1 Preprocessing

How to save options applied in Visualisation dialog

s_\My Tests\Adding M	lultishotgather files∖MultishotgatherB_M2+G	athAP-Z.tgr Browse
Axis	Component ? min -261.758 max 488.828	Data Type Undefined Create Density and Shear Velocity parameters (QR)
min r X,m 0 400 T,ms 0 100	nax interval 400 100 1000	

- Take care to zero or uncheck visualisation options, which must not be used as preprocessing transformations. Usually such options from "Transformations" group of controls as "Clip", "Equalize" and "Smooth" are not used as preprocessing procedures.
- Go to menu "File > Convert to > Complex"
- > In produced dialog *"Transform and Save As..."* :
- Select *format of file* by default internal format TGR, also SEGY;
- Check box "Save visualization options";
- Modify *name of file* to be saved, so you could differ it from other (preprocessing) variants;
- Click Ok and when transformation is done, *resulting file* will be automatically opened in next right panel.

Capabilities to vary survey layout parameters using Group Traces controls

Trace	Transformations
Show Wiggle	Invert amplitudes
► ▼ Show Variable	
Visual interval between traces	
by every (• 11 🖃	Equalize ///
By receiver	0 %
By scale C 8 🚍	Smooth 🖌 🍃
Ovenap II 🖃	· · ·
Group traces	Viewing velocity
Grouping 1	Mute: m/s
↔ Interval 1 ÷	Reduction : m/s
Cut off Traces	
₩ From Left 0 ÷ '0'	
Solution From right 0 - '0'	

- Grouping mixing traces for N of adjacent (to given traces) channels;
- Interval taking each N-th trace.
- Cut off Traces controls:
 - From left cuts off N traces (far offsets) from left;
 - From Right cuts off N traces (far offsets) from right.

Other useful preprocessing procedures are presented in page Advanced

basic haveneed		
Zero Balancing	h 100 ms	
🔽 Linear Gain	top gain 1 bottom gain 10	
Normalization	align traces by energy	
🗖 Auto Gain	window length 0 ms noise 0 %	
Add White Noise	standard deviation of noise 0.2 %	
Random Shift	standard deviation of shift 0 ms	
Smoothing	window length 100 ms	
🗂 Shift	length 0 ms	
Final Scaling	magnitude 100 %	

- Zero Balancing allows filtering out (very) low frequency noise, sometimes present in synthetic gathers when Q-factor attenuation was used im modeling;
- Linear Gain allows to (linearly) increase amplitudes (usually at bigger times);
- Add White Noise allows to make synthetic gathers looking "more realistic";
- Smoothing allows to filter out high frequency noise.
- ... and others.

Merging synthetic separate shotgather files into multi-shotgather file

Activate panel with synthetic shotgather (file name "....-n.tgr", n=1,2,3, ...). Select menu item "Run>Grid Merge".

In produced dialog "Grid Merge: select component(s), which may be used in following processing and interpretation:

Output File	
C:\Tesseral Data\ Starting Models \My Tests\Add	ing Multishotgather files Multishotgat
Let the set of the sub-tool of the transfer	
Eiles to Merge	
C:\Tesseral Data_Starting Models_Wy Tests\Addi	ng Multishotgather files Multishotgathe
C:\Tesseral Data_Starting Models_Wy Tests\Addi	ng Multishotgather files Multishotgathe
C:\Tesseral Data\ Starting Models_Wy Tests Addi	ng Multishotgather files Multishotgathe =
C:\Tesseral Data_Starting Models_Wy Tests\Addi	ng Multishotgather files Wultishotgathe
C:\Tesseral Data_Starting Models_\My Tests\Addi	ng Multishotgather files Multishotgathe
C:\Tesseral Data_Starting Models_My Tests\Addi	ng Multishotgather files Multishotgathe
C:\Tesseral Data\ Starting Models_Wy Tests Addi	ng Multishotgather files Multishotgathe
C. Tesseral Data Starting Models My Tests Addi	nn Multishntnather files\Multishntnathe
	1 Maus Un 1 Maus Down
Add File Remove File Clear List	Mave Up Mave Down
Add File Remove File Clear List	Move Up Move Down
Add File Remove File Clear List	Move Up Move Down
Add File Remove File Clear List Components to Merge Vertical Particle Velocity	Mave Up Mave Down
Add File Remove File Clear List Components to Merge Vertical Particle Velocity Horizontal Particle Velocity Normal Stress	Move Up Move Down Predicted Size of Output File
Add File Remove File Clear List Components to Merge Vertical Particle Velocity Horizontal Particle Velocity Normal Stress	Move Up Move Down Predicted Size of Output File 3.45 Mb
Add File Remove File Clear List Components to Merge Vertical Particle Velocity Horizontal Particle Velocity Normal Stress	Move Up Move Down Predicted Size of Output File 3.45 Mb Tin: deselect unpercessary
Add File Remove File Clear List Components to Merge Vertical Particle Velocity Horizontal Particle Velocity Normal Stress	Move Up Move Down Predicted Size of Output File 3.45 Mb Tip: deselect unnecessary components to reduce the
Add File Remove File Clear List Components to Merge Vertical Particle Velocity Horizontal Particle Velocity Normal Stress Select All Components	Move Up Move Down Predicted Size of Output File 3.45 Mb Tip: deselect unnecessary components to reduce the output file size
Add File Remove File Clear List Components to Merge Vertical Particle Velocity Horizontal Particle Velocity Normal Stress Select All Components	Move Up Move Down Predicted Size of Output File 3.45 Mb Tip: deselect unnecessary components to reduce the output file size
Add File <u>Remove File</u> Clear List Components to Merge Vertical Particle Velocity Horizontal Particle Velocity Normal Stress Select <u>A</u> II Components	Move Up Move Down Predicted Size of Output File 3.45 Mb Tip: deselect unnecessary components to reduce the output file size
Add File <u>Remove File</u> Clear List Components to Merge Vertical Particle Velocity Horizontal Particle Velocity Normal Stress Select All Components ✓ Delete original files after successful merging (WARPING: come components will be left)	Move Up Move Down Predicted Size of Output File 3.45 Mb Tip: deselect unnecessary components to reduce the output file size

- ✓ After merging is done multi-shotgather file is automatically loaded in active panel.
- ✓ This multi-partition file can be exported in SEGY format or/and used in the package internal processing procedures.



Subtracting Gathers

Models: a) complete; b) partial; c) shown is difference between complete and partial models

© 2011 Tesseral Technologies -Context Info-

Produce gathers for complete and partial models. Don't forget for fix computation parameters as same for both models (otherwise there can be significant difference in absolute values of calculated amplitudes):

Modeling	
Full-wave Reflectors	
Default Minimum Gridding Mesh	
MI Velocity: 4000 m/s Acoustic 1 NT	
₩avelength: 70 m 2.828 m 1001	
Surface Sputon	
C France	
C Static First Anivals	
Suppress Source SV	
Case Wave Equation Local run	
Cores: Max	
Monitoring	
Run!	
C 2.5D-3C Size C Visco Elastic Croate Task	
ramework Parameters	
Close Cancel 🗿	Cathor by
	Complete Model
Subtract gathers:	
	Gather by
Run	Partial Model
	Subtract second file from the first one
	Source File 1
Des construites and and a second seco	ata_Starting Models_\My Tests\Subtracting Gathers\Model+GathE
Stack (Time domain)	
Migration (Time domain)	Source File 2 Brow
Migration (Depth domain) Gathering (GATHER)	Starting Models_\My Tests\Subtracting Gathers\Model part+GathEP.tgr 100-+ %
VSP procedures (Time domain)	
VSP procedures (Depth domain)	Resulting File Name Browse
Time <-> Depth Transformation	ing Models \My Tests\Subtracting Gathers\Model part+GathEP+Sub.tgr 100-4 %
	OK Cancel

> See results:

