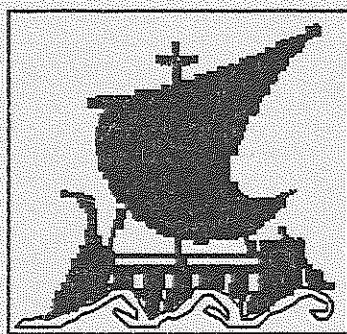


European Commission
Directorate General for Science, Research and Development
Directorate for Environment

Advanced Study Course in Marine Science and Technology



*Insights on the formation and evolution
of Mediterranean basins*

6-24 July

GUIDE FOR SEISMIC DATA PROCESSING

in Villefranche/Mer

Directed by Françoise SAGE

OBSERVATOIRE OcéANOLOGIQUE DE VILLEFRANCHE SUR MER

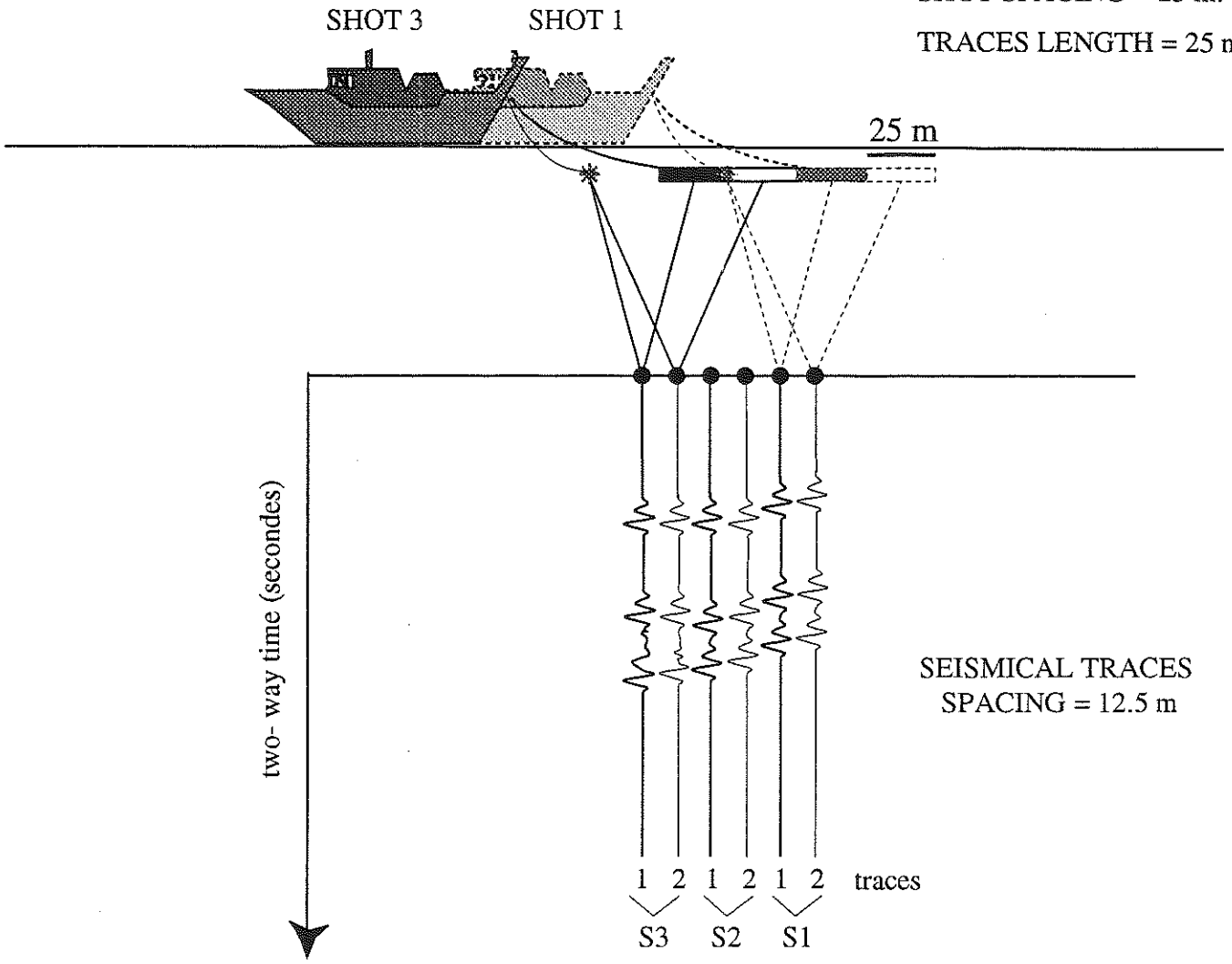
UNIVERSITE PIERRE ET MARIE CURIE - CNRS

GEOSCIENCES AZUR

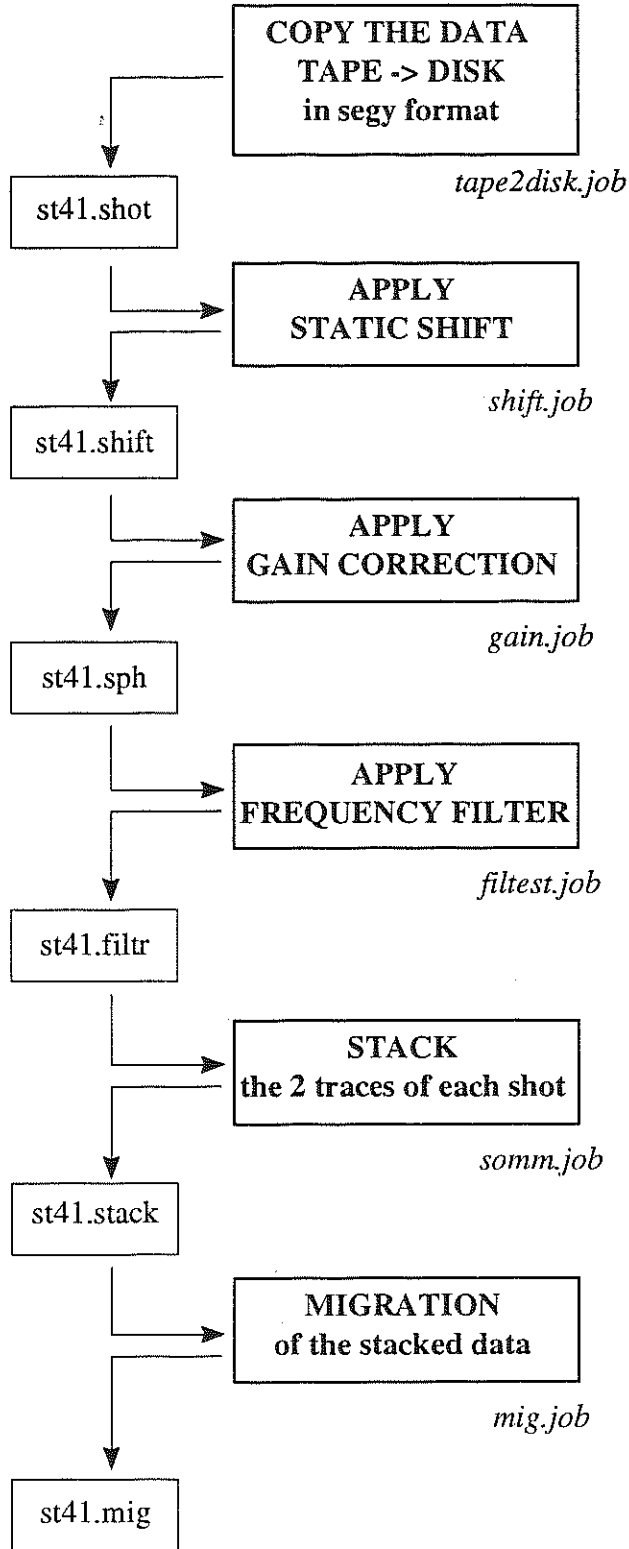
BP. 48 - 06235 VILLEFRANCHE-SUR-MER, FRANCE.

DATA ACQUISITION
on N/O TETHYS II

SHOT SPACING = 25 m.
TRACES LENGTH = 25 m.



FLOW-CHART
to process 2 traces seismic data



**COPY THE DATA
 TAPE -> DISK
 in segy format**

tape2disk.job

/pol1/ENSEIGNEMENT/tape2disk.job

Help
File
Colour
Parans
Cursor

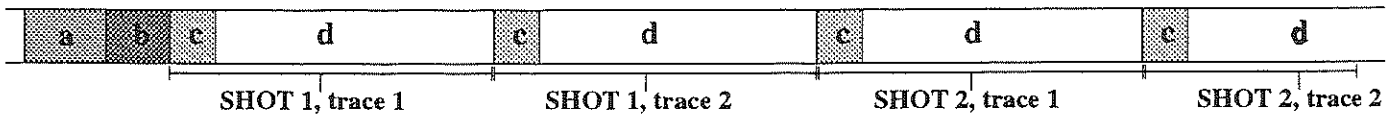
```

01 SEISJOB
02 READSEGY
03 SETLASTTR
04 RENUMBER
05 DISKWRITE
06 !TRPRINT
07 XYVIEW
08 !SNOOP
            
```

Dictionary	Include
Modify	Show
Add	Cut
Copy	Paste
Comment	Restore
Run	New Job

Command :

02 : Read data on tape (Exabyte) in Seg-Y format.



- | | |
|--|---|
| a : Seg-Y header (3200 bytes).
b : Seg-Y Binary header (400 bytes). | c : Seg-Y trace header (240 bytes)
d : samples of the seismic trace. |
|--|---|

03 and 04 : renumber some trace headers needed by Claritas to process the data (Seg-Y format -> Claritas format) .

05 : write data on disk.

06 : check trace headers values.

07 : plot data on screen (in order to check the data file written on the disk).

Seg-Y Binary header (400 bytes)

Field	Description (Barry et al)	Offset
- 1	- job identification number	[1-4]
- 2	- line number (only one line per reel)	[5-8]
- 3	- reel number	[9-12]
- 4	- number of data traces per record	[13-14]
- 5	- number of auxiliary traces per record	[15-16]
- 6	- sample interval in micro seconds	[17-18]
- 7	- same for original field recording	[19-20]
- 8	- number of samples per trace	[21-22]
- 9	- same for original field recording	[23-24]
- 10	- data sample format code	[25-26]
- 11	- CDP fold expected per CDP ensemble	[27-28]
- 12	- trace sorting code	[29-30]
- 13	- vertical sum code	[31-32]
- 14	- sweep frequency at start	[33-34]
- 15	- sweep frequency at end	[35-36]
- 16	- sweep length (ms)	[37-38]
- 17	- sweep type code	[39-40]
- 18	- trace number of sweep channel	[41-42]
- 19	- sweep trace taper length at start	[43-44]
- 20	- sweep trace taper length at end	[45-46]
- 21	- sweep trace taper type code	[47-48]
- 22	- correlated data traces code	[49-50]
- 23	- binary gain recovered code	[51-52]
- 24	- amplitude recovery method code	[53-54]
- 25	- measurement system code	[55-56]
- 26	- impulse signal polarity code	[57-58]
- 27	- vibratory polarity code	[59-60]

Seg-Y trace header (240 bytes)

Field	Description (Barry et al)	Offset
- 1	- trace sequence number within line	[1-4]
- 2	- trace sequence number within reel	[5-8]
- 3	- field record number	[9-12]
- 4	- trace # within field record (channel)	[13-16]
- 5	- energy source point number	[17-20]
- 6	- CDP ensemble number	[21-24]
- 7	- trace number within CDP ensemble	[25-28]
- 8	- trace identification code	[29-30]
- 9	- number of vertically summed traces	[31-32]
- 10	- number of horizontally summed traces	[33-34]
- 11	- data use	[35-36]
- 12	- distance from source to receiver (m)	[37-40]
- 13	- receiver group elevation from sea	[41-44]
- 14	- source elevation from sea	[45-48]
- 15	- source depth (positive)	[49-53]
- 16	- datum elevation at receiver group	[53-56]
- 17	- datum elevation at source	[57-60]
- 18	- water depth at source (m)	[61-64]
- 19	- water depth at receiver group (m)	[65-68]
- 20	- scale factor for previous 7 fields	[69-70]
- 21	- scale factor for next 4 coordinates	[71-72]
- 22	- X source coordinate	[73-76]
- 23	- Y source coordinate	[77-80]
- 24	- X group coordinate	[81-84]
- 25	- Y source coordinate	[85-88]
- 26	- coordinate units	[89-90]
- 27	- weathering velocity	[91-92]
- 28	- subweathering velocity	[93-94]
- 29	- uphole time at source	[95-96]
- 30	- uphole time at receiver group	[97-98]
- 31	- source static correction	[99-100]
- 32	- group static correction	[101-102]
- 33	- total static applied	[103-104]
- 34	- lag time A in ms	[105-106]
- 35	- lag time B in ms	[107-108]
- 36	- delay recording time in ms	[109-110]
- 37	- mute time--start	[111-112]
- 38	- mute time--end	[113-114]
- 39	- number of samples in this trace	[115-116]
- 40	- sample interval in micro-seconds	[117-118]
- 41	- gain type of field instruments code	[119-120]
- 42	- instrument gain constant	[121-122]
- 43	- instrument early or initial gain	[123-124]
- 44	- correlated	[125-126]
- 45	- sweep frequency at start	[127-128]
- 46	- sweep frequency at end	[129-130]
- 47	- sweep length in ms	[131-132]
- 48	- sweep type code	[133-134]
- 49	- sweep trace length at start in ms	[135-136]
- 50	- sweep trace length at end in ms	[137-138]
- 51	- taper type: 1=linear, 2=cos^2, 3=other	[139-140]
- 52	- alias filter frequency if used	[141-142]
- 53	- alias filter slope	[143-144]
- 54	- notch filter frequency if used	[145-146]
- 55	- notch filter slope	[147-148]
- 56	- low cut frequency if used	[149-150]
- 57	- high cut frequency if used	[151-152]
- 58	- low cut slope	[153-154]
- 59	- high cut slope	[155-156]
- 60	- year data recorded	[157-158]
- 61	- day of year	[159-160]

- 62 - hour of day (24 hour clock) [161-162]
- 63 - minute of hour [163-164]
- 64 - second of minute [165-166]
- 65 - time basis [167-168]
- 66 - trace weighting factor [169-170]
- 67 - geophone group number of roll switch
position one [171-172]
- 68 - geophone group number of trace one within
original field record [173-174]
- 69 - geophone group number of last trace within
original field record [175-176]
- 70 - gap size (total nb of groups dropped) [177-178]
- 71 - overtravel taper [179-180]

SETLASTTR	
Help	OK
PKEY	<input type="text" value="recordnum"/> <input type="button" value="List"/>
Primary key defining ensembles	
OK	<input type="button" value="Dictionary"/> <input type="button" value="Update"/>

RENUMBER	
Help	OK
PKEYNAME	<input type="text"/> <input type="button" value="List"/>
PKEYSTART	<input type="text"/>
PKEYINC	<input type="text" value="1"/>
SKEYNAME	<input type="text" value="shotnum"/> <input type="button" value="List"/>
SKEYSTART	<input type="text" value="1"/>
SKEYINC	<input type="text" value="1"/>
Optional name of primary key to be renumbered	
OK	<input type="button" value="Dictionary"/> <input type="button" value="Update"/>

READSEGY

Help OK

To read just one file, enter

SEGYFILE List sli

PKEYLIST

or to read more than one file, enter

LISTFILE List Edit

and for both cases, specify the following :-

PKEYNAME List

RECTYPE List

INT_FORMAT List

FLT_FORMAT List

SWAPEND List

VISTA_FIX List

CHECK_ALL List

TRLENGTH

SANPRATE List

CBS

NSKIP

MAXREAD

You can optionally redefine the position of some trace header values :-

DEFNAME List

INLOC

INLONG

SEG-Y file or device to read, or host:device

OK

Dictionary

Update

DISKWRITE

Help

OK

FILENAME /poll/ENSEIGNEMENT/st41.shot

PKEYNAME SHOT

List

PKEYF

PKEYL

FOLD 2

UNSORT No

List

Output disc file name

OK

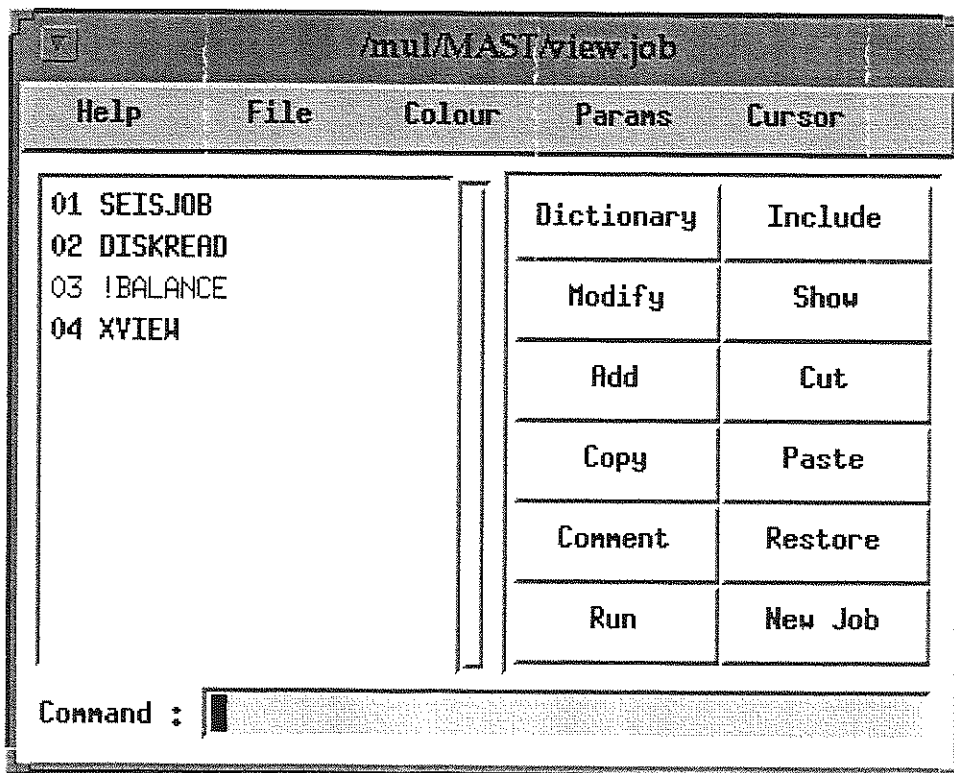
Dictionary

Update

**PLOT DATA
ON SCREEN**

view.job

Read a datafile on disk and plot it on the screen.



02 : Read data on disk in Claritas format.

04 : Plot data on screen.

XVIEW

Help

OK

GAPFREQ

0

NBLOCKS

2950

DISPTYPE

ONTOP

List

Initial settings for display - these can later be changed interactive

TIMEDN

0

TIMEOFF

3000

HSCALE

10

VSCALE

3

MODE

VA

List

COLOURS

0.0 0.0 17 32

PALETTE

.seis_colours

Edit

REFAMP

Average

List

REFNRACES

40

REFWINDOW

3

Range

FIXED

GAIN

0.6

CLIP

2.0

HDR_LABELS

SHOT

List

HDR_FREQS

-50

TIMELINE

500

PARAMETER

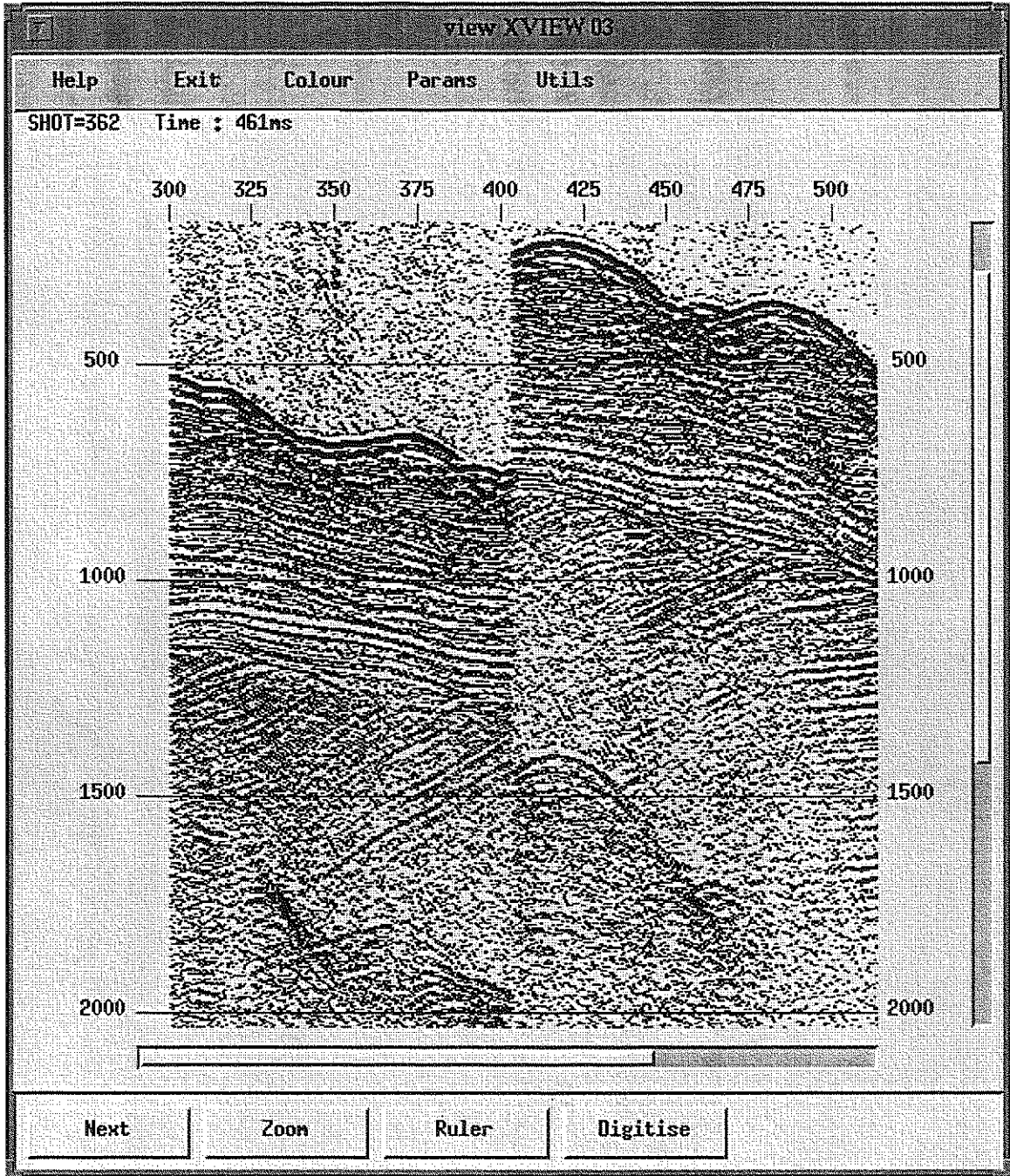
List

Number of (eg) shots [or stacked traces] per frame

OK

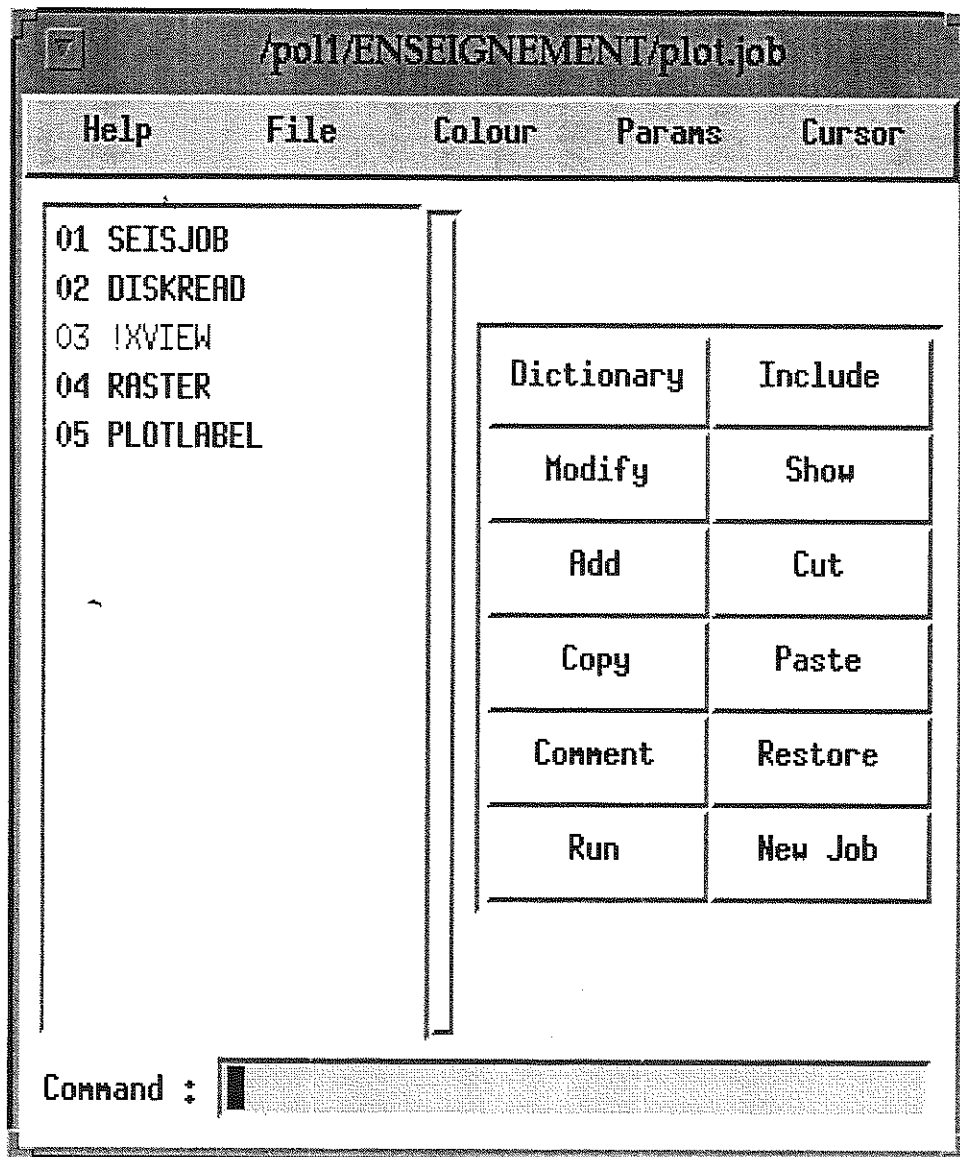
Dictionary

Update



PLOT data
on OCE plotter
(loisel)

plot.job



02 : Read data on disk in Claritas format.

04 : Give the seismic plot characteristics.

05 : Label the plot.

Plot.job creates a plotfile (name.rtl) in your directory.

- Check your plot on the screen before printing it on paper :
-> in the 'UNIX window' : > `xrtl plotfilename.rtl`

!!! : Your plot must not exceed 90 cm in height.

- Send the file on Loisel plotter :
-> in the 'UNIX window' : > `rp plotfilename.rtl`

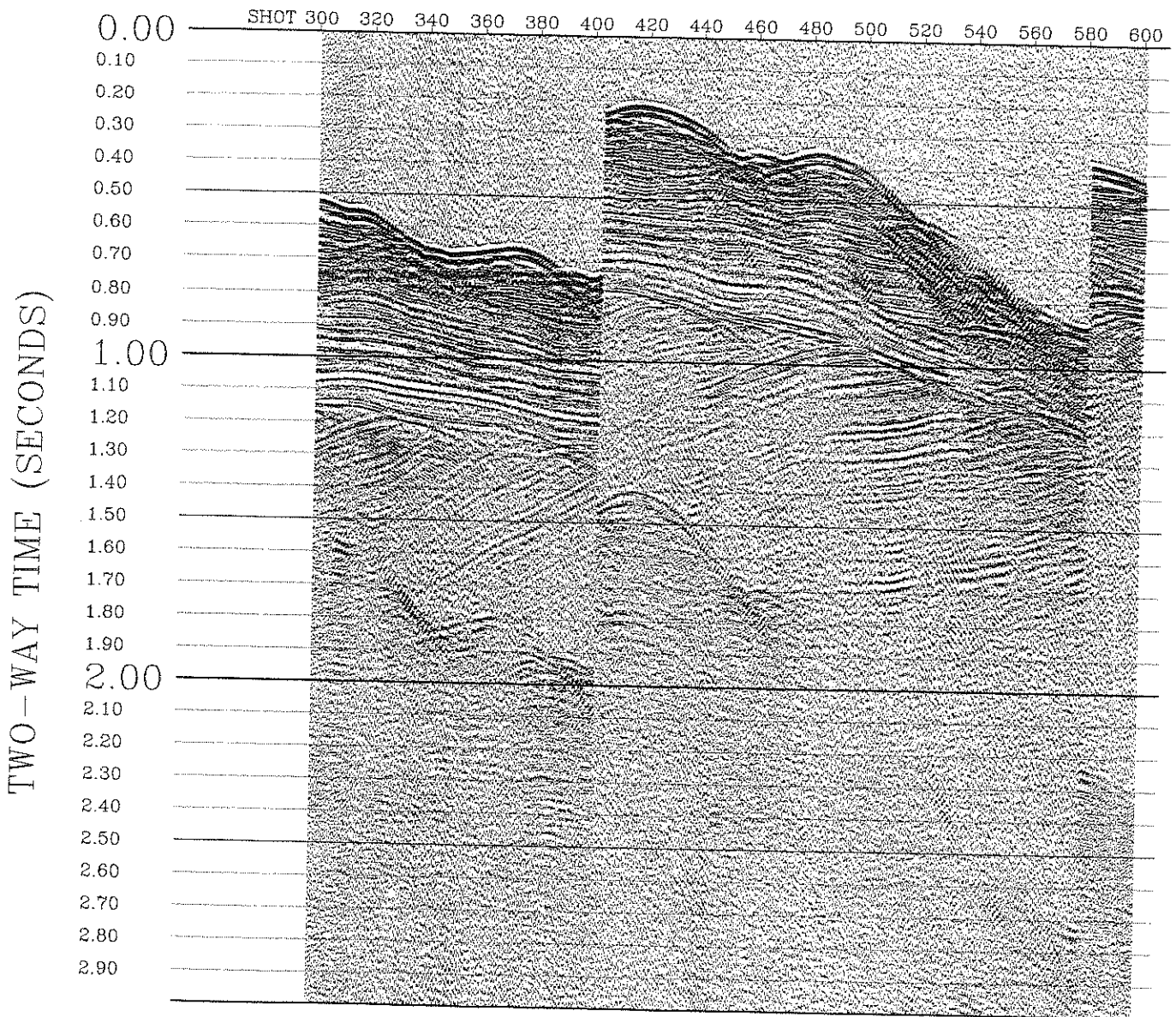
DISKREAD	
Help	OK
To read just one file, enter	
DISKFILE	st41.shot List sli
PKEYLIST	300:600
or to read more than one file, enter	
LISTFILE	List Edit
and for both cases, specify the following :-	
PKEYNAME	SHOT List
SKEYNAME	SHOTNUM List
FOLD	2
TRLEN	3000
SAMPRATE	1
NREPEAT	1
SETREPEAT	n List
RANDOM	n List
Name of Claritas seismic data file	
OK	Dictionary Update

Help		OK	
FILENAME	st41shot		
GAPFREQ	0		
GAPHIDTH	1		Range
HSCALE	40		Range
VSCALE	5		
DIRECT	LTDR		List
MODE	VA		List
TO	0		
BGATES	0		
EGATES	3000		
For Variable area or wiggle plots :-			
POLAR	POS		List
CLIP	2.0		Range
BIAS	15		Range
REFAMP	Average		List
REFNTRACES	40		
REFWINDOW	3		Range
FIXED			
GAIN	1.0		
Output plot file name (NO filetype)			
OK		Dictionary	Update

RASTER		
Help		OK
BIAS	15	Range
REFAMP	Average	List
REFNTRACES	40	
REFHWINDOW	3	Range
FIXED		
GAIN	1.0	
10_MS		List
100_MS	DOTTED	List
500_MS	THIN	List
1_SEC	THICK	List
5_SEC		List
10_SEC		List
For variable density plots :-		
COLOURS	0.0 0.0 17 32	
PALETTE	.seis_colours	Edit
KEYWIDTH		
PLOTTER	OCE	List
IMMEDIATE	No	List
Output plot file name (NO filetype)		
<input type="button" value="OK"/> <input type="button" value="Dictionary"/> <input type="button" value="Update"/>		

PLOT LABEL		
Help OK		
<input checked="" type="radio"/> HDR_LABELS	shot	List
<input checked="" type="radio"/> HDR_FREQS	20	
<input type="radio"/> HDR_TEXT		
<input type="radio"/> HDR_SIZE	Mediun	List
<input type="radio"/> HEADER_POS	T	List
<input checked="" type="radio"/> VERT_LABEL	TWO-WAY TIME (SECONDS)	
<input checked="" type="radio"/> TITLE	ST41_shot - 300-600	
<input type="radio"/> TITLE_POS	T	List
<input type="radio"/> PARAMS		List
<input type="radio"/> SMALLPRINT	Yes	List
<input checked="" type="radio"/> ATTACHPLOT		List
<input type="radio"/> LISTJOB	No	List
List of header names [SHOT,CDP etc] to be labelled		
<input type="button" value="OK"/> <input type="button" value="Dictionary"/> <input type="button" value="Update"/>		

ST41.shot - 300-600



/pol1/ENSEIGNEMENT/plotmono.job

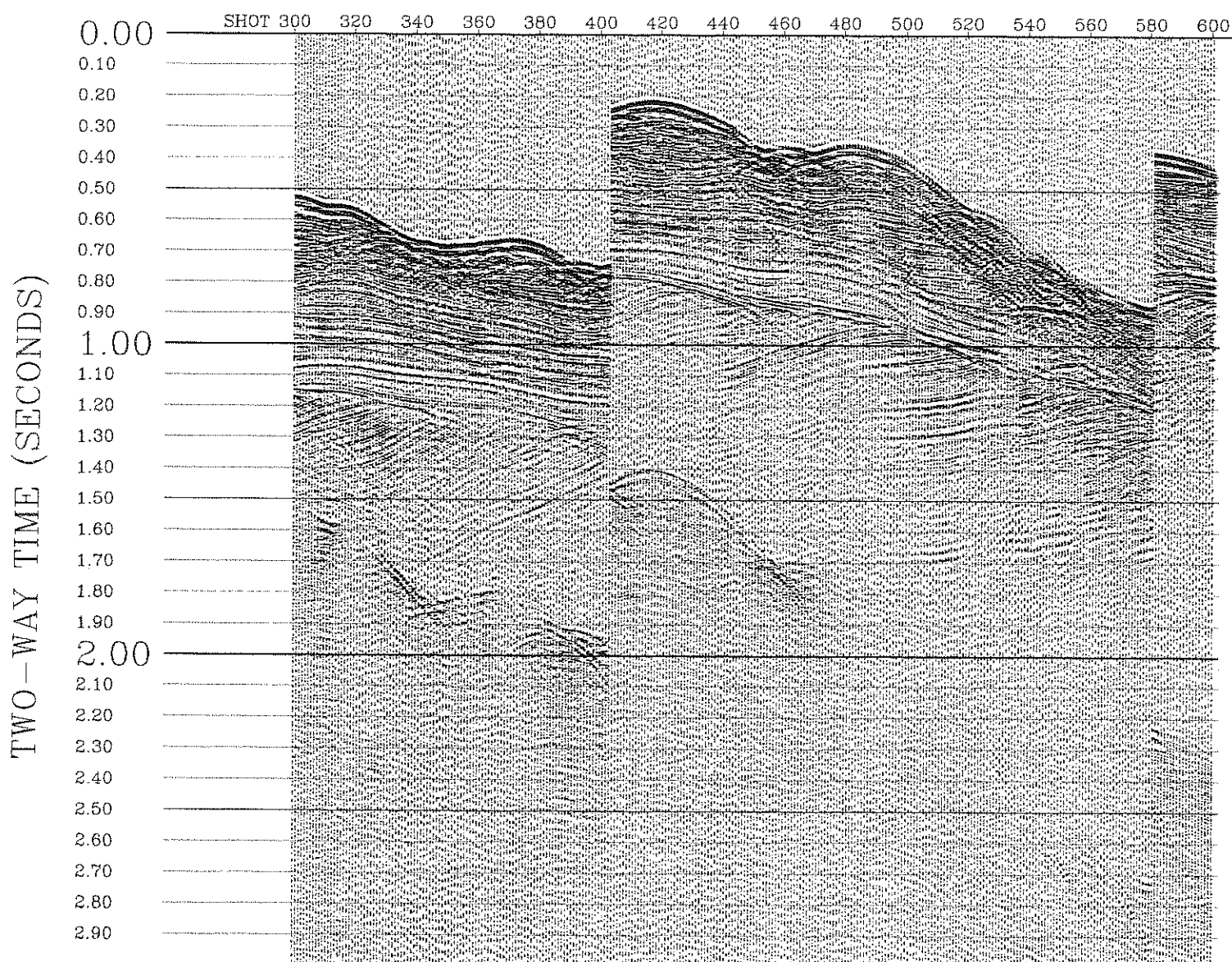
Help File Colour Parans Cursor

01 SEISJOB	Dictionary	Include
02 DISKREAD	Modify	Show
03 IF	Add	Cut
04 TREMOVE	Copy	Paste
05 ENDIF	Comment	Restore
06 RASTER	Run	New Job
07 PLOTLABEL		

Command :

Help		OK	
LIST REPEAT	1 3	selects traces with repeat count at 1 or 3	
RANGE SHOTNUM	12 15	selects traces 12,13,14 & 15 from all shot ense	
GROUP CDP	6 4 10	selects all traces from CDP's 6,7,8,9 16,17,1	
LIST	shotnum		List
LISTVAL	1		
RANGE			List
RLVAL			
RUVAL			
GROUP			List
GFVAL			
Primary key name referenced in LISTVAL below			
OK		Dictionary	
		Update	

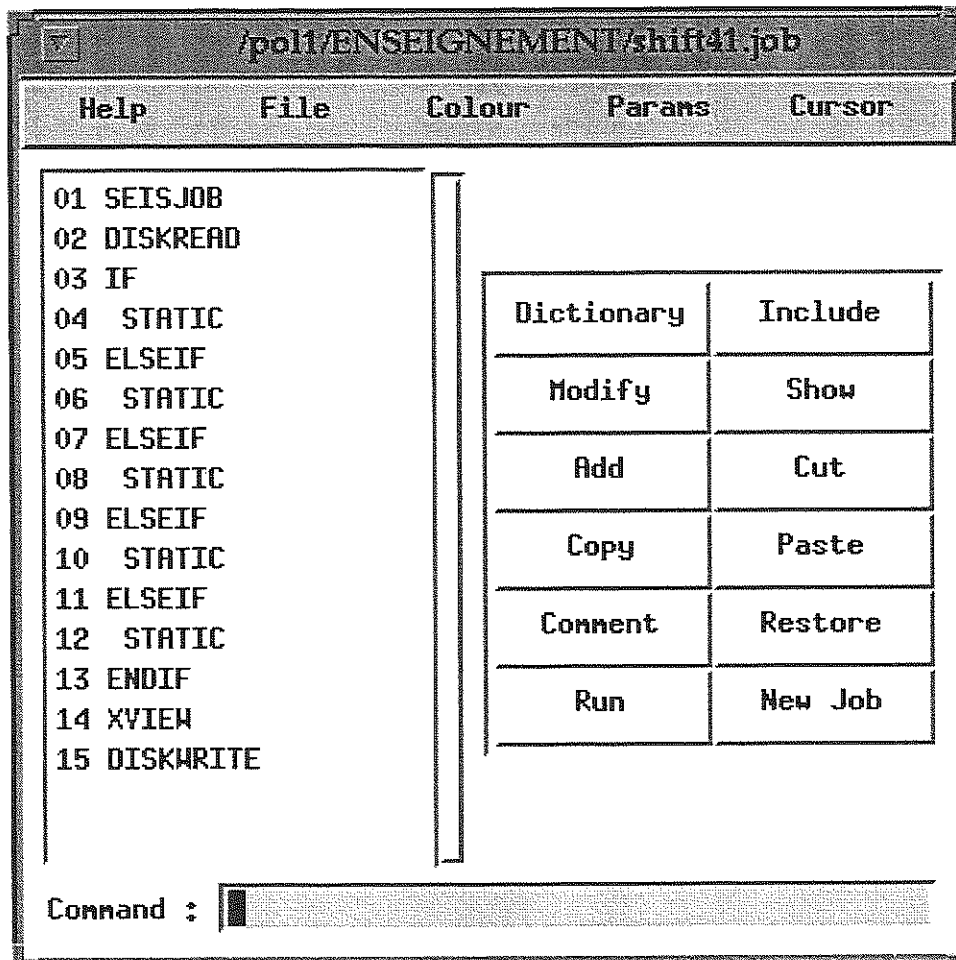
ST41.shot - trace 2 - 300:600



**APPLY
STATIC SHIFT
on the seismic data**

shift.job

The data are recorded with a constant original trace length = 3000 ms. A delay-time is introduced during acquisition to compensate variations of waterdepth. The static shift job adds the delay-time at the beginning of each trace. The couples (shot range, delay-time) are determined on the screen by plotting the rough data (filename.shot) with *view.job*.



02 : Read data on disk in Claritas format.

04-13 : Loop IF, ELSIF, ENDIF.

Static shifts are applied on the traces by `STATIC` for shot number ranges selected in `IF` or `ELSIF`. The loop must end with `ENDIF`.

14 : Check the shifted data on the screen.

15 : Write the shifted data on the harddisk (*filename.shift*).

ELSEIF

Help

OK

LIST REPEAT 1 3 selects traces with repeat count at 1 or 3
RANGE SHOTNUM 12 15 selects traces 12,13,14 & 15 from all shot ens
GROUP CDP 6 4 10 selects all traces from CDP's 6,7,8,9 16,17,:

LIST

List

LISTVAL

RANGE

List

RLVAL

RUVAL

GROUP

List

GFVAL

GNVAL

GINCVAL

HEADER

List

Primary key name of the LIST of traces

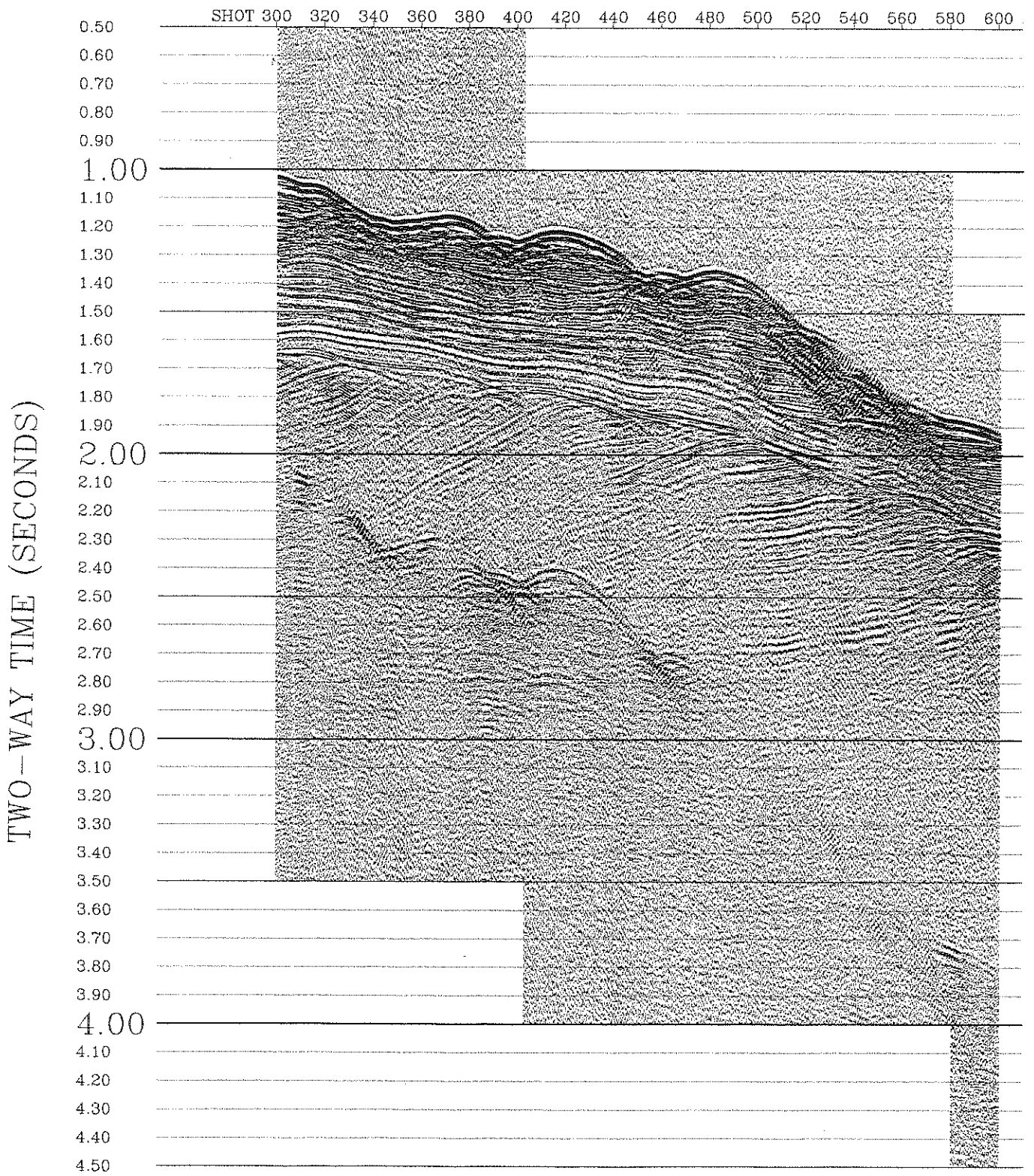
OK

Dictionary

Update

7		STATIC	
Help		OK	
TRACELEN	<input type="text" value="5000"/>		
QORS	<input type="text" value="S"/>	<u>List</u>	
UPDOWN	<input type="text" value="Up"/>	<u>List</u>	
QUIET	<input type="text" value="No"/>	<u>List</u>	
Elevation corrections (leave DATUM blank for none)			
DATUM	<input type="text"/>		
VELREP	<input type="text"/>		
FLOATSHF	<input type="text"/>	<u>List</u>	
Static shift files			
FILE1	<input type="text"/>	<u>List</u>	
FILE2	<input type="text"/>	<u>List</u>	
FILE3	<input type="text"/>	<u>List</u>	
FILE4	<input type="text"/>	<u>List</u>	
NRMAX	<input type="text" value="2"/>		
NSMAX	<input type="text" value="1475"/>		
NCHAX	<input type="text" value="0"/>		
Bulkshift [see UPDOWN description above for help on the +- sign of			
BULKSHIFT	<input type="text" value="-500"/>		
New trace length			
<input type="button" value="OK"/>		<input type="button" value="Dictionary"/>	<input type="button" value="Update"/>

ST41.shift - 300-600

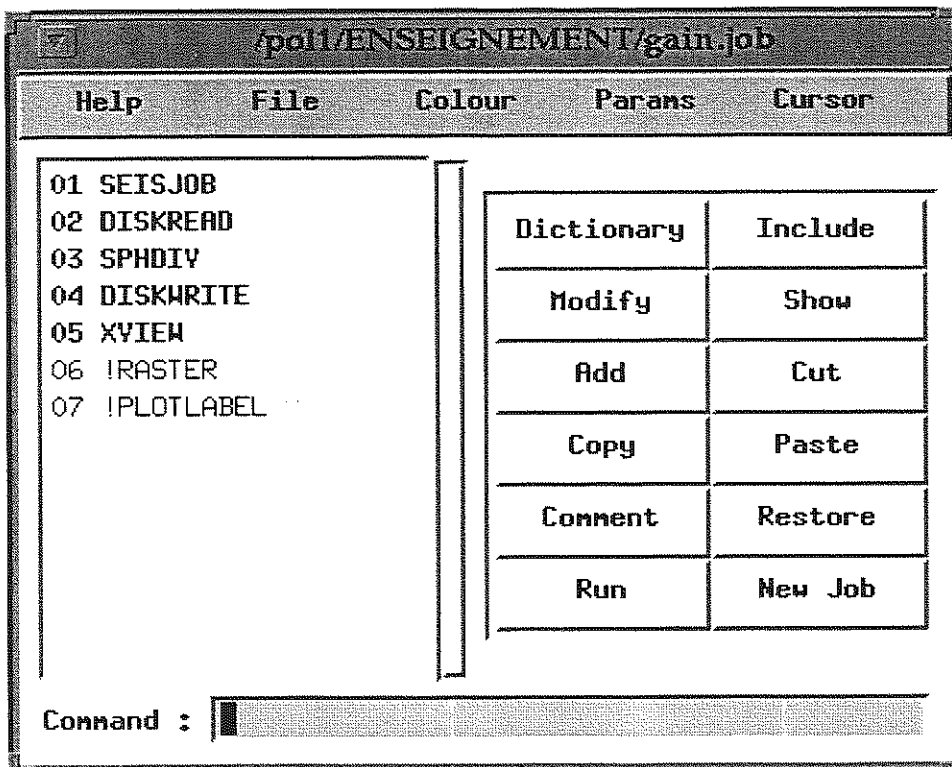


**APPLY
GAIN CORRECTION
on the seismic data**

gain.job

The seismic wave amplitude attenuates with time due to geometrical spreading of the wavefront through the various velocities layers, and to energy dissipation. The attenuation is removed by multiplying the samples of the trace by a vector of scalars, deduced semi-empirically.

$$G(t) = V(t) ** Vpower * t**Tpower * exp \{ V(t) * t * ALPHA \} * X**Xpower$$



02 : Read data on disk in Claritas format.

03 : Apply the amplitude correction.

04 : Write the corrected seismic data on the harddisk (*filename.sph*).

05 : Check the corrected seismic data on the screen.

The couples (time, velocity) are defined in a file *filename.nmo* (see 03: SPHDIV) that can be edited using : `> sde filename.nmo` in the UNIX window.

SPHDIIV

Help OK

Enter either the name of an existing *.nmo file, OR a list of {T,V}

NMOFILE

GRID1

GRID2

TIMEVELS

TIMEVELS1

VPOWER1

TPOWER1

ALPHA1

SFACTOR1

XPOWER1

INVERSE

Use the following fields only if you are doing a test panel. EG for
 enter 6 values in the REPEAT field; the first of each repeat value
 TPOWER1 etc; and the last five repeat values in the fields VPOWER,1

REPEAT

VPOWER

TPOWER

ALPHA

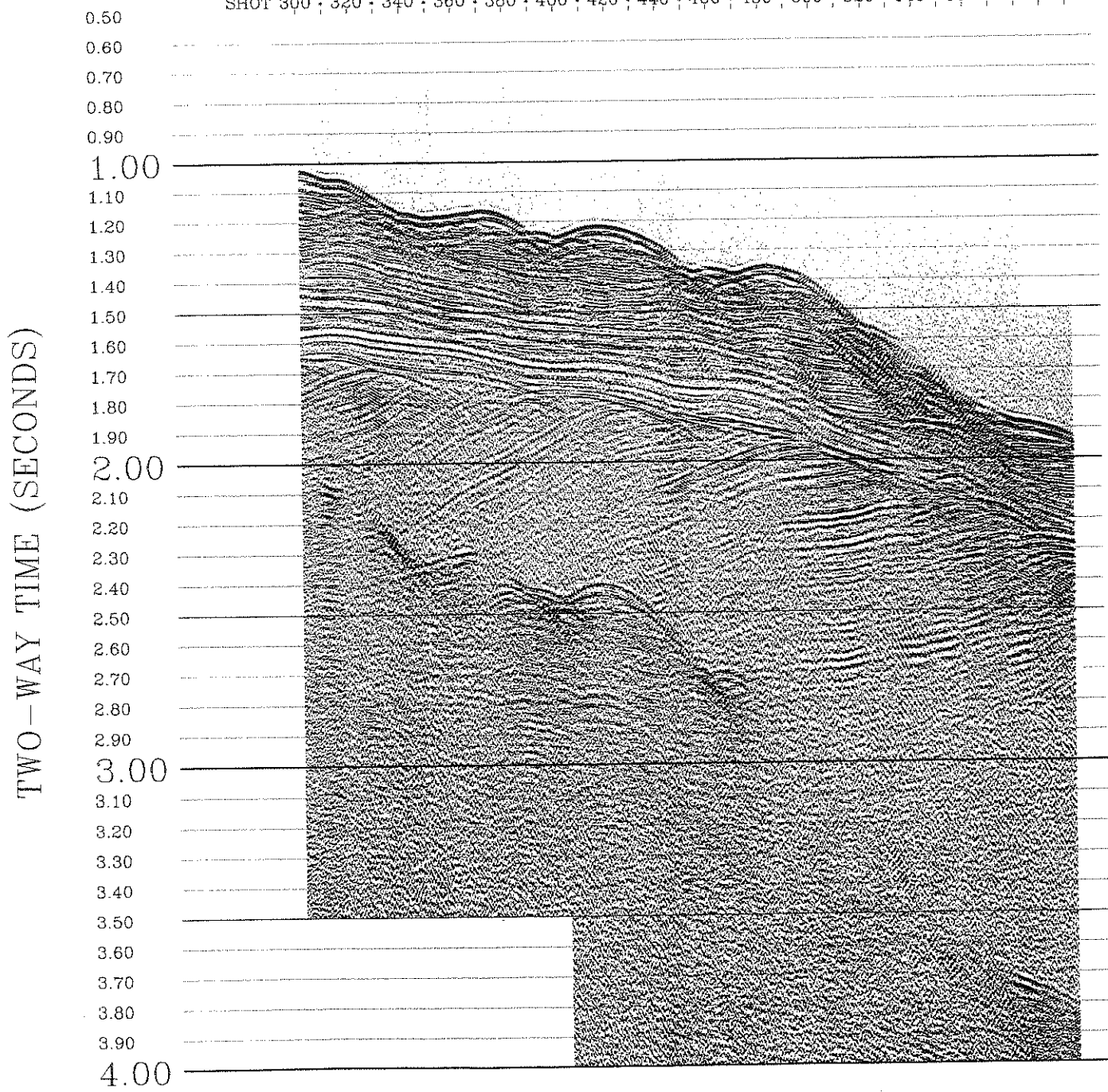
SFACTOR

XPOWER

I=>spherical divergence corrections REMOVED

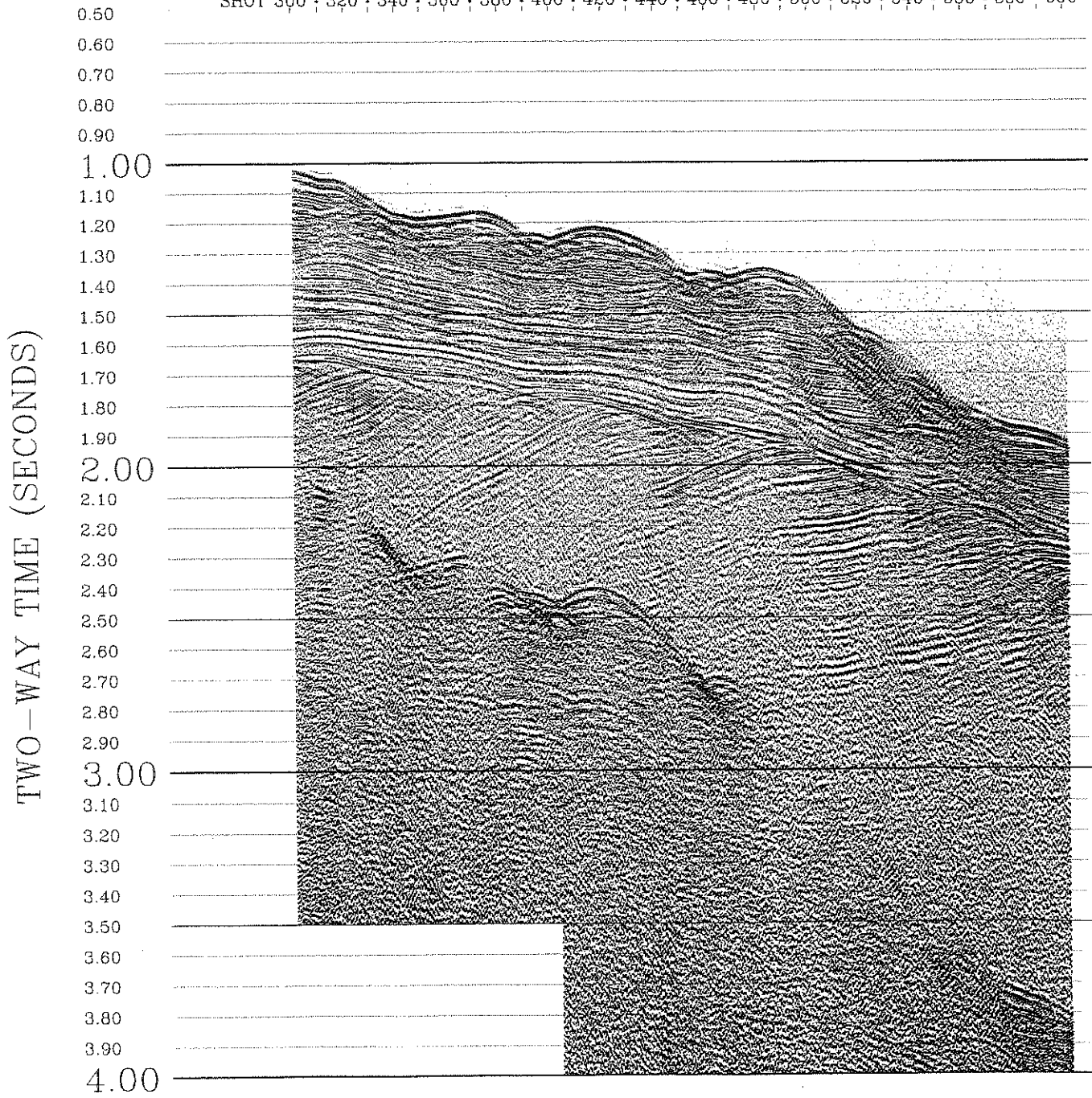
test gain st41- V=1 T=1 ALPHA=0.0E-06

SHOT 300 ; 320 ; 340 ; 360 ; 380 ; 400 ; 420 ; 440 ; 460 ; 480 ; 500 ; 520 ; 540 ; 560 ; 580 ; 600 ;



test gain st41- V=1 T=1.5 ALPHA=0.0E-06

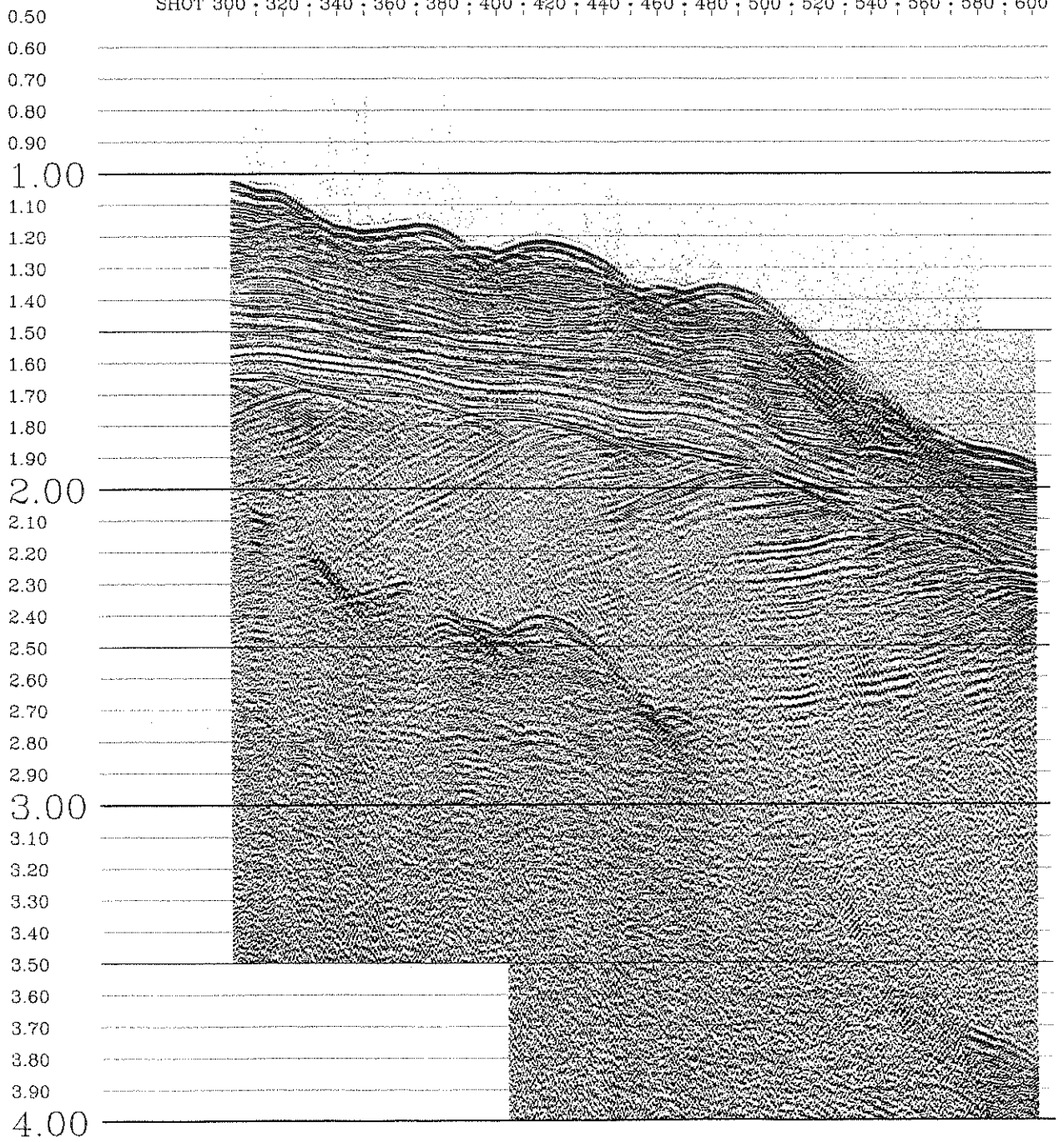
SHOT 300 ; 320 ; 340 ; 360 ; 380 ; 400 ; 420 ; 440 ; 460 ; 480 ; 500 ; 520 ; 540 ; 560 ; 580 ; 600



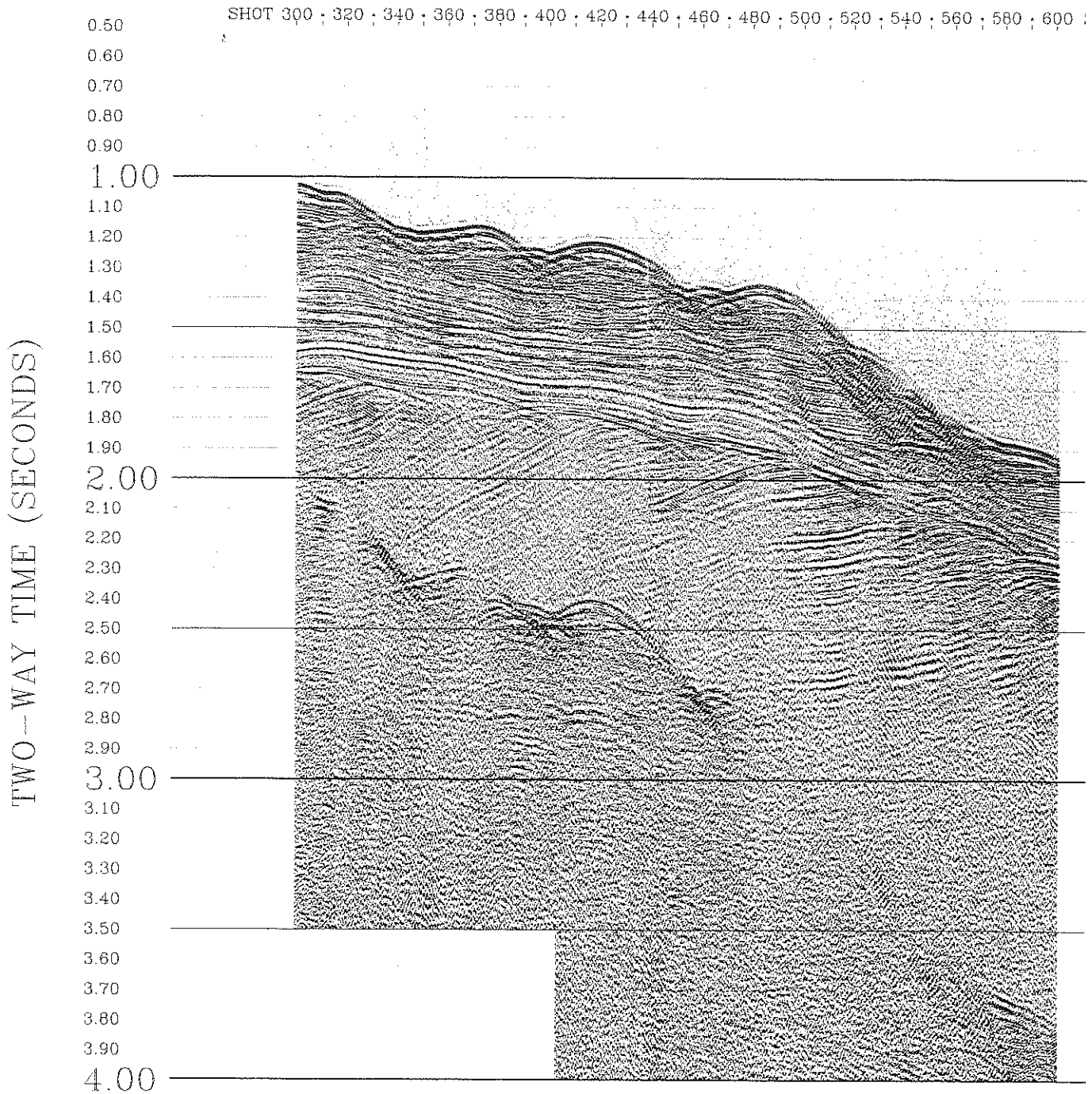
test gain st41- V=9 T=1 ALPHA=0.0E-06

SHOT 300, 320, 340, 360, 380, 400, 420, 440, 460, 480, 500, 520, 540, 560, 580, 600

TWO-WAY TIME (SECONDS)



test gain st41- V=1 T=1 ALPHA=0.0E-05



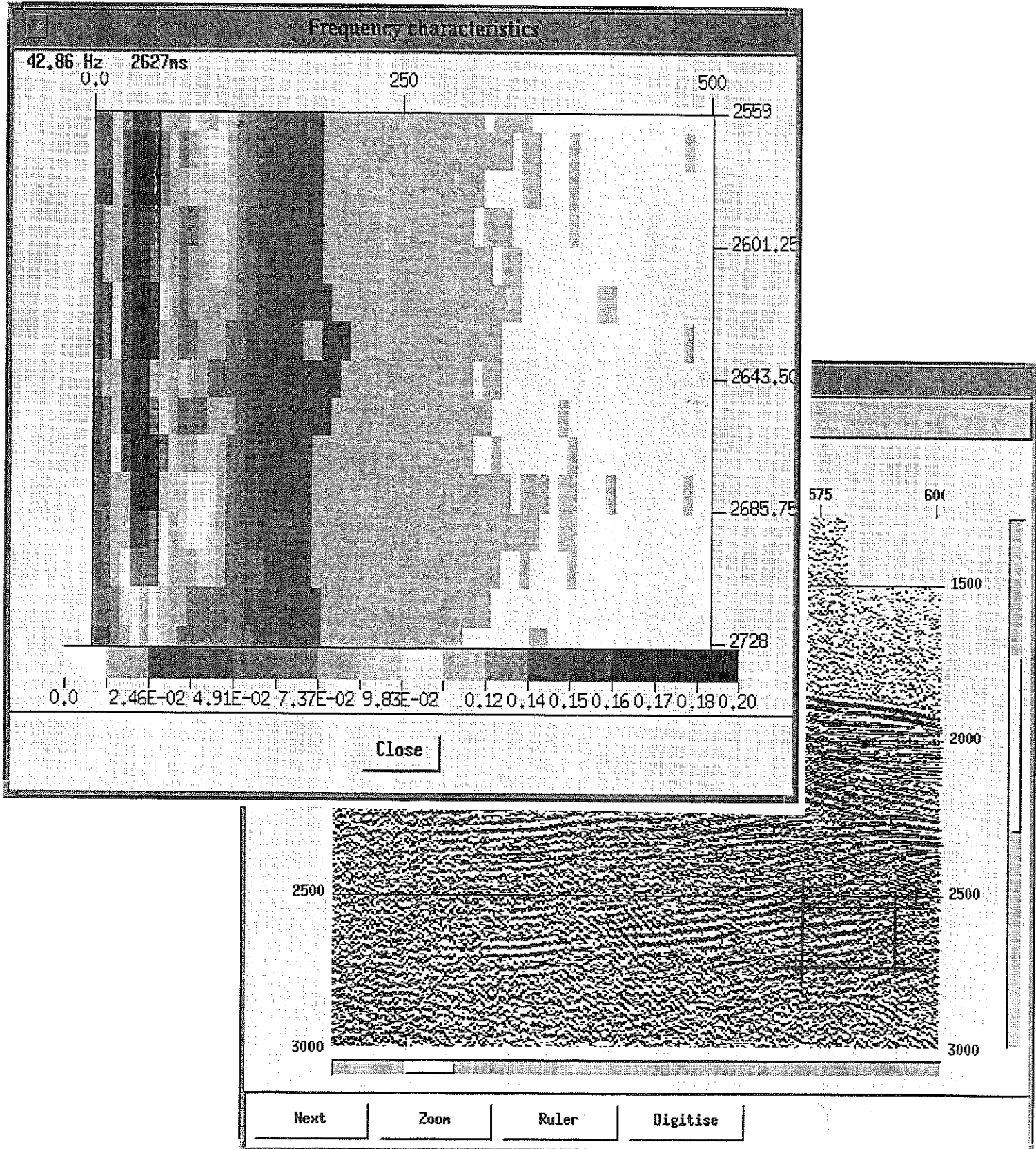
APPLY
a FREQUENCY FILTER
on the seismic data

filtest.job

Frequencies of the seismic signal vary with time and along the profile. High frequencies are filtered earlier than low frequencies by the "earth filter".

The frequency filter increases the ratio signal/noise.

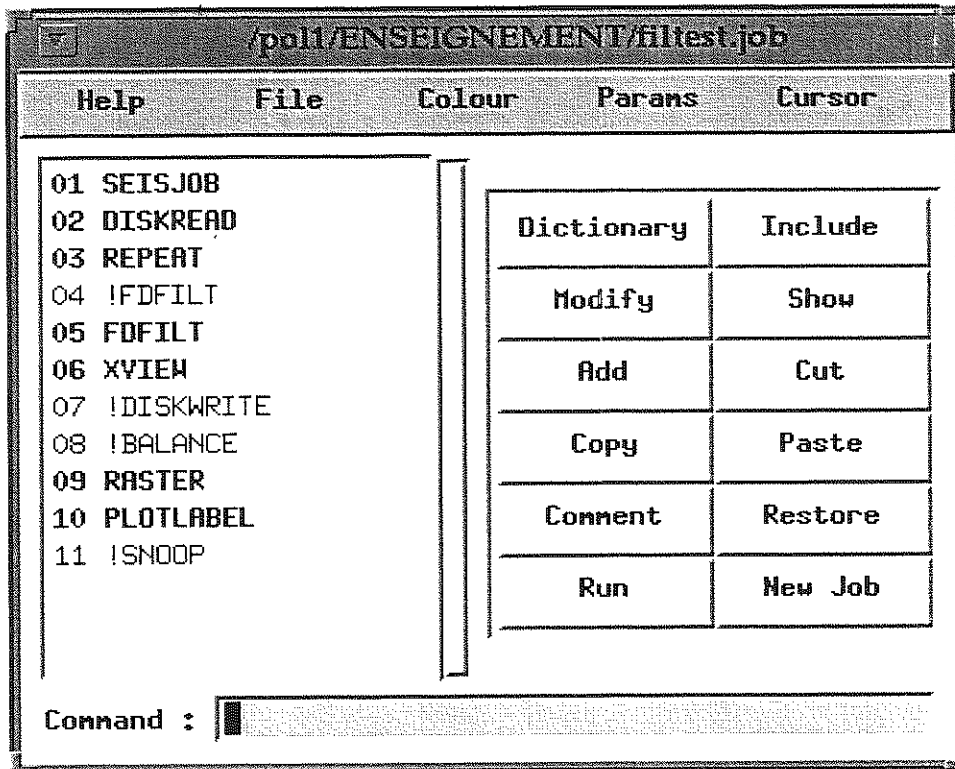
Frequency spectrum of the seismic signal can be obtained on the screen from the **XVIEW** window : press the right mouse button to make the menu appear. Choose 'frequency characteristics' and select an area of your seismic section with the mouse. You obtain a window (frequency, time) for the selected area.



TEST
a FREQUENCY FILTER
on the seismic data

filtest.job

filtest.job creates several panels of selected shots. For each panel, a band-pass filter is applied. This allows to determine the frequency characteristics of anyone reflector.



02 : Read data on disk in Claritas format.

03 : Define the repeated panels (number of shots by panel, number of panels)

05 : Apply the pass-band filters defined in the file *filename.int* that can be edited with :
 > *sde filename.int* (see exemple further).

06 : Check the filtered seismic data on the screen.

09-10 : Plot the test on paper.

REPEAT	
Help	OK
N_ENS	<input type="text" value="100"/>
N_REPEAT	<input type="text" value="14"/>
<p>MODE specifies the way in which ensembles (shot,CDP etc) are read</p> <p>SAMEREPEAT : shot1,shot2,shot3..., shot1,shot2,shot3...,</p> <p>SAMESHOT : shot1,shot1,shot1..., shot2,shot2,shot2...,</p>	
MODE	<input type="text" value="SAMEREPEAT"/> List
<p>ENCORE specifies whether the whole repeat sequence is to be repeated</p> <p>N : N_ENS ensembles are repeated N_REPEAT times only</p> <p>Y : After the first N_ENS ensembles are read and repeated, any further ensembles will be read and repeated if the input processor</p>	
ENCORE	<input type="text" value="No"/> List
Number of ensembles to repeat	
<input type="button" value="OK"/>	<input type="button" value="Dictionary"/>
<input type="button" value="Update"/>	

FDEFILT

Help **OK**

SDEFILE	<input type="text" value="filtpan_bp2.int"/>	List	sde
NSAMPS2	<input type="text"/>	List	
TY	<input type="text" value="BP"/>	List	
F1	<input type="text"/>		
F2	<input type="text"/>		
F3	<input type="text"/>		
F4	<input type="text"/>		
T1	<input type="text"/>		
T2	<input type="text"/>		

If you want to vary the parameters spatially

xsde filtpan bp.int

Help File Options Commands

Process name List

Primary key List

Secondary key List

Qualifier List

Comment

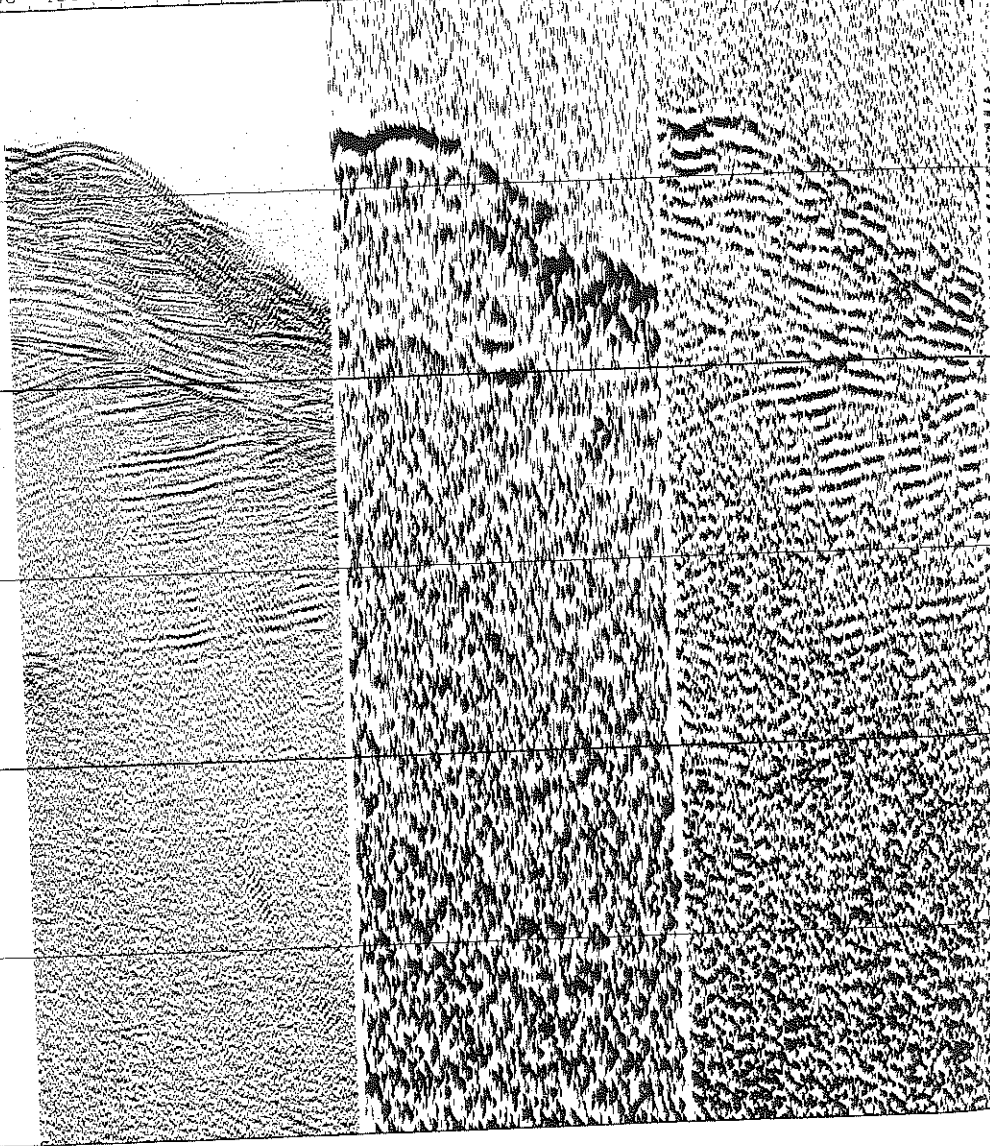
P_key	S_key	Type	F1	F2	F3	F4	T_on	T_off
1								
2		bp	0	5	10	20		
3		bp	5	10	20	30		
4		bp	15	20	30	40		
5		bp	25	30	40	50		
6		bp	35	40	50	60		
7		bp	45	50	60	70		
8		bp	55	60	70	80		
9		bp	65	70	80	90		
10		bp	75	80	90	100		
11		bp	85	90	100	110		
12		bp	95	100	110	120		
13		bp	105	110	120	130		
14		bp	115	120	130	140		

[EOF]

Line : 14/14 Mode : insert
 Cell : 7:4 Automatic incrementing off
 Text : 140 Go to start of field

SHOT 460 · 480 · 500 · 520 · 540 · 460 · 480 · 500 · 520 · 540 · 460 · 480 · 500 · 520 · 540 · 460

1.00
1.10
1.20
1.30
1.40
1.50
1.60
1.70
1.80
1.90
2.00
2.10
2.20
2.30
2.40
2.50
2.60
2.70
2.80
2.90
3.00
3.10
3.20
3.30
3.40
3.50
3.60
3.70
3.80
3.90
4.00

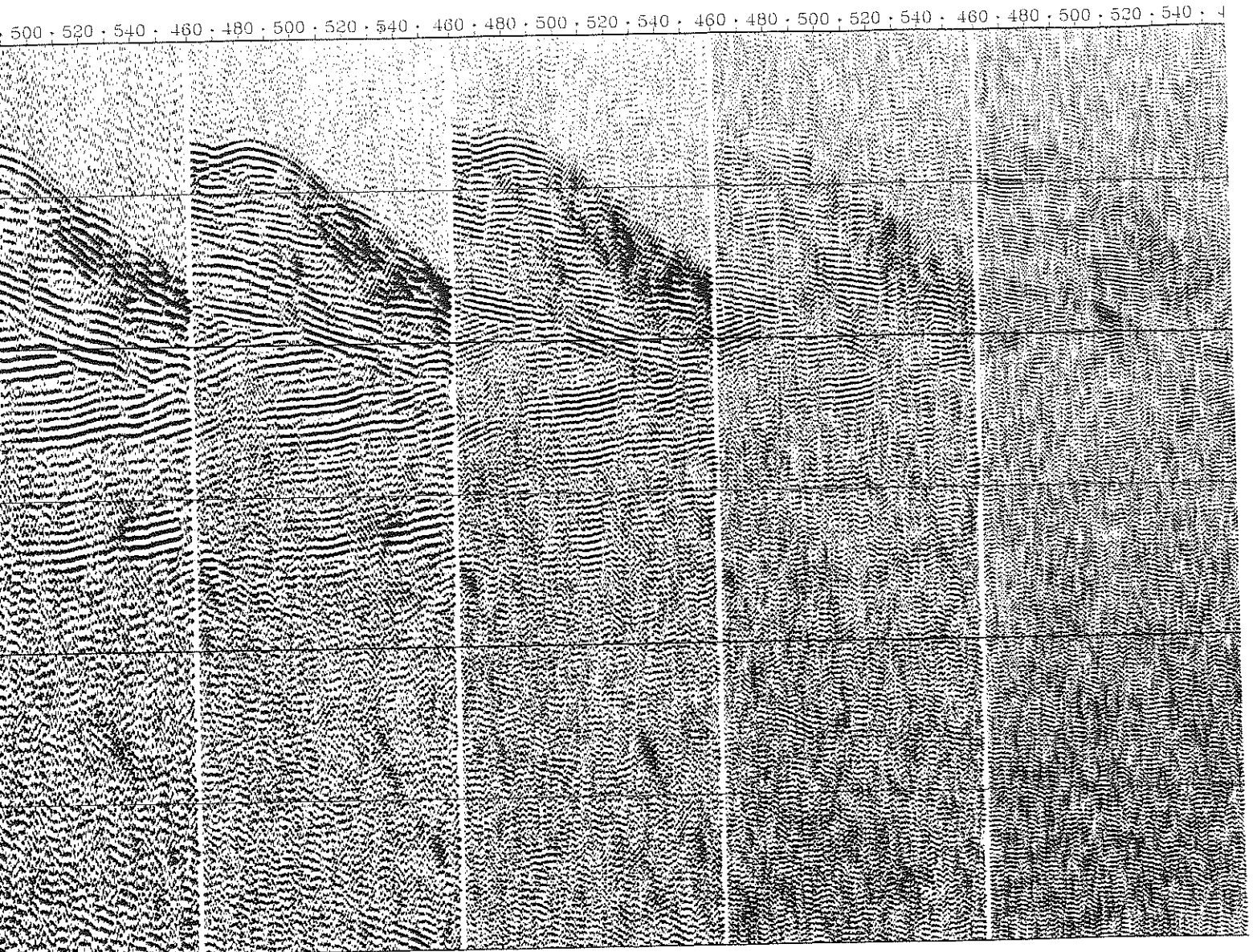


No FDFILT applied

BP : 0-5-10-20 Hz

BP : 5-10-20-30 Hz

TEST BP FILTER st41 -



: 15-20-30-40 Hz

BP : 25-30-40-50 Hz

BP : 35-40-50-60 Hz

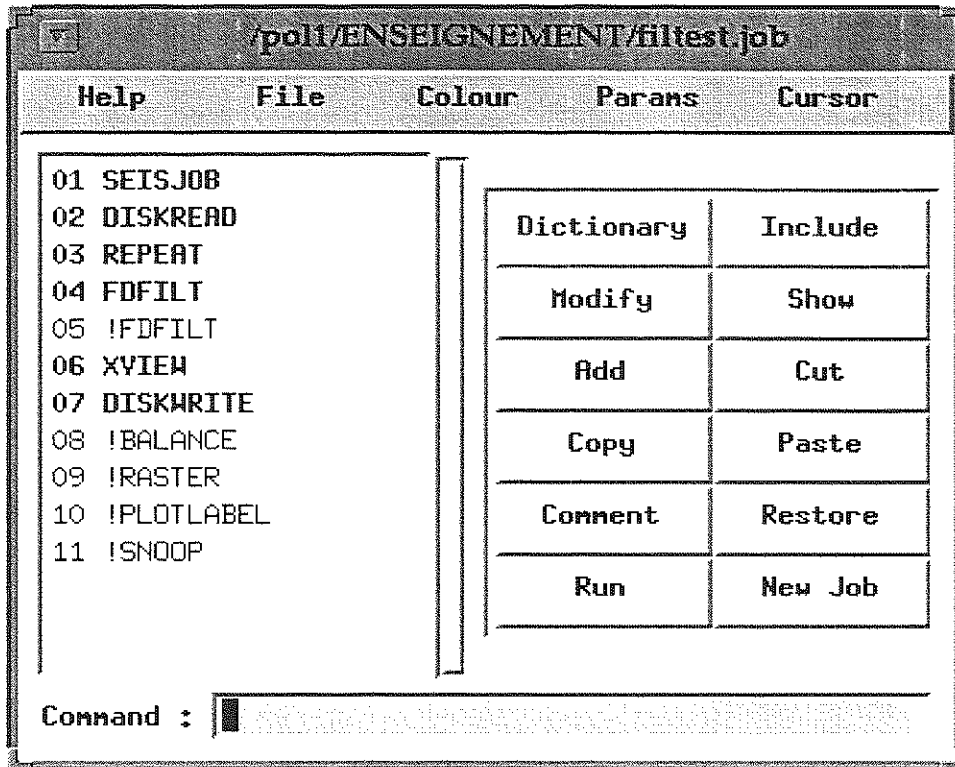
BP : 45-50-60-70 Hz

BP : 55-60-70-80 Hz

**APPLY
a FREQUENCY FILTER
on the seismic data**

filtr.job

filtr.job applies a frequency filter on the seismic data. A single band-pass filter can be defined for the seismic section (see examples) or a more complexe band-pass filter can be defined in a table (shot, frequencies, time) -> *filtr.int* file.



02 : Read data on disk in Claritas format.

04 : Apply the pass-band filters defined in the file *filtr.int* (shot, frequencies, time) or a global pass-band filter defined in FDFILT.

06 : Check the filtered seismic data on the screen.

07 : Write the filtered data on the harddisk (*filename.filtr*).

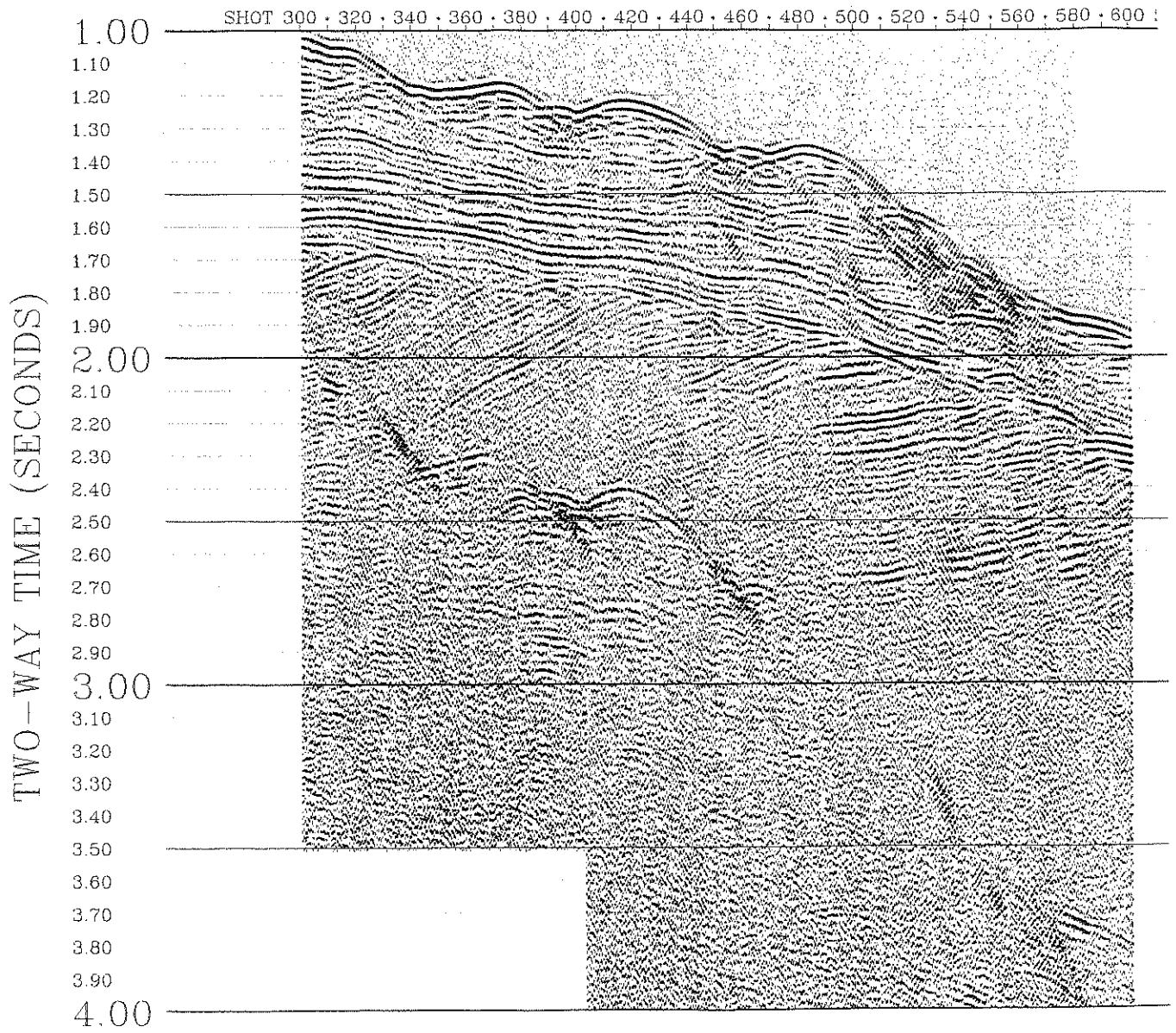
FDFILT

Help OK

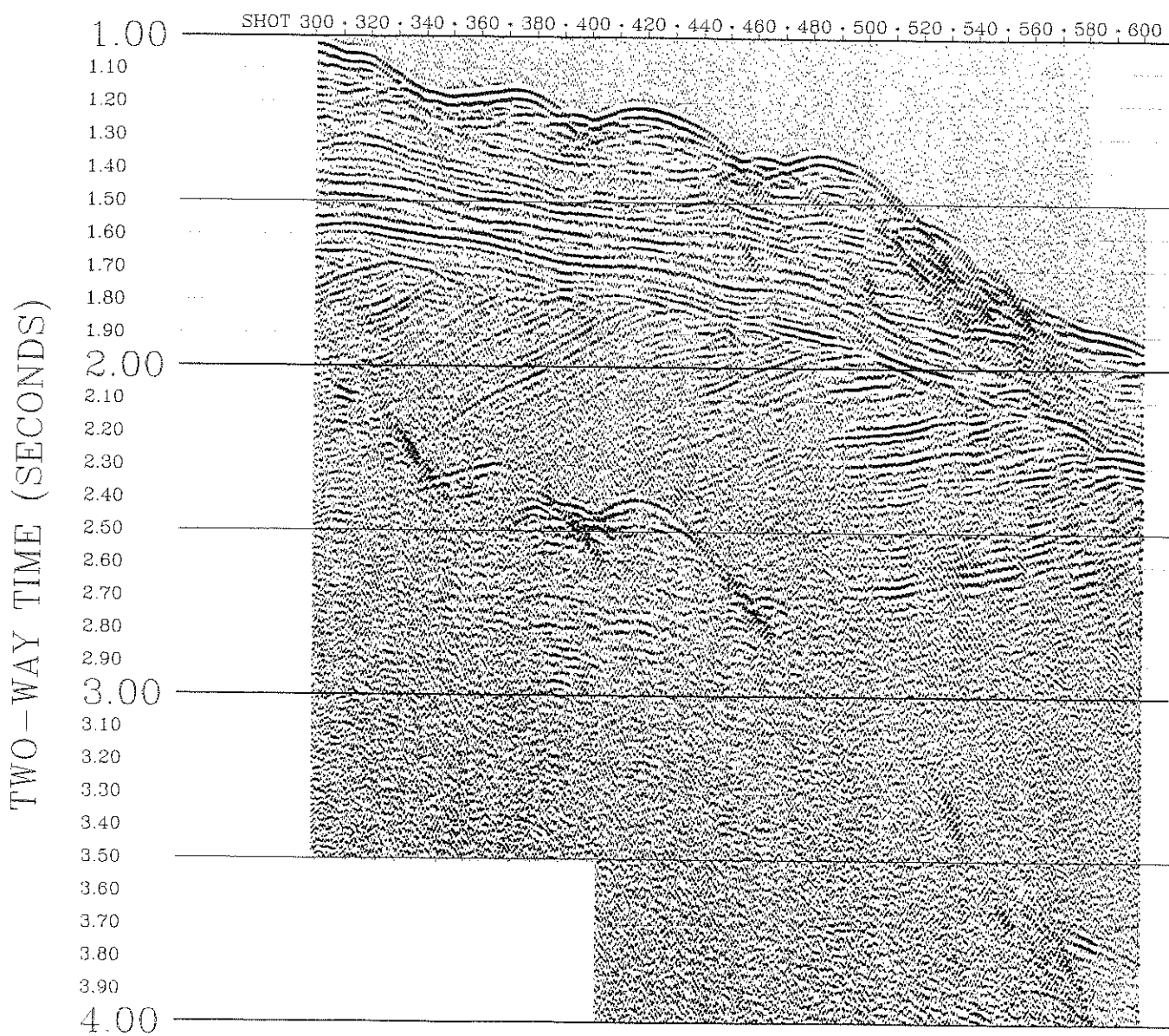
SDEFILE	<input type="text"/>	List	sde
NSAMPS2	<input type="text"/>	List	
TY	BP	List	
F1	20		
F2	25		
F3	50		
F4	65		
T1	<input type="text"/>		
T2	<input type="text"/>		

If you want to vary the parameters spatially

BP FILTER st41 - 20-25-50-65 -



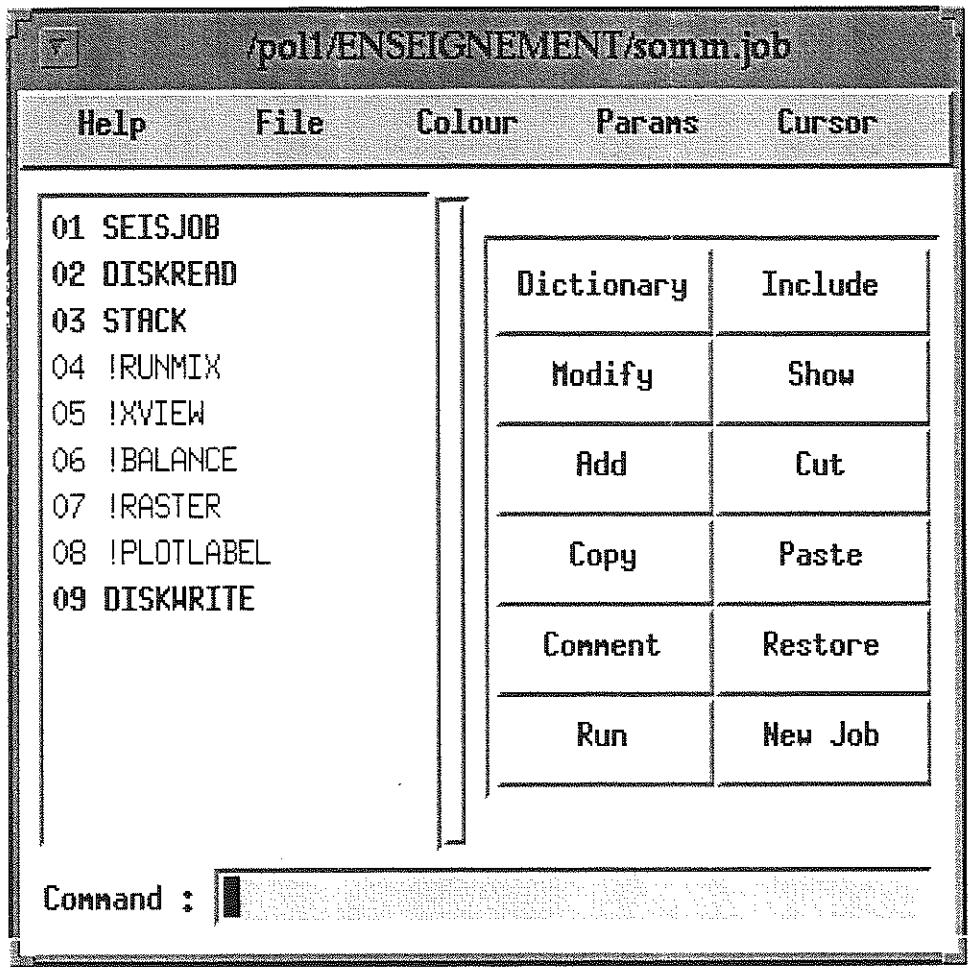
BP FILTER st41 - 15-20-60-75 -



STACK
the 2 traces of each shot

somm.job

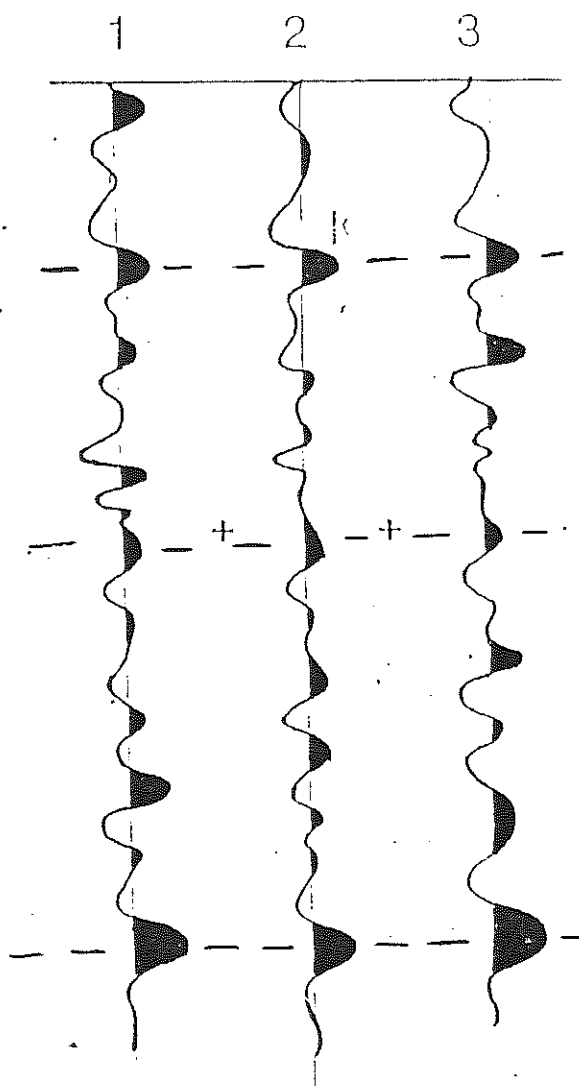
The 2 traces of each shot are stacked in order to increase the ratio signal/noise (see next page).



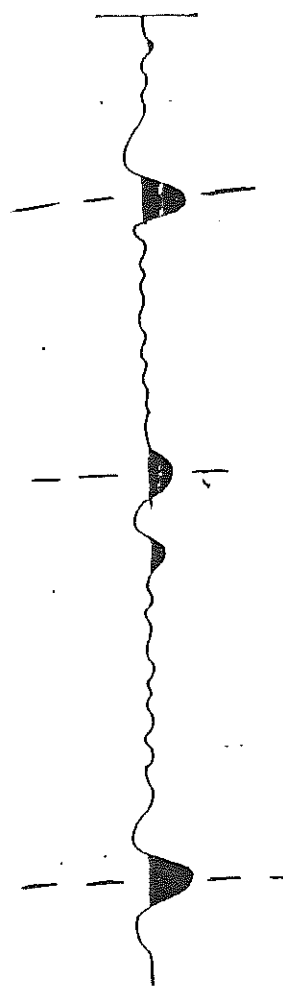
02 : Read data on disk in Claritas format.

03 : Stack the 2 traces of each shot.

09 : Write the stacked data on the harddisk (*filename.stack*).



STACKED TRACE

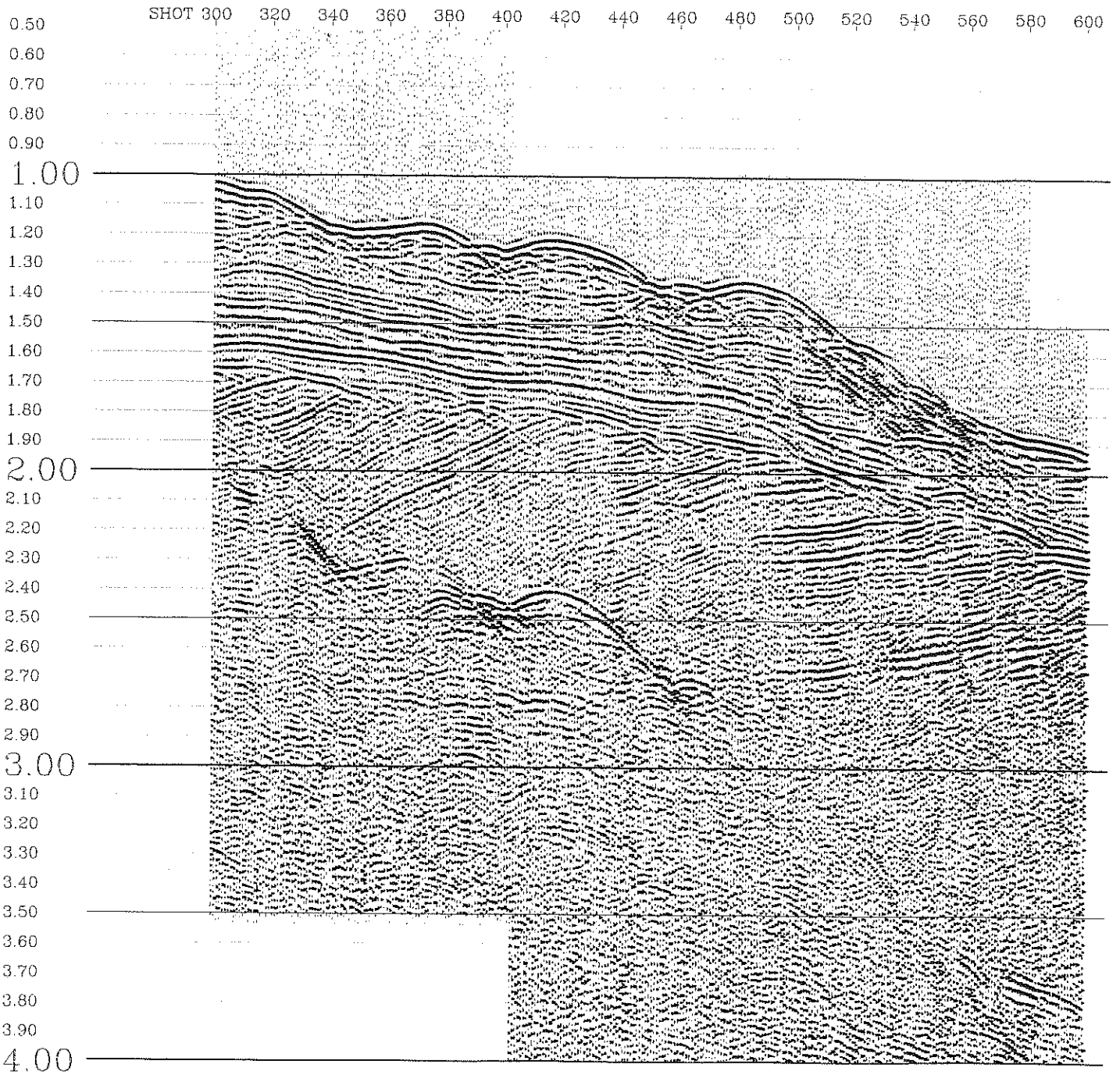


STACK		
Help	OK	
MAXFOLD	<input type="text" value="2"/>	
NORMALISE	<input type="text" value="0"/>	<input type="text" value="L 1"/>
PKEYNAME	<input type="text" value="SHOT"/>	<input type="text" value="L 0"/>
SKEYNAME	<input type="text" value="SHOTNUM"/>	<input type="text" value="List"/>
RESTRICT	<input type="text"/>	<input type="text" value="List"/>
RESRANGE	<input type="text"/>	

Maximum number of traces/CDP

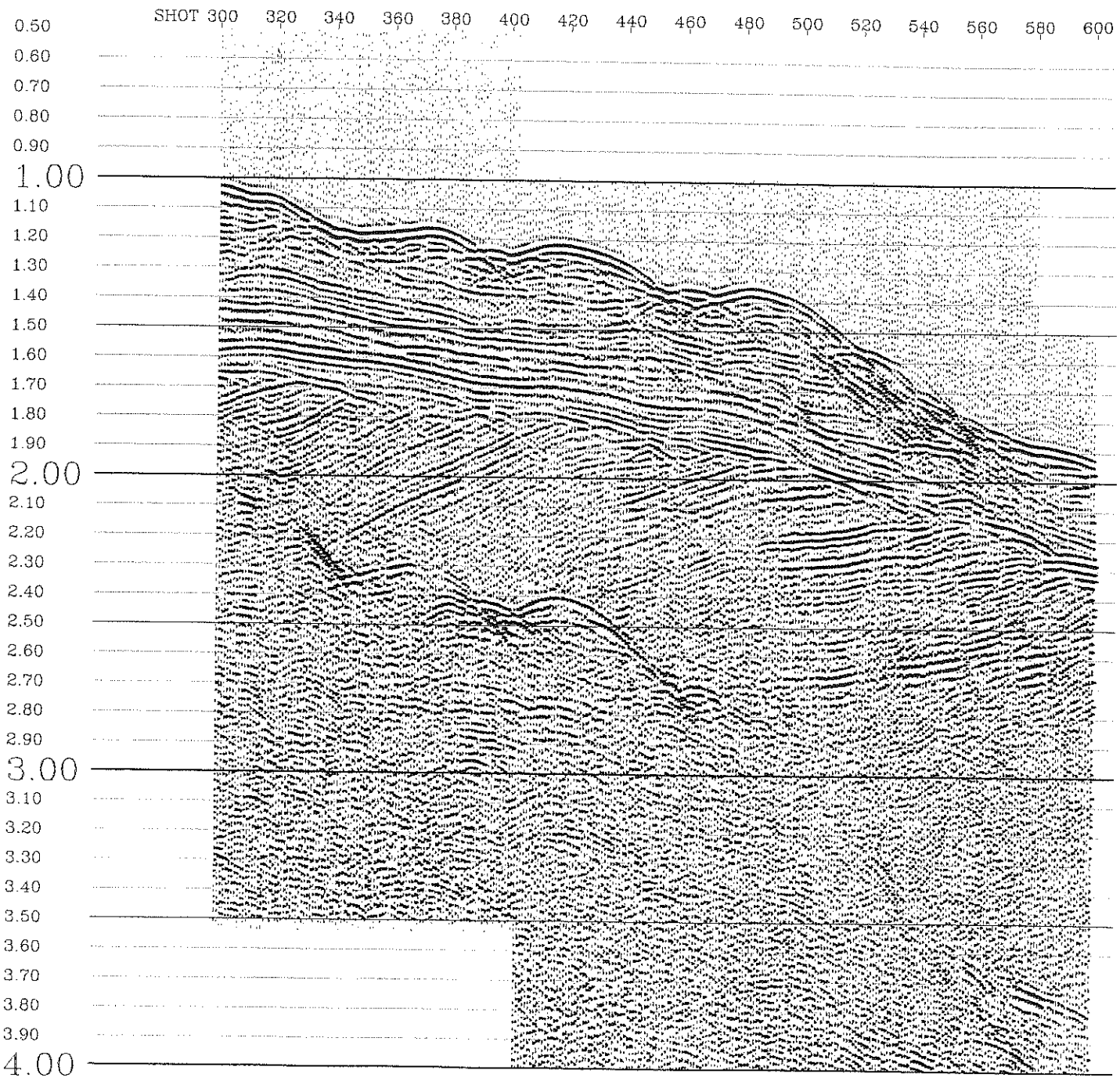
OK	Dictionary	Update
----	------------	--------

STACK ST41 (2 traces of each shot)



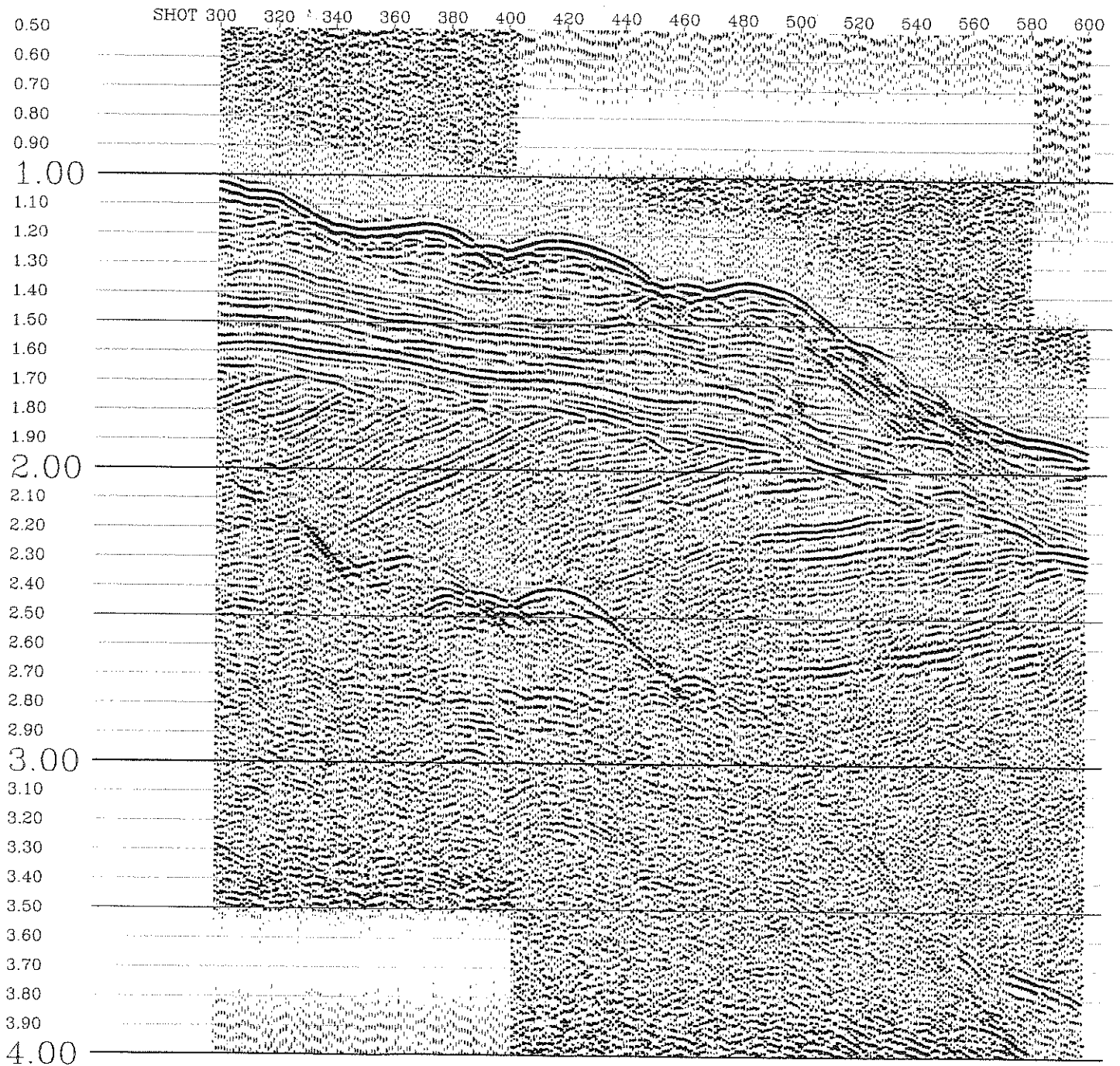
VO-WAY TIME (SECONDS)

STACK ST41 (2 traces of each shot) + Bal



TWO-WAY TIME (SECONDS)

STACK ST41 (2 traces of each shot)- AGC 500

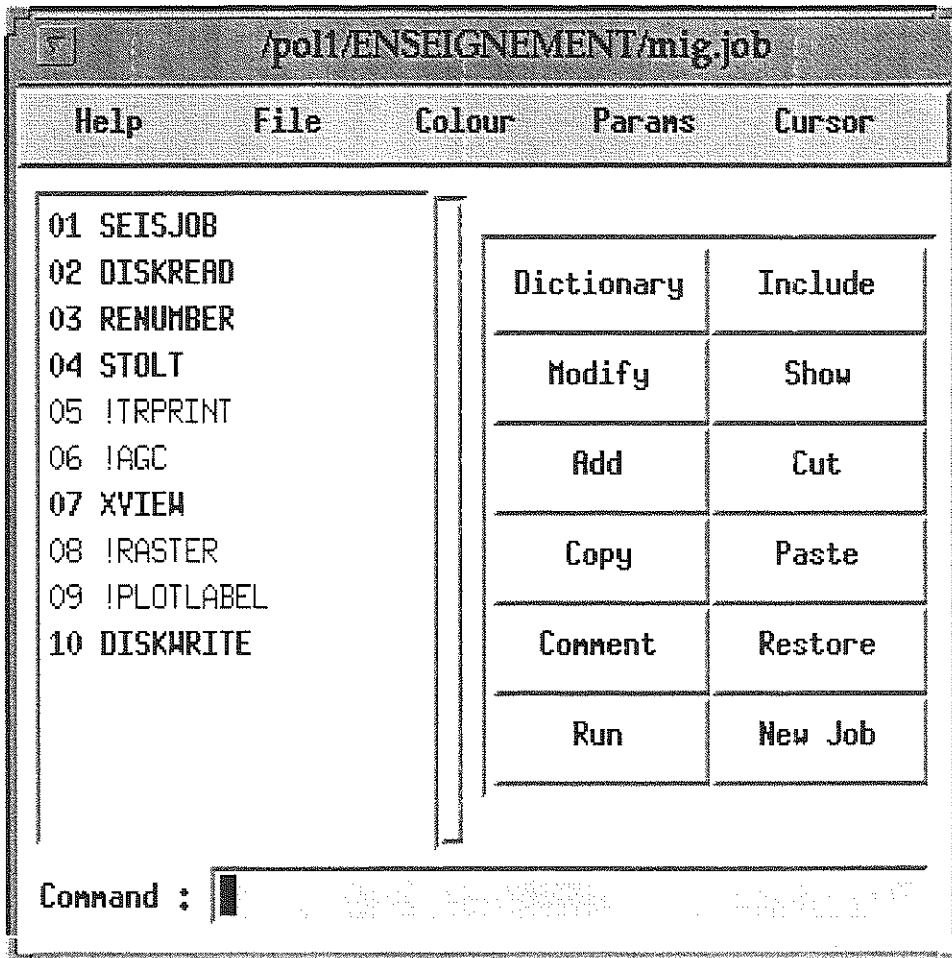


TWO-WAY TIME (SECONDS)

MIGRATE
the stacked data

mig.job

In that case, the stacked data are migrated mostly in order to focalize the hyperboles.



02 : Read data on disk in Claritas format.

03 : Renumber the trace header corresponding to the CDP number. CDP num = SHOT num.

04 : Migrate the stacked section with a simple (velocity, time) low.

07 : Check the migrated section on screen.

10 : Write the migrated data on disk (*filename.mig*).

RENUMBER

Help OK

PKEYNAME	<input type="text" value="CDP"/>	List
PKEYSTART	<input type="text" value="1"/>	
PKEYINC	<input type="text" value="1"/>	
SKEYNAME	<input type="text"/>	List
SKEYSTART	<input type="text"/>	
SKEYINC	<input type="text"/>	

Optional name of primary key to be renumbered

STOLT

Help OK

MODE	<input type="text" value="Stacked"/>	List
CDPRANGE	<input type="text" value="1 1475"/>	
CDP_DX	<input type="text" value="25"/>	
N_OFFMIX	<input type="text" value="1"/>	
STRETCH	<input type="text" value="0.6"/>	
FMAX	<input type="text"/>	
TINES	<input type="text" value="0 5000"/>	
VELS	<input type="text" value="1500 1700"/>	
SCALAR	<input type="text" value="1.0"/>	
LTAPER_B	<input type="text" value="100"/>	
LTAPER_S	<input type="text" value="10"/>	
VERBOSE	<input type="text" value="No"/>	List

What kind of gather to nigrate

migrat(STOLT): tapVl=100 tapHl=10 V=1500-1700

