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CHEMICAL QUALITY ASSURANCE REPORT FOR PLUM BROOK ORDNANCE WORKS GROUNDWATER INVESTIGATION SAMPLE DELIVERY GROUP PB012

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Appendix 1. Data Comparison Summary

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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 PB012 Samples in Chemical Quality Assurance Report

Sample Pair	Sample Type		Sample Collection	
	QC	QA	Date	Time
5611	X		11/18/97	2:45 P.M.
5612		X	11/18/97	2:45 P.M.
5561	X		11/19/97	11:00 A.M.
5562		X	11/19/97	11:00 A.M.

Table 2. Sample Analytical Parameters

Analytical Parameter	SW846 Method*	QC and QA Sample Set	
		5611	5561
		5612	5562
Volatile Organic Compounds	8260A	X	X
Semivolatile Organic Compounds	8270B	X	X
Polychlorinated Biphenyls	8081	X	X
Dissolved Metals	6010A/ 7470A	X	X
Total Metals	6010A/ 7470A	X	X
Nitroaromatics and Nitramine	8330	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 5611 and 5561 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, with the exception of 1,1-dichloroethane RPD in one MS/MSD sample.

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

- The method blanks for the volatile analyses contained estimated concentrations of methylene chloride below the detection limit of 0.5 ug/l. Each sample was reported with estimated methylene chloride concentrations, possibly the result of laboratory contamination.

2.1.2 Semivolatile Organic Compounds

Samples 5611 and 5561 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 samples were within recovery limits.

- All MS/MSD and laboratory control sample surrogate recoveries were within recovery limits.

- All 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 5611 and 5561 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 samples were within recovery limits.

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

- MS/MSD analyte recoveries were outside of lower control limits for Aroclor 1260, indicating possible low bias in analytical results.

2.1.4 Metals

Samples 5611 and 5561 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, with the exception of iron in the dissolved metal MS/MSD and aluminum in the total metals MSD sample. In each case, recoveries exceeded upper control limits, possibly indicating a high analytical bias for these parameters.

- Laboratory control sample recoveries were within recovery limits.

2.1.5 Nitraoaromatics and Nitramines

Samples 5611 and 5561 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.

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

- All method blanks were free of contamination.

2.2 QA LABORATORY

Samples 5612 and 5562 were received intact by Curtis & Tompkins, the quality assurance laboratory for this effort. Chain-of-custody documentation was present and custody seals intact. Sample temperature was 4.75°C. The pH of all samples for volatile and total metals analysis was less than 2 standard units.

2.2.1 Volatile Organic Analyses

Samples 5612 and 5562 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.

- The method blank associated with the analytical batch in which these samples were analyzed was free of contamination.

2.2.2 Semivolatile Organic Compounds

Samples 5612 and 5562 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 samples were within recovery limits.

- Analyte recoveries and relative percent differences (RPDs) were within QC limits for all BS/BSD and laboratory control samples, with the exception of recovery of 4-nitrophenol in one blank spike sample. The high recovery in a BS sample could lead to high bias in analytical samples; however, this compound was not detected in the samples.

- All method blanks were free of contamination.

2.2.3 Polychlorinated Biphenyls

Samples 5612 and 5562 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 samples were within recovery limits.
- Analyte recoveries and relative percent differences (RPDs) were within QC limits for all BS/BMSD samples.
- All method blanks were free of contamination.

2.2.4 Metals

Samples 5612 and 5562 were analyzed for total metals and dissolved metals. The following QC data was generated with these analyses.

- All BS/BSD recoveries and RPDs were within limits, with the exception of aluminum and potassium.
- Sample spike recoveries were within control limits with the exception of silver recovery.
- Method / prep blank samples were free of contamination.

2.2.5 Nitraoaromatics and Nitramines

Samples 5612 and 5562 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 were within recovery limits.
- 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 5611 (analyzed by Quanterra) and 5612 (analyzed by Curtis & Tompkins) were in agreement. Results for samples 5561 and 5562 were also in agreement, with methylene chloride and xylene present in sample 5561 below reporting limits. Methylene chloride in sample 5561 attributable at least in part to method blank contamination.

3.2 SEMIVOLATILE ORGANIC COMPOUNDS

Results for sample sets 5611 / 5612 and 5561 / 5562 were in agreement. No semivolatiles were detected in any of these samples.

3.3 POLYCHLORINATED BIPHENYLS

Results for sample sets 5611 and 5612, as well as 5561 and 5562, were in agreement. No PCBs were detected in any of these samples.

3.4 TOTAL METALS

Results for samples 5611 and 5612 were in agreement for all parameters. However, Quanterra utilized detection limits an order of magnitude lower than Curtis & Tompkins, leading to a detectable potassium concentration that was well below Curtis & Tompkins potassium reporting limit. Samples 5561 and 5562 were in agreement for all parameters; however, Quanterra's lower reporting limits led to several detections that were not reported by Curtis & Tompkins.

3.5 DISSOLVED METALS

Analytical results for samples 5611 and 5612 were in agreement for all parameters. However, several metals were reported by Quanterra using reporting limits well below those utilized by Curtis & Tompkins. Results for samples 5561 and 5562 were also in agreement.

3.6 NITROAROMATICS AND NITRAMINES

Results for sample sets 5611 and 5612, as well as 5561 and 5562, were in agreement.

Appendix 1

Data Comparison Tables

Volatile Organic Compounds

QC Sample No. 5611	QA Sample No. 5612
Date Sampled 11/18/97	Date Sampled 11/18/97
Date Received 11/20/97	Date Received 11/20/97
Date Extracted 11/25/97	Date Extracted 11/26/97
Date Analyzed 11/25/97	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	ND	ND
Acetone	32	30
Carbon disulfide	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
1,2-Dichloroethene (total)	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
4-Methyl-2-pentanone	ND	ND
2-Hexanone	ND	ND
Tetrachloroethene	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
Styrene	ND	ND
Xylenes (total)	ND	ND

Volatile Organic Compounds

QC Sample No. 5561	QA Sample No. 5562
Date Sampled 11/19/97	Date Sampled 11/19/97
Date Received 11/20/97	Date Received 11/29/97
Date Extracted 12/01/97	Date Extracted 11/26/97
Date Analyzed 12/01/97	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	0.36 J, B	ND
Acetone	70	ND
Carbon disulfide	ND	ND
1,1-Dichloroethene	ND	ND
1,1-Dichloroethane	ND	ND
1,2-Dichloroethene (total)	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
4-Methyl-2-Pentanone	ND	ND
2-Hexanone	ND	ND
Tetrachloroethene	ND	ND
1,1,2,2,-Tetrachloroethane	ND	ND
Toluene	ND	ND
Chlorobenzene	ND	ND
Ethylbenzene	ND	ND
Styrene	ND	ND
Xylenes (total)	0.74 J	ND

J – estimated concentration below reporting limit.
B – indicates method blank contamination

Semivolatile Organic Compounds

QC Sample No. 5611	QA Sample No. 5612
Date Sampled 11/18/97	Date Sampled 11/18/97
Date Received 11/24/97	Date Received 11/20/97
Date Extracted 12/18/97	Date Extracted 11/21/97
Date Analyzed 6/09/98	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
bis (2-Chloroethyl) ether	ND	ND
2-Chlorophenol	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
2-Methylphenol	ND	ND
2-2'-oxybis (1-Chloropopane)	ND	ND
4-Methylphenol	ND	ND
N-Nitrosodi-n-propylamine	ND	ND
Hexachloroethane	ND	ND
Nitrobenzene	ND	ND
Isophorone	ND	ND
2-Nitrophenol	ND	ND
2,4-Dimethylphenol	ND	ND
bis (2-Chloroethoxy) methane	ND	ND
2,4-Dichlorophenol	ND	ND
1,2,4-Trichlorobenzene	ND	ND
Naphthalene	ND	ND
4-Chloroaniline	ND	ND
Hexachlorobutadiene	ND	ND
4-Chloro-3-methylphenol	ND	ND
2-Methylnaphthalene	ND	ND
Hexachlorocyclopentadiene	ND	ND
2,4,6-Trichlorophenol	ND	ND
2,4,5-Trichlorophenol	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
2,4-Dinitrophenol	ND	ND
4-Nitrophenol	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
4,6-Dinitro-2-methylphenol	ND	ND
N-Nitrosodiphynylamine	ND	ND
4-Bromophenyl-phenylether	ND	ND
Hexachlorobenzene	ND	ND
Pentachlorophenol	ND	ND
Phenanthrene	ND	ND
Anthracene	ND	ND
Carbazole	ND	ND
Di-n-butylphthalate	ND	ND
Fluoranthene	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)fluoranthene	ND	ND
Benzo(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

Semivolatile Organic Compounds

QC Sample No. 5561	QA Sample No. 5562
Date Sampled 11/19/97	Date Sampled 11/19/97
Date Received 11/20/97	Date Received 11/20/97
Date Extracted 11/24/97	Date Extracted 11/21/97
Date Analyzed 12/18/97	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
bis (2-Chloroethyl) ether	ND	ND
2-Chlorophenol	ND	ND
1,3-Dichlorobenzene	ND	ND
1,4-Dichlorobenzene	ND	ND
2-Methylphenol	ND	ND
2-2'-oxybis (1-Chloropopane)	ND	ND
4-Methylphenol	ND	ND
N-Nitrosodi-n-propylamine	ND	ND
Hexachloroethane	ND	ND
Nitrobenzene	ND	ND
Isophorone	ND	ND
2-Nitrophenol	ND	ND
2,4-Dimethylphenol	ND	ND
bis (2-Chloroethoxy) methane	ND	ND
2,4-Dichlorophenol	ND	ND
1,2,4-Trichlorobenzene	ND	ND
Naphthalene	ND	ND
4-Chloroaniline	ND	ND
Hexachlorobutadiene	ND	ND
4-Chloro-3-methylphenol	ND	ND
2-Methylnaphthalene	ND	ND
Hexachlorocyclopentadiene	ND	ND
2,4,6-Trichlorophenol	ND	ND
2,4,5-Trichlorophenol	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
2,4-Dinitrophenol	ND	ND
4-Nitrophenol	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
4,6-Dinitro-2-methylphenol	ND	ND
N-Nitrosodiphynylamine	ND	ND
4-Bromophenyl-phenylether	ND	ND
Hexachlorobenzene	ND	ND
Pentachlorophenol	ND	ND
Phenanthrene	ND	ND
Anthracene	ND	ND
Carbazole	ND	ND
Di-n-butylphthalate	ND	ND
Fluoranthene	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)fluoranthene	ND	ND
Benzo(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

Polychlorinated Biphenyls

QC Sample No. 5611	QA Sample No. 5612
Date Sampled 11/18/97	Date Sampled 11/18/97
Date Received 11/20/97	Date Received 11/20/97
Date Extracted 11/25/97	Date Extracted 11/21/97
Date Analyzed 12/09/97	Date Analyzed 11/25/97
Method No. SW846-8081	Method No. SW846-8081
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. 5561	QA Sample No. 5562
Date Sampled 11/19/97	Date Sampled 11/19/97
Date Received 11/20/97	Date Received 11/20/97
Date Extracted 11/24/97	Date Extracted 11/21/97
Date Analyzed 12/03/97	Date Analyzed 11/25/97
Method No. SW846-8081	Method No. SW846-8081
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. 5611	QA Sample No. 5612
Date Sampled 11/18/97	Date Sampled 11/18/97
Date Received 11/20/97	Date Received 11/20/97
Method No. SW846-6010A, SW846-7470A (Hg only)	Method No. SW846-6010A, SW846-7470A (Hg only)
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aluminum	ND	350
Antimony	ND	ND
Arsenic	ND	ND
Barium	392	380
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	211000	160000
Chromium	ND	ND
Cobalt	ND	ND
Copper	ND	ND
Iron	8050	10000
Lead	ND	ND
Magnesium	59300	52000
Manganese	1620	1400
Mercury	ND	ND
Molybdenum		47
Nickel	ND	ND
Potassium	5420	4800
Selenium	ND	24
Silver	ND	ND
Sodium	44700	42000
Thallium	ND	ND
Vanadium	ND	ND
Zinc	ND	ND

Dissolved Metals

QC Sample No. 5561	QA Sample No. 5562
Date Sampled 11/19/97	Date Sampled 11/19/97
Date Received 11/20/97	Date Received 11/20/97
Method No. SW846-6010A, SW846-7470 (Hg only)	Method No. SW846-6010A, SW846-7470 (Hg only)
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aluminum	ND	210
Antimony	ND	ND
Arsenic	ND	ND
Barium	ND	54
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	123000	110000
Chromium (total)	ND	ND
Cobalt	ND	ND
Copper	ND	ND
Iron	ND	ND
Lead	ND	ND
Magnesium	20500	21000
Manganese	ND	11
Mercury	ND	ND
Molybdenum		ND
Nickel	ND	ND
Potassium	ND	780
Selenium	ND	7.3
Silver	ND	ND
Sodium	ND	1900
Thallium	ND	
Vanadium	ND	ND
Zinc	20	ND

Total Metals

QC Sample No. 5561	QA Sample No. 5562
Date Sampled 11/19/97	Date Sampled 11/19/97
Date Received 11/20/97	Date Received 11/20/97
Method No. SW846-6010A, SW846-7470A (Hg only)	Method No. SW846-6010A, SW846-7470 (Hg only)
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aluminum	ND	260
Antimony	ND	ND
Arsenic	ND	ND
Barium	ND	52
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	118000	100000
Chromium (total)	ND	ND
Cobalt	ND	ND
Copper	ND	ND
Iron	1600	ND
Lead	ND	ND
Magnesium	19700	20000
Manganese	95.8	10
Mercury	.68	ND
Molybdenum		ND
Nickel	ND	ND
Potassium	ND	ND
Selenium	ND	ND
Silver	ND	ND
Sodium	ND	2700
Thallium	ND	ND
Vanadium	ND	ND
Zinc	24	ND

Total Metals

QC Sample No. 5611	QA Sample No. 5612
Date Sampled 11/18/97	Date Sampled 11/18/97
Date Received 11/20/97	Date Received 11/20/97
Method No. SW846-6010A, SW846-7470A (Hg only)	Method No. SW846-6010A, SW846-7470 (Hg only)
Matrix: Water	Units: µg/L

PARAMETER	QC RESULT	QA RESULT
Aluminum	825	440
Antimony	ND	ND
Arsenic	12.8	ND
Barium	350	360
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	182000	160000
Chromium (total)	ND	ND
Cobalt	ND	ND
Copper	ND	ND
Iron	14800	11000
Lead	ND	3.8
Magnesium	50900	52000
Manganese	1420	1400
Mercury	ND	ND
Molybdenum		ND
Nickel	ND	ND
Potassium	ND	4200
Selenium	ND	ND
Silver	ND	ND
Sodium	37900	39000
Thallium	ND	ND
Vanadium	ND	ND
Zinc	25.4	28

Nitroaromatics and Nitramines

QC Sample No.5611	QC Sample No. 5612
Date Sampled 11/18/97	Date Sampled: 11/18/97
Date Received 11/20/97	Date Received: 11/21/97
Date Extracted 11/24/97	Date Extracted: 11/25/97
Date Analyzed 12/03/97	Date Analyzed: 12/13/97
Method No. SW846-8330	Method No. SW846-8330
Matrix: Water	Units: µg/L

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

Nitroaromatics and Nitramines

QC Sample No.5561	QC Sample No. 5562
Date Sampled 11/19/97	Date Sampled: 11/19/97
Date Received 11/20/97	Date Received: 11/21/97
Date Extracted 11/24/97	Date Extracted: 11/25/97
Date Analyzed 12/03/97	Date Analyzed: 12/13/97
Method No. SW846-8330	Method No. SW846-8330
Matrix: Water	Units: µg/L

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

Appendix 2

Analytical Results and Chain-of-Custody Documents

IT CORPORATION - KNOXVILLE

Client Sample ID: 5611

GC/MS Volatiles

Lot-Sample #...: H7K200177-003 **Work Order #...:** CE55R101 **Matrix.....:** WATER
Date Sampled...: 11/18/97 **Date Received..:** 11/20/97
Prep Date.....: 11/25/97 **Analysis Date..:** 11/25/97
Prep Batch #...: 7329129
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	ND	1.0	ug/L	SW846 8260A
Acetone	**32**	**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	98	(67 - 128)
Toluene-d8	97	(71 - 119)
4-Bromofluorobenzene	96	(76 - 111)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5561

GC/MS Volatiles

Lot-Sample #...: H7K200177-007 **Work Order #...:** CE55X101 **Matrix.....:** WATER
Date Sampled...: 11/19/97 **Date Received..:** 11/20/97
Prep Date.....: 12/01/97 **Analysis Date..:** 12/01/97
Prep Batch #...: 7335111
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	**0.36 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)	**0.74 J**	**1.0**	**ug/L**	**SW846 8260A**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
1,2-Dichloroethane-d4	94	(67 - 128)
Toluene-d8	91	(71 - 119)
4-Bromofluorobenzene	88	(76 - 111)

(Continued on next page)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5611

GC/MS Semivolatiles

Lot-Sample #...: H7K200177-003 **Work Order #...:** CE55R102 **Matrix.....:** WATER
Date Sampled...: 11/18/97 **Date Received..:** 11/20/97
Prep Date.....: 11/24/97 **Analysis Date..:** 12/18/97
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: 5611

GC/MS Semivolatiles

Lot-Sample #...: H7K200177-003 **Work Order #...:** CE55R102 **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	83	(11 - 121)
Phenol-d5	92	(19 - 125)
Nitrobenzene-d5	89	(49 - 124)
2-Fluorobiphenyl	80	(46 - 120)
2,4,6-Tribromophenol	67	(36 - 144)
Terphenyl-d14	78	(22 - 152)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5561

GC/MS Semivolatiles

Lot-Sample #...: H7K200177-007 **Work Order #...:** CE55X102 **Matrix.....:** WATER
Date Sampled...: 11/19/97 **Date Received..:** 11/20/97
Prep Date.....: 11/24/97 **Analysis Date..:** 12/18/97
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: 5561

GC/MS Semivolatiles

Lot-Sample #...: H7K200177-007 **Work Order #...:** CE55X102 **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	**2.3 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	82	(11 - 121)
Phenol-d5	88	(19 - 125)
Nitrobenzene-d5	84	(49 - 124)
2-Fluorobiphenyl	77	(46 - 120)
2,4,6-Tribromophenol	60	(36 - 144)
Terphenyl-d14	59	(22 - 152)

NOTE(S):

J Estimated result. Result is less than RL.

IT CORPORATION - KNOXVILLE

Client Sample ID: 5611

GC Semivolatiles

Lot-Sample #...: H7K200177-003 **Work Order #...:** CE55R103 **Matrix.....:** WATER
Date Sampled...: 11/18/97 **Date Received..:** 11/20/97
Prep Date.....: 11/25/97 **Analysis Date..:** 12/09/97
Prep Batch #...: 7329154
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	69	(30 - 133)
Decachlorobiphenyl	55	(30 - 139)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5561

GC Semivolatiles

Lot-Sample #...: H7K200177-007 **Work Order #...:** CE55X103 **Matrix.....:** WATER
Date Sampled...: 11/19/97 **Date Received..:** 11/20/97
Prep Date.....: 11/25/97 **Analysis Date..:** 12/09/97
Prep Batch #...: 7329154
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	72	(30 - 133)
Decachlorobiphenyl	78	(30 - 139)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5611

HPLC

Lot-Sample #...: H7K200177-003 **Work Order #...:** CE55R10V **Matrix.....:** WATER
Date Sampled...: 11/18/97 **Date Received..:** 11/20/97
Prep Date.....: 11/24/97 **Analysis Date..:** 12/03/97
Prep Batch #...: 7328171
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	104	(50 - 150)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5561

HPLC

Lot-Sample #...: H7K200177-007 **Work Order #...:** CE55X10V **Matrix.....:** WATER
Date Sampled...: 11/19/97 **Date Received..:** 11/20/97
Prep Date.....: 11/24/97 **Analysis Date..:** 12/03/97
Prep Batch #...: 7328171
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	101	(50 - 150)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5611

TOTAL Metals

Lot-Sample #...: H7K200177-003 Matrix.....: WATER
Date Sampled...: 11/18/97 Date Received..: 11/20/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343168						
Mercury	ND	0.20	ug/L	SW846 7470A	12/10-12/11/97	CE55R10
		Dilution Factor: 1				
Prep Batch #...: 7350103						
Aluminum	**825**	**200**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE55R10**
		Dilution Factor: 1				
Arsenic	**12.8**	**10.0**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE55R10**
		Dilution Factor: 1				
Lead	ND	3.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Barium	**350**	**200**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE55R10**
		Dilution Factor: 1				
Selenium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Thallium	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Calcium	**182000**	**5000**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE55R10**
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				

(Continued on next page)

IT CORPORATION - KNOXVILLE

Client Sample ID: 5611

TOTAL Metals

Lot-Sample #...: H7K200177-003 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	**14800**	**100**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE55R10**
		Dilution Factor: 1				
Magnesium	**50900**	**5000**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE55R10**
		Dilution Factor: 1				
Manganese	**1420**	**15.0**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE55R10**
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Potassium	ND	5000	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Sodium	**37900**	**5000**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE55R10**
		Dilution Factor: 1				
Vanadium	ND	50.0	ug/L	SW846 6010A	12/16-12/18/97	CE55R10
		Dilution Factor: 1				
Zinc	**25.4**	**20.0**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE55R10**
		Dilution Factor: 1				

IT CORPORATION - KNOXVILLE

Client Sample ID: 5611F

DISSOLVED Metals

Lot-Sample #...: H7K200177-015 Matrix.....: WATER
Date Sampled...: 11/18/97 Date Received..: 11/20/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343174						
Mercury	ND	0.20	ug/L	SW846 7470A	12/10-12/11/97	CE59H10(
		Dilution Factor: 1				
Prep Batch #...: 7350105						
Aluminum	ND	200	ug/L	SW846 6010A	12/16-12/18/97	CE59H10:
		Dilution Factor: 1				
Arsenic	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10I
		Dilution Factor: 1				
Lead	ND	3.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10N
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10:
		Dilution Factor: 1				
Barium	**392**	**200**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE59H10:**
		Dilution Factor: 1				
Selenium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10N
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10:
		Dilution Factor: 1				
Thallium	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10I
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10:
		Dilution Factor: 1				
Calcium	**211000**	**5000**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE59H10(**
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10:
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10:
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10:
		Dilution Factor: 1				

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5611F

DISSOLVED Metals

Lot-Sample #...: H7K200177-015 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	**8050**	**100**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE59H10**
		Dilution Factor: 1				
Magnesium	**59300**	**5000**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE59H10**
		Dilution Factor: 1				
Manganese	**1620**	**15.0**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE59H10**
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10
		Dilution Factor: 1				
Potassium	**5420**	**5000**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE59H10**
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10
		Dilution Factor: 1				
Sodium	**44700**	**5000**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE59H10**
		Dilution Factor: 1				
Vanadium	ND	50.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10
		Dilution Factor: 1				
Zinc	ND	20.0	ug/L	SW846 6010A	12/16-12/18/97	CE59H10
		Dilution Factor: 1				

IT CORPORATION - KNOXVILLE

Client Sample ID: 5561

TOTAL Metals

Lot-Sample #...: H7K200177-007 Matrix.....: WATER
Date Sampled...: 11/19/97 Date Received..: 11/20/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343168						
Mercury	**0.68**	**0.20**	**ug/L**	**SW846 7470A**	**12/10-12/11/97**	**CE55X10U**
		Dilution Factor: 1				
Prep Batch #...: 7350103						
Aluminum	ND	200	ug/L	SW846 6010A	12/16-12/18/97	CE55X104
		Dilution Factor: 1				
Arsenic	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10I
		Dilution Factor: 1				
Lead	ND	3.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10C
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X105
		Dilution Factor: 1				
Barium	ND	200	ug/L	SW846 6010A	12/16-12/18/97	CE55X106
		Dilution Factor: 1				
Selenium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10F
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X107
		Dilution Factor: 1				
Thallium	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10T
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X108
		Dilution Factor: 1				
Calcium	**118000**	**5000**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE55X10S**
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10A
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10C
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10I
		Dilution Factor: 1				

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5561

TOTAL Metals

Lot-Sample #...: H7K200177-007 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	1660	100	ug/L	SW846 6010A	12/16-12/18/97	CE55X10
		Dilution Factor: 1				
Magnesium	19700	5000	ug/L	SW846 6010A	12/16-12/18/97	CE55X10
		Dilution Factor: 1				
Manganese	95.8	15.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10
		Dilution Factor: 1				
Potassium	ND	5000	ug/L	SW846 6010A	12/16-12/18/97	CE55X10
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10
		Dilution Factor: 1				
Sodium	ND	5000	ug/L	SW846 6010A	12/16-12/18/97	CE55X10
		Dilution Factor: 1				
Vanadium	ND	50.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10
		Dilution Factor: 1				
Zinc	24.0	20.0	ug/L	SW846 6010A	12/16-12/18/97	CE55X10
		Dilution Factor: 1				

IT CORPORATION - KNOXVILLE

Client Sample ID: 5561F

DISSOLVED Metals

Lot-Sample #...: H7K200177-019 **Matrix.....:** WATER
Date Sampled...: 11/19/97 **Date Received..:** 11/20/97

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 7343174						
Mercury	ND	0.20	ug/L	SW846 7470A	12/10-12/11/97	CE5A310
		Dilution Factor: 1				
Prep Batch #...: 7350105						
Aluminum	ND	200	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Arsenic	ND	10.0	ug/L	SW846 6010A	12/16-12/19/97	CE5A310
		Dilution Factor: 1				
Lead	ND	3.0	ug/L	SW846 6010A	12/16-12/19/97	CE5A310
		Dilution Factor: 1				
Antimony	ND	60.0	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Barium	ND	200	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Selenium	ND	5.0	ug/L	SW846 6010A	12/16-12/19/97	CE5A310
		Dilution Factor: 1				
Beryllium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Thallium	ND	10.0	ug/L	SW846 6010A	12/16-12/19/97	CE5A310
		Dilution Factor: 1				
Cadmium	ND	5.0	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Calcium	**123000**	**5000**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE5A310**
		Dilution Factor: 1				
Chromium	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Cobalt	ND	50.0	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Copper	ND	25.0	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				

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IT CORPORATION - KNOXVILLE

Client Sample ID: 5561F

DISSOLVED Metals

Lot-Sample #...: H7K200177-019 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	ND	100	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Magnesium	**20500**	**5000**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE5A310**
		Dilution Factor: 1				
Manganese	ND	15.0	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Nickel	ND	40.0	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Potassium	ND	5000	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Silver	ND	10.0	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Sodium	ND	5000	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Vanadium	ND	50.0	ug/L	SW846 6010A	12/16-12/18/97	CE5A310
		Dilution Factor: 1				
Zinc	**20.0**	**20.0**	**ug/L**	**SW846 6010A**	**12/16-12/18/97**	**CE5A310**
		Dilution Factor: 1				

INTERNATIONAL TECHNOLOGY CORPORATION

Quote# 20941

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

1+FK190171

Reference Document No: 10022

Project Number: 771481

Samples Shipment Date: 18-NOV-97

Project Name: PLUMBROOK ORDNANCE WORKS

Lab Destination: Quanterra - Knoxville

Sample Coordinator: ~~Dave Purcell~~ Bruce Bennett

Lab Contact: John Reynolds

Turnaround Time:

Project Contact: Kim Arrant

Carrier/Waybill No.: Fed Ex/801624849851

Bill To: Accounts Receivable
312 Directors Drive
Knoxville TN 37923

Report To: Kim Arrant
312 Directors Drive
Knoxville TN 37923

Special Instructions: * Alkalinity, TDS & TSS=1 L HDPE; Metals=Filt. and Unfilt.

Possible Hazard Indentification:
Non-hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [✓]

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

Sample Disposal:
Return to Client [ ] Disposal by Lab [✓] Archive (mos.)

1. Received By (Signature/Affiliation) Diane Yfange — Date: 11/19/97 Time: 10:25
2. Received By (Signature/Affiliation) — Date: Time:
3. Received By (Signature/Affiliation) — Date: Time:

Comments:

custody Seals intact
received at 2°C
11/19/97

Sample No	Sample Name	Sample Date	Sample Time	Container	Ctr Qty	Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>10
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5751	PBOW97-MK-MW12-BW-5751-TB	17-NOV-97	07:00	40 ml VOA VIAL	2	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		

G0000002

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

H'PA170111

Reference Document No: 10022

Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5830	PBOW97-MK-MW23-GW-5830-REG	16-NOV-97	17:00	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5830	PBOW97-MK-MW23-GW-5830-REG	16-NOV-97	17:00	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5830	PBOW97-MK-MW23-GW-5830-REG	16-NOV-97	17:00	1000 ml A GLASS	1	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5830	PBOW97-MK-MW23-GW-5830-REG	16-NOV-97	17:00	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH=10
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5910	PBOW97-PB-BED-MW15-GW-5910-REG	18-NOV-97	08:40	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5411	PBOW97-IT-BG8-BEDGW-001-GW-5411-FD	17-NOV-97	10:20	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5411	PBOW97-IT-BG8-BEDGW-001-GW-5411-FD	17-NOV-97	10:20	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5411	PBOW97-IT-BG8-BEDGW-001-GW-5411-FD	17-NOV-97	10:20	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5411	PBOW97-IT-BG8-BEDGW-001-GW-5411-FD	17-NOV-97	10:20	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5411	PBOW97-IT-BG8-BEDGW-001-GW-5411-FD	17-NOV-97	10:20	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5410	PBOW97-IT-BG8-BEDGW-001-GW-5410-REG	17-NOV-97	10:20	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5750	PBOW97-MK-MW12-GW-5750-REG	17-NOV-97	13:30	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2

G00000003

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

H7K170171

Reference Document No: 10022

Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH >12
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5740	PBOW97-MK-MW11-GW-5740-REG	18-NOV-97	08:20	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5701	PBOW97-PB-PR-MW8-GW-5701-FD	17-NOV-97	15:45	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5701	PBOW97-PB-PR-MW8-GW-5701-FD	17-NOV-97	15:45	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5701	PBOW97-PB-PR-MW8-GW-5701-FD	17-NOV-97	15:45	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5701	PBOW97-PB-PR-MW8-GW-5701-FD	17-NOV-97	15:45	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5701	PBOW97-PB-PR-MW8-GW-5701-FD	17-NOV-97	15:45	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH >12
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5710	PBOW97-PB-PR-MW9-GW-5710-REG	17-NOV-97	17:00	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH >12
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5700	PBOW97-PB-PR-MW8-GW-5700-REG	17-NOV-97	15:45	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5420	PBOW97-IT-TNTB-BEDGW-001-GW-5420-RE	17-NOV-97	12:45	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		

G00000004

INTERNATIONAL
TECHNOLOGY
CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

H7K19C171

Reference Document No: 10022

Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH >12
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5690	PBOW97-PB-PR-MW7-GW-5690-REG	17-NOV-97	16:15	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5960	PBOW97-PB-BED-MW20-GW-5960-REG	17-NOV-97	16:15	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		

INTERNATIONAL TECHNOLOGY CORPORATION

Quote # 20941

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

H7K200177

Reference Document No: 10025

Project Number: 771481

Project Name: PLUMBROOK ORDNANCE WORKS

Sample Coordinator: ~~Dave Pursell~~ Bruce Bunell

Turnaround Time:

Samples Shipment Date: 19-NOV-97

Lab Destination: Quanterra - Knoxville

Lab Contact: John Reynolds

Project Contact: Kim Arrant/Kim NAPIER

Carrier/Waybill No.: Fed Ex/801624849862

Bill To: Accounts Receivable
312 Directors Drive
Knoxville TN 37923

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

Special Instructions: ALKALINITY, TDS, AND TSS COMBINED IN 1 L HDPE

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/Affiliation)	Date: 11-19-97 Time: 1630	1. Received By (Signature/Affiliation)	Date: 11/20/97 Time: 0850
2. Relinquished By (Signature/Affiliation)	Date: Time:	2. Received By (Signature/Affiliation)	Date: Time:
3. Relinquished By (Signature/Affiliation)	Date: Time:	3. Received By (Signature/Affiliation)	Date: Time:

Comments: TAL METALS=1 FILTERED AND 1 UNFILTERED.

Rec'd @ 2°c w/custody Seals Intact BPB 11/20/97

Sample No	Sample Name	Sample Date	Sample Time	Container	Ctr Qty	Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5611	PBOW97-PB-TNTA-MW10-GW-5611-FD	18-NOV-97	14:15	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5611	PBOW97-PB-TNTA-MW10-GW-5611-FD	18-NOV-97	14:15	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5611	PBOW97-PB-TNTA-MW10-GW-5611-FD	18-NOV-97	14:15	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		

G0000006

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

H7K200177

Reference Document No: 10025

Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5620	PBOW97-PB-TNTA-MW11-GW-5620-REG	18-NOV-97	13:15	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5611	PBOW97-PB-TNTA-MW10-GW-5611-FD	18-NOV-97	14:15	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5611	PBOW97-PB-TNTA-MW10-GW-5611-FD	18-NOV-97	14:15	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5580	PBOW97-IT-MW08-GW-5580-REG	19-NOV-97	11:30	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5610	PBOW97-PB-TNTA-MW10-GW-5610-REG	18-NOV-97	14:15	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5561	PBOW97-IT-MW06-GW-5561-FD	19-NOV-97	11:00	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5561	PBOW97-IT-MW06-GW-5561-FD	19-NOV-97	11:00	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5561	PBOW97-IT-MW06-GW-5561-FD	19-NOV-97	11:00	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5561	PBOW97-IT-MW06-GW-5561-FD	19-NOV-97	11:00	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		

G00000007

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

H7K200177

Reference Document No: 10025

Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Fit CID		Condition On Receipt
5561	PBOW97-IT-MW06-GW-5561-FD	19-NOV-97	11:00	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5560	PBOW97-IT-MW06-GW-5560-REG	19-NOV-97	11:00	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5550-MS	PBOW97-IT-MW05-GW-5550-MS-MS	19-NOV-97	07:30	1000 ML A GLASS	2	NONE	PCBs by SW8081 in water	N		
5550-MS	PBOW97-IT-MW05-GW-5550-MS-MS	19-NOV-97	07:30	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5550-MS	PBOW97-IT-MW05-GW-5550-MS-MS	19-NOV-97	07:30	40 ml VOA VIAL	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5550-MSD	PBOW97-IT-MW05-GW-5550-MSD-MSD	19-NOV-97	07:30	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5550-MSD	PBOW97-IT-MW05-GW-5550-MSD-MSD	19-NOV-97	07:30	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5550-MSD	PBOW97-IT-MW05-GW-5550-MSD-MSD	19-NOV-97	07:30	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5550-MSD	PBOW97-IT-MW05-GW-5550-MSD-MSD	19-NOV-97	07:30	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5550-MSD	PBOW97-IT-MW05-GW-5550-MSD-MSD	19-NOV-97	07:30	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5550-REG	PBOW97-IT-MW05-GW-5550-REG-REG	19-NOV-97	07:30	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5550-MS	PBOW97-IT-MW05-GW-5550-MS-MS	19-NOV-97	07:30	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5550-MS	PBOW97-IT-MW05-GW-5550-MS-MS	19-NOV-97	07:30	1000 ml HDPE	2	pH<2 HNO3	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5900	PBOW97-PB-BED-MW14-GW-5900-REG	18-NOV-97	11:20	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5901	PBOW97-PB-BED-MW14-BW-5901-TB	18-NOV-97	07:15	40 ml VOA VIAL	2	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		

G0000008

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

H7K200144

Reference Document No: 10025

Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		pH<2
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		pH<2
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5470	PBOW97-IT-AA3-BEDGW-001-GW-5470-REG	19-NOV-97	07:50	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5530	PBOW97-IT-MW01-GW-5530-REG	19-NOV-97	07:30	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5940	PBOW97-PB-BED-MW18-GW-5940-REG	19-NOV-97	09:15	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		

G0000009

INTERNATIONAL TECHNOLOGY CORPORATION

Quote #20941

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

H+K-210C0D

Reference Document No: 10028

Project Number: 771481

Project Name: PLUMBROOK ORDNANCE WORKS

Sample Coordinator: Bruce Bundt

Turnaround Time:

Samples Shipment Date: 20-NOV-97

Lab Destination: Quanterra - Knoxville

Lab Contact: John Reynolds

Project Contact: Kim Napier

Carrier/Waybill No.: Fed Ex/801624849873

Bill To: Accounts Receivable
312 Directors Drive
Knoxville TN 37923

Report To: Kim Napier
312 Directors Drive
Knoxville TN 37923

Special Instructions:

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/Affiliation) Bruce Bundt	Date: 11-20-97 Time: 1630	1. Received By (Signature/Affiliation) Dave Yange	Date: 11/21/97 Time: 10:20
2. Relinquished By (Signature/Affiliation)	Date: Time:	2. Received By (Signature/Affiliation)	Date: Time:
3. Relinquished By (Signature/Affiliation)	Date: Time:	3. Received By (Signature/Affiliation)	Date: Time:

Comments: Alkalinity, TDS & TSS=combined in 1 L HDPE; Metals=1L Filt, 1L Unfilt.

Rec'd @ 5°C
w/custody seals
Intact BPB 11/21/97

Sample No	Sample Name	Sample Date	Sample Time	Container	Ctr Qty	Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5660	PBOW97-PB-TNTC-MW6-GW-5660-REG	20-NOV-97	13:05	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		
5660	PBOW97-PB-TNTC-MW6-GW-5660-REG	20-NOV-97	13:05	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5660	PBOW97-PB-TNTC-MW6-GW-5660-REG	20-NOV-97	13:05	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5660	PBOW97-PB-TNTC-MW6-GW-5660-REG	20-NOV-97	13:05	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5660	PBOW97-PB-TNTC-MW6-GW-5660-REG	20-NOV-97	13:05	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5660	PBOW97-PB-TNTC-MW6-GW-5660-REG	20-NOV-97	13:05	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		
5660	PBOW97-PB-TNTC-MW6-GW-5660-REG	20-NOV-97	13:05	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5660	PBOW97-PB-TNTC-MW6-GW-5660-REG	20-NOV-97	13:05	40 ml GVIAL,SEP	2	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2

G0000010

H7K210C00

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 10028

Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5660	PBOW97-PB-TNTC-MW8-GW-5660-REG	20-NOV-97	13:05	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5660	PBOW97-PB-TNTC-MW8-GW-5660-REG	20-NOV-97	13:05	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH > 12
5660	PBOW97-PB-TNTC-MW8-GW-5660-REG	20-NOV-97	13:05	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5511	PBOW97-IT-AA3-GW-002-BW-5511-TB	19-NOV-97	07:15	40 ml VOA VIAL	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5520	PBOW97-IT-ABG-GW-002-GW-5520-REG	19-NOV-97	14:30	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5510	PBOW97-IT-AA3-GW-002-GW-5510-REG	19-NOV-97	15:15	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		pH>12
5460	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
~~5460~~	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		
~~5460~~	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5460	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		
~~5460~~	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		
~~5460~~	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
~~5460~~	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5460	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5460	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	500 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		
5460	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
~~5460~~	PBOW97-IT-AA2-BEDGW-001-GW-5460-REG	20-NOV-97	11:15	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		

G0000011

INTERNATIONAL TECHNOLOGY CORPORATION

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

H7K210208

Reference Document No: 10028

Sample No	Sample Name	Sample Date	Sample Time	Container		Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5490	PBOW97-IT-AA1-GW-002-GW-5490-REG	20-NOV-97	08:00	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5440	PBOW97-IT-MNTA-BEDGW-001-GW-5440-RE	20-NOV-97	10:15	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	1000 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5930	PBOW97-PB-BED-MW17-GW-5930-REG	20-NOV-97	08:50	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		pH<2
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	1000 ml HDPE	1	NONE	Total dissolved solids by E160.1 in water	N		
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	500 ml HDPE	1	pH<2 H2SO4	TOC by SW-9060 in water	N		
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	1000 ml HDPE	1	NONE	Total suspended solids by E160.2	N		
5860	PBOW97-GCL-MW02A-GW-5860-REG	20-NOV-97	12:00	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	1000 ml HDPE	1	NONE	ALKALINITY by E310.1 in water	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	1000 ml HDPE	1	NaOH to pH12	Total Cyanide by SW-846 9010A in water	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	1000 ml A GLASS	1	NONE	Nitroaromatics by SW-846 8330 in water	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	1000 ml HDPE	1	HNO3, pH<2	Hardness by E130.2 in water	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		
5870	PBOW97-GCL-MW02B-GW-5870-REG	20-NOV-97	12:30	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		

G0000012

Volatile Organics by GC/MS

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

Analysis Method: EPA 8260
Prep Method: EPA 5030

Field ID: 5562
Lab ID: 131462-001
Matrix: Water
Batch#: 37779
Units: ug/L
Diln Fac: 1

Sampled: 11/19/97
Received: 11/20/97
Extracted: 11/26/97
Analyzed: 11/26/97

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	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	103	87-121
Toluene-d8	99	92-107
Bromofluorobenzene	98	80-121
Dibromofluoromethane	107	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: 5612
Lab ID: 131462-002
Matrix: Water
Batch#: 37779
Units: ug/L
Diln Fac: 1

Sampled: 11/18/97
Received: 11/20/97
Extracted: 11/26/97
Analyzed: 11/26/97

Analyte	Result	Reporting Limit
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl Chloride	ND	10
Chloroethane	ND	10
Methylene Chloride	ND	5.0
Acetone	30	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	101	87-121
Toluene-d8	100	92-107
Bromofluorobenzene	99	80-121
Dibromofluoromethane	104	88-118

Semivolatile Organics by GC/MS

Client:	IT Corporation	Analysis Method:	EPA 8270B
Project#:	771481	Prep Method:	EPA 3520
Location:	Plumbrook Ordnance Works		

Field ID:	5562	Sampled:	11/19/97
Lab ID:	131462-001	Received:	11/20/97
Matrix:	Water	Extracted:	11/21/97
Batch#:	37715	Analyzed:	11/25/97
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Phenol	ND	11
2-Chlorophenol	ND	11
2-Methylphenol	ND	11
3,4-Methylphenol	ND	11
2-Nitrophenol	ND	53
2,4-Dimethylphenol	ND	11
2,4-Dichlorophenol	ND	11
4-Chloro-3-methylphenol	ND	11
2,4,6-Trichlorophenol	ND	11
2,4,5-Trichlorophenol	ND	11
2,4-Dinitrophenol	ND	53
4-Nitrophenol	ND	53
4,6-Dinitro-2-methylphenol	ND	53
Pentachlorophenol	ND	53
bis(2-Chloroethyl)ether	ND	11
1,3-Dichlorobenzene	ND	11
1,4-Dichlorobenzene	ND	11
1,2-Dichlorobenzene	ND	11
bis(2-Chloroisopropyl) ether	ND	11
N-Nitroso-di-n-propylamine	ND	11
Hexachloroethane	ND	11
Nitrobenzene	ND	11
Isophorone	ND	11
bis(2-Chloroethoxy)methane	ND	11
1,2,4-Trichlorobenzene	ND	11
Naphthalene	ND	11
4-Chloroaniline	ND	11
Hexachlorobutadiene	ND	11
2-Methylnaphthalene	ND	11
Hexachlorocyclopentadiene	ND	53
2-Chloronaphthalene	ND	11
2-Nitroaniline	ND	53
Dimethylphthalate	ND	11
Acenaphthylene	ND	11
2,6-Dinitrotoluene	ND	11
3-Nitroaniline	ND	53
Acenaphthene	ND	11
Dibenzofuran	ND	11

Semivolatile Organics by GC/MS

Field ID:	5562	Sampled:	11/19/97
Lab ID:	131462-001	Received:	11/20/97
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	11
Diethylphthalate	ND	11
4-Chlorophenyl-phenylether	ND	11
Fluorene	ND	11
4-Nitroaniline	ND	53
N-Nitrosodiphenylamine	ND	11
4-Bromophenyl-phenylether	ND	11
Hexachlorobenzene	ND	11
Phenanthrene	ND	11
Anthracene	ND	11
Di-n-butylphthalate	ND	11
Fluoranthene	ND	11
Carbazole	ND	11
Pyrene	ND	11
Butylbenzylphthalate	ND	11
3,3'-Dichlorobenzidine	ND	53
Benzo(a)anthracene	ND	11
Chrysene	ND	11
bis(2-Ethylhexyl)phthalate	ND	11
Di-n-octylphthalate	ND	11
Benzo(b,k)fluoranthene	ND	11
Benzo(a)pyrene	ND	11
Indeno(1,2,3-cd)pyrene	ND	11
Dibenz(a,h)anthracene	ND	11
Benzo(g,h,i)perylene	ND	11

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	77	21-110
Phenol-d5	81	10-110
2,4,6-Tribromophenol	77	10-123
Nitrobenzene-d5	81	35-114
2-Fluorobiphenyl	86	43-116
Terphenyl-d14	83	33-141

Semivolatile Organics by GC/MS

Client:	IT Corporation	Analysis Method:	EPA 8270B
Project#:	771481	Prep Method:	EPA 3520
Location:	Plumbrook Ordnance Works		

Field ID:	5612	Sampled:	11/18/97
Lab ID:	131462-002	Received:	11/20/97
Matrix:	Water	Extracted:	11/21/97
Batch#:	37715	Analyzed:	11/25/97
Units:	ug/L		
Diln Fac:	1		

Analyte	Result	Reporting Limit
Phenol	ND	11
2-Chlorophenol	ND	11
2-Methylphenol	ND	11
3,4-Methylphenol	ND	11
2-Nitrophenol	ND	54
2,4-Dimethylphenol	ND	11
2,4-Dichlorophenol	ND	11
4-Chloro-3-methylphenol	ND	11
2,4,6-Trichlorophenol	ND	11
2,4,5-Trichlorophenol	ND	11
2,4-Dinitrophenol	ND	54
4-Nitrophenol	ND	54
4,6-Dinitro-2-methylphenol	ND	54
Pentachlorophenol	ND	54
bis(2-Chloroethyl)ether	ND	11
1,3-Dichlorobenzene	ND	11
1,4-Dichlorobenzene	ND	11
1,2-Dichlorobenzene	ND	11
bis(2-Chloroisopropyl) ether	ND	11
N-Nitroso-di-n-propylamine	ND	11
Hexachloroethane	ND	11
Nitrobenzene	ND	11
Isophorone	ND	11
bis(2-Chloroethoxy)methane	ND	11
1,2,4-Trichlorobenzene	ND	11
Naphthalene	ND	11
4-Chloroaniline	ND	11
Hexachlorobutadiene	ND	11
2-Methylnaphthalene	ND	11
Hexachlorocyclopentadiene	ND	54
2-Chloronaphthalene	ND	11
2-Nitroaniline	ND	54
Dimethylphthalate	ND	11
Acenaphthylene	ND	11
2,6-Dinitrotoluene	ND	11
3-Nitroaniline	ND	54
Acenaphthene	ND	11
Dibenzofuran	ND	11

Semivolatile Organics by GC/MS

Field ID:	5612	Sampled:	11/18/97
Lab ID:	131462-002	Received:	11/20/97
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	11
Diethylphthalate	ND	11
4-Chlorophenyl-phenylether	ND	11
Fluorene	ND	11
4-Nitroaniline	ND	54
N-Nitrosodiphenylamine	ND	11
4-Bromophenyl-phenylether	ND	11
Hexachlorobenzene	ND	11
Phenanthrene	ND	11
Anthracene	ND	11
Di-n-butylphthalate	ND	11
Fluoranthene	ND	11
Carbazole	ND	11
Pyrene	ND	11
Butylbenzylphthalate	ND	11
3,3'-Dichlorobenzidine	ND	54
Benzo(a)anthracene	ND	11
Chrysene	ND	11
bis(2-Ethylhexyl)phthalate	ND	11
Di-n-octylphthalate	ND	11
Benzo(b,k)fluoranthene	ND	11
Benzo(a)pyrene	ND	11
Indeno(1,2,3-cd)pyrene	ND	11
Dibenz(a,h)anthracene	ND	11
Benzo(g,h,i)perylene	ND	11

Surrogate	%Recovery	Recovery Limits
2-Fluorophenol	58	21-110
Phenol-d5	63	10-110
2,4,6-Tribromophenol	78	10-123
Nitrobenzene-d5	68	35-114
2-Fluorobiphenyl	79	43-116
Terphenyl-d14	74	33-141

PCBs

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

Field ID:	5562	Sampled:	11/19/97
Lab ID:	131462-001	Received:	11/20/97
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	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	82	60-150
Decachlorobiphenyl	70	30-130

PCBs

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

Field ID:	5612	Sampled:	11/18/97
Lab ID:	131462-002	Received:	11/20/97
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	1.1
Aroclor-1221	ND	1.1
Aroclor-1232	ND	1.1
Aroclor-1242	ND	1.1
Aroclor-1248	ND	1.1
Aroclor-1254	ND	1.1
Aroclor-1260	ND	1.1

Surrogate	%Recovery	Recovery Limits
TCMX	83	60-150
Decachlorobiphenyl	62	30-130

Curtis & Tompkins, Ltd.

SAMPLE ID: 5562
LAB ID: 131462-001
CLIENT: IT Corporation
PROJECT ID: 771481
LOCATION: Plumbrook Ordnance Works
MATRIX: Filtrate

DATE SAMPLED: 11/19/97
DATE RECEIVED: 11/20/97
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	210	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	54	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	110000	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	ND	100	1	37796	EPA 6010A	12/01/97
Lead	ND	3.0	1	37796	EPA 6010A	11/26/97
Magnesium	21000	500	1	37796	EPA 6010A	11/26/97
Manganese	11	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	780	500	1	37796	EPA 6010A	12/01/97
Selenium	7.3	5.0	1	37796	EPA 6010A	11/26/97
Silver	ND	5.0	1	37796	EPA 6010A	12/01/97
Sodium	1900	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	ND	20	1	37796	EPA 6010A	11/26/97

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 5562
LAB ID: 131462-001
CLIENT: IT Corporation
PROJECT ID: 771481
LOCATION: Plumbrook Ordnance Works
MATRIX: Water

DATE SAMPLED: 11/19/97
DATE RECEIVED: 11/20/97
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	260	100	1	37797	EPA 6010A	12/01/97
Antimony	ND	60	1	37797	EPA 6010A	12/01/97
Arsenic	ND	5.0	1	37797	EPA 6010A	12/01/97
Barium	52	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	100000	500	1	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	ND	10	1	37797	EPA 6010A	12/01/97
Iron	ND	100	1	37797	EPA 6010A	12/01/97
Lead	ND	3.0	1	37797	EPA 6010A	12/01/97
Magnesium	20000	500	1	37797	EPA 6010A	12/01/97
Manganese	10	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	ND	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	2700	500	1	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	ND	20	1	37797	EPA 6010A	12/01/97

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 5612
LAB ID: 131462-002
CLIENT: IT Corporation
PROJECT ID: 771481
LOCATION: Plumbrook Ordnance Works
MATRIX: Filtrate

DATE SAMPLED: 11/18/97
DATE RECEIVED: 11/20/97
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	350	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	380	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	160000	500	1	37796	EPA 6010A	11/26/9
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	10000	100	1	37796	EPA 6010A	12/01/9
Lead	ND	3.0	1	37796	EPA 6010A	12/01/9
Magnesium	52000	500	1	37796	EPA 6010A	11/26/9
Manganese	1400	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	4800	500	1	37796	EPA 6010A	12/01/9
Selenium	24	5.0	1	37796	EPA 6010A	11/26/9
Silver	ND	5.0	1	37796	EPA 6010A	12/01/9
Sodium	42000	500	1	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	ND	20	1	37796	EPA 6010A	11/26/9

ND = Not detected at or above reporting limit

Curtis & Tompkins, Ltd.

SAMPLE ID: 5612
LAB ID: 131462-002
CLIENT: IT Corporation
PROJECT ID: 771481
LOCATION: Plumbrook Ordnance Works
MATRIX: Water

DATE SAMPLED: 11/18/97
DATE RECEIVED: 11/20/97
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	440	100	1	37797	EPA 6010A	12/01/97
Antimony	ND	60	1	37797	EPA 6010A	12/01/97
Arsenic	ND	5.0	1	37797	EPA 6010A	12/01/97
Barium	360	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	160000	500	1	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	ND	10	1	37797	EPA 6010A	12/01/97
Iron	11000	100	1	37797	EPA 6010A	12/01/97
Lead	3.8	3.0	1	37797	EPA 6010A	12/01/97
Magnesium	52000	500	1	37797	EPA 6010A	12/01/97
Manganese	1400	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	4200	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	39000	500	1	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	28	20	1	37797	EPA 6010A	12/01/97

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: 5562
LAB ID: 096226-0001-SA
Matrix: AQUEOUS — Sampled: 19 NOV 97 — Received: 21 NOV 97
Authorized: 21 NOV 97 — Prepared: 25 NOV 97 — Analyzed: 13 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	81 %	65 - 135

ND = Not Detected

Reported By: Jon Edmondson — Approved By: Mike Orbanosky

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: 5612
LAB ID: 096226-0002-SA
Matrix: AQUEOUS Sampled: 18 NOV 97 Received: 21 NOV 97
Authorized: 21 NOV 97 Prepared: 25 NOV 97 Analyzed: 13 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	75 %	65 - 135

ND = Not Detected

Reported By: Jon Edmondson Approved By: Mike Orbanosky

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

INTERNATIONAL TECHNOLOGY CORPORATION

131462

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 10027

Project Number: 771481

Samples Shipment Date: 19-NOV-97

Project Name: PLUMBROOK ORDNANCE WORKS

Lab Destination: Quanterra - Knoxville

Sample Coordinator: ~~Dave Parcell~~ Bruce Bandt

Lab Contact: John Reynolds

Turnaround Time:

Project Contact: Kim Arrant/Kim NAPIER

Carrier/Waybill No.: Fed Ex/800185090631

Bill To: Accounts Receivable
312 Directors Drive
Knoxville TN 37923

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

Special Instructions: CURTIS AND TOMPKINS, LTD., BERKLEY, CA

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: 11-19-97 Time: 1630
2. Relinquished By (Signature/Affliation) — Date: Time:
3. Relinquished By (Signature/Affliation) — Date: Time:

1. Received By (Signature/Affliation) — Date: 11/20/97 Time:
2. Received By (Signature/Affliation) — Date: Time:
3. Received By (Signature/Affliation) — Date: Time:

Comments: USACE FIELD SPLIT SAMPLES

TAL METALS: 1L = Filtered for "TOTAL"
1L = UNFILTERED for "Dissolved"

Sample No	Sample Name	Sample Date	Sample Time	Container	Ctr Qty	Preservative	Requested Testing Program	Fil	CID	Condition On Receipt
5562	PBOW97-IT-MW06-GW-5562-FS	19-NOV-97	11:00	1000 ml A GLASS	2	NONE	Nitroaromatics by SW-846 8330 in water	N		
5562	PBOW97-IT-MW06-GW-5562-FS	19-NOV-97	11:00	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		
5562	PBOW97-IT-MW06-GW-5562-FS	19-NOV-97	11:00	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5562	PBOW97-IT-MW06-GW-5562-FS	19-NOV-97	11:00	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5562	PBOW97-IT-MW06-GW-5562-FS	19-NOV-97	11:00	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5612	PBOW97-PB-TNTA-MW10-GW-5612-FS	18-NOV-97	14:15	1000 ml A GLASS	2	NONE	Nitroaromatics by SW-846 8330 in water	N		
5612	PBOW97-PB-TNTA-MW10-GW-5612-FS	18-NOV-97	14:15	1000 ml HDPE	2	HNO3, pH<2	TAL Metals by SW-846 6010A/7470 in water	N		
5612	PBOW97-PB-TNTA-MW10-GW-5612-FS	18-NOV-97	14:15	1000 ml A GLASS	2	NONE	PCBs by SW8081 in water	N		
5612	PBOW97-PB-TNTA-MW10-GW-5612-FS	18-NOV-97	14:15	1000 ml A GLASS	2	NONE	TCL Semivolatiles by SW-846 8270B in wate	N		
5612	PBOW97-PB-TNTA-MW10-GW-5612-FS	18-NOV-97	14:15	40 ml GVIAL,SEP	3	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		
5613	PBOW97-PB-TNTA-MW10-BW-5613-TB	18-NOV-97	07:15	40 ml VOA VIAL	2	HCl, pH<2	TCL Volatiles by SW-846 8260A in water	N		

003

771481

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd

Login#: 131462 Date Received: 11/20 Number of Coolers: 1
Client: FT Project: 771481 Plumbrook

A. Preliminary Examination Phase
Date Opened: 11/20 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: Fed ex 800185090631
2. Were custody seals on outside of cooler? ..... YES NO
   How many and where? 1 front Seal date: 11/19 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: wet Temperature: 4.75°C

B. Login Phase
Date Logged In: 11/20 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:

CUSTODY SEAL

Filename: F:\qc\forms\cooler.wpd

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 ph
(510)486-0532 fx

Project Number: 131462

Subcontract Lab:

Quanterra
880 Riverside Parkway
West Sacramento, CA 95605
(916) 373-5600

Please send report to: Carol Wortham

Turnaround Time: Normal

Sample ID	Date Sampled	Matrix	Analysis	C&T Lab #
5562	19-NOV-97	Water	8330 *	131462-001
5612	18-NOV-97	Water	8330 *	131462-002

***Please report using Sample ID instead of C&T Lab #.

Notes:	RELINQUISHED BY:	RECEIVED BY:
	11/20/97 Date/Time	112197 @ 09:45 Date/Time
	Date/Time	Date/Time

* Hold Extract 11/26 & 11/25 respectively

Signature on this form constitutes a firm Purchase Order for the services requested above.

Received in good condition. MCD (12/9)