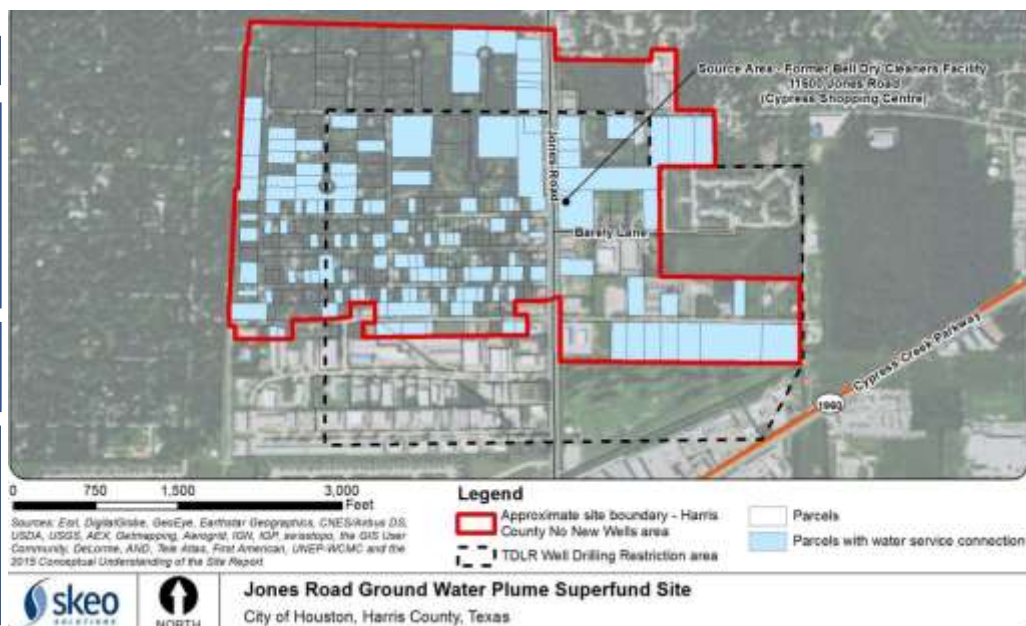


## P&T Transition to ISB

Jones Road  
Harris County, TX  
2010–2019  
Dry Cleaners  
Superfund Site/NPL

P&T Objectives: PCE, TCE,  
DCE, VC to MCL

Risk Scenario—Impact to  
drinking water supply wells  
and vapor intrusion in a  
shopping center and  
residential area.



The ROD for the site was signed on September 23, 2010. The selected remedy was in situ enhancements (including in situ bioremediation) to P&T. The USEPA completed field work in October 2011 to address data gaps remaining from the first remedial investigation / feasibility study. Based on that work, an unsaturated zone, from approximately 60 to 110 feet below the ground surface, was found to contain significant vapor-phase concentrations of site contaminants.

In 2013 during the remedial design phase, there were concerns about the originally proposed P&T system's ability to address the newly discovered vapor-phase contamination. The project was referred to an independent optimization review of the preliminary remedy design. The August 2014 optimization review recommended that the remedial action prioritize the source mitigation of two zones of soil vapor-phase contaminants. It also recommended initiation of ISB in the shallow water-bearing zone (WBZ), the third source contributing to deeper migration of contaminants. The optimization review concluded that addressing the three sources of contaminants would be more cost-effective than plume containment with P&T over time. The source mitigation of the two soil-vapor sources is the focus of the September 29, 2017, ROD amendment number 1 for the site.

ISB for the shallow WBZ was initiated in January 2016 with the injection of amendments to support ERD in accordance with the 2010 ROD. Groundwater monitoring results from the follow-up sampling in May and November 2018 in the shallow wells showed significant declines in the contaminant levels since ISB injections began.

The ROD amendment number 1 for the site was signed September 29, 2017, and focuses on the source mitigation of the two soil vapor sources—the shallow source area soil and the deep unsaturated Chicot sand. The remedial design for the SVE system to address these two soil vapor source zones addressed in the 2017 ROD amendment was completed in September 2018. The fieldwork for the SVE system began in April 2019. The SVE system began operations in July 2019 and was expected to continue operations for two years.

The 2017 ROD amendment included the justification for changing the remedy as recommended by the optimization review, which included the following:

1. The P&T remedy would not adequately reduce groundwater contaminant concentrations due to sources in the unsaturated zone and low permeability material.
2. Unsaturated source zones were not fully characterized.

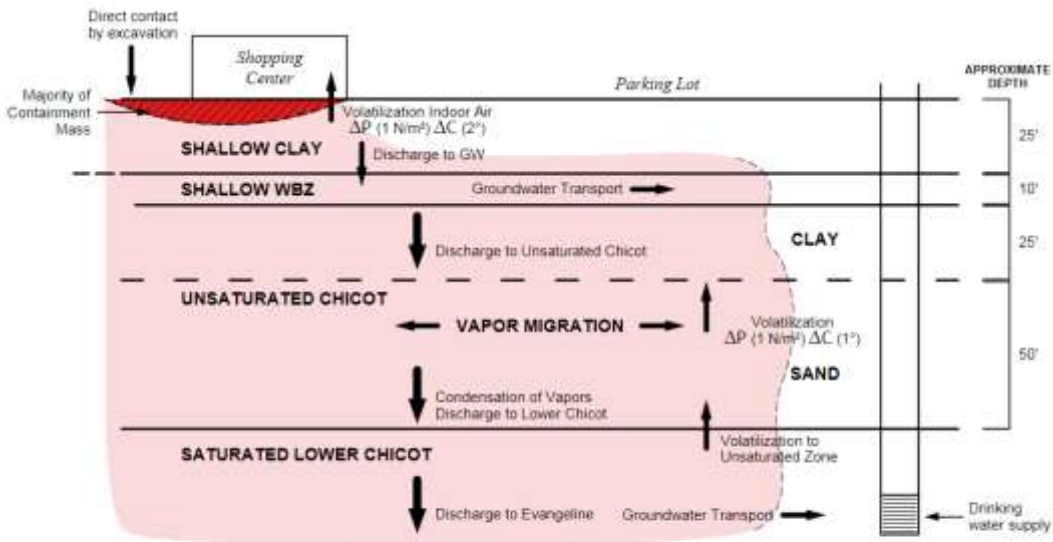
# P&T Transition to ISB

Jones Road  
Harris County, TX  
2010–2019  
Dry Cleaners  
Superfund Site/NPL

- Initial Condition
- Optimization Review
- Outcome

The ROD amendment implementation used a phased remedial approach consistent with the optimization review recommendations. The ROD amendment included installing an SVE system in the deep unsaturated Chicot sand unit to reduce VOC discharge to the Lower Chicot water-bearing zone. Next, as was recommended by the optimization review, a pilot test of SVE to address the shallow WBZ was conducted. It was successful; therefore, a full SVE system was installed in the WBZ. The need and possible design for a P&T remedy to contain the migration of groundwater contaminants will be evaluated after the effectiveness of source treatment is assessed through continued groundwater monitoring.

After 18 months of ISB injection, PCE and TCE concentrations in the injected area decreased more than 95% compared to pre-injection concentrations.



PRELIMINARY DRAFT



ESI Job No:	G-3630	Drawn by:	COM
Issued:	13-Aug-13	Checked by:	MV
Revised:		Approved by:	
Scale:	Not to Scale	<b>Figure 2</b>	

### CONTAMINANT MIGRATION OR POTENTIAL EXPOSURE PATHWAYS

Jones Road Conceptual Site Model  
Jones Road NPL Site  
Harris County, Texas

Stakeholders: Area residents with private water supply wells in the Lower Chicot have been provided the opportunity to connect to municipal water supplies. Outreach efforts continue to educate potentially affected residents about the opportunities and rationale to connect to municipal water. USEPA continues to sample the indoor air, sub-slab, and groundwater monitoring wells and private wells.

P&T Actions Conclusion  
P&T transition to ISB  
Time Span: 5 years  
OM&M cost savings: ~\$10,000/year  
Remedy effectiveness and/or risk reduction:  
Addressed clay source zones / removed originally unaddressed soil vapor pathway  
Sustainability benefits: Targeting source zones reduced treatment footprint