

2018 Cost Guidelines Update

August 2, 2018

The Underground Storage Tank Cleanup Fund (Cleanup Fund) has completed a 2018 update of the Cost Guidelines. This effort focused on updating labor rates and unit costs using the California Consumer Price Index (CPI), which will have an immediate impact to reimbursements. Future Cost Guideline updates will include stakeholder involvement and will focus on further updating of costs and narrative guidelines, the addition of remediation costs, and integration of guidelines into a unified document.

The Cleanup Fund Cost Guidelines now consist of three parts. Until a unified document is developed, stakeholders should use the following documents to determine whether costs generally are considered to be reasonable and necessary for reimbursement purposes:

- Cost Guidelines, Underground Storage Tank Cleanup Fund, Version 2.0, dated October 1, 2001.
- Designation of Reasonable and Necessary Reimbursable Costs and Upcoming Additional Changes, Underground Storage Tank Cleanup Fund, dated August 11, 2011.
- 2018 Cost Guidelines Update, Underground Storage Tank Cleanup Fund, dated August 2, 2018. The “2018” column in each of the tables is the updated rate.

In general, information in the August 11, 2011 and the August 2, 2018 documents updates and supersedes the information provided in the October 1, 2001 document.

Methodology Used in the Update: The California CPI Inflation calculator uses the average CPI for a given calendar year. This data represents changes in prices of all goods and services purchased for consumption by urban households. While the Cleanup Fund thinks that this approach is generally valid, we also realize that some costs are influenced by factors other than simple inflation. Claimants still may provide justification showing that costs incurred are reasonable and necessary on a site-specific basis. The California CPI Inflation Calculator is available on the California Department of Industrial Relations website at: <https://www.dir.ca.gov/OPRL/capriceindex.htm>.

Background on the Cost Guidelines: The Cost Guidelines were developed pursuant to subdivision (h) of section 25299.57 of the Health and Safety Code, which states, in part, that the State Water Resources Control Board “shall develop a summary of expected costs for common remedial actions. This summary of expected costs may be used by claimants as a guide in the selection and supervision of consultants and contractors.”

Purpose of the Cost Guidelines: The primary purpose of the Cost Guidelines document is to provide guidance to claimants for evaluating proposed and incurred corrective action costs at sites eligible for participation in the Cleanup Fund. Specifically, these Guidelines may help claimants identify whether goods and services are reimbursable and understand how the Cleanup Fund evaluates activities and costs. Claimants also will be able to judge whether they likely will be required to provide additional justification to support a given cost, or whether a call for assistance from the Cleanup Fund is in order.

The Cost Guidelines is a guideline only, it does not establish reimbursement limits for the listed items and activities.

**Underground Storage Tank Cleanup Fund
2018 Cost Guidelines Update**

Cost Guidelines Tab Table of Contents	
Personnel Labor Rates	Page 1
Lab Analysis	Page 2
On-Site Laboratories	Page 3
Lab Analysis (Air)	Page 4
Supplies	Page 5
Small Items	Page 6
Equipment (Small)	Page 7
Equipment (Heavy)	Page 8
Equipment (Drilling)	Page 9
Drilling	Page 10
Miscellaneous Drilling Costs	Page 11
Direct Push Tech	Page 12
Preliminary Site Assessment Phase Work Plan	Page 13
Soil and Water Investigation Work Plan	Page 14
Interim Remedial Action Work Plan	Page 15
Community Health and Safety Plan	Page 16
Cone Penetrometer Test: Installation of 8 CPT probes to 30 ft	Page 17
Hand Augering: Installation of 5 hand augers borings to 10 ft	Page 18
Soil Boring Installation: Installation of 3 borings to 30 ft	Page 19
Soil Boring Installation: Installation of 6 borings to 50ft	Page 20
Trench/Test Pit Excavation: Excavation of 30 ft of trench to 15 ft.	Page 21
Hydropunch®1 Installation of 6 sample probes to 30 ft to sample groundwater	Page 22
Groundwater Well Installation: Installation of 3 borings to 30 ft, converted to 2 inch monitoring wells.	Page 23
Groundwater Well Installation: Installation of six (6) borings to fifty (50) feet, converted to two- inch monitoring wells.	Page 24
Well Development	Page 25
Vapor Test (8 hour)	Page 26
Pump Test (48 hour)	Page 27
Free Product Removal: up to six (6) wells	Page 28
Groundwater Monitoring Event: three (3) wells at thirty (30) feet.	Page 29
Groundwater Monitoring Event: six (6) wells at fifty (50) feet.	Page 30
Periodic Groundwater Monitoring Report: Three (3) wells, no other activity conducted.	Page 31
Periodic Groundwater Monitoring Report: Six (6) wells, no other activity conducted.	Page 32
A) Periodic Update Report: Significant activities conducted. B) Periodic Update Report: No activities conducted during reporting period.	Page 33
Site Assessment Report: six (6) borings to thirty (30) feet, three (3) converted to monitoring wells	Page 34
A) Corrective Action Plan Preparation: Basic site with moderate groundwater and soil contamination. B) Corrective Action Plan Preparation: Complicated site with extensive groundwater and soil contamination, difficult hydrogeology and multiple contaminants	Page 35
A) Remedial Action Plan Preparation: Basic site with moderate groundwater and soil contamination. B) Remedial Action Plan Preparation: Complicated site with extensive groundwater and soil contamination, difficult hydrogeology and multiple contaminants.	Page 36
A) Excavate and segregate overburden and contaminated soil B) Consulting Excavation	Page 37
A) System Operations and Maintenance B) Operations and Maintenance Supplies	Page 38
A) Contaminated Soil B) Contaminated Liquid C) Containerized Waste	Page 39
A) Off-site Remediation B) Off-site Disposal	Page 40
Clean up Progress Report	Page 41
A) Site Survey B) Underground Utility Check C) Traffic Control	Page 42
Total Subcontract or Equipment Mark-Up Amount	Page 43
After Tank Removal, Overexcavate and Dispose of 150 Yd3 of Petroleum Contaminated Soil	Page 44 - 45

Typical Personnel Labor Rates				
Professional Staff Title/Classification	Billable Rate (\$/hr) 2001	2006 (\$/hr)	2014 (\$/hr)	2018 (\$/hr)
Principal Engineer/Geologist	\$125/hr	\$145/hr	\$165/hr	\$182/hr
Project Manager	\$105/hr	\$120/hr	\$139/hr	\$152/hr
Senior Engineer/Geologist	\$105/hr	\$120/hr	\$139/hr	\$152/hr
Project/Associate Engineer/Geologist	\$90/hr	\$105/hr	\$119/hr	\$131/hr
Staff Engineer/Geologist	\$75/hr	\$90/hr	\$99/hr	\$109/hr
Senior Technician	\$70/hr	\$80/hr	\$92/hr	\$102/hr
Technician	\$60/hr	\$70/hr	\$79/hr	\$87/hr
Drafts Person	\$55/hr	\$65/hr	\$73/hr	\$80/hr
RR Analyst	-	-	-	\$70/hr
Clerical	\$45/hr	\$55/hr	\$59/hr	\$65/hr

Lab Analysis (Soil & Water)				
EPA Method1	Component	Cost 2001	Cost 2014	Cost 2018
8015	Total Petroleum Hydrocarbons (TPH)-gasoline	\$55/hr	\$73/hr	\$80/hr
8015	Total Petroleum Hydrocarbons (TPH)-diesel/motor oil	\$65/hr	\$86/hr	\$94/hr
8020	BTEX/MTBE	\$55/hr	\$73/hr	\$80/hr
8015/8020	TPH/BTEX/MTBE (gasoline only)	\$65/hr	\$86/hr	\$94/hr
8260 (incl. Oxygenates)	Volatile Organic Compounds	\$150/hr	\$198/hr	\$218/hr
8270	Semi-Volatile Organic Compounds	\$275/hr	\$363/hr	\$399/hr
6010/7421	Total Lead ²	\$40/hr	\$53/hr	\$58/hr
	Waste Characterization (Reactivity/Corrosivity/Ignitability)	\$180/hr	\$238/hr	\$261/hr
	5 LUFT Metals ³	\$80/hr	\$106/hr	\$116/hr
	CAM 17 Metals ³	\$175/hr	\$231/hr	\$254/hr

On-Site Laboratories				
Flat Fee		Cost 2001	Cost 2014	Cost 2018
Daily Rental Fee	EPA Method 8015/8020	\$1,500/day	\$1,980/day	\$2,178/day
	EPA Method 8015/8260	\$2,000/day	\$2,640/day	\$2,904/day
Variable Fee				
Mobilization/Daily Fee	Includes daily mobilization, chemist, and all equipment, supplies and disposal	\$400/day	\$528/day	\$581/day
Analysis Charges	EPA Method 8015/8020	\$50/ea	\$66/ea	\$73/ea
	EPA Method 8015/8260	\$115/ea	\$152/ea	\$167/ea

Lab Analysis (Air)			
Component	Cost 2001	Cost 2014	Cost 2018
TPH	\$60/hr	\$79/hr	\$87/hr
BTEX/MTBE	\$115/hr	\$152/hr	\$167/hr
EPA Method 8260	\$200/hr	\$264/hr	\$290/hr

Supplies (Field, Wells, Miscellaneous)		Size/Unit	Cost 2001	Cost 2014	Cost 2018
Field Supplies					
	Soil Sampling Liners (Brass)	2" x 6"	\$6/ea	\$8/ea	\$9/ea
	Soil Sampling Liners (Stainless Steel)	2" x 6"	\$10/ea	\$13/ea	\$15/ea
	Bailers (disposable) polypropylene	1.5" O.D.	\$8/ea	\$11/ea	\$12/ea
	Tedlar Bags (1 liter)	Each	\$10/ea	\$13/ea	\$15/ea
	Film/Development	Roll	At Cost	At Cost	At Cost
Well Supplies					
2" PVC, Schedule 40					
	PVC Well Casing (10' lengths)	Per Foot	\$4/Per Foot	\$5/Per Foot	\$5/Per Foot
	PVC Well Screen 0.010" & 0.020" (Up to 5' Lengths)	Per Foot	\$5/Per Foot	\$6/Per Foot	\$7/Per Foot
	PVC Well Screen 0.010" & 0.020" (Up to 10' Lengths)	Per Foot	\$4/Per Foot	\$5/Per Foot	\$5/Per Foot
	Threaded Cap (Top or Bottom)	Each	\$8/ea	\$10/ea	\$11/ea
	Slip Cap	Each	\$4/ea	\$5/ea	\$6/ea
	Locking Cap	Each	\$20/ea	\$26/ea	\$29/ea
4" PVC, Schedule 40					
	PVC Well Casing (10' lengths)	Per Foot	\$6/Per Foot	\$8/Per Foot	\$9/Per Foot
	PVC Well Screen 0.010" & 0.020" (Up to 5' Lengths)	Per Foot	\$9/Per Foot	\$12/Per Foot	\$13/Per Foot
	PVC Well Screen 0.010" & 0.020" (Up to 10' Lengths)	Per Foot	\$8/Per Foot	\$10/Per Foot	\$11/Per Foot
	Threaded Cap (Top or Bottom)	Each	\$14/ea	\$18/ea	\$20/ea
	Slip Cap	Each	\$8/ea	\$11/ea	\$12/ea
	Locking Cap	Each	\$22/ea	\$29/ea	\$32/ea
Concrete					
	Ready Mix	90 lb. Bag	\$5/Per Bag	\$7/Per Bag	\$7/Per Bag
	Portland Cement Concrete	90 lb. Bag	\$8/Per Bag	\$11/Per Bag	\$12/Per Bag
	Sand Cement slurry Backfill w/ Delivery	Cubic Yard	\$60/Per Cubic Yard	\$79/Per Cubic Yard	\$87/Per Cubic Yard
Grout					
	Bentonite Grout	50 lb. Bag	\$10/Per Bag	\$13/Per Bag	\$15/Per Bag
	Bentonite Chips	50 lb. Bag	\$10/Per Bag	\$13/Per Bag	\$15/Per Bag
	Bentonite Granular	50 lb. Bag	\$10/Per Bag	\$13/Per Bag	\$15/Per Bag
	Bentonite Tablets	50 lb. Bag	\$40/Per Bag	\$53/Per Bag	\$58/Per Bag
Supplies (Field, Wells, Miscellaneous)					
Sand					
	Monterey Sand	100 lb. Bag	\$9/Per Bag	\$11/Per Bag	\$12/Per Bag
	Silica Sand	100 lb. Bag	\$8/Per Bag	\$11/Per Bag	\$12/Per Bag
Well Covers					
	Manholes(locking/tight/Traffic Rated)	8 inch	\$50/ea	\$66/ea	\$73/ea
	Manholes(locking/tight/Traffic Rated)	12 inch	\$75/ea	\$99/ea	\$109/ea
	Standpipe, steel, locking	8" dia.x 3'	\$100/ea	\$132/ea	\$145/ea
	Christy Box	8 inch	\$75/ea	\$99/ea	\$109/ea
	Christy Box	12 inch	\$100/ea	\$132/ea	\$145/ea
Miscellaneous					
	Padlocks	Each	\$10/ea	\$13/ea	\$15/ea
	Asphalt Patch (Cold-Mix)	50 lb. Bag	\$10/Per Bag	\$13/Per Bag	\$15/Per Bag
	55 gallon drum	Each	\$40/ea	\$53/ea	\$58/ea
	Visqueen 6 mil, 20'x100'	Roll	\$75/ea	\$99/ea	\$109/ea
	Tyvek Suits	Each	\$6/ea	\$8/ea	\$9/ea

Small Items	2001 \$/day	2014 \$/day	2018 \$/day
For example: gloves, water, ropes, tape, soap, twine, pens, bottles, paint, warning tape, distilled water etc.	\$25/day	\$33/day	\$36/day

		2001		
Equipment (Small)		Daily	Weekly	Monthly
Air Compressor		\$85/day	\$315/week	
Concrete Coring/Cutting Equipment				
	Coring Machine - 8" diameter (including bit)	\$75/day	\$250/week	
	Concrete Saw	\$75/day	\$250/week	
Fence				
	Chain link \$/100 ft		\$100/week	\$400/month
Field Instruments				
	Datalogger (2 channel)	\$65/day	\$325/week	
	Photo-ionization Detector (PID)	\$100/day	\$350/week	
	Flame Ionization Detector (FID)	\$150/day	\$500/week	
	Water Level Indicator	\$25/day	\$85/week	
	Oil/Water Interface Probe	\$40/day	\$125/week	
	pH/Conductivity/Temperature Meter	\$40/day	\$125/week	
	Dissolved Oxygen Meter	\$40/day	\$125/week	
	Combustible Gas Meter (LEL/O ₂)	\$50/day	\$175/week	
	Turbidity Meter	\$20/day	\$70/week	
Field Sampling Equipment				
	Bailer (reusable teflon)	\$20/day	\$70/week	
	Hand Auger	\$25/day	\$85/week	
	Core Sampler & Hammer	\$5/day	\$20/week	
Equipment (Small)		Daily	Weekly	Monthly
Generators, gasoline/diesel powered				
	Generator, 1-3 kW	\$40/day	\$150/week	
	Generator, 5-6 kW	\$55/day	\$200/week	
	Steam Cleaner	\$75/day	\$250/week	
Pumps				
	Gasoline Powered Pump 2" dia., 150 gpm	\$55/day	\$200/week	
	Pump, Submersible, 10 gpm	\$45/day	\$150/week	
	D.C. Purging Pump 3 gpm	\$15/day	\$50/week	
Skimmers/Separators/Hydrocarbon Recovery				
	Passive Skimmer (1 liter)			\$15/month
	Electric Skimmer			\$125/month
	Filter Separator			\$100/month
Storage Tanks				
	Storage Tanks, 1,000 gallon	\$13/day	\$85/week	\$325/month
	Storage Tanks, 5,000 gallon	\$19/day	\$125/week	\$500/month
	Storage Tanks, 21,000 gallon	\$30/day	\$210/week	\$840/month
	Rolloff Bin	\$19/day	\$95/week	\$350/month
Survey Equipment				
	Level/transit, tripod, rod/prism, tape/chain	\$35/day	\$140/week	
Traffic Control Components				
	Barricades		\$5/week	\$20/month
	Cones/Delineators (25 each)	\$8/day	\$35/week	

2014		
Daily	Weekly	Monthly
\$112/day	\$416/week	
\$99/day	\$330/week	
\$99/day	\$330/week	
Fence		
\$132/week	\$528/month	
Field Instruments		
\$86/day	\$429/week	
\$132/day	\$462/week	
\$198/day	\$660/week	
\$33/day	\$112/week	
\$53/day	\$165/week	
\$53/day	\$165/week	
\$53/day	\$165/week	
\$66/day	\$231/week	
\$26/day	\$92/week	
Field Sampling Equipment		
\$26/day	\$92/week	
\$33/day	\$112/week	
\$7/day	\$26/week	
Equipment (Small)		
Generators, gasoline/diesel powered		
\$53/day	\$198/week	
\$73/day	\$264/week	
\$99/day	\$330/week	
Pumps		
\$73/day	\$264/week	
\$59/day	\$198/week	
\$20/day	\$66/week	
Skimmers/Separators/Hydrocarbon/Recovery		
		\$20/month
		\$165/month
		\$132/month
Storage Tanks		
\$17/day	\$112/week	\$429/month
\$24/day	\$165/week	\$660/month
\$40/day	\$277/week	\$1109/month
\$25/day	\$125/week	\$462/month
Survey Equipment		
\$46/day	\$185/week	
Traffic Control Components		
	\$7/week	\$26/month
\$11/day	\$46/week	

2018		
Daily	Weekly	Monthly
\$123/day	\$457/week	
\$109/day	\$363/week	
\$109/day	\$363/week	
Fence		
\$145/week	\$581/month	
Field Instruments		
\$94/day	\$472/week	
\$145/day	\$508/week	
\$218/day	\$726/week	
\$36/day	\$123/week	
\$58/day	\$182/week	
\$58/day	\$182/week	
\$58/day	\$182/week	
\$73/day	\$254/week	
\$29/day	\$102/week	
Field Sampling Equipment		
\$29/day	\$102/week	
\$36/day	\$123/week	
\$7/day	\$29/week	
Equipment (Small)		
Generators, gasoline/diesel powered		
\$58/day	\$218/week	
\$80/day	\$290/week	
\$109/day	\$363/week	
Pumps		
\$80/day	\$290/week	
\$65/day	\$218/week	
\$22/day	\$73/week	
Skimmers/Separators/Hydrocarbon/Recovery		
		\$22/month
		\$182/month
		\$145/month
Storage Tanks		
\$18/day	\$123/week	\$472/month
\$27/day	\$182/week	\$726/month
\$44/day	\$305/week	\$1220/month
\$28/day	\$138/week	\$508/month
Survey Equipment		
\$51/day	\$203/week	
Traffic Control Components		
	\$7/week	\$29/month
\$12/day	\$51/week	

		2001		
Equipment (Heavy)		Hourly	Daily	Weekly
	Backhoe (operated)	\$90/hr	\$720/day	\$3,600/week
	Compactor (compaction wheel or vibraplate)		\$125/day	\$650/week
	Excavator (operated)	\$140/hr	1,100/day	\$5,500/week
Loaders (operated)				
	Bob cat	\$75/hr	\$600/day	\$3,000/week
	Loader	\$120/hr	\$960/day	\$4,800/week
Trucks				
	Truck /Automobile	Lesser of \$60.00/day or \$0.50/mile		
	Specialized Equipment Truck (4WD)	Lesser of \$75.00/day or \$0.60/mile		
	Truck - 10 cubic yard (operated)	\$65/hr	\$520/day	\$2,600/week
	Truck - 20 cubic yard (operated)	\$75/hr	\$600/day	\$3,000/week
	Vacuum Truck (operated)	\$75/hr	\$600/day	\$3,000/week

		2014		
Equipment (Heavy)		Hourly	Daily	Weekly
	Backhoe (operated)	\$119/hr	\$950/day	\$4,752/week
	Compactor (compaction wheel or vibraplate)		\$165/day	\$858/week
	Excavator (operated)	\$185/hr	\$1,452/day	\$7,260/week
Loaders (operated)				
	Bob cat	\$99/hr	\$792/day	\$3,960/week
	Loader	\$158/hr	\$1,267/day	\$6,336/week
Trucks				
	Truck /Automobile	\$0.565/mile		
	Specialized Equipment Truck (4WD)	\$0.565/mile		
	Truck - 10 cubic yard (operated)	\$86/hr	\$686/day	\$3,432/week
	Truck - 20 cubic yard (operated)	\$99/hr	\$792/day	\$3,960/week
	Vacuum Truck (operated)	\$99/hr	\$792/day	\$3,960/week

		2018		
Equipment (Heavy)		Hourly	Daily	Weekly
	Backhoe (operated)	\$131/hr	\$1045/day	\$5,227/week
	Compactor (compaction wheel or vibraplate)		\$182/day	\$910/week
	Excavator (operated)	\$203/hr	\$1,597/day	\$7,986/week
Loaders (operated)				
	Bob cat	\$109/hr	\$871/day	\$4,356/week
	Loader	\$174/hr	\$1,394/day	\$6,970/week
Trucks				
	Truck /Automobile	\$0.622/mile		
	Specialized Equipment Truck (4WD)	\$0.622/mile		
	Truck - 10 cubic yard (operated)	\$94/hr	\$755/day	\$3,775/week
	Truck - 20 cubic yard (operated)	\$109/hr	\$871/day	\$4,356/week
	Vacuum Truck (operated)	\$109/hr	\$871/day	\$4,356/week

Equipment (Drilling)	2001	
	Hourly	Daily
Mobilization/Demobilization (4 hour maximum)	\$100/hr	
Hollow Stem Auger Drill Rig	\$130/hr	
Rotary Drill Rig	\$160/hr	
Direct Push Technology Rig	\$130/hr	
Steam Cleaner		\$75/day
Cement Pump		\$60/day
Support Truck/Van		\$85/day
Compressor with Paving Breaker		\$85/day
Concrete Coring Machine		\$75/day
Generator (3500 watt)		\$55/day

2014	
Hourly	Daily
\$132/hr	
\$172/hr	
\$211/hr	
\$172/hr	
	\$99/day
	\$79/day
	\$112/day
	\$112/day
	\$99/day
	\$73/day

2018	
Hourly	Daily
\$145/hr	
\$189/hr	
\$232/hr	
\$189/hr	
	\$109/day
	\$87/day
	\$123/day
	\$123/day
	\$109/day
	\$80/day

Drilling (Soil Borings, Monitoring Wells)				
Description	Depth	2001 \$/ft	2014 \$/ft	2018 \$/ft
Borings: backfill with cement/bentonite slurry mixture	0 to 50 feet	\$18/ft	\$24/ft	\$26/ft
Borings: backfill with cement/bentonite slurry mixture	50 to100 feet	\$18/ft	\$24/ft	\$26/ft
Borings: backfill with cement/bentonite slurry mixture	>100 feet	\$18/ft	\$24/ft	\$26/ft
Wells: includes borehole drilling, PVC screen and blank schedule 40, end plug, locking cap, sand, bucket of bentonite pellets for seal, concrete grout, and well box; also includes 15 minutes surging time to set sand pack. This rate would be less if no sampling is needed during drilling.				
2" PVC	0 to 50 feet	\$34/ft	\$45/ft	\$49/ft
2" PVC	50 to100 feet	\$33/ft	\$44/ft	\$48/ft
2" PVC	>100 feet	\$32/ft	\$42/ft	\$46/ft
4" PVC	0 to 50 feet	\$40/ft	\$53/ft	\$58/ft
4" PVC	50 to100 feet	\$39/ft	\$51/ft	\$57/ft
4" PVC	>100 feet	\$38/ft	\$50/ft	\$55/ft
Well Demolition: drilling rig costs, includes backfill				
2" PVC		\$16/ft	\$21/ft	\$23/ft
4" PVC		\$20/ft	\$26/ft	\$29/ft

Miscellaneous Drilling Costs				
		2001	2014	2018
Description	Unit	\$/Unit	\$/Unit	\$/Unit
Additional Well Development	Hourly	\$110/hr	\$145/hr	\$160/hr
Continuous Core Sampling	Additional \$/ft	\$5/ft	\$7/ft	\$7/ft
Angle Drilling	Additional \$/ft	\$5/ft	\$7/ft	\$7/ft

Cone Penetrometer/Geoprobe/Hydropunch			
Description	2001 \$/ft	2014 \$/ft	2018 \$/ft
Includes: CPT Equipment, vehicle, labor, professional oversight, all necessary supplies, replacement tips, grout, sample rings and all other necessities to perform field work.	\$25/ft	\$33/ft	\$36/ft

Preliminary Site Assessment Phase Workplan

		2001			2014			2018				
Personnel	Description of work	Units	Rate	Cost	Units	Rate	Cost	Units	Rate	Cost		
Principal Engineer/Geologist	Review and signature	1	\$125/hr	\$125	1	\$165/hr	\$165	1	\$182/hr	\$182		
Project/Associate Engineer/Geologist	Regulatory liaison, project management and plan preparation	8	\$90/hr	\$720	8	\$119/hr	\$950	8	\$131/hr	\$1,048		
Staff Engineer/Geologist	Initial Site Concept. Model/plan prep.	8	\$75/hr	\$600	8	\$99/hr	\$792	8	\$109/hr	\$872		
Drafts Person	Prepare site & sampling location maps	3	\$55/hr	\$165	3	\$73/hr	\$218	3	\$80/hr	\$240		
Clerical	Typing/reproduction/ mailing	3	\$45/hr	\$135	3	\$59/hr	\$178	3	\$65/hr	\$195		
Total Cost				\$1,745	Total Cost			\$2,303	Total Cost			\$2,537

Soil and Water Investigation Phase Workplan

			2001		2014		2018	
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost
Principal Engineer/Geologist	Review and signature	1	\$125/hr	\$125	\$165/hr	\$165	\$182/hr	\$182
Project/Associate Engineer/Geologist	Regulatory liaison, project management and plan preparation	10	\$90/hr	\$900	\$119/hr	\$1,188	\$131/hr	\$1,310
Staff Engineer/Geologist	Revise Site Concept. Model/Plan prep.	12	\$75/hr	\$900	\$99/hr	\$1,188	\$109/hr	\$1,308
Drafts Person	Prepare site & sampling location maps	4	\$55/hr	\$220	\$73/hr	\$290	\$80/hr	\$320
Clerical	Typing/reproduction/mailing	4	\$45/hr	\$180	\$59/hr	\$238	\$65/hr	\$260
Total Cost				\$2,325	Total Costs	\$3,069	Total Costs	\$3,380

Interim Remedial Action Workplan								
			2001		2014		2018	
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost
Principal Engineer/Geologist	Review and signature	1	\$125/hr	\$125	\$165/hr	\$165	\$182/hr	\$182
Project/Associate Engineer/Geologist	Regulatory liaison, project management and plan preparation	6	\$90/hr	\$540	\$119/hr	\$713	\$131/hr	\$786
Staff Engineer/Geologist	Workplan preparation	4	\$75/hr	\$300	\$99/hr	\$396	\$109/hr	\$436
Drafts Person	Prepare site & sampling location maps	4	\$55/hr	\$220	\$73/hr	\$290	\$80/hr	\$320
Clerical	Typing/reproduction/mailing	3	\$45/hr	\$135	\$59/hr	\$178	\$65/hr	\$195
Total Cost				\$1,320	Total	\$1,742	Total	\$1,919

Community Health and Safety Plan

Community Health and Safety Plan										
			2001		2014		2018			
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost		
Principal Engineer/Geologist	Review and signature	0.5	\$125/hr	\$63	\$165/hr	\$83	\$182/hr	\$91		
Project/Associate Engineer/Geologist	Regulatory liaison and plan preparation	6	\$90/hr	\$540	\$119/hr	\$713	\$131/hr	\$786		
Drafts Person	Site, vicinity, hospital location maps	4	\$55/hr	\$220	\$73/hr	\$290	\$80/hr	\$320		
Clerical	Typing/reproduction/ mailing	3	\$45/hr	\$135	\$59/hr	\$178	\$65/hr	\$195		
Total Cost				\$958	Total Costs		\$1,264	Total Costs		\$1,392

Cone Penetrometer Test: Installation of eight (8) CPT probes to thirty (30) feet								
			2001		2014		2018	
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost
Project Manager	Scheduling/Coordination	6	\$105/hr	\$630	\$139/hr	\$832	\$152/hr	\$912
Staff Engineer/Geologist	Field Prep./Permit/Fieldwork	12	\$75/hr	\$900	\$99/hr	\$1,188	\$109/hr	\$1,308
Total Labor				\$1,530	Total Labor	\$2,020	Total Labor	\$2,220
Equipment Rental/Supplies		Units						
Gas Monitor (PID)	day	1	\$100/day	\$100	\$132/day	\$132	\$145/day	\$145
Truck	day	1	\$60/day	\$60	\$0	\$0	\$0	\$0
Misc. Field Items	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36
Total Equipment				\$185	Total Equipment	\$165	Total Equipment	\$181
Subcontractor		Units						
Driller	feet	240	\$25/ft	\$6,000	\$33/ft	\$7,920	\$36/ft	\$8,640
Analytical (EPA 8015)	each	8	\$65/ea	\$520	\$86/ea	\$686	\$94/ea	\$752
Analytical (EPA 8260 w/oxygenates)	each	8	\$150/ea	\$1,200	\$198/ea	\$1,584	\$218/ea	\$1,744
Markup			15%	\$1,158	10%	\$1,019	10%	\$1,114
Total Subcontractor				\$8,878	Total Subcontractor	\$11,209	Total Subcontractor	\$12,250
Total Cost				\$10,593	Total Cost	\$13,394	Total Cost	\$14,651

Hand Augering: Installation of five (5) hand augers borings to ten (10) feet									
			2001		2014		2018		
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost	
Project Manager	Scheduling/Coordination	2	\$105/hr	\$210	\$139/hr	\$277	\$152/hr	\$304	
Staff Engineer/Geologist	Field work/QA	10	\$75/hr	\$750	\$99/hr	\$990	\$109/hr	\$1,090	
Technician	Field work	10	\$60/hr	\$600	\$79/hr	\$792	\$87/hr	\$870	
Total Labor				\$1,560	Total Labor	\$2,059	Total Labor	\$2,264	
Equipment Rental/Supplies		Units							
Gas Monitor (PID)	day	1	\$100/day	\$100	\$132/day	\$132	\$145/day	\$145	
Truck	day	1	\$60/day	\$60	\$0	\$0	\$0	\$0	
Hand Auger	each	1	\$30/ea	\$30	\$40/ea	\$40	\$44/ea	\$44	
Coring Machine	day	1	\$75/day	\$75	\$99/day	\$99	\$109/day	\$109	
Misc. Field Items	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36	
Total Equipment				\$290	Total Equipment	\$304	Total Equipment	\$334	
Subcontractor		Units							
Analytical (EPA 8015)	each	6	\$65/ea	\$390	\$86/ea	\$515	\$94/ea	\$564	
Analytical (EPA 8260 w/oxygenates)	each	6	\$150/ea	\$900	\$198/ea	\$1,188	\$218/ea	\$1,308	
Markup			15%	\$194					
Total Subcontractor				\$1,484	Subcontractor Total	\$1,703	Subcontractor Total	\$1,872	
Total Cost				\$3,334	10% Markup	\$170	10% Markup	\$187	
					Total Subcontractor	\$1,873	Total Subcontractor	\$2,059	
					Total Cost	\$4,236	Total Cost	\$4,657	

Soil Boring Installation: Installation of three (3) borings to thirty (30) feet										
			2001		2014		2018			
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost		
Project Manager	Scheduling/Coordination	6	\$105/hr	\$630	\$139/hr	\$832	\$152/hr	\$912		
Staff Engineer/Geologist	Field prep./Permit/Fieldwork	12	\$75/hr	\$900	\$99/hr	\$1,188	\$109/hr	\$1,308		
Total Labor				\$1,530	Total Labor		\$2,020	Total Labor		\$2,220
Equipment Rental/Supplies		Units								
Gas Monitor (PID)	day	1	\$100/hr	\$100	\$132/hr	\$132	\$145/hr	\$145		
Truck	day	1	\$60/hr	\$60	\$0	\$0	\$0	\$0		
Drums	each	6	\$40/hr	\$240	\$53/hr	\$317	\$58/hr	\$348		
Soil Sampling Liners	each	15	\$6/hr	\$90	\$8/hr	\$119	\$9/hr	\$135		
Misc. Field Items	day	1	\$25/hr	\$25	\$33/hr	\$33	\$36/hr	\$36		
Total Equipment				\$515	Total Equipment		\$601	Total Equipment		\$664
Subcontractor		Units								
Driller Mobilization	hour	4	\$100/hr	\$400	\$132/hr	\$528	\$145/hr	\$580		
Driller	feet	90	\$18/hr	\$1,620	\$24/hr	\$2,138	\$26/hr	\$2,340		
Analytical (EPA 8015)	each	15	\$65/hr	\$975	\$86/hr	\$1,287	\$94/hr	\$1,410		
Analytical (EPA 8260 w/oxygenates)	each	15	\$150/hr	\$2,250	\$198/hr	\$2,970	\$218/hr	\$3,270		
Markup			15%	\$787	Subcontractor Total		\$6,923	Subcontractor Total		\$7,600
Total Subcontractor				\$6,032	10% Markup		\$692	10% Markup		\$760
Total Cost				\$8,077	Total Subcontractor		\$7,616	Total Subcontractor		\$8,360
					Total Cost		\$10,236	Total Cost		\$11,244

Soil Boring Installation: Installation of six (6) borings to fifty (50) feet								
			2001		2014		2018	
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost
Project Manager	Scheduling/Coordination	10	\$105/hr	\$1,050	\$139/hr	\$1,386	\$152/hr	\$1,520
Staff Engineer/Geologist	Field prep./Permit/Fieldwork	30	\$75/hr	\$2,250	\$99/hr	\$2,970	\$109/hr	\$3,270
Total Labor				\$3,300	Total Labor	\$4,356	Total Labor	\$4,790
Equipment Rental/Supplies		Units						
Gas Monitor (PID)	day	3	\$100/day	\$300	\$132/day	\$396	\$145/day	\$435
Truck	day	3	\$60/day	\$180	\$0	\$0	\$0	\$0
Visqueen	roll	1	\$75/Per Roll	\$75	\$99/Per Roll	\$99	\$109/Per Roll	\$109
Soil Sampling Liners	each	48	\$6/ea	\$288	\$8/ea	\$380	\$9/ea	\$432
Misc. Field Items	day	3	\$25/day	\$75	\$33/day	\$99	\$36/day	\$108
Total Equipment				\$918	Total Equipment	\$974	Total Equipment	\$1,084
Subcontractor		Units						
Driller Mobilization	hour		\$4/hr	\$100	\$132/hr	\$528	\$145/hr	\$580
Driller	feet	300	\$18	\$5,400	\$24	\$7,128	\$26	\$7,800
Analytical (EPA 8015)	each	48	\$65/ea	\$3,120	\$86/ea	\$4,118	\$94/ea	\$4,512
Analytical (EPA 8260 w/oxygenates)	each	48	\$150/ea	\$7,200	\$198/ea	\$9,504	\$218/ea	\$10,464
Markup			15%	\$2,418				
Total Subcontractor				\$18,538	Subcontractor Total	\$21,278	Subcontractor Total	\$23,356
Total Cost				\$22,756	10% Markup	\$2,128	10% Markup	\$2,336
					Subcontractor Cost	\$23,406	Subcontractor Cost	\$25,692
					Total Cost	\$28,736	Total Cost	\$31,566

Trench/Test Pit Excavation: Excavation of thirty (30) feet of trench to 15 feet										
			2001		2014		2018			
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost	Rate	Cost
Project Manager	Scheduling/Coordination	6	\$105/hr	\$630	\$139/hr	\$832	\$152/hr	\$912		
Staff Engineer/Geologist	Field preparation/Fieldwork	10	\$75/hr	\$750	\$99/hr	\$990	\$109/hr	\$1,090		
Total Labor				\$1,380	Total Labor	\$1,822	Total Labor	\$2,002		
Equipment Rental/Supplies		Units								
Gas Monitor (PID)	day	1	\$100/day	\$100	\$132/day	\$132	\$145/day	\$145		
Truck	day	1	\$60/day	\$60	\$0	\$0	\$0	\$0		
Visqueen	roll	1	\$75/Per Roll	\$75	\$99/Per Roll	\$99	\$109/Per Roll	\$109		
Misc. Field Items	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36		
Total Equipment				\$260	Total Equipment	\$264	Total Equipment	\$290		
Subcontractor		Units								
Backhoe (w/operator)	hour	8	\$90/hr	\$720	\$119/hr	\$950	\$131/hr	\$1,048		
Backfill	Yd3	35	\$15/cubic yd	\$525	\$20/cubic yd	\$693	\$22/cubic yd	\$770		
Analytical (EPA 8015)	each	6	\$65/ea	\$390	\$86/ea	\$515	\$94/ea	\$564		
Analytical (EPA 8260 w/oxygenates)	each	6	\$150/ea	\$900	\$198/ea	\$1,188	\$218/ea	\$1,308		
Markup			15%	\$380						
Total Subcontractor				\$2,915	Subcontractor Total	\$3,346	Subcontractor Total	\$3,690		
Total Cost				\$4,555	10% Markup	\$335	10% Markup	\$369		
					Total Subcontractor	\$3,681	Total Subcontractor	\$4,059		
					Total Cost	\$5,766	Total Cost	\$6,351		

Hydropunch@1:Installation of six (6) sample probes to thirty (30) feet to sample groundwater									
			2001		2014		2018		
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost	
Project Manager	Scheduling/Coordination	6	\$105/hr	\$630	\$139/hr	\$832	\$152/hr	\$912	
Staff Engineer/Geologist	Field preparation/Fieldwork	12	\$75/hr	\$900	\$99/hr	\$1,188	\$109/hr	\$1,308	
Total Labor				\$1,530	Total Labor	\$2,020	Total Labor	\$2,220	
Equipment Rental/Supplies		Units							
Gas Monitor (PID)	day	1	\$100/day	\$100	\$132/day	\$132	\$145/day	\$145	
Truck	day	1	\$60/day	\$60	\$0	\$0	\$0	\$0	
Misc. Field Items	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36	
Total Equipment				\$185	Total Equipment	\$165	Total Equipment	\$181	
Subcontractor		Units							
Driller Mobilization	hour	4	\$100/hr	\$400	\$132/hr	\$528	\$145/hr	\$580	
Driller	feet	180	\$25/ft	\$4,500	\$33/ft	\$5,940	\$36/ft	\$6,480	
Analytical (EPA 8015)	each	9	\$65/ea	\$585	\$86/ea	\$772	\$94/ea	\$846	
Analytical (EPA 8260 w/oxygenates)	each	9	\$150/ea	\$1,350	\$198/ea	\$1,782	\$218/ea	\$1,962	
Markup			15%	\$1,025					
Total Subcontractor				\$7,860	Subcontractor Total	\$9,022	Subcontractor Total	\$9,868	
Total Subcontractor				\$7,860	10% Markup	\$902	10% Markup	\$987	
Total Cost				\$9,575	Total Subcontractor	\$9,924	Total Subcontractor	\$10,855	
Total Cost				\$9,575	Total Cost	\$12,109	Total Cost	\$13,256	

1Any mention of brand names or specific technologies is not an endorsement of that brand or technology by the State, the Fund, or any of the staff. The mention of brands and names are purely for illustrative purposes.

Groundwater Well Installation: Installation of three (3) borings to thirty (30) feet, converted to two-inch monitoring wells

		2001			2014		2018	
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost
Project Manager	Scheduling/Coordination	6	\$105/hr	\$630	\$139/hr	\$832	\$152/hr	\$912
Staff Engineer/Geologist	Field prep./Permit/Fieldwork	16	\$75/hr	\$1,200	\$99/hr	\$1,584	\$109/hr	\$1,744
Total Labor				\$1,830	Total Labor	\$2,416	Total Labor	\$2,656
Equipment Rental/Supplies		Units						
Gas Monitor (PID)	day	1	\$100/day	\$100	\$132/day	\$132	\$145/day	\$145
Truck	day	1	\$60/day	\$60	\$0	\$0	\$0	\$0
Drums	each	6	\$40/ea	\$240	\$53/ea	\$317	\$58/ea	\$348
Misc. Field Items	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36
Total Equipment				\$425	Total Equipment	\$482	Total Equipment	\$529
Subcontractor		Units						
Driller Mobilization	hour	4	\$100/hr	\$400	\$132/hr	\$528	\$145/hr	\$580
Driller	feet	90	\$34/ft	\$3,060	\$45/ft	\$4,039	\$49/ft	\$4,410
Analytical (EPA 8015)	each	15	\$65/ea	\$975	\$86/ea	\$1,287	\$94/ea	\$1,410
Analytical (EPA 8260 w/oxygenates)	each	15	\$150/ea	\$2,250	\$198/ea	\$2,970	\$218/ea	\$3,270
Markup			15%	\$1,003				
Total Subcontractor				\$7,688	Subcontractor Total	\$8,824	Subcontractor Total	\$9,670
Total Cost				\$9,943	10% Markup	\$882	10% Markup	\$967
					Total Subcontractor	\$9,707	Total Subcontractor	\$10,637
					Total Cost	\$12,604	Total Cost	\$13,822

Groundwater Well Installation: Installation of six (6) borings to fifty (50) feet, converted to two-inch monitoring wells

			2001	
Personnel	Description of work	Units	Rate	Cost
Project Manager	Scheduling/Coordination	12	\$105/hr	\$1,260
Staff Engineer/Geologist	Field prep./Permit/Fieldwork	40	\$75/hr	\$3,000
Total Labor				\$4,260
Equipment Rental/Supplies	Units			
Gas Monitor (PID)	day	4	\$100/day	\$400
Truck	day	4	\$60/day	\$240
Visqueen	roll	1	\$75/Per Roll	\$75
Misc. Field Items	day	4	\$25/day	\$100
Total Equipment				\$815
Subcontractor	Units			
Driller Mobilization	hour	4	\$100/hr	\$400
Driller	feet	300	\$34/ft	\$10,200
Analytical (EPA 8015)	each	36	\$65/ea	\$2,340
Analytical (EPA 8260 w/oxygenates)	each	36	\$150/ea	\$5,400
Markup			15%	\$2,751
Total Subcontractor				\$21,091
Total Cost				\$26,166

2014	
Rate	Cost
\$139/hr	\$1,663
\$99/hr	\$3,960
Total Labor	\$5,623
\$132/day	\$528
\$0	\$0
\$99/Per Roll	\$99
\$33/day	\$132
Total Equipment	\$759
\$132/hr	\$528
\$45/ft	\$13,464
\$86/ea	\$3,089
\$198/ea	\$7,128
Subcontractor Total	\$24,209
10% Markup	\$2,421
Total Subcontractor	\$26,630
Total Cost	\$33,012

2018	
Rate	Cost
\$152/hr	\$1,824
\$109/hr	\$4,360
Total Labor	\$6,184
\$145/day	\$580
\$0	\$0
\$109/Per Roll	\$109
\$36/day	\$144
Total Equipment	\$833
\$145/hr	\$580
\$49/ft	\$14,700
\$94/ea	\$3,384
\$218/ea	\$7,848
Subcontractor Total	\$26,512
10% Markup	\$2,651
Total Subcontractor	\$29,163
Total Cost	\$36,180

Well Development * Only providing data for 3 wells

2001					2014		2018	
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost
Project Manager	Scheduling/Coordination	1	\$105/hr	\$105	\$139/hr	\$139	\$152/hr	\$152
Technician	Develop 3 wells at 30 feet	3	\$60/hr	\$180	\$79/hr	\$238	\$87/hr	\$261
Technician	Develop 6 wells at 50 feet	6	\$60/hr	\$360				
Total Labor				645	Total Labor	\$376	Total Labor	\$413
Equipment Rental/Supplies		Units						
Water Level Indicator	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36
Truck	day	1	\$60/day	\$60	\$0	\$0	\$0	\$0
drums	each	3	\$40/ea	\$120	\$53/ea	\$158	\$58/ea	\$174
drums	each	6	\$40/ea	\$240				
Misc. Field Items	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36
Total Equipment				\$230/\$350	Total Equipment	\$224	Total Equipment	\$246
Subcontractor		Units						
Driller	hour	3	\$110/hr	\$330	\$145/hr	\$436	\$160/hr	\$480
Driller	hour	6	\$110/hr	\$660				
Markup			15%	\$50	Subcontractor Total	\$436	Subcontractor Total	\$480
Markup			15%	\$99	10% Markup	\$44	10% Markup	\$48
Total Subcontractor				\$380/\$759	Total Subcontractor	\$479	Total Subcontractor	\$528
Total Cost/3 wells at 30 feet				\$895	Total Cost	\$1,080	Total Cost	\$1,187
Total Cost/6 wells at 50 feet				\$1,574				

Vapor Test (8 hour)										
			2001		2014		2018			
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost		
Project Manager	Scheduling/Coordination	2	\$105/hr	\$210	\$139/hr	\$277	\$152/hr	\$304		
Staff Engineer/Geologist	Perform test/data analysis	12	\$75/hr	\$900	\$99/hr	\$1,188	\$109/hr	\$1,308		
Technician	Set-up & operation/vapor sampling	16	\$60/hr	\$960	\$79/hr	\$1,267	\$87/hr	\$1,392		
Total Labor				\$2,070	Total Labor		\$2,732	Total Labor		\$3,004
Equipment Rental/Supplies		Units								
Gas Monitor (PID)	day	1	\$100/day	\$100	\$132/day	\$132	\$145/day	\$145		
Truck	day	2	\$60/day	\$120	\$79/day	\$0	\$87/day	\$174		
VES Trailer (fully equipped)	each	1	\$500/ea	\$500	\$660/ea	\$660	\$726/ea	\$726		
Misc. Field Items	day	2	\$25/day	\$50	\$33/day	\$66	\$36/day	\$72		
Total Equipment				\$770	Total Equipment		\$858	Total Equipment		\$1,117
Subcontractor		Units								
Analytical (BTEX/MTBE)	each	4	\$115/ea	\$460	\$152/ea	\$607	\$167/ea	\$668		
Markup			15%	\$69	10% Markup	\$61	10% Markup	\$67		
Total Subcontractor				\$529	Total Subcontractor		\$668	Total Subcontractor		\$735
Total Cost				\$3,369	Total Cost		\$4,258	Total Cost		\$4,856

Pump Test (48 hour)										
			2001		2014		2018			
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost		
Project Manager	Scheduling/Coordination	8	\$105/hr	\$840	\$139/hr	\$1,109	\$152/hr	\$1,216		
Project/Associate	Test coordination/Data Analysis	24	\$90/hr	\$2,160	\$119/hr	\$2,851	\$131/hr	\$3,144		
Engineer/Geologist										
Technician	Set-up and run test/wastewater mgmt.	60	\$60/hr	\$3,600	\$79/hr	\$4,752	\$87/hr	\$5,220		
Total Labor				\$6,600	Total Labor		\$8,712	Total Labor		\$9,580
Equipment Rental/Supplies	Units									
Pump (submersible)	week	1	\$175/week	\$175	\$231/week	\$231	\$254/week	\$254		
Generator	week	1	\$150/week	\$150	\$198/week	\$198	\$218/week	\$218		
Truck	day	4	\$60/day	\$240	\$0	\$0	\$0	\$0		
Storage Tank (21,000 gal)	month	1	\$840/month	\$840	\$1109/month	\$1,109	\$1220/month	\$1,220		
Datalogger /transducers (8)	each	1	\$1975/ea	\$1,975	\$2607/ea	\$2,607	\$2868/ea	\$2,868		
Misc. Field Items	day	4	\$25/day	\$100	\$33/day	\$132	\$36/day	\$144		
Total Equipment				\$3,480	Total Equipment		\$4,277	Total Equipment		\$4,704
Total Cost				\$10,080	Total Cost		\$12,989	Total Cost		\$14,284

Free Product Removal: up to six (6) wells								
			2001		2014		2018	
Activity	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost
Empty and record level in skimmer	Technician (hour)	4	\$60/hr	\$240	\$79/hr	\$317	\$87/hr	\$348
	Oil/Water Interface Probe (day)	1	\$40/day	\$40	\$53/day	\$53	\$58/day	\$58
	Truck (day)	1	\$60/day	\$60	\$0	\$0	\$0	\$0
	Misc. Field Supplies	1	\$25/ea	\$25	\$33/ea	\$33	\$36/ea	\$36
	Total (event)				\$365	Total (event)	\$403	Total (event)
Manual removal of free product	Technician (hour)	6	\$60/hr	\$360	\$79/hr	\$475	\$87/hr	\$522
	Oil/Water Interface Probe (day)	1	\$40/day	\$40	\$53/day	\$53	\$58/day	\$58
	Bailer	1	\$20/ea	\$20	\$26/ea	\$26	\$29/ea	\$29
	Misc. Field Supplies	1	\$25/ea	\$25	\$33/ea	\$33	\$36/ea	\$36
	Truck (day)	1	\$60/day	\$60	\$0	\$0	\$0	\$0
	Total (event)				\$505	Total (event)	\$587	Total (event)

Groundwater Monitoring Event: three (3) wells at thirty (30) feet

					2001		2014		2018	
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost		
Project Manager	Scheduling/Coordination	1	\$105/hr	\$105	\$139/hr	\$139	\$152/hr	\$152		
Technician	Field prep./Fieldwork	8	\$60/hr	\$480	\$79/hr	\$634	\$87/hr	\$696		
Total Labor				\$585	Total Labor		\$772	Total Labor		\$848
Equipment Rental/Supplies	Units									
Pump	day	1	\$15/day	\$15	\$20/day	\$20	\$22/hr	\$22		
Truck	day	1	\$60/day	\$60	\$0	\$0	\$0	\$0		
Drums	each	3	\$40/ea	\$120	\$53/ea	\$158	\$58/ea	\$174		
PH/Conductivity/ Temperature Meter	day	1	\$40/day	\$40	\$53/day	\$53	\$58/day	\$58		
Water Level Indicator	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36		
Bailers	each	3	\$8/ea	\$24	\$11/ea	\$32	\$12/ea	\$36		
Misc. Field Items	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36		
Total Equipment				\$309	Total Equipment		\$329	Total Equipment		\$362
Subcontractor	Units									
Analytical (EPA 8015)	each	4	\$65/ea	\$260	\$86/ea	\$343	\$94/ea	\$376		
Analytical (EPA 8260 w/oxygenates)	each	4	\$150/ea	\$600	\$198/ea	\$792	\$218/ea	\$872		
Markup			15%	\$129	Subcontractor Total		\$1,135	Subcontractor Total		\$1,248
Total Subcontractor				\$989	10% Markup	\$114	10% Markup	\$125		
Total Cost				\$1,883	Subcontractor Total		\$1,249	Subcontractor Total		\$1,373
					Total Cost		\$2,350	Total Cost		\$2,583

Groundwater Monitoring Event: six (6) wells at fifty (50) feet										
			2001		2014		2018			
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost		
Project Manager	Scheduling/Coordination	2	\$105/hr	\$210	\$139/hr	\$277	\$152/hr	\$304		
Staff Engineer/Geologist	Field prep./Fieldwork	10	\$75/hr	\$750	\$99/hr	\$990	\$109/hr	\$1,090		
Technician	Field prep./Fieldwork	10	\$60/hr	\$600	\$79/hr	\$792	\$87/hr	\$870		
Total Labor				\$1,560	Total Labor		\$2,059	Total Labor		\$2,264
Equipment Rental/Supplies	Units									
Pump	day	1	\$15/day	\$15	\$20/day	\$20	\$22/day	\$22		
Truck	day	1	\$60/day	\$60	\$0	\$0	\$0	\$0		
Drums	each	6	\$40/ea	\$240	\$53/ea	\$317	\$58/ea	\$348		
PH/Conductivity/Temperature Meter	day	1	\$40/day	\$40	\$53/day	\$53	\$58/day	\$58		
Water Level Indicator	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36		
Bailers	each	6	\$8/ea	\$48	\$11/ea	\$63	\$12/ea	\$72		
Misc. Field Items	day	1	\$25/day	\$25	\$33/day	\$33	\$36/day	\$36		
Total Equipment				\$453	Total Equipment		\$519	Total Equipment		\$572
Subcontractor	Units									
Analytical (EPA 8015)	each	7	\$65/ea	\$455	\$86/ea	\$601	\$94/ea	\$658		
Analytical (EPA 8260 w/oxygenates)	each	7	\$150/ea	\$1,050	\$198/ea	\$1,386	\$218/ea	\$1,526		
Markup			15%	\$226	Subcontractor Total		\$1,987	Subcontractor Total		\$2,184
Total Subcontractor				\$1,731	10% Markup		\$199	10% Markup		\$218
Total Cost				\$3,744	Subcontractor Total		\$2,185	Subcontractor Total		\$2,402
					Total Cost		\$4,763	Total Cost		\$5,238

Periodic Groundwater Monitoring Report: Three (3) wells, no other activity conducted									
			2001		2014		2018		
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost	
Principal Engineer/Geologist	Review and signature	2	\$125/hr	\$250	\$165/hr	\$330	\$182/hr	\$364	
Project/Associate Engineer/Geologist	Project management, report preparation and review	6	\$90/hr	\$540	\$119/hr	\$713	\$131/hr	\$786	
Staff Engineer/Geologist	Report preparation	8	\$75/hr	\$600	\$99/hr	\$792	\$109/hr	\$872	
Drafts Person	Prepare report figures	4	\$55/hr	\$220	\$73/hr	\$290	\$80/hr	\$320	
Clerical	Typing/reproduction/mailing	4	\$45/hr	\$180	\$59/hr	\$238	\$65/hr	\$260	
Total Cost				\$1,790	Total Cost	\$2,363	Total Cost	\$2,602	

Once an initial report is prepared for a site, the subsequent reports should take less effort to prepare.

Periodic Groundwater Monitoring Report: Six (6) wells, no other activity conducted

			2001		2014		2018	
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost
Principal Engineer/Geologist	Review and signature	2	\$125/hr	\$250	\$165/hr	\$330	\$182/hr	\$364
Project/Associate Engineer/Geologist	Project management, report preparation and review	8	\$90/hr	\$720	\$119/hr	\$950	\$131/hr	\$1,048
Staff Engineer/Geologist	Report preparation	12	\$75/hr	\$900	\$99/hr	\$1,188	\$109/hr	\$1,308
Drafts Person	Prepare report figures	4	\$55/hr	\$220	\$73/hr	\$290	\$80/hr	\$320
Clerical	Typing/reproduction/ mailing	4	\$45/hr	\$180	\$59/hr	\$238	\$65/hr	\$260
Total Cost				\$2,270	Total Cost	\$2,996	Total Cost	\$3,300

Once an initial report is prepared for a site, the subsequent reports should take less effort to prepare.

A

Periodic Update Report: Significant activities conducted										
Personnel	Description of work	Units	2001		2014		2018			
			Rate	Cost	Rate	Cost	Rate	Cost		
Principal Engineer/Geologist	Review and signature	1	\$125/hr	\$125	\$165/hr	\$165	\$182/hr	\$182		
Project/Associate Engineer/Geologist	Project management, report preparation and review	4	\$90/hr	\$360	\$119/hr	\$475	\$131/hr	\$524		
Drafts Person									Prepare report figures	1
Clerical	Typing/reproduction/mailing	1	\$45/hr	\$45	\$59/hr	\$59	\$65/hr	\$65		
Total Cost				\$585	Total Cost		\$772	Total Cost		\$851

B

Periodic Update Report: No activities conducted during reporting period										
Personnel	Description of work	Units	2001		2014		2018			
			Rate	Cost	Rate	Cost	Rate	Cost		
Project/Associate Engineer/Geologist	Project management, report preparation and review	1	\$90/hr	\$90	\$119/hr	\$119	\$131/hr	\$131		
Clerical									Typing/reproduction/mailing	1
Total Cost				\$135	Total Cost		\$178	Total Cost		\$196

Site Assessment Report: six (6) borings to thirty (30) feet, three (3) converted to monitoring wells

		2001			2014		2018	
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost
Principal Engineer/Geologist	Review and signature	4	\$125/hr	\$500	\$165/hr	\$660	\$182/hr	\$728
Senior Engineer/Geologist	Data evaluation/conclusions & recommendations/review	8	\$105/hr	\$840	\$139/hr	\$1,109	\$152/hr	\$1,216
Project/Associate Engineer/Geologist	Regulatory liaison and report preparation	16	\$90/hr	\$1,440	\$119/hr	\$1,901	\$131/hr	\$2,096
Staff Engineer/Geologist	Revise Site Conceptual Model/report preparation	16	\$75/hr	\$1,200	\$99/hr	\$1,584	\$109/hr	\$1,744
Drafts Person	Prepare site & sampling location maps	8	\$55/hr	\$440	\$73/hr	\$581	\$80/hr	\$640
Clerical	Typing/reproduction/mailing	8	\$45/hr	\$360	\$59/hr	\$475	\$65/hr	\$520
Total Cost				\$4,780	Total Cost	\$6,310	Total Cost	\$6,944

A

Corrective Action Plan Preparation: Basic site with moderate groundwater and soil contamination									
			2001		2014		2018		
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost	
Principal Engineer/Geologist	Review and signature	4	\$125/hr	\$500	\$165/hr	\$660	\$182/hr	\$728	
Senior Engineer/Geologist	Review and signature	12	\$105/hr	\$1,260	\$139/hr	\$1,663	\$152/hr	\$1,824	
Project/Associate Engineer/Geologist	Regulatory liaison, project management and plan preparation	20	\$90/hr	\$1,800	\$119/hr	\$2,376	\$131/hr	\$2,620	
Staff Engineer/Geologist	Revise Site Concept. Model/Plan prep.	20	\$75/hr	\$1,500	\$99/hr	\$1,980	\$109/hr	\$2,180	
Drafts Person	Prepare site & sampling location maps	12	\$55/hr	\$660	\$73/hr	\$871	\$80/hr	\$960	
Clerical	Typing/reproduction/ mailing	8	\$45/hr	\$360	\$59/hr	\$475	\$65/hr	\$520	
Total Cost				\$6,080	Total Cost	\$8,026	Total Cost	\$8,832	

B

Corrective Action Plan Preparation: Complicated site with extensive groundwater and soil contamination, difficult hydrogeology and multiple contaminants									
			2001		2014		2018		
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost	
Principal Engineer/Geologist	Review and signature	6	\$125/hr	\$750	\$165/hr	\$990	\$182/hr	\$1,092	
Senior Engineer/Geologist	Review and signature	12	\$105/hr	\$1,260	\$139/hr	\$1,663	\$152/hr	\$1,824	
Project/Associate Engineer/Geologist	Regulatory liaison, project management and plan preparation	32	\$90/hr	\$2,880	\$119/hr	\$3,802	\$131/hr	\$4,192	
Staff Engineer/Geologist	Revise Site Concept. Model/Plan prep.	32	\$75/hr	\$2,400	\$99/hr	\$3,168	\$109/hr	\$3,488	
Drafts Person	Prepare site & sampling location maps	16	\$55/hr	\$880	\$73/hr	\$1,162	\$80/hr	\$1,280	
Clerical	Typing/reproduction/ mailing	12	\$45/hr	\$540	\$59/hr	\$713	\$65/hr	\$780	
Total Cost				\$8,710	Total Cost	\$11,497	Total Cost	\$12,656	

A

Remedial Action Plan Preparation: Basic site with moderate groundwater and soil contamination									
			2001		2014		2018		
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost	
Principal Engineer/Geologist	Review and signature	4	\$125/hr	\$500	\$165/hr	\$660	\$182/hr	\$728	
Senior Engineer/Geologist	Remedial design, review and signature	8	\$105/hr	\$840	\$139/hr	\$1,109	\$152/hr	\$1,216	
Project/Associate	Regulatory liaison, project management and plan preparation	12	\$90/hr	\$1,080	\$119/hr	\$1,426	\$131/hr	\$1,572	
Engineer/Geologist									
Staff Engineer/Geologist	Plan preparation	12	\$75/hr	\$900	\$99/hr	\$1,188	\$109/hr	\$1,308	
Drafts Person	Prepare figures and design drawings	8	\$55/hr	\$440	\$73/hr	\$581	\$80/hr	\$640	
Clerical	Typing/reproduction/mailing	8	\$45/hr	\$360	\$59/hr	\$475	\$65/hr	\$520	
Total Cost				\$4,120	Total Cost \$5,438		Total Cost \$5,984		

B

Remedial Action Plan Preparation: Complicated site with extensive groundwater and soil contamination, difficult hydrogeology and multiple contaminants									
			2001		2014		2018		
Personnel	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost	
Principal Engineer/Geologist	Review and signature	4	\$125/hr	\$500	\$165/hr	\$660	\$182/hr	\$728	
Senior Engineer/Geologist	Remedial design, review and signature	16	\$105/hr	\$1,680	\$139/hr	\$2,218	\$152/hr	\$2,432	
Project/Associate	Regulatory liaison, project management and plan preparation	24	\$90/hr	\$2,160	\$119/hr	\$2,851	\$131/hr	\$3,144	
Engineer/Geologist									
Staff Engineer/Geologist	Plan preparation	16	\$75/hr	\$1,200	\$99/hr	\$1,584	\$109/hr	\$1,744	
Drafts Person	Prepare figures and design drawings	12	\$55/hr	\$660	\$73/hr	\$871	\$80/hr	\$960	
Clerical	Typing/reproduction/mailing	8	\$45/hr	\$360	\$59/hr	\$475	\$65/hr	\$520	
Total Cost				\$6,560	Total Cost \$8,659		Total Cost \$9,528		

A	Excavate and segregate overburden and contaminated soil		2014	2018
	Activity	Cost/unit	Cost/Unit	Cost/Unit
	Excavate	8.00/ton (12.00 yd3)	\$11/Per Cubic Yard	\$12/Per Cubic Yard
	Replacement Material (including compaction)	12.00/ton (18.00 yd3)	\$16/Per Cubic Yard	\$18/Per Cubic Yard

B	Consulting Excavation Cost				2014		2018	
	Labor	Units	Rate	Cost	Rate	Cost	Rate	Cost
	Staff Engineer/Geologist	20	\$75/hr	\$1,500	\$99/hr	\$1,980	\$109/hr	\$2,180
	Total Labor Cost			\$1,500	Total Labor Cost	\$1,926	Total Labor Cost	\$2,180
	Equipment Rental/Supplies							
	Gas Monitor (PID)	2	\$100/ea	\$200	\$132/ea	\$264	\$145/ea	\$290
	Truck	120	0.5/ea	\$60	\$0	\$0	\$0	\$0
	Misc. Field Items	2	\$25/ea	\$50	\$33/ea	\$66	\$36/ea	\$72
	Total Equipment Cost			\$310	Total Equipment Cost	\$330	Total Equipment Cost	\$362
	Analytical							
	EPA 8015/8020	20	\$65/hr	\$1,300	\$86/hr	\$1,716	\$94/hr	\$1,880
	Markup		15%	\$195	10% Markup	\$172	10% Markup	\$188
	Total Analytical			\$1,495	Total Analytical	\$1,888	Total Analytical	\$1,959
	Total Consultant Cost			\$3,305	Total Consultant Cost	\$4,144	Total Consultant Cost	\$4,501

C	Excavation Contractor Cost				2014		2018	
	Activity	Units	Rate	Cost	Rate	Cost	Rate	Cost
	Excavation	500	\$12/hr	\$6,000	\$16/hr	\$7,920	\$17/hr	\$8,500
	Backfill and Compaction	500	\$18/hr	\$9,000	\$24/hr	\$11,880	\$26/hr	\$13,000
	Total Contractor Cost			\$15,000	Total Contractor Cost	\$19,800	Total Contractor Cost	\$21,500

A

System Operation and Maintenance									
			Consulting Costs 2001		Consulting Costs 2014		Consulting Costs 2018		
Labor	Description of work	Units	Rate	Cost	Rate	Cost	Rate	Cost	
Technician (1/04/01)	Regular field maintenance/log	4	\$60/hr	\$240	\$79/hr	\$317	\$87/hr	\$348	
Technician (1/11/01)	Regular field maintenance/log	4	\$60/hr	\$240	\$79/hr	\$317	\$87/hr	\$348	
Technician (1/18/01)	Regular field maintenance/log	4	\$60/hr	\$240	\$79/hr	\$317	\$87/hr	\$348	
Technician (1/25/01)	Replace vacuum gauge/oil change/ Regular field maintenance/log	4	\$60/hr	\$240	\$79/hr	\$317	\$87/hr	\$348	
Equipment	Description				-	-	-	-	
Truck (1/04/01)	Office to site/back	0.5	\$60/hr	\$30	-	-	-	-	
Truck (1/11/01)	Office to site/back	0.5	\$60/hr	\$30	-	-	-	-	
Truck (1/18/01)	Office to site/back	0.5	\$60/hr	\$30	-	-	-	-	
Truck (1/25/01)	Office to site/back	0.5	\$60/hr	\$30	-	-	-	-	
Total Consulting Costs				\$1,080	Total Consulting	\$1,267	Total Consulting	\$1,392	
Supplies									
Vacuum gauge, replace		1.00	\$22/ea	\$22	\$28/ea	\$28	\$31/ea	\$31	
Oil & filter (4 qt. 10-40)		1.00	\$25/ea	\$25	\$33/ea	\$33	\$36/ea	\$36	
Markup			15%	\$7	10%	\$6	10%	\$7	
Total Supplies Cost				\$54	Total Supplies Cost	\$67	Total Supplies Cost	\$74	
Analytical									
EPA 8015/8020 (air)		3	\$115/ea	\$345	\$152/ea	\$455	\$167/ea	\$501	
EPA 8260 w/oxygenates (water)		3	\$150/ea	\$450	\$198/ea	\$594	\$218/ea	\$654	
Markup			15%	\$119					
Total Analytical Cost				\$914	Subcontractor Total	\$1,049	Subcontractor Total	\$1,155	
Total Cost/Month				\$2,048	10% Markup	\$105	10% Markup	\$116	
					Total Subcontractor	\$1,154	Total Subcontractor	\$1,271	
					Total Cost/Month	\$2,488	Total Cost/Month	\$2,736	

B

Operations and Maintenance Supplies	2001	2014	2018
Replacement Granular Activated Carbon (GAC) (Liquid Phase) per pound	1.50	2	2
Replacement Granular Activated Carbon (GAC) (Vapor Phase) per pound	1.50	2	2
Miscellaneous Repair Parts	At Cost	At Cost	At Cost

		2001	2014	2018
A	Contaminated Soil:	Units	Rate	Rate
	Load		5.00/ton (7.50 yd ³)	7/cubic yd
	Load	hourly	see equipment (heavy), page 17	
	Transportation	hourly	see equipment (heavy), page 17	
	Disposal	Ton	see soil remediation, page 57	
B	Contaminated Liquid:	Units	Rate	Rate
	Load and Transport	gallon	0.75/gal	0.99/gal
	Load and Transport	hourly	see equipment (heavy), page 17	
	Disposal	gallon	1	1.3
				1.4
C	Containerized Waste:	Units	Rate	Rate
	Load/Transport/Dispose - Soil	55 gallon drum	\$100/55gal drum	\$132/55gal drum
	Load/Transport/Dispose - Water	55 gallon drum	\$100/55gal drum	\$145/55gal drum

A

Off-site Remediation		2001	2014	2018
Method	Description	Cost/Unit	Cost/Unit	Cost/Unit
Asphalt	Contaminated soil used as a substitute for sand aggregate in asphalt production	\$55.00/ton	\$73/Ton	\$80/Ton
Recycling				
Thermal	Contamination is thermally desorbed from soil in a fixed facility rotary kiln and the vapors are burned in a flame burner	\$55.00/ton	\$73/Ton	\$80/Ton
Desorption				
Bioremediation	Soil is bioremediated at a dedicated facility. Costs will vary depending upon the level of contamination found in the soil.	\$45.00/ton	\$59/Ton	\$65/Ton

B

Off-site Disposal		2001	2014	2018
Facility	Description	Cost/Unit	Cost/Unit	Cost/Unit
Class I Landfill	Accepts 'hazardous' wastes, uncommon for Petroleum UST contamination	\$150.00/ton	\$198/Ton	\$218/Ton
(Hazardous)				
Class II Landfill	Accepts designated wastes	\$40 to \$65/ton	\$53/Ton to \$86/Ton	\$58/Ton to \$95/Ton
(Designated)				
Class III Landfill	Municipal facilities can sometimes accept varying levels depending upon their specific design and permits. May use remediated soil as "cover" material at no cost.	\$10 to \$30/ton	\$13/Ton to \$40/Ton	\$14/Ton to \$44/Ton
(Non-hazardous)				

Cleanup Progress Report			2001	
Personnel	Description of work	Units	Rate	Cost
Principal Engineer/Geologist	Review and signature	1	\$125/hr	\$125
Project/Associate	Regulatory liaison, project management and report preparation	8	\$90/hr	\$720
Engineer/Geologist				
Staff Engineer/Geologist	Report preparation.	8	\$75/hr	\$600
Drafts Person	Prepare report figures	4	\$55/hr	\$220
Clerical	Typing/reproduction/mailing	4	\$45/hr	\$180
Total Cost				\$1,845

2014	
Rate	Cost
\$165/hr	\$165
\$119/hr	\$950
\$99/hr	\$792
\$73/hr	\$290
\$59/hr	\$238
Total Cost	\$2,435

2018	
Rate	Cost
\$182/hr	\$182
\$131/hr	\$1,048
\$109/hr	\$872
\$80/hr	\$320
\$65/hr	\$260
Total Cost	\$2,682

	2001	2014	2018	
A	Site Survey:	Cost/Event	Cost/Event	
	Site Survey (3 wells)	\$450/Event	\$594/Event	\$653/Event
	Site Survey (6 wells)	\$700/Event	\$924/Event	\$1016/Event
B	Underground Utility Check:	Cost/Event	Cost/Event	
	USA Notification for three drilling points	\$75/Event	\$99/Event	\$109/Event
	Electromagnetic scan for underground structures	\$600/Event	\$792/Event	\$871/Event
C	Traffic Control:	Cost/Day	Cost/Day	
	Basic Traffic Control for closing one lane	\$350/day	\$462/day	\$508/day
	Extensive traffic control requiring multiple flagpersons and closure of lanes	\$950/day	\$1,254/day	\$1379/day

	2001	2014	2018
Total Subcontract or Equipment Amount	Maximum Markup	Maximum Markup	Maximum Markup
Less than \$50,000	15%	10%	10%
Greater than 50,000	10%	10%	10%

After Tank Removal, Overexcavate and Dispose of 150 Yd3 of Petroleum Contaminated Soil										
Consulting Costs			Task 1		Task 2		Task 3		Task 4	
	unit	2014 Rate	#units	Cost	#units	Cost	#units	Cost	#units	Cost
Project Manager	hr	\$105/hr	4	\$420	2	\$210			1	\$105
Staff	hr	\$75/hr	12	\$900	8	\$600				
Technician	hr	\$60/hr	10	\$600			10	\$600	12	\$720
Total			1,920		\$810		\$600		\$825	
Equipment Rental/Supplies										
PID	day	\$100/day	1	\$100						
Fence w/Gate	Mo.	\$400/month	1	\$400						
Visqueen	roll	\$75/Per Roll	2	\$150						
Truck	mi.	0.5/mi	100	\$50	100	\$50	100	\$50	200	\$100
Misc. Supplies	day	\$25/day	1	\$25	1	\$25	1	\$25	2	\$50
Total			725		\$75		\$75		\$150	
Subcontractor										
Backhoe	day	\$720/day	1	\$720					2	\$1,400
Loader	day	\$960/day					1	\$960		
18 yds Truck	hr	\$75/hr					40	\$3,000		
Class 2 LF Fees	ton	\$65/Ton					225	\$14,625		
Soil Backfill	ton	\$12/Ton					200	\$2,400		
Gravel Backfill	ton	\$12/Ton					5	\$60		
Asphalt Saw.	hr	\$50/hr					4	\$200	4	\$200
Asphalt Disp.	ft2	\$2/Sq Ft							150	\$225
Asphalt Repave	ft2	\$3/Sq Ft							150	\$375
TPH - gas	Ea.	\$65/ea	6	\$390	6	\$390				
TPH - Diesel	Ea.	\$65/ea	6	\$390	6	\$390				
Total Lead	Ea.	\$40/ea			1	\$40				
CAM 17	Ea.	\$200/ea			1	\$200				
RCI	Ea.	\$180/ea			1	\$180				
Markup	Ea.			\$225		\$180		\$3,187		\$330
Task Subtotals			1,725		\$1,380		\$24,432		\$2,530	
Total Cost										\$35,727

After Tank Removal, Overexcavate and Dispose of 150 Yd3 of Petroleum Contaminated Soil										
Consulting Costs			Task 1		Task 2		Task 3		Task 4	
	unit	2014 Rate	#units	Cost	#units	Cost	#units	Cost	#units	Cost
Project Manager	hr	\$139/hr	4	\$554	2	\$277			1	\$139
Staff	hr	\$99/hr	12	\$1,188	8	\$792				
Technician	hr	\$79/hr	10	\$792			10	\$792	12	\$950
Total			2,534		\$1,069		\$792		\$1,089	
Equipment Rental/Supplies										
PID	day	\$132/day	1	\$132						
Fence w/Gate	Mo.	\$528/month	1	\$528						
Visqueen	roll	\$99/Per Roll	2	\$198						
Truck	mi.	\$0.7/mi	100	\$70	100	\$70	100	\$70	200	\$140
Misc. Supplies	day	\$33/day	1	\$33	1	\$33	1	\$33	2	\$66
Total			\$961		\$103		\$103		\$206	
Subcontractor										
Backhoe	day	\$950/day	1	\$950					2	\$1,901
Loader	day	\$1267/day					1	\$1,267		
18 yds Truck	hr	\$99/hr					40	\$3,960		
Class 2 LF Fees	ton	\$86/Ton					225	\$19,305		
Soil Backfill	ton	\$16/Ton					200	\$3,168		
Gravel Backfill	ton	\$16/Ton					5	\$79		
Asphalt Saw.	hr	\$66/hr					4	\$264	4	\$264
Asphalt Disp.	ft2	\$2/Sq Ft							150	\$297
Asphalt Repave	ft2	\$3/Sq Ft							150	\$495
TPH - gas	Ea.	\$96/ea	6	\$515	6	\$515				
TPH - Diesel	Ea.	\$96/ea	6	\$515	6	\$515				
Total Lead	Ea.	\$53/ea			1	\$53				
CAM 17	Ea.	\$264/ea			1	\$264				
RCI	Ea.	\$238/ea			1	\$238				
Markup	Ea.			\$289		\$231		\$4,093		\$424
Task Subtotals			\$5,764		\$2,987		\$33,031		\$4,676	
Total Cost										\$44,481

After Tank Removal, Overexcavate and Dispose of 150 Yd3 of Petroleum Contaminated Soil										
Consulting Costs			Task 1		Task 2		Task 3		Task 4	
	unit	2018 Rate	#units	Cost	#units	Cost	#units	Cost	#units	Cost
Project Manager	hr	\$152/hr	4	\$608	2	\$304			1	\$152
Staff	hr	\$109/hr	12	\$1,308	8	\$872				
Technician	hr	\$87/hr	10	\$870			10	\$870	12	\$1,044
			Total	\$2,786		\$1,176		\$870		\$1,196
Equipment Rental/Supplies										
PID	day	\$145/day	1	\$145						
Fence w/Gate	Mo.	\$581/month	1	\$581						
Visqueen	roll	\$109/Per Roll	2	\$218						
Truck	mi.	\$1.0/mi	100	\$100	100	\$100	100	\$100	200	\$200
Misc. Supplies	day	\$36/day	1	\$36	1	\$36	1	\$36	2	\$72
			Total	\$1,080		\$136		\$136		\$272
Subcontractor										
Backhoe	day	\$1045/day	1	\$1,045					2	\$2,090
Loader	day	\$1394/day					1	\$1,394		
18 yd3 Truck.	hr	\$109/hr					40	\$4,360		
Class 2 LF Fees	ton	\$94/Ton					225	\$21,150		
Soil Backfill	ton	\$17/Ton					200	\$3,400		
Gravel Backfill	ton	\$17/Ton					5	\$85		
Asphalt Saw.	hr	\$73/hr					4	\$292	4	\$292
Asphalt Disp.	ft2	\$2/Sq Ft							150	\$300
Asphalt Repave	ft2	\$4/Sq Ft							150	\$600
TPH- gas	Ea.	\$94/ea	6	\$564	6	\$564				
TPH - Diesel	Ea.	\$94/ea	6	\$564	6	\$564				
Total Lead	Ea.	\$58/ea			1	\$58				
CAM 17	Ea.	\$290/ea			1	\$290				
RCI	Ea.	\$261/ea			1	\$261				
Markup	Ea.	-		\$371		\$297		\$5,257		\$545
			Total	\$2,544	Total	\$2,034	Total	\$35,938	Total	\$3,827
Task Subtotals				\$6,410		\$3,346		\$36,944		\$5,295
Total Cost										\$51,994