Amt der Tiroler Landesregierung
Abteilung Verkehr und Straße

ROAD BY-PASS TUNNEL
Kitzbühel / Austria

Geophysical Construction Site Characterization

Seismic section 13KITZ-5

Interpreted hybrid seismic section

Acquisition Parameters

Spread lay-out	semi-stationary asymmetrical spread	CDP-distance	1.0 m
Number of channels	240 bis 360	Coverage	24 - 32-fold (nominal)
Geophone spacing	2.0 m	Instrumentation	SmartSystem
Geophone type	10 Hz	Sampling rate	0.5 ms
Pattern	1 Geophone / station	Recording time	500 ms
Source point distance	4.0 m	Filter im Feld	LC out, HC anti-alias
Seismic source	Hammer 6 kg	Observer	R. Bauer
Crew	W. Frei	Survey date	25.-26. September 2013

Reflection seismic data processing sequence

1 Reformatting and gain recovery
2 Assignment of recording geometry and topographical survey data
3 Data verification and -analysis
4 Analysis of refraction arrival times
5 Amplitude equalisation in time domain (AGC window 100 ms)
6 Amplitude equalisation in frequency domain (spectral whitening)
7 Bandpass filter (30 Hz (6 dB) - 150 Hz (6 dB))
8 CDP-sort and velocity analysis
9 NMO-correction (70% stretch mute)
10 CDP stack
11 Amplitude equalisation in time domain (sliding AGC window 30 until 100 ms)
12 Bandpass Filter (30 Hz (6 dB) - 240 Hz (18 dB))
13 Coherency filtering
14 Time-to-Depth conversion and und elevation static corrections
15 Data presentation with reversed polarity

Refraction seismic tomography inversion

1-3 dto.
4 Picking of refraction arrival times
5 CMP-sort
6 Analytical derivation of the seismic velocity field by dT-V method (RAYFRACT-Gebrande)
7 Iterative enhancement of the velocity by WET tomography inversion
8 Presentation of the seismic velocity field (100 m/s iso-velocity contour lines)

Scale 1 : 2'000

processed by: R. Bauer, October 2013

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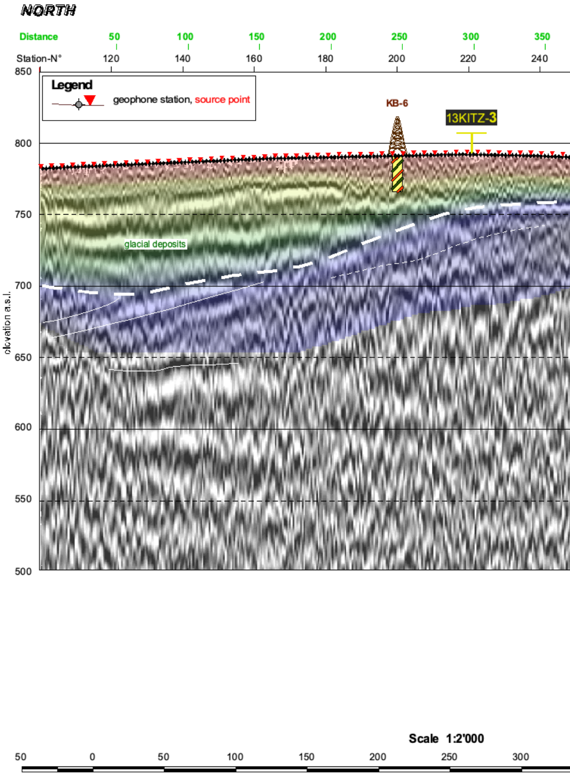
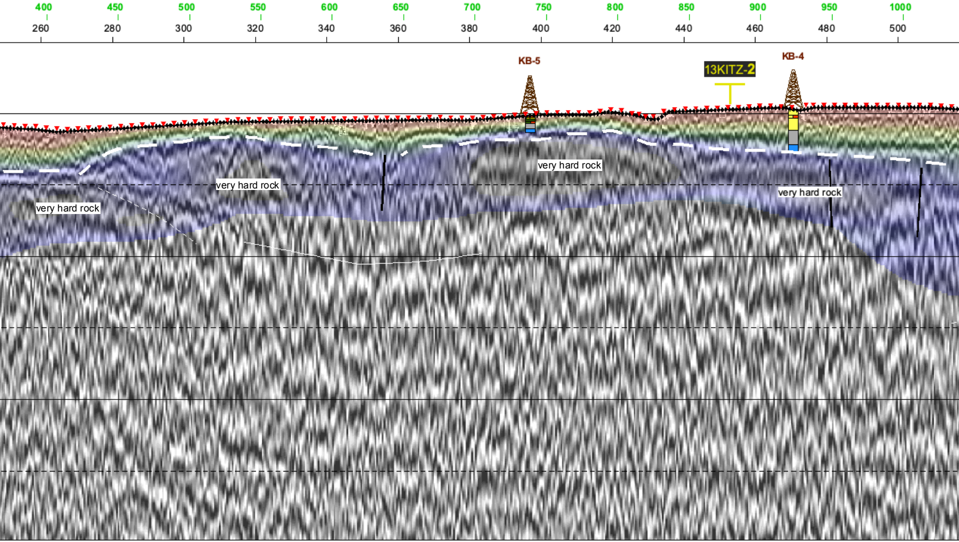
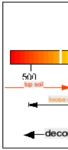
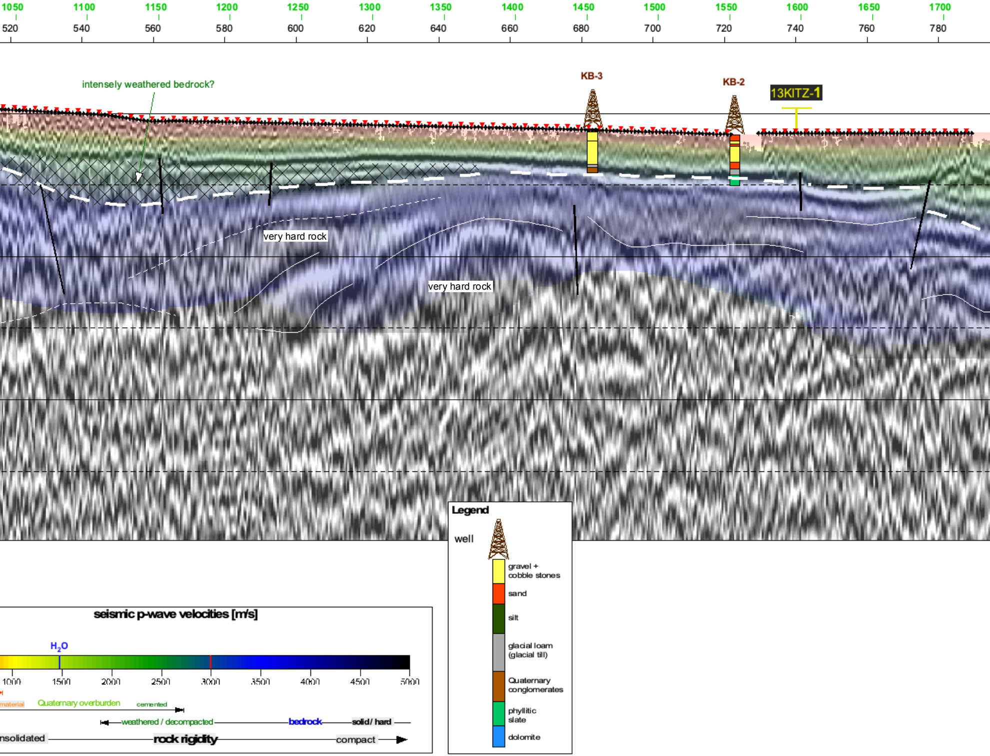
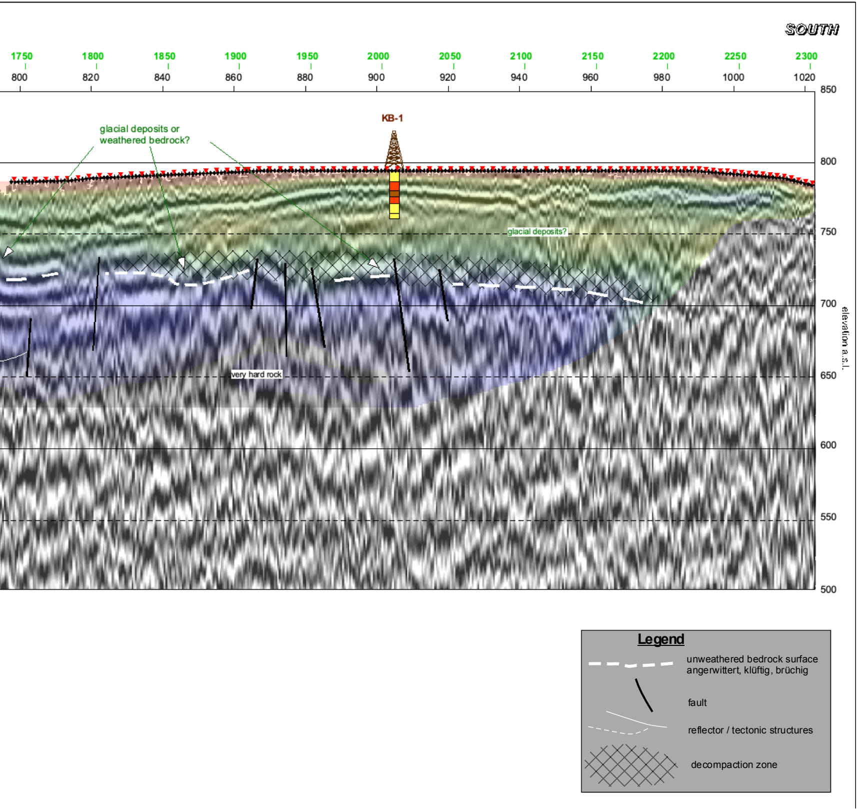
Attachment
to report dated 29.11.2013
well stratigraphic columns inserted 27.05.2014





350
400
450
500
metres



Interpreted hybrid seismic section