Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp. C-6, EM2727

Collection Date: November 21, 2006

LDC Report Date: April 5, 2007

Matrix: Water

Parameters: Volatiles

Validation Level: Tier 2 & 3

Laboratory: TestAmerica, Inc.

Sample Delivery Group (SDG): IPK2470

Sample Identification

IWC002_WG112106_0001
IWC002_WG112106_0001RE1
IWC002_WG112106_0001RE2
IWC001_WG112106_0001**
IWC001_WG112106_0001RE1**
IWC001_WG112106_0001RE2**
MWC024_WG112106_001
MWC024_WG112106_001RE1
MWC024_WG112106_001RE2
IWC002_WG112106_0001MS
IWC002_WG112106_0001MSD

**Indicates sample underwent Tier 3 review

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a Tier Level 3 review. A Tier 2 review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Tier 2 criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

BOE-C6-0053150

Date	Compound	%D	Associated Samples	Flag	A or P
11/22/06 (20:10)	Tetrahydrofuran	48	MWC024_WG112106_001 6K22027-BLK1	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
11/22/06 (09:39)	2-Butanone	0.048 (≥0.05)	IWC002_WG112106_0001 IWC001_WG112106_0001** IWC002_WG112106_0001MS IWC002_WG112106_0001MSD 6K22017-BLK1	J (all detects) UJ (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
6K22017-BLK1	11/22/06	Tetrahydrofuran	4.83 ug/L	IWC002_WG112106_0001 IWC001_WG112106_0001**
6K22027-BLK1	11/22/06	Tetrahydrofuran	5.50 ug/L	MWC024_WG112106_001

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a Tier 3 review was performed. Raw data were not evaluated for the samples reviewed by Tier 2 criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a Tier 3 review was performed. Raw data were not evaluated for the samples reviewed by Tier 2 criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable for samples on which a Tier 3 review was performed. Raw data were not evaluated for the samples reviewed by Tier 2 criteria.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

BOE-C6-0053152

Boeing Realty Corp. C-6, EM2727
Volatiles - Data Qualification Summary - SDG IPK2470

SDG	Sample	Compound	Flag	A or P	Reason
IPK2470	MWC024_WG112106_001	Tetrahydrofuran	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
IPK2470	IWC002_WG112106_0001 IWC001_WG112106_0001**	2-Butanone	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)

Boeing Realty Corp. C-6, EM2727
Volatiles - Laboratory Blank Data Qualification Summary - SDG IPK2470

No Sample Data Qualified in this SDG

TestAmerica
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TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Mehmet Pehlivan

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IPK2470

Sampled: 11/21/06
Received: 11/21/06

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-05 (IWC002_WG112106_0001 - Water)									
Reporting Units: ug/l									
Acetone	EPA 8260B	6K22017	4.5	10	ND	1	11/22/06	11/22/06	
Benzene	EPA 8260B	6K22017	0.28	1.0	**0.30**	1	11/22/06	11/22/06	J
Bromobenzene	EPA 8260B	6K22017	0.27	1.0	ND	1	11/22/06	11/22/06	
Bromochloromethane	EPA 8260B	6K22017	0.32	1.0	ND	1	11/22/06	11/22/06	
Bromodichloromethane	EPA 8260B	6K22017	0.30	1.0	ND	1	11/22/06	11/22/06	
Bromoform	EPA 8260B	6K22017	0.40	1.0	ND	1	11/22/06	11/22/06	
Bromomethane	EPA 8260B	6K22017	0.42	1.0	ND	1	11/22/06	11/22/06	
2-Butanone (MEK)	EPA 8260B	6K22017	3.8	5.0	ND UJ	1	11/22/06	11/22/06	
n-Butylbenzene	EPA 8260B	6K22017	0.37	1.0	ND	1	11/22/06	11/22/06	
sec-Butylbenzene	EPA 8260B	6K22017	0.25	1.0	ND	1	11/22/06	11/22/06	
tert-Butylbenzene	EPA 8260B	6K22017	0.22	1.0	ND	1	11/22/06	11/22/06	
Carbon Disulfide	EPA 8260B	6K22017	0.48	1.0	ND	1	11/22/06	11/22/06	
Carbon tetrachloride	EPA 8260B	6K22017	0.28	0.50	ND	1	11/22/06	11/22/06	
Chlorobenzene	EPA 8260B	6K22017	0.36	1.0	ND	1	11/22/06	11/22/06	
Chloroethane	EPA 8260B	6K22017	0.40	2.0	ND	1	11/22/06	11/22/06	
Chloroform	EPA 8260B	6K22017	0.33	1.0	**21**	1	11/22/06	11/22/06	
Chloromethane	EPA 8260B	6K22017	0.40	2.0	ND	1	11/22/06	11/22/06	
2-Chlorotoluene	EPA 8260B	6K22017	0.28	1.0	ND	1	11/22/06	11/22/06	
4-Chlorotoluene	EPA 8260B	6K22017	0.29	1.0	ND	1	11/22/06	11/22/06	
1,2-Dibromo-3-chloropropane	EPA 8260B	6K22017	0.97	2.0	ND	1	11/22/06	11/22/06	
Dibromochloromethane	EPA 8260B	6K22017	0.28	1.0	ND	1	11/22/06	11/22/06	
1,2-Dibromoethane (EDB)	EPA 8260B	6K22017	0.40	1.0	ND	1	11/22/06	11/22/06	
1,4-Dichlorobenzene	EPA 8260B	6K22017	0.37	1.0	ND	1	11/22/06	11/22/06	
1,2-Dichlorobenzene	EPA 8260B	6K22017	0.32	1.0	ND	1	11/22/06	11/22/06	
1,3-Dichlorobenzene	EPA 8260B	6K22017	0.35	1.0	ND	1	11/22/06	11/22/06	
Dichlorodifluoromethane	EPA 8260B	6K22017	0.79	1.0	ND	1	11/22/06	11/22/06	
1,2-Dichloroethane	EPA 8260B	6K22017	0.28	0.50	**3.9**	1	11/22/06	11/22/06	
1,1-Dichloroethane	EPA 8260B	6K22017	0.27	1.0	**5.9**	1	11/22/06	11/22/06	
1,1-Dichloroethene	EPA 8260B	6K22017	0.42	1.0	**110**	1	11/22/06	11/22/06	
cis-1,2-Dichloroethene	EPA 8260B	6K22017	0.32	1.0	**9.2**	1	11/22/06	11/22/06	
trans-1,2-Dichloroethene	EPA 8260B	6K22017	0.27	1.0	**4.1**	1	11/22/06	11/22/06	
1,2-Dichloropropane	EPA 8260B	6K22017	0.35	1.0	ND	1	11/22/06	11/22/06	
2,2-Dichloropropane	EPA 8260B	6K22017	0.34	1.0	ND	1	11/22/06	11/22/06	
cis-1,3-Dichloropropene	EPA 8260B	6K22017	0.22	0.50	ND	1	11/22/06	11/22/06	
1,1-Dichloropropene	EPA 8260B	6K22017	0.28	1.0	ND	1	11/22/06	11/22/06	
trans-1,3-Dichloropropene	EPA 8260B	6K22017	0.32	0.50	ND	1	11/22/06	11/22/06	
Ethylbenzene	EPA 8260B	6K22017	0.25	1.0	ND	1	11/22/06	11/22/06	
Hexachlorobutadiene	EPA 8260B	6K22017	0.38	1.0	ND	1	11/22/06	11/22/06	
2-Hexanone	EPA 8260B	6K22017	2.6	6.0	ND	1	11/22/06	11/22/06	
Iodomethane	EPA 8260B	6K22017	1.0	2.0	ND	1	11/22/06	11/22/06	
Isopropylbenzene	EPA 8260B	6K22017	0.25	1.0	ND	1	11/22/06	11/22/06	

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Michele Chamberlin
Project Manager

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TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 11/21/06
Santa Ana, CA 92705	Report Number: IPK2470	Received: 11/21/06
Attention: Mehmet Pehlivan		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-05 (IWC002_WG112106_0001 - Water) - cont.									
Reporting Units: ug/l									
p-Isopropyltoluene	EPA 8260B	6K22017	0.28	1.0	ND	1	11/22/06	11/22/06	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	6K22017	0.32	1.0	ND	1	11/22/06	11/22/06	
Methylene chloride	EPA 8260B	6K22017	0.95	1.0	ND	1	11/22/06	11/22/06	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	6K22017	3.5	5.0	ND	1	11/22/06	11/22/06	
n-Propylbenzene	EPA 8260B	6K22017	0.27	1.0	ND	1	11/22/06	11/22/06	
Styrene	EPA 8260B	6K22017	0.16	1.0	ND	1	11/22/06	11/22/06	
1,1,1,2-Tetrachloroethane	EPA 8260B	6K22017	0.27	1.0	ND	1	11/22/06	11/22/06	
1,1,2,2-Tetrachloroethane	EPA 8260B	6K22017	0.24	1.0	ND	1	11/22/06	11/22/06	
Tetrachloroethene	EPA 8260B	6K22017	0.32	1.0	**0.98**	1	11/22/06	11/22/06	J
Tetrahydrofuran (THF)	EPA 8260B	6K22017	3.5	10	ND	1	11/22/06	11/22/06	
Toluene	EPA 8260B	6K22017	0.36	1.0	ND	1	11/22/06	11/22/06	
1,2,3-Trichlorobenzene	EPA 8260B	6K22017	0.30	1.0	ND	1	11/22/06	11/22/06	
1,2,4-Trichlorobenzene	EPA 8260B	6K22017	0.48	1.0	ND	1	11/22/06	11/22/06	
1,1,2-Trichloroethane	EPA 8260B	6K22017	0.30	1.0	**2.4**	1	11/22/06	11/22/06	
1,1,1-Trichloroethane	EPA 8260B	6K22017	0.30	1.0	ND	1	11/22/06	11/22/06	
Trichlorofluoromethane	EPA 8260B	6K22017	0.34	2.0	ND	1	11/22/06	11/22/06	
1,2,3-Trichloropropane	EPA 8260B	6K22017	0.40	1.0	ND	1	11/22/06	11/22/06	
1,2,4-Trimethylbenzene	EPA 8260B	6K22017	0.23	1.0	ND	1	11/22/06	11/22/06	
1,3,5-Trimethylbenzene	EPA 8260B	6K22017	0.26	1.0	ND	1	11/22/06	11/22/06	
Vinyl chloride	EPA 8260B	6K22017	0.30	0.50	ND	1	11/22/06	11/22/06	
Xylenes, Total	EPA 8260B	6K22017	0.90	1.0	ND	1	11/22/06	11/22/06	
Surrogate: 4-Bromofluorobenzene (80-120%)					*102 %*				
Surrogate: Dibromofluoromethane (80-120%)					*108 %*				
Surrogate: Toluene-d8 (80-120%)					*100 %*				

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TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 11/21/06
Santa Ana, CA 92705	Report Number: IPK2470	Received: 11/21/06
Attention: Mehmet Pehlivan		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-05RE1 (IWC002_WG112106_0001 - Water) - cont.									
Reporting Units: ug/l									
Trichloroethene	EPA 8260B	6K22031	5.2	20	**3000**	20	11/22/06	11/23/06	
Surrogate: 4-Bromofluorobenzene (80-120%)					*82 %*				
Surrogate: Dibromofluoromethane (80-120%)					*99 %*				
Surrogate: Toluene-d8 (80-120%)					*100 %*				

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TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 11/21/06
Santa Ana, CA 92705	Report Number: IPK2470	Received: 11/21/06
Attention: Mehmet Pehlivan		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-05RE2 (IWC002_WG112106_0001 - Water) - cont.									
Reporting Units: ug/l									
Vinyl acetate	EPA 8260B	6K27030	1.7	6.0	ND	1	11/27/06	11/27/06	
Surrogate: 4-Bromofluorobenzene (80-120%)					*91 %*				
Surrogate: Dibromofluoromethane (80-120%)					*89 %*				
Surrogate: Toluene-d8 (80-120%)					*95 %*				

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Michele Chamberlin
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TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Mehmet Pehlivan

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IPK2470

Sampled: 11/21/06
Received: 11/21/06

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-07 (IWC001_WG112106_0001 - Water)									
Reporting Units: ug/l									
Acetone	EPA 8260B	6K22017	4.5	10	ND	1	11/22/06	11/22/06	
Benzene	EPA 8260B	6K22017	0.28	1.0	**0.43**	1	11/22/06	11/22/06	J
Bromobenzene	EPA 8260B	6K22017	0.27	1.0	ND	1	11/22/06	11/22/06	
Bromochloromethane	EPA 8260B	6K22017	0.32	1.0	ND	1	11/22/06	11/22/06	
Bromodichloromethane	EPA 8260B	6K22017	0.30	1.0	ND	1	11/22/06	11/22/06	
Bromoform	EPA 8260B	6K22017	0.40	1.0	ND	1	11/22/06	11/22/06	
Bromomethane	EPA 8260B	6K22017	0.42	1.0	ND	1	11/22/06	11/22/06	
2-Butanone (MEK)	EPA 8260B	6K22017	3.8	5.0	ND UJ	1	11/22/06	11/22/06	
n-Butylbenzene	EPA 8260B	6K22017	0.37	1.0	ND	1	11/22/06	11/22/06	
sec-Butylbenzene	EPA 8260B	6K22017	0.25	1.0	ND	1	11/22/06	11/22/06	
tert-Butylbenzene	EPA 8260B	6K22017	0.22	1.0	ND	1	11/22/06	11/22/06	
Carbon Disulfide	EPA 8260B	6K22017	0.48	1.0	ND	1	11/22/06	11/22/06	
Carbon tetrachloride	EPA 8260B	6K22017	0.28	0.50	**0.97**	1	11/22/06	11/22/06	
Chlorobenzene	EPA 8260B	6K22017	0.36	1.0	ND	1	11/22/06	11/22/06	
Chloroethane	EPA 8260B	6K22017	0.40	2.0	ND	1	11/22/06	11/22/06	
Chloromethane	EPA 8260B	6K22017	0.40	2.0	ND	1	11/22/06	11/22/06	
2-Chlorotoluene	EPA 8260B	6K22017	0.28	1.0	ND	1	11/22/06	11/22/06	
4-Chlorotoluene	EPA 8260B	6K22017	0.29	1.0	ND	1	11/22/06	11/22/06	
1,2-Dibromo-3-chloropropane	EPA 8260B	6K22017	0.97	2.0	ND	1	11/22/06	11/22/06	
Dibromochloromethane	EPA 8260B	6K22017	0.28	1.0	ND	1	11/22/06	11/22/06	
1,2-Dibromoethane (EDB)	EPA 8260B	6K22017	0.40	1.0	ND	1	11/22/06	11/22/06	
1,4-Dichlorobenzene	EPA 8260B	6K22017	0.37	1.0	ND	1	11/22/06	11/22/06	
1,2-Dichlorobenzene	EPA 8260B	6K22017	0.32	1.0	ND	1	11/22/06	11/22/06	
1,3-Dichlorobenzene	EPA 8260B	6K22017	0.35	1.0	ND	1	11/22/06	11/22/06	
Dichlorodifluoromethane	EPA 8260B	6K22017	0.79	1.0	ND	1	11/22/06	11/22/06	
1,2-Dichloroethane	EPA 8260B	6K22017	0.28	0.50	**1.2**	1	11/22/06	11/22/06	
1,1-Dichloroethane	EPA 8260B	6K22017	0.27	1.0	**1.1**	1	11/22/06	11/22/06	
1,1-Dichloroethene	EPA 8260B	6K22017	0.42	1.0	**53**	1	11/22/06	11/22/06	
cis-1,2-Dichloroethene	EPA 8260B	6K22017	0.32	1.0	**1.6**	1	11/22/06	11/22/06	
trans-1,2-Dichloroethene	EPA 8260B	6K22017	0.27	1.0	**0.33**	1	11/22/06	11/22/06	J
1,2-Dichloropropane	EPA 8260B	6K22017	0.35	1.0	ND	1	11/22/06	11/22/06	
2,2-Dichloropropane	EPA 8260B	6K22017	0.34	1.0	ND	1	11/22/06	11/22/06	
cis-1,3-Dichloropropene	EPA 8260B	6K22017	0.22	0.50	ND	1	11/22/06	11/22/06	
1,1-Dichloropropene	EPA 8260B	6K22017	0.28	1.0	ND	1	11/22/06	11/22/06	
trans-1,3-Dichloropropene	EPA 8260B	6K22017	0.32	0.50	ND	1	11/22/06	11/22/06	
Ethylbenzene	EPA 8260B	6K22017	0.25	1.0	ND	1	11/22/06	11/22/06	
Hexachlorobutadiene	EPA 8260B	6K22017	0.38	1.0	ND	1	11/22/06	11/22/06	
2-Hexanone	EPA 8260B	6K22017	2.6	6.0	ND	1	11/22/06	11/22/06	
Iodomethane	EPA 8260B	6K22017	1.0	2.0	ND	1	11/22/06	11/22/06	
Isopropylbenzene	EPA 8260B	6K22017	0.25	1.0	ND	1	11/22/06	11/22/06	
p-Isopropyltoluene	EPA 8260B	6K22017	0.28	1.0	ND	1	11/22/06	11/22/06	

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Michele Chamberlin
Project Manager

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17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Mehmet Pehlivan

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IPK2470

Sampled: 11/21/06
Received: 11/21/06

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-07 (IWC001_WG112106_0001 - Water) - cont.									
Reporting Units: ug/l									
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	6K22017	0.32	1.0	ND	1	11/22/06	11/22/06	
Methylene chloride	EPA 8260B	6K22017	0.95	1.0	ND	1	11/22/06	11/22/06	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	6K22017	3.5	5.0	ND	1	11/22/06	11/22/06	
n-Propylbenzene	EPA 8260B	6K22017	0.27	1.0	ND	1	11/22/06	11/22/06	
Styrene	EPA 8260B	6K22017	0.16	1.0	ND	1	11/22/06	11/22/06	
1,1,1,2-Tetrachloroethane	EPA 8260B	6K22017	0.27	1.0	ND	1	11/22/06	11/22/06	
1,1,2,2-Tetrachloroethane	EPA 8260B	6K22017	0.24	1.0	ND	1	11/22/06	11/22/06	
Tetrachloroethene	EPA 8260B	6K22017	0.32	1.0	**2.6**	1	11/22/06	11/22/06	
Tetrahydrofuran (THF)	EPA 8260B	6K22017	3.5	10	ND	1	11/22/06	11/22/06	
Toluene	EPA 8260B	6K22017	0.36	1.0	ND	1	11/22/06	11/22/06	
1,2,3-Trichlorobenzene	EPA 8260B	6K22017	0.30	1.0	ND	1	11/22/06	11/22/06	
1,2,4-Trichlorobenzene	EPA 8260B	6K22017	0.48	1.0	ND	1	11/22/06	11/22/06	
1,1,2-Trichloroethane	EPA 8260B	6K22017	0.30	1.0	**0.59**	1	11/22/06	11/22/06	J
1,1,1-Trichloroethane	EPA 8260B	6K22017	0.30	1.0	**0.33**	1	11/22/06	11/22/06	J
Trichlorofluoromethane	EPA 8260B	6K22017	0.34	2.0	ND	1	11/22/06	11/22/06	
1,2,3-Trichloropropane	EPA 8260B	6K22017	0.40	1.0	ND	1	11/22/06	11/22/06	
1,2,4-Trimethylbenzene	EPA 8260B	6K22017	0.23	1.0	ND	1	11/22/06	11/22/06	
1,3,5-Trimethylbenzene	EPA 8260B	6K22017	0.26	1.0	ND	1	11/22/06	11/22/06	
Vinyl chloride	EPA 8260B	6K22017	0.30	0.50	ND	1	11/22/06	11/22/06	
Xylenes, Total	EPA 8260B	6K22017	0.90	1.0	ND	1	11/22/06	11/22/06	
Surrogate: 4-Bromofluorobenzene (80-120%)					*102 %*				
Surrogate: Dibromofluoromethane (80-120%)					*110 %*				
Surrogate: Toluene-d8 (80-120%)					*101 %*				

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TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 11/21/06
Santa Ana, CA 92705	Report Number: IPK2470	Received: 11/21/06
Attention: Mehmet Pehlivan		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-07RE1 (IWC001_WG112106_0001 - Water) - cont.									
Reporting Units: ug/l									
Chloroform	EPA 8260B	6K22031	6.6	20	**730**	20	11/22/06	11/23/06	
Trichloroethene	EPA 8260B	6K22031	5.2	20	**2600**	20	11/22/06	11/23/06	
Surrogate: 4-Bromofluorobenzene (80-120%)					*82 %*				
Surrogate: Dibromofluoromethane (80-120%)					*98 %*				
Surrogate: Toluene-d8 (80-120%)					*101 %*				

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TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 11/21/06
Santa Ana, CA 92705	Report Number: IPK2470	Received: 11/21/06
Attention: Mehmet Pehlivan		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-07RE2 (IWC001_WG112106_0001 - Water) - cont.									
Reporting Units: ug/l									
Vinyl acetate	EPA 8260B	6K27030	1.7	6.0	ND	1	11/27/06	11/27/06	
Surrogate: 4-Bromofluorobenzene (80-120%)					*92 %*				
Surrogate: Dibromofluoromethane (80-120%)					*89 %*				
Surrogate: Toluene-d8 (80-120%)					*97 %*				

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Project Manager

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TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Mehmet Pehlivan

Project ID: Boeing C-6 Torrance
EM2727
Report Number: IPK2470

Sampled: 11/21/06
Received: 11/21/06

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-09 (MWC024_WG112106_0001 - Water)									
Reporting Units: ug/l									
Acetone	EPA 8260B	6K22027	4.5	10	ND	1	11/22/06	11/22/06	
Benzene	EPA 8260B	6K22027	0.28	1.0	**0.66**	1	11/22/06	11/22/06	J
Bromobenzene	EPA 8260B	6K22027	0.27	1.0	ND	1	11/22/06	11/22/06	
Bromochloromethane	EPA 8260B	6K22027	0.32	1.0	ND	1	11/22/06	11/22/06	
Bromodichloromethane	EPA 8260B	6K22027	0.30	1.0	ND	1	11/22/06	11/22/06	
Bromoform	EPA 8260B	6K22027	0.40	1.0	ND	1	11/22/06	11/22/06	
Bromomethane	EPA 8260B	6K22027	0.42	1.0	ND	1	11/22/06	11/22/06	
2-Butanone (MEK)	EPA 8260B	6K22027	3.8	5.0	ND	1	11/22/06	11/22/06	
n-Butylbenzene	EPA 8260B	6K22027	0.37	1.0	ND	1	11/22/06	11/22/06	
sec-Butylbenzene	EPA 8260B	6K22027	0.25	1.0	ND	1	11/22/06	11/22/06	
tert-Butylbenzene	EPA 8260B	6K22027	0.22	1.0	ND	1	11/22/06	11/22/06	
Carbon Disulfide	EPA 8260B	6K22027	0.48	1.0	ND	1	11/22/06	11/22/06	
Carbon tetrachloride	EPA 8260B	6K22027	0.28	0.50	**0.94**	1	11/22/06	11/22/06	
Chlorobenzene	EPA 8260B	6K22027	0.36	1.0	**0.53**	1	11/22/06	11/22/06	J
Chloroethane	EPA 8260B	6K22027	0.40	2.0	ND	1	11/22/06	11/22/06	
Chloromethane	EPA 8260B	6K22027	0.40	2.0	ND	1	11/22/06	11/22/06	
2-Chlorotoluene	EPA 8260B	6K22027	0.28	1.0	ND	1	11/22/06	11/22/06	
4-Chlorotoluene	EPA 8260B	6K22027	0.29	1.0	ND	1	11/22/06	11/22/06	
1,2-Dibromo-3-chloropropane	EPA 8260B	6K22027	0.97	2.0	ND	1	11/22/06	11/22/06	
Dibromochloromethane	EPA 8260B	6K22027	0.28	1.0	ND	1	11/22/06	11/22/06	
1,2-Dibromoethane (EDB)	EPA 8260B	6K22027	0.40	1.0	ND	1	11/22/06	11/22/06	
1,4-Dichlorobenzene	EPA 8260B	6K22027	0.37	1.0	ND	1	11/22/06	11/22/06	
1,2-Dichlorobenzene	EPA 8260B	6K22027	0.32	1.0	ND	1	11/22/06	11/22/06	
1,3-Dichlorobenzene	EPA 8260B	6K22027	0.35	1.0	ND	1	11/22/06	11/22/06	
Dichlorodifluoromethane	EPA 8260B	6K22027	0.79	1.0	ND	1	11/22/06	11/22/06	
1,2-Dichloroethane	EPA 8260B	6K22027	0.28	0.50	**0.65**	1	11/22/06	11/22/06	
1,1-Dichloroethane	EPA 8260B	6K22027	0.27	1.0	**1.1**	1	11/22/06	11/22/06	
1,1-Dichloroethene	EPA 8260B	6K22027	0.42	1.0	**33**	1	11/22/06	11/22/06	
cis-1,2-Dichloroethene	EPA 8260B	6K22027	0.32	1.0	**1.9**	1	11/22/06	11/22/06	
trans-1,2-Dichloroethene	EPA 8260B	6K22027	0.27	1.0	**0.57**	1	11/22/06	11/22/06	J
1,2-Dichloropropane	EPA 8260B	6K22027	0.35	1.0	ND	1	11/22/06	11/22/06	
2,2-Dichloropropane	EPA 8260B	6K22027	0.34	1.0	ND	1	11/22/06	11/22/06	
cis-1,3-Dichloropropene	EPA 8260B	6K22027	0.22	0.50	ND	1	11/22/06	11/22/06	
1,1-Dichloropropene	EPA 8260B	6K22027	0.28	1.0	ND	1	11/22/06	11/22/06	
trans-1,3-Dichloropropene	EPA 8260B	6K22027	0.32	0.50	ND	1	11/22/06	11/22/06	
Ethylbenzene	EPA 8260B	6K22027	0.25	1.0	ND	1	11/22/06	11/22/06	
Hexachlorobutadiene	EPA 8260B	6K22027	0.38	1.0	ND	1	11/22/06	11/22/06	
2-Hexanone	EPA 8260B	6K22027	2.6	6.0	ND	1	11/22/06	11/22/06	
Iodomethane	EPA 8260B	6K22027	1.0	2.0	ND	1	11/22/06	11/22/06	
Isopropylbenzene	EPA 8260B	6K22027	0.25	1.0	ND	1	11/22/06	11/22/06	
p-Isopropyltoluene	EPA 8260B	6K22027	0.28	1.0	ND	1	11/22/06	11/22/06	

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Project Manager

Rev 04/07

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TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 11/21/06
Santa Ana, CA 92705	Report Number: IPK2470	Received: 11/21/06
Attention: Mehmet Pehlivan		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-09 (MWC024_WG112106_0001 - Water) - cont.									
Reporting Units: ug/l									
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	6K22027	0.32	1.0	ND	1	11/22/06	11/22/06	
Methylene chloride	EPA 8260B	6K22027	0.95	1.0	ND	1	11/22/06	11/22/06	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	6K22027	3.5	5.0	ND	1	11/22/06	11/22/06	
n-Propylbenzene	EPA 8260B	6K22027	0.27	1.0	ND	1	11/22/06	11/22/06	
Styrene	EPA 8260B	6K22027	0.16	1.0	ND	1	11/22/06	11/22/06	
1,1,1,2-Tetrachloroethane	EPA 8260B	6K22027	0.27	1.0	ND	1	11/22/06	11/22/06	
1,1,2,2-Tetrachloroethane	EPA 8260B	6K22027	0.24	1.0	ND	1	11/22/06	11/22/06	
Tetrachloroethene	EPA 8260B	6K22027	0.32	1.0	**1.2**	1	11/22/06	11/22/06	
Tetrahydrofuran (THF)	EPA 8260B	6K22027	3.5	10	ND UJ	1	11/22/06	11/22/06	
Toluene	EPA 8260B	6K22027	0.36	1.0	ND	1	11/22/06	11/22/06	
1,2,3-Trichlorobenzene	EPA 8260B	6K22027	0.30	1.0	ND	1	11/22/06	11/22/06	
1,2,4-Trichlorobenzene	EPA 8260B	6K22027	0.48	1.0	ND	1	11/22/06	11/22/06	
1,1,2-Trichloroethane	EPA 8260B	6K22027	0.30	1.0	**0.44**	1	11/22/06	11/22/06	J
1,1,1-Trichloroethane	EPA 8260B	6K22027	0.30	1.0	ND	1	11/22/06	11/22/06	
Trichlorofluoromethane	EPA 8260B	6K22027	0.34	2.0	ND	1	11/22/06	11/22/06	
1,2,3-Trichloropropane	EPA 8260B	6K22027	0.40	1.0	ND	1	11/22/06	11/22/06	
1,2,4-Trimethylbenzene	EPA 8260B	6K22027	0.23	1.0	ND	1	11/22/06	11/22/06	
1,3,5-Trimethylbenzene	EPA 8260B	6K22027	0.26	1.0	ND	1	11/22/06	11/22/06	
Vinyl chloride	EPA 8260B	6K22027	0.30	0.50	ND	1	11/22/06	11/22/06	
Xylenes, Total	EPA 8260B	6K22027	0.90	1.0	ND	1	11/22/06	11/22/06	
Surrogate: 4-Bromofluorobenzene (80-120%)					*101 %*				
Surrogate: Dibromofluoromethane (80-120%)					*110 %*				
Surrogate: Toluene-d8 (80-120%)					*100 %*				

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Project Manager

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TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 11/21/06
Santa Ana, CA 92705	Report Number: IPK2470	Received: 11/21/06
Attention: Mehmet Pehlivan		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-09RE1 (MWC024_WG112106_0001 - Water) - cont.									
Reporting Units: ug/l									
Chloroform	EPA 8260B	6K25014	6.6	20	**460**	20	11/25/06	11/25/06	
Trichloroethene	EPA 8260B	6K25014	5.2	20	**2800**	20	11/25/06	11/25/06	
Surrogate: 4-Bromofluorobenzene (80-120%)					*106 %*				
Surrogate: Dibromofluoromethane (80-120%)					*114 %*				
Surrogate: Toluene-d8 (80-120%)					*109 %*				

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Project Manager

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TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727	Sampled: 11/21/06
Santa Ana, CA 92705	Report Number: IPK2470	Received: 11/21/06
Attention: Mehmet Pehlivan		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IPK2470-09RE2 (MWC024_WG112106_0001 - Water) - cont.									
Reporting Units: ug/l									
Vinyl acetate	EPA 8260B	6K24024	1.7	6.0	ND	1	11/24/06	11/24/06	
Surrogate: 4-Bromofluorobenzene (80-120%)					*92 %*				
Surrogate: Dibromofluoromethane (80-120%)					*95 %*				
Surrogate: Toluene-d8 (80-120%)					*97 %*				

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Project Manager

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LDC #: 16470A1
SDG #: IPK2470
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
EPA Region 1 - Tier 2/3

Date: 3/31/07
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 11/21/06
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD, r^2 ≥0.990
IV.	Continuing calibration	SW	
V.	Blanks	SW	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	Not reviewed for Tier II validation.
XII.	Compound quantitation/CRQLs	A	Not reviewed for Tier II validation.
XIII.	Tentatively identified compounds (TICs)	N	Not reviewed for Tier II validation. not reported
XIV.	System performance	A	Not reviewed for Tier II validation.
XV.	Overall assessment of data	A	
XVI.	Field duplicates N	~~SW~~ ~~D = 1, 4, 2, 5, 3, 6~~ *	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; * ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Tier III validation

Waters

5	1 1	IWC002_WG112106_0001	11 1	IWC002_WG112106_0001MSD	21 1	6K22017 X	31	
	2 2	S IWC002_WG112106_0001RE1	12		22 2	6K22031 X	32	
	3 3	HH IWC002_WG112106_0001RE2	13		23 3	6K27030 X	33	
7	4 1	IWC001_WG112106_0001**	14		24 4	6K22027 X	34	
	5 2	S, K IWC001_WG112106_0001RE1**	15		25 5	6K25014 X	35	
	6 3	HH IWC001_WG112106_0001RE2**	16		26 6	6K24024 X	36	
9	7 4	MWC024_WG112106_001	17		27		37	
	8 5	S, K MWC024_WG112106_001RE1	18		28		38	
	9 6	HH MWC024_WG112106_001RE2	19		29		39	
	10 1	IWC002_WG112106_0001MS	20		30		40	

16470A1W.wpd

LDC #: 16470-A1
SDG #: see cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: PZ
2nd Reviewer: [illegible]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.	✓			
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?	✓			
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

.DC #: 16470A1
SDG #: see cover

VALIDATION FINDINGS CHECKLIST

Reviewer: B
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within + 30 seconds of the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl chloride**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

BOE-C6-0053169

LDC #: 16470A1
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?
Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?
Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	11/22/06 9:32AM	CCV	M		0.048	6K22017-BLK1, 1, 4, 10, 11	J/UJ/A
	11/22/06 8:10 PM	CCV	Tetrahydrofuran	48		6K22027-BLK1, 7	↓

CONCAL.1SB

BOE-C6-0053170

LDC #: 16470A1
SDG #: per cover

VALIDATION FINDINGS WORKSHEET
Blanks

Page: 1 of 1
Reviewer: B
2nd Reviewer: R

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a method blank associated with every sample in this SDG?
Y N N/A Was a method blank analyzed at least once every 12 hours for each matrix and concentration?
Y N N/A Was there contamination in the method blanks? If yes, please see the qualifications below.

Blank analysis date: 11/22/06
Conc. units: ug/L
Associated Samples: 1, 4 (ND)

Compound	Blank ID	Sample Identification								
	6K22017-BLK1									
~~Methylene chloride~~ Tetrahydrofuran	4.83									
~~Acetone~~										
CRQL										

Blank analysis date: 11/22/06
Conc. units: ug/L
Associated Samples: 7 (ND)

Compound	Blank ID	Sample Identification								
	6K22027-BLK1									
~~Methylene chloride~~ K	~~0.560~~									
~~Acetone~~ Tetrahydrofuran	5.50									
CRQL										

All results were qualified using the criteria stated below except those circled.

Note: Common contaminants such as Methylene chloride, Acetone, 2-Butanone, Carbon disulfide and TICs that were detected in samples within ten times the associated method blank concentration were qualified as not detected, "U". Other contaminants within five times the method blank concentration were also qualified as not detected, "U".

BLANKS2.1SB

BOE-C6-0053171

LDC #: 16470A1
SDG #: per cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

RRF = $(A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
%RSD = 100 * (S/X)

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF (25 std)	Recalculated RRF (25 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	GCMS33	11/15/06	Methylene chloride (1st internal standard)	0.455	0.455	0.442	0.442	5.53	5.53
			Trichlorethene (2nd internal standard)	0.410	0.410	0.385	0.385	9.22	9.22
			Ethyl Benzene ~~Toluene~~ (3rd internal standard)	1.429	1.429	1.379	1.379	9.63	9.63
2	~~GCMS56~~	11/15/06	1,2-DCB ~~Methylene chloride~~ (1st internal standard)	1.418	1.418	1.337	1.337	10.92	10.92
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						
3	GCMS52	11/15/06	TCE ~~Methylene chloride~~ (1st internal standard)	0.386	0.386	0.365	0.365	5.81	5.81
			Chloroform ~~Trichlorethene~~ (2nd internal standard)	0.992	0.992	0.977	0.977	5.86	5.86
			Toluene (3rd internal standard)						
4	GCMS5	11/23/06	Vinyl Acetate ~~Methylene chloride~~ (1st internal standard)	0.798	0.798	0.679	0.679	14.85	14.85
			Trichlorethene (2nd internal standard)						
			Toluene (3rd internal standard)						

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

INICLC.1SB

BOE-C6-0053172

LDC #: 16470A1
SDG #: per cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = $(A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Average RRF (Initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV 939AM (33)	11/22/07	Methylene chloride (1st internal standard)	0.442	0.400	0.400	9.5	9.5
			Trichlorethene (2nd internal standard)	0.385	0.391	0.391	1.6	1.6
			~~Toluene~~ Ethyl Benzene (3rd internal standard)	1.379	1.410	1.410	2.2	2.2
2			~~Methylene chloride~~ 1,2-DCB (1st internal standard)	1.337	1.403	1.403	4.9	4.9
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					
3	CCV 6:44PM (52)	11/22/07	~~Methylene chloride~~ Chloroform (1st internal standard)	0.977	1.016	1.016	4.0	4.0
			Trichlorethene (2nd internal standard)	0.365	0.358	0.358	1.9	1.9
			Toluene (3rd internal standard)					
4	CCV 4:41PM (55)	11/27/07	~~Methylene chloride~~ Vinyl Acetate (1st internal standard)	0.679	0.682	0.682	0.4	0.4
			Trichlorethene (2nd internal standard)					
			Toluene (3rd internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

CONCLC.1SB

BOE-C6-0053173

LDC #: 16470A1
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Page: 1 of 1
Reviewer: R
2nd reviewer: R

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 4

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8	25.0	25.31	101	101	0
Bromofluorobenzene	↓	25.62	102	102	↓
1,2-Dichloroethane-d4	↓				↓
Dibromofluoromethane	↓	27.40	110	110	↓

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

LDC #: 16470A1
SDG #: [illegible]

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD = | MSC - MSDC | * 2/(MSC + MSDC)

MSC = Matrix spike percent recovery; MSDC = Matrix spike duplicate percent recovery

MS/MSD sample: 10 + 11

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	------	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	25.0	110	130	126	80	80	64	64	3	3
Trichloroethene	NA		NA	NA							
Benzene			0.30	24.4	24.8	96	96	98	98	2	2
Toluene			ND	24.8	24.9	99	99	100	100	0	0
Chlorobenzene			ND	25.7	25.9	103	103	104	104	1	1

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

MSDCLC.1SB

BOE-C6-0053175

LDC #: 16470A1
SDG #: tp see cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA

Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCS - LCSD I * 2/(LCS + LCSD)

LCS = Laboraotry control sample percent recovery

LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 6K22017-LCS

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	NA	23.3	NA	93	93				
Trichloroethene			~~24.4~~ 26.5		106	106				
Benzene			24.4		98	98				
Toluene			24.6		98	98				
Chlorobenzene			25.1		100	100	NA			

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LCSCLC.1SB

BOE-C6-0053176

LDC #: 16470A1
SDG #: 18K2470

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #4 . Benzene

Conc. = $\frac{(120.62)(25)(\quad)}{(\cancel{438798}\ 648418)(1.070)(\quad)(\quad)}$

= 0.43 ug Kg

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification