

November 5, 2008 Addendum to
TURNKEY REMEDIAL ACTION PACKAGE
FOR LEAKING UNDERGROUND STORAGE TANK FACILITIES
December 28, 2006

Section II, 1.4 Permit Requirements

- The ERAC shall secure **written** quotes for all utility hook-ups. Copies of the quotes shall be included as Appendix E.

Section II, 1.6.1 Trenching and Piping

- The recovery piping shall use dedicated lines to each recovery well whenever possible, and each line shall be a minimum of three (3) inches in diameter, unless otherwise approved in writing by the MDEQ/UST project manager.
- In order to reduce friction loss and pipe scaling/fouling, a minimal amount of recovery piping elbows shall be used on the recovery piping. When recovery piping elbows are needed, the connections shall be “soft”/“sweeping” 90° or 45° elbows.
- Valves which provide the least restriction shall be used in the recovery piping.
- A pressure test shall be performed on the recovery piping before it is covered so any leaks can be discovered and repaired.
- Gate valves shall be full bore.

Section II, 1.6.2 Recovery Well Conversion and Well Installation

- The drop tubes shall be at a minimum two (2) inches in diameter for 4 inch recovery wells, unless otherwise approved in writing by the MDEQ/UST project manager.

Section II, 1.6.4 Construction Contractor Quote Sheet

- The bid form along with a narrative description of each line item on the bid form shall be submitted to the MDEQ UST project manager for approval before sending the form out for bids. The form needs to be clear as to what each line item includes.

Section II, 1.7 System Start Up / Start Up Report

- While bleed air may be used at the recovery wells if needed, the remediation system dilution valve shall remain closed at all times, unless otherwise approved in writing by the MDEQ/UST project manager. (According to the system manufacturer, dilution air is not necessary for the remediation system operation.)

Section III, 1.0 System Installation Start Up Report

- Appendix F of the System Installation Start Up Report shall include the field notes for the installation activities.
- Each remediation system (new or refurbished) must include an Operation and Maintenance Manual. After installation of a remediation system, a copy of the Operation and Maintenance Manual must be submitted to the OPC with the System Startup Report.

The remediation system Operation and Maintenance Manual must be prepared and updated to reflect the specific system components that comprise the existing remediation system. Any changes to the system components during operation of the system must be incorporated into the existing Operation and Maintenance Manual (with copies provided to the MDEQ UST Project Manager).

The Operation and Maintenance Manual must include:

System Description

Component Description

- Brief description of each major component
- Capacity of each major component
- Precautions for each major component

Equipment Specifications / Components Summary

Equipment Process and Instrumentation Diagram

- All system components (with capacities)
- Telemetry level switches
- Gauges (with measurement ranges)
- Piping and hoses (with sizes)

Electrical

- System power and electrical classification
- Voltage requirements
- Electrical Schematic

Startup and Restart Guidelines

O & M Checklist

- Checklist to include all necessary maintenance with maintenance frequencies for each major component

Trouble-Shooting Guidance

Technical Support Contact Information

Telemetry

- Description of telemetry system
- Parameters for telemetry notification (input parameters)
- Remediation System Phone number
- User's Guide for Telemetry System

Manufacturer Guidance for each major component

TURNKEY REMEDIAL ACTION PACKAGE

FOR LEAKING UNDERGROUND STORAGE TANK FACILITIES

December 28, 2006

This guidance is for the installation, operation, maintenance and associated sampling for a remediation system at an underground storage tank (UST) site with a confirmed release. As the tank owner of the UST system, you are responsible for insuring that the Turnkey Process is performed in accordance with the following sections included in this guidance:

I. **Turnkey Meeting before the Submittal of the Turnkey Remedial Action Package (TRAP)**

The purpose of the turnkey meeting is for you and your Environmental Response Action Contractor (ERAC) to convince our office that the proposed method of remediation is the most effective and efficient form of remediation for the site. You or your representative, your ERAC, and UST staff members will meet for about an hour at the MDEQ offices approximately 45 days before the submittal of the Turnkey Package to discuss the proposed remediation.

II. **Scope of Work for Turnkey Remedial Action Package**

Your ERAC shall submit to you a scope of work and cost estimate (SOW/CE) proposal for installation, operation, maintenance and associated sampling for remediation in accordance with these guidelines. Your ERAC shall use the “Standardization of Hours for Assessment Tasks and Remediation Tasks for Proposal Submittals Based on Time & Materials Not to Exceed” document when preparing the proposal. After you review and approve the proposal, you shall submit two copies to our office.

A remediation system is defined as a group of interacting mechanical and/or electrical components (including recovery wells) designed to recover and treat petroleum contaminated groundwater or contaminated soil. Only pre-designed and pre-tested skid or trailer mounted remediation systems shall be approved by our office.

The remediation activities shall not be performed until you receive the approval letter from our office that states the maximum reimbursement for the specified activities. These activities shall be completed by your ERAC at your direction.

III. **Report Format**

The turnkey package requires two types of reports to be submitted for a remediation system: (1) System StartUp Report and (2) System Triannual Monitoring Reports. Your ERAC shall follow this guidance when preparing these reports.

IV. **Paperwork after Installation of Remediation System**

The installation of a remediation system requires much more paperwork due to the amount of reimbursement checks that are issued for the operation, maintenance and sampling for the remediation system. It is necessary for you to understand all the requirements.

V. Continuation of the Remediation System after Year 1

If the remediation system is determined to be necessary for more than one year, additional action is necessary. MDEQ/UST will issue an approval letter to you for the second year of operation without the submittal of a SOW/CE by your ERAC. However, a continuation SOW/CE must be submitted by your ERAC for the third year of operation and any additional years thereafter.

VI. Decommissioning the Remediation Equipment

After the remediation system has reduced the petroleum contamination, monitoring activities and then removal of the remediation system are necessary.

VII. Attachments

Attachment A:	Construction Contractor Quote Summary
Attachment B:	Unit Rate Bid Sheet for Drilling Services
Attachment C:	MDEQ Cost/Price Summary Form
Attachment D:	Remediation System Operation and Maintenance Form
Attachment E:	Remediation System Maintenance Form
Attachment F:	Remediation System Selection Fact Sheet
Attachment G:	Construction Contractor Quantities - Proposed Quantities versus Actual Quantities Installed
Attachment H:	Remediation System Downtime Summary Form
Attachment I:	Certification Affidavit

Note: All reports should be bound (no 3 ring binders, binder clips, or staples), and the reports should have a tab for:

- tables
- figures
- attachments
- appendices

I. TURNKEY MEETING BEFORE THE SUBMITTAL OF THE TURNKEY PACKAGE

When the UST Branch project manager (PM) and your ERAC have determined that it appears a remediation system is necessary to address the petroleum contamination at your location, the UST PM will request a Turnkey meeting with you and your ERAC. The purpose of the turnkey meeting is for you and your ERAC to convince our office that the proposed method of remediation is the most effective and efficient form of remediation for the site. Your ERAC shall prepare handouts for this meeting in accordance with the basic outline of the presentation below. The handouts shall be brief. (The ERAC and UST PM should bring their files for the site in case additional information is needed.)

- I. Brief Chronology of Events
 - a. how the release was detected
 - b. source of the release
 - c. any assessments performed at site with a historical table of all soil and groundwater sampling data (label as Attachment A)
 - d. interim remedial measures that have occurred at the site (i.e. vacuuming, bailing, socks)

- II. Summary of Geology of Site
 - a. historical groundwater flow direction
 - b. current groundwater flow direction
 - c. representative boring logs or a cross-sectional map (label as Attachment B)

- III. Present Conditions at Site
 - a. site map indicating adjacent property use (label as Attachment C)
 - b. site map indicating the boring and monitoring well locations and utility locations (label as Attachment D)
 - c. site map indicating current groundwater and soil plume (label as Attachment E)
 - d. photographs of the site (label as Attachment F)
 - e. active and inactive tanks at site
 - f. future use of site (upgrades to the store, tank removal or upgrades, re-paving, etc.)

- IV. Remedial activities recommended for the site
 - a. remediation alternatives considered
 - b. remediation alternative(s) selected (system size) and reason for selection
 - c. the ERAC must research used systems to determine if any are available for this site. Only systems that, at a minimum, have been shutdown and the site has at least one sampling event below allowable levels with the system off may be proposed.
 - d. site map depicting proposed trenching, proposed location of recovery wells, and position of proposed system (label as Attachment G)
 - e. discuss if permits have been or are in the process of being obtained for site
 - f. discuss if remediation system will be purchased or leased by the tank owner or the ERAC
 - g. if the property owner differs from the tank owner, indicate that system positioning and system noise has been discussed with the land owner and discuss any agreements made with the land owner

This is an open forum meeting and all participants are encouraged to ask questions. After the ERAC has completed their presentation and all questions have been asked, conclusions and appropriate actions for the site are then finalized. Please be aware that the tank owner may be reimbursed up to \$500 of ERAC's charges upon MDEQ approval of installation report and reimbursement request, if proposed.

After the meeting, the UST Branch project manager may then issue a letter to you requesting a Turnkey Package to be prepared (as stated in Section II) and submitted to our office.

II. SCOPE OF WORK FOR TURNKEY REMEDIAL ACTION PACKAGE

As the tank owner, you shall request your ERAC to submit to you a scope of work and cost estimate proposal for performing the remediation system installation, operation, maintenance, and associated sampling in accordance with this guidance. After you review and approve the proposal, you shall submit two copies of the proposal to our office by the established due date.

The MDEQ – UST Branch Standard Operating Procedures Manual (Quality Assurance/Quality Control Plan) shall be followed when performing all field activities unless deviations are pre-approved by the MDEQ.

Please understand that you can be reimbursed up to \$2500 for your ERAC's services for the preparation of the turnkey package. **Therefore, the UST Branch expects complete and accurate turnkey packages.** If the turnkey (1) lacks three Construction Contractor Quote Sheets with identical units, (2) recommends remediation equipment that does not reduce contaminant levels to allowable wastewater permit discharge levels, (3) lacks two remediation equipment quotes, (4) has installation quantities that vary significantly or (5) changes made to the scope of work after MDEQ approval, the MDEQ may reduce reimbursement at our discretion for the preparation of the turnkey package.

The preparation of the turnkey package should include contacting all local water, telephone, electrical, and sewer utilities in order to determine any fees/expenses necessary for using the utilities. Failure to obtain this information during the preparation of the turnkey package can also result in a reduction in reimbursement for the preparation of the turnkey package.

The turnkey package shall include the following information:

1.0 REMEDIATION SYSTEM SELECTION AND INSTALLATION

1.1 Remediation System Selection

In order to create competition for equipment manufacturers, for new systems the UST Branch is requiring equipment quotes from **two manufacturers** for similar remediation systems. If a used system is proposed, a second quote is not necessary. During the turnkey meeting, decisions should have been made concerning a used system. A used system may not be proposed unless the system has been shutdown, and there is at least one groundwater sampling event below allowable levels with the system off. Indicate the remediation system that is being proposed.

- List the type of remediation system selected.
- Indicate who will be purchasing or leasing the remediation system. If a used system is proposed, include the previous owner of the system, the previous location of the system, and the amount of time the system operated.
- Attach the manufacturer's system quotes for both of the remediation systems as Appendix A. If a used system is proposed, **attach the original system invoice** as Appendix A along with any upgraded equipment quotes, if needed. The proposed remediation system usage rate shall be included in Appendix A.

1.2 Major System Components

- Attach the two remediation systems process and instrumentation diagrams (P&ID) as Appendix B.

- List the major components (and their capacities) of the selected remediation system.
- An oil-water separator shall be included as a major component of all remediation system designs except for soil vapor extraction/air sparging systems.
- A run-time meter is required to be installed on the remediation equipment. The run-time meter shall measure the operating time of the major components of the remediation system. If two vacuum pumps are used, then there will need to be 2 run-time meters.
- A telemetry system shall be installed.
- All electrical components that will operate within a potentially explosive atmosphere must meet or exceed the National Electrical Code classifications for such atmospheres.
- Discuss any sound control measures that are necessary if a noise nuisance may be an issue for this location. Indicate an approximate decibel level of the remediation equipment and justification for sound absorption.

1.3 Anticipated System Operating Parameters

- Discuss the anticipated extraction flowrate.
- Discuss the anticipated hydraulic and pneumatic radius of influence for the remediation system. Discuss the information that was used to determine the anticipated drawdown.
- Discuss the anticipated wastewater effluent concentrations and verify that the selected remediation system can meet the wastewater discharge requirements outlined in the permit.

1.4 Permit Requirements

- List all permits, local codes/ordinances and their requirements that must be met for the system installation and operation.
- For wastewater discharge permits, indicate the activation date of the permit and the expiration date of the permit. Also include the sampling requirements and frequencies. Please note that quality assurance/quality control (QA/QC) samples are not required to be submitted with the permit samples. Therefore, QA/QC samples with the permit samples are no longer reimbursable by the Mississippi Groundwater Protection Trust Fund.
- When necessary, the ERAC shall request termination of the permit. This request must be in writing to the permit section with a copy to the UST Branch.
- When additional recovery wells are added, the ERAC must notify the permit section in writing with a copy to the UST Branch.
- If a National Pollutant Discharge Elimination System permit is required for this location, please include the necessary sampling required for the first six months of system operation.
- If a water line is necessary for the operation on the remediation system, list the necessary permit requirements for the backflow preventer and any associated inspections required by the city or county. Please note that if an oil-sealed liquid ring pump is quoted in lieu of a water-sealed liquid ring pump, the Trust Fund does not typically reimburse for the installation of a water line.

Prior to the preparation of the turnkey package, the ERAC shall contact all utilities to secure quotes for all utility hook-ups. Please note, according to power company standards, any structure with less than a 5 year occupancy is considered a temporary

structure. The power company shall be notified of the temporary structure in order to determine if additional fees are necessary for obtaining power.

1.5 Baseline Sampling

Baseline sampling should occur at the site if groundwater sampling has not occurred at the site in the past six months. Otherwise, baseline sampling shall not be requested.

- List the wells to be sampled (in accordance with the MDEQ Guidelines for Reduction of Groundwater Sampling).
- Indicate the necessary analyses for the samples.

The results of the baseline sampling shall be reported in the Start Up Report.

1.6 Remediation System Installation Activities

An ERAC representative shall perform a site visit prior to the turnkey meeting.

During the site visit, the ERAC shall determine a feasible system location, obtain measurements for piping/trenching layout, determine the location of the proposed wastewater discharge point, determine the proposed location of the remediation system power pole, determine the location of the proposed water tap (if water will be needed for the selected remediation system), and determine the location of all underground utilities. List in the scope of work when the site visit occurred, who conducted the site visit, and who attended the site visit.

Attach (as Appendix C) a system layout map, to scale, and the contractor quote specifications. The system layout map shall include the locations of the following:

- buildings
- remediation system
- aboveground and underground utilities
- influent and effluent piping runs (should be most efficient for recovery and distance) with the diameter of the piping labeled or color coded
- recovery wells, injections wells, sparge wells and monitoring wells
- power pole
- surface materials, such as concrete, asphalt, gravel, grass.

For the following sections, the ERAC shall include a detailed explanation/discussion of the tasks, which company(s) will perform the tasks, and associated specifications of amounts. The quantities shall be based on actual measurements rather than estimates.

1.6.1 Trenching and Piping

- discuss the types and amounts of trenching necessary
- discuss the asphalt/concrete demolition and the thickness and quantity for replacement
- discuss the influent and effluent piping
- discuss sawcutting
- include a cross sectional drawing of the piping trench

1.6.2 Recovery Well Conversion and Well Installation

- indicate if any additional wells need to be installed; if so, include written permission from property owners for any off-site wells and/or recovery wells and describe the construction of the wells

- discuss the wells that are to be converted to recovery wells (wells containing free product shall be converted to recovery wells)
- describe the positioning and size of the drop/priming tube (note: the primary focus of the remediation system is to recover free phase product; therefore, the drop tubes should be set at the oil/water interface)

1.6.3 System Positioning and hookup

- state where the remediation system will be located
- indicate if a concrete pad will be necessary for the remediation equipment
- describe any fencing that may be necessary for the remediation equipment
- state and submit, in writing, an agreement among all concerned parties (i.e. tank owner, store operator, landowner) as to the proposed system location along with the position of any of the remediation system components that may reside outside the remediation system building

1.6.4 Construction Contractor Quote Sheet

The ERAC shall complete a Construction Contractor Quote Summary (CCQS - Attachment A) for the activities described above. The ERAC shall obtain at least three competitive quotes for the CCQS. The CCQS quotes shall be included as Appendix D. Please ensure that the quantities submitted on the CCQS forms are identical to the quantities requested. If the quantities are not identical, the turnkey package shall be considered incomplete and again, it can result in a reduction of reimbursement for the preparation of the turnkey package.

1.7 System Start Up / Start Up Report

Describe the activities that will occur during the startup of the system. Include the time required to startup the system and the personnel that will be performing the startup.

Indicate that a Start Up Report will be prepared in accordance with Section III of this document. The Start Up Report is due 30 days after start up of the remediation system.

1.8 Remediation System Installation Cost

The ERAC shall include a detailed breakdown, by task, of costs/charges for all other activities not included in the CCQS such as analytical charges for baseline sampling (if needed), oversight of system installation, system startup, and report preparation. Each task shall include a breakdown of labor hours by personnel classification, travel charges including per diem, equipment and materials, subcontractors, and other charges. Charges for drilling services shall be quoted on a Unit Rate Bid Sheet for Drilling Services (Attachment B).

All costs/prices for the remediation system installation activities shall be included on an individual MDEQ Cost/Price Summary Form (Attachment C).

2.0 MONTHLY OPERATION AND MAINTENANCE OF THE REMEDIATION SYSTEM

2.1 Site Visits

List the minimum number of visits per month and personnel classification performing the site visit. Note, if the ERAC will not be performing the site visits, include a written price quote from the subcontractor and indicate how many visits will be performed by the subcontractor.

2.2 Operation and maintenance activities

The SOW shall include the activities that will occur during each site visit. On a monthly basis, collect groundwater elevation data and pneumatic readings **at all monitoring wells and recovery wells. If free phase product exists in a well (other than an operating recovery well), recover the free phase product and notify the MDEQ Project Manager immediately.** This data shall be used to re-configure the operation of the remediation system.

At a minimum, the following shall occur during each site visit:

- record any downtime since the last visit. If the remediation system is equipped with two vacuum pumps, then the downtime is required to be reported for each pump
- inspect the treatment system components and their condition. If components fail, list failed components and what action is being taken to correct the problem.
- complete a free product recovery form if free product is bailed during a site visit
- record the amount of free product recovered and gallons of water pumped since the last visit
- note repairs made to the system components
- complete a Remediation System Operation and Maintenance Form (an example form is included as Attachment D). This form or a form that contains at least the same information must be used.
- provide a maintenance schedule (See example in Attachment E). The maintenance activities may be recorded on the Remediation System Operation and Maintenance Form (Attachment D), or on a separate form like Attachment E.
- make necessary adjustments to the remediation system in order to operate the remediation system (and recovery well configuration) in the most effective manner
- **record VOC concentrations from system exhaust**
- ensure the drop tubes in the recovery wells are located at the oil/water interface (make necessary adjustments to the drop tubes if they are not at the oil/water interface)

2.3 Permit Requirements

List the number of samples, frequency of sampling, and the required analyses for any wastewater discharge permits that may be necessary.

2.4 Monthly Operation and Maintenance Cost

The cost/price proposal for monthly activities shall include a detailed breakdown, by task, of the costs/charges for one month. Each task shall include a breakdown of expected labor hours by personnel classification, anticipated travel costs including per diem, equipment, permit sampling, materials, utility estimates, and other costs. All

costs/prices for one month of activities shall be included on an individual MDEQ Cost/Price Summary Form (Attachment C).

3.0 TRIANNUAL ACTIVITIES

3.1 Triannual Monitoring and Maintenance Activities

The monthly monitoring and operation and maintenance requirements as described in Section 2.0 shall also be performed during the month that the triannual groundwater sampling activities occur. Also, list additional work that will be performed to determine the effectiveness of the remediation system.

3.2 Triannual Groundwater Sampling Activities

On a triannual basis, groundwater monitoring wells and/or recovery wells shall be sampled to determine the effectiveness of the remediation system. The selection of the wells to be sampled should be discussed with the UST project manager and in accordance with the MDEQ Guidelines for Reduction of Groundwater Sampling. **These Reduction guidelines must only be used at the time of preparing the proposal. Therefore, there should be no changes from the approved proposal for the given year. However, the guidelines should be used when preparing continuation proposals for the system.**

The SOW must contain:

- A list of wells that will be sampled during the triannual sampling events
- The analyses for each sample
- Personnel classification conducting the sampling (Refer to the Standardization of Hours document)

The UST Branch no longer requires Polynuclear Aromatic Hydrocarbon (PAH) sampling at most UST Remediation locations. Therefore, only include PAH sampling if prior approval has been received from the MDEQ UST Project Manager. Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) concentrations and Methyl Tertiary-Butyl Ether (MTBE) concentrations are the typical sampling requirements.

3.3 Triannual Reports

Report preparation description in accordance with Section III.

3.4 Triannual Cost

The triannual activities cost/price proposal shall include a detailed breakdown, by task, of costs/charges for normal monthly activities, plus the additional triannual activities for one month. Each task shall include a breakdown of labor hours by personnel classification, travel costs including per diem, equipment, permit sampling, materials, utility estimates, and other costs. All costs/prices for one month of normal monthly activities plus the additional triannual activities must be included on an individual MDEQ Cost/Price Summary Form (Attachment C).

4.0 SUMMARY OF SCOPE OF WORK FOR TURNKEY PACKAGE

In summary, the turnkey package for the remediation system must include:

- I. Installation Section
Requirements listed in Section 1.0 above

- Remediation System installation activities
 - Start Up Report description
 - MDEQ Cost/Price Summary Form (Attachment C)
 - Quote for laboratory costs for baseline sampling, if applicable
 - Unit Rate Bid Sheet for Drilling Services (Attachment B), if applicable
 - Appendix A: Two Remediation System Quotes or Rental Agreement
 - Appendix B: Two Remediation System Process and Instrumentation Diagrams
 - Appendix C: System layout map (including utilities)
 - Appendix D: Three Construction Contractor Quote Summary Forms
- II. Monthly Monitoring Section
Requirements listed in Section 2.0 above
- Monthly monitoring activities
 - Remediation Operation and Maintenance Form (Attachment D)
 - Remediation System Routine Maintenance Form (Attachment E)
 - MDEQ Cost/Price Summary Form (Attachment C)
 - Quote for laboratory costs for wastewater permit sampling, if applicable
- III. Triannual Sampling Section
Requirements listed in Section 3.0 above
- Triannual sampling and report preparation activities
 - Statement indicating conclusions, findings, and recommendations will be included in each triannual report
 - MDEQ Cost/Price Summary Form (Attachment C)
 - Quote for laboratory costs for triannual sampling

III. REPORT FORMATS

After the turnkey scope of work has been submitted to our office and subsequently approved by our office, an approval letter is issued instructing you and your ERAC to begin the system installation activities. In the approval letter, you will notice a due date for (1) installation of the remediation system, (2) submittal of a remediation system startup report, and (3) two due dates for the submittal of triannual reports (only 2 “triannual reports” are required for the first year of operation). Please be aware that any activities/reports completed after the established due dates may result in a \$100 per calendar day deduction from your eligible reimbursement.

All reports shall be reviewed, signed, and stamped by your ERAC’s Mississippi Registered Professional Engineer (P.E.) and/or Geologist (P.G.) as stated in the Mississippi Groundwater Protection Trust Fund Regulations. Failure to submit a complete report may result in a reduction in your eligible reimbursement.

1.0 SYSTEM INSTALLATION START UP REPORT

The remediation system installation start up report is due in our office within **30 calendar days** of the start up of the remediation system. The startup date is considered to be the date the remediation system began to operate and optimization activities began.

The following format has been established for startup reports:

Table of Contents

- 1.0 Background
 - Brief history of the location (one page or less)
 - Scope of Work

- 2.0 Remediation System Installation
 - System Fact Sheet (Attachment F)
 - Photographs of the installation activities
 - description of field activities and all deviations from the approved work plan
 - verification that the proposed system components and the installed system components are the same
 - the Mississippi One Call verification number along with the date of the utility search
 - a table listing the estimated quantities proposed and the actual quantities installed (Attachment G)
 - a site map (to scale) indicating the system, piping, recovery well, and fence layout
 - Chronology of the key events of the system installation

- 3.0 Permits

Discuss any permits obtained for the installation and operation of the system

- 4.0 Remediation System Startup
 - description of startup phase
 - actual start up date of the remediation system
 - Phone number of the system
 - operating conditions at startup

5.0 Baseline Sampling (if applicable)

- laboratory results for baseline sampling and permit sampling

Figures

- 1 Site Plan with Remediation System Layout
Map should include the size of the piping installed – which may be indicated using a color coded key
- 2 Process and Instrumentation Diagram (P&ID)
- 3 If Baseline Sampling occurred, include a groundwater concentration map including free product thickness with concentrations greater than 18 ppm total BTEX contoured

The data shall be plotted adjacent to each sampling point using the following format:

Benzene	Total BTEX	FP Thickness
---------	------------	--------------

Appendices

- A Remediation System Fact Sheet
- B Photographs
- C Construction Contractor Quantities - Proposed Quantities versus Actual Quantities Installed
- D Boring Logs and Well Construction Logs
- E Laboratory Results

2.0 TRIANNUAL SAMPLING REPORTS

The OPC monitors the progress of remediation systems on a triannual basis. For the first year of system operation, however, only two “triannual” reports are required to be submitted because the Start Up Report will be considered the First Triannual Report. All other remaining years are based on 4-month triannual periods.

The triannual reports shall cover a complete monitoring period (i.e. April 1 through July 31), not partial months (except for the month the system started). **Each respective triannual reporting period will end on the last day of the month prior to the report due date.** The following format has been established for triannual reports:

Table of Contents

Executive Summary

- Shall be one page or less
- Shall summarize the activities for the current triannual reporting period
- Indicate if contamination remains above corrective action levels
- Indicate proposed modifications, if any

1.0 Background

Brief (one page or less) history of the location

2.0 Operation and Maintenance and Monitoring Activities

2.1 Site Inspection information (as listed in Part II of this document)

2.2 System Runtime discussion including any significant downtime (record downtime on “Remediation System Downtime Summary Form- Attachment G) and the associated repairs

2.3 The current operating recovery well configuration and any recent changes to the recovery well configuration

2.4 The current depth of the drop tubes in the operating recovery well configurations. Discuss any adjustment made (or needed) to the drop tube depths.

2.5 Discussion of any changes to the approved scope of work (i.e. another company is performing site visits)

3.0 Effluent and Groundwater Sampling

3.1 Brief explanation and discussion of the permit sampling including whether all permit requirements were met. Include the date the permit was issued and the date the permit expires.

3.2 Discussion of the groundwater sampling activities

- State which monitoring/recovery wells were sampled and discuss the results
- Did sampling deviate from the approved scope of work
- Discuss RPD and trip blanks, and if they met MDEQ/UST requirements

4.0 Site Response to Treatment

4.1 Discussion of cumulative VOC mass removal (pounds) with operational time (if applicable).

4.2 Discussion of gallons water pumped for the triannual period and cumulative gallons water treated since system startup

- 4.3 Discuss hydraulic and/or pneumatic capture zone of the remediation system and the activities that occur to achieve the maximum capture zone. Compare the actual hydraulic and pneumatic capture zone to the anticipated capture zones and discuss any differences.
 - 4.4 Indicate the current recovery well configuration and discuss which configuration gives the maximum hydraulic and/or pneumatic capture zone. If the remediation system is not operating with the maximum capture zone configurations, indicate the reasons.
 - 4.5 Discuss the contaminant plume(s) and indicate any changes in the plume size since remediation began.
 - 4.6 Discuss the duration of remediation and the expected time to cleanup.
 - 4.7 Discuss if free phase petroleum product (free product) was present, and quantity disposed, if applicable. Discuss the rate of removal of free product from the environment. Free phase product removal is critical to site remediation and based on past situations, free phase product in recovery wells is usually reduced by 50% of the baseline measurements within the first 6 months of system operation. Barring a new release, failure to achieve this standard may result in a reduction in reimbursement for the operation of the remediation system.
 - 4.8 Discuss changes to the current remediation system and indicate the anticipated (quantitative) effect of these changes.
- 5.0 Recommendations
- The recommendations must be detailed and specific
- 5.1 If permit requirements are not being met, recommendations for modifications to meet permit requirements
 - 5.2 Recommended changes to the recovery well configuration
 - 5.3 If free product is present in any well (other than an operating recovery well), list specific recommendations for recovering the free phase product.
 - 5.4 If the system is not currently meeting optimal operating parameters, list modifications needed. If the system is currently meeting optimal operating parameters, but is not sufficient to remediate the site, propose necessary actions (such as a different remediation system). Please be aware that when system modifications occur, it is your ERAC's responsibility to notify the Environmental Permit Division (if a wastewater permit is required for the location).

Tables

- 1 Groundwater Concentrations during the most recent sampling event
- 2 Historical Groundwater Concentrations (include depth to water / free product)
- 3 Groundwater Elevations/Free Product Thickness/Depths of Recovery Well Drop Tubes
- 4 Effluent Sampling Results and Discharge Limitations
- 5 Historical Site Response Data (for each site visit)

Example of Table 4

Effluent Sampling Results and Discharge Limitations

Sampling Event	Sampling Date	Benzene			Total BTEX			pH	
		Lab Results	Discharge Limitations		Lab Results	Discharge Limitations		Results	Discharge Limitations
			Daily Avg.	Daily Max.		Daily Avg.	Daily Max.		

Example of Table 5

Historical Site Response Data

Site Visit	Vacuum at Pump		Effluent Flowrate (GPM)	Exhaust VOC Concentrations (PPM)	Active Recovery Well Configuration
	Pump 1	Pump 2			

Figures

The figures need to be for the triannual month sampling event.

- 1 Map indicating groundwater drawdown readings (numbers) and pneumatic readings (not contoured)
- 2 Contoured potentiometric map under pumping conditions
- 3 Groundwater concentration map including free product thickness with concentrations greater than 18 ppm total BTEX contoured

The data shall be plotted adjacent to each sampling point using the following format:

Benzene	Total BTEX	FP Thickness
---------	------------	--------------

- 4 Historical Groundwater Concentration Map(s) (including the information listed in Figure 3) depicting the last 4 groundwater sampling events. The map(s) must be legible, and understandable. The goal is to indicate the change in the plume size. This may be accomplished by any of the following:
 - a separate page for each of the 4 events,
 - one page with separate maps for each event in each corner of the page,
 - one page with color coding of the maps, or
 - one base page with overlays for the other 3 events.
- 5 Graph of cumulative hydrocarbon mass removed versus time

Appendices

- Copies of all O & M records for the triannual period
- Copy of the “**Remediation System Downtime Summary Form**” (Attachment G)
- Laboratory analytical results for all sampling activities for the reporting period along with associated Chain of Custody Reports, also include the effluent laboratory results for at least the triannual month
- Free Product Recovery forms for bailing activities (if applicable)

IV. PAPERWORK AFTER INSTALLATION OF REMEDIATION SYSTEM

As the tank owner of the UST system, you shall follow the steps below after the field activities have been completed:

Paper Work for System Installation

Step One – Start Up Report Submittal

Once the system installation report has been completed, the ERAC shall forward a copy to you for your review. When you are satisfied with the final report, a copy shall be submitted to the MDEQ. It is imperative that this report is submitted in a timely fashion. The letter accompanying this package sets a “Due Date” of **30 days** after the startup of the remediation system for final report submittal. As stated in that letter, \$100.00 may be deducted from your eligible reimbursement for every calendar day the final report is overdue.

Step Two – Submittal of Certification Affidavit and Invoices

Reimbursement from the Trust Fund for the system installation can only occur after the MDEQ approves the start up report and the MDEQ receives a completed “Certification Affidavit” (Attachment H) along with itemized invoices.

Be sure that the “Certification Affidavit” has been completed in its entirety and with accurate information. Please ensure that information such as the Site Name, Trust Fund I.D. number, federal tax I.D. number or social security number, registered tank owner, etc. is correct. All applicable invoices (laboratory services, drilling services, etc.) shall be included along with the completed “Certification Affidavit”. A copy of the invoices for the actual shipping costs and actual start-up assistance costs must also be submitted in order to receive reimbursement.

Please note that if information on the “Certification Affidavit” is incorrect or omitted or if applicable invoices are omitted, reimbursement will be delayed until the correct information is submitted. If you have any questions regarding the completion of the “Certification Affidavit” or about the reimbursement process, please contact Andy Dyess at (601) 961-5274.

Please submit the “Certification Affidavit” and itemized invoices to:

**Karen Stephens
MDEQ
P.O. Box 2261
Jackson, MS 39225-2261**

Step Three – Reimbursement to you and your ERAC

As stated above, reimbursement from the Trust Fund for the system installation can only occur after the MDEQ approves the Startup Report and the MDEQ receives a completed “Certification Affidavit” along with itemized invoices. Normally this process can take from 8 to 12 weeks from the time the Startup Report is submitted to the MDEQ. It is up to you to pay your ERAC. As the tank owner/operator, you will be reimbursed directly. Please note that any evidence or discovery of fraud or other misuse of payments received from the Trust Fund may result in referral to the Attorney General for appropriate action.

Paperwork for Monthly Operation and Maintenance of the Remediation System

Before the OPC can reimburse for the system rental, the OPC must receive a copy of the invoice for the system purchase/lease price. The OPC can reimburse on a monthly basis for the operation and maintenance of the remediation system.

Again, a completed Certification Affidavit (Attachment H) accompanied by Remediation System Downtime form (Attachment G), system rental rate invoice, operation and maintenance invoice, and monthly electrical, sewer, and water charges, as applicable, can be submitted for reimbursement each month.

Please be aware that one-thirtieth (1/30) of the monthly system use rate shall be deducted from reimbursement for each day (24 hour day rounded to the nearest whole day) of downtime when total downtime for the calendar month equals or exceeds 120 hours. No reduction in reimbursement will occur if the system is down less than 120 hours. Costs related to system repairs or alterations, due to system malfunction or noncompliance with permits, are not reimbursable. Further, significant downtime (240 hours or more in a calendar month) will result in a reduction of the amount of reimbursement for operation and maintenance of the remediation system. Also, a reduction in reimbursement will occur when total downtime for the calendar month equals or exceeds 120 hours for one of the pumps. For two pump systems, the deduction for downtime shall be one-sixtieth (1/60) of the monthly rental for each pump down 120 hours or more.

Paperwork for Triannual Sampling

Step One – Triannual Report Submittal

Once the triannual report has been completed, the ERAC shall forward a copy to you for your review. When you are satisfied with the report, a copy shall be submitted to the MDEQ. It is imperative that this report is submitted in a timely fashion. The letter accompanying this package sets a “Due Date” for each triannual report. As stated in that letter, \$100.00 may be deducted from your eligible reimbursement for every calendar day the report is overdue.

Step Two – Submittal of Certification Affidavit and Invoices

Reimbursement from the Trust Fund for the triannual sampling and report preparation can only occur after the MDEQ approves the triannual report and the MDEQ receives a completed “Certification Affidavit” (Attachment H) along with itemized invoices.

Please submit the “Certification Affidavit” and itemized invoices to:

**Karen Stephens
MDEQ
P.O. Box 2261
Jackson, MS 39225-2261**

Step Three – Reimbursement to you and your ERAC

As stated above, reimbursement from the Trust Fund for the triannual sampling and report preparation can only occur after the MDEQ approves the triannual report and the MDEQ receives a completed “Certification Affidavit” along with itemized invoices. Again, this process can take from 8 to 12 weeks from the time the triannual report is submitted to the MDEQ. It is up to you to pay your ERAC. As the tank owner/operator, you will be reimbursed directly. Please note that any evidence or discovery of fraud or other misuse of payments received from the Trust Fund may result in referral to the Attorney General for appropriate action.

V. CONTINUATION OF THE REMEDIATION SYSTEM AFTER YEAR 1

Based on the results of the triannual sampling activities, the UST Project Manager and your ERAC will discuss if the continued operation of the remediation system is necessary. If it is decided that the system continuation is necessary, one of the two items will occur:

2nd Year Continuation

If the remediation system has just completed its first year of operation, the UST Branch shall prepare a renewal approval letter for the 2nd year continuation of the remediation system. The UST project manager will discuss with your ERAC any changes that may be necessary for the operation, maintenance, and sampling for the remediation system. Once they have reached an agreement, you shall receive an approval letter for continuation of the remediation system.

3rd Year Continuation and thereafter

If the remediation system has operated for more than two years, your ERAC will be responsible for submitting a continuation scope of work/cost proposal for operation, maintenance, and sampling for the remediation system. The due date for this proposal will be listed in the previous year's approval letter. Please be aware that the proposal must be received prior to the end of the system's operation period in order to ensure monies are available for reimbursement of the system operation.

The following information must be submitted in the continuation scope of work/cost proposal:

- A. Monthly Monitoring Section
- Monthly monitoring activities
 - MDEQ Cost/Price Summary Form
 - Quote for laboratory costs for wastewater permit sampling, if applicable

The cost/price proposal for monthly activities shall include a detailed breakdown, by task, of the costs/charges for one month. Each task shall include a breakdown of labor hours by personnel classification, travel charges including per diem, equipment, permit sampling, materials, utility estimates, and other charges. The breakdown of labor hours shall be based on the actual time spent by your ERAC on the project. All costs/prices for one month of monthly activities shall be included on a MDEQ Cost/Price Summary Form (Attachment C).

- B. Triannual Sampling Section
- Triannual sampling and report preparation activities
 - MDEQ Cost/Price Summary Form
 - Quote for laboratory costs for triannual sampling

The triannual activities cost/price proposal shall include a detailed breakdown, by task, of costs/charges for normal monthly activities, plus the additional triannual activities for one month. Each task shall include a breakdown of labor hours by personnel classification, travel charges including per diem, equipment, permit sampling, materials, utility estimates, and other charges. Again, the breakdown of labor hours shall be based on the actual time spent by your ERAC on the project. All costs/prices for one month of normal monthly activities plus the additional triannual activities must be included on a MDEQ Cost/Price Summary Form (Attachment C).

After you have reviewed, approved, and signed the proposal, **two copies of the continuation scope of work/ cost estimate proposal must be submitted to our office by the due date**

established in the previous year's approval letter. Once our office has reviewed and approved the proposal, you will receive an approval letter for the continuation of the remediation system.

VI. DECOMMISSIONING THE REMEDIATION SYSTEM

When the remediation system has operated for two consecutive triannual periods with groundwater concentrations below allowable levels, the OPC usually requires the remediation system to be shut down.

This statement usually applies unless specific site conditions warrant additional remediation runtime to ensure rebound of the contamination will not occur.

Once the determination for the remediation shutdown has been made, our office will issue a letter to you and your ERAC indicating the necessary date for system shutdown. Approximately three to four weeks after the receipt of this letter, you and your ERAC will receive an approval letter for two triannual confirmation groundwater sampling events to ensure rebound of the contamination does not occur.

Within 30 days prior to system removal, you or your ERAC must notify the MDEQ Environmental Permit Division if a wastewater permit has been provided for the location. Your ERAC will be responsible for discontinuing the wastewater permit by contacting the MDEQ Environmental Permits Division in writing with a copy the UST Branch.

Costs for system removal at completion of cleanup are incorporated in the system use rate, and therefore, are not reimbursable as an additional expense.

The remediation system can be removed from the location any time after our office has determined that the remediation system can be shutdown. However, if it is determined that the remediation system must be turned back on, our office typically does not reimburse for re-mobilization of the remediation system to the location for any time during the confirmation sampling unless the demobilization of the remediation system was pre-approved by our office.

Mississippi Department of Environmental Quality – Underground Storage Tank Branch

CONSTRUCTION CONTRACTOR QUOTE SUMMARY
REMEDIATION SYSTEM INSTALLATION AND ASSOCIATED ACTIVITIES

Construction Contractor Company Name:

Address:

Company Representative Signature:

Date:

Item	Description	Quantity	Unit	Rate	Total
A.	Mobilization and Demobilization	1	Lump sum	\$	\$
B.	Drilling (as per Unit Rate Bid Sheet for Drilling Services)	N/A	N/A	N/A	\$
C.	Earthwork				
	C-1 Trenching & Backfilling – Soil		Linear feet	\$	\$
	C-2 Trenching & Backfilling – Concrete		Linear feet	\$	\$
	C-3 Trenching & Backfilling – Asphalt		Linear feet	\$	\$
	C-4 Trenching & Backfilling – Other		Linear feet	\$	\$
D.	Piping & Accessories				
	D-1 Influent Piping/Accessories				
	a.		Linear feet	\$	\$
	b.		Linear feet	\$	\$
	D-2 Effluent Piping/Accessories				
	a.		Linear feet	\$	\$
	b.		Linear feet	\$	\$
E.	Electric, Telephone, & Sewer				
	E-1 Electricity Hookup	1	Lump sum	\$	\$
	E-2 Telephone Hookup	1	Lump sum	\$	\$
	E-3 Sewer Hookup	1	Lump sum	\$	\$
	E-4 Conduit, Wire		Linear feet	\$	\$
F.	Fence		Linear feet	\$	\$
G.	Other				
	G-1			\$	\$
	G-2			\$	\$
	G-3			\$	\$
	G-4			\$	\$
H.	Subtotal	N/A	N/A	N/A	
I.	Taxes	N/A	N/A	%	
J.	Total Price	N/A	N/A	N/A	
Total Number of On-Site Days Not-To-Exceed:					

**MISSISSIPPI UNDERGROUND STORAGE TANK BRANCH
UNIT RATE BID SHEET FOR DRILLING SERVICES**

SITE NAME _____ MGPTF I.D.# _____

ITEM	DESCRIPTION	UNIT PRICE	QUANTITY	TOTALS
1.	Mobilization & Demobilization: Flat Fee \$ _____ +	\$ _____/mile x	_____ miles	\$ _____
2.	Decontamination	\$ _____/boring x	_____ borings	\$ _____
3.	Drill _____ (number) borehole(s) with _____ inch I.D. Hollow stem augers, split spoon samples at 5' intervals, soil disposal and borehole abandonment.	\$ _____/foot x	_____ feet	\$ _____
4.	Additional Split Spoon Samples	\$ _____/sample x	_____ samples	\$ _____
5.	Installation of _____ (number) _____ inch schedule 40 PVC monitoring well(s) with hollow stem augers (includes drilling to required depth, split spoon samples at 5' intervals, soil disposal, all materials, labor, and equipment)	\$ _____/foot x	_____ feet	\$ _____
6.	Installation of _____ (number) _____ inch schedule 40 PVC monitoring well(s) with hollow stem augers (includes drilling to required depth, split spoon samples at 5' intervals, soil disposal, all materials, labor, and equipment)	\$ _____/foot x	_____ feet	\$ _____
7.	Well Development (includes water and product disposal)	\$ _____/well x	_____ wells	\$ _____
8.	Furnish and install flush-mount security casings	\$ _____/each	_____ wells	\$ _____
SUBTOTAL				\$ _____
Taxes, if applicable				\$ _____
TOTAL				\$ _____

The quantities of work and/or materials listed above are best estimates. Actual quantities may be more or less. **The unit prices listed above include all charges, subsistence, and profit.** Invoice will show actual units delivered at the unit prices listed above. Drilling services shall meet the minimum specifications as described in the Mississippi Department of Environmental Quality Minimum Specifications for Drilling Services, July 1, 2005.

Name of Drilling Company

Mississippi Well Driller's License Number

Company's Street Address

License Driller's Signature

City State Zip Code

Date

PRICE SUMMARY

Rev. 7/05

PART I – GENERAL

1. REGISTERED TANK OWNER	2. SITE I.D. NUMBER:
3. NAME OF CONTRACTOR OR SUBCONTRACTOR	4. DATE OF PROPOSAL:
5. ADDRESS OF CONTRACTOR OR SUBCONTRACTOR (Include ZIP)	6. SITE NAME AND SERVICE TO BE FURNISHED
TELEPHONE NUMBER (Include Area Code)	

PART II – COST ESTIMATE SUMMARY

7. DIRECT LABOR (Specify labor categories)	ESTIMATED HOURS	HOURLY RATE	ESTIMATED COST	TOTALS
Sr Engineer/Geologist (PE/PG 8+ yrs exp)				
Professional Engineer/Geologist (PE/PG 4+ yrs exp)				
Staff Engineer/Geologist (degreed w/ 3+ yrs exp)				
Environmental Scientist				
Environmental Technician				
CADD Operator				
Clerical				
LABOR TOTAL:				
8. OTHER DIRECT COSTS				
a. TRAVEL	QTY	COST	ESTIMATED COST	
MILEAGE TOTAL:	miles			
b. EQUIPMENT	QTY	COST	ESTIMATED COST	
EQUIPMENT TOTAL:				
c. SUBCONTRACTS, MATERIALS, SUPPLIES, HOTEL, & MEALS (Specify categories and list subcontractor names)			ESTIMATED COST	
SUBCONTRACTS, MATERIALS, SUPPLIES, HOTEL, & MEALS SUBTOTAL:				
MARKUP (not-to-exceed 10% of first \$10,000 and 5% thereafter):				
SUBCONTRACTS, MATERIALS, SUPPLIES, HOTEL, & MEALS TOTAL:				
d. OTHER (Specify categories)	QTY	COST	ESTIMATED COST	
OTHER TOTAL:				
OTHER DIRECT COSTS TOTAL:				
9. TOTAL COST/PRICE ESTIMATE				

PART III – CERTIFICATIONS

This is to certify to the best of my knowledge and belief that the cost and pricing data summarized herein is complete, current, and accurate. I certify that the proposed rates in this cost/price summary do not exceed my firm's usual and customary charges. I further certify that a financial management capability exists to fully and accurately account for the financial transactions under this project. I agree to retain all records pertaining to this project and agree to an audit of those records for a period of 3 years after completion of this project.

(3) SIGNATURE OF REGISTERED, ENGINEER OR GEOLOGIST, OR PRINCIPLE OF CO.	P.E., P.G., OR PRINCIPLE (Print)	DATE
I certify that I have reviewed the cost/price summary set forth herein and the proposed cost/price is acceptable.		
SIGNATURE OF UST OWNER	UST OWNER (Print)	DATE

Remediation System Operation & Maintenance Form

Facility Name:	Project #:
Location:	MGPTF Project #:
Date:	Arrival Time:
Personnel:	Departure Time:
Status of System:	Weather:

Observation Wells

Well I.D.	Depth to Water	Depth to Product (notify MDEQ PM if product is present)	Induced Vacuum

Recovery Wells

Recovery Well I.D.	Vacuum	Drop Tube Depth	Operating?	Cleaned?
			Y or N	Y or N
			Y or N	Y or N
			Y or N	Y or N
			Y or N	Y or N
			Y or N	Y or N
			Y or N	Y or N
			Y or N	Y or N

Water Effluent:

Sample collected: Y or N	pH:	Temp:	Water Discharge:
--------------------------	-----	-------	------------------

Air Effluent:

Air Flow Rate:	VOCs/LEL:	Temp 1:	Temp 2:
----------------	-----------	---------	---------

Readings:

Power Usage:	Water Usage: Oil Usage:	Hour Meter 1: Hour Meter 2:
--------------	----------------------------	--------------------------------

Changes Made to the System / Maintenance Activities / Comments:

Maintenance Schedule Example

List the components of the system and the necessary maintenance tasks including the frequency required for each component. These maintenance activities may be noted on a form like the one below, or on the Remediation System Operation and Maintenance Form (Attachment D).

Task	Frequency	Initials
Recovery wells		
• check wells for build up	monthly	
• acidize wells	every 45 days	
• check connection	monthly	
• vacuum gauge readings	monthly	
Pump		
• grease transfer pumps	every 6 months	
• clean	every 3 months	
Oil/Water separator		
• empty product	every 45 days	
• clean	every 45 days	
Telemetry System		
• check phone connection	every visit	
• check auto-dialer	every visit	
Stripper		
• check free product accumulation	every visit	
• check water level	every visit	
• drain and clean	every 3 months	
• check and clean conductivity probes	every 3 months	

Remediation System Fact Sheet

System Details

System Purchased

Type:	Date:
Description:	Owner:
Manufacturer:	System Leased
System Telephone Number:	Date:
System & all components are New? ____ Yes / ____ No.	Leasee:
If No, age of system = _____ .	Lessor:
If system refurbished, date = _____ .	

Components	Quantity	Max. Operating Parameter/ Component Specification	Manufacturer	Serial Number	Model Number	Component	
						New	Used / Age
Oil Water Separator							
Motor							
Air Stripper							
Vacuum Pump 1 ____ Oil Seal ____ Water Seal							
Vacuum Pump 2 ____ Oil Seal ____ Water Seal							
Air/Water Separator							
Air/Oil Separator							
Sump							
Blower							
Downhole Pumps							
Transfer Pumps							
Free Product Storage Vessel							
Telemetry System							
Carbon Vessel							
Sound Absorption							
System Building							

Other:

Mississippi Department of Environmental Quality – Underground Storage Tank Branch

**Construction Contractor Quantities
Proposed Quantities versus Actual Quantities Installed**

Item	Description	Proposed Quantity	Proposed Rate	Proposed Total	Actual Quantity	Actual Rate	Actual Total
A.	Mob. and Demob.	1	\$	\$		\$	\$
B.	Drilling						
	Number of ___ " wells installed						
	Linear Feet of Drilling						
C.	Earthwork						
	C-1 Soil Trenching		\$	\$		\$	\$
	C-2 Concrete Trenching		\$	\$		\$	\$
	C-3 Asphalt Trenching		\$	\$		\$	\$
	C-4 Other Trenching		\$	\$		\$	\$
	C-5 Sawcutting						
D.	Piping & Accessories						
	D-1 Influent Piping/Accessories						
	a.		\$	\$		\$	\$
	b.		\$	\$		\$	\$
	D-2 Effluent Piping/Accessories						
	a.		\$	\$		\$	\$
	b.		\$	\$		\$	\$
E.	Electric, Telephone, & Sewer						
	E-1 Electricity Hookup	1	\$	\$		\$	\$
	E-2 Telephone Hookup	1	\$	\$		\$	\$
	E-3 Sewer Hookup	1	\$	\$		\$	\$
	E-4 Conduit, Wire		\$	\$		\$	\$
F.	Fence		\$	\$		\$	\$
G.	Other						
	G-1		\$	\$		\$	\$
	G-2		\$	\$		\$	\$
	G-3		\$	\$		\$	\$
H.	Subtotal	N/A	N/A			N/A	
I.	Taxes	N/A	%			%	
J.	Total Price	N/A	N/A			N/A	

Attachment H

Remediation System Downtime Summary Forms:

- For systems with only one vacuum pump, use the One Pump System form, which includes January through December.
- For systems with two vacuum pumps, use the Two Pump System forms, which includes January through June on one form and July through December on the other form.

Remediation System Downtime Summary

(One Pump System)

Site Name:	Year:	Facility I.D. #
------------	-------	-----------------

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Total Monthly Hours												
Total Monthly Downtime Hours												

Effective: October 1, 1999, for **one pump systems**

All system downtime must be recorded on this form. The following guidelines must be followed:

1. The runtime for the month starts and ends at 12:00 a.m. (i.e. 12:00 a.m. March 1 through 12:00 a.m. March 31 is the monthly runtime for the month).
2. The total amount of downtime for each day must be recorded in hours under the appropriate day of each month. Please leave the day field blank if no downtime is recorded for that day/month.
3. All consecutive downtime greater than 10 days must be reported to the OPC project manager within 24 hours of the 10th consecutive day of downtime. The notification can be by e-mail or fax. **Failure to notify the project manager within 24 hours of its discovery can result in a \$100.00 per day reduction in reimbursement to the owner until the notification is received.**
4. This form must be included with monthly invoices for system rental. Reimbursement requests will not be processed for monthly invoices without this form completed for the calendar month.
5. The triannual reports will be considered incomplete if this form is not received with each triannual report. The reimbursement to the owner will be **reduced by \$100.00 per calendar day for each day (after the due date) until we receive the form in the triannual report.**
6. One-thirtieth (1/30) of the monthly system use rate shall be deducted from reimbursement for each day (24 hour day rounded to the nearest whole day) of downtime when total downtime for the calendar month equals or exceeds 120 hours. No reduction in reimbursement will occur if the system is down for less than 120 hours. Costs related to system repairs or alterations, due to system malfunction or noncompliance with permits, are not reimbursable.

EXAMPLE FORM:

Remediation System Downtime Summary												
Site Name: ABC Station				Year: 1999				Facility I.D. # 1234				
	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
1												
2												
3												
4												
5												
6												
7	13											
8	24											
9	24											
10	24		4									
11	15		24									
12			24									
13			24									
14		24	8									
15		24										
16		3										
17												
18	3											
19	12											
20												
21		18	13									
22			24									
23			24									
24			24									
25	4		9									
26												
27												
28												
29												
30												
31												
Total Monthly Hours	744	672	744									
Total Monthly Downtime Hours	119	69	178									

Produced by the Mississippi Department of Environmental Quality, Office of Pollution Control,
P.O. Box 2261, Jackson, MS 39225-2261 / (601) 961-5171

4/08

Remediation System Downtime Summary (Two Pump System)

Site Name:	Year:	Facility I.D. #
------------	-------	-----------------

	January		February		March		April		May		June	
	LRV1	LRV2	LRV1	LRV2	LRV1	LRV2	LRV1	LRV2	LRV1	LRV2	LRV1	LRV2
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Total Monthly Hours												
Total Monthly Downtime Hours												

Remediation System Downtime Summary (Two Pump System)

Site Name:	Year:	Facility I.D. #
------------	-------	-----------------

	July		August		September		October		November		December	
	LRV1	LRV2	LRV1	LRV2	LRV1	LRV2	LRV1	LRV2	LRV1	LRV2	LRV1	LRV2
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Total Monthly Hours												
Total Monthly Downtime Hours												

Effective: August 1, 2005, for **two pump systems**

All system downtime must be recorded on this form. The following guidelines must be followed:

1. The runtime for the month starts and ends at 12:00 a.m. (i.e. 12:00 a.m. March 1 through 12:00 a.m. March 31 is the monthly runtime for the month).
2. The amount of downtime for each vacuum pump for each day must be recorded in hours under the appropriate day of each month. Please leave the day field blank if no downtime is recorded for that day/month.
3. All consecutive downtime greater than 10 days must be reported to the OPC project manager within 24 hours of the 10th consecutive day of downtime. The notification can be by e-mail or fax. **Failure to notify the project manager within 24 hours of its discovery can result in a \$100.00 per day reduction in reimbursement to the owner until the notification is received.**
4. This form must be included with monthly invoices for system rental. Reimbursement requests will not be processed for monthly invoices without this form completed for the calendar month.
5. The triannual reports will be considered incomplete if this form is not received with each triannual report. The reimbursement to the owner will be **reduced by \$100.00 per calendar day for each day (after the due date) until we receive the form in the triannual report.**
7. One-thirtieth (1/30) of the monthly system use rate shall be deducted from reimbursement for each day (24 hour day rounded to the nearest whole day) of downtime when total downtime for the calendar month equals or exceeds 120 hours. No reduction in reimbursement will occur if the system is down for less than 120 hours. Costs related to system repairs or alterations, due to system malfunction or noncompliance with permits, are not reimbursable. Further, significant downtime (240 hours or more in a calendar month) will result in a reduction of the amount of reimbursement for operation and maintenance of the remediation system. For two pump systems, the deduction for downtime shall be one-sixtieth (1/60) of the monthly rental for each pump down 120 hours or more.

CERTIFICATION AFFIDAVIT

Site Name _____ MGPTF I.D. No. _____

Amount of this request \$ _____

Registered Tank Owner Mailing Address City State Zip Code

Employer Federal I.D. Number OR Social Security Number
(if individual ownership)

I certify that this request for reimbursement of costs at the above referenced site is consistent with the provisions of the Mississippi Underground Storage Tank Act. I certify that all invoices, data, and documentation submitted as part of this request are a true and accurate representation of costs actually incurred as an integral part of the assessment and/or remediation of motor fuel or aviation fuel contamination. I also certify that the above amount requested for reimbursement represents a financial obligation that has been paid in full, or will be promptly paid in full, regardless of any amount determined to be fair and reasonable by MDEQ and subsequently received from the Mississippi Groundwater Protection Trust Fund.

I, the tank owner, or authorized representative of the tank owner, warrant that I have not received any fee, commission, percentage, gift, or other consideration as a result of employment of a person, company, corporation, individual, or firm responsible for conducting site assessments, remediation, or any function thereof and further that I know of no offer or acceptance of any fee, commission, percentage, gifts, or other consideration as a result of employment of a person, company, corporation, individual, or firm responsible for conducting site assessments, remediation or any function thereof.

I understand that any evidence or discovery of fraud or other misuse of payments received from the fund may result in referral to the Attorney General for appropriate action.

Typed or printed name of tank owner or authorized representative of the tank owner.

Signature

FOR OFFICIAL USE ONLY
OFFICE OF POLLUTION CONTROL APPROVED FOR PAYMENT
DIVISION # _____
DATE: _____
AMT. APPROVED: _____
SIGNED: _____

Before me personally appeared _____, who executed the foregoing instrument and acknowledged to me and before me that said instrument was executed for the purposes therein expressed.

Witness my hand and official seal, this _____ day of _____ A.D. _____.

Notary Public My commission expires _____

NOTICE: THIS REIMBURSEMENT REQUEST WILL BE RETURNED TO THE TANK OWNER IF INFORMATION IS INCORRECT OR NOT FILLED IN.