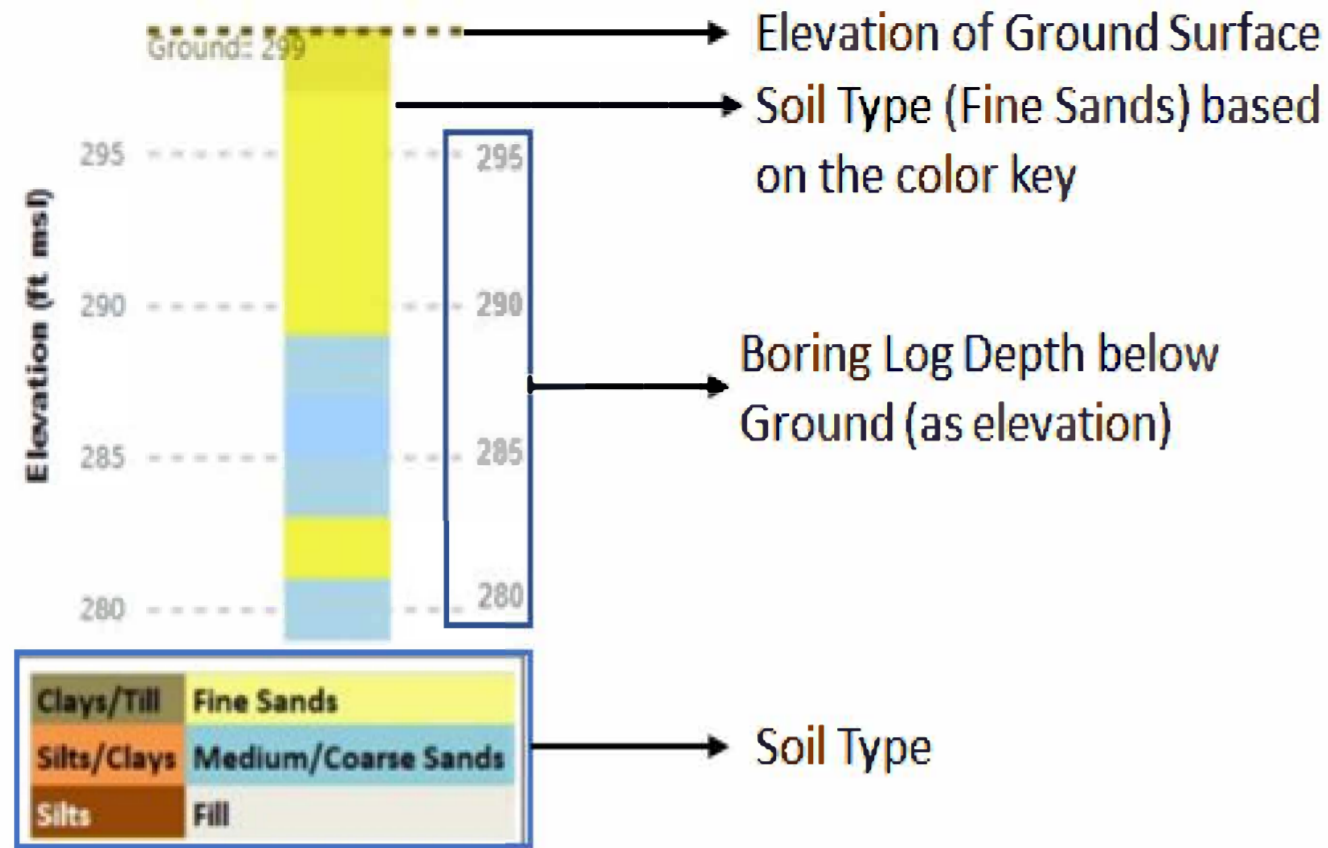


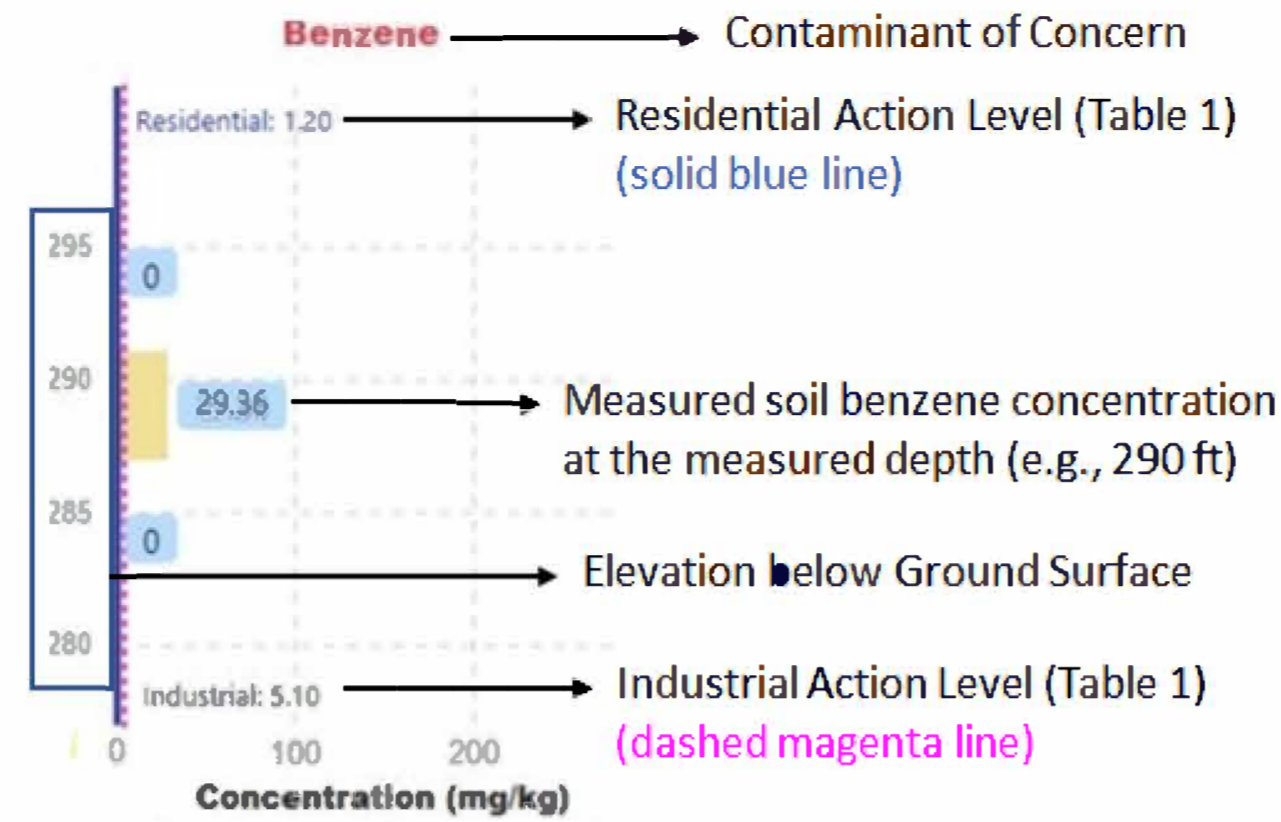
ITRC Hydrocarbons Team
Training: Scenario 1:
Fluvial - Gasoline Site

Boring Log



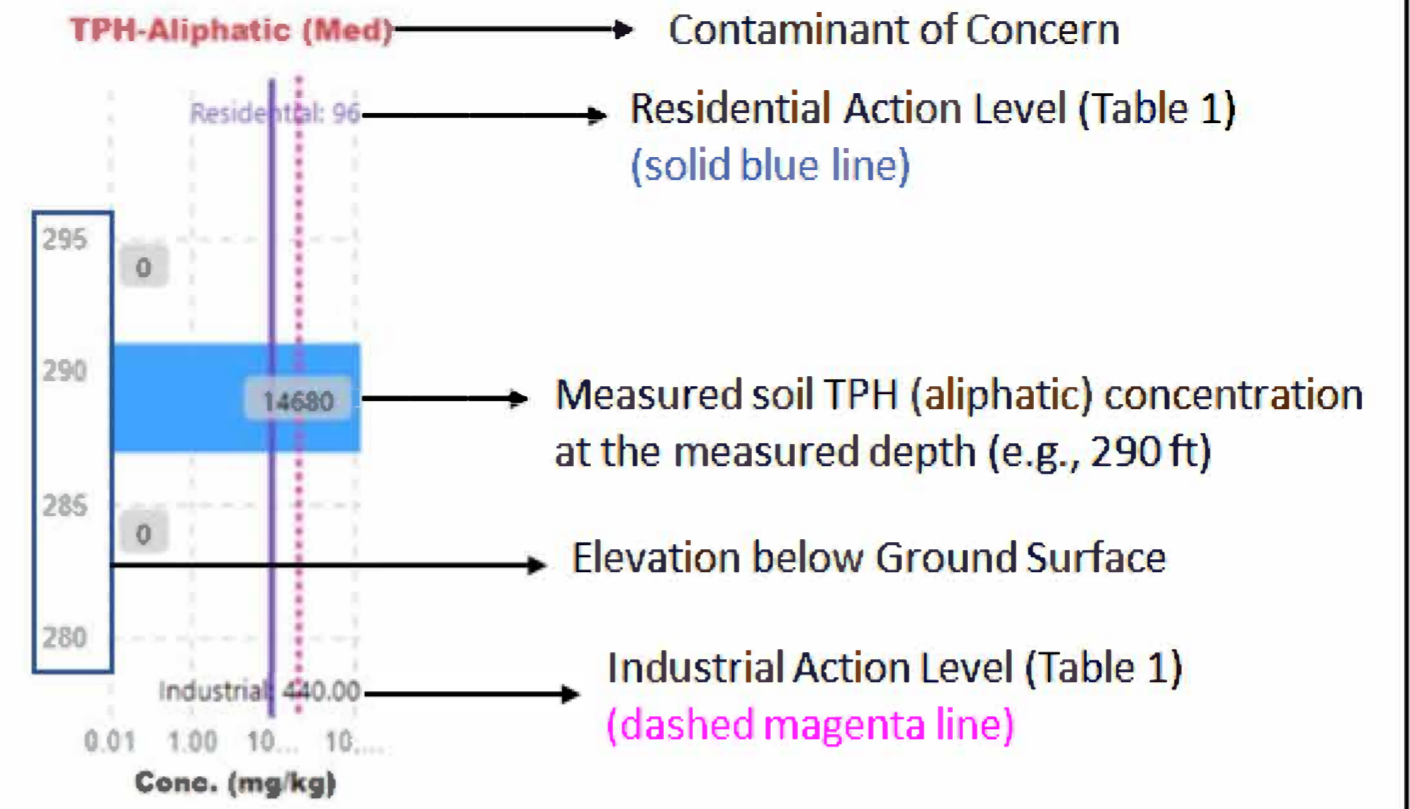
The example boring log shown above illustrates the variations in soil geology corresponding to depth below ground surface. This is important to understand hydrogeologic conditions associated with LNAPL and groundwater and vertical zone of contaminant impacts.

Soil Data



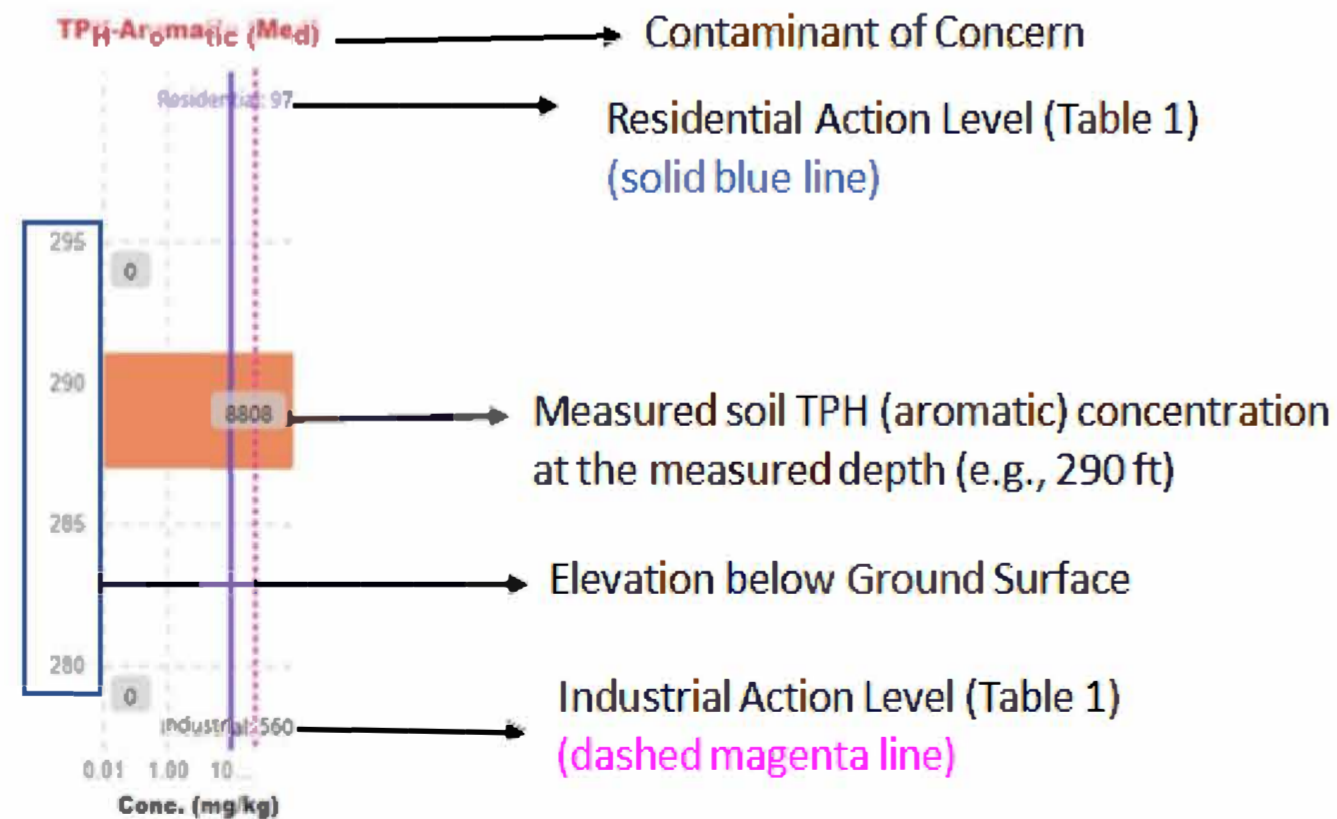
The example soil data shows depth discrete soil concentration data (mg of contaminant per kilogram of soil) for a specific contaminant (benzene) and compared against action levels. For example, samples were collected at 4 ft below ground (295), 9 ft (290) and 14 ft (285) and benzene was measured (at 29.36 mg/kg) only at 290 ft and exceeded the residential (1.2 mg/kg) and industrial (5.1 mg/kg) action levels.

Soil Data (TPH)



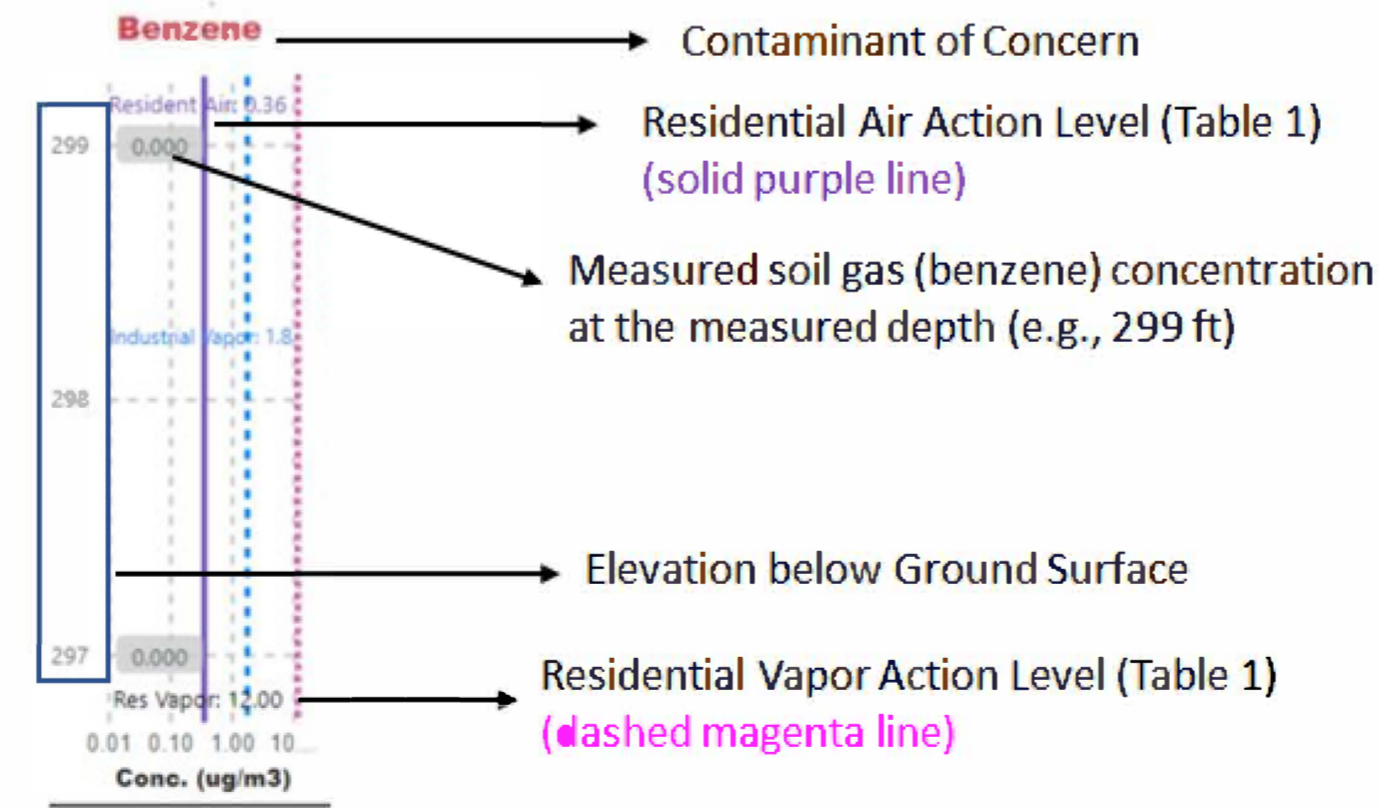
The example soil data shows depth discrete soil concentration data (mg of contaminant per kilogram of soil) for a specific contaminant (TPH-aliphatic) and compared against action levels. For example, samples were collected at 4 ft below ground (295), 9 ft (290) and 14 ft (285) and TPH-aliphatic range was measured (at 14,680 mg/kg) only at 290 ft and exceeded the residential (96 mg/kg) and industrial (440 mg/kg) action levels.

Soil Data (TPH)



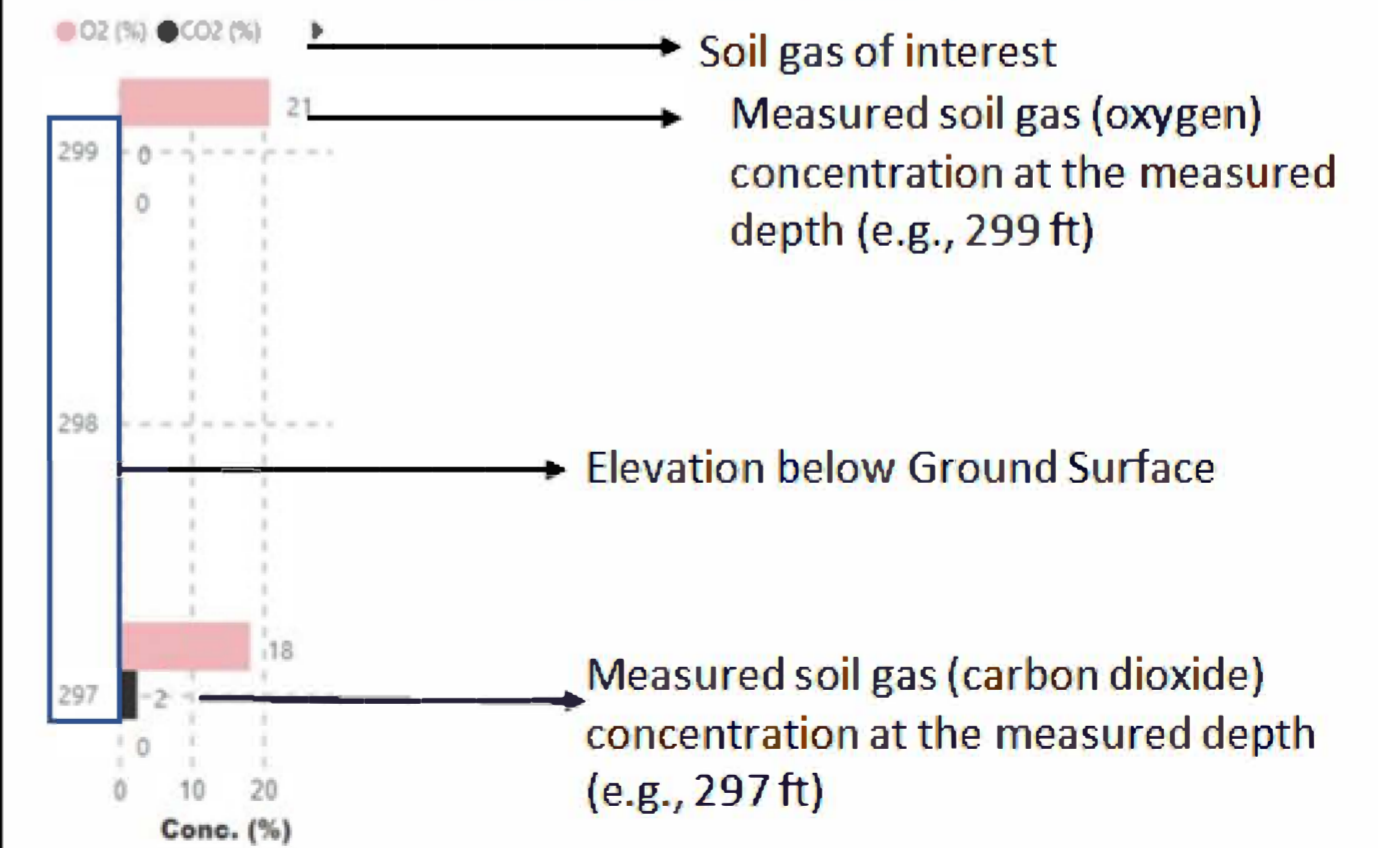
The example soil data shows depth discrete soil concentration data (mg of contaminant per kilogram of soil) for a specific contaminant (TPH-aromatic) and compared against action levels. For example, samples were collected at 4 ft below ground (295), 9 ft (290) and 14 ft (285) and TPH-aromatic range was measured (at 8,808 mg/kg) only at 290 ft and exceeded the residential (97 mg/kg) and industrial (560 mg/kg) action levels.

Soil Gas Data



The example data shows depth discrete soil gas concentration data (micrograms of contaminant per cubic meter of soil gas) for a specific contaminant (benzene) and compared against action levels. For example, samples were collected at ground (299) and 2 ft (297) and benzene was not measured. Action levels to compare are residential air (0.36 ug/m3), residential vapor (12 ug/m3) and industrial vapor (1.8 ug/m3).

Soil Gas Data

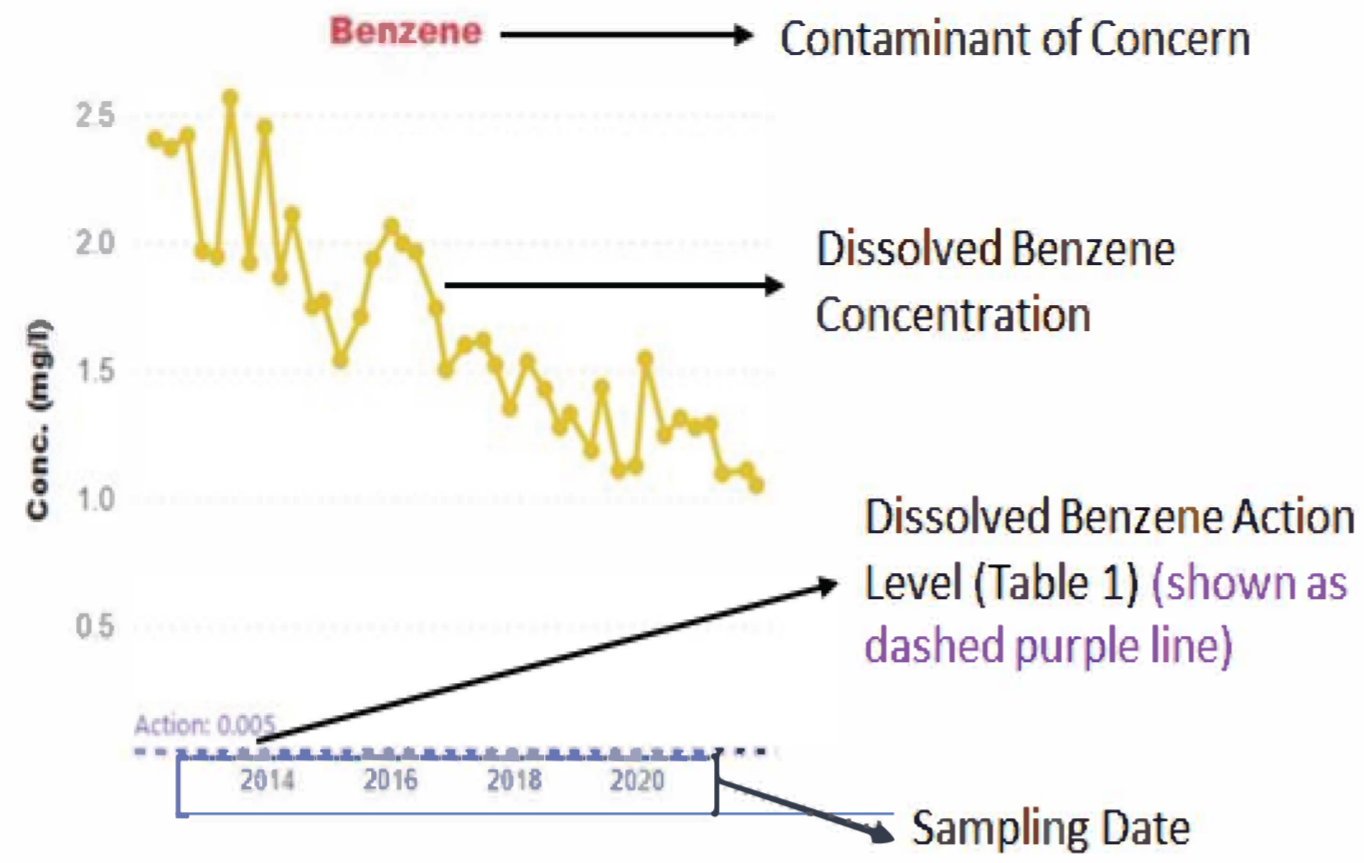


The example data shows depth discrete soil gas concentration data (as percentage) for gases indicative of natural attenuation of LNAPL (oxygen, carbon dioxide and methane). For example, Oxygen was measured at atmospheric concentration (21%) at ground surface and depleted concentration (18%) at 297 ft. At this depth carbon dioxide was also measured at 2%.



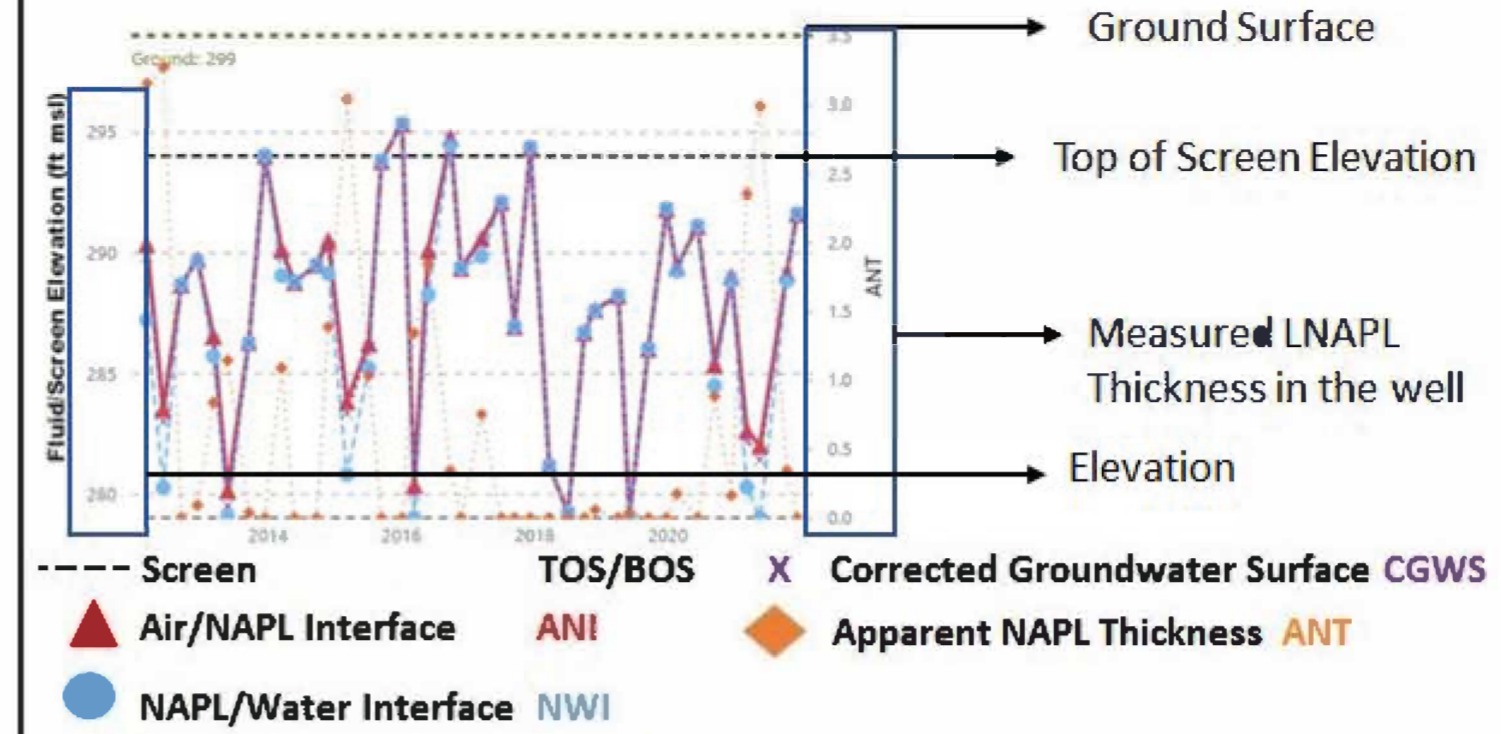
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Dissolved Phase



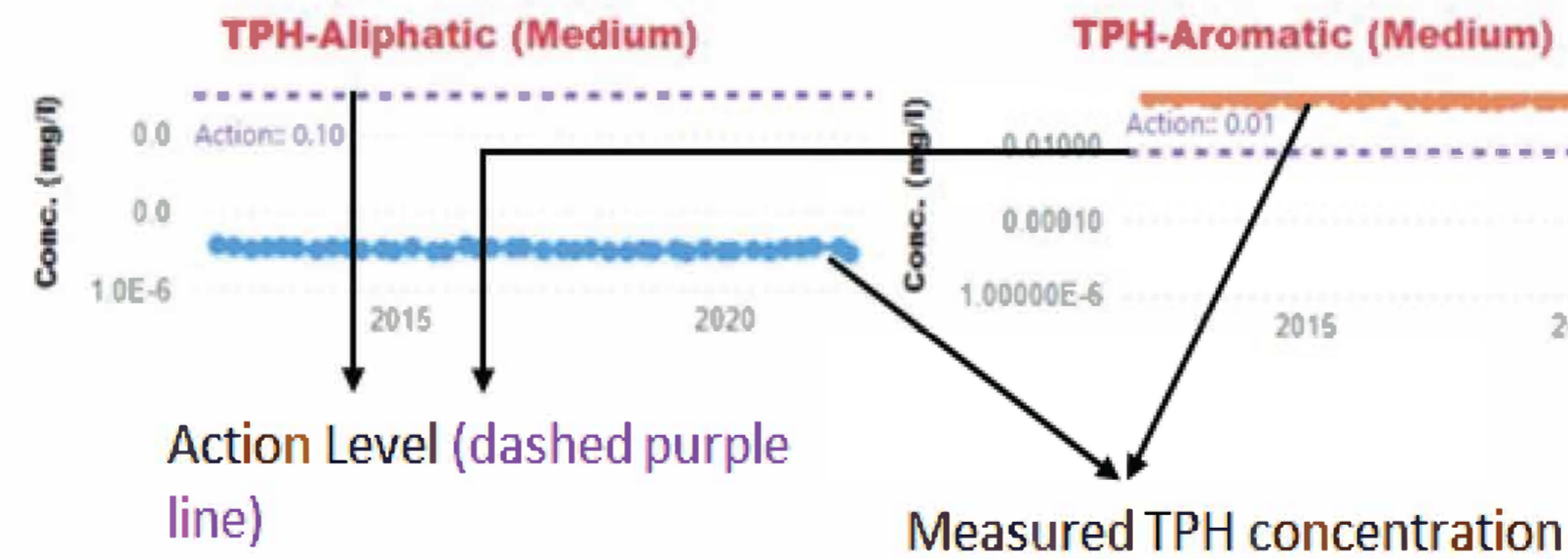
The example data shown above illustrates the temporal trend (change in time) of dissolved benzene concentrations (in milligrams of benzene per liter of groundwater). The overall trend is decreasing but consistently remains above the action level of 0.005 mg/l.

Hydrograph



The example soil data shows a hydrograph which trends fluid elevations (LNAPL, groundwater) along with measured LNAPL thickness in a well over time. In conjunction with the boring log, this allows to understand the effects of groundwater fluctuations on LNAPL thickness/elevation and help interpret unconfined, confined or perched LNAPL conditions; Confined and perched conditions can result in exaggerated thickness measurements (ANT).

Dissolved Phase (TPH)



The example data shown above illustrates the temporal trend (change in time) of dissolved TPH concentrations (in milligrams of TPH per liter of groundwater). The overall trend is stable but consistently remains below the action level of 0.1 mg/l for aliphatic range and above the action level of 0.01 mg/l for aromatic range.