June 24, 2010
Request for Bid (RFB)
Supplemental Site Characterization Report including
Fate and Transport and Risk Assessment
(SSCR including FT/RA)

Prepared on Behalf of ICF International and USTIF

Project
Pinto's Atlantic Inc.
1317 South Third Street, Philadelphia, PA 19147
USTIF Claim No. 1999-0439(M)
PaDEP Facility ID #51-30404

ICF International (ICFI), on behalf of USTIF is providing this Request for Bid (RFB) to prepare and submit a fixed price proposal for the defined scope of work to complete a supplemental site characterization for Pinto's Atlantic Inc., USTIF Claim No. 1999-0439 (Site). A petroleum release discovered upon the removal of four (4) underground storage tanks (USTs) has been confirmed at the Site and the Pennsylvania Department of Environmental Protection (PaDEP) is requesting an expanded investigation to confirm the extent the soil media was impacted and a groundwater investigation to determine the extent of contamination migration offsite. The Solicitor has an open claim (Claim #1999-0439(M)) with the Pennsylvania Underground Storage Tank Indemnification Fund (PAUSTIF) and the work outlined in this RFB will be completed under this claim. Reimbursement of Solicitor-approved reasonable, necessary and appropriate costs (within claim limits) for the work described in this RFB will be provided by PAUSTIF and the Solicitor.

While certain characterization activities and interim remedial actions have previously been completed at the Site, the existing data-base has been determined to be incomplete for Site characterization approval or for development of a remedial action program capable of Site cleanup due to incomplete Site Characterization data.

Austin James Associates, Inc. (AJA) on behalf of the PAUSTIF and ICFI, will serve as the technical contact for this RFB solicitation process. As such, any questions related to the Site or the bid should be submitted to the technical contact in writing via email with the understanding that all questions and answers will be provided to all bidders. Bidders must not discuss this RFB Solicitation directly with the Solicitor, PaDEP, PAUSTIF, or ICFI unless approved by the Technical Contact. Questions for any of these parties should also be submitted via email to the technical contact that will respond to any questions and relay the response to all bidders (typically via email). In addition, as technical contact, AJA will hold a mandatory pre-bid Site meeting on **Thursday, July 22, 2010 at 11:00 AM** and assist the Solicitor in evaluating the received bid responses. The Site meeting is mandatory and if not attended, a received bid response will not be considered.

While not mandatory, AJA respectfully requests that you send an email to ajarebecca@epix.net indicating whether your firm expects to attend the meeting and how many representatives from your firm are expected. Please limit the number of representatives to no more than two (2) per

bidding firm.

The attached RFB package provides the information needed to complete an appropriate bid response. The successful bidder will be expected to sign a contract with the Solicitor which is very similar to one in the Draft Example provided.

This RFB includes four (4) major components with subtasks presented in an outline format for cost analysis. The costs presented in your proposal will be considered fixed unit costs per task. These tasks will be identified for payment and implemented, in accordance with, and subsequent to, the execution of a fixed price contract (Contract). Expenses in excess of the quoted price for the Contract shall be the consultant's responsibility. The scope and budget for identified out of scope activities must be pre-approved to be eligible for consideration of re-imbursement. Any costs associated with deviations from the scope that did not receive prior approval from PAUSTIF or its representatives will not be reimbursed.

It is expected that the selected consultant's approach to completing the bid tasks will be in accordance with generally accepted industry standards / practices and all applicable federal, state, and local rules and regulations, including the requirements of the Storage Tank and Spill Prevention Act (Act 32 of 1989, as amended) and Pa. Code, Title 25, Chapter 245, the Land Recycling and Environmental Remediation Standards Act (Act 2 of 1995) and Pa. Code, Chapter 250 (Administration of Land Recycling Program). Any modification to the selected consultant's authorized SOW will require prior written approval by the Solicitor and PAUSTIF through its third-party administrator.

It is currently anticipated that the successful bidder will be directly reimbursed by PAUSTIF for approved, reasonable, necessary, and appropriate costs (up to the limits of the claim). The Solicitor, USTIF/ICFI Technical Contact, and ICFI Representative information is provided below.

SOLICITOR
Mr. Edward Pinto
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All completed bid responses are due to the specified ICFI representative no later than **Thursday, August 26, 2010 at 5:00 PM**. Any bid responses not received by this time will not be considered. Please note that each bidder will need to submit one (1) hard copy and one (1) electronic copy on CD to the ICF representative at the contact information provided in the package. The claim number ("Bid – Claim #99-439(F)") should be included on the exterior of the bid shipping package. The received bids will be opened and evaluated after the aforementioned

deadline expires and the solicitor anticipates contacting the winning bidder within five (5) weeks.

Site Setting and Background Information

Philadelphia Site

Site Setting
The Site is located at 1317 South Third Street, Philadelphia, Philadelphia County, Pennsylvania. A Site map is included as **Figure 1** in **Attachment 2**. The Site consists of a vehicle repair facility with two drive-thru repair bays. The Site and surrounding properties are supplied by public water and connected to the municipal sanitary sewage system. The property directly adjacent and building attached to the Site to the north can be classified as commercial. Properties across South Third Street and Moyamensing Avenue are considered mixed residential and commercial. **Figure 2** in **Attachment 2** shows an aerial map of the Site, including nearby properties. **Figure 3** in **Attachment 2** shows a base map of the Site identifying property features and boundaries, former UST locations, and nearby properties.

The site is a 0.12-acre parcel zoned for commercial use. The existing structure includes a one story building. There are currently no USTs located on the property. The former USTs and pump island area were removed in 1999. The excavation area is gravel and the remainder of the property is covered in concrete. The Site is connected to public sewer and water.

Hydrocarbon Release during UST System Removal
This claim relates to a reported release of gasoline first reported to USTIF in August 1999. This release was detected in May 1999 during removal of four (4) USTs, two 3,000 gallon and two 6,000 gallon single walled steel tanks (and associated piping and dispenser) from the Site. The initial claim report (and subsequent reports) simply listed the product as "gasoline", and did not specify whether it was leaded or unleaded. However, because of the date of the release, it's a foregone conclusion that product stored on-site at the time of the release was unleaded gasoline. The first PAUSTIF report dated August 20, 1999 stated that the two 3,000 gallon USTs at the Site were in installed on December 1, 1967 and the two 6,000 gallon USTs were installed on October 1, 1975. A PaDEP site compliance inspection in 1997 found no violations, showing the tanks and lines passing. The USTs were last used in March 1997, registered as out of service on December 21, 1998, and removed from the ground in May 1999. Therefore, it is reasonable to infer that the product released to the subsurface in May 1999 was unleaded gasoline. USTIF agreed to eligibility on November 19, 1999 and the claim was awarded 100% funding. A copy of the 1999 UST Closure Report is included in **Attachment 3**.

Other Potential Off-Site Sources Within the Study Area

Records for any other potential source area(s) were not evaluated.

Site Geology, Topography, and Drainage

Area Geology

Geology for the area is indicated as the Quaternary aged Trenton Gravel (Qt). The formation may be described as gray to pale red-brown gravelly sand, interbedded with crossbedded sand and clay-silt layers. The formation is deeply weathered and good surface drainage exists. Low-lying gravels at about 20 feet above sea level provide high porosity and good well yields in excess of 1,000 gallons per minute (Geyser and Wilhusen, 1982). The Delaware River is located half a mile to the east of the Site. Groundwater topography is extremely shallow.

Site Geology

Monitoring well boring logs indicate that bedrock refusal was encountered at approximately 21-22 feet below ground surface (bgs) along the western side of South Third Street. The unconsolidated alluvium/colluvium rests unconformably atop the bedrock contact. The static water level occurs within the unconsolidated media (16 to 18 feet bgs) with sufficient saturated thickness such that the expected dispersion pathway is primarily within the unconsolidated geologic media.

Topography/Drainage for the Area

A satellite image identifying the Site and is shown on **Figure 2** in **Attachment 2**. The Site is situated at approximately 19 feet above mean sea level (msl). Topography is primarily flat across the site and the surrounding properties. The static water at the Site is at a higher elevation than the Delaware River.

Previous Report Submitted

In August 2001 Leak-D Tech Services, Inc. (*Leak-D Tech*) prepared and submitted a SCR. Additional characterization work was completed by Harper Environmental Associates Inc. (*Harper*). There is no PaDEP correspondence with regard to the Site in the USTIF claim file. A copy of the 1999 UST Closure Report written by *Leak-D Tech*, the 2001 SCR report written by *Leak-D Tech*, and the latest GMR written by *Harper* are included in **Attachment 3**.

Recommendations consistent with completing the Site characterization in order to facilitate Site closure includes a work scope with elements consisting of the following:

1. Advance and sample soils from twenty four (24) additional soil borings at the suggested locations indicated on **Figure 4** in **Attachment 2**. Forty-eight (48) soil samples should be collected to determine the nature and extent and magnitude of the impacted soils at the Site. Industry standard protocol should be followed for the collection of the soil samples.

2. Install and sample twelve (12) additional monitoring wells at the locations suggested on **Figure 5** in **Attachment 2**. Property access requests and city permits will be required.

3. Perform rising head slug testing on all new and existing monitoring wells, as shown on **Figure 5** in **Attachment 2**.

4. A sensitive receptor survey should be completed for the Site to evaluate the presence or absence of local supply wells, to determine the presence or absence of other potential leaks or hydrocarbon losses within or in close proximity to the study area, and to provide a history of the storage and distribution of hydrocarbon products and/or discharges at or in close proximity to the Site.

5. A Fate and Transport (FT) evaluation should be completed as appropriate and consistent with Act 2 guidance in order to address contaminant migration scenarios. This evaluation should include dissolved phase concentration trend analysis and groundwater modeling as appropriate for constituents of concern at the site. The FT evaluation should be sufficient to determine the current and future extent of the dissolved phase plume for constituents of concern in groundwater for use in the development of a remedial action plan. It should also consider the degree of attenuation with respect to any down-gradient receptors and evaluate any supply well impacts (including the possibility/likelihood of offsite sources).

6. An estimate of the mass of hydrocarbons remaining in the subsurface should be provided. This estimate should use available site data and may take advantage of accepted approximations, however if used such approximations and estimates must be explained and justified.

7. A preliminary risk assessment evaluation should be completed consistent with the guidelines provided in the Act 2 guidance manual (applicable portions of Sections II.C.4. IV.G and IV.H). These sections provide general information on risk assessment, developing site-specific standards and pathway elimination, and guidance on site-specific human health assessment procedures. This guidance should be followed to conduct a baseline risk assessment or to develop site-specific standards.

8. A remedial alternatives analysis should be completed to compare cleanup alternatives and evaluate which one is most appropriate for the Site. It should also explain why the proposed alternative was selected.

9. An evaluation of the potential vapor intrusion pathway both on and off the Site should be completed to determine whether or not the pathway exists based upon existing site conditions. In order to evaluate the on-site pathway AJA recommends installation of four (4) nested vapor monitoring probes at the suggested locations indicated on **Figure 6** in **Attachment 2**. IAQ screening is recommended for the of-site evaluation to determine whether or not the vapor intrusion pathway exists. If the pathway exists, then AJA recommends the evaluation of in-door air utilizing Summa canisters in the basements of any potentially affected homes.

10. The City of Philadelphia has an ordinance that requires that all properties be connected to public water and sewer, where available, and private potable water wells may not be installed in an area where these services are available. That ordinance should be obtained and evaluated for its applicability at the Site given the fact that soils and groundwater impact have exceeded the Site property boundary.

11. The consultant should prepare a Supplemental Site Characterization Report that documents and discusses the data obtained and the conclusions drawn from the completion of the discrete work scope specified in Request for Bid (RFB). At a minimum, Figures that support the text should include the following:

- USGS Topographic Map of Study Area
- Aerial Photo or Satellite Image of the Site Area
- Site Map (showing Site boundaries and pertinent Site features)
- Area Map (showing Site and adjacent properties, property boundaries, and property features; should be based on tax map)
- Geologic map (showing area bedrock geology and overburden, if available)
- Local Geologic Features Map (showing Site geology and pertinent structural features [strike and dip])
- Soil Sampling Location Map
- Soil Sampling Results Map (showing source areas or inferred source areas at the Site; iso-concentration maps should be prepared based on the available data)
- Monitoring Well Location Map (showing existing and new well locations)
- Groundwater Elevation Contour Map(s) for each sampling event
- Groundwater Sampling Results Map(s) for each sampling event (with results tabulated on the map)
- Groundwater Iso-concentration Maps (showing source areas or inferred source areas at the Site; iso-concentration contours should be prepared for benzene and Methyl tert-Butyl Ether (MTBE), as appropriate, based on the available data)
- Other Figures as appropriate

Figures should be located in the first Appendix for ease of reference. Additional Appendices should be provided to include well and soil-boring logs, soil results tables and data, groundwater results tables and data, aquifer test data and results, soil gas results table and data, and a recent EDR-type report detailing nearby potential receptors and sources, etc.

These supplemental Site characterization activities are intended to fully delineate impacted soil and groundwater at the Site. The attached RFP specifies preparation of a ***Supplemental Site Characterization Report*** (SSCR) to be submitted within four months of the bid award date, pending PaDEP approval of the work plan and the schedule for implementation. The SSCR should document and discuss the data obtained and the conclusions drawn from the completion of Tasks 2.1 through 2.8 and incorporating historical groundwater and/or soil data as appropriate. The RFB also requires submittal of a ***Fate and Transport and Risk Assessment*** (FT/RA) to be completed as part of the SSCR. The FT/RA work is to be completed concurrently

with the Site characterization work to determine the horizontal and vertical extent of gasoline hydrocarbon material emanating from the tank field area and evaluate the potential risk to the Site and adjacent properties. The FT/RA will document and discuss the data obtained and the conclusions drawn from the completion of Tasks 3.1 through 3.4.

PROPOSED SCOPE OF WORK

The scope of work has been prepared using the guidelines of Pennsylvania Code Title 25, Chapter 245 (The Storage Tank and Spill Prevention Program) and Chapter 250 (The Land Recycling Program). There are several key elements that must be completed in order for the approach outlined in this RFB to be successful. The critical elements include the following:

- Meet with the PaDEP to discuss and obtain approval of the suggested work-scope;
- Complete additional monitoring well installation and sampling at on and off site locations;
- Complete additional soil sampling to characterize soils in and around former tank excavation;
- Complete installation and sampling of soil gas monitoring points to evaluate potential vapor intrusion pathways;
- Complete slug tests within the shallow monitoring well(s) to evaluate the hydrologic characteristics of the shallow groundwater;
- Complete the Site characterization providing documentation of the source area(s) and the vertical and horizontal limits of impacted soil and groundwater with adequate documentation in a comprehensive Supplemental Site Characterization Report;
- Complete an estimate of the mass of hydrocarbons remaining in the subsurface;
- Complete an exposure pathway assessment and risk assessment to demonstrate or eliminate exposure pathways and determine Site-specific closure goals for regulated gasoline components in soils and groundwater at the Site;
- Complete fate and transport modeling to assess, as necessary, soil, groundwater, and vapor intrusion media pathways to determine if and the extent to which dissolved phase hydrocarbons have or may be expected to migrate beyond the property boundary, now, or in the future; and,
- Complete a remedial alternatives analysis to compare cleanup methods and which methods would be applicable to the Site.

Itemized Proposal Tasks
The proposal should follow the task format outlined herein. Proposals should include a detailed description of the anticipated costs for each task including labor rates, time requirements and equipment costs. A Cost Summary Sheet, to be attached to your proposal, is included as **Attachment 1**.

Task 1 - Project Management
- Task 1.1 Preparations of Project Guidance Documents
- Task 1.2 Project Management

Task 2 - Supplemental Site Characterization Activities
- Task 2.1 Meet with PaDEP to Discuss and Obtain Approval of the Work Scope
- Task 2.2 Site Documentation
  - Task 2.2.1 -Site Layout/Historic Property Use/Area Water Supply Documentation
  - Task 2.2.2 -Geology Documentation
- Task 2.3 - Utility Clearance and Well/Soil Boring Pre-Clearance
- Task 2.4 - Soil Characterization/Collection of Soil Samples
- Task 2.5 - Vapor Monitoring Point Installation and Sampling
- Task 2.6 - Monitoring Well Installation and Development
- Task 2.7 - Initial Water Level Data Collection and Confirmatory Groundwater Sampling
  - Task 2.7.1 -Liquid Level Elevation Data Collection
  - Task 2.7.2 -Groundwater Sampling from Monitoring Wells
- Task 2.8 - Hydraulic Parameter Estimates and Aquifer Characterization

Task 3 - Fate and Transport/Risk Assessment, and Remedial Alternatives Evaluations
- Task 3.1 - Fate and Transport Evaluation
- Task 3.2 - Hydrocarbon Mass Estimate Documentation
- Task 3.3 - Risk Assessment Evaluation
- Task 3.4 - Remedial Alternative Evaluation

Task 4 - Preparation of Supplemental Site Characterization Report

In addition to the **Attachment 1** Cost Summary Sheet, additional information is provided in **Attachments 2** and **3** to assist in the bidding process. **Attachment 2** provides various figures either recently generated or reproduced from existing files. These include:

Figure 1 – USGS Topographic Map Showing Site location
Figure 2 – Satellite Image Map Showing Site Location
Figure 3 – Base Map
Figure 4 – Proposed Soil Boring Location Map
Figure 5 – Proposed Vapor Monitoring Point Location Map
Figure 6 – Proposed Additional Monitoring Well Location Map

Attachment 3 provides supporting documents, including: a copy of the *UST Closure Report, September 1999*, submitted by *Leak-D Tech*; the *Site Characterization Report, August 2001*, submitted by *Leak-D Tech*; the *Groundwater Monitoring Report, October 2009*, submitted by *Harper*; and any site specific data collected by AJA, including purge data, survey data, liquid level data, and groundwater analytical data. AJA also included a historic groundwater summary table and soil data summary tables from the 1999 and 2000 events by *Leak-D Tech*.

Task 1.0 - PROJECT MANAGEMENT

Task 1.1 Preparation of Project Guidance Documents

Proposed documents to be prepared include a site specific health and safety plan, a field sampling and analysis plan, and a quality assurance/quality control plan. Where applicable, the pertinent project guidance documents should b e prepared in accordance with Chapter 245.

Task 1.2 Project Management

The successful bidder shall complete necessary, reasonable, and appropriate project management activities for the duration of the contract period consistent with release investigation projects. Such activities would be expected to include client communications / updates, meetings, permitting, record keeping, subcontracting, personnel and subcontractor management, quality assurance / quality control, scheduling and other activities. A Project Manager should be identified who is responsible for oversight of the project and communications with ICFI, its representatives, USTIF, and PaDEP.

Task 2.0 - SUPPLEMENTAL SITE CHARACTERIZATION ACTIVITIES

Task 2.1 - Meet with PaDEP to Discuss and Obtain Approval of the Proposed Work Scope

A meeting with PaDEP has been proposed to present and discuss the elements of the proposed Work-plan. We anticipate scheduling the meeting with PaDEP's Southeast Regional Office prior to initiation of Site activity. The consultant should assume the meeting would include ICFI and/or its representatives. Your budget for this activity should include time to prepare for the meeting and should assume the meeting will be held at the Site or the PaDEP's Southeast Regional Office.

Task 2.2 - Site Documentation

Task 2.2.1 - Site Layout/Historic Property Use/Area Water Supply Documentation
This task involves the completion of general Site documentation that includes, but is not limited to the following:

- Review of Site history through review of historic files and previous reports including files in possession of ICF and PaDEP files.
- Documentation/confirmation of area water supply locations.
- Interviews with ICF's third party consultant, PaDEP, and Pinto's Atlantic Inc. representatives as necessary to obtain facts concerning Site characterization history and Site history, respectively.

- Documentation of all Site features that may have an impact on the dispersion of regulated dissolved phase unleaded gasoline components at the Site (i.e. Site supply wells, drainage features, wetlands, streams, septic or drain fields, utilities, etc.).

- Research of County Courthouse records to obtain a property tax map to determine property boundaries and other appropriate information.

- Documentation/confirmation of the area water use (both domestic and public), including documentation of the absence or presence of municipal, township, or county restrictions for the future installation of supply wells.

- Any other applicable information and documentation to comply with Title 25, Chapter 245, Administration of the Storage Tank and Spill Prevention Program, 245.309; Site Characterization, and, 245.310; Site Characterization Report.

This information will be incorporated into the SSCR to aid in the determination of the best alternative remedial strategy for the Site.

Task 2.2.2 - Geology Documentation
This task involves the evaluation and documentation of the structural features inherent to the shallow groundwater formation. Evaluations of the structural orientation (strike, dip, cleavage features, etc.) of the underlying bedrock formation should be included and generated using accepted geologic practices/interpretation as well. This information should be incorporated into the SSCR as applicable, to aid in the determination of the dispersion and migration pathways for dissolved phase hydrocarbon components in groundwater emanating from the source area(s) at the Site.

Task 2.3 - Utility Clearance and Well/Soil Boring Pre-Clearance

Due to the proximity of the proposed soil borings and monitoring well locations to an active public roadways, the successful bidder will need to complete a private mark-out at the Site prior to the subsurface investigation. A private mark-out will need to be conducted with appropriate equipment in the area of the proposed boring locations to locate any underground utilities and/or obstructions in the area of the proposed boring locations. If necessary to the utility locating, each boring location may need to be cleared by pre-excavating the location either by hand or by mechanical means. The proper permits will need to be acquired through the City of Philadelphia before performing any work in city right of ways.

Task 2.4 - Soil Characterization/Collection of Soil Samples

Twenty-four (24) soil boring locations with two (2) sample depths per boring are to be completed using the geo-probe direct push or other suitable method at the locations shown on **Figure 4**. During advancement of the soil borings, the soil should be field screened using a Photo-

ionization Detector (PID) or other suitable detection methodology at one to two (2) foot intervals. One soil sample should be collected from the bottom of the tank excavation depth and the 15-17 foot bgs interval immediately above the point of saturation or top of bedrock, whichever is encountered first. The purpose of the soil boring activity is to collect soil samples and delineate the horizontal and vertical limit of potentially impacted soils relative to historical storage and transfer or potential sources of hydrocarbons identified at the Site. While previous soil sampling has been conducted, the results have not adequately characterized the Site sufficiently to determine the best remedial options for the Site. The approximate locations specified for these soil borings are subject to field verification of utility lines, PA One-Call calls and access issues. Proposed soil sampling locations, shown on **Figure 4**, must be cleared with an air knife or similar technology to ensure utility clearance.

The twenty-four (24) sample locations specified here should provide a sufficient database as supporting documentation for the evaluation of remedial options and for incorporation into the FT/RA evaluation. The results are intended to simplify the selection of future remedial and closure options. Following collection of each soil sample, the soil sample should be secured and preserved using appropriate methods as specified in the regulations for samples to be analyzed for the PaDEP required regulated shortlist unleaded gasoline parameters including:

- *BTEX, MTBE, Naphthalene, Cumene, 1,3,5-Trimethyl benzene (TMB), and 1,2,4-TMB*

The consultant shall be sure to include sufficient sample with added containers and preservation if and as indicated necessary by the analyzing laboratory and by regulatory requirements for each of the samples.

The "methanol preservation" or other appropriate method is to be used where applicable (for VOCs), as specified by current regulatory soil sampling procedures. The samples should be collected and sent to a Pennsylvania certified analytical laboratory for appropriate analysis. Upon receipt of the analytical results, the Consultant shall forward a copy of the analytical results to ICF and its designated representative(s).

Task 2.5 - Vapor Monitoring Point Installation and Sampling

In order to further characterize the vapor phase and obtain the data necessary to evaluate remedial options and exposure pathways for the risk assessment, four (4) nested shallow vapor monitoring points are to be drilled at locations shown on **Figure 5**.

The four nested (4) shallow vapor monitoring points are to be installed at the estimated depths of approximately 10 feet bgs and equal to or below the lowest expected vapor intrusion receptor (approximately 5 feet bgs or as specified by PaDEP). Each borehole shall have two soil gas collection points with screened intervals not to exceed one foot in length. One soil gas sample shall be collected from each vapor point consistent with the guidance for the collection of soil gas samples as specified in the PaDEP Air Vapor Intrusion Guidance Document. The approximate locations specified for these points are subject to field verification of utility lines, PA One-Call calls and access issues. Proposed vapor monitoring locations, shown on **Figure 5**,

must be cleared, as necessary, with an air knife or similar technology to ensure utility clearance. No soil samples are required to be collected from the vapor monitoring point locations.

The vapor samples should be analyzed for regulated unleaded gasoline short list components (including 1,2,4-TMB and 1,3,5-TMB) according to TO-15 specifications. The locations of the soil gas probes/samples are shown on **Figure 5** in **Attachment 2**. The PaDEP draft guidance document entitled "*Vapor Intrusion into Buildings from Groundwater and Soil under PA Act 2 Statewide Health Standard (SHS)"*, dated February 15, 2002, should be used to assist in evaluating the soil gas sample results. The guideline specifies that soil gas results should be compared to 100 X the residential indoor air quality (CIAQ) MSC values to account for dilution effects.

The consultant who wins the bid will be required to obtain all necessary permits and access agreements to drill any vapor monitoring point or any other subsequent intrusive well/probe/investigation point that are deemed critical in order to obtain the information necessary to determine the extent and magnitude of the release related to (or to document that certain contamination is not related to) the Site. PaDEP will be involved to the extent necessary to ensure access is granted at any location where that location is determined critical to gain an understanding of the relationship between the Site release and adjacent properties. The locations identified in the RFB are considered critical locations and the technical data identified critical to the understanding of the site.

Task 2.6 - Monitoring Well Installation and Development

In order to further characterize the dissolved phase plume and obtain the data necessary to evaluate remedial options and exposure pathways for the risk assessment, twelve (12) additional shallow monitoring wells shall be drilled at the locations shown on **Figure 6**.

The twelve (12) shallow 2-inch wells shall be installed to an estimated depth of approximately 25-30 feet bgs with a screen interval starting from approximately 5 feet bgs to the base of the borehole (to intersect the shallow water table throughout the hydrologic cycle with a minimum 5 feet depth to top of screen to minimize surface infiltration). If competent bedrock is encountered, the depth to bottom for the well should be adjusted so that the bottom the well does not extend more than six (6) inches to one foot into the underlying bedrock. The approximate locations specified for these wells (subject to field verification of utility lines, PA One-Call calls and access issues) are shown on **Figure 6**. The wells shall be drilled and constructed in accordance with generally accepted practices as outlined in the PaDEP Groundwater Monitoring Guidance Manual, dated January 1, 1999 (Document # 383-3000-001). Based on anticipated drilling conditions, a Pennsylvania-licensed driller should install the wells using any acceptable drilling method (i.e., air rotary, hollow stem auger, Geoprobe®). Drilling should be conducted under the supervision of a Pennsylvania-licensed Professional Geologist, although a field supervisor may be used in the field on a day-to-day basis. The field supervisor should visually inspect subsurface materials encountered during drilling, screen cuttings with a photo-ionization detector (PID), and complete field well construction logs. When encountered, soils should be described using the Unified Soil Classification System. Bedrock should be

described using USGS descriptive protocol, with the identification of the depth of and size of potential fractures and/or other subsurface anomalies.

Monitoring wells should be constructed of 2-inch diameter, threaded, flush-joint, schedule 40 PVC riser and 0.01 or .02 inch slot width well screen. A sand filter pack of appropriate grain size shall be placed in the annulus from the bottom of the borehole to not more than 12 inches above the screened interval. Hydrated bentonite, bentonite slurry or another acceptable sealant combination shall be used to seal the annulus above the filter pack up to grade. A flush-mounted manhole shall be cemented into place to complete the well at grade level. A locking, pressure fit, watertight cap will be used to prevent the infiltration of surface runoff and rainwater and to restrict access by unauthorized individuals.

Based on field screening with the PID, drill cuttings shall be segregated into impacted and non-impacted stockpiles at a location designated by the property owner at the Site. Those materials exhibiting PID readings above 10 parts per million (ppm) should be considered impacted and shall be properly containerized or stockpiled on and beneath plastic sheeting pending subsequent characterization and disposal. "Clean" material shall be segregated from the impacted material and shall also be properly containerized, or stockpiled on, and beneath plastic sheeting, pending subsequent characterization and disposal. Soil/rock cuttings and liquids generated during the drilling activities will be managed in a manner consistent with the protocols set forth by PaDEP. Disposal of soil/rock cuttings, if necessary, should be arranged through an approved disposal facility. The volume of the soil/rock cuttings and/or drilling fluids (i.e., impacted water) may be estimated at approximately four (4) tons, and costs for containment, treatment, and/or disposal should be included in your proposal.

The entire monitoring well network should be developed following the installation of the new wells. Depending on the depth and amount of sediment in the well, development should be completed via mechanical surging using either a bailer or an electric submersible pump, or by airlift techniques. Groundwater removed from the well during development should be treated with a portable granular activated carbon (GAC) treatment system (or other PaDEP approved method) and discharged to the surface following treatment in accordance with PaDEP guidance and approval. Assume two (2) effluent discharge samples, analyzed for unleaded gasoline short list parameters, will be required to evaluate the effectiveness of the development water during the well development process. No soil samples are required to be collected from the monitoring well locations.

The consultant who wins the bid will be required to obtain all necessary permits and access agreements to drill any monitoring well or any other subsequent intrusive investigation point that are deemed critical in order to obtain the information necessary to determine the extent and magnitude of the release related to the Pinto's Atlantic Inc. facility. PaDEP will be involved to the extent necessary to ensure access is granted at any location where that location is determined critical to gain an understanding of the relationship between the Site release and adjacent properties. The locations identified in the RFB are considered critical locations and the technical data identified critical to the understanding of the site.

Task 2.7 - Initial Water Level Data Collection and Confirmatory Groundwater Sampling

2.7.1 Liquid Level Elevation Data Collection

Water level measurements shall be taken from each of the existing and new monitoring wells. Measurements should be completed using a probe capable of distinguishing water and/or the presence or absence of SPL to the nearest 0.01 feet. The depth to water data shall be recorded and then used to determine water level elevations such that shallow groundwater flow direction across the Site may be determined. Casing elevations shall be surveyed within +/- 0.01 foot relative to an arbitrary benchmark established at the Site. It is recommended that all of the monitoring wells be re-surveyed following the installation of the new wells at the Site. The benchmark elevation shall be obtained by referencing the approximate ground surface elevation of the property or from an available benchmark from a USGS topographic map or benchmark elevation marker located at the Site if one exists. Water level depth data (measured from the top of the casing) shall then be subtracted (with appropriate corrections made for the presence of SPL) from respective casing elevations to determine water level elevations relative to the arbitrary benchmark such that shallow groundwater elevations and groundwater flow direction across the property may be determined.

2.7.2 Groundwater Sampling from Monitoring Wells

The Consultant shall conduct initial monitoring and sampling from the entire well network (19 wells) listed above approximately two to four weeks after the new wells are completed. Liquid level data shall be measured and recorded for the wells using an electronic water level probe or oil/water interface probe, as appropriate and recorded to the nearest 0.01 foot. Liquid levels shall be collected on the same day with the first and last recording collected as close as practical to ensure the collection of representative static water levels in the wells. The SPL thickness (if any) and volume of standing water in the well column should also be calculated. Wells exhibiting measurable SPL should not be sampled. SPL with accumulations of more than 0.10 feet should be removed by bailing and should be collected in a 55-gallon drum to be staged on-site. In the event that the wells do not contain SPL, each well should be sampled to determine the concentration of dissolved unleaded gasoline type hydrocarbons as indicated below. A second confirmatory groundwater sampling event shall be conducted approximately 30-45 days later.

Groundwater sampling and analysis shall be conducted in accordance with generally accepted practices as outlined in the PaDEP Groundwater Monitoring Guidance Manual, dated January 1, 1999 (Document # 383-3000-001).

Sampling equipment should be decontaminated prior to sample collection in accordance with generally accepted industry practices. Approximately three times the volume of the standing water column shall be purged from the wells prior to sample collection to ensure a representative sample is collected. Purging should be accomplished by using a bailer, peristaltic pump, or a variable-rate, electric, submersible pump. For low volume purge methods, field parameters such as temperature, pH, specific conductance and dissolved oxygen should be monitored to ensure that the well is adequately purged to draw formation groundwater into the well. At the conclusion of purging, groundwater samples shall be collected as soon as

practical. If the well is purged dry, it should generally be allowed to recover to 75%, or for a maximum of 24 hours prior to sampling.

Samples should be collected directly from a bailer. All volatile samples should be collected directly into laboratory-supplied bottle-ware and kept cold (<4° C) through delivery to the analytical laboratory. The groundwater samples should be submitted under chain-of-custody documentation protocols set forth by the laboratory, and consistent with PaDEP protocol. All purge liquids generated during sampling should be treated onsite with a portable GAC treatment system.

Analyses will consist of PaDEP required regulated short-list *unleaded gasoline* parameters using the approved laboratory methods capable of reporting to levels which include the SHS criteria for each component.

- *BTEX, MTBE, Naphthalene, Cumene, 1,2,4-TMB, and 1,3,5-TMB*

The laboratory to be utilized should be identified in the bid package. Upon receipt of the analytical results, the Consultant should forward a copy of the analytical results to ICF and its designated representative(s).

Task 2.8 - Hydraulic Parameter Estimates & Aquifer Characterization

Rising-head slug tests should be performed at all nineteen (19) shallow monitoring wells shown on **Figure 5**. An instantaneous displacement of the water level in each well may be accomplished by quickly removing a known volume of water or a pre-installed solid "slug" of known volume. Measurements should be taken as soon as possible following the extraction of the "slug" until achievement of the initial static water level (within 10%) in the well recorded prior to its placement. The water level response should be measured using a pressure transducer and/or electronic data logger.

TASK 3.0 - Fate & Transport/Risk Assessment and Remedial Alternatives Evaluations

Task 3.1 - Fate and Transport Evaluation

A Fate and Transport (FT) evaluation shall be completed as appropriate and consistent with Act 2 guidance in order to address contaminant migration scenarios. This evaluation should include dissolved phase concentration trend analysis and groundwater modeling as appropriate for constituents of concern at the site. The FT evaluation should be sufficient to determine the current and future extent of the dissolved phase plume for constituents of concern in groundwater for use in the development of a remedial action plan. It should also consider the degree of attenuation with respect to any down-gradient receptors and evaluate any supply well impacts (including the possibility/likelihood of offsite sources).

Fate and Transport groundwater modeling should be completed using the Quick_Domenico Model. This is one of the PaDEP approved models referenced in Act 2. Quick_Domenico should be well suited for use at the subject Site given the overburden aquifer (and PaDEP has acknowledged that it can be utilized on fractured rock sites as long as the biodegradation factor is set to zero when significant characterization data exists).

Task 3.2 - Hydrocarbon Mass Estimate Documentation

An estimate of the mass of hydrocarbons remaining in the subsurface shall be provided. This estimate should use available site data and may take advantage of accepted approximations, however if used such approximations and estimates must be explained and justified.

Task 3.3 - Risk Assessment Evaluation

A risk assessment shall be completed consistent with the guidelines provided in the Act 2 guidance manual (applicable portions of Sections II.C.4. IV.G and IV.H). These sections provide general information on risk assessment, developing site-specific standards and pathway elimination, and guidance on site-specific human health assessment procedures. This guidance should be followed to conduct a baseline risk assessment or to develop site-specific standards. If complete exposure pathways exist, the fate and transport analysis, which is a part of the exposure assessment, should be documented in the SCCR. Any city ordinances that are currently in place should be evaluated in this section.

Task 3.4 - Remedial Alternatives Analysis

A remedial alternative analysis should be completed to compare cleanup alternatives and evaluate which one is most appropriate for the Site. It should also explain why the proposed alternative was selected.

The results of the FT/RA evaluation will be utilized to develop closure goals for the Site so that an appropriate RAP consistent with subsurface conditions may be developed.

Task 4.0 - Preparation of Supplemental Site Characterization Report

The consultant shall prepare a Supplemental Site Characterization Report that documents and discusses the data obtained and the conclusions drawn from the completion of Tasks 2.0 and 3.0. At a minimum, Figures that support the text should include the following:

- USGS Topographic Map of Study Area
- Aerial Photo or Satellite Image of the Site Area
- Site Map (showing Site boundaries and pertinent Site features)
- Area Map (showing Site and adjacent properties, property boundaries, and property features; should be based on tax map)

- Geologic map (showing area bedrock geology and overburden, if available)
- Local Geologic Features Map (showing Site geology and pertinent structural features [strike and dip])
- Soil Sampling Location Map
- Soil Sampling Results Map (showing source areas or inferred source areas at the Site; iso-concentration maps should be prepared based on the available data)
- Monitoring Well Location Map (showing existing and new well locations)
- Groundwater Elevation Contour Map(s) for each sampling event
- Groundwater Sampling Results Map(s) for each sampling event (with results tabulated on the map)
- Groundwater Iso-concentration Maps (showing source areas or inferred source areas at the Site; iso-concentration contours should be prepared for benzene and MTBE, as appropriate, based on the available data)
- Vapor Monitoring Point Location Map
- Fate and Transport Figures, as appropriate, based on the results obtained from Quick_Domenico Modeling
- A figure to support text discussing a Site conceptual model
- Other Figures as appropriate

Figures should be located in the first Appendix for ease of reference. Additional Appendices should be provided to include well and soil-boring logs, soil results tables and data, groundwater results tables and data, vapor point sampling results tables and data, slug test data and results, soil disposal documentation, as applicable, a recent EDR-type report detailing nearby potential receptors and sources, etc, and documentation of Quick Domenico input parameters (including justification where de-fault values were not utilized) and the resulting spreadsheet output pages, risk assessment program (such as RBCA) input and output documentation sufficient for evaluation as required by PaDEP. Other Attachments should be provided as appropriate.

The SSCR must comply with the provisions of Chapter 245 Section 245.309 Site Characterization, and, Section 245.310, Site Characterization Report. The report shall provide a detailed summary of the tasks completed and provide an interpretation of the results. The report shall be submitted to PaDEP no later than 4 months after being awarded the contract. A draft report is requested by ICFI and USTIF 15 days prior to PaDEP submittal.

QUALIFICATION QUESTIONS

In order for proposals to be considered administratively complete, the proposals need to provide answers to the five (5) qualifications and experience questions provided below:

1) Does your company employ the Pennsylvania licensed Professional Geologist (P.G.) that is designated as the proposed project manager? How many years of experience does this person have?
2) How many Chapter 245 projects are your company currently consultant on record for in the Northeast region of Pennsylvania? Please List.

3) How many Chapter 245 projects have your company and/or the proposed Pennsylvania licensed P.G. worked on in the Northeast region of Pennsylvania during the last five (5) years?
4) How many Chapter 245 projects have your company and/or the Pennsylvania licensed P.G. closed (i.e., obtained relief from liability from the PaDEP) using either the Statewide Health Standards or Site Specific Standards? Please list.
5) Has your company ever walked away from a USTIF Fixed Price Contract or Pay For Performance contract without attaining all of the Milestones? If so, please explain why the contract was not fulfilled?

CONTRACT INFORMATION AND BID INSTRUCTION

The Solicitor wishes to execute a mutually agreeable fixed price contract based on unit prices for labor, equipment, materials, subcontractors/vendors and other direct costs. The prices provided in the bid will remain in effect for the duration of the project (i.e. no escalation clause). The total fixed cost quoted by the successful bidder will be the maximum amount to be paid by the Solicitor unless a change of scope is authorized and determined to be reasonable, necessary, and appropriate. A draft copy of the proposed fixed price contract is included in **Attachment 4**.

The bidding firm will need to include the following in their proposal:
· A demonstration of the bidder's understanding of the objectives of the project and the bidders approach to achieving those objectives efficiently based on the existing site information provided in this RFB;
· A fixed price cost estimate for work through the completion of the work plan activities;
· Provide a detailed schedule of activities for completing the proposed scope of work inclusive of reasonable assumptions regarding the timing and duration of client reviews (if any) needed to complete the scope of work;
· Indication of whether the bidder accepts or seeks changes to the proposed contract / terms and conditions;
· The bidder's level of insurance;
· The bidder's proposed unit cost rates for each expected labor category, subcontractors, other direct costs and equipment;
· The bidder's proposed markup on other direct costs and subcontractors (if any);
· Identify and describe the involvement of subcontractors;
· Identify any exceptions, assumptions, or special conditions applicable to scope;
· Cost by task and total costs must be defined within the proposal text and on the cost spreadsheets (Attachment 1);
· The bidder's total cost by task consistent with the proposed scope of work identifying all level-of-effort and costing assumptions;
· A statement of qualifications including that of any major subcontractor(s);
· Describe your approach to working with the PaDEP from project inception to submittal of the SCR. Describe how the PaDEP would be involved proactively in the resolution of technical issues and how the PaDEP case team will be kept informed of activities at the Site;

· Describe how the Solicitor and ICF/PAUSTIF will be kept informed as to project progress and developments and how the Solicitor (or designee) will be informed of and participate in evaluating technical issues that may arise during this project;
· Answers to the qualification questions discussed in the RFB;
· Identify the names of the proposed project team for the key project staff, including the proposed Professional Geologist of Record who will be responsible for overseeing the work and applying a professional geologist's seal to the project deliverables; and
· Provide a description of how the proposed work scope will be completed.

In addition, the bidder shall provide its bid using the format identified in this RFB and will provide brief descriptions of each task in the body of the bid document. In addition, the successful bidder will complete both the cost summary sheet and the detailed cost sheet included in **Attachment 1**. An electronic version of the detailed cost spreadsheet included in **Attachment 1** (in Microsoft Excel Format) has been provided online. In addition to the cost spreadsheet, each bidder should modify the Milestone/Proposed Payment Schedules included as Exhibit B and Exhibit C of the fixed price contract in **Attachment 4** to reflect the Bidder's anticipated time schedule. The detailed cost spreadsheet and the RFB SOW will be will be incorporated as attachments to the Fixed Price Contract (also included in **Attachment 4**). Actual milestone payments will occur after all tasks in the milestone (as documented in Exhibit B and Exhibit C in the Fixed Price Contract) have been successfully completed and results (reports, analytical data package, boring logs, etc.) have been provided to the claimant and USTIF. The scope of work, as described in this RFB, shall be conducted in accordance with industry standards/practices, and consistent with the PaDEP requirements and guidelines. The bidder's work to complete the tasks discussed will be subject to ongoing review by the PAUSTIF or its representatives to assess whether the work actually completed and the associated incurred costs are reasonable, necessary, and appropriate. In order to facilitate PAUSTIF's review and reimbursement of invoices submitted under this claim, the Solicitor requires that project costs be invoiced by the tasks identified in the bid. The bid responses must clearly and unambiguously accept the provided contract or must clearly cross reference any requested changes.

Each bid package received will be assumed to be good for a period of 120 days after receipt unless otherwise noted. Please note that ICF, USTIF, and AJA will treat the bids as confidential, but that limited general information may be released by the solicitor and/or AJA after the bid selection process is completed. In addition for your reference, a copy of the USTIF Competitive Bidding Fact Sheet is provided in **Attachment 5**. The aforementioned guidance document will provide you with additional information regarding the bidding process.

MANDATORY SITE VISIT

On July 22, 2010, the Technical Contact (or designee) will be at the site at 11:00 AM to answer questions and conduct a site tour for a limited number of participants per firm. Please inform the Technical Contact at least five (5) business days in advance of the aforementioned meeting date as to whether your firm will be in attendance. **Any firm that does not attend the July 22, 2010 mandatory site visit will not be eligible to submit a bid response.**

Attachment 1

Cost Summary Sheet

Attachment 2

Maps and Figures

Attachment 3

UST Closure Report, September 1999

Site Characterization Report, August 2001

Quarterly Groundwater Monitoring Report, October 2009

And

Data collected/tabulated by AJA including:
Survey data (12/17/2009),
Liquid Level data (12/17/2009 and 06/02/2010),
Purge data (12/17/2009 and 06/02/2010),
Historical Groundwater Analytical Data Table (10/2000 through 06/2010)
Summary Tables for the 1999 and 2000 Soil Sampling Events, and
Analytical Laboratory Data from 12/17/2009 and 06/02/2010

Attachment 4

Sample Fixed Price Contract

Attachment 5

Competitive Bidding Fact Sheet