COMPETITIVE BID SOLICITATION
FIXED-PRICE DEFINED SCOPE OF WORK TO COMPLETE ADDITIONAL SITE CHARACTERIZATION AND SITE CLOSURE ACTIVITIES

Former Route 119 Amoco Facility
1809 University Drive (Route 119)
Dunbar Township, Fayette County, Pennsylvania 15431
PaDEP Facility ID # 26-18711
USTIF Claim # 1996-0116 (F)

January 29, 2013

The Pennsylvania Underground Storage Tank Indemnification Fund (USTIF) is providing this Request for Bid (RFB) Solicitation, on behalf of the Claimants for the above-referenced claim, Timothy and Michelle Shell, who hereafter are referred to as the Client or Solicitor, to prepare and submit a fixed-price proposal for a defined scope of work (SOW) to complete the tasks necessary to obtain Relief from Liability from the Pennsylvania Department of Environmental Protection (PaDEP) for the above-mentioned facility (the Site) and to obtain Relief from Liability.

Corrective action under Chapter 245 is being conducted in response to a confirmed petroleum release at the Site in May of 1996. A Notice of Reportable Release, dated May 13, 1996, was submitted to the PaDEP by Chambers Environmental Group, Inc. (Chambers), on behalf of the Solicitor. Chambers was retained by the Solicitor in 1996 and conducted site characterization and remedial activities at the Site until RETTEW Associates, Inc. (RETTEW) was retained by the Solicitor in 2000. RETTEW continued remedial activities at the Site until Letterle & Associates, Inc. (Letterle) was retained by the Solicitor in 2005.

A Site Characterization Report (SCR) and RAP was submitted to the PaDEP by Chambers on May 4, 1998 and February 19, 1999, respectively. The RAP, which specified air sparge/soil vapor extraction (AS/SVE) as the selected remedial approach for the Site, was approved by the PaDEP in correspondence dated February 26, 1999. A revised RAP was submitted by RETTEW to the PaDEP on November 14, 1999. The revised RAP specified bioremediation by installing dissolved oxygen diffusers into the air sparge points of the AS/SVE system. The PaDEP disapproved RETTEW's Revised RAP (in correspondence dated December 28, 2000). However, RETTEW installed the diffusive bubblers and carried out the bioremedial activities specified in the disapproved Revised RAP as an interim remedial action (IRA). RETTEW provided periodic status updates to the PaDEP until Letterle was retained by the Solicitor in 2005. Since 2005, Letterle has conducted additional site characterization activities and conducted periodic groundwater monitoring and reporting. Letterle submitted an SCR (entitled "Comprehehsive Environmental Site Characterization") to the PaDEP on September 15,

2006, and the PaDEP approved this report with modifications. Letterle submitted an Additional SCR on April 26, 2011 and, to the best of our knowledge, the PaDEP did not provide a formal written response to this submittal. Letterle also submitted a Yearly Progress Report and Pilot Test Report to the PaDEP on April 13, 2012.

Site characterization activities conducted to date have included soil characterization (37 soil borings drilled; 49 soil samples collected/analyzed), installation of three (3) on-Site (VMP-1, VMP-2 and VMP-3) and three (3) off-Site soil vapor monitoring points (two rounds of soil vapor sampling conducted to date), installation of nine (9) on-Site (MW-1, MW-2, MW-3, MW-7, MW-8, MW-9, MW-10, MW-11, DW-1) and nine (9) off-Site (MW-4, MW-5, MW-6, MW-12, MW-13, MW-14S, MW-15S, MW-16, MW-17) bedrock groundwater monitoring wells (five (5) of which (MW-1, MW-2, MW-5, MW-9 and DW-1) have been abandoned), and a very low frequency (VLF) survey to investigate the presence/orientation of prominent bedrock fracture zones that may be influencing the direction of preferential bedrock groundwater flow in the vicinity of the Site. Letterle has conducted numerous quarterly groundwater monitoring events at the Site and has submitted numerous periodic status reports to the PaDEP, the most recent of which was the April 2012 Annual Progress Report and Pilot Test.

The Solicitor has an open claim (claim number referenced above) with the USTIF and the corrective action work will be completed under this claim. One hundred percent (100%) 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 the USTIF.

The corrective action work (i.e., scope of work (SOW)) included in this RFB solicitation generally includes the following components (additional details provided later in this solicitation):

- Obtain off-site access to three properties;
- Installation, development, surveying and initial characterization sampling of two (2) on-Site and six (6) off-Site shallow bedrock groundwater monitoring wells;
- Conduct confirmatory soil vapor sampling of two (2) soil vapor monitoring points (VP-5 and VP-6);
- Preparation/submittal of Supplemental SCR/Revised RAP
- Eight (8) quarters of comprehensive quarterly groundwater monitoring and reporting (twenty (20) wells) for fate and transport analysis;
- Preparation/Submittal of a Remedial Action Completion Report (RACR);
- Preparation of UECA waiver request letters for off-Site properties; and,
- Preparation and filing of Environmental Covenant for Site property.

To be considered for selection, **one hard copy of the signed bid package and one electronic copy (one PDF file on a compact disk (CD) included with the hard copy) must be provided directly to the Fund's third party administrator, ICF International (ICF), to the attention of Deb Cassel, Contracts Administrator.** She

will be responsible for opening the bids and providing copies to the Technical Contact and the Solicitor. Bid responses will only be accepted from those firms who attended the mandatory pre-bid site meeting. **The ground address for overnight/next-day deliveries is ICF International, 4000 Vine Street, Middletown, PA 17057, Attention: Deb Cassel. The outside of the shipping package containing the bid response must be clearly marked and labeled with "Bid – Claim # 1996-0116(M).** Please note that the use of U.S. Mail, FedEx, UPS, or other delivery method does not guarantee delivery to this address by the due date and time listed below for submission. Firms mailing bid responses should allow adequate delivery time to ensure timely receipt of their bid package.

The bid response must be received by 3:00 PM, on Tuesday, March 26, 2013. Bids will be opened immediately after the 3:00 PM deadline on the due date. Any bid packages received after this due date and time will be time-stamped and returned. If, due to inclement weather, natural disaster, or any other cause, ICF's office is closed on the bid response due date, the deadline for submission will automatically be extended to the next business day on which the office is open. The Fund's third party administrator, ICF, may notify all firms who attended the mandatory site meeting of an extended due date. The hour for submission of bid responses shall remain the same. Submitted bid responses are subject to Pennsylvania Right-to-Know Law.

The ICF Claims Handler and the Technical Contact will assist[1] the 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. Bid evaluation will consider, among other factors, estimated total cost, unit costs, schedule, discussion of technical and regulatory approach, qualifications, and contract terms and conditions. The technical approach will be the most heavily weighted evaluation criteria. The Solicitor (via the Technical Contact) will inform the successful bidder by email. The unsuccessful bidders will be informed by email and by posting the name of the successful bidder on the USTIF's website, following the full execution of the Remediation Agreement by the Solicitor and the successful bidder.

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

A. SOLICITOR, ICF CLAIMS HANDLER, AND TECHNICAL CONTACT

Solicitor	**ICF Claims Handler**	**Technical Contact**[2]
Timothy and Michelle Shell 202 Center Wood Circle Uniontown, PA 15401	Ms. Linda Crabb ICF International, Inc. 4000 Vine Street Middletown, PA 17057 linda.crabb@icfi.com Cc: debra.cassel@icfi.com	David Reusswig, P.G. Groundwater Sciences Corp. 2601 Market Place Street Suite 310 Harrisburg, PA 17110 Phone: (717) 901-8183 Fax: (717) 657-1611 dreusswig@groundwatersciences.com

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 "FORMER ROUTE 119 AMOCO 1996-0116(F) – 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 Tuesday, March 19, 2013.**

B. ATTACHMENTS OT THIS RFB SOLICITATION

The following attachments have been provided with this RFB to assist in bid preparation:

ATTACHMENT 1: Supporting Reports, Correspondence and Site Data
ATTACHMENT 2: Sample Remediation Agreement
ATTACHMENT 3: Standardized Bid Cost Spreadsheet

The following figures, found at the end of this RFB document, have been prepared by the Technical Contact based on information provided by Chambers, RETTEW, Letterle and others, and collected by the Technical Contact:

Figure 1: Site Location Map
Figure 2: Site Map
Figure 3: Site Vicinity Map Showing Pertinent Off-Site Properties
Figure 4: Aerial Photograph
Figure 5 Site Plan Showing Historical Soil Boring/Sampling Locations
Figure 6: Soil Concentrations Map – 1997 (Chambers)
Figure 7: Soil Concentrations Map – 2006-2009 (Letterle)
Figure 8: Letterle Cross-Section A-A'
Figure 9: Letterle Cross-Section B-B'

[2] Subcontractor to ICF.

C. SITE SETTING AND BACKGROUND INFORMATION

The following information summarizes, and is derived from, relevant information provided in the previous environmental reports that are included in **ATTACHMENT 1**. If there is any discrepancy between the summary provided herein and the source documents, the bidder should defer to the source documents.

Site Name/Address

Former Route 119 Amoco (currently Summit Motors Used Cars Plus, LLC (Summit)); 1809 University Drive (State Route 119), Dunbar Borough, Fayette County, Pennsylvania 15431

USTIF Eligibility

Following the documented release from the unleaded gasoline UST systems in 1996, the Solicitor filed a claim with the USTIF and eligibility was granted under USTIF Claim No. 1996-0116(F). The Solicitor has selected the SSS as the remedial goal to be pursued to obtain Relief from Liability (Relief from Liability) from the PaDEP, and the USTIF has agreed to 100% reimbursement of Solicitor-approved reasonable and necessary costs up to claim limits for the corrective action work described in this RFB.

Site Use Description

The site is currently used as a used automobile sales and repair facility. The site is currently occupied by Summit. The owner of Summit is Mr. Mick McGuire, who is also the owner of the site property. The existing on-site building consists of an office, a storage room, a bathroom, and two garage bays used for auto repair and vehicle inspections.

USTs and ASTs on Site

According to the Site property owner, Mr. Mick McQuire, currently there are no known UST systems at the Site. A 550-gallon heating oil AST exists at the Site and is used for consumptive use.

Current and Historical Constituents of Concern

The constituents of concern (COCs) at the Site are the substances on the Old PaDEP Shortlist for unleaded gasoline (benzene, toluene, ethylbenzene, total xylenes, cumene, MTBE, and naphthalene). Based on the soil sample data collected in 1997 and from 2006 to 2009, soil in the vicinity of the former UST systems contained benzene, MTBE, naphthalene and toluene at concentrations greater than the applicable RUA MSCs. Based on the most recent groundwater data collected to date, benzene, MTBE and naphthalene are the only analyzed unleaded gasoline constituents that currently exhibit dissolved-phase concentrations greater than the applicable RUA MSCs.

Site Description

A site plan showing the pertinent features of the Site is presented as Figure 2. There is a one-story building located within the center of the Site that contains an office, a storage room, a bathroom and two garage bays used for automobile repair and vehicle inspections.

There are both commercial properties and residential properties surrounding the Site. The Site property is bound to the north by Pechin Road and beyond that by a residential property, to the south by the Hi-Way Supply Road/Route 119 intersection and beyond that by a commercial property containing a medical building, to the east by Route 119 and beyond that by a vacant field and a commercial property with a restaurant, and to the west by Hi-Way Supply Road and beyond that by a residential property (Martin property) and a commercial property (hair salon). A site vicinity map showing the Site property and pertinent surrounding properties is provided as Figure 3.

The Site and surrounding properties are supplied by public water, public sewer, and overhead electric and telephone.

The northern half of the Site is primarily paved with asphalt with portions covered with concrete. The southern half of the site is covered with grass.

Site Topography

A USGS 7.5-minute topographic quadrangle map and an aerial photograph of the Site are provided as Figures 1 and 4, respectively. The Site is situated at approximately 1,240 feet above mean sea level (famsl). Topography at the Site slopes towards the south, more predominantly within the northern portion of the Site.

Site Geology

Based on information obtained during drilling activities, the Site is underlain with dark- to medium-brown silts beneath which is weathered gray shale and/or more competent gray shale. During drilling activities, top of bedrock was encountered at depths ranging from three (3) fbg (MW-12 and MW-13) to ten (10) fbg (MW-5 and MW-7). The shale is underlain by a coal seam which is underlain by fractured siltstone.

According to the Pennsylvania Topographic and Geologic Survey (1980), the bedrock at the Site is a portion of the Washington Formation, which consists of cyclic sequences of shale, sandstone, limestone and coal.

Site Hydrogeology

Based on historical groundwater elevation data collected at the Site, groundwater exists in the shale bedrock as an unconfined aquifer. Depth-to-water at the Site has generally ranged from less than one (<1) fbg (MW-3) to 46 fbg (MW-7 and MW-16). The shallower water levels found in the wells screened at higher elevations, within the shallow bedrock aquifer (e.g., MW-3, MW14S and MW-15S; see Figures 10 and 11), represent the water table in the shallow unconfined bedrock aquifer. The relatively deeper water levels (e.g., MW-4, MW-11, MW-16, MW-17, etc.; see Figures 10 and 11) are reflective of potentiometric surfaces within the deep bedrock wells screened at lower elevations, within the deep bedrock aquifer. The relatively deep water levels (i.e., potentiometric surfaces) found in the bedrock wells with deeper screens indicates that there is a strong vertical gradient at the Site. Groundwater flow at the Site is primarily controlled by secondary porosity in the form of fractures or fracture zones within the shale and siltstone. Historical groundwater elevation data has shown that the general direction of lateral groundwater flow at the Site is toward the southwest (Figure 12). The installation of additional shallow bedrock wells, as included in this RFB scope of work, will serve to more adequately characterize the groundwater flow patterns within the shallow and deep bedrock aquifers, and more adequately characterize the vertical concentration gradient.

Nature of Confirmed Release and Subsequent Activities

Site characterization activities commenced at the Site following evidence of the reportable release of unleaded gasoline in May 1996. The release was reportedly due to loose swing joints and coupler connections along the subsurface piping to the unleaded gasoline dispensers. A written Notification of Reportable Release (NORR) was subsequently submitted to the PaDEP (Attachment 1a). Previous environmental activities at the site were conducted by Chambers (1996-2000), RETTEW (2000-2005), and Letterle (2005- 2012). The following sections summarize the corrective action activities conducted at the site to date.

May 1996 – June 2000 (Chambers)

Following the unleaded gasoline release in May of 1996, Chambers was retained by the Solicitor as the environmental consultant for the site and in May of 1997, Chambers initiated site characterization activities at the Site. The first investigation completed by Chambers included installation of sixteen (16) soil borings (A1 through A12; SB1 through SB4; Figures 5 and 6) and collection of twenty-seven (27) soil characterization samples, installation of six (6) groundwater monitoring wells (MW-1 through MW-6; Figure 3) and two (2) groundwater recovery wells (RW-1 and RW-2; Figure 2) and subsequent collection of groundwater samples, performance of a groundwater pump test, and performance of a soil vapor extraction (SVE) pilot test. A SCR was submitted by Chambers to the PaDEP in May of 1998 (Attachment 1b). Based on the Technical Contact's review of ICF's files related to this claim, it appears that there was no PaDEP correspondence in response to the SCR submittal. Results of the initial site characterization indicate that the gasoline release impacted both soil and groundwater at concentrations greater than the applicable RUA MSCs. In particular, shallow soils at a depth ranging from four to eight fbg were impacted by the gasoline release. Benzene, toluene, ethylbenzene, xylenes, methyl tert-butyl ether (MTBE) and naphthalene were detected in groundwater beneath the Site. Of the regulated compounds detected in groundwater above the applicable standards, MTBE was found at the highest concentrations. MTBE was detected in monitoring well MW-3 at a concentration as high as 49,000 micrograms per liter (ug/l) during the January 27, 1998 sampling event.

On June 1-2, 1998, Chambers supervised the installation of three (3) soil vapor extraction (SVE) wells (SVE-1 through SVE-3), two air sparge (AS) wells (AS-1 and AS-2), and six vapor monitoring probes (VMP-1 through VMP-6; Figure 2) for the purpose of conducting an AS/SVE pilot test. Chambers conducted the AS/SVE pilot test on June 4-5, 1998. Chambers submitted an AS/SVE Pilot Test Report to the PaDEP on June 30, 1998 (Attachment 1c). According to Chambers, the results of the pilot test indicated that adequate vapor capture existed within the zone of contaminated soil and that AS/SVE would be effective for treating petroleum hydrocarbons at the Site.

In July of 1998, Chambers submitted a RAP to the PaDEP (not available from the USTIF's files and, therefore, is not attached to this RFB) that proposed AS/SVE to remove petroleum impacts from the soil and groundwater in an effort to demonstrate attainment of the Statewide Health Standard (SHS) for the Site. Initially, a SVE system would operate until the vapor concentrations declined, and AS technology would be added to remove dissolved petroleum constituents from groundwater. The RAP also noted that free product (amount not specified) was measured within well SVE-3 sometime in June or early July of 1998. The PaDEP formally approved the RAP in correspondence dated August 24, 1998 (not available from the USTIF's files and, therefore, is not attached to this RFB). The SVE system was activated on October 12, 1998 and the AS system was activated on March 22, 1999. Subsequently, in March 2000, the PaDEP requested that the RAP be reassessed due to possible volatile organic compounds (VOCs) released to air. The AS/SVE system was deactivated on June 21, 2000.

June 2000 - July 2005 (RETTEW)

In June of 2000, RETTEW was retained by the Solicitor to review the progress and effectiveness of the remedial action at the site. RETTEW submitted a report of their findings and conclusions regarding the system effectiveness in a letter report to the Solicitor dated June 6, 2000 (Attachment 1d). According to RETTEW, the SVE system was effectively removing volatile petroleum constituents from subsurface soils in the remediation area, but the AS system appeared to be less effective at treating dissolved-phase hydrocarbons in groundwater. Analysis of historical groundwater data indicated that petroleum-impacted groundwater continued to migrate away from the release location.

In their June 6, 2000 correspondence to the Solicitor, RETTEW also proposed to modify the existing AS/SVE system by installing high oxygen diffusion bubblers in the AS well so that bioremediation/bioaugmentation could be implemented to enhance the treatment of dissolved-phase petroleum constituents in groundwater at the Site. Soil attainment sampling was also recommended to confirm that the SVE system had successfully removed absorbed-phase petroleum constituents from soil, however, soil attainment has not been conducted at the Site to date.

In July of 2000, RETTEW was retained by the Solicitor as the environmental consultant for the Site. From July of 2000 through August of 2005, RETTEW, the PaDEP and the Solicitor communicated through various progress reports and correspondence regarding the site characterization and the implementation of remedial activities. A chronological summary of pertinent activities conducted by RETTEW from July of 2000 through August of 2005 is provided as follows:

- The HDABs were installed and the addition of bioaugmentation was begun in July of 2000. One groundwater monitoring event was conducted in August of 2000;

- RETTEW submitted a Revised RAP (dated November 14, 2000; not available in the USTIF's files and, therefore, is not provided as an attachment to this RFB) to the PaDEP that proposed the bioremedial activities that were proposed to the Solicitor in the above-mentioned June 6, 2000 correspondence. In correspondence dated December 28, 2000 (Attachment 1d), the PaDEP disapproved the Revised RAP stating that additional groundwater characterization was necessary to adequately delineate the dissolved-phase plume prior to the implementation of another long-term remedial approach. The PaDEP stated that a new SCR/RAP should be submitted following the completion of plume delineation and that any remedial activities carried out prior to completion of plume delineation would be considered an interim remedial action (IRA). RETTEW submitted a letter to the PaDEP, dated January 16, 2001 (Attachment 1d), in response to the PaDEP's disapproval of the Revised RAP.

- A PaDEP site visit conducted on January 25, 2001 indicated that the remediation system was not operating. [No remedial activities had been conducted since June 21, 2000). The PaDEP requested a meeting with the Site owners and RETTEW on February 20, 2001.

- On March 28, 2001, RETTEW and the PaDEP met to discuss the PaDEP's disapproval of the Revised RAP and their concerns regarding the potential for dissolved-phase MTBE to migrate into deeper aquifer zones and to the northwest through underlying geologic structural features as a result of implementing bioremediation.

- On April 5, 2001, the PaDEP issued a Notice of Violation letter (not available in the USTIF's files and, therefore, is not provided as an attachment to this RFB) stating that additional groundwater characterization was required to complete plume delineation and that a new SCR/RAP be submitted.

- In response to the NOV letter, RETTEW submitted a subsequent work plan to the PaDEP in April of 2001 to complete additional site characterization activities (geologic evaluation, deeper aquifer investigation, etc.) and to conduct the bioremedial activities proposed in the Revised RAP. Upon review of RETTEW's work plan, the PaDEP reiterated that they did not concur with the use of bioremediation/bioaugmentation at the Site and requested a time frame for completion of a SCR.

- On June 12, 2001, RETTEW notified the PaDEP (Attachment 1d) that bioaugmentation activities would begin after July 16, 2001 as an IRA until a formal RAP was approved and implemented. RETTEW carried out the proposed bioremedial activities as an IRA, which included 1) the installation of high diffusion air bubblers (HDABs) within wells MW-1, MW-3, RW-2, SVE-2, and SVE-3 to add dissolved oxygen to the groundwater, 2) the addition of hydrocarbon- and MTBE-degrading enzyme complexes, nutrients, and a bacterial consortium to aid in the removal of dissolved-phase petroleum constituents in groundwater. [The bioremedial system with the HDABs operated through July of 2005.]

- From July 23 through July 27, 2001, RETTEW supervised the installation of a deep well (DW-1; Figure 3; Appendix J in Attachment 1e) at the Site to evaluate the vertical extent of the dissolved-phase constituents.

- RETTEW submitted a project update letter to the Solicitor on January 5, 2005 (Attachment 1d) which discussed a possible unknown additional source of petroleum impact due to an unexpected increase in groundwater concentrations in December of 2003. RETTEW recommended a review of previous Site ownership and historical aerial photography to characterize former Site usage, an evaluation of UST compliance status, evaluation of the liquid levels with the

USTs, and an evaluation of a gas chromatograph fingerprint analysis of the water/sludge sample collected from SVE-3.

- On July 7, 2004, each of the five (5) USTs contained one (1) to twelve (12) inches of liquid. According to RETTEW, the fingerprint analysis indicated that the contaminant in the sample might contain constituents of diesel fuel and/or kerosene.

- In January of 2005, PTM removed five (5) USTs from the Site (two (2) 8,000-gallon gasoline USTs; one (1) 4,000-gallon gasoline UST; one (1) 1,000-gallon kerosene UST; one (1) 550-gallon heating oil UST), under the supervision of RETTEW. A UST Closure Report was submitted by PTM to the PaDEP in February of 2005 (Appendix F in Attachment 1e). PTM reported that the USTs and approximately 100 feet of piping were in good condition. During the UST removal activities, approximately 86 tons of petroleum-impacted soil were excavated and transported off-Site for appropriate disposal. Impacted water was encountered six (6) inches below grade in the fill material. The source of the contamination was not identified. According to RETTEW, light non-aqueous phase liquid (LNAPL) was observed on the groundwater excavation of USTs #001, #002 and #003.

- RETTEW continued to conduct quarterly groundwater monitoring at the Site through July 2005. While unleaded gasoline constituents significantly decreased since remediation began, dissolved-phase concentrations of benzene and MTBE in several on-site wells (i.e., MW-3, RW-1, RW-2, SVE-1 through SVE-3, and AS-2) remained greater than the applicable MSCs during the July 2005 groundwater sampling event. Despite the fact that groundwater concentrations remained greater than the applicable MSCs at the Site, the remedial system was deactivated in July of 2005.

August 2005 – April 2012 (Letterle)

Following the deactivation of the bioremedial system in July of 2005, Letterle was retained by the Solicitor in August 2005 to complete corrective action activities at the Site. Additional site characterization activities conducted by Letterle included soil boring/sampling, additional well installation, well abandonment, soil vapor monitoring point installation/sampling, and groundwater monitoring. A chronological summary of pertinent activities conducted by Letterle is presented as follows:

- In February of 2006, the PaDEP informed Letterle during a Site meeting that the remedial system wells installed by Chambers were inappropriate for monitoring groundwater quality at the Site. As a result, Letterle subsequently supervised the installation of three (3) groundwater monitoring wells (MW-7 through MW-9; Figure 3) at the Site.

- In May of 2006, Letterle supervised the drilling of nineteen (19) soil borings (GB-1 through GB-19; Figure 7) and collected nineteen (19) soil samples to further delineate soil quality at the Site and to verify that remedial actions performed at the Site achieved the requirements for demonstration of attainment of the PaDEP Statewide Health Standard (SHS) for soil. The analytical results of soil samples indicated that residual unleaded gasoline constituents exceeded the PaDEP SHS in the overburden soil at two isolated locations (GB-2 and GB-14; Figure 7) in the vicinity of the former UST systems. The soil sample collected from GB-14 (0-2 feet bgs) exceeded the PaDEP SHS for benzene, toluene, and naphthalene. A soil sample collected from GB-2 exceeded the PaDEP SHS for naphthalene.

- On May 9, 2006, Letterle supervised the installation of three (3) soil vapor monitor points (VP-1 through VP-3) adjacent to the on-Site building. The soil vapor results (Table 9 in Attachment 1e) indicated that the PaDEP residential and non-residential standards were exceeded in VP-2.

- Letterle submitted a "Comprehensive Environmental Site Characterization" Report to the PaDEP on September 15, 2006 (Attachment 1e). In a letter dated February 23, 2007 (Attachment 1d), the PaDEP approved the September 2006 report with modifications. To address the modifications, Letterle conducted additional groundwater characterization activities (gauging/sampling, re-contouring of groundwater elevations, slug tests, revised fate and transport model, etc.) to better characterize groundwater at the Site. Upon review of the data collected by Letterle, the PaDEP concluded that groundwater delineation was not complete, and requested that two downgradient point-of-compliance (POC) wells be installed along Hi-Way Supply Road, based on the adjusted groundwater flow direction at the site.

- On October 9-10, 2007, POC wells MW-10 and MW-11 (Figure 3; Appendix J in Attachment 1e) were installed by Eichelbergers, under the supervision of Letterle, in an attempt to fully delineate the groundwater plume along the southwest portion of the site. Prior to bedrock drilling and well construction, a soil sample was collected from each soil boring (SB-10/MW-10; SB-11/MW-11; Figure 7) for additional soil characterization. The laboratory analytical results showed that target analyte concentrations at both locations were below laboratory detection limits. Subsequent groundwater analytical results from these wells showed that dissolved-phase concentrations of benzene, ethylbenzene, MTBE and naphthalene were greater than the applicable RUA MSCs, indicating that additional off-Site delineation of the groundwater plume was necessary.

- On September 23, 2008, Letterle installed off-Site monitoring well MW-12 on the Martin residential property located approximately 100 feet west of the Site. Subsequent groundwater analytical results from this well showed that dissolved-phase concentrations of benzene and MTBE were greater than the applicable

RUA MSCs, indicating that additional off-Site delineation of the groundwater plume was necessary.

- On February 13, 2009, Letterle installed an additional soil vapor point (VP-4; Figure 3) on the southeast corner of the Martin residence to assess potential vapor intrusion into the occupied residential building. Prior to installing the soil vapor point, a soil sample (SB-13/VP-4; Figure 7) was collected for additional soil characterization purposes. The laboratory analytical results showed that target analyte soil concentrations at this location were below laboratory detection limits.

- On February 17, 2009 and June 5, 2009, Letterle collected a soil vapor sample from off-Site soil vapor monitoring point VP-4. On April 15, 2010 and June 21, 2010, Letterle collected soil vapor samples from on-Site soil vapor monitoring points VP-1, VP-2, and VP-3, and from off-Site vapor monitoring point VP-4. The analytical results from the soil vapor samples collected in 2009 and 2010 showed that concentrations of all analyzed unleaded gasoline parameters were less than the applicable Residential Soil Vapor MSCs (Table 3 in Attachment 1f), indicating that vapor intrusion into on- and off-Site buidlings is not an issue.

- On August 24, 2010, Letterle submitted a letter to the PaDEP requesting approval to abandon all Site remedial wells and to eliminate groundwater monitoring wells MW-2, MW-6, MW-7, MW-8 and MW-9 from the groundwater monitoring program and properly abandon these wells because they had been below the PaDEP SHS for at least eight quarters. During a site visit with Letterle on September 2, 2010, the PaDEP approved the abandonment of all remedial wells and groundwater monitoring wells MW-2 and MW-9, but requested that monitoring wells MW-6, MW-7, and MW-8 continue to be sampled. In addition, the PaDEP requested that the extent of petroleum-impacted groundwater (identified in monitor wells MW-10 and MW-11) be delineated off-Site to the west and northwest of the Site and Letterle requested the PaDEP confirm designation of MW-3, MW-10, and MW-11 as POC wells.

- From September 9-13, 2010, EarthSystems, LLC, under the supervision of Letterle, abandoned soil vapor monitoring points VP-A through VP-D, groundwater recovery wells RW-1 and RW-2, groundwater monitoring wells MW-2, MW-9, and DW-1, AS wells AS-1 and AS-2, SVE wells SVE-1, SVE-2, and SVE-3,and one unknown/undesignated well. Letterle subsequently prepared and submitted well abandonment forms to the Pennsylvania Department of Conservation and Natural Resources (DCNR). Well abandonment forms were not prepared/submitted for soil vapor points VP-A through VP-D and the unknown well because well details were not available. Copies of the well abandonment forms are included in Appendix D of Attachment 1f.

- In December of 2010, Letterle supervised the drilling and installation of off-Site monitoring wells MW-12, MW-13, MW-14S, MW-15S, MW-16 and MW-17

(Figure 3; Appendix B in Attachment 1f). These wells were installed in an attempt to delineate the downgradient portion of the bedrock groundwater plume. Monitoring wells MW-14S and MW-15S were drilled to a total depth of thirty (30) fbg and were constructed with screens that intercepted the first encountered water-bearing zone at depths of eighteen (18) fbg and twenty-four (24) fbg, respectively. Monitoring wells MW-12, MW-13, MW-16 and MW-17 were drilled to total depths of fifty (50) to sixty (60) fbg and were constructed with screens that intercepted the second encountered water-bearing zone at depths ranging from forty (40) to sixty (60) fbg. Subsequent sampling of these monitoring wells showed that dissolved-phase benzene and/or MTBE concentrations in wells MW-12, MW-13, MW-14S and MW-15S were greater than the applicable RUA MSCs, indicating that additional groundwater characterization is necessary to complete delineation of the downgradient edge of the groundwater plume.

- On February 15, 2011, a professional survey of the Site was performed by Fike Associates, Inc. (Fike), of Clarion, Pennsylvania. All monitoring wells, soil vapor monitoring points and all other pertinent site features, including property boundaries, utility locations, buildings dimensions, and selected features of adjacent properties, were professionally surveyed. The monitoring well top of casing (TOC) elevations are presented in the groundwater elevation data table included in Attachments 1g and 1h.

- On April 26, 2011, Letterle submitted an Additional SCR/Groundwater Monitoring Report to the PaDEP (Attachment 1g) summarizing the additional site characterization activities conducted by Letterle through early 2011. A formal written response from the PaDEP was not available in the USTIF's files however, the PaDEP indicated to Letterle during subsequent discussions that, based on the groundwater data, the PaDEP would require additional plume delineation downgradient of monitoring wells MW-14S, MW-15S, MW-16 and MW-17 to complete groundwater characterization.

- On February 7, 2012, Letterle supervised the installation of two additional soil vapor monitoring points (VP-5 and VP-6) on the Martin residential property (Figure 3), as requested by the PaDEP in January of 2012 following correspondence with the off-Site property owner regarding potential vapor intrusion concerns. The two soil vapor monitoring points were installed at a depth of eight (8) fbg and screened in unsaturated soil. Soil vapor samples were collected from VP-5 and VP-6 on February 7, 2012, and laboratory analytical results showed that concentrations of all analyzed unleaded gasoline parameters were less than the applicable Soil Vapor MSCs (Attachment 1h).

- On February 9, 2012, Letterle conducted a vacuum enhanced groundwater extraction (VEGE) pilot test. The pilot test involved the simultaneous recovery of subsurface vapor and groundwater from monitoring well MW-11, while monitoring drawdown and induced vacuum in the extraction well and in the surrounding

monitoring wells. Details of the pilot test methodology and results are provided in the Pilot Test Report (dated March 2012; Appendix E in Attachment 1g). Based on the results of the pilot test, Letterle concluded that a high vacuum may need to be applied to the VEGE system augmented by pneumatic pumps to realize the pneumatic radius of influence, and that VEGE would be an effective and aggressive remediation strategy to remediate adsorbed-phase and dissolved-phase petroleum hydrocarbons in unsaturated and saturated bedrock.

- Since the April 26, 2011 submittal of their Additional SCR/Groundwater Monitoring Report to the PaDEP, Letterle has conducted six (6) quarterly groundwater monitoring events (i.e., May 9, 2011, July 15, 2011, November 8, 2011, January 12, 2012, April 17, 2012, and July 10, 2012). Details of the May 9, 2011, July 15, 2011, November 8, 2011, and January 12, 2012 quarterly groundwater monitoring events were provided in the April 2012 Yearly Progress Report and Pilot Test Report (Attachment 1g) submitted by Letterle to the PaDEP. This report included details the statistical trend analysis conducted by Letterle. This statistical trend analysis is discussed in more detail below, along with additional trend analyses conducted by the Technical Contact on groundwater chemistry data collected up to and including the January 12, 2012 groundwater chemistry data. A groundwater elevation contour map for the shallow bedrock aquifer, a potentiometric surface contour map for the deep bedrock aquifer, and dissolved-phase benzene and MTBE concentration contour maps for shallow bedrock groundwater and deep bedrock groundwater for the January 12, 2012 groundwater monitoring event were developed by GSC and are provided as Figures 12 through 16. A summary of the groundwater chemistry data collected from the most recent groundwater monitoring event conducted at the Site on July 10, 2012 is also provided below.

Statistical Trend Analyses

The groundwater chemistry data collected up to and including the January 12, 2012 sampling event for wells MW-11 and MW-12 was evaluated by Letterle using the Mann-Kendall statistical test. The Mann-Kendall test is a non-parametric statistical test used to determine whether a data set indicates a statistically significant increasing trend, a statistically significant decreasing trend, or no statistically significant trend at a particular confidence level (e.g., 95% confidence level). A minimum of four (4) consecutive quarters of data are required by the statistical trend analysis, however, the PaDEP requires that at least eight (8) consecutive quarters of data be used to evaluate the statistical trend at a 95% confidence level or higher. Therefore, additional quarterly groundwater data for off-Site wells MW-13, MW-14S, MW-15S, MW-16 and MW-17 is necessary to adequately evaluate dissolved-phase concentration trends for these wells. Copies of the Mann-Kendall statistical trend analysis spreadsheets prepared by Letterle (using a spreadsheet program developed by the State of Wisconsin's Department of Natural Resources) are included as Appendix F in Attachment 1f.

Based on the results of the Mann-Kendall statistical trend analysis conducted by Letterle, Letterle concluded the following:

There are stable trends for benzene and naphthalene in monitoring well MW-11. [Please note that the State of Wisconsin no longer endorses the Mann-Kendall stability test due to potentially biased output results if the data set includes relatively high concentrations. Therefore, it can be concluded from the output spreadsheet for MW-11 that there is no statistically significant trend at a 90% confidence level for benzene and naphthalene in well MW-11.];
There is a decreasing trend for MTBE in monitoring well MW-11 at an 80% confidence level and there is no statistically significant trend at a 90% confidence level; and,

There is an increasing trend for benzene and MTBE in monitoring well MW-12 at a 90% confidence level.

To further evaluate concentration trends at the Site, the Technical Contact conducted statistical trend analyses on key wells that have historically shown concentrations of target unleaded gasoline constituents greater than the RUA MSCs. Statistical trend analyses were performed to determine which wells, if any, currently demonstrate a decreasing trend at a 95% confidence level and which wells will require more data to demonstrate decreasing trends at a 95% confidence level. The Technical Contact further evaluated concentration trends for wells MW-3, MW-10, MW-11 and MW-12, and also evaluated trends using the limited data set available for wells MW-13, MW-14S, and MW-15S. The non-parametric Mann Kendall statistical trend test and the Theil-Sen slope estimator (discussed in the PaDEP's *Technical Guidance Manual* (TGM) (page IV-60)) was selected for the trend analyses. The trend analyses were performed using the Environmental Protection Agency's (EPA's) ProUCL software (Version 4.1) at confidence levels of 95% (i.e., "Confidence Coefficient" of 0.9500). The output from ProUCL consists of a time-series graph for each data set with the Mann-Kendall test statistic and a statement on each output graph indicating whether there was a statistically significant decreasing trend, a statistically significant increasing trend, or no trend at the specified "Confidence Coefficient". A trend analysis that indicates that no statistically significant trend is present in the data at the evaluated "Confidence Coefficient" does not mean that the data (i.e., the concentrations within the particular well) are stable over time. Additionally, the software program performs the Theil-Sen analysis which yields an estimated slope of the best-fitted trend line of the data. The Theil-Sen analysis is also non-parametric.

The results of the Mann-Kendall/Theil-Sen trend analyses performed by the Technical Contact are provided in Attachment 1h. As stated on the graphs provided in Attachment 1h, two of the trend analyses performed (i.e., benzene and MTBE in well MW-12) showed a statistically significant increasing trend at a 95% confidence level, and all of the other trend analyses showed no significant trend at a 95% confidence level. Therefore, additional quarterly groundwater sampling is required in order to show that all constituents in all monitoring wells show a statistically significant decreasing trend at a 95% confidence level in order to demonstrate groundwater attainment under the SSS.

Most Recent Groundwater Analytical Results

Based on the analytical results from the most recent groundwater sampling event conducted by Letterle on July 11, 2012, dissolved-phase concentrations were greater than the RUA MSCs for the following parameters;

- Benzene concentrations in on-Site POC well MW-11 (1,340 ug/l) and off-Site wells MW-13 (16.3 ug/l), MW-14S (331 ug/l) and MW-15S (132 ug/l);

- MTBE concentrations in on-Site POC well MW-11 (341 ug/l) and off-Site wells MW-12 (84.9 ug/l), MW-13 (209 ug/l), MW-14S (113 ug/l) and MW-15S (47.0 ug/l); and,

- Naphthalene concentrations in on-Site POC well MW-11 (149 ug/l).

A copy of the laboratory analytical report for the July 10, 2012 groundwater sampling event, and historical groundwater elevation and chemistry summary tables that include the July 10, 2012 sampling data, are included in Attachment 1h.

D. OBJECTIVE/SCOPE OF WORK

This RFB Solicitation is a defined scope of work (SOW) type where a specific SOW is presented to the bidders who prepare their bids on the basis of that scope. In the case of this RFB solicitation, the defined SOW has been reviewed and commented on by the PaDEP and is designed to complete groundwater plume delineation and adequate fate and transport analyses to obtain Relief from Liability for the Site by demonstrating attainment of the SSS for soil and groundwater by demonstrating that no complete exposure pathways exist. Please note that, during a conference call with the Technical Contact and ICF on July 31, 2012, the PaDEP stated that, although soil impacts beyond the eastern property boundary and beneath Route 119 have not been completely delineated, the soil data collected to date indicates that soil impacts at the Site have been sufficiently delineated and there does not appear to be a continuing source for groundwater contamination in the form of residual soil contamination. Therefore, additional soil characterization is not part of the SOW for this RFB.

The SOW 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), as applicable. There are several key elements that must be completed in order for the approach outlined in this RFB to be successful. Specific milestones for this RFB are presented below.

Milestone A: Obtain Off-Site Access to Three (3) Properties to Install and Sample Six (6) New Shallow Bedrock Groundwater Monitoring Wells

Milestone B: Supplemental Site Characterization Activities

- Milestone B1: Installation, Surveying, Development, and Sampling (One Initial Characterization Round) of Two (2) On-Site (MW-10S and MW-22S) and Six (6) Off-Site (MW-12S, MW-13S, MW-18S, MW-19S, MW-20S and MW-21S) Shallow Bedrock Groundwater Monitoring Wells
- Milestone B2: Comprehensive Gauging/Sampling of Twenty (20) Groundwater Monitoring Wells for Characterization Purposes (to be initiated two to four weeks following completion of Milestone B1)
- Milestone B3: Preparation and Submittal of a SSCR/Revised RAP

Milestone C1-C8: Eight (8) Quarters of Quarterly Comprehensive Gauging/Sampling of Twenty (20) Groundwater Monitoring Wells for Fate and Transport Analysis, and Preparation/Submittal of Quarterly Remedial Action Progress Reports (RAPRs)

Milestone D: Preparation and Submittal of RACR

Milestone E: Preparation and Submittal of Environmental Covenant Waiver Request Letters to PaDEP for Three Off-Site Properties; Preparation and Filing of Environmental Covenant for Site Property

The submitted bid shall follow the milestone format outlined above. Bids shall include a detailed description of the anticipated costs for each task including labor rates, time requirements and equipment costs. A Standardized Bid Cost Summary Spreadsheet, to be completed and attached to the bid, is included as Attachment 3. The fixed-price cost for each of the tasks detailed above shall include all costs for preparation of any pertinent project guidance documents in accordance with Chapter 245 (e.g., health and safety plan, field sampling/analysis plan, quality assurance/quality control plan, etc.), for utility clearance (both coordination of PA One-Call and conducting physical utility clearance using soft dig techniques if deemed necessary), for project coordination/management, and for scheduling time deemed necessary to complete each task.

MILESTONE A – OBTAIN OFF-SITE ACCESS

Prior to installing the off-site groundwater monitoring wells, the selected bidder shall obtain off-site access from the following property owners:

For Off-Site Wells MW-12S and MW-13S
Donald M. and Beverly G. Martin
105 Hi-Way Supply Road
Dunbar, PA 15431
Tax Assessor Parcel ID # 09-31-0014

For Off-Site Well MW-22S
Fay-Penn Economic Development Council
2 W. Main Street
P.O. Box 2101
Uniontown, PA 15401
Tax Assessor Parcel ID # 09-31-0047

For Off-Site Wells MW-19S, MW-20S and MW-21S
Civic Development Co.
382 West Chestnut Street
Washington, PA 15301
Tax Assessor Parcel ID # 09-31-0015-04

Prior to entering the above-listed properties, the selected bidder shall obtain off-Site access in the form of an access agreement between the selected bidder and the property owner(s). The Technical Contact has discussed the proposed well installations and proposed well locations with the property owner(s) listed above and all of the property owners have indicated to GSC that they will allow access to drill the proposed wells on the respective properties and are aware that the selected bidder will be contacting them to enter into formal access agreements to drill/install and subsequently sample the proposed wells. Thus, for the purposes of this bid, bidders should assume that off-site access to conduct the necessary well installations and sampling will be granted without extended negotiation with the property owner(s). The PaDEP will be involved to the extent necessary to ensure access is granted at these properties and any other location where that location is deemed critical to gain an understanding of the relationship between the Solicitor's release and adjacent properties.

The selected bidder shall contact the above-listed property owner(s) and discuss the details and schedule of the activities to be conducted within the respective properties and execute off-Site access agreements, as necessary, at a fixed-price. Upon execution of the off-Site access agreements, the selected bidder shall provide adequate notification to the applicable property owner(s) when drilling will occur and who may be affected by the drilling activities.

MILESTONE B – SUPPLEMENTAL SITE CHARACTERIZATION ACTIVITIES

Milestone B1: Groundwater Monitoring Well Installation, Surveying, Development, and Initial Sampling

After the above-mentioned off-Site access agreements have been fully executed, the selected bidder shall install off-Site shallow bedrock groundwater monitoring wells MW-12S, MW-13S, MW-19S, MW-20S, MW-21S, and MW-22S, the proposed locations of which are shown on the groundwater concentration contour maps included as Figures 13 and 15. These wells will serve to better delineate the current shallow bedrock dissolved-phase plume(s) on- and off-Site. For the purpose of this RFB, bidders shall

assume that the shallow bedrock monitoring wells will be installed with the following characteristics:

1) Continuous soil/overburden and bedrock characterization shall be conducted and boring logs shall be prepared for each well using appropriate classification systems;

2) Bedrock wells shall be constructed of two-inch diameter, threaded, flush-joint, schedule 40 PVC riser and 0.010- or 0.020-inch slot width well screen;

3) Bedrock 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;

4) The bedrock wells shall be drilled such that there is a surface casing to the top of bedrock (ungrouted) and an inner protective casing set three (3) feet into the bedrock and grouted in the bedrock socket and the surface casing;

5) Bedrock wells shall be constructed such that the bottom of the screened interval (i.e., bottom of well) is higher in elevation than the elevation of the top of the screened interval in the corresponding deeper bedrock groundwater monitoring well, as indicated on the well construction summary table included in Attachment 1h and the comparative well screen elevations schematic included as Figure 11. For example, the total well depth and bottom of the screened interval for proposed well MW-12S shall not extend below an elevation of 1,207.75 famsl which is the elevation of the top of the screened interval within MW-12;

6) Hydrated bentonite chips, bentonite slurry or another acceptable sealant combination shall be used to seal the annulus (between the PVC and the protective casing) above the sand pack up to grade;

7) Each bedrock well shall be completed at the surface with a securable manhole, set in concrete flush with the ground surface. A locking, pressure fit, watertight cap shall be used to prevent the infiltration of surface runoff and rainwater and to restrict access by unauthorized individuals; and,

8) A monitoring well construction log shall be prepared for each well.

Following the installation of the above-referenced wells, the selected bidder shall develop the newly installed wells (MW-12S, MW-13S, MW-18S, MW-19S, MW-20S, MW-21S, and MW-22S). All monitoring wells shall be developed in accordance with standard industry practices and applicable guidance. For cost estimation purposes, bidders shall assume that each well will have sufficient yield/recovery to remove at least ten well volumes during one mobilization in order to complete well development activities.

Initial gauging and sampling of the newly installed monitoring wells (MW-12S, MW-13S, MW-18S, MW-19S, MW-20S, MW-21S, and MW-22S) shall be conducted at least two weeks following well development. Water level measurements shall be taken from each of the new wells. Depth-to-water measurements shall be completed using a probe capable of distinguishing water and the presence/absence of SPL to the nearest 0.01 feet. The depth to water shall be recorded and then used to determine the water level elevations within each new well. The casing elevation of each of the new monitoring wells shall be surveyed within +/- 0.01 foot relative to an arbitrary benchmark already established 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 the USGS topographic map or benchmark elevation marker located at the Site if one exists. Please note that a professional survey by a Pennsylvania-licensed Professional Land Surveyor is not required to survey the wells. Water level depth data (measured from the top of casing) shall then be subtracted from respective casing elevations to determine water level elevations relative to the arbitrary benchmark such that groundwater elevations within each well can be determined. Bidders should assume that no separate-phase liquid (SPL) will be encountered in the monitoring wells.

All wells shall be purged following appropriate protocols and in accordance with standard industry practices. Groundwater sampling and analysis shall be conducted in accordance with generally accepted practices as outlined in the PaDEP's Groundwater Monitoring Guidance Manual, dated December 1, 2001 (Document # 383-3000-001). All samples shall be analyzed in accordance with the PaDEP's Old Shortlist of unleaded gasoline parameters using the approved laboratory methods capable of reporting to the PaDEP-established Practical Quantitation Limits.

Note: All investigative-derived waste (IDW) and purge water should be disposed of per the PaDEP's Southwestern Regional Office (SWRO) guidance, and bidders should check with the SWRO for current requirements.

Milestone B2: Preparation and Submittal of Combined SSCR/RRAP

The selected bidder shall prepare a Combined SSCR/RRAP in accordance with 25 Pa Code §245.310 and §245.311. The selected bidder shall prepare the Combined SSCR/RRAP in draft form for review and comment by the Solicitor and the USTIF. The bidders' schedules shall provide two weeks for this review. The selected bidder shall address all of the comments received by the Solicitor and the USTIF before submission to the PaDEP.

The selected bidder shall prepare a Combined SSCR/RRAP that documents and discusses the data obtained and the conclusions drawn from the completion of Tasks A through B2. Tables, figures, and other attachments that support the text shall include, at a minimum, the following:

- Updated historical groundwater elevation data;
- Updated historical groundwater analytical data;

- Historical soil analytical data;
- Historical soil vapor analytical data;
- A USGS Quadrangle Map showing site location;
- Site map (showing site boundaries and pertinent site features) (AutoCAD files will be provided);
- Monitoring well, soil boring and soil vapor point location map (showing existing and new locations);
- Groundwater elevation contour map for shallow bedrock groundwater (for the comprehensive sampling round);
- Potentiometric surface contour map for deep bedrock groundwater (for the comprehensive sampling round);
- Shallow bedrock groundwater concentration contour maps for all constituents found to be above the RUA MSCs in any sample (for the initial quarterly comprehensive sampling round);
- Deep bedrock groundwater concentration contour maps for all constituents found to be above the RUA MSCs in any sample (for the initial comprehensive sampling round);
- Statistical trend analyses for those constituents that exhibit concentrations greater than the applicable RUA MSCs;
- Historical soil concentrations posting map;
- Laboratory analytical reports for soil, soil vapor and groundwater with supporting chains of custody and field sampling documentation;
- Soil boring logs, soil vapor monitoring point construction logs, and construction logs for new groundwater monitoring wells;
- Incorporation of a detailed Conceptual Site Model into the SSCR, in accordance with 245.310(a)(23); and,
- RRAP as necessary to meet the SSS for soil and groundwater.

MILESTONE C1-C8 – QUARTERLY COMPREHENSIVE GAUGING AND SAMPLING AND PREPARATION OF QUARTERLY RAPRS

The purpose of conducting eight (8) comprehensive quarterly groundwater monitoring events is to provide an adequate fate and transport analysis that supports the attainment of the SSS by showing, through statistical analyses, that the dissolved-phase plume is stable or shrinking.

At least two weeks but not more than eight weeks following the initial sampling of newly installed wells MW-12S, MW-13S, MW-18S, MW-19S, MW-20S, MW-21S, and MW-22S covered under Milestone B1, the selected bidder shall conduct the first of eight (8) comprehensive quarterly groundwater gauging and sampling events. The results from the sampling of wells MW-12S, MW-13S, MW-18S, MW-19S, MW-20S, MW-21S, and MW-22S during this initial comprehensive quarterly groundwater monitoring event will also serve as confirmatory groundwater results for these wells, as required under Chapter 245 as part of the site characterization, and shall be presented in the SSCR along with the results for the other wells sampled during the initial comprehensive

quarterly sampling event. As a result, a separate RAPR for the initial comprehensive quarterly sampling event will not be necessary, and the cost for evaluation and presentation of this initial quarterly data shall be included in the bidders' fixed-price cost for preparation and submittal of the SSCR under Milestone B4. Thus, bidders shall provide a fixed-price cost under this milestone for eight quarterly sampling events and preparation of seven quarterly RAPRs.

Water level measurements, purging, sampling and analyses shall be conducted in the same manner as described for Task B2. The depth-to-water data collected during each quarterly comprehensive groundwater monitoring event shall be used to determine water level elevations so that a groundwater elevation contour map and a potentiometric surface contour map can be developed for the shallow bedrock and the deep bedrock, respectively, and the direction(s) of shallow and deep bedrock groundwater flow can be confirmed. Groundwater concentration contour maps for all constituents that exceed the applicable RUA MSCs shall also be prepared using the data from each quarterly sampling round and these maps shall be included in the SSCR/RRAP (for the initial comprehensive quarterly sampling event) and in each RAPR subsequent to the SSCR/RRAP.

Following each comprehensive quarterly groundwater monitoring event, the successful bidder shall also perform an updated fate and transport analysis that consists of an evaluation of the existing site groundwater data for spatial and temporal trends. The updated fate and transport trend analysis shall include the most recent groundwater data collected under Milestone C using an appropriate statistical test such as the non-parametric Mann-Kendall trend test (discussed on Page IV-60 in the PaDEP's Technical Guidance Manual) and an appropriate statistical software program such as WQ Stat Plus (Version 1.56) or ProUCL (Version 4.1). The successful bidder shall prepare output data from the software program that consists of time-series graphs for each data set with the Mann-Kendall test statistic and a table listing the critical test statistic and the trend for a 95% confidence level, as well as the Sen's slope estimator on the data which yields the slope of each trend line.

The selected bidder shall evaluate the results of the updated fate and transport analysis following each comprehensive quarterly groundwater monitoring event to determine whether all constituents that historically have been detected at concentrations greater than the RUA MSCs show a declining trend at a 95% confidence level. A RACR shall not be prepared until such time as the updated fate and transport analysis shows that the dissolved-phase plume(s) are stable or shrinking with time.

Note: The cost for the updated trend analysis effort for the first comprehensive quarterly sampling event should be included in the fixed-price cost for preparation of the SSCR/RRAP under Milestone B2. The cost for the updated trend analysis for all subsequent comprehensive quarterly sampling events should be included in the fixed-price cost for preparation of the quarterly RAPR. Thus, the costs for the updated trend analysis should not be included in the fixed-price cost for preparation/submittal of the RACR under Milestone F.

MILESTONE D – PREPARATION AND SUBMITTAL OF RACR

When the selected bidder can demonstrate that dissolved-phase concentrations for those constituents that have historically been greater than the RUA MSCs show a declining trend at a 95% confidence level, and attainment of the SSS for soil and groundwater for this site has been met, a RACR shall be prepared and submitted to the PaDEP in accordance with 25 Pa Code 245.313. The RACR must include all drafts of the environmental covenants and environmental covenant waiver request letters necessary in order to obtain Relief from Liability for the site. Details of the environmental covenant(s) and environmental covenant waiver requests letters that will be submitted to the PaDEP and filed with the Fayette County Recorder of Deeds, as specified below under Milestone G, shall also be described and provided in the RACR. Details of the environmental covenant(s) and environmental covenant waiver request letters to be submitted with the RACR should be discussed and agreed upon with the PaDEP prior to submitting the draft covenant(s) with the RACR to increase the likelihood of RACR approval. In addition to the documentation previously mentioned, the RACR shall also include all pertinent Site data, all input and output data and documentation from the fate and transport trend analysis, as well as any other documentation necessary to make the RACR sufficiently comprehensive to permit the PaDEP to review and approve the RACR and grant Relief from Liability to the Solicitor and the property owner.

There may be post-remedial care items in the RACR that are not possible to anticipate at this time. Any post-remedial care activities are beyond the scope of this RFB.

MILESTONE E – PREPARATION AND SUBMITTAL OF ENVIRONMENTAL COVENANT WAIVER REQUEST LETTER TO PADEP; PREPARATION AND FILING OF ENVIRONMENTAL COVENANT FOR SITE PROPERTY

Groundwater on- and off-Site currently exceeds the Residential, Used Aquifer Medium-Specific Concentrations (MSCs). Preparation and filing of environmental covenants may be necessary for the Site, and environmental covenant waivers may be necessary for off-Site properties where concentrations exceed the RUS MSCs at the time of the RACR submittal and institutional controls are implemented to attain the SSS. All environmental covenants must be prepared and filed in accordance with the Uniform Environmental Covenants Act (UECA). The bidder would be responsible for determining which affected properties would require an environmental covenant based on contaminant distribution at the time of RACR submittal and for which affected properties an environmental covenant can be waived by the PaDEP (e.g., the highway, off-Site residential property). Depending on on- and off-Site conditions at the time of the RACR submittal, and on the method by which Relief from Liability is ultimately achieved, an environmental covenant may have to be filed for the Site property and environmental covenant waivers may have to be requested for some off-Site properties.

The selected bidder would also be responsible for assisting the Site property owner with preparation and filing of the appropriate environmental covenant for the Site property

within thirty (30) days of the RACR approval date. The Site property owner, Mr. Mick McQuire, has agreed to file an environmental covenant for the Site property.

Bidders shall assume, for the purposes of this bid, that the only property that would be required to have an environmental covenant placed on it would be the Site property, and that waivers would have to be requested and granted by the PaDEP for applicable roadways and any off-Site properties that are shown to be potentially impacted above the RUA MSCs at the time the SSS can be demonstrated and a RACR can be prepared/submitted. According to the Borough of Dunbar, there is not a municipal "Must Connect/Must Use" Ordinance in effect for the Site and surrounding area and the installation of private wells for drinking or agricultural purposes is not prohibited. Therefore, environmental covenants would need to address any future use scenarios that could create a complete exposure pathway from impacted groundwater in the future. The environmental covenant for the Site property, if still necessary at the time of the RACR submittal, would include an activity and use limitation for groundwater that would prohibit the use of groundwater beneath the Site property and periodic assessments to confirm that no private water supply wells have been installed on any off-Site property for which a UECA waiver has been granted by the PaDEP.

ADDITIONAL REQUIREMENTS

In addition to the specific tasks specified above, the selected consultant shall also:

Complete necessary, reasonable, and appropriate project planning and management activities until the SOW specified in the executed Remediation Agreement has been completed. Such activities would be expected to include client communications/ updates, meetings, record keeping, subcontracting, personnel and subcontractor management, quality assurance/quality control, scheduling, and other activities. Project planning and management activities will also include preparing and implementing any plans required by regulations or that may be necessary and appropriate to complete the SOW. This may include health and safety plans, waste management plans, field sampling and analysis plans, and/or access agreements. Project management costs shall be included in the fixed prices quoted for Milestones A through E, as appropriate.

Be responsible for coordinating, managing and completing the proper management, characterization, handling, treatment, and/or disposal of all investigation-derived wastes in accordance with standard industry practices and applicable laws, regulations, guidance and PaDEP directives. Waste characterization and disposal documentation shall be maintained and provided to the Solicitor upon request and shall be included as an appendix to the SSCR. Waste disposal costs shall be included in the fixed prices quoted for Milestones A through E, as appropriate.

Be responsible for providing the Solicitor and property tenants with adequate advance notice prior to each visit to the property. The purpose of this notification is to coordinate with the Solicitor and tenants to facilitate appropriate access to the areas of the site necessary to complete the SOW. Return visits to the site prompted by a failure to make

the necessary logistical arrangements in advance will not constitute a change in the selected bidder's SOW or total quoted cost for Milestones A through E.

All work shall be conducted in accordance with industry standards/practices, and be consistent with the applicable PaDEP laws, regulations, and guidelines (e.g., PaDEP Groundwater Monitoring Guidance Manual, Document No. 383-3000-001 dated December 1, 2001).

Each bidder should carefully review the existing site information provided in the attachments to this RFB and seek out other appropriate sources of information to develop a cost estimate and schedule for the SOW. There is no prequalification process for bidding. Therefore, bids that demonstrate an understanding of existing site information and 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 Defined SOW contract (Remediation Agreement). A Sample Remediation Agreement is included as Attachment 3 to this RFB Solicitation. This Sample Remediation Agreement contains the standard language that has been previously employed by other Solicitors on other USTIF-funded claims. The bidder must identify in the bid response and document any modifications that they wish to propose to the standard language contained on Pages 1 through 12 of the Sample Remediation Agreement in Attachment 3 other than obvious site-specific modifications to fit this RFB (e.g., site name and PaDEP Facility Number, assumptions, supporting documents, milestone descriptions, costs, and dates). The number and scope of any modifications to the standard agreement language will be one of the criteria used to evaluate the bid. **Any bid response that does not clearly and unambiguously state whether the bidder accepts the language presented in the Sample Remediation Agreement (Attachment 3) "as is", or that does not provide a cross-referenced list of requested changes to this agreement language, will be considered non-responsive.** This statement should be made in a Section entitled "Remediation Agreement". Any proposed changes to the agreement language 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 fixed costs shall be based on unit prices for labor, equipment, materials, subcontractors/vendors and other direct costs. The total cost quoted by the selected bidder will be the maximum amount to be paid by the Solicitor unless a change in scope is authorized and determined to be reasonable and necessary. There may be deviations from and modifications to this SOW during the project. The Remediation Agreement states that any significant changes to the SOW will require approval by the Solicitor, USTIF, and PaDEP.

The bidder shall provide its bid using the Standardized Bid Cost Spreadsheet included as Attachment 3 with descriptions for each task provided in the body of the bid

document. In addition to Attachment 3, the bidder shall provide a unit rate schedule that will be used for any out-of-scope work on this project.

Please note that the total fixed-price bid must include all costs, including those cost items that the bidder may regard as "variable". These variable cost items will not be handled outside of the total fixed price quoted for the SOW. Any bid response that disregards this requirement will be considered non-responsive to the bid requirements and, as a result, will be rejected and will not be evaluated.
The selected bidder's work 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 and necessary.

In order to facilitate the USTIF's review and reimbursement of invoices submitted under this claim, the Solicitor requires that project costs be invoiced by the milestone 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 contract.

F. BID RESPONSE DOCUMENT

Each bid response document must include at least the following:

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

2. Fixed-price bid pricing using the Standardized Bid Cost Spreadsheet in Attachment 3 and a unit rate schedule for any out-of-scope work. The following information relating to the bid pricing should be included as additional sheets in Attachment 3 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. The bidder's estimated total cost by task consistent with the proposed SOW identifying all level-of-effort and costing assumptions.

3. Documentation of the bidder's level of insurance consistent with the levels listed in Attachment 2[3].

4. The names and brief resumes 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 seal to the project deliverables.

5. Responses to the following specific questions:

    a. Does your company employ a Pennsylvania-licensed Professional Geologist that is designated as the proposed project manager? How many years of experience does this person have?

    b. How many Chapter 245 projects is your company currently consultant for in the Southwestern Region of Pennsylvania? Please list up to ten projects.

    c. How many Chapter 245 projects has your company and/or the proposed Pennsylvania-licensed Professional Geologist worked on in the Southwestern Region of Pennsylvania during the last five years?

    d. How many Chapter 245 Corrective Action projects involving an approved SCR, RAP and RACR in the State has your company and/or the Pennsylvania-licensed Professional Geologist closed (i.e., obtained Relief from Liability from the PaDEP) using any standard?

    e. How many Chapter 245 Corrective Action projects in the State has your company and/or the Pennsylvania-licensed Professional Geologist closed (i.e., obtained Relief from Liability from the PaDEP) using the Site-Specific Standard? Please list up to five. Please include concise case histories of up to two sites.

    f. 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.

6. Sufficient description of subcontractor involvement by task.

7. Detailed schedule of activities for completing the proposed SOW.

[3] The selected 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.

8. Description of how the Solicitor, ICF and the 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.

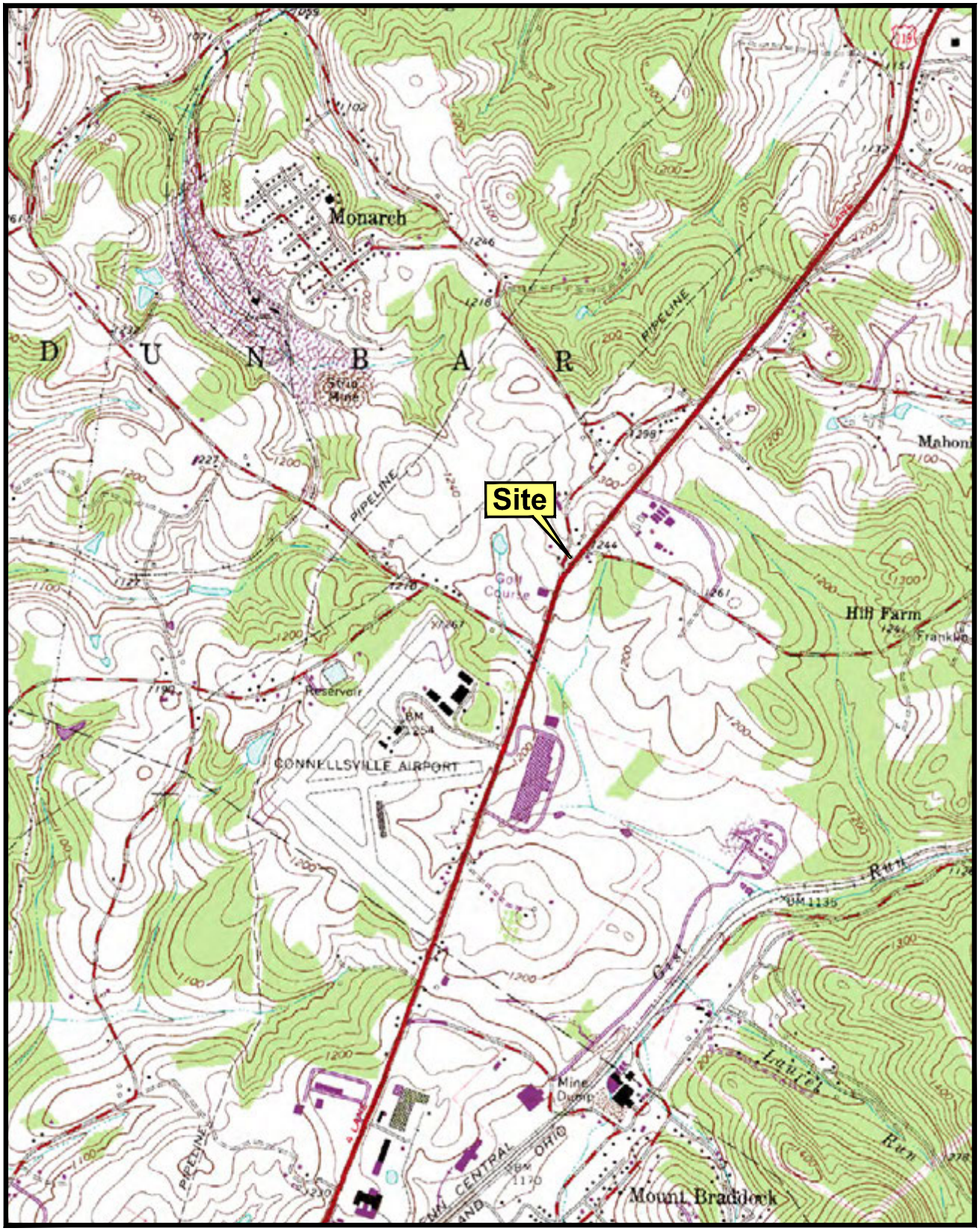
9. Key assumptions made in formulating the proposed cost estimate. The use of overly narrow assumptions will negatively impact the bid.

10. Exceptions or special conditions applicable to the proposed SOW.

11. Quotations from major subcontractors.

F. MANDATORY SITE VISIT

THERE WILL BE A MANDATORY SITE MEETING ON FRIDAY, FEBRUARY 15, 2013 AT 1:00 PM. The Solicitor, the Technical Contact, or their designee will be at the site between 1:00 PM and 2:00 PM 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 TECHNICAL CONTACT VIA E-MAIL BY FEBRUARY 14, 2013 WITH THE SUBJECT "FORMER ROUTE 119 AMOCO 1996-0116(F) – SITE MEETING ATTENDANCE CONFIRMATION".** The name and contact information of the company participant should be included in the body of the e-mail.



Portion of the Uniontown, Pennsylvania
7.5-minute USGS Quadrangle
(1963; photorevised 1973; photoinspected 1977)

Approximate

Scale
0 1000' 2000'

Figure 1

Former Route 119 Amoco

1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Site Location Map

GROUNDWATER SCIENCES CORPORATION

dunb27009-001-B3 / 07-25-12

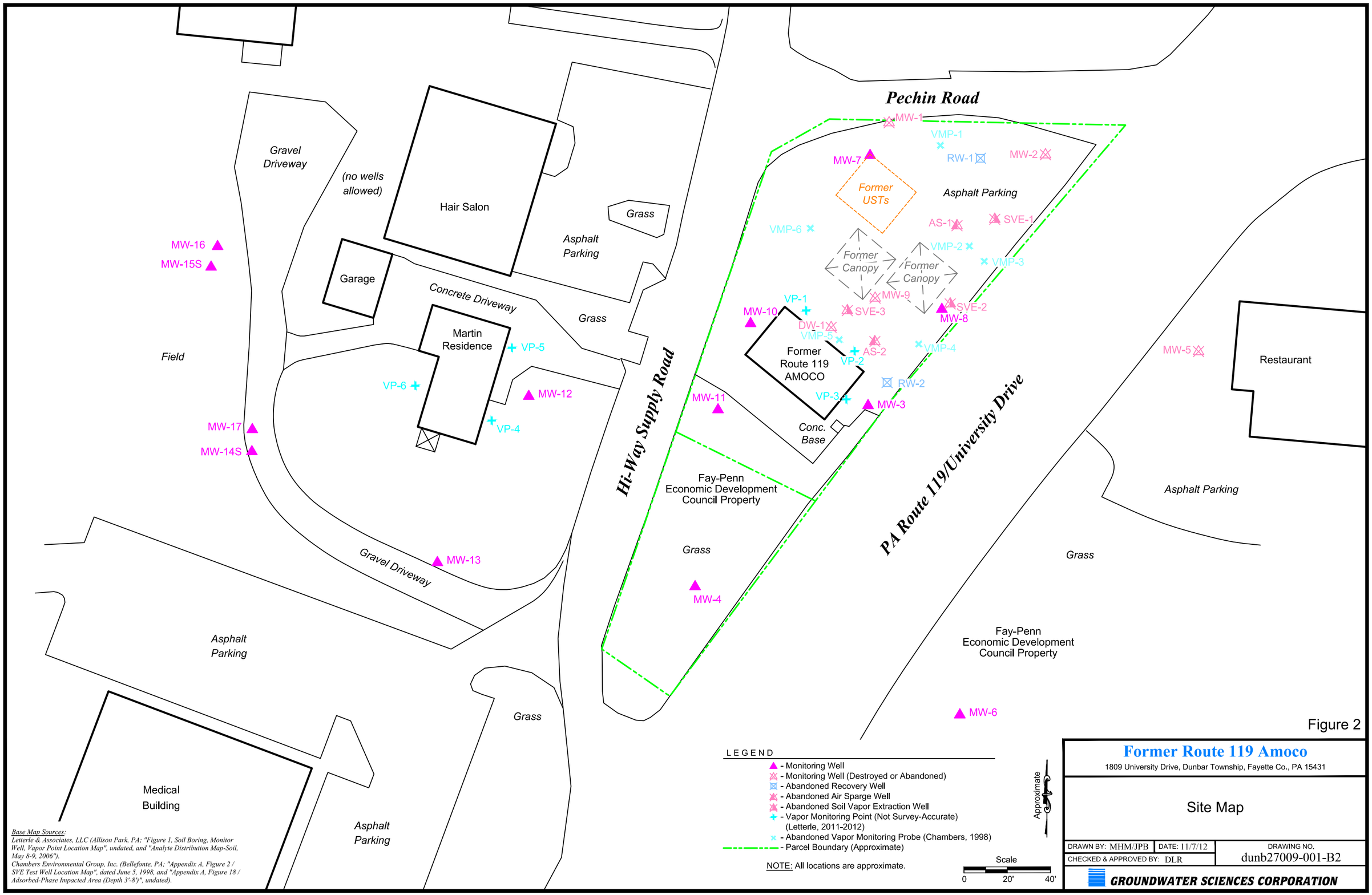


Figure 2

LEGEND

- ▲ - Monitoring Well
- ⊠ - Monitoring Well (Destroyed or Abandoned)
- ⊠ - Abandoned Recovery Well
- ⊠ - Abandoned Air Sparge Well
- ⊠ - Abandoned Soil Vapor Extraction Well
- \+ - Vapor Monitoring Point (Not Survey-Accurate) (Letterle, 2011-2012)
- × - Abandoned Vapor Monitoring Probe (Chambers, 1998)
- ---- - Parcel Boundary (Approximate)

NOTE: All locations are approximate.

Approximate

Scale
0 20' 40'

Base Map Sources:
Letterle & Associates, LLC (Allison Park, PA; "Figure 1, Soil Boring, Monitor Well, Vapor Point Location Map", undated, and "Analyte Distribution Map-Soil, May 8-9, 2006").
Chambers Environmental Group, Inc. (Bellefonte, PA; "Appendix A, Figure 2 / SVE Test Well Location Map", dated June 5, 1998, and "Appendix A, Figure 18 / Adsorbed-Phase Impacted Area (Depth 3'-8')", undated).

Former Route 119 Amoco
1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Site Map

DRAWN BY: MHM/JPB	DATE: 11/7/12	DRAWING NO. dunb27009-001-B2
CHECKED & APPROVED BY: DLR		

GROUNDWATER SCIENCES CORPORATION

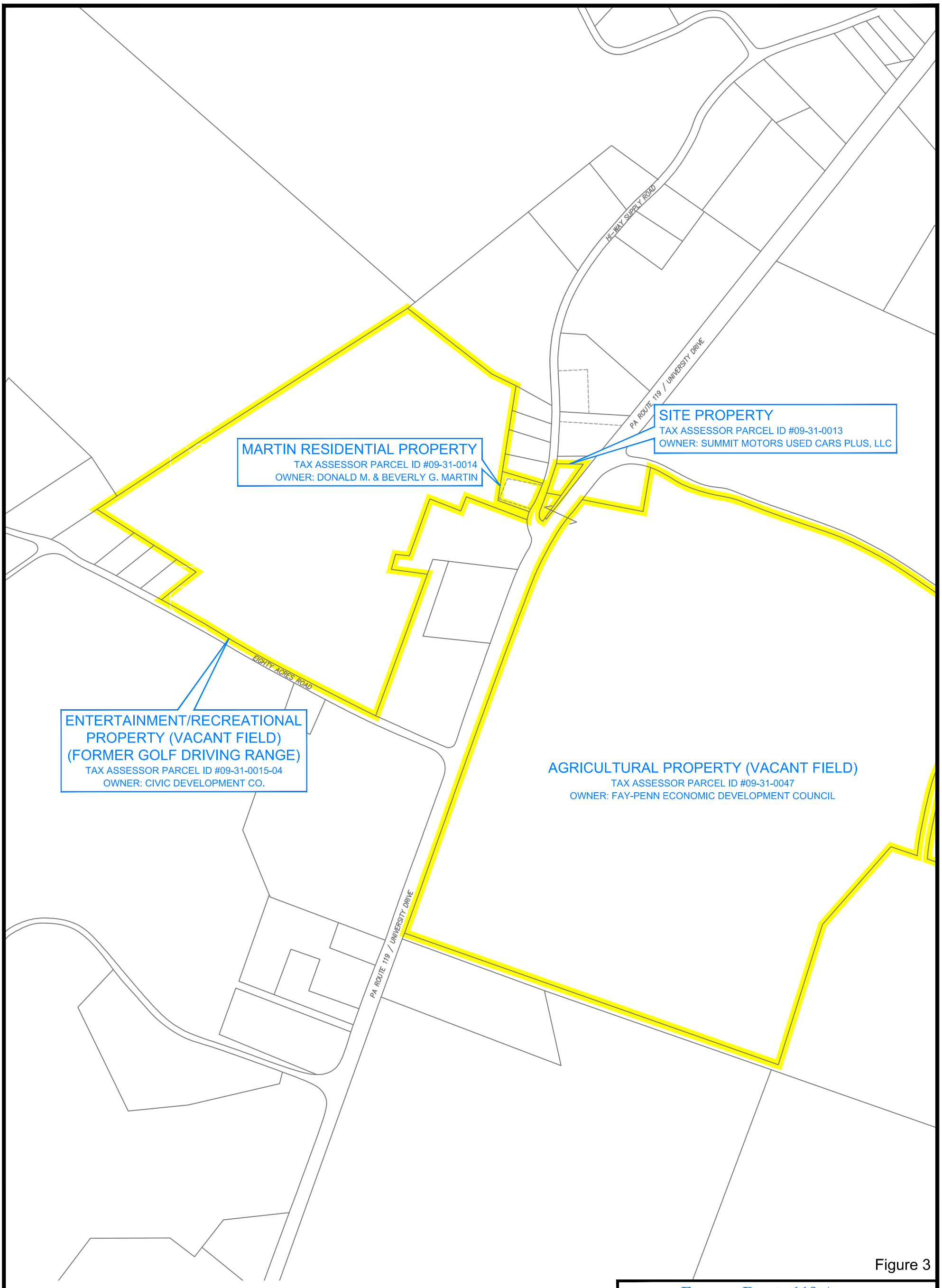


Figure 3

Former Route 119 Amoco

1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Site Vicinity Map
Showing Pertinent Off-Site Properties

DRAWN BY: JPB	DATE: 9/5/12	DRAWING NO. dunb27009-012-A1
CHECKED & APPROVED BY: DLR		

GROUNDWATER SCIENCES CORPORATION

Base Map Source:
Mapping Division Bureau of Assessments County of Fayette, PA "Tax Assessment Map / Map H9, Dist. 9, Map 31", undated.

Figure 4

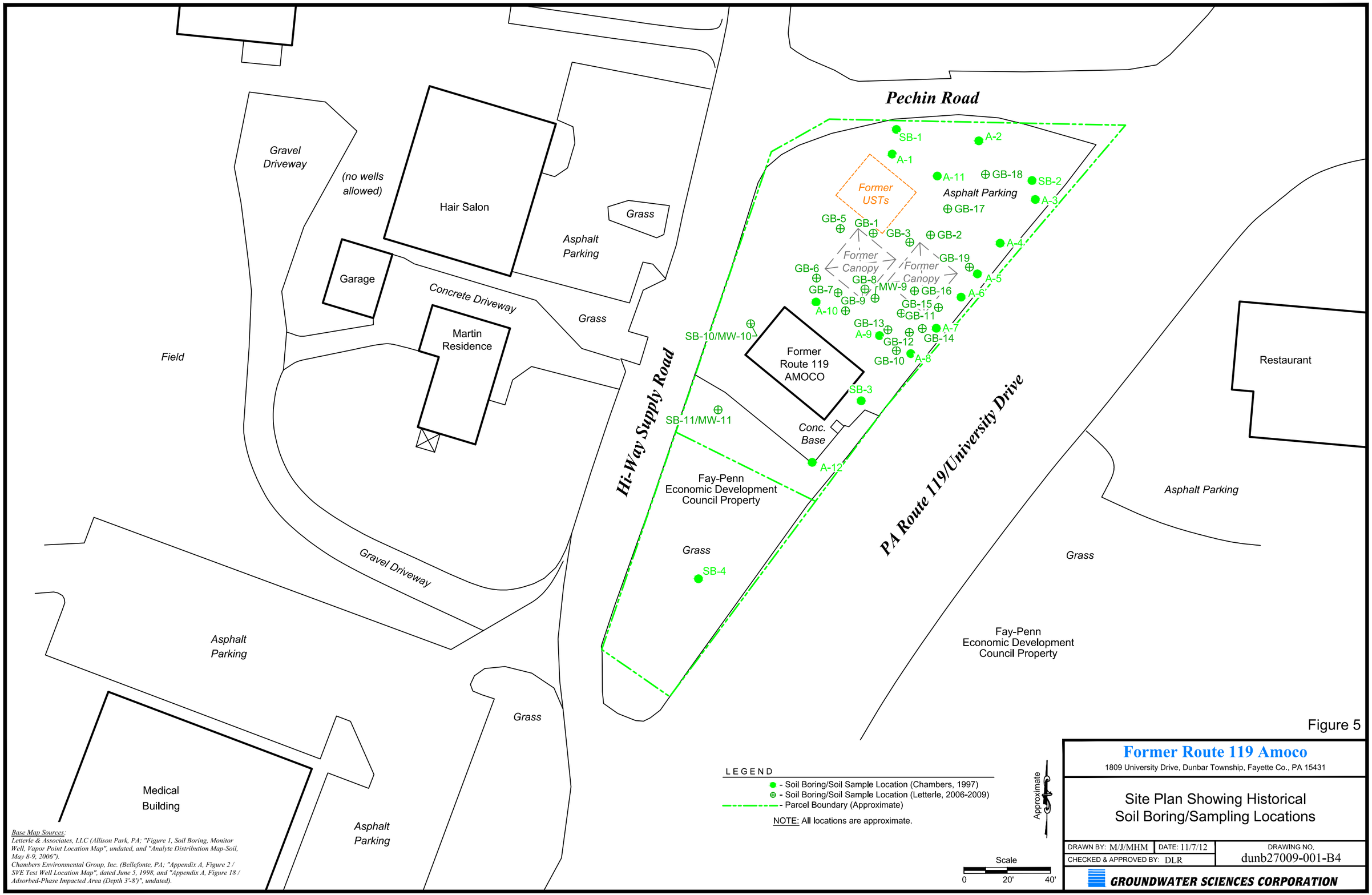
Former Route 119 Amoco

1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Aerial Photograph

DRAWN BY: M/J/MHM	DATE: 11/7/12	DRAWING NO. dunb27009-003-A1
CHECKED & APPROVED BY: DLR		

GROUNDWATER SCIENCES CORPORATION



Base Map Sources:
Letterle & Associates, LLC (Allison Park, PA; "Figure 1, Soil Boring, Monitor Well, Vapor Point Location Map", undated, and "Analyte Distribution Map-Soil, May 8-9, 2006").
Chambers Environmental Group, Inc. (Bellefonte, PA; "Appendix A, Figure 2 / SVE Test Well Location Map", dated June 5, 1998, and "Appendix A, Figure 18 / Adsorbed-Phase Impacted Area (Depth 3'-8')", undated).

LEGEND
- ● - Soil Boring/Soil Sample Location (Chambers, 1997)
- ⊕ - Soil Boring/Soil Sample Location (Letterle, 2006-2009)
- - Parcel Boundary (Approximate)

NOTE: All locations are approximate.

Approximate

Scale
0 20' 40'

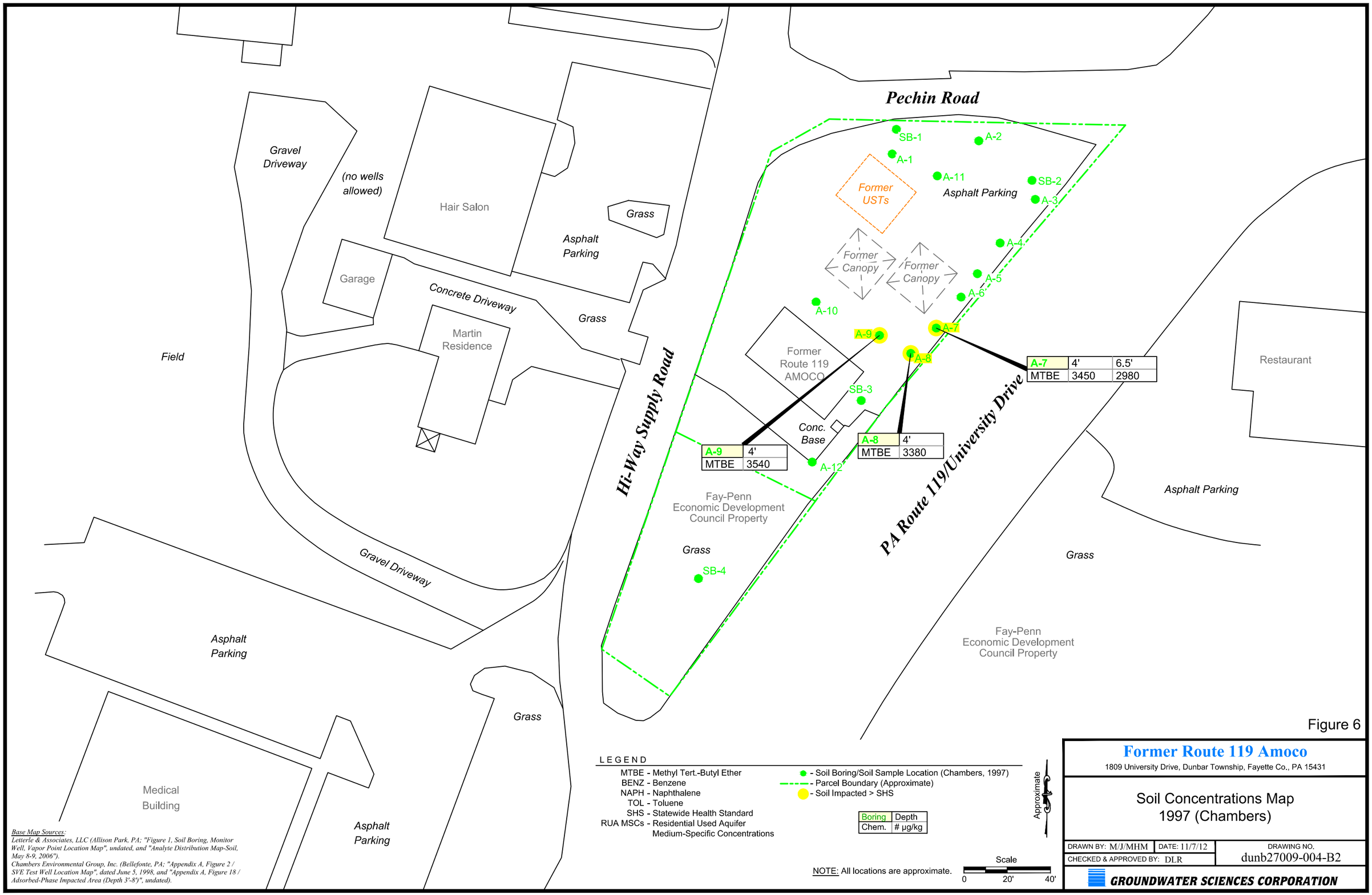
Figure 5

Former Route 119 Amoco
1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Site Plan Showing Historical Soil Boring/Sampling Locations

DRAWN BY: M/J/MHM	DATE: 11/7/12	DRAWING NO. dunb27009-001-B4
CHECKED & APPROVED BY: DLR		

GROUNDWATER SCIENCES CORPORATION



Base Map Sources:
Letterle & Associates, LLC (Allison Park, PA; "Figure 1, Soil Boring, Monitor Well, Vapor Point Location Map", undated, and "Analyte Distribution Map-Soil, May 8-9, 2006").
Chambers Environmental Group, Inc. (Bellefonte, PA; "Appendix A, Figure 2 / SVE Test Well Location Map", dated June 5, 1998, and "Appendix A, Figure 18 / Adsorbed-Phase Impacted Area (Depth 3'-8')", undated).

LEGEND

MTBE - Methyl Tert.-Butyl Ether
BENZ - Benzene
NAPH - Naphthalene
TOL - Toluene
SHS - Statewide Health Standard
RUA MSCs - Residential Used Aquifer Medium-Specific Concentrations

- Soil Boring/Soil Sample Location (Chambers, 1997)
- Parcel Boundary (Approximate)
- Soil Impacted > SHS

Boring	Depth
Chem.	# µg/kg

Approximate

NOTE: All locations are approximate.

Scale
0 20' 40'

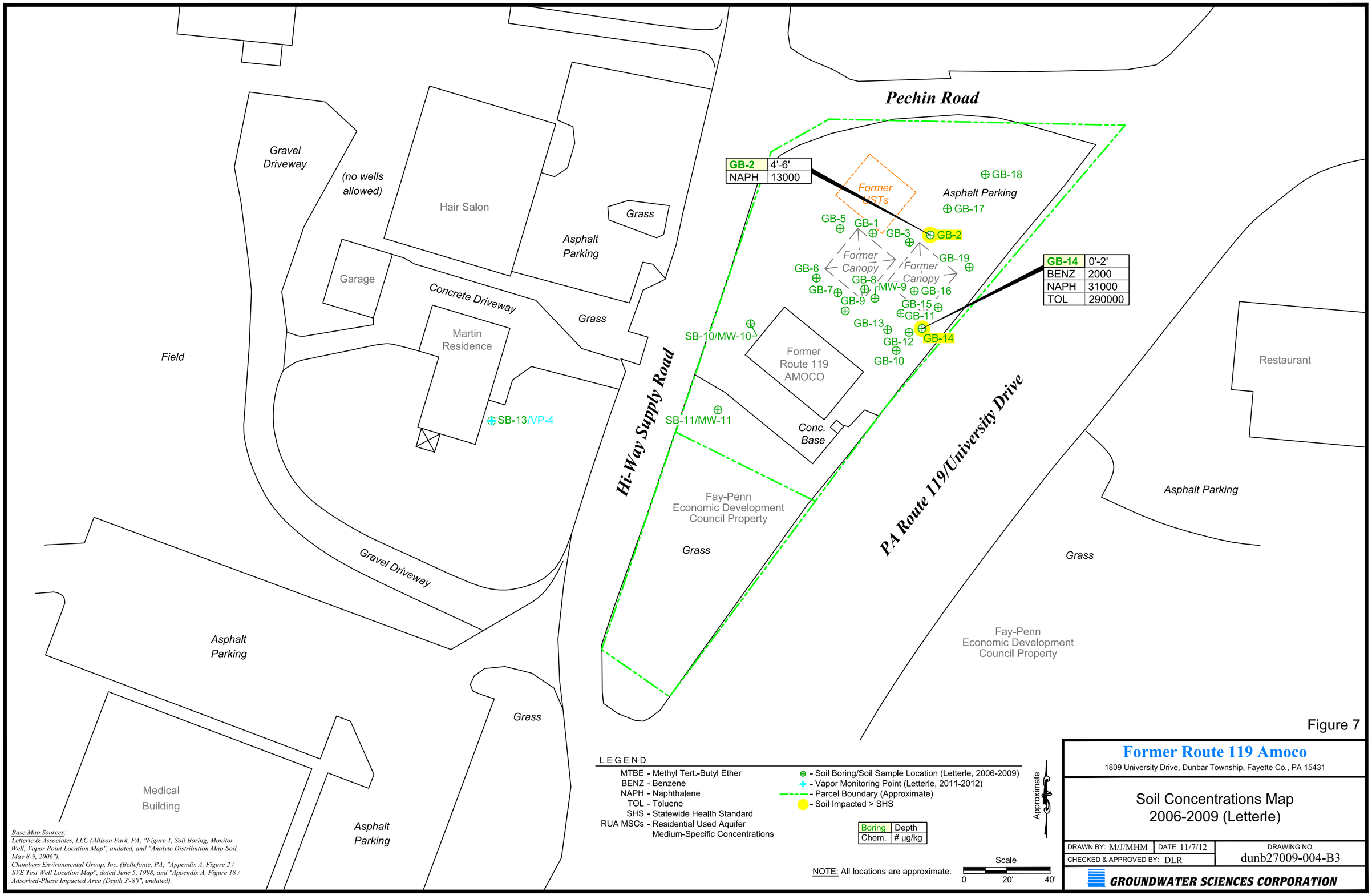
Figure 6

Former Route 119 Amoco
1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Soil Concentrations Map
1997 (Chambers)

DRAWN BY: M/J/MHM	DATE: 11/7/12	DRAWING NO.
CHECKED & APPROVED BY: DLR		dunb27009-004-B2

GROUNDWATER SCIENCES CORPORATION



Base Map Sources:
Letterle & Associates, LLC (Allison Park, PA; "Figure 1, Soil Boring, Monitor Well, Vapor Point Location Map", undated, and "Analyte Distribution Map-Soil, May 8-9, 2006").
Chambers Environmental Group, Inc. (Bellefonte, PA; "Appendix A, Figure 2 / SVE Test Well Location Map", dated June 5, 1998, and "Appendix A, Figure 18 / Adsorbed-Phase Impacted Area (Depth 3'-8')", undated).

LEGEND

MTBE - Methyl Tert.-Butyl Ether
BENZ - Benzene
NAPH - Naphthalene
TOL - Toluene
SHS - Statewide Health Standard
RUA MSCs - Residential Used Aquifer Medium-Specific Concentrations

⊕ - Soil Boring/Soil Sample Location (Letterle, 2006-2009)
+ - Vapor Monitoring Point (Letterle, 2011-2012)
- Parcel Boundary (Approximate)
- Soil Impacted > SHS

Boring	Depth
Chem.	# µg/kg

Approximate

NOTE: All locations are approximate.

Scale
0 20' 40'

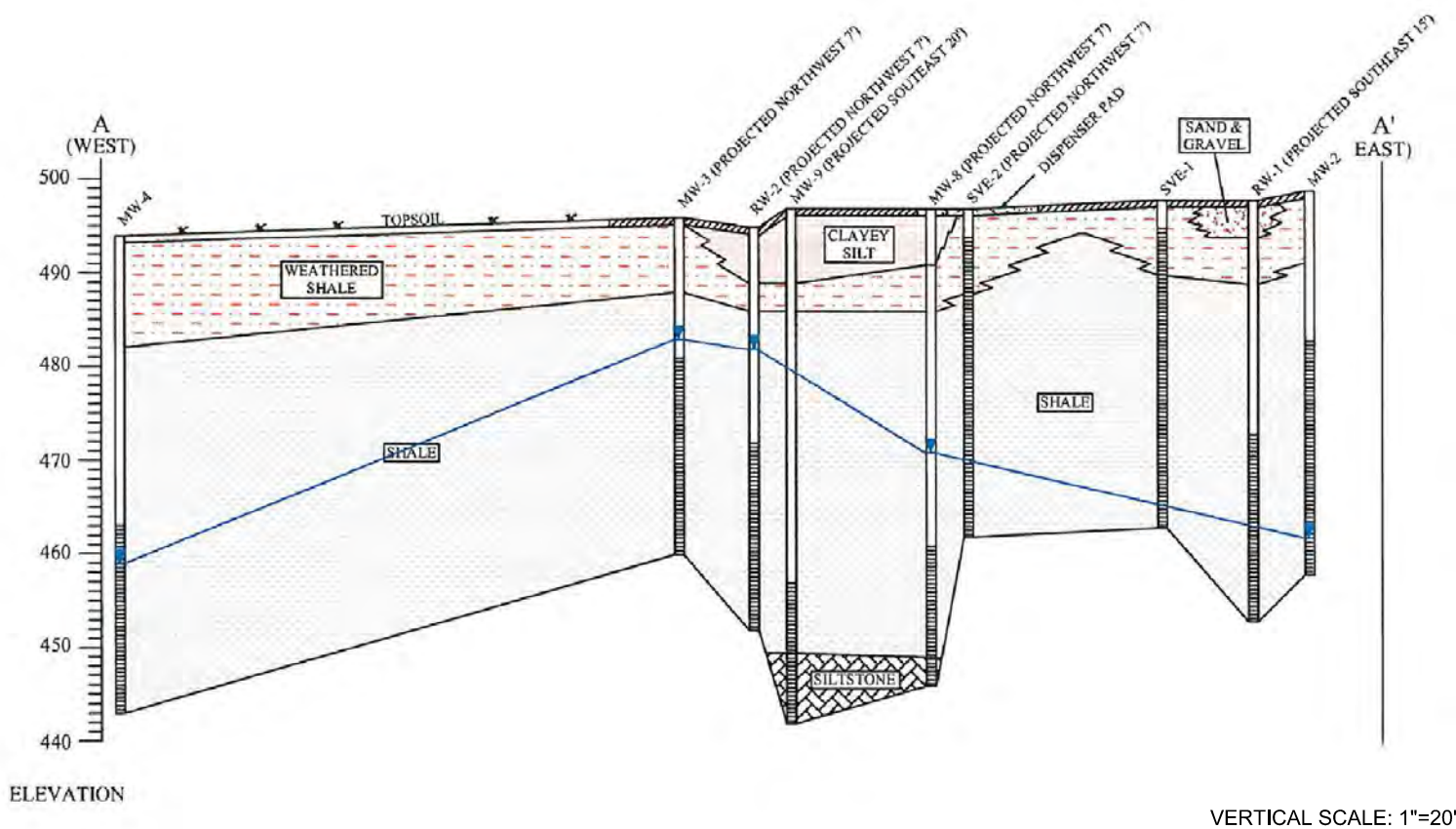
Figure 7

Former Route 119 Amoco
1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Soil Concentrations Map
2006-2009 (Letterle)

DRAWN BY: MJ/MHM	DATE: 11/7/12	DRAWING NO.
CHECKED & APPROVED BY: DLR		dunb27009-004-B3

GROUNDWATER SCIENCES CORPORATION



VERTICAL SCALE: 1"=20'
HORIZONTAL SCALE: 1"=40'

Base Map Source: Letterle & Associates, LLC (Allison Park, PA; "Figure 5 / Geologic Cross Section A to A'", undated).

Figure 8

LEGEND

- CLAYEY SILT
- SAND AND GRAVEL
- WEATHERED SHALE
- ASPHALT
- CONCRETE
- SHALE
- WELL SCREEN INTERVAL
- STATIC WATER LEVEL (MAY 12, 2006)
- SILTSTONE

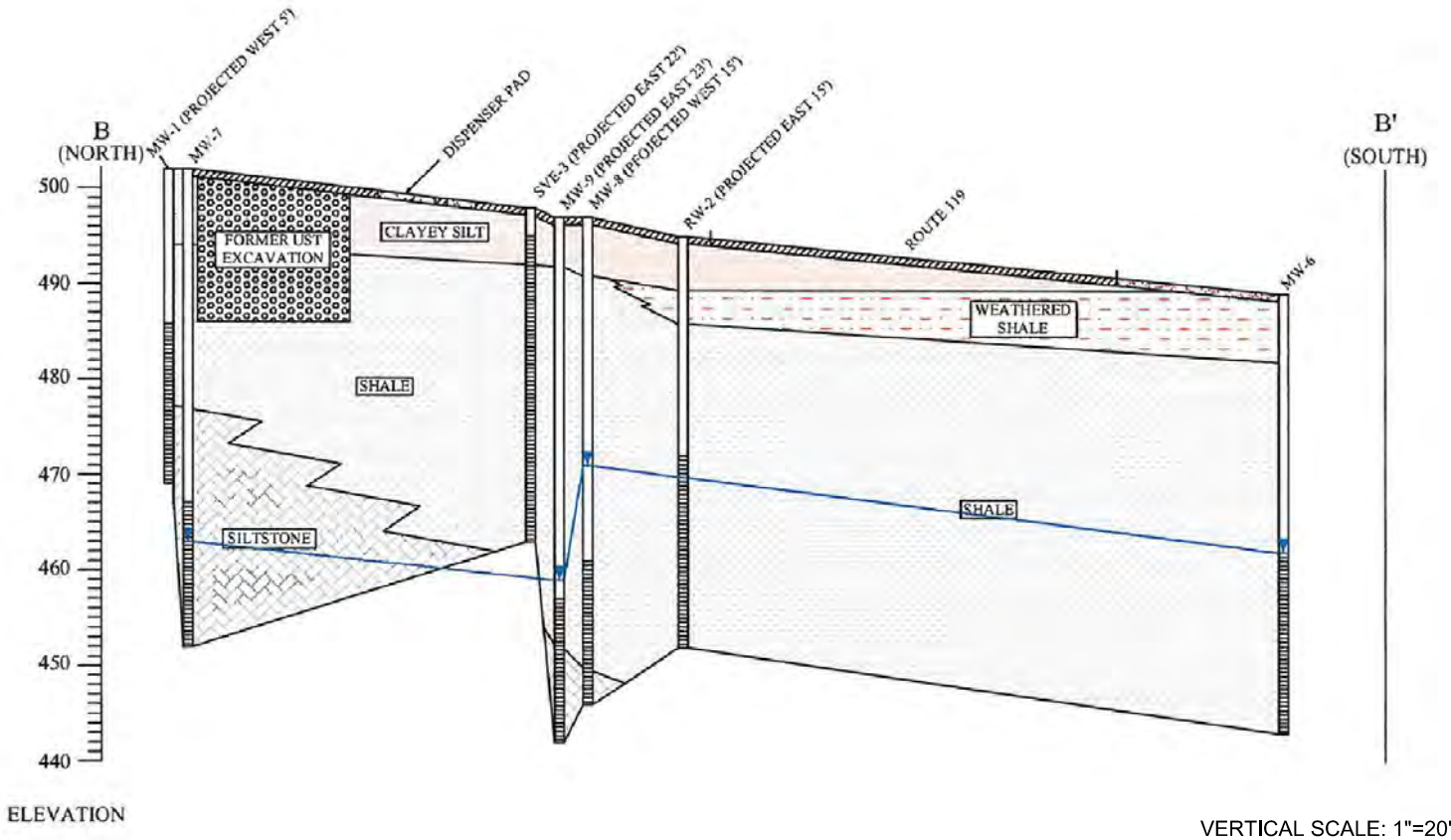
Former Route 119 Amoco

1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Letterle Cross Section A-A'

DRAWN BY: JPB	DATE: 7/27/12	DRAWING NO. dunb27009-007-A1
CHECKED & APPROVED BY: DLR		

GROUNDWATER SCIENCES CORPORATION



VERTICAL SCALE: 1"=20'
HORIZONTAL SCALE: 1"=40'

Base Map Source: Letterle & Associates, LLC (Allison Park, PA; "Figure 6 / Geologic Cross Section B to B'", undated).

Figure 9

LEGEND

- CLAYEY SILT
- SILTSTONE
- WEATHERED SHALE
- ASPHALT
- CONCRETE
- SHALE
- WELL SCREEN INTERVAL
- STATIC WATER LEVEL (MAY 12, 2006)
- SAND AND GRAVEL

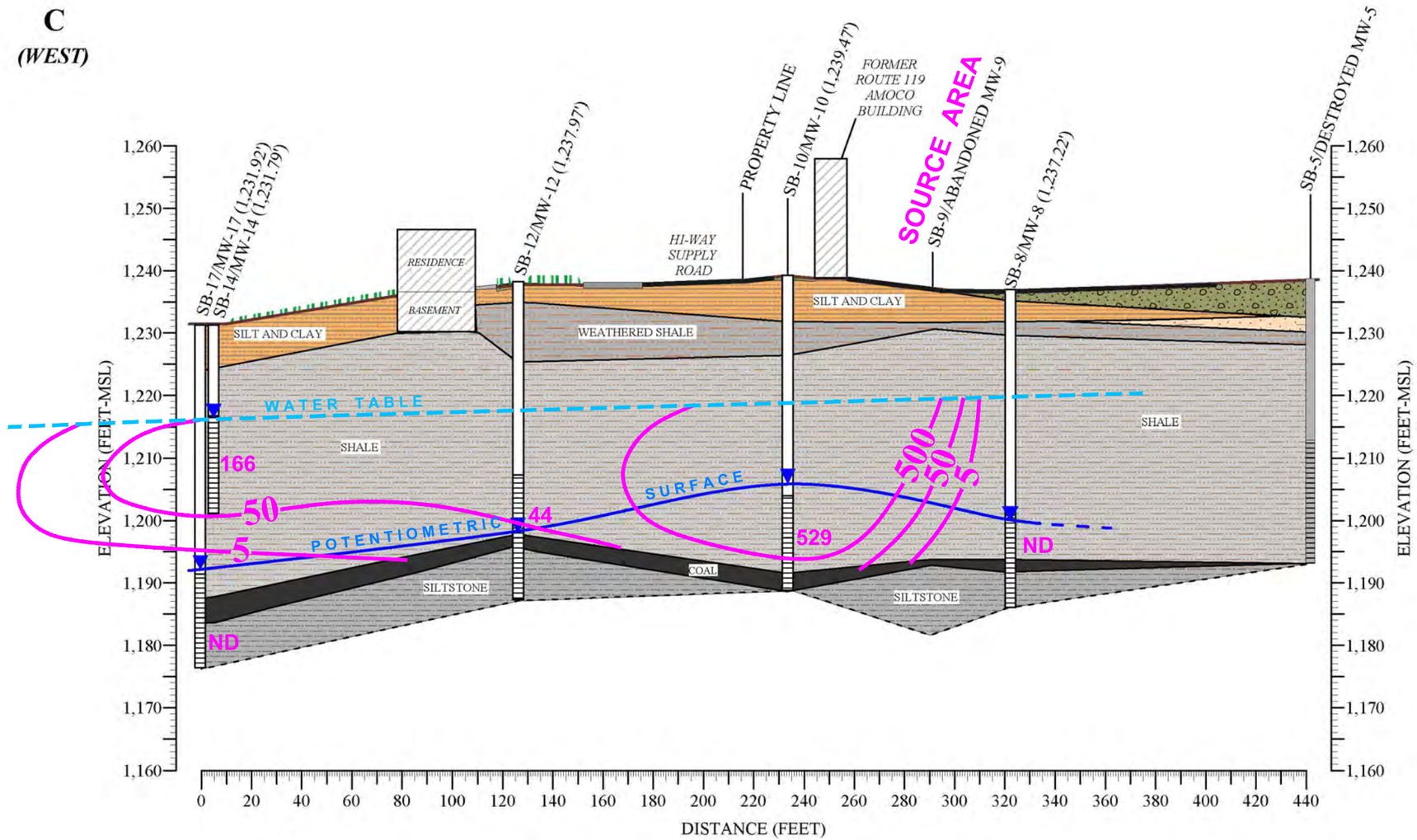
Former Route 119 Amoco

1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Letterle Cross Section B-B'

DRAWN BY: JPB	DATE: 7/27/12	DRAWING NO. dunb27009-008-A1
CHECKED & APPROVED BY: DLR		

GROUNDWATER SCIENCES CORPORATION



LEGEND

- ASPHALT
- CONCRETE
- GRAVEL OR SLAG FILL
- SILT AND CLAY, LIGHT TO MEDIUM BROWN AND GRAY
- SILTY SAND
- WEATHERED SHALE
- SHALE WITH INTERBEDDED SILTSTONE, MINOR BEDS OF SANDSTONE, BROWN AND GRAY
- COAL OR CARBONACEOUS BLACK SHALE (1 TO 4 FEET THICK)
- SILTSTONE, LIGHT TO MEDIUM GRAY

- MW MONITOR WELL
- SB SOIL BORING
- (1,231.92') GROUND SURFACE ELEVATION IN FEET ABOVE MEAN SEA LEVEL (FT-MSL)
- STATIC WATER LEVEL (JULY 15, 2011)
- PVC RISER
- PVC SCREEN

166 - Benzene Concentration on January 12, 2012

* NOTE:
Postulated Conceptual Site Model (CSM) to explain anomalous water levels and groundwater quality results in the MW-14S/MW-17 and MW-15S/MW-16 well pairs. Postulated water table and groundwater concentration contours added by GSC.

HORIZONTAL SCALE 1" = 50'
VERTICAL SCALE 1" = 20'
VERTICAL EXAGGERATION: 2.5x

Source: *Letterle & Associates, LLC (Allison Park, PA; "Geologic Cross Section C-C'", undated).*

Figure 10

Former Route 119 Amoco
1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Postulated CSM Shown on Letterle Cross Section C-C' *

DRAWN BY: JPB/MHM	DATE: 11/7/12	DRAWING NO.
CHECKED & APPROVED BY: DLR/LFR		dunb27009-002-A1

GROUNDWATER SCIENCES CORPORATION

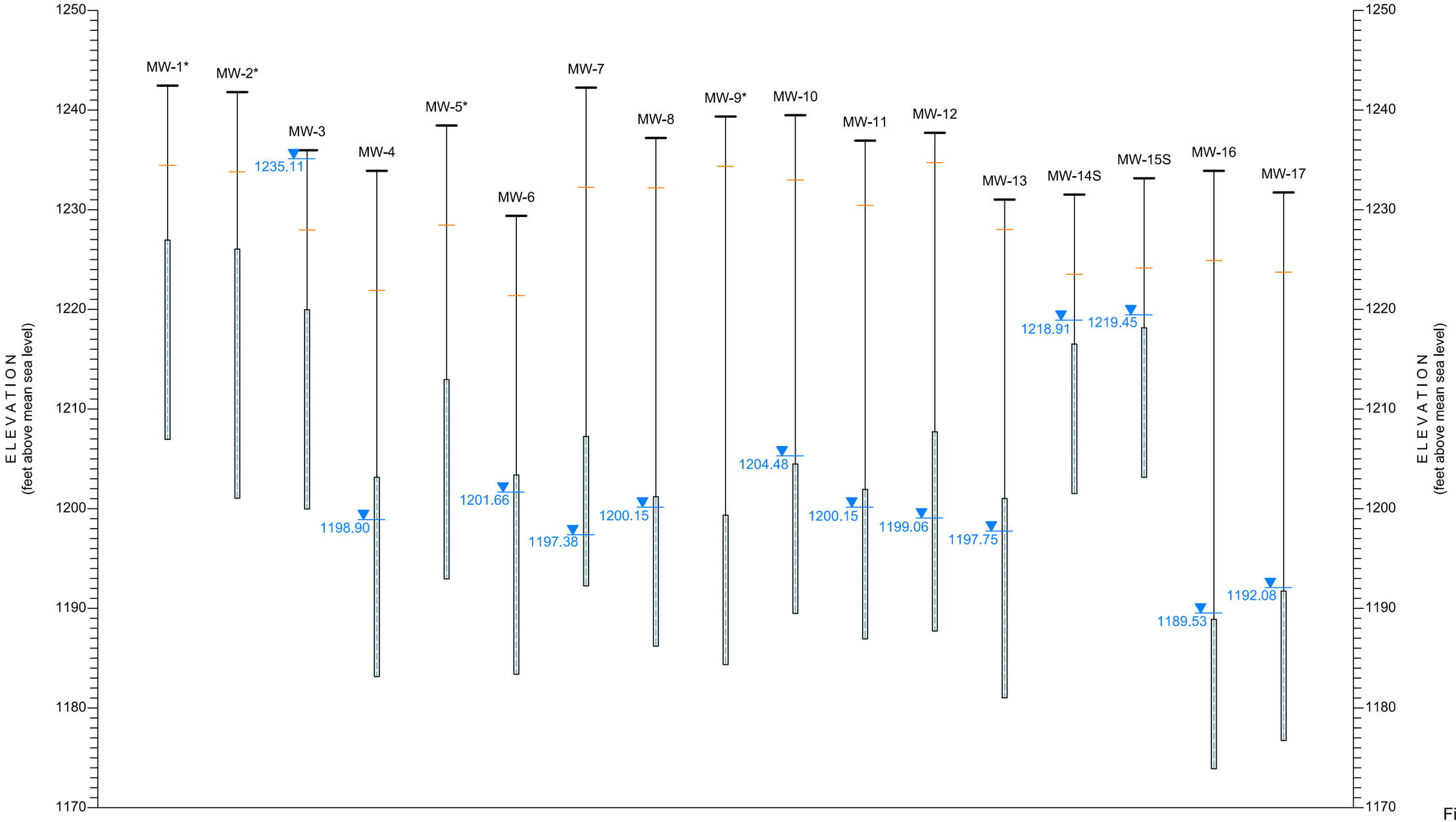


Figure 11

LEGEND

Well
Ground Surface
Top of Bedrock
Screened Interval
1189.53 Static Water Level (1/12/12)
* Indicates Abandoned/Destroyed Well

Scale
0 5' 10'

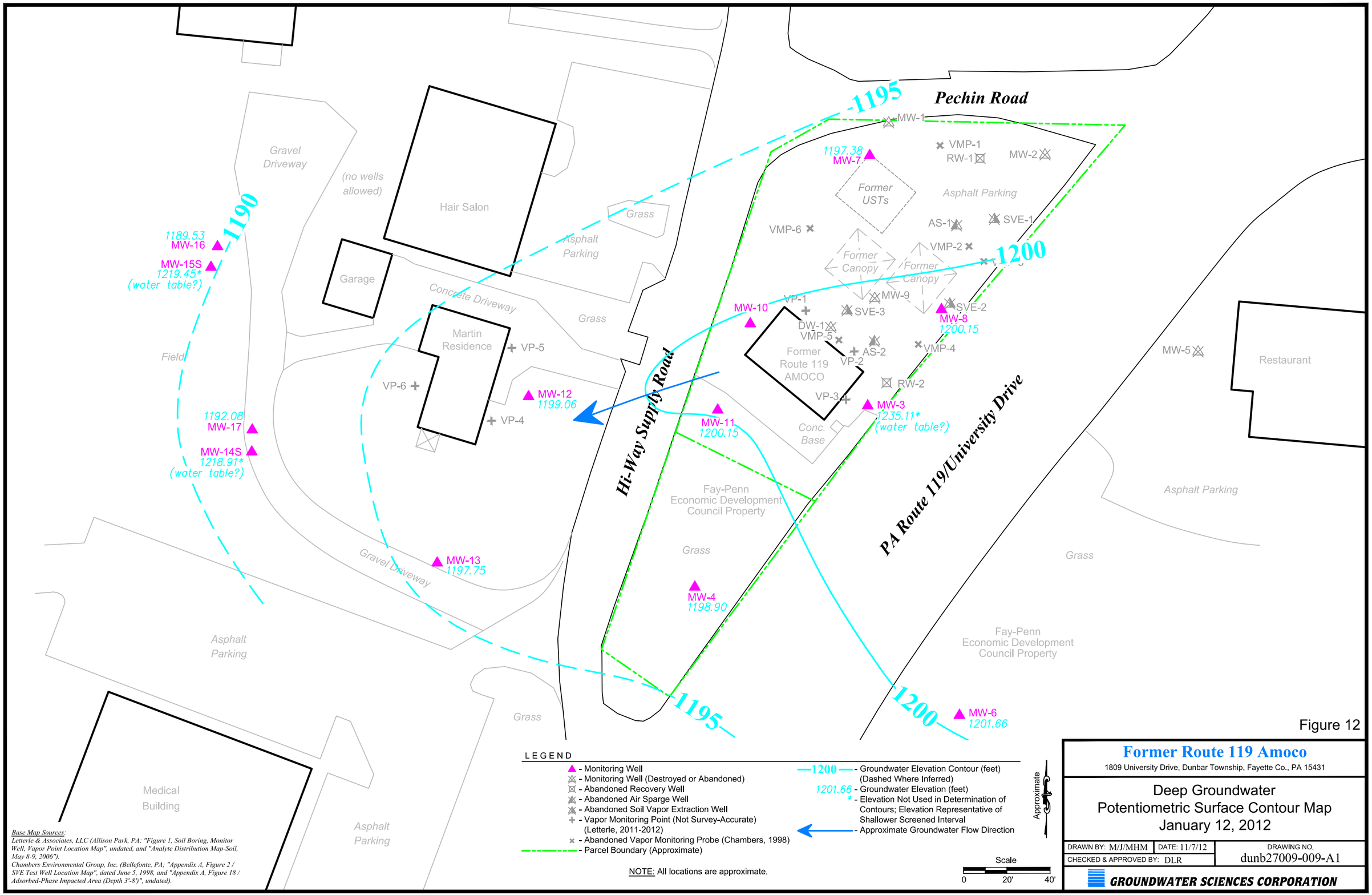
Former Route 119 Amoco

1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Schematic Showing Comparative Well Screen Elevations

DRAWN BY: JPB	DATE: 7/27/12	DRAWING NO. dunb27009-006-B1
CHECKED & APPROVED BY: DLR		

GROUNDWATER SCIENCES CORPORATION



LEGEND

- ▲ - Monitoring Well
- ⊠ - Monitoring Well (Destroyed or Abandoned)
- ⊠ - Abandoned Recovery Well
- ⊠ - Abandoned Air Sparge Well
- ⊠ - Abandoned Soil Vapor Extraction Well
- \+ - Vapor Monitoring Point (Not Survey-Accurate) (Letterle, 2011-2012)
- × - Abandoned Vapor Monitoring Probe (Chambers, 1998)
- ---- - Parcel Boundary (Approximate)
- —1200— - Groundwater Elevation Contour (feet) (Dashed Where Inferred)
- 1201.66 - Groundwater Elevation (feet)
- * - Elevation Not Used in Determination of Contours; Elevation Representative of Shallower Screened Interval
- ← - Approximate Groundwater Flow Direction

NOTE: All locations are approximate.

Scale: 0 20' 40'

Approximate

Base Map Sources:
Letterle & Associates, LLC (Allison Park, PA; "Figure 1, Soil Boring, Monitor Well, Vapor Point Location Map", undated, and "Analyte Distribution Map-Soil, May 8-9, 2006").
Chambers Environmental Group, Inc. (Bellefonte, PA; "Appendix A, Figure 2 / SVE Test Well Location Map", dated June 5, 1998, and "Appendix A, Figure 18 / Adsorbed-Phase Impacted Area (Depth 3'-8')", undated).

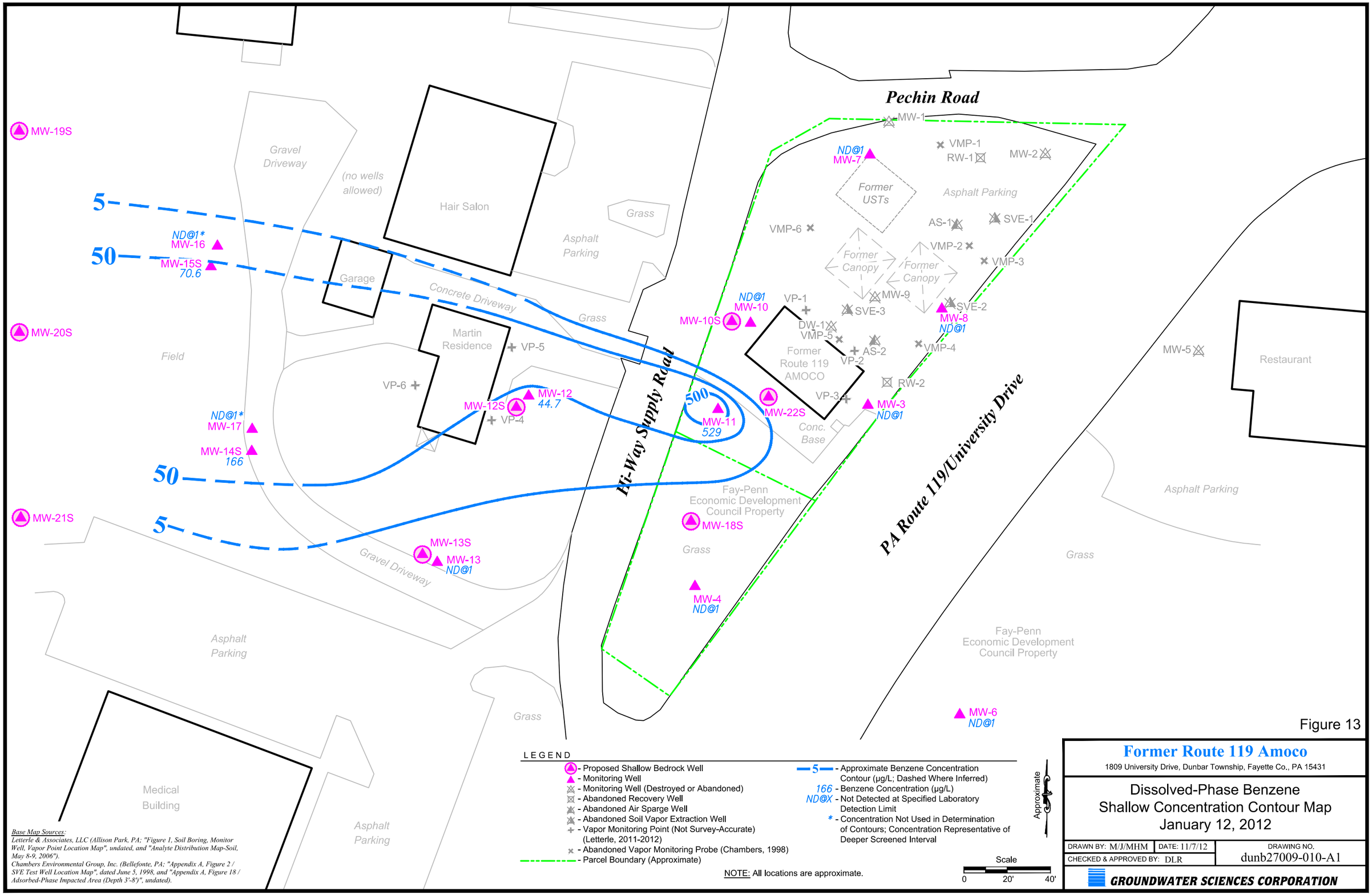
Figure 12

Former Route 119 Amoco
1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Deep Groundwater
Potentiometric Surface Contour Map
January 12, 2012

DRAWN BY: MJ/MHM	DATE: 11/7/12	DRAWING NO.
CHECKED & APPROVED BY: DLR		dunb27009-009-A1

GROUNDWATER SCIENCES CORPORATION



LEGEND

- Proposed Shallow Bedrock Well
- Monitoring Well
- Monitoring Well (Destroyed or Abandoned)
- Abandoned Recovery Well
- Abandoned Air Sparge Well
- Abandoned Soil Vapor Extraction Well
- Vapor Monitoring Point (Not Survey-Accurate) (Letterle, 2011-2012)
- Abandoned Vapor Monitoring Probe (Chambers, 1998)
- Parcel Boundary (Approximate)
- 5 - Approximate Benzene Concentration Contour (µg/L; Dashed Where Inferred)
- 166 - Benzene Concentration (µg/L)
- ND@X - Not Detected at Specified Laboratory Detection Limit
- * - Concentration Not Used in Determination of Contours; Concentration Representative of Deeper Screened Interval

NOTE: All locations are approximate.

Approximate Scale

0 20' 40'

Base Map Sources:
Letterle & Associates, LLC (Allison Park, PA; "Figure 1, Soil Boring, Monitor Well, Vapor Point Location Map", undated, and "Analyte Distribution Map-Soil, May 8-9, 2006").
Chambers Environmental Group, Inc. (Bellefonte, PA; "Appendix A, Figure 2 / SVE Test Well Location Map", dated June 5, 1998, and "Appendix A, Figure 18 / Adsorbed-Phase Impacted Area (Depth 3'-8')", undated).

Figure 13

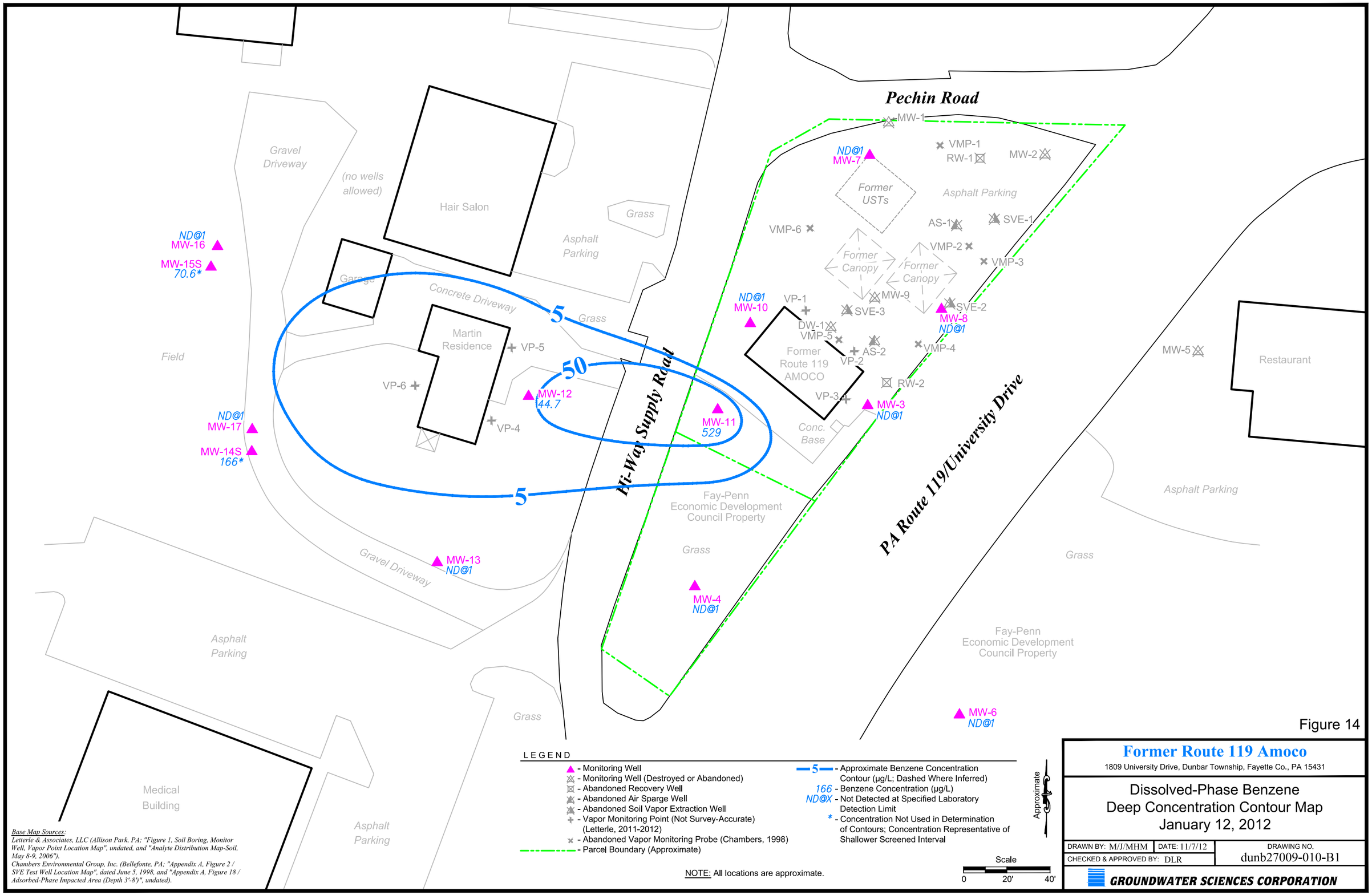
Former Route 119 Amoco

1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Dissolved-Phase Benzene
Shallow Concentration Contour Map
January 12, 2012

DRAWN BY: M/J/MHM	DATE: 11/7/12	DRAWING NO. dunb27009-010-A1
CHECKED & APPROVED BY: DLR		

GROUNDWATER SCIENCES CORPORATION



Base Map Sources:
Letterle & Associates, LLC (Allison Park, PA; "Figure 1, Soil Boring, Monitor Well, Vapor Point Location Map", undated, and "Analyte Distribution Map-Soil, May 8-9, 2006").
Chambers Environmental Group, Inc. (Bellefonte, PA; "Appendix A, Figure 2 / SVE Test Well Location Map", dated June 5, 1998, and "Appendix A, Figure 18 / Adsorbed-Phase Impacted Area (Depth 3'-8')", undated).

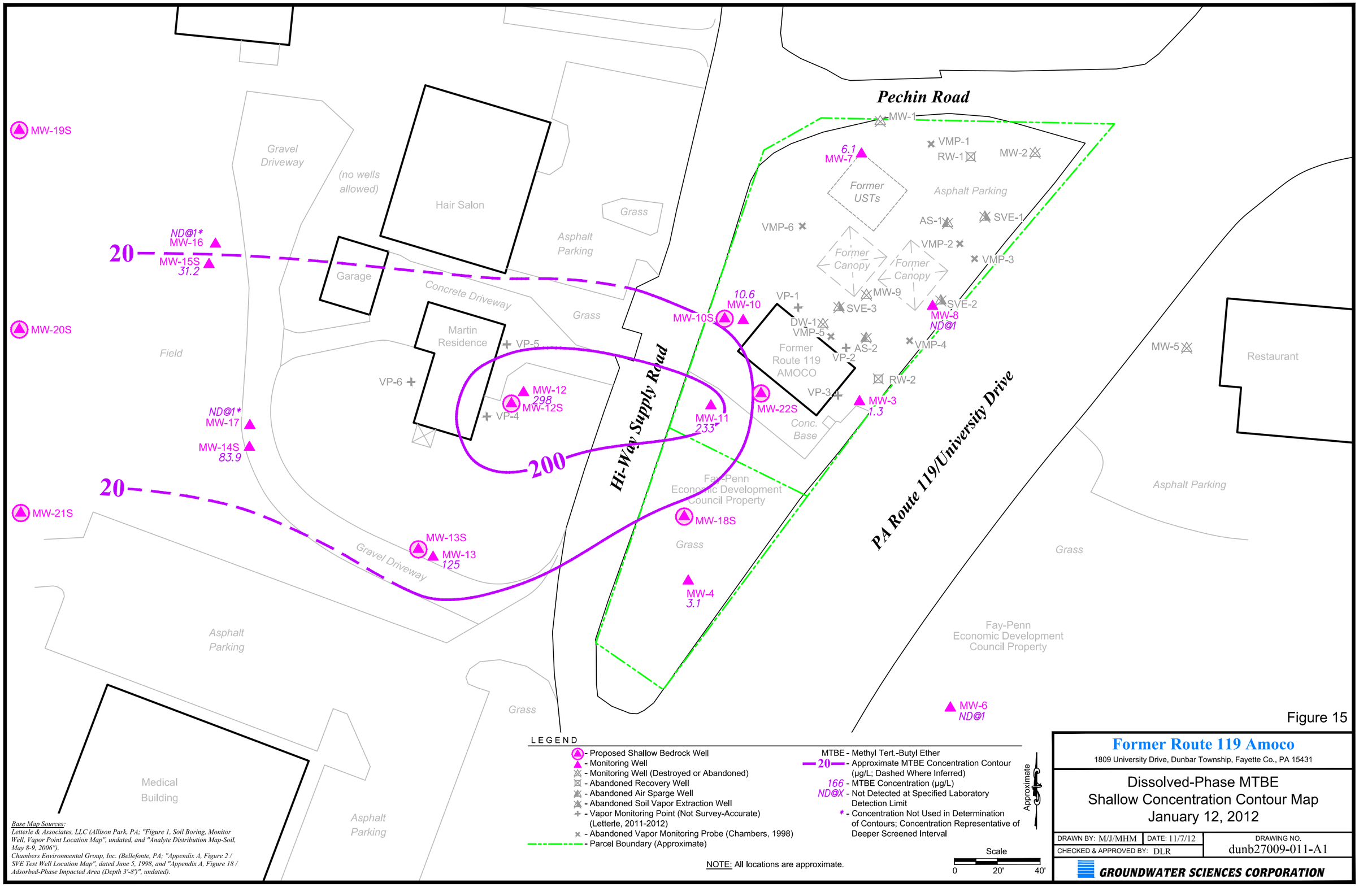
Figure 14

Former Route 119 Amoco
1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Dissolved-Phase Benzene
Deep Concentration Contour Map
January 12, 2012

DRAWN BY: MJ/MHM	DATE: 11/7/12	DRAWING NO.
CHECKED & APPROVED BY: DLR		dunb27009-010-B1

GROUNDWATER SCIENCES CORPORATION



LEGEND

- Proposed Shallow Bedrock Well
- Monitoring Well
- Monitoring Well (Destroyed or Abandoned)
- Abandoned Recovery Well
- Abandoned Air Sparge Well
- Abandoned Soil Vapor Extraction Well
- Vapor Monitoring Point (Not Survey-Accurate) (Letterle, 2011-2012)
- Abandoned Vapor Monitoring Probe (Chambers, 1998)
- Parcel Boundary (Approximate)

MTBE - Methyl Tert.-Butyl Ether

20 - Approximate MTBE Concentration Contour (µg/L; Dashed Where Inferred)

166 - MTBE Concentration (µg/L)

ND@X - Not Detected at Specified Laboratory Detection Limit

* - Concentration Not Used in Determination of Contours; Concentration Representative of Deeper Screened Interval

Approximate

NOTE: All locations are approximate.

Scale 0 20' 40'

Base Map Sources:
Letterle & Associates, LLC (Allison Park, PA; "Figure 1, Soil Boring, Monitor Well, Vapor Point Location Map", undated, and "Analyte Distribution Map-Soil, May 8-9, 2006").
Chambers Environmental Group, Inc. (Bellefonte, PA; "Appendix A, Figure 2 / SVE Test Well Location Map", dated June 5, 1998, and "Appendix A, Figure 18 / Adsorbed-Phase Impacted Area (Depth 3'-8')", undated).

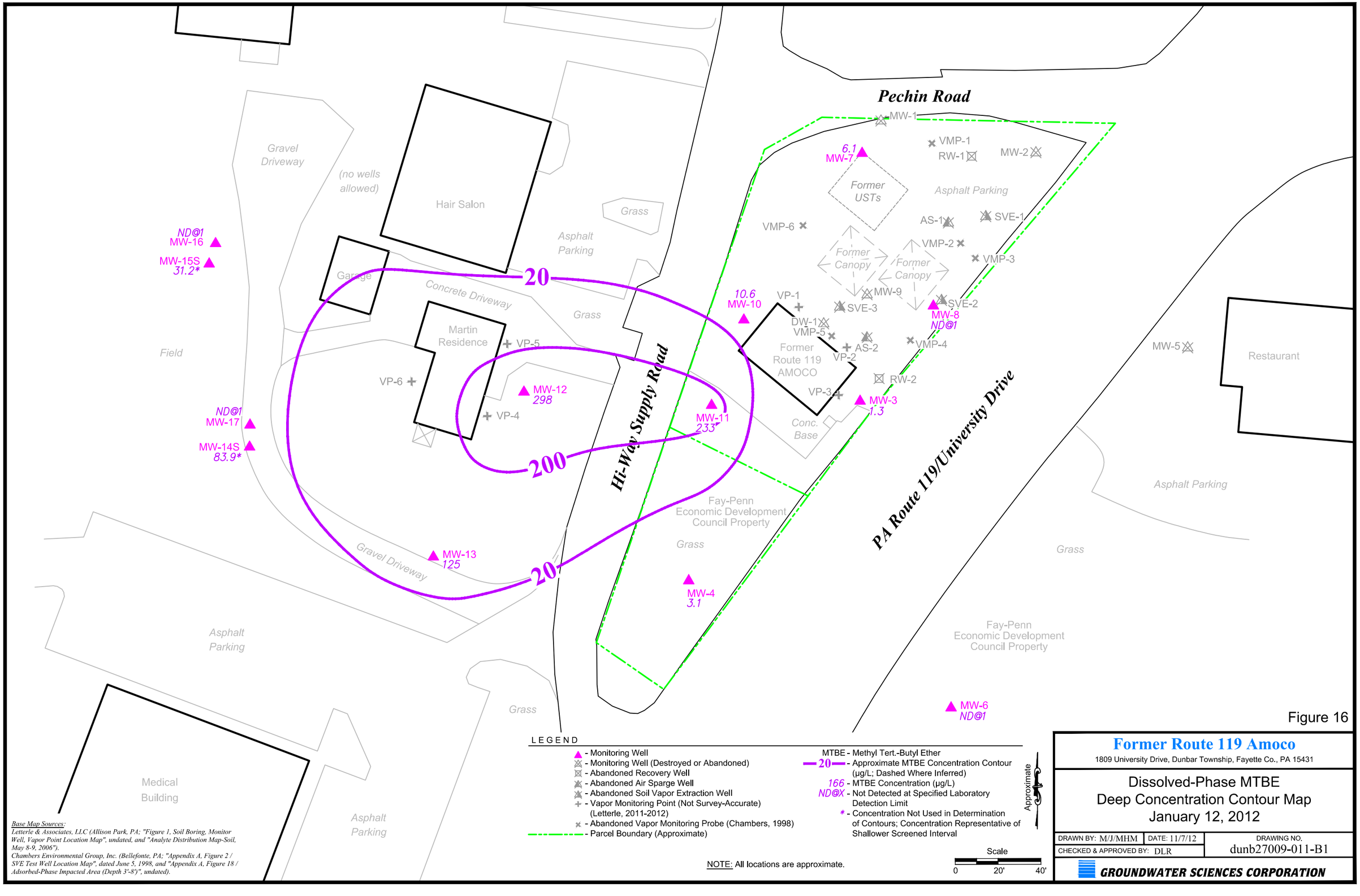
Figure 15

Former Route 119 Amoco
1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Dissolved-Phase MTBE
Shallow Concentration Contour Map
January 12, 2012

DRAWN BY: MJ/MHM	DATE: 11/7/12	DRAWING NO. dunb27009-011-A1
CHECKED & APPROVED BY: DLR		

GROUNDWATER SCIENCES CORPORATION



LEGEND

- ▲ - Monitoring Well
- ⊠ - Monitoring Well (Destroyed or Abandoned)
- ⊠ - Abandoned Recovery Well
- ⊠ - Abandoned Air Sparge Well
- ⊠ - Abandoned Soil Vapor Extraction Well
- \+ - Vapor Monitoring Point (Not Survey-Accurate) (Letterle, 2011-2012)
- × - Abandoned Vapor Monitoring Probe (Chambers, 1998)
- ---------- - Parcel Boundary (Approximate)

MTBE - Methyl Tert.-Butyl Ether

- 20 - Approximate MTBE Concentration Contour (µg/L; Dashed Where Inferred)
- 166 - MTBE Concentration (µg/L)
- ND@X - Not Detected at Specified Laboratory Detection Limit
- * - Concentration Not Used in Determination of Contours; Concentration Representative of Shallower Screened Interval

Approximate

NOTE: All locations are approximate.

Scale 0 20' 40'

Base Map Sources:
Letterle & Associates, LLC (Allison Park, PA; "Figure 1, Soil Boring, Monitor Well, Vapor Point Location Map", undated, and "Analyte Distribution Map-Soil, May 8-9, 2006").
Chambers Environmental Group, Inc. (Bellefonte, PA; "Appendix A, Figure 2 / SVE Test Well Location Map", dated June 5, 1998, and "Appendix A, Figure 18 / Adsorbed-Phase Impacted Area (Depth 3'-8')", undated).

Figure 16

Former Route 119 Amoco
1809 University Drive, Dunbar Township, Fayette Co., PA 15431

Dissolved-Phase MTBE
Deep Concentration Contour Map
January 12, 2012

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