Interpretation of Palmer Syncline Model, with Rayfract® 3.18

We show how to improve interpretation of the <u>syncline model</u> described by Dr. Palmer in his <u>EAGE March</u> <u>2010 paper</u>. We increase the number of shots, decreasing the shot spacing : shoot at every or at every 2^{nd} receiver, instead of only at every 6^{th} receiver. Also, we decrease the receiver spacing from 5m to 2.5m. Next, we refine the Delta-t-V pseudo-2D initial model with <u>WET tomography</u>. Finally, we use our default <u>Smooth inversion</u> method, based on a 1D-Gradient initial model and 20 vs. 100 WET iterations.



Above Delta-t-V output improves with more narrow spacing of shots and receivers. But this is not always true, see <u>epikinv.pdf</u>. Our default Smooth inversion (at bottom) works reliably, with just 20 WET or with 100 WET iterations. Resolution of WET and seismic refraction tomography in general decreases with increasing imaged depth. See <u>D.J. White 1989</u>, <u>J.G. Hagedoorn 1959 Fig. 1</u>, <u>thrust.pdf</u> and <u>palmfig3.pdf</u>.

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