



October 15, 2013

United States Environmental Protection Agency  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street, SW  
Atlanta, Georgia 30303-8960

Attention: Ms. Meredith Anderson  
Environmental Engineer

Re: **Quarterly Progress Report #4 July-September 2013**  
**Walter Coke**  
**3500 35<sup>th</sup> Avenue North**  
**Birmingham, Jefferson County, Alabama**  
**USEPA ID No. ALD 000 828 848**  
Terracon Project No. E1127096

Dear Ms. Anderson:

On behalf of Walter Coke, Inc. (Walter Coke), Terracon Consultants, Inc. (Terracon) has prepared Quarterly Progress Report #4 for the work completed July 1, 2013 to September 30, 2013 period for the above-referenced site. This progress report has been prepared in accordance with paragraph 53 of the Order on Consent with effective date of September 24, 2012.

## **PROGRESS REPORT (JULY 1, 2013 THROUGH SEPTEMBER 30, 2013)**

### **Interim Measures**

- Hydraulic Control System was running during this reporting period. The volume of water recovered from July 1, 2013 through September 30, 2013 is 553,260 gallons.
- Groundwater levels were collected from the monitoring wells in July, August, and September. The groundwater levels will be reported to EPA in the Annual Report that will be submitted after four quarters of groundwater monitoring are conducted.
- Groundwater samples were collected in August 2013. The analytical results from the groundwater samples collected during the pre-pumping event in May, and the samples collected in August are presented on the attached Table 1. The monitoring well locations are shown on Figure 3 (attached), which was included in the approved IM Work Plan.
- A groundwater sample could not be collected from monitoring well MW-89 during the August 2013 event due to the lack of water in the well.



Terracon Consultants, Inc. 110 12<sup>th</sup> Street North Birmingham, Alabama 35203  
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Geotechnical



Environmental



Construction Materials



Facilities

### **Vapor Intrusion**

- The second quarter of soil vapor monitoring was conducted on August 15 and 16, 2013.
- During the second quarterly sampling, 24-hour air monitoring was conducted at one residential crawlspace, 2 soil vapor ports on the residential property were sampled, 2 soil vapor ports on adjacent Walter Coke property were sampled, and 24-hour air monitoring was conducted of localized ambient air.
- The results for the May 2013 and August 2013 sampling events are presented on the attached Table 2. The sampling point locations are shown on the attached Figure 1.
- On August 15, 2013, Walter Coke proposed, in a meeting with Meredith Anderson, to update the Vapor Intrusion Characterization Work Plan to account for EPA's conclusions in its North Birmingham Air Toxics Risk Assessment (March 2013) that risks associated with the ambient air concentrations detected in that study fell within the acceptable range, as well as details of EPA's draft final Vapor Intrusion Guidance (April 2013), such as the recommended 0.03 attenuation factor for risk-based screening of soil vapor sampling results. Walter Coke is awaiting EPA comments on the proposal.

### **Corrective Measures**

- Walter Coke submitted the CMS for SMA 2 on July 22, 2013.
- Walter Coke submitted the CMS for SMA 3 on September 24, 2013.

### **PROJECTED WORK FOR NEXT REPORTING PERIOD (OCTOBER 1, 2013 THROUGH DECEMBER 31, 2013)**

#### **Interim Measures**

- Continue operation and maintenance of the hydraulic control system.
- Quarterly groundwater monitoring conducted in November 2013.

#### **Vapor Intrusion**

- The third quarterly soil vapor sampling will be conducted in November 2013.

#### **Corrective Measures**

- We anticipate having final comments from EPA on the CMS for SMA 1.

**Quarterly Progress Report #4 July-September 2013**

Walter Coke ■ Birmingham, Alabama

October 15, 2013 ■ Terracon Project No. E1127096



**CLOSING**

If you should have any questions, please do not hesitate to contact us at (205) 942-1289.

Sincerely,  
Terracon Consultants, Inc.

Terrell W. Ripstein  
Principal Geologist



Cc: Mr. Don Wiggins – Walter Coke  
Mr. Dan Gruzca – Walter Energy  
ADEM

Table 1. Summary of Groundwater Analytical Results  
Interim Measures - Walter Coke, Birmingham, Alabama

	RSL Tap Water (8/13)	MCL (8/13)	MW49D-032813 3/28/2013 3:45 PM	MW-49D-080613 8/7/2013 10:10 AM	MW49S-040113 4/1/2013 3:20 PM	MW-49S-080613 8/7/2013 9:00 AM	MW50-040213 4/2/2013 12:00 PM	MW-50-080813 8/8/2013 8:30 AM	MW51-040113 4/1/2013 4:15 PM	MW-51-080613 8/7/2013 8:00 AM	MW52-032813 3/28/2013 9:15 AM	MW-52-080713 8/7/2013 1:55 PM	MW53-040113 4/1/2013 5:30 PM	MW-53-080713 8/7/2013 1:05 PM	MW54-032613 3/26/2013 12:45 PM	MW-54-080613 8/6/2013 9:35 AM	MW55-032613 3/26/2013 5:05 PM	MW-55-080613 8/6/2013 11:35 AM	MW56-032713 3/27/2013 11:35 AM	MW-56-080613 8/6/2013 2:30 PM	MW70-040213 4/2/2013 2:55 PM	MW70-080813 8/8/2013 1:20 PM	
1,1,1-Trichloroethane	750	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethane	0.066 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.041 <sup>a</sup>	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichlorotrifluoroethane	5300		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	2.4		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	26	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	0.52		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.39	70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	450	500	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	0.00032 <sup>a</sup>	0.2 <sup>a</sup>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	0.0065 <sup>a</sup>	0.05 <sup>a</sup>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	28	600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.2 J	3.5 J	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.15	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.38	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.3 J	6.9 J	0.84 J	0.33 J	ND	ND	ND
1,4-Dichlorobenzene	0.42	75	ND	ND	ND	ND	ND	ND	ND	0.36 J	ND	ND	0.30 J	ND	ND	ND	340	420	8.9	3.8	ND	ND	ND
1,4-Dioxane	0.67 <sup>a</sup>		ND	3.2 J	3.7 J	ND	ND	ND	1.9 J	2.2 J	ND	3.0 J	ND	ND	ND	ND	ND	ND	2.8 J	ND	ND	ND	ND
2,2'-oxybis[1-chloropropane]	0.31		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	89		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.9		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	3.5		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	27		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1 J	1.6 J	1.6 J	1.5 J	ND	ND	ND	ND
2,4-Dinitrophenol	3 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.2 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	490		ND	2.2 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	55		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	7.1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.8 J	33	25	2.6 J	2.1 J	ND	ND	ND
2-Hexanone	3.4		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	2.7		13 J B	5.6 J	9.6 J B	ND	5.3 J B	ND	11 J B	ND	ND	ND	9.1 J B	ND	85 J B	55 J	1000 B	1300	720 B	120	ND	ND	ND
2-Methylphenol	72		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	64	57	2.6 J	ND	ND	ND	ND
2-Nitroaniline	15		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3 & 4 Methylphenol			0.58 J	ND	ND	ND	ND	ND	ND	ND	0.44 J	0.35 J	0.37 J	ND	0.30 J	46	51	5.1 J	0.62 J	ND	ND	ND	ND
3,3'-Dichlorobenzidine	0.11 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	0.12 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	110		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	0.32 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	100		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	3.3		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	40		16 J	ND	30 J	42 J	ND	ND	640	1100	610	630	11000	9900	11000	14000	650	730	5100	6100	ND	ND	ND
Acenaphthylene			ND	16 J	ND	ND	ND	ND	34 J	50 J	ND	ND	220	190	120	78 J	42 J	66 J	74 J	76 J	ND	ND	ND
Acetone	1200		ND	6.0 J	ND	2.8 J	ND	ND	ND	21 J B	ND	2.4 J	ND	1.9 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetophenone	150		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.6 J	5.2 J	1.0 J	ND	ND	ND	ND	ND
Anthracene	130		ND	ND	24 J	14 J	ND	ND	51 J	63 J	33 J	25 J	110	86 J	350	320	180	290	1200	760	ND	ND	ND
Benzene	0.39 <sup>a</sup>	5	1.7	0.57 J	2.8	3.9	16	0.35 J	8.1 J	9	ND	ND	3.6	4.9	24	ND	35000	55000	23000	180	ND	ND	ND
Benzo[a]anthracene	0.029 <sup>a</sup>		ND	3.7 J	3.8 J	ND	ND	ND	ND	ND	ND	ND	7.0 J	6.0 J	340	260	52 J	63 J	89 J	100	5.2 J	ND	ND
Benzo[a]pyrene	0.0029 <sup>a</sup>	0.2 <sup>a</sup>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	130	83 J	26 J	33 J	17 J	41 J	ND	ND	ND
Benzo[b]fluoranthene	0.029 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	190	140	32 J	44 J	22 J	52 J	8.3 J	ND	ND
Benzo[g,h,i]perylene			ND	4.1 J	ND	ND	ND	ND	ND	ND	ND	ND	3.4 J	61 J B	49 J	13 J B	16 J	8.4 J B	35 J	12 J	ND	ND	ND
Benzo[k]fluoranthene	0.29 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	81 J	53 J	13 J	23 J	11 J	17 J	17 J	6.7 J	ND	ND
Benzyl alcohol	150		ND	0.36 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4 J	1.7 J	ND	ND	ND	ND	0.93 J	ND
Bis(2-chloroethoxy)methane	4.6		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	0.012 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	4.8	6	ND	ND	ND	0.72 J	ND	ND	ND	ND	ND	ND	2.3 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Table 1. Summary of Groundwater Analytical Results  
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	RSL Tap Water (8/13)	MCL (8/13)	MW49D-032813 3/28/2013 3:45 PM	MW-49D-080613 8/7/2013 10:10 AM	MW49S-040113 4/1/2013 3:20 PM	MW-49S-080613 8/7/2013 9:00 AM	MW50-040213 4/2/2013 12:00 PM	MW-50-080813 8/8/2013 8:30 AM	MW51-040113 4/1/2013 4:15 PM	MW-51-080613 8/7/2013 8:00 AM	MW52-032813 3/28/2013 9:15 AM	MW-52-080713 8/7/2013 1:55 PM	MW53-040113 4/1/2013 5:30 PM	MW-53-080713 8/7/2013 1:05 PM	MW54-032613 3/26/2013 12:45 PM	MW-54-080613 8/6/2013 9:35 AM	MW55-032613 3/26/2013 5:05 PM	MW-55-080613 8/6/2013 11:35 AM	MW56-032713 3/27/2013 11:35 AM	MW-56-080613 8/6/2013 2:30 PM	MW70-040213 4/2/2013 2:55 PM	MW70-080813 8/8/2013 1:20 PM
Bromoform	7.9	80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	0.7		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	14		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5 J	1.6 J	1.4 J	ND	ND	ND
Carbon disulfide	72		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.39	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	7.2	100	ND	ND	1.5	2.7	5.8	0.97 J	ND	1.2 J	4.3	3.4	13	8.7	1200	1400	140000	200000	7100	4100	ND	ND
Chlorobromomethane	8.3		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	0.15 <sup>a</sup>	80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	2100		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	0.19	80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	19		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	2.9		ND	4.8 J	ND	ND	ND	ND	ND	ND	ND	ND	6.7 J	4.3 J	320	240	50 J	60 J	96	130	6.8 J	ND
cis-1,2-Dichloroethene	2.8	70	ND	0.49 J	0.92 J	49	ND	0.92 J	140	40	ND	ND	0.44 J	0.24 J	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	1300		0.49 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenz(a,h)anthracene	0.0029 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17 J	15 J	5.4 J	7.4 J	ND	10 J	5.2 J	ND
Dibenzofuran	0.58		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.91 J	0.96 J	5.2	4.7	ND	ND
Dichlorobromomethane	0.12 <sup>a</sup>	80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	19		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	1100		ND	ND	ND	ND	4.2	ND	ND	20	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phthalate			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	67		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	16		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.3	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	63		5.9 J B	ND	12 J B	4.9 J	5.0 J B	ND	32 J B	44 J	6.8 J B	ND	250 B	280	2100 B	1900	530 B	530	2300 B	1800	7.1 J B	ND
Fluorene	22		ND	ND	24 J	18 J	ND	ND	24 J	58 J	ND	ND	1700	1600	650	470	1100	1300	9900	10000	ND	ND
Hexachlorobenzene	0.042 <sup>a</sup>	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.26 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	2.2	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	0.51 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.029 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	72 J	51 J	15 J	20 J	ND	21 J	ND	ND
Isophorone	67		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.23 J	0.21 J	ND	ND	ND	ND
Isopropylbenzene	39		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	29 J	ND	ND
Methyl acetate	1600		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	12		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.44 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane			0.63 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	8.4	5	ND	ND	ND	ND	0.35 J B	ND	17 J B	3.5 J B	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m-Xylene & p-Xylene			ND	0.50 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	0.14 <sup>a</sup>		360 B	1100	200	37 J	68 J	37 J	460	140	29 J B	31 J	34 J	29 J	180 B	270	22000 B	33000	22000 B	3900	6.9 J	9.5 J
Nitrobenzene	0.12 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	0.0093 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	10		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	19		0.20 J	ND	0.32 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	0.035 <sup>a</sup>	1 <sup>a</sup>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene			16 J B	ND	23 J B	10 J	13 J B	ND	35 J B	13 J	12 J B	ND	36 J B	11 J	350 B	220	1000 B	1200	1800 B	340	14 J B	ND
Phenol	450		ND	ND	3.2 J	ND	2.8 J	ND	ND	1.9 J	ND	ND	ND	ND	5.3 J	ND	850	800	18	3.1 J	ND	ND
Pyrene	8.7		ND	ND	9.0 J	ND	ND	ND	18 J	22 J	ND	ND	110	130	1300	1200	290	290	1200	970	ND	ND
Styrene	110	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	3.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	86	1000	0.51 J	0.47 J	0.43 J	0.42 J	ND	0.22 J	ND	ND	0.36 J	0.17 J	0.20 J	ND	ND	ND	51000	71000	150 J	ND	ND	0.21 J
trans-1,2-Dichloroethene	8.6	100	ND	ND	ND	0.61 J	ND	ND	3.4 J	2.4 J	ND	ND	0.18 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.26	5	ND	ND	ND	0.92 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	110		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.015	2	ND	0.54 J	4.2	35	7	4	390	230	ND	0.16 J	3.6	0.67 J	ND	ND	ND	ND	ND	ND	ND	ND

Table 1. Summary of Groundwater Analytical Results  
Interim Measures - Walter Coke, Birmingham, Alabama

	RSL Tap Water (8/13)	MCL (8/13)	MW71-040213 4/2/2013 4:03 PM	MW71-080813 8/8/2013 2:35 PM	MW72-040213 4/2/2013 2:05 PM	MW72-080813 8/8/2013 12:35 PM	MW77-032813 3/28/2013 9:45 AM	MW77-080613 8/6/2013 8:30 AM	MW78-040213 4/2/2013 9:25 AM	MW78-080713 8/7/2013 2:45 PM	MW80-032713 3/27/2013 10:00 AM	MW80-080613 8/6/2013 1:30 PM	MW81-032613 3/26/2013 3:42 PM	MW81-080613 8/6/2013 10:25 AM	MW89-041813 4/18/2013 2:45 PM	MW90-040213 4/2/2013 10:30 AM	MW90-080813 8/8/2013 9:25 AM
1,1,1-Trichloroethane	750	200	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	0.066 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.041 <sup>a</sup>	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichlorotrifluoroethane	5300		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	2.4		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	26	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	0.52		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	0.39	70	ND	ND	ND	ND	ND	0.40 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	0.00032 <sup>a</sup>	0.2 <sup>a</sup>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	0.0065 <sup>a</sup>	0.05 <sup>a</sup>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	28	600	ND	ND	ND	ND	ND	0.31 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.15	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	0.38	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene			ND	ND	ND	ND	ND	0.37 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	0.42	75	ND	ND	ND	ND	ND	0.42 J	ND	0.48 J	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	0.67 <sup>a</sup>		ND	ND	ND	ND	ND	2.1 J	ND	ND	ND	2.1 J	ND	ND	ND	ND	ND
2,2'-oxybis[1-chloropropane]	0.31		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	89		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	0.9		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	3.5		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	27		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.9 J	ND	ND	ND
2,4-Dinitrophenol	3 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.2 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	490		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18	ND	ND
2-Chloronaphthalene	55		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	7.1		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	3.4		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.2	ND	ND
2-Methylnaphthalene	2.7		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	170 B	200	160	ND	ND
2-Methylphenol	72		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.3 J	ND	ND
2-Nitroaniline	15		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3 & 4 Methylphenol			ND	ND	ND	ND	ND	ND	ND	0.48 J	0.56 J	ND	ND	6.0 J	ND	ND	ND
3,3'-Dichlorobenzidine	0.11 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	0.12 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	110		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	0.32 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	100		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6 J	ND	ND
4-Nitroaniline	3.3		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	40		ND	ND	ND	ND	ND	ND	ND	260	320	13000	17000	ND	ND	ND	ND
Acenaphthylene			ND	ND	ND	ND	ND	ND	ND	ND	ND	150	84 J	ND	ND	ND	ND
Acetone	1200		ND	ND	ND	ND	ND	2.2 J	18	2.4 J	ND	2.6 J	ND	ND	190	20	ND
Acetophenone	150		ND	ND	ND	ND	ND	ND	ND	ND	ND	0.38 J	0.40 J	3.3 J	ND	ND	ND
Anthracene	130		ND	ND	ND	ND	ND	ND	ND	ND	ND	990	1000	ND	ND	ND	ND
Benzene	0.39 <sup>a</sup>	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	2700	550	6.9	ND	ND	ND
Benzo[a]anthracene	0.029 <sup>a</sup>		ND	ND	9.5 J	ND	5.6 J	ND	ND	ND	ND	23 J	16 J	ND	ND	ND	ND
Benzo[a]pyrene	0.0029 <sup>a</sup>	0.2 <sup>a</sup>	ND	ND	7.1 J	ND	ND	ND	ND	ND	ND	11 J	5.2 J	6.8 J B	ND	ND	ND
Benzo[b]fluoranthene	0.029 <sup>a</sup>		ND	ND	20 J	4.2 J	6.1 J	ND	ND	ND	ND	14 J	9.8 J	ND	ND	ND	ND
Benzo[g,h,i]perylene			ND	ND	24 J	ND	5.6 J B	ND	ND	ND	ND	6.9 J B	3.9 J	9.1 J B	ND	ND	ND
Benzo[k]fluoranthene	0.29 <sup>a</sup>		ND	ND	20 J	ND	ND	ND	ND	ND	ND	5.3 J	ND	ND	ND	ND	ND
Benzyl alcohol	150		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4 J	ND	ND	ND
Bis(2-chloroethoxy)methane	4.6		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	0.012 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phtalate	4.8	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.53 J	ND	0.72 J	ND	ND	ND

Table 1. Summary of Groundwater Analytical Results  
Interim Measures - Walter Coke, Birmingham, Alabama

	RSL Tap Water (8/13)	MCL (8/13)	MW71- 040213 4/2/2013 4:03 PM	MW71- 080813 8/8/2013 2:35 PM	MW72- 040213 4/2/2013 2:05 PM	MW72- 080813 8/8/2013 12:35 PM	MW77- 032813 3/28/2013 9:45 AM	MW77- 080613 8/6/2013 8:30 AM	MW78- 040213 4/2/2013 9:25 AM	MW78- 080713 8/7/2013 2:45 PM	MW80- 032713 3/27/2013 10:00 AM	MW80- 080613 8/6/2013 1:30 PM	MW81- 032613 3/26/2013 3:42 PM	MW81- 080613 8/6/2013 10:25 AM	MW89- 041813 4/18/2013 2:45 PM	MW90- 040213 4/2/2013 10:30 AM	MW90- 080813 8/8/2013 9:25 AM
Bromoform	7.9	80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	0.7		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Butyl benzyl phthalate	14		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	72		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	ND	ND
Carbon tetrachloride	0.39	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	7.2	100	ND	ND	ND	ND	ND	ND	0.29 J	0.45 J	0.35 J	1.3	ND	6.0 J	ND	ND	ND
Chlorobromomethane	8.3		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	0.15 <sup>a</sup>	80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	2100		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	0.19	80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	19		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	2.9		ND	ND	21 J	ND	5.3 J	ND	ND	ND	ND	ND	22 J	11 J	ND	ND	ND
cis-1,2-Dichloroethene	2.8	70	ND	ND	0.29 J	ND	ND	ND	0.77 J	0.51 J	ND	ND	ND	ND	ND	1	3.6
cis-1,3-Dichloropropene			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	1300		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14 J	9.1 J	36	ND	ND
Dibenz(a,h)anthracene	0.0029 <sup>a</sup>		ND	ND	13 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	0.58		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32 J	ND	ND	ND	ND
Dichlorobromomethane	0.12 <sup>a</sup>	80	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	19		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	1100		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethyl phthalate			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	67		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	16		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1.3	700	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.8	ND	ND
Fluoranthene	63		5.0 J B	ND	11 J B	ND	9.6 J B	6.8 J	5.1 J B	ND	5.1 J B	ND	840 B	930	24 J	ND	ND
Fluorene	22		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7700	9600	52 J	ND	ND
Hexachlorobenzene	0.042 <sup>a</sup>	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	0.26 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	2.2	50	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	0.51 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.029 <sup>a</sup>		ND	ND	26 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	67		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	39		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	82	76	0.84 J	ND	ND
Methyl acetate	1600		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	12		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND
Methylene Chloride	8.4	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.62 J	ND	ND
m-Xylene & p-Xylene			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	47	ND	ND
Naphthalene	0.14 <sup>a</sup>		37 J	11 J	24 J	470	10 J B	65 J	180	99	210 B	8.8 J	1000 B	620	300	11 J	16 J
Nitrobenzene	0.12 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	0.0093 <sup>a</sup>		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	10		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	19		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	26	ND	ND
Pentachlorophenol	0.035 <sup>a</sup>	1 <sup>a</sup>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene			15 J B	ND	18 J B	ND	ND	ND	16 J B	ND	10 J B	ND	1900 B	1400	83 J	9.3 J B	ND
Phenol	450		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	27	6.5 J	20	ND	ND
Pyrene	8.7		ND	ND	8.7 J	ND	8.8 J	ND	ND	ND	ND	ND	390	420	25 J	ND	ND
Styrene	110	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	3.5	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	86	1000	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.42 J	ND	ND	32	ND	0.19 J
trans-1,2-Dichloroethene	8.6	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.20 J
trans-1,3-Dichloropropene			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.26	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29 J
Trichlorofluoromethane	110		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.015	2	ND	ND	0.13 J	ND	ND	ND	0.57 J	0.31 J	ND	ND	ND	ND	ND	ND	ND



SCALE IN FEET



LEGEND	
	PROPERTY BOUNDARY
	SHALLOW BEDROCK MONITORING WELL
	PROPOSED SHALLOW BEDROCK MONITORING WELL
	DEEP BEDROCK MONITORING WELL
	MIXED MONITORING WELL
	CONTAINMENT WELL LOCATIONS
	GENERAL DIRECTION OF GROUNDWATER FLOW
	BENZENE PLUME (EPA MCL - 5 µg/L)
	TOLUENE PLUME (EPA MCL - 100 µg/L)
	DCE PLUME (EPA MCL - 70 µg/L)
	PCE PLUME (EPA MCL - 5 µg/L)
	VC PLUME (EPA MCL - 2 µg/L)
	CHLOROBENZENE PLUME (EPA MCL - 100 µg/L)
	1,2,4-TRICHLOROBENZENE PLUME (EPA MCL - 70 µg/L)
	APPROXIMATE EXTENT OF COMBINED CONTAMINANTS PLUME

**NOTES:**  
 1) DISTANCES SHOWN BETWEEN WELLS IS APPROXIMATE.

Project Mngr:	TWR	Project No.:	E1127096
Drawn By:	LJK	Scale:	AS SHOWN
Checked By:	TWR	File No.:	
Approved By:	TWR	Date:	10.09.2012

**Terracon**  
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CONTAINMENT WELL & MONITORING WELL LOCATIONS FOR THE FCP	FIG. No.
INTERIM MEASURES WALTER COKE 3500 35th AVENUE NORTH BIRMINGHAM, JEFFERSON COUNTY, ALABAMA	3

**Table 2. Summary of Vapor Monitoring Results**  
**Vapor Intrusion Study - Walter Coke, Birmingham, Alabama**

Vapor Point ID	SVP-1		SVP-1		Screening Levels
Sample ID	SV40811-053013		SV40811-081613		
Lab Sample Number	200-16861-1		200-17995-6		
Sampling Date	5/30/2013 11:12		8/16/2013 13:13		
Units	ug/m3		ug/m3		ug/m3
1,1-Dichloroethene	0.34	U	0.79	U	7000**
Benzene	<b>17</b>		<b>0.84</b>		210**
Chlorobenzene	<b>21</b>		<b>1.9</b>		1733**
cis-1,2-Dichloroethene	0.33	U	0.79	U	2100**
Ethylbenzene	<b>0.91</b>		<b>0.24</b>	J	32.3**
m-Xylene & p-Xylene	<b>1.1</b>	J	<b>0.41</b>	J	
o-Xylene	<b>7.2</b>		<b>1.7</b>		
Xylenes, Total	<b>8.2</b>		<b>2.1</b>		3333**
Tetrachloroethene	<b>0.87</b>		<b>1.0</b>		313**
Toluene	<b>5.3</b>		<b>1.4</b>		173333**
trans-1,2-Dichloroethene	0.091	U	0.79	U	2100**
Trichloroethene	0.049	U	0.21	U	7.8**
Vinyl chloride	0.023	U	0.10	U	5.33**

Vapor Point ID	SVP-2		SVP-2		Screening Levels
Sample ID	SV40771-053013		SV40771-081513		
Lab Sample Number	200-16861-2		200-17995-1		
Sampling Date	5/30/2013 11:27		8/15/2013 10:14		
Units	ug/m3		ug/m3		ug/m3
1,1-Dichloroethene	0.34	U	0.79	U	7000**
Benzene	<b>18</b>		<b>2.6</b>		210**
Chlorobenzene	<b>24</b>		<b>0.40</b>	J	1733**
cis-1,2-Dichloroethene	0.33	U	<b>0.54</b>	J	2100**
Ethylbenzene	<b>1.1</b>		<b>0.72</b>	J	32.3**
m-Xylene & p-Xylene	<b>1.9</b>	J	<b>1.9</b>	J	
o-Xylene	<b>7.6</b>		<b>0.86</b>		
Xylenes, Total	<b>9.5</b>		<b>2.7</b>		3333**
Tetrachloroethene	<b>0.48</b>		<b>0.77</b>		313**
Toluene	<b>11</b>		<b>3.8</b>		173333**
trans-1,2-Dichloroethene	0.091	U	0.79	U	2100**
Trichloroethene	0.049	U	<b>0.22</b>		7.8**
Vinyl chloride	0.023	U	0.10	U	5.33**

\* Recovery or RPD exceeds control limits

\*\* Proposed Revised Screening Values

U - Indicates the analyte was analyzed for but not detected.

**Table 2. Summary of Vapor Monitoring Results**  
**Vapor Intrusion Study - Walter Coke, Birmingham, Alabama**

Vapor Point ID	SVP-3		SVP-3		Screening Levels
Sample ID	SV40812-053013		SV40812-081513		
Lab Sample Number	200-16861-3		200-17995-2		
Sampling Date	5/30/2013 12:25		8/15/2013 10:24		
Units	ug/m3		ug/m3		ug/m3
1,1-Dichloroethene	0.34	U	0.79	U	7000**
Benzene	19		3.0		210**
Chlorobenzene	22		6.5		1733**
cis-1,2-Dichloroethene	0.33	U	0.79	U	2100**
Ethylbenzene	1.5		0.44	J	32.3**
m-Xylene & p-Xylene	3.0		0.45	J	
o-Xylene	6.5		3.0		
Xylenes, Total	9.6		3.5		3333**
Tetrachloroethene	0.54		0.50		313**
Toluene	14		1.8		173333**
trans-1,2-Dichloroethene	0.091	U	0.79	U	2100**
Trichloroethene	0.049	U	0.21	U	7.8**
Vinyl chloride	0.023	U	0.10	U	5.33**

Vapor Point ID	SVP-4		SVP-4		Screening Levels
Sample ID	SV40772-053013		SV40772-081613		
Lab Sample Number	200-16861-4		200-17995-7		
Sampling Date	5/30/2013 12:37		8/16/2013 13:19		
Units	ug/m3		ug/m3		ug/m3
1,1-Dichloroethene	0.34	U	0.79	U	7000**
Benzene	11		3.9		210**
Chlorobenzene	13		7.7		1733**
cis-1,2-Dichloroethene	0.33	U	0.79	U	2100**
Ethylbenzene	0.57	J	0.70	J	32.3**
m-Xylene & p-Xylene	0.86	J	1.2	J	
o-Xylene	3.5		3.3		
Xylenes, Total	4.3		4.5		3333**
Tetrachloroethene	1.8		4.1		313**
Toluene	2.9		6.8		173333**
trans-1,2-Dichloroethene	0.091	U	0.79	U	2100**
Trichloroethene	0.049	U	0.21	U	7.8**
Vinyl chloride	0.023	U	0.10	U	5.33**

\* Recovery or RPD exceeds control limits

\*\* Proposed Revised Screening Values

U - Indicates the analyte was analyzed for but not detected.

**Table 2. Summary of Vapor Monitoring Results**  
**Vapor Intrusion Study - Walter Coke, Birmingham, Alabama**

Vapor Point ID	Crawlspace		Crawlspace		Screening Levels
Sample ID	CS40811-053013		CS40811-081513		
Lab Sample Number	200-16861-5		200-17995-3		
Sampling Date	5/31/2013 11:21		8/16/2013 11:20		
Units	ug/m3		ug/m3		ug/m3
1,1-Dichloroethene	0.12	U	0.12	U	210
Benzene	<b>0.70</b>		<b>0.32</b>		<b>6.30325**</b>
Chlorobenzene	0.55	U	0.55	U	52
cis-1,2-Dichloroethene	0.12	U	0.12	U	63
Ethylbenzene	<b>0.62</b>		<b>0.15</b>		<b>0.97</b>
m-Xylene & p-Xylene	<b>2.1</b>		<b>0.46</b>		
o-Xylene	<b>0.78</b>		<b>0.17</b>		
Xylenes, Total	<b>2.9</b>		<b>0.63</b>		100
Tetrachloroethene	0.20	U	0.20	U	9.4
Toluene	<b>6.9</b>		<b>0.81</b>		<b>5200</b>
trans-1,2-Dichloroethene	0.12	U	0.12	U	63
Trichloroethene	<b>0.36</b>		0.16	U	<b>0.234</b>
Vinyl chloride	0.15	U	0.15	U*	<b>0.16</b>

Vapor Point ID	Duplicate		Duplicate		Screening Levels
Sample ID	DUP-053013		DUP-081513		
Lab Sample Number	200-16861-6		200-17995-4		
Sampling Date	5/31/2013 11:21		8/16/2013 11:20		
Units	ug/m3		ug/m3		ug/m3
1,1-Dichloroethene	0.12	U	0.12	U	210
Benzene	<b>0.62</b>		<b>0.33</b>		<b>6.30325**</b>
Chlorobenzene	0.55	U	0.55	U	52
cis-1,2-Dichloroethene	0.12	U	0.12	U	63
Ethylbenzene	<b>0.56</b>		<b>0.17</b>		<b>0.97</b>
m-Xylene & p-Xylene	<b>1.7</b>		<b>0.47</b>		
o-Xylene	<b>0.62</b>		<b>0.18</b>		
Xylenes, Total	<b>2.3</b>		<b>0.65</b>		100
Tetrachloroethene	0.20	U	0.20	U	9.4
Toluene	<b>2.8</b>		<b>0.81</b>		<b>5200</b>
trans-1,2-Dichloroethene	0.12	U	0.12	U	63
Trichloroethene	0.16	U	0.16	U	<b>0.234</b>
Vinyl chloride	0.15	U	0.15	U*	<b>0.16</b>

\* Recovery or RPD exceeds control limits

\*\* Proposed Revised Screening Values

U - Indicates the analyte was analyzed for but not detected.

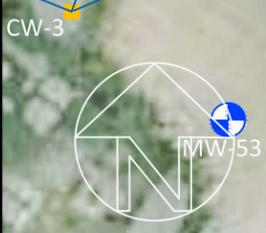
**Table 2. Summary of Vapor Monitoring Results**  
**Vapor Intrusion Study - Walter Coke, Birmingham, Alabama**

Vapor Point ID	Ambient		Ambient	
Sample ID	BG-053013		BG-081513	
Lab Sample Number	200-16861-7		200-17995-5	
Sampling Date	5/31/2013 11:51		8/16/2013 11:50	
Units	ug/m3		ug/m3	
1,1-Dichloroethene	0.12	U	0.12	U
Benzene	<b>0.44</b>		<b>2.7</b>	
Chlorobenzene	0.55	U	0.55	U
cis-1,2-Dichloroethene	0.12	U	0.12	U
Ethylbenzene	<b>0.61</b>		<b>0.78</b>	
m-Xylene & p-Xylene	<b>1.6</b>		<b>2.2</b>	
o-Xylene	<b>0.51</b>		<b>0.82</b>	
Xylenes, Total	<b>2.1</b>		<b>3.1</b>	
Tetrachloroethene	0.20	U	0.20	U
Toluene	<b>5.4</b>		<b>3.2</b>	
trans-1,2-Dichloroethene	<b>0.12</b>		0.12	U
Trichloroethene	0.16	U	0.16	U
Vinyl chloride	0.15	U	0.15	U*

\* Recovery or RPD exceeds control limits

\*\* Proposed Revised Screening Values

U - Indicates the analyte was analyzed for but not detected.



4081 F.L. SHUTTLESWORTH DR.

MW-49S  
MW-49D

SVP-1

CRAWLSPACE

SVP-3

CW-2

SVP-2

AMBIENT SAMPLE LOCATION

MW-51

MW-50

SVP-4

CW-1

MW-90

**LEGEND**

- PROPERTY BOUNDARY
- SOIL VAPOR POINTS
- SHALLOW BEDROCK MONITORING WELL
- DEEP BEDROCK MONITORING WELL
- MIXED MONITORING WELL
- CONTAINMENT WELL LOCATIONS

**NOTES:**  
1) DISTANCES SHOWN BETWEEN WELLS IS APPROXIMATE.

Project Mngr:	TWR	Project No.	E1127096
Drawn By:	LJK	Scale:	AS SHOWN
Checked By:	TWR	File No.:	
Approved By:	TWR	Date:	OCT 2013

**Terracon**  
Consulting Engineers and Scientists

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205.942.1289

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SOIL VAPOR POINT LOCATION MAP
WALTER COKE 3500 35th AVENUE NORTH BIRMINGHAM, JEFFERSON COUNTY, ALABAMA

FIG. No.  1
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