TETRA TECH NUS

PHIL-19522

TO:	RUSS TURNER	DATE:	SEPTEMBER 29, 2005
FROM:	MEGAN N. RITCHIE	COPIES:	FILE

SUBJECT: ORGANIC DATA VALIDATION – VOCS, METHANE, ETHYLENE, ETHANE, 1,4-DIOXANE
NAS JRB WILLOW GROVE, PENNSYLVANIA
SDG NO. T4384

SAMPLES: 5/Aqueous/

05MW13I	05MW15I	TB-082405
05MW14S	05MW15S	

OVERVIEW

The sample set for NAS JRB Willow Grove Site 5 – Willow Grove, PA, SDG T4384 consists of four aqueous environmental samples (designated 05MW-) and one field quality control (QC) blank (designated TB-). No field duplicate pairs were included in this sample set. All samples were analyzed for target compound list (TCL) Volatile Organic Compounds (VOCs), Methane, Ethylene, Ethane, and 1,4-Dioxane. The trip blank was analyzed for VOCs only.

The samples were collected by Tetra Tech NUS on August 24, 2005 and analyzed by Chemtech of Mountainside, New Jersey.

All analyses were conducted using EPA SW-846 Methods 8260 for VOCs and 8270 for 1,4-Dioxane. Methane, ethylene, and ethane were analyzed using the Robert S. Kerr (RSK) Method RSKSOP-147/175.

SUMMARY

All analytes were successfully analyzed in all samples. The findings offered in this report are based upon a general review of all available data including data completeness, holding times until analysis, GC/MS tuning and calibration data, laboratory and field quality control blank results, system monitoring compound recoveries, matrix spike/matrix spike duplicate results, laboratory control spike/spike duplicate results, internal standards performance, compound identification, and compound quantitation.

MAJOR PROBLEMS

- The initial and continuing calibration for acetone, 1,2-dibromo-3-chloropropane, and 2-hexanone exhibited relative response factors (RRFs) below 0.05. Non-detected results for these compounds in the associated samples were qualified as unusable (UR). Positive results for acetone in the associated samples were qualified as estimated (J).

MINOR PROBLEMS

- The recoveries for system monitoring compounds 1,2-dichloroethane-d4 and dibromofluoromethane exceeded the QC criteria of 119% and 115%, respectively, in sample 05MW14S. The sample was

reanalyzed with the same system monitoring compounds exceeding QC criteria. The original run of this sample was reported. All positive and non-detected compounds in this sample were qualified as estimated (J/UJ).

- Positive results at concentrations less than the Reporting Limits (RLs) were qualified as estimated (J).

NOTES

The percent relative standard deviation (%RSD) for carbon disulfide exceeded QC criteria of 30% in the initial calibration. No qualifications were made because there were no detections of carbon disulfide in the associated samples.

Several continuing calibration compound percent differences (%Ds) exceeded QC criteria of 25%. No qualifications were made because there were no positive results for those compounds in the associated samples.

The methane, ethylene, ethane, and 1,4-dioxane data is acceptable as reported by the laboratory.

EXECUTIVE SUMMARY

Laboratory Performance: Three compounds exhibited RRFs below the QC criteria in the initial and continuing calibrations. One compound exceeded initial calibration RSD criteria. Several compounds exceeded continuing calibration %D criteria. One sample exhibited system monitoring compounds that exceeded QC criteria.

Other Factors Affecting Data Quality: None.

The data for these analyses were reviewed with reference to the EPA "Functional Guidelines for Organic Data Review", as amended for use within EPA Region 3 (9/94).

The text of this report has been formatted to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the Functional Guidelines and the Quality Assurance Project Plan (QAPjP)."

Megan N. Ritchie

Megan N. Ritchie
Chemist

Russ Slo

Tetra Tech NUS, Inc.
Russell Sloboda
Data Validation Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

APPENDIX A

Qualified Analytical Results

PROJ_NO: 2192

SDG: T4384 MEDIA: WATER DATA FRACTION: OV

nsample	05MW13I
samp_date	8/24/2005
lab_id	T4384-04
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	29		
1,1-DICHLOROETHENE	29		
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	UR	C
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	U	
2-HEXANONE	0.57	UR	C
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	UR	C
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	4.8		
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	
DICHLORODIFLUOROMETHANE	0.12	U	

nsample	05MW13I
samp_date	8/24/2005
lab_id	T4384-04
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	0.42	U	
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	1		
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	13		
TRICHLOROFLUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.08	U	

nsample	05MW13IDL
samp_date	8/24/2005
lab_id	T4384-04DL
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	28		

PROJ_NO: 2192

SDG: T4384 MEDIA: WATER DATA FRACTION: OV

nsample	05MW14S
samp_date	8/24/2005
lab_id	T4384-05
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.16	UJ	R
1,1,2,2-TETRACHLOROETHANE	0.09	UJ	R
1,1,2-TRICHLOROETHANE	0.11	UJ	R
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	UJ	R
1,1-DICHLOROETHANE	0.17	UJ	R
1,1-DICHLOROETHENE	0.19	UJ	R
1,2,4-TRICHLOROBENZENE	0.08	UJ	R
1,2-DIBROMO-3-CHLOROPROPANE	0.2	UR	C
1,2-DIBROMOETHANE	0.12	UJ	R
1,2-DICHLOROBENZENE	0.08	UJ	R
1,2-DICHLOROETHANE	0.13	UJ	R
1,2-DICHLOROPROPANE	0.15	UJ	R
1,3-DICHLOROBENZENE	0.1	UJ	R
1,4-DICHLOROBENZENE	0.12	UJ	R
2-BUTANONE	0.23	UJ	R
2-HEXANONE	0.57	UR	C
4-METHYL-2-PENTANONE	0.46	UJ	R
ACETONE	3.3	J	CPR
BENZENE	0.15	UJ	R
BROMODICHLOROMETHANE	0.14	UJ	R
BROMOFORM	0.09	UJ	R
BROMOMETHANE	0.18	UJ	R
CARBON DISULFIDE	0.11	UJ	R
CARBON TETRACHLORIDE	0.16	UJ	R
CHLOROBENZENE	0.11	UJ	R
CHLORODIBROMOMETHANE	0.13	UJ	R
CHLOROETHANE	0.46	UJ	R
CHLOROFORM	0.16	UJ	R
CHLOROMETHANE	0.08	UJ	R
CIS-1,2-DICHLOROETHENE	0.09	UJ	R
CIS-1,3-DICHLOROPROPENE	0.12	UJ	R
CYCLOHEXANE	0.15	UJ	R

nsample	05MW14S
samp_date	8/24/2005
lab_id	T4384-05
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	UJ	R
ETHYLBENZENE	0.11	UJ	R
ISOPROPYLBENZENE	0.12	UJ	R
M+P-XYLENES	0.24	UJ	R
METHYL ACETATE	0.16	UJ	R
METHYL CYCLOHEXANE	0.14	UJ	R
METHYL TERT-BUTYL ETHER	0.22	UJ	R
METHYLENE CHLORIDE	0.42	UJ	R
O-XYLENE	0.13	UJ	R
STYRENE	0.11	UJ	R
TETRACHLOROETHENE	0.12	UJ	R
TOLUENE	0.11	UJ	R
TOTAL XYLENES	0.37	UJ	R
TRANS-1,2-DICHLOROETHENE	0.1	UJ	R
TRANS-1,3-DICHLOROPROPENE	0.1	UJ	R
TRICHLOROETHENE	0.12	UJ	R
TRICHLOROFLUOROMETHANE	0.1	UJ	R
VINYL CHLORIDE	0.08	UJ	R

nsample	05MW15I
samp_date	8/24/2005
lab_id	T4384-02
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	2.4		
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	1.4		
1,1-DICHLOROETHENE	1.8		
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	UR	C
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	U	
2-HEXANONE	0.57	U	
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	UR	C
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	0.09	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

PROJ_NO: 2192

SDG: T4384 MEDIA: WATER DATA FRACTION: OV

nsample	05MW15I
samp_date	8/24/2005
lab_id	T4384-02
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	0.42	U	
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	1		
TRICHLOROFLUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.08	U	

nsample	05MW15S
samp_date	8/24/2005
lab_id	T4384-03
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.16	U	
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	0.17	U	
1,1-DICHLOROETHENE	0.19	U	
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	UR	C
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	U	
2-HEXANONE	0.57	UR	C
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	UR	C
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	0.09	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

nsample	05MW15S
samp_date	8/24/2005
lab_id	T4384-03
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	0.42	U	
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	0.12	U	
TRICHLOROFLUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.08	U	

PROJ_NO: 2192

SDG: T4384 MEDIA: WATER DATA FRACTION: OV

nsample	TB-082405
samp_date	8/24/2005
lab_id	T4384-01
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.16	U	
1,1,2,2-TETRACHLOROETHANE	0.09	U	
1,1,2-TRICHLOROETHANE	0.11	U	
1,1,2-TRICHLOROTRIFLUOROETHANE	0.13	U	
1,1-DICHLOROETHANE	0.17	U	
1,1-DICHLOROETHENE	0.19	U	
1,2,4-TRICHLOROBENZENE	0.08	U	
1,2-DIBROMO-3-CHLOROPROPANE	0.2	UR	C
1,2-DIBROMOETHANE	0.12	U	
1,2-DICHLOROBENZENE	0.08	U	
1,2-DICHLOROETHANE	0.13	U	
1,2-DICHLOROPROPANE	0.15	U	
1,3-DICHLOROBENZENE	0.1	U	
1,4-DICHLOROBENZENE	0.12	U	
2-BUTANONE	0.23	U	
2-HEXANONE	0.57	UR	C
4-METHYL-2-PENTANONE	0.46	U	
ACETONE	1.6	UR	C
BENZENE	0.15	U	
BROMODICHLOROMETHANE	0.14	U	
BROMOFORM	0.09	U	
BROMOMETHANE	0.18	U	
CARBON DISULFIDE	0.11	U	
CARBON TETRACHLORIDE	0.16	U	
CHLOROBENZENE	0.11	U	
CHLORODIBROMOMETHANE	0.13	U	
CHLOROETHANE	0.46	U	
CHLOROFORM	0.16	U	
CHLOROMETHANE	0.08	U	
CIS-1,2-DICHLOROETHENE	0.09	U	
CIS-1,3-DICHLOROPROPENE	0.12	U	
CYCLOHEXANE	0.15	U	

nsample	TB-082405
samp_date	8/24/2005
lab_id	T4384-01
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
DICHLORODIFLUOROMETHANE	0.12	U	
ETHYLBENZENE	0.11	U	
ISOPROPYLBENZENE	0.12	U	
M+P-XYLENES	0.24	U	
METHYL ACETATE	0.16	U	
METHYL CYCLOHEXANE	0.14	U	
METHYL TERT-BUTYL ETHER	0.22	U	
METHYLENE CHLORIDE	0.42	U	
O-XYLENE	0.13	U	
STYRENE	0.11	U	
TETRACHLOROETHENE	0.12	U	
TOLUENE	0.11	U	
TOTAL XYLENES	0.37	U	
TRANS-1,2-DICHLOROETHENE	0.1	U	
TRANS-1,3-DICHLOROPROPENE	0.1	U	
TRICHLOROETHENE	0.12	U	
TRICHLOROFLUOROMETHANE	0.1	U	
VINYL CHLORIDE	0.08	U	

PROJ_NO: 2192

SDG: T4384 MEDIA: WATER DATA FRACTION: OVG

nsample	05MW13I
samp_date	8/24/2005
lab_id	T4384-04
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	5	U	
ETHENE	5	U	
METHANE	5	U	

nsample	05MW14S
samp_date	8/24/2005
lab_id	T4384-05
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	5	U	
ETHENE	5	U	
METHANE	5	U	

nsample	05MW15I
samp_date	8/24/2005
lab_id	T4384-02
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	5	U	
ETHENE	5	U	
METHANE	5	U	

PROJ_NO: 2192

SDG: T4384 MEDIA: WATER DATA FRACTION: OVG

nsample	05MW15S
samp_date	8/24/2005
lab_id	T4384-03
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
ETHANE	5	U	
ETHENE	5	U	
METHANE	5	U	

PROJ_NO: 2192

SDG: T4384 MEDIA: WATER DATA FRACTION: OS

nsample	05MW13I
samp_date	8/24/2005
lab_id	T4384-04
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2.1	U	

nsample	05MW14S
samp_date	8/24/2005
lab_id	T4384-05
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2	U	

nsample	05MW15I
samp_date	8/24/2005
lab_id	T4384-02
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2	U	

PROJ_NO: 2192

SDG: T4384 MEDIA: WATER DATA FRACTION: OS

nsample	05MW15S
samp_date	8/24/2005
lab_id	T4384-03
qc_type	NM
units	UG/L
Pct_Solids	0.0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,4-DIOXANE	2	U	

Qualifier Codes:

a	=	Lab Blank Contamination
b	=	Field Blank Contamination
c	=	Calibration (i.e., %RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
d	=	MS/MSD Noncompliance
e	=	LSC/LSCD Noncompliance
f	=	Laboratory Duplicate Imprecision
g	=	Field Duplicate Imprecision
h	=	Holding Time Exceedance
i	=	ICP Serial Dilution Noncompliance
j	=	GFAA PDS – GFAA MSA's r<0.995 (correlation coefficient)
k	=	ICP Interference – include ICSAB %Rs
l	=	Instrument Calibration Range Exceedance
m	=	Sample Preservation
n	=	Internal Standard Noncompliance
o	=	Poor Instrument Performance (i.e. baseline drifting)
p	=	Uncertainty Near Detection Limit (<2 x IDL for inorganics and < CRQL for organics)
q	=	Other Problems (can encompass of number of issues)
r	=	Surrogates Recovery Noncompliance
s	=	Pesticide/PCB Resolution
t	=	% Breakdown Noncompliance for DDT and Endrin
u	=	Pesticide/PCB % Difference Between Columns for Positive Results
v	=	Non-linear Calibrations, Tuning r <0.995 (correlation coefficient)

Data Qualifier Key:

B	-	Positive result is considered to be an artifact of blank contamination and should not be considered present.
J	-	Value is considered estimated due to exceedance of technical quality control or because result is less than the Contract Required Quantitation Limit (CRQL).
L	-	Positive result is considered biased low due to exceedance of technical quality control criteria.
R	-	Positive result is considered unusable due to exceedance of technical quality control criteria.
U	-	Value is a non-detected result as reported by the laboratory.
UJ	-	Non-detected result is considered estimated due to exceedance of technical quality control criteria.
UL	-	Non-detected result is considered biased low due to exceedance of technical quality control criteria.

APPENDIX B

Results as Reported by the Laboratory

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW13I	SDG No.:	T4384
Lab Sample ID:	T4384-04	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Vol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090236.D	1	9/3/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.08	U	1.0	0.08	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	29		1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	29		1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	4.8		1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	41	E	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	13		1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Ph ne: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW13I	SDG No.:	T4384
Lab Sample ID:	T4384-04	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Wol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090236.D	1	9/3/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	1.0		1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	9.47	95 %	72 - 119	SPK: 10	
1868-53-7	Dibromofluoromethane	10.82	108 %	85 - 115	SPK: 10	
2037-26-5	Toluene-d8	9.17	92 %	81 - 120	SPK: 10	
460-00-4	4-Bromofluorobenzene	9.46	95 %	76 - 119	SPK: 10	
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	686895	3.84			
540-36-3	1,4-Difluorobenzene	1069768	4.29			
3114-55-4	Chlorobenzene-d5	652593	7.35			
3855-82-1	1,4-Dichlorobenzene-d4	404509	9.64			

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW13IDL	SDG No.:	T4384
Lab Sample ID:	T4384-04DL	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Vol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090616.D	5	9/6/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.62	U	5.0	0.62	ug/L
74-87-3	Chloromethane	0.40	U	5.0	0.40	ug/L
75-01-4	Vinyl chloride	0.42	U	5.0	0.42	ug/L
74-83-9	Bromomethane	0.88	U	5.0	0.88	ug/L
75-00-3	Chloroethane	2.3	U	5.0	2.3	ug/L
75-69-4	Trichlorofluoromethane	0.52	U	5.0	0.52	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.64	U	5.0	0.64	ug/L
75-35-4	1,1-Dichloroethene	19	D	5.0	0.94	ug/L
67-64-1	Acetone	7.9	U	25	7.9	ug/L
75-15-0	Carbon disulfide	0.55	U	5.0	0.55	ug/L
1634-04-4	Methyl tert-butyl Ether	1.1	U	5.0	1.1	ug/L
79-20-9	Methyl Acetate	0.80	U	5.0	0.80	ug/L
75-09-2	Methylene Chloride	2.1	U	5.0	2.1	ug/L
156-60-5	trans-1,2-Dichloroethene	0.50	U	5.0	0.50	ug/L
75-34-3	1,1-Dichloroethane	20	D	5.0	0.84	ug/L
110-82-7	Cyclohexane	0.73	U	5.0	0.73	ug/L
78-93-3	2-Butanone	1.2	U	25	1.2	ug/L
56-23-5	Carbon Tetrachloride	0.78	U	5.0	0.78	ug/L
156-59-2	cis-1,2-Dichloroethene	0.46	U	5.0	0.46	ug/L
67-66-3	Chloroform	0.80	U	5.0	0.80	ug/L
71-55-6	1,1,1-Trichloroethane	28	D	5.0	0.81	ug/L
108-87-2	Methylcyclohexane	0.68	U	5.0	0.68	ug/L
71-43-2	Benzene	0.74	U	5.0	0.74	ug/L
107-06-2	1,2-Dichloroethane	0.64	U	5.0	0.64	ug/L
79-01-6	Trichloroethene	11	D	5.0	0.58	ug/L
78-87-5	1,2-Dichloropropane	0.76	U	5.0	0.76	ug/L
75-27-4	Bromodichloromethane	0.68	U	5.0	0.68	ug/L
108-10-1	4-Methyl-2-Pentanone	2.3	U	25	2.3	ug/L
108-88-3	Toluene	0.54	U	5.0	0.54	ug/L
10061-02-6	t-1,3-Dichloropropene	0.48	U	5.0	0.48	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.60	U	5.0	0.60	ug/L
79-00-5	1,1,2-Trichloroethane	0.56	U	5.0	0.56	ug/L

U = Not Detected
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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW13IDL	SDG No.:	T4384
Lab Sample ID:	T4384-04DL	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Wol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090616.D	5	9/6/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	2.9	U	25	2.9	ug/L
124-48-1	Dibromochloromethane	0.65	U	5.0	0.65	ug/L
106-93-4	1,2-Dibromoethane	0.60	U	5.0	0.60	ug/L
127-18-4	Tetrachloroethene	0.61	U	5.0	0.61	ug/L
108-90-7	Chlorobenzene	0.55	U	5.0	0.55	ug/L
100-41-4	Ethyl Benzene	0.57	U	5.0	0.57	ug/L
126777-61-2	m&p-Xylenes	1.2	U	5.0	1.2	ug/L
95-47-6	o-Xylene	0.65	U	5.0	0.65	ug/L
100-42-5	Styrene	0.56	U	5.0	0.56	ug/L
75-25-2	Bromoform	0.47	U	5.0	0.47	ug/L
98-82-8	Isopropylbenzene	0.61	U	5.0	0.61	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.46	U	5.0	0.46	ug/L
541-73-1	1,3-Dichlorobenzene	0.48	U	5.0	0.48	ug/L
106-46-7	1,4-Dichlorobenzene	0.62	U	5.0	0.62	ug/L
95-50-1	1,2-Dichlorobenzene	0.42	U	5.0	0.42	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1.0	U	5.0	1.0	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.42	U	5.0	0.42	ug/L
1330-20-7	Total Xylenes	1.8	U	10	1.8	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	9.16	92 %	72 - 119	SPK: 10	
1868-53-7	Dibromofluoromethane	10.4	104 %	85 - 115	SPK: 10	
2037-26-5	Toluene-d8	10.36	104 %	81 - 120	SPK: 10	
460-00-4	4-Bromofluorobenzene	9.42	94 %	76 - 119	SPK: 10	
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	875751	3.83			
540-36-3	1,4-Difluorobenzene	1378025	4.28			
3114-55-4	Chlorobenzene-d5	936191	7.34			
3855-82-1	1,4-Dichlorobenzene-d4	488318	9.63			

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.		
Project:	NAS JRB Willow Grove	Date Collected:	8/24/2005
Client Sample ID:	05MW14S	Date Received:	8/25/2005
Lab Sample ID:	T4384-05	SDG No.:	T4384
Analytical Method:	8260-low	Matrix:	WATER
Sample Wt/Vol:	25.0 Units: mL	% Moisture:	100
Soil Aliquot Vol:	uL	Soil Extract Vol:	uL

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090237.D	1	9/3/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.08	U	1.0	0.08	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	3.3	J	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW14S	SDG No.:	T4384
Lab Sample ID:	T4384-05	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Vol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090237.D	1	9/3/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	14.55	146 %	72 - 119	SPK: 10	
1868-53-7	Dibromofluoromethane	12.57	126 %	85 - 115	SPK: 10	
2037-26-5	Toluene-d8	9.44	94 %	81 - 120	SPK: 10	
460-00-4	4-Bromofluorobenzene	10.37	104 %	76 - 119	SPK: 10	
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	708526	3.85			
540-36-3	1,4-Difluorobenzene	1196853	4.29			
3114-55-4	Chlorobenzene-d5	793906	7.35			
3855-82-1	1,4-Dichlorobenzene-d4	495041	9.64			

U = Not Detected
RL = Reporting Limit
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E = Value Exceeds Calibration Range
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

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Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW14SRE	SDG No.:	T4384
Lab Sample ID:	T4384-05RE	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Vol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090628.D	1	9/7/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.08	U	1.0	0.08	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range
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B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW14SRE	SDG No.:	T4384
Lab Sample ID:	T4384-05RE	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Wol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090628.D	1	9/7/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	13.68	137 %	72 - 119	SPK: 10	
1868-53-7	Dibromofluoromethane	11.7	117 %	85 - 115	SPK: 10	
2037-26-5	Toluene-d8	9.28	93 %	81 - 120	SPK: 10	
460-00-4	4-Bromofluorobenzene	10.28	103 %	76 - 119	SPK: 10	
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	741692	3.83			
540-36-3	1,4-Difluorobenzene	1344567	4.28			
3114-55-4	Chlorobenzene-d5	932446	7.34			
3855-82-1	1,4-Dichlorobenzene-d4	528080	9.64			

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date C llected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW15I	SDG No.:	T4384
Lab Sample ID:	T4384-02	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Wol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090627.D	1	9/7/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.08	U	1.0	0.08	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	1.8		1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	1.4		1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	2.4		1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	1.0		1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

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CHEMTECH 284 Sheffield Street, M untainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Will w Grove	Date Received:	8/25/2005
Client Sample ID:	05MW15I	SDG No.:	T4384
Lab Sample ID:	T4384-02	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Wol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090627.D	1	9/7/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	9.47	95 %	72 - 119	SPK: 10	
1868-53-7	Dibromofluoromethane	11.26	113 %	85 - 115	SPK: 10	
2037-26-5	Toluene-d8	8.96	90 %	81 - 120	SPK: 10	
460-00-4	4-Bromofluorobenzene	8.89	89 %	76 - 119	SPK: 10	
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	708778	3.84			
540-36-3	1,4-Difluorobenzene	1090982	4.28			
3114-55-4	Chlorobenzene-d5	659274	7.34			
3855-82-1	1,4-Dichlorobenzene-d4	429570	9.64			

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.		
Project:	NAS JRB Willow Grove	Date Collected:	8/24/2005
Client Sample ID:	05MW15S	Date Received:	8/25/2005
Lab Sample ID:	T4384-03	SDG No.:	T4384
Analytical Method:	8260-low	Matrix:	WATER
Sample Wt/Vol:	25.0 Units: mL	% Moisture:	100
Soil Aliquot Vol:	uL	Soil Extract Vol:	uL

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090235.D	1	9/3/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.08	U	1.0	0.08	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected
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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW15S	SDG No.:	T4384
Lab Sample ID:	T4384-03	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Vol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090235.D	1	9/3/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	10.05	100 %	72 - 119	SPK: 10	
1868-53-7	Dibromofluoromethane	11.4	114 %	85 - 115	SPK: 10	
2037-26-5	Toluene-d8	9.3	93 %	81 - 120	SPK: 10	
460-00-4	4-Bromofluorobenzene	8.84	88 %	76 - 119	SPK: 10	
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	680304	3.84			
540-36-3	1,4-Difluorobenzene	1075639	4.29			
3114-55-4	Chlorobenzene-d5	648328	7.35			
3855-82-1	1,4-Dichlorobenzene-d4	382628	9.65			

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B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

GEMTECH 284 Sheffield Street, M untainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.		
Project:	NAS JRB Willow Grove	Date Collected:	8/24/2005
Client Sample ID:	TB-082405	Date Received:	8/25/2005
Lab Sample ID:	T4384-01	SDG No.:	T4384
Analytical Method:	8260-low	Matrix:	WATER
Sample Wt/Vol:	25.0 Units: mL	% Moisture:	100
Soil Aliquot Vol:	uL	Soil Extract Vol:	uL

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090321.D	1	9/4/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
75-71-8	Dichlorodifluoromethane	0.12	U	1.0	0.12	ug/L
74-87-3	Chloromethane	0.08	U	1.0	0.08	ug/L
75-01-4	Vinyl chloride	0.08	U	1.0	0.08	ug/L
74-83-9	Bromomethane	0.18	U	1.0	0.18	ug/L
75-00-3	Chloroethane	0.46	U	1.0	0.46	ug/L
75-69-4	Trichlorofluoromethane	0.10	U	1.0	0.10	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	0.13	U	1.0	0.13	ug/L
75-35-4	1,1-Dichloroethene	0.19	U	1.0	0.19	ug/L
67-64-1	Acetone	1.6	U	5.0	1.6	ug/L
75-15-0	Carbon disulfide	0.11	U	1.0	0.11	ug/L
1634-04-4	Methyl tert-butyl Ether	0.22	U	1.0	0.22	ug/L
79-20-9	Methyl Acetate	0.16	U	1.0	0.16	ug/L
75-09-2	Methylene Chloride	0.42	U	1.0	0.42	ug/L
156-60-5	trans-1,2-Dichloroethene	0.10	U	1.0	0.10	ug/L
75-34-3	1,1-Dichloroethane	0.17	U	1.0	0.17	ug/L
110-82-7	Cyclohexane	0.15	U	1.0	0.15	ug/L
78-93-3	2-Butanone	0.23	U	5.0	0.23	ug/L
56-23-5	Carbon Tetrachloride	0.16	U	1.0	0.16	ug/L
156-59-2	cis-1,2-Dichloroethene	0.09	U	1.0	0.09	ug/L
67-66-3	Chloroform	0.16	U	1.0	0.16	ug/L
71-55-6	1,1,1-Trichloroethane	0.16	U	1.0	0.16	ug/L
108-87-2	Methylcyclohexane	0.14	U	1.0	0.14	ug/L
71-43-2	Benzene	0.15	U	1.0	0.15	ug/L
107-06-2	1,2-Dichloroethane	0.13	U	1.0	0.13	ug/L
79-01-6	Trichloroethene	0.12	U	1.0	0.12	ug/L
78-87-5	1,2-Dichloropropane	0.15	U	1.0	0.15	ug/L
75-27-4	Bromodichloromethane	0.14	U	1.0	0.14	ug/L
108-10-1	4-Methyl-2-Pentanone	0.46	U	5.0	0.46	ug/L
108-88-3	Toluene	0.11	U	1.0	0.11	ug/L
10061-02-6	t-1,3-Dichloropropene	0.10	U	1.0	0.10	ug/L
10061-01-5	cis-1,3-Dichloropropene	0.12	U	1.0	0.12	ug/L
79-00-5	1,1,2-Trichloroethane	0.11	U	1.0	0.11	ug/L

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range
J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date C llected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	TB-082405	SDG No.:	T4384
Lab Sample ID:	T4384-01	Matrix:	WATER
Analytical Method:	8260-low	% Moisture:	100
Sample Wt/Wol:	25.0 Units: mL	Soil Extract Vol:	uL
Soil Aliquot Vol:	uL		

File ID:	Dilution:	Date Analyzed	Analytical Batch ID
VI090321.D	1	9/4/2005	VI082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
591-78-6	2-Hexanone	0.57	U	5.0	0.57	ug/L
124-48-1	Dibromochloromethane	0.13	U	1.0	0.13	ug/L
106-93-4	1,2-Dibromoethane	0.12	U	1.0	0.12	ug/L
127-18-4	Tetrachloroethene	0.12	U	1.0	0.12	ug/L
108-90-7	Chlorobenzene	0.11	U	1.0	0.11	ug/L
100-41-4	Ethyl Benzene	0.11	U	1.0	0.11	ug/L
126777-61-2	m&p-Xylenes	0.24	U	1.0	0.24	ug/L
95-47-6	o-Xylene	0.13	U	1.0	0.13	ug/L
100-42-5	Styrene	0.11	U	1.0	0.11	ug/L
75-25-2	Bromoform	0.09	U	1.0	0.09	ug/L
98-82-8	Isopropylbenzene	0.12	U	1.0	0.12	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	0.09	U	1.0	0.09	ug/L
541-73-1	1,3-Dichlorobenzene	0.10	U	1.0	0.10	ug/L
106-46-7	1,4-Dichlorobenzene	0.12	U	1.0	0.12	ug/L
95-50-1	1,2-Dichlorobenzene	0.08	U	1.0	0.08	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	0.20	U	1.0	0.20	ug/L
120-82-1	1,2,4-Trichlorobenzene	0.08	U	1.0	0.08	ug/L
1330-20-7	Total Xylenes	0.37	U	2.0	0.37	ug/L
SURROGATES						
17060-07-0	1,2-Dichloroethane-d4	9.27	93 %	72 - 119	SPK: 10	
1868-53-7	Dibromofluoromethane	11	110 %	85 - 115	SPK: 10	
2037-26-5	Toluene-d8	9.33	93 %	81 - 120	SPK: 10	
460-00-4	4-Bromofluorobenzene	9.53	95 %	76 - 119	SPK: 10	
INTERNAL STANDARDS						
363-72-4	Pentafluorobenzene	724736	3.84			
540-36-3	1,4-Difluorobenzene	1108489	4.29			
3114-55-4	Chlorobenzene-d5	713306	7.34			
3855-82-1	1,4-Dichlorobenzene-d4	411953	9.64			

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH

GC Volatil s
DETECTOR: FID

Tabulated Analytical Results
Gas s

CLIENT: TETRA TECH NUS, Inc.
PROJECT: NAS JRB Willow Gro
SAMPLE ID: 05MW13I
LAB ID: T4384-04
FILENAME: F:\DATA3\D082611.RAW
LAB PROJECT: T4384

MATRIX: AQUEOUS
DATE ANALYZED: 8/26/05
ANALYST: PHM
DILUTION: 1

CAS #	COMPOUNDS	RESULTS (ug/l)	QUALIFIER	RDL (ug/l)
74-82-8	METHANE	< 5.0	U	5.0
74-85-1	ETHYLENE	< 5.0	U	5.0
74-84-0	ETHANE	< 5.0	U	5.0

MDL = METHOD DETECTION LIMIT
U =UNDETECTED BELOW MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

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CHEMTECH

GC V latil s
DETECTOR: FID

Tabulated Analytical Results
Gas s

CLIENT: TETRA TECH NUS, Inc.
PROJECT: NAS JRB Willow Gro
SAMPLE ID: 05MW14S
LAB ID: T4384-05
FILENAME: F:\DATA3\D082612.RAW
LAB PROJECT: T4384

MATRIX: AQUEOUS
DATE ANALYZED: 8/26/05
ANALYST: PHM
DILUTION: 1

CAS #	COMPOUNDS	RESULTS (ug/l)	QUALIFIER	RDL (ug/l)
74-82-8	METHANE	< 5.0	U	5.0
74-85-1	ETHYLENE	< 5.0	U	5.0
74-84-0	ETHANE	< 5.0	U	5.0

MDL = METHOD DETECTION LIMIT
U =UNDETECTED BELOW MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

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CHEMTECH

GC Volatiles
DETECTOR: FID

Tabulated Analytical Results
Gas s

CLIENT: TETRA TECH NUS, Inc.
PROJECT: NAS JRB Willow Gro
SAMPLE ID: 05MW15I
LAB ID: T4384-02
FILENAME: F:\DATA3\D082609.RAW
LAB PROJECT: T4384

MATRIX: AQUEOUS
DATE ANALYZED: 8/26/05
ANALYST: PHM
DILUTION: 1

CAS #	COMPOUNDS	RESULTS (ug/l)	QUALIFIER	RDL (ug/l)
74-82-8	METHANE	< 5.0	U	5.0
74-85-1	ETHYLENE	< 5.0	U	5.0
74-84-0	ETHANE	< 5.0	U	5.0

MDL = METHOD DETECTION LIMIT
U =UNDETECTED BELOW MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

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CHEMTECH

GC Volatiles
DETECTOR: FID

Tabulated Analytical R sults
Gas s

CLIENT: TETRA TECH NUS, Inc.
PROJECT: NAS JRB Willow Gro
SAMPLE ID: 05MW15S
LAB ID: T4384-03
FILENAME: F:\DATA3\D082610.RAW
LAB PROJECT: T4384

MATRIX: AQUEOUS
DATE ANALYZED: 8/26/05
ANALYST: PHM
DILUTION: 1

CA #	COMPOUNDS	RESULTS (ug/l)	QUALIFIER	RDL (ug/l)
74-82-8	METHANE	< 5.0	U	5.0
74-85-1	ETHYLENE	< 5.0	U	5.0
74-84-0	ETHANE	< 5.0	U	5.0

MDL = METHOD DETECTION LIMIT
U =UNDETECTED BELOW MDL
B = PRESENT IN THE ASSOCIATED BLANK
E = EXCEEDED CALIBRATION RANGE, DILUTION TO FOLLOW
D = DILUTION

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CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW13I	SDG No.:	T4384-01
Lab Sample ID:	T4384-04	Matrix:	WATER
Analytical Method:	~~dioxane~~ 8270	% Moisture:	100
Sample Wt/Vol:	970.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BA020895.D	1	8/29/2005	9/6/2005	BA082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.1	U	2.1	2.1	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	109140	7.43			
1146-65-2	Naphthalene-d8	270839	9.82			
15067-26-2	Acenaphthene-d10	188454	13.31			
1517-22-2	Phenanthrene-d10	328065	16.29			
1719-03-5	Chrysene-d12	356228	21.62			
1520-96-3	Perylene-d12	397592	24.90			

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW14S	SDG No.:	T4384-01
Lab Sample ID:	T4384-05	Matrix:	WATER
Analytical Method:	~~dioxane~~ 8270	% Moisture:	100
Sample Wt/Vol:	980.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BA020896.D	1	8/29/2005	9/7/2005	BA082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.0	U	2.0	2.0	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	94864	7.42			
1146-65-2	Naphthalene-d8	245040	9.82			
15067-26-2	Acenaphthene-d10	163989	13.31			
1517-22-2	Phenanthrene-d10	297116	16.29			
1719-03-5	Chrysene-d12	335469	21.63			
1520-96-3	Perylene-d12	360331	24.90			

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW15I	SDG No.:	T4384-01
Lab Sample ID:	T4384-02	Matrix:	WATER
Analytical Method:	~~dioxane~~ 8270	% Moisture:	100
Sample Wt/Wol:	980.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BA020893.D	1	8/29/2005	9/6/2005	BA082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.0	U	2.0	2.0	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	127654	7.42			
1146-65-2	Naphthalene-d8	333537	9.81			
15067-26-2	Acenaphthene-d10	224621	13.31			
1517-22-2	Phenanthrene-d10	370466	16.30			
1719-03-5	Chrysene-d12	402716	21.62			
1520-96-3	Perylene-d12	435381	24.90			

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908-789-8900 Fax: 908-789-8922

Report of Analysis

Client:	Tetra Tech NUS, Inc.	Date Collected:	8/24/2005
Project:	NAS JRB Willow Grove	Date Received:	8/25/2005
Client Sample ID:	05MW15S	SDG No.:	T4384-01
Lab Sample ID:	T4384-03	Matrix:	WATER
Analytical Method:	~~dioxane~~ 8270	% Moisture:	100
Sample Wt/Vol:	980.0 mL	Extract Vol:	1000 uL

File ID	Dilution	Date Extracted	Date Analyzed	Analytical Batch ID
BA020894.D	1	8/29/2005	9/6/2005	BA082305

CAS Number	Parameter	Conc.	Qualifier	RL	MDL	Units
TARGETS						
123-91-1	1,4-Dioxane	2.0	U	2.0	2.0	ug/L
INTERNAL STANDARDS						
3855-82-1	1,4-Dichlorobenzene-d4	106776	7.43			
1146-65-2	Naphthalene-d8	278542	9.81			
15067-26-2	Acenaphthene-d10	179174	13.31			
1517-22-2	Phenanthrene-d10	320372	16.29			
1719-03-5	Chrysene-d12	346906	21.62			
1520-96-3	Perylene-d12	389107	24.89			

U = Not Detected
RL = Reporting Limit
MDL = Method Detection Limit
E = Value Exceeds Calibration Range

J = Estimated Value
B = Analyte Found In Associated Method Blank
N = Presumptive Evidence of a Compound

APPENDIX C

Support Documentation

CHEMTECH
CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. T4384

COC Number 054193

CLIENT INFORMATION (REPORT TO BE SENT TO:)

COMPANY: Tetra Tech NUS
ADDRESS: 600 Clark Ave
CITY: King of Prussia STATE: PA ZIP: 19406
ATTENTION: Russ Turner
PHONE: 610 491 9688 FAX: 610 491 9645

CLIENT PROJECT INFORMATION

PROJECT NAME: NASJRB Willow Grove
PROJECT NO.: 2192 LOCATION: Willow Grove, PA
PROJECT MANAGER: Russ Turner
e-mail: rturner@ttnus.com
PHONE: FAX:

CLIENT BILLING INFORMATION

BILL TO: Tetra Tech NUS PO#:
ADDRESS: Foster Plaza 7 661 Anderson Dr.
CITY: Pittsburgh STATE: PA ZIP: 15220
ATTENTION: PHONE:

DATA TURNAROUND INFORMATION

FAX: _____ DAYS *
HARD COPY: _____ DAYS *
EDD: _____ DAYS *
* TO BE APPROVED BY CHEMTECH
STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

DATA DELIVERABLE INFORMATION

- ☐ RESULTS ONLY
- ☐ RESULTS + QC
- ☐ New Jersey REDUCED
- ☐ New Jersey CLP
- ☐ EDD FORMAT _____
- ☐ USEPA CLP
- ☐ New York State ASP "B"
- ☐ New York State ASP "A"
- ☐ Other _____

ANALYSIS

1	2	3	4	5	6	7	8	9
40 ml VOA vial	TCL VOC	1 Liter Amber	1L-Diesel	1 Liter Poly	Antonio ORP	40 ml VOA vial	Methane	500 ml Poly
								TOC

PRESERVATIVES

	1	2	3	4	5	6	7	8	9
	HCl	ICE	ICE	HCl	H_2SO_4				

COMMENTS ← Specify Preservatives
A – HCl B – HNO_3
C – H_2SO_4 D – NaOH
E – ICE F – Other

CHEMTECH SAMPLE ID	PROJECT SAMPLE IDENTIFICATION	SAMPLE MATRIX	SAMPLE TYPE COMP	SAMPLE TYPE GRAB	SAMPLE COLLECTION DATE	SAMPLE COLLECTION TIME	# OF BOTTLES	1	2	3	4	5	6	7	8	9	COMMENTS
1.	TB-082405	AQ		X	8/24/05	0700	3	3									Trip Blank Laboratory supplied
2.	05MW15I	GW		X	8/24/05	1040	8	3	1	1	2	1					
3.	05MW15S	GW		X	8/24/05	1230	8	3	1	1	2	1					
4.	05MW13I	GW		X	8/24/05	1355	8	3	1	1	2	1					
5.	05MW14S	GW		X	8/24/05	1605	8	3	1	1	2	1					
6.																	
7.																	
8.																	
9.																	
10.																	

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE/TIME:	RECEIVED BY:
1. [signature]	8/24/05/1900	1.
RELINQUISHED BY: 2.	DATE/TIME:	RECEIVED BY: 2.
RELINQUISHED BY: 3. FedEx	DATE/TIME: 950 8/25/05	RECEIVED FOR LAB BY: 3. Jim Munoz

Conditions of bottles or coolers at receipt: ☒ Compliant ☐ Non Compliant
MeOH extraction requires an additional 4 oz jar for percent solid.
Comments: Trip blank supplied by Laboratory
Shipped via FedEx airbill No. 8455 3266 2972

Cooler Temp. 4 °C
Ice in Cooler?: yes

Page 1 of 1

SHIPPED VIA: CLIENT: ☐ HAND DELIVERED ☒ OVERNIGHT
CHEMTECH: ☐ PICKED UP ☐ OVERNIGHT

Shipment Complete: ☒ YES ☐ NO

CHEMTECH

CASE NARRATIVE

Tetra Tech NUS, Inc.
Project Name: NAS JRB Willow Grove
Project # N/A
Chemtech Project # T4384

A. Number of Samples and Date of Receipt:
5 Water samples were received on 8/25/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Anions, Gases methane, ethane, ethene, Redox Potential, SVOCMS Group1, Total Organic Carbon, and VOCMS Group1. This data package contains results for VOCMS Group1.

C. Analytical Techniques:
The analysis performed on instrument MSVOA I were done using GC column RTXVMS, which is 20 meters, 0.18 ID, 1.0 df, Restek Cat. #49914. The Trap was supplied by OI Analytical, OI #10 Trap , OI Eclipse 4660 Concentrator.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for 05MW14S and 05MW14SRE.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries met the requirements for all compounds.
The MSD recoveries met the acceptable requirements.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples.
The Blank analysis indicated presence of due to possible lab contamination.
The Calibration File ID VI090621.D met the requirements except for Vinyl Chloride but no hit in the sample for that.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____ Name: Krupa Dubey

Date: 9/19/05 Title: QA/QC

CHEMTECH

CASE NARRATIVE

Tetra Tech NUS, Inc.
Project Name: NAS JRB Willow Grove
Project # N/A
Chemtech Project # T4384

A. Number of Samples and Date of Receipt:
5 Water samples were received on 8/25/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Anions, Gases methane, ethane, ethene, Redox Potential, SVOCMS Group1, Total Organic Carbon, and VOCMS Group1. This data package contains results for Gases methane, ethane, ethene.

C. Analytical Techniques:
The analysis performed on instrument GCVOA 3 were done using GC column RTX-UPLOT, which is 30 meters, 0.32mm ID, Restek Cat. #19724. The Purge Trap was supplied by Supelco, VOCARB 3000, Tekmar 3000.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The MS recoveries met the requirements for all compounds.
The MSD recoveries met the acceptable requirements.
The RPD recoveries met criteria.
The Blank Spike met requirements for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____ Name: Krupa Dubey

Date: 9/19/05 Title: QA/QC

CHEMTECH

CASE NARRATIVE

Tetra Tech NUS, Inc.
Project Name: NAS JRB Willow Grove
Project # N/A
Chemtech Project # T4384

A. Number of Samples and Date of Receipt:
5 Water samples were received on 8/25/05.

B. Parameters
According to the Chain of Custody document, the following analyses were requested: Anions, Gases methane, ethane, ethene, Redox Potential, SVOCMS Group1, Total Organic Carbon, and VOCMS Group1. This data package contains results for SVOCMS Group1.

C. Analytical Techniques:
The samples were analyzed on instrument MSBNA A using GC Column RTX-5 SILMS which is 30 meters, 0.32mm ID, 0.5um df, Catalog # 12739.

D. QA/ QC Samples:
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria except for 05MW14S.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The Blank analysis did not indicate the presence of lab contamination.
The Calibration met the requirements.
The Tuning criteria met requirements.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____ Name: Krupa Dubey

Date: 9/15/05 Title: QA/QC

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Chemtech Contract: TETR04

Lab C de: CHEM Case No.: T4384 SAS No.: T4384 SDG No.: T4384

Instrument ID: MSVOAI Calibration Date(s): 8/23/2005 8/23/2005

Heated Purge: (Y/N) N Calibration Time(s): 11:58 14:44

GC Column: RTXVMS ID: 0.18 (mm)

LAB FILE ID: RRF001 = VI082302.D RRF004 = VI082303.D

RRF010 = VI082304.D RRF020 = VI082305.D RRF040 = VI082306.D

COMPOUND	RRF001	RRF004	RRF010	RRF020	RRF040	$\overline{RRF}$	% RSD	
Dichlor difluoromethane	0.218	0.404	0.367	0.386	0.372	0.349	21.4	
Chloromethane *	0.228	0.414	0.382	0.409	0.416	0.370	21.7	*
Vinyl Chloride *	0.274	0.430	0.393	0.393	0.404	0.379	16.0	*
Bromomethane	0.212	0.327	0.278	0.271	0.268	0.271	15.1	
Chloroethane	0.163	0.233	0.199	0.220	0.211	0.205	13.0	
Trichlorofluoromethane	0.334	0.505	0.444	0.470	0.445	0.440	14.6	
1,1,2-Trichlorotrifluor	0.316	0.397	0.417	0.408	0.371	0.382	10.6	
1,1-Dichloroethene *	0.275	0.420	0.399	0.393	0.359	0.369	15.5	*
Acetone	0.036	0.036	0.031	0.032	0.024	0.032	15.4	
Carbon Disulfide	0.514	1.355	1.323	1.296	1.222	1.142	31.0	
Methyl tert-butyl Ether	0.536	0.712	0.695	0.663	0.601	0.641	11.3	
Methyl Acetate	0.111	0.104	0.099	0.117	0.117	0.110	7.3	
Methylene Chloride	0.672	0.454	0.420	0.397	0.359	0.460	26.8	
trans-1,2-Dichloroethen	0.273	0.418	0.399	0.393	0.359	0.368	15.6	
1,1-Dichloroethane *	0.538	0.793	0.777	0.753	0.704	0.713	14.5	*
Cyclohexane	0.391	0.675	0.647	0.635	0.569	0.583	19.6	
2-Butanone	0.062	0.098	0.088	0.090	0.084	0.084	16.1	
Carbon Tetrachloride *	0.321	0.412	0.434	0.413	0.394	0.395	11.0	*
cis-1,2-Dichloroethene	0.418	0.565	0.559	0.470	0.470	0.496	12.8	
Chloroform *	0.708	0.952	0.959	0.920	0.887	0.885	11.7	*
1,1,1-Trichloroethane *	0.517	0.678	0.678	0.640	0.636	0.630	10.5	*
Methylcyclohexane	0.644	0.880	0.851	0.835	0.790	0.800	11.6	
Benzene *	0.958	1.329	1.324	1.219	1.140	1.194	12.9	*
1,2-Dichloroethane *	0.165	0.226	0.238	0.228	0.223	0.216	13.5	*
Trichloroethene *	0.301	0.415	0.414	0.389	0.383	0.380	12.3	*
1,2-Dichloropropane *	0.162	0.222	0.218	0.222	0.208	0.206	12.4	*
Bromodichloromethane *	0.246	0.313	0.323	0.310	0.300	0.298	10.2	*
4-Methyl-2-Pentanone	0.060	0.082	0.082	0.076	0.070	0.074	12.5	
Toluene *	0.599	0.767	0.803	0.779	0.714	0.732	11.1	*
t-1,3-Dichloropropene *	0.187	0.230	0.254	0.260	0.252	0.237	12.6	*
cis-1,3-Dichloropropene *	0.273	0.346	0.382	0.354	0.354	0.342	11.9	*
1,1,2-Trichloroethane *	0.105	0.132	0.133	0.131	0.126	0.125	9.4	*
2-Hexanone	0.042	0.055	0.052	0.051	0.049	0.050	9.7	
Dibromochloromethane *	0.131	0.149	0.172	0.170	0.170	0.158	11.4	*
1,2-Dibromoethane	0.099	0.139	0.137	0.140	0.131	0.129	13.4	
Tetrachloroethene *	0.381	0.602	0.638	0.623	0.638	0.576	19.1	*
Chlorobenzene *	0.810	1.127	1.148	1.134	1.092	1.062	13.4	*

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must me t a minimum RRF of 0.010.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Chemtech Contract: TETR04

Lab Code: CHEM Case No.: T4384 SAS No.: T4384 SDG No.: T4384

Instrument ID: MSVOAI Calibration Date(s): 8/23/2005 8/23/2005

Heated Purge: (Y/N) N Calibration Time(s): 11:58 14:44

GC C lumn: RTXVMS ID: 0.18 (mm)

LAB FILE ID:

RRF001 = VI082302.D RRF004 = VI082303.D

RRF010 = VI082304.D RRF020 = VI082305.D RRF040 = VI082306.D

COMPOUND		RRF001	RRF004	RRF010	RRF020	RRF040	$\overline{RRF}$	% RSD	
Ethyl Benzene	*	0.460	0.630	0.638	0.611	0.586	0.585	12.4	*
m/p-Xylenes	*	0.623	0.797	0.766	0.726	0.697	0.722	9.3	*
o-Xylene	*	0.611	0.774	0.804	0.720	0.682	0.718	10.6	*
Styrene	*	0.945	1.196	1.155	1.152	1.110	1.112	8.8	*
Bromoform	*	0.088	0.115	0.126	0.121	0.126	0.115	13.8	*
Isopropylbenzene		3.093	3.646	3.701	3.659	3.633	3.546	7.2	
1,1,2,2-Tetrachloroetha	*	0.334	0.403	0.381	0.370	0.385	0.375	6.8	*
1,3-Dichlorobenzene	*	1.409	1.623	1.689	1.604	1.598	1.585	6.6	*
1,4-Dichlorobenzene	*	1.473	1.614	1.639	1.603	1.574	1.581	4.1	*
1,2-Dichlorobenzene	*	1.153	1.364	1.395	1.308	1.298	1.304	7.1	*
1,2-Dibromo-3-Chloropro		0.039	0.046	0.048	0.046	0.047	0.045	7.9	
1,2,4-Trichlorobenzene	*	0.718	0.824	0.877	0.842	0.780	0.808	7.6	*
1,2-Dichloroethane-d4		0.282	0.310	0.322	0.337	0.378	0.326	10.9	
Dibromofluoromethane		0.304	0.305	0.308	0.287	0.272	0.295	5.2	
Toluene-d8		0.980	0.953	0.955	0.981	1.013	0.976	2.5	
4-Bromofluorobenzene	*	0.330	0.334	0.337	0.330	0.311	0.328	3.1	*

* Compounds with requir d minimum RRF and maximum %RSD values.
All other compounds must me t a minimum RRF of 0.010.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Nam : Chemtech Contract: TETR04

Lab Code: CHEM Case No.: T4384 SAS No.: T4384 SDG No.: T4384

Instrument ID: MSVOAI Calibration Date/Time: 9/3/2005 05:40

Lab File ID: VI090228.D Init. Calib. Date(s): 8/23/2005 8/23/2005

Heated Purge: (Y/N) N Init. Calib. Time(s): 11:58 14:44

GC Column: RTXVMS ID: 0.18 (mm)

COMPOUND	$\overline{RRF}$	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.349	0.374		7.2	
Chloromethane	0.370	0.434	0.100	17.3	
Vinyl Chloride	0.379	0.450		18.7	20.0
Bromomethane	0.271	0.249		-8.1	
Chloroethane	0.205	0.216		5.4	
Trichlorofluoromethane	0.440	0.422		-4.1	
1,1,2-Trichlorotrifluoroethane	0.382	0.369		-3.4	
1,1-Dichloroethene	0.369	0.419		13.6	20.0
Acetone	0.032	0.034		6.2	
Carbon Disulfide	1.142	1.498		31.2	
Methyl tert-butyl Ether	0.641	0.729		13.7	
Methyl Acetate	0.110	0.115		4.5	
Methylene Chloride	0.460	0.465		1.1	
trans-1,2-Dichloroethene	0.368	0.533		44.8	
1,1-Dichloroethane	0.713	0.836	0.100	17.3	
Cyclohexane	0.583	0.664		13.9	
2-Butanone	0.084	0.091		8.3	
Carbon Tetrachloride	0.395	0.422		6.8	
cis-1,2-Dichloroethene	0.496	0.519		4.6	
Chl roform	0.885	1.040		17.5	20.0
1,1,1-Trichloroethane	0.630	0.813		29.0	
Methylcyclohexane	0.800	0.868		8.5	
Benzene	1.194	1.345		12.6	
1,2-Dichloroethane	0.216	0.216		0.0	
Trichloroethene	0.380	0.428		12.6	
1,2-Dichloropropane	0.206	0.211		2.4	20.0
Bromodichloromethane	0.298	0.305		2.3	
4-Methyl-2-Pentanone	0.074	0.069		-6.8	
Toluene	0.732	0.735		0.4	20.0
t-1,3-Dichloropropene	0.237	0.204		-13.9	
cis-1,3-Dichloropropene	0.342	0.308		-9.9	
1,1,2-Trichloroethane	0.125	0.108		-13.6	
2-Hexanone	0.050	0.038		-24.0	
Dibromochloromethane	0.158	0.144		-8.9	
1,2-Dibromoethane	0.129	0.113		-12.4	
Tetrachloroethene	0.576	0.680		18.1	
Chlorobenzene	1.062	1.018	0.300	-4.1	
Ethyl Benzene	0.585	0.576		-1.5	20.0
m/p-Xylenes	0.722	0.754		4.4	
o-Xylene	0.718	0.762		6.1	
Styrene	1.112	1.068		-4.0	

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Chemtech Contract: TETR04

Lab Code: CHEM Case No.: T4384 SAS No.: T4384 SDG No.: T4384

Instrument ID: MSVOAI Calibration Date/Time: 9/3/2005 05:40

Lab File ID: VI090228.D Init. Calib. Date(s): 8/23/2005 8/23/2005

Heated Purge: (Y/N) N Init. Calib. Time(s): 11:58 14:44

GC Column: RTXVMS ID: 0.18 (mm)

COMPOUND	$\overline{RRF}$	RRF050	MIN RRF	%D	MAX%D
Bromoform	0.115	0.100	0.100	-13.0	
Isopropylbenzene	3.546	4.038		13.9	
1,1,2,2-Tetrachloroethane	0.375	0.340	0.300	-9.3	
1,3-Dichlorobenzene	1.585	1.771		11.7	
1,4-Dichlorobenzene	1.581	1.662		5.1	
1,2-Dichlorobenzene	1.304	1.486		14.0	
1,2-Dibromo-3-Chloropropane	0.045	0.046		2.2	
1,2,4-Trichlorobenzene	0.808	0.825		2.1	
1,2-Dichloroethane-d4	0.326	0.342		4.9	
Dibromofluoromethane	0.295	0.306		3.7	
Toluene-d8	0.976	0.960		-1.6	
4-Bromofluorobenzene	0.328	0.312		-4.9	

All other compounds must meet a minimum RRF of 0.010.

7A

VOLATILE CONTINUING CALIBRATI N CHECK

Lab Name: Chemtech Contract: TETR04

Lab Code: CHEM Case No.: T4384 SAS No.: T4384 SDG No.: T4384

Instrument ID: MSVOAI Calibration Date/Time: 9/3/2005 20:44

Lab File ID: VI090307.D Init. Calib. Date(s): 8/23/2005 8/23/2005

Heat d Purge: (Y/N) N Init. Calib. Time(s): 11:58 14:44

GC Column: RTXVMS ID: 0.18 (mm)

COMPOUND	$\overline{RRF}$	RRF050	MIN RRF	%D	MAX%D
Dichl rodifluoromethane	0.349	0.379		8.6	
Chloromethane	0.370	0.435	0.100	17.6	
Vinyl Chloride	0.379	0.448		18.2	20.0
Bromomethane	0.271	0.243		-10.3	
Chloroethane	0.205	0.184		-10.2	
Trichlorofluoromethane	0.440	0.389		-11.6	
1,1,2-Trichlorotrifluoroethane	0.382	0.363		-5.0	
1,1-Dichloroethene	0.369	0.383		3.8	20.0
Acetone	0.032	0.032		0.0	
Carbon Disulfide	1.142	1.320		15.6	
Methyl tert-butyl Ether	0.641	0.652		1.7	
Methyl Acetate	0.110	0.114		3.6	
Methyl ne Chloride	0.460	0.377		-18.0	
trans-1,2-Dichloroethene	0.368	0.383		4.1	
1,1-Dichloroethane	0.713	0.745	0.100	4.5	
Cyclohexane	0.583	0.602		3.3	
2-Butanone	0.084	0.088		4.8	
Carb n Tetrachloride	0.395	0.377		-4.6	
cis-1,2-Dichloroethene	0.496	0.469		-5.4	
Chl roform	0.885	0.933		5.4	20.0
1,1,1-Trichloroethane	0.630	0.715		13.5	
Methylcyclohexane	0.800	0.768		-4.0	
Benzene	1.194	1.245		4.3	
1,2-Dichloroethane	0.216	0.200		-7.4	
Trichloroethene	0.380	0.403		6.1	
1,2-Dichloropropane	0.206	0.205		-0.5	20.0
Bromodichloromethane	0.298	0.290		-2.7	
4-Methyl-2-Pentanone	0.074	0.065		-12.2	
Tolu ne	0.732	0.714		-2.5	20.0
t-1,3-Dichloropropene	0.237	0.207		-12.7	
cis-1,3-Dichloropropene	0.342	0.326		-4.7	
1,1,2-Trichloroethane	0.125	0.111		-11.2	
2-Hexanone	0.050	0.043		-14.0	
Dibromochloromethane	0.158	0.146		-7.6	
1,2-Dibromoethane	0.129	0.117		-9.3	
Tetrachloroethene	0.576	0.661		14.8	
Chl robenzene	1.062	1.010	0.300	-4.9	
Ethyl Benzene	0.585	0.590		0.9	20.0
m/p-Xylenes	0.722	0.705		-2.4	
o-Xylene	0.718	0.694		-3.3	
Styrene	1.112	1.066		-4.1	

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Chemtech Contract: TETR04

Lab Code: CHEM Case No.: T4384 SAS No.: T4384 SDG No.: T4384

Instrument ID: MSVOAI Calibrati n Date/Time: 9/3/2005 20:44

Lab File ID: VI090307.D Init. Calib. Date(s): 8/23/2005 8/23/2005

Heated Purge: (Y/N) N Init. Calib. Time(s): 11:58 14:44

GC Column: RTXVMS ID: 0.18 (mm)

COMPOUND	$\overline{RRF}$	RRF050	MIN RRF	%D	MAX%D
Bromoform	0.115	0.101	0.100	-12.2	
Isopropylbenzene	3.546	3.669		3.5	
1,1,2,2-Tetrachloroethane	0.375	0.318	0.300	-15.2	
1,3-Dichlorobenzene	1.585	1.583		-0.1	
1,4-Dichlorobenzene	1.581	1.522		-3.7	
1,2-Dichlorobenzene	1.304	1.278		-2.0	
1,2-Dibromo-3-Chloropropane	0.045	0.042		-6.7	
1,2,4-Trichlorobenzene	0.808	0.821		1.6	
1,2-Dichloroethane-d4	0.326	0.331		1.5	
Dibromofluoromethane	0.295	0.294		-0.3	
Toluene-d8	0.976	0.989		1.3	
4-Bromofluorobenzene	0.328	0.316		-3.7	

All other compounds must meet a minimum RRF of 0.010.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Chemtech Contract: TETR04

Lab Code: CHEM Case No.: T4384 SAS No.: T4384 SDG No.: T4384

Instrument ID: MSVOAI Calibration Date/Time: 9/6/2005 10:46

Lab File ID: VI090603.D Init. Calib. Date(s): 8/23/2005 8/23/2005

Heated Purge: (Y/N) N Init. Calib. Time(s): 11:58 14:44

GC Column: RTXVMS ID: 0.18 (mm)

COMPOUND	$\overline{RRF}$	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.349	0.439		25.8	
Chloromethane	0.370	0.399	0.100	7.8	
Vinyl Chloride	0.379	0.440		16.1	20.0
Bromomethane	0.271	0.256		-5.5	
Chloroethane	0.205	0.191		-6.8	
Trichlorofluoromethane	0.440	0.400		-9.1	
1,1,2-Trichlorotrifluoroethane	0.382	0.420		9.9	
1,1-Dichloroethene	0.369	0.380		3.0	20.0
Acetone	0.032	0.032		0.0	
Carbon Disulfide	1.142	1.151		0.8	
Methyl tert-butyl Ether	0.641	0.625		-2.5	
Methyl Acetate	0.110	0.099		-10.0	
Methylene Chloride	0.460	0.353		-23.3	
trans-1,2-Dichloroethene	0.368	0.380		3.3	
1,1-Dichloroethane	0.713	0.753	0.100	5.6	
Cyclohexane	0.583	0.634		8.7	
2-Butanone	0.084	0.083		-1.2	
Carbon Tetrachloride	0.395	0.477		20.8	
cis-1,2-Dichloroethene	0.496	0.454		-8.5	
Chloroform	0.885	0.932		5.3	20.0
1,1,1-Trichloroethane	0.630	0.729		15.7	
Methylcyclohexane	0.800	0.835		4.4	
Benzene	1.194	1.288		7.9	
1,2-Dichloroethane	0.216	0.224		3.7	
Trichloroethene	0.380	0.383		0.8	
1,2-Dichloropropane	0.206	0.208		1.0	20.0
Bromodichloromethane	0.298	0.289		-3.0	
4-Methyl-2-Pentanone	0.074	0.068		-8.1	
Toluene	0.732	0.752		2.7	20.0
t-1,3-Dichloropropene	0.237	0.207		-12.7	
cis-1,3-Dichloropropene	0.342	0.309		-9.6	
1,1,2-Trichloroethane	0.125	0.113		-9.6	
2-Hexanone	0.050	0.041		-18.0	
Dibromochloromethane	0.158	0.146		-7.6	
1,2-Dibromoethane	0.129	0.117		-9.3	
Tetrachloroethene	0.576	0.511		-11.3	
Chlorobenzene	1.062	1.047	0.300	-1.4	
Ethyl Benzene	0.585	0.604		3.2	20.0
m/p-Xylenes	0.722	0.759		5.1	
o-Xylene	0.718	0.780		8.6	
Styrene	1.112	1.093		-1.7	

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Chemtech Contract: TETR04

Lab Code: CHEM Case No.: T4384 SAS No.: T4384 SDG No.: T4384

Instrument ID: MSVOAI Calibration D te/Tim : 9/6/2005 10:46

Lab File ID: VI090603.D Init. Calib. Date(s): 8/23/2005 8/23/2005

Heated Purge: (Y/N) N Init. Calib. Time(s): 11:58 14:44

GC Column: RTXVMS ID: 0.18 (mm)

COMPOUND	$\overline{RRF}$	RRF050	MIN RRF	%D	MAX%D
Bromoform	0.115	0.104	0.100	-9.6	
Isopropylbenzene	3.546	3.835		8.2	
1,1,2,2-Tetrachloroethane	0.375	0.359	0.300	-4.3	
1,3-Dichlorobenzene	1.585	1.638		3.3	
1,4-Dichlorobenzene	1.581	1.612		2.0	
1,2-Dichlorobenzene	1.304	1.355		3.9	
1,2-Dibromo-3-Chloropropane	0.045	0.049		8.9	
1,2,4-Trichlorobenzene	0.808	0.942		16.6	
1,2-Dichloroethane-d4	0.326	0.301		-7.7	
Dibromofluoromethane	0.295	0.310		5.1	
Toluene-d8	0.976	0.991		1.5	
4-Bromofluorobenzene	0.328	0.330		0.6	

All other compounds must meet a minimum RRF of 0.010.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Chemtech Contract: TETR04

Lab Code: CHEM Case No.: T4384 SAS No.: T4384 SDG No.: T4384

Instrument ID: MSVOAI Calibration Date/Time: 9/6/2005 23:26

Lab File ID: VI090621.D Init. Calib. Date(s): 8/23/2005 8/23/2005

Heated Purge: (Y/N) N Init. Calib. Time(s): 11:58 14:44

GC Column: RTXVMS ID: 0.18 (mm)

COMPOUND	$\overline{RRF}$	RRF050	MIN RRF	%D	MAX%D
Dichlorodifluoromethane	0.349	0.549		57.3	
Chloromethane	0.370	0.504	0.100	36.2	
Vinyl Chloride	0.379	0.512		35.1	20.0
Bromomethane	0.271	0.311		14.8	
Chloroethane	0.205	0.238		16.1	
Trichlorofluoromethane	0.440	0.475		8.0	
1,1,2-Trichlorotrifluoroethane	0.382	0.395		3.4	
1,1-Dichloroethene	0.369	0.414		12.2	20.0
Acetone	0.032	0.024		-25.0	
Carbon Disulfide	1.142	1.370		20.0	
Methyl tert-butyl Ether	0.641	0.635		-0.9	
Methyl Acetate	0.110	0.091		-17.3	
Methylene Chloride	0.460	0.407		-11.5	
trans-1,2-Dichloroethene	0.368	0.414		12.5	
1,1-Dichloroethane	0.713	0.766	0.100	7.4	
Cyclohexane	0.583	0.609		4.5	
2-Butanone	0.084	0.046		-45.2	
Carbon Tetrachloride	0.395	0.444		12.4	
cis-1,2-Dichloroethene	0.496	0.407		-17.9	
Chloroform	0.885	0.945		6.8	20.0
1,1,1-Trichloroethane	0.630	0.708		12.4	
Methylcyclohexane	0.800	0.889		11.1	
Benzene	1.194	1.195		0.1	
1,2-Dichloroethane	0.216	0.194		-10.2	
Trichloroethene	0.380	0.393		3.4	
1,2-Dichloropropane	0.206	0.212		2.9	20.0
Bromodichloromethane	0.298	0.281		-5.7	
4-Methyl-2-Pentanone	0.074	0.062		-16.2	
Toluene	0.732	0.730		-0.3	20.0
t-1,3-Dichloropropene	0.237	0.205		-13.5	
cis-1,3-Dichloropropene	0.342	0.314		-8.2	
1,1,2-Trichloroethane	0.125	0.107		-14.4	
2-Hexanone	0.050	0.040		-20.0	
Dibromochloromethane	0.158	0.143		-9.5	
1,2-Dibromoethane	0.129	0.117		-9.3	
Tetrachloroethene	0.576	0.591		2.6	
Chlorobenzene	1.062	0.993	0.300	-6.5	
Ethyl Benzene	0.585	0.556		-5.0	20.0
m/p-Xylenes	0.722	0.714		-1.1	
o-Xylene	0.718	0.711		-1.0	
Styrene	1.112	1.044		-6.1	

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Chemtech Contract: TETR04

Lab Code: CHEM Case No.: T4384 SAS No.: T4384 SDG No.: T4384

Instrument ID: MSVOAI Calibration Date/Time: 9/6/2005 23:26

Lab File ID: VI090621.D Init. Calib. Date(s): 8/23/2005 8/23/2005

Heated Purge: (Y/N) N Init. Calib. Time(s): 11:58 14:44

GC Column: RTXVMS ID: 0.18 (mm)

COMPOUND	$\overline{RRF}$	RRF050	MIN RRF	%D	MAX%D
Bromoform	0.115	0.100	0.100	-13.0	
Isopropylbenzene	3.546	3.510		-1.0	
1,1,2,2-Tetrachloroethane	0.375	0.331	0.300	-11.7	
1,3-Dichlorobenzene	1.585	1.458		-8.0	
1,4-Dichlorobenzene	1.581	1.440		-8.9	
1,2-Dichlorobenzene	1.304	1.273		-2.4	
1,2-Dibromo-3-Chloropropane	0.045	0.042		-6.7	
1,2,4-Trichlorobenzene	0.808	0.752		-6.9	
1,2-Dichloroethane-d4	0.326	0.318		-2.5	
Dibromofluoromethane	0.295	0.295		0.0	
Toluene-d8	0.976	1.026		5.1	
4-Bromofluorobenzene	0.328	0.336		2.4	

All other compounds must meet a minimum RRF of 0.010.

Chemtech

Surrogate Summary
SW-846

SDG No.: T4384
Client: Tetra Tech NUS, Inc.

Analytical Method: EPA SW846 8260 - LOW

Lab Sample ID	Client ID	Parameter	Spike	Result	Recovery	Qual	Limits Low	Limits High
BSI0906W1	VLCS01	1,2-Dichloroethane-d4	10	9.45	95		72.00	119.00
		Dibromofluoromethane	10	9.69	97		85.00	115.00
		Toluene-d8	10	10.73	107		81.00	120.00
		4-Bromofluorobenzene	10	9.98	100		76.00	119.00
BSI0906W2	VLCS02	1,2-Dichloroethane-d4	10	9.78	98		72.00	119.00
		Dibromofluoromethane	10	10.59	106		85.00	115.00
		Toluene-d8	10	9.55	96		81.00	120.00
		4-Bromofluorobenzene	10	8.81	88		76.00	119.00
T4384-01	TB-082405	1,2-Dichloroethane-d4	10	9.27	93		72.00	119.00
		Dibromofluoromethane	10	11	110		85.00	115.00
		Toluene-d8	10	9.33	93		81.00	120.00
		4-Bromofluorobenzene	10	9.53	95		76.00	119.00
T4384-02	05MW15I	1,2-Dichloroethane-d4	10	9.47	95		72.00	119.00
		Dibromofluoromethane	10	11.26	113		85.00	115.00
		Toluene-d8	10	8.96	90		81.00	120.00
		4-Bromofluorobenzene	10	8.89	89		76.00	119.00
T4384-03	05MW15S	1,2-Dichloroethane-d4	10	10.05	101		72.00	119.00
		Dibromofluoromethane	10	11.4	114		85.00	115.00
		Toluene-d8	10	9.3	93		81.00	120.00
		4-Bromofluorobenzene	10	8.84	88		76.00	119.00
T4384-04	05MW13I	1,2-Dichloroethane-d4	10	9.47	95		72.00	119.00
		Dibromofluoromethane	10	10.82	108		85.00	115.00
		Toluene-d8	10	9.17	92		81.00	120.00
		4-Bromofluorobenzene	10	9.46	95		76.00	119.00
T4384-04DL	05MW13IDL	1,2-Dichloroethane-d4	10	9.16	92		72.00	119.00
		Dibromofluoromethane	10	10.4	104		85.00	115.00
		Toluene-d8	10	10.36	104		81.00	120.00
		4-Bromofluorobenzene	10	9.42	94		76.00	119.00
T4384-05	05MW14S	1,2-Dichloroethane-d4	10	14.55	146	*	72.00	119.00
		Dibromofluoromethane	10	12.57	126	*	85.00	115.00
		Toluene-d8	10	9.44	94		81.00	120.00
		4-Bromofluorobenzene	10	10.37	104		76.00	119.00
T4384-05RE	05MW14SRE	1,2-Dichloroethane-d4	10	13.68	137	*	72.00	119.00
		Dibromofluoromethane	10	11.7	117	*	85.00	115.00
		Toluene-d8	10	9.28	93		81.00	120.00
		4-Bromofluorobenzene	10	10.28	103		76.00	119.00
VBI0806W4	VBLK04	1,2-Dichloroethane-d4	10	8.4	84		72.00	119.00
		Dibromofluoromethane	10	11.36	114		85.00	115.00
		Toluene-d8	10	9.35	94		81.00	120.00
		4-Bromofluorobenzene	10	9.69	97		76.00	119.00
VBI0902W5	VBLK01	1,2-Dichloroethane-d4	10	10.69	107		72.00	119.00