



Dyal Geophysical, Inc

<http://www.dyalgeo.com>

Process	QC Products
1) Reformat	
2) Geometry	i) Farr Display ii) Display of offset limited (0-1000 meters) shot and receiver gathers with predicted first break time overlay iii) Shot and receiver quadrant stacks
3) Refraction Statics	i) Shot, Receiver and CMP stacks with and without refraction statics ii) Display of offset limited (0-1000 meters) shot and receiver gathers with predicted first break time overlay iii) Shot and receiver Quadrant stacks with refraction statics iv) Display shot and receiver statics v) Display layer velocities and depths
4) True Amplitude Recovery	i) RMS amplitude curve before and after correction ii) Display a few test records before and after correction
5) Surface Consistent Scalars	i) Surface consistent amplitude display before and after surface consistent scaling ii) Shot, Receiver and CMP stacks iii) Display of Scalars iv) May have to apply surface consistent scaling after decon also v) Make sure overall amplitudes are similar before and after surface consistent scaling (i.e. the scalars are around 1.)
6) Amplitude Preserving Noise Attenuation	i) Display input, output and difference in gather and CMP stack mode in relative amplitude ii) May have to apply several noise suppression processes to handle different types of noise iii) May have to apply residual noise reduction after decon iv) Display amplitude and FK spectra before and after each noise reduction v) Display S/N amplitude spectra
7) Surface Consistent Decon	i) Display spectral analysis ii) Display autocorrelations iii) Do not use spectral balancing for AVO iv) May have to apply CMP/CRP ensemble decon before and/or after PSTM v) Display S/N amplitude spectra
8) Surface Consistent Statics	i) Display shot, receiver and CMP stacks ii) Display surface consistent statics
9) Amplitude Preserving Multiple Suppression	i) Display input, output and difference in gather and CMP stack mode in relative amplitude ii) Display amplitude and FK spectra before and after multiple suppression.
10) Velocity Analysis	i) Display inline, crossline and timeslice profiles of the velocity field. ii) Display NMO corrected CMP gathers or supergathers
11) Prestack Time Migration	i) Display offset bin fold or offset panel (for 2D) or time slices (for 3D) to check holes in coverage ii) PSTM to gathers at velocity locations for preliminary velan iii) PSTM to stack over velocity lines at 90-110% of above velocity at 2% increment in inline and Crossline directions iv) PSTM to stack over velocity lines at 95-105% of velocity from # above at 1% increments in inline and crossline directions
12) Merging datasets	i) Structure match QC with cross-correlations or trim stat ii) Character match (amplitude and phase) iii) Gain match (amplitude level)

Notes: Conversion to minimum phase equivalent for Vibroseis data.

Retain datatype flag for surveys with mix of dynamite and vibroseis data.