

**PETROLEUM STORAGE TANK RELEASE TRUST FUND**

**PROBE SURVEY**

**REQUEST FOR PROPOSAL**

**REVISION 2**



**Kansas Department of Health and Environment  
Bureau of Environmental Remediation  
Storage Tank Section  
1000 SW Jackson, Suite 410  
Topeka, KS 66612-1367**

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## **SECTION 1.0 PROPOSAL PROCESS INFORMATION**

### **1.1 PURPOSE**

The Kansas Department of Health & Environment is soliciting bids from qualified Vendors to conduct a probe survey. The purpose of the survey is to determine the extent of contamination and provide information for later development of the appropriate corrective action for contamination detected at the site.

**Please refer to the most recent Limited Site Assessment (LSA) RFP for the following subsections:**

- 1.2 Objective
- 1.3 Labor Definitions
- 1.4 Definitions
- 1.5 Inquiries
- 1.6 Revisions to the Request For Proposal
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- 1.12 Disposition of Proposals
- 1.13 Notification of Approved Costs
- 1.14 Evaluation Criteria
- 1.15 Conflict or Ambiguities

## **SECTION 2.0 CONTRACT INFORMATION**

**Please refer to the most recent LSA RFP for the following subsections:**

- 2.1 Purpose
- 2.2 Contract Document
- 2.3 Responsibilities
- 2.4 Errors in Preparation
- 2.5 Contract Amendments
- 2.6 Compliance with Law
- 2.7 Severability
- 2.8 Assignment, Transfer, Conveyance, Subcontract, and Disposal
- 2.9 Insurance
- 2.10 Indemnification
- 2.11 Lien Releases
- 2.12 Communication and Notices
- 2.13 Termination
- 2.14 Waiver

## **SECTION 3.0 STATEMENT OF WORK**

### **3.1 GENERAL INFORMATION**

- 3.1.1 The following information is provided to assist the O/O in obtaining proposals for the scope of work necessary to accomplish the goals outlined herein. See also Section 6.0 of this document, Proposal and Work Specific Definitions, and review the information required in Section 4.4 for the Final Report.
- 3.1.2 The Vendor may modify the scope of work; however, all modifications and justification for the modifications must be identified as such in the proposal. Modifications to the proposal must be approved in writing by KDHE prior to the initiation of work.
- 3.1.3 The Vendor is responsible for insuring that work performed under this contract complies with all applicable Standard Operating Procedures (SOPs) as included in the most recent KDHE-Division of Environment Quality Management Plan (QMP) or directed by the KDHE Project Manager if it is determined by the KDHE that more rigorous operating procedures are warranted. The QMP and SOPs can be obtained from the KDHE Project Manager or from the KDHE website at:  
<http://www.kdheks.gov/environment/qmp/qmp.htm>.
- 3.1.4 Vendors will be responsible for ensuring resumes are on file with KDHE for all personnel working as field geologists, project geologists, licensed professionals, trained professionals and sampling technicians.
- 3.1.5 KDHE reserves the right to reject any modification to proposals.
- 3.1.6 Proposal Definitions can be found in Section 6.0 of this document.

### **3.2 SITE INFORMATION**

- 3.2.1 Review the site specific information for each site in Exhibit 1. Conduct the work described therein following the requirements outlined in this document.

### **3.3 FIELD INVESTIGATION**

#### **3.3.1 Investigation Goals**

- 3.3.1.1 Complete the investigation in accordance with all requirements outlined in this document and the most recent LSA RFP.
- 3.3.1.2 The primary goal of the survey will be to define the lateral and vertical extent of soil and/or groundwater contamination; the secondary goal of the survey will be to define the degree of soil and/or groundwater contamination.

3.3.1.3 The Field Geologist must be onsite and oversee the probe survey. The Field Geologist will evaluate groundwater probe analytical results and/or soil headspace readings to determine placement of subsequent probes.

3.3.1.4 The Vendor is responsible for meeting the Investigation Goals outlined in this section and Section 4.0, Deliverables.

### 3.3.2 Soil Sample Collection Procedures

3.3.2.1 Continuous soil samples will be collected from ground surface until groundwater is encountered or as otherwise directed by the KDHE Project Manager.

3.3.2.2 Samples collected must meet all laboratory and analytical method requirements. Continuous samples must be collected using a closed-piston, closed-tube or similar sampling method.

3.3.2.3 During the sampling process, duplicate soil samples will be collected from each soil sample. One of the samples will be placed in the appropriate sample container for analysis in the field; the other sample will immediately be placed in the appropriate sample container for laboratory analysis.

### 3.3.3 Waste Disposal and Borehole Plugging

3.3.3.1 All waste soils and waste water generated during the investigation will be treated and disposed in accordance with all local, state and federal statutes and regulations.

3.3.3.2 All probe holes will be plugged from the bottom of the hole to surface with an approved grouting material. The surface will be restored as near to the original condition subsequent to drilling activities (concrete, asphalt, soil, etc.).

### 3.3.4 Field and Laboratory Water and Soil Sample Analysis

3.3.4.1 A headspace analysis will be conducted on every soil sample collected in the field. The analysis must be conducted in the field at the time the sample is collected. The analysis will be conducted using a photoionization detector, organic vapor analysis device, colorimetric tubes or other field testing equipment approved by KDHE for hydrocarbon analysis. Please refer to the most recent LSA RFP, Section 3.3.7, for required soil sampling intervals.

3.3.4.2 Each soil sample collected for field analysis will be prepared as follows: fill a clean quart glass jar or quart plastic bag and let stand until the sample reaches 70° for a minimum of 15 minutes (allowing volatilization to occur)

and a maximum of 60 minutes prior to testing. Jars must be decontaminated and dried before reusing. Plastic bags cannot be reused.

- 3.3.4.3 There are 2 options for submittal of soil laboratory samples. Please refer to the Site Specific Information, the approved bid, or contact the KDHE Project Manager for the number of soil samples approved for laboratory submittal.
- Option 1 - Laboratory samples will be submitted as stated in the most recent LSA RFP, Section 3.3.7.
  - Option 2 - Only 2 samples will be submitted to the laboratory for site characterization for possible excavation activities. Two probes will be selected with one sample submitted from each probe. The samples submitted will be the highest field screening from each probe.
- 3.3.4.4 If directed by KDHE, one groundwater sample will be collected from each probe for onsite Gas Chromatography (GC) analysis and/or for laboratory analysis. Please refer to the SSI, the approved bid, or contact the KDHE Project Manager for the number of groundwater samples approved for laboratory submittal.
- 3.3.4.5 Groundwater samples will not be collected if Light Non-Aqueous Phase Liquid (LNAPL) is present in the probe. The Vendor shall document the complete description of the LNAPL including thickness of the LNAPL layer, color, odor, viscosity, and indicate the type of LNAPL suspected.
- 3.3.4.6 A sample of the LNAPL will be collected and analyzed by an approved KDHE laboratory. If LNAPL is detected in more than one probe, only one probe should be sampled unless it is suspected, based on the potential sources and LNAPL appearance, that the LNAPL type or mixture of types differs in the probes. The analysis will indicate the type(s) of fuel detected. The laboratory report will include a copy of the analytical results and chromatogram.
- 3.3.4.7 All laboratory analyses will be performed by a laboratory certified by KDHE.
- 3.3.4.8 All samples designated for laboratory analysis will immediately, upon collection, be containerized and sealed in a laboratory approved sample container for the constituent of concern, and will be properly preserved and transported to the laboratory.
- 3.3.4.9 One trip blank will accompany each sample container containing samples that will be submitted for VOC analysis. Trip blanks are not required for containers that contain samples that will be analyzed for Low-Range Hydrocarbons (LRH), Mid-Range Hydrocarbons (MRH), High-Range Hydrocarbons (HRH), and/or PAHs.

Trip blanks must be obtained from the laboratory performing the analysis. Costs for analysis of any and all samples for which the required QA/QC data (see Appendix 1, Laboratory Data, under Section 6.0 Documentation in Section 4.4, Final Report Submittal) and requested sample replicates have not been submitted will not be eligible for reimbursement.

### 3.3.5 Property Access

3.3.5.1 The Vendor is responsible for contacting all onsite and offsite property owners to obtain access. Written authorization will be obtained from the owner of each property where access is necessary. Initial contact may be verbal, but written permission must be obtained from each owner of each property to be accessed prior to mobilizing equipment to the site to begin probing and/or drilling operations. Required property access includes all properties that have a probe located on the property in the KDHE approved Field Work Plan.

At least two written and two verbal attempts to obtain access will be made. If access is denied from the property owner or no response is received within three weeks of the initial contact, the KDHE Project Manager must be notified in writing. Written notification must include copies of letters sent, phone records, field notes, any additional supporting documentation, and request KDHE's assistance in acquiring access. KDHE assistance does not relieve the Vendor of their responsibility to obtain access.

3.3.5.2 Written permission to drill in city and utility easements must be obtained prior to equipment mobilization. In such cases, the Vendor must obtain written permission from both the property owner and the entity granting the easement unless otherwise directed by the KDHE.

3.3.5.3 Copies of all signed access agreements must be included in Appendix 3 of the Final Report. The Vendor is responsible for contacting all onsite and offsite property owners to obtain access. Written authorization will be obtained from the owner of each property where access is necessary. The Vendor will not be reimbursed for costs associated with probing/drilling on properties where access was not obtained.

3.3.5.4 The Vendor is expected to act in a professional and respectful manner to any local and agency authorities, utility companies, and the public in general when requesting access.

### 3.3.6 Property Restoration

3.3.6.1 Any property damaged or destroyed during this investigation must be restored to its original condition within 30 calendar days after the damage or destruction has occurred. All costs associated with the restoration are the responsibility of the Vendor.

- 3.3.6.2 If any professionally landscaped areas are disturbed during investigation activities, the Vendor must contract with a Landscape Professional to conduct the necessary repairs. Documentation of the contract is required.

## **SECTION 4.0 DELIVERABLES**

### **4.1 PRE-CONTRACT SUBMITTALS**

Please refer to the most recent LSA RFP for Pre-contract Submittals specifications.

### **4.2 Field Work Plan Submittals**

- 4.2.1 The Vendor will complete and submit two copies of the Field Work Plan (Attachment B) with all required maps and photos to KDHE. Field Work Plans must be submitted by U.S. Mail. Fax or e-mail copies will not be accepted unless authorized by the KDHE Project Manager. Incomplete Field Work Plans will be returned without review.

Field Work Plans will include, at a minimum, six photographs taken of the facility or site from different angles of views. Photographs will be color prints and be taken by an employee of the Vendor. The Vendor employee who performs field activities for Field Work Plan preparation and prepares the Field Work Plan worksheet must be a Trained Professional, Field Geologist, Project Geologist or Licensed Professional.

The Field Work Plan states specific equipment and procedures will be used while field work is being conducted, including, but not limited to, rig type, screening and sampling equipment, decontamination procedures, waste handling procedures and qualified field personnel. The specific equipment, procedures and personnel stated in the Field Work Plan must be used in the field. Changes to the approved Field Work Plan must be submitted in writing and approved by the KDHE Project Manager.

- 4.2.2 The Vendor will insure all probes located on the approved Field Work Plan can be drilled and/or installed at the exact locations as plotted on the Field Work Plan. The Vendor will insure that all features on the approved Field Work Plan are correctly plotted and to scale. Examples include, but are not limited to, utilities, overhead lines, buildings, fences, flora, easements, streets, property boundaries, etc. KDHE will not reimburse for Field Work Plans if any probe cannot be drilled as plotted on the approved Field Work Plan.
- 4.2.3 Field Work Plans must be approved prior to mobilization to the site for field work activities. KDHE will review the Field Work Plan and provide written comment, or if approved, written authorization for the Vendor to proceed, within ten (10) working days following the date KDHE receives the plan. Field Work Plans will not be reviewed until verification of the required insurance (Section 2.9, Insurance) has been received by the KDHE Project Manager.

- 4.2.4 The Vendor may request from KDHE that written authorization to proceed be sent in the U.S. Mail to the Vendor's office at the address provided by the Vendor, or by facsimile or e-mail to the Vendor's office at a number or e-mail address the Vendor provides. Unless otherwise requested by the Vendor, written Notice to Proceed will be sent by U.S. Mail to the contact person provided by the Vendor.

### **4.3 Work Notification Requirements**

- 4.3.1 The Vendor will notify the KDHE Project Manager and KDHE District Office Representative a minimum of seven (7) days prior to initiation of all field work by completing the online Field Activities Notification Form. The form must be provided for all field work (i.e. probing/drilling, monitoring, etc.). The Field Activities Notification Form is located at: <http://www.kdheks.gov/tanks/>. In the left-hand column, click on the "Field Activities Notification Form" link.
- 4.3.2 The Vendor will notify the O/O, current property owner, current site tenant, owners and tenants of any property on which any field work (i.e. probing/drilling, monitoring, etc.) is to be performed by telephone or in writing at least seven (7) days prior to initiation of field work.
- 4.3.3 Schedule changes must be reported to the O/O, the KDHE Project Manager and District Office Representative in the same manner as in Sections 4.3.1 and 4.3.2. Approval to proceed with any field activities mentioned in 4.3.1 and 4.3.2, after a schedule change has been reported, must be approved by the KDHE Project Manager.

### **4.4 Final Report Submittal**

- 4.4.1 A Final Report will be completed for each facility. Each Final Report will be a summary of all work performed, and all data requested and gathered during all activities conducted under the probe phase of this contract.

The Vendor will submit one copy of the Final Report for each site within 90 days after the contract between the O/O and Vendor has been signed by all parties. Incomplete final reports will be returned without review. The submittal deadline will not be considered to have been met until a complete report demonstrating that the investigation goals have been met is received by KDHE.

Upon approval of the Final Report, one electronic copy, in Adobe format (.pdf), must be submitted to KDHE on a CD. KDHE may also request electronic files in original format at no additional cost. The Final Report must contain a sleeve for storage of the CD.

- 4.4.2 One copy of the Final Report will be submitted to the respective O/O. The Vendor may wait until the Final Report has been reviewed and approved by KDHE before providing the O/O with a copy. If the Vendor provides the O/O with a copy prior to approval of the report, copies of any and all revisions and/or addenda must also be provided to the O/O.

- 4.4.3 Each Final Report will be bound and include a cover page with the following information: report title; KDHE site name; site address; KDHE project code; KDHE Facility ID; section, township, and range to four quarters; report date and the name of the person who prepared the report. Cover page must be stamped and signed by a Kansas Licensed Geologist or Licensed Professional.

Each Final Report will include a table of contents with the following information:

- 1) section titles (see 4.4.4 below) for sections 1-6,
- 2) titles and page numbers for tables 2.1-2.4,
- 3) titles for figures 1- 4,
- 4) titles for each appendix in Section 6.0, Documentation.

Each Final Report will include labeled tabs for each Section title (see 4.4.4 below) and each appendix.

#### 4.4.4 Report Format

Each Final Report will include all information outlined below in the format and order described. Figures and tables not applicable to the site should be so noted in the table of contents. Do not change the item numbers designated below. Items within tables that may not be applicable should be stated in the table to be not applicable.

### **SECTION 1.0 DISCUSSION**

The discussion should be concise and site specific. Do not include information detailing Standard Operating Procedures. Use the Section titles and subtitles provided, and number each page. Do not reference or include in this section any tables, maps, photographs, drilling logs, or other documents that are included in this report.

#### 1.1 Discussion of Results

- 1) Provide a brief overview of the investigation conducted; e.g., number of probes, soil samples collected, groundwater samples collected, etc.
- 2) Describe the full extent and degree of soil and/or groundwater contamination detected; explain any anomalies noted. Note specific samples and compounds with elevated detection limits and discuss relative to contaminant plume delineation.
- 3) Describe the potential impact to the public health, environment, or sensitive receptors.

#### 1.2 Regional Geology

- 1) Review local and regional geologic and/or hydrogeologic maps, nearby site assessments and/or investigation reports and any other pertinent publications.
- 2) Identify any aquifers and/or surface water bodies serving as sources of drinking water for the area.

- 3) Identify and evaluate the use and/or potential use of the uppermost groundwater zone and/or impacted groundwater zones within 1/4 mile of the source of the release at the facility.

## **SECTION 2.0 TABLES**

Tables must be labeled with KDHE site name, KDHE project code and the numbers and titles provided below. Number each page of tables. Include in the table a column for each numbered item requested. Column headings must be included on each page. Do not reference or include in this section, any discussion, tables, maps, photographs, drilling logs, or other documents included in this report. Abbreviations or material referenced from other publications should be explained at the bottom of the table.

### **Table 2.1 Summary of Work Completed**

Include the following information for work completed:

- 1) total number of probes,
- 2) total footage probed,
- 3) total footage plugged,
- 4) total number of groundwater samples analyzed by laboratory,
- 5) total number of soil samples analyzed by laboratory,
- 6) total number of LNAPL samples analyzed by laboratory.

### **Table 2.2 Soil Field Screening and Laboratory Results**

Include the following results for each field sample, including those not sent for laboratory analysis, and each laboratory sample collected from a boring:

- 1) probe or soil boring ID,
- 2) the interval each sample was collected from,
- 3) the field screening results in parts per million (ppm),
- 4) the concentration of each specified constituent in parts per million (ppm) determined by laboratory analysis; state the petroleum product(s) identified\*,
- 5) the date each sample was collected,
- 6) the EPA test method and laboratory analytical sample detection limit for each analyte in each laboratory sample, if analyzed in a laboratory,
- 7) the field instrument used for each field screening sample,
- 8) Tier 2 Risk-Based Screening Levels for each chemical of concern for both soil and soil to groundwater pathway for both residential and nonresidential scenarios.

\* Constituents are, Benzene, Toluene, Ethylbenzene, Total Xylenes, 1,2 Dichloroethane (1,2 DCA), Methyl Tertbutyl Ether (MtBE), Naphthalene, Ethylene Dibromide (EDB), LRH, MRH, and HRH.

### **Table 2.3 Groundwater Analytical Results (if applicable)**

Include the following information for each groundwater survey sample:

- 1) probe and/or monitoring well ID,
- 2) the sample matrix (water or soil vapor),
- 3) the depth at which each sample was collected,
- 4) the concentration of each specified constituent in parts per billion (ppb) determined by laboratory analysis; state the petroleum product(s) identified\*,
- 5) the date each sample was collected,
- 6) the EPA test method and analytical sample detection limit for each analyte in each sample,
- 7) Tier 2 Risked-Based Screening Levels.

\* Constituents are Total BTEX, Benzene, Toluene, Ethylbenzene, Total Xylenes, 1,2 Dichloroethane (1,2 DCA), Methyl Tertbutyl Ether (MtBE), Naphthalene, Ethylene Dibromide (EDB), LRH, MRH, and HRH. Other constituents detected from full VOC and/or PAH scans must also be included in the table.

### **Table 2.4 Waste Handling Results**

Include the following information for wastes handled:

- 1) the type of waste (soil or water) generated,
- 2) the quantity of waste generated for each type of waste,
- 3) the storage and disposal methods used for each type of waste,
- 4) results of any field analysis of wastes conducted during onsite treatment,
- 5) results of any laboratory analysis of wastes,
- 6) specific location where wastes were disposed or discharged.

## **SECTION 3.0 MAPS**

All maps must be drawn to scale and labeled with the titles provided, KDHE site name and KDHE project code. Do not reference or include in this section any discussion, tables, photographs, drilling logs, or other documents included in this or any other report. Maps are required to be single-sided.

The scale for figures 3 and 4 should be approximately 1"  $\leq$  25' for smaller sites and 1"  $\leq$  50' for larger sites. The scale for figures 3 and 4 may be adjusted to enlarge the area of the plume, if the plume is small, provided that sufficient site features are shown to identify the area mapped. Maps will be 8½" x 11" or 11" x 17". If warranted, the KDHE Project Manager should be contacted for approval to use a scale or figure size other than specified herein. Include a north arrow, scale, and legend on all maps. Legends should include only those items that occur at the site.

Figures 2 through 4 should include probes, with ID numbers, and only those labels necessary to describe information requested for that specific map. Private and PWS wells should be designated consistently throughout the report.

### **Figure 1 General Site Location**

A map adapted from a USGS 7.5 minute quadrangle, depicting the site location and a one mile radius of the site. The one mile radius should be clearly marked. Highlight or mark the location of the site. Contours and other information should be clear and legible.

### **Figure 2 Area Base Maps**

Two area base maps will be included in the report. The maps will be enlarged such that the facility is located at or near the center of the map. Figure 2.1 will depict the site and a minimum 500 foot radius around the source(s) of contamination. Figure 2.1 will have an approximate scale of 1" = 125'. Figure 2.2 will be a close up of the site and any properties with probes/borings installed. Figure 2.2 will have an approximate scale of 1" = 25'. Maps should be on 8 1/2" x 11" or 11" x 17" paper.

The following must be included on both maps:

- 1) all groundwater probes, soil borings, and wells,
- 2) roads, property boundaries and buildings,
- 3) identify the general use (residential, park, undeveloped, industrial, commercial, etc.) of properties in this area,
- 4) business names,
- 5) property owners' name,
- 6) locations or former locations of all tanks, lines, buildings, driveways and other fixed objects on the facility property,
- 7) locations of all underground utility trenches and overhead lines within 100 feet of the contaminant plume(s). State the type and depth of each utility service.

### **Figure 3 Soil Contamination Maps**

Use Figure 2 as the template, figures will have an approximate scale of 1" = 50' or larger. These figures will be enlarged to clearly indicate the location of all borings from which analytical soil samples were collected. The estimated areal extent of soil contamination, above the capillary fringe, must be outlined down to non-detect (ND) levels, for all soil contamination maps outlined below.

Use the highest soil laboratory analysis from above the capillary fringe in each boring. Develop isocontours if the contaminant distribution is suitable. Label sample points with the boring ID number, the concentration in ppm, and the interval at which each sample was collected. Label isoconcentration lines with the concentration in ppm. If the contaminant being mapped was detected in less than three sampling locations, submit a map showing the sample points labeled with the concentration in ppm but do not contour. If the constituent being mapped was not detected in any boring, omit map. If only 2 borings were completed, omit maps 3.2, 3.3, 3.4, 3.5, and 3.6.

- 3.1 Field Screening Results – highest field screening per probe, include interval
- 3.2 Benzene in Soils
- 3.3 Naphthalene in Soils

- 3.4 LRH in soils
- 3.5 MRH in soils
- 3.6 HRH in soils

**Figure 4 Groundwater Isoconcentration Maps (if applicable)**

Develop, down to non-detect (ND) levels, all groundwater isoconcentration maps outlined below. Use Figure 2 as the template and show all probes/monitoring wells and sampling points, with ID numbers, sampled during the investigation. Label sample points and isoconcentration lines with the concentration in ppb. If the constituent being mapped was detected in less than three sampling locations, submit a map showing the sample points labeled with the concentration in ppb but do not contour. If the constituent being mapped was not detected in any probe/well, submit a map showing all sample points labeled as above with the concentrations labeled as ND.

- 4.1 Total BTEX in probes/wells
- 4.2 Benzene in probes/wells
- 4.3 1,2 Dichloroethane probes/wells
- 4.4 MtBE probes/wells
- 4.5 Naphthalene probes/wells
- 4.6 EDB probes/wells
- 4.7 LRH probes/wells
- 4.8 MRH probes/wells
- 4.9 HRH probes/wells

**SECTION 4.0 PROBE LOGS**

Include schematics for each probe/soil boring drilled during the investigation. Logs must be typed; do not use abbreviations. At a minimum, the following information must be included on each log:

- 1) the KDHE site name and KDHE project code,
- 2) the probe/soil boring ID number,
- 3) date the probe/soil boring was conducted,
- 4) names of the Vendor performing the work and Geologist,
- 5) the drilling method/type of drill rig, soil sampling equipment, and field screening analysis equipment used,
- 6) borehole diameters,
- 7) field screening results plotted at the depth measured,
- 8) a continuous soil profile will be developed with detailed lithologic descriptions using the Unified Soil Classification System (USCS). The detailed lithological descriptions must correspond to the depths measured during drilling. The profile will also include the color, texture, sorting, size and shape of grains, and any other pertinent information,
- 9) observations such as fracturing or solution cavities, organic content, staining, odor, moisture changes and other pertinent features,
- 10) for plugged probes/soil borings, plugging material and interval of each material,
- 11) depth the saturated zone was encountered during probing/drilling,

- 12) indicate where laboratory samples submitted for laboratory analysis were collected, including interval.

If applicable, all of the above information must be shown on the same page, and be drawn at the same vertical scale. Logs must be typed and have the same appropriate scale. Do not use abbreviations. Do not reference or include in this section any discussion, tables, photographs, maps, or other documents included in this or any other report.

## **SECTION 5.0 PHOTOGRAPHS**

- 5.1 Include at a minimum the following photographs, two photographs per page.
  - 5.1.1 Two photographs of the entire facility from two distinctively different directions.
  - 5.1.2 Two photographs identifying the current and/or former tank basin(s), above ground tank location(s), or other system components that were identified as the source(s) or potential source(s) of contamination. Outline the aerial extent of the tank basin(s) and line trench(es). Identify in the description any LNAPL recovery or remediation system components.
- 5.2 All photographs must be color prints or color copies. Photographs must be taken from an appropriate distance and angle for the subject to be clearly visible and identifiable. Do not reference or include in this section and discussion, tables, drilling logs, maps or other documents that are included in this report. Each photograph shall illustrate the spatial relationships of the various components at the site. Each photograph must include a description of the scene, the direction the picture was taken from, and the date of the photograph.
- 5.3 Photographs must be current and reflect the property condition at the time probing/drilling operations were completed.

## **SECTION 6.0 DOCUMENTATION**

Include all information requested in the following format. Do not reference or include in this section any discussion, tables, photographs, maps, or other documents that are included in this report or any other report.

### **Appendix 1 Laboratory Data**

Include all analytical laboratory reports and Chain of Custody documents. All lab reports must include the following QA/QC data for all samples:

- Calibration check against the true value or initial calibration every 20 samples. This should be a mid-range calibration.
- Surrogate % recovery for each soil and water sample.

- Matrix spike and duplicate for each constituent every 20 samples or each run, whichever is more frequent.
- Method blank and duplicate for each extraction.
- Trip blank for each shipping container containing groundwater samples submitted for VOC analysis.

Reporting limits for all samples must be the Practical Quantitation Limit (PQL) for that sample. Reporting limits set at the Maximum Contaminant Limit (MCL) are not acceptable. Include results of LNAPL analyses (including laboratory chromatographs) if samples were collected.

## **Appendix 2 Field Notes**

Field notes must be hand-written and signed by the individual who performed the work described therein. Each page must be signed as the notes are being taken. Include copies of the following:

- 1) all probe/drilling logs, and soil sampling notes, probe/drill logs will include a clear indication of where the saturated zone was encountered during probing/drilling,
- 2) groundwater sampling notes recording, for each probe/well sampled, the water depth and total depth; the volume, in gallons, of water purged before sampling; the name, address, and telephone number of the well owner and the site tenant if any private wells are sampled,
- 3) any and all other field notes recorded during the investigation,
- 4) field notes must include the daily chronological events. This includes, time probe/boring was initiated, completed, developed/purged, sampled, static water level measured, triangulation calculations and all pertinent information relevant to the assessment. Field notes should not include a general summary of methods and procedures used during the assessment.

## **Appendix 3 Reports, Access Agreements, Lien Releases, Ownership and Business Search Documentation**

Include copies of the following:

- 1) all signed access agreements (see Section 3.3.5 of this RFP),
- 2) copy of the wastewater disposal waiver letter from the Bureau of Water,
- 3) all signed lien releases.

## **Appendix 4 Offsite Waste Handling Documentation (if applicable)**

Provide documentation of how wastes removed from the site were handled and/or treated, including the authorization for wastewater disposal, waste manifests, invoices, etc.

## **SECTION 5.0 REIMBURSEMENT**

Please refer to the LSA RFP for Reimbursement guidelines.

## **SECTION 6.0 PROPOSAL AND WORK SPECIFIC DEFINITIONS**

### **6.1 BORING PERMITS**

This item shall include the cost charged by the local government entity for probing/drilling on city property, city easements, or any other property. Costs for boring permits will not be reimbursed without a valid receipt from the entity issuing the permit.

### **6.2 PROBE RIG WITH CREW**

This item must be bid on a footage basis. If additional footage is required, reimbursement will be on a per foot basis. This item shall include all costs associated with use of the probe/drilling rig, probe/drilling crew, and all probe/drilling equipment; including labor, completion of soil borings, decontamination, subsidiary equipment and supplies (PID, colorimetric detector tubes, acetate liners, etc.), associated soil sampling, and onsite disposal of investigation derived waste. This must only include the driller and helper(s). Do not include any professional field staff responsible for collecting and conducting field analyses of probe/drilling samples.

If possible, costs for handling and treating drill cuttings generated during the field investigation should be achieved by scarification where the hydrocarbon contaminated soils are spread to a 6” thickness or less across the site and turning until the contamination level, based on field screening methods, falls below the KDHE standards for soil remediation of 100 ppm TPH. Scarification of soils must be conducted at a location away from receptors such as sewer inlets, open boreholes, etc.

The Vendor will properly dispose of wastewater when the Vendor obtains approval from the appropriate authority and/or the KDHE Bureau of Water. All applied methods must comply with local, state, and federal laws. These handling and treatment methods are not approved for LNAPL. No water is to be stored on site.

### **6.3 FIELD GEOLOGIST**

This item shall include the cost for the Field Geologist as defined in Section 1.4 of the most recent LSA RFP. This item shall be bid on an hourly basis and for the number of hours necessary to perform the tasks specified for the complete probe survey scope of work.

This item must be included on page 1 of Exhibit 2. Costs are submitted for Field Geologist directly associated with onsite drilling activities and separate travel time.

### **6.4 FIELD WORK PLAN**

This item shall include all labor and equipment costs to properly complete and submit the Field Work Plan Worksheet with the required maps, photos and all other required information. The Field Work Plan Worksheet is included as Attachment B.

### **6.5 FINAL REPORT (PROBE PHASE)**

This item shall include all labor and equipment cost to properly complete and submit the Final Report. The Final Report requirements and format are included in Section 4.4.4 of this document.

**6.6 LAB METHODS**

This item shall include designation of the EPA methods to be used for laboratory analysis of soil and water samples.

**6.7 LABORATORY NAME**

This item shall include the designation of the KDHE-approved laboratory that will be performing the analyses of water and soil samples.

**6.8 LNAPL SAMPLES**

This item shall include all costs associated with the collection and analysis of the LNAPL sample (i.e. labor, equipment, shipping, etc.). The purpose of the LNAPL sample is to determine the type of petroleum product or mixture of products (kerosene, used motor oil, diesel, weathered/unweathered gasoline, fuel oil, jet fuel, etc.) present, including any not previously known to be present, that could affect selection of an appropriate remediation design and/or technology. Provide the per sample cost for analysis and associated costs; it is expected that at least two complementary analyses will be required to achieve this goal.

**6.9 OFFSITE SOIL WASTE HANDLING AND DISPOSAL**

This item shall include costs for handling and disposing of drill cuttings offsite. The Vendor will supply costs for landfill disposal of waste soils and/or an alternate method of treatment. These methods must be included in the bid documents and the field work plan. Handling of soils in a manner other than that outlined in the bid documents and approved field work plan will not be reimbursed for unless approved by the KDHE Project Manager. All applied methods must comply with local, state, and federal laws.

The Vendor will insure that all arrangements for disposal have been submitted and/or approved prior to mobilizing to the site for drilling activities. The Vendor will insure that no containerized soils/cuttings will remain on site following drilling activities. These handling and treatment methods are not approved for waste saturated with petroleum products.

**6.10 OTHER STAFF (PROBE)**

This item shall include the cost for other staff that are necessary to properly complete the tasks required in the categories listed. Provide the title of the individual who will perform the duties. This item shall be bid on an hourly basis.

**6.11 PER DIEM**

This item shall be a fixed price for one person to cover lodging and expenses. Per diem will be approved only for each night an employee is required to remain onsite overnight.

**6.12 PROBE(S)**

Unless directed otherwise by KDHE in the Site Specific Information (Exhibit 1), the initial probe(s) will be drilled at the location(s) nearest the reported source(s) of contamination and continue to groundwater. In locations where no groundwater is expected to be encountered the initial probe(s) will be advanced until the Vendor is directed by KDHE to discontinue drilling.

**6.13 RIG MOBILIZATION**

Mobilization costs shall be per mile from the official station of the equipment. Mobilization costs shall further include all associated costs with transporting the equipment and operator/crew plus one support vehicle to and from the site. No staff hours or other expenses will be paid for mobilizing to and from the sites. Local mobilization (50 miles or less) shall be a lump sum amount.

**6.14 PROBE PLUGGING**

This item shall include all costs for labor, equipment and supplies to plug all soil borings in accordance with KDHE Regulations and Guidelines. This item must be bid on a per foot basis.

**6.15 SOIL SAMPLES**

This item shall include all costs associated with the collection and analysis of samples (i.e. labor, equipment, shipping, etc.). All samples shall be analyzed in accordance with the criteria provided in this document for the constituents outlined in Exhibit 2. Provide the per sample cost for collection and analysis for each constituent indicated.

**6.16 STAFF TRAVEL TIME**

This item will include all costs associated with the time needed for staff to mobilize to and from a site for the scheduled scope of work. This item will be bid on a per hour basis.

**6.17 SUPPORT VEHICLE (PROBE SURVEY)**

This item shall include the cost for all vehicles necessary to transport staff, other than the drill crew, to conduct the investigation. This item will be bid on a daily and/or per mile basis per vehicle and is inclusive of all incidental costs (i.e. maintenance, fuel, insurance, parking, tolls, etc.). Daily use rates shall include local mileage while performing the job duties. Mileage will be reimbursed for mobilization from the official station of the vehicle to and from the job site according to Google® Maps or similar mapping tool. A daily rate and a per mile rate cannot be used on the same day.

**6.18 WATER SAMPLE ANALYSIS**

This cost shall be bid on a per probe basis. This cost shall include electronic water level indicator, interface probe, submersible pumps, peristaltic pumps, bladder pumps, tubing, bailers, and filters as necessary. Costs also include shipping, lab costs, ice, coolers, sample containers, etc. All samples shall be analyzed in accordance with the criteria provided in this document for the constituents outlined in Exhibit 2. This item must be bid on a per sample basis. If additional samples are required, reimbursement will be on a per sample basis.

**ATTACHMENT A**

**MONITORING WELL & SOIL BORING PLUGGING CRITERIA  
K.A.R. 28-30-7**

**ARTICLE 30--WATER WELL CONTRACTOR'S LICENSE;  
WATER WELL CONSTRUCTION AND ABANDONMENT**

This article regulates the construction, reconstruction, treatment and plugging of water wells and sets forth procedures for the licensing of water well contractors as required by K.S.A. 82a-1201 to 82a-1215 and amendments thereto.

All wells will be plugged and abandoned in accordance with Kansas Administrative Regulation (K.A.R.) 28-30-7

**WELL PLUGGING/ABANDONMENT REQUIREMENTS**

The following requirements supplement section K.A.R. 28-30-7 of Article 30.

- A) The following requirements will be mandatory for plugging monitoring wells that have **20 feet or greater of grout (including the bentonite plug):**
- 1) The well head, concrete pad and protective cover (if above grade completion) must be removed.
  - 2) The well must be filled with an approved plugging material. After the casing or casing void has been filled with an approved plugging material, the casing shall be cut off to a level three (3) feet below ground surface. The remaining excavation may then be backfilled with native soils.
  - 3) The property will be restored as near to the original condition subsequent to plugging.
- B) The following requirements will be mandatory for plugging monitoring wells that have **less than 20 feet of grout (including the bentonite plug) and was given an approved waiver request for the original installation of the monitoring well by the Bureau of Water, Kansas Department of Health and Environment:**
- 1) The well head, concrete pad and protective cover (if above grade completion) must be removed.
  - 2) The well must be filled with an approved plugging material. After the casing or casing void has been filled with an approved plugging material, the casing shall be cut off to a level three (3) feet below ground surface. The remaining excavation may then be backfilled with native soils.
  - 3) The property will be restored as near to the original condition subsequent to plugging.
- C) For wells greater than 50' total depth, the entire hole shall be plugged with an approved grouting material from bottom of the hole, up to within three feet of the ground surface, using a grout tremie pipe (grout pipe) or similar method.

Refer to K.A.R. 28-30-2(p) and (q) for definitions of grout, grout tremie pipe and grout pipe.

**ATTACHMENT B**  
**FIELD WORK PLAN WORKSHEET**

**PETROLEUM STORAGE TANK RELEASE TRUST FUND  
PROBE SURVEY FIELD WORK PLAN WORKSHEET**

KDHE Site Name: \_\_\_\_\_ KDHE Project Code: \_\_\_\_\_  
Vendor: \_\_\_\_\_ Vendor Contact: \_\_\_\_\_

**Instructions:** This form must be completed by providing the information requested below. Do not include any attachments with this worksheet other than those described herein.

**I. Site Information**

Site Address: \_\_\_\_\_ Kansas \_\_\_\_\_  
(Street) (City) (County)  
Legal Description: \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4 Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_ E / W

**II. Investigation Information**

List the requested information where indicated:

**1) Drilling:** List equipment

Drill Rig	Brand/Model	_____
	Torque Rating	_____
Drill String	Type (Augers, etc.)	_____
	O.D. / I.D.	_____
Borehole Size		_____
Sample Collection Equipment & Length		_____
Drilling Sample Frequency		_____
Soil sample intervals for constituent analysis (refer to Section 3.3.7 of the LSA RFP)		_____

**2) Field Screening Instrument**

Device (Brand / Type / Spec) \_\_\_\_\_  
Calibration Standard / Frequency \_\_\_\_\_

**3) Laboratory Analytical**

Soil Samples	Collection Equipment	_____
	Analytical Methods	_____
Water Samples	Collection Equipment	_____
	Analytical Methods	_____
	Laboratory to Conduct Analysis	_____

**4) Waste Handling Procedures** (Briefly describe how soil and water waste will be handled, treated, or disposed of.)

Soil \_\_\_\_\_  
Water \_\_\_\_\_

**5) Decontamination** (Briefly describe decontamination equipment, methods and procedures to be employed.)

\_\_\_\_\_  
\_\_\_\_\_



**EXHIBIT 1**  
**SITE SPECIFIC INFORMATION**

**EXHIBIT 2**  
**PROJECT BID PROPOSAL SHEETS**