Table 6-3
Summary of Combination Groundwater and Soil Alternatives Evaluation
Feasibility Study Report
Former PSC Site - Rock Hill, SC

Remedial Alternative	*Threshold Criteria*		*Balancing Criteria*					
	Overall Protection of Human Health and the Environment	Compliance with ARARs	Long-Term Effectiveness and Permanence	Reduction of M/T/V Through Treatment	Short-Term Effectiveness	Implementability: Technical / Engineering Considerations	Implementability: Estimated Time for Implementation after ROD (years)	Cost (Approximate Total Present Worth)
1 - Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Deep Soil Mixing	This alternative would protect human health and the environment by removing or treating contaminants in soil to below RGs. Groundwater treatment would be limited but mobility of contaminants in groundwater would be reduced through containment.	Action- and location-specific ARARs are applicable and expected to be met. Chemical-specific ARARs would likely be met in soil. For groundwater, contaminants above RGs would still exist though migration would be limited.	Organic contaminants in soil would be removed via excavation, destroyed via deep soil mixing with oxidant, or mobilized into the vadose zone and removed with SVE. Contaminants would remain in regolith and bedrock groundwater but migration would be limited.	M/T/V of contaminants in soil would be significantly reduced. Mobility would also be reduced in groundwater though limited toxicity or volume reductions would occur.	Workers would be exposed to moderate risk due to potential off-gases from the SVE system, exposure to oxidant, soils disturbance during excavation and well installation, and the length of time to implement this alternative.	Bench- and pilot-scale testing would be required. Subsurface heterogeneities may cause problems with uniform treatment.	5	$43,242,000
2 - Hydraulic Containment, Select Excavation, SVE, Thermal-Enhanced MPE, and Air Sparging	This alternative would protect human health and the environment by treating contaminants to below RGs and minimizing mobilization of contaminated groundwater in bedrock.	Action- and location-specific ARARs are applicable and expected to be met. Chemical-specific ARARs would likely be met in soil and regolith regolith groundwater. RGs would not be initially met for bedrock groundwater, but concentrations would be expected to decline significantly after source removal / treatment.	Organic contaminants in soil would be removed via excavation or mobilized into the vadose zone and removed with SVE. Organic contaminants in groundwater would be removed via air sparging and dual-phase extraction. Some contaminants may remain in bedrock groundwater though migration would be limited.	M/T/V of contaminants in soil and regolith groundwater would be significantly reduced. The mobility of bedrock groundwater would also be reduced and the toxicity and volume of contaminants would likely decline once the source material was treated or removed.	Workers would be exposed to moderate risk due to potential off-gases from the SVE system, soils disturbance during excavation and well installation, and the length of time to implement this alternative.	Bench- and pilot-scale testing would be required. Subsurface heterogeneities may cause problems with uniform treatment.	10	$28,960,000
3 - Hydraulic Containment, SVE, Thermal-Enhanced MPE, and In Situ Thermal Treatment	This alternative is expected to be the most protective of human health and the environment due to the destructive nature of thermal treatment.	Action- and location-specific ARARs are applicable and expected to be met. Chemical-specific ARARs would likely be met in soil and regolith regolith groundwater. RGs would not be initially met for bedrock groundwater, but concentrations would be expected to decline significantly after source treatment.	Organic contaminants in soil and groundwater would be destroyed through thermal treatment. Some contaminants may remain in bedrock groundwater though migration would be limited.	M/T/V of contaminants in soil and regolith groundwater would be significantly reduced. The mobility of bedrock groundwater would also be reduced and the toxicity and volume of contaminants would likely decline once the source material was treated.	Workers would be exposed to moderate risk due to potential off-gases from the thermal treatment system, use of high voltage equipment, and the length of time to implement this alternative.	The number of vendors is limited. Additional data collection would likely be required to accurately estimate costs as cost is very sensitive to the number of months of operation (e.g., one additional month of operation is a significant add-on expense).	5	$35,854,000