

# GEI developed the patent-pending PREDicT™ analysis methodology for Dense Non-aqueous Phase Liquid (DNAPL) (Modification to ASTM E2856 for LNAPL transmissivity testing).

## PREDicT™ - ANALYSIS METHODOLOGY FOR DNAPL



### Benefits

Accurate, supportable results for an improved Conceptual Site Model (CSM) and more confident decision-making

Support a risk-based closure evaluation by documenting that DNAPL is recovery to the maximum extent practicable (MEP)

Understand if hydraulic recovery from a well is going to help achieve site remediation goals

Understand if it makes economic sense to perform hydraulic recovery

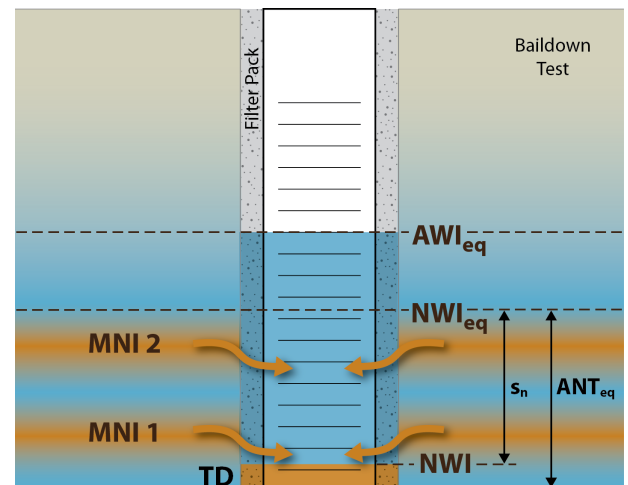
Support the design of a hydraulic recovery system to target only the depth intervals with recoverable DNAPL

### How Does PREDicT™ Work?

PREDicT™ identifies the number, location, and size of DNAPL seams (mobile NAPL intervals) that are transmissive to DNAPL in a monitoring well. It quantifies the DNAPL transmissivity of each fracture and quantifies an aggregate DNAPL transmissivity value for the well.

PREDicT™ is a potential solution when:

- DNAPL present in wells
- The presence of DNAPL or DNAPL thickness is the only remaining risk-based driver for remediation
- You need to quantify recoverability of DNAPL
- You need to design a recovery approach for DNAPL
- There is a large DNAPL thickness in wells but low DNAPL recovery rates
- Previous DNAPL transmissivity tests are not consistent with recovery rates



**Baildown Testing** - Baildown testing is similar to slug testing for groundwater wells. DNAPL is removed from a well, inducing drawdown in the DNAPL and flow into the well proportional to the DNAPL recoverability in the soil or rock around the well. As the DNAPL recharges into the well, we monitor the fluid interface elevations over time until the DNAPL in the well and formation are at equilibrium.

## Former MGP Site

GEI used the PREDicT™ methodology at a former MGP site. Site remediation (hydraulic recovery) had been ongoing for over 10 years. An impacted wetland area had been excavated and restored, and human health and ecological exposure pathways had been addressed. However, there were still several wells where DNAPL was present at substantial thicknesses. The site owner anticipated requiring ongoing hydraulic recovery from these wells for the foreseeable future. As part of the wetland excavation and restoration, the site owner needed to decommission the existing wells, perform the excavation, and replace the wells for ongoing hydraulic recovery. GEI implemented PREDicT™ and demonstrated that the DNAPL transmissivity in the wells was quite low, well below the state regulatory threshold for hydraulic recovery. The DNAPL was determined to be infeasible to recover.

The owner was able to justify site closure, as well as eliminate the cost and impacts of replacing the wells after wetland restoration and the cost of ongoing hydraulic recovery.

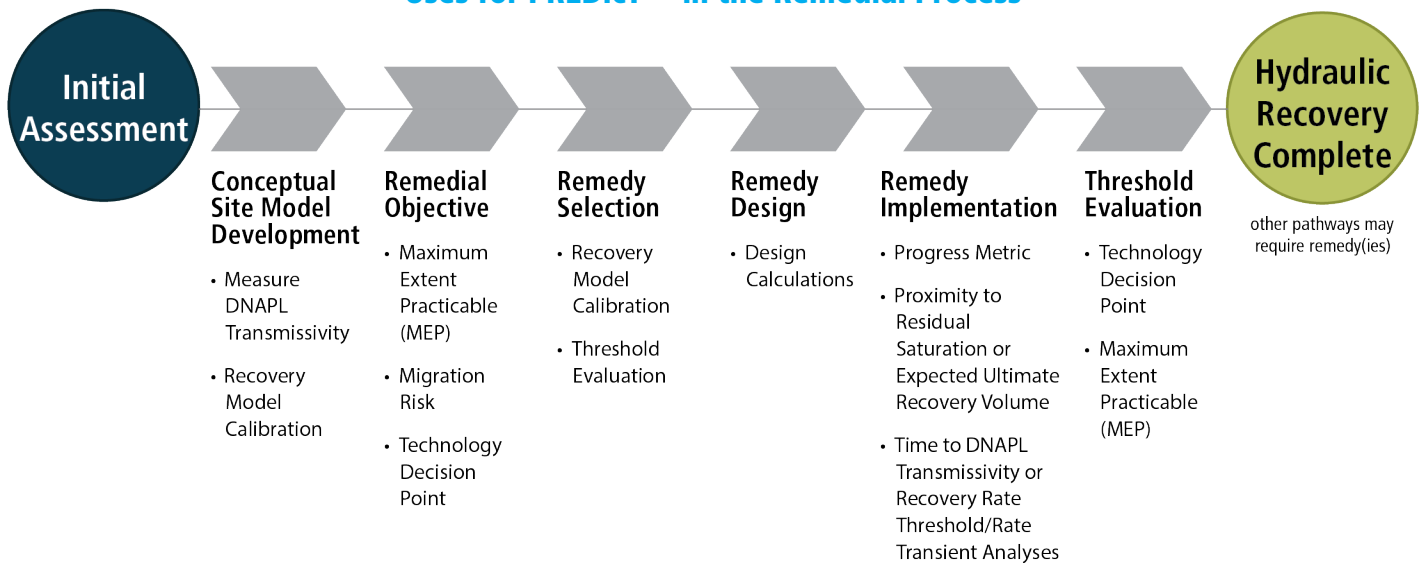
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## Uses for PREDicT™ in the Remedial Process



# GEI Consultants, Inc.

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