

INSTRUCTIONS FOR PREPARATION AND SUBMITTAL

OF

TECHNICAL PROPOSALS

FOR

QUALIFICATION AS AN ALABAMA UNDERGROUND AND ABOVEGROUND STORAGE TANK TRUST FUND RESPONSE ACTION CONTRACTOR

March 2019 Announcement

UNDERGROUND STORAGE TANK PROGRAM

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

P.O. BOX 301463

MONTGOMERY, ALABAMA 36130-1463

INSTRUCTIONS FOR PREPARATION AND SUBMITTAL OF TECHNICAL PROPOSALS FOR ALABAMA UNDERGROUND AND ABOVEGROUND STORAGE TANK TRUST FUND WORK FY 2019

The Alabama Department of Environmental Management (ADEM) is providing an opportunity for firms to qualify as Approved Response Action Contractors under the Alabama Underground and Aboveground Storage Tank Trust Fund. Firms must have the capability to provide emergency response services, to provide a temporary source of drinking water, to perform soil and groundwater quality assessments and to develop and implement soil and groundwater corrective action plans. Since the Alabama UST program is implementing a risk-based approach in the corrective action program, firms must have the knowledge and skills to develop risk-based corrective action plans and to determine site specific remediation goals. These services will be provided at sites where a petroleum release has occurred from an underground storage tank system or an aboveground storage tank system and the release has been determined to be eligible for participation in the Alabama Tank Trust Fund. This work will be funded through the Alabama Tank Trust Fund. Eligible tank owners establish a contract with Approved Response Action Contractors to carry out investigative and corrective actions at the UST release site(s).

The Alabama Tank Trust Fund provides reimbursement to tank owners and operators for reasonable and eligible costs for Trust Fund eligible releases of motor fuels from both underground and aboveground storage tank systems. Since the investigative and remediation efforts to be carried out in response to releases from both aboveground and underground storage tank systems will be similar, and in order to simplify the technical proposal process, these instructions have been prepared so that a contractor may limit their responses to releases from underground storage tank systems in accordance with ADEM Admin. Code R. 335-6-15 and 335-6-16 regulations (Revised Effective December 7, 2018).

The following instructions for preparation of the technical proposal have been designed to minimize preparation cost and response time. These instructions will also help to ensure that all proposals are reviewed and evaluated in a consistent manner. Information submitted in a form inconsistent with these instructions could result in a loss of credit. Proposal information relating to personnel and past experience that is not in the required format will not be given full credit.

One original signed transmittal letter must accompany three (3) copies of the technical proposal submittal. This letter shall bear the name, title, address, and telephone number of the official contact and an alternate contact.

I. The technical proposal should contain sections addressing the following five areas in sequential order indicated below:

A. GENERAL INFORMATION REGARDING FIRM

Provide the following information in a clear and concise format:

1) Firm name, street address, mailing address, and phone number.

- 2) Name of proposed key contact and alternate contact. Include name, title, address, phone number and email address.
- 3) Date of firm's incorporation and/or organization.
- 4) Is firm registered with the Alabama Secretary of State's Office and the Alabama Department of Revenue Franchise Tax Division? (Each contractor should contact these two agencies to determine if their firm will be required to be registered with the agencies.)
- 5) Does the firm hold a current Alabama General Contractor's License? This is a requirement for consideration for approval. Indicate the status of the license.
- 6) Does firm have a Certificate of Authorization from the Alabama State Board of Licensure for Professional Engineers and Land Surveyors?
- 7) Provide the name of the individual responsible for preparation of Section C of the proposal.
- 8) Provide proof of insurance in the amounts listed under ADEM Admin. Code R. 335-6-16-.16 (1) (b).
- 9) Each firm submitting a proposal must obtain all other applicable licenses, permits, etc., to provide the services described in these instructions in conformance with state and local laws and regulations. A statement verifying that the applicable licenses, permits, etc., have been obtained by the applicant must be provided in the proposal.

B. BACKGROUND AND EXPERIENCE OF PERSONNEL WHO WILL PERFORM THE WORK

Using the attached Form A format located in Attachment III, provide a resume for all key professional personnel to be used for these projects, including resumes of all key subcontractor professional personnel to be used. Clearly specify which personnel are in-house and which are subcontracted. Include their qualifications, specialized experience gained during their entire career, and their proposed responsibilities for these projects. The "Project Responsibilities" column under Item i must be completed by designating an "S" for supervision, "M" for project management, "D" for design, "R" for report and plan preparation, "F" for field work, or "O" for other. One or more of these categories may be designated by using all appropriate letters. Please be aware that if the Form A format is not used, full credit will not be given for this criterion.

A professional engineer registered in the State of Alabama must be included in this section who has the necessary experience to prepare a corrective action plan and under whose registration plans and specifications for corrective action proposals would be submitted. The registration number of the Professional Engineer(s) must be included in this submittal. Any company which directly employs a professional

engineer to perform these services must obtain a certificate of authorization from the Board of Registration for Engineers and Land Surveyors. The registration number and a copy of the Certificate of Authorization must be included in the submittal.

A professional geologist licensed in the State of Alabama must be included in this section that has the necessary experience to perform geological evaluations at underground storage tank release sites. The license number of the Professional Geologist(s) must be included in this submittal.

Each approved firm must also have a current Alabama General Contractor's License to be considered for approval as an Alabama Tank Trust Fund Contractor. Please visit www.genconbd.alabama.gov for more information regarding this requirement.

This discussion must adequately demonstrate that sufficient technical staff is available to meet investigation and corrective action requirements in a timely and technically adequate manner. Proposals must include the equivalent of at least one full time professional in the area of geological support and one full time professional in the area of engineering support (unless one individual demonstrates an adequate educational background and experience base to satisfy both areas of concern) or full credit cannot be given.

Technical Proposals not including a professional engineer registered in the State of Alabama as well as proposals not including a professional geologist licensed in the State of Alabama will be considered incomplete and will not be evaluated.

Item f on Form A must contain the type of degree(s) each person has earned (BS, BA, MS, etc.), the subject area (Biology, Geology, Engineering, etc.), the year the degree(s) was granted, and the college/university from which the degree(s) was obtained.

Attach a listing of risk assessment, risk management, and risk-based corrective action training your staff has received. The information should include the person's name who has received the training, the name of the training course, where the training course was held, who taught the course and when the course was held. Due to the implementation of the risk-based corrective action (RBCA) approach in the Alabama UST program, this background information is of vital importance in determining if your firm has the appropriate training in this area of expertise.

Also, provide a listing of risk assessment evaluations that your firm has performed on sites located in Alabama or in other states. Please indicate the UST incident number, facility I.D. number for the site, and the name and location of the site.

C. KNOWLEDGE OF TECHNICAL CONSIDERATIONS NECESSARY TO PERFORM PETROLEUM CONTAMINATION ASSESSMENTS AND REMEDIATION

Describe the technical approach that would be used to assess and remediate a petroleum contaminated site where both soil and groundwater have been impacted. At a minimum, a discussion of the following must be presented, or the discussion will be considered incomplete and will not be given full credit. **The author or authors of this discussion must be indicated and the resume of the author(s) must be included in Section B above**. Please present the following discussion in the sequential order indicated below:

- 1. Describe methods and procedures that would be used for initial abatement. This should include but not be limited to a thorough description of emergency response actions, vapor abatement, and free product removal.
- 2. Describe the methods and procedures that would be used to conduct an initial site investigation at a site. Discuss how field screening methods might be applied during assessment activities to provide for faster and more cost effective site assessment.
- 3. Discuss how a Secondary Investigation will be conducted to determine full horizontal and vertical extent of contamination. Include a discussion on the determination of rate and direction of contaminant migration and appropriate testing procedures for determining aquifer characteristics.
- 4. Provide a discussion of different monitoring well types and the proper use of each type in the assessment of groundwater contamination.
- 5. Provide a description of the various hydrogeologic regimes in the State of Alabama and how these regimes affect the way soil and groundwater assessments of petroleum contaminated sites should be conducted.
- 6. Discuss corrective action technologies for soil and groundwater including the applicability, advantages, and disadvantages of different methods. Discuss innovative technologies and how these technologies may or may not be technically appropriate to provide cleaner, faster and more effective cleanups based on site conditions.
- 7. Include a discussion on risk-based corrective action and the criteria that would be considered in evaluating risk and developing risk-based target levels for remediation at petroleum sites.
- 8. Discuss how the safety of personnel would be addressed while working at a petroleum contaminated site as well as any safety training required, safety equipment required under different site conditions and necessary public safety contacts that will be notified in case of an emergency.

Consulting firms are encouraged to obtain a copy of the ADEM Administrative Code Division 6 Water Quality Program (Volume 2) regulations. The regulations

may be downloaded from the ADEM web page, www.adem.alabama.gov.

D. PROJECT ORGANIZATION AND MANAGEMENT

A discussion of organization capabilities as well as an organizational chart must be included **which clearly represents the firm's capability to provide all the services indicated in Attachment I**. The organizational chart must clearly indicate which individuals and their associated firms will be responsible for the following response actions:

- Emergency Response: (Firm name and address)
- Tank/Line Testing Services: (Firm name and address)
- Analytical Laboratory(s): (Name and address of laboratories performing the analyses)
- Groundwater Investigative Services: (Firm and individual names, and addresses)

Geologists: Engineers: Other:

• Groundwater and Soils Corrective Action Services: (Firm and individual names, and addresses)

Geologists: Engineers: Other:

 Drilling Firms: (Name and address of drilling firms performing the drilling operations)

All subcontractors must be identified, and their intended scope of work clearly detailed. All joint ventures or joint relationship arrangements must be clearly represented.

These requirements may be satisfied through a combination of part-time employees. Any part-time employees who are otherwise employed on a full time basis must identify their primary employer and whether their part-time work on such projects would constitute a conflict of interest.

Management methods must be discussed relating to:

- (1) Use of Subcontractors
- (2) Cost Control
- (3) Schedule Control
- (4) Project Tracking
- (5) Data Management

Submittal of cost data is not required since under the Alabama Tank Trust Fund program, site specific cost proposals are submitted for each phase of projected work.

E. PAST PERFORMANCE OF INVESTIGATIVE AND CORRECTIVE ACTION SERVICES AT PETROLEUM CONTAMINATED SITES OR SITES WITH SIMILAR ORGANIC SOIL AND GROUNDWATER CONTAMINATION

Using the attached Form B format located in Attachment III, list sites where abatement, investigative and/or corrective action services <u>beyond soil excavation</u> have been provided during the last three (3) years. Please list as many sites as possible on each sheet. UST sites should be listed before non-UST groundwater sites. Experience gained while previously employed by another firm may be indicated, as long as it was gained within the three year time period indicated above.

The Department will be looking for significant demonstration of experience in the areas of hydrogeologic investigations and corrective actions. The "Project Personnel" column should only list the names of the project personnel who have a resume included in Section B above. If the project listed was performed while previously employed by another firm, then only the name of the one employee gaining that experience should be listed under "Project Personnel". The "Project Responsibilities" column on the form must be completed for all personnel indicated for each project. Indicate responsibilities by designating an "S" for supervision, "M" for project management, "D" for design, "R" for report and plan preparation, "F" for field work, and "O" for other. The "UST OR GW Project" column should list either "UST" for those sites where investigations/remediation occurred due to releases from non-UST sources.

The percent of work that is accomplished by in-house personnel must be indicated. In other words, indicate the percent of all work that is not subcontracted to other firms. If the work listed was performed while employed by another firm, indicate zero percent in this column. Finally, mark an "X" on the form under each specific experience category that is applicable to experience gained at each site. Discussion of Initial Abatement, Investigation, and Corrective Action phases indicated on the form are governed by the ADEM Administrative Code Division 6 Volume 2 regulations.

II. Firms Will be Approved to Perform Alabama Tank Trust Fund Work Upon Satisfaction of the Following:

- A. The firm receives a satisfactory rating from the Department's evaluation of the technical proposal using the following criteria.
 - 1. Background and Experience of Personnel Who Will Perform the Work

- 2. Knowledge of Technical Considerations Necessary to Perform Petroleum Contamination Assessments
- 3. Project Organization and Management
- 4. Past Performance of Investigative and Corrective Action Services at Petroleum Contaminated Sites or Sites with Similar Organic Soil and Groundwater Contamination
- B. Following notification by the Department that a firm has been approved with respect to the technical proposal, evidence shall be provided to the Department relative to liability insurance coverage as described in proposed Chapter 335-6-16 of the ADEM Administrative Code. Failure to supply an initial insurance certificate and/or failure to maintain liability insurance coverage will result in denial of approval or removal of a firm in the future.

III. General Information

- A. The deadline for receipt of Technical Proposals is May 31, 2019 at 5:00 p.m.
- B. <u>Three</u> copies of the technical proposals shall be submitted by certified mail or other mailing method which provides the applicant a receipt to:

Ms. Dorothy Malaier ADEM Groundwater Branch Post Office Box 301463 Montgomery, AL 36130-1463

Physical Address: ADEM 1400 Coliseum Boulevard Montgomery, Alabama 36110

An original signed transmittal letter must accompany all copies of the technical proposal submitted. This letter shall provide the name, title, address and telephone number of the official contact and the alternate contact.

- C. Technical proposals will be independently evaluated by members of a review committee consisting of Department supervisory and/or senior staff members and according to the criteria of Section II-A. of these instructions. Firms satisfactorily meeting these requirements shall be placed on the Department's list of approved Alabama Tank Trust Fund Response Action Contractors.
- D. Firms receiving an unsatisfactory score will be given the opportunity to discuss strengths and weaknesses of their proposal at a meeting with the staff. If requested at the meeting, written comments will be provided which reflect the review of the proposal. These comments will be forwarded to the firm within 15 days of the meeting date.

- E. The Department will acknowledge in writing the receipt of all technical proposals and will notify all firms submitting proposals of the results of the evaluation.
- F. The appearance of a firm on the Department's list of approved response action contractors shall in no way establish liability or responsibility on the part of the Department or the State of Alabama in regard to the services provided by the firm or circumstances which may occur as a result of such services.
- G. Misrepresentation of any information in a proposal or future technical submittal shall be cause for disqualification of a firm from further consideration or removal of a firm from the approved list.

Consulting firms are strongly encouraged to obtain a copy of the Alabama Tank Trust Fund regulations which provides an explanation of the manner in which approval of Alabama Tank Trust Fund contractors will be performed and the administrative procedures which govern Alabama Tank Trust Fund site management. The regulations may be downloaded from the ADEM web site, adem.alabama.gov.

- H. The Department has established reasonable rates for certain response actions. All actions that do not have published reasonable rate maximum limits are evaluated in comparison to similar rates proposed to the Department. The current "Alabama Underground and Aboveground Storage Tank Trust Fund Reimbursement and Reasonable Rate Guidance" can be downloaded from the ADEM website at www.adem.alabama.gov. The guidance is posted under the ADEM Programs, Water Division, Groundwater Branch, Alabama Underground and Aboveground Storage Tank Trust Fund section.
- I. Alabama Tank Trust Fund Response Action Contractors are expected to attend the periodic Alabama UST Assessment and Remediation Conferences where important information regarding the Alabama Tank Trust Fund program is presented. This meeting is typically held each year in Montgomery, Alabama.
- J. The Department limits pass-through charges of most subcontracted work to a maximum of 10% of the non-affiliated subcontracted charges. A maximum 5% pass-through is allowed for the purchase of site remediation equipment and system installation performed by a non-affiliated company.
- K. The Department limits mileage reimbursement for one trip to 450 miles one way and 900 miles round trip. Maximum reimbursable mileage rates vary each year and are currently set at 58 cents per mile.
- L. For information regarding the technical requirements of the proposal, please contact:

Dorothy S. Malaier, Chief UST Corrective Action State and Federal Funds Section Groundwater Branch (334)270-5613 dsm@adem.alabama.gov

ATTACHMENT I

Firms that perform Alabama Tank Trust Fund work must have the capability of providing the following services to the owner or operator:

- 1. Taking initial actions necessary to prevent further release of product to the environment; preventing further migration of the release substance into surrounding soils and groundwater; mitigating any additional fire and safety hazards; and remedying hazards posed by contaminated soils in accordance with Rule 335-6-15-.25, ADEM Administrative Code, (Revised effective December 7, 2018).
- 2. Performing a Preliminary Investigation in accordance with Rule 335-6-15-.26, ADEM Administrative Code, (Revised effective December 7, 2018).
- 3. Implementing free product removal, where free product is present, in accordance with Rule 335-6-15-.27, ADEM Administrative Code, (Revised effective December 7, 2018).
- 4. Performing a Secondary Investigation, where required by the Department, in accordance with Rule 335-6-15-.28. ADEM Administrative Code (Revised effective December 7, 2018).
- 5. Preparing and implementing a Corrective Action Plan, where required by the Department, in accordance with Rules 335-6-15-.29 through 335-6-15-.33, ADEM Administrative Code, (Revised effective December 7, 2018).
- 6. Providing an alternate or temporary source of drinking water where required by the Department, in accordance with Rule 335-6-15-.38 of the ADEM Administrative Code, (Revised effective December 7, 2018).
- 7. Performing analyses of soil and groundwater in accordance with the requirement of Rule 335-6-15-.32, ADEM Administrative Code, (Revised effective December 7, 2018).
- 8. Developing risk-based corrective action limits in accordance with Rule 335-6-15-.30 (Revised effective December 7, 2018).
- 9. Preparation of cost proposals and payment requests for response actions in accordance with Chapter 335-6-16 of the ADEM Code (Revised effective December 7, 2018) and other established ADEM policies and procedures.

ATTACHMENT II

ADEM ALABAMA TANK TRUST FUND MAXIMUM ALLOWABLE RATES

2019

Alabama Tank Trust Fund Maximum Allowable Rates 7/2018

Personnel Rat	es
Project Manager	\$104.00
PE/PG	\$120.00
Staff Geologist/Engineer	\$87.00
Scientist	\$81.00
Technician	\$63.00
Draftsman	\$63.00
Clerical	\$51.00
*Rates can be adjusted down	
Dor Diam Daily	¢40.75

Per Diem Daily	\$12.75
Per Diem Extended	\$34.00
Per Diem Overnight (2 days)	\$85.00
Per Diem Overnight (>2 days)	\$100.00

Disposable Bailers	\$7.00	/ea
55 Gallon Drums	\$50.00	/ea
Expendables*	\$50.00	/sow
Air Compressor	\$25.00	/day
Combustible Gas Indicator/PID/FID	\$50.00	/day
Conductivity Meter	\$10.00	/day
Digital Manometer	\$10.00	/day
Dissolved Oxygen Meter	\$10.00	/day
Gloves	\$5.00	/day
Generator (5K)	\$25.00	/day
Submersible Pump	\$30.00	/day
Pressure Transducer/data logger	\$100.00	/day
Interface Probe/Water Level	\$10.00	/day
Flow Meter (anemometer)	\$10.00	/day
Metal Detector	\$10.00	/day
Ozone Meter/Sensor	\$10.00	/day
Pump-Peristaltic or Purging (inc. tubing)	\$50.00	/day
pH/Temperature Meter	\$10.00	/day
Pressure Washer	\$25.00	/day
Redox/ORP Meter	\$10.00	/day
Multimeter	\$100.00	/day
Thermal Anemometer	\$10.00	/day
Turbidity Meter	\$10.00	/day
Concrete Saw	\$25.00	/sow
Encore Samplers	\$9.00	/sampler
O&M Expendables**	\$25.00	/day
Skidsteer (750max/week)	\$250.00	day
Well Development Expendables	\$15.00	/day
Emergency Response Multiplier	1.5	times

Analy	tical with Me	thods	
DTEV/MTDE/Namb		water	soil
BTEX/MTBE/Naph	8260; 8021; 602	\$65.00	\$65.00
	0200, 0021, 002	ψ05.00	ψ05.00
PAH	610	\$130.00	
	8310;8270	\$130.00	\$130.00
PAH Water Supply	525.1	\$275.00	
		* 4 = 0 00	
VOC Water Supply	524.2	\$150.00	
1,2 Dibromoethane	8260	\$65.00	
(EDB)	504.1	\$65.00	
	524.2	\$150.00	
	8011	\$65.00	
1,2 Dichloroethane	8260	\$65.00	\$65.00
(EDC)	504.1	\$65.00	
	524.2	\$150.00	
Lead			
Leau	239.2; 7421	\$25.00	\$25.00
	6020	\$15.00	\$15.00
TPH		4 10100	V 10100
	5520		\$60.00
	418.1/9071		\$50.00
	8015 GRO		\$80.00
	8015 DRO		\$95.00
Oil & Grease	9071;5520	\$50.00	
Dry Bulk Density	ASTM 2473	\$20.00	
Grain Size Analysis	-	\$40.00	
FOM	ASTM 2974	\$40.00	
Moisture Content	ASTM 2216	\$15.00	
Specific Gravity	ASTM D854	\$20.00	
Nitrate Sulfate		\$20.00 \$20.00	
Iron		\$20.00	
Air Samples	8260	\$100.00	
TCLP		\$100.00	
Ethanol	8015D;8260	\$65.00	
Methanol		\$65.00	
Chlorida			
Chloride			
Foaming Agent Total Organic Carbo	on .		
Total Dissolved Soli			

Postage	
Postage Class I	\$85.00
Postage Class II	\$50.00

Pass Through Amount	
Other than System Purchase/ Install	10.00%
System Purchase/ Install	5.00%

07/2018 M3

Alabama Tank Trust Fund Maximum Allowable Rates 7/2018

Drilling	
Mob/Demob amount	\$200.00
Mileage rate per mile (current State rate)	
Well Completion MW 8" cover	\$150.00
Well Completion MW 12" cover	\$200.00
RW/EW vault abandonment (removal)	\$400.00
RW/EW vault abandonment (fill in place)	\$165.00
2" Monitoring Well (HAS) per foot	\$43.00
4" Monitoring Well (HAS) per foot	\$45.00
Soil Boring (HAS) per foot	\$22.00
Temp Wells	\$28.00
Rock Drilling 2" Well	\$55.00
Rock Drilling 4" Well	\$60.00
Rock Coring	\$38.00
Type III Well	\$95.00
Direct Push Technologies	\$1,800.00
Direct Push Well Materials	\$5.00
MW/RW Pad removal	\$75.00
2" MW/RW Abandonment per foot overdrill	\$25.00
MW/RW Abandonment remove top of casing	\$10.00
4" MW/RW Abandonment per foot overdrill	\$30.00
Shelby Tubes	\$50.00
Rolloff dumpster	
Drilling Device Driven (4 x's mileage rate)	
Drilling Device Hauled (2 x's mileage rate)	

Permit Application	
NPDES General Permit	
UIC Permit	
Solid Waste Profile (form 300)	

* for scope of work (i.e. Preliminary is one scope)** includes influent and effluent sampling

07/2018 M3

ATTACHMENT III

FORM A AND B

These forms are also available on the ADEM website.

FORM A - Brief Resume of Key Professionals such as Geologists, Engineers, and Environmental Scientists who will be active in Alabama Tank Trust Fund Projects	ineers, and Environmental Scientists	who will be active in Ala	bama Tank Trust Fund Projects
a. Name and Title:	i. Experience		
			Use codes to identify the project responsibilities:
b. Name and Location of Firm with which associated:	Project Experience	Approximate Approximate Number of Croundwater	
		Projects	(M) Project Management
c. Part Time()Full Time()employee with above firm			(D) Design (R) Report Preparation
d. Name and location of other firms with which you are currently employed			(F) Field Work (O) Other
	Initial Abatement Phase		
e. Proposed Trust Fund Project Responsibilities	Emergency Response		
() Supervision () Data Evaluation and Report Prep	Tank and Line Testing		
Management ()	Free Product Recovery		
() Design () Other:	Soil Excavation/Treatment/Disposal		
	Investigation Phase		
	UST Closure Assessment		
f. Education	Water Well Inventory		
Type of Degree and Subject:	Soil Gas Investigation		
Year Degree Awarded:	Soil Boring Logging		
College/University Where Degree(s) Obtained:	Soil Boring Sampling		
	Soil Analysis		
	Monitoring Well Installation		
	Monitoring Well Sampling		
	GW Sample Analysis		
	Potentiometric Surface Mapping		
g. Active Registrations. List State and License/Registration Numbers.	Aquifer Characterization		
	Indoor Vapor Intrusion Evaluation		
	Corrective Action Phase	子が かなな なると	
	Contaminant Plume Modeling		
	Develop Corrective Action Plan		
	Design GW Treatment System		
	Design Soil Treatment System		
h. Years of Investigative/Corrective Action Experience	Install GW Treatment System		
	Install Soil Treatment System		
UST Experience:	O&M GW Treatment System		
Groundwater Experience:	O&M Soil Treatment System		
With this firm:	Risk Assessment		
With other firms:	Monitoring Well Abandonment		
Revised July 2009			

FORM B - UST & Groundwater Project Experience

				TOKW B	USI & GIO				<u> </u>	Jje		Lvh	CII	CIIC																				
	Project Experience Initial Abatement Phase												Investigation Phase											Со	rred	ctive	e Ac	tion						
Project Name and Location	UST or GW Project	Project Period	Project Personnel (Enter Initials of Key Personnel)	Project Responsibilities: (S) Supervision (M) Project Management (D) Design (R) Data Evaluation and Report Preparation (F) Field Work (O) Other	Percent of Project Completed In House (Percent Not Sub- Contracted)	Emergency Response	Tank and Line Testing	Free Product Recovery Soil Excavation/Treatment	UST Closure Assessment	Water Well Inventory	Soil Gas Investigation	Soil Boring Logging	Soil Analysis	Monitoring Well Installation	Monitoring Well Sampling	GW Sample Analysis Potentiometric Surface Mapping	Aquifer Characterization	Indoor Vapor Intrusion Evaluation Risk Assessments	The second secon	Contaminant Plume Modeling	Design GW Treatment System for:	Air Sparging	DPVE	Ozone Sparing	In-Situ Bioremediation	Design Soil Treatment System for:	Excavation	Soil Vapor Extraction	UPVE In-Situ Rioremediation	Soil Venting	Install Gw Treatment System	Install Soil treatment System	O&M Groundwater Treatment System	Monitoring Well Abandonment
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Revised July 2009