



DRAFT

Summary of Field Investigations

Pfizer Consumer Healthcare
Darbytown Road Complex Site
Richmond, Virginia



Prepared for:

United States Environmental Protection Agency
Region 3



August 2010

**MALCOLM
PIRNIE**

2254-103



Draft Technical Memorandum

Date: August 11, 2010
To: Diane Schott, USEPA, Region 3
From: Matthew Basso, Pfizer Global Engineering
J. David Glass, PE (VA), Malcolm Pirnie, Inc.
Re: DRAFT Summary of Field Investigations, Pfizer Consumer Health Care, Richmond, Virginia

This technical memorandum is to update you on activities and results from investigations which occurred at the Pfizer (legacy Wyeth) Consumer Health Care Darbytown Road Facility located in Richmond, Virginia. These activities were part of investigations outlined in the Final Addendum 5 Work Plan submitted in March, 2010. This is an addendum to the USEPA Region III approved RCRA Facility Investigation Work Plan, dated March 2008, and follows methodologies presented in that document. Other addendums completed in conjunction with the Work Plan include:

- Addendum 1—Plant B Mixing Room No. 1, May 2008
 - Investigation of catch tank and sewer lines associated with the Plant B Mixing Room No. 1.
- Addendum 2—Mixing Room No. 1 Catch Tank Abandonment, August 2008
 - Activities for the in-place abandonment of the Plant B Mixing Room No. 1 catch tank.
- Addendum 3—Survey of Process Sewer Lines, never completed
 - This Addendum was never completed as it was determined that the survey fell under facilities maintenance rather than the Resource Conservation and Recovery Act (RCRA) Facility Lead Application (FLA) Program.
- Addendum 4—Property East of Cornelius Creek, August 2008
 - Investigation of soil and groundwater in the Laburnum Avenue farm field.

Geologic Mapping Investigation

A geologic mapping investigation was conducted from December 7, 2009 through December 16, 2009 in order to determine the depth of a confining clay layer believed to underlie the saturated unit on the site. A DPT rig was used to advance borings at least two feet into the clay, and a soil log was completed for each boring. A subsurface map was developed using information from 20 boring logs across the site, including 12 DPT points designated specifically as part of the geologic mapping investigation, the boring for the installation of MW-11, the boring for Piezometer-6, and six DPT borings that

were part of the AOC-1/SWMU-1 investigation. Boring logs are included as *Attachment 1*.

A top of clay elevation map and geologic profiles were created using boring logs from the DPT borings. The cross-sections were developed by entering stratigraphic and positional data from the field logs and survey, respectively, into MS-Excel. The stratigraphy data was analyzed and a standard set of common stratigraphic layers was developed. The stratigraphic data for each borehole was then exported into Groundwater Modeling System (GMS). GMS was used to select the cross-sections and develop the stratigraphic contacts. The final cross-sections were exported into ArcGIS to add proper symbology and to annotate the cross-sections. An overview map of the borehole locations was also developed in ArcGIS based on the survey data. Top of clay and cross section maps are provided as **Figures 1 through 6**.

Figure 1 shows the estimated topography of the confining clay layer. It appears that clay is at a higher elevation in the southern end of the site. While keeping in mind that this is based on a limited number of data points, information currently points to the presence of a “bowl” in the area surrounding the initial release point. This bowl and the rising clay elevations toward the southern end of the site may aid in slowing or minimizing transport of constituents down-gradient.

Figures 2 through 6 are illustrated cross sections of the subsurface, showing the same pattern of stratigraphic layers across the site. Beginning at ground surface and moving vertically down, the layers encountered are: silty clay, silty sand, sand/gravel, sand, clay. The locations of monitoring well screens are also shown and most of them are set in the silty sand and/or sand/gravel layers.

AOC-1/SWMU-1 Investigation

Phase 1

A soil and groundwater investigation was conducted in the area near AOC-1/SWMU-1 and adjacent/overlapping portions of AOC-4 to determine presence/absence of industrial impacts and delineate the area of impact. This initial investigation (Phase 1) was used to determine placement of three monitoring wells (Phase 2). These wells will be incorporated into AOC-8, the long-term monitoring (LTM) program for site-wide groundwater.

Phase 1 was completed in December 2009 and included seven DPT points for sampling groundwater, three of which were also used to collect soil samples, and three additional DPT points for sampling soil only. Groundwater samples were collected from the middle of the saturated unit using low-flow sampling methodology and a peristaltic pump. Three soil samples were collected from each boring: one sample from 0-6 inches below ground surface (bgs), one sample from 1-3 feet bgs, and one sample from 4-6 feet bgs. A biased sample was collected if an area of impact was observed. Boring logs and groundwater sampling logs are included in *Attachment 2*.

Review of groundwater results identified bis(2-ethylhexyl)phthalate as a constituent of concern. It exceeded its maximum contaminant level (MCL) of 6 ug/L in six samples, and only one sample reported no detection. Detected concentrations ranged from 2.4 to 280 ug/L, with a median concentration of 15 ug/L. Chloroform was detected at an elevated concentration in only one sample with a concentration of 240 ug/L. The next highest detection was 2.7 ug/L. There were sporadic detections of five additional constituents reporting concentrations just above their respective screening levels (alpha BCH, beta BHC, benzo(a)anthracene, benzo(b)fluoranthene, and 1,1,2,2-tetrachloroethane). A map showing detections of constituents of concern from the December 2009 investigation, as well as the 2008 investigations, is provided as **Figure 7**. This figure shows estimated isocontours for bis(2-ethylhexyl)phthalate, which was of greatest concern in this area of the site. **Figure 8** provides a summary of all detected constituents. A summary table of groundwater results from December 2009 is provided in **Table 1**.

Soil analytical results indicated that benzo(a)pyrene was the only constituent to exceed its residential Regional Screening Level (RSLs); no constituents exceeded industrial screening levels. Two samples from 0-6 inches bgs exceeded the residential screening level of 15 ug/kg with concentrations of 28 ug/kg and 80 ug/kg. Although individual polycyclic aromatic hydrocarbons (PAHs) were not of concern, total PAHs reached as high as 833 ug/kg in the December 2009 investigation. In the Spring 2008 investigation, total PAHs reached as high as 17,147 ug/kg. A map showing results for constituents of concern in soil and isoconcentrations for PAHs from the Spring 2008 and December 2009 investigations is provided in **Figure 9**. **Figure 10** and **Table 2** provide a summary of all detected constituents in the December 2009 investigation.

Phase 2

Using results from the December 2009 investigation to determine the best locations for placement, three monitoring wells were installed in May 2010 to monitor concentrations of groundwater constituents in vicinity of AOC-1/SWMU-1. These are shown on **Figure 7**. These wells were sampled on May 19, 2010, and will be incorporated into the AOC-8 LTM program. Results are provided in **Table 3**.

A limited number of constituents were detected. These included low levels of six PAHs in MW-37, and a total of eight VOCs throughout the three wells. Chloroform was detected at a concentration of 14 ug/L in MW-36; no other constituents exceeded screening criteria. Bis(2-ethylhexyl)phthalate was not detected in any well despite the fact that it was the primary driver for the installation of wells in this part of the site. In comparing December 2009 data from DPT temporary points to May 2010 monitoring well data, it is believed that bis(2-ethylhexyl)phthalate is primarily bound to soil particulates, as opposed to dissolved in the groundwater. As groundwater samples collected via DPT are high in suspended solids (due to the nature of the temporary sampling point) in comparison to monitoring wells, soil sorption of the bis(2-ethylhexyl)phthalate is the likely cause of difference in concentrations between the two

sampling events. Soils may be acting to largely immobilize the bis(2-ethylhexyl)phthalate from moving down-gradient with groundwater.

Southern Property Boundary Groundwater Investigation

A field investigation was completed from March 15 through March 19, 2010 to conduct a screening investigation of chloroform concentrations at the southern property boundary. AccuScience Environmental, a mobile laboratory, was brought on site to provide real-time data, which was used to select the locations of subsequent sampling points. Groundwater was accessed with hollow-stem augers and split spoons, and samples were collected using a peristaltic pump and low-flow methodology. Three samples were collected per boring: one at the top, in the middle, and at the bottom of the saturated unit. Samples were analyzed for chloroform and chloroethenes. Soil boring logs and groundwater sampling logs are included as *Attachment 3*.

Samples were analyzed on-site immediately after collection. Six duplicate samples were collected and sent to CompuChem Laboratories to verify results. CompuChem data was validated by TLI Solutions, Inc. and resulted in no issues with the data. Results from the fixed laboratory were an average of two times greater than the mobile laboratory results (AccuScience Environmental has indicated that this is an expected occurrence). In order to maintain a representative approach, the data provided from the mobile has been adjusted by a factor of 2.1 to account for this difference. A map showing sampling locations and mobile laboratory results (with adjustment factor) is provided as **Figure 11**. Locations showing only one or two results were areas where the thickness of the saturated unit did not allow for three samples. A summary table showing results from both laboratories is provided as **Table 4**. Mobile and fixed laboratory analytical results are provided in *Attachment 3*.

The maximum concentration detected on the southern property boundary was 16 ug/L in the middle of the saturated unit at sampling point #2. The chloroform appears to be fairly well mixed throughout the saturated unit; however, higher concentrations were typically observed in the silty sand matrix. The highest concentration (290 ug/L) was observed in Sample#11(14-18) located in the immediate vicinity of the initial release.

Other constituents included in the analysis were 1,1-dichloroethene (DCE), trans-1,2-DCE, cis-1,2-DCE, trichloroethene (TCE), and tetrachloroethene (PCE). The only significant detection was TCE at a concentration of 7.6 ug/L in Sample#11(14-18) located in the immediate vicinity of the initial release. All analytical results are provided in *Attachment 3* and summarized in **Table 4**.

Groundwater Flow Characteristics Study

Hydraulic Conductivity

Hydraulic conductivity was estimated in 2001 with only four monitoring wells, and had not been updated since that time. A new series of slug/bail tests were performed on November 18, 2009 and logged with a Level TROLL® 700. The test was completed on

22 monitoring wells, and three tests were performed for each well so that an average conductivity could be calculated (some wells had only two tests performed).

Hydraulic conductivities were calculated using a template taken from the United States Geological Survey (USGS), and a subset of these calculations were checked using Bouwer and Rice Method (*Applied Hydrogeology*, C.W. Fetter 1994). Hydraulic conductivity results from the two calculations were within an average of 36% of each other. The template and all calculations are provided in *Attachment 4*. Hydraulic conductivities ranged from 0.26 to 13.3 feet/day, with a site-wide average of 3.37 feet/day. Boring logs generated during well construction were used to determine the media in which the screen for each monitoring well is set. From this, an average conductivity was determined for the different matrices encountered on site. These are as follows:

- Silty Sand: 1.61 +/- 0.83 feet /day
- ½ Silty Sand, ½ Sand/Gravel: 2.62 +/- 1.59 feet/day
- Sand/Gravel: 6.73 +/- 4.47 feet/day

Cornelius Creek

In order to determine if Cornelius Creek is a discharge or recharge area, seven piezometers were installed, and a pressure transducer (Level TROLL® 300) was deployed in each piezometer to record water levels over time. Measurements are recorded every three hours and will be downloaded two to three times per year to determine the status of Cornelius Creek as a recharge or discharge area. A BaroTROLL® was deployed in one piezometer to record barometric pressure in order to incorporate a barometric pressure correction to the recorded water level measurements. Manual measurements will be taken periodically as a quality control check for pressure transducer data.

The piezometers were installed in December 2009, but two of the piezometers (PZ-4 and PZ-7) were compromised during high precipitation events in the winter and spring. These two piezometers were re-set in May 2010; however, because of the damaged piezometers, data recorded until the piezometers were re-set in May is unusable. Data will be downloaded for evaluation at the end of summer or beginning of fall. Piezometer locations in relation to monitoring well locations are shown in **Figure 12**.

Groundwater Monitoring Plan

All groundwater investigations were consolidated into AOC-8, and the first 2010 semi-annual monitoring event occurred April 28-29, 2010. Eleven wells were sampled, four of which are located on the west side of Plant B with the remaining seven located around Building 2300. Results are summarized in **Table 5**. Chloroform was not detected in the four wells near Plant B (MW-21 through MW-24); however, it was detected at all seven wells located near Building 2300 (MW-3, MW-5, MW-9, MW-10, MW-13, MW-15, and MW-19). Concentrations ranged from 33 to 120 ug/L. **Figure 13** shows chloroform concentrations over time. There were no significant changes in concentrations.

Two other constituents were detected slightly above screening concentrations: lindane (MW-19), and 1,1,2,2-tetrachloroethane in all seven wells near Building 2300. Both constituents have been detected only sporadically.

A more comprehensive 2010 long-term monitoring report will be issued following the Fall sampling event.

Figures

**Technical Memorandum
Summary of Field Investigations**



Figure 1
Top of Clay Elevations
Location Map

Pfizer Consumer Healthcare
(Legacy Wyeth)
Richmond, Virginia

Legend

- Borehole where clay was encountered
- Borehole
- 1 ft contour interval

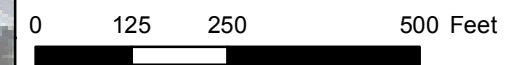
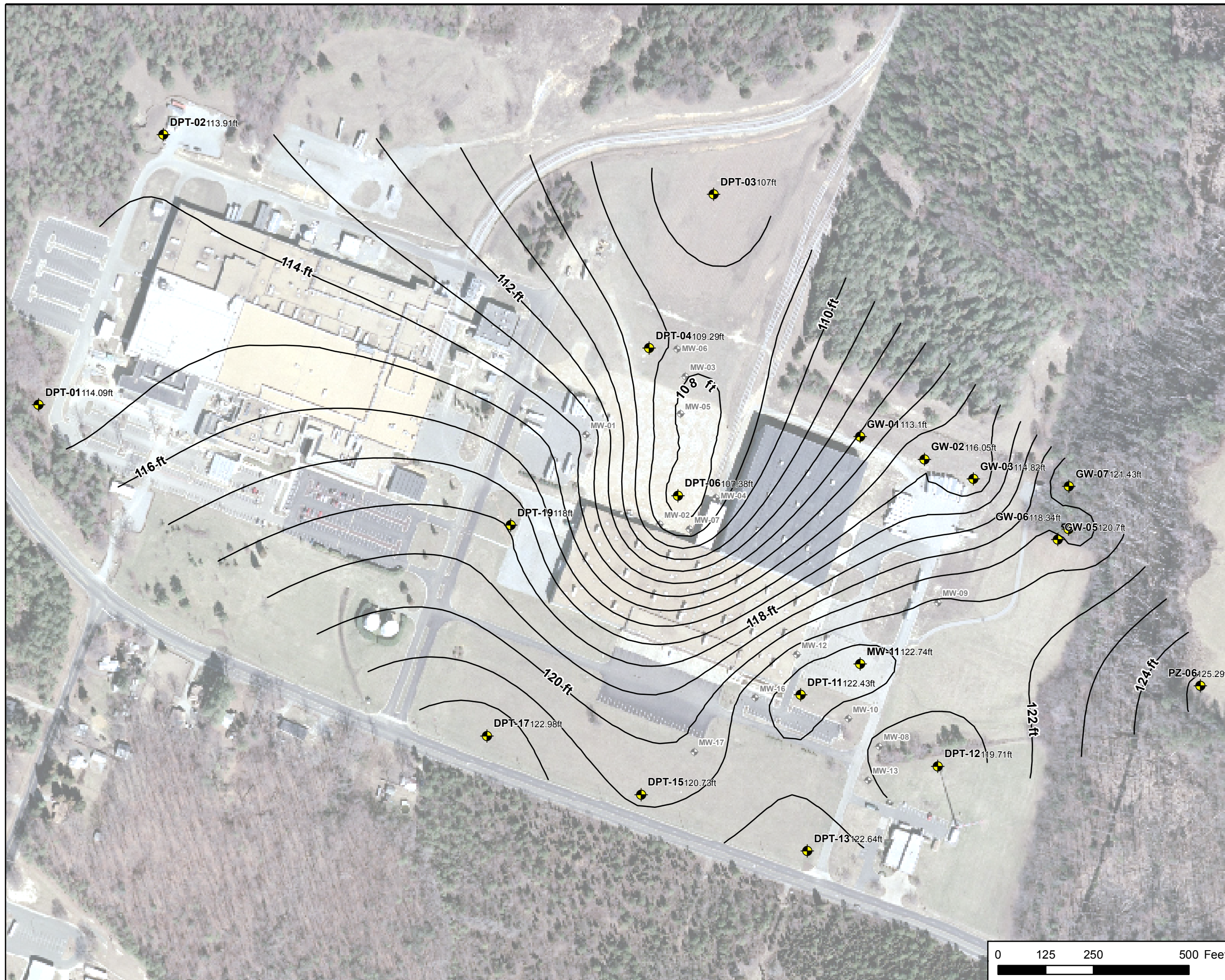
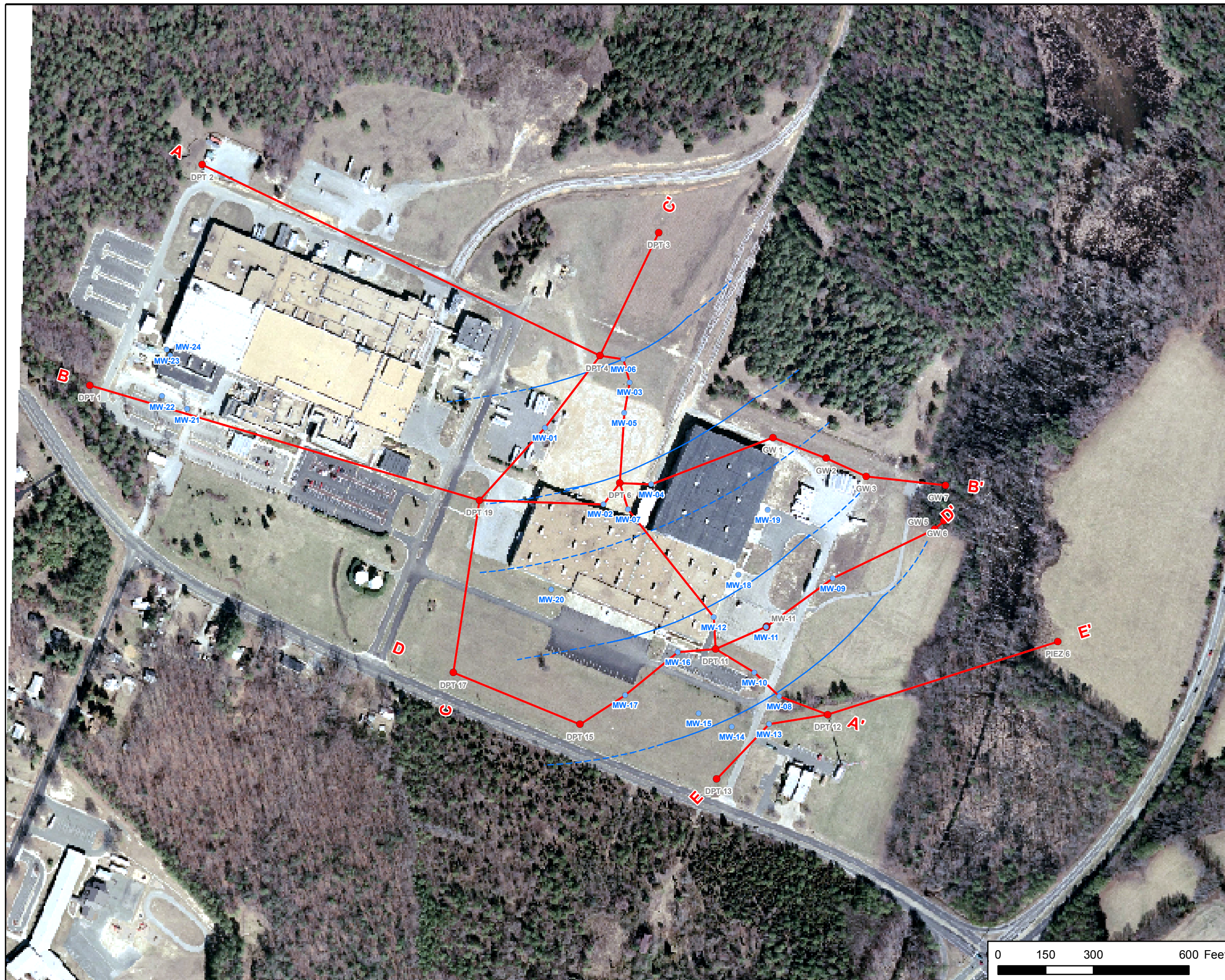


Figure 2
Cross Section Location Map

Pfizer Consumer Healthcare
(Legacy Wyeth)
Richmond, Virginia

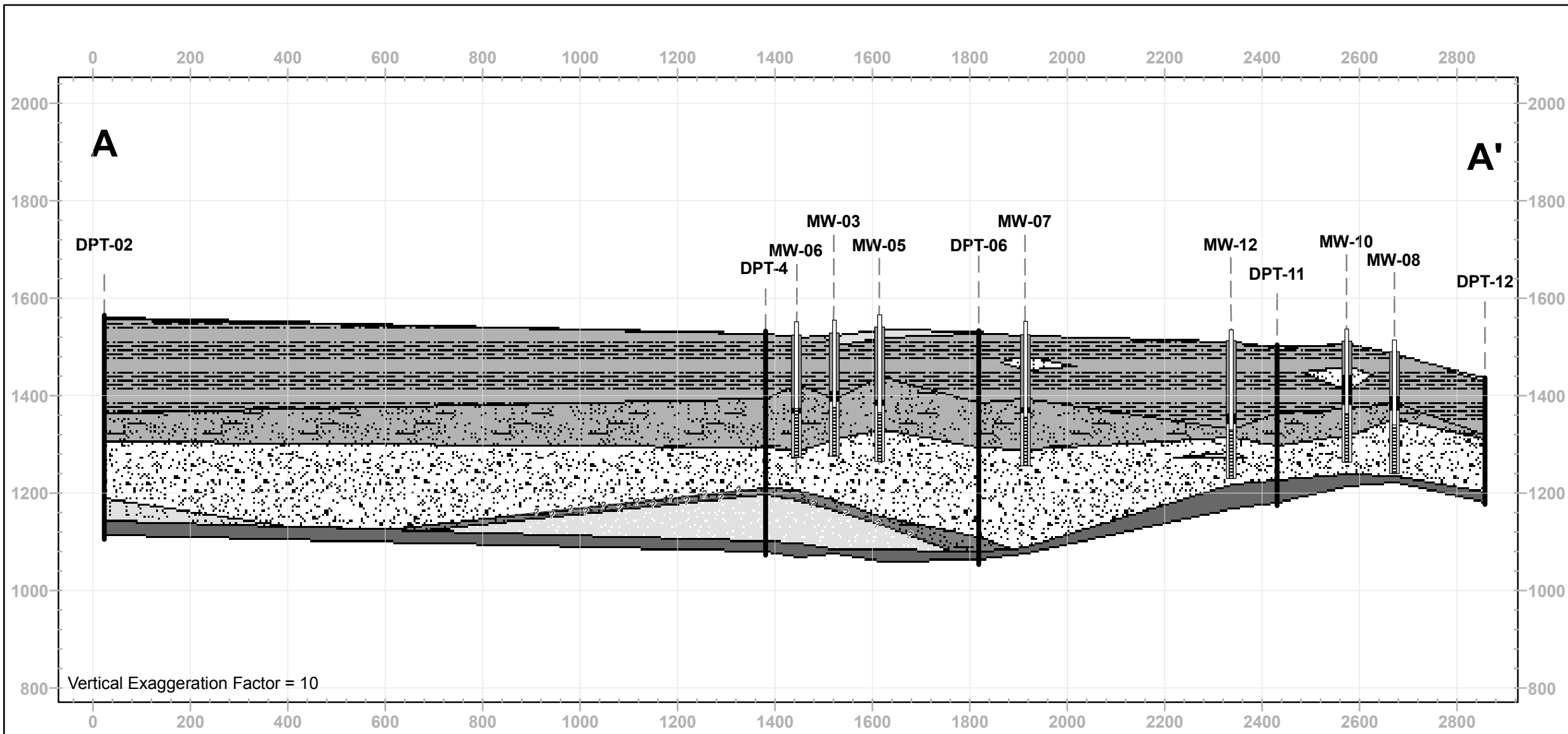
Legend

- Monitoring Well
- DPT Borehole
- Cross Sections
- GW Contour (April 2009)
- - - GW Contour (April 2009) *Estimated*



**Figure 3
X-Section A-A'**

**Pfizer Consumer Healthcare
(Legacy Wyeth)
Richmond, Virginia**

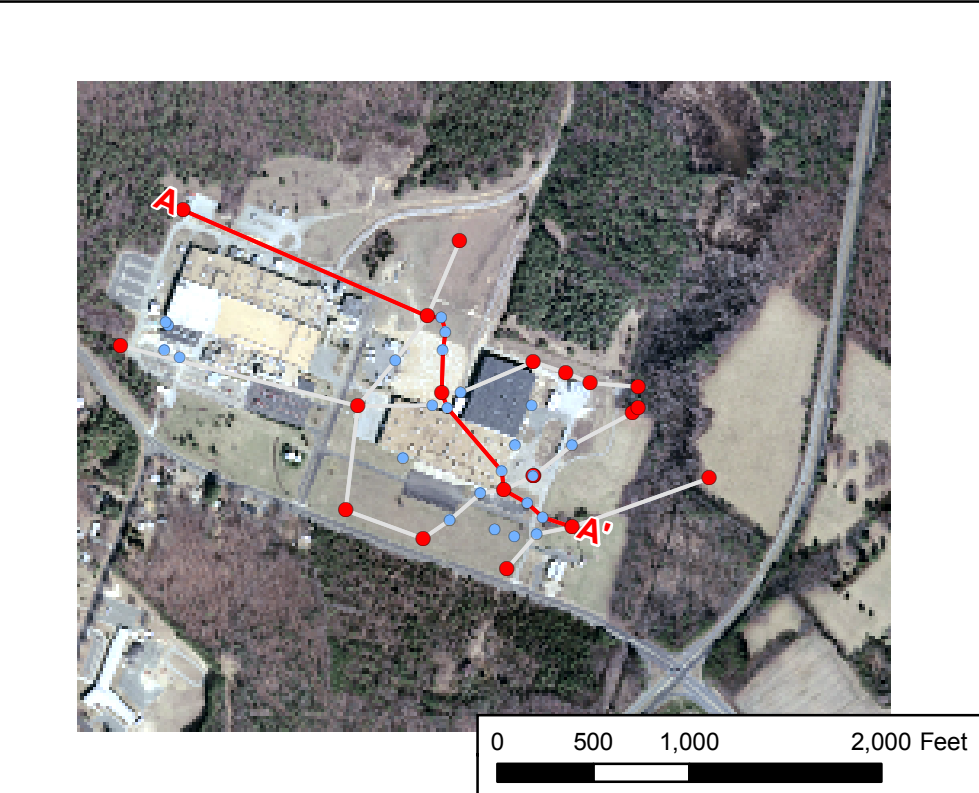
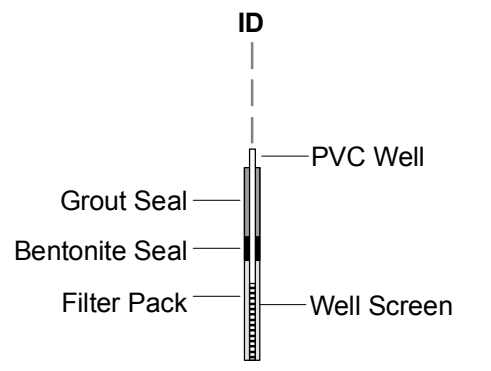


Legend

Material

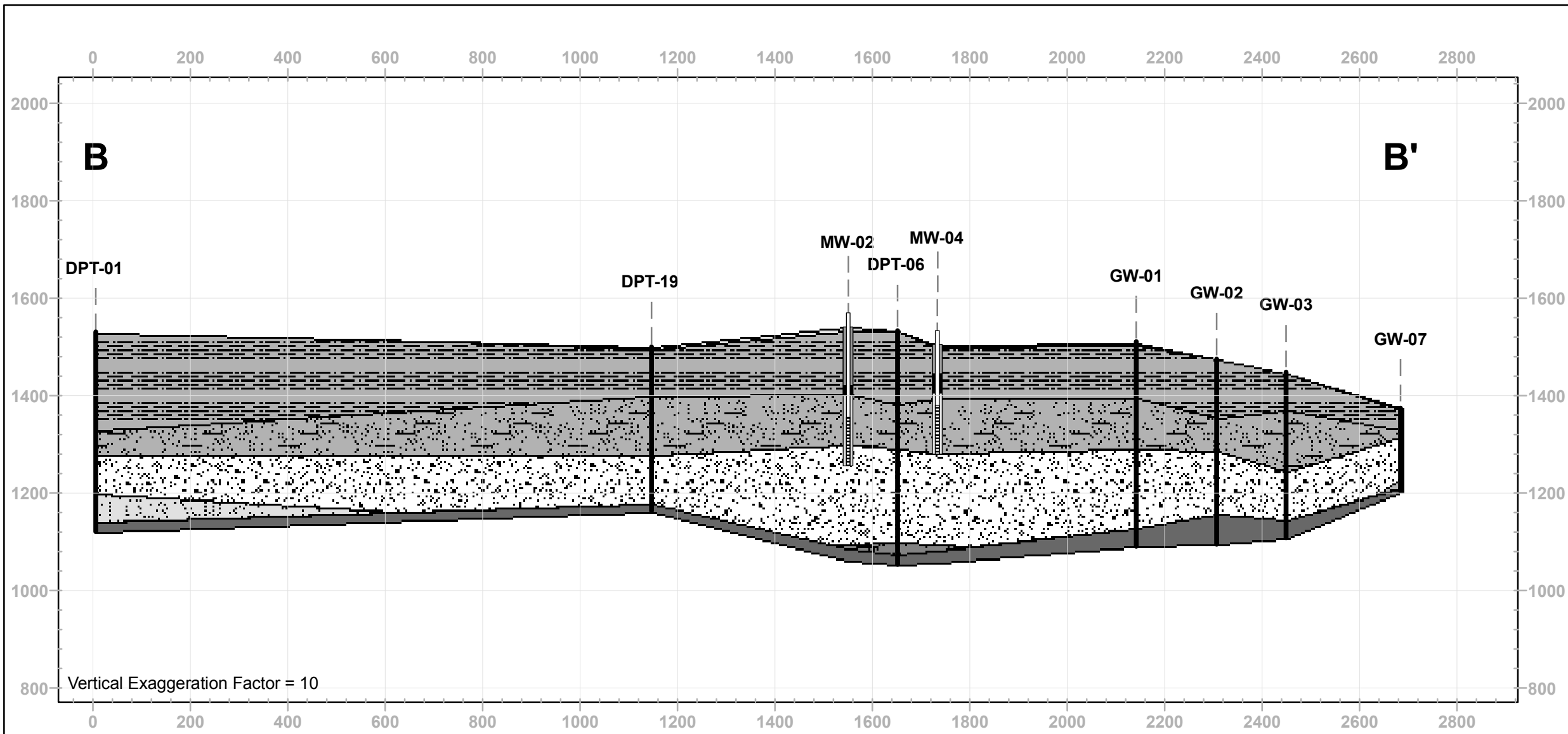
- Fill/Top Soil
- Fine Silty Sand
- Clayey Silt
- Silty Clay
- Interbedded Sand and Gravel
- Silty Sand
- Sand and Gravel
- Fine Sand
- Interbedded Sand and Clay
- Medium-Coarse Sand
- Lower Silty Clay
- Clay

— ? — ? — ? — Estimated Contact



**Figure 4
X-Section B-B'**

**Pfizer Consumer Healthcare
(Legacy Wyeth)
Richmond, Virginia**

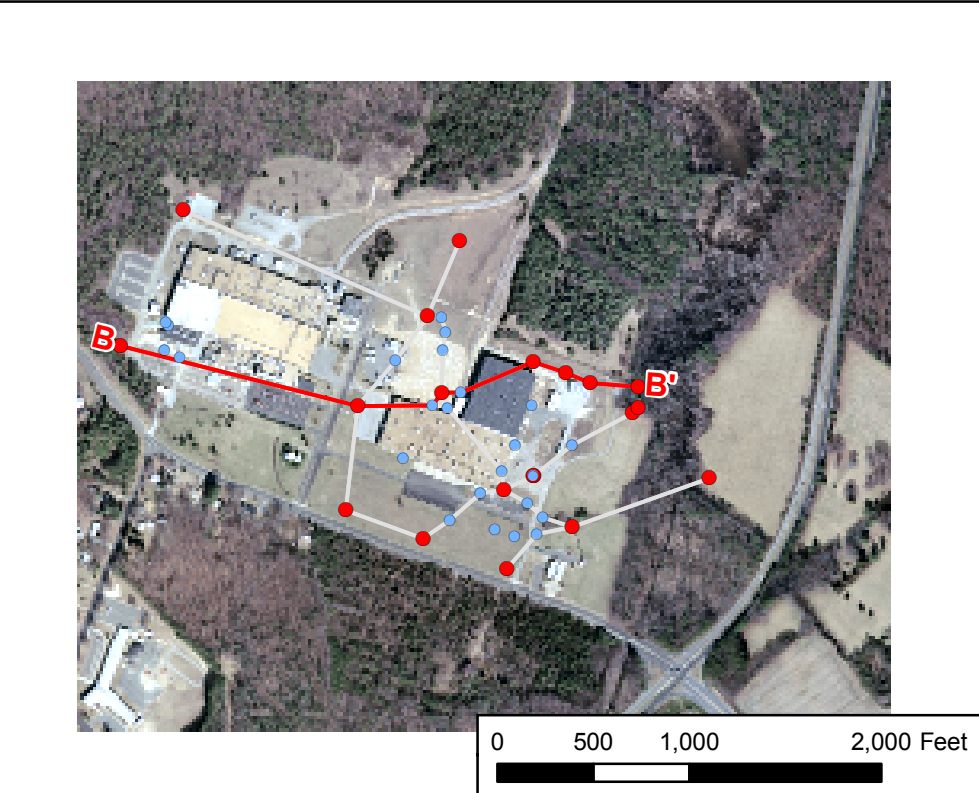
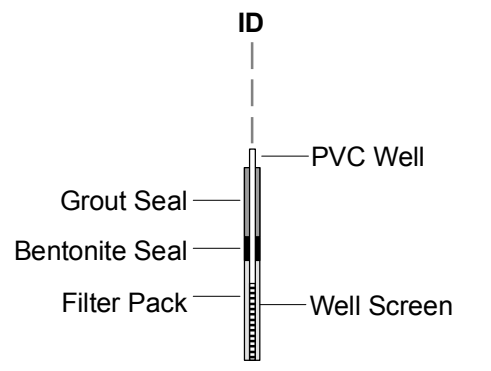


Legend

Material

- Fill/Top Soil
- Fine Silty Sand
- Clayey Silt
- Silty Clay
- Interbedded Sand and Gravel
- Silty Sand
- Sand and Gravel
- Fine Sand
- Interbedded Sand and Clay
- Medium-Coarse Sand
- Lower Silty Clay
- Clay

— ? — ? — ? — Estimated Contact



**Figure 5
X-Section C-C'**

**Pfizer Consumer Healthcare
(Legacy Wyeth)
Richmond, Virginia**

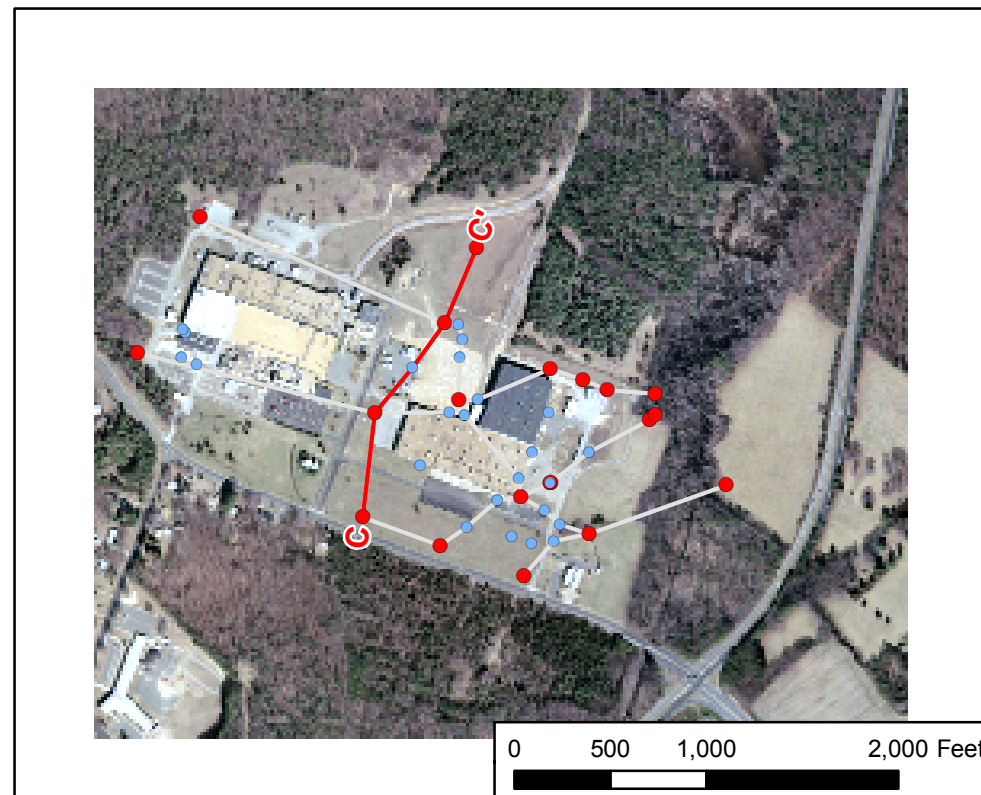
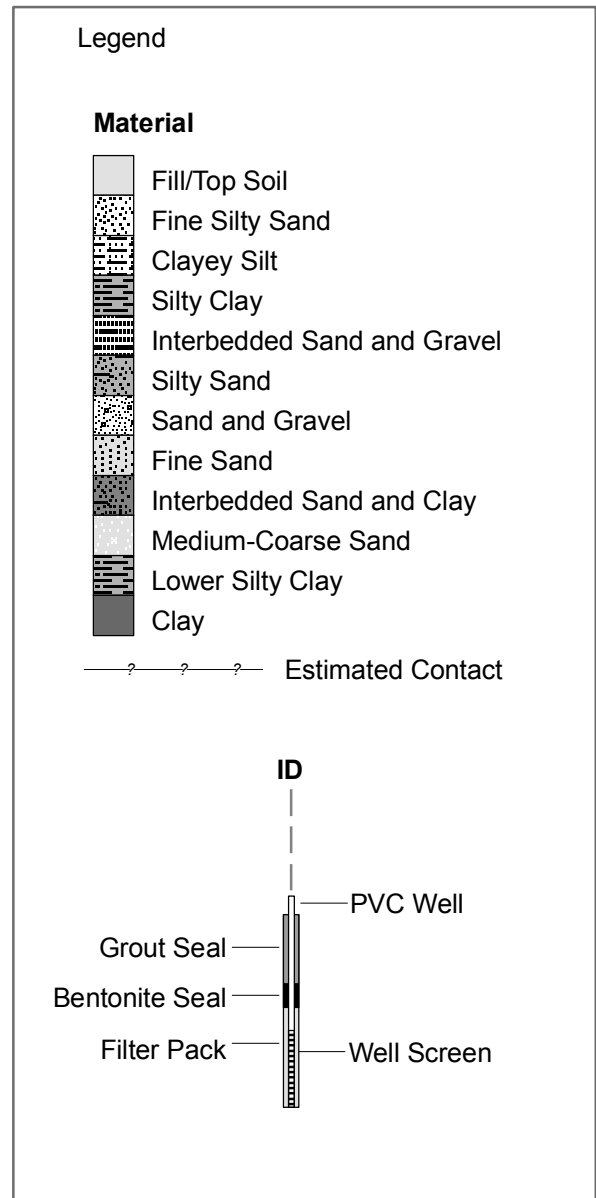
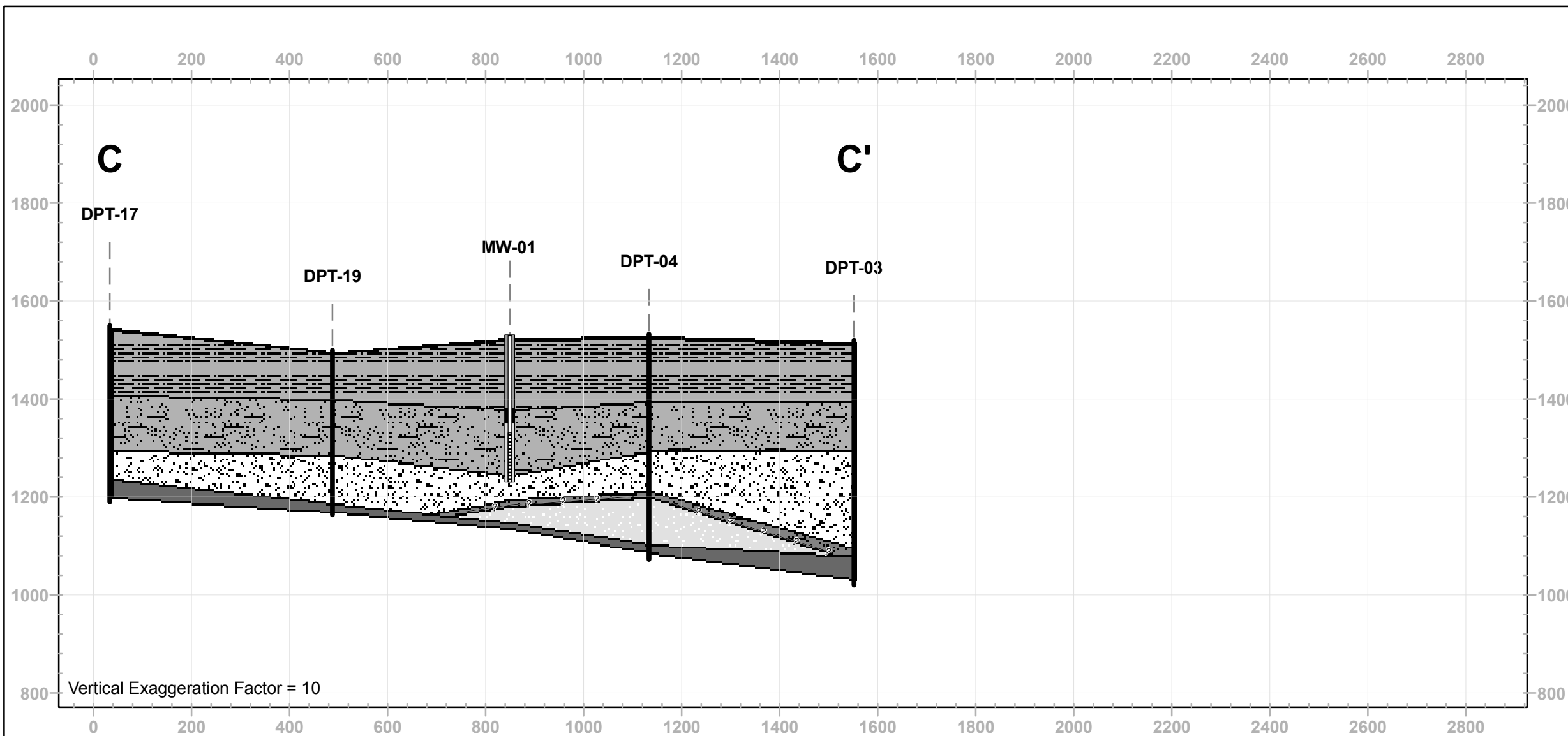
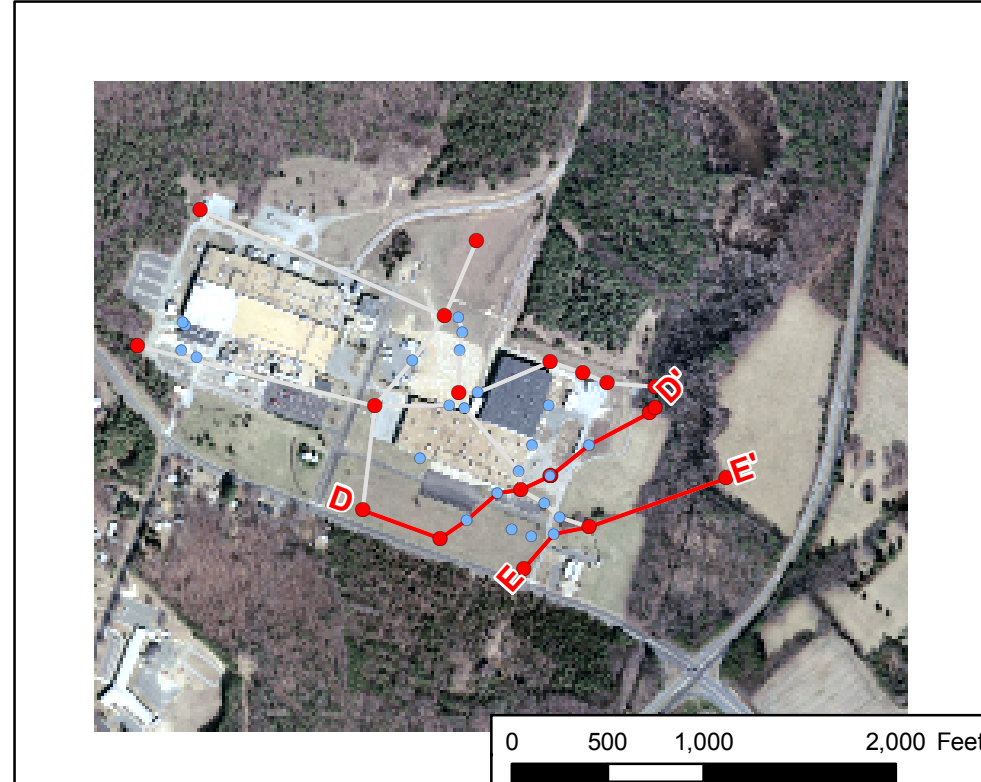
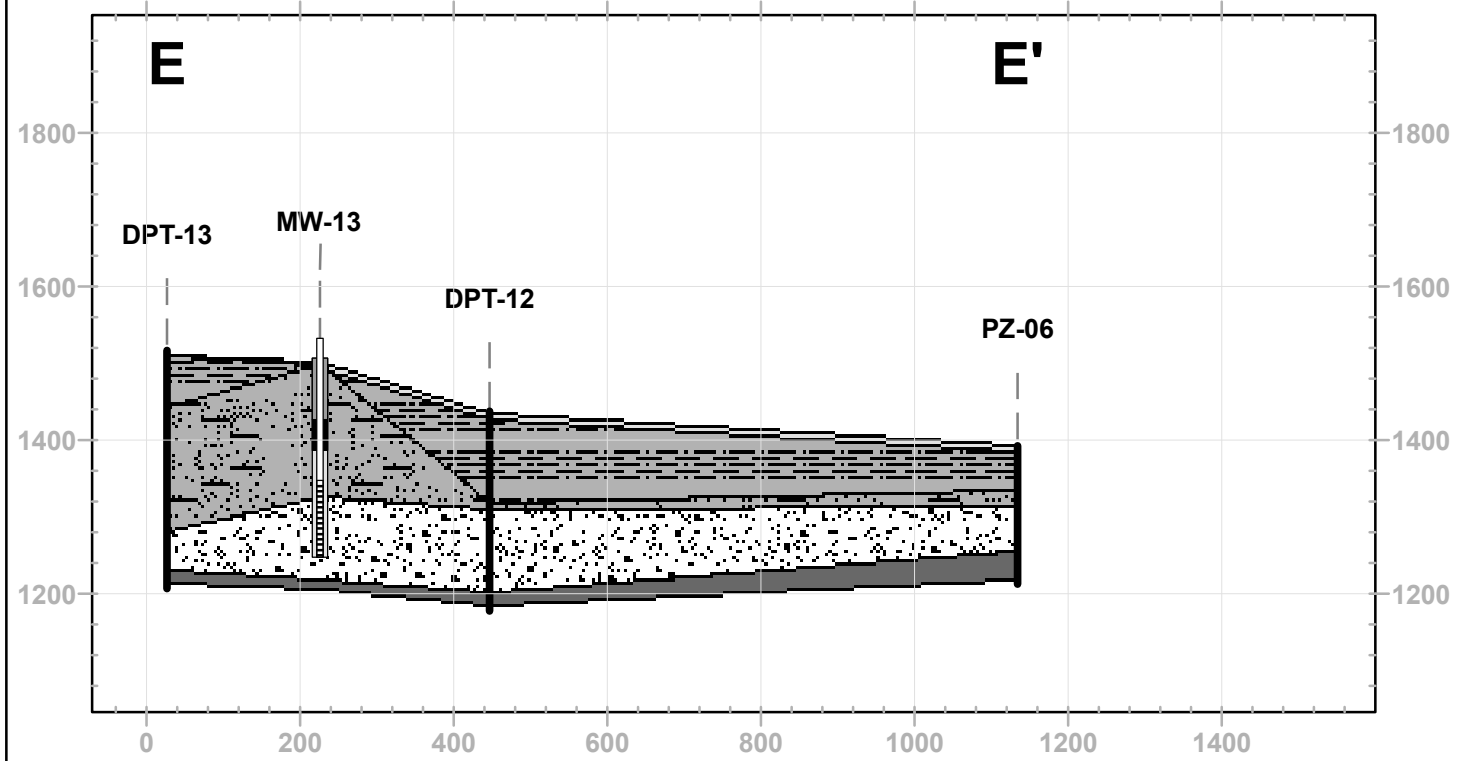
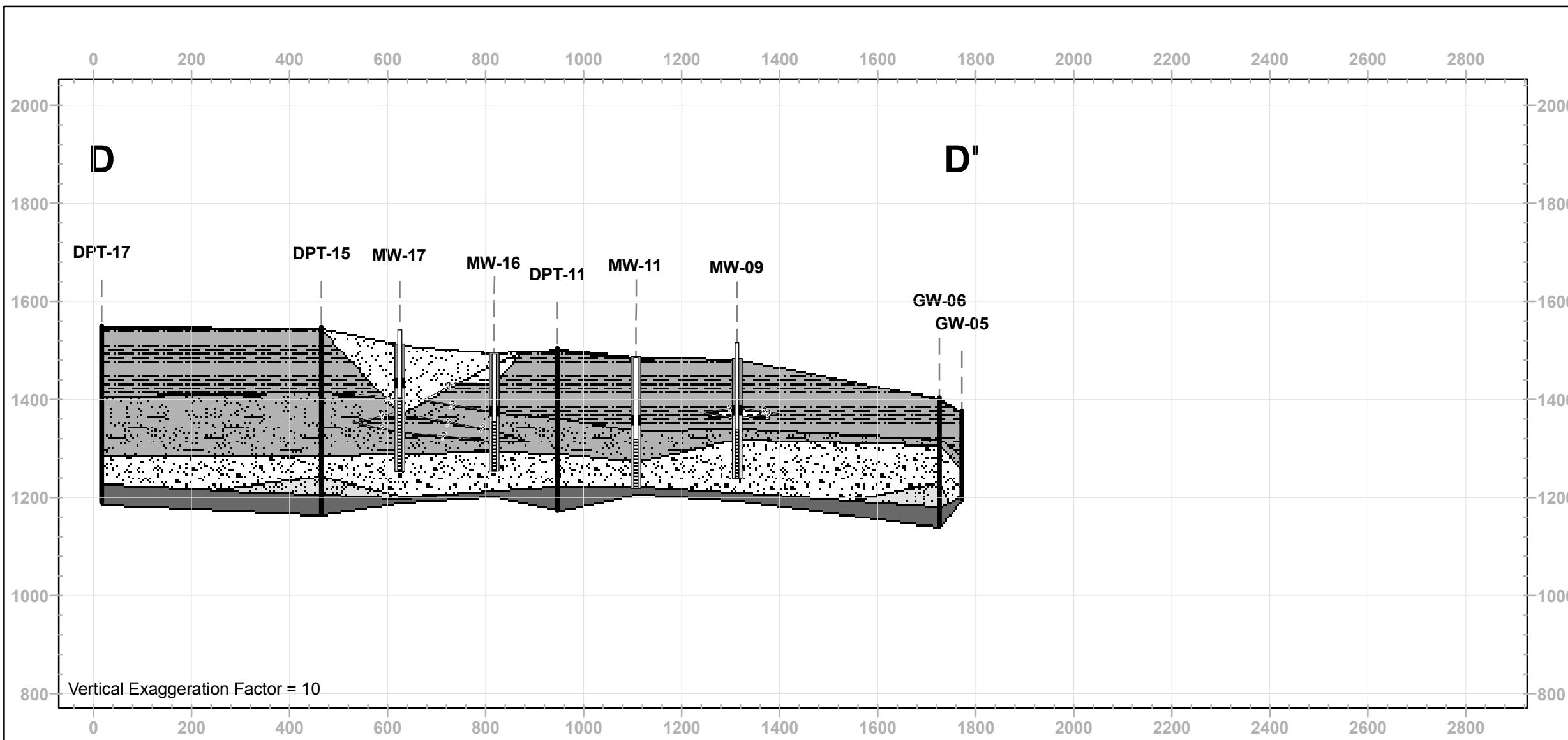


Figure 6
X-Sections D-D' and E-E'

Pfizer Consumer Healthcare
(Legacy Wyeth)
Richmond, Virginia



Legend

Material

- Fill/Top Soil
- Fine Silty Sand
- Clayey Silt
- Silty Clay
- Interbedded Sand and Gravel
- Silty Sand
- Sand and Gravel
- Fine Sand
- Interbedded Sand and Clay
- Medium-Coarse Sand
- Lower Silty Clay
- Clay

Estimated Contact

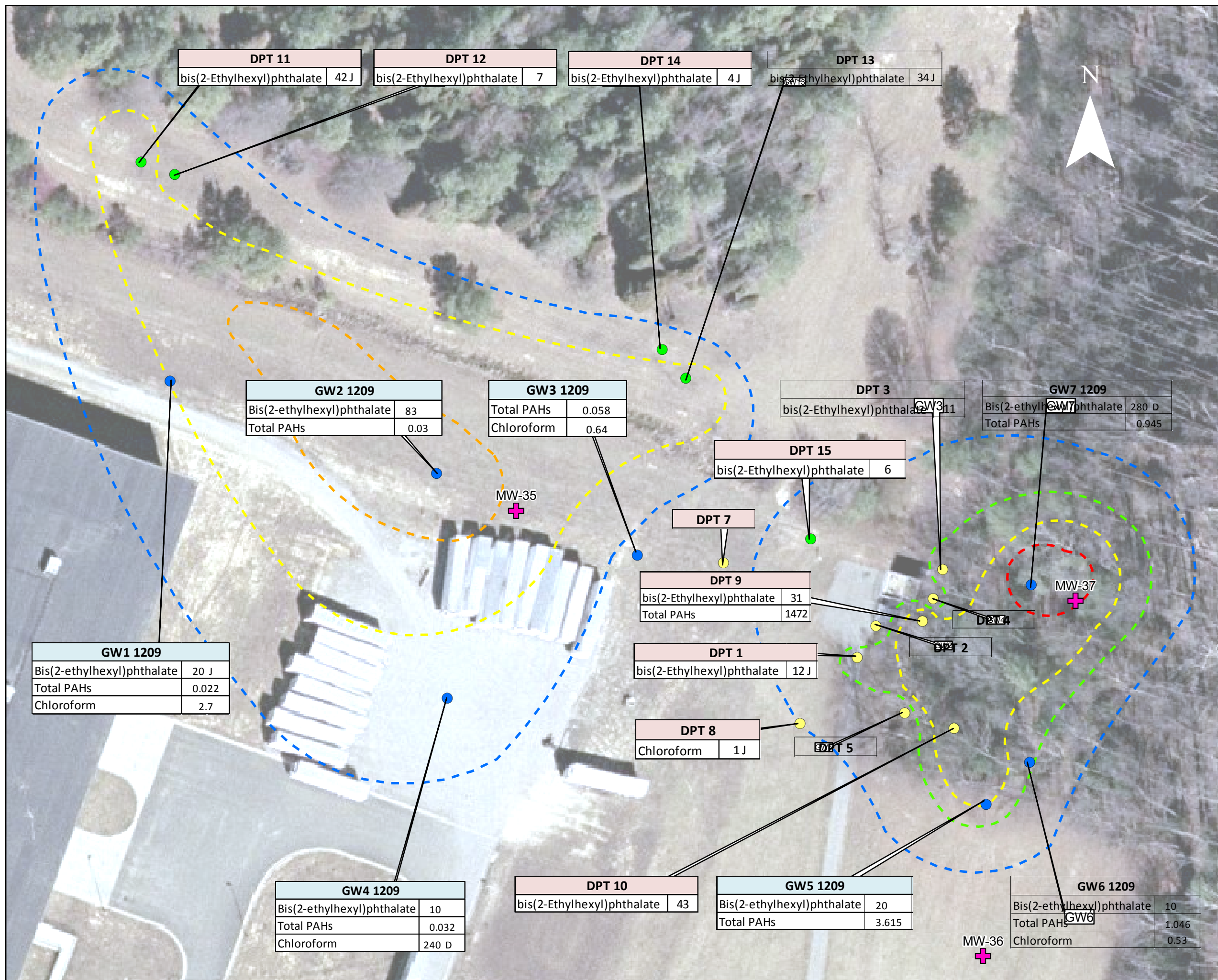
ID

- PVC Well
- Grout Seal
- Bentonite Seal
- Filter Pack
- Well Screen

Figure 7
Constituents of Concern and
Isoconcentrations of
Bis(2-ethylhexyl)phthalate
in Groundwater

AOC 1/SWMU 1
Investigation
December 2009

Pfizer Consumer Healthcare
(Legacy Wyeth)
Richmond, Virginia



Legend

- + New Monitoring Well

Sampling Point

- 2008 AOC 4/5 Investigation
- 2008 AOC1/SWMU1 Investigation
- December 2009 Investigation

Bis(2-ethylhexyl)phthalate

- 200 ug/L
- 50 ug/L
- 20 ug/L
- 10 ug/L
- 1 ug/L

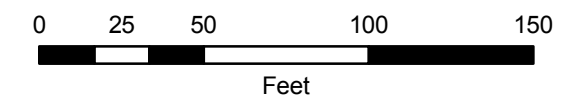
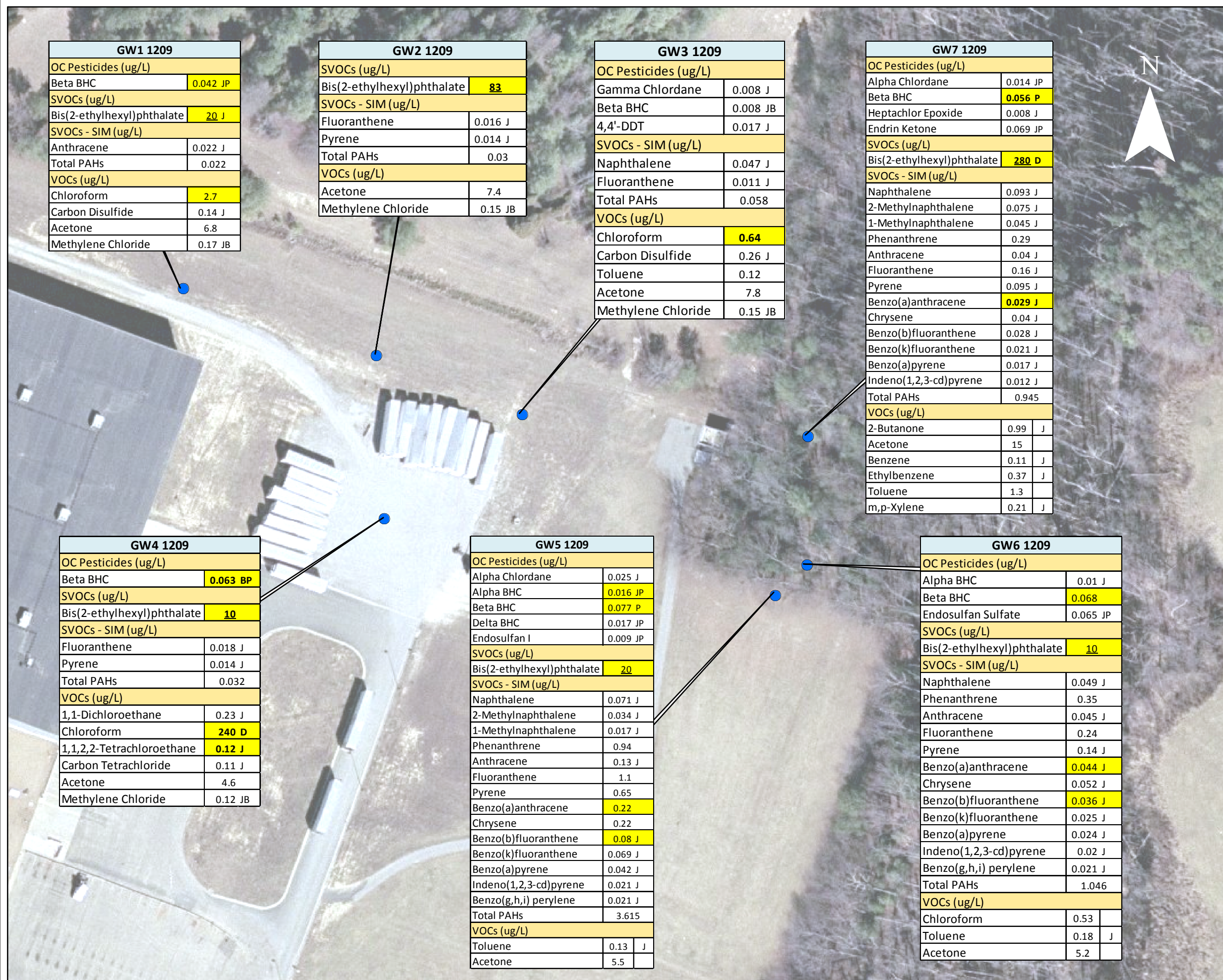
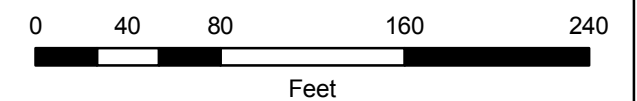


Figure 8
Groundwater Sample Results
AOC 1/SWMU 1 Investigation
December 2009

Pfizer Consumer Healthcare
(Legacy Wyeth)
Richmond, Virginia

Legend

● Groundwater Sample



GW1 1209	
OC Pesticides (ug/L)	
Beta BHC	0.042 JP
SVOCs (ug/L)	
Bis(2-ethylhexyl)phthalate	20 J
SVOCs - SIM (ug/L)	
Anthracene	0.022 J
Total PAHs	0.022
VOCs (ug/L)	
Chloroform	2.7
Carbon Disulfide	0.14 J
Acetone	6.8
Methylene Chloride	0.17 JB

GW2 1209	
SVOCs (ug/L)	
Bis(2-ethylhexyl)phthalate	83
SVOCs - SIM (ug/L)	
Fluoranthene	0.016 J
Pyrene	0.014 J
Total PAHs	0.03
VOCs (ug/L)	
Acetone	7.4
Methylene Chloride	0.15 JB

GW3 1209	
OC Pesticides (ug/L)	
Gamma Chlordane	0.008 J
Beta BHC	0.008 JB
4,4'-DDT	0.017 J
SVOCs - SIM (ug/L)	
Naphthalene	0.047 J
Fluoranthene	0.011 J
Total PAHs	0.058
VOCs (ug/L)	
Chloroform	0.64
Carbon Disulfide	0.26 J
Toluene	0.12
Acetone	7.8
Methylene Chloride	0.15 JB

GW7 1209	
OC Pesticides (ug/L)	
Alpha Chlordane	0.014 JP
Beta BHC	0.056 P
Heptachlor Epoxide	0.008 J
Endrin Ketone	0.069 JP
SVOCs (ug/L)	
Bis(2-ethylhexyl)phthalate	280 D
SVOCs - SIM (ug/L)	
Naphthalene	0.093 J
2-Methylnaphthalene	0.075 J
1-Methylnaphthalene	0.045 J
Phenanthrene	0.29
Anthracene	0.04 J
Fluoranthene	0.16 J
Pyrene	0.095 J
Benzo(a)anthracene	0.029 J
Chrysene	0.04 J
Benzo(b)fluoranthene	0.028 J
Benzo(k)fluoranthene	0.021 J
Benzo(a)pyrene	0.017 J
Indeno(1,2,3-cd)pyrene	0.012 J
Total PAHs	0.945
VOCs (ug/L)	
2-Butanone	0.99 J
Acetone	15
Benzene	0.11 J
Ethylbenzene	0.37 J
Toluene	1.3
m,p-Xylene	0.21 J

GW4 1209	
OC Pesticides (ug/L)	
Beta BHC	0.063 BP
SVOCs (ug/L)	
Bis(2-ethylhexyl)phthalate	10
SVOCs - SIM (ug/L)	
Fluoranthene	0.018 J
Pyrene	0.014 J
Total PAHs	0.032
VOCs (ug/L)	
1,1-Dichloroethane	0.23 J
Chloroform	240 D
1,1,2,2-Tetrachloroethane	0.12 J
Carbon Tetrachloride	0.11 J
Acetone	4.6
Methylene Chloride	0.12 JB

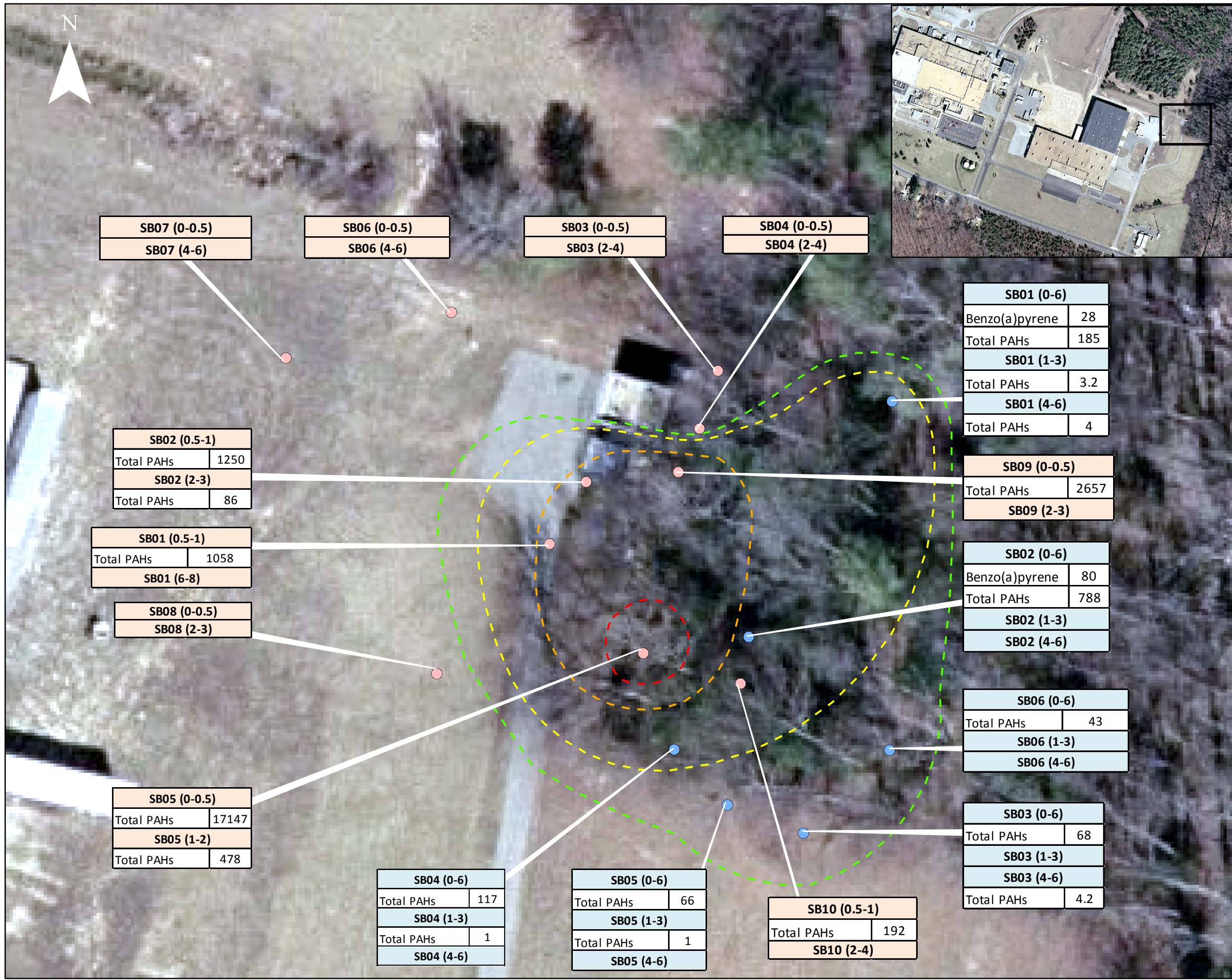
GW5 1209	
OC Pesticides (ug/L)	
Alpha Chlordane	0.025 J
Alpha BHC	0.016 JP
Beta BHC	0.077 P
Delta BHC	0.017 JP
Endosulfan I	0.009 JP
SVOCs (ug/L)	
Bis(2-ethylhexyl)phthalate	20
SVOCs - SIM (ug/L)	
Naphthalene	0.071 J
2-Methylnaphthalene	0.034 J
1-Methylnaphthalene	0.017 J
Phenanthrene	0.94
Anthracene	0.13 J
Fluoranthene	1.1
Pyrene	0.65
Benzo(a)anthracene	0.22
Chrysene	0.22
Benzo(b)fluoranthene	0.08 J
Benzo(k)fluoranthene	0.069 J
Benzo(a)pyrene	0.042 J
Indeno(1,2,3-cd)pyrene	0.021 J
Benzo(g,h,i) perylene	0.021 J
Total PAHs	3.615
VOCs (ug/L)	
Toluene	0.13 J
Acetone	5.5

GW6 1209	
OC Pesticides (ug/L)	
Alpha BHC	0.01 J
Beta BHC	0.068
Endosulfan Sulfate	0.065 JP
SVOCs (ug/L)	
Bis(2-ethylhexyl)phthalate	10
SVOCs - SIM (ug/L)	
Naphthalene	0.049 J
Phenanthrene	0.35
Anthracene	0.045 J
Fluoranthene	0.24
Pyrene	0.14 J
Benzo(a)anthracene	0.044 J
Chrysene	0.052 J
Benzo(b)fluoranthene	0.036 J
Benzo(k)fluoranthene	0.025 J
Benzo(a)pyrene	0.024 J
Indeno(1,2,3-cd)pyrene	0.02 J
Benzo(g,h,i) perylene	0.021 J
Total PAHs	1.046
VOCs (ug/L)	
Chloroform	0.53
Toluene	0.18 J
Acetone	5.2

Figure 9
Constituents of Concern
and PAH Isoconcentrations
in Soil

AOC-1/SWMU-1
Spring 2008 and December 2009

Pfizer Consumer Healthcare
(Legacy Wyeth)
Richmond, Virginia



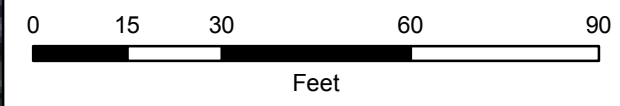
Legend

- Spring 2008 Sample
- December 2009 Sample

PAH_Isocontours

- 10,000 ug/L
- 1,000 ug/L
- 100 ug/L
- 10 ug/L

All concentrations are provided in ug/kg



SB07 (0-0.5)
SB07 (4-6)

SB06 (0-0.5)
SB06 (4-6)

SB03 (0-0.5)
SB03 (2-4)

SB04 (0-0.5)
SB04 (2-4)

SB01 (0-6)	
Benzo(a)pyrene	28
Total PAHs	185
SB01 (1-3)	
Total PAHs	3.2
SB01 (4-6)	
Total PAHs	4

SB09 (0-0.5)	
Total PAHs	2657
SB09 (2-3)	

SB02 (0-6)	
Benzo(a)pyrene	80
Total PAHs	788
SB02 (1-3)	
SB02 (4-6)	

SB06 (0-6)	
Total PAHs	43
SB06 (1-3)	
SB06 (4-6)	

SB03 (0-6)	
Total PAHs	68
SB03 (1-3)	
SB03 (4-6)	
Total PAHs	4.2

SB02 (0.5-1)	
Total PAHs	1250
SB02 (2-3)	
Total PAHs	86

SB01 (0.5-1)	
Total PAHs	1058
SB01 (6-8)	

SB08 (0-0.5)
SB08 (2-3)

SB05 (0-0.5)	
Total PAHs	17147
SB05 (1-2)	
Total PAHs	478

SB04 (0-6)	
Total PAHs	117
SB04 (1-3)	
Total PAHs	1
SB04 (4-6)	

SB05 (0-6)	
Total PAHs	66
SB05 (1-3)	
Total PAHs	1
SB05 (4-6)	

SB10 (0.5-1)	
Total PAHs	192
SB10 (2-4)	

**Figure 10
Soil Sample Results**

**AOC 1/SWMU 1 DPT Investigation
December 2009**

**Pfizer
(Wyeth Consumer Healthcare)**

Richmond, Virginia

Legend

● Soil Boring



SB04 (0-6)	
Pesticides (ug/kg)	
4,4'-DDD	1.5 JP
4,4'-DDT	1.1 J
SVOCs (ug/kg)	
Bis(2-ethylhexyl)phthalate	320
SVOCs-SIM (ug/kg)	
Naphthalene	1 J
Fluorene	0.68 J
Phenanthrene	8.6 J
Anthracene	1.2 J
Fluoranthene	18
Pyrene	15
Benzo(a)anthracene	8 J
Chrysene	11
Benzo(b)fluoranthene	13
Benzo(k)fluoranthene	9.3 J
Benzo(a)pyrene	12
Indeno(1,2,3-cd)pyrene	9.5 J
Dibenzo(a,h)anthracene	2 J
Benzo(g,h,i)perylene	7.7 J
Total PAHs	117
VOCs (ug/kg)	
Acetone	14 J
SB04 (1-3)	
SVOCs-SIM (ug/kg)	
Pyrene	0.91 J
Total PAHs	0.91
SB04 (4-6)	
Pesticides (ug/kg)	
4,4'-DDD	0.54 J
SB05 (0-6)	
Pesticides (ug/kg)	
delta-BHC	0.29 J
4,4'-DDD	2.7 J
4,4'-DDT	2.5 JP
Dieldrin	0.46 J
Heptachlor	0.26 JP
alpha-Chlordane	0.57 JP
SVOCs-SIM (ug/kg)	
Fluorene	3 J
Phenanthrene	5.5 J
Anthracene	0.94 J
Fluoranthene	11
Pyrene	8.3 J
Benzo(a)anthracene	4.5 J
Chrysene	5.7 J
Benzo(b)fluoranthene	6.8 J
Benzo(k)fluoranthene	5.1 J
Benzo(a)pyrene	6.1 J
Indeno(1,2,3-cd)pyrene	4.6 J
Dibenzo(a,h)anthracene	0.97 J
Benzo(g,h,i)perylene	3.5 J
Total PAHs	66
SB05 (1-3)	
SVOCs-SIM (ug/kg)	
Pyrene	0.83 J
Total PAHs	0.83
VOCs (ug/kg)	
Acetone	47
SB05 (4-6)	
SVOCs (ug/kg)	
Bis(2-ethylhexyl)phthalate	100 J

SB02 (0-6)	
Pesticides (ug/kg)	
alpha-BHC	0.87 JP
4,4'-DDD	1.2 JP
4,4'-DDE	1.4 JP
4,4'-DDT	2.9 JP
Endosulfan II	1.3 JP
Endrin	3.9 JP
alpha-Chlordane	4.1 P
gamma-Chlordane	0.52 J
SVOCs-SIM (ug/kg)	
Bis(2-ethylhexyl)phthalate	100 J
SVOCs (ug/kg)	
Naphthalene	1.3 J
Acenaphthylene	0.95 J
Acenaphthene	2.5 J
Fluorene	3 J
Phenanthrene	65
Anthracene	13 J
Fluoranthene	180 D
Pyrene	130 D
Benzo(a)anthracene	64
Chrysene	70
Benzo(b)fluoranthene	76
Benzo(k)fluoranthene	53
Benzo(a)pyrene	80
Indeno(1,2,3-cd)pyrene	49
Dibenzo(a,h)anthracene	9.5 J
Benzo(g,h,i)perylene	36
Total PAHs	833
VOCs (ug/kg)	
Acetone	17 J
SB02 (1-3)	
SVOCs (ug/kg)	
Bis(2-ethylhexyl)phthalate	240
Benzo(k)fluoranthene	3.8 J
Benzo(a)pyrene	4.4 J
Indeno(1,2,3-cd)pyrene	3.9 J
Benzo(g,h,i)perylene	3 J
Total PAHs	43
VOCs (ug/kg)	
Acetone	9.7 J
1,2,4-Trichlorobenzene	1.3 J
SB02 (4-6)	
SVOCs (ug/kg)	
Bis(2-ethylhexyl)phthalate	94 J

SB06 (0-6)	
Pesticides (ug/kg)	
4,4'-DDD	0.46 J
4,4'-DDT	2.6 JP
Endrin	1.5 JP
Endrin Aldehyde	1.7 JP
Heptachlor	0.31 J
Heptachlor Epoxide	0.31 J
Methoxychlor	6.7 JP
alpha-Chlordane	1.5 J
SVOCs-SIM (ug/kg)	
Phenanthrene	4 J
Anthracene	0.56 J
Fluoranthene	6.2 J
Pyrene	4.9 J
Benzo(a)anthracene	3.4 J
Chrysene	4.3 J
Benzo(b)fluoranthene	4.9 J
Benzo(k)fluoranthene	3.8 J
Benzo(a)pyrene	4.4 J
Indeno(1,2,3-cd)pyrene	3.9 J
Benzo(g,h,i)perylene	3 J
Total PAHs	43.36
VOCs (ug/kg)	
Acetone	9.7 J
1,2,4-Trichlorobenzene	1.3 J
SB06 (1-3)	
SB06 (4-6)	

SB03 (0-6)	
Pesticides (ug/kg)	
delta-BHC	0.96 JP
Heptachlor	0.25 J
alpha-Chlordane	3.3 P
SVOCs (ug/kg)	
Bis(2-ethylhexyl)phthalate	900
SVOCs-SIM (ug/kg)	
Naphthalene	1.1 J
Phenanthrene	6 J
Anthracene	1.1 J
Fluoranthene	11 J
Pyrene	8.3 J
Benzo(a)anthracene	4.3 J
Chrysene	6.4 J
Benzo(b)fluoranthene	7.7 J
Benzo(k)fluoranthene	4.9 J
Benzo(a)pyrene	8.3 J
Indeno(1,2,3-cd)pyrene	4.3 J
Dibenzo(a,h)anthracene	0.96 J
Benzo(g,h,i)perylene	3.5 J
Total PAHs	67.86
VOCs (ug/kg)	
Acetone	24
SB03 (1-3)	
SB03 (4-6)	
SVOCs-SIM (ug/kg)	
Fluorene	4.2 J
Total PAHs	4.2
VOCs (ug/kg)	
Toluene	1.6 J

SB01 (0-6)	
Pesticides (ug/kg)	
4,4'-DDD	0.62 J
4,4'-DDE	2.3 J
4,4'-DDT	9
Endosulfan I	1.8 JP
Endosulfan II	1.7 JP
Endosulfan Sulfate	19
Endrin Aldehyde	8.4 P
Heptachlor Epoxide	0.99 JP
Methoxychlor	41
Endrin Ketone	7.3 P
gamma-Chlordane	1.5 JP
alpha-Chlordane	7.2 P
SVOCs (ug/kg)	
Benzo(a)anthracene	22
Bis(2-ethylhexyl)phthalate	610
SVOCs-SIM (ug/kg)	
Naphthalene	2.9 J
2-Methylnaphthalene	1 J
1-Methylnaphthalene	0.89 J
Acenaphthene	4 J
Fluorene	1.5 J
Phenanthrene	15
Anthracene	2.3 J
Fluoranthene	30
Pyrene	22
Benzo(a)anthracene	11 J
Chrysene	15
Benzo(b)fluoranthene	17
Benzo(k)fluoranthene	14
Benzo(a)pyrene	28
Indeno(1,2,3-cd)pyrene	9.9 J
Dibenzo(a,h)anthracene	1.8 J
Benzo(g,h,i)perylene	8.3 J
Total PAHs	185
VOCs (ug/kg)	
Acetone	12 J
SB01 (1-3)	
Pesticides (ug/kg)	
Endrin Ketone	3.1 JP
SVOCs (ug/kg)	
Bis(2-ethylhexyl)phthalate	290
SVOCs-SIM (ug/kg)	
Naphthalene	1.5 J
Phenanthrene	1.7 J
Total PAHs	3.2
VOCs (ug/kg)	
Acetone	8 J
SB01 (4-6)	
SVOCs (ug/kg)	
Bis(2-ethylhexyl)phthalate	250
SVOCs-SIM (ug/kg)	
Naphthalene	1.3 J
Benzo(a)pyrene	2.7 J
Total PAHs	4
VOCs (ug/kg)	
Acetone	14 J

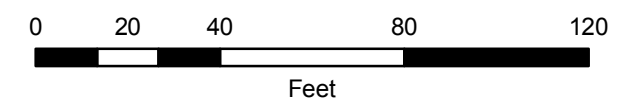


Figure 11
Chloroform Concentrations
Adjusted On-Site Lab Results

Wyeth Consumer
Healthcare
Richmond, Virginia

Legend

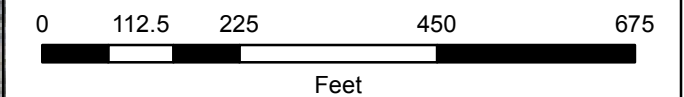
- On-Site Lab Sample (March 2010)
- DPT Point (Dec 2009)
- Monitoring Well

Chloroform Concentrations provided in ug/L.
 On-site lab results are adjusted by a factor of 2.1.

On-Site Lab Points, numbers provided indicate:
 Chloroform in top of saturated unit
 Chloroform in middle of saturated unit
 Chloroform in bottom of saturated unit
 (depth of screen)

Chloroform concentrations provided for December 2009 were collected from the middle of the saturated unit.

Monitoring well concentrations are from October 2009.






CompuChem Results provided for:
 GW01 (32-36)
 GW02 (20-24)
 GW04 (14-18)
 GW08 (18-22)
 GW09 (16-20)
 GW13 (12-16)



Figure 12
Monitoring Wells and
Piezometers

Pfizer Consumer Healthcare
(Legacy Wyeth)
Richmond, Virginia

Legend

-  Monitoring Well
-  New Monitoring Well
-  Piezometers

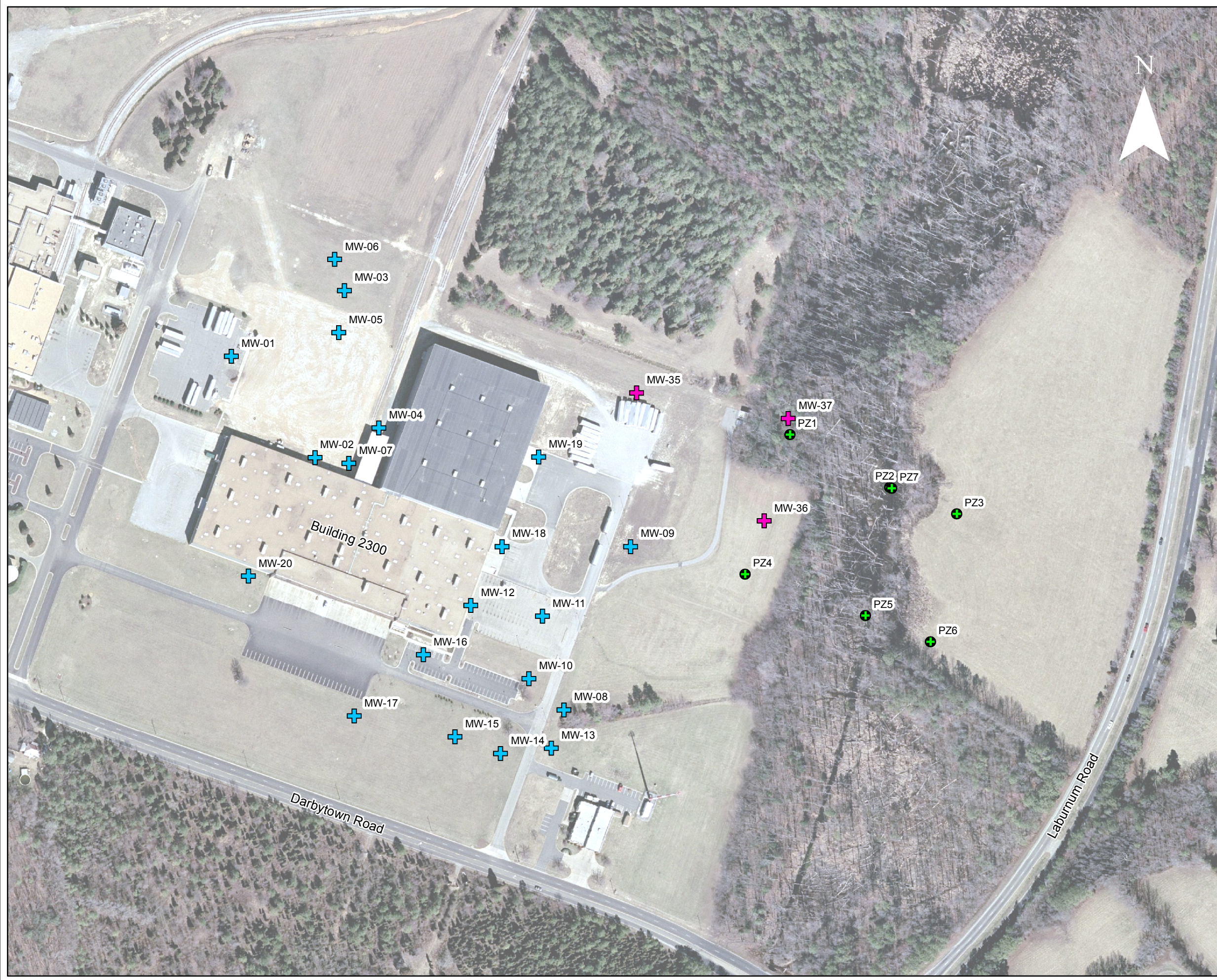
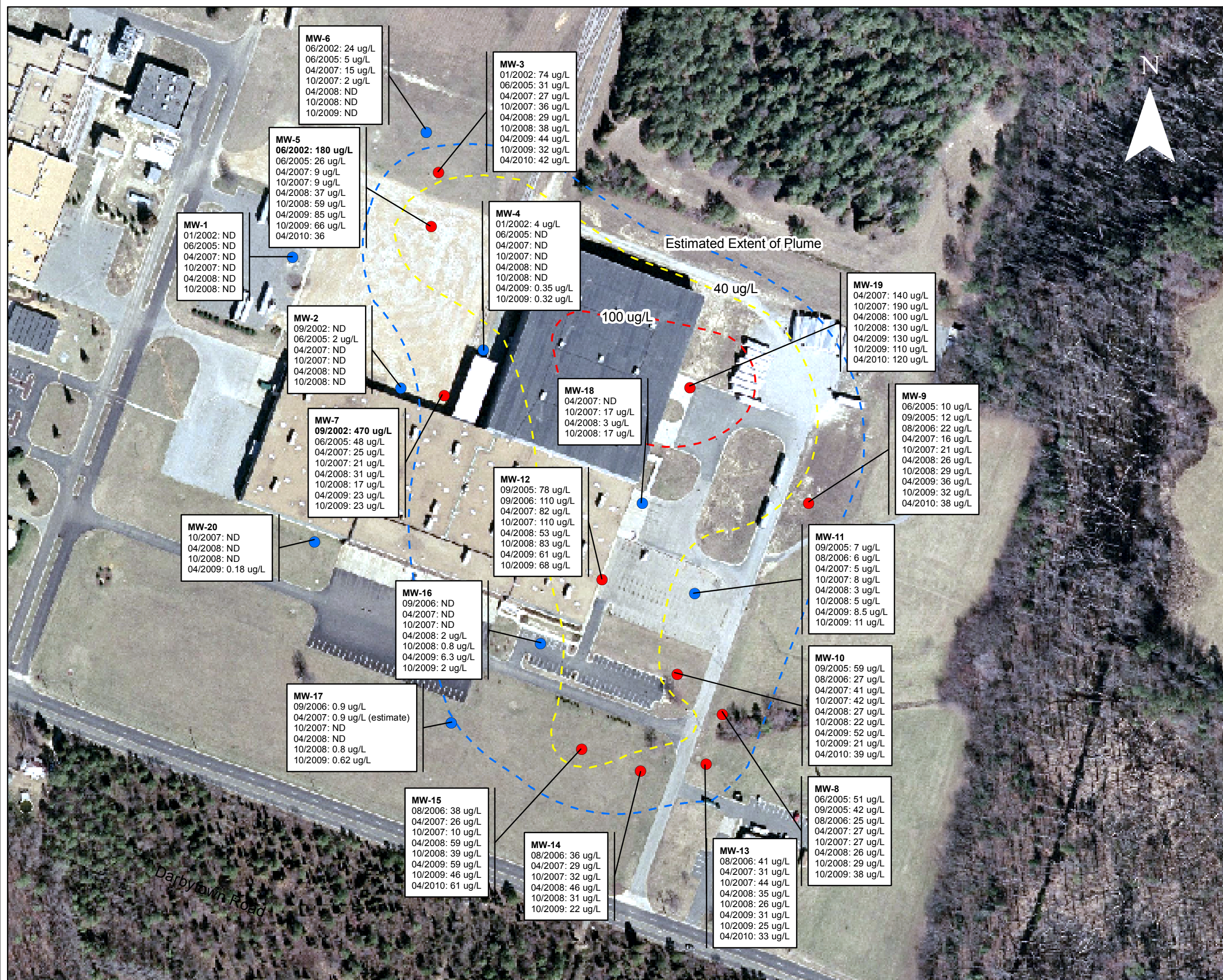


Figure 13

**Chloroform Concentrations
in Groundwater
April 2010**

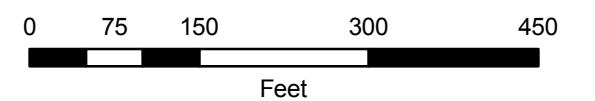
**Wyeth Consumer
Healthcare
Richmond, Virginia**



Legend

- Monitoring Well
- - - Isocontour
- Chloroform Screening Level Exceedance

Well ID
Month/Year: Concentration



**Technical Memorandum
Summary of Field Investigations**



Table 1
Groundwater Analytical Summary
AOC1/SWMU1 - December 2009

Sample ID	Screening Criteria	GW1 1209	GW1 1209 DUP	GW2 1209	GW3 1209	GW4 1209	GW5 1209	GW6 1209	GW7 1209	Equipment Rinse	Trip Blanks - April 07			
		Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	121009	121109	121609	121609-2
OC Pesticides (ug/L)											121509			
Alpha Chlordane	<u>2</u>	0.056 UL	0.056 U	0.05 UL	0.053 U	0.05 UL	0.025 J	0.05 U	0.014 JP	0.05 U	NA	NA	NA	NA
Gamma Chlordane	<u>2</u>	0.056 UL	0.056 U	0.05 UL	0.0082 J	0.05 UL	0.05 U	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
Alpha BHC	0.011	0.056 UL	0.056 U	0.05 UL	0.053 U	0.05 UL	0.016 JP	0.0097 J	0.05 U	0.05 U	NA	NA	NA	NA
Beta BHC	0.037	0.042 JPL	0.042 JP	0.05 UL	0.0081 JB	0.063 BPL	0.077 JP	0.068	0.056 P	0.05 U	NA	NA	NA	NA
4,4'-DDT	<u>0.2</u>	0.11 UL	0.11 U	0.1 UL	0.017 J	0.1 UL	0.1 U	0.1 U	0.1 U	0.10 U	NA	NA	NA	NA
Delta BHC	0.037	0.056 UL	0.056 U	0.05 UL	0.053 U	0.05 UL	0.017 JP	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
Heptachlor Epoxide	<u>0.2</u>	0.056 UL	0.056 U	0.05 UL	0.053 U	0.05 UL	0.05 U	0.05 U	0.0078 J	0.05 U	NA	NA	NA	NA
Endrin Ketone	---	0.11 UL	0.11 U	0.1 UL	0.11 U	0.1 UL	0.1 U	0.1 U	0.069 JP	0.10 U	NA	NA	NA	NA
Endosulfan I	22	0.056 UL	0.056 U	0.05 UL	0.053 U	0.05 UL	0.0086 JP	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
Endosulfan Sulfate	---	0.11 UL	0.11 U	0.1 UL	0.11 U	0.1 UL	0.1 U	0.065 JP	0.1 U	0.10 U	NA	NA	NA	NA
SVOCs (ug/L)														
Bis(2-ethylhexyl)phthalate	<u>6</u>	2.4 J	20	83	5.4 U	10	20	10	280 D	5 U	NA	NA	NA	NA
SVOCs - SIM (ug/L)														
Naphthalene	0.14	0.22 U	0.21 U	0.21 U	0.047 J	0.21 U	0.071 J	0.049 J	0.093 J	0.21 U	NA	NA	NA	NA
2-Methylnaphthalene	15	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U	0.034 J	0.2 U	0.075 J	0.21 U	NA	NA	NA	NA
1-Methylnaphthalene	2.3	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U	0.017 J	0.2 U	0.045 J	0.21 U	NA	NA	NA	NA
Phenanthrene	--	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U	0.94	0.35	0.29	0.21 U	NA	NA	NA	NA
Anthracene	1100	0.22 U	0.022 J	0.21 U	0.22 U	0.21 U	0.13 J	0.045 J	0.04 J	0.21 U	NA	NA	NA	NA
Fluoranthene	150	0.22 U	0.21 U	0.016 J	0.011 J	0.018 J	1.1	0.24	0.16 J	0.21 U	NA	NA	NA	NA
Pyrene	110	0.22 U	0.21 U	0.014 J	0.22 U	0.014 J	0.65	0.14 J	0.095 J	0.21 U	NA	NA	NA	NA
Benzo(a)anthracene	0.029	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U	0.22	0.044 J	0.029 J	0.21 U	NA	NA	NA	NA
Chrysene	2.9	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U	0.22	0.052 J	0.04 J	0.21 U	NA	NA	NA	NA
Benzo(b)fluoranthene	0.029	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U	0.08 J	0.036 J	0.028 J	0.21 U	NA	NA	NA	NA
Benzo(k)fluoranthene	0.29	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U	0.069 J	0.025 J	0.021 J	0.21 U	NA	NA	NA	NA
Benzo(a)pyrene	<u>0.2</u>	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U	0.042 J	0.024 J	0.017 J	0.21 U	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	0.029	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U	0.021 J	0.02 J	0.012 J	0.21 U	NA	NA	NA	NA
Benzo(g,h,i) perylene	---	0.22 U	0.21 U	0.21 U	0.22 U	0.21 U	0.021 J	0.021 J	0.2 U	0.21 U	NA	NA	NA	NA
VOCs (ug/L)														
2-Butanone	710	2.5 UR	2.5 UR	2.5 UR	2.5 UR	2.5 UR	2.5 UR	2.5 UR	0.99 JL	4 L	2.5 UR	2.5 UR	2.5 UR	2.5 UR
1,1-Dichloroethane	2.4	0.5 U	0.5 U	0.5 U	0.5 U	0.23 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.19	2.7	2.3	0.5 U	0.64	240 D	0.5 U	0.53	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.067	0.5 U	0.5 U	0.5 U	0.5 U	0.12 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Disulfide	100	0.5 U	0.14 J	0.5 U	0.26 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	<u>0.2</u>	0.5 U	0.5 U	0.5 U	0.5 U	0.11 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	<u>5</u>	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.11 J	0.5U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	<u>100</u>	0.5 U	0.5 U	0.5 U	0.12	0.5 U	0.13 J	0.18	1.3	1.8	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	<u>700</u>	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.37 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylene	<u>1000</u>	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.21 J	1 U	1 U	1 U	1 U	1 U
Acetone	2200	6.4 B	6.8 B	7.4 B	7.8 B	4.6 B	5.5	5.2	15	6.1 B	3.4 LB	3.4 LB	2.4 JL	2.7 L
Methylene Chloride	<u>5</u>	0.17 JB	0.14 JB	0.15 JB	0.15 JB	0.12 JB	0.5 U	0.5 U	0.5 U	1.4	0.13 JB	0.22 JB	0.5 U	0.5 U

Notes: Screening criteria: Regional Screening Level for Tap Water, underlined indicates Maximum Contaminant Level (MCL)

Bold and yellow indicates screening criteria exceedence

Table 2
Soil Analytical Summary
AOC1/SWMU1 - December 2009

Sample ID	Screening Criteria (Residential RSLs)	Screening Criteria (Industrial RSLs)	SB01 (0-6)	SB01 (1-3)	SB01 (4-6)	SB01 (4-6) DUP	SB02 (0-6)	SB02 (0-6) DUP	SB02 (1-3)	SB02 (4-6)	SB03 (0-6)	SB03 (1-3)	SB03 (4-6)	SB04 (0-6)
			Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09
Pesticides (ug/kg)														
alpha-BHC	77	270	2.4 U	2 U	2.1 U	2 U	0.87 JP	2.1 U	2 U	2 U	2.3 U	2.1 U	2.2 U	2.2 U
delta-BHC	270	960	2.4 U	2 U	2.1 U	2 U	2.2 U	2.1 U	2 U	2 U	0.96 JP	2.1 U	2.2 U	2.2 U
4,4'-DDD	2000	7,200	0.62 J	3.9 U	4 U	4 U	1.2 JP	4.1 U	3.9 U	4 U	4.4 U	4.1 U	4.2 U	1.5 JP
4,4'-DDE	1400	5,100	2.3 J	3.9 U	4 U	4 U	4.3 U	1.4 JP	3.9 U	4 U	4.4 U	4.1 U	4.2 U	4.2 U
4,4'-DDT	1700	7,000	9	3.9 U	4 U	4 U	2.3 JP	2.9 JP	3.9 U	4 U	4.4 U	4.1 U	4.2 U	1.1 J
Dieldrin	30	110	4.6 U	3.9 U	4 U	4 U	4.3 U	4.1 U	3.9 U	4 U	4.4 U	4.1 U	4.2 U	4.2 U
Endosulfan I	37000	3,700,000	1.8 JP	2 U	2.1 U	2 U	2.2 U	2.1 U	2 U	2 U	2.3 U	2.1 U	2.2 U	2.2 U
Endosulfan II	37000	3,700,000	1.7 JP	3.9 U	4 U	4 U	1.2 JP	1.3 JP	3.9 U	4 U	4.4 U	4.1 U	4.2 U	4.2 U
Endosulfan Sulfate	---	---	19	3.9 U	4 U	4 U	4.3 U	4.1 U	3.9 U	4 U	4.4 U	4.1 U	4.2 U	4.2 U
Endrin	1800	19,000	4.6 U	3.9 U	4 U	4 U	2.9 JP	3.9 JP	3.9 U	4 U	4.4 U	4.1 U	4.2 U	4.2 U
Endrin Aldehyde	---	---	8.4 PL	3.9 UL	4 UL	4 UL	4.3 UL	4.1 UL	3.9 UL	4 UL	4.4 UL	4.1 UL	4.2 UL	4.2 UL
Heptachlor	110	380,000	2.4 U	2 U	2.1 U	2 U	2.2 U	2.1 U	2 U	2 U	0.25 J	2.1 U	2.2 U	2.2 U
Heptachlor Epoxide	53	190,000	0.99 JP	2 U	2.1 U	2 U	2.2 U	2.1 U	2 U	2 U	2.3 U	2.1 U	2.2 U	2.2 U
Methoxychlor	31000	310,000	41	20 U	21 U	20 U	22 U	21 U	20 U	20 U	23 U	21 U	22 U	22 U
Endrin Ketone	---	19,000	7.3 JP	3.1 JP	4 U	4 U	4.3 U	4.1 U	3.9 U	4 U	4.4 U	4.1 U	4.2 U	4.2 U
gamma-Chlordane	1600	6,500	1.5 JP	2 U	2.1 U	2 U	2.2 U	0.52 J	2 U	2 U	2.3 U	2.1 U	2.2 U	2.2 U
alpha-Chlordane	1600	6,500	7.2 JP	2 U	2.1 U	2 U	2.4	4.1 P	2 U	2 U	3.3 JP	2.1 U	2.2 U	2.2 U
SVOCs (ug/kg)														
Benzaldehyde	78000	10,000,000	49 J	200 U	210 U	200 U	220 U	210 U	200 U	200 U	230 U	210 U	220 U	220 U
Bis(2-ethylhexyl)phthalate	35000	120,000	610	290	210	250	220 U	100 J	240	94 J	900	210 U	220 U	320
SVOCs-SIM (ug/kg)														
Naphthalene	3600	18,000	2.9 BJ	1.5 BJ	1.3 BJ	1.3 BJ	1.3 J	1.1 J	9.9 U	10 U	1.1 J	10 U	11 U	1 J
2-Methylnaphthalene	31000	410,000	1 J	9.9 U	10 U	10 U	11 U	10 U	9.9 U	10 U	11 U	10 U	11 U	11 U
1-Methylnaphthalene	22000	99,000	0.89 J	9.9 U	10 U	10 U	11 U	10 U	9.9 U	10 U	11 U	10 U	11 U	11 U
Acenaphthylene	---	---	12 U	9.9 U	10 U	10 U	0.95 J	10 U	9.9 U	10 U	11 U	10 U	11 U	11 U
Acenaphthene	340000	3,300,000	4 J	9.9 U	10 U	10 U	1.8 J	2.5 J	9.9 U	10 U	11 U	10 U	11 U	11 U
Fluorene	230000	2,200,000	1.5 J	9.9 U	10 U	10 U	2.1 J	3 J	9.9 U	10 U	11 U	10 U	4.2 J	0.68 J
Phenanthrene	---	---	15	1.7 J	10 U	10 U	57	65	9.9 U	10 U	6 J	10 U	11 U	8.6 J
Anthracene	1700000	17,000,000	2.3 J	9.9 U	10 U	10 U	6.3 J	13	9.9 U	10 U	1.1 J	10 U	11 U	1.2 J
Fluoranthene	230000	2,200,000	30	9.9 U	10 U	10 U	180 DK	150 DK	9.9 U	10 U	11 JK	10 U	11 U	18 K
Pyrene	170000	1,700,000	22	9.9 U	10 U	10 U	130 D	100 D	9.9 U	10 U	8.3 J	10 U	11 U	15
Benzo(a)anthracene	150	2,100	11 J	9.9 U	10 U	10 U	47	64	9.9 U	10 U	4.3 J	10 U	11 U	8 J
Chrysene	15000	21,000	15	9.9 U	10 U	10 U	63	70	9.9 U	10 U	6.4 J	10 U	11 U	11
Benzo(b)fluoranthene	150	2,100	17 K	9.9 U	10 U	10 U	76 K	67 DJK	9.9 U	10 U	7.7 JK	10 U	11 U	13 K
Benzo(k)fluoranthene	1500	21,000	14 K	9.9 U	10 U	10 U	51 K	53 K	9.9 U	10 U	4.9 JK	10 U	11 U	9.3 JK
Benzo(a)pyrene	15	210	28	9.9 U	2.7 J	10 U	79	80	9.9 U	10 U	8.3 J	10 U	11 U	12
Indeno(1,2,3-cd)pyrene	150	2,100	9.9 JK	9.9 U	10 U	10 U	49	49	9.9 U	10 U	4.3 J	10 U	11 U	9.5 J
Dibenzo(a,h)anthracene	---	210	1.8 JK	9.9 U	10 U	10 U	7.7 JK	9.5 JK	9.9 U	10 U	0.96 JK	10 U	11 U	2 JK
Benzo(g,h,i)perylene	---	---	8.3 J	9.9 U	10 U	10 U	36	36	9.9 U	10 U	3.5 J	10 U	11 U	7.7 J
Total PAHs	---	---	184.59	3.2	4	1.3	788.15	763.1	0	0	67.86	0	4.2	116.98
VOCs (ug/kg)														
Acetone	6100000	63,000,000	12 J	8 J	14 J	14	17 J	14 U	15 U	14 U	24	12 U	24	14 J
Toluene	500000	4,500,000	6.9 U	4.9 U	6 U	5 U	8.5 U	5.7 U	5.9 U	5.4 U	7.3 U	4.8 U	1.6 J	6.2 U
1,2,4-Trichlorobenzene	22000	99,000	6.9 U	4.9 U	6 U	5 U	8.5 U	5.7 U	5.9 U	5.4 U	7.3 U	4.8 U	6.8 U	6.2 U

Note: Bold and yellow indicates screening criteria exceedance.

Table 2
Soil Analytical Summary
AOC1/SWMU1 - December 2009

Sample ID	SB04 (1-3)	SB04 (4-6)	SB05 (0-6)	SB05 (1-3)	SB05 (4-6)	SB06 (0-6)	SB06 (1-3)	SB06 (4-6)
	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09	Dec-09
Pesticides (ug/kg)								
alpha-BHC	2 U	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U
delta-BHC	2 U	2 U	0.29 J	2.1 U	2 U	2 U	2 U	2 U
4,4'-DDD	3.9 U	0.54 J	2.7 J	4 U	3.9 U	0.46 J	4 U	3.9 U
4,4'-DDE	3.9 U	4 U	3.9 U	4 U	3.9 U	3.9 U	4 U	3.9 U
4,4'-DDT	3.9 U	4 U	2.5 JP	4 U	3.9 U	2.6 JP	4 U	3.9 U
Dieldrin	3.9 U	4 U	0.46 J	4 U	3.9 U	3.9 U	4 U	3.9 U
Endosulfan I	2 U	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U
Endosulfan II	3.9 U	4 U	3.9 U	4 U	3.9 U	3.9 U	4 U	3.9 U
Endosulfan Sulfate	3.9 U	4 U	3.9 U	4 U	3.9 U	3.9 U	4 U	3.9 U
Endrin	3.9 U	4 U	3.9 U	4 U	3.9 U	1.5 JP	4 U	3.9 U
Endrin Aldehyde	3.9 UL	4 UL	3.9 UL	4 UL	3.9 UL	1.7 JPL	4 UL	3.9 UL
Heptachlor	2 U	2 U	0.26 JP	2.1 U	2 U	0.31 J	2 U	2 U
Heptachlor Epoxide	2 U	2 U	2 U	2.1 U	2 U	0.31 J	2 U	2 U
Methoxychlor	20 U	20 U	20 U	21 U	20 U	6.7 JP	20 U	20 U
Endrin Ketone	3.9 U	4 U	3.9 U	4 U	3.9 U	3.9 U	4 U	3.9 U
gamma-Chlordane	2 U	2 U	2 U	2.1 U	2 U	2 U	2 U	2 U
alpha-Chlordane	2 U	2 U	0.57 JP	2.1 U	2 U	1.5 J	2 U	2 U
SVOCs (ug/kg)								
Benzaldehyde	200 U	200 U	200 U	210 U	200 U	200 U	200 U	200 U
Bis(2-ethylhexyl)phthalate	200 U	200 U	200 U	210 U	100 J	200 U	200 U	200 U
SVOCs-SIM (ug/kg)								
Naphthalene	9.9 U	10 U	9.9 U	10 U	9.8 U	9.9 U	10 U	9.8 U
2-Methylnaphthalene	9.9 U	10 U	9.9 U	10 U	9.8 U	9.9 U	10 U	9.8 U
1-Methylnaphthalene	9.9 U	10 U	9.9 U	10 U	9.8 U	9.9 U	10 U	9.8 U
Acenaphthylene	9.9 U	10 U	9.9 U	10 U	9.8 U	9.9 U	10 U	9.8 U
Acenaphthene	9.9 U	10 U	9.9 U	10 U	9.8 U	9.9 U	10 U	9.8 U
Fluorene	9.9 U	10 U	3 J	10 U	9.8 U	9.9 U	10 U	9.8 U
Phenanthrene	9.9 U	10 U	5.5 J	10 U	9.8 U	4 J	10 U	9.8 U
Anthracene	9.9 U	10 U	0.94 J	10 U	9.8 U	0.56 J	10 U	9.8 U
Fluoranthene	9.9 U	10 U	11 K	10 U	9.8 U	6.2 JK	10 U	9.8 U
Pyrene	0.91 J	10 U	8.3 J	0.83 J	9.8 U	4.9 J	10 U	9.8 U
Benzo(a)anthracene	9.9 U	10 U	4.5 J	10 U	9.8 U	3.4 J	10 U	9.8 U
Chrysene	9.9 U	10 U	5.7 J	10 U	9.8 U	4.3 J	10 U	9.8 U
Benzo(b)fluoranthene	9.9 U	10 U	6.8 JK	10 U	9.8 U	4.9 JK	10 U	9.8 U
Benzo(k)fluoranthene	9.9 U	10 U	5.1 JK	10 U	9.8 U	3.8 JK	10 U	9.8 U
Benzo(a)pyrene	9.9 U	10 U	6.1 J	10 U	9.8 U	4.4 J	10 U	9.8 U
Indeno(1,2,3-cd)pyrene	9.9 U	10 U	4.6 J	10 U	9.8 U	3.9 J	10 U	9.8 U
Dibenzo(a,h)anthracene	9.9 U	10 U	0.97 JK	10 U	9.8 U	9.9 U	10 U	9.8 U
Benzo(g,h,i)perylene	9.9 U	10 U	3.5 J	10 U	9.8 U	3 J	10 U	9.8 U
Total PAHs	0.91	0	66.01	0.83	0	43.36	0	0
VOCs (ug/kg)								
Acetone	15 U	15 U	13 U	47	12 U	9.7 J	14 U	13 U
Toluene	6 U	5.8 U	5.4 U	6.1 U	4.7 U	5.5 U	5.4 U	5 U
1,2,4-Trichlorobenzene	6 U	5.8 U	5.4 U	6.1 U	4.7 U	1.3 J	5.4 U	5 U

Note: Bold and yellow indicates screening criteria exceedance.

Table 3
Groundwater Results - May 2010

Sample ID	MW-35		MW-36	MW-37
	May-10	May-10	May-10	May-10
	5/19/2010	Duplicate	5/19/2010	5/19/2010
OC Pesticides (ug/L)				
SVOCs (ug/L)				
Benzo(b)fluoranthene	<0.20	<0.20	0.011 J	<0.20
Benzo(k)fluoranthene	<0.20	<0.20	0.012 J	<0.20
Benzo(a)pyrene	<0.20	<0.20	0.011 J	<0.20
Indeno(1,2,3-cd)pyrene	<0.20	<0.20	0.015 J	<0.20
Dibenzo(a,h)anthracene	<0.20	<0.20	0.016 J	<0.20
Benzo(g,h,i) perylene	<0.20	<0.20	0.020 J	<0.20
VOCs (ug/L)				
1,1-Dichloroethane	<0.5	<0.5	0.061 J	<0.5
Chloroform	0.18 J	0.15 J	14	0.25 J
Carbon disulfide	<0.5	0.022 J	<0.5	<0.5
Methyl-tert-butyl-ether	0.049 J	0.031 J	<0.5	<0.5
Toluene	0.13 JB	0.20 JB	0.15 JB	0.095 JB
Methylene Chloride	<0.5	<0.5	<0.5	0.11 J
2-Butanone	0.96 J	0.91 J	<2.5	<2.5
Acetone	11	12	1.2 J	4.2

Table 4
Mobile Laboratory Results
March 2010

Sample Date	Sample (results in ug/L)	1,1-DCE		trans-1,2-DCE		cis-1,2-DCE		chloroform		TCE		PCE		
		Accuscienc	CompuChem	Accuscienc	CompuChem	Accuscienc	CompuChem	Accuscienc	CompuChem	Accuscienc	CompuChem	Result	MDL	CompuChem
Mon 15 March 2010	01 (16-20)	1.3 U		3 U		0.12 U		0.09		0.17 U		0.41		
Mon 15 March 2010	01 (24-28)	1.3 U		3 U		0.12 U		0.74		0.17 U		0.17		
Mon 15 March 2010	01 (32-36)	1.3 U	0.5 U	3 U	0.5 U	0.12 U	0.5 U	0.61	1.3	0.17 U	0.5 U	0.15 U	0.5 U	
Mon 15 March 2010	02 (16-20)	1.3 U		3 U		0.12 U		12		0.17 U		0.20		
Mon 15 March 2010	02 (20-24)	1.3 U	0.73	3 U	0.055 J	0.18	0.39 J	16	47 D	0.17 U	0.14 J	0.21	0.5 U	
Mon 15 March 2010	02 (32-36)	1.3 U		3 U		0.12 U		1.3		0.17 U		0.15 U		
Mon 15 March 2010	03 (12-16)	1.3 U		3 U		0.12 U		0.35		0.17 U		0.15 U		
Mon 15 March 2010	03 (16-20)	1.3 U		3 U		0.12 U		9.9		0.17 U		0.15 U		
Tu 16 March 2010	03 (20-24)	1.3 U		3 U		0.12 U		7		0.17 U		0.08 U		
Tu 16 March 2010	04 (10-14)	1.3 U		3 U		0.12 U		0.04 U		0.17 U		0.08 U		
Tu 16 March 2010	04 (14-18)	1.3 U	0.064 J	3 U	0.5 U	0.12 U	0.048 J	4.4	9	0.17 U	0.18 J	0.08 U	0.5 U	
Tu 16 March 2010	04 (20-24)	1.3 U		3 U		0.12 U		11		0.41		0.27		
Tu 16 March 2010	05 (14-18)	1.3 U		3 U		0.12 U		3.3		0.17 U		0.08 U		
Wed 17 March 2010	05 (20-24)	0.5 U		4.2 U		0.15 U		15		0.47		0.41		
Wed 17 March 2010	06 (8-12)	0.5 U		4.2 U		0.15 U		0.11		0.20		0.33		
Wed 17 March 2010	06 (14-18)	0.5 U		4.2 U		0.15 U		3.7		0.46		0.49		
Wed 17 March 2010	07 (10-14)	0.5 U		4.2 U		0.15 U		0.12		0.17 U		0.11 U		
Wed 17 March 2010	07 (16-20)	0.5 U		4.2 U		0.15 U		0.05 U		0.17 U		0.11 U		
Wed 17 March 2010	07 (20-24)	0.5 U		4.2 U		0.15 U		0.11		0.17 U		0.35		
Wed 17 March 2010	08 (14-18)	0.5 U		4.2 U		0.15 U		32 P		0.17 U		0.11 U		
Th 18 March 2010	08 (18-22)	0.77 U	0.13 J	8.6 U	0.5 U	0.1 U	0.035 J	39	52 D	0.49 U	0.5 U	0.09 U	0.5 U	
Th 18 March 2010	08 (24-28)	0.77 U		8.6 U		0.1 U		32		0.49 U		0.09 U		
Th 18 March 2010	09 (8-12)	0.14 U		0.23 U		0.1 U		0.11		0.02 U		0.09 U		
Th 18 March 2010	09 (16-20)	0.14 U		0.23 U		0.1 U		5.1		0.02 U		0.09 U		
Th 18 March 2010	09 (20-24)	0.14 U		0.23 U		0.1 U		5.6		0.02 U		0.09 U		
Th 18 March 2010	10 (8-12)	0.14 U		0.23 U		0.1 U		17		0.02 U		0.09 U		
Th 18 March 2010	10 (16-20)	0.14 U		0.23 U		0.1 U		5.0		0.02 U		0.09 U		
Th 18 March 2010	10 (20-24)	0.14 U		0.23 U		0.1 U		8.0		0.02 U		0.09 U		
Fri 19 March 2010	11 (14-18)	2		2.471 U		1.2		290		7.6		2.1		
Fri 19 March 2010	11 (22-26)	0.27 U		2.471 U		0.1 U		1.4		0.15		0.42		
Fri 19 March 2010	11 (32-36)	0.27 U		2.471 U		0.38		89		0.16		0.32		
Fri 19 March 2010	11 (40-44)	0.27 U		2.471 U		0.34		25		0.12 U		0.26 U		
Fri 19 March 2010	12 (12-16)	0.27 U		2.471 U		0.1 U		1.9		0.12 U		0.26 U		
Fri 19 March 2010	13 (12-16)	0.27 U	0.5 U	2.471 U	0.5 U	0.1 U	0.5 U	0.31	0.64	0.12 U	0.5 U	0.26 U	0.5 U	
Fri 19 March 2010	14 (12-16)	0.27 U		2.471 U		0.1 U		0.76		0.12 U		0.26 U		
Fri 19 March 2010	14 (20-24)	0.27 U		2.471 U		0.1 U		7.4		0.12 U		0.50		
Fri 19 March 2010	14 (28-32)	0.27 U		0.2471 U		0.1 U		6.9		0.12 U		0.42		

Notes:

- U: non-detected; number provided with U qualifier is the method detection limit
- E: indicates concentrations are estimates which are extrapolated beyond the upper calibration limit
- D: sample analyzed at a higher dilution factor
- J: estimated concentration
- P: poor surrogate standard recovery (35% in lieu of ideal value of 100%)
- U: not detected

Table 5
Summary of Detections - April 2010
Wyeth Consumer Healthcare

Sample ID	Screening Criteria	MW-3	MW-5	MW-9	MW-10	MW-13	MW-15	MW-19		MW-21		MW-22	MW-23	MW-24
		Apr-10	Apr-10	Apr-10	Apr-10	Apr-10	Apr-10	Apr-10	Apr-10	Apr-10	Apr-10	Apr-10	Apr-10	Apr-10
		4/28/2010	4/28/2010	4/28/2010	4/28/2010	4/28/2010	4/28/2010	4/28/2010	DUP	4/28/2010	Duplicate	4/28/2010	4/28/2010	4/28/2010
OC Pesticides (ug/L)														
Alpha Chlordane	<u>2</u> ³	<0.050	<0.053	<0.050	<0.050	<0.050	0.026 JP	0.013 J	0.013 J	NA	NA	NA	NA	NA
Gamma Chlordane	<u>2</u> ³	<0.050	<0.053	<0.050	<0.050	<0.050	0.0061 JB	<0.050	<0.050	NA	NA	NA	NA	NA
Beta BHC	0.037	<0.050	<0.053	<0.050	<0.050	0.011 JP	<0.050	0.023 J	0.033 JP	NA	NA	NA	NA	NA
Gamma BHC - Lindane	<u>0.2</u>	<0.050	0.013 JP	<0.050	<0.050	<0.050	<0.050	0.26 PJ	0.28 PJ	NA	NA	NA	NA	NA
Heptachlor Epoxide	<u>0.2</u>	<0.050	<0.053	<0.050	<0.050	<0.050	0.011 J	<0.050	<0.050	NA	NA	NA	NA	NA
SVOCs (ug/L)														
Naphthalene	0.14	0.030 J	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.083 J	NA	0.040 J	0.090 JL	<0.20
2- Methyl-naphthalene	15	0.018 J	0.015 J	0.019 J	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NA	<0.20	0.10 JL	<0.20
Acenaphthylene	---	0.010 J	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NA	<0.20	<0.20 UL	<0.20
Fluoranthene	150	0.012 J	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NA	<0.20	<0.20 UL	<0.20
Benzo(b)fluoranthene	0.029	0.010 J	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NA	<0.20	<0.20 UL	<0.20
Benzo(k)fluoranthene	0.29	0.011 J	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NA	<0.20	<0.20 UL	<0.20
Benzo(a)pyrene	<u>0.2</u>	0.015 J	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NA	<0.20	<0.20 UL	<0.20
Benzo(g,h,i) perylene	---	0.022 J	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NA	<0.20	<0.20 UL	<0.20
Diethylphthalate	---	<5.0	<5.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	0.077 J
VOCs (ug/L)														
1,1 - Dichloroethene	<u>7</u>	0.095 J	<0.84	<0.63	0.058 J	0.051 J	0.78 J	0.49 J	0.60 J	<0.5	NA	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	<u>70</u>	0.056 J	<0.84	<0.63	0.058 J	0.062 J	0.62 J	0.21 J	0.17 J	<0.5	NA	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	<u>100</u>	<0.84	<0.84	<0.63	<0.63	<0.63	0.11 J	<2.1	<2.1	<0.5	NA	<0.5	<0.5	<0.5
1,1-Dichloroethane	2.4	0.37 J	<0.84	0.075 J	0.16 J	0.13 J	1.00	0.75 J	0.78 J	<0.5	NA	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	<u>600</u>	0.055 JB	<0.84	<0.63	0.085 J	0.056 J	<0.84	0.17 JB	<2.1	<0.5	NA	<0.5	<0.5	<0.5
Chloroform	19 ⁴	42	36	38	39	33	61	110	120	<0.5	NA	0.82	0.39 J	0.38 J
Carbon disulfide	---	0.050 JB	0.075 JB	<0.63	<0.63	<0.63	<0.84	<2.1	<2.1	<0.5	NA	<0.5	<0.5	0.027 JB
Carbon Tetrachloride	<u>5</u>	0.11 J	0.83 J	0.087 J	0.17 J	0.11 J	0.13 J	0.85 J	0.81 J	<0.5	NA	<0.5	<0.5	<0.5
Methyl-tert-butyl-ether	<u>12</u>	<0.84	0.079 J	<0.63	0.065 J	0.056 J	0.33 J	<2.1	<2.1	<0.5	NA	<0.5	0.10 J	0.22 J
Trichloroethene	5	<0.84	0.12 J	<0.63	0.69 J	0.56 J	0.39 J	<2.1	<2.1	<0.5	NA	<0.5	<0.5	<0.5
Tetrachloroethene	<u>5</u>	0.11 J	<0.84	<0.63	0.11 J	0.13 J	0.42 J	<2.1	<2.1	<0.5	NA	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	0.067	0.13 J	1	0.093 J	0.20 J	0.14 J	0.28 J	0.65 J	0.73 J	<0.5	NA	<0.5	<0.5	<0.5
Toluene	<u>1000</u>	0.23 JB	0.13 JB	0.11 JB	0.18 JB	0.13 JB	0.20 JB	0.45 JB	0.44 JB	0.096 JB	NA	0.093 JB	0.099 JB	0.085 JB
Methylene Chloride	5	<0.84	<0.84	0.36 JB	0.40 JB	0.38 JB	0.51 JB	<2.1	<2.1	<0.5	NA	<0.5	<0.5	<0.5
Benzene	<u>5</u>	<0.84	<0.84	<0.63	<0.63	<0.63	<0.84	<2.1	<2.1	<0.5	NA	<0.5	0.036 JB	<0.5
Acetone	2200	1.6 JB	3.8 JB	1.1 JB	0.94 JB	0.72 JB	1.3 JB	4.0 JB	3.8 JB	1.3 JB	NA	<2.5	<2.5	0.76 JB
m,p-Xylene	120	<1.7	<1.7	<1.3	<1.3	<1.3	<1.7	<4.2	<4.2	<1.0	NA	<1.0	0.096 JB	<1.0
Xylene (Total)	<u>10000</u>	<0.84	<0.84	<0.63	<0.63	<0.63	<0.84	<2.1	<2.1	<0.5	NA	<0.5	0.10 JB	<0.5
1,3-Dichlorobenzene	---	0.082 J	<0.84	<0.63	<0.63	<0.63	<0.84	<2.1	<2.1	<0.5	NA	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	<u>75</u>	0.085 JB	<0.84	<0.63	<0.63	<0.63	<0.84	<2.1	<2.1	0.034 JB	NA	<0.5	<0.5	0.031 JB
1,2,4-Trichlorobenzene	<u>70</u>	0.12 JB	<0.84	<0.63	<0.63	<0.63	<0.84	0.25 JB	<2.1	<0.5	NA	<0.5	<0.5	<0.5
Methylcyclohexane	---	0.088 JB	<0.84	<0.63	<0.63	<0.63	<0.84	<2.1	<2.1	<0.5	NA	<0.5	<0.5	<0.5
Deisel Range Organics (ug/L)														
Gasoline Range Organics (ug/L)														
Gasoline Range Organics	---	NA	NA	NA	NA	NA	NA	NA	NA	0.029 JB	0.034 JB	0.032 JB	0.034 JB	0.029 JB

Notes:

Bold and yellow indicates screening criteria exceedance

Underlined screening criteria indicates Maximum Contaminant Level (MCL); all other screening criteria are Risk-Based Concentrations (RBCs)

< indicates not detected; number provided is the Method Detection Limit (MDL)

B: blank contamination

J: estimated value

L: low bias

P: greater than 25% difference between the two GC columns.

U: not detected

**Technical Memorandum
Summary of Field Investigations**

