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220 Athens Way, Suite 410 | Nashville, Tennessee 37228 | Telephone 615-255-9300 | Facsimile 615-255-9345 | www.ensafe.com

June 13, 2013

Transmitted via e-mail: June 13, 2013

Tara M. Blum, P.E.
Environmental Engineer
NYSDEC Region 7
Division of Environmental Remediation
615 Erie Blvd. West
Syracuse, New York 13204-2400

Re: Carrier Corporation, Thompson Road Facility, Syracuse, New York
Corrective Action Order — Index No. CO 7-20051118-4
Former Building TR1 Vault Investigation Work Plan, June 2013

Ms. Blum:

On behalf of Carrier Corporation, please find enclosed one hard copy and one electronic copy of the *Former TR1 Vault Investigation Work Plan*. We have not yet scheduled field activities, but tentatively plan to mobilize later this summer. Per the Order, we will notify you in advance of field activities, and certainly hope to have any comments you may have on our planned investigation prior to that.

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).

If you have any questions, please feel free to contact me at (615) 255-9300.

Sincerely,

EnSafe Inc.

May M. Heflin

By: May Heflin, PE

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. John Wolski — United Technologies Corporation
Mr. Nelson Wong — Carrier Corporation
Ms. Kathleen McFadden — United Technologies Corproation

FORMER BUILDING TR-1 VAULT INVESTIGATION WORK PLAN

CARRIER THOMPSON ROAD FACILITY
CARRIER PARKWAY
SYRACUSE, NEW YORK

EnSafe Project Number
0888813986

Revision: 0

Corrective Action Order – Index CO 7-20051118-4

Prepared for:

UTC Shared Remediation Services
United Technologies Building
Hartford, Connecticut 06101

Prepared by:

EnSafe Inc.
220 Athens Way, Suite 410
Nashville, Tennessee 37228
(615) 255-9300
(800) 588-7962
www.ensafe.com

JUNE 2013

FORMER BUILDING TR-1 VAULT INVESTIGATION WORK PLAN

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JUNE 2013

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1.0 INTRODUCTION

Carrier Corporation (Carrier), a wholly-owned subsidiary of United Technologies Corporation (UTC) has prepared this work plan for proposed subsurface investigation activities at a location outside the footprint of the former Building TR-1. The area of proposed investigation coincides with the area just outside of the northwest corner of former Building TR-1 where a subsurface concrete vault was discovered during storm line construction activities in October 2011. Details relating to the purpose and historic use(s) of this vault are unknown. Because Carrier did not have any prior knowledge of this vault, the vault is thought to be a remnant of a former owner's (e.g. GE) operations.

The concrete vault was measured to be approximately 25 feet long, eight feet wide, and four feet in depth. The sides and base of the vault were constructed of concrete; the vault was open at the top (surface grade). The eastern wall of the vault was also a portion of the western foundation footing of the former Building TR-1. When the vault was unearthed, it was discovered to have been filled with pea-gravel, soil, sludges, and also contained a black oily sheen. The fill materials were removed from the vault to the extent practical, sampled, and disposed of offsite as a hazardous waste.

The vault was backfilled with clean soil from the Pond #2 excavation stockpile. Information on this soil can be found in the *Soils Management Report* submitted to NYSDEC on January 4, 2012.

A sample of the fill materials within the vault was submitted to Accutest Laboratories, Dayton, New Jersey, for analyses of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated bi-phenyls (PCBs), and metals. The laboratory analytical data sheets are included as Appendix A. Several analytes for SVOCs and PCBs were identified at concentrations exceeding the New York State Department of Environmental Conservation (NYSDEC) restricted use industrial soil cleanup objectives (SCOs). Laboratory analytical results yielded a concentration for vinyl chloride, which exceeded the NYSDEC restricted use commercial SCOs, and several metals analytes exceeded the NYSDEC unrestricted use SCOs.

This work plan outlines the proposed subsurface investigation activities to determine the extent to which the vault may have impacted the environment, if at all. The objectives for this subsurface investigation include the following:

- Identify whether or not materials historically stored in the vault were released to the surrounding environment.

- Define the nature and extent of any environmental impacts resulting from a possible release associated with the vault.

2.0 INVESTIGATION STRATEGY

Prior to subsurface boring activities, onsite utilities will be located and marked by Carrier personnel.

2.1 Soil

Four (4) borings shall be advanced within and adjacent to the vault:

- Three (3) soil borings will be advanced around the perimeter of the vault on the north, south, and west sides, and within a distance of no more than five (5) feet from the vault.

- One (1) soil boring will be advanced within the footprint of the vault as close to the central portion of the eastern wall of the vault as is feasible.

- If necessary and depending upon geologic observations and field screening results observed during advancement of the soil borings listed above, additional soil borings will be advanced on

the east side of the vault, through the TR1 footprint. This would entail coring through a 12-inch concrete floor slab.

Soil borings will be advanced using direct push technology (DPT) and will be completed to a maximum depth of 20 feet bgs. A coring machine will be used to cut through the floor of the vault, and if necessary, the TR1 concrete slab. Soil will be sampled continuously (2-foot intervals) to just above the saturated zone. One sample will be submitted to the laboratory for analysis based on field screening parameters (PID readings, odor, visual staining, etc.). If field screening suggests no evidence of impacted, then one sample will be obtained at an elevation equal to or just below the bottom of the vault yet above the saturated zone, if possible. If not, the sample shall be obtained from the interval as close to the bottom elevation of the vault as possible, yet above the saturated zone.

The investigation area, approximate vault location, and proposed soil boring locations are depicted on Figure 1.

Soil Sample Collection Methods

Soil samples will be collected and logged continuously in each DPT boring. As each core is recovered from the DPT sleeve, each two-foot interval will be sampled immediately with TerraCore kits for VOCs in accordance with United States Environmental Protection Agency (USEPA) Method 5035 procedures. Additionally, soil from each two-foot interval will be placed into zip-top bags for head space field screening with a calibrated photoionization detector. The soil lithology will be visually described, examined for indications of contamination (i.e., petroleum staining and/or odors), and additional soil from each two-foot interval will be collected and placed into laboratory-provided containers for additional laboratory analyses.

2.2 Groundwater

Based on historic site-wide potentiometric surface data, shallow groundwater predominantly flows to the north in the proposed investigation area. However, this flow pattern is likely influenced by the presence of the Thompson Road Storm Line and Storm Line 1 running south to north beneath the former building TR-1 concrete slab. EnSafe Inc. assumes groundwater flows to the north, with westerly influences in the area of the vault.

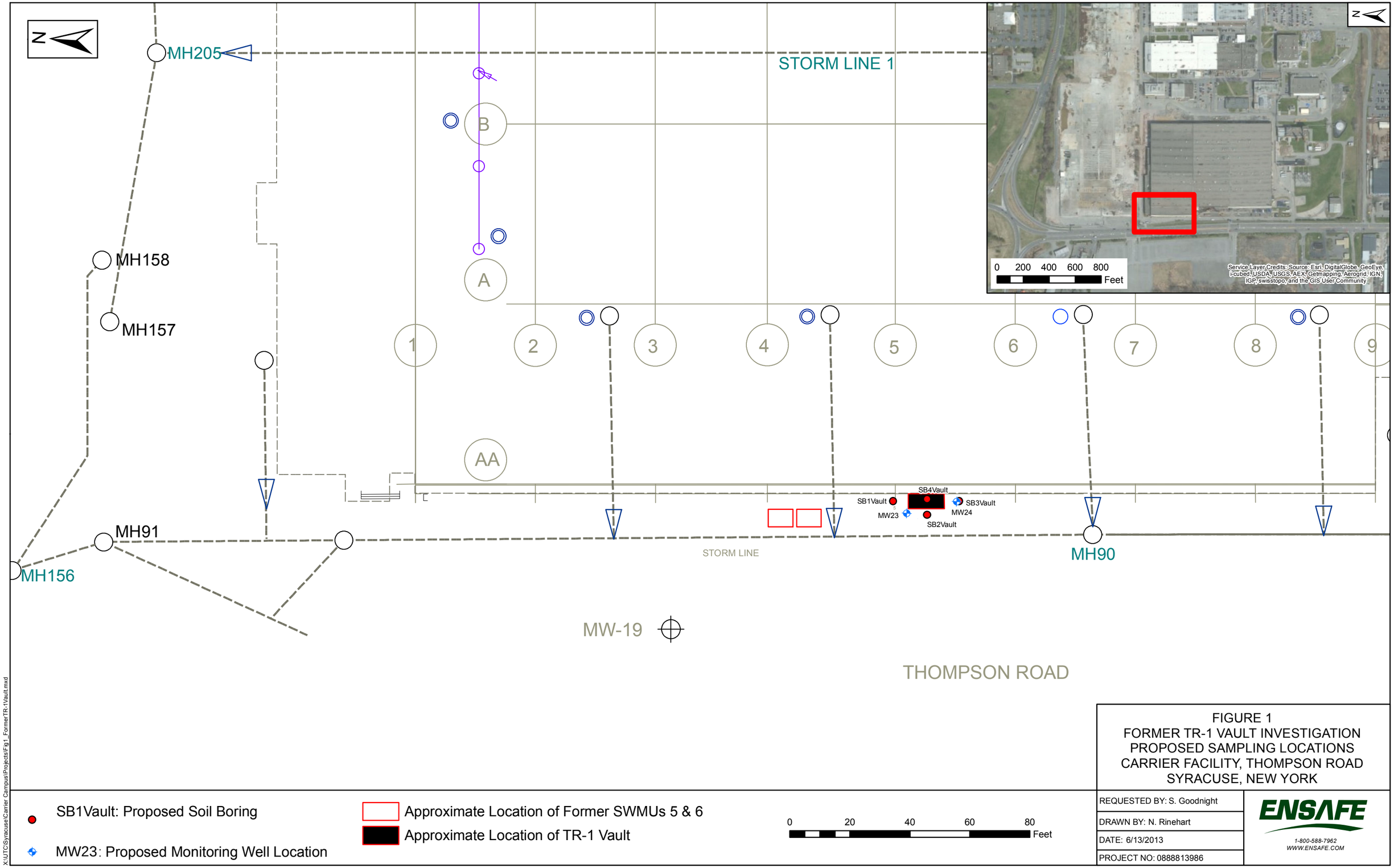

FIGURE 1
FORMER TR-1 VAULT INVESTIGATION
PROPOSED SAMPLING LOCATIONS
CARRIER FACILITY, THOMPSON ROAD
SYRACUSE, NEW YORK

SB1Vault: Proposed Soil Boring

MW23: Proposed Monitoring Well Location

Approximate Location of Former SWMUs 5 & 6

Approximate Location of TR-1 Vault

0 20 40 60 80 Feet

REQUESTED BY: S. Goodnight	
DRAWN BY: N. Rinehart	
DATE: 6/13/2013	
PROJECT NO: 0888813986	

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Two (2) 2-inch groundwater monitoring wells will be installed.

- MW23 — This monitoring well will be placed just off the northwest corner of the vault. This well will be installed to determine if a potential release from the vault is impacting groundwater.

- MW24 — Soil boring SB3Vault will be converted to a monitoring well. This well, in conjunction with MW23, will be used to determine if a potential release from the vault has migrated further than the immediate vicinity of the vault.

Further delineation of the horizontal and vertical extent of potentially impacted groundwater within the shallow aquifer may be necessary, depending upon laboratory analytical results from the shallow groundwater wells.

Ground Water Sample Collection Methods

Upon completion, the monitoring wells and/or any future wells/piezometers will be developed using either a disposable polyethylene bailer or a polyvinyl chloride pump and dedicated tubing. The monitoring well shall be allowed to recover for a minimum of 24 hours. Prior to sampling, a depth-to-groundwater measurement will be made, and the monitoring well will be purged using a peristaltic pump via low flow sampling techniques. During purging, water quality parameters (pH, conductivity, temperature, turbidity, dissolved oxygen, and oxygen-reduction potential) will be recorded using a Horiba U-22 water quality meter, or equivalent. Upon achieving stability, groundwater from the monitoring well be obtained via the straw method and poured into laboratory-supplied 40-milliliter glass vials. Additional groundwater will then be obtained by reconnecting the dedicated tubing to the peristaltic pump to collect additional samples.

2.3 Sample Analysis

2.3.1 Soil

Soil samples obtained from the unsaturated zone shall be submitted for VOCs by USEPA Method 8260B/5035, SVOCs by USEPA Method 8270C, PCBs by USEPA Method 8082, Resource Conservation and Recovery Act (RCRA) metals by USEPA Method 6010B/3050B per *NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation* requirements.

2.3.2 Groundwater

Groundwater samples shall be submitted for VOCs by USEPA Method 8260B/5035, SVOCs by USEPA Method 8270C, PCBs by USEPA Method 8082, RCRA metals by USEPA Method 6010B/3050B per *NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation* requirements.

2.4 Documentation

All notes, descriptions, and observations will be recorded in a project field logbook. Following receipt of the laboratory analytical data, a summary report will be prepared documenting all field activities, boring logs, well construction diagrams, laboratory analytical results compared to applicable NYSDEC SCOs as well as the Surface Water and Groundwater Quality Standards, and conclusions/recommendations regarding the investigation.

2.5 Equipment Decontamination

All sampling equipment is anticipated to be disposable and/or dedicated; however, if sampling equipment is to be used in multiple locations, it shall be decontaminated manually in accordance with the following procedures:

- Wash equipment with tap water and laboratory (phosphate-free) detergent using a brush, if necessary, to remove particulate and surface film
- Rinse with tap water
- Rinse with distilled water
- Air dry
- If necessary, wrap in aluminum foil to prevent recontamination prior to use
- Decontamination rinsates will be disposed by pouring directly into Carrier's on-site water treatment system.

It is assumed all soil and groundwater investigation derived waste (IDW) will be managed as nonhazardous [placed in 55-gallon drums(s) and staged at a location designated by Carrier personnel]. Carrier personnel will coordinate/manage the proper disposal of the IDW based upon laboratory analytical results.

3.0 HEALTH AND SAFETY PLAN

All field activities will be conducted in compliance with the site-specific Health and Safety Plan.

4.0 IMPLEMENTATION SCHEDULE

Mobilization related to the field activities described in this work plan will occur within two weeks of approval of this plan. In accordance CO requirements, Carrier will notify NYSDEC a minimum of five (5) days prior to field investigation activities.

Appendix A
Accutest Analytical Data Sheets

New Jersey ACCUTEST LABORATORIES

10/25/11

Technical Report for

United Technology Corporation

ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY 11018

Accutest Job Number: JA89012

Sampling Date: 10/12/11

Report to:

Ensafe
5724 Summer Trees Drive
Memphis, TN 38134
mheflin@Ensafe.com; nelson.wong@carrier.utc.com;
tcantwell@ensafe.com; william.penn@utc.com;
ATTN: May Heflin

Total number of pages in report: **69**

ACCREDITED IN ACCORDANCE WITH nelac

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.

David N. Speis
VP, Laboratory 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, PA, RI, SC, TN, VA, WV

Sections: 1 2 3 4 5 6 7

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Accutest Laboratories

Sample Summary

United Technology Corporation

Job No: JA89012

ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY
Project No: 11018

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JA89012-1	10/12/11	15:30	SP	10/13/11	SO	Soil	MH5-6

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

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID: MH5-6
Lab Sample ID: JA89012-1 **Date Sampled:** 10/12/11
Matrix: SO - Soil **Date Received:** 10/13/11
Method: SW846 8260B **Percent Solids:** 86.2
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X119793.D	1	10/17/11	TYG	n/a	n/a	VX5089
Run #2							

	Initial Weight
Run #1	7.5 g
Run #2	

VOA TCL List (SOM0 1.1)

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	58.5	7.7	5.1	ug/kg	
71-43-2	Benzene	0.30	0.77	0.10	ug/kg	J
74-97-5	Bromochloromethane	ND	3.9	0.40	ug/kg	
75-27-4	Bromodichloromethane	ND	3.9	0.17	ug/kg	
75-25-2	Bromoform	ND	3.9	0.58	ug/kg	
74-83-9	Bromomethane	ND	3.9	0.30	ug/kg	
78-93-3	2-Butanone (MEK)	15.0	7.7	3.3	ug/kg	
75-15-0	Carbon disulfide	0.82	3.9	0.15	ug/kg	J
56-23-5	Carbon tetrachloride	ND	3.9	0.27	ug/kg	
108-90-7	Chlorobenzene	ND	3.9	0.25	ug/kg	
75-00-3	Chloroethane	0.64	3.9	0.32	ug/kg	J
67-66-3	Chloroform	ND	3.9	0.37	ug/kg	
74-87-3	Chloromethane	ND	3.9	0.48	ug/kg	
110-82-7	Cyclohexane	6.6	3.9	0.29	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	7.7	1.2	ug/kg	
124-48-1	Dibromochloromethane	ND	3.9	0.13	ug/kg	
106-93-4	1,2-Dibromoethane	ND	0.77	0.18	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	3.9	0.21	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	3.9	0.15	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	3.9	0.13	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	3.9	0.25	ug/kg	
75-34-3	1,1-Dichloroethane	5.9	3.9	0.17	ug/kg	
107-06-2	1,2-Dichloroethane	ND	0.77	0.14	ug/kg	
75-35-4	1,1-Dichloroethene	ND	3.9	0.47	ug/kg	
156-59-2	cis-1,2-Dichloroethene	6.7	3.9	0.25	ug/kg	
156-60-5	trans-1,2-Dichloroethene	0.79	3.9	0.33	ug/kg	J
78-87-5	1,2-Dichloropropane	ND	3.9	0.21	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.9	0.12	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.9	0.26	ug/kg	
123-91-1	1,4-Dioxane	59.3	97	45	ug/kg	J
100-41-4	Ethylbenzene	1.2	0.77	0.11	ug/kg	
76-13-1	Freon 113	ND	3.9	0.55	ug/kg	

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

Accutest Laboratories

Report of Analysis

Client Sample ID: MH5-6
Lab Sample ID: JA89012-1 **Date Sampled:** 10/12/11
Matrix: SO - Soil **Date Received:** 10/13/11
Method: SW846 8260B **Percent Solids:** 86.2
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

VOA TCL List (SOM0 1.1)

CAS No.	Compound	Result	RL	MDL	Units	Q
591-78-6	2-Hexanone	ND	3.9	1.9	ug/kg	
98-82-8	Isopropylbenzene	0.36	3.9	0.11	ug/kg	J
79-20-9	Methyl Acetate	ND	3.9	1.7	ug/kg	
108-87-2	Methylcyclohexane	1.2	3.9	0.19	ug/kg	J
1634-04-4	Methyl Tert Butyl Ether	ND	0.77	0.14	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	3.9	2.0	ug/kg	
75-09-2	Methylene chloride	ND	3.9	0.18	ug/kg	
100-42-5	Styrene	ND	3.9	0.14	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.9	0.14	ug/kg	
127-18-4	Tetrachloroethene	ND	3.9	0.15	ug/kg	
108-88-3	Toluene	1.9	0.77	0.29	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	0.81	3.9	0.34	ug/kg	J
120-82-1	1,2,4-Trichlorobenzene	1.6	3.9	0.26	ug/kg	J
71-55-6	1,1,1-Trichloroethane	ND	3.9	0.19	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.9	0.33	ug/kg	
79-01-6	Trichloroethene	4.6	3.9	0.19	ug/kg	
75-69-4	Trichlorofluoromethane	ND	3.9	0.37	ug/kg	
75-01-4	Vinyl chloride	20.4	3.9	0.36	ug/kg	
	m,p-Xylene	2.9	0.77	0.24	ug/kg	
95-47-6	o-Xylene	1.8	0.77	0.14	ug/kg	
1330-20-7	Xylene (total)	4.8	0.77	0.14	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		67-131%
17060-07-0	1,2-Dichloroethane-D4	84%		66-130%
2037-26-5	Toluene-D8	102%		76-125%
460-00-4	4-Bromofluorobenzene	104%		53-142%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	alkane	7.70	9.5	ug/kg	J
	cycloalkane/alkene	9.13	8.7	ug/kg	J
	alkane	18.44	17	ug/kg	J
	Naphthalene decahydro	18.53	8.5	ug/kg	J
	alkane	18.64	7.5	ug/kg	J
	unknown	18.71	6.8	ug/kg	J
	unknown	18.76	6.9	ug/kg	J
	cycloalkane/alkene	19.10	9.3	ug/kg	J
	alkane	19.45	14	ug/kg	J

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MH5-6		
Lab Sample ID:	JA89012-1	**Date Sampled:**	10/12/11
Matrix:	SO - Soil	**Date Received:**	10/13/11
Method:	SW846 8260B	**Percent Solids:**	86.2
Project:	ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY		

VOA TCL List (SOM0 1.1)

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	alkane	19.58	9.2	ug/kg	J
	Total TIC, Volatile		97.4	ug/kg	J

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

Accutest Laboratories

Report of Analysis

Client Sample ID: MH5-6
Lab Sample ID: JA89012-1 **Date Sampled:** 10/12/11
Matrix: SO - Soil **Date Received:** 10/13/11
Method: SW846 8270D SW846 3550C **Percent Solids:** 86.2
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z66993.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533
Run #2							

	Initial Weight	Final Volume
Run #1	35.3 g	1.0 ml
Run #2		

ABN TCL List (SOM0 1.1)

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	160	33	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	160	33	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	160	53	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	160	55	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	660	40	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	660	40	ug/kg	
95-48-7	2-Methylphenol	ND	66	37	ug/kg	
	3&4-Methylphenol	ND	66	42	ug/kg	
88-75-5	2-Nitrophenol	ND	160	35	ug/kg	
100-02-7	4-Nitrophenol	ND	330	56	ug/kg	
87-86-5	Pentachlorophenol	ND	330	56	ug/kg	
108-95-2	Phenol	ND	66	35	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	160	34	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	160	38	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	160	31	ug/kg	
83-32-9	Acenaphthene	181	33	9.5	ug/kg	
208-96-8	Acenaphthylene	69.0	33	11	ug/kg	
98-86-2	Acetophenone	ND	160	5.8	ug/kg	
120-12-7	Anthracene	477	33	12	ug/kg	
1912-24-9	Atrazine	ND	160	6.5	ug/kg	
56-55-3	Benzo(a)anthracene	1260	33	11	ug/kg	
50-32-8	Benzo(a)pyrene	1260	33	10	ug/kg	
205-99-2	Benzo(b)fluoranthene	1440	33	11	ug/kg	
191-24-2	Benzo(g,h,i)perylene	903	33	12	ug/kg	
207-08-9	Benzo(k)fluoranthene	795	33	12	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	66	12	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	66	19	ug/kg	
92-52-4	1,1'-Biphenyl	21.3	66	3.8	ug/kg	J
100-52-7	Benzaldehyde	ND	160	7.6	ug/kg	
91-58-7	2-Chloronaphthalene	ND	66	10	ug/kg	
106-47-8	4-Chloroaniline	ND	160	11	ug/kg	
86-74-8	Carbazole	190	66	15	ug/kg	

ND = Not detected MDL - Method Detection Limit
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Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

ABN TCL List (SOM0 1.1)

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	66	10	ug/kg	
218-01-9	Chrysene	1280	33	11	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	66	13	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	66	9.9	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	66	9.8	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	66	9.9	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	66	14	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	66	13	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	160	8.3	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	339	33	11	ug/kg	
132-64-9	Dibenzofuran	119	66	9.8	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	66	7.3	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	66	16	ug/kg	
84-66-2	Diethyl phthalate	ND	66	11	ug/kg	
131-11-3	Dimethyl phthalate	36.9	66	12	ug/kg	J
117-81-7	bis(2-Ethylhexyl)phthalate	924	66	29	ug/kg	
206-44-0	Fluoranthene	2580	33	14	ug/kg	
86-73-7	Fluorene	221	33	11	ug/kg	
118-74-1	Hexachlorobenzene	ND	66	11	ug/kg	
87-68-3	Hexachlorobutadiene	ND	33	9.1	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	660	34	ug/kg	
67-72-1	Hexachloroethane	ND	160	9.1	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	1030	33	11	ug/kg	
78-59-1	Isophorone	ND	66	8.8	ug/kg	
91-57-6	2-Methylnaphthalene	69.4	66	18	ug/kg	
88-74-4	2-Nitroaniline	ND	160	14	ug/kg	
99-09-2	3-Nitroaniline	ND	160	13	ug/kg	
100-01-6	4-Nitroaniline	ND	160	13	ug/kg	
91-20-3	Naphthalene	74.5	33	9.0	ug/kg	
98-95-3	Nitrobenzene	ND	66	9.5	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	66	8.0	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	160	20	ug/kg	
85-01-8	Phenanthrene	1520	33	15	ug/kg	
129-00-0	Pyrene	2220	33	13	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	160	10	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	71%		21-116%
4165-62-2	Phenol-d5	77%		19-117%

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

Accutest Laboratories

Report of Analysis

Client Sample ID: MH5-6
Lab Sample ID: JA89012-1 **Date Sampled:** 10/12/11
Matrix: SO - Soil **Date Received:** 10/13/11
Method: SW846 8270D SW846 3550C **Percent Solids:** 86.2
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

ABN TCL List (SOM0 1.1)

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
118-79-6	2,4,6-Tribromophenol	80%		24-136%
4165-60-0	Nitrobenzene-d5	84%		21-122%
321-60-8	2-Fluorobiphenyl	72%		30-117%
1718-51-0	Terphenyl-d14	78%		31-129%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	1.40	1500	ug/kg	J
	unknown	3.51	570	ug/kg	J
	alkane	3.57	570	ug/kg	J
	unknown	3.71	830	ug/kg	J
	alkane	3.91	740	ug/kg	J
	alkane	4.99	550	ug/kg	J
	alkane	8.27	610	ug/kg	J
	alkane	9.02	550	ug/kg	J
	alkane	9.06	790	ug/kg	J
	unknown	9.36	530	ug/kg	J
	unknown	9.46	530	ug/kg	J
	alkane	9.80	800	ug/kg	J
120-32-1	Clorophene	10.52	1100	ug/kg	JN
	1,1'-Biphenyl,tetrachloro(PCB)	10.76	540	ug/kg	J
	unknown	10.85	590	ug/kg	J
	unknown	10.96	730	ug/kg	J
10544-50-0	Cyclic octaatomic sulfur	11.38	2400	ug/kg	JN
	1,1'-Biphenyl,hexachloro-(PCB)	12.63	1500	ug/kg	J
	1,1'-Biphenyl,hexachloro-(PCB)	12.93	2100	ug/kg	J
	1,1'-Biphenyl,hexachloro-(PCB)	13.09	680	ug/kg	J
	1,1'-Biphenyl,hexachloro-(PCB)	13.26	1400	ug/kg	J
	1,1'-Biphenyl,heptachloro(PCB)	13.46	820	ug/kg	J
	1,1'-Biphenyl,heptachloro(PCB)	14.07	1100	ug/kg	J
	unknown PAH substance	15.74	780	ug/kg	J
	unknown	16.64	1200	ug/kg	J
	unknown	17.01	1000	ug/kg	J
	Total TIC, Semi-Volatile		23010	ug/kg	J

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

Accutest Laboratories

Report of Analysis

Client Sample ID: MH5-6
Lab Sample ID: JA89012-1 **Date Sampled:** 10/12/11
Matrix: SO - Soil **Date Received:** 10/13/11
Method: SW846 8081B SW846 3545A **Percent Solids:** 86.2
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3G59302.D	1	10/18/11	TDR	10/14/11	OP52462	G3G2148
Run #2							

	Initial Weight	Final Volume
Run #1	17.0 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.68	0.34	ug/kg	
319-84-6	alpha-BHC	ND	0.68	0.51	ug/kg	
319-85-7	beta-BHC	ND	0.68	0.48	ug/kg	
319-86-8	delta-BHC	ND	0.68	0.40	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.68	0.31	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.68	0.44	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.68	0.35	ug/kg	
60-57-1	Dieldrin	ND	0.68	0.53	ug/kg	
72-54-8	4,4'-DDD	ND	0.68	0.35	ug/kg	
72-55-9	4,4'-DDE	ND	0.68	0.40	ug/kg	
50-29-3	4,4'-DDT	ND	0.68	0.50	ug/kg	
72-20-8	Endrin	ND	0.68	0.35	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.68	0.62	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.68	0.65	ug/kg	
959-98-8	Endosulfan-I	ND	0.68	0.33	ug/kg	
33213-65-9	Endosulfan-II	ND	0.68	0.45	ug/kg	
76-44-8	Heptachlor	ND	0.68	0.42	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.68	0.34	ug/kg	
72-43-5	Methoxychlor	ND	1.4	0.48	ug/kg	
53494-70-5	Endrin ketone	ND	0.68	0.44	ug/kg	
8001-35-2	Toxaphene	ND	17	8.6	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	88%		23-137%
877-09-8	Tetrachloro-m-xylene	93%		23-137%
2051-24-3	Decachlorobiphenyl	100%		22-160%
2051-24-3	Decachlorobiphenyl	95%		22-160%

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

Accutest Laboratories

Report of Analysis

Client Sample ID: MH5-6
Lab Sample ID: JA89012-1 **Date Sampled:** 10/12/11
Matrix: SO - Soil **Date Received:** 10/13/11
Method: SW846 8082A SW846 3545A **Percent Solids:** 86.2
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OA79242.D	1	10/17/11	VDT	10/14/11	OP52463	GOA2672
Run #2	OA79267.D	20	10/18/11	VDT	10/14/11	OP52463	GOA2673

	Initial Weight	Final Volume
Run #1	17.0 g	10.0 ml
Run #2	17.0 g	10.0 ml

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	34	8.9	ug/kg	
11104-28-2	Aroclor 1221	ND	34	21	ug/kg	
11141-16-5	Aroclor 1232	ND	34	17	ug/kg	
53469-21-9	Aroclor 1242	ND	34	11	ug/kg	
12672-29-6	Aroclor 1248	ND	34	10	ug/kg	
11097-69-1	Aroclor 1254	7110 [a]	680	320	ug/kg	
11096-82-5	Aroclor 1260	16200 [a]	680	220	ug/kg	
11100-14-4	Aroclor 1268	ND	34	10	ug/kg	
37324-23-5	Aroclor 1262	ND	34	11	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	74%	70%	22-141%
877-09-8	Tetrachloro-m-xylene	82%	86%	22-141%
2051-24-3	Decachlorobiphenyl	96%	82%	18-163%
2051-24-3	Decachlorobiphenyl	130%	96%	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

Accutest Laboratories

Report of Analysis

Client Sample ID: MH5-6
Lab Sample ID: JA89012-1
Matrix: SO - Soil
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Date Sampled: 10/12/11
Date Received: 10/13/11
Percent Solids: 86.2

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum [a]	4080	570	mg/kg	10	10/15/11	10/18/11	BL	SW846 6010C [3]	SW846 3050B [4]
Antimony [a]	< 23	23	mg/kg	10	10/15/11	10/18/11	BL	SW846 6010C [3]	SW846 3050B [4]
Arsenic	4.8	2.3	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Barium	52.3	23	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Beryllium	0.26	0.23	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Cadmium	3.0	0.57	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Calcium	201000	5700	mg/kg	10	10/15/11	10/18/11	BL	SW846 6010C [3]	SW846 3050B [4]
Chromium	56.9	1.1	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Cobalt	< 5.7	5.7	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Copper	110	2.9	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Iron	31500	57	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Lead	287	2.3	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Magnesium	21000	570	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Manganese	521	1.7	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Mercury	0.33	0.037	mg/kg	1	10/17/11	10/17/11	VK	SW846 7471B [2]	SW846 7471B [5]
Nickel	46.8	4.6	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Potassium	< 1100	1100	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Selenium [a]	< 23	23	mg/kg	10	10/15/11	10/18/11	BL	SW846 6010C [3]	SW846 3050B [4]
Silver [a]	< 5.7	5.7	mg/kg	10	10/15/11	10/18/11	BL	SW846 6010C [3]	SW846 3050B [4]
Sodium	< 1100	1100	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Thallium [a]	< 11	11	mg/kg	10	10/15/11	10/18/11	BL	SW846 6010C [3]	SW846 3050B [4]
Vanadium	15.8	5.7	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]
Zinc	248	2.3	mg/kg	1	10/15/11	10/16/11	BL	SW846 6010C [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA27278
(2) Instrument QC Batch: MA27281
(3) Instrument QC Batch: MA27285
(4) Prep QC Batch: MP60749
(5) Prep QC Batch: MP60769

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Field Kits Received

JA89012

		COC No.	Page 1 of 1
ENSAFE	Project Name: **CARRIER PROJECT G**	PO No. **12161**	Project No. **11018** Phase 1 Task
	Site Location: **CARRIER SYRACUSE, NY**		**Lab Name** **ACCUTEST**
EnSafe Inc. 800-588-7962	Sampler/Site Phone# **925-595-5965**	**Sample Analysis Requested** (Fill in the number of containers for each test)	

Sampler: **STAN PLOOF**

Send Results: **MAY HEFLIN** **Email: mheflin@ensafe.co**

Data Shipping Address: **ELECTRONIC DATA ONLY**

Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (mm/dd/yy)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	Field Filtered (Y/N)	Total No. of Containers	TLC VOC's +10 TICs (8260B)	TLC SVOC's +20 TICS (8270C)	TAL METALS (6010B/7471A)	PEST/PCB's (8081/8082)						Remarks <--Preservative Type (3)
-1 MH5-6	TR-1	10.12.11	1530	SO	N	N	6	3	1	1	1		4441	4267	4268		N43-05.036'
																	W076-05.359'
																	C614
																	14Q3
																	4002
																	45F4

D.I. slurry voc vials frozen storage
Date: 10/13/11 Time: 1136 Initials: [illegible]

Field Kits Received

ASAP

Turnaround Time(specify): Final 5 days Email (if applicable) ____ days

Email Results(check): Yes X No____

Deliverable (check): Level 2___ Level 3___ Level 4___ TX TRRP-13___

***Field* Comments:**

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment: 1

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time	
1 [signature]	10.12.11	17:00	1 [signature]	10/12/11	17:00	Samples Iced?(check) Yes X No____
2 [signature]	10/12/11	17:30	2 FedEx	10/13/11	1730	Method of Shipment:
3 Fedex	10/13/11	0930	3 [signature]	10/13/11	0930	Airbill No:
						Date Shipped:

(1) **Matrix Code:** **AA**=Air, **AQ**=Air Quality Control Matrix, **DC**=Drill Cuttings, **GS**=Soil Gas, **LD**=Drilling Fluid, **LF**=Free Product, **LH**=Liquid Waste, **OIl**=Oil, **SB**=Bentonite, **SC**=Cement, **SE**=Sediment, **SF**=Filter Sandpack, **SL**=Sludge, **SN**=Miscellaneous Solid/Building Materials, **SO**=Soil, **SQ**=Soil/Solid Quality Control Matrix, **ST**=Solid Waste, **SW**=Swab/Wipe, **TA**=Animal Tissue, **TP**=Plant Tissue, **TQ**=Tissue Quality Control Matrix, **U**=Unknown, **WA**=Aqueous Drill Cuttings, **WE**=Estuary, **WG**=Ground Water, **WL**=Leachate, **WO**=Ocean Water, **WP**=Drinking Water, **WQ**=Water Quality Control Matrix, **WS**=Surface Water, **WW**=Waste Water

(2) Sample Type: **AB**=Ambient Blank, **EB**=Equipment Blank, **FB**=Field Blank, **FD**=Field Duplicate Sample, **FR**=Field Replicate, **MB**=Material Blank, **N**=Normal Environmental Sample, **RB**=Material Rinse Blank, **TB**=Trip Blank

(3) Preservative added: **HA**=Hydrochloric Acid, **NI**=Nitric Acid, **SH**=Sodium Hydroxide, **SA**=Sulfuric Acid, **AA**=Ascorbic Acid, **HX**=Hexane, **ME**=Methanol, **SB**=sodium bisulfate, **ST**=Sodium Thiosulfate, If **NO preservative** added leave blank

Rev. 06/05

3.0°C

TRK#898611436511

SYRACUSE SC

JA89012: Chain of Custody
Page 1 of 3

Accutest Laboratories Sample Receipt Summary

Accutest Job Number JA89012 **Client:**

Date / Time Received: 10/13/2011 **Project:**

No. Coolers: 1 **Airbill #'s:** **Delivery Method:**

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		

Quality Control Preservatio	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

JA89012: Chain of Custody
Page 2 of 3

Job Change Order: JA89012_10/20/2011

Requested Date:	10/20/2011	**Received Date:**	10/13/2011
Account Name:	United Technology Corporation	**Due Date:**	10/18/2011
Project	ENSTNN: Carrier, Syracuse, NY, TR-1 & TR-2	**Deliverable:**	COMMB
CSR:	MM	**TAT (Days):**	5

Sample #: JA89012-all

Change: Please change the project code to UTC50330; the sampler indicated the wrong PO on the coc.

Above Changes Per: May Heflin **Date:** 10/20/2011

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service

Page 1 of 1

JA89012: Chain of Custody
Page 3 of 3

New Jersey ACCUTEST LABORATORIES

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX5089-MB	X119775.D	1	10/17/11	TYG	n/a	n/a	VX5089

The QC reported here applies to the following samples: **Method:** SW846 8260B

JA89012-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	6.6	ug/kg	
71-43-2	Benzene	ND	1.0	0.13	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.52	ug/kg	
75-27-4	Bromodichloromethane	ND	5.0	0.22	ug/kg	
75-25-2	Bromoform	ND	5.0	0.76	ug/kg	
74-83-9	Bromomethane	ND	5.0	0.39	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	4.3	ug/kg	
75-15-0	Carbon disulfide	ND	5.0	0.20	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.0	0.35	ug/kg	
108-90-7	Chlorobenzene	ND	5.0	0.32	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.41	ug/kg	
67-66-3	Chloroform	ND	5.0	0.48	ug/kg	
74-87-3	Chloromethane	ND	5.0	0.62	ug/kg	
110-82-7	Cyclohexane	ND	5.0	0.38	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	1.5	ug/kg	
124-48-1	Dibromochloromethane	ND	5.0	0.17	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.24	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	5.0	0.28	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	5.0	0.19	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	5.0	0.17	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.32	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.0	0.22	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.18	ug/kg	
75-35-4	1,1-Dichloroethene	ND	5.0	0.61	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	0.32	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	0.42	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.0	0.27	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	0.15	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	0.34	ug/kg	
123-91-1	1,4-Dioxane	ND	130	58	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.15	ug/kg	
76-13-1	Freon 113	ND	5.0	0.72	ug/kg	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/kg	
98-82-8	Isopropylbenzene	ND	5.0	0.14	ug/kg	
79-20-9	Methyl Acetate	ND	5.0	2.2	ug/kg	
108-87-2	Methylcyclohexane	ND	5.0	0.25	ug/kg	

Method Blank Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX5089-MB	X119775.D	1	10/17/11	TYG	n/a	n/a	VX5089

The QC reported here applies to the following samples: **Method:** SW846 8260B

JA89012-1

CAS No.	Compound	Result	RL	MDL	Units	Q
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.18	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	2.6	ug/kg	
75-09-2	Methylene chloride	ND	5.0	0.23	ug/kg	
100-42-5	Styrene	ND	5.0	0.19	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	0.18	ug/kg	
127-18-4	Tetrachloroethene	ND	5.0	0.19	ug/kg	
108-88-3	Toluene	ND	1.0	0.38	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.44	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.34	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.0	0.24	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.0	0.43	ug/kg	
79-01-6	Trichloroethene	ND	5.0	0.25	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.48	ug/kg	
75-01-4	Vinyl chloride	ND	5.0	0.46	ug/kg	
	m,p-Xylene	ND	1.0	0.31	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.18	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.18	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	104%	67-131%
17060-07-0	1,2-Dichloroethane-D4	88%	66-130%
2037-26-5	Toluene-D8	108%	76-125%
460-00-4	4-Bromofluorobenzene	99%	53-142%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX5089-BS	X119776.D	1	10/17/11	TYG	n/a	n/a	VX5089

The QC reported here applies to the following samples: **Method:** SW846 8260B

JA89012-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	57.9	116	48-154
71-43-2	Benzene	50	49.1	98	76-120
74-97-5	Bromochloromethane	50	57.0	114	80-130
75-27-4	Bromodichloromethane	50	52.2	104	80-139
75-25-2	Bromoform	50	54.4	109	71-144
74-83-9	Bromomethane	50	53.9	108	56-142
78-93-3	2-Butanone (MEK)	50	65.3	131	61-141
75-15-0	Carbon disulfide	50	52.3	105	58-134
56-23-5	Carbon tetrachloride	50	55.3	111	64-156
108-90-7	Chlorobenzene	50	48.3	97	80-121
75-00-3	Chloroethane	50	54.5	109	57-138
67-66-3	Chloroform	50	50.6	101	77-130
74-87-3	Chloromethane	50	48.2	96	53-131
110-82-7	Cyclohexane	50	54.2	108	62-130
96-12-8	1,2-Dibromo-3-chloropropane	50	40.1	80	63-141
124-48-1	Dibromochloromethane	50	51.0	102	74-138
106-93-4	1,2-Dibromoethane	50	49.9	100	80-127
95-50-1	1,2-Dichlorobenzene	50	44.9	90	77-121
541-73-1	1,3-Dichlorobenzene	50	45.0	90	77-122
106-46-7	1,4-Dichlorobenzene	50	43.4	87	74-117
75-71-8	Dichlorodifluoromethane	50	46.1	92	36-149
75-34-3	1,1-Dichloroethane	50	50.8	102	75-129
107-06-2	1,2-Dichloroethane	50	48.6	97	70-145
75-35-4	1,1-Dichloroethene	50	52.8	106	70-128
156-59-2	cis-1,2-Dichloroethene	50	53.9	108	76-135
156-60-5	trans-1,2-Dichloroethene	50	52.5	105	68-124
78-87-5	1,2-Dichloropropane	50	51.3	103	79-122
10061-01-5	cis-1,3-Dichloropropene	50	51.5	103	80-127
10061-02-6	trans-1,3-Dichloropropene	50	51.3	103	79-133
123-91-1	1,4-Dioxane	1250	1180	94	54-158
100-41-4	Ethylbenzene	50	45.1	90	75-125
76-13-1	Freon 113	50	59.0	118	62-144
591-78-6	2-Hexanone	50	49.9	100	61-142
98-82-8	Isopropylbenzene	50	44.3	89	67-126
79-20-9	Methyl Acetate	50	47.3	95	57-141
108-87-2	Methylcyclohexane	50	56.3	113	65-134

Blank Spike Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX5089-BS	X119776.D	1	10/17/11	TYG	n/a	n/a	VX5089

The QC reported here applies to the following samples: **Method:** SW846 8260B

JA89012-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
1634-04-4	Methyl Tert Butyl Ether	100	106	106	72-126
108-10-1	4-Methyl-2-pentanone(MIBK)	50	51.4	103	69-135
75-09-2	Methylene chloride	50	50.2	100	71-124
100-42-5	Styrene	50	45.6	91	77-128
79-34-5	1,1,2,2-Tetrachloroethane	50	41.3	83	71-122
127-18-4	Tetrachloroethene	50	52.4	105	70-137
108-88-3	Toluene	50	51.1	102	77-124
87-61-6	1,2,3-Trichlorobenzene	50	46.9	94	67-134
120-82-1	1,2,4-Trichlorobenzene	50	46.7	93	70-132
71-55-6	1,1,1-Trichloroethane	50	53.1	106	70-144
79-00-5	1,1,2-Trichloroethane	50	52.5	105	81-127
79-01-6	Trichloroethene	50	55.7	111	80-129
75-69-4	Trichlorofluoromethane	50	55.1	110	59-149
75-01-4	Vinyl chloride	50	54.2	108	59-134
	m,p-Xylene	100	94.2	94	77-124
95-47-6	o-Xylene	50	47.4	95	81-126
1330-20-7	Xylene (total)	150	142	95	78-124

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	67-131%
17060-07-0	1,2-Dichloroethane-D4	88%	66-130%
2037-26-5	Toluene-D8	104%	76-125%
460-00-4	4-Bromofluorobenzene	100%	53-142%

Matrix Spike Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JA88186-2AMS	X119781.D	1	10/17/11	TYG	n/a	n/a	VX5089
JA88186-2A	X119778.D	1	10/17/11	TYG	n/a	n/a	VX5089

The QC reported here applies to the following samples: **Method:** SW846 8260B

JA89012-1

CAS No.	Compound	JA88186-2A ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
67-64-1	Acetone	ND		74.5	95.8	129	12-189
71-43-2	Benzene	ND		74.5	56.9	76	37-132
74-97-5	Bromochloromethane	ND		74.5	70.7	95	43-136
75-27-4	Bromodichloromethane	ND		74.5	64.3	86	34-148
75-25-2	Bromoform	ND		74.5	63.7	85	23-153
74-83-9	Bromomethane	ND		74.5	83.1	112	10-150
78-93-3	2-Butanone (MEK)	ND		74.5	85.5	115	21-179
75-15-0	Carbon disulfide	ND		74.5	47.9	64	25-139
56-23-5	Carbon tetrachloride	ND		74.5	67.7	91	25-156
108-90-7	Chlorobenzene	ND		74.5	43.4	58	25-140
75-00-3	Chloroethane	ND		74.5	80.1	108	15-143
67-66-3	Chloroform	ND		74.5	64.3	86	42-134
74-87-3	Chloromethane	ND		74.5	78.5	105	33-134
110-82-7	Cyclohexane	ND		74.5	62.2	83	15-147
96-12-8	1,2-Dibromo-3-chloropropane	ND		74.5	56.6	76	15-154
124-48-1	Dibromochloromethane	ND		74.5	63.1	85	28-150
106-93-4	1,2-Dibromoethane	ND		74.5	60.5	81	34-141
95-50-1	1,2-Dichlorobenzene	ND		74.5	33.9	45	10-147
541-73-1	1,3-Dichlorobenzene	ND		74.5	33.8	45	10-148
106-46-7	1,4-Dichlorobenzene	ND		74.5	30.4	41	10-144
75-71-8	Dichlorodifluoromethane	ND		74.5	73.5	99	18-162
75-34-3	1,1-Dichloroethane	ND		74.5	62.9	84	44-131
107-06-2	1,2-Dichloroethane	ND		74.5	59.7	80	39-144
75-35-4	1,1-Dichloroethene	ND		74.5	59.8	80	37-135
156-59-2	cis-1,2-Dichloroethene	ND		74.5	61.1	82	38-134
156-60-5	trans-1,2-Dichloroethene	ND		74.5	55.9	75	35-133
78-87-5	1,2-Dichloropropane	ND		74.5	62.0	83	41-132
10061-01-5	cis-1,3-Dichloropropene	ND		74.5	58.1	78	31-141
10061-02-6	trans-1,3-Dichloropropene	ND		74.5	53.2	71	29-146
123-91-1	1,4-Dioxane	ND		1860	1560	84	38-162
100-41-4	Ethylbenzene	ND		74.5	50.3	68	20-144
76-13-1	Freon 113	ND		74.5	73.0	98	22-155
591-78-6	2-Hexanone	ND		74.5	70.8	95	15-172
98-82-8	Isopropylbenzene	ND		74.5	62.7	84	14-146
79-20-9	Methyl Acetate	ND		74.5	76.6	103	24-178
108-87-2	Methylcyclohexane	ND		74.5	65.1	87	10-157

Matrix Spike Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JA88186-2AMS	X119781.D	1	10/17/11	TYG	n/a	n/a	VX5089
JA88186-2A	X119778.D	1	10/17/11	TYG	n/a	n/a	VX5089

The QC reported here applies to the following samples: **Method:** SW846 8260B

JA89012-1

CAS No.	Compound	JA88186-2A ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
1634-04-4	Methyl Tert Butyl Ether	ND		74.5	66.8	90	43-131
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		74.5	67.4	90	36-145
75-09-2	Methylene chloride	ND		74.5	63.5	85	41-128
100-42-5	Styrene	ND		74.5	34.9	47	13-154
79-34-5	1,1,2,2-Tetrachloroethane	ND		74.5	66.5	89	30-134
127-18-4	Tetrachloroethene	ND		74.5	58.1	78	18-163
108-88-3	Toluene	ND		74.5	54.9	74	29-138
87-61-6	1,2,3-Trichlorobenzene	ND		74.5	19.4	26	10-158
120-82-1	1,2,4-Trichlorobenzene	ND		74.5	19.1	26	10-163
71-55-6	1,1,1-Trichloroethane	ND		74.5	67.9	91	35-145
79-00-5	1,1,2-Trichloroethane	ND		74.5	65.8	88	37-140
79-01-6	Trichloroethene	ND		74.5	60.5	81	28-151
75-69-4	Trichlorofluoromethane	ND		74.5	80.8	108	29-154
75-01-4	Vinyl chloride	ND		74.5	83.9	113	33-143
	m,p-Xylene	ND		149	95.5	64	17-145
95-47-6	o-Xylene	ND		74.5	49.7	67	20-146
1330-20-7	Xylene (total)	ND		224	145	65	18-145

CAS No.	Surrogate Recoveries	MS	JA88186-2A	Limits
1868-53-7	Dibromofluoromethane	107%	103%	67-131%
17060-07-0	1,2-Dichloroethane-D4	92%	84%	66-130%
2037-26-5	Toluene-D8	107%	105%	76-125%
460-00-4	4-Bromofluorobenzene	116%	108%	53-142%

Duplicate Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JA88186-1ADUP	X119782.D	1	10/17/11	TYG	n/a	n/a	VX5089
JA88186-1A	X119777.D	1	10/17/11	TYG	n/a	n/a	VX5089

The QC reported here applies to the following samples: **Method:** SW846 8260B

JA89012-1

CAS No.	Compound	JA88186-1A ug/kg	Q	DUP ug/kg	Q	RPD	Limits
67-64-1	Acetone	ND		ND		nc	34
71-43-2	Benzene	ND		ND		nc	14
74-97-5	Bromochloromethane	ND		ND		nc	10
75-27-4	Bromodichloromethane	ND		ND		nc	10
75-25-2	Bromoform	ND		ND		nc	10
74-83-9	Bromomethane	ND		ND		nc	10
78-93-3	2-Butanone (MEK)	ND		ND		nc	10
75-15-0	Carbon disulfide	ND		ND		nc	20
56-23-5	Carbon tetrachloride	ND		ND		nc	10
108-90-7	Chlorobenzene	ND		ND		nc	10
75-00-3	Chloroethane	ND		ND		nc	10
67-66-3	Chloroform	ND		ND		nc	10
74-87-3	Chloromethane	ND		ND		nc	10
110-82-7	Cyclohexane	ND		ND		nc	10
96-12-8	1,2-Dibromo-3-chloropropane	ND		ND		nc	10
124-48-1	Dibromochloromethane	ND		ND		nc	10
106-93-4	1,2-Dibromoethane	ND		ND		nc	10
95-50-1	1,2-Dichlorobenzene	ND		ND		nc	10
541-73-1	1,3-Dichlorobenzene	ND		ND		nc	10
106-46-7	1,4-Dichlorobenzene	ND		ND		nc	10
75-71-8	Dichlorodifluoromethane	ND		ND		nc	10
75-34-3	1,1-Dichloroethane	ND		ND		nc	10
107-06-2	1,2-Dichloroethane	ND		ND		nc	10
75-35-4	1,1-Dichloroethene	ND		ND		nc	10
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	18
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	10
78-87-5	1,2-Dichloropropane	ND		ND		nc	10
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	10
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	10
123-91-1	1,4-Dioxane	ND		ND		nc	10
100-41-4	Ethylbenzene	ND		ND		nc	12
76-13-1	Freon 113	ND		ND		nc	10
591-78-6	2-Hexanone	ND		ND		nc	10
98-82-8	Isopropylbenzene	ND		ND		nc	10
79-20-9	Methyl Acetate	ND		ND		nc	10
108-87-2	Methylcyclohexane	ND		ND		nc	10

Duplicate Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JA88186-1ADUP	X119782.D	1	10/17/11	TYG	n/a	n/a	VX5089
JA88186-1A	X119777.D	1	10/17/11	TYG	n/a	n/a	VX5089

The QC reported here applies to the following samples: **Method:** SW846 8260B

JA89012-1

CAS No.	Compound	JA88186-1A ug/kg	Q	DUP ug/kg	Q	RPD	Limits
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	14
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		ND		nc	10
75-09-2	Methylene chloride	ND		ND		nc	17
100-42-5	Styrene	ND		ND		nc	10
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	10
127-18-4	Tetrachloroethene	ND		ND		nc	20
108-88-3	Toluene	ND		ND		nc	18
87-61-6	1,2,3-Trichlorobenzene	ND		ND		nc	10
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	10
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	10
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	10
79-01-6	Trichloroethene	ND		ND		nc	15
75-69-4	Trichlorofluoromethane	ND		ND		nc	10
75-01-4	Vinyl chloride	ND		ND		nc	10
	m,p-Xylene	ND		ND		nc	10
95-47-6	o-Xylene	ND		ND		nc	11
1330-20-7	Xylene (total)	ND		ND		nc	14

CAS No.	Surrogate Recoveries	DUP	JA88186-1A	Limits
1868-53-7	Dibromofluoromethane	101%	103%	67-131%
17060-07-0	1,2-Dichloroethane-D4	84%	87%	66-130%
2037-26-5	Toluene-D8	107%	106%	76-125%
460-00-4	4-Bromofluorobenzene	106%	104%	53-142%

Instrument Performance Check (BFB)

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample: VX5024-BFB
Lab File ID: X118356.D
Instrument ID: GCMSX
Injection Date: 09/06/11
Injection Time: 16:12

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	8873	17.8		Pass
75	30.0 - 60.0% of mass 95	23189	46.4		Pass
95	Base peak, 100% relative abundance	49971	100.0		Pass
96	5.0 - 9.0% of mass 95	3359	6.72		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	44312	88.7		Pass
175	5.0 - 9.0% of mass 174	3529	7.06	(7.96) [a]	Pass
176	95.0 - 101.0% of mass 174	42787	85.6	(96.6) [a]	Pass
177	5.0 - 9.0% of mass 176	2973	5.95	(6.95) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VX5024-IC5024	X118357.D	09/06/11	17:40	01:28	Initial cal 0.5
ZZZZZZ	X118357A.D	09/06/11	17:40	01:28	(unrelated sample)
VX5024-IC5024	X118358.D	09/06/11	18:10	01:58	Initial cal 1
ZZZZZZ	X118358A.D	09/06/11	18:10	01:58	(unrelated sample)
VX5024-IC5024	X118359.D	09/06/11	18:39	02:27	Initial cal 2
VX5024-IC5024	X118360.D	09/06/11	19:09	02:57	Initial cal 5
VX5024-IC5024	X118361.D	09/06/11	19:37	03:25	Initial cal 10
VX5024-IC5024	X118362.D	09/06/11	20:07	03:55	Initial cal 20
VX5024-ICC5024	X118363.D	09/06/11	20:36	04:24	Initial cal 50
VX5024-IC5024	X118364.D	09/06/11	21:05	04:53	Initial cal 100
VX5024-IC5024	X118365.D	09/06/11	21:35	05:23	Initial cal 200

Instrument Performance Check (BFB)

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample: VX5089-BFB
Lab File ID: X119773.D
Instrument ID: GCMSX
Injection Date: 10/17/11
Injection Time: 09:21

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	9315	16.8		Pass
75	30.0 - 60.0% of mass 95	24243	43.8		Pass
95	Base peak, 100% relative abundance	55371	100.0		Pass
96	5.0 - 9.0% of mass 95	3842	6.94		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	49237	88.9		Pass
175	5.0 - 9.0% of mass 174	3830	6.92	(7.78) [a]	Pass
176	95.0 - 101.0% of mass 174	47931	86.6	(97.3) [a]	Pass
177	5.0 - 9.0% of mass 176	3205	5.79	(6.69) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VX5089-CC5024	X119774.D	10/17/11	09:57	00:36	Continuing cal 20
VX5089-MB	X119775.D	10/17/11	11:33	02:12	Method Blank
VX5089-BS	X119776.D	10/17/11	12:15	02:54	Blank Spike
JA88186-1A	X119777.D	10/17/11	12:53	03:32	(used for QC only; not part of job JA89012)
JA88186-2A	X119778.D	10/17/11	13:23	04:02	(used for QC only; not part of job JA89012)
ZZZZZZ	X119779.D	10/17/11	13:52	04:31	(unrelated sample)
ZZZZZZ	X119780.D	10/17/11	14:22	05:01	(unrelated sample)
JA88186-2AMS	X119781.D	10/17/11	14:51	05:30	Matrix Spike
JA88186-1ADUP	X119782.D	10/17/11	15:20	05:59	Duplicate
ZZZZZZ	X119783.D	10/17/11	15:50	06:29	(unrelated sample)
ZZZZZZ	X119784.D	10/17/11	16:19	06:58	(unrelated sample)
ZZZZZZ	X119786.D	10/17/11	17:18	07:57	(unrelated sample)
ZZZZZZ	X119787.D	10/17/11	17:47	08:26	(unrelated sample)
ZZZZZZ	X119788.D	10/17/11	18:16	08:55	(unrelated sample)
ZZZZZZ	X119789.D	10/17/11	18:46	09:25	(unrelated sample)
ZZZZZZ	X119790.D	10/17/11	19:15	09:54	(unrelated sample)
ZZZZZZ	X119791.D	10/17/11	19:45	10:24	(unrelated sample)
ZZZZZZ	X119792.D	10/17/11	20:14	10:53	(unrelated sample)
JA89012-1	X119793.D	10/17/11	20:44	11:23	MH5-6

Volatile Surrogate Recovery Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Method: SW846 8260B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JA89012-1	X119793.D	100.0	84.0	102.0	104.0
JA88186-1ADUP	X119782.D	101.0	84.0	107.0	106.0
JA88186-2AMS	X119781.D	107.0	92.0	107.0	116.0
VX5089-BS	X119776.D	106.0	88.0	104.0	100.0
VX5089-MB	X119775.D	104.0	88.0	108.0	99.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	67-131%
S2 = 1,2-Dichloroethane-D4	66-130%
S3 = Toluene-D8	76-125%
S4 = 4-Bromofluorobenzene	53-142%

New Jersey ACCUTEST LABORATORIES

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Surrogate Recovery Summaries

Method Blank Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52458-MB1	Z66979.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533

The QC reported here applies to the following samples: **Method:** SW846 8270D

JA89012-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	140	29	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	140	29	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	140	46	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	140	48	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	570	35	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	570	35	ug/kg	
95-48-7	2-Methylphenol	ND	57	33	ug/kg	
	3&4-Methylphenol	ND	57	36	ug/kg	
88-75-5	2-Nitrophenol	ND	140	30	ug/kg	
100-02-7	4-Nitrophenol	ND	290	48	ug/kg	
87-86-5	Pentachlorophenol	ND	290	49	ug/kg	
108-95-2	Phenol	ND	57	30	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	140	29	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	140	33	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	140	27	ug/kg	
83-32-9	Acenaphthene	ND	29	8.3	ug/kg	
208-96-8	Acenaphthylene	ND	29	9.1	ug/kg	
98-86-2	Acetophenone	ND	140	5.0	ug/kg	
120-12-7	Anthracene	ND	29	10	ug/kg	
1912-24-9	Atrazine	ND	140	5.6	ug/kg	
56-55-3	Benzo(a)anthracene	ND	29	9.3	ug/kg	
50-32-8	Benzo(a)pyrene	ND	29	8.7	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	29	9.5	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	29	11	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	29	11	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	57	10	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	57	17	ug/kg	
92-52-4	1,1'-Biphenyl	ND	57	3.3	ug/kg	
100-52-7	Benzaldehyde	ND	140	6.6	ug/kg	
91-58-7	2-Chloronaphthalene	ND	57	8.9	ug/kg	
106-47-8	4-Chloroaniline	ND	140	9.1	ug/kg	
86-74-8	Carbazole	ND	57	13	ug/kg	
105-60-2	Caprolactam	ND	57	9.0	ug/kg	
218-01-9	Chrysene	ND	29	9.7	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	57	12	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	57	8.6	ug/kg	

Method Blank Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52458-MB1	Z66979.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533

The QC reported here applies to the following samples: **Method:** SW846 8270D

JA89012-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	57	8.5	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	57	8.6	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	57	12	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	57	11	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	140	7.3	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	29	9.7	ug/kg	
132-64-9	Dibenzofuran	ND	57	8.5	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	57	6.3	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	57	14	ug/kg	
84-66-2	Diethyl phthalate	ND	57	9.7	ug/kg	
131-11-3	Dimethyl phthalate	ND	57	10	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	57	25	ug/kg	
206-44-0	Fluoranthene	ND	29	13	ug/kg	
86-73-7	Fluorene	ND	29	9.4	ug/kg	
118-74-1	Hexachlorobenzene	ND	57	9.3	ug/kg	
87-68-3	Hexachlorobutadiene	ND	29	7.9	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	570	29	ug/kg	
67-72-1	Hexachloroethane	ND	140	7.9	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	29	9.9	ug/kg	
78-59-1	Isophorone	ND	57	7.7	ug/kg	
91-57-6	2-Methylnaphthalene	ND	57	16	ug/kg	
88-74-4	2-Nitroaniline	ND	140	13	ug/kg	
99-09-2	3-Nitroaniline	ND	140	11	ug/kg	
100-01-6	4-Nitroaniline	ND	140	11	ug/kg	
91-20-3	Naphthalene	ND	29	7.8	ug/kg	
98-95-3	Nitrobenzene	ND	57	8.3	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	57	7.0	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	140	17	ug/kg	
85-01-8	Phenanthrene	ND	29	13	ug/kg	
129-00-0	Pyrene	ND	29	11	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	140	8.8	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	87%	21-116%

Method Blank Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52458-MB1	Z66979.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533

The QC reported here applies to the following samples: **Method:** SW846 8270D

JA89012-1

CAS No.	Surrogate Recoveries		Limits
4165-62-2	Phenol-d5	92%	19-117%
118-79-6	2,4,6-Tribromophenol	86%	24-136%
4165-60-0	Nitrobenzene-d5	94%	21-122%
321-60-8	2-Fluorobiphenyl	81%	30-117%
1718-51-0	Terphenyl-d14	85%	31-129%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	1.39	2200	ug/kg	J
	system artifact	1.61	170	ug/kg	J
	system artifact/aldol-condensation	1.67	400	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52458-BS1	Z66980.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533

The QC reported here applies to the following samples: **Method:** SW846 8270D

JA89012-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-57-8	2-Chlorophenol	1430	1290	90	51-111
59-50-7	4-Chloro-3-methyl phenol	1430	1380	97	54-121
120-83-2	2,4-Dichlorophenol	1430	1310	92	51-120
105-67-9	2,4-Dimethylphenol	1430	1510	106	55-131
51-28-5	2,4-Dinitrophenol	2860	2880	101	19-144
534-52-1	4,6-Dinitro-o-cresol	1430	1340	94	33-126
95-48-7	2-Methylphenol	1430	1460	102	49-115
	3&4-Methylphenol	1430	1490	104	49-115
88-75-5	2-Nitrophenol	1430	1320	92	47-122
100-02-7	4-Nitrophenol	1430	1710	120	10-137
87-86-5	Pentachlorophenol	1430	1180	83	17-126
108-95-2	Phenol	1430	1230	86	47-111
58-90-2	2,3,4,6-Tetrachlorophenol	1430	1250	88	43-116
95-95-4	2,4,5-Trichlorophenol	1430	1280	90	56-120
88-06-2	2,4,6-Trichlorophenol	1430	1280	90	55-118
83-32-9	Acenaphthene	1430	1250	88	55-114
208-96-8	Acenaphthylene	1430	1190	83	50-103
98-86-2	Acetophenone	1430	1320	92	53-121
120-12-7	Anthracene	1430	1290	90	59-121
1912-24-9	Atrazine	1430	1380	97	58-137
56-55-3	Benzo(a)anthracene	1430	1320	92	54-119
50-32-8	Benzo(a)pyrene	1430	1410	99	59-122
205-99-2	Benzo(b)fluoranthene	1430	1420	99	45-133
191-24-2	Benzo(g,h,i)perylene	1430	1380	97	57-122
207-08-9	Benzo(k)fluoranthene	1430	1210	85	49-131
101-55-3	4-Bromophenyl phenyl ether	1430	1290	90	58-122
85-68-7	Butyl benzyl phthalate	1430	1390	97	54-132
92-52-4	1,1'-Biphenyl	1430	1210	85	54-116
100-52-7	Benzaldehyde	1430	1610	113	32-125
91-58-7	2-Chloronaphthalene	1430	1170	82	53-113
106-47-8	4-Chloroaniline	1430	1060	74	26-102
86-74-8	Carbazole	1430	1360	95	60-121
105-60-2	Caprolactam	1430	1540	108	32-136
218-01-9	Chrysene	1430	1320	92	55-120
111-91-1	bis(2-Chloroethoxy)methane	1430	1320	92	49-120
111-44-4	bis(2-Chloroethyl)ether	1430	1270	89	42-113

Blank Spike Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52458-BS1	Z66980.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533

The QC reported here applies to the following samples: **Method:** SW846 8270D

JA89012-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
108-60-1	bis(2-Chloroisopropyl)ether	1430	1280	90	36-118
7005-72-3	4-Chlorophenyl phenyl ether	1430	1250	88	53-117
121-14-2	2,4-Dinitrotoluene	1430	1400	98	57-122
606-20-2	2,6-Dinitrotoluene	1430	1420	99	51-133
91-94-1	3,3'-Dichlorobenzidine	1430	1250	88	27-121
53-70-3	Dibenzo(a,h)anthracene	1430	1240	87	58-125
132-64-9	Dibenzofuran	1430	1200	84	57-111
84-74-2	Di-n-butyl phthalate	1430	1290	90	59-125
117-84-0	Di-n-octyl phthalate	1430	1500	105	53-136
84-66-2	Diethyl phthalate	1430	1270	89	56-118
131-11-3	Dimethyl phthalate	1430	1250	88	57-116
117-81-7	bis(2-Ethylhexyl)phthalate	1430	1210	85	54-133
206-44-0	Fluoranthene	1430	1340	94	57-119
86-73-7	Fluorene	1430	1290	90	57-117
118-74-1	Hexachlorobenzene	1430	1290	90	55-122
87-68-3	Hexachlorobutadiene	1430	1230	86	43-126
77-47-4	Hexachlorocyclopentadiene	2860	2700	95	24-167
67-72-1	Hexachloroethane	1430	1200	84	44-113
193-39-5	Indeno(1,2,3-cd)pyrene	1430	1370	96	57-127
78-59-1	Isophorone	1430	1330	93	42-124
91-57-6	2-Methylnaphthalene	1430	1180	83	46-114
88-74-4	2-Nitroaniline	1430	1500	105	47-132
99-09-2	3-Nitroaniline	1430	1190	83	34-106
100-01-6	4-Nitroaniline	1430	1460	102	46-121
91-20-3	Naphthalene	1430	1190	83	49-111
98-95-3	Nitrobenzene	1430	1290	90	48-114
621-64-7	N-Nitroso-di-n-propylamine	1430	1390	97	44-119
86-30-6	N-Nitrosodiphenylamine	1430	1250	88	58-117
85-01-8	Phenanthrene	1430	1270	89	58-118
129-00-0	Pyrene	1430	1290	90	54-122
95-94-3	1,2,4,5-Tetrachlorobenzene	1430	1140	80	44-126

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	97%	21-116%

Blank Spike Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52458-BS1	Z66980.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533

The QC reported here applies to the following samples: **Method:** SW846 8270D

JA89012-1

CAS No.	Surrogate Recoveries	BSP	Limits
4165-62-2	Phenol-d5	101%	19-117%
118-79-6	2,4,6-Tribromophenol	98%	24-136%
4165-60-0	Nitrobenzene-d5	99%	21-122%
321-60-8	2-Fluorobiphenyl	85%	30-117%
1718-51-0	Terphenyl-d14	97%	31-129%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52458-MS	Z66988.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533
OP52458-MSD	Z66989.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533
JA88937-1	Z66987.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533

The QC reported here applies to the following samples: **Method:** SW846 8270D

JA89012-1

CAS No.	Compound	JA88937-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	ND		1820	1160	64	1240	68	7	30-111/32
59-50-7	4-Chloro-3-methyl phenol	ND		1820	1310	72	1590	88	19	33-124/31
120-83-2	2,4-Dichlorophenol	ND		1820	1180	65	1350	74	13	31-121/33
105-67-9	2,4-Dimethylphenol	ND		1820	1450	80	1610	89	10	30-136/32
51-28-5	2,4-Dinitrophenol	ND		3630	1530	42	1790	49	16	10-131/48
534-52-1	4,6-Dinitro-o-cresol	ND		1820	863	47	1050	58	20	10-123/48
95-48-7	2-Methylphenol	ND		1820	1350	74	1460	80	8	28-119/30
	3&4-Methylphenol	ND		1820	1430	79	1520	84	6	27-120/32
88-75-5	2-Nitrophenol	ND		1820	1220	67	1310	72	7	24-118/35
100-02-7	4-Nitrophenol	ND		1820	1870	103	2050	113	9	10-137/43
87-86-5	Pentachlorophenol	ND		1820	1090	60	1470	81	30	11-121/35
108-95-2	Phenol	ND		1820	1160	64	1250	69	7	27-114/32
58-90-2	2,3,4,6-Tetrachlorophenol	ND		1820	1150	63	1470	81	24	26-119/34
95-95-4	2,4,5-Trichlorophenol	ND		1820	1220	67	1520	84	22	35-124/33
88-06-2	2,4,6-Trichlorophenol	ND		1820	1220	67	1490	82	20	34-122/31
83-32-9	Acenaphthene	64.9		1820	1230	64	1410	74	14	30-122/31
208-96-8	Acenaphthylene	73.9		1820	1220	63	1380	72	12	32-107/29
98-86-2	Acetophenone	ND		1820	1230	68	1260	69	2	28-126/33
120-12-7	Anthracene	286		1820	1480	66	1810	84	20	33-130/30
1912-24-9	Atrazine	ND		1820	1230	68	1430	79	15	32-140/32
56-55-3	Benzo(a)anthracene	1260		1820	2470	67	2870	89	15	29-127/33
50-32-8	Benzo(a)pyrene	1280		1820	2780	83	3220	107	15	28-134/34
205-99-2	Benzo(b)fluoranthene	1640		1820	3100	80	4120	136	28	19-143/38
191-24-2	Benzo(g,h,i)perylene	920		1820	2250	73	3060	118	31	27-135/34
207-08-9	Benzo(k)fluoranthene	624		1820	1650	56	1830	66	10	20-138/40
101-55-3	4-Bromophenyl phenyl ether	ND		1820	1260	69	1580	87	23	35-127/29
85-68-7	Butyl benzyl phthalate	170		1820	1440	70	1820	91	23	31-136/32
92-52-4	1,1'-Biphenyl	ND		1820	1160	64	1230	68	6	33-121/28
100-52-7	Benzaldehyde	ND		1820	1530	84	1590	88	4	18-128/33
91-58-7	2-Chloronaphthalene	ND		1820	1140	63	1230	68	8	34-113/29
106-47-8	4-Chloroaniline	ND		1820	643	35	716	39	11	10-109/35
86-74-8	Carbazole	85.5		1820	1330	68	1580	82	17	37-126/31
105-60-2	Caprolactam	ND		1820	1510	83	1610	89	6	12-137/37
218-01-9	Chrysene	1110		1820	2280	64	2780	92	20	29-129/32
111-91-1	bis(2-Chloroethoxy)methane	ND		1820	1270	70	1260	69	1	28-121/32
111-44-4	bis(2-Chloroethyl)ether	ND		1820	1170	64	1200	66	3	19-116/33

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52458-MS	Z66988.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533
OP52458-MSD	Z66989.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533
JA88937-1	Z66987.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533

The QC reported here applies to the following samples: **Method:** SW846 8270D

JA89012-1

CAS No.	Compound	JA88937-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
108-60-1	bis(2-Chloroisopropyl)ether	ND		1820	1160	64	1210	67	4	22-112/31
7005-72-3	4-Chlorophenyl phenyl ether	ND		1820	1210	67	1400	77	15	36-118/28
121-14-2	2,4-Dinitrotoluene	ND		1820	1220	67	1460	80	18	28-128/34
606-20-2	2,6-Dinitrotoluene	ND		1820	1320	73	1550	85	16	31-133/31
91-94-1	3,3'-Dichlorobenzidine	ND		1820	161	9* [a]	201	11	22	10-124/39
53-70-3	Dibenzo(a,h)anthracene	336		1820	1520	65	2030	93	29	32-135/34
132-64-9	Dibenzofuran	55.6	J	1820	1220	64	1390	73	13	34-118/30
84-74-2	Di-n-butyl phthalate	ND		1820	1150	63	1420	78	21	37-128/29
117-84-0	Di-n-octyl phthalate	ND		1820	1380	76	1650	91	18	29-139/33
84-66-2	Diethyl phthalate	ND		1820	1230	68	1420	78	14	36-121/30
131-11-3	Dimethyl phthalate	ND		1820	1230	68	1470	81	18	37-121/29
117-81-7	bis(2-Ethylhexyl)phthalate	175		1820	1570	77	1640	81	4	26-145/34
206-44-0	Fluoranthene	2130		1820	2920	43	3470	74	17	25-132/33
86-73-7	Fluorene	70.6		1820	1280	67	1490	78	15	32-125/32
118-74-1	Hexachlorobenzene	ND		1820	1180	65	1570	86	28	34-122/29
87-68-3	Hexachlorobutadiene	ND		1820	1080	59	1170	64	8	26-119/32
77-47-4	Hexachlorocyclopentadiene	ND		3630	ND	0* [a]	ND	0* [a]	nc	10-146/42
67-72-1	Hexachloroethane	ND		1820	496	27	529	29	6	22-104/32
193-39-5	Indeno(1,2,3-cd)pyrene	1050		1820	2690	90	3520	136	27	29-138/35
78-59-1	Isophorone	ND		1820	1250	69	1310	72	5	26-121/31
91-57-6	2-Methylnaphthalene	ND		1820	1120	62	1170	64	4	23-121/32
88-74-4	2-Nitroaniline	ND		1820	1500	83	1760	97	16	28-135/32
99-09-2	3-Nitroaniline	ND		1820	707	39	815	45	14	16-115/36
100-01-6	4-Nitroaniline	ND		1820	756	42	1040	57	32	17-121/36
91-20-3	Naphthalene	76.5		1820	1170	60	1210	62	3	25-117/32
98-95-3	Nitrobenzene	ND		1820	1250	69	1260	69	1	27-115/32
621-64-7	N-Nitroso-di-n-propylamine	ND		1820	1330	73	1370	75	3	26-119/32
86-30-6	N-Nitrosodiphenylamine	58.8	J	1820	1360	72	1620	86	17	33-132/30
85-01-8	Phenanthrene	782		1820	1840	58	2170	76	16	28-132/34
129-00-0	Pyrene	1860		1820	2910	58	3460	88	17	27-132/33
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		1820	1070	59	1180	65	10	28-120/29

CAS No.	Surrogate Recoveries	MS	MSD	JA88937-1	Limits
367-12-4	2-Fluorophenol	61%	66%	53%	21-116%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52458-MS	Z66988.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533
OP52458-MSD	Z66989.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533
JA88937-1	Z66987.D	1	10/17/11	KLS	10/14/11	OP52458	EZ3533

The QC reported here applies to the following samples: **Method:** SW846 8270D

JA89012-1

CAS No.	Surrogate Recoveries	MS	MSD	JA88937-1	Limits
4165-62-2	Phenol-d5	69%	75%	60%	19-117%
118-79-6	2,4,6-Tribromophenol	74%	98%	67%	24-136%
4165-60-0	Nitrobenzene-d5	67%	75%	59%	21-122%
321-60-8	2-Fluorobiphenyl	61%	69%	56%	30-117%
1718-51-0	Terphenyl-d14	72%	92%	63%	31-129%

(a) Outside control limits due to matrix interference.

Instrument Performance Check (DFTPP)

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample: EZ3527-DFTPP
Lab File ID: Z66863.D
Instrument ID: GCMSZ
Injection Date: 10/11/11
Injection Time: 16:14

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	12010	30.9		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	15369	39.5		Pass
70	Less than 2.0% of mass 69	175	0.45	(1.14) [a]	Pass
127	40.0 - 60.0% of mass 198	21134	54.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	38904	100.0		Pass
199	5.0 - 9.0% of mass 198	2686	6.90		Pass
275	10.0 - 30.0% of mass 198	9209	23.7		Pass
365	1.0 - 100.0% of mass 198	1157	2.97		Pass
441	Present, but less than mass 443	3987	10.2	(84.5) [b]	Pass
442	40.0 - 100.0% of mass 198	24992	64.2		Pass
443	17.0 - 23.0% of mass 442	4720	12.1	(18.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ3527-ICC3527	Z66864.D	10/11/11	16:28	00:14	Initial cal 50
EZ3527-IC3527	Z66865.D	10/11/11	17:04	00:50	Initial cal 1
EZ3527-IC3527	Z66866.D	10/11/11	17:32	01:18	Initial cal 2
EZ3527-IC3527	Z66867.D	10/11/11	18:00	01:46	Initial cal 5
EZ3527-IC3527	Z66868.D	10/11/11	18:28	02:14	Initial cal 10
EZ3527-IC3527	Z66869.D	10/11/11	18:55	02:41	Initial cal 25
EZ3527-IC3527	Z66870.D	10/11/11	19:23	03:09	Initial cal 80
EZ3527-IC3527	Z66871.D	10/11/11	19:51	03:37	Initial cal 100

Instrument Performance Check (DFTPP)

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample: EZ3528-DFTPP
Lab File ID: Z66872.D
Instrument ID: GCMSZ
Injection Date: 10/12/11
Injection Time: 08:38

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	20960	31.9		Pass
68	Less than 2.0% of mass 69	221	0.34	(0.83) [a]	Pass
69	Mass 69 relative abundance	26469	40.3		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	37141	56.5		Pass
197	Less than 1.0% of mass 198	101	0.15		Pass
198	Base peak, 100% relative abundance	65698	100.0		Pass
199	5.0 - 9.0% of mass 198	4593	6.99		Pass
275	10.0 - 30.0% of mass 198	15968	24.3		Pass
365	1.0 - 100.0% of mass 198	1979	3.01		Pass
441	Present, but less than mass 443	6932	10.6	(81.7) [b]	Pass
442	40.0 - 100.0% of mass 198	45453	69.2		Pass
443	17.0 - 23.0% of mass 442	8489	12.9	(18.7) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ3528-ICC3528	Z66873.D	10/12/11	08:55	00:17	Initial cal 50
EZ3528-IC3528	Z66874.D	10/12/11	09:28	00:50	Initial cal 1
EZ3528-IC3528	Z66875.D	10/12/11	09:55	01:17	Initial cal 2
EZ3528-IC3528	Z66876.D	10/12/11	10:23	01:45	Initial cal 5
EZ3528-IC3528	Z66877.D	10/12/11	10:50	02:12	Initial cal 10
EZ3528-IC3528	Z66878.D	10/12/11	11:18	02:40	Initial cal 25
EZ3528-IC3528	Z66879.D	10/12/11	11:46	03:08	Initial cal 80
EZ3528-IC3528	Z66880.D	10/12/11	12:13	03:35	Initial cal 100
EZ3528-ICV3527	Z66881.D	10/12/11	12:41	04:03	Initial cal verification 50
EZ3528-ICV3528	Z66881A.D	10/12/11	12:41	04:03	Initial cal verification 50
EZ3528-ICV3527	Z66882.D	10/12/11	13:09	04:31	Initial cal verification 50
EZ3528-ICV3528	Z66882A.D	10/12/11	13:09	04:31	Initial cal verification 50
EZ3528-ICV3527	Z66883.D	10/12/11	13:37	04:59	Initial cal verification 50
EZ3528-ICV3527	Z66884.D	10/12/11	14:04	05:26	Initial cal verification 50
EZ3528-ICV3527	Z66885.D	10/12/11	14:32	05:54	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample: EZ3533-DFTPP
Lab File ID: Z66976.D
Instrument ID: GCMSZ
Injection Date: 10/17/11
Injection Time: 09:17

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	15345	34.9		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	19316	44.0		Pass
70	Less than 2.0% of mass 69	311	0.71	(1.61) [a]	Pass
127	40.0 - 60.0% of mass 198	25616	58.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	43917	100.0		Pass
199	5.0 - 9.0% of mass 198	3014	6.86		Pass
275	10.0 - 30.0% of mass 198	11166	25.4		Pass
365	1.0 - 100.0% of mass 198	1548	3.52		Pass
441	Present, but less than mass 443	4889	11.1	(87.0) [b]	Pass
442	40.0 - 100.0% of mass 198	30885	70.3		Pass
443	17.0 - 23.0% of mass 442	5618	12.8	(18.2) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ3533-CC3527	Z66977.D	10/17/11	10:26	01:09	Continuing cal 25
EZ3533-CC3528	Z66978.D	10/17/11	11:12	01:55	Continuing cal 25
OP52458-MB1	Z66979.D	10/17/11	12:01	02:44	Method Blank
OP52458-BS1	Z66980.D	10/17/11	12:28	03:11	Blank Spike
ZZZZZZ	Z66981.D	10/17/11	12:56	03:39	(unrelated sample)
ZZZZZZ	Z66982.D	10/17/11	13:24	04:07	(unrelated sample)
ZZZZZZ	Z66983.D	10/17/11	13:52	04:35	(unrelated sample)
ZZZZZZ	Z66984.D	10/17/11	14:20	05:03	(unrelated sample)
ZZZZZZ	Z66985.D	10/17/11	14:48	05:31	(unrelated sample)
ZZZZZZ	Z66986.D	10/17/11	15:16	05:59	(unrelated sample)
JA88937-1	Z66987.D	10/17/11	15:44	06:27	(used for QC only; not part of job JA89012)
OP52458-MS	Z66988.D	10/17/11	16:12	06:55	Matrix Spike
OP52458-MSD	Z66989.D	10/17/11	16:41	07:24	Matrix Spike Duplicate
ZZZZZZ	Z66990.D	10/17/11	17:09	07:52	(unrelated sample)
ZZZZZZ	Z66991.D	10/17/11	17:38	08:21	(unrelated sample)
ZZZZZZ	Z66992.D	10/17/11	18:06	08:49	(unrelated sample)
JA89012-1	Z66993.D	10/17/11	18:35	09:18	MH5-6
ZZZZZZ	Z66994.D	10/17/11	19:04	09:47	(unrelated sample)
ZZZZZZ	Z66995.D	10/17/11	19:32	10:15	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample:	EZ3533-DFTPP	**Injection Date:**	10/17/11
Lab File ID:	Z66976.D	**Injection Time:**	09:17
Instrument ID:	GCMSZ		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	Z66997.D	10/17/11	20:29	11:12	(unrelated sample)
ZZZZZZ	Z66998.D	10/17/11	20:58	11:41	(unrelated sample)

Semivolatile Surrogate Recovery Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Method: SW846 8270D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
JA89012-1	Z66993.D	71.0	77.0	80.0	84.0	72.0	78.0
OP52458-BS1	Z66980.D	97.0	101.0	98.0	99.0	85.0	97.0
OP52458-MB1	Z66979.D	87.0	92.0	86.0	94.0	81.0	85.0
OP52458-MS	Z66988.D	61.0	69.0	74.0	67.0	61.0	72.0
OP52458-MSD	Z66989.D	66.0	75.0	98.0	75.0	69.0	92.0

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	21-116%
S2 = Phenol-d5	19-117%
S3 = 2,4,6-Tribromophenol	24-136%
S4 = Nitrobenzene-d5	21-122%
S5 = 2-Fluorobiphenyl	30-117%
S6 = Terphenyl-d14	31-129%

New Jersey ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52462-MB1	3G59261.D	1	10/15/11	TDR	10/14/11	OP52462	G3G2146

The QC reported here applies to the following samples: **Method:** SW846 8081B

JA89012-1

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.59	0.29	ug/kg	
319-84-6	alpha-BHC	ND	0.59	0.44	ug/kg	
319-85-7	beta-BHC	ND	0.59	0.41	ug/kg	
319-86-8	delta-BHC	ND	0.59	0.34	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.59	0.27	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.59	0.38	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.59	0.30	ug/kg	
60-57-1	Dieldrin	ND	0.59	0.46	ug/kg	
72-54-8	4,4'-DDD	ND	0.59	0.30	ug/kg	
72-55-9	4,4'-DDE	ND	0.59	0.35	ug/kg	
50-29-3	4,4'-DDT	ND	0.59	0.43	ug/kg	
72-20-8	Endrin	ND	0.59	0.30	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.59	0.53	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.59	0.56	ug/kg	
959-98-8	Endosulfan-I	ND	0.59	0.28	ug/kg	
33213-65-9	Endosulfan-II	ND	0.59	0.39	ug/kg	
76-44-8	Heptachlor	ND	0.59	0.36	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.59	0.29	ug/kg	
72-43-5	Methoxychlor	ND	1.2	0.42	ug/kg	
53494-70-5	Endrin ketone	ND	0.59	0.38	ug/kg	
8001-35-2	Toxaphene	ND	15	7.4	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	48%	23-137%
877-09-8	Tetrachloro-m-xylene	45%	23-137%
2051-24-3	Decachlorobiphenyl	87%	22-160%
2051-24-3	Decachlorobiphenyl	77%	22-160%

Method Blank Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52463-MB1	OA79234.D	1	10/17/11	VDT	10/14/11	OP52463	GOA2672

The QC reported here applies to the following samples: **Method:** SW846 8082A

JA89012-1

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	29	7.6	ug/kg	
11104-28-2	Aroclor 1221	ND	29	18	ug/kg	
11141-16-5	Aroclor 1232	ND	29	15	ug/kg	
53469-21-9	Aroclor 1242	ND	29	9.4	ug/kg	
12672-29-6	Aroclor 1248	ND	29	8.9	ug/kg	
11097-69-1	Aroclor 1254	ND	29	14	ug/kg	
11096-82-5	Aroclor 1260	ND	29	9.6	ug/kg	
11100-14-4	Aroclor 1268	ND	29	8.6	ug/kg	
37324-23-5	Aroclor 1262	ND	29	9.4	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	91%	22-141%
877-09-8	Tetrachloro-m-xylene	96%	22-141%
2051-24-3	Decachlorobiphenyl	95%	18-163%
2051-24-3	Decachlorobiphenyl	115%	18-163%

Blank Spike Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52462-BS1	3G59262.D	1	10/15/11	TDR	10/14/11	OP52462	G3G2146

The QC reported here applies to the following samples: **Method:** SW846 8081B

JA89012-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
309-00-2	Aldrin	14.7	20.3	138	57-149
319-84-6	alpha-BHC	14.7	17.9	122	56-150
319-85-7	beta-BHC	14.7	17.9	122	58-143
319-86-8	delta-BHC	14.7	23.3	158* [a]	36-152
58-89-9	gamma-BHC (Lindane)	14.7	20.3	138	57-149
5103-71-9	alpha-Chlordane	14.7	21.5	146	58-147
5103-74-2	gamma-Chlordane	14.7	21.9	149	57-151
60-57-1	Dieldrin	14.7	22.5	153* [a]	62-152
72-54-8	4,4'-DDD	14.7	24.0	163* [a]	59-151
72-55-9	4,4'-DDE	14.7	23.0	156* [a]	57-151
50-29-3	4,4'-DDT	14.7	26.8	182* [a]	54-155
72-20-8	Endrin	14.7	24.5	167* [a]	58-151
1031-07-8	Endosulfan sulfate	14.7	22.7	154* [a]	56-152
7421-93-4	Endrin aldehyde	14.7	19.1	130	49-134
959-98-8	Endosulfan-I	14.7	20.5	139	57-150
33213-65-9	Endosulfan-II	14.7	21.2	144	60-146
76-44-8	Heptachlor	14.7	20.6	140	52-150
1024-57-3	Heptachlor epoxide	14.7	20.7	141	56-147
72-43-5	Methoxychlor	14.7	23.1	157* [a]	53-154
53494-70-5	Endrin ketone	14.7	20.7	141	58-147

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	119%	23-137%
877-09-8	Tetrachloro-m-xylene	125%	23-137%
2051-24-3	Decachlorobiphenyl	148%	22-160%
2051-24-3	Decachlorobiphenyl	128%	22-160%

(a) Outside of in house control limits.

Blank Spike Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52463-BS1	OA79235.D	1	10/17/11	VDT	10/14/11	OP52463	GOA2672

The QC reported here applies to the following samples: **Method:** SW846 8082A

JA89012-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	118	123	105	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	118	129	110	66-150
11100-14-4	Aroclor 1268		ND		50-150 [a]
37324-23-5	Aroclor 1262		ND		50-150 [a]

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	100%	22-141%
877-09-8	Tetrachloro-m-xylene	104%	22-141%
2051-24-3	Decachlorobiphenyl	102%	18-163%
2051-24-3	Decachlorobiphenyl	115%	18-163%

(a) Advisory control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52462-MS	3G59263.D	1	10/15/11	TDR	10/14/11	OP52462	G3G2146
OP52462-MSD	3G59264.D	1	10/15/11	TDR	10/14/11	OP52462	G3G2146
JA89020-2	3G59257.D	1	10/15/11	TDR	10/14/11	OP52462	G3G2146

The QC reported here applies to the following samples: **Method:** SW846 8081B

JA89012-1

CAS No.	Compound	JA89020-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND		17.4	22.8	131	21.6	124	5	21-171/47
319-84-6	alpha-BHC	ND		17.4	15.4	88	13.1	75	16	23-174/44
319-85-7	beta-BHC	ND		17.4	14.1	81	13.3	76	6	14-172/46
319-86-8	delta-BHC	ND		17.4	14.8	85	13.4	77	10	8-164/48
58-89-9	gamma-BHC (Lindane)	ND		17.4	15.6	90	14.1	81	10	23-163/45
5103-71-9	alpha-Chlordane	ND		17.4	15.9	91	13.2	76	19	20-170/45
5103-74-2	gamma-Chlordane	ND		17.4	14.2	81	11.6	67	20	19-165/47
60-57-1	Dieldrin	ND		17.4	14.2	81	11.8	68	18	22-173/46
72-54-8	4,4'-DDD	ND		17.4	14.4	83	12.3	71	16	18-179/46
72-55-9	4,4'-DDE	ND		17.4	15.7	90	12.8	73	20	20-188/44
50-29-3	4,4'-DDT	ND		17.4	15.3	88	12.2	70	23	21-193/47
72-20-8	Endrin	ND		17.4	15.3	88	13.2	76	15	26-172/48
1031-07-8	Endosulfan sulfate	ND		17.4	12.8	73	10.4	60	21	1-159/52
7421-93-4	Endrin aldehyde	ND		17.4	10.9	63	9.0	52	19	1-134/56
959-98-8	Endosulfan-I	ND		17.4	14.8	85	12.5	72	17	20-156/43
33213-65-9	Endosulfan-II	ND		17.4	12.5	72	10.7	61	16	10-158/50
76-44-8	Heptachlor	ND		17.4	14.2	81	12.4	71	14	27-163/46
1024-57-3	Heptachlor epoxide	ND		17.4	13.6	78	11.2	64	19	21-161/47
72-43-5	Methoxychlor	ND		17.4	15.4	88	12.9	74	18	7-192/51
53494-70-5	Endrin ketone	ND		17.4	12.8	73	10.6	61	19	1-176/49
8001-35-2	Toxaphene	ND			ND		ND		nc	32-165/30

CAS No.	Surrogate Recoveries	MS	MSD	JA89020-2	Limits
877-09-8	Tetrachloro-m-xylene	72%	65%	59%	23-137%
877-09-8	Tetrachloro-m-xylene	80%	75%	69%	23-137%
2051-24-3	Decachlorobiphenyl	74%	62%	65%	22-160%
2051-24-3	Decachlorobiphenyl	71%	52%	50%	22-160%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP52463-MS	OA79236.D	1	10/17/11	VDT	10/14/11	OP52463	GOA2672
OP52463-MSD	OA79237.D	1	10/17/11	VDT	10/14/11	OP52463	GOA2672
JA89021-1	OA79238.D	1	10/17/11	VDT	10/14/11	OP52463	GOA2672

The QC reported here applies to the following samples: **Method:** SW846 8082A

JA89012-1

CAS No.	Compound	JA89021-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		137	153	111	148	108	3	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		137	162	118	162	118	0	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	JA89021-1	Limits
877-09-8	Tetrachloro-m-xylene	99%	91%	111%	22-141%
877-09-8	Tetrachloro-m-xylene	104%	97%	119%	22-141%
2051-24-3	Decachlorobiphenyl	101%	92%	113%	18-163%
2051-24-3	Decachlorobiphenyl	114%	111%	132%	18-163%

Semivolatile Surrogate Recovery Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Method: SW846 8081B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
JA89012-1	3G59302.D	88.0	93.0	100.0	95.0
OP52462-BS1	3G59262.D	119.0	125.0	148.0	128.0
OP52462-MB1	3G59261.D	48.0	45.0	87.0	77.0
OP52462-MS	3G59263.D	72.0	80.0	74.0	71.0
OP52462-MSD	3G59264.D	65.0	75.0	62.0	52.0

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	23-137%
S2 = Decachlorobiphenyl	22-160%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

Semivolatile Surrogate Recovery Summary

Job Number: JA89012
Account: UTC United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

Method: SW846 8082A **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
JA89012-1	OA79267.D	70.0	86.0	82.0	96.0
JA89012-1	OA79242.D	74.0	82.0	96.0	130.0
OP52463-BS1	OA79235.D	100.0	104.0	102.0	115.0
OP52463-MB1	OA79234.D	91.0	96.0	95.0	115.0
OP52463-MS	OA79236.D	99.0	104.0	101.0	114.0
OP52463-MSD	OA79237.D	91.0	97.0	92.0	111.0

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

New Jersey ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/15/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	1.2	.74	0.27	<50
Antimony	2.0	.32	.13	-0.020	<2.0
Arsenic	2.0	.13	.28	0.050	<2.0
Barium	20	.05	.14	0.0	<20
Beryllium	0.20	.01	.015	0.0	<0.20
Boron	10	.1	.15		
Cadmium	0.50	.02	.034	0.0	<0.50
Calcium	500	3.4	1	3.4	<500
Chromium	1.0	.05	.062	0.040	<1.0
Cobalt	5.0	.03	.031	0.0	<5.0
Copper	2.5	.1	.11	0.060	<2.5
Iron	50	.78	1.1	0.70	<50
Lead	2.0	.14	.11	-0.060	<2.0
Magnesium	500	3.1	3.5	2.3	<500
Manganese	1.5	.03	.031	0.050	<1.5
Molybdenum	2.0	.06	.1		
Nickel	4.0	.03	.065	0.060	<4.0
Palladium	5.0	.09	.22		
Potassium	1000	2	3.4	4.8	<1000
Selenium	2.0	.21	.27	-0.090	<2.0
Silicon	20	.81	1.1		
Silver	0.50	.04	.069	0.0	<0.50
Sodium	1000	1.8	1.5	47.3	<1000
Strontium	1.0	.01	.036		
Thallium	1.0	.18	.21	0.10	<1.0
Tin	5.0	.1	.78		
Titanium	1.0	.07	.16		
Tungsten	5.0	.47	1.3		
Vanadium	5.0	.04	.064	0.62	<5.0
Zinc	2.0	.4	.48	0.17	<2.0
Zirconium	2.0	.11	.62		

Associated samples MP60749: JA89012-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/15/11

Metal	JA88703-2A Original	MS	Spikelot MPIRS1	% Rec	QC Limits
Aluminum	2600	8920	6030	104.7	75-125
Antimony	0.0	79.9	112	71.5N(a)	75-125
Arsenic	1.3	437	447	97.5	75-125
Barium	109	515	447	90.8	75-125
Beryllium	0.17	10.5	11.2	92.4	75-125
Boron					
Cadmium	0.37	12.0	11.2	104.1	75-125
Calcium	251000	268000	1400	1217.1(b	75-125
Chromium	6.5	44.4	44.7	84.8	75-125
Cobalt	3.4	97.2	112	83.9	75-125
Copper	3.4	58.6	55.9	98.8	75-125
Iron	4110	8970	5810	83.6	75-125
Lead	0.0	114	112	102.0	75-125
Magnesium	39900	39500	1400	-28.6(b)	75-125
Manganese	106	200	112	84.1	75-125
Molybdenum					
Nickel	0.0	109	112	97.6	75-125
Palladium					
Potassium	1430	3010	1400	113.1	75-125
Selenium	0.0	423	447	94.6	75-125
Silicon					
Silver	0.0	9.9	11.2	88.6	75-125
Sodium	214	1720	1400	107.8	75-125
Thallium	0.0	435	447	97.3	75-125
Tin					
Titanium					
Tungsten					
Vanadium	6.9	104	112	86.9	75-125
Zinc	18.2	107	112	79.5	75-125
Zirconium					

Associated samples MP60749: JA89012-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:

Metal

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/15/11

Metal	JA88703-2A Original	MSD	Spikelot MPIRS1	% Rec	MSD RPD	QC Limit
Aluminum	2600	8910	5970	105.6	0.1	20
Antimony	0.0	79.2	111	71.6N(a)	0.9	20
Arsenic	1.3	442	442	99.6	1.1	20
Barium	109	510	442	90.6	1.0	20
Beryllium	0.17	10.6	11.1	94.3	0.9	20
Boron						
Cadmium	0.37	12.1	11.1	106.0	0.8	20
Calcium	251000	279000	1380	2025.0(b	4.0	20
Chromium	6.5	44.5	44.2	85.9	0.2	20
Cobalt	3.4	97.7	111	85.2	0.5	20
Copper	3.4	59.2	55.3	100.9	1.0	20
Iron	4110	9070	5750	86.2	1.1	20
Lead	0.0	111	111	100.3	2.7	20
Magnesium	39900	38700	1380	-86.8(b)	2.0	20
Manganese	106	201	111	85.9	0.5	20
Molybdenum						
Nickel	0.0	110	111	99.4	0.9	20
Palladium						
Potassium	1430	3020	1380	115.0	0.3	20
Selenium	0.0	418	442	94.5	1.2	20
Silicon						
Silver	0.0	10.2	11.1	92.2	3.0	20
Sodium	214	1740	1380	110.4	1.2	20
Thallium	0.0	424	442	95.8	2.6	20
Tin						
Titanium						
Tungsten						
Vanadium	6.9	105	111	88.7	1.0	20
Zinc	18.2	106	111	79.4	0.9	20
Zirconium						

Associated samples MP60749: JA89012-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:

Metal

(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:		10/15/11					10/15/11	
Metal	LCS Result	Spikelot MPLC72540% Rec		QC Limits	BSP Result	Spikelot MPIRS1	% Rec	QC Limits
Aluminum	10600	8390	126.3	41-160	5130	5400	95.0	80-120
Antimony	97.8	106	92.3	25-275	95.5	100	95.5	80-120
Arsenic	100	109	91.7	70-134	375	400	93.8	80-120
Barium	205	206	99.5	73-127	396	400	99.0	80-120
Beryllium	81.6	88.2	92.5	74-126	10	10	100.0	80-120
Boron								
Cadmium	75.9	80.2	94.6	73-127	9.9	10	99.0	80-120
Calcium	6740	6700	100.6	74-126	1260	1250	100.8	80-120
Chromium	118	117	100.9	70-130	40.3	40	100.8	80-120
Cobalt	127	127	100.0	74-125	101	100	101.0	80-120
Copper	107	117	91.5	75-125	48.1	50	96.2	80-120
Iron	14100	12300	114.6	31-170	5100	5200	98.1	80-120
Lead	73.0	76.2	95.8	69-131	96.3	100	96.3	80-120
Magnesium	2830	2640	107.2	64-136	1200	1250	96.0	80-120
Manganese	353	350	100.9	75-125	101	100	101.0	80-120
Molybdenum								
Nickel	71.4	71.2	100.3	71-129	98.0	100	98.0	80-120
Palladium								
Potassium	3210	2960	108.4	63-138	1230	1250	98.4	80-120
Selenium	117	127	92.1	67-134	370	400	92.5	80-120
Silicon								
Silver	36.9	41	90.0	66-134	9.7	10	97.0	80-120
Sodium	415	360	115.3	44-156	1270	1250	101.6	80-120
Strontium								
Thallium	271	266	101.9	70-130	393	400	98.3	80-120
Tin								
Titanium								
Tungsten								
Vanadium	90.2	86.1	104.8	63-137	96.3	100	96.3	80-120
Zinc	272	280	97.1	71-129	99.5	100	99.5	80-120
Zirconium								

Associated samples MP60749: JA89012-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date:

Metal

(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/15/11

Metal	JA88703-2A Original	SDL 1:5	%DIF	QC Limits
Aluminum	23000	25300	9.8	0-10
Antimony	0.00	0.00	NC	0-10
Arsenic	11.3	12.3	8.8	0-10
Barium	964	973	0.9	0-10
Beryllium	1.50	1.30	13.3 (a)	0-10
Boron				
Cadmium	3.30	4.70	42.4 (a)	0-10
Calcium	2220000	2590000	16.6*(b)	0-10
Chromium	57.9	68.6	18.5*(b)	0-10
Cobalt	29.7	26.7	10.1*(b)	0-10
Copper	30.5	34.1	11.8 (a)	0-10
Iron	36400	38500	5.9	0-10
Lead	0.00	0.00	NC	0-10
Magnesium	354000	346000	2.2	0-10
Manganese	936	981	4.8	0-10
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Palladium				
Potassium	12600	11900	5.8	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	1900	2110	11.2*(b)	0-10
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	60.7	62.0	2.1	0-10
Zinc	162	174	7.5	0-10
Zirconium				

Associated samples MP60749: JA89012-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SERIAL DILUTION RESULTS SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

POST DIGESTATE SPIKE SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60749
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/15/11

Metal	Sample ml	Final ml	JA88703-2A Raw	JA88703-2A Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony	9.1	10	0	0	508.5637	.5	10	500	101.7	80-120
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Palladium										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Thallium										
Tin										
Vanadium										
Zinc										

Associated samples MP60749: JA89012-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60769
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/17/11

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0043	.013	0.0036	<0.033

Associated samples MP60769: JA89012-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60769
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/17/11

Metal	JA89020-1 Original	MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.040	0.41	0.382	96.7	75-125

Associated samples MP60769: JA89012-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60769 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/17/11

Metal	JA89020-1 Original	MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.040	0.40	0.381	94.5	2.5	

Associated samples MP60769: JA89012-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JA89012
Account: UTC - United Technology Corporation
Project: ENSTNN: Carrier, Project E, Outfall Piping/Const, Syracuse, NY

QC Batch ID: MP60769
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/17/11

Metal	LCS Result	Spikelot HGLCS72540% Rec		QC Limits
Mercury	7.7	8.61	89.4	51-149

Associated samples MP60769: JA89012-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested