COMPETITIVE BID SOLICITATION FOR SITE CHARACTERIZATION ACTIVITIES

T Bones BP
100 VIP Drive, Wexford, PA 15090
Marshall Township, Allegheny County, PA

PaDEP FACILITY ID #02-28578; USTIF CLAIM #2007-007(F)

April 8, 2010

A petroleum release at the site was discovered and confirmed in January 2007. A Site Characterization Report (SCR) was submitted on March 18, 2009 and was disapproved by the PA Department of Environmental Protection (PaDEP) on June 3, 2009. The Scope of Work for this RFB Solicitation is to perform additional site characterization activities and submit a Supplemental Site Characterization Report. The Solicitor, (T Bones, Inc.), has an open claim (claim number referenced above) with the Pennsylvania Underground Storage Tank Indemnification Fund (USTIF) and the corrective action work will be completed under this claim. Reimbursement of Solicitor-approved, reasonable, necessary, and appropriate costs up to claim limits for the corrective action work described in this RFB will be provided by USTIF.

The corrective action work of this solicitation will generally include the following components (additional details provided later in this solicitation):

- Conduct a PaDEP file review and write appropriate plans
- Conduct a geophysical survey of the property;
- Install additional soil and bedrock monitoring wells;
- Conduct a professional land survey of facility and adjacent facility;
- Conduct a soil boring and soil vapor investigation;
- Perform a survey of the sanitary sewers, storm sewers and other subsurface utilities;
- Perform a receptor survey;
- Conduct aquifer testing (slug test) and groundwater sampling; and
- Complete and submit a Supplemental Site Characterization Report.

Should your company elect to respond to this RFB Solicitation, One (1) copy of the signed bid package must be provided directly to the ICF International (ICF) Claims Handler at the address indicated below. In addition to this hard copy submittal, the bid package must also be submitted in electronic format (Adobe PDF format) on a CD to be included with the hard copy bid package to the ICF Claims Handler. The ICF Claims Handler and the Technical Contact will assist[1] Solicitor in evaluating the competitive bids received; however, it is the Solicitor who will ultimately select the successful bidder with whom it will negotiate a mutually agreeable contract.

[1] This assistance is being provided on behalf of ICF International (ICF) who is the USTIF claims administrator.

The signed response to this RFB (one hard copy and electronic copy) must be provided as directed above no later than close of business (5 p.m. EST) on May 27, 2010. Bid evaluation will consider, among other factors, estimated total cost, unit costs, schedule, discussion of technical approach, qualifications, and contract terms and conditions. The total cost will be the most heavily weighted evaluation criterion. The Solicitor will inform the successful bidder of its selection via e-mail by June 27, 2010 (30 days after deadline for submission). Confirmation of selection will follow via Certified U.S. Mail. The unsuccessful bidders will be informed by the Solicitor via First Class U.S. Mail.

A. SOLICITOR, SITE OWNER'S REPRESENTATIVE, ICF CLAIMS HANDLER, AND TECHNICAL CONTACT INFORMATION

Solicitor

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Technical Contact[2]

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NOTE: All questions regarding this RFB Solicitation and the subject site conditions must be directed via e-mail to the Technical Contact identified above with the understanding that all questions and answers will be provided to all bidders. The e-mail subject line must be "T Bones 2007-007 – RFB QUESTION". Bidders must neither contact nor discuss this RFB Solicitation with the Solicitor, USTIF, PADEP, or ICF unless approved by the Technical Contact. Bidders may discuss this RFB Solicitation with subcontractors and vendors to the extent required for preparing the bid response. **All questions must be received by close of business on May 10, 2010.**

[2] Subcontractor to ICF.

B. ATTACHMENTS TO THIS RFB SOLICITATION

Attachment 1	Previous Environmental Reports and Supporting Documents
Attachment 2	Standard Bid Format
Attachment 3	Standard Remediation Agreement (to be customized to this bid by the successful bidder)

C. SITE LOCATION / BACKGROUND

The following tables and figures are referenced in the sections below and are provided in Exhibit A. The figures listed below have been prepared by the current consultant.

Table 3 – Groundwater Data (UEG)
Figure 1 – Site Detail (UEG)
Figure 2 – Shallow Aquifer Map (UEG)
Figure 3 – Deep Aquifer Map (UEG)

The following figures have been prepared by the Technical Contact based on information generated by the current consultant. (The information has not been independently verified).

Figure 1 – USTIF Claim #07-007, Site Map
Figure 2 – USTIF Claim #07-007, Proposed Water Table ("Shallow") Well Distribution Map
Figure 3 – USTIF Claim #07-007, Approximate Unconsolidated Material Thickness Isopach Map
Figure 4 – USTIF Claim #07-007, Proposed "Deep" Well (Completed Below Water Table) Map
Figure 5 – USTIF Claim #07-007, Soil Boring Location Map
Figure 6 – USTIF Claim #07-007, Cross Section Key
Figure 7 – USTIF Claim #07-007, Cross Section

Environmental site characterization activities have been conducted at this site in response to a confirmed release at the site in January 2007. Specific site background information can be found in the documents provided in Attachment 1. The following information summarizes (and in some cases paraphrases) relevant information provided in the previous environmental reports that are included as Attachment 1. If there is any conflict between the summary provided herein and the source documents, the bidder should differ to the source documents.

Site Name / Address:
T Bones BP / Northeast corner of the Intersection of Wexford Bayne Road and VIP Drive, Marshall Township, Allegheny County, PA.

Site Use Description:
Site is a retail petroleum facility and convenience store.

Nature of Confirmed Release and Subsequent Activities:

USTs were installed in 1985 and 1993. On January 10, 2007, what was believed to be unleaded gasoline was observed in a bailer from the tankfield well (GSC Figure 1). Two inches of separate-phase liquid was noted in the tankfield well. UEG mobilized a vacuum truck to the site over the next few weeks to remove the product from the tankfield and to mitigate the unleaded gasoline vapors in the building. UEG installed semi-permanent air educting vent risers under the building to relieve the vapors on January 17, 2007 to address unleaded gasoline vapors in the building. On January 25, 2007, Containment Solutions entered the 6,000-gallon regular unleaded gasoline UST and discovered a crack in the tank that was the source of the release. The crack was repaired. From January 11 to January 31, 2007 UEG removed 23,342 gallons of gasoline/water from the T-Bones site as part of interim remediation activities. Reportedly, 486 gallons of unleaded gasoline that leaked from the 6,000 gallon regular unleaded gasoline UST was recovered. In February 2007, five (5) soil borings completed as five (5) groundwater monitoring wells (MW-1 through MW-5) were completed to investigate the extent of the soil and groundwater impacts resulting from the January 2007 release (GSC Figure 1).

UEG implemented Enhance Fluid Recovery (EFR) events at the site as an interim remedial measure. Interim EFR events have been conducted at the site since March 23, 2007 on groundwater monitoring well MW-3 and/or the tankfield well on a weekly basis. No separate phase liquid has been reported in the tankfield well since January 2007.

In January 2008, four (4) groundwater monitoring wells (MW-7 through MW-10) and one (1) groundwater monitoring well (MW-6D) described as “deep” by UEG were completed at the site. Two (2) wells (MW-8 and MW-10) were installed on-site. Two (2) off-site monitoring wells were installed on Pennsylvania Department of Transportation (PennDOT) parcels located west (MW-7) and south (MW-9) of the T-Bones property.

In February 2008, two (2) additional shallow borings were installed downgradient of the tankfield near the on-site utility lines located closest to the tankfield. SB-1 was installed west of the unleaded gasoline dispensers and just north of the sanitary sewer line which runs near the south property boundary of the T-Bones BP. SB-2 was installed east of the convenience store building just north of the storm sewer line which ran southwest from the concrete groundwater retention vault to a storm sewer junction near the diesel dispenser.

In February and May 2008, UEG collected four (4) soil gas samples from the T-Bones BP site.

In August 2008, two (2) additional groundwater monitoring wells (described as “deep” by UEG) were installed on Pennsylvania Department of Transportation (PennDOT) parcels located west (MW-11D) and south (MW-12D) of the T-Bones property. According to UEG, no separate-phase liquid has ever been detected in any monitoring wells.

On September 29, 2008, UEG responded to the T-Bones site to investigate gasoline vapors inside the convenience store building. The building had reportedly not contained vapors since the release in January 2007. On September 30, 2008 UEG mobilized a vacuum truck to the site to perform an EFR event on the tankfield well. Following the EFR event, UEG noted that the gasoline vapors in the convenience store building had dissipated. However, by the next morning UEG noted that gasoline vapors had returned. UEG performed daily EFR events for several days. Upon further UEG investigation, UEG determined that the gasoline odors were caused by vapors that were escaping through corroded tank gauging caps on the tops of the unleaded gasoline USTs in the tankfield. No liquid phase release is believed by UEG to have occurred.

On November 12, 2008, UEG mobilized to the site to investigate a heavy petroleum odor and slight sheen on the retention pond located south of the T-Bones property near the Franklin Village sign at the intersection of Wexford Bayne Road and Brandt School Road.

According to UEG, the source of the release in the retention pond may be related to petroleum spills, based on the presence of staining around the catch basins that eventually drain into the retention pond.

Current and Historical Constituents of Concern:
The constituents of concern (COCs) at this site are the substances on the Old PaDEP Short List for unleaded gasoline (benzene, cumene, ethylbenzene, MTBE, naphthalene, toluene, and total xylenes).

D. OBJECTIVE / SCOPE OF WORK AND PADEP DISAPPROVAL LETTER CROSS REFERENCE

This RFB seeks competitive bids from qualified contractors to perform the additional characterization activities scoped below to investigate a confirmed petroleum release and submit a Supplemental SCR to the PaDEP. (Following this scope of work, a revised RAP will be prepared. This work is not part of this SOW.) The following Scope of Work has been developed by the Technical Contact based on the §245.309 Regulations and specific comments from the PaDEP case manager.

1. **Project Plans:** The bidder must conduct a PaDEP file review. The bidder must also prepare a Health and Safety Plan; Waste Management Plan; Field Sampling and Analysis Plan; PA One Call Notification Plan and/or other plans that may be required by regulations or that may be necessary and appropriate.[3]

[3] In accordance with 25 PA Code §245.309. Successful bidder shall be responsible for contacting Pennsylvania One Call prior to conducting any invasive field work.

2. **Geophysical Survey:** A geophysical survey of the site (property) should be performed. The survey will include the area under the canopy, to the south of the canopy as far as the curb, to the west 40 feet beyond the canopy, to the north and east 30 feet beyond the canopy. The purpose of this survey is to help identify and locate the UST excavations, previous areas of soil excavation, potentially unknown USTS, conveyance lines, and other underground utilities and features prior to the invasive characterization activities. It is anticipated that both electromagnetic (EM) and ground-penetrating radar (GPR) technologies would be employed. This is a busy facility and this activity will need to be coordinated with the Solicitor such that the work is done at a time when the facility is closed or generally not busy.

3. **Engineering Evaluation of Utilities:** Conduct an engineering evaluation of underground storm sewers and sanitary sewers beneath the site and adjacent to the site for a distance of 50 feet beyond the property line to the south and west along Wexford Bayne Road and VIP Drive. Please note that a relatively large drainage vault exists to the east of the USTs. In addition, the evaluation should include any onsite laterals to these utilities which may have served or currently serve as preferential migration pathways for petroleum impacted water, potential SPL, or vapors. This evaluation should include:

    a. a professional survey of invert of main conveyance pipe at manholes, catch basins manhole rim elevations and locations, configuration of laterals and main lines for sewers (should be incorporated into Item 4 below);

    b. an assessment of construction material of utility;

    c. an evaluation of utility bedding material (grain size) to the extent that this information is obtainable from plans or interviews; and

    d. a review of available plans of the utilities beneath Wexford Bayne Road and VIP Drive and the subject site.

    The purpose of this evaluation is to allow for the construction of as-built plans of the utilities beneath the site and adjacent streets.

4. **Licensed Professional Land Survey of Site / Base Map Preparation:** After all investigation activities, conduct a professional survey of the site by a Pennsylvania-licensed land surveyor. Survey should include the property line and all principal site features (e.g., buildings, dispensers, grass islands, property boundaries, paved areas, gravel areas, conveyance lines (if known), borings and groundwater monitoring wells, etc.) and features identified in the engineering evaluation (Item 3). Base map shall also show uses of adjoining properties and shall include the locations and elevations of the tops of casing of the monitoring wells.

5. **Interim Groundwater Sample:** Within 14 days of the execution of the Remediation Agreement (contract) the bidder shall sample wells MW-1, MW-2, MW-3, MW-5, MW-12D and the tankfield and transmit the results to the PaDEP case manager within 21 days of sampling. (Refer to Section 9 for details regarding the methods and QA/QC for the existing well sampling.)

6. Onsite Monitoring Well Installation:

Soil Monitoring Wells

Additional groundwater characterization is required. Please assume for this RFB that seven (7) additional overburden groundwater monitoring wells ("shallow wells") are required. They are shown as MW-1S, MW-2S, MW-3S, MW-7S, MW-13S, MW-14S and MW-15S on attached GSC Figure 2. For the purpose of this RFB assume that the monitoring wells shall be installed with the following characteristics:

a. Conduct continuous geological characterization (boring logs) and screening of soil from borings using a photoionization ionization detector (PID). Continuous geological logs should be prepared by a Professional Geologist licensed in the Commonwealth for each boring using standard and consistent classification system procedures (e.g., Modified Burmister or USCS).

b. Collect discrete soil samples from a depth coincident with the water table. One additional sample may also be collected at any depth interval with a PID response significantly greater than the typical reading for that boring and that is greater than 100 ppm. Historical data from existing wells and contemporaneous data from drilling and boring activities should be considered while sampling. Assume for the purpose of this RFB, that two (2) soil samples will be collected in total from each well. Soil samples will be collected in laboratory-provided containers in accordance with EPA Method 5035 and analyzed for the COCs (Old list of PaDEP unleaded gasoline substances – benzene, cumene, ethylbenzene, MTBE, naphthalene, toluene, and total xylenes) by EPA Method SW846 8260 by a PADEP-certified laboratory;

c. Wells shall be constructed of 2-inch PVC with a maximum of 20 feet of well screen;

d. Wells shall be installed a minimum of five (5) feet into the soil saturated zone;[4]

e. The well screen shall straddle the unsaturated/saturated zone interface.

f. The screen shall be entirely in soil (GSC Figure 3 shows the approximate thickness of unconsolidated material); and

g. Each monitoring well will be completed at the surface with a securable manhole, set in concrete flush with the ground surface.

Bedrock Monitoring Wells

Assume that two additional bedrock monitoring wells are required (MW-2D and MW-10D, GSC Figure 4). For the purposes of this RFB assume that the monitoring wells shall be installed with the following characteristics:

a. Conduct continuous geological characterization (boring logs);

b. Wells shall be constructed of 2-inch PVC with a maximum of twenty (20) feet of well screen;

[4] If the soil is thick enough, for cost estimation purposes, Bidder shall assume that each well shall be installed by hollow stem auger drill rig to a depth of 25 feet below grade.

c. Wells shall be constructed such that the top of the screen is five (5) feet below the soil/bedrock interface and the top of the sand pack is at least three (3) feet below the soil/bedrock interface;

d. There may be SPL on the water table. The well will be drilled such that there is a surface casing to the top of bedrock (ungrouted) and a protective casing set three (3) feet in to the bedrock and grouted in the bedrock socket and the surface casing (Please prepare your bid with a cost for this configuration. If you wish to propose an alteration to this configuration, please do so in the text with an associated cost as an option); and

e. Each monitoring well will be completed at the surface with a securable manhole, set in concrete flush with the ground surface.

Soil and Bedrock Monitoring Wells

Prior to drilling each location should be explored for utilities using an air knife or equivalent technology to a depth of five (5) feet. The wells shall be developed in accordance with standard industry practices and applicable laws, regulations, guidance and Department directives. (One of the documents to be considered is the PaDEP Groundwater Monitoring Guidance Manual, Document No. 383-3000-001 dated December 1, 2001.) The wells shall not be sampled within 14 days of development. Additionally, the wells shall be surveyed by a professional surveyor to identify locations on the scaled base site plan and to determine top of casing elevations (elevation above mean sea level)(see Item 4 above).

7. **Monitoring Well Abandonment:** Monitoring wells MW-2 and MW-1, located near Wexford Bayne Road, shall be abandoned by filling each well with a 95% Portland/5% bentonite grout mixture delivered by grout pipe through a tremmie tube (GSC Figure 2). The surface shall be restored to match the surrounding ground surface. This shall be done after the work in Section 5.

8. **Soil Boring Drilling and Soil Vapor Point Drilling and Completion:** Additional soil sampling is required. Please assume for the purposes of this RFB that seventeen (17) soil borings will be drilled (GSC Figure 5). These borings will investigate soil quality near the UST systems.

   The borings should be advanced to the bedrock surface or direct-push refusal. The goal is to extend at least five (5) feet below the water table at each location. If direct push refusal is encountered at a depth reasonably interpreted to be well above bedrock, a second attempt to reach bedrock will be made. Continuous geological logs should be prepared by a Professional Geologist licensed in the Commonwealth for each boring using standard and consistent classification system procedures (e.g., Modified Burmister or USCS). Soil samples should be screened at two-foot intervals with a photoionization detector (PID) (using headspace measurements). In addition to the petroleum analytical samples, representative discrete soil samples should be collected and conveyed to a laboratory(s) for grain size analysis including quantification of silt and clay content and fraction of organic carbon. Five grain size samples should be analyzed based on the stratigraphy and soil types observed during the soil sampling. Two soil samples should be analyzed for fraction of organic carbon.

Conduct continuous geological characterization (boring logs) and screening of soil from borings using a photoionization detector (PID). Collect a discrete soil sample from a depth coincident with the water table. As shown on GSC Figures 6 and 7, some existing monitoring wells are or may be completed below the water table. Caution should be used if UEG Figure 2 is referenced to determine the water table configuration because of possible vertical hydraulic gradients. One additional sample may also be collected at any depth interval with a PID response significantly greater than the typical reading for that boring and greater than 100 ppm. Assume for the purpose of this RFB, that two (2) soil samples will be collected from each soil boring. Soil samples will be collected in laboratory-provided containers in accordance with EPA Method 5035 and analyzed for the substances on the Old Short List for unleaded gasoline (benzene, cumene, ethylbenzene, MTBE, naphthalene, toluene, and total xylenes) by EPA Method SW 846 8260 by a PADEP-certified laboratory. Prior to drilling the borings, each location should be explored for utilities using an air knife or equivalent technology to a depth of five (5) feet.

Four soil vapor sampling points (SVP) shall be installed. They will be located approximately three feet from MW-13S, soil boring “H”, MW-15S and soil boring “O”, respectively.

For each SVP, drill a two-inch diameter soil boring five (5) feet, six (6) inches deep using a Geoprobe rig or other rig with cores or small diameter augers. Fill the bottom six inches of the boring with #1 sand. The SVP assembly (which consists of Teflon tubing, connected to a six-inch long stainless steel mesh screen by a barbed fitting, and an anchor that is threaded onto the bottom of the screen) should be lowered into the borehole until the anchor is set in the sand at the bottom of the borehole. Sand is then poured into the boring to no more than six inches above the top of the screen. Bentonite chips are then poured on top of the sand and hydrated to a depth of about six inches below grade. Flush-mounted manhole is then installed to protect the points from damage. An alternative may also be proposed to this assembly that will allow for the collection of discrete samples at a depth of five (5) feet.

Two rounds of samples shall be collected from each soil vapor sampling point. The samples should be collected at least 30 days apart. Soil vapor samples shall be collected in 6-liter laboratory-provided stainless steel evacuated cylinders connected to laboratory-calibrated flow controllers set to a maximum flow rate of 200 ml/min. The samples shall be analyzed for the substances on the PADEP short list for unleaded gasoline (benzene, cumene, ethylbenzene, MTBE, naphthalene, toluene, and total xylenes) by EPA Method TO-15 by a NELAP-certified laboratory. QA/QC will consist of a trip blank and an ambient air sample.

Soil vapor sampling results will be compared to the soil vapor guidance values. The soil vapor guidance values represent an attenuation factor of 100 times the Residential Indoor Air Medium-Specific Concentrations (MSCs) referenced in Table 3 (Appendix D) of the *Land Recycling Program Technical Guidance Manual – Section IV.A.4 – Vapor Intrusion in Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard).*

9. **Monitoring Well Sampling and Analysis:** The 19 existing and proposed monitoring wells (less the two abandoned wells) at the site shall be sampled twice if they have no measureable SPL and analyzed for the substances on the Old Short List for unleaded gasoline (benzene, cumene, ethylbenzene, MTBE, naphthalene, toluene, and total xylenes). The two sampling rounds shall be collected at least 30 days apart. The samples shall be analyzed by EPA Method 8260 by a PaDEP-certified laboratory. QA/QC for this task shall include collecting and analyzing one trip blank (provided by laboratory) and one blind duplicate QA/QC groundwater sample for the COCs per sampling event. Wells shall be purged prior to sampling in accordance with standard industry practices and applicable laws, regulations, guidance and Department directives. (One of the documents to be considered is the PaDEP Groundwater Monitoring Guidance Manual, Document No. 383-3000-001 dated December 1, 2001.)

   During each quarterly sampling event, static water levels and SPL thickness shall be measured in each of the monitoring wells.

   If SPL is encountered during the monitoring well sampling activities, the SPL thickness shall be measured before it is removed and properly containerized / stored and the Technical Contact shall be notified immediately.

   For the cost estimation purposes, bidders shall assume that two sampling events will be conducted as part of this Scope of Work.

10. **Receptor Survey:** Additional receptor information has been requested by the PaDEP. The following tasks must be completed:

    a. Review the PA Groundwater Information System (PAGWIS) records available from the PA Topographic and Geologic Survey website. This task shall include plotting all recorded wells within a ½-mile radius of the Site on a map and including a copy of the database records for that search distance in an appendix to the Supplemental SCR.

    b. Local water authority records (if any) should be searched to determine whether all properties within 500 feet of the site are connected to and using public water.

    c. A door-to-door survey of the adjoining and downgradient properties (for a distance of 500 feet from the downgradient property line) shall be performed to investigate whether there are private water supply wells present on the property. One attempt should be made to contact each property owner to interview or schedule an interview. If contact can not be made, visual reconnaissance of the property should be conducted from public rights-of-way to determine if any obvious signs of a water supply well are evident.

    d. Perform a Pennsylvania Natural Diversity Inventory (PNDI) environmental review to evaluate for the presence of special concern species and resources. This review can be performed over the internet at *http://www.gis.dcnr.state.pa.us/hgis-er/Login.aspx.*

11. **Single Well Aquifer Test:** Single well aquifer testing should be performed on four of the monitoring wells (two (2) shallow and two (2) deep). Both rising head and falling head tests should be performed in accordance with standard industry practices and applicable guidance. The aquifer test data should be analyzed by a Professional Geologist licensed in the Commonwealth of Pennsylvania using standard industry practices and applicable guidance.

12. **Reporting:** Prepare a Supplemental SCR documenting the results of the successful bidder's site characterization work. The format and content of the report shall be generally consistent with 25 PA Code §245.309 and shall include, as applicable, recommended follow-up site characterization activities along with rationale. The report shall include groundwater potentiometric surface maps of soil and bedrock groundwater systems and plume maps of all constituents above the residential SHS, as well as posted soil results maps. The report shall also include a map showing the water table contours superimposed on a map showing utility elevations (e.g., catch basin inverts, manhole inverts, base of the drainage vault, etc.). The report will also include three scaled geologic cross sections with no well projection. They should show representative depictions of relevant man-made surface features (projected, if necessary). These cross sections will pass through; #1) MW-7 cluster, MW-10 cluster, MW-13, MW-3 cluster, MW-5 and MW-4; #2) MW-3 cluster, MW-15, MW-6D cluster, MW-2S and MW-9 cluster; and #3) to be selected by bidder. The Supplemental SCR shall be sealed by a Professional Geologist licensed in the Commonwealth of Pennsylvania. A draft Supplemental SCR shall be submitted electronically (in Adobe PDF format) and in hard copy to the Solicitor and ICF Claims Handler for review / comment prior to finalizing the Supplemental SCR. Once the successful bidder has addressed comments on the draft, the successful bidder shall finalize and issue report to PaDEP. All AutoCAD maps / plans included in the report (e.g., site plan / base map, groundwater elevation maps, dissolved plume maps, and soil contaminant distribution maps) shall also be submitted electronically (in AutoCAD format) on CD to the Solicitor and ICF Claims Handler. Additionally, electronic copies of all data tables shall be submitted (in the format of the application used to create them (e.g., MS Excel) on CD to the Solicitor and ICF Claims Handler.

13. **PaDEP Disapproval Letter Cross Reference:** The bidder must address all of the PaDEP's comments in the supplemental SCR. This SOW has been reviewed by the PaDEP and SOW Items 1 through 13 should provide the necessary data and information. The appropriate item of the SOW is noted below as a cross reference.

"1. Section 2.3 – Local Geology discusses storm drain catch basins and the conveyance of storm water to a retention pond across the highway. No discussion of the depth of the drains in relation to groundwater occurrence is provided. It is possible that the storm system could provide preferential flow paths for contamination exiting the site. Figure 2 identifies an "Existing Underground Concrete Drainage Vault" that is apparently three times the size of the tank field housing the UST system. No discussion is provided how this structure potentially impacts groundwater flow."

Refer to SOW 2, 3, 4, 9 (water level measurements), and 12 (superimposed map).

"2. Section 2.4 – Hydrogeology indicates that the "deep" aquifer is "confined". What evidence supports the determination of a confined aquifer? If the aquifer is indeed confined, a discussion of how that condition affects groundwater occurrence and flow needs to be provided."

Refer to SOW 9 (water level measurements) and 12 (cross sections and potentiometric surface maps).

"3. Domestic water wells (Section 2.5.2) may be of concern. It is problematic that the location for two private wells is given as the same as that occupied by the gas station. The location of these wells should be established if possible. It is recognized that SHS have been selected for the site groundwater; should this change in the future, the local groundwater use survey will need to be significantly enhanced (PAGWIS searches alone are not sufficient)."

Refer to SOW 10, and perhaps 4.

"4. Section 4.3 discussed soil sampling. There are a number of issues related to the soil sampling program:

a. The second paragraph of the text discuses samples from monitoring wells that are not associated with this site (e.g., MW-11 through MW-25D).

b. The soil sample from MW-7 is indicated to be from the five to seven foot interval. Top of bedrock is indicated to be at four feet. The "soil" sample from MW-7 was apparently collected in bedrock.

c. The fractional organic carbon and soil bulk density sample from MW-8 is stated to have been collected from seven to eight feet. Top of rock is indicated to be seven feet. Was the sample obtained from bedrock?

d. Soil samples appear to have been collected from intervals that are significantly below the water table. This condition is problematic since it cannot be known if contamination has been washed out of the soils or is there only because groundwater is contaminated. It does not allow a determination to be made of the source or extent of possible soil impacts.

e. The boring logs and well completion forms do not provide information regarding the person who logged the geology. Only the driller and helper are identified.

f. The areal locations of the soil sampling points do not adequately characterize possible soil impacts. Many of the sampling points are quire remote from the tank field that is the expected source of contamination. Additional soil characterization needs to be performed or the sufficiency of the present sampling program needs to be technically supported. Vertical sampling in areas where there is a significant thickness of soil also needs to be considered."

Refer to SOW 6 and 8.

"5. There are issues related to the monitoring wells as follows:

a. There is a concern that many of the shallow monitoring wells are screened across the soil/bedrock interface. Wells are normally completed as soil wells or bedrock wells. The ability of these wells to provide representative samples needs to be further supported technically.

b. Wells MW-3 and MW-7 appear to have drowned screens (screens totally below the water table). MW-1, MW-4 and MW-5 have screens that are drowned some of the time. This is not a desirable condition at a petroleum fuels site especially one where there has been a known, significant release of free product. This condition is especially problematic at MW-3 where the highest levels of contamination have been seen.

c. The closest wells to the tank field, the expected source of the site contamination, are approximately 100 feet away. The feasibility of placing additional monitoring points nearer the tanks needs to be assessed."

Refer to SOW 6 and 7. Abandoning certain wells and proposed additional wells should address this concern.

"6. Well sampling is addressed in Section 4.7. Purging prior to obtaining a sample has apparently been accomplished using a vacuum truck. This approach to purging is not a recognized industry standard which generally aims for minimal disturbance of the aquifer while still removing stagnant water from around the well screen. The use of a vacuum truck to purge wells also contravenes the Pennsylvania "Groundwater Monitoring Guidance Manual" (December 1, 2001), section 6.3.4. The SCR must fully defend the representative nature of groundwater samples obtained from wells that were purged with a vacuum truck. Unless this technique can be fully verified, future sampling events should not employ vacuum trucks to purge wells."

The PaDEP has stated that the use of a vacuum truck to purge wells contravenes guidance. The bidder should choose another purge method and will not be expected to defend vacuum truck purging. Refer to SOW 9 and 12.

"7. Well MW-3 has been used for EFR events. The well is screened totally in bedrock and has been pumped for approximately seven hours for each event. This has undoubtedly drawn water down through the soil column over some distance from the well. It has also drawn any contamination downward into the bedrock. The effect the repeated EFR events have had on the area around MW-3 needs to be assessed. This may require installation of additional soil wells near MW-3 and installation of a more robust bedrock monitoring well system on the site."

Refer to SOW 6, 9 and 12.

"8. Section 6.0 provides analysis of contaminant fate and transport. The following issues have been identified:

a. An average hydraulic conductivity is used in the analysis that is derived from slug tests performed in MW-1 and MW-3. MW-1 is screened primarily in soil while MW-3 is screened totally in bedrock. Using an average value from these two disparate geologic units is not technically supportable.

b. A porosity of 50% was used in the analysis. This is extremely high for effective porosity and would be more representative of loose gravels. Also, using the highest permeability is not the most conservative since the lower the permeability, the higher the flow rate. For example, using a 20% effective porosity yields a flow velocity of 0.38 ft/day which is more than twice as fast as the 0.155 ft/day calculated using 50% porosity.

c. The fate and transport analysis leads to contaminant velocities that indicate the travel time to the property boundary to be tens or hundreds of years. Fifty years for benzene to reach the southern property boundary was calculated; however, benzene is already there in less than two and one-half years. This may reflect unidentified sources of contamination, long undetected releases from the system or the need to perform additional modeling work that will provide results that are more representative of site conditions."

Refer to SOW 6, 8 and 10.

"9. The risk evaluation section comments follow:

a. Accidental ingestion of soils pathway during trenching activities is ruled incomplete because the contaminant levels are below the direct contact values. Direct contact is for dermal not for accidental ingestion.

b. The groundwater ingestion pathway cannot be considered incomplete based on the findings to date.

c. The assumption that "…future construction workers would likely be outfitted with proper personal protective equipment and engineering controls…" to inhibit vapor inhalation is not supportable since is it extremely possible that contractors would not be informed of the potential exposure prior to commencing work."

Refer to SOW 8.

"10. The vapor intrusion study results indicate that the second sampling event produced levels that were generally below applicable standards. Vapor intrusion to the convenience store has been documented on at least two occasions indicating that there is a definitive risk of future events regardless of what the soil vapor sampling indicates. This condition needs to be further assessed."

Refer to SOW 8.

*"11. Table 4 footnote *** indicates that the "Formula to convert ppbv to ug/m3…" was used to calculate soil gas sampling results; however, the soil gas sampling results are reported in mg/m3 not ug/m3."*

Refer to SOW 8.

"12. Section 10.0 addresses the selection of remedial standards. SHS have been chosen for all environmental media of concern. Some of the conclusions reached in the discussion cannot be supported as detailed below:

a. Fourteen soil samples were obtained and analyzed. There are numerous concerns related to the soil sampling program as discussed in earlier comments. The most salient issues are the lack of sampling density to adequately characterize site soils, the depths at which many of the samples were obtained compared to the groundwater table and lack of information from the expected source area.

b. The samples obtained to date, if acceptable in other regards, would only constitute characterization samples. A more detailed sampling program, as described in the regulations, will be required to demonstrate attainment with any applicable standard.

c. Soil continues to be a "…media of concern…" at the site and "attainment of the SHS for soil…" has <u>not</u> been demonstrated.

d. Groundwater at the site is not in attainment for either of the aquifers investigated. Additional characterization appears to be required in both aquifers as discussed in previous comments. No Point-of-Compliance (POC) has been established or identified for either aquifer; this is required in order to have any demonstration of attainment.

e. It is possible that the quality of the analytical data obtained from the groundwater monitoring as been compromised by the purging technique. Future data, obtained from samples collected using more appropriate purging methods, may provide insight into this question.

f. Additional consideration of vapor intrusion potential may be required if other contaminated soil is discovered during subsequent investigations."

Refer to SOW 4, 6, 8 and 9.

14. Other Bid Document Comments:

The Scope of Work as described above shall be conducted in accordance with industry standards and practices, and shall be consistent with PaDEP laws, regulations, guidance and Department directives. (One of the documents to be considered is the PaDEP Groundwater Monitoring Guidance Manual, Document No. 383-3000-001 dated December 1, 2001).

In addition to the SOW tasks specified above, the selected consultant shall also be responsible for coordinating, managing and completing the proper management, characterization, handling, treatment, and/or disposal of all impacted soils, water, and derivative wastes generated during the implementation of this SOW in accordance with standard industry practices and applicable laws, regulations, guidance, and PADEP directives. Waste characterization and disposal documentation (e.g., manifests) shall be maintained and provided to the Solicitor upon request. Waste disposal costs shall be included in the fixed-price quoted for Tasks 1 through 11, as appropriate.

Because site characterization is an iterative process with each phase of characterization being shaped by the results of the previous phase, it is anticipated that there may be deviations from and modifications to this Scope of Work during the project. These changes will be handled in accordance with Section E below.

Each bidder should carefully review the existing site information provided in Attachment 1 to this RFB and seek out other appropriate sources of information to develop a cost estimate and schedule leading up to and including preparing the Supplemental SCR. There is no prequalification process for bidding. Therefore, bids that demonstrate a command of existing site information and demonstrate an understanding of standard industry practices will be regarded as responsive to this solicitation.

E. TYPE OF CONTRACT / PRICING

The Solicitor wishes to execute a mutually agreeable Fixed Price contract (Remediation Agreement). A copy of the standard Remediation Agreement is included as Attachment 3 to this RFB solicitation. This sample agreement has been previously employed by other Solicitors on other USTIF-funded claims. The bidder must identify in the bid response document any modifications that they wish to propose to the Remediation Agreement language in Attachment 3 other than obvious modifications to fit this RFB (e.g., names and dates). The number and scope of any modifications to the standard agreement will be one of the criteria used to evaluate the bid. **All bid responses must clearly and unambiguously state whether the bidder accepts the Remediation Agreement included in Attachment 3 "as is," or provide a cross-referenced list of requested changes to this agreement.** Any requested changes to the agreement should be specified in the bid response, however, these changes will need to be reviewed and agreed upon by both the Solicitor and the USTIF.

The Remediation Agreement costs shall be based on unit prices for labor, equipment, materials, subcontractors/vendors and other direct costs. The total cost quoted by the successful bidder will be the maximum amount to be paid by the Solicitor unless a change in scope is authorized and determined to be reasonable, necessary, and appropriate. As stated in Section D, it is anticipated that there may be deviations from and modifications to this Scope of Work during the project. The Remediation Agreement states that any significant changes to the Scope of Work will require approval by the Solicitor, USTIF, and PaDEP.

The bidder shall provide its bid using the format identified in Attachment 2 with brief descriptions provided for each task provided in the body of the bid document. An electronic version of Attachment 2 (in Microsoft Excel Format) has been provided on the accompanying CD (Attachment 1). In addition to Attachment 2, the bidder shall provide a unit rate schedule that will be used for any out-of-scope work on this project.

The successful bidder's work to complete the Supplemental SCR under the USTIF claim will be subject to ongoing review by the Solicitor and USTIF or its representatives to assess whether the work has been completed and the associated incurred costs are reasonable, necessary, and appropriate.

In order to facilitate USTIF'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 standard practice of tracking total cumulative costs by bid task will also be required to facilitate invoice review.

Each bid package received will be assumed to be valid for a period of up to 120 days after receipt unless otherwise noted. The costs quoted in the bid and the rate schedule will be assumed to be valid for the duration of the Supplemental Site Characterization Activities contract.

F. BID RESPONSE DOCUMENT

Each bid response document must:

1. Include a demonstration of the bidder's understanding of the existing site information provided in this RFB, standard industry practices, and the objectives of the project.

2. Identify the bidder's approach to achieving project objectives (implementing the SOW) efficiently.

3. Include a cost estimate and schedule for work up to and completing the Supplemental SCR.

4. Provide Fixed Price bid pricing using the standardized format in Attachment 2 including a rate schedule for any out-of-scope work. The following information relating to the bid pricing should be included on Attachment 2 or discussed in the body of the bid document:

    a. The bidder's proposed unit cost rates for each expected labor category, subcontractors, other direct costs, and equipment;

    b. The bidder's proposed markup on other direct costs and subcontractors (if any);

    c. Estimated cost by task and total costs must be defined within the proposal text and on Attachment 2; and

    d. The bidder's estimated total cost by task consistent with the proposed Scope of Work identifying all level-of-effort and costing assumptions.

5. Include documentation of the bidder's level of insurance consistent with the levels listed in Attachment 3[5];

6. Identify the names of the proposed project team for the key project staff, including the proposed Professional Geologist and Professional Engineer (if applicable) of Record who will be responsible for overseeing the work and applying a professional geologist's seal to the project deliverables. The inclusion of brief resumes of key project team members is necessary.

[5] The successful bidder agrees and shall submit evidence to the Solicitor before beginning work that bidder has procured and will maintain Workers Compensation; commercial general and contractual liability; commercial automobile liability; and professional liability insurance commensurate with the level stated in the Remediation Agreement and commensurate with industry standards for the work to be performed.

7. Include answers to the following specific questions:

    a. How many Chapter 245 Corrective Action projects in the State has your company and/or the Pennsylvania licensed P.G. closed after the completion and acceptance of an SCR, RAP and RACR (i.e., obtained relief from liability from the PaDEP) using the Statewide Health or Site Specific Standards? Please list up to five.

    b. How many Chapter 250 Corrective Action projects in the State has your company and/or the Pennsylvania licensed P.G. closed (i.e., obtained relief from liability from the PaDEP) using the Statewide Health or Site Specific Standards? Please list up to five.

    c. Has your firm ever been a party to a terminated USTIF-funded Fixed-Price (FP) or Pay-for-Performance (PFP) contract without attaining all of the Milestones? If so, please explain, including whether the conditions of the FP or PFP contract were met.

8. Identify and sufficiently describe subcontractor involvement by task.

9. Provide a detailed schedule of activities for completing the proposed Scope of Work inclusive of reasonable assumptions regarding the timing and duration of client and PaDEP reviews (if any) needed to complete the Scope of Work. Details on such items as proposed meetings and work product submittals shall also be reflected in the schedule.

10. Describe your approach to working with the PaDEP from project inception to submittal of the Supplemental SCR.

11. Describe how the Solicitor and ICF / USTIF 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.

12. Identify key assumptions made in formulating the proposed cost estimate. The use of overly narrow assumptions will negatively impact the bid.

13. Identify any exceptions or special conditions applicable to the proposed Scope of Work.

14. Include quotations from major subcontractors.

15. Identify all level-of-effort and costing assumptions.

G. MANDATORY SITE VISIT

THERE WILL BE A MANDATORY SITE MEETING ON APRIL 29, 2010. The Solicitor, the Technical Contact, or their designee will be at the site between 11:00 am and noon to answer questions and conduct a site tour for one participant per firm. This meeting is mandatory for all bidders – no exceptions. This meeting will allow each bidding firm to inspect the site and evaluate site conditions. **A CONFIRMATION OF YOUR INTENT TO ATTEND THIS MEETING IS REQUESTED TO BE PROVIDED TO THE ICF TECHNICAL CONTACT VIA E-MAIL BY APRIL 23, 2010 WITH THE SUBJECT "T BONES 2007-007 – SITE MEETING ATTENDANCE CONFIRMATION".** The name and contact information of the company participant should be included in the body of the e-mail.

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
Monitoring Well #1 (MW-1) - SOUTH OF TANKFIELD AND BP BUILDING NEAR DIESEL FUEL DISPENSER								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
03/05/07	**1,290**	**1,540**	643	4,020	<50	**<50**	**111**	
05/25/07	**622**	66	296	645	33	**<25**	98	
08/31/07	**317**	25	274	289	32	<5	**105**	
11/29/07	**62**	6	16	<5	<5	<5	21	
01/17/08	**100**	28	105	126	<25	**<25**	25	
05/15/08	**68**	6	96	97	15	<5	<10	
08/07/08	**51**	<5	90	10	13	<5	<5	
10/30/08	**852**	<50	**870**	403	62	**<50**	**152**	Collected after reported vapor release on 9/29/08
11/25/08	**420**	142	493	1,230	34	**<25**	99	Collected to confirm results of 10/30/08 sample
01/08/09	**73**	24	151	182	27	<5	60	
05/21/09	**53**	<5	108	143	14	<5	9	Sampled per T. Fuller's request to see if COCs rebounded
06/24/09	**69**	16	116	20	19	<5	14	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
MONITORING WELL # 2 (MW-2) - SOUTHWEST OF TANKFIELD AND BUILDING NEAR STORE SIGN								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
03/05/07	136	148	63	352	<5	227	20	
05/25/07	15	66	296	645	33	225	98	
08/31/07	47	<5	<5	<5	<5	182	<5	
11/29/07	53	<5	<5	<5	<5	158	<5	
01/17/08	45	<5	<5	<5	<5	204	<5	
05/15/08	<5	<5	<5	<5	<5	<5	<10	
08/07/08	<5	<5	<5	<5	<5	186	<5	
10/30/08	<5	<5	<5	<5	<5	139	<5	Collected after reported vapor release on 9/29/08
01/08/09	<5	<5	<5	<5	<5	198	<10	
05/21/09	<5	<5	<5	<5	<5	96	<10	Sampled per T. Fuller's request to see if COCs rebounded
06/24/09	<5	<5	<5	<5	<5	121	<5	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
MONITORING WELL # 3 (MW-3) - NORTH OF TANKFIELD BELOW T-BONES SUPERMARKET								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
03/05/07	**6,920**	**13,800**	**1,740**	**11,100**	<500	**<500**	**<500**	
05/25/07	**3,420**	**4,210**	**1,050**	4,820	67	**<50**	**139**	
08/31/07	**1,290**	**1,780**	696	2,300	<50	**<50**	**132**	
11/29/07	**1,780**	**2,980**	**762**	3,320	<50	**<50**	**122**	
01/17/08	**1,550**	**4,190**	123	515	7	<5	21	
05/15/08	**919**	**2,690**	649	2,440	64	**<25**	**220**	
08/07/08	**968**	**3,000**	609	2,630	<50	**<50**	<50	
10/30/08	**413**	232	**712**	467	68	**<50**	**414**	Collected after reported vapor release on 9/29/08
01/08/09	**561**	<5	588	1,700	51	10	**132**	
05/21/09	**237**	457	231	620	<25	**<25**	40	Sampled per T. Fuller's request to see if COCs rebounded
06/24/09	**390**	660	270	789	30	<10	38	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
MONITORING WELL # 4 (MW-4) - SOUTHEAST OF TANKFIELD NEAR EXIT TO STATE ROUTE 910								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
03/05/07	204	194	30	350	6	<5	39	
05/25/07	51	<5	<5	18	<5	<5	8	
08/31/07	22	<5	<5	<5	<5	<5	<5	
11/29/07	<5	<5	<5	<5	<5	<5	<5	
01/17/08	<5	<5	5	<5	<5	<5	<5	
05/15/08	<5	<5	5	<5	<5	<5	<10	
08/07/08	13	<5	13	<5	<5	<5	<5	
10/30/08	<5	<5	<5	<5	<5	<5	<5	Collected after reported vapor release on 9/29/08
01/08/09	<5	<5	<5	<5	<5	<5	<10	
06/24/09	<5	<5	<5	<5	<5	<5	<5	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
MONITORING WELL # 5 (MW-5) - EAST OF TANKFIELD NEAR MANHOLES TO WATER RETENTION SYSTEM								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
03/05/07	**2,260**	**12,800**	**1,540**	**11,500**	<500	**<500**	**<500**	
05/25/07	**974**	**2,410**	538	4,200	57	**<50**	**208**	
08/31/07	**313**	**1,240**	362	2,460	45	<10	**125**	
12/20/07	**116**	90	166	557	21	<5	44	Microbac lost sample from 11/29 so resampled on 12/20.
01/17/08	**84**	110	180	609	27	**<25**	50	
05/15/08	**26**	22	109	242	17	<5	45	
08/07/08	**31**	9	83	136	14	<5	<5	
10/30/08	**1,460**	<50	<50	6,240	103	**<50**	**296**	Collected after reported vapor release on 9/29/08
11/25/08	**1,160**	**4,500**	**944**	5,670	51	**<25**	**209**	Collected to confirm results of 10/30/08 sample
01/08/09	**34**	120	182	718	32	<5	61	
05/21/09	**33**	21	48	147	12	<5	26	Sampled per T. Fuller's request to see if COCs rebounded
06/24/09	**46**	88	72	393	21	<5	35	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
Monitoring Well #6D (MW-6D) - SOUTH OF TANKFIELD AND BP BUILDING NEAR DIESEL FUEL NEXT TO MW-1								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
01/17/08	<5	<5	<5	<5	<5	5	<5	
05/15/08	<5	17	8	6	<5	5	**196**	
06/09/08	<5	<5	<5	<5	<5	**26**	<5	
08/07/08	<5	<5	<5	<5	<5	8	<5	
10/30/08	<5	<5	<5	<5	<5	15	<5	Collected after reported vapor release on 9/29/08
01/08/09	<5	<5	<5	<5	<5	7	<10	
06/24/09	<5	<5	<5	<5	<5	<5	<5	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
MONITORING WELL # 7 (MW-7) - OFF-SITE WELL LOCATED SOUTH OF KING'S RESTAURANT PARKING LOT								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
01/17/08	<5	<5	<5	<5	<5	<5	<5	
05/15/08	<5	<5	<5	<5	<5	<5	39	
08/07/08	<5	<5	<5	<5	<5	<5	<5	
10/30/08	<5	<5	<5	<5	<5	<5	<5	Collected after reported vapor release on 9/29/08
01/08/09	<5	<5	<5	<5	<5	<5	<10	
06/24/09	<5	<5	<5	<5	<5	<5	<5	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
MONITORING WELL # 8 (MW-8) - LOCATED EAST OF TANKFIELD ALONG EASTERN PROPERTY BOUNDARY								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
01/17/08	<5	<5	<5	<5	<5	<5	<5	
05/15/08	<5	<5	<5	<5	<5	<5	14	
08/07/08	<5	<5	<5	<5	<5	<5	<5	
10/30/08	<5	<5	<5	<5	<5	<5	<5	Collected after reported vapor release on 9/29/08
01/08/09	<5	<5	<5	<5	<5	<5	<10	
06/24/09	<5	<5	<5	<5	<5	<5	<5	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
MONITORING WELL # 9 (MW-9) - OFF-SITE WELL LOCATED SOUTH OF T-BONES ON PENNDOT PROPERTY WEST OF RETENTION POND								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
01/17/08	<5	<5	<5	<5	<5	<5	<5	
05/15/08	<5	<5	<5	<5	<5	<5	<10	
08/07/08	<5	<5	<5	<5	<5	<5	<5	
10/30/08	<5	<5	<5	<5	<5	<5	<5	Collected after reported vapor release on 9/29/08
01/08/09	<5	<5	<5	<5	<5	<5	<10	
06/24/09	<5	<5	<5	<5	<5	<5	<5	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
MONITORING WELL # 10 (MW-10) - LOCATED WEST OF TANKFIELD IN PLANTED AREA PARALLEL TO VIP DRIVE								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
01/17/08	<5	<5	<5	<5	<5	<5	<5	
05/15/08	<5	<5	<5	<5	<5	<5	<10	
08/07/08	<5	<5	<5	<5	<5	<5	<5	
10/30/08	<5	<5	<5	<5	<5	<5	<5	Collected after reported vapor release on 9/29/08
01/08/09	<5	<5	<5	<5	<5	<5	<10	
06/24/09	<5	<5	<5	<5	<5	<5	<5	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
Monitoring Well #11D (MW-11D) - DEEP WELL LOCATED ON PENNDOT PROPERTY SOUTH OF KINGS RESTAURANT ADJACENT TO MW-7								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
08/28/08	<5	<5	<5	<5	<5	7	<5	
10/30/08	<5	<5	<5	<5	<5	<5	<5	Collected after reported vapor release on 9/29/08
01/08/09	<5	<5	<5	<5	<5	<5	<10	
06/24/09	<5	<5	<5	<5	32	<5	12	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
MONITORING WELL # 12D (MW-12D) - OFF-SITE WELL LOCATED SOUTH OF T-BONES ON PENNDOT PROPERTY ADJACENT TO MW-9								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
08/28/08	<5	<5	<5	<5	<5	130	<5	
10/30/08	<5	<5	<5	<5	<5	17	<5	Collected after reported vapor release on 9/29/08
11/25/08	<5	<5	<5	<5	<5	22	<5	Collected to confirm results of 10/30/08 sample
01/08/09	<5	<5	<5	<5	<5	18	<10	
06/24/09	<5	<5	<5	<5	<5	22	<5	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
TANKFIELD WELL - LOCATED IN SOUTHWEST CORNER OF TANKFIELD NEAR THE 10,000 GALLON REGULAR UNLEADED GASOLINE UST								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
03/05/07	25,400	47,400	2,640	23,100	<500	<500	<500	
05/25/07	DRY	DRY	DRY	DRY	DRY	DRY	DRY	
6/15/07	1,800	16,200	1,320	22,200	91	69	575	
08/31/07	660	4,610	1,280	15,200	61	<50	368	
11/29/07	123	114	<5	583	<5	<5	64	
01/17/08	267	96	37	344	<25	<25	<25	
05/15/08	219	30	179	2,160	14	<5	111	
08/07/08	353	406	438	1,760	<25	<25	34	
10/30/08	1,100	11,900	3,440	16,900	133	<50	509	Collected after reported vapor release on 9/29/08
11/25/08	DRY	DRY	DRY	DRY	DRY	DRY	DRY	Could not collect sample because tankfield well was dry.
01/08/09	404	413	249	2,350	25	6	193	
05/21/09	DRY	DRY	DRY	DRY	DRY	DRY	DRY	Could not collect sample because tankfield well was dry.
06/24/09	452	321	100	407	<10	<10	28	

TABLE 3 - GROUNDWATER ANALYTICAL DATA								
THE FOLLOWING ARE THE SAMPLE RESULTS FOR T-BONES, 100 VIP DRIVE, WEXFORD, PA								
RETENTION POND - LOCATED SOUTH OF SITE ON PENNDOT PROPERTY LOCATED NEXT TO MW-9 AND MW-12D								
	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	CUMENE	MTBE	NAPHTHALENE	Notes or Comments for sample event
ACTION LEVEL WATER (ug/L)	5	1,000	700	10,000	1,100	20	100	
Sample Date								
11/12/08	107	99	54	294	<5	<5	23	
11/25/08	80	23	60	192	<5	<5	23	Collected to confirm results of 11/12/08 sample
01/29/09	8	<5	14	15	<5	<5	<5	

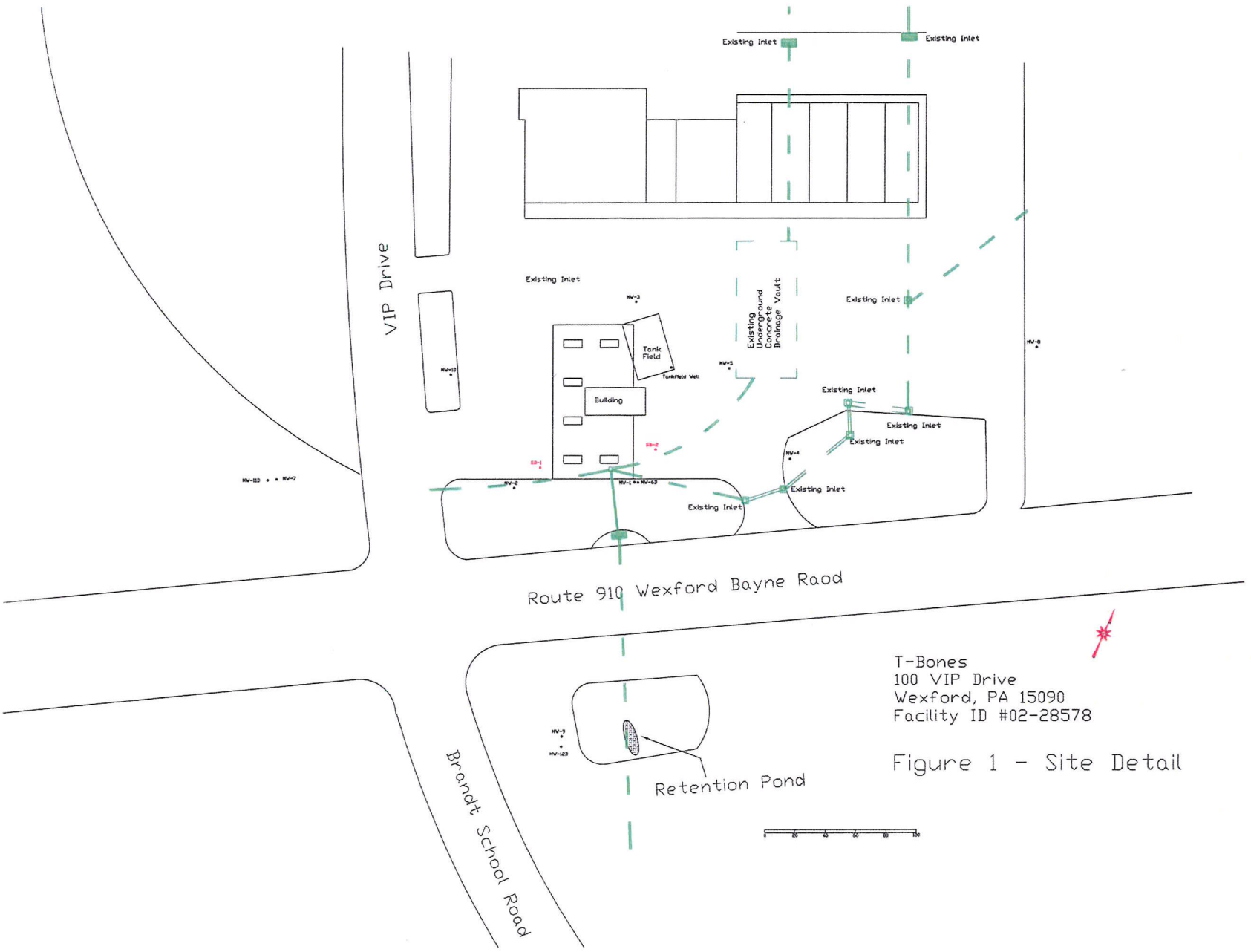


Figure 1 - Site Detail

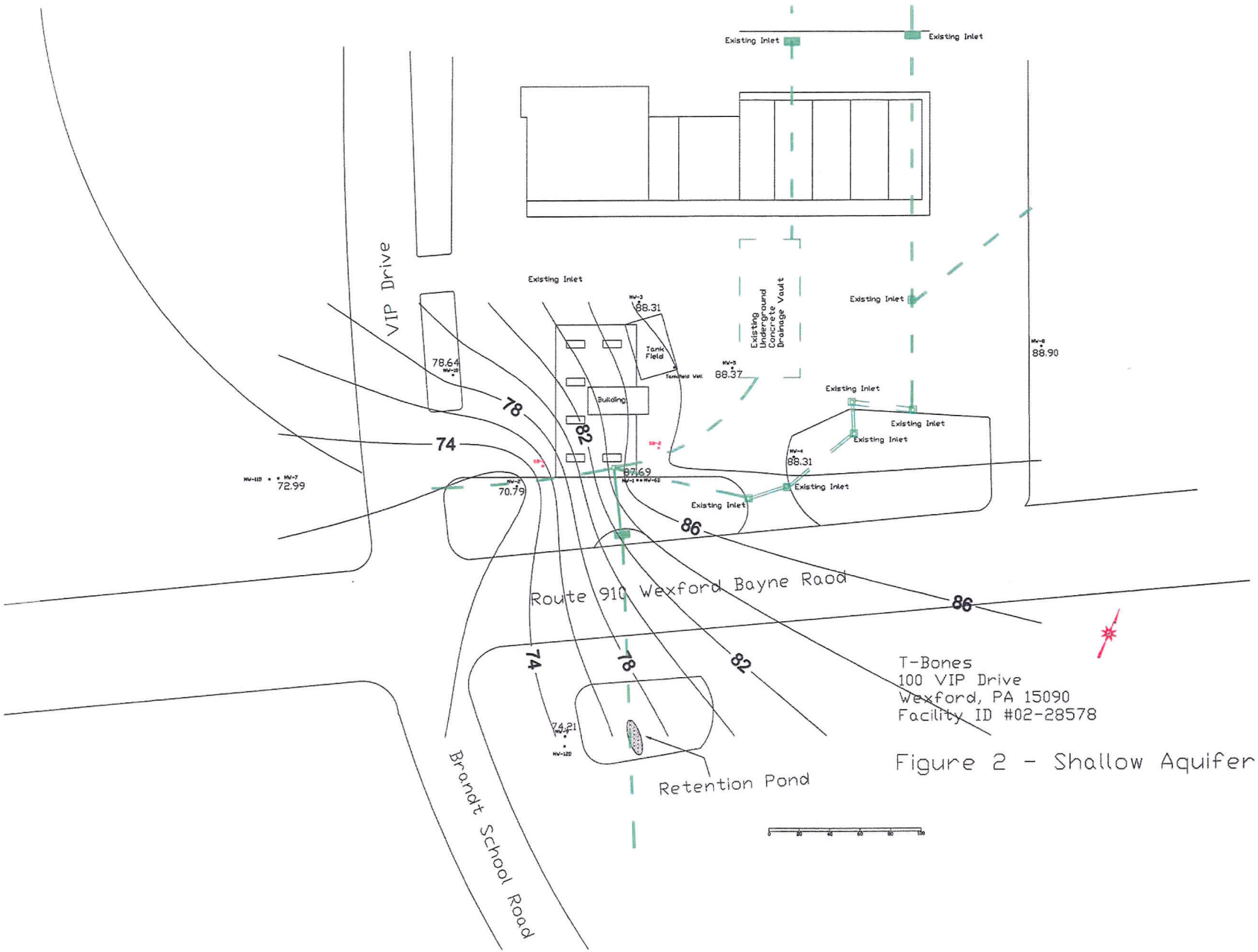


Figure 2 - Shallow Aquifer Map

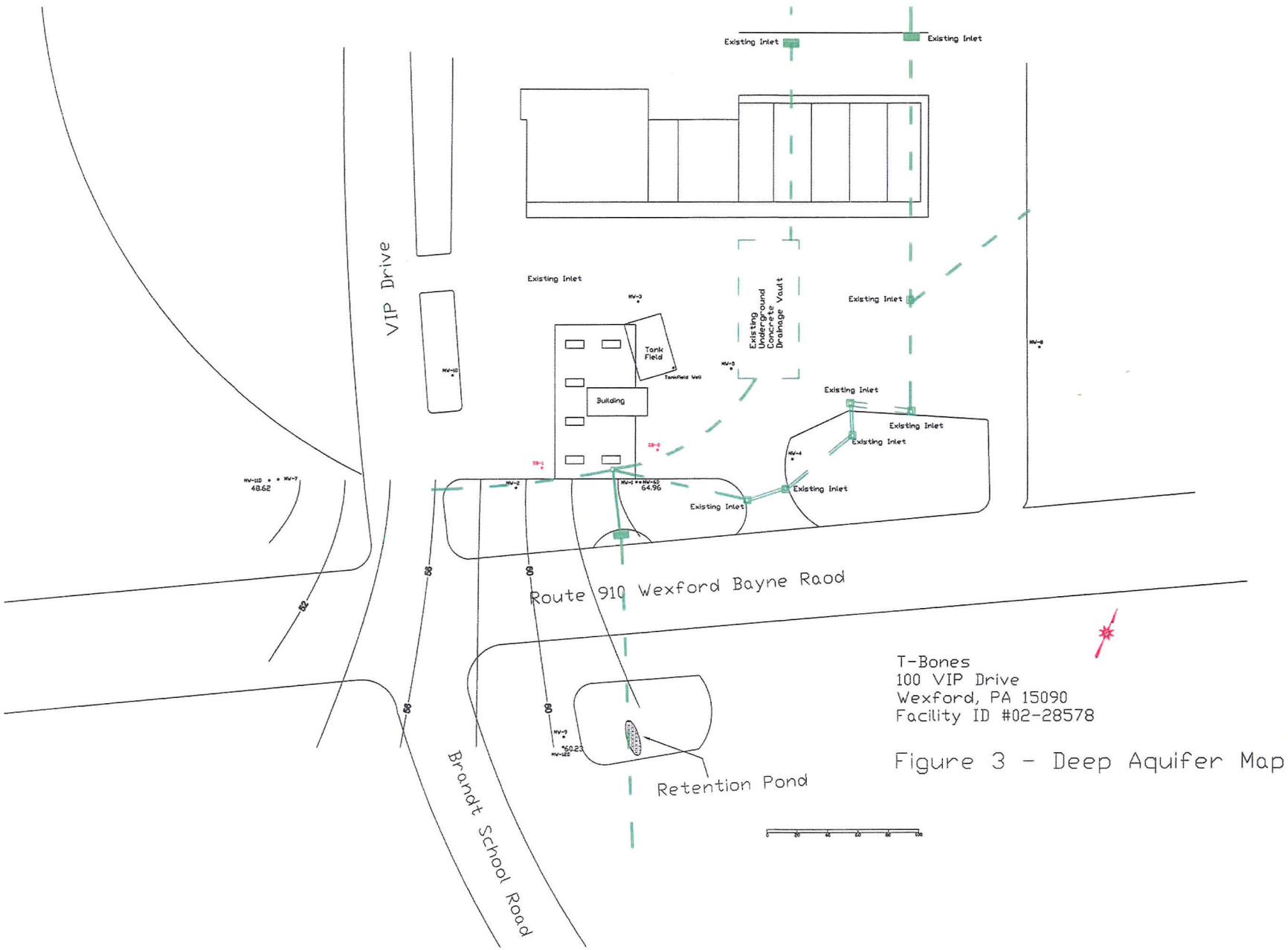


Figure 3 - Deep Aquifer Map

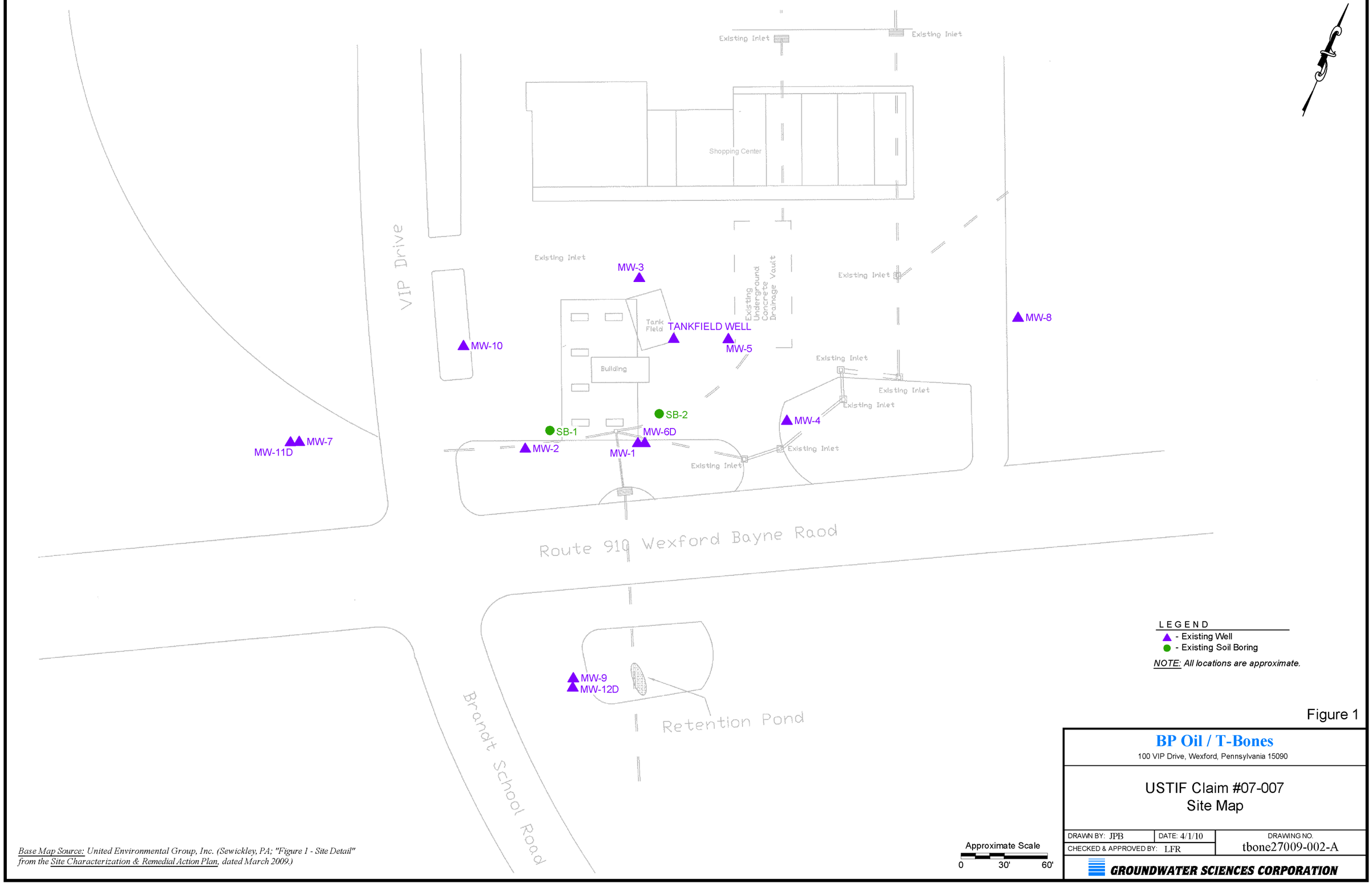


Figure 1

BP Oil / T-Bones

100 VIP Drive, Wexford, Pennsylvania 15090

USTIF Claim #07-007
Site Map

DRAWN BY: JPB	DATE: 4/1/10	DRAWING NO. tbone27009-002-A
CHECKED & APPROVED BY: LFR		

GROUNDWATER SCIENCES CORPORATION

Base Map Source: United Environmental Group, Inc. (Sewickley, PA; "Figure 1 - Site Detail" from the Site Characterization & Remedial Action Plan, dated March 2009.)

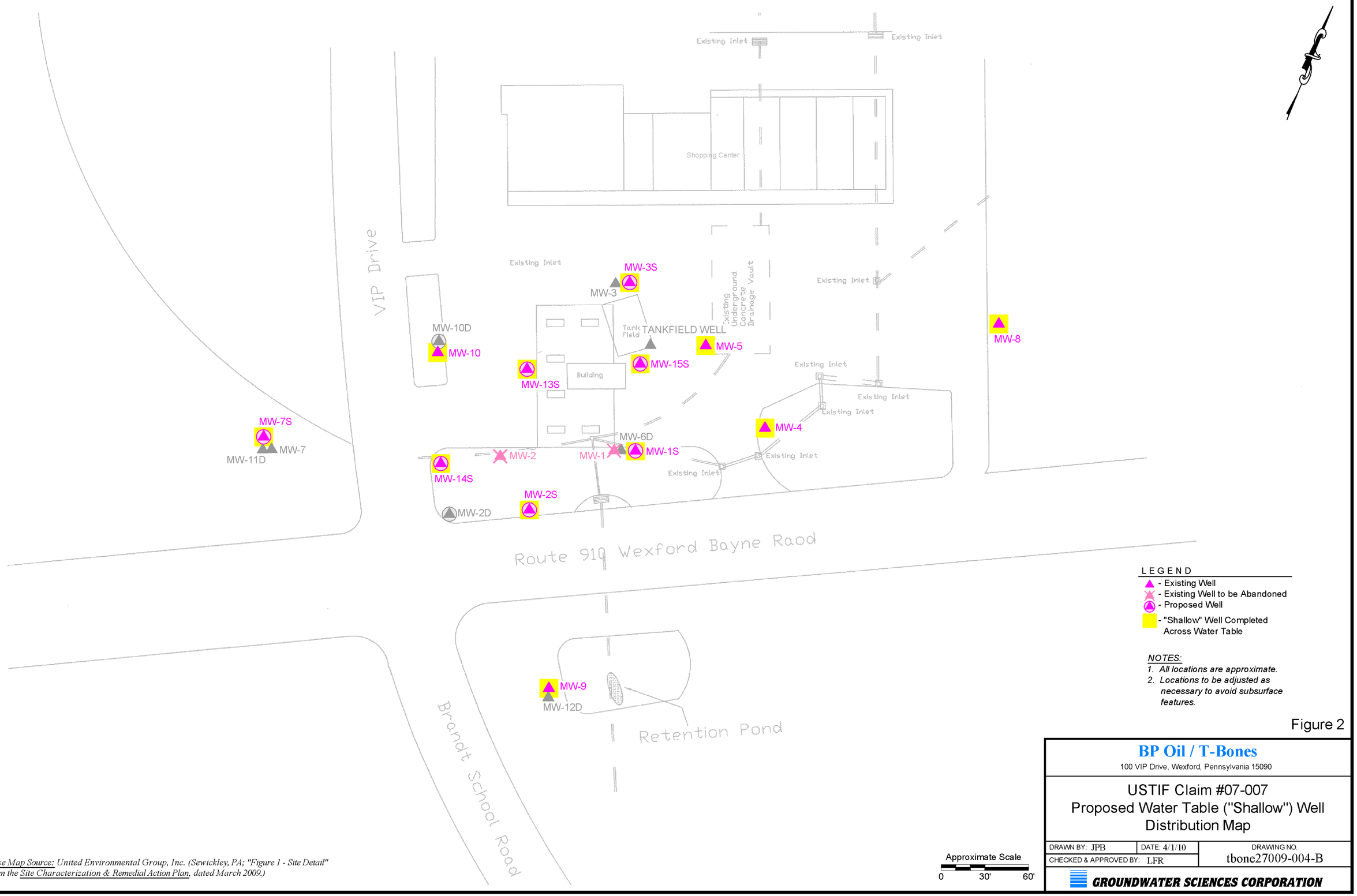


Figure 2

Base Map Source: United Environmental Group, Inc. (Sewickley, PA; "Figure 1 - Site Detail" from the Site Characterization & Remedial Action Plan, dated March 2009.)

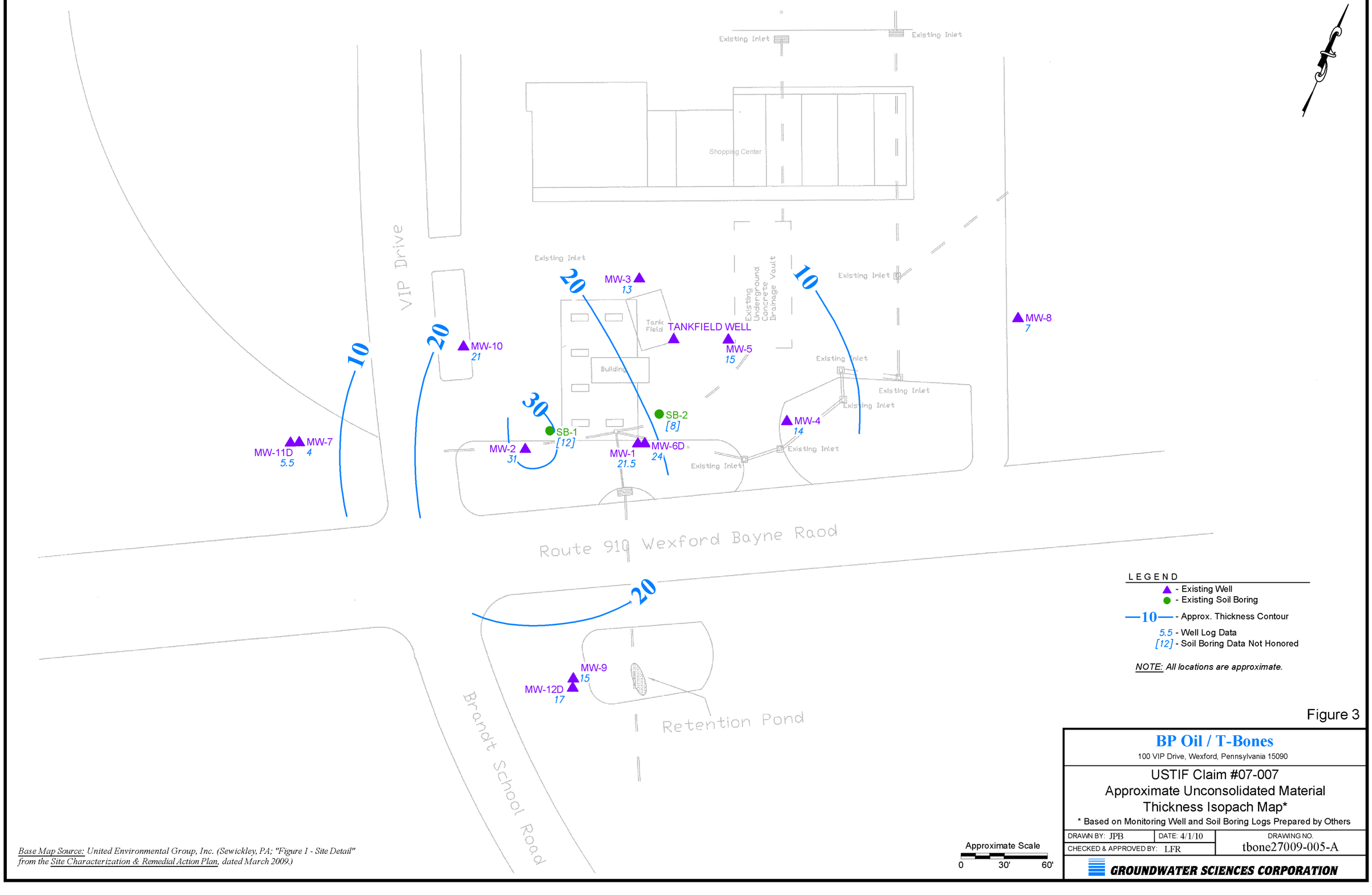
BP Oil / T-Bones

100 VIP Drive, Wexford, Pennsylvania 15090

USTIF Claim #07-007
Proposed Water Table ("Shallow") Well Distribution Map

DRAWN BY: JPB	DATE: 4/1/10	DRAWING NO. tbone27009-004-B
CHECKED & APPROVED BY: LFR		

GROUNDWATER SCIENCES CORPORATION



Base Map Source: United Environmental Group, Inc. (Sewickley, PA; "Figure 1 - Site Detail" from the Site Characterization & Remedial Action Plan, dated March 2009.)

Figure 3

BP Oil / T-Bones

100 VIP Drive, Wexford, Pennsylvania 15090

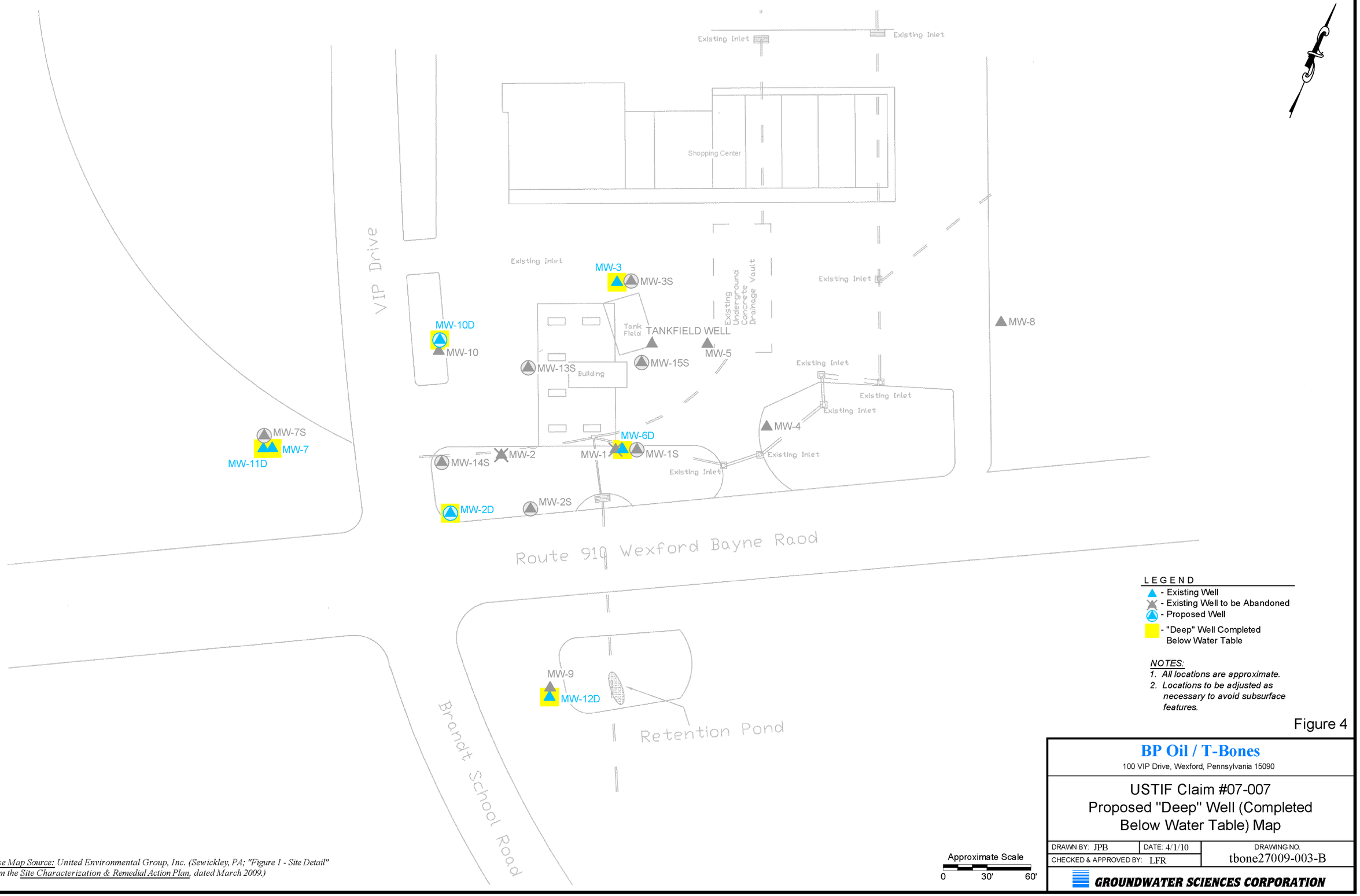
USTIF Claim #07-007

Approximate Unconsolidated Material Thickness Isopach Map*

* Based on Monitoring Well and Soil Boring Logs Prepared by Others

DRAWN BY: JPB	DATE: 4/1/10	DRAWING NO. tbone27009-005-A
CHECKED & APPROVED BY: LFR		

GROUNDWATER SCIENCES CORPORATION



LEGEND

- Existing Well
- Existing Well to be Abandoned
- Proposed Well
- "Deep" Well Completed Below Water Table

NOTES:

1. *All locations are approximate.*
2. *Locations to be adjusted as necessary to avoid subsurface features.*

Figure 4

Base Map Source: United Environmental Group, Inc. (Sewickley, PA; "Figure 1 - Site Detail" from the Site Characterization & Remedial Action Plan, dated March 2009.)

Approximate Scale
0 30' 60'

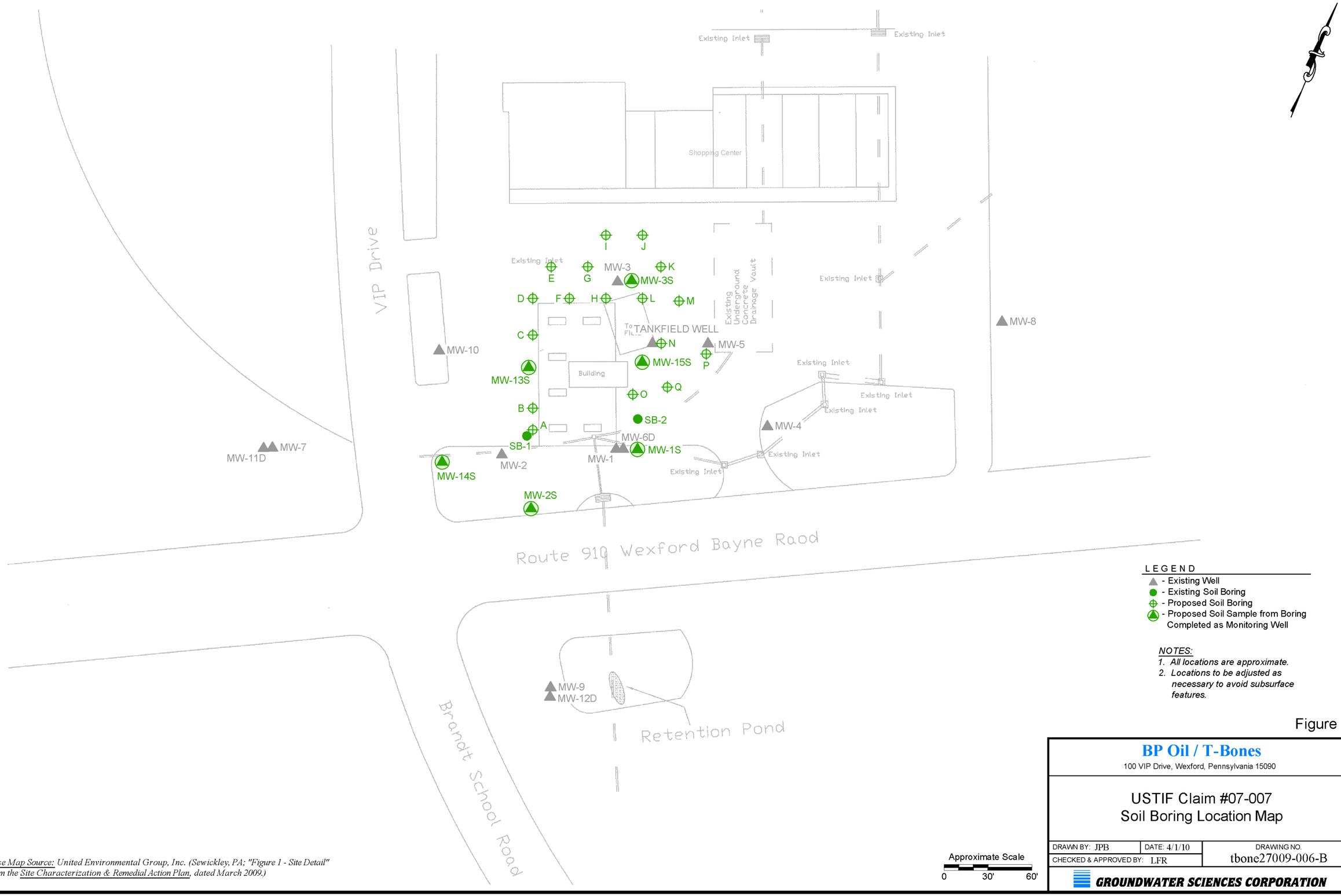
BP Oil / T-Bones

100 VIP Drive, Wexford, Pennsylvania 15090

USTIF Claim #07-007
Proposed "Deep" Well (Completed Below Water Table) Map

DRAWN BY: JPB	DATE: 4/1/10	DRAWING NO. tbone27009-003-B
CHECKED & APPROVED BY: LFR		

GROUNDWATER SCIENCES CORPORATION



LEGEND

- ▲ - Existing Well
- ● - Existing Soil Boring
- ⊕ - Proposed Soil Boring
- ⊕▲ - Proposed Soil Sample from Boring Completed as Monitoring Well

NOTES:

1. *All locations are approximate.*
2. *Locations to be adjusted as necessary to avoid subsurface features.*

Approximate Scale

0 30' 60'

Base Map Source: United Environmental Group, Inc. (Sewickley, PA; "Figure 1 - Site Detail" from the Site Characterization & Remedial Action Plan, dated March 2009.)

Figure 5

BP Oil / T-Bones

100 VIP Drive, Wexford, Pennsylvania 15090

USTIF Claim #07-007
Soil Boring Location Map

DRAWN BY: JPB	DATE: 4/1/10	DRAWING NO. tbone27009-006-B
CHECKED & APPROVED BY: LFR		

GROUNDWATER SCIENCES CORPORATION

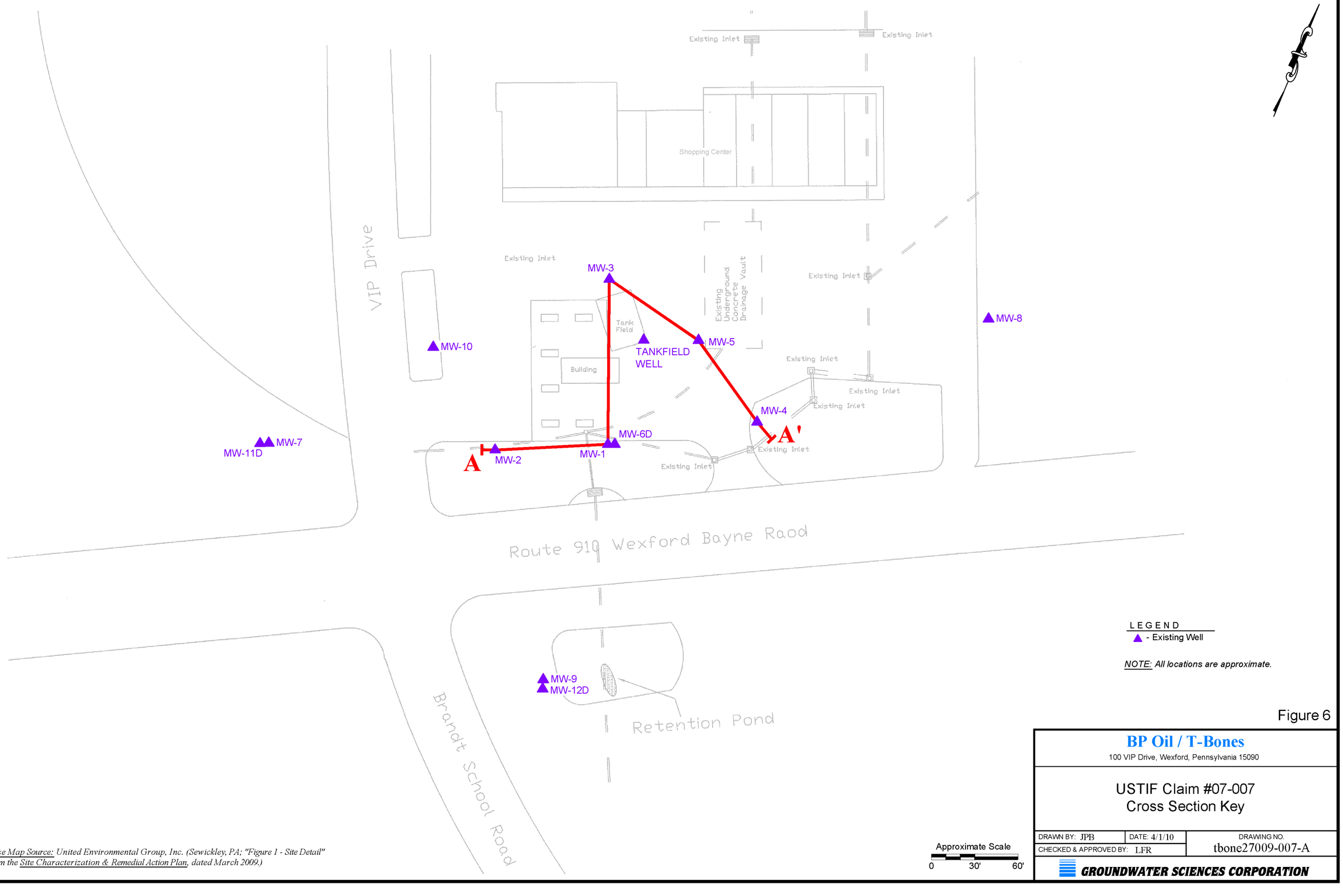


Figure 6

BP Oil / T-Bones

100 VIP Drive, Wexford, Pennsylvania 15090

USTIF Claim #07-007
Cross Section Key

DRAWN BY: JPB	DATE: 4/1/10	DRAWING NO. tbone27009-007-A
CHECKED & APPROVED BY: LFR		

GROUNDWATER SCIENCES CORPORATION

Base Map Source: United Environmental Group, Inc. (Sewickley, PA; "Figure 1 - Site Detail" from the Site Characterization & Remedial Action Plan, dated March 2009.)

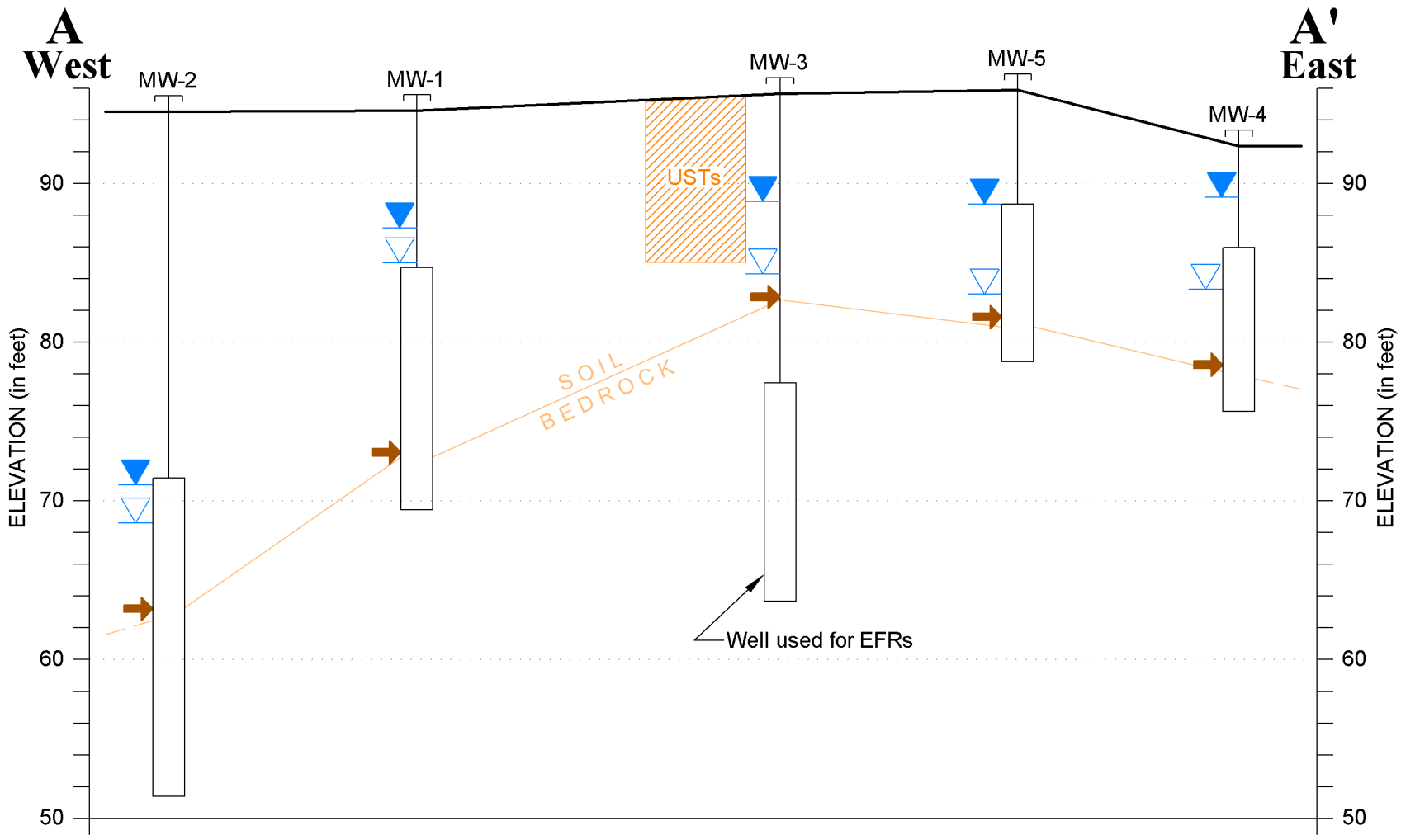


Figure 7

LEGEND

MW-# - Monitoring Well

- Casing
- Screen
- Soil Sample
- Water Level (Aug. 28, 2008)
- Water Level (Jan. 8, 2009)

Approx. Vertical Scale
0 10'

Approx. Horizontal Scale
0 50'

Exaggeration = 5x

BP Oil / T-Bones

100 VIP Drive, Wexford, Pennsylvania 15090

USTIF Claim #07-007
Cross Section

DRAWN BY: JPB	DATE: 4/1/10	DRAWING NO.
CHECKED & APPROVED BY: LFR		tbone27009-001-C

GROUNDWATER SCIENCES CORPORATION