

Treatability Study Cost Analysis
Technology: Solidification/Stabilization (S/S) - Unit Cost

Cost Item	Type of Cost	Description	Unit	Unit Cost	Totals
I	CAPITAL				
		Mobilization/Demobilization			
		a. Mobilization of personnel and equipment	each	\$ 1,827.10	
		b. Demobilization of personnel and equipment	each	\$ 1,348.60	
		Site Preparation^a			
		a. Health & safety/work plan	each	\$ 3,500.00	
		Total Capital Cost			\$ 6,675.70
II	OPERATIONS AND MAINTENANCE				
		Materials and Labor			
		a. Stabilization Activities	c.y.	\$ 37.19	
		(Includes decontamination, equipment, and labor)			
		b. Container Storage Rental	c.y.	\$ 15.04	
		Disposal			
		c. Profile, manifest, load, transport, and dispose of non-hazardous soil to a Class 2 Landfill	c.y.	\$ 18.00	
		Total Operations and Maintenance Cost			\$ 70.23
III	OTHER TECHNOLOGY-SPECIFIC COSTS				
		Laboratory Testing^a			
		a. TCLP (all metals)	c.y.	\$ 5.50	
		Total Technology Cost			\$ 5.50
		Quantity Treated During Treatability Study	c.y.		225
		Unit Cost Subtotal^b	c.y.		\$ 105.40
IV	OTHER PROJECT COSTS				
		Engineering^c			
		(for design and management)	10%	\$	10.54
		Contingency^c			
			15%	\$	15.81
		Calculated Unit Cost^b			\$ 131.74

Costs obtained from Eagle Construction and Environmental Services unless otherwise noted.

a Estimate based on engineering experience

b Capital costs are averaged per quantity treated during the treatability study to obtain costs per cubic yard.

c.y. cubic yard

Treatability Study Cost Analysis

Technology: Solidification/Stabilization (S/S) - Full Scale Operation

COST ITEM	Unit	Unit Cost	Amount	Total Cost
MOBILIZATION/DEMOBILIZ. stabilization equipment	each	\$ 11,787.64	1	\$ 11,787.64
SITE PREP				
1. health & safety/work plan	ls	\$ 3,250.00	1	\$ 3,250.00
2. documentation	each	\$ 25,000.00	1	\$ 25,000.00
OPERATIONS				
1. portland cement				
a. volume of waste treated	ft ³		1,306,810	
b. weight of waste treated	ton		108,095	
c. 14% of waste	ton	\$ 84.31	15,133	\$ 1,275,903.66
2. cat-215 trackhoe	cy	\$ 1.53	48,400	\$ 74,052.61
3. 12 CY dump truck	hr	\$ 41.92	20	\$ 838.40
4. 15 cy waste mixer	month	\$ 4,954.00	6	\$ 29,724.00
5. conveyer for concrete	month	\$ 1,500.00	6	\$ 9,000.00
5. pressure washer	each	\$ 2,748.00	1	\$ 2,748.00
6. 2" trash pump	month	\$ 998.00	6	\$ 5,988.00
7. miniram pump (ppe)	day	\$ 118.91	150	\$ 17,836.50
LABOR				
Operator/Supervisor	cy	\$ 37.19	48,352	\$ 1,798,210.88
DISPOSAL				
amount	yd ³		48352	
transportation (20cy max)	yd ³	\$ 2.00	48352	\$ 96,703.94
off-site landfill	yd ³	\$ 16.00	48352	\$ 773,631.52
BACKFILL				
clay	yd ³	\$ 4.39	48400	\$ 212,476.00
spread in 6" layers	yd ³	\$ 1.35	48400	\$ 65,340.00
haul, 16.5 c.y. truck, 6 miles	yd ³	\$ 1.84	48400	\$ 89,056.00
LABORATORY TESTING				
Targeted TCLP	each	\$ 671.89	5	\$ 3,359.45
Confirm. sampling for metals	each	\$ 150.00	150	\$ 22,500.00
TOTAL COST				\$ 4,517,406.60

Stabilization methodology
excavation
transportation to mixing area
staging
disposal sampling and analysis

Mixing area will include:
mixer
cement
conveyor
pressure washer

Assumption:

treating soil over 15 acre area and at a 2 foot depth with the specific gravity of soil estimated at 2.65
utilizing 15 cy waste mixer
no recurring costs
14% by weight portland cement is pure cement on a dry weight basis
TCLP test is a targeted (metals, volatiles, semi-volatiles only)
Labor includes supervisor and operators as well as decontamination activities.