

Dakota Technologies TarGOST®-HP Reference Log

Callouts: Waveforms from selected depths or depth ranges showing the multi-wavelength waveform for that depth. The four peaks are due to fluorescence at four wavelengths and referred to as “channels”. Each channel is assigned a color. Various NAPLs will have a unique waveform “fingerprint” due to the relative amplitude of the four channels and/or broadening of one or more channels. Basic waveform statistics and any operator notes are given below the callout.

Main Plot: Signal (total fluorescence) versus depth where signal is relative to the Reference Emitter (RE). The total area of the waveform is divided by the total area of the Reference Emitter yielding the %RE. This %RE scales with the NAPL fluorescence.

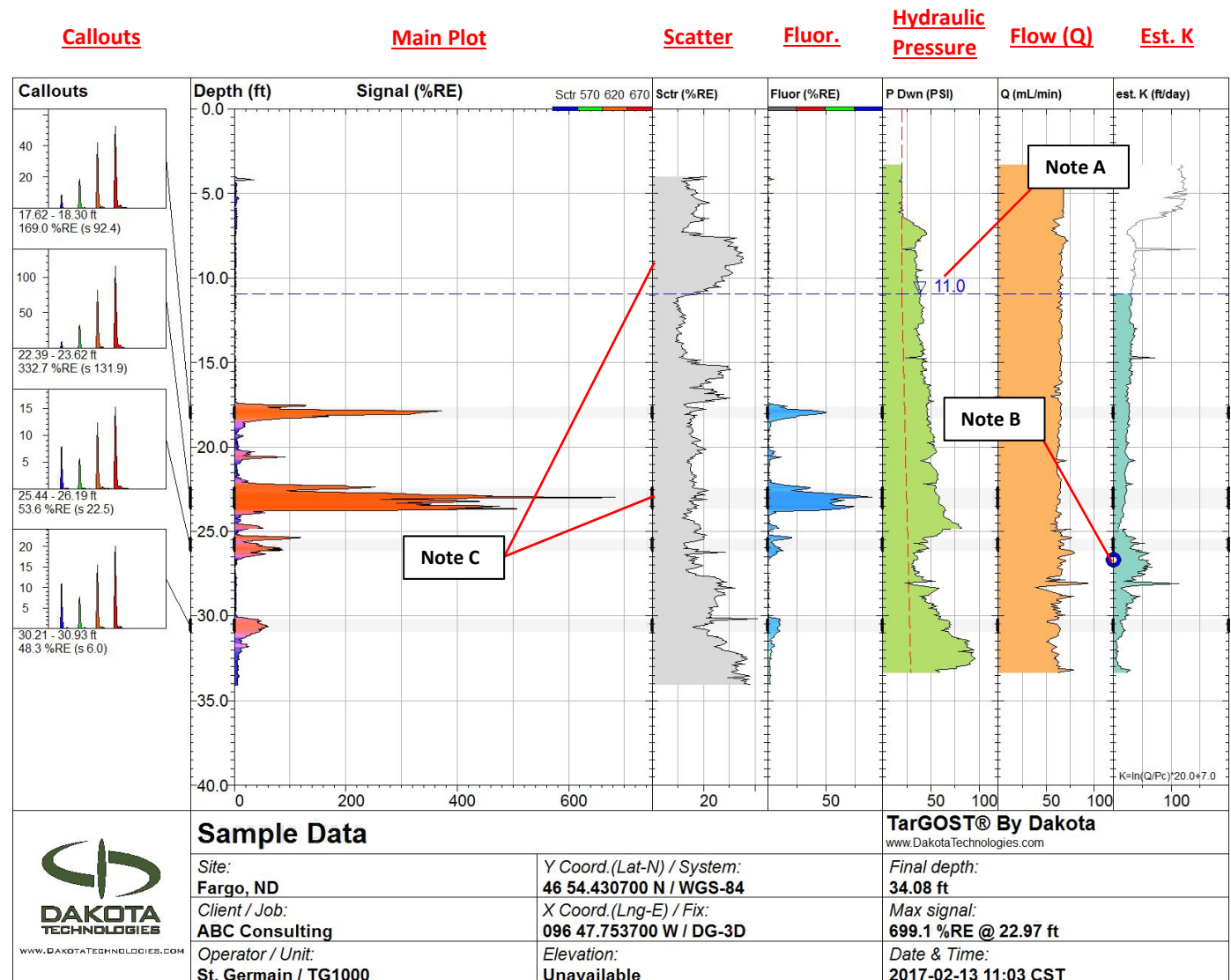
Scatter Plot: Scatter versus depth where intensity is relative to the scatter level of the Reference Emitter.

Fluorescence Plot: A plot of the fluorescence signal alone versus depth. The scatter channel is not used in the calculation of signal intensity or coloring. Note the coloring key at the top of the plot. Intensity unit is percent of Reference Emitter fluorescence.

Varying soil or product can often be visually pulled from the background based on the fill color of this plot if scatter dominates the color of the main plot.

Hydraulic Pressure (P Dwn): Downhole hydraulic pressure is measured in response to pumping water into the formation at a constant rate. Measurements are logged simultaneously with TarGOST data. The resulting log gives insight into the permeability of the soils.

Flow (Q): Water is pumped out of the port of the TarGOST-HP probe at a constant rate of 60 mL/min. A change in flow (usually accompanied by an inverse pressure change) is an indicator of hydraulic properties of the soil.



Estimated K: The estimated hydraulic conductivity (K) is internally calculated by utilizing pressure and flow data in conjunction with dissipation test(s) performed at each location. The estimated K is calculated by the equation:

$$K = \ln(Q/P') * 20.0 + 7.0.$$

Note A: The water table has been calculated and plotted at 11.0' bgs.

Note B: The circle on the Estimated K plot represents the location(s) of dissipation tests. Here, a single dissipation test was performed at 26.5' bgs.

Note C: The top zone has relatively high scatter but low fluorescence, while the bottom zone has relatively low scatter and high fluorescence. Note how this is reflected in the main signal plot.