

March 6, 2006

Amy L. McLaughlin United States Environmental Protection Agency, Region 4 Atlanta Federal Center 61 Forsyth Street Atlanta, GA 30303

Re: Eastern Portion of Cabot Carbon/Koppers Superfund Site, Gainesville, Florida

Dear Ms. McLaughlin:

On behalf of Cabot Corporation (Cabot), this letter addresses the USEPA comments (letter dated January 23, 2006) on the September 2005 Remedy Status and Expanded Remedy Performance Monitoring Report (Remedy Status Report; Gradient, 2005)¹, summarizes the discussions we had during the conference call of February 6, 2006, and presents additional information requested by USEPA and others during the call. USEPA, Florida DEP, Alachua County EPD, and the GRU participated on that call. This letter also responds to aspects of the report prepared by Jones Edmunds & Associates, Inc., on the behalf of GRU (Jones Edmunds Report; 2006)², regarding the status of remedial actions at the Eastern Portion of the Cabot Carbon/Koppers Superfund Site located in Gainesville, Florida.

USEPA comments and the ensuing discussions on our conference call focused primarily on two areas. These are: 1) the nature and vertical extent of contamination originating at the Cabot Carbon portion of the NPL Site; and, 2) the potential for that contamination to reach the base of the surficial aquifer and then migrate through the lower surficial aquifer, bypassing the trench for downgradient discharge. USEPA also had two specific comments related to the inclusion of the supporting data used to create groundwater elevation contour maps and an inconsistency between a table and figure in the Remedy Status Report.³

The Jones Edmunds report primarily focuses on the Koppers facility, but does contain a brief discussion of environmental conditions at the eastern portion of the Superfund Site. The Jones Edmunds report raises similar questions as USEPA although the report does not appear to have fully considered the data and information presented in the September 2005 Remedy Status Report. Nevertheless, the Jones Edmunds report recommends additional studies and actions at the Site.

Cabot remains committed to protecting human health and the environment at the Site as demonstrated by the following actions:

• Entry into a Consent Decree in 1992 agreeing to implement remedial actions required by the Record of Decision (ROD) for the eastern portion of the Superfund Site;

¹ Gradient Corporation. 2005. "Remedy Status and Expanded Remedy Performance Monitoring Program." September 30.

² Jones Edmunds & Associates. 2006. "Review and Recommendations Report for the Cabot Carbon/Koppers Superfund Site." February 20.

³ Updated figures in response to these specific comments are included in Attachment A.



- Implemented all ROD required remedial actions and supplemental confirmation and verification studies;
- Continued operation of a groundwater interception trench system, which was installed in 1995, and is meeting its design objectives [approximately 500 million gallons of groundwater from the eastern portion of the Site has been extracted and treated using the interim (Project Jumpstart) and final interceptor trench];
- Our meeting with USEPA and other stakeholders (e.g., FDEP, GRU, Alachua County) in January 2005 to present a comprehensive overview of the history and conditions at the eastern portion of the Site, implementation of an expanded groundwater quality monitoring assessment in March 2005 after the scope of this program had been approved by EPA and FDEP, and the preparation of a comprehensive report (Gradient, 2005) that presents the results of this expanded round of monitoring and conclusions based on the review of all historical soil and groundwater quality data regarding the likelihood of the presence of Dense Non-Aqueous Phase Liquid (DNAPL) at the eastern portion of the Superfund Site.

The comprehensive data evaluation contained in the Remedy Status Report indicates that remedial actions undertaken at the Eastern Site continue to remain protective of human health and the environment – confirming the conclusion reached in the previous 5-year review undertaken in 2000 by the Army Corp. of Engineers on behalf of USEPA. Groundwater elevation and groundwater quality data collected along and downgradient of the interceptor trench indicate that the trench is effectively capturing groundwater from the surficial aquifer; groundwater concentrations at monitoring wells throughout the Eastern Site continue to decline; and groundwater concentrations for pine processing compounds at the former Cabot Lagoons continue to comply with the ROD-specified groundwater cleanup goals. Furthermore, an examination of soil and groundwater quality data indicates that no DNAPL is expected to be present at the former Cabot property and that although a limited quantity of residual NAPL may be present at the water table at the Northeast Lagoon, DNAPL is not likely to be present.

The Jones Edmunds report does not appear to have considered these data and other relevant information. Accordingly, we are surprised by the conclusions reached in the report and respectfully disagree with the GRU conclusions that additional studies and actions need to be implemented at the eastern portion of the Superfund Site. The Jones Edmunds conclusions appear to be based on selectively using old and unrepresentative data. For example, the Jones Edmunds Report considers results from only 1 out of over 60 soil samples collected in the vicinity of the former Cabot Lagoons, and pre-remedy groundwater quality data from the late 1980s/early 1990s, despite significant additional data having been collected since then. When the entire data set for the Eastern Site, (i.e., over 130 soil samples and 15 years of groundwater quality data) are considered together, it is clear that the remedies implemented at the eastern portion of the Site remain protective of human health and the environment and no additional actions are necessary.

In the remainder of this letter, we address USEPA's comments, briefly discuss Jones Edmunds' positions regarding the eastern portion of the Superfund Site and present a response supported by the comprehensive database that exists for the Site.



USEPA Comments and Responses

Potential for Contaminant Migration Into the Hawthorn/Floridian Formations

USEPA General Comment #1: What is the nature and extent of any dissolved phase groundwater contamination originating at the Cabot Carbon portion of the NPL Site that migrates across the interface between the surficial and upper Hawthorn before reaching the trench interception zone in the surficial aquifer?

Response: Prior to examining the environmental data set and evaluating the potential for downward contaminant migration, an understanding of the source areas at the eastern portion of the Site is critical. There are two distinctly different (in operational history and chemical signatures) source areas at the eastern portion of the Superfund Site (Gradient, 2005):

- Former Cabot Lagoons pine oils/tar from former Cabot Carbon pine processing operations were handled in this area. Phenol is the key remedy driving compound associated with the former Cabot pine processing operations.
- Northeast Lagoon aerial photographs and property ownership records, obtained after Cabot signed the Consent Decree, indicate that Cabot never owned, operated, or used this lagoon. This lagoon abuts and is believed to be associated with a former railroad operation. Note, elevated levels of PAHs (especially carcinogenic PAHs) are present at the Northeast Lagoon compared to the Cabot property (Tables 4-2 and 4-4, Gradient, 2005), i.e., PAHs are associated with the Northeast Lagoon and not the entire eastern portion of the Superfund Site.

The discussion below presents a summary of the soil/groundwater quality and hydrogeologic data for these potential source areas.

Former Cabot Lagoons

The former Cabot Lagoons pose no threat to the Hawthorn and Floridian aquifers because:

- 1. No pine tar DNAPL source is present at the Lagoons as demonstrated by the relatively low soil concentrations recorded in the lagoon area (total of 63 samples) that decline with depth and declining temporal trend in groundwater concentrations (Gradient, 2005). Note, USEPA acknowledged in the February 6, 2006 conference call that DNAPL presence is not a concern for the former Cabot property.
- 2. For the sake of demonstration, even if small quantities of pine tar were present in the former Lagoon area, the high viscosity of pine tar renders it essentially immobile (would take between 62 to 400 years to migrate through the surficial aquifer deposits; Gradient, 2005). A DNAPL pool height of 23 to 44 ft would be required to overcome the capillary resistance offered by the Upper Hawthorn clays before migration into the underlying sand could begin. This is significant, especially given that no DNAPL or NAPL has been measured in any former Cabot property monitoring well.⁴
- 3. A review of the groundwater quality data for phenol at the former Cabot Carbon property indicates that groundwater concentrations have declined sharply over time

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⁴ Note, ITW-14, the well where NAPL has been observed, is not associated with former Cabot operations.



and the groundwater cleanup goal (CUG) for phenol has <u>not</u> been exceeded at any of the 14 monitoring wells at or near the Cabot property in the last 10 years of monitoring (Figure 4-5 and Appendix A, Gradient, 2005; also refer to Attachment A for a complete summary of groundwater quality data and well screen intervals, as requested by USEPA in the February 6, 2006 conference call). This dataset includes 4 wells (ITW-6, ITW-8, ITW-10 and ITW-15) in the vicinity of the former Cabot Lagoons that are screened at the base of the surficial aquifer – representative of the groundwater that would be migrating into the Hawthorn and Floridian Formations. Since groundwater in the lower surficial aquifer (which could infiltrate into the underlying aquifers) has been in compliance with the phenol groundwater CUG for a decade now, it poses no threat to the underlying aquifers.

- 4. Due to the strong influence of the groundwater interceptor trench, surficial aquifer groundwater (and any dissolved contamination) at the former Cabot property flows predominantly horizontally (towards the trench), with only a very small component of flow downward into the Hawthorn aquifer. This is demonstrated by the horizontal to vertical groundwater flux ratio, which is at least 40 (Attachment B), *i.e.*, the driving force on a particle of water is 40 times greater in the horizontal direction compared to the vertical direction. Therefore, under current conditions, an insignificant portion of the surficial aquifer water on the Cabot property, which already meets the phenol groundwater CUG, could potentially migrate into the underlying aquifer units.
- 5. Finally, groundwater quality data collected at the Hawthorn Formation monitoring well ITF-3, located just northeast of the former Cabot Lagoons, has shown minimal levels of ubiquitous BTEX compounds and no phenol (Table 1). These data confirm that groundwater quality in the Hawthorn Formation at the Eastern portion of the Site remains unaffected.

Overall, the former Cabot property poses no threat to groundwater quality in the deep aquifer units, and no additional actions are required.

Northeast Lagoon

A review of available data for the Northeast Lagoon area indicate ROD groundwater CUG exceedances for compounds not related to pine processing operations (e.g., PAHs) and the occasional presence of NAPL at the water table monitoring well ITW-14. However, these impacts are being addressed by the groundwater interceptor trench and pose no threat to the Hawthorn and Floridian aquifers for the following reasons:

1. Although Cabot never owned, operated, or used the Northeast Lagoon, in the mid1990s Cabot excavated and disposed a total of 4,673 tons of soil from the Northeast
Lagoon. This action removed a majority of the source area and NAPL. Currently,
limited quantities (a few inches) of NAPL are sporadically recorded at ITW-14, the
water table monitoring well. The NAPL, which is trapped in-place by the soil
matrix, is minimal in extent, and is not readily recoverable (e.g., by pumping).
Nonetheless, the declining groundwater concentrations for the soluble compounds
(e.g., benzene) at ITW-14, indicate that continued operation of the interceptor

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⁵ The Jones Edmunds report presented a horizontal to vertical flux ratio of 5 for pre-remedy (prior to the installation of the interceptor trench) conditions – which are not relevant now.



- trench, a portion of which runs through the Northeast Lagoon, will over time reduce groundwater concentrations in this localized area to insignificant levels.
- 2. Although a limited quantity of NAPL may be present at the water table at the Northeast Lagoon, no DNAPL is present at the base of the surficial aquifer. [Note, no DNAPL or other visual evidence (e.g., discoloration) has been observed at the deep monitoring well ITW-13 in over 35 groundwater sampling events.] The NAPL is localized at and near the water table as indicated by soil concentration-depth profiling data, which found elevated concentrations of PAHs at and near the water table (5 to 10 ft-bgs) and a sharp decline in concentrations beyond that depth (Gradient, 2005). In addition, the overall (annual average) trend of groundwater concentrations at the deep monitoring well (ITW-13) continues to be downward due to the operation of the groundwater interceptor trench (Figure 1). Furthermore, the lack of contaminants at well ITW-17/WMW-17E (well screen extends to the base of the surficial aquifer), the well that is located just downgradient of the Northeast Lagoon and the interceptor trench, clearly demonstrates that the trench is effectively capturing groundwater even from the base of the surficial aquifer (Figure 2).

Overall, given that a portion of the groundwater interceptor trench runs through the Northeast Lagoon and that source removal activities have already been implemented, no additional actions are needed.

Groundwater Interceptor Trench Effectiveness

USEPA General Comment #2: Is there any potential for contamination originating at the Cabot Carbon portion of the Site to reach the base of the surficial aquifer and then migrate through the lowermost surficial aquifer, bypassing the trench for some discharge point further downgradient?

Response: Multiple lines of evidence indicate that the Cabot groundwater interceptor trench is effectively containing migration of groundwater across the entire surficial aquifer thickness:

- 1. Groundwater flow rate calculations indicate the vertical extent of the trench capture zone to be approximately 40 feet, *i.e.*, the entire thickness of the surficial aquifer (Attachment C). Note, these calculations utilized the following conservative values: average groundwater extraction rate at the trench (47 gpm), the WHI-defined hydraulic conductivity for the surficial aquifer (21 ft/day), the measured hydraulic gradient (0.011), and an estimated lateral capture zone extent (~1000 ft).
- 2. Groundwater quality data from monitoring wells located downgradient of the trench that have well screens extending to the base of the aquifer (ITW-17/WMW-17 and ITW-18/WMW-18E)⁶ continue to demonstrate the absence of Site-related compounds. In fact, the absence of Site-related compounds now for over 10 years at ITW-17/WMW-17 and ITW-18/WMW-18E is clear indication that the trench system is capturing the entire saturated thickness of the surficial aquifer (Figure 2).

To summarize, the Cabot interceptor trench system is performing effectively and no modifications are required.

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⁶ Note, as a follow-up to the February 6, 2006 conference call, we checked the groundwater quality data presented in the September 2005 quarterly groundwater quality monitoring report text for WMW-18E (phenol at 69 μ g/L in Table 4-1). This was a typographical error and the laboratory data included in Appendix B of the report confirm that phenol was not detected (< 9.1 μ g/l) at this monitoring well. In fact, a review of the data indicated that phenol has <u>never</u> been detected at this monitoring well in almost 15 years of quarterly monitoring.



Jones Edmunds' Positions and Responses

Potential for Contaminant Migration Into the Hawthorn/Floridian Formations

Jones Edmunds Position #1: The Executive Summary of the Jones Edmunds report (pp. viii) states that: "The Cabot Carbon site appears to be a major source of contaminant (phenols and aromatic hydrocarbons) infiltration to the Hawthorn Group sediments that may ultimately reach the Floridian aquifer. NAPL was detected beneath the site as recently as June 2005 and, similar to the Koppers site, strong downward gradients exist from the surficial aquifer across the Upper Hawthorn Group clay, indicating that contaminant infiltration is likely occurring."

Response: This conclusion is very generalized, simplistic, and is not supported by the facts. As discussed above in response to USEPA Comment #1, a review of the more than 15 years of groundwater quality monitoring data and the hydrogeologic conditions clearly indicate that the eastern portion of the Superfund Site poses no threat to the Hawthorn and Floridian aquifers.

Jones Edmunds Position #2: The report asks for a "re-appraisal" of the Cabot interceptor trench system and questions the vertical extent of the trench's capture zone (pp. x).

Response: As discussed in response to USEPA Comment #2, the Cabot groundwater interceptor trench is effectively containing migration of groundwater across the entire surficial aquifer thickness, and no modifications to the system are required.

Representation of the Groundwater Interceptor Trench in the WHI Model

Jones Edmunds Position #3: The report is relying on the WHI particle tracking model to draw conclusions regarding the fate of groundwater (and contaminants) on the former Cabot property.

Response: The approach used to define the groundwater interceptor trench in the WHI model is not clearly presented in the WHI (WHI, 2005)⁷ report. For example, it is unclear whether the construction details of the interceptor trench (e.g., bottom elevation) are correctly specified in the model. As-built drawings indicate that the trench bottom extends a significant distance into the surficial aquifer – elevation of the lower pipe ranges from 158 to 166 feet (Figure 3). If the trench is simulated as a typical "drain", i.e., only present in the uppermost model layer, this representation would not be accurate and could significantly affect the accuracy of the groundwater flow and particle track predictions on the Cabot property. WHI should review the accuracy of the representation of the trench in their model and provide additional details regarding the approach used (depth, flow rate) to represent the trench in the model.

DNAPL at the Former Cabot Lagoons

Jones Edmunds Position # 4: The report applies the maximum total organics concentration detected at the Site (2,300 mg/kg) over the entire Cabot Lagoon foot print area and concludes that there are several tons of DNAPL at the Site.

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Waterloo Hydrogeologic Inc. (WHI). 2005. "Cabot Carbon/Koppers Superfund Site Technical Memorandum Number 2." November 2.



Response: The approach used by Jones Edmunds is inappropriate since it applies the concentration measured in one sample over the entire lagoon foot print, while ignoring numerous other measurements:

- A total of 135 soil samples were collected during the advancement of 108 soil borings on the Cabot property. The analytical results indicated that 90% of these samples showed organics concentrations below 250 mg/kg and 75%, below 100 mg/kg (Figure 4-6, Gradient, 2005). Of these, 63 soil samples were collected from 17 locations at and in the vicinity of the former Cabot Lagoons. Low levels of organics, typically less than 100 mg/kg, were detected in these soil samples. Only shallow soil samples (0 to 14 feet bgs) collected at one location (Z-1; Figure 4-3, Gradient, 2005) contained total organics concentrations greater than 1000 mg/kg. Therefore, applying the maximum detected concentration over the entire area is not scientifically sound.
- The elevated organics concentration (2,300 mg/kg) was detected at the water table (5 to 8 feet bgs at location Z-1; Figure 4-3, Gradient, 2005) and is reflective of potential historical pine oil impacts and not DNAPL. Furthermore, soil concentrations at this location declined with depth, thus confirming impacts to be predominantly at the water table.

In addition to the soil data, the over 10 years of groundwater quality data near and downgradient of the former Cabot Lagoons that continue to show insignificant concentrations and declining temporal trends clearly indicate that no LNAPL or DNAPL is present at the former Cabot Lagoons.

Phenol Groundwater Cleanup Goal

Jones Edmunds Position #5: The Jones Edmunds report is advocating lowering the current phenol groundwater cleanup goal (CUG), a human health protection-based value assuming that groundwater from the surficial aquifer were used as a source of potable water, a value based on taste and odor considerations.

Response: The current phenol groundwater CUG is based on sound science, consistent with Superfund risk assessment practice (USEPA, 1991)⁸, and conservative.⁹ The taste and odor based threshold may be appropriate for a drinking water supply, where chlorination occurs, producing chlorophenols that impart the medicinal taste to water. However, the taste and odor threshold is not appropriate for groundwater at the Site because:

- Phenol is only present in small localized areas in the surficial aquifer (max. of 260 μg/l near/downgradient of the former Cabot Lagoons and max of 2,400 μg/l at the Northeast Lagoon; Table 4-2, Gradient, 2005) and these concentrations continue to decline temporally with the groundwater interceptor trench operations.
- Phenol or phenolic compounds were not detected in the two most recent sampling rounds May 2003 (TRC, 2003) and March 2005 (Gradient, 2005) at the

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⁸ USEPA. 1991. "Risk Assessment Guidance for Superfund: Volume I – Human Health Evaluation Manual (Part B, Development of Risk-Based Preliminary Remediation Goals)." December.

 $^{^9}$ Note, the ROD groundwater CUG for phenol (2,630 μ g/L) is conservative. USEPA's groundwater CUG in the ROD amendment proposed for the KII facility was 22,000 μ g/L (US EPA, 2001).



Hawthorn Group well (ITF-3) indicating that the Hawthorn aquifer has not been affected at the eastern portion of the Site.

Overall, groundwater at the eastern portion of the Superfund Site poses no threat to the Murphree well field (GRU's main concern), and use of the taste and odor based phenol groundwater CUG is not warranted.

Groundwater Quality at Hawthorn Monitoring Well ITF-3

Jones Edmunds Position #6: For ITF-3, the Jones Edmunds report utilizes groundwater quality data (total VOCs at 168 μ g/l and 2,4-dimethly phenol at 11 μ g/l) from the RI report (Hunter/ESE, 1989), to assert that the Hawthorn deposits are impacted. In addition, the report states that this well has not been sampled since 1995.

Response: Monitoring well ITF-3, which is located northeast of the former Cabot Lagoons and screened in the Hawthorn deposits, has been sampled a total of 12 times since 1987 and 3 times since 1995 (Table 1). In fact, a sample was collected from this well as part of the March 2005 expanded round of groundwater quality monitoring and reported in the Gradient (2005) report (copy of which was provided to the GRU).

In these multiple rounds of sampling events, only low levels of benzene and xylenes (less than 5 $\mu g/l$) have been detected in this well (Table 1). Phenol has never been detected. The total VOC concentration of 168 $\mu g/l$, which was "presumed" by the Jones Edmunds to be benzene and xylenes, was a "screening" level measurement (Hunter/ESE, 1989, Volume III, pp. B-67), and hence not a reliable value. Also note that the upgradient Hawthorn Formation well (ITF-1) historically also indicated low levels of toluene, ethylbenzene, and xylenes – a potential indicator that these low levels of BTEX compounds are ubiquitous in this developed area. Overall, groundwater quality data at ITF-3 indicates that the eastern portion of the Site is not affecting groundwater quality in the Hawthorn Aquifer.

Groundwater Sampling Frequency at Monitoring Well ITW-10

Jones Edmunds Position #7: The report presents groundwater quality data at ITW-10 measured in 1993-1994 and states that no data has been collected at this well since 1995.

Response: This well has been sampled 5 times since 1995, including once prior to its abandonment in 2004 (Table 2). These data are consistent with the prior 11 rounds of data that indicated phenol concentrations to be well below the ROD CUG. Overall, no phenol CUG exceedances have been detected at this well in the last decade.

Groundwater Quality Monitoring at Historical Wells

Jones Edmunds Position #8: The Jones Edmunds report recommends redeveloping the historical (1984-1995) network of monitoring wells and collection of groundwater samples at these wells.

Response: This has already been done at the eastern portion of the Superfund Site as requested by USEPA and FDEP in January 2005. Monitoring well installed during the RI and initial studies were redeveloped and sampled as part of the expanded round of monitoring conducted in March 2005 (Gradient, 2005).

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Gradient

We hope that the preceding discussion addresses the USEPA comments and the issues raised in the Jones Edmunds report regarding the status of the eastern portion of the Superfund Site. Please let Wayne Reiber or me know if we can be of further assistance.

We would be happy to meet with you and others to discuss these issues if you believe this would be helpful.

Yours truly,

GRADIENT CORPORATION

Manu Sharma, P.E.

Principal

cc: K. Helton, FDEP

J. Mousa, Alachua EPD

R. Hutton, GRU

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R. McKeen, Weston

W. Reiber, Cabot



Table 1 Summary of Detections - ITF3

Cabot Carbon/Koppers Superfund Site, Gainesville, Florida

Pre-Remedy Data

Parameters	IT Corp	Hunter/	WESTON	WESTON	WESTON	WESTON	WESTON			ROD
	1987	ESE 1989	June 1992	October	January	April 1993	July 1993	October	January	Cleanup
	Results	Results	Results	1992	1993	Results	Results	1993	1994	Goal (µg/L)
	$(\mu g/L)$ (1)	$(\mu g/L)$ (2)	$(\mu g/L)$ (3)	Results	Results	$(\mu g/L)$ (3)	$(\mu g/L)$ (3)	Results	Results	
				$(\mu g/L)$ (3)	$(\mu g/L)$ (3)			$(\mu g/L)$ (3)	$(\mu g/L) (3)+$	
Arsenic	9	NS	50							
Chromium	110	19.1	NS	100**						
Copper	42	NS	*							
Total VOCs	NS	168	NS	*						
(screening level)										
Benzene	ND	ND	2.8	3.5	3.6	2.4	2.6	3.5	2.7	1
Toluene	ND	ND	1	ND	ND	ND	ND	ND	ND	*
Ethylbenzene	ND	*								
Xylenes	NS	NS	1.1	1.6	1.4	1.3	3	2	2.1	*
Bis (2-										
Ethylhexyl)										
phthalate	ND	74	NS	*						
2,4-										
Dimethylphenol	ND	11	NS	*						

Post-Remedy Data

	WESTON March 2000	TRC May 2003	WESTON March 2005	ROD
PARAMETER	Results	Results	Results	cleanup
S	$(\mu g/L)$ (3)	$(\mu g/L)$ (4)	$(\mu g/L)$ (3)	goal
Arsenic	NS	ND	ND	50
Chromium	NS	NS	ND	100
Copper	NS	NS	NS	*
Total VOCs				
(screening level)				
	NS	NS	NS	*
Benzene	ND	ND	ND	1
Toluene	ND	ND	ND	*
Ethylbenzene	ND	ND	ND	*
Total Xylenes	1.1	ND	2	*
Napthalene	ND	ND	7.6	18
Bis (2-				
Ethylhexyl)				
phthalate	NS	ND	ND	*
2,4-				
Dimethylphenol	ND	ND	ND	*

Notes

- (1) Please see Table 6 of Remedial Investigation Report, Cabot Carbon/Koppers Site Vol. 1 (IT Corp., 1987) for analytical detection limits of individual compounds.
- (2) Please see Appendix B of Remedial Investigation/Risk Assessment at the Cabot Carbon/Koppers Site, Gainesville, Florida Vol. 3 (Hunter/ESE, 1989).
- (3) Please see individual Weston groundwater reports for analytical detection limits of compounds for different sampling events.
- (4) TRC. 2003. "Addendum, Hawthorn Group Field Investigation Report, Cabot Carbon/Koppers Superfund Site, Gainesville, Florida." Report to Beazer East Inc. Submitted to US EPA Region IV, August.

All results are in µg/L.

ND = not detected.

NS = not sampled for indicated compound.

- + Analytical results from January 1994 are suspect. Past groundwater data review indicates sample bottles may have been mislabeled.
- * Cleanup goal for indicated compound has not been established.
- ** The new EPA MCL for chromium is 100 mg/L. As per the ROD, this new MCL replaces the previous cleanup goals of 50 mg/L.

Table 2 Summary of Detections - ITW10 Cabot Carbon/Koppers Superfund Site, Gainesville, Florida

Parameters	IT Corp	WESTON	WESTON	WESTON	WESTON	WESTON	WESTON	WESTON	WESTON	WESTON	WESTON	WESTON	WESTON	WESTON	WESTON	TRC	ROD
	1987	June 1992	October	January	April 1993	July 1993	October	January	April 1994	July 1994	October	January	April 1995	August	May 1998	February	Cleanup
	Results	Results	1992	1993	Results	Results	1993	1994	Results	Results	1994	1995	Results	1995	Results	2004	Goal
	$(\mu g/L)$ (1)	(µg/L) (2)	Results	Results	$(\mu g/L)$ (2)	$(\mu g/L)$ (2)	Results	Results	$(\mu g/L)$ (2)	$(\mu g/L)$ (2)	Results	Results	$(\mu g/L)$ (2)	Results	$(\mu g/L) (2)$	Results	(µg/L)
			$(\mu g/L)$ (2)	(µg/L) (2)			$(\mu g/L)$ (2)	$(\mu g/L) (2)$			$(\mu g/L)$ (2)	$(\mu g/L)$ (2)		$(\mu g/L) (2)$		$(\mu g/L)$ (3)	
Chromium	100	77	53	71	19	12	30	9	ND	ND	8	5	5	ND	4.2	ND	100**
Phenol	ND	5,400	3,060	7,900	13,000	13,000	8,300	8,500	1,800	1,200	500	284	310	630	270	34	2,630
Naphthalene	ND	ND	ND	14	35	84	ND	4.8	6.4	18							
Acenaphthylene	ND	ND	ND	640	41	470	25	8.5	ND	ND	310	ND	ND	ND	ND	ND	130
Fluorene	ND	ND	ND	2.6	ND	ND	1.1	ND	ND	0.7	ND	ND	ND	ND	ND	ND	323
Benzene	150	320	200	250	130	120	120	61	59	65	12	64	60	70	1.3	146	1
Ethylbenzene	100		80		78	120		40	37	42	33	42	38	45		80.3	8
Toluene	910		1,100		850	830		440	320	480	360	330	280	380		567	*
Total xylenes	NS		170		160	170		100	76	87	62	99	76	80		172	*
2,4-Dimethylphenol	270	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS		*
																31.4	
2-Methylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	11.1	*
3&4-Methylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	54.5	*

Notes:

- (1) Please see Table 6 of Remedial Investigation Report, Cabot Carbon/Koppers Site Vol. 1 (IT Corp., 1987) for analytical detection limits of individual compounds.
- (2) Please see individual Weston groundwater reports for analytical detection limits of compounds for different sampling events.
- (3) TRC (Irvine, CA) April 2004. "Well abandonment and modification, Cabot Carbon/Koppers Superfund Site, Gainesville, Florida." Report to Beazer East, Inc. Submitted to US EPA Region IV; Well ITW10 was abandoned in February 2004.

All results are in $\mu g/L$.

ND = not detected.

NS = not sampled for indicated compound.

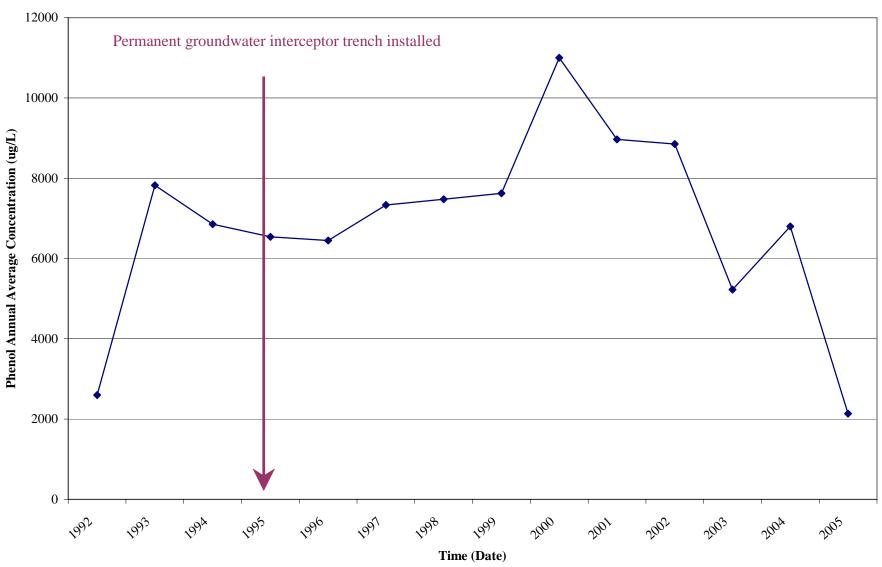
Blank cells indicate that data were not available.

- + Analytical results from January 1994 are suspect. Past groundwater data review indicates sample bottles may have been mislabeled.
- * Cleanup goal for indicated compound has not been established.
- ** The new EPA MCL for chromium is 100 mg/L. As per the ROD, this new MCL replaces the previous cleanup goals of 50 mg/L.



Figure 1

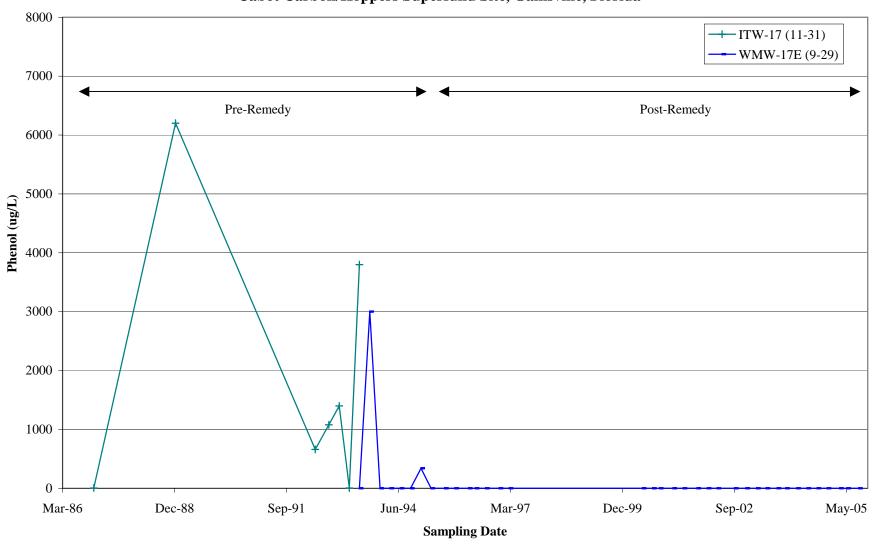
Northeast Lagoon - Phenol Annual Average Groundwater Concentrations at ITW-13 over Time
Cabot Carbon/Koppers Superfund Site, Gainesville, Florida

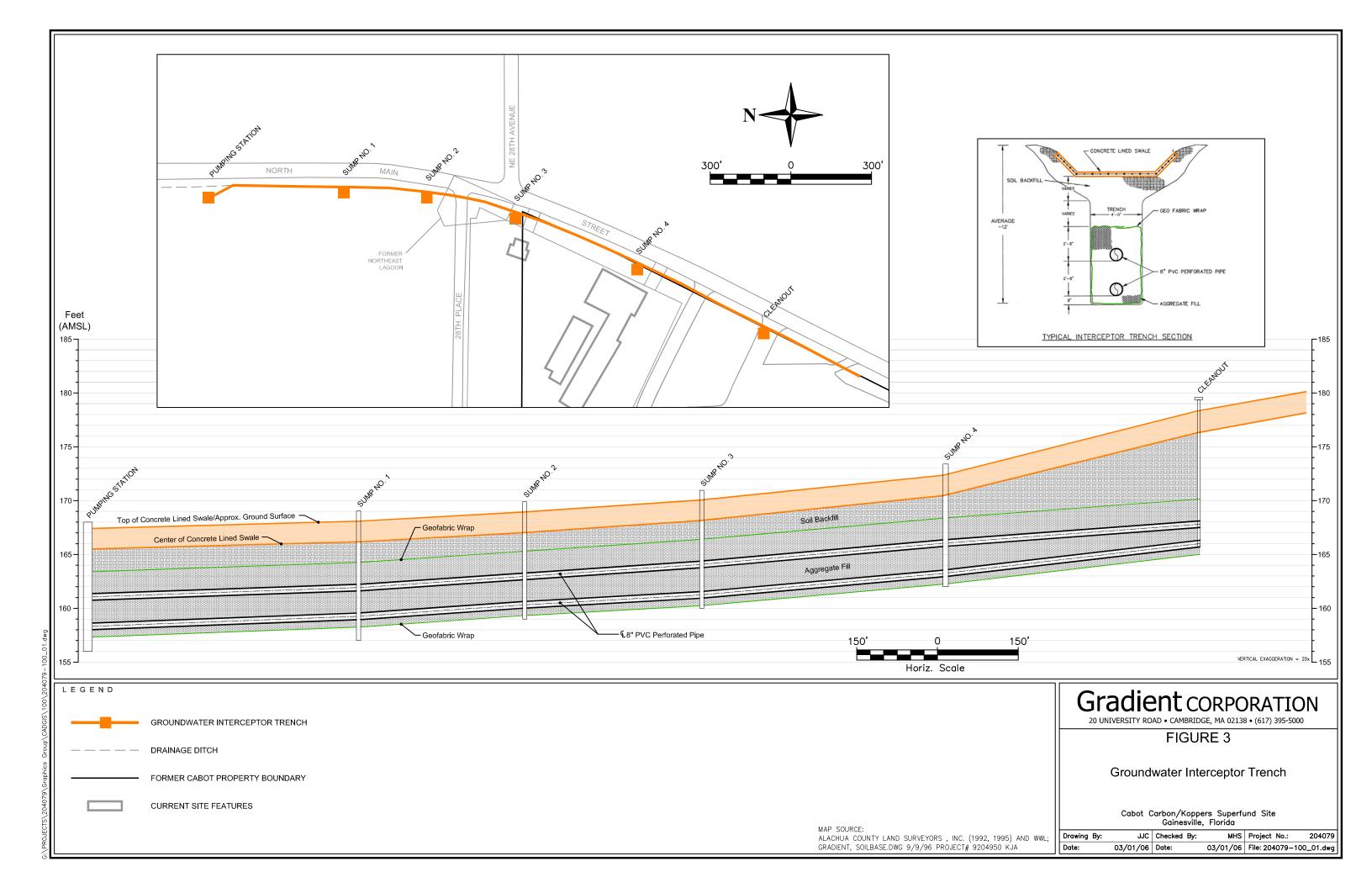


Note:

- Value of 0 was used for non-detects in the annual average calculation.

Figure 2
Pre- and Post-Remedy Concentrations of Phenol at ITW-17/WMW-17E
Cabot Carbon/Koppers Superfund Site, Gainsville, Florida





Attachment A
Response to Information Request –
February 6, 2006 Conference Call

Attachment A-1 Pre-Remedy Groundwater Quality Data

Well Designation	Screened Intervals (ft.)	Parameters	IT Corp 1987 Results (µg/L) (1)	Hunter/ ESE 1989 Results (µg/L) (2)	WESTON June 1992 Results (µg/L) (3)	WESTON October 1992 Results (µg/L) (3)	WESTON January 1993 Results (µg/L) (3)	WESTON April 1993 Results (µg/L) (3)	WESTON July 1993 Results (µg/L) (3)	WESTON October 1993 Results (µg/L) (3)	WESTON January 1994 Results (µg/L) (3)	WESTON April 1994 Results (µg/L) (3)	WESTON July 1994 Results (µg/L) (3)	WESTON October 1994 Results (µg/L) (3)	WESTON January 1995 Results (µg/L) (3)	WESTON April 1995 Results (Fg/L) (3)	ROD Cleanup Goal (µg/L)
ITW-1	15.5-25.5	Chromium	110	60.4	ND	NS	ND	NS	ND	NS	ND	NS	ND	NS	ND	NS	*100
ITW-2	5.5-15.5	Chromium	100	124	39	NS	ND	NS	ND	NS	8	NS	ND	NS	ND	NS	*100
ITW-3	15.5-25.5	Chromium	40	NS	11	10	24	NS	NS	NS	NS	NS	NS	NS	NS	NS	*100
ITW-4	5-15	Chromium	110	45.1	10	9	27	ND	ND	NS	7	ND	ND	ND	23	ND	*100
		Naphthalene	40	35	30	27	17	27	31	NS	5.8	25	58	81	46	25	18
		Acenaphthylene	ND	<1.0	11	13	ND	ND	17	NS	ND	16	7.7	13	8	5.7	130
		Acenaphthene	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	2	3.5	ND	ND	260
		Benzene	140	ND	20	52	20	24	11	NS	21	20	26	25	9.2	8	1
ITW-5	19-24	Chromium	<140	47.1	42	NS	26	8	14	26	5	ND	ND	6	6	5	*100
		Arsenic	73	NS	56	NS	65	43	45	48	45	38	34	50	43	46	50
		PCP	30	120	300	NS	980	690	1,500	890	730	1,100	580	550	440	ND	0.1
		Phenol	ND	65	30	NS	750	990	2,600	2,000	1,850	2,600	1,200	900	700	1,200	2,630
		Naphthalene	1,600	1,000	500	NS	860	2,700	1,300	1,200	900	1,500	1,600	1,600	1,500	670	18
		Acenaphthylene	18	12	44	NS	ND	48	ND	34	69	59	73	74	100	20	130
		Acenaphthene	370	540	ND	NS	190	ND	440	ND	ND	220	460	530	610	320	260
		Fluorene	340	210	180	NS	ND	ND	ND	330	300	320	380	470	450	240	323
		Phenanthrene	290	280	160	NS	ND	130	ND	ND	210	280	300	380	320	200	130
		Anthracene	25	17	12	NS	ND	ND	ND	ND	ND	29	22	31	20	15	1,310
		Benzene	<10	ND	4.8	NS	4.3	4.4	4.7	5	0.8	4.1	4.6	ND	5.7	4.6	1
ITW-6	18.5-28.5	Chromium	170	NS	170	110	NS	NS	NS	NS	NS	NS	7	NS	NS	NS	*100
		Naphthalene	1,700	NS	1,100	580	NS	NS	NS	NS	NS	NS	450	NS	NS	NS	18
		Acenaphthylene	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	11	NS	NS	NS	130
		Acenaphthene	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	90	NS	NS	NS	260
		Fluorene	200	NS	73	ND	NS	NS	NS	NS	NS	NS	83	NS	NS	NS	323
		Phenanthrene	32	NS	19	ND	NS	NS	NS	NS	NS	NS	28	NS	NS	NS	130
		Anthracene	<10	NS	2	ND	NS	NS	NS	NS	NS	NS	2	NS	NS	NS	1,310
		Benzene	<10	NS	1.2	1.5	NS	NS	NS	NS	NS	NS	1	NS	NS	NS	1
ITW-7	8.5-18.5	Chromium	280	NS	110	82	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	*100
		Arsenic	23	NS	57	ND	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	50
		Acenaphthylene	10	NS	ND	11	NS	NS	NS	NS	NS	NS	7.4	NS	NS	NS	130
		Acenaphthene	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	2.7	NS	NS	NS	260
		Fluorene	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	3.3	NS	NS	NS	323
		Phenanthrene	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	0.4	NS	NS	NS	130
		Anthracene	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	0.4	NS	NS	NS	1,310
		Total Potentially Carcinogenic PAHs	ND	NS	0.8	ND	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	0.003
		Benzene	25	NS	14	12	NS	NS	NS	NS	NS	NS	16	NS	NS	NS	1

Well Designation	Screened Intervals (ft.)	Parameters	IT Corp 1987 Results (µg/L) (1)	Hunter/ ESE 1989 Results (µg/L) (2)	WESTON June 1992 Results (µg/L) (3)	WESTON October 1992 Results (µg/L) (3)	WESTON January 1993 Results (µg/L) (3)	WESTON April 1993 Results (µg/L) (3)	WESTON July 1993 Results (µg/L) (3)	WESTON October 1993 Results (µg/L) (3)	WESTON January 1994 Results (µg/L) (3)	WESTON April 1994 Results (µg/L) (3)	WESTON July 1994 Results (µg/L) (3)	WESTON October 1994 Results (µg/L) (3)	WESTON January 1995 Results (µg/L) (3)	WESTON April 1995 Results (Fg/L) (3)	ROD Cleanup Goal (µg/L)
ITW-8	18.5-28.5	Chromium	80	NS	7	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	*100
		Arsenic	1	NS	ND	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	50
		Phenol	890	NS	720	NS	NS	NS	NS	NS	NS	NS	350	NS	NS	NS	2,630
		Naphthalene	48	NS	15	NS	NS	NS	NS	NS	NS	NS	8.2	NS	NS	NS	18
		Acenaphthylene	ND	NS	73	NS	NS	NS	NS	NS	NS	NS	100	NS	NS	NS	130
		Acenaphthene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	22	NS	NS	NS	260
		Fluorene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	1.2	NS	NS	NS	323
		Benzene	40	NS	ND	NS	NS	NS	NS	47	NS	NS	31	NS	NS	NS	1
ITW-9	8-18	Chromium	170	NS	14	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	*100
		Arsenic	4	NS	ND	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	50
		Naphthalene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	30	NS	NS	NS	18
		Acenaphthylene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	120	NS	NS	NS	130
		Acenaphthene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	54	NS	NS	NS	260
		Fluorene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	3.6	NS	NS	NS	323
		Phenanthrene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	0.5	NS	NS	NS	130
		Phenol	76	NS	180	NS	NS	NS	NS	NS	NS	NS	190	NS	NS	NS	2,630
		Benzene	<10	NS	31	NS	NS	NS	NS	22	NS	NS	ND	NS	NS	NS	1
ITW-10 +	23.5-33.5	Chromium	100	NS	77	53	71	19	12	30	9	ND	ND	8	5	5	*100
		Phenol	ND	NS	5,400	3,060	7,900	13,000	13,000	8,300	ND	1,800	1,200	500	284	310	2,630
		Naphthalene	ND	NS	ND	ND	14	35	84	ND	ND	ND	ND	ND	ND	ND	18
		Acenaphthylene	ND	NS	ND	ND	640	41	470	25	8.5	ND	ND	310	ND	ND	130
		Fluorene	ND	NS	ND	ND	2.6	ND	ND	1.1	ND	ND	0.7	ND	ND	ND	323
		Benzene	150	NS	320	200	250	130	120	120	61	59	65	12	64	60	1
ITW-11 +	6-16	Chromium	240	NS	130	12	23	ND	ND	ND	ND	ND	ND	ND	ND	ND	*100
		Arsenic	9	NS	21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50
		Acenaphthylene	ND	NS	ND	15	ND	7.8	59	61	400	ND	ND	ND	ND	ND	130
		Fluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8	ND	ND	ND	323
		Phenanthrene	ND	NS	ND	0.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.4	130
		Pyrene	ND	NS	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	130
		Total Potentially Carcinogenic PAHs	ND	NS	ND	4.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.003
		Benzene	<10	NS	3.3	2.7	2.5	1.6	2.7	3.7	2.8	2.5	1.1	0.6	3.7	4.1	1
		Phenol	ND	NS	ND	ND	ND	ND	ND	ND	8,500	ND	ND	ND	ND	ND	2,630

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ITW-12	6.5-26.5	Chromium	0.06	NS	NS	NS	NS	NS	12	ND	ND	NS	NS	NS	NS	NS	*100
ITW-13	23-33	Chromium	80	34.4	10	13	10	ND	ND	ND	ND	ND	ND	6	ND	ND	*100
		Phenol	ND	6,500	2,700	2,500	4,000	11,000	7,000	9,300	8,900	6,200	7,500	4,820	5,720	7,100	2,630
		Naphthalene	ND	59	38	6.1	32	84	71	83	51	35	63	40	47	34	18
		Acenaphthylene	ND	<20	35	46	210	240	12	ND	300	ND	ND	370	ND	ND	130
		Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	33	ND	260
		Fluorene	ND	<20	0.3	0.7	0.8	1.2	1.1	1.6	1.8	ND	2.8	3.7	2.1	1.7	323
		Phenanthrene	ND	<20	0.3	ND	0.3	ND	0.4	0.4	0.2	0.26	0.5	0.5	0.6	0.43	130
		Anthracene	ND	?	ND	ND	ND	ND	ND	ND	ND	ND	0.2	ND	0.18	0.16	1,310
		Total Potentially Carcinogenic PAHs	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.47	ND	ND	0.003
		Benzene	100	ND	130	140	130	82	49	65	55	75	64	59	62	66	1
ITW-14	5-15	Chromium	140	NS	ND	7	10	ND	5	ND	6	ND	ND	ND	ND	5	*100
		Phenol	4,100	NS	2,700	2,300	1,600	14,000	9,900	12,000	8,600	5,000	6,700	910	4,460	1,700	2,630
		Naphthalene	18	NS	170	ND	ND	1,100	390	ND	1,100	480	5,400	700	350	240	18
		Acenaphthylene	<10	NS	190	1,600	360	1,200	1,800	9,900	2,700	1,200	13,000	2,000	890	650	130
		Acenaphthene	<10	NS	ND	ND	83	ND	ND	ND	ND	3,100	48,000	3,300	1,400	720	260
		Fluorene	ND	NS	72	80	51	31	50	1,100	370	700	3,500	330	71	59	323
		Phenanthrene	<10	NS	40	12	ND	37	36	ND	230	190	2,000	180	25	23	130
		Anthracene	ND	NS	ND	ND	ND	ND	ND	ND	ND	53	270	16	3.1	3.8	1,310
		Total Potentially Carcinogenic PAHs	ND	NS	49	1,000	19.6	ND	ND	6,040	1,590	ND	ND	410	32	71	0.003
		Benzene	130	NS	45	180	170	68	150	180	120	130	140	160	160	120	1
		Pyrene	ND	NS	ND	ND	ND	ND	ND	5,000	ND	ND	ND	69	ND	6.4	130
ITW-15	20-30	Chromium	70	NS	6	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	*100
		Arsenic	9	NS	ND	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	50
		Phenol	2,200	NS	260	NS	NS	NS	NS	NS	NS	NS	140	NS	NS	NS	2,630
		Naphthalene	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS	4.2	NS	NS	NS	18
		Acenaphthylene	ND	NS	120	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	130
		Fluorene	ND	NS	0.6	NS	NS	NS	NS	NS	NS	NS	1.4	NS	NS	NS	323
		Benzene	19	NS	7	NS	NS	NS	NS	NS	NS	NS	3	NS	NS	NS	1
ITW-16	12.5-22.5	Chromium	200	NS	61	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	*100
		Arsenic	10	NS	ND	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	50
		Naphthalene	16	NS	3.5	NS	NS	NS	NS	NS	NS	NS	7.9	NS	NS	NS	18
		Acenaphthylene	ND	NS	130	NS	NS	NS	NS	NS	NS	NS	140	NS	NS	NS	130
		Acenaphthene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	3.6	NS	NS	NS	260
		Fluorene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	0.5	NS	NS	NS	323
		Benzene	<10	NS	ND	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	1

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ITW-17	11-31	Chromium	190	14.3	29	34	12	5	5	NS	NS	NS	NS	NS	NS	NS	*100
		Phenol	<10	6,200	660	1,080	1,400	ND	3,800	NS	NS	NS	NS	NS	NS	NS	2,630
		Naphthalene	ND	140	21	9.4	23	21	170	NS	NS	NS	NS	NS	NS	NS	18
		Acenaphthylene	ND	<20	ND	140	ND	25	310	NS	NS	NS	NS	NS	NS	NS	130
		Acenaphthene	ND	<20	ND	ND	3.7	ND	ND	NS	NS	NS	NS	NS	NS	NS	260
		Fluorene	ND	<20	ND	0.5	0.9	ND	7.3	NS	NS	NS	NS	NS	NS	NS	323
		Phenanthrene	<10	<20	1.3	ND	0.8	0.2	0.9	NS	NS	NS	NS	NS	NS	NS	130
		Benzene	12	ND	26	17	36	10	39	NS	NS	NS	NS	NS	NS	NS	1
WMW-17E	9-29	Chromium	NS	NS	NS	NS	NS	NS	25	5	ND	ND	ND	ND	6	10	*100
		Benzene	NS	NS	NS	NS	NS	NS	2.5	20	3.3	1.4	2.5	2.3	49	14	1
		Naphthalene	NS	NS	NS	NS	NS	NS	4.5	15	3.5	ND	2.1	ND	20	6	18
		Acenaphthylene	NS	NS	NS	NS	NS	NS	10	ND	7.1	ND	4.2	ND	ND	ND	130
		Acenaphthene	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	13	6.2	ND	260
		Anthracene	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	0.9	0.39	0.2	ND	1,310
		Pyrene	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	2.4	ND	ND	ND	130
		Fluorene	NS	NS	NS	NS	NS	NS	0.7	ND	ND	ND	0.3	1.2	1.3	ND	323
		PCP	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	94	ND	ND	0.1
		Phenol	NS	NS	NS	NS	NS	NS	ND	3,000	ND	ND	ND	ND	340	ND	2,630
		Phenanthrene	NS	NS	NS	NS	NS	NS	ND	0.5	ND	ND	ND	1.3	0.32	ND	130
		Total Potentially Carcinogenic PAHs	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	2	ND	ND	0.003
ITW-18	12-32	Chromium	110	126	44	47	33	14	16	NS	NS	NS	NS	NS	NS	NS	*100
WMW-18E	9-29	Chromium	NS	NS	NS	NS	NS	NS	130	10	8	29	17	230	140	50	*100
		Arsenic	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	19	ND	ND	50
		PCP	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	34	ND	ND	0.1
		Acenaphthylene	NS	NS	NS	NS	NS	NS	5.6	6.8	ND	3.2	7.6	10	ND	ND	130
		Pyrene	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	0.21	ND	130
		Fluorene	NS	NS	NS	NS	NS	NS	ND	ND	ND	0.5	ND	ND	ND	ND	323
		Total Potentially Carcinogenic PAHs	NS	NS	NS	NS	NS	NS	0.4	ND	ND	ND	0.5	0.88	ND	ND	0.003
ITW-19	11-31	Chromium	420	NS	47	10	7.4	7	9	ND	9	ND	ND	ND	ND	ND	*100
		Naphthalene	150	NS	96	89	62	88	110	59	68	79	180	170	180	130	18
		Acenaphthylene	ND	NS	ND	ND	ND	9.7	8.5	ND	ND	ND	13	7.2	8.4	ND	130
		Acenaphthene	ND	NS	ND	ND	7.5	ND	ND	ND	7.4	7.7	28	21	28	17	260
		Fluorene	<10	NS	ND	6.2	6	9.2	ND	ND	7.9	7.3	17	14	15	10	323
		Phenanthrene	ND	NS	ND	0.6	0.2	0.6	0.7	0.2	0.3	0.3	0.8	0.54	0.68	0.66	130
		Anthracene	ND	NS	ND	ND	ND	ND	ND	ND	ND	0.2	0.4	0.26	0.25	0.26	1,310
		Benzene	<10	NS	0.9	1.1	1	0.6	0.8	1.2	0.9	1	ND	0.9	0.9	0.9	1
ITW-20	11-31	Chromium	470	148	25	13	6.5	ND	ND	ND	8	21	ND	ND	ND	ND	*100
1		Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	1

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ITW-21	20.5-30.5	Chromium	60	29.9	8	NS	6.2	ND	ND	NS	ND	ND	ND	ND	ND	ND	*100
		Arsenic	2	NS	42	NS	46	18	20	NS	22	13	15	12	14	10	50
		PCP	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	124	ND	ND	0.1
		Naphthalene	3,400	2,700	4,600	NS	4,300	70	3,100	NS	6,000	3,000	6,600	7,200	6,200	4,500	18
		Acenaphthylene	11	<4.0	260	NS	ND	12	ND	NS	230	94	180	290	220	150	130
		Acenaphthene	210	380	ND	NS	200	ND	ND	NS	ND	100	460	430	380	300	260
		Fluorene	130	160	5.6	NS	120	ND	15	NS	180	100	210	270	220	180	323
		Phenanthrene	ND	69	82	NS	45	ND	5	NS	63	47	79	87	68	55	130
		Anthracene	ND	ND	ND	NS	ND	ND	ND	NS	ND	1.6	2	1.1	1.3	1.2	1,310
		Benzene	ND	ND	8.2	NS	6	5.4	28	NS	3.1	4	3.7	3.5	3.7	2.9	1
ITW-22	3-13	Chromium	100	NS	11	NS	11	ND	ND	NS	ND	ND	ND	ND	ND	ND	*100
		Arsenic	8	NS	13	NS	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	50
		PCP	ND	ND	ND	NS	ND	ND	ND	NS	ND	ND	ND	52	ND	ND	0.1
		Naphthalene	<10	NS	ND	NS	1.5	ND	ND	NS	ND	ND	11	ND	3.1	ND	18
		Acenaphthene	ND	ND	ND	NS	ND	ND	ND	NS	ND	ND	3.9	ND	ND	ND	260
		Phenanthrene	ND	ND	ND	NS	ND	ND	ND	NS	ND	ND	0.2	ND	ND	ND	130
		Total Potentially Carcinogenic PAHs	<10	NS	0.2	NS	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND	0.003
ESE-001	6.5-21.2	Chromium	NS	62.4	51	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	*100
		Acenaphthene	NS	1.3	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	260
		Naphthalene	NS	5.2	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18
ESE-002	823	Chromium	NS	55.6	170	120	39	ND	ND	ND	28	5	ND	19	ND	7	*100
		Naphthalene	NS	27	ND	ND	2	59	7.3	4.8	42	110	12	ND	9.5	6.7	18
		Acenaphthylene	NS	<1.0	ND	ND	ND	5.5	ND	ND	ND	2.9	4	11	ND	10	130
		Acenaphthene	NS	9.3	ND	ND	ND	ND	ND	ND	8.8	4.6	ND	ND	ND	ND	260
		Fluorene	NS	4.4	ND	ND	1	ND	ND	ND	13	9.4	5.1	1.2	2.5	ND	323
		Phenanthrene	NS	<1.0	18	0.4	1.5	3.7	1.2	1.4	12	9.4	9.4	1.2	1.1	0.55	130
		Anthracene	NS	<1.0	1.2	ND	ND	ND	ND	ND	0.8	0.5	0.9	0.29	0.28	0.16	1,310
		Benzene	NS	ND	13	5.2	7.7	4.3	9.2	11	4.2	2.5	2.5	0.8	5	5.1	1
		Pyrene	NS	<1.0	ND	ND	ND	ND	ND	ND	0.6	1.1	2.4	1.8	1.7	1.1	130
		Total Potentially Carcinogenic PAHs	NS	ND	ND	ND	ND	ND	ND	ND	ND	0.3	ND	0.33	ND	ND	0.003
ESE-003	929	Chromium	NS	31.3	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	*100
		Benzene	NS	NS	0.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1

Well Designation	Screened Intervals (ft.)	Parameters	IT Corp 1987 Results (µg/L) (1)	Hunter/ ESE 1989 Results (µg/L) (2)	WESTON June 1992 Results (µg/L) (3)	WESTON October 1992 Results (µg/L) (3)	WESTON January 1993 Results (µg/L) (3)	WESTON April 1993 Results (µg/L) (3)	WESTON July 1993 Results (µg/L) (3)	WESTON October 1993 Results (µg/L) (3)	WESTON January 1994 Results (µg/L) (3)	WESTON April 1994 Results (µg/L) (3)	WESTON July 1994 Results (µg/L) (3)	WESTON October 1994 Results (µg/L) (3)	WESTON January 1995 Results (µg/L) (3)	WESTON April 1995 Results (Fg/L) (3)	ROD Cleanup Goal (µg/L)
ESE-004	6.5-21.5	Chromium	NS	70.2	120	29	29	ND	9	8	7	6	ND	8	5	13	*100
		Phenol	NS	260	ND	23	ND	50	40	ND	ND	315	ND	16	ND	610	2,630
		Naphthalene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.5	18
		Acenaphthylene	NS	ND	ND	ND	ND	ND	5	ND	ND	ND	ND	ND	ND	ND	130
		Phenanthrene	NS	ND	ND	ND	ND	ND	ND	0.5	ND	ND	0.2	ND	ND	ND	130
		Anthracene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.21	ND	ND	1,310
		Benzene	NS	ND	ND	ND	ND	ND	ND	3.2	ND	1.8	ND	ND	ND	3.6	1
		Fluorene	NS	<1.0	ND	ND	ND	ND	ND	ND	0.3	ND	0.7	ND	ND	ND	323
ESE-005	9.5-29.5	Chromium	NS	59.2	110	53	20	11	ND	ND	ND	ND	ND	ND	ND	ND	*100
		PCP	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	90	ND	ND	0.1
		Phenol	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	90	ND	ND	56	2,630
		Naphthalene	NS	1,300	660	97	730	170	400	1,000	1,100	420	610	1,100	1,200	3,600	18
		Acenaphthylene	NS	< 5.0	81	89	ND	ND	ND	320	ND	49	35	270	84	300	130
		Acenaphthene	NS	68	17	ND	ND	ND	360	ND	ND	ND	44	49	120	190	260
		Fluorene	NS	30	21	4.7	22	10	ND	3.9	45	13	16	42	41	61	323
		Phenanthrene	NS	4.3	4.1	1.1	3.7	1.8	3.4	2.5	8.9	3.5	2.9	5	8.1	20	130
		Anthracene	NS	ND	ND	ND	ND	ND	ND	ND	ND	0.3	0.3	0.62	0.53	0.96	1,310
		Pyrene	NS	ND	ND	ND	ND	ND	ND	ND	ND	0.7	ND	ND	ND	4.2	130
		Total Potentially Carcinogenic PAHs	NS	<61	ND	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.003
		Benzene	NS	<100	50	49	59	45	75	130	56	48	86	85	90	150	1
ESE-006	7.5-27.5	Chromium	NS	230	64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	*100
		Phenol	NS	81	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2,630
		Naphthalene	NS	340	560	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	18
		Acenaphthylene	NS	<20	880	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	130
		Fluorene	NS	ND	24	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	323
		Phenanthrene	NS	ND	7.9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	130
		Benzene	NS	320	65	NS	NS	60	NS	NS	NS	NS	NS	NS	NS	NS	1
ESE-007	7.5-22.5	Chromium	NS	45.7	96	47	26	11	9	24	22	5	ND	15	9	10	*100
		Phenol	NS	11,000	240	490	1,550	890	5,000	4,300	6,400	2,100	4,000	3,200	830	540	2,630
		Naphthalene	NS	<40	2.4	12	21	14	25	13	14	15	19	17	35	21	18
		Acenaphthylene	NS	<40	130	210	320	110	ND	9.1	450	ND	ND	440	ND	ND	130
		Acenaphthene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	13	ND	260
		Phenanthrene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.69	ND	0.31	130
		Anthracene	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.25	ND	0.22	1,310
		Fluorene	NS	<40	ND	ND	0.8	ND	ND	1	1.6	ND	2.1	ND	2.8	ND	323
		Total Potentially Carcinogenic PAHs	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.29	ND	ND	0.003
		Benzene	NS	ND	74	30	48	9.8	37	25	33	30	38	35	34	10	1

Summary of Pre-Remedial Action Groundwater Data Cabot Carbon/Koppers Superfund Site, Gainesville, Florida

Well Designation	Screened Intervals (ft.)	Parameters	IT Corp 1987 Results (µg/L) (1)	Hunter/ ESE 1989 Results (µg/L) (2)	WESTON June 1992 Results (µg/L) (3)	WESTON October 1992 Results (µg/L) (3)	WESTON January 1993 Results (µg/L) (3)	WESTON April 1993 Results (µg/L) (3)	WESTON July 1993 Results (µg/L) (3)	WESTON October 1993 Results (µg/L) (3)	WESTON January 1994 Results (µg/L) (3)	WESTON April 1994 Results (µg/L) (3)	WESTON July 1994 Results (µg/L) (3)	WESTON October 1994 Results (µg/L) (3)	WESTON January 1995 Results (µg/L) (3)	WESTON April 1995 Results (Fg/L) (3)	ROD Cleanup Goal (µg/L)
ITF-1 ++	69-79	Benzene	ND	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1
		Toluene	ND	ND	1.6	1.6	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**
		Ethylbenzene	ND	ND	1.4	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**
		Xylenes	NS	NS	3.1	4.3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**
ITF-2 ++	71-81	Benzene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1
		Toluene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**
		Ethylbenzene	ND	ND	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**
		Xylenes	NS	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**
ITF-3 ++	69.5-79.5	Benzene	ND	ND	2.8	3.5	3.6	2.4	2.6	3.5	2.7	NS	NS	NS	NS	NS	1
		Toluene	ND	ND	1	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	**
		Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	**
		Xylenes	NS	NS	1.1	1.6	1.4	1.3	3	2	2.1	NS	NS	NS	NS	NS	**

The data presented in this table represents only those compounds that have been detected above detection limit in groundwater samples from the indicated wells.

- (1) Please see Table 6 of Remedial Investigation Report, Cabot Carbon/Koppers Site Vol. 1 (IT Corp., 1987) for analytical detection limits of individual compounds.
- (2) Please see Appendix B of Remedial Investigation/Risk Assessment at the Cabot Carbon/Koppers Site, Gainesville, Florida Vol. 3 (Hunter/ESE, 1989).
- (3) Please see individual groundwater report for analytical detection limits of compounds for different sampling events.

All results are in μg/L.

 μ g/L = micrograms per liter.

MDL = laboratory method detection limit.

ND = not detected above the MDL.

NS = not sampled for indicated compound.

- * The new EPA MCL for chromium is 100 μg/L. As per the ROD, this new MCL replaces the previous cleanup goals of 50 μg/L.
- ** Cleanup goal for indicated compound has not been established.
- + Analytical results from January 1994 are suspect. Past groundwater data review indicates sample bottles may have been mislabeled.
- ++ Sampled only for BTEX constituents.

Attachment A-2 Post-Remedy Groundwater Quality Data

Attachment A-2

Summary of Recent Post-Remedial Action Groundwater Data
Cabot Carbon/Koppers Superfund Site, Gainesville, Florida

WELL DESIGNATION	Screened Interval (ft.)	PARAMETERS	Dec-99	Mar-00	Jun-00	Sep-00	Nov-00	Mar-01	Jun-01	Oct-01	Jan-02	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03	Mar-04	Jun-04	Sep-04	Dec-04	Mar-05	Jun-05**	Sep-05	Dec-05	cleanup goal
ITW-1	15.5-25.5	Chromium	8.8	5.2	ND	ND	3.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	*100
ITW-1		Acenaphthene Anthracene	ND ND	ND ND	ND ND	ND ND	ND ND	1.4 ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.67 ND	ND ND	0.72 ND	0.6 ND	0.19 ND	0.50	0.47	ND ND	ND ND	ND (J)	ND ND	ND ND	260 1,310
ITW-1		Fluorene	1.1	0.77	0.75	0.86	1.0	0.93	0.56	ND	1.0	1.1	0.7	ND	0.7	0.9	0.54	0.81	0.49	0.32	0.31	0.37	ND	0.56	ND	ND	ND	323
ITW-1		Naphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.60	ND	ND	ND	ND	ND	18									
ITW-1		Phenanthrene 1- Methylnaphthalene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.045	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	130									
ITW-1 ITW-1		Methylnaphthalene Methylnaphthalene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.66	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	⊢⊹⊢									
ITW-2	5.5-15.5	Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	ND	ND	ND	ND	ND	ND	1									
ITW-2		Total Xylenes	ND	ND	ND ND	ND	ND 1.4	ND 1.3	ND	ND	ND ND	ND ND	ND	ND ND	ND ND	ND	ND 0.66	ND 1.3	ND 0.8	ND	1.4	ND	ND ND	ND ND	ND ND (J)	ND ND	ND ND	-
ITW-2 ITW-2		Acenaphthene Anthracene	1 ND	ND ND	ND ND	ND ND	1.4 ND	1.3 ND	ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.66 ND	1.3 ND	0.8 ND	0.12 ND	1.9	ND ND	ND ND	ND ND	ND (J) ND	ND ND	ND ND	260 1,310
ITW-2		Fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND										
ITW-2		Fluorene Nanhthalene	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	0.69 ND	1.3 ND	1.7 ND	2.2 ND	1.2 ND	1.3 ND	1.1 ND	0.98 ND	1 ND	1.6 ND	1.3 ND	0.61 ND	52 28	0.19 ND	ND ND	ND ND	ND ND	0.52 ND	ND	323
ITW-2 ITW-2		Phenanthrene	ND	ND	ND ND	ND	ND	ND	ND	ND ND	ND	ND	ND ND	ND	ND	ND ND	ND	ND ND	ND	ND	42	ND ND	ND	ND ND	ND (J)	ND	ND	18 130
ITW-2		Pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.8	ND	ND	ND	ND	ND	ND	130									
ITW-2 ITW-2		2- Methylnaphthalene Chromium	ND 15	ND 18	ND 15	ND 5	ND 14	ND ND	ND ND	ND ND	ND ND	ND ND	ND 16	ND 32	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	58 ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	*100
ITW-6	18.5-28.5	Renzene	NS	NS	NS NS	NS	NS	NS	NS NS	NS	NS	NS	NS NS	NS		NS	NS	NS	1									
ITW-6	10.0 20.0	Ethylbenzene	NS	NS NS	NS	NS	NS NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	22 110	NS	NS	NS NS	
ITW-6 ITW-6		Toluene Total Xylenes	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	360	NS NS	NS NS	NS NS										
ITW-6		Acenaphthene	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	310 32	NS NS	NS NS	NS NS	260									
ITW-6		Fluorene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	27	NS	NS	NS	323									
ITW-6		Naphthalene	NS	NS NC	NS	NS	NS	NS NC	NS	NS	NS	NS NC	NS	NS NC	NS	NS	NS	210	NS	NS NC	NS	18						
ITW-6 ITW-6		Phenanthrene 1- Methylnaphthalene	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	5.7 53	NS NS	NS NS	NS NS	130									
ITW-6		2- Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	36	NS	NS	NS										
ITW-6 ITW-6		Phenol 2 4- Dimethylohenol	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	ND 2300	NS NS	NS NS	NS NS	2630									
ITW-6		2- Methylphenol	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	1000	NS NS	NS NS	NS NS	\vdash									
ITW-6		3&4- Methylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1500	NS	NS	NS	•									
ITW-6 ITW-6		Arsenic Chromium	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	20 97	NS NS	NS NS	NS NS	*100									
ITW-7	8.5-18.5	Benzene	NS	NS NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS NS	NS	NS	NS	27	NS	NS	NS	1						
ITW-7		Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	45	NS	NS	NS										
ITW-7		Toluene Total Xvienes	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	120 68	NS NS	NS NS	NS NS										
ITW-7		Acenaphthylene	NS	NS	NS NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	42	NS	NS	NS	130									
ITW-7		Naphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	32 ND	NS	NS	NS	18									
ITW-7 ITW-7		Methylnaphthalene Methylnaphthalene	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	ND ND	NS NS	NS NS	NS NS	\vdash									
ITW-7		Phenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	260	NS	NS	NS	2630									
ITW-7		2,4- Dimethylphenol 2- Methylphenol	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	3600 2000	NS NS	NS NS	NS NS	⊢÷-l									
ITW-7		3&4- Methylphenol	NS NS	NS NS	NS NS	NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	3400	NS NS	NS NS	NS NS										
ITW-7		Arsenic	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	*100									
ITW-7	18.5-28.5	Benzene	NS NS	NS Ne	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	ND 15	NS NS	NS NS	NS NS	100						
ITW-8	10.3-20.3	Ethylbenzene	NS	NS NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	20	NS	NS	NS							
ITW-8 ITW-8		Toluene Total Xvlenes	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	280 29	NS NS	NS NS	NS NS										
ITW-8		Phenol	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	ND	NS NS	NS NS	NS NS	2630									
ITW-8		2,4- Dimethylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	840	NS	NS	NS	•									
ITW-8 ITW-8		2- Methylphenol	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	360 530	NS NS	NS NS	NS NS	\vdash									
ITW-8		3&4- Methylphenol Chromium	NS	NS NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS NS	NS	NS	NS	21	NS	NS NS	NS	*100						
ITW-9	9-18	Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	11	NS	NS	NS	1									
ITW-9 ITW-9		Ethylbenzene Toluene	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	19 310	NS NS	NS NS	NS NS	\vdash									
ITW-9		Total Xylenes	NS	NS	NS NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS										
ITW-9		Methylnaphthalene Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS										
ITW-9		2- Methylnaphthalene Naphthalene	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	2.1 6.2	NS NS	NS NS	NS SN	18									
ITW-9		Phenanthrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.23	NS	NS	NS	130									
ITW-9 ITW-9		Phenol 2.4- Dimethylphenol	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	400 ND	NS NS	NS NS	NS NS	2630									
ITW-9		2- Methylphenol	NS	NS NS	NS	NS NS	NS NS	NS	NS	NS	NS	NS	NS	NS	NS NS	NS	NS	NS NS	NS	NS	NS NS	NS	NS NS	400	NS	NS	NS NS	
ITW-9		3&4- Methylphenol	NS	NS NS	NS NS	NS	NS NS	NS NS	NS NS	NS	NS NS	NS NS	NS	NS NS	NS NS	NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS		750	NS	NS		
ITW-10 ITW-10	23.5-3.5	Benzene Total Xylenes	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS	-									
ITW-10		Acenaphthylene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	130									
ITW-10		Fluorene Naphthalene	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS	NS NS	NS NS	NS	NS NS	323 18									
ITW-10 ITW-10		Phenol	NS	NS	NS NS	NS	NS	NS	NS	NS	NS NS	NS	NS	NS NS	NS	NS	NS	NS NS	NS	NS	NS NS	NS	NS NS	NS NS	NS NS	NS NS	NS	2630
ITW-10		2,4- Dimethylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS										
ITW-10 ITW-10		2- Methylphenol 3&4- Methylphenol	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS	-:-									
ITW-10		Chromium	NS	NS	NS	NS	NS NS	NS	NS	NS NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	*100
ITW-11	6-16	Benzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	1									
ITW-11 ITW-11		Acenaphthylene Fluorene	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	ND ND	NS NS	NS NS	NS NS	130 323									
ITW-11		Phenanthrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS		130									
ITW-11		Pyrene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS NS	130									
ITW-11		Total Potentially Carcinogenic PAHs	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	0.003									
ITW-11		Phenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	2630									
ITW-11		2,4- Dimethylphenol Arsenic	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS	ND	NS NC	NS NS	NS	50									
ITW-11 ITW-11		Chromium	NS	NS	NS NS	NS	NS	NS	NS	NS NS	NS	NS	NS NS	NS NS	NS	NS NS	NS NS	NS	NS NS	NS NS	NS	NS NS	NS NS	ND 13	NS NS	NS	NS NS	*100
ITW-13	23-33	Benzene	110	81	88	100	100	90	79	92	93	81	NS	71	78	82	85	55	120	61	72	ND	63	ND	ND	ND	58	1
ITW-13 ITW-13		Toluene	490	590	780	800	470	750 310	820	620	550 320	620 350	NS NC	590	460	460	430	250	350	250	300	350	230 250	190 190	170	170	270	-
ITW-13 ITW-13		Ethylbenzene Total Xylenes	310 281	240 202	210 120	310 269	310 244	310 228	300 242	340 232	320 229	350 222	NS NS	270 162	320 171	320 208	300 174	220 116	370 255	240 154	240 135	260 144	250 150	190	230 150	240 140	260 160	
ITW-13		Acenaphthene	ND	<5	NS	ND	ND	ND	0.52	ND	ND	0.17	ND	ND	ND	ND	ND (J)	ND	ND	260								
ITW-13 ITW-13		Acenaphthylene Anthracene	53 ND	66 ND	72 ND	36 ND	170 ND	19 ND	86 ND	ND ND	ND ND	34 ND	NS NS	63 ND	53 ND	56 ND	24 ND	ND ND	ND ND	13 0.0084	12 ND	12 ND	ND ND	ND ND	ND (J) ND	9.8 ND	ND ND	130
ITW-13 ITW-13		Anthracene Benzo (a) anthracene	ND	ND	ND ND	ND	ND	ND	ND ND	ND	ND	ND ND	ND	ND	ND	ND ND	ND	ND	ND ND	0.0084	ND	ND	ND ND	ND ND	ND	ND	ND ND	1310
ITW-13		Benzo (b) fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	0.031	ND	ND	ND	ND	ND	ND	ND										
ITW-13 ITW-13		Fluorene Naphthalene	ND 73	ND 84	ND 64	ND 48	ND 81	ND 55	0.72 88	ND 66	ND 64	<2.5 52	NS NS	0.9 78	0.52 68	0.56 84	ND 55	ND 80	ND 35	ND 28	ND 36	ND 34	ND ND	ND 2	ND 23	ND 21	ND 31	323 18
ITW-13 ITW-13		Phenanthrene	ND	ND	0.16	ND	ND ND	ND ND	0.21	ND ND	ND	ND	NS NS	ND ND	ND	ND	ND ND	ND ND	ND ND	ND	ND	ND	ND ND	2 ND	ND	ND ND	ND ND	130

Attachment A-2

Summary of Recent Post-Remedial Action Groundwater Data
Cabot Carbon/Koppers Superfund Site, Gainesville, Florida

Semente Marche M. 1969 1969 1969 1969 1969 1969 1969 196																													
Delta	WELL DESIGNATION	Screened Interval (ft.)	PARAMETERS	Dec-99	Mar-00	Jun-00	Sep-00	Nov-00	Mar-01	Jun-01	Oct-01	Jan-02	Mar-02	Jun-02	Sep-02	Dec-02	Mar-03	Jun-03	Sep-03	Dec-03	Mar-04	Jun-04	Sep-04	Dec-04	Mar-05	Jun-05**	Sep-05	Dec-05	cleanup goal
Sept. 1. Sep																													
STATE OF STA			Carcinogenic PAHs 1- Methylnanhthalene																	ND 3									0.003
	ITW-13		2- Methylnaphthalene	11	12	9.8	ND	6.6	10		8.8	8.7	7.9	NS	6	8.1	5.8	5.5			2.4	1.5	0.99	ND	ND	ND (J)	1.6	2	
	ITW-13																							5300	2400				2630
200 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	ITW-13		2- Methylphenol	ND	ND	ND	ND	ND	ND		ND	ND		ND	ND		ND	ND	ND	ND	ND		ND	ND		440		2200	
THE STATE WAS NOT THE PARTY OF			3&4- Methylphenol	ND	ND		ND	ND	ND		ND			ND	ND		ND	ND	ND	ND		ND	ND	ND		950		LID.	
14																													
Part	ITW-14	5-15		89	<50	91	36			<25	25		54	NS	39	33	ND	ND	30	45		43	ND	33	26			ND	1
Marie Mari				890	730	950			490			850 190				610					540	730		630		470 130	380		-
March Marc	ITW-14			720	760	499	480	860	465	429	465	620	590	NS	490	453	468	345	395	624	389	444	ND	470		440	330	270	
THE STATE OF APPENDIX 19	ITW-14				1200							59 ND	<100	NS					34				4.8		ND	ND (J)			260
The content of the	ITW-14		Anthracene							36				NS		62			ND	9.1	76	0.30	2.7			ND	26.0	3.2	1310
March Marc			Benzo (a) anthracene	150	1100	110	3500	440	15	110	93	22	28		220	310	180	51											
THE THE PART NAME AND ASSESS OF THE PART NAME AND ASSESS O			Benzo (a) pyrene Benzo (b) fluoranthene				<200 1500		ND 13									4.8				75							
Column	ITW-14		Benzo (g,h,l) perylene	NS	NS	NS	500	<120	ND	<16		ND	<25	NS	ND	ND	ND	ND	ND	ND	8.1	3.8	ND	ND	ND	ND	ND	11	
March Marc											0.59																		
			Dibenzo (a,h)																	,									
Teach Teac	ITW-14		anthracene	ND	ND	ND	<200	<100	ND	<13	24	ND	<20	NS	ND	ND	ND	3.3											
Fig.	ITW-14		Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		24	ND	ND	ND	ND	ND	0.71	
Tech																													202
THE CALL PROPERTY OF THE CALL														NS NS			520	310											
THE COLOR STATES AND S	ITW-14		Phenanthrene		970	340	3900	740	50	78	64	6.9	57	NS	200	220	190	43	42	69	480	240	20	120	210		140		130
THE PROPERTY OF STATE AND ADDRESS OF STATE ADDRESS OF STATE AND ADDRESS			Pyrene 1- Methylnaphthalene	41 490										NS NS													ND 170	23 ND	130
The series of th			2- Methylnaphthalene	480				1900		350	210			NS					220								250	ND	
Time 4	TW-14		Total Potentially	400	3000	276	12600	1690	54	458	149 59	53.6	200	Ne	506	694	507 3	112 9	ND	7.8	203 1	146.8		ND	900	ND	170	37 E4	0.003
THE ALL STANDARD STAN	ITW-14		Phenol	4300	4600	4100	1200	4500	130	<250	730	3600	3300	NS	1100	900	ND	140	ND	280	ND	1100		750	ND	290	ND	ND	2630
First Mathematical Communic No. 1	ITW-14			6200	9400	8600	5000	9400	940	2000	3300	6300	7000	NS	3100	3600	1800	1900	4700	2000	8400	ND	2600	4600	4000	4400		2700	•
Fig. Control	ITW-14		3&4- Methylphenol																							2700	1000		
Fig. 1	ITW-14								ND	ND	ND ND	ND	ND	NS	ND	14	21		14			ND ND	11	ND	ND		ND	ND	50
Fig.		20.20																											100
Fire 1	ITW-15	20-30	Ethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	
Fire 1	ITW-15			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	140	NS	NS	NS	
Property	ITW-15		Chrysene	NS	NS		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.32	NS	NS	NS	
TRES. CORROSPORT NO. 16. MS NO. 18. MS NO. 1	ITW-15			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.6	NS	NS	NS	18
Fine State	ITW-15			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.32	NS	NS	NS	
Fig. 1	ITW-15		Phenol	NS	NS	NS		NS		NS								NS		NS						NS		NS	2630
Fig. 1																													•
Time	ITW-15		3&4- Methylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	110	NS	NS	NS	
Time	ITW-15			NS	NS		NS	NS									NS		NS	NS			NS		20		NS	NS	*100
Time	ITW-16	12.5-22.5		NS NS	NS NS		NS NS	NS NS		NS NS							NS NS			NS NS	NS NS		NS NS	NS NS			NS NS		1
Time	ITW-16			NS	NS	NS	NS	NS			NS			NS			NS		NS	NS	NS								
Time	ITW-16			NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	NS NS	4.7 ND	NS NS	NS NS	NS NS	
Time			Naphthalene	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.6	NS	NS	NS	18
Print Prin	ITW-16			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	
TWY-16	ITW-16		Phenol																										2630
Time	ITW-16		2,4- Dimethylphenol	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	ND	NS	NS	NS	•
### WHATE 942 Best-tiers NS NS NO NO NO NO NO NO	ITW-16		3&4- Methylphenol	NS NS	NS	NS	NS	NS	NS	NS	NS NS	NS	NS	NS NS	NS	NS	NS NS	NS	NS		NS	NS	NS	NS		NS	NS NS	NS	
Name																													*100
MWW-17E Total Sylenes NS NS S6 NO NO NO NO NO NO NO N		9-29	Benzene Ethylbenzene	NS NS	NS NS	ND 5.1	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND	ND ND		ND ND		ND ND	ND ND	ND ND	ND ND	1								
WWW-17E Accessabling-lene NS NS S.1 NO NO NO NO NO NO NO N	WMW-17E																							ND	ND				
WWW.17E Anthracene																													
MWW-17E Nag-thatenee NS NS 3.6 NO NO NO NO NO NO NO N	WMW-17E		Anthracene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.010	ND	ND	ND	ND	ND	ND	1310
Name Presentative Present NS NS NO NO NO NO NO NO																								ND	ND				323
WMW-17E Pyrene NS NS NS NO	WMW-17E		Phenanthrene	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.036	ND	ND	ND	ND	ND	ND	ND	130
Name Carcinogene Parks NS NS NO NO NO NO NO NO	WMW-17E			NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	130
Name/17E	WMW-17E		Carcinogenic PAHs	NS																				ND	ND				0.003
MWW-17E	WMW-17E		1- Methylnaphthalene	NS	NS	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75	0.089	ND	ND	ND		ND	ND	•
WMW-17E				NS NS																									-:-
WWW-17E Piecol NS NS NS NO	WMW-17E		PCP	NS	NS	ND	ND	ND	ND	ND	<10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
WWW-18E 9-29 Benzame NO NO NO NO NO NO NO N						ND 22	ND 2.2			ND ND	ND ND													ND	ND				2630 *100
WWW-18E Ethyloperscene NO		9-29	Benzene	ND	ND	ND ND		ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			ND	ND	ND	1
MWW-18E	WMW-18E		Ethylbenzene	ND	ND		ND	ND	ND	ND	ND	ND	ND		ND		ND	ND	ND	ND	•								
WWW-18E Acetapathylynen NO NO NO NO NO NO NO N			Total Xylenes Acenanhthene														ND ND							ND ND	ND ND		ND ND		260
	WMW-18E		Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND (J)	ND	ND	130
WMW-18E Naghthlatene NO NO NO NO NO NO NO N					ND																								200
WWW-18E Present/free NO NO NO NO NO NO NO				ND	ND		ND	ND	ND		ND			ND	ND			ND	ND		ND		ND	ND ND	ND ND	ND	ND	ND	323 18
VMMW-18E Carricopeic PAHs 0.3 NO 0.14 NO NO NO NO NO NO NO NO	WMW-18E		Phenanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.029	ND	ND	ND	ND (J)	ND	ND	130
\(\begin{array}{cccccccccccccccccccccccccccccccccccc	WMW-18E			ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	130
\(\begin{array}{cccccccccccccccccccccccccccccccccccc					ND	0.14		ND						ND			ND			ND		0.0047	0.0000			ND		ND	0.003
WWW-18E FCP NO	WMW-18E		1- Methylnaphthalene	ND	ND	ND	ND	ND ND	ND	ND ND	ND NC	ND ND	ND	ND	ND	ND	ND ND	ND ND	ND	ND NC	ND ND	0.14	ND ND	ND	ND	ND (J)	ND ND	ND	:
WWW-18E 2,4-Dimethylphenol ND 76 11 ND			PCP	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND ND			ND	ND	0.1
WMW-18E Chromium 20 19 170 23 11 ND 37 ND ND ND 110 23 14 66 67 12 12 21 ND 10 17 13 10 17 10			2,4- Dimethylphenol	ND	76	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	14	ND	ND	ND	ND	ND	ND	ND	ND	ND	
													ND		1 23					12	12								

Metal Meta	Dec-04 Mar-05 NS NS NS NS NS NS NS NS	NS N N NS N NS N NS N NS N NS N NS N N	p-06 Decods Deco
TW-19	NS	NS	NS NS 18 18 180 180 180 180 180 180 180 180 1
Fig. 4	NS	NS	NS NS 130 NS 130 NS NS NS 260 NS 260 NS NS NS 260 NS NS NS 130 NS
TWY-19	NS	NS N NS N NS N NS NS NS NS NS NS NS NS N	NS NS 260 NS NS 233 NS NS 323 NS NS 130 NS NS 1310 NS NS 1310 NS NS 1310 NS NS 1 N
TW-19	NS	NS N NS N NS N NS N NS N NS N NS N NS N	NS NS 323 NS NS NS 130 NS NS 130 NS NS 130 NS NS 151 NS 151 NS NS 10 NS NS 10 NS NS 10 ND ND 11 ND ND 1 ND ND ND 1 ND ND ND ND 1 ND N
TW-19	NS	NS N NS N NS N NS N NS N ND N ND N ND N	NS NS 1310 NS NS 1510 NS NS 15 NS NS 10 NS NS 10 ND ND 11 ND ND 1 ND ND 5 ND 68 7 24 5 260 ND ND ND 130 ND ND ND 130 ND ND ND 15 ND ND 5 5 5 66
TWY-19	NS	NS	NS NS 1 NS 17100 NS NS 1100 NS NS 1100 ND ND 11 ND ND 15 ND 10 130 ND ND 130 ND ND 130 ND ND ND 130 ND N
TW-50	NS N	NS N NS N ND N ND N ND N ND N ND N ND J) N ND N ND N ND N ND N ND N ND N ND N N	NS NS 100 NS NS 1 ND ND 1 ND ND 1 ND ND 2 ND 8 ND 1 ND 1 ND 1 ND 130 ND 130 ND ND 1310 ND N
Fixed	ND 2.3 ND ND ND 3.1 5.2 18 41 ND ND 2 ND ND ND ND ND ND ND ND ND AD ND 6.2 NS 6.2 NS 6.4 NS 4.4 NS 4.1 ND 4.1 ND	ND N ND N ND N ND N ND N N	ND ND 1 ND 0 1 ND 0 6.8 24 5 260 ND ND 130 ND 130 ND 130 ND ND 1310 ND 222 4.5 323
ESE-002	ND ND 3.1 5.2 18 41 ND ND ND ND ND ND ND N	ND N ND ND ND ND ND ND	ND ND ND ND ND ND ND ND
ESE-002	3.1 5.2 18 41 ND ND 2 ND ND ND ND ND ND ND ND ND ND ND ND ND 4.2 35 6.2 ND 24 36 6.2 ND 4.4 ND 4.1 ND	ND N ND (J) 2 ND (J) N ND N ND N ND N ND 8 ND 2 ND N	ND 6.8 * 24 5 260 ND ND 130 ND 0.7 1310 ND N
ESE-6002 A.compathylene 1 4 5 50 32 5.0 5.1 12.0 12.0 12.0 12.0 12.0 12.0 30.0 55.0 4.8 18 10 16 64 0.50 35 55.6 55.0 4.6 A.compathylene ND ND 4 3.7 ND	18 41 ND ND 2 ND ND ND ND ND ND ND ND 8.2 35 6.2 ND 24 36 4.4 ND 4.1 ND	ND (J) N ND N ND N ND N ND N ND 8 ND 2 ND N	ND ND 130 ND 0.7 1310 ND ND ND ND ND ND ND ND ND 23.5 5.6 22 4.5 323
ESE-002 Architectere ND O.22 1.1 1.6 O.39 1.3 1.3 1.3 1.2 O.18 O.64 Z.3P O.54 3.9 O.55 1.8 O.91 1.0 1.3 O.015 1.1	2 ND ND ND ND ND ND ND ND ND 8.2 35 6.2 ND 24 36 4.4 ND 4.1 ND	ND	ND 0.7 1310 ND ND ND ND ND ND 8.5 5.6 22 4.5 323
ESE-002 Sericol)antinicarce MO NO NO NO NO NO NO NO	ND ND ND ND ND ND ND ND	ND N ND N ND 8 ND 2 ND N	ND ND ND ND S5.5 5.6 22 4.5 323
ESE-002 Chrysnene ND	ND ND ND ND ND 8.2 35 6.2 ND 24 36 4.4 ND 4.1 ND 4 ND	ND N ND 8 ND 2 ND N	ND ND 3.5 5.6 22 4.5 323
ESE-002 Fluorentheme ND 3.8 5.9 5.2 2.6 4.3 3.5 5.8 1.4 3.4 3.9 6 8.7 3.8 9.4 6.2 5.7 9.8 ND 7.3	8.2 35 6.2 ND 24 36 4.4 ND 4.1 ND 4 ND	ND 2 ND N	22 4.5 323
ESE-002	6.2 ND 24 36 4.4 ND 4.1 ND 4 ND	ND N	
ESE-002 Phenomene ND 2.5 17 27 2.4 9.8 ND 4.3 0.60 5.7 17Y 4.4 6.20 4.7 34.0 17.5 18.0 38.0 0.035 37 ESE-002 Physical ND 12 15 12 ND ND ND ND 3.6 1.1 ND 2.5 19 21 1.1 3.4 3.7 8.2 30 0.022 ND	24 36 4.4 ND 4.1 ND 4 ND		
ESE-002 Pymne ND 2-4 2.77 3.6 1.6 0.63 1.2 1.6 1.0 1.6 2.7 2.3 4.1 1.8 3.3 3.1 3.1 3.1 NO NO NO SES-002 1.4eh/progaphralene ND 2.1 15 1.2 ND ND ND ND ND 2.5P 19 21 1.1 3.4 3.3 3.2 8.2 30 0.22 ND SES-002 2.4eh/progaphralene ND 2.1 2.4 13 ND 3.0 3.0 6.6 3.9 ND 2.20 36.0 65.0 5.1 1.40 2.3 3.9 110.0 1.3 6.0 1.3 6.0 1.5 ND Program Pr	4.1 ND 4 ND		ND 3 18 15 4 130
ESE-002 2-Methylniphalanene ND 2.1 2.4 13 ND 3.0 6.6 3.9 ND 2.0 3.0 3.0 1.0 2.3 3.9 11.0 1.3 8.0 1.0 2.2 3.9 11.0 1.3 9.0 1.0 ND ND <t< th=""><th>4 ND</th><th></th><th>ND 3.6 130</th></t<>	4 ND		ND 3.6 130
ESE-002			ND 1.6
ESE-002 Carcinogenic Parks ND ND ND ND ND ND ND N		ND (J) 48	8.0 15 *
EBE-002 2.4 - Dimethylphered NO NO NO NO NO NO NO N	ND ND		ND ND 0.003
EBS-002 Chromism 10 11 7.8 5.4 12 ND ND ND ND ND ND ND N	ND ND		ND ND 2630 ND 22 *
ESE-004 6.521.5 Benzinee ND ND ND ND ND ND ND	ND 13 12 ND		ND ND *100
EBSE-004 Elly/besizene ND	ND ND	ND N	ND ND 1
ESE-004 Anthrocene ND	2 1.3		1.3 ND *
ESE-004 Flucrene NO	ND ND ND ND		ND ND 130 ND ND 1310
E85-004 Phenantmene ND	ND ND		ND ND 323
ESE-004 2.4-Dimethyleherol ND	ND ND		ND ND 18
ESE-004 Phenoid ND	ND ND		ND ND 130 ND ND *
ESE-000 9.5-29.5 Benziene NS	ND ND		ND ND 2630
ESE-005 Chromium NS	ND ND	ND N	ND ND *100
ESE-005 PCP NS	NS NS		NS NS 1 NS NS *100
ESE-005 Phenol NS	NS NS		NS NS *100 NS NS 0.1
ESE-055 Aconspirity-injene NS	NS NS	NS N	NS NS 2630
ESE-005 AcengoPrinee NS	NS NS		NS NS 18 NS NS 130
ESE-005 Phenomitrone NS	NS NS		NS NS 260
ESE-005 Anthracene NS	NS NS	NS N	NS NS 323
ESE-005 Pyrene NS	NS NS		NS NS 130 NS NS 1310
	NS NS		NS NS 1310
ESE-005 Catchinggeric PAths NS	NS NS		NS NS 0.003
ESE-007 7.5-22.5 Benziane 12 7.9 4.25 22 19 19 17 14 20 6.6 ND 12 12 2.8 2.6 1.8 1.8 1.2 8.0 ND ND 12 12 2.8 2.6 1.8 1.8 1.2 8.0 ND ND 12 12 2.8 2.6 1.8 1.8 1.8 1.2 8.0 ND	ND 2.3 25 22		1.8 ND 1 7.8 43 *
ESE-007 Ethylbenzene 45 30 42 62 62 60 57 58 68 27 37 53 47 42 8.2 6.3 4.9 4 24 ND	10 7.7	11 (6 11 *
ESE-007 Total Xylenes 85 33 35 91 85 73 68 61 72 28 ND 40 45 10.4 9.4 5.3 4.9 4 20.7 ND	ND 7.6		5.6 10
ESE-007 Access/phthene ND	ND ND		ND ND 260 ND ND 130
ESE-007 Anthriacene ND	ND ND	ND N	ND ND 1310
ESE-007 Fluctene ND	ND ND		ND ND 323 2.3 ND 18
ESE-007 Naphthalene 7.1 8.9 7.5 11 9.5 9.7 7 8.2 7.6 4.9 7.3 7.4 7.7 2.6 2.2 3.8 2.3 1.5 5.4 3.5 ESE-007 Pensarditense ND	5.2 1.9 ND ND		2.3 ND 18 ND ND 130
ESE-007 1-Methylnaphthalene ND 1.7 1.5 2 1.7 2.4 ND 2.8 2.0 ND ND 1.4 1.1 ND ND ND 0.54 ND 1.0 ND	ND ND	ND (J) N	ND ND *
ESE-007 2-Methylnaphthalene 1.6 1.6 1.2 ND 1.8 1.7 ND 2.5 1.7 ND ND 1.3 1.3 ND ND ND 0.58 ND 0.33 ND	ND ND		ND ND *
Total Predictially	ND ND	ND N	ND ND 0.003
ESE-007 Phenol 1500 2900 1700 4000 4600 5800 6800 5100 4600 1900 470 4500 3700 650 390 52 28 33 520 1000	290 40	330 1	30 490 2630
ESE-007 2,4- Dimethylphenol 520 790 630 640 <200 660 <800 630 700 380 540 550 580 140 80 62 40 41 220 210	ND 35		64 95 *
ESE-007 2- Methylphenol ESE-007 34- Methylphenol ESE-007 34- Methylphenol ESE-007 34- Methylphenol SE-007 34- Methylphenol SE	15 79		36 67 170 360
ESE-007 Arsenic ND ND 41 ND ND 16 ND 12 10 ND 35 ND	ND ND	ND N	ND ND 50
ESE-007 Chromium 8.8 16 510 32 65 13 21 96 ND ND 560 1900 180 22 190 1900 87 680 510	ND 63		24 11 *100
TF-1 G9-79 Ethylbenzenen NS 1.4 NS NS NS NS NS NS NS N	NS NS		NS NS *
11TF-1 Total Xylenes NS 5 NS	NS NS		NS NS *
ITF-1 Acenaphthene NS 2.5 NS	NS NS	NS N	NS NS 260
TF-1 Fluorene NS 2.8 NS	NS NS		NS NS 323
TF-2 71-81 2.4-Dimethylphenol NS 15 NS	NS 2		NS NS *
11F-3 69,5-72,5 Total systems 165 1.1 165 165 165 165 165 165 165 165 165 16	NS 7.6		NS NS 18

All results are in ugit (micrograms per liter).

ND = Not descreted above the MDL.

NS = Not sampled for indicated compound.

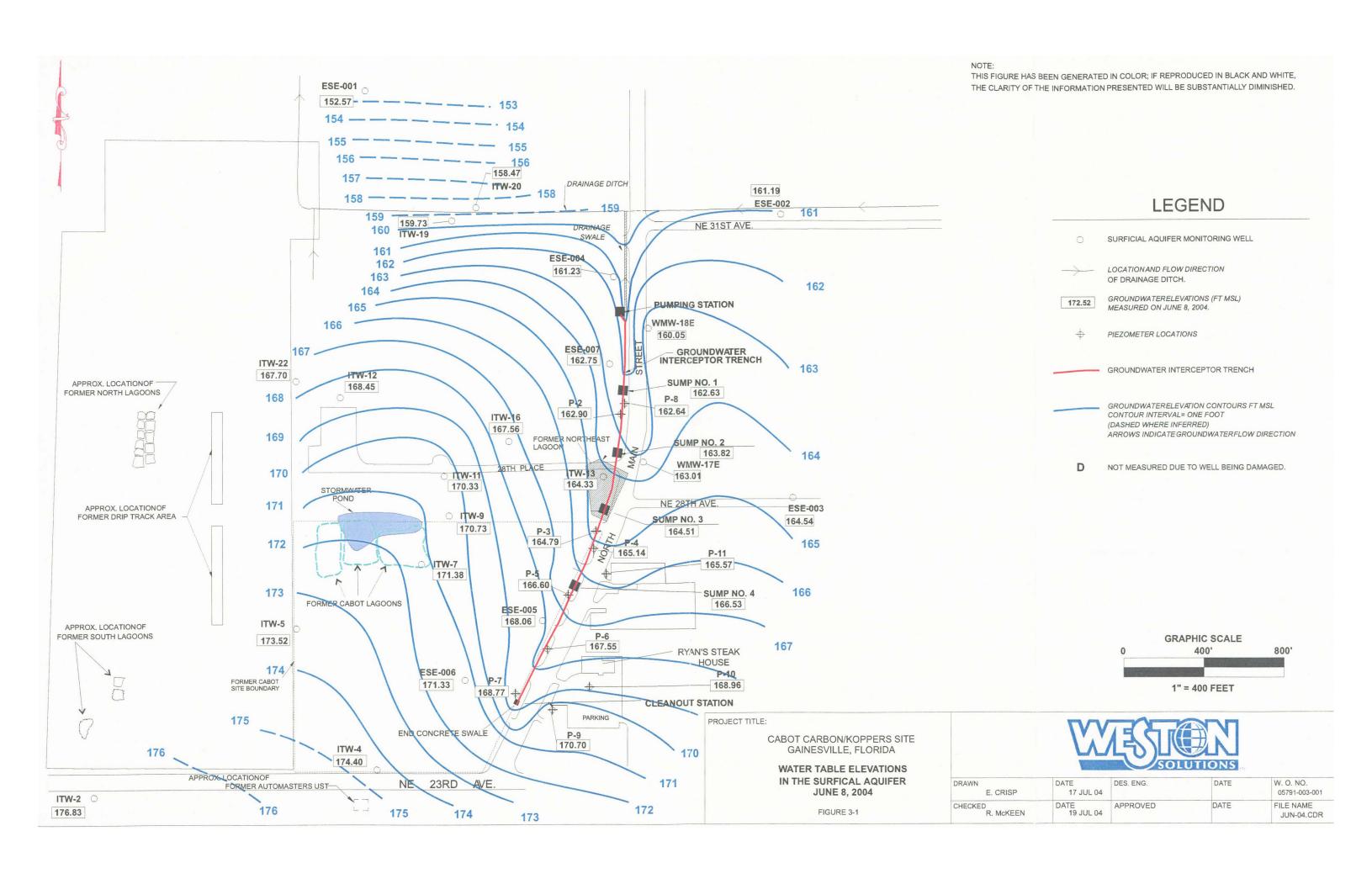
* = No ROD Cleanup Goal for compound. Tested as part of complete scan for tests 8021, 8270 or 8310.

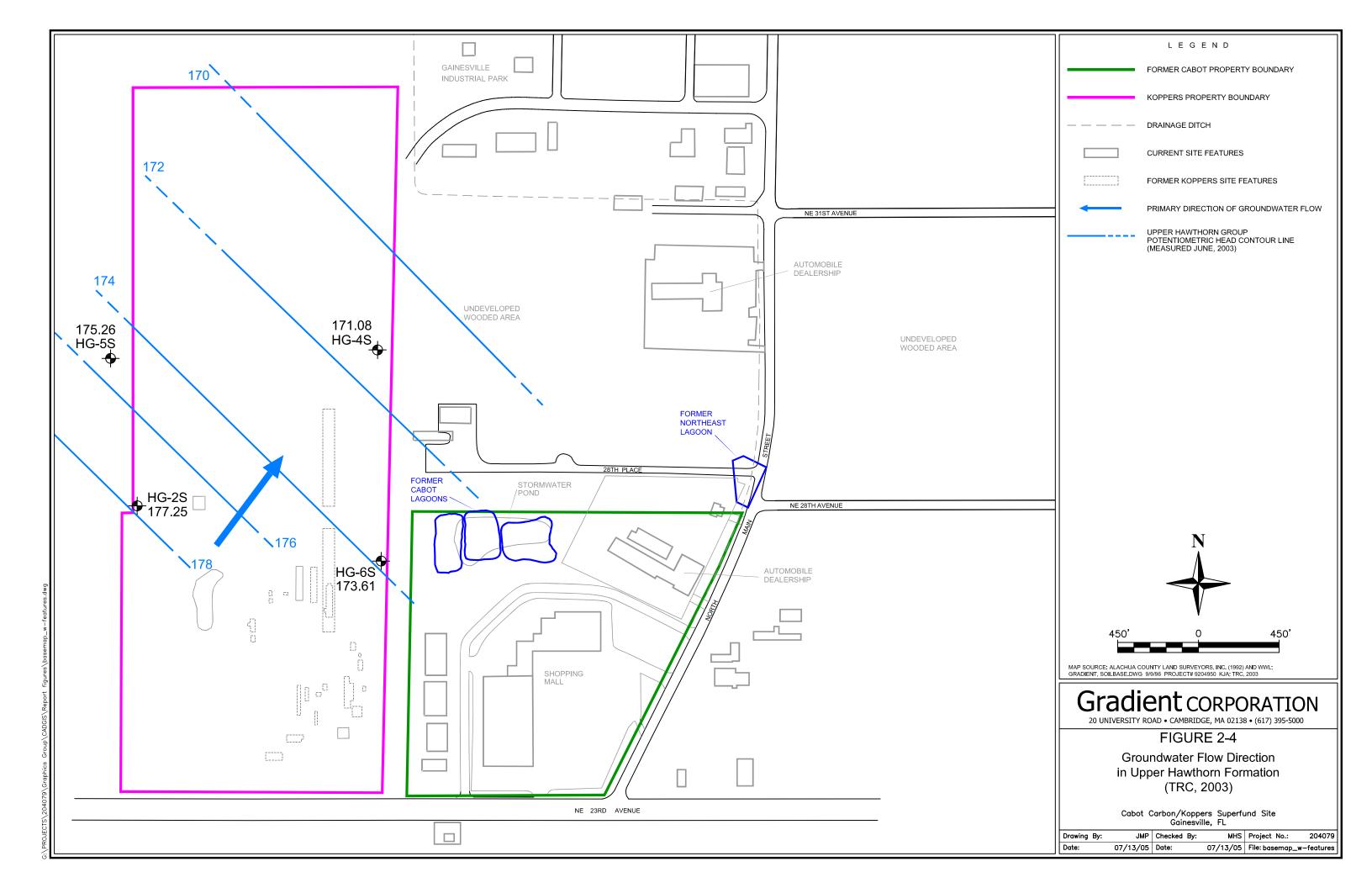
* = No ROD Cleanup Goal for compound. Tested as part of complete scan for tests 8021, 8270 or 8310.

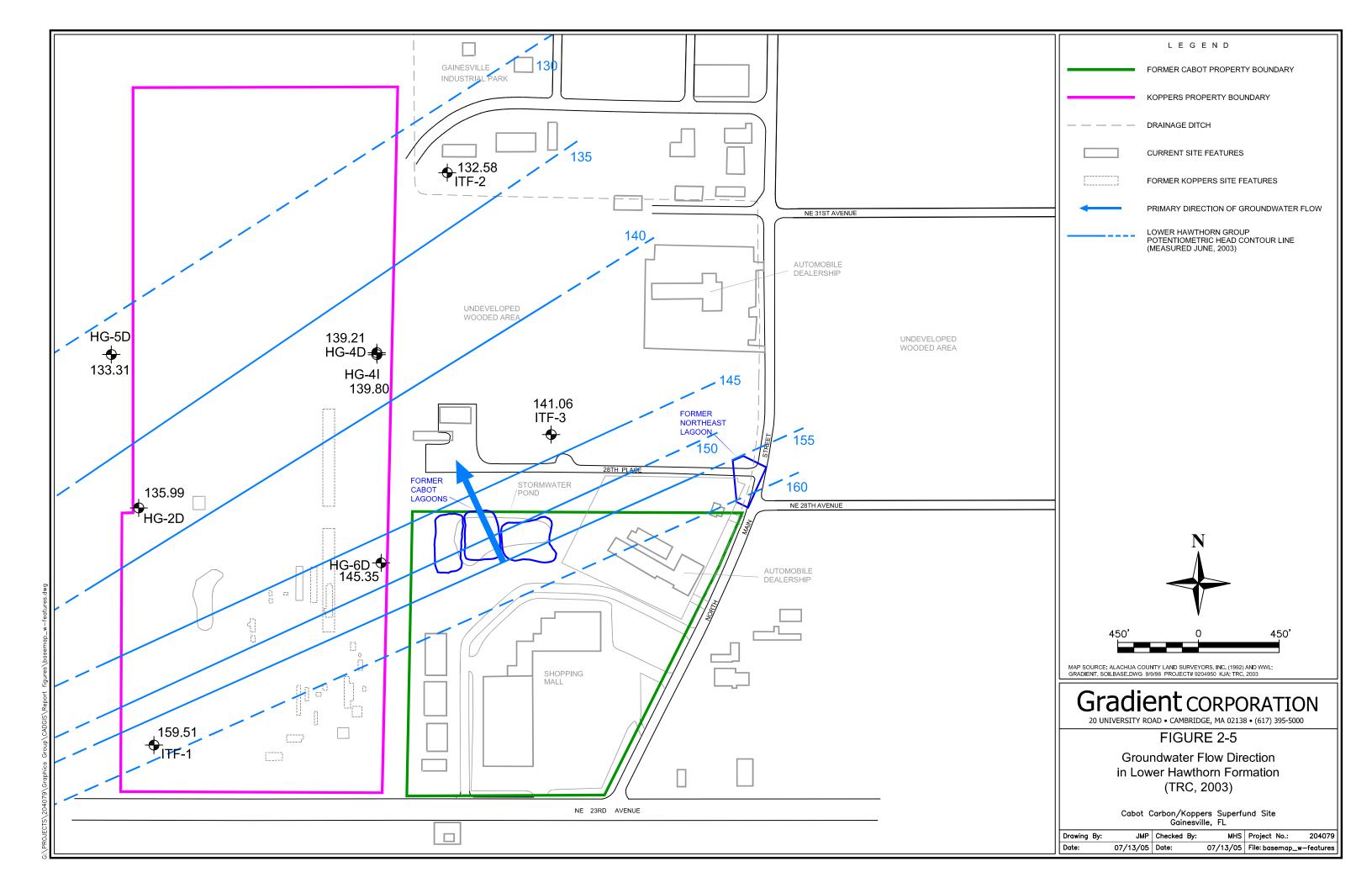
* = Target compounds were quantified from a secondary dilution due to analyte abundance in the sample.

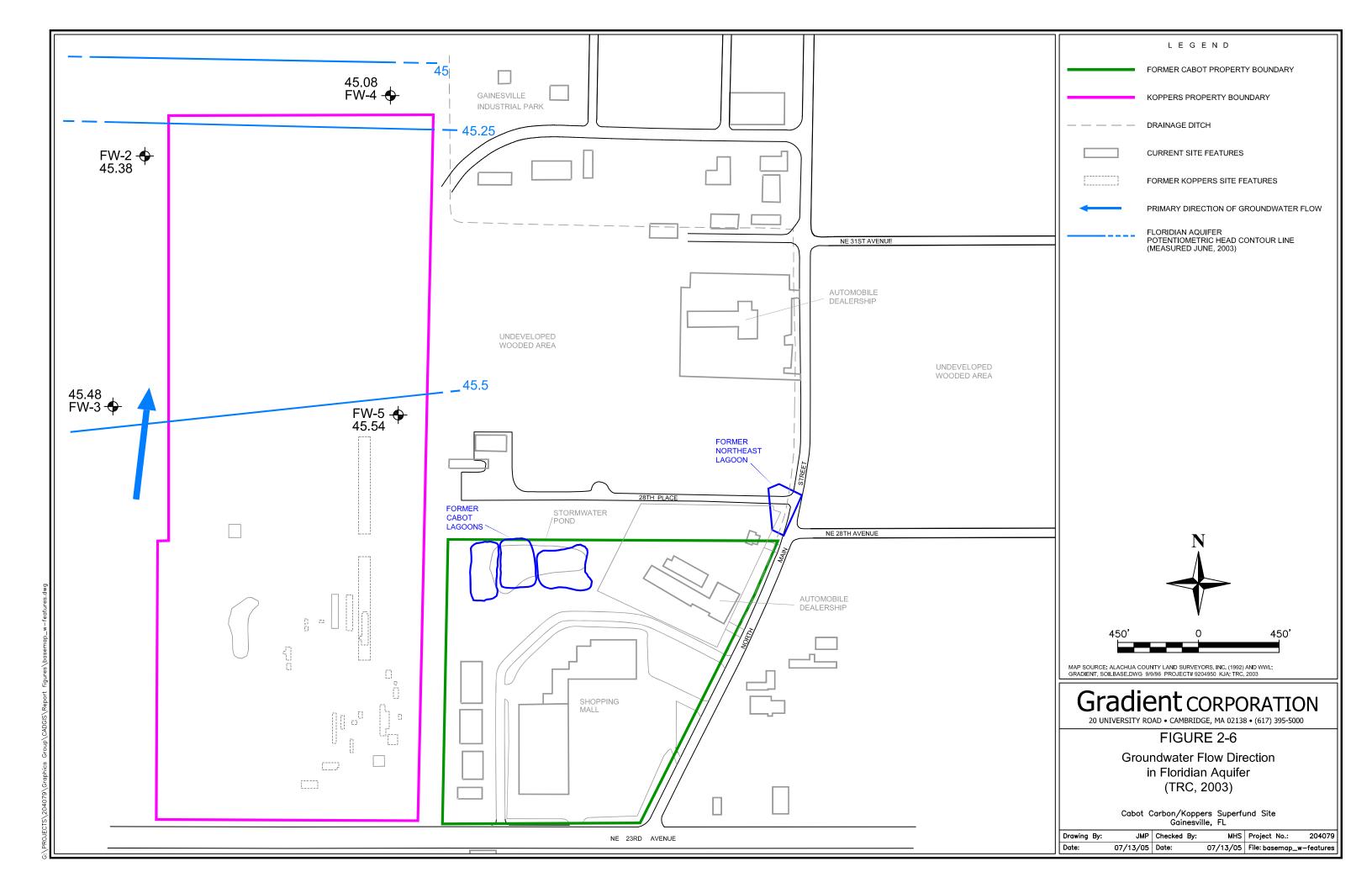
P = Identification of target analytes using LC methodology is based on retention time. Discretion should be employed during data review and interpretation of results for this target compound.

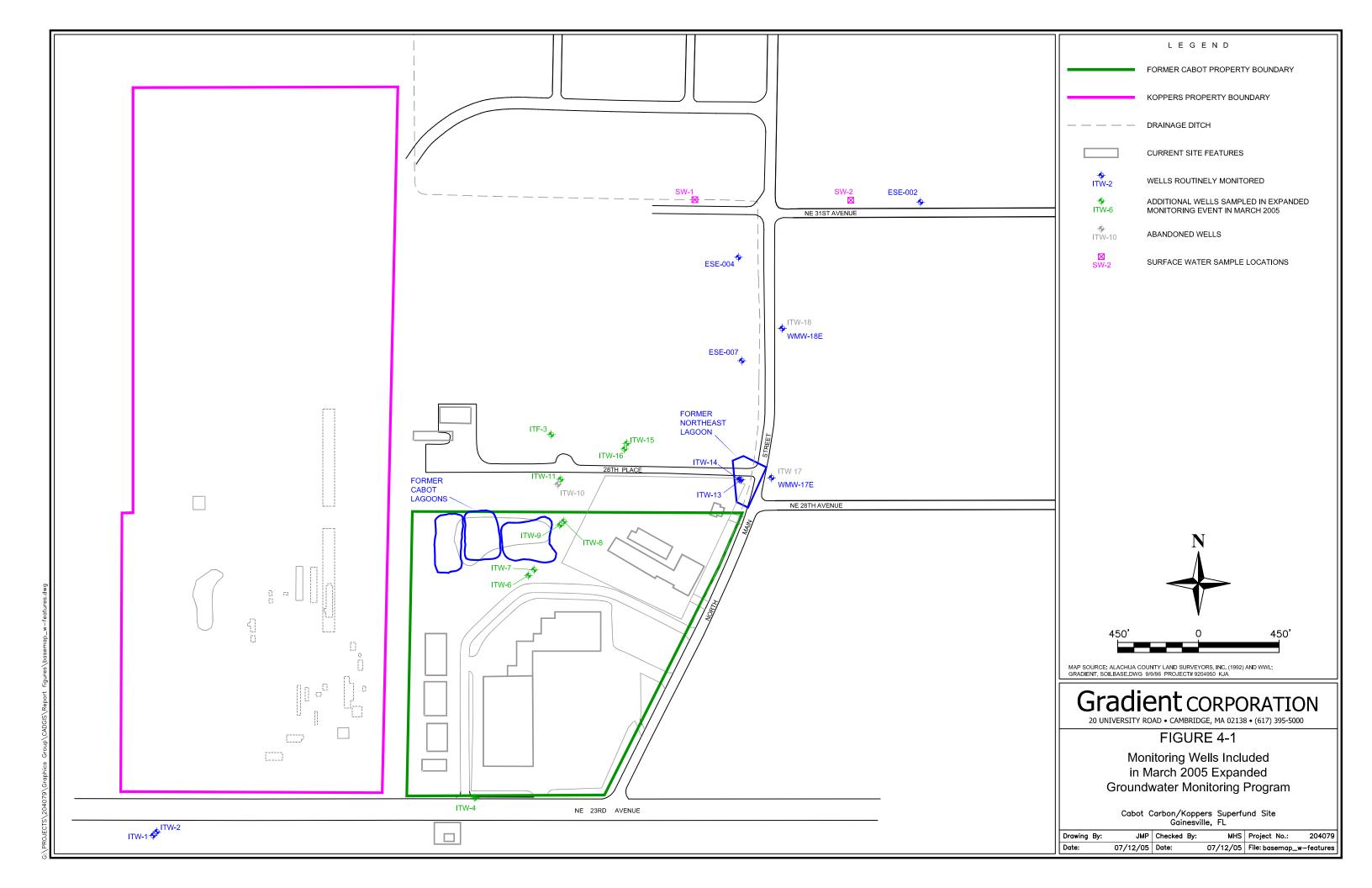
Attachment A-3 Updated Copies of Selected Figures from Gradient (2005) Report

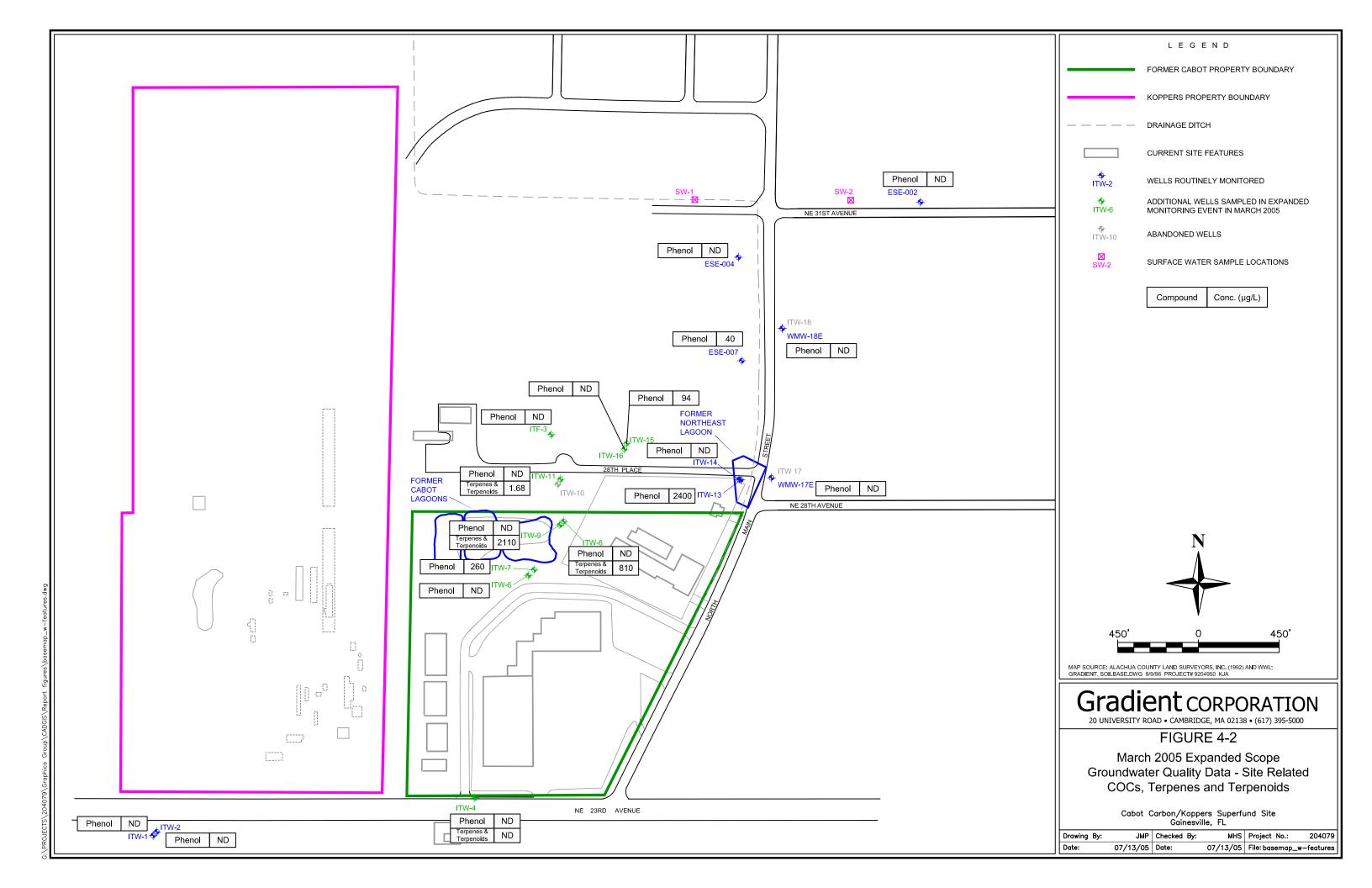












Attachment B Ratio of Horizontal to Vertical Groundwater Flux

Attachment B Horizontal/Vertical Flux Analysis Cabot Carbon/Koppers Superfund Site Gainsville, Florida

Horizontal Flux

Hydraulic Conductivity K _h (cm/s)	Horizontal Flux q _h (cm/s) ¹	Source of K _h Value
3.50E-03	3.85E-05	Jones Edmunds & Associates, Inc., February 2006
7.40E-03	8.14E-05	Waterloo Hydrogeologic, Inc., June 2005

Range of q_h: 3.85E-05 to 8.14E-05

Note: 1) Horizontal flux calculated utilizing a measured hydraulic gradient value of 1.1E-02 for the northern portion of Cabot property (Weston, November 2005).

Vertical Flux

Hydraulic Conductivity K _v (cm/s)	Vertical Flux q _v (cm/s) ²	Source of K, Value
1.00E-08	5.00E-09	IT, 1987
2.00E-06	1.00E-06	IT, 1987

Range of q_v: 5.0E-09 to 1.00E-06

Note: 2) Vertical flux calculated using a vertical hydraulic gradient value of 0.5 (Jones Edmunds & Associates, Inc., February 2006).

Range of Ratios of q_h:q_v: 40 to 16000

Attachment C Vertical Extent of Groundwater Inceptor Trench Calculation

Table C-1
Depth of Vertical Capture Zone of
Groundwater Interceptor Trench

Parameter			Units	Source
Average extraction rate of groundwater interceptor trench (approx. half a billion gallons of water extracted				
in 20 years)	Q	9156	ft3/d	Gradient, 2005
Surficial aquifer hydraulic conductivity	K	21	ft./d	Waterloo Hydrogeologic, Inc., June 2005
Surficial aquifer hydraulic gradient	i	1.10E-02		Weston, November 2005
Width of surficial aquifer intercepted by trench	L	1000	ft.	Figure C-1

Thickness of surficial aquifer intercepted by trench = $Q/(K^*i^*L)$

= 40 ft.

