

Complementary to our guidance document is a collection of case studies that provide real-world applied examples of the optimization life cycle framework, and the step-by-step process that can be followed into transition and through to system termination. Please note that some of these case studies have been partially redacted to ensure that any parties involved are not mentioned by name without expressed consent. The matrix below illustrates each case study's relevance to the sections in the guidance document, the year in which each real-world P&T optimization took place, and the remedial transition technology applied.

This guidance document's case studies exemplify the optimization life cycle components: performance evaluation, process optimization, and system transition, as well as factors unique to the project such as site conditions, primary performance goals, original P&T RAOs, and the primary COC(s). The case studies also account for sustainable and resilient remediation, as well as regulator and stakeholder considerations that revolve around the P&T optimization life cycle.

The case studies are summarized in a three-step, easy-to-digest template (darker blue to lighter blue; see key on case studies). The "Initial Condition" (in the dark blue box) summarizes the performance evaluation of the P&T remedy, P&T RAOs, site conditions, and the basis for the transition to another remedial technology. The "Optimization Review" (in the medium blue box) summarizes the process optimization, describes the remedial transition technology or strategy that was selected, and provides the evidence that was used to support the decision to transition. The "Outcome" (in the light blue box) summarizes how the system transition was completed in a phased manner, regulator and stakeholder perspectives and involvement, conclusions on the remedy effectiveness, and benefits of the optimization.

For more examples of P&T remedy assessment and optimization case studies, please see the following sources:

1. Superfund Optimization Report Database: <https://clu-in.org/Optimization/reportsSearch.cfm>
2. GWMR Case Studies: Truex, Michael & Johnson, Chris & Macbeth, Tamzen & Becker, Dave & Lynch, Kira & Giardrone, Dominic & Frantz, Aaron & Lee, Hope. (2017). Performance Assessment of Pump-and-Treat Systems. Groundwater Monitoring & Remediation. 37. 28-44. 10.1111/gwmr.12218.
3. Savannah River Sites Case Studies:
https://www.srs.gov/general/programs/soil/gen/gw_mgmt_strategy_and_implementation_plan.pdf

Case Study	Year of Optimization	Relevant Chapters							
		Section 1: Introduction	Section 2: Life Cycle	Section 3: Evaluation	Section 4: Optimization	Section 5: Transition	Section 6: SRR	Section 7: Regulatory	Section 8: Stakeholder
McGregor Case Study	2004	N/A	Post construction	X	X	X (ISB)	X	X	
Air Force Plant 4	2014	N/A	Post construction	X		X (MNA)		X	
Lipari Landfill Case Study	2007	N/A	Site investigation		X	X (SVE)			X
Ellis Property	2006	N/A	Post construction		X	X (ISTT)			X
State of Michigan P&T Case Study	2005	N/A	Post construction	X	X				
Lawrence Aviation Industries	2003	N/A	Remedy implementation	X	X		X	X	X
Saco Defense	2020	N/A	Post construction	X	X				
Groveland	2012	N/A	Post construction	X	X	X (ISTT+MNA)			
Jones Road	2014	N/A	Remedy selection		X	X (SVE+ISB)		X	
Benfield Industries	2007	N/A	Post construction	X	X	X (ISCO)	X	X	
Baytown	2011	N/A	Post construction	X	X	X (ISCO+ISB)	X	X	X

SMS Instruments Deer Park	2003	N/A	Post construction		X	X (AS)	X	X	X
Hellertown	2017	N/A	Post construction		X	X (MNA)	X		X
McGaffey and Main	2015	N/A	Remedy selection	X	X				X
Peterson/Puritan	2016	N/A	Post construction	X	X	X (ISTT)			
Sprague Road	2016	N/A	Remedy implementation		X	X (ISB)		X	X
DOD Installation 2	2018	N/A	Post construction	X	X				