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CHEMICAL QUALITY ASSURANCE REPORT FOR PLUM BROOK ORDNANCE WORKS GROUNDWATER INVESTIGATION SAMPLE DELIVERY GROUP PB011

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Section 1.0: Introduction and Executive Summary

This Chemical Quality Assurance Report (CQAR) has been prepared for quality control and quality assurance samples collected during groundwater investigation at the Plum Brook Ordnance Works in Sandusky, Ohio. This report has been prepared in accordance with U.S. Army Corps of Engineers policy EM 200-1-6, **Chemical Quality Assurance for HTRW Projects**, dated 10 October 1997.

The samples included in this report consist of pairs of field duplicates and field split samples that were analyzed by Quanterra, Inc., Knoxville, Tennessee and Curtis & Tompkins, Ltd., Berkeley, California. Quanterra, Inc. served as the primary laboratory for this project, while Curtis & Tompkins served as the quality assurance laboratory.

The sample pairs addressed in this report are identified in Table 1. In this table, samples analyzed by Quanterra (the primary laboratory) are identified as QC samples, while those analyzed by Curtis & Tompkins are identified as QA samples. Table 2 identifies the analytical parameters for each sample.

Table 1. Sample Delivery Group PB011 Samples in Chemical Quality Assurance Report

Sample	Sample Type		Sample Collection	
Pair	QC	QA	Date	Time
012F	X		11/16/97	8:00 A.M.
5763		X	11/16/97	8:00 A.M.
5451	X		11/16/97	4:30 P.M.
5452		X	11/16/97	4:30 P.M.
5411	X		11/17/97	10:20 A.M.
5412		X	11/17/97	10:20 A.M.
5701	X		11/17/97	3:45 P.M.
5702		X	11/17/97	3:45 P.M.

Table 2. Sample Analytical Parameters

Analytical Parameter	SW846 Method*	QC and QA Sample Set			
		012F	5451	5411	5701
		5763	5452	5412	5702
Volatile Organic Compounds	8260A	X	X	X	X
Semivolatile Organic Compounds	8270B		X	X	X
Polychlorinated Biphenyls	8081		X	X	X
Dissolved Metals	6010A/ 7470A		X	X	X
Total Metals	6010A/ 7470A		X	X	X
Nitroaromatics and Nitramine	8330		X	X	X

Section 2.0: Laboratory Quality Control Data Evaluation

2.1 PRIMARY LABORATORY

This section focuses on QC data generated by Quanterra, Inc., the primary laboratory for this effort. All samples were analyzed by Quanterra within recommended holding times.

All samples were received by Quanterra intact, with proper chain-of-custody documentation present and custody seals intact.

2.1.1 Volatile Organic Analyses

Samples 012F, 5451, 5411, and 5701 were analyzed for volatile organic compounds. A review of QC data for these samples revealed the following.

- Surrogate spike recoveries for all method blanks, laboratory control samples, matrix spike / matrix spike duplicates (MS/MSD), and samples were within recovery limits.

- Analyte recoveries and relative percent differences (RPDs) were within QC limits for all MS/MSD and laboratory control samples.

- All laboratory control sample (LCS) and LCS duplicate (LCSD) recoveries and RPDs for analytes and surrogates were within recovery limits.

- All method blanks contained estimated concentrations of methylene chloride below the reporting limit. Methylene chloride was detected (in estimated concentrations) in samples 5451, 5411, 5701. These detections may be attributed to laboratory contamination.

2.1.2 Semivolatile Organic Compounds

Samples 5451, 5411, and 5701 were analyzed for semivolatile organic compounds. Review of QC data for these analyses revealed the following.

- Surrogate spike recoveries for all method blanks, laboratory control samples, matrix spike / matrix spike duplicates (MS/MSD), and for sample 5411 were within recovery limits.

- Surrogates for samples 5451 and 5701 were diluted out of the detectable range because each sample required dilution and reanalysis. Quanterra reported that the matrix of sample 5701 exhibited destructive effects of the GS/MS instrument, requiring dilution. The destructive effects were also observed at a substantial dilution, and the sample was not reanalyzed; Quanterra reported estimated results for this sample.

- All MS/MSD and LCS/LCSD recoveries (for both surrogates and analytes) and RPDs (for analytes) were within limits.

- All method blanks were free of contamination.

2.1.3 Polychlorinated Biphenyls

Samples 5451, 5411, and 5701 were analyzed for PCBs with the following QC data results.

- Surrogate spike recoveries for all method blanks, laboratory control samples, matrix spike / matrix spike duplicates (MS/MSD), and sample 5411 were within recovery limits. Surrogates were not detected in samples 5451 and 5701 because matrix interferences caused elevated detection limits.

- Analyte recoveries and relative percent differences (RPDs) were within QC limits for all MS/MSD and laboratory control samples.

- All method blanks were free of contamination.

2.1.4 Metals

Samples 5451, 5611, and 5701 were analyzed for total metals and dissolved metals. The following QC data was generated with these analyses.

- All MS/MSD recoveries and RPDs were within limits.

- Laboratory control sample / laboratory control sample duplicate recoveries and RPDs were within recovery limits.

- All method blanks were free of contamination.

2.1.5 Nitraoaromatics and Nitramines

Samples 5451, 5411, and 5701 were analyzed for nitroaromatics and nitramines. The following QC data was generated with these analyses.

- Surrogate spike recoveries for all method blanks, laboratory control samples, matrix spike / matrix spike duplicates (MS/MSD), and samples were within recovery limits.

- Analyte recoveries and relative percent differences (RPDs) were within QC limits for all MS/MSD and laboratory control samples, with the exception of ROX recovery in one MS/MSD sample.

- Reporting limits for sample 5701 were elevated because of matrix interferences.

- All LCS analyte and surrogate recoveries were within recovery limits.

- All method blanks were free of contamination.

2.2 QA LABORATORY

Samples 5763, 5452, 5412, and 5702 were received intact by Curtis & Tompkins, the quality assurance laboratory for this project. Chain-of-custody documentation was present and custody seals intact. Sample temperature was 4°C.

2.2.1 Volatile Organic Analyses

All of the above-listed samples were analyzed for volatile organic compounds. A review of QC data for these samples revealed the following.

- Surrogate spike recoveries for all method blanks, laboratory control samples, blank spike / blank spike duplicates (BS/BSD), and samples were within recovery limits.

- Analyte recoveries and relative percent differences (RPDs) were within QC limits for all BS/BSD samples.

- All method blanks were free of contamination.

2.2.2 Semivolatile Organic Compounds

Samples 5452, 5412, and 5702 were analyzed for semivolatile organic compounds. Review of QC data for these analyses revealed the following.

- Surrogate spike recoveries for all method blanks, blank spike / blank spike duplicates (BS/BSD), and all samples with the exception of 5702 were within

recovery limits. Sample 5702 required dilution and reanalysis, causing all surrogates to be diluted out of detectable concentration.

- BS / BSD analyte recoveries and RPDs were within limits for all compounds with the exception of a high recovery of 4-nitrophenol. Elevated recovery of this compound could indicate a high analytical bias; however, this compound was not detected in the samples.

- Percent difference values for several compounds in a continuing calibration verification exceeded limits. Sample 5452 was analyzed in the sample batch in which the continuing calibration verification was outside limits. However, none of the compounds outside of control limits in the continuing calibration verification were detected in sample 5452; therefore, there is no apparent effect on the quality of analytical results.

- All method blanks were free of contamination.

2.2.3 Polychlorinated Biphenyls

Samples 5452, 5412, and 5702 were analyzed for PCBs with the following QC data results.

- Surrogate spike recoveries for all method blanks, blank spike / blank spike duplicates (BS/BSD), and for samples 5412 and 5452 were within recovery limits. Both surrogates in sample 5702 were outside of control limits (one with high recovery, one with low recovery) because of apparent matrix interferences.

- Analyte recoveries and relative percent differences (RPDs) were within QC limits for all BS/BMSD samples.

- A high response for Aroclor 1016 was identified in the continuing calibration verification for this sample batch. A high response could indicate a high analytical bias (i.e., artificially high results in sample analyses). However, this Aroclor was not detected in any samples; therefore, there is no apparent effect on the quality of the data.

- All method blanks were free of contamination.

2.2.4 Metals

Samples 5412, 5452, and 5702 were analyzed for total metals and dissolved metals. The following QC data was generated with these analyses.

- BS/BSD recoveries and RPDs were within limits.

- Sample duplicate RPDs were within limits with the exception of aluminum (in a duplicate analyzed for total metals) and potassium (in a duplicate analyzed for dissolved metals).

- Sample spike recoveries were within control limits.

- Method / prep blank samples were free of contamination.

2.2.5 Nitraoaromatics and Nitramines

Samples 5452, 5412, and 5702 were analyzed for nitroaromatics and nitramines by Quanterra, West Sacramento, California under contract from Curtis & Tompkins. The following QC data was generated with these analyses.

- Surrogate spike recoveries for all method blanks, laboratory control samples and laboratory control sample duplicates, and samples 5412 and 5452 were within recovery limits. Sample 5702 required dilution and reanalysis, causing surrogates to be diluted out of detectable ranges.

- Analyte recoveries and RPDs were within control limits for all laboratory control samples and laboratory control sample duplicates.

- All method blanks were free of contamination.

Section 3.0: Primary and QA Laboratory Sample Data Comparison

The following sections provide a comparison between sample data generated by Quanterra, Inc. and Curtis & Tompkins. The definitions of agreement, minor disagreement, and major disagreement used in this discussion are those presented in Table 4-1 (Criteria for Comparing QC and QA Sample Data) of U.S. Army Corps of Engineers policy EM-200-1-6, **Chemical Quality Assurance for HTRW Projects.**

3.1 VOLATILE ORGANIC COMPOUNDS

Results for samples H012 (analyzed by Quanterra) and 5763 (analyzed by Curtis & Tompkins) were in agreement. Results for sample pairs 5451 and 5452 were in agreement for all parameters with the exception of benzene; reported benzene results (0.4 ug/l estimated concentration in sample 5451 and 21 ug/l in 5452) were in major disagreement. Results for sample pair 5701 and 5702 were in agreement, although sample 5701 was reported with estimated concentrations of several analytes. Results for sample pair 5411 and 5412 were in agreement for all parameters except carbon disulfide. Quanterra did not detect carbon disulfide in sample 5411at a reporting limit of 1 ug/l, while Curtis & Tompkins reported 53 ug/l carbon disulfide in sample 5412.

3.2 SEMIVOLATILE ORGANIC COMPOUNDS

Results for sample sets 5451 and 5452 were in agreement. Results for samples 5701 and 5702 were in agreement, as were results for sample pair 5411 and 5412.

3.3 POLYCHLORINATED BIPHENYLS

Results for sample sets 5451 and 5452, 5701 and 5702, and 5411 and 5412 were in agreement. No PCBs were detected in any of these samples.

3.4 TOTAL METALS

Results for samples 5411 and 5412 were in agreement for all analytes with the exception of aluminum; aluminum results were in disagreement. Results for 5701 and 5702 were in major disagreement for aluminum, magnesium, nickel, potassium, and sodium. Results for samples 5451 and 5452 were in agreement for all parameters with the exception of disagreement for aluminum.

3.5 DISSOLVED METALS

Results for sample set 5411 and 5412 were in disagreement for aluminum and major disagreement for iron; all other results were in agreement. Results for sample pair 5701 and 5702 were in major disagreement for magnesium, potassium, and sodium; all other results were in agreement. Results for sample pair 5451 and 5452 were in agreement for all parameters with the exception of a major disagreement for aluminum.

3.6 NITROAROMATICS AND NITRAMINES

Results for sample pairs 5411 and 5412, 5451 and 5452, and 5701 and 5702 were in agreement. Only samples 5701 and 5702 contained detectable analyte concentrations.

Appendix 1

Data Comparison Tables

Volatile Organic Compounds

QC Sample No. Lot H012	QA Sample No. 5763
Date Sampled 11/16/97	Date Sampled 11/16/97
Date Received 11/18/97	Date Received 11/18/97
Date Extracted 11/20/97	Date Extracted 11/22/97
Date Analyzed 11/20/97	Date Analyzed 11/22/97
Method No. SW846-8260A	Method No. SW846-8260A
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	1.1B	1.4
Acetone	ND	ND
Carbon disulfide	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
1,2-Dichloroethene (total)	ND	ND
Chloroform	1.2	ND
1,2-Dichloroethane	ND	ND
2-Butanone	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
cis-1,3-Dichloropropene	ND	ND
Trichloroethene	ND	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
trans-1,3-Dichloropropene	ND	ND
Bromoform	ND	ND
4-Methyl-2-pentanone	ND	ND
2-Hexanone	ND	ND
Tetrachloroethene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	0.54	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
Styrene	ND	ND
Xylenes (total)	0.26J	ND

J – Estimated concentration below the reporting limit. B – Analyte detected in method blank

Volatile Organic Compounds

QC Sample No. 5451	QA Sample No. 5452
Date Sampled 11/16/97	Date Sampled 11/16/97
Date Received 11/18/97	Date Received 11/18/97
Date Extracted 11/20/97	Date Extracted 11/22/97
Date Analyzed 11/20/97	Date Analyzed 11/22/97
Method No. SW846-8260A	Method No. SW846-8260A
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	6.7J,B	ND
Acetone	ND	ND
Carbon disulfide	89	170
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	ND
Cis-1,2-Dichloroethene	ND	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
2-Butanone	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon Tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Cis-1,3-Dichloropropene	ND	ND
Trichloroethene	ND	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	.4J	21
Trans-1,3-Dichloropropene	ND	ND
Bromoform	ND	ND
2-Hexanone	ND	ND
4-Methyl-2-Pentanone	ND	ND
1,1,2,2,-Tetrachloroethane	ND	ND
Tetrachloroethene	ND	ND
Toluene	30	22
Chlorobenzene	ND	ND
Ethylbenzene	7.2J	9.4
Styrene	ND	ND
m,p-Xylenes		160
o-Xylene	150 (total m, p, o-xylene)	87

J – Estimated concentration below the reporting limit. B – Analyte detected in method blank

Volatile Organic Compounds

QC Sample No. 5701	QA Sample No. 5702
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/19/97
Date Extracted 11/24/97	Date Extracted 11/26/97
Date Analyzed 11/24/97	Date Analyzed 11/26/97
Method No. SW846-8260A	Method No. SW846-8260A
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	3.7J,B	ND
Acetone	22J	ND
Carbon disulfide	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	ND
Cis-1,2-Dichloroethene	ND	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
2-Butanone	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon Tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Cis-1,3-Dichloropropene	ND	ND
Trichloroethene	ND	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Bromoform	ND	ND
2-Hexanone	ND	ND
4-Methyl-2-Pentanone	ND	ND
1,1,2,2,-Tetrachloroethane	ND	ND
Tetrachloroethene	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	7.2J	9.4
Styrene	ND	ND
m,p-Xylenes		
o-Xylene	1.75 (total m,p,o-xylene)	ND

J – Estimated concentration below the reporting limit. B – Analyte detected in method blank

Volatile Organic Compounds

QC Sample No. 5411	QA Sample No. 5412
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/18/97
Date Extracted 11/24/97	Date Extracted 11/22/97
Date Analyzed 11/24/97	Date Analyzed 11/22/97
Method No. SW846-8260A	Method No. SW846-8260A
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Chloromethane	ND	ND
Bromomethane	ND	ND
Vinyl chloride	ND	ND
Chloroethane	ND	ND
Methylene chloride	0.34J,B	ND
Acetone	ND	ND
Carbon disulfide	ND	53
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
Trans-1,2-Dichloroethene	ND	ND
Cis-1,2-Dichloroethene	ND	ND
Chloroform	ND	ND
1,2-Dichloroethane	ND	ND
2-Butanone	ND	ND
1,1,1-Trichloroethane	ND	ND
Carbon Tetrachloride	ND	ND
Bromodichloromethane	ND	ND
1,2-Dichloropropane	ND	ND
Cis-1,3-Dichloropropene	ND	ND
Trichloroethene	ND	ND
Dibromochloromethane	ND	ND
1,1,2-Trichloroethane	ND	ND
Benzene	ND	ND
Trans-1,3-Dichloropropene	ND	ND
Bromoform	ND	ND
2-Hexanone	ND	ND
4-Methyl-2-Pentanone	ND	ND
1,1,2,2,-Tetrachloroethane	ND	ND
Tetrachloroethene	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
Styrene	ND	ND
m,p-Xylenes	ND	ND
o-Xylene	ND	ND

J – Estimated concentration below the reporting limit. B – Analyte detected in method blank

Semivolatile Organic Compounds

QC Sample No. 5451	QA Sample No. 5452
Date Sampled 11/16/97	Date Sampled 11/16/97
Date Received 11/18/97	Date Received 11/18/97
Date Extracted 11/23/97	Date Extracted 11/21/97
Date Analyzed 12/17/97	Date Analyzed 11/23/97
Method No. SW846-8270B	Method No. SW846-8270B
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Phenol	31J	ND
2-Chlorophenol	ND	ND
2-Methylphenol	ND	ND
3,4-Methylphenol	ND	ND
2-Nitrophenol	ND	ND
2,4-Dimethylphenol	ND	ND
2,4-Dichlorophenol	ND	ND
4-Chloro-3-methylphenol	ND	ND
2,4,6-Trichlorophenol	ND	ND
2,4,5-Trichlorophenol	ND	ND
2,4-Dinitrophenol	ND	ND
4-Nitrophenol	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND
Pentachlorophenol	ND	ND
bis (2-Chloroethyl) ether	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
bis (2-Chloroisopropyl) ether	ND	ND
N-Nitroso-di-n-propylamine	ND	ND
Hexachloroethane	ND	ND
Nitrobenzene	ND	ND
Isophorone	ND	ND
bis (2-Chloroethoxy) methane	ND	ND
1,2,4-Trichlorobenzene	ND	ND
Naphthalene	ND	ND
4-Chloroaniline	ND	ND
Hexachlorobutadiene	ND	ND
2-Methylnaphthalene	ND	ND
Hexachlorocyclopentadiene	ND	ND
2-Chloronaphthalene	ND	ND
2-Nitroaniline	ND	ND
Dimethylphthalate	ND	ND
Acenaphthylene	ND	ND
2,6-Dinitrotoluene	ND	ND

3-Nitroaniline	ND	ND
Acenaphthene	ND	ND
Dibenzofuran	ND	ND
2-Methylnaphthalene	25J	ND
2,4-Dinitrotoluene	ND	ND
Diethylphthalate	ND	ND
4-Chlorophenyl-phenylether	ND	ND
Fluorene	ND	ND
4, Nitroaniline	ND	ND
N-Nitrosodiphynylamine	ND	ND
4-Bromophenyl-phenylether	ND	ND
Hexachlorobenzene	ND	ND
Phenanthrene	ND	ND
Anthracene	ND	ND
Di-n-butylphthalate	ND	ND
Fluoranthene	ND	ND
Carbazole	ND	ND
Pyrene	ND	ND
Butylbenzylphthalate	ND	ND
3,3'-Dichlorobenzidine	ND	ND
Benzo(a)anthracene	ND	ND
Chrysene	ND	ND
bis(2-Ehtylhexyl)phthalate	ND	ND
Di-n-octylphthalate	ND	ND
Benzo(b,k)fluoranthene	ND	ND
Benzo(a)pyrene	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND
Dibenz(a,h)anthracene	ND	ND
Benzo(g,h,I)perylene	ND	ND

J – Estimated concentration below the reporting limit.

Semivolatile Organic Compounds

QC Sample No. 5701	QA Sample No. 5702
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/19/97
Date Extracted 11/24/97	Date Extracted 11/21/97
Date Analyzed 12/17/97	Date Analyzed 11/26/97
Method No. SW846-8270B	Method No. SW846-8270B
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Phenol	ND	ND
2-Chlorophenol	ND	ND
2-Methylphenol	ND	ND
3,4-Methylphenol	ND	ND
2-Nitrophenol	ND	ND
2,4-Dimethylphenol	ND	ND
2,4-Dichlorophenol	ND	ND
4-Chloro-3-methylphenol	ND	ND
2,4,6-Trichlorophenol	ND	ND
2,4,5-Trichlorophenol	ND	ND
2,4-Dinitrophenol	4200J	6200
4-Nitrophenol	ND	ND
4,6-Dinitro-2-methylphenol	ND	2400J
Pentachlorophenol	ND	ND
bis (2-Chloroethyl) ether	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
bis (2-Chloroisopropyl) ether	ND	ND
N-Nitroso-di-n-propylamine	ND	ND
Hexachloroethane	ND	ND
Nitrobenzene	ND	ND
Isophorone	ND	ND
bis (2-Chloroethoxy) methane	ND	ND
1,2,4-Trichlorobenzene	ND	ND
Naphthalene	ND	ND
4-Chloroaniline	ND	ND
Hexachlorobutadiene	ND	ND
2-Methylnaphthalene	ND	ND
Hexachlorocyclopentadiene	ND	ND
2-Chloronaphthalene	ND	ND
2-Nitroaniline	ND	ND
Dimethylphthalate	ND	ND
Acenaphthylene	ND	ND
2,6-Dinitrotoluene	140J	ND

3-Nitroaniline	ND	ND
Acenaphthene	ND	ND
Dibenzofuran	ND	ND
4,6-Dinitro-2-methylphenal	1700J	2400J
2,4-Dinitrotoluene	1100	2200
4-Chlorophenyl-phenylether	ND	ND
Fluorene	ND	ND
4-Nitroaniline	ND	ND
N-Nitrosodiphenylamine	ND	ND
4-Bromophenyl-phenylether	ND	ND
Hexachlorobenzene	ND	ND
Phenanthrene	ND	ND
Anthracene	ND	ND
Di-n-butylphthalate	ND	ND
Fluoranthene	ND	ND
Carbazole	ND	ND
Pyrene	ND	ND
Butylbenzylphthalate	ND	ND
3,3'-Dichlorobenzidine	ND	ND
Benzo(a)anthracene	ND	ND
Chrysene	ND	ND
bis(2-Ethylhexyl)phthalate	ND	ND
Di-n-octylphthalate	ND	ND
Benzo(b,k)fluoranthene	ND	ND
Benzo(a)pyrene	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND
Dibenz(a,h)anthracene	ND	ND
Benzo(g,h,I)perylene	ND	ND

J – Estimated concentration below the reporting limit.

Semivolatile Organic Compounds

QC Sample No. 5741	QA Sample No. 5412
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/18/97
Date Extracted 11/24/97	Date Extracted 11/21/97
Date Analyzed 12/11/97	Date Analyzed 11/25/97
Method No. SW846-8270B	Method No. SW846-8270B
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Phenol	ND	ND
2-Chlorophenol	ND	ND
2-Methylphenol	ND	ND
3,4-Methylphenol	ND	ND
2-Nitrophenol	ND	ND
2,4-Dimethylphenol	ND	ND
4-Chloro-3-methylphenol	ND	ND
2,4,6-Trichlorophenol	ND	ND
2,4,5-Trichlorophenol	ND	ND
2,4-Dinitrophenol	ND	ND
4-Nitrophenol	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND
Pentachlorophenol	ND	ND
bis(2-Chloroethyl)ether	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
1,2-Dichlorobenzene	ND	ND
bis (2-Chloroisopropyl) ether	ND	ND
N-Nitroso-di-n-propylamine	ND	ND
Hexachloroethane	ND	ND
Nitrobenzene	ND	ND
Isophorone	ND	ND
bis (2-Chloroethoxy) methane	ND	ND
1,2,4-Trichlorobenzene	ND	ND
Naphthalene	ND	ND
4-Chloroaniline	ND	ND
Hexachlorobutadiene	ND	ND
2-Methylnaphthalene	ND	ND
Hexachlorocyclopentadiene	ND	ND
2-Chloronaphthalene	ND	ND
2-Nitroaniline	ND	ND
Dimethylphthalate	ND	ND
Acenaphthylene	ND	ND
2,6-Dinitrotoluene	ND	ND
3-Nitroaniline	ND	ND

Acenaphthylene	ND	ND
Dibenzofuran	ND	ND
2,4-Dinitrotoluene	ND	ND
Diethylphthalate	ND	ND
4-Chlorophenyl-phenylether	ND	ND
Fluorene	ND	ND
4-Nitroaniline	ND	ND
N-Nitrosodiphenylamine	ND	ND
4-Bromophenyl-phenylether	ND	ND
Hexachlorobenzene	ND	ND
Phenanthrene	ND	ND
Anthracene	ND	ND
Di-n-butylphthalate	ND	ND
Fluoranthene	ND	ND
Carbazole	ND	ND
Pyrene	ND	ND
Butylbenzylphthalate	ND	ND
3,3'-Dichlorobenzidine	ND	ND
Benzo(a)anthracene	ND	ND
Chrysene	ND	ND
bis(2-Ethylhexyl)phthalate	1.8J	ND
Di-n-octylphthalate	ND	ND
Benzo(b,k)fluoranthene	ND	ND
Benzo(a)pyrene	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND
Dibenz(a,h)anthracene	ND	ND
Benzo(g,h,i)perylene	ND	ND

J – Estimated concentration below the reporting limit.

Polychlorinated Biphenyls

QC Sample No. 5451	QA Sample No. 5452
Date Sampled 11/16/97	Date Sampled 11/16/97
Date Received 11/18/97	Date Received 11/18/97
Date Extracted 11/21/97	Date Extracted 11/21/97
Date Analyzed 12/08/97	Date Analyzed 11/25/97
Method No. EPA 8081	Method No. EPA 8081
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aroclor 1016	ND	ND
Aroclor 1221	ND	ND
Aroclor 1232	ND	ND
Aroclor 1242	ND	ND
Aroclor 1248	ND	ND
Aroclor 1254	ND	ND
Aroclor 1260	ND	ND

Polychlorinated Biphenyls

QC Sample No. 5701	QA Sample No. 5702
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/19/97
Date Extracted 11/21/97	Date Extracted 11/21/97
Date Analyzed 12/08/97	Date Analyzed 11/27/97
Method No. EPA 8081	Method No. EPA 8081
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aroclor 1016	ND	ND
Aroclor 1221	ND	ND
Aroclor 1232	ND	ND
Aroclor 1242	ND	ND
Aroclor 1248	ND	ND
Aroclor 1254	ND	ND
Aroclor 1260	ND	ND

Polychlorinated Biphenyls

QC Sample No. 5411	QA Sample No. 5412
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/18/97
Date Extracted 11/21/97	Date Extracted 11/21/97
Date Analyzed 12/08/97	Date Analyzed 11/25/97
Method No. EPA 8081	Method No. EPA 8081
Matrix: Water	Units µg/L

PARAMETER	QC RESULT	QA RESULT
Aroclor 1016	ND	ND
Aroclor 1221	ND	ND
Aroclor 1232	ND	ND
Aroclor 1242	ND	ND
Aroclor 1248	ND	ND
Aroclor 1254	ND	ND
Aroclor 1260	ND	ND

Dissolved Metals

QC Sample No. 5411	QA Sample No. 5412
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/18/97
Date Extracted 11/15/97	Date Extracted 11/21/97
Date Analyzed 12/17-18/97	Date Analyzed 11/21, 26 12/01/97
Method No. SW846-6010A, SW846-7470A, (Mercury only)	Method No. SW846-6010A, SW846-7470A, (Mercury only)
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aluminum	ND	680
Antimony	ND	ND
Arsenic	ND	ND
Barium	328	400
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	125000	140000
Chromium (total)	ND	ND
Cobalt	ND	ND
Copper	ND	ND
Iron	253	2300
Lead	ND	ND
Magnesium	77300	86000
Manganese	598	900
Mercury	ND	ND
Molybdenum		ND
Nickel	ND	ND
Potassium	37200	38000
Selenium	ND	8.5
Silver	ND	ND
Sodium	451000	490000
Thallium	ND	ND
Vanadium	ND	ND
Zinc	ND	24

Dissolved Metals

QC Sample No. 5701	QA Sample No. 5702
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/18/97
Date Extracted 12/15/97	Date Extracted 11/21/97
Date Analyzed 12/17-18/97	Date Analyzed 11/21, 26 12/01/97
Method No. SW846-6010A, SW846-7470A, (Mercury only)	Method No. SW846-6010A, SW846-7470A, (Mercury only)
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aluminum	ND	ND
Antimony	ND	ND
Arsenic	ND	ND
Barium	ND	ND
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	754000	960000
Chromium (total)	ND	ND
Cobalt	7180	8000
Copper	3700	5100
Iron	15500	17000
Lead	ND	ND
Magnesium	ND`	640000
Manganese	31100	37000
Mercury	ND	ND
Molybdenum		ND
Nickel	7820	8200
Potassium	ND	34000
Selenium	ND	ND
Silver	ND	ND
Sodium	10100000	3000000
Thallium	ND	ND
Vanadium	ND	ND
Zinc	ND	ND

Dissolved Metals

QC Sample No. 5451	QA Sample No. 5452
Date Sampled 11/16/97	Date Sampled 11/16/97
Date Received 11/18/97	Date Received 11/18/97
Date Extracted 12/15/97	Date Extracted
Date Analyzed 12/17-18/97	Date Analyzed 11/26/97, 12/01/97
Method No. SW846-6010A, SW846-7470A, (Mercury only)	Method No. SW846-6010A, SW846-7470A, (Mercury only)
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aluminum	ND	550
Antimony	ND	ND
Arsenic	ND	ND
Barium	1330	1500
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	311000	270000
Chromium (total)	ND	ND
Cobalt	ND	ND
Copper	ND	ND
Iron	606	380
Lead	ND	ND
Magnesium	241000	240000
Manganese	678	740
Mercury	ND	ND
Molybdenum		ND
Nickel	ND	ND
Potassium	43400	40000
Selenium	ND	37
Silver	ND	ND
Sodium	648000	630000
Thallium	ND	ND
Vanadium	ND	ND
Zinc	59.1	99

Total Metals

QC Sample No. 5411	QA Sample No. 5412
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/18/97
Date Extracted 11/14/97	Date Extracted 11/21/97
Date Analyzed 12/17-18/97	Date Analyzed 11/21/97, 12/01/97
Method No. SW846-6010A, SW846-7470A, (Mercury only)	Method No. SW846-6010A, SW846-7470A, (Mercury only)
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aluminum	2780	1100
Antimony	ND	ND
Arsenic	ND	ND
Barium	328	390
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	135000	130000
Chromium (total)	ND	ND
Cobalt	ND	ND
Copper	ND	ND
Iron	7690	2700
Lead	10.5	5.0
Magnesium	75300	85000
Manganese	724	900
Mercury	ND	ND
Molybdenum		ND
Nickel	ND	ND
Potassium	36700	34000
Selenium	ND	ND
Silver	ND	ND
Sodium	430000	450000
Thallium	ND	ND
Vanadium	ND	ND
Zinc	70.3	45

Total Metals

QC Sample No. 5701	QA Sample No. 5702
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/19/97
Date Extracted 12/14/97	Date Extracted 12/01/97
Date Analyzed 12/17-18/97	Date Analyzed 12/01/97
Method No. SW846-6010A, SW846-7470A, (Mercury only)	Method No. SW846-6010A, SW846-7470A, (Mercury only)
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aluminum	ND	9100
Antimony	ND	ND
Arsenic	ND	ND
Barium	ND	ND
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	669000	950000
Chromium (total)	ND	ND
Cobalt	6750	8300
Copper	3440	5500
Iron	15900	22000
Lead	ND	220
Magnesium	ND	650000
Manganese	29100	38000
Mercury	ND	ND
Molybdenum		ND
Nickel	72540	8100
Potassium	ND	30000
Selenium	ND	8.5
Silver	ND	ND
Sodium	9460000	2000000
Thallium	ND	ND
Vanadium	ND	ND
Zinc	ND	ND

Total Metals

QC Sample No. 5451	QA Sample No. 5452
Date Sampled 11/16/97	Date Sampled 11/16/97
Date Received 11/18/97	Date Received 11/18/97
Date Extracted 12/10-14/97	Date Extracted
Date Analyzed 12/17-18/97	Date Analyzed 12/01/97
Method No. SW846-6010A, SW846-7470A, (Mercury only)	Method No. SW846-6010A, SW846-7470A, (Mercury only)
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aluminum	370	1000
Antimony	ND	ND
Arsenic	10.1	23
Barium	989	1200
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	281000	280000
Chromium (total)	ND	ND
Cobalt	ND	ND
Copper	ND	17
Iron	1060	950
Lead	4.4	ND
Magnesium	204000	250000
Manganese	646	760
Mercury	ND	ND
Molybdenum		ND
Nickel	ND	ND
Potassium	35600	37000
Selenium	ND	8.5
Silver	ND	ND
Sodium	535000	620000
Thallium	ND	ND
Vanadium	ND	ND
Zinc	ND	25

Nitroaromatics and Nitramines

QC Sample No. 5411	QA Sample No. 5412
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/21/97
Date Extracted 11/23/97	Date Extracted 11/25/97
Date Analyzed 12/02/97	Date Analyzed 12/15/97
Method No. EPA 8330	Method No. EPA 8330
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
HMX	ND	ND
1,3,5-Trinitrobenzene	ND	ND
RDX	ND	ND
1,3-Dinitrobenzene	ND	ND
Nitrobenzene	ND	ND
2,4,6-Trinitrotoluene	ND	ND
Tetryl	ND	ND
2,4-Dinitrotoluene	ND	ND
2,6-Dinitrotoluene	ND	ND
2-Am-DNT	ND	ND
4-Am-DNT		ND
2-Nitrotoluene	ND	ND
4-Nitrotoluene		ND
3-Nitrotoluene	ND	ND

Nitroaromatics and Nitramines

QC Sample No. 5701	QA Sample No. 5702
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/21/97
Date Extracted 11/23/97	Date Extracted 11/25/97
Date Analyzed 12/02/97	Date Analyzed 12/15/97
Method No. EPA 8330	Method No. EPA 8330
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
HMX	ND	ND
1,3,5-Trinitrobenzene	1700	3500
RDX	ND, G	ND
1,3-Dinitrobenzene	1600	2500
Nitrobenzene	ND	ND
2,4,6-Trinitrotoluene	ND	ND
Tetryl	ND	ND
2,4-Dinitrotoluene	1600	1600
2,6-Dinitrotoluene	210	ND
2-Am-DNT		ND
4-Am-DNT	ND	ND
2-Nitrotoluene	ND	ND
4-Nitrotoluene		ND
3-Nitrotoluene	ND	ND

Nitroaromatics and Nitramines

QC Sample No. 5411	QA Sample No. 5412
Date Sampled 11/17/97	Date Sampled 11/17/97
Date Received 11/19/97	Date Received 11/21/97
Date Extracted 11/23/97	Date Extracted 11/25/97
Date Analyzed 12/02/97	Date Analyzed 12/15/97
Method No. EPA 8330	Method No. EPA 8330
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
HMX	ND	ND
1,3,5-Trinitrobenzene	ND	ND
RDX	ND	ND
1,3-Dinitrobenzene	ND, G	ND
Nitrobenzene	ND	ND
2,4,6-Trinitrotoluene	ND	ND
Tetryl	ND	ND
2,4-Dinitrotoluene	ND	ND
2,6-Dinitrotoluene	ND	ND
2-Am-DNT		ND
4-Am-DNT	ND	ND
2-Nitrotoluene	ND, G	ND
4-Nitrotoluene		ND
3-Nitrotoluene	ND	ND

Appendix 2

Analytical Results and Chain-of-Custody Documents

IT CORPORATION - KNOXVILLE

Client Sample ID: 5701F

DISSOLVED Metals

Lot-Sample #...: H7K190172-022 **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343147						
Mercury	ND	1.0	ug/L	SW846 7470A	12/10/97	CE4CN10
		Dilution Factor: 5				
Prep Batch #...: 7349102						
Aluminum	ND	20000	ug/L	SW846 6010A	12/15-12/17/97	CE4CN10
		Dilution Factor: 100				
Arsenic	ND	1000	ug/L	SW846 6010A	12/15-12/18/97	CE4CN10
		Dilution Factor: 100				
Lead	ND	300	ug/L	SW846 6010A	12/15-12/18/97	CE4CN10
		Dilution Factor: 100				
Antimony	ND	6000	ug/L	SW846 6010A	12/15-12/17/97	CE4CN10
		Dilution Factor: 100				
Barium	ND	20000	ug/L	SW846 6010A	12/15-12/17/97	CE4CN10
		Dilution Factor: 100				
Selenium	ND	500	ug/L	SW846 6010A	12/15-12/18/97	CE4CN10
		Dilution Factor: 100				
Beryllium	ND	500	ug/L	SW846 6010A	12/15-12/17/97	CE4CN10
		Dilution Factor: 100				
Thallium	ND	1000	ug/L	SW846 6010A	12/15-12/18/97	CE4CN10
		Dilution Factor: 100				
Cadmium	ND	500	ug/L	SW846 6010A	12/15-12/17/97	CE4CN10
		Dilution Factor: 100				
Calcium	**754000**	**500000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE4CN10**
		Dilution Factor: 100				
Chromium	ND	1000	ug/L	SW846 6010A	12/15-12/17/97	CE4CN10
		Dilution Factor: 100				
Cobalt	**7180**	**5000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE4CN10**
		Dilution Factor: 100				
Copper	**3700**	**2500**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE4CN10**
		Dilution Factor: 100				

(Continued on next page)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5701F

DISSOLVED Metals

Lot-Sample #...: H7K190172-022 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	**15500**	**10000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE4CN10**
		Dilution Factor: 100				
Magnesium	**515000**	**500000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE4CN10**
		Dilution Factor: 100				
Manganese	**31100**	**1500**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE4CN10**
		Dilution Factor: 100				
Nickel	**7820**	**4000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE4CN10**
		Dilution Factor: 100				
Potassium	ND	500000	ug/L	SW846 6010A	12/15-12/17/97	CE4CN10
		Dilution Factor: 100				
Silver	ND	1000	ug/L	SW846 6010A	12/15-12/17/97	CE4CN10
		Dilution Factor: 100				
Sodium	**10100000**	**500000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE4CN10**
		Dilution Factor: 100				
Vanadium	ND	5000	ug/L	SW846 6010A	12/15-12/17/97	CE4CN10
		Dilution Factor: 100				
Zinc	ND	2000	ug/L	SW846 6010A	12/15-12/17/97	CE4CN10
		Dilution Factor: 100				

IT CORPORATION - KNOXVILLE

Client Sample ID: 5411F

DISSOLVED Metals

Lot-Sample #...: H7K190172-016 **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343147						
Mercury	ND	0.20	ug/L	SW846 7470A	12/10/97	CE4CG10
		Dilution Factor: 1				
Prep Batch #...: 7349102						
Aluminum	ND	200	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Arsenic	ND	10.0	ug/L	SW846 6010A	12/15-12/18/97	CE4CG10
		Dilution Factor: 1				
Lead	ND	3.0	ug/L	SW846 6010A	12/15-12/18/97	CE4CG10
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Barium	**328**	**200**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE4CG10**
		Dilution Factor: 1				
Selenium	ND	5.0	ug/L	SW846 6010A	12/15-12/18/97	CE4CG10
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Thallium	ND	10.0	ug/L	SW846 6010A	12/15-12/18/97	CE4CG10
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Calcium	**125000**	**5000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE4CG10**
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5411F

DISSOLVED Metals

Lot-Sample #...: H7K190172-016 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	253	100	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Magnesium	77300	5000	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Manganese	598	15.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Potassium	37200	5000	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Sodium	451000	5000	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Vanadium	ND	50.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				
Zinc	ND	20.0	ug/L	SW846 6010A	12/15-12/17/97	CE4CG10
		Dilution Factor: 1				

IT CORPORATION - KNOXVILLE

Client Sample ID: 5411

TOTAL Metals

Lot-Sample #...: H7K190172-005 **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343146						
Mercury	ND	0.20	ug/L	SW846 7470A	12/10/97	CE4C210
		Dilution Factor: 1				
Prep Batch #...: 7349101						
Aluminum	**2780**	**200**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C210**
		Dilution Factor: 1				
Arsenic	ND	10.0	ug/L	SW846 6010A	12/14-12/18/97	CE4C210
		Dilution Factor: 1				
Lead	**10.5**	**3.0**	**ug/L**	**SW846 6010A**	**12/14-12/18/97**	**CE4C210**
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010A	12/14-12/17/97	CE4C210
		Dilution Factor: 1				
Barium	**338**	**200**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C210**
		Dilution Factor: 1				
Selenium	ND	5.0	ug/L	SW846 6010A	12/14-12/18/97	CE4C210
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010A	12/14-12/17/97	CE4C210
		Dilution Factor: 1				
Thallium	ND	10.0	ug/L	SW846 6010A	12/14-12/18/97	CE4C210
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010A	12/14-12/17/97	CE4C210
		Dilution Factor: 1				
Calcium	**135000**	**5000**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C210**
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010A	12/14-12/17/97	CE4C210
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010A	12/14-12/17/97	CE4C210
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010A	12/14-12/17/97	CE4C210
		Dilution Factor: 1				

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5411

TOTAL Metals

Lot-Sample #...: H7K190172-005 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	**7690**	**100**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C210**
		Dilution Factor: 1				
Magnesium	**75300**	**5000**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C210**
		Dilution Factor: 1				
Manganese	**724**	**15.0**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C210**
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010A	12/14-12/17/97	CE4C210
		Dilution Factor: 1				
Potassium	**36700**	**5000**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C210**
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010A	12/14-12/17/97	CE4C210
		Dilution Factor: 1				
Sodium	**430000**	**5000**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C210**
		Dilution Factor: 1				
Vanadium	ND	50.0	ug/L	SW846 6010A	12/14-12/17/97	CE4C210
		Dilution Factor: 1				
Zinc	**70.3**	**20.0**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C210**
		Dilution Factor: 1				

IT CORPORATION - KNOXVILLE

Client Sample ID: 5451F

DISSOLVED Metals

Lot-Sample #...: H7K180154-008 **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343147						
Mercury	ND	0.20	ug/L	SW846 7470A	12/10/97	CE3PV10C
		Dilution Factor: 1				
Prep Batch #...: 7349102						
Aluminum	ND	200	ug/L	SW846 6010A	12/15-12/17/97	CE3PV101
		Dilution Factor: 1				
Arsenic	ND	30.0	ug/L	SW846 6010A	12/15-12/18/97	CE3PV10I
		Dilution Factor: 3				
Lead	ND	9.0	ug/L	SW846 6010A	12/15-12/18/97	CE3PV10M
		Dilution Factor: 3				
Antimony	ND	60.0	ug/L	SW846 6010A	12/15-12/17/97	CE3PV102
		Dilution Factor: 1				
Barium	**1330**	**200**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE3PV103**
		Dilution Factor: 1				
Selenium	ND	15.0	ug/L	SW846 6010A	12/15-12/18/97	CE3PV10N
		Dilution Factor: 3				
Beryllium	ND	5.0	ug/L	SW846 6010A	12/15-12/17/97	CE3PV104
		Dilution Factor: 1				
Thallium	ND	30.0	ug/L	SW846 6010A	12/15-12/18/97	CE3PV10P
		Dilution Factor: 3				
Cadmium	ND	5.0	ug/L	SW846 6010A	12/15-12/17/97	CE3PV105
		Dilution Factor: 1				
Calcium	**311000**	**5000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE3PV106**
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010A	12/15-12/17/97	CE3PV107
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010A	12/15-12/17/97	CE3PV108
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010A	12/15-12/17/97	CE3PV109
		Dilution Factor: 1				

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5451F

DISSOLVED Metals

Lot-Sample #...: H7K180154-008 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	**606**	**100**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE3PV10**
		Dilution Factor: 1				
Magnesium	**241000**	**5000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE3PV10**
		Dilution Factor: 1				
Manganese	**678**	**15.0**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE3PV10**
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010A	12/15-12/17/97	CE3PV10
		Dilution Factor: 1				
Potassium	**43400**	**5000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE3PV10**
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010A	12/15-12/17/97	CE3PV10
		Dilution Factor: 1				
Sodium	**648000**	**5000**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE3PV10**
		Dilution Factor: 1				
Vanadium	ND	50.0	ug/L	SW846 6010A	12/15-12/17/97	CE3PV10
		Dilution Factor: 1				
Zinc	**59.1**	**20.0**	**ug/L**	**SW846 6010A**	**12/15-12/17/97**	**CE3PV10**
		Dilution Factor: 1				

IT CORPORATION - KNOXVILLE

Client Sample ID: 5451

TOTAL Metals

Lot-Sample #...: H7K180154-001 **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343146						
Mercury	ND	0.20	ug/L	SW846 7470A	12/10/97	CE3PL10
		Dilution Factor: 1				
Prep Batch #...: 7349101						
Aluminum	**370**	**200**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE3PL10**
		Dilution Factor: 1				
Arsenic	**10.1**	**10.0**	**ug/L**	**SW846 6010A**	**12/14-12/18/97**	**CE3PL10**
		Dilution Factor: 1				
Lead	**4.4**	**3.0**	**ug/L**	**SW846 6010A**	**12/14-12/18/97**	**CE3PL10**
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Barium	**989**	**200**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE3PL10**
		Dilution Factor: 1				
Selenium	ND	5.0	ug/L	SW846 6010A	12/14-12/18/97	CE3PL10
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Thallium	ND	10.0	ug/L	SW846 6010A	12/14-12/18/97	CE3PL10
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Calcium	**281000**	**5000**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE3PL10**
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				

(Continued on next page)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5451

TOTAL Metals

Lot-Sample #...: H7K180154-001 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	1060	100	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Magnesium	204000	5000	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Manganese	646	15.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Potassium	35600	5000	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Sodium	535000	5000	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Vanadium	ND	50.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				
Zinc	ND	20.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PL10
		Dilution Factor: 1				

IT CORPORATION - KNOXVILLE

Client Sample ID: 5411

GC/MS Volatiles

Lot-Sample #...: H7K190172-005 **Work Order #...:** CE4C2101 **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97
Prep Date.....: 11/24/97 **Analysis Date..:** 11/24/97
Prep Batch #...: 7328298
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	2.0	ug/L	SW846 8260A
Bromomethane	ND	2.0	ug/L	SW846 8260A
Vinyl chloride	ND	2.0	ug/L	SW846 8260A
Chloroethane	ND	2.0	ug/L	SW846 8260A
Methylene chloride	**0.34 J,B**	**1.0**	**ug/L**	**SW846 8260A**
Acetone	ND	10	ug/L	SW846 8260A
Carbon disulfide	ND	1.0	ug/L	SW846 8260A
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260A
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260A
1,2-Dichloroethene (total)	ND	1.0	ug/L	SW846 8260A
Chloroform	ND	1.0	ug/L	SW846 8260A
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260A
2-Butanone	ND	5.0	ug/L	SW846 8260A
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260A
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260A
Bromodichloromethane	ND	1.0	ug/L	SW846 8260A
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260A
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260A
Trichloroethene	ND	1.0	ug/L	SW846 8260A
Dibromochloromethane	ND	1.0	ug/L	SW846 8260A
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260A
Benzene	ND	1.0	ug/L	SW846 8260A
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260A
Bromoform	ND	1.0	ug/L	SW846 8260A
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260A
2-Hexanone	ND	5.0	ug/L	SW846 8260A
Tetrachloroethene	ND	1.0	ug/L	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260A
Toluene	ND	1.0	ug/L	SW846 8260A
Chlorobenzene	ND	1.0	ug/L	SW846 8260A
Ethylbenzene	ND	1.0	ug/L	SW846 8260A
Styrene	ND	1.0	ug/L	SW846 8260A
Xylenes (total)	ND	1.0	ug/L	SW846 8260A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	96	(67 - 128)
Toluene-d8	96	(71 - 119)
4-Bromofluorobenzene	98	(76 - 111)

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5411

GC/MS Volatiles

Lot-Sample #...: H7K190172-005 **Work Order #...:** CE4C2101 **Matrix.....:** WATER

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5701

GC/MS Volatiles

Lot-Sample #...: H7K190172-011 **Work Order #...:** CE4C8101 **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97
Prep Date.....: 11/24/97 **Analysis Date..:** 11/24/97
Prep Batch #...: 7328152
Dilution Factor: 5

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260A
Bromomethane	ND	10	ug/L	SW846 8260A
Vinyl chloride	ND	10	ug/L	SW846 8260A
Chloroethane	ND	10	ug/L	SW846 8260A
Methylene chloride	**3.7 J,B**	**5.0**	**ug/L**	**SW846 8260A**
Acetone	**22 J**	**50**	**ug/L**	**SW846 8260A**
Carbon disulfide	ND	5.0	ug/L	SW846 8260A
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260A
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260A
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260A
Chloroform	ND	5.0	ug/L	SW846 8260A
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260A
2-Butanone	ND	25	ug/L	SW846 8260A
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260A
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260A
Bromodichloromethane	ND	5.0	ug/L	SW846 8260A
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260A
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A
Trichloroethene	ND	5.0	ug/L	SW846 8260A
Dibromochloromethane	ND	5.0	ug/L	SW846 8260A
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260A
Benzene	ND	5.0	ug/L	SW846 8260A
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A
Bromoform	ND	5.0	ug/L	SW846 8260A
4-Methyl-2-pentanone	ND	25	ug/L	SW846 8260A
2-Hexanone	ND	25	ug/L	SW846 8260A
Tetrachloroethene	ND	5.0	ug/L	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260A
Toluene	ND	5.0	ug/L	SW846 8260A
Chlorobenzene	ND	5.0	ug/L	SW846 8260A
Ethylbenzene	ND	5.0	ug/L	SW846 8260A
Styrene	ND	5.0	ug/L	SW846 8260A
Xylenes (total)	**1.7 J**	**5.0**	**ug/L**	**SW846 8260A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	106	(67 - 128)
Toluene-d8	98	(71 - 119)
4-Bromofluorobenzene	97	(76 - 111)

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5701

GC/MS Volatiles

Lot-Sample #...: H7K190172-011 Work Order #...: CE4C8101 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5451

GC/MS Volatiles

Lot-Sample #...: H7K180154-001 **Work Order #...:** CE3PL101 **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97
Prep Date.....: 11/20/97 **Analysis Date..:** 11/20/97
Prep Batch #...: 7324241
Dilution Factor: 25

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	50	ug/L	SW846 8260A
Bromomethane	ND	50	ug/L	SW846 8260A
Vinyl chloride	ND	50	ug/L	SW846 8260A
Chloroethane	ND	50	ug/L	SW846 8260A
Methylene chloride	**6.7 J,B**	**25**	**ug/L**	**SW846 8260A**
Acetone	ND	250	ug/L	SW846 8260A
Carbon disulfide	**89**	**25**	**ug/L**	**SW846 8260A**
1,1-Dichloroethene	ND	25	ug/L	SW846 8260A
1,1-Dichloroethane	ND	25	ug/L	SW846 8260A
1,2-Dichloroethene (total)	ND	25	ug/L	SW846 8260A
Chloroform	ND	25	ug/L	SW846 8260A
1,2-Dichloroethane	ND	25	ug/L	SW846 8260A
2-Butanone	ND	120	ug/L	SW846 8260A
1,1,1-Trichloroethane	ND	25	ug/L	SW846 8260A
Carbon tetrachloride	ND	25	ug/L	SW846 8260A
Bromodichloromethane	ND	25	ug/L	SW846 8260A
1,2-Dichloropropane	ND	25	ug/L	SW846 8260A
cis-1,3-Dichloropropene	ND	25	ug/L	SW846 8260A
Trichloroethene	ND	25	ug/L	SW846 8260A
Dibromochloromethane	ND	25	ug/L	SW846 8260A
1,1,2-Trichloroethane	ND	25	ug/L	SW846 8260A
Benzene	**14 J**	**25**	**ug/L**	**SW846 8260A**
trans-1,3-Dichloropropene	ND	25	ug/L	SW846 8260A
Bromoform	ND	25	ug/L	SW846 8260A
4-Methyl-2-pentanone	ND	120	ug/L	SW846 8260A
2-Hexanone	ND	120	ug/L	SW846 8260A
Tetrachloroethene	ND	25	ug/L	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	25	ug/L	SW846 8260A
Toluene	**30**	**25**	**ug/L**	**SW846 8260A**
Chlorobenzene	ND	25	ug/L	SW846 8260A
Ethylbenzene	**7.2 J**	**25**	**ug/L**	**SW846 8260A**
Styrene	ND	25	ug/L	SW846 8260A
Xylenes (total)	**150**	**25**	**ug/L**	**SW846 8260A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	96	(67 - 128)
Toluene-d8	100	(71 - 119)
4-Bromofluorobenzene	96	(76 - 111)

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5451

GC/MS Volatiles

Lot-Sample #...: H7K180154-001 Work Order #...: CE3PL101 Matrix.....: WATER

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5701

GC/MS Semivolatiles

Lot-Sample #...: H7K190172-011 **Work Order #...:** CE4C8102 **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97
Prep Date.....: 11/24/97 **Analysis Date..:** 12/17/97
Prep Batch #...: 7328188
Dilution Factor: 100

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Phenol	ND	1000	ug/L	SW846 8270B
bis(2-Chloroethyl) ether	ND	1000	ug/L	SW846 8270B
2-Chlorophenol	ND	1000	ug/L	SW846 8270B
1,3-Dichlorobenzene	ND	1000	ug/L	SW846 8270B
1,4-Dichlorobenzene	ND	1000	ug/L	SW846 8270B
1,2-Dichlorobenzene	ND	1000	ug/L	SW846 8270B
2-Methylphenol	ND	1000	ug/L	SW846 8270B
2,2'-oxybis(1-Chloro-propane)	ND	1000	ug/L	SW846 8270B
4-Methylphenol	ND	1000	ug/L	SW846 8270B
N-Nitrosodi-n-propylamine	ND	1000	ug/L	SW846 8270B
Hexachloroethane	ND	1000	ug/L	SW846 8270B
Nitrobenzene	ND	1000	ug/L	SW846 8270B
Isophorone	ND	1000	ug/L	SW846 8270B
2-Nitrophenol	ND	1000	ug/L	SW846 8270B
2,4-Dimethylphenol	ND	1000	ug/L	SW846 8270B
bis(2-Chloroethoxy) methane	ND	1000	ug/L	SW846 8270B
2,4-Dichlorophenol	ND	1000	ug/L	SW846 8270B
1,2,4-Trichlorobenzene	ND	1000	ug/L	SW846 8270B
Naphthalene	ND	1000	ug/L	SW846 8270B
4-Chloroaniline	ND	1000	ug/L	SW846 8270B
Hexachlorobutadiene	ND	1000	ug/L	SW846 8270B
4-Chloro-3-methylphenol	ND	1000	ug/L	SW846 8270B
2-Methylnaphthalene	ND	1000	ug/L	SW846 8270B
Hexachlorocyclopentadiene	ND	5000	ug/L	SW846 8270B
2,4,6-Trichlorophenol	ND	1000	ug/L	SW846 8270B
2,4,5-Trichlorophenol	ND	1000	ug/L	SW846 8270B
2-Chloronaphthalene	ND	1000	ug/L	SW846 8270B
2-Nitroaniline	ND	5000	ug/L	SW846 8270B
Dimethyl phthalate	ND	1000	ug/L	SW846 8270B
Acenaphthylene	ND	1000	ug/L	SW846 8270B
2,6-Dinitrotoluene	**140 J**	**1000**	**ug/L**	**SW846 8270B**
3-Nitroaniline	ND	5000	ug/L	SW846 8270B
Acenaphthene	ND	1000	ug/L	SW846 8270B
2,4-Dinitrophenol	**4200 J**	**5000**	**ug/L**	**SW846 8270B**
4-Nitrophenol	ND	5000	ug/L	SW846 8270B
Dibenzofuran	ND	1000	ug/L	SW846 8270B
2,4-Dinitrotoluene	**1100**	**1000**	**ug/L**	**SW846 8270B**

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5701

GC/MS Semivolatiles

Lot-Sample #...: H7K190172-011 **Work Order #...:** CE4C8102 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Diethyl phthalate	ND	1000	ug/L	SW846 8270B
4-Chlorophenyl phenyl ether	ND	1000	ug/L	SW846 8270B
Fluorene	ND	1000	ug/L	SW846 8270B
4-Nitroaniline	ND	5000	ug/L	SW846 8270B
4,6-Dinitro-2-methylphenol	**1700 J**	**5000**	**ug/L**	**SW846 8270B**
N-Nitrosodiphenylamine	ND	1000	ug/L	SW846 8270B
4-Bromophenyl phenyl ether	ND	1000	ug/L	SW846 8270B
Hexachlorobenzene	ND	1000	ug/L	SW846 8270B
Pentachlorophenol	ND	5000	ug/L	SW846 8270B
Phenanthrene	ND	1000	ug/L	SW846 8270B
Anthracene	ND	1000	ug/L	SW846 8270B
Carbazole	ND	1000	ug/L	SW846 8270B
Di-n-butyl phthalate	ND	1000	ug/L	SW846 8270B
Fluoranthene	ND	1000	ug/L	SW846 8270B
Pyrene	ND	1000	ug/L	SW846 8270B
Butyl benzyl phthalate	ND	1000	ug/L	SW846 8270B
3,3'-Dichlorobenzidine	ND	5000	ug/L	SW846 8270B
Benzo(a)anthracene	ND	1000	ug/L	SW846 8270B
Chrysene	ND	1000	ug/L	SW846 8270B
bis(2-Ethylhexyl) phthalate	ND	1000	ug/L	SW846 8270B
Di-n-octyl phthalate	ND	1000	ug/L	SW846 8270B
Benzo(b)fluoranthene	ND	1000	ug/L	SW846 8270B
Benzo(k)fluoranthene	ND	1000	ug/L	SW846 8270B
Benzo(a)pyrene	ND	1000	ug/L	SW846 8270B
Indeno(1,2,3-cd)pyrene	ND	1000	ug/L	SW846 8270B
Dibenz(a,h)anthracene	ND	1000	ug/L	SW846 8270B
Benzo(ghi)perylene	ND	1000	ug/L	SW846 8270B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	ND NC,DIL	(11 - 121)
Phenol-d5	ND NC,DIL	(19 - 125)
Nitrobenzene-d5	ND NC,DIL	(49 - 124)
2-Fluorobiphenyl	ND NC,DIL	(46 - 120)
2,4,6-Tribromophenol	ND NC,DIL	(36 - 144)
Terphenyl-d14	ND NC,DIL	(22 - 152)

NOTE(S):

NC The recovery and RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

J Estimated result. Result is less than RL.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5411

GC/MS Semivolatiles

Lot-Sample #...: H7K190172-005 **Work Order #...:** CE4C2102 **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97
Prep Date.....: 11/24/97 **Analysis Date..:** 12/11/97
Prep Batch #...: 7328188
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Phenol	ND	10	ug/L	SW846 8270B
bis(2-Chloroethyl) ether	ND	10	ug/L	SW846 8270B
2-Chlorophenol	ND	10	ug/L	SW846 8270B
1,3-Dichlorobenzene	ND	10	ug/L	SW846 8270B
1,4-Dichlorobenzene	ND	10	ug/L	SW846 8270B
1,2-Dichlorobenzene	ND	10	ug/L	SW846 8270B
2-Methylphenol	ND	10	ug/L	SW846 8270B
2,2'-oxybis(1-Chloro-propane)	ND	10	ug/L	SW846 8270B
4-Methylphenol	ND	10	ug/L	SW846 8270B
N-Nitrosodi-n-propylamine	ND	10	ug/L	SW846 8270B
Hexachloroethane	ND	10	ug/L	SW846 8270B
Nitrobenzene	ND	10	ug/L	SW846 8270B
Isophorone	ND	10	ug/L	SW846 8270B
2-Nitrophenol	ND	10	ug/L	SW846 8270B
2,4-Dimethylphenol	ND	10	ug/L	SW846 8270B
bis(2-Chloroethoxy) methane	ND	10	ug/L	SW846 8270B
2,4-Dichlorophenol	ND	10	ug/L	SW846 8270B
1,2,4-Trichlorobenzene	ND	10	ug/L	SW846 8270B
Naphthalene	ND	10	ug/L	SW846 8270B
4-Chloroaniline	ND	10	ug/L	SW846 8270B
Hexachlorobutadiene	ND	10	ug/L	SW846 8270B
4-Chloro-3-methylphenol	ND	10	ug/L	SW846 8270B
2-Methylnaphthalene	ND	10	ug/L	SW846 8270B
Hexachlorocyclopentadiene	ND	50	ug/L	SW846 8270B
2,4,6-Trichlorophenol	ND	10	ug/L	SW846 8270B
2,4,5-Trichlorophenol	ND	10	ug/L	SW846 8270B
2-Chloronaphthalene	ND	10	ug/L	SW846 8270B
2-Nitroaniline	ND	50	ug/L	SW846 8270B
Dimethyl phthalate	ND	10	ug/L	SW846 8270B
Acenaphthylene	ND	10	ug/L	SW846 8270B
2,6-Dinitrotoluene	ND	10	ug/L	SW846 8270B
3-Nitroaniline	ND	50	ug/L	SW846 8270B
Acenaphthene	ND	10	ug/L	SW846 8270B
2,4-Dinitrophenol	ND	50	ug/L	SW846 8270B
4-Nitrophenol	ND	50	ug/L	SW846 8270B
Dibenzofuran	ND	10	ug/L	SW846 8270B
2,4-Dinitrotoluene	ND	10	ug/L	SW846 8270B

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5411

GC/MS Semivolatiles

Lot-Sample #...: H7K190172-005 **Work Order #...:** CE4C2102 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Diethyl phthalate	ND	10	ug/L	SW846 8270B
4-Chlorophenyl phenyl ether	ND	10	ug/L	SW846 8270B
Fluorene	ND	10	ug/L	SW846 8270B
4-Nitroaniline	ND	50	ug/L	SW846 8270B
4,6-Dinitro-2-methylphenol	ND	50	ug/L	SW846 8270B
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270B
4-Bromophenyl phenyl ether	ND	10	ug/L	SW846 8270B
Hexachlorobenzene	ND	10	ug/L	SW846 8270B
Pentachlorophenol	ND	50	ug/L	SW846 8270B
Phenanthrene	ND	10	ug/L	SW846 8270B
Anthracene	ND	10	ug/L	SW846 8270B
Carbazole	ND	10	ug/L	SW846 8270B
Di-n-butyl phthalate	ND	10	ug/L	SW846 8270B
Fluoranthene	ND	10	ug/L	SW846 8270B
Pyrene	ND	10	ug/L	SW846 8270B
Butyl benzyl phthalate	ND	10	ug/L	SW846 8270B
3,3'-Dichlorobenzidine	ND	50	ug/L	SW846 8270B
Benzo(a)anthracene	ND	10	ug/L	SW846 8270B
Chrysene	ND	10	ug/L	SW846 8270B
bis(2-Ethylhexyl) phthalate	**1.8 J**	**10**	**ug/L**	**SW846 8270B**
Di-n-octyl phthalate	ND	10	ug/L	SW846 8270B
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270B
Benzo(k)fluoranthene	ND	10	ug/L	SW846 8270B
Benzo(a)pyrene	ND	10	ug/L	SW846 8270B
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270B
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270B
Benzo(ghi)perylene	ND	10	ug/L	SW846 8270B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	78	(11 - 121)
Phenol-d5	88	(19 - 125)
Nitrobenzene-d5	81	(49 - 124)
2-Fluorobiphenyl	84	(46 - 120)
2,4,6-Tribromophenol	71	(36 - 144)
Terphenyl-d14	60	(22 - 152)

NOTE(S):

J Estimated result. Result is less than RL.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5451

GC/MS Semivolatiles

Lot-Sample #...: H7K180154-001 **Work Order #...:** CE3PL102 **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97
Prep Date.....: 11/23/97 **Analysis Date..:** 12/17/97
Prep Batch #...: 7326141
Dilution Factor: 20

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Phenol	**31 J**	**200**	**ug/L**	**SW846 8270B**
bis(2-Chloroethyl) ether	ND	200	ug/L	SW846 8270B
2-Chlorophenol	ND	200	ug/L	SW846 8270B
1,3-Dichlorobenzene	ND	200	ug/L	SW846 8270B
1,4-Dichlorobenzene	ND	200	ug/L	SW846 8270B
1,2-Dichlorobenzene	ND	200	ug/L	SW846 8270B
2-Methylphenol	ND	200	ug/L	SW846 8270B
2,2'-oxybis(1-Chloro-propane)	ND	200	ug/L	SW846 8270B
4-Methylphenol	ND	200	ug/L	SW846 8270B
N-Nitrosodi-n-propylamine	ND	200	ug/L	SW846 8270B
Hexachloroethane	ND	200	ug/L	SW846 8270B
Nitrobenzene	ND	200	ug/L	SW846 8270B
Isophorone	ND	200	ug/L	SW846 8270B
2-Nitrophenol	ND	200	ug/L	SW846 8270B
2,4-Dimethylphenol	ND	200	ug/L	SW846 8270B
bis(2-Chloroethoxy) methane	ND	200	ug/L	SW846 8270B
2,4-Dichlorophenol	ND	200	ug/L	SW846 8270B
1,2,4-Trichlorobenzene	ND	200	ug/L	SW846 8270B
Naphthalene	ND	200	ug/L	SW846 8270B
4-Chloroaniline	ND	200	ug/L	SW846 8270B
Hexachlorobutadiene	ND	200	ug/L	SW846 8270B
4-Chloro-3-methylphenol	ND	200	ug/L	SW846 8270B
2-Methylnaphthalene	**25 J**	**200**	**ug/L**	**SW846 8270B**
Hexachlorocyclopentadiene	ND	1000	ug/L	SW846 8270B
2,4,6-Trichlorophenol	ND	200	ug/L	SW846 8270B
2,4,5-Trichlorophenol	ND	200	ug/L	SW846 8270B
2-Chloronaphthalene	ND	200	ug/L	SW846 8270B
2-Nitroaniline	ND	1000	ug/L	SW846 8270B
Dimethyl phthalate	ND	200	ug/L	SW846 8270B
Acenaphthylene	ND	200	ug/L	SW846 8270B
2,6-Dinitrotoluene	ND	200	ug/L	SW846 8270B
3-Nitroaniline	ND	1000	ug/L	SW846 8270B
Acenaphthene	ND	200	ug/L	SW846 8270B
2,4-Dinitrophenol	ND	1000	ug/L	SW846 8270B
4-Nitrophenol	ND	1000	ug/L	SW846 8270B
Dibenzofuran	ND	200	ug/L	SW846 8270B
2,4-Dinitrotoluene	ND	200	ug/L	SW846 8270B

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5451

GC/MS Semivolatiles

Lot-Sample #...: H7K180154-001 **Work Order #...:** CE3PL102 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Diethyl phthalate	ND	200	ug/L	SW846 8270B
4-Chlorophenyl phenyl ether	ND	200	ug/L	SW846 8270B
Fluorene	ND	200	ug/L	SW846 8270B
4-Nitroaniline	ND	1000	ug/L	SW846 8270B
4,6-Dinitro-2-methylphenol	ND	1000	ug/L	SW846 8270B
N-Nitrosodiphenylamine	ND	200	ug/L	SW846 8270B
4-Bromophenyl phenyl ether	ND	200	ug/L	SW846 8270B
Hexachlorobenzene	ND	200	ug/L	SW846 8270B
Pentachlorophenol	ND	1000	ug/L	SW846 8270B
Phenanthrene	ND	200	ug/L	SW846 8270B
Anthracene	ND	200	ug/L	SW846 8270B
Carbazole	ND	200	ug/L	SW846 8270B
Di-n-butyl phthalate	ND	200	ug/L	SW846 8270B
Fluoranthene	ND	200	ug/L	SW846 8270B
Pyrene	ND	200	ug/L	SW846 8270B
Butyl benzyl phthalate	ND	200	ug/L	SW846 8270B
3,3'-Dichlorobenzidine	ND	1000	ug/L	SW846 8270B
Benzo(a)anthracene	ND	200	ug/L	SW846 8270B
Chrysene	ND	200	ug/L	SW846 8270B
bis(2-Ethylhexyl) phthalate	ND	200	ug/L	SW846 8270B
Di-n-octyl phthalate	ND	200	ug/L	SW846 8270B
Benzo(b)fluoranthene	ND	200	ug/L	SW846 8270B
Benzo(k)fluoranthene	ND	200	ug/L	SW846 8270B
Benzo(a)pyrene	ND	200	ug/L	SW846 8270B
Indeno(1,2,3-cd)pyrene	ND	200	ug/L	SW846 8270B
Dibenz(a,h)anthracene	ND	200	ug/L	SW846 8270B
Benzo(ghi)perylene	ND	200	ug/L	SW846 8270B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	NC,DIL	(11 - 121)
Phenol-d5	NC,DIL	(19 - 125)
Nitrobenzene-d5	NC,DIL	(49 - 124)
2-Fluorobiphenyl	NC,DIL	(46 - 120)
2,4,6-Tribromophenol	NC,DIL	(36 - 144)
Terphenyl-d14	NC,DIL	(22 - 152)

NOTE(S):

NC The recovery and RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

J Estimated result. Result is less than RL.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5701

GC Semivolatiles

Lot-Sample #...: H7K190172-011 Work Order #...: CE4C8103 Matrix.....: WATER
Date Sampled...: 11/17/97 Date Received..: 11/19/97
Prep Date.....: 11/21/97 Analysis Date..: 12/08/97
Prep Batch #...: 7325209
Dilution Factor: 50

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	50	ug/L	SW846 8081
Aroclor 1221	ND	50	ug/L	SW846 8081
Aroclor 1232	ND	50	ug/L	SW846 8081
Aroclor 1242	ND	50	ug/L	SW846 8081
Aroclor 1248	ND	50	ug/L	SW846 8081
Aroclor 1254	ND	50	ug/L	SW846 8081
Aroclor 1260	ND	50	ug/L	SW846 8081

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	NC,DIL	(30 - 133)
Decachlorobiphenyl	NC,DIL	(30 - 139)

NOTE(S):

NC The recovery and RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5411

GC Semivolatiles

Lot-Sample #...: H7K190172-005 **Work Order #...:** CE4C2103 **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97
Prep Date.....: 11/21/97 **Analysis Date..:** 12/08/97
Prep Batch #...: 7325209
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	1.0	ug/L	SW846 8081
Aroclor 1221	ND	1.0	ug/L	SW846 8081
Aroclor 1232	ND	1.0	ug/L	SW846 8081
Aroclor 1242	ND	1.0	ug/L	SW846 8081
Aroclor 1248	ND	1.0	ug/L	SW846 8081
Aroclor 1254	ND	1.0	ug/L	SW846 8081
Aroclor 1260	ND	1.0	ug/L	SW846 8081

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	74	(30 - 133)
Decachlorobiphenyl	43	(30 - 139)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5451

GC Semivolatiles

Lot-Sample #...: H7K180154-001 **Work Order #...:** CE3PL103 **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97
Prep Date.....: 11/21/97 **Analysis Date..:** 12/08/97
Prep Batch #...: 7325209
Dilution Factor: 10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	10	ug/L	SW846 8081
Aroclor 1221	ND	10	ug/L	SW846 8081
Aroclor 1232	ND	10	ug/L	SW846 8081
Aroclor 1242	ND	10	ug/L	SW846 8081
Aroclor 1248	ND	10	ug/L	SW846 8081
Aroclor 1254	ND	10	ug/L	SW846 8081
Aroclor 1260	ND	10	ug/L	SW846 8081

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	NC,DIL	(30 - 133)
Decachlorobiphenyl	NC,DIL	(30 - 139)

NOTE(S):

NC The recovery and RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5701

HPLC

Lot-Sample #...: H7K190172-011 **Work Order #...:** CE4C810V **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97
Prep Date.....: 11/23/97 **Analysis Date..:** 12/02/97
Prep Batch #...: 7326142
Dilution Factor: 500

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Amino-2,6-dinitrotoluene	ND	100	ug/L	SW846 8330
1,3-Dinitrobenzene	**1600**	**100**	**ug/L**	**SW846 8330**
2,4-Dinitrotoluene	**1600**	**100**	**ug/L**	**SW846 8330**
2,6-Dinitrotoluene	**210**	**100**	**ug/L**	**SW846 8330**
HMX	ND	250	ug/L	SW846 8330
Nitrobenzene	ND	100	ug/L	SW846 8330
2-Nitrotoluene	ND	100	ug/L	SW846 8330
3-Nitrotoluene	ND	100	ug/L	SW846 8330
RDX	ND G	540	ug/L	SW846 8330
Tetryl	ND	100	ug/L	SW846 8330
1,3,5-Trinitrobenzene	**1700**	**100**	**ug/L**	**SW846 8330**
2,4,6-Trinitrotoluene	ND	100	ug/L	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1-Chloro-3-nitrobenzene	NC,DIL	(50 - 150)

NOTE(S):

NC The recovery and RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5411

HPLC

Lot-Sample #...: H7K190172-005 **Work Order #...:** CE4C210V **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97
Prep Date.....: 11/23/97 **Analysis Date..:** 12/02/97
Prep Batch #...: 7326142
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
1,3-Dinitrobenzene	ND	0.20	ug/L	SW846 8330
2,4-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
2,6-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
HMX	ND	0.50	ug/L	SW846 8330
Nitrobenzene	ND	0.20	ug/L	SW846 8330
2-Nitrotoluene	ND	0.20	ug/L	SW846 8330
3-Nitrotoluene	ND	0.20	ug/L	SW846 8330
RDX	ND	0.50	ug/L	SW846 8330
Tetryl	ND	0.20	ug/L	SW846 8330
1,3,5-Trinitrobenzene	ND	0.20	ug/L	SW846 8330
2,4,6-Trinitrotoluene	ND	0.20	ug/L	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1-Chloro-3-nitrobenzene	103	(50 - 150)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5451

HPLC

Lot-Sample #...: H7K180154-001 **Work Order #...:** CE3PL10V **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97
Prep Date.....: 11/22/97 **Analysis Date..:** 12/02/97
Prep Batch #...: 7326122
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
1,3-Dinitrobenzene	ND G	0.26	ug/L	SW846 8330
2,4-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
2,6-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
HMX	ND	0.50	ug/L	SW846 8330
Nitrobenzene	ND	0.20	ug/L	SW846 8330
2-Nitrotoluene	ND G	0.58	ug/L	SW846 8330
3-Nitrotoluene	ND	0.20	ug/L	SW846 8330
RDX	ND	0.50	ug/L	SW846 8330
Tetryl	ND	0.20	ug/L	SW846 8330
1,3,5-Trinitrobenzene	ND	0.20	ug/L	SW846 8330
2,4,6-Trinitrotoluene	ND	0.20	ug/L	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1-Chloro-3-nitrobenzene	107	(50 - 150)

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

IT CORPORATION - KNOXVILLE

Client Sample ID: LOT H012

GC/MS Volatiles

Lot-Sample #...: H7K180154-004 **Work Order #...:** CE3PP101 **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97
Prep Date.....: 11/20/97 **Analysis Date..:** 11/20/97
Prep Batch #...: 7324241
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	2.0	ug/L	SW846 8260A
Bromomethane	ND	2.0	ug/L	SW846 8260A
Vinyl chloride	ND	2.0	ug/L	SW846 8260A
Chloroethane	ND	2.0	ug/L	SW846 8260A
Methylene chloride	**1.1 B**	**1.0**	**ug/L**	**SW846 8260A**
Acetone	ND	10	ug/L	SW846 8260A
Carbon disulfide	ND	1.0	ug/L	SW846 8260A
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260A
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260A
1,2-Dichloroethene (total)	ND	1.0	ug/L	SW846 8260A
Chloroform	**1.2**	**1.0**	**ug/L**	**SW846 8260A**
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260A
2-Butanone	ND	5.0	ug/L	SW846 8260A
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260A
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260A
Bromodichloromethane	ND	1.0	ug/L	SW846 8260A
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260A
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260A
Trichloroethene	ND	1.0	ug/L	SW846 8260A
Dibromochloromethane	ND	1.0	ug/L	SW846 8260A
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260A
Benzene	ND	1.0	ug/L	SW846 8260A
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260A
Bromoform	ND	1.0	ug/L	SW846 8260A
4-Methyl-2-pentanone	ND	5.0	ug/L	SW846 8260A
2-Hexanone	ND	5.0	ug/L	SW846 8260A
Tetrachloroethene	ND	1.0	ug/L	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260A
Toluene	**0.54 J**	**1.0**	**ug/L**	**SW846 8260A**
Chlorobenzene	ND	1.0	ug/L	SW846 8260A
Ethylbenzene	ND	1.0	ug/L	SW846 8260A
Styrene	ND	1.0	ug/L	SW846 8260A
Xylenes (total)	**0.26 J**	**1.0**	**ug/L**	**SW846 8260A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	91	(67 - 128)
Toluene-d8	100	(71 - 119)
4-Bromofluorobenzene	97	(76 - 111)

(Continued on next page)

IT CORPORATION - KNOXVILLE

Client Sample ID: LOT H012

GC/MS Volatiles

Lot-Sample #...: H7K180154-004 **Work Order #...:** CE3PP101 **Matrix.....:** WATER

NOTE(S):

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

J Estimated result. Result is less than RL.

IT CORPORATION - KNOXVILLE

Client Sample ID: LOT H012

GC/MS Semivolatiles

Lot-Sample #...: H7K180154-004 **Work Order #...:** CE3PP102 **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97
Prep Date.....: 11/23/97 **Analysis Date..:** 12/17/97
Prep Batch #...: 7326141
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Phenol	ND	10	ug/L	SW846 8270B
bis(2-Chloroethyl) ether	ND	10	ug/L	SW846 8270B
2-Chlorophenol	ND	10	ug/L	SW846 8270B
1,3-Dichlorobenzene	ND	10	ug/L	SW846 8270B
1,4-Dichlorobenzene	ND	10	ug/L	SW846 8270B
1,2-Dichlorobenzene	ND	10	ug/L	SW846 8270B
2-Methylphenol	ND	10	ug/L	SW846 8270B
2,2'-oxybis(1-Chloro-propane)	ND	10	ug/L	SW846 8270B
4-Methylphenol	ND	10	ug/L	SW846 8270B
N-Nitrosodi-n-propylamine	ND	10	ug/L	SW846 8270B
Hexachloroethane	ND	10	ug/L	SW846 8270B
Nitrobenzene	ND	10	ug/L	SW846 8270B
Isophorone	ND	10	ug/L	SW846 8270B
2-Nitrophenol	ND	10	ug/L	SW846 8270B
2,4-Dimethylphenol	ND	10	ug/L	SW846 8270B
bis(2-Chloroethoxy) methane	ND	10	ug/L	SW846 8270B
2,4-Dichlorophenol	ND	10	ug/L	SW846 8270B
1,2,4-Trichlorobenzene	ND	10	ug/L	SW846 8270B
Naphthalene	ND	10	ug/L	SW846 8270B
4-Chloroaniline	ND	10	ug/L	SW846 8270B
Hexachlorobutadiene	ND	10	ug/L	SW846 8270B
4-Chloro-3-methylphenol	ND	10	ug/L	SW846 8270B
2-Methylnaphthalene	ND	10	ug/L	SW846 8270B
Hexachlorocyclopentadiene	ND	50	ug/L	SW846 8270B
2,4,6-Trichlorophenol	ND	10	ug/L	SW846 8270B
2,4,5-Trichlorophenol	ND	10	ug/L	SW846 8270B
2-Chloronaphthalene	ND	10	ug/L	SW846 8270B
2-Nitroaniline	ND	50	ug/L	SW846 8270B
Dimethyl phthalate	ND	10	ug/L	SW846 8270B
Acenaphthylene	ND	10	ug/L	SW846 8270B
2,6-Dinitrotoluene	ND	10	ug/L	SW846 8270B
3-Nitroaniline	ND	50	ug/L	SW846 8270B
Acenaphthene	ND	10	ug/L	SW846 8270B
2,4-Dinitrophenol	ND	50	ug/L	SW846 8270B
4-Nitrophenol	ND	50	ug/L	SW846 8270B
Dibenzofuran	ND	10	ug/L	SW846 8270B
2,4-Dinitrotoluene	ND	10	ug/L	SW846 8270B

(Continued on next page)

IT CORPORATION - KNOXVILLE

Client Sample ID: LOT H012

GC/MS Semivolatiles

Lot-Sample #...: H7K180154-004 **Work Order #...:** CE3PP102 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Diethyl phthalate	ND	10	ug/L	SW846 8270B
4-Chlorophenyl phenyl ether	ND	10	ug/L	SW846 8270B
Fluorene	ND	10	ug/L	SW846 8270B
4-Nitroaniline	ND	50	ug/L	SW846 8270B
4,6-Dinitro-2-methylphenol	ND	50	ug/L	SW846 8270B
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270B
4-Bromophenyl phenyl ether	ND	10	ug/L	SW846 8270B
Hexachlorobenzene	ND	10	ug/L	SW846 8270B
Pentachlorophenol	ND	50	ug/L	SW846 8270B
Phenanthrene	ND	10	ug/L	SW846 8270B
Anthracene	ND	10	ug/L	SW846 8270B
Carbazole	ND	10	ug/L	SW846 8270B
Di-n-butyl phthalate	ND	10	ug/L	SW846 8270B
Fluoranthene	ND	10	ug/L	SW846 8270B
Pyrene	ND	10	ug/L	SW846 8270B
Butyl benzyl phthalate	ND	10	ug/L	SW846 8270B
3,3'-Dichlorobenzidine	ND	50	ug/L	SW846 8270B
Benzo(a)anthracene	ND	10	ug/L	SW846 8270B
Chrysene	ND	10	ug/L	SW846 8270B
bis(2-Ethylhexyl) phthalate	ND	10	ug/L	SW846 8270B
Di-n-octyl phthalate	ND	10	ug/L	SW846 8270B
Benzo(b)fluoranthene	ND	10	ug/L	SW846 8270B
Benzo(k)fluoranthene	ND	10	ug/L	SW846 8270B
Benzo(a)pyrene	ND	10	ug/L	SW846 8270B
Indeno(1,2,3-cd)pyrene	ND	10	ug/L	SW846 8270B
Dibenz(a,h)anthracene	ND	10	ug/L	SW846 8270B
Benzo(ghi)perylene	ND	10	ug/L	SW846 8270B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
2-Fluorophenol	90	(11 - 121)
Phenol-d5	97	(19 - 125)
Nitrobenzene-d5	93	(49 - 124)
2-Fluorobiphenyl	86	(46 - 120)
2,4,6-Tribromophenol	66	(36 - 144)
Terphenyl-d14	81	(22 - 152)

IT CORPORATION - KNOXVILLE

Client Sample ID: LOT H012

HPLC

Lot-Sample #...: H7K180154-004 **Work Order #...:** CE3PP10V **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97
Prep Date.....: 11/22/97 **Analysis Date..:** 12/02/97
Prep Batch #...: 7326122
Dilution Factor: 5

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Amino-2,6-dinitrotoluene	ND	1.0	ug/L	SW846 8330
1,3-Dinitrobenzene	ND	1.0	ug/L	SW846 8330
2,4-Dinitrotoluene	ND	1.0	ug/L	SW846 8330
2,6-Dinitrotoluene	ND	1.0	ug/L	SW846 8330
HMX	ND	2.5	ug/L	SW846 8330
Nitrobenzene	ND	1.0	ug/L	SW846 8330
2-Nitrotoluene	ND	1.0	ug/L	SW846 8330
3-Nitrotoluene	ND	1.0	ug/L	SW846 8330
RDX	ND	2.5	ug/L	SW846 8330
Tetryl	ND	1.0	ug/L	SW846 8330
1,3,5-Trinitrobenzene	ND	1.0	ug/L	SW846 8330
2,4,6-Trinitrotoluene	ND	1.0	ug/L	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1-Chloro-3-nitrobenzene	108	(50 - 150)

IT CORPORATION - KNOXVILLE

Client Sample ID: LOT H012

TOTAL Metals

Lot-Sample #...: H7K180154-004 **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343146						
Mercury	ND	0.20	ug/L	SW846 7470A	12/10/97	CE3PP10U
		Dilution Factor: 1				
Prep Batch #...: 7349101						
Aluminum	ND	200	ug/L	SW846 6010A	12/14-12/17/97	CE3PP104
		Dilution Factor: 1				
Arsenic	ND	10.0	ug/L	SW846 6010A	12/14-12/18/97	CE3PP10P
		Dilution Factor: 1				
Lead	ND	3.0	ug/L	SW846 6010A	12/14-12/18/97	CE3PP10Q
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10S
		Dilution Factor: 1				
Barium	ND	200	ug/L	SW846 6010A	12/14-12/17/97	CE3PP106
		Dilution Factor: 1				
Selenium	ND	5.0	ug/L	SW846 6010A	12/14-12/18/97	CE3PP10R
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP107
		Dilution Factor: 1				
Thallium	ND	10.0	ug/L	SW846 6010A	12/14-12/18/97	CE3PP10T
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP108
		Dilution Factor: 1				
Calcium	ND	5000	ug/L	SW846 6010A	12/14-12/17/97	CE3PP109
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10A
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10C
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10D
		Dilution Factor: 1				

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IT CORPORATION - KNOXVILLE

Client Sample ID: LOT H012

TOTAL Metals

Lot-Sample #...: H7K180154-004 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	ND	100	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10E
		Dilution Factor: 1				
Magnesium	ND	5000	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10F
		Dilution Factor: 1				
Manganese	ND	15.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10G
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10H
		Dilution Factor: 1				
Potassium	ND	5000	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10J
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10K
		Dilution Factor: 1				
Sodium	ND	5000	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10L
		Dilution Factor: 1				
Vanadium	ND	50.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10M
		Dilution Factor: 1				
Zinc	ND	20.0	ug/L	SW846 6010A	12/14-12/17/97	CE3PP10N
		Dilution Factor: 1				

IT CORPORATION - KNOXVILLE

Client Sample ID: LOT H012F

DISSOLVED Metals

Lot-Sample #...: H7K180154-011 **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343147						
Mercury	ND	0.20	ug/L	SW846 7470A	12/10/97	CE3Q110Q
		Dilution Factor: 1				
Prep Batch #...: 7349102						
Aluminum	ND	200	ug/L	SW846 6010A	12/15-12/17/97	CE3Q1101
		Dilution Factor: 1				
Arsenic	ND	10.0	ug/L	SW846 6010A	12/15-12/18/97	CE3Q110L
		Dilution Factor: 1				
Lead	ND	3.0	ug/L	SW846 6010A	12/15-12/18/97	CE3Q110M
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q1102
		Dilution Factor: 1				
Barium	ND	200	ug/L	SW846 6010A	12/15-12/17/97	CE3Q1103
		Dilution Factor: 1				
Selenium	ND	5.0	ug/L	SW846 6010A	12/15-12/18/97	CE3Q110N
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q1104
		Dilution Factor: 1				
Thallium	ND	10.0	ug/L	SW846 6010A	12/15-12/18/97	CE3Q110P
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q1105
		Dilution Factor: 1				
Calcium	ND	5000	ug/L	SW846 6010A	12/15-12/17/97	CE3Q1106
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q1107
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q1108
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q1109
		Dilution Factor: 1				

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IT CORPORATION - KNOXVILLE

Client Sample ID: LOT H012F

DISSOLVED Metals

Lot-Sample #...: H7K180154-011 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	106	100	ug/L	SW846 6010A	12/15-12/17/97	CE3Q110A
		Dilution Factor: 1				
Magnesium	ND	5000	ug/L	SW846 6010A	12/15-12/17/97	CE3Q110C
		Dilution Factor: 1				
Manganese	ND	15.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q110D
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q110E
		Dilution Factor: 1				
Potassium	ND	5000	ug/L	SW846 6010A	12/15-12/17/97	CE3Q110F
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q110G
		Dilution Factor: 1				
Sodium	ND	5000	ug/L	SW846 6010A	12/15-12/17/97	CE3Q110H
		Dilution Factor: 1				
Vanadium	ND	50.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q110J
		Dilution Factor: 1				
Zinc	ND	20.0	ug/L	SW846 6010A	12/15-12/17/97	CE3Q110K
		Dilution Factor: 1				

Semivolatile Organics by GC/MS

Client: IT Corporation
Project#: 771481
Location: Plumbrook Ordnance Works

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: 5702
Lab ID: 131461-001
Matrix: Water
Batch#: 37715
Units: ug/L
Diln Fac: 50

Sampled: 11/17/97
Received: 11/19/97
Extracted: 11/21/97
Analyzed: 11/26/97

Analyte	Result	Reporting Limit
Phenol	ND	570
2-Chlorophenol	ND	570
2-Methylphenol	ND	570
3,4-Methylphenol	ND	570
2-Nitrophenol	ND	2900
2,4-Dimethylphenol	ND	570
2,4-Dichlorophenol	ND	570
4-Chloro-3-methylphenol	ND	570
2,4,6-Trichlorophenol	ND	570
2,4,5-Trichlorophenol	ND	570
2,4-Dinitrophenol	6200	2900
4-Nitrophenol	ND	2900
4,6-Dinitro-2-methylphenol	2400 J	2900
Pentachlorophenol	ND	2900
bis(2-Chloroethyl)ether	ND	570
1,3-Dichlorobenzene	ND	570
1,4-Dichlorobenzene	ND	570
1,2-Dichlorobenzene	ND	570
bis(2-Chloroisopropyl) ether	ND	570
N-Nitroso-di-n-propylamine	ND	570
Hexachloroethane	ND	570
Nitrobenzene	ND	570
Isophorone	ND	570
bis(2-Chloroethoxy)methane	ND	570
1,2,4-Trichlorobenzene	ND	570
Naphthalene	ND	570
4-Chloroaniline	ND	570
Hexachlorobutadiene	ND	570
2-Methylnaphthalene	ND	570
Hexachlorocyclopentadiene	ND	2900
2-Chloronaphthalene	ND	570
2-Nitroaniline	ND	2900
Dimethylphthalate	ND	570
Acenaphthylene	ND	570
2,6-Dinitrotoluene	ND	570
3-Nitroaniline	ND	2900
Acenaphthene	ND	570
Dibenzofuran	ND	570

Semivolatile Organics by GC/MS

Field ID:	5702	Sampled:	11/17/97
Lab ID:	131461-001	Received:	11/19/97
Matrix:	Water	Extracted:	11/21/97
Batch#:	37715	Analyzed:	11/26/97
Units:	ug/L		
Diln Fac:	50		

Analyte	Result	Reporting Limit
2,4-Dinitrotoluene	2200	570
Diethylphthalate	ND	570
4-Chlorophenyl-phenylether	ND	570
Fluorene	ND	570
4-Nitroaniline	ND	2900
N-Nitrosodiphenylamine	ND	570
4-Bromophenyl-phenylether	ND	570
Hexachlorobenzene	ND	570
Phenanthrene	ND	570
Anthracene	ND	570
Di-n-butylphthalate	ND	570
Fluoranthene	ND	570
Carbazole	ND	570
Pyrene	ND	570
Butylbenzylphthalate	ND	570
3,3'-Dichlorobenzidine	ND	2900
Benzo(a)anthracene	ND	570
Chrysene	ND	570
bis(2-Ethylhexyl)phthalate	ND	570
Di-n-octylphthalate	ND	570
Benzo(b,k)fluoranthene	ND	570
Benzo(a)pyrene	ND	570
Indeno(1,2,3-cd)pyrene	ND	570
Dibenz(a,h)anthracene	ND	570
Benzo(g,h,i)perylene	ND	570

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	DO*	21-110
Phenol-d5	DO*	10-110
2,4,6-Tribromophenol	DO*	10-123
Nitrobenzene-d5	DO*	35-114
2-Fluorobiphenyl	DO*	43-116
Terphenyl-d14	DO*	33-141

J: Estimated Value
* Values outside of QC limits
DO: Surrogate diluted out

Volatile Organics by GC/MS

Client: IT Corporation
Project#: 771481
Location: Plumbrook Ordnance Works

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: 5702
Lab ID: 131461-001
Matrix: Water
Batch#: 37779
Units: ug/L
Diln Fac: 100

Sampled: 11/17/97
Received: 11/19/97
Extracted: 11/26/97
Analyzed: 11/26/97

Analyte	Result	Reporting Limit
Chloromethane	ND	1000
Bromomethane	ND	1000
Vinyl Chloride	ND	1000
Chloroethane	ND	1000
Methylene Chloride	ND	500
Acetone	ND	2000
Carbon Disulfide	ND	500
1,1-Dichloroethene	ND	500
1,1-Dichloroethane	ND	500
trans-1,2-Dichloroethene	ND	500
cis-1,2-Dichloroethene	ND	500
Chloroform	ND	500
1,2-Dichloroethane	ND	500
2-Butanone	ND	2000
1,1,1-Trichloroethane	ND	500
Carbon Tetrachloride	ND	500
Bromodichloromethane	ND	500
1,2-Dichloropropane	ND	500
cis-1,3-Dichloropropene	ND	500
Trichloroethene	ND	500
Dibromochloromethane	ND	500
1,1,2-Trichloroethane	ND	500
Benzene	ND	500
trans-1,3-Dichloropropene	ND	500
Bromoform	ND	500
2-Hexanone	ND	2000
4-Methyl-2-Pentanone	ND	2000
1,1,2,2-Tetrachloroethane	ND	500
Tetrachloroethene	ND	500
Toluene	ND	500
Chlorobenzene	ND	500
Ethylbenzene	ND	500
Styrene	ND	500
m,p-Xylenes	ND	500
o-Xylene	ND	500

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	102	87-121
Toluene-d8	99	92-107
Bromofluorobenzene	100	80-121
Dibromofluoromethane	106	88-118

Curtis & Tompkins Ltd.

PCBs

Client:	IT Corporation	Analysis Method:	PCB
Project#:	771481	Prep Method:	EPA 3520
Location:	Plumbrook Ordnance Works	Cleanup Method:	EPA acid

Field ID:	5702	Sampled:	11/17/97
Lab ID:	131461-001	Received:	11/19/97
Matrix:	Water	Extracted:	11/21/97
Batch#:	37716	Analyzed:	11/27/97
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Aroclor-1016	ND	1.0
Aroclor-1221	ND	1.0
Aroclor-1232	ND	1.0
Aroclor-1242	ND	1.0
Aroclor-1248	ND	1.0
Aroclor-1254	ND	1.0
Aroclor-1260	ND	1.0

Surrogate	%Recovery	Recovery Limits
TCMX	980*	60-150
Decachlorobiphenyl	26*	30-130

* Values outside of QC limits

Curtis & Tompkins, Ltd.

SAMPLE ID: 5702
LAB ID: 131461-001
CLIENT: IT Corporation
PROJECT ID: 771481
LOCATION: Plumbrook Ordnance Works
MATRIX: Filtrate

DATE SAMPLED: 11/17/97
DATE RECEIVED: 11/19/97
DATE REPORTED: 12/01/97

EPA CLP TARGET ANALYTE LIST

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Aluminum	ND	5000	1	37796	EPA 6010A	12/01/9
Antimony	ND	3000	1	37796	EPA 6010A	11/26/9
Arsenic	ND	250	1	37796	EPA 6010A	12/01/9
Barium	ND	500	1	37796	EPA 6010A	11/26/9
Beryllium	ND	100	1	37796	EPA 6010A	11/26/9
Cadmium	ND	250	1	37796	EPA 6010A	11/26/9
Calcium	960000	25000	1	37796	EPA 6010A	11/26/9
Chromium (total)	ND	500	1	37796	EPA 6010A	11/26/9
Cobalt	8000	1000	1	37796	EPA 6010A	11/26/9
Copper	5100	500	1	37796	EPA 6010A	11/26/9
Iron	17000	5000	1	37796	EPA 6010A	12/01/9
Lead	ND	150	1	37796	EPA 6010A	11/26/9
Magnesium	640000	25000	1	37796	EPA 6010A	11/26/9
Manganese	37000	500	1	37796	EPA 6010A	11/26/9
Mercury	ND	2.0	1	37706	EPA 7470	11/21/9
Molybdenum	ND	1000	1	37796	EPA 6010A	11/26/9
Nickel	8200	1000	1	37796	EPA 6010A	11/26/9
Potassium	34000	25000	1	37796	EPA 6010A	12/01/9
Selenium	ND	250	1	37796	EPA 6010A	12/01/9
Silver	ND	250	1	37796	EPA 6010A	12/01/9
Sodium	13000000	25000	1	37796	EPA 6010A	12/01/9
Thallium	ND	250	1	37796	EPA 6010A	11/26/9
Vanadium	ND	500	1	37796	EPA 6010A	11/26/9
Zinc	ND	1000	1	37796	EPA 6010A	11/26/9

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 5412
LAB ID: 131460-003
CLIENT: IT Corporation
PROJECT ID: 771481
LOCATION: Plumbrook Ordnance Works
MATRIX: Water

DATE SAMPLED: 11/17/97
DATE RECEIVED: 11/18/97
DATE REPORTED: 12/22/97

EPA CLP TARGET ANALYTE LIST

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Aluminum	1100	100	1	37797	EPA 6010A	12/01/9
Antimony	ND	60	1	37797	EPA 6010A	12/01/9
Arsenic	ND	5.0	1	37797	EPA 6010A	12/01/9
Barium	390	10	1	37797	EPA 6010A	12/01/9
Beryllium	ND	2.0	1	37797	EPA 6010A	12/01/9
Cadmium	ND	5.0	1	37797	EPA 6010A	12/01/9
Calcium	130000	500	1	37797	EPA 6010A	12/01/9
Chromium (total)	ND	10	1	37797	EPA 6010A	12/01/9
Cobalt	ND	20	1	37797	EPA 6010A	12/01/9
Copper	ND	10	1	37797	EPA 6010A	12/01/9
Iron	2700	100	1	37797	EPA 6010A	12/01/9
Lead	5.0	3.0	1	37797	EPA 6010A	12/01/9
Magnesium	85000	500	1	37797	EPA 6010A	12/01/9
Manganese	900	10	1	37797	EPA 6010A	12/01/9
Mercury	ND	0.20	1	37704	EPA 7470	11/21/9
Molybdenum	ND	20	1	37797	EPA 6010A	12/01/9
Nickel	ND	20	1	37797	EPA 6010A	12/01/9
Potassium	34000	500	1	37797	EPA 6010A	12/01/9
Selenium	ND	5.0	1	37797	EPA 6010A	12/01/9
Silver	ND	5.0	1	37797	EPA 6010A	12/01/9
Sodium	450000	500	1	37797	EPA 6010A	12/01/9
Thallium	ND	5.0	1	37797	EPA 6010A	12/01/9
Vanadium	ND	10	1	37797	EPA 6010A	12/01/9
Zinc	45	20	1	37797	EPA 6010A	12/01/9

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 5702
LAB ID: 131461-001
CLIENT: IT Corporation
PROJECT ID: 771481
LOCATION: Plumbrook Ordnance Works
MATRIX: Water

DATE SAMPLED: 11/17/97
DATE RECEIVED: 11/19/97
DATE REPORTED: 12/01/97

EPA CLP TARGET ANALYTE LIST

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Aluminum	9100	5000	1	37797	EPA 6010A	12/01/9
Antimony	ND	3000	1	37797	EPA 6010A	12/01/9
Arsenic	ND	250	1	37797	EPA 6010A	12/01/9
Barium	ND	500	1	37797	EPA 6010A	12/01/9
Beryllium	ND	100	1	37797	EPA 6010A	12/01/9
Cadmium	ND	250	1	37797	EPA 6010A	12/01/9
Calcium	950000	25000	1	37797	EPA 6010A	12/01/9
Chromium (total)	ND	500	1	37797	EPA 6010A	12/01/9
Cobalt	8300	1000	1	37797	EPA 6010A	12/01/9
Copper	5500	500	1	37797	EPA 6010A	12/01/9
Iron	22000	5000	1	37797	EPA 6010A	12/01/9
Lead	220	150	1	37797	EPA 6010A	12/01/9
Magnesium	650000	25000	1	37797	EPA 6010A	12/01/9
Manganese	38000	500	1	37797	EPA 6010A	12/01/9
Mercury	ND	2.0	1	37704	EPA 7470	11/21/9
Molybdenum	ND	1000	1	37797	EPA 6010A	12/01/9
Nickel	8100	1000	1	37797	EPA 6010A	12/01/9
Potassium	30000	25000	1	37797	EPA 6010A	12/01/9
Selenium	ND	250	1	37797	EPA 6010A	12/01/9
Silver	ND	250	1	37797	EPA 6010A	12/01/9
Sodium	12000000	25000	1	37797	EPA 6010A	12/01/9
Thallium	ND	250	1	37797	EPA 6010A	12/01/9
Vanadium	ND	500	1	37797	EPA 6010A	12/01/9
Zinc	ND	1000	1	37797	EPA 6010A	12/01/9

ND = Not detected at or above reporting limit

Quanterra Environmental Services

Nitroaromatics and Nitramines by HPLC
Method 8330

Client Name: Curtis & Tompkins, Ltd.
Client ID: 5702
LAB ID: 096225-0001-SA
Matrix: AQUEOUS — Sampled: 17 NOV 97 — Received: 21 NOV 97
Authorized: 21 NOV 97 — Prepared: 25 NOV 97 — Analyzed: 15 DEC 97

Dilution Factor: 1000

Parameter	Result	Units	Reporting Limit	Qualifier
HMX	ND	ug/L	1000	o
1,3,5-Trinitrobenzene	3500	ug/L	300	
RDX	ND	ug/L	800	
1,3-Dinitrobenzene	2500	ug/L	100	
Nitrobenzene	ND	ug/L	1000	
2,4,6-Trinitrotoluene	ND	ug/L	100	
Tetryl	ND	ug/L	1000	
2,4-Dinitrotoluene	1600	ug/L	100	
2,6-Dinitrotoluene	ND	ug/L	300	
2-Am-DNT	ND	ug/L	100	
4-Am-DNT	ND	ug/L	100	
2-Nitrotoluene	ND	ug/L	1000	
4-Nitrotoluene	ND	ug/L	1000	
3-Nitrotoluene	ND	ug/L	1000	

Surrogate	Recovery	Acceptable Range	
2,4-Dinitrofluorobenzene	ND %	65 - 135	H

Note H = Spiked analyte not detected because of required sample dilution.
Note o = Reporting limit(s) raised due to high level of analyte present in sample.
ND = Not Detected

Reported By: Jon Edmondson — Approved By: Kris Rogers

The cover letter is an integral part of this report.
Rev 230787

Nitroaromatics and Nitramines by HPLC
Method 8330

Quanterra Environmental Services

Client Name: Curtis & Tompkins, Ltd.
Client ID: 5412
LAB ID: 096224-0002-SA
Matrix: AQUEOUS Sampled: 17 NOV 97 Received: 21 NOV 97
Authorized: 21 NOV 97 Prepared: 25 NOV 97 Analyzed: 15 DEC 97

Dilution Factor: 1.0

Parameter	Result	Units	Reporting Limit	Qualifier
HMX	ND	ug/L	1.0	
1,3,5-Trinitrobenzene	ND	ug/L	0.30	
RDX	ND	ug/L	0.80	
1,3-Dinitrobenzene	ND	ug/L	0.10	
Nitrobenzene	ND	ug/L	1.0	
2,4,6-Trinitrotoluene	ND	ug/L	0.10	
Tetryl	ND	ug/L	1.0	
2,4-Dinitrotoluene	ND	ug/L	0.10	
2,6-Dinitrotoluene	ND	ug/L	0.30	
2-Am-DNT	ND	ug/L	0.10	
4-Am-DNT	ND	ug/L	0.10	
2-Nitrotoluene	ND	ug/L	1.0	
4-Nitrotoluene	ND	ug/L	1.0	
3-Nitrotoluene	ND	ug/L	1.0	

Surrogate	Recovery	Acceptable Range	
2,4-Dinitrofluorobenzene	ND %	65 - 135	i

Note i = Surrogate recovery is outside of control limits.
ND = Not Detected

Reported By: Jon Edmondson Approved By: Kris Rogers

The cover letter is an integral part of this report.
Rev 230787

Quanterra Environmental Services

Nitroaromatics and Nitramines by HPLC
Method 8330

Client Name: Curtis & Tompkins, Ltd.
Client ID: 5452
LAB ID: 096224-0003-SA
Matrix: AQUEOUS Sampled: 16 NOV 97 Received: 21 NOV 97
Authorized: 21 NOV 97 Prepared: 25 NOV 97 Analyzed: 15 DEC 97

Dilution Factor: 1.0

Parameter	Result	Units	Reporting Limit	Qualifier
HMX	ND	ug/L	1.0	
1,3,5-Trinitrobenzene	ND	ug/L	0.30	
RDX	ND	ug/L	0.80	
1,3-Dinitrobenzene	ND	ug/L	0.10	
Nitrobenzene	ND	ug/L	1.0	
2,4,6-Trinitrotoluene	ND	ug/L	0.10	
Tetryl	ND	ug/L	1.0	
2,4-Dinitrotoluene	ND	ug/L	0.10	
2,6-Dinitrotoluene	ND	ug/L	0.30	
2-Am-DNT	ND	ug/L	0.10	
4-Am-DNT	ND	ug/L	0.10	
2-Nitrotoluene	ND	ug/L	1.0	
4-Nitrotoluene	ND	ug/L	1.0	
3-Nitrotoluene	ND	ug/L	1.0	

Surrogate	Recovery	Acceptable Range	
2,4-Dinitrofluorobenzene	ND %	65 - 135	i

Note i = Surrogate recovery is outside of control limits.
ND = Not Detected

Reported By: Jon Edmondson Approved By: Kris Rogers

The cover letter is an integral part of this report.
Rev 230787

Curtis & Tompkins, Ltd.

SAMPLE ID: 5452
LAB ID: 131460-004
CLIENT: IT Corporation
PROJECT ID: 771481
LOCATION: Plumbrook Ordnance Works
MATRIX: Filtrate

DATE SAMPLED: 11/16/97
DATE RECEIVED: 11/18/97
DATE REPORTED: 12/22/97

EPA CLP TARGET ANALYTE LIST

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Aluminum	550	100	1	37796	EPA 6010A	12/01/9
Antimony	ND	60	1	37796	EPA 6010A	11/26/9
Arsenic	ND	5.0	1	37796	EPA 6010A	12/01/9
Barium	1500	10	1	37796	EPA 6010A	11/26/9
Beryllium	ND	2.0	1	37796	EPA 6010A	11/26/9
Cadmium	ND	5.0	1	37796	EPA 6010A	11/26/9
Calcium	270000	10000	20	37796	EPA 6010A	12/01/9
Chromium (total)	ND	10	1	37796	EPA 6010A	11/26/9
Cobalt	ND	20	1	37796	EPA 6010A	11/26/9
Copper	ND	10	1	37796	EPA 6010A	11/26/9
Iron	380	100	1	37796	EPA 6010A	12/01/9
Lead	ND	3.0	1	37796	EPA 6010A	11/26/9
Magnesium	240000	500	1	37796	EPA 6010A	11/26/9
Manganese	740	10	1	37796	EPA 6010A	11/26/9
Mercury	ND	0.20	1	37706	EPA 7470	11/21/9
Molybdenum	ND	20	1	37796	EPA 6010A	11/26/9
Nickel	ND	20	1	37796	EPA 6010A	11/26/9
Potassium	40000	500	1	37796	EPA 6010A	12/01/9
Selenium	37	5.0	1	37796	EPA 6010A	11/26/9
Silver	ND	5.0	1	37796	EPA 6010A	12/01/9
Sodium	630000	10000	20	37796	EPA 6010A	12/01/9
Thallium	ND	5.0	1	37796	EPA 6010A	11/26/9
Vanadium	ND	10	1	37796	EPA 6010A	11/26/9
Zinc	99	20	1	37796	EPA 6010A	11/26/9

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 5412
LAB ID: 131460-003
CLIENT: IT Corporation
PROJECT ID: 771481
LOCATION: Plumbrook Ordnance Works
MATRIX: Filtrate

DATE SAMPLED: 11/17/97
DATE RECEIVED: 11/18/97
DATE REPORTED: 12/22/97

EPA CLP TARGET ANALYTE LIST

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Aluminum	680	100	1	37796	EPA 6010A	12/01/97
Antimony	ND	60	1	37796	EPA 6010A	11/26/97
Arsenic	ND	5.0	1	37796	EPA 6010A	12/01/97
Barium	400	10	1	37796	EPA 6010A	11/26/97
Beryllium	ND	2.0	1	37796	EPA 6010A	11/26/97
Cadmium	ND	5.0	1	37796	EPA 6010A	11/26/97
Calcium	140000	500	1	37796	EPA 6010A	11/26/97
Chromium (total)	ND	10	1	37796	EPA 6010A	11/26/97
Cobalt	ND	20	1	37796	EPA 6010A	11/26/97
Copper	ND	10	1	37796	EPA 6010A	11/26/97
Iron	2300	100	1	37796	EPA 6010A	12/01/97
Lead	ND	3.0	1	37796	EPA 6010A	12/01/97
Magnesium	86000	500	1	37796	EPA 6010A	11/26/97
Manganese	900	10	1	37796	EPA 6010A	11/26/97
Mercury	ND	0.20	1	37706	EPA 7470	11/21/97
Molybdenum	ND	20	1	37796	EPA 6010A	11/26/97
Nickel	ND	20	1	37796	EPA 6010A	11/26/97
Potassium	38000	500	1	37796	EPA 6010A	12/01/97
Selenium	25	5.0	1	37796	EPA 6010A	11/26/97
Silver	ND	5.0	1	37796	EPA 6010A	12/01/97
Sodium	490000	500	1	37796	EPA 6010A	12/01/97
Thallium	ND	5.0	1	37796	EPA 6010A	11/26/97
Vanadium	ND	10	1	37796	EPA 6010A	11/26/97
Zinc	24	20	1	37796	EPA 6010A	11/26/97

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 5452
LAB ID: 131460-004
CLIENT: IT Corporation
PROJECT ID: 771481
LOCATION: Plumbrook Ordnance Works
MATRIX: Water

DATE SAMPLED: 11/16/97
DATE RECEIVED: 11/18/97
DATE REPORTED: 12/22/97

EPA CLP TARGET ANALYTE LIST

Compound	Result (ug/L)	Reporting Limit (ug/L)	IDF	QC Batch	Method	Analysis Date
Aluminum	1000	100	1	37797	EPA 6010A	12/01/97
Antimony	ND	60	1	37797	EPA 6010A	12/01/97
Arsenic	23	5.0	1	37797	EPA 6010A	12/01/97
Barium	1200	10	1	37797	EPA 6010A	12/01/97
Beryllium	ND	2.0	1	37797	EPA 6010A	12/01/97
Cadmium	ND	5.0	1	37797	EPA 6010A	12/01/97
Calcium	280000	10000	20	37797	EPA 6010A	12/01/97
Chromium (total)	ND	10	1	37797	EPA 6010A	12/01/97
Cobalt	ND	20	1	37797	EPA 6010A	12/01/97
Copper	17	10	1	37797	EPA 6010A	12/01/97
Iron	950	100	1	37797	EPA 6010A	12/01/97
Lead	ND	3.0	1	37797	EPA 6010A	12/01/97
Magnesium	250000	500	1	37797	EPA 6010A	12/01/97
Manganese	760	10	1	37797	EPA 6010A	12/01/97
Mercury	ND	0.20	1	37704	EPA 7470	11/21/97
Molybdenum	ND	20	1	37797	EPA 6010A	12/01/97
Nickel	ND	20	1	37797	EPA 6010A	12/01/97
Potassium	37000	500	1	37797	EPA 6010A	12/01/97
Selenium	ND	5.0	1	37797	EPA 6010A	12/01/97
Silver	ND	5.0	1	37797	EPA 6010A	12/01/97
Sodium	620000	10000	20	37797	EPA 6010A	12/01/97
Thallium	ND	5.0	1	37797	EPA 6010A	12/01/97
Vanadium	ND	10	1	37797	EPA 6010A	12/01/97
Zinc	25	20	1	37797	EPA 6010A	12/01/97

ND = Not detected at or above reporting limit

PCBs

Client:	IT Corporation	Analysis Method:	PCB
Project#:	771481	Prep Method:	EPA 3520
Location:	Plumbrook Ordnance Works	Cleanup Method:	EPA acid

Field ID:	5412	Sampled:	11/17/97
Lab ID:	131460-003	Received:	11/18/97
Matrix:	Water	Extracted:	11/21/97
Batch#:	37716	Analyzed:	11/25/97
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Aroclor-1016	ND	0.96
Aroclor-1221	ND	0.96
Aroclor-1232	ND	0.96
Aroclor-1242	ND	0.96
Aroclor-1248	ND	0.96
Aroclor-1254	ND	0.96
Aroclor-1260	ND	0.96

Surrogate	%Recovery	Recovery Limits
TCMX	64	60-150
Decachlorobiphenyl	29*	30-130

* Values outside of QC limits

PCBs

Client:	IT Corporation	Analysis Method:	PCB
Project#:	771481	Prep Method:	EPA 3520
Location:	Plumbrook Ordnance Works	Cleanup Method:	EPA acid

Field ID:	5452	Sampled:	11/16/97
Lab ID:	131460-004	Received:	11/18/97
Matrix:	Water	Extracted:	11/21/97
Batch#:	37716	Analyzed:	11/25/97
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Aroclor-1016	ND	0.96
Aroclor-1221	ND	0.96
Aroclor-1232	ND	0.96
Aroclor-1242	ND	0.96
Aroclor-1248	ND	0.96
Aroclor-1254	ND	0.96
Aroclor-1260	ND	0.96

Surrogate	%Recovery	Recovery Limits
TCMX	80	60-150
Decachlorobiphenyl	47	30-130

Semivolatile Organics by GC/MS

Client: IT Corporation
Project#: 771481
Location: Plumbrook Ordnance Works

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: 5452
Lab ID: 131460-004
Matrix: Water
Batch#: 37715
Units: ug/L
Diln Fac: 10

Sampled: 11/16/97
Received: 11/18/97
Extracted: 11/21/97
Analyzed: 11/25/97

Analyte	Result	Reporting Limit
Phenol	ND	97
2-Chlorophenol	ND	97
2-Methylphenol	ND	97
3,4-Methylphenol	ND	97
2-Nitrophenol	ND	490
2,4-Dimethylphenol	ND	97
2,4-Dichlorophenol	ND	97
4-Chloro-3-methylphenol	ND	97
2,4,6-Trichlorophenol	ND	97
2,4,5-Trichlorophenol	ND	97
2,4-Dinitrophenol	ND	490
4-Nitrophenol	ND	490
4,6-Dinitro-2-methylphenol	ND	490
Pentachlorophenol	ND	490
bis(2-Chloroethyl)ether	ND	97
1,3-Dichlorobenzene	ND	97
1,4-Dichlorobenzene	ND	97
1,2-Dichlorobenzene	ND	97
bis(2-Chloroisopropyl) ether	ND	97
N-Nitroso-di-n-propylamine	ND	97
Hexachloroethane	ND	97
Nitrobenzene	ND	97
Isophorone	ND	97
bis(2-Chloroethoxy)methane	ND	97
1,2,4-Trichlorobenzene	ND	97
Naphthalene	ND	97
4-Chloroaniline	ND	97
Hexachlorobutadiene	ND	97
2-Methylnaphthalene	ND	97
Hexachlorocyclopentadiene	ND	490
2-Chloronaphthalene	ND	97
2-Nitroaniline	ND	490
Dimethylphthalate	ND	97
Acenaphthylene	ND	97
2,6-Dinitrotoluene	ND	97
3-Nitroaniline	ND	490
Acenaphthene	ND	97
Dibenzofuran	ND	97

Semivolatile Organics by GC/MS

Field ID:	5452	Sampled:	11/16/97
Lab ID:	131460-004	Received:	11/18/97
Matrix:	Water	Extracted:	11/21/97
Batch#:	37715	Analyzed:	11/25/97
Units:	ug/L		
Diln Fac:	10		

Analyte	Result	Reporting Limit
2,4-Dinitrotoluene	ND	97
Diethylphthalate	ND	97
4-Chlorophenyl-phenylether	ND	97
Fluorene	ND	97
4-Nitroaniline	ND	490
N-Nitrosodiphenylamine	ND	97
4-Bromophenyl-phenylether	ND	97
Hexachlorobenzene	ND	97
Phenanthrene	ND	97
Anthracene	ND	97
Di-n-butylphthalate	ND	97
Fluoranthene	ND	97
Carbazole	ND	97
Pyrene	ND	97
Butylbenzylphthalate	ND	97
3,3'-Dichlorobenzidine	ND	490
Benzo(a)anthracene	ND	97
Chrysene	ND	97
bis(2-Ethylhexyl)phthalate	ND	97
Di-n-octylphthalate	ND	97
Benzo(b,k)fluoranthene	ND	97
Benzo(a)pyrene	ND	97
Indeno(1,2,3-cd)pyrene	ND	97
Dibenz(a,h)anthracene	ND	97
Benzo(g,h,i)perylene	ND	97

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	80	21-110
Phenol-d5	88	10-110
2,4,6-Tribromophenol	92	10-123
Nitrobenzene-d5	108	35-114
2-Fluorobiphenyl	90	43-116
Terphenyl-d14	53	33-141

Semivolatile Organics by GC/MS

Client: IT Corporation
Project#: 771481
Location: Plumbrook Ordnance Works

Analysis Method: EPA 8270B
Prep Method: EPA 3520

Field ID: 5412
Lab ID: 131460-003
Matrix: Water
Batch#: 37715
Units: ug/L
Diln Fac: 1

Sampled: 11/17/97
Received: 11/18/97
Extracted: 11/21/97
Analyzed: 11/25/97

Analyte	Result	Reporting Limit
Phenol	ND	9.8
2-Chlorophenol	ND	9.8
2-Methylphenol	ND	9.8
3,4-Methylphenol	ND	9.8
2-Nitrophenol	ND	49
2,4-Dimethylphenol	ND	9.8
2,4-Dichlorophenol	ND	9.8
4-Chloro-3-methylphenol	ND	9.8
2,4,6-Trichlorophenol	ND	9.8
2,4,5-Trichlorophenol	ND	9.8
2,4-Dinitrophenol	ND	49
4-Nitrophenol	ND	49
4,6-Dinitro-2-methylphenol	ND	49
Pentachlorophenol	ND	49
bis(2-Chloroethyl)ether	ND	9.8
1,3-Dichlorobenzene	ND	9.8
1,4-Dichlorobenzene	ND	9.8
1,2-Dichlorobenzene	ND	9.8
bis(2-Chloroisopropyl) ether	ND	9.8
N-Nitroso-di-n-propylamine	ND	9.8
Hexachloroethane	ND	9.8
Nitrobenzene	ND	9.8
Isophorone	ND	9.8
bis(2-Chloroethoxy)methane	ND	9.8
1,2,4-Trichlorobenzene	ND	9.8
Naphthalene	ND	9.8
4-Chloroaniline	ND	9.8
Hexachlorobutadiene	ND	9.8
2-Methylnaphthalene	ND	9.8
Hexachlorocyclopentadiene	ND	49
2-Chloronaphthalene	ND	9.8
2-Nitroaniline	ND	49
Dimethylphthalate	ND	9.8
Acenaphthylene	ND	9.8
2,6-Dinitrotoluene	ND	9.8
3-Nitroaniline	ND	49
Acenaphthene	ND	9.8
Dibenzofuran	ND	9.8

Semivolatile Organics by GC/MS

Field ID:	5412	Sampled:	11/17/97
Lab ID:	131460-003	Received:	11/18/97
Matrix:	Water	Extracted:	11/21/97
Batch#:	37715	Analyzed:	11/25/97
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
2,4-Dinitrotoluene	ND	9.8
Diethylphthalate	ND	9.8
4-Chlorophenyl-phenylether	ND	9.8
Fluorene	ND	9.8
4-Nitroaniline	ND	49
N-Nitrosodiphenylamine	ND	9.8
4-Bromophenyl-phenylether	ND	9.8
Hexachlorobenzene	ND	9.8
Phenanthrene	ND	9.8
Anthracene	ND	9.8
Di-n-butylphthalate	ND	9.8
Fluoranthene	ND	9.8
Carbazole	ND	9.8
Pyrene	ND	9.8
Butylbenzylphthalate	ND	9.8
3,3'-Dichlorobenzidine	ND	49
Benzo(a)anthracene	ND	9.8
Chrysene	ND	9.8
bis(2-Ethylhexyl)phthalate	ND	9.8
Di-n-octylphthalate	ND	9.8
Benzo(b,k)fluoranthene	ND	9.8
Benzo(a)pyrene	ND	9.8
Indeno(1,2,3-cd)pyrene	ND	9.8
Dibenz(a,h)anthracene	ND	9.8
Benzo(g,h,i)perylene	ND	9.8

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	75	21-110
Phenol-d5	78	10-110
2,4,6-Tribromophenol	87	10-123
Nitrobenzene-d5	76	35-114
2-Fluorobiphenyl	82	43-116
Terphenyl-d14	71	33-141

Volatile Organics by GC/MS

Client: IT Corporation
Project#: 771481
Location: Plumbrook Ordnance Works

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: 5763
Lab ID: 131460-002
Matrix: Water
Batch#: 37705
Units: ug/L
Diln Fac: 1

Sampled: 11/16/97
Received: 11/18/97
Extracted: 11/22/97
Analyzed: 11/22/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	7.4	5.0
Acetone	ND	20
Carbon Disulfide	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	20
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	20
4-Methyl-2-Pentanone	ND	20
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	115	87-121
Toluene-d8	103	92-107
Bromofluorobenzene	103	80-121
Dibromofluoromethane	104	88-118

Volatile Organics by GC/MS

Client: IT Corporation
Project#: 771481
Location: Plumbrook Ordnance Works

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: 5412
Lab ID: 131460-003
Matrix: Water
Batch#: 37705
Units: ug/L
Diln Fac: 1

Sampled: 11/17/97
Received: 11/18/97
Extracted: 11/22/97
Analyzed: 11/22/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5.0
Acetone	ND	20
Carbon Disulfide	53	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	20
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	20
4-Methyl-2-Pentanone	ND	20
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	ND	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	ND	5.0
Styrene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	117	87-121
Toluene-d8	104	92-107
Bromofluorobenzene	104	80-121
Dibromofluoromethane	104	88-118

Volatile Organics by GC/MS

Client: IT Corporation
Project#: 771481
Location: Plumbrook Ordnance Works

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: 5452
Lab ID: 131460-004
Matrix: Water
Batch#: 37705
Units: ug/L
Diln Fac: 1

Sampled: 11/16/97
Received: 11/18/97
Extracted: 11/22/97
Analyzed: 11/22/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5.0
Acetone	ND	20
Carbon Disulfide	170	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
2-Butanone	ND	20
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
Trichloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Benzene	21	5.0
trans-1,3-Dichloropropene	ND	5.0
Bromoform	ND	5.0
2-Hexanone	ND	20
4-Methyl-2-Pentanone	ND	20
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Toluene	22	5.0
Chlorobenzene	ND	5.0
Ethylbenzene	9.4	5.0
Styrene	ND	5.0
m,p-Xylenes	160	5.0
o-Xylene	87	5.0

Surrogate	%Recovery	Recovery Limits
1,2-Dichloroethane-d4	110	87-121
Toluene-d8	104	92-107
Bromofluorobenzene	100	80-121
Dibromofluoromethane	103	88-118

IT CORPORATION - KNOXVILLE

Client Sample ID: 5701

TOTAL Metals

Lot-Sample #...: H7K190172-011 **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343146						
Mercury	ND	1.0	ug/L	SW846 7470A	12/10/97	CE4C810U
		Dilution Factor: 5				
Prep Batch #...: 7349101						
Aluminum	ND	20000	ug/L	SW846 6010A	12/14-12/17/97	CE4C8104
		Dilution Factor: 100				
Arsenic	ND	1000	ug/L	SW846 6010A	12/14-12/18/97	CE4C810I
		Dilution Factor: 100				
Lead	ND	300	ug/L	SW846 6010A	12/14-12/18/97	CE4C810Q
		Dilution Factor: 100				
Antimony	ND	6000	ug/L	SW846 6010A	12/14-12/17/97	CE4C8105
		Dilution Factor: 100				
Barium	ND	20000	ug/L	SW846 6010A	12/14-12/17/97	CE4C8106
		Dilution Factor: 100				
Selenium	ND	500	ug/L	SW846 6010A	12/14-12/18/97	CE4C810R
		Dilution Factor: 100				
Beryllium	ND	500	ug/L	SW846 6010A	12/14-12/17/97	CE4C8107
		Dilution Factor: 100				
Thallium	ND	1000	ug/L	SW846 6010A	12/14-12/18/97	CE4C810T
		Dilution Factor: 100				
Cadmium	ND	500	ug/L	SW846 6010A	12/14-12/17/97	CE4C810E
		Dilution Factor: 100				
Calcium	**699000**	**500000**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C810S**
		Dilution Factor: 100				
Chromium	ND	1000	ug/L	SW846 6010A	12/14-12/17/97	CE4C810A
		Dilution Factor: 100				
Cobalt	**6750**	**5000**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C810C**
		Dilution Factor: 100				
Copper	**3440**	**2500**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C810I**
		Dilution Factor: 100				

(Continued on next page)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5701

TOTAL Metals

Lot-Sample #...: H7K190172-011 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	**15900**	**10000**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C810E**
		Dilution Factor: 100				
Magnesium	ND	500000	ug/L	SW846 6010A	12/14-12/17/97	CE4C810F
		Dilution Factor: 100				
Manganese	**29100**	**1500**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C810G**
		Dilution Factor: 100				
Nickel	**7240**	**4000**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C810H**
		Dilution Factor: 100				
Potassium	ND	500000	ug/L	SW846 6010A	12/14-12/17/97	CE4C810J
		Dilution Factor: 100				
Silver	ND	1000	ug/L	SW846 6010A	12/14-12/17/97	CE4C810K
		Dilution Factor: 100				
Sodium	**9460000**	**500000**	**ug/L**	**SW846 6010A**	**12/14-12/17/97**	**CE4C810L**
		Dilution Factor: 100				
Vanadium	ND	5000	ug/L	SW846 6010A	12/14-12/17/97	CE4C810M
		Dilution Factor: 100				
Zinc	ND	2000	ug/L	SW846 6010A	12/14-12/17/97	CE4C810N
		Dilution Factor: 100				

IT CORPORATION - KNOXVILLE

Client Sample ID: 5411

HPLC

Lot-Sample #...: H7K190172-005 **Work Order #...:** CE4C210V **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97
Prep Date.....: 11/23/97 **Analysis Date..:** 12/02/97
Prep Batch #...: 7326142
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
1,3-Dinitrobenzene	ND	0.20	ug/L	SW846 8330
2,4-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
2,6-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
HMX	ND	0.50	ug/L	SW846 8330
Nitrobenzene	ND	0.20	ug/L	SW846 8330
2-Nitrotoluene	ND	0.20	ug/L	SW846 8330
3-Nitrotoluene	ND	0.20	ug/L	SW846 8330
RDX	ND	0.50	ug/L	SW846 8330
Tetryl	ND	0.20	ug/L	SW846 8330
1,3,5-Trinitrobenzene	ND	0.20	ug/L	SW846 8330
2,4,6-Trinitrotoluene	ND	0.20	ug/L	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1-Chloro-3-nitrobenzene	103	(50 - 150)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5451

HPLC

Lot-Sample #...: H7K180154-001 **Work Order #...:** CE3PL10V **Matrix.....:** WATER
Date Sampled...: 11/16/97 **Date Received..:** 11/18/97
Prep Date.....: 11/22/97 **Analysis Date..:** 12/02/97
Prep Batch #...: 7326122
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Amino-2,6-dinitrotoluene	ND	0.20	ug/L	SW846 8330
1,3-Dinitrobenzene	ND G	0.26	ug/L	SW846 8330
2,4-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
2,6-Dinitrotoluene	ND	0.20	ug/L	SW846 8330
HMX	ND	0.50	ug/L	SW846 8330
Nitrobenzene	ND	0.20	ug/L	SW846 8330
2-Nitrotoluene	ND G	0.58	ug/L	SW846 8330
3-Nitrotoluene	ND	0.20	ug/L	SW846 8330
RDX	ND	0.50	ug/L	SW846 8330
Tetryl	ND	0.20	ug/L	SW846 8330
1,3,5-Trinitrobenzene	ND	0.20	ug/L	SW846 8330
2,4,6-Trinitrotoluene	ND	0.20	ug/L	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1-Chloro-3-nitrobenzene	107	(50 - 150)

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5701

HPLC

Lot-Sample #...: H7K190172-011 **Work Order #...:** CE4C810V **Matrix.....:** WATER
Date Sampled...: 11/17/97 **Date Received..:** 11/19/97
Prep Date.....: 11/23/97 **Analysis Date..:** 12/02/97
Prep Batch #...: 7326142
Dilution Factor: 500

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
4-Amino-2,6-dinitrotoluene	ND	100	ug/L	SW846 8330
1,3-Dinitrobenzene	**1600**	**100**	**ug/L**	**SW846 8330**
2,4-Dinitrotoluene	**1600**	**100**	**ug/L**	**SW846 8330**
2,6-Dinitrotoluene	**210**	**100**	**ug/L**	**SW846 8330**
HMX	ND	250	ug/L	SW846 8330
Nitrobenzene	ND	100	ug/L	SW846 8330
2-Nitrotoluene	ND	100	ug/L	SW846 8330
3-Nitrotoluene	ND	100	ug/L	SW846 8330
RDX	ND G	540	ug/L	SW846 8330
Tetryl	ND	100	ug/L	SW846 8330
1,3,5-Trinitrobenzene	**1700**	**100**	**ug/L**	**SW846 8330**
2,4,6-Trinitrotoluene	ND	100	ug/L	SW846 8330

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1-Chloro-3-nitrobenzene	NC,DIL	(50 - 150)

NOTE(S):

NC The recovery and RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

INTERNATIONAL TECHNOLOGY CORPORATION

13461

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 10024

Project Number: 771481

Samples Shipment Date: 18-NOV-97

Project Name: PLUMBROOK ORDNANCE WORKS

Lab Destination: ~~Quanterra - Knoxville~~ CUTTS + TOMPKINS LTD.

Sample Coordinator: ~~Dave Purcell~~ BRUCE BUNDT

Lab Contact: ~~John Reynolds~~ CAROL WORTHAM

Turnaround Time:

Project Contact: Kim Arrant / KIM NAPIER

Carrier/Waybill No.: Fed Ex/800185090892

Bill To: Accounts Receivable
312 Directors Drive
Knoxville TN 37923

Report To: Kim Arrant
312 Directors Drive
Knoxville TN 37923

Special Instructions: Metals=1L Filtered and 1L Unfiltered.

Possible Hazard Indentification:

Non-hazard | Flammable | Skin Irritant | Poison B | Unknown ✓

Sample Disposal:

Return to Client | Disposal by Lab | ✓ Archive (mos.)

1. Relinquished By (Signature/Affliation) — Date: 11-18-97 Time: 1630
2. Relinquished By (Signature/Affliation) — Date: Time:
3. Relinquished By (Signature/Affliation) — Date: Time:

1. Received By (Signature/Affliation) — Date: Time:
2. Received By (Signature/Affliation) — Date: Time:
3. Received By (Signature/Affliation) — Date: 11/19/97 Time: 10

Comments: Curtis and Tompkins, LTD. Lab/USACE Field Splits

Sample No	Sample Name	Sample Date	Sample Time	Container	Ctr Qty	Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5702	PBOW97-PB-PR-MW8-GW-5702-FS	17-NOV-97	15:45	1000 ml A GLASS	2	NONE	Nitroaromatics by SW-846 8330 in water	N		
5702	PBOW97-PB-PR-MW8-GW-5702-FS	17-NOV-97	15:45	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		
5702	PBOW97-PB-PR-MW8-GW-5702-FS	17-NOV-97	15:45	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5702	PBOW97-PB-PR-MW8-GW-5702-FS	17-NOV-97	15:45	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5702	PBOW97-PB-PR-MW8-GW-5702-FS	17-NOV-97	15:45	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5703	PBOW97-PB-PR-MW8-BW-5703-TB	17-NOV-97	07:00	40 ml VOA VIAL	2	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		

003

Plumbrook

Curtis & Tompkins, Ltd

COOLER RECEIPT CHECKLIST

Login#: 13146 Date Received: 11/19 Number of Coolers: 2
Client: ITC Knoxville Project: Plumbrook

A. Preliminary Examination Phase
Date Opened: 11/19 By (print): Julia (sign) [signature]

1. Did cooler come with a shipping slip (airbill, etc.)? ..... (YES) NO
   If YES, enter carrier name and airbill number: Fed Ex 8001 85 010 892
2. Were custody seals on outside of cooler? ..... (YES) NO
   How many and where? 1 front Seal date: 11/18 Seal name:
3. Were custody seals unbroken and intact at the date and time of arrival? ..... (YES) NO
4. Were custody papers dry and intact when received? ..... (YES) NO
5. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
6. Did you sign the custody papers in the appropriate place? ..... (YES) NO
7. Was project identifiable from custody papers? ..... (YES) NO
   If YES, enter project name at the top of this form.
8. If required, was sufficient ice used? ..... (YES) NO
   Type of ice: blue ice Temperature: 4.0°C & 3.5°C

B. Login Phase
Date Logged In: 11/19 By (print): Julia (sign) [signature]

1. Describe type of packing in cooler: — bubble wrap
2. Did all bottles arrive unbroken? ..... (YES) NO
3. Were labels in good condition and complete (ID, date, time, signature, etc.)? (YES) NO
4. Did bottle labels agree with custody papers? ..... (YES) NO
5. Were appropriate containers used for the tests indicated? ..... (YES) NO
6. Were correct preservatives added to samples? ..... (YES) NO
7. Was sufficient amount of sample sent for tests indicated? ..... (YES) NO
8. Were bubbles absent in VOA samples? If NO, list sample Ids below ..... (YES) NO
9. Was the client contacted concerning this sample delivery? ..... YES NO
   If YES, give details below.
   Who was called? _____ By whom? _____ Date: _____

Additional Comments:

DY SEAL
a [illegible]

INTERNATIONAL TECHNOLOGY CORPORATION

131460

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 10020

Project Number: 771481

Samples Shipment Date: 17-NOV-97

Project Name: PLUMBROOK ORDNANCE WORKS

Lab Destination: ~~Quanterra Knoxville~~ CURTIS + TOMPKINS, LTD

Sample Coordinator: ~~Dave Purcell~~ BRUCE BERNDT

Lab Contact: ~~John Reynolds~~ CAROL WORTHAM

Turnaround Time:

Project Contact: Kim Arrant/KIM NAPIER

Carrier/Waybill No.: Fed Ex/800185090907

Bill To: Accounts Receivable
312 Directors Drive
Knoxville TN 37923

Report To: Kim ~~Arrant~~ NAPIER
312 Directors Drive
Knoxville TN. 37923

Special Instructions: FIELD SPLIT SAMPLES

Possible Hazard Indentification:

Non-hazard | Flammable | Skin Irritant | Poison B | Unknown ✓

Sample Disposal:

Return to Client | Disposal by Lab | ✓ Archive (mos.)

1. Relinquished By (Signature/Affliation) [signature] Date: 11-17-97 Time: 1630

2. Relinquished By (Signature/Affliation) Date: Time:

3. Relinquished By (Signature/Affliation) Date: Time:

1. Received By (Signature/Affliation) [signature] Date: 11/18/97 Time: 10

2. Received By (Signature/Affliation) Date: Time:

3. Received By (Signature/Affliation) Date: Time:

Comments: CURTIS AND TOMPKINS LAB; ATTN: CAROL WORTHAM

NOTE: 2 x 1L HDPE CONTAINERS FOR TAL METALS = 1 L - FILTERED FOR DISSOLVED METAL ANALYSIS AND 1 L - UNFILTERED FOR TOTAL METAL ANALYSIS.

Sample No	Sample Name	Sample Date	Sample Time	Container	Ctr Qty	Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5762	PBOW97-MK-MW14-GW-5762-FS	16-NOV-97	10:00	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		
5762	PBOW97-MK-MW14-GW-5762-FS	16-NOV-97	10:00	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5762	PBOW97-MK-MW14-GW-5762-FS	16-NOV-97	10:00	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5762 ✓	PBOW97-MK-MW14-GW-5762-FS	16-NOV-97	10:00	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
2 5763 ✓	PBOW97-MK-MW14-BW-5763-TB	16-NOV-97	08:00	40 ml VOA VIAL	2	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5412	PBOW97-IT-BG8-BEDGW-001-GW-5412-FS	17-NOV-97	10:20	1000 ml A GLASS	2	NONE	Nitroaromatics by SW-846 8330 in water	N		
5412	PBOW97-IT-BG8-BEDGW-001-GW-5412-FS	17-NOV-97	10:20	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		
3 5412	PBOW97-IT-BG8-BEDGW-001-GW-5412-FS	17-NOV-97	10:20	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5412	PBOW97-IT-BG8-BEDGW-001-GW-5412-FS	17-NOV-97	10:20	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5412 ✓	PBOW97-IT-BG8-BEDGW-001-GW-5412-FS	17-NOV-97	10:20	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5452	PBOW97-IT-AA1-BEDGW-001-GW-5452-FS	16-NOV-97	16:30	1000 ml A GLASS	2	NONE	Nitroaromatics by SW-846 8330 in water	N		
5452	PBOW97-IT-AA1-BEDGW-001-GW-5452-FS	16-NOV-97	16:30	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		
4 5452	PBOW97-IT-AA1-BEDGW-001-GW-5452-FS	16-NOV-97	16:30	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5452	PBOW97-IT-AA1-BEDGW-001-GW-5452-FS	16-NOV-97	16:30	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5452 ✓	PBOW97-IT-AA1-BEDGW-001-GW-5452-FS	16-NOV-97	16:30	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		

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INTERNATIONAL
TECHNOLOGY
CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 10020

Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5762	PBOW97-MK-MW14-GW-5762-FS	16-NOV-97	10:00	1000 ml A GLASS	2	NONE	Nitroaromatics by SW-846 8330 in water	N		

Plumbrook

771481

Curtis & Tompkins, Ltd

COOLER RECEIPT CHECKLIST

Login#: 131460 Date Received: 11/18 Number of Coolers: 3

Client: IT Plum Project: Plumbrook Orchards

A. Preliminary Examination Phase

Date Opened: 4/100 By (print): [illegible] (sign) [illegible]

1. Did cooler come with a shipping slip (airbill, etc.)? ..... (YES) NO
   If YES, enter carrier name and airbill number: Fedex 8001 8309 0907
2. Were custody seals on outside of cooler? ..... (YES) NO
   How many and where? _____ Seal date: _____ Seal name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... (YES) NO
4. Were custody papers dry and intact when received? ..... (YES) NO
5. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO
6. Did you sign the custody papers in the appropriate place? ..... (YES) NO
7. Was project identifiable from custody papers? ..... (YES) NO
   If YES, enter project name at the top of this form.
8. If required, was sufficient ice used? ..... (YES) NO
   Type of ice: Cub Temperature: 4.75°C, 5.0°C, 4.5°C

B. Login Phase

Date Logged In: 4/100 By (print): [illegible] (sign) [illegible]

1. Describe type of packing in cooler: Vermiculite
2. Did all bottles arrive unbroken? ..... (YES) NO
3. Were labels in good condition and complete (ID, date, time, signature, etc.)? ..... (YES) NO
4. Did bottle labels agree with custody papers? ..... (YES) NO
5. Were appropriate containers used for the tests indicated? ..... (YES) NO
6. Were correct preservatives added to samples? ..... (YES) NO
7. Was sufficient amount of sample sent for tests indicated? ..... (YES) NO
8. Were bubbles absent in VOA samples? If NO, list sample Ids below ..... (YES) NO
9. Was the client contacted concerning this sample delivery? ..... YES NO
   If YES, give details below.
   Who was called? _____ By whom? _____ Date: _____

Additional Comments:

STOP! / SEAL

Filename: F:\qc\forms\cooler.wpd Rev. 1.4/05

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