

Transition from P&T to Thermal Remediation
2019–2023

Ellis Property Superfund Site
Evesham Township, NJ

Soil cleanup values for TCE: 1 mg/kg

GOAL: Expedite remediation because a previously unknown source area was identified



Performance evaluation summary: Projected removal using the groundwater treatment system would take decades, or more, to remove TCE from the newly identified source area within the clay layer within the site. The on-site groundwater treatment plant efficiency has been diminishing and showing steady levels of TCE.

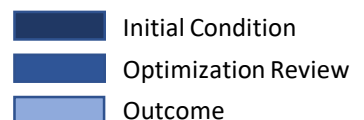
Hypothesis: Groundwater extraction cannot remove the residual TCE located in the clay layers of the site within a reasonable timeframe for the community.

Enhanced Remedy: Soil excavation was initially selected for removing these newly identified source areas of TCE. Community concerns about the amount of truck traffic and transport of contaminated soil through the community drove the remedy decision to reduce the areas of excavation and increase the use of on-site destruction via electrical resistive heating.

Lines of evidence used to support transition:

1. Asymptotic conditions at the site suggested that groundwater treatment plans were not feasible for reaching cleanup goals for TCE within the soil. One extraction well had shown consistently elevated TCE levels above 15,000 µg/L in the last two years of sampling.
2. Testing of on-site wastewater treatment plant had shown reduced treatment efficiency.
3. Investigation along the suspected sand channel and contamination source areas was conducted through the collection of soil samples adjacent to selected MIP investigation locations.
4. Overall, the investigation identified TCE, found predominantly between 10 and 24 feet bgs.

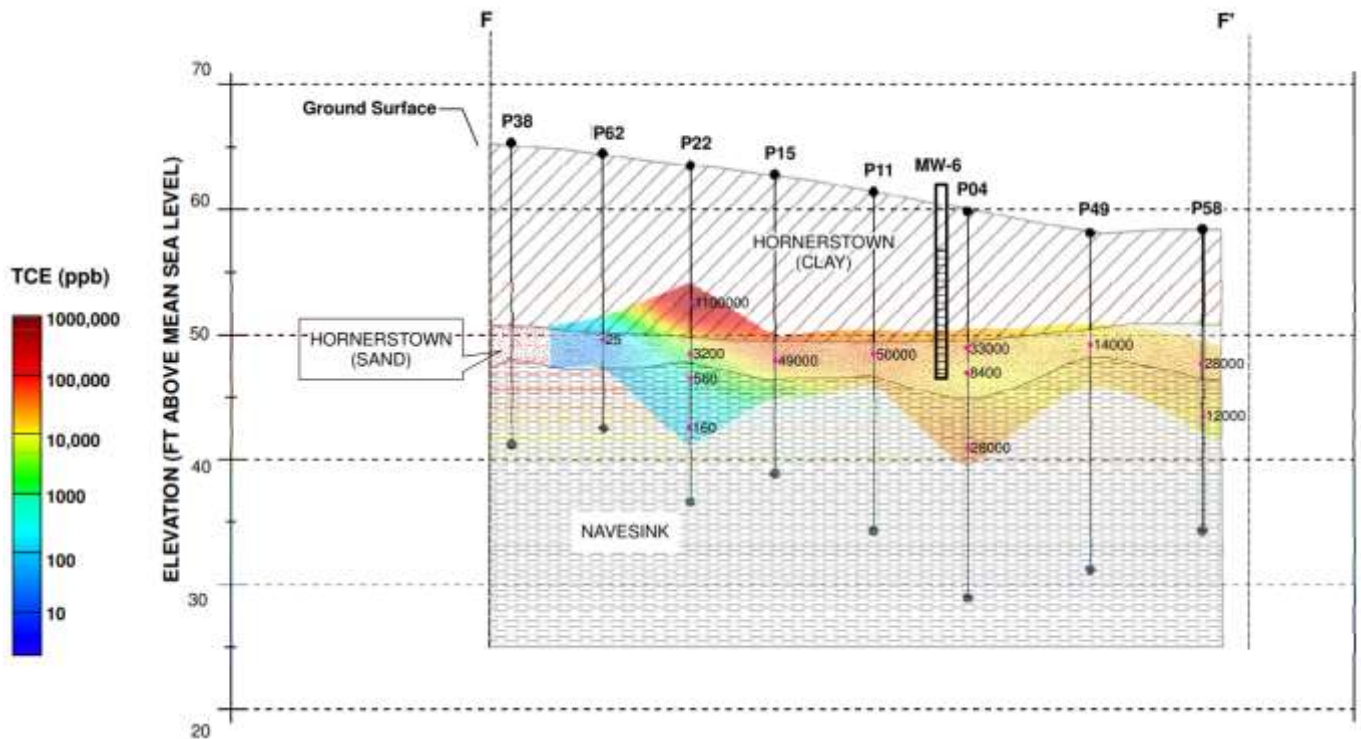
Transition technology decision codified in 2013 ROD amendment.



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The current phase of thermal remediation includes the excavation of the overlying soil layers, and then the installation and implementation of ISTT for the lower geologic layers. The current groundwater treatment system will be put back in use after completion of thermal remediation. This groundwater treatment system will monitor, and treat if necessary, groundwater from the site. This system will be operated for one year, and if contamination levels maintain cleanup goals, the groundwater treatment plant will be decommissioned.



Remedial investigation results suggest that the groundwater treatment system (P&T) is not effective for extracting high TCE concentrations in tight soil matrix at the site.

- Initial Condition
- Optimization Review
- Outcome

Groundwater Treatment System Transition Conclusion:

P&T Transitioned to ISTT
Time Span: 3 years
O&M Cost savings: ~\$3,600,000 total
Remedy effectiveness and/or risk reduction improvement: RAO of 1 mg/kg achieved
Sustainability/resiliency benefits: Reduced trucking and off-site disposal; long term P&T O&M replaced with short-term thermal remediation