PETROLEUM STORAGE TANK
REIMBURSEMENT PROGRAM

Reimbursable Cost Specifications

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Texas Commission on Environmental Quality
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INTRODUCTORY REQUIREMENTS

The objective of this document is to provide specifications for the evaluation of costs incurred in the performance of corrective action activities associated with Leaking Petroleum Storage Tank (LPST) sites.

The Reimbursable Cost Specifications (RCSs) are not intended to set pricing for specific activities or to remove an element of competition for the petroleum storage tank industry. Rather, the RCSs simply reflect the amount that the agency will reimburse for the costs of corrective action activities. All requests for reimbursement must meet the requirements stated herein and in Subchapter H of this chapter. For bid items, the agency requires a specific description of the items, including the item's exact type, model, age, history of previous usage, history of previous ownership, warranty information, and verification that all bids are at arm's length. The agency will only reimburse up to pre-approved bid amounts for pre-approved bid items. For bid items, at least three bids will be required, unless otherwise specified herein. When three bids are required, the agency may accept less than three bids for those situations where it is demonstrated to the satisfaction of the agency that three bids cannot be reasonably be obtained (to be handled on a case-by-case basis). The agency may reject any proposal on technical grounds or if the proposal is believed not to be cost effective. For non-bid items, the agency will reimburse either the invoiced amount or the RCS line-item amount for that activity, whichever is lower. For those activities that require pre-approval under §334.310(f) of this title (relating to Requirements for Eligibility), the agency may also, at its discretion, limit the amount reimbursed to the pre-approved amount.

When a proposal to perform remediation is submitted by a Registered Corrective Action Specialist (RCAS), it shall include a Site Closure Schedule. That schedule should be short and contain a brief listing of the corrective action phases and the time line which will bring the site to closure. The Site Closure Schedule will be used as a basis to gauge progress as the site is moving toward closure. With preparation of each new proposal for the next phase of work, the Site Closure Schedule will be updated. If a Site Closure Schedule for a given proposal is not properly submitted and updated, that proposal will be considered administratively incomplete and will be returned.

For corrective action activities described in this subchapter, records must be kept to show the applicable quantities (e.g., hours worked, feet drilled, miles driven, units of equipment used, etc.) involved.

The agency may require methods of identification such as serial numbers for capital equipment items in order to track the purchase, use, and condition of these items. Further, the agency may restrict reimbursable amounts for capital equipment items to prorated amounts which consider usage.

SECTION 1: ACTIVITIES

The following section presents the various corrective action activities, or phases/subphases of work, normally conducted at an LPST site. Every effort has been made to put the reimbursable costs for these activities into a format that is usable by owner/operators, contractors and consultants, and the agency to pre-approve workplans and cost proposals and to review applications for reimbursement.

The maximum reimbursable cost for the generation of a workplan and cost proposal is $195.00. Submittal of the Exit Criteria Flow Chart and Site Closure Schedule will be required with each proposal. A proposal will be deemed administratively incomplete if it does not contain these components. This amount is applicable to the first approved workplan and cost proposal for a given activity. If the original workplan and cost proposal submitted to the agency is unacceptable, the costs associated with that workplan and cost proposal are not reimbursable.

In addition, please be aware that the submission of a new cost proposal to gain preapproval for a portion of an activity omitted from a previous workplan and cost proposal is not reimbursable.

Each activity that follows will contain, where appropriate, a worksheet for that specific activity. In addition, each worksheet will contain the reimbursable costs for the various subphases of each activity, with accompanying notes. These costs are condensed from the unit costs in Appendix A. For your reference, definitions and acronyms used in this document are contained in Appendix B.

ACTIVITY 00: TANK REMOVAL

This section is effective for tanks removed on or after March 12, 1993.

A tank removal is defined as the physical removal of an underground storage tank (UST) from the subsurface. Tank removals normally include the following activities: removal and replacement of surface material; excavation, disposal, and replacement of backfill material (see Note 1); tank removal and disposal; backfilling and compaction of the excavation; and any other activity typically associated with the tank removal process. Please note that overexcavation is not part of the tank removal process. This activity is covered in Activity 03: Excavation/Waste Management.

Eligibility for the reimbursement of a tank removal is based on two factors. First, the performance of necessary corrective action as defined by Title 30, Texas Administrative Code (TAC), Chapter 334, Subchapter H, §334.302 (a) (1) and (2) and second by §334.308 (b) and (c) (14) (see Note 2). The reimbursable amount will be based on the volume of the tanks removed as shown in the following table.

Reimbursement of tank removals will be based on the volume of the tank(s) removed and will have a maximum reimbursement limit of $8,000.00 per LPST site. For USTs having a volume of 5,000 gallons or less, the reimbursable cost for removal will be $1,000.00. For USTs having a volume of more than 5,000 gallons, the reimbursable cost for removal will be $2,000.00.

TANK VOLUME (GALLONS)	REIMBURSABLE COST (PER TANK)	TOTAL MAXIMUM PER LPST SITE
5,000 OR LESS	$1,000.00	$8,000.00
GREATER THAN 5,000	$2,000.00	$8,000.00

Notes:

1: If the backfill from an eligible tank removal has been stored at the site and analytical results indicate that those soils are above levels that the agency will approve for return to the tankhold, the owner/operator may request preapproval for the disposal of those soils under Activity 03: Excavation/Waste Management. If granted, the disposal of those soils will fall outside of the $8,000.00 maximum for a site. Contact your agency Regional Inspector or your agency Site Coordinator for assistance.

2: On occasion, a tank removal will occur where contamination has not penetrated beyond the excavation zone of native soils of the tankhold, but where the backfill is contaminated above levels that the agency will approve for return to the tankhold. While the tank removal will not be eligible for reimbursement as required in 30 TAC §334.302(a)(1) and (2) and §334.308(b) and (c)(14), the disposal or treatment of the backfill may be reimbursable under §334.308(f) if the agency directs and pre-approves in writing the disposal or treatment of the backfill. Contact your agency Regional Inspector or your agency Site Coordinator for assistance.

ACTIVITY 01: INITIAL ABATEMENT

Initial abatement measures are those activities performed to reduce risk or threat to human health, safety, and the environment. These activities, as outlined in 30 TAC §334.77 (relating to Initial Abatement Measures and Site Check) can include any or all of the following:

Monitor and mitigate any fire and safety hazard posed by vapors or free product;

Removal of product from tanks to prevent further release; and/or

Continuous free product removal (see note below).

Please note that reimbursement is based, in part, on the requirement that contamination must have penetrated the native soils around the tankhold and that the contamination be above action levels (30 TAC §334.302(a)(1), (2), and (3)).

Pursuant to 30 TAC §334.310(f) and §334.322, all initial abatement and emergency measures that continue after 72 hours, including continuous phase-separated product recovery, must be pre-approved by the agency prior to implementation. Contact the agency Site Coordinator or the local agency Regional Inspector for assistance. Costs for initial abatement submitted in the Application for Reimbursement should be identified and submitted with justification to the agency. All costs associated with initial abatement are subject to verification. All unit costs incurred during initial abatement will be reimbursed based on these Reimbursable Cost Specifications.

Costs for initial abatement must be pre-approved after 72 hours. Use the worksheet under Activity 02: Phase-Separated Hydrocarbon (PSH) Recovery to prepare cost proposals for additional abatement work.

Note: Please refer to the definitions of free product, recoverable free product, and free product migration in Appendix B.

ACTIVITY 02: PHASE-SEPARATED HYDROCARBON (PSH) RECOVERY

This subsection will be used for the recovery of Phase Separated Hydrocarbons (PSH, Phase Separated Petroleum, or free product (see Note below) after the initial abatement phase. In addition, the worksheet in this section will be used for preapproval of initial abatement activities after the first 72 hours of site work.

Under 30 TAC §334.310(f), written agency approval for the continuous recovery of PSH is required after the initial abatement period of 72 hours. In cases where free product poses an imminent danger to human health, safety, and the environment, 30 TAC §334.79 requires that the owner/operator remove PSH to "the maximum extent practicable." If an emergency situation extends beyond 72 hours, contact the agency Site Coordinator or the local agency Regional Inspector for assistance. For emergency situations, the Release Report required by 30 TAC §334.77(b) should be submitted with an Interim Corrective Action Plan (ICAP) for continued recovery of free product as approved by the agency. For nonemergency situations, the Release Report required by §334.77(b) should be submitted with a workplan and cost proposal either for the continued recovery of free product, or for the next phase of work. If the development of an ICAP is approved, and the ICAP itself is approved, the actual installation of the recovery system is discussed under Activity 09: Remediation System Installation.

Note: Please refer to the definitions of free product, free product migration, LNAPL, MDPE, and recoverable free product in Appendix B.

WORKSHEET FOR THE RECOVERY OF PSH AND CONTINUING INITIAL ABATEMENT

Part A: Personnel Costs

Section 1: ICAP/MDPE CAP Preparation - See Note 1

ITEM	ACTIVITY	HOURS/UNITS	RATE	TOTAL
ICAP	Preparation and Submission	Lump	$1,825.00	$1,825.00
MDPE CAP	Preparation and Submission	Lump	$2,865.00	$2,865.00
			Total, Section 1	

Section 2: Office Costs - Non-MDPE Events - See Note 2

ITEM	ACTIVITY	HOURS/UNITS	RATE	TOTAL
PSH Recovery Report Preparation	Report Preparation & Submission/Data Review	1	$260.00	$260.00
Project Manager (PM)	Management/Regulatory Interaction - PSH Recovery	2.0/Month	$80.00	
Workplan and Cost Proposal	Workplan and Cost Proposal Preparation & Submission	1	$195.00	$195.00
			Total, Section 2	

Section 3: Office Costs - MDPE Events - See Note 2

ITEM	ACTIVITY	HOURS/UNITS	RATE	TOTAL
PI-7 Standard Exemption Form (MDPE Events only)	Preparation and Submission	1	$195.00	$195.00
MDPE Report Preparation - (8-hour event)	Report Preparation & Submission	1	$260.00	$260.00
MDPE Report Preparation - (24-hour event)	Report Preparation & Submission (Includes periodic reporting to the agency, as required).	1	$330.00	$330.00
MDPE Report Preparation - (72-hour event)	Report Preparation & Submission (Includes periodic reporting to agency, as required).	1	$395.00	$395.00
MDPE Report Preparation - (7-day event)	Report Preparation & Submission (Includes periodic reporting to agency, as required).	1	$535.00	$535.00
Workplan and Cost Proposal	Workplan and Cost Proposal	1	$195.00	$195.00
			Total, Section 3	

Section 4 Field Personnel Costs - Non-MDPE - See Note 2

ITEM	ACTIVITY	# OF WELLS	$/WELL	TOTAL
Technician I (T1)	Measure PSH, Remove PSH - <75' deep		$40.00	
Technician I (T1)	Measure PSH, Remove PSH - 76' To 110' deep		$60.00	
Technician I (T1)	Measure PSH, Remove PSH - > 110' deep		$80.00	
			Subtotal, Section 4	
			# of Site Visits	
			Total, Section 4	

Section 5: Field Personnel Costs - MDPE - See Notes 2 and 3				
ITEM		Units (# events/hours)	RATE	TOTAL
MDPE 8-hour event - See Note 6			$1,150.00	
MDPE 24-hour event - See Note 7			$3,100.00	
MDPE 72-hour event - See Note 8			$2,650.00	
MDPE 72-hour event - See Note 10	Security Personnel	35	$30.00	$1,050.00
MDPE 7-day event - See Note 9			$3,800.00	
MDPE 7-day event - See Note 10	Security Personnel	96	$30.00	$2,880.00
			Subtotal, Section 5	
			15% Markup	
			Total, Section 5	
			TOTAL, PART A	

Part B: Equipment Costs - See Note 3			
Section 1: Equipment Costs - (Non-MDPE)			
ITEM	UNITS	UNIT COST	TOTAL
Absorbent Socks (per dozen)		$40.00	
Passive Skimmer (Small)		$400.00	
Passive Skimmer (Large)		$900.00	
Dedicated PVC Bailer		$35.00	
Drums		$40.00	
Small Items		$20.00/Site/Day	
Small Items (for use with fluid pump)		$35.00/Site/Day	
(Other)			
(Other)			
		Subtotal, Section 1	
		15% Markup	
		TOTAL, Section 1	

Section 2: Equipment Costs - MDPE - See Note 5			
ITEM	UNITS	RATE	TOTAL
MDPE - All Technologies - (8-hour event) - See Note 6		$2,050.00	
MDPE - All Technologies - (24-hour event) - See Note 7		$3,100.00	
MDPE - All Technologies - (72-hour event) - See Note 8		$6100.00	
MDPE - All Technologies - (7-day event) - See Note 9		$11,750.00	
Construction costs - See Note 11			
Additional holding tank			
Other			
		Subtotal Section 2	
		15% Markup	
		TOTAL Section 2	
		TOTAL, PART B	

Part C: Analytical Costs - See Note 12							
ITEM	UNITS	UNIT COST	TOTAL	ITEM	UNITS	UNIT COST	TOTAL
TPH - Soil (TX 1005)		$55.00		TPH - Air (8015)		$60.00	
TPH (Rush) - Soil (TX1005)		$82.00		TCLP Lead (7420)		$93.00	
BTEX - Soil (8021B)		$55.00		TPH - Water (TX 1005)		$55.00	
BTEX (Rush) - Soil (8021B)		$82.00		TPH (Rush) - Water (TX 1005)		$82.00	
PAH Soil (8270C)		$190.00		BTEX - Water (8021B)		$55.00	
BTEX - Air (8021B)		$60.00		BTEX (Rush) - Water (8021B)		$82.00	
Other				Other			
Other				Other			
						Subtotal, Part C	
						10% Markup	
						TOTAL, PART C	

Part D: Waste Management Costs			
ITEM	UNIT COST	UNITS	TOTAL
Vacuum Truck	$85.00/Hour [$70.00/Hour]		
Fluid Disposal	0.40/Gallon		
		Subtotal	
		10% Markup	
		TOTAL, PART D	

Part E: Travel Costs - See Note 4			
ITEM	UNITS/HOURS	RATE	TOTAL
Equipment Truck		$140.00/Day	
Mileage (Over 100 Miles, Round Trip)		$0.35/Mile	
Travel Time		$40.00/Hour	
Airfare		By Need	
Per Diem		State Comptroller Rate [$90.00/Day]	
		TOTAL, PART E	

Part F: Other Costs - See Note 3			
ITEM	UNITS	RATE	TOTAL
		Subtotal	
		15% Markup	
		TOTAL, PART F	
		TOTAL ACTIVITY COSTS, PARTS A - F	

Notes:

1: Please refer to Appendix A, Part 8: Unit Costs for a breakdown of report generation costs. Mobile Dual Phase Extraction (MDPE) CAPs will only be approved for events of 14 or more days, except that an abbreviated CAP may be approved for those sites where MDPE operations encounter complex site conditions which require additional construction activities, require special waste discharge considerations, or require special system operation conditions due to on-site or off site activities.

2: Please refer to Appendix A, Part 1: Unit Costs for a breakdown of personnel costs. One PI-7 Standard Exemption Form pertaining to MDPE events is allowed to be prepare for each site, unless preparation of additional Exemption Forms are approved. Please refer to Appendix A, Part 8 for a breakdown of report generation costs.

3: Markup is only allowed as provided for at Appendix A, Part 9.

4: Please refer to Appendix A, Part 4 for a breakdown of travel costs.

5: Included in MDPE equipment costs are equipment rental, fuel costs, a holding tank up to a capacity of 2,500 gallons, mob-demob, set-up and break down of equipment. Real-time data acquisition will be required for continuous monitoring through the duration of the event. No distinction is made for type of equipment or the technology used for each event. The RCAS is to propose the best available technology that is most appropriate for the site and length of time of operation.

6: The eight-hour event is based upon a run time of eight continuous hours. (Brief interruption for fueling/maintenance, as necessary, and for pulsing as pre-approved is allowable.) Two persons, an engineer (SF) for 10 hours and a technician (T-II) for 10 hours are included. Reimbursement will be based upon the goals stated in the proposal that must include at minimum, an operational time of eight hours, air sampling, and real-time data collection pertinent to the operation of the system. The pounds of hydrocarbon removed will be used to determine the effectiveness of a second or subsequent events.

7: The 24-hour event is based upon a run time of 24 continuous hours. (Brief interruption for fueling/maintenance, as necessary, and for pulsing as pre-approved is allowable.) Two persons, an engineer (SF) for 27 hours and a technician (T-II) for 27 hours are included. Reimbursement will be based upon the goals stated in the proposal that must include at minimum, an operational time of 24 hours, air sampling, and real-time data collection pertinent to the operation of the system. The pounds of hydrocarbon removed will be used to determine the effectiveness of a second or subsequent events.

8: The 72-hour event is based upon a run time of 72 continuous hours. (Brief interruption for fueling/maintenance, as necessary, and for pulsing as pre-approved is allowable.) Two persons, an engineer (SF) for 20 hours and a technician (T-II) for 28 hours are included. For those sites which are active operating facilities which require extensive planning and site modification, the agency Site Coordinator must consider approving time and materials for additional site construction work. Reimbursement for run times of less than 72 continuous hours will be prorated in increments of 24 hours. Reimbursement will be based upon the goals stated in the proposal that must include at minimum, air sampling, and real-time data collection pertinent to the operation of the system. The pounds of hydrocarbon removed will be used to determine the effectiveness of a second or subsequent events. If during the event, removal rates have dropped to a previously agreed point, or the agency Site Coordinator has issued a written directive to cease operations, the system must be immediately shut down and full

allowable costs will be reimbursed up to the end of that 24-hour day. (Even if run time is less than the full 72-hours, eligible equipment rental costs for the full 72-hour period will be paid.)

9: The 7-day event is based upon a run time of 7 continuous days, 24 hours a day. (Brief interruption for fueling/maintenance, as necessary, and for pulsing as pre-approved is allowable.) Two persons, an engineer (SF) for 16 hours and a technician (T-II) for 60 hours are included. Reimbursement for run times of less than 7 continuous days will be prorated in increments of 24 hours. Reimbursement will be based upon the goals stated in the proposal that must include at minimum, an operational time of 24 hours, air sampling, and real-time data collection pertinent to the operation of the system. The pounds of hydrocarbon removed will be used to determine the effectiveness of a second or subsequent events. If during the event, removal rates have dropped to a previously agreed point, or the agency Site Coordinator has issued a written directive to cease operations, the system must be immediately shut down and full allowable costs will be reimbursed up to the end of that 24-hour day. (Even if run time is less than the full 7 days, eligible equipment rental costs for the full 7-day period will be paid.)

10: For those sites where there are security concerns, time is allowed for the presence of a person to provide security. This is applicable when during the course of operation the site would normally be left unmanned by the MDPE provider.

11: For associated construction costs and additional equipment please refer to Activity 09 (Remediation System Installation) and place the sum total on the "Construction Costs" line. For reimbursement purposes, the break out of equipment and bids, and any labor costs must be provided.

12: Please refer to Appendix A, Part 2 for additional laboratory analyses and costs.

ACTIVITY 03: EXCAVATION/WASTE MANAGEMENT

This subsection will be used when contaminated soils will be excavated, transported, and disposed, or when a significant quantity of contaminated water collects in an excavation. Do not use this section for the disposal of soil or water generated as a result of other activities, such as drilling, remedial system installation, groundwater monitoring, or operation, maintenance, and performance. That waste management is included as a line item in those activities. The worksheet presented below has been divided based on sub-phases of the overall activity. Not all parts may be applicable to all situations, so use only those sections that are specific to your needs to determine reimbursable costs.

WORKSHEET FOR EXCAVATION/WASTE MANAGEMENT

SOILS TABLE - Determining the Quantities to be Used in the Worksheet

EXCAVATED UNIT	WIDTH (FT)	LENGTH (FT)	SURFACE AREA (SQFT)	DEPTH (FT)	IN SITU VOL (CFT)	IN SITU VOL (CY)
Original Excavation						
Over excavation Area 1						
Over excavation Area 2						
Over excavation Area 3						
Over excavation Area 4						
					Total Surface Area, Areas 1 - 4, in Square Feet	
					Total In Situ Volume, areas 1 - 4, in Cubic Yards	

Part A: Personnel Costs

Section 1: Office and Fixed Field Costs

ITEM	ACTIVITY	UNITS	UNIT COST	TOTAL
Project Manager (PM)	Management, Regulatory Interaction	2	$80.00	$160.00
Field E/G/H (FD)	Initial site set-up and coordination	3	$65.00	$195.00
Field Activity Report	Preparation and Submission	1	$485.00	$485.00
Workplan and Cost Proposal	Preparation and Submission	1	$195.00	$195.00
			Total, Section 1	**$1,030.00**

Section 2: Field Oversight Costs - See Note 1

ITEM	UNITS	UNIT COST	TOTAL
Field E/G/H (FD), Technician II (T3)	(Total From Soils Table)	$5.00/CY	
		Total, Section 2	
		TOTAL, PART A	

Part B: Excavation and Remove/Replace Cover - See Note 2			
ACTIVITY	UNITS	UNIT COST	TOTAL
Remove Cover (Asphalt) - Total From Soils Table		$2.50/SqFt	
Remove Cover (Concrete) - Total From Soils Table		$4.00/SqFt	
Excavate Soils - Total In Situ Volume From Soils Table		$9.00/CY	
Visqueen, 1 20' x 100' roll/100 cy, 1 roll minimum		$60.00/Roll	
Import Backfill - Total In Situ Volume from Soils Table X 1.3		$11.00/CY	
Compact Backfill		$9.00/CY	
Replace Cover (Asphalt) - From Soils Table		$3.50/SqFt	
Replace Cover (Concrete) - From Soils Table		$5.50/SqFt	
Disposables (1 unit per site day)		$20.00	
		Subtotal, Part B	
		15% Markup	
		TOTAL, PART B	

Part C: Waste Management Costs - See Note 3			
ACTIVITY	UNITS	UNIT COST	TOTAL
Load & Haul Excavated Soils - Total In Situ Volume from Soils Table X 1.3		$14.00/CY	
Mileage for Soils Disposal, >50 miles one way	Loaded Mile	$2.50/mile	
Dispose Soils <1500 TPH in Landfill - See Note 4		$10.50/CY	
Dispose Soils >1500 TPH in Landfill		$45.00/CY	
Dispose Soils >1500 TPH by Asphalt Recycling		$35.00/CY	
Dispose Soils >1500 TPH by Bioremediation		$35.00/CY	
Dispose Soils >1500 TPH by Thermal Desorption		$45.00/CY	
Vacuum Truck (Fluids Transport for Disposal)		$85.00/Hr [$70.00/Hr]	
Fluids Disposal		0.40 /Gal	
Subchapter H Discharge or Alternate Disposal Method (Describe in Work plan)		As Needed	
		Subtotal, Part C	
		10% Markup	
		TOTAL, PART C	

Part D: Analytical Costs - See Note 5

ITEM	UNITS	UNIT COST	TOTAL	ITEM	UNITS	UNIT COST	TOTAL
TPH - Soil (TX 1005)		$55.00		TCLP Lead (7420)		$93.00	
TPH (Rush) - Soil (TX 1005)		$82.00		TCLP Benzene (1311 w 8021B)		$152.00	
BTEX - Soil (8021B)		$55.00		TPH - Water (TX 1005)		$55.00	
BTEX (Rush) - Soil (8021B)		$82.00		TPH (Rush) - Water (TX 1005)		$82.00	
				BTEX - Water (8021B)		$55.00	
PAH (8270C) - Soil		$190.00		BTEX (Rush) - Water (8021B)		$82.00	
Total Lead - Soil (7420)		$31.00		Total Lead - Water (7420)		$31.00	
Total Lead (Rush) - Soil (7420)		$46.50		Total Lead (Rush) - Water (7420)		$46.50	
TOX - Soil (9020)		$98.00		Shipping		$5.00/Sample	
8 RCRA Metals - Soil (1131)		$150.00		(Other)			
						Subtotal, Part D	
						10% Markup	
						TOTAL, PART D	

Part E: Travel Costs - See Note 6

ITEM	UNIT COST	UNITS/HOURS	TOTAL
Equipment Truck	$140.00/Day		
Mileage (over 100, Round Trip)	$0.35/Mile		
Travel Time	$50.00 or $65.00/Hour		
Per Diem	State Comptroller Rate [$90.00/Day]		
Airfare	By Need		
		TOTAL, PART E	
		TOTAL ACTIVITY COSTS, PARTS A-E	

Notes:

1: Preapproval and reimbursement will be based on the expectation that 300 CY of soils can be excavated, staged, and sampled in a standard work day, and that 300 CY of soils can loaded, hauled, and disposed while 300 CY of soils can be imported and compacted, again in a single day. Oversight time may be split among personnel in any way the RCAS desires. The $5.00 per cubic yard of excavated soils is the maximum reimbursable cost for all phases of the activity. If the activity consists of only disposing of previously stockpiled soils and/or importing and compacting fill, the oversight cost will be $2.50/CY.

2: Refer to Appendix A, Part 6 for a breakdown of these costs. Markup is only allowed as provided for at Appendix A, Part 9.

3: Refer to Appendix A, Part 7 for a breakdown of these costs.

4: Reimbursable costs will be as provided for at Appendix A, Part 7. Transport and landfill receipts must be submitted with the application for reimbursement.

5: Refer to Appendix A, Part 2 for a breakdown of analytical costs.

6: Refer to Appendix A, Part 4 for a breakdown of travel costs.

ACTIVITY 04: SITE ASSESSMENT

This subsection will be used for the installation of wells or borings to define the impact of a release or when the installation of a remediation system is approved by the agency. The worksheet is divided to allow the preparation of numerous types of cost proposals based on need. Use only those sections that are required for the specific phase of work. A Risk Assessment (RA) will normally be done in conjunction with Site Assessment work, and those report generation costs are included here. If a site does not require additional field work to complete an RA, refer to Activity 05: Risk Assessment.

WORKSHEET FOR SITE ASSESSMENTS

Part A: Personnel Costs - See Note 1

Section 1: Planning, Fixed Field and Office Costs, Gaining Off-site Access - See Note 2

ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
Preliminary Planning - See Note 3	Site Familiarization	$390.00	1	
Water Well/Other Facility Search	Identify Other Wells/Facilities Near Site	$300.00	1	
Walking Receptor Survey	Field Time to Identify Receptors	$300.00	1	
Site/Monitoring Well Survey	Determine Well Elevations	$300.00	1	
Workplan and Cost Proposal/Workplan and Cost Proposal with Bidding	Preparation and Submission	$195.00/$355.00	1	$195.00/$355.00
Offsite Access - See Note 3	Research ownership and make initial written request for Offsite Drilling	$320.00/Offsite Property		
Licenses/Permits - See Note 10		Actual cost [$500 Maximum/well or boring]		
			Total, Section 1	

Section 2: Variable Office and Field Personnel Costs - See Note 4

Subsection 2A: Basic Report Generation Costs

ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
No Report Required	Submit Results (Labs and Drillers' Logs) Only	$120.00	1	
FAR - Site Assessment	Preparation and Submission	$765.00	1	
Plan A Risk Assessment Report Form	Preparation and Submission	$2,140.00	1	
Plan B Risk Assessment - See Note 9	Preparation and Submission	$5,765.00 Maximum	1	
RA Update/Preparation	Preparation and Submission	$765.00	1	
			Total, Subsection 2A	

Subsection 2B: Additional Office Personnel Costs, Conventional Drilling, >3 Wells/Borings per event				
ITEM	ACTIVITY	UNIT COST	UNITS	TOTAL
Project Manager (PM)	Project Oversight	$80.00/Well or Boring		
Draftsperson I (D1)	Boring & Well Logs, CAD	$22.50/Well or Boring		
Word Processor (WP)	Report Prep	17.50/Well or Boring		
			Total, Subsection 2B	

Subsection 2C: Additional Office Personnel Costs, Direct Push				
ITEM	ACTIVITY	UNIT COST	UNITS	TOTAL
Project Manager (PM), 1st Day	Project Oversight	$80.00	2	$160.00
Draftsperson I (D1), 1st Day	Boring & Well Logs, CAD	$45.00	2	$90.00
Word Processor (WP), 1st Day	Report Prep	$35.00	1	$35.00
Project Manager (PM), Each Addt'l ½ Day	Project Oversight	$40.00		
Draftsperson I (D1), Each Addt'l ½ Day	Boring & Well Logs, CAD	$22.50		
Word Processor (WP), Each Addt'l ½ Day	Report Prep	$17.50		
			Total, Subsection 2C	

Subsection 2D: Drilling in Sand/Silt/Clay with Hollow Stem Augers				
ITEM	ACTIVITY	UNIT COST	UNITS	TOTAL
Field Engineer/Geologist (FD) & Technician I (T1)	Install Borings, 25' Minimum, Lump Sum, 2 Hrs./Boring	$220.00/Boring		
Field Engineer/Geologist (FD) & Technician I (T1)	Install Wells, 25' Minimum, Lump Sum, 2.5 Hrs./Well	$275.00/Well		
Field Engineer/Geologist (FD) & Technician I (T1)	Install Borings, Sum of Footage Over 25', All Borings	$7.69/Foot		
Field Engineer/Geologist (FD) & Technician I (T1)	Install Wells, Sum of Footage Over 25', All Wells	$9.91/Foot		
			Total, Subsection 2D	

Subsection 2E: Drilling with Air/Mud Rotary				
ITEM	ACTIVITY	UNIT COST	UNITS	TOTAL
Field Engineer/Geologist (FD) & Technician I (T1)	Install Borings, 25' Minimum, Lump Sum, 1.25 Hrs./Boring	$138.00/Boring		
Field Engineer/Geologist (FD) & Technician I (T1)	Install Wells, 25' Minimum, Lump Sum, 2.5 Hrs./Well	$275.00/Well		
Field Engineer/Geologist (FD) & Technician I (T1)	Install Borings, Sum of Footage Over 25', All Borings	$5.12/Foot		
Field Engineer/Geologist (FD) & Technician I (T1)	Install Wells, Sum of Footage Over 25', All Wells	$9.40/Foot		
			Total, Subsection 2E	

Subsection 2F: Drilling with Air Coring				
ITEM	ACTIVITY	UNIT COST	UNITS	TOTAL
Field Engineer/Geologist (FD) & Technician I (T1)	Install Borings, 25' Minimum, Lump Sum, 2 Hrs./Boring	$220.00/Boring		
Field Engineer/Geologist (FD) & Technician I (T1)	Install Wells, 25' Minimum, Lump Sum, 2.5 Hrs./Well	$275.00/Well		
Field Engineer/Geologist (FD) & Technician I (T1)	Install Borings, Sum of Footage Over 25', All Borings	$7.33/Foot		
Field Engineer/Geologist (FD) & Technician I (T1)	Install Wells, Sum of Footage Over 25', All Wells	$9.57/Foot		
			Total, Subsection 2F	

Subsection 2G: Direct Push				
ITEM	ACTIVITY	UNIT COST	UNITS	TOTAL
Field Engineer/Geologist (FD) & Technician I (T1)	First Day, Lump Sum	$1,100.00	1	$1,100.00
Field Engineer/Geologist (FD) & Technician I (T1)	Each Additional ½ Day	$550.00		
			Total, Subsection 2G	
			Total, Section 2	
			TOTAL, PART A	

Part B: Drilling Costs - See Note 5

Section 1: Conventional Drilling Costs

Subsection 1A: Worksheet For Conventional Drilling Costs Drilling Method: __ Hollow Stem Augers __ Air/Mud Rotary __ Air Coring

BORINGS				2" WELLS				4" WELLS			
ITEM	UNITS	$/UNIT	TOTAL	ITEM	UNITS	$/UNIT	TOTAL	ITEM	UNITS	$/UNIT	TOTAL
First 25 Feet				First 25 Feet				First 25 Feet			
26 - 50 Feet				26 - 50 Feet				26 - 50 Feet			
51 - 100 Feet				51 - 100 Feet				51 - 100 Feet			
>100 Feet				>100 Feet				>100 Feet			
		SUBTOTAL				SUBTOTAL				SUBTOTAL	

6" WELLS				OTHER				SUBTOTALS	
ITEM	UNITS	$/UNIT	TOTAL	ITEM	UNITS	$UNIT	TOTAL	BORINGS	
First 25 Feet				First 25 Feet				2" Wells	
26 - 50 Feet				26 - 50 Feet				4" Wells	
51 - 100 Feet				51 - 100 Feet				6" Wells	
>100 Feet				>100 Feet				Other	
		SUBTOTAL				SUBTOTAL		**Total, Subsection 1A**	

Subsection 1B: Other Costs, Conventional Drilling				
ITEM	ACTIVITY	UNIT COSTS	UNITS	TOTAL COST
Mobilization/Demobilization	First 50 Miles, One Way	$300.00	1	
Mobilization/Demobilization	Mileage >50, Maximum Additional 200 One Way	$2.50/Mile		
Drill Crew Per Diem	Each Overnight Stay, If Required	$240.00/Day		
Small Items (1 unit/ site day)		$20.00		
			Total, Subsection 1B	
			Subtotal, Section 1	
			15% Markup	
			Total, Section 1	

Section 2: Direct Push Technology				
ITEM	ACTIVITY	UNIT COST	UNITS	TOTAL
Direct Push Unit	Install Borings	$1,480.00/Day		
Direct Push Unit	Install Wells, Over Standard Unit Cost	$12.50/Foot		
Direct Push Unit	Install Borings, if Total Footage <118 Feet	$12.50/Foot		
Mobilization/Demobilization	First 50 Miles, One Way	$145.00	1	
Mobilization/Demobilization	Mileage >50, Maximum Additional 200, One Way	$1.90/Mile		
Drill Crew Per Diem	Each Overnight Stay, If Required	$180.00/Day		
Small Items (1 unit/site day)		$20.00		
			Subtotal, Section 2	
			15% Markup	
			Total, Section 2	
			TOTAL, PART B	

Part C: Waste Management Costs - See Note 7			
ITEM	UNIT COST	UNITS	TOTAL
Vacuum Truck	$85.00/Hour [$70.00/Hour]		
Fluids Disposal	$0.40/Gallon		
Soils Disposal	$250.00 Base + $35.00/CY [$250.00 Base + $10.50/CY]		
Soils Disposal	$250.00 Base + $50.00/Drum [$250.00 Base + $45.00/Drum]		
Subchapter H Discharge or Alternate Disposal Method	As Needed		
		Subtotal, Part C	
		10% Markup	
		TOTAL, PART C	

Part D: Analytical Costs - See Note 6			
ITEM	UNITS	UNIT COST	TOTAL
TPH - Soil (TX 1005)		$55.00	
BTEX - Soil (8021B)		$55.00	
TPH - Water (TX 1005)		$55.00	
BTEX - Water (8021B)		$55.00	
BTEX/MTBE - Water (8021B)		$55.00	
Total Lead - Soil (7420)		$31.00	
PAH (8270C) - Soil		$190.00	
PAH (625/8270C) - Water		$230.00	
TDS - Water (160.1)		$15.00	
Volatile Organic Compounds - Soil (8260B)		$190.00	
Volatile Organic Compounds - Water (8260B)		$190.00	
8 RCRA Metals - Soil (1131)		$150.00	
Soil Parameters		$400.00	
Shipping		$5.00/Sample	
(Other)			
(Other)			
		Subtotal, Part D	
		10% Markup	
		TOTAL, PART D	

Part E: Travel Costs - See Note 8			
ITEM	UNIT COST	UNITS/HOURS	TOTAL
Equipment Truck	$140.00/Day		
Mileage (over 100, Round Trip)	$0.35/Mile		
Travel Time (Field Engineer/Geologist and/or Technician I)	$65.00 and/or $40.00/Hour		
Per Diem	State Comptroller Rate [$90.00/Day/Person]		
Airfare	By Need		
Disposable Bailers	$8.00/Well		
Drums	$40.00		
		TOTAL, PART E	
		TOTAL ACTIVITY COSTS, PARTS A - E	

Notes:

1: Please refer to Appendix A, Part 1 for a breakdown of personnel costs. Separate travel for a site visit can be pre-approved for the preliminary planning, receptor survey, or walking receptor survey.

2: Not all of these activities are applicable to all sites. Use only the items that relate directly to the site for which this worksheet is being used. If a licensed surveyor needs to be subcontracted and that cost exceeds the noted maximum of $300.00, submit quotes with the cost proposal.

3: "Preliminary Planning" charges apply only to sites where a Risk Assessment has not been performed or as approved by an Agency Site Coordinator. Preliminary Planning activities should include a site history review, area geology/hydrogeology/lithology research, and the incorporation of the sensitive receptor survey data into the proposal for the risk assessment. Time for the Preliminary Planning consists of two hours each of Project Manager, Staff Geologist/Engineer, and Technician II time. These costs do not need pre-approval prior to completing the activities because they are used to prepare the Site Assessment workplan and cost proposal. Preliminary Planning costs must be included in that cost proposal and be approved by the agency to be reimbursable. "Offsite Access" costs include activities through the initial written request for access. If the initial written request is denied, an additional $320.00 is available for the increased level of effort. If these costs are incurred, they must be documented up by submitting all written correspondence with the offsite landowner to the agency with the application for reimbursement. All offsite access costs that exceed $640.00 must be pre-approved through a change order. If site access is to be obtained from a State of Texas agency, consult with an agency Site Coordinator prior to initiating contact.

4: Not all of these activities are applicable to all sites. Use only the items that relate directly to the site for which this worksheet is being used. Refer to Appendix A, Part 8 for Report Generation Costs.

5: Please refer to Appendix A, Part 3 for cost broken out by media. Use only one conventional drilling method for Section A. Use only the items that relate directly to the site for which this worksheet is being used. Markup is only allowed as provided in Appendix A, Part 9.

6: Please refer to Appendix A, Part 2 for additional laboratory analyses and costs. Markup is allowed only on subcontracted items, per Appendix A, Part 9.

7: Please refer to Appendix A, Part 7 for a breakdown of waste management costs.

8: Please refer to Appendix A, Part 4 for a breakdown of travel policy and costs. "Travel Time" costs are based on the individual(s) traveling to the site on specific days to perform specific tasks. Define the work schedule in the workplan to back up all travel requests.

9: Amount approved based upon number and type of exposure pathways to be investigated (see Appendix A, Part 11).

10: The agency will approve the actual cost [up to $500] per well or boring, as specified by permit, for the installation of monitor wells and/or borings on property owned by a municipality or government agency. However, initial permit costs and annual fees will be capped at whatever the municipality or government entity charges upon the effective date of this rule. This cost is in addition to the $320 per property allowed for offsite access. Documentation of all permit fees is required. Markup is not allowed on this cost. [Any additional annual fees will not be eligible for reimbursement.]

ACTIVITY 05: RISK ASSESSMENT

This subsection will be used when the need exists to quantify the risk of the contamination at a site. There are two Risk Assessments (RAs) that will normally be conducted, and are known as "Plan A" and "Plan B" RAs. If sufficient assessment work has been done at a site, it may be possible to generate either a Plan A or a Plan B RA without conducting further field work. If additional field work is necessary to generate an RA, please refer to Activity 04: Site Assessment. The costs noted here are for report generation only.

PLAN A RISK ASSESSMENT REPORT GENERATION COSTS - See Note 1			
PERSONNEL TYPE	RATE/HOUR	HOURS	TOTAL
Principal Engineer (P3)	$110.00	1	$110.00
Project Manager (PM)	$80.00	12	$960.00
Staff Geologist/Engineer (SF)	$70.00	8	$560.00
Draftsperson II (D2)	$50.00	6	$300.00
Word Processor (WP)	$35.00	6	$210.00
		TOTAL	**$2,140.00**

PLAN B RISK ASSESSMENT REPORT GENERATION COSTS - See Note 2			
PERSONNEL TYPE	RATE/HOUR	HOURS	TOTAL
Principal Engineer (P3)	$110.00	6	$660.00
Project Manager (PM)	$80.00	32	$2,560.00
Staff Geologist/Engineer (SF)	$70.00	25	$1,750.00
Draftsperson II (D2)	$50.00	11	$550.00
Word Processor (WP)	$35.00	7	$245.00
		TOTAL	**$5765.00 Maximum**

Notes:

1: A total of $195.00 above the noted costs is available for reimbursing the cost of the workplan and cost proposal to generate a "stand-alone" Plan A risk assessment.

2: Amount approved based upon number and type of exposure pathways to be investigated (see Appendix A, Part 11).

ACTIVITY 06: CORRECTIVE ACTION PLAN (CAP) FEASIBILITY TESTING

This subsection will be used when testing is required to complete a CAP. This testing may include aquifer pump tests, slug and bail tests, soil vapor extraction tests, or a combination of any of these tests. Costs are included in this activity to format information gained in the field for inclusion into the CAP Testing Report. For the cost of generating the CAP, use the section entitled "Activity 08: Corrective Action Plan (CAP) Preparation."

Part 1 of the worksheet is designed to provide reimbursable personnel costs for the various kinds of tests to be conducted at the site, whether 6-hour, 12-hour, or 24-hour tests. The costs for each kind of test should be added together to reflect total personnel costs for the activity. Then complete the subsequent parts of the worksheet relating to equipment, lab testing, waste disposal, and travel time for the specific tests being conducted to obtain total activity costs.

WORKSHEET FOR CAP TESTING

Part A: Personnel Costs - See Note 1

Section 1: Slug and Bail Testing

ITEM	ACTIVITY	RATE	HOURS/UNITS	TOTAL
Senior Engineer/Geologist(P2)	Office Preparation, Project Management, Debriefing	$95.00	3	$285.00
Field Engineer/Geologist (FD)	Office Preparation, Field Work, Debriefing	$65.00	15	$975.00
Associate Engineer/Geologist (P1)	Data Analysis, Report Preparation	$85.00	5	$425.00
Technician II (T2)	Office Preparation, Field Work, Debriefing	$45.00	10	$450.00
Draftsperson II (D2)	Data Formatting	$50.00	1	$50.00
Word Processor (WP)	Data Formatting	$35.00	2	$70.00
Additional time over 6 hours	Field time, including FD and T2	$110.00		
PI-7 Standard Exemption Form	Preparation and submission	$490.00	If Required	
Workplan and Cost Proposal		$195.00	1	$195.00
			Total, Section 1	

Section 2: Aquifer Pump Testing				
ITEM	ACTIVITY	RATE	HOURS/UNITS	TOTAL
Senior Engineer/Geologist (P2)	Office Preparation, Project Management, Debriefing	$95.00	3	$285.00
Field Engineer/Geologist (FD)	Office Preparation, Field Work, Debriefing	$65.00	20	$1,300.00
Associate Engineer/Geologist (P1)	Data Analysis, Report Preparation	$85.00	5	$425.00
Technician II (T2)	Office Preparation, Field Work, Debriefing	$45.00	10	$450.00
Draftsperson II (D2)	Data Formatting	$50.00	1	$50.00
Word Processor (WP)	Data Analysis, Report Preparation	$35.00	2	$70.00
Additional time over 6 hours, per hour	Field time, including FD and T2	$110.00		
PI-7 Standard Exemption Form	Preparation and submission	$490.00	If Required	
Workplan and Cost Proposal		$195.00	1	$195.00
			Total, Section 2	

Section 3: Soil Vapor Extraction Testing				
ITEM	ACTIVITY	RATE	HOURS/UNITS	TOTAL
Senior Engineer/Geologist (P2)	Office Preparation, Project Management, Debriefing	$95.00	3	$285.00
Field Engineer/Geologist (FD)	Office Preparation, Field Work, Debriefing	$65.00	10	$650.00
Associate Engineer/Geologist (P1)	Data Analysis, Report Preparation	$85.00	5	$425.00
Technician II (T2)	Office Preparation, Field Work, Debriefing	$45.00	10	$450.00
Draftsperson II (D2)	Data Formatting	$50.00	1	$50.00
Word Processor (WP)	Data Analysis, Report Preparation	$35.00	2	$70.00
Additional time over 6 hours, per hour	Field time, including FD and T2	$110.00		
PI-7 Standard Exemption Form	Preparation and submission	$490.00	If Required	
Workplan and Cost Proposal		$195.00	1	$195.00
			Total, Section 3	

Section 4: Dual-Phase Extraction Testing				
ITEM	ACTIVITY	RATE	HOURS/UNITS	TOTAL
Senior Engineer/Geologist (P2)	Office Preparation, Project Management, Debriefing	$95.00	3	$285.00
Field Engineer/Geologist (FD)	Office Preparation, Field Work, Debriefing	$65.00	25	$1,625.00
Associate Engineer/Geologist (P1)	Data Analysis, Report Preparation	$85.00	8	$680.00
Technician II (T2)	Office Preparation, Field Work, Debriefing	$45.00	15	$675.00
Draftsperson II (D2)	Data Formatting	$50.00	2	$100.00
Word Processor (WP)	Data Analysis, Report Preparation	$35.00	3	$105.00
Additional time over 6 hours, per hour	Field time, including FD and T2	$110.00		
PI-7 Standard Exemption Form	Preparation and submission	$490.00	If Required	
Workplan and Cost Proposal		$195.00	1	$195.00
			Total, Section 4	
			TOTAL, PART A	

Part B: Equipment Costs - See Note 2			
ITEM	UNIT COST/DAY	UNITS	TOTAL
Datalogger (2 channel)	$65.00		
Datalogger (8 channel)	$115.00		
Generator (3500 Watt)	$75.00		
Compressor (5 Horsepower)	$25.00		
Pressure Transducer	$35.00		
185 cfm Compressor	$95.00		
Regenerative Blower (1.5 Horsepower)	$20.00		
Liquid ring pump (for dual-phase extraction test) - See Note 3	$650.00		
SVE Trailer (contains all equipment)	$500.00		
Air stripper	$250.00		
Holding tank (1,000 Gallon)	$25.00		
Carbon Canister, includes installation, recycling, and/or disposal	$750.00		
Holding Tank (5,000 Gallon)	$35.00		
Small Items	$20.00/Site/Day		
Miscellaneous Supplies	$50.00/Test		
(Other)			
(Other)			
		Subtotal, Part B	
		15% Markup	
		TOTAL, PART B	

Part C: Waste Management Costs - See Note 4			
ITEM	UNIT COST	UNITS	TOTAL
Vacuum Truck	$85.00/Hour [$70.00/Hour]		
Fluids Disposal	$0.40/Gallon		
Subchapter H Discharge or Alternate Disposal Method (Describe in Work Plan.)	As Needed		
		Subtotal, Part C	
		10% Markup	
		TOTAL, PART C	

Part D: Analytical Costs - See Note 5			
ITEM	UNIT COST	UNITS	TOTAL
TPH (Water) (TX 1005)	$55.00		
BTEX (Water) (8021B)	$55.00		
BTEX (Air) (8021B)	$60.00		
TPH (Air) (8015)	$60.00		
Total Lead (Water) (7420)	$31.00		
(Other)			
(Other)			
Tedlar Bags for Air Samples	$9.00		
Shipping	$5.00/Sample		
		Subtotal, Part D	
		10% Markup	
		TOTAL, PART D	

Part E: Travel Costs - See Note 6			
ITEM	UNIT COST	UNITS/HOURS	TOTAL
Equipment Truck	$140.00/Day		
Mileage (over 100, Round Trip)	$0.35/Mile		
Travel Time (FD and T2 combined)	$110.00/Hour		
Per Diem	State Comptroller Rate [$90.00/Person/Day]		
Airfare	By Need		
		TOTAL, PART E	
		TOTAL ACTIVITY COSTS, PARTS A - E	

Notes:

1: Please refer to Appendix A, Part 1 for a breakdown of personnel costs. Markup is allowed only on subcontracted items, per Appendix A, Part 9.

2: Please refer to Appendix A, Part 5 for a breakdown of equipment costs. Markup is allowed for rented items only and rental receipts must accompany the application for reimbursement.

3: Every effort should be made to schedule two sites consecutively for testing with a liquid-ring pump due to the high rental costs for this equipment.

4: Please refer to Appendix A, Part 7 for a breakdown of waste management costs.

5: Please refer to Appendix A, Part 2 for additional laboratory analyses and costs. Markup is allowed only on subcontracted items, per Appendix A, Part 9.

6: Please refer to Appendix A, Part 4 for a breakdown of travel policy and costs.

ACTIVITY 07: GROUNDWATER MONITORING

This subsection will be used at sites where no remediation system is in operation but periodic groundwater monitoring will be conducted, or when groundwater testing is necessary to determine if natural attenuation is an appropriate remedial option for a site. Sites where a remediation system is in operation and groundwater monitoring is also required will use the section entitled "Activity 10: Operation, Monitoring, & Performance" to develop cost proposals.

WORKSHEET FOR GROUNDWATER MONITORING

Part A: Personnel Costs - See Note 1

Section 1: Fixed Annual Costs

ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Project Manager (PM)	Management, Regulatory Interaction	$80.00	12	$960.00
FAR - Annual Groundwater Monitoring Report	Preparation and Submission	$580.00	1	
FAR - Single Monitoring Event	Preparation and Submission	$435.00	1	
Workplan and Cost Proposal	Preparation and Submission	$195.00	1	$195.00
			Total, Section 1	

Section 2: First Quarter Personnel Costs or Single Monitoring Event

ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Staff Engineer/Geologist (SF)	Field Preparation, Data Formatting	$70.00	2	$140.00
Technician I (T1)	Natural Attenuation Testing	$40.00/Well		
Technician I (T1)	Purge and Sample Wells, First 25'	$40.00/Well		Technician I (T1)
Technician I (T1)	Purge and Sample Wells, Each Additional 25'	$10.00/Additional 25'/Well		
			Total, Section 2	

Section 3: Second Quarter Personnel Costs

ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Staff Engineer/Geologist (SF)	Field Preparation, Data Formatting	$70.00	2	$140.00
Technician I (T1)	Natural Attenuation Testing	$40.00/Well		
Technician I (T1)	Purge and Sample Wells, First 25'	$40.00/Well		
Technician I (T1)	Purge and Sample Wells, Each Additional 25'	$10.00/Additional 25'/Well		
			Total, Section 3	

Section 4: Third Quarter Personnel Costs				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Staff Engineer/Geologist (SF)	Field Preparation, Data Formatting	$70.00	2	$140.00
Technician I (T1)	Natural Attenuation Testing	$40.00/Well		
Technician I (T1)	Purge and Sample Wells, First 25'	$40.00/ Well		
Technician I (T1)	Purge and Sample Wells, Each Additional 25'	$10.00/Additional 25'/Well		
			Total, Section 4	

Section 5: Fourth Quarter Personnel Costs				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Staff Engineer/Geologist (SF)	Field Preparation, Data Formatting	$70.00	2	$140.00
Technician I (T1)	Natural Attenuation Testing	$40.00/Well		
Technician I (T1)	Purge and Sample Wells, First 25'	$40.00/ Well		
Technician I (T1)	Purge and Sample Wells, Each Additional 25'	$10.00/Additional 25'/Well		
			Total, Section 5	
			TOTAL, PART A	

Part B: Equipment Costs - See Note 2			
ITEM	UNIT COST	UNITS	TOTAL
Disposable bailers	$8.00/well		
Small items	$20.00/site/day		
Drums (55-gallon, for purge water)	$40.00		
Field Instruments - Natural Attenuation Testing	$75.00		
(Other)			
		Subtotal, Part B	
		15% Markup	
		TOTAL, PART B	

Part C: Waste Management Costs - See Note 3			
ITEM	UNIT COST	UNITS	TOTAL
Vacuum Truck	$85.00/Hour [$70.00/Hour]		
Fluid Disposal	0.40/Gallon		
Subchapter H Discharge or Alternate Disposal Method (Describe in Workplan)	As Needed		
		Subtotal, Part C	
		10% Markup	
		TOTAL, PART C	

Part D: Analytical Costs - See Note 4			
ANALYTICAL TEST	UNIT COST	UNITS	TOTAL
TPH/BTEX (TX 1005 for TPH) (8021B for BTEX)	$110.00		
TPH/BTEX w/MTBE (TX 1005 for TPH) (8021B for BTEX)	$110.00		
TDS (160.1)	$15.00		
PAH (8270C)	$230.00		
Chlorides (325.3)	$18.00		
Iron (200.7)	$10.00		
Nitrates (353.2)	$24.00		
Phosphates (365.2)	$24.00		
Sulfates (375.4)	$24.00		
Total Organic Carbon (TOC) (9060)	$32.00		
Shipping	$5.00/Sample		
(OTHER)			
(OTHER)			
		Subtotal, Part D	
		10% Markup	
		TOTAL, PART D	

Part E: Travel Costs - See Note 5			
ITEM	UNIT COST	UNITS/HOURS	TOTAL
Equipment Truck	$140.00/day		
Mileage (over 100 miles, round trip)	$0.35/mile		
Travel Time	$40.00/hour		
Per Diem	State Comptroller Rate [$90.00/day]		
Air Fare	By Need		
		TOTAL, PART E	
		TOTAL ACTIVITY COSTS, PARTS A - E	

Notes:

1: Please refer to Appendix A, Part 1 for a breakdown of personnel costs. If Groundwater Monitoring is recommended as a result of a CAP - No Remediation System, the cost for the workplan and cost proposal will be included in the reimbursable cost for that CAP.

2: Please refer to Appendix A, Part 5 for a breakdown of equipment costs. Markup is allowed for subcontracted items only, per Appendix A, Part 9, and receipts must accompany the application for reimbursement.

3: Please refer to Appendix A, Part 7 for a breakdown of waste management cost.

4: Please refer to Appendix A, Part 2 for additional laboratory analyses and costs. Markup is allowed only on subcontracted items, per Appendix A, Part 9. Sampling for inorganic components in groundwater can and should be conducted using field sensors and meters. An explanation for the use of an analytical laboratory to perform these tests must accompany the workplan and cost proposal.

5: Please refer to Appendix A, Part 4 for a breakdown of travel policy and costs. The agency will reimburse for a single T1 to perform all purging and sampling duties, both in site time and travel time.

6: If, due to the presence of PSH or due to last minute problems with site access, groundwater monitoring is not performed, then one-half the normal monitoring rate may be reimbursed.

7: For sites that have been approved for four or more groundwater monitoring events, a claim for reimbursement for groundwater monitoring activities can be submitted after the second event is completed. Depending on the eligibility and content of the claim, approximately one-half of the approved amount can be paid out. Technical information to be submitted with the application to verify completion of corrective action work to include a summary table of analytical results, report of laboratory results, chain of custodies, and a table of groundwater elevations.

ACTIVITY 08: CORRECTIVE ACTION PLAN (CAP) PREPARATION

This subsection will be used at sites where corrective action is necessary. The CAP will fall into one of two broad categories. The first category is a CAP that seeks to passively remediate the site by means of natural attenuation, the effectiveness of which will be confirmed by groundwater monitoring. This CAP may be developed following either a Plan A or a Plan B risk assessment. The second category is a CAP that recommends the installation of a remediation system to actively reduce the contaminant levels to the point where closure following a program of groundwater monitoring can be achieved. This CAP will be developed following the submission of a Plan B risk assessment.

Please note that some portions of these CAPs may require the participation of a Registered Professional Engineer. Please refer to 30 TAC §334.308 (g) (21) for information on when this participation is necessary.

Part A: Corrective Action Plan - No Remediation System			
PERSONNEL TYPE	**RATE/HOUR**	**HOURS**	**TOTAL**
Senior Engineer/Geologist (P2)	$95.00	2	$190.00
Project Manager (PM)	$80.00	2	$160.00
Staff Engineer/Geologist (SF)	$70.00	8	$560.00
Word Processor (WP)	$35.00	3	$105.00
Project Manager - OM&P Plan	$80.00	2	$160.00
Staff Engineer/Geologist - OM&P Plan	$70.00	4	$280.00
Word Processor (WP) - OM&P Plan	$35.00	2	$70.00
		TOTAL	**$1,525.00**

Part B: Corrective Action Plan - With Remediation System - See Notes			
PERSONNEL TYPE	**RATE/HOUR**	**HOURS**	**TOTAL**
Principal Engineer (P3)	$110.00	4	$440.00
Associate Engineer (P1)	$85.00	40	$3,400.00
Project Manager (PM)	$80.00	8	$640.00
Staff Engineer/Geologist (SF)	$70.00	32	$2,240.00
Draftsperson II (D2)	$50.00	25	$1,250.00
Word Processor (WP)	$35.00	5	$175.00
		TOTAL - See Note 4	**$8,145.00**

Part C: Travel Costs			
ITEM	UNIT COST	UNITS/HOURS	TOTAL
Car mileage (Transportation to site by Staff Engineer can charge mileage only, no vehicle charge)	$0.35/mile		
Travel Time for Staff Engineer Per Diem	$70.00/hour State Comptroller Rate [$90.00/day/person]		
Air Fare	By Need		
		TOTAL	
	TOTAL ACTIVITY COSTS, PARTS A - C		

Notes:

1: The listed costs include generation of maps and design drawings (to scale). They do not include the $195.00 available for the generation of the workplan and cost proposal to produce these plans.

2: The listed costs are for a baseline CAP with the installation of one remediation system (i.e., groundwater pump and treat, dual-phase extraction, or soil vapor extraction). Justification should be provided in the workplan and cost proposal, based on site-specific circumstances and the result of CAP testing, for out-of-scope costs. Requests for preapproval will be reviewed on a case-by-case basis.

3: Quote/bid preparation costs are included in the CAP generation costs.

4: As approved, the total amount may be increased up to 25% for that item in this table for situations which are demonstrated to require an increased level of technical effort. An maximum of $305.00 is allowed for an approved CAP addendum.

ACTIVITY 09: REMEDIATION SYSTEM INSTALLATION

This subsection will be used to submit a workplan and cost proposal with either an Interim Corrective Action Plan (ICAP) (see Activity 02) or Corrective Action Plan (CAP) (see Activity 08). Each of the first four parts of the worksheet (Parts A1 - A4) are constructed around one of four basic systems: PSH recovery, groundwater pump-and-treat, soil vapor extraction, and dual-phase extraction. Each of these systems has a baseline of three recovery wells. Each of the parts will have the option of combining other systems and adding or subtracting recovery wells. This will allow the development of an installation and start-up cost that is relevant to the needs of your site. Only use the one of the first four parts that is most appropriate to your site.

Because of the variable nature of remediation systems, the agency has not developed standardized system costs. Each system will be constructed to meet site-specific remediation needs. The agency has supplied various equipment types and equipment costs in Appendix A, Section 5, Equipment and Supplies. This section may be referred to when acquiring quotes for costing out the system designed in the ICAP or CAP. If necessary equipment differs from that contained in Appendix A, the preparer should supply three quotes with the cost proposal. The agency requires specific descriptions of the items being quoted, including the item's exact type, model, warranty information, and verification that all quotes are at arm's length. If the tank owner/operator is in possession of appropriate and functional remediation equipment previously reimbursed by the agency at another site, that equipment should be reused. The cost effectiveness of the proposed remediation system must be supported by documentation such as comparative quotes and technical statistics.

If the remediation program designed in the CAP is of short duration (9 months or less), or if the use of a capital component in the remediation system is expected to be of short duration, the option of renting or leasing the remediation system or the individual component should be evaluated. Sufficient quotes (at least three per option) for equipment lease/rental should be included with a cost-benefit analysis in the installation cost proposal to allow a determination of the most cost-effective option to be made. When the remediation program designed in the CAP is of intermediate length (9 to 24 months), the option of purchasing and leasing or leasing-to-own the remediation equipment should be evaluated. Again, sufficient quotes (at least three per evaluated option) for equipment purchase/lease/lease-to-own should be included with a cost-benefit analysis in the installation cost proposal to allow a determination of the most cost-effective option to be made. If the remediation program designed in the CAP is planned to last in excess of two years, remediation equipment purchase will be considered the most cost-effective option. At least three quotes for equipment purchase must be included with the installation cost proposal. The agency requires specific descriptions of the items being quoted, including the item's exact type, model, warranty information, and verification that all quotes are at arm's length. The cost of rented/leased/leased-to-own equipment will be reimbursed in the pre-approved costs for Operation, Monitoring, & Performance (see Activity 10). The cost for purchased remediation systems will be reimbursed after the successful completion of the installation and startup of the system in this activity.

Please note that some portions of the installation process may require the participation of a Registered Professional Engineer. Please refer to 30 TAC §334.308(g)(21) for information on when this participation is necessary.

WORKSHEET FOR REMEDIATION SYSTEM INSTALLATION AND STARTUP				
Part A1: Consultant Office and Field Costs, PSH Recovery System - See Note 1				
Section 1: Installation and Startup of Basic 3-Well System				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Senior Engineer (P2)	Project Oversight	$95.00	1	$95.00
Associate Engineer (P1)	Management, Regulatory Interaction, Field Oversight	$85.00	7	$595.00
Staff E/G/H (SF)	Field Preparation, Installation and Startup	$70.00	20	$1,400.00
Technician II (T2)	Field Preparation, Installation and Startup	$45.00	32	$1,440.00
PI-7 Standard Exemption Form	Preparation and Submission	$490.00	If Required	
FAR - System Installation	Preparation and Submission	$855.00	1	$855.00
Workplan and Cost Proposal/Workplan and Cost Proposal with Bidding	Preparation and Submission	$195.00/$355.00	1	$195.00/$355.00
			Total, Section 1	

Section 2: Add/Delete Wells (Any System) - Per Well				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	$85.00	1	$85.00
Staff Engineer (SF)	Office Planning	$70.00	1	$70.00
Staff Engineer (SF)	Installation and Startup	$70.00	4	$280.00
Technician II (T2)	Office Preparation	$45.00	1	$45.00
Technician II (T2)	Installation and Startup	$45.00	8	$360.00
			Subtotal, Section 2	**$840.00**
			# of Wells to Add/Delete	
			Total, Section 2	
			TOTAL, PART A1	

Part A2: Consultant Office and Field Costs, Groundwater Pump-and-Treat System - See Note 1				
Section 1: Installation and Startup of Basic 3-Well System				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Senior Engineer (P2)	Project Oversight	$95.00	3	$285.00
Associate Engineer (P1)	Management, Regulatory Interaction, Field Oversight	$85.00	8	$680.00
Associate Engineer (P1)	Field Oversight	$85.00	9	$765.00
Staff Engineer (SF)	Office Planning	$70.00	4	$280.00
Staff Engineer (SF)	Installation and Startup	$70.00	20	$1,400.00
Technician II (T2)	Office Preparation	$45.00	2	$90.00
Technician II (T2)	Installation and Startup	$45.00	32	$1,440.00
PI-7 Standard Exemption Form	Preparation and Submission	$490.00	If Required	
FAR- System Installation	Preparation and Submission	$2,300.00	1	$2,300.00
Workplan and Cost Proposal/Workplan and Cost Proposal with Bidding	Preparation and Submission	$195.00/$355.00	1	$195.00/$355.00
			Total, Section 1	

Section 2: Add Soil Vapor Extraction (SVE) System (3-Well)				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Senior Engineer (P2)	Project Oversight	$95.00	1	$95.00
Associate Engineer (P1)	Management, Regulatory Interaction	$85.00	2	$170.00
Associate Engineer (P1)	Field Oversight	$85.00	2	$170.00
Staff Engineer (SF)	Office Planning	$70.00	2	$140.00
Staff Engineer (SF)	Installation and Startup	$70.00	8	$560.00
Technician II (T2)	Office Preparation	$45.00	2	$90.00
Technician II (T2)	Installation and Startup	$45.00	16	$720.00
			Total, Section 2	**$1,945.00**

Section 3: Add Off-gas Treatment System				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	$85.00	2	$170.00
Staff Engineer (SF)	Office Planning	$70.00	1	$70.00
Staff Engineer (SF)	Installation and Startup	$70.00	6	$420.00
Technician II (T2)	Office Preparation	$45.00	1	$45.00
Technician II (T2)	Installation and Startup	$45.00	12	$540.00
			Total, Section 3	**$1,245.00**

Section 4: Add/Delete Wells (Any System) - Per Well				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	$85.00	1	$85.00
Staff Engineer (SF)	Office Planning	$70.00	1	$70.00
Staff Engineer (SF)	Installation and Startup	$70.00	4	$280.00
Technician II (T2)	Office Preparation	$45.00	1	$45.00
Technician II (T2)	Installation and Startup	$45.00	8	$360.00
			Subtotal, Section 4	**$840.00**
			# of Wells to Add/Delete	
			Total, Section 4	
			TOTAL, PART A2	

Part A3: Consultant Office and Field Costs, SVE System - See Note 1				
Section 1: Installation and Start-up of Basic 3-Well System				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Senior Engineer (P2)	Project Oversight	$95.00	3	$285.00
Associate Engineer (P1)	Management, Regulatory Interaction	$85.00	8	$680.00
Associate Engineer (P1)	Field Oversight	$85.00	9	$765.00
Staff Engineer (SF)	Office Planning	$70.00	4	$280.00
Staff Engineer (SF)	Installation and Startup	$70.00	8	$560.00
Technician II (T2)	Office Preparation	$45.00	2	$90.00
Technician II (T2)	Installation and Startup	$45.00	20	$900.00
PI-7 Standard Exemption Form	Preparation and Submission	$490.00	If Required	
FAR - System Installation	Preparation and Submission	$2,300.00	1	$2,300.00
Workplan and Cost Proposal/Workplan and Cost Proposal with Bidding	Preparation and Submission	$195.00/$355.00	1	$195.00/$355.00
			Total, Section 1	

Section 2: Add Off-gas Treatment System				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	$85.00	2	$170.00
Staff Engineer (SF)	Office Planning	$70.00	1	$70.00
Staff Engineer (SF)	Installation and Startup	$70.00	6	$420.00
Technician II (T2)	Office Preparation	$45.00	1	$45.00
Technician II (T2)	Installation and Startup	$45.00	12	$540.00
			Total, Section 2	**$1,245.00**

Section 3: Add/Delete Wells - Per Well				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	$85.00	1	$85.00
Staff Engineer (SF)	Office Planning	$70.00	1	$70.00
Staff Engineer (SF)	Installation and Startup	$70.00	4	$280.00
Technician II (T2)	Office Preparation	$45.00	1	$45.00
Technician II (T2)	Installation and Startup	$45.00	8	$360.00
			Subtotal, Section 3	**$840.00**
			# of Wells to Add/Delete	
			Total, Section 3	
			TOTAL PART A3	

Part A4: Consultant Office and Field Costs, Dual Extraction System - See Note 1				
Section 1: Installation and Start-up of Basic 3-Well System				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Senior Engineer (P2)	Project Oversight	$95.00	3	$285.00
Associate Engineer (P1)	Management, Regulatory Interaction	$85.00	8	$680.00
Associate Engineer (P1)	Field Oversight	$85.00	13	$1,105.00
Staff Engineer (SF)	Office Planning	$70.00	4	$280.00
Staff Engineer (SF)	Installation and Startup	$70.00	24	$1,680.00
Technician II (T2)	Office Preparation	$45.00	4	$180.00
Technician II (T2)	Installation and Startup	$45.00	40	$1,800.00
PI-7 Standard Exemption Form	Preparation and Submission	$490.00	If Required	
FAR - System Installation	Preparation and Submission	$2,300.00	1	$2,300.00
Workplan and Cost Proposal/Workplan and Cost Proposal with Bidding	Preparation and Submission	$195.00/$355.00	1	$195.00/$355.00
			Total, Section 1	

Section 2: Add Off-gas Treatment System				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	$85.00	2	$170.00
Staff Engineer (SF)	Office Planning	$70.00	1	$70.00
Staff Engineer (SF)	Installation and Startup	$70.00	6	$420.00
Technician II (T2)	Office Preparation	$45.00	1	$45.00
Technician II (T2)	Installation and Startup	$45.00	12	$540.00
			Total, Section 2	**$1,245.00**

Section 3: Add/Delete Wells - Per Well				
ITEM	ACTIVITY	UNIT COST	UNITS/HOURS	TOTAL
Associate Engineer (P1)	Management, Regulatory Interaction	$85.00	1	$85.00
Staff Engineer (SF)	Office Planning	$70.00	1	$70.00
Staff Engineer (SF)	Installation and Startup	$70.00	4	$280.00
Technician II (T2)	Office Preparation	$45.00	1	$45.00
Technician II (T2)	Installation and Startup	$45.00	8	$360.00
			Subtotal, Section 3	**$840.00**
			# of Wells to Add/Delete	
			Total, Section 3	
			TOTAL, PART A4	

Part B: Capital Equipment Costs - See Note 2			
ITEM	UNIT COST	UNITS	TOTAL
Air Compressor			
Air Stripping Tower			
Oxidizer			
Control Panel			
Oil/Water Separator			
Pneumatic Pump			
Electric Downhole Pumps			
Regenerative Blowers			
Holding Tanks			
Carbon Polishing Units			
Carbon Canisters (state size)			
(Other)			
(Other)			
		Subtotal, Part B	
		15% Markup	
		TOTAL, PART B	

Part C: Installation Costs - See Note 3				
ITEM	ACTIVITY	UNIT COST	UNITS	TOTAL
Trenching	Saw cut and excavate trench lines	$15.00/LF		
Plumbing	Install Piping (Air, Water, Electric) in trenches	$15.00/LF		
Resurface Excavations	Recover trench lines	$6.00/LF		
Wellhead Modification	Install wellhead access boxes	At Cost		
Well Electrics	Install switches & drop tubes	$200.00/Well		
Well Plumbing	Install air/water tubing & pumps	$200.00/Well		
Concrete slab	Install slab for remediation system	$5.50/Sq Ft		
Remediation compound fence	Install protective fence around system		1	
Outside Electrical Power Connection(s)				
System Integration Costs (See Note 2)				
Small Items		$20.00/Site/Day		
Miscellaneous	Fittings, locks, etc.		1	$100.00
(Other)				
(Other)				
(Other)				
			Subtotal, Part C	
			15% Markup	
			TOTAL, PART C	

Part D: Waste Management Costs - See Note 4			
ITEM	UNIT COST	UNIT/HOURS	TOTAL
Load and Haul Excavated Soils and Concrete	$14.00/CY		
Dispose Excavated Soils and Concrete	$10.25/CY		
Vacuum Truck	$85.00/HR [$70.00/HR]		
Dispose Fluids	0.40/Gal		
Subchapter H Discharge or Alternative Disposal Method (Describe in Work Plan)	As Needed		
		Subtotal, Part D	
		10% Markup	
		TOTAL, PART D	

Part E: System Performance Analytical Costs - See Note 5			
ITEM	UNIT COST	UNITS	TOTAL
TPH (Water) (TX 1005)	$55.00		
TPH (Air) (EPA 8015) Standard Rate/Rush	$60.00/$90.00		
BTEX (Water) (8021B)	$55.00		
BTEX (Air) (8021B) Standard Rate/Rush	$60.00/$90.00		
BTEX w/MTBE (Water) (8021B)	$55.00		
TOTAL LEAD (Water) (7420)	$31.00		
Shipping	$5.00/Sample		
(OTHER)			
(OTHER)			
		Subtotal, Part E	
		10% Markup	
		TOTAL, PART E	

Part F: Travel Costs - See Note 6			
ITEM	UNIT COST	UNITS/ HOURS	TOTAL
Equipment Truck (Truck used by Technician II)	$140.00/day		
Car mileage (Transportation to site by Staff Engineer can charge mileage only, no vehicle charge)	$0.35/mile		
Mileage (over 100 miles, round trip)	$0.35/mile		
Travel Time for Staff Engineer to be on-site to monitor construction	$70.00/hour		
Travel Time for Technician II to be on-site to monitor construction	$45.00/hour		
Per Diem	State Comptroller Rate [$90.00/day/person]		
Air Fare	By Need		
		TOTAL, PART F	
TOTAL ACTIVITY COSTS, PARTS A1, A2, A3, or A4 and B - F			

Notes:

1: Please refer to Appendix A, Part 1 for a breakdown of personnel costs.

2: Costs greater than $1,000 require submission of bids. Costs between $100 and $1,000 must be supported by itemization and invoices. Costs less than $100 should be included in System Integration Costs. Where bidding is required, three independent bids will be obtained and submitted to the agency. The agency requires specific description of the bid items, including the item's exact type, model, age, history of previous usage, history of previous ownership, warranty information, and verification that all bids are at arm's length. The agency will only reimburse up to pre-approved bid amounts for pre-approved bid items. The agency may reject any proposal on technical grounds, or if the proposal is believed not to be cost effective. The use of innovative remedial technologies will be approved by the agency on a case-by-case basis and may not require bidding. When the agency accepts the bid, that bid must be utilized for any or all of the work attributable to that bid to be allowable for reimbursement.

3: At least three bids will be required. The agency may accept less than three bids for those situations where it is demonstrated to the satisfaction of the agency that three bids cannot be reasonably be obtained (to be handled on a case-by-case basis). The agency may reject any proposal on technical grounds, or if the proposal is believed not to be cost effective. Markup is allowed for subcontracted items only, per Appendix A, Part 9, and rental or purchase receipts must accompany the application for reimbursement. Unit costs per linear foot (LF) include labor and materials.

4: Please refer to Appendix A, Part 7 for a breakdown of waste management costs.

5: Please refer to Appendix A, Part 2 for additional laboratory analyses and costs. Three separate independent bids will be required to obtain costs for other chemical analyses not listed in this subchapter and are required for system operation or for discharge requirements. The agency may reject any proposal on technical grounds, or if the proposal is believed not to be cost-effective (see Note 3 regarding minimum number of bids). Markup is allowed only on subcontracted items, per Appendix A, Part 9.

6: Please refer to Appendix A, Part 4 for a breakdown of travel policy and costs. Travel time for this section includes costs for a Staff Engineer and a Technician II.

ACTIVITY 10: OPERATION, MONITORING, & PERFORMANCE

This subsection will be used at sites after the installation and successful startup of the remediation system. Please note that this subsection allows both groundwater monitoring and operation and maintenance to be submitted as a single activity at sites with an operating remediation system. This subsection should also be used for the costs for a rented/leased remediation system or any rented/leased capital component(s) of the remediation system. If the rental/lease agreement contains costs for the maintenance of systems or components, duplicate costs for the maintenance of those systems/components are not reimbursable. Rental/lease agreements **must** be included with the workplan and cost proposal submitted for this activity to be considered for pre-approval. The timing of the annual operation monitoring and performance (OMP) cycle at a site will depend on the date of successful start-up of the remediation system installed in Activity 09.

Please note that some portions of the OMP process may require the participation of a Registered Professional Engineer. Please refer to 30 TAC §334.308(g)(21) for information on when this participation is necessary.

WORKSHEET FOR OPERATION, MONITORING, AND PERFORMANCE				
Part A: Personnel Costs - See Note 1				
Section 1: Fixed Annual Office Costs				
ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
Revisions to OMP - See Notes 2 and 8	Preparation and Submittal	$750.00	1	$750.00
Principal Engineer (P3)	Oversight, Regulatory Interaction	$110.00	4	$440.00
Project Manager (PM)	Management, Planning, Data Review	$80.00	21	$1,680.00
OMP Report	Preparation and Submission	$1,925.00	1	$1,925.00
Workplan and Cost Proposal for Continued OMP	Preparation and Submission	$560.00	1	$560.00
Workplan and Cost Proposal - Other	Preparation and Submission	$195.00	1	$195.00
			Total, Section 1	

Section 2: Quarterly Monitoring Personnel Costs				
Subsection 2A: First Quarter				
ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
Staff Engineer/Geologist (SF)	Field Prep, Data Formatting	$70.00	2	$140.00
Technician III (T3)	Purge and Sample Wells, First 25'	$40.00/Well		
Technician III (T3)	Purge and Sample Wells, Each Additional 25' (Max 75')	$10.00/Additional 25'/Well		
			Total, Subsection 2A	

Subsection 2B: Second Quarter				
ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
Staff Engineer/Geologist (SF)	Field Prep, Data Formatting	$70.00	2	$140.00
Technician III (T3)l	Purge and Sample Wells, First 25'	$40.00/Well		
Technician III (T3)	Purge and Sample Wells, Each Additional 25' (Max 75')	$10.00/Additional 25'/Well		
			Total, Subsection 2B	

Subsection 2C: Third Quarter				
ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
Staff Engineer/Geologist (SF)	Field Prep, Data Formatting	$70.00	2	$140.00
Technician III (T3)	Purge and Sample Wells, First 25'	$40.00/Well		
Technician III (T3)	Purge and Sample Wells, Each Additional 25' (Max 75')	$10.00/Additional 25'/Well		
			Total, Subsection 2C	

Subsection 2D: Fourth Quarter				
ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
Staff Engineer/Geologist (SF)	Field Prep, Data Formatting	$70.00	2	$140.00
Technician III (T3)	Purge and Sample Wells, First 25'	$40.00/Well		
Technician III (T3)	Purge and Sample Wells, Each Additional 25' (Max 75')	$10.00/Additional 25'/Well		
			Total, Subsection 2D	
			Total, Section 2	

Section 3: Operation and Monitoring and Routine Weekly Maintenance Personnel Costs for the Remediation System, Per Site Visit				
ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
Technician III (T3)	O&M, 1st System, Up To 3 Wells	$100.00	1	$100.00
Technician III (T3)	O&M, Air Emissions Control	$25.00 Each Device		
Technician III (T3)	O&M, Each Additional System, Up To 3 Wells	$37.50		
Technician III (T3)	O&M, Each Additional Well Per System Over 3, All Systems	$12.50/Well		
Staff Engineer (SF)	Field Prep, Data Formatting	$70.00	1	$70.00
Staff Engineer (SF)	Field Prep, Data Formatting, Each Additional 3 System Wells	$70.00	1	$70.00
			Subtotal, Section 3	
			Number of Site Visits	
			Total, Section 3	

Section 4: Operation and Monitoring Mechanical/Electrical Personnel Costs for the Remediation System, Per Site Visit - Routine System Maintenance - See Note 10				
ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
Technician III (T3)	System Maintenance, tuning, and repair.	$50.00		
			Subtotal, Section 4	
			Number of Site Visits	
			Total, Section 4	

Section 5: Operation and Monitoring Mechanical/Electrical Personnel Costs for the Remediation System, Per Site Visit - Emergency Service				
ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
Technician III (T3)	Respond to system unscheduled malfunction.	$50.00		
			Subtotal, Section 5	
			Number of Site Visits	
			Total, Section 5	
			TOTAL, PART A	

Part B: Equipment Costs - See Note 3			
ITEM	UNIT COST	UNITS	TOTAL
System/Component Rental/Lease Costs - See Note 4			
Disposable bailers	$8.00/Well		
Small items for Groundwater Monitoring	$20.00/Event	4	$80.00
Carbon Canisters, includes installation, recycling, and/or disposal			
Electrical Service		12	
Natural Gas Service		12	
Water/Wastewater Service		12	
Telecommunications (for off-site system monitoring)		12	
Fencing (specify)			
Soundproofing			
Winterization			
(Other)			
Small Items for System Maintenance	$200.00 Month/System	12	$2,400.00
		Subtotal, Part Bl	
		10% or 15% Markup	
		TOTAL, PART B	

Part C: Analytical Costs - See Note 5			
Section 1: Groundwater Testing			
ANALYTICAL TEST	UNIT COST	UNITS	TOTAL
TPH/BTEX (TX 1005 for TPH) (8021B for BTEX)	$110.00		
TPH/BTEX w/MTBE (TX 1005 for TPH) (8021B for BTEX)	$110.00		
TDS (160.1)	$15.00		
PAH (625/8270C)	$230.00		
Shipping	$5.00/Sample		
(OTHER)			
		Subtotal, Section 1	
		10% Markup	
		Total, Section 1	

Section 2: System Performance Analytical Testing			
ANALYTICAL TEST	UNIT COST	UNITS	TOTAL
TPH (Water) (TX 1005)	$55.00		
BTEX w/MTBE (Water) (8021B)	$55.00		
BTEX (Air) (8021B)	$60.00		
TPH (Air) (8015)	$60.00		
TOTAL LEAD (Water) (7420)	$31.00		
Shipping	$5.00/Sample		
(OTHER)			
(OTHER)			
		Subtotal, Section 2	
		10% Markup	
		Total, Section 2	
		TOTAL, PART C	

Part D: Waste Management Costs - See Note 6			
ITEM	UNIT COST	UNITS	TOTAL
Vacuum Truck	$85.00/Hour [$70.00/Hour]		
Fluid Disposal	0.40/Gallon		
Subchapter H Discharge or Alternate Disposal Method (Describe in Work Plan.)	As Needed		
		Subtotal	
		10% Markup	
		TOTAL, PART D	

Part E: Travel Costs - See Note 7			
ITEM	UNIT COST	UNITS/ HOURS	TOTAL
Equipment Truck (Truck used by Technician III)	$140.00/day		
Mileage (over 100 miles, round trip)	$0.35/mile		
Car mileage (Transportation to site by Staff Engineer can charge mileage only, no vehicle charge)	$0.35 / mile		
Travel Time - Technician III - electrical/mechanical	$50.00/hour		
Travel Time - Technician III - environmental	$50.00/hour		
Per Diem	State Comptroller Rate [$90.00/day]		
Air Fare	By Need		
		TOTAL, PART E	
	TOTAL ACTIVITY COSTS, PARTS A - E		

Notes:

1: Please refer to Appendix A, Part 1 for a breakdown of personnel costs. Additional hours may be approved for project management on a case-by-case basis, depending upon the type of remediation system and/or technical complexity

2: An OMP Plan for existing systems should be submitted for any site where a remediation system was in operation at the time the system performance reporting requirements were adopted by the agency.

3: Please refer to Appendix A, Part 5 for a listing of equipment costs. Markup for subcontracted costs vary. Refer to Appendix A: Part 9.

4: This line will be used if a remediation system or a component(s) of the remediation will be reimbursed in this activity. See Activity 09: Remediation System Installation**.**

5: Please refer to Appendix A, Part 2 for additional laboratory analyses and costs. Markup is allowed only on subcontracted items per Appendix A, Part 9.

6: Please refer to Appendix A, Part 7 for a breakdown of waste management costs.

7: Please refer to Appendix A, Part 4 for a breakdown of travel policy and costs. The agency will pay for one Technician to travel to the site and perform O&M and Groundwater Sampling events. The agency will reimburse this individual at the T3 rate when O&M is performed and at the T1 rate when sampling is performed. Travel will be paid at the T3 rate. If a technician is subcontracted and the subcontracted

amount includes travel and vehicle, a separate vehicle charge for the technician will not be reimbursed.

8: Revisions to an OMP are subject to case-by-case review. Stated amounts are maximums.

9: For sites that have been approved for an annual OMP activity, during the course of the activity, a claim for reimbursement can be submitted at the end of each quarter. Depending on the eligibility and content of the claim, approximately one-fourth of the approved amount can be paid out at the end of each quarter. Technical information to be submitted with the application to verify completion of corrective action work to include a summary table of analytical results and/or cumulative tables of recovery information (including recovery and flow rates, projected vs recovered volume and mass, influent and effluent sampling data, discharge and/or disposal information), report of laboratory results, chain of custodies, and a table of groundwater elevations.

10: Requires submittal of a basic checklist as part of the Workplan and Cost Proposal for this activity.

ACTIVITY 11: SITE CLOSURE

This subsection will be used after a Site Closure Request has been reviewed and approved by the agency.

WORKSHEET FOR SITE CLOSURE				
Part A: Personnel Costs - See Note 1				
Section 1: Office Costs				
ITEM	ACTIVITY	UNIT COST	HOURS/UNITS	TOTAL
Site Closure Request	Preparation and Submission	$550.00	1	$550.00
Project Manager (PM)	Management and Oversight	$80.00	4	$320.00
Final Closure Report	Preparation and Submission	$230.00	1	$230.00
Workplan and Cost Proposal/Workplan and Cost Proposal with Bidding	Preparation and Submission	$195.00/$355.00	1	$195.00/$355.00
			Total, Section 1	**$1,295.00**

Section 2: Field Personnel Costs				
ITEM	ACTIVITY	UNIT COST	HOURS/ UNITS	TOTAL
Technician II (T2)	Plug First Well	$135.00	1	$135.00
Technician II (T2)	Plug Additional Well, <100' Deep	$90.00		
Technician II (T2)	Plug Additional Well, >100' Deep	$135.00		
Remediation System Removal- See Notes 2 & 5	Remove and dispose of small system with few capital components.	$750.00		
Remediation System Removal (See Notes 2 & 5)	Remove and dispose of large system with large capital components			
			Total, Section 2	
			TOTAL, PART A	

Part B: Well Plugging and Abandonment Costs - See Note 3				
ITEM	ACTIVITY	UNIT COST	UNITS	TOTAL
Mobilization (less than 50 miles)	Transport Rig & Crew to Site	$300.00	1	$300.00
Mileage (over 50, max 450)	Additional Mileage to Site, Round Trip	$2.50		
Plug & Abandon Wells	P&A first 25', per well	$300.00		
Plug and Abandon Wells	P&A additional footage, 26' to 100', per foot per well	$8.00		
Plug and Abandon Wells	P&A additional footage, >100', per foot per well	$10.00		
Drill Crew Per Diem	Overnight Stay	$240.00		
			Subtotal, Part B	
			15% Markup	
			TOTAL, PART B	

Part C: Other Costs - See Note 3			
ITEM	UNIT COST	UNITS	TOTAL
Disposal of Waste Material	$250.00 + $10.50/CY		
Small Items	$20.00/Site/Day		
(Other)			
(Other)			
(Other)			
		Subtotal, Part C	
		15% Markup	
		TOTAL, PART C	

Part D: Travel Costs - See Note 4			
ITEM	UNIT COST	UNITS/HOURS	TOTAL
Equipment Truck	$140.00/Day		
Mileage (over 100, Round Trip)	$0.35/Mile		
Travel Time	$45.00		
Per Diem	State Comptroller Rate [$90.00]		
Airfare	By Need	1	
		TOTAL, PART D	
	TOTAL ACTIVITY COSTS, PARTS A - D		

Notes:

1: Please refer to Appendix A, Part 1 for a breakdown of personnel costs.

2: Capital equipment consists of the major individual components of the remediation system including pumps, compressors, aeration trays, stripping towers, oil/water separators, catox units, etc. It does not include wiring, tubing, piping, etc. Every effort should be made to reuse functional components of a remediation system at other sites to control costs. For clarification, the owner/operator retains ownership of all capital remediation equipment purchased with agency reimbursement funds.

3: Markup is only allowed as provided in Appendix A, Part 9. Costs for plugging and abandoning wells includes resurfacing the well points. Waste material includes well casing, concrete, surface completions, compound fencing, etc. If monitor wells are not to be drilled out, a reimbursement rate of 50% of $300 or $150 will be allowed. This rate will only apply to sites with five or more wells. The rate will be effective after the first four wells are plugged.

4: Please refer to Appendix A, Part 4 for a breakdown of travel policy and costs.

5: A large remediation system will be defined as a system with four or more recovery wells or a recovery well deeper than 50 feet. Two or more bids will be required to dismantle and remove the remediation system. The agency may reject any proposal on technical grounds, or if the proposal is believed not to be cost effective.

APPENDIX A

REIMBURSABLE UNIT COSTS

PART 1: PROFESSIONAL PERSONNEL/LABOR RATES

PERSONNEL TITLE	RATE/HOUR
Principal (PR)	$110.00
Principal Engineer/Geologist/Hydrogeologist III (P3)	$110.00
Senior Engineer/Geologist/Hydrogeologist II (P2)	$95.00
Associate Engineer/Geologist/Hydrogeologist I (P1)	$85.00
Project Manager (PM)	$80.00
Staff Engineer/Geologist/Hydrogeologist (SF)	$70.00
Field Engineer/Geologist/Hydrogeologist (FD)	$65.00
Environmental Scientist (ES)	$70.00
Health Scientist (HS)	$80.00
Technician III (T3)	$50.00
Technician II (T2)	$45.00
Technician I (T1)	$40.00
Draftsperson II (D2)	$50.00
Draftsperson I (D1)	$45.00
Word Processor (WP)	$35.00
Clerical (CL)	$30.00

Notes:

1: The Personnel Titles in this table correspond with the Personnel Qualifications and Task Descriptions in the table immediately following.

2: Personnel Costs for office staff includes the cost of the equipment they normally use to complete their tasks. Separate costs for computers (including CADD machines), office supplies, etc. are not reimbursable.

3: Reimbursement is based on the maximum rate of the corrective action task being performed, not the rate of the individual performing the task. For instance, an individual at the level of a Technician I (T1) or higher is required to perform normal monitoring well sampling activities, but there is no injunction against a Senior Engineer (P2) performing this task. The maximum reimbursable rate for this task, regardless of who is actually performing the work, however, is at the rate of a T1, which is $40.00/ hour. (In other words, any individual with minimum qualifications *or higher* may perform a given corrective action task, but reimbursement will be based on the hourly or unit rate for the task, not the pay rate of the individual performing it.) If, however, it is demonstrated to the satisfaction of the agency that the combining of tasks/activities performed by a person or persons of higher qualifications results in equivalent or lesser costs when compared to having a person or persons of lower qualification separately perform the related activities for which they are qualified, then the hourly rate of the higher level person will be reimbursed.

4: Markup for professional personnel employed by the RCAS is not allowed (see Part 9).

5: Owners/operators who act as their own prime contractor or consultant may only be reimbursed up to 85% of the applicable line item in this table.

PERSONNEL QUALIFICATIONS AND TASK DESCRIPTIONS

The following qualifications and task descriptions are for those personnel who will be involved in activities for which preapproval is required.

PERSONNEL AND QUALIFICATIONS	TASK DESCRIPTION
Principal (PR) Administrative and\or professional head of the organization. Responsible for conceiving and executing plans and functions of the organization. Directs the professional staff. Normally has a financial interest in the company as partial owner, major investor, or major stockholder. Charges an extremely limited number of hours per site as the Principal. This position should never bill field hours.	- Expert testimony - Legal strategies - Depositions - Organizational oversight
Principal Engineer/Geologist/Hydrogeologist III (P3) A Principal must be professionally registered when applicable, be in compliance with Subchapter J rules, have an advanced engineering or science degree, and at least ten years experience in conducting corrective action. Administrative and/or professional head of an organization with authority and responsibility for conceiving and executing plans and functions of the organization and directing a professional staff. Charges a very limited number of hours per site, as in review of the project documents. A Principal should almost never bill field work.	- Expert testimony - Program management - Project oversight - Depositions - Reviews most complex sites - Develops or advances new technology innovations
Senior Engineer/Geologist/Hydrogeologist II (P2) Typically requires an advanced degree. Requires professional registration when applicable, 8 years of experience in technical or managerial roles, and compliance with Subchapter J. Serves as senior technical leader for environmental remediation projects of medium to large scope and/or complexity and has developed substantial expertise in the field of practice. May supervise or direct the work activities of lower level professionals and technicians. Will perform very limited field work, and have limited involvement in projects. Duties typically include reviewing reports, developing strategies, and attending client and/or Agency meetings. Responsible for approving designs, reports, plans, and specifications before submittal to clients or regulatory agencies. If significantly involved in a highly technical project, should have substantial technical expertise directly related to the project.	- Program management - Project oversight - Project management - Aquifer characterization - Reviews technical reports - Reviews RAPs - Data review and analysis - Prepares proposals
Associate Engineer/Geologist/Hydrogeologist I (P1) Typically requires a Bachelor's degree in engineering, geology, hydrogeology, or related science and professional registration when applicable. Complies with Subchapter J, and has 5 to 7 years of experience or an advanced degree and more than 4 years of experience. Leads and supervises teams of lower level personnel, but would have a limited number of hours charged to each site, and only a small percentage of total field hours. Generally supervises Project Managers and oversees several projects. May prepare proposals. Under general direction, prepares environmental programs and plans specifications for site remediation activity.	- Project management - Engineering/remedial equipment design - Aquifer characterization - Review technical reports - Review remedial action plans - Data review & analysis - Report preparation - Prepare proposals - Site inspection (occasional)
Project Manager (PM) Typically possesses a bachelor of science degree in engineering, geology, hydrogeology, or a directly related field. Serves as manager for entire projects. Complies with Subchapter J and has at least three years of experience in the environmental field. Under general supervision, prepares environmental programs and plans specifications for site remedial activities. Is responsible for gathering field data and is competent at data analysis. Serves as on-site technical expert and may do hydrological site characterizations, supervise hydraulic tests, and write sections of reports.	- Project management - Data review and analysis - Report preparation - Report review - Engineering/equipment design - On-site supervision - Workplan preparation - Site assessment planning - Field work planning - Site inspection (periodic) - Obtains permission for off-site access
Staff Engineer/Geologist/Hydrogeologist (SF) Requires a bachelor's degree in engineering, geology, hydrogeology, or related science and one to three years of experience in the environmental field. Works under supervision to perform routine tasks related to environmental remediation system design and aquifer testing. Must be able to conduct assessment and remedial activities including drilling and monitoring well installation, sampling, and compiling data. Must have knowledge of QA/QC procedures and protocol. This position will normally be highest in the number of hours billed to field work.	- Report preparation - Field work preparation/planning - Supervises site assessment activities and over excavation - Site reconnaissance and mapping - Remedial system installation - Limited data review and analysis - Obtains permission for off-site access - Monitoring activities
Environmental Scientist (ES) Typically requires a degree in biology, chemistry, microbiology, or related environmental science degree and 2 - 6 years of related experience. An individual with an advanced degree should have 2 years of related experience. Performs assignments related to site assessments and bioremediation projects, risk analysis methodologies, and analytical data reduction.	- Data review and analysis - Bioremediation feasibility studies - Report preparation and overview - Report review - Onsite supervision - Site assessment planning

Health Scientist (HS) Typically requires a degree in Industrial Hygiene, Toxicology, or a related health science degree, and requires 1 - 3 years of related experience. Ensures compliance with of field service operations with OSHA safety standards. Addresses public health concerns.	- Health and safety coordinator - Develops site safety plan - Periodically oversees health and safety monitoring
Field Engineer/Geologist/Hydrogeologist (FD) Entry level position requiring a degree in engineering, geology, hydrogeology, or related science and less than a year of experience. Under close supervision, performs routine field tasks related to environmental projects including drilling and monitoring well installation, sampling, site layout and geologic mapping, writing field notes, and basic analysis.	- Field work preparation - Assist in site assessment activities - Site reconnaissance & mapping - Remedial system installation - Limited data review and analysis - Monitoring and sampling - Supervise over excavation
Technician III (T3) Typically requires a high school diploma, certified or licensed trades-person, or an Associates degree. Requires more than 4 years of experience in the environmental field. Responsible for general supervision of the installation, maintenance, and repair of on-site equipment. Collects samples and maintains operating logs.	- Field work preparation - Operation & maintenance of equipment - Well development & sampling - Soil Sampling - Waste handling - Remedial system installation - Limited contractor supervision - Free product (PSH) removal - Monitoring
Technician II (T2) Typically requires a high school diploma. Requires 2 - 4 years of on-the-job training. Under appropriate supervision, performs routine labor tasks associated with on-site installation, maintenance, and repair of remediation equipment. Bails wells and collects soil and groundwater samples.	- Field work preparation - Operation & maintenance of equipment - Well development & sampling - Soil Sampling - Waste handling - PSH removal - Monitoring
Technician I (T1) Typically requires a high school diploma. Entry level position, under close supervision. Performs routine labor associated with system installation, maintenance and repair of machinery, monitoring, and sampling.	- Operation and maintenance of equipment - Well development and sampling - Soil sampling - PSH removal - Monitoring
Draftsperson II (D2) Typically requires a high school diploma. Requires 4 - 8 years of experience or two years of related college and more than one year of experience. Generally requires a Technical Drawing Certificate, and advanced drafting skills such as Computer Aided Drafting (& Design) operations.	- Advanced drafting - CAD/CADD work - Cartography
Draftsperson I (D1) Typically requires a high school diploma with up to 4 years of experience. Generally requires a Technical Drawing Certificate and some familiarity with Computer Aided Drafting. Performs entry to mid-level drafting such as minor edits to existing CAD or board drawings.	- Mid-level drafting - CAD editing
Word Processor (WP) Operates computer for word processing, spreadsheets, and statistical typing, correspondence report generation, etc. Higher billing rates imply experienced, efficient work.	- Spreadsheets - Report generation - Word processing
Clerical (CL) General office work, typing, and filing.	- Typing - Filing - General secretarial - Document reproduction

PART 2: LABORATORY ANALYSIS COSTS

Test/Method	Standard Rate	Rush Rate
TPH - EPA 418.1		
Soil	$47.50	$71.25
Water	$49.00	$73.50
Air	$47.50	$71.25
TPH - TX 1005		
Soil	$55.00	$82.00
Water	$55.00	$82.00
TPH Air (8015)	$60.00	$90.00
BTEX - EPA 8021B		
Soil	$55.00	$82.00
Water	$55.00	$82.00
Air	$60.00	$90.00
BTEX w/MTBE - EPA 8021B		
Soil	$55.00	$82.00
Water	$55.00	$82.00
PAH		
Soil - EPA 8100	$148.00	$225.00
Water - EPA 610	$158.00	$237.00
PAH		
Soil - EPA 8270C	$190.00	$333.00
Water - EPA 625/8270C	$230.00	$345.00
Total Dissolved Solids - EPA 160.1		
Water	$15.00	$22.50
Soil Parameters - see Note 2		
	$400.00	n/a
Total Organic Carbon		
Soil - SW 9060	$40.00	$60.00
Water - EPA 415.1/9060	$32.00	$48.00
Chlorides - EPA 325.3		
Soil/Water	$18.00	$27.00
Moisture - ASTM D-2216		
Soil	$12.00	$18.00
Sulfates - EPA 375.4		
Water	$24.00	$36.00

Test/Method	Standard Rate	Rush Rate
8 RCRA Metals - EPA 1131		
Soil	$150.00	n/a
Total Organic Halogens - TOX EPA 9020		
Soil	$98.00	$147.00
Volatile Organic Compounds - VOCs - EPA 8260B		
Soil	$190.00	$330.00
Water	$190.00	$330.00
Semi-VOCs - EPA 8270C		
Soil	$240.00	$570.00
Water	$240.00	$570.00
TCLP Benzene - EPA 1311 w/8021B		
Soil	$152.00	n/a
Total Lead - EPA 7420		
Soil	$31.00	$46.50
Water	$31.00	$46.50
TCLP Lead - EPA 1311 w/7420		
Soil	$93.00	n/a
Reactivity, Corrosivity, Ignitability (RCI)		
Soil	$95.00	n/a
Iron (Fe) - EPA 200.7		
Water	$10.00	$15.00
Nitrates - EPA 353.2		
Water	$24.00	$36.00
Phosphates - EPA 365.2		
Water	$24.00	$36.00
Mobile Laboratory See Note 5	$1,650.00/day	

Notes:

1: The above prices include all charges associated with lab analysis including, but not limited to, preparation and disposal.

2: Includes Total Organic Carbon, Porosity, Intrinsic Permeability, Bulk Density, and Volumetric Water Content.

3: Justification for anything other than the Standard Rate should be included in the work plan and/or the reimbursement application. The Standard Rate is for a turnaround time greater than 48 hours. Rush Rate is for a turnaround time of less than 48 hours. If an analytical test cannot be completed in less than 48 hours, Rush Rate will not be allowed.

4: Allowable shipping costs are $5.00 per sample container (or sample set in the case of BTEX/V.O.C. samples), regardless of the method of delivery. Labor for the collection of samples is included in site personnel costs. A minimum of $40.00 per sampling event will be allowed.

5: A mobile laboratory is expected to conduct 18 - 20 TPH/BTEX analyses on soils each day or 15 - 18 TPH/BTEX water/soil analyses each day. For sites where a small number of samples will need to be analyzed, the agency may allow one-half of one day of use for the mobile laboratory (at $825.00) if this is the most cost-effective option. Mob/Demob costs for a mobile lab are $145.00 for the first 50 miles (or less) plus $1.90/mile for each additional mile up to a total of 450 additional miles.

6: Analytical methods listed are the most recent SW-846 methods appropriate for the intended use. As SW-846 is modified or alternative methods are approved by the agency, the modified or alternative methods should be substituted for the appropriate analyte listed.

PART 3: DRILLING, WELL INSTALLATION, AND DIRECT PUSH TECHNOLOGY COSTS

The following costs are for various drilling activities. Please note that the costs are set up so that any boring or monitoring well that is 25 feet deep **or less** will be reimbursed at a lump sum rate. Costs after the first twenty-five feet should be calculated on a per-foot (beyond 25 feet) basis. Boring costs include decon, coring, plugging, and Water Well Report generation costs. Monitoring well installation costs include drilling, decon, coring, all well materials, surface completion, cap, lock, and Water Well Report generation costs.

SECTION A: CONVENTIONAL DRILLING - See Notes

Sand/Silt/Clay with Hollow-Stem Augers and Continuous Sampling

Depth Interval	Boring	2" Well	4" Well	6" Well
	Lump Sum	Lump Sum	Lump Sum	Lump Sum
0' to 25'	$775.00	$1,025.00	$1,187.50	$1,925.00
	Per Additional Foot	Per Additional Foot	Per Additional Foot	Per Additional Foot
26' to 50'	$25.00	$43.50	$54.00	$76.00
>50' (See Note 6)	$43.00	$51.50	$61.50	$76.00

Limestone/Hard Rock using Air or Mud Rotary, Surface Sampling Only

Depth Interval	Boring	2" Well	4" Well	6" Well
	Lump Sum	Lump Sum	Lump Sum	Lump Sum
0' to 25'	$1,025.00	$1,275.00	$1,450.00	$1,950.00
	Per Additional Foot	Per Additional Foot	Per Additional Foot	Per Additional Foot
26' to 50'	$42.00	$46.00	$59.00	$78.00
>50 (See Note 6)	$48.00	$53.00	$62.00	$79.00

Limestone/Hard Rock using Air Coring and Continuous Sampling

Depth Interval	Boring	2" Well	4" Well	6" Well
	Lump Sum	Lump Sum	Lump Sum	Lump Sum
0' to 25'	$1,078.00	$1,562.50	$1,825.00	$2,075.00
	Per Additional Foot	Per Additional Foot	Per Additional Foot	Per Additional Foot
26' to 50'	$38.50	$57.50	$72.00	$87.50
>50 See Note 6	$44.00	$65.00	$79.00	$96.00

Completion Footage Rates Expected in a Standard Work Day

	Borings	Monitoring Wells
Sand/Silt/Clay using HSAs, Continuous Sampling	143	111
Limestone/Hard Rock w/Air/Mud Rotary, Surface Sampling	215	117
Limestone/Hard Rock w/Air Coring, Continuous Sampling	150	115

Mobilization/Demobilization and Per Diem

Mob/Demob <50 Miles	$300.00 Lump Sum
Mob/Demob >50 Miles	$2.50/Mile > 50 Miles one-way (max 500 miles round trip)
Drill Crew (3 Person) Per Diem	$240.00

SECTION B: DIRECT PUSH TECHNOLOGY

Day Rate for a Direct Push Unit	$1,480/Day - See Note 4
Per Foot Charge	$12.50/Foot
Expected Footage per Standard Day	195 Feet/Day
Additional amount/foot for 1" well completion	$12.50

Mobilization/Demobilization and Per Diem

Mob/Demob <50 Miles	$145.00 Lump Sum
Mob/Demob >50 Miles	$1.90/Mile > 50 Miles one-way (max 500 miles round trip)
Drill Crew (2 Person) Per Diem	$180.00

Notes:

1: At some sites, the need may arise for the installation of a well that isolates an upper saturated zone in order to define the contaminant plume in a lower saturated zone. When the need for such a dual-cased well is agreed upon between the owner/operator and the agency, the workplan and cost proposal submitted to the agency for pre-approval should contain three bids for the installation of these wells. At least three bids will be required. The agency may accept less than three bids for those situations where it is demonstrated to the satisfaction of the agency that three bids cannot be reasonably obtained (to be handled on a case-by-case basis). The agency may reject any proposal on technical grounds, or if the proposal is believed not to be cost effective.

2: In situations where a low total footage of borings are to be installed or a second day of utilization of direct push technology is required, the per foot charge will be used, not to exceed the day rate.

3: Per Diem requirements for drill crews is described in the “Travel” section of this Appendix.

4: For sites where the footage of direct push borings needing to be installed is small, the agency may allow one-half of one day for Direct Push Unit rental (at $740.00/day), plus $12.50 per foot after the first 98 feet have been installed.

5: All drilling costs except those otherwise noted in the RCSs will require bidding after certain ceilings are met. Unless a variance (see Note 6) related to a field change is granted by the agency Site Coordinator, bidding will be requested: 1) if there is a total of 150 linear feet or more proposed to be drilled, irrespective of the number of borings proposed; and/or 2) for the drilling of any number of wells greater than 50 feet deep. Three independent bids must be acquired from water well drillers licensed in the State of Texas. At least three bids will be required. The agency may accept less than three bids for those situations where it is demonstrated to the satisfaction of the agency that three bids cannot be reasonably obtained (to be handled on a case-by-case basis). The agency may reject any proposal on technical grounds, or if the proposal is believed not to be cost effective.

6: Stated rates only apply to variances granted with respect to field changes.

7: Defining Drilling Equipment Categories:

TYPE I Rigs: A large truck-mounted (e.g., a 2.5-ton or larger rated chassis) drilling rig (e.g., Mobile's Model B-61) of sufficient size producing sufficient torque at the kelly to drill a ten-inch diameter borehole to 50 feet deep or deeper using a hollow-stem auger. Additionally, this drill rig must; be capable of performing continuous sampling using a core barrel; be capable of obtaining blow counts with a split spoon sampler; and have a crown block at the top of the mast with proper winch lines to allow the use of a 140 pound sample hammer. Typically, these rigs will be manned by a three-man crew with an accompanying trailer and pickup truck for hauling supplies and equipment.

TYPE II Rigs: A smaller, typically trailer mounted, drilling rig capable of turning a solid flight auger, but not having the capability of coring continuously and not having the capability to obtain blow counts (no crown block and winch lines). These drill rigs are typically mounted on trailers being pulled by a vehicle such as a one-ton flat bed truck. Equipment and supplies are usually loaded in the truck or the drill rig trailer. Typically, these rigs will be manned by a two-man crews.

TYPE III Rigs: Small drilling rigs of a type typically mounted a vehicle such as a 3/4-ton flat bed truck. This type of drill rig is only capable of direct push drilling and sampling. The maximum well installation capability of these rigs is typically restricted to the installation of, for example, a one-inch diameter, temporary monitor well.

REIMBURSEMENT POLICY:

TYPE I Rigs: Standard RCS rates for well and boring installation for augering and rotary drilling.

TYPE II Rigs: Drilling rates will be reimbursed up to 65% of Standard RCS rate. The reimbursable rate will be determined by obtaining the RCS rate for well installation, excluding mob-demo, mileage, per diem, and supplies and multiplying that rate by 65%. Mob-demob, additional mileage, per diem, and supplies will be added to this rate. This method will be applied regardless of the number of borings or well installed.

If an applicant can demonstrate in writing that the cost of utilizing a Type II drilling rig is higher than what is calculated by this process, due to the location of the drilling site for instance, then reimbursement will be considered at the higher rate. Any additional amount requested on this basis will be held, pending the receipt and evaluation by the agency of such documentation.

TYPE III Rigs: Standard RCS rates for temporary well and boring installation using direct push methods.

PART 4: TRAVEL COSTS

Travel by Air vs. Travel by Surface Vehicle

The agency will reimburse for 500 miles round-trip mileage plus 10 hours of travel time or round-trip coach airfare plus 1-1/2 hours of travel time per site visit, whichever is smaller. Personnel rates allowed for travel time will be determined by the field personnel required to complete the activity as described in the cost guidelines for each activity. The number of personnel allowed for travel will also be determined by the number of field personnel in the cost guidelines.

To minimize travel costs, as many site visits/activities as reasonably possible should be combined into a single trip. Payment for miles traveled will be based on the distance between the site and the closest office or vehicle storage facility of the RCAS. Payment for miles traveled during a multiple site trip will be based on the distance from the closest office or vehicle storage facility of the RCAS to the first and last sites visited, plus site-to-site miles traveled. Mileage rate will be the lower of either the applicable Internal Revenue Service rate per mile or the applicable Official Mileage Guide for the State of Texas (OMGST) rate per mile at the time the activity was performed, rounded to the next highest cent. As of August 1, 2003, that rate was 35 cents per mile.

When travel is performed by higher level personnel than allowed in the activity, reimbursement of the higher labor cost as a portion of the travel cost may be allowed if it is demonstrated to the satisfaction of the agency that the combining of tasks/activities performed by the person or persons of higher qualifications resulted in equivalent or lesser costs when compared to having a person or persons of lower qualification separately perform the related activities for which they are qualified (see also, Appendix A, Part 1, Note 3). Travel time is computed with the assumption of an average speed of 50 miles per hour. A minimum of one half hour will be granted for each round trip.

To simplify the pre-approval process, a flat rate of $140.00 per day will be allowed for the use of an "equipment truck." This can be any vehicle, of any size, either company owned or rented. This vehicle comes with all of the equipment normally used by the operator for field work, and may include purging and sampling gear (including pumps and generators), coolers, environmental monitoring devices, and tools. The only equipment not included in the day rate for this truck are disposables such as PPE, bailers, visqueen, ice, cameras, film, etc. These disposables are costed out on a per well, per cubic yard, or per day basis, as appropriate to the specific activity. Included in the $140.00 cost of the equipment truck is the first 100 miles of travel. If a vehicle is going to be utilized to conduct work on more than one site on a given day, the operator must split travel time between the sites, or lump all travel costs on a single site.

Per Diem and Non-reimbursable Costs

Per diem (meals and lodging) will be paid for site activities requiring more than one day of field work and occurring at a site greater than 90 miles (one way) from the closest office of the RCAS. The per diem will be a maximum of the State Comptroller Rate [$90.00] per individual per day as required for the activity. All receipts for lodging must be submitted with the reimbursement application for per diem to be reimbursed. Per diem for drill crews will be $240.00 for a standard three-person crew (rotary rig) or $180.00 for a two-person direct push crew. Lodging receipts must be submitted for drill

crew per diem to be reimbursed. Other travel costs for drill rigs and crews are discussed in the "Drilling and Well Installation" unit costs in this Appendix.

The following travel expenses are not reimbursable:

- Personal trips;
- Overtime;
- Entertainment (including tips and alcohol); and
- Travel for any purpose not directly related to the performance of necessary corrective action.

PART 5: EQUIPMENT AND SUPPLY COSTS

The following tables contain maximum reimbursable costs for a variety of large and small equipment, along with commonly used supplies. The total reimbursable cost for leased/rented equipment will not exceed the normal retail price for that piece of equipment.

Equipment (Small)	Daily	Weekly	Monthly	Purchase
Absorbent Booms				
4" X 36"- each				$5.00
6" X 10'- each				$25.00
8" X 10'- each				$30.00
Aeration Trays - See Note 1			$100.00	$2,400.00
Air Compressors & Generators				
AC - 3/4 Horsepower	$15.00	$70.00	$200.00	
AC - 2 Horsepower	$20.00	$75.00	$250.00	
AC - 5 Horsepower	$25.00	$100.00	$300.00	$7,200.00
AC - 150 CFM & Paving Breaker (Jackhammer)	$100.00	$375.00	$1,025.00	$9,800.00
GEN - 400 Watt	$50.00			
GEN - 3,500 Watt	$55.00	$190.00	$420.00	$1,800.00
Air Strippers - See Note 1	$400.00	$1,200.00	$2,200.00	$15,250.00
Bailers				
Bailer (Teflon or polypropylene, disposable)				$8.00
Bailer (PVC, dedicated)				$35.00
Carbon Absorbers, Drum Type - See Note 1 (Includes installation, recycling, and/or disposal.)				$750.00
Datalogger (2 channel)	$65.00	$325.00		
Datalogger (8 channel)	$115.00	$575.00		
Pressure Transducer	$35.00	$175.00		
OVM Meter (PID, FID) - See Note 2	$85.00			
Combustible Gas Meter - See Note 2				
pH, Conductivity, Temperature Meter - See Note 2	$150.00	$550.00		
Dissolved Oxygen Meter - See Note 2	$150.00	$550.00		
Oxygen, Carbon Dioxide, Methane Gas Meter - See Note 2				
Interface Probe - See Note 2				
Field Test Kits and/or Meters for Water Alkalinity, Redox, Chloride, Iron, Nitrate, Sulfate, Phosphate - See Note 2	$75.00			
Concrete				$55.00/cy
Concrete Saw	$50.00	$75.00		
Fencing and Enclosures - See Note 8				
Compound Fence (Wood/Chain)				
Chain Link, $/Foot				
Winterizing				
Soundproofing				
Temporary Construction Barrier, $/100 Feet		$1.00	$8.00	$100.00
Hand Augers				
Manual	$25.00	$60.00		
Power	$45.00	$180.00		
Jackhammer (electric)	$40.00	$150.00	$500.00	$975.00
Water Treatment Trailer - See Note 10	$75.00			
Oil/Water Separator, Gravity Type - See Note 1				$2,000.00
Pumps				
Gas Powered, 2" Diameter, 150 GPM	$50.00	$200.00	$500.00	$600.00
Pneumatic	$75.00	$225.00		$2,000.00
2", Electric Submersible, 10 GPM	$40.00	$100.00	$300.00	$450.00 See Note 1
4", Electric Submersible, 20 GPM	$50.00	$200.00		See Note 1

Skimmers				
Passive (1 Liter)		$10.00	$30.00	$400.00
Electric		$75.00	$265.00	$3,200.00
Holding Tanks - See Note 1				
55 Gallon Barrel or Drum				$40.00
1,000 Gallon	$25.00	$75.00	$225.00	$700.00
5,000 Gallon	$35.00	$105.00	$315.00	$3,750.00
21,000 Gallon	$100.00	$300.00	$900.00	
Stripping Towers - See Note 1				$14,750.00
SVE Pilot Test Equipment				
Blower, 1.5 Horsepower	$20.00			
Blower, 5 Horsepower	$35.00			
Blower, 15 Horsepower	$50.00			
Pressure Gauges	$75.00			
Carbon Canister (drum type)	$45.00			$500.00
SVE Probe	$250.00			
An SVE Trailer w/all necessary equipment	$500.00			
Survey Equipment	$30.00	$120.00		
Traffic Control Components - See Note 9				
Barricades	$1.00	$4.00	$14.00	$85.00
Cones/Delineators (per 25)	$5.00	$20.00	$50.00	$115.00
Signs	$1.00	$3.00	$11.00	$35.00
Well Materials - See Note 3				
2" PVC Casing, Schedule 40, Per Foot				$2.00
2" PVC Screen, Schedule 40, Per Foot				$4.00
2" PVC Threaded Cap				$5.00
4" PVC Casing, Schedule 40, Per Foot				$4.00
4" PVC Screen, Schedule 40, Per Foot				$8.00
4' PVC Threaded Cap				$9.00
Filter Sand, 100 Lb. Bag				$5.00
Concrete, Ready Mix, 90 Lb. Bag				$3.50
Concrete, Portland Cement, 90 Lb. Bag				$7.50
Sand Cement Slurry Backfill w/ Delivery, Per cy				$40.00
Bentonite Grout, 50 Lb. Bag				$23.00
Bentonite Chips, 50 Lb. Bag				$7.50
Bentonite Tablets, 50 Lb. Bag or Bucket				$31.00
Miscellaneous				
Small Items - See Note 4	$20.00			
Tedlar Bags	$9.00			$7.50
Visqueen, 6 mil, 20' X 100'				$60.00
Equipment (Large)		**Hourly**	**Daily**	**Weekly**
Backhoes (operated)- See Note 5				
Light-duty (12' - 18' digging depth) ($35/hr rental & $40/hr operator)		$75.00	$495.00	$2,125.00
Medium-duty (15' - 20' digging depth) ($50/hr rental & $40/hr operator)		$90.00	$570.00	$2,300.00
Heavy-duty (17' - 21' digging depth) ($70/hr rental & $40/hr operator)		$110.00	$670.00	$2,650.00
Compactors (operated)				
Walk-behind ($20/hr rental & $30/hr operator)		$50.00	$340.00	$1,500.00
Riding ($25/hr rental & $30/hr operator)		$55.00	$365.00	$1,575.00
Loaders (operated)				
Bobcat ($20/hr rental & $40/hr operator)		$60.00	$420.00	$1,900.00
Light-duty (up to 100 hp) ($30/hr rental & $40/hr operator)		$70.00	$470.00	$2,050.00
Heavy-duty (greater than 100 hp) ($50/hr rental & $40/hr operator)		$90.00	$570.00	$2,350.00
Tracked Excavators (operated)				
Light-duty (20'-22' digging depth) ($85/hr rental & $40/hr operator)		$125.00	$745.00	$2,875.00
Medium-duty (24'-26' digging depth) ($100/hr rental & $40/hr operator)		$140.00	$820.00	$3,100.00
Heavy-duty (>26' digging depth) ($120/hr rental & $40/hr operator)		$160.00	$920.00	$3,400.00
Trucks				
Equipment Truck - See Note 6			$140.00	
10 cy Dump (operated)		$50.00		

14 cy Dump (operated)	$55.00	Bill time
20 cy Dump w/ trailer (operated)	$60.00	actually used
Vacuum Truck (operated)	$70.00	

Notes:

1: Equipment purchased for the installation of a remediation system will be costed out by bid by the RCAS in the Interim Corrective Action Plan (ICAP) (see Activity 02), the Corrective Action Plan (CAP) (see Activity 08), or the workplan and cost proposal submitted for Remedial System Installation (see Activity 09). These bids must be included when these documents are submitted to the agency. Three independent bids must be obtained and submitted to the agency. At least three bids will be required. The agency may accept less than three bids for those situations where it is demonstrated to the satisfaction of the agency that three bids cannot be reasonably obtained (to be handled on a case-by-case basis). The agency requires specific description of the bid items, including the item's exact type, model, age, history of previous usage, history of previous ownership, warranty information, and verification that all bids are at arm's length. The agency will only reimburse up to pre-approved bid amounts for pre-approved bid items. The agency may reject any proposal on technical grounds, or if the proposal is believed not to be cost effective. The use of innovative remedial technologies will be approved by the agency on a case-by-case basis and may not require bidding. When the agency accepts the bid, that bid must be utilized for any or all of the work attributable to that bid to be allowable for reimbursement. Because of the unique nature of each individual site, and the range of equipment types available in the industry, the RCAS should design the remediation system with both efficiency and cost in mind. The cost proposals for remediation systems will be reviewed on a case-by-case basis. The agency may require methods of identification such as serial numbers for capital equipment items in order to track the purchase, use, and condition of these items. Further, the agency may restrict reimbursable amounts for capital equipment items to prorated amounts which consider usage.

2: The majority of data collection devices are consultant-owned and will be included in the cost of the Consultant's Equipment Truck, which is reimbursed at the rate of $140.00 per day, plus mileage over 100 miles round trip. Please refer to the "Travel" section in this Appendix.

3: Well materials are included for reference. The reimbursement of the cost of installing monitoring wells is done on a per-foot basis, in which the cost of well materials is included. Please refer to the "Drilling and Direct Push Technology" section in this Appendix.

4: Small items are those disposables normally used at an LPST site. They would include string, gloves, decon supplies, and distilled water. Other small items may include tape, pens, paint, ice, and warning tape.

5: Costs for heavy equipment are based on a rental charge of five hours per day and 15 hours per week, and an operator charge of eight hours per day and 40 hours per week.

6: See Appendix A, Part 4: Travel Costs for a description of the Equipment Truck and its use.

7: For those sites distant from a rental center, the agency Site Coordinator may allow up to two days of rental charges for shipping in addition to the days the equipment is in use.

8: At least two bids will be required. The agency may reject any bid on technical grounds, or if the proposal is believed not to be cost effective. Markup is allowed for subcontracted items only, per Appendix A, Part 9, and rental or purchase receipts must accompany the application for reimbursement.

9: For traffic control components, a minimum of $40.00 is allowed for the daily rental, a minimum of $80 is allowed for weekly and a minimum of $150 is allowed for monthly rates.

10: Water treatment trailer rental rates are for a trailer outfitted to treat contaminated groundwater derived principally from groundwater monitoring events or short-term (several days) treatment events. The rate is based upon a 16-foot long open trailer, fitted with a 200-gallon tank, a water pump, and two 50-gallon drums filled with granulated activated carbon.

PART 6: EXCAVATION, BACKFILLING, AND RESURFACING COSTS

The following tables should be used to calculate all excavation and over-excavation costs, along with the replacement of excavated soils with imported fill, compacting that fill, and resurfacing areas affected by these activities. Please note that all personnel costs, except for stockpile sampling and report generation, have been built into these flat rates. Also note that the disposal of impacted soils discovered during a tank removal must be pre-approved independent of tank removal activities.

ITEM	2" ASPHALT	6" CONCRETE	PER CUBIC YARD
Remove Pavement Over Affected Area, per sq ft	2.50	4.00	
Excavate Impacted Soils, per cy			9.00
Import Fill, per cy			11.00
Compact Fill, per cy			9.00
Resurface Affected Area, per sq ft	3.50	5.50	

Notes:

1: If concrete cover is greater than 6", please note this fact on the workplan and cost proposal. An agency Site Coordinator has the ability to adjust reimbursable costs for site-specific circumstances.

2: Imported fill volume will be calculated at the rate of 1.3 times the *in situ* volume of the excavated soils.

3: Compaction costs include in-place density tests.

4: On rare occasions, shoring may be necessary to conduct excavation activities. If you encounter such a situation, justification for increased cost must be submitted with the workplan and cost proposal.

PART 7: SOILS AND WASTEWATER MANAGEMENT COSTS

This section should be used to determine the cost of loading, hauling, and disposing excavated soils or generated groundwater.

DISPOSAL RESULTING FROM ANY SITE ACTIVITY			
MEDIA	**METHOD**		
ALL SOILS	**LOAD AND HAUL**	**DISPOSE IN LANDFILL**	
	$14.00/CY	>1500 PPM TPH: $45.00/CY; <1500 PPM TPH: $10.50/CY; See Notes 1 and 6	
>1500 PPM TPH SOILS ONLY	**ASPHALT RECYCLING**	**THERMAL DESORPTION**	**BIOREMEDIATION**
	$35.00/CY; See Note 2	$45.00/CY; See Note 2	$35.00/CY; See Note 2
GROUNDWATER AND PSH	**LOAD, HAUL, & DISPOSE**	**ON-SITE TREATMENT & DISCHARGE**	
	$70.00/HR for Truck plus 0.40/GAL Disposal	See Notes 3, 4, and 5	

Notes:

1: Refer to Appendix A, Part 9 for allowable markup.

2: The noted alternative technologies for soils with >1500 PPM TPH are maximum reimbursable costs but do not include loading and hauling costs. Where appropriate, onsite use of these technologies should be considered to avoid loading and hauling costs. If the owner/operator decides to use these technologies on soils with <1500 TPH when a less expensive disposal option is available, the agency will reimburse the cost of the least expensive option and the owner/operator will absorb the remaining costs.

3: If it can be demonstrated that locally available disposal or transport options are more costly than the RCSs, three independent bids for disposal can be solicited. At least three bids will be required. The agency may accept less than three bids for those situations where it is demonstrated to the satisfaction of the agency that three bids cannot be reasonably obtained (to be handled on a case-by-case basis). The agency may reject any proposal on technical grounds, or if the proposal is believed not to be cost effective. Water treatment trailer rental rates ($75.00 per day for the trailer rental and $0.40 per gallon for treatment and disposal of wastewater) are for a trailer outfitted to treat contaminated groundwater derived principally from groundwater monitoring events or short-term (several days) treatment events. The rate is based upon a 16-foot long open trailer, fitted with a 200-gallon tank, a water pump, and two 50-gallon drums filled with granulated activated carbon. For disposal of soil on site, a flat rate of $250.00 will be reimbursed.

4: The agency will not pay for the disposal of water that collects in an excavation because that excavation was improperly bermed. Such water must be sampled, at the owner/operator's cost, to determine if it is impacted and special handling is necessary. The cost of testing and subsequent disposal of groundwater recharging into an excavation is reimbursable. Once the determination has been made that special handling is required, the owner/operator should select the most cost effective method of waste disposal. For the majority of sites in Texas, this method will be the use of vacuum trucks. In certain areas of the state that are isolated by distance from companies that provide this service, on-site treatment and discharge may be appropriate. A cost comparison should be made in the cost proposal and workplan and these costs will be reviewed on a case-by-case basis. The cost of Class V injection well permits and the cost of Texas Pollutant Discharge Elimination System storm water discharge permits associated with on-site treatment and discharge will also be considered for payment.

5: Wastewater hauling and disposal costs may be prorated on a site-by-site basis. The method of calculating the apportionment is by taking the number of gallons collected at the site and dividing that evenly by the total hours charge on the Bill of Lading. Separate waste manifests must be provided for each site.

6: Soils generated during Site Assessments should be drummed or covered and held onsite pending the receipt of analytical results. (See Notes 1 and 3)

PART 8: REPORT GENERATION COSTS

This section should be used to determine the reimbursable costs for all report forms except Risk Assessments and Corrective Action Plans.

REPORT FORM TYPE	PERSONNEL TYPE	RATE/HR	HOURS	TOTAL
RELEASE DETERMINATION REPORT				
	Project Manager (PM)	$80.00	4	$320.00
	Word Processor (WP)	$35.00	2	$70.00
			TOTAL	**$390.00**
FIELD ACTIVITY REPORT (FAR) - GROUNDWATER MONITORING - One-time Event				
	Associate Engineer (P1)	$85.00	1	$85.00
	Staff Engineer/Geologist (SF)	$70.00	4	$280.00
	Word Processor (WP)	$35.00	2	$70.00
			TOTAL	**$435.00**
PSH REPORT/MDPE REPORTS (PER EVENT) FOR 8-HOUR or 24-HOUR EVENTS				
	Associate Engineer (P1)	$85.00	1 / 1	$85.00/$85.00
	Staff Engineer/Geologist (SF)	$70.00	2 / 3	$140.00/$210.00
	Word Processor (WP)	$35.00	1 / 1	$35.00/$35.00
			TOTAL	**$260.00/$330.00**
MDPE REPORTS (PER EVENT) FOR 72-HOUR or 7-DAY EVENTS				
	Project Manager(PM)	$80.00	1 / 1	$80.00 / $80.00
	Staff Engineer/Geologist (SF)	$70.00	4 / 6	$280.00 / $420.00
	Word Processor (WP)	$35.00	1 / 1	$35.00 / $35.00
			TOTAL	**$395.00 / $535.00**
INTERIM CORRECTIVE ACTION PLAN (ICAP)/Mobile Dual Phase Extraction Corrective Action Plan (MDPE CAP)				
	Principal Engineer (P3)	$110.00	1/1	$110.00/$110.00
	Associate Engineer (P1)	$85.00	3/2	$255.00/$170.00
	Project Manager (PM)	$80.00	2/6	$160.00/$480.00
	Staff Engineer/Geologist (SF)	$70.00	12/20	$840.00/$1400.00
	Draftsperson II (D2)	$50.00	5/12	$250.00/$600.00
	WP	$35.00	6/3	$210.00/$105.00
			TOTAL	**$1,825.00**/$2865.00
FAR - PSH RECOVERY SYSTEM INSTALLATION				
	P3	$110.00	1	$110.00
	SF	$70.00	8	$560.00
	D2	$50.00	3	$150.00
	WP	$35.00	1	$35.00
			TOTAL	**$855.00**
RISK ASSESSMENT UPDATE or FAR - SITE ASSESSMENT - See Note 1				
	PM	$80.00	1	$80.00
	SF	$70.00	8	$560.00
	WP	$35.00	1	$35.00
	D2	$45.00	2	$90.00
			TOTAL	**$765.00 - See Note 1**

REPORT GENERATION - MISCELLANEOUS - See Note 3				
	Report Generation	$485.00	Lump	$485.00
			TOTAL	**$485.00**

FAR - REMEDIATION SYSTEM INSTALLATION (EXCEPT PSH RECOVERY SYSTEM)				
	Senior Engineer (P2)	$95.00	2	$190.00
	P1	$85.00	4	$340.00
	SF	$70.00	20	$1,400.00
	WP	$35.00	2	$70.00
	D2	$50.00	6	$300.00
			TOTAL	**$2,300.00**

FAR - CORRECTIVE ACTION PLAN ADDENDUM				
	P1	$85.00	2	$170.00
	WP	$35.00	1	$35.00
	D2	$50.00	2	$100.00
			TOTAL	**$305.00**

ANNUAL REPORT - GROUNDWATER MONITORING ONLY				
	PM	$80.00	1	$80.00
	SF	$70.00	6	$420.00
	WP	$35.00	1	$35.00
	D1	$45.00	1	$45.00
			TOTAL	**$580.00**

ANNUAL REPORT - OPERATION, MONITORING, AND PERFORMANCE				
	P2	$95.00	2	$190.00
	PM	$80.00	5	$400.00
	SF	$70.00	14	$980.00
	WP	$35.00	5	$175.00
	D1	$45.00	4	$180.00
			TOTAL	**$1,925.00**

SITE CLOSURE REQUEST				
	PM	$80.00	6	$480.00
	WP	$35.00	2	$70.00
			TOTAL	**$550.00**

FINAL SITE CLOSURE REPORT				
	PM	$80.00	2	$160.00
	WP	$35.00	2	$70.00
			TOTAL	**$230.00**

Notes:

1: This cost is for a Risk Assessment Update or for an FAR in which one boring or monitoring well was installed. DI, WP, and PM time may be increased 1/2 hour for every monitoring well or soil boring installed during a given event. In addition, the RCAS may bill PM (2 hrs.), DI (2 hrs.), and WP (1 hr.) time totaling $285.00 for the first day of Direct Push, and $142.50 for every additional 1/2 day of Direct Push. See Activity 03: Excavation/Waste Management for the cost applicable to FAR Preparation and Submission related to that activity.

2: Owners/operators who act as their own prime contractor or consultant may only be reimbursed up to 85% of the applicable line item in this table.

3: Applies to the preparation of Recovery Well Installation FARs. Otherwise only applies to reports specifically requested by an agency Site Coordinator when the Site Coordinator determines that the subject of the report does not easily fit into other line items within the RCSs, and with the scope of the report limited to those items pre-approved by the agency for that report.

PART 9: MARKUP

ITEM	MAXIMUM ALLOWABLE MARKUP
LABORATORY COSTS	10%
WASTE MANAGEMENT	10%
UTILITIES	10%
SUBCONTRACTED PROFESSIONAL PERSONNEL	10%
ALL OTHER ALLOWABLE SUBCONTRACTOR COSTS	15%

Notes:

1: Markup in this table is only allowed for the prime contractor and/or the prime Corrective Action Specialist (consultant) (markup is not allowed, however, for owners/operators who act as their own prime contractor or consultant). Markup is applied to the lower of either the invoice amount for a corrective action activity or the RCS amount for that activity. It may be applied only once (for instance, a prime contractor or consultant may not charge a markup upon an amount which has already been marked up).

2: Consultants and contractors may not charge a markup on their own in-house expenses. Markup, however, is not to be confused with prime contractor profits for certain in-house costs which are imbedded in various other tables in this subchapter.

3: Retail markup is not allowed. All invoices on which a markup is being applied **must** be submitted with the Application for Reimbursement.

PART 10: CHANGE ORDERS

The pre-approved workplan and cost proposal represent the accepted activity to be performed and the maximum reimbursable cost for that activity (including allowable markup). Modifications to the pre-approved workplan and cost proposal can be made only as follows.

Field Activity Change Orders

On occasion, site specific circumstances and unforeseeable developments can result in an owner/operator incurring expenses exceeding the pre-approved maximum cost. Examples of situations where this can occur are costs associated with drilling delays due to bad weather, or additional costs associated with hitting an unanticipated rock layer while drilling. Please note that these situations are related to field activities and not office-associated activities. Depending on the magnitude of the unforseen problem, the owner/operator should proceed as follows.

Field activity changes resulting in a cost change greater than 7% of the pre-approved amount:

If unanticipated events occur in the field during the performance of a pre-approved activity which cause an additional expense exceeding 7% of the total pre-approved amount (e.g., an amount greater than $1,400.00 on an activity pre-approved for $20,000.00), then pre-approval must be obtained from the agency before continuing the activity. Failure to obtain the infield approval will result in the additional costs being nonreimbursable. Conditional verbal approval can be obtained from the agency to continue with the activity while in the field, however, final approval of the activity and costs will be granted only after the review of a submitted field change order. The change order must detail the additional field activities and associated costs and must conform to the standard workplan and cost proposal format.

Field activity changes resulting in a cost change exceeding the pre-approved amount, but is less than or equal to 7%:

If unanticipated events occur in the field during the performance of a pre-approved activity which cause an additional expense exceeding the total pre-approved amount, but is less than or equal to 7% of the total pre-approved amount (e.g., an amount less than or equal to $1,400.00 on an activity pre-approved for $20,000.00), then a change order detailing the additional field activities and associated costs must be submitted at the completion of the activity and must conform to the standard workplan and cost proposal format. Infield approval prior to continuing the activity is not required. Approval of the change order will be granted only after the review of a submitted field change order.

Field activity changes resulting in a cost change which is less than the pre-approved amount:

If unanticipated events occur in the field during the performance of a pre-approved activity which cause some of the scope of work items to be eliminated or not performed, then the associated costs should be reduced. A change order does not need to be submitted for approval; however, documentation should be submitted to document the change in work scope and indicating that this activity has been completed. Should it be determined that the activity is incomplete and the original scope of work should be

performed, then that scope of work should be completed for the original pre-approved amount.

General Change Orders

During the performance of a pre-approved activity, should any unanticipated non-field-activity events occur which cause an additional expense exceeding the total pre-approved amount (e.g., additional personnel hours needed to handle a change in municipal permit requirements), a change order detailing the additional activities and associated costs must be submitted and must conform to the normal workplan and cost proposal format. Pre-approval must be obtained from the agency prior to initiating the additional activities. Failure to obtain the pre-approval will result in the additional costs being nonreimbursable. Final approval will be granted only after the review of a submitted general change order.

For any of the above-referenced change orders, a copy of the change order documentation detailing the additional activities and associated costs along with a copy of the original pre-approved cost proposal must be submitted with the application for reimbursement to be considered for reimbursement. In all cases, the change order should document only the additional scope of work and the additional expenses (e.g., the additional $1,400.00 on an activity pre-approved for $20,000.00), not the total activity. If the owner/operator continues to complete the activity without pre-approval of the additional activities, then the excess costs are nonreimbursable.

Change orders are intended for costs for unforseen or unanticipated events and are not to be used for adding profit, forgotten items, etc. All change orders must be documented and justified. If it is determined that the change order is not warranted or sufficient justification has not been provided, the change order will not be approved.

PART 11: ALLOWABLE REIMBURSABLE COSTS FOR THE RISK EVALUATION OF INDIVIDUAL EXPOSURE PATHWAYS

The following costs have been developed for the Plan B evaluation of individual exposure pathways:

BASIC PLAN B REPORT PREPARATION (1) ..... **$ 1,100**

GROUNDWATER INGESTION (1)
- (a) On-site (Default MCLs) **$0**
- (b) On-site (Vertical Fate & Transport (F/T) Modeling only) **$760**
- (c) Off-site (Vertical & Lateral F/T Modeling to POE) ..... **$ 1,465**

CONSTRUCTION WORKER (1)
- (a) On-site/Source area (Pre-calculated Values) **$0**
- (b) Off-site (Vertical & Lateral F/T Modeling to POE) ..... **$ 1,200**

INDOOR AIR (1) (2) **$800**
- (a) Soil to air **$**400
- (b) GW to air **$**400

OUTDOOR AIR (1) (2) **$800**
- (a) Soil to air $400
- (b) GW to air $400

SOIL INGESTION (1)
- On-site (no cover & documented near surface contamination) **$400**

PLAN B ADDENDUM REPORT PREPARATION (3) **$550**

NOTES:

(1) Pre-approval must be obtained. Final report content must be satisfactory to the agency Site Coordinator. (See 30 TAC §334.203(2)(N)).

(2) If after communication between the Corrective Action Project Manager for the site and the agency Site Coordinator, the agency Site Coordinator determines that the contaminant concentrations detected in soil/groundwater will most likely exceed the allowable risk concentrations for indoor/outdoor air and the pathway(s) cannot be qualitatively eliminated, the Fate/Transport modeling may be waived by the agency Site Coordinator in writing in lieu of field verification methods.

(3) For re-evaluation of SSTLs. Final report content must be satisfactory to the agency Site Coordinator. (See §334.203(2)(N)).

APPENDIX B

DEFINITIONS and ACRONYMS

PART 1: DEFINITIONS

FREE PRODUCT MIGRATION - The continuous movement of free product from the subsurface of the ground to the surface or from the subsurface into a subsurface receptor.

FREE PRODUCT - (Also, phase-separated product. Also phase-separated hydrocarbon. Also phase separated petroleum. Also LNAPL.) A regulated substance in its free-flowing non-aqueous liquid phase at standard conditions of temperature and pressure (i.e., that portion of the product not dissolved in water or adhering to soil) that is also a "recoverable free product" by the definition in this section. It is distinct and visually separable from the surrounding media. This definition does not include hydrocarbon "sheens."

LNAPL - Light non-aqueous phase liquid - See "Free Product."

PHASE-SEPARATED PRODUCT - See "Free product."

PHASE-SEPARATED HYDROCARBON - See "Free product."

PHASE SEPARATED PETROLEUM - See "Free Product."

RECOVERABLE FREE PRODUCT - (Also, Recoverable Phase-Separated Product. Also Recoverable Phase-Separated Hydrocarbon) (1) Any free product in continuous movement from the subsurface of the ground to the surface. (2) Free product in a subsurface receptor with a thickness greater than 1/10th of one foot. For reimbursement purposes, this does not include free product in tankhold observation wells unless the site meets the requirements of 30 TAC §334.302(a)(1).

RECOVERABLE PHASE-SEPARATED HYDROCARBON - See "Recoverable free product."

RECOVERABLE PHASE-SEPARATED PRODUCT - See "Recoverable free product."

NOTE: SEE 30 TAC §334.322, CONCERNING SUBCHAPTER H DEFINITIONS, FOR ADDITIONAL DEFINITIONS.

PART 2: ACRONYMS

§	Section
AST	Aboveground Storage Tank
BOD	Biological Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Total Xylenes
CAD/CADD	Computer Aided Drafting/Computer Aided Drafting & Design
CAP	Corrective Action Plan
CAPM	Corrective Action Project Manager
COD	Chemical Oxygen Demand
cft	Cubic Feet (volume)
cy	Cubic Yard (volume)
cfm	Cubic Feet per Minute (air flow)
DNAPL	Dense Non-Aqueous Phase Liquid (sinks in water)
DO	Dissolved Oxygen
EPA	United States Environmental Protection Agency
FAR	Field Activity Report
FID	Flame Ionization Detector
ft	Feet (length)
GC	Gas Chromatograph
gpm	Gallons per Minute
hp	Horsepower
hr	Hour
ICAP	Interim Corrective Action Plan
ICU	Internal Combustion Unit
kg	Kilogram
l	Liter
lbs	Pounds
LF	Linear Feet
LELL	Lower Explosive Limit
LNAPL	Light Non-Aqueous Phase Liquid (floats on water)
LPST	Leaking Petroleum Storage Tank
mg	Milligram
MDPE	Mobile Dual Phase Extraction
MTBE	Methyl Tertiary Butyl Ether
MW	Monitoring Well
NAPL	Non-Aqueous Phase Liquid
O&M	Operation and Maintenance
OMP/OM&P	Operation, Maintenance, and Performance
OVM	Organic Vapor Meter (see FID, PID)
PAH	Polynuclear Aromatic Hydrocarbon
PE	Professional Engineer
PID	Photo-Ionization Detector
PM	Project Manager
ppb	Parts per Billion
PPE	Personal Protective Equipment

ppm	Parts per Million
PSH	Phase-Separated Hydrocarbon
PST	Petroleum Storage Tank
QA/QC	Quality Assurance/Quality Control
RA	Risk Assessment
RAP	Remedial Action Plan
RBA	Risk Based Assessment
RBCA	Risk Based Corrective Action
RCAS	Registered Corrective Action Specialist
RCSs	Reimbursable Cost Specifications
RP	Responsible Party
Semi-VOA	Semi-Volatile Organic Aromatic
Semi-VOC	Semi-Volatile Organic Compound
SqFt, sf	Square Foot (area)
SSTL	Site Specific Target Level
SVE	Soil Vapor Extraction
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
TOX	Total Organic Halogen
TPH	Total Petroleum Hydrocarbons
TCEQ	Texas Commission on Environmental Quality
TWC	Texas Water Commission (now the TCEQ)
*u*g	Microgram
UST	Underground Storage Tank
VES	Vapor Extraction System
VOA	Volatile Organic Aromatic
VOC	Volatile Organic Compound
yd	Yard (length)