Using UVOST, TarGOST and DyeLIF to Characterize NAPL

Live Webinar, July 23, 2020

Course Outline

Introduction

- Basic LIF concepts
- The LIF Family (UVOST, TarGOST, and DyeLIF) – Why?
- Appropriate selection of LIF type to fit various NAPLs of interest

LIF for Petroleum LNAPL Releases (UVOST)

- What UVOST detects (and just as importantly what it doesn't)
- How LIF logging data is collected
- Understanding fluorescence lifetimes (and their hidden value)
- Understanding LIF waveforms/Callouts/Log Colorization
- Calibration/Normalization of LIF
- LIF's semi-quantitative behavior
- Bench-testing of NAPLs pre- and post-project
- Dissolved oxygen quenching effects on waveforms
- Weathering of gasoline - effects on LIF signatures
- Identifying common false positives (calcites, peat, meadow mat, etc.)
- LIF's ability to describe localized heterogeneity caused by geology
- LIF's ability to predict mobility/recoverability
- Trapped/Perched NAPLs
- Avoiding "layer thought"
- Validation sampling guidance
- Example log review/interpretation
- UVOST case study

LIF for Recalcitrant Creosote and Coal Tar NAPLs (TarGOST)

- What TarGOST detects (and just as importantly what it doesn't)
- Poorly behaved fluorescence of heavy recalcitrant NAPLs and how TarGOST corrects for this issue
- Higher likelihood of false positives/false negatives at creosote/coal tar sites
- Example log review/interpretation
- TarGOST case study

LIF for chlorinated DNAPLs (DyeLIF)

- Basic Concepts (Why a third type of LIF)?
- "Needle in the haystack" challenge of chlorinated DNAPL delineation
- Requirements and advice for high confidence validation techniques
- Example log review/interpretation
- DyeLIF case study

Conclusion/Review

- LIF project checklist
- Common LIF interpretation mistakes