**LABORATORY DATA CONSULTANTS, INC.**
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tait Environmental Management, Inc.
701 N. Park Center Drive
Santa Ana, CA 92705
ATTN: Mr. Matt Hillman

May 16, 2005

SUBJECT: Boeing Realty Corp., Bldg. C-6 Facility, Data Validation

Dear Mr. Hillman,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on October 20, 2005. Attachment 1 is a summary of the samples that were reviewed for each analysis.

**LDC Project # 14879:**

| SDG # | Fraction |
|---|---|
| IPC2080, IPC2190, IPC2325 | Volatiles, Manganese, Wet Chemistry, Fixed Gases |

The data validation was performed under Tier 1, Tier 2 and Tier 3 guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998

Please feel free to contact us if you have any questions.

Sincerely,

Stella S. Cuenco
Project Manager/Senior Chemist

14879COV.wpd

821 Pages

Attachment 1

# LDC #14879 (Tait Environmenal Management, Inc. / Boeing Realty Corp., Former C-6 Facility, Torrance, CA)

| LDC | SDG# | DATE REC'D | (3) DATE DUE | VOA (8260B) | | Mn (6010B) | | Fixed Gases (175) | | Alk. (310.1) | | $NH_3$ (350.3) | | Cl,$SO_4$ O-$PO_4$ (300.0) | | $NO_3$-N $NO_2$-N (300.0) | | TOC (415.1) | | $CO_2$ (4500) | | S= (376.2) | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Matrix: | Water/Soil | | | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S | W | S |
| A | IPC2080 | 04/21/06 | 04/28/06 | 6 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | Tier I | | | | | | | | | | | |
| B | IPC2190 | 04/21/06 | 04/28/06 | 5 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | | | | | | | | | | | | |
| C | IPC2325 | 04/21/06 | 04/28/06 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | | | | | | | | | | | | |
| Total | B/SC | | | 12 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 |

Shaded cells indicate Tier III validation (all other cells are Tier II validation). Sample counts do not include MS, MSD, or DUP's.

14879ST.wpd

**Boeing Realty Corp., Former C-6 Facility, Torrance CA**
**Data Validation Reports**
**LDC# 14879**

Volatiles

LDC

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 20, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Volatiles

**Validation Level:** Tier 1

**Laboratory:** Del Mar Analytical

**Sample Delivery Group (SDG):** IPC2080

**Sample Identification**

MWB003_WG032006_0001
MWC011_WG032006_0001
IRZMW002B_WG032006_0001
IRZMW002B_WG032006_0002
IRZB0081_WG032006_0001
MWB019_WG032006_0001
MWB019_WG032006_0001MS
MWB019_WG032006_0001MSD
IRZMW002B_WG032006_0002MS
IRZMW002B_WG032006_0002MSD

## Introduction

This data review covers 10 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 a 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.

Raw data were not reviewed for this SDG. The review was 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 check data were not reviewed for Tier 1.

## III. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

## IV. Continuing Calibration

Continuing calibration data were not reviewed for Tier 1.

## 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 |
|---|---|---|---|---|
| 6C29002-BLK | 3/29/06 | Tetrahydrofuran | 3.51 ug/L | MWB003_WG032006_0001<br>MWC011_WG032006_0001<br>IRZMW002B_WG032006_0001<br>IRZMW002B_WG032006_0002<br>IRZB0081_WG032006_0001 |
| 6C30003-BLK1 | 3/30/06 | Tetrahydrofuran | 7.19 ug/L | MWB019_WG032006_0001 |

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 with the following exceptions:

| Sample | Surrogate | %R (Limits) | Compound | Flag | A or P |
|---|---|---|---|---|---|
| MWC011_WG032006_0001 | Dibromofluoromethane | 122 (80-120) | Tetrahydrofuran<br>Iodomethane | J (all detects)<br>UJ (all non-detects)<br>J (all detects)<br>UJ (all non-detects) | A |
| IRZB0081_WG032006_0001 | Dibromofluoromethane | 121 (80-120) | Tetrahydrofuran<br>Iodomethane | J (all detects)<br>UJ (all non-detects)<br>J (all detects)<br>UJ (all non-detects) | A |

## 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 with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|---|---|---|---|---|---|---|
| MWB019_WG032006_0001MS/MSD (MWB019_WG032006_0001) | n-Butylbenzene<br>1,2-Dichloropropane<br>Ethylbenzene<br>Hexachlorobutadiene | 140 (65-135)<br>130 (60-125)<br>132 (65-130)<br>136 (60-135) | -<br>-<br>-<br>- | -<br>-<br>-<br>- | J (all detects)<br>J (all detects)<br>J (all detects)<br>J (all detects) | A |
| MWB019_WG032006_0001MS/MSD (MWB019_WG032006_0001) | Styrene<br>1,2,4-Trimethylbenzene | -<br>- | 23 (45-145)<br>52 (55-130) | 75 (≤30)<br>46 (≤25) | J (all detects)<br>UJ (all non-detects)<br>J (all detects)<br>UJ (all non-detects) | A |
| IRZMW002B_WG032006_0002MS/MSD (IRZMW002B_WG032006_0002RE2) | Acetone | - | - | 42 (≤35) | J (all detects)<br>UJ (all non-detects) | A |

## VIII. Laboratory Control Samples (LCS)

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

| LCS ID | Compound | %R (Limits) | Associated Samples | Flag | A or P |
|---|---|---|---|---|---|
| 6C30003-BS1 | 4-Methyl-2-pentanone | 136 (40-135) | MWB019_WG032006_0001<br>6C30003-BLK1 | J (all detects) | P |

## IX. Regional Quality Assurance and Quality Control

Not applicable.

## X. Internal Standards

Internal standards data were not reviewed for Tier 1.

## XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

## XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

## XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

## XIV. System Performance

Raw data were not reviewed for this SDG.

## XV. Overall Assessment of Data

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

## XVI. Field Duplicates

Samples IRZMW002B_WG032006_0001 and IRZMW002B_WG032006_0002 were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

| Compound | Concentration (ug/L) | | RPD |
|---|---|---|---|
| | IRZMW002B_WG032006_0001 | IRZMW002B_WG032006_0002 | |
| Trichloroethene | 300 | 330 | 10 |
| Chlorobenzene | 0.42 | 0.48 | 13 |
| Chloroform | 1.5 | 1.3 | 14 |
| 1,1-Dichloroethene | 6.2 | 3.9 | 46 |
| cis-1,2-Dichloroethene | 110 | 94 | 16 |
| Toluene | 1.4 | 1.3 | 7 |

| Compound | Concentration (ug/L) | | RPD |
|---|---|---|---|
| | IRZMW002B_WG032006_0001 | IRZMW002B_WG032006_0002 | |
| trans-1,2-Dichloroethene | 1.0U | 4.2 | 200 |

## XVII. Field Blanks

No field blanks were identified in this SDG.

## Boeing Realty Corp, Former C-6 Facility, Torrance CA
## Volatiles - Data Qualification Summary - SDG IPC2080

| SDG | Sample | Compound | Flag | A or P | Reason |
|---|---|---|---|---|---|
| IPC2080 | MWC011_WG032006_0001<br>IRZB0081_WG032006_0001 | Tetrahydrofuran<br><br>Iodomethane | J (all detects)<br>UJ (all non-detects)<br>J (all detects)<br>UJ (all non-detects) | A | Surrogate recovery (%R) |
| | MWB019_WG032006_0001 | n-Butylbenzene<br>1,2-Dichloropropane<br>Ethylbenzene<br>Hexachlorobutadiene | J (all detects)<br>J (all detects)<br>J (all detects)<br>J (all detects) | A | Matrix spike/Matrix spike duplicates (%R) |
| IPC2080 | MWB019_WG032006_0001 | Styrene<br><br>1,2,4-Trimethylbenzene | J (all detects)<br>UJ (all non-detects)<br>J (all detects)<br>UJ (all non-detects) | A | Matrix spike/Matrix spike duplicates (%R)(RPD) |
| IPC2080 | IRZMW002B_WG032006_0002 | Acetone | J (all detects)<br>UJ (all non-detects) | A | Matrix spike/Matrix spike duplicates (RPD) |
| IPC2080 | MWB019_WG032006_0001 | 4-Methyl-2-pentanone | J (all detects) | P | Laboratory control samples (%R) |

## Boeing Realty Corp, Former C-6 Facility, Torrance CA
## Volatiles - Laboratory Blank Data Qualification Summary - SDG IPC2080

No Sample Data Qualified in this SDG

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
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Del Mar Analytical

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

## 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: IPC2080-06 (MWB003_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6C29002 | 4.5 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Benzene** | EPA 8260B | 6C29002 | 0.28 | 1.0 | **9.3** | 1 | 03/29/06 | 03/29/06 | |
| Bromobenzene | EPA 8260B | 6C29002 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromochloromethane | EPA 8260B | 6C29002 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromodichloromethane | EPA 8260B | 6C29002 | 0.30 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromoform | EPA 8260B | 6C29002 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromomethane | EPA 8260B | 6C29002 | 0.42 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C29002 | 3.8 | 5.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| n-Butylbenzene | EPA 8260B | 6C29002 | 0.37 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| sec-Butylbenzene | EPA 8260B | 6C29002 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| tert-Butylbenzene | EPA 8260B | 6C29002 | 0.22 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Carbon Disulfide | EPA 8260B | 6C29002 | 0.48 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Carbon tetrachloride | EPA 8260B | 6C29002 | 0.28 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| Chlorobenzene | EPA 8260B | 6C29002 | 0.36 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Chloroethane | EPA 8260B | 6C29002 | 0.40 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Chloroform** | EPA 8260B | 6C29002 | 0.33 | 1.0 | **25** | 1 | 03/29/06 | 03/29/06 | |
| Chloromethane | EPA 8260B | 6C29002 | 0.30 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C29002 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C29002 | 0.29 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C29002 | 0.92 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Dibromochloromethane | EPA 8260B | 6C29002 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C29002 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C29002 | 0.37 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C29002 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C29002 | 0.35 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C29002 | 0.79 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **1,2-Dichloroethane** | EPA 8260B | 6C29002 | 0.28 | 0.50 | **41** | 1 | 03/29/06 | 03/29/06 | |
| **1,1-Dichloroethane** | EPA 8260B | 6C29002 | 0.27 | 1.0 | **89** | 1 | 03/29/06 | 03/29/06 | |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6C29002 | 0.32 | 1.0 | **130** | 1 | 03/29/06 | 03/29/06 | |
| **trans-1,2-Dichloroethene** | EPA 8260B | 6C29002 | 0.27 | 1.0 | **98** | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6C29002 | 0.35 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2,2-Dichloropropane | EPA 8260B | 6C29002 | 0.34 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C29002 | 0.22 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C29002 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C29002 | 0.32 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| Ethylbenzene | EPA 8260B | 6C29002 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Hexachlorobutadiene | EPA 8260B | 6C29002 | 0.38 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Hexanone | EPA 8260B | 6C29002 | 2.6 | 6.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Iodomethane | EPA 8260B | 6C29002 | 1.0 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Isopropylbenzene | EPA 8260B | 6C29002 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| p-Isopropyltoluene | EPA 8260B | 6C29002 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

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17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

| | | |
|---|---|---|
| TAIT Environmental/Boeing | Project ID: Boeing C-6 Torrance | |
| 701 N. Parkcenter Drive | EM2303D/PHASE 01 | Sampled: 03/20/06 |
| Santa Ana, CA 92705 | Report Number: IPC2080 | Received: 03/20/06 |
| 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: IPC2080-06 (MWB003_WG032006_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C29002 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Methylene chloride** | EPA 8260B | 6C29002 | 0.70 | 1.0 | **2.2** | 1 | 03/29/06 | 03/29/06 | |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6C29002 | 3.5 | 5.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| n-Propylbenzene | EPA 8260B | 6C29002 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Styrene | EPA 8260B | 6C29002 | 0.16 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C29002 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C29002 | 0.24 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Tetrachloroethene** | EPA 8260B | 6C29002 | 0.32 | 1.0 | **0.50** | 1 | 03/29/06 | 03/29/06 | J |
| Tetrahydrofuran (THF) | EPA 8260B | 6C29002 | 2.3 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| Toluene | EPA 8260B | 6C29002 | 0.36 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C29002 | 0.45 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C29002 | 0.48 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **1,1,2-Trichloroethane** | EPA 8260B | 6C29002 | 0.30 | 1.0 | **27** | 1 | 03/29/06 | 03/29/06 | |
| **1,1,1-Trichloroethane** | EPA 8260B | 6C29002 | 0.30 | 1.0 | **1.9** | 1 | 03/29/06 | 03/29/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C29002 | 0.34 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C29002 | 0.40 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6C29002 | 0.23 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6C29002 | 0.26 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Vinyl acetate | EPA 8260B | 6C29002 | 1.7 | 6.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Vinyl chloride | EPA 8260B | 6C29002 | 0.26 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| Xylenes, Total | EPA 8260B | 6C29002 | 0.90 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *96 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *116 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *103 %* | | | | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

4/25/06

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| | | | |
|---|---|---|---|
| TAIT Environmental/Boeing | Project ID: | Boeing C-6 Torrance | |
| 701 N. Parkcenter Drive | | EM2303D/PHASE 01 | Sampled: 03/20/06 |
| Santa Ana, CA 92705 | Report Number: | IPC2080 | Received: 03/20/06 |
| 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: IPC2080-06RE1 (MWB003_WG032006_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **1,1-Dichloroethene** | EPA 8260B | 6C31009 | 42 | 100 | **4800** | 100 | 03/31/06 | 03/31/06 | |
| **Trichloroethene** | EPA 8260B | 6C31009 | 26 | 100 | **4100** | 100 | 03/31/06 | 03/31/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *112 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *109 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *110 %* | | | | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

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1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

## 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: IPC2080-07 (MWC011_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Iodomethane | EPA 8260B | 6C29002 | 1.0 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Tetrahydrofuran (THF) | EPA 8260B | 6C29002 | 2.3 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *97 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *122 %* | | | | *Z2* |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *102 %* | | | | |
| **Sample ID: IPC2080-07RE1 (MWC011_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6C31009 | 4.5 | 10 | ND | 1 | 03/31/06 | 03/31/06 | |
| **Benzene** | EPA 8260B | 6C31009 | 0.28 | 1.0 | **0.30** | 1 | 03/31/06 | 03/31/06 | J |
| Bromobenzene | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromochloromethane | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromodichloromethane | EPA 8260B | 6C31009 | 0.30 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromoform | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromomethane | EPA 8260B | 6C31009 | 0.42 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C31009 | 3.8 | 5.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| n-Butylbenzene | EPA 8260B | 6C31009 | 0.37 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| sec-Butylbenzene | EPA 8260B | 6C31009 | 0.25 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| tert-Butylbenzene | EPA 8260B | 6C31009 | 0.22 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Carbon Disulfide | EPA 8260B | 6C31009 | 0.48 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Carbon tetrachloride | EPA 8260B | 6C31009 | 0.28 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| Chlorobenzene | EPA 8260B | 6C31009 | 0.36 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Chloroethane | EPA 8260B | 6C31009 | 0.40 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Chloroform | EPA 8260B | 6C31009 | 0.33 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Chloromethane | EPA 8260B | 6C31009 | 0.30 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C31009 | 0.29 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C31009 | 0.92 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Dibromochloromethane | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C31009 | 0.37 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C31009 | 0.35 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C31009 | 0.79 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| **1,2-Dichloroethane** | EPA 8260B | 6C31009 | 0.28 | 0.50 | **0.60** | 1 | 03/31/06 | 03/31/06 | |
| **1,1-Dichloroethane** | EPA 8260B | 6C31009 | 0.27 | 1.0 | **2.5** | 1 | 03/31/06 | 03/31/06 | |
| **1,1-Dichloroethene** | EPA 8260B | 6C31009 | 0.42 | 1.0 | **59** | 1 | 03/31/06 | 03/31/06 | |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6C31009 | 0.32 | 1.0 | **51** | 1 | 03/31/06 | 03/31/06 | |
| **trans-1,2-Dichloroethene** | EPA 8260B | 6C31009 | 0.27 | 1.0 | **1.4** | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6C31009 | 0.35 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2,2-Dichloropropane | EPA 8260B | 6C31009 | 0.34 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |

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Michele Chamberlin
Project Manager

MC 05/05/06

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17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

## 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: IPC2080-07RE1 (MWC011_WG032006_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C31009 | 0.22 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C31009 | 0.32 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| Ethylbenzene | EPA 8260B | 6C31009 | 0.25 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Hexachlorobutadiene | EPA 8260B | 6C31009 | 0.38 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2-Hexanone | EPA 8260B | 6C31009 | 2.6 | 6.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Isopropylbenzene | EPA 8260B | 6C31009 | 0.25 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| p-Isopropyltoluene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| **Methylene chloride** | EPA 8260B | 6C31009 | 0.70 | 1.0 | **1.5** | 1 | 03/31/06 | 03/31/06 | |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6C31009 | 3.5 | 5.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| n-Propylbenzene | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Styrene | EPA 8260B | 6C31009 | 0.16 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C31009 | 0.24 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Tetrachloroethene | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Toluene | EPA 8260B | 6C31009 | 0.36 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C31009 | 0.45 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C31009 | 0.48 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,2-Trichloroethane | EPA 8260B | 6C31009 | 0.30 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,1-Trichloroethane | EPA 8260B | 6C31009 | 0.30 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| **Trichloroethene** | EPA 8260B | 6C31009 | 0.26 | 1.0 | **33** | 1 | 03/31/06 | 03/31/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C31009 | 0.34 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C31009 | 0.40 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6C31009 | 0.23 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6C31009 | 0.26 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Vinyl acetate | EPA 8260B | 6C31009 | 1.7 | 6.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Vinyl chloride | EPA 8260B | 6C31009 | 0.26 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| Xylenes, Total | EPA 8260B | 6C31009 | 0.90 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *103 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *107 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *107 %* | | | | |

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Michele Chamberlin
Project Manager

05/15/06

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

## 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: IPC2080-08 (IRZMW002B_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Iodomethane | EPA 8260B | 6C29002 | 1.0 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Tetrahydrofuran (THF) | EPA 8260B | 6C29002 | 2.3 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *95 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *120 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *102 %* | | | | |
| **Sample ID: IPC2080-08RE1 (IRZMW002B_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **Trichloroethene** | EPA 8260B | 6C31009 | 1.3 | 5.0 | **300** | 5 | 03/31/06 | 03/31/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *110 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *110 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *108 %* | | | | |
| **Sample ID: IPC2080-08RE2 (IRZMW002B_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6C31009 | 4.5 | 10 | ND | 1 | 03/31/06 | 03/31/06 | |
| Benzene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromobenzene | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromochloromethane | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromodichloromethane | EPA 8260B | 6C31009 | 0.30 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromoform | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromomethane | EPA 8260B | 6C31009 | 0.42 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C31009 | 3.8 | 5.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| n-Butylbenzene | EPA 8260B | 6C31009 | 0.37 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| sec-Butylbenzene | EPA 8260B | 6C31009 | 0.25 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| tert-Butylbenzene | EPA 8260B | 6C31009 | 0.22 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Carbon Disulfide | EPA 8260B | 6C31009 | 0.48 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Carbon tetrachloride | EPA 8260B | 6C31009 | 0.28 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| **Chlorobenzene** | EPA 8260B | 6C31009 | 0.36 | 1.0 | **0.42** | 1 | 03/31/06 | 03/31/06 | J |
| Chloroethane | EPA 8260B | 6C31009 | 0.40 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| **Chloroform** | EPA 8260B | 6C31009 | 0.33 | 1.0 | **1.5** | 1 | 03/31/06 | 03/31/06 | |
| Chloromethane | EPA 8260B | 6C31009 | 0.30 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C31009 | 0.29 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C31009 | 0.92 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Dibromochloromethane | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C31009 | 0.37 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C31009 | 0.35 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C31009 | 0.79 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dichloroethane | EPA 8260B | 6C31009 | 0.28 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |

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Michele Chamberlin
Project Manager

4/27/06

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

## 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: IPC2080-08RE2 (IRZMW002B_WG032006_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| 1,1-Dichloroethane | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| **1,1-Dichloroethene** | EPA 8260B | 6C31009 | 0.42 | 1.0 | **6.2** | 1 | 03/31/06 | 03/31/06 | |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6C31009 | 0.32 | 1.0 | **110** | 1 | 03/31/06 | 03/31/06 | |
| trans-1,2-Dichloroethene | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6C31009 | 0.35 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2,2-Dichloropropane | EPA 8260B | 6C31009 | 0.34 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C31009 | 0.22 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C31009 | 0.32 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| Ethylbenzene | EPA 8260B | 6C31009 | 0.25 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Hexachlorobutadiene | EPA 8260B | 6C31009 | 0.38 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2-Hexanone | EPA 8260B | 6C31009 | 2.6 | 6.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Isopropylbenzene | EPA 8260B | 6C31009 | 0.25 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| p-Isopropyltoluene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Methylene chloride | EPA 8260B | 6C31009 | 0.70 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6C31009 | 3.5 | 5.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| n-Propylbenzene | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Styrene | EPA 8260B | 6C31009 | 0.16 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C31009 | 0.24 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Tetrachloroethene | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| **Toluene** | EPA 8260B | 6C31009 | 0.36 | 1.0 | **1.4** | 1 | 03/31/06 | 03/31/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C31009 | 0.45 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C31009 | 0.48 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,2-Trichloroethane | EPA 8260B | 6C31009 | 0.30 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,1-Trichloroethane | EPA 8260B | 6C31009 | 0.30 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C31009 | 0.34 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C31009 | 0.40 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6C31009 | 0.23 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6C31009 | 0.26 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Vinyl acetate | EPA 8260B | 6C31009 | 1.7 | 6.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Vinyl chloride | EPA 8260B | 6C31009 | 0.26 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| Xylenes, Total | EPA 8260B | 6C31009 | 0.90 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *114 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *116 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *108 %* | | | | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

X 04/25/06

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1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

## 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: IPC2080-09 (IRZMW002B_WG032006_0002 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Iodomethane | EPA 8260B | 6C29002 | 1.0 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Tetrahydrofuran (THF) | EPA 8260B | 6C29002 | 2.3 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *96 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *119 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *101 %* | | | | |
| **Sample ID: IPC2080-09RE1 (IRZMW002B_WG032006_0002 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **Trichloroethene** | EPA 8260B | 6C31009 | 1.3 | 5.0 | **330** | 5 | 03/31/06 | 03/31/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *105 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *108 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *104 %* | | | | |
| **Sample ID: IPC2080-09RE2 (IRZMW002B_WG032006_0002 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6C31009 | 4.5 | 10 | ND UJ | 1 | 03/31/06 | 03/31/06 | |
| Benzene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromobenzene | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromochloromethane | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromodichloromethane | EPA 8260B | 6C31009 | 0.30 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromoform | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Bromomethane | EPA 8260B | 6C31009 | 0.42 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C31009 | 3.8 | 5.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| n-Butylbenzene | EPA 8260B | 6C31009 | 0.37 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| sec-Butylbenzene | EPA 8260B | 6C31009 | 0.25 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| tert-Butylbenzene | EPA 8260B | 6C31009 | 0.22 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Carbon Disulfide | EPA 8260B | 6C31009 | 0.48 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Carbon tetrachloride | EPA 8260B | 6C31009 | 0.28 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| **Chlorobenzene** | EPA 8260B | 6C31009 | 0.36 | 1.0 | **0.48** | 1 | 03/31/06 | 03/31/06 | J |
| Chloroethane | EPA 8260B | 6C31009 | 0.40 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| **Chloroform** | EPA 8260B | 6C31009 | 0.33 | 1.0 | **1.3** | 1 | 03/31/06 | 03/31/06 | |
| Chloromethane | EPA 8260B | 6C31009 | 0.30 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C31009 | 0.29 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C31009 | 0.92 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Dibromochloromethane | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C31009 | 0.37 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C31009 | 0.35 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C31009 | 0.79 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dichloroethane | EPA 8260B | 6C31009 | 0.28 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |

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Michele Chamberlin
Project Manager

KQ 7/06

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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

## 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: IPC2080-09RE2 (IRZMW002B_WG032006_0002 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| 1,1-Dichloroethane | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| **1,1-Dichloroethene** | EPA 8260B | 6C31009 | 0.42 | 1.0 | **3.9** | 1 | 03/31/06 | 03/31/06 | |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6C31009 | 0.32 | 1.0 | **94** | 1 | 03/31/06 | 03/31/06 | |
| **trans-1,2-Dichloroethene** | EPA 8260B | 6C31009 | 0.27 | 1.0 | **4.2** | 1 | 03/31/06 | 03/31/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6C31009 | 0.35 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2,2-Dichloropropane | EPA 8260B | 6C31009 | 0.34 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C31009 | 0.22 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C31009 | 0.32 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| Ethylbenzene | EPA 8260B | 6C31009 | 0.25 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Hexachlorobutadiene | EPA 8260B | 6C31009 | 0.38 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 2-Hexanone | EPA 8260B | 6C31009 | 2.6 | 6.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Isopropylbenzene | EPA 8260B | 6C31009 | 0.25 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| p-Isopropyltoluene | EPA 8260B | 6C31009 | 0.28 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Methylene chloride | EPA 8260B | 6C31009 | 0.70 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6C31009 | 3.5 | 5.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| n-Propylbenzene | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Styrene | EPA 8260B | 6C31009 | 0.16 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C31009 | 0.27 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C31009 | 0.24 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Tetrachloroethene | EPA 8260B | 6C31009 | 0.32 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| **Toluene** | EPA 8260B | 6C31009 | 0.36 | 1.0 | **1.3** | 1 | 03/31/06 | 03/31/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C31009 | 0.45 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C31009 | 0.48 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,2-Trichloroethane | EPA 8260B | 6C31009 | 0.30 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,1,1-Trichloroethane | EPA 8260B | 6C31009 | 0.30 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C31009 | 0.34 | 2.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C31009 | 0.40 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6C31009 | 0.23 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6C31009 | 0.26 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Vinyl acetate | EPA 8260B | 6C31009 | 1.7 | 6.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| Vinyl chloride | EPA 8260B | 6C31009 | 0.26 | 0.50 | ND | 1 | 03/31/06 | 03/31/06 | |
| Xylenes, Total | EPA 8260B | 6C31009 | 0.90 | 1.0 | ND | 1 | 03/31/06 | 03/31/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *113 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *106 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *106 %* | | | | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

K 05/N/06

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

# 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: IPC2080-10 (IRZB0081_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Iodomethane | EPA 8260B | 6C29002 | 1.0 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Tetrahydrofuran (THF) | EPA 8260B | 6C29002 | 2.3 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *99 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *121 %* | | | | *Z2* |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *102 %* | | | | |
| **Sample ID: IPC2080-10RE1 (IRZB0081_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **Vinyl chloride** | EPA 8260B | 6C31009 | 5.2 | 10 | **1600** | 20 | 03/31/06 | 03/31/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *104 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *112 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *104 %* | | | | |
| **Sample ID: IPC2080-10RE2 (IRZB0081_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6C31009 | 22 | 50 | ND | 5 | 03/31/06 | 03/31/06 | |
| Benzene | EPA 8260B | 6C31009 | 1.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Bromobenzene | EPA 8260B | 6C31009 | 1.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Bromochloromethane | EPA 8260B | 6C31009 | 1.6 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Bromodichloromethane | EPA 8260B | 6C31009 | 1.5 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Bromoform | EPA 8260B | 6C31009 | 1.6 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Bromomethane | EPA 8260B | 6C31009 | 2.1 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C31009 | 19 | 25 | ND | 5 | 03/31/06 | 03/31/06 | |
| n-Butylbenzene | EPA 8260B | 6C31009 | 1.8 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| sec-Butylbenzene | EPA 8260B | 6C31009 | 1.2 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| tert-Butylbenzene | EPA 8260B | 6C31009 | 1.1 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Carbon Disulfide | EPA 8260B | 6C31009 | 2.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Carbon tetrachloride | EPA 8260B | 6C31009 | 1.4 | 2.5 | ND | 5 | 03/31/06 | 03/31/06 | |
| Chlorobenzene | EPA 8260B | 6C31009 | 1.8 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Chloroethane | EPA 8260B | 6C31009 | 2.0 | 10 | ND | 5 | 03/31/06 | 03/31/06 | |
| Chloroform | EPA 8260B | 6C31009 | 1.6 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Chloromethane | EPA 8260B | 6C31009 | 1.5 | 10 | ND | 5 | 03/31/06 | 03/31/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C31009 | 1.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C31009 | 1.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C31009 | 4.6 | 10 | ND | 5 | 03/31/06 | 03/31/06 | |
| Dibromochloromethane | EPA 8260B | 6C31009 | 1.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C31009 | 1.6 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C31009 | 1.8 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C31009 | 1.6 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C31009 | 1.8 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C31009 | 4.0 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,2-Dichloroethane | EPA 8260B | 6C31009 | 1.4 | 2.5 | ND | 5 | 03/31/06 | 03/31/06 | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

MC 03/30/06

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

## 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: IPC2080-10RE2 (IRZB0081_WG032006_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| 1,1-Dichloroethane | EPA 8260B | 6C31009 | 1.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| **1,1-Dichloroethene** | EPA 8260B | 6C31009 | 2.1 | 5.0 | **2.2** | 5 | 03/31/06 | 03/31/06 | J |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6C31009 | 1.6 | 5.0 | **260** | 5 | 03/31/06 | 03/31/06 | |
| **trans-1,2-Dichloroethene** | EPA 8260B | 6C31009 | 1.4 | 5.0 | **8.1** | 5 | 03/31/06 | 03/31/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6C31009 | 1.8 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 2,2-Dichloropropane | EPA 8260B | 6C31009 | 1.7 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C31009 | 1.1 | 2.5 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C31009 | 1.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C31009 | 1.6 | 2.5 | ND | 5 | 03/31/06 | 03/31/06 | |
| Ethylbenzene | EPA 8260B | 6C31009 | 1.2 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Hexachlorobutadiene | EPA 8260B | 6C31009 | 1.9 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 2-Hexanone | EPA 8260B | 6C31009 | 13 | 30 | ND | 5 | 03/31/06 | 03/31/06 | |
| Isopropylbenzene | EPA 8260B | 6C31009 | 1.2 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| p-Isopropyltoluene | EPA 8260B | 6C31009 | 1.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C31009 | 1.6 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Methylene chloride | EPA 8260B | 6C31009 | 3.5 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6C31009 | 18 | 25 | ND | 5 | 03/31/06 | 03/31/06 | |
| n-Propylbenzene | EPA 8260B | 6C31009 | 1.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Styrene | EPA 8260B | 6C31009 | 0.80 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C31009 | 1.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C31009 | 1.2 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Tetrachloroethene | EPA 8260B | 6C31009 | 1.6 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Toluene | EPA 8260B | 6C31009 | 1.8 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C31009 | 2.2 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C31009 | 2.4 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,1,2-Trichloroethane | EPA 8260B | 6C31009 | 1.5 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,1,1-Trichloroethane | EPA 8260B | 6C31009 | 1.5 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| **Trichloroethene** | EPA 8260B | 6C31009 | 1.3 | 5.0 | **36** | 5 | 03/31/06 | 03/31/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C31009 | 1.7 | 10 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C31009 | 2.0 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6C31009 | 1.2 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6C31009 | 1.3 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| Vinyl acetate | EPA 8260B | 6C31009 | 8.5 | 30 | ND | 5 | 03/31/06 | 03/31/06 | |
| Xylenes, Total | EPA 8260B | 6C31009 | 4.5 | 5.0 | ND | 5 | 03/31/06 | 03/31/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *106 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *104 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *101 %* | | | | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

RC 4/7/06

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17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

| | | | |
|---|---|---|---|
| TAIT Environmental/Boeing | Project ID: | Boeing C-6 Torrance | |
| 701 N. Parkcenter Drive | | EM2303D/PHASE 01 | Sampled: 03/20/06 |
| Santa Ana, CA 92705 | Report Number: | IPC2080 | Received: 03/20/06 |
| 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: IPC2080-11 (MWB019_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6C30003 | 4.5 | 10 | ND | 1 | 03/30/06 | 03/30/06 | |
| Benzene | EPA 8260B | 6C30003 | 0.28 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Bromobenzene | EPA 8260B | 6C30003 | 0.27 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Bromochloromethane | EPA 8260B | 6C30003 | 0.32 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Bromodichloromethane | EPA 8260B | 6C30003 | 0.30 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Bromoform | EPA 8260B | 6C30003 | 0.32 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Bromomethane | EPA 8260B | 6C30003 | 0.42 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C30003 | 3.8 | 5.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| n-Butylbenzene | EPA 8260B | 6C30003 | 0.37 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | M1 |
| sec-Butylbenzene | EPA 8260B | 6C30003 | 0.25 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| tert-Butylbenzene | EPA 8260B | 6C30003 | 0.22 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Carbon Disulfide | EPA 8260B | 6C30003 | 0.48 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| **Carbon tetrachloride** | EPA 8260B | 6C30003 | 0.28 | 0.50 | **15** | 1 | 03/30/06 | 03/30/06 | |
| Chlorobenzene | EPA 8260B | 6C30003 | 0.36 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Chloroethane | EPA 8260B | 6C30003 | 0.40 | 2.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Chloromethane | EPA 8260B | 6C30003 | 0.30 | 2.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C30003 | 0.28 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C30003 | 0.29 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C30003 | 0.92 | 2.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Dibromochloromethane | EPA 8260B | 6C30003 | 0.28 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C30003 | 0.32 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C30003 | 0.37 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C30003 | 0.32 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C30003 | 0.35 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C30003 | 0.79 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| **1,2-Dichloroethane** | EPA 8260B | 6C30003 | 0.28 | 0.50 | **0.40** | 1 | 03/30/06 | 03/30/06 | J |
| **1,1-Dichloroethane** | EPA 8260B | 6C30003 | 0.27 | 1.0 | **0.45** | 1 | 03/30/06 | 03/30/06 | J |
| **1,1-Dichloroethene** | EPA 8260B | 6C30003 | 0.42 | 1.0 | **4.3** | 1 | 03/30/06 | 03/30/06 | |
| cis-1,2-Dichloroethene | EPA 8260B | 6C30003 | 0.32 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| trans-1,2-Dichloroethene | EPA 8260B | 6C30003 | 0.27 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6C30003 | 0.35 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | M1 |
| 2,2-Dichloropropane | EPA 8260B | 6C30003 | 0.34 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C30003 | 0.22 | 0.50 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C30003 | 0.28 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C30003 | 0.32 | 0.50 | ND | 1 | 03/30/06 | 03/30/06 | |
| Ethylbenzene | EPA 8260B | 6C30003 | 0.25 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | M1 |
| Hexachlorobutadiene | EPA 8260B | 6C30003 | 0.38 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | M1 |
| 2-Hexanone | EPA 8260B | 6C30003 | 2.6 | 6.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Iodomethane | EPA 8260B | 6C30003 | 1.0 | 2.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Isopropylbenzene | EPA 8260B | 6C30003 | 0.25 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| p-Isopropyltoluene | EPA 8260B | 6C30003 | 0.28 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |

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Michele Chamberlin
Project Manager

M 04/06

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

## 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: IPC2080-11 (MWB019_WG032006_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C30003 | 0.32 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Methylene chloride | EPA 8260B | 6C30003 | 0.70 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6C30003 | 3.5 | 5.0 | ND | 1 | 03/30/06 | 03/30/06 | L |
| n-Propylbenzene | EPA 8260B | 6C30003 | 0.27 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Styrene | EPA 8260B | 6C30003 | 0.16 | 1.0 | ND UJ | 1 | 03/30/06 | 03/30/06 | M2, R-3 |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C30003 | 0.27 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C30003 | 0.24 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Tetrahydrofuran (THF) | EPA 8260B | 6C30003 | 2.3 | 10 | ND | 1 | 03/30/06 | 03/30/06 | |
| Toluene | EPA 8260B | 6C30003 | 0.36 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C30003 | 0.45 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C30003 | 0.48 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,1,2-Trichloroethane | EPA 8260B | 6C30003 | 0.30 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,1,1-Trichloroethane | EPA 8260B | 6C30003 | 0.30 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C30003 | 0.34 | 2.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C30003 | 0.40 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6C30003 | 0.23 | 1.0 | ND UJ | 1 | 03/30/06 | 03/30/06 | M2, R-3 |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6C30003 | 0.26 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Vinyl acetate | EPA 8260B | 6C30003 | 1.7 | 6.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| Vinyl chloride | EPA 8260B | 6C30003 | 0.26 | 0.50 | ND | 1 | 03/30/06 | 03/30/06 | |
| Xylenes, Total | EPA 8260B | 6C30003 | 0.90 | 1.0 | ND | 1 | 03/30/06 | 03/30/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *96 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *102 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *106 %* | | | | |

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Michele Chamberlin
Project Manager

X 05/15/06

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| | | |
|---|---|---|
| TAIT Environmental/Boeing | Project ID: Boeing C-6 Torrance | |
| 701 N. Parkcenter Drive | EM2303D/PHASE 01 | Sampled: 03/20/06 |
| Santa Ana, CA 92705 | Report Number: IPC2080 | Received: 03/20/06 |
| 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: IPC2080-11RE1 (MWB019_WG032006_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **Chloroform** | EPA 8260B | 6C31008 | 6.6 | 20 | **2600** | 20 | 03/31/06 | 03/31/06 | |
| **Tetrachloroethene** | EPA 8260B | 6C31008 | 6.4 | 20 | **190** | 20 | 03/31/06 | 03/31/06 | |
| **Trichloroethene** | EPA 8260B | 6C31008 | 5.2 | 20 | **120** | 20 | 03/31/06 | 03/31/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *99 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *97 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *98 %* | | | | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

X 03/06

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LDC #: 14879A1
SDG #: IPC2080
Laboratory: Del Mar Analytical

# VALIDATION COMPLETENESS WORKSHEET
Tier 1

Date: 5/12/06
Page: 1 of 1
Reviewer:
2nd Reviewer:

**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 | Δ | Sampling dates: 3/20/06 |
| II. | GC/MS Instrument performance check | N | |
| III. | Initial calibration | N | |
| IV. | Continuing calibration | N | |
| V. | Blanks | SW | |
| VI. | Surrogate spikes | SW | |
| VII. | Matrix spike/Matrix spike duplicates | SW | |
| VIII. | Laboratory control samples | SW | LCS |
| IX. | Regional Quality Assurance and Quality Control | N | |
| X. | Internal standards | N | |
| XI. | Target compound identification | N | |
| XII. | Compound quantitation/CRQLs | N | |
| XIII. | Tentatively identified compounds (TICs) | N | |
| XIV. | System performance | N | |
| XV. | Overall assessment of data | Δ | |
| XVI. | Field duplicates | SW | D = 3 + 4 * 13 + 15 14 + 16 |
| 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: Water

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | MWB003_WG032006_0001 | 11 | MWB003_WG032006_0001RE H,S | 31 | 1 | 6C29002 | |
| 2 | MWC011_WG032006_0001 | 12 | MWC011_WG032006_0001RE | 32 | 2 | 6C31009 | |
| 3 | IRZMW002B_WG032006_0001 | 13 | IRZMW002B_WG032006_0001RE1 | 33 | 3 | 6C30003 | |
| 4 | IRZMW002B_WG032006_0002 | 14 | IRZMW002B_WG032006_0001RE2 | 34 | 4 | 6C31008 | |
| 5 | IRZB0081_WG032006_0001 | 15 | IRZMW002B_WG032006_0002RE1 | 35 | | | |
| 6 | MWB019_WG032006_0001 | 16 | IRZMW002B_WG032006_0002RE2 | 36 | | | |
| 7 | MWB019_WG032006_0001MS | 17 | IRZB0081_WG032006_0001RE1 | 37 | | | |
| 8 | MWB019_WG032006_0001MSD | 18 | IRZB0081_WG032006_0001RE2 | 38 | | | |
| 9 | IRZMW002B_WG032006_0002MS RE1 | | MWB019_WG032006_0001RE | 39 | | | |
| 10 | IRZMW002B_WG032006_0002MSD RE1 | 20 | | 30 | | 40 | |

14879A1W.wpd

# 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 choride** | 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-C6-0053432

LDC #: 14879A1
SDG #: LPC2080

# VALIDATION FINDINGS WORKSHEET
## Blanks

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 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:** 3/29/06
**Conc. units:** ug/L
Associated Samples: (1 → 5) ND

| Compound | Blank ID | Sample Identification | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 6C29002-BLK1 | | | | | | | | | |
| Tetrahydrofuran ~~Methylene chloride~~ | 3.51 | | | | | | | | | |
| ~~Acetone~~ | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| CRQL | | | | | | | | | | |

**Blank analysis date:** 3/30/06
**Conc. units:** ug/L
Associated Samples: 6 (ND)

| Compound | Blank ID | Sample Identification | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 6E30003-BLK1 | | | | | | | | | |
| Tetrahydrofuran ~~Methylene chloride~~ | 7.19 | | | | | | | | | |
| ~~Acetone~~ | | | | | | | | | | |
| | | | | | | | | | | |
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| | | | | | | | | | | |
| 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".



BOE-C6-0053433

LDC #: 14879A'
SDG #: 1PC2080

# VALIDATION FINDINGS WORKSHEET
## Surrogate Spikes

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

**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 Were all surrogate %R within QC limits?

Y N N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

| # | Date | Sample ID | Surrogate | %Recovery (Limits) | Qualifications |
|---|---|---|---|---|---|
| | | 2 | DFM | 122 (80-120) | J/A dit (Iodomethane & Tetrahydrofuran) |
| | | | | ( ) | |
| | | | | ( ) | |
| | | 5 | ↓ | 121 ( ↓ ) | J/A dit ↓ |
| | | | | ( ) | |
| | | | | ( ) | |
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| | | | | ( ) | |
| | | | | ( ) | |
| | | | | ( ) | |

| | QC Limits (Soil) | QC Limits (Water) |
|---|---|---|
| SMC1 (TOL) = Toluene-d8 | 81-117 | 88-110 |
| SMC2 (BFB) = Bromofluorobenzene | 74-121 | 86-115 |
| SMC3 (DCE) = 1,2-Dichloroethane-d4 | 80-120 | 80-120 |
| SMC4 (DFM) = Dibromofluoromethane | 80-120 | 86-118 |

SUR.1SB

BOE-C6-0053434

LDC #: 14879A1
SDG #: 1PC2080

# VALIDATION FINDINGS WORKSHEET
## Matrix Spike/Matrix Spike Duplicates

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 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.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

| # | Date | MS/MSD ID | Compound | MS %R (Limits) | MSD %R (Limits) | RPD (Limits) | Associated Samples | Qualifications |
|---|---|---|---|---|---|---|---|---|
| | | 7+8 | III | 140 (65-135) | ( ) | ( ) | 6 | J/A dit |
| | | | Q | 130 (60-125) | ( ) | ( ) | | |
| | | | ~~XXX~~ | ~~143 (60-140)~~ | ( ) | ( ) | | |
| | | | EE | 132 (65-130) | ( ) | ( ) | | |
| | | | LLL | 136 (60-135) | ( ) | ( ) | | |
| | | | ~~S~~ | ( ) | ~~8 (60-125)~~ | ( ) | | ~~no qual parent 72%~~ |
| | | | FF | ( ) | 23 (45-145) | 75 (30) | | J/UJ/A |
| | | | DDD | ( ) | 52 (55-130) | 46 (25) | | J/UJ/A |
| | | | | ( ) | ( ) | ( ) | | |
| | | 7+8 | S | ( ) | 8 (60-125) | ( ) | 19 | no qual parent 72% spike Amt |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | ~~[illegible]~~ 9+10 | F | ( ) | ( ) | 42 (35) | 16 | J/UJ/A |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |

| | Compound | QC Limits (Soil) | RPD (Soil) | QC Limits (Water) | RPD (Water) |
|---|---|---|---|---|---|
| H. | 1,1-Dichloroethene | 59-172% | ≤ 22% | 61-145% | ≤ 14% |
| S. | Trichloroethene | 62-137% | ≤ 24% | 71-120% | ≤ 14% |
| V. | Benzene | 66-142% | ≤ 21% | 76-127% | ≤ 11% |
| CC. | Toluene | 59-139% | ≤ 21% | 76-125% | ≤ 13% |
| DD. | Chlorobenzene | 60-133% | ≤ 21% | 75-130% | ≤ 13% |

MSD.1SB

BOE-C6-0053435

LDC #: 14879A1
SDG #: 1Pd2080

# VALIDATION FINDINGS WORKSHEET
## Laboratory Control Samples (LCS)

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

**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 LCS required?
Y N N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

| # | Date | LCS/LCSD ID | Compound | LCS %R (Limits) | LCSD %R (Limits) | RPD (Limits) | Associated Samples | Qualifications |
|---|---|---|---|---|---|---|---|---|
| | | 6C30003-BS1 | Y | 136 ( 40-135 ) | ( ) | ( ) | 6C30003-BK1, 6 | J/Pdet |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
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| | | | | ( ) | ( ) | ( ) | | |
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| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |

LCSLCSD.1SB

BOE-C6-0053436

LDC#: 14879A1
SDG#: IPC2080

# VALIDATION FINDINGS WORKSHEET
## Field Duplicates


Reviewer: [illegible]
2nd Reviewer: [illegible]

**METHOD**: GC/MS VOA(EPA SW846 8260)
Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

| Compound | Concentration (ug/L) | | RPD | |
|---|---|---|---|---|
| | 13 | 15 | | |
| Trichloroethene | 300 | 330 | 10 | |

| Compound | Concentration (ug/L) | | RPD | |
|---|---|---|---|---|
| | 14 | 16 | | |
| Chlorobenzene | 0.42 | 0.48 | 13 | |
| Chloroform | 1.5 | 1.3 | 14 | |
| 1,1-Dichloroethene | 6.2 | 3.9 | 46 | |
| cis-1,2-Dichloroethene | 110 | 94 | 16 | |
| Toluene | 1.4 | 1.3 | 7 | |
| trans-1,2-Dichloroethene | 1.0u | 4.2 | ~~123~~ 200 | |

V:\FIELD DUPLICATES\14879A1.wpd

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 21, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Volatiles

**Validation Level:** Tier 2

**Laboratory:** Del Mar Analytical

**Sample Delivery Group (SDG):** IPC2190

**Sample Identification**

IRZMW001B_WG032106_0001
IRZB0095_WG032106_0001
IRZCMW003B_WG032106_0001
WCC_6S_WG032106_0001
CMW026_WG032106_0001
IRZMW001B_WG032106_0001MS
IRZMW001B_WG032106_0001MSD

## Introduction

This data review covers 7 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 a 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.

Raw data were not reviewed for this SDG. The review was 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 with the following exceptions:

| Date | Compound | RRF (Limits) | Associated Samples | Flag | A or P |
|---|---|---|---|---|---|
| 3/28/06 | 2-Butanone | 0.031 (≥0.05) | IRZMW001B_WG032106_0001<br>IRZB0095_WG032106_0001<br>IRZCMW003B_WG032106_0001<br>WCC_6S_WG032106_0001<br>CMW026_WG032106_0001<br>IRZMW001B_WG032106_0001MS<br>IRZMW001B_WG032106_0001MSD<br>6C29016-BLK | J (all detects)<br>UJ (all non-detects) | A |

## 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.

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 |
|---|---|---|---|---|---|
| 3/29/06 | 2-Butanone | 0.032 (≥0.05) | IRZMW001B_WG032106_0001<br>IRZB0095_WG032106_0001<br>IRZCMW003B_WG032106_0001<br>WCC_6S_WG032106_0001<br>CMW026_WG032106_0001<br>IRZMW001B_WG032106_0001MS<br>IRZMW001B_WG032106_0001MSD<br>6C29016-BLK | J (all detects)<br>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 |
|---|---|---|---|---|
| 6C29016-BLK | 3/29/06 | Tetrahydrofuran | 6.98 ug/L | IRZMW001B_WG032106_0001<br>IRZB0095_WG032106_0001<br>IRZCMW003B_WG032106_0001<br>WCC_6S_WG032106_0001<br>CMW026_WG032106_0001 |

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 with the following exceptions:

| Sample | Compound TIC (RT in minutes) | Reported Concentration | Modified Final Concentration |
|---|---|---|---|
| IRZB0095_WG032106_0001 (10x) | Tetrahydrofuran | 64 ug/L | 100U ug/L |

## 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 with the following exceptions:

| Spike ID (Associated Samples) | Compound | MS (%R) (Limits) | MSD (%R) (Limits) | RPD (Limits) | Flag | A or P |
|---|---|---|---|---|---|---|
| IRZMW001B_WG032106_0001MS/MSD (IRZMW001B_WG032106_0001) | 1,2-Dichloropropane | 137 (60-125) | 129 (60-125) | - | J (all detects) | A |

## 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

Raw data were not reviewed for this SDG.

## XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

## XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

## XIV. System Performance

Raw data were not reviewed for this SDG.

## 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.

## Boeing Realty Corp, Former C-6 Facility, Torrance CA
## Volatiles - Data Qualification Summary - SDG IPC2190

| SDG | Sample | Compound | Flag | A or P | Reason |
|---|---|---|---|---|---|
| IPC2190 | IRZMW001B_WG032106_0001<br>IRZB0095_WG032106_0001<br>IRZCMW003B_WG032106_0001<br>WCC_6S_WG032106_0001<br>CMW026_WG032106_0001 | 2-Butanone | J (all detects)<br>UJ (all non-detects) | A | Initial calibration (RRF) |
| IPC2190 | IRZMW001B_WG032106_0001<br>IRZB0095_WG032106_0001<br>IRZCMW003B_WG032106_0001<br>WCC_6S_WG032106_0001<br>CMW026_WG032106_0001 | 2-Butanone | J (all detects)<br>UJ (all non-detects) | A | Continuing calibration (RRF) |
| IPC2190 | IRZMW001B_WG032106_0001 | 1,2-Dichloropropane | J (all detects) | A | Matrix spike/Matrix spike duplicates (%R) |

## Boeing Realty Corp, Former C-6 Facility, Torrance CA
## Volatiles - Laboratory Blank Data Qualification Summary - SDG IPC2190

| SDG | Sample | Compound TIC (RT in minutes) | Modified Final Concentration | A or P |
|---|---|---|---|---|
| IPC2190 | IRZB0095_WG032106_0001 (10x) | Tetrahydrofuran | 100U ug/L | A |

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Del Mar Analytical

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

## 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: IPC2190-03 (IRZMW001B_WG032106_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6C29016 | 4.5 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| Benzene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromobenzene | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromochloromethane | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromodichloromethane | EPA 8260B | 6C29016 | 0.30 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromoform | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromomethane | EPA 8260B | 6C29016 | 0.42 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C29016 | 3.8 | 5.0 | ND UJ | 1 | 03/29/06 | 03/29/06 | |
| n-Butylbenzene | EPA 8260B | 6C29016 | 0.37 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| sec-Butylbenzene | EPA 8260B | 6C29016 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| tert-Butylbenzene | EPA 8260B | 6C29016 | 0.22 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Carbon Disulfide | EPA 8260B | 6C29016 | 0.48 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Carbon tetrachloride | EPA 8260B | 6C29016 | 0.28 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| Chlorobenzene | EPA 8260B | 6C29016 | 0.36 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Chloroethane | EPA 8260B | 6C29016 | 0.40 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Chloroform** | EPA 8260B | 6C29016 | 0.33 | 1.0 | **2.2** | 1 | 03/29/06 | 03/29/06 | |
| Chloromethane | EPA 8260B | 6C29016 | 0.30 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C29016 | 0.29 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C29016 | 0.92 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Dibromochloromethane | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C29016 | 0.37 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C29016 | 0.35 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C29016 | 0.79 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dichloroethane | EPA 8260B | 6C29016 | 0.28 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| **1,1-Dichloroethane** | EPA 8260B | 6C29016 | 0.27 | 1.0 | **0.65** | 1 | 03/29/06 | 03/29/06 | J |
| **1,1-Dichloroethene** | EPA 8260B | 6C29016 | 0.42 | 1.0 | **31** | 1 | 03/29/06 | 03/29/06 | |
| **trans-1,2-Dichloroethene** | EPA 8260B | 6C29016 | 0.27 | 1.0 | **1.2** | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6C29016 | 0.35 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | M1 |
| 2,2-Dichloropropane | EPA 8260B | 6C29016 | 0.34 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C29016 | 0.22 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C29016 | 0.32 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| Ethylbenzene | EPA 8260B | 6C29016 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Hexachlorobutadiene | EPA 8260B | 6C29016 | 0.38 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Hexanone | EPA 8260B | 6C29016 | 2.6 | 6.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Iodomethane | EPA 8260B | 6C29016 | 1.0 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Isopropylbenzene | EPA 8260B | 6C29016 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| p-Isopropyltoluene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

X 25 Apr 06

*The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.*

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

## 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: IPC2190-03 (IRZMW001B_WG032106_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Methylene chloride** | EPA 8260B | 6C29016 | 0.70 | 1.0 | **0.77** | 1 | 03/29/06 | 03/29/06 | J |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6C29016 | 3.5 | 5.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| n-Propylbenzene | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Styrene | EPA 8260B | 6C29016 | 0.16 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C29016 | 0.24 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Tetrachloroethene | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Tetrahydrofuran (THF) | EPA 8260B | 6C29016 | 2.3 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| Toluene | EPA 8260B | 6C29016 | 0.36 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C29016 | 0.45 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C29016 | 0.48 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **1,1,2-Trichloroethane** | EPA 8260B | 6C29016 | 0.30 | 1.0 | **0.37** | 1 | 03/29/06 | 03/29/06 | J |
| 1,1,1-Trichloroethane | EPA 8260B | 6C29016 | 0.30 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C29016 | 0.34 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C29016 | 0.40 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6C29016 | 0.23 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6C29016 | 0.26 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Vinyl acetate | EPA 8260B | 6C29016 | 1.7 | 6.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Vinyl chloride | EPA 8260B | 6C29016 | 0.26 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| Xylenes, Total | EPA 8260B | 6C29016 | 0.90 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *98 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *110 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *107 %* | | | | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

4/07/06

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17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

| | | |
|---|---|---|
| TAIT Environmental/Boeing | Project ID: Boeing C-6 Torrance | |
| 701 N. Parkcenter Drive | EM2303D/PHASE 01 | Sampled: 03/21/06 |
| Santa Ana, CA 92705 | Report Number: IPC2190 | Received: 03/21/06 |
| 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: IPC2190-03RE1 (IRZMW001B_WG032106_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6C30011 | 6.4 | 20 | **560** | 20 | 03/30/06 | 03/30/06 | |
| **Trichloroethene** | EPA 8260B | 6C30011 | 5.2 | 20 | **1200** | 20 | 03/30/06 | 03/30/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *104 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *118 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *106 %* | | | | |

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Project Manager

K 05/5/06

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

## 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: IPC2190-04 (IRZB0095_WG032106_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6C29016 | 45 | 100 | ND | 10 | 03/29/06 | 03/29/06 | |
| Benzene | EPA 8260B | 6C29016 | 2.8 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Bromobenzene | EPA 8260B | 6C29016 | 2.7 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Bromochloromethane | EPA 8260B | 6C29016 | 3.2 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Bromodichloromethane | EPA 8260B | 6C29016 | 3.0 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Bromoform | EPA 8260B | 6C29016 | 3.2 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Bromomethane | EPA 8260B | 6C29016 | 4.2 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C29016 | 38 | 50 | ND UJ | 10 | 03/29/06 | 03/29/06 | |
| n-Butylbenzene | EPA 8260B | 6C29016 | 3.7 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| sec-Butylbenzene | EPA 8260B | 6C29016 | 2.5 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| tert-Butylbenzene | EPA 8260B | 6C29016 | 2.2 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Carbon Disulfide | EPA 8260B | 6C29016 | 4.8 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Carbon tetrachloride | EPA 8260B | 6C29016 | 2.8 | 5.0 | ND | 10 | 03/29/06 | 03/29/06 | |
| Chlorobenzene | EPA 8260B | 6C29016 | 3.6 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Chloroethane | EPA 8260B | 6C29016 | 4.0 | 20 | ND | 10 | 03/29/06 | 03/29/06 | |
| **Chloroform** | EPA 8260B | 6C29016 | 3.3 | 10 | **7.2** | 10 | 03/29/06 | 03/29/06 | J |
| Chloromethane | EPA 8260B | 6C29016 | 3.0 | 20 | ND | 10 | 03/29/06 | 03/29/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C29016 | 2.8 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C29016 | 2.9 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C29016 | 9.2 | 20 | ND | 10 | 03/29/06 | 03/29/06 | |
| Dibromochloromethane | EPA 8260B | 6C29016 | 2.8 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C29016 | 3.2 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C29016 | 3.7 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C29016 | 3.2 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C29016 | 3.5 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C29016 | 7.9 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,2-Dichloroethane | EPA 8260B | 6C29016 | 2.8 | 5.0 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,1-Dichloroethane | EPA 8260B | 6C29016 | 2.7 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| **1,1-Dichloroethene** | EPA 8260B | 6C29016 | 4.2 | 10 | **12** | 10 | 03/29/06 | 03/29/06 | |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6C29016 | 3.2 | 10 | **320** | 10 | 03/29/06 | 03/29/06 | |
| **trans-1,2-Dichloroethene** | EPA 8260B | 6C29016 | 2.7 | 10 | **4.5** | 10 | 03/29/06 | 03/29/06 | J |
| 1,2-Dichloropropane | EPA 8260B | 6C29016 | 3.5 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 2,2-Dichloropropane | EPA 8260B | 6C29016 | 3.4 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C29016 | 2.2 | 5.0 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C29016 | 2.8 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C29016 | 3.2 | 5.0 | ND | 10 | 03/29/06 | 03/29/06 | |
| Ethylbenzene | EPA 8260B | 6C29016 | 2.5 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Hexachlorobutadiene | EPA 8260B | 6C29016 | 3.8 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 2-Hexanone | EPA 8260B | 6C29016 | 26 | 60 | ND | 10 | 03/29/06 | 03/29/06 | |
| Iodomethane | EPA 8260B | 6C29016 | 10 | 20 | ND | 10 | 03/29/06 | 03/29/06 | |
| Isopropylbenzene | EPA 8260B | 6C29016 | 2.5 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |

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Michele Chamberlin
Project Manager

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Santa Ana, CA 92705
Attention: Mehmet Pehlivan

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

## 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: IPC2190-04 (IRZB0095_WG032106_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| p-Isopropyltoluene | EPA 8260B | 6C29016 | 2.8 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C29016 | 3.2 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| **Methylene chloride** | EPA 8260B | 6C29016 | 7.0 | 10 | **8.0** | 10 | 03/29/06 | 03/29/06 | J |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6C29016 | 35 | 50 | ND | 10 | 03/29/06 | 03/29/06 | |
| n-Propylbenzene | EPA 8260B | 6C29016 | 2.7 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Styrene | EPA 8260B | 6C29016 | 1.6 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C29016 | 2.7 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C29016 | 2.4 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| **Tetrachloroethene** | EPA 8260B | 6C29016 | 3.2 | 10 | **6.0** | 10 | 03/29/06 | 03/29/06 | J |
| **Tetrahydrofuran (THF)** | EPA 8260B | 6C29016 | 23 | 100 | **64** 1000U | 10 | 03/29/06 | 03/29/06 | B, J |
| Toluene | EPA 8260B | 6C29016 | 3.6 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C29016 | 4.5 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C29016 | 4.8 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,1,2-Trichloroethane | EPA 8260B | 6C29016 | 3.0 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,1,1-Trichloroethane | EPA 8260B | 6C29016 | 3.0 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| **Trichloroethene** | EPA 8260B | 6C29016 | 2.6 | 10 | **1100** | 10 | 03/29/06 | 03/29/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C29016 | 3.4 | 20 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C29016 | 4.0 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6C29016 | 2.3 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6C29016 | 2.6 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| Vinyl acetate | EPA 8260B | 6C29016 | 17 | 60 | ND | 10 | 03/29/06 | 03/29/06 | |
| **Vinyl chloride** | EPA 8260B | 6C29016 | 2.6 | 5.0 | **590** | 10 | 03/29/06 | 03/29/06 | |
| Xylenes, Total | EPA 8260B | 6C29016 | 9.0 | 10 | ND | 10 | 03/29/06 | 03/29/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *95 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *108 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *105 %* | | | | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

MC 04/7/06

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Santa Ana, CA 92705
Attention: Mehmet Pehlivan

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

## 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: IPC2190-08 (IRZCMW003B_WG032106_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6C29016 | 4.5 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| Benzene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromobenzene | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromochloromethane | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromodichloromethane | EPA 8260B | 6C29016 | 0.30 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromoform | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromomethane | EPA 8260B | 6C29016 | 0.42 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C29016 | 3.8 | 5.0 | ND UJ | 1 | 03/29/06 | 03/29/06 | |
| n-Butylbenzene | EPA 8260B | 6C29016 | 0.37 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| sec-Butylbenzene | EPA 8260B | 6C29016 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| tert-Butylbenzene | EPA 8260B | 6C29016 | 0.22 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Carbon Disulfide | EPA 8260B | 6C29016 | 0.48 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Carbon tetrachloride | EPA 8260B | 6C29016 | 0.28 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Chlorobenzene** | EPA 8260B | 6C29016 | 0.36 | 1.0 | **1.1** | 1 | 03/29/06 | 03/29/06 | |
| Chloroethane | EPA 8260B | 6C29016 | 0.40 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Chloroform** | EPA 8260B | 6C29016 | 0.33 | 1.0 | **2.1** | 1 | 03/29/06 | 03/29/06 | |
| Chloromethane | EPA 8260B | 6C29016 | 0.30 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C29016 | 0.29 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C29016 | 0.92 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Dibromochloromethane | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C29016 | 0.37 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C29016 | 0.35 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C29016 | 0.79 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **1,2-Dichloroethane** | EPA 8260B | 6C29016 | 0.28 | 0.50 | **0.31** | 1 | 03/29/06 | 03/29/06 | J |
| **1,1-Dichloroethane** | EPA 8260B | 6C29016 | 0.27 | 1.0 | **0.86** | 1 | 03/29/06 | 03/29/06 | J |
| **1,1-Dichloroethene** | EPA 8260B | 6C29016 | 0.42 | 1.0 | **37** | 1 | 03/29/06 | 03/29/06 | |
| **trans-1,2-Dichloroethene** | EPA 8260B | 6C29016 | 0.27 | 1.0 | **2.2** | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6C29016 | 0.35 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2,2-Dichloropropane | EPA 8260B | 6C29016 | 0.34 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C29016 | 0.22 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C29016 | 0.32 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| Ethylbenzene | EPA 8260B | 6C29016 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Hexachlorobutadiene | EPA 8260B | 6C29016 | 0.38 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Hexanone | EPA 8260B | 6C29016 | 2.6 | 6.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Iodomethane | EPA 8260B | 6C29016 | 1.0 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Isopropylbenzene | EPA 8260B | 6C29016 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| p-Isopropyltoluene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

MC 03/29/06

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

## 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: IPC2190-08 (IRZCMW003B_WG032106_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Methylene chloride | EPA 8260B | 6C29016 | 0.70 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6C29016 | 3.5 | 5.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| n-Propylbenzene | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Styrene | EPA 8260B | 6C29016 | 0.16 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C29016 | 0.24 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Tetrachloroethene | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Tetrahydrofuran (THF) | EPA 8260B | 6C29016 | 2.3 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Toluene** | EPA 8260B | 6C29016 | 0.36 | 1.0 | **3.6** | 1 | 03/29/06 | 03/29/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C29016 | 0.45 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C29016 | 0.48 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **1,1,2-Trichloroethane** | EPA 8260B | 6C29016 | 0.30 | 1.0 | **0.41** | 1 | 03/29/06 | 03/29/06 | J |
| 1,1,1-Trichloroethane | EPA 8260B | 6C29016 | 0.30 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C29016 | 0.34 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C29016 | 0.40 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6C29016 | 0.23 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6C29016 | 0.26 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Vinyl acetate | EPA 8260B | 6C29016 | 1.7 | 6.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Vinyl chloride** | EPA 8260B | 6C29016 | 0.26 | 0.50 | **3.5** | 1 | 03/29/06 | 03/29/06 | |
| Xylenes, Total | EPA 8260B | 6C29016 | 0.90 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *99 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *114 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *107 %* | | | | |

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Michele Chamberlin
Project Manager

4/27/06

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| | | | |
|---|---|---|---|
| TAIT Environmental/Boeing | Project ID: | Boeing C-6 Torrance | |
| 701 N. Parkcenter Drive | | EM2303D/PHASE 01 | Sampled: 03/21/06 |
| Santa Ana, CA 92705 | Report Number: | IPC2190 | Received: 03/21/06 |
| 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: IPC2190-08RE1 (IRZCMW003B_WG032106_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6C30026 | 6.4 | 20 | **930** | 20 | 03/30/06 | 03/31/06 | |
| **Trichloroethene** | EPA 8260B | 6C30026 | 5.2 | 20 | **990** | 20 | 03/30/06 | 03/31/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *105 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *119 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *114 %* | | | | |

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Michele Chamberlin
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
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

## 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: IPC2190-09 (WCC_6S_WG032106_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **Acetone** | EPA 8260B | 6C29016 | 4.5 | 10 | **41** | 1 | 03/29/06 | 03/29/06 | |
| **Benzene** | EPA 8260B | 6C29016 | 0.28 | 1.0 | **74** | 1 | 03/29/06 | 03/29/06 | |
| Bromobenzene | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromochloromethane | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromodichloromethane | EPA 8260B | 6C29016 | 0.30 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromoform | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Bromomethane | EPA 8260B | 6C29016 | 0.42 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C29016 | 3.8 | 5.0 | ND UJ | 1 | 03/29/06 | 03/29/06 | |
| n-Butylbenzene | EPA 8260B | 6C29016 | 0.37 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| sec-Butylbenzene | EPA 8260B | 6C29016 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| tert-Butylbenzene | EPA 8260B | 6C29016 | 0.22 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Carbon Disulfide | EPA 8260B | 6C29016 | 0.48 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Carbon tetrachloride | EPA 8260B | 6C29016 | 0.28 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| Chlorobenzene | EPA 8260B | 6C29016 | 0.36 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Chloroethane | EPA 8260B | 6C29016 | 0.40 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Chloroform** | EPA 8260B | 6C29016 | 0.33 | 1.0 | **25** | 1 | 03/29/06 | 03/29/06 | |
| Chloromethane | EPA 8260B | 6C29016 | 0.30 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C29016 | 0.29 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C29016 | 0.92 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Dibromochloromethane | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C29016 | 0.37 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C29016 | 0.35 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C29016 | 0.79 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **1,2-Dichloroethane** | EPA 8260B | 6C29016 | 0.28 | 0.50 | **61** | 1 | 03/29/06 | 03/29/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6C29016 | 0.35 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2,2-Dichloropropane | EPA 8260B | 6C29016 | 0.34 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C29016 | 0.22 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C29016 | 0.32 | 0.50 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Ethylbenzene** | EPA 8260B | 6C29016 | 0.25 | 1.0 | **8.8** | 1 | 03/29/06 | 03/29/06 | |
| Hexachlorobutadiene | EPA 8260B | 6C29016 | 0.38 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 2-Hexanone | EPA 8260B | 6C29016 | 2.6 | 6.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Iodomethane | EPA 8260B | 6C29016 | 1.0 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Isopropylbenzene** | EPA 8260B | 6C29016 | 0.25 | 1.0 | **0.39** | 1 | 03/29/06 | 03/29/06 | J |
| p-Isopropyltoluene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| Methylene chloride | EPA 8260B | 6C29016 | 0.70 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **4-Methyl-2-pentanone (MIBK)** | EPA 8260B | 6C29016 | 3.5 | 5.0 | **4.3** | 1 | 03/29/06 | 03/29/06 | J |

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Michele Chamberlin
Project Manager

X 04/05/06

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| | | | |
|---|---|---|---|
| TAIT Environmental/Boeing | Project ID: | Boeing C-6 Torrance | |
| 701 N. Parkcenter Drive | | EM2303D/PHASE 01 | Sampled: 03/21/06 |
| Santa Ana, CA 92705 | Report Number: | IPC2190 | Received: 03/21/06 |
| 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: IPC2190-09 (WCC_6S_WG032106_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **n-Propylbenzene** | EPA 8260B | 6C29016 | 0.27 | 1.0 | **0.30** | 1 | 03/29/06 | 03/29/06 | J |
| Styrene | EPA 8260B | 6C29016 | 0.16 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C29016 | 0.24 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Tetrachloroethene** | EPA 8260B | 6C29016 | 0.32 | 1.0 | **0.47** | 1 | 03/29/06 | 03/29/06 | J |
| Tetrahydrofuran (THF) | EPA 8260B | 6C29016 | 2.3 | 10 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C29016 | 0.45 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C29016 | 0.48 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **1,1,2-Trichloroethane** | EPA 8260B | 6C29016 | 0.30 | 1.0 | **46** | 1 | 03/29/06 | 03/29/06 | |
| **1,1,1-Trichloroethane** | EPA 8260B | 6C29016 | 0.30 | 1.0 | **4.0** | 1 | 03/29/06 | 03/29/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C29016 | 0.34 | 2.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C29016 | 0.40 | 1.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **1,2,4-Trimethylbenzene** | EPA 8260B | 6C29016 | 0.23 | 1.0 | **1.4** | 1 | 03/29/06 | 03/29/06 | |
| **1,3,5-Trimethylbenzene** | EPA 8260B | 6C29016 | 0.26 | 1.0 | **0.61** | 1 | 03/29/06 | 03/29/06 | J |
| Vinyl acetate | EPA 8260B | 6C29016 | 1.7 | 6.0 | ND | 1 | 03/29/06 | 03/29/06 | |
| **Vinyl chloride** | EPA 8260B | 6C29016 | 0.26 | 0.50 | **5.8** | 1 | 03/29/06 | 03/29/06 | |
| **Xylenes, Total** | EPA 8260B | 6C29016 | 0.90 | 1.0 | **53** | 1 | 03/29/06 | 03/29/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *94 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *109 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *108 %* | | | | |

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Michele Chamberlin
Project Manager

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

| | | |
|---|---|---|
| TAIT Environmental/Boeing | Project ID: Boeing C-6 Torrance | |
| 701 N. Parkcenter Drive | EM2303D/PHASE 01 | Sampled: 03/21/06 |
| Santa Ana, CA 92705 | Report Number: IPC2190 | Received: 03/21/06 |
| 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: IPC2190-09RE1 (WCC_6S_WG032106_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **1,1-Dichloroethane** | EPA 8260B | 6C30011 | 27 | 100 | **310** | 100 | 03/30/06 | 03/30/06 | |
| **1,1-Dichloroethene** | EPA 8260B | 6C30011 | 42 | 100 | **12000** | 100 | 03/30/06 | 03/30/06 | |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6C30011 | 32 | 100 | **5500** | 100 | 03/30/06 | 03/30/06 | |
| **trans-1,2-Dichloroethene** | EPA 8260B | 6C30011 | 27 | 100 | **270** | 100 | 03/30/06 | 03/30/06 | |
| **Toluene** | EPA 8260B | 6C30011 | 36 | 100 | **2600** | 100 | 03/30/06 | 03/30/06 | |
| **Trichloroethene** | EPA 8260B | 6C30011 | 26 | 100 | **1300** | 100 | 03/30/06 | 03/30/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *104 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *118 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *106 %* | | | | |

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Michele Chamberlin
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
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

# 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: IPC2190-11 (CMW026_WG032106_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6C29016 | 4.5 | 10 | ND | 1 | 03/29/06 | 03/30/06 | |
| Benzene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Bromobenzene | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Bromochloromethane | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Bromodichloromethane | EPA 8260B | 6C29016 | 0.30 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Bromoform | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Bromomethane | EPA 8260B | 6C29016 | 0.42 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6C29016 | 3.8 | 5.0 | ND UJ | 1 | 03/29/06 | 03/30/06 | |
| n-Butylbenzene | EPA 8260B | 6C29016 | 0.37 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| sec-Butylbenzene | EPA 8260B | 6C29016 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| tert-Butylbenzene | EPA 8260B | 6C29016 | 0.22 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Carbon Disulfide | EPA 8260B | 6C29016 | 0.48 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Carbon tetrachloride | EPA 8260B | 6C29016 | 0.28 | 0.50 | ND | 1 | 03/29/06 | 03/30/06 | |
| Chlorobenzene | EPA 8260B | 6C29016 | 0.36 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Chloroethane | EPA 8260B | 6C29016 | 0.40 | 2.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Chloroform | EPA 8260B | 6C29016 | 0.33 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Chloromethane | EPA 8260B | 6C29016 | 0.30 | 2.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 2-Chlorotoluene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 4-Chlorotoluene | EPA 8260B | 6C29016 | 0.29 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6C29016 | 0.92 | 2.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Dibromochloromethane | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,4-Dichlorobenzene | EPA 8260B | 6C29016 | 0.37 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,2-Dichlorobenzene | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,3-Dichlorobenzene | EPA 8260B | 6C29016 | 0.35 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6C29016 | 0.79 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,2-Dichloroethane | EPA 8260B | 6C29016 | 0.28 | 0.50 | ND | 1 | 03/29/06 | 03/30/06 | |
| **1,1-Dichloroethane** | EPA 8260B | 6C29016 | 0.27 | 1.0 | **0.27** | 1 | 03/29/06 | 03/30/06 | J |
| **1,1-Dichloroethene** | EPA 8260B | 6C29016 | 0.42 | 1.0 | **8.4** | 1 | 03/29/06 | 03/30/06 | |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6C29016 | 0.32 | 1.0 | **43** | 1 | 03/29/06 | 03/30/06 | |
| trans-1,2-Dichloroethene | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6C29016 | 0.35 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 2,2-Dichloropropane | EPA 8260B | 6C29016 | 0.34 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6C29016 | 0.22 | 0.50 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6C29016 | 0.32 | 0.50 | ND | 1 | 03/29/06 | 03/30/06 | |
| Ethylbenzene | EPA 8260B | 6C29016 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Hexachlorobutadiene | EPA 8260B | 6C29016 | 0.38 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 2-Hexanone | EPA 8260B | 6C29016 | 2.6 | 6.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Iodomethane | EPA 8260B | 6C29016 | 1.0 | 2.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Isopropylbenzene | EPA 8260B | 6C29016 | 0.25 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

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Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

## 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: IPC2190-11 (CMW026_WG032106_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| p-Isopropyltoluene | EPA 8260B | 6C29016 | 0.28 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Methylene chloride | EPA 8260B | 6C29016 | 0.70 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6C29016 | 3.5 | 5.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| n-Propylbenzene | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Styrene | EPA 8260B | 6C29016 | 0.16 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6C29016 | 0.27 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6C29016 | 0.24 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Tetrachloroethene | EPA 8260B | 6C29016 | 0.32 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Tetrahydrofuran (THF) | EPA 8260B | 6C29016 | 2.3 | 10 | ND | 1 | 03/29/06 | 03/30/06 | |
| Toluene | EPA 8260B | 6C29016 | 0.36 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6C29016 | 0.45 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6C29016 | 0.48 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,1,2-Trichloroethane | EPA 8260B | 6C29016 | 0.30 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,1,1-Trichloroethane | EPA 8260B | 6C29016 | 0.30 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| **Trichloroethene** | EPA 8260B | 6C29016 | 0.26 | 1.0 | **12** | 1 | 03/29/06 | 03/30/06 | |
| Trichlorofluoromethane | EPA 8260B | 6C29016 | 0.34 | 2.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6C29016 | 0.40 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6C29016 | 0.23 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6C29016 | 0.26 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Vinyl acetate | EPA 8260B | 6C29016 | 1.7 | 6.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| Vinyl chloride | EPA 8260B | 6C29016 | 0.26 | 0.50 | ND | 1 | 03/29/06 | 03/30/06 | |
| Xylenes, Total | EPA 8260B | 6C29016 | 0.90 | 1.0 | ND | 1 | 03/29/06 | 03/30/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *98 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *112 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *105 %* | | | | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

10 JUN 06

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LDC #: 14879B1

SDG #: IPC2190

Laboratory: Del Mar Analytical

# VALIDATION COMPLETENESS WORKSHEET

Tier 2

Date: 5/12/06

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: 3/21/06 |
| II. | GC/MS Instrument performance check | A | |
| III. | Initial calibration | SW | % RSD, $r^2$ ≥0.990 |
| IV. | Continuing calibration | SW | |
| V. | Blanks | SW | |
| VI. | Surrogate spikes | A | |
| VII. | Matrix spike/Matrix spike duplicates | SW | |
| VIII. | Laboratory control samples | A | LCS |
| IX. | Regional Quality Assurance and Quality Control | N | |
| X. | Internal standards | A | |
| XI. | Target compound identification | N | |
| XII. | Compound quantitation/CRQLs | N | |
| XIII. | Tentatively identified compounds (TICs) | N | |
| XIV. | System performance | N | |
| XV. | Overall assessment of data | A | |
| XVI. | Field duplicates | N | |
| 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: Water

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ✓ | 1 1 | IRZMW001B_WG032106_0001 | 11 1 | 6C29016-BLK | 21 | 3/29 | 31 | |
| ✓ | 2 1 | IRZB0095_WG032106_0001 | 12 2 | 6C30011-BLK | 22 | 3/30 | 32 | |
| ✓ | 3 1 | IRZCMW003B_WG032106_0001 | 13 3 | 6C30026-BLK | 23 | 3/31 | 33 | |
| ✓ | 4 1 | WCC_6S_WG032106_0001 | 14 | | 24 | | 34 | |
| ✓ | 5 1 | CMW026_WG032106_0001 | 15 | | 25 | | 35 | |
| | 6 2 | IRZMW001B_WG032106_0001 | RE | | 26 | | 36 | |
| | 7 3 | IRZCMW003B_WG032106_0001 | RE | | 27 | | 37 | |
| | 8 2 | WCC-6S_WG032106_0001 | RE | | 28 | | 38 | |
| | 9 1 | IRZMW001B_WG032106_0001 | MS | | 29 | | 39 | |
| | 10 1 | IRZMW001B_WG032106_0001 | MSD | | 30 | | 40 | |

14879B1W.wpd

# 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 choride** | 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-C6-0053459

LDC #: 14879B1
SDG #: 1PC2190

# VALIDATION FINDINGS WORKSHEET
## Initial Calibration

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

**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 Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

| # | Date | Standard ID | Compound | Finding %RSD (Limit: ≤30.0%) | Finding RRF (Limit: ≥0.05) | Associated Samples | Qualifications |
|---|---|---|---|---|---|---|---|
| | 3/28/06 | QSC28VOC | M | | 0.031 | 6C29016-BLK | J/UJ/A |
| | | | | | | 1-5, 9,10 | — — — |

INICAL 1SB

BOE-C6-0053460

LDC #: 14879B1
SDG #: 1PC2190

# VALIDATION FINDINGS WORKSHEET
## Continuing Calibration

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

METHOD: GC/MS VOA (EPA SW 846 Method 8260)
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 |
|---|---|---|---|---|---|---|---|
| | 3/29/06 | VSTD025A | M | | 0.032 | 6C29016-BLK, | J/UJ/A |
| | 3:48PM | | | | | 1→5, 9,10 | |

LDC #: 14879B1
SDG #: 1PC2199

# VALIDATION FINDINGS WORKSHEET
## Blanks

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

**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:** 3/29/06
**Conc. units:** ug/L
Associated Samples: 1 → 5

| Compound | Blank ID | Sample Identification | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 6C29016-BLK | 10x 2 | | | | | | | | |
| ~~Methylene chloride~~ Tetrahydrofuran | 6.98 | | 64/100u | | | | | | | |
| Acetone | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| CRQL | | | | | | | | | | |

**Blank analysis date:**
**Conc. units:**
Associated Samples:

| Compound | Blank ID | Sample Identification | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| Methylene chloride | | | | | | | | | | |
| Acetone | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 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-C6-0053462

LDC #: 14879B1
SDG #: 1PC2190

# VALIDATION FINDINGS WORKSHEET
## Matrix Spike/Matrix Spike Duplicates

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

**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 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.

Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y N N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

| # | Date | MS/MSD ID | Compound | MS %R (Limits) | MSD %R (Limits) | RPD (Limits) | Associated Samples | Qualifications |
|---|---|---|---|---|---|---|---|---|
| | | 9 & 10 | Q | 137 (60-125) | 129 (60-125) | ( ) | #1 | J/A dit |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |
| | | | | ( ) | ( ) | ( ) | | |

| | Compound | QC Limits (Soil) | RPD (Soil) | QC Limits (Water) | RPD (Water) |
|---|---|---|---|---|---|
| H. | 1,1-Dichloroethene | 59-172% | ≤ 22% | 61-145% | ≤ 14% |
| S. | Trichloroethene | 62-137% | ≤ 24% | 71-120% | ≤ 14% |
| V. | Benzene | 66-142% | ≤ 21% | 76-127% | ≤ 11% |
| CC. | Toluene | 59-139% | ≤ 21% | 76-125% | ≤ 13% |
| DD. | Chlorobenzene | 60-133% | ≤ 21% | 75-130% | ≤ 13% |



BOE-C6-0053463

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 22, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Volatiles

**Validation Level:** Tier 3

**Laboratory:** Del Mar Analytical

**Sample Delivery Group (SDG):** IPC2080

**Sample Identification**

CMW0002_WG032206_0001

## Introduction

This data review covers one water sample 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 a 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.

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 with the following exceptions:

| Date | Compound | RRF (Limits) | Associated Samples | Flag | A or P |
|---|---|---|---|---|---|
| 3/26/06 | 2-Butanone | 0.040 (≥0.05) | CMW0002_WG032206_0001<br>6D03015-BLK1 | J (all detects)<br>UJ (all non-detects) | A |

## 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.

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 |
|---|---|---|---|---|---|
| 4/3/06 | 2-Butanone | 0.040 (≥0.05) | CMW0002_WG032206_0001<br>6D03015-BLK1 | J (all detects)<br>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 |
|---|---|---|---|---|
| 6D03015-BLK | 4/3/06 | Tetrahydrofuran | 3.42 ug/L | CMW0002_WG032206_0001 |

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 with the following exceptions:

| Sample | Compound TIC (RT in minutes) | Reported Concentration | Modified Final Concentration |
|---|---|---|---|
| CMW0002_WG032206_0001 (2x) | Tetrahydrofuran | 6.1 ug/L | 20U ug/L |

## VI. Surrogate Spikes

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

| Sample | Surrogate | %R (Limits) | Compound | Flag | A or P |
|---|---|---|---|---|---|
| CMW0002_WG032206_0001 | Bromofluorobenzene | 128 (80-120) | All TCL compounds except Chlorobenzene | J (all detects) | A |

## VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

## 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.

## XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

## XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

## XIV. System Performance

The system performance was acceptable.

## 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.

## Boeing Realty Corp, Former C-6 Facility, Torrance CA
## Volatiles - Data Qualification Summary - SDG IPC2080

| SDG | Sample | Compound | Flag | A or P | Reason |
|---|---|---|---|---|---|
| IPC2080 | CMW0002_WG032206_0001 | 2-Butanone | J (all detects)<br>UJ (all non-detects) | A | Initial calibration (RRF) |
| IPC2080 | CMW0002_WG032206_0001 | 2-Butanone | J (all detects)<br>UJ (all non-detects) | A | Continuing calibration (RRF) |
| IPC2080 | CMW0002_WG032206_0001 | All TCL compounds except Chlorobenzene | J (all detects) | A | Surrogate recovery (%R) |

## Boeing Realty Corp, Former C-6 Facility, Torrance CA
## Volatiles - Laboratory Blank Data Qualification Summary - SDG IPC2080

| SDG | Sample | Compound<br>TIC (RT in minutes) | Modified Final Concentration | A or P |
|---|---|---|---|---|
| IPC2080 | CMW0002_WG032206_0001 (2x) | Tetrahydrofuran | 20U ug/L | A |

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17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2325

Sampled: 03/22/06
Received: 03/22/06

## 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: IPC2325-09 (CMW0002_WG032206_0001 - Water)** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Acetone | EPA 8260B | 6D03015 | 9.0 | 20 | ND | 2 | 04/03/06 | 04/03/06 | |
| **Benzene** | EPA 8260B | 6D03015 | 0.56 | 2.0 | **70** J | 2 | 04/03/06 | 04/03/06 | |
| Bromobenzene | EPA 8260B | 6D03015 | 0.54 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Bromochloromethane | EPA 8260B | 6D03015 | 0.64 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Bromodichloromethane | EPA 8260B | 6D03015 | 0.60 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Bromoform | EPA 8260B | 6D03015 | 0.64 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Bromomethane | EPA 8260B | 6D03015 | 0.84 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 2-Butanone (MEK) | EPA 8260B | 6D03015 | 7.6 | 10 | ND UJ | 2 | 04/03/06 | 04/03/06 | |
| n-Butylbenzene | EPA 8260B | 6D03015 | 0.74 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| sec-Butylbenzene | EPA 8260B | 6D03015 | 0.50 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| tert-Butylbenzene | EPA 8260B | 6D03015 | 0.44 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Carbon Disulfide | EPA 8260B | 6D03015 | 0.96 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Carbon tetrachloride | EPA 8260B | 6D03015 | 0.56 | 1.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Chloroethane | EPA 8260B | 6D03015 | 0.80 | 4.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| **Chloroform** | EPA 8260B | 6D03015 | 0.66 | 2.0 | **1.2** J | 2 | 04/03/06 | 04/03/06 | J |
| Chloromethane | EPA 8260B | 6D03015 | 0.60 | 4.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 2-Chlorotoluene | EPA 8260B | 6D03015 | 0.56 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 4-Chlorotoluene | EPA 8260B | 6D03015 | 0.58 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,2-Dibromo-3-chloropropane | EPA 8260B | 6D03015 | 1.8 | 4.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Dibromochloromethane | EPA 8260B | 6D03015 | 0.56 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,2-Dibromoethane (EDB) | EPA 8260B | 6D03015 | 0.64 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| **1,4-Dichlorobenzene** | EPA 8260B | 6D03015 | 0.74 | 2.0 | **8.9** J | 2 | 04/03/06 | 04/03/06 | |
| **1,2-Dichlorobenzene** | EPA 8260B | 6D03015 | 0.64 | 2.0 | **1.4** J | 2 | 04/03/06 | 04/03/06 | J |
| 1,3-Dichlorobenzene | EPA 8260B | 6D03015 | 0.70 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Dichlorodifluoromethane | EPA 8260B | 6D03015 | 1.6 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,2-Dichloroethane | EPA 8260B | 6D03015 | 0.56 | 1.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,1-Dichloroethane | EPA 8260B | 6D03015 | 0.54 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| **1,1-Dichloroethene** | EPA 8260B | 6D03015 | 0.84 | 2.0 | **1.5** J | 2 | 04/03/06 | 04/03/06 | J |
| **cis-1,2-Dichloroethene** | EPA 8260B | 6D03015 | 0.64 | 2.0 | **11** J | 2 | 04/03/06 | 04/03/06 | |
| trans-1,2-Dichloroethene | EPA 8260B | 6D03015 | 0.54 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,2-Dichloropropane | EPA 8260B | 6D03015 | 0.70 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 2,2-Dichloropropane | EPA 8260B | 6D03015 | 0.68 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| cis-1,3-Dichloropropene | EPA 8260B | 6D03015 | 0.44 | 1.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,1-Dichloropropene | EPA 8260B | 6D03015 | 0.56 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| trans-1,3-Dichloropropene | EPA 8260B | 6D03015 | 0.64 | 1.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| **Ethylbenzene** | EPA 8260B | 6D03015 | 0.50 | 2.0 | **1.3** J | 2 | 04/03/06 | 04/03/06 | J |
| Hexachlorobutadiene | EPA 8260B | 6D03015 | 0.76 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 2-Hexanone | EPA 8260B | 6D03015 | 5.2 | 12 | ND | 2 | 04/03/06 | 04/03/06 | |
| Iodomethane | EPA 8260B | 6D03015 | 2.0 | 4.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Isopropylbenzene | EPA 8260B | 6D03015 | 0.50 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| p-Isopropyltoluene | EPA 8260B | 6D03015 | 0.56 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |

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Michele Chamberlin
Project Manager

4/5/06

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17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2325

Sampled: 03/22/06
Received: 03/22/06

## 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: IPC2325-09 (CMW0002_WG032206_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| Methyl-tert-butyl Ether (MTBE) | EPA 8260B | 6D03015 | 0.64 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Methylene chloride | EPA 8260B | 6D03015 | 1.4 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 4-Methyl-2-pentanone (MIBK) | EPA 8260B | 6D03015 | 7.0 | 10 | ND | 2 | 04/03/06 | 04/03/06 | |
| n-Propylbenzene | EPA 8260B | 6D03015 | 0.54 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Styrene | EPA 8260B | 6D03015 | 0.32 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,1,1,2-Tetrachloroethane | EPA 8260B | 6D03015 | 0.54 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,1,2,2-Tetrachloroethane | EPA 8260B | 6D03015 | 0.48 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| **Tetrachloroethene** | EPA 8260B | 6D03015 | 0.64 | 2.0 | **3.2** J | 2 | 04/03/06 | 04/03/06 | |
| **Tetrahydrofuran (THF)** | EPA 8260B | 6D03015 | 4.6 | 20 | **6.1** 20 UJ | 2 | 04/03/06 | 04/03/06 | B, J |
| Toluene | EPA 8260B | 6D03015 | 0.72 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,2,3-Trichlorobenzene | EPA 8260B | 6D03015 | 0.90 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,2,4-Trichlorobenzene | EPA 8260B | 6D03015 | 0.96 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,1,2-Trichloroethane | EPA 8260B | 6D03015 | 0.60 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,1,1-Trichloroethane | EPA 8260B | 6D03015 | 0.60 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| **Trichloroethene** | EPA 8260B | 6D03015 | 0.52 | 2.0 | **330** J | 2 | 04/03/06 | 04/03/06 | |
| Trichlorofluoromethane | EPA 8260B | 6D03015 | 0.68 | 4.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,2,3-Trichloropropane | EPA 8260B | 6D03015 | 0.80 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,2,4-Trimethylbenzene | EPA 8260B | 6D03015 | 0.46 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| 1,3,5-Trimethylbenzene | EPA 8260B | 6D03015 | 0.52 | 2.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| Vinyl acetate | EPA 8260B | 6D03015 | 3.4 | 12 | ND | 2 | 04/03/06 | 04/03/06 | |
| Vinyl chloride | EPA 8260B | 6D03015 | 0.52 | 1.0 | ND | 2 | 04/03/06 | 04/03/06 | |
| **Xylenes, Total** | EPA 8260B | 6D03015 | 1.8 | 2.0 | **2.3** J | 2 | 04/03/06 | 04/03/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *128 %* | | | | *A-01, ZX* |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *111 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *101 %* | | | | |

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Michele Chamberlin
Project Manager

MC 05/15/06

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

| | | |
|---|---|---|
| TAIT Environmental/Boeing | Project ID: Boeing C-6 Torrance | |
| 701 N. Parkcenter Drive | EM2303D/PHASE 01 | Sampled: 03/22/06 |
| Santa Ana, CA 92705 | Report Number: IPC2325 | Received: 03/22/06 |
| 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: IPC2325-09RE1 (CMW0002_WG032206_0001 - Water) - cont.** | | | | | | | | | |
| **Reporting Units: ug/l** | | | | | | | | | |
| **Chlorobenzene** | EPA 8260B | 6D01007 | 18 | 50 | **6900** | 50 | 04/01/06 | 04/01/06 | |
| *Surrogate: 4-Bromofluorobenzene (80-120%)* | | | | | *104 %* | | | | |
| *Surrogate: Dibromofluoromethane (80-120%)* | | | | | *112 %* | | | | |
| *Surrogate: Toluene-d8 (80-120%)* | | | | | *103 %* | | | | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

L27576

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LDC #: 14879C1
SDG #: IPC2325
Laboratory: Del Mar Analytical

# VALIDATION COMPLETENESS WORKSHEET
Tier 3

Date: 5/15/06
Page: 1 of 1
Reviewer: B
2nd Reviewer: K

**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: 3/22/06 |
| II. | GC/MS Instrument performance check | A | |
| III. | Initial calibration | SW | % RSD, $r^2$ ≥ 0.990 |
| IV. | Continuing calibration | SW | |
| V. | Blanks | SW | |
| VI. | Surrogate spikes | SW | |
| VII. | Matrix spike/Matrix spike duplicates | N | client specified |
| VIII. | Laboratory control samples | A | LCS |
| IX. | Regional Quality Assurance and Quality Control | N | |
| X. | Internal standards | A | |
| XI. | Target compound identification | A | |
| XII. | Compound quantitation/CRQLs | A | |
| XIII. | Tentatively identified compounds (TICs) | N | not reported |
| XIV. | System performance | A | |
| XV. | Overall assessment of data | A | |
| XVI. | Field duplicates | N | |
| 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: water

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | CMW0002_WG032206_0001 | 11 | 6D03015-BLK1 | 21 | | 31 | |
| 2 | CMW0002_WG032206_000 | 12 | 6D01007-BLK1 | 22 | for DD only | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

# 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 choride** | 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-C6-0053474

LDC #: 148791
SDG #: 1PC2325

# VALIDATION FINDINGS CHECKLIST

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

**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? | ✓ | | | |

LDC #: 14879C1
SDG #: 1PC2325

# VALIDATION FINDINGS CHECKLIST

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

| 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. | | | ✓ | |

LDC #: 14879C1
SDG #: 1PC2325

# VALIDATION FINDINGS WORKSHEET
## Initial Calibration

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

**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 Did the laboratory perform a 5 point calibration prior to sample analysis?
Y N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?_____
Y N N/A Did the initial calibration meet the acceptance criteria?
Y N N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

| # | Date | Standard ID | Compound | Finding %RSD (Limit: ≤30.0%) | Finding RRF (Limit: ≥0.05) | Associated Samples | Qualifications |
|---|---|---|---|---|---|---|---|
| | 3/26/06 | ICAL | M | | 0.040 | 6D03015-BLK1, 1 | J/UJ/A |
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INICAL 1SB

BOE-C6-0053477

LDC #: 148791
SDG #: 1PC2325

# VALIDATION FINDINGS WORKSHEET
## Continuing Calibration

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

**METHOD:** GC/MS VOA (EPA SW 846 Method 8260)
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 |
|---|---|---|---|---|---|---|---|
| | 4/3/06 | VSTD025A | M | | 0.040 | 6D03015-BLK1, 1 | J/UJ/A |

LDC #: 14879C1
SDG #: 1PC2375

# VALIDATION FINDINGS WORKSHEET
## Blanks

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

**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:** 4/3/06
**Conc. units:** ug/L
Associated Samples: 1

| Compound | Blank ID | 2X | Sample Identification | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 6D03015-BL1 | 1 | | | | | | | | |
| ~~Methylene chloride~~ Tetrahydrofuran | 3.42 | 6.1/20µ | | | | | | | | |
| ~~Acetone~~ | | | | | | | | | | |
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| CRQL | | | | | | | | | | |

**Blank analysis date:**
**Conc. units:**
Associated Samples:

| Compound | Blank ID | Sample Identification | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| Methylene chloride | | | | | | | | | | |
| Acetone | | | | | | | | | | |
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| 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".

BLANKS2.1SR

BOE-C6-0053479

LDC #: 14874C1
SDG #: IPC2375

# VALIDATION FINDINGS WORKSHEET
## Surrogate Spikes

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

**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 Were all surrogate %R within QC limits?

(Y) N N/A If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R out of outside of criteria?

| # | Date | Sample ID | Surrogate | %Recovery (Limits) | Qualifications |
|---|---|---|---|---|---|
| | | 1 | BFB | 128 (80-120) | J/A det (all except PD) |
| | | | | ( ) | |
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| | QC Limits (Soil) | QC Limits (Water) |
|---|---|---|
| SMC1 (TOL) = Toluene-d8 | 81-117 | 88-110 |
| SMC2 (BFB) = Bromofluorobenzene | 74-121 | 86-115 |
| SMC3 (DCE) = 1,2-Dichloroethane-d4 | 80-120 | 80-120 |
| SMC4 (DFM) = Dibromofluoromethane | 80-120 | 86-118 |

SUR.1SB

LDC #: 14079C1
SDG #: LPC2375

# 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 ( std) | Recalculated RRF ( std) | Reported Average RRF (initial) | Recalculated Average RRF (initial) | Reported %RSD | Recalculated %RSD |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 3/26/00 | ICAL | Methylene chloride (1st internal standard) | 0.484 | 0.484 | 0.498 | 0.498 | 5.05 | 5.05 |
| | | | Trichlorethene (2nd internal standard) | 0.344 | 0.344 | 0.351 | 0.351 | 9.24 | 9.24 |
| | | | ~~Toluene~~ EE (3rd internal standard) | 1.636 | 1.636 | 1.738 | 1.738 | 8.09 | 8.09 |
| 2 | | | ~~Methylene chloride~~ JJJ (1st internal standard) | 1.471 | 1.471 | 1.481 | 1.481 | 10.98 | 10.98 |
| | | | Trichlorethene (2nd internal standard) | | | | | | |
| | | | Toluene (3rd internal standard) | | | | | | |
| 3 | | | Methylene chloride (1st internal standard) | | | | | | |
| | | | Trichlorethene (2nd internal standard) | | | | | | |
| | | | Toluene (3rd internal standard) | | | | | | |
| 4 | | | Methylene chloride (1st internal standard) | | | | | | |
| | | | 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-C6-0053481

.DC #: 148194
SDG #: 1PC2325

# VALIDATION FINDINGS WORKSHEET
## Continuing Calibration Results Verification

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

**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 | VSTD025 | 4/1/06 | chlorobenzene ~~Methylene chloride~~ (1st internal standard) | 25 ~~1.007~~ | 28 ~~0.999~~ | 28 ~~0.999~~ | 12 ~~0.8~~ | 12 ~~0.8~~ |
| | | | Trichlorethene (2nd internal standard) | | | | | |
| | | | Toluene (3rd internal standard) | | | | | |
| 2 | VSTD025A | 4/3/06 | Methylene chloride (1st internal standard) | 0.498 | 0.517 | 0.517 | 3.8 | 3.8 |
| | | | Trichlorethene (2nd internal standard) | 0.351 | 0.353 | 0.353 | 0.6 | 0.6 |
| | | | EE ~~Toluene~~ (3rd internal standard) | 1.738 | 1.622 | 1.622 | 6.7 | 6.7 |
| 3 | | | JJJ ~~Methylene chloride~~ (1st internal standard) | 1.481 | 1.474 | 1.474 | 0.5 | 0.5 |
| | | | Trichlorethene (2nd internal standard) | | | | | |
| | | | Toluene (3rd internal standard) | | | | | |
| 4 | EXT025A | 4/3/06 | Tetrahydrofuran ~~Methylene chloride~~ (1st internal standard) | 0.063 | 0.065 | 0.065 | 3.2 | 3.2 |
| | | | 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-C6-0053482

LDC #: 14879C1
SDG #: 1PC2375

# VALIDATION FINDINGS WORKSHEET
## Surrogate Results Verification

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

**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:** #1

| | Surrogate Spiked | Surrogate Found | Percent Recovery Reported | Percent Recovery Recalculated | Percent Difference |
|---|---|---|---|---|---|
| Toluene-d8 | 25 | 25.17 | 101 | 101 | 0 |
| Bromofluorobenzene | 25 | 31.99 | 128 | 128 | 0 |
| 1,2-Dichloroethane-d4 | | | | | |
| Dibromofluoromethane | 25 | 27.83 | 111 | 111 | 0 |

**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 #: 14879C1
SDG #: 18C2325

# VALIDATION FINDINGS WORKSHEET
## Laboratory Control Sample Results Verification


Reviewer: B
2nd Reviewer: VC

**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: 6D03015-BS1

| 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 | 25.1 | NA | 100 | 100 | | | | |
| Trichloroethene | ↓ | ↓ | 25.0 | ↓ | 100 | 100 | | | | |
| Benzene | | | 24.2 | | 97 | 97 | | | | |
| Toluene | | | 23.7 | | 95 | 95 | | | | |
| Chlorobenzene | | | 24.5 | | 98 | 98 | | | | |
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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

LDC #: 148790
SDG #: 1PC 2325

# VALIDATION FINDINGS WORKSHEET
## Sample Calculation Verification

Page: 1 of 1
Reviewer: B
2nd reviewer: A

**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. #1, 1,4-Dichlorobenzene

Conc. = $\frac{(147977)(25)(2)}{(509472)(1.639)(\quad)(\quad)}$

=

8.9 ug/L

| # | Sample ID | Compound | Reported Concentration ( ) | Calculated Concentration ( ) | Qualification |
|---|---|---|---|---|---|
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**Boeing Realty Corp., Former C-6 Facility, Torrance CA**
**Data Validation Reports**
**LDC# 14879**

Manganese

LDC

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 20, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Manganese

**Validation Level:** Tier 1

**Laboratory:** Del Mar Analytical

**Sample Delivery Group (SDG):** IPC2080

**Sample Identification**

MWC011_WG032006_0001

## Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6010B for Manganese.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was 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. Calibration

Calibration data were not reviewed for Tier 1.

## III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

## IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

## V. Matrix Spike Analysis

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.

## VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

## VII. Laboratory Control Samples (LCS)

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

## VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

## IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

## X. ICP Serial Dilution

ICP serial dilution was not performed for this SDG.

## XI. Sample Result Verification

Raw data were not reviewed for this SDG.

## XII. Overall Assessment of Data

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

## XIII. Field Duplicates

No field duplicates were identified in this SDG.

## XIV. Field Blanks

No field blanks were identified in this SDG.

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Manganese - Data Qualification Summary - SDG IPC2080**

No Sample Data Qualified in this SDG

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Manganese - Laboratory Blank Data Qualification Summary - SDG IPC2080**

No Sample Data Qualified in this SDG

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

# DISSOLVED METALS

| Analyte | Method | Batch | MDL Limit | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| **Sample ID: IPC2080-07 (MWC011_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| **Manganese** | EPA 6010B-Diss | 6C20131 | 0.0070 | 0.020 | **0.25** | 1 | 03/20/06 | 03/23/06 | |
| ~~**Sample ID: IPC2080-11 (MWB019_WG032006_0001 - Water)**~~ | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| ~~**Manganese**~~ | ~~EPA 6010B-Diss~~ | ~~6C20131~~ | ~~0.0070~~ | ~~0.020~~ | ~~**0.0094**~~ | ~~1~~ | ~~03/20/06~~ | ~~03/23/06~~ | ~~J~~ |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

R 251506

*The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.*

LDC #: 14879A4

SDG #: IPC2080

Laboratory: Del Mar Analytical

# VALIDATION COMPLETENESS WORKSHEET

Tier 1

Date: 5/15/06

Page: 1 of 1

Reviewer: MM

2nd Reviewer: a

**METHOD:** Manganese (EPA SW 846 Method 6010B)

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: 3/20/06 |
| II. | Calibration | N | |
| III. | Blanks | A | |
| IV. | ICP Interference Check Sample (ICS) Analysis | N | |
| V. | Matrix Spike Analysis | A | ~~MS/MSD~~ non client sample. |
| VI. | Duplicate Sample Analysis | N | |
| VII. | Laboratory Control Samples (LCS) | A | LCS |
| VIII. | Internal Standard (ICP-MS) | N | Not utilized |
| IX. | Furnace Atomic Absorption QC | N | |
| X. | ICP Serial Dilution | N | Not performed |
| XI. | Sample Result Verification | N | |
| XII. | Overall Assessment of Data | A | |
| XIII. | Field Duplicates | N | |
| XIV. | 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: 12

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | MWC011_WG032006_0001 | 11 | | 21 | | 31 | |
| 2 | RB | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes:

**LDC Report#** 14879B4

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 21, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Manganese

**Validation Level:** Tier 2

**Laboratory:** Del Mar Analytical

**Sample Delivery Group (SDG):** IPC2190

**Sample Identification**

IRZB0095_WG032106_0001

## Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6010B for Manganese.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was 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. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

## III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

## IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

## V. Matrix Spike Analysis

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.

## VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

## VII. Laboratory Control Samples (LCS)

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

## VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

## IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

## X. ICP Serial Dilution

ICP serial dilution was not performed for this SDG.

## XI. Sample Result Verification

Raw data were not reviewed for this SDG.

## XII. Overall Assessment of Data

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

## XIII. Field Duplicates

No field duplicates were identified in this SDG.

## XIV. Field Blanks

No field blanks were identified in this SDG.

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Manganese - Data Qualification Summary - SDG IPC2190**

No Sample Data Qualified in this SDG

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Manganese - Laboratory Blank Data Qualification Summary - SDG IPC2190**

No Sample Data Qualified in this SDG

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Del Mar Analytical

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

## DISSOLVED METALS

| Analyte | Method | Batch | MDL Limit | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| ~~**Sample ID: IPC2190-03 (IRZMW001B_WG032106_0001 - Water)**~~ | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| ~~**Manganese**~~ | ~~EPA 6010B-Diss~~ | ~~6C22121~~ | ~~0.0070~~ | ~~0.020~~ | ~~**0.025**~~ | ~~1~~ | ~~03/22/06~~ | ~~03/23/06~~ | |
| **Sample ID: IPC2190-04 (IRZB0095_WG032106_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| **Manganese** | EPA 6010B-Diss | 6C22121 | 0.0070 | 0.020 | **1.7** | 1 | 03/22/06 | 03/23/06 | |
| ~~**Sample ID: IPC2190-09 (WCC_6S_WG032106_0001 - Water)**~~ | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| ~~**Manganese**~~ | ~~EPA 6010B-Diss~~ | ~~6C22121~~ | ~~0.0070~~ | ~~0.020~~ | ~~**6.3**~~ | ~~1~~ | ~~03/22/06~~ | ~~03/23/06~~ | |
| ~~**Sample ID: IPC2190-11 (CMW026_WG032106_0001 - Water)**~~ | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| ~~**Manganese**~~ | ~~EPA 6010B-Diss~~ | ~~6C22121~~ | ~~0.0070~~ | ~~0.020~~ | ~~**0.064**~~ | ~~1~~ | ~~03/22/06~~ | ~~03/23/06~~ | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

1L051546

*The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.*

LDC #: 14879B4

SDG #: IPC2190

Laboratory: Del Mar Analytical

# VALIDATION COMPLETENESS WORKSHEET

Tier 2

Date: 5/15/06

Page: 1 of 1

Reviewer: MM

2nd Reviewer: A

**METHOD:** Manganese (EPA SW 846 Method 6010B)

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: 3/21/06 |
| II. | Calibration | A | |
| III. | Blanks | A | |
| IV. | ICP Interference Check Sample (ICS) Analysis | A | |
| V. | Matrix Spike Analysis | A | MS/MSD IPC2190-3 |
| VI. | Duplicate Sample Analysis | N | |
| VII. | Laboratory Control Samples (LCS) | A | LCS |
| VIII. | Internal Standard (ICP-MS) | N | Not utilized |
| IX. | Furnace Atomic Absorption QC | N | |
| X. | ICP Serial Dilution | N | Not performed. |
| XI. | Sample Result Verification | N | |
| XII. | Overall Assessment of Data | A | |
| XIII. | Field Duplicates | N | |
| XIV. | 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:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | IRZB0095_WG032106_0001 | 11 | | 21 | | 31 | |
| 2 | PB | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes:

**LDC Report#** 14879C4

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 22, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Manganese

**Validation Level:** Tier 3

**Laboratory:** Del Mar Analytical

**Sample Delivery Group (SDG):** IPC2325

**Sample Identification**

CMW0002_WG032206_0001

## Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6010B for Manganese.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

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. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

## III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

## IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

## V. Matrix Spike Analysis

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.

## VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

## VII. Laboratory Control Samples (LCS)

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

## VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

## IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

## X. ICP Serial Dilution

ICP serial dilution was not performed for this SDG.

## XI. Sample Result Verification

All sample result verifications were acceptable.

## XII. Overall Assessment of Data

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

## XIII. Field Duplicates

No field duplicates were identified in this SDG.

## XIV. Field Blanks

No field blanks were identified in this SDG.

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Manganese - Data Qualification Summary - SDG IPC2325**

No Sample Data Qualified in this SDG

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Manganese - Laboratory Blank Data Qualification Summary - SDG IPC2325**

No Sample Data Qualified in this SDG

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2325

Sampled: 03/22/06
Received: 03/22/06

# DISSOLVED METALS

| Analyte | Method | Batch | MDL Limit | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| ~~**Sample ID: IPC2325-04 (IRZCMW002_WG032206_0001 - Water)**~~ | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| ~~**Manganese**~~ | ~~EPA 6010B-Diss~~ | ~~6C23108~~ | ~~0.0070~~ | ~~0.020~~ | ~~**3.8**~~ | ~~1~~ | ~~03/23/06~~ | ~~03/23/06~~ | |
| **Sample ID: IPC2325-09 (CMW0002_WG032206_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| **Manganese** | EPA 6010B-Diss | 6C23108 | 0.0070 | 0.020 | **0.21** | 1 | 03/23/06 | 03/23/06 | |

R 051506

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

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LDC #: 14879C4

SDG #: IPC2325

Laboratory: Del Mar Analytical

# VALIDATION COMPLETENESS WORKSHEET

Tier 3

Date: 5/15/06

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

**METHOD:** Manganese (EPA SW 846 Method 6010B)

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: 3/22/06 |
| II. | Calibration | A | |
| III. | Blanks | A | |
| IV. | ICP Interference Check Sample (ICS) Analysis | A | |
| V. | Matrix Spike Analysis | A | MS/MSD Non client sample. |
| VI. | Duplicate Sample Analysis | N | |
| VII. | Laboratory Control Samples (LCS) | A | LCS |
| VIII. | Internal Standard (ICP-MS) | N | Not utilized |
| IX. | Furnace Atomic Absorption QC | N | |
| X. | ICP Serial Dilution | N | Not performed |
| XI. | Sample Result Verification | A | |
| XII. | Overall Assessment of Data | A | |
| XIII. | Field Duplicates | N | |
| XIV. | 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: No

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | CMW0002_WG032206_0001 | 11 | | 21 | | 31 | |
| 2 | PB | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes:

LDC #: 14879c4
SDG #: [illegible]

VALIDATION FINDINGS CHECKLIST

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

**Method:** Metals (EPA SW 846 Method 6010/7000/6020)

| Validation Area | Yes | No | NA | Findings/Comments |
|---|---|---|---|---|
| I. Technical holding times | | | | |
| All technical holding times were met. | ✓ | | | |
| Cooler temperature criteria was met. | ✓ | | | |
| II. Calibration | | | | |
| Were all instruments calibrated daily, each set-up time? | ✓ | | | |
| Were the proper number of standards used? | ✓ | | | |
| Were all initial and continuing calibration verification %Rs within the 90-110% (80-120% for mercury and 85-115% for cyanide) QC limits? | ✓ | | | |
| Were all initial calibration correlation coefficients ≥ 0.995? (Level IV only) | ✓ | | | |
| III. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | ✓ | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | | ✓ | | |
| IV. ICP Interference Check Sample | | | | |
| Were ICP interference check samples performed daily? | ✓ | | | |
| Were the AB solution percent recoveries (%R) with the 80-120% QC limits? | ✓ | | | |
| IV. Matrix spike/Matrix spike duplicates | | | | |
| Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water. | ✓ | | | |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken. | ✓ | | | |
| Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of +/- RL(+/-2X RL for soil) was used for samples that were ≤ 5X the RL, including when only one of the duplicate sample values were ≤ 5X the RL. | ✓ | | | |
| V. Laboratory control samples | | | | |
| Was an LCS anaylzed for this SDG? | ✓ | | | |
| Was an LCS analyzed per extraction batch? | ✓ | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% QC limits for water samples and laboratory established QC limits for soils? | ✓ | | | |
| VI. Furnace Atomic Absorption QC | | | | |
| If MSA was performed, was the correlation coefficients > 0.995? | | | ✓ | |
| Do all applicable analysies have duplicate injections? (Level IV only) | | | ✓ | |
| For sample concentrations > RL, are applicable duplicate injection RSD values < 20%? (Level IV only) | | | ✓ | |
| Were analytical spike recoveries within the 85-115% QC limits? | | | ✓ | |

LDC #: 14879C4
SDG #: TDC2325

# VALIDATION FINDINGS CHECKLIST

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

| Validation Area | Yes | No | NA | Findings/Comments |
|---|---|---|---|---|
| VII. ICP Serial Dilution | | | | |
| Was an ICP serial dilution analyzed if analyte concentrations were > 50X the IDL? | | ✓ | ✓ | |
| Were all percent differences (%Ds) < 10%? | | | ✓ | |
| Was there evidence of negative interference? If yes, professional judgement will be used to qualify the data. | | | ✓ | |
| VIII. Internal Standards (EPA SW 846 Method 6020) | | | | |
| Were all the percent recoveries (%R) within the 30-120% of the intensity of the internal standard in the associated initial calibration? | | | ✓ | |
| If the %Rs were outside the criteria, was a reanalysis performed? | | | ✓ | |
| IX. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | | ✓ | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | ✓ | |
| X. Sample Result Verification | | | | |
| Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | ✓ | | | |
| XI. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | ✓ | | | |
| XII. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | | ✓ | | |
| Target analytes were detected in the field duplicates. | | | ✓ | |
| XIII. Field blanks | | | | |
| Field blanks were identified in this SDG. | | ✓ | | |
| Target analytes were detected in the field blanks. | | | ✓ | |

LDC #: 14879C4
SDG #: JPC2325

# VALIDATION FINDINGS WORKSHEET
## Initial and Continuing Calibration Calculation Verification

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

**METHOD:** Trace Metals (EPA SW 846 Method 6010/7000)

An initial and continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found}}{\text{True}} \times 100$$

Where, Found = concentration (in ug/L) of each analyte measured in the analysis of the ICV or CCV solution
True = concentration (in ug/L) of each analyte in the ICV or CCV source

| Standard ID | Type of Analysis | Element | Found (ug/L) | True (ug/L) | Recalculated %R | Reported %R | Acceptable (Y/N) |
|---|---|---|---|---|---|---|---|
| ICV | ICP (Initial calibration) | Mn | 2.014 | 2.0 | 107 | ~~107~~ NR | Y |
| | GFAA (Initial calibration) | | | | | | |
| | CVAA (Initial calibration) | | | | | | |
| CCV | ICP (Continuing calibration) | Mn | 1.001 | 1.0 | 100 | NR | Y |
| | GFAA (Continuing calibration) | | | | | | |
| | CVAA (Continuing calibration) | | | | | | |
| | Cyanide (Initial calibration) | | | | | | |
| | Cyanide (Continuing calibation) | | | | | | |

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

CALCLC.4SW

BOE-C6-0053510

LDC #: 14879 c4
SDG #: JPC 2325

# VALIDATION FINDINGS WORKSHEET
## Level IV Recalculation Worksheet

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

**METHOD:** Trace Metals (EPA SW 846 Method 6010/7000)

Percent recoveries (%R) for an ICP interference check sample, a laboratory control sample and a matrix spike sample were recaluculated using the following formula:

$$\%R = \frac{Found}{True} \times 100$$

Where, Found = Concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = Concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$$RPD = \frac{|S-D|}{(S+D)/2} \times 100$$

Where, S = Original sample concentration
D = Duplicate sample concentration

An ICP serial dilution percent difference (%D) was recalculated using the following formula:

$$\%D = \frac{|I-SDR|}{I} \times 100$$

Where, I = Initial Sample Result (mg/L)
SDR = Serial Dilution Result (mg/L) (Instrument Reading x 5)

| Sample ID | Type of Analysis | Element | Found / S / I (units) | True / D / SDR (units) | Recalculated %R / RPD / %D | Reported %R / RPD / %D | Acceptable (Y/N) |
|---|---|---|---|---|---|---|---|
| ICSAB | ICP interference check | Mn | 0.4681 | 0.500 | 94 | NR | Y |
| LCS | Laboratory control sample | ↓ | 0.9798 | 1.00 | 98 | 98 | ↓ |
| ~~SOP~~ JPC 2309-1 | Matrix spike | ↓ | (SSR-SR) 0.9367 | ↓ | 94 | 94 | ↓ |
| ↓ | Duplicate | ↓ | 0.9159 | 0.9367 | 2 | 2 | ↓ |
| MA | ICP serial dilution | | | | | | |

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

TOTCLC.4SW

BOE-C6-0053511

LDC #: 14879C4
SDG #: J1C3325

# VALIDATION FINDINGS WORKSHEET
## Sample Calculation Verification

Page: 1 of 1
Reviewer: MW
2nd reviewer: X

**METHOD:** Trace Metals (EPA SW 846 Method 6010/7000)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments and within the linear range of the ICP?
Y N N/A Are all detection limits below the CRDL?

Detected analyte results for 1 were recalculated and verified using the following equation:

Concentration = $\frac{(RD)(FV)(Dil)}{(In.\ Vol.)(\%S)}$

RD = Raw data concentration
FV = Final volume (ml)
In. Vol. = Initial volume (ml) or weight (G)
Dil = Dilution factor
%S = Decimal percent solids

Recalculation:

From the raw data
Mn = 0.2057 mg/L

| Sample ID | Analyte | Reported Concentration ( mg/L ) | Calculated Concentration ( mg/L ) | Acceptable (Y/N) |
|---|---|---|---|---|
| 1 | Mn | 0.21 | 0.21 | Y |
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RECALC.4S2

**Boeing Realty Corp., Former C-6 Facility, Torrance CA**
**Data Validation Reports**
**LDC# 14879**

Wet Chemistry

LDC

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 20, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Wet Chemistry

**Validation Level:** Tier 1

**Laboratory:** Del Mar Analytical

**Sample Delivery Group (SDG):** IPC2080

**Sample Identification**

MWC011_WG032006_0001
IRZMW002B_WG032006_0001
IRZMW002B_WG032006_0001DUP

## Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Chloride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA Method 310.1 for Alkalinity, EPA Method 350.3 for Ammonia, EPA Method 415.1 for Total Organic Carbon, and Standard Method 4500-$CO_2$ for Carbon Dioxide.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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 III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was 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. Calibration

### a. Initial Calibration

Initial calibration data were not reviewed for Tier I.

### b. Calibration Verification

Calibration verification data were not reviewed for Tier I.

## III. Blanks

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

| Method Blank ID | Analyte | Concentration | Associated Samples |
|---|---|---|---|
| MB | Chloride | 0.164 mg/L | MWC011_WG032006_0001 |

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

## IV. Matrix Spike/Matrix Spike Duplicates

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

## V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

## VI. Laboratory Control Samples

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

## VII. Sample Result Verification

Raw data were not reviewed for this SDG.

## VIII. Overall Assessment of Data

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

## IX. Field Duplicates

No field duplicates were identified in this SDG.

## X. Field Blanks

No field blanks were identified in this SDG.

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Wet Chemistry - Data Qualification Summary - SDG IPC2080**

No Sample Data Qualified in this SDG

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IPC2080**

No Sample Data Qualified in this SDG

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2080

Sampled: 03/20/06
Received: 03/20/06

# INORGANICS

| Analyte | Method | Batch | MDL Limit | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| **Sample ID: IPC2080-07 (MWC011_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| **Carbon Dioxide** | SM4500-CO2 | 6C20139 | 2.0 | 2.0 | **5.3** | 1 | 03/20/06 | 03/20/06 | |
| Ammonia-NH3 | EPA 350.3 | 6C27056 | 0.14 | 0.60 | ND | 1 | 03/24/06 | 03/24/06 | |
| **Alkalinity as CaCO3** | EPA 310.1 | 6C23139 | 2.0 | 2.0 | **180** | 1 | 03/23/06 | 03/23/06 | |
| **Chloride** | EPA 300.0 | 6C20055 | 1.5 | 5.0 | **200** | 10 | 03/20/06 | 03/20/06 | |
| **Nitrate-NO3** | EPA 300.0 | 6C20055 | 0.35 | 0.50 | **5.2** | 1 | 03/20/06 | 03/20/06 | |
| Nitrite-NO2 | EPA 300.0 | 6C20055 | 3.0 | 5.0 | ND | 10 | 03/20/06 | 03/20/06 | RL-1 |
| Orthophosphate - PO4 | EPA 300.0 | 6C20055 | 0.40 | 0.50 | ND | 1 | 03/20/06 | 03/20/06 | |
| **Sulfate** | EPA 300.0 | 6C20055 | 0.45 | 0.50 | **20** | 1 | 03/20/06 | 03/20/06 | |
| **Total Organic Carbon** | EPA 415.1 | 6C23066 | 0.25 | 1.0 | **5.3** | 1 | 03/22/06 | 03/22/06 | |
| ~~**Sample ID: IPC2080-08 (IRZMW002B_WG032006_0001 - Water)**~~ | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| Sulfide | EPA 376.2 | 6C21070 | 0.010 | 0.10 | ND | 1 | 03/21/06 | 03/21/06 | |
| **Sample ID: IPC2080-09 (IRZMW002B_WG032006_0002 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| Sulfide | EPA 376.2 | 6C21070 | 0.010 | 0.10 | ND | 1 | 03/21/06 | 03/21/06 | |
| **Sample ID: IPC2080-10 (IRZB0081_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| Sulfide | EPA 376.2 | 6C21070 | 0.010 | 0.10 | ND | 1 | 03/21/06 | 03/21/06 | |
| **Sample ID: IPC2080-11 (MWB019_WG032006_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| **Carbon Dioxide** | SM4500-CO2 | 6C20139 | 2.0 | 2.0 | **62** | 1 | 03/20/06 | 03/20/06 | |
| Ammonia-NH3 | EPA 350.3 | 6C27056 | 0.14 | 0.60 | ND | 1 | 03/24/06 | 03/24/06 | |
| **Alkalinity as CaCO3** | EPA 310.1 | 6C23139 | 2.0 | 2.0 | **390** | 1 | 03/23/06 | 03/23/06 | |
| **Chloride** | EPA 300.0 | 6C20055 | 3.0 | 10 | **260** | 20 | 03/20/06 | 03/20/06 | |
| **Nitrate-NO3** | EPA 300.0 | 6C20055 | 7.0 | 10 | **90** | 20 | 03/20/06 | 03/20/06 | |
| Nitrite-NO2 | EPA 300.0 | 6C20055 | 6.0 | 10 | ND | 20 | 03/20/06 | 03/20/06 | RL-1 |
| Orthophosphate - PO4 | EPA 300.0 | 6C20055 | 0.40 | 0.50 | ND | 1 | 03/20/06 | 03/20/06 | |
| **Sulfate** | EPA 300.0 | 6C20055 | 9.0 | 10 | **610** | 20 | 03/20/06 | 03/20/06 | |
| ~~**Total Organic Carbon**~~ | ~~EPA 415.1~~ | ~~6C23066~~ | ~~0.25~~ | ~~1.0~~ | ~~**2.0**~~ | ~~1~~ | ~~03/22/06~~ | ~~03/22/06~~ | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

M 05/06

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LDC #: 14879A6

SDG #: IPC2080

Laboratory: Del Mar Analytical

# VALIDATION COMPLETENESS WORKSHEET

Tier 1

Date: ~~6~~ 5/15/06

Page: 1 of 1

Reviewer: MH

2nd Reviewer: [illegible]

**METHOD: (Analyte)** ~~PO4~~ Alkalinity (EPA Method 310.1), Ammonia-~~N~~ ~~NH3~~ (EPA Method 350.3), Chloride, Nitrate-~~N~~, Nitrite-~~N~~, Orthophosphate-~~R~~, Sulfate (EPA Method 300.0), TOC (EPA Method 415.1), Carbon Dioxide (SM4500 $CO_2$)

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: 3/20/06 |
| IIa. | Initial calibration | N | |
| IIb. | Calibration verification | N | |
| III. | Blanks | SW | |
| IV | Matrix Spike/Matrix Spike Duplicates | A | 3 LCS MSD / Dup. |
| V | Duplicates | A | |
| VI. | Laboratory control samples | A | LCS |
| VII. | Sample result verification | N | |
| VIII. | Overall assessment of data | A | |
| IX. | Field duplicates | N ~~ND~~ | ~~(2, IRZMW002B_WG032006_0002)~~ |
| X | 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: A2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | MWC011_WG032006_0001 | 11 | | 21 | | 31 | |
| 2 | IRZMW002B_WG032006_0001 | 12 | | 22 | | 32 | |
| 3 | ↓ Dup | 13 | | 23 | | 33 | |
| 4 | MB | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes:

LDC #: 14879A6
SDG #: TPC2080

# VALIDATION FINDINGS WORKSHEET
## Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: MY
2nd reviewer: K

All circled methods are applicable to each sample.

| Sample ID | Parameter |
|---|---|
| 1 | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ $CO_2$ ____ ____ |
| 2 | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ S ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ ____ ____ ____ ____ |

Comments:

METHODS.6

LDC #: 14879A6
SDG #: IPC2080

# VALIDATION FINDINGS WORKSHEET
## Blanks

Page: 1 of 1
Reviewer: MY
2nd Reviewer: K

**METHOD:** Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were all samples associated with a given method blank?
Ø N N/A Were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below.

**Conc. units:** mg/L **Associated Samples:** 1 (75x)

| Analyte | Blank ID | Maximum ICB/CCB | Blank Action Limit | Sample Identification | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MB | | | | | | | | | | | |
| Ca | 0.164 | | 0.82 | | | | | | | | | |

CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".

BLANKS.6

BOE-C6-0053522

**LDC Report#** 14879B6

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 21, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Wet Chemistry

**Validation Level:** Tier 2

**Laboratory:** Del Mar Analytical

**Sample Delivery Group (SDG):** IPC2190

**Sample Identification**

IRZB0095_WG032106_0001

## Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Chloride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA Method 310.1 for Alkalinity, EPA Method 350.3 for Ammonia, EPA Method 376.2 for Sulfide, EPA Method 415.1 for Total Organic Carbon, and Standard Method 4500-$CO_2$ for Carbon Dioxide.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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 III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was 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. Calibration

### a. Initial Calibration

All criteria for the initial calibration of each method were met.

### b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

## III. Blanks

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

| Method Blank ID | Analyte | Concentration | Associated Samples |
|---|---|---|---|
| ICB/CCB | Chloride | 0.18 mg/L | All samples in SDG IPC2190 |

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

## IV. Matrix Spike/Matrix Spike Duplicates

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

## V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

## VI. Laboratory Control Samples

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

## VII. Sample Result Verification

Raw data were not reviewed for this SDG.

## VIII. Overall Assessment of Data

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

## IX. Field Duplicates

No field duplicates were identified in this SDG.

## X. Field Blanks

No field blanks were identified in this SDG.

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Wet Chemistry - Data Qualification Summary - SDG IPC2190**

No Sample Data Qualified in this SDG

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IPC2190**

No Sample Data Qualified in this SDG

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2190

Sampled: 03/21/06
Received: 03/21/06

# INORGANICS

| Analyte | Method | Batch | MDL Limit | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| ~~**Sample ID: IPC2190-03 (IRZMW001B_WG032106_0001 - Water)**~~ | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| **Carbon Dioxide** | SM4500-CO2 | 6C21139 | 2.0 | 2.0 | **72** | 1 | 03/21/06 | 03/21/06 | |
| Ammonia-NH3 | EPA 350.3 | 6C27083 | 0.14 | 0.60 | ND | 1 | 03/27/06 | 03/27/06 | |
| **Alkalinity as CaCO3** | EPA 310.1 | 6C24119 | 2.0 | 2.0 | **440** | 1 | 03/24/06 | 03/24/06 | |
| **Chloride** | EPA 300.0 | 6C21049 | 3.0 | 10 | **220** | 20 | 03/21/06 | 03/21/06 | |
| **Nitrate-NO3** | EPA 300.0 | 6C21049 | 0.35 | 0.50 | **8.0** | 1 | 03/21/06 | 03/21/06 | |
| Nitrite-NO2 | EPA 300.0 | 6C21049 | 6.0 | 10 | ND | 20 | 03/21/06 | 03/21/06 | RL-1 |
| Orthophosphate - PO4 | EPA 300.0 | 6C21049 | 0.40 | 0.50 | ND | 1 | 03/21/06 | 03/21/06 | |
| **Sulfate** | EPA 300.0 | 6C21049 | 9.0 | 10 | **69** | 20 | 03/21/06 | 03/21/06 | |
| Sulfide | EPA 376.2 | 6C22079 | 0.010 | 0.10 | ND | 1 | 03/22/06 | 03/22/06 | |
| ~~**Total Organic Carbon**~~ | ~~EPA 415.1~~ | ~~6C24062~~ | ~~0.25~~ | ~~1.0~~ | ~~**2.3**~~ | ~~1~~ | ~~03/23/06~~ | ~~03/23/06~~ | |
| **Sample ID: IPC2190-04 (IRZB0095_WG032106_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| **Carbon Dioxide** | SM4500-CO2 | 6C21139 | 2.0 | 2.0 | **55** | 1 | 03/21/06 | 03/21/06 | |
| **Ammonia-NH3** | EPA 350.3 | 6C27083 | 0.14 | 0.60 | **1.1** | 1 | 03/27/06 | 03/27/06 | |
| **Alkalinity as CaCO3** | EPA 310.1 | 6C24119 | 2.0 | 2.0 | **640** | 1 | 03/24/06 | 03/24/06 | |
| **Chloride** | EPA 300.0 | 6C21049 | 3.0 | 10 | **120** | 20 | 03/21/06 | 03/21/06 | |
| **Nitrate-NO3** | EPA 300.0 | 6C21049 | 0.35 | 0.50 | **1.3** | 1 | 03/21/06 | 03/21/06 | |
| Nitrite-NO2 | EPA 300.0 | 6C21049 | 0.30 | 0.50 | ND | 1 | 03/21/06 | 03/21/06 | |
| Orthophosphate - PO4 | EPA 300.0 | 6C21049 | 0.40 | 0.50 | ND | 1 | 03/21/06 | 03/21/06 | |
| **Sulfate** | EPA 300.0 | 6C21049 | 9.0 | 10 | **79** | 20 | 03/21/06 | 03/21/06 | |
| **Sulfide** | EPA 376.2 | 6C22079 | 0.010 | 0.10 | **0.014** | 1 | 03/22/06 | 03/22/06 | J |
| **Total Organic Carbon** | EPA 415.1 | 6C24062 | 0.25 | 1.0 | **4.0** | 1 | 03/23/06 | 03/23/06 | |
| ~~**Sample ID: IPC2190-06 (IRZCMW001_WG032106_0001 - Water)**~~ | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| Sulfide | EPA 376.2 | 6C22079 | 0.010 | 0.10 | ND | 1 | 03/22/06 | 03/22/06 | |
| **Sample ID: IPC2190-08 (IRZCMW003B_WG032106_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| Sulfide | EPA 376.2 | 6C22079 | 0.010 | 0.10 | ND | 1 | 03/22/06 | 03/22/06 | |
| **Sample ID: IPC2190-09 (WCC_6S_WG032106_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| **Carbon Dioxide** | SM4500-CO2 | 6C21139 | 2.0 | 2.0 | **140** | 1 | 03/21/06 | 03/21/06 | |
| **Ammonia-NH3** | EPA 350.3 | 6C27083 | 0.14 | 0.60 | **0.52** | 1 | 03/27/06 | 03/27/06 | J |
| **Alkalinity as CaCO3** | EPA 310.1 | 6C24119 | 2.0 | 2.0 | **520** | 1 | 03/24/06 | 03/24/06 | |
| **Chloride** | EPA 300.0 | 6C21049 | 3.0 | 10 | **460** | 20 | 03/21/06 | 03/22/06 | |
| Nitrate-NO3 | EPA 300.0 | 6C21049 | 0.35 | 0.50 | ND | 1 | 03/21/06 | 03/22/06 | |
| Nitrite-NO2 | EPA 300.0 | 6C21049 | 6.0 | 10 | ND | 20 | 03/21/06 | 03/22/06 | RL-1 |
| Orthophosphate - PO4 | EPA 300.0 | 6C21049 | 0.40 | 0.50 | ND | 1 | 03/21/06 | 03/22/06 | |
| **Sulfate** | EPA 300.0 | 6C21049 | 0.45 | 0.50 | **12** | 1 | 03/21/06 | 03/22/06 | |
| ~~**Total Organic Carbon**~~ | ~~EPA 415.1~~ | ~~6C24062~~ | ~~0.25~~ | ~~1.0~~ | ~~**17**~~ | ~~1~~ | ~~03/23/06~~ | ~~03/23/06~~ | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

C 2/5/06

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LDC #: 14879B6

SDG #: IPC2190

Laboratory: Del Mar Analytical

# VALIDATION COMPLETENESS WORKSHEET

Tier 2

Date: 5/15/06

Page: 1 of 1

Reviewer: MM

2nd Reviewer: K

**METHOD: (Analyte)** Alkalinity (EPA Method 310.1), Ammonia-~~N~~ (EPA Method 350.3), Chloride, Nitrate-~~N~~, Nitrite-~~N~~, Orthophosphate-~~P~~, Sulfate (EPA Method 300.0), Sulfide (EPA Method 376.2), TOC (EPA Method 415.1), Carbon Dioxide (SM4500-$CO_2$)

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: 3/21/06 |
| IIa. | Initial calibration | A | |
| IIb. | Calibration verification | A | |
| III. | Blanks | SW ~~A~~ | |
| IV | Matrix Spike/Matrix Spike Duplicates | A | ~~IPC2190-3 MS/MSD~~ MS/MSD non client |
| V | Duplicates | ~~A~~ A | Dup IPC2190-3 |
| VI. | Laboratory control samples | A | LCS |
| VII. | Sample result verification | N | |
| VIII. | Overall assessment of data | A | |
| IX. | Field duplicates | N | |
| X | 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:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | IRZB0095_WG032106_0001 | 11 | | 21 | | 31 | |
| 2 | PB | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes:

LDC #: 14879B6
SDG #: IPC290

# VALIDATION FINDINGS WORKSHEET
## Sample Specific Analysis Reference

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

All circled methods are applicable to each sample.

| Sample ID | Parameter | | | | |
|---|---|---|---|---|---|
| 1 | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | S | $CO_2$ | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
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| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
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| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | | |

Comments:

METHODS.6

LDC #: 14879B6
SDG #: IPC2190

# VALIDATION FINDINGS WORKSHEET
## Blanks

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

**METHOD:** Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were all samples associated with a given method blank?
Y N N/A Were any inorganic contaminants detected above the reporting limit in the method blanks? If yes, please see qualifications below.

**Conc. units:** ug/L **Associated Samples:** M1 (75%)

| Analyte | Blank ID | Maximum ICB/CCB | Blank Action Limit | Sample Identification | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| Cl | | 0.18 | 0.90 | | | | | | | | | |
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CIRCLED RESULTS WERE NOT QUALIFIED. ALL RESULTS NOT CIRCLED WERE QUALIFIED BY THE FOLLOWING STATEMENT:
All contaminants within five times the method blank concentration were qualified as not detected, "U".



BOE-C6-0053531

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 22, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Wet Chemistry

**Validation Level:** Tier 3

**Laboratory:** Del Mar Analytical

**Sample Delivery Group (SDG):** IPC2325

**Sample Identification**

CMW0002_WG032206_0001

## Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Chloride, Nitrate, Nitrite, Orthophosphate, and Sulfate, EPA Method 310.1 for Alkalinity, EPA Method 350.3 for Ammonia, EPA Method 376.2 for Sulfide, EPA Method 415.1 for Total Organic Carbon, and Standard Method 4500-$CO_2$ for Carbon Dioxide.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a 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 III.

Field duplicates are summarized in Section IX.

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. Calibration

### a. Initial Calibration

All criteria for the initial calibration of each method were met.

### b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

## III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

## IV. Matrix Spike/Matrix Spike Duplicates

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

## V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

## VI. Laboratory Control Samples

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

## VII. Sample Result Verification

All sample result verifications were acceptable.

## VIII. Overall Assessment of Data

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

## IX. Field Duplicates

No field duplicates were identified in this SDG.

## X. Field Blanks

No field blanks were identified in this SDG.

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Wet Chemistry - Data Qualification Summary - SDG IPC2325**

No Sample Data Qualified in this SDG

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IPC2325**

No Sample Data Qualified in this SDG

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

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

Project ID: Boeing C-6 Torrance
EM2303D/PHASE 01
Report Number: IPC2325

Sampled: 03/22/06
Received: 03/22/06

# INORGANICS

| Analyte | Method | Batch | MDL Limit | Reporting Limit | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| **Sample ID: IPC2325-04 (IRZCMW002_WG032206_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| **Carbon Dioxide** | SM4500-CO2 | 6C23143 | 2.0 | 2.0 | **180** | 1 | 03/23/06 | 03/23/06 | |
| **Ammonia-NH3** | EPA 350.3 | 6C29112 | 0.14 | 0.60 | **0.14** | 1 | 03/29/06 | 03/29/06 | J |
| **Alkalinity as CaCO3** | EPA 310.1 | 6C27104 | 2.0 | 2.0 | **1000** | 1 | 03/27/06 | 03/27/06 | |
| **Chloride** | EPA 300.0 | 6C22049 | 7.5 | 25 | **190** | 50 | 03/22/06 | 03/22/06 | |
| **Nitrate-NO3** | EPA 300.0 | 6C22049 | 0.35 | 0.50 | **1.2** | 1 | 03/22/06 | 03/22/06 | |
| **Nitrite-NO2** | EPA 300.0 | 6C22049 | 15 | 25 | **35** | 50 | 03/22/06 | 03/22/06 | |
| Orthophosphate - PO4 | EPA 300.0 | 6C22049 | 0.40 | 0.50 | ND | 1 | 03/22/06 | 03/22/06 | |
| **Sulfate** | EPA 300.0 | 6C22049 | 0.45 | 0.50 | **11** | 1 | 03/22/06 | 03/22/06 | |
| **Sulfide** | EPA 376.2 | 6C23091 | 0.010 | 0.10 | **0.035** | 1 | 03/23/06 | 03/23/06 | J |
| **Total Organic Carbon** | EPA 415.1 | 6C31057 | 12 | 50 | **510** | 50 | 03/30/06 | 03/30/06 | |
| **Sample ID: IPC2325-06 (IRZMW004_WG032206_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| Sulfide | EPA 376.2 | 6C23091 | 0.010 | 0.10 | ND | 1 | 03/23/06 | 03/23/06 | |
| **Sample ID: IPC2325-07 (IRZMW004_WG032206_0002 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| Sulfide | EPA 376.2 | 6C23091 | 0.010 | 0.10 | ND | 1 | 03/23/06 | 03/23/06 | |
| **Sample ID: IPC2325-08 (IRZMW002A_WG032206_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| Sulfide | EPA 376.2 | 6C23091 | 0.010 | 0.10 | ND | 1 | 03/23/06 | 03/23/06 | |
| **Sample ID: IPC2325-09 (CMW0002_WG032206_0001 - Water)** | | | | | | | | | |
| **Reporting Units: mg/l** | | | | | | | | | |
| **Carbon Dioxide** | SM4500-CO2 | 6C23143 | 2.0 | 2.0 | **12** | 1 | 03/23/06 | 03/23/06 | |
| **Ammonia-NH3** | EPA 350.3 | 6C29112 | 0.14 | 0.60 | **0.14** | 1 | 03/29/06 | 03/29/06 | J |
| **Alkalinity as CaCO3** | EPA 310.1 | 6C27104 | 2.0 | 2.0 | **190** | 1 | 03/27/06 | 03/27/06 | |
| **Chloride** | EPA 300.0 | 6C22049 | 1.5 | 5.0 | **120** | 10 | 03/22/06 | 03/22/06 | |
| Nitrate-NO3 | EPA 300.0 | 6C22049 | 0.35 | 0.50 | ND | 1 | 03/22/06 | 03/22/06 | |
| Nitrite-NO2 | EPA 300.0 | 6C22049 | 0.30 | 0.50 | ND | 1 | 03/22/06 | 03/22/06 | |
| Orthophosphate - PO4 | EPA 300.0 | 6C22049 | 0.40 | 0.50 | ND | 1 | 03/22/06 | 03/22/06 | |
| **Sulfate** | EPA 300.0 | 6C22049 | 4.5 | 5.0 | **91** | 10 | 03/22/06 | 03/22/06 | |
| **Sulfide** | EPA 376.2 | 6C23091 | 0.010 | 0.10 | **0.014** | 1 | 03/23/06 | 03/23/06 | J |
| **Total Organic Carbon** | EPA 415.1 | 6C31057 | 0.25 | 1.0 | **15** | 1 | 03/30/06 | 03/30/06 | |

**Del Mar Analytical - Irvine**
Michele Chamberlin
Project Manager

K 05/30/06

*The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.*

LDC #: 14879C6

SDG #: IPC2325

Laboratory: Del Mar Analytical

# VALIDATION COMPLETENESS WORKSHEET

Tier 3

Date: 5/15/06

Page: 1 of 1

Reviewer: MY

2nd Reviewer: [illegible]

**METHOD: (Analyte)** Alkalinity (EPA Method 310.1), Ammonia-N (EPA Method 350.3), Chloride, Nitrate-N, Nitrite-N, Orthophosphate-P, Sulfate (EPA Method 300.0), Sulfide (EPA Method 376.2), TOC (EPA Method 415.1), Carbon Dioxide (SM4500) $CO_2$

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: 3/22/06 |
| IIa. | Initial calibration | A | |
| IIb. | Calibration verification | A | |
| III. | Blanks | A | |
| IV | Matrix Spike/Matrix Spike Duplicates | A | 3 ms/msd/up. non client |
| V | Duplicates | A | |
| VI. | Laboratory control samples | A | lcs |
| VII. | Sample result verification | A | |
| VIII. | Overall assessment of data | A | |
| IX. | Field duplicates | N | |
| X | 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:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | CMW0002_WG032206_0001 | 11 | | 21 | | 31 | |
| 2 | MB ~~[illegible]~~ MY | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes:

LDC #: 14879c6
SDG #: TPC2325

# VALIDATION FINDINGS CHECKLIST

Page: 1 of 1
Reviewer: MY
2nd Reviewer: ✓

**Method:** Inorganics (EPA Method See cover

| Validation Area | Yes | No | NA | Findings/Comments |
|---|---|---|---|---|
| I. Technical holding times | | | | |
| All technical holding times were met. | ✓ | | | |
| Cooler temperature criteria was met. | ✓ | | | |
| II. Calibration | | | | |
| Were all instruments calibrated daily, each set-up time? | ✓ | | | |
| Were the proper number of standards used? | ✓ | | | |
| Were all initial calibration correlation coefficients ≥ 0.995? | ✓ | | | |
| Were all initial and continuing calibration verification %Rs within the 90-110% QC limits? | ✓ | | | |
| Were titrant checks performed as required? (Level IV only) | ✓ | | | |
| Were balance checks performed as required? (Level IV only) | | | ✓ | |
| III. Blanks | | | | |
| Was a method blank associated with every sample in this SDG? | ✓ | | | |
| Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet. | | ✓ | | |
| IV. Matrix spike/Matrix spike duplicates and Duplicates | | | | |
| Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water. | ✓ | | | non client |
| Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken. | ✓ | | | |
| Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL. | ✓ | | | |
| V. Laboratory control samples | | | | |
| Was an LCS anaylzed for this SDG? | ✓ | | | |
| Was an LCS analyzed per extraction batch? | ✓ | | | |
| Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits? | ✓ | | | |
| VI. Regional Quality Assurance and Quality Control | | | | |
| Were performance evaluation (PE) samples performed? | | | ✓ | |
| Were the performance evaluation (PE) samples within the acceptance limits? | | | ✓ | |

LDC #: 14879c6
SDG #: [illegible]

# VALIDATION FINDINGS CHECKLIST

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

| Validation Area | Yes | No | NA | Findings/Comments |
|---|---|---|---|---|
| VII. Sample Result Verification | | | | |
| Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | ✓ | | | |
| Were detection limits < RL? | ✓ | | | |
| VIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | ✓ | | | |
| IX. Field duplicates | | | | |
| Field duplicate pairs were identified in this SDG. | | ✓ | | |
| Target analytes were detected in the field duplicates. | | | ✓ | |
| X. Field blanks | | | | |
| Field blanks were identified in this SDG. | | ✓ | | |
| Target analytes were detected in the field blanks. | | | ✓ | |

LDC #: 14879c6
SDG #: 7P02325

# VALIDATION FINDINGS WORKSHEET
## Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: MY
2nd reviewer: K

All circled methods are applicable to each sample.

| Sample ID | Parameter | | | |
|---|---|---|---|---|
| 1 | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | $CO_3$ | S | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
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| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
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| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |
| | pH TDS Cl F $NO_3$ $NO_2$ $SO_4$ $PO_4$ ALK $CN^-$ $NH_3$ TKN TOC $CR^{6+}$ | | | |

Comments:

METHODS.6

LDC #: 14879C6
SDG #: TPC2318

# Validatin Findings Worksheet
## Initial and Continuing Calibration Calculation Verification

Page: 1 of 1
Reviewer: MM
2nd Reviewer: M

**Method:** Inorganics, Method See com

The correlation coefficient (r) for the calibration of SO4 was recalculated.Calibration date: 2/10/06

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

%R = Found X 100 / True

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

| Type of analysis | Analyte | Standard | Conc. (mg/L) | Area | Recalculated r or $r^2$ | Reported r or $r^2$ | Acceptable (Y/N) |
|---|---|---|---|---|---|---|---|
| Initial calibration | SO4 | s1 | 0 | 0 | 0.999994 | 0.999994 | Y |
| Calibration verification | | s2 | 0.4 | 37086.13 | | | |
| | | s3 | 1 | 78840.36 | | | |
| | | s4 | 10 | 882302.78 | | | |
| | | s5 | 20 | 1859685.6 | | | |
| | | s6 | 40 | 4073330.88 | | | |
| | | s7 | 60 | 6589508.82 | | | |
| CCV Calibration verification | Cl | 10 | 9.8077 | | 98 | MR | Y |
| CCV Calibration verification | NH3 N | 4 | 4.08 | | 102 | ↓ | ↓ |
| CCV Calibration verification | TOC | 10 | 9.023 | | 90 | ↓ | ↓ |

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

BOE-C6-0053542

LDC #: 14879C6
SDG #: IPC2325

# VALIDATION FINDINGS WORKSHEET
## Level IV Recalculation Worksheet

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

**METHOD:** Inorganics, Method See comm

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

| Sample ID | Type of Analysis | Element | Found / S (units) | True / D (units) | Recalculated %R / RPD | Reported %R / RPD | Acceptable (Y/N) |
|---|---|---|---|---|---|---|---|
| LCS | Laboratory control sample | $WO_2$ | 4.89 | 5.0 | 98 | 98 | Y |
| IPC 2307-1 | Matrix spike sample | S | (SSR-SR) 0.467 | 0.580 | 81 | 80 | ↓ |
| IPC 2325-4 * | Duplicate sample | $CO_2$ | 180 | 180 | 0 | 0 | ↓ |

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

TOTCLC.6

BOE-C6-0053543

LDC #: 14879C6
SDG #: IPC2325

# VALIDATION FINDINGS WORKSHEET
## Sample Calculation Verification

Page: 1 of 1
Reviewer: MM
2nd reviewer: M

**METHOD:** Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
Y N N/A Are all detection limits below the CRQL?

Compound (analyte) results for 1 reported with a positive detect were recalculated and verified using the following equation:

Concentration =

Recalculation:

$$\text{Alkalinity} = \frac{N_{titrant} \times V_{titrant} \times 50000}{\text{Sample Volume}}$$

$$\text{Alkalinity} = \frac{4.70 \times 0.02 \times 50000}{25.0} = 188 \text{ mg/L}$$

| # | Sample ID | Analyte | Reported Concentration (mg/L) | Calculated Concentration (mg/L) | Acceptable (Y/N) |
|---|---|---|---|---|---|
| 1 | 1 | $CO_2$ | 12 | 12 | Y |
| | | $NH_3$ | 0.14 | 0.14 | |
| | | Alkalinity | 190 | 190 | |
| | | Cl | 120 | 120 | |
| | | $SO_4$ | 91 | 91 | |
| | | S | 0.014 | 0.014 | |
| | | TOC | 15 | 15 | |

Note:

RECALC.6

**Boeing Realty Corp., Former C-6 Facility, Torrance CA**
**Data Validation Reports**
**LDC# 14879**

Fixed Gases

LDC

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 20, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Fixed Gases

**Validation Level:** Tier 1

**Laboratory:** Del Mar Analytical\Air Technology Laboratory, Inc.

**Sample Delivery Group (SDG):** IPC2080/A6032106

**Sample Identification**

MWC011_WG032006_0001

## Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Fixed Gases.

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 a 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 III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was 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.

The cooler temperatures for sample MWC011_WG032006_0001 was reported at 10°C upon receipt by the laboratory.

## II. Calibration

### a. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

### b. Calibration Verification

Calibration verification data were not reviewed for Tier 1.

## III. Blanks

Method blanks were performed at the required frequency. No fixed gases contaminants were found in the method blanks.

## IV. Accuracy and Precision Data

### a. Surrogate Recovery

Surrogates were not required by the method.

### b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

### c. Laboratory Control Samples

Laboratory control samples were analyzed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## V. Target Compound Identification

Raw data were not reviewed for this SDG.

## VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

## VII. System Performance

Raw data were not reviewed for this SDG.

## VIII. Overall Assessment of Data

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

## IX. Field Duplicates

No field duplicates were identified in this SDG.

## X. Field Blanks

No field blanks were identified in this SDG.

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Fixed Gases - Data Qualification Summary - SDG IPC2080/A6032106**

No Sample Data Qualified in this SDG

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Fixed Gases - Laboratory Blank Data Qualification Summary - SDG IPC2080/A6032106**

No Sample Data Qualified in this SDG

**Client:** Del Mar Analytical, Irvine
**Attn:** Michele Chamberlin

**Client's Project:** IPC2080
**Date Received:** 3/21/2006
**Matrix:** Water
**Units:** ug/L

**Dissolved Gases by EPA Procedure RSKSOP-175**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab No.:** | | A6032106-01 | | ~~A6032106-02~~ | | | | | | | |
| **Client Sample I.D.:** | | IPC2080-07 | | IPC2080-11 | | | | | | | |
| **Date Sampled:** | | 3/20/2006 | | 3/20/2006 | | | | | | | |
| **Date Analyzed:** | | 3/27/2006 | | 3/27/2006 | | | | | | | |
| **Analyst Initials:** | | DT | | DT | | | | | | | |
| **Data File:** | | 27mar011 | | 27mar012 | | | | | | | |
| **QC Batch:** | | 060327GC8A1 | | 060327GC8A1 | | | | | | | |
| **Dilution Factor:** | | 1.0 | | 1.0 | | | | | | | |
| **ANALYTE** | **PQL** | **RL** | **Results** | **RL** | **Results** | | | | | | |
| **Methane** | 1.0 | 1.0 | 88 | 1.0 | ND | | | | | | |
| **Ethane** | 2.0 | 2.0 | ND | 2.0 | ND | | | | | | |
| **Ethylene** | 3.0 | 3.0 | ND | 3.0 | ND | | | | | | |
| **Nitrogen** | 1500 | 1500 | 110,000 | ~~1500~~ | ~~97,000~~ | | | | | | |

**PQL = Practical Quantitation Limit**
**ND = Not Detected (Below RL)**
**RL = PQL X Dilution Factor**

**Reviewed/Approved By:** Mark J. Johnson
Operations Manager

**Date:** 3-31-06

The cover letter is an integral part of this analytical report.

K 2/5/06

AirTECHNOLOGY Laboratories, Inc.
18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

LDC #: 14879A51 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/06

SDG #: IPC2080/A6032106 Tier 1 Page: 1 of 1

Laboratory: Del Mar Analytical/Air Technology Laboratory, Inc. Reviewer: [illegible]

2nd Reviewer: [illegible]

**METHOD:** GC Fixed Gases (Method RSK-175)

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 | SW | Sampling dates: 3/20/06 |
| IIa. | Initial calibration | N | |
| IIb. | Calibration verification | N | |
| III. | Blanks | A | |
| IVa. | Surrogate recovery | N | not required |
| IVb. | Matrix spike/Matrix spike duplicates | N | client specified |
| IVc. | Laboratory control samples | A | LCS ID |
| V. | Target compound identification | N | |
| VI. | Compound Quantitation and CRQLs | N | |
| VII. | System Performance | N | |
| VIII. | Overall assessment of data | A | |
| IX. | Field duplicates | N | |
| X. | 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: water

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | MWC011_WG032006_0001 | 11 | Method Blk 3/27/06 | 21 | | 31 | |
| 2 | | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes:

LDC #: 14879 A51
SDG #: IPC2080 / A6032106

# VALIDATION FINDINGS WORKSHEET
## Technical Holding Times

Page: 1 of 1
Reviewer:
2nd Reviewer:

All circled dates have exceeded the technical holding times.
Y (N) N/A Were all cooler temperatures within validation criteria?

**METHOD: GC HPLC**

| Sample ID | Matrix | Preserved | Sampling Date | Extraction date | Analysis date | Total # of Days | Qualifier |
|---|---|---|---|---|---|---|---|
| 1 | water | cooler | temp = | 10°C | | | Text |
| | | | | | | | |
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**TECHNICAL HOLDING TIME CRITERIA**

VOLATILES:
- Water unpreserved: Aromatic within 7 days, non-aromatic within 14 days of sample collection.
- Water preserved: Both within 14 days of sample collection.
- Soils: Both within 14 days of sample collection.

EXTRACTABLES:
- Water: Extracted within 7 days, analyzed within 40 days.
- Soil: Extracted within 14 days, analyzed within 40 days.

HTNew.wpd

BOE-C6-0053553

**LDC Report#** 14879B51

# Laboratory Data Consultants, Inc.
# Data Validation Report

**Project/Site Name:** Boeing Realty Corp, Former C-6 Facility, Torrance CA

**Collection Date:** March 21, 2006

**LDC Report Date:** May 15, 2006

**Matrix:** Water

**Parameters:** Fixed Gases

**Validation Level:** Tier 2

**Laboratory:** Del Mar Analytical\Air Technology Laboratory, Inc.

**Sample Delivery Group (SDG):** IPC2190/A6032203

**Sample Identification**

IRZB0095_WG032106_0001

## Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Fixed Gases.

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 a 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 III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was 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 with the following exceptions:

| Sample | Compound | Finding | Criteria | Flag | A or P |
|---|---|---|---|---|---|
| IRZB0095_WG032106_0001 | All TCL compounds | Cooler temperature was reported at 11°C upon receipt by the laboratory. | Cooler temperature must be 4±2°C . | J (all detects)<br>UJ (all non-detects) | A |

## II. Calibration

### a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination ($r^2$) was greater than or equal to 0.990 .

### b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 25.0% QC limits.

## III. Blanks

Method blanks were performed at the required frequency. No fixed gases contaminants were found in the method blanks.

## IV. Accuracy and Precision Data

### a. Surrogate Recovery

Surrogates were not required by the method.

### b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

### c. Laboratory Control Samples

Laboratory control samples were analyzed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## V. Target Compound Identification

Raw data were not reviewed for this SDG.

## VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

## VII. System Performance

Raw data were not reviewed for this SDG.

## VIII. Overall Assessment of Data

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

## IX. Field Duplicates

No field duplicates were identified in this SDG.

## X. Field Blanks

No field blanks were identified in this SDG.

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Fixed Gases - Data Qualification Summary - SDG IPC2190/A6032203**

| SDG | Sample | Compound | Flag | A or P | Reason |
|---|---|---|---|---|---|
| IPC2190/ A6032203 | IRZB0095_WG032106_0001 | All TCL compounds | J (all detects)<br>UJ (all non-detects) | A | Cooler temperature |

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Fixed Gases - Laboratory Blank Data Qualification Summary - SDG IPC2190/A6032203**

No Sample Data Qualified in this SDG

**Client:** Del Mar Analytical, Irvine
**Attn:** Michele Chamberlin

**Client's Project:** IPC2190
**Date Received:** 3/22/2006
**Matrix:** Water
**Units:** ug/L

**Dissolved Gases by EPA Procedure RSKSOP-175**

| Lab No.: | | ~~A6032203-01~~ | | A6032203-02 | | ~~A6032203-03~~ | | ~~A6032203-04~~ | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client Sample I.D.: | | IPC2190-03 | | IPC2190-04 | | IPC2190-09 | | IPC2190-11 | | | |
| Date Sampled: | | 3/21/2006 | | 3/21/2006 | | 3/21/2006 | | 3/21/2006 | | | |
| Date Analyzed: | | 3/27/2006 | | 3/27/2006 | | 3/27/2006 | | 3/27/2006 | | | |
| Analyst Initials: | | DT | | DT | | DT | | DT | | | |
| Data File: | | 27mar013 | | 27mar014 | | 27mar015 | | 27mar016 | | | |
| QC Batch: | | 060327GC8A1 | | 060327GC8A1 | | 060327GC8A1 | | 060327GC8A1 | | | |
| Dilution Factor: | | 1.0 | | 1.0 | | 1.0 | | 1.0 | | | |
| ANALYTE | PQL | RL | Results | RL | Results | RL | Results | RL | Results | | |
| Methane | 1.0 | 1.0 | 1,800 | 1.0 | 12,000 J | 1.0 | 67 | 1.0 | 2,400 | | |
| Ethane | 2.0 | 2.0 | ND | 2.0 | ND UJ | 2.0 | ND | 2.0 | ND | | |
| Ethylene | 3.0 | 3.0 | ND | 3.0 | 4.1 J | 3.0 | ND | 3.0 | ND | | |
| Nitrogen | 1500 | ~~1500~~ | ~~97,000~~ | 1500 | 82,000 J | ~~1500~~ | ~~94,000~~ | ~~1500~~ | ~~110,000~~ | | |

PQL = Practical Quantitation Limit
ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: Mark J. Johnson
Operations Manager

Date: 3-31-06

The cover letter is an integral part of this analytical report.

L 05750c

AIrTECHNOLOGY Laboratories, Inc.
18501 E. Gale Avenue, Suite 130 ♦ City of Industry, CA 91748 ♦ Ph: (626) 964-4032 ♦ Fx: (626) 964-5832

LDC #: 14879B51 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/12/06

SDG #: IPC2190/A6032203 Tier 2 Page: 1 of 1

Laboratory: Del Mar Analytical/Air Technology Laboratory, Inc. Reviewer: [illegible]

2nd Reviewer: [illegible]

**METHOD:** GC Fixed Gases (Method RSK-175)

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 | SW | Sampling dates: 3/21/06 |
| IIa. | Initial calibration | A | ~~%RSD ≤ 25~~ $r^2 \geq 0.990$ |
| IIb. | Calibration verification | A | % D ≤ 25 |
| III. | Blanks | A | |
| IVa. | Surrogate recovery | N | not required |
| IVb. | Matrix spike/Matrix spike duplicates | N | client specified |
| IVc. | Laboratory control samples | A | LCS ID |
| V. | Target compound identification | N | |
| VI. | Compound Quantitation and CRQLs | N | |
| VII. | System Performance | N | |
| VIII. | Overall assessment of data | A | |
| IX. | Field duplicates | N | |
| X. | 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: Water

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | IRZB0095_WG032106_0001 | 11 | Method Blank 3/27/06 | 21 | | 31 | |
| 2 | | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes:

LDC #: 14879B51
SDG #: 1PG2190/AG03220 3

# VALIDATION FINDINGS WORKSHEET
## Technical Holding Times


Reviewer: [illegible]
2nd Reviewer: [illegible]

All circled dates have exceeded the technical holding times.
Y N N/A Were all cooler temperatures within validation criteria?

**METHOD:** ✓ GC ___ HPLC

| Sample ID | Matrix | Preserved | Sampling Date | Extraction date | Analysis date | Total # of Days | Qualifier |
|---|---|---|---|---|---|---|---|
| 1 | water | cooler | temp | = 11°C | | | J/UJ/A |
| | | | | | | | |
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**TECHNICAL HOLDING TIME CRITERIA**

VOLATILES: Water unpreserved: Aromatic within 7 days, non-aromatic within 14 days of sample collection.
Water preserved: Both within 14 days of sample collection.
Soils: Both within 14 days of sample collection.

EXTRACTABLES:
Water: Extracted within 7 days, analyzed within 40 days.
Soil: Extracted within 14 days, analyzed within 40 days.



BOE-C6-0053561

**LDC Report#** 14879C51

# Laboratory Data Consultants, Inc.
# Data Validation Report

| | |
|---|---|
| **Project/Site Name:** | Boeing Realty Corp, Former C-6 Facility, Torrance CA |
| **Collection Date:** | March 22, 2006 |
| **LDC Report Date:** | May 15, 2006 |
| **Matrix:** | Water |
| **Parameters:** | Fixed Gases |
| **Validation Level:** | Tier 3 |
| **Laboratory:** | Del Mar Analytical\Air Technology Laboratory, Inc. |
| **Sample Delivery Group (SDG):** | IPC2325/A6032303 |

**Sample Identification**

CMW0002_WG032206_0001

## Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Fixed Gases.

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 a 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 III.

Field duplicates are summarized in Section IX.

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.

The cooler temperature for sample CMW0002_WG032206_000 was reported at 10°C upon receipt by the laboratory.

## II. Calibration

### a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination ($r^2$) was greater than or equal to 0.990 .

### b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 25.0% QC limits.

## III. Blanks

Method blanks were performed at the required frequency. No fixed gases contaminants were found in the method blanks.

## IV. Accuracy and Precision Data

### a. Surrogate Recovery

Surrogates were not required by the method.

### b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were not required by the method.

### c. Laboratory Control Samples

Laboratory control samples were analyzed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## V. Target Compound Identification

All target compound identifications were within validation criteria.

## VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

## VII. System Performance

The system performance was acceptable.

## VIII. Overall Assessment of Data

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

## IX. Field Duplicates

No field duplicates were identified in this SDG.

## X. Field Blanks

No field blanks were identified in this SDG.

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Fixed Gases - Data Qualification Summary - SDG IPC2325/A6032303**

No Sample Data Qualified in this SDG

**Boeing Realty Corp, Former C-6 Facility, Torrance CA**
**Fixed Gases - Laboratory Blank Data Qualification Summary - SDG IPC2325/A6032303**

No Sample Data Qualified in this SDG

Client: Del Mar Analytical, Irvine
Attn: Michele Chamberlin



Client's Project: IPC2325
Date Received: 3/23/2006
Matrix: Water
Units: ug/L

**Dissolved Gases by EPA Procedure RSKSOP-175**

| Lab No.: | | ~~A6032303-01~~ | | A6032303-02 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Client Sample I.D.: | | IPC2325-04 | | IPC2325-09 | | | | | | | |
| Date Sampled: | | 3/22/2006 | | 3/22/2006 | | | | | | | |
| Date Analyzed: | | 3/27/2006 | | 3/27/2006 | | | | | | | |
| Analyst Initials: | | DT | | DT | | | | | | | |
| Data File: | | 27mar017 | | 27mar018 | | | | | | | |
| QC Batch: | | 060327GC8A1 | | 060327GC8A1 | | | | | | | |
| Dilution Factor: | | 1.0 | | 1.0 | | | | | | | |
| ANALYTE | PQL | RL | Results | RL | Results | | | | | | |
| Methane | 1.0 | 1.0 | 12,000 | 1.0 | 1.6 | | | | | | |
| Ethane | 2.0 | 2.0 | ND | 2.0 | ND | | | | | | |
| Ethylene | 3.0 | 3.0 | ND | 3.0 | ND | | | | | | |
| Nitrogen | 1500 | ~~1500~~ | ~~52,000~~ | 1500 | 110,000 | | | | | | |

PQL = Practical Quantitation Limit
ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: [signature]
Mark J. Johnson
Operations Manager

Date: 3-31-06

The cover letter is an integral part of this analytical report.

Lor 150s

LDC #: 14879C51 **VALIDATION COMPLETENESS WORKSHEET** Date: 5/15/06

SDG #: IPC2325/A6032303 Tier 3 Page: 1 of 1

Laboratory: Del Mar Analytical/Air Technology Laboratory, Inc. Reviewer: [illegible]

2nd Reviewer: [illegible]

**METHOD:** GC Fixed Gases (Method RSK-175)

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 | SW | Sampling dates: 3/22/06 |
| IIa. | Initial calibration | A | $r^2 \geq 0.990$ |
| IIb. | Calibration verification | A | cav ≤ 25% |
| III. | Blanks | A | |
| IVa. | Surrogate recovery | N | not required |
| IVb. | Matrix spike/Matrix spike duplicates | N | client specified |
| IVc. | Laboratory control samples | A | LCS ID |
| V. | Target compound identification | A | |
| VI. | Compound Quantitation and CRQLs | A | |
| VII. | System Performance | A | |
| VIII. | Overall assessment of data | A | |
| IX. | Field duplicates | N | |
| X. | 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:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | CMW0002_WG032206_0001 | 11 | Method Blank 3/27/06 | 21 | | 31 | |
| 2 | | 12 | | 22 | | 32 | |
| 3 | | 13 | | 23 | | 33 | |
| 4 | | 14 | | 24 | | 34 | |
| 5 | | 15 | | 25 | | 35 | |
| 6 | | 16 | | 26 | | 36 | |
| 7 | | 17 | | 27 | | 37 | |
| 8 | | 18 | | 28 | | 38 | |
| 9 | | 19 | | 29 | | 39 | |
| 10 | | 20 | | 30 | | 40 | |

Notes:

LDC #: 14879C51
SDG #: 1PC2325/A6032303

# VALIDATION FINDINGS CHECKLIST

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

**Method:** ✓ GC ____ HPLC

| Validation Area | Yes | No | NA | Findings/Comments |
|---|---|---|---|---|
| **I. Technical holding times** | | | | |
| All technical holding times were met. | ✓ | / | | |
| Cooler temperature criteria was met. | | ✓ | | |
| **II. Initial calibration** | | | | |
| Did the laboratory perform a 5 point calibration prior to sample analysis? | ✓ | | | |
| Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%? | | ✓ | | |
| Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used? | ✓ | | | |
| Did the initial calibration meet the curve fit acceptance criteria? | ✓ | | | |
| Were the RT windows properly established? | ✓ | | | |
| **IV. Continuing calibration** | | | | |
| What type of continuing calibration calculation was performed? ____%D or ____%R | ✓ | | | |
| Was a continuing calibration analyzed daily? | ✓ | | | |
| Were all percent differences (%D) ≤ ~~15%~~ 25.0 or percent recoveries 85-115%? | ✓ | | | |
| Were all the retention times within the acceptance windows? | ✓ | | | |
| **V. Blanks** | | | | |
| Was a method blank associated with every sample in this SDG? | ✓ | | | |
| Was a method blank analyzed 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 the QC limits? | | | ✓ | |
| If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R? | | | ✓ | |
| If any %R was less than 10 percent, was a reanalysis performed to confirm %R? | | | ✓ | |
| **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? | ✓ | | | |
| Was an LCS analyzed per extraction batch? | ✓ | | | |

LDC #: 14879C51
SDG #: IPC2325/A6032303

# VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: 15
2nd Reviewer: K

| Validation Area | Yes | No | NA | Findings/Comments |
|---|---|---|---|---|
| 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. Target compound identification | | | | |
| Were the retention times of reported detects within the RT windows? | ✓ | | | |
| XI. Compound quantitation/CRQLs | | | | |
| Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation? | ✓ | | | |
| XII. System performance | | | | |
| System performance was found to be acceptable. | ✓ | | | |
| XIII. Overall assessment of data | | | | |
| Overall assessment of data was found to be acceptable. | ✓ | | | |
| XIV. Field duplicates | | | | |
| Were field duplicate pairs identified in this SDG? | | ✓ | | |
| Were target compounds idetected in the field duplicates? | | | ✓ | |
| XV. Field blanks | | | | |
| Were field blanks identified in this SDG? | | ✓ | | |
| Were target compounds detected in the field blanks? | | | ✓ | |

LDC #: 14879051
SDG #: 1PC2325/A6032303

# VALIDATION FINDINGS WORKSHEET
## Technical Holding Times


Reviewer:
2nd Reviewer:

All circled dates have exceeded the technical holding times.
Y N N/A Were all cooler temperatures within validation criteria?

**METHOD: GC HPLC**

| Sample ID | Matrix | Preserved | Sampling Date | Extraction date | Analysis date | Total # of Days | Qualifier |
|---|---|---|---|---|---|---|---|
| 1 | water | cooler | temp = | 10°C | | | Text |
| | | | | | | | |
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**TECHNICAL HOLDING TIME CRITERIA**

VOLATILES: Water unpreserved: Aromatic within 7 days, non-aromatic within 14 days of sample collection.
Water preserved: Both within 14 days of sample collection.
Soils: Both within 14 days of sample collection.

EXTRACTABLES:
Water: Extracted within 7 days, analyzed within 40 days.
Soil: Extracted within 14 days, analyzed within 40 days.



BOE-C6-0053571

LDC# 14879C5 1
SDG# 1PC2325 /A6032303

**VALIDATION FINDINGS WORKSHEET**
**Initial Calibration Calculation Verification**

Page: 1 of 2
Rviewer: B
2nd Reviewer: A

METHOD: 8082

| Callibration Date | Column/ Detector | Compound | Standard | X | Y | |
|---|---|---|---|---|---|---|
| 04/20/05 | FID | methane | Point 1 | 10 | 13683 | |
| | | | Point 2 | 100 | 121591 | |
| | | | Point 3 | 1000 | 1260392 | |
| | | | Point 4 | 5000 | 6514911 | |
| | | | Point 5 | 10000 | 13405678 | |
| | | | Point 6 | | | |
| | | | Point 7 | | | |
| | | | Point 7 | | | |
| | | | Point 8 | | | |

| | Recalculated Result | Result Reported by the Laboratory | |
|---|---|---|---|
| Regression Output: | | | |
| Constant | 0 | 0.00E+00 | |
| Std Err of Y Est | 91688.222524795768 | | |
| R Squared | 0.99975 | 0.999811 | |
| No. of Observations | 5 | | |
| Degrees of Freedom | 4 | | |
| | | | |
| X Coefficient(s) | 1332.46480187 | | 1.3325E+03 |
| Std Err of Coef. | 8.16790871554 | | |

LDC# 14879C5 1
SDG# 1PC2325/A6032303

**VALIDATION FINDINGS WORKSHEET**
**Initial Calibration Calculation Verification**

Page: 2 of 2
Rviewer: B
2nd Reviewer: A

METHOD: 8082

| Callibration Date | Column/ Detector | Compound | Standard | X | Y | |
|---|---|---|---|---|---|---|
| 03/13/06 | TCD | nitrogen | Point 1 | 1.56 | 63916 | |
| | | | Point 2 | 7.81 | 290198 | |
| | | | Point 3 | 39.099998 | 1393537 | |
| | | | Point 4 | 100 | 3442888 | |
| | | | Point 5 | | | |
| | | | Point 6 | | | |
| | | | Point 7 | | | |
| | | | Point 7 | | | |
| | | | Point 8 | | | |

| | Recalculated Result | Result Reported by the Laboratory |
|---|---|---|
| Regression Output: | | |
| Constant | 0 | 0.00E+00 |
| Std Err of Y Est | 28547.659624440576 | |
| R Squared | 0.99966 | 0.999818 |
| No. of Observations | 4 | |
| Degrees of Freedom | 3 | |
| | | |
| X Coefficient(s) | 34604.3788816 | 3.4604E+04 |
| Std Err of Coef. | 265.147072585 | |

BOE-C6-0053573

LDC #: 14879C51
SDG #: 11PC2325/A6032303

# VALIDATION FINDINGS WORKSHEET
## Continuing Calibration Results Verification

Page: 6 of 7
Reviewer: [illegible]
2nd Reviewer: [illegible]

**METHOD:** GC ✓ HPLC ____

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

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

| # | Standard ID | Calibration Date | Compound | Average CF(Ical)/ CCV Conc. | Reported CF/Conc. CCV | Recalculated CF/Conc. CCV | Reported %D | Recalculated %D |
|---|---|---|---|---|---|---|---|---|
| 1 | methane ccv | 3/27/06 7:52AM | methane | 5000 | 4467.8 | 4467.8 | 10.6 | 10.6 |
| | | | | | | | | |
| | | | | | | | | |
| 2 | nitrogen ccv | 3/27/06 8:21 AM | nitrogen | 39.10 | 39.115 | 39.115 | 0 | 0 |
| | | | | | | | | |
| | | | | | | | | |
| 3 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 4 | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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.1S

BOE-C6-0053574

LDC #: 14879C51
SDG #: 1PC2325/AL032303

# VALIDATION FINDINGS WORKSHEET

## Laboratory Control Sample/Laboratory Control Sample Duplicates Results Verification

Page: 1 of 1
Reviewer: 
2nd Reviewer: 

_____METHOD: ✓ GC ___HPLC

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

%Recovery = 100 * (SSC - SC)/SA  Where SSC = Spiked concentration, SA = Spike added, SC = Sample concentration

RPD =(({SSCLCS - SSCLCSD} * 2) / (SSCLCS + SSCLCSD))*100  LCS = Laboratory Control Sample percent recovery  LCSD = Laboratory Control Sample duplicate percent recovery

**LCS/LCSD** samples: LCS ID 3/27/06

| Compound | Spike Added (ppm) | | Sample Conc. (ppm) | Spike Sample Concentration (ppm) | | LCS Percent Recovery | | LCSD Percent Recovery | | LCS/LCSD RPD | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | LCS | LCSD | --- | LCS | LCSD | Reported | Recalc. | Reported | Recalc. | Reported | Recalc. |
| Gasoline (8015) | | | | | | | | | | | |
| Diesel (8015) | | | | | | | | | | | |
| Benzene (8021B) | | | | | | | | | | | |
| Methane (RSK-175) | 6900.0 | 6900 | 0 | 6761.3 | 6516.7 | 97 | 98 | 94 | 94 | 3.7 | 3.7 |
| 2,4-D (8151) | | | | | | | | | | | |
| Dinoseb (8151) | | | | | | | | | | | |
| Naphthalene (8310) | | | | | | | | | | | |
| Anthracene (8310) | | | | | | | | | | | |
| HMX (8330) | | | | | | | | | | | |
| 2,4,6-Trinitrotoluene (8330) | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

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



BOE-C6-0053575

LDC #: 14879C51
SDG #: IPC 2325 / A6032303

# VALIDATION FINDINGS WORKSHEET
## Sample Calculation Verification

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

**METHOD:** ___ GC ___ HPLC

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 within 10% of the reported results?

Concentration= (A)(Fv)(Df) / (RF)(Vs or Ws)(%S/100)

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound In the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #1 Compound Name Methane

Concentration = (0.00037 + 0.00114667) 1000

= 1.52 ug/L

$\frac{1.6 - 1.52}{1.6} \times 100 = 5\%$

| # | Sample ID | Compound | Reported Concentrations ( ) | Recalculated Results Concentrations ( ) | Qualifications |
|---|---|---|---|---|---|
| | #1 Methane | y = 1.3325 x 10^3 (x) | | | |
| | | 22900 = 1.3325 x 10^3 (x) | | | |
| | | x = 17.2 ppmv | | | |
| | | | | | |
| | in water = | 17.2/10^6 x 55.51 x 16.04 x 1000/41300 | | = 0.00037 | |
| | | | | | |
| | in HS = | 17.2/10^6 x 1/24.06 x 16.04 x 1000 x 1000/1000 x 4/40 | | = 0.00114667 | |
| | | | | | |

Comments:

SAMPCALew.wpd

BOE-C6-0053576