

2021 Pixil Workshop



26 mayo - mai - May 2021
9:00 - 13:30

Light equipment seismic

Will the new technology shake geothermal industry ?

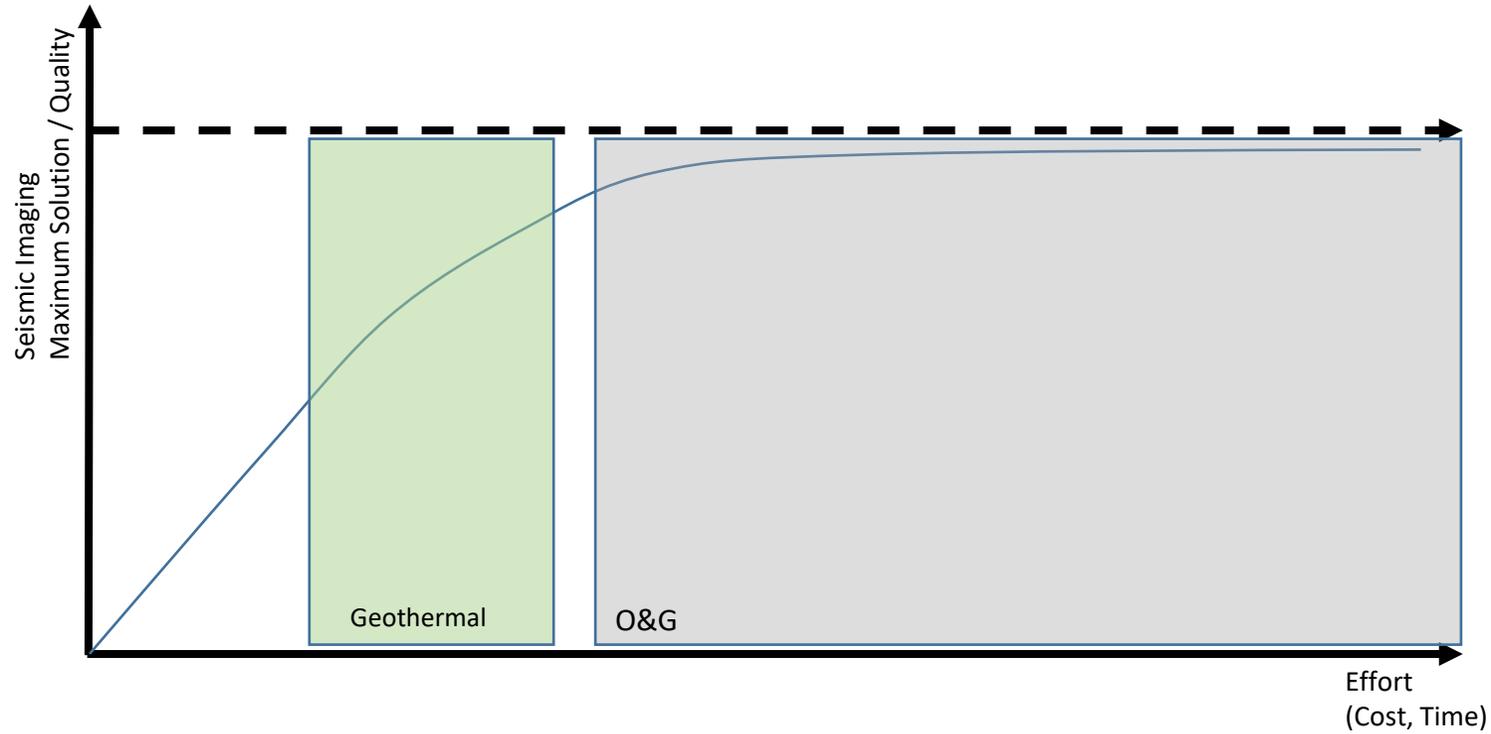
Jean-Claude Puech
(Realtimeseismic)



Stijn Bos
(HITA nv.)

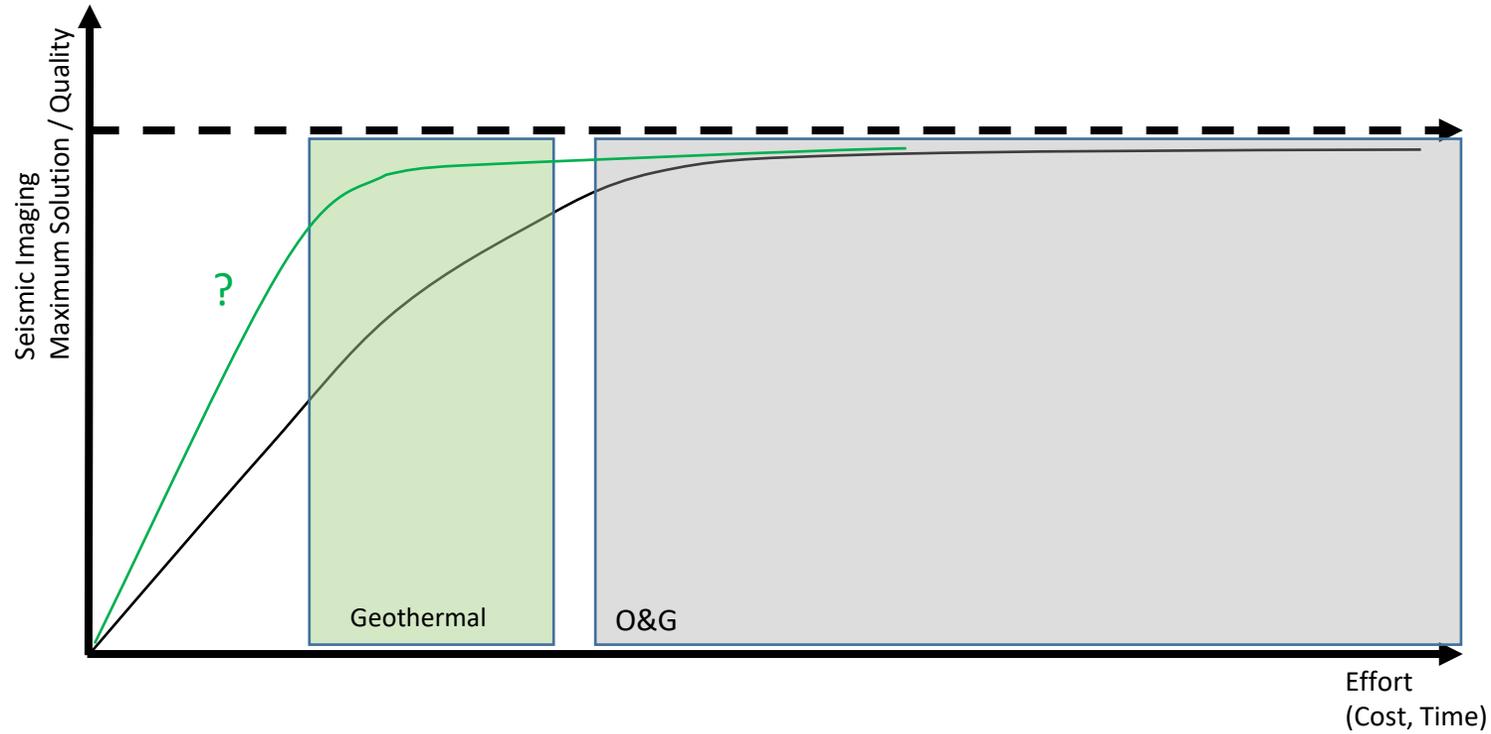


A strong “geothermal constraint” : the budget !



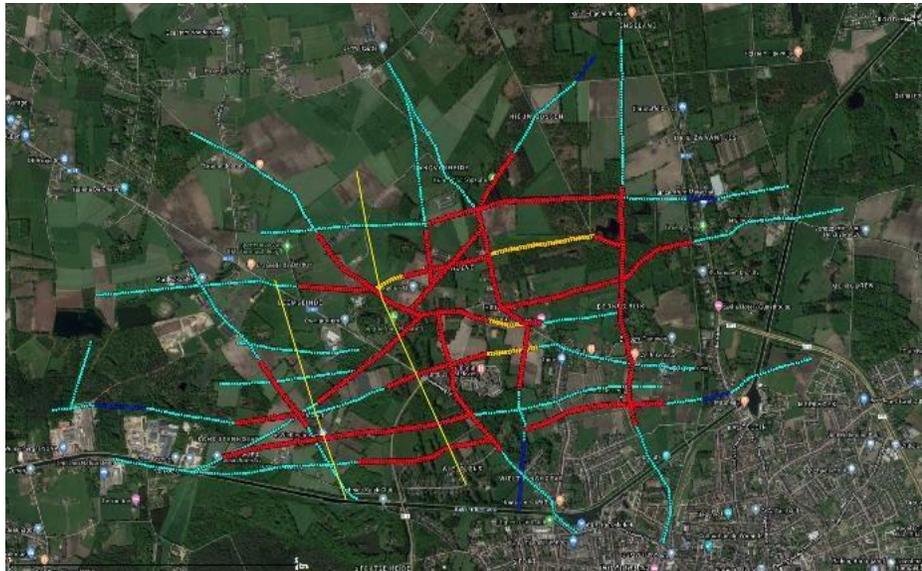
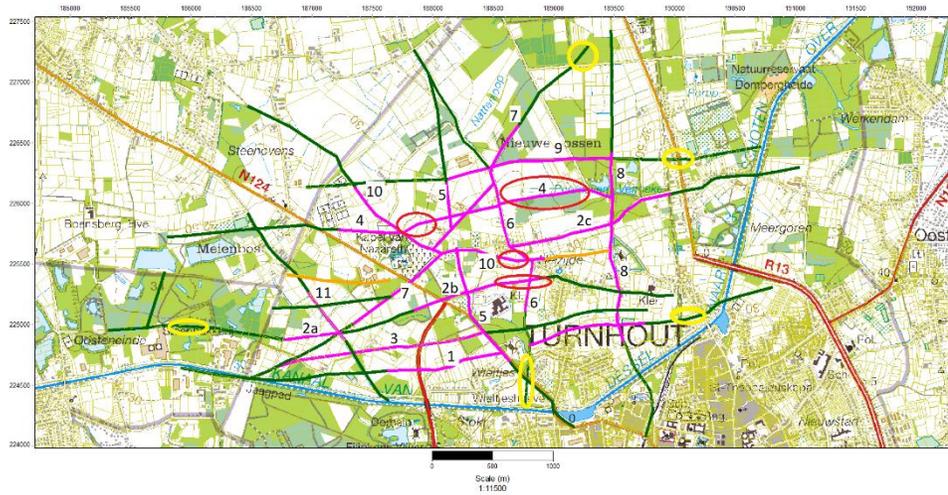
Geophysics Industry can do fantastic things, but not affordable to Geothermal projects.

A strong “geothermal constraint” : the budget !

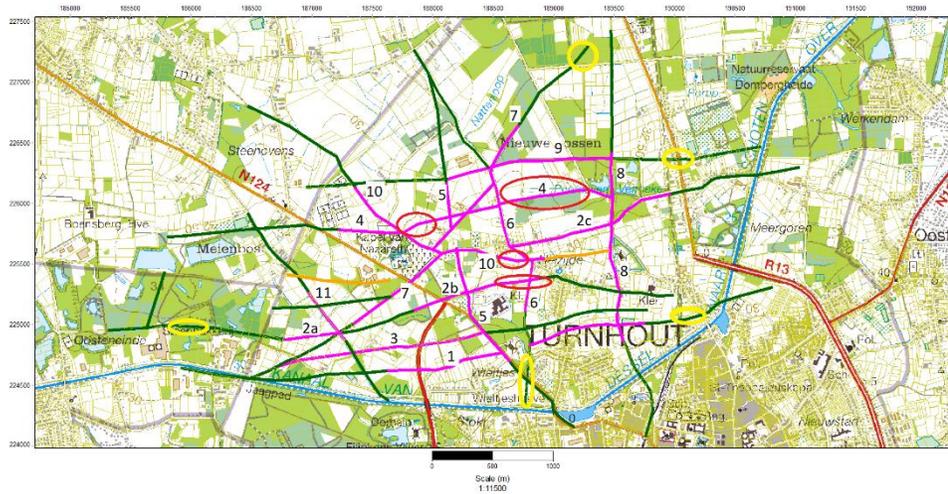


Geophysics Industry can do fantastic things, but not affordable to Geothermal projects.

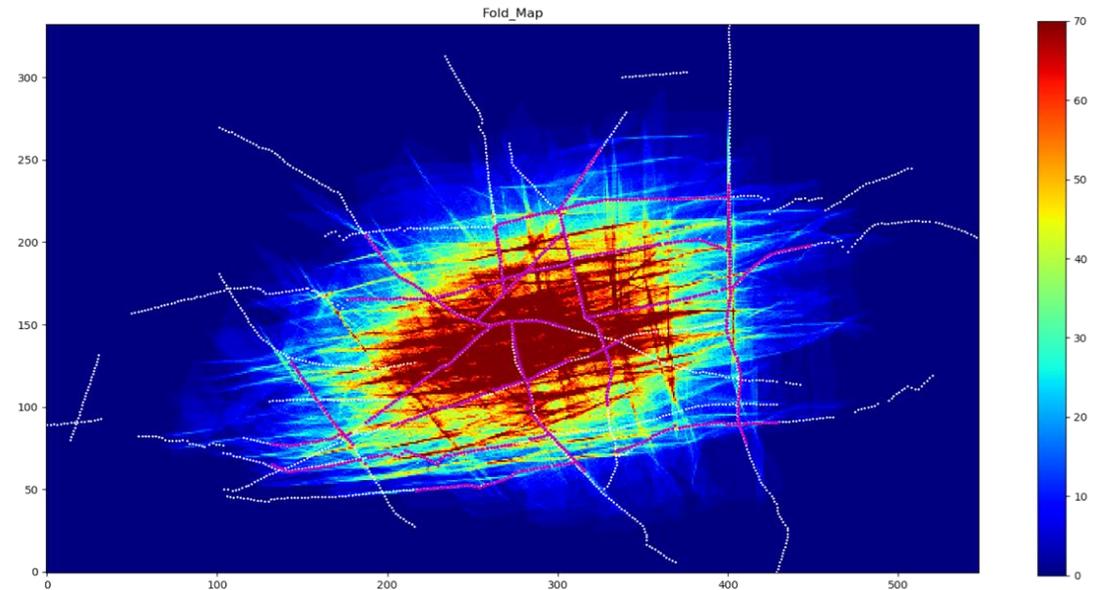
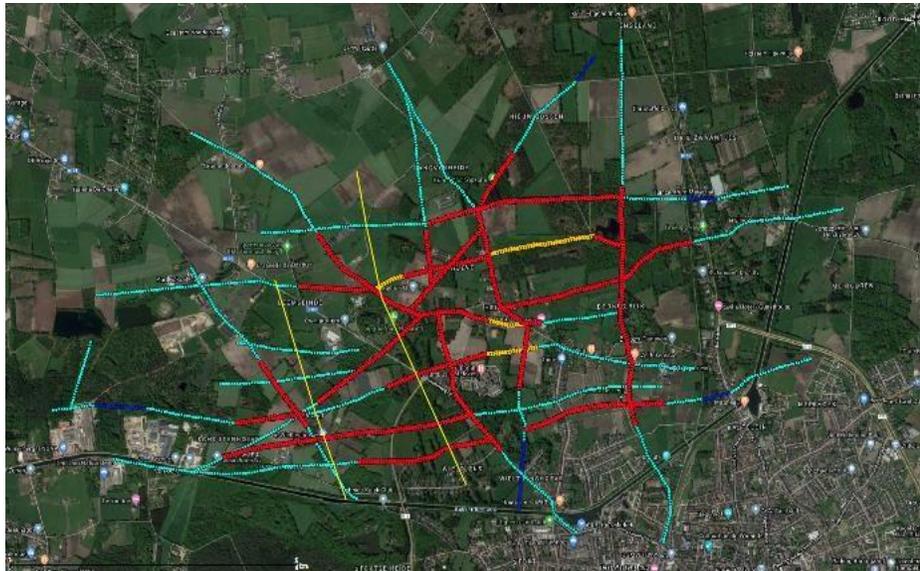
From 2D seismic to 3D Fold : Frugal Seismic Concept



From 2D seismic to 3D Fold : Frugal Seismic Concept



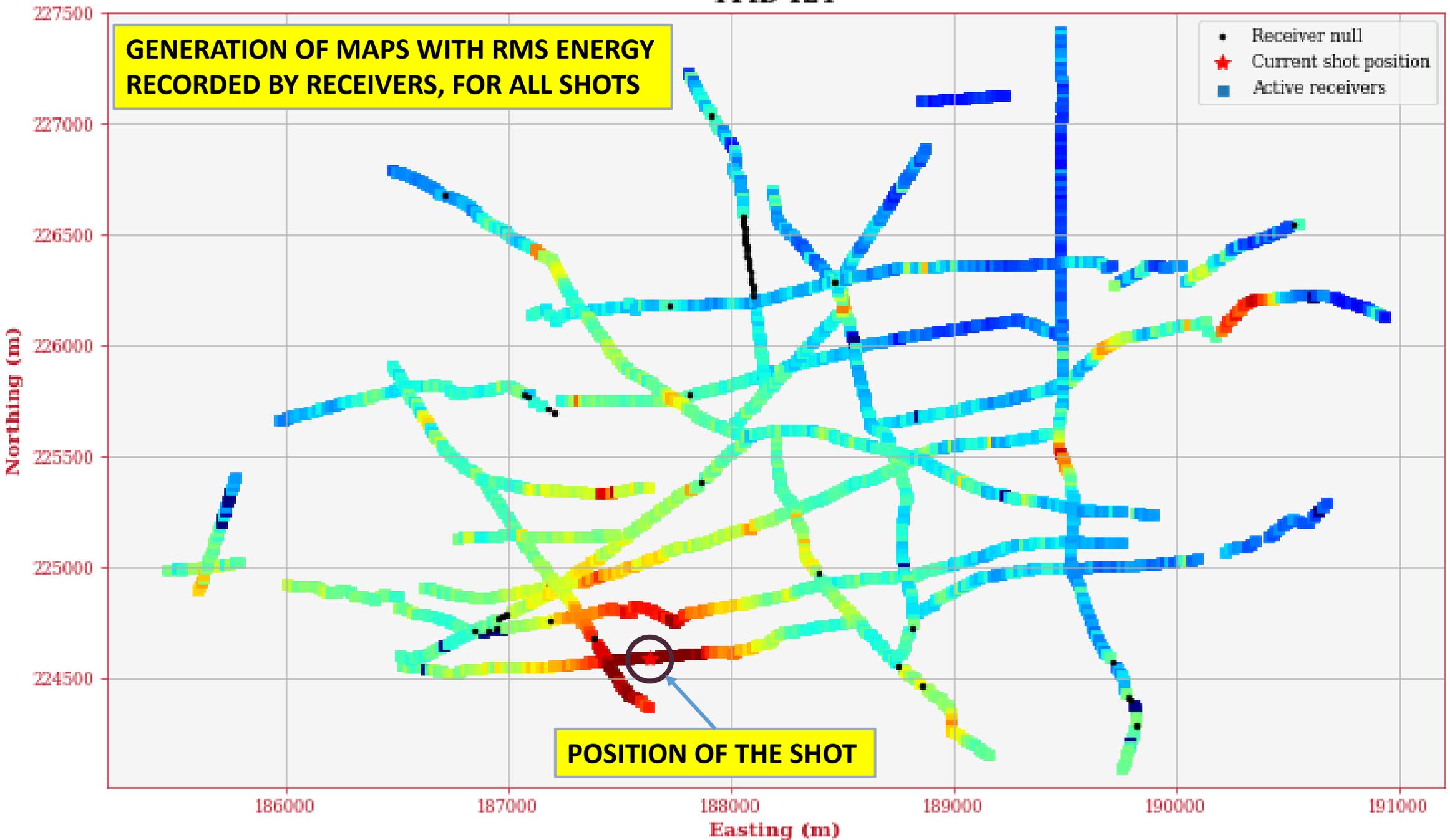
995 shot points (every 20m)
2081 receivers (every 20m)
4 days of acquisition
25 km² of interpretable cube
1 month from mobilisation to final cube delivery



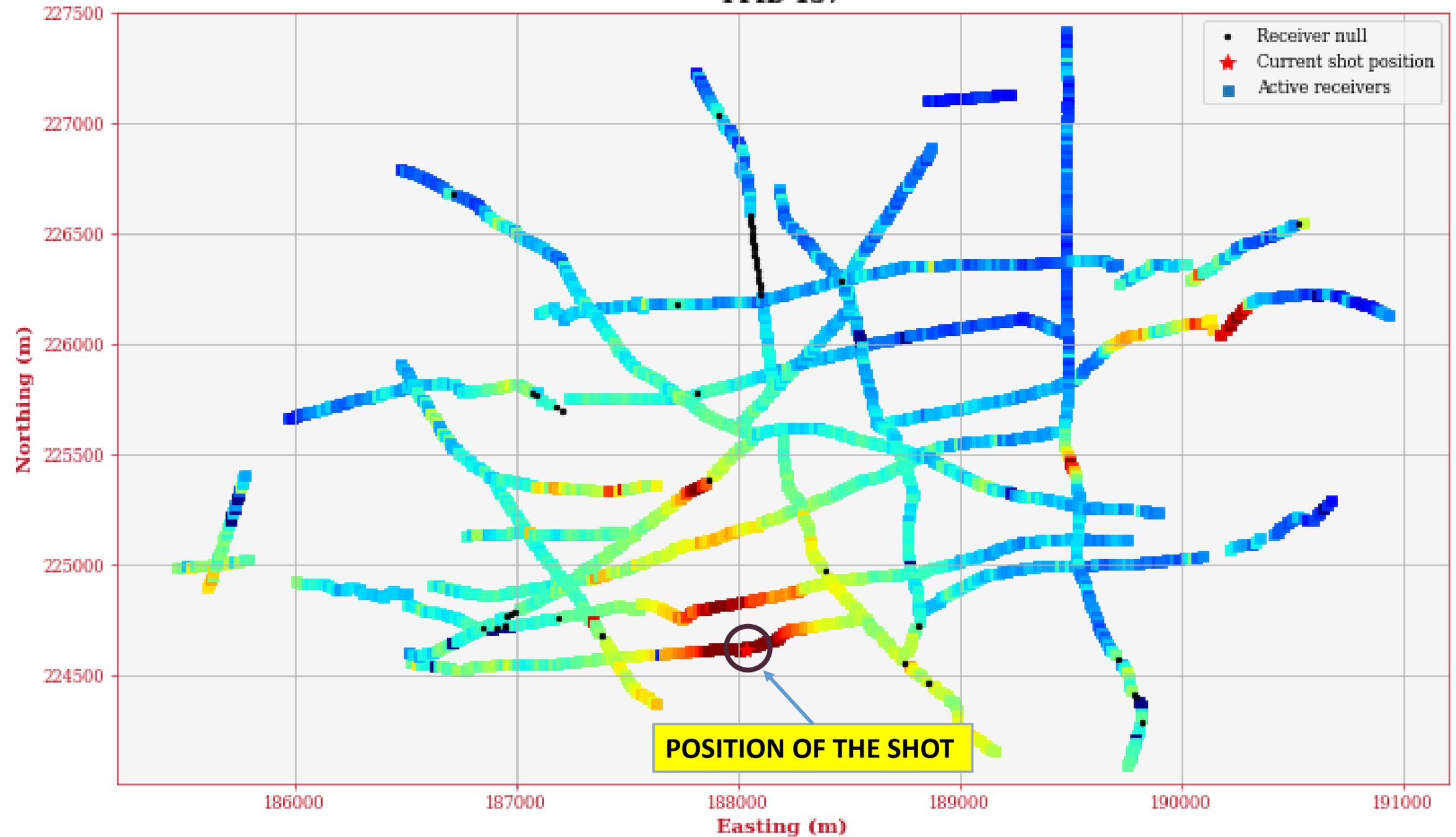
Energy distribution by shot: animation of 950 shots



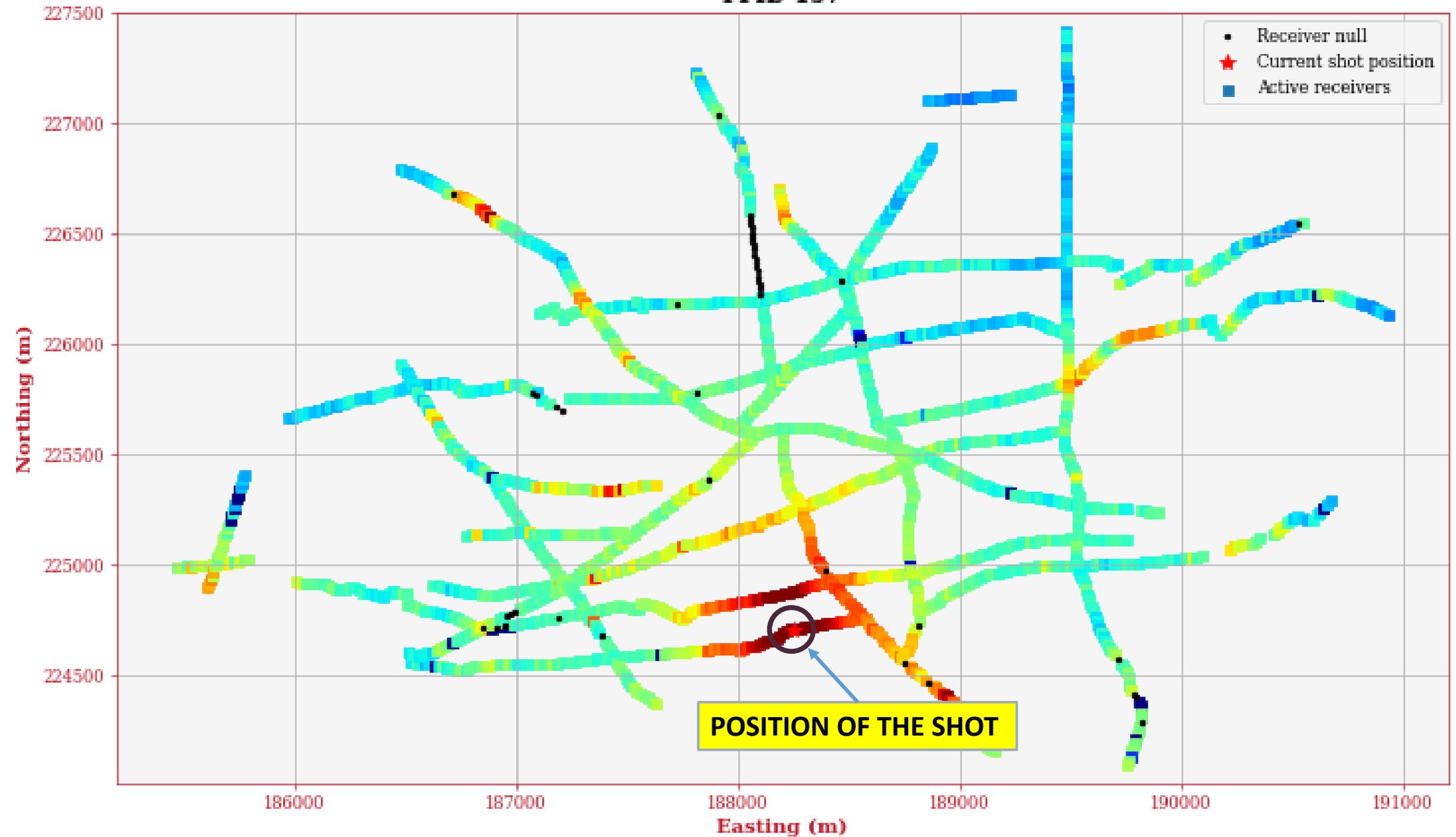
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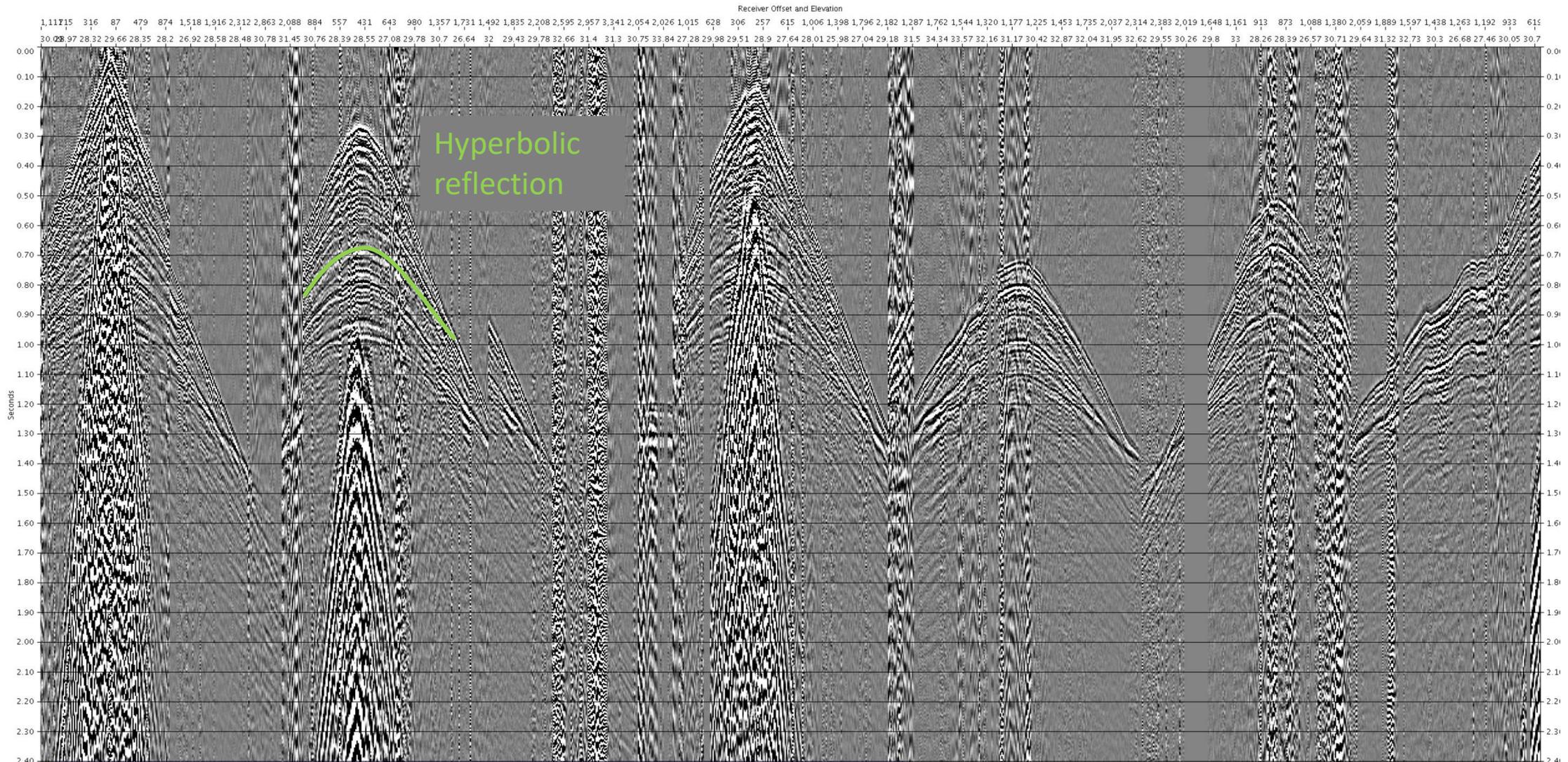
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FFID 157



Example of a good, standard shot



Light equipment seismic



Light equipment seismic



Stryde system

Weight gain = factor 7

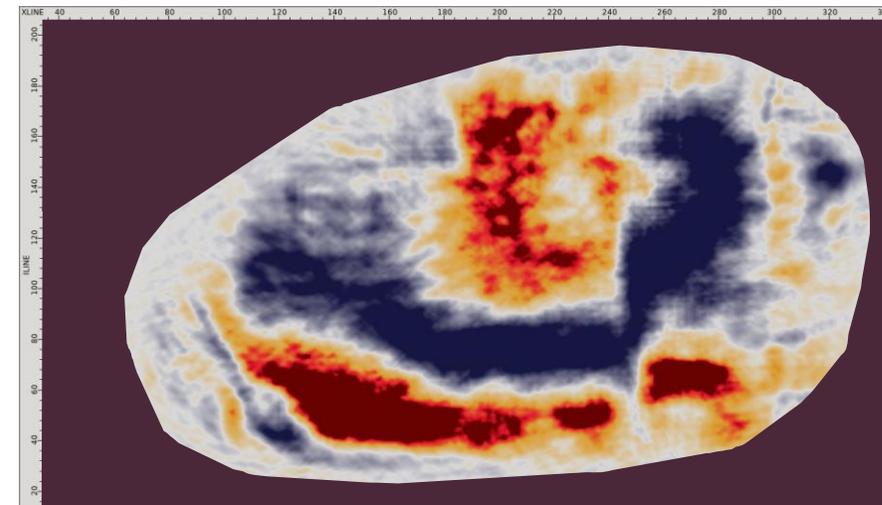
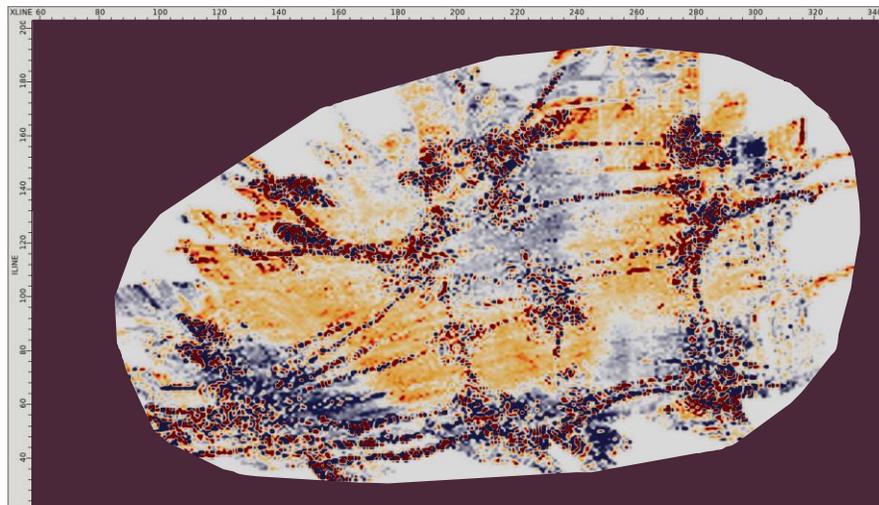
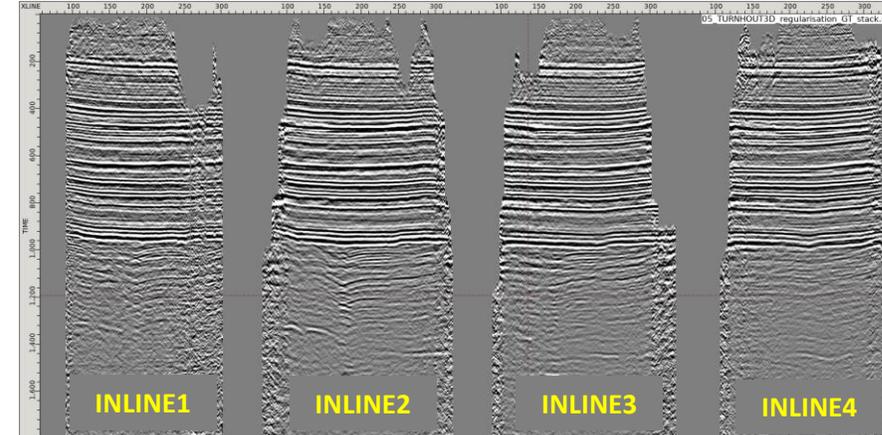
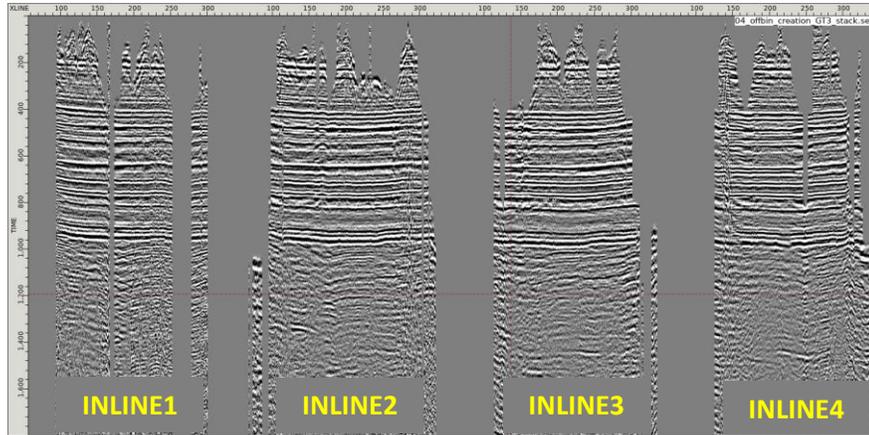
Volume gain = factor 7

Price gain = factor 3.5

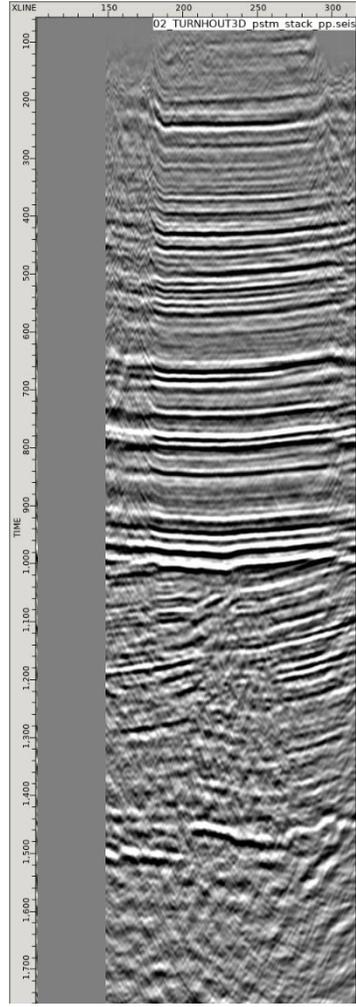
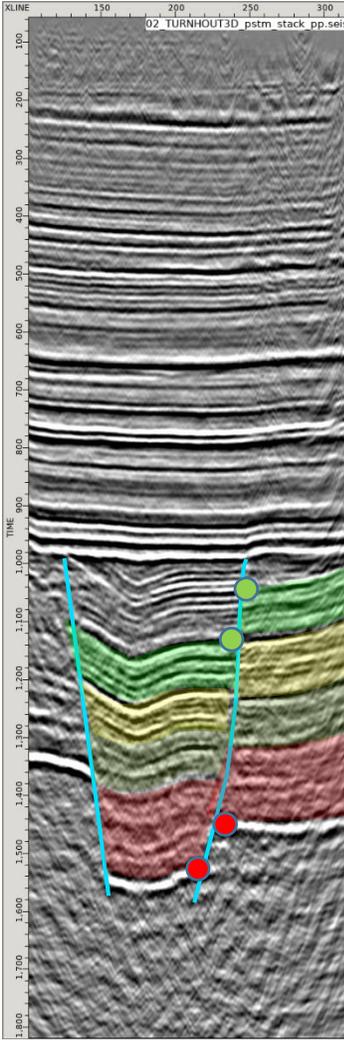
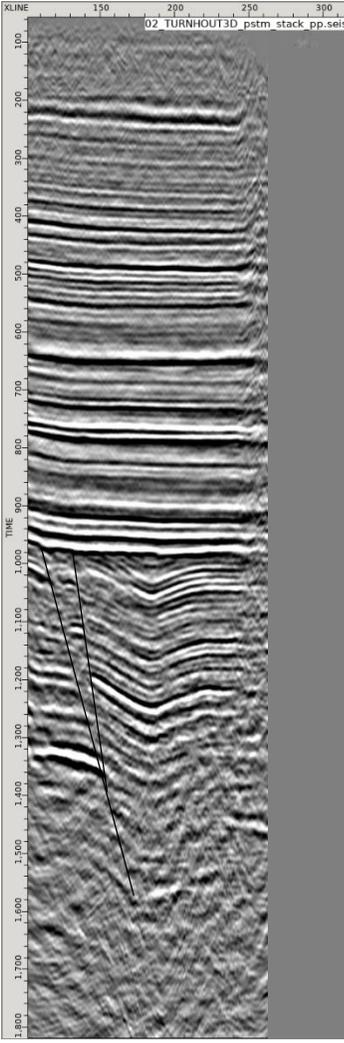
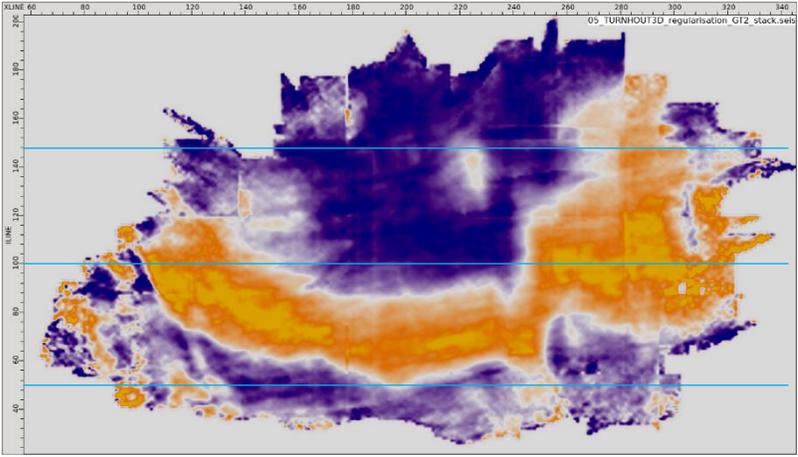
Personnel saving = factor 2.5

Battery autonomy = equal

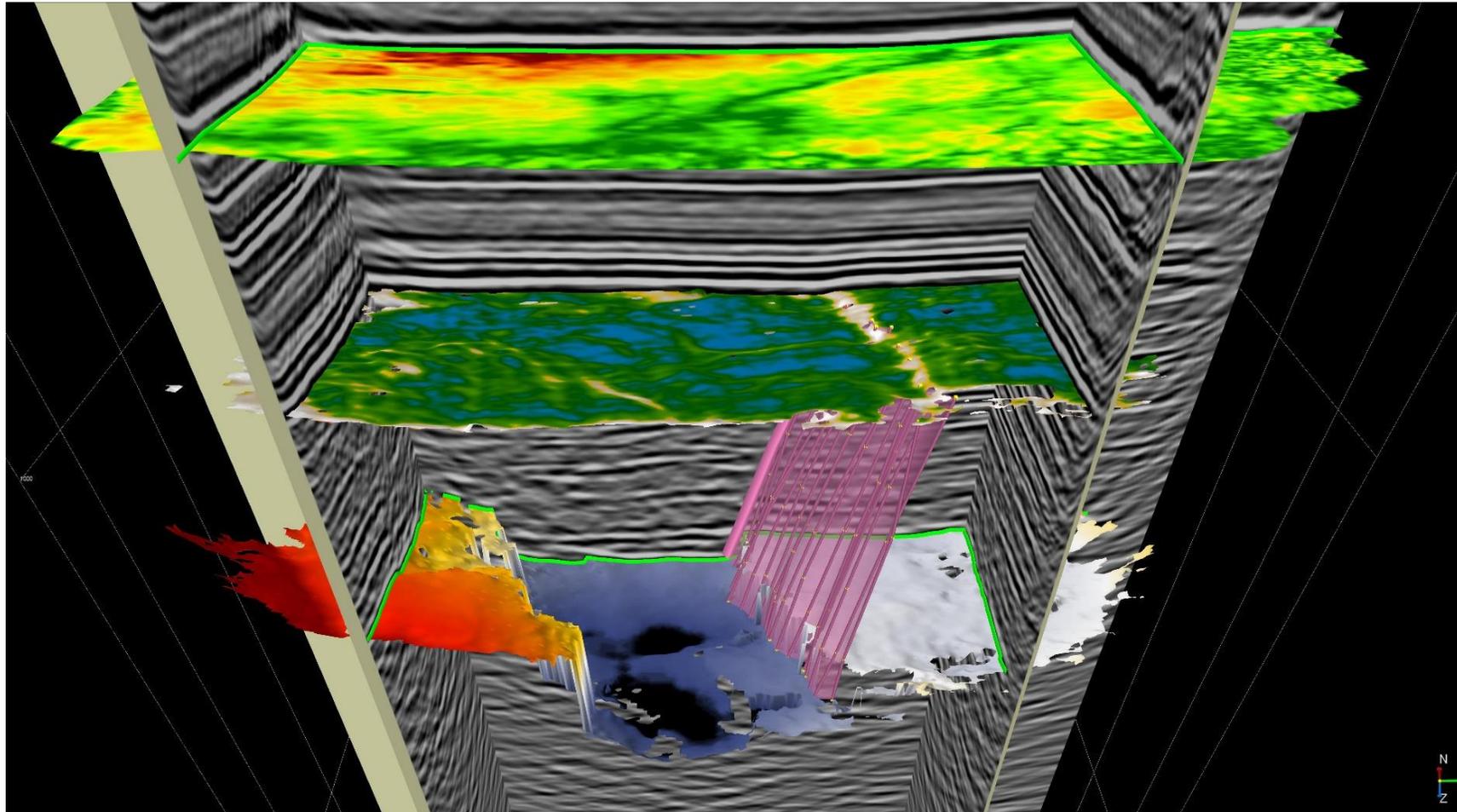
Regularisation and Interpolation



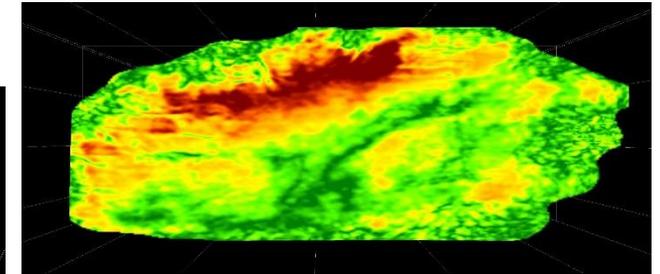
Results: imaging of faults below unconformity



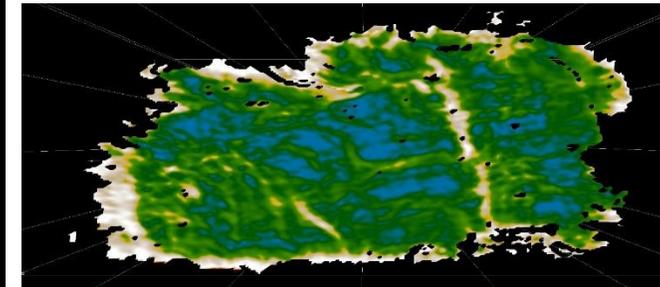
Quick look cube analysis



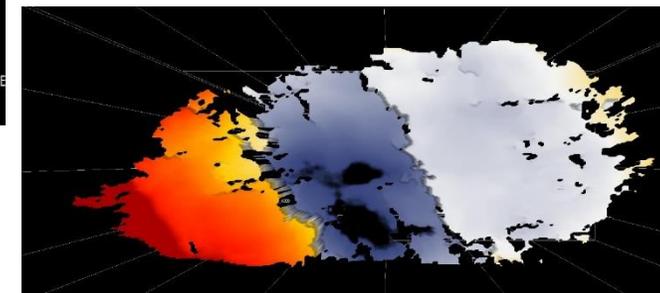
Amplitude on horizon
Geological features in 3D



Similarity on unconformity
Main faults and antithetic



Fault picked in 3D
Graben picked in 3D



Main Highlights

- HSE: zero incidents, zero accidents, on schedule
- We obtain 3D processed cubes from original 2D geometry
- Data quality is very good on both projects
- We tested new Stryde nimble node technology, turned it into a standard
- The gain of efficiency using new node generation is an order of 2 to 3
- Standard TAT of about 1 month (from mob to cube delivery)

Thanks for your attention

