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March 5, 2013

Ms. Tara M. Blum, PE  
NYSDEC Region 7  
Division of Environmental Remediation  
615 Erie Boulevard  
West Syracuse, New York 13204-2400

Re: Carrier Corporation, Thompson Road Facility, Syracuse, New York  
Corrective Action Order — Index CO 7-20051118-4  
Transformer Yard Area Storm Line Investigation Report, March 2013

Dear Ms. Blum:

In accordance with the above-referenced order, Carrier Corporation is providing one hard copy and one electronic copy of the referenced report. The electronic copy can be found in PDF format on the CD inside front cover of the attached report.

Per email correspondence from your department on September 12, 2011, and follow-up email on October 25, 2011, a hard copy and an electronic copy of this letter will be submitted (via US Mail) to the New York State Department of Health contacts, Ms. Krista Anders (replacement for Mr. Steven Bates), with the Bureau of Environmental Exposure Investigation, and Mr. Mark Sergott (NYSDOH).

Please call me at (615) 255-9300 if you have any questions.

Sincerely,

EnSafe Inc.

By: May Heflin, PE

Encl. Transformer Yard Area Storm Line Investigation Report, March 2013

cc: (hard copy and electronic copy):  
Ms. Krista Anders — New York State Department of Health  
Mr. Mark Sergott — New York State Department of Health

cc: (electronic copy only):  
Mr. William Penn — United Technologies Corporation  
Mr. John Wolski — United Technologies Corporation  
Ms. Kathleen McFadden — United Technologies Corporation  
Mr. Nelson Wong — Carrier Corporation



**TRANSFORMER YARD AREA STORM LINE  
INVESTIGATION REPORT**

**UNITED TECHNOLOGIES/CARRIER CORPORATION  
THOMPSON ROAD FACILITY  
SYRACUSE, NEW YORK**

**EnSafe Project Number  
0888812667**

**Revision No.: 0**

**Prepared for:**

**United Technologies Corporation  
UTC Shared Remediation Services  
United Technologies Building  
Hartford, Connecticut 06010**

**Prepared by:**



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**March 2013**



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## EXECUTIVE SUMMARY

Carrier Corporation, a wholly-owned subsidiary of United Technologies Corporation, is currently working through Corrective Action Order — Index CO 7-20051118-4 (order) dated February 13, 2006, with the New York State Department of Environmental Conservation Division of Solid and Hazardous Materials (NYSDEC-DSHM), to identify potential sources of polychlorinated biphenyls (PCBs) in storm water effluent at Outfall 002 at Carrier's Thompson Road, Syracuse, New York, facility. As part of this process, in September 2012, Carrier conducted an investigation in and around an approximate 20-foot section of storm line east of MH116A at the Transformer Yard area.

The primary goal of this investigation was to determine if PCB-containing oil (free-product) exists in the subsurface, specifically in the storm line bedding material. The concern expressed by NYSDEC and shared by Carrier was that if such a source existed in the bedding material, then PCBs may be migrating via this pathway to Sanders Creek. A secondary goal of the investigation was to follow up on a historic video inspection that showed accumulated sediments in the 20-foot section of piping east of manhole MH116A by sampling those sediments and analyzing them for Total PCBs.

Soil, groundwater, and storm line sediments exhibited PCBs as follows:

- One sediment sample was collected inside the storm line piping approximately 15 feet east of MH116A. This sample exhibited a Total PCB concentration of 61.6 milligrams per kilogram (mg/kg), which is consistent with historical PCB concentrations detected in MH116A sediments.
- An approximate 20-foot trench was excavated along the storm line east of manhole MH116A. Of the four bedding material soil samples collected, one (approximately 5 feet to the east of MH116A) exhibited a Total PCB concentration of 56.9 mg/kg, which exceeds the industrial soil cleanup objective of 25 mg/kg for PCBs listed in Table 375-6.8(b): Restricted Use Soil Cleanup Objectives (SCO) of the NYSDEC Subpart 375-6: Remedial Program SCOs. The three remaining samples were taken at 5-foot linear increments from the first sample, and all were found to contain PCBs in concentrations significantly less than the industrial SCO (ranging from 0.447 mg/kg to 0.0865 mg/kg Total PCBs). The data does not indicate that migration is occurring outside of the storm lines to MH116A area from an upgradient source.
- A water sample was collected from the trench that was excavated. PCBs were not detected in this sample above the New York Water Quality Standard of 90 nanograms per liter for Total PCBs. There was no visual evidence of free-product, and no oil was detected using an oil-water interface probe.







## **1.0 BACKGROUND**

New York State Department of Environmental Conservation (NYSDEC) hypothesizes that a polychlorinated biphenyl (PCB) source external to a Transformer Yard area storm line (east of manhole MH116A) continually contributes PCBs (through deteriorated sections of the line) to storm line storm water and sediments. If such a source exists, the NYSDEC proposes that it also would be possible for PCB-contaminated groundwater and sediments to migrate along the bedding material of the storm line before entering Sanders Creek.

During the week of September 4, 2012, Carrier implemented field investigations in accordance with the *Transformer Yard Area Storm Line Investigation Work Plan (Rev1), November 2011*, which was conditionally approved by NYSDEC via correspondence dated May 2, 2012.



## 2.0 INVESTIGATION LOCATIONS

The investigation focused on two areas along an approximately 20-foot section of storm line outside the Transformer Yard: (1) inside the storm line piping at an area where a 2009 video inspection of the line indicated an accumulation of sediments, and (2) outside the storm line (i.e., the 20 feet of bedding material underlying the storm line) between MH-116A and the accumulated sediment area (Figure 1 in Appendix A). The primary objectives of the investigation were to:

1. Further characterize the nature of the accumulated sediments
2. Determine if PCB-containing oil (free-product) exists in the subsurface, specifically in the storm line bedding material

A third objective listed in the work plan was to repair or replace manhole MH116A. This manhole was replaced as part of Pond #1 construction activities related to the campus-wide storm water management program at Carrier and as proposed in *Retention Pond #1, Engineering Plans and Technical Specifications* (December 4, 2010), previously submitted to Ms. Sandy Lizlovs of NYSDEC. The replacement was made prior to NYSDEC approval of the of the work plan during one of the review and comment iterations. A description of the replacement was included in the final NYSDEC-approved work plan and is also provided in Section 3.

No deviations occurred from the work plan.

### 2.1 Accumulated Sediments East of MH116A

The storm line overburden material was removed at a point approximately 15 feet east of MH116A. Once the storm line piping was exposed, the piping was cut and an in-pipe sediment sample was collected. The sediment sample was submitted to Accutest Laboratories in Dayton, New Jersey (New York Certification 11791), for Total PCB analysis using U.S. Environmental Protection Agency (USEPA) Method 8082. This sample exhibited a Total PCB concentration of 61.6 milligrams per kilogram (mg/kg). A PCB soil data summary is provided in Table 1 of Appendix B. Laboratory analytical data sheets are provided in Appendix C.

### 2.2 Storm Line Bedding Material Investigation

#### Soil

A trench (test pit) was excavated the width of the backhoe bucket to a depth 1 foot below the storm line so that the bottom of the trench immediately adjacent to the storm line was

exposed. The trench extended from MH116A to a point approximately 20 feet east. Four soil samples were collected from the 1-foot interval just below the storm line piping in what is considered to be representative of the bedding material at 5-foot linear increments from MH116A (Figure 1). The soil samples were submitted to Accutest Laboratories for Total PCB analysis via Method 8082. Of the four bedding material soil samples collected, one (SL Bedding1) exhibited a Total PCB concentration of 56.9 mg/kg, which exceeds the industrial soil cleanup objective of 25 mg/kg for PCBs listed in Table 375-6.8(b): Restricted Use Soil Cleanup Objectives (SCO) of the NYSDEC Subpart 375-6: Remedial Program SCOs. The three remaining samples exhibited concentrations less than the industrial SCO (ranging from 0.447 mg/kg to 0.0865 mg/kg Total PCBs). A PCB soil data summary is provided in Table 2 of Appendix B. Laboratory analytical data sheets are provided in Appendix C.

### **Groundwater**

The trench was left open for 24 hours so that groundwater, if present, could equilibrate in the trench and be observed for a visible sheen or accumulation of non-aqueous phase liquid (NAPL). After 12 hours, no water had accumulated in the trench, and the forecast called for rain. Therefore, a 1- to 2-foot deep mini-pit was excavated in the floor of the excavation approximately 10 feet from MH116A (Figure 1). Water was observed to enter the pit. A grab sample of groundwater was collected in three 1-liter amber bottles, which was placed in a cooler of ice and allowed to "settle" for several hours. The supernatant was decanted into two 1-liter amber bottles, to within 1 inch of the settled sediment. The water sample was submitted to Pace Analytical Services, Inc. in Schenectady, New York (New York Certification NY00906, ELAP 11078), and analyzed for volatile organic compounds (VOC) using USEPA Method 8260b and Total PCB analysis using USEPA Method 8082. The method detection limit sheet for this method from this laboratory was submitted in correspondence from Carrier to NYSDEC on May 10, 2012. PCBs were not detected in this sample above the New York State Water Quality Standard (NYS WQS) of 90 nanograms per liter (ng/L) for Total PCBs. No visual evidence of free-product was observed and no oil was detected using an oil-water interface probe. The only VOC detected was trichloroethylene (TCE) which was detected at 1.56 micrograms per liter ( $\mu\text{g/L}$ ). A summary of the trenchwater sample data is provided in Table 3 of Appendix B. Laboratory analytical data sheets are provided in Appendix C.

### **2.3 Excavated Soils**

Overburden soils (those above the storm line) were stockpiled on the ground surface close to the excavation area. Soils at or above the top of storm line were stockpiled on polyethylene sheeting and were used in conjunction with clean stone to backfill the trench.



Soils excavated at or below the storm line were temporarily (i.e., less than 8 hours) stockpiled on polyethylene sheeting, then containerized in 55-gallon drums for later disposal pending analytical data.



### 3.0 CONCLUSIONS

The objective of this investigation was to determine if PCB-containing oil (free-product) exists in the in the storm line bedding material of the Transformer Yard area storm line and, if so, to determine if the bedding material serves as a migratory pathway to Sanders Creek.

**Accumulated Sediments in Transformer Yard Area Storm Line Section** — The sediment sample collected inside the storm line piping exhibited a Total PCB concentration of 61.6 mg/kg. The PCB concentration in storm line sediments is consistent with historical downgradient sediment samples and with Carrier’s conceptual site model, which is that the source and transport of PCBs through the storm water system is primarily associated with historic PCB releases to the drainage system. The PCB-impacted sediments do not appear to pose a migration concern to Sanders Creek via Outfall 002 via the storm line piping because Carrier has implemented a remedy to address PCBs in Outfall 002 storm water discharges as summarized below:

Baseline and storm water flows in the Transformer Yard area are collected by the pipes going to Pond #1, which controls waters to a 25-year/24-hour storm event. During overflows, Outfall 002 receives storm water runoff from Drainage Basin 002. It has an associated pump station (PS-2) that collects and transfers dry weather flow (infiltrating groundwater) and storm water to a PCB treatment system in the storm water treatment building northeast of Parking Lot R. Treated storm water from the PCB treatment system is routed to the VOC treatment system and ultimately discharges to Sanders Creek via Outfall 01A. Flow to PS-2 is regulated by a system of piping, storm water retention ponds, and flow control structures located on the south, middle, and northern portions of Drainage Basin 002. The storm water management system in Drainage Basin 002 is designed to capture and transfer to the PCB treatment system runoff from storms up to and including the 25-year/ 24-hour storm event.

The source of PCBs in the storm line sediments east of the Transformer Yard has not been identified, although it could be related to the historic releases at the Transformer Yard and/or backflow from MH116A.

**Storm Line Bedding Material** — Soil bedding material sampled along the section of storm line piping from MH116A to the accumulated sediment location indicated that a PCB release occurred, presumably via the former deteriorated MH116A. Soil sample SL Bedding 1 was located approximately 5 to 10 feet east of MH116A and exhibited a Total PCB concentration of 56.9 mg/kg.



All soil bedding samples collected east of SL Bedding 1 were less than 1 mg/kg, well below the 25 mg/kg industrial SCO. The data does not indicate that migration is occurring outside of the storm lines to MH116A area from an upgradient source.

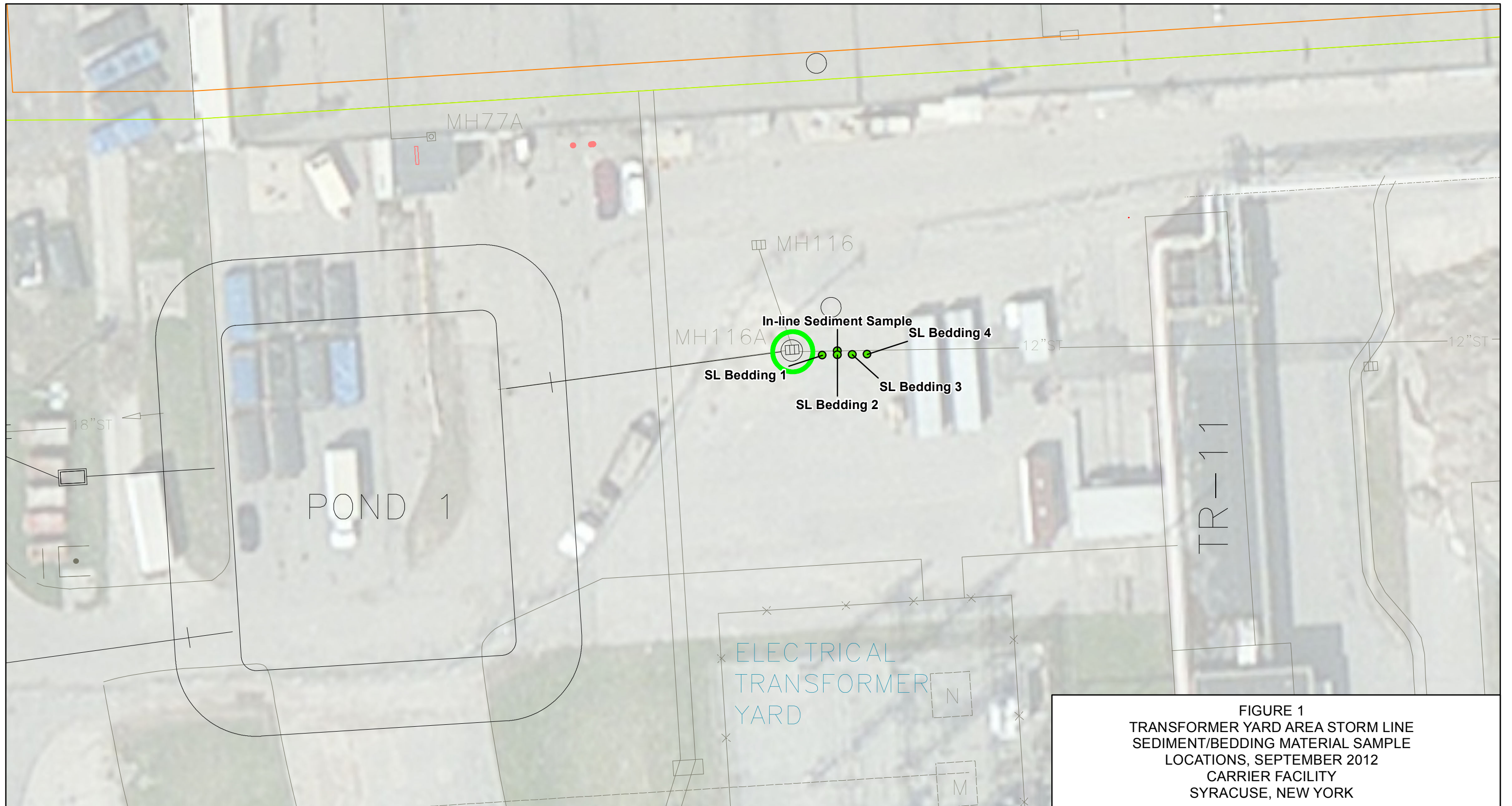
As mentioned in Section 1 and described in the approved work plan, MH116A was replaced as part of Pond #1 construction activities related to the campus-wide storm water management program at Carrier and as proposed in *Retention Pond #1, Engineering Plans and Technical Specifications*, (December 4, 2010), previously submitted to Ms. Sandy Lizlovs of NYSDEC. Historic video footage of the storm line between MH-116A and Building TR-11 showed the reinforced concrete pipe to be in good condition, but the manhole (MH-116A) was in poor condition. The manhole along with the storm line piping to west toward MH77 was replaced to capture storm water flow and divert it to Pond #1, where it is ultimately routed to and treated at the PCB water treatment facility on the north end of the site. No indications of NAPL were noted in the bedding material underlying this section of storm line during construction activities, nor were any visible or olfactory signs of contamination noted.

Also of importance is a recently completed storm line investigation at several Basin 002 manhole areas, two of which (manholes MH91 and MH154) are along the Thompson Road storm line which drains the Transformer Yard area. PCBs were not detected in any soil samples collected in the bedding material at MH91 and MH154 (*Storm Line Bedding Material Investigation Report*, submitted to NYSDEC on February 27, 2013). These data collected thus far do not support NYSDEC's hypothesis that PCBs migrate along bedding material of the storm line, but do support Carrier's conceptual site model that the transport of PCBs through the storm water system is primarily associated with historic PCB releases to the drainage system.



**Appendix A**  
**Figure**





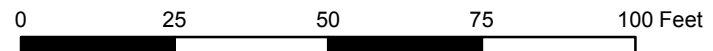
**FIGURE 1**  
**TRANSFORMER YARD AREA STORM LINE**  
**SEDIMENT/BEDDING MATERIAL SAMPLE**  
**LOCATIONS, SEPTEMBER 2012**  
**CARRIER FACILITY**  
**SYRACUSE, NEW YORK**

**Legend**

- SL Bedding
- ⊙ Deep Well
- ⊕ Shallow Well

Aerial Photographic Source:  
 ESRI Online Bing Aerial Map -  
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Roof Drainage Plan Source:  
 The J.G. White Engineering  
 Company, Lessee



REQUESTED BY: M. Heflin
DRAWN BY: N. Rinehart
DATE: 11/12/2012
PROJECT NO: 0888812667



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**Appendix B**  
**Data Summary Tables**



**Table 1**  
**Transformer Yard Area Storm Line - In-Line Sediment Sample Summary, September, 2012**  
**Carrier Facility, Syracuse, New York**

Transformer Yard Area Storm Line	Field Sample ID	Sample Date	Analyte Name	Result Value	Laboratory Qualifier Flags	Units	Reporting Limit	Method Detection Limit
Transformer Yard Area Storm Line - In-Line Sediment Sample Summary, September, 2012	STORM LINE SEDIMENT	9/5/2012	Aroclor 1016	ND	U	ug/kg	40	10
		9/5/2012	Aroclor 1221	ND	U	ug/kg	40	24
		9/5/2012	Aroclor 1232	ND	U	ug/kg	40	20
		9/5/2012	Aroclor 1242	ND	U	ug/kg	40	13
		9/5/2012	Aroclor 1248	ND	U	ug/kg	40	12
		9/5/2012	Aroclor 1254	ND	U	ug/kg	40	19
		9/5/2012	Aroclor 1260	61600		ug/kg	2000	660
		9/5/2012	Aroclor 1262	ND	U	ug/kg	40	12
		9/5/2012	Aroclor 1268	ND	U	ug/kg	40	13





**Table 2**  
**Transformer Yard Area Storm Line - Bedding Material Soil Sample Summary, September, 2012**  
**Carrier Facility, Syracuse, New York**

Transformer Yard Area Storm Line	Field Sample ID	Sample Date	Analyte Name	Result Value	Laboratory Qualifier Flags	Units	Reporting Limit	Method Detection Limit	
Transformer Yard Area	SL-BEDDING 1	9/5/2012	Aroclor 1016	ND	U	ug/kg	58	15	
		9/5/2012	Aroclor 1221	ND	U	ug/kg	58	35	
		9/5/2012	Aroclor 1232	ND	U	ug/kg	58	29	
		9/5/2012	Aroclor 1242	ND	U	ug/kg	58	18	
		9/5/2012	Aroclor 1248	ND	U	ug/kg	58	18	
		9/5/2012	Aroclor 1254	ND	U	ug/kg	58	27	
		9/5/2012	Aroclor 1260	56900			ug/kg	1200	380
		9/5/2012	Aroclor 1262	ND	U	ug/kg	58	17	
		9/5/2012	Aroclor 1268	ND	U	ug/kg	58	18	
Transformer Yard Area	SL-BEDDING 2	9/5/2012	Aroclor 1016	ND	U	ug/kg	39	10	
		9/5/2012	Aroclor 1221	ND	U	ug/kg	39	23	
		9/5/2012	Aroclor 1232	ND	U	ug/kg	39	20	
		9/5/2012	Aroclor 1242	ND	U	ug/kg	39	12	
		9/5/2012	Aroclor 1248	ND	U	ug/kg	39	12	
		9/5/2012	Aroclor 1254	ND	U	ug/kg	39	18	
		9/5/2012	Aroclor 1260	135			ug/kg	39	13
		9/5/2012	Aroclor 1262	ND	U	ug/kg	39	11	
		9/5/2012	Aroclor 1268	ND	U	ug/kg	39	12	
Transformer Yard Area	SL-BEDDING 3	9/5/2012	Aroclor 1016	ND	U	ug/kg	38	9.9	
		9/5/2012	Aroclor 1221	ND	U	ug/kg	38	23	
		9/5/2012	Aroclor 1232	ND	U	ug/kg	38	19	
		9/5/2012	Aroclor 1242	ND	U	ug/kg	38	12	
		9/5/2012	Aroclor 1248	ND	U	ug/kg	38	12	
		9/5/2012	Aroclor 1254	ND	U	ug/kg	38	18	
		9/5/2012	Aroclor 1260	86.5			ug/kg	38	13
		9/5/2012	Aroclor 1262	ND	U	ug/kg	38	11	
		9/5/2012	Aroclor 1268	ND	U	ug/kg	38	12	
Transformer Yard Area	SL-BEDDING 4	9/5/2012	Aroclor 1016	ND	U	ug/kg	40	10	
		9/5/2012	Aroclor 1221	ND	U	ug/kg	40	24	
		9/5/2012	Aroclor 1232	ND	U	ug/kg	40	20	
		9/5/2012	Aroclor 1242	ND	U	ug/kg	40	13	
		9/5/2012	Aroclor 1248	ND	U	ug/kg	40	12	
		9/5/2012	Aroclor 1254	ND	U	ug/kg	40	19	
		9/5/2012	Aroclor 1260	447			ug/kg	40	13
		9/5/2012	Aroclor 1262	ND	U	ug/kg	40	12	
		9/5/2012	Aroclor 1268	ND	U	ug/kg	40	13	



**Table 3  
Transformer Yard Area Storm Line - Trench Water VOC and PCB Data Summary, September, 2012**

Transformer Yard Area Storm Line	Field Sample ID	Sample Date	Analyte Name	Result Value	Laboratory Qualifier Flags	Units	Reporting Limit	Method Detection Limit
	TRENCHWATER-1	9/6/2012	Dichlorodifluoromethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Chloromethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Vinyl chloride	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Bromomethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Chloroethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Trichlorofluoromethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Acetone	ND	U	ug/L	5	5
	TRENCHWATER-1	9/6/2012	1,1-Dichloroethene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Carbon disulfide	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Methylene chloride	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	trans-1,2-Dichloroethene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,1-Dichloroethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	2-Butanone	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	2,2-Dichloropropane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	cis-1,2-Dichloroethene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Chloroform	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Bromochloromethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,1,1-Trichloroethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,1-Dichloropropene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Carbon tetrachloride	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,2-Dichloroethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Benzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Trichloroethene	1.56	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,2-Dichloropropane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Bromodichloromethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Dibromomethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	2-Chloroethylvinylether	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	4-Methyl-2-pentanone	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	cis-1,3-Dichloropropene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Toluene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	trans-1,3-Dichloropropene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	2-Hexanone	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,1,2-Trichloroethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,3-Dichloropropane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Tetrachloroethene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Dibromochloromethane	ND	U	ug/L	1	1



**Table 3**  
**Transformer Yard Area Storm Line - Trench Water VOC and PCB Data Summary, September, 2012**

Transformer Yard Area Storm Line	Field Sample ID	Sample Date	Analyte Name	Result Value	Laboratory Qualifier Flags	Units	Reporting Limit	Method Detection Limit
	TRENCHWATER-1	9/6/2012	1,2-Dibromoethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Chlorobenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,1,1,2-Tetrachloroethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Ethylbenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	m&p-Xylene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	o-Xylene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Styrene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Isopropylbenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Bromoform	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,1,2,2-Tetrachloroethane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,2,3-Trichloropropane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	n-Propylbenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Bromobenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,3,5-Trimethylbenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	2-Chlorotoluene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	4-Chlorotoluene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	tert-Butylbenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,2,4-Trimethylbenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	sec-Butylbenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	4-Isopropyltoluene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,3-Dichlorobenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,4-Dichlorobenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	n-Butylbenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,2-Dichlorobenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,2,4-Trichlorobenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Hexachlorobutadiene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Naphthalene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,2,3-Trichlorobenzene	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	1,2-Dibromo-3-chloropropane	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	MTBE	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Vinyl acetate	ND	U	ug/L	1	1
	TRENCHWATER-1	9/6/2012	Dibromofluoromethane	40.116		ug/L		
	TRENCHWATER-1	9/6/2012	1,2-Dichloroethane-d4	40.081		ug/L		
	TRENCHWATER-1	9/6/2012	Toluene-d8	37.807		ug/L		
	TRENCHWATER-1	9/6/2012	Bromofluorobenzene	38.543		ug/L		
	TRENCHWATER-1	9/6/2012	Aroclor 1221	ND	U	ug/L	0.05	0.00548
	TRENCHWATER-1	9/6/2012	Aroclor 1232	ND	U	ug/L	0.05	0.00738



**Table 3  
Transformer Yard Area Storm Line - Trench Water VOC and PCB Data Summary, September, 2012**

Transformer Yard Area Storm Line	Field Sample ID	Sample Date	Analyte Name	Result Value	Laboratory Qualifier Flags	Units	Reporting Limit	Method Detection Limit
	TRENCHWATER-1	9/6/2012	Aroclor 1242	ND	U	ug/L	0.05	0.00995
	TRENCHWATER-1	9/6/2012	Aroclor 1248	ND	U	ug/L	0.05	0.0104
	TRENCHWATER-1	9/6/2012	Aroclor 1254	ND	U	ug/L	0.05	0.00705
	TRENCHWATER-1	9/6/2012	Aroclor 1260	ND	U	ug/L	0.05	0.00922
	TRENCHWATER-1	9/6/2012	Aroclor 1262	ND	U	ug/L	0.05	0.00662
	TRENCHWATER-1	9/6/2012	Aroclor 1268	ND	U	ug/L	0.05	0.00696
	TRENCHWATER-1	9/6/2012	Total PCB Amount	ND	U	ug/L	0.05	0.0324
	TRENCHWATER-1	9/6/2012	Tetrachloro-meta-xylene	0.044513		ug/L		
	TRENCHWATER-1	9/6/2012	Decachlorobiphenyl	0.53401		ug/L		
Trench 2 Sample ID is a UTC double-blinded performance evaluation sample used evaluate UTC-approved laboratories. This sample was spiked by an outside lab and sent to the jobsite, where it was included on the field COC, and submitted to Pace Laboratories for analysis. The PCBs detected in this sample did not come from the trench water. The trench water is represented by TRENCHWATER-1 above.	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Aroclor 1221</del>	<del>ND</del>	<del>U</del>	<del>ug/L</del>	<del>0.25</del>	<del>0.0274</del>
	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Aroclor 1232</del>	<del>ND</del>	<del>U</del>	<del>ug/L</del>	<del>0.25</del>	<del>0.0369</del>
	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Aroclor 1242</del>	<del>ND</del>	<del>U</del>	<del>ug/L</del>	<del>0.25</del>	<del>0.0498</del>
	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Aroclor 1248</del>	<del>3.68</del>	<del>AE</del>	<del>ug/L</del>	<del>0.25</del>	<del>0.052</del>
	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Aroclor 1254</del>	<del>2.62</del>	<del>AF</del>	<del>ug/L</del>	<del>0.25</del>	<del>0.0352</del>
	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Aroclor 1260</del>	<del>ND</del>	<del>U</del>	<del>ug/L</del>	<del>0.25</del>	<del>0.0461</del>
	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Aroclor 1262</del>	<del>ND</del>	<del>U</del>	<del>ug/L</del>	<del>0.25</del>	<del>0.0331</del>
	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Aroclor 1268</del>	<del>ND</del>	<del>U</del>	<del>ug/L</del>	<del>0.25</del>	<del>0.0348</del>
	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Total PCB Amount</del>	<del>6.3</del>		<del>ug/L</del>	<del>0.25</del>	<del>0.162</del>
	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Tetrachloro meta-xylene</del>	<del>0.047318</del>		<del>ug/L</del>		
	<del>TRENCH 2</del>	<del>9/6/2012</del>	<del>Decachlorobiphenyl</del>	<del>0.54174</del>		<del>ug/L</del>		





**Appendix C**  
**Laboratory Analytical Data**



## Technical Report for

### United Technologies Corporation

ENSTNN: Carrier, Syracuse, NY

0888812667 PO # 13437 Transformer Yard Investigation

Accutest Job Number: JB15708

Sampling Dates: 09/05/12 - 09/06/12

#### Report to:

Ensafe  
5724 Summer Trees Drive  
Memphis, TN 38134  
tcantwell@ensafe.com; mheflin@Ensafe.com;  
bham@ensafe.com  
ATTN: May Heflin

Total number of pages in report: **19**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.



**Paul Ioannidis**  
Lab Director

**Client Service contact: Marie Meidhof 732-329-0200**

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, OH VAP (CL0056), PA, RI, SC, TN, VA, WV

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Test results relate only to samples analyzed.

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## Sample Summary

United Technologies Corporation

**Job No:** JB15708

ENSTNN: Carrier, Syracuse, NY

Project No: 0888812667 PO # 13437 Transformer Yard Investigation

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
JB15708-1	09/05/12	10:00 AW	09/07/12	SO	Soil	STORM LINE SEDIMENT
JB15708-2	09/05/12	10:42 AW	09/07/12	SO	Soil	SL BEDDING-1
JB15708-3	09/05/12	10:50 AW	09/07/12	SO	Soil	SL BEDDING-2
JB15708-4	09/05/12	10:52 AW	09/07/12	SO	Soil	SL BEDDING-3
JB15708-5	09/05/12	10:57 AW	09/07/12	SO	Soil	SL BEDDING-4
JB15708-6	09/06/12	09:40 AW	09/07/12	SO	Soil	TRENCH 2

---

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

## Summary of Hits

**Job Number:** JB15708  
**Account:** United Technologies Corporation  
**Project:** ENSTNN: Carrier, Syracuse, NY  
**Collected:** 09/05/12 thru 09/06/12

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
<b>JB15708-1</b>	<b>STORM LINE SEDIMENT</b>					
Aroclor 1260		61600	2000	660	ug/kg	SW846 8082A
<b>JB15708-2</b>	<b>SL BEDDING-1</b>					
Aroclor 1260		56900	1200	380	ug/kg	SW846 8082A
<b>JB15708-3</b>	<b>SL BEDDING-2</b>					
Aroclor 1260		135	39	13	ug/kg	SW846 8082A
<b>JB15708-4</b>	<b>SL BEDDING-3</b>					
Aroclor 1260		86.5	38	13	ug/kg	SW846 8082A
<b>JB15708-5</b>	<b>SL BEDDING-4</b>					
Aroclor 1260		447	40	13	ug/kg	SW846 8082A
<b>JB15708-6</b>	<b>TRENCH 2</b>					
Aroclor 1248		7970	320	97	ug/kg	SW846 8082A
Aroclor 1254		7090	320	150	ug/kg	SW846 8082A

Sample Results

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Report of Analysis

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# Report of Analysis

<b>Client Sample ID:</b> STORM LINE SEDIMENT	
<b>Lab Sample ID:</b> JB15708-1	<b>Date Sampled:</b> 09/05/12
<b>Matrix:</b> SO - Soil	<b>Date Received:</b> 09/07/12
<b>Method:</b> SW846 8082A SW846 3546	<b>Percent Solids:</b> 75.8
<b>Project:</b> ENSTNN: Carrier, Syracuse, NY	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G4826.D	1	09/15/12	HQ	09/12/12	OP59729	G5G119
Run #2	5G4943.D	50	09/18/12	HQ	09/12/12	OP59729	G5G121

	Initial Weight	Final Volume
Run #1	16.5 g	10.0 ml
Run #2	16.5 g	10.0 ml

### PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	40	10	ug/kg	
11104-28-2	Aroclor 1221	ND	40	24	ug/kg	
11141-16-5	Aroclor 1232	ND	40	20	ug/kg	
53469-21-9	Aroclor 1242	ND	40	13	ug/kg	
12672-29-6	Aroclor 1248	ND	40	12	ug/kg	
11097-69-1	Aroclor 1254	ND	40	19	ug/kg	
11096-82-5	Aroclor 1260	61600 <sup>a</sup>	2000	660	ug/kg	
11100-14-4	Aroclor 1268	ND	40	12	ug/kg	
37324-23-5	Aroclor 1262	ND	40	13	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	79%	0% <sup>b</sup>	22-141%
877-09-8	Tetrachloro-m-xylene	74%	0% <sup>b</sup>	22-141%
2051-24-3	Decachlorobiphenyl	88%	0% <sup>b</sup>	18-163%
2051-24-3	Decachlorobiphenyl	188% <sup>c</sup>	0% <sup>b</sup>	18-163%

- (a) Result is from Run# 2
- (b) Outside control limits due to dilution.
- (c) Outside control limits due to matrix interference.

ND = Not detected      MDL - Method Detection Limit      J = Indicates an estimated value  
 RL = Reporting Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound



# Report of Analysis

32  
3

<b>Client Sample ID:</b> SL BEDDING-1		
<b>Lab Sample ID:</b> JB15708-2		<b>Date Sampled:</b> 09/05/12
<b>Matrix:</b> SO - Soil		<b>Date Received:</b> 09/07/12
<b>Method:</b> SW846 8082A SW846 3546		<b>Percent Solids:</b> 54.2
<b>Project:</b> ENSTNN: Carrier, Syracuse, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G4827.D	1	09/15/12	HQ	09/12/12	OP59729	G5G119
Run #2	5G4944.D	20	09/18/12	HQ	09/12/12	OP59729	G5G121

	Initial Weight	Final Volume
Run #1	16.0 g	10.0 ml
Run #2	16.0 g	10.0 ml

### PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	58	15	ug/kg	
11104-28-2	Aroclor 1221	ND	58	35	ug/kg	
11141-16-5	Aroclor 1232	ND	58	29	ug/kg	
53469-21-9	Aroclor 1242	ND	58	18	ug/kg	
12672-29-6	Aroclor 1248	ND	58	18	ug/kg	
11097-69-1	Aroclor 1254	ND	58	27	ug/kg	
11096-82-5	Aroclor 1260	56900 <sup>a</sup>	1200	380	ug/kg	
11100-14-4	Aroclor 1268	ND	58	17	ug/kg	
37324-23-5	Aroclor 1262	ND	58	18	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	139%	204% <sup>b</sup>	22-141%
877-09-8	Tetrachloro-m-xylene	85%	147% <sup>b</sup>	22-141%
2051-24-3	Decachlorobiphenyl	103%	130%	18-163%
2051-24-3	Decachlorobiphenyl	209% <sup>b</sup>	286% <sup>b</sup>	18-163%

(a) Result is from Run# 2

(b) Outside control limits due to matrix interference.

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

<b>Client Sample ID:</b> SL BEDDING-2		<b>Date Sampled:</b> 09/05/12
<b>Lab Sample ID:</b> JB15708-3		<b>Date Received:</b> 09/07/12
<b>Matrix:</b> SO - Soil		<b>Percent Solids:</b> 78.4
<b>Method:</b> SW846 8082A SW846 3546		
<b>Project:</b> ENSTNN: Carrier, Syracuse, NY		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G4828.D	1	09/15/12	HQ	09/12/12	OP59729	G5G119
Run #2							

Run #1	Initial Weight	Final Volume
Run #1	16.4 g	10.0 ml
Run #2		

### PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	39	10	ug/kg	
11104-28-2	Aroclor 1221	ND	39	23	ug/kg	
11141-16-5	Aroclor 1232	ND	39	20	ug/kg	
53469-21-9	Aroclor 1242	ND	39	12	ug/kg	
12672-29-6	Aroclor 1248	ND	39	12	ug/kg	
11097-69-1	Aroclor 1254	ND	39	18	ug/kg	
11096-82-5	Aroclor 1260	135	39	13	ug/kg	
11100-14-4	Aroclor 1268	ND	39	11	ug/kg	
37324-23-5	Aroclor 1262	ND	39	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	105%		22-141%
877-09-8	Tetrachloro-m-xylene	93%		22-141%
2051-24-3	Decachlorobiphenyl	71%		18-163%
2051-24-3	Decachlorobiphenyl	74%		18-163%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

34  
3

<b>Client Sample ID:</b> SL BEDDING-3		
<b>Lab Sample ID:</b> JB15708-4		<b>Date Sampled:</b> 09/05/12
<b>Matrix:</b> SO - Soil		<b>Date Received:</b> 09/07/12
<b>Method:</b> SW846 8082A SW846 3546		<b>Percent Solids:</b> 81.9
<b>Project:</b> ENSTNN: Carrier, Syracuse, NY		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G4829.D	1	09/15/12	HQ	09/12/12	OP59729	G5G119
Run #2							

Run #1	Initial Weight	Final Volume
Run #1	16.0 g	10.0 ml
Run #2		

**PCB List**

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	38	9.9	ug/kg	
11104-28-2	Aroclor 1221	ND	38	23	ug/kg	
11141-16-5	Aroclor 1232	ND	38	19	ug/kg	
53469-21-9	Aroclor 1242	ND	38	12	ug/kg	
12672-29-6	Aroclor 1248	ND	38	12	ug/kg	
11097-69-1	Aroclor 1254	ND	38	18	ug/kg	
11096-82-5	Aroclor 1260	86.5	38	13	ug/kg	
11100-14-4	Aroclor 1268	ND	38	11	ug/kg	
37324-23-5	Aroclor 1262	ND	38	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	102%		22-141%
877-09-8	Tetrachloro-m-xylene	96%		22-141%
2051-24-3	Decachlorobiphenyl	75%		18-163%
2051-24-3	Decachlorobiphenyl	68%		18-163%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

3.5  
3

<b>Client Sample ID:</b> SL BEDDING-4		
<b>Lab Sample ID:</b> JB15708-5		<b>Date Sampled:</b> 09/05/12
<b>Matrix:</b> SO - Soil		<b>Date Received:</b> 09/07/12
<b>Method:</b> SW846 8082A SW846 3546		<b>Percent Solids:</b> 82.7
<b>Project:</b> ENSTNN: Carrier, Syracuse, NY		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G4830.D	1	09/15/12	HQ	09/12/12	OP59729	G5G119
Run #2							

Run #1	Initial Weight	Final Volume
Run #1	15.1 g	10.0 ml
Run #2		

### PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	40	10	ug/kg	
11104-28-2	Aroclor 1221	ND	40	24	ug/kg	
11141-16-5	Aroclor 1232	ND	40	20	ug/kg	
53469-21-9	Aroclor 1242	ND	40	13	ug/kg	
12672-29-6	Aroclor 1248	ND	40	12	ug/kg	
11097-69-1	Aroclor 1254	ND	40	19	ug/kg	
11096-82-5	Aroclor 1260	447	40	13	ug/kg	
11100-14-4	Aroclor 1268	ND	40	12	ug/kg	
37324-23-5	Aroclor 1262	ND	40	13	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	93%		22-141%
877-09-8	Tetrachloro-m-xylene	96%		22-141%
2051-24-3	Decachlorobiphenyl	73%		18-163%
2051-24-3	Decachlorobiphenyl	71%		18-163%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

# Report of Analysis

3.6  
3

<b>Client Sample ID:</b> TRENCH 2		
<b>Lab Sample ID:</b> JB15708-6		<b>Date Sampled:</b> 09/06/12
<b>Matrix:</b> SO - Soil		<b>Date Received:</b> 09/07/12
<b>Method:</b> SW846 8082A SW846 3546		<b>Percent Solids:</b> 99.8
<b>Project:</b> ENSTNN: Carrier, Syracuse, NY		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5G4831.D	1	09/15/12	HQ	09/12/12	OP59729	G5G119
Run #2	5G4945.D	10	09/18/12	HQ	09/12/12	OP59729	G5G121

Run #	Initial Weight	Final Volume
Run #1	15.7 g	10.0 ml
Run #2	15.7 g	10.0 ml

### PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	32	8.3	ug/kg	
11104-28-2	Aroclor 1221	ND	32	19	ug/kg	
11141-16-5	Aroclor 1232	ND	32	16	ug/kg	
53469-21-9	Aroclor 1242	ND	32	10	ug/kg	
12672-29-6	Aroclor 1248	7970 <sup>a</sup>	320	97	ug/kg	
11097-69-1	Aroclor 1254	7090 <sup>a</sup>	320	150	ug/kg	
11096-82-5	Aroclor 1260	ND	32	10	ug/kg	
11100-14-4	Aroclor 1268	ND	32	9.4	ug/kg	
37324-23-5	Aroclor 1262	ND	32	10	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	45%	42%	22-141%
877-09-8	Tetrachloro-m-xylene	46%	65%	22-141%
2051-24-3	Decachlorobiphenyl	39%	47%	18-163%
2051-24-3	Decachlorobiphenyl	34%	44%	18-163%

(a) Result is from Run# 2

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Misc. Forms

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### Custody Documents and Other Forms

---

Includes the following where applicable:

- Chain of Custody

**CHAIN OF CUSTODY**

2235 Route 130, Dayton, NJ 08810  
Tel: 732-329-0200 FAX: 732-329-3499/3480  
www.accutest.com

FED-EX Tracking # 9071 2733 9547	Bottle Order Control #
Accutest Quote #	Accutest Job # JB15708

Client / Reporting Information			Project Information			Requested Analysis ( see TEST CODE sheet)										Matrix Codes					
Company Name <b>Enso</b>			Project Name <b>Transformer Yard Investigation</b>													DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank					
Street Address			Street																		
City State Zip			City State			Billing Information ( if different from Report to) Company Name															
Project Contact <b>May Heflin</b> E-mail <b>mheflin@enso.com</b>			Project # <b>08882667</b>			Street Address															
Phone #			Client Purchase Order # <b>13437</b>			City State Zip															
Sampler(s) Name(s) <b>Adam Wank</b>			Phone # <b>270-779-2355</b>			Project Manager <b>May Heflin</b>			Attention:												
Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection			Matrix	# of bottles	Number of preserved Bottles										LAB USE ONLY			
			Date	Time	Sampled by			SD	NIOSH	HMO3	HMS04	NONE	DI Water	MEOH	ENCORE						
-1	Storm line Sediment		9-5-12	10:00	AW	SO	1														
-2	SL Bedding -1			10:42			1														
-3	SL Bedding -2			10:50			1														
-4	SL Bedding -3			10:52			1														
-5	SL Bedding -4			10:57			1														
-6	Trench 2		9-6-12	9:40			1														
Turnaround Time ( Business days)			Approved By (Accutest PM): / Date:			Data Deliverable Information			Comments / Special Instructions												
<input type="checkbox"/> Std. 15 Business Days <input type="checkbox"/> Std. 10 Business Days ( by Contract only) <input type="checkbox"/> 10 Day RUSH <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY Emergency & Rush T/A data available VIA Lablink						<input type="checkbox"/> Commercial "A" ( Level 1) <input checked="" type="checkbox"/> Commercial "B" ( Level 2) <input type="checkbox"/> FULLT1 ( Level 3+4) <input type="checkbox"/> NJ Reduced <input type="checkbox"/> Commercial "C" Commercial "A" = Results Only Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Partial Raw data			<input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> Other												
Sample Custody must be documented below each time samples change possession, including courier delivery.																					
Relinquished by Sampler <b>1 Adam Wank</b>		Date Time: <b>9-6-12/15:15</b>		Received By <b>[Signature]</b>		Relinquished By: <b>2 [Signature]</b>		Date Time: <b>9/6/12 (1800)</b>		Received By: <b>2 FERRY</b>											
Relinquished by Sampler: <b>3 PCDX</b>		Date Time: <b>9/7/12 1000</b>		Received By: <b>3 [Signature]</b>		Relinquished By: <b>4 [Signature]</b>		Date Time:		Received By: <b>4</b>											
Relinquished by:		Date Time:		Received By:		Custody Seal # <b>CL1001 sch</b>		<input type="checkbox"/> Intact <input type="checkbox"/> Not intact		Preserved where applicable <input type="checkbox"/> On Ice <input checked="" type="checkbox"/> Cooler Temp. <b>4.0°</b>											

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## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** JB15708      **Client:** \_\_\_\_\_      **Project:** \_\_\_\_\_  
**Date / Time Received:** 9/7/2012      **Delivery Method:** \_\_\_\_\_      **Airbill #s:** \_\_\_\_\_

**Cooler Temps (Initial/Adjusted):** #1: (4/4); 0

<u>Cooler Security</u>	<u>Y</u> <u>or</u> <u>N</u>	<u>Y</u> <u>or</u> <u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>	3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/> <input type="checkbox"/>	4. SmpI Dates/Time OK <input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u> <u>or</u> <u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Cooler temp verification:	Bar Therm
3. Cooler media:	Ice (Bag)
4. No. Coolers:	1

<u>Quality Control Preservation</u>	<u>Y</u> <u>or</u> <u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
4. VOCs headspace free:	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u> <u>or</u> <u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/> <input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u> <u>or</u> <u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/> <input type="checkbox"/>
3. Condition of sample:	Intact

<u>Sample Integrity - Instructions</u>	<u>Y</u> <u>or</u> <u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
2. Bottles received for unspecified tests	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
4. Compositing instructions clear:	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>

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## GC Semi-volatiles

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### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

## Method Blank Summary

**Job Number:** JB15708  
**Account:** UTC United Technologies Corporation  
**Project:** ENSTNN: Carrier, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP59729-MB1	XX123850.D 1		09/13/12	HQ	09/12/12	OP59729	GXX4466

The QC reported here applies to the following samples:

Method: SW846 8082A

JB15708-1, JB15708-2, JB15708-3, JB15708-4, JB15708-5, JB15708-6

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	8.7	ug/kg	
11104-28-2	Aroclor 1221	ND	33	20	ug/kg	
11141-16-5	Aroclor 1232	ND	33	17	ug/kg	
53469-21-9	Aroclor 1242	ND	33	11	ug/kg	
12672-29-6	Aroclor 1248	ND	33	10	ug/kg	
11097-69-1	Aroclor 1254	ND	33	16	ug/kg	
11096-82-5	Aroclor 1260	ND	33	11	ug/kg	
11100-14-4	Aroclor 1268	ND	33	9.8	ug/kg	
37324-23-5	Aroclor 1262	ND	33	11	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	99%	22-141%
877-09-8	Tetrachloro-m-xylene	103%	22-141%
2051-24-3	Decachlorobiphenyl	96%	18-163%
2051-24-3	Decachlorobiphenyl	98%	18-163%

# Blank Spike Summary

**Job Number:** JB15708  
**Account:** UTC United Technologies Corporation  
**Project:** ENSTNN: Carrier, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP59729-BS1	XX123851.D 1		09/13/12	HQ	09/12/12	OP59729	GXX4466

The QC reported here applies to the following samples:

Method: SW846 8082A

JB15708-1, JB15708-2, JB15708-3, JB15708-4, JB15708-5, JB15708-6

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	133	150	112	68-152
11104-28-2	Aroclor 1221		ND		70-130
11141-16-5	Aroclor 1232		ND		70-130
53469-21-9	Aroclor 1242		ND		70-130
12672-29-6	Aroclor 1248		ND		70-130
11097-69-1	Aroclor 1254		ND		70-130
11096-82-5	Aroclor 1260	133	154	115	66-150
11100-14-4	Aroclor 1268		ND		50-150 <sup>a</sup>
37324-23-5	Aroclor 1262		ND		50-150 <sup>a</sup>

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	94%	22-141%
877-09-8	Tetrachloro-m-xylene	95%	22-141%
2051-24-3	Decachlorobiphenyl	92%	18-163%
2051-24-3	Decachlorobiphenyl	95%	18-163%

(a) Advisory control limits.

\* = Outside of Control Limits.

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# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** JB15708  
**Account:** UTC United Technologies Corporation  
**Project:** ENSTNN: Carrier, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP59729-MS	XX123852.D 1		09/13/12	HQ	09/12/12	OP59729	GXX4466
OP59729-MSD	XX123853.D 1		09/13/12	HQ	09/12/12	OP59729	GXX4466
JB15958-5	XX123858.D 1		09/13/12	HQ	09/12/12	OP59729	GXX4466

The QC reported here applies to the following samples:

Method: SW846 8082A

JB15708-1, JB15708-2, JB15708-3, JB15708-4, JB15708-5, JB15708-6

CAS No.	Compound	JB15958-5 ug/kg	Spike Q	ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		136	151	111	168	123	11	28-185/42
11104-28-2	Aroclor 1221	ND			ND		ND		nc	70-130/30
11141-16-5	Aroclor 1232	ND			ND		ND		nc	70-130/30
53469-21-9	Aroclor 1242	ND			ND		ND		nc	70-130/30
12672-29-6	Aroclor 1248	ND			ND		ND		nc	70-130/13
11097-69-1	Aroclor 1254	ND			ND		ND		nc	70-130/20
11096-82-5	Aroclor 1260	ND		136	147	108	146	107	1	20-190/43
11100-14-4	Aroclor 1268	ND			ND		ND		nc	-/30
37324-23-5	Aroclor 1262	ND			ND		ND		nc	-/30

CAS No.	Surrogate Recoveries	MS	MSD	JB15958-5	Limits
877-09-8	Tetrachloro-m-xylene	87%	88%	73%	22-141%
877-09-8	Tetrachloro-m-xylene	90%	92%	76%	22-141%
2051-24-3	Decachlorobiphenyl	86%	85%	70%	18-163%
2051-24-3	Decachlorobiphenyl	90%	89%	87%	18-163%

\* = Outside of Control Limits.

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# Semivolatile Surrogate Recovery Summary

**Job Number:** JB15708  
**Account:** UTC United Technologies Corporation  
**Project:** ENSTNN: Carrier, Syracuse, NY

<b>Method:</b> SW846 8082A	<b>Matrix:</b> SO
----------------------------	-------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S1 <sup>b</sup>	S2 <sup>a</sup>	S2 <sup>b</sup>
JB15708-1	5G4943.D	0.0* <sup>c</sup>	0.0* <sup>c</sup>	0.0* <sup>c</sup>	0.0* <sup>c</sup>
JB15708-1	5G4826.D	79.0	74.0	88.0	188.0* <sup>d</sup>
JB15708-2	5G4944.D	204.0* <sup>d</sup>	147.0* <sup>d</sup>	130.0	286.0* <sup>d</sup>
JB15708-2	5G4827.D	139.0	85.0	103.0	209.0* <sup>d</sup>
JB15708-3	5G4828.D	105.0	93.0	71.0	74.0
JB15708-4	5G4829.D	102.0	96.0	75.0	68.0
JB15708-5	5G4830.D	93.0	96.0	73.0	71.0
JB15708-6	5G4945.D	42.0	65.0	47.0	44.0
JB15708-6	5G4831.D	45.0	46.0	39.0	34.0
OP59729-BS1	XX123851.D	94.0	95.0	92.0	95.0
OP59729-MB1	XX123850.D	99.0	103.0	96.0	98.0
OP59729-MS	XX123852.D	87.0	90.0	86.0	90.0
OP59729-MSD	XX123853.D	88.0	92.0	85.0	89.0

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	22-141%
S2 = Decachlorobiphenyl	18-163%

- (a) Recovery from GC signal #1
- (b) Recovery from GC signal #2
- (c) Outside control limits due to dilution.
- (d) Outside control limits due to matrix interference.

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***Pace Analytical e-Report***

**Report prepared for:**  
ENSAFE INC  
220 ATHENS WAY  
NASHVILLE, TN 37228  
CONTACT: MAY HEFLIN

-----  
**Project ID:** TRANSFORMER YARD INVESTIGATION/0888812667  
**Sampling Date(s):** September 06, 2012  
**Lab Report ID:** 12090080  
**Client Service Contact:** James Wickham (518) 346-4592  
-----

**Analysis Included:**  
VOCs by GCMS  
PCB Analysis

Test results meet all National Environmental Laboratory Accreditation Conference (NELAC) requirements unless noted in the case narrative. The results contained within this document relate only to the samples included in this report. This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc.

A handwritten signature in black ink that reads "Dan Pflzer".

Dan Pflzer  
Laboratory Director



Certifications: NYS (EPA: NY00906, ELAP: 11078), NJ (NY026), CT (PH-0337), MA(M-NY906), NC (668)

Pace Analytical Services, Inc. | 2190 Technology Drive | Schenectady, NY 12308  
Phone: 518.346.4592 | internet: [www.pacelabs.com](http://www.pacelabs.com)

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# CASE NARRATIVE

September 21, 2012

CASE NARRATIVE

This data package (SDG ID: 12090080) consists of 2 water samples received on 9/7/2012. The samples are from Project Name: TRANSFORMER YARD INVESTIGATION/0888812667.

This sample delivery group consists of the following samples:

<u>Lab Sample ID</u>	<u>Client ID</u>	<u>Collection Date</u>
AP27155	TRENCHWATER-1	9/6/2012 10:30
AP27205	TRENCH 2	9/6/2012 11:00

Sample Delivery and Receipt Conditions

- (1.) Lab provided sample pickup service on 9/7/2012.
- (2.) All samples were received at the laboratory intact and within holding times.
- (3.) The following pH measurements of VOA vials were recorded using pH strips: AP27155 pH=5, AP27155 pH=7.
- (4.) The following cooler temperature was recorded at sample receipt (Control limits are between 0-6 Degrees Celsius): 0.6 degrees Celsius. Please see Chain of Custody for details.

Volatile Organics Analysis

Analysis for Volatile Organics was performed by method SW-846 8260B. The following technical and administrative items were noted for the analysis:

- (1.) All quality assurance parameters were met for the analysis.

PCB Aroclor Analysis

Analysis for PCB Aroclors was performed by method SW-846 8082A. Samples were extracted by USEPA SW-846 Method 3535 Solid Phase Extraction. One-liter water samples were extracted by NEA-PACE SOP NE178\_04. The following technical and administrative items were noted for the analysis:

- (1.) The concentration results for Aroclor 1248 were flagged (AE) to denote that an altered Aroclor pattern was observed. Please see certificate of analysis for details.
- (2.) The concentration results for Aroclor 1254 were flagged (AF) to denote that an altered Aroclor pattern was observed. Please see certificate of analysis for details.

Respectfully submitted,



William A. Kotas  
Client Services Manager

# QUALIFIERS

### **Organic Laboratory Qualifiers Defined**

B - Denotes analyte observed in associated method blank or extraction blank. Analyte concentration should be considered as estimated.

D - Surrogate was diluted out. The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria.

E - Denotes analyte concentration exceeded calibration range of instrument. Sample could not be re-analyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.

J - Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Reporting Limit (RL).

P - Indicates relative percent difference (RPD) between primary and secondary GC column analysis exceeds 40 % or indicates percent difference (PD) between primary and secondary GC column analysis exceeds 25 %.

U - Denotes analyte not detected at concentration greater than or equal to the RL. RL's are adjusted for sample weight/volume and dilution factors.

Z - Chromatographic interference due to PCB co-elution.

\* - Value not within control limits.

### **Inorganic Laboratory Qualifiers Defined**

B - Denotes analyte observed in associated method blank or digestion blank. Analyte concentration should be considered as estimated.

E - Denotes analyte concentration exceeded calibration range of instrument. Sample could not be re-analyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.

J - Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Reporting Limit (RL).

U - Denotes analyte not detected at concentration greater than or equal to the RL. RL's are adjusted for sample weight/volume and dilution factors.

\* - Value not within control limits.

# SAMPLE CHAIN OF CUSTODY





# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

<12090080P1>



Page: 1 of 1  
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**Section A**  
Required Client Information:

Company: **EnSafe**  
Address:  
Email To: **mheflin@ensafe.com**  
Phone:  
Requested Due Date/TAT:

**Section B**  
Required Project Information:

Report To: **May Hefflin**  
Copy To:  
Purchase Order No.: **13441**  
Project Name: **Transformer Yard Investigation**  
Project Number: **0888812667**

**Section C**  
Invoice Information:

Attention:  
Company Name:  
Address:  
Pace Quote Reference:  
Pace Project Manager:  
Pace Profile #:

**REGULATORY AGENCY**  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER  
**Site Location**  
STATE: **NY**

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test ↓	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol					Other
					DATE	TIME	DATE	TIME														
1	Trench water -1		WT	G			9-6-12	10:30	5	2			3					X	X	AD27155		
2	Trench 2		WT	G			9-6-12	11:00	2									X	X	AP27205		
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	<i>Adam Wanta</i>	9-6-12	15:16	<i>[Signature]</i>	9/6/12	15:16				
	<i>[Signature]</i>	9/7/12	8:45	<i>[Signature]</i>	9/7/12	08:45	0.6	Y	N	Y

ORIGINAL

**SAMPLER NAME AND SIGNATURE**  
PRINT Name of SAMPLER: **Adam Wanta**  
SIGNATURE of SAMPLER: *Adam Wanta*  
DATE Signed (MM/DD/YY): **9-6-12**

Temp in °C  
Received on Ice (Y/N)  
Custody Sealed Cooler (Y/N)  
Samples Intact (Y/N)

# GC/MS Volatiles



## Analytical Sample Results

Job Number: 12090080

Pace Analytical Services, Inc.  
 2190 Technology Drive  
 Schenectady, NY 12308  
 Phone: 518.346.4592  
 Fax: 518.381.6055

**Client:** ENSAFE INC  
**Project:** TRANSFORMER YARD INVESTIGATION/0888812667  
**Client Sample ID:** TRENCHWATER-1  
**Lab Sample ID:** 12090080-01 (AP27155)

**Collection Date:** 09/06/2012 10:30  
**Sample Matrix:** WATER  
**Received Date:** 09/07/2012 08:45  
**Percent Solid:** N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS05-3366-12	EPA Method 8260B	09/19/2012 13:25	RMS	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
1,1,1,2-Tetrachloroethane	630-20-6	ND	1.00	1.00	U	MS05-3366-12
1,1,1-Trichloroethane	71-55-6	ND	1.00	1.00	U	MS05-3366-12
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.00	1.00	U	MS05-3366-12
1,1,2-Trichloroethane	79-00-5	ND	1.00	1.00	U	MS05-3366-12
1,1-Dichloroethane	75-34-3	ND	1.00	1.00	U	MS05-3366-12
1,1-Dichloroethene	75-35-4	ND	1.00	1.00	U	MS05-3366-12
1,1-Dichloropropene	563-58-6	ND	1.00	1.00	U	MS05-3366-12
1,2,3-Trichlorobenzene	87-61-6	ND	1.00	1.00	U	MS05-3366-12
1,2,3-Trichloropropane	96-18-4	ND	1.00	1.00	U	MS05-3366-12
1,2,4-Trichlorobenzene	120-82-1	ND	1.00	1.00	U	MS05-3366-12
1,2,4-Trimethylbenzene	95-63-6	ND	1.00	1.00	U	MS05-3366-12
1,2-Dibromo-3-chloropropane	96-12-8	ND	1.00	1.00	U	MS05-3366-12
1,2-Dibromoethane	106-93-4	ND	1.00	1.00	U	MS05-3366-12
1,2-Dichlorobenzene	95-50-1	ND	1.00	1.00	U	MS05-3366-12
1,2-Dichloroethane	107-06-2	ND	1.00	1.00	U	MS05-3366-12
1,2-Dichloropropane	78-87-5	ND	1.00	1.00	U	MS05-3366-12
1,3,5-Trimethylbenzene	108-67-8	ND	1.00	1.00	U	MS05-3366-12
1,3-Dichlorobenzene	541-73-1	ND	1.00	1.00	U	MS05-3366-12
1,3-Dichloropropane	142-28-9	ND	1.00	1.00	U	MS05-3366-12
1,4-Dichlorobenzene	106-46-7	ND	1.00	1.00	U	MS05-3366-12
2,2-Dichloropropane	594-20-7	ND	1.00	1.00	U	MS05-3366-12
2-Butanone	78-93-3	ND	1.00	1.00	U	MS05-3366-12
2-Chloroethylvinylether	110-75-8	ND	1.00	1.00	U	MS05-3366-12
2-Chlorotoluene	95-49-8	ND	1.00	1.00	U	MS05-3366-12
2-Hexanone	591-78-6	ND	1.00	1.00	U	MS05-3366-12
4-Chlorotoluene	106-43-4	ND	1.00	1.00	U	MS05-3366-12
4-Isopropyltoluene	99-87-6	ND	1.00	1.00	U	MS05-3366-12
4-Methyl-2-pentanone	108-10-1	ND	1.00	1.00	U	MS05-3366-12
Acetone	67-64-1	ND	5.00	1.00	U	MS05-3366-12
Benzene	71-43-2	ND	1.00	1.00	U	MS05-3366-12
Bromobenzene	108-86-1	ND	1.00	1.00	U	MS05-3366-12
Bromochloromethane	74-97-5	ND	1.00	1.00	U	MS05-3366-12
Bromodichloromethane	75-27-4	ND	1.00	1.00	U	MS05-3366-12
Bromoform	75-25-2	ND	1.00	1.00	U	MS05-3366-12
Bromomethane	74-83-9	ND	1.00	1.00	U	MS05-3366-12
Carbon disulfide	75-15-0	ND	1.00	1.00	U	MS05-3366-12
Carbon tetrachloride	56-23-5	ND	1.00	1.00	U	MS05-3366-12
Chlorobenzene	108-90-7	ND	1.00	1.00	U	MS05-3366-12
Chloroethane	75-00-3	ND	1.00	1.00	U	MS05-3366-12
Chloroform	67-66-3	ND	1.00	1.00	U	MS05-3366-12
Chloromethane	74-87-3	ND	1.00	1.00	U	MS05-3366-12
cis-1,2-Dichloroethene	156-59-2	ND	1.00	1.00	U	MS05-3366-12
cis-1,3-Dichloropropene	10061-01-5	ND	1.00	1.00	U	MS05-3366-12
Dibromochloromethane	124-48-1	ND	1.00	1.00	U	MS05-3366-12
Dibromomethane	74-95-3	ND	1.00	1.00	U	MS05-3366-12
Dichlorodifluoromethane	75-71-8	ND	1.00	1.00	U	MS05-3366-12
Ethylbenzene	100-41-4	ND	1.00	1.00	U	MS05-3366-12
Hexachlorobutadiene	87-68-3	ND	1.00	1.00	U	MS05-3366-12

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## Analytical Sample Results

Job Number: 12090080

Pace Analytical Services, Inc.  
 2190 Technology Drive  
 Schenectady, NY 12308  
 Phone: 518.346.4592  
 Fax: 518.381.6055

<b>Client:</b> ENSAFE INC	<b>Collection Date:</b> 09/06/2012 10:30
<b>Project:</b> TRANSFORMER YARD INVESTIGATION/0888812667	<b>Sample Matrix:</b> WATER
<b>Client Sample ID:</b> TRENCHWATER-1	<b>Received Date:</b> 09/07/2012 08:45
<b>Lab Sample ID:</b> 12090080-01 (AP27155)	<b>Percent Solid:</b> N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS05-3366-12	EPA Method 8260B	09/19/2012 13:25	RMS	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Isopropylbenzene	98-82-8	ND	1.00	1.00	U	MS05-3366-12
m&p-Xylene	136777-61-2	ND	1.00	1.00	U	MS05-3366-12
Methylene chloride	75-09-2	ND	1.00	1.00	U	MS05-3366-12
MTBE	1634-04-4	ND	1.00	1.00	U	MS05-3366-12
Naphthalene	91-20-3	ND	1.00	1.00	U	MS05-3366-12
n-Butylbenzene	104-51-8	ND	1.00	1.00	U	MS05-3366-12
n-Propylbenzene	103-65-1	ND	1.00	1.00	U	MS05-3366-12
o-Xylene	95-47-6	ND	1.00	1.00	U	MS05-3366-12
sec-Butylbenzene	135-98-8	ND	1.00	1.00	U	MS05-3366-12
Styrene	100-42-5	ND	1.00	1.00	U	MS05-3366-12
tert-Butylbenzene	98-06-6	ND	1.00	1.00	U	MS05-3366-12
Tetrachloroethene	127-18-4	ND	1.00	1.00	U	MS05-3366-12
Toluene	108-88-3	ND	1.00	1.00	U	MS05-3366-12
trans-1,2-Dichloroethene	156-60-5	ND	1.00	1.00	U	MS05-3366-12
trans-1,3-Dichloropropene	10061-02-6	ND	1.00	1.00	U	MS05-3366-12
Trichloroethene	79-01-6	1.56	1.00	1.00		MS05-3366-12
Trichlorofluoromethane	75-69-4	ND	1.00	1.00	U	MS05-3366-12
Vinyl acetate	108-05-4	ND	1.00	1.00	U	MS05-3366-12
Vinyl chloride	75-01-4	ND	1.00	1.00	U	MS05-3366-12

Surrogate	CAS No.	% Recovery	Limits (%)	Q <sup>1</sup>	File ID
Bromofluorobenzene	460-00-4	96.4	82.1-126		MS05-3366-12
Dibromofluoromethane	1868-53-7	100	90.4-109		MS05-3366-12
Toluene-d8	2037-26-5	94.5	87.8-111		MS05-3366-12
1,2-Dichloroethane-d4	17060-07-0	100	85.9-111		MS05-3366-12

<sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.

# GC - PCB



## Analytical Sample Results

**Job Number:** 12090080

**Pace Analytical Services, Inc.**  
 2190 Technology Drive  
 Schenectady, NY 12308  
 Phone: 518.346.4592  
 Fax: 518.381.6055

<b>Client:</b> ENSAFE INC	<b>Collection Date:</b> 09/06/2012 10:30
<b>Project:</b> TRANSFORMER YARD INVESTIGATION/0888812667	<b>Sample Matrix:</b> WATER
<b>Client Sample ID:</b> TRENCHWATER-1	<b>Received Date:</b> 09/07/2012 08:45
<b>Lab Sample ID:</b> 12090080-01 (AP27155)	<b>Percent Solid:</b> N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1028-15	SW-846 Method 8082	09/14/2012 22:34	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	19899	EPA 3535	09/13/2012 13:15	JLG	1000 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	MDL	Dilution Factor	Flags	File ID
Aroclor 1221	11104-28-2	ND	0.00548	1.00	U	GC23F-1028-15
Aroclor 1232	11141-16-5	ND	0.00738	1.00	U	GC23F-1028-15
Aroclor 1242	53469-21-9	ND	0.00995	1.00	U	GC23F-1028-15
Aroclor 1248	12672-29-6	ND	0.0104	1.00	U	GC23F-1028-15
Aroclor 1254	11097-69-1	ND	0.00705	1.00	U	GC23F-1028-15
Aroclor 1260	11096-82-5	ND	0.00922	1.00	U	GC23F-1028-15
Aroclor 1262	37324-23-5	ND	0.00662	1.00	U	GC23F-1028-15
Aroclor 1268	11100-14-4	ND	0.00696	1.00	U	GC23F-1028-15
Total PCB Amount	1336-36-3	ND		1.00	U	GC23F-1028-15

Surrogate	CAS No.	% Recovery	Limits (%)	Q <sup>1</sup>	File ID
Tetrachloro-meta-xylene	877-09-8	89.0	60.0-140		GC23F-1028-15
Decachlorobiphenyl	2051-24-3	107	60.0-140		GC23F-1028-15

<sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the MDL.

MDL (Method Detection Limit). Denotes lowest analyte concentration observable for the sample based on statistical study.



## Analytical Sample Results

Job Number: 12090080

Pace Analytical Services, Inc.  
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 Schenectady, NY 12308  
 Phone: 518.346.4592  
 Fax: 518.381.6055

<b>Client:</b> ENSAFE INC	<b>Collection Date:</b> 09/06/2012 11:00
<b>Project:</b> TRANSFORMER YARD INVESTIGATION/0888812667	<b>Sample Matrix:</b> WATER
<b>Client Sample ID:</b> TRENCH 2	<b>Received Date:</b> 09/07/2012 08:45
<b>Lab Sample ID:</b> 12090080-02 (AP27205)	<b>Percent Solid:</b> N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1029-3	SW-846 Method 8082	09/15/2012 12:59	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	19899	EPA 3535	09/13/2012 13:15	JLG	1010 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	MDL	Dilution Factor	Flags	File ID
Aroclor 1221	11104-28-2	ND	0.0274	5.00	U	GC23F-1029-3
Aroclor 1232	11141-16-5	ND	0.0369	5.00	U	GC23F-1029-3
Aroclor 1242	53469-21-9	ND	0.0498	5.00	U	GC23F-1029-3
Aroclor 1248	12672-29-6	<b>3.68</b>	0.0520	5.00	AE	GC23F-1029-3
Aroclor 1254	11097-69-1	<b>2.62</b>	0.0352	5.00	AF	GC23F-1029-3
Aroclor 1260	11096-82-5	ND	0.0461	5.00	U	GC23F-1029-3
Aroclor 1262	37324-23-5	ND	0.0331	5.00	U	GC23F-1029-3
Aroclor 1268	11100-14-4	ND	0.0348	5.00	U	GC23F-1029-3
Total PCB Amount	1336-36-3	<b>6.30</b>		5.00		GC23F-1029-3

Surrogate	CAS No.	% Recovery	Limits (%)	Q <sup>1</sup>	File ID
Tetrachloro-meta-xylene	877-09-8	95.6	60.0-140		GC23F-1029-3
Decachlorobiphenyl	2051-24-3	109	60.0-140		GC23F-1029-3

<sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the MDL.

MDL (Method Detection Limit). Denotes lowest analyte concentration observable for the sample based on statistical study.

AE-Aroclor 1248 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

AF-Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

# Quality Control Samples (Lab)





**Quality Control Results  
Method Blank**

**Job Number:** 12090080

**Pace Analytical Services, Inc.**  
2190 Technology Drive  
Schenectady, NY 12308  
Phone: 518.346.4592  
Fax: 518.381.6055

**Client:** ENSAFE INC  
**Project:** TRANSFORMER YARD INVESTIGATION/0888812667  
**Client Sample ID:** Method Blank (AP28678B)  
**Lab Sample ID:** VBLK-96

**Collection Date:** N/A  
**Sample Matrix:** WATER  
**Received Date:** N/A  
**Percent Solid:** N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS05-3366-6	EPA Method 8260B	09/19/2012 10:42	RMS	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
1,1,1,2-Tetrachloroethane	630-20-6	ND	1.00	1.00	U	MS05-3366-6
1,1,1-Trichloroethane	71-55-6	ND	1.00	1.00	U	MS05-3366-6
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.00	1.00	U	MS05-3366-6
1,1,2-Trichloroethane	79-00-5	ND	1.00	1.00	U	MS05-3366-6
1,1-Dichloroethane	75-34-3	ND	1.00	1.00	U	MS05-3366-6
1,1-Dichloroethene	75-35-4	ND	1.00	1.00	U	MS05-3366-6
1,1-Dichloropropene	563-58-6	ND	1.00	1.00	U	MS05-3366-6
1,2,3-Trichlorobenzene	87-61-6	ND	1.00	1.00	U	MS05-3366-6
1,2,3-Trichloropropane	96-18-4	ND	1.00	1.00	U	MS05-3366-6
1,2,4-Trichlorobenzene	120-82-1	ND	1.00	1.00	U	MS05-3366-6
1,2,4-Trimethylbenzene	95-63-6	ND	1.00	1.00	U	MS05-3366-6
1,2-Dibromo-3-chloropropane	96-12-8	ND	1.00	1.00	U	MS05-3366-6
1,2-Dibromoethane	106-93-4	ND	1.00	1.00	U	MS05-3366-6
1,2-Dichlorobenzene	95-50-1	ND	1.00	1.00	U	MS05-3366-6
1,2-Dichloroethane	107-06-2	ND	1.00	1.00	U	MS05-3366-6
1,2-Dichloropropane	78-87-5	ND	1.00	1.00	U	MS05-3366-6
1,3,5-Trimethylbenzene	108-67-8	ND	1.00	1.00	U	MS05-3366-6
1,3-Dichlorobenzene	541-73-1	ND	1.00	1.00	U	MS05-3366-6
1,3-Dichloropropane	142-28-9	ND	1.00	1.00	U	MS05-3366-6
1,4-Dichlorobenzene	106-46-7	ND	1.00	1.00	U	MS05-3366-6
2,2-Dichloropropane	594-20-7	ND	1.00	1.00	U	MS05-3366-6
2-Butanone	78-93-3	ND	1.00	1.00	U	MS05-3366-6
2-Chloroethylvinylether	110-75-8	ND	1.00	1.00	U	MS05-3366-6
2-Chlorotoluene	95-49-8	ND	1.00	1.00	U	MS05-3366-6
2-Hexanone	591-78-6	ND	1.00	1.00	U	MS05-3366-6
4-Chlorotoluene	106-43-4	ND	1.00	1.00	U	MS05-3366-6
4-Isopropyltoluene	99-87-6	ND	1.00	1.00	U	MS05-3366-6
4-Methyl-2-pentanone	108-10-1	ND	1.00	1.00	U	MS05-3366-6
Acetone	67-64-1	ND	5.00	1.00	U	MS05-3366-6
Benzene	71-43-2	ND	1.00	1.00	U	MS05-3366-6
Bromobenzene	108-86-1	ND	1.00	1.00	U	MS05-3366-6
Bromochloromethane	74-97-5	ND	1.00	1.00	U	MS05-3366-6
Bromodichloromethane	75-27-4	ND	1.00	1.00	U	MS05-3366-6
Bromoform	75-25-2	ND	1.00	1.00	U	MS05-3366-6
Bromomethane	74-83-9	ND	1.00	1.00	U	MS05-3366-6
Carbon disulfide	75-15-0	ND	1.00	1.00	U	MS05-3366-6
Carbon tetrachloride	56-23-5	ND	1.00	1.00	U	MS05-3366-6
Chlorobenzene	108-90-7	ND	1.00	1.00	U	MS05-3366-6
Chloroethane	75-00-3	ND	1.00	1.00	U	MS05-3366-6
Chloroform	67-66-3	ND	1.00	1.00	U	MS05-3366-6
Chloromethane	74-87-3	ND	1.00	1.00	U	MS05-3366-6
cis-1,2-Dichloroethene	156-59-2	ND	1.00	1.00	U	MS05-3366-6
cis-1,3-Dichloropropene	10061-01-5	ND	1.00	1.00	U	MS05-3366-6
Dibromochloromethane	124-48-1	ND	1.00	1.00	U	MS05-3366-6
Dibromomethane	74-95-3	ND	1.00	1.00	U	MS05-3366-6
Dichlorodifluoromethane	75-71-8	ND	1.00	1.00	U	MS05-3366-6
Ethylbenzene	100-41-4	ND	1.00	1.00	U	MS05-3366-6
Hexachlorobutadiene	87-68-3	ND	1.00	1.00	U	MS05-3366-6

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**Quality Control Results  
Method Blank**

**Job Number:** 12090080

**Pace Analytical Services, Inc.**  
2190 Technology Drive  
Schenectady, NY 12308  
Phone: 518.346.4592  
Fax: 518.381.6055

**Client:** ENSAFE INC  
**Project:** TRANSFORMER YARD INVESTIGATION/0888812667  
**Client Sample ID:** Method Blank (AP28678B)  
**Lab Sample ID:** VBLK-96

**Collection Date:** N/A  
**Sample Matrix:** WATER  
**Received Date:** N/A  
**Percent Solid:** N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS05-3366-6	EPA Method 8260B	09/19/2012 10:42	RMS	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm

Analyte	CAS No.	Result (ug/L)	PQL	Dilution Factor	Flags	File ID
Isopropylbenzene	98-82-8	ND	1.00	1.00	U	MS05-3366-6
m&p-Xylene	136777-61-2	ND	1.00	1.00	U	MS05-3366-6
Methylene chloride	75-09-2	ND	1.00	1.00	U	MS05-3366-6
MTBE	1634-04-4	ND	1.00	1.00	U	MS05-3366-6
Naphthalene	91-20-3	ND	1.00	1.00	U	MS05-3366-6
n-Butylbenzene	104-51-8	ND	1.00	1.00	U	MS05-3366-6
n-Propylbenzene	103-65-1	ND	1.00	1.00	U	MS05-3366-6
o-Xylene	95-47-6	ND	1.00	1.00	U	MS05-3366-6
sec-Butylbenzene	135-98-8	ND	1.00	1.00	U	MS05-3366-6
Styrene	100-42-5	ND	1.00	1.00	U	MS05-3366-6
tert-Butylbenzene	98-06-6	ND	1.00	1.00	U	MS05-3366-6
Tetrachloroethene	127-18-4	ND	1.00	1.00	U	MS05-3366-6
Toluene	108-88-3	ND	1.00	1.00	U	MS05-3366-6
trans-1,2-Dichloroethene	156-60-5	ND	1.00	1.00	U	MS05-3366-6
trans-1,3-Dichloropropene	10061-02-6	ND	1.00	1.00	U	MS05-3366-6
Trichloroethene	79-01-6	ND	1.00	1.00	U	MS05-3366-6
Trichlorofluoromethane	75-69-4	ND	1.00	1.00	U	MS05-3366-6
Vinyl acetate	108-05-4	ND	1.00	1.00	U	MS05-3366-6
Vinyl chloride	75-01-4	ND	1.00	1.00	U	MS05-3366-6

Surrogate	CAS No.	% Recovery	Limits (%)	Q <sup>1</sup>	File ID
Bromofluorobenzene	460-00-4	90.1	82.1-126		MS05-3366-6
Dibromofluoromethane	1868-53-7	99.7	90.4-109		MS05-3366-6
Toluene-d8	2037-26-5	101	87.8-111		MS05-3366-6
1,2-Dichloroethane-d4	17060-07-0	97.2	85.9-111		MS05-3366-6

<sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.



**Quality Control Results  
Lab Control Sample**

**Job Number:** 12090080

**Pace Analytical Services, Inc.**  
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Phone: 518.346.4592  
Fax: 518.381.6055

**Client:** ENSAFE INC  
**Project:** TRANSFORMER YARD INVESTIGATION/0888812667  
**Client Sample ID:** Lab Control Sample (AP28678L)  
**Lab Sample ID:** LCS-96

**Collection Date:** N/A  
**Sample Matrix:** WATER  
**Received Date:** N/A  
**Percent Solid:** N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column	
Analysis 1:	MS05-3366-3	EPA Method 8260B	09/19/2012 09:24	RMS	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm

Analyte Spiked	CAS No.	Added (ug/L)	LCS (ug/L)	LCS % Rec.	Q <sup>1</sup>	Limits (%)
1,1,1,2-Tetrachloroethane	630-20-6	40.0	36.9	92.3		70.0-130
1,1,1-Trichloroethane	71-55-6	40.0	37.7	94.2		70.0-130
1,1,2,2-Tetrachloroethane	79-34-5	40.0	41.6	104		70.0-130
1,1,2-Trichloroethane	79-00-5	40.0	36.7	91.7		70.0-130
1,1-Dichloroethane	75-34-3	40.0	38.3	95.8		70.0-130
1,1-Dichloroethene	75-35-4	40.0	37.2	92.9		70.0-130
1,1-Dichloropropene	563-58-6	40.0	37.1	92.7		70.0-130
1,2,3-Trichlorobenzene	87-61-6	40.0	39.8	99.4		70.0-130
1,2,3-Trichloropropane	96-18-4	40.0	40.1	100		70.0-130
1,2,4-Trichlorobenzene	120-82-1	40.0	39.3	98.3		70.0-130
1,2,4-Trimethylbenzene	95-63-6	40.0	40.6	102		70.0-130
1,2-Dibromo-3-chloropropane	96-12-8	40.0	36.7	91.7		70.0-130
1,2-Dibromoethane	106-93-4	40.0	40.7	102		70.0-130
1,2-Dichlorobenzene	95-50-1	40.0	37.5	93.9		70.0-130
1,2-Dichloroethane	107-06-2	40.0	37.7	94.2		70.0-130
1,2-Dichloropropane	78-87-5	40.0	36.5	91.3		70.0-130
1,3,5-Trimethylbenzene	108-67-8	40.0	40.5	101		70.0-130
1,3-Dichlorobenzene	541-73-1	40.0	41.7	104		70.0-130
1,3-Dichloropropane	142-28-9	40.0	37.8	94.4		70.0-130
1,4-Dichlorobenzene	106-46-7	40.0	36.0	90.0		70.0-130
2,2-Dichloropropane	594-20-7	40.0	38.0	95.0		70.0-130
2-Butanone	78-93-3	40.0	37.5	93.9		70.0-130
2-Chloroethylvinylether	110-75-8	40.0	38.2	95.5		70.0-130
2-Chlorotoluene	95-49-8	40.0	39.7	99.2		70.0-130
2-Hexanone	591-78-6	40.0	37.2	93.0		70.0-130
4-Chlorotoluene	106-43-4	40.0	38.4	96.1		70.0-130
4-Isopropyltoluene	99-87-6	40.0	43.6	109		70.0-130
4-Methyl-2-pentanone	108-10-1	40.0	37.6	93.9		70.0-130
Acetone	67-64-1	40.0	37.1	92.8		70.0-130
Benzene	71-43-2	40.0	37.4	93.6		70.0-130
Bromobenzene	108-86-1	40.0	38.1	95.2		70.0-130
Bromochloromethane	74-97-5	40.0	37.0	92.5		70.0-130
Bromodichloromethane	75-27-4	40.0	38.2	95.5		70.0-130
Bromoform	75-25-2	40.0	38.6	96.5		70.0-130
Bromomethane	74-83-9	40.0	49.9	125		70.0-130
Carbon disulfide	75-15-0	40.0	35.9	89.9		70.0-130
Carbon tetrachloride	56-23-5	40.0	37.3	93.1		70.0-130
Chlorobenzene	108-90-7	40.0	37.9	94.7		70.0-130
Chloroethane	75-00-3	40.0	37.7	94.3		70.0-130
Chloroform	67-66-3	40.0	39.4	98.4		70.0-130
Chloromethane	74-87-3	40.0	36.6	91.4		70.0-130
cis-1,2-Dichloroethene	156-59-2	40.0	38.2	95.4		70.0-130
cis-1,3-Dichloropropene	10061-01-5	40.0	39.2	98.1		70.0-130
Dibromochloromethane	124-48-1	40.0	38.9	97.2		70.0-130
Dibromomethane	74-95-3	40.0	40.1	100		70.0-130
Dichlorodifluoromethane	75-71-8	40.0	36.0	90.0		70.0-130
Ethylbenzene	100-41-4	40.0	37.0	92.5		70.0-130
Hexachlorobutadiene	87-68-3	40.0	46.7	117		70.0-130
Isopropylbenzene	98-82-8	40.0	45.1	113		70.0-130
m&p-Xylene	136777-61-2	80.0	74.8	93.5		70.0-130
Methylene chloride	75-09-2	40.0	37.4	93.4		70.0-130
MTBE	1634-04-4	40.0	37.9	94.7		70.0-130
Naphthalene	91-20-3	40.0	41.4	104		70.0-130

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2190 Technology Drive | Schenectady, NY 12308 | Phone 518.346.4592 | Fax 518.381.6055 | www.pacelabs.com



**Quality Control Results**  
**Lab Control Sample**  
**Job Number: 12090080**

**Pace Analytical Services, Inc.**  
 2190 Technology Drive  
 Schenectady, NY 12308  
 Phone: 518.346.4592  
 Fax: 518.381.6055

**Client:** ENSAFE INC  
**Project:** TRANSFORMER YARD INVESTIGATION/0888812667  
**Client Sample ID:** Lab Control Sample (AP28678L)  
**Lab Sample ID:** LCS-96

**Collection Date:** N/A  
**Sample Matrix:** WATER  
**Received Date:** N/A  
**Percent Solid:** N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS05-3366-3	EPA Method 8260B	09/19/2012 09:24	RMS	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm

Analyte Spiked	CAS No.	Added (ug/L)	LCS (ug/L)	LCS % Rec.	Q <sup>1</sup>	Limits (%)
n-Butylbenzene	104-51-8	40.0	39.7	99.3		70.0-130
n-Propylbenzene	103-65-1	40.0	42.2	105		70.0-130
o-Xylene	95-47-6	40.0	37.7	94.1		70.0-130
sec-Butylbenzene	135-98-8	40.0	43.1	108		70.0-130
Styrene	100-42-5	40.0	39.3	98.3		70.0-130
tert-Butylbenzene	98-06-6	40.0	48.6	121		70.0-130
Tetrachloroethene	127-18-4	40.0	37.1	92.8		70.0-130
Toluene	108-88-3	40.0	37.3	93.4		70.0-130
trans-1,2-Dichloroethene	156-60-5	40.0	38.6	96.6		70.0-130
trans-1,3-Dichloropropene	10061-02-6	40.0	38.3	95.7		70.0-130
Trichloroethene	79-01-6	40.0	38.6	96.6		70.0-130
Trichlorofluoromethane	75-69-4	40.0	36.8	92.0		70.0-130
Vinyl acetate	108-05-4	40.0	40.3	101		70.0-130
Vinyl chloride	75-01-4	40.0	37.4	93.6		70.0-130

<sup>1</sup>Qualifier column where '\*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

Surrogate	CAS No.	% Recovery	Limits (%)	Q <sup>1</sup>	File ID
Bromofluorobenzene	460-00-4	103	82.1-126		MS05-3366-3
Dibromofluoromethane	1868-53-7	100	90.4-109		MS05-3366-3
Toluene-d8	2037-26-5	99.6	87.8-111		MS05-3366-3
1,2-Dichloroethane-d4	17060-07-0	98.0	85.9-111		MS05-3366-3

<sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the PQL.

PQL (Practical Quantitation Limit). Denotes lowest analyte concentration reportable for the sample.



**Quality Control Results  
Method Blank**

**Job Number:** 12090080

**Pace Analytical Services, Inc.**  
2190 Technology Drive  
Schenectady, NY 12308  
Phone: 518.346.4592  
Fax: 518.381.6055

**Client:** ENSAFE INC  
**Project:** TRANSFORMER YARD INVESTIGATION/0888812667  
**Client Sample ID:** Method Blank (AP27155B)  
**Lab Sample ID:** PBLK-08

**Collection Date:** N/A  
**Sample Matrix:** WATER  
**Received Date:** N/A  
**Percent Solid:** N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1028-13	SW-846 Method 8082	09/14/2012 21:29	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	19899	EPA 3535	09/13/2012 13:15	JLG	1000 mL	10.0 mL	NA

Analyte	CAS No.	Result (ug/L)	MDL	Dilution Factor	Flags	File ID
Aroclor 1221	11104-28-2	ND	0.00548	1.00	U	GC23F-1028-13
Aroclor 1232	11141-16-5	ND	0.00738	1.00	U	GC23F-1028-13
Aroclor 1242	53469-21-9	ND	0.00995	1.00	U	GC23F-1028-13
Aroclor 1248	12672-29-6	ND	0.0104	1.00	U	GC23F-1028-13
Aroclor 1254	11097-69-1	ND	0.00705	1.00	U	GC23F-1028-13
Aroclor 1260	11096-82-5	ND	0.00922	1.00	U	GC23F-1028-13
Aroclor 1262	37324-23-5	ND	0.00662	1.00	U	GC23F-1028-13
Aroclor 1268	11100-14-4	ND	0.00696	1.00	U	GC23F-1028-13
Total PCB Amount	1336-36-3	ND		1.00	U	GC23F-1028-13

Surrogate	CAS No.	% Recovery	Limits (%)	Q <sup>1</sup>	File ID
Tetrachloro-meta-xylene	877-09-8	89.3	60.0-140		GC23F-1028-13
Decachlorobiphenyl	2051-24-3	100	60.0-140		GC23F-1028-13

<sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the MDL.

MDL (Method Detection Limit). Denotes lowest analyte concentration observable for the sample based on statistical study.



**Quality Control Results**  
**Lab Control Sample**  
**Job Number: 12090080**

**Pace Analytical Services, Inc.**  
 2190 Technology Drive  
 Schenectady, NY 12308  
 Phone: 518.346.4592  
 Fax: 518.381.6055

**Client:** ENSAFE INC  
**Project:** TRANSFORMER YARD INVESTIGATION/0888812667  
**Client Sample ID:** Lab Control Sample (AP27155L)  
**Lab Sample ID:** LCS-08

**Collection Date:** N/A  
**Sample Matrix:** WATER  
**Received Date:** N/A  
**Percent Solid:** N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	GC23F-1028-14	SW-846 Method 8082	09/14/2012 22:02	AJM	NA	NA	Agilent, J&W DB-1, 30 m, 0.25 mm ID, 0.25 µm
Prep 1:	19899	EPA 3535	09/13/2012 13:15	JLG	1000 mL	10.0 mL	NA

Analyte Spiked	CAS No.	Added (ug/L)	LCS (ug/L)	LCS % Rec.	Q <sup>1</sup>	Limits (%)
Aroclor 1260	11096-82-5	0.500	0.500	100		70.0-130

<sup>1</sup>Qualifier column where '\*' denotes value outside the control limits. Note: RPD criteria does not apply if either the sample and duplicate sample are not detected.

Surrogate	CAS No.	% Recovery	Limits (%)	Q <sup>1</sup>	File ID
Tetrachloro-meta-xylene	877-09-8	88.0	60.0-140		GC23F-1028-14
Decachlorobiphenyl	2051-24-3	102	60.0-140		GC23F-1028-14

<sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the MDL.

MDL (Method Detection Limit). Denotes lowest analyte concentration observable for the sample based on statistical study.