RadExPro seismic software
for infield QC and fast-track processing of 2D/3D seismic data

DECO Geophysical Software Co.

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software company

RadExPro

History

The software took its origin in 1992 at the Geophysical Department, Faculty of Geology, Lomonosov Moscow State University and, since then, has been continuously developed and advanced.

In 2001 when the DECO Geophysical company was founded, the software transferred to the company together with its initial authors.

Lomonosov Moscow State University main building

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RadExPro

for infield QC and fast-track processing

The software provides all necessary facilities for 2D/3D seismic data QC and fast-track processing, either in field of at the office.

It is used for these purpose in a number of service and oil-and-gas companies both inside Russia and abroad.

Russian office of FairField Nodal company offers RadExPro as a standard solution for infield processing and QC, coming together with their seismic systems.

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for infield QC and fast-track processing

On Windows: 

Easy to install

- Does not require administrative expertise

Easy to learn and to use

- Handy graphical inteface
- Manual and tutorials available

No specific hardware required

-Operates smoothly on just an average up-to-date laptop or desktop computer

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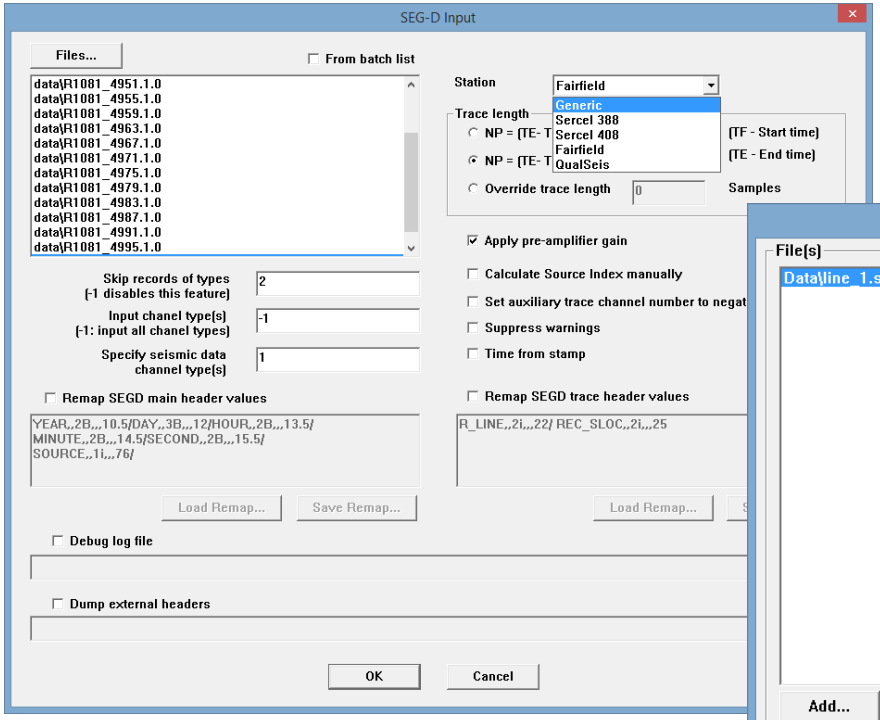
Rapid input of data of any size



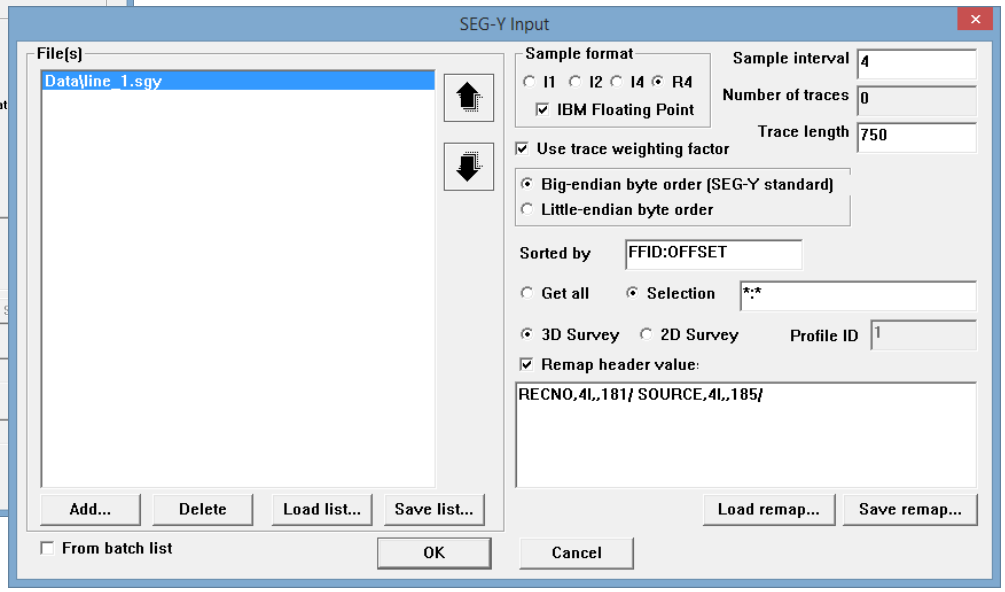
Formats supported:

-SEG-D (with optional header remapping)

-SEG-Y (with optional header remapping)

-SEG-2 and more…

-Input seismic trace from ASCII



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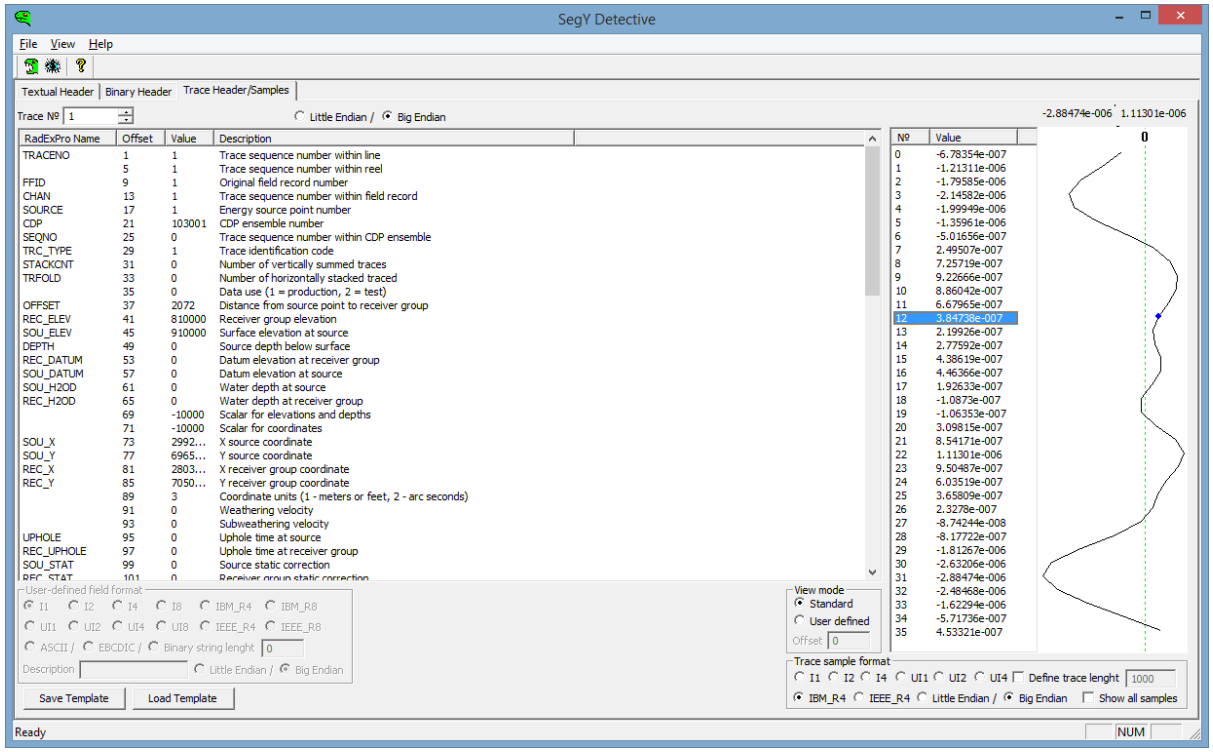
SEG-Y Detective – flexible multi-purpose SEG-Y file analyzer



-View SEG-Y headers and trace samples in any formats with any byte order

- Create user-defined headers of any formats with any (inc. odd) offsets and save them as a template

-Edit header field values

and more…

FREE DOWNLOAD from
www.radexpro.com

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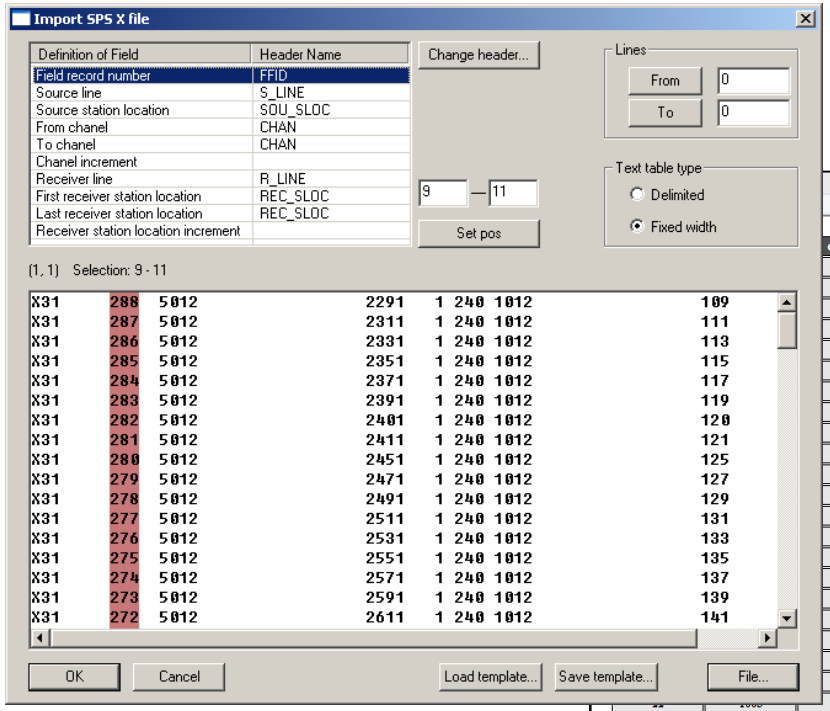
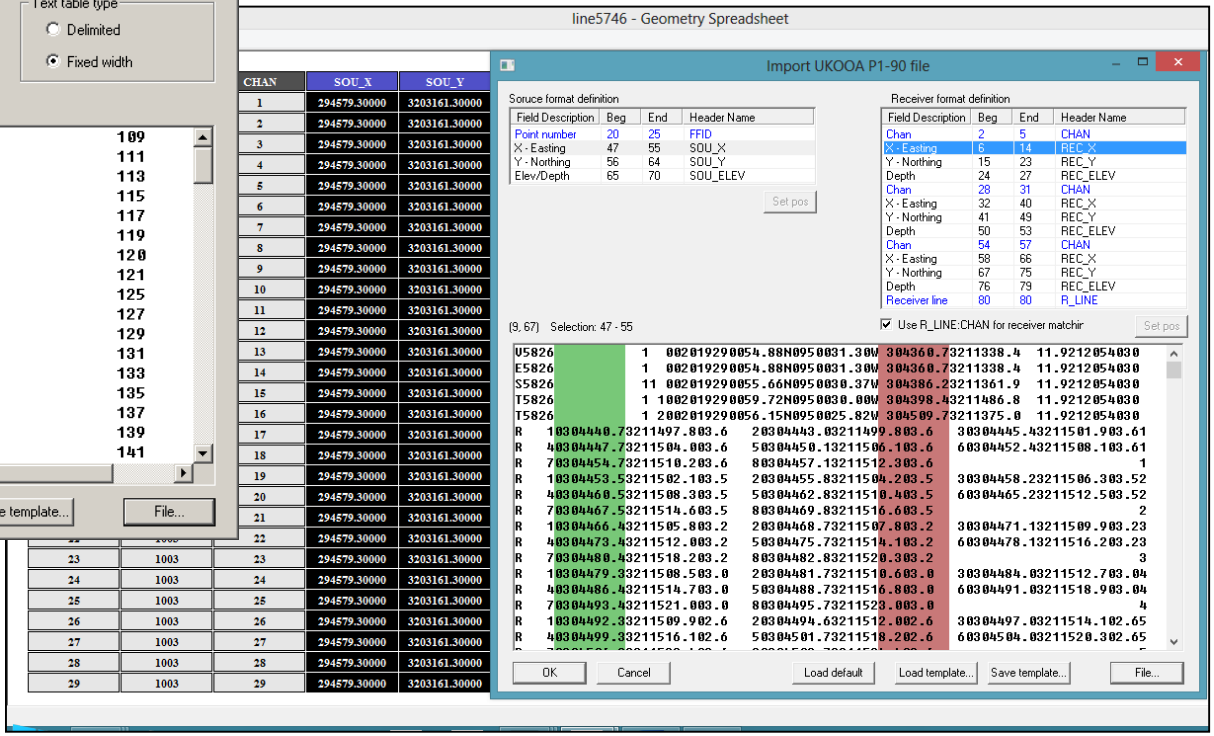
Handy and flexible geometry assignment tools

- *From trace headers (if the values are there)*
- *From SPS-files*
- *Frem UKOOA p1-90 files*
- *From arbitrary ASCII table files*
- *Built-in spreadsheet and header math editors*





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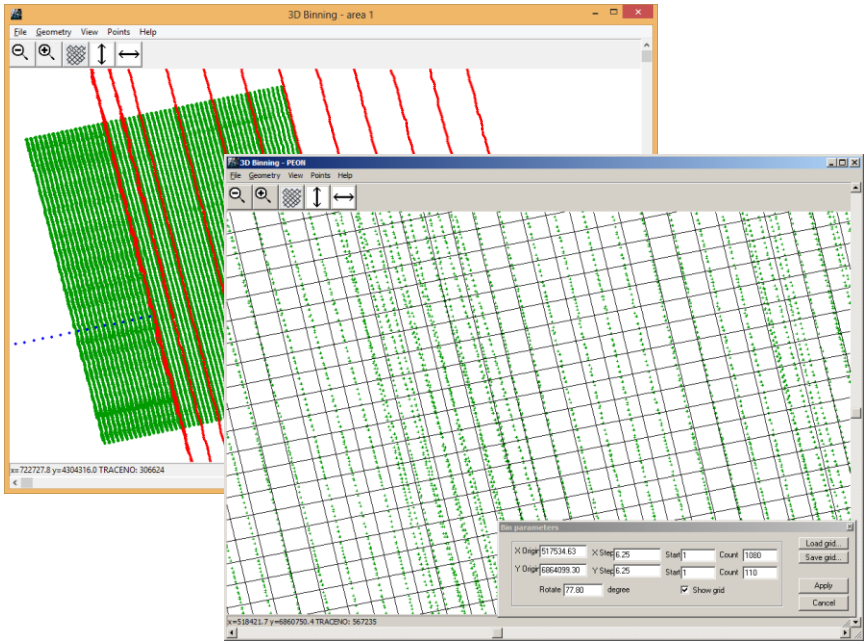
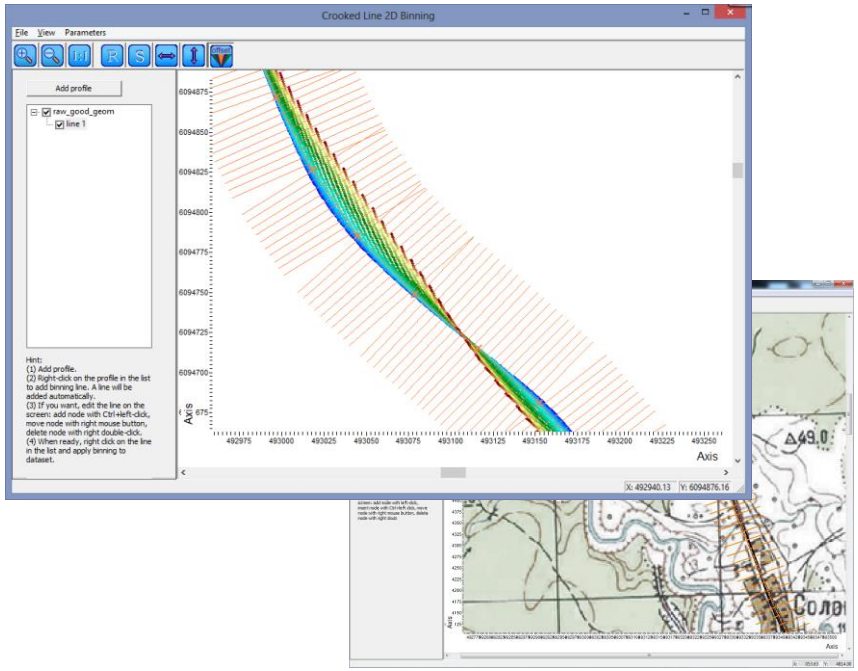
Interactive CDP binning



- 3D

- 2D along arbitrary line (binning line offered automatically and can be edited interactively)



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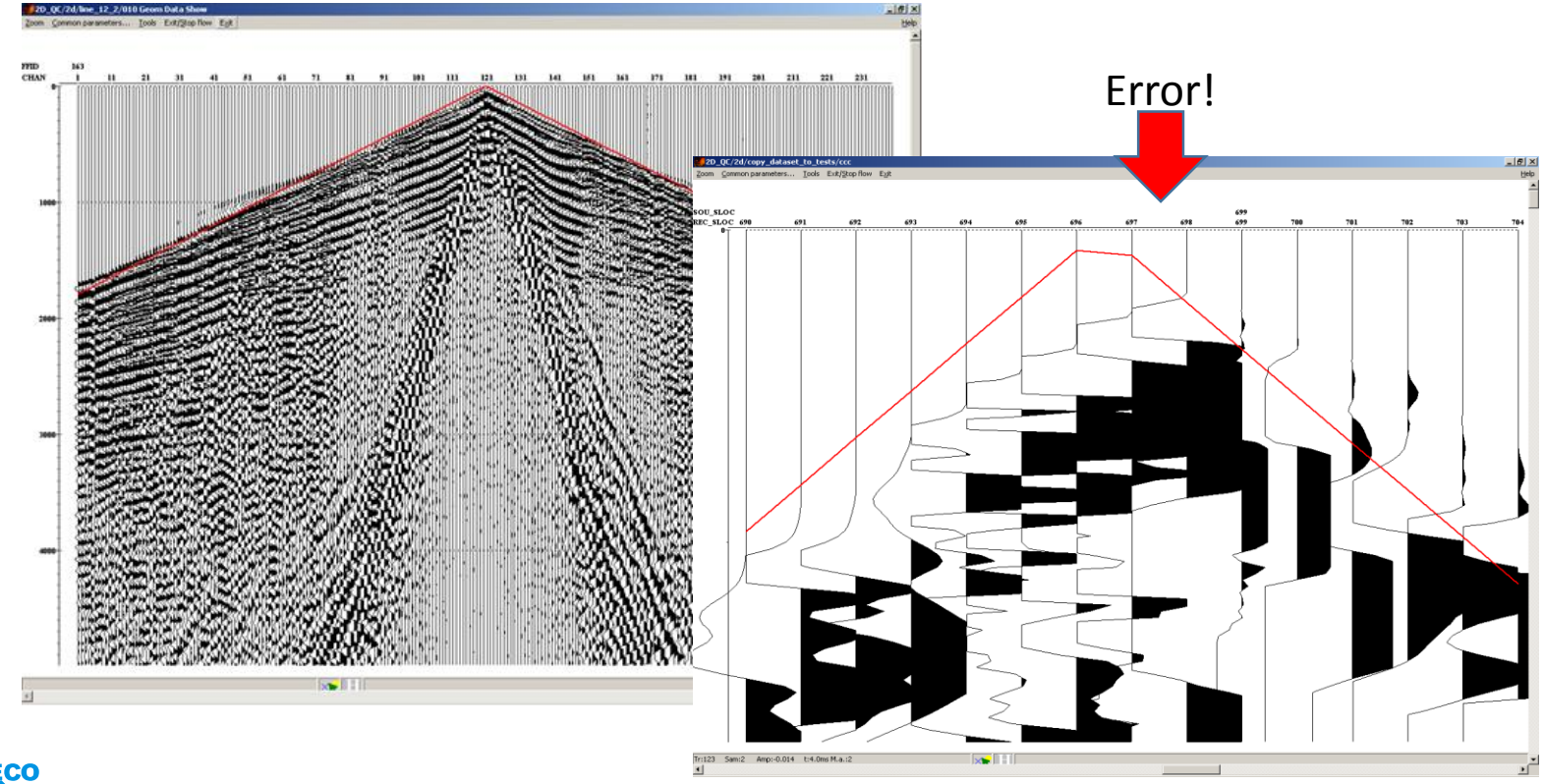
Geometry QC

- First arrivals control



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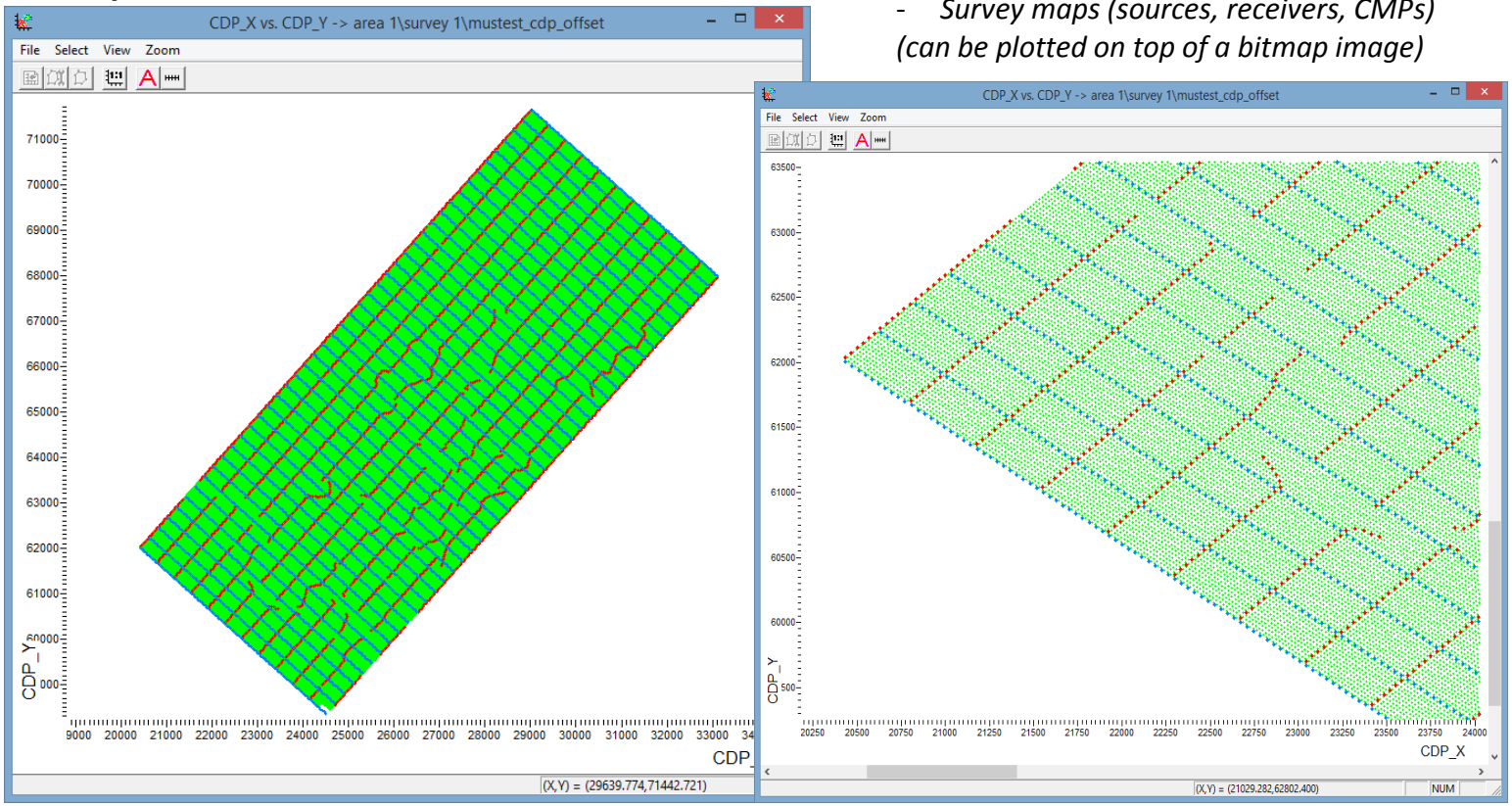
Geometry QC



- *Survey maps (sources, receivers, CMPs) (can be plotted on top of a bitmap image)*

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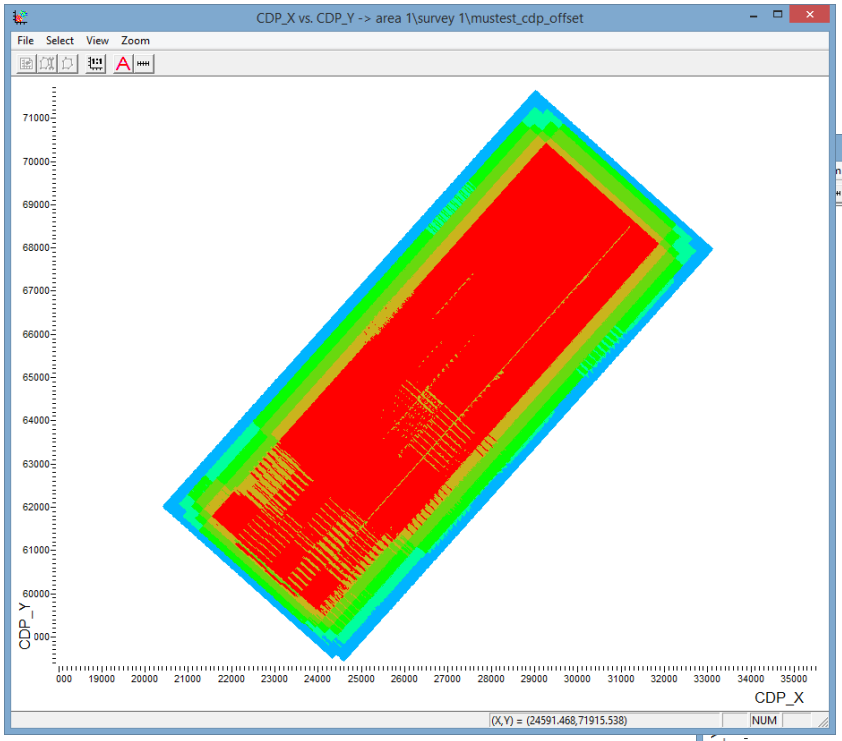
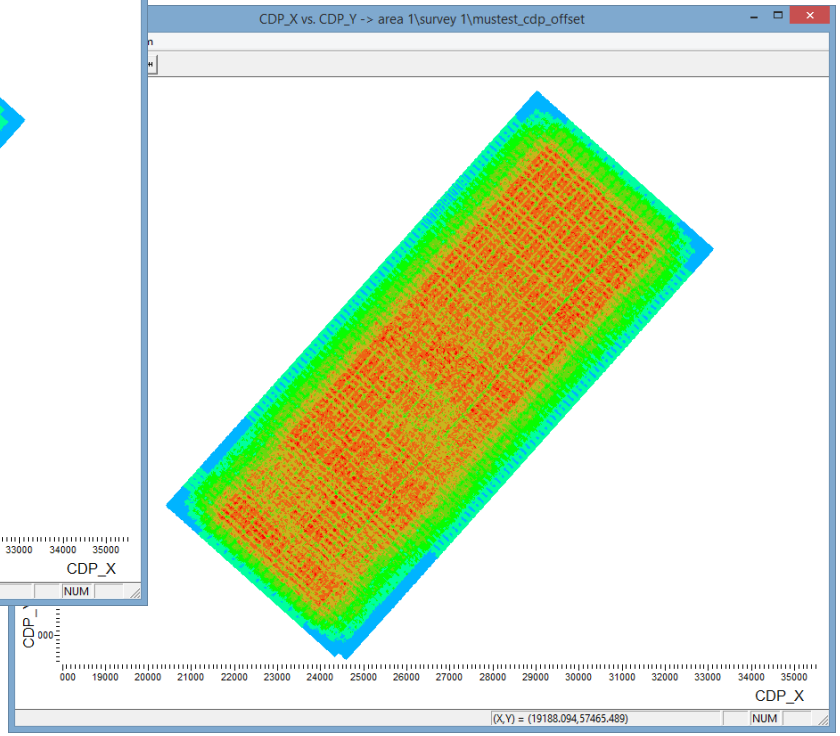
Geometry QC



- *Fold and offset sampling maps*



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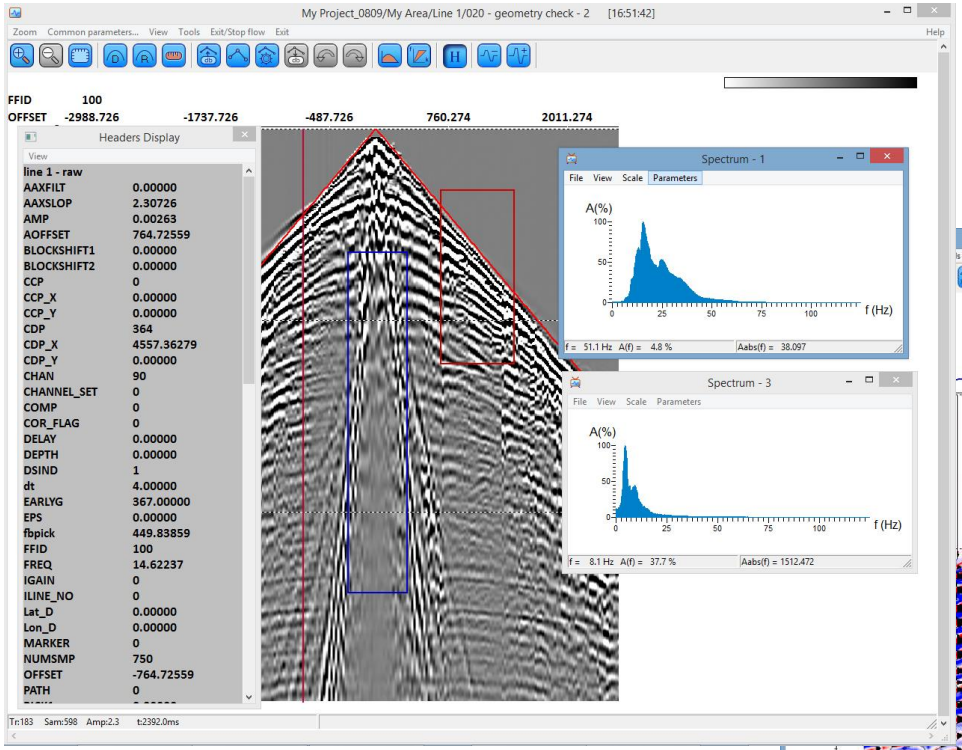
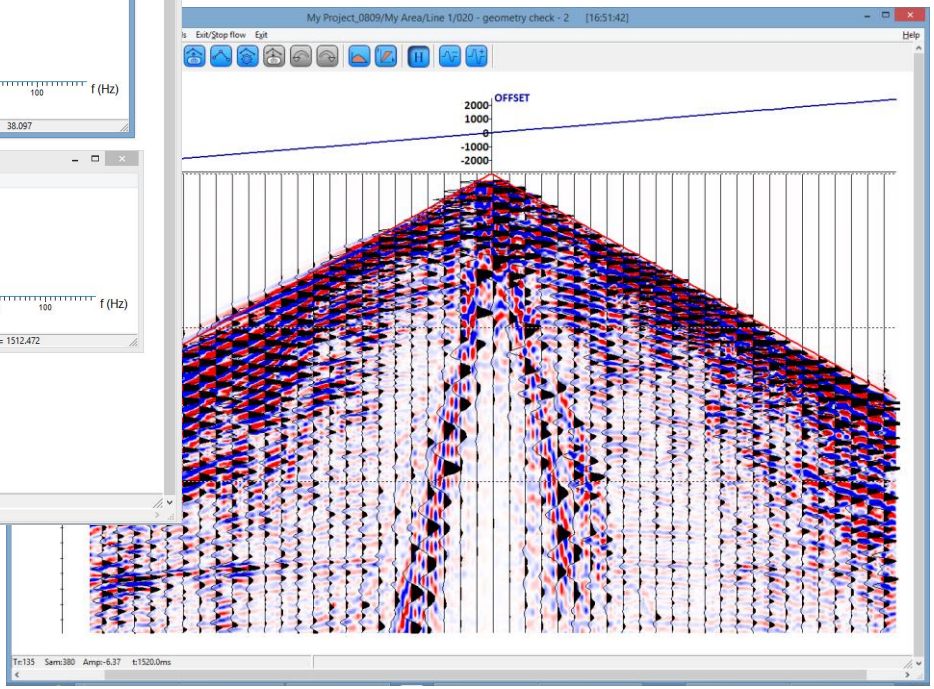
Visual QC and data analysis

- *Any ways of data display*
- *View of every N-th gather*
- *Check headers of any trace*
- *Display header value diagrams*
- *View frequency and F-K spectrums of arbitrary data fragments*





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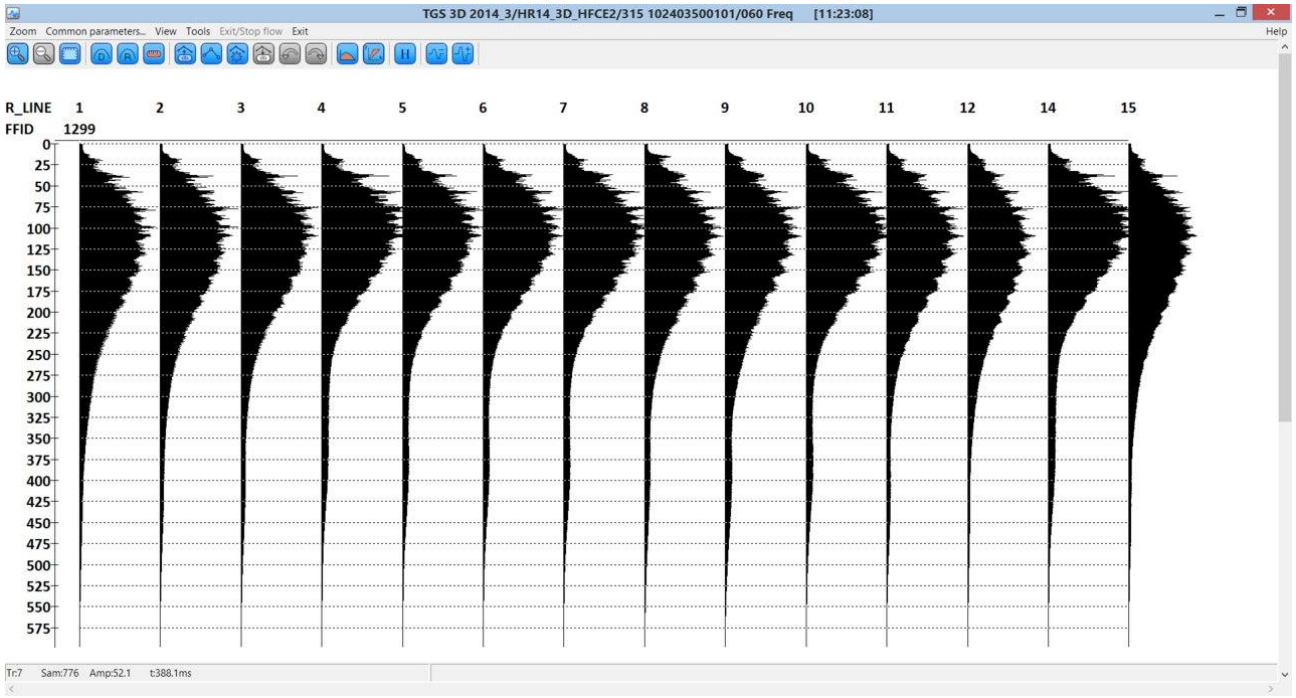
Visual QC and data analysis



- *Display frequency spectra of every N-th channel*

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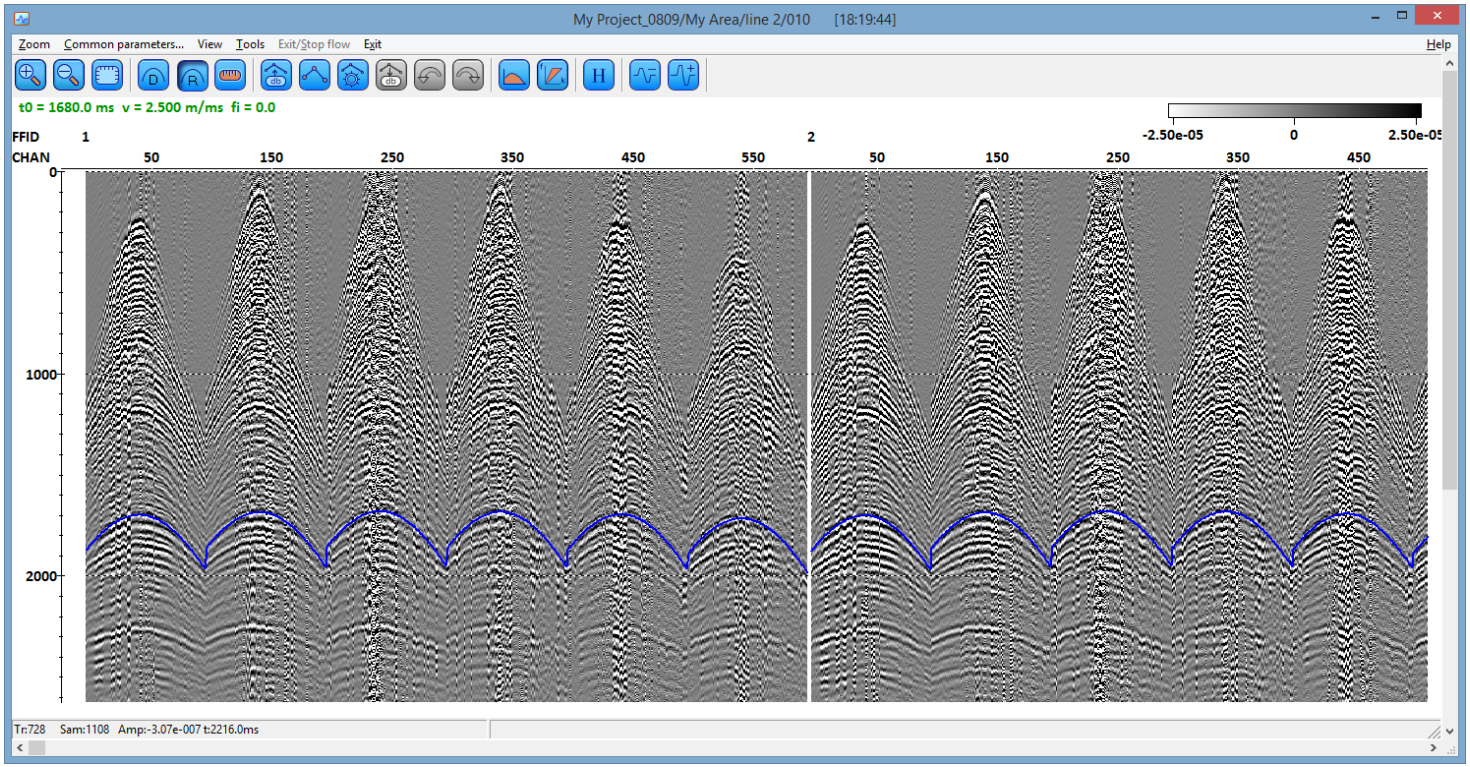
Visual QC and data analysis

- *Interactive estimation of seismic velocities of all wave types*



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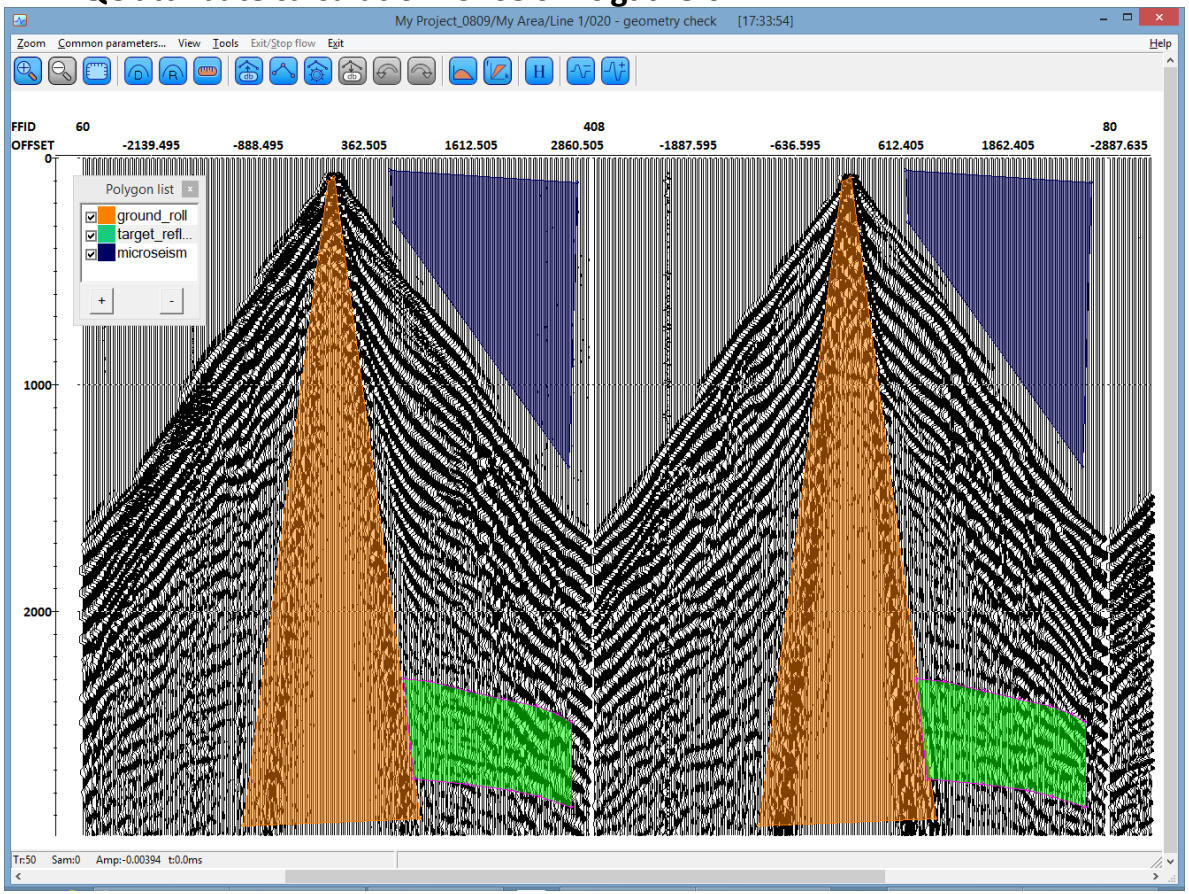
QC attribute calculation for seismic gathers



- Interactively define windows for attribute calculation

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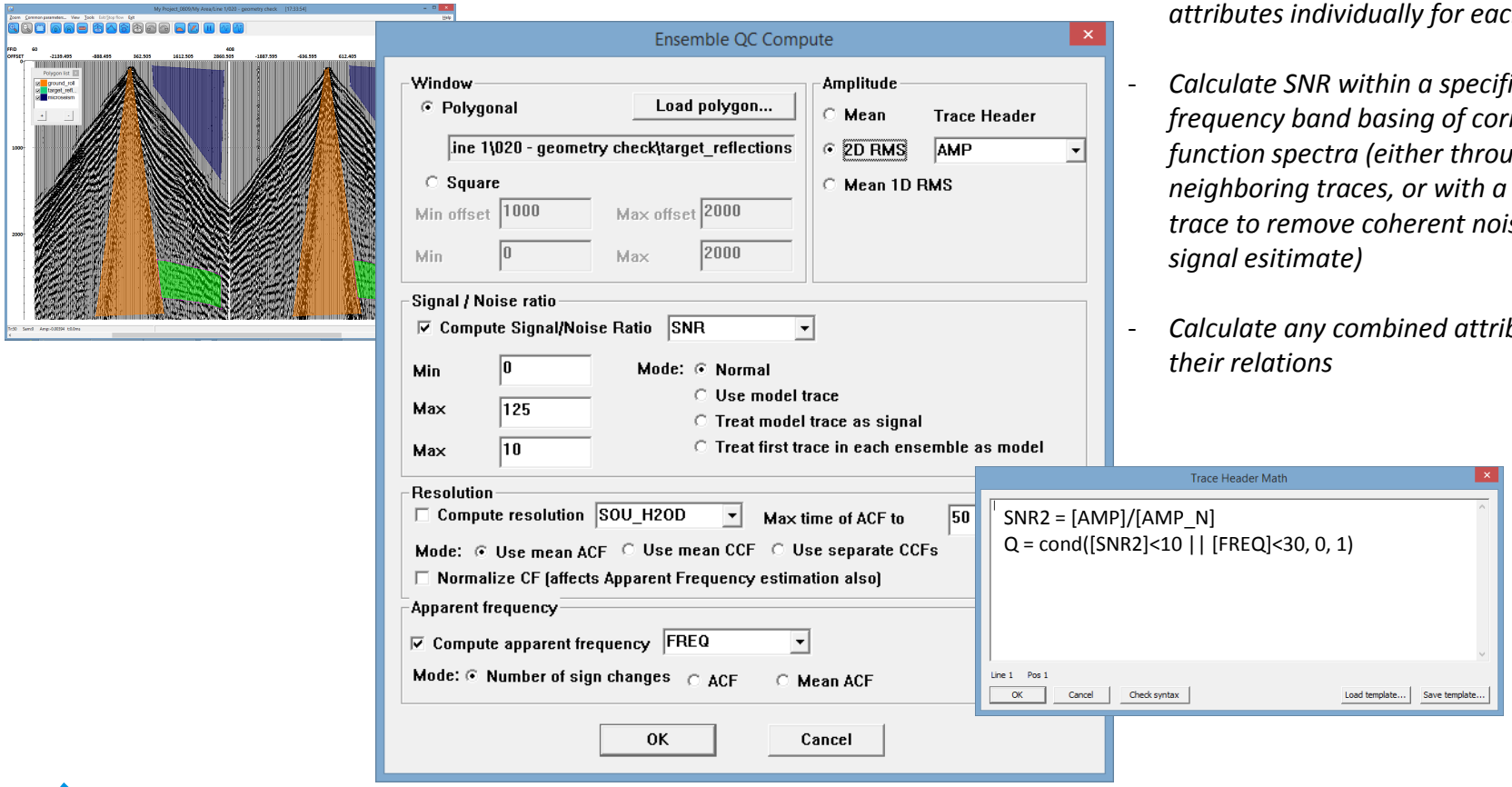
QC attribute calculation for seismic gathers



- *Evaluate amplitude and frequency attributes individually for each window*
- *Calculate SNR within a specified frequency band basing of correlation function spectra (either through CCF of neighboring traces, or with a stacked trace to remove coherent noise from the signal esitimate)*
- *Calculate any combined attributes and their relations*

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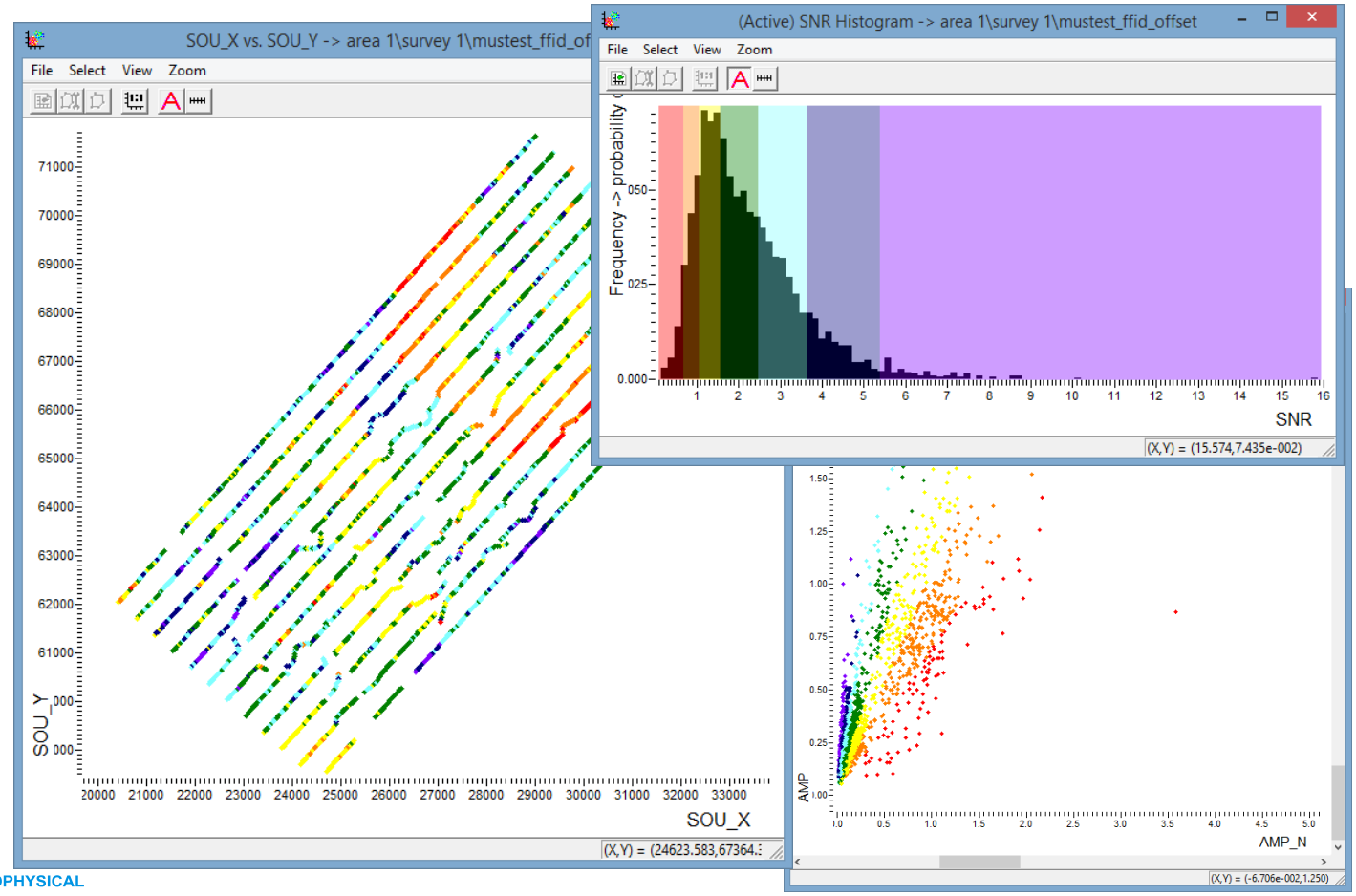
Attribute analysis on linked cross-plots



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Fast-track processing

Complete set of industry-standard algorithms

Vibroseis correlation, trace editing, band-pass and 2D filtering, ground-roll suppression, amplitude correction, deconvolutionms, interactive velocity analysis, statics, NMO-correction, DMO, stacking, migrations, etc.

Handy data management tools

-Processing in projects, data is stored together with processing parameters.
-Processing history is available for each dataset.

Efficiently handle data of any size

-Framed mode of flow execution.
-Fast resorting of big data volumes.
-Parallelization – up to 4 queues to run in parallel

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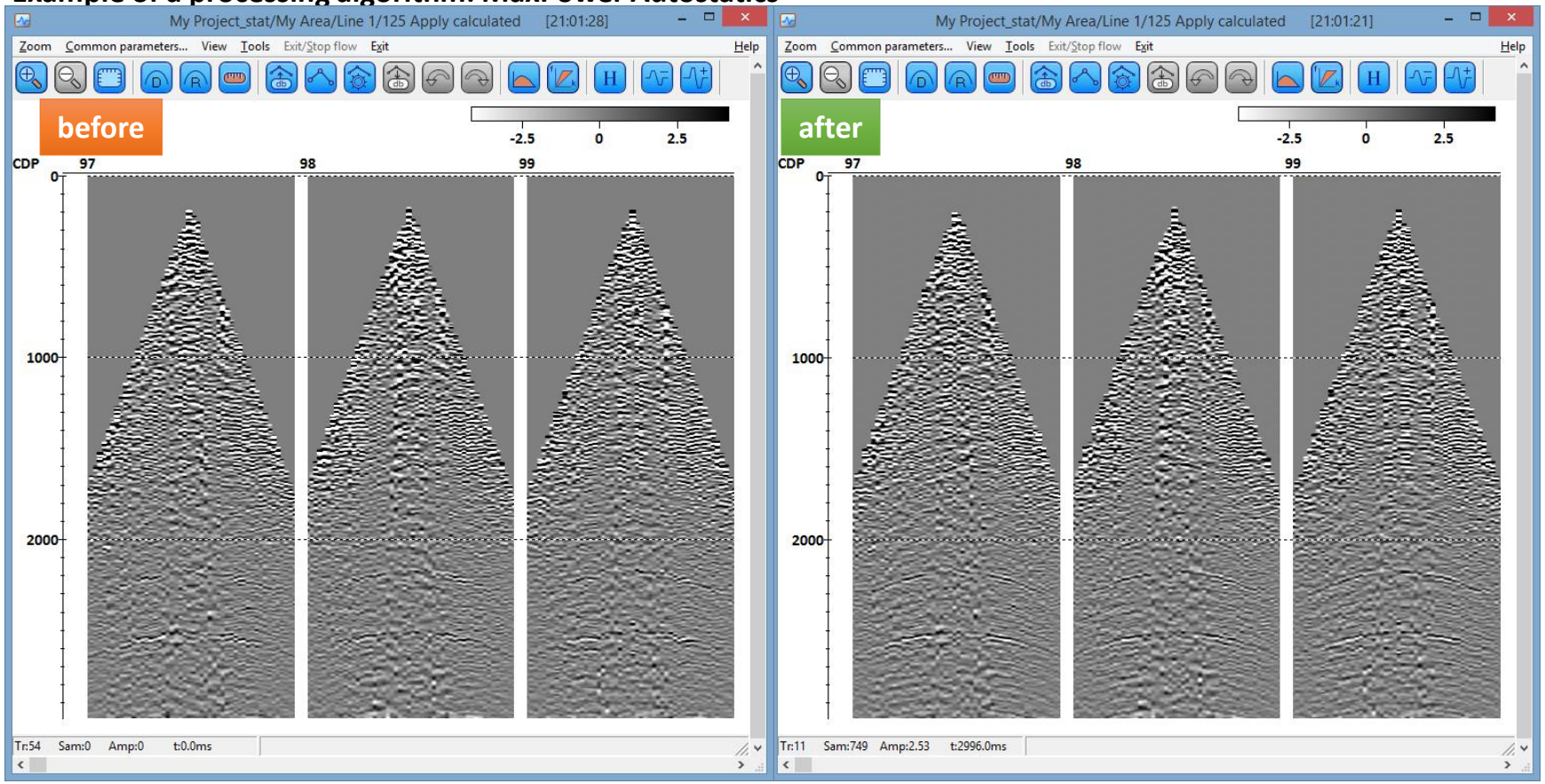
Example of a processing algorithm: MaxPower Autostatics



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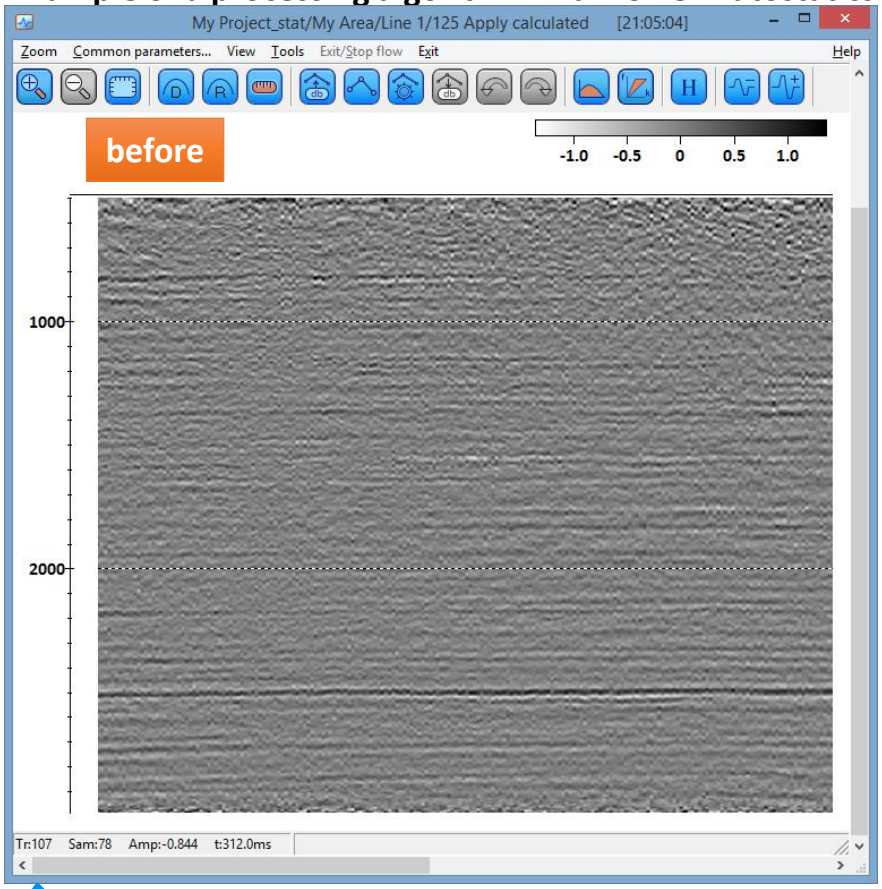
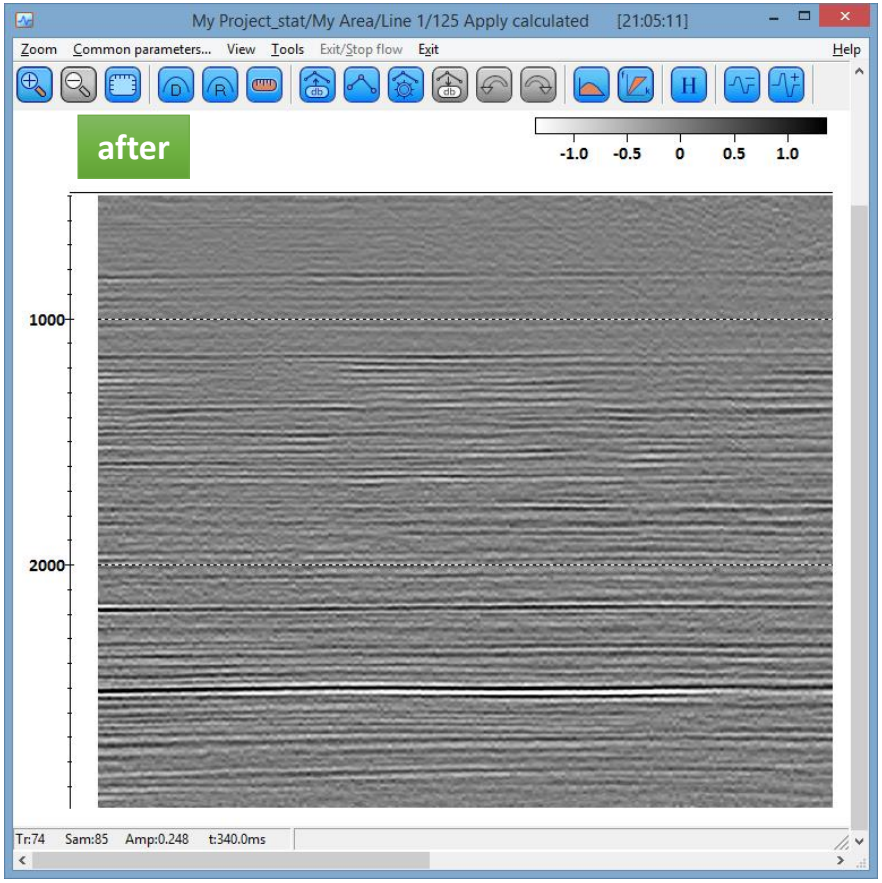
Example of a processing algorithm: MaxPower Autostatics





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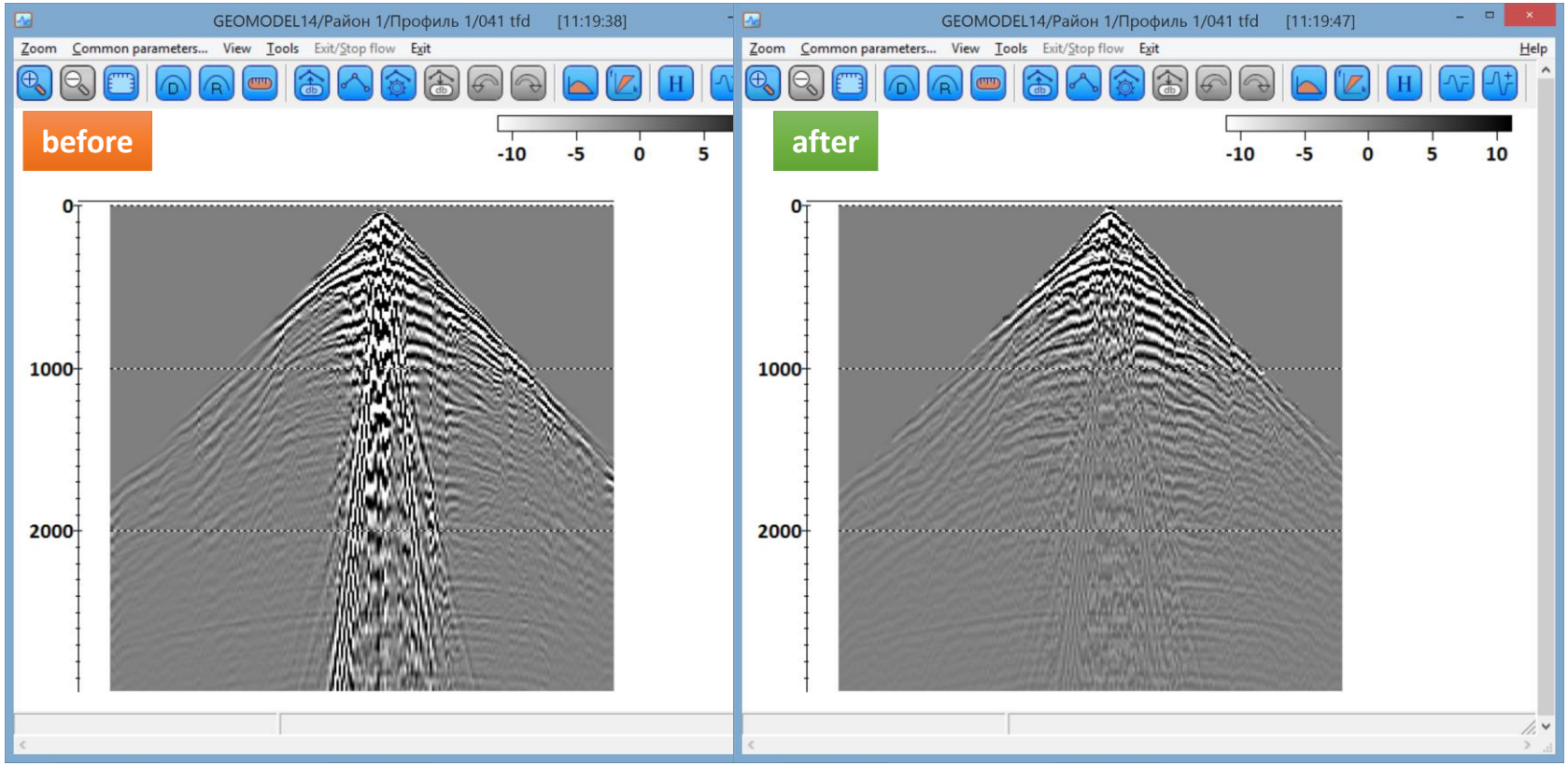
Example of a processing algorithm: ground-roll suppression (TFD Noise Attenuation)



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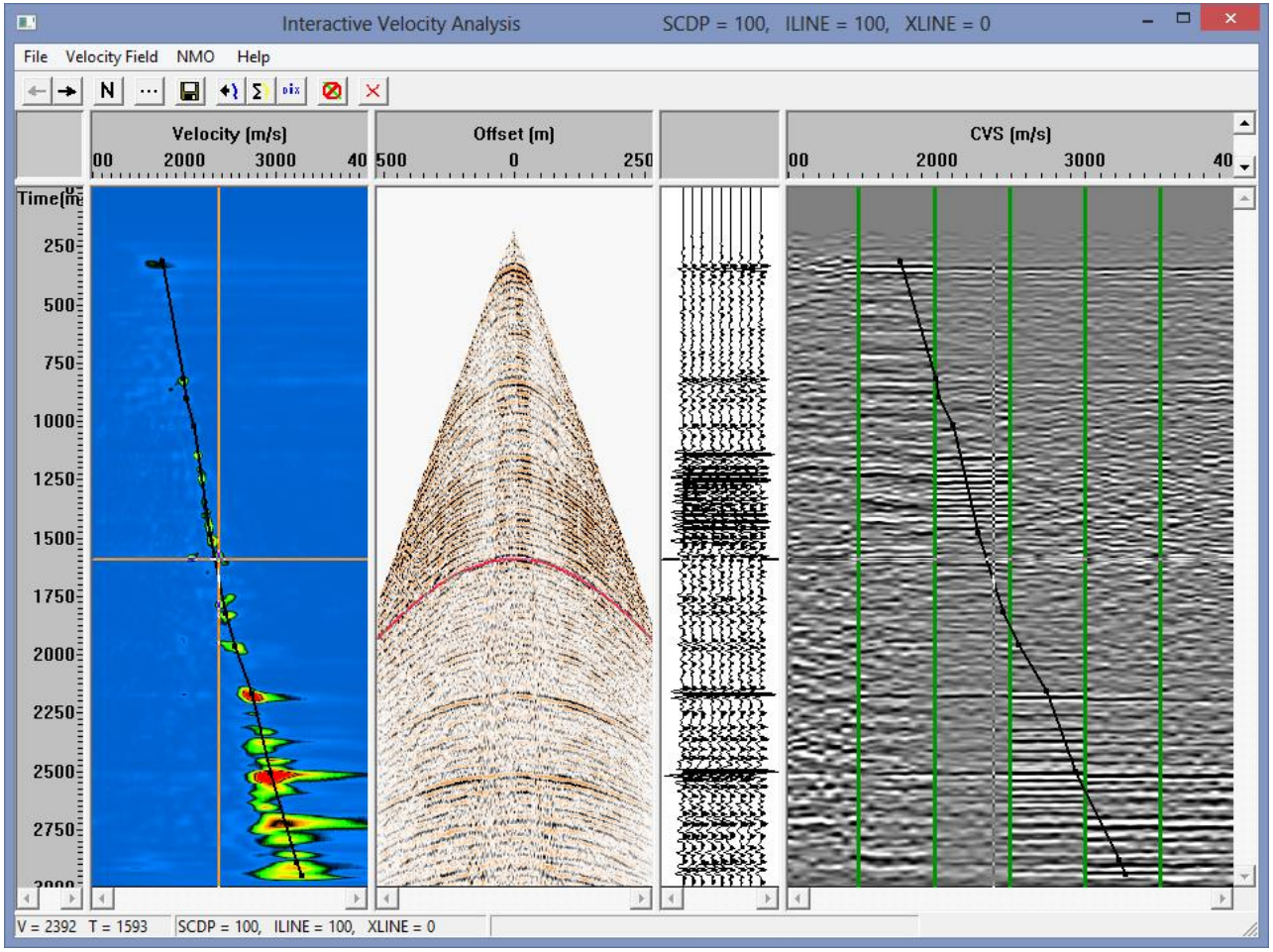
Example of a processing algorithm: interactive velocity analysis



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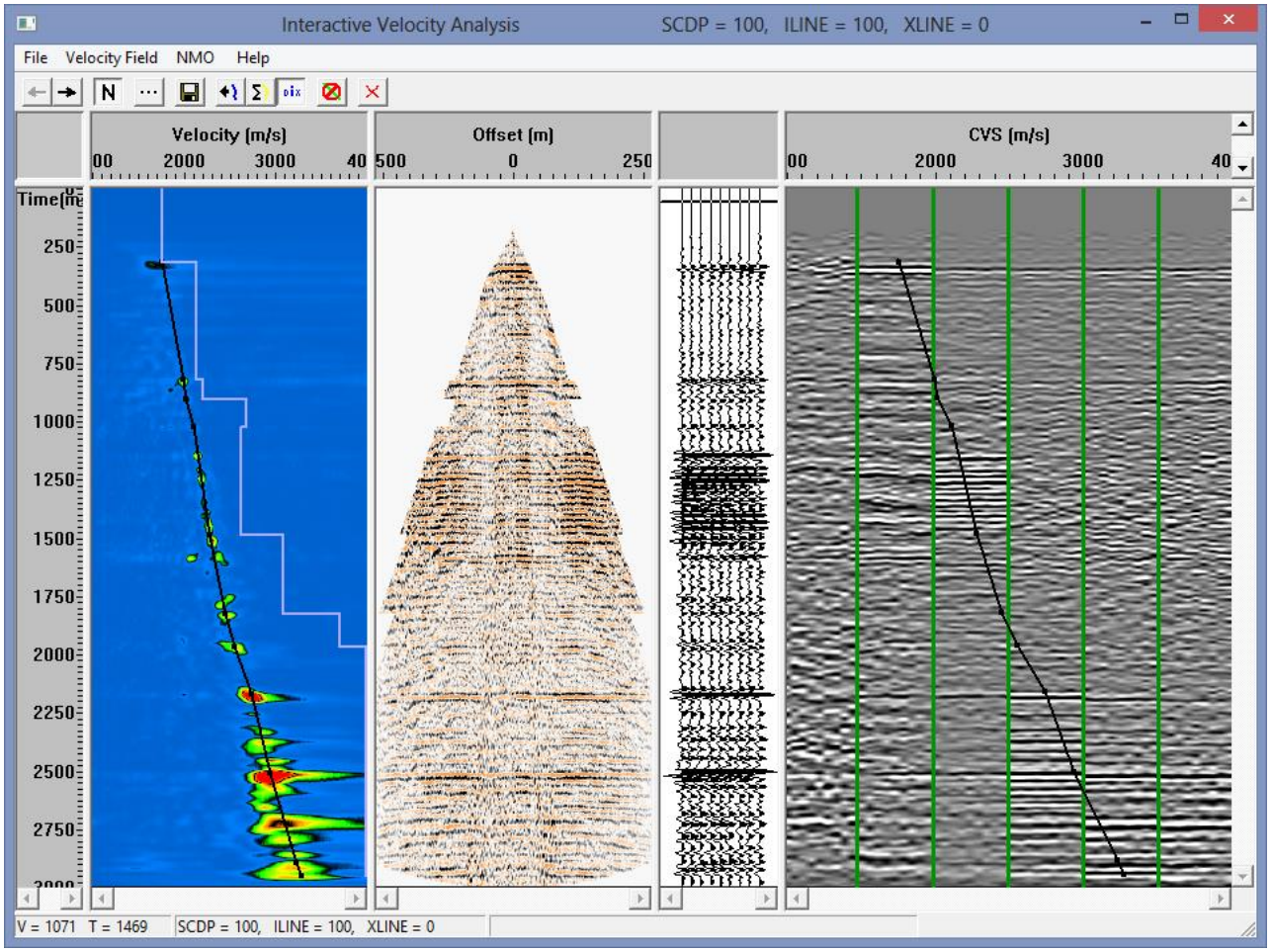
Example of a processing algorithm: interactive velocity analysis – apply NMO in the real time!



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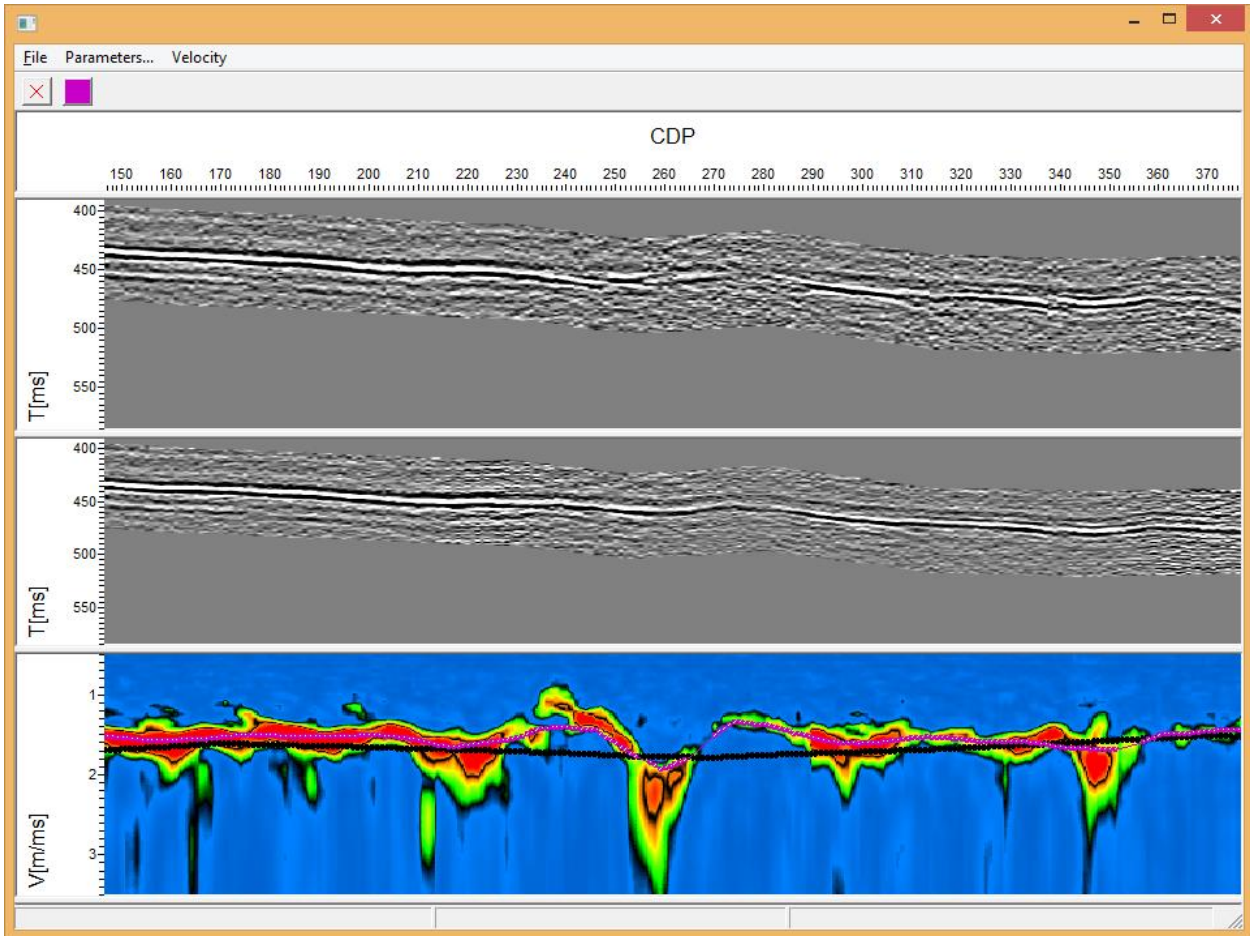
Example of a processing algorithm: horizon-based velocity analysis for detailed velocity information



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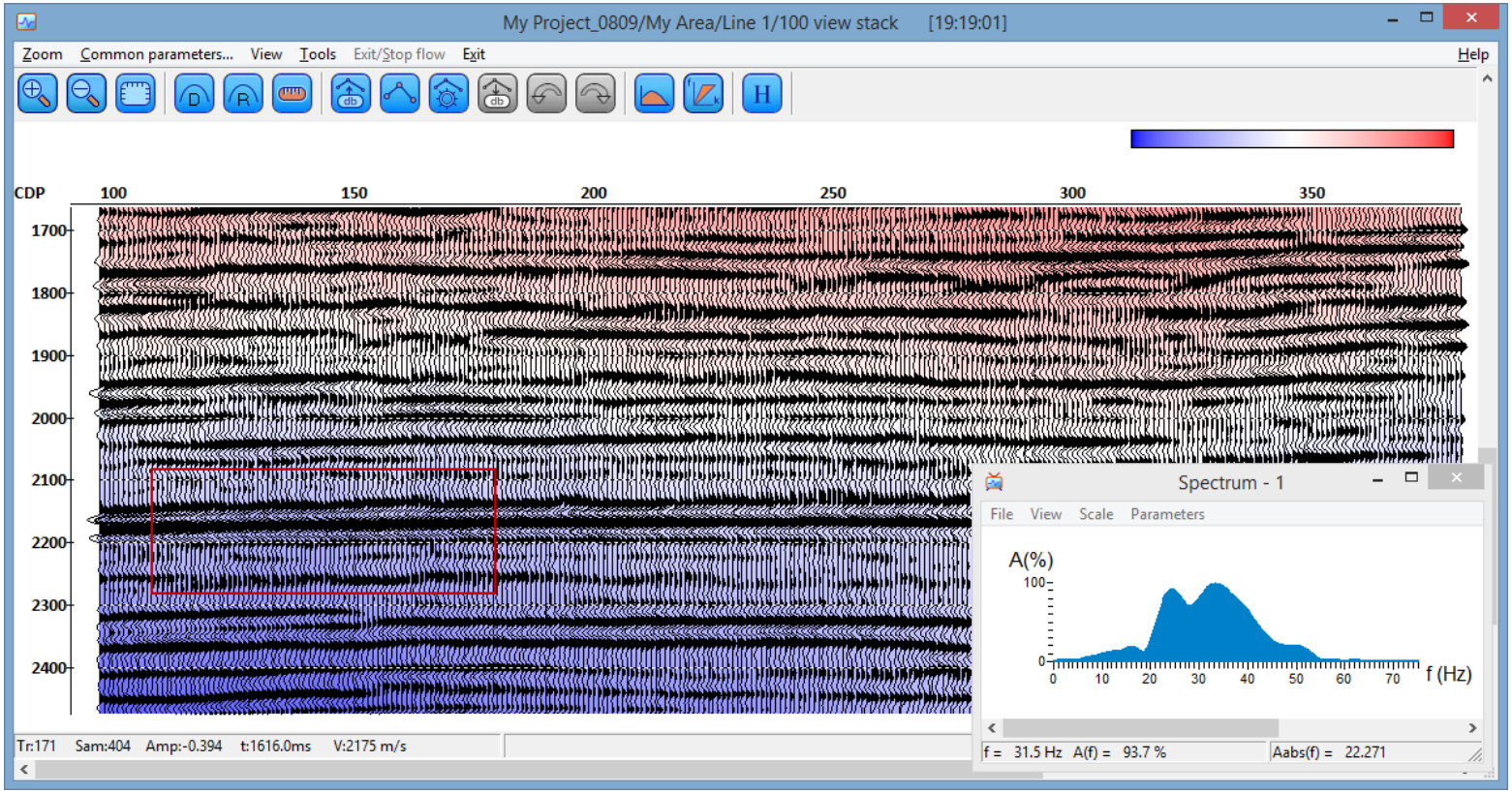
Display of seismic brute stack on top of color-coded stacking velocity field



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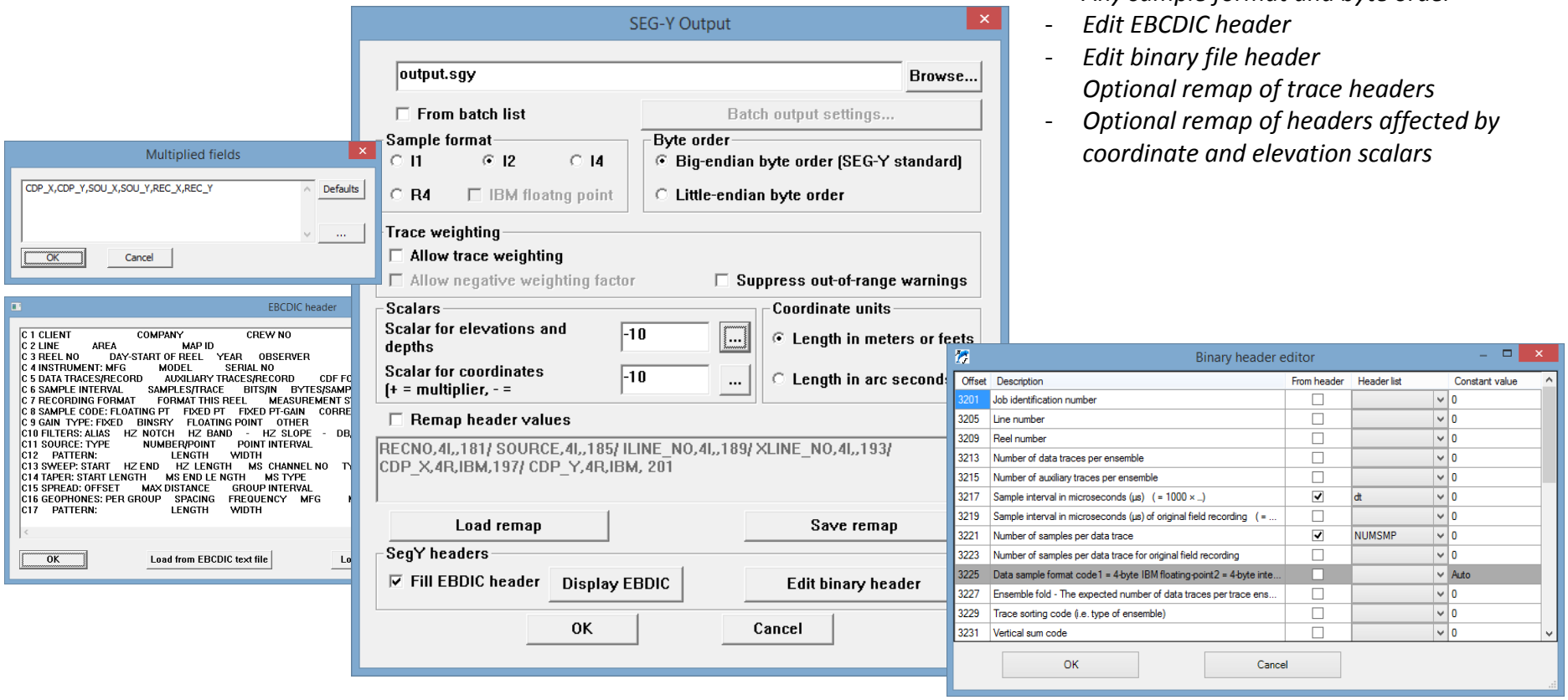
Deliverables: Export to SEG-Y – 100% adjustable and customizable!

- *Any sample format and byte order*
- *Edit EBCDIC header*
- *Edit binary file header*
  Optional remap of trace headers
- *Optional remap of headers affected by coordinate and elevation scalars*



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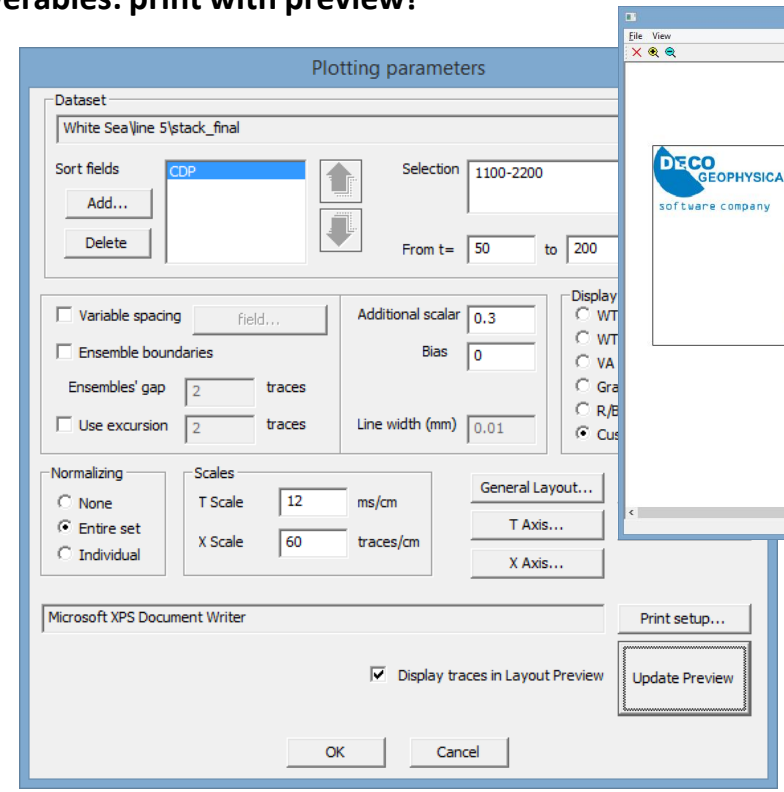
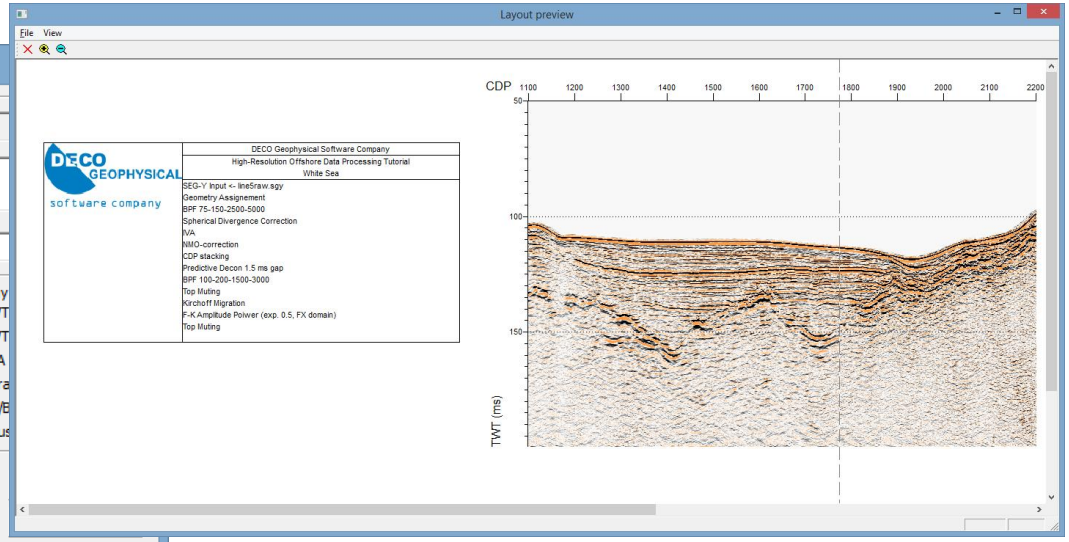
Deliverables: print with preview!





- *Print processing results with a preview to any Windows-printer*

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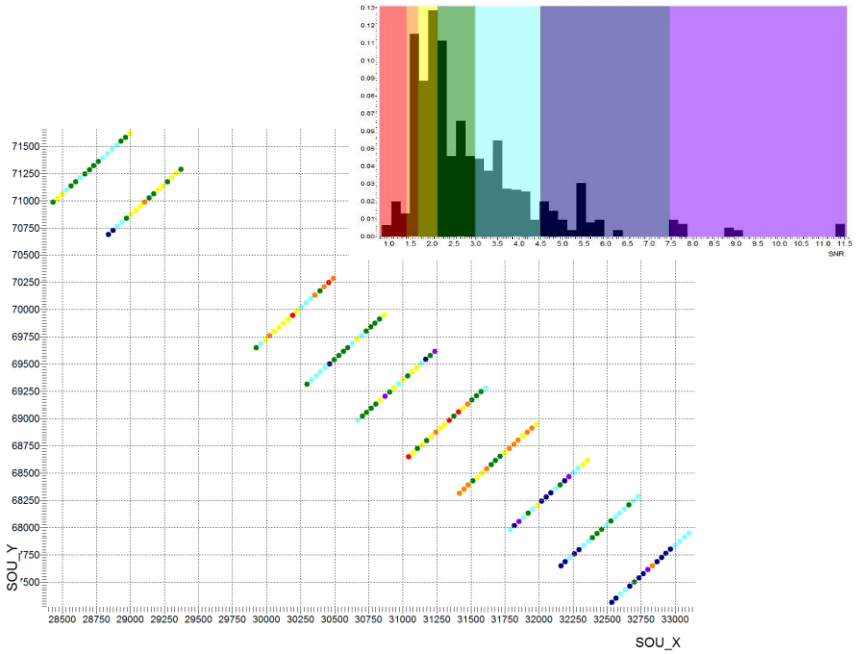
Deliverables: attributes and coordinates

ExportHeaders.txt — Блокнот

Файл Правка Формат Вид Справка

FFID	AMP	AMP_N	FREQ	FREQ_N	SNR	SOU_X	SOU_Y
1	0.40780	0.00404	17.18436	11.40157	2.31017	-12.50000	2713.54541
2	0.45047	0.00295	16.19009	12.38495	2.42503	38.53920	2713.69238
3	0.44036	0.00525	15.81659	10.66598	2.58533	88.54920	2713.80005
4	0.28959	0.00412	15.41971	13.12504	2.22132	137.54919	2713.88232
5	0.40477	0.00364	16.54680	13.00957	1.56203	187.54919	2713.89478
6	0.32324	0.00363	16.29476	13.28199	1.70511	237.54919	2713.90479
7	0.46186	0.00738	13.71095	12.34985	1.42773	288.54919	2713.91309
9	0.55527	0.00373	14.74238	13.92968	1.65314	387.55942	2713.92603
10	0.84220	0.00342	15.36733	13.20636	2.23475	437.56940	2713.93115
11	0.76150	0.00393	14.98869	15.32059	2.10012	487.57941	2713.90332
12	0.56859	0.00350	14.54371	12.96010	1.54241	537.57941	2713.87891
13	0.55225	0.00353	13.72338	12.14873	1.88807	587.58942	2713.84277
14	0.58447	0.00333	14.96383	15.10681	1.30344	637.58942	2713.79736
15	0.54245	0.00456	15.42029	12.48737	0.90051	687.59943	2713.75635
16	0.60316	0.00461	14.45383	14.02443	0.85021	737.59943	2713.71948
17	0.77343	0.00477	12.95721	14.73612	0.75991	787.60938	2713.68604
19	0.67094	0.00741	11.78627	15.67359	0.65103	885.71307	2713.62769
20	0.66868	0.00926	11.84008	13.50540	0.61142	934.71307	2713.58154
21	0.64874	0.01031	11.31537	17.56605	0.54757	985.72284	2713.55884
22	0.54006	0.00712	11.52600	14.56207	0.74262	1037.73242	2713.53784
23	0.48283	0.00959	11.61851	14.46981	0.55119	1088.82068	2713.51807
24	0.60930	0.01046	15.49097	15.78631	0.49083	1163.84729	2713.49146
25	0.47919	0.01058	16.09502	17.82988	0.49014	1188.92712	2713.48315
26	0.57723	0.01284	15.43734	15.38037	0.65329	1237.96802	2713.48364
27	0.79876	0.01247	15.55790	14.89894	0.53239	1313.97449	2713.48438
28	0.66504	0.00927	15.58137	17.72635	0.49675	1338.97449	2713.48462
30	0.71848	0.01529	15.58392	15.97586	0.75715	1438.22485	2713.51440
31	0.50405	0.01688	14.95415	11.69521	0.71301	1488.23486	2713.52808
32	0.54298	0.00769	15.56439	18.62620	1.23585	1539.23486	2713.53418
33	0.43817	0.01059	15.82579	19.76657	1.82030	1588.23486	2713.53345
34	0.40370	0.01258	16.72662	17.70386	1.86233	1637.27563	2713.53247
35	0.46802	0.00826	18.70637	15.29631	2.26211	1689.28528	2713.53174
36	0.36120	0.01061	17.30173	15.71662	1.96963	1739.28528	2713.53711
37	0.23180	0.00889	19.60849	16.21332	1.89694	1789.28528	2713.53613
38	0.44917	0.01035	18.32579	13.27274	2.06608	1836.29590	2713.52344
39	0.53951	0.01172	15.82292	11.25987	0.97701	1888.30554	2713.51733
40	0.34360	0.00577	16.54863	13.33638	0.61791	1940.30554	2713.52246
41	0.26758	0.00426	17.08064	15.23038	0.88790	1990.34546	2713.52197
42	0.27155	0.00500	16.06999	14.55667	0.81715	2043.35498	2713.52148
43	0.44234	0.00806	16.08420	13.82697	0.62161	2088.35498	2713.52100

- *Print and export images of cross-plots/histograms*
- *Export to ASCII*



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Open architecture

Missing some specific algorithm? Code it yourself and get it integrated into the system!

We provide open API for developing your own modules on C++.

A dedicated Wizard for MS Visual C++ will generate an empty processing module for you, you will only need to populate it with your own processing code.

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The Software Offers:

- Input of field or post-stack data from standard or modified formats.
- Data resorting
- Vibroseis correlation
- Data display and interactive analysis
- Visual and quantitative data QC
- Geometry assignment and QC
- Attribute analysis in windows (pre-stack) or along horizons (post-stack)
- Fast-track processing/post-processing of seismic data
- Export seismic data to SEG-Y and making hard copies, export and hard-copying of maps, export attributes and any header information to ASCII
- Open architecture and API for developers

At that, highly price-efficient:

✓ Runs smoothly on just average modern PCs
✓ No system administration required
✓ Operator shall possess entry level computer skills only

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