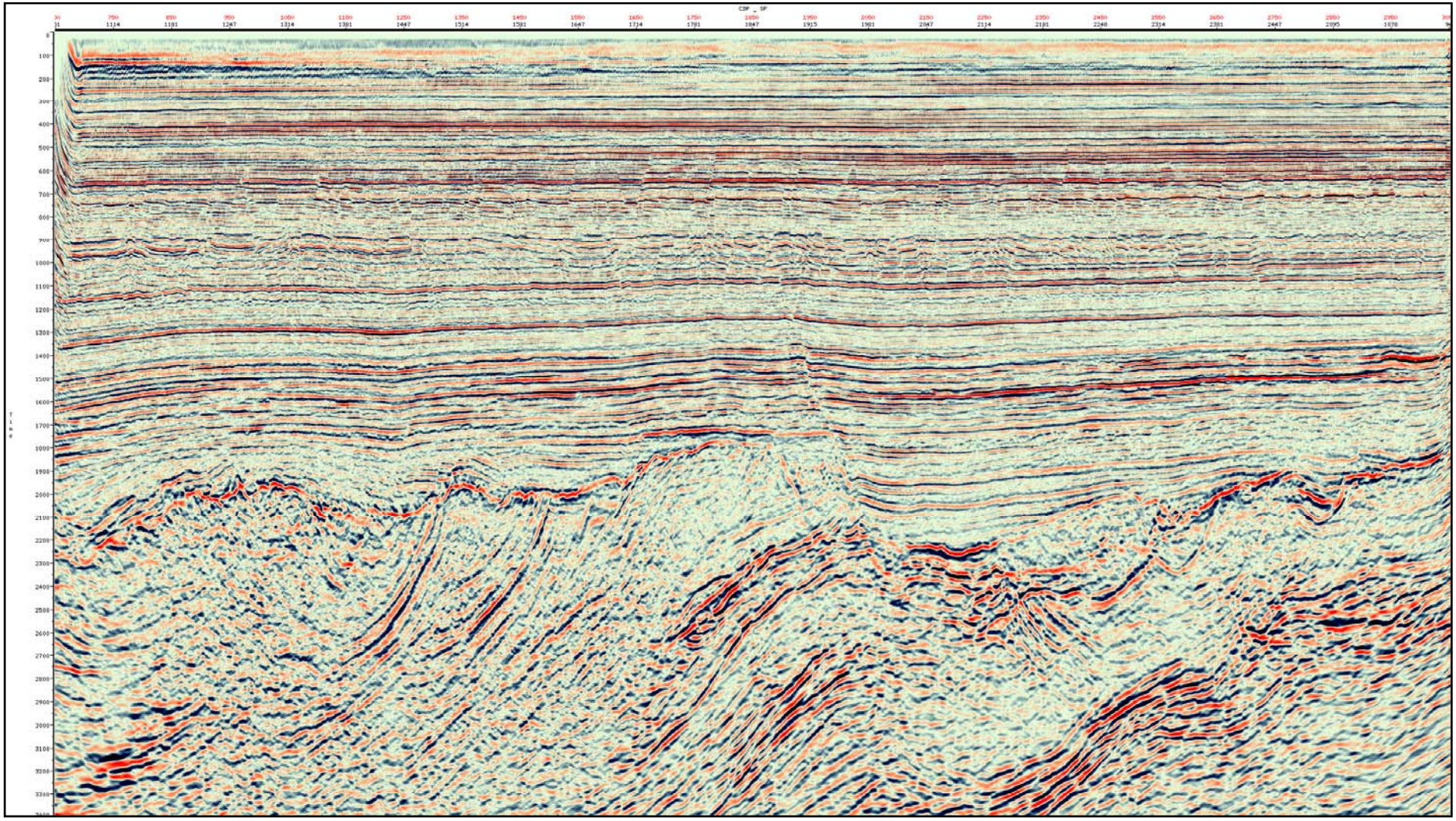
AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 130



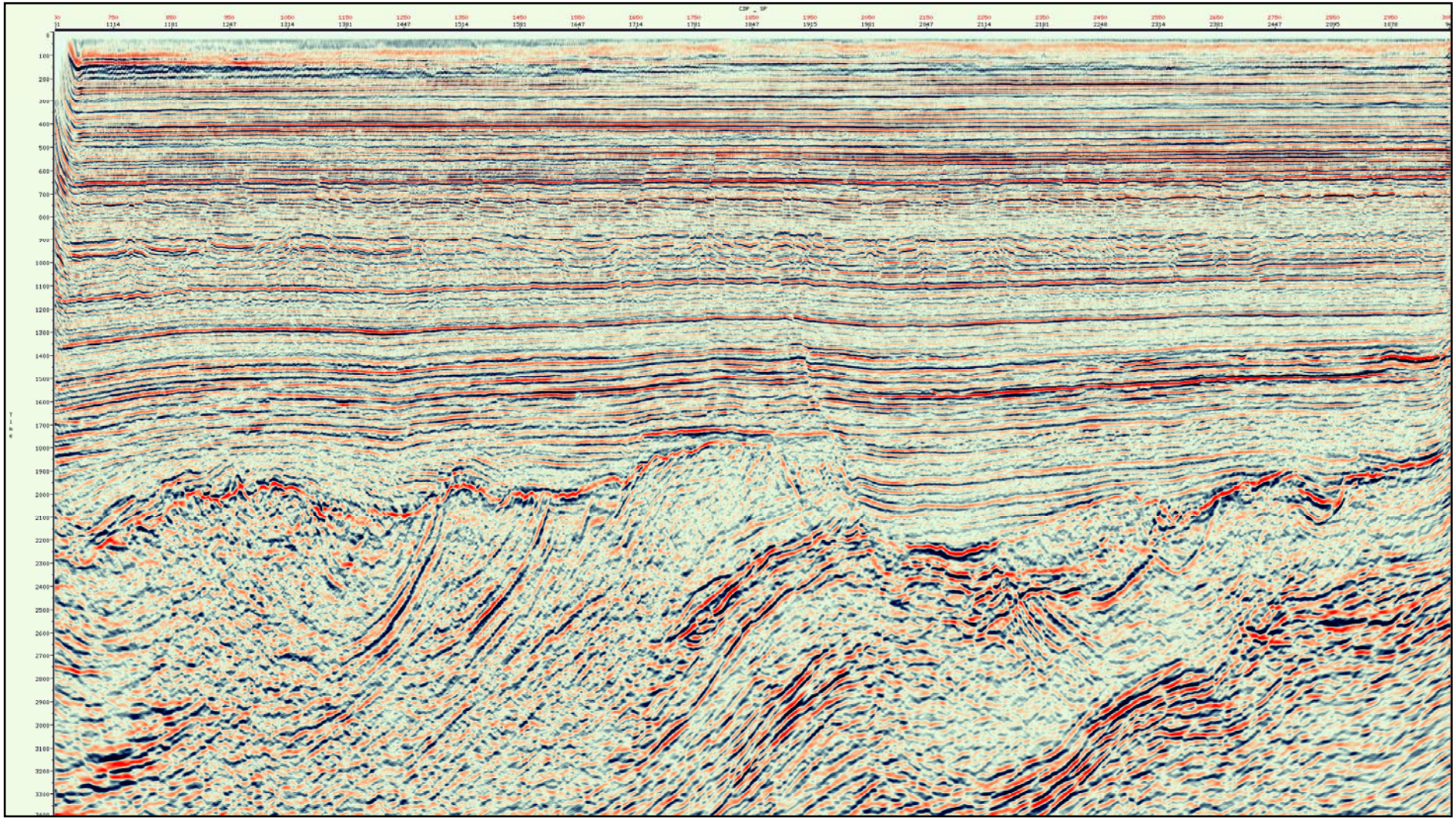
AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 140



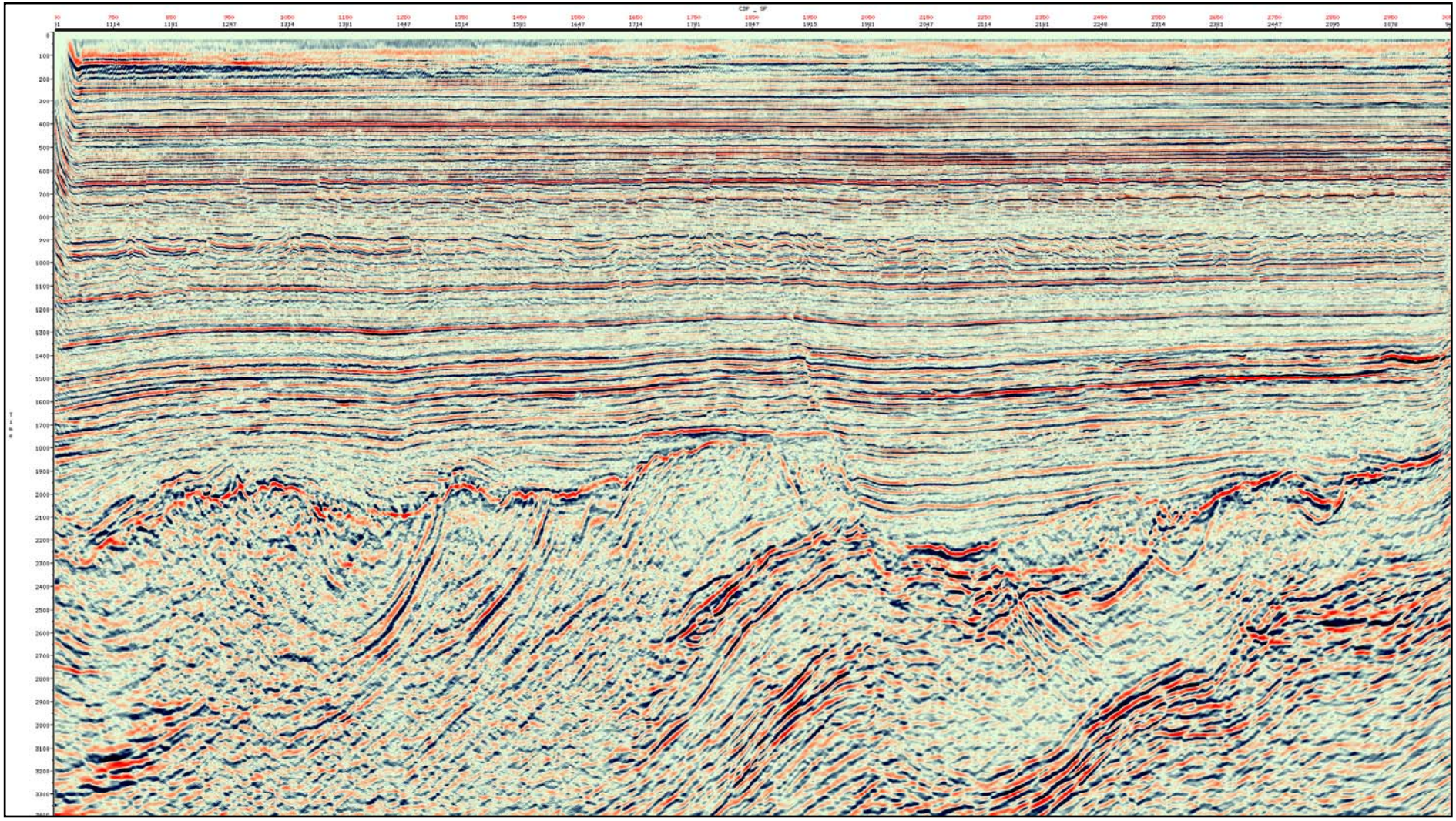
AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 150



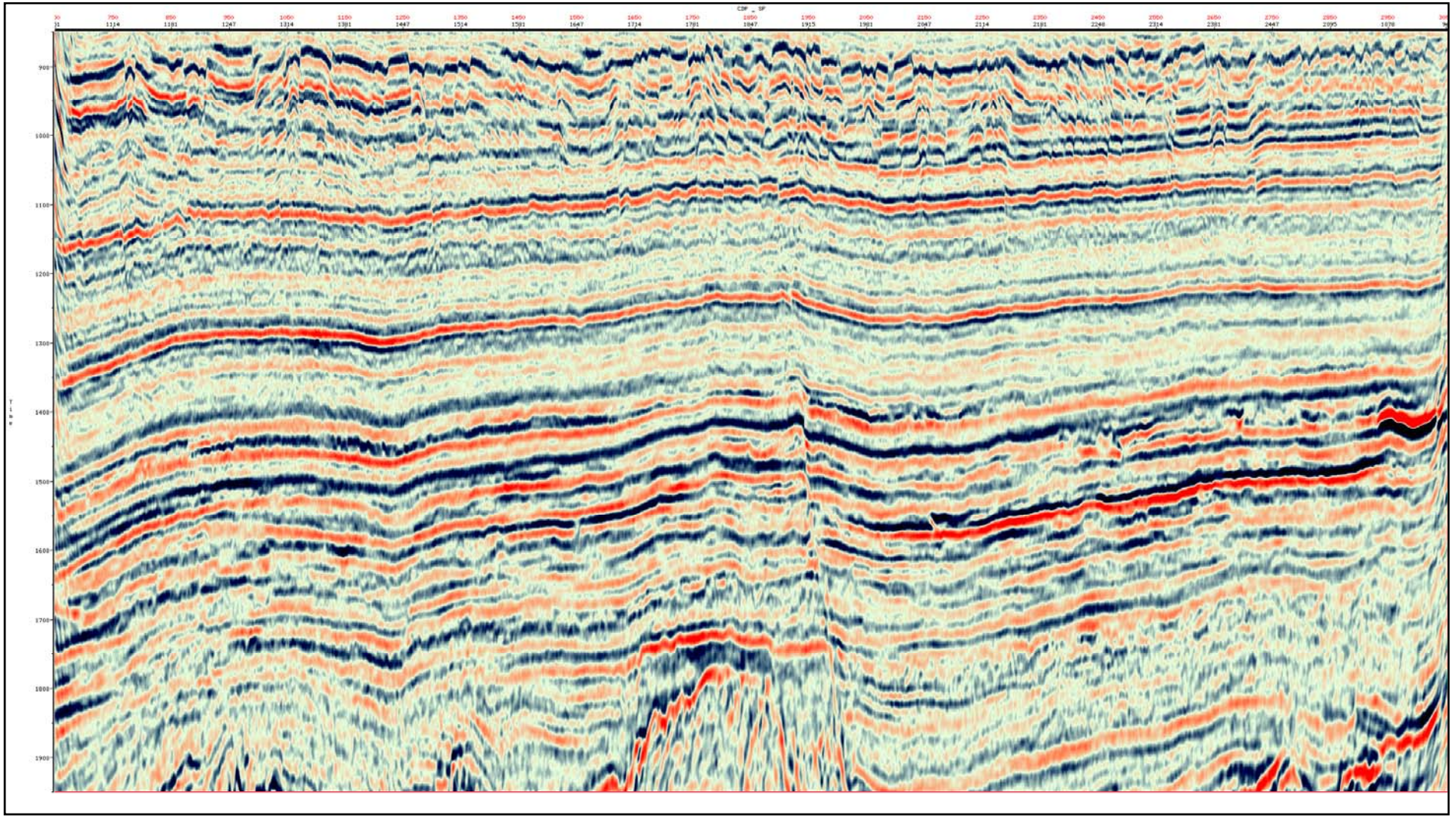
AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 160



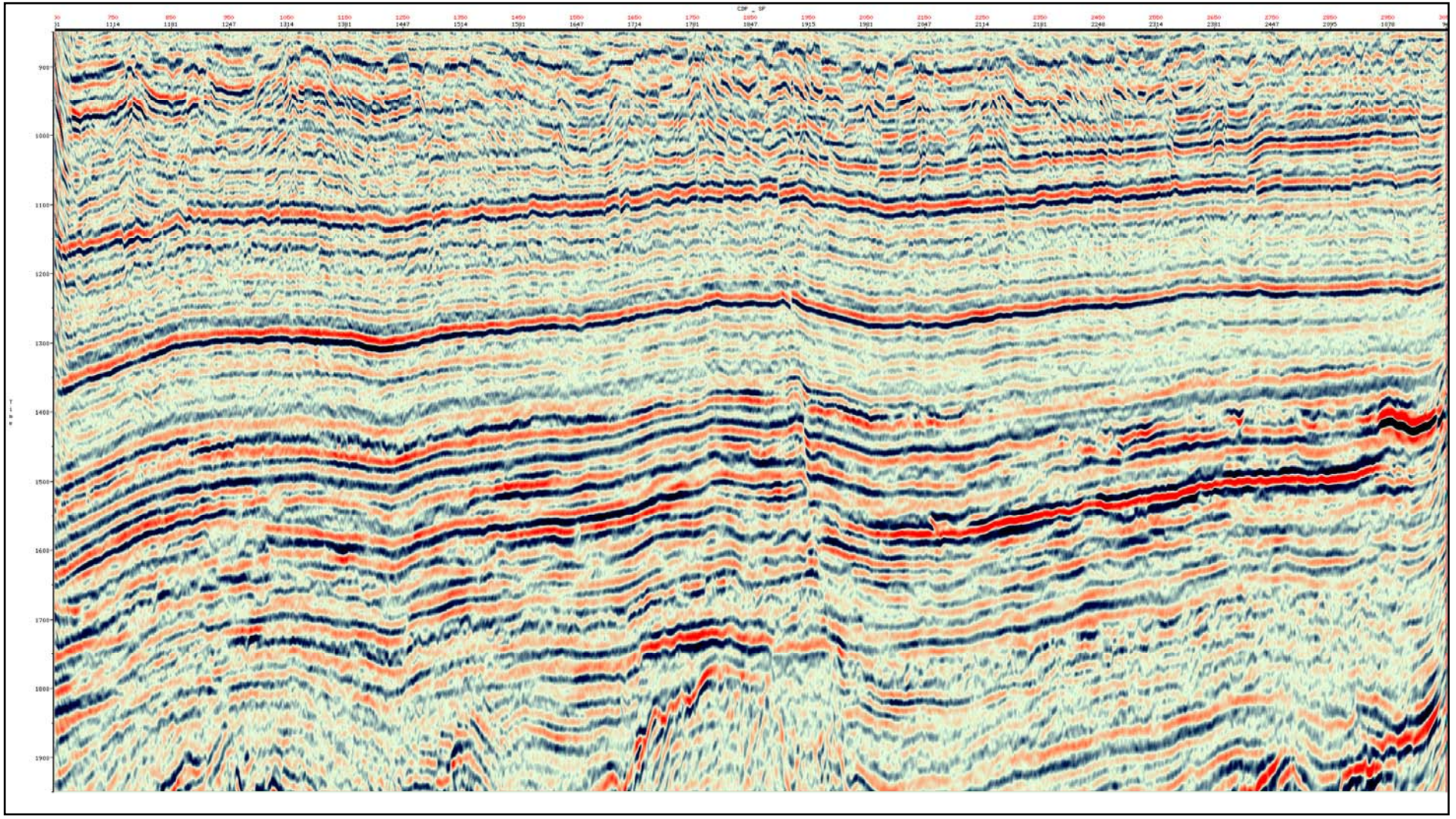
AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 200



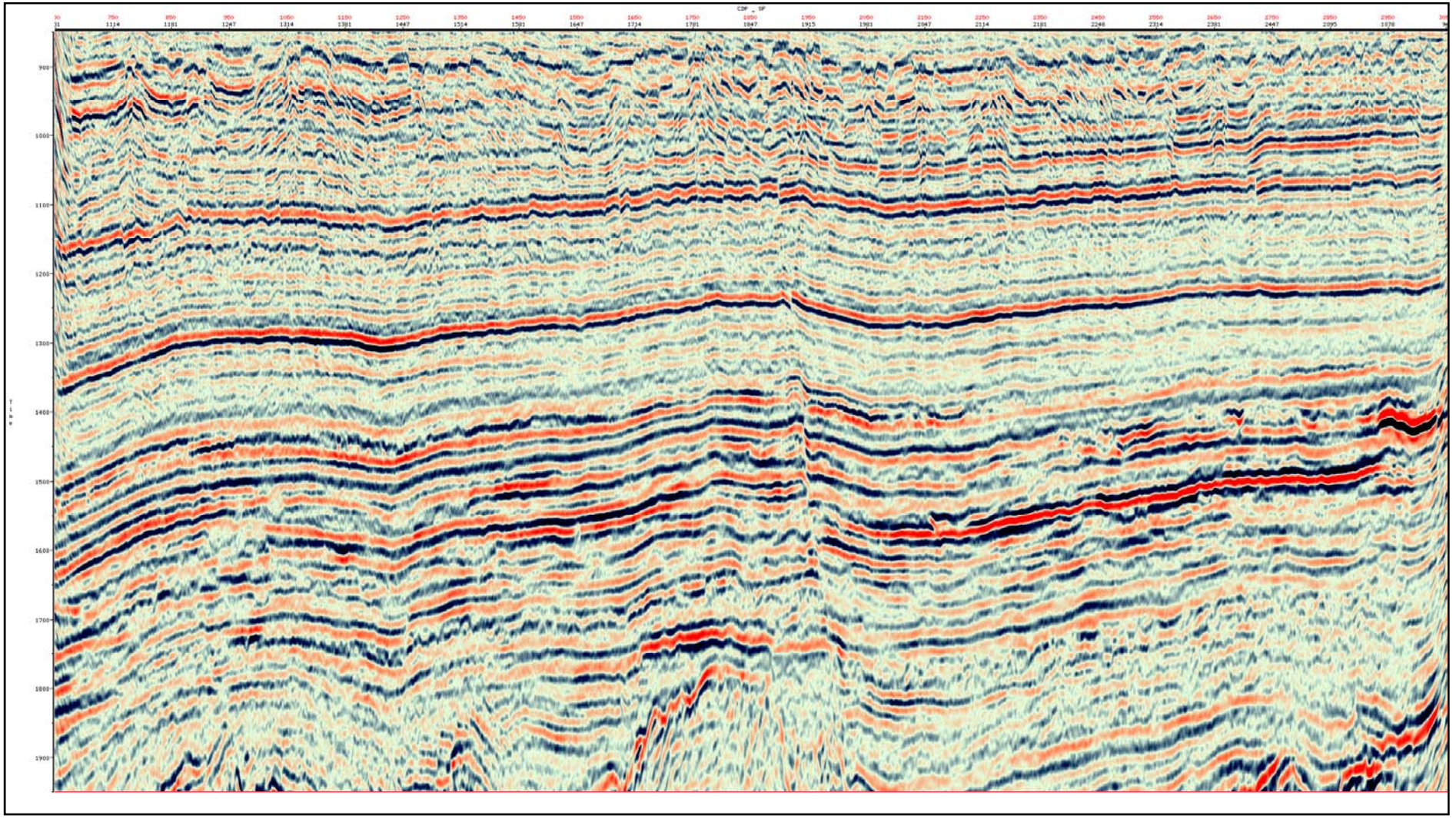
Zoomed AGC Stack (6-32 Deg) - IL 1241: Reference (no Q)



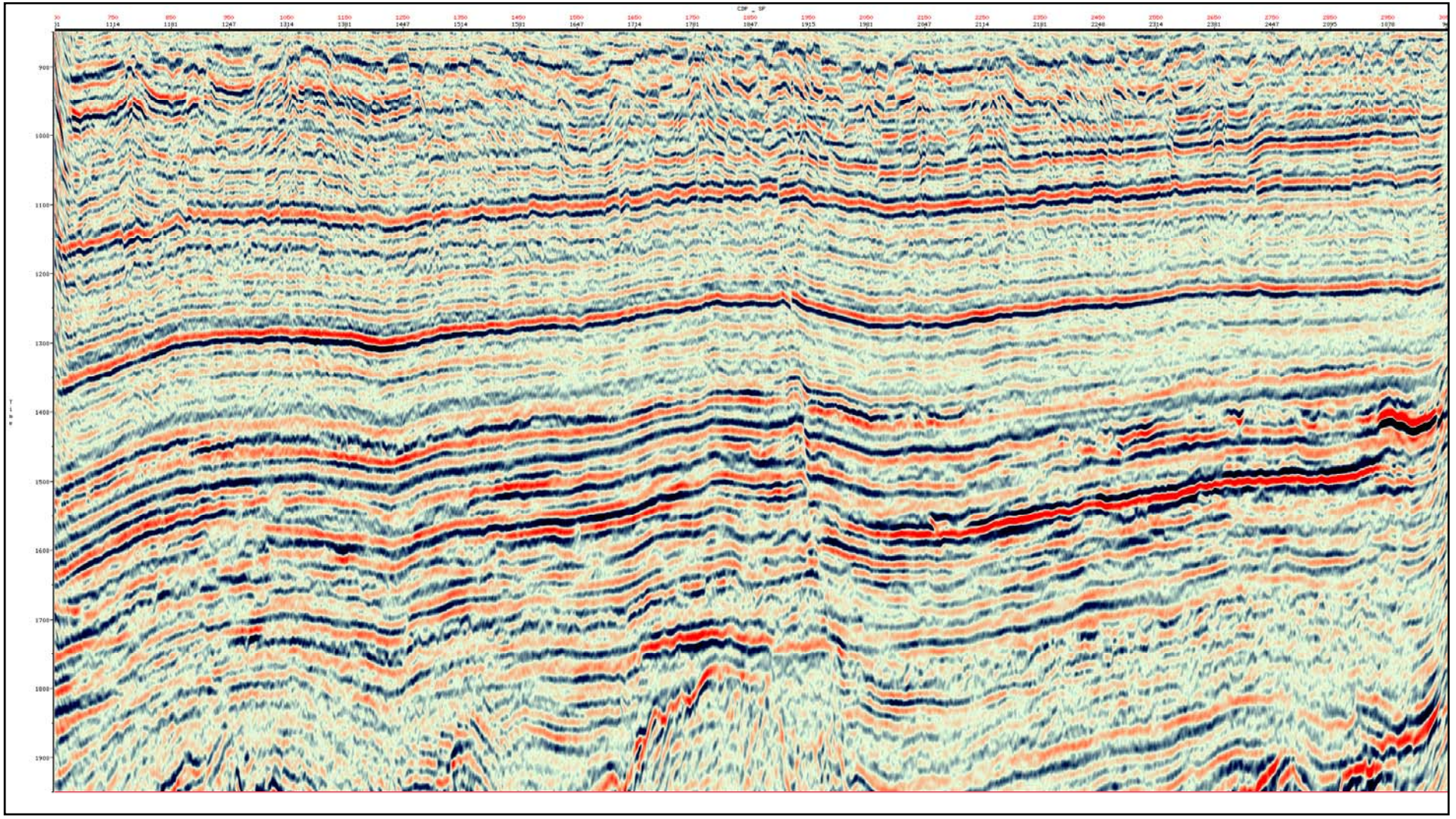
Zoomed AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 100



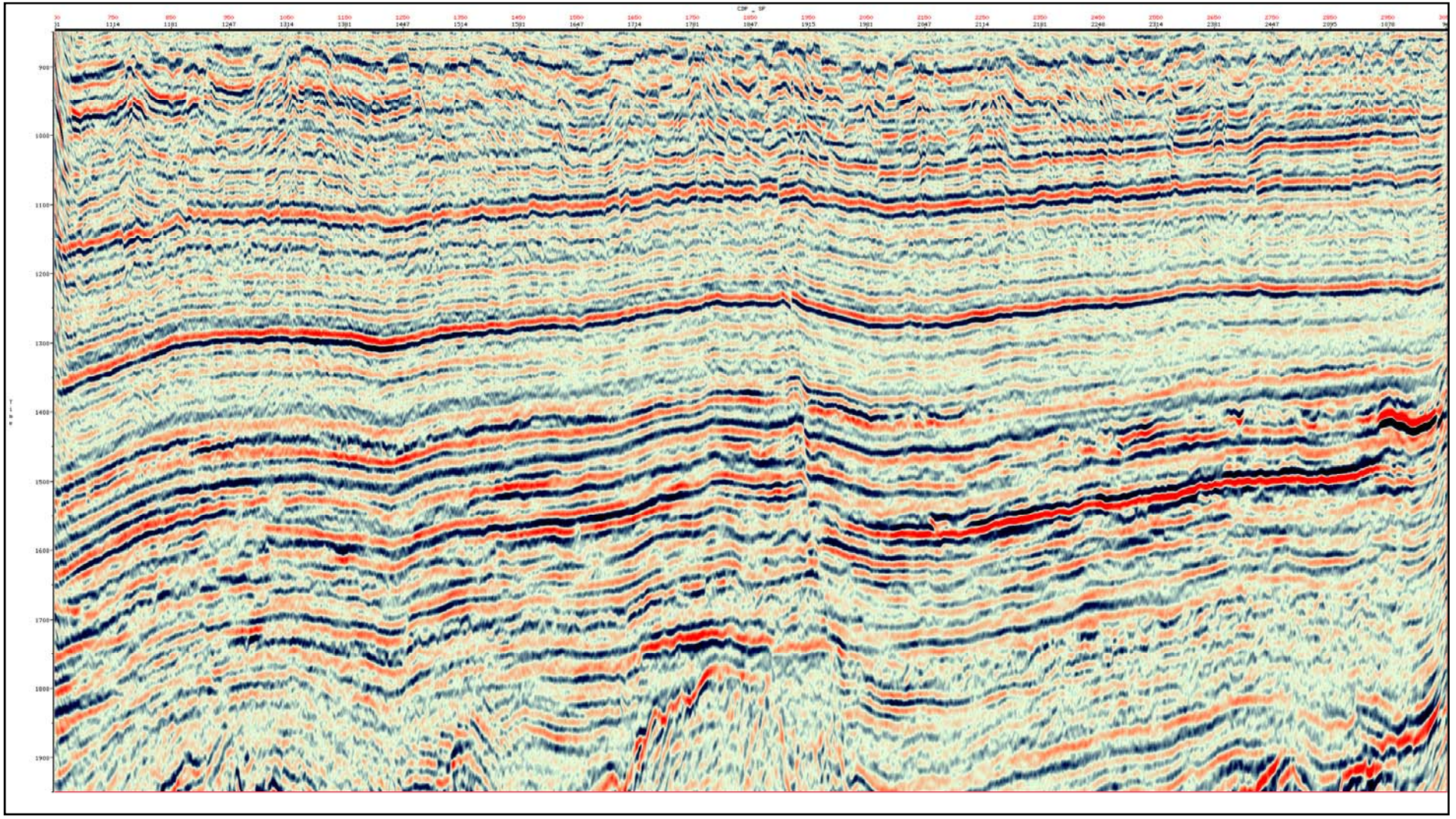
Zoomed AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 110



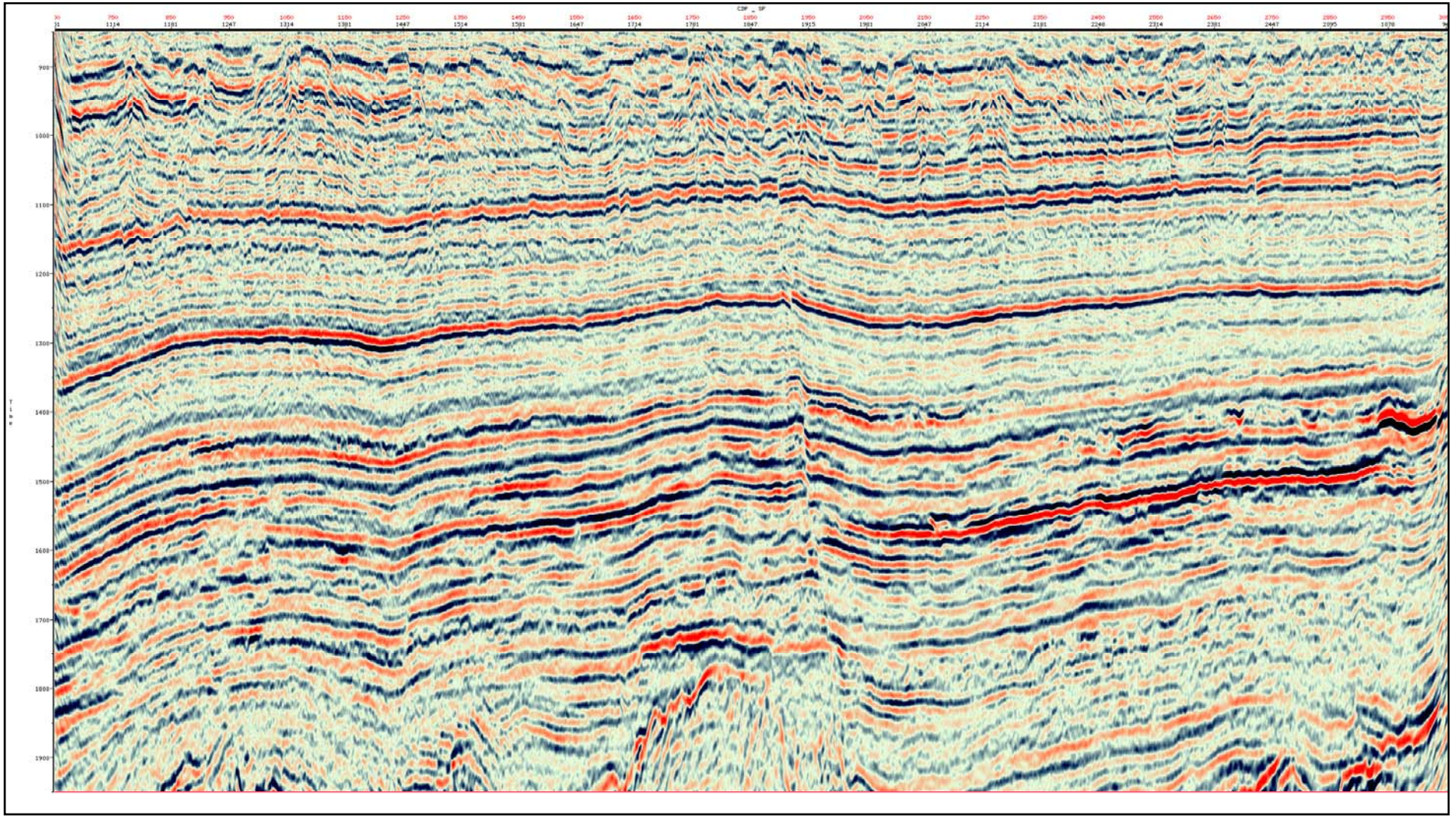
Zoomed AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 120



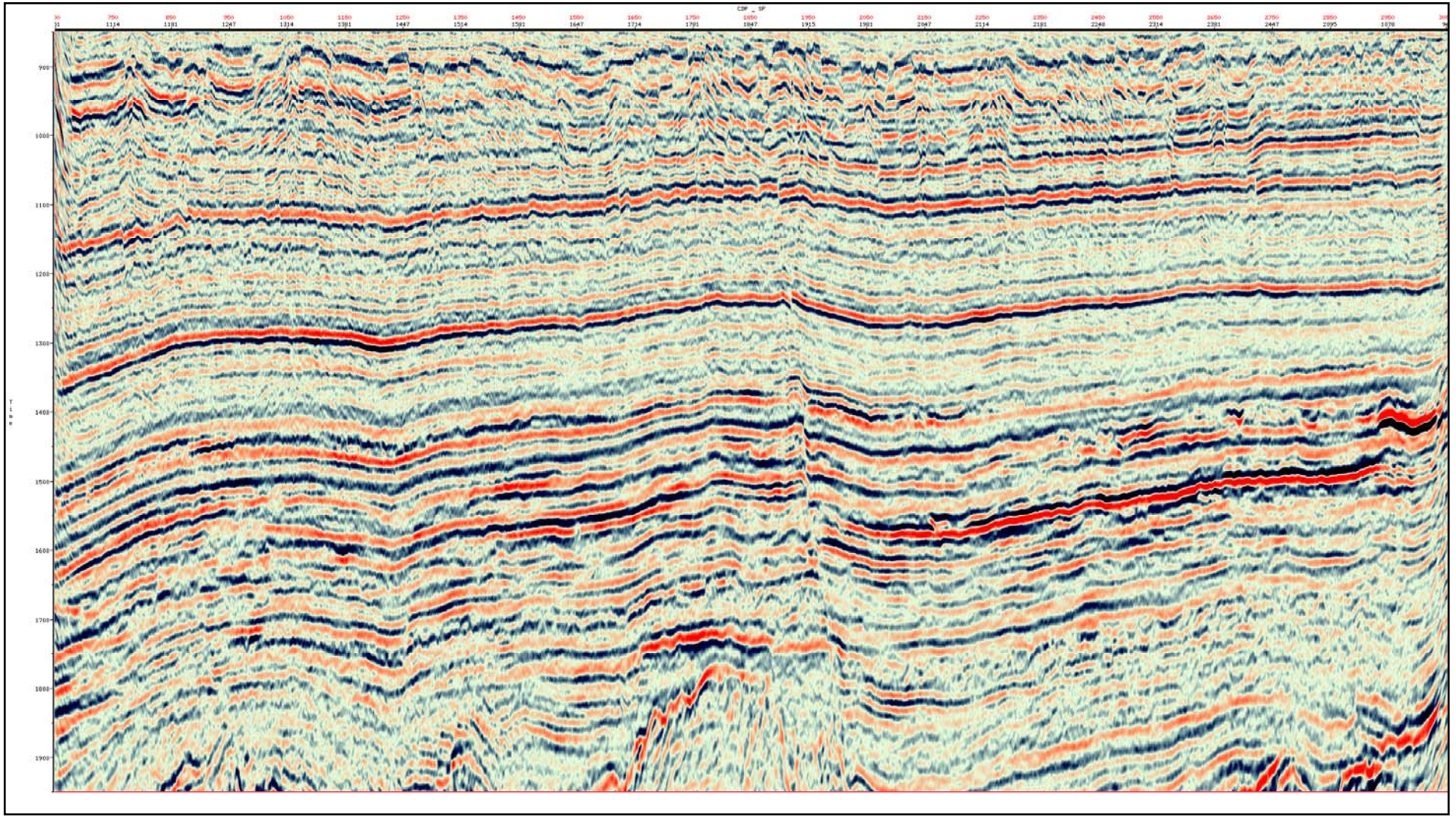
Zoomed AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 130



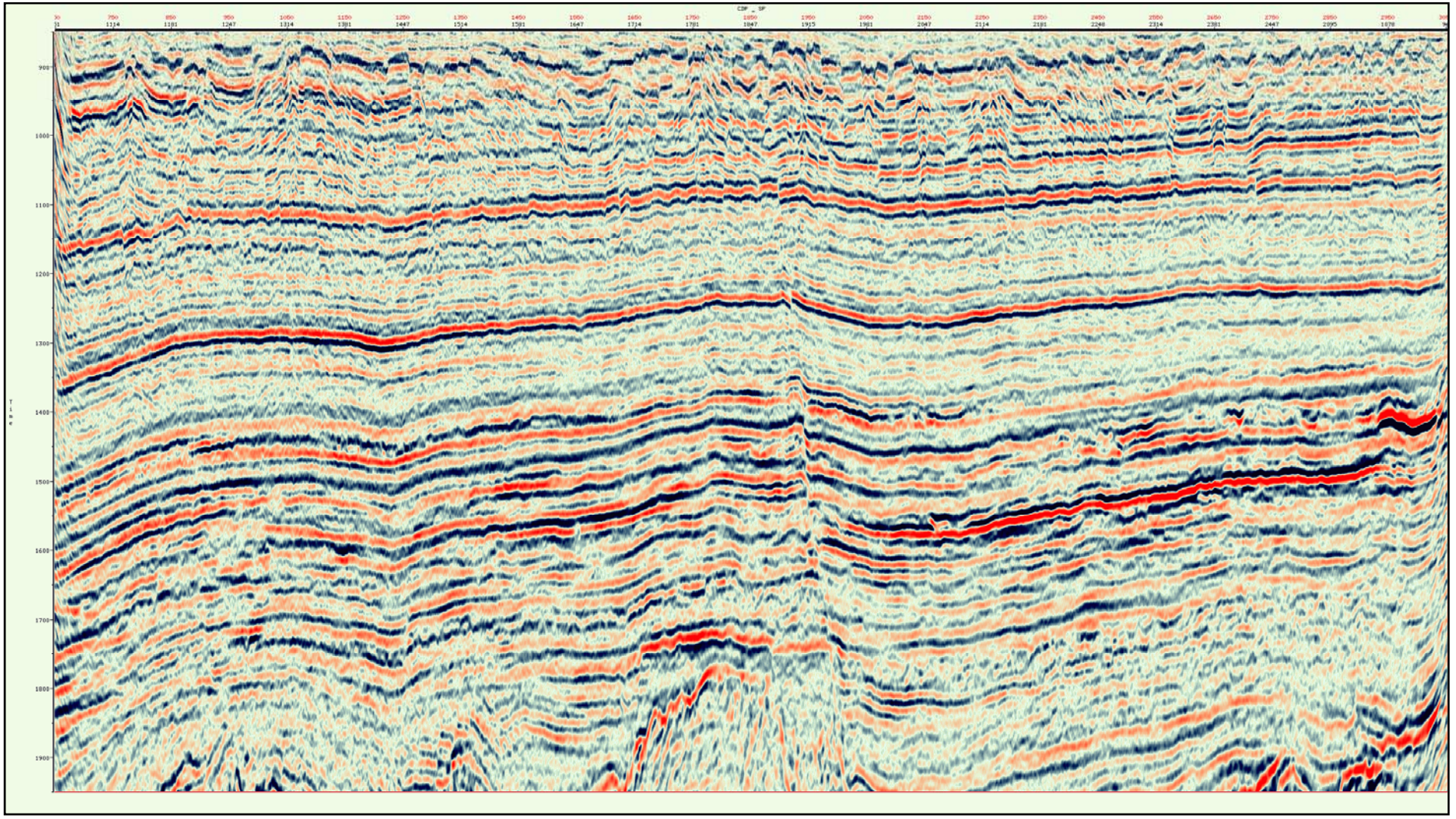
Zoomed AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 140



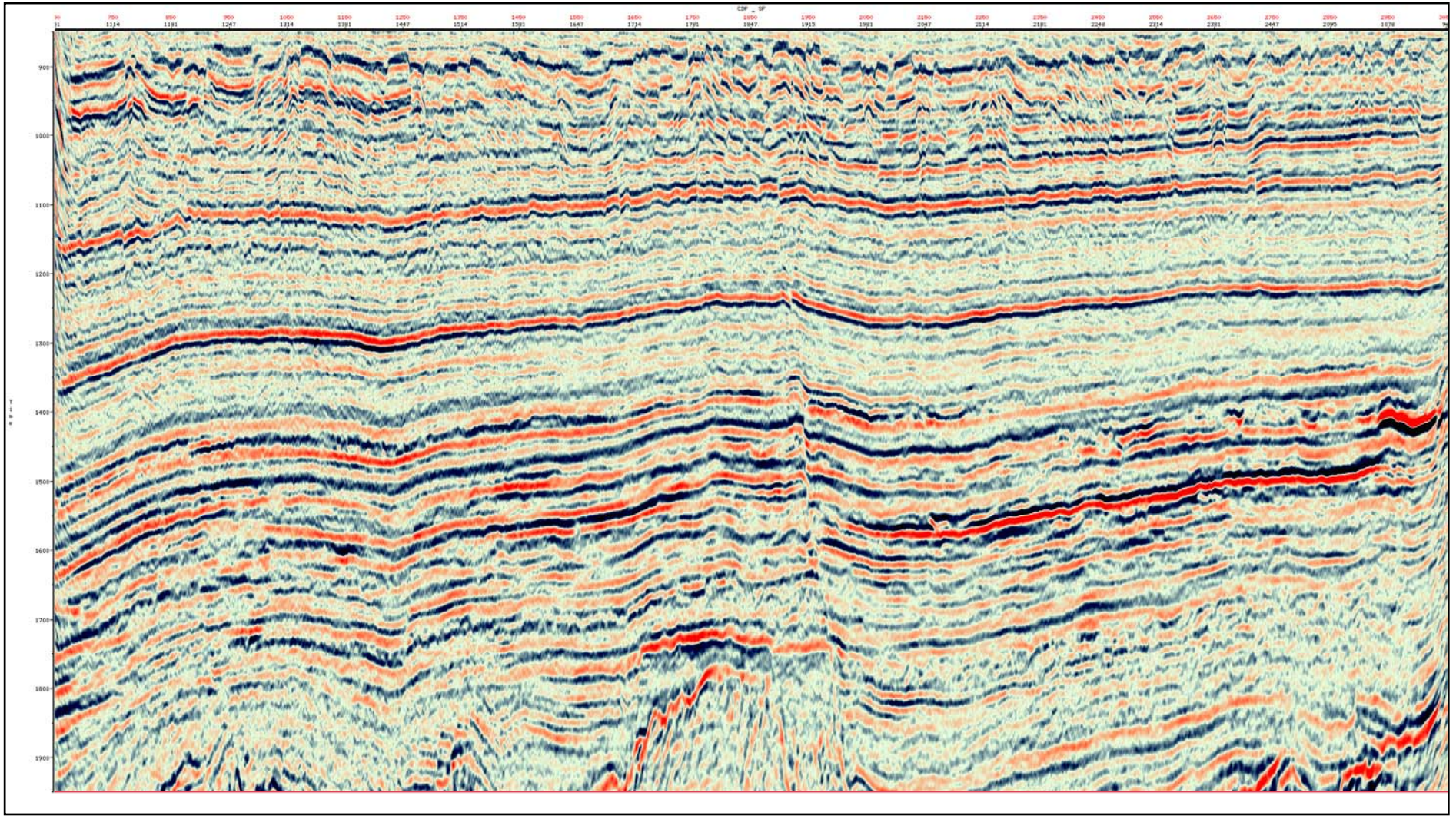
Zoomed AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 150



Zoomed AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 160

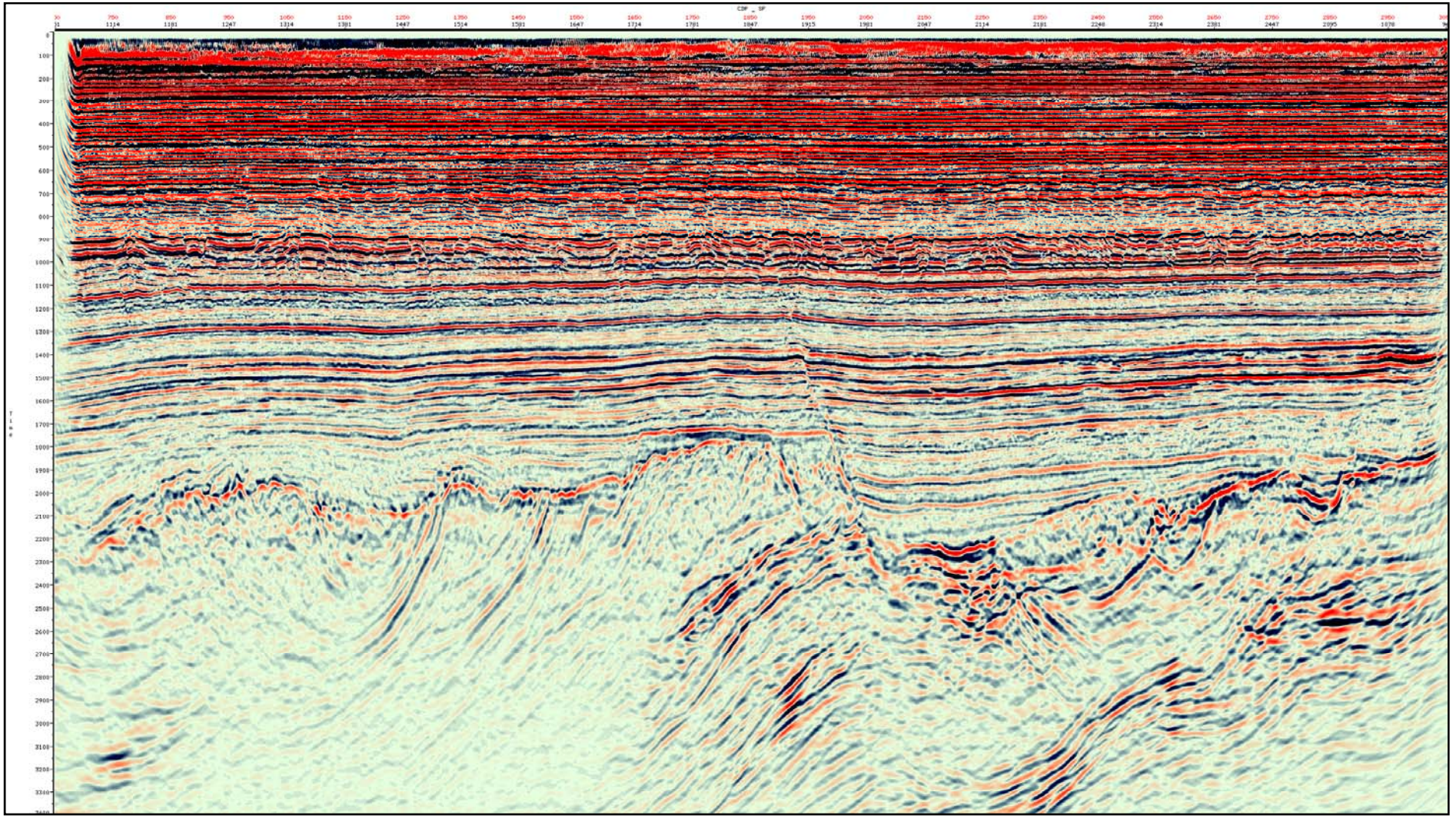


Zoomed AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 200

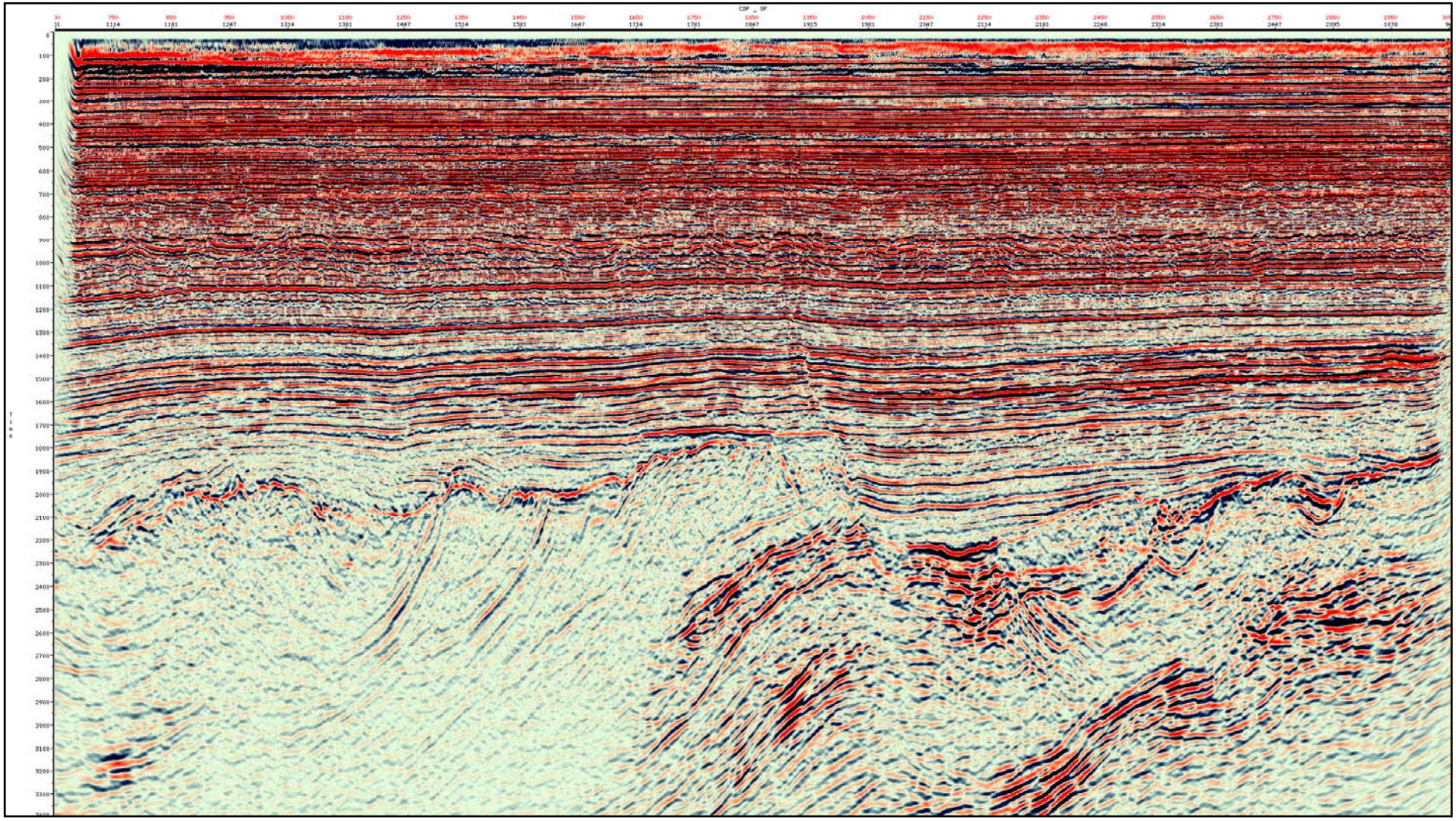


QCOMP, Time variant Q

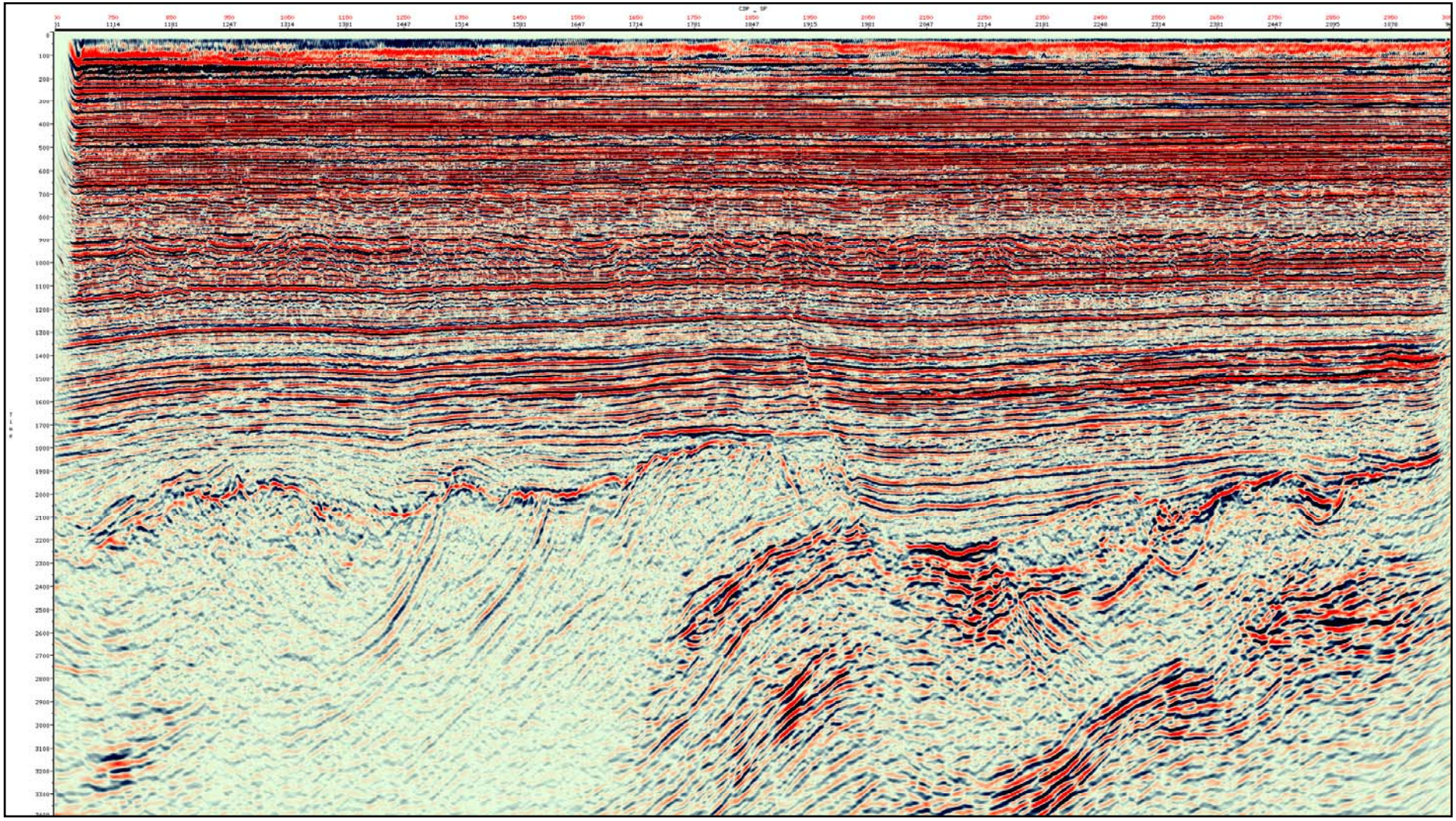
Stack (6-32 Deg) - IL 1241: Reference (no Q)



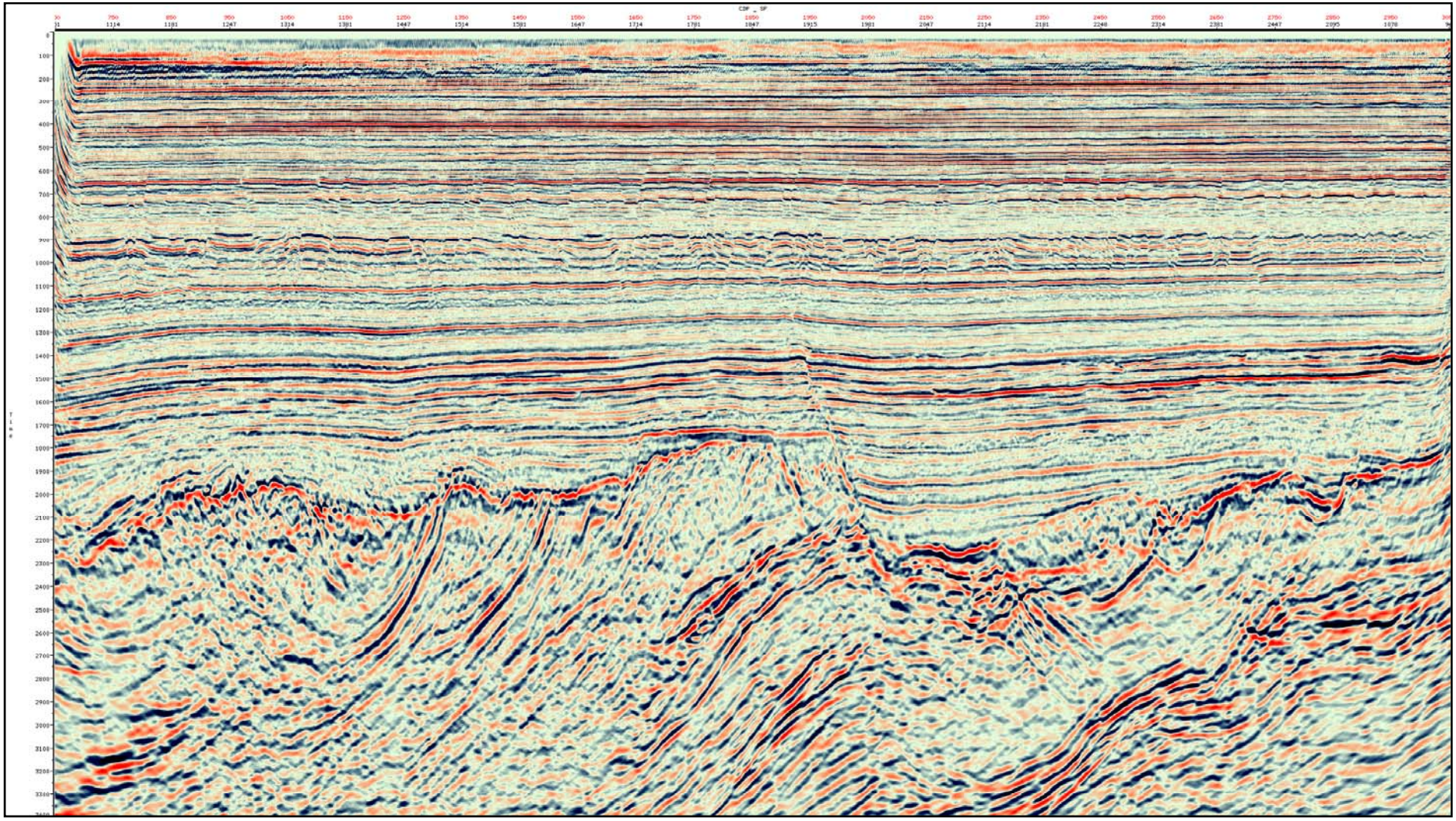
Stack (6-32 Deg) - IL 1241: GLIM 16, Q 140



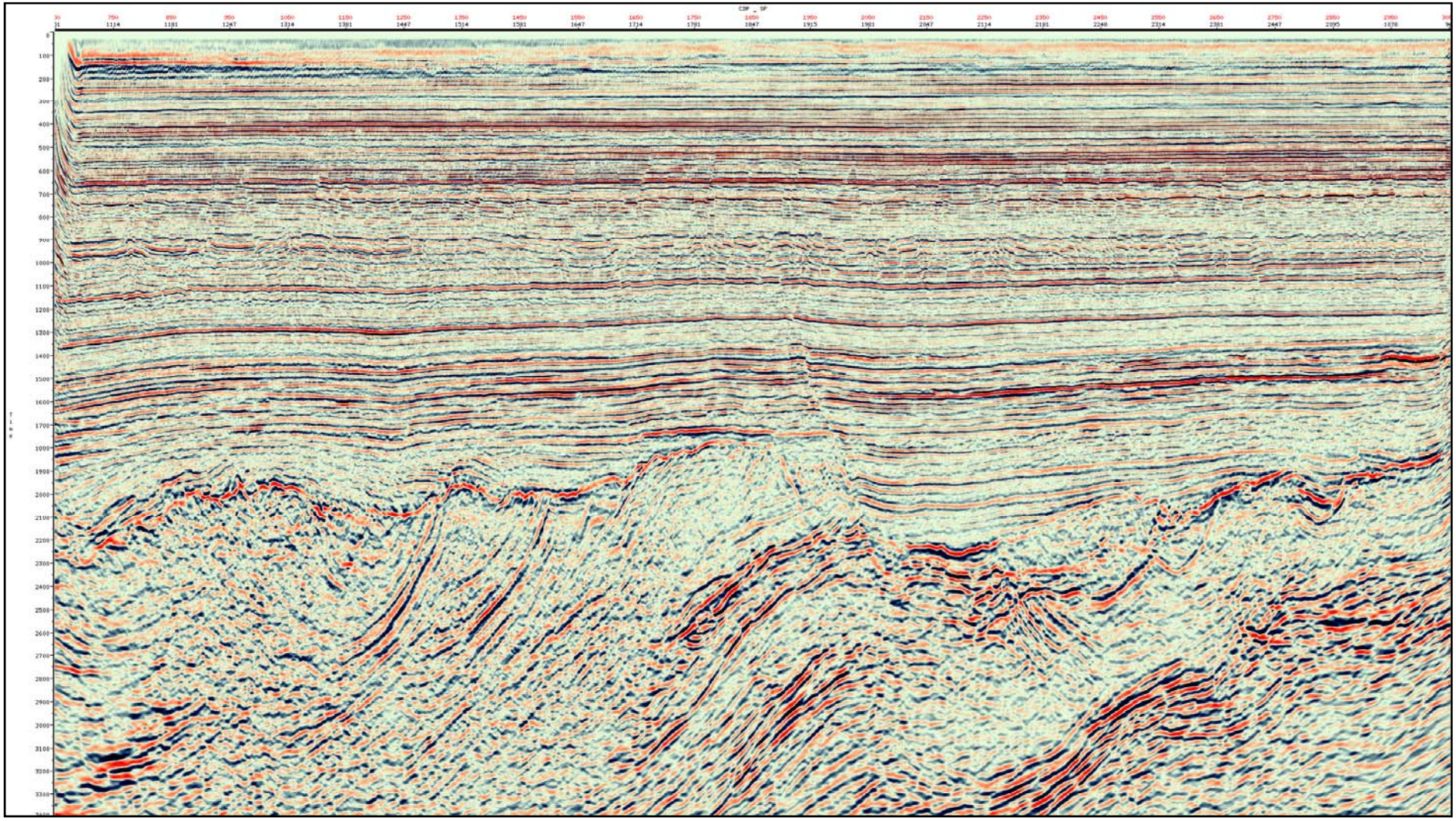
Stack (6-32 Deg) - IL 1241: GLIM 16, T800Q200,T1000Q 140



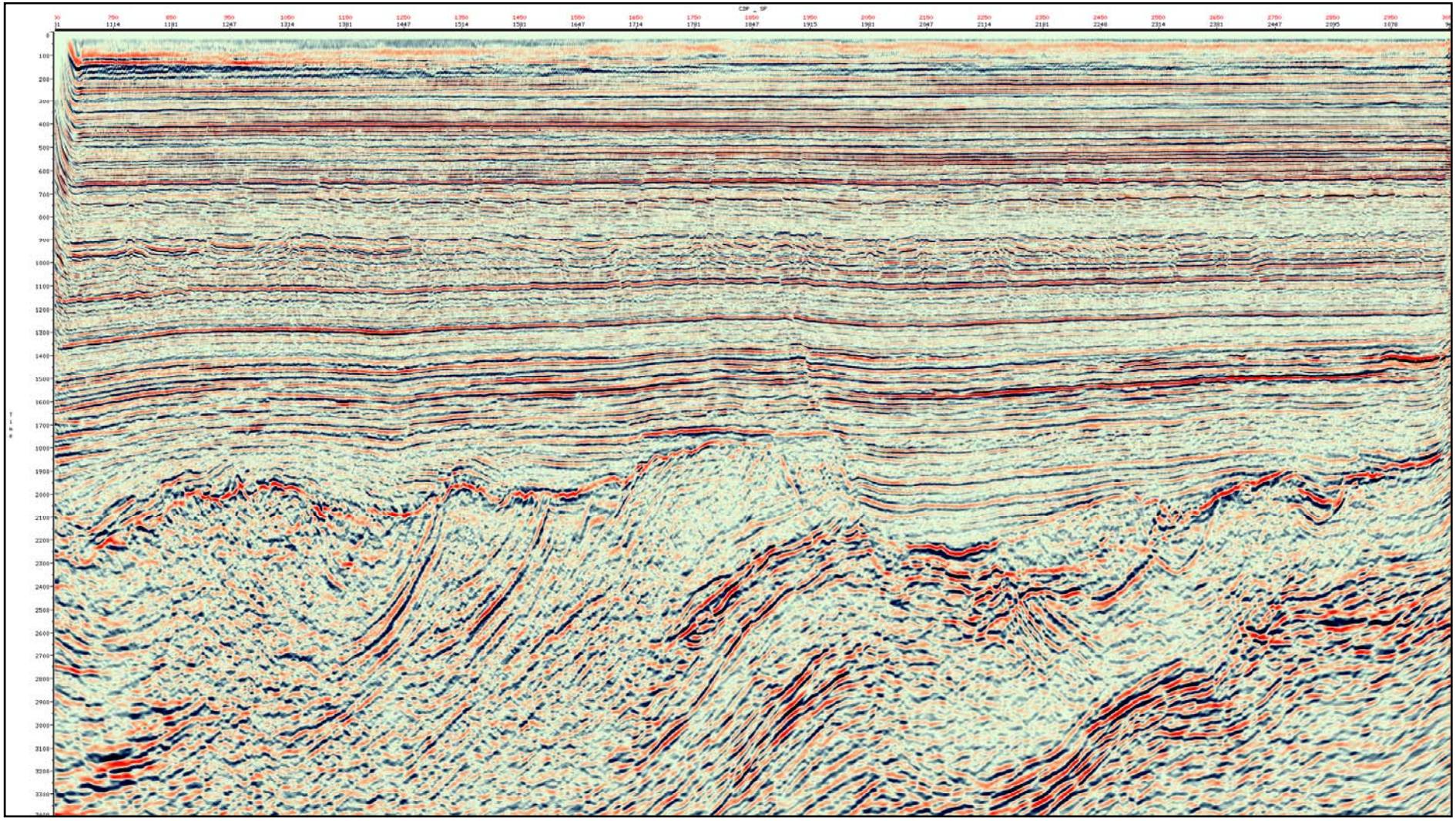
AGC Stack (6-32 Deg) - IL 1241: Reference (no Q)



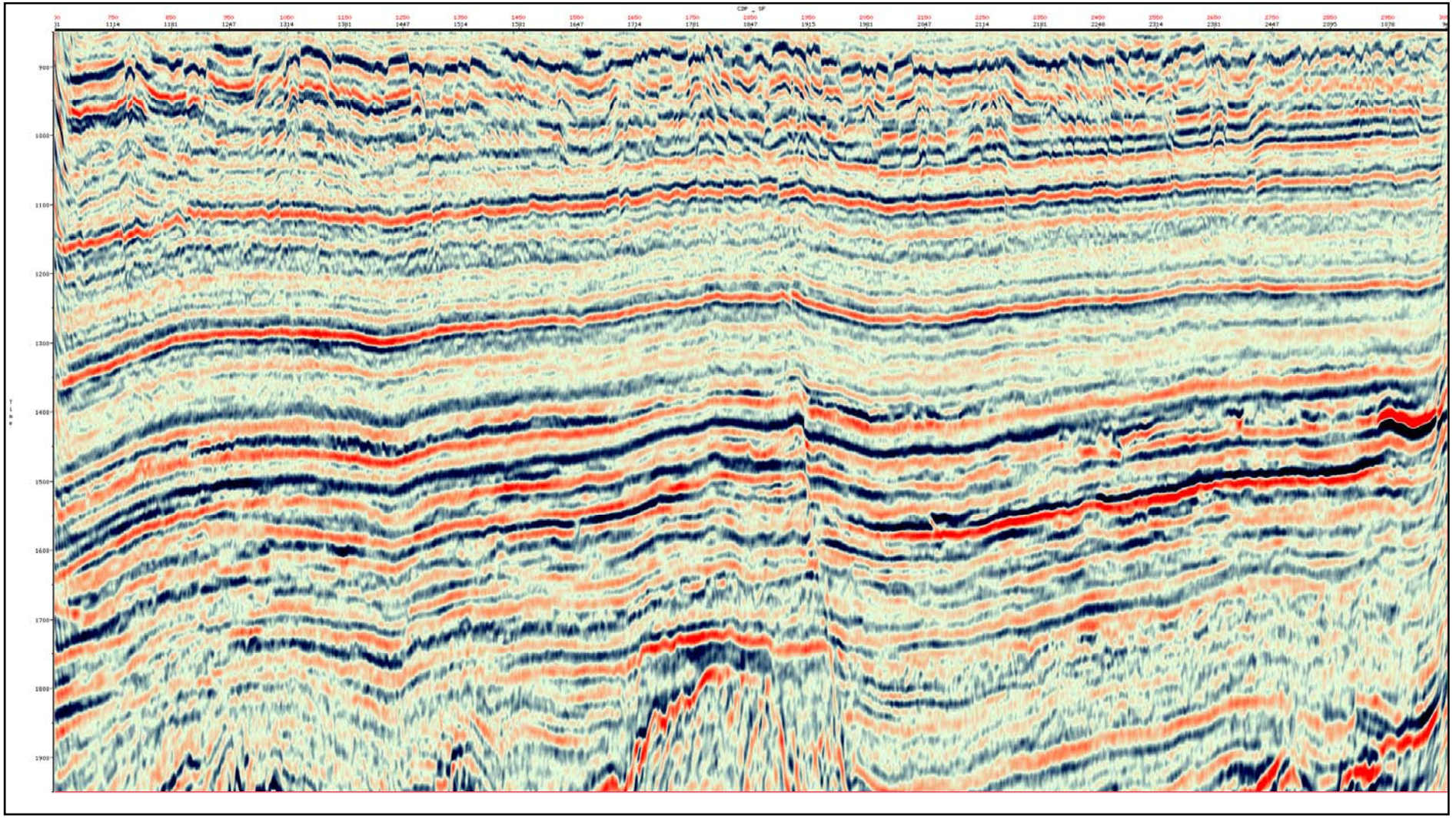
AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 140



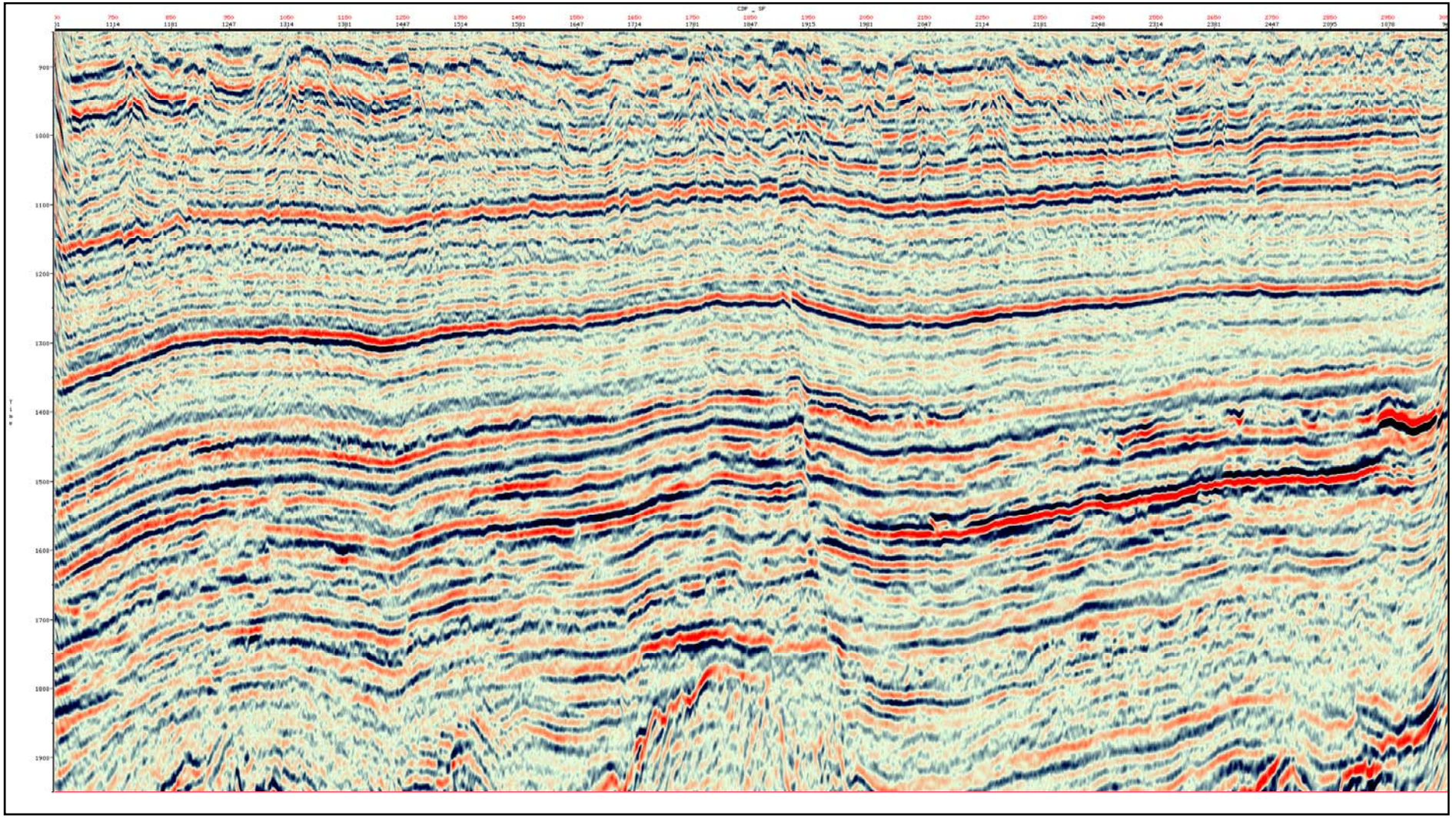
AGC Stack (6-32 Deg) - IL 1241: GLIM 16, T800Q200,T1000Q 140



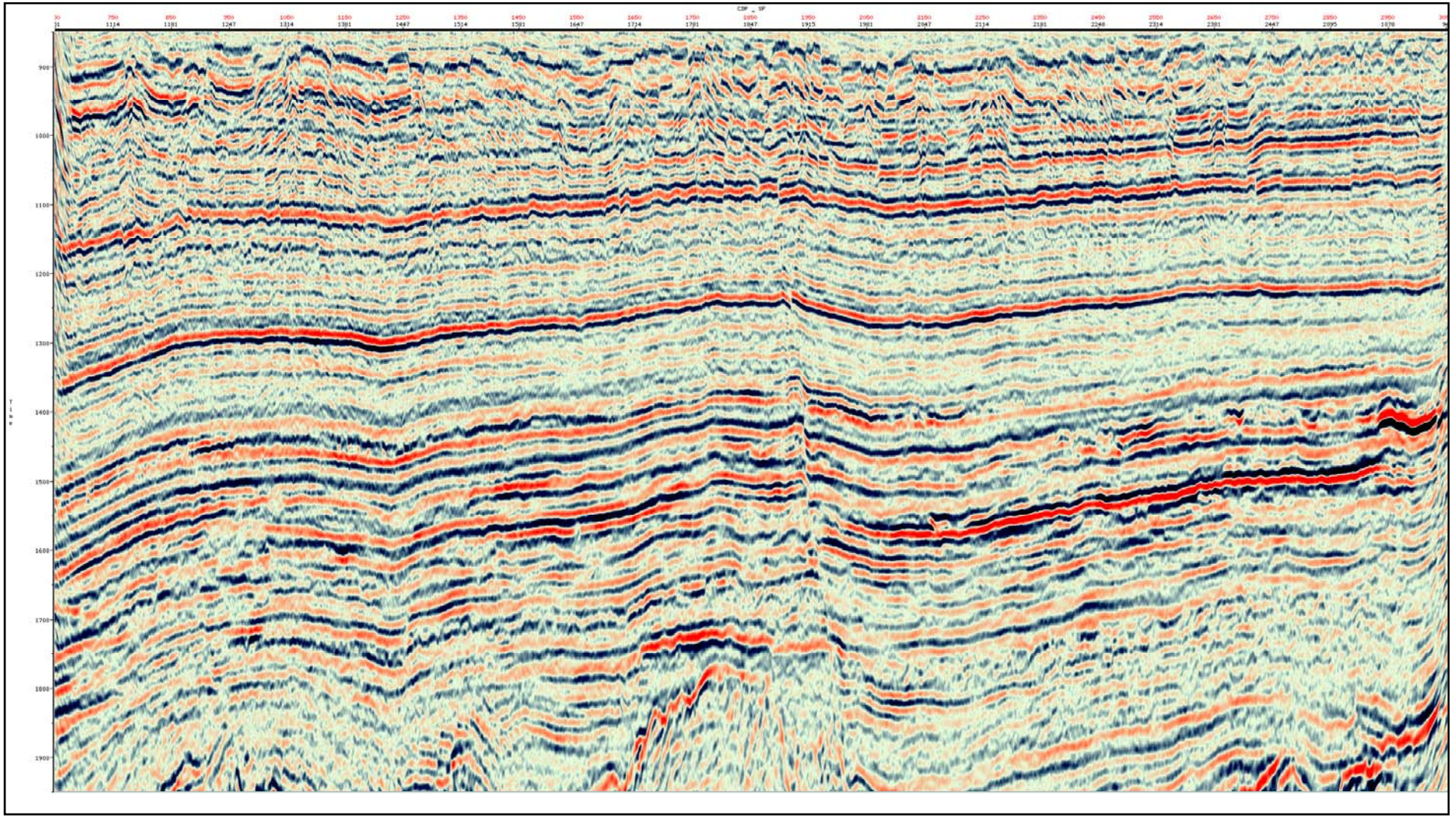
Zoomed AGC Stack (6-32 Deg) - IL 1241: Reference (no Q)



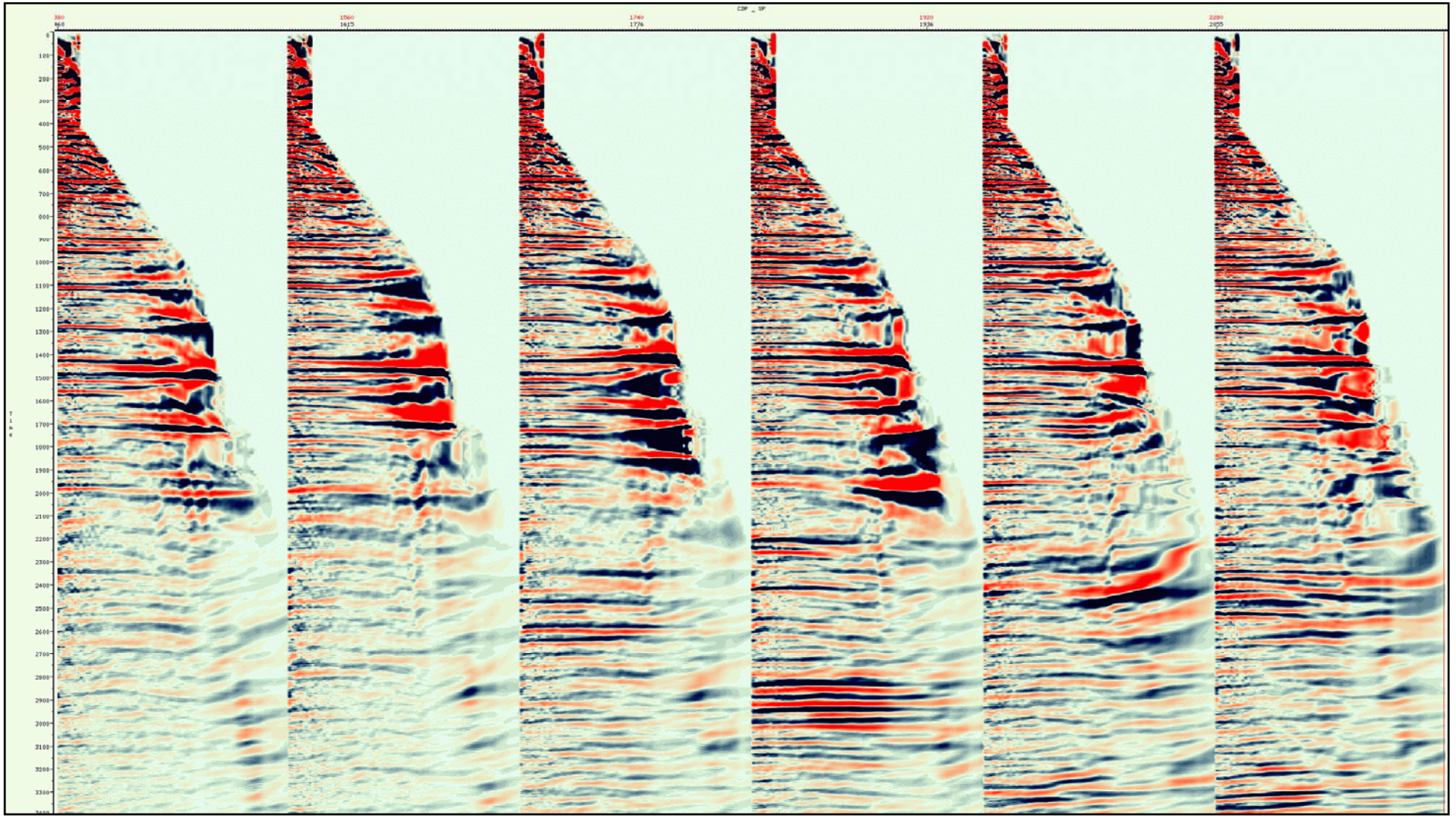
Zoomed AGC Stack (6-32 Deg) - IL 1241: GLIM 16, Q 140



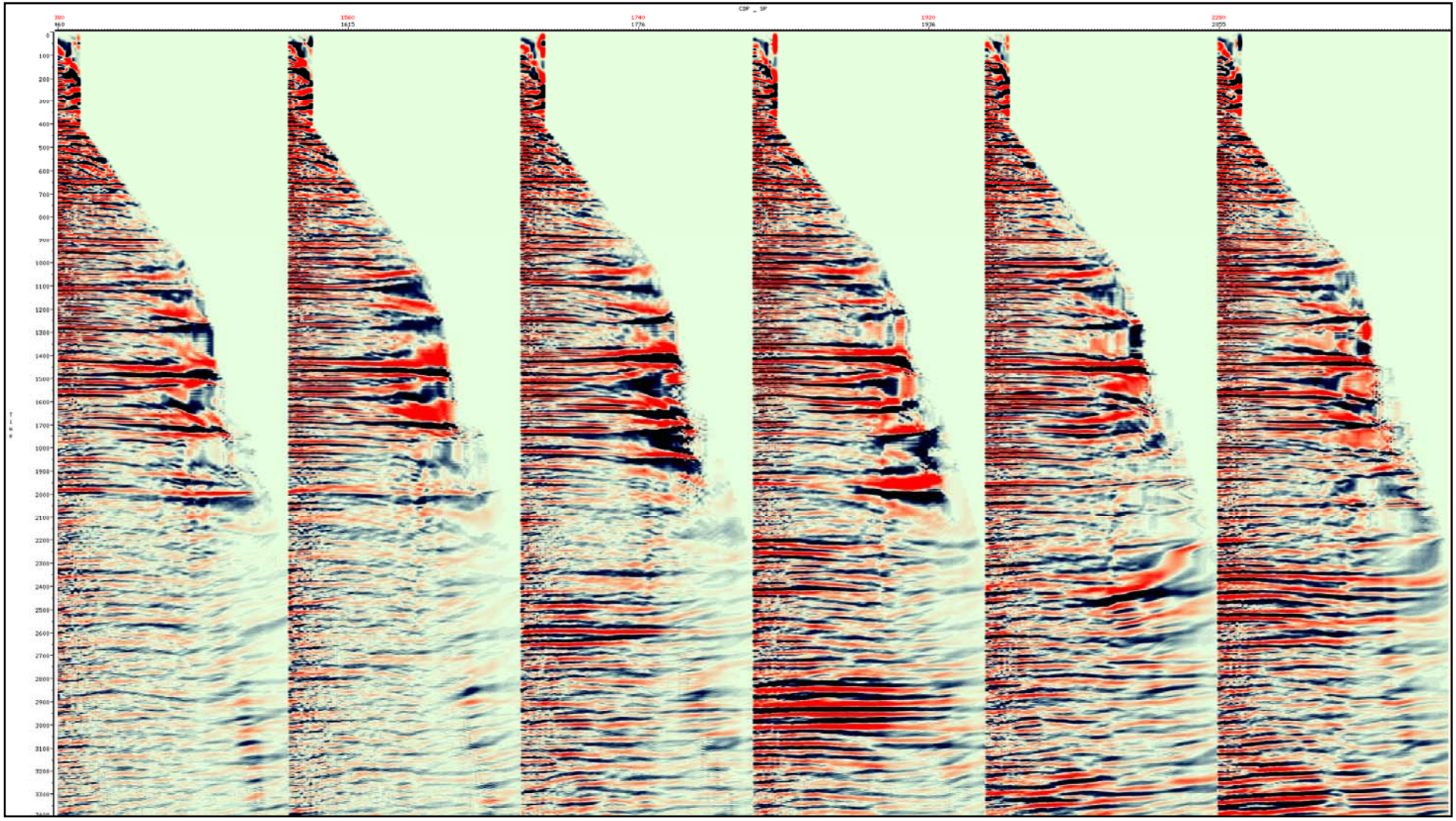
Zoomed AGC Stack (6-32 Deg) - IL 1241: GLIM 16, T800Q200,T1000Q 140



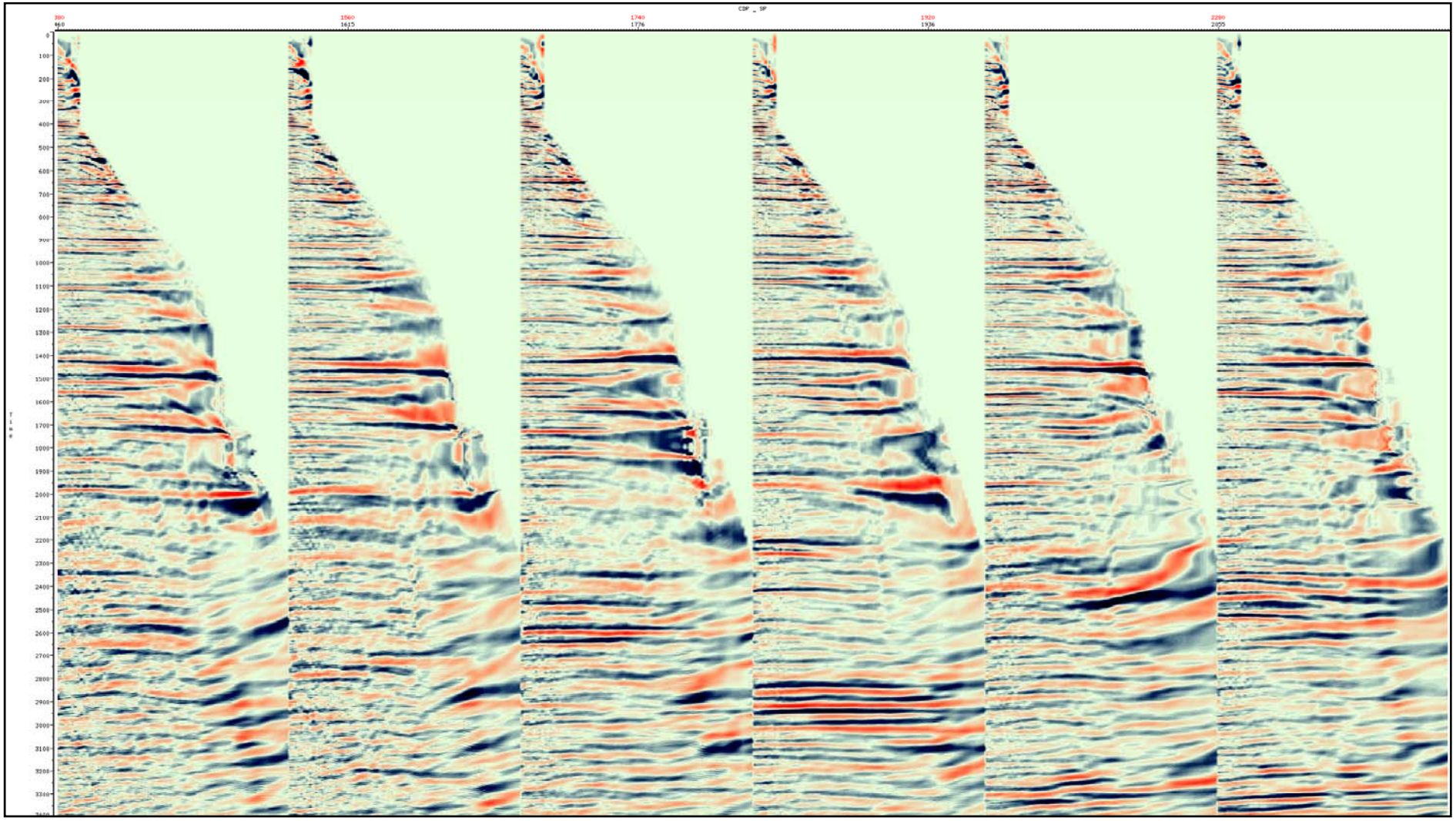
CDP - IL 1241: Reference (no Q)



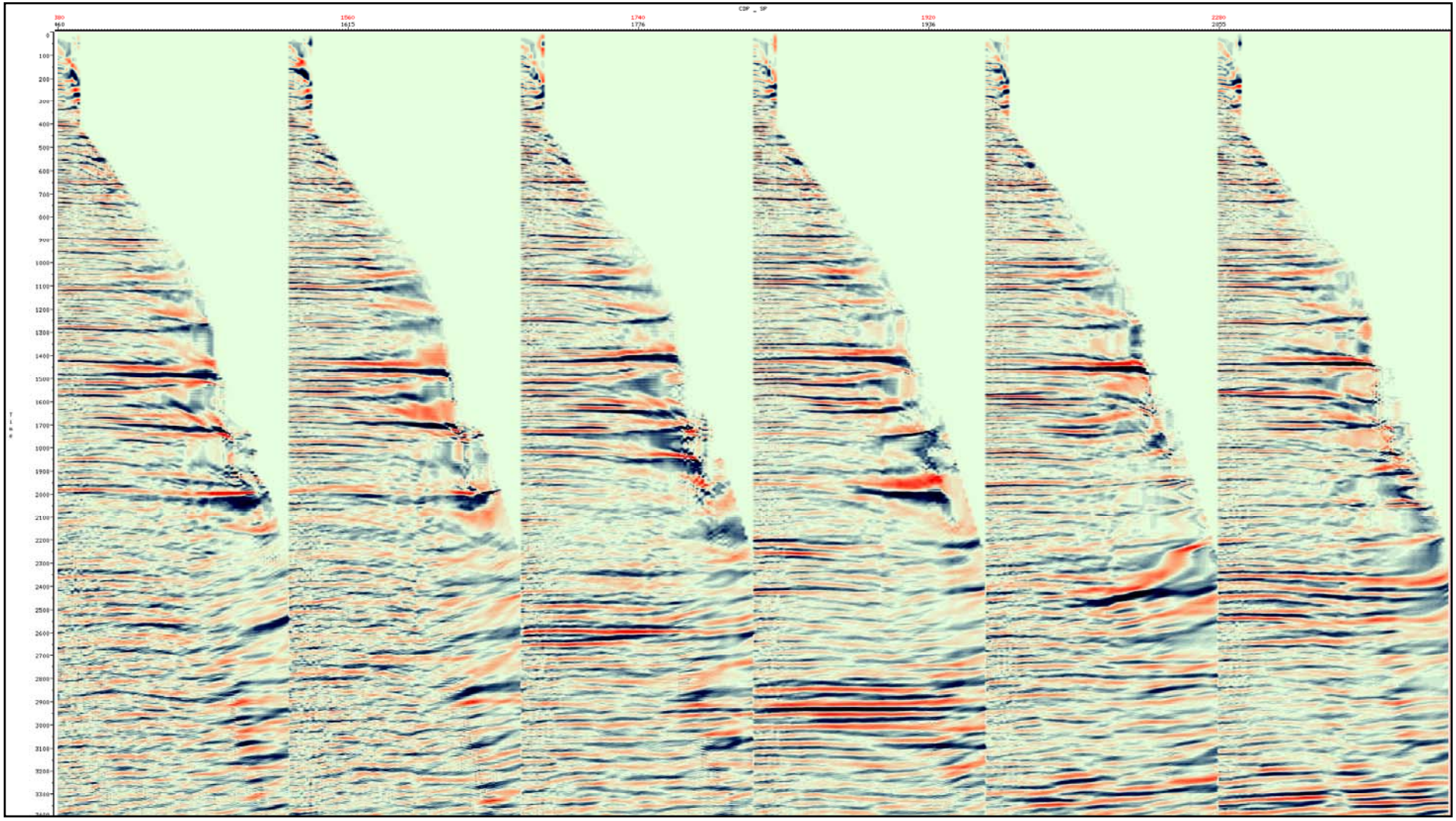
CDP - IL 1241: GLIM 16, T800Q200,T1000Q 140



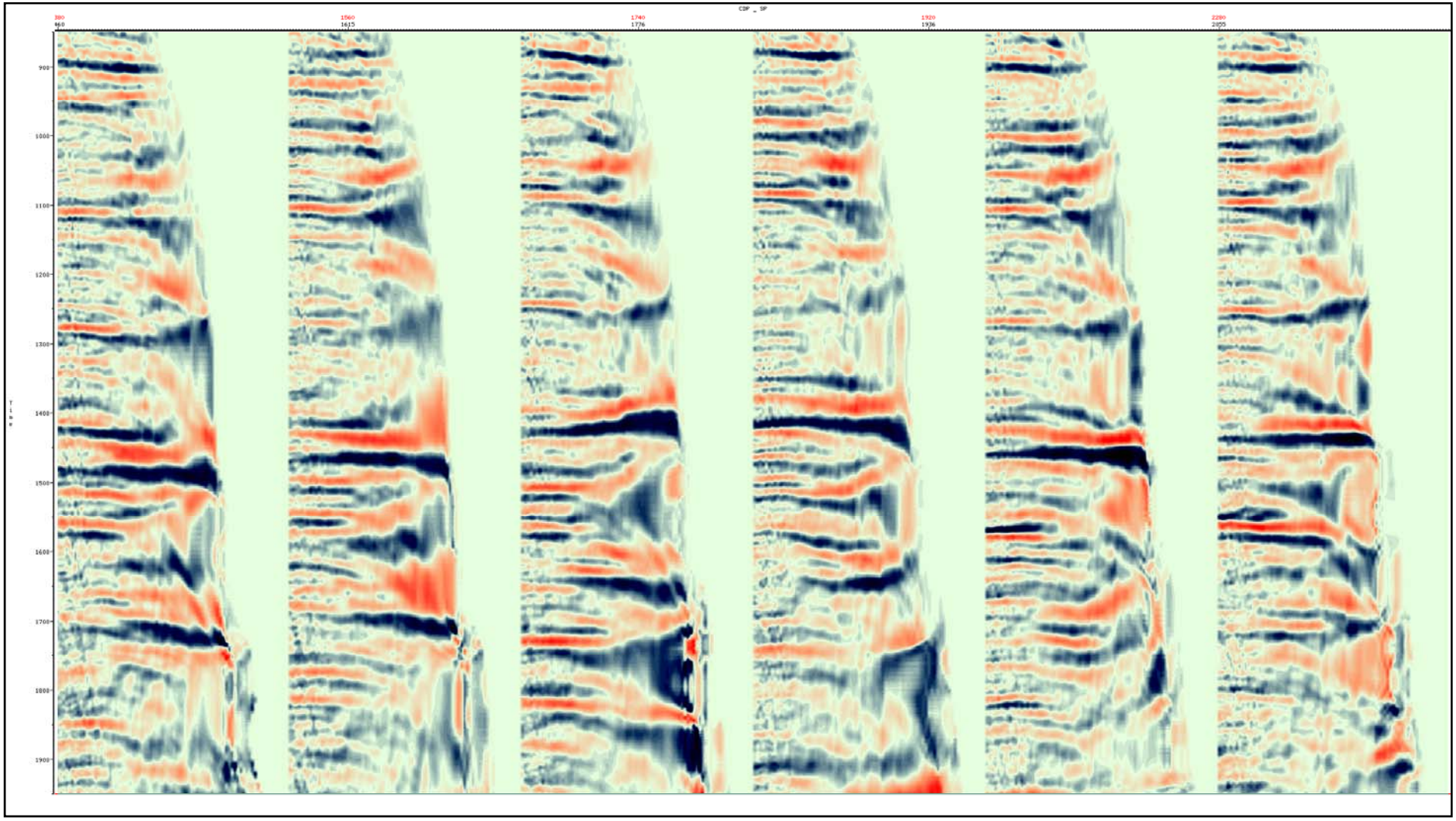
AGC CDP - IL 1241: Reference (no Q)



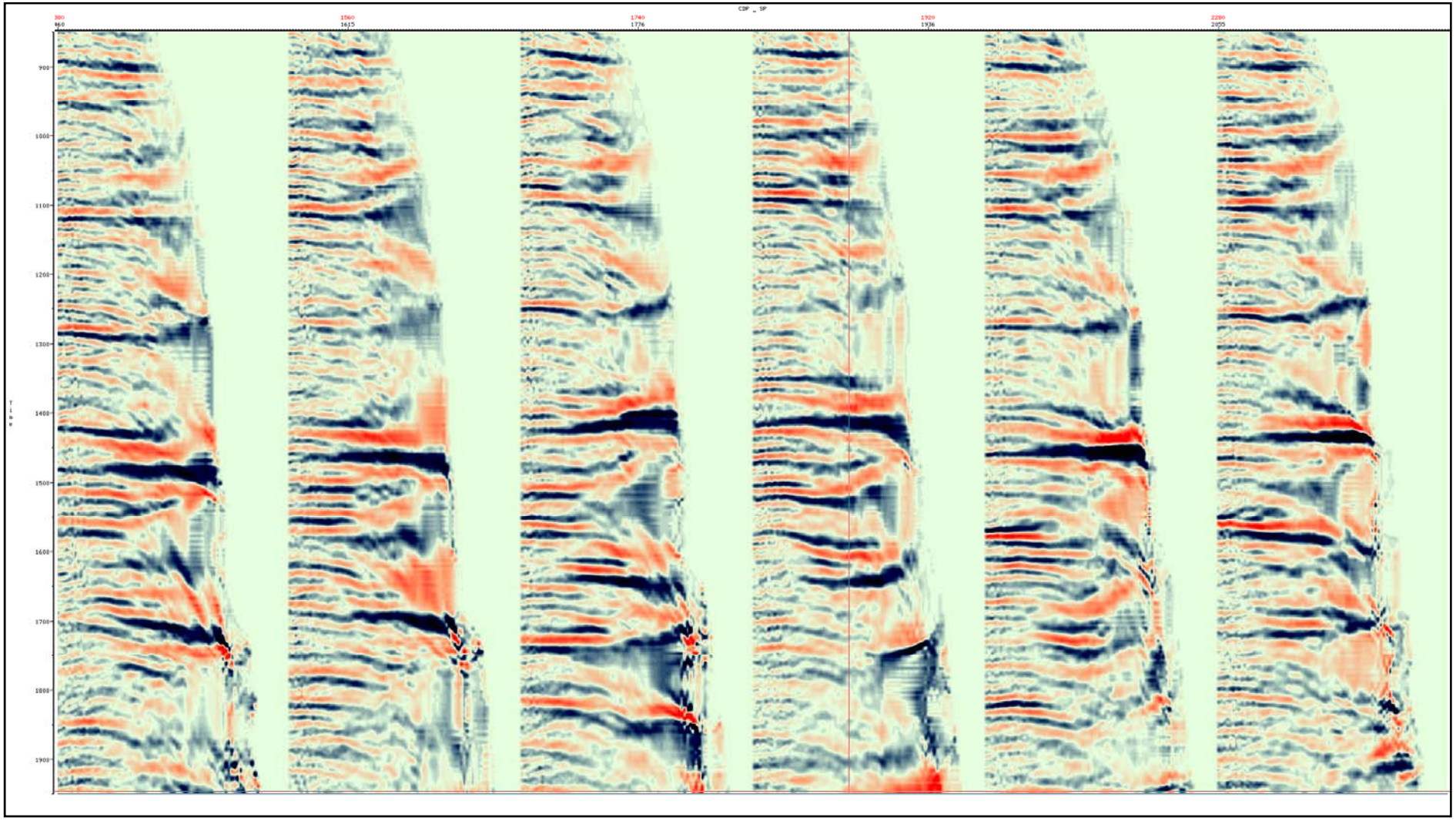
AGC CDP - IL 1241: GLIM 16, T800Q200,T1000Q 140



Zoomed AGC CDP - IL 1241: Reference (no Q)



Zoomed AGC CDP - IL 1241: GLIM 16, T800Q200,T1000Q 140

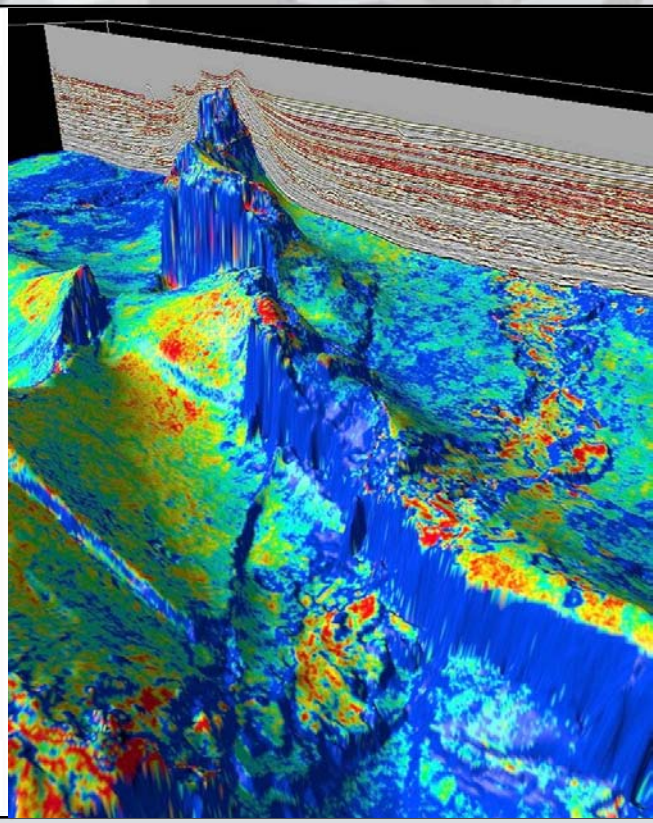


Conclusions & Recommendations

CGGV Recommend:

- **Gain Limited 16, Time variant Q, 0-800ms Q=200, 1000-600ms Q=140**

Technical Note 15
Exponential Gain
Silvereye 3D



Introduction

Exponential Gain testing was carried out on inline 1241.

Test was done with following parameters:

1. 1dB/ seconds
2. 2dB/seconds
3. 3dB/seconds
4. 4dB/seconds

Processing Sequence to date

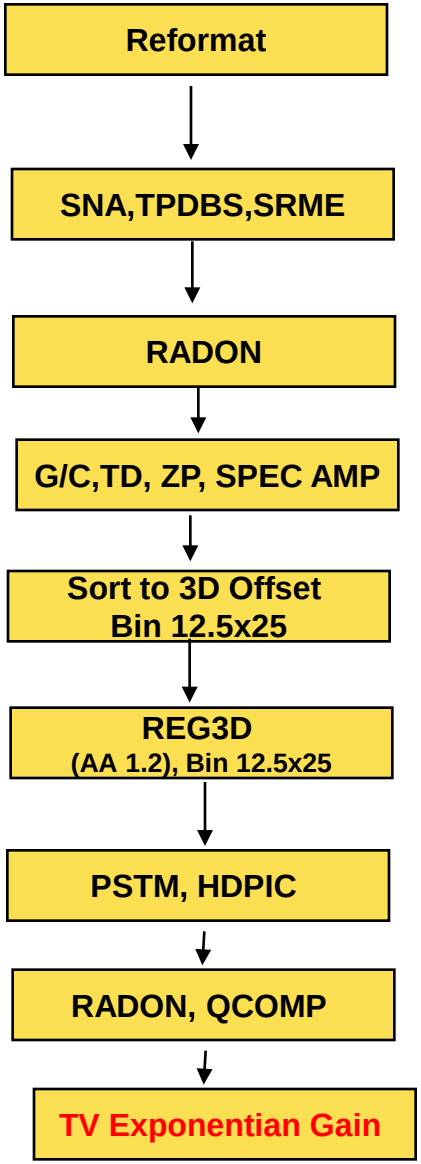
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D
- Replace T2 with TV Ursin (offset term)
- PSTM: Ray Trace, Dip Lim 75, Aperture 4 km, Smoothed V2 Velocity
- HDPIC
- Radon De-multiple
- QCompensation

Current Test

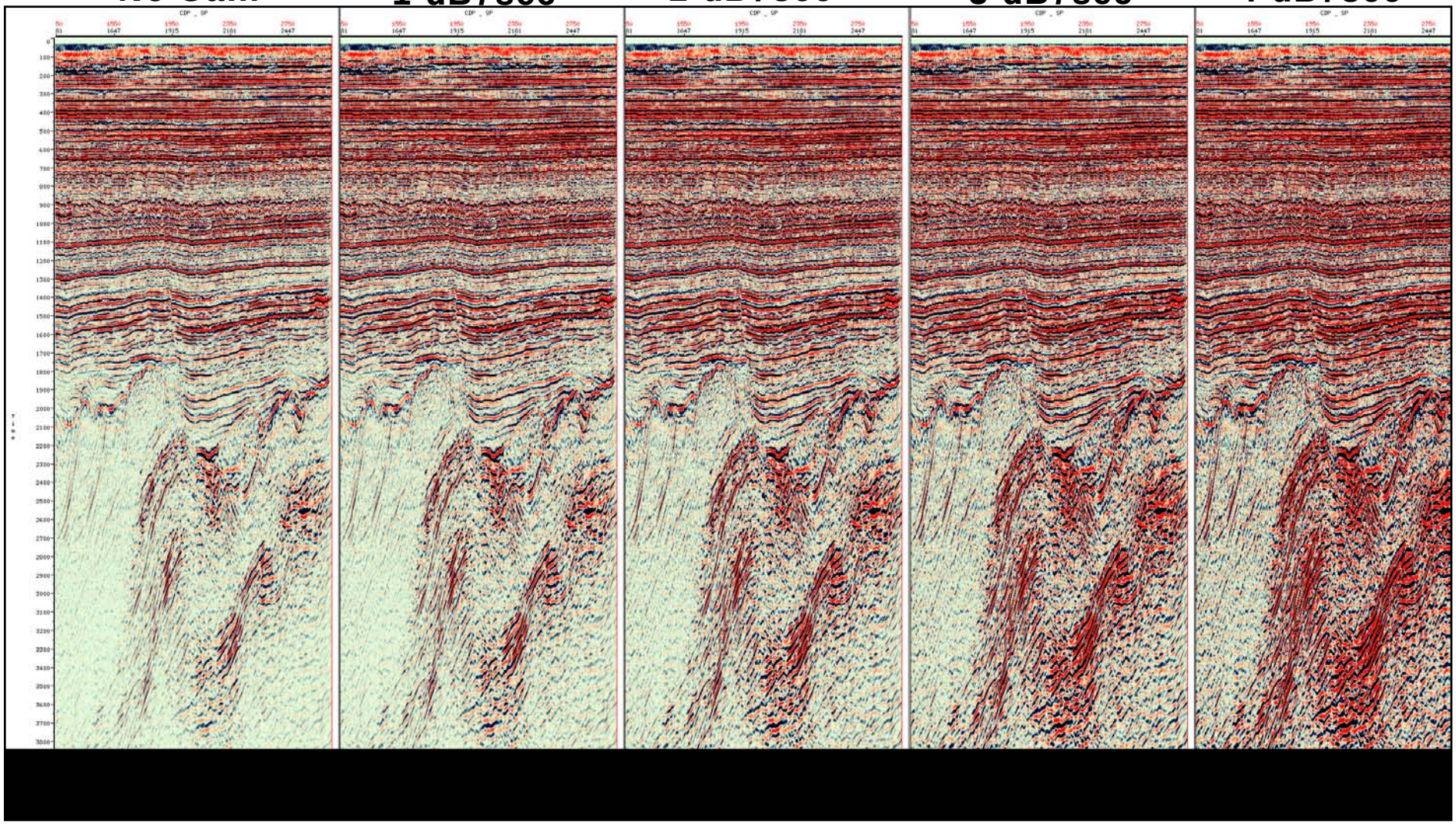
- **Time Variant Exponential Gain**

Proc Flow: Exponential Gain

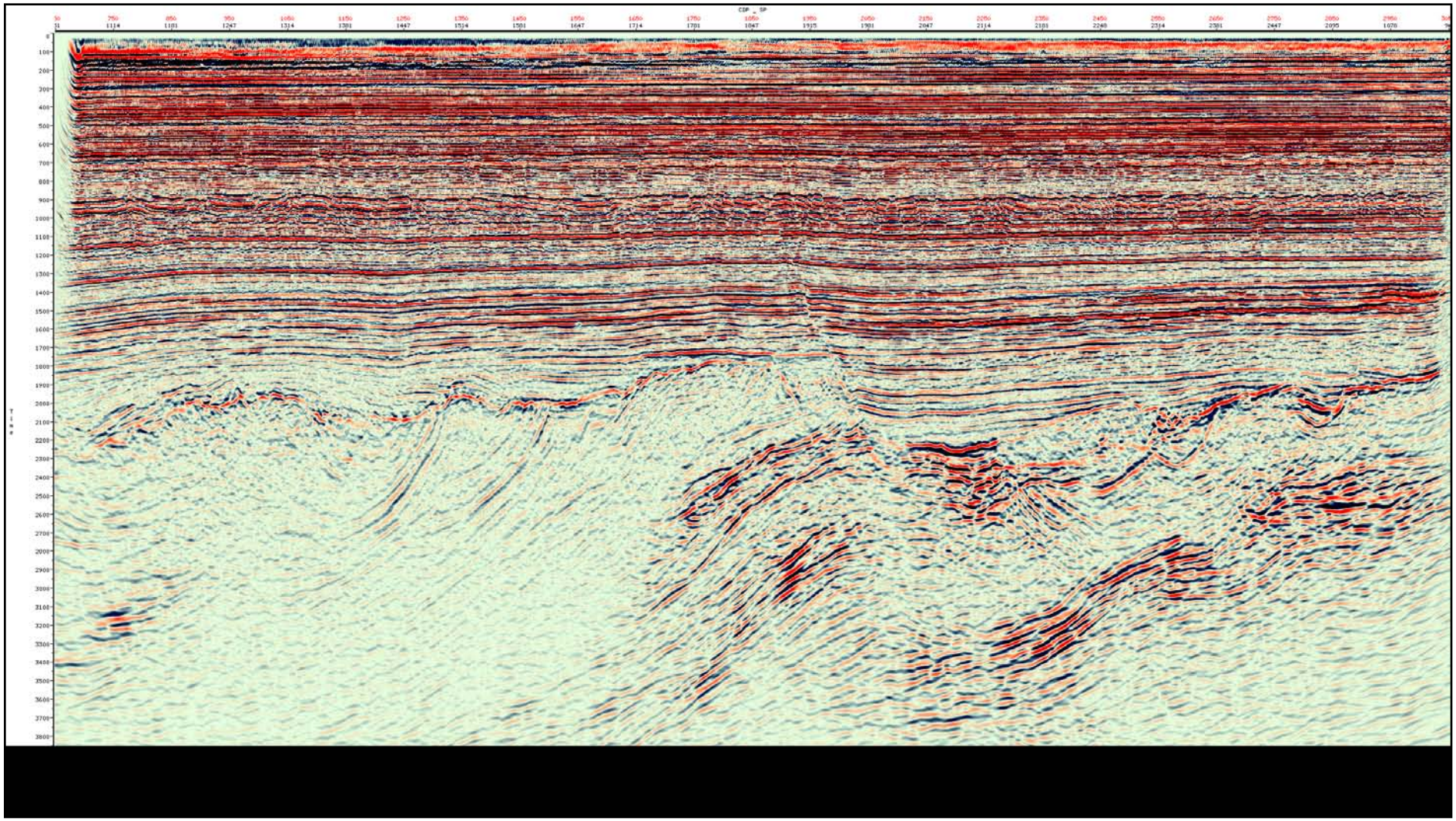


Exponential Gain

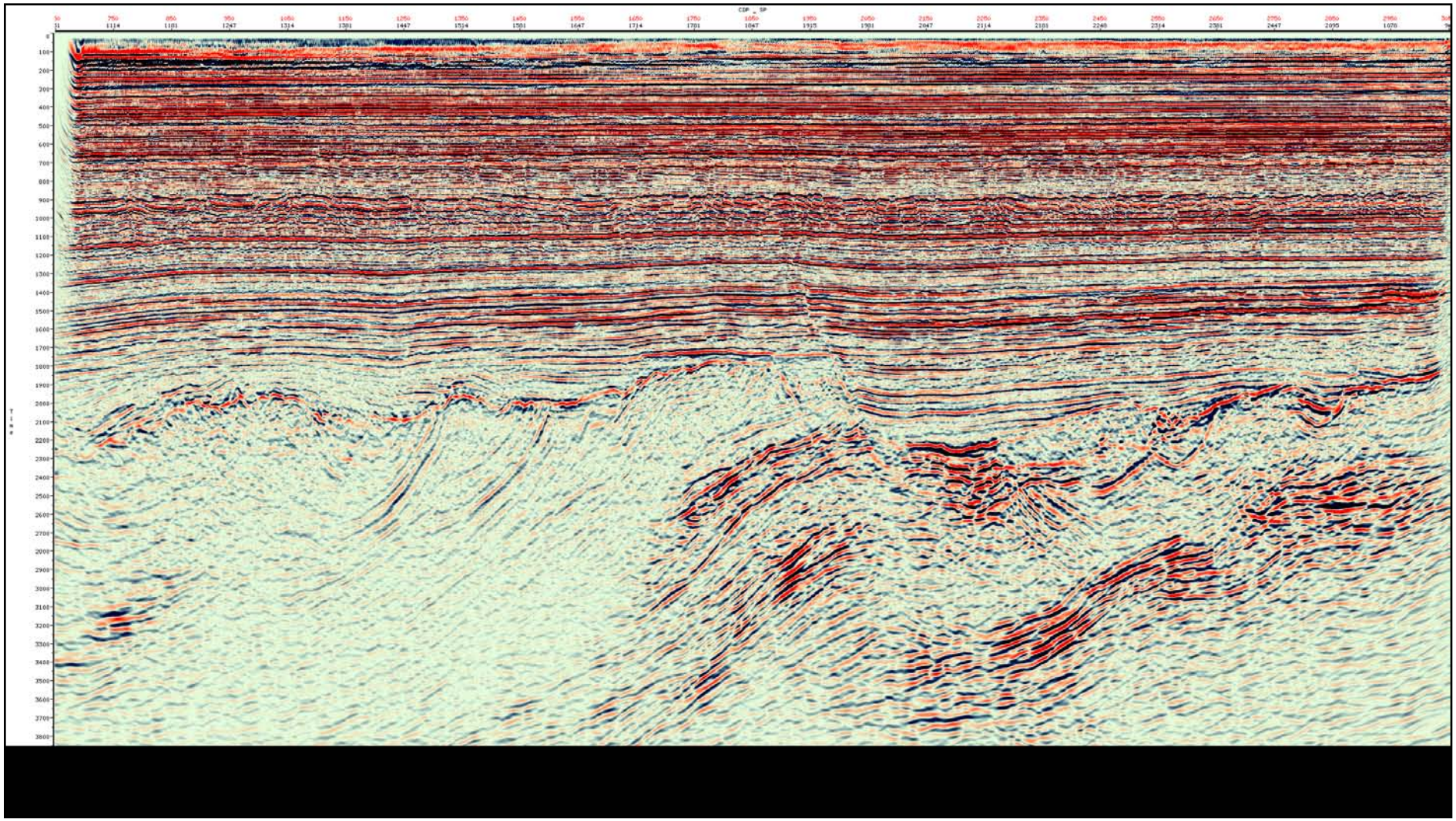
Stack (6-32 Deg) - IL 1241: Exponential Gain



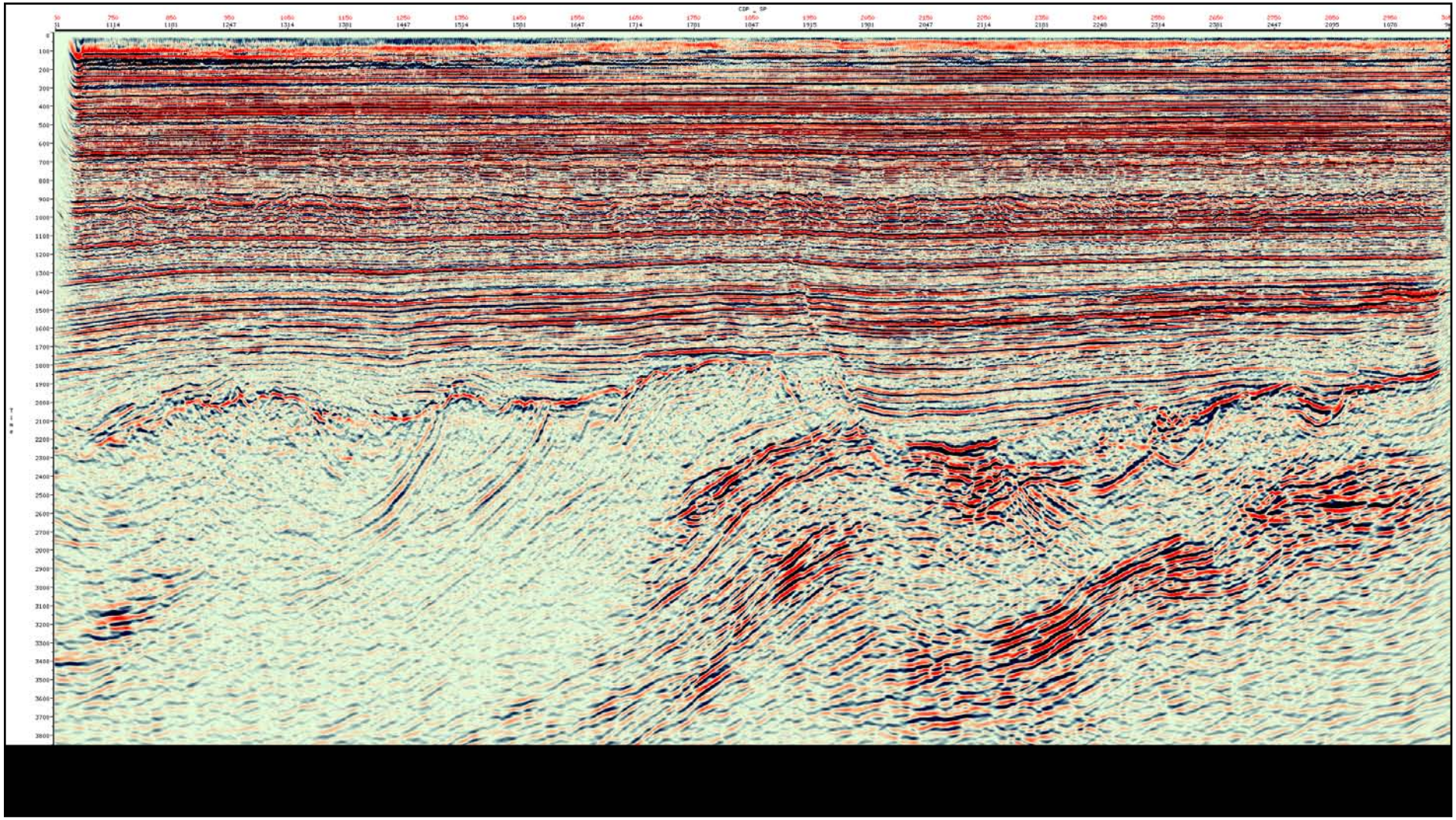
Stack (6-32 Deg) - IL 1241: No Gain



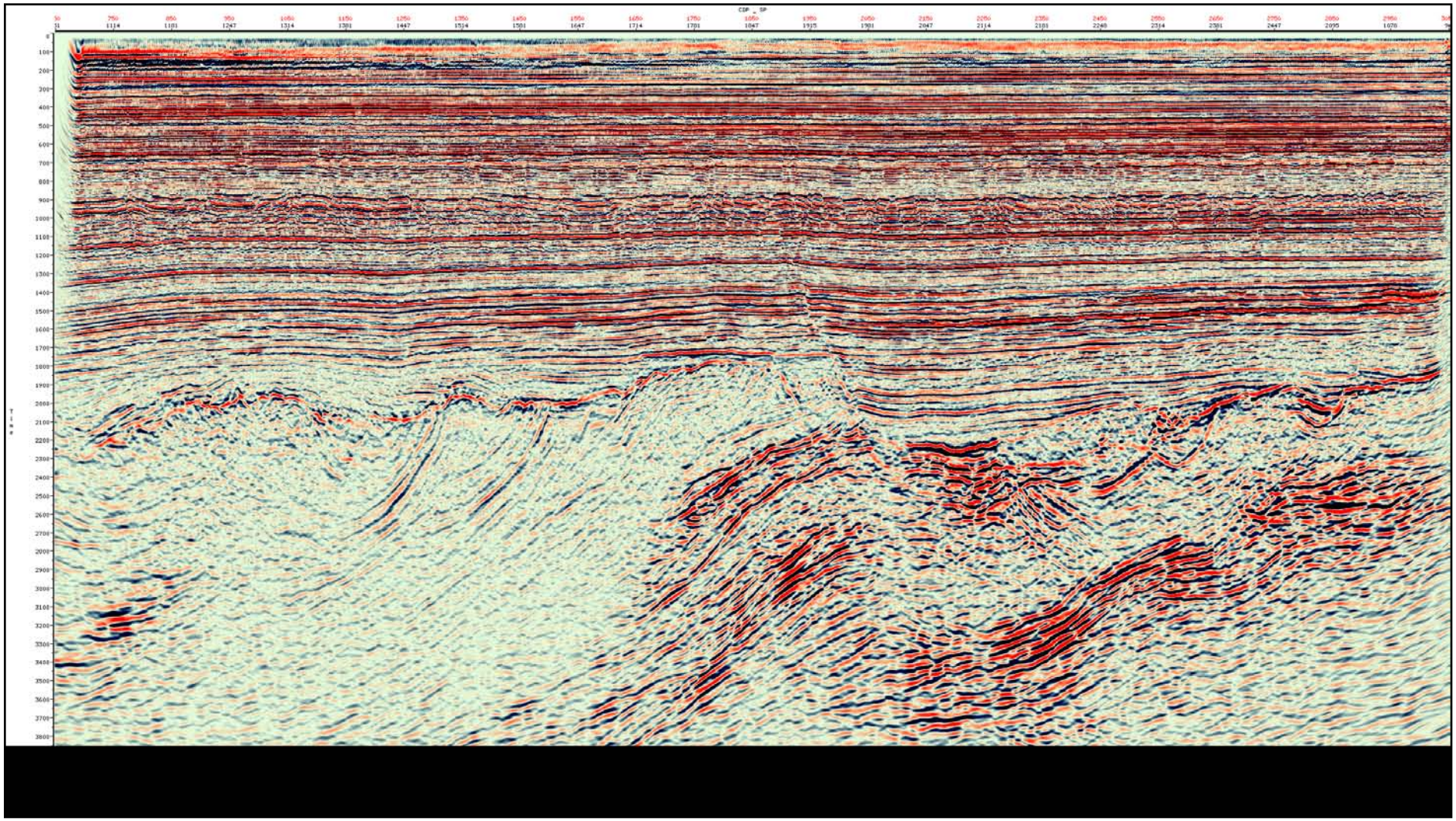
Stack (6-32 Deg) - IL 1241: Exp Gain 1 dB/seconds



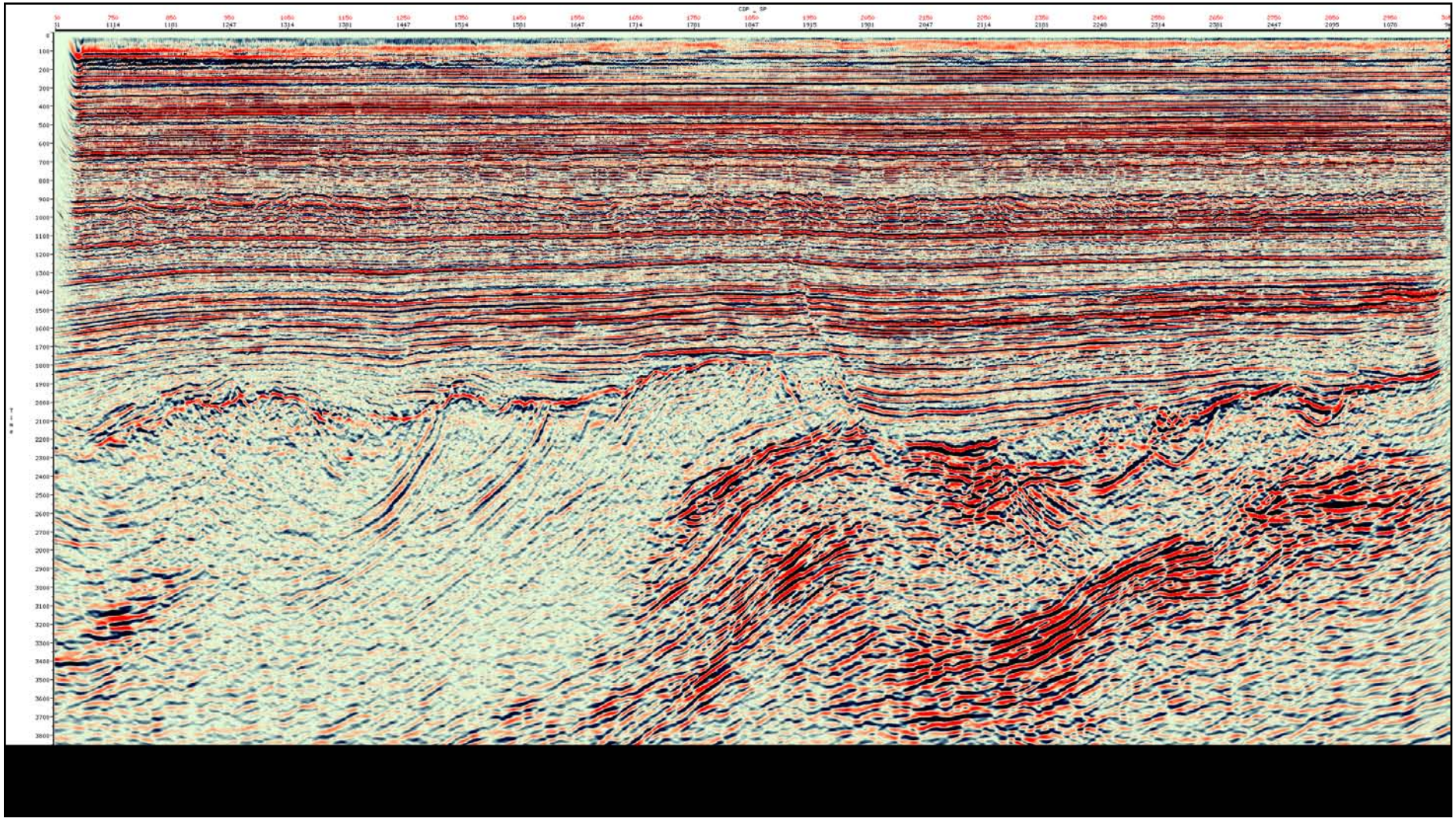
Stack (6-32 Deg) - IL 1241: Exp Gain 2 dB/seconds



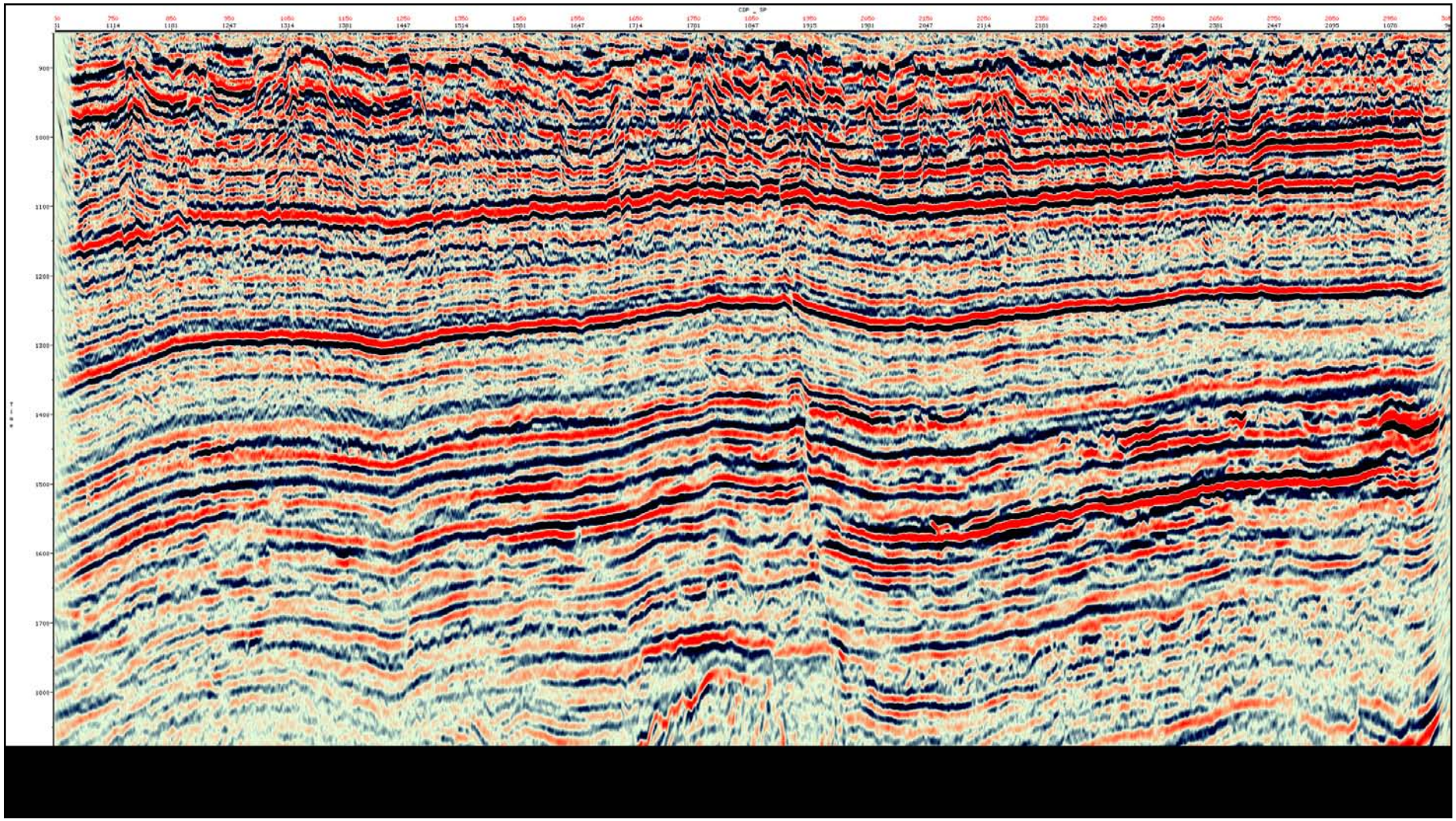
Stack (6-32 Deg) - IL 1241: Exp Gain 3 dB/seconds



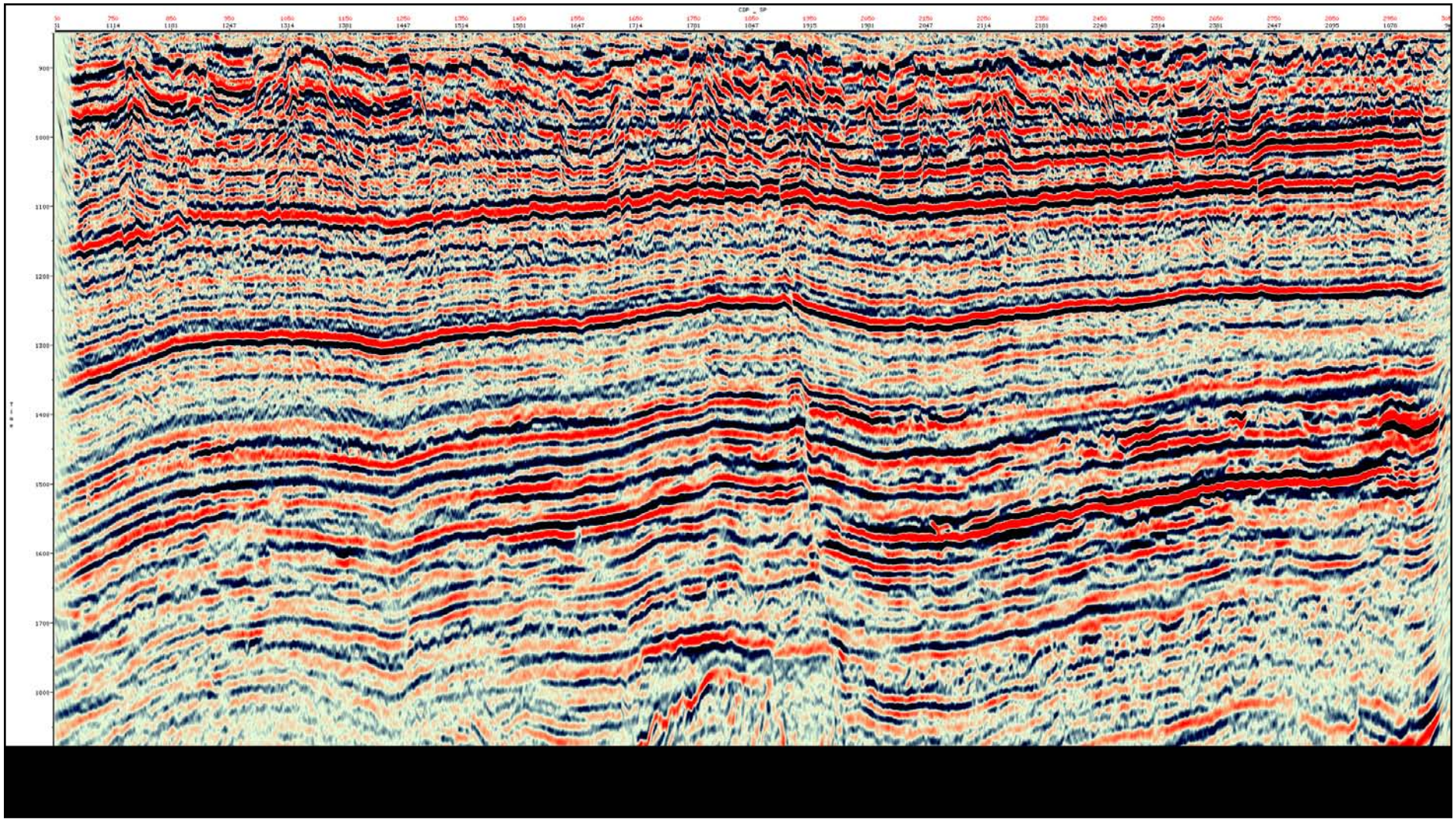
Stack (6-32 Deg) - IL 1241: Exp Gain 4 dB/seconds



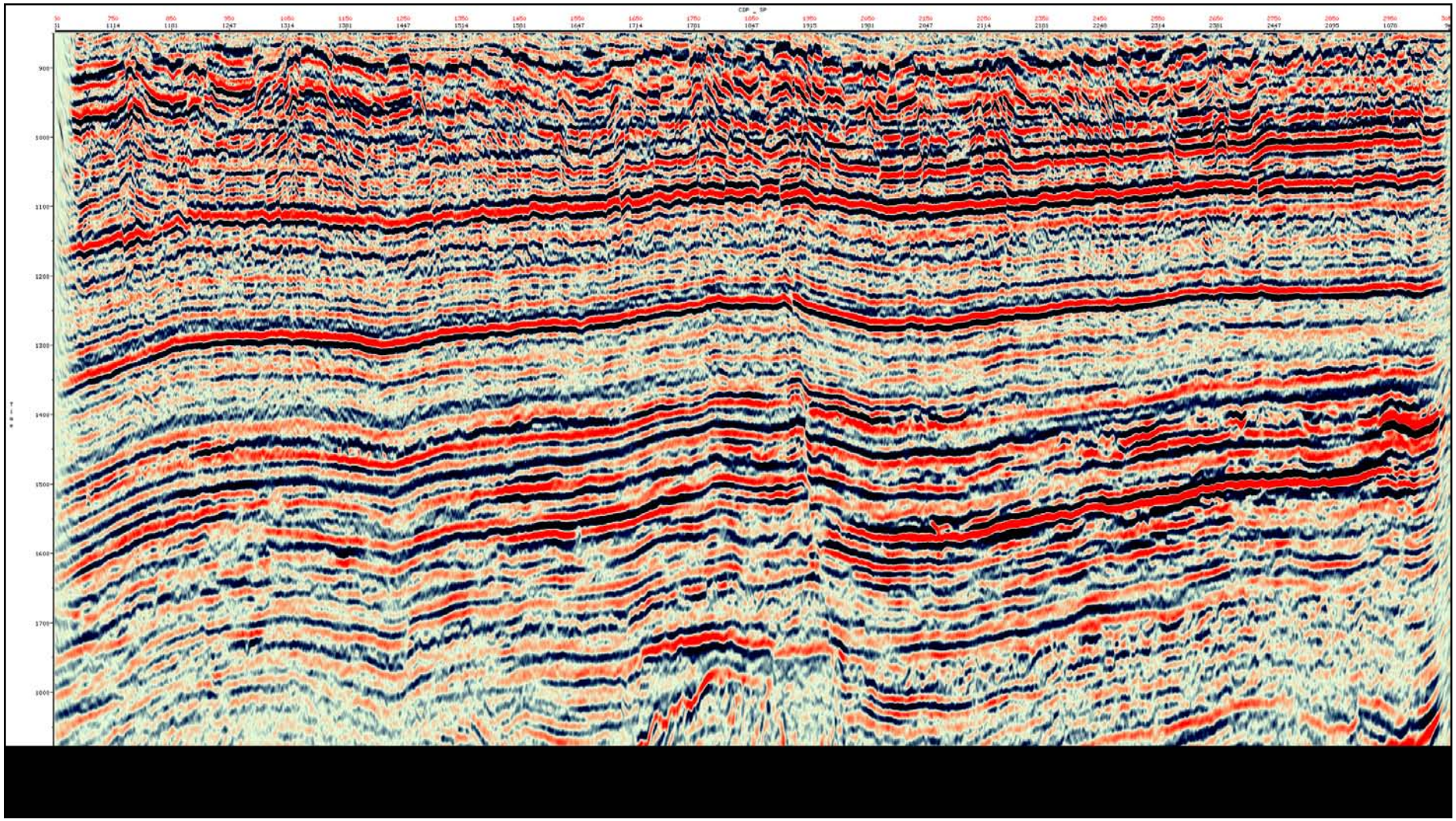
Zoomed Stack (6-32 Deg) - IL 1241: No Gain



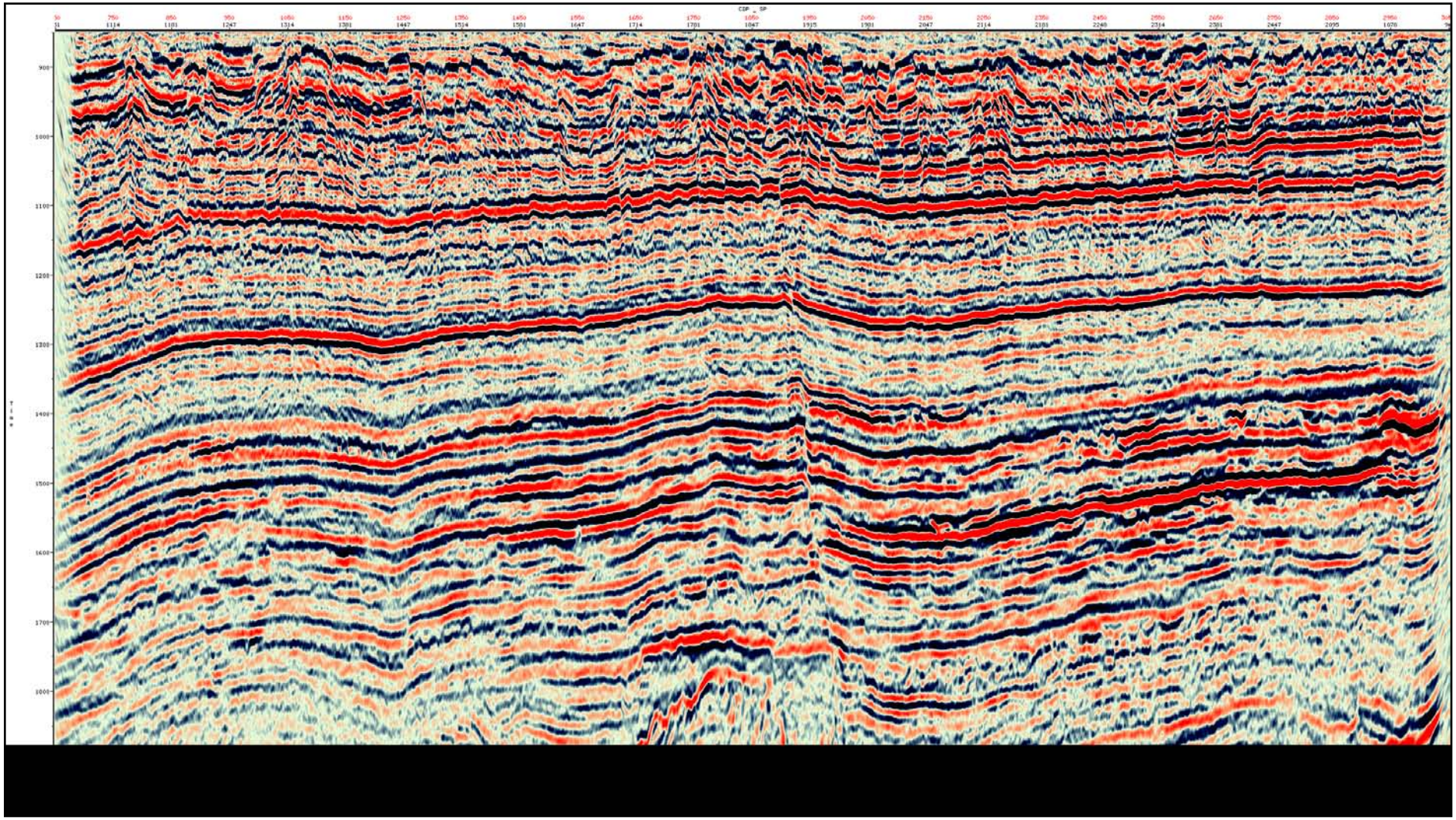
Zoomed Stack (6-32 Deg) - IL 1241: Exp Gain 1 dB/sec



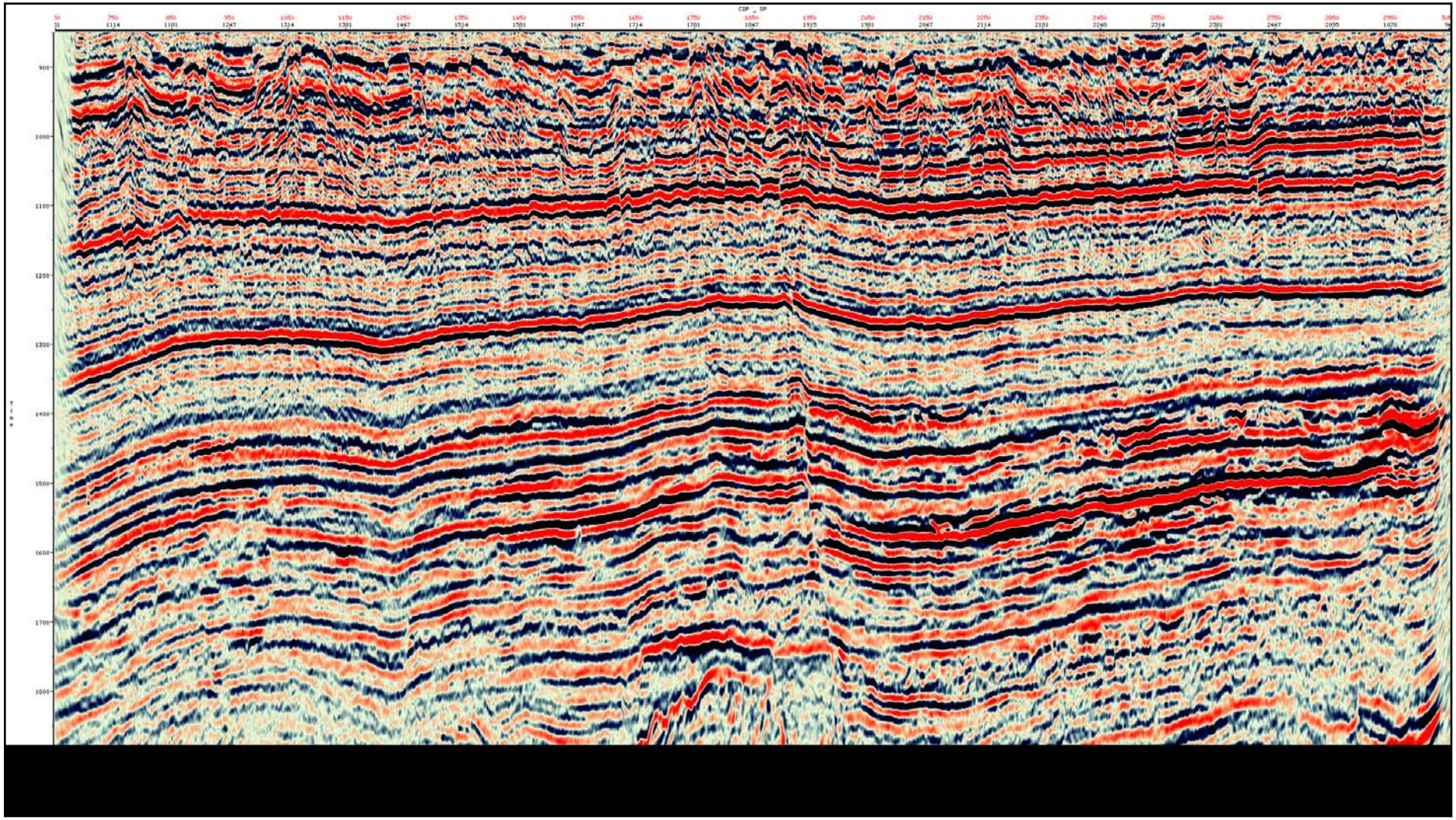
Zoomed Stack (6-32 Deg) - IL 1241: Exp Gain 2 dB/sec



Zoomed Stack (6-32 Deg) - IL 1241: Exp Gain 3 dB/sec



Zoomed Stack (6-32 Deg) - IL 1241: Exp Gain 4 dB/sec

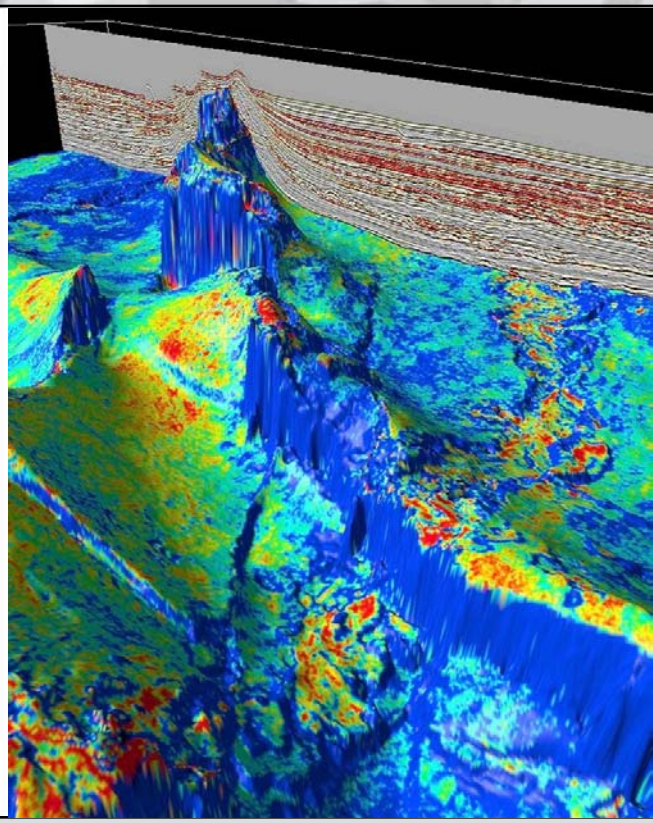


Conclusions & Recommendations

CGGV Recommend:

- To apply exponential Gain 1 dB/seconds or 2 dB/ seconds

Technical Note 13
Res Radon De-multiple
Silvereye 3D



CGGVERITAS

Introduction

Radon De-multiple testing was carried out on inline 1241.

Radon test with DTCUT:

80ms, 100ms, 120ms, 160ms, 200ms, 240ms, 280ms, 320ms, 360ms, 400ms

Stack and cdp applied Exponential Gain 2 dB/sec to boost amplitude in the deep section, the stacks in this PPT were generated with a 6-32 degrees mute.

Processing Sequence to date

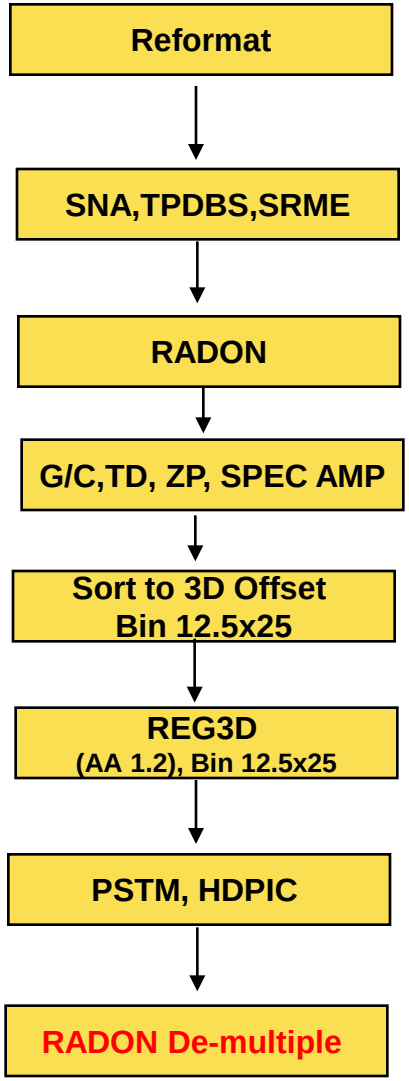
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D
- Replace T2 with TV Ursin (offset term)
- PSTM: Ray Trace, Dip Lim 75, Aperture 4 km, Smoothed V2 Velocity
- HDPIC

Current Test

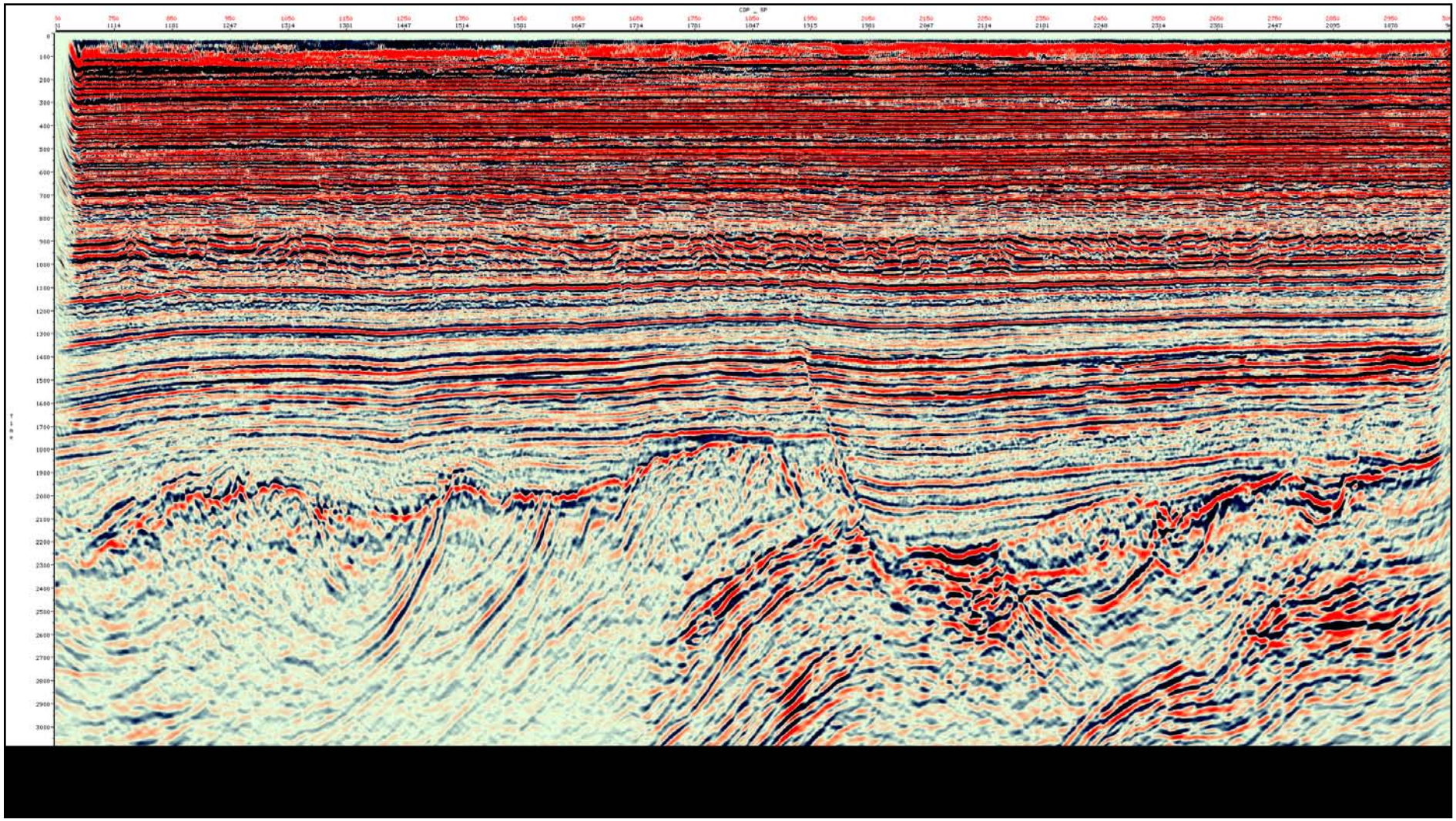
- **Residual Radon Demultiple, DTCUT 80ms – 400ms**

Proc Flow: HDPIC

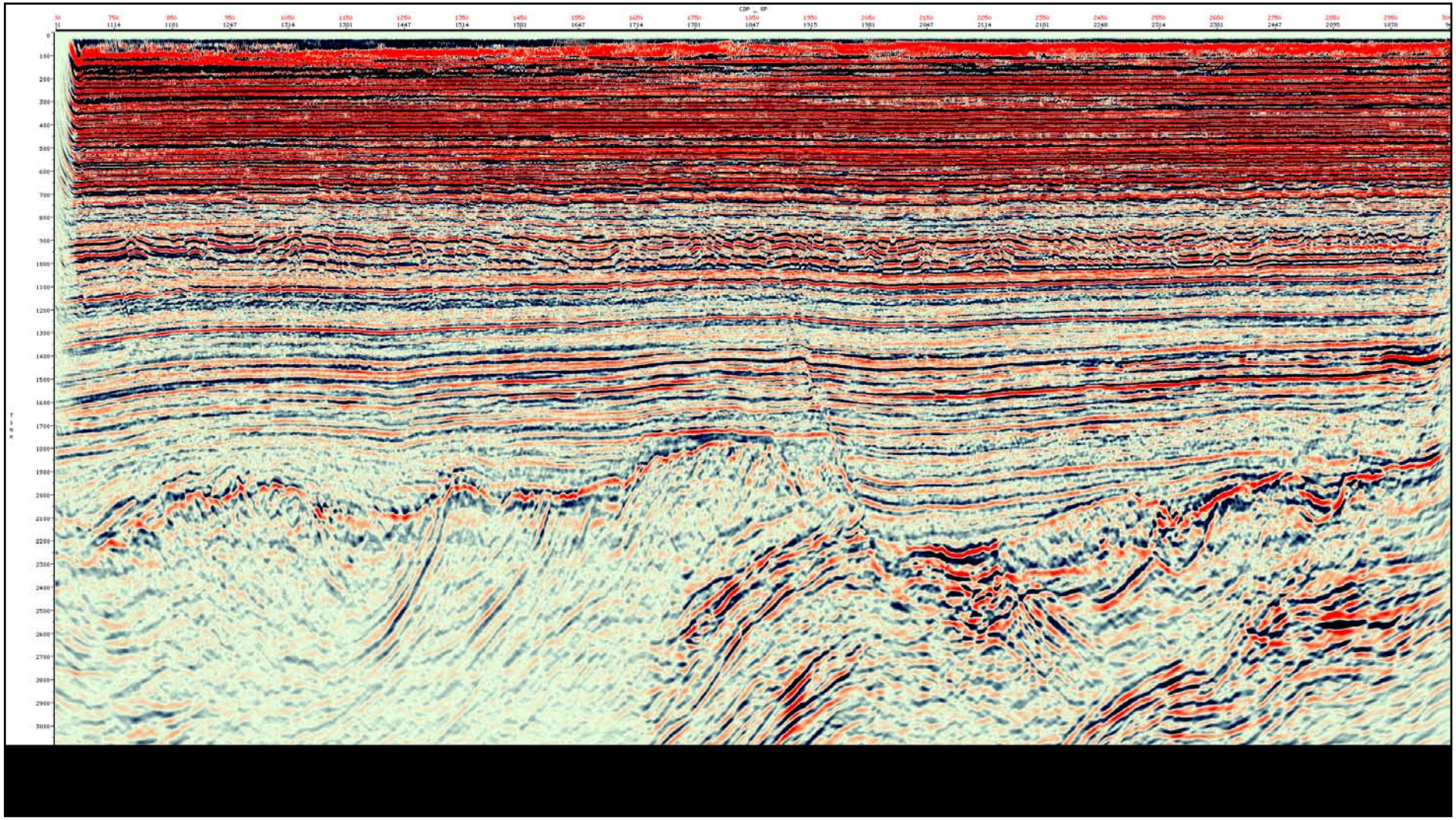


Res Radon De-multiple

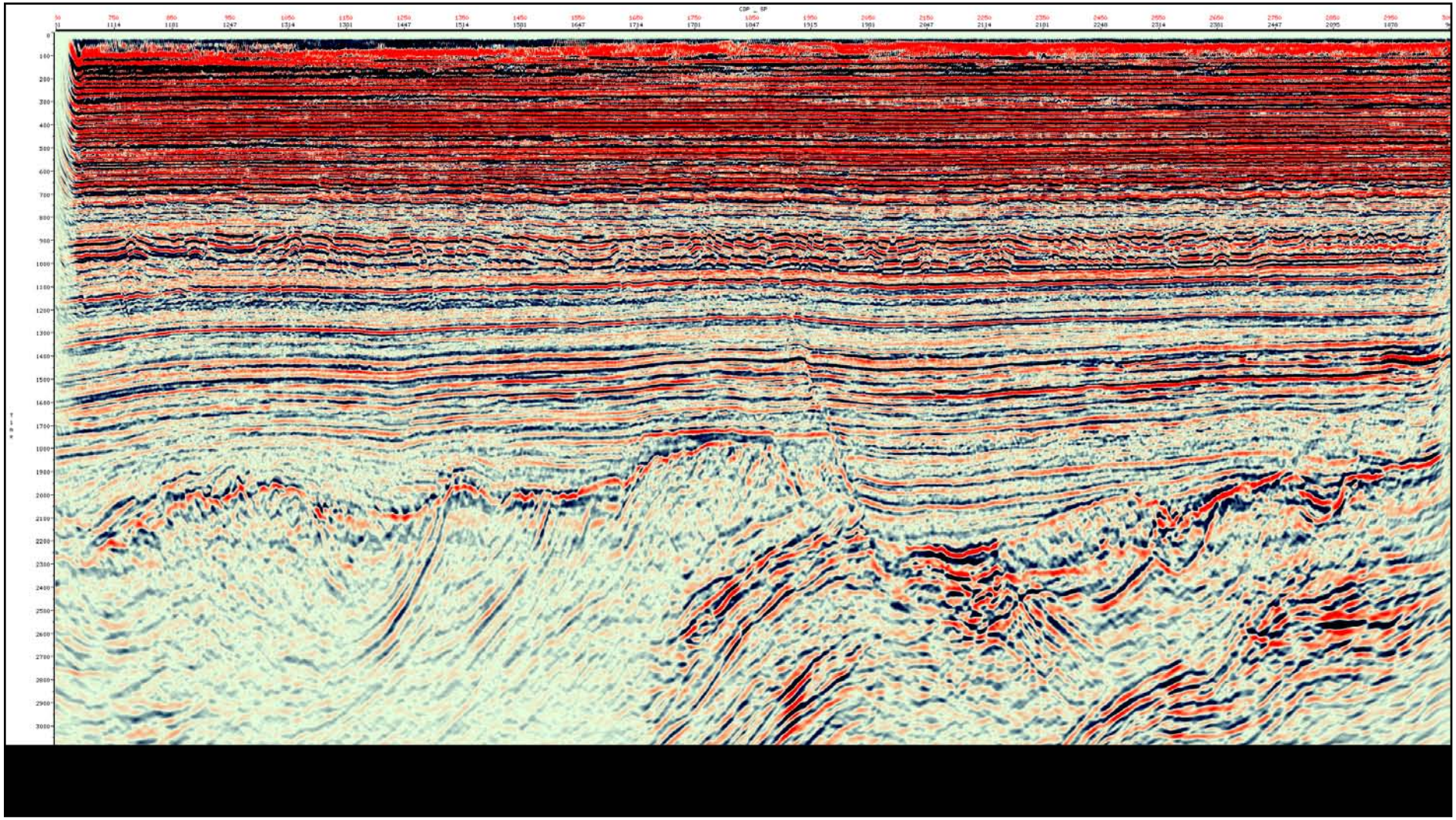
Stack - IL 1241: Reference (No Radon)



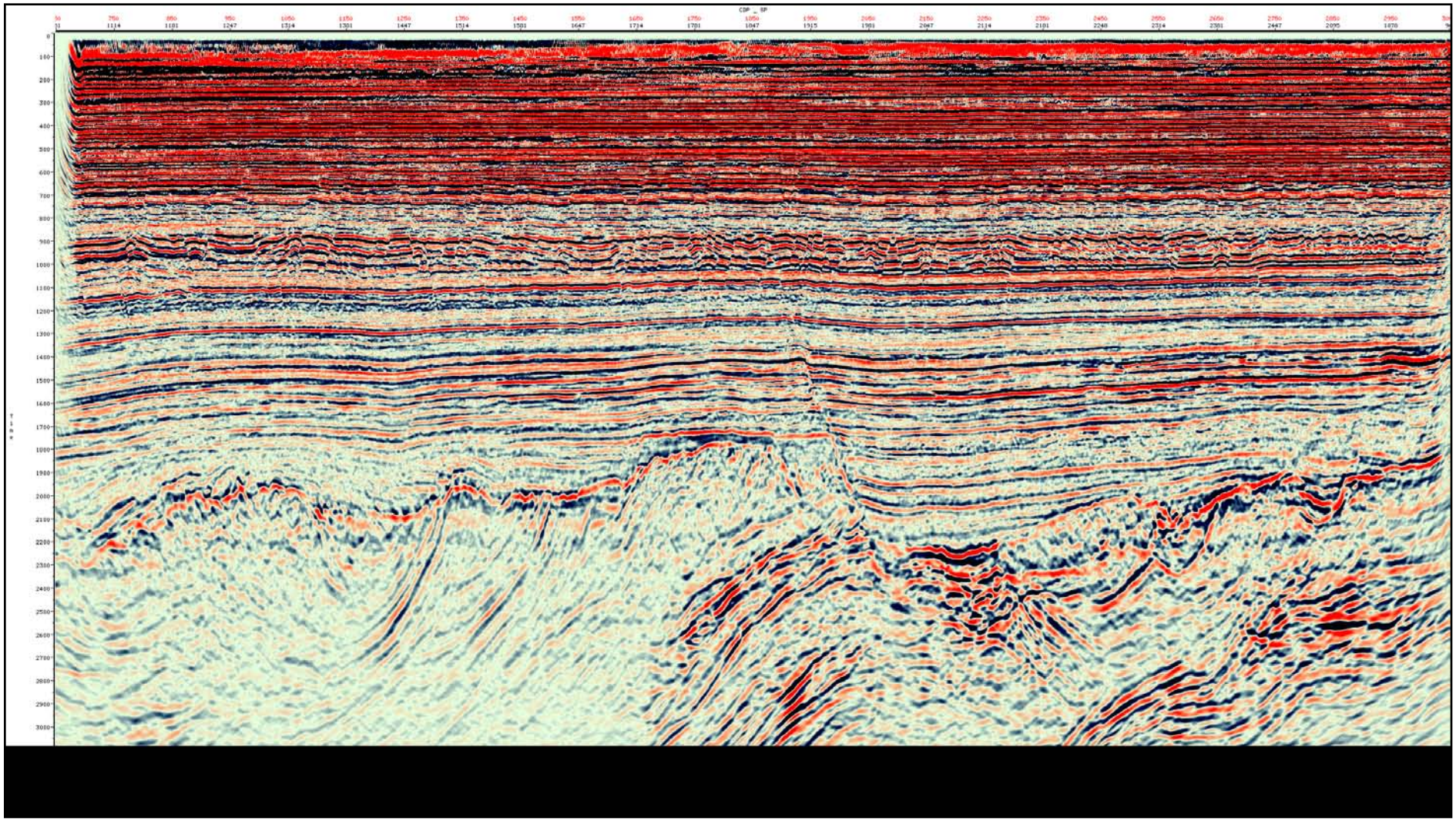
Stack - IL 1241: Radon DTCUT 80ms



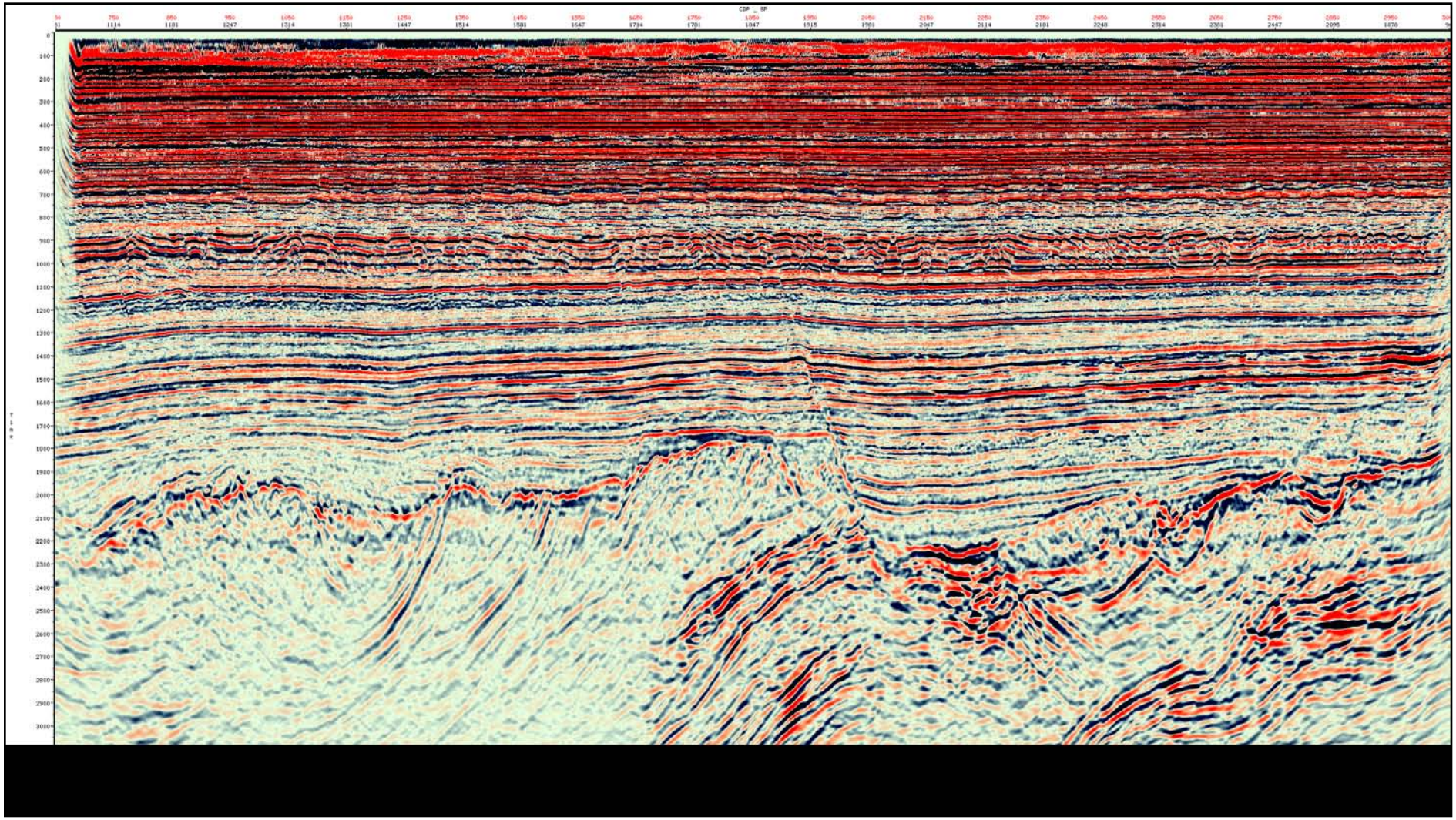
Stack - IL 1241: Radon DTCUT 100ms



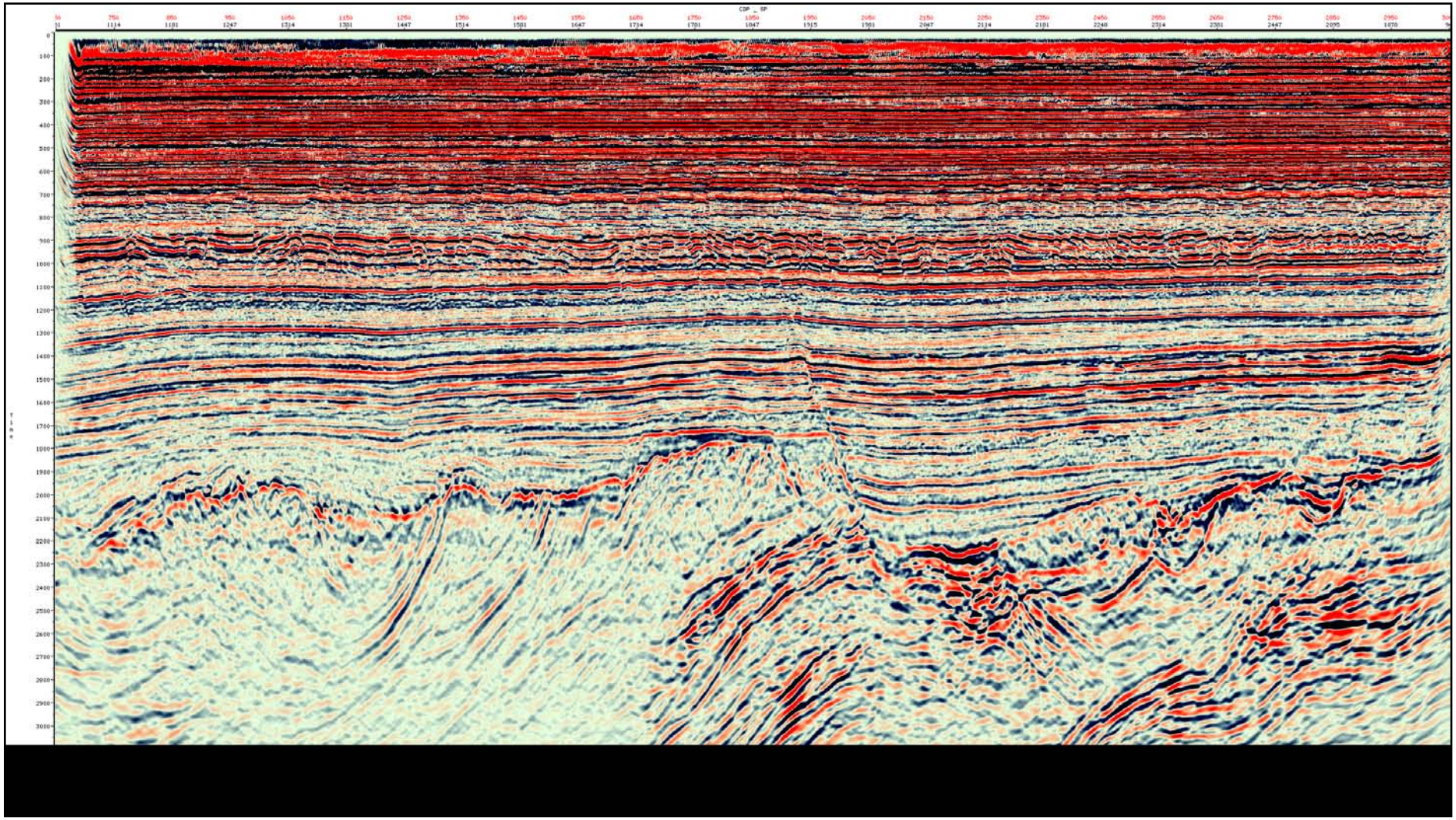
Stack - IL 1241: Radon DTCUT 120ms



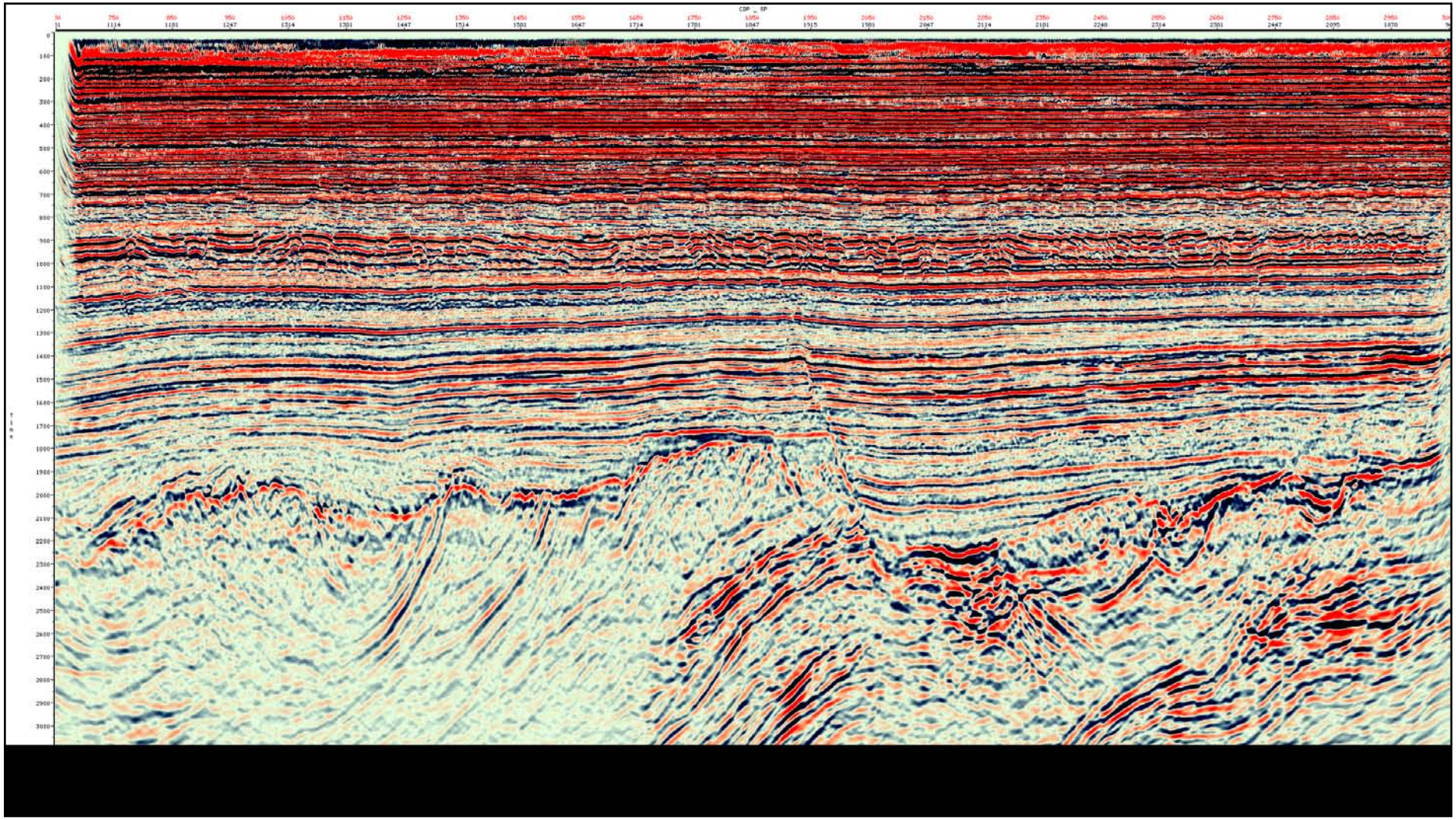
Stack - IL 1241: Radon DTCUT 140ms



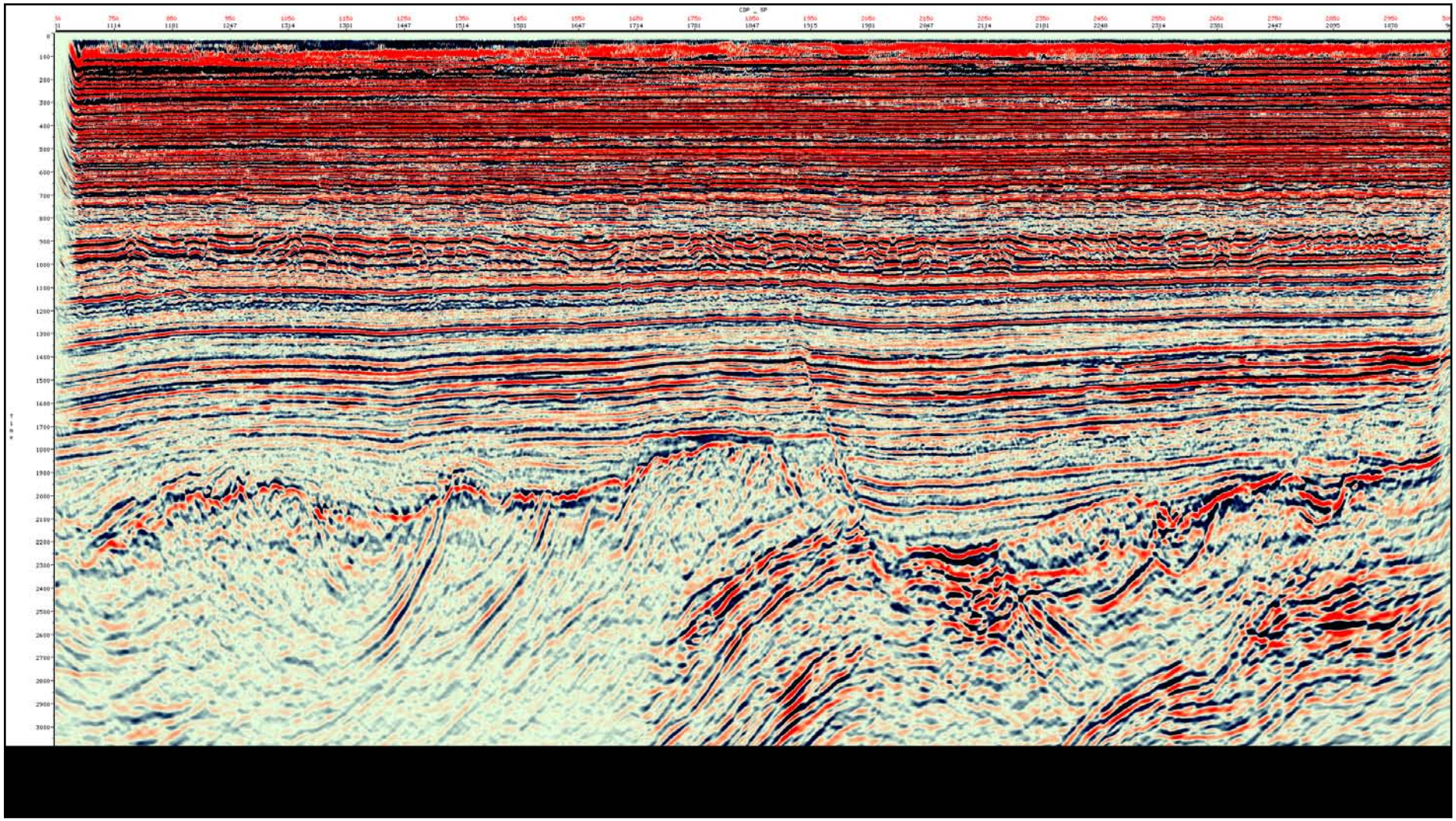
Stack - IL 1241: Radon DTCUT 160ms



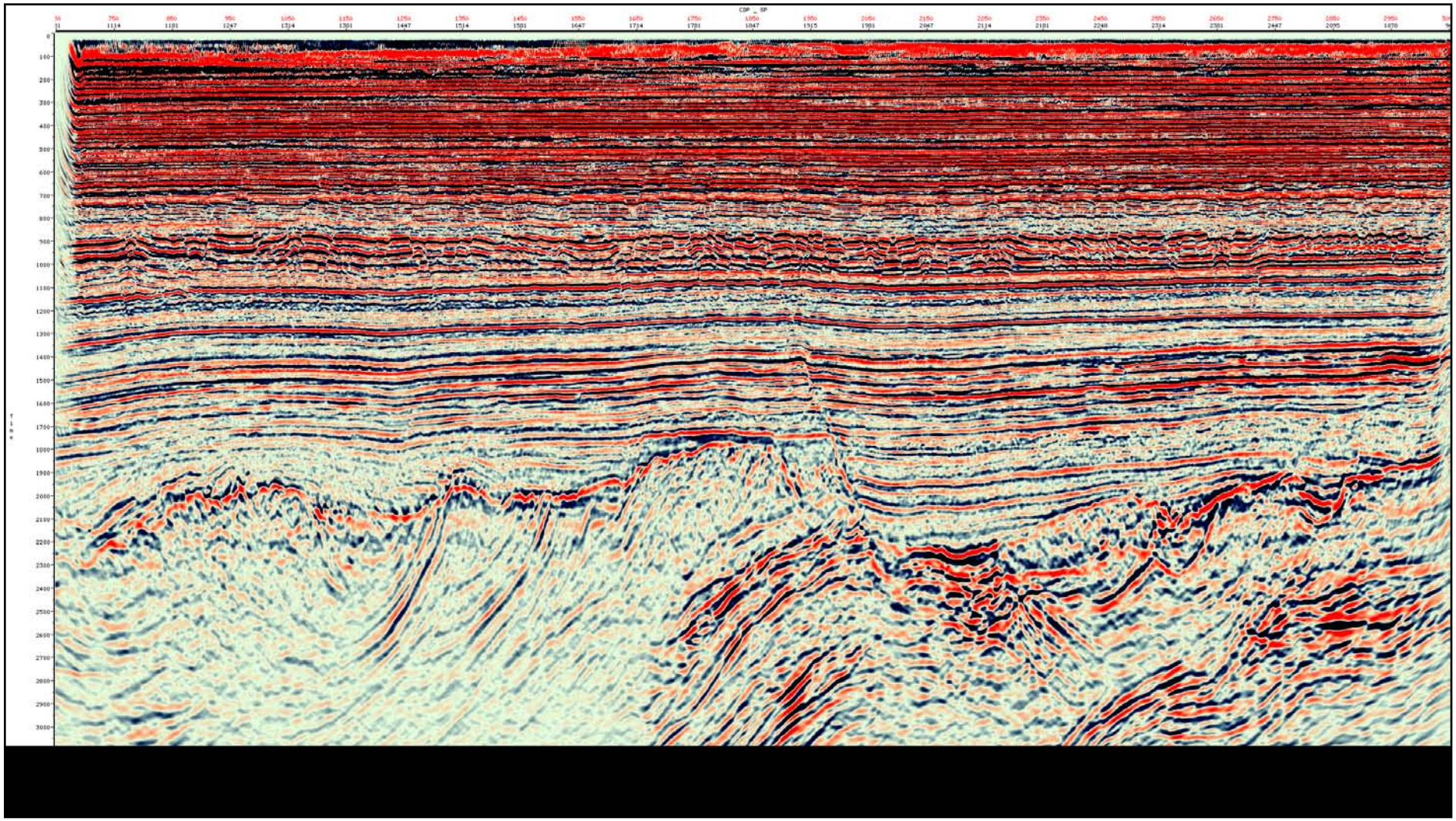
Stack - IL 1241: Radon DTCUT 200ms



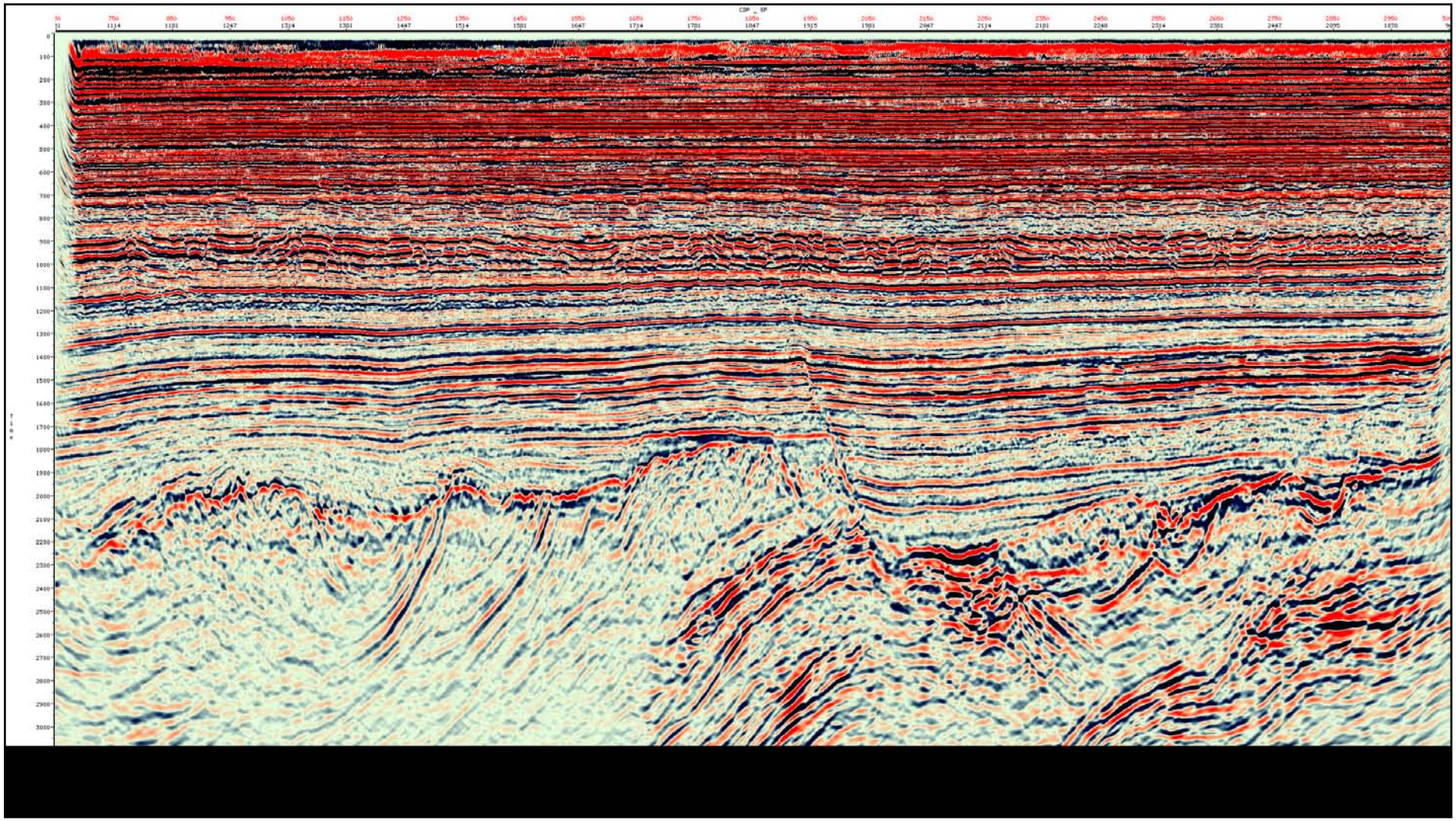
Stack - IL 1241: Radon DTCUT 240ms



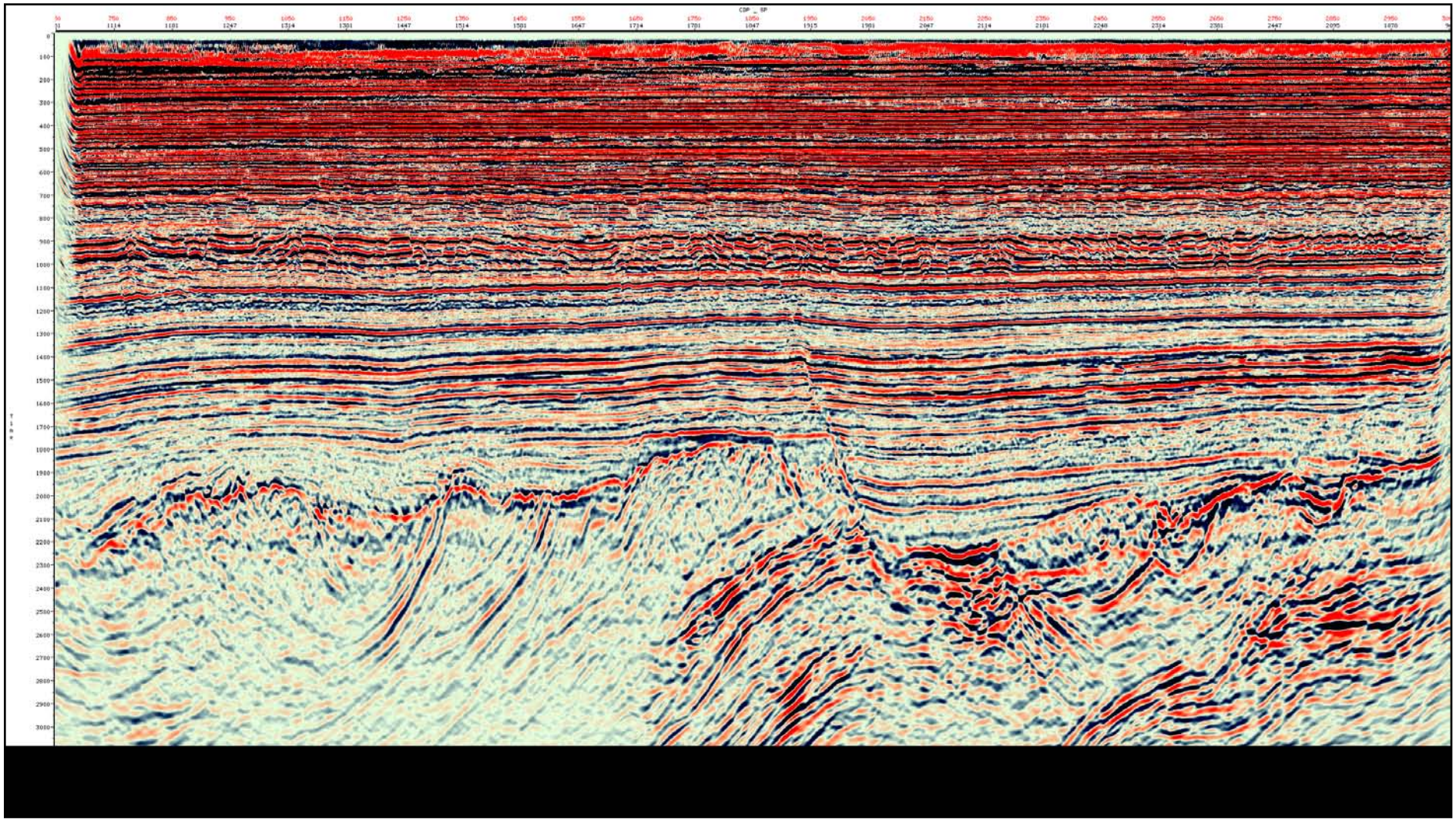
Stack - IL 1241: Radon DTCUT 280ms



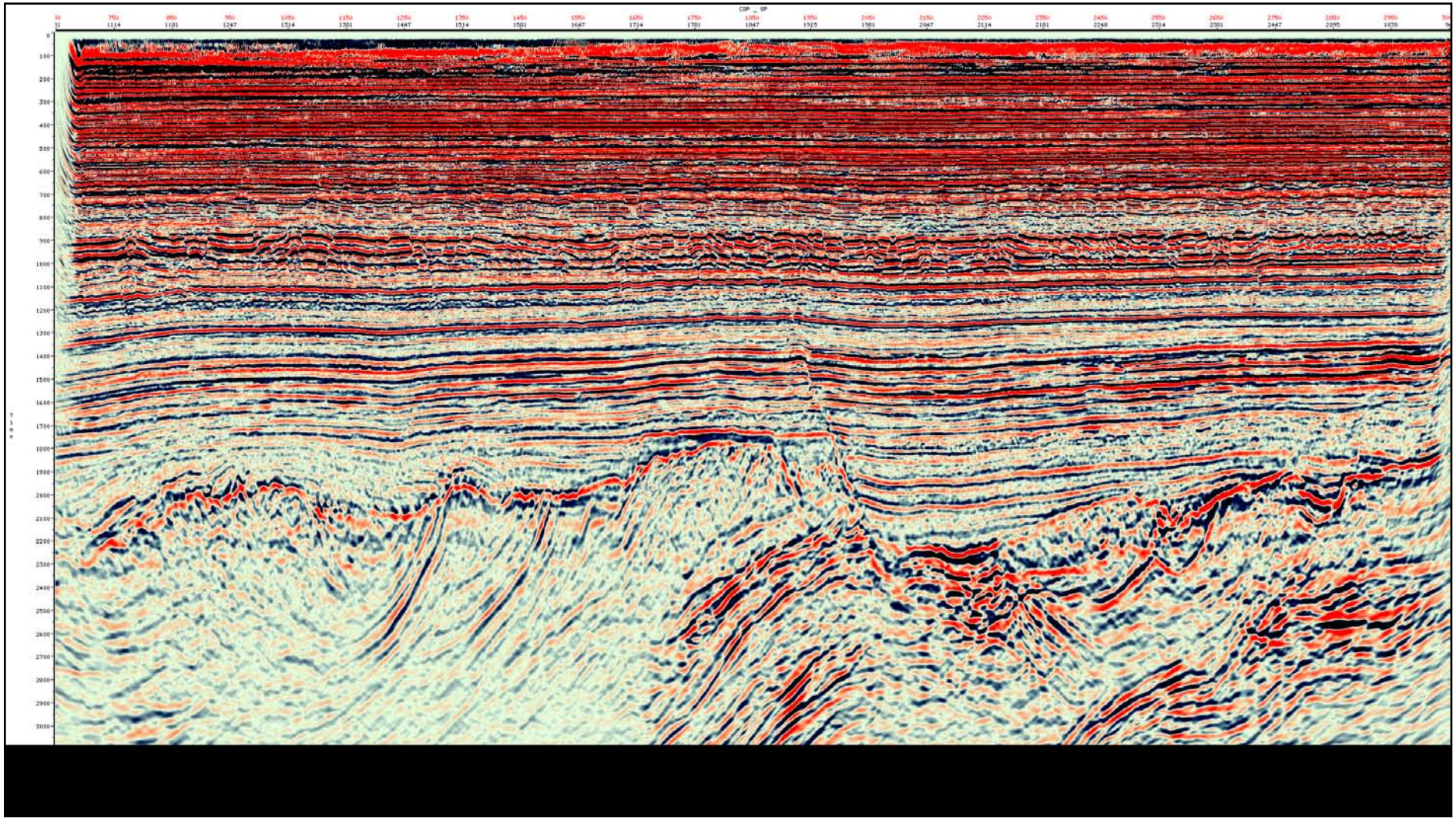
Stack - IL 1241: Radon DTCUT 320ms



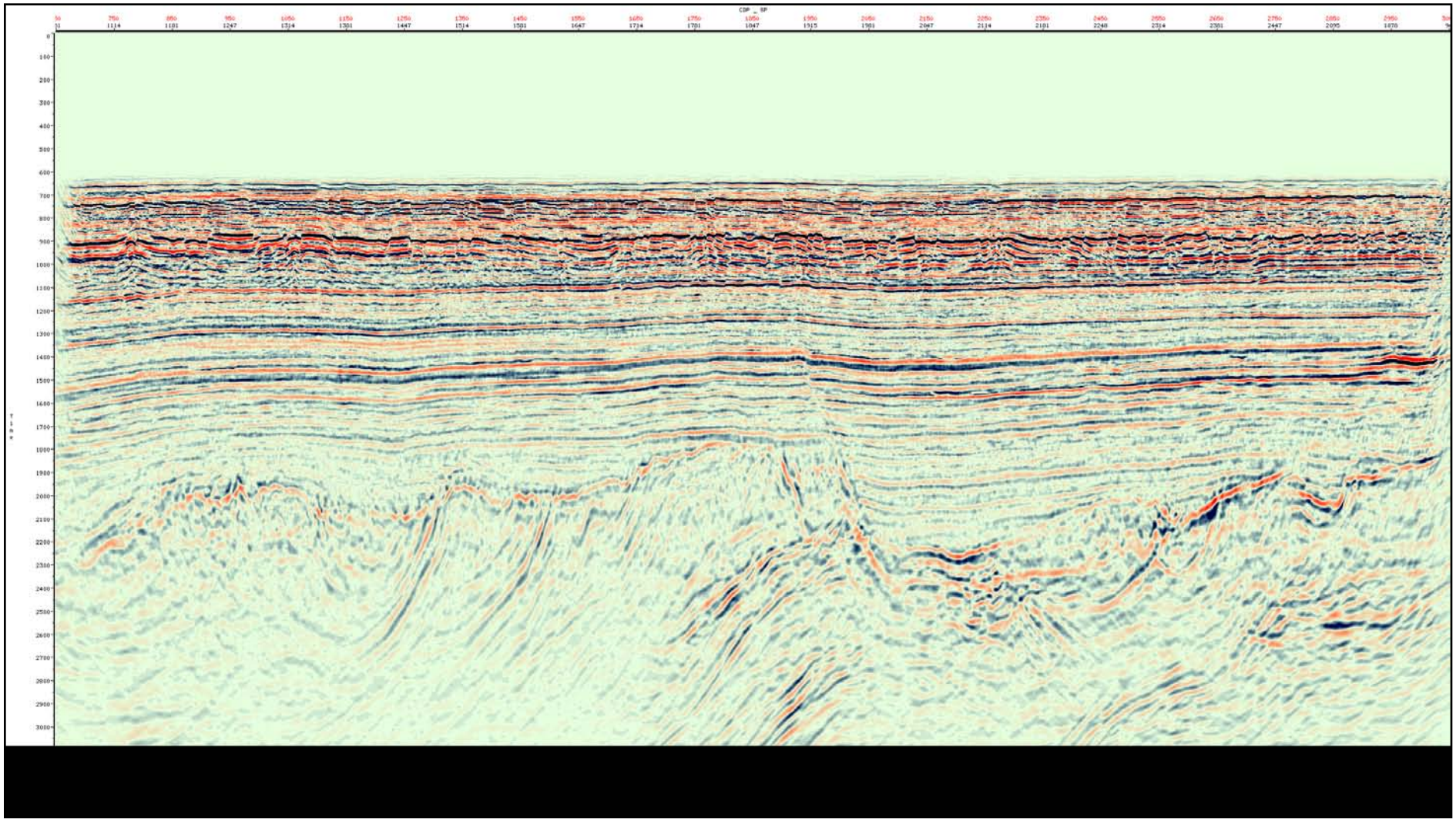
Stack - IL 1241: Radon DTCUT 360ms



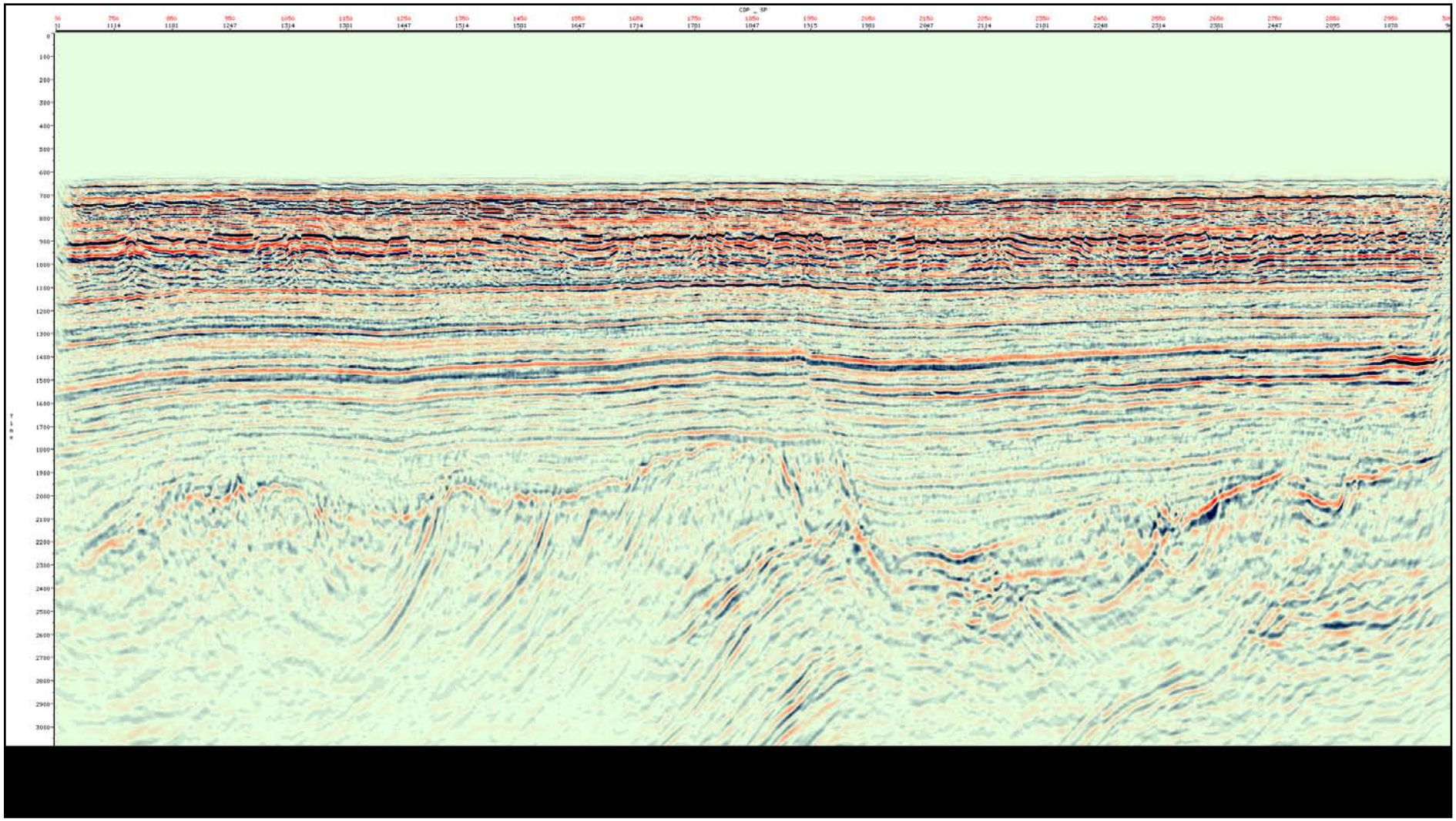
Stack - IL 1241: Radon DTCUT 400ms



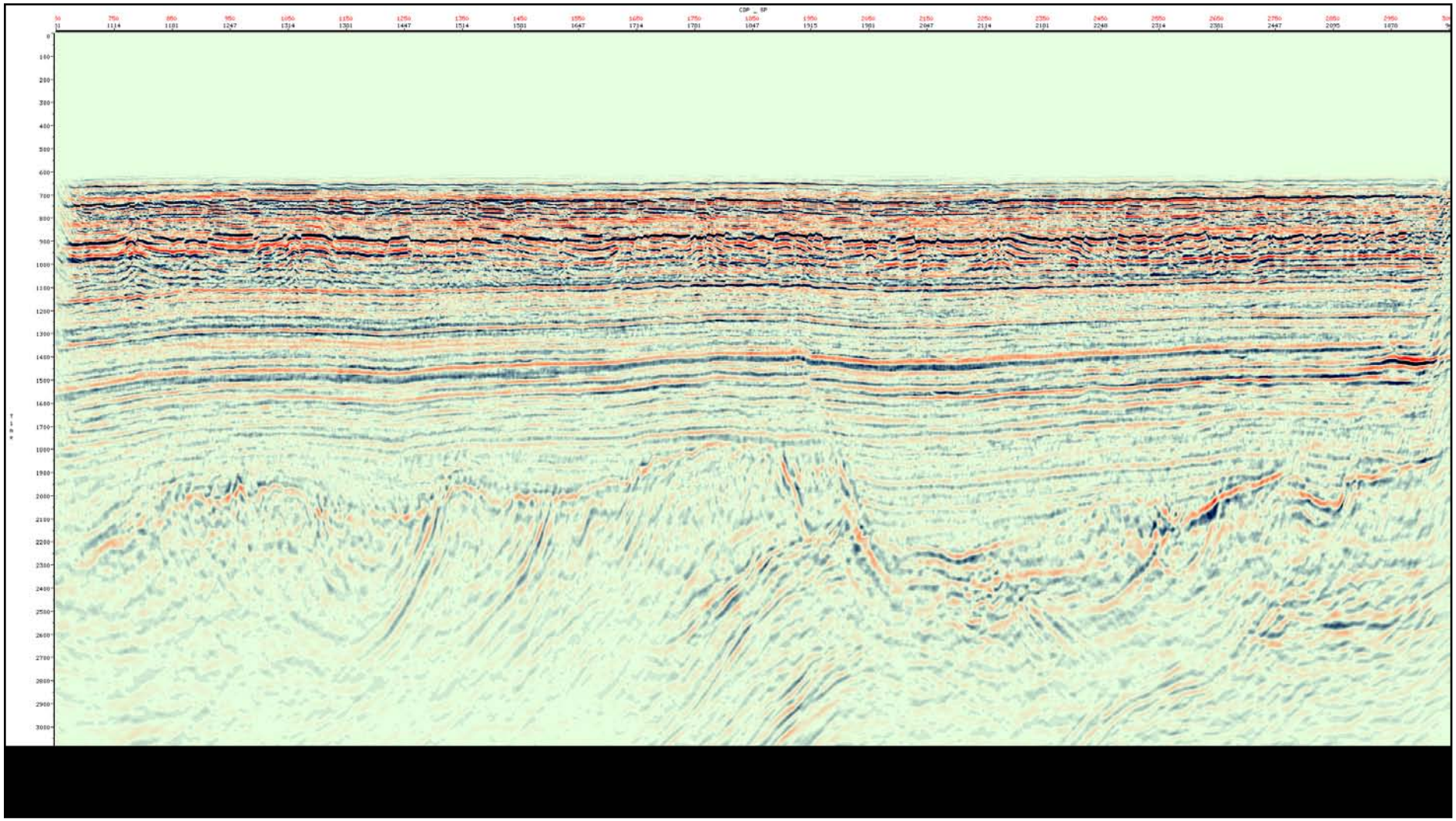
Stack - IL 1241: Difference of Radon DTCUT 80ms



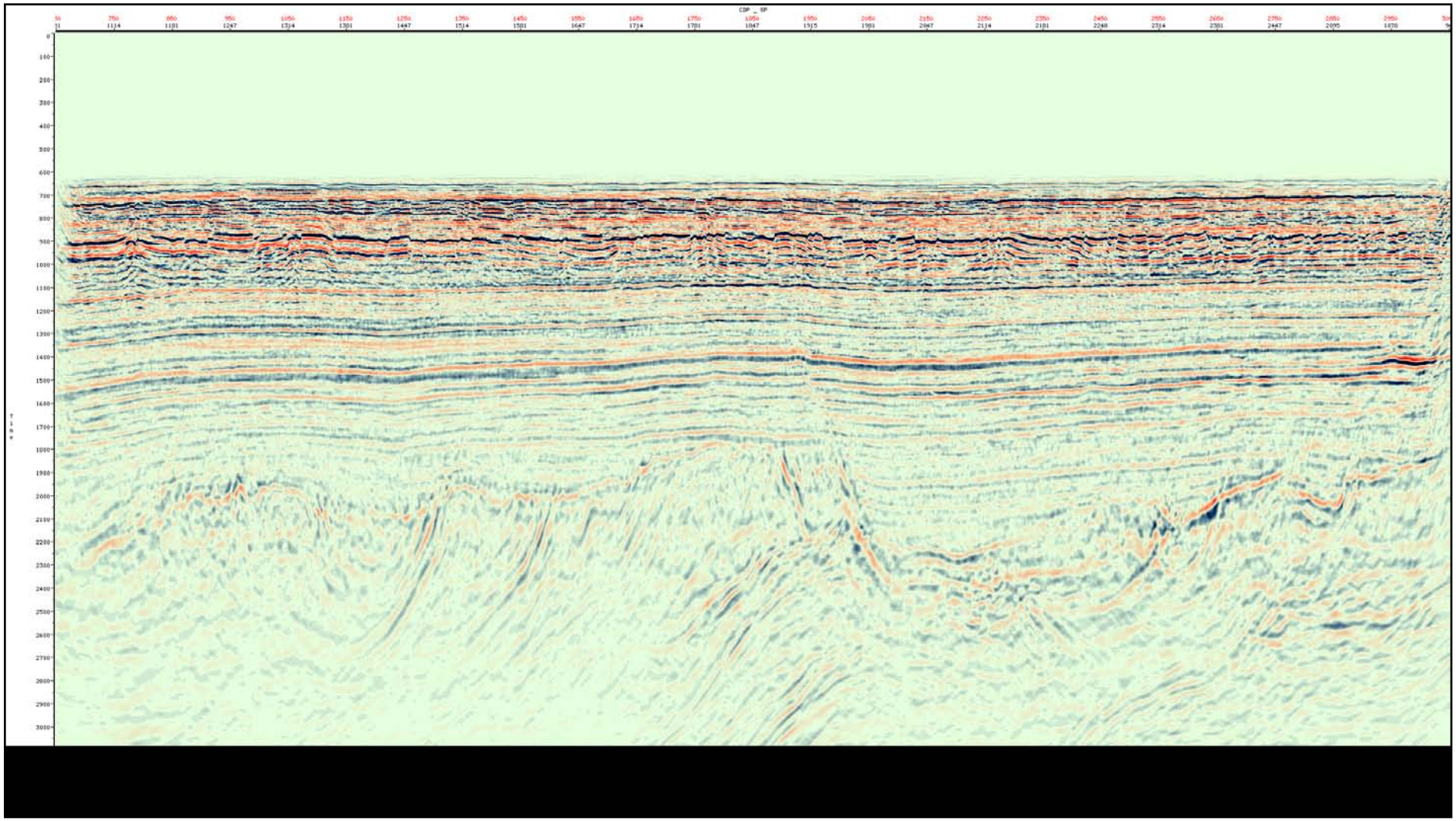
Stack - IL 1241: Difference of Radon DTCUT 100ms



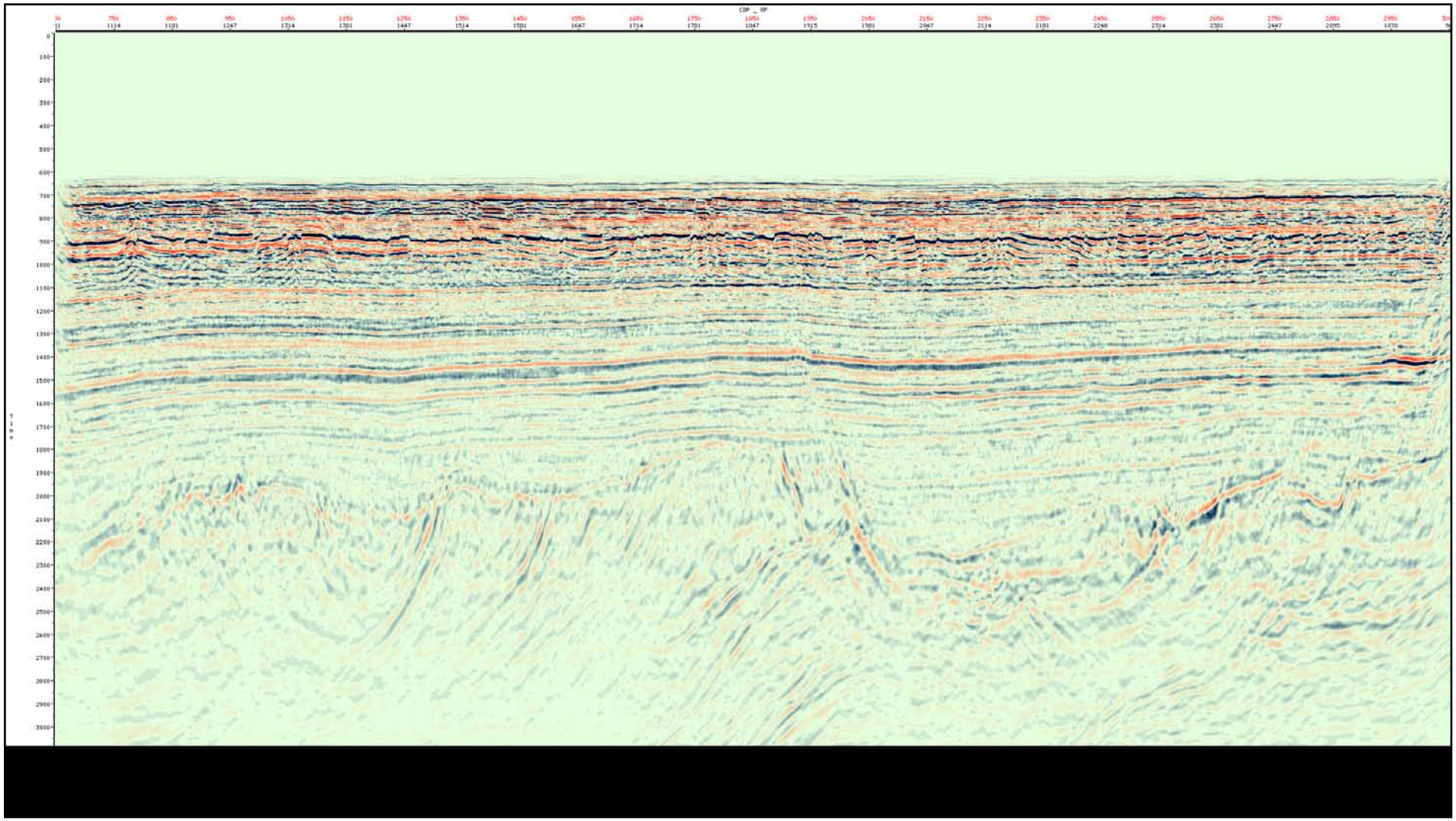
Stack - IL 1241: Difference of Radon DTCUT 120ms



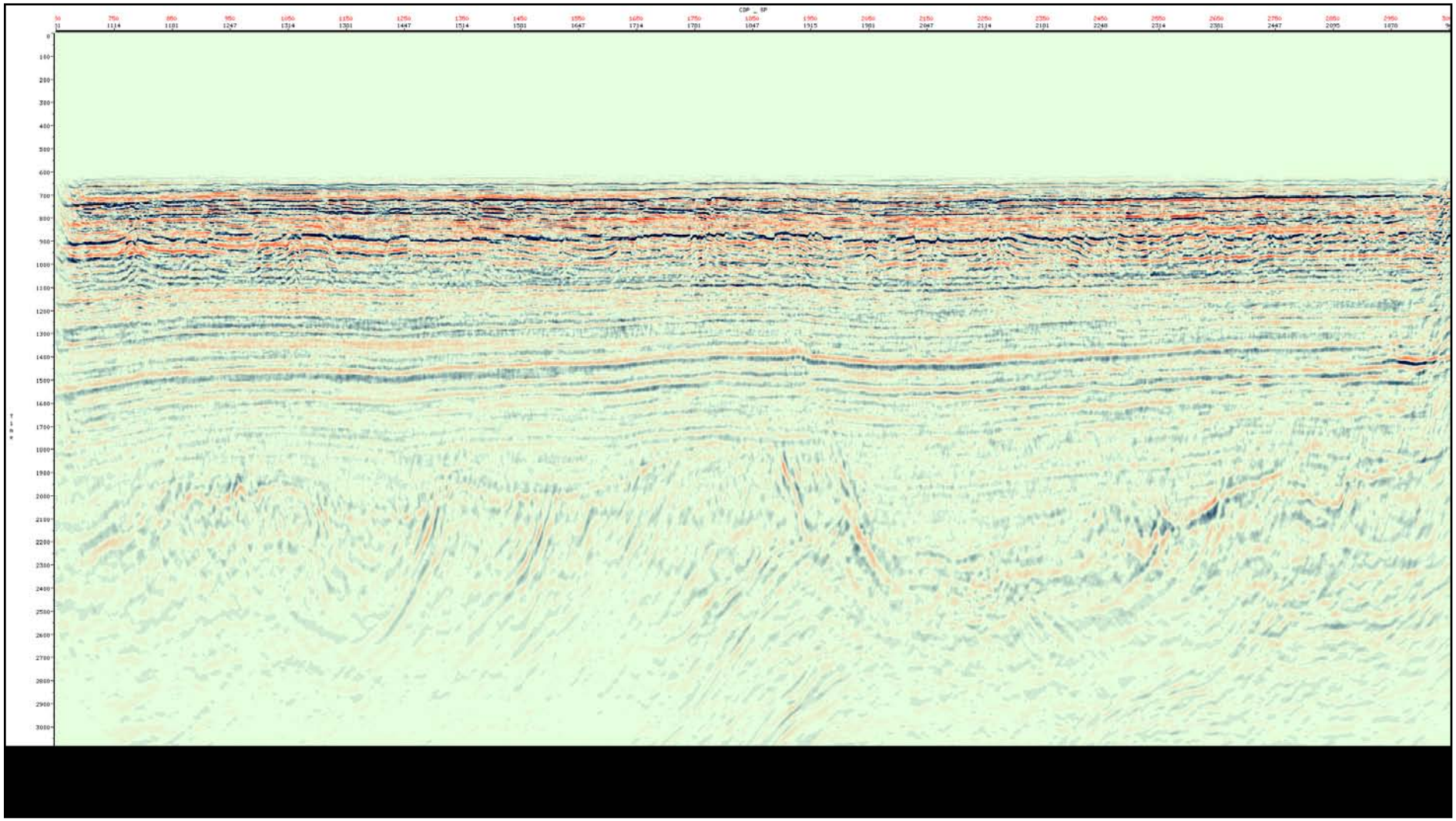
Stack - IL 1241: Difference of Radon DTCUT 140ms



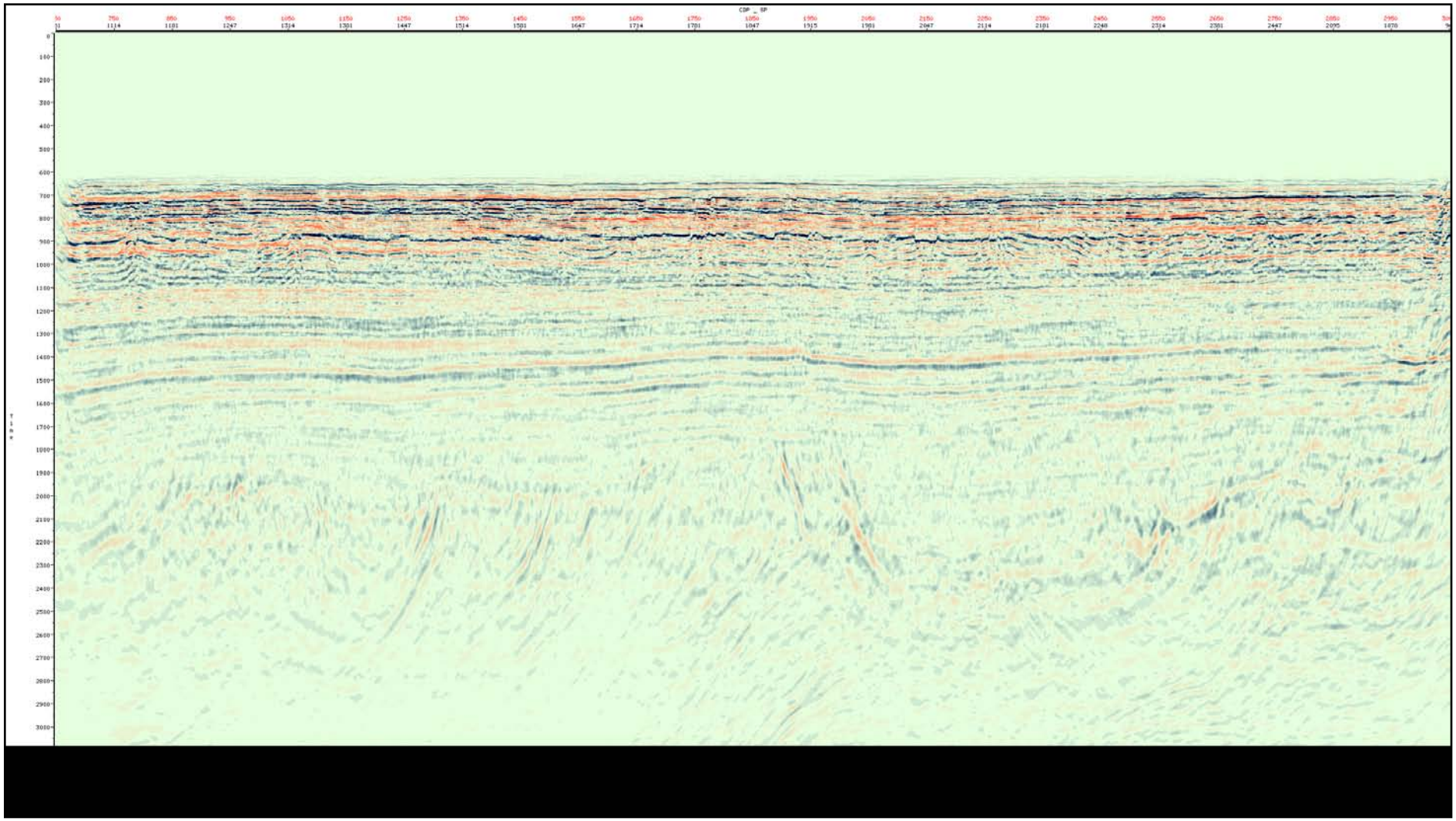
Stack - IL 1241: Difference of Radon DTCUT 160ms



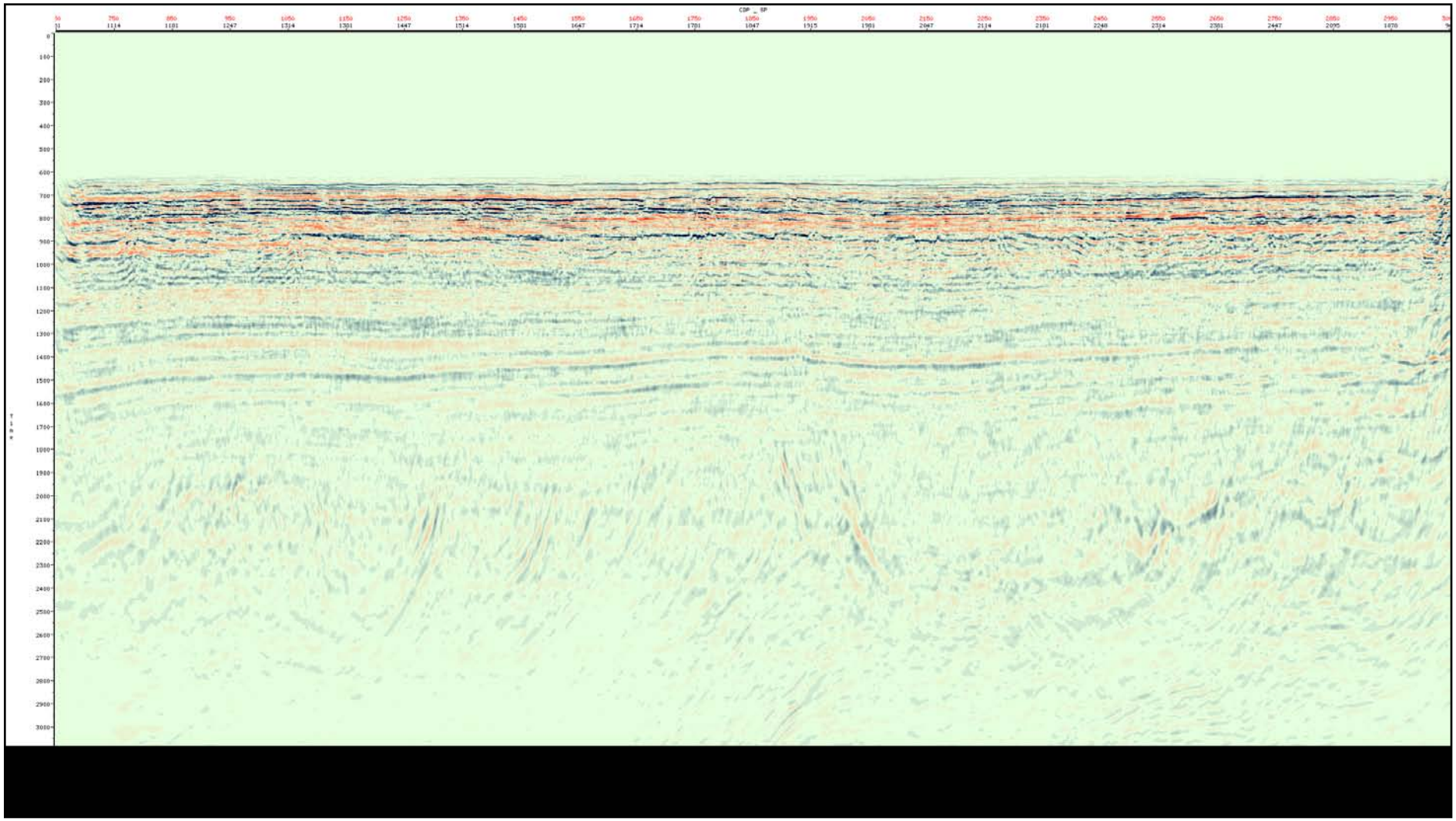
Stack - IL 1241: Difference of Radon DTCUT 200ms



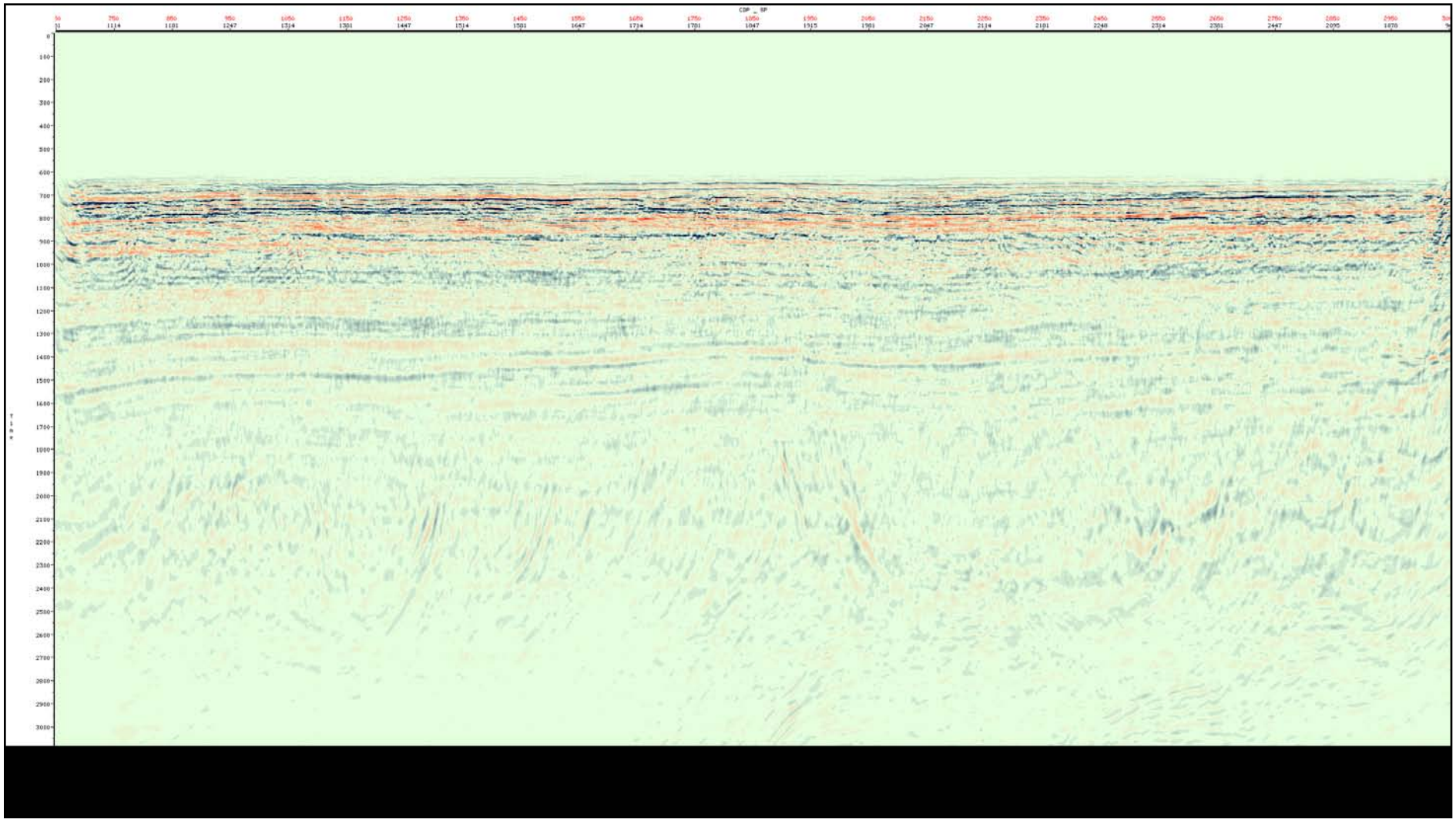
Stack - IL 1241: Difference of Radon DTCUT 240ms



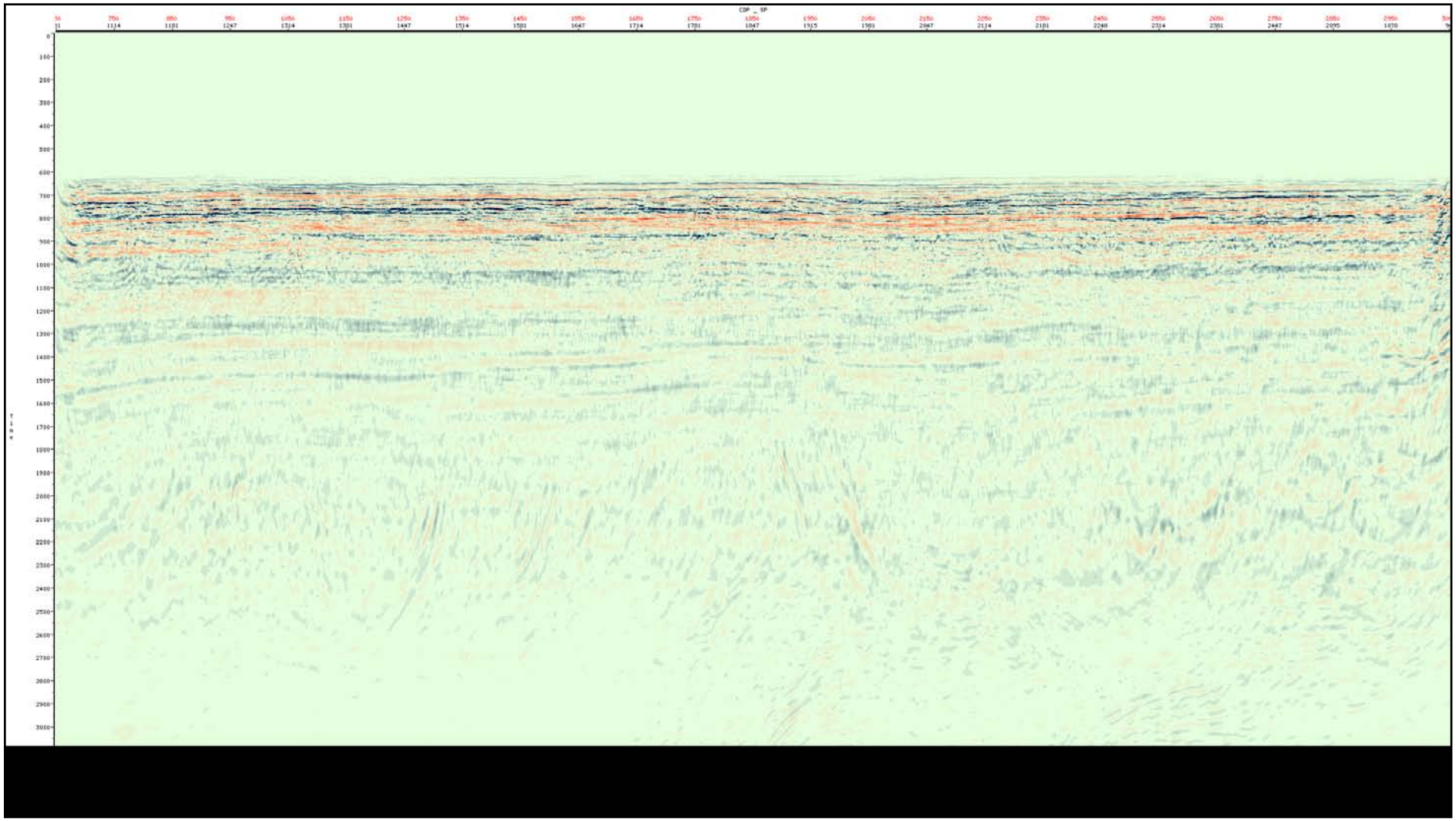
Stack - IL 1241: Difference of Radon DTCUT 280ms



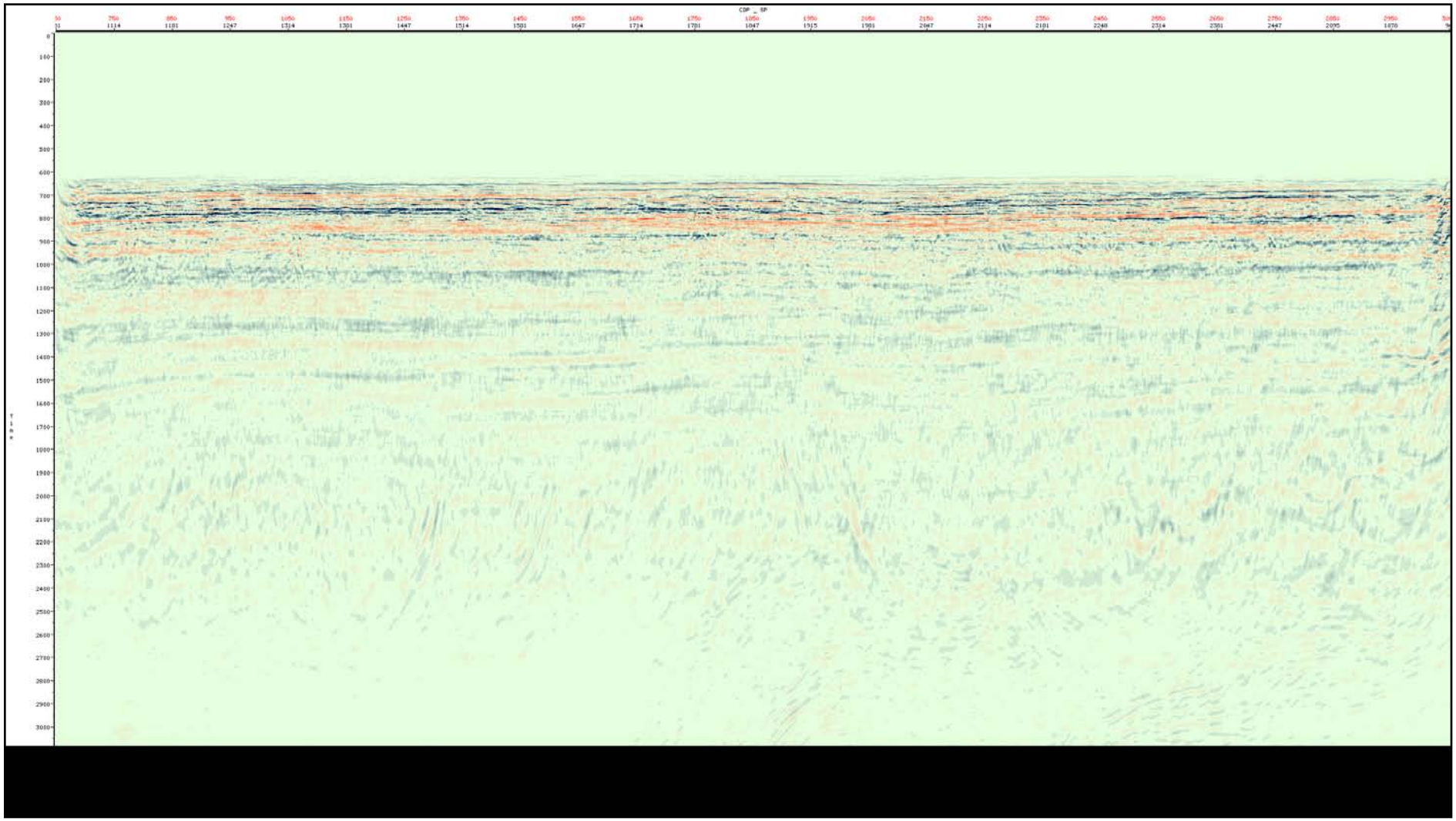
Stack - IL 1241: Difference of Radon DTCUT 320ms



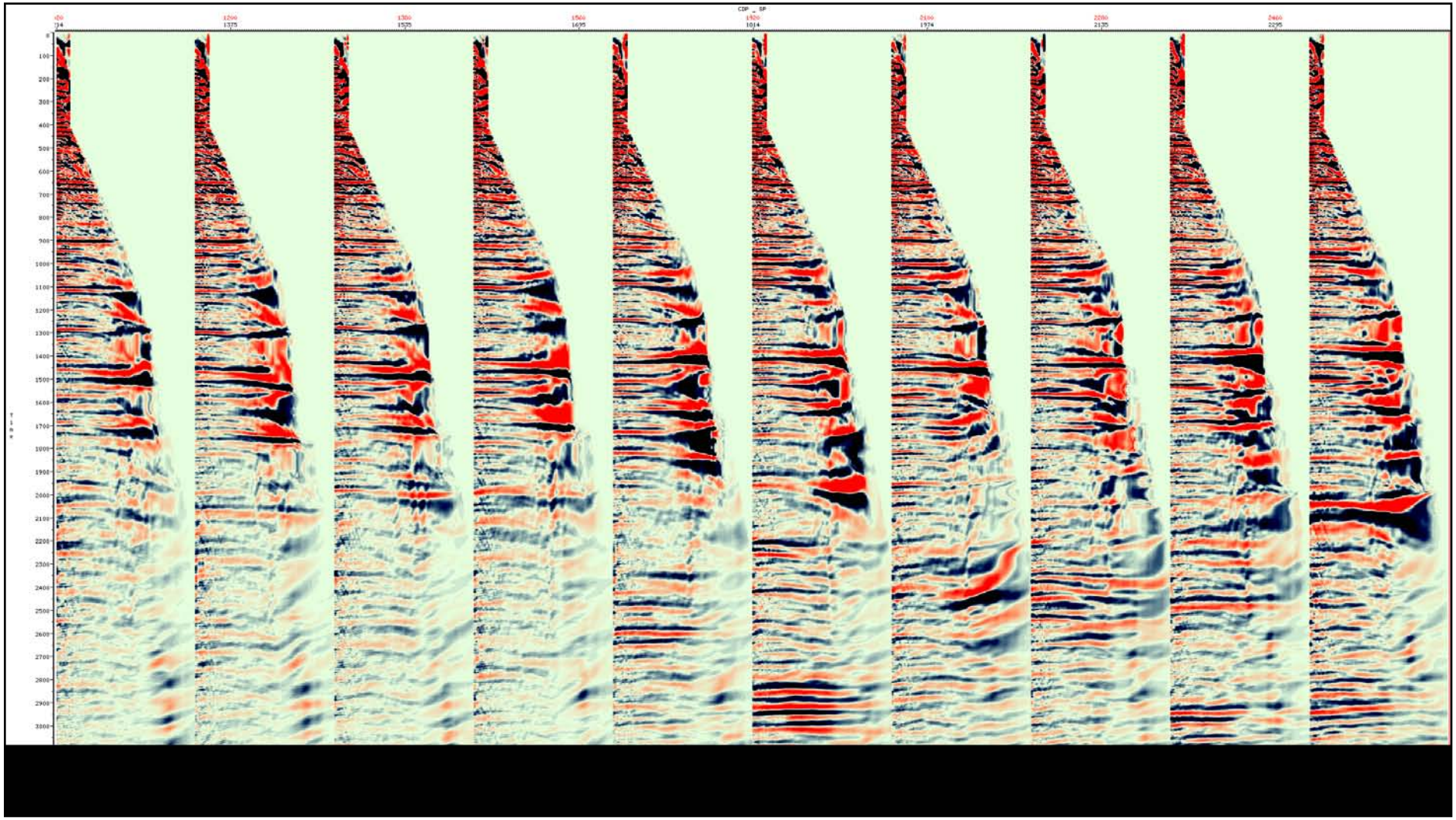
Stack - IL 1241: Difference of Radon DTCUT 360ms



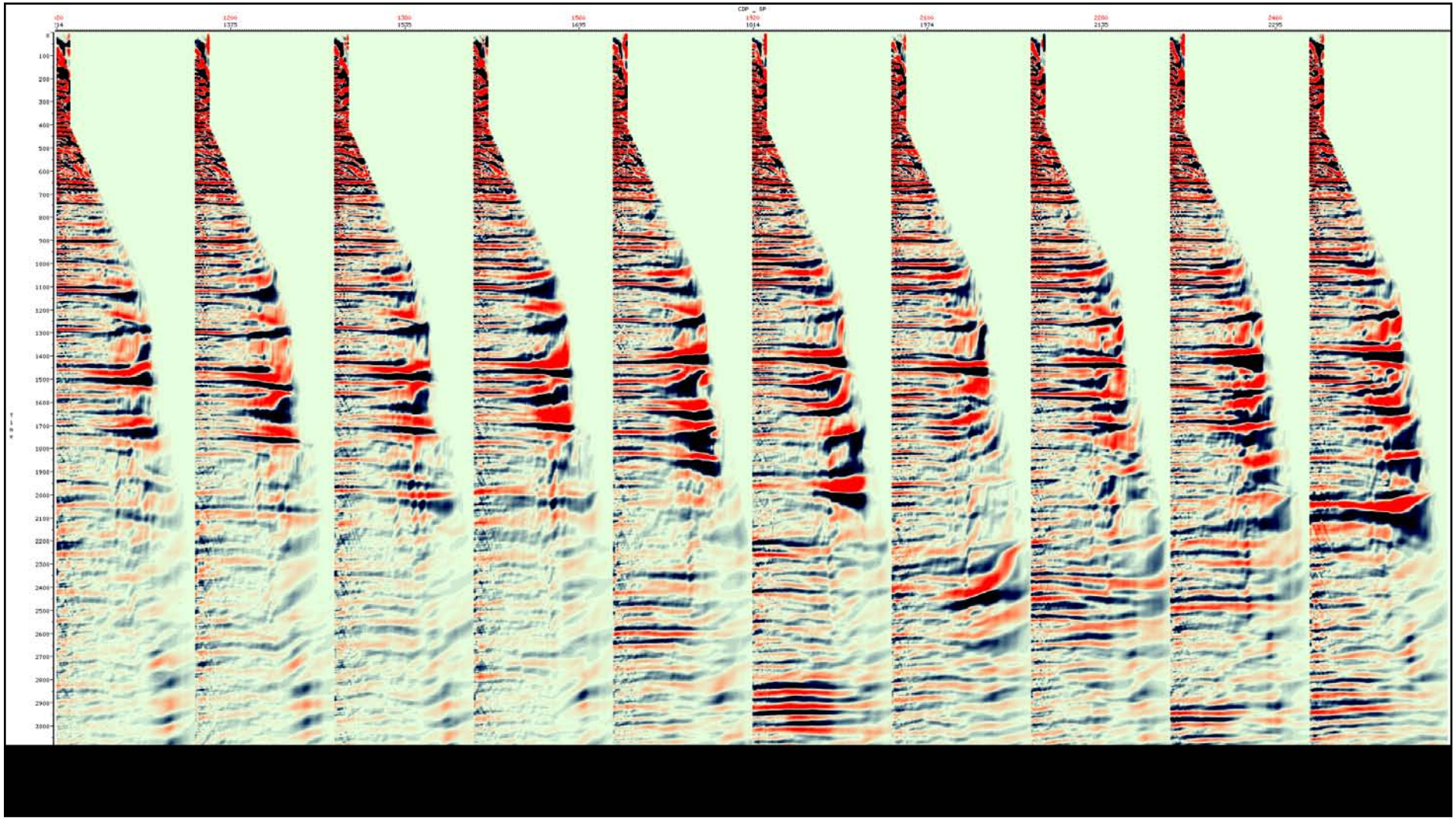
Stack - IL 1241: Difference of Radon DTCUT 400ms



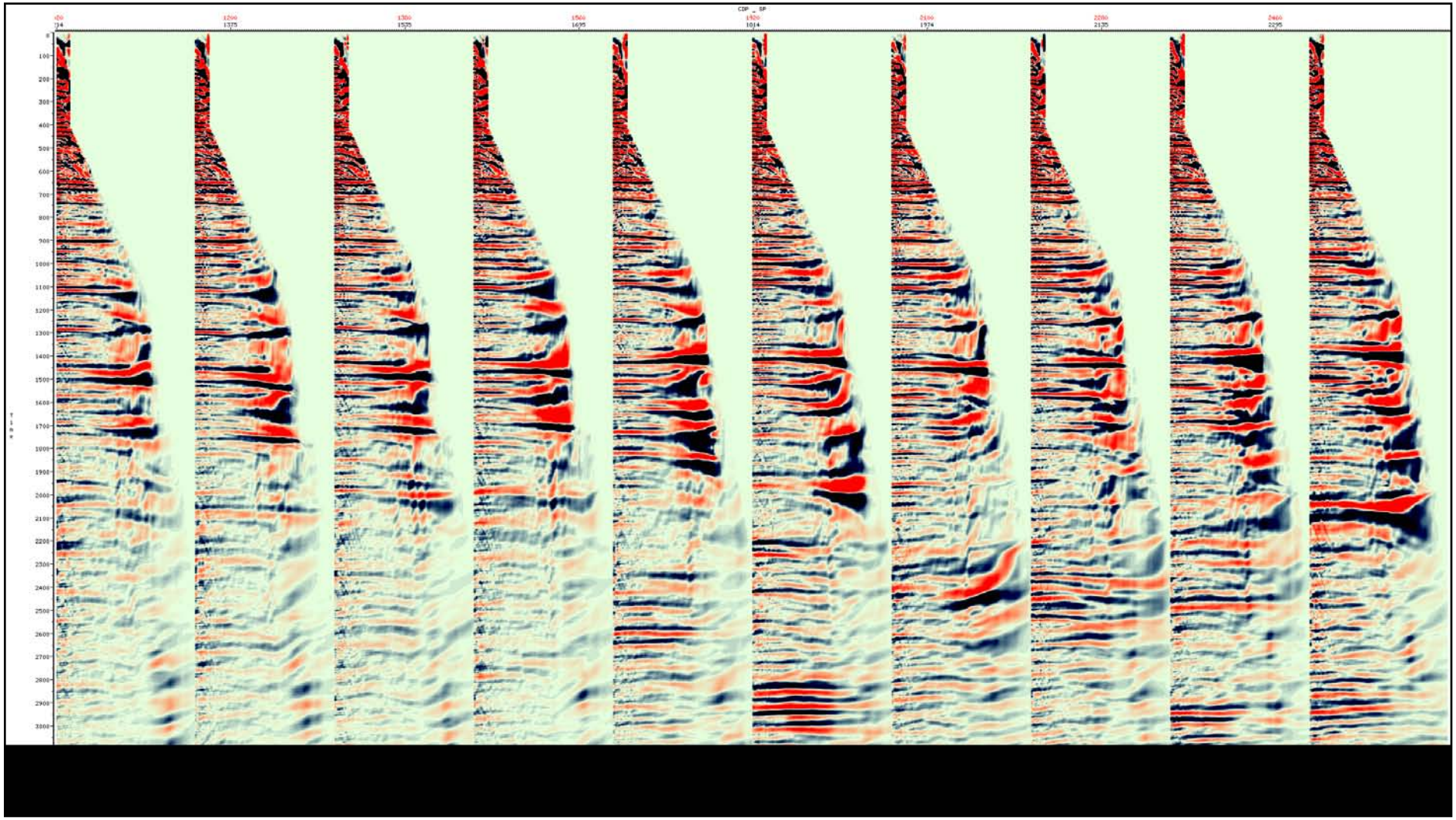
CDP - IL 1241: Reference (No Radon)



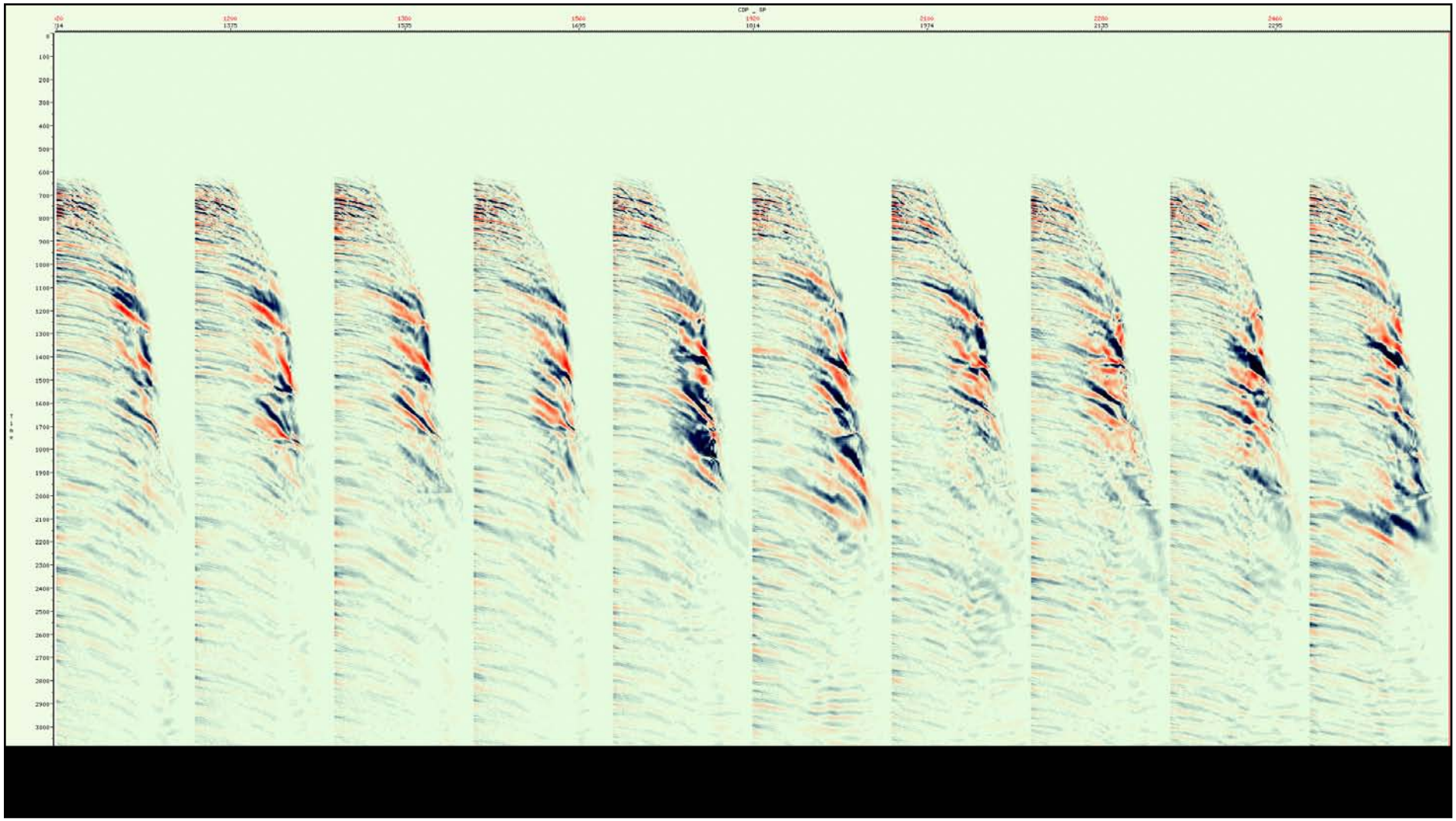
CDP - IL 1241: Radon DTCUT 240ms



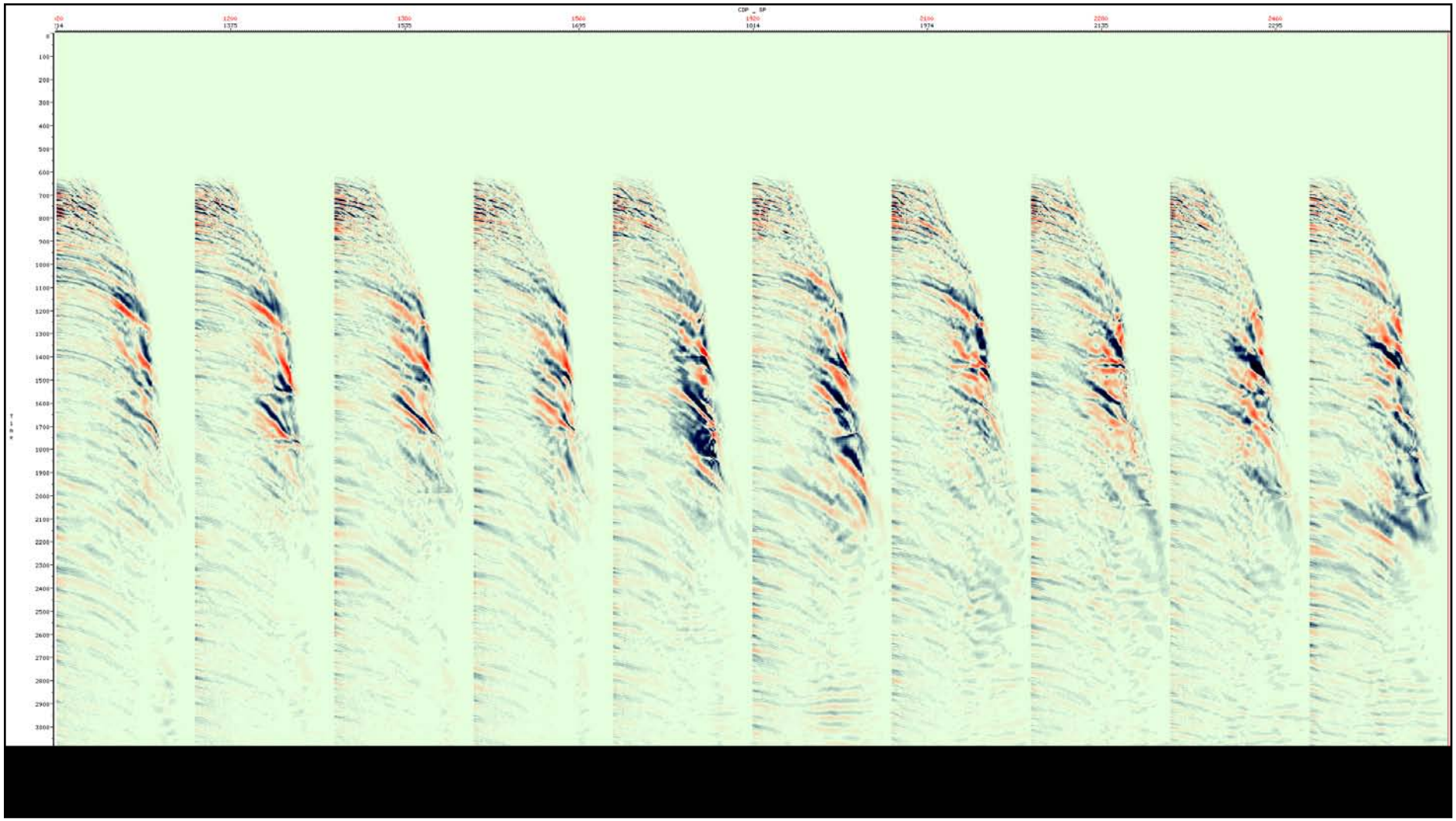
CDP - IL 1241: Radon DTCUT 320ms



CDP - IL 1241: Difference of Radon DTCUT 240ms



CDP - IL 1241: Difference of Radon DTCUT 320ms



Conclusions & Recommendations

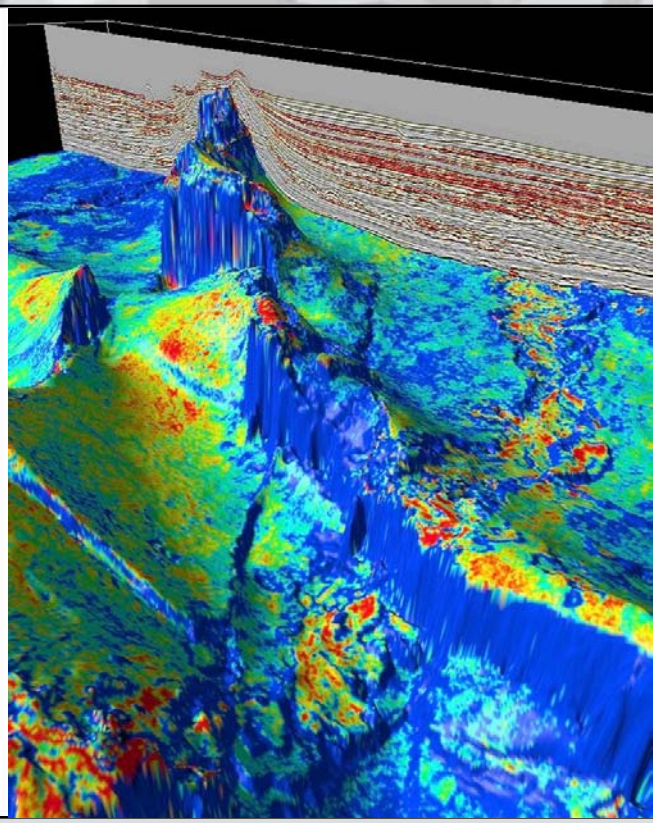
CGGV Recommend:

- Time variant Radon Demultiple

Time 0-1400ms, DTCUT 320ms

Time 2000-600ms, DTCUT 240ms

Technical Note 10
Linear Radon
Silvereye 3D



CGGVERITAS

Introduction

Testing was carried out on inline 1241 to remove linear Noise in the far offset.

Test:

1. Linear Radon, applied only from OC 50 (offset 3870m) to OC 80 (end), start time 2000ms end time 4000ms

Processing Sequence to date

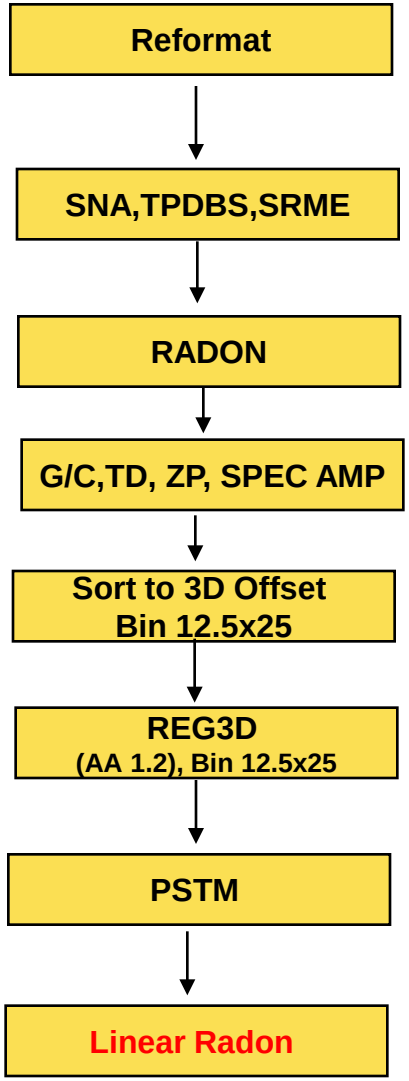
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D
- Replace T2 with TV Ursin (offset term)
- PSTM: Ray Trace, Dip Lim 75, Aperture 4 km, Smoothed V2 Velocity

Current Test

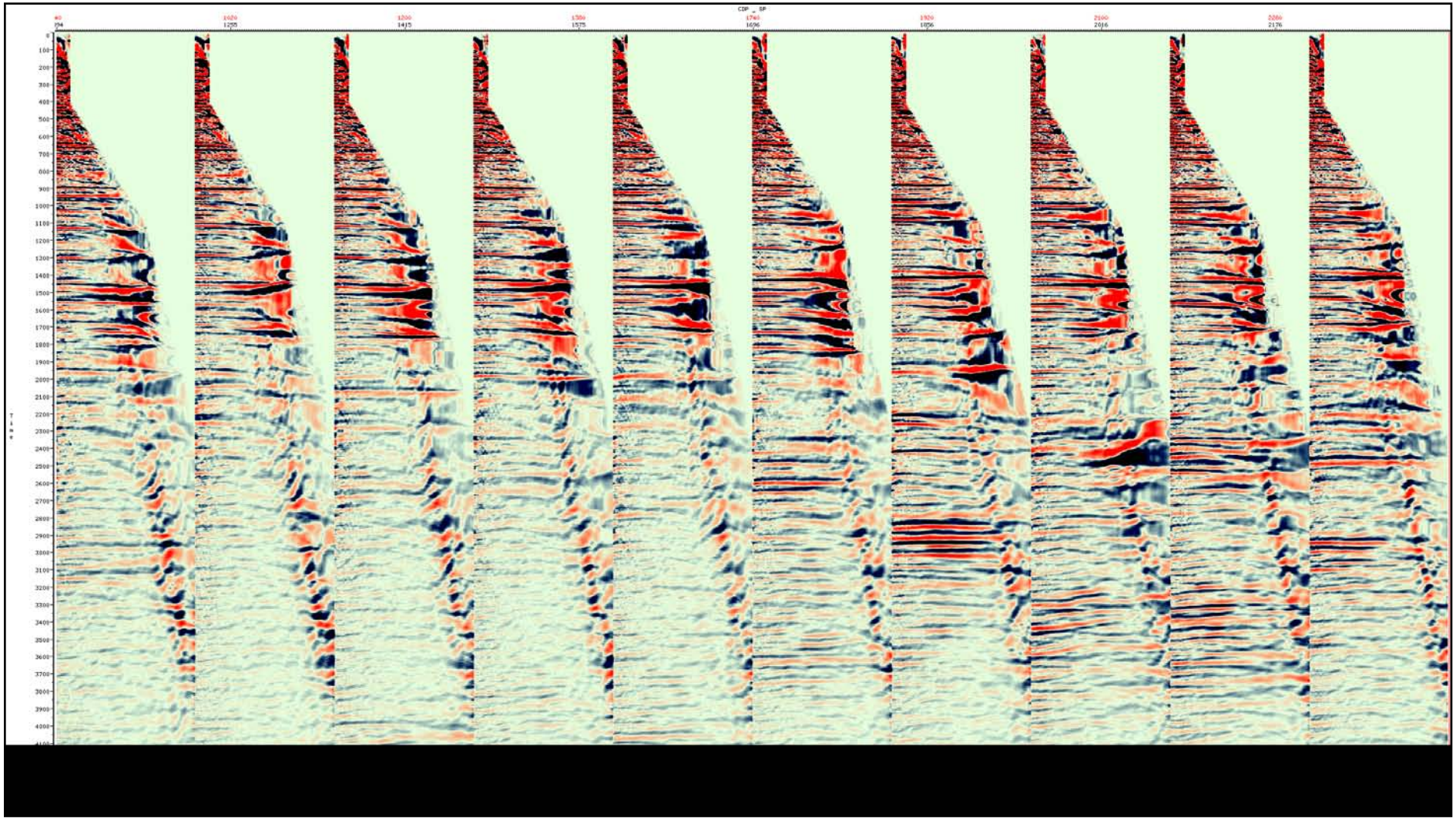
- **Linear Radon**

Proc Flow: PSTM

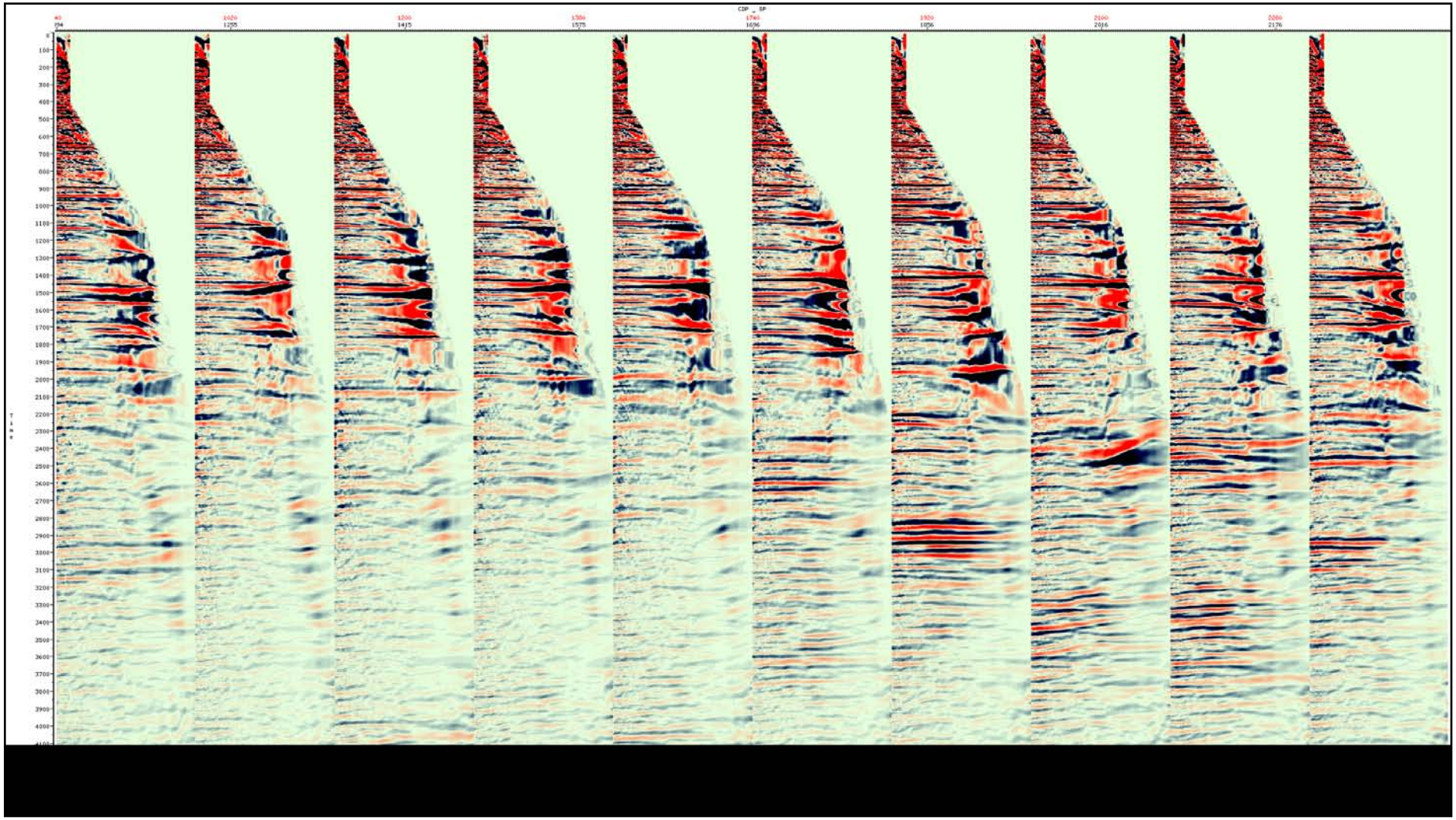


Linea Radon

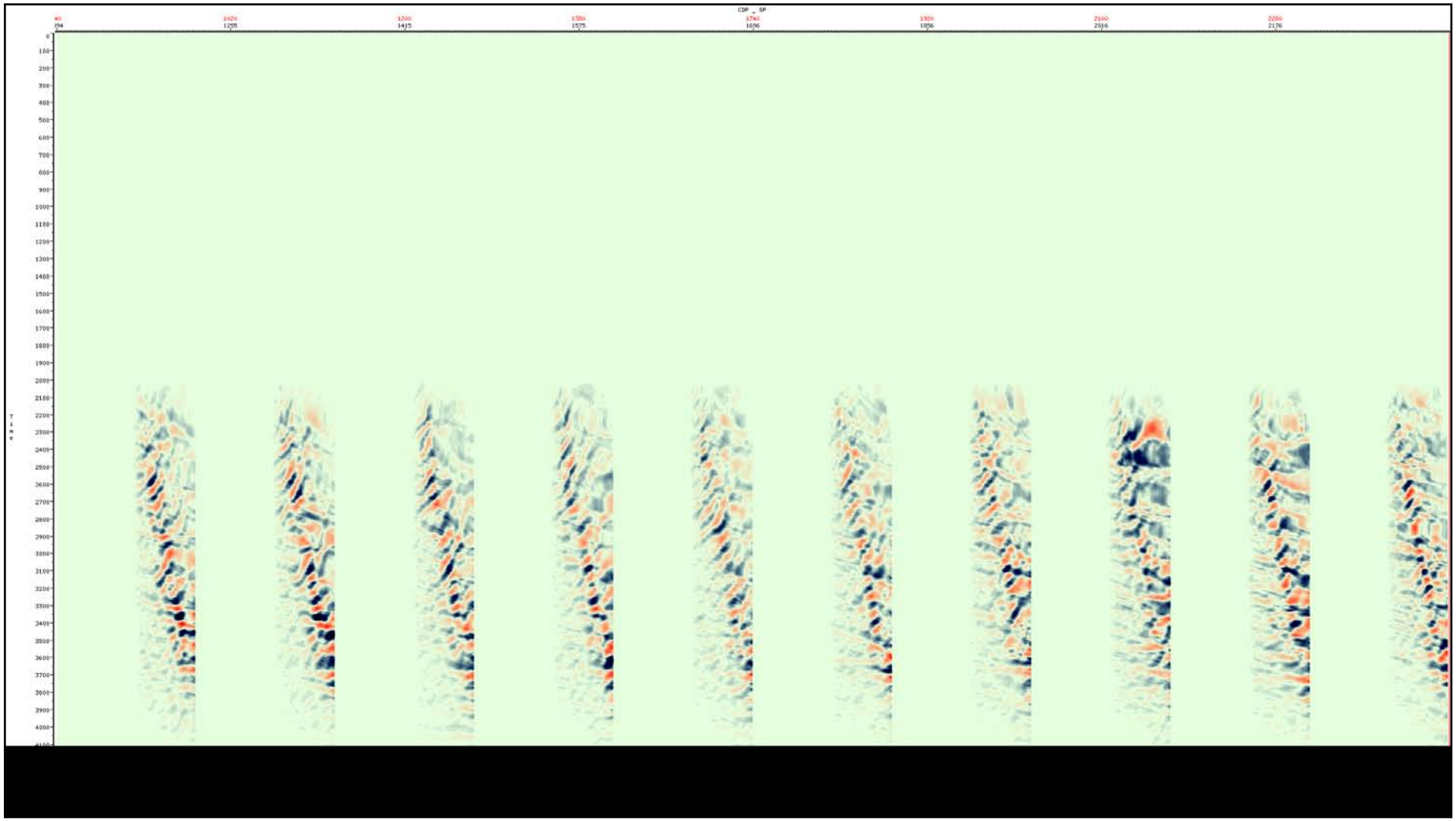
CDP - IL 1241: Input



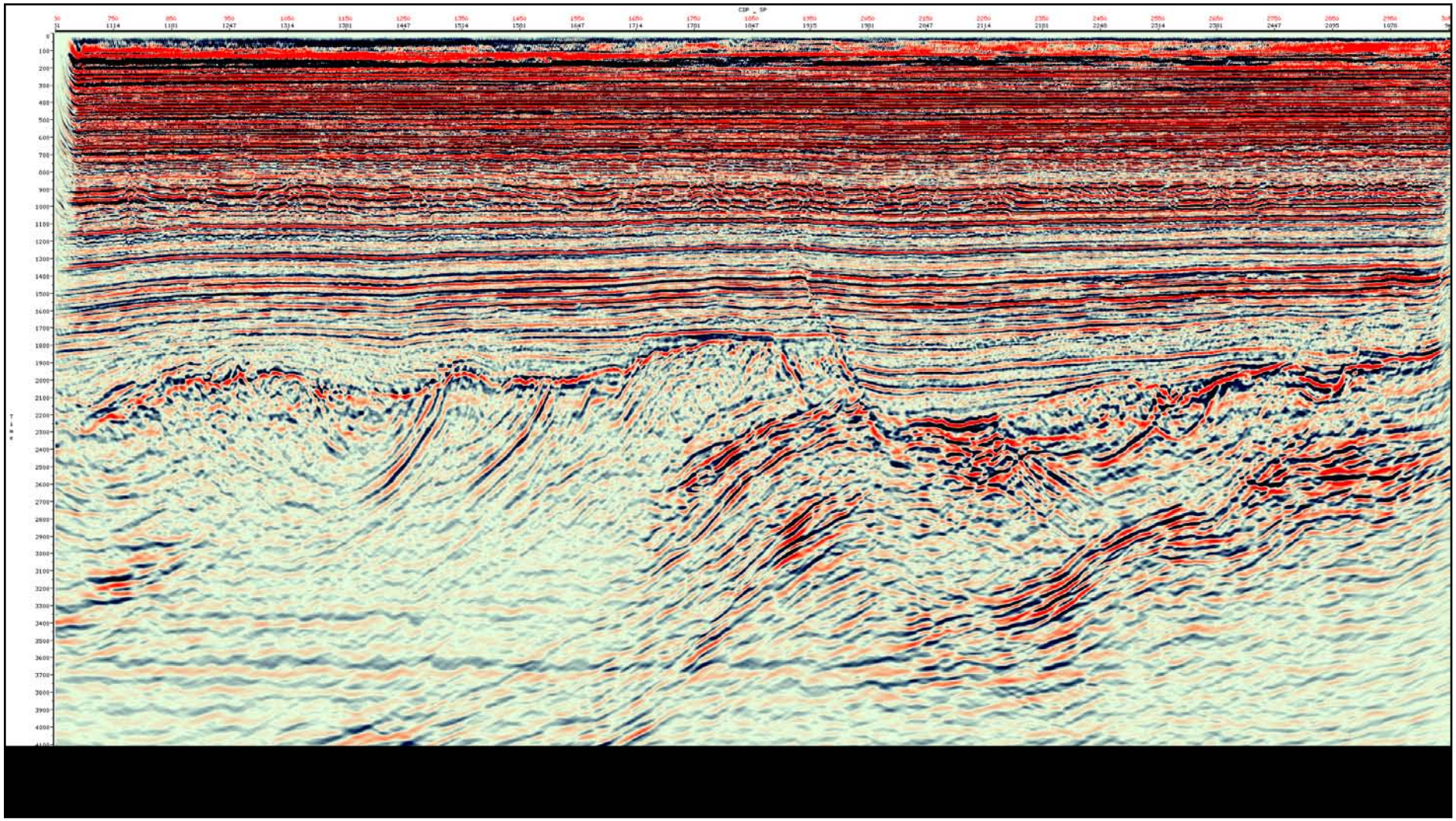
CDP - IL 1241: Linear Radon



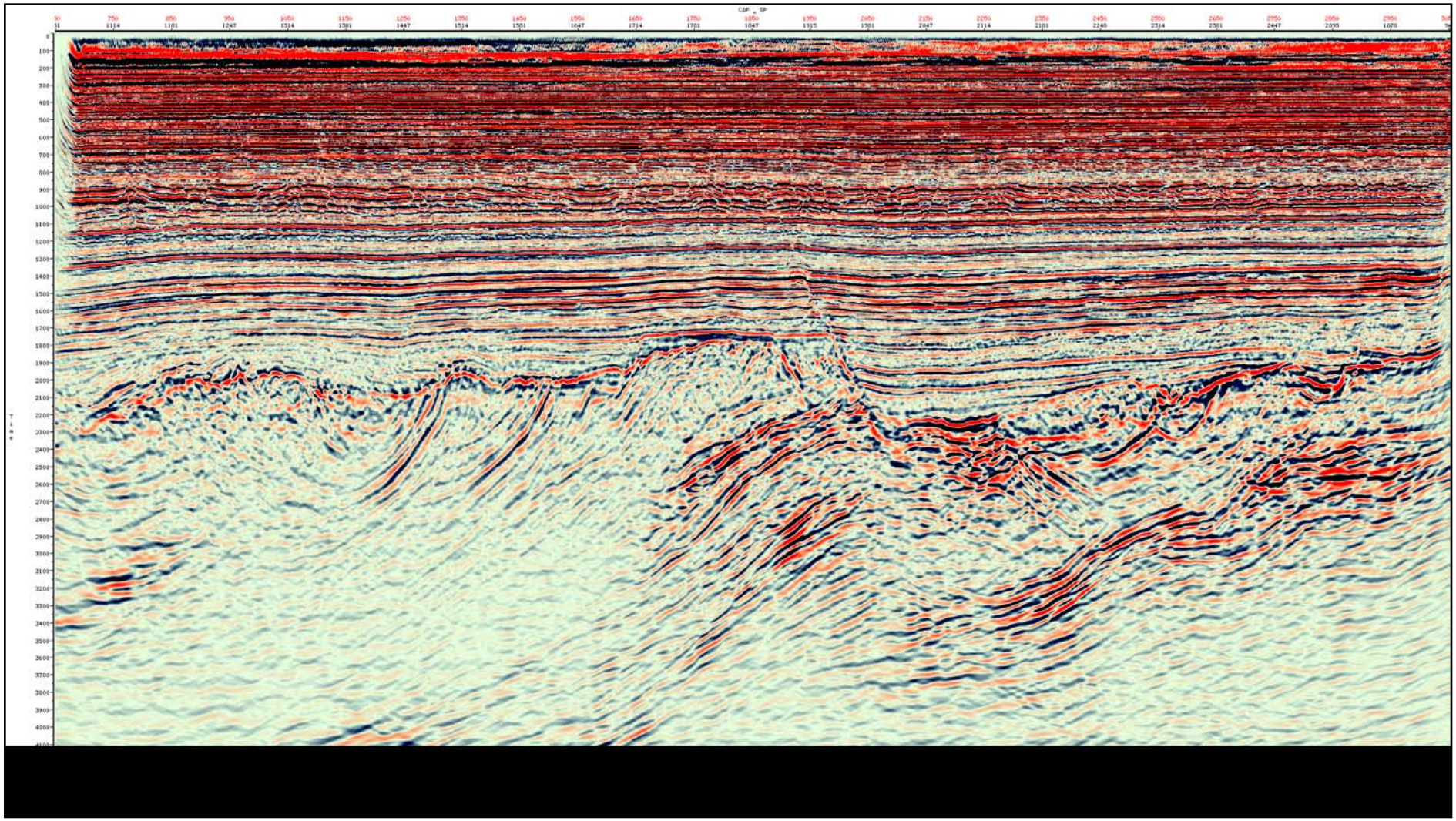
CDP - IL 1241: Difference



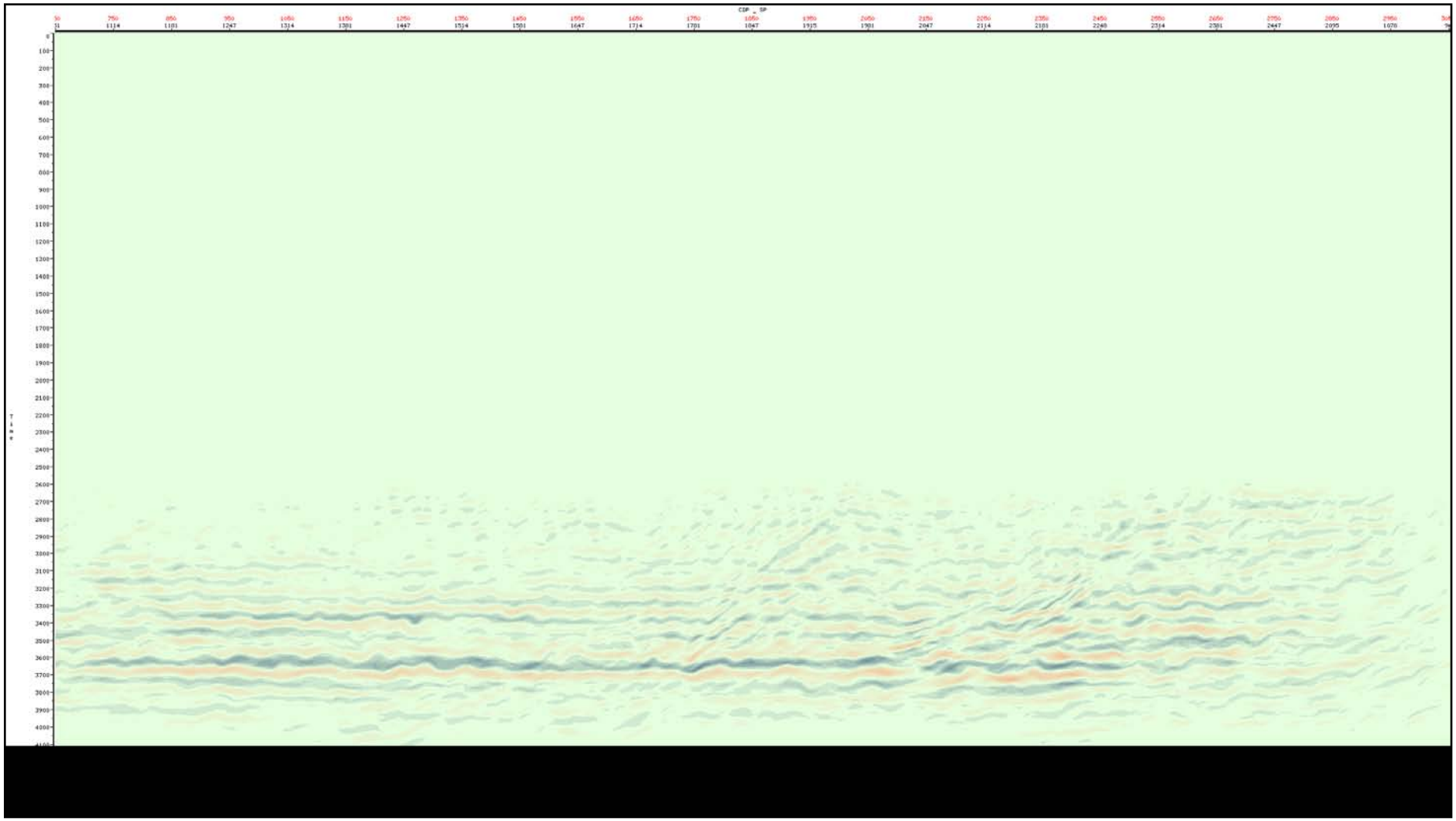
Stack (6-32 Deg) - IL 1241: Input



Stack (6-32 Deg) - IL 1241: Linear Radon

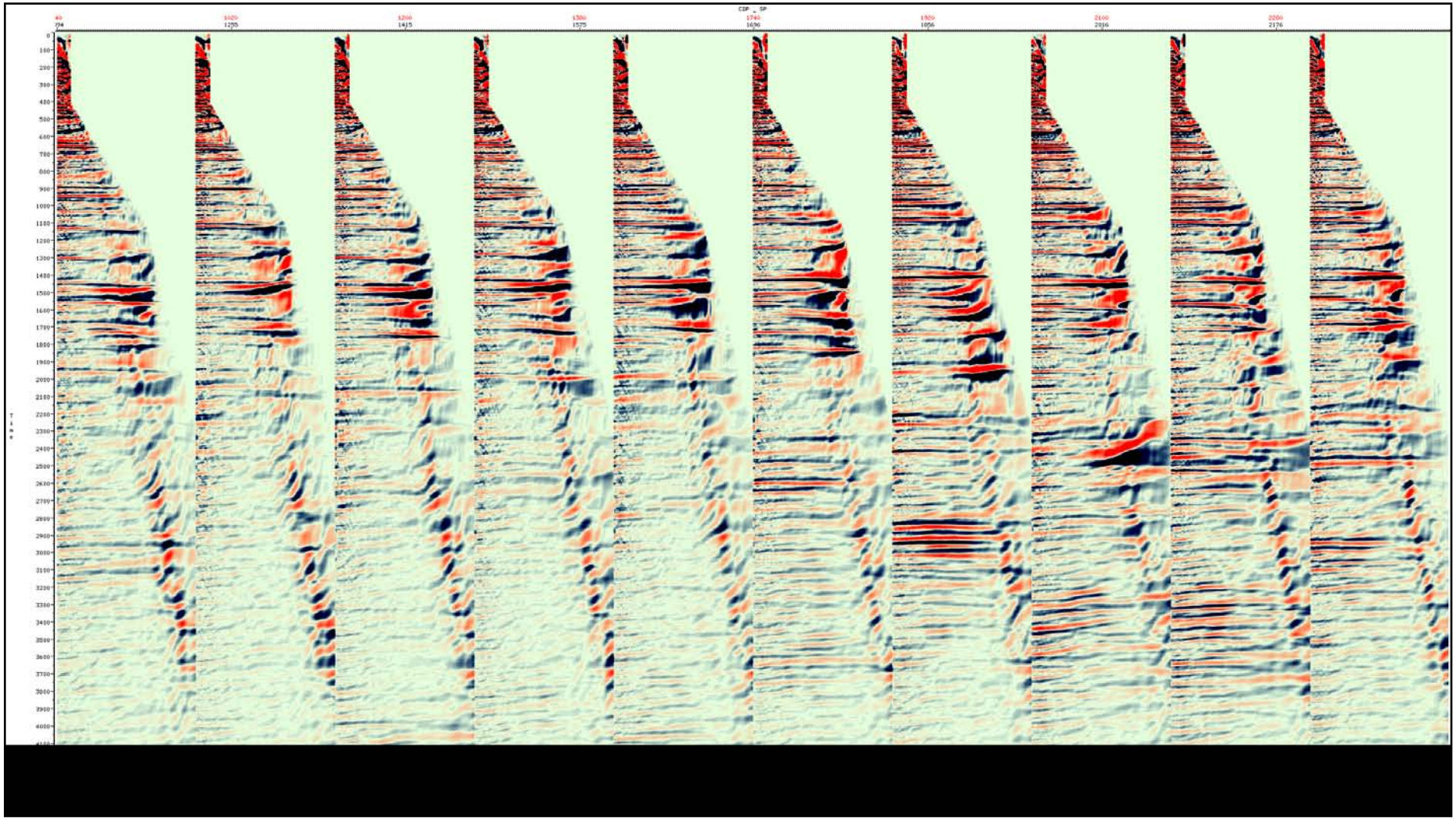


Stack (6-32 Deg) - IL 1241: Difference

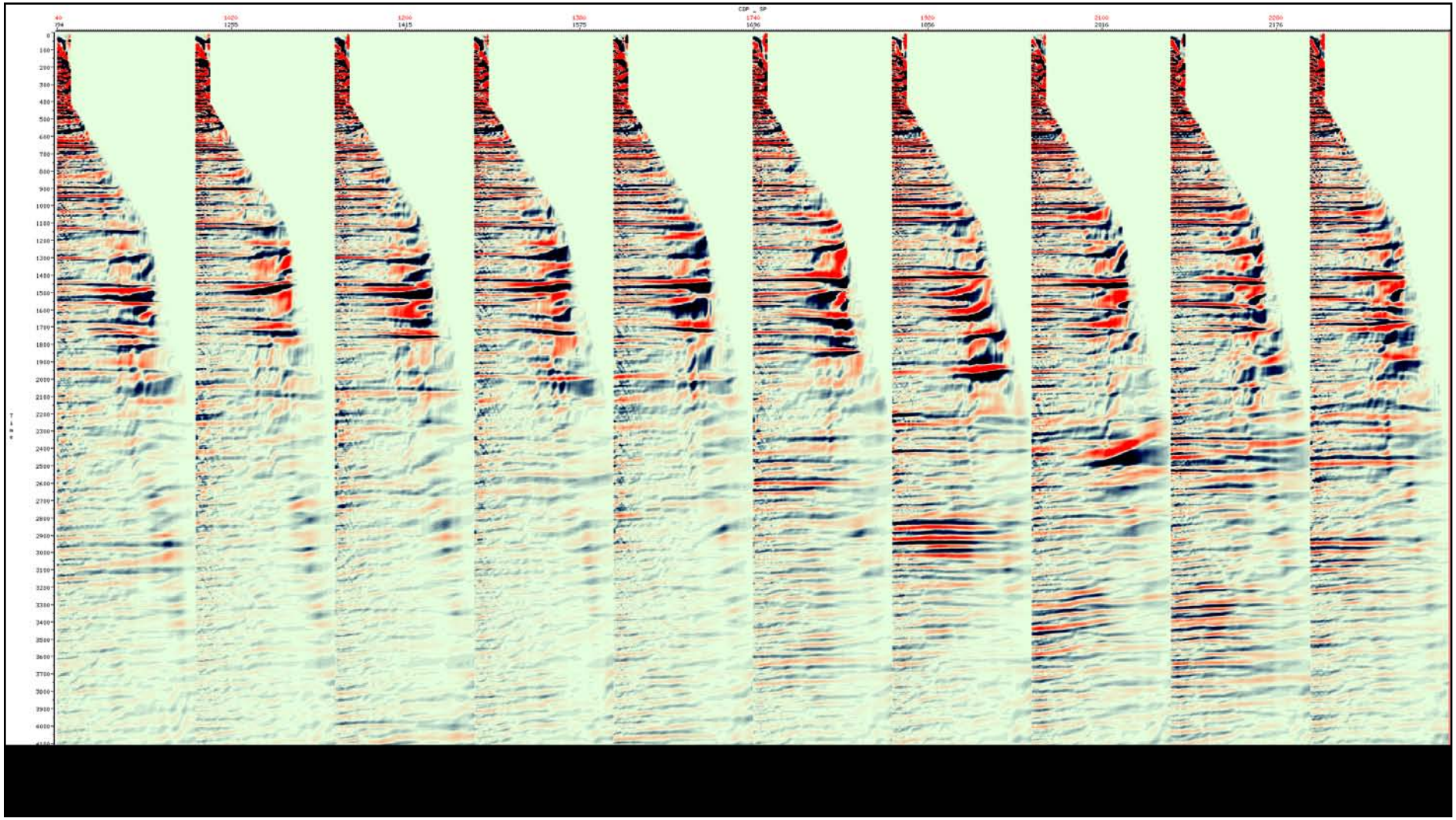


Application LNA for RADO

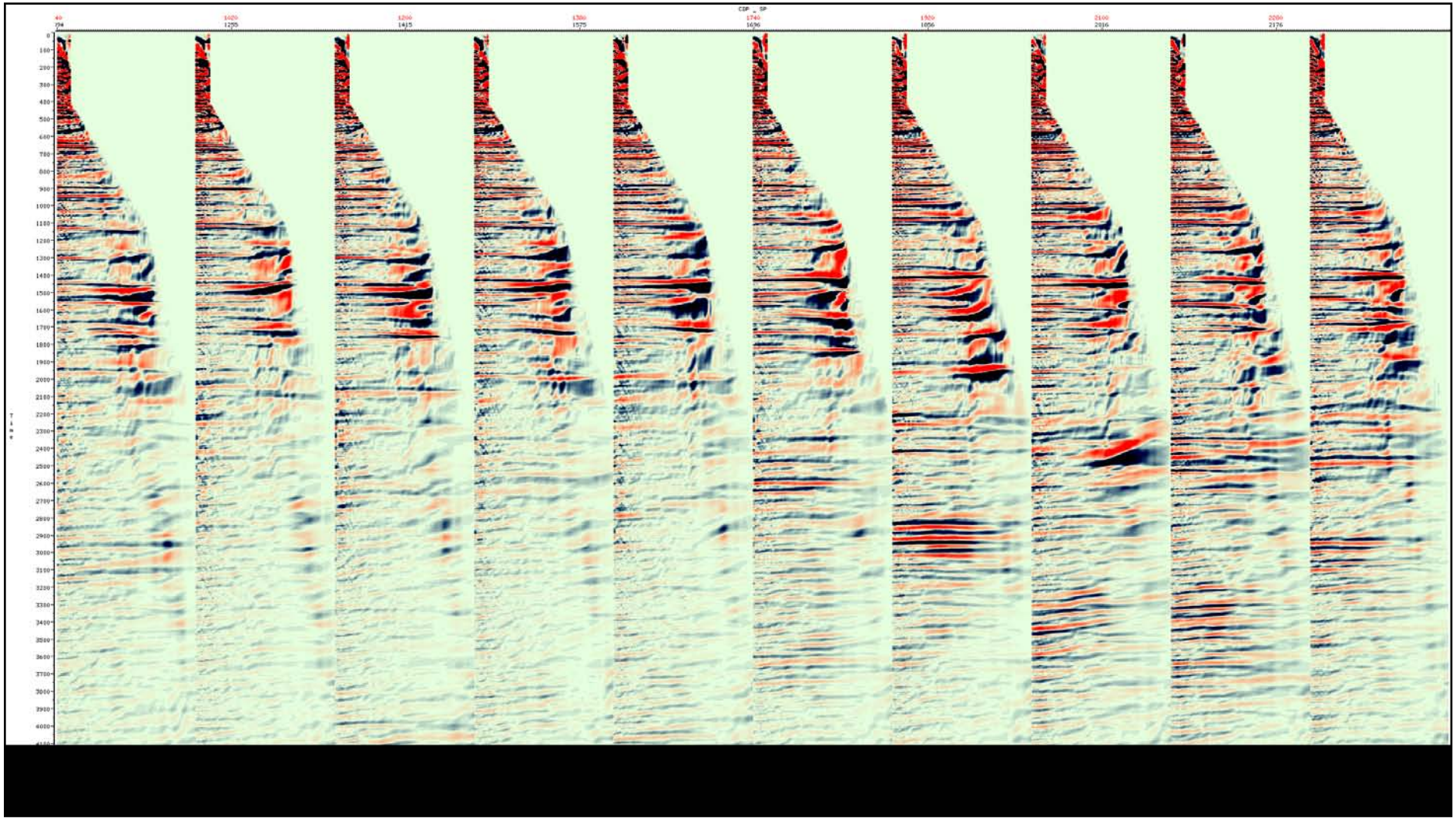
CDP - IL 1241: RADON ONLY



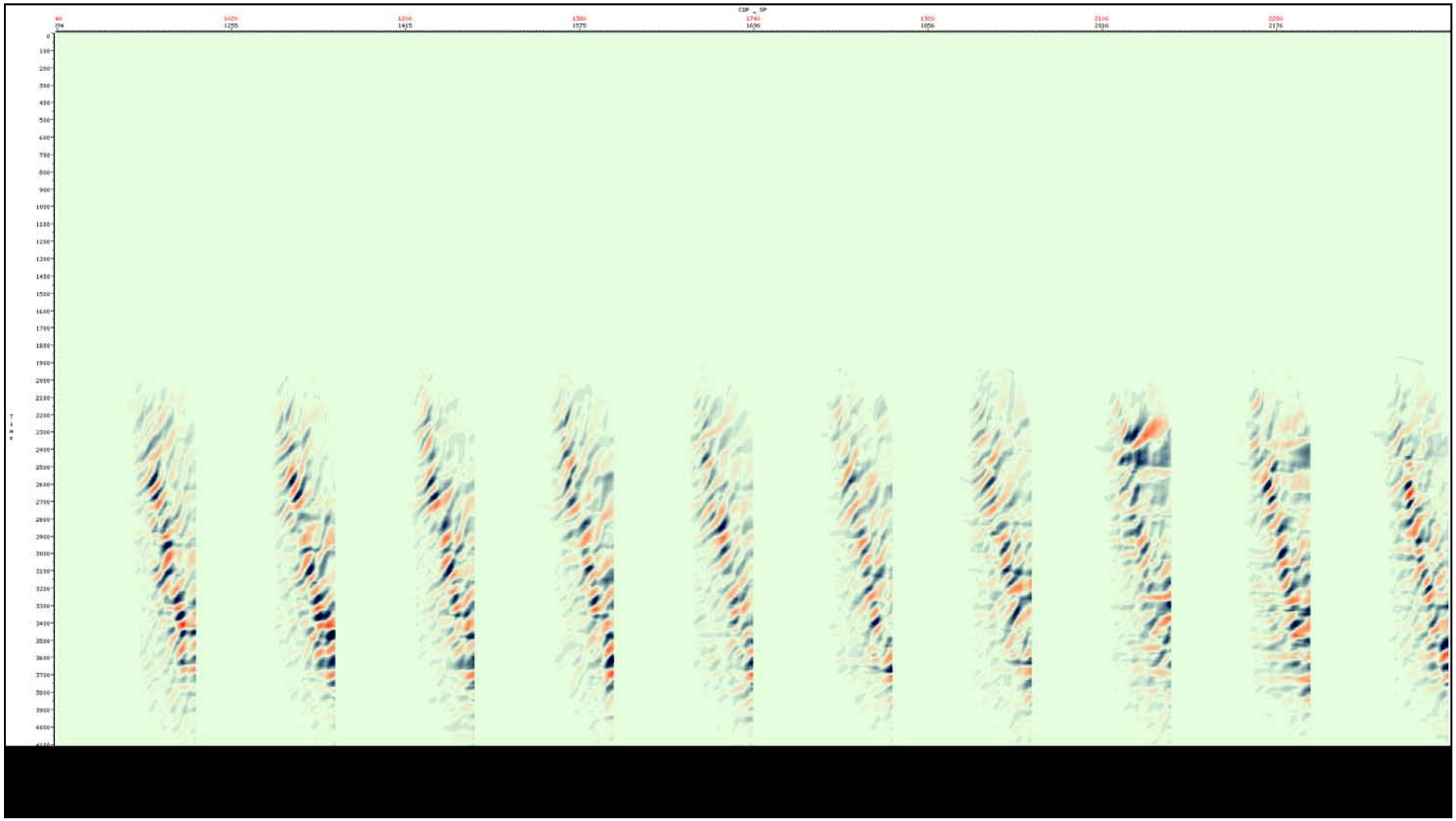
CDP - IL 1241: Linear Radon before RADON



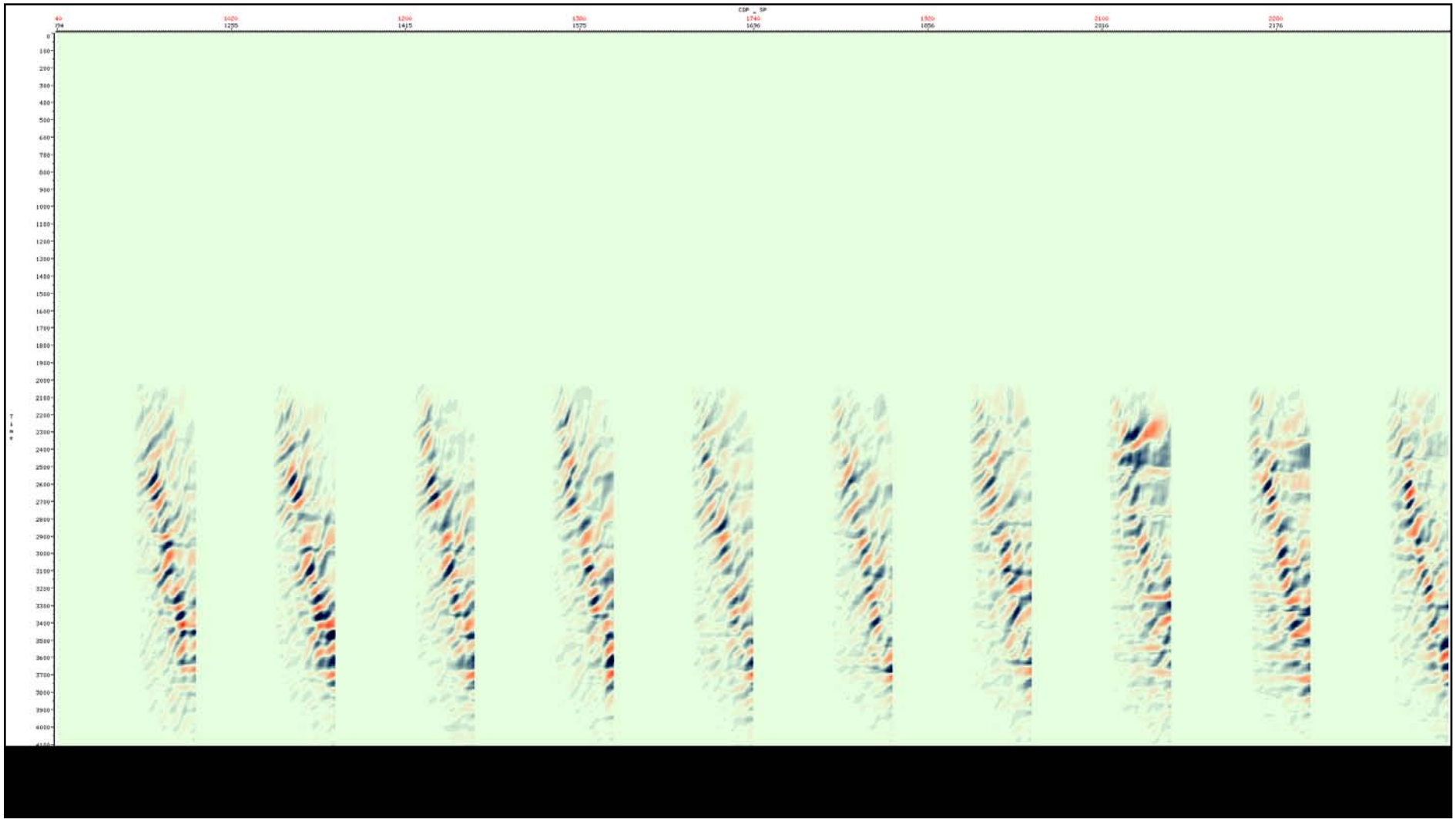
CDP - IL 1241: Linear Radon after RADON



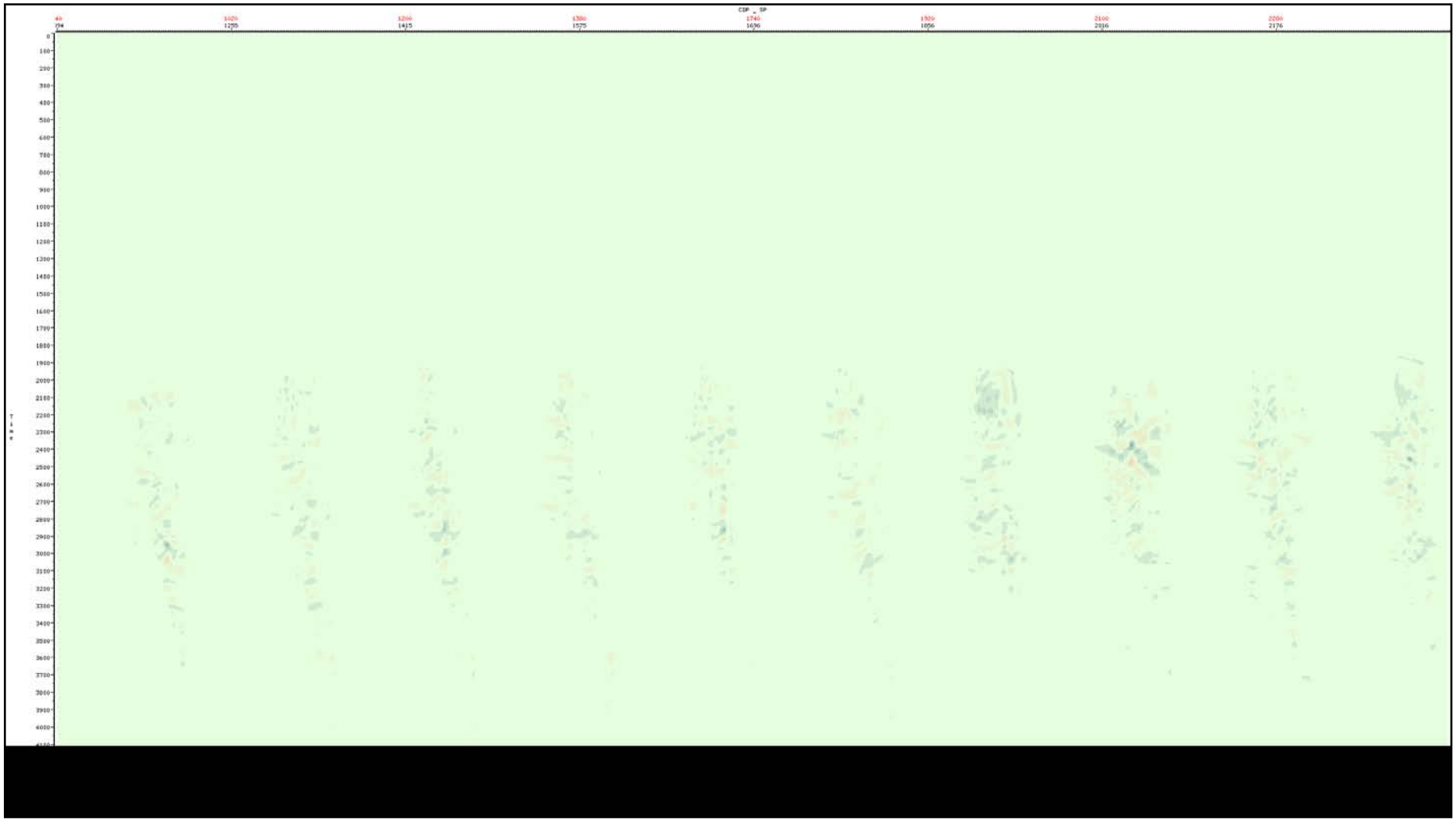
CDP - IL 1241: Difference of Linear Radon before RADON



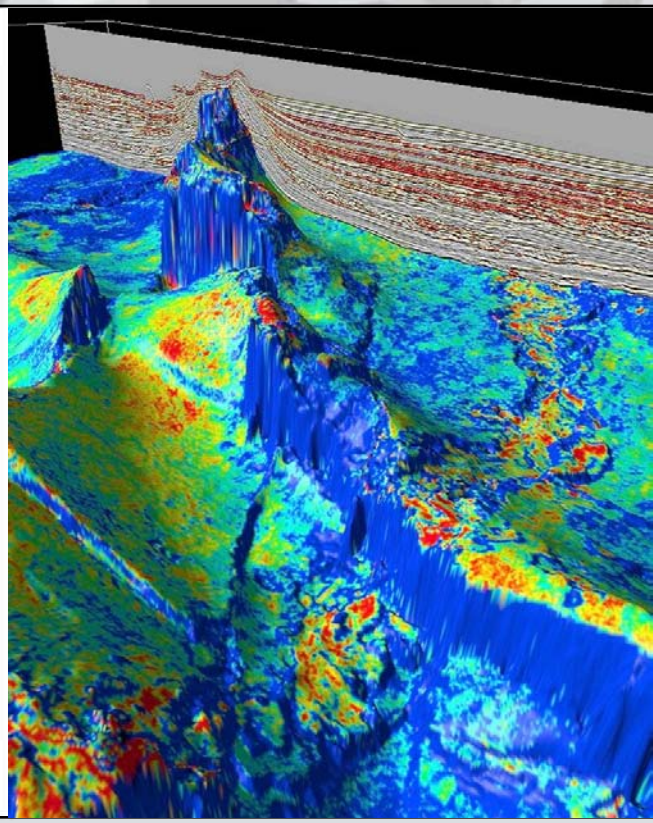
CDP - IL 1241: Difference of Linear Radon after RADON



CDP - IL 1241: Difference of the differences



Technical Note 14
Angle Mute
Silvereye 3D



Introduction

Angle Mute testing was carried out on inline 1241. Three different sets of Angle mutes were tested:

1. Near 6-20 Degrees, Mid 20-34 Degrees and Far 34-48 Degrees
2. Near 6-16 Degrees, Mid 16-26 Degrees and Far 26-36 Degrees
3. Near 3-14 Degrees, Mid 14-25 Degrees and far 25-36 Degrees.

Also for point 3, was tested with selected 60 traces (trace 1-60), dropped the last 20 traces (trace 61-80).

Stack and cdp applied Exponential Gain 2 dB/sec to boost amplitude in the deep section.

Processing Sequence to date

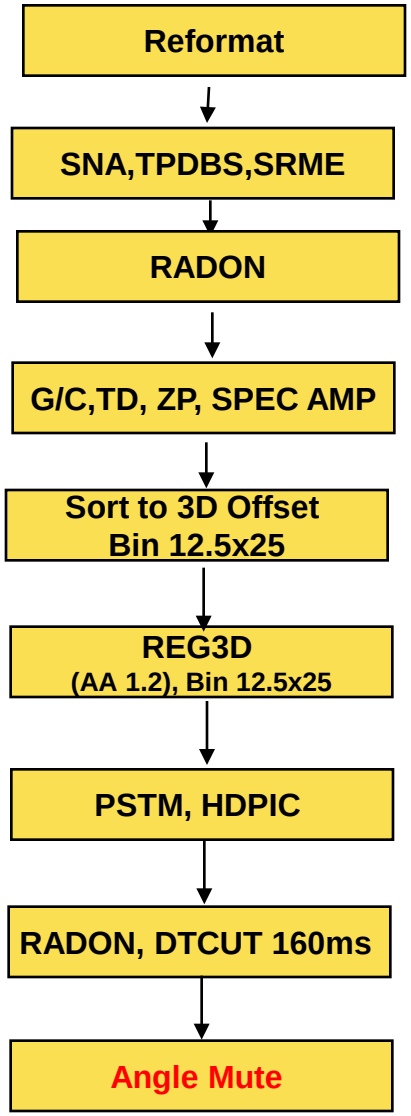
Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
- Cut data to 6000ms
- Obs log editing
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D
- Replace T2 with TV Ursin (offset term)
- PSTM: Ray Trace, Dip Lim 75, Aperture 4 km, Smoothed V2 Velocity
- HDPIC
- Radon De-multiple DTCUT 160ms

Current Test

- **Angle Mute**

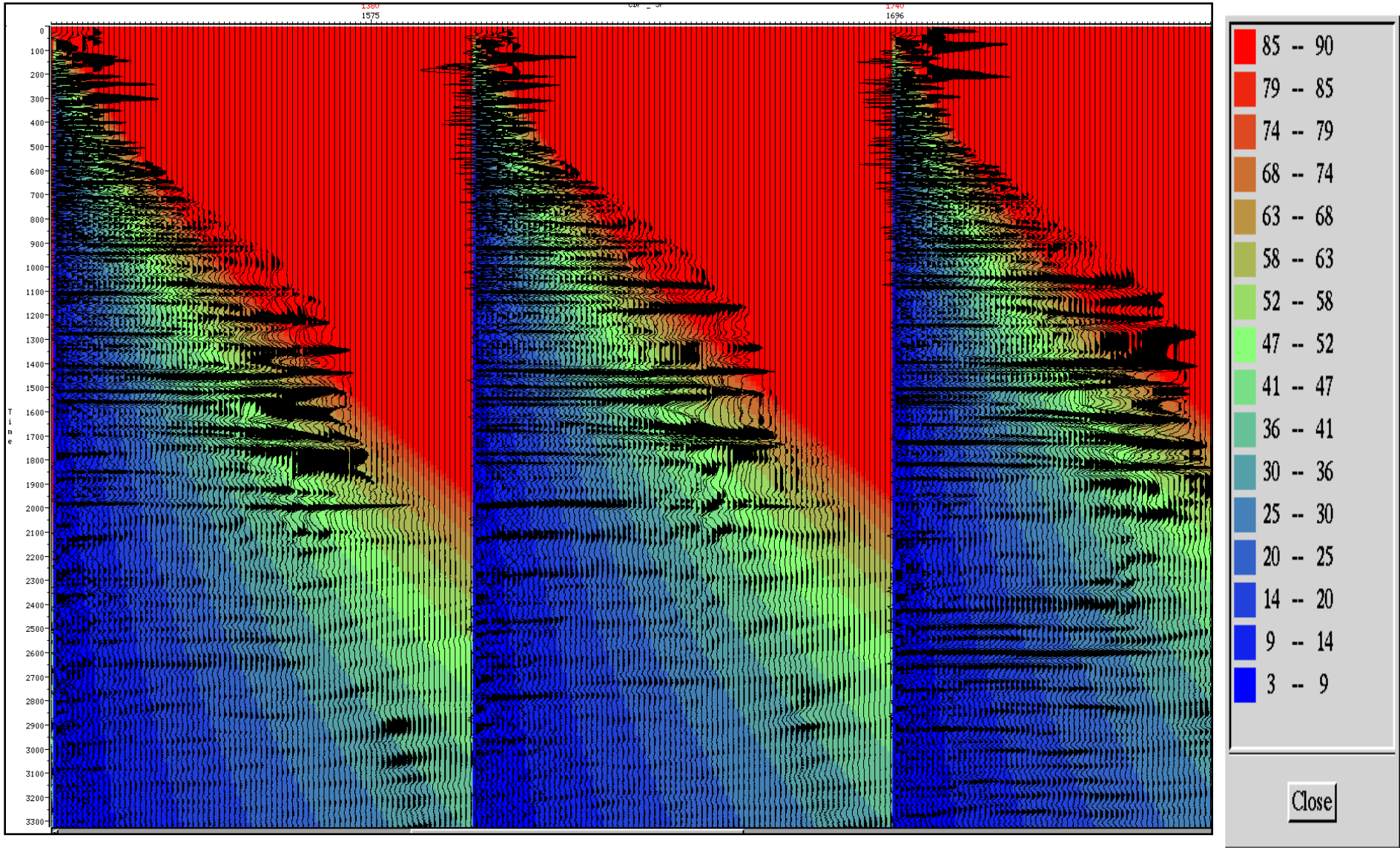
Proc Flow: Angle Mute



Angle Mute

Mute

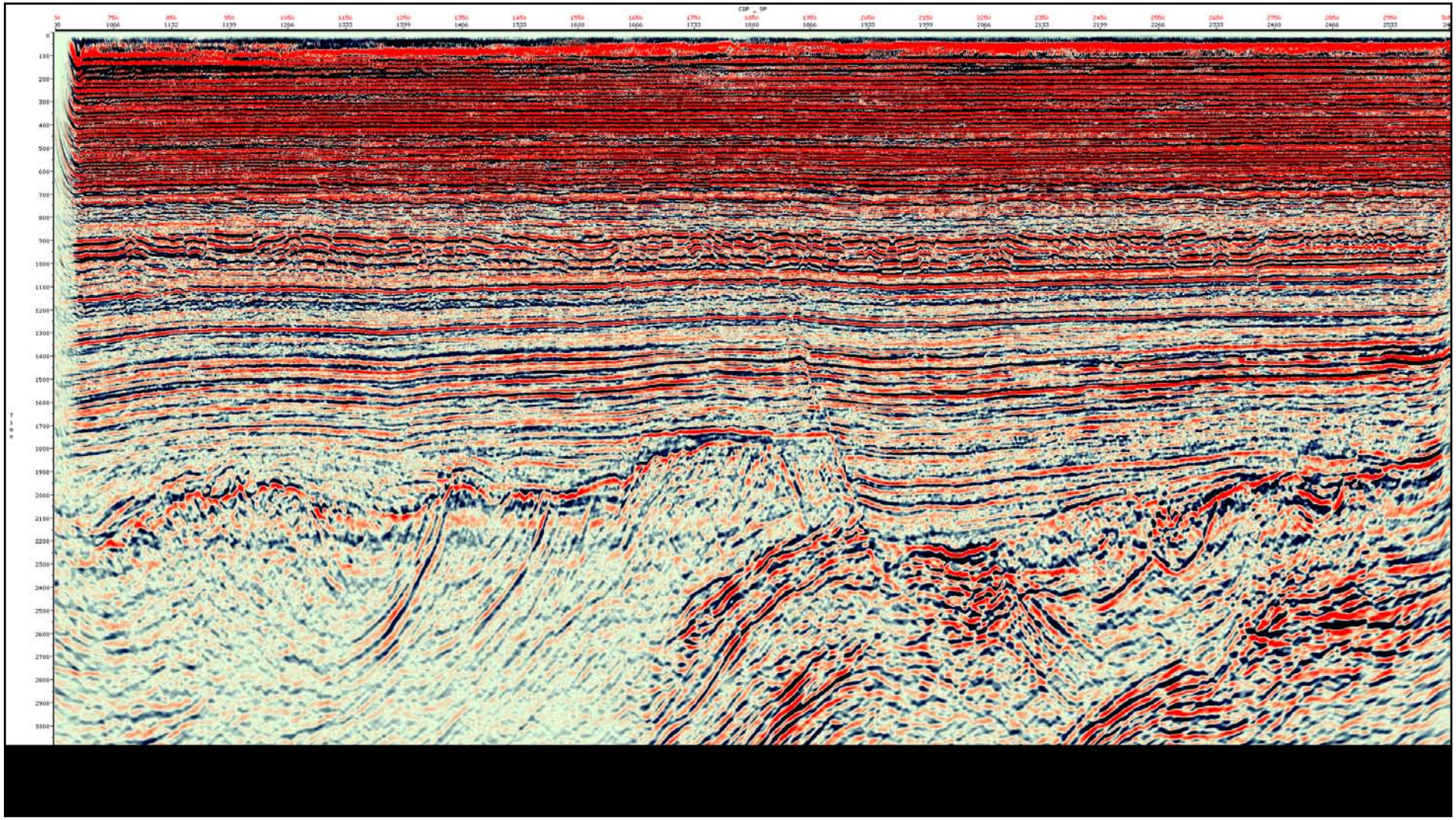
IL-1241: Angle Mute



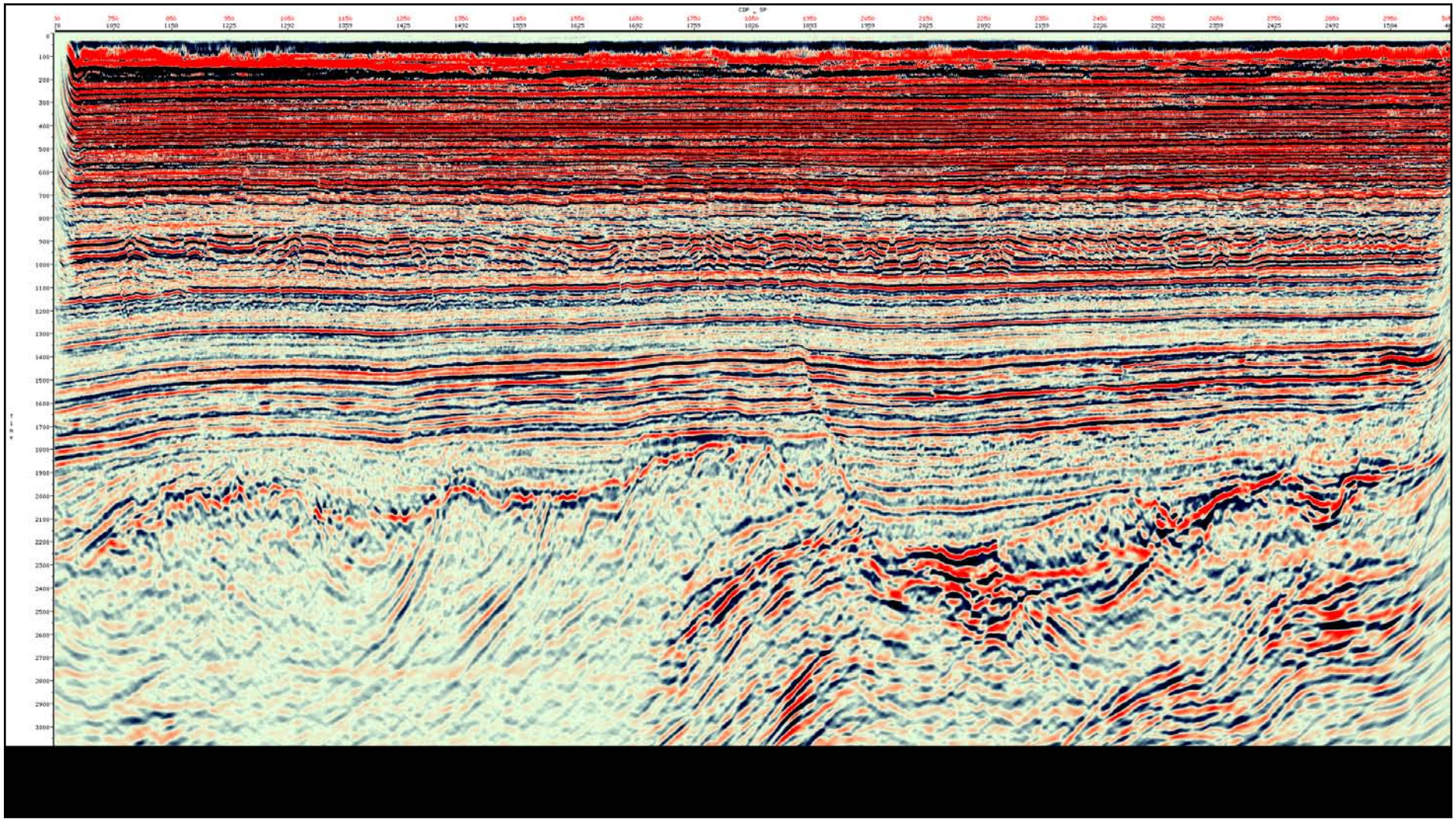
Angle Mute

Angle Mute 6-42 Degrees

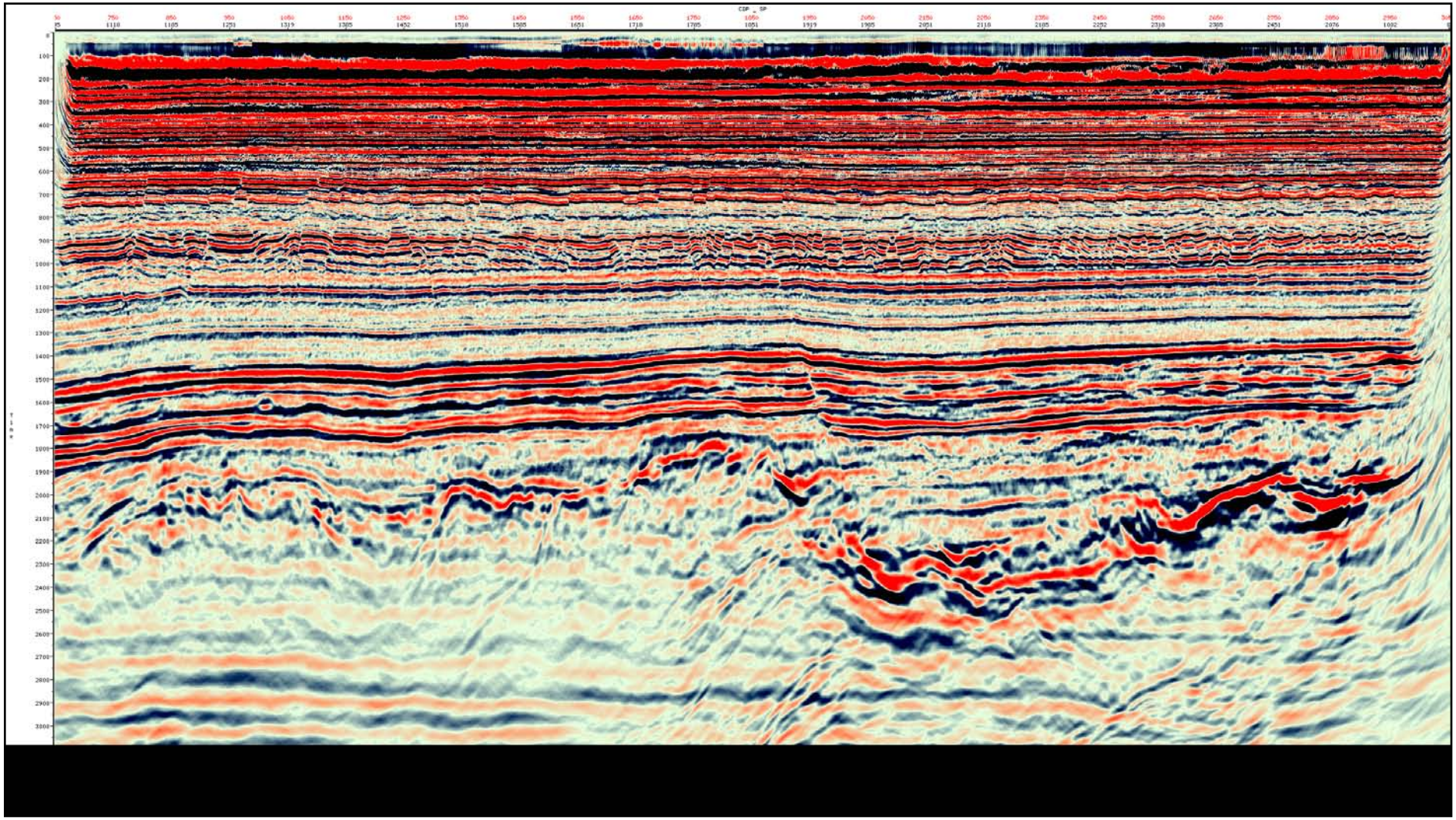
IL-1241: Near Stack 6-20 Degrees



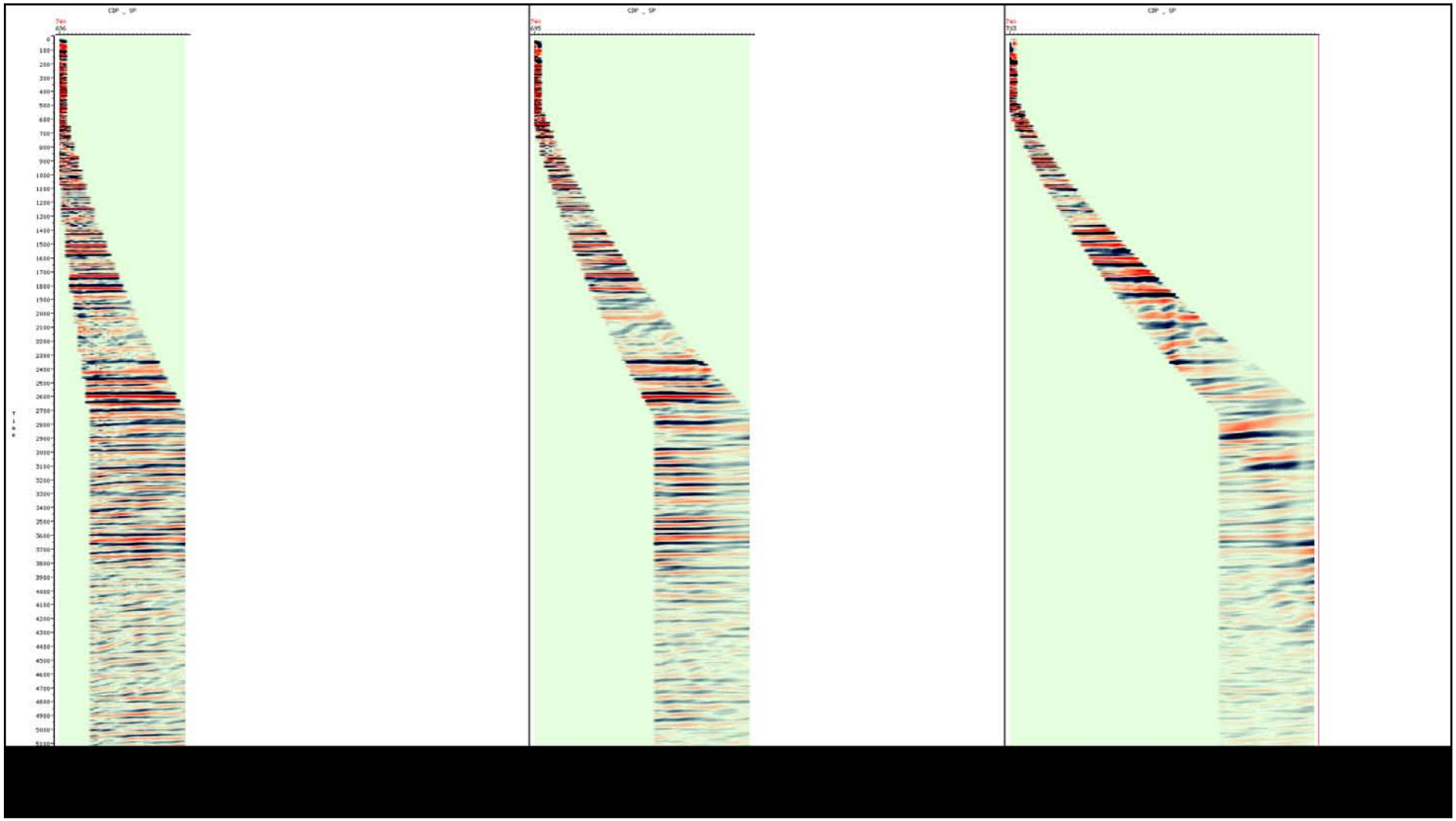
IL-1241: Mid Stack 20-34 Degrees



IL-1241: Far Stack 34-48 Degrees



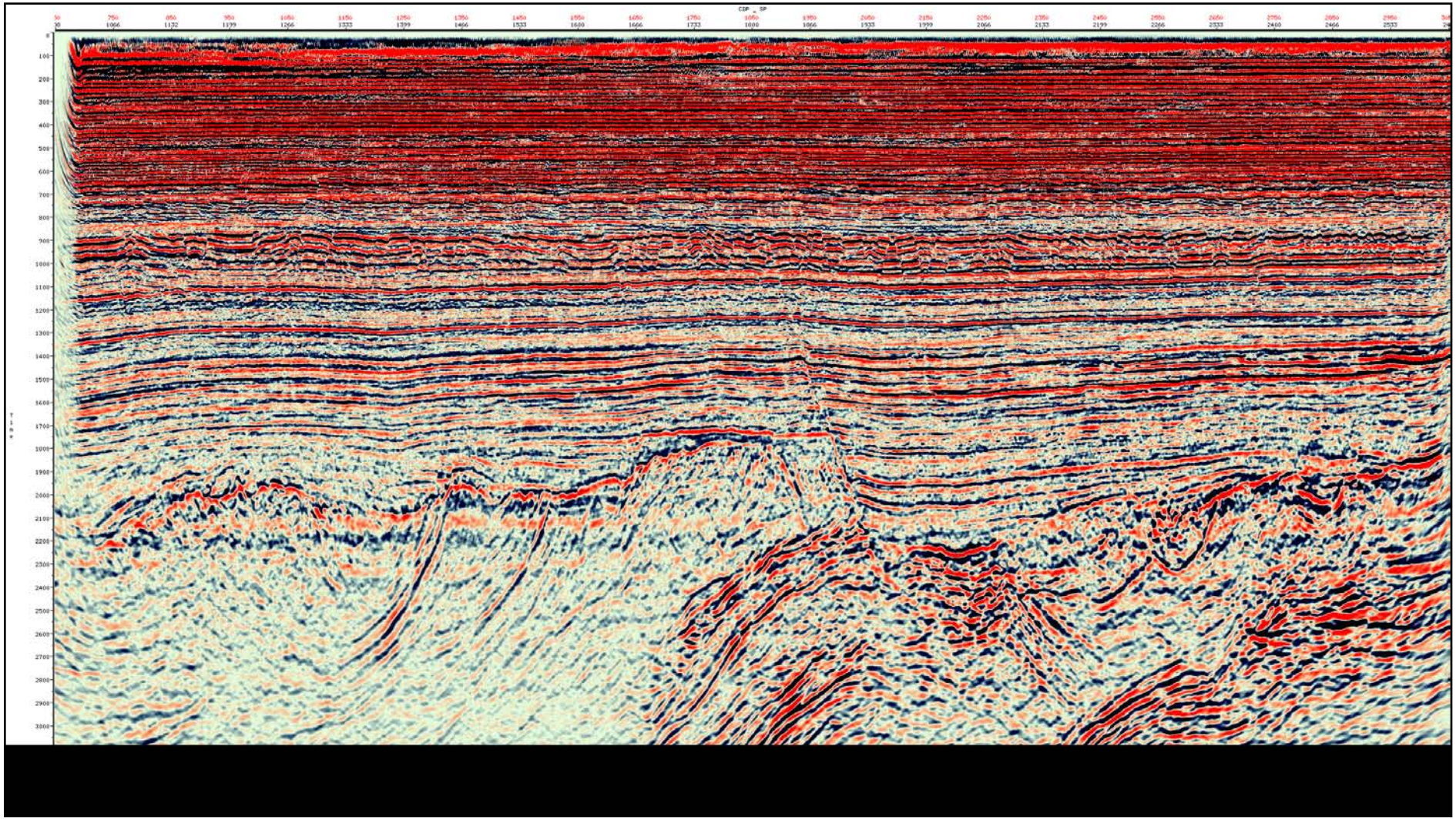
IL-1241: CDP – Near (6-20) – Mid (20-34) – Far (34-48)



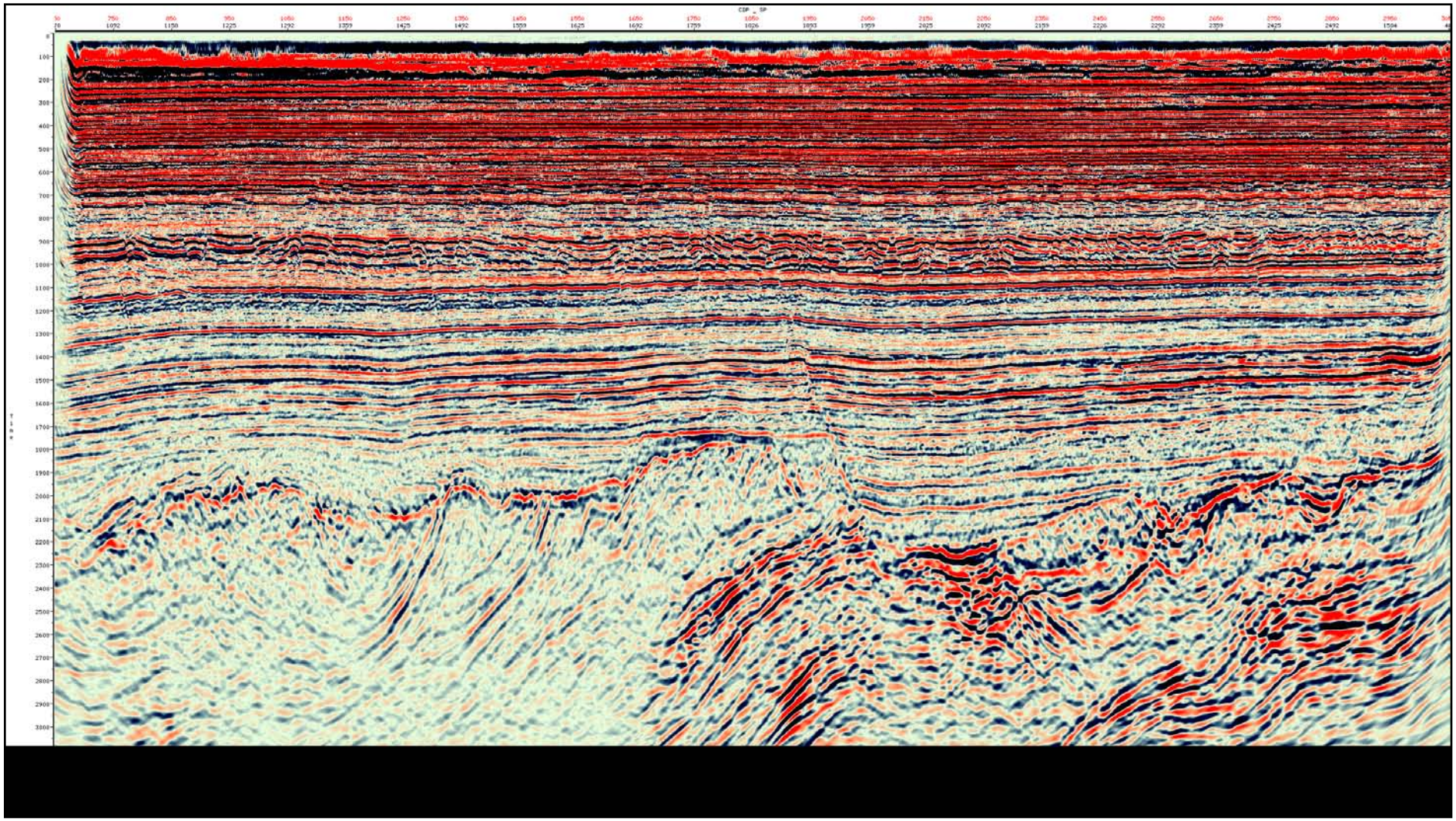
Angle Mute

Angle Mute 6-36 Degrees

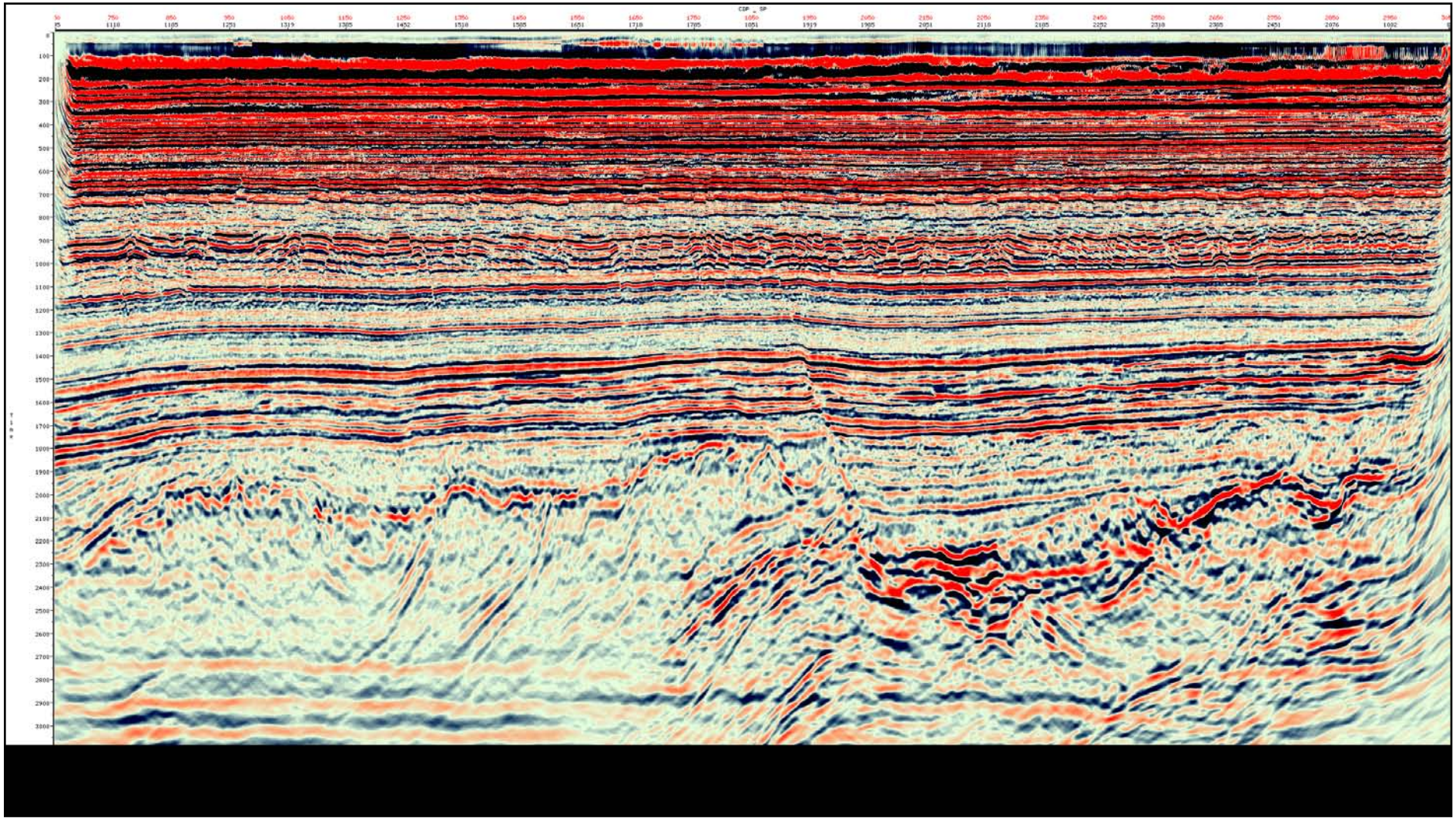
IL-1241: Near Stack 6-16 Degrees



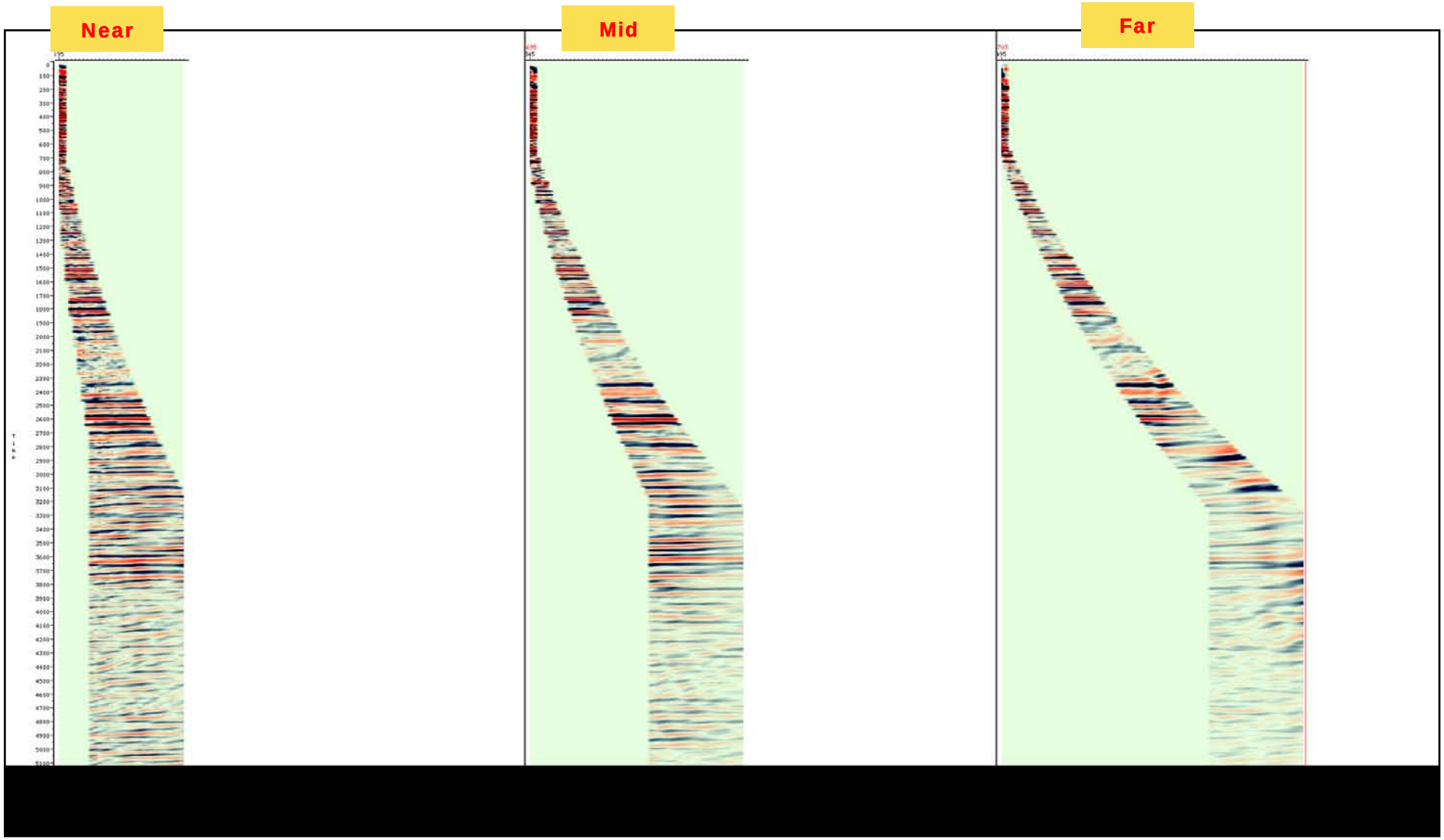
IL-1241: Mid Stack 16-26 Degrees



IL-1241: Far Stack 26-36 Degrees



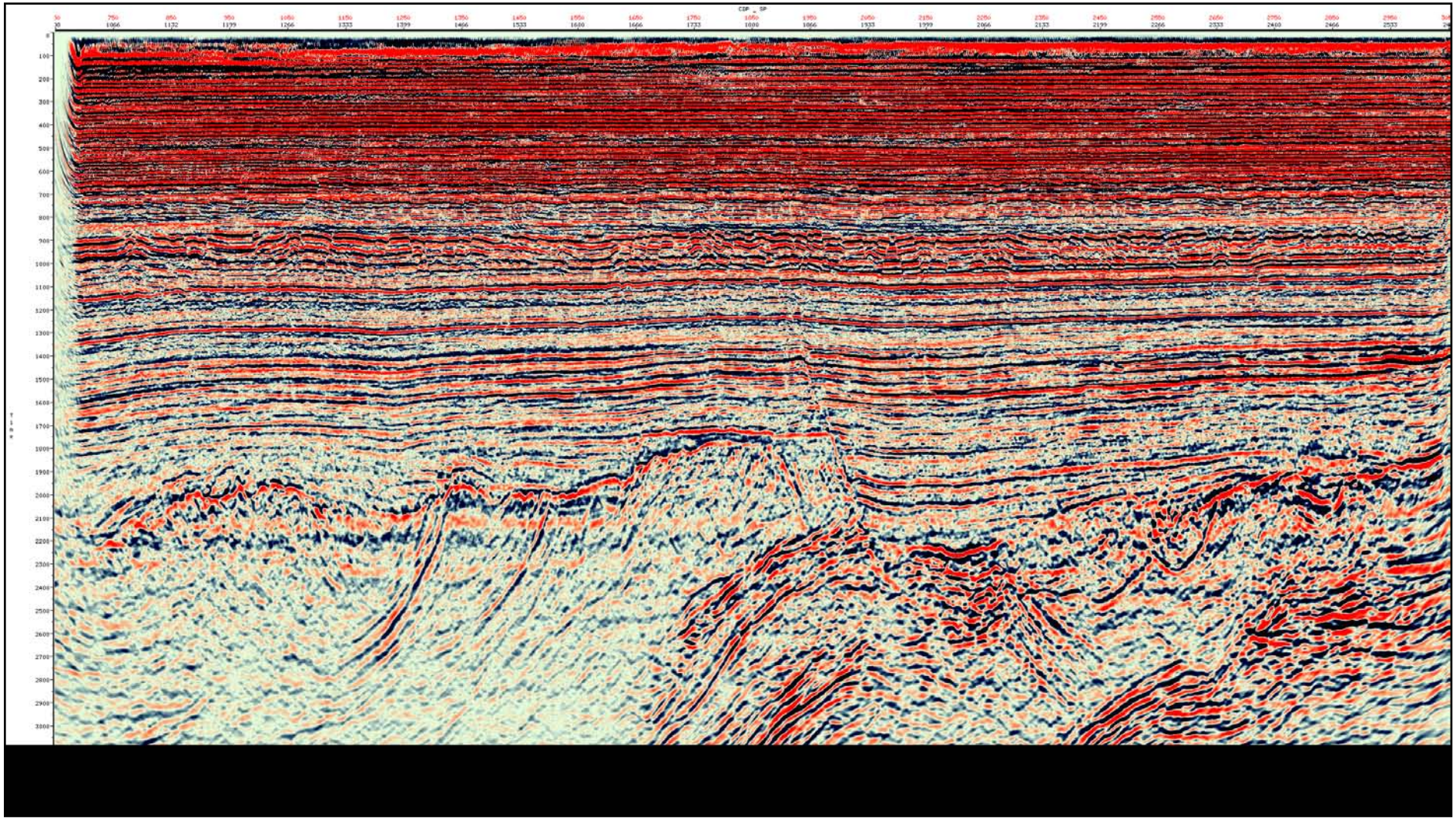
IL-1241: CDP – Near (6-16) – Mid (16-26) – Far (26-36)



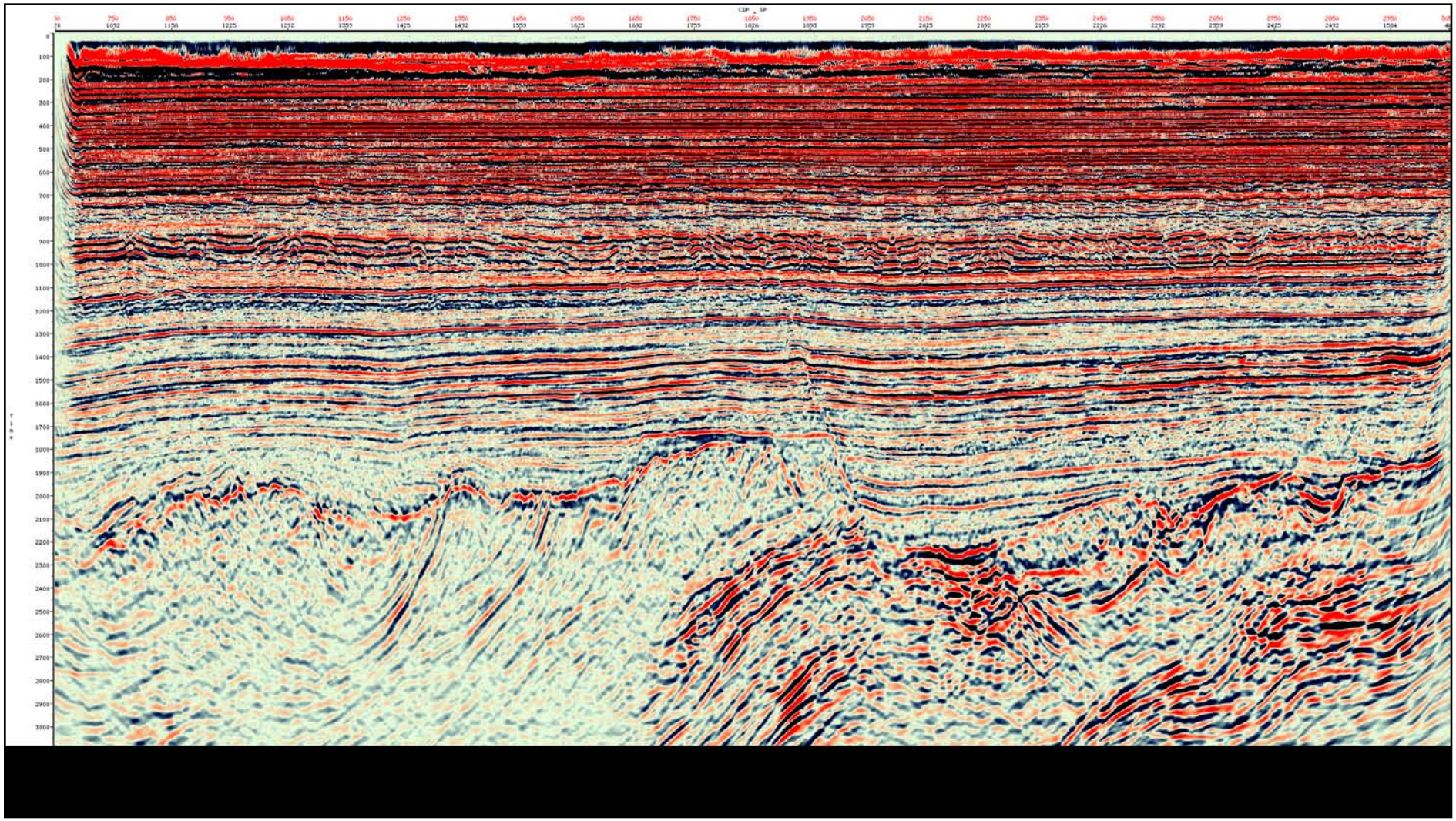
Angle Mute

Angle Mute 3-36 Degrees

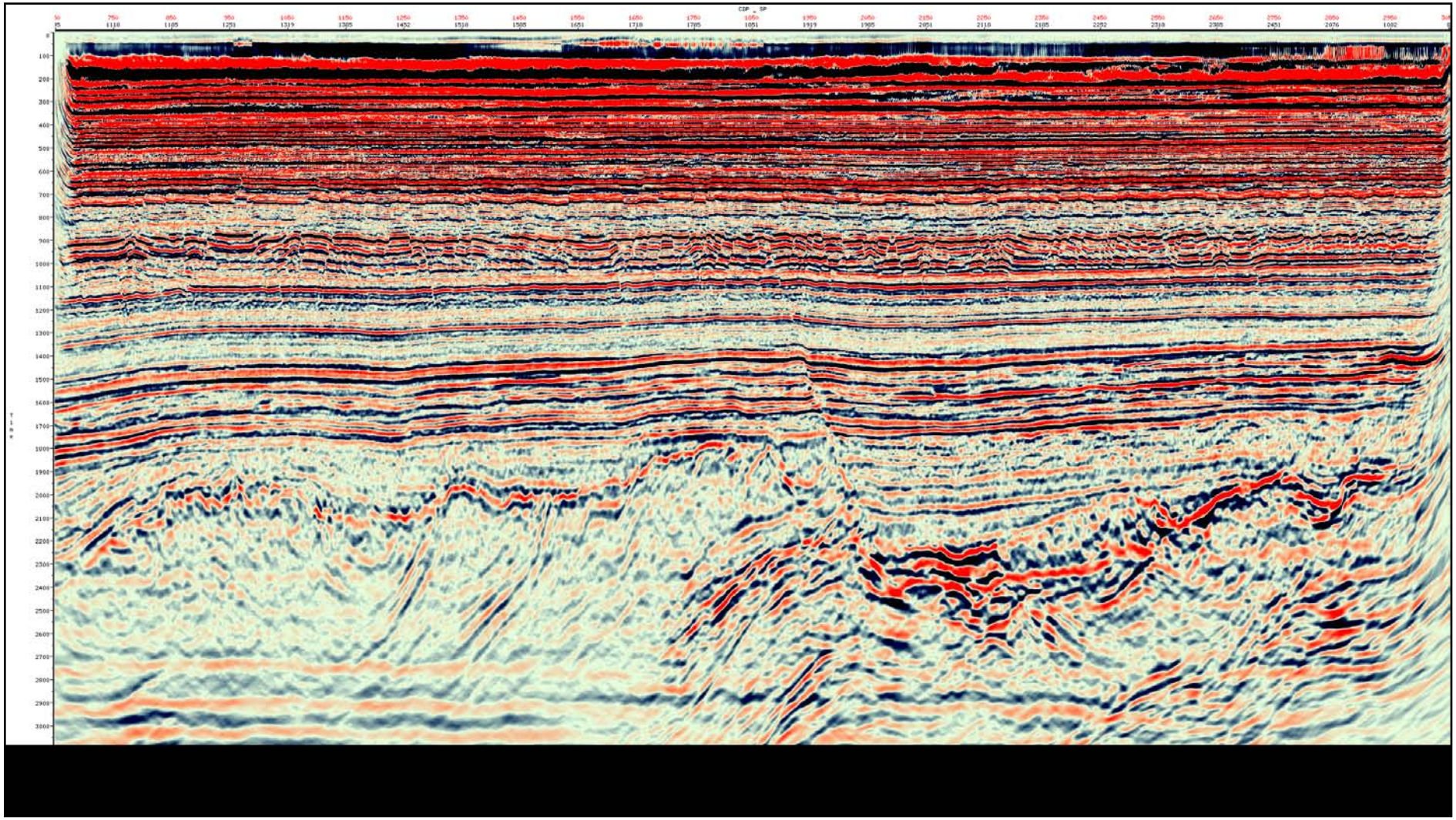
IL-1241: Near Stack 3-14 Degrees



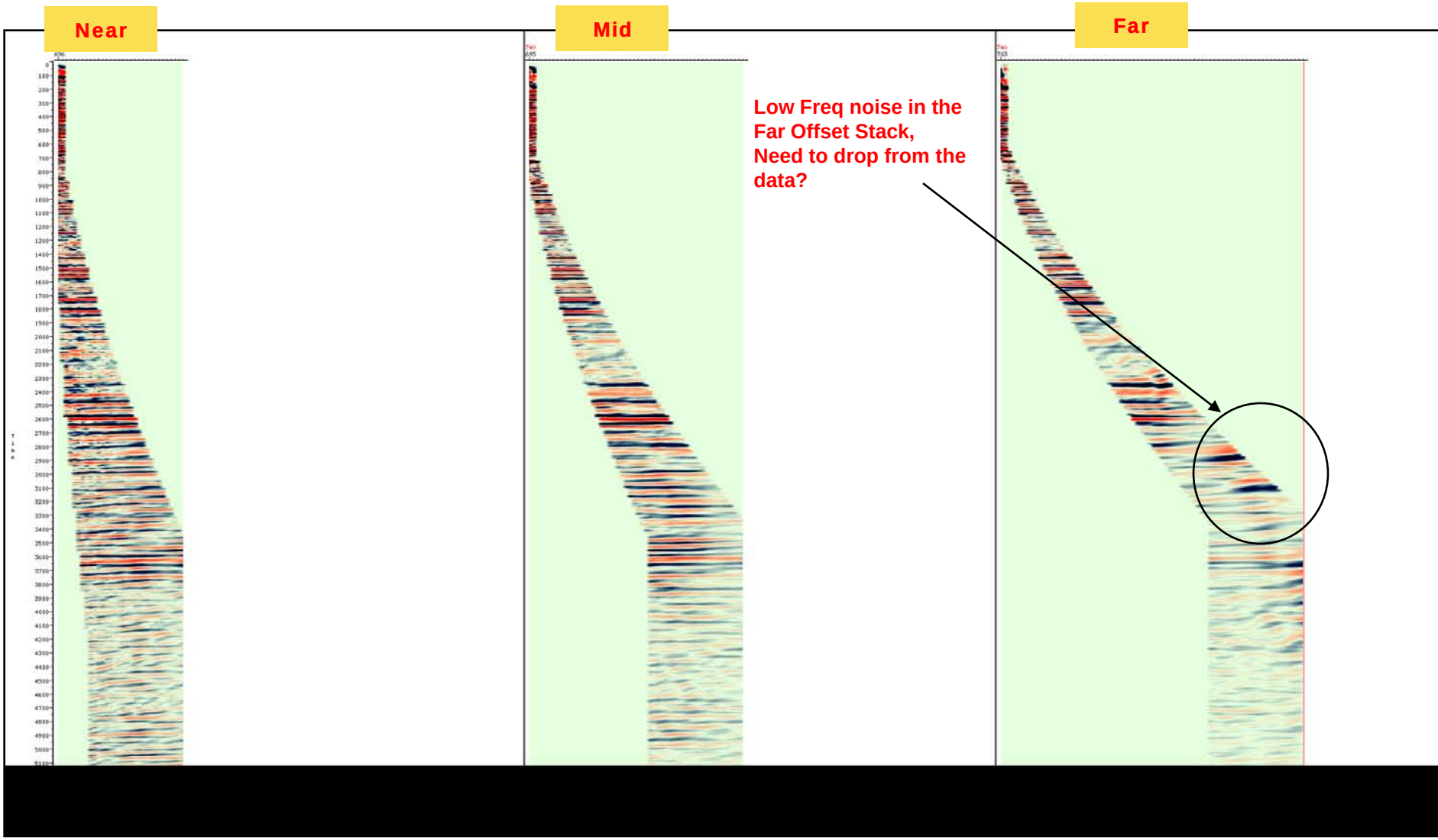
IL-1241: Mid Stack 14-25 Degrees



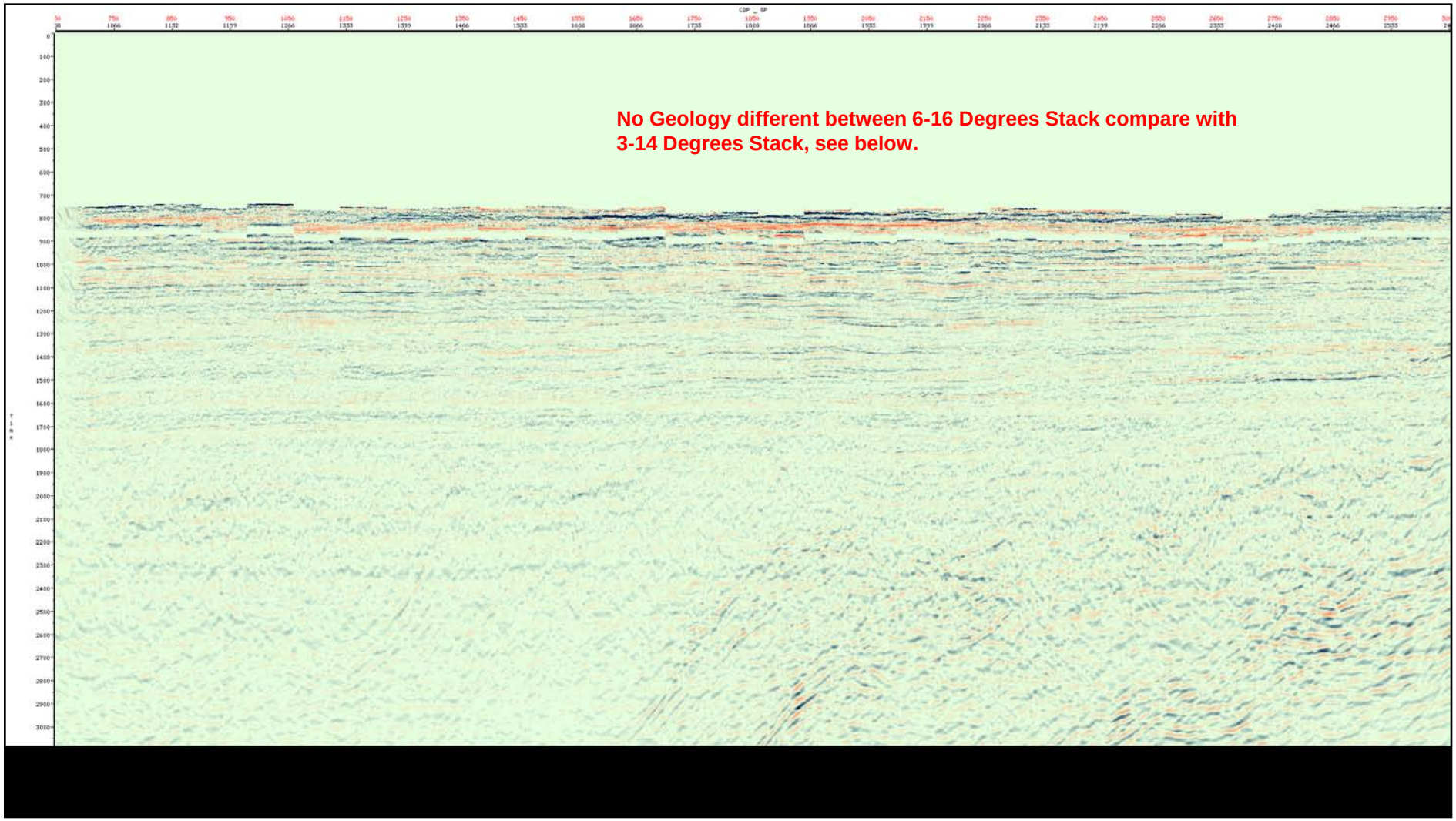
IL-1241: Mid Stack 25-36 Degrees



IL-1241: CDP – Near (3-14) – Mid (14-25) – Far (25-36)



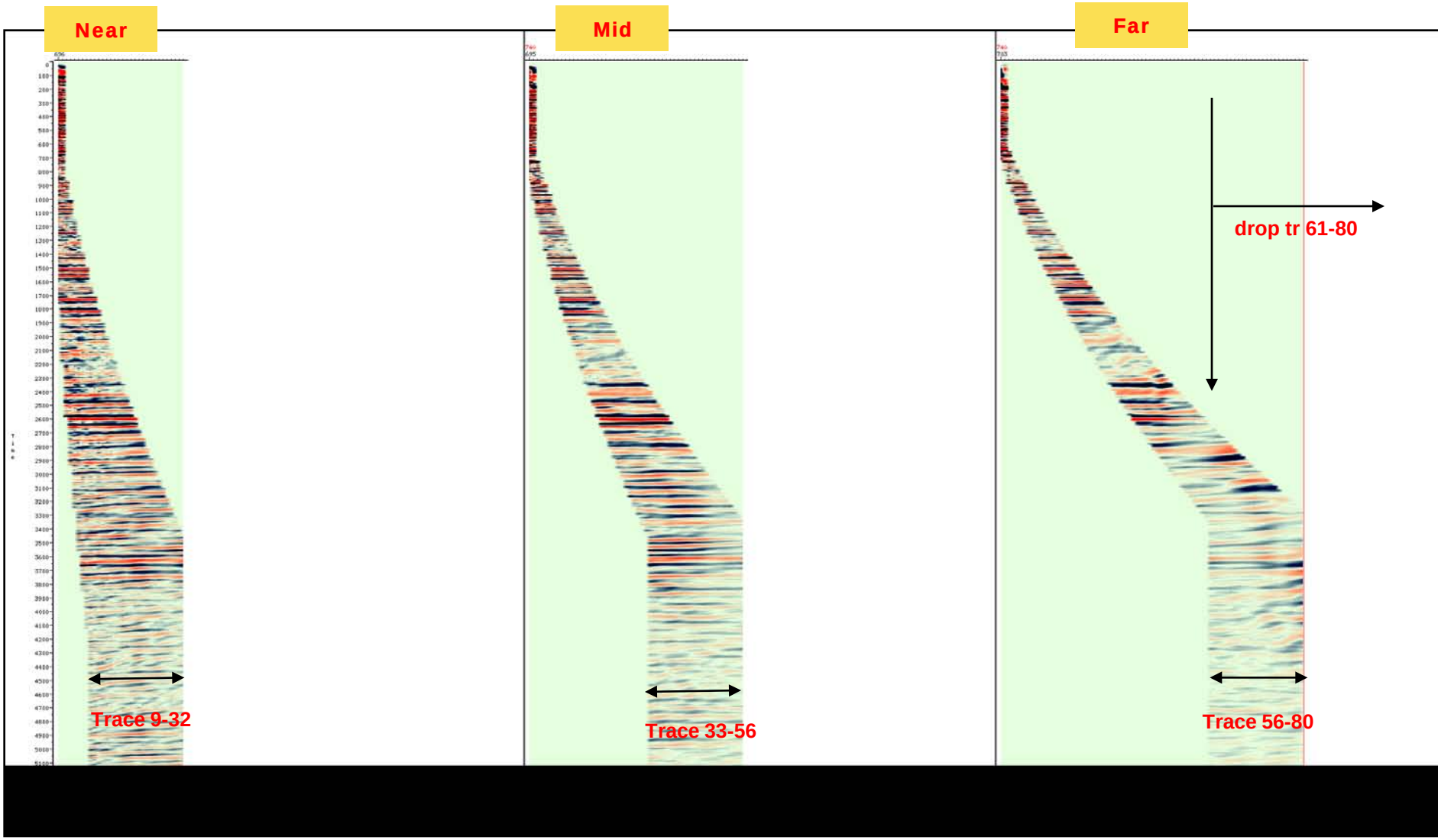
IL-1241: Near Stack Difference (6-16 Degrees – 3-14 Degrees)



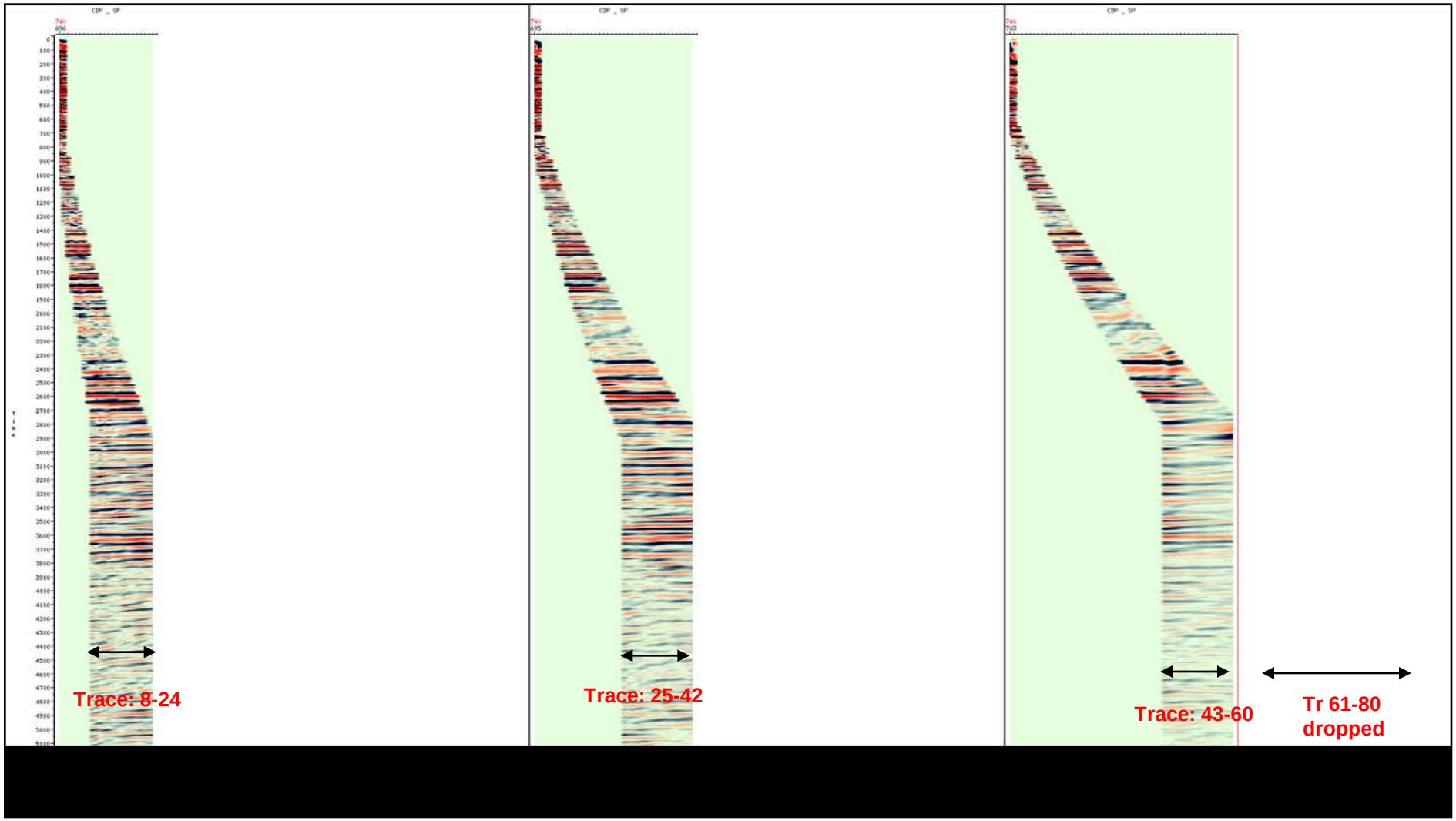
Angle Mute

3-36 Degrees, Selected 60

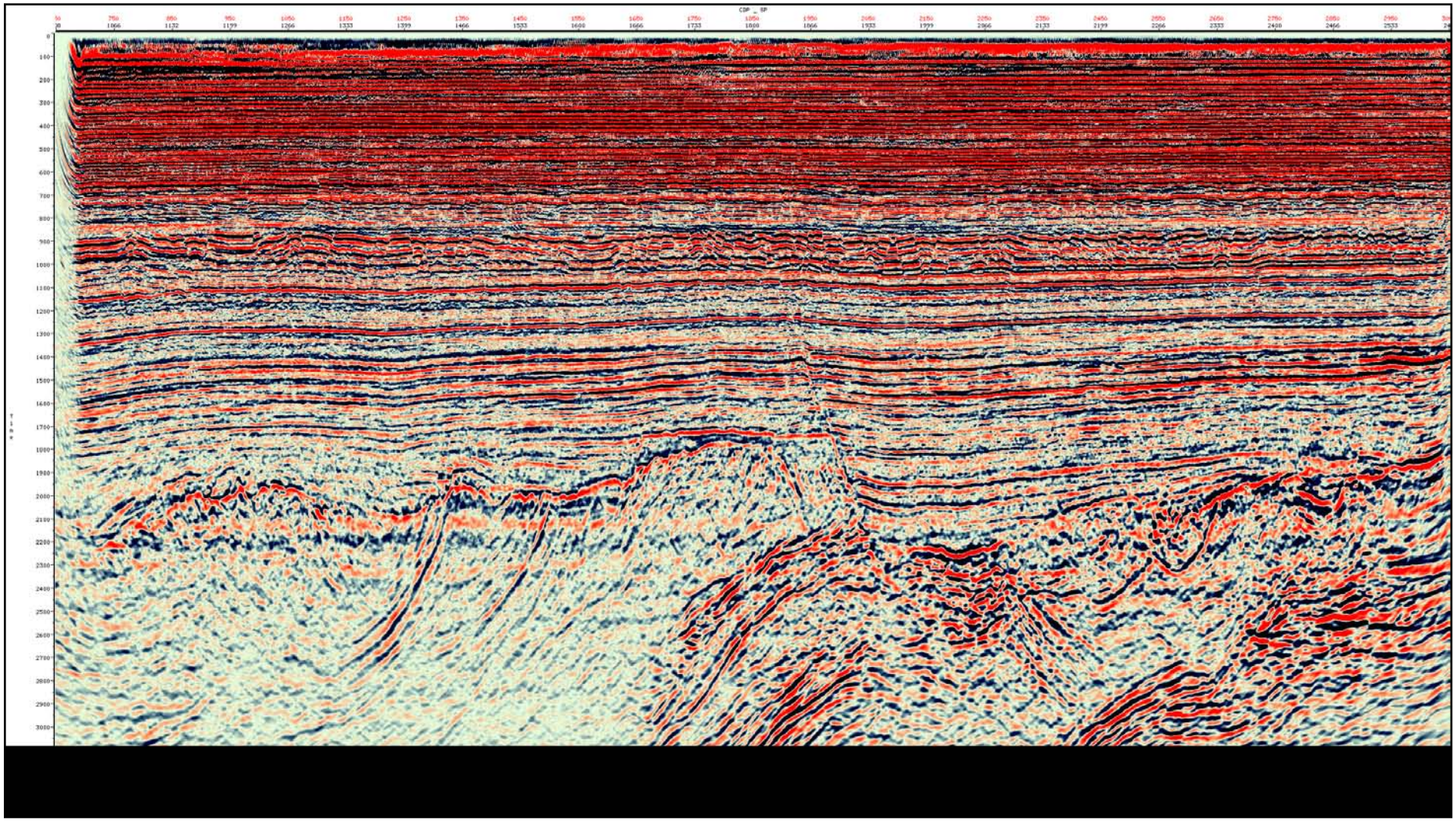
IL-1241: CDP – All Traces



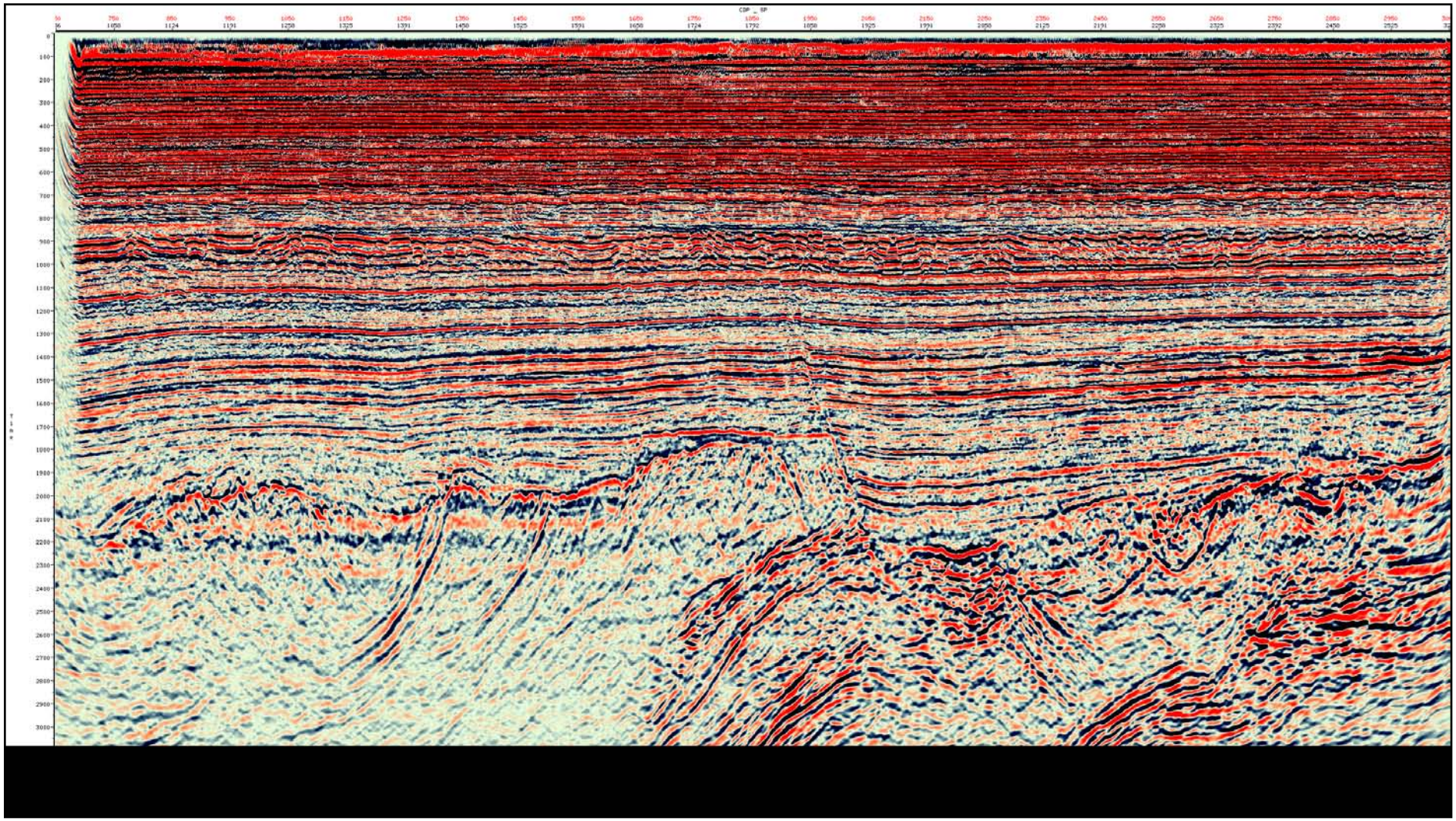
IL-1241: Limited trace, tr 61-80 dropped



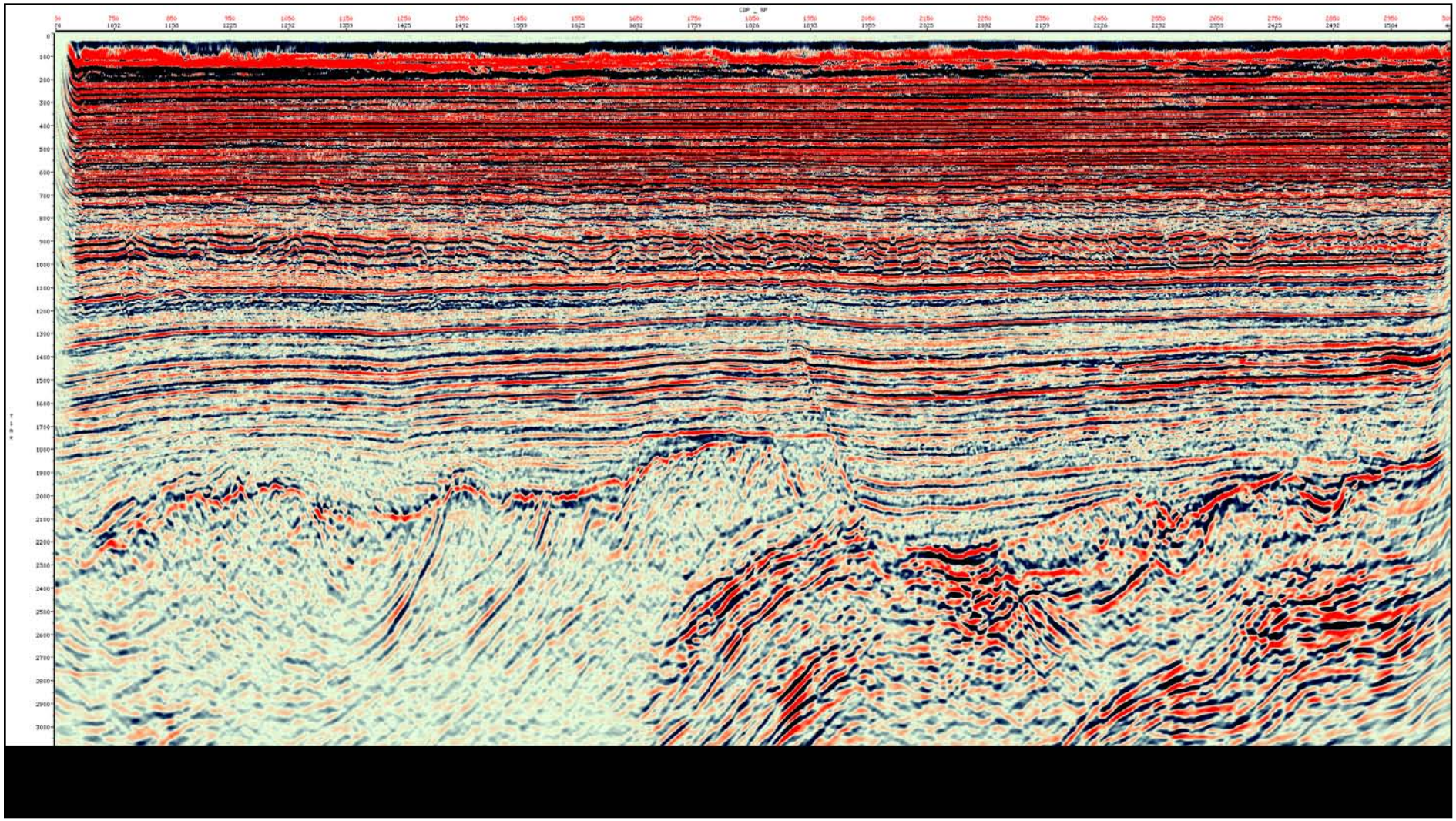
IL-1241: Near Stack 3-14 Degrees, all traces, trace 1-80



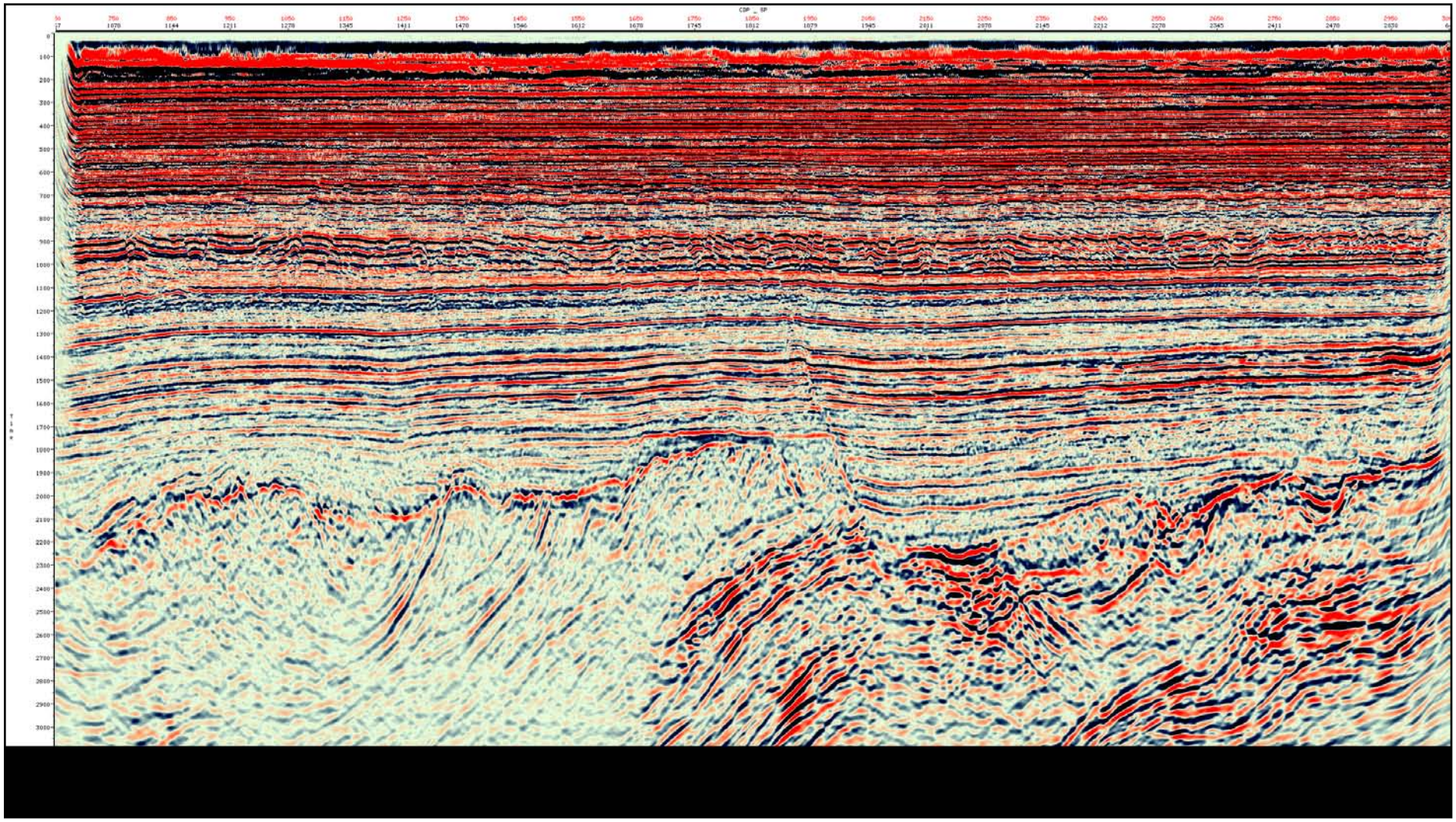
IL-1241: Near Stack 3-14 Degrees, selected trace 1-60



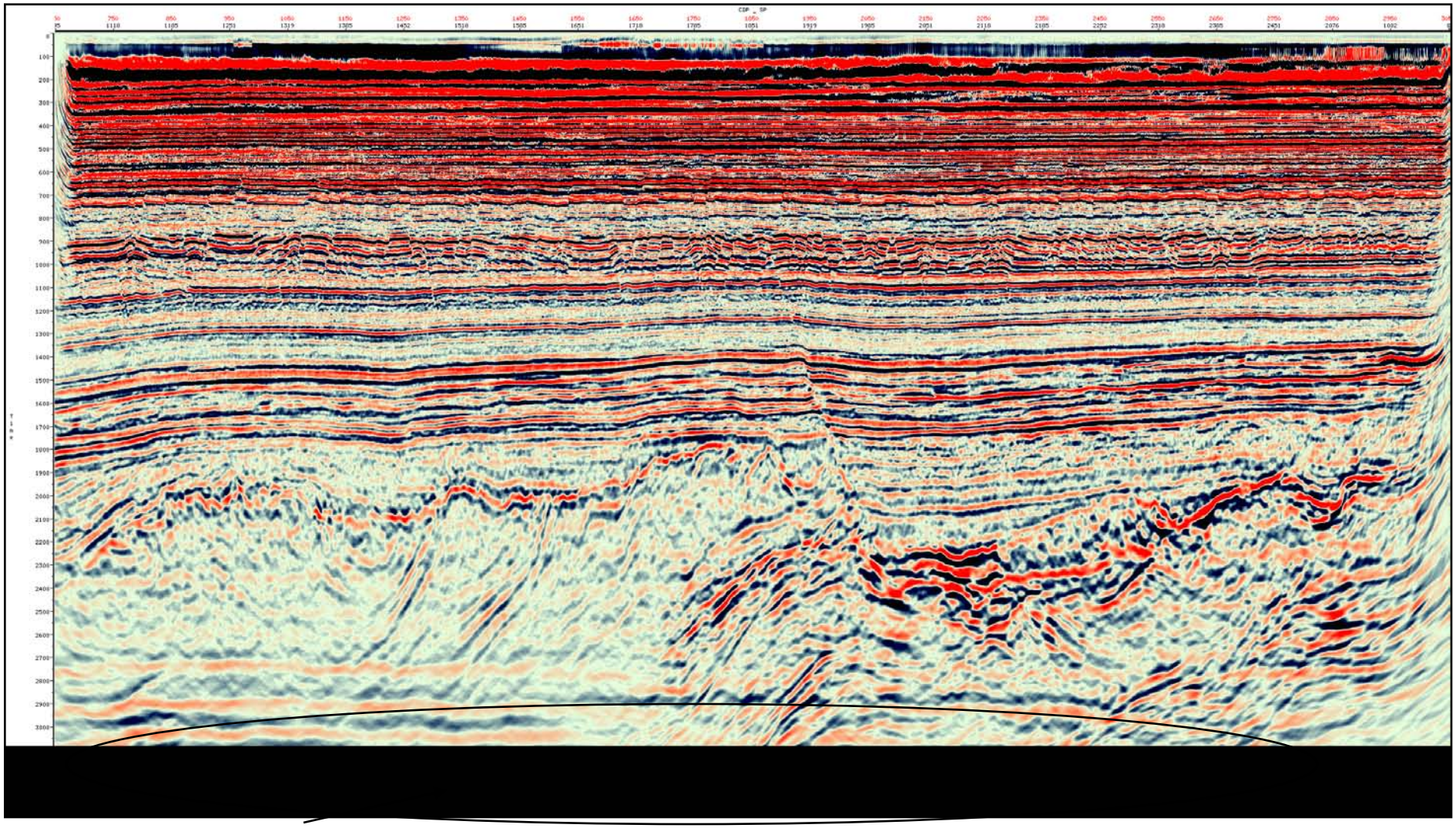
IL-1241: Mid Stack 14-25 Degrees, all traces, trace 1-80



IL-1241: Mid Stack 14-25 Degrees, selected trace 1-60

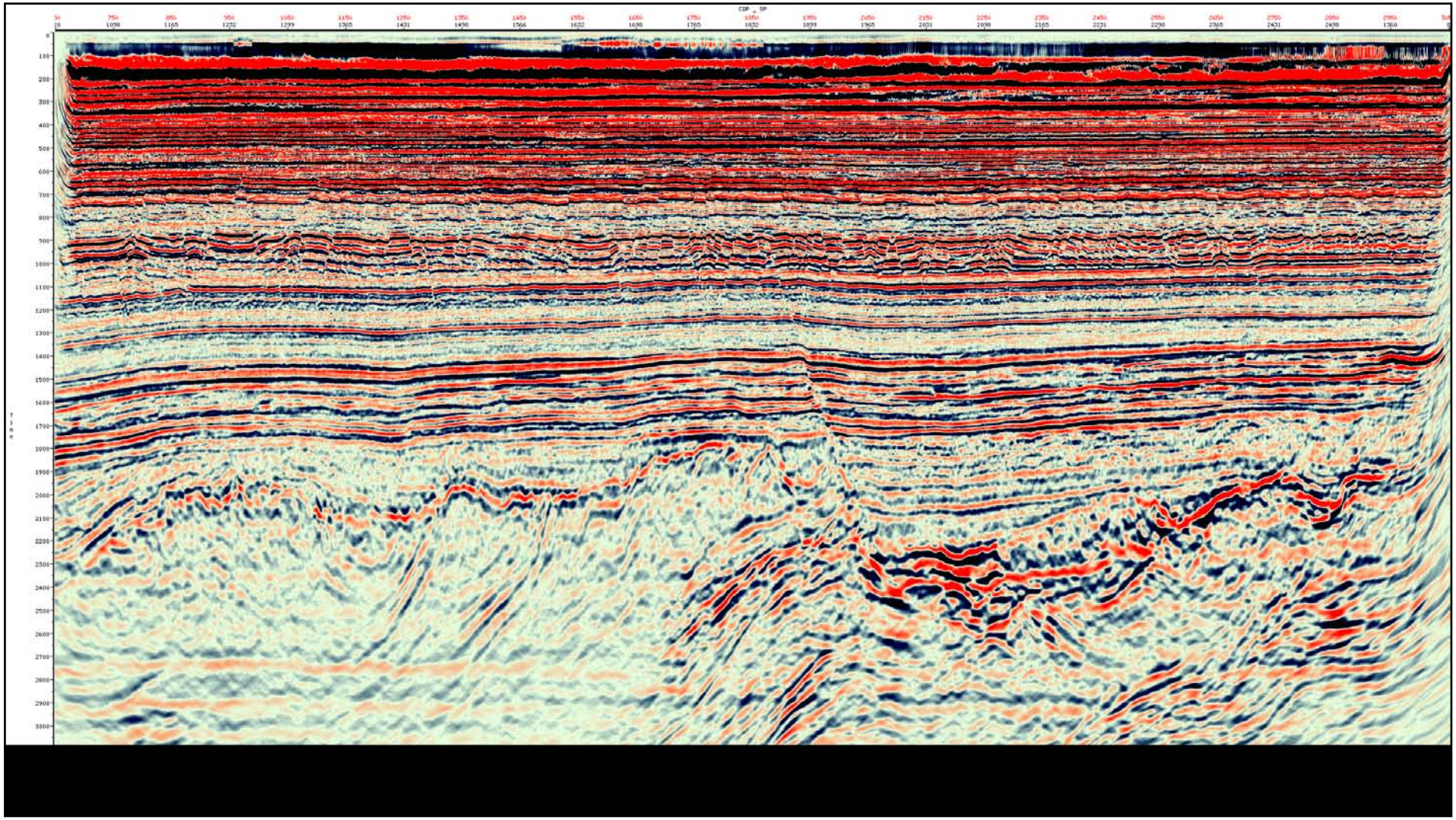


IL-1241: Far Stack 25-36 Degrees, all traces, trace 1-80



Trace selection is to remove this Low Freq noise

IL-1241: Far Stack 25-36 Degrees, selected trace 1-60



Conclusions & Recommendations

CGGV Recommend:

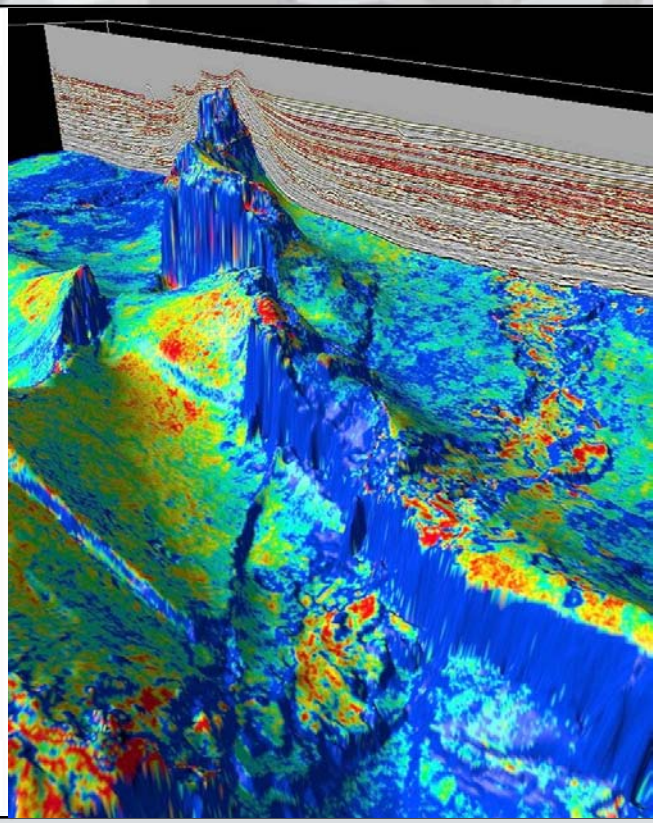
- Stack limited to 36 degrees mute.

near: 6-16 degrees

mid: 16-26 degrees

far: 26-36 degrees

Technical Note 16
QC *Pre-STM*
Silvereye 3D



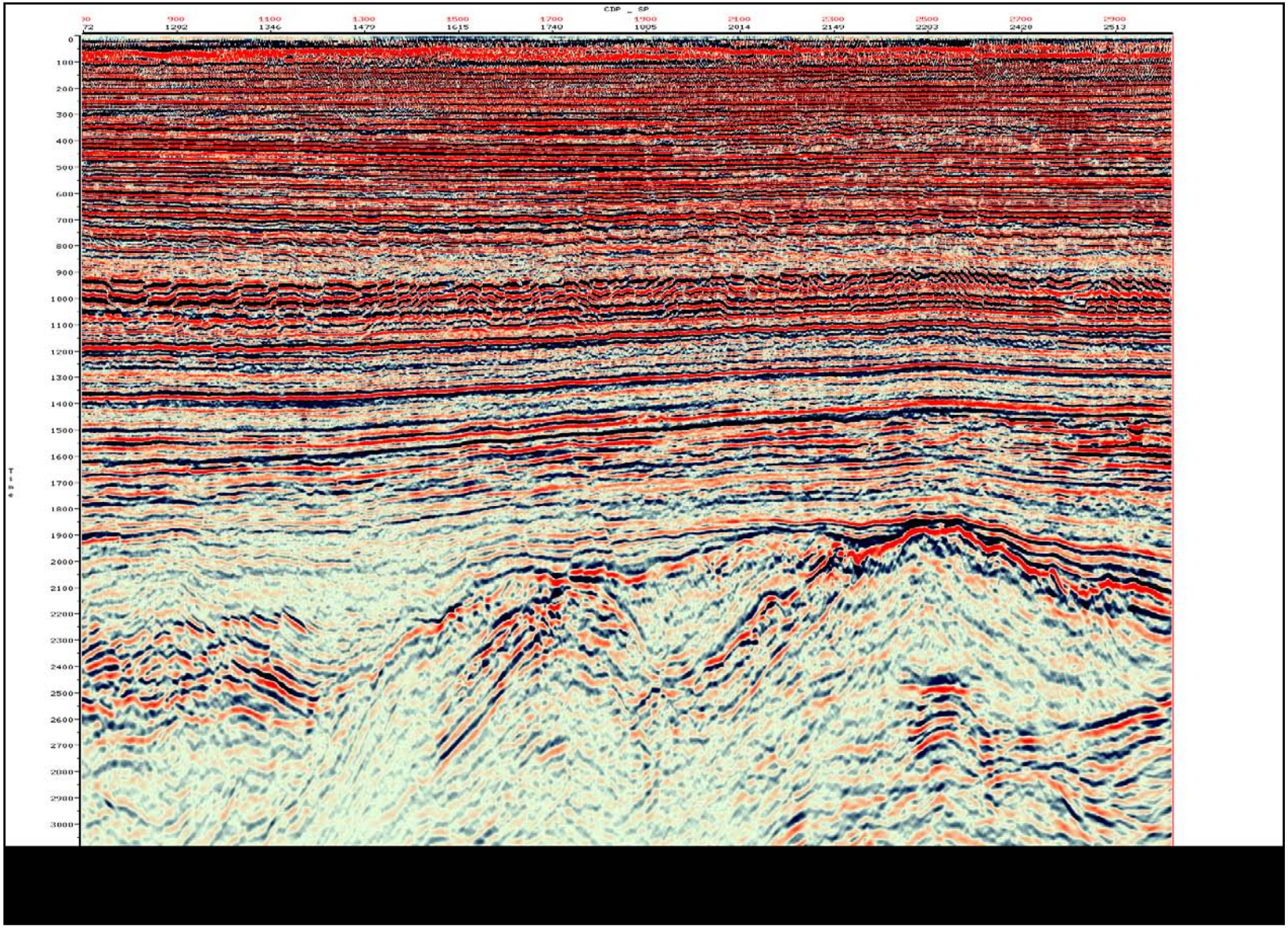
CGGVERITAS

Introduction

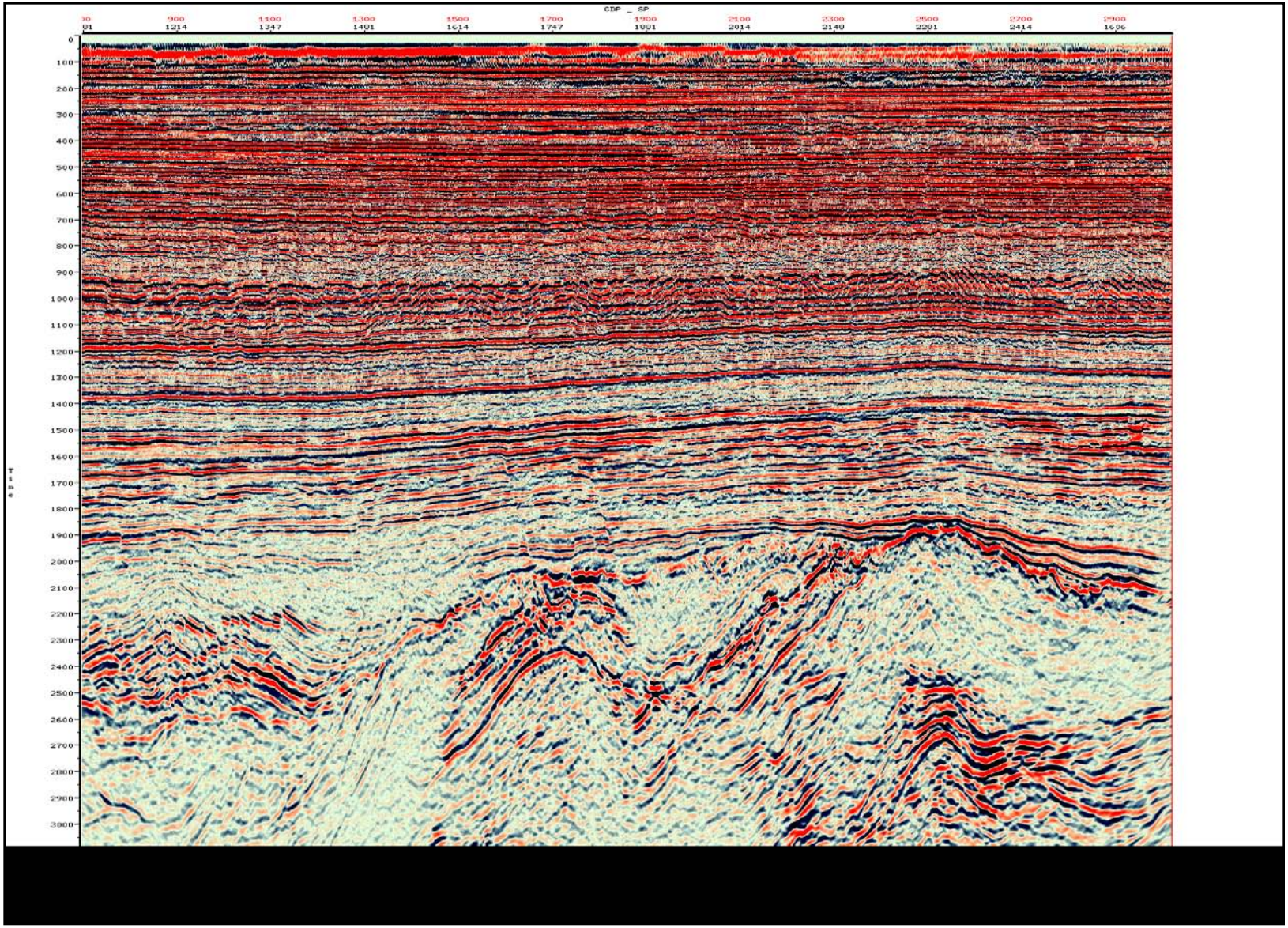
This ppt shows a comparison between Post Stack Migration (Data sent to Origin) with Final product of Pre Stack Time Migration (Data will send next week) for IL 1081, 1161, 1241.

QC Pre-STM

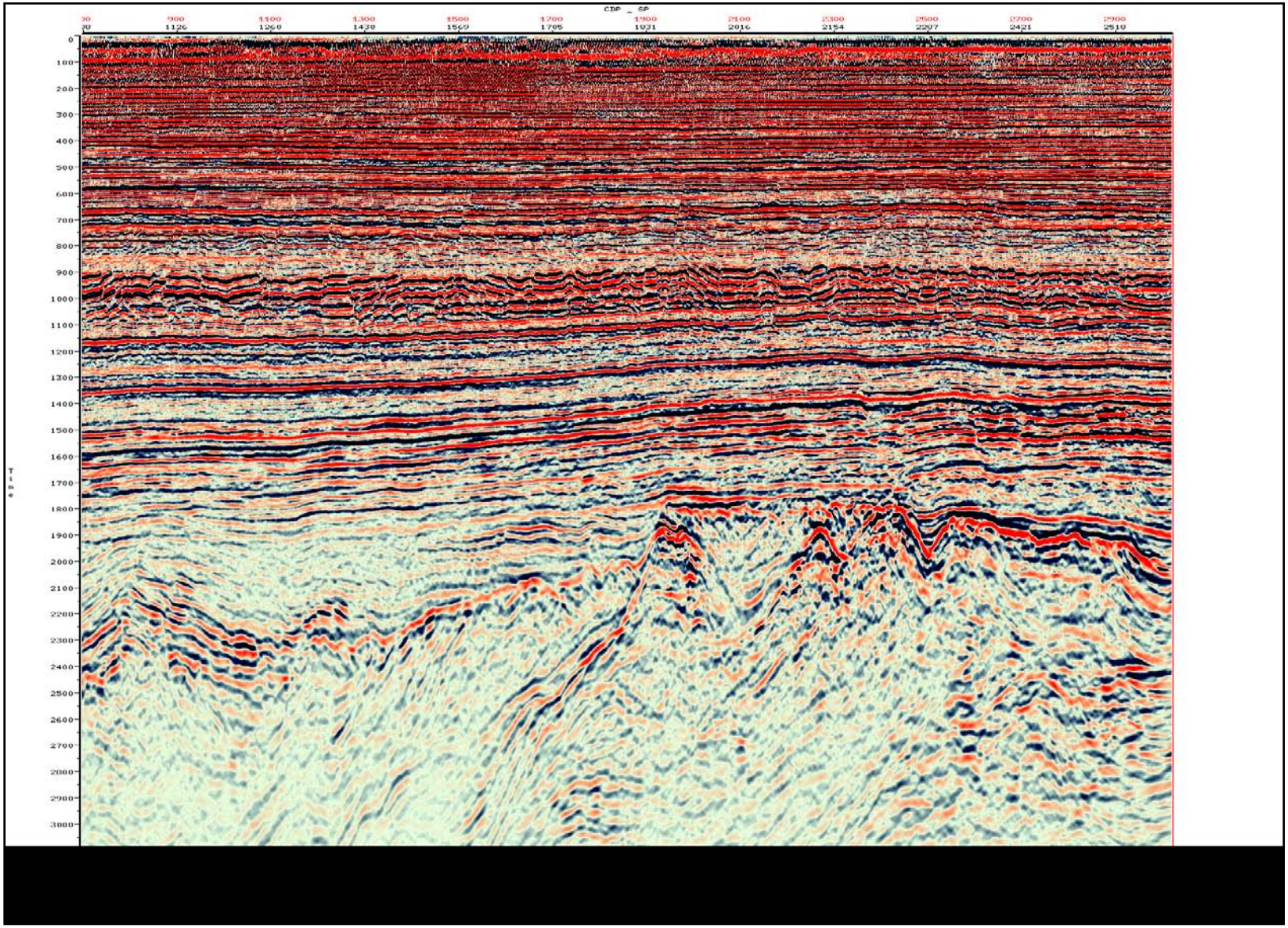
IL 1081: Post STM



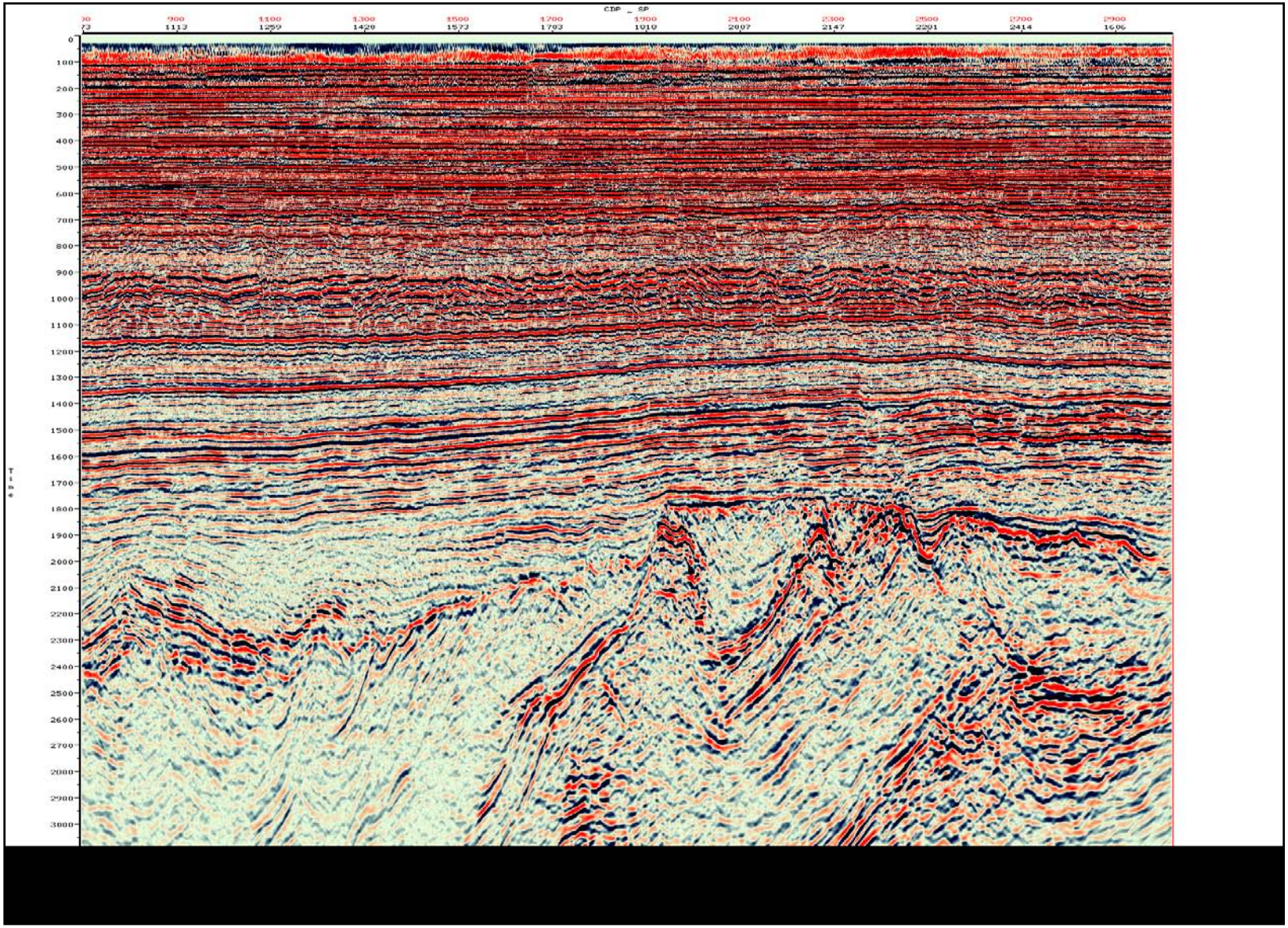
IL 1081: Final Pre-STM



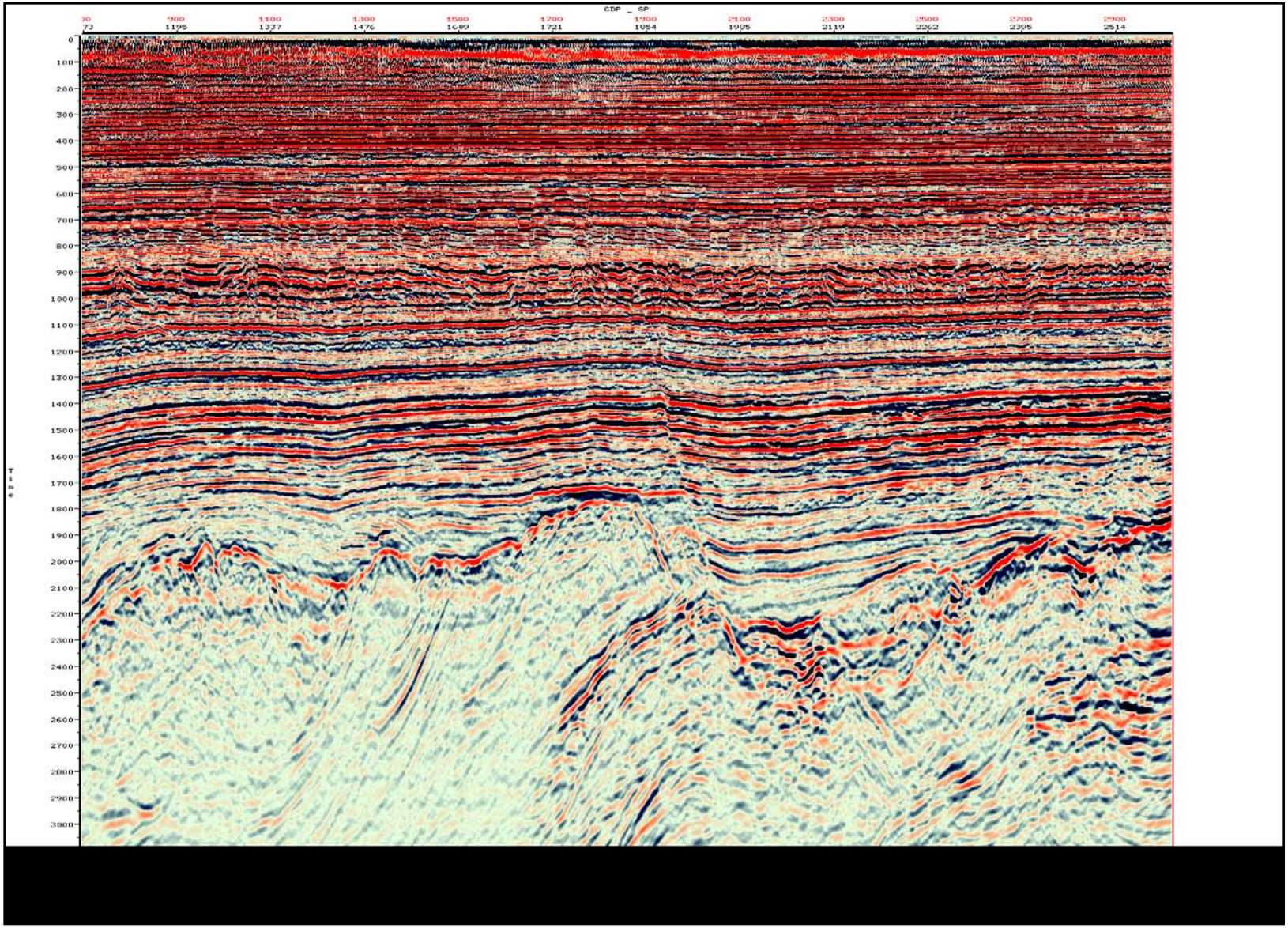
IL 1161: Post STM



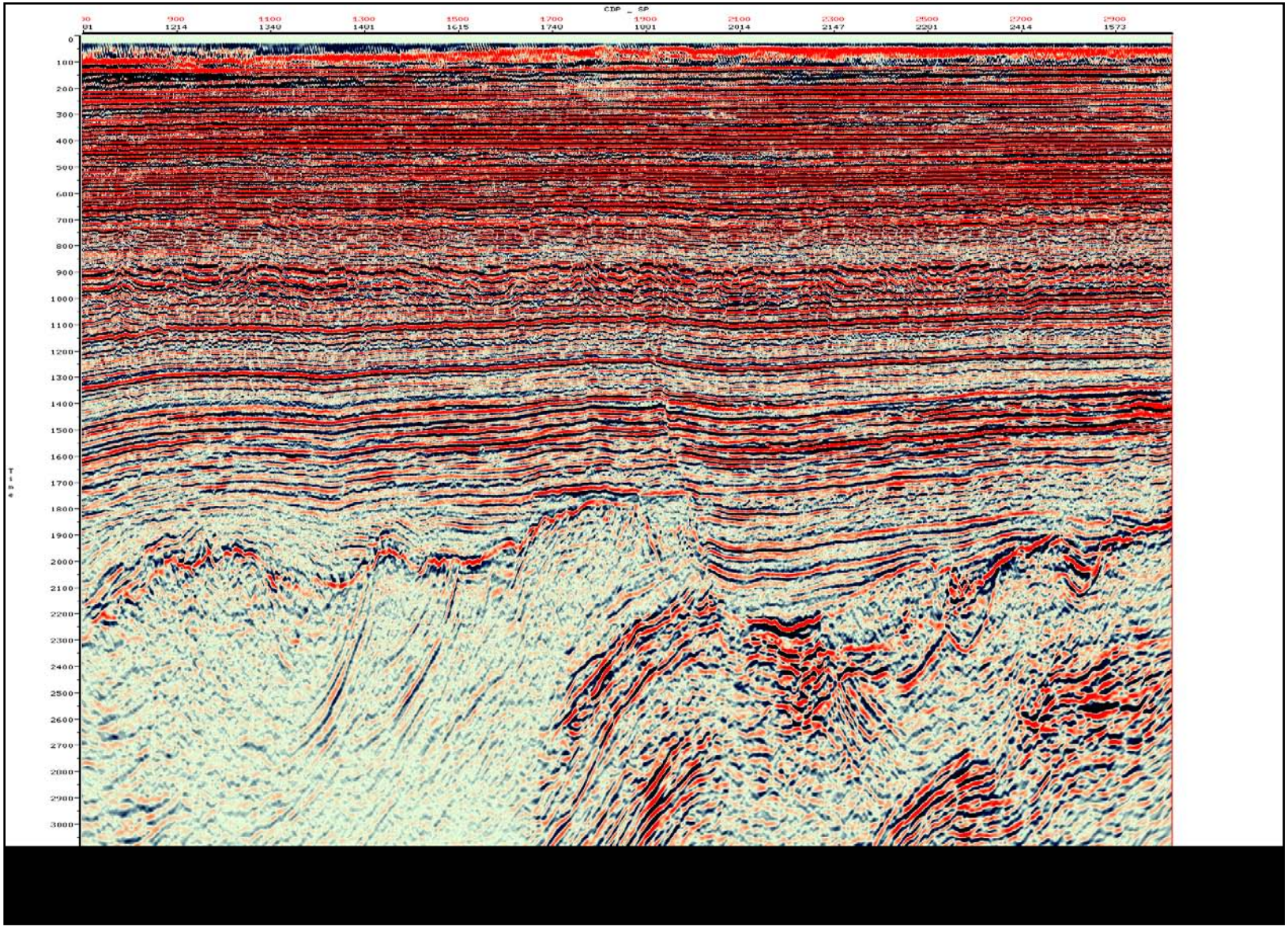
IL 1161: Final Pre-STM



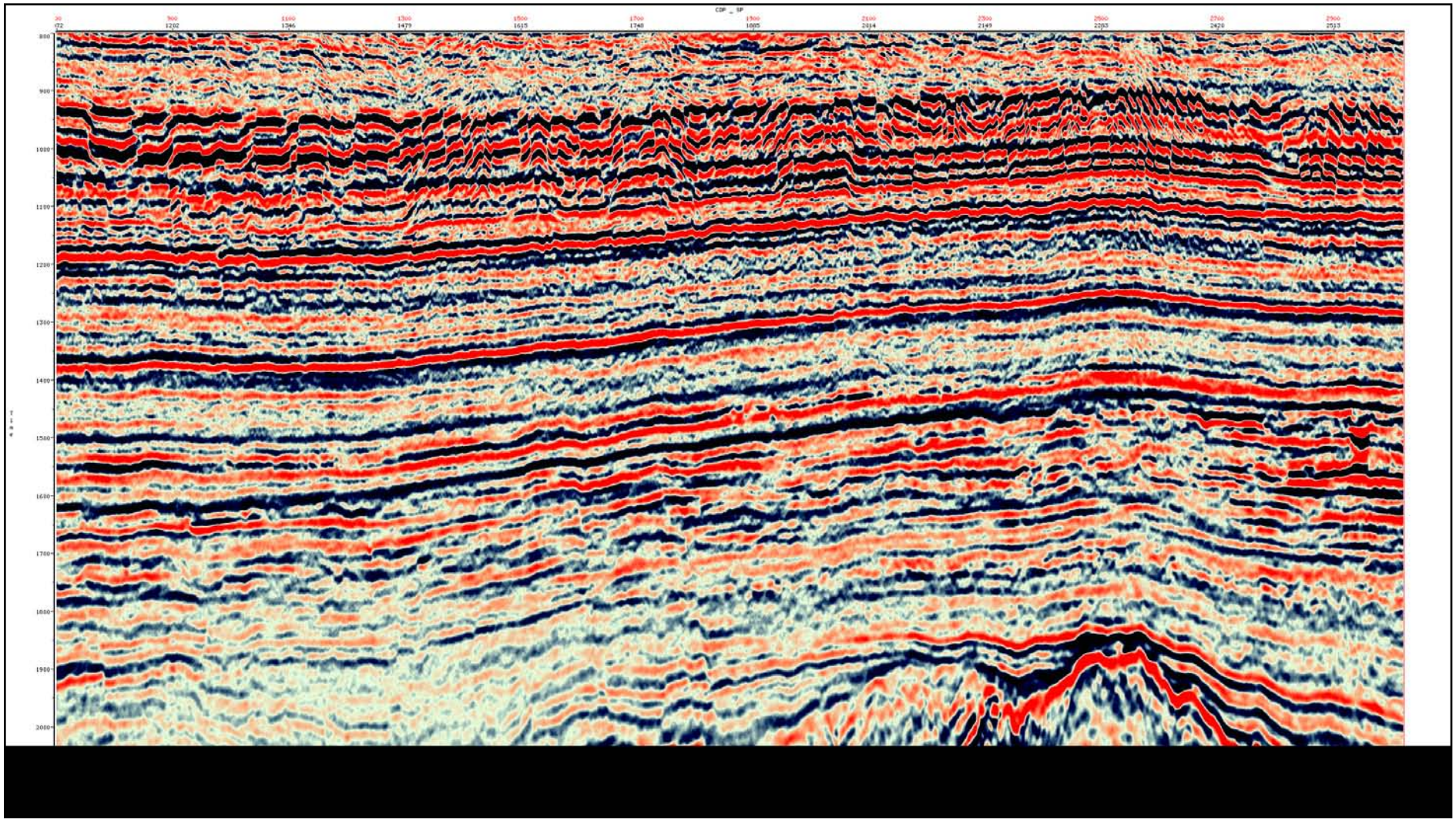
IL 1241: Post STM



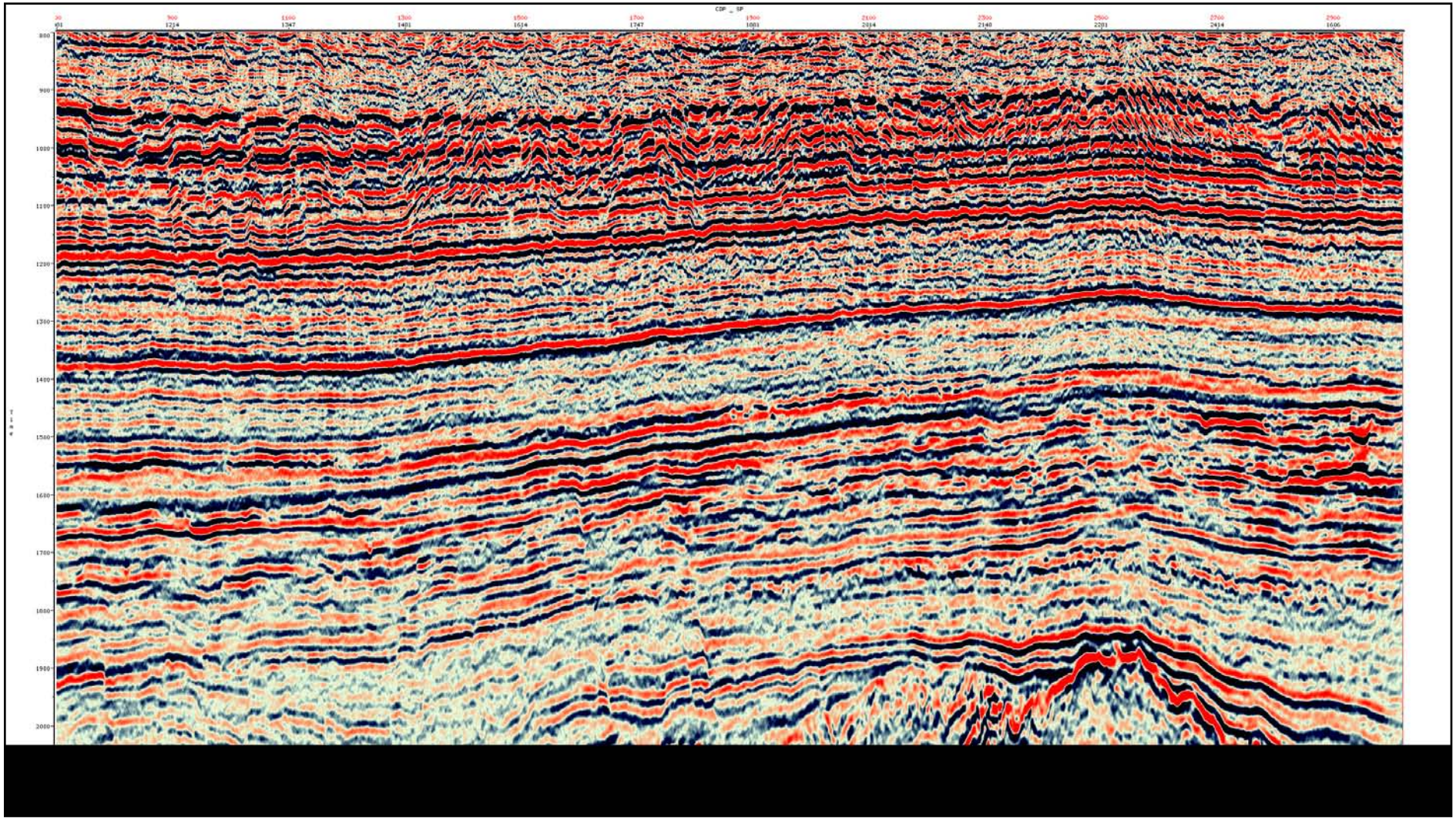
IL 1241: Final Pre-STM



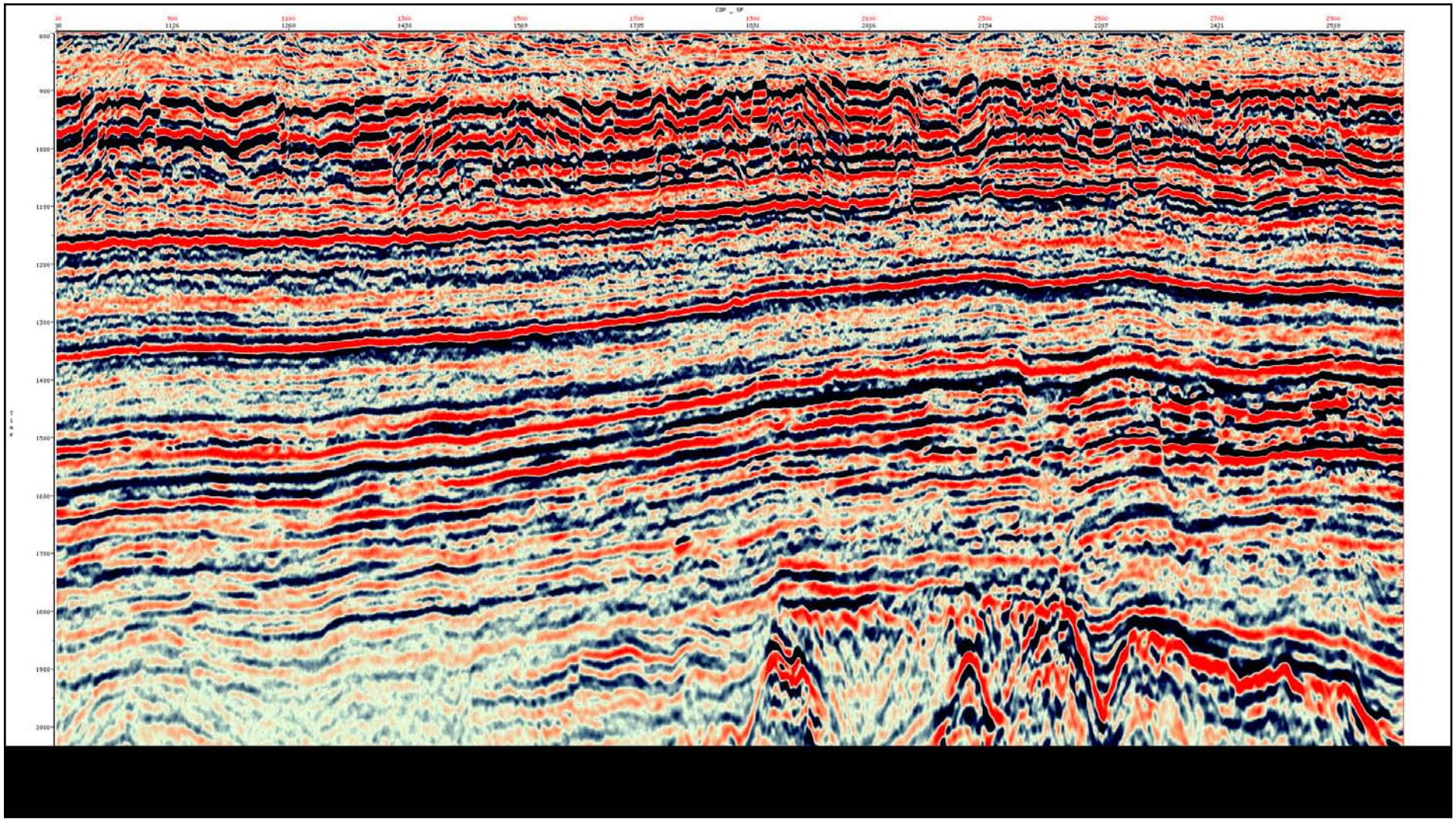
Zoomed IL 1081: Post STM



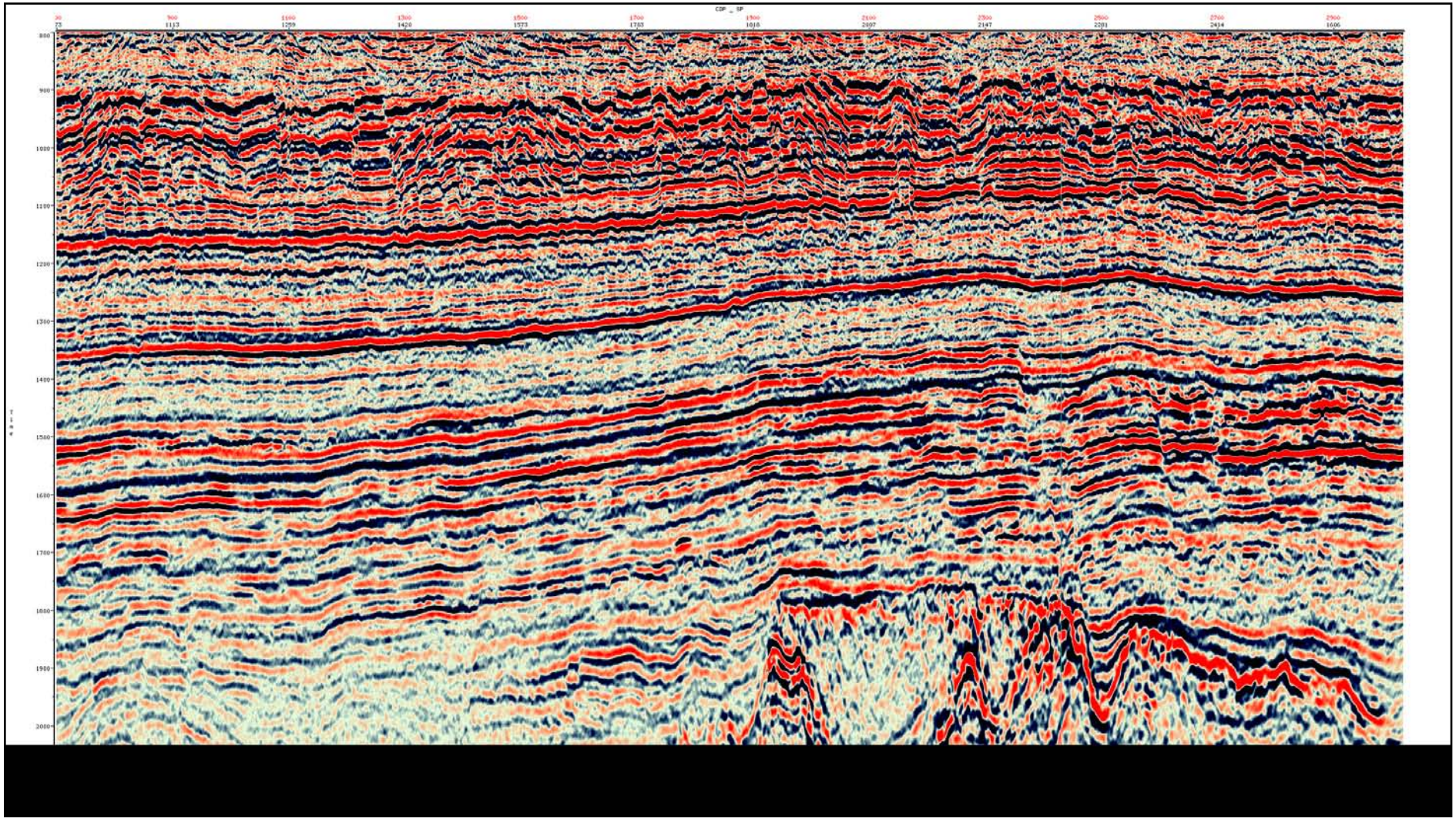
Zoomed IL 1081: Final Pre-STM



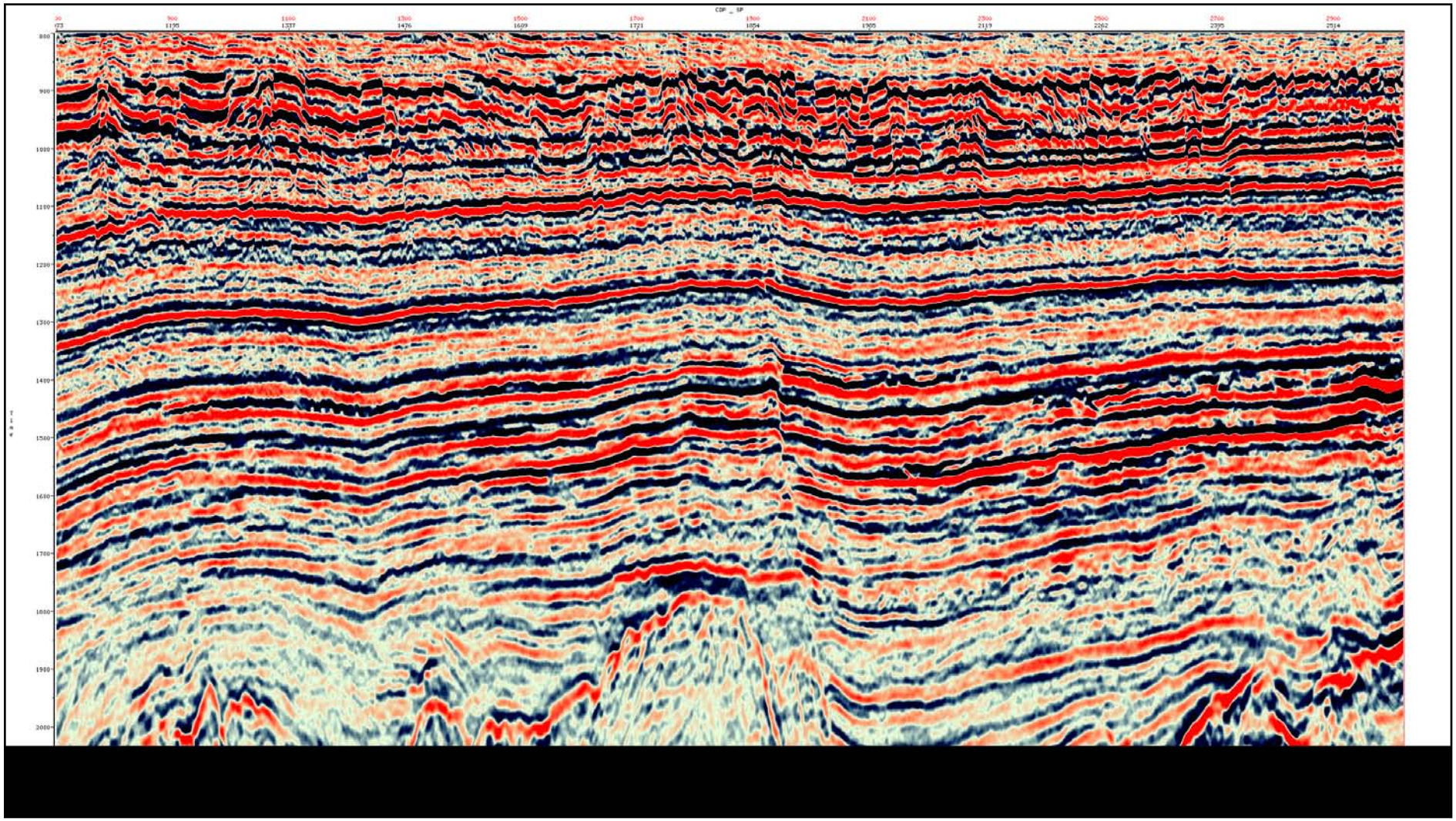
Zoomed IL 1161: Post STM



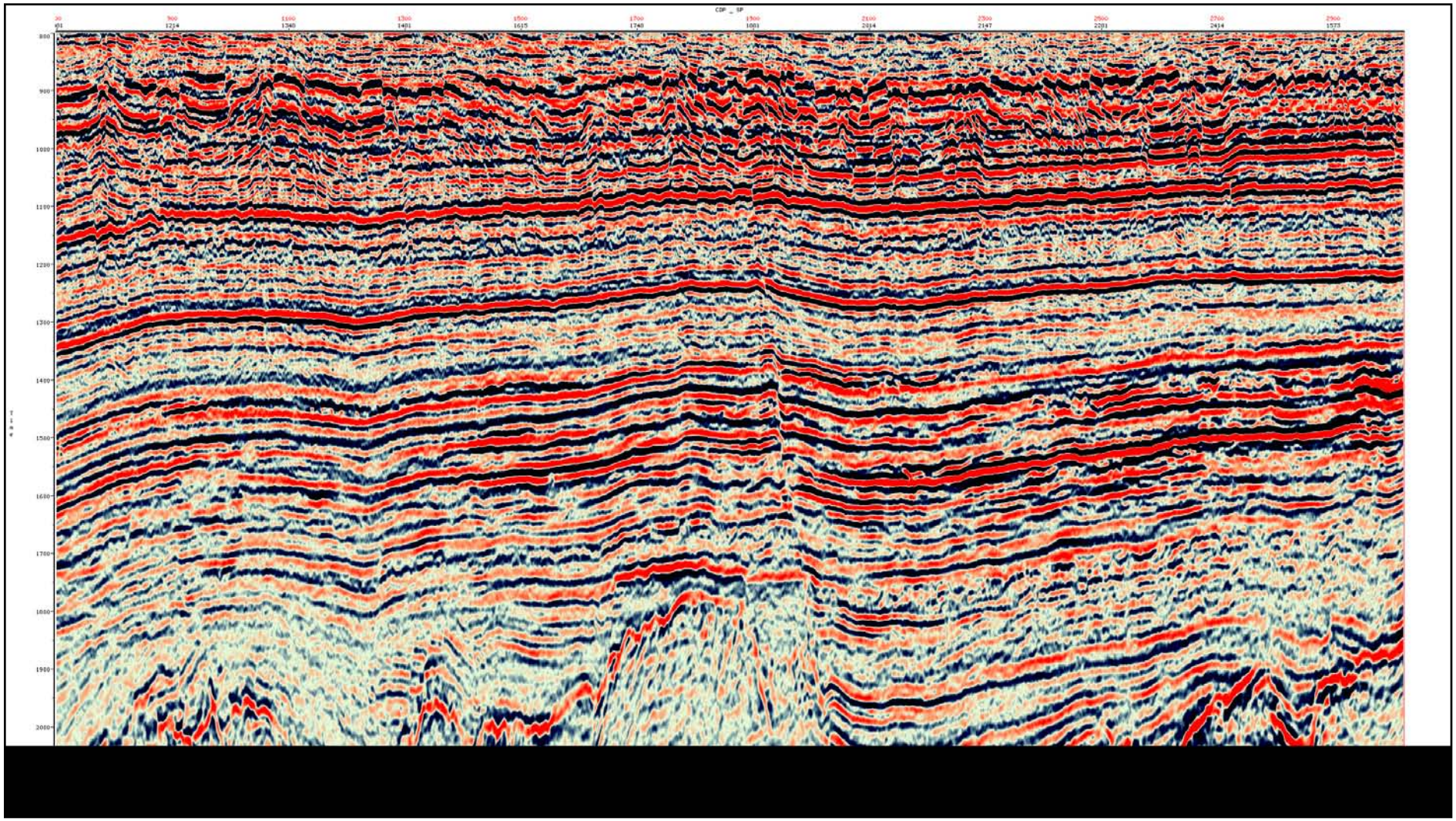
Zoomed IL 1161: Final Pre-STM



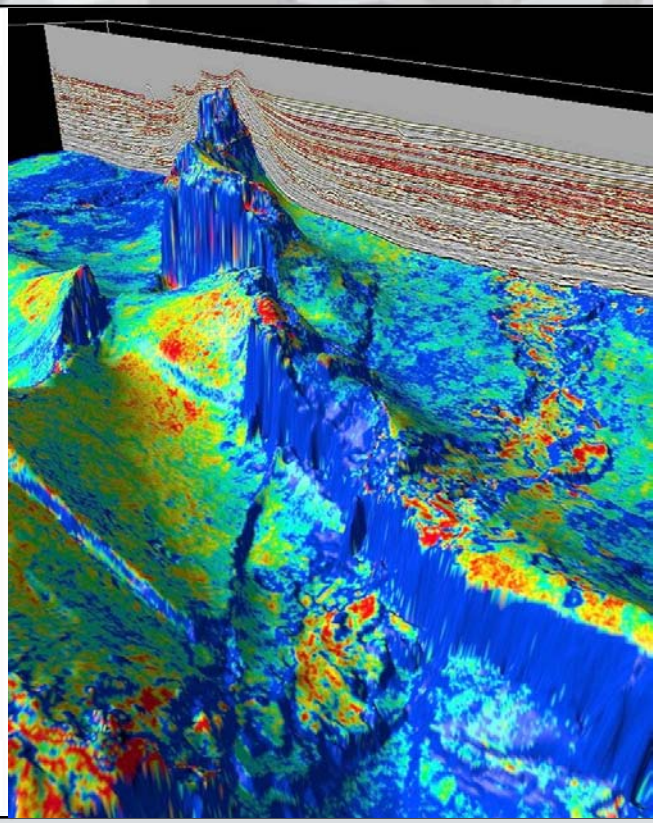
Zoomed IL 1241: Post STM



Zoomed IL 1241: Final Pre-STM



Technical Note 17
AVO Intercept-Gradient
Silvereye 3D



CGGVERITAS

Introduction

This ppt shows the AVO Intercept-Gradient calculated with Robust method for IL 1161, 1241.

Processing Sequence to date

Processing Sequence to date

- Reformatting & Seismic/Navigation merge
- Conversion of Field data to CGG internal format
- Instrument Delay (Phase 58ms)
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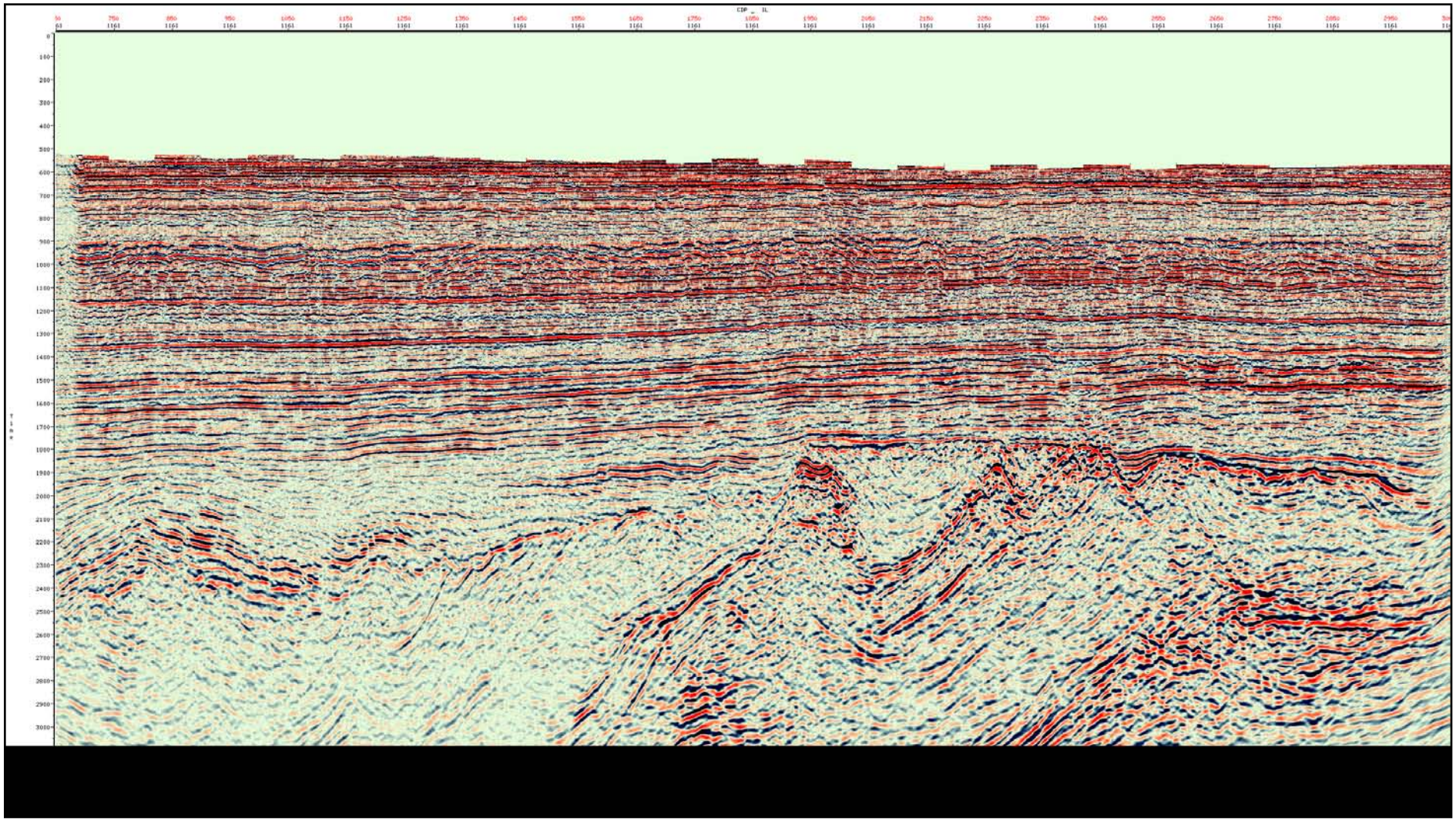
- Amplitude Recovery, multiply amplitudes by (T/250)2
- De-bias and Low Cut Filter: 3Hz
- Swell Noise Attenuation in SP domain follow with Channel domain
- Linear Radon
- DBS and LNA in Tau-P domain
- KNotch Filter
- SRME, subtraction in cdp domain
- V1 velocity 2kmx2km
- Time variant Radon De-multiple
- G/C Static Correction, Tidal Static Correction
- Zerophase filter and Spectral amplitude correction
- Q Phase only
- Source and Channel amplitude correction
- Sort to 3D Offset
- REG3D
- Replace T2 with TV Ursin (offset term)
- PSTM: Ray Trace, Dip Lim 75, Aperture 4 km, Smoothed V2 Velocity
- HDPIC
- Linear Radon for Far Offset and selected time only
- QComp Amplitude Only
- Exponential Gain 1 dB/sec
- Residual Radon De-multiple

Current Test

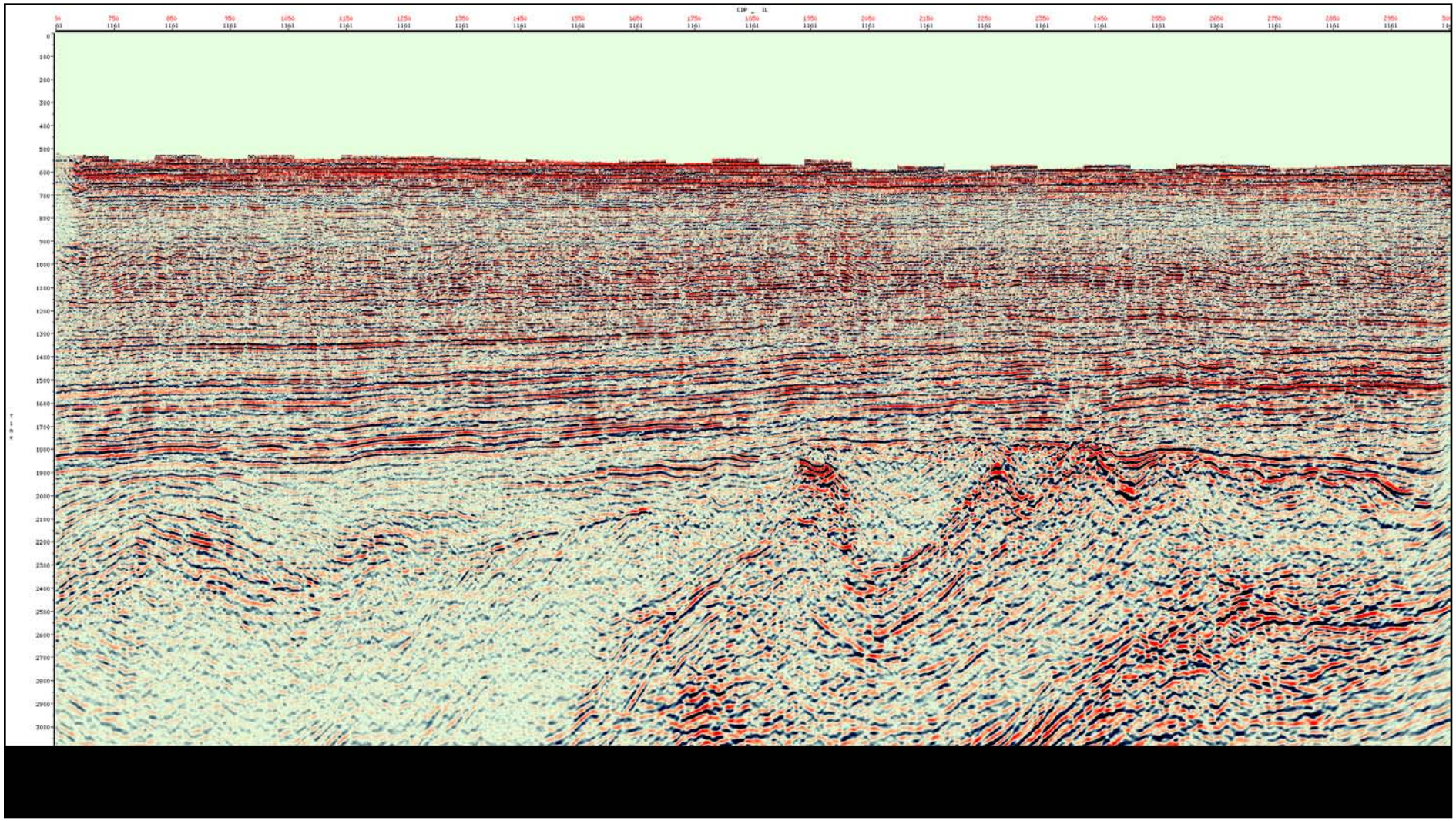
- **AVO, Intercept and Gradient**

AVO Intercept-Gradient

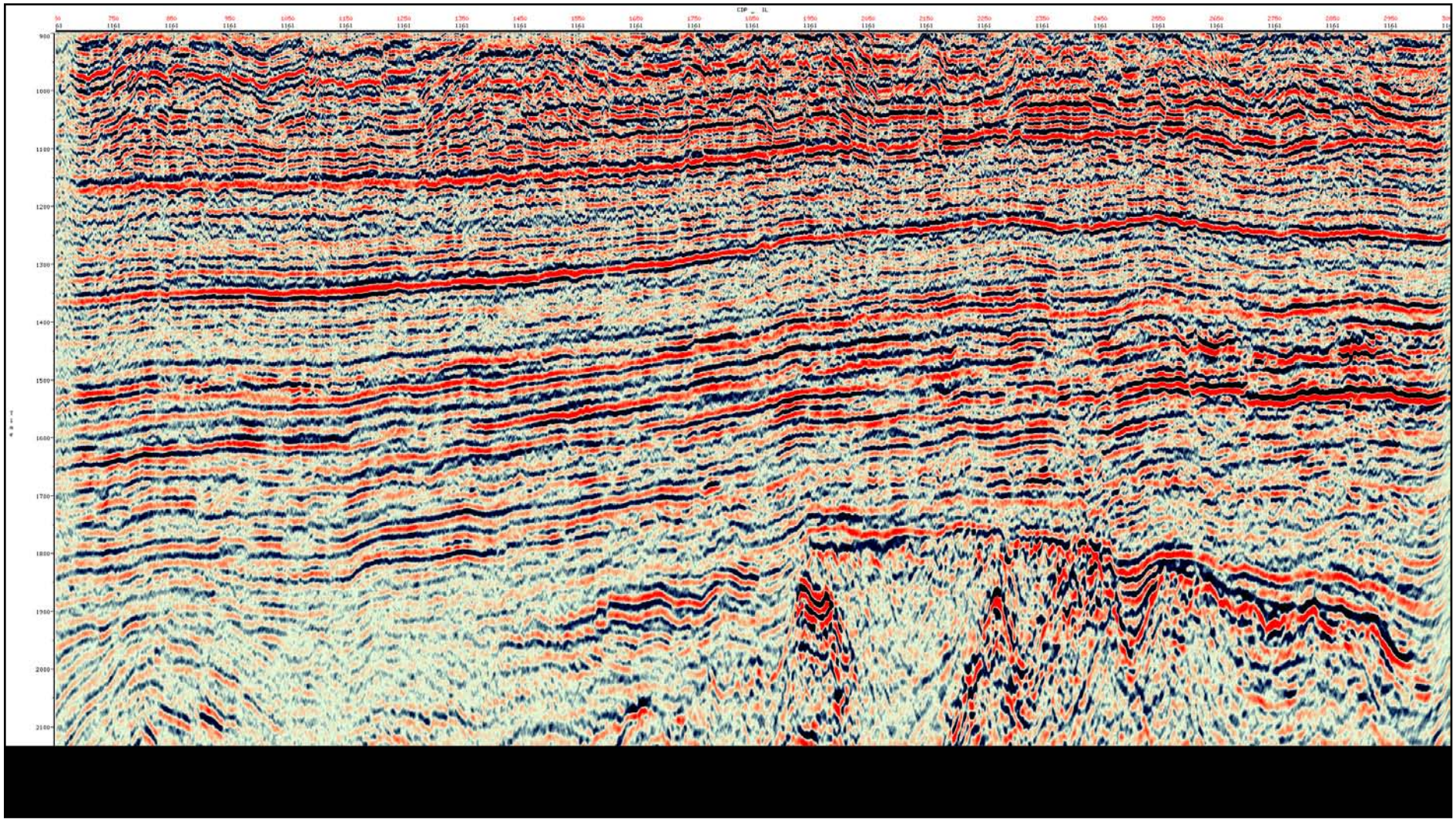
IL 1161: Intercept



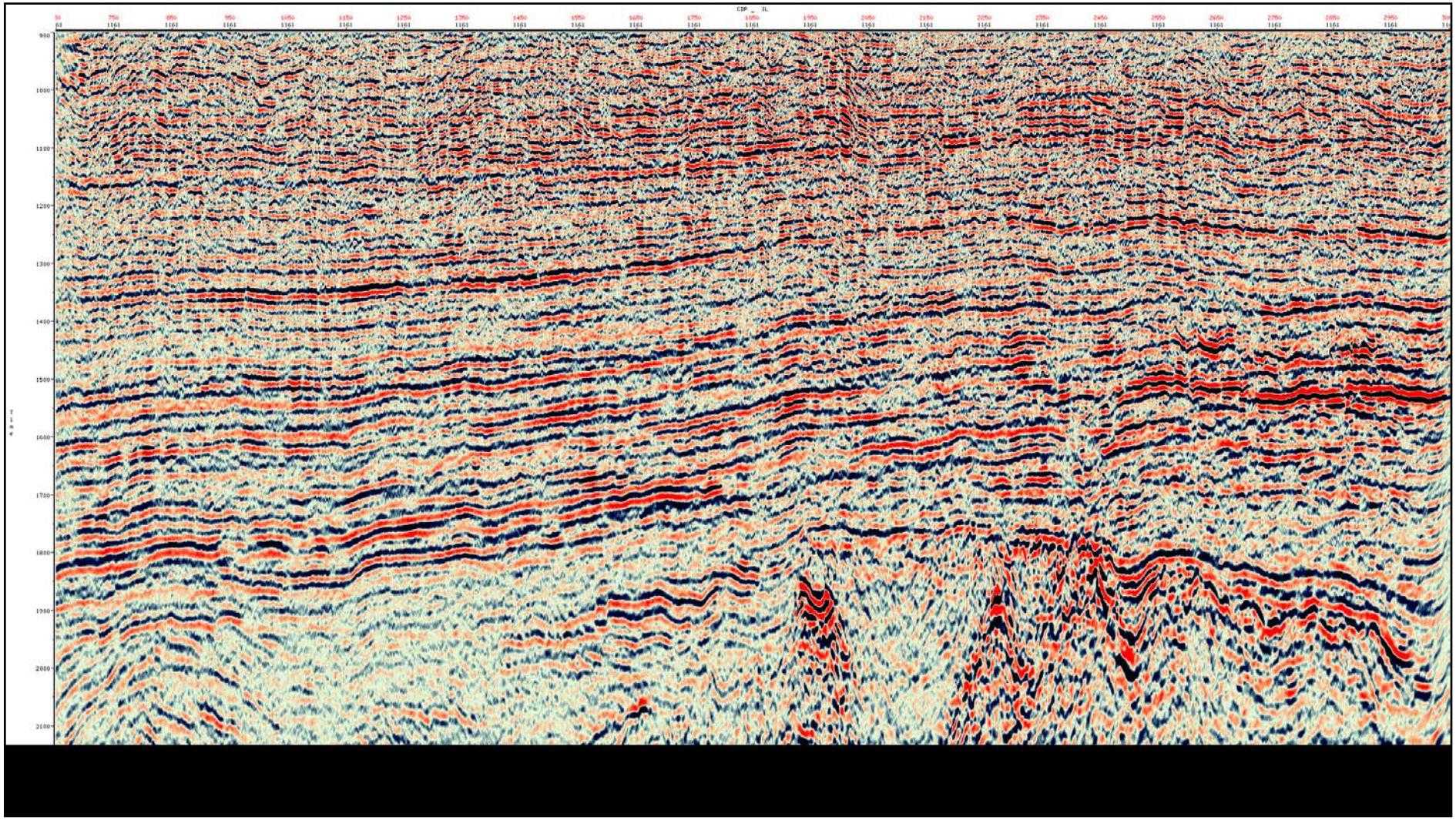
IL 1161: Gradient



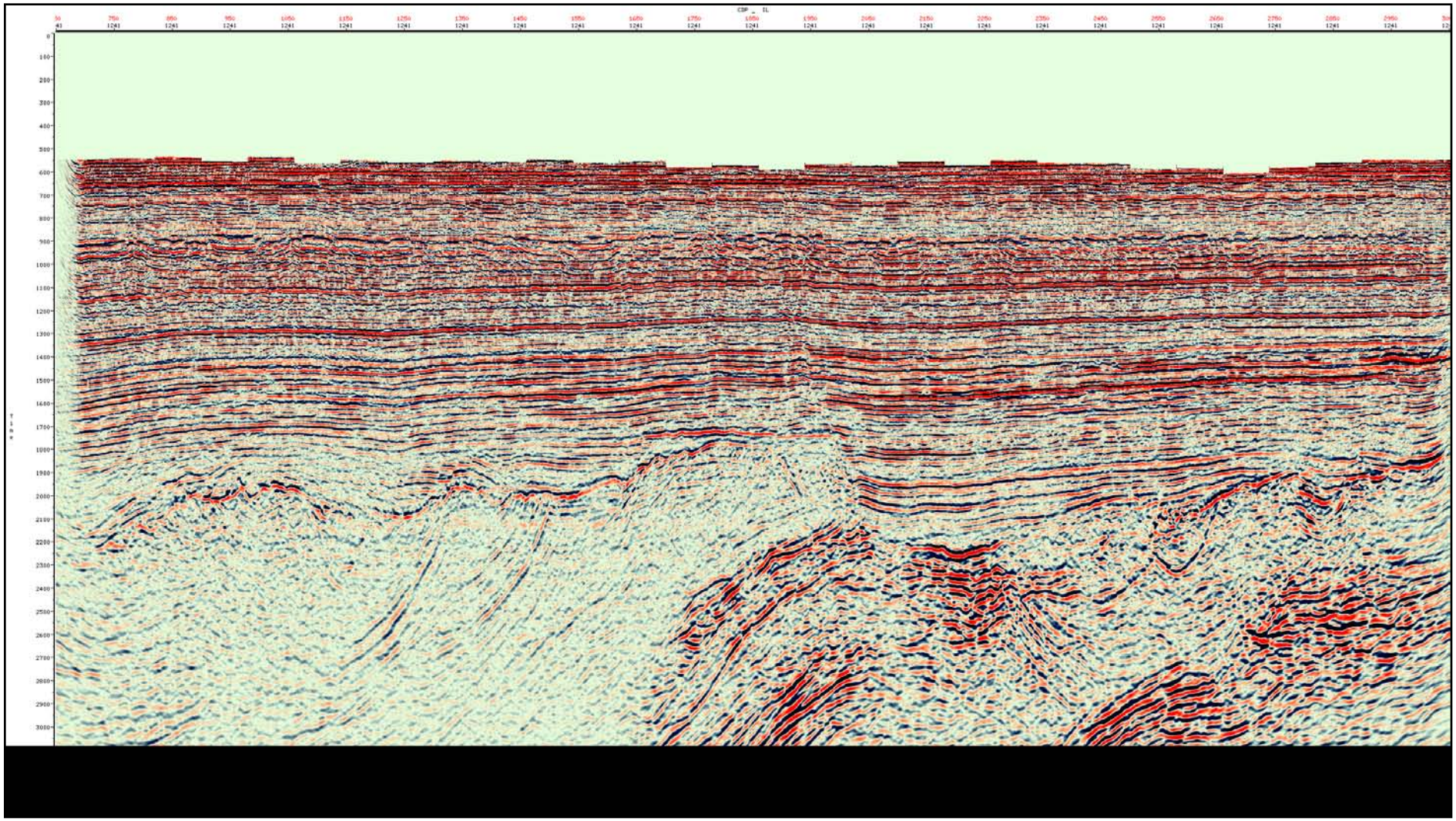
Zoomed IL 1161: Intercept



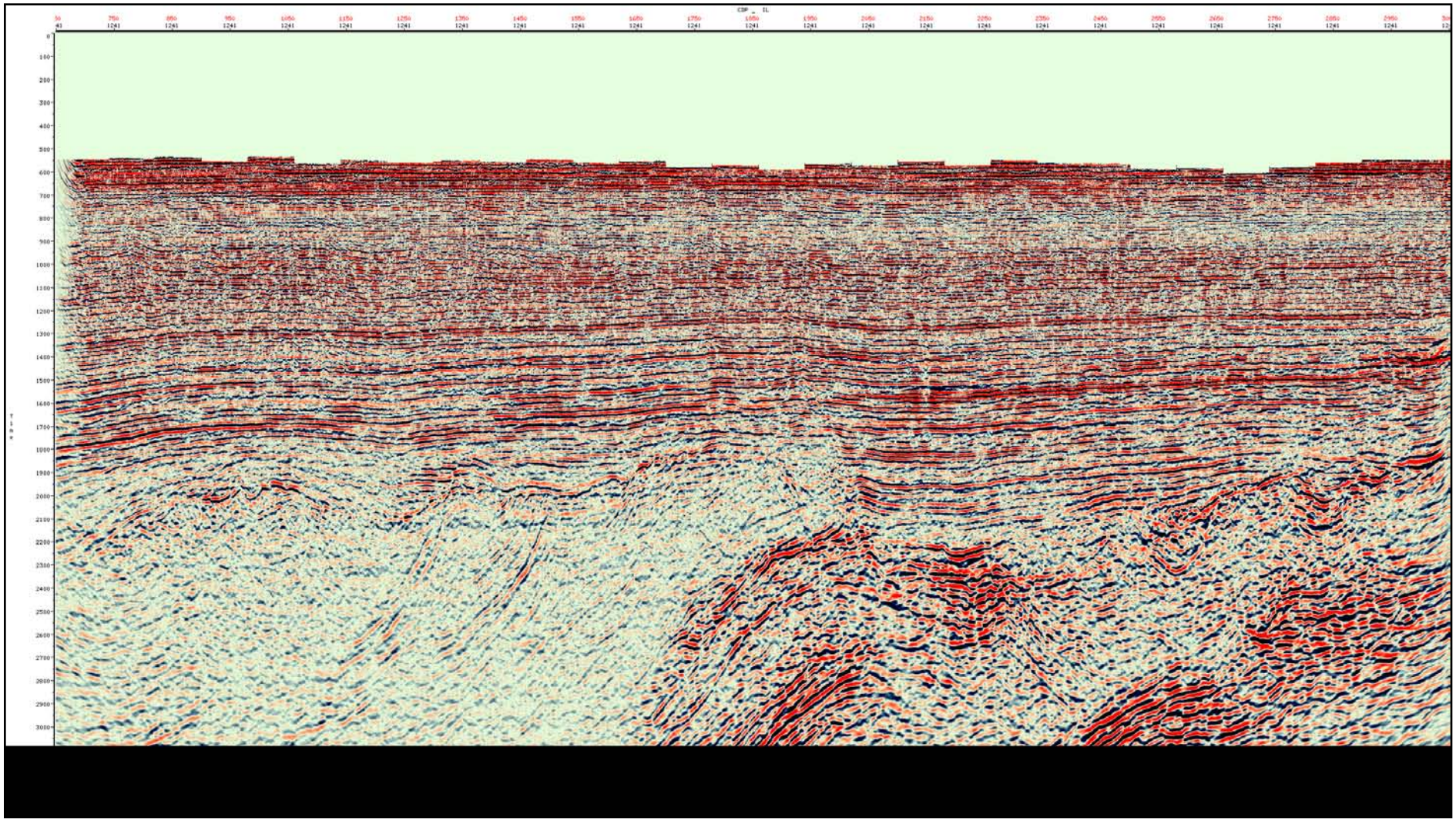
Zoomed IL 1161: Gradient



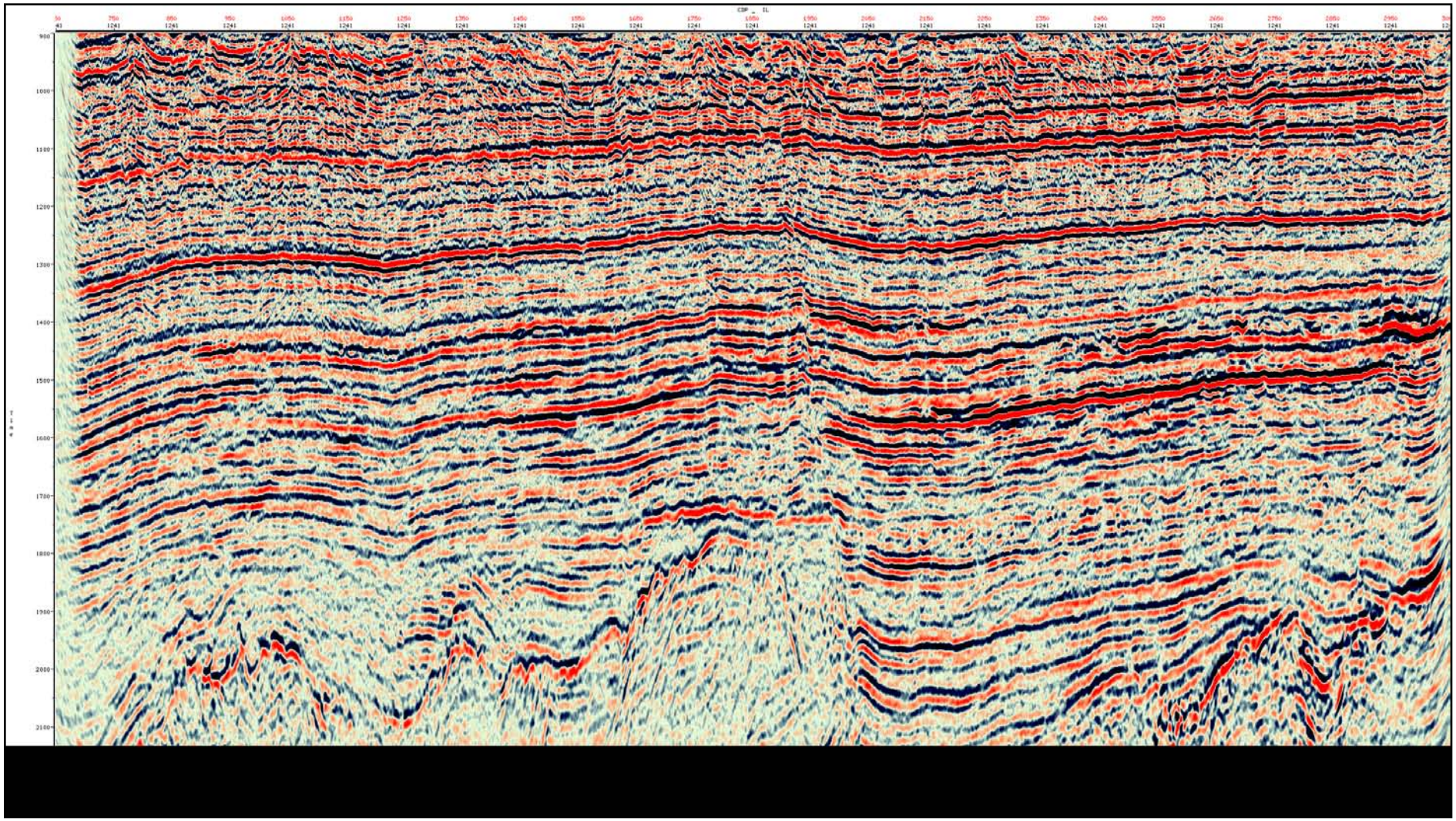
IL 1241: Intercept



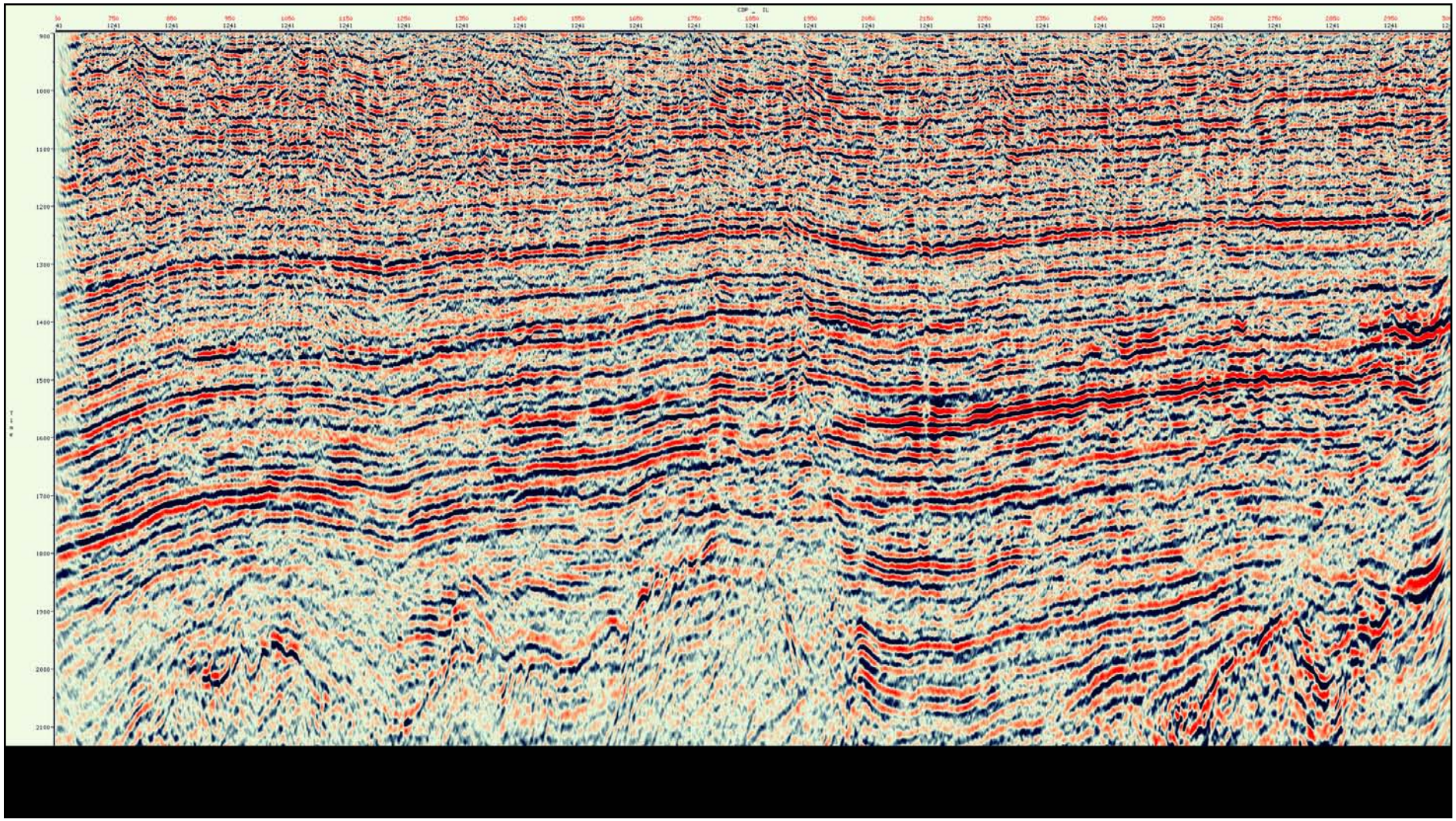
IL 1241: Gradient



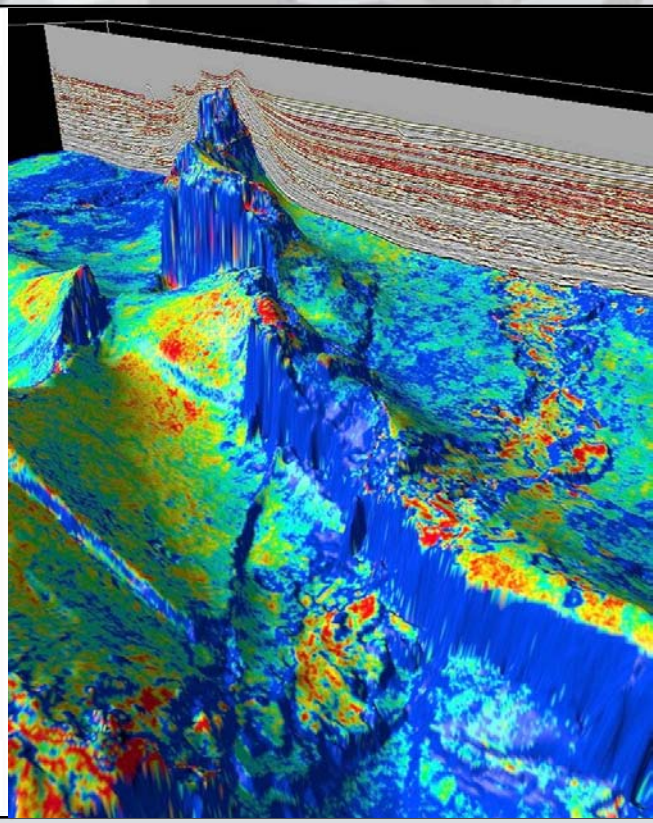
Zoomed IL 1241: Intercept



Zoomed IL 1241: Gradient



Technical Note 17
AVO Intercept-Gradient
Silvereye 3D



CGGVERITAS

Introduction

This ppt is show AVO Intercept-Gradient calculated with Robust method for IL 1161, 1241.

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- DBS and LNA in Tau-P domain
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- SRME, subtraction in cdp domain
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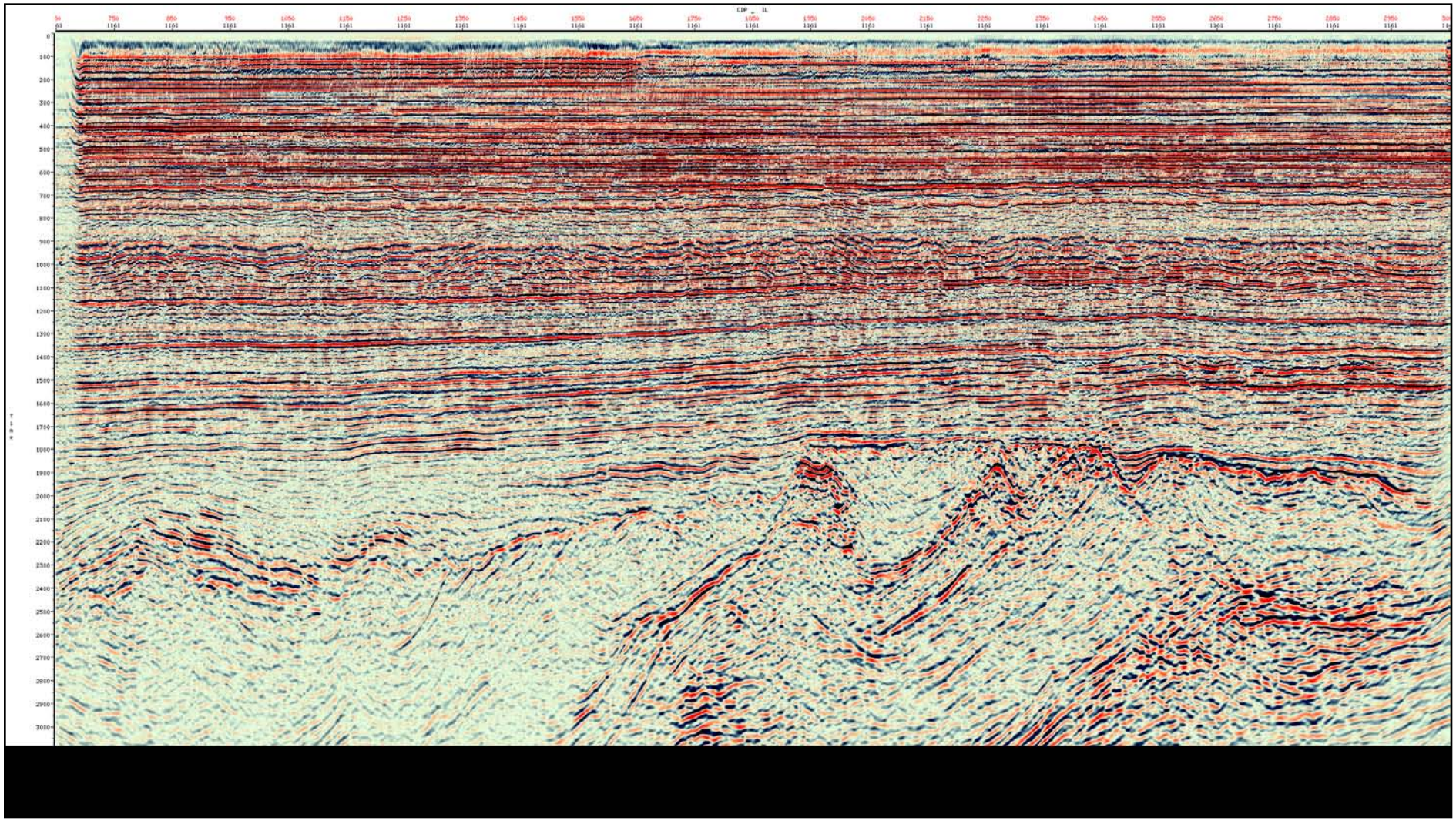
- Exponential Gain 1 dB/sec
- Residual Radon De-multiple

Current Test

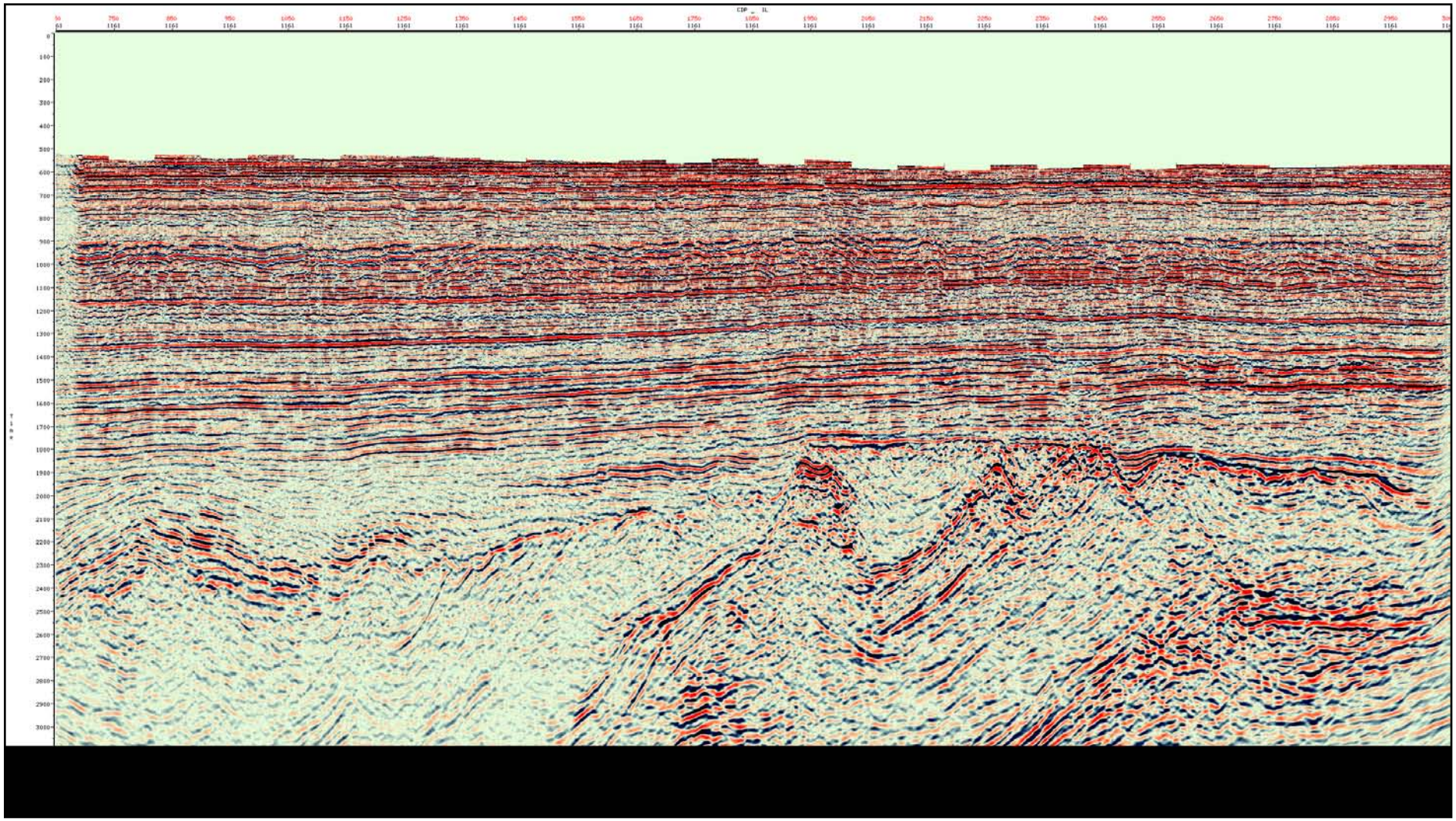
- **AVO, Intercept and Gradient**

AVO Intercept-Gradient

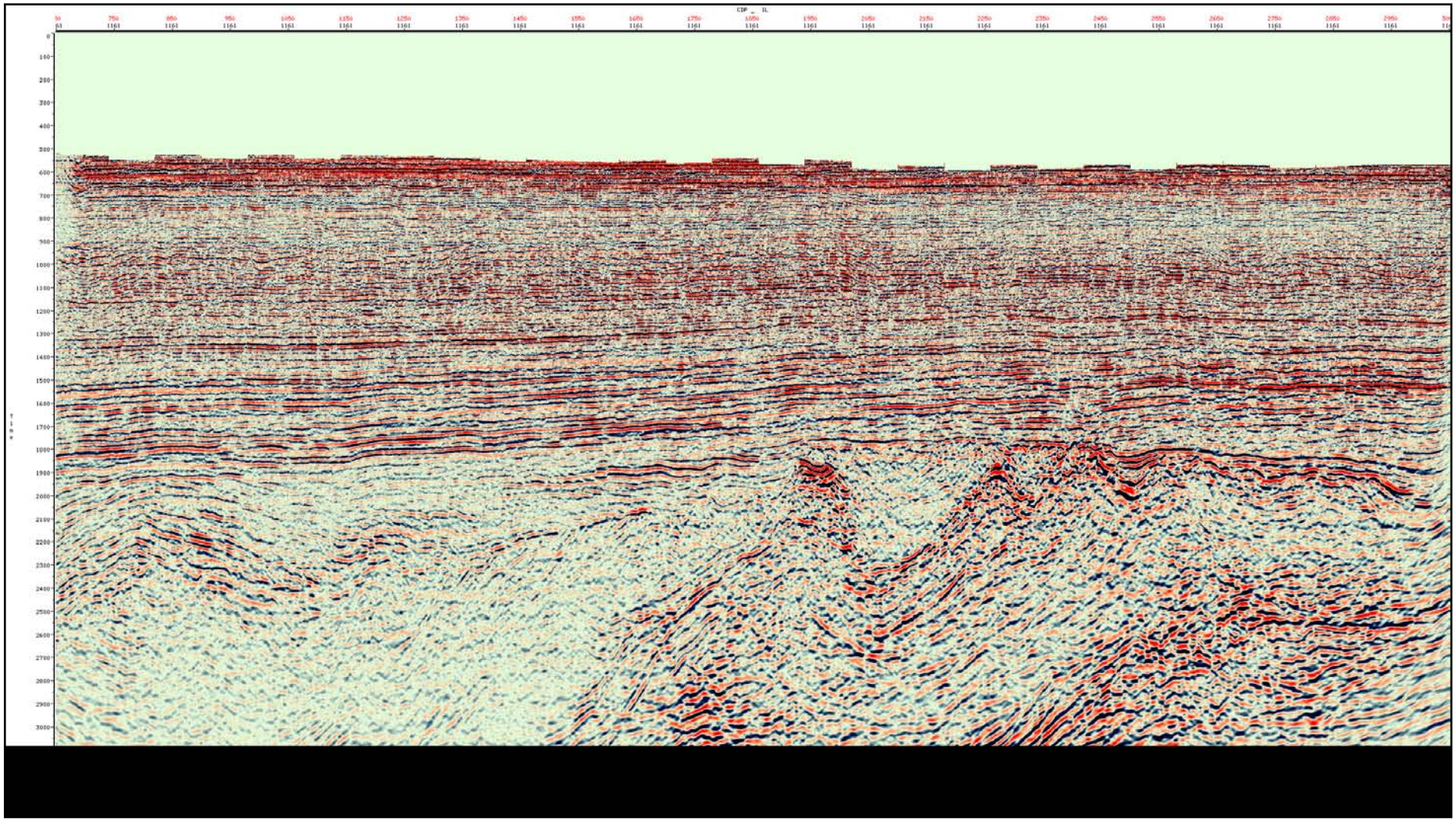
IL 1161: Near Angle Stack (6-16 Degrees)



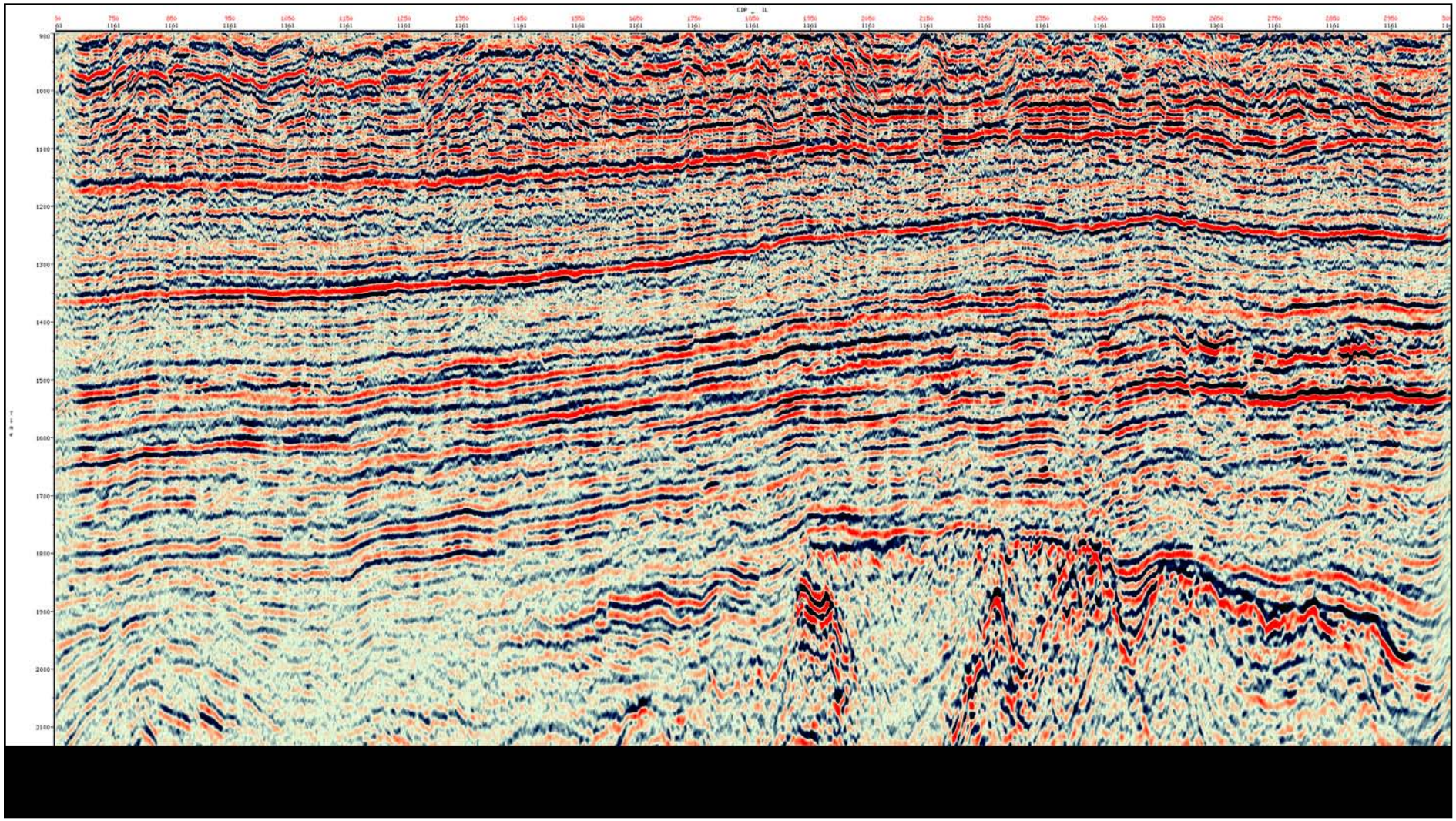
IL 1161: Intercept



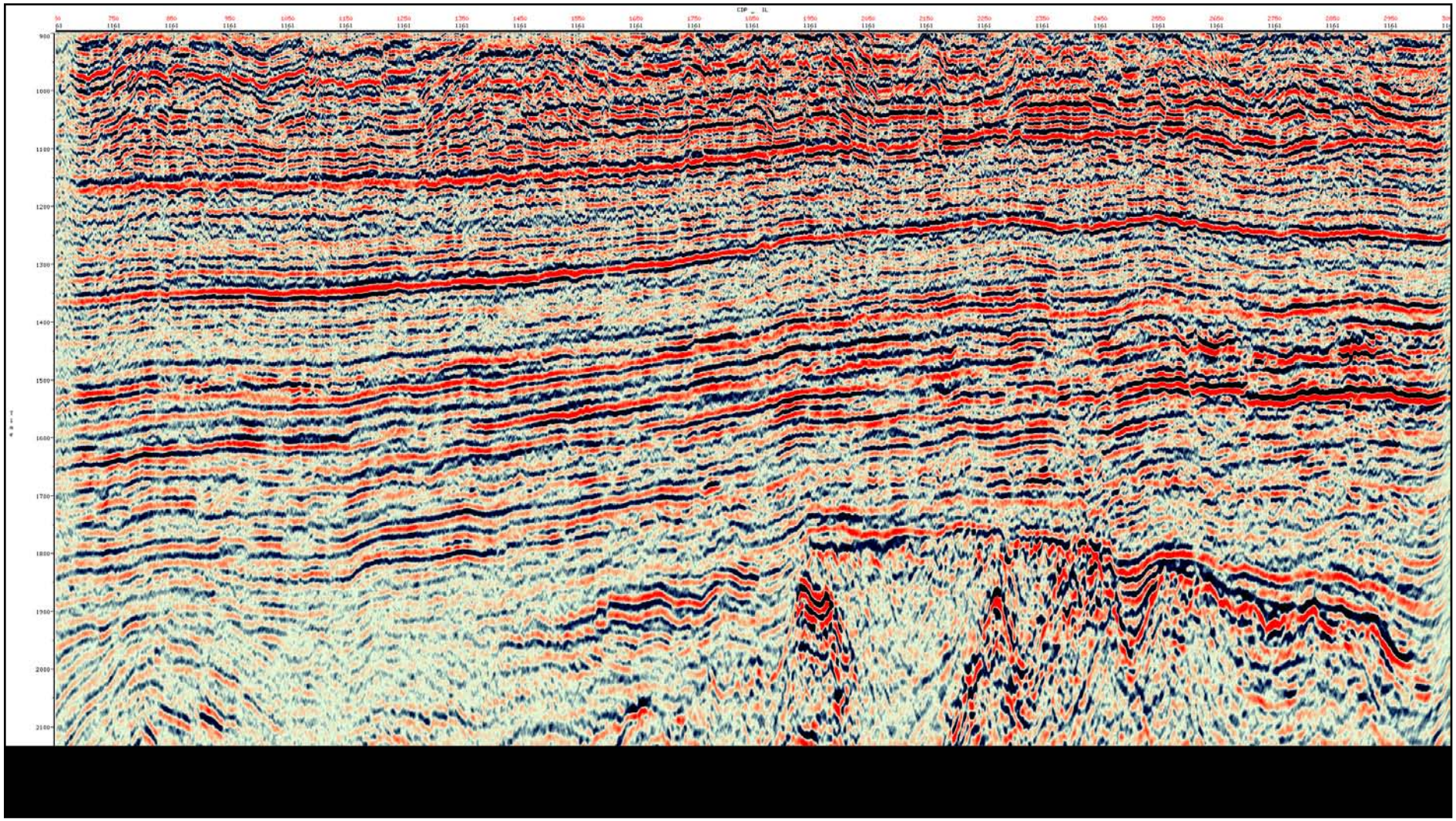
IL 1161: Gradient



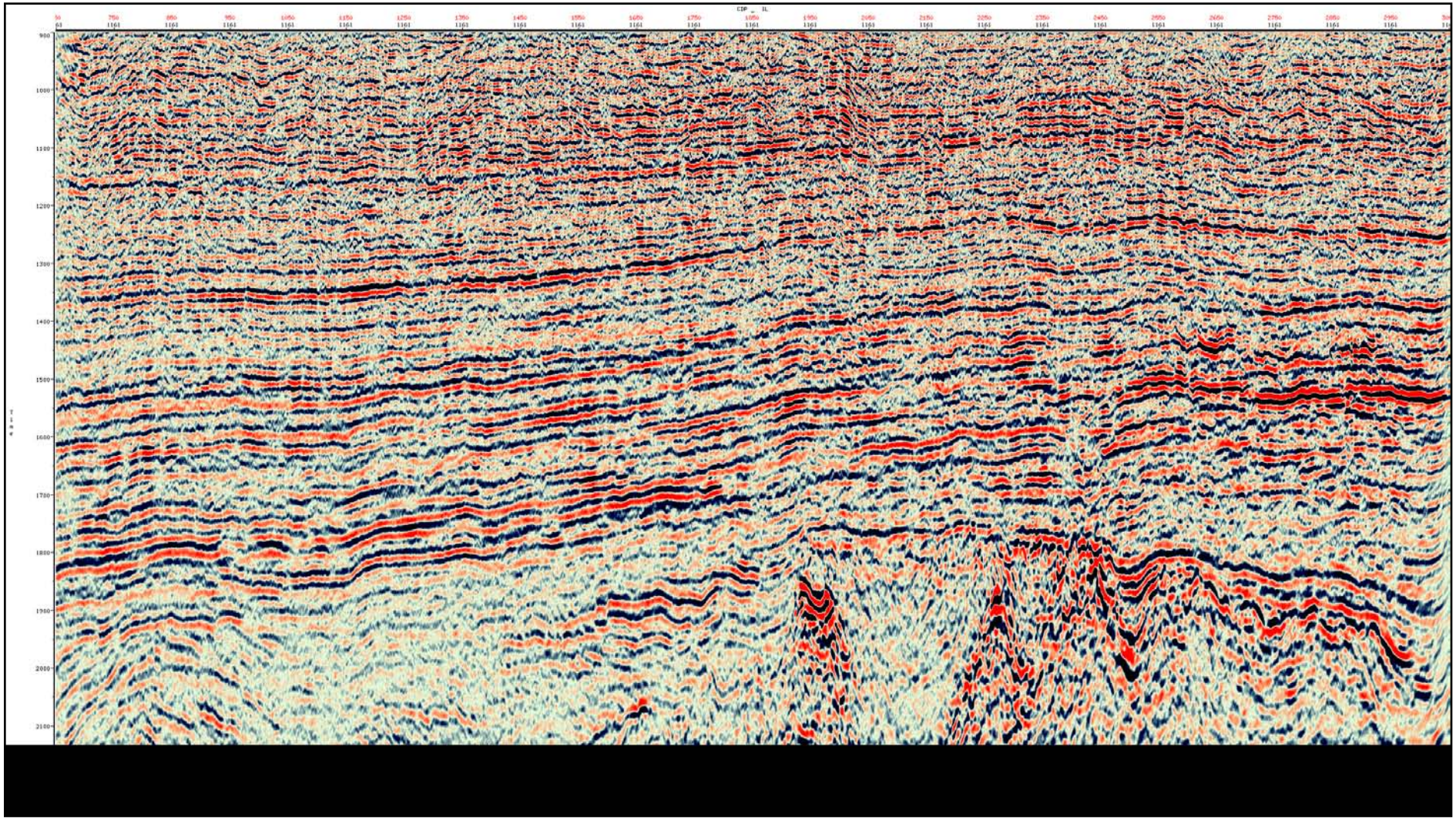
Zoomed IL 1161: Near Angle Stack (6-16 Degrees)



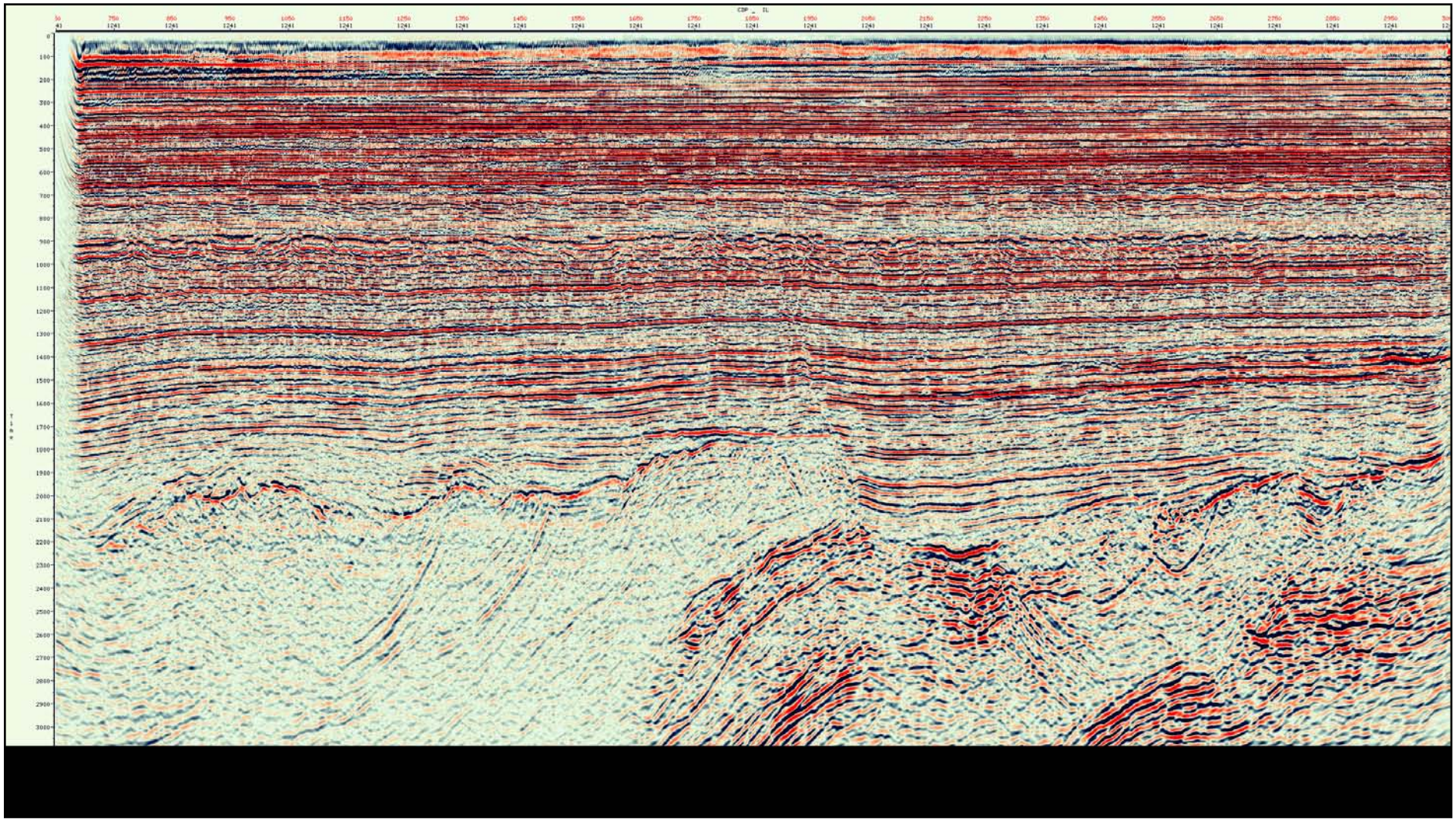
Zoomed IL 1161: Intercept



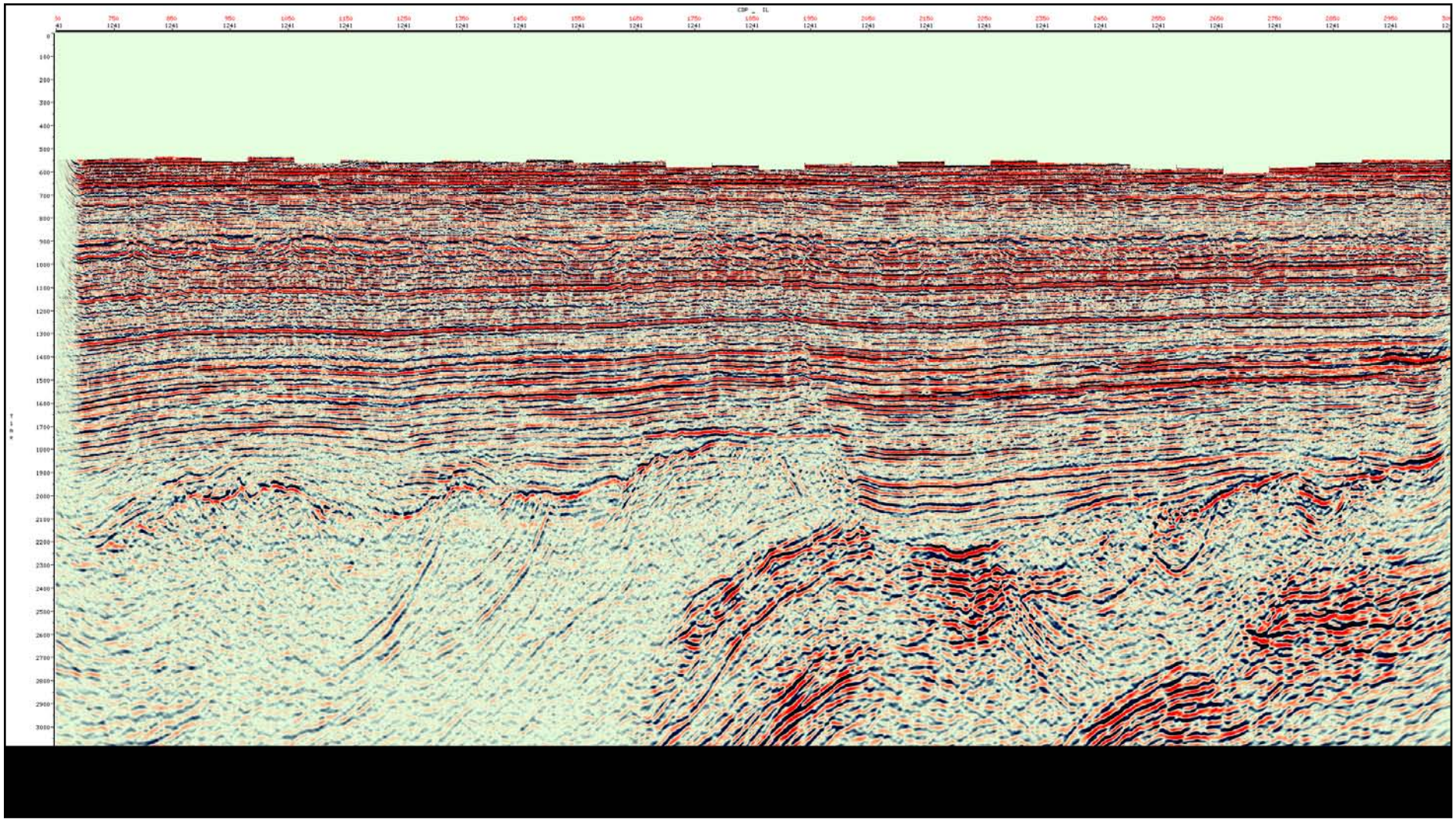
Zoomed IL 1161: Gradient



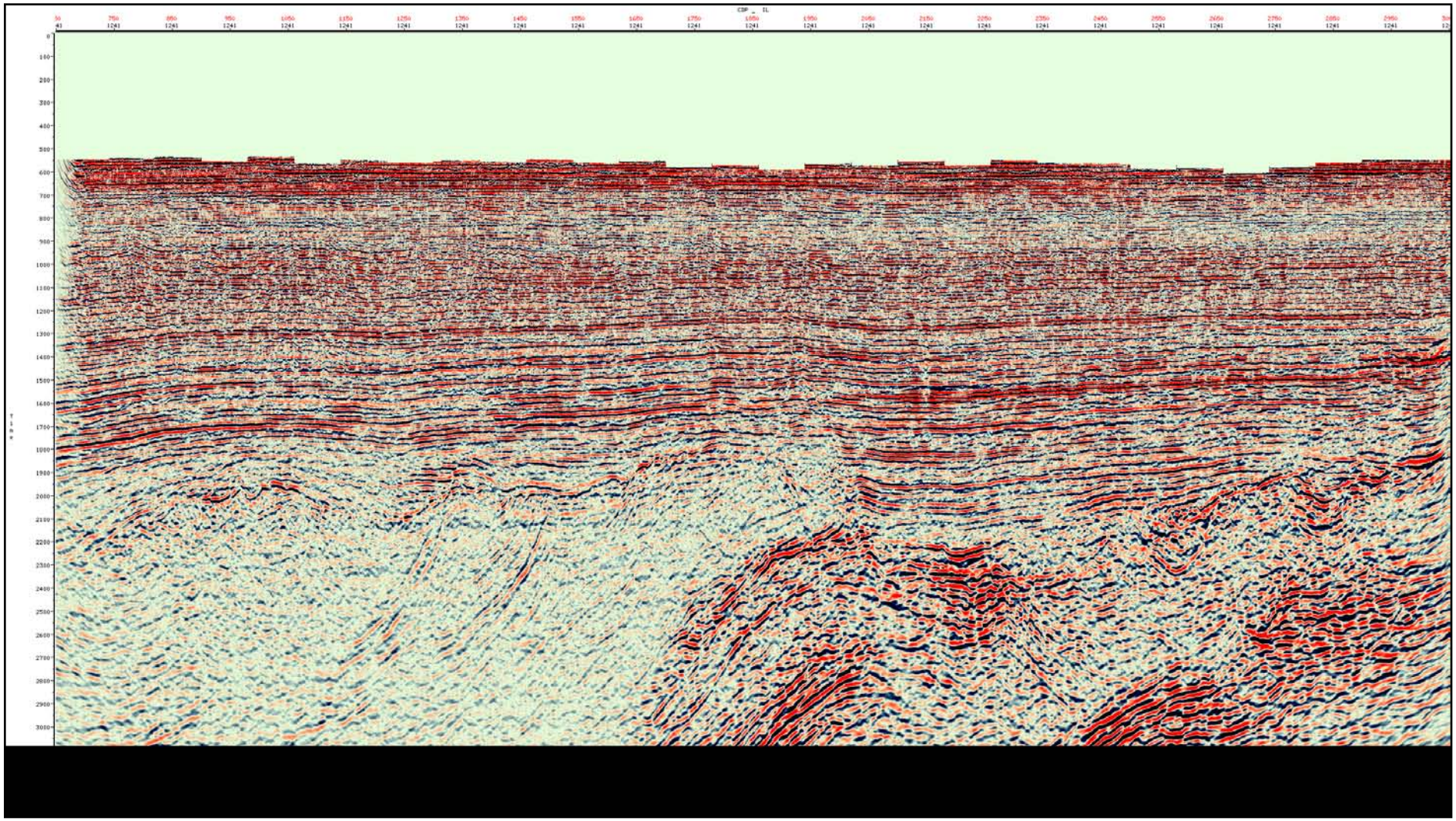
IL 1241: Near Angle Stack (6-16 Degrees)



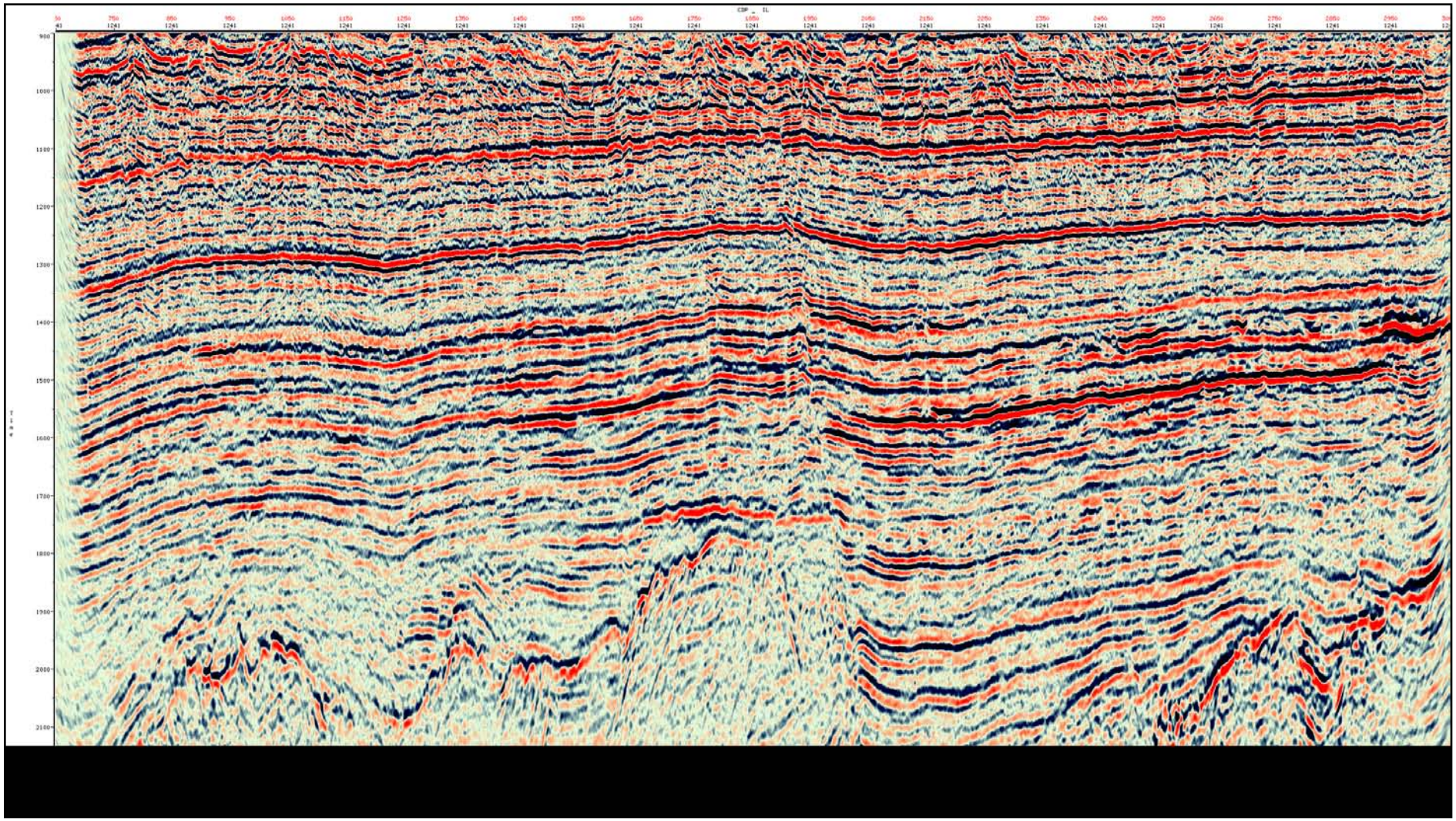
IL 1241: Intercept



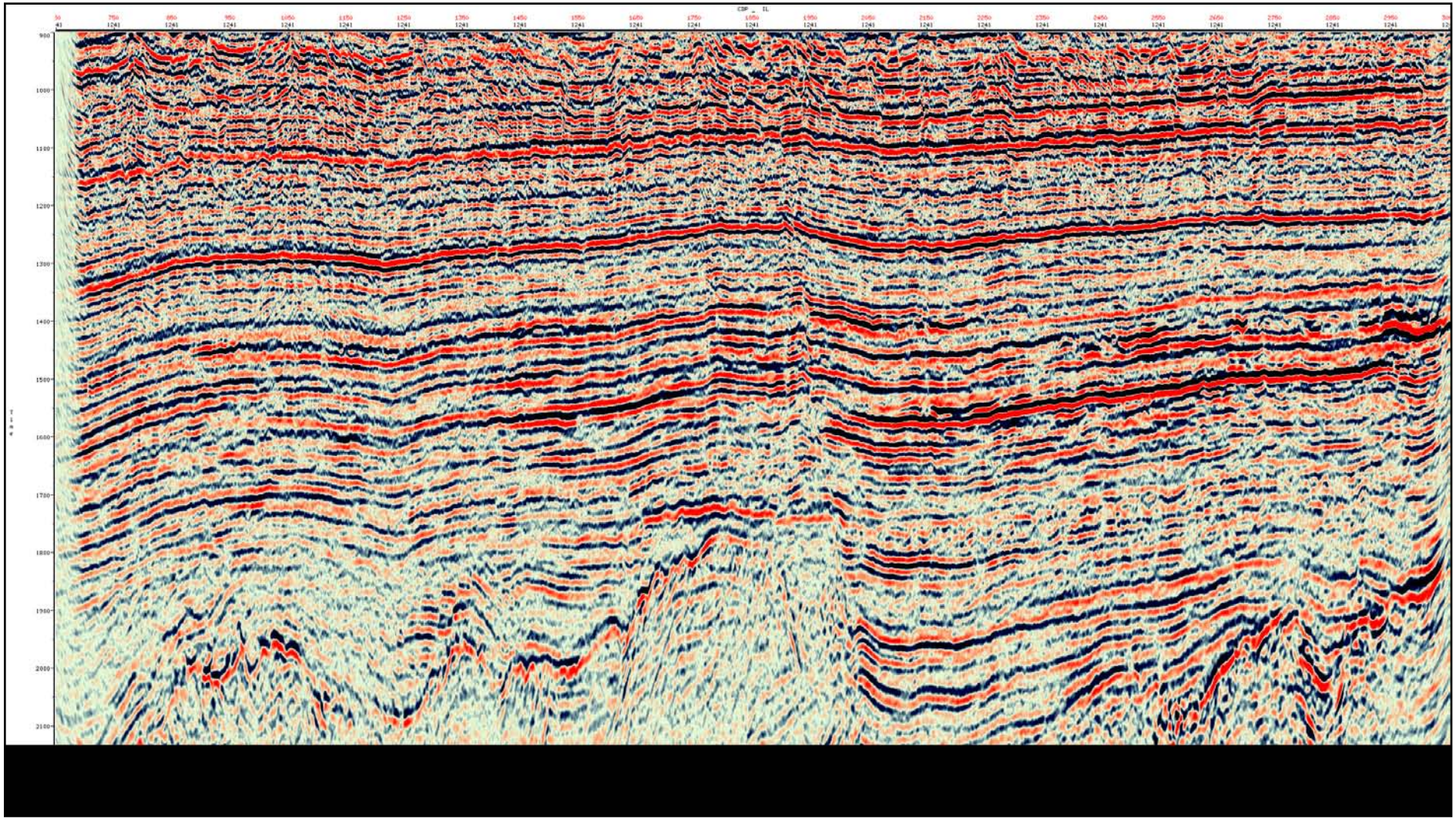
IL 1241: Gradient



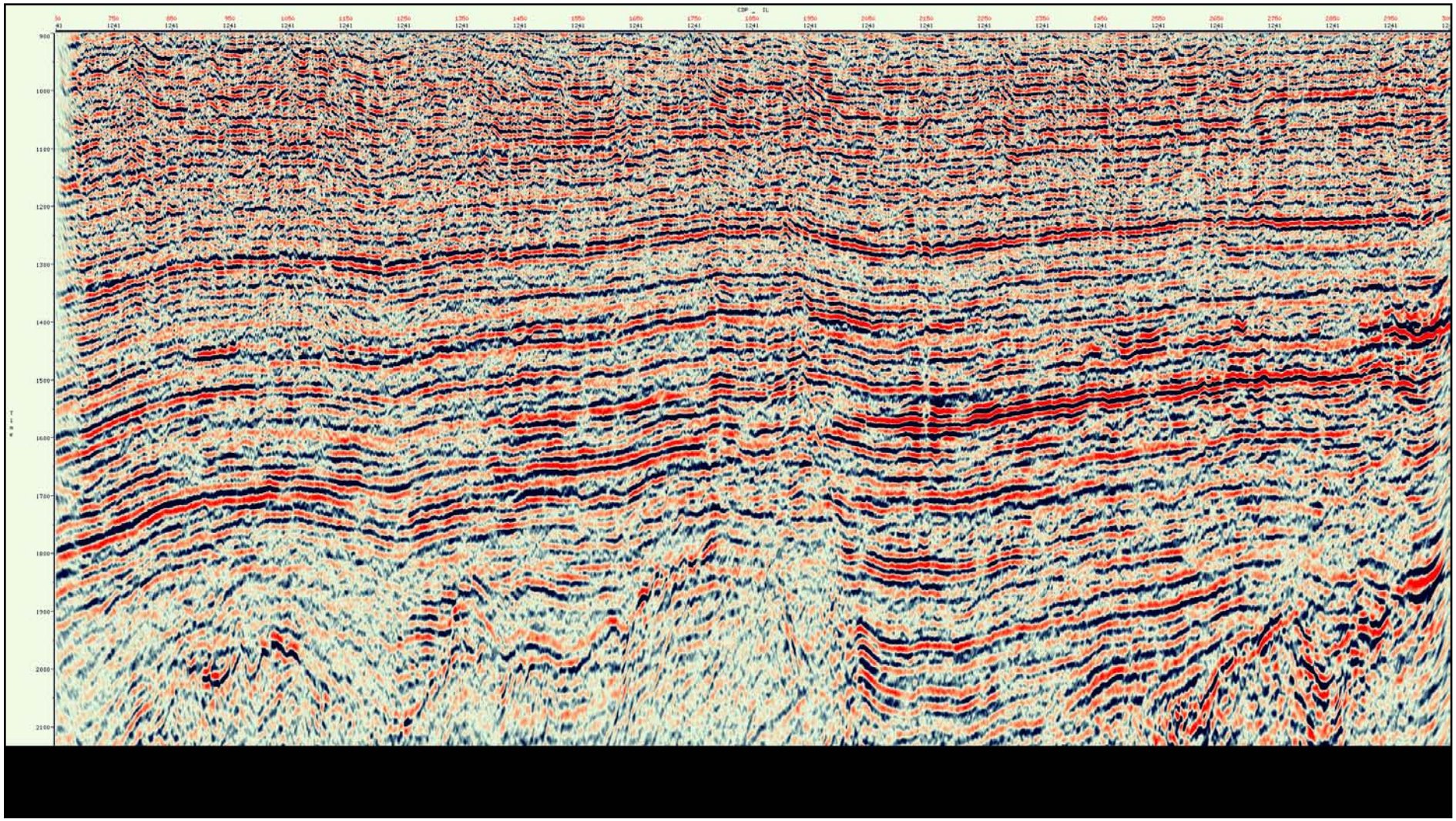
Zoomed IL 1161: Near Angle Stack (6-16 Degrees)



Zoomed IL 1241: Intercept



Zoomed IL 1241: Gradient



CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 1	**REPORT PERIOD**	:	13/02/08-14/02/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

Project start date is 13/02/08 – field data was logged into CGGV's processing centre in Kuala Lumpur

See also meeting minutes from 06/02/08 and 12/02/08

- **The completion of the Origin 2D Vintages project is due 21/05/08**
- **Current testing on-going:**
- **Current production on-going:**
  - Nav reformat
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Field tape transcription & seis/nav merge	10	3	2	

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

25th Feb 08	Randall Taylor, Emma Brand, John Cant, Bruce Hawkes	Silvereye 3D start-up meeting

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename	Dispatched Via	Dispatch Date

6. Processing Sequence Confirmed to Date

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/2008
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

10. Miscellaneous/Additional Comments

Origin – please clarify the meaning of the deliverable “Prelim post-stack migration”, see item 10.3 below, as taken from Attachment 4, Processing Deliverables.

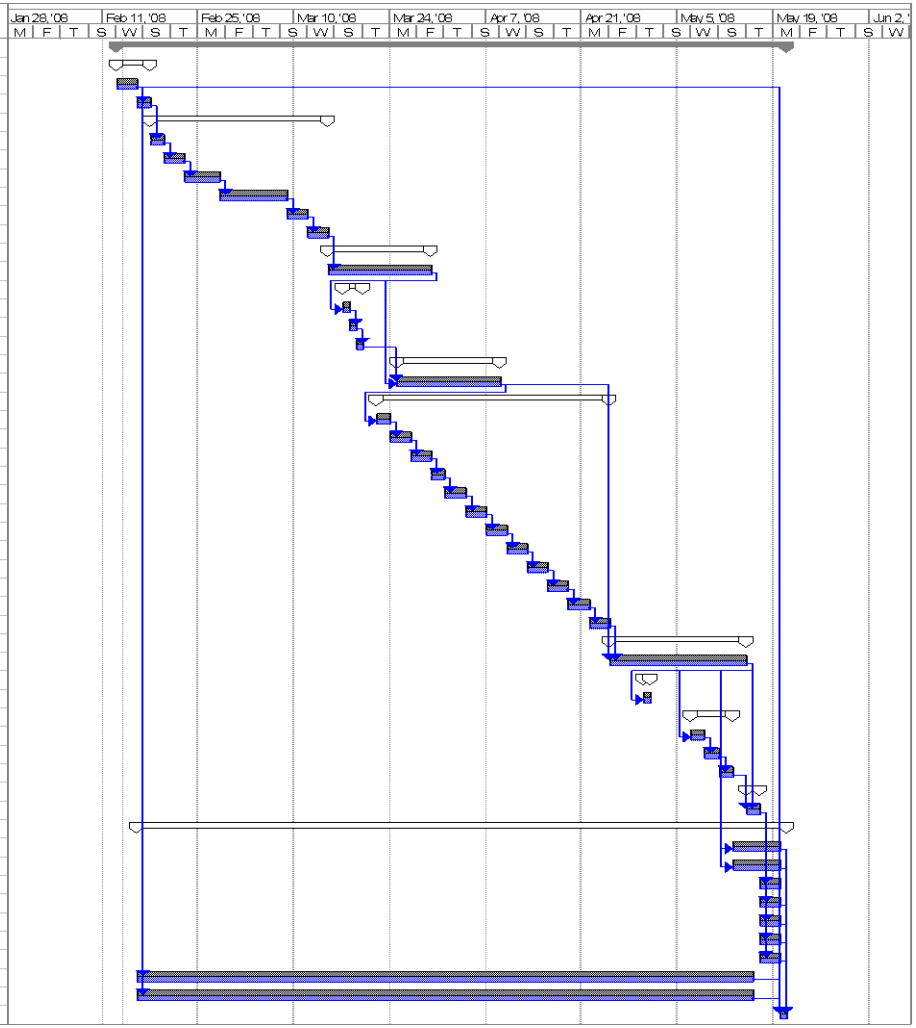
11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
10.1 Post-migration CDP gathers		
10.2 Post-migration CDP gathers - no NMO		
10.3 Prelim post-stack migration		**Origin please clarify**
10.4 Raw migrated stacks		
10.5 Filtered / scaled migrated stacks		
10.6 Angle stacks		
10.7 AVO intercept, gradient		
10.8 Processing support data		
10.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D-320 sqkm-14weeks**	**98 days**	**Wed 2/13/08**	**Wed 5/21/08**
1	**1 Project Acquisition and Start-Up**	5 days	Wed 2/13/08	Mon 2/18/08
2	1.1 Field Tape Transcription and Seismic Navigation Merge	3 days	Wed 2/13/08	Sat 2/16/08
3	1.2 Resample to 4ms	2 days	Sat 2/16/08	Mon 2/18/08
4	**2 Pre-Processing1-Testing**	26 days	Mon 2/18/08	Sat 3/15/08
5	2.1 Spherical Divergence Correction	2 days	Mon 2/18/08	Wed 2/20/08
6	2.2 Trace Edit, Noise burst/Swell Noise removal	3 days	Wed 2/20/08	Sat 2/23/08
7	2.3 Tau-P Linear noise removal	5 days	Sat 2/23/08	Thu 2/28/08
8	2.4 2D SRME (option for 3D SRME with increase in cost and timing)	10 days	Thu 2/28/08	Sun 3/9/08
9	2.5 Tau-P Deconvolution	3 days	Sun 3/9/08	Wed 3/12/08
10	2.6 Wavelet shaping zero phasing (or earlier in seq if filter requires)	3 days	Wed 3/12/08	Sat 3/15/08
11	**3 Pre-Processing1-Production**	**15 days**	**Sat 3/15/08**	**Sun 3/30/08**
12	3.1 Production of pre-processing1	15 days	Sat 3/15/08	Sun 3/30/08
13	**4 Pre-processing 2-Testing**	3 days	Mon 3/17/08	Thu 3/20/08
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Mon 3/17/08	Tue 3/18/08
15	4.2 Radon Demult (High Resolution)	1 day	Tue 3/18/08	Wed 3/19/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Wed 3/19/08	Thu 3/20/08
17	**5 Pre-Processing 2-Production**	**15 days**	**Tue 3/25/08**	**Wed 4/9/08**
18	5.1 Production of pre-processing2	15 days	Tue 3/25/08	Wed 4/9/08
19	**6 3D Processing-Testing**	34 days	Sat 3/22/08	Fri 4/25/08
20	6.1 CMP Binning (12.5m x 25mbins)	2 days	Sat 3/22/08	Mon 3/24/08
21	6.2 Surface consistent amplitude correction or other amplitude scaling	3 days	Mon 3/24/08	Thu 3/27/08
22	6.3 Missing trace interpolation	3 days	Thu 3/27/08	Sun 3/30/08
23	6.4 PSTM for vels	2 days	Sun 3/30/08	Tue 4/1/08
24	6.5 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Tue 4/1/08	Fri 4/4/08
25	6.6 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25mbins)	3 days	Fri 4/4/08	Mon 4/7/08
26	6.7 RMO Velocity Analysis	3 days	Mon 4/7/08	Thu 4/10/08
27	6.8 Residual Radon Demultiple	3 days	Thu 4/10/08	Sun 4/13/08
28	6.9 Acquisition footprint removal if deemed necessary	3 days	Sun 4/13/08	Wed 4/16/08
29	6.10 Q-compensation or other wavelet shaping if required	3 days	Wed 4/16/08	Sat 4/19/08
30	6.11 Pre-stack noise filtering if required (eg Radon, FX-decon, med filter)	3 days	Sat 4/19/08	Tue 4/22/08
31	6.12 Trace mute	3 days	Tue 4/22/08	Fri 4/25/08
32	**7 3D Processing-Production**	**20 days**	**Fri 4/25/08**	**Thu 5/15/08**
33	7.1 Production of 3D Processing	20 days	Fri 4/25/08	Thu 5/15/08
34	**8 Return of field data tapes to Origin**	**1 day**	**Wed 4/30/08**	**Thu 5/1/08**
35	8.1 Return of field data	1 day	Wed 4/30/08	Thu 5/1/08
36	**9 Stack and Post Stack-Testing**	**6 days**	**Wed 5/7/08**	**Tue 5/13/08**
37	9.1 CDP Stack	2 days	Wed 5/7/08	Fri 5/9/08
38	9.2 Gun and cable statics	2 days	Fri 5/9/08	Sun 5/11/08
39	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Sun 5/11/08	Tue 5/13/08
40	**10 Stack and Post Stack-Production**	**2 days**	**Thu 5/15/08**	**Sat 5/17/08**
41	10.1 Production of Stack and Post Stack	2 days	Thu 5/15/08	Sat 5/17/08
42	**11 Archives and Closedown**	**95 days**	**Sat 2/16/08**	**Wed 5/21/08**
43	11.1 Archive of Post Migration CDP gathers	7 days	Tue 5/13/08	Tue 5/20/08
44	11.2 Archive of Post Migration CDP gathers-no NMO	7 days	Tue 5/13/08	Tue 5/20/08
45	11.3 Prelim post-stack migration	3 days	Sat 5/17/08	Tue 5/20/08
46	11.4 Archive Of Raw Migrated Stack	3 days	Sat 5/17/08	Tue 5/20/08
47	11.5 Archive Of Filtered/ Scaled Migrated Stack	3 days	Sat 5/17/08	Tue 5/20/08
48	11.6 Archive of Angle Stacks	3 days	Sat 5/17/08	Tue 5/20/08
49	11.7 Archive of AVO Intercept Gradient	3 days	Sat 5/17/08	Tue 5/20/08
50	11.8 Archive Of Processing Support Data	90 days	Sat 2/16/08	Fri 5/16/08
51	11.9 Creation by CGGV and acceptance of processing report by Origin	90 days	Sat 2/16/08	Fri 5/16/08
52	11.10 Completion of all contractural processing/archives	1 day	Tue 5/20/08	Wed 5/21/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 2	**REPORT PERIOD**	:	14/02/08-21/02/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

Reformatting is started in KL for the data received of the project.

- **The completion of the Origin Silvereye 3D project is due 22/05/08**
- **Current testing on-going:**
- **Current production on-going:**
  - Field Data Reformat
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Field tape transcription & seis/nav merge	10	3	2	

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda
25th Feb 08	Randall Taylor, Emma Brand, John Cant, Bruce Hawkes	Silvereye 3D start-up meeting

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename	Dispatched Via	Dispatch Date

6. Processing Sequence Confirmed to Date

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/2008
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

Option of 3ms and 2ms processing currently in discussion
3DSRME options at 3ms and 2ms to be priced
Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqm to be confirmed by client.
Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

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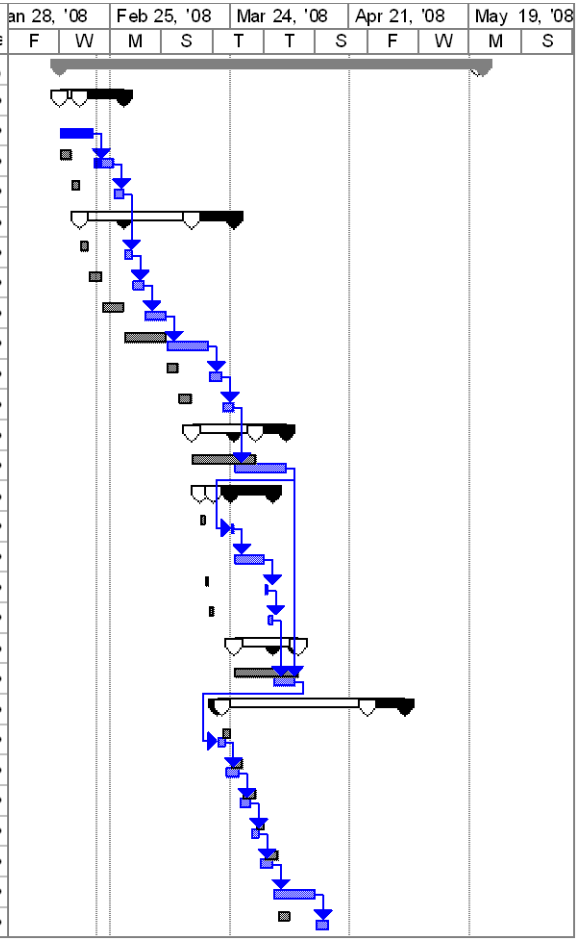
11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
10.1 Post-migration CDP gathers		
10.2 Post-migration CDP gathers - no NMO		
10.3 Prelim post-stack migration		
10.4 Raw migrated stacks		
10.5 Filtered / scaled migrated stacks		
10.6 Angle stacks		
10.7 AVO intercept, gradient		
10.8 Processing support data		
10.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

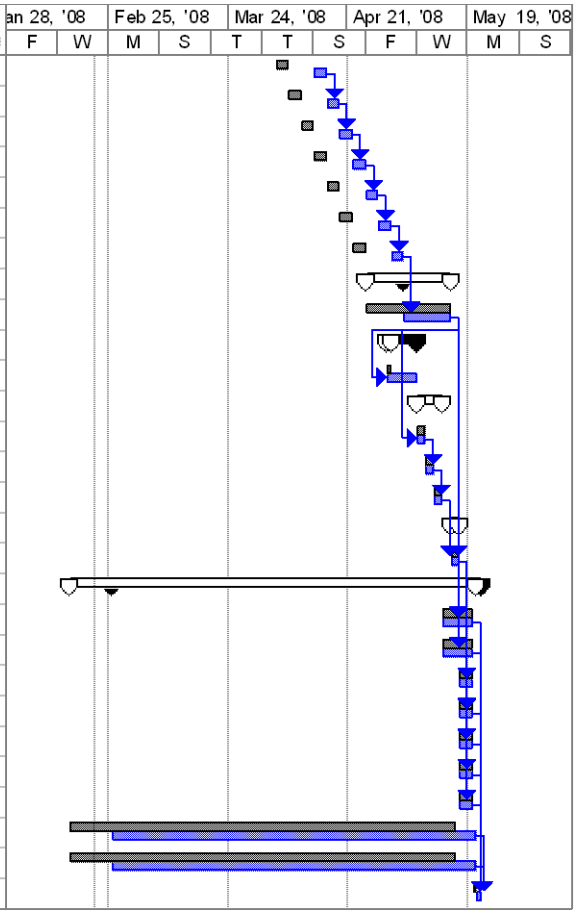
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish	% Complete
0	**Bass Basin Silvereye 3D-320sqkm-14weeks**	**99 days**	**Wed 2/13/08**	**Thu 5/22/08**	**3%**
1	**1 Project Acquisition and Start-Up**	**15 days**	**Wed 2/13/08**	**Thu 2/28/08**	**62%**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08	100%
3	1.2 Field Tape Transcription and Seismic Navigation Me	5 days	Thu 2/21/08	Tue 2/26/08	27%
4	1.3 Resample to 4ms/3ms Client Decision	2 days	Tue 2/26/08	Thu 2/28/08	0%
5	**2 Pre-Processing 1-Testing**	**26 days**	**Thu 2/28/08**	**Tue 3/25/08**	**0%**
6	2.1 Spherical Divergence Correction	2 days	Thu 2/28/08	Sat 3/1/08	0%
7	2.2 Trace Edit, Noise burst/Swell Noise removal	3 days	Sat 3/1/08	Tue 3/4/08	0%
8	2.3 Tau-P Linear noise removal	5 days	Tue 3/4/08	Sun 3/9/08	0%
9	2.4 2D SRME (option for 3D SRME with increase in cos	10 days	Sun 3/9/08	Wed 3/19/08	0%
10	2.5 Tau-P Deconvolution	3 days	Wed 3/19/08	Sat 3/22/08	0%
11	2.6 Wavelet shaping, zero phasing (or earlier in seq if f	3 days	Sat 3/22/08	Tue 3/25/08	0%
12	**3 Pre-Processing 1-Production**	**12 days**	**Tue 3/25/08**	**Sun 4/6/08**	**0%**
13	3.1 Production of pre-processing1	12 days	Tue 3/25/08	Sun 4/6/08	0%
14	**4 Pre-processing 2-Testing**	**10 days**	**Mon 3/24/08**	**Thu 4/3/08**	**0%**
15	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Mon 3/24/08	Tue 3/25/08	0%
16	4.2 Client QC of 1st Pass Velocity Analysis	7 days	Tue 3/25/08	Tue 4/1/08	0%
17	4.3 Radon Demult (High Resolution)	1 day	Tue 4/1/08	Wed 4/2/08	0%
18	4.4 2:1 adjacent trace sum / trace decimation	1 day	Wed 4/2/08	Thu 4/3/08	0%
19	**5 Pre-Processing 2-Production**	**5 days**	**Thu 4/3/08**	**Tue 4/8/08**	**0%**
20	5.1 Production of pre-processing2	5 days	Thu 4/3/08	Tue 4/8/08	0%
21	**6 3D Processing-Testing**	**44 days**	**Fri 3/21/08**	**Sun 5/4/08**	**0%**
22	6.1 CMP Binning (12.5m x 25m bins)	2 days	Fri 3/21/08	Sun 3/23/08	0%
23	6.2 Surface consistent amplitude correction or other an	3 days	Sun 3/23/08	Wed 3/26/08	0%
24	6.3 Missing trace interpolation	3 days	Wed 3/26/08	Sat 3/29/08	0%
25	6.4 PSTM for vels	2 days	Sat 3/29/08	Mon 3/31/08	0%
26	6.5 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Mon 3/31/08	Thu 4/3/08	0%
27	6.6 Client QC of 2nd Pass Velocity Analysis	10 days	Thu 4/3/08	Sun 4/13/08	0%
28	6.7 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 2	3 days	Sun 4/13/08	Wed 4/16/08	0%



Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

ID	Task Name	Duration	Start	Finish	% Complete
28	6.7 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 2	3 days	Sun 4/13/08	Wed 4/16/08	0%
29	6.8 RMO Velocity Analysis	3 days	Wed 4/16/08	Sat 4/19/08	0%
30	6.9 Residual Radon Demultiple	3 days	Sat 4/19/08	Tue 4/22/08	0%
31	6.10 Acquisition footprint removal if deemed necessary	3 days	Tue 4/22/08	Fri 4/25/08	0%
32	6.11 Q-compensation or other wavelet shaping if requir	3 days	Fri 4/25/08	Mon 4/28/08	0%
33	6.12 Pre-stack noise filtering if required (eg Radon, FX	3 days	Mon 4/28/08	Thu 5/1/08	0%
34	6.13 Trace mute	3 days	Thu 5/1/08	Sun 5/4/08	0%
35	**7 3D Processing-Production**	**11 days**	**Sun 5/4/08**	**Thu 5/15/08**	**0%**
36	7.1 Production of 3D Processing	11 days	Sun 5/4/08	Thu 5/15/08	0%
37	**8 Return of field data tapes to Origin**	**7 days**	**Wed 4/30/08**	**Wed 5/7/08**	**0%**
38	8.1 Return of field data	7 days	Wed 4/30/08	Wed 5/7/08	0%
39	**9 Stack and Post Stack-Testing**	**6 days**	**Wed 5/7/08**	**Tue 5/13/08**	**0%**
40	9.1 CDP Stack	2 days	Wed 5/7/08	Fri 5/9/08	0%
41	9.2 Gun and cable statics	2 days	Fri 5/9/08	Sun 5/11/08	0%
42	9.3 Post stack noise attenuation scaling and filtering if	2 days	Sun 5/11/08	Tue 5/13/08	0%
43	**10 Stack and Post Stack-Production**	**2 days**	**Thu 5/15/08**	**Sat 5/17/08**	**0%**
44	10.1 Production of Stack and Post Stack	2 days	Thu 5/15/08	Sat 5/17/08	0%
45	**11 Archivies and Closedown**	**86 days**	**Tue 2/26/08**	**Thu 5/22/08**	**0%**
46	11.1 Archive of Post Migration CDP gathers	7 days	Tue 5/13/08	Tue 5/20/08	0%
47	11.2 Archive of Post Migration CDP gathers-no NMO	7 days	Tue 5/13/08	Tue 5/20/08	0%
48	11.3 Prelim post-stack migration	3 days	Sat 5/17/08	Tue 5/20/08	0%
49	11.4 Archive Of Raw Migrated Stack	3 days	Sat 5/17/08	Tue 5/20/08	0%
50	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Sat 5/17/08	Tue 5/20/08	0%
51	11.6 Archive of Angle Stacks	3 days	Sat 5/17/08	Tue 5/20/08	0%
52	11.7 Archive of AVO Intercept Gradient	3 days	Sat 5/17/08	Tue 5/20/08	0%
53	11.8 Archive Of Processing Support Data	85 days	Tue 2/26/08	Wed 5/21/08	0%
54	11.9 Creation by CGGV and acceptance of processing	85 days	Tue 2/26/08	Wed 5/21/08	0%
55	11.10 Completion of all contractural processing/archive	1 day	Wed 5/21/08	Thu 5/22/08	0%



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 3	**REPORT PERIOD**	:	22/02/08-29/02/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

Reformatting is started in KL for the data received of the project.

- **The completion of the Origin Silvereye 3D project is due 22/05/08**
- **Current testing on-going:**
  - Tests has been done up to Linear Noise Attenuation has been done. SRME test is ongoing which will follow 1st pass of Velocities for Sail Line Seq: 039.
  - SRME Flow
- **Current production on-going:**
  - Field Data Reformat
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Field tape transcription & seis/nav merge	10	3	2	

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

10th March 08	Randall Taylor, Emma Brand, John Cant, Bruce Hawkes	Silvereye 3D start-up meeting

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename	Dispatched Via	Dispatch Date
Low Cut filter and De-bias	CGGV_Silvereye_Technote1_LC-Debias.ppt	e-mail	29/02/2008

6. Processing Sequence Confirmed to Date

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/2008
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

Option of 3ms and 2ms processing currently in discussion
3DSRME options at 3ms and 2ms to be priced
Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqm to be confirmed by client.
Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

The data was applied 58ms recording delay, need confirmation from Origin.
Waiting supporting data from Origin:

1. 3D grid info, including the 4 corner points
2. FFS, digital format
3. Velocity field, preferably in western format
4. Acquisition Final Report

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
10.1 Post-migration CDP gathers		
10.2 Post-migration CDP gathers - no NMO		
10.3 Prelim post-stack migration		
10.4 Raw migrated stacks		
10.5 Filtered / scaled migrated stacks		
10.6 Angle stacks		
10.7 AVO intercept, gradient		

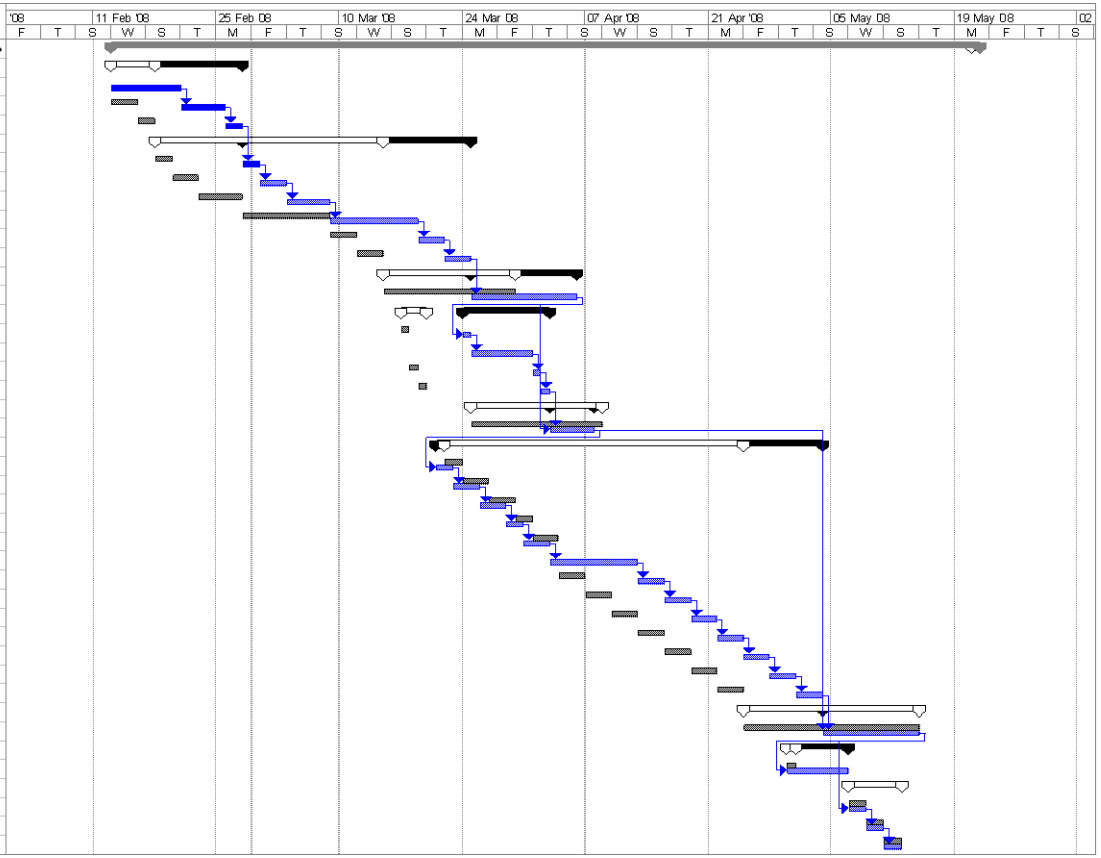
Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Deliverable Products & Closedown Activities	Progress	Comment
10.8 Processing support data		
10.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish	% Complete
0	**Bass Basin Silvereye3D-320sqkm-14weeks**	**99 days**	**Wed 13/02/08**	**Thu 22/05/08**	**7%**
1	**1 Project Acquisition and Start-Up**	**15 days**	**Wed 13/02/08**	**Thu 28/02/08**	**100%**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 13/02/08	Thu 21/02/08	100%
3	1.2 Field Tape Transcription and Seismic Navigation Merge	5 days	Thu 21/02/08	Tue 26/02/08	100%
4	1.3 Resample to 4ms/3ms Client Decision	2 days	Tue 26/02/08	Thu 28/02/08	100%
5	**2 Pre-Processing 1-Testing**	**26 days**	**Thu 28/02/08**	**Tue 25/03/08**	**5%**
6	2.1 Spherical Divergence Correction	2 days	Thu 28/02/08	Sat 01/03/08	67%
7	2.2 Trace Edit, Noise burst/Swell Noise removal	3 days	Sat 01/03/08	Tue 04/03/08	0%
8	2.3 Tau-P Linear noise removal	5 days	Tue 04/03/08	Sun 09/03/08	0%
9	2.4 2D SRME (option for 3D SRME with increase in cost and	10 days	Sun 09/03/08	Wed 19/03/08	0%
10	2.5 Tau-P Deconvolution	3 days	Wed 19/03/08	Sat 22/03/08	0%
11	2.6 Wavelet shaping, zero phasing (or earlier in seq if filter req	3 days	Sat 22/03/08	Tue 25/03/08	0%
12	**3 Pre-Processing 1-Production**	**12 days**	**Tue 25/03/08**	**Sun 06/04/08**	**0%**
13	3.1 Production of pre-processing1	12 days	Tue 25/03/08	Sun 06/04/08	0%
14	**4 Pre-processing 2 -Testing**	**10 days**	**Mon 24/03/08**	**Thu 03/04/08**	**0%**
15	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Mon 24/03/08	Tue 25/03/08	0%
16	4.2 Client QC of 1st Pass Velocity Analysis	7 days	Tue 25/03/08	Tue 01/04/08	0%
17	4.3 Radon Demult (High Resolution)	1 day	Tue 01/04/08	Wed 02/04/08	0%
18	4.4 2:1 adjacent trace sum / trace decimation	1 day	Wed 02/04/08	Thu 03/04/08	0%
19	**5 Pre-Processing 2-Production**	**5 days**	**Thu 03/04/08**	**Tue 08/04/08**	**0%**
20	5.1 Production of pre-processing2	5 days	Thu 03/04/08	Tue 08/04/08	0%
21	**6 3D Processing-Testing**	**44 days**	**Fri 21/03/08**	**Sun 04/05/08**	**0%**
22	6.1 CMP Binning (12.5m x 25m bins)	2 days	Fri 21/03/08	Sun 23/03/08	0%
23	6.2 Surface consistent amplitude correction or other amplitud	3 days	Sun 23/03/08	Wed 26/03/08	0%
24	6.3 Missing trace interpolation	3 days	Wed 26/03/08	Sat 29/03/08	0%
25	6.4 PSTM for vels	2 days	Sat 29/03/08	Mon 31/03/08	0%
26	6.5 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Mon 31/03/08	Thu 03/04/08	0%
27	6.6 Client QC of 2nd Pass Velocity Analysis	10 days	Thu 03/04/08	Sun 13/04/08	0%
28	6.7 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bin	3 days	Sun 13/04/08	Wed 16/04/08	0%
29	6.8 RMO Velocity Analysis	3 days	Wed 16/04/08	Sat 19/04/08	0%
30	6.9 Residual Radon Demultiple	3 days	Sat 19/04/08	Tue 22/04/08	0%
31	6.10 Acquisition footprint removal if deemed necessary	3 days	Tue 22/04/08	Fri 25/04/08	0%
32	6.11 Q-compensation or other wavelet shaping if required	3 days	Fri 25/04/08	Mon 28/04/08	0%
33	6.12 Pre-stack noise filtering if required (eg Radon, FX decon,	3 days	Mon 28/04/08	Thu 01/05/08	0%
34	6.13 Trace mute	3 days	Thu 01/05/08	Sun 04/05/08	0%
35	**7 3D Processing-Production**	**11 days**	**Sun 04/05/08**	**Thu 15/05/08**	**0%**
36	7.1 Production of 3D Processing	11 days	Sun 04/05/08	Thu 15/05/08	0%
37	**8 Return of field data tapes to Origin**	**7 days**	**Wed 30/04/08**	**Wed 07/05/08**	**0%**
38	8.1 Return of field data	7 days	Wed 30/04/08	Wed 07/05/08	0%
39	**9 Stack and Post Stack-Testing**	**6 days**	**Wed 07/05/08**	**Tue 13/05/08**	**0%**
40	9.1 CDP Stack	2 days	Wed 07/05/08	Fri 09/05/08	0%
41	9.2 Gun and cable statics	2 days	Fri 09/05/08	Sun 11/05/08	0%
42	9.3 Post stack noise attenuation scaling and filtering if require	2 days	Sun 11/05/08	Tue 13/05/08	0%



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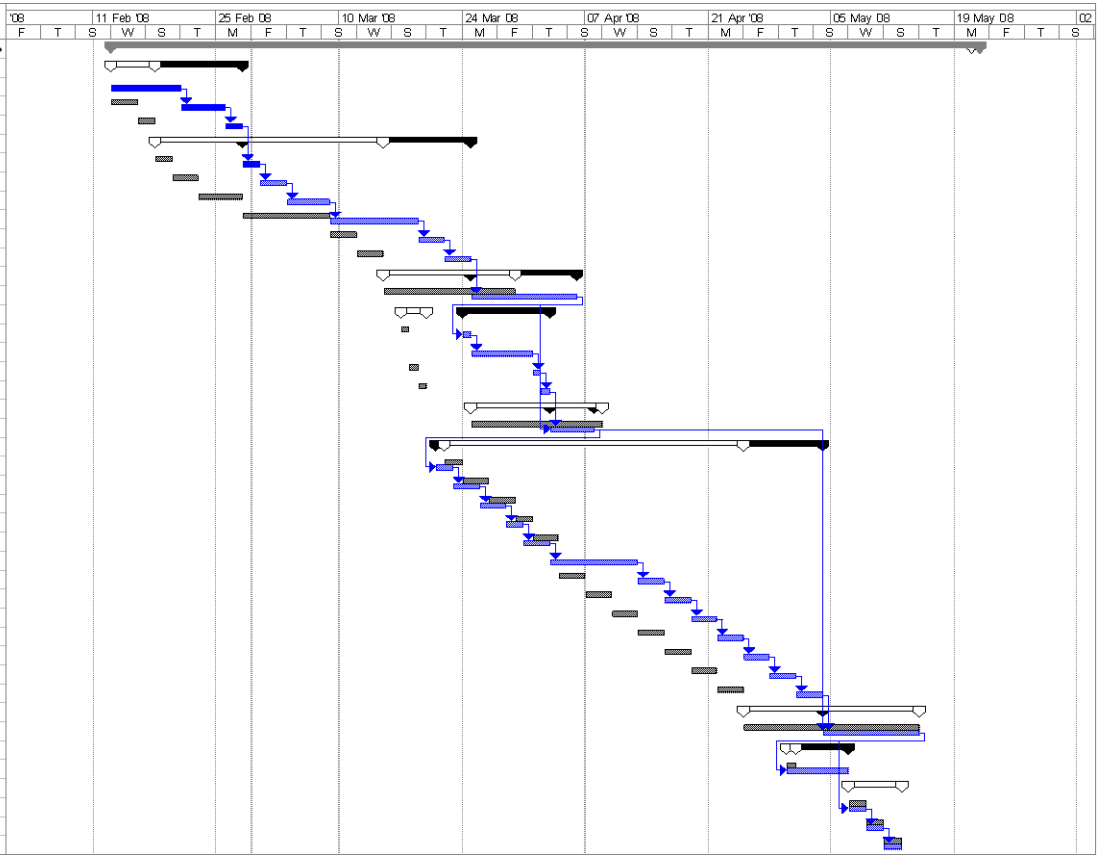
ID	Task Name	Duration	Start	Finish	% Complete
0	**Bass Basin Silvereye3D-320sqkm-14weeks**	**99 days**	**Wed 13/02/08**	**Thu 22/05/08**	**7%**
1	**1 Project Acquisition and Start-Up**	**15 days**	**Wed 13/02/08**	**Thu 28/02/08**	**100%**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 13/02/08	Thu 21/02/08	100%
3	1.2 Field Tape Transcription and Seismic Navigation Merge	5 days	Thu 21/02/08	Tue 26/02/08	100%
4	1.3 Resample to 4ms/3ms Client Decision	2 days	Tue 26/02/08	Thu 28/02/08	100%
5	**2 Pre-Processing 1-Testing**	**26 days**	**Thu 28/02/08**	**Tue 25/03/08**	**5%**
6	2.1 Spherical Divergence Correction	2 days	Thu 28/02/08	Sat 01/03/08	67%
7	2.2 Trace Edit, Noise burst/Swell Noise removal	3 days	Sat 01/03/08	Tue 04/03/08	0%
8	2.3 Tau-P Linear noise removal	5 days	Tue 04/03/08	Sun 09/03/08	0%
9	2.4 2D SRME (option for 3D SRME with increase in cost and	10 days	Sun 09/03/08	Wed 19/03/08	0%
10	2.5 Tau-P Deconvolution	3 days	Wed 19/03/08	Sat 22/03/08	0%
11	2.6 Wavelet shaping, zero phasing (or earlier in seq if filter req	3 days	Sat 22/03/08	Tue 25/03/08	0%
12	**3 Pre-Processing 1-Production**	**12 days**	**Tue 25/03/08**	**Sun 06/04/08**	**0%**
13	3.1 Production of pre-processing1	12 days	Tue 25/03/08	Sun 06/04/08	0%
14	**4 Pre-processing 2-Testing**	**10 days**	**Mon 24/03/08**	**Thu 03/04/08**	**0%**
15	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Mon 24/03/08	Tue 25/03/08	0%
16	4.2 Client QC of 1st Pass Velocity Analysis	7 days	Tue 25/03/08	Tue 01/04/08	0%
17	4.3 Radon Demult (High Resolution)	1 day	Tue 01/04/08	Wed 02/04/08	0%
18	4.4 2:1 adjacent trace sum / trace decimation	1 day	Wed 02/04/08	Thu 03/04/08	0%
19	**5 Pre-Processing 2-Production**	**5 days**	**Thu 03/04/08**	**Tue 08/04/08**	**0%**
20	5.1 Production of pre-processing2	5 days	Thu 03/04/08	Tue 08/04/08	0%
21	**6 3D Processing-Testing**	**44 days**	**Fri 21/03/08**	**Sun 04/05/08**	**0%**
22	6.1 CMP Binning (12.5m x 25m bins)	2 days	Fri 21/03/08	Sun 23/03/08	0%
23	6.2 Surface consistent amplitude correction or other amplitud	3 days	Sun 23/03/08	Wed 26/03/08	0%
24	6.3 Missing trace interpolation	3 days	Wed 26/03/08	Sat 29/03/08	0%
25	6.4 PSTM for vels	2 days	Sat 29/03/08	Mon 31/03/08	0%
26	6.5 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Mon 31/03/08	Thu 03/04/08	0%
27	6.6 Client QC of 2nd Pass Velocity Analysis	10 days	Thu 03/04/08	Sun 13/04/08	0%
28	6.7 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bin	3 days	Sun 13/04/08	Wed 16/04/08	0%
29	6.8 RMO Velocity Analysis	3 days	Wed 16/04/08	Sat 19/04/08	0%
30	6.9 Residual Radon Demultiple	3 days	Sat 19/04/08	Tue 22/04/08	0%
31	6.10 Acquisition footprint removal if deemed necessary	3 days	Tue 22/04/08	Fri 25/04/08	0%
32	6.11 Q-compensation or other wavelet shaping if required	3 days	Fri 25/04/08	Mon 28/04/08	0%
33	6.12 Pre-stack noise filtering if required (eg Radon, FX decon,	3 days	Mon 28/04/08	Thu 01/05/08	0%
34	6.13 Trace mute	3 days	Thu 01/05/08	Sun 04/05/08	0%
35	**7 3D Processing-Production**	**11 days**	**Sun 04/05/08**	**Thu 15/05/08**	**0%**
36	7.1 Production of 3D Processing	11 days	Sun 04/05/08	Thu 15/05/08	0%
37	**8 Return of field data tapes to Origin**	**7 days**	**Wed 30/04/08**	**Wed 07/05/08**	**0%**
38	8.1 Return of field data	7 days	Wed 30/04/08	Wed 07/05/08	0%
39	**9 Stack and Post Stack-Testing**	**6 days**	**Wed 07/05/08**	**Tue 13/05/08**	**0%**
40	9.1 CDP Stack	2 days	Wed 07/05/08	Fri 09/05/08	0%
41	9.2 Gun and cable statics	2 days	Fri 09/05/08	Sun 11/05/08	0%
42	9.3 Post stack noise attenuation scaling and filtering if require	2 days	Sun 11/05/08	Tue 13/05/08	0%



END OF WEEKLY REPORT

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CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 4	**REPORT PERIOD**	:	01/03/08-06/03/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 22/05/08**
- **Current testing on-going:**
  - Swell Noise Attenuation complete – will provide Powerpoint
  - Linear Noise Attenuation complete - will provide PowerPoint
  - Testing 2 different SRME flows complete – will provide PowerPoint
  - Initial velocities picked by CGGV and QC'd by Bruce for seq 39
- **Current production on-going:**
- **Decisions required/Tests despatched**:
- **Decisions made**:
  - Origin confirmed that the data is to be resampled to 4ms.

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	10	3	15	Testing ongoing – received acquisition grid on 5th March
2.1	Test resample	100	2	7	Testing run in parallel

* Duration to date

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda
10th March 08	Randall Taylor, Emma Brand, John Cant, Bruce Hawkes	Silvereye 3D start-up meeting

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename	Sent Via	Dispatch Date
Low cut filter and De-bias	CGGV_Silvereye_Technote1_LC-Debias.ppt	e-mail	29/02/2008
Resampling	CGGV_Silvereye_Technote2_Resampling.ppt	e-mail	29/02/2008

6. Processing Sequence Confirmed to Date

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/2008
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF	Emailed 04/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- 3DSRME options at 3ms and 2ms to be priced
- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqm to be confirmed by client.
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

- A recording delay of 58ms has been applied to the data, as per final acquisition report
- The 3D grid info from the final acquisition report was used to create a processing grid – need to confirm with Origin at start-up meeting
- Have requested FFS in digital format from Origin
- Origin have advised they are unable to provide us with an initial velocity field (no on-board velocity picking was undertaken)

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
10.1 Post-migration CDP gathers		
10.2 Post-migration CDP gathers - no NMO		

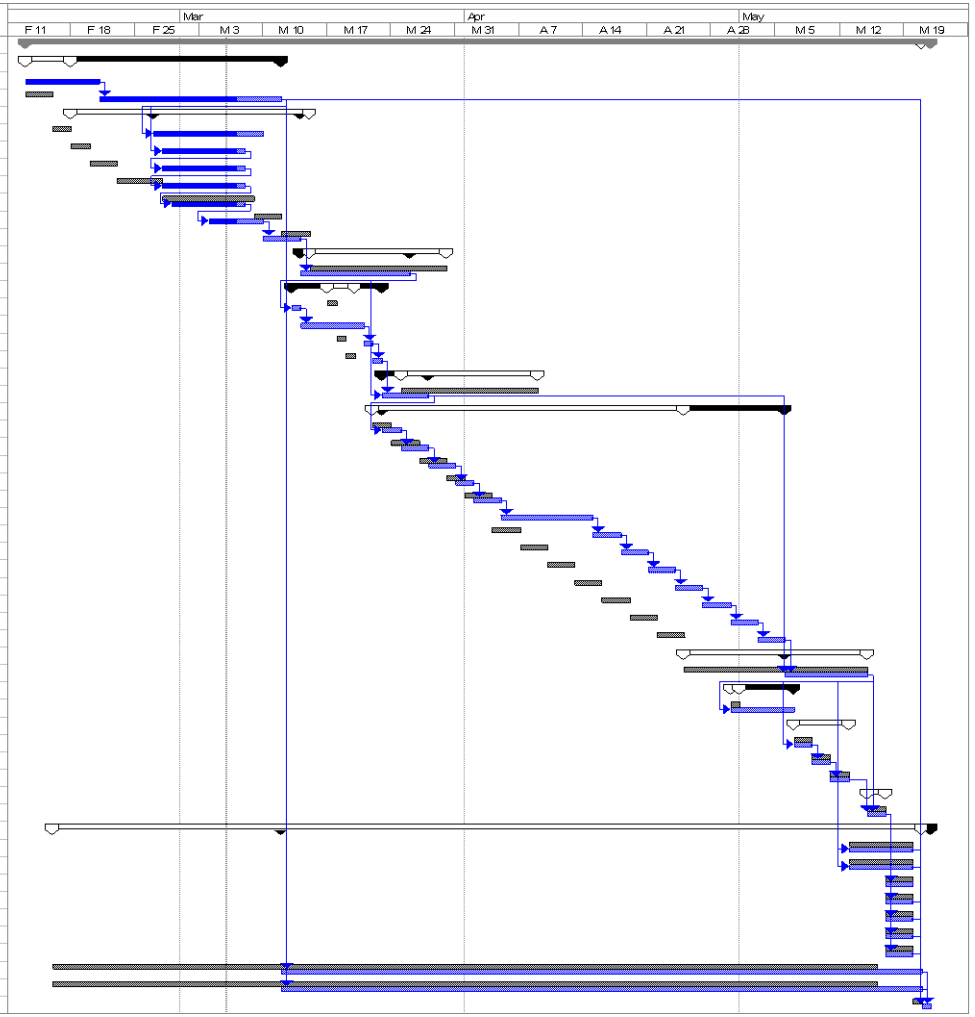
Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Deliverable Products & Closedown Activities	Progress	Comment
10.3 Prelim post-stack migration		
10.4 Raw migrated stacks		
10.5 Filtered / scaled migrated stacks		
10.6 Angle stacks		
10.7 AVO intercept, gradient		
10.8 Processing support data		
10.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320sqkm-14weeks	99 days	Wed 2/13/08	Thu 5/22/08
1	**1 Project Acquisition and Start-Up**	**28 days**	**Wed 2/13/08**	**Wed 3/12/08**
2	1.1 Navigation Data Reformat (Problemwith PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	20 days	Thu 2/21/08	Wed 3/12/08
4	**2 Pre-Processing 1-Testing**	**16 days**	**Wed 2/27/08**	**Fri 3/14/08**
5	2.1 Resample to 4ms/3ms Client Decision	12 days	Wed 2/27/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	9 days	Thu 2/28/08	Sat 3/8/08
9	2.5 2D SRME (option for 3D SRMEwith increase in cost and timing)	8 days	Fri 2/29/08	Sat 3/8/08
10	2.6 Tau-P Deconvolution	6 days	Tue 3/4/08	Mon 3/10/08
11	2.7 Wavelet shaping, zero phasing (or earlier in seq if filter requires)	4 days	Mon 3/10/08	Fri 3/14/08
12	**3 Pre-Processing 1-Production**	**12 days**	**Fri 3/14/08**	**Wed 3/26/08**
13	3.1 Production of pre-processing1	12 days	Fri 3/14/08	Wed 3/26/08
14	**4 Pre-processing 2-Testing**	**10 days**	**Thu 3/13/08**	**Sun 3/23/08**
15	4.1 1st Pass Velocity Analysis (2kmx 2kmgrid)	1 day	Thu 3/13/08	Fri 3/14/08
16	4.2 Client QC of 1st Pass Velocity Analysis	7 days	Fri 3/14/08	Fri 3/21/08
17	4.3 Radon Demult (High Resolution)	1 day	Fri 3/21/08	Sat 3/22/08
18	4.4 2:1 adjacent trace sum/trace decimation	1 day	Sat 3/22/08	Sun 3/23/08
19	**5 Pre-Processing 2-Production**	**5 days**	**Sun 3/23/08**	**Fri 3/28/08**
20	5.1 Production of pre-processing2	5 days	Sun 3/23/08	Fri 3/28/08
21	**6 3D Processing-Testing**	**44 days**	**Sun 3/23/08**	**Tue 5/6/08**
22	6.1 CMP Binning (12.5mx 25mbins)	2 days	Sun 3/23/08	Tue 3/25/08
23	6.2 Surface consistent amplitude correction or other amplitude scaling	3 days	Tue 3/25/08	Fri 3/28/08
24	6.3 Missing trace interpolation	3 days	Fri 3/28/08	Mon 3/31/08
25	6.4 PSTM for vels	2 days	Mon 3/31/08	Wed 4/2/08
26	6.5 2nd Pass Velocity Analysis (1kmx 1kmgrid)	3 days	Wed 4/2/08	Sat 4/5/08
27	6.6 Client QC of 2nd Pass Velocity Analysis	10 days	Sat 4/5/08	Tue 4/15/08
28	6.7 Final PSTM (Kirchhoff, 3.5 kmaperture) (12.5mx 25mbins)	3 days	Tue 4/15/08	Fri 4/18/08
29	6.8 RMO Velocity Analysis	3 days	Fri 4/18/08	Mon 4/21/08
30	6.9 Residual Radon Demultiple	3 days	Mon 4/21/08	Thu 4/24/08
31	6.10 Acquisition footprint removal if deemed necessary	3 days	Thu 4/24/08	Sun 4/27/08
32	6.11 Q-compensation or other wavelet shaping if required	3 days	Sun 4/27/08	Wed 4/30/08
33	6.12 Pre-stack noise filtering if required (eg Radon, FXdecon, med filter)	3 days	Wed 4/30/08	Sat 5/3/08
34	6.13 Trace mute	3 days	Sat 5/3/08	Tue 5/6/08
35	**7 3D Processing-Production**	**9 days**	**Tue 5/6/08**	**Thu 5/15/08**
36	7.1 Production of 3D Processing	9 days	Tue 5/6/08	Thu 5/15/08
37	**8 Return of field data tapes to Origin**	**7 days**	**Wed 4/30/08**	**Wed 5/7/08**
38	8.1 Return of field data	7 days	Wed 4/30/08	Wed 5/7/08
39	**9 Stack and Post Stack-Testing**	**6 days**	**Wed 5/7/08**	**Tue 5/13/08**
40	9.1 CDP Stack	2 days	Wed 5/7/08	Fri 5/9/08
41	9.2 Gun and cable statics	2 days	Fri 5/9/08	Sun 5/11/08
42	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Sun 5/11/08	Tue 5/13/08
43	**10 Stack and Post Stack-Production**	**2 days**	**Thu 5/15/08**	**Sat 5/17/08**
44	10.1 Production of Stack and Post Stack	2 days	Thu 5/15/08	Sat 5/17/08
45	**11 Archivies and Closedown**	**71 days**	**Wed 3/12/08**	**Thu 5/22/08**
46	11.1 Archive of Post Migration CDP gathers	7 days	Tue 5/13/08	Tue 5/20/08
47	11.2 Archive of Post Migration CDP gathers-no NMO	7 days	Tue 5/13/08	Tue 5/20/08
48	11.3 Prelimpost-stack migration	3 days	Sat 5/17/08	Tue 5/20/08
49	11.4 Archive Of RawMigrated Stack	3 days	Sat 5/17/08	Tue 5/20/08
50	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Sat 5/17/08	Tue 5/20/08
51	11.6 Archive of Angle Stacks	3 days	Sat 5/17/08	Tue 5/20/08
52	11.7 Archive of AVO Intercept Gradient	3 days	Sat 5/17/08	Tue 5/20/08
53	11.8 Archive Of Processing Support Data	70 days	Wed 3/12/08	Wed 5/21/08
54	11.9 Creation by CGGV and acceptance of processing report by Origin	70 days	Wed 3/12/08	Wed 5/21/08
55	11.10 Completion of all contractual processing/archives	1 day	Wed 5/21/08	Thu 5/22/08



END OF WEEKLY REPORT

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CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 5	**REPORT PERIOD**	:	07/03/08-13/03/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- Please also see the meeting minutes from 10th March – Silvereye 3D start-up meeting.

- **The completion of the Origin Silvereye 3D project is due 22/05/08**

- **Current testing on-going:**
  - Additional testing on the different SRME flows
  - Revise SNA parameter to solve low frequency spike problem in the near traces.

- **Current production on-going:**

- **Decisions required/Tests despatched**:
  - Pre-processing 1 decisions required to submit production.

- **Decisions made**:
  - Origin have changed the decision to resample the data to 4ms – the data will now be pre-processed at 2ms up to binning. At this stage, resampling tests will be conducted and the decision made to continue at 2ms or to resample to 4ms.
  - No 3D SRME will be required.
  - The 3D processing grid size/numbering was confirmed by Origin: 12.5m x 25m grid.

  Processing Flow Decision:
  - Reformatting & Seismic/Navigation merge (6000m streamer)
  - Conversion of Field data to CGG internal format
  - Instrument Delay (Phase 58ms)
  - Cut data to 6000ms
  - Obs log editing
  - Maintain a sample of 2ms (with appropriate Anti-alias filter applied)
  - Amplitude Recovery, multiply amplitudes by (T/250)2
  - De-bias and Low Cut Filter: 3Hz
  - Swell Noise Attenuation in Channel domain (suitably modified to accommodate higher frequencies within the 2ms sampled data, as per Imam's last Email in which he is working to solve this.)
  - KNotch Filter
  - DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  - **This approval is conditional on a satisfactory solution to the Swell Noise Attenuation issue at 2ms.**

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	10	3	22	Awaiting test decision – acquisition grid received 5th March
2.1	Test resample	100	2	7	Testing run in parallel
2.2	Test spherical divergence corr.	100	2	9	Testing run in parallel - Awaiting client decisions
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	80	5	15	
2.5	Test 2D SRME	80	10	14	
2.6	Test tau-p deconvolution	80	3	9	
3.1	PRODUCTION PRE-PROC. 1		15		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye.ppt	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias.ppt	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling.ppt	e-mail FTP	29/02/08 11/03/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW.ppt	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add.ppt CGGV_Silvereye_Technote3_SRME FLOW_add1.ppt CGGV_Silvereye_Technote3_SRME FLOW_add2.ppt CGGV_Silvereye_Technote3_SRME FLOW_add3.ppt	FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08

6. Processing Sequence Confirmed to Date

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

- A recording delay of 58ms has been applied to the data, as per final acquisition report
- Origin have advised they are unable to provide us with an initial velocity field (no on-board velocity picking was undertaken)
- CGGV have taken the FFS in digital format from the Project Plan.

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
11.1 Pre-migration CDP gathers - no NMO		
11.2 Post-migration CDP gathers		
11.3 Prelim post-stack migration		
11.4 Raw migrated stacks		
11.5 Filtered / scaled migrated stacks		
11.6 Angle stacks		
11.7 AVO intercept, gradient		
11.8 Processing support data		
11.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

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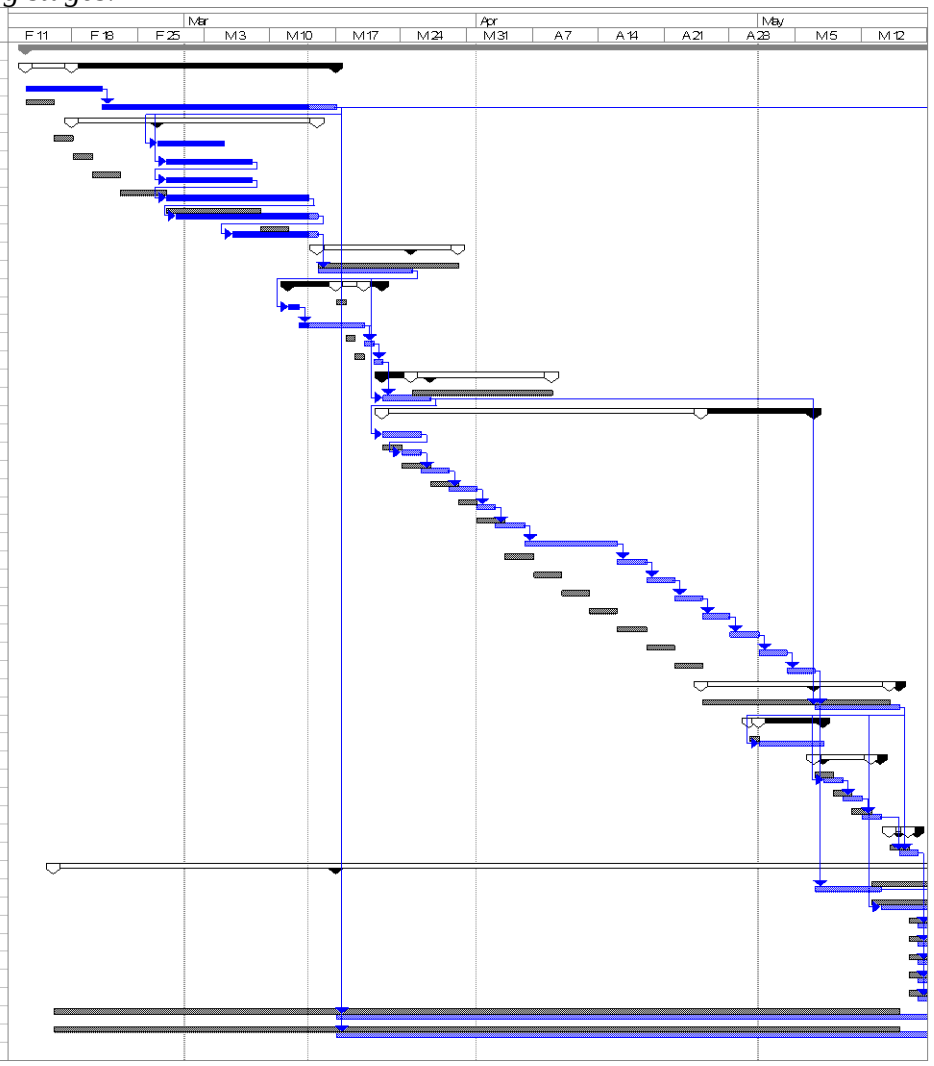
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye 3D-320sqkm-14weeks**	**99 days**	**Wed 2/13/08**	**Thu 5/22/08**
1	**1 Project Acquisition and Start-Up**	33 days	Wed 2/13/08	Mon 3/17/08
2	1.1 Navigation Data Reformat (Problem with P2/6 nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	25 days	Thu 2/21/08	Mon 3/17/08
4	**2 Pre-Processing 1-Testing**	16.67 days	**Wed 2/27/08**	**Fri 3/14/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Wed 2/27/08	Wed 3/5/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Thu 2/28/08	Fri 3/14/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	9 days	Wed 3/5/08	Fri 3/14/08
11	**3 Pre-Processing 1-Production**	**10 days**	**Fri 3/14/08**	**Mon 3/24/08**
12	3.1 Production of pre-processing 1	10 days	Fri 3/14/08	Mon 3/24/08
13	**4 Pre-processing 2-Testing**	**10 days**	**Tue 3/11/08**	**Fri 3/21/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Client QC of 1st Pass Velocity Analysis	7 days	Wed 3/12/08	Wed 3/19/08
16	4.3 Radon Demult (High Resolution)	1 day	Wed 3/19/08	Thu 3/20/08
17	4.4 2:1 adjacent trace sum/trace decimation	1 day	Thu 3/20/08	Fri 3/21/08
18	**5 Pre-Processing 2-Production**	**5 days**	**Fri 3/21/08**	**Wed 3/26/08**
19	5.1 Production of pre-processing 2	5 days	Fri 3/21/08	Wed 3/26/08
20	**6 3D Processing-Testing**	**46 days**	**Fri 3/21/08**	**Tue 5/6/08**
21	6.1 Wavelet shaping, zero phasing	4 days	Fri 3/21/08	Tue 3/25/08
22	6.2 CMP Binning (12.5m x 25m bins)	2 days	Sun 3/23/08	Tue 3/25/08
23	6.3 Surface consistent amplitude correction or other amplitude scaling	3 days	Tue 3/25/08	Fri 3/28/08
24	6.4 Missing trace interpolation	3 days	Fri 3/28/08	Mon 3/31/08
25	6.5 PSTM for v-is	2 days	Mon 3/31/08	Wed 4/2/08
26	6.6 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Wed 4/2/08	Sat 4/5/08
27	6.7 Client QC of 2nd Pass Velocity Analysis	10 days	Sat 4/5/08	Tue 4/15/08
28	6.8 Final PSTM (Kirchhoff, 3.5km aperture) (12.5m x 25m bins)	3 days	Tue 4/15/08	Fri 4/18/08
29	6.9 RMO Velocity Analysis	3 days	Fri 4/18/08	Mon 4/21/08
30	6.10 Residual Radon Demultiple	3 days	Mon 4/21/08	Thu 4/24/08
31	6.11 Acquisition footprint removal if deemed necessary	3 days	Thu 4/24/08	Sun 4/27/08
32	6.12 Q-compensation or other wavelet shaping if required	3 days	Sun 4/27/08	Wed 4/30/08
33	6.13 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Wed 4/30/08	Sat 5/3/08
34	6.14 Trace mute	3 days	Sat 5/3/08	Tue 5/6/08
35	**7 3D Processing-Production**	**9 days**	**Tue 5/6/08**	**Thu 5/15/08**
36	7.1 Production of 3D Processing	9 days	Tue 5/6/08	Thu 5/15/08
37	**8 Return of field data tape s to Origin**	**7 days**	**Wed 4/30/08**	**Wed 5/7/08**
38	8.1 Return of field data	7 days	Wed 4/30/08	Wed 5/7/08
39	**9 Stack and Post Stack-Testing**	**6 days**	**Wed 5/7/08**	**Tue 5/13/08**
40	9.1 CDP Stack	2 days	Wed 5/7/08	Fri 5/9/08
41	9.2 Gun and cable statics	2 days	Fri 5/9/08	Sun 5/11/08
42	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Sun 5/11/08	Tue 5/13/08
43	**10 Stack and Post Stack-Production**	**2 days**	**Thu 5/15/08**	**Sat 5/17/08**
44	10.1 Production of Stack and Post Stack	2 days	Thu 5/15/08	Sat 5/17/08
45	**11 Archivies and Closedown**	**66 days**	**Mon 3/17/08**	**Thu 5/22/08**
46	11.1 Archive of Pre Migration CDP gathers - no NMO	7 days	Tue 5/6/08	Tue 5/13/08
47	11.2 Archive of Post Migration CDP gathers	7 days	Tue 5/13/08	Tue 5/20/08
48	11.3 Prelim post-stack migration	3 days	Sat 5/17/08	Tue 5/20/08
49	11.4 Archive Of Raw Migrated Stack	3 days	Sat 5/17/08	Tue 5/20/08
50	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Sat 5/17/08	Tue 5/20/08
51	11.6 Archive of Angle Stacks	3 days	Sat 5/17/08	Tue 5/20/08
52	11.7 Archive of AVO Intercept Gradient	3 days	Sat 5/17/08	Tue 5/20/08
53	11.8 Archive Of Processing Support Data	65 days	Mon 3/17/08	Wed 5/21/08
54	11.9 Creation by CGGV and acceptance of processing report by Origin	65 days	Mon 3/17/08	Wed 5/21/08
55	11.10 Completion of all contractural processing/archives	1 day	Wed 5/21/08	Thu 5/22/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 6	**REPORT PERIOD**	:	14/03/08-20/03/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 22/05/08**
- **Current testing on-going:**
  - Completed testing linear Radon on deep section.
- **Current production on-going:**
  - Pre-processing 1 production due to begin over Easter weekend.
- **Decisions required/Tests despatched**:
- **Decisions made**:

Origin has approved CGGV's suggested additional processing steps:
- Linear Radon before TPDBS - start time 2600ms with 600ms taper
- Knotch after TPDBS

Origin has approved the following pre-processing steps:
1. Reformatting & Seismic/Navigation merge (6000m streamer)
2. Conversion of Field data to CGG internal format
3. Instrument Delay (Phase 58ms)
4. Cut data to 6000ms
5. Obs log editing
6. Maintain a sample of 2ms (with appropriate Anti-alias filter applied)
7. Amplitude Recovery, multiply amplitudes by (T/250)2
8. De-bias and Low Cut Filter: 3Hz
9. Swell Noise Attenuation in SP domain followed by Channel domain.
10. Linear Radon with start time 2600ms and 600ms taper
11. DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms -> SRME, subtraction in cdp domain (this is Test F5, we would be equally happy for you to choose either test F7 or F10, given the very minor differences, if they are more efficient for you to run)
12. Knotch Filter

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

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3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	10	3	28	Awaiting test decision – acquisition grid received 5th March
2.1	Test resample	100	2	7	Testing run in parallel
2.2	Test spherical divergence corr.	100	2	9	Tests run in parallel Additional tests requested by clients/waiting for client decisions
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	15	
3.1	PRODUCTION PRE-PROC. 1		15		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6	FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08

6. Processing Sequence Confirmed to Date

1. Reformatting & Seismic/Navigation merge (6000m streamer)
2. Conversion of Field data to CGG internal format
3. Instrument Delay (Phase 58ms)
4. Cut data to 6000ms
5. Obs log editing
6. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
7. Amplitude recovery, multiply amplitudes by (T/250)2
8. De-bias and Low Cut Filter: 3Hz

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9. Swell Noise Attenuation in SP domain followed by channel domain.
10. Linear Radon with start time 2600ms and 600ms taper
11. DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
11.1 Pre-migration CDP gathers - no NMO		
11.2 Post-migration CDP gathers		
11.3 Prelim post-stack migration		
11.4 Raw migrated stacks		
11.5 Filtered / scaled migrated stacks		
11.6 Angle stacks		

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Deliverable Products & Closedown Activities	Progress	Comment
11.7 AVO intercept, gradient		
11.8 Processing support data		
11.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

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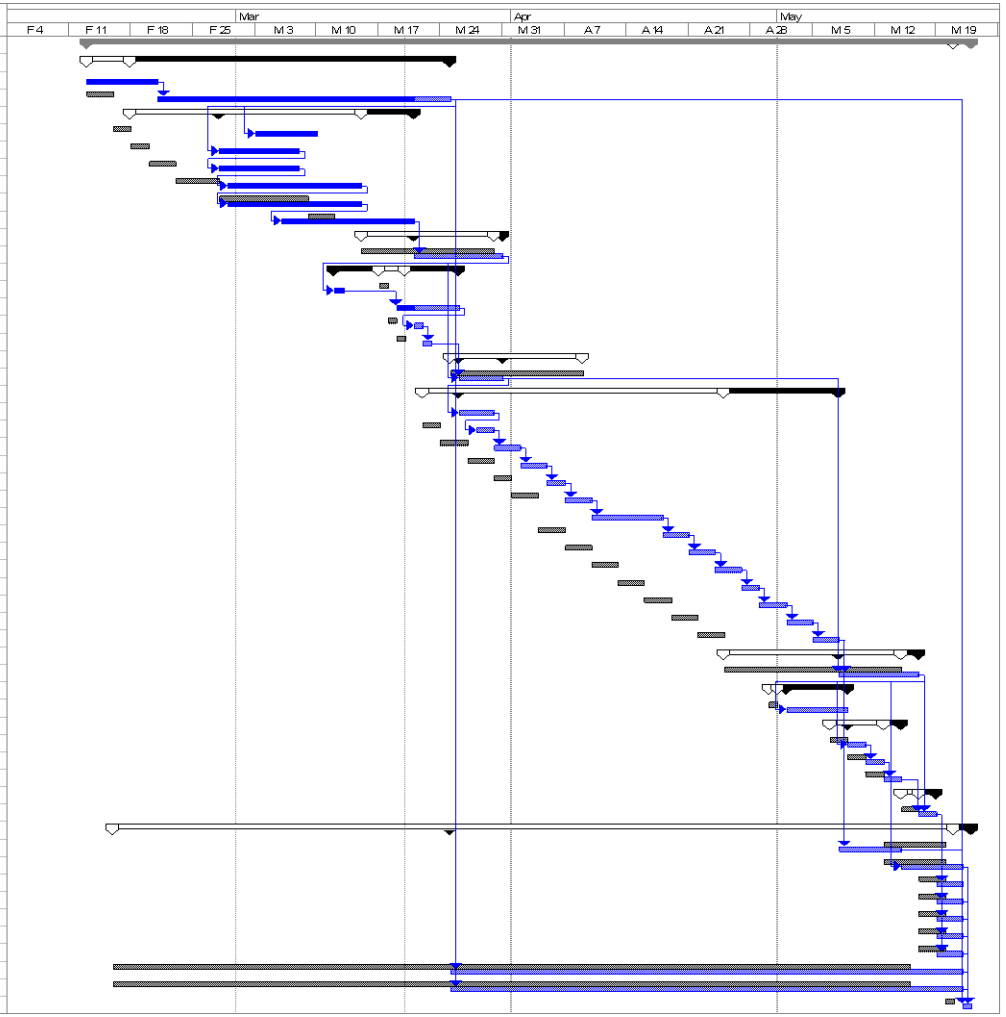
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320sqkm-14weeks	100 days	Wed 2/13/08	Fri 5/23/08
1	**1 Project Acquisition and Start-Up**	**41 days**	**Wed 2/13/08**	**Tue 3/25/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	33 days	Thu 2/21/08	Tue 3/25/08
4	**2 Pre-Processing 1-Testing**	**21.67 days**	**Thu 2/28/08**	**Thu 3/20/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	15 days	Wed 3/5/08	Thu 3/20/08
11	**3 Pre-Processing 1-Production**	**10 days**	**Thu 3/20/08**	**Sun 3/30/08**
12	3.1 Production of pre-processing1	10 days	Thu 3/20/08	Sun 3/30/08
13	**4 Pre-processing 2-Testing**	**14 days**	**Tue 3/11/08**	**Tue 3/25/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Client CC of 1st Pass Velocity Analysis	7 days	Tue 3/18/08	Tue 3/25/08
16	4.3 Radon Demult (High Resolution)	1 day	Thu 3/20/08	Fri 3/21/08
17	4.4 2:1 adjacent trace sum / trace decimation	1 day	Fri 3/21/08	Sat 3/22/08
18	**5 Pre-Processing 2-Production**	**5 days**	**Tue 3/25/08**	**Sun 3/30/08**
19	5.1 Production of pre-processing2	5 days	Tue 3/25/08	Sun 3/30/08
20	**6 3D Processing-Testing**	**43 days**	**Tue 3/25/08**	**Wed 5/7/08**
21	6.1 Wavelet shaping, zero phasing	4 days	Tue 3/25/08	Sat 3/29/08
22	6.2 CMP Binning (12.5m x 25m bins)	2 days	Thu 3/27/08	Sat 3/29/08
23	6.3 Surface consistent amplitude correction or other amplitude scaling	3 days	Sat 3/29/08	Tue 4/1/08
24	6.4 Missing trace interpolation	3 days	Tue 4/1/08	Fri 4/4/08
25	6.5 PSTM for vels	2 days	Fri 4/4/08	Sun 4/6/08
26	6.6 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Sun 4/6/08	Wed 4/9/08
27	6.7 Client CC of 2nd Pass Velocity Analysis	8 days	Wed 4/9/08	Thu 4/17/08
28	6.8 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	3 days	Thu 4/17/08	Sun 4/20/08
29	6.9 RMO Velocity Analysis	3 days	Sun 4/20/08	Wed 4/23/08
30	6.10 Residual Radon Demultiple	3 days	Wed 4/23/08	Sat 4/26/08
31	6.11 Acquisition footprint removal if deemed necessary	2 days	Sat 4/26/08	Mon 4/28/08
32	6.12 Q-compensation or other wavelet shaping if required	3 days	Mon 4/28/08	Thu 5/1/08
33	6.13 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Thu 5/1/08	Sun 5/4/08
34	6.14 Trace mute	3 days	Sun 5/4/08	Wed 5/7/08
35	**7 3D Processing-Production**	**9 days**	**Wed 5/7/08**	**Fri 5/16/08**
36	7.1 Production of 3D Processing	9 days	Wed 5/7/08	Fri 5/16/08
37	**8 Return of field data tapes to Origin**	**7 days**	**Thu 5/1/08**	**Thu 5/8/08**
38	8.1 Return of field data	7 days	Thu 5/1/08	Thu 5/8/08
39	**9 Stack and Post Stack-Testing**	**6 days**	**Thu 5/8/08**	**Wed 5/14/08**
40	9.1 CDP Stack	2 days	Thu 5/8/08	Sat 5/10/08
41	9.2 Gun and cable statics	2 days	Sat 5/10/08	Mon 5/12/08
42	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Mon 5/12/08	Wed 5/14/08
43	**10 Stack and Post Stack-Production**	**2 days**	**Fri 5/16/08**	**Sun 5/18/08**
44	10.1 Production of Stack and Post Stack	2 days	Fri 5/16/08	Sun 5/18/08
45	**11 Archivies and Closedown**	**59 days**	**Tue 3/25/08**	**Fri 5/23/08**
46	11.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Wed 5/7/08	Wed 5/14/08
47	11.2 Archive of Post Migration CDP gathers	7 days	Wed 5/14/08	Wed 5/21/08
48	11.3 Prelim post-stack migration	3 days	Sun 5/18/08	Wed 5/21/08
49	11.4 Archive Of Raw Migrated Stack	3 days	Sun 5/18/08	Wed 5/21/08
50	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Sun 5/18/08	Wed 5/21/08
51	11.6 Archive of Angle Stacks	3 days	Sun 5/18/08	Wed 5/21/08
52	11.7 Archive of AVO Intercept Gradient	3 days	Sun 5/18/08	Wed 5/21/08
53	11.8 Archive Of Processing Support Data	58 days	Tue 3/25/08	Thu 5/22/08
54	11.9 Creation by CGGV and acceptance of processing report by Origin	58 days	Tue 3/25/08	Thu 5/22/08
55	11.10 Completion of all contractural processing/archives	1 day	Thu 5/22/08	Fri 5/23/08



END OF WEEKLY REPORT

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CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 7	**REPORT PERIOD**	:	21/03/08-27/03/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 30/05/08**
  - We have incurred a delay of 7 days due to minor problems with finalising the model jobs. We will do our best to catch up this delay ASAP.
- **Current testing on-going:**
  - Pre-processing 1 production pilot jobs are running and being QC'd
- **Current production on-going:**
- **Decisions required/Tests despatched**:
- **Decisions made**:
  Origin has approved the following pre-processing steps:
  1. Reformatting & Seismic/Navigation merge (6000m streamer)
  2. Conversion of Field data to CGG internal format
  3. Instrument Delay (Phase 58ms)
  4. Cut data to 6000ms
  5. Obs log editing
  6. Maintain a sample of 2ms (with appropriate Anti-alias filter applied)
  7. Amplitude Recovery, multiply amplitudes by (T/250)2
  8. De-bias and Low Cut Filter: 3Hz
  9. Swell Noise Attenuation in SP domain followed by Channel domain.
  10. Linear Radon with start time 2600ms and 600ms taper
  11. DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms -> SRME, subtraction in cdp domain (this is Test F5, we would be equally happy for you to choose either test F7 or F10, given the very minor differences, if they are more efficient for you to run)
  12. Knotch Filter

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	10	3	35	Awaiting test decision – acquisition grid received 5th March
2.1	Test resample	100	2	7	Testing run in parallel
2.2	Test spherical divergence corr.	100	2	9	Tests run in parallel Additional tests requested by clients/waiting for client decisions Delay finalising model jobs
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	22	
3.1	PRODUCTION PRE-PROC. 1		15		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6	FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08

6. Processing Sequence Confirmed to Date

1. Reformatting & Seismic/Navigation merge (6000m streamer)
2. Conversion of Field data to CGG internal format
3. Instrument Delay (Phase 58ms)
4. Cut data to 6000ms
5. Obs log editing
6. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
7. Amplitude recovery, multiply amplitudes by (T/250)2
8. De-bias and Low Cut Filter: 3Hz
9. Swell Noise Attenuation in SP domain followed by channel domain.

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

10. Linear Radon with start time 2600ms and 600ms taper
11. DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
11.1 Pre-migration CDP gathers - no NMO		
11.2 Post-migration CDP gathers		
11.3 Prelim post-stack migration		
11.4 Raw migrated stacks		
11.5 Filtered / scaled migrated stacks		
11.6 Angle stacks		
11.7 AVO intercept, gradient		

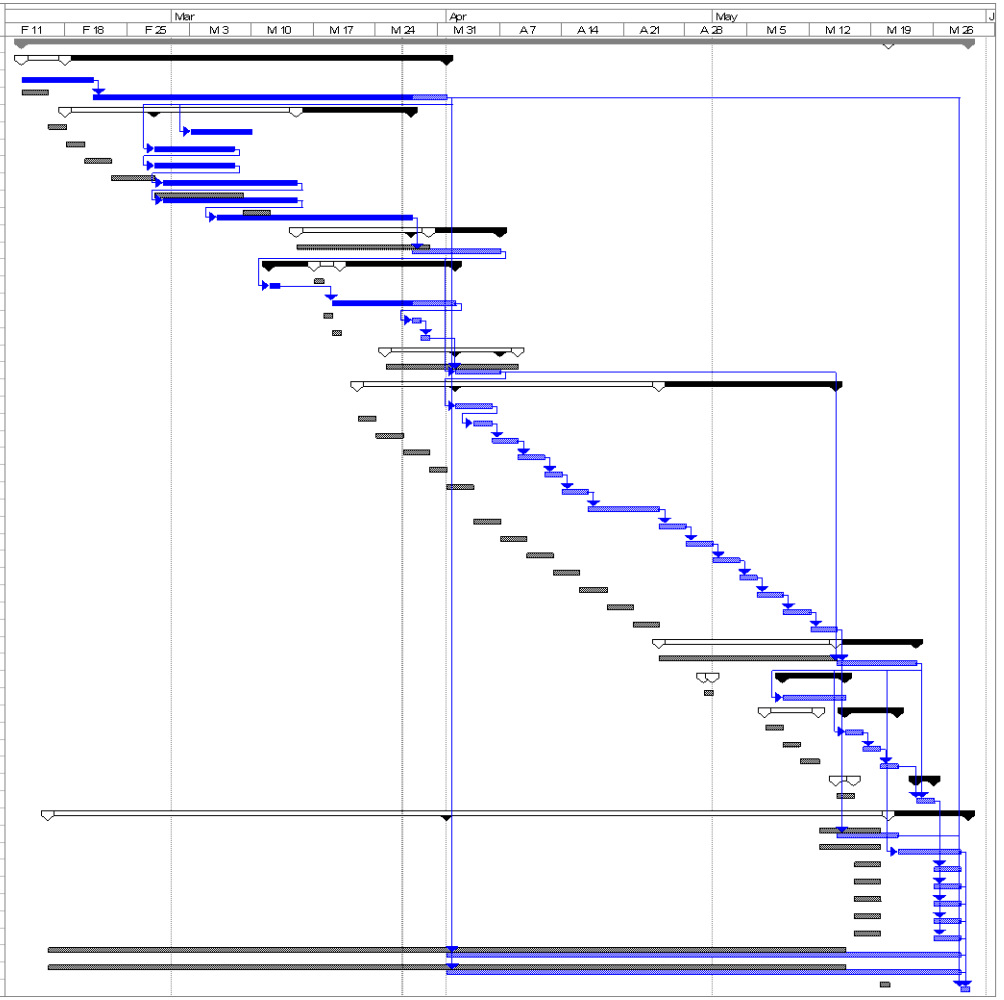
Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Deliverable Products & Closedown Activities	Progress	Comment
11.8 Processing support data		
11.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320sqkm-14weeks	107 days	Wed 2/13/08	Fri 5/30/08
1	**1 Project Acquisition and Start-Up**	**48 days**	**Wed 2/13/08**	**Tue 4/1/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	40 days	Thu 2/21/08	Tue 4/1/08
4	**2 Pre-Processing1-Testing**	**28.67 days**	**Thu 2/28/08**	**Thu 3/27/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	22 days	Wed 3/5/08	Thu 3/27/08
11	**3 Pre-Processing1-Production**	**10 days**	**Thu 3/27/08**	**Sun 4/6/08**
12	3.1 Production of pre-processing1	10 days	Thu 3/27/08	Sun 4/6/08
13	**4 Pre-processing 2-Testing**	**21 days**	**Tue 3/11/08**	**Tue 4/1/08**
14	4.1 1st Pass Velocity Analysis (2kmx 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Client QC of 1st Pass Velocity Analysis	14 days	Tue 3/18/08	Tue 4/1/08
16	4.3 Radon Demult (High Resolution)	1 day	Thu 3/27/08	Fri 3/28/08
17	4.4 2:1 adjacent trace sum / trace decimation	1 day	Fri 3/28/08	Sat 3/29/08
18	**5 Pre-Processing2-Production**	**5 days**	**Tue 4/1/08**	**Sun 4/6/08**
19	5.1 Production of pre-processing2	5 days	Tue 4/1/08	Sun 4/6/08
20	**6 3D Processing-Testing**	**43 days**	**Tue 4/1/08**	**Wed 5/14/08**
21	6.1 Wavelet shaping, zero phasing	4 days	Tue 4/1/08	Sat 4/5/08
22	6.2 CMP Binning (12.5mx 25m bins)	2 days	Thu 4/3/08	Sat 4/5/08
23	6.3 Surface consistent amplitude correction or other amplitude scaling	3 days	Sat 4/5/08	Tue 4/8/08
24	6.4 Missing trace interpolation	3 days	Tue 4/8/08	Fri 4/11/08
25	6.5 PSTM for vels	2 days	Fri 4/11/08	Sun 4/13/08
26	6.6 2nd Pass Velocity Analysis (1kmx 1km grid)	3 days	Sun 4/13/08	Wed 4/16/08
27	6.7 Client QC of 2nd Pass Velocity Analysis	8 days	Wed 4/16/08	Thu 4/24/08
28	6.8 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5mx 25m bins)	3 days	Thu 4/24/08	Sun 4/27/08
29	6.9 RMO Velocity Analysis	3 days	Sun 4/27/08	Wed 4/30/08
30	6.10 Residual Radon Demultiple	3 days	Wed 4/30/08	Sat 5/3/08
31	6.11 Acquisition footprint removal if deemed necessary	2 days	Sat 5/3/08	Mon 5/5/08
32	6.12 Q-compensation or other wavelet shaping if required	3 days	Mon 5/5/08	Thu 5/8/08
33	6.13 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Thu 5/8/08	Sun 5/11/08
34	6.14 Trace mute	3 days	Sun 5/11/08	Wed 5/14/08
35	**7 3D Processing-Production**	**9 days**	**Wed 5/14/08**	**Fri 5/23/08**
36	7.1 Production of 3D Processing	9 days	Wed 5/14/08	Fri 5/23/08
37	**8 Return of field data tapes to Origin**	**7 days**	**Thu 5/8/08**	**Thu 5/15/08**
38	8.1 Return of field data	7 days	Thu 5/8/08	Thu 5/15/08
39	**9 Stack and Post Stack-Testing**	**6 days**	**Thu 5/15/08**	**Wed 5/21/08**
40	9.1 CDP Stack	2 days	Thu 5/15/08	Sat 5/17/08
41	9.2 Gun and cable statics	2 days	Sat 5/17/08	Mon 5/19/08
42	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Mon 5/19/08	Wed 5/21/08
43	**10 Stack and Post Stack-Production**	**2 days**	**Fri 5/23/08**	**Sun 5/25/08**
44	10.1 Production of Stack and Post Stack	2 days	Fri 5/23/08	Sun 5/25/08
45	**11 Archivies and Closedown**	**59 days**	**Tue 4/1/08**	**Fri 5/30/08**
46	11.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Wed 5/14/08	Wed 5/21/08
47	11.2 Archive of Post Migration CDP gathers	7 days	Wed 5/21/08	Wed 5/28/08
48	11.3 Prelim post-stack migration	3 days	Sun 5/25/08	Wed 5/28/08
49	11.4 Archive Of Raw Migrated Stack	3 days	Sun 5/25/08	Wed 5/28/08
50	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Sun 5/25/08	Wed 5/28/08
51	11.6 Archive of Angle Stacks	3 days	Sun 5/25/08	Wed 5/28/08
52	11.7 Archive of AVO Intercept Gradient	3 days	Sun 5/25/08	Wed 5/28/08
53	11.8 Archive Of Processing Support Data	58 days	Tue 4/1/08	Thu 5/29/08
54	11.9 Creation by CGGV and acceptance of processing report by Origin	58 days	Tue 4/1/08	Thu 5/29/08
55	11.10 Completion of all contractural processing/archives	1 day	Thu 5/29/08	Fri 5/30/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 8	**REPORT PERIOD**	:	28/03/08-03/04/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 30/05/08**
- **Current testing on-going:**
- **Current production on-going:**
  - Pre-processing 1 production running
- **Decisions required/Tests despatched**:
  - Additional testing on the pre-processing 1 flow was carried out this week – see CGGV_Silvereye_Technote3_SRME FLOW_add7
- **Decisions made**:
  Origin has approved the following pre-processing steps (including revised Linear Radon filter):
  1. Reformatting & Seismic/Navigation merge (6000m streamer)
  2. Conversion of Field data to CGG internal format
  3. Instrument Delay (58ms)
  4. Cut data to 6000ms
  5. Obs log editing
  6. Maintain a sample of 2ms (with appropriate Anti-alias filter applied)
  7. Amplitude Recovery, multiply amplitudes by (T/250)2
  8. De-bias and Low Cut Filter: 3Hz
  9. Swell Noise Attenuation in SP domain followed by Channel domain.
  10. Linear Radon with start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
  11. DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms
  12. Knotch Filter
  13. SRME, subtraction in cdp domain

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

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Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	90	3	42	Awaiting test decision –acquisition grid received 5th March
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	10	15	1	

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08

6. Processing Sequence Confirmed to Date

1. Reformatting & Seismic/Navigation merge (6000m streamer)
2. Conversion of Field data to CGG internal format
3. Instrument Delay (Phase 58ms)
4. Cut data to 6000ms
5. Obs log editing
6. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
7. Amplitude recovery, multiply amplitudes by (T/250)2
8. De-bias and Low Cut Filter: 3Hz
9. Swell Noise Attenuation in SP domain followed by channel domain.
10. Linear Radon with start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS, LNA in Tau-P domain Gap 48ms, Op: 300ms, Window: 0-2200ms

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

12. Knotch Filter
13. SRME, subtraction in CDP domain

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
11.1 Pre-migration CDP gathers - no NMO		
11.2 Post-migration CDP gathers		
11.3 Prelim post-stack migration		
11.4 Raw migrated stacks		
11.5 Filtered / scaled migrated stacks		
11.6 Angle stacks		
11.7 AVO intercept, gradient		
11.8 Processing support data		
11.9 Processing report		

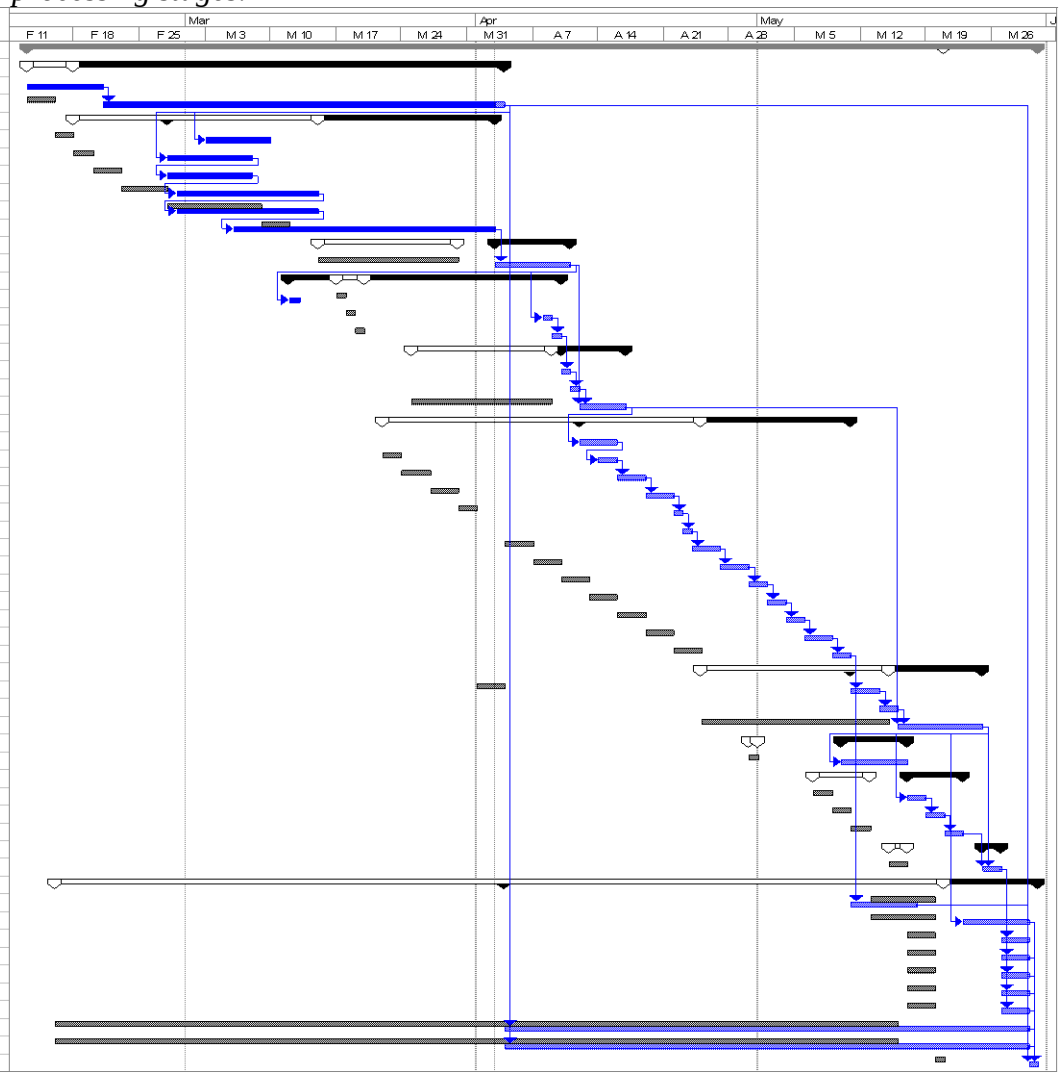
Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Deliverable Products & Closedown Activities	Progress	Comment
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start
0	**Bass Basin Silvereye3D-320 sqkm-14weeks**	**108 days**	**Wed 2/13/08**
1	**1 Project Acquisition and Start-Up**	**51 days**	**Wed 2/13/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	43 days	Thu 2/21/08
4	**2 Pre-Processing1-Testing**	**34.67 days**	**Thu 2/28/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08
11	**3 Pre-Processing1-Production**	**8 days**	**Wed 4/2/08**
12	3.1 Production of pre-processing1	8 days	Wed 4/2/08
13	**4 Pre-processing 2-Testing**	**29 days**	**Tue 3/11/08**
14	4.1 1st Pass Velocity Analysis (2kmx 2kmgrid)	1 day	Tue 3/11/08
15	4.2 Radon Demult (High Resolution)	1 day	Mon 4/7/08
16	4.3 2:1 adjacent trace sum/ trace decimation	1 day	Tue 4/8/08
17	**5 Pre-Processing2-Production**	**7 days**	**Wed 4/9/08**
18	5.1 1st Pass Velocity Analysis (2kmx 2kmgrid)	1 day	Wed 4/9/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Thu 4/10/08
20	5.3 Production of pre-processing2	5 days	Fri 4/11/08
21	**6 3D Processing-Testing**	**29 days**	**Fri 4/11/08**
22	6.1 Wavelet shaping, zero phasing	4 days	Fri 4/11/08
23	6.2 CMP Binning (12.5mx 25mbins)	2 days	Sun 4/13/08
24	6.3 Surface consistent amplitude correction or other amplitude scaling	3 days	Tue 4/15/08
25	6.4 Missing trace interpolation	3 days	Fri 4/18/08
26	6.5 PSTM for vels	1 day	Mon 4/21/08
27	6.6 2nd Pass Velocity Analysis (1kmx 1kmgrid)	1 day	Tue 4/22/08
28	6.7 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5mx 25mbins)	3 days	Wed 4/23/08
29	6.8 RMO Velocity Analysis	3 days	Sat 4/26/08
30	6.9 Residual Radon Demultiple	2 days	Tue 4/29/08
31	6.10 Acquisition footprint removal if deemed necessary	2 days	Thu 5/1/08
32	6.11 Q-compensation or other wavelet shaping if required	2 days	Sat 5/3/08
33	6.12 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Mon 5/5/08
34	6.13 Trace mute	2 days	Thu 5/8/08
35	**7 3D Processing-Production**	**14 days**	**Sat 5/10/08**
36	7.1 2nd Pass Velocity Analysis (1kmx 1kmgrid)	3 days	Sat 5/10/08
37	7.2 Client QC of 2nd Pass Velocity Analysis	2 days	Tue 5/13/08
38	7.3 Production of 3D Processing	9 days	Thu 5/15/08
39	**8 Return of field data tapes to Origin**	**7 days**	**Fri 5/9/08**
40	8.1 Return of field data	7 days	Fri 5/9/08
41	**9 Stack and Post Stack-Testing**	**6 days**	**Fri 5/16/08**
42	9.1 CDP Stack	2 days	Fri 5/16/08
43	9.2 Gun and cable statics	2 days	Sun 5/18/08
44	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Tue 5/20/08
45	**10 Stack and Post Stack-Production**	**2 days**	**Sat 5/24/08**
46	10.1 Production of Stack and Post Stack	2 days	Sat 5/24/08
47	**11 Archivies and Closedown**	**57 days**	**Fri 4/4/08**
48	11.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Sat 5/10/08
49	11.2 Archive of Post Migration CDP gathers	7 days	Thu 5/22/08
50	11.3 Prelimpost-stack migration	3 days	Mon 5/26/08
51	11.4 Archive Of RawMigrated Stack	3 days	Mon 5/26/08
52	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Mon 5/26/08
53	11.6 Archive of Angle Stacks	3 days	Mon 5/26/08
54	11.7 Archive of AVO Intercept Gradient	3 days	Mon 5/26/08
55	11.8 Archive Of Processing Support Data	56 days	Fri 4/4/08
56	11.9 Creation by CGGV and acceptance of processing report by Origin	56 days	Fri 4/4/08
57	11.10 Completion of all contractural processing/archives	1 day	Fri 5/30/08



END OF WEEKLY REPORT

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TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 9	**REPORT PERIOD**	:	04/04/08-10/04/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 01/06/08**
- **Current testing on-going:**
  - Additional tests requested by client - interpolation before Hi-Res Radon demultiple
- **Current production on-going:**
  - The reformat production is 100% complete and QC'd
  - Please note that we have successfully read in all the field tapes
  - The near trace cube is currently being output onto DVD to be sent to Origin
  - A reformat & near trace cube QC PPT will be sent shortly
  - Pre-processing 1 production (up to SRME) and QC running – approx 60% complete
  - 1st pass velocity analysis picked manually in Pace by CGGV and QC'ed by Bruce
- **Decisions required/Tests despatched**:
  - Hi-Res Radon demultiple PPT sent
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	60	15	8	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	60	1	6	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON	FTP	08/04/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel doma
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

14. 1st pass velocity analysis - lines 2km apart

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
11.1 Pre-migration CDP gathers - no NMO		
11.2 Post-migration CDP gathers		
11.3 Prelim post-stack migration		
11.4 Raw migrated stacks		
11.5 Filtered / scaled migrated stacks		
11.6 Angle stacks		
11.7 AVO intercept, gradient		
11.8 Processing support data		
11.9 Processing report		

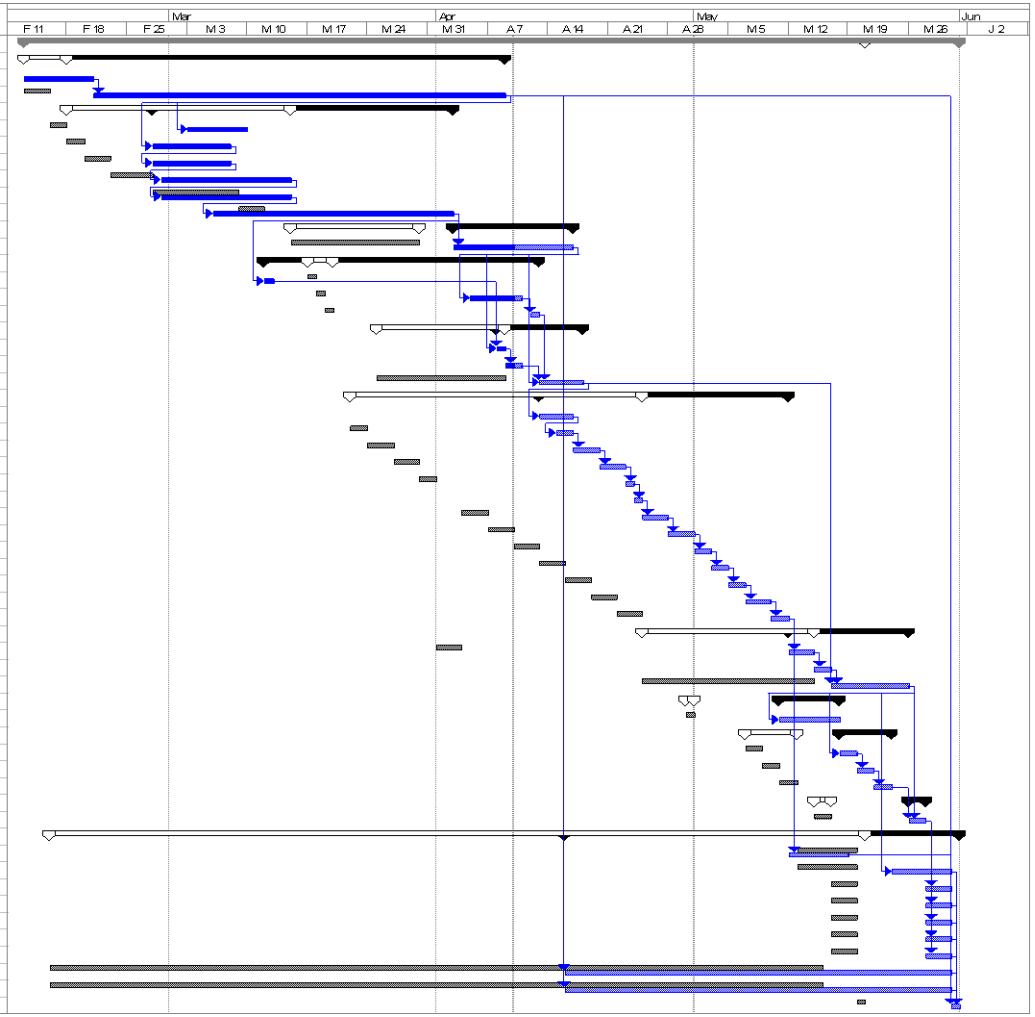
Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Deliverable Products & Closedown Activities	Progress	Comment
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye 3D-3D sqkm-14 weeks	109 days	Wed 2/13/08	Sun 6/1/08
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**14 days**	**Wed 4/2/08**	**Wed 4/16/08**
12	3.1 Production of pre-processing1	14 days	Wed 4/2/08	Wed 4/16/08
13	**4 Pre-processing 2-Testing**	**32 days**	**Tue 3/11/08**	**Sat 4/12/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	6 days	Fri 4/4/08	Thu 4/10/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Fri 4/11/08	Sat 4/12/08
17	**5 Pre-Processing 2-Production**	**10 days**	**Mon 4/7/08**	**Thu 4/17/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	2 days	Tue 4/8/08	Thu 4/10/08
20	5.3 Production of pre-processing2	5 days	Sat 4/12/08	Thu 4/17/08
21	**6 3D Processing-Testing**	**29 days**	**Sat 4/12/08**	**Sun 5/11/08**
22	6.1 Wavelet shaping, zero phasing	4 days	Sat 4/12/08	Wed 4/16/08
23	6.2 CMP Binning (12.5m x 25m bins)	2 days	Mon 4/14/08	Wed 4/16/08
24	6.3 Surface consistent amplitude correction or other amplitude scaling	3 days	Wed 4/16/08	Sat 4/19/08
25	6.4 Missing trace interpolation	3 days	Sat 4/19/08	Tue 4/22/08
26	6.5 PSTM for vels	1 day	Tue 4/22/08	Wed 4/23/08
27	6.6 2nd Pass Velocity Analysis (1km x 1km grid)	1 day	Wed 4/23/08	Thu 4/24/08
28	6.7 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	3 days	Thu 4/24/08	Sun 4/27/08
29	6.8 RMO Velocity Analysis	3 days	Sun 4/27/08	Wed 4/30/08
30	6.9 Residual Radon Demultiple	2 days	Wed 4/30/08	Fri 5/2/08
31	6.10 Acquisition footprint removal if deemed necessary	2 days	Fri 5/2/08	Sun 5/4/08
32	6.11 Q-compensation or other wavelet shaping if required	2 days	Sun 5/4/08	Tue 5/6/08
33	6.12 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Tue 5/6/08	Fri 5/9/08
34	6.13 Trace mute	2 days	Fri 5/9/08	Sun 5/11/08
35	**7 3D Processing-Production**	**14 days**	**Sun 5/11/08**	**Sun 5/25/08**
36	7.1 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Sun 5/11/08	Wed 5/14/08
37	7.2 Client QC of 2nd Pass Velocity Analysis	2 days	Wed 5/14/08	Fri 5/16/08
38	7.3 Production of 3D Processing	9 days	Fri 5/16/08	Sun 5/25/08
39	**8 Return of field data tapes to Origin**	**7 days**	**Sat 5/10/08**	**Sat 5/17/08**
40	8.1 Return of field data	7 days	Sat 5/10/08	Sat 5/17/08
41	**9 Stack and Post Stack-Testing**	**6 days**	**Sat 5/17/08**	**Fri 5/23/08**
42	9.1 CDP Stack	2 days	Sat 5/17/08	Mon 5/19/08
43	9.2 Gun and cable statics	2 days	Mon 5/19/08	Wed 5/21/08
44	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Wed 5/21/08	Fri 5/23/08
45	**10 Stack and Post Stack-Production**	**2 days**	**Sun 5/25/08**	**Tue 5/27/08**
46	10.1 Production of Stack and Post Stack	2 days	Sun 5/25/08	Tue 5/27/08
47	**11 Archivies and Closedown**	**46 days**	**Wed 4/16/08**	**Sun 6/1/08**
48	11.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Sun 5/11/08	Sun 5/18/08
49	11.2 Archive of Post Migration CDP gathers	7 days	Fri 5/23/08	Fri 5/30/08
50	11.3 Prelim post-stack migration	3 days	Tue 5/27/08	Fri 5/30/08
51	11.4 Archive Of Raw Migrated Stack	3 days	Tue 5/27/08	Fri 5/30/08
52	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Tue 5/27/08	Fri 5/30/08
53	11.6 Archive of Angle Stacks	3 days	Tue 5/27/08	Fri 5/30/08
54	11.7 Archive of AVO Intercept Gradient	3 days	Tue 5/27/08	Fri 5/30/08
55	11.8 Archive Of Processing Support Data	45 days	Wed 4/16/08	Sat 5/31/08
56	11.9 Creation by CGGV and acceptance of processing report by Origin	45 days	Wed 4/16/08	Sat 5/31/08
57	11.10 Completion of all contractural processing/archives	1 day	Sat 5/31/08	Sun 6/1/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 10	**REPORT PERIOD**	:	11/04/08-17/04/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 07/06/08**
- **Current testing on-going:**
  - Starting source and channel gain correction testing, tidal static tests and zero phase tests
- **Current production on-going:**
  - Production for Hi-Res Radon demultiple, with pre-Radon interpolation
  - Pre-processing 1 production (up to SRME) 100% complete, and QC 70% complete
- **Decisions required/Tests despatched**:
  - PPT with additional Hi-Res Radon demultiple tests sent
  - QC PPT for reformat and near trace cube sent
- **Decisions made**:
  - First pass Hi-Res Radon demultiple parameters approved by Origin:
    Trace interpolation before Radon
    300msec dt cut at 600 msec
    300msec dt cut at 900msec
    240 msec cut at 1400msec
    240msec dt cut at end of record
    (use taper from the 2D reprocessing program)

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	95	15	15	QC in progress
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	95	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2		5		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with AA filter)
16. Time variant Hi-Res Radon demultiple (with trace interpolation before)

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

- The near trace cube was output in SEGY format on DVD (split over 4 discs) and sent to Origin on Monday. Origin should have received it

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
11.1 Pre-migration CDP gathers - no NMO		
11.2 Post-migration CDP gathers		

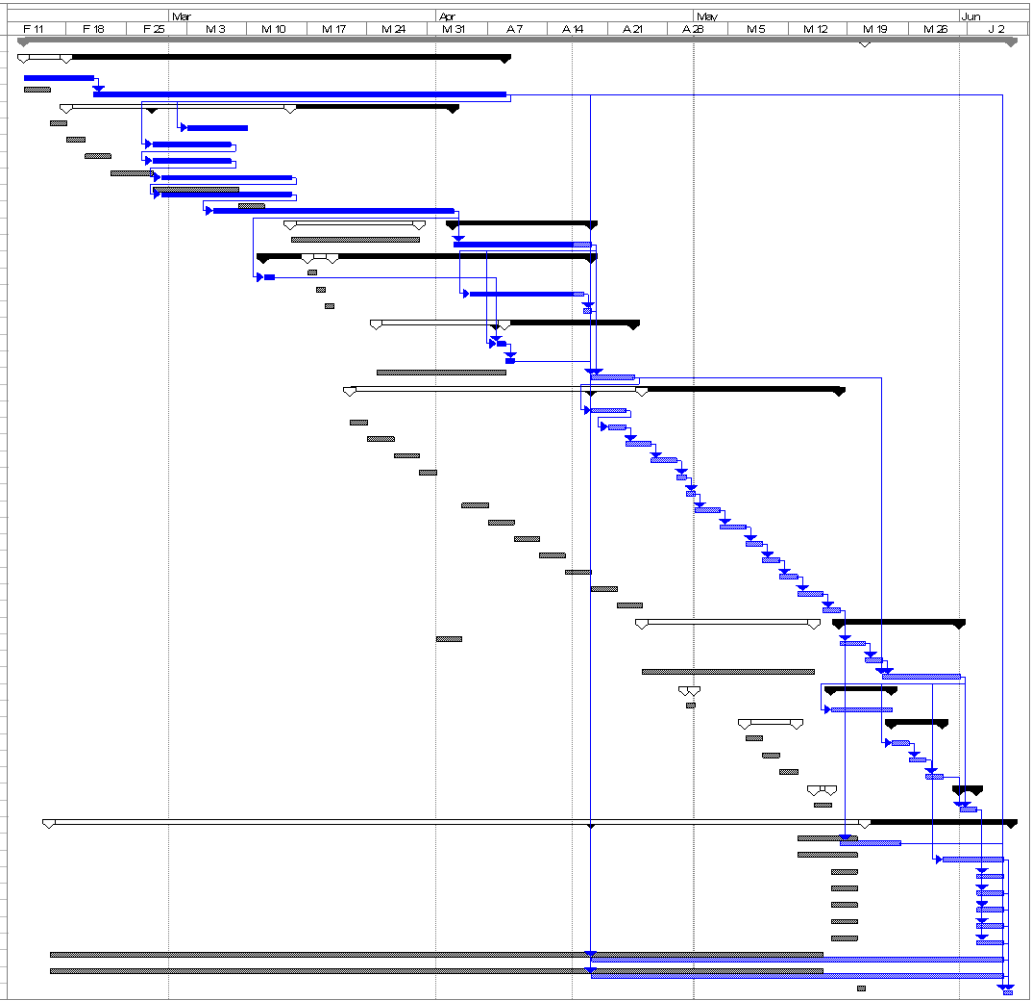
Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Deliverable Products & Closedown Activities	Progress	Comment
11.3 Prelim post-stack migration		
11.4 Raw migrated stacks		
11.5 Filtered / scaled migrated stacks		
11.6 Angle stacks		
11.7 AVO intercept, gradient		
11.8 Processing support data		
11.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D-320 sqkm-14Weeks**	**115 days**	**Wed 2/13/08**	**Sat 6/7/08**
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**16 days**	**Wed 4/2/08**	**Fri 4/18/08**
12	3.1 Production of pre-processing1	16 days	Wed 4/2/08	Fri 4/18/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**16 days**	**Mon 4/7/08**	**Wed 4/23/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	5 days	Fri 4/18/08	Wed 4/23/08
21	**6 3D Processing-Testing**	**29 days**	**Fri 4/18/08**	**Sat 5/17/08**
22	6.1 Wavelet shaping, zero phasing	4 days	Fri 4/18/08	Tue 4/22/08
23	6.2 CMP Binning (12.5m x 25m bins)	2 days	Sun 4/20/08	Tue 4/22/08
24	6.3 Surface consistent amplitude correction or other amplitude scaling	3 days	Tue 4/22/08	Fri 4/25/08
25	6.4 Missing trace interpolation	3 days	Fri 4/25/08	Mon 4/28/08
26	6.5 PSTM for vels	1 day	Mon 4/28/08	Tue 4/29/08
27	6.6 2nd Pass Velocity Analysis (1km x 1km grid)	1 day	Tue 4/29/08	Wed 4/30/08
28	6.7 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5mx 25m bins)	3 days	Wed 4/30/08	Sat 5/3/08
29	6.8 RMO Velocity Analysis	3 days	Sat 5/3/08	Tue 5/6/08
30	6.9 Residual Radon Demultiple	2 days	Tue 5/6/08	Thu 5/8/08
31	6.10 Acquisition footprint removal if deemed necessary	2 days	Thu 5/8/08	Sat 5/10/08
32	6.11 Q-compensation or other wavelet shaping if required	2 days	Sat 5/10/08	Mon 5/12/08
33	6.12 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Mon 5/12/08	Thu 5/15/08
34	6.13 Trace mute	2 days	Thu 5/15/08	Sat 5/17/08
35	**7 3D Processing-Production**	**14 days**	**Sat 5/17/08**	**Sat 5/31/08**
36	7.1 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Sat 5/17/08	Tue 5/20/08
37	7.2 Client QC of 2nd Pass Velocity Analysis	2 days	Tue 5/20/08	Thu 5/22/08
38	7.3 Production of 3D Processing	9 days	Thu 5/22/08	Sat 5/31/08
39	**8 Return of field data tapes to Origin**	**7 days**	**Fri 5/16/08**	**Fri 5/23/08**
40	8.1 Return of field data	7 days	Fri 5/16/08	Fri 5/23/08
41	**9 Stack and Post Stack-Testing**	**6 days**	**Fri 5/23/08**	**Thu 5/29/08**
42	9.1 CDP Stack	2 days	Fri 5/23/08	Sun 5/25/08
43	9.2 Gun and cable statics	2 days	Sun 5/25/08	Tue 5/27/08
44	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Tue 5/27/08	Thu 5/29/08
45	**10 Stack and Post Stack-Production**	**2 days**	**Sat 5/31/08**	**Mon 6/2/08**
46	10.1 Production of Stack and Post Stack	2 days	Sat 5/31/08	Mon 6/2/08
47	**11 Archivies and Closedown**	**49 days**	**Sat 4/19/08**	**Sat 6/7/08**
48	11.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Sat 5/17/08	Sat 5/24/08
49	11.2 Archive of Post Migration CDP gathers	7 days	Thu 5/29/08	Thu 6/5/08
50	11.3 Prelim post-stack migration	3 days	Mon 6/2/08	Thu 6/5/08
51	11.4 Archive Of Raw Migrated Stack	3 days	Mon 6/2/08	Thu 6/5/08
52	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Mon 6/2/08	Thu 6/5/08
53	11.6 Archive of Angle Stacks	3 days	Mon 6/2/08	Thu 6/5/08
54	11.7 Archive of AVO Intercept Gradient	3 days	Mon 6/2/08	Thu 6/5/08
55	11.8 Archive Of Processing Support Data	48 days	Sat 4/19/08	Fri 6/6/08
56	11.9 Creation by CGGV and acceptance of processing report by Origin	48 days	Sat 4/19/08	Fri 6/6/08
57	11.10 Completion of all contractural processing/archives	1 day	Fri 6/6/08	Sat 6/7/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 11	**REPORT PERIOD**	:	18/04/08-24/04/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 11/06/08**
- **Current testing on-going:**
  - Source and channel gain correction tests
  - Tidal static tests
  - Zero phase tests (streamers at varied depths)
- **Current production on-going:**
  - Hi-Res Radon demultiple production and QC continuing
  - Pre-processing 1 production (up to SRME) 100% complete and QC'd
- **Decisions required/Tests despatched**:
  - Zero phasing tests
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

2.4	Test tau-p linear noise removal	100	5	15	clients/waiting for decisions. Delay finalising model jobs
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2	70	5	6	
6.1	Test zero phasing	50	4	7	Testing varied streamer depths
6.2	Test amplitude scaling	50	3	6	

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1	FTP FTP	23/04/08 23/04/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with AA filter)
16. Time variant Hi-Res Radon demultiple (with trace interpolation before)

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

- Origin have been given the1st pass velocity files in Western format and ASCII format, as requested. The files required to load the 1st pass vels into PACE have been transferred to the Origin workstation.

- The near trace cube was output in SEGY format on DVD (split over 4 discs) and sent to Origin on Monday. Origin received it on 15/04/08.

11. Project Closedown Summary

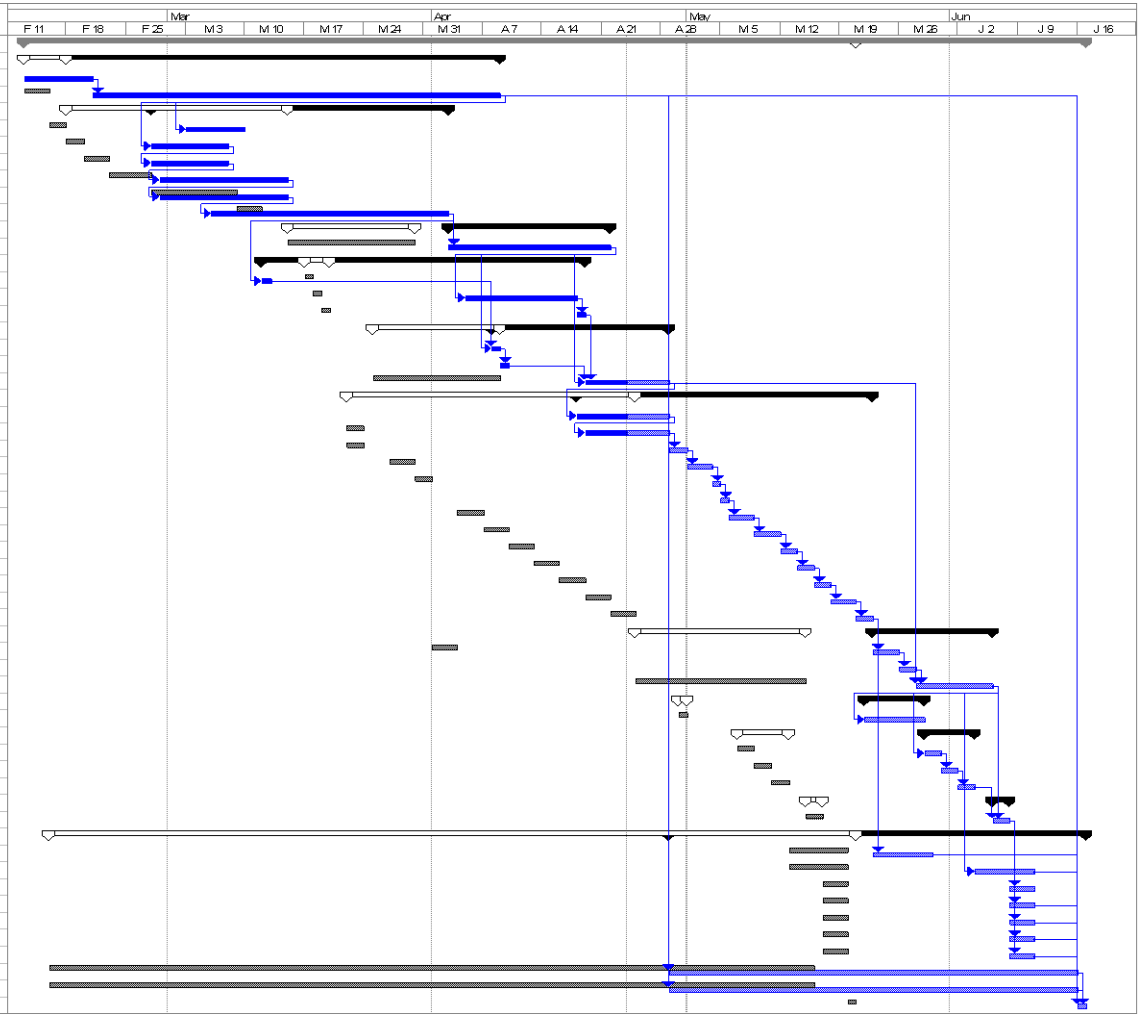
Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
11.1 Pre-migration CDP gathers - no NMO		
11.2 Post-migration CDP gathers		
11.3 Prelim post-stack migration		
11.4 Raw migrated stacks		
11.5 Filtered / scaled migrated stacks		
11.6 Angle stacks		
11.7 AVO intercept, gradient		
11.8 Processing support data		
11.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start
0	Bass Basin Silvereye3D-32Dsqkm-14weeks	125 days	Wed 2/13/08
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**
2	1.1 Navigation Data Reformat (Problem with FGS nav)	8 days	Wed 2/13/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08
16	4.3.2.1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08
17	**5 Pre-Processing 2-Production**	**21 days**	**Mon 4/7/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08
20	5.3 Production of pre-processing2	10 days	Fri 4/18/08
21	**6 3D Processing-Testing**	**35 days**	**Thu 4/17/08**
22	6.1 Wavelet shaping, zero phasing	11 days	Thu 4/17/08
23	6.2 Surface consistent amplitude correction or other amplitude scaling	10 days	Fri 4/18/08
24	6.3 CMP Binning (12.5m x 25m bins)	2 days	Mon 4/28/08
25	6.4 Missing trace interpolation	3 days	Wed 4/30/08
26	6.5 PSTM for vels	1 day	Sat 5/3/08
27	6.6 2nd Pass Velocity Analysis (1km x 1km grid)	1 day	Sun 5/4/08
28	6.7 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	3 days	Mon 5/5/08
29	6.8 RMO Velocity Analysis	3 days	Thu 5/8/08
30	6.9 Residual Radon Demultiple	2 days	Sun 5/11/08
31	6.10 Acquisition footprint removal if deemed necessary	2 days	Tue 5/13/08
32	6.11 Q-compensation or other wavelet shaping if required	2 days	Thu 5/15/08
33	6.12 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Sat 5/17/08
34	6.13 Trace mute	2 days	Tue 5/20/08
35	**7 3D Processing-Production**	**14 days**	**Thu 5/22/08**
36	7.1 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Thu 5/22/08
37	7.2 Client QC of 2nd Pass Velocity Analysis	2 days	Sun 5/25/08
38	7.3 Production of 3D Processing	9 days	Tue 5/27/08
39	**8 Return of field data tapes to Origin**	**7 days**	**Wed 5/21/08**
40	8.1 Return of field data	7 days	Wed 5/21/08
41	**9 Stack and Post Stack-Testing**	**6 days**	**Wed 5/28/08**
42	9.1 CDP Stack	2 days	Wed 5/28/08
43	9.2 Gun and cable statics	2 days	Fri 5/30/08
44	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Sun 6/1/08
45	**10 Stack and Post Stack-Production**	**2 days**	**Thu 6/5/08**
46	10.1 Production of Stack and Post Stack	2 days	Thu 6/5/08
47	**11 Archivies and Closedown**	**49 days**	**Tue 4/29/08**
48	11.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Thu 5/22/08
49	11.2 Archive of Post Migration CDP gathers	7 days	Tue 6/3/08
50	11.3 Prelim post-stack migration	3 days	Sat 6/7/08
51	11.4 Archive Of Raw Migrated Stack	3 days	Sat 6/7/08
52	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Sat 6/7/08
53	11.6 Archive of Angle Stacks	3 days	Sat 6/7/08
54	11.7 Archive of AVO Intercept Gradient	3 days	Sat 6/7/08
55	11.8 Archive Of Processing Support Data	48 days	Tue 4/29/08
56	11.9 Creation by CGGV and acceptance of processing report by Origin	48 days	Tue 4/29/08
57	11.10 Completion of all contractural processing/archives	1 day	Mon 6/16/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 12	**REPORT PERIOD**	:	25/04/08-01/05/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 17/06/08**
  The extra testing requested is taking more time to carry out than was scheduled.
- **Current testing on-going:**
  - Source and channel gain correction tests
  - Tidal static tests
  - Zero phase tests (streamers at varied depths)
- **Current production on-going:**
  - Hi-Res Radon demultiple production 100% complete and QC 70% complete.
- **Decisions required/Tests despatched**:
  - Zero phasing tests
  - Tidal static tests
  - Source/channel gain correction tests
- **Decisions made**:
  - Regarding the tidal static correction, Origin approves the following:
    "We wish to correct to Mean Sea Level. We are happy for CGGV to average the Mean Indian Spring Water tidal statics as provided by Origin, to produce an estimate of Mean Sea Level."

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	95	5	13	Continuing to QC
6.1	Test zero phasing/wavelet shaping	90	4	14	Testing varied cable depths & matching filters
6.2	Test amplitude scaling	90	3	13	Testing in conjunction with 6.1

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2	FTP FTP FTP	23/04/08 23/04/08 28/04/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr	FTP	29/04/08

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

10. Miscellaneous/Additional Comments

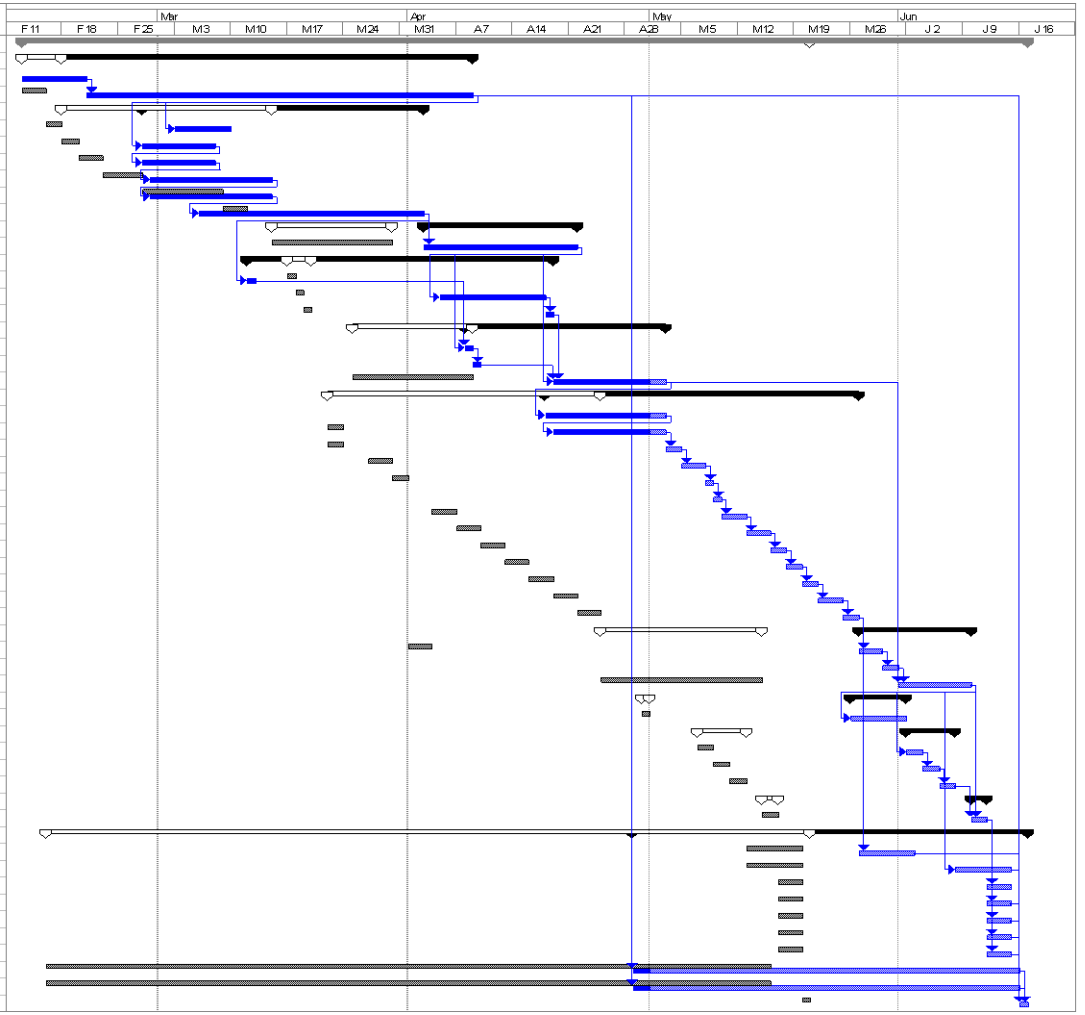
11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
11.1 Pre-migration CDP gathers - no NMO		
11.2 Post-migration CDP gathers		
11.3 Prelim post-stack migration		
11.4 Raw migrated stacks		
11.5 Filtered / scaled migrated stacks		
11.6 Angle stacks		
11.7 AVO intercept, gradient		
11.8 Processing support data		
11.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye 3D-320sq km-14weeks	125 days	Wed 2/13/08	Tue 6/17/08
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with RGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**25 days**	**Mon 4/7/08**	**Fri 5/2/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	14 days	Fri 4/18/08	Fri 5/2/08
21	**6 3D Processing-Testing**	**39 days**	**Thu 4/17/08**	**Mon 5/26/08**
22	6.1 Wavelet shaping, zero phasing	15 days	Thu 4/17/08	Fri 5/2/08
23	6.2 Surface consistent amplitude correction or other amplitude scaling	14 days	Fri 4/18/08	Fri 5/2/08
24	6.3 CMP Binning (12.5m x 25m bins)	2 days	Fri 5/2/08	Sun 5/4/08
25	6.4 Missing trace interpolation	3 days	Sun 5/4/08	Wed 5/7/08
26	6.5 PSTM for vels	1 day	Wed 5/7/08	Thu 5/8/08
27	6.6 2nd Pass Velocity Analysis (1km x 1km grid)	1 day	Thu 5/8/08	Fri 5/9/08
28	6.7 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	3 days	Fri 5/9/08	Mon 5/12/08
29	6.8 RMO Velocity Analysis	3 days	Mon 5/12/08	Thu 5/15/08
30	6.9 Residual Radon Demultiple	2 days	Thu 5/15/08	Sat 5/17/08
31	6.10 Acquisition footprint removal if deemed necessary	2 days	Sat 5/17/08	Mon 5/19/08
32	6.11 Q-compensation or other wavelet shaping if required	2 days	Mon 5/19/08	Wed 5/21/08
33	6.12 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Wed 5/21/08	Sat 5/24/08
34	6.13 Trace mute	2 days	Sat 5/24/08	Mon 5/26/08
35	**7 3D Processing-Production**	**14 days**	**Mon 5/26/08**	**Mon 6/9/08**
36	7.1 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Mon 5/26/08	Thu 5/29/08
37	7.2 Client QC of 2nd Pass Velocity Analysis	2 days	Thu 5/29/08	Sat 5/31/08
38	7.3 Production of 3D Processing	9 days	Sat 5/31/08	Mon 6/9/08
39	**8 Return of field data tapes to Origin**	**7 days**	**Sun 5/25/08**	**Sun 6/1/08**
40	8.1 Return of field data	7 days	Sun 5/25/08	Sun 6/1/08
41	**9 Stack and Post Stack-Testing**	**6 days**	**Sun 6/1/08**	**Sat 6/7/08**
42	9.1 CDP Stack	2 days	Sun 6/1/08	Tue 6/3/08
43	9.2 Gun and cable statics	2 days	Tue 6/3/08	Thu 6/5/08
44	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Thu 6/5/08	Sat 6/7/08
45	**10 Stack and Post Stack-Production**	**2 days**	**Mon 6/9/08**	**Wed 6/11/08**
46	10.1 Production of Stack and Post Stack	2 days	Mon 6/9/08	Wed 6/11/08
47	**11 Archivies and Closedown**	**49 days**	**Tue 4/29/08**	**Tue 6/17/08**
48	11.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Mon 5/26/08	Mon 6/2/08
49	11.2 Archive of Post Migration CDP gathers	7 days	Sat 6/7/08	Sat 6/14/08
50	11.3 Prelim post-stack migration	3 days	Wed 6/11/08	Sat 6/14/08
51	11.4 Archive Of Raw Migrated Stack	3 days	Wed 6/11/08	Sat 6/14/08
52	11.5 Archive Of Filtered / Scaled Migrated Stack	3 days	Wed 6/11/08	Sat 6/14/08
53	11.6 Archive of Angle Stacks	3 days	Wed 6/11/08	Sat 6/14/08
54	11.7 Archive of AVO Intercept Gradient	3 days	Wed 6/11/08	Sat 6/14/08
55	11.8 Archive Of Processing Support Data	48 days	Tue 4/29/08	Mon 6/16/08
56	11.9 Creation by OGSV and acceptance of processing report by Origin	48 days	Tue 4/29/08	Mon 6/16/08
57	11.10 Completion of all contractural processing/archives	1 day	Mon 6/16/08	Tue 6/17/08



END OF WEEKLY REPORT

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CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
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TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 13	**REPORT PERIOD**	:	02/05/08-08/05/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 22/06/08**
  The extra testing requested is taking more time to carry out than was scheduled.
- **Current testing on-going:**
  - Tidal static tests
  - Source and channel gain correction tests
  - Zero phase tests (streamers at varied depths) plus spectral correction
- **Current production on-going:**
  - Hi-Res Radon demultiple production and QC 100% complete.
- **Decisions required/Tests despatched**:
  - Tidal static tests
  - Zero phasing tests
  - Spectral correction tests
  - Source/channel gain correction tests
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests
2.2	Test spherical divergence corr.	100	2	9	

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2.3	Test swell noise removal	100	3	9	requested by clients/waiting for decisions. Delay finalising model jobs
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	90	4	21	Additional tests requested by clients
6.2	Test amplitude scaling	90	3	20	Testing in conjunction with 6.1

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr	FTP	29/04/08

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6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
11.1 Pre-migration CDP gathers - no NMO		
11.2 Post-migration CDP gathers		
11.3 Prelim post-stack migration		
11.4 Raw migrated stacks		
11.5 Filtered / scaled migrated stacks		
11.6 Angle stacks		
11.7 AVO intercept, gradient		
11.8 Processing support data		
11.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

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GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye 3D-320sc/km-14weeks	130 days	Wed 2/13/08	Sun 6/22/08
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with RGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 3D Processing-Testing**	**45 days**	**Thu 4/17/08**	**Sun 6/1/08**
22	6.1 Wavelet shaping, zero phasing	21 days	Thu 4/17/08	Thu 5/8/08
23	6.2 Surface consistent amplitude correction or other amplitude scaling	20 days	Fri 4/18/08	Thu 5/8/08
24	6.3 CMP Binning (12.5m x 25m bins)	2 days	Thu 5/8/08	Sat 5/10/08
25	6.4 Missing trace interpolation	3 days	Sat 5/10/08	Tue 5/13/08
26	6.5 PSTM for vels	1 day	Tue 5/13/08	Wed 5/14/08
27	6.6 2nd Pass Velocity Analysis (1km x 1km grid)	1 day	Wed 5/14/08	Thu 5/15/08
28	6.7 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	3 days	Thu 5/15/08	Sun 5/18/08
29	6.8 RMO Velocity Analysis	3 days	Sun 5/18/08	Wed 5/21/08
30	6.9 Residual Radon Demultiple	2 days	Wed 5/21/08	Fri 5/23/08
31	6.10 Acquisition footprint removal if deemed necessary	2 days	Fri 5/23/08	Sun 5/25/08
32	6.11 Q-compensation or other wavelet shaping if required	2 days	Sun 5/25/08	Tue 5/27/08
33	6.12 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Tue 5/27/08	Fri 5/30/08
34	6.13 Trace mute	2 days	Fri 5/30/08	Sun 6/1/08
35	**7 3D Processing-Production**	**14 days**	**Sun 6/1/08**	**Sun 6/15/08**
36	7.1 2nd Pass Velocity Analysis (1km x 1km grid)	3 days	Sun 6/1/08	Wed 6/4/08
37	7.2 Client QC of 2nd Pass Velocity Analysis	2 days	Wed 6/4/08	Fri 6/6/08
38	7.3 Production of 3D Processing	9 days	Fri 6/6/08	Sun 6/15/08
39	**8 Return of field data tapes to Origin**	**7 days**	**Sat 5/31/08**	**Sat 6/7/08**
40	8.1 Return of field data	7 days	Sat 5/31/08	Sat 6/7/08
41	**9 Stack and Post Stack-Testing**	**6 days**	**Sat 6/7/08**	**Fri 6/13/08**
42	9.1 CDP Stack	2 days	Sat 6/7/08	Mon 6/9/08
43	9.2 Gun and cable statics	2 days	Mon 6/9/08	Wed 6/11/08
44	9.3 Post stack noise attenuation scaling and filtering if required	2 days	Wed 6/11/08	Fri 6/13/08
45	**10 Stack and Post Stack-Production**	**2 days**	**Sun 6/15/08**	**Tue 6/17/08**
46	10.1 Production of Stack and Post Stack	2 days	Sun 6/15/08	Tue 6/17/08
47	**11 Archivies and Closedown**	**44 days**	**Fri 5/9/08**	**Sun 6/22/08**
48	11.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Sun 6/1/08	Sun 6/8/08
49	11.2 Archive of Post Migration CDP gathers	7 days	Fri 6/13/08	Fri 6/20/08
50	11.3 Prelim post-stack migration	3 days	Tue 6/17/08	Fri 6/20/08
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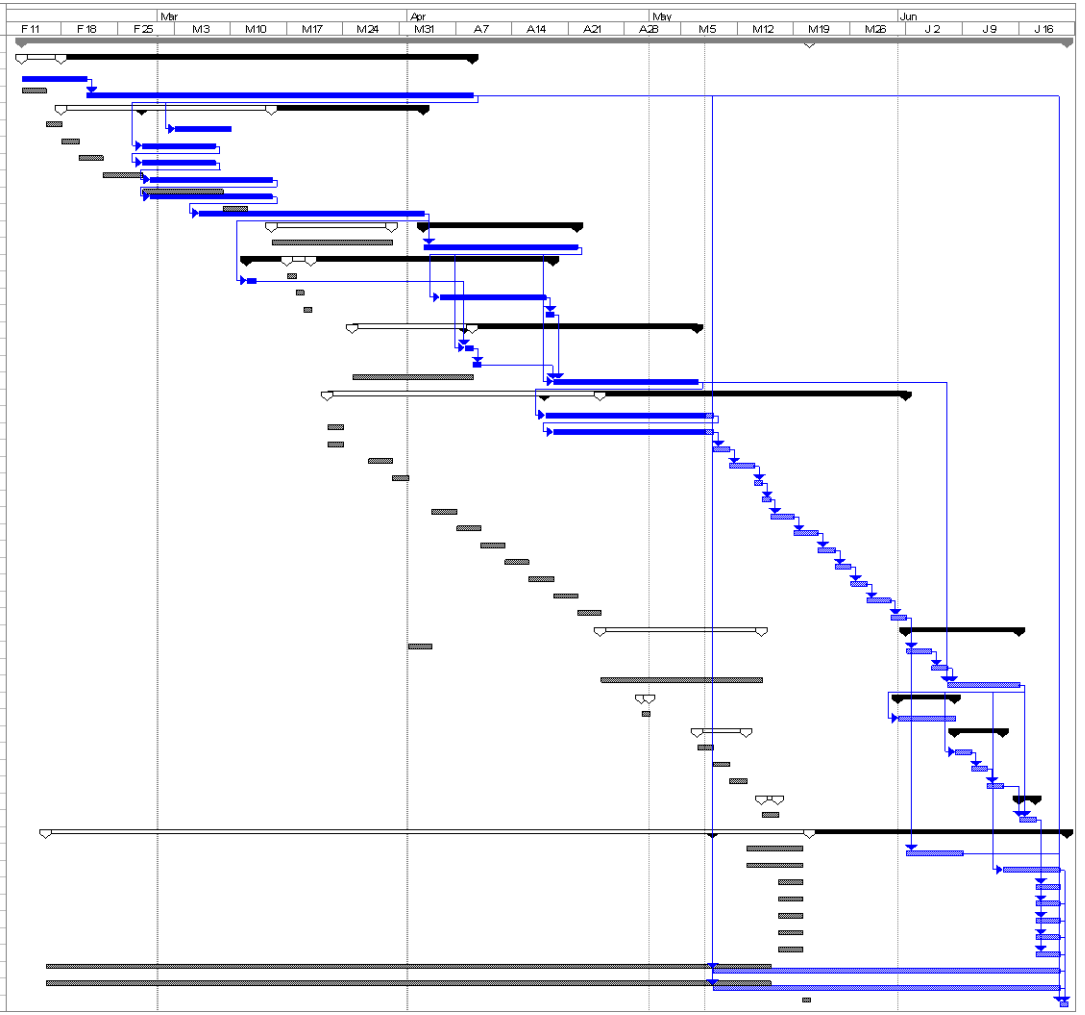

END OF WEEKLY REPORT

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CGGVeritas
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TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 14	**REPORT PERIOD**	:	09/05/08-15/05/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 30/06/08**
  The extra testing requested is taking more time to carry out than was scheduled.
- **Current testing on-going:**
  - Targeted source and channel amplitude correction
- **Current production on-going:**
  - Production and QC of tidal statics, zero phase + spectral amplitude, T/V high cut filter and Q comp 60% complete
- **Decisions required/Tests despatched**:
  - Targeted source and channel amplitude correction
- **Decisions made**:
  Origin have approved:
  - Tidal statics
  - Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
  - T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
  - Q Comp, phase only Q140, no gain limit

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

2.2	Test spherical divergence corr.	100	2	9	Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test amplitude scaling	95	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	60	6	2	

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08

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Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

- The extra testing requested is taking more time to carry out than was scheduled.

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

- Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
- Migration Aperture increase from 3.5km to 4km- scale basic by +6%

- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

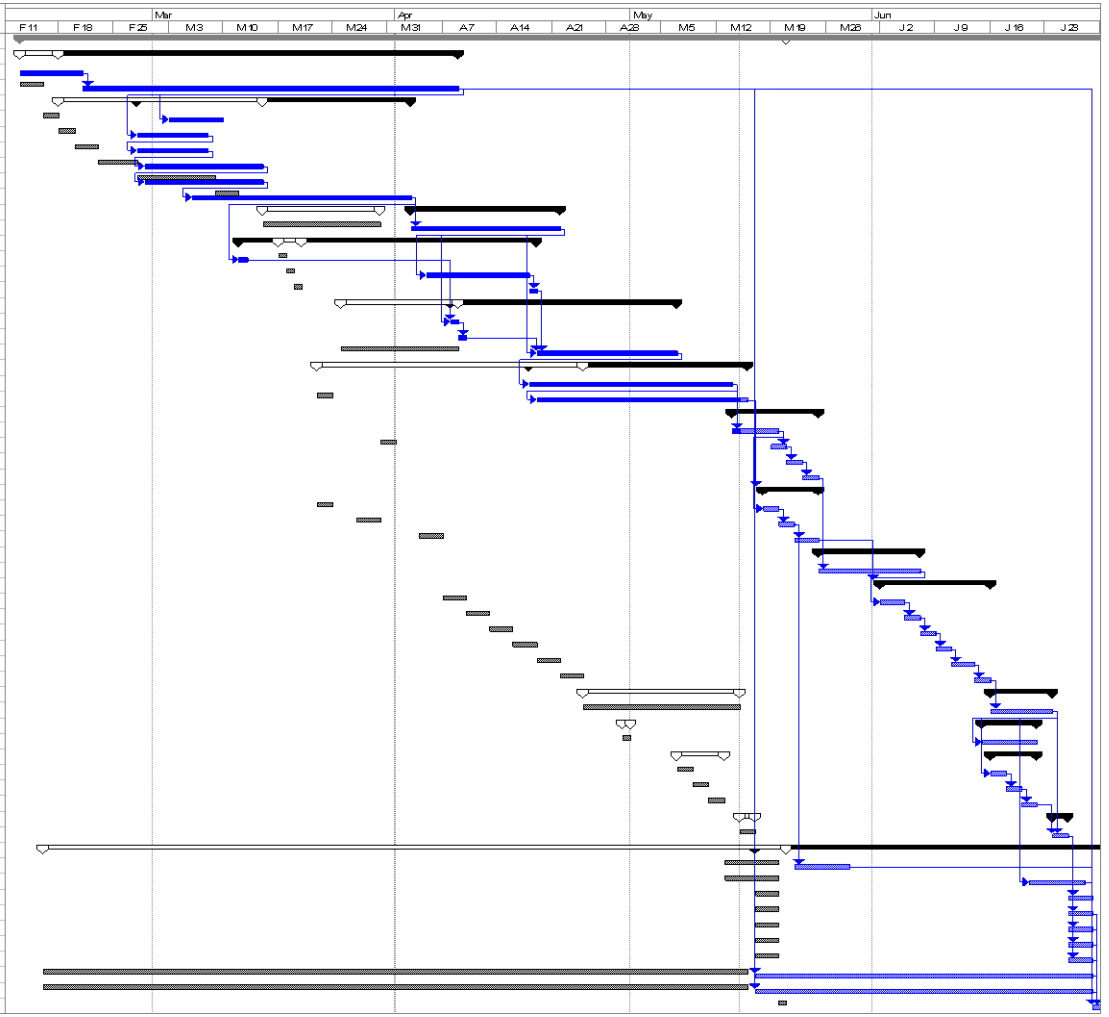
- Also see the minutes of Tuesday's meeting with John Cant (main agenda to discuss plans for migration) - ORIGIN_3D_Meeting_minutes13052008.doc.

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
11.1 Pre-migration CDP gathers - no NMO		
11.2 Post-migration CDP gathers		
11.3 Prelim post-stack migration		
11.4 Raw migrated stacks		
11.5 Filtered / scaled migrated stacks		
11.6 Angle stacks		
11.7 AVO intercept, gradient		
11.8 Processing support data		
11.9 Processing report		
Other Close down activities		
8.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320 sqkm-14weeks	138 days	Wed 2/13/08	Mon 6/30/08
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit , Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km×2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/ trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km×2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	28 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amplitude scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**11 days**	**Tue 5/13/08**	**Sat 5/24/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc	6 days	Tue 5/13/08	Mon 5/19/08
26	7.2 PSTM for vels	2 days	Sun 5/18/08	Tue 5/20/08
27	7.3 2nd Pass Velocity Analysis (1km×1km grid)	2 days	Tue 5/20/08	Thu 5/22/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km×1km grid)	2 days	Thu 5/22/08	Sat 5/24/08
29	**8 3D Processing-Testing**	**7 days**	**Sat 5/17/08**	**Sat 5/24/08**
30	8.1 CMP Binning (12.5m×25m bins)	2 days	Sat 5/17/08	Mon 5/19/08
31	8.2 Missing trace interpolation	2 days	Mon 5/19/08	Wed 5/21/08
32	8.3 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m×25m bins)	3 days	Wed 5/21/08	Sat 5/24/08
33	**9 3D Processing-Production**	**13 days**	**Sat 5/24/08**	**Fri 6/6/08**
34	9.1 Binning to Final PSTM Production	13 days	Sat 5/24/08	Fri 6/6/08
35	**10 Pre-Stack Processing-Testing**	**14 days**	**Sun 6/1/08**	**Sun 6/15/08**
36	10.1 RMO Velocity Analysis	3 days	Sun 6/1/08	Wed 6/4/08
37	10.2 Residual Radon Demultiple	2 days	Wed 6/4/08	Fri 6/6/08
38	10.3 Acquisition footprint removal if deemed necessary	2 days	Fri 6/6/08	Sun 6/8/08
39	10.4 Q-compensation or other wavelet shaping if required	2 days	Sun 6/8/08	Tue 6/10/08
40	10.5 Pre-stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Tue 6/10/08	Fri 6/13/08
41	10.6 Trace mute	2 days	Fri 6/13/08	Sun 6/15/08
42	**11 Pre-Stack Processing-Production**	**8 days**	**Sun 6/15/08**	**Mon 6/23/08**
43	11.1 Pre-Stack Processing Production	8 days	Sun 6/15/08	Mon 6/23/08
44	**12 Return of field data tapes to Origin**	**7 days**	**Sat 6/14/08**	**Sat 6/21/08**
45	12.1 Return of field data	7 days	Sat 6/14/08	Sat 6/21/08
46	**13 Stack and Post Stack-Testing**	**6 days**	**Sun 6/15/08**	**Sat 6/21/08**
47	13.1 CDP Stack	2 days	Sun 6/15/08	Tue 6/17/08
48	13.2 Gun and cable statics	2 days	Tue 6/17/08	Thu 6/19/08
49	13.3 Post stack noise attenuation scaling and filtering if required	2 days	Thu 6/19/08	Sat 6/21/08
50	**14 Stack and Post Stack-Production**	**2 days**	**Mon 6/23/08**	**Wed 6/25/08**
51	14.1 Production of Stack and Post Stack	2 days	Mon 6/23/08	Wed 6/25/08
52	**15 Archivies and Closedown**	**44 days**	**Sat 5/17/08**	**Mon 6/30/08**
53	15.1 Achive of Pre-Migration CDP gathers - no NMO	7 days	Wed 5/21/08	Wed 5/28/08
54	15.2 Achive of Post Migration CDP gathers	7 days	Fri 6/20/08	Fri 6/27/08
55	15.3 Prelim post-stack migration	3 days	Wed 6/25/08	Sat 6/28/08
56	15.4 Achive Of Raw Mgrated Stack	3 days	Wed 6/25/08	Sat 6/28/08
57	15.5 Achive Of Filtered / Scaled Mgrated Stack	3 days	Wed 6/25/08	Sat 6/28/08
58	15.6 Achive of Angle Stacks	3 days	Wed 6/25/08	Sat 6/28/08
59	15.7 Achive of A/O Intercept Gradient	3 days	Wed 6/25/08	Sat 6/28/08
60	15.8 Achive Of Processing Support Data	43 days	Sat 5/17/08	Sun 6/29/08
61	15.9 Creation by OGGV and acceptance of processing report by Origin	43 days	Sat 5/17/08	Sun 6/29/08
62	15.10 Completion of all contractural processing/archives	1 day	Sun 6/29/08	Mon 6/30/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 15	**REPORT PERIOD**	:	16/05/08-22/05/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 03/07/08**
- **Current testing on-going:**
  - 3D binning and offset regularisation testing
- **Current production on-going:**
  - Production and QC of tidal statics, zero phase + spectral amplitude, T/V high cut filter, Q comp and targeted source and channel amplitude correction 100% complete
  - A QC PPT will be produced
  - Migration for velocity V2 (1kmx1km)
  - Origin have requested ASAP deliverable item no. 15.3 on Gantt Chart, Prelim post-stack migration; this will be a non-regularised Post-STM.
- **Decisions required/Tests despatched**:
- **Decisions made**:
  Origin have approved:
  - Tidal statics
  - Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
  - T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
  - Q Comp, phase only Q140, no gain limit
  - Targeted source and channel amplitude correction

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2		2		
7.3	2nd pass velocity analysis		2		
7.4	Client QC of 2nd pass vels		2		
8.1	Test 3D binning/regularisation/ missing trace interpolation	50	4	3	
8.2	Test final migration parameters		3		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08

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Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
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7. De-bias and Low Cut Filter: 3Hz
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12. Knotch Filter
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15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
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7. Summary Of Data Received

Data Received	Data type/Media	Comment
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Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

- Also see the minutes of Tuesday's meeting with John Cant (main agenda to discuss plans for migration) - ORIGIN_3D_Meeting_minutes13052008.doc.

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
15.1 Pre-migration CDP gathers - no NMO		
15.2 Post-migration CDP gathers		
15.3 Prelim post-stack migration	Started today 22/05/08	
15.4 Raw migrated stack		
15.5 Filtered / scaled migrated stack		
15.6 Angle stacks		
15.7 AVO intercept, gradient		
15.8 Processing support data		
15.9 Processing report		
Other Close down activities		
12.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

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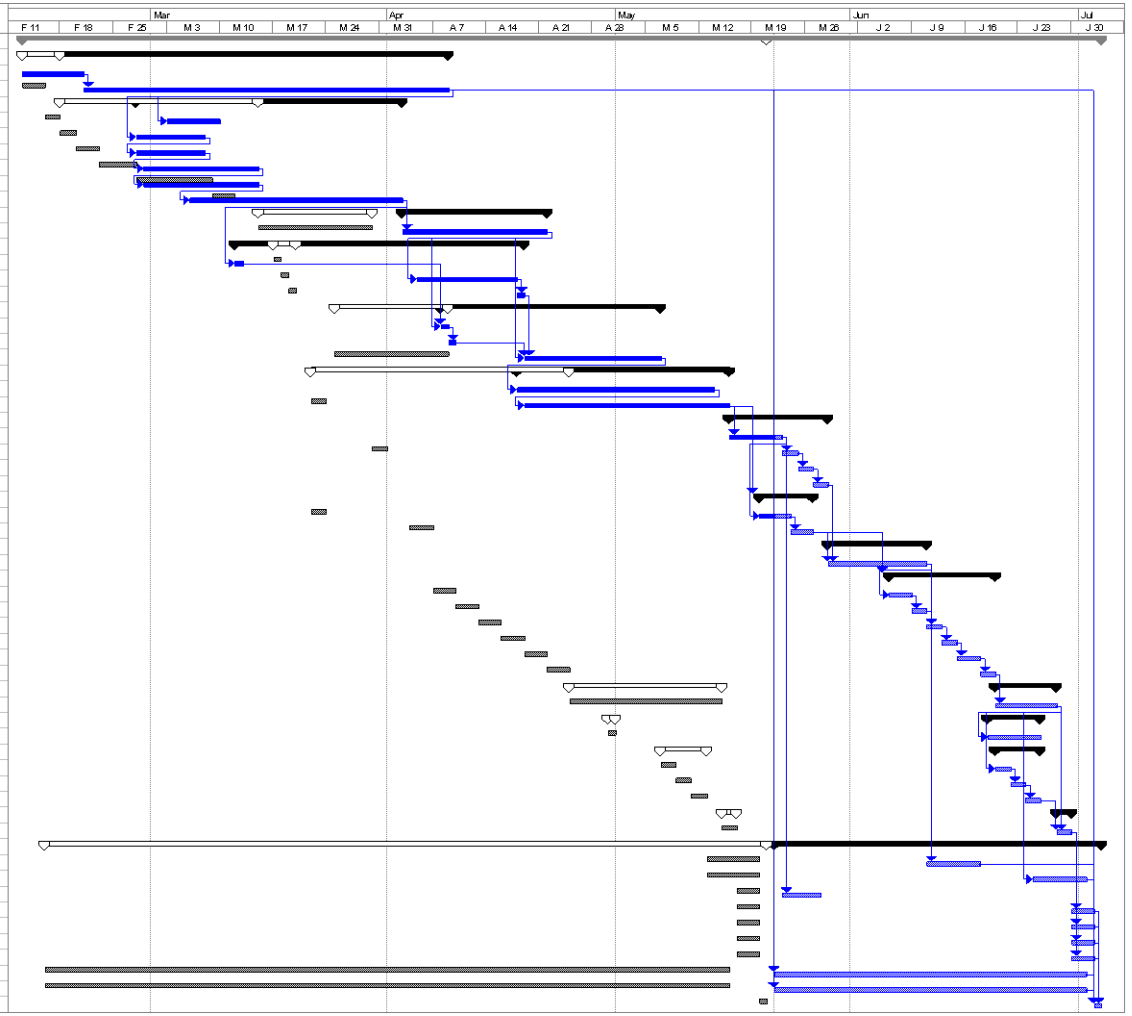
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320 sqkm-14weeks	141.67 days	Wed 2/13/08	Thu 7/3/08
1	**1 Project Acquisition and Start-Up**	**55 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 TauP Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 TauP Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amplitude scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**13 days**	**Thu 5/15/08**	**Wed 5/28/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	2 days	Thu 5/22/08	Sat 5/24/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	2 days	Sat 5/24/08	Mon 5/26/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	2 days	Mon 5/26/08	Wed 5/28/08
29	**8 3D Processing-Testing**	**7 days**	**Mon 5/19/08**	**Mon 5/26/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	4 days	Mon 5/19/08	Fri 5/23/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	3 days	Fri 5/23/08	Mon 5/26/08
32	**9 3D Processing-Production**	**13 days**	**Wed 5/28/08**	**Tue 6/10/08**
33	9.1 3D Binning & Final PSTM Production	13 days	Wed 5/28/08	Tue 6/10/08
34	**10 Pre-Stack Processing-Testing**	**14 days**	**Thu 6/5/08**	**Thu 6/19/08**
35	10.1 RMO Velocity Analysis	3 days	Thu 6/5/08	Sun 6/8/08
36	10.2 Residual Radon Demultiple	2 days	Sun 6/8/08	Tue 6/10/08
37	10.3 Acquisition footprint removal if deemed necessary	2 days	Tue 6/10/08	Thu 6/12/08
38	10.4 Q-compensation or other wavelet shaping if required	2 days	Thu 6/12/08	Sat 6/14/08
39	10.5 Pre stack noise filtering if required (eg Radon, FX decon, med filter)	3 days	Sat 6/14/08	Tue 6/17/08
40	10.6 Trace mute	2 days	Tue 6/17/08	Thu 6/19/08
41	**11 Pre-Stack Processing-Production**	**8 days**	**Thu 6/19/08**	**Fri 6/27/08**
42	11.1 Pre Stack Processing Production	8 days	Thu 6/19/08	Fri 6/27/08
43	**12 Return of field data tapes to Origin**	**7 days**	**Wed 6/18/08**	**Wed 6/25/08**
44	12.1 Return of field data	7 days	Wed 6/18/08	Wed 6/25/08
45	**13 Stack and Post Stack-Testing**	**6 days**	**Thu 6/19/08**	**Wed 6/25/08**
46	13.1 CDP Stack	2 days	Thu 6/19/08	Sat 6/21/08
47	13.2 Gun and cable statics	2 days	Sat 6/21/08	Mon 6/23/08
48	13.3 Post stack noise attenuation scaling and filtering if required	2 days	Mon 6/23/08	Wed 6/25/08
49	**14 Stack and Post Stack-Production**	**2 days**	**Fri 6/27/08**	**Sun 6/29/08**
50	14.1 Production of Stack and Post Stack	2 days	Fri 6/27/08	Sun 6/29/08
51	**15 Archivies and Closedown**	**42.67 days**	**Thu 5/22/08**	**Thu 7/3/08**
52	15.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Tue 6/10/08	Tue 6/17/08
53	15.2 Archive of Post Migration CDP gathers	7 days	Tue 6/24/08	Tue 7/1/08
54	15.3 Prelimpost-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
55	15.4 Archive Of Raw Migrated Stack	3 days	Sun 6/29/08	Wed 7/2/08
56	15.5 Archive Of Filtered/ Scaled Migrated Stack	3 days	Sun 6/29/08	Wed 7/2/08
57	15.6 Archive of Angle Stacks	3 days	Sun 6/29/08	Wed 7/2/08
58	15.7 Archive of A/O Intercept Gradient	3 days	Sun 6/29/08	Wed 7/2/08
59	15.8 Archive Of Processing Support Data	41 days	Thu 5/22/08	Wed 7/2/08
60	15.9 Creation by CGGV and acceptance of processing report by Origin	41 days	Thu 5/22/08	Wed 7/2/08
61	15.10 Completion of all contractural processing/archives	1 day	Wed 7/2/08	Thu 7/3/08



END OF WEEKLY REPORT

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TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 16	**REPORT PERIOD**	:	23/05/08-29/05/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 07/07/08**

  Please note – Monday 2nd June is a public holiday in WA.

- **Current testing on-going:**

- **Current production on-going:**
  - Regularisation pilot job running
  - Migration for 2nd pass velocity complete; currently picking velocity V2 (1kmx1km)
  - Deliverable item no. 15.3 on Gantt Chart, Prelim post-stack migration (non-regularised input) was sent to Origin on Tuesday: SEGY format on 3 DVDs.
    An intermediate product of PSTM cube offset class 10 was sent to Origin on Friday: SEGY format, 1 DVD.

- **Decisions required/Tests despatched**:

- **Decisions made**:
  - Origin approve bin regularisation with AA 1.2.
  - Origin approve the use of 12.5m x 25m bins both into and out of migration.

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav

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1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	10	2	1	
7.4	Client QC of 2nd pass vels		2		
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	9	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters		3		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08

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Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08

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Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
15.1 Pre-migration CDP gathers - no NMO		
15.2 Post-migration CDP gathers		
15.3 Prelim post-stack migration	Complete	Received by Origin 28/05/08
15.4 Raw migrated stack		
15.5 Filtered / scaled migrated stack		
15.6 Angle stacks		
15.7 AVO intercept, gradient		
15.8 Processing support data		
15.9 Processing report		
Other Close down activities		
12.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

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GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

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2	1.1 Navigation Data Reformat (Problem with FGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/ trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
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26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	2 days	Wed 5/28/08	Fri 5/30/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	2 days	Fri 5/30/08	Sun 6/1/08
29	**8 3D Processing-Testing**	**12 days**	**Mon 5/19/08**	**Sat 5/31/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	9 days	Mon 5/19/08	Wed 5/28/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	3 days	Wed 5/28/08	Sat 5/31/08
32	**9 3D Processing-Production**	**13 days**	**Sun 6/1/08**	**Sat 6/14/08**
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36	10.2 Residual Radon Demultiple	2 days	Thu 6/12/08	Sat 6/14/08
37	10.3 Acquisition footprint removal if deemed necessary	2 days	Sat 6/14/08	Mon 6/16/08
38	10.4 Q-compensation or other wavelet shaping if required	2 days	Mon 6/16/08	Wed 6/18/08
39	10.5 Pre-stack noise filtering if reqd (eg Radon, FX decon, med filter)	3 days	Wed 6/18/08	Sat 6/21/08
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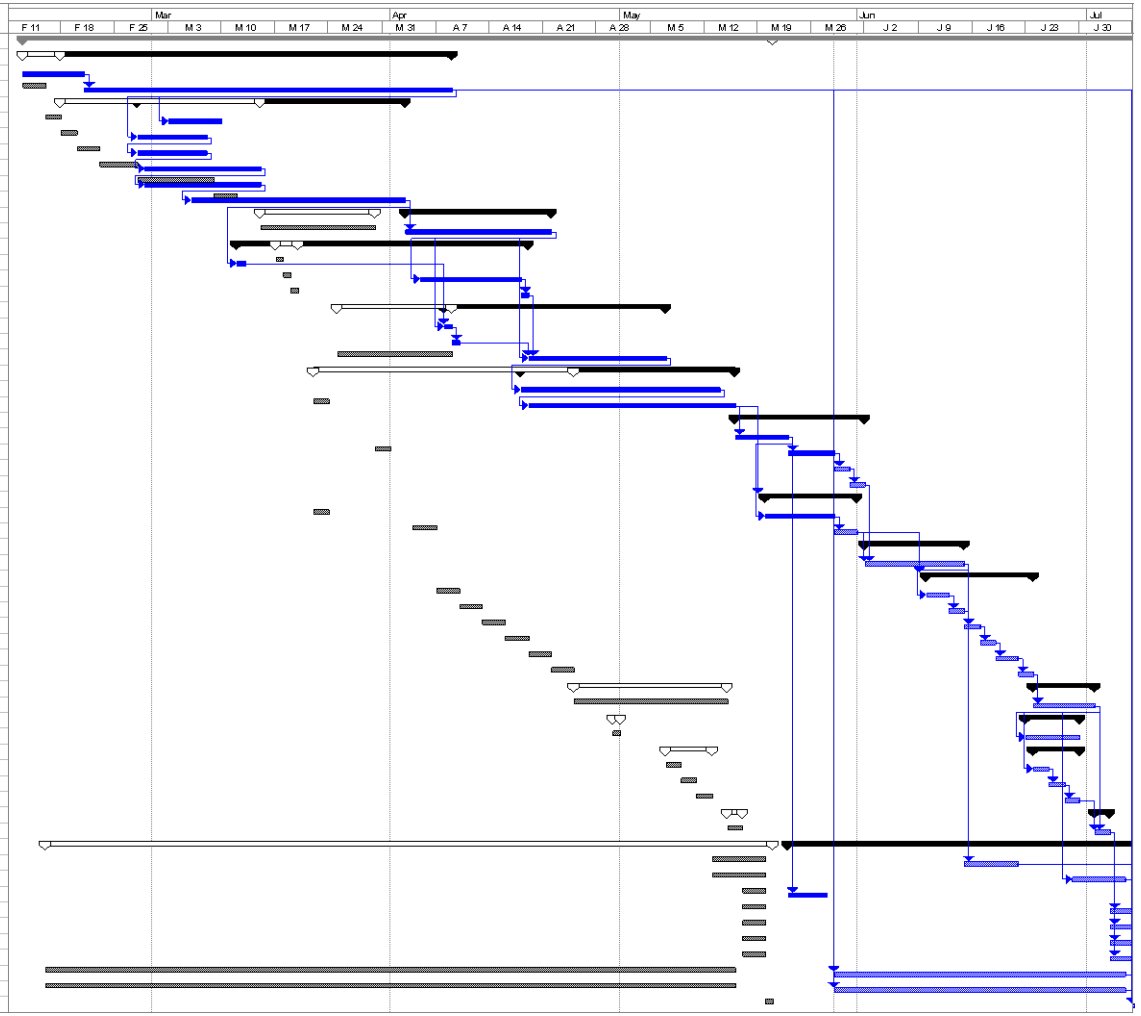
61	15.10 Completion of all contractual processing/archives	1 day	Sun 7/6/08	Mon 7/7/08



END OF WEEKLY REPORT

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TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 17	**REPORT PERIOD**	:	30/05/08-05/06/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 10/07/08**
- **Current testing on-going:**
- **Current production on-going:**
  - Regularisation production 100% complete, QC 30% complete
  - Picking velocity V2 (1kmx1km) complete, will be sent to client for QC
- **Decisions required/Tests despatched**:
- **Decisions made**:
  - Origin approve the use of 12.5m x 25m bins both into and out of migration.

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	

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4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in pace
7.4	Client QC of 2nd pass vels	0	2		
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters		3		
9.1	PRODUCTION 3D binning	70	7	7	

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08

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Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

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9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
15.1 Pre-migration CDP gathers - no NMO		
15.2 Post-migration CDP gathers		
15.3 Prelim post-stack migration	Complete	Received by Origin 28/05/08
15.4 Raw migrated stack		
15.5 Filtered / scaled migrated stack		
15.6 Angle stacks		
15.7 AVO intercept, gradient		
15.8 Processing support data		
15.9 Processing report		
Other Close down activities		
12.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

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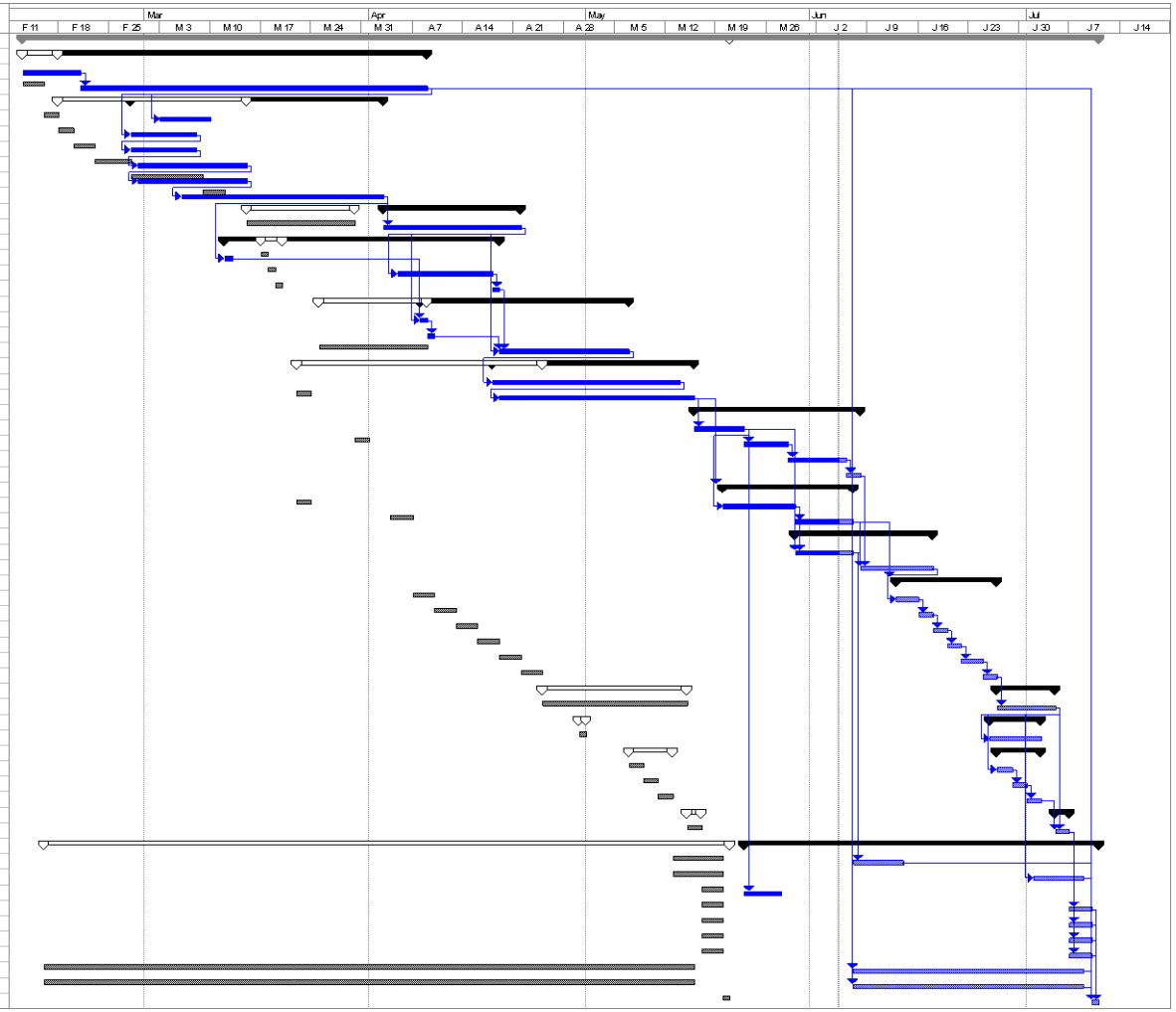
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye 3D -320 sq km - 14 weeks	148.67 days	Wed 2/13/08	Thu 7/10/08
1	**1 Project Acquisition and Start-Up**	**55 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/11/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**23 days**	**Thu 5/15/08**	**Sat 6/7/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	2 days	Thu 6/5/08	Sat 6/7/08
29	**8 3D Processing-Testing**	**18 days**	**Mon 5/19/08**	**Fri 6/6/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	8 days	Thu 5/29/08	Fri 6/6/08
32	**9 3D Processing-Production**	**19 days**	**Thu 5/29/08**	**Tue 6/17/08**
33	9.1 3D Binning / Regularisation Production	8 days	Thu 5/29/08	Fri 6/6/08
34	9.2 Final PSTM Production	10 days	Sat 6/7/08	Tue 6/17/08
35	**10 Pre-Stack Processing-Testing**	**14 days**	**Thu 6/12/08**	**Thu 6/26/08**
36	10.1 RMO Velocity Analysis	3 days	Thu 6/12/08	Sun 6/15/08
37	10.2 Residual Radon Demultiple	2 days	Sun 6/15/08	Tue 6/17/08
38	10.3 Acquisition footprint removal if deemed necessary	2 days	Tue 6/17/08	Thu 6/19/08
39	10.4 Q-compensation or other wavelet shaping if required	2 days	Thu 6/19/08	Sat 6/21/08
40	10.5 Pre-stack noise filtering if req'd (eg Radon, FXdecon, medfilter)	3 days	Sat 6/21/08	Tue 6/24/08
41	10.6 Trace mute	2 days	Tue 6/24/08	Thu 6/26/08
42	**11 Pre-Stack Processing-Production**	**8 days**	**Thu 6/26/08**	**Fri 7/4/08**
43	11.1 Pre Stack Processing Production	8 days	Thu 6/26/08	Fri 7/4/08
44	**12 Return of field data tapes to Origin**	**7 days**	**Wed 6/25/08**	**Wed 7/2/08**
45	12.1 Return of field data	7 days	Wed 6/25/08	Wed 7/2/08
46	**13 Stack and Post Stack-Testing**	**6 days**	**Thu 6/26/08**	**Wed 7/2/08**
47	13.1 CDP Stack	2 days	Thu 6/26/08	Sat 6/28/08
48	13.2 Gun and cable statics	2 days	Sat 6/28/08	Mon 6/30/08
49	13.3 Post stack noise attenuation scaling and filtering if required	2 days	Mon 6/30/08	Wed 7/2/08
50	**14 Stack and Post Stack-Production**	**2 days**	**Fri 7/4/08**	**Sun 7/6/08**
51	14.1 Production of Stack and Post Stack	2 days	Fri 7/4/08	Sun 7/6/08
52	**15 Archive s and Closedown**	**49 days**	**Thu 5/22/08**	**Thu 7/10/08**
53	15.1 Archive of Pre Migration CDP gathers - no NMO	7 days	Fri 6/6/08	Fri 6/13/08
54	15.2 Archive of Post Migration CDP gathers	7 days	Tue 7/1/08	Tue 7/8/08
55	15.3 Prelimposit-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
56	15.4 Archive Of Raw Migrated Stack	3 days	Sun 7/6/08	Wed 7/9/08
57	15.5 Archive Of Filtered/ Scaled Migrated Stack	3 days	Sun 7/6/08	Wed 7/9/08
58	15.6 Archive of Angle Stacks	3 days	Sun 7/6/08	Wed 7/9/08
59	15.7 Archive of A/O Intercept Gradient	3 days	Sun 7/6/08	Wed 7/9/08
60	15.8 Archive Of Processing Support Data	32 days	Sat 6/7/08	Wed 7/9/08
61	15.9 Creation by OGGV & acceptance of processing report by Origin	32 days	Sat 6/7/08	Wed 7/9/08
62	15.10 Completion of all contractural processing/archives	1 day	Wed 7/9/08	Thu 7/10/08



END OF WEEKLY REPORT

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TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 18	**REPORT PERIOD**	:	06/06/08-12/06/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 17/07/08**
- **Current testing on-going:**
  - Final migration parameters – aperture and dip limit
- **Current production on-going:**
  - Regularisation production 100% complete, QC 90% complete
  - Client QC of 2nd pass velocity
- **Decisions required/Tests despatched**:
- **Decisions made**:
  - Origin approve the following migration parameters *contingent on the successful testing of a variety of offsets*:
    Basic Migration 12.5X25 In and 12.5X25 Out at 2ms with **4.0km aperture** (=+6% Of Basic Cost (an additional $36USD/sqkm) with **75deg dip limit.**

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

2.5	Test 2D SRME	100	10	14	decisions. Delay finalising model jobs
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	80	2	7	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	90	3	14	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	90	7	14	QC in progress
9.2	PRODUCTION final PSTM		12		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08

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Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2	FTP FTP FTP	10/06/08 10/06/08 12/06/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
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19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
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21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

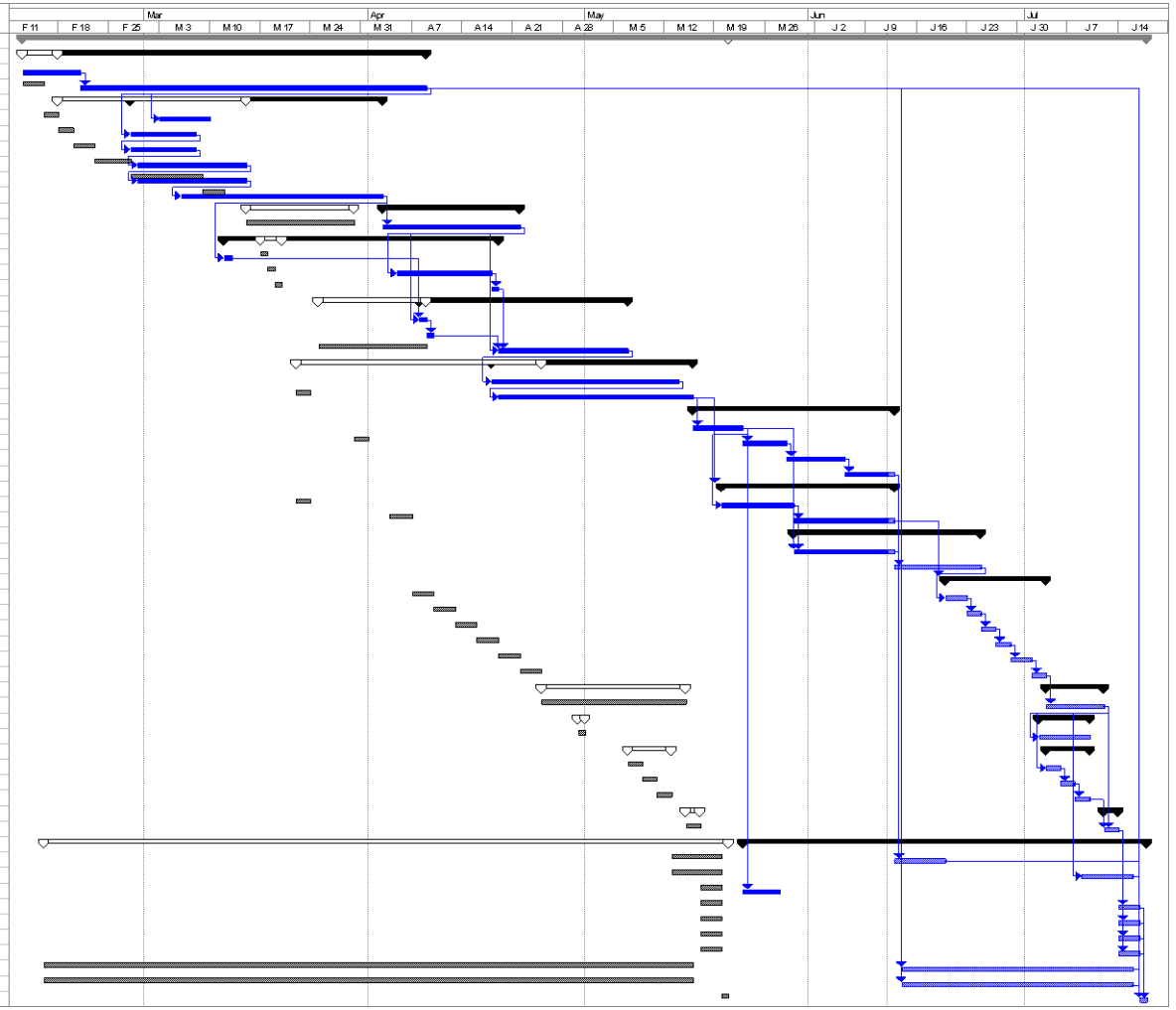
11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
15.1 Pre-migration CDP gathers - no NMO		
15.2 Post-migration CDP gathers		
15.3 Prelim post-stack migration	Complete	Received by Origin 28/05/08
15.4 Raw migrated stack		
15.5 Filtered / scaled migrated stack		
15.6 Angle stacks		
15.7 AVO intercept, gradient		
15.8 Processing support data		
15.9 Processing report		
Other Close down activities		
12.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320sqkm-14weeks	155.67 days	Wed 2/13/08	Thu 7/17/08
1	1 Project Acquisition and Start-Up	55 days	Wed 2/13/08	Wed 4/9/08
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	2 Pre-Processing 1-Testing	34.67 days	Thu 2/28/08	Wed 4/2/08
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	3 Pre-Processing 1-Production	19 days	Wed 4/2/08	Mon 4/21/08
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	4 Pre-processing 2-Testing	38 days	Tue 3/11/08	Fri 4/18/08
14	4.1 1st Pass Velocity Analysis (2kmx 2kmgrid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	5 Pre-Processing 2-Production	29 days	Mon 4/7/08	Tue 5/6/08
18	5.1 1st Pass Velocity Analysis (2kmx 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/11/08	Tue 5/6/08
21	6 Pre-Processing 3-Testing	28 days	Thu 4/17/08	Thu 5/15/08
22	6.1 Wavelet shaping zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	7 Pre-Processing 3-Production	28 days	Thu 5/15/08	Thu 6/12/08
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1kmx 1kmgrid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1kmx 1kmgrid)	7 days	Thu 6/5/08	Thu 6/12/08
29	8 3D Processing-Testing	24 days	Mon 5/19/08	Thu 6/12/08
30	8.1 CMP Binning (12.5mx 25mbins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 kmaperture) (12.5mx 25mbins)	14 days	Thu 5/29/08	Thu 6/12/08
32	9 3D Processing-Production	26 days	Thu 5/29/08	Tue 6/24/08
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	12 days	Thu 6/12/08	Tue 6/24/08
35	10 Pre-Stack Processing-Testing	14 days	Thu 6/19/08	Thu 7/3/08
36	10.1 RMO Velocity Analysis	3 days	Thu 6/19/08	Sun 6/22/08
37	10.2 Residual Radon Demultiple	2 days	Sun 6/22/08	Tue 6/24/08
38	10.3 Acquisition footprint removal if deemed necessary	2 days	Tue 6/24/08	Thu 6/26/08
39	10.4 Q-compensation or other wavelet shaping if required	2 days	Thu 6/26/08	Sat 6/28/08
40	10.5 Pre-stack noise filtering if req'd (eg Radon, FXdecon, medfilter)	3 days	Sat 6/28/08	Tue 7/1/08
41	10.6 Trace mute	2 days	Tue 7/1/08	Thu 7/3/08
42	11 Pre-Stack Processing-Production	8 days	Thu 7/3/08	Fri 7/11/08
43	11.1 Pre Stack Processing Production	8 days	Thu 7/3/08	Fri 7/11/08
44	12 Return of field data tapes to Origin	7 days	Wed 7/2/08	Wed 7/9/08
45	12.1 Return of field data	7 days	Wed 7/2/08	Wed 7/9/08
46	13 Stack and Post Stack-Testing	6 days	Thu 7/3/08	Wed 7/9/08
47	13.1 CDP Stack	2 days	Thu 7/3/08	Sat 7/5/08
48	13.2 Gun and cable statics	2 days	Sat 7/5/08	Mon 7/7/08
49	13.3 Post stack noise attenuation scaling and filtering if required	2 days	Mon 7/7/08	Wed 7/9/08
50	14 Stack and Post Stack-Production	2 days	Fri 7/11/08	Sun 7/13/08
51	14.1 Production of Stack and Post Stack	2 days	Fri 7/11/08	Sun 7/13/08
52	15 Archives and Closedown	55 days	Thu 5/22/08	Thu 7/17/08
53	15.1 Archive of Pre Migration CDP gathers - no NMO	7 days	Thu 6/12/08	Thu 6/19/08
54	15.2 Archive of Post Migration CDP gathers	7 days	Tue 7/8/08	Tue 7/15/08
55	15.3 Preliminpost-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
56	15.4 Archive Of Raw Migrated Stack	3 days	Sun 7/13/08	Wed 7/16/08
57	15.5 Archive Of Filtered/ Scaled Migrated Stack	3 days	Sun 7/13/08	Wed 7/16/08
58	15.6 Archive of Angle Stacks	3 days	Sun 7/13/08	Wed 7/16/08
59	15.7 Archive of A/O Intercept Gradient	3 days	Sun 7/13/08	Wed 7/16/08
60	15.8 Archive Of Processing Support Data	32 days	Sat 6/14/08	Wed 7/16/08
61	15.9 Creation by OGGV & acceptance of processing report by Origin	32 days	Sat 6/14/08	Wed 7/16/08
62	15.10 Completion of all contractural processing/archives	1 day	Wed 7/16/08	Thu 7/17/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 19	**REPORT PERIOD**	:	13/06/08-19/06/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 17th July 2008**
- **Current testing on-going:**
  - High density RMO picking, using HDPIC4
- **Current production on-going:**
  - Final PSTM 55% run
  - Regularisation production and QC 100% complete
- **Decisions required/Tests despatched**:
- **Decisions made**:
  Origin approved the following parameters:
  - Basic Migration 12.5X25 In and 12.5X25 Out at 2ms with **4.0km aperture** and **75deg dip limit**
  - The use of the smoothed 2nd pass 3D velocity field
  - Replacing spherical divergence T2 with TV using Ursin (Offset term)
  - Using Raytrace parameter

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel
2.2	Test spherical divergence corr.	100	2	9	Additional tests

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2.3	Test swell noise removal	100	3	9	requested by clients/waiting for decisions. Delay finalising model jobs
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	55	12	2	
10.1	Test RMO Velocity Analysis		3		
10.2	Test Residual Radon Demult.		2		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08

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Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:

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i. Input/output grid size 12.5m x 25m at 2ms
ii. 4km aperture
iii. 75° dip limit, using Raytrace parameter
iv. 6km maximum migration depth

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

- A number of people are on holiday during July:

  Randall – Annual Leave: 30/6 – 4/7 inclusive
  Darren – Annual Leave: 7/7 – 11/7 inclusive + Training 21/7 – 25/7 inclusive
  Emma – On the Oil Rig: 9/7 – 18/7 inclusive (these dates could slip depending on the drilling progress)
  John – Annual Leave: 7/7 – 22/7

  There is no time when both Emma and Randall are away.

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
15.1 Pre-migration CDP gathers - no NMO		
15.2 Post-migration CDP gathers		
15.3 Prelim post-stack migration	Complete	Received by Origin 28/05/08
15.4 Raw migrated stack		
15.5 Filtered / scaled migrated stack		
15.6 Angle stacks		
15.7 AVO intercept, gradient		
15.8 Processing support data		
15.9 Processing report		
Other Close down activities		
12.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

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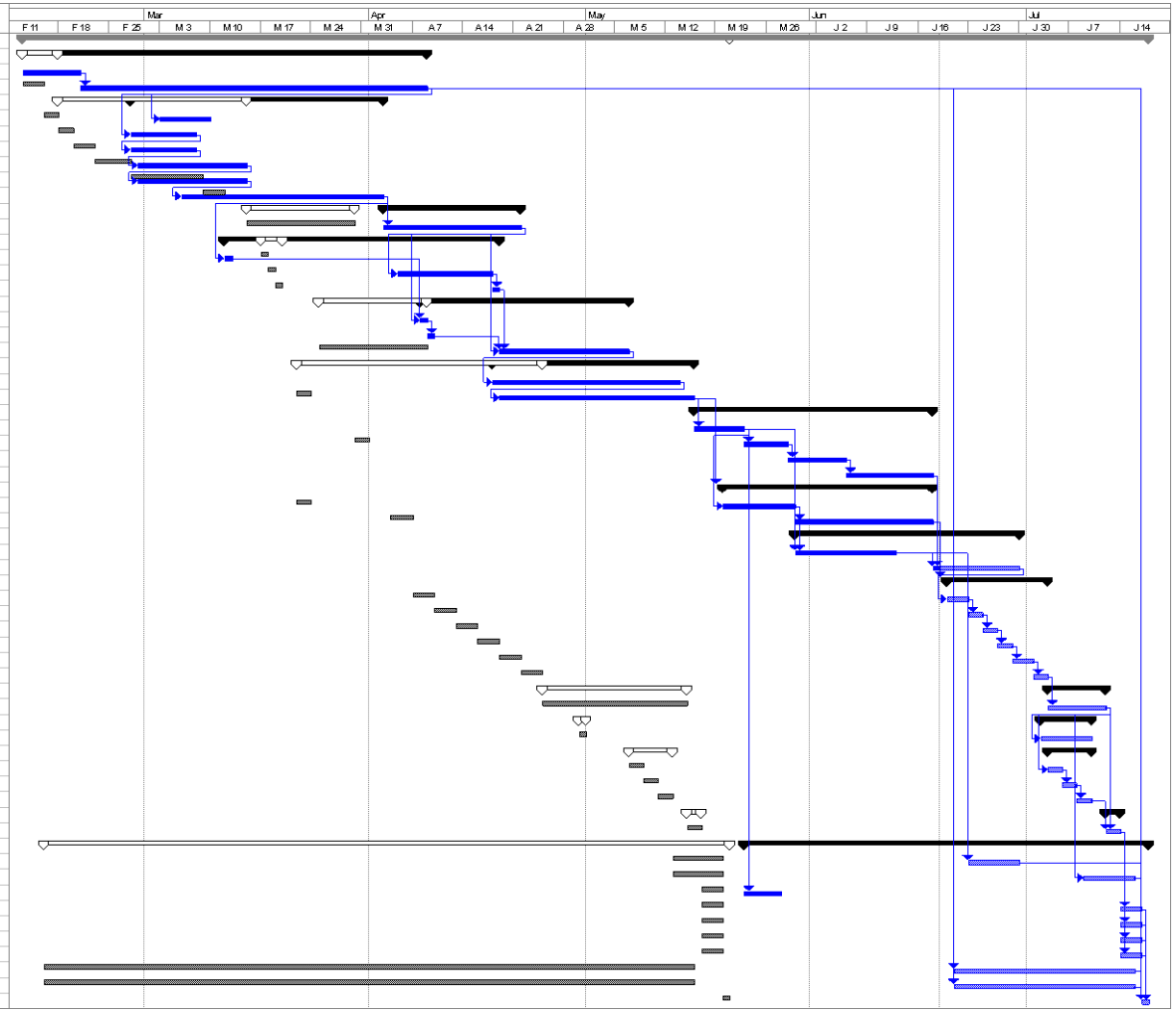
0	Bass Basin Silvereye3D-320sqkm-14weeks	155.67 days	Wed 2/13/08	Thu 7/17/08
1	**1 Project Acquisition and Start-Up**	**55 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/11/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Statics, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**31 days**	**Thu 5/29/08**	**Sun 6/29/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	12 days	Tue 6/17/08	Sun 6/29/08
35	**10 Pre-Stack Processing-Testing**	**14 days**	**Thu 6/19/08**	**Thu 7/3/08**
36	10.1 RMO Velocity Analysis	3 days	Thu 6/19/08	Sun 6/22/08
37	10.2 Residual Radon Demultiple	2 days	Sun 6/22/08	Tue 6/24/08
38	10.3 Acquisition footprint removal if deemed necessary	2 days	Tue 6/24/08	Thu 6/26/08
39	10.4 Q-compensation or other wavelet shaping if required	2 days	Thu 6/26/08	Sat 6/28/08
40	10.5 Pre-stack noise filtering if req'd (eg Radon, FXdecon, medfilter)	3 days	Sat 6/28/08	Tue 7/1/08
41	10.6 Trace mute	2 days	Tue 7/1/08	Thu 7/3/08
42	**11 Pre-Stack Processing-Production**	**8 days**	**Thu 7/3/08**	**Fri 7/11/08**
43	11.1 Pre Stack Processing Production	8 days	Thu 7/3/08	Fri 7/11/08
44	**12 Return of field data tapes to Origin**	**7 days**	**Wed 7/2/08**	**Wed 7/9/08**
45	12.1 Return of field data	7 days	Wed 7/2/08	Wed 7/9/08
46	**13 Stack and Post Stack-Testing**	**6 days**	**Thu 7/3/08**	**Wed 7/9/08**
47	13.1 CDP Stack	2 days	Thu 7/3/08	Sat 7/5/08
48	13.2 Gun and cable statics	2 days	Sat 7/5/08	Mon 7/7/08
49	13.3 Post stack noise attenuation scaling and filtering if required	2 days	Mon 7/7/08	Wed 7/9/08
50	**14 Stack and Post Stack-Production**	**2 days**	**Fri 7/11/08**	**Sun 7/13/08**
51	14.1 Production of Stack and Post Stack	2 days	Fri 7/11/08	Sun 7/13/08
52	**15 Archive s and Closedown**	**55 days**	**Thu 5/22/08**	**Thu 7/17/08**
53	15.1 Archive of Pre Migration CDP gathers - no NMO	7 days	Sun 6/22/08	Sun 6/29/08
54	15.2 Archive of Post Migration CDP gathers	7 days	Tue 7/8/08	Tue 7/15/08
55	15.3 Preliminpost-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
56	15.4 Archive Of Raw Migrated Stack	3 days	Sun 7/13/08	Wed 7/16/08
57	15.5 Archive Of Filtered/ Scaled Migrated Stack	3 days	Sun 7/13/08	Wed 7/16/08
58	15.6 Archive of Angle Stacks	3 days	Sun 7/13/08	Wed 7/16/08
59	15.7 Archive of A/O Intercept Gradient	3 days	Sun 7/13/08	Wed 7/16/08
60	15.8 Archive Of Processing Support Data	25 days	Sat 6/21/08	Wed 7/16/08
61	15.9 Creation by OGGV & acceptance of processing report by Origin	25 days	Sat 6/21/08	Wed 7/16/08
62	15.10 Completion of all contractural processing/archives	1 day	Wed 7/16/08	Thu 7/17/08



END OF WEEKLY REPORT

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CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 20	**REPORT PERIOD**	:	20/06/08-26/06/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 17th July 2008**
- **Current testing on-going:**
  - Linear Radon
  - High density RMO picking, using HDPIC4
  - Residual Radon demultiple
  - Angle mutes
- **Current production on-going:**
  - Final PSTM 100% run and QC'd
- **Decisions required/Tests despatched**:
  - Linear Radon
  - RMO picking, using HDPIC4
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	

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2.5	Test 2D SRME	100	10	14	decisions. Delay finalising model jobs
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	80	3	6	Additional tests requested by client
10.2	Test Residual Radon Demult.	50	2	3	
10.3	Test trace mute	50	2	1	

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08

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Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC	FTP	26/06/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct

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22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

- A number of people are on holiday during July:

  Randall – Annual Leave: 30/6 – 4/7 inclusive
  Darren – Annual Leave: 7/7 – 11/7 inclusive + Training 21/7 – 25/7 inclusive
  Emma – On the Oil Rig: 9/7 – 18/7 inclusive (these dates could slip depending on the drilling progress)
  John – Annual Leave: 7/7 – 22/7

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There is no time when both Emma and Randall are away.

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
15.1 Pre-migration CDP gathers - no NMO		
15.2 Post-migration CDP gathers		
15.3 Prelim post-stack migration	Complete	Received by Origin 28/05/08
15.4 Raw migrated stack		
15.5 Filtered / scaled migrated stack		
15.6 Angle stacks		
15.7 AVO intercept, gradient		
15.8 Processing support data		
15.9 Processing report		
Other Close down activities		
12.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320sqkm-14weeks	155 days	Wed 2/13/08	Thu 7/17/08
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum /trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**6 days**	**Fri 6/20/08**	**Thu 6/26/08**
36	10.1 RMO Velocity Analysis	6 days	Fri 6/20/08	Thu 6/26/08
37	10.2 Residual Radon Demultiple	3 days	Mon 6/23/08	Thu 6/26/08
38	10.3 Trace mute	3 days	Mon 6/23/08	Thu 6/26/08
39	**11 Pre-Stack Processing-Production**	**8 days**	**Thu 6/26/08**	**Fri 7/4/08**
40	11.1 Pre-Stack Processing Production	8 days	Thu 6/26/08	Fri 7/4/08
41	**12 Return of field data tapes to Origin**	**7 days**	**Wed 6/25/08**	**Wed 7/2/08**
42	12.1 Return of field data	7 days	Wed 6/25/08	Wed 7/2/08
43	**13 Stack and Post Stack-Testing**	**8 days**	**Thu 6/26/08**	**Fri 7/4/08**
44	13.1 CDP Stack	2 days	Thu 6/26/08	Sat 6/28/08
45	13.2 Gun and cable statics	2 days	Sat 6/28/08	Mon 6/30/08
46	13.3 Q-compensation or other wavelet shaping if required	2 days	Mon 6/30/08	Wed 7/2/08
47	13.4 Post stack noise attenuation scaling and filtering if required	2 days	Wed 7/2/08	Fri 7/4/08
48	**14 Stack and Post Stack-Production**	**2 days**	**Fri 7/4/08**	**Sun 7/6/08**
49	14.1 Production of Stack and Post Stack	2 days	Fri 7/4/08	Sun 7/6/08
50	**15 Archivies and Closedown**	**55.33 days**	**Thu 5/22/08**	**Thu 7/17/08**
51	15.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Wed 7/2/08	Wed 7/9/08
52	15.2 Archive of Post Migration CDP gathers	7 days	Tue 7/1/08	Tue 7/8/08
53	15.3 Prelim post-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
54	15.4 Archive Of Raw Migrated Stack	3 days	Sun 7/6/08	Wed 7/9/08
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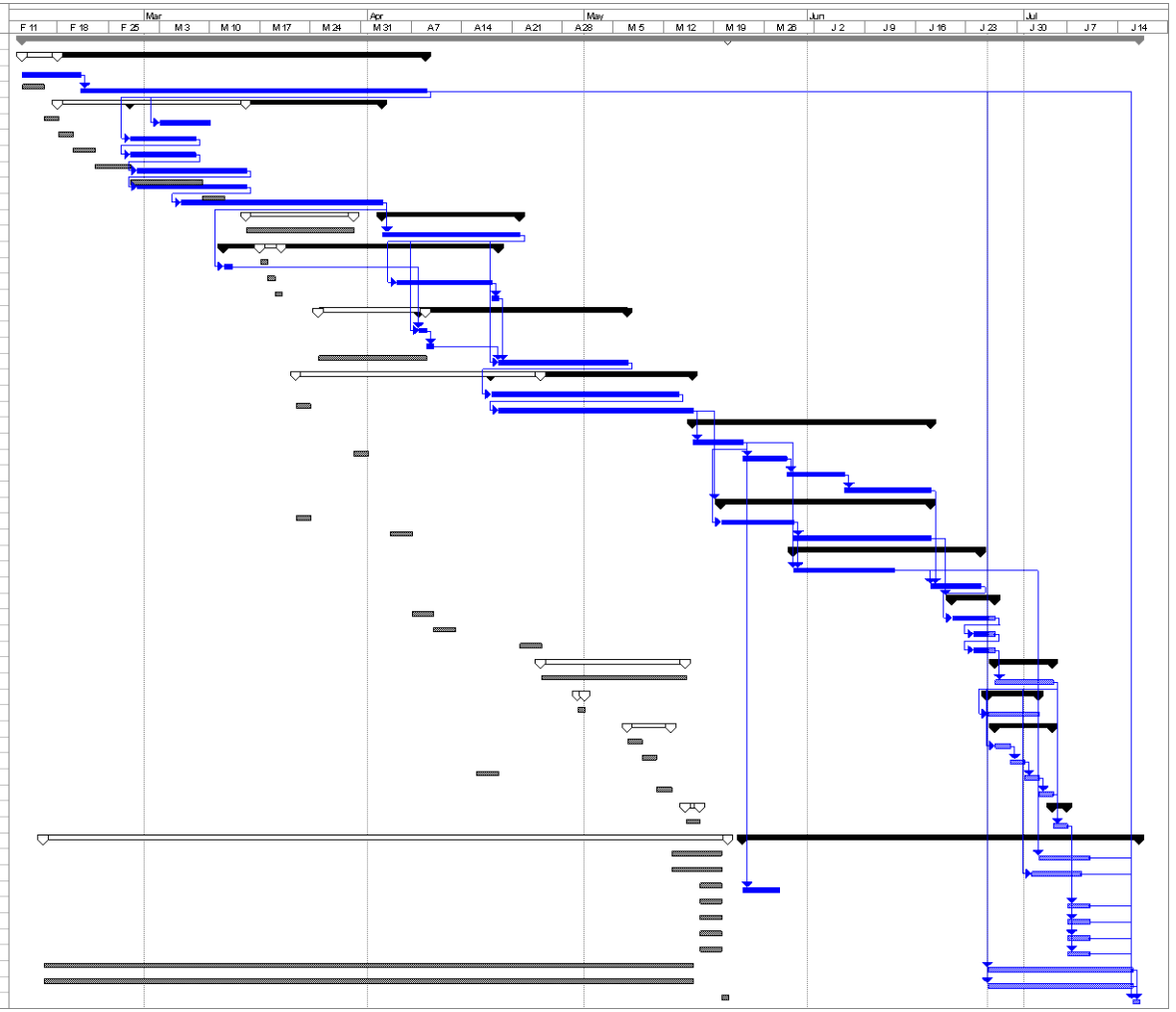
56	15.6 Archive of Angle Stacks	3 days	Sun 7/6/08	Wed 7/9/08
57	15.7 Archive of AVO Intercept Gradient	3 days	Sun 7/6/08	Wed 7/9/08
58	15.8 Archive Of Processing Support Data	20 days	Thu 6/26/08	Wed 7/16/08
59	15.9 Creation by CGGV& acceptance of processing report by Origin	20 days	Thu 6/26/08	Wed 7/16/08
60	15.10 Completion of all contractural processing/archives	1 day	Wed 7/16/08	Thu 7/17/08



END OF WEEKLY REPORT

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CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 21	**REPORT PERIOD**	:	27/06/08-03/07/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 18th July 2008**
- **Current testing on-going:**
  Finalising testing and preparing PowerPoints for the following:
  - Linear Radon
  - High density RMO picking, using HDPIC4
  - Residual Radon demultiple
  - Angle mutes
  - Q compensation
- **Current production on-going:**
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

2.6	Test tau-p deconvolution	100	3	28	finalising model jobs
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	80	3	13	Additional tests requested by client
10.2	Test Residual Radon Demult.	50	2	10	Additional tests requested by client
10.3	Test trace mute	50	2	8	Additional tests requested by client
11.1	Pre-stack PRODUCTION		8		
12.1	Return of field data		7		
13.1	Test Q compensation	60	2	1	

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08

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Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC	FTP	26/06/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct

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22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

- A number of people are on holiday during July:

  Randall – Annual Leave: 30/6 – 4/7 inclusive
  Darren – Annual Leave: 7/7 – 11/7 inclusive + Training 21/7 – 25/7 inclusive
  Emma – On the Oil Rig: 9/7 – 18/7 inclusive (these dates could slip depending on the drilling progress)
  John – Annual Leave: 7/7 – 22/7

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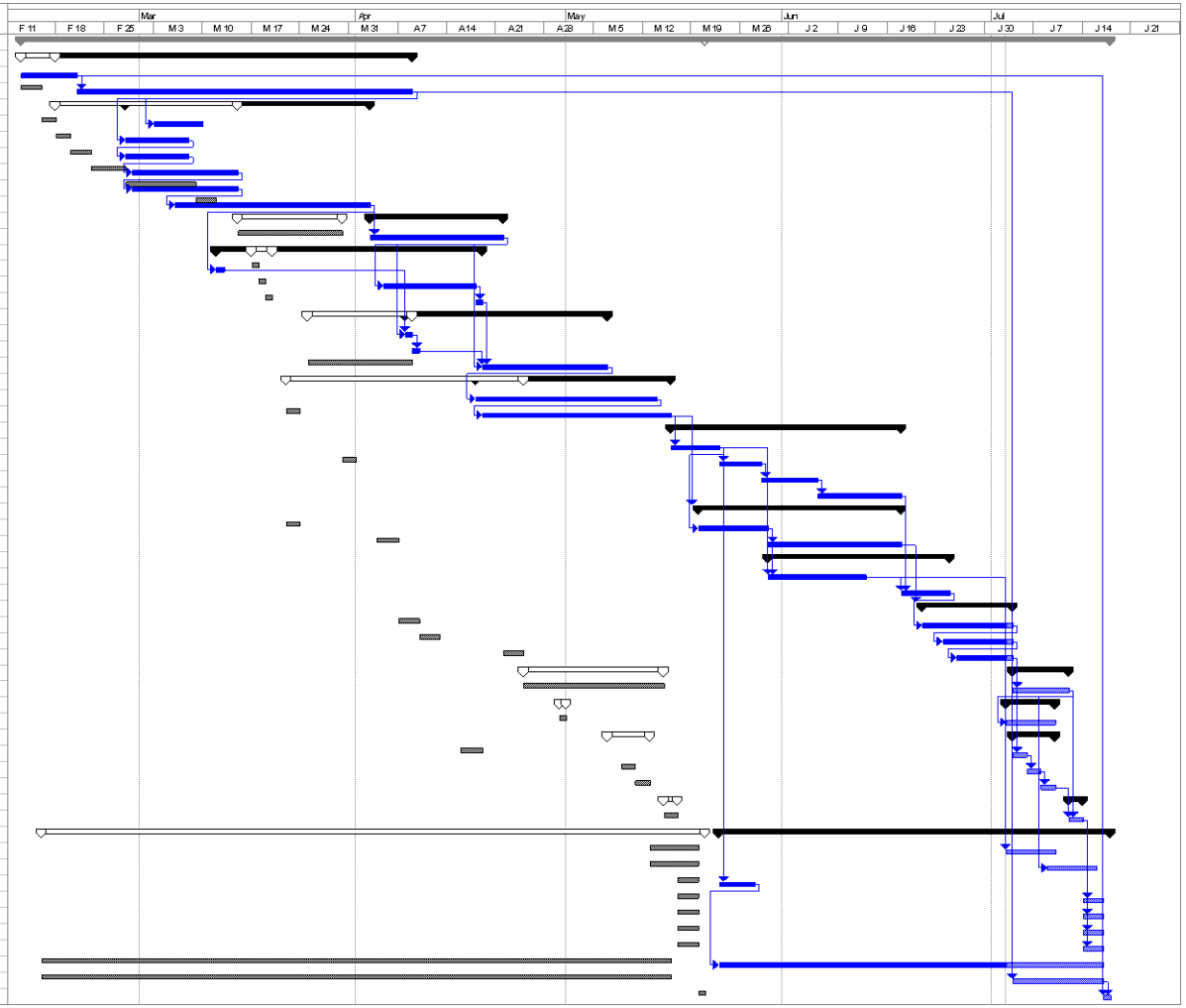
There is no time when both Emma and Randall are away.

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
15.1 Pre-migration CDP gathers - no NMO		
15.2 Post-migration CDP gathers		
15.3 Prelim post-stack migration	Complete	Received by Origin 28/05/08
15.4 Raw migrated stack		
15.5 Filtered / scaled migrated stack		
15.6 Angle stacks		
15.7 AVO intercept, gradient		
15.8 Processing support data		
15.9 Processing report		
Other Close down activities		
12.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D -320s qkm-14weeks	156 days	Wed 2/13/08	Fri 7/18/08
1	**1 Project Aquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/6ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum /trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Hirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**13 days**	**Fri 6/20/08**	**Thu 7/3/08**
36	10.1 RMO Velocity Analysis	13 days	Fri 6/20/08	Thu 7/3/08
37	10.2 Residual Radon Demultiple	10 days	Mon 6/23/08	Thu 7/3/08
38	10.3 Trace mute	8 days	Wed 6/25/08	Thu 7/3/08
39	**11 Pre-Stack Processing-Production**	**8 days**	**Thu 7/3/08**	**Fri 7/11/08**
40	11.1 Pre-Stack Processing Production	8 days	Thu 7/3/08	Fri 7/11/08
41	**12 Return of field data tapes to Origin**	**7 days**	**Wed 7/2/08**	**Wed 7/9/08**
42	12.1 Return of field data	7 days	Wed 7/2/08	Wed 7/9/08
43	**13 Stack and Post Stack-Testing**	**6 days**	**Thu 7/3/08**	**Wed 7/9/08**
44	13.1 Q-compensation or other wavelet shaping if required	2 days	Thu 7/3/08	Sat 7/5/08
45	13.2 Gun and cable statics	2 days	Sat 7/5/08	Mon 7/7/08
46	13.3 Post stack noise attenuation scaling and filtering if required	2 days	Mon 7/7/08	Wed 7/9/08
47	**14 Stack and Post Stack-Production**	**2 days**	**Fri 7/11/08**	**Sun 7/13/08**
48	14.1 Production of Stack and Post Stack	2 days	Fri 7/11/08	Sun 7/13/08
49	**15 Archivies and Closedown**	**56.33 days**	**Thu 5/22/08**	**Fri 7/18/08**
50	15.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Wed 7/2/08	Wed 7/9/08
51	15.2 Archive of Post Migration CDP gathers	7 days	Tue 7/8/08	Tue 7/15/08
52	15.3 Prelim post-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
53	15.4 Archive Of Raw Migrated Stack	3 days	Sun 7/13/08	Wed 7/16/08
54	15.5 Archive Of Filtered /Scaled Migrated Stack	3 days	Sun 7/13/08	Wed 7/16/08
55	15.6 Archive of Angle Stacks	3 days	Sun 7/13/08	Wed 7/16/08
56	15.7 Archive of AVO Intercept Gradient	3 days	Sun 7/13/08	Wed 7/16/08
57	15.8 Archive Of Processing Support Data	55 days	Thu 5/22/08	Wed 7/16/08
58	15.9 Creation by OGGV & acceptance of processing report by Origin	13 days	Fri 7/4/08	Thu 7/17/08
59	15.10 Completion of all contractural processing/archives	1 day	Thu 7/17/08	Fri 7/18/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 22	**REPORT PERIOD**	:	04/07/08-10/07/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 21st July 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - High density RMO picking, using HDPIC4 – *100% complete*
  - Q compensation – *100% complete*
  - Exponential gain – *100% complete*
  - Residual Radon demultiple – *50% complete*
  - Linear Radon
  - Angle mutes

  We are aiming for the **final SEGY full migrated stack** to be delivered to Origin early next week.
- **Decisions required/Tests despatched**:

See below (Section 5) for tests dispatched in the past week.

- **Decisions made**:

  Origin approved the following parameters:
  - RMO using HDPIC4
    - *Filter DN, T0: 500m*
    - *Pre condition mute pre HDPIC 36 Degrees*
    - *Corridor velocity scan: 6%*
  - Q compensation
    - *Gain limited: 16*
    - *Time variant Q, Time 0-800ms Q=200,*
    - *Time 1000-6000ms Q=140*
  - Exponential gain
    - *1db/seconds*
  - Residual Radon demultiple
    - *Time variant: Time 0-1400ms, DTCUT 320ms*
      Time 2000-6000ms, DTCUT 240
  - Linear Radon
    - *Applied on far offset (OC50-OC80) only*
    - *Application Time: 2000ms-4000ms*
  - Angle mutes

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

- Full Stack: 6-32 degrees
- Near Stack: 6-16 Degrees
- Mid Stack: 16-26 Degrees
- Far Stack: 26-36 Degrees

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	70	8	3	

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

12.1	Return of field data		7		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08

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RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. RMO using HDPIC4
27. Q compensation: 16dB gain limited, phase & amplitude; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08

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Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08
SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

- A number of people are on holiday during July:

  Randall – Annual Leave: 30/6 – 4/7 inclusive
  Darren – Annual Leave: 7/7 – 11/7 inclusive + Training 21/7 – 25/7 inclusive
  Emma – On the Oil Rig: 9/7 – 18/7 inclusive (these dates could slip depending on the drilling progress)
  John – Annual Leave: 7/7 – 22/7

  There is no time when both Emma and Randall are away.

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Progress	Comment
Contractual Products and Gantt ID Number		
15.1 Pre-migration CDP gathers - no NMO		
15.2 Post-migration CDP gathers		
15.3 Prelim post-stack migration	Complete	Received by Origin 28/05/08
15.4 Raw migrated stack		
15.5 Filtered / scaled migrated stack		
15.6 Angle stacks		
15.7 AVO intercept, gradient		
15.8 Processing support data		
15.9 Processing report		

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Deliverable Products & Closedown Activities	Progress	Comment
Other Close down activities		
12.1 Return of Field Tapes		
Close down meeting		
EPE returned by Client		

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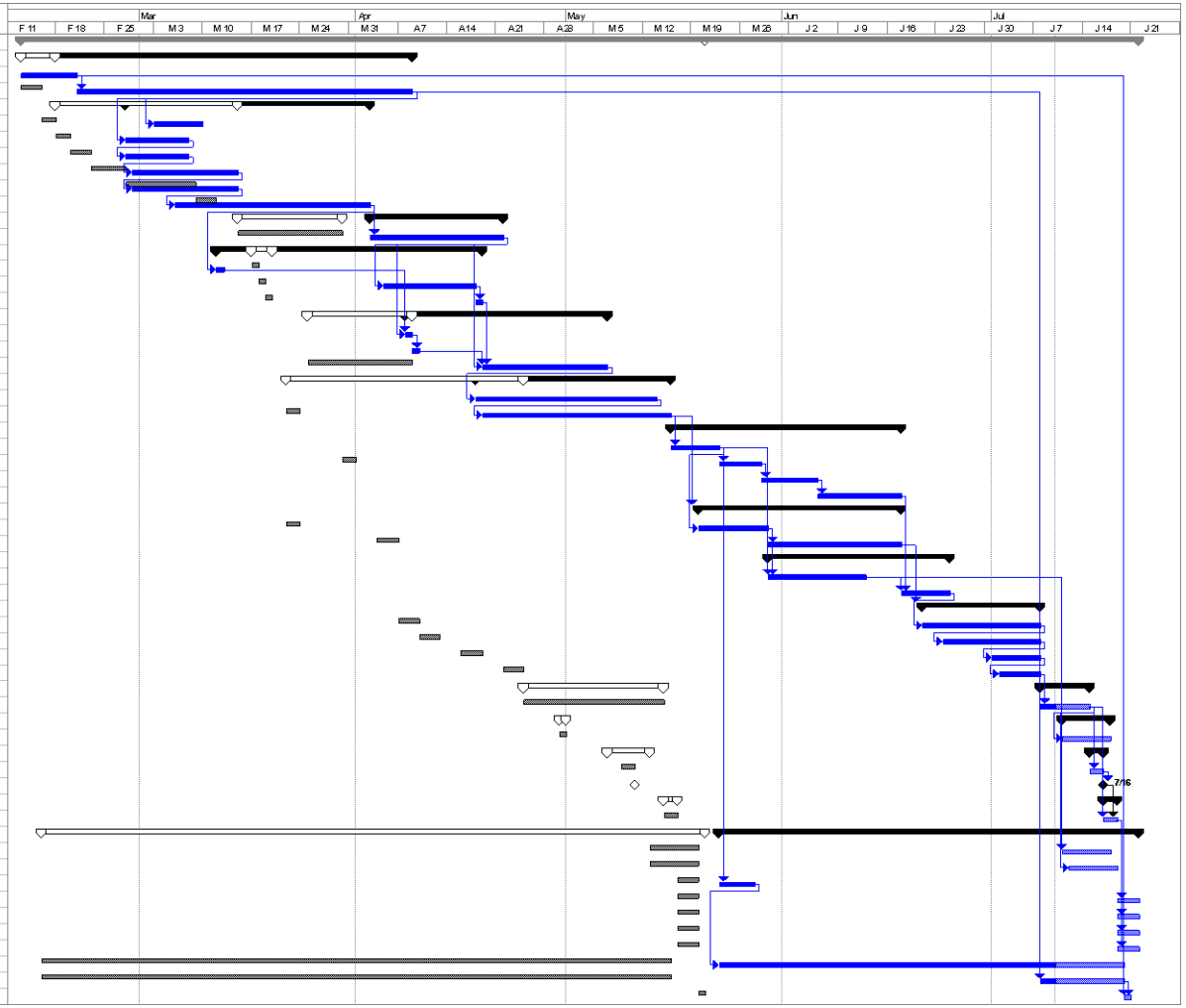
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D -320s qkm-14weeks**	**159.67 days**	**Wed 2/13/08**	**Mon 7/21/08**
1	**1 Project Aquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Hirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre-Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**7 days**	**Thu 7/10/08**	**Thu 7/17/08**
43	12.1 Return of field data	7 days	Thu 7/10/08	Thu 7/17/08
44	**13 Stack and Post Stack-Testing**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
45	13.1 Gun and cable statics	2 days	Mon 7/14/08	Wed 7/16/08
46	13.2 Post stack noise attenuation scaling and filtering if required	0 days	Wed 7/16/08	Wed 7/16/08
47	**14 Stack and Post Stack-Production**	**2 days**	**Wed 7/16/08**	**Fri 7/18/08**
48	14.1 Production of Stack and Post Stack	2 days	Wed 7/16/08	Fri 7/18/08
49	**15 Archivies and Closedown**	**60 days**	**Thu 5/22/08**	**Mon 7/21/08**
50	15.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Thu 7/10/08	Thu 7/17/08
51	15.2 Archive of Post Migration CDP gathers	7 days	Fri 7/11/08	Fri 7/18/08
52	15.3 Prelim post-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
53	15.4 Archive Of Raw Migrated Stack	3 days	Fri 7/18/08	Mon 7/21/08
54	15.5 Archive Of Filtered /Scaled Migrated Stack	3 days	Fri 7/18/08	Mon 7/21/08
55	15.6 Archive of Angle Stacks	3 days	Fri 7/18/08	Mon 7/21/08
56	15.7 Archive of AVO Intercept Gradient	3 days	Fri 7/18/08	Mon 7/21/08
57	15.8 Archive Of Processing Support Data	58 days	Thu 5/22/08	Sat 7/19/08
58	15.9 Creation by OGGV & acceptance of processing report by Origin	12 days	Tue 7/8/08	Sun 7/20/08
59	15.10 Completion of all contractural processing/archives	1 day	Sun 7/20/08	Mon 7/21/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 23	**REPORT PERIOD**	:	11/07/08-17/07/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 30th July 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - Production up to final stack 100% complete
  - 1 copy of full, near, mid and far final stacks were delivered to Origin this morning. Second copies to be delivered early next week
  - 1 copy of intercept and gradient archives due to be delivered to Origin tomorrow
  - Production of remaining archives ongoing
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	

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3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs		7		
15.2	Archive post-migration CDPs	20	7		
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	50	3		
15.5	Archive angle stacks	50	3		
15.6	Archive AVO intercept gradient	50	3		
15.7	Archive processing support data	20	90		
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

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Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

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1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08
SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

- A number of people are on holiday during July:

  Randall – Annual Leave: 30/6 – 4/7 inclusive
  Darren – Annual Leave: 7/7 – 11/7 inclusive + Training 21/7 – 25/7 inclusive
  Emma – On the Oil Rig: 9/7 – 18/7 inclusive (these dates could slip depending on the drilling progress)
  John – Annual Leave: 7/7 – 22/7

  Imam Sarjono is on leave 17th to 18th July.

11. Project Closedown Summary

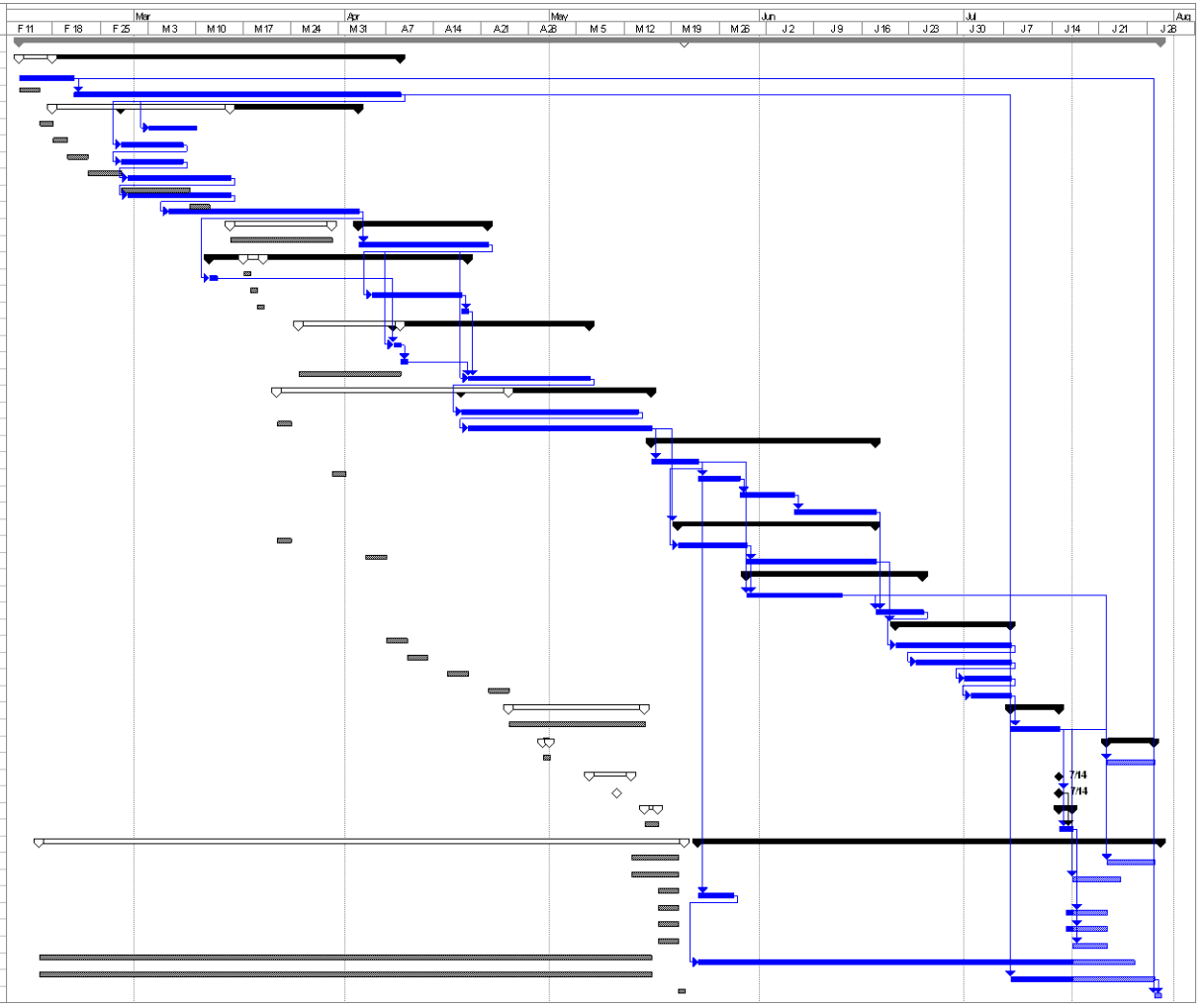
Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1		
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1		
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	In progress	1 copy (DVD001-DVD004) delivered 17/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	In progress	1 copy (DVD005-DVD016) delivered 17/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	In progress	1 copy (DVD033-DVD040) sent 17/07/08

15.7 Processing support data ASCII Format data files: • CMP coords with SP locations • CMP-SP relations • Final Migration velocities in western format • Final Stacking velocities in western format • Final Eta in western format	CD / DVD	2		
15.8 Processing report	CD / DVD	2		
Other Close down activities				
12.1 Return of Field Tapes				
Close down meeting				
EPE returned by Client				

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D 320sqkm 14weeks**	**168 days**	**Wed 2/13/08**	**Wed 7/30/08**
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum /trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**26 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre-Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**7 days**	**Mon 7/21/08**	**Mon 7/28/08**
43	12.1 Return of field data	7 days	Mon 7/21/08	Mon 7/28/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 7/14/08**	**Mon 7/14/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 7/14/08	Mon 7/14/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 7/14/08	Wed 7/16/08
48	**15 Archives and Closedown**	**68.33 days**	**Thu 5/22/08**	**Wed 7/30/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Mon 7/21/08	Mon 7/28/08
50	15.2 Archive of Post Migration CDP gathers	7 days	Wed 7/16/08	Wed 7/23/08
51	15.3 Prelim post-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
52	15.4 Archive Of Final Migrated Stack	6 days	Tue 7/15/08	Mon 7/21/08
53	15.5 Archive of Angle Stacks	6 days	Tue 7/15/08	Mon 7/21/08
54	15.6 Archive of AVO Intercept Gradient	5 days	Wed 7/16/08	Mon 7/21/08
55	15.7 Archive Of Processing Support Data	64 days	Thu 5/22/08	Fri 7/25/08
56	15.8 Creation by OGGV& acceptance of processing report by Origin	21 days	Tue 7/8/08	Tue 7/29/08
57	15.9 Completion of all contractural processing/archives	1 day	Tue 7/29/08	Wed 7/30/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 24	**REPORT PERIOD**	:	18/07/08-24/07/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 1st August 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - 1 copy of full, near, mid and far final stacks, and intercept and gradient were delivered to Origin last week.
  - Second copies of the above to be delivered tomorrow, along with 2 copies of final stacking vels (RMS, SH) in SEGY format.
  - Delivery of remaining archives due by end of next week.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	

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3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	50	7	4	
15.2	Archive post-migration CDPs	70	7	9	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.7	Archive processing support data	50	90		
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

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Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08
SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1		
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1		
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) sent 24/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) sent 24/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) sent 24/07/08

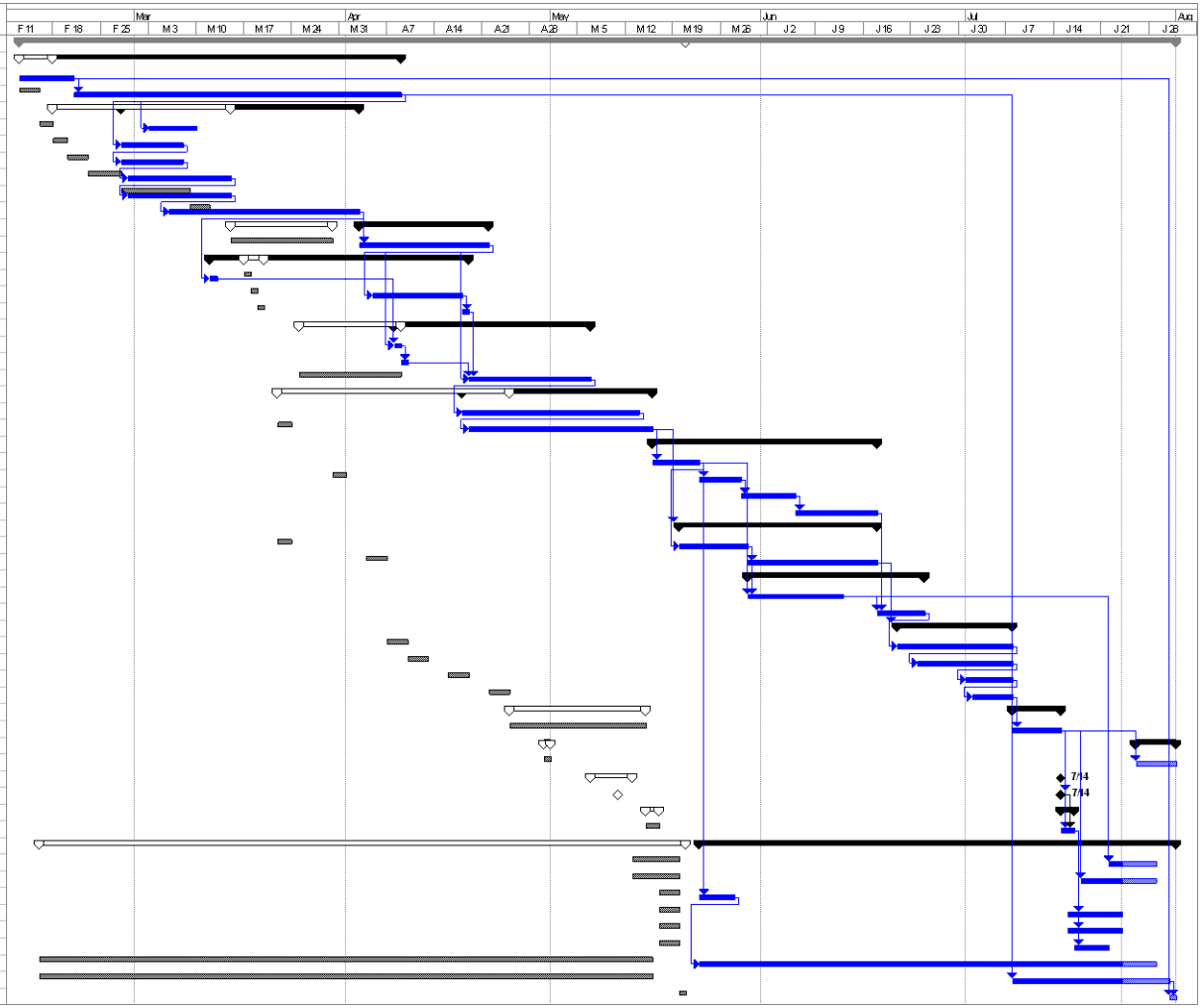
Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

15.7 Processing support data ASCII Format data files: • CMP coords with SP locations • CMP-SP relations • Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	CD / DVD	2		
• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	CD / DVD	2	Complete	2 copies (DVD049-DVD064) sent 24/07/08
15.8 Processing report	CD / DVD	2		
Other Close down activities				
12.1 Return of Field Tapes				
Close down meeting				
EPE returned by Client				

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D 320sqkm 14weeks**	**170 days**	**Wed 2/13/08**	**Fri 8/1/08**
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/3ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum /trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**26 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre-Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 7/25/08**	**Thu 7/31/08**
43	12.1 Return of field data	6 days	Fri 7/25/08	Thu 7/31/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 7/14/08**	**Mon 7/14/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 7/14/08	Mon 7/14/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 7/14/08	Wed 7/16/08
48	**15 Archives and Closedown**	**70.33 days**	**Thu 5/22/08**	**Fri 8/1/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	7 days	Mon 7/21/08	Mon 7/28/08
50	15.2 Archive of Post Migration CDP gathers	11 days	Thu 7/17/08	Mon 7/28/08
51	15.3 Prelim post-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
52	15.4 Archive Of Final Migrated Stack	8 days	Tue 7/15/08	Wed 7/23/08
53	15.5 Archive of Angle Stacks	8 days	Tue 7/15/08	Wed 7/23/08
54	15.6 Archive of AVO Intercept Gradient	5 days	Wed 7/16/08	Mon 7/21/08
55	15.7 Archive Of Processing Support Data	67 days	Thu 5/22/08	Mon 7/28/08
56	15.8 Creation by CGGV& acceptance of processing report by Origin	23 days	Tue 7/8/08	Thu 7/31/08
57	15.9 Completion of all contractural processing/archives	1 day	Thu 7/31/08	Fri 8/1/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 25	**REPORT PERIOD**	:	25/07/08-31/07/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 9th August 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - 2 copies of the following have been delivered to Origin:
    - full, near, mid and far final stacks
    - intercept and gradient
    - final stacking vels (RMS, SH) in SEGY format
    - final stacking vels (RMS, SH) in western ASCII format
    - final migration vels (RMS, SH) in western ASCII format
    - bin centre coords
  - Delivery of remaining archives (gathers) due early next week.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	

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2.4	Test tau-p linear noise removal	100	5	15	clients/waiting for decisions. Delay finalising model jobs
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	70	7	11	
15.2	Archive post-migration CDPs	90	7	16	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

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5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

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6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08

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Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08
SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1		
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1		
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2		2 copies (DVD068-DVD069) delivered 28/07/08

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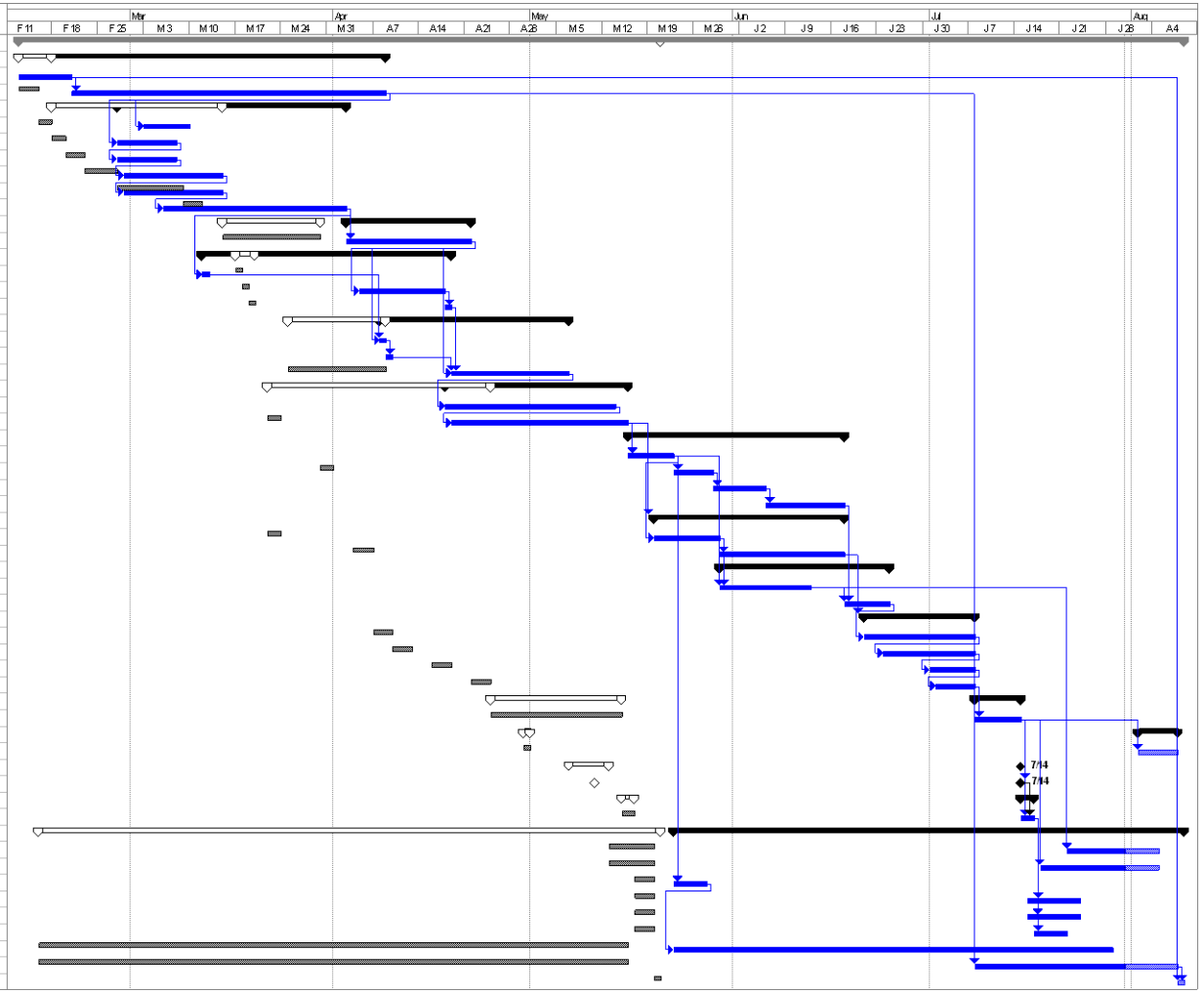
• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08
• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		
Other Close down activities				
12.1 Return of Field Tapes				
Close down meeting				
EPE returned by Client				

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye 3D -320 sq km -14 weeks**	**178 days**	**Wed 2/13/08**	**Sat 8/9/08**
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms 8ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of preprocessing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum /trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of preprocessing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**26 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/1/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3 ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x 25m bins) &missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre-Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 8/1/08**	**Thu 8/7/08**
43	12.1 Return of field data	6 days	Fri 8/1/08	Thu 8/7/08
44	**13 Stack and Post Stack Testing**	**0 days**	**Mon 7/14/08**	**Mon 7/14/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 7/14/08	Mon 7/14/08
46	**14 Stack and Post Stack Production**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 7/14/08	Wed 7/16/08
48	**15 Archives and Close down**	**78.33 days**	**Thu 5/22/08**	**Sat 8/9/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	14 days	Mon 7/21/08	Mon 8/4/08
50	15.2 Archive of Post-Migration CDP gathers	18 days	Thu 7/17/08	Mon 8/4/08
51	15.3 Prelim post-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
52	15.4 Archive Of Final Migrated Stack	8 days	Tue 7/15/08	Wed 7/23/08
53	15.5 Archive of Angle Stacks	8 days	Tue 7/15/08	Wed 7/23/08
54	15.6 Archive of AVO Intercept Gradient	5 days	Wed 7/16/08	Mon 7/21/08
55	15.7 Archive Of Processing Support Data	67 days	Thu 5/22/08	Mon 7/28/08
56	15.8 Creation by OGGV & acceptance of processing report by Origin	31 days	Tue 7/8/08	Fri 8/8/08
57	15.9 Completion of all contractural processing/archives	1 day	Fri 8/8/08	Sat 8/9/08



END OF WEEKLY REPORT

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CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
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TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 26	**REPORT PERIOD**	:	01/08/08-07/08/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 15th August 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - 2 copies of the following have been delivered to Origin:
    - full, near, mid and far final stacks
    - intercept and gradient
    - final stacking vels (RMS, SH) in SEGY format
    - final stacking vels (RMS, SH) in western ASCII format
    - final migration vels (RMS, SH) in western ASCII format
    - bin centre coords
  - Post PSTM gather archive has been delivered to Origin.
  - Pre PSTM gather archive is in transit to Origin.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel
2.2	Test spherical divergence corr.	100	2	9	Additional tests

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2.3	Test swell noise removal	100	3	9	requested by clients/waiting for decisions. Delay finalising model jobs
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	100	7	15	
15.2	Archive post-migration CDPs	100	7	18	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

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5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

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6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08

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Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08
SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1	In transit	Dispatched to Origin 05/08/08
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1	Complete	Delivered to Origin 07/08/08
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2		2 copies (DVD068-DVD069) delivered 28/07/08

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• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08
• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		
Other Close down activities				
12.1 Return of Field Tapes				
Close down meeting				
EPE returned by Client				

GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D-320sqkm-14weeks**	**184 days**	**Wed 2/13/08**	**Fri 8/15/08**
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**3467 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms9ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst /Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum /trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x25m bins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre-Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 8/8/08**	**Thu 8/14/08**
43	12.1 Return of field data	6 days	Fri 8/8/08	Thu 8/14/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 7/14/08**	**Mon 7/14/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 7/14/08	Mon 7/14/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 7/14/08	Wed 7/16/08
48	**15 Archives and Closedown**	**8433 days**	**Thu 5/22/08**	**Fri 8/15/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	15 days	Mon 7/21/08	Tue 8/5/08
50	15.2 Archive of Post Migration CDP gathers	18 days	Thu 7/17/08	Mon 8/4/08
51	15.3 Prelim post-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
52	15.4 Archive Of Final Migrated Stack	8 days	Tue 7/15/08	Wed 7/23/08
53	15.5 Archive of Angle Stacks	8 days	Tue 7/15/08	Wed 7/23/08
54	15.6 Archive of AVO Intercept Gradient	5 days	Wed 7/16/08	Mon 7/21/08
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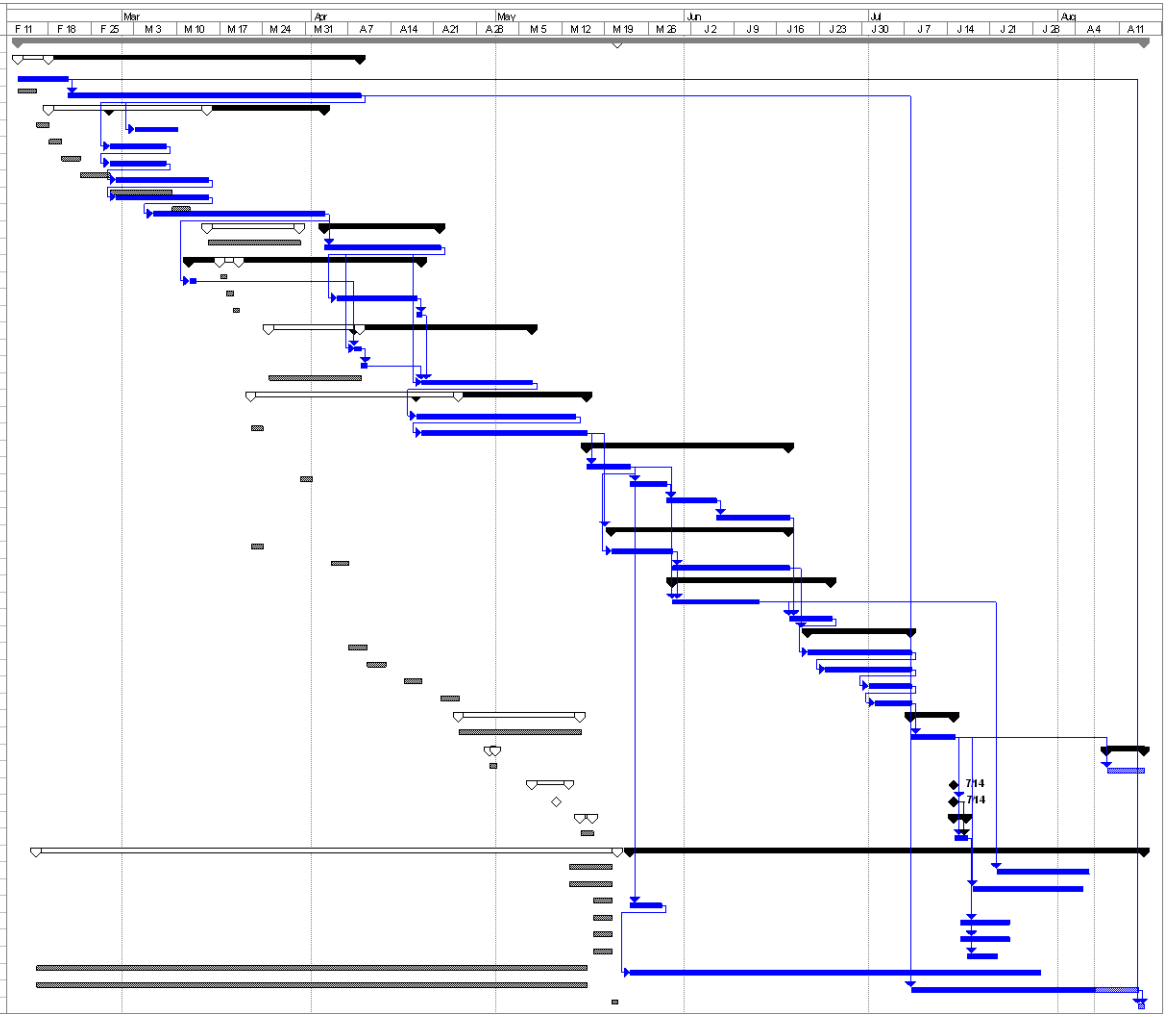
56	15.8 Creation by OGGV & acceptance of processing report by Origin	37 days	Tue 7/8/08	Thu 8/14/08
57	15.9 Completion of all contractural processing/archives	1 day	Thu 8/14/08	Fri 8/15/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Emma Brand, Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 27	**REPORT PERIOD**	:	08/08/08-14/08/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 22nd August 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - All final products have been delivered to Origin, except final report.
  - Return of field data:
    The field tapes for seq 1-79 are in the process of being dispatched from KL.
    The nav data and supporting data are being shipped to Origin from Perth.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	

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4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	100	7	15	
15.2	Archive post-migration CDPs	100	7	18	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date

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Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)

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4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08

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Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08
SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1	Complete	Delivered to Origin 08/08/08
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1	Complete	Delivered to Origin 07/08/08
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2		2 copies (DVD068-DVD069) delivered 28/07/08
• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08

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• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		
Other Close down activities				
12.1 Return of Field Tapes	3592 tapes	79	In progress	Being dispatched from KL
	3592 tapes 3590 tapes CD	2 8 3	In progress	Being dispatched from Perth
Close down meeting				
EPE returned by Client				

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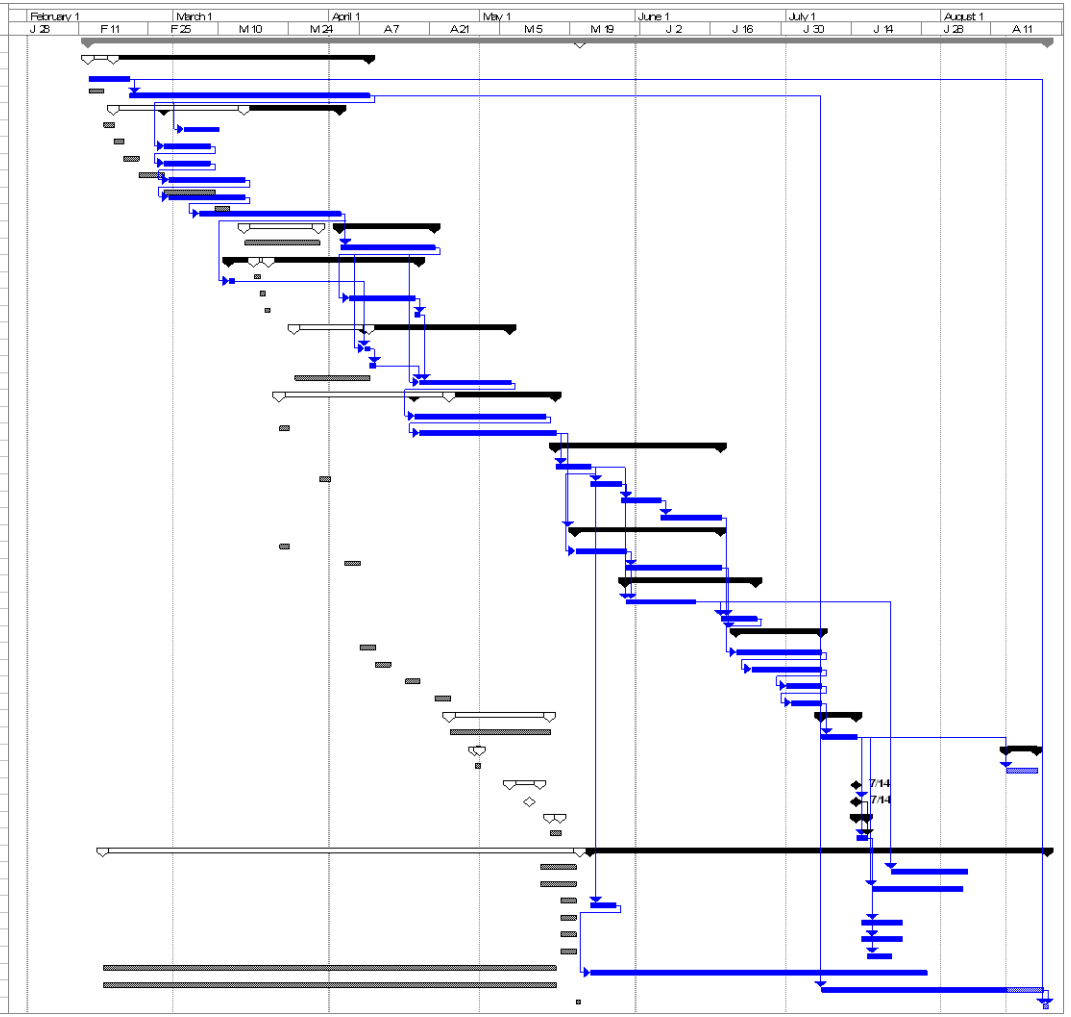
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D-320sqkm-14weeks**	**191 days**	**Wed 2/13/08**	**Fri 8/22/08**
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with RGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing3-Production**	**33 days**	**Thu 5/1/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Statis, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Wed 8/13/08**	**Tue 8/19/08**
43	12.1 Return of field data	6 days	Wed 8/13/08	Tue 8/19/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 7/14/08**	**Mon 7/14/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 7/14/08	Mon 7/14/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 7/14/08	Wed 7/16/08
48	**15 Archives and Close down**	**91.33 days**	**Thu 5/22/08**	**Fri 8/22/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	15 days	Mon 7/21/08	Tue 8/5/08
50	15.2 Archive of Post Migration CDP gathers	18 days	Thu 7/17/08	Mon 8/4/08
51	15.3 Prelim post-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
52	15.4 Archive Of Final Migrated Stack	8 days	Tue 7/15/08	Wed 7/23/08
53	15.5 Archive of Angle Stacks	8 days	Tue 7/15/08	Wed 7/23/08
54	15.6 Archive of A-V-O Intercept Gradient	5 days	Wed 7/16/08	Mon 7/21/08
55	15.7 Archive Of Processing Support Data	67 days	Thu 5/22/08	Mon 7/28/08
56	15.8 Creation by OGSV & acceptance of processing report by Origin	44 days	Tue 7/8/08	Thu 8/21/08
57	15.9 Completion of all contractural processing/archives	1 day	Thu 8/21/08	Fri 8/22/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 28	**REPORT PERIOD**	:	15/08/08-21/08/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 29th August 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - All final products have been delivered to Origin, except final report.
  - Return of field data:
    The 79 field tapes for seq 1-79 were dispatched to Origin from KL on Friday.
    The nav data and supporting data were dispatched to Origin from Perth today.
    The cases belonging to PGS (in which original field data were shipped to Perth from the vessel) are being returned to PGS in Perth.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

2.6	Test tau-p deconvolution	100	3	28	finalising model jobs
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	100	7	15	
15.2	Archive post-migration CDPs	100	7	18	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

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1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08

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Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08
SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1	Complete	Delivered to Origin 08/08/08
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1	Complete	Delivered to Origin 07/08/08
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2		2 copies (DVD068-DVD069) delivered 28/07/08
• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08

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• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		
Other Close down activities				
12.1 Return of Field Tapes	3592 tapes	79	In progress	Dispatched from KL 15/08/08
	3592 tapes 3590 tapes CD	2 8 3	In progress	Dispatched from Perth 21/08/08
Close down meeting				
EPE returned by Client				

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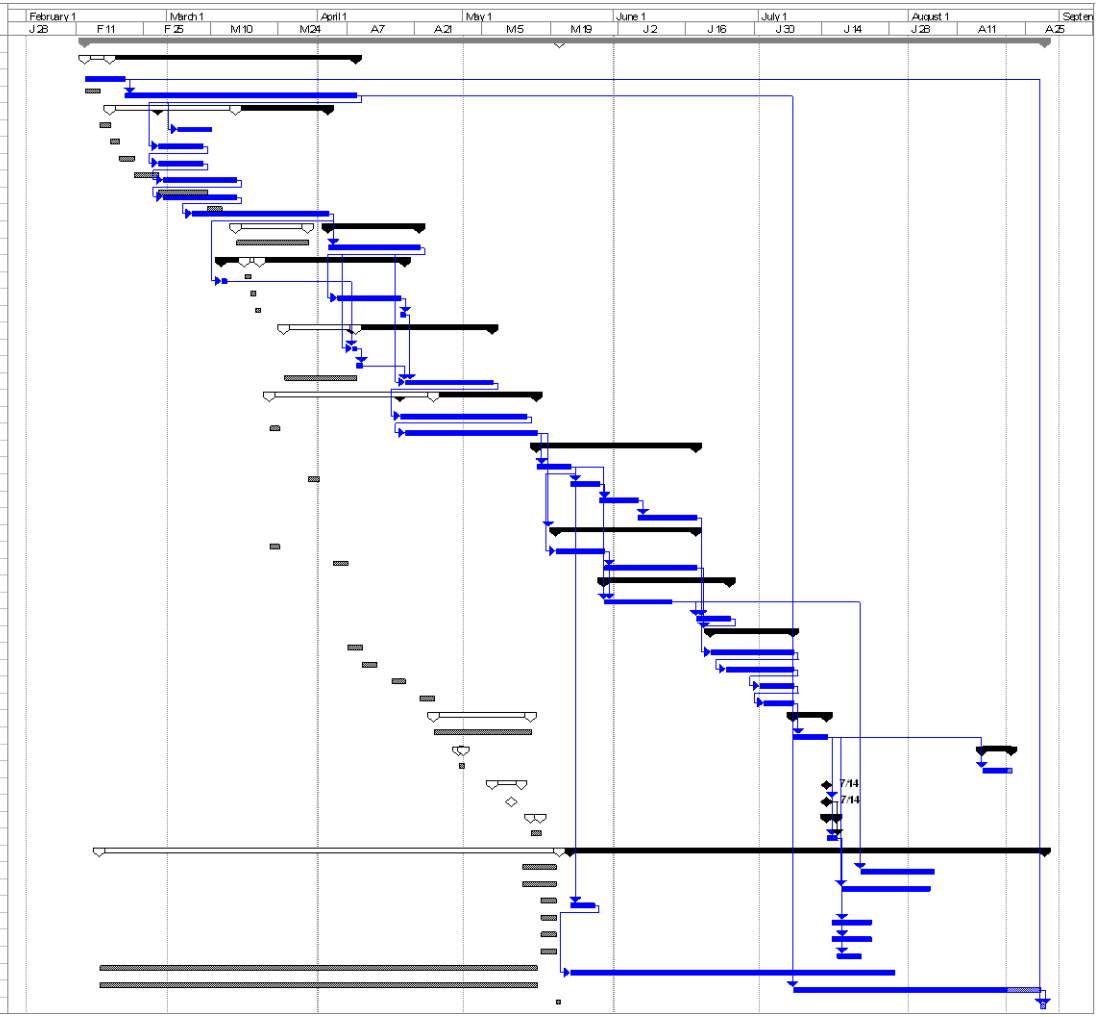
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320sqkm-14weeks	198 days	Wed 2/13/08	Fri 8/29/08
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with RGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x 25mbins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 8/15/08**	**Thu 8/21/08**
43	12.1 Return of field data	6 days	Fri 8/15/08	Thu 8/21/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 7/14/08**	**Mon 7/14/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 7/14/08	Mon 7/14/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 7/14/08	Wed 7/16/08
48	**15 Archivies and Closedown**	**98.33 days**	**Thu 5/22/08**	**Fri 8/29/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	15 days	Mon 7/21/08	Tue 8/5/08
50	15.2 Archive of Post Migration CDP gathers	18 days	Thu 7/17/08	Mon 8/4/08
51	15.3 Pre/post-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
52	15.4 Archive Of Final Migrated Stack	8 days	Tue 7/15/08	Wed 7/23/08
53	15.5 Archive of Angle Stacks	8 days	Tue 7/15/08	Wed 7/23/08
54	15.6 Archive of AVO Intercept Gradient	5 days	Wed 7/16/08	Mon 7/21/08
55	15.7 Archive Of Processing Support Data	67 days	Thu 5/22/08	Mon 7/28/08
56	15.8 Creation by OGSV & acceptance of processing report by Origin	51 days	Tue 7/8/08	Thu 8/28/08
57	15.9 Completion of all contractural processing/archives	1 day	Thu 8/28/08	Fri 8/29/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 29	**REPORT PERIOD**	:	22/08/08-28/08/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 5th September 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - All final products have been delivered to Origin, except final report.
  - All field data and supporting data have been returned:
    The 79 field tapes for seq 1-79 were dispatched to Origin from KL on 15/08/08.
    The nav data and supporting data were dispatched to Origin from Perth on 21/08/08.
    The cases belonging to PGS (in which original field data were shipped to Perth from the vessel) were returned to PGS in Perth on 21/08/08.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

2.6	Test tau-p deconvolution	100	3	28	finalising model jobs
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	100	7	15	
15.2	Archive post-migration CDPs	100	7	18	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

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1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08

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Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08
SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1	Complete	Delivered to Origin 08/08/08
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1	Complete	Delivered to Origin 07/08/08
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2	Complete	2 copies (DVD068-DVD069) delivered 28/07/08
• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08

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• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		
Other Close down activities				
12.1 Return of Field Tapes	3592 tapes	79	Complete	Dispatched from KL 15/08/08
	3592 tapes 3590 tapes CD	2 8 3	Complete	Dispatched from Perth 21/08/08
Close down meeting				
EPE returned by Client				

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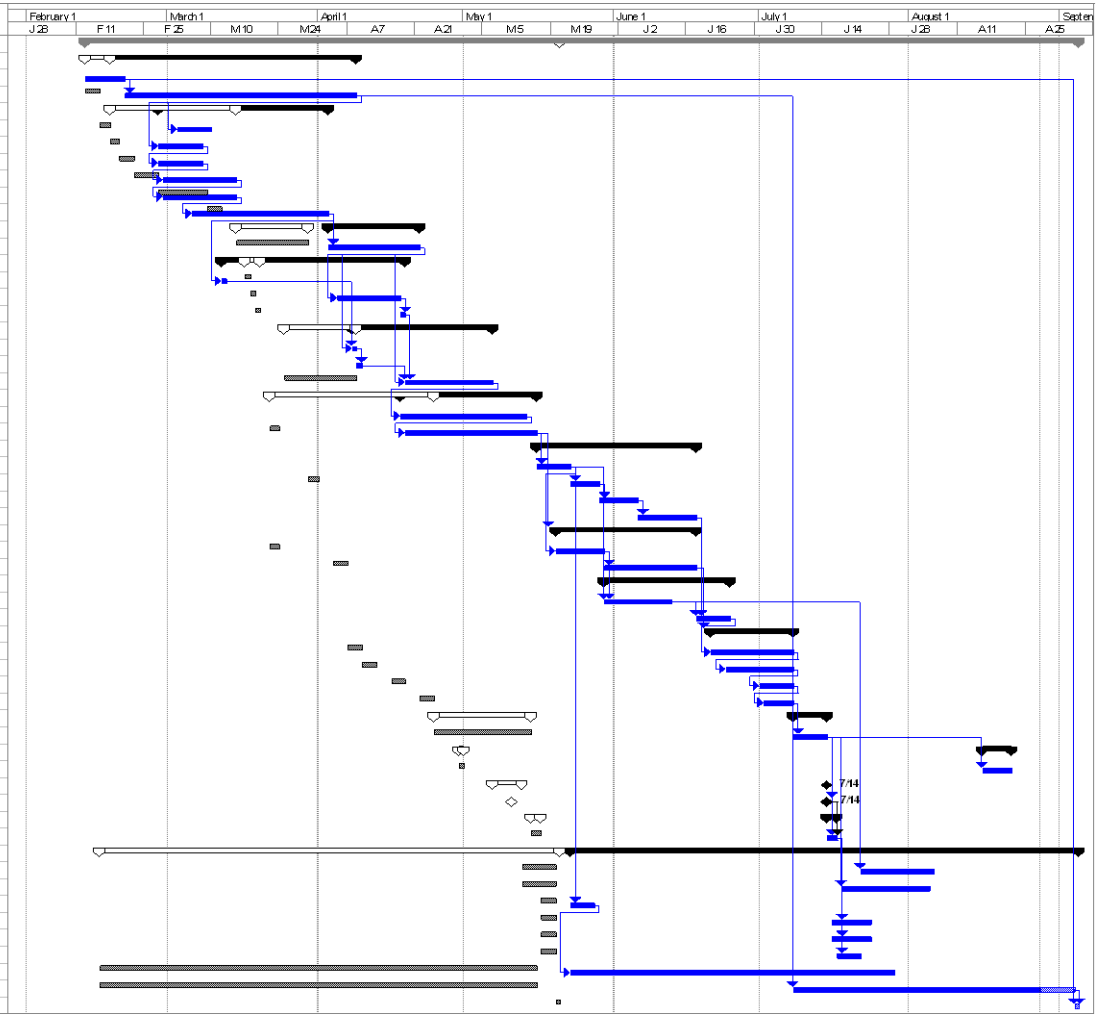
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320sqkm-14weeks	205 days	Wed 2/13/08	Fri 9/5/08
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with RGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5m x 25mbins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 8/15/08**	**Thu 8/21/08**
43	12.1 Return of field data	6 days	Fri 8/15/08	Thu 8/21/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 7/14/08**	**Mon 7/14/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 7/14/08	Mon 7/14/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 7/14/08	Wed 7/16/08
48	**15 Archivies and Closedown**	**105.33 days**	**Thu 5/22/08**	**Fri 9/5/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	15 days	Mon 7/21/08	Tue 8/5/08
50	15.2 Archive of Post Migration CDP gathers	18 days	Thu 7/17/08	Mon 8/4/08
51	15.3 Pre/post-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
52	15.4 Archive Of Final Migrated Stack	8 days	Tue 7/15/08	Wed 7/23/08
53	15.5 Archive of Angle Stacks	8 days	Tue 7/15/08	Wed 7/23/08
54	15.6 Archive of AVO Intercept Gradient	5 days	Wed 7/16/08	Mon 7/21/08
55	15.7 Archive Of Processing Support Data	67 days	Thu 5/22/08	Mon 7/28/08
56	15.8 Creation by OGGV & acceptance of processing report by Origin	58 days	Tue 7/8/08	Thu 9/4/08
57	15.9 Completion of all contractural processing/archives	1 day	Thu 9/4/08	Fri 9/5/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 30	**REPORT PERIOD**	:	29/08/08-04/09/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 19th September 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - All final products have been delivered to Origin, except final report.
  - All field data and supporting data have been returned:
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	

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4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	100	7	15	
15.2	Archive post-migration CDPs	100	7	18	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08

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Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms

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5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

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SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1	Complete	Delivered to Origin 08/08/08
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1	Complete	Delivered to Origin 07/08/08
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2	Complete	2 copies (DVD068-DVD069) delivered 28/07/08
• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08
• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		

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Other Close down activities				
12.1 Return of Field Tapes	3592 tapes	79	Complete	Dispatched from KL 15/08/08
	3592 tapes 3590 tapes CD	2 8 3	Complete	Dispatched from Perth 21/08/08
Close down meeting				
EPE returned by Client				

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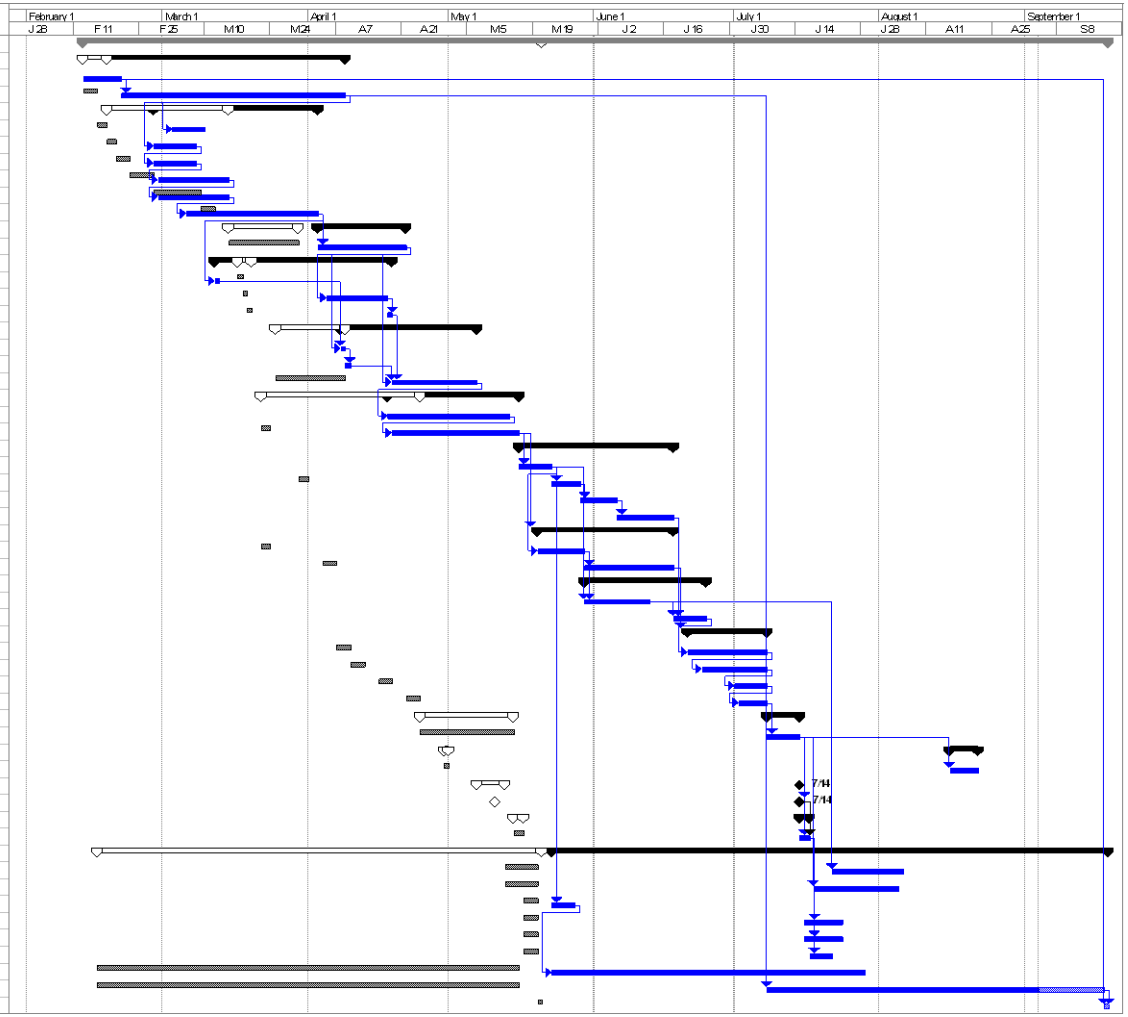
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D 320sqkm-14weeks**	**219 days**	**Wed 2/13/08**	**Fri 9/19/08**
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2kmx2kmgrid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2kmx2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1kmx1kmgrid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1kmx1kmgrid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5mx25mbins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 kmaperture) (12.5mx25mbins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre-Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 8/15/08**	**Thu 8/21/08**
43	12.1 Return of field data	6 days	Fri 8/15/08	Thu 8/21/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 7/14/08**	**Mon 7/14/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 7/14/08	Mon 7/14/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 7/14/08	Wed 7/16/08
48	**15 Archives and Close down**	**119.33 days**	**Thu 5/22/08**	**Fri 9/19/08**
49	15.1 Achive of Pre-Migration CDP gathers - no NMO	15 days	Mon 7/21/08	Tue 8/5/08
50	15.2 Achive of Post Migration CDP gathers	18 days	Thu 7/17/08	Mon 8/4/08
51	15.3 Prelimpost-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
52	15.4 Achive Of Final Migrated Stack	8 days	Tue 7/15/08	Wed 7/23/08
53	15.5 Achive of Angle Stacks	8 days	Tue 7/15/08	Wed 7/23/08
54	15.6 Achive of AVO Intercept Gradient	5 days	Wed 7/16/08	Mon 7/21/08
55	15.7 Achive Of Processing Support Data	67 days	Thu 5/22/08	Mon 7/28/08
56	15.8 Creation by O33V& acceptance of processing report by Origin	72 days	Tue 7/8/08	Thu 9/18/08
57	15.9 Completion of all contractural processing/archives	1 day	Thu 9/18/08	Fri 9/19/08



END OF WEEKLY REPORT

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CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley
CC : Imam Sarjono, Pierre Plasteri, Nigel Mudge, Karen Pandya, Subhash Chandra, Michelle D'Alessio
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 31	**REPORT PERIOD**	:	05/09/08-11/09/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 19th September 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - All final products have been delivered to Origin, except final report.
  - All field data and supporting data have been returned.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	

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4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	100	7	15	
15.2	Archive post-migration CDPs	100	7	18	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08

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Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms

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5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
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    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
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28. Exponential gain: 1dB/sec
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30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

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Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

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SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1	Complete	Delivered to Origin 08/08/08
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1	Complete	Delivered to Origin 07/08/08
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2	Complete	2 copies (DVD068-DVD069) delivered 28/07/08
• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08
• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Other Close down activities				
12.1 Return of Field Tapes	3592 tapes	79	Complete	Dispatched from KL 15/08/08
	3592 tapes 3590 tapes CD	2 8 3	Complete	Dispatched from Perth 21/08/08
Close down meeting				
EPE returned by Client				

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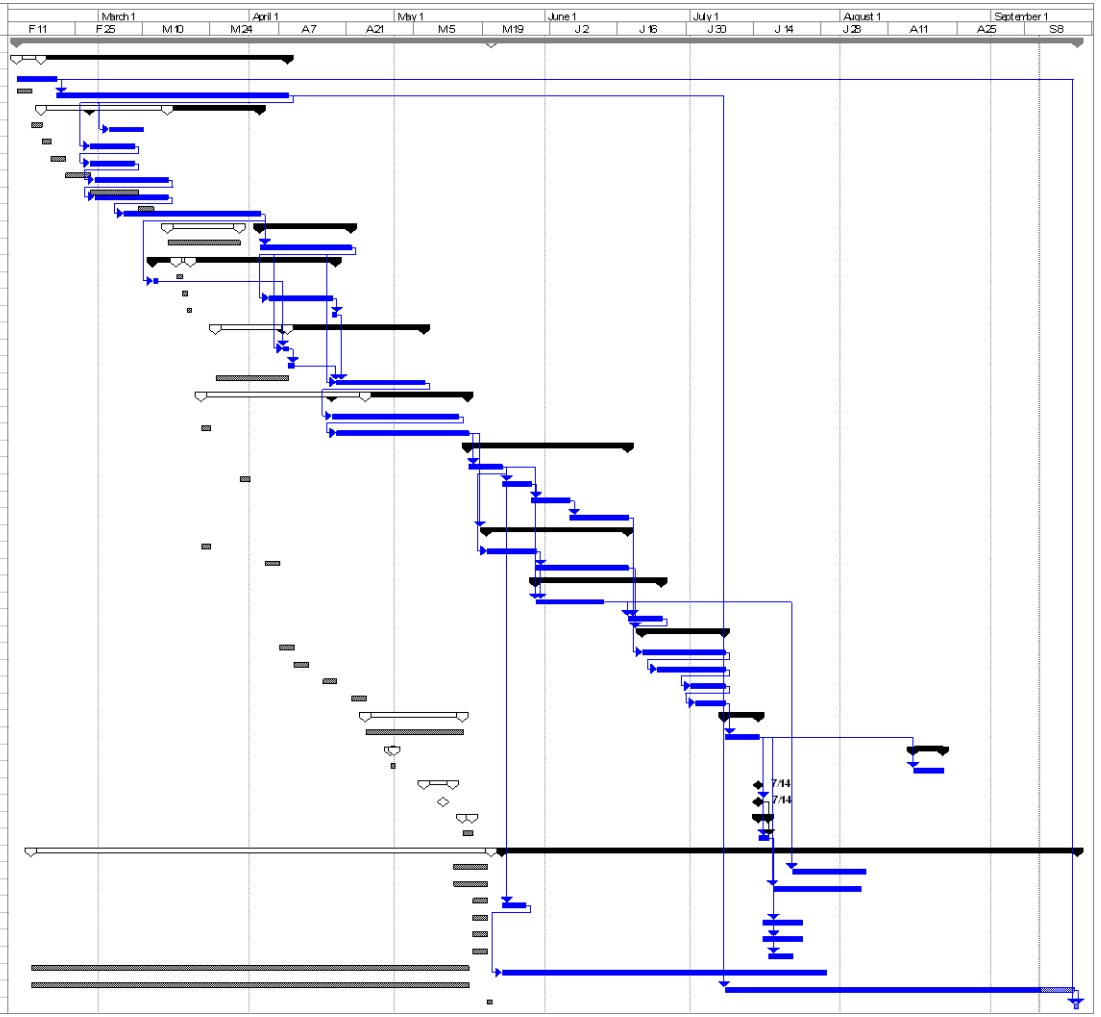
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320sqkm-14weeks	219 days	Wed 2/13/08	Fri 9/19/08
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problem with RGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5mx25mbins) &missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 kmaperture) (12.5mx 25mbins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 8/15/08**	**Thu 8/21/08**
43	12.1 Return of field data	6 days	Fri 8/15/08	Thu 8/21/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 7/14/08**	**Mon 7/14/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 7/14/08	Mon 7/14/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 7/14/08	Wed 7/16/08
48	**15 Archivies and Closedown**	**119.33 days**	**Thu 5/22/08**	**Fri 9/19/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	15 days	Mon 7/21/08	Tue 8/5/08
50	15.2 Archive of Post Migration CDP gathers	18 days	Thu 7/17/08	Mon 8/4/08
51	15.3 Pre/impost-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
52	15.4 Archive Of Final Migrated Stack	8 days	Tue 7/15/08	Wed 7/23/08
53	15.5 Archive of Angle Stacks	8 days	Tue 7/15/08	Wed 7/23/08
54	15.6 Archive of AVO Intercept Gradient	5 days	Wed 7/16/08	Mon 7/21/08
55	15.7 Archive Of Processing Support Data	67 days	Thu 5/22/08	Mon 7/28/08
56	15.8 Creation by OGSV & acceptance of processing report by Origin	72 days	Tue 7/8/08	Thu 9/18/08
57	15.9 Completion of all contractural processing/archives	1 day	Thu 9/18/08	Fri 9/19/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley, Wendy Watkins
CC : Imam Sarjono, Pierre Plasterie, Nigel Mudge, Karen Pandya, Subhash Chandra
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 32	**REPORT PERIOD**	:	12/09/08-18/09/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 24th September 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - All final products have been delivered to Origin, except final report, which we will complete early next week.
  - All field data and supporting data have been returned.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	

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4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	100	7	15	
15.2	Archive post-migration CDPs	100	7	18	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08

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Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms

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5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

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SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1	Complete	Delivered to Origin 08/08/08
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1	Complete	Delivered to Origin 07/08/08
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2	Complete	2 copies (DVD068-DVD069) delivered 28/07/08
• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08
• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

Other Close down activities				
12.1 Return of Field Tapes	3592 tapes	79	Complete	Dispatched from KL 15/08/08
	3592 tapes 3590 tapes CD	2 8 3	Complete	Dispatched from Perth 21/08/08
Close down meeting				
EPE returned by Client				

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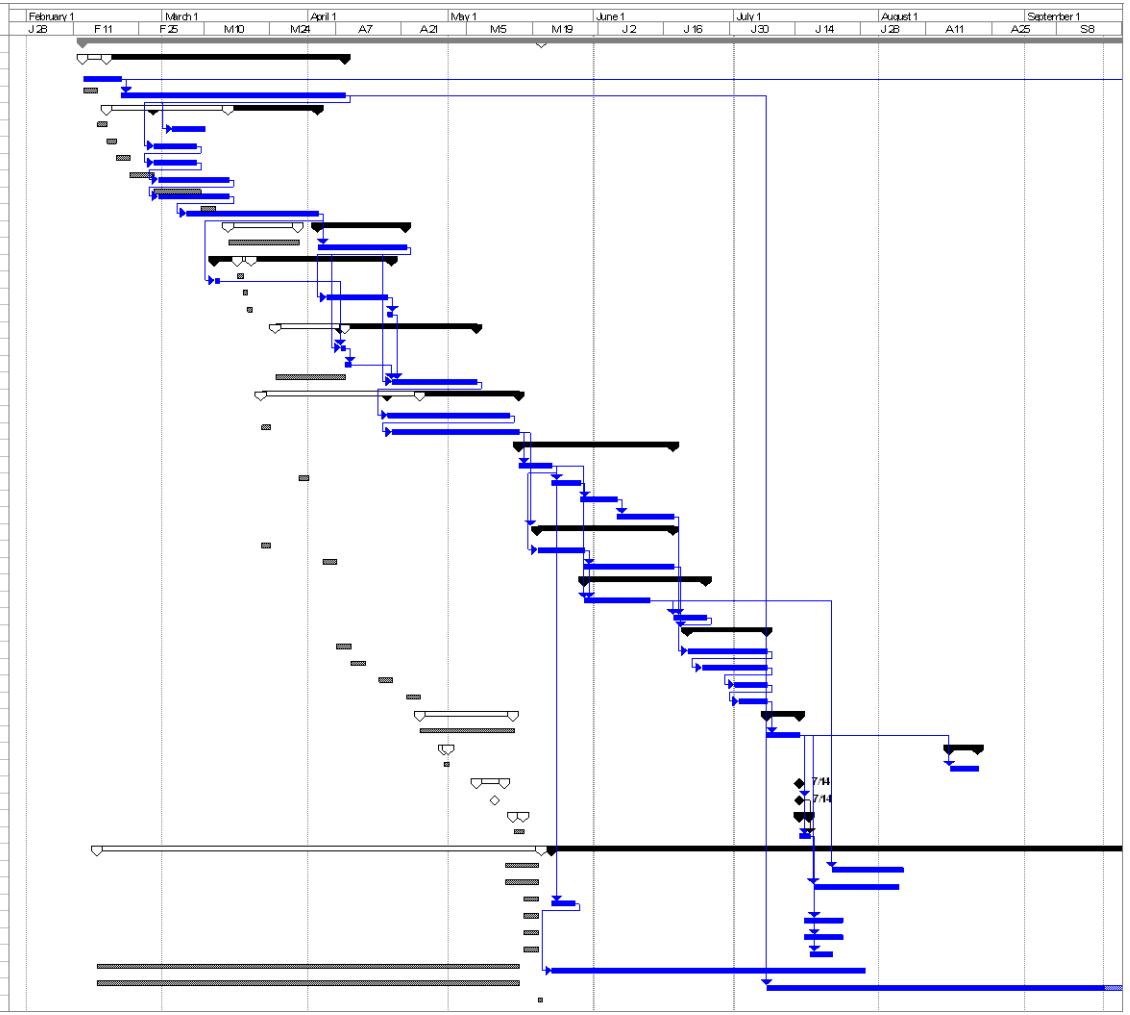
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D:320sqkm-14weeks**	**224 days**	**Wed 2/13/08**	**Wed 9/24/08**
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 2/13/08**	**Wed 4/9/08**
2	1.1 Navigation Data Reformat (Problemwith PGS nav)	8 days	Wed 2/13/08	Thu 2/21/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 2/21/08	Wed 4/9/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 2/28/08**	**Wed 4/2/08**
5	2.1 Resample to 4ms/8ms Client Decision	7 days	Mon 3/3/08	Mon 3/10/08
6	2.2 Spherical Divergence Correction	9 days	Thu 2/28/08	Sat 3/8/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 2/28/08	Sat 3/8/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 2/29/08	Sat 3/15/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 2/29/08	Fri 3/14/08
10	2.6 Tau-P Deconvolution	28 days	Wed 3/5/08	Wed 4/2/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 4/2/08**	**Mon 4/21/08**
12	3.1 Production of pre-processing1	19 days	Wed 4/2/08	Mon 4/21/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 3/11/08**	**Fri 4/18/08**
14	4.1 1st Pass Velocity Analysis (2kmx2kmgrid)	1 day	Tue 3/11/08	Wed 3/12/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/4/08	Thu 4/17/08
16	4.3 2:1 adjacent trace sum/trace decimation	1 day	Thu 4/17/08	Fri 4/18/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 4/7/08**	**Tue 5/6/08**
18	5.1 1st Pass Velocity Analysis (2kmx2km)	1 day	Mon 4/7/08	Tue 4/8/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 4/8/08	Wed 4/9/08
20	5.3 Production of pre-processing2	18 days	Fri 4/18/08	Tue 5/6/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 4/17/08**	**Thu 5/15/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 4/17/08	Tue 5/13/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 4/18/08	Thu 5/15/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 5/15/08**	**Tue 6/17/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 5/15/08	Thu 5/22/08
26	7.2 PSTM for vels	6 days	Thu 5/22/08	Wed 5/28/08
27	7.3 2nd Pass Velocity Analysis (1kmx1kmgrid)	8 days	Wed 5/28/08	Thu 6/5/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1kmx1kmgrid)	12 days	Thu 6/5/08	Tue 6/17/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 5/19/08**	**Tue 6/17/08**
30	8.1 CMP Binning (12.5mx25mbins) & missing trace interpolation	10 days	Mon 5/19/08	Thu 5/29/08
31	8.2 Final PSTM (Kirchhoff, 3.5 kmaperture) (12.5mx25mbins)	19 days	Thu 5/29/08	Tue 6/17/08
32	**9 3D Processing-Production**	**26 days**	**Thu 5/29/08**	**Tue 6/24/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 5/29/08	Thu 6/12/08
34	9.2 Final PSTM Production	7 days	Tue 6/17/08	Tue 6/24/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 6/20/08**	**Mon 7/7/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 6/20/08	Mon 7/7/08
37	10.2 Residual Radon Demultiple	14 days	Mon 6/23/08	Mon 7/7/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 6/30/08	Mon 7/7/08
39	10.4 Trace mute	6 days	Tue 7/1/08	Mon 7/7/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/7/08**	**Mon 7/14/08**
41	11.1 Pre-Stack Processing Production	7 days	Mon 7/7/08	Mon 7/14/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 8/15/08**	**Thu 8/21/08**
43	12.1 Return of field data	6 days	Fri 8/15/08	Thu 8/21/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 7/14/08**	**Mon 7/14/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 7/14/08	Mon 7/14/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 7/14/08**	**Wed 7/16/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 7/14/08	Wed 7/16/08
48	**15 Archivies and Close down**	**124.33 days**	**Thu 5/22/08**	**Wed 9/24/08**
49	15.1 Achive of Pre-Migration CDP gathers - no NMO	15 days	Mon 7/21/08	Tue 8/5/08
50	15.2 Achive of Post Migration CDP gathers	18 days	Thu 7/17/08	Mon 8/4/08
51	15.3 Pre/impost-stack migration	5 days	Thu 5/22/08	Tue 5/27/08
52	15.4 Achive Of Final Migrated Stack	8 days	Tue 7/15/08	Wed 7/23/08
53	15.5 Achive of Angle Stacks	8 days	Tue 7/15/08	Wed 7/23/08
54	15.6 Achive of A+O Intercept Gradient	5 days	Wed 7/16/08	Mon 7/21/08
55	15.7 Achive Of Processing Support Data	67 days	Thu 5/22/08	Mon 7/28/08
56	15.8 Creation by OGSV&.acceptance of processing report by Origin	77 days	Tue 7/8/08	Tue 9/23/08
57	15.9 Completion of all contractural processing/archives	1 day	Tue 9/23/08	Wed 9/24/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley, Wendy Watkins
CC : Imam Sarjono, Pierre Plasterie, Nigel Mudge, Karen Pandya, Subhash Chandra
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 33	**REPORT PERIOD**	:	19/09/08-25/09/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 30th September 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - All final products have been delivered to Origin.
  - All field data and supporting data have been returned.
  - We will send the final report to Origin for approval next week, before outputting to CD.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	

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4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	100	7	15	
15.2	Archive post-migration CDPs	100	7	18	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report		90		
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08

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Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)
4. Cut data to 6000ms

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5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08

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SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1	Complete	Delivered to Origin 08/08/08
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1	Complete	Delivered to Origin 07/08/08
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2	Complete	2 copies (DVD068-DVD069) delivered 28/07/08
• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08
• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		

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Other Close down activities				
12.1 Return of Field Tapes	3592 tapes	79	Complete	Dispatched from KL 15/08/08
	3592 tapes 3590 tapes CD	2 8 3	Complete	Dispatched from Perth 21/08/08
Close down meeting				
EPE returned by Client				

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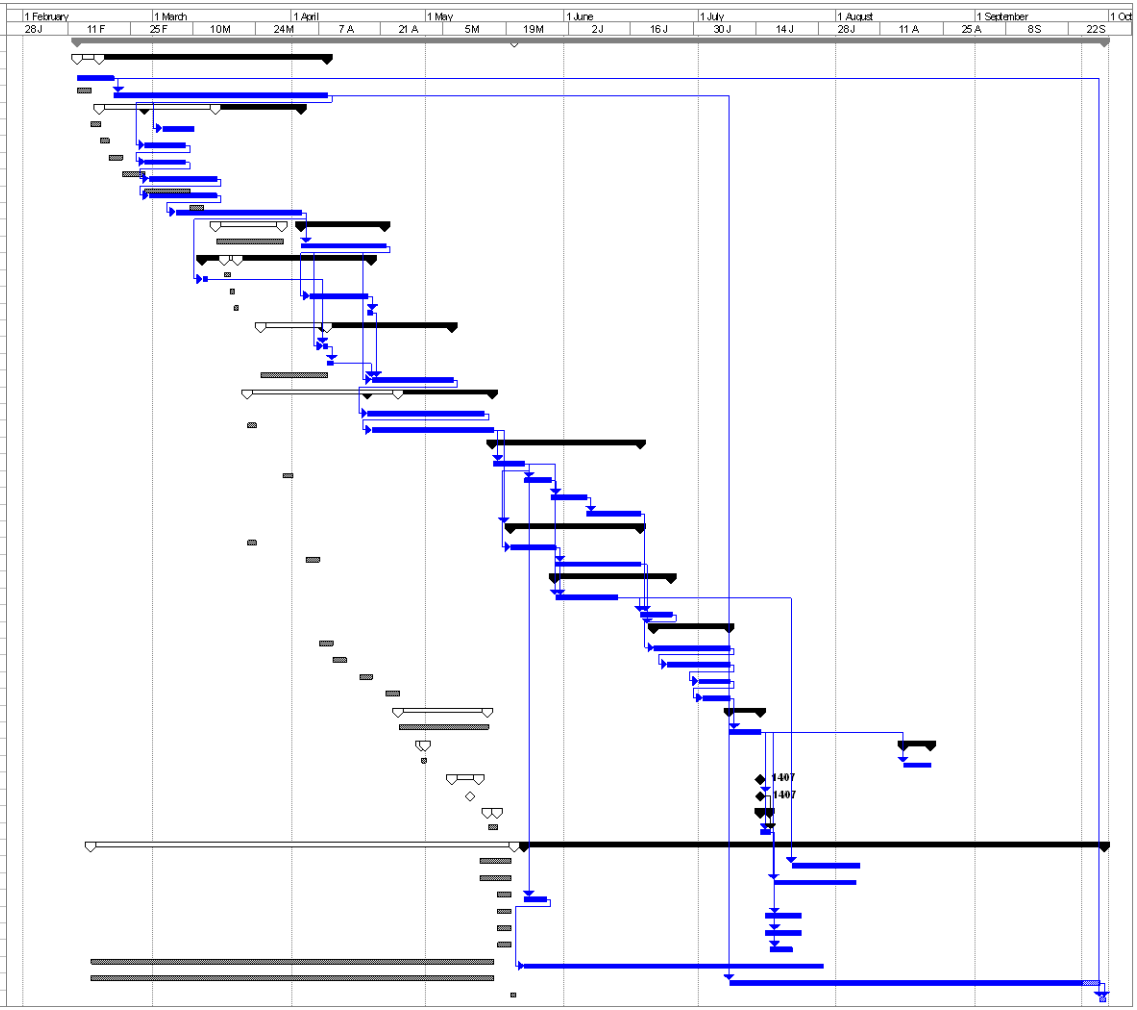
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye3D-320s q|km14weeks**	**230 days**	**Wed 13/02/08**	**Tue 30/09/08**
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 13/02/08**	**Wed 9/04/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 13/02/08	Thu 21/02/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 21/02/08	Wed 9/04/08
4	**2 Pre-Processing1-Testing**	**34.67 days**	**Thu 28/02/08**	**Wed 2/04/08**
5	2.1 Resample to 4ms|3ms Client Decision	7 days	Mon 3/03/08	Mon 10/03/08
6	2.2 Spherical Divergence Correction	9 days	Thu 28/02/08	Sat 8/03/08
7	2.3 Trace Edit , Noise burst/Swell Noise removal	9 days	Thu 28/02/08	Sat 8/03/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 29/02/08	Sat 15/03/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 29/02/08	Fri 14/03/08
10	2.6 Tau-P Deconvolution	28 days	Wed 5/03/08	Wed 2/04/08
11	**3 Pre-Processing1-Production**	**19 days**	**Wed 2/04/08**	**Mon 21/04/08**
12	3.1 Production of pre-processing1	19 days	Wed 2/04/08	Mon 21/04/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 11/03/08**	**Fri 18/04/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 11/03/08	Wed 12/03/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/04/08	Thu 17/04/08
16	4.3 2:1 adjacent trace sum /trace decimation	1 day	Thu 17/04/08	Fri 18/04/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 7/04/08**	**Tue 6/05/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 7/04/08	Tue 8/04/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 8/04/08	Wed 9/04/08
20	5.3 Production of pre-processing2	18 days	Fri 18/04/08	Tue 6/05/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 17/04/08**	**Thu 15/05/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 17/04/08	Tue 13/05/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 18/04/08	Thu 15/05/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 15/05/08**	**Tue 17/06/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 15/05/08	Thu 22/05/08
26	7.2 PSTM for vels	6 days	Thu 22/05/08	Wed 28/05/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 28/05/08	Thu 5/06/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 5/06/08	Tue 17/06/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 19/05/08**	**Tue 17/06/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpdation	10 days	Mon 19/05/08	Thu 29/05/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 29/05/08	Tue 17/06/08
32	**9 3D Processing-Production**	**26 days**	**Thu 29/05/08**	**Tue 24/06/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 29/05/08	Thu 12/06/08
34	9.2 Final PSTM Production	7 days	Tue 17/06/08	Tue 24/06/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 20/06/08**	**Mon 7/07/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 20/06/08	Mon 7/07/08
37	10.2 Residual Radon Demultiple	14 days	Mon 23/06/08	Mon 7/07/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 30/06/08	Mon 7/07/08
39	10.4 Trace mute	6 days	Tue 1/07/08	Mon 7/07/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/07/08**	**Mon 14/07/08**
41	11.1 Pre-Stack Processing Production	7 days	Mon 7/07/08	Mon 14/07/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 15/08/08**	**Thu 21/08/08**
43	12.1 Return of field data	6 days	Fri 15/08/08	Thu 21/08/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 14/07/08**	**Mon 14/07/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 14/07/08	Mon 14/07/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 14/07/08**	**Wed 16/07/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 14/07/08	Wed 16/07/08
48	**15 Archivies and Closedown**	**130.33 days**	**Thu 22/05/08**	**Tue 30/09/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	15 days	Mon 21/07/08	Tue 5/08/08
50	15.2 Archive of Post Migration CDP gathers	18 days	Thu 17/07/08	Mon 4/08/08
51	15.3 Prelim post-stack migration	5 days	Thu 22/05/08	Tue 27/05/08
52	15.4 Archive Of Final Migrated Stack	8 days	Tue 15/07/08	Wed 23/07/08
53	15.5 Archive of Angle Stacks	8 days	Tue 15/07/08	Wed 23/07/08
54	15.6 Archive of AVO Intercept Gradient	5 days	Wed 16/07/08	Mon 21/07/08
55	15.7 Archive Of Processing Support Data	67 days	Thu 22/05/08	Mon 28/07/08
56	15.8 Creation by CGGV & acceptance of processing report by Origin	83 days	Tue 8/07/08	Mon 29/09/08
57	15.9 Completion of all contractural processing/archives	1 day	Mon 29/09/08	Tue 30/09/08



END OF WEEKLY REPORT

Unless client comments and/or corrections are received before the next report is issued, contents of this report are deemed to be approved by the client.

CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley, Wendy Watkins
CC : Imam Sarjono, Pierre Plasterie, Nigel Mudge, Karen Pandya, Subhash Chandra
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 34	**REPORT PERIOD**	:	26/09/08-02/10/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 3rd October 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - All final products have been delivered to Origin.
  - All field data and supporting data have been returned.
  - The final processing report was emailed to Origin for approval today. As soon as we have confirmation, the report will be output to CD.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	
3.1	PRODUCTION PRE-PROC. 1	100	15	19	

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4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	100	7	15	
15.2	Archive post-migration CDPs	100	7	18	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report	95	90		Awaiting confirmation
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date

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Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (Phase 58ms)

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4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08
Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08

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Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08
SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1	Complete	Delivered to Origin 08/08/08
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1	Complete	Delivered to Origin 07/08/08
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2	Complete	2 copies (DVD068-DVD069) delivered 28/07/08
• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08

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• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		Draft emailed to Origin
Other Close down activities				
12.1 Return of Field Tapes	3592 tapes	79	Complete	Dispatched from KL 15/08/08
	3592 tapes 3590 tapes CD	2 8 3	Complete	Dispatched from Perth 21/08/08
Close down meeting				
EPE returned by Client				

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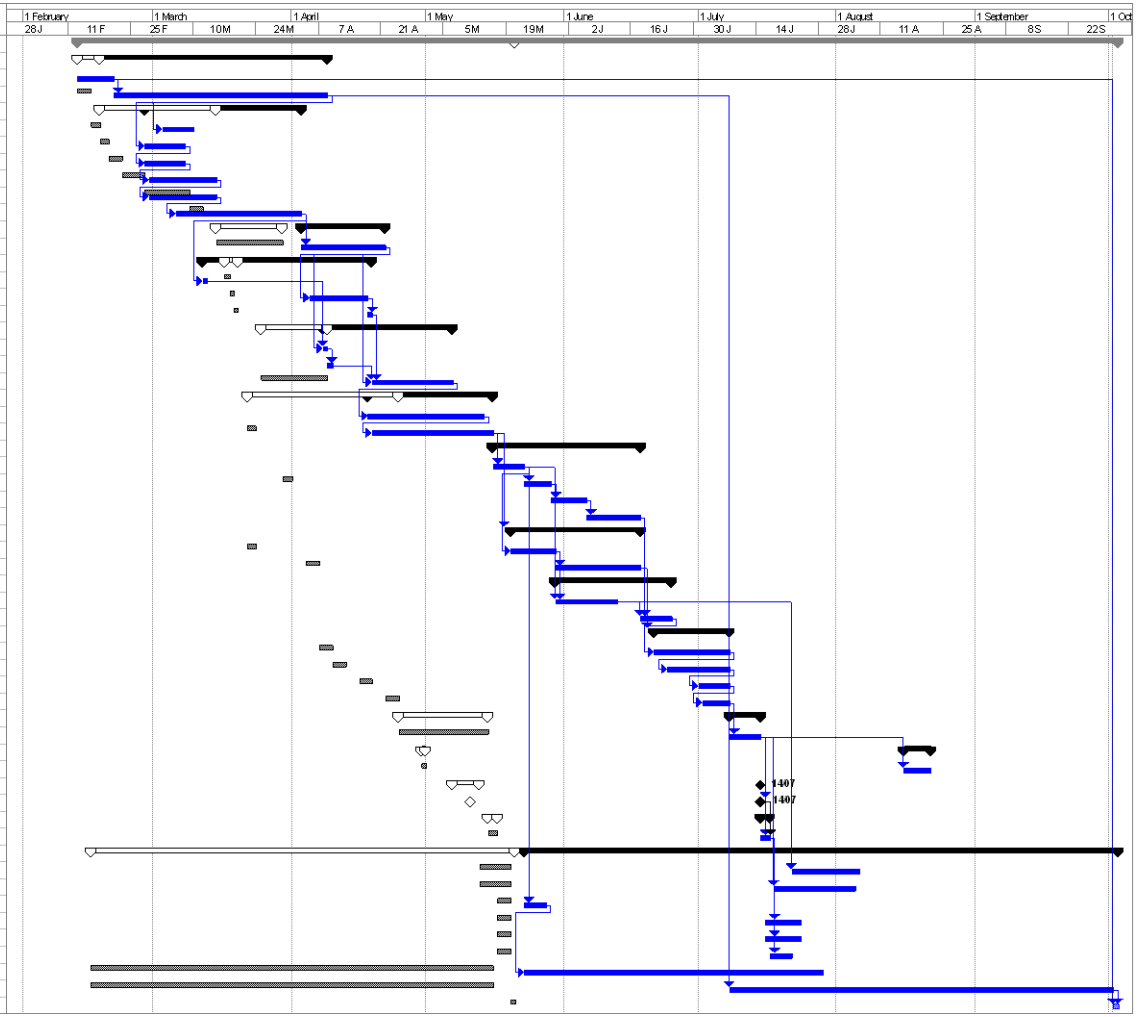
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	**Bass Basin Silvereye 3D 320sqkm 14weeks**	**233 days**	**Wed 13/02/08**	**Fri 3/10/08**
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 13/02/08**	**Wed 9/04/08**
2	1.1 Navigation Data Reformat (Problem with PGS nav)	8 days	Wed 13/02/08	Thu 21/02/08
3	1.2 Field Tape Transcription and Seismic Navigation Merge	48 days	Thu 21/02/08	Wed 9/04/08
4	**2 Pre-Processing 1-Testing**	**34.67 days**	**Thu 28/02/08**	**Wed 2/04/08**
5	2.1 Resample to 4ms 6ms Client Decision	7 days	Mon 3/03/08	Mon 10/03/08
6	2.2 Spherical Divergence Correction	9 days	Thu 28/02/08	Sat 8/03/08
7	2.3 Trace Edit , Noise burst/Swell Noise removal	9 days	Thu 28/02/08	Sat 8/03/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 29/02/08	Sat 15/03/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 29/02/08	Fri 14/03/08
10	2.6 Tau-P Deconvolution	28 days	Wed 5/03/08	Wed 2/04/08
11	**3 Pre-Processing 1-Production**	**19 days**	**Wed 2/04/08**	**Mon 21/04/08**
12	3.1 Production of pre-processing1	19 days	Wed 2/04/08	Mon 21/04/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 11/03/08**	**Fri 18/04/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 11/03/08	Wed 12/03/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/04/08	Thu 17/04/08
16	4.3 2:1 adjacent trace sum / trace decimation	1 day	Thu 17/04/08	Fri 18/04/08
17	**5 Pre-Processing 2-Production**	**29 days**	**Mon 7/04/08**	**Tue 6/05/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 7/04/08	Tue 8/04/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 8/04/08	Wed 9/04/08
20	5.3 Production of pre-processing2	18 days	Fri 18/04/08	Tue 6/05/08
21	**6 Pre-Processing 3-Testing**	**28 days**	**Thu 17/04/08**	**Thu 15/05/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 17/04/08	Tue 13/05/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 18/04/08	Thu 15/05/08
24	**7 Pre-Processing 3-Production**	**33 days**	**Thu 15/05/08**	**Tue 17/06/08**
25	7.1 Production pre-processing3: ZP, Tidal Stats, Amp Correction etc.	7 days	Thu 15/05/08	Thu 22/05/08
26	7.2 PSTM for vels	6 days	Thu 22/05/08	Wed 28/05/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 28/05/08	Thu 5/06/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 5/06/08	Tue 17/06/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 19/05/08**	**Tue 17/06/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpdation	10 days	Mon 19/05/08	Thu 29/05/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 29/05/08	Tue 17/06/08
32	**9 3D Processing-Production**	**26 days**	**Thu 29/05/08**	**Tue 24/06/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 29/05/08	Thu 12/06/08
34	9.2 Final PSTM Production	7 days	Tue 17/06/08	Tue 24/06/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 20/06/08**	**Mon 7/07/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 20/06/08	Mon 7/07/08
37	10.2 Residuel Radon Demultiple	14 days	Mon 23/06/08	Mon 7/07/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 30/06/08	Mon 7/07/08
39	10.4 Trace mute	6 days	Tue 1/07/08	Mon 7/07/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/07/08**	**Mon 14/07/08**
41	11.1 Pre-Stack Processing Production	7 days	Mon 7/07/08	Mon 14/07/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 15/08/08**	**Thu 21/08/08**
43	12.1 Return of field data	6 days	Fri 15/08/08	Thu 21/08/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 14/07/08**	**Mon 14/07/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 14/07/08	Mon 14/07/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 14/07/08**	**Wed 16/07/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 14/07/08	Wed 16/07/08
48	**15 Archivies and Closedown**	**133.33 days**	**Thu 22/05/08**	**Fri 3/10/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	15 days	Mon 21/07/08	Tue 5/08/08
50	15.2 Archive of Post Migration CDP gathers	18 days	Thu 17/07/08	Mon 4/08/08
51	15.3 Prelim post-stack migration	5 days	Thu 22/05/08	Tue 27/05/08
52	15.4 Archive Of Final Migrated Stack	8 days	Tue 15/07/08	Wed 23/07/08
53	15.5 Archive of Angle Stacks	8 days	Tue 15/07/08	Wed 23/07/08
54	15.6 Archive of AVO Intercept Gradient	5 days	Wed 16/07/08	Mon 21/07/08
55	15.7 Archive Of Processing Support Data	67 days	Thu 22/05/08	Mon 28/07/08
56	15.8 Creation by CGGV & acceptance of processing report by Origin	86 days	Tue 8/07/08	Thu 2/10/08
57	15.9 Completion of all contractural processing/archives	1 day	Thu 2/10/08	Fri 3/10/08



END OF WEEKLY REPORT

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CGGVeritas
38 Ord Street, WEST PERTH, WA 6005 TELEPHONE: +61 (0)8 9214 6200
AUSTRALIA FAX: +61 (0)8 9214 6222

TO : Origin Energy
ATTN : Randall Taylor, John Cant, Bruce Hawkes, Darren Rutley, Wendy Watkins
CC : Imam Sarjono, Pierre Plasterie, Nigel Mudge, Karen Pandya, Subhash Chandra
FROM : CGGVeritas (imam.sarjono@cggveritas.com)
DATE : Wednesday, 21 April 2010

PROJECT NAME	:	Silvereye 3D	**PROJECT NO**	:	5673/501p1et
STATUS REPORT NO	:	Week 35	**REPORT PERIOD**	:	03/10/08-09/10/08
TOTAL SURVEY AREA	:	320 km^2	**CONTRACT NO**	:	

New items added or edited during the current reporting period are highlighted in red.

1. Executive Status

- **The completion of the Origin Silvereye 3D project is due 10th October 2008**
- **Current testing on-going:**
- **Current production on-going:**
  - All final products have been delivered to Origin.
  - All field data and supporting data have been returned.
  - The final processing report was emailed to Origin for approval last week. As soon as we have confirmation, the report will be output to CD – awaiting approval from Origin to output copies of final report.
- **Decisions required/Tests despatched**:
- **Decisions made**:

2. Data Limit Summary

Survey	New Acq or Repro	Full fold sqkm	Comment
Silvereye 3D	New acquisition	321.47km^2	Full-fold sail area - preplot ver.3

3. Project Schedule and Summary – *This summary reflects percentage of work completed*

Gantt ID Number	Processing Description	% Complete	Baseline Duration (days)	Actual * Duration (days)	Comments
1.1	Navigation data reformat	100	3	8	Problem with PGS nav
1.2	Field tape transcription & seis/nav merge	100	3	48	Production ran with string
2.1	Test resample	100	2	7	Testing run in parallel Additional tests requested by clients/waiting for decisions. Delay finalising model jobs
2.2	Test spherical divergence corr.	100	2	9	
2.3	Test swell noise removal	100	3	9	
2.4	Test tau-p linear noise removal	100	5	15	
2.5	Test 2D SRME	100	10	14	
2.6	Test tau-p deconvolution	100	3	28	

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3.1	PRODUCTION PRE-PROC. 1	100	15	19	
4.1	Test 1st pass velocity analysis	100	1	1	
4.2	Test Hi-Res Radon demultiple	100	1	13	Client requested additional tests
5.1	1st pass velocity analysis	100	1	1	
5.2	1st pass vel. analysis client QC	100	1	1	
5.3	PRODUCTION PRE-PROC. 2 (Hi-Res Radon demultiple)	100	15	18	
6.1	Test zero phasing/wavelet shaping	100	4	26	Additional tests requested by clients
6.2	Test source & channel amplitude scaling	100	3	27	Additional tests requested by clients
7.1	PRODUCTION PRE-PROC. 3	100	6	7	
7.2	PSTM for vels V2	100	2	6	
7.3	2nd pass velocity analysis	100	2	8	Client requested 4th order picking in Pace
7.4	Client QC of 2nd pass vels	100	2	12	Client requested 4th order picking in Pace
8.1	Test 3D binning/regularisation/ missing trace interpolation	100	4	10	Additional tests (PSTM) requested by clients
8.2	Test final migration parameters	100	3	19	Bin size tests included in 8.1. Additional tests requested by client
9.1	PRODUCTION 3D binning	100	7	14	Longer QC than scheduled
9.2	PRODUCTION final PSTM	100	12	7	More computing power
10.1	Test RMO Velocity Analysis	100	3	17	Additional tests requested by client
10.2	Test Residual Radon Demult.	100	2	14	Additional tests requested by client
10.3	Test Q Comp	100	2	7	
10.4	Test trace mute	100	2	6	Additional tests requested by client
11.1	Pre-stack PRODUCTION	100	8	7	
12.1	Return of field data		7		
13.1	Post stack scaling / filtering	N/A	2	0	Not required
14.1	Production of stacks	100	2	2	
15.1	Archive pre-migration CDPs	100	7	15	
15.2	Archive post-migration CDPs	100	7	18	
15.3	Prelim post-stack migration	100	3	5	
15.4	Archive final migrated stack	100	3	8	
15.5	Archive angle stacks	100	3	8	
15.6	Archive AVO intercept gradient	100	3	5	
15.8	Processing report	95	90		**Awaiting confirmation**
15.9	Completion of all contractual items		1		

* Duration to date

4. Meetings Planned and Agenda

Planned Meeting Date	Requested Attendees	Agenda

5. Summary of Tests Complete to Date

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Test Description	Technical Note Reference Filename (.ppt)	Sent Via	Dispatch Date
Silvereye 3D start-up	ORIGIN_BASS_StartUp_3D_Silvereye	FTP	12/03/08
Low cut filter and de-bias	CGGV_Silvereye_Technote1_LC-Debias	e-mail FTP	29/02/08 11/03/08
Resampling	CGGV_Silvereye_Technote2_Resampling CGGV_SP_SNA_2ms4ms	e-mail FTP FTP	29/02/08 11/03/08 14/03/08
Reformat & NTC QC	CGGV_Silvereye_QC1_Reformat_NTC	FTP	11/04/08
2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW	e-mail FTP	07/03/08 11/03/08
Additional 2D SRME flows	CGGV_Silvereye_Technote3_SRME FLOW_add CGGV_Silvereye_Technote3_SRME FLOW_add1 CGGV_Silvereye_Technote3_SRME FLOW_add2 CGGV_Silvereye_Technote3_SRME FLOW_add3 CGGV_Silvereye_Technote3_SRME FLOW_add4 CGGV_Silvereye_Technote3_SRME FLOW_add4_rev CGGV_Silvereye_Technote3_SRME FLOW_add5 CGGV_Silvereye_Technote3_SRME FLOW_add6 CGGV_Silvereye_Technote3_SRME FLOW_add7	FTP FTP FTP FTP FTP FTP FTP FTP FTP	12/03/08 13/03/08 13/03/08 13/03/08 17/03/08 18/03/08 18/03/08 19/03/08 02/04/08
Production string 1 QC	CGGV_Silvereye_QC2_PROD1	FTP	29/04/08
Radon demultiple	CGGV_Silvereye_Technote4_RADON CGGV_Silvereye_Technote4_RADON_add1	FTP FTP	08/04/08 11/04/08
Radon production QC	CGGV_Silvereye_QC3_HI-RES_RADON	FTP	06/05/08
Zero phasing	CGGV_Silvereye_Technote5_ZP CGGV_Silvereye_Technote5_ZP_add1 CGGV_Silvereye_Technote5_ZP_add2 CGGV_Silvereye_Technote5_ZP_add3 CGGV_Silvereye_Technote5_ZP_add3_rev	FTP FTP FTP FTP FTP	23/04/08 23/04/08 28/04/08 02/05/08 06/05/08
Tidal static	CGGV_Silvereye_Technote6_TIDALSTATIC	FTP	29/04/08
Source/channel gain correction	CGGV_Silvereye_Technote7_SourceCH_GainCorr CGGV_Silvereye_Technote7_SourceCH_GainCorr_add1 CGGV_Silvereye_Technote7_SourceCH_GainCorr_add2	FTP FTP FTP	29/04/08 14/05/08 15/05/08
ZP, Q comp etc. QC	CGGV_Silvereye_QC4_ZP_Q	FTP	28/05/08
Binning, regularization, missing trace restoration	CGGV_Silvereye_Technote8_REG_MIG	FTP	28/05/08
Bin regularisation QC	CGGV_Silvereye_QC5_REG3D	FTP	12/06/08
PSTM Parameters	CGGV_Silvereye_Technote9_PSTM CGGV_Silvereye_Technote9_PSTM_add1 CGGV_Silvereye_Technote9_PSTM_add2 CGGV_Silvereye_Technote9_PSTM_add3 CGGV_Silvereye_Technote9_PSTM_add4	FTP FTP FTP FTP FTP	10/06/08 10/06/08 12/06/08 16/06/08 17/06/08
Pre-STM / Post-STM comparison	CGGV_Silvereye_Technote9_PSTM_add5	FTP	20/06/08
Linear Radon	CGGV_Silvereye_Technote10_LinRadon	FTP	26/06/08
RMO	CGGV_Silvereye_Technote11_HDPIC CGGV_Silvereye_Technote11_HDPIC_add1	FTP FTP	26/06/08 04/07/08
Q Compensation	CGGV_Silvereye_Technote12_QCOMP	FTP	04/07/08
Residual Radon Demult	CGGV_Silvereye_Technote13_ResRADON	FTP	04/07/08
Angle Mutes	CGGV_Silvereye_Technote14_AngleMute	FTP	04/07/08
Exponential Gain	CGGV_Silvereye_Technote15_ExpGain	FTP	04/07/08
PostSTM vs Pre-STM	CGGV_Silvereye_Technote16_PrSTM_comparison	FTP	10/07/08
Intercept & Gradient QC	CGGV_Silvereye_Technote17_AVO_Int_GA CGGV_Silvereye_Technote17_AVO_Int_GA_add1	FTP	16/07/08

6. Processing Sequence Confirmed to Date

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1. Reformat from SEGD to CGGV internal format
2. Seismic and navigation data merge
3. Instrument delay (58ms)
4. Cut data to 6000ms
5. Maintain a sample of 2ms (with appropriate anti-alias filter applied)
6. Amplitude recovery, multiply amplitudes by (T/250)2
7. De-bias and Low Cut Filter: 3Hz
8. Obs log editing
9. Swell Noise Attenuation in SP domain followed by channel domain
10. Linear Radon – start time 2600ms and 600ms taper (inner cables) and start time 1600ms and 600ms taper (outer cables)
11. DBS and LNA in Tau-P domain – Gap: 48ms, Op: 300ms, Window: 0-2200ms
12. Knotch Filter
13. SRME, subtraction in CDP domain
14. 1st pass velocity analysis - lines 2km apart
15. Trace drop (with anti-alias filter)
16. Time variant Hi-Res Radon demultiple (with wrap around trace interpolation)
17. Targeted source and channel amplitude correction
18. Gun and cable static correction, tidal statics
19. Zero Phase + Spectral Amplitude Model 2: 3Hz 18db/Oct, 110Hz 100dB/Oct
20. Q Comp, phase only Q140
21. T/V High Cut Filter: 0-2000ms = 150Hz, 110dB/Oct; 2500-6000ms = 120Hz,100dB/Oct
22. PSTM for velocities; 2nd pass velocity analysis on 1km x 1km grid
23. 3D binning, regularization and missing trace restoration
24. Back off T2 spherical divergence and replace with TV
25. Production Kirchhoff PSTM using smoothed 2nd pass velocities:
    i. Input/output grid size 12.5m x 25m at 2ms
    ii. 4km aperture
    iii. 75° dip limit, using Raytrace parameter
    iv. 6km maximum migration depth
26. High density RMO on 25m x 25m grid
27. Amplitude Q compensation: 16dB gain limited; time variant Q, 0-800ms Q=200, 1000-6000ms Q=140
28. Exponential gain: 1dB/sec
29. Time variant residual Radon demultiple: 0-1400ms, DTCUT 320ms; 2000-6000ms, DTCUT 240ms
30. Linear Radon on OC50-OC80 only, application time 2000ms-4000ms
31. Angle mutes:
    - Full Stack: 6-32 degrees
    - Near Stack: 6-16 Degrees
    - Mid Stack: 16-26 Degrees
    - Far Stack: 26-36 Degrees
32. Stack
33. Output to SEGY

7. Summary Of Data Received

Data Received	Data type/Media	Comment
Field data	SEGD / 3592 (79 tapes)	Received in Perth, shipped to CGGV office in KL on 08/02/08
Navigation	P1/90 format / 3590 (3 tapes) P2/94 format / 3590 (3 tapes)	Received in Perth 04/02/08
Line logs & tapelist	1 CD	04/02/08
Preplots	ASCII	Emailed 11/02/08
Acquisition project plan	PDF	Emailed 11/02/08
Tidal statics	ASCII	Emailed 13/02/08
Final acquisition report	PDF PDF/CD	Emailed 04/03/08 Shipment received 11/03/08
Coverage plots, WD, vessel positions	PDF & CGM on CD, paper plots	Shipment received 11/03/08
Brute stacks	TAR of SEGY, 3592	Shipment received 11/03/08

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Common offset cube	SEGY, 3592	Shipment received 11/03/08
Vessel positions	P1/90 ASCII / 3590	Shipment received 11/03/08
Echo sounder positions/water depths	P1/90 ASCII / 3590	Shipment received 11/03/08
SEGY header format	Word doc	Emailed 07/07/08

8. Potential Changes to Agreed Deadline

9. Financial Matters

- Cable length increased to 6000m from 4500m-financial change from $500USD/sqkm to $600USD/sqkm - confirmed by client.
- BASIC COST - 4ms, 6000m streamer, 80 fold basic = $600USD/sqkm:
  - Migration bin size of 12.5X25 IN and 12.5X25 OUT
  - 2 or 4ms, prelim stack migration (included in basic)
  - 2 or 4ms, Dense Velocity Analysis = $50USD/sqkm (or +8.3% of basic)
- ADDITIONAL COSTS:
  - 2ms processing - scale basic by +7.5%
  - Full anisotropic processing - scale basic by +15% (removes need for Dense Vel. Analysis)
  - Migration 12.5X12.5 IN, 25X25 OUT (replaces 12.5X25IN, 12.5X25OUT) - scale basic by +15%
  - Migration Aperture increase from 3.5km to 4km- scale basic by +6%
- Request of Post Stack Migrated Preliminary Stack also incorporated in new pricing.
- + 6% of basic cost (additional $36USD/sqkm) for increase in aperture from 3.5km to 4.0km – confirmed by client.

10. Miscellaneous/Additional Comments

11. Project Closedown Summary

Deliverable Products & Closedown Activities	Media	Quan-tity	Progress	Comment
Contractual Products and Gantt ID Number				
15.1 Pre-migration CDP gathers – no NMO (with all processes applied prior to migration)	External Hard Drive	1	Complete	Delivered to Origin 08/08/08
15.2 Post-migration CDP gathers – NMO corrected	External Hard Drive	1	Complete	Delivered to Origin 07/08/08
15.3 Prelim post-stack migration	3 x DVD	1	Complete	Received by Origin 28/05/08
15.4 Final migrated stack	DVD	2	Complete	1 copy (DVD001-DVD004) delivered 17/07/08 2nd copy (DVD017-DVD020) delivered 25/07/08
15.5 Near, Mid, Far migrated angle stacks	DVD	2	Complete	1 copy (DVD005-DVD016) delivered 17/07/08 2nd copy (DVD021-DVD032) delivered 25/07/08
15.6 AVO intercept, gradient (robust method using angles 6-32 deg.)	DVD	2	Complete	1 copy (DVD033-DVD040) delivered 18/07/08 2nd copy (DVD041-DVD048) delivered 25/07/08
15.7 Processing support data ASCII Format data files: • Bin centre coords, ASCII format	DVD	2	Complete	2 copies (DVD068-DVD069) delivered 28/07/08
• Final Migration velocities, RMS & SH, in western format • Final Stacking velocities, RMS & SH, in western format: 250m x 250m	DVD	2	Complete	2 copies (DVD066-DVD067) delivered 28/07/08

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• Final Stacking velocities, RMS & SH, in SEGY format: 12.5m x 25m	DVD	2	Complete	2 copies (DVD049-DVD064) delivered 25/07/08
15.8 Processing report	CD / DVD	2		**Draft emailed to Origin**
Other Close down activities				
12.1 Return of Field Tapes	3592 tapes	79	Complete	Dispatched from KL 15/08/08
	3592 tapes 3590 tapes CD	2 8 3	Complete	Dispatched from Perth 21/08/08
Close down meeting				
EPE returned by Client				

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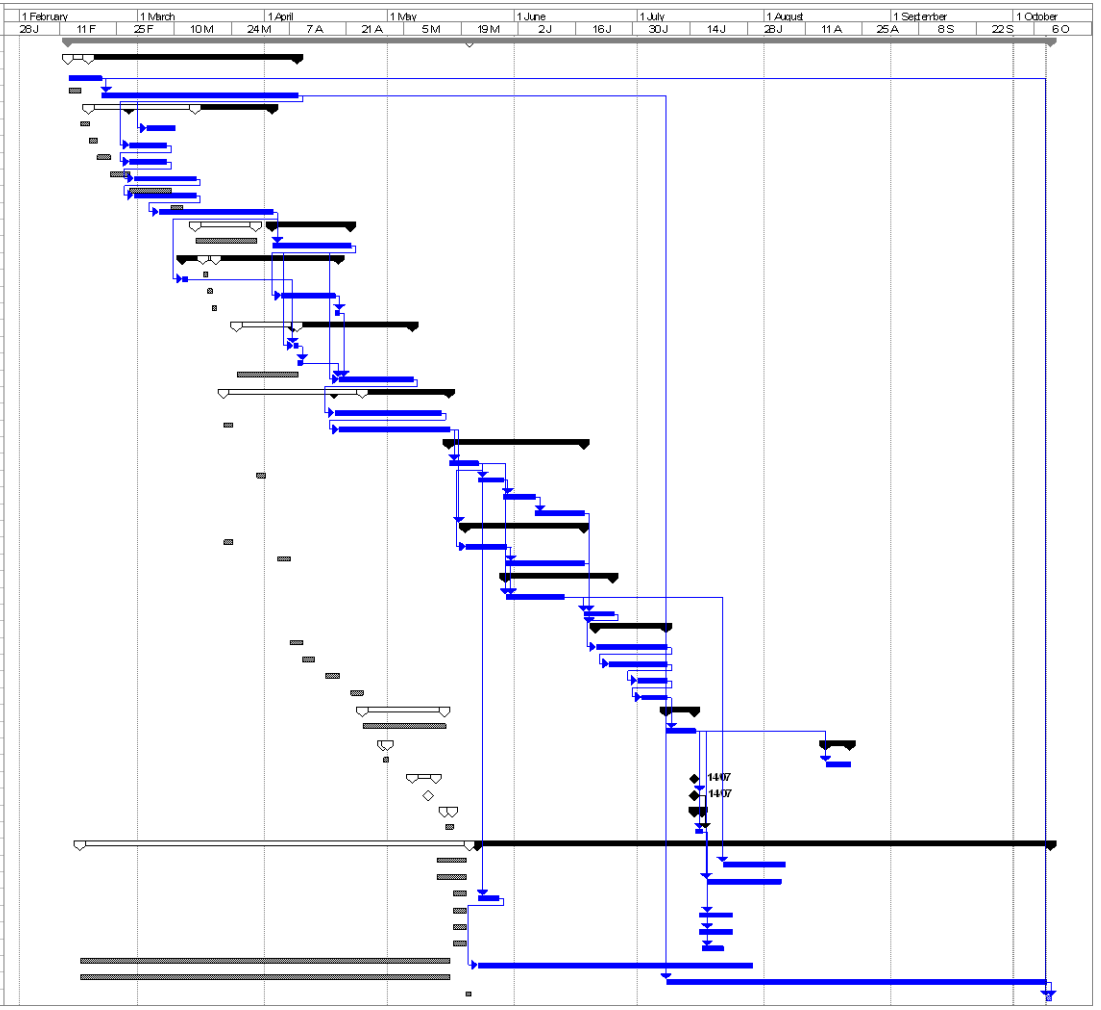
GANTT CHART - *The Gantt chart reflects start and end timings of processing stages.*

ID	Task Name	Duration	Start	Finish
0	Bass Basin Silvereye3D-320sqkm-14weeks	240 days	Wed 13/02/08	Fri 10/10/08
1	**1 Project Acquisition and Start-Up**	**56 days**	**Wed 13/02/08**	**Wed 9/04/08**
2	1.1 Navigation Data Reformat (Problem with FGS nav)	8 days	Wed 13/02/08	Thu 21/02/08
3	1.2 Field Tape Transcription and Seismic\Navigation Merge	48 days	Thu 21/02/08	Wed 9/04/08
4	**2 Pre-Processing1-Testing**	**34.67 days**	**Thu 28/02/08**	**Wed 2/04/08**
5	2.1 Resample to 4ms\6ms Client Decision	7 days	Mon 3/03/08	Mon 10/03/08
6	2.2 Spherical Divergence Correction	9 days	Thu 28/02/08	Sat 8/03/08
7	2.3 Trace Edit, Noise burst/Swell Noise removal	9 days	Thu 28/02/08	Sat 8/03/08
8	2.4 Tau-P Linear noise removal	15 days	Fri 29/02/08	Sat 15/03/08
9	2.5 2D SRME (option for 3D SRME with increase in cost and timing)	14 days	Fri 29/02/08	Fri 14/03/08
10	2.6 Tau-P Deconvolution	28 days	Wed 5/03/08	Wed 2/04/08
11	**3 Pre-Processing1-Production**	**19 days**	**Wed 2/04/08**	**Mon 21/04/08**
12	3.1 Production of pre-processing1	19 days	Wed 2/04/08	Mon 21/04/08
13	**4 Pre-processing 2-Testing**	**38 days**	**Tue 11/03/08**	**Fri 18/04/08**
14	4.1 1st Pass Velocity Analysis (2km x 2km grid)	1 day	Tue 11/03/08	Wed 12/03/08
15	4.2 Radon Demult (High Resolution)	13 days	Fri 4/04/08	Thu 17/04/08
16	4.3 2:1 adjacent trace sum/ trace decimation	1 day	Thu 17/04/08	Fri 18/04/08
17	**5 Pre-Processing2-Production**	**29 days**	**Mon 7/04/08**	**Tue 6/05/08**
18	5.1 1st Pass Velocity Analysis (2km x 2km)	1 day	Mon 7/04/08	Tue 8/04/08
19	5.2 Client QC of 1st pass Velocity Analysis	1 day	Tue 8/04/08	Wed 9/04/08
20	5.3 Production of pre-processing2	18 days	Fri 18/04/08	Tue 6/05/08
21	**6 Pre-Processing3-Testing**	**28 days**	**Thu 17/04/08**	**Thu 15/05/08**
22	6.1 Wavelet shaping, zero phasing	26 days	Thu 17/04/08	Tue 13/05/08
23	6.2 Surface consistent amplitude correction or other amp scaling	27 days	Fri 18/04/08	Thu 15/05/08
24	**7 Pre-Processing3-Production**	**33 days**	**Thu 15/05/08**	**Tue 17/06/08**
25	7.1 Production pre-processing3: ZP, Tidal Statics, Amp Correction etc	7 days	Thu 15/05/08	Thu 22/05/08
26	7.2 PSTM for vels	6 days	Thu 22/05/08	Wed 28/05/08
27	7.3 2nd Pass Velocity Analysis (1km x 1km grid)	8 days	Wed 28/05/08	Thu 5/06/08
28	7.4 Client QC of 2nd Pass Velocity Analysis (1km x 1km grid)	12 days	Thu 5/06/08	Tue 17/06/08
29	**8 3D Processing-Testing**	**29 days**	**Mon 19/05/08**	**Tue 17/06/08**
30	8.1 CMP Binning (12.5m x 25m bins) & missing trace interpolation	10 days	Mon 19/05/08	Thu 29/05/08
31	8.2 Final PSTM (Kirchhoff, 3.5 km aperture) (12.5m x 25m bins)	19 days	Thu 29/05/08	Tue 17/06/08
32	**9 3D Processing-Production**	**26 days**	**Thu 29/05/08**	**Tue 24/06/08**
33	9.1 3D Binning / Regularisation Production	14 days	Thu 29/05/08	Thu 12/06/08
34	9.2 Final PSTM Production	7 days	Tue 17/06/08	Tue 24/06/08
35	**10 Pre-Stack Processing-Testing**	**17 days**	**Fri 20/06/08**	**Mon 7/07/08**
36	10.1 RMO Velocity Analysis	17 days	Fri 20/06/08	Mon 7/07/08
37	10.2 Residual Radon Demultiple	14 days	Mon 23/06/08	Mon 7/07/08
38	10.3 Q-compensation or other wavelet shaping if required	7 days	Mon 30/06/08	Mon 7/07/08
39	10.4 Trace mute	6 days	Tue 1/07/08	Mon 7/07/08
40	**11 Pre-Stack Processing-Production**	**7 days**	**Mon 7/07/08**	**Mon 14/07/08**
41	11.1 Pre-Stack Processing Production	7 days	Mon 7/07/08	Mon 14/07/08
42	**12 Return of field data tapes to Origin**	**6 days**	**Fri 15/08/08**	**Thu 21/08/08**
43	12.1 Return of field data	6 days	Fri 15/08/08	Thu 21/08/08
44	**13 Stack and Post Stack-Testing**	**0 days**	**Mon 14/07/08**	**Mon 14/07/08**
45	13.1 Post stack noise attenuation scaling and filtering if required	0 days	Mon 14/07/08	Mon 14/07/08
46	**14 Stack and Post Stack-Production**	**2 days**	**Mon 14/07/08**	**Wed 16/07/08**
47	14.1 Production of Stack and Post Stack	2 days	Mon 14/07/08	Wed 16/07/08
48	**15 Archivies and Closedown**	**140.33 days**	**Thu 22/05/08**	**Fri 10/10/08**
49	15.1 Archive of Pre-Migration CDP gathers - no NMO	15 days	Mon 21/07/08	Tue 5/08/08
50	15.2 Archive of Post Migration CDP gathers	18 days	Thu 17/07/08	Mon 4/08/08
51	15.3 Prelim post-stack migration	5 days	Thu 22/05/08	Tue 27/05/08
52	15.4 Archive Of Final Migrated Stack	8 days	Tue 15/07/08	Wed 23/07/08
53	15.5 Archive of Angle Stacks	8 days	Tue 15/07/08	Wed 23/07/08
54	15.6 Archive of AVO Intercept Gradient	5 days	Wed 16/07/08	Mon 21/07/08
55	15.7 Archive Of Processing Support Data	67 days	Thu 22/05/08	Mon 28/07/08
56	15.8 Creation by OGSV & acceptance of processing report by Origin	93 days	Tue 8/07/08	Thu 9/10/08
57	15.9 Completion of all contractural processing/archives	1 day	Thu 9/10/08	Fri 10/10/08



END OF WEEKLY REPORT

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