NYC 9/11 Public Portal Document

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DETERMINATION OF PCDD/PCDF LEVELS

Prepared for:
ATC Associates
Attn: Jim Cohn
104 East 25th Street, 10th Floor
New York, NY 10010

ACCREDITED IN ACCORDANCE WITH nelac

This report contains 14 pages.

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Project: Chemical Analysis

Client Project Number: 19125-0340

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

nelac

NYC 9/11 Public Portal Document

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

REPORT OF: CHEMICAL ANALYSES

PROJECT: PCDD/PCDF ANALYSES

DATE: October 21, 2002

ISSUED TO: ATC Associates
Attn: Mr. Jim Cohn
104 East 25th Street, 10th Floor
New York, NY 10010

REPORT NO:02-1061946

INTRODUCTION

This report presents the results from the analyses performed on three samples that were submitted by a representative of ATC Associates. The samples were analyzed for the presence or absence of polychlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs) using a modified version of USEPA Method 8290.

SAMPLE IDENTIFICATION

Client ID	Sample Type	Date Received	Pace ID
ATC-0827-1M-DX1	Wipe	08/28/02	103815254
ATC-0827-1M-DX2	Wipe	08/28/02	103815262
ATC-0827-1M-DX3	Wipe	08/28/02	103815270

DISCUSSION

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 63-112%. All of the labeled internal standard recoveries obtained for this project were within the target range specified in Method 8290. Also, since the quantifications of the native 2,3,7,8-substituted isomers were based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results, found at the beginning of Appendix B, show the blank to be free of PCDDs and PCDFs at the reported detection limits. This indicates that the sample preparation procedures did not significantly impact the results of the field sample determinations.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

NYC-WTC_000316646

NYC 9/11 Public Portal Document

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

REPORT OF: CHEMICAL ANALYSES

PROJECT: PCDD/PCDF ANALYSES

DATE: October 21, 2002

REPORT NO: 02-1061946

DISCUSSION (Cont.)

It should be noted that all of the samples were extracted three days beyond the 30 day recommended hold time described in the method. Per method direction, the results should be considered minimum levels. It should be emphasized that the hold times are recognized as uncertain by the method and are considered recommendations. (Per Section 6.4 of Method 8290, hold times of up to 1 year may apply.) This is similar to Method 1613, a comparable dioxin method, which recognizes a one year holding time. Based on laboratory experience, it is extremely unlikely that the results would vary due to the additional time taken to complete the extraction of the sample material.

Laboratory spike samples were also prepared with the sample batch by extracting clean wipes that had been fortified with native standard materials. The results, found at the end of Appendix B, show that the spiked native compounds were generally recovered at 84-126% with relative percent differences of 0.0-21.1%. It should be noted that the OCDD in the laboratory spike sample was recovered above the target range for this method and is flagged "P" on the data summary sheet. This resulted in an elevated RPD value for this isomer.

REMARKS

The sample extracts will be retained for a period of 30 days from the date of this report and then discarded unless other arrangements are made. The raw mass spectral data will be archived on magnetic tape for a period of not less than one year. Questions regarding the data contained in this report may be directed to the authors at the numbers provided below.

Pace Analytical Services, Inc.

Scott C. Unze
Project Manager, Dioxins
(612) 607-6383

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

NYC 9/11 Public Portal Document

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

TABLE 1. 2,3,7,8-TCDD Equivalency Factors (TEFs) for the Polychlorinated Dibenzo-p-dioxins and Dibenzofurans

Number	Compound(s)	TEF
1	2,3,7,8-TCDD	1.00
2	1,2,3,7,8-PeCDD	0.50
3	1,2,3,6,7,8-HxCDD	0.1
4	1,2,3,7,8,9-HxCDD	0.1
5	1,2,3,4,7,8-HxCDD	0.1
6	1,2,3,4,6,7,8-HpCDD	0.01
7	OCDD	0.001
8	* Total - TCDD	0.0
9	* Total - PeCDD	0.0
10	* Total - HxCDD	0.0
11	* Total - HpCDD	0.0
12	2,3,7,8-TCDF	0.10
13	1,2,3,7,8-PeCDF	0.05
14	2,3,4,7,8-PeCDF	0.5
15	1,2,3,6,7,8-HxCDF	0.1
16	1,2,3,7,8,9-HxCDF	0.1
17	1,2,3,4,7,8-HxCDF	0.1
18	2,3,4,6,7,8-HxCDF	0.1
19	1,2,3,4,6,7,8-HpCDF	0.01
20	1,2,3,4,7,8,9-HpCDF	0.01
21	OCDF	0.001
22	* Total - TCDF	0.0
23	* Total - PeCDF	0.0
24	* Total - HxCDF	0.0
25	* Total - HpCDF	0.0

*Excluding the 2,3,7,8-substituted congeners.

Reference: 1989 ITEFs

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

NYC-WTC_000316648