

**Dakota Creek Industries  
Shipyard Facility**

**Sediment Sampling Data Report**

**Appendix C  
Laboratory Analytical Report  
for Sediment**

FINAL



**Analytical Resources, Incorporated**

Analytical Chemists and Consultants

December 18, 2006

Jessi Massingale  
Floyd Snider  
Two Union Square  
601 Union Street, Suite 600  
Seattle, WA 98101-2341

**RE: Project: DCI Marina**  
**ARI Job No: KG06**

Dear Jessi:

Please find enclosed the original chain of custody documentation (COC) and the final results for the samples from the project referenced above.

Thirteen sediment samples were received November 18, 2006 under ARI Job KG06. The cooler temperature measure by IR thermometer following ARI SOP was 4.0° C. Samples were received in good condition with no discrepancies in paperwork. On November 20<sup>th</sup>, emailed instructions were received to put four samples on hold until the Dioxin results were completed for all samples.

Samples were analyzed for Total Solids, Total Organic Carbon and Grainsize as requested. All laboratory QC met requirements. The Dioxin sample aliquots were submitted to Pace Analytical. The Pace report is included here in it's entirety.

An electronic copy of this report as well as all supporting raw data will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Susan D. Dunnihoo  
Client Services Manager  
206-695-6207  
sue@arilabs.com

Enclosures

cc: Efile KG06

SD/sdrd

# Cooler Receipt Form



ARI Client: Floyd Snider Project Name: DCI  
COC NO.:            Delivered By: J. Massimale  
Tracking NO.:            Date: 11/18/06  
ARI Job No.: KG06 Lims NO.: 06-23498 to 06-23510

### Preliminary Examination Phase:

1. Were intact, properly signed and dated custody seals attached  
To the outside of the cooler? N/A - Hand Delivered YES  NO
2. Were custody papers included with the cooler?  YES  NO
3. Were custody papers properly filled out (ink, signed etc.)?  YES  NO
4. Complete custody forms and attach all shipping documents  OK  NA

Cooler Accepted BY: John Law Date: 11/18/06 Time: 9:40

### Log-IN Phase:

5. Was a temperature blank include in the cooler? YES  NO
6. Record Cooler Temperature 3.0, 4.0 °C
7. What kind of packing material was used? Bubble wrap/bags
8. Was sufficient ice used (if appropriate)?  YES  NO
9. Were all bottles sealed in separate plastic bags?  YES  NO
10. Did all bottles arrive in good condition (unbroken)?  YES  NO
11. Were all bottle labels complete and legible?  YES  NO
12. Did all bottle labels and tags agree with custody papers?  YES  NO
13. Were all bottles used correct for the requested analyses?  YES  NO
14. Do any of the analyses (bottles) require preservative?  
(If so, Preservation checklist must be attached) YES  NO
15. Were all VOA vials free of air bubbles? ~~YES~~  NO
16. Was sufficient amount of sample sent in each bottle?  YES  NO
17. Notify Project Manager of any discrepancies or concerns.  OK  NA

Cooler Opened By: Nick Tragon Date: 11/20/06 Time: 12:30

Explain any discrepancies or negative responses:

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## Sue Dunnihoo

---

**From:** Jessi Massingale [jessi.massingale@floydsnider.com]  
**Sent:** Monday, November 20, 2006 8:13 AM  
**To:** Sue Dunnihoo  
**Subject:** DCI Sed Samples To Archive

Hi Sue,

I left you a voicemail this morning about four sediment samples that we would like to have archived at ARI until we receive the results of the dioxin testing.

Here are the four samples:

DCI06-7b  
DCI06-5b  
DCI06-4b  
DCI06-9a

Thank you

J

Jessi Massingale  
**FLOYD|SNIDER**

Two Union Square  
601 Union Street  
Suite 600  
Seattle, WA 98101-2341  
Tel: (206) 292-2078 Ext. 2157  
Fax: (206) 652-7867

<mailto:jessi.massingale@floydsnider.com>



# Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: \_\_\_\_\_ Turn-around Requested: \_\_\_\_\_

ARI Client Company: FLYND SKINNER Phone: (206) 292-2078

Client Contact: JESSI MASSINGALE

Client Project Name: DCI

Page: 1 of 2

Date: 11/15/06 Ice Present? Y

No. of Coolers: 1 Cooler Temp: 4°F



Analytical Resources, Incorporated  
 Analytical Chemists and Consultants  
 4611 South 134th Place, Suite 100  
 Tukwila, WA 98168  
 206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested			Notes/Comments
					TOC/TS	GS	DILUT 8290	
DC106-1a	11/17/06	1351	Sediment	3	✓	✓	✓	
DC106-8a	11/17/06	1338	Sediment	3	✓	✓	✓	
DC106-9a	11/17/06	1041	Sediment	3	✓	✓	✓	APPROX
DC106-6a	11/17/06	1538	Sediment	3	✓	✓	✓	
DC106-3a	11/17/06	1610	Sediment	3	✓	✓	✓	
DC06-7a	11/17/06	1202	Sediment	3	✓	✓	✓	
DC06-7b	11/17/06	1150	Sediment	3	✓	✓	✓	APPROX
DC106-5a	11/17/06	1126	Sediment	3	✓	✓	✓	
DC06-5b	11/17/06	1116	Sediment	3	✓	✓	✓	APPROX
DC106-2a	11/17/06	1301	Sediment	3	✓	✓	✓	

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Relinquished by: Jessi Massingale (Signature)  
 Printed Name: JESSI MASSINGALE  
 Company: FIS  
 Date & Time: 11/15/06 9:40

Received by: Susan Dupich (Signature)  
 Printed Name: SUSAN DUPICH  
 Company: ANI  
 Date & Time: 11/17/06 9:40

Relinquished by: \_\_\_\_\_ (Signature)  
 Printed Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Date & Time: \_\_\_\_\_

Received by: \_\_\_\_\_ (Signature)  
 Printed Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Date & Time: \_\_\_\_\_

# Chain of Custody Record & Laboratory Analysis Request

**ARI Assigned Number:** \_\_\_\_\_ **Turn-around Requested:** \_\_\_\_\_  
**Page:** 2 of 2  
**ARI Client Company:** FLOYD SNIJDER (206) 292-2078 **Phone:** \_\_\_\_\_  
**Client Contact:** JESSI MASSINGALE **ARI Project Name:** DCL  
**Date:** 11/18/06 **Ice Present?** Y  
**No. of Coolers:** 1 **Cooler Temps:** 32

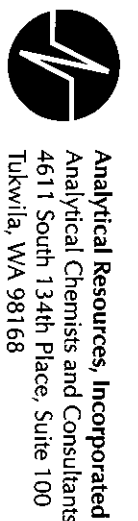
**Client Project #:** ~~NA1-00000~~ **Samplers:** JESSI MASSINGALE  
**Analysis Requested:** TOC/TSS  
SS  
Dioxin  
3

Sample ID	Date	Time	Matrix	No. Containers					Notes/Comments
DC106-2-D	11/17/06	1311	sediment	3					
DC106-4a	11/17/06	1439	Sediment	3					
DC106-4b	11/17/06	1430	Sediment	3					ADDITIVE

**Comments/Special Instructions:** Relinquished by: Jessi Massingale (Signature) Received by: Floyd Snijder (Signature)  
 Printed Name: JESSI MASSI Company: FIS Date & Time: 11/18/06 9:40  
 Printed Name: Sue Dunning Company: ATA Date & Time: 11/18/06 9:40

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



**Analytical Resources, Incorporated**  
 Analytical Chemists and Consultants  
 4611 South 134th Place, Suite 100  
 Tukwila, WA 98168  
 206-695-6200 206-695-6201 (fax)

SAMPLE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized: *MS*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-1a  
ARI ID: 06-23498 KG06A

Analyte	Date	Method	Units	RL	Sample
Total Solids	11/20/06 112006#2	EPA 160.3	Percent	0.01	69.50
Total Organic Carbon	11/29/06 112906#1	Plumb,1981	Percent	0.020	1.32

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-8a  
ARI ID: 06-23499 KG06B

Analyte	Date	Method	Units	RL	Sample
Total Solids	11/20/06 112006#2	EPA 160.3	Percent	0.01	71.10
Total Organic Carbon	11/29/06 112906#1	Plumb, 1981	Percent	0.020	1.27

RL Analytical reporting limit  
U Undetected at reported detection limit



SAMPLE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized. *ms*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-6a  
ARI ID: 06-23501 KG06D

Analyte	Date	Method	Units	RL	Sample
Total Solids	11/20/06 112006#2	EPA 160.3	Percent	0.01	81.90
Total Organic Carbon	11/29/06 112906#1	Plumb, 1981	Percent	0.020	0.560

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-3a  
ARI ID: 06-23502 KG06E

Analyte	Date	Method	Units	RL	Sample
Total Solids	11/20/06 112006#2	EPA 160.3	Percent	0.01	75.50
Total Organic Carbon	11/29/06 112906#1	Plumb, 1981	Percent	0.020	0.448

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized: *JS*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-7a  
ARI ID: 06-23503 KG06F

Analyte	Date	Method	Units	RL	Sample
Total Solids	11/20/06 112006#2	EPA 160.3	Percent	0.01	55.10
Total Organic Carbon	11/29/06 112906#1	Plumb, 1981	Percent	0.020	1.48

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized *MS*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-5a  
ARI ID: 06-23505 KG06H

Analyte	Date	Method	Units	RL	Sample
Total Solids	11/20/06 112006#2	EPA 160.3	Percent	0.01	34.80
Total Organic Carbon	11/29/06 112906#1	Plumb, 1981	Percent	0.020	4.96

RL Analytical reporting limit  
U Undetected at reported detection limit



SAMPLE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-2a  
ARI ID: 06-23507 KG06J

Analyte	Date	Method	Units	RL	Sample
Total Solids	11/20/06 112006#2	EPA 160.3	Percent	0.01	78.30
Total Organic Carbon	11/29/06 112906#1	Plumb, 1981	Percent	0.020	0.641

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized *JS*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-2-D  
ARI ID: 06-23508 KG06K

Analyte	Date	Method	Units	RL	Sample
Total Solids	11/20/06 112006#2	EPA 160.3	Percent	0.01	78.20
Total Organic Carbon	11/29/06 112906#1	Plumb,1981	Percent	0.020	1.15

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized: *Be*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-4a  
ARI ID: 06-23509 KG06L

Analyte	Date	Method	Units	RL	Sample
Total Solids	11/20/06 112006#2	EPA 160.3	Percent	0.01	67.00
Total Organic Carbon	11/29/06 112906#1	Plumb, 1981	Percent	0.020	0.883

RL Analytical reporting limit  
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	11/20/06	Percent	< 0.01 U
	11/20/06		< 0.01 U
Total Organic Carbon	11/29/06	Percent	< 0.020 U



LAB CONTROL RESULTS-CONVENTIONALS  
KG06-Floyd Snider




Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon	11/29/06	Percent	0.500	0.500	100.0%

STANDARD REFERENCE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized:   
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: NA  
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST #8704	11/29/06	Percent	3.24	3.35	96.7%

REPLICATE RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized: *AS*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Analyte	Date	Units	Sample	Replicate (s)	RPD/RSD
ARI ID: KG06H Client ID: DC106-5a					
Total Solids	11/20/06	Percent	34.80	34.10 33.60	1.8%
Total Organic Carbon	11/29/06	Percent	4.96	4.58 4.90	4.2%

MS/MSD RESULTS-CONVENTIONALS  
KG06-Floyd Snider



Matrix: Sediment  
Data Release Authorized *[Signature]*  
Reported: 12/01/06

Project: DCL  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: KG06H Client ID: DC106-5a						
Total Organic Carbon	11/29/06	Percent	4.96	9.44	4.78	93.7%



## DETERMINATION OF PCDD/PCDF LEVELS

Prepared for:  
Analytical Resources, Inc.  
Attn: Sue Dunning  
4611 South 134<sup>th</sup> Place, Suite 100  
Tukwila, WA 98168



This report contains 32 pages.

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

**Client Project Number: KG06**

**Client Purchase Order Number: NA**

## REPORT OF LABORATORY ANALYSIS

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



**PROJECT:** PCDD/PCDF ANALYSES

**DATE:** December 7, 2006

**ISSUED TO:** Analytical Resources, Inc.  
Attn: Sue Dunnihoo  
4611 South 134<sup>th</sup> Place  
Tukwila, WA 98168

**REPORT NO:** 06-1042387

### INTRODUCTION

This report presents the results from the analyses performed on thirteen samples submitted by a representative of Analytical Resources, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290.

### SAMPLE IDENTIFICATION

<u>Client ID</u>	<u>Sample Type</u>	<u>Date Received</u>	<u>Pace ID</u>
06-23498-KG06A DC106-1a	Sediment	11/21/06	1042387001
06-23499-KG06B DC106-8a	Sediment	11/21/06	1042387002
06-23500-KG06C DC106-9a	Sediment	11/21/06	1042387003
06-23501-KG06D DC106-6a	Sediment	11/21/06	1042387004
06-23502-KG06E DC106-3a	Sediment	11/21/06	1042387005
06-23503-KG06F DC106-7a	Sediment	11/21/06	1042387006
06-23504-KG06G DC106-7b	Sediment	11/21/06	1042387007
06-23505-KG06H DC106-5a	Sediment	11/21/06	1042387008
06-23506-KG06I DC106-5b	Sediment	11/21/06	1042387009
06-23507-KG06J DC106-2a	Sediment	11/21/06	1042387010
06-23508-KG06K DC106-2-D	Sediment	11/21/06	1042387011
06-23509-KG06L DC106-4a	Sediment	11/21/06	1042387012
06-23510-KG06M DC106-4b	Sediment	11/21/06	1042387013

### RESULTS

The results are included in the following:

- Appendix A – Chain of Custody Documentation
- Appendix B – PCDD/PCDF Results

## **REPORT OF LABORATORY ANALYSIS**

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**PROJECT: PCDD/PCDF ANALYSES****DATE: December 7, 2006****PAGE: 2****REPORT NO: 06-1042387****DISCUSSION**

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 44-130%. All of the labeled standard recoveries obtained for the field samples were within the 40-135% target range for this method. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "E" where polychlorinated diphenyl ethers were present, or "I" where incorrect isotope ratios were obtained. The value reported for OCDD in sample DC106-4A was obtained from analysis of a dilution of the sample extract; the affected value was flagged "N2" on the results table.

A laboratory method blank was prepared and analyzed with each sample batch as part of our routine quality control procedures. The results, found at the beginning of Appendix B, show the blanks to be free of PCDDs and PCDFs at the reporting limits, with the exception of a trace level of OCDD in Blank-11543. This was below the calibration range of the method. The OCDD levels reported for the associated field samples were higher than the OCDD in the blank by one or more orders of magnitude. These results indicate that the sample processing procedures did not significantly impact the results of the field sample analyses.

Laboratory and matrix spike samples were also prepared with the sample batches using clean sand or sample matrix that had been fortified with native standard materials. The results show that the spiked native compounds were generally recovered at 83-138%, with relative percent differences (RPDs) generally from 0.1-17.7%. Somewhat variable results were obtained for the native OCDD in the matrix spike samples, due to the levels of this congener in the sample materials; this variability resulted in elevated RPD values (31.6-41.7%) for this congener in the matrix spike samples. Also, one labeled standard in DC106-3A-MSD was recovered below the target range; the affected value was flagged "P" on the results table.

**REPORT OF LABORATORY ANALYSIS**

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**PROJECT:** PCDD/PCDF ANALYSES

**DATE:** December 7, 2006

**PAGE:** 3

**REPORT NO:** 06-1042387

**REMARKS**

The sample extracts will be retained for a period of 15 days from the date of this report and then discarded unless other arrangements are made. The raw mass spectral data will be archived for a period of not less than one year. Questions regarding the data contained in this report may be directed to the author at the number provided below.

**Pace Analytical Services, Inc.**

*Nathan Habte*

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

**REPORT OF LABORATORY ANALYSIS**

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**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

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## Appendix A

### **REPORT OF LABORATORY ANALYSIS**

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Laboratory: Pace Analytical, Inc.  
 Lab Contact: Scott Unze  
 Lab Address: 1700 Elm St.  
 Minneapolis, MN 55414  
 Phone: 612-607-1700  
 Fax:

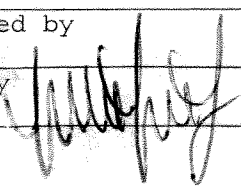
ARI Client: Floyd Snider  
 Project ID: DC1  
 ARI PM: Sue Dunnihoo  
 Phone: 206-695-6207  
 Fax: 206-695-6201

Analytical Protocol: PSSDA  
 Special Instructions:

Requested Turn Around: **12/04/06**  
 Fax Results (Y/N): **Yes**

**Limits of Liability.** Subcontractor is expected to perform all requested services in accordance with appropriate methodology following Standard Operating Procedures that meet standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the negotiated amount for said services. The agreement by the Subcontractor to perform services requested by ARI releases ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Subcontractor.

ARI ID	Client ID/ Add'l ID	Sampled	Matrix	Bottles	Analyses	
06-23498-KG06A	DC106-1a	11/17/06	Sediment		Dioxins/Furans (Sub)	
Special Instructions: 8290						001
06-23499-KG06B	DC106-8a	11/17/06	Sediment		Dioxins/Furans (Sub)	
Special Instructions: 8290						002
06-23500-KG06C	DC106-9a	11/17/06	Sediment		Dioxins/Furans (Sub)	
Special Instructions: 8290						003
06-23501-KG06D	DC106-6a	11/17/06	Sediment		Dioxins/Furans (Sub)	
Special Instructions: 8290						004
06-23502-KG06E	DC106-3a	11/17/06	Sediment		Dioxins/Furans (Sub)	
Special Instructions: 8290						005
06-23503-KG06F	DC106-7a	11/17/06	Sediment		Dioxins/Furans (Sub)	
Special Instructions: 8290						006
06-23504-KG06G	DC106-7b	11/17/06	Sediment		Dioxins/Furans (Sub)	
Special Instructions: 8290						007
06-23505-KG06H	DC106-5a	11/17/06	Sediment		Dioxins/Furans (Sub)	
Special Instructions: 8290						008

Carrier		Airbill		Date	
Relinquished by	Company	Date	Time		
Received by 	Company <b>Pace-MN</b>	Date <b>11/21/06</b>	Time <b>8:50</b>		

**T=1.5°C**

Laboratory: Pace Analytical, Inc.  
 Lab Contact: Scott Unze

ARI Client: Floyd Snider  
 Project ID: DCL-MARINA

ARI Sample ID	Client Sample ID/ Add'l Sample ID	Sampled	Matrix	Bottles	Analyses
06-23506-KG06I	DC106-5b	11/17/06	Sediment		Dioxins/Furans (Sub)
Special Instructions: 8290					
06-23507-KG06J	DC106-2a	11/17/06	Sediment		Dioxins/Furans (Sub)
Special Instructions: 8290					
06-23508-KG06K	DC106-2-D	11/17/06	Sediment		Dioxins/Furans (Sub)
Special Instructions: 8290					
06-23509-KG06L	DC106-4a	11/17/06	Sediment		Dioxins/Furans (Sub)
Special Instructions: 8290					
06-23510-KG06M	DC106-4b	11/17/06	Sediment		Dioxins/Furans (Sub)
Special Instructions: 8290					

009  
 010  
 011  
 012  
 013

Carrier		Airbill		Date	
Relinquished by		Company		Date	
				Time	
Received by		Company		Date	
				Time	



## Appendix B

### **REPORT OF LABORATORY ANALYSIS**

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**Method 8290 Blank Analysis Results**

Client - Analytical Resources Inc.

Lab Sample ID	BLANK-11543	Matrix	Solid
Filename	U61130A_10	Dilution	NA
Total Amount Extracted	10.2 g	Extracted	11/21/2006
ICAL Date	09/19/2006	Analyzed	11/30/2006 18:50
CCal Filename(s)	U61130A_05 & U61130A_21	Injected By	SMT

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.200	2,3,7,8-TCDF-13C	2.00	102
Total TCDF	ND	----	0.200	2,3,7,8-TCDD-13C	2.00	51
				1,2,3,7,8-PeCDF-13C	2.00	92
2,3,7,8-TCDD	ND	----	0.200	2,3,4,7,8-PeCDF-13C	2.00	97
Total TCDD	ND	----	0.200	1,2,3,7,8-PeCDD-13C	2.00	98
				1,2,3,4,7,8-HxCDF-13C	2.00	97
1,2,3,7,8-PeCDF	ND	----	0.980	1,2,3,6,7,8-HxCDF-13C	2.00	99
2,3,4,7,8-PeCDF	ND	----	0.980	2,3,4,6,7,8-HxCDF-13C	2.00	100
Total PeCDF	ND	----	0.980	1,2,3,7,8,9-HxCDF-13C	2.00	95
				1,2,3,4,7,8-HxCDD-13C	2.00	82
1,2,3,7,8-PeCDD	ND	----	0.980	1,2,3,6,7,8-HxCDD-13C	2.00	90
Total PeCDD	ND	----	0.980	1,2,3,4,6,7,8-HpCDF-13C	2.00	86
				1,2,3,4,7,8,9-HpCDF-13C	2.00	76
1,2,3,4,7,8-HxCDF	ND	----	0.980	1,2,3,4,6,7,8-HpCDD-13C	2.00	80
1,2,3,6,7,8-HxCDF	ND	----	0.980	OCDD-13C	4.00	96
2,3,4,6,7,8-HxCDF	ND	----	0.980			
1,2,3,7,8,9-HxCDF	ND	----	0.980	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.980	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.980	2,3,7,8-TCDD-37Cl4	0.20	50
1,2,3,6,7,8-HxCDD	ND	----	0.980			
1,2,3,7,8,9-HxCDD	ND	----	0.980			
Total HxCDD	ND	----	0.980			
1,2,3,4,6,7,8-HpCDF	ND	----	0.980	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.980	Equivalence: 0.0025 ng/Kg		
Total HpCDF	ND	----	0.980	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.980			
Total HpCDD	ND	----	0.980			
OCDF	ND	----	2.000			
OCDD	2.5	----	2.000 J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).  
 EMPC = Estimated Maximum Possible Concentration  
 LRL = Lower Reporting Limit  
 J = Concentration detected is below the calibration range  
 P = Recovery outside of target range  
 A = Detection Limit based on signal-to-noise measurement

I = Interference  
 E = PCDE Interference  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

Report No.....1042387

**REPORT OF LABORATORY ANALYSIS**

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**Method 8290 Blank Analysis Results**

Client - Analytical Resources Inc.

Lab Sample ID	BLANK-11620	Matrix	Solid
Filename	F61206A_03	Dilution	NA
Total Amount Extracted	20.2 g	Extracted	12/04/2006
ICAL Date	09/10/2006	Analyzed	12/06/2006 09:36
CCal Filename(s)	F61206A_01 & F61206A_16	Injected By	SMT

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.099	2,3,7,8-TCDF-13C	2.00	103
Total TCDF	ND	----	0.099	2,3,7,8-TCDD-13C	2.00	90
				1,2,3,7,8-PeCDF-13C	2.00	105
2,3,7,8-TCDD	ND	----	0.099	2,3,4,7,8-PeCDF-13C	2.00	108
Total TCDD	ND	----	0.099	1,2,3,7,8-PeCDD-13C	2.00	124
				1,2,3,4,7,8-HxCDF-13C	2.00	93
1,2,3,7,8-PeCDF	ND	----	0.500	1,2,3,6,7,8-HxCDF-13C	2.00	94
2,3,4,7,8-PeCDF	ND	----	0.500	2,3,4,6,7,8-HxCDF-13C	2.00	100
Total PeCDF	ND	----	0.500	1,2,3,7,8,9-HxCDF-13C	2.00	91
				1,2,3,4,7,8-HxCDD-13C	2.00	95
1,2,3,7,8-PeCDD	ND	----	0.500	1,2,3,6,7,8-HxCDD-13C	2.00	92
Total PeCDD	ND	----	0.500	1,2,3,4,6,7,8-HpCDF-13C	2.00	93
				1,2,3,4,7,8,9-HpCDF-13C	2.00	72
1,2,3,4,7,8-HxCDF	ND	----	0.500	1,2,3,4,6,7,8-HpCDD-13C	2.00	101
1,2,3,6,7,8-HxCDF	ND	----	0.500	OCDD-13C	4.00	88
2,3,4,6,7,8-HxCDF	ND	----	0.500			
1,2,3,7,8,9-HxCDF	ND	----	0.500	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.500	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.500	2,3,7,8-TCDD-37Cl4	0.20	78
1,2,3,6,7,8-HxCDD	ND	----	0.500			
1,2,3,7,8,9-HxCDD	ND	----	0.500			
Total HxCDD	ND	----	0.500			
1,2,3,4,6,7,8-HpCDF	ND	----	0.500	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.500	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	----	0.500	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	----	0.500			
Total HpCDD	ND	----	0.500			
OCDF	ND	----	0.990			
OCDD	ND	----	0.990			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).  
 EMPC = Estimated Maximum Possible Concentration  
 LRL = Lower Reporting Limit  
 J = Concentration detected is below the calibration range  
 P = Recovery outside of target range  
 A = Detection Limit based on signal-to-noise measurement

I = Interference  
 E = PCDE Interference  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

Report No.....1042387

**REPORT OF LABORATORY ANALYSIS**

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**Method 8290 Analysis Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23498-KG06A DC106-1A		
Lab Sample ID	1042387001		
Filename	F61130B_11		
Injected By	BAL		
Total Amount Extracted	19.3 g	Matrix	Solid
% Moisture	37.1	Dilution	NA
Dry Weight Extracted	12.1 g	Collected	11/17/2006
ICAL Date	09/10/2006	Received	11/21/2006
CCal Filename(s)	F61130A_23 & F61130B_16	Extracted	11/21/2006
Method Blank ID	BLANK-11543	Analyzed	12/01/2006 06:18

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.64	-----	0.160 J	2,3,7,8-TCDF-13C	2.00	110
Total TCDF	6.30	-----	0.160	2,3,7,8-TCDD-13C	2.00	49
				1,2,3,7,8-PeCDF-13C	2.00	102
2,3,7,8-TCDD	ND	-----	0.270 A	2,3,4,7,8-PeCDF-13C	2.00	105
Total TCDD	4.70	-----	0.160	1,2,3,7,8-PeCDD-13C	2.00	113
				1,2,3,4,7,8-HxCDF-13C	2.00	110
1,2,3,7,8-PeCDF	ND	-----	0.820	1,2,3,6,7,8-HxCDF-13C	2.00	99
2,3,4,7,8-PeCDF	ND	-----	0.820	2,3,4,6,7,8-HxCDF-13C	2.00	94
Total PeCDF	3.10	-----	0.820 J	1,2,3,7,8,9-HxCDF-13C	2.00	95
				1,2,3,4,7,8-HxCDD-13C	2.00	91
1,2,3,7,8-PeCDD	ND	-----	0.820	1,2,3,6,7,8-HxCDD-13C	2.00	89
Total PeCDD	0.96	-----	0.820 J	1,2,3,4,6,7,8-HpCDF-13C	2.00	72
				1,2,3,4,7,8,9-HpCDF-13C	2.00	59
1,2,3,4,7,8-HxCDF	ND	-----	0.820	1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	ND	-----	0.820	OCDD-13C	4.00	61
2,3,4,6,7,8-HxCDF	ND	-----	0.820			
1,2,3,7,8,9-HxCDF	ND	-----	0.820	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	5.00	-----	0.820	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.820	2,3,7,8-TCDD-37Cl4	0.20	47
1,2,3,6,7,8-HxCDD	1.40	-----	0.820 J			
1,2,3,7,8,9-HxCDD	ND	-----	0.820			
Total HxCDD	14.00	-----	0.820			
1,2,3,4,6,7,8-HpCDF	3.10	-----	0.820 J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.820	Equivalence: 0.62 ng/Kg		
Total HpCDF	9.30	-----	0.820	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	20.00	-----	0.820			
Total HpCDD	74.00	-----	0.820			
OCDF	6.50	-----	1.600 J			
OCDD	180.00	-----	1.600			

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis  
 EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

Report No.....1042387

**REPORT OF LABORATORY ANALYSIS**

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### Method 8290 Analysis Results

Client - Analytical Resources Inc.

Client's Sample ID	06-23499-KG06B DC106-8A		
Lab Sample ID	1042387002		
Filename	F61130B_14		
Injected By	BAL		
Total Amount Extracted	52.0 g	Matrix	Solid
% Moisture	22.8	Dilution	NA
Dry Weight Extracted	40.2 g	Collected	11/17/2006
ICAL Date	09/10/2006	Received	11/21/2006
CCal Filename(s)	F61130A_23 & F61130B_16	Extracted	11/21/2006
Method Blank.ID	BLANK-11543	Analyzed	12/01/2006 08:45

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.65	----	0.052	A	2,3,7,8-TCDF-13C	2.00	120
Total TCDF	4.70	----	0.050		2,3,7,8-TCDD-13C	2.00	86
					1,2,3,7,8-PeCDF-13C	2.00	126
2,3,7,8-TCDD	0.16	----	0.083	JA	2,3,4,7,8-PeCDF-13C	2.00	105
Total TCDD	4.60	----	0.050		1,2,3,7,8-PeCDD-13C	2.00	130
					1,2,3,4,7,8-HxCDF-13C	2.00	99
1,2,3,7,8-PeCDF	2.30	----	0.250		1,2,3,6,7,8-HxCDF-13C	2.00	109
2,3,4,7,8-PeCDF	1.50	----	0.250		2,3,4,6,7,8-HxCDF-13C	2.00	110
Total PeCDF	12.00	----	0.250		1,2,3,7,8,9-HxCDF-13C	2.00	97
					1,2,3,4,7,8-HxCDD-13C	2.00	93
1,2,3,7,8-PeCDD	1.40	----	0.250		1,2,3,6,7,8-HxCDD-13C	2.00	88
Total PeCDD	10.00	----	0.250		1,2,3,4,6,7,8-HpCDF-13C	2.00	71
					1,2,3,4,7,8,9-HpCDF-13C	2.00	52
1,2,3,4,7,8-HxCDF	3.10	----	0.250		1,2,3,4,6,7,8-HpCDD-13C	2.00	81
1,2,3,6,7,8-HxCDF	1.50	----	0.250		OCDD-13C	4.00	69
2,3,4,6,7,8-HxCDF	2.40	----	0.250				
1,2,3,7,8,9-HxCDF	0.88	----	0.250	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	69.00	----	0.250		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	2.70	----	0.250		2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	13.00	----	0.250				
1,2,3,7,8,9-HxCDD	6.20	----	0.250				
Total HxCDD	150.00	----	0.250				
1,2,3,4,6,7,8-HpCDF	39.00	----	0.250		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	2.70	----	0.250		Equivalence: 11 ng/Kg		
Total HpCDF	170.00	----	0.250		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	310.00	----	0.280	A			
Total HpCDD	900.00	----	0.250				
OCDF	110.00	----	0.500				
OCDD	2500.00	----	0.500				

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis  
 EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

Report No.....1042387

## REPORT OF LABORATORY ANALYSIS

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## Method 8290 Analysis Results

Client - Analytical Resources Inc.

Client's Sample ID	06-23500-KG06C DC106-9A		
Lab Sample ID	1042387003-R		
Filename	F61206A_05		
Injected By	SMT		
Total Amount Extracted	10.3 g	Matrix	Solid
% Moisture	3.0	Dilution	NA
Dry Weight Extracted	10.0 g	Collected	11/17/2006
ICAL Date	09/10/2006	Received	11/21/2006
CCal Filename(s)	F61206A_01 & F61206A_16	Extracted	12/04/2006
Method Blank ID	BLANK-11620	Analyzed	12/06/2006 11:14

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.31	----	0.200 J	2,3,7,8-TCDF-13C	2.00	110
Total TCDF	5.20	----	0.200	2,3,7,8-TCDD-13C	2.00	94
				1,2,3,7,8-PeCDF-13C	2.00	108
2,3,7,8-TCDD	ND	----	0.200	2,3,4,7,8-PeCDF-13C	2.00	113
Total TCDD	ND	----	0.200	1,2,3,7,8-PeCDD-13C	2.00	130
				1,2,3,4,7,8-HxCDF-13C	2.00	103
1,2,3,7,8-PeCDF	ND	----	1.000	1,2,3,6,7,8-HxCDF-13C	2.00	97
2,3,4,7,8-PeCDF	ND	----	1.000	2,3,4,6,7,8-HxCDF-13C	2.00	104
Total PeCDF	5.90	----	1.000	1,2,3,7,8,9-HxCDF-13C	2.00	101
				1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	ND	----	1.000	1,2,3,6,7,8-HxCDD-13C	2.00	97
Total PeCDD	ND	----	1.000	1,2,3,4,6,7,8-HpCDF-13C	2.00	94
				1,2,3,4,7,8,9-HpCDF-13C	2.00	85
1,2,3,4,7,8-HxCDF	----	1.5	1.000 E	1,2,3,4,6,7,8-HpCDD-13C	2.00	110
1,2,3,6,7,8-HxCDF	ND	----	1.000	OCDD-13C	4.00	99
2,3,4,6,7,8-HxCDF	ND	----	1.000			
1,2,3,7,8,9-HxCDF	ND	----	1.000	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	6.00	----	1.000	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	1.000	2,3,7,8-TCDD-37Cl4	0.20	84
1,2,3,6,7,8-HxCDD	ND	----	1.000			
1,2,3,7,8,9-HxCDD	ND	----	1.000			
Total HxCDD	4.60	----	1.000 J			
1,2,3,4,6,7,8-HpCDF	6.80	----	1.000	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	1.10	----	1.000 J	Equivalence: 0.46 ng/Kg		
Total HpCDF	20.00	----	1.000	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	17.00	----	1.000			
Total HpCDD	31.00	----	1.000			
OCDF	19.00	----	2.000			
OCDD	160.00	----	2.000			

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis  
 EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

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## Method 8290 Analysis Results

Client - Analytical Resources Inc.

Client's Sample ID	06-23501-KG06D DC106-6A		
Lab Sample ID	1042387004		
Filename	F61130B_13		
Injected By	BAL		
Total Amount Extracted	30.1 g	Matrix	Solid
% Moisture	24.7	Dilution	NA
Dry Weight Extracted	22.7 g	Collected	11/17/2006
ICAL Date	09/10/2006	Received	11/21/2006
CCal Filename(s)	F61130A_23 & F61130B_16	Extracted	11/21/2006
Method Blank ID	BLANK-11543	Analyzed	12/01/2006 07:56

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.43	----	0.140	JA	2,3,7,8-TCDF-13C	2.00	114
Total TCDF	4.50	----	0.088		2,3,7,8-TCDD-13C	2.00	48
					1,2,3,7,8-PeCDF-13C	2.00	102
2,3,7,8-TCDD	0.43	----	0.250	JA	2,3,4,7,8-PeCDF-13C	2.00	115
Total TCDD	12.00	----	0.088		1,2,3,7,8-PeCDD-13C	2.00	114
					1,2,3,4,7,8-HxCDF-13C	2.00	105
1,2,3,7,8-PeCDF	0.96	----	0.440	J	1,2,3,6,7,8-HxCDF-13C	2.00	99
2,3,4,7,8-PeCDF	2.30	----	0.440		2,3,4,6,7,8-HxCDF-13C	2.00	107
Total PeCDF	33.00	----	0.440		1,2,3,7,8,9-HxCDF-13C	2.00	99
					1,2,3,4,7,8-HxCDD-13C	2.00	93
1,2,3,7,8-PeCDD	5.10	----	0.440		1,2,3,6,7,8-HxCDD-13C	2.00	90
Total PeCDD	20.00	----	0.440		1,2,3,4,6,7,8-HpCDF-13C	2.00	80
					1,2,3,4,7,8,9-HpCDF-13C	2.00	72
1,2,3,4,7,8-HxCDF	-----	9.7	0.440	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	92
1,2,3,6,7,8-HxCDF	3.20	----	0.440		OCDD-13C	4.00	94
2,3,4,6,7,8-HxCDF	10.00	----	0.440				
1,2,3,7,8,9-HxCDF	2.80	----	0.440		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	360.00	----	0.440		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	8.90	----	0.440		2,3,7,8-TCDD-37Cl4	0.20	47
1,2,3,6,7,8-HxCDD	61.00	----	0.480	A			
1,2,3,7,8,9-HxCDD	21.00	----	0.440				
Total HxCDD	220.00	----	0.440				
1,2,3,4,6,7,8-HpCDF	180.00	----	0.440		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	7.20	----	0.440		Equivalence: 38 ng/Kg		
Total HpCDF	650.00	----	0.440		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	1100.00	----	1.100	A			
Total HpCDD	2000.00	----	0.440				
OCDF	150.00	----	0.880				
OCDD	10000.00	----	0.880				

Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)

EMPC = Estimated Maximum Possible Concentration

A = Detection Limit based on signal-to-noise measurement

J = Concentration detected is below the calibration range

B = Less than 10 times higher than method blank level

P = Recovery outside of target range

Nn = Value obtained from additional analysis

EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit

I = Interference

E = PCDE Interference

S = Saturated signal

ND = Not Detected

NA = Not Applicable

NC = Not Calculated

\* = See Discussion

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## REPORT OF LABORATORY ANALYSIS

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**Method 8290 Analysis Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23502-KG06E DC106-3A		
Lab Sample ID	1042387005-R		
Filename	F61206A_06		
Injected By	SMT		
Total Amount Extracted	12.4 g	Matrix	Solid
% Moisture	17.2	Dilution	NA
Dry Weight Extracted	10.3 g	Collected	11/17/2006
ICAL Date	09/10/2006	Received	11/21/2006
CCal Filename(s)	F61206A_01 & F61206A_16	Extracted	12/04/2006
Method Blank ID	BLANK-11620	Analyzed	12/06/2006 12:03

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.190	2,3,7,8-TCDF-13C	2.00	107
Total TCDF	0.25	----	0.190 J	2,3,7,8-TCDD-13C	2.00	95
				1,2,3,7,8-PeCDF-13C	2.00	106
2,3,7,8-TCDD	ND	----	0.190	2,3,4,7,8-PeCDF-13C	2.00	111
Total TCDD	14.00	----	0.190	1,2,3,7,8-PeCDD-13C	2.00	127
				1,2,3,4,7,8-HxCDF-13C	2.00	98
1,2,3,7,8-PeCDF	ND	----	0.970	1,2,3,6,7,8-HxCDF-13C	2.00	94
2,3,4,7,8-PeCDF	ND	----	0.970	2,3,4,6,7,8-HxCDF-13C	2.00	98
Total PeCDF	ND	----	0.970	1,2,3,7,8,9-HxCDF-13C	2.00	98
				1,2,3,4,7,8-HxCDD-13C	2.00	93
1,2,3,7,8-PeCDD	ND	----	0.970	1,2,3,6,7,8-HxCDD-13C	2.00	88
Total PeCDD	8.30	----	0.970	1,2,3,4,6,7,8-HpCDF-13C	2.00	90
				1,2,3,4,7,8,9-HpCDF-13C	2.00	80
1,2,3,4,7,8-HxCDF	ND	----	0.970	1,2,3,4,6,7,8-HpCDD-13C	2.00	101
1,2,3,6,7,8-HxCDF	ND	----	0.970	OCDD-13C	4.00	93
2,3,4,6,7,8-HxCDF	ND	----	0.970			
1,2,3,7,8,9-HxCDF	ND	----	0.970	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	3.70	----	0.970 J	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.970	2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	1.20	----	0.970 J			
1,2,3,7,8,9-HxCDD	ND	----	0.970			
Total HxCDD	18.00	----	0.970			
1,2,3,4,6,7,8-HpCDF	3.60	----	0.970 J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.970	Equivalence: 0.47 ng/Kg		
Total HpCDF	8.40	----	0.970	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	18.00	----	0.970			
Total HpCDD	48.00	----	0.970			
OCDF	5.60	----	1.900 J			
OCDD	130.00	----	1.900			

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis  
 EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

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**REPORT OF LABORATORY ANALYSIS**

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**Method 8290 Analysis Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23503-KG06F DC106-7A		
Lab Sample ID	1042387006		
Filename	P61202B_06		
Injected By	BAL		
Total Amount Extracted	61.0 g	Matrix	Solid
% Moisture	50.5	Dilution	NA
Dry Weight Extracted	30.2 g	Collected	11/17/2006
ICAL Date	11/05/2006	Received	11/21/2006
CCal Filename(s)	P61202B_02 & P61202B_17	Extracted	11/21/2006
Method Blank ID	BLANK-11543	Analyzed	12/02/2006 19:45

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.30	----	0.066	2,3,7,8-TCDF-13C	2.00	105
Total TCDF	11.00	----	0.066	2,3,7,8-TCDD-13C	2.00	44
				1,2,3,7,8-PeCDF-13C	2.00	90
2,3,7,8-TCDD	-----	0.18	0.110 IA	2,3,4,7,8-PeCDF-13C	2.00	94
Total TCDD	20.00	-----	0.066	1,2,3,7,8-PeCDD-13C	2.00	104
				1,2,3,4,7,8-HxCDF-13C	2.00	111
1,2,3,7,8-PeCDF	0.56	----	0.330 J	1,2,3,6,7,8-HxCDF-13C	2.00	101
2,3,4,7,8-PeCDF	1.40	----	0.330 J	2,3,4,6,7,8-HxCDF-13C	2.00	107
Total PeCDF	17.00	----	0.330	1,2,3,7,8,9-HxCDF-13C	2.00	96
				1,2,3,4,7,8-HxCDD-13C	2.00	97
1,2,3,7,8-PeCDD	1.10	----	0.330 J	1,2,3,6,7,8-HxCDD-13C	2.00	96
Total PeCDD	10.00	----	0.330	1,2,3,4,6,7,8-HpCDF-13C	2.00	81
				1,2,3,4,7,8,9-HpCDF-13C	2.00	70
1,2,3,4,7,8-HxCDF	2.50	----	0.330	1,2,3,4,6,7,8-HpCDD-13C	2.00	90
1,2,3,6,7,8-HxCDF	1.50	----	0.330 J	OCDD-13C	4.00	81
2,3,4,6,7,8-HxCDF	2.40	----	0.330			
1,2,3,7,8,9-HxCDF	0.94	----	0.330 J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	70.00	----	0.330	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	2.10	----	0.330	2,3,7,8-TCDD-37Cl4	0.20	42
1,2,3,6,7,8-HxCDD	14.00	----	0.330			
1,2,3,7,8,9-HxCDD	4.80	----	0.330			
Total HxCDD	90.00	----	0.330			
1,2,3,4,6,7,8-HpCDF	40.00	----	0.330	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	2.50	----	0.330	Equivalence: 11 ng/Kg		
Total HpCDF	140.00	----	0.330	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	330.00	----	0.330			
Total HpCDD	840.00	----	0.330			
OCDF	70.00	----	0.660			
OCDD	3100.00	----	0.660			

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis  
 EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

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**Method 8290 Analysis Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23504-KG06G DC106-7B		
Lab Sample ID	1042387007-R		
Filename	F61206A_07		
Injected By	SMT		
Total Amount Extracted	17.6 g	Matrix	Solid
% Moisture	41.1	Dilution	NA
Dry Weight Extracted	10.4 g	Collected	11/17/2006
ICAL Date	09/10/2006	Received	11/21/2006
CCal Filename(s)	F61206A_01 & F61206A_16	Extracted	12/04/2006
Method Blank ID	BLANK-11620	Analyzed	12/06/2006 12:52

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.55	----	0.190	J	2,3,7,8-TCDF-13C	2.00	99
Total TCDF	2.70	----	0.190		2,3,7,8-TCDD-13C	2.00	90
					1,2,3,7,8-PeCDF-13C	2.00	97
2,3,7,8-TCDD	ND	----	0.190		2,3,4,7,8-PeCDF-13C	2.00	101
Total TCDD	2.10	----	0.190		1,2,3,7,8-PeCDD-13C	2.00	113
					1,2,3,4,7,8-HxCDF-13C	2.00	101
1,2,3,7,8-PeCDF	ND	----	0.970		1,2,3,6,7,8-HxCDF-13C	2.00	88
2,3,4,7,8-PeCDF	ND	----	0.970		2,3,4,6,7,8-HxCDF-13C	2.00	93
Total PeCDF	5.40	----	0.970		1,2,3,7,8,9-HxCDF-13C	2.00	91
					1,2,3,4,7,8-HxCDD-13C	2.00	90
1,2,3,7,8-PeCDD	ND	----	0.970		1,2,3,6,7,8-HxCDD-13C	2.00	85
Total PeCDD	ND	----	0.970		1,2,3,4,6,7,8-HpCDF-13C	2.00	81
					1,2,3,4,7,8,9-HpCDF-13C	2.00	69
1,2,3,4,7,8-HxCDF	----	3.9	0.970	E	1,2,3,4,6,7,8-HpCDD-13C	2.00	90
1,2,3,6,7,8-HxCDF	1.00	----	0.970	J	OCDD-13C	4.00	88
2,3,4,6,7,8-HxCDF	1.50	----	0.970	J			
1,2,3,7,8,9-HxCDF	ND	----	0.970		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	32.00	----	0.970		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.10	----	0.970	J	2,3,7,8-TCDD-37Cl4	0.20	81
1,2,3,6,7,8-HxCDD	8.40	----	0.970				
1,2,3,7,8,9-HxCDD	2.20	----	0.970	J			
Total HxCDD	49.00	----	0.970				
1,2,3,4,6,7,8-HpCDF	23.00	----	0.970		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	2.00	----	0.970	J	Equivalence: 6.2 ng/Kg		
Total HpCDF	79.00	----	0.970		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	220.00	----	0.970				
Total HpCDD	580.00	----	0.970				
OCDF	54.00	----	1.900				
OCDD	2200.00	----	1.900				

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis  
 EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

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**Method 8290 Analysis Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23505-KG06H DC106-5A		
Lab Sample ID	1042387008-R		
Filename	F61206A_08		
Injected By	SMT		
Total Amount Extracted	28.6 g	Matrix	Solid
% Moisture	65.0	Dilution	NA
Dry Weight Extracted	10.0 g	Collected	11/17/2006
ICAL Date	09/10/2006	Received	11/21/2006
CCal Filename(s)	F61206A_01 & F61206A_16	Extracted	12/04/2006
Method Blank ID	BLANK-11620	Analyzed	12/06/2006 13:41

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.4	----	0.200	2,3,7,8-TCDF-13C	2.00	97
Total TCDF	24.0	----	0.200	2,3,7,8-TCDD-13C	2.00	90
				1,2,3,7,8-PeCDF-13C	2.00	79
2,3,7,8-TCDD	ND	----	0.250 A	2,3,4,7,8-PeCDF-13C	2.00	78
Total TCDD	12.0	----	0.200	1,2,3,7,8-PeCDD-13C	2.00	91
				1,2,3,4,7,8-HxCDF-13C	2.00	96
1,2,3,7,8-PeCDF	1.2	----	1.000 J	1,2,3,6,7,8-HxCDF-13C	2.00	89
2,3,4,7,8-PeCDF	1.3	----	1.000 J	2,3,4,6,7,8-HxCDF-13C	2.00	88
Total PeCDF	16.0	----	1.000	1,2,3,7,8,9-HxCDF-13C	2.00	84
				1,2,3,4,7,8-HxCDD-13C	2.00	99
1,2,3,7,8-PeCDD	1.0	----	1.000 J	1,2,3,6,7,8-HxCDD-13C	2.00	83
Total PeCDD	9.7	----	1.000	1,2,3,4,6,7,8-HpCDF-13C	2.00	73
				1,2,3,4,7,8,9-HpCDF-13C	2.00	57
1,2,3,4,7,8-HxCDF	1.4	----	1.000 J	1,2,3,4,6,7,8-HpCDD-13C	2.00	84
1,2,3,6,7,8-HxCDF	1.4	----	1.000 J	OCDD-13C	4.00	82
2,3,4,6,7,8-HxCDF	2.0	----	1.000 J			
1,2,3,7,8,9-HxCDF	ND	----	1.000	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	60.0	----	1.000	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.8	----	1.000 J	2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	10.0	----	1.000			
1,2,3,7,8,9-HxCDD	2.5	----	1.000 J			
Total HxCDD	48.0	----	1.000			
1,2,3,4,6,7,8-HpCDF	29.0	----	1.000	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	1.3	----	1.000 J	Equivalence: 7.2 ng/Kg		
Total HpCDF	100.0	----	1.000	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	180.0	----	1.000			
Total HpCDD	400.0	----	1.000			
OCDF	29.0	----	2.000			
OCDD	1800.0	----	2.000			

Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)

EMPC = Estimated Maximum Possible Concentration

A = Detection Limit based on signal-to-noise measurement

J = Concentration detected is below the calibration range

B = Less than 10 times higher than method blank level

P = Recovery outside of target range

Nn = Value obtained from additional analysis

EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit

I = Interference

E = PCDE Interference

S = Saturated signal

ND = Not Detected

NA = Not Applicable

NC = Not Calculated

\* = See Discussion

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**Method 8290 Analysis Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23506-KG06I DC106-5B		
Lab Sample ID	1042387009		
Filename	P61202B_09		
Injected By	BAL		
Total Amount Extracted	65.4 g	Matrix	Solid
% Moisture	58.7	Dilution	NA
Dry Weight Extracted	27.0 g	Collected	11/17/2006
ICAL Date	11/05/2006	Received	11/21/2006
CCal Filename(s)	P61202B_02 & P61202B_17	Extracted	11/21/2006
Method Blank ID	BLANK-11543	Analyzed	12/02/2006 22:10

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.74	----	0.100	A	2,3,7,8-TCDF-13C	2.00	99
Total TCDF	14.00	----	0.074		2,3,7,8-TCDD-13C	2.00	58
					1,2,3,7,8-PeCDF-13C	2.00	90
2,3,7,8-TCDD	ND	----	0.190	A	2,3,4,7,8-PeCDF-13C	2.00	93
Total TCDD	12.00	----	0.074		1,2,3,7,8-PeCDD-13C	2.00	103
					1,2,3,4,7,8-HxCDF-13C	2.00	112
1,2,3,7,8-PeCDF	ND	----	0.370		1,2,3,6,7,8-HxCDF-13C	2.00	110
2,3,4,7,8-PeCDF	0.49	----	0.370	J	2,3,4,6,7,8-HxCDF-13C	2.00	105
Total PeCDF	3.30	----	0.370		1,2,3,7,8,9-HxCDF-13C	2.00	98
					1,2,3,4,7,8-HxCDD-13C	2.00	97
1,2,3,7,8-PeCDD	ND	----	0.370		1,2,3,6,7,8-HxCDD-13C	2.00	98
Total PeCDD	3.80	----	0.370		1,2,3,4,6,7,8-HpCDF-13C	2.00	73
					1,2,3,4,7,8,9-HpCDF-13C	2.00	49
1,2,3,4,7,8-HxCDF	ND	----	0.370		1,2,3,4,6,7,8-HpCDD-13C	2.00	68
1,2,3,6,7,8-HxCDF	ND	----	0.370		OCDD-13C	4.00	44
2,3,4,6,7,8-HxCDF	ND	----	0.370				
1,2,3,7,8,9-HxCDF	ND	----	0.370		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	2.00	----	0.370		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.370		2,3,7,8-TCDD-37Cl4	0.20	53
1,2,3,6,7,8-HxCDD	0.68	----	0.370	J			
1,2,3,7,8,9-HxCDD	0.46	----	0.370	J			
Total HxCDD	8.10	----	0.370				
1,2,3,4,6,7,8-HpCDF	1.40	----	0.370	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.370		Equivalence: 0.62 ng/Kg		
Total HpCDF	3.80	----	0.370		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	9.00	----	0.370				
Total HpCDD	33.00	----	0.370				
OCDF	2.20	----	0.740	J			
OCDD	78.00	----	0.740				

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis  
 EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

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**Method 8290 Analysis Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23505-KG06J DC106-2A		
Lab Sample ID	1042387010-R		
Filename	F61206A_09		
Injected By	SMT		
Total Amount Extracted	12.2 g	Matrix	Solid
% Moisture	21.8	Dilution	NA
Dry Weight Extracted	9.51 g	Collected	11/17/2006
ICAL Date	09/10/2006	Received	11/21/2006
CCal Filename(s)	F61206A_01 & F61206A_16	Extracted	12/04/2006
Method Blank ID	BLANK-11620	Analyzed	12/06/2006 14:30

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.21	2,3,7,8-TCDF-13C	2.00	103
Total TCDF	ND	----	0.21	2,3,7,8-TCDD-13C	2.00	89
				1,2,3,7,8-PeCDF-13C	2.00	105
2,3,7,8-TCDD	ND	----	0.21	2,3,4,7,8-PeCDF-13C	2.00	109
Total TCDD	ND	----	0.21	1,2,3,7,8-PeCDD-13C	2.00	128
				1,2,3,4,7,8-HxCDF-13C	2.00	98
1,2,3,7,8-PeCDF	ND	----	1.10	1,2,3,6,7,8-HxCDF-13C	2.00	93
2,3,4,7,8-PeCDF	ND	----	1.10	2,3,4,6,7,8-HxCDF-13C	2.00	95
Total PeCDF	ND	----	1.10	1,2,3,7,8,9-HxCDF-13C	2.00	92
				1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	ND	----	1.10	1,2,3,6,7,8-HxCDD-13C	2.00	91
Total PeCDD	ND	----	1.10	1,2,3,4,6,7,8-HpCDF-13C	2.00	89
				1,2,3,4,7,8,9-HpCDF-13C	2.00	77
1,2,3,4,7,8-HxCDF	ND	----	1.10	1,2,3,4,6,7,8-HpCDD-13C	2.00	101
1,2,3,6,7,8-HxCDF	ND	----	1.10	OCDD-13C	4.00	91
2,3,4,6,7,8-HxCDF	ND	----	1.10			
1,2,3,7,8,9-HxCDF	ND	----	1.10	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	1.10	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	1.10	2,3,7,8-TCDD-37Cl4	0.20	86
1,2,3,6,7,8-HxCDD	ND	----	1.10			
1,2,3,7,8,9-HxCDD	ND	----	1.10			
Total HxCDD	ND	----	1.10			
1,2,3,4,6,7,8-HpCDF	ND	----	1.10	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	1.10	Equivalence: 0.034 ng/Kg		
Total HpCDF	ND	----	1.10	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	2.0	----	1.10 J			
Total HpCDD	4.1	----	1.10 J			
OCDF	ND	----	2.10			
OCDD	14.0	----	2.10			

Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)

EMPC = Estimated Maximum Possible Concentration

A = Detection Limit based on signal-to-noise measurement

J = Concentration detected is below the calibration range

B = Less than 10 times higher than method blank level

P = Recovery outside of target range

Nn = Value obtained from additional analysis

EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit

I = Interference

E = PCDE Interference

S = Saturated signal

ND = Not Detected

NA = Not Applicable

NC = Not Calculated

\* = See Discussion

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**Method 8290 Analysis Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23508-KG06K DC106-2-D		
Lab Sample ID	1042387011		
Filename	P61202B_11		
Injected By	BAL		
Total Amount Extracted	14.1 g	Matrix	Solid
% Moisture	22.2	Dilution	NA
Dry Weight Extracted	11.0 g	Collected	11/17/2006
ICAL Date	11/05/2006	Received	11/21/2006
CCal Filename(s)	P61202B_02 & P61202B_17	Extracted	11/21/2006
Method Blank ID	BLANK-11543	Analyzed	12/02/2006 23:47

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	----	0.180	2,3,7,8-TCDF-13C	2.00	99
Total TCDF	ND	----	0.180	2,3,7,8-TCDD-13C	2.00	48
				1,2,3,7,8-PeCDF-13C	2.00	95
2,3,7,8-TCDD	ND	----	0.180	2,3,4,7,8-PeCDF-13C	2.00	101
Total TCDD	ND	----	0.180	1,2,3,7,8-PeCDD-13C	2.00	112
				1,2,3,4,7,8-HxCDF-13C	2.00	113
1,2,3,7,8-PeCDF	ND	----	0.910	1,2,3,6,7,8-HxCDF-13C	2.00	106
2,3,4,7,8-PeCDF	ND	----	0.910	2,3,4,6,7,8-HxCDF-13C	2.00	104
Total PeCDF	ND	----	0.910	1,2,3,7,8,9-HxCDF-13C	2.00	101
				1,2,3,4,7,8-HxCDD-13C	2.00	99
1,2,3,7,8-PeCDD	ND	----	0.910	1,2,3,6,7,8-HxCDD-13C	2.00	97
Total PeCDD	ND	----	0.910	1,2,3,4,6,7,8-HpCDF-13C	2.00	87
				1,2,3,4,7,8,9-HpCDF-13C	2.00	76
1,2,3,4,7,8-HxCDF	ND	----	0.910	1,2,3,4,6,7,8-HpCDD-13C	2.00	84
1,2,3,6,7,8-HxCDF	ND	----	0.910	OCDD-13C	4.00	85
2,3,4,6,7,8-HxCDF	ND	----	0.910			
1,2,3,7,8,9-HxCDF	ND	----	0.910	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	----	0.910	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	----	0.910	2,3,7,8-TCDD-37Cl4	0.20	45
1,2,3,6,7,8-HxCDD	ND	----	0.910			
1,2,3,7,8,9-HxCDD	ND	----	0.910			
Total HxCDD	1.0	----	0.910 J			
1,2,3,4,6,7,8-HpCDF	ND	----	0.910	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	----	0.910	Equivalence: 0.087 ng/Kg		
Total HpCDF	1.3	----	0.910 J	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	5.0	----	0.910			
Total HpCDD	20.0	----	0.910			
OCDF	2.2	----	1.800 J			
OCDD	35.0	----	1.800			

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis  
 EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
 NC = Not Calculated  
 \* = See Discussion

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### Method 8290 Analysis Results

Client - Analytical Resources Inc.

Client's Sample ID	06-23509-KG06L DC106-4A		
Lab Sample ID	1042387012		
Filename	P61202B_12		
Injected By	BAL		
Total Amount Extracted	56.0 g	Matrix	Solid
% Moisture	30.8	Dilution	NA
Dry Weight Extracted	38.7 g	Collected	11/17/2006
ICAL Date	11/05/2006	Received	11/21/2006
CCal Filename(s)	P61202B_02 & P61202B_17	Extracted	11/21/2006
Method Blank ID	BLANK-11543	Analyzed	12/03/2006 00:36

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.70	----	0.052	2,3,7,8-TCDF-13C	2.00	103
Total TCDF	14.00	----	0.052	2,3,7,8-TCDD-13C	2.00	45
				1,2,3,7,8-PeCDF-13C	2.00	85
2,3,7,8-TCDD	0.51	----	0.085 A	2,3,4,7,8-PeCDF-13C	2.00	88
Total TCDD	100.00	----	0.052	1,2,3,7,8-PeCDD-13C	2.00	97
				1,2,3,4,7,8-HxCDF-13C	2.00	107
1,2,3,7,8-PeCDF	2.50	----	0.260	1,2,3,6,7,8-HxCDF-13C	2.00	99
2,3,4,7,8-PeCDF	11.00	----	0.260	2,3,4,6,7,8-HxCDF-13C	2.00	100
Total PeCDF	120.00	----	0.260	1,2,3,7,8,9-HxCDF-13C	2.00	97
				1,2,3,4,7,8-HxCDD-13C	2.00	98
1,2,3,7,8-PeCDD	7.50	----	0.260	1,2,3,6,7,8-HxCDD-13C	2.00	93
Total PeCDD	46.00	----	0.260	1,2,3,4,6,7,8-HpCDF-13C	2.00	83
				1,2,3,4,7,8,9-HpCDF-13C	2.00	72
1,2,3,4,7,8-HxCDF	28.00	----	0.260	1,2,3,4,6,7,8-HpCDD-13C	2.00	99
1,2,3,6,7,8-HxCDF	-----	19	0.260 E	OCDD-13C	4.00	96
2,3,4,6,7,8-HxCDF	49.00	----	0.260			
1,2,3,7,8,9-HxCDF	16.00	----	0.260	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	1800.00	----	0.260	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	28.00	----	0.260	2,3,7,8-TCDD-37Cl4	0.20	41
1,2,3,6,7,8-HxCDD	330.00	----	0.280 A			
1,2,3,7,8,9-HxCDD	49.00	----	0.260			
Total HxCDD	850.00	----	0.260			
1,2,3,4,6,7,8-HpCDF	1000.00	----	0.760 A	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	36.00	----	0.260	Equivalence: 190 ng/Kg		
Total HpCDF	4700.00	----	0.260	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	6100.00	----	1.400 A			
Total HpCDD	10000.00	----	0.260			
OCDF	1000.00	----	0.520			
OCDD	53000.00	----	26.000 N2			

Results reported on a dry weight basis

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)

EMPC = Estimated Maximum Possible Concentration

A = Detection Limit based on signal-to-noise measurement

J = Concentration detected is below the calibration range

B = Less than 10 times higher than method blank level

P = Recovery outside of target range

Nn = Value obtained from additional analysis

EMPC values were excluded from the TEQ calculations.

LRL = Lower Reporting Limit

I = Interference

E = PCDE Interference

S = Saturated signal

ND = Not Detected

NA = Not Applicable

NC = Not Calculated

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## Method 8290 Analysis Results

Client - Analytical Resources Inc.

Client's Sample ID	06-23510-KG06M DC106-4B		
Lab Sample ID	1042387013		
Filename	P61202B_13		
Injected By	BAL		
Total Amount Extracted	62.5 g	Matrix	Solid
% Moisture	40.5	Dilution	NA
Dry Weight Extracted	37.2 g	Collected	11/17/2006
ICAL Date	11/05/2006	Received	11/21/2006
CCal Filename(s)	P61202B_02 & P61202B_17	Extracted	11/21/2006
Method Blank ID	BLANK-11543	Analyzed	12/03/2006 01:24

Native Isomers	Conc ng/Kg	EMPC ng/Kg	LRL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.83	----	0.080	A	2,3,7,8-TCDF-13C	2.00	94
Total TCDF	17.00	----	0.054		2,3,7,8-TCDD-13C	2.00	49
					1,2,3,7,8-PeCDF-13C	2.00	82
2,3,7,8-TCDD	----	0.22	0.120	IA	2,3,4,7,8-PeCDF-13C	2.00	83
Total TCDD	64.00	----	0.054		1,2,3,7,8-PeCDD-13C	2.00	92
					1,2,3,4,7,8-HxCDF-13C	2.00	108
1,2,3,7,8-PeCDF	----	0.33	0.270	I	1,2,3,6,7,8-HxCDF-13C	2.00	103
2,3,4,7,8-PeCDF	1.40	----	0.270		2,3,4,6,7,8-HxCDF-13C	2.00	102
Total PeCDF	20.00	----	0.270		1,2,3,7,8,9-HxCDF-13C	2.00	88
					1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	1.10	----	0.270	J	1,2,3,6,7,8-HxCDD-13C	2.00	93
Total PeCDD	24.00	----	0.270		1,2,3,4,6,7,8-HpCDF-13C	2.00	70
					1,2,3,4,7,8,9-HpCDF-13C	2.00	56
1,2,3,4,7,8-HxCDF	1.60	----	0.270		1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	1.60	----	0.270		OCDD-13C	4.00	45
2,3,4,6,7,8-HxCDF	2.30	----	0.270				
1,2,3,7,8,9-HxCDF	0.69	----	0.270	J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	34.00	----	0.270		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.80	----	0.270		2,3,7,8-TCDD-37Cl4	0.20	46
1,2,3,6,7,8-HxCDD	11.00	----	0.270				
1,2,3,7,8,9-HxCDD	3.90	----	0.270				
Total HxCDD	76.00	----	0.270				
1,2,3,4,6,7,8-HpCDF	54.00	----	0.270		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	2.00	----	0.270		Equivalence: 8.3 ng/Kg		
Total HpCDF	160.00	----	0.270		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	220.00	----	0.270				
Total HpCDD	580.00	----	0.270				
OCDF	81.00	----	0.540				
OCDD	1900.00	----	0.540				

Results reported on a dry weight basis  
 Conc = Concentration (Totals include 2,3,7,8-substituted isomers)  
 EMPC = Estimated Maximum Possible Concentration  
 A = Detection Limit based on signal-to-noise measurement  
 J = Concentration detected is below the calibration range  
 B = Less than 10 times higher than method blank level  
 P = Recovery outside of target range  
 Nn = Value obtained from additional analysis  
 EMPC values were excluded from the TEQ calculations.

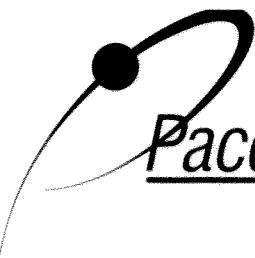
LRL = Lower Reporting Limit  
 I = Interference  
 E = PCDE Interference  
 S = Saturated signal  
 ND = Not Detected  
 NA = Not Applicable  
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## Method 8290 Laboratory Control Spike Results

Client - Analytical Resources Inc.

Lab Sample ID	LCS-11544	Matrix	Solid
Filename	U61129A_05	Dilution	NA
Total Amount Extracted	10.0 g	Extracted	11/21/2006
ICAL Date	09/19/2006	Analyzed	11/29/2006 18:25
CCal Filename(s)	U61129A_04 & U61130A_01	Injected By	BAL
Method Blank ID	BLANK-11543		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.19	93	2,3,7,8-TCDF-13C	2.00	104
				2,3,7,8-TCDD-13C	2.00	51
				1,2,3,7,8-PeCDF-13C	2.00	92
2,3,7,8-TCDD	0.20	0.18	92	2,3,4,7,8-PeCDF-13C	2.00	97
				1,2,3,7,8-PeCDD-13C	2.00	104
				1,2,3,4,7,8-HxCDF-13C	2.00	99
				1,2,3,6,7,8-HxCDF-13C	2.00	108
1,2,3,7,8-PeCDF	1.00	1.10	110	2,3,4,6,7,8-HxCDF-13C	2.00	103
				1,2,3,7,8,9-HxCDF-13C	2.00	97
2,3,4,7,8-PeCDF	1.00	1.02	102	1,2,3,4,7,8-HxCDD-13C	2.00	82
				1,2,3,6,7,8-HxCDD-13C	2.00	102
1,2,3,7,8-PeCDD	1.00	0.93	93	1,2,3,4,6,7,8-HpCDF-13C	2.00	87
				1,2,3,4,7,8,9-HpCDF-13C	2.00	77
				1,2,3,4,6,7,8-HpCDD-13C	2.00	81
				OCDD-13C	4.00	91
1,2,3,4,7,8-HxCDF	1.00	0.96	96	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,6,7,8-HxCDF	1.00	1.00	100			
2,3,4,6,7,8-HxCDF	1.00	1.00	100			
1,2,3,7,8,9-HxCDF	1.00	1.00	100			
1,2,3,4,7,8-HxCDD	1.00	1.03	103	2,3,7,8-TCDD-37Cl4	0.20	47
				1,2,3,6,7,8-HxCDD	1.00	108
				1,2,3,7,8,9-HxCDD	1.00	109
1,2,3,4,6,7,8-HpCDF	1.00	1.09	109			
				1,2,3,4,7,8,9-HpCDF	1.00	113
1,2,3,4,6,7,8-HpCDD	1.00	1.02	102			
OCDF	2.00	2.00	100			
OCDD	2.00	1.85	93			

Qs = Quantity Spiked  
 Qm = Quantity Measured  
 Rec. = Recovery (Expressed as Percent)  
 P = Recovery outside of target range  
 X = Background subtracted value  
 Nn = Value obtained from additional analysis  
 NA = Not Applicable  
 \* = See Discussion

Report No.....1042387

## REPORT OF LABORATORY ANALYSIS

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## Method 8290 Laboratory Control Spike Results

Client - Analytical Resources Inc.

Lab Sample ID	LCS-11621	Matrix	Solid
Filename	F61206A_14	Dilution	NA
Total Amount Extracted	20.2 g	Extracted	12/04/2006
ICAL Date	09/10/2006	Analyzed	12/06/2006 18:36
CCal Filename(s)	F61206A_01 & F61206A_16	Injected By	SMT
Method Blank ID	BLANK-11620		

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.18	91	2,3,7,8-TCDF-13C	2.00	94
				2,3,7,8-TCDD-13C	2.00	84
				1,2,3,7,8-PeCDF-13C	2.00	101
2,3,7,8-TCDD	0.20	0.19	97	2,3,4,7,8-PeCDF-13C	2.00	104
				1,2,3,7,8-PeCDD-13C	2.00	122
				1,2,3,4,7,8-HxCDF-13C	2.00	94
1,2,3,7,8-PeCDF	1.00	1.04	104	1,2,3,6,7,8-HxCDF-13C	2.00	92
2,3,4,7,8-PeCDF	1.00	1.02	102	2,3,4,6,7,8-HxCDF-13C	2.00	98
				1,2,3,7,8,9-HxCDF-13C	2.00	93
				1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	1.00	0.89	89	1,2,3,6,7,8-HxCDD-13C	2.00	90
				1,2,3,4,6,7,8-HpCDF-13C	2.00	92
				1,2,3,4,7,8,9-HpCDF-13C	2.00	80
1,2,3,4,7,8-HxCDF	1.00	0.96	96	1,2,3,4,6,7,8-HpCDD-13C	2.00	102
1,2,3,6,7,8-HxCDF	1.00	0.97	97	OCDD-13C	4.00	95
2,3,4,6,7,8-HxCDF	1.00	0.98	98			
1,2,3,7,8,9-HxCDF	1.00	0.96	96	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.97	97	2,3,7,8-TCDD-37Cl4	0.20	75
1,2,3,6,7,8-HxCDD	1.00	1.02	102			
1,2,3,7,8,9-HxCDD	1.00	1.00	100			
1,2,3,4,6,7,8-HpCDF	1.00	1.00	100			
1,2,3,4,7,8,9-HpCDF	1.00	1.09	109			
1,2,3,4,6,7,8-HpCDD	1.00	0.90	90			
OCDF	2.00	1.66	83			
OCDD	2.00	1.83	92			

Qs = Quantity Spiked  
 Qm = Quantity Measured  
 Rec. = Recovery (Expressed as Percent)  
 P = Recovery outside of target range  
 X = Background subtracted value  
 Nn = Value obtained from additional analysis  
 NA = Not Applicable  
 \* = See Discussion

Report No.....1042387

## REPORT OF LABORATORY ANALYSIS

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**Method 8290 Spike Sample Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23500-KG06C DC106-9A-MS		
Lab Sample ID	1042387003-R-MS		
Filename	F61206A_12	Matrix	Solid
Total Amount Extracted	10.3 g	Dilution	NA
ICAL Date	09/10/2006	Extracted	12/04/2006
CCal Filename(s)	F61206A_01 & F61206A_16	Analyzed	12/06/2006 16:58
Method Blank ID	BLANK-11620	Injected By	SMT

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.23	117	2,3,7,8-TCDF-13C	2.00	104
				2,3,7,8-TCDD-13C	2.00	85
				1,2,3,7,8-PeCDF-13C	2.00	101
2,3,7,8-TCDD	0.20	0.24	121	2,3,4,7,8-PeCDF-13C	2.00	104
				1,2,3,7,8-PeCDD-13C	2.00	119
				1,2,3,4,7,8-HxCDF-13C	2.00	96
1,2,3,7,8-PeCDF	1.00	1.33	133	1,2,3,6,7,8-HxCDF-13C	2.00	88
				2,3,4,6,7,8-HxCDF-13C	2.00	94
				1,2,3,7,8,9-HxCDF-13C	2.00	92
2,3,4,7,8-PeCDF	1.00	1.28	128	1,2,3,4,7,8-HxCDF-13C	2.00	95
				1,2,3,6,7,8-HxCDD-13C	2.00	83
				1,2,3,4,6,7,8-HpCDF-13C	2.00	88
1,2,3,7,8-PeCDD	1.00	1.15	115	1,2,3,4,7,8,9-HpCDF-13C	2.00	82
				1,2,3,4,6,7,8-HpCDD-13C	2.00	103
				OCDD-13C	4.00	97
1,2,3,4,7,8-HxCDF	1.00	1.12	112	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
				2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDF	1.00	1.22	122			
2,3,4,6,7,8-HxCDF	1.00	1.23	123			
1,2,3,7,8,9-HxCDF	1.00	1.24	124			
1,2,3,4,7,8-HxCDD	1.00	1.22	122			
1,2,3,6,7,8-HxCDD	1.00	1.30	130			
1,2,3,7,8,9-HxCDD	1.00	1.30	130			
1,2,3,4,6,7,8-HpCDF	1.00	1.32	132			
1,2,3,4,7,8,9-HpCDF	1.00	1.39	139			
1,2,3,4,6,7,8-HpCDD	1.00	1.31	131			
OCDF	2.00	2.35	117			
OCDD	2.00	4.72	236			

Qs = Quantity Spiked  
 Qm = Quantity Measured  
 Rec. = Recovery (Expressed as Percent)  
 P = Recovery outside of target range of 40-135%  
 X = Background subtracted value  
 E = PCDE Interference  
 Nn = Value obtained from additional analysis  
 NA = Not Applicable  
 \* = See Discussion

Report No.....1042387

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**Method 8290 Spike Sample Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23500-KG06C DC106-9A-MSD		
Lab Sample ID	1042387003-R-MSD		
Filename	F61206A_13	Matrix	Solid
Total Amount Extracted	10.3 g	Dilution	NA
ICAL Date	09/10/2006	Extracted	12/04/2006
CCal Filename(s)	F61206A_01 & F61206A_16	Analyzed	12/06/2006 17:47
Method Blank ID	BLANK-11620	Injected By	SMT

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.21	103	2,3,7,8-TCDF-13C	2.00	99
				2,3,7,8-TCDD-13C	2.00	87
				1,2,3,7,8-PeCDF-13C	2.00	102
2,3,7,8-TCDD	0.20	0.21	104	2,3,4,7,8-PeCDF-13C	2.00	106
				1,2,3,7,8-PeCDD-13C	2.00	123
				1,2,3,4,7,8-HxCDF-13C	2.00	97
1,2,3,7,8-PeCDF	1.00	1.16	116	1,2,3,6,7,8-HxCDF-13C	2.00	90
2,3,4,7,8-PeCDF	1.00	1.10	110	2,3,4,6,7,8-HxCDF-13C	2.00	94
1,2,3,7,8-PeCDD	1.00	0.97	97	1,2,3,7,8,9-HxCDF-13C	2.00	91
				1,2,3,4,7,8-HxCDD-13C	2.00	94
				1,2,3,6,7,8-HxCDD-13C	2.00	86
1,2,3,4,7,8-HxCDF	1.00	0.99	99	1,2,3,4,6,7,8-HpCDF-13C	2.00	89
1,2,3,6,7,8-HxCDF	1.00	1.09	109	1,2,3,4,7,8,9-HpCDF-13C	2.00	77
2,3,4,6,7,8-HxCDF	1.00	1.09	109	OCDD-13C	4.00	94
1,2,3,7,8,9-HxCDF	1.00	1.08	108	1,2,3,4-TCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.09	109	1,2,3,7,8,9-HxCDD-13C	2.00	NA
				2,3,7,8-TCDD-37Cl4	0.20	86
				1,2,3,6,7,8-HxCDD	1.00	1.14
1,2,3,7,8,9-HxCDD	1.00	1.13	113			
1,2,3,4,6,7,8-HpCDF	1.00	1.15	115			
1,2,3,4,7,8,9-HpCDF	1.00	1.24	124			
1,2,3,4,6,7,8-HpCDD	1.00	1.16	116			
OCDF	2.00	1.97	98			
OCDD	2.00	3.44	172			

Qs = Quantity Spiked  
 Qm = Quantity Measured  
 Rec. = Recovery (Expressed as Percent)  
 P = Recovery outside of target range of 40-135%  
 X = Background subtracted value  
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### Method 8290 Spike Sample Results

Client - Analytical Resources Inc.

Client Sample ID 06-23500-KG06C DC106-9A  
Lab Sample ID 1042387003-R  
MS ID 1042387003-R-MS  
MSD ID 1042387003-R-MSD

Dry Weights  
Sample Amount 10.0 g  
MS Amount 10.0 g  
MSD Amount 10.0 g

Sample Filename F61206A\_05  
MS Filename F61206A\_12  
MSD Filename F61206A\_13

Analyte	Sample Conc. ng/Kg	MS/MSD Qs (ng)	MS Qm (ng)	MSD Qm (ng)	RPD	MS % Rec.	Background Subtracted MSD % Rec.	RPD
2,3,7,8-TCDF	0.306	0.20	0.23	0.21	13.2	116	101	13.3
2,3,7,8-TCDD	0.000	0.20	0.24	0.21	15.7	121	104	15.7
1,2,3,7,8-PeCDF	0.000	1.00	1.33	1.16	13.5	133	116	13.5
2,3,4,7,8-PeCDF	0.000	1.00	1.28	1.10	15.4	128	110	15.4
1,2,3,7,8-PeCDD	0.000	1.00	1.15	0.97	17.7	115	97	17.7
1,2,3,4,7,8-HxCDF	0.000	1.00	1.12	0.99	12.0	110	98	12.1
1,2,3,6,7,8-HxCDF	0.000	1.00	1.22	1.09	11.1	122	109	11.1
2,3,4,6,7,8-HxCDF	0.000	1.00	1.23	1.09	12.5	123	109	12.5
1,2,3,7,8,9-HxCDF	0.000	1.00	1.24	1.08	13.4	124	108	13.4
1,2,3,4,7,8-HxCDD	0.000	1.00	1.22	1.09	12.0	122	109	12.0
1,2,3,6,7,8-HxCDD	0.000	1.00	1.30	1.14	13.1	130	113	13.1
1,2,3,7,8,9-HxCDD	0.000	1.00	1.30	1.13	14.0	130	113	14.0
1,2,3,4,6,7,8-HpCDF	6.804	1.00	1.32	1.15	14.0	125	108	14.8
1,2,3,4,7,8,9-HpCDF	1.092	1.00	1.39	1.24	12.1	138	122	12.2
1,2,3,4,6,7,8-HpCDD	17.324	1.00	1.31	1.16	11.9	114	99	13.9
OCDF	19.029	2.00	2.35	1.97	17.7	108	89	19.5
OCDD	157.926	2.00	4.72	3.44	31.6	157	93	51.6

#### Definitions

- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- Qm = Quantity Measured
- Qs = Quantity Spiked
- % Rec. = Percent Recovery
- RPD = Relative Percent Difference
- CDD = Chlorinated dibenzo-p-dioxin
- CDF = Chlorinated dibenzo-p-furan
- T = Tetra
- Pe = Penta
- Hx = Hexa
- Hp = Hepta
- O = Octa

**Method 8290 Spike Sample Results**

Client - Analytical Resources Inc.

Client's Sample ID	06-23502-KG06E DC106-3A-MS		
Lab Sample ID	1042387005-MS		
Filename	U61201A_13	Matrix	Solid
Total Amount Extracted	30.5 g	Dilution	NA
ICAL Date	09/19/2006	Extracted	11/21/2006
CCal Filename(s)	U61130A_21 & U61201A_16	Analyzed	12/01/2006 14:25
Method Blank ID	BLANK-11543	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.20	99	2,3,7,8-TCDF-13C	2.00	92
				2,3,7,8-TCDD-13C	2.00	41
				1,2,3,7,8-PeCDF-13C	2.00	83
2,3,7,8-TCDD	0.20	0.20	101	2,3,4,7,8-PeCDF-13C	2.00	86
				1,2,3,7,8-PeCDD-13C	2.00	89
				1,2,3,4,7,8-HxCDF-13C	2.00	87
1,2,3,7,8-PeCDF	1.00	1.18	118	1,2,3,6,7,8-HxCDF-13C	2.00	89
2,3,4,7,8-PeCDF	1.00	1.04	104	2,3,4,6,7,8-HxCDF-13C	2.00	87
				1,2,3,7,8,9-HxCDF-13C	2.00	88
				1,2,3,4,7,8-HxCDD-13C	2.00	72
1,2,3,7,8-PeCDD	1.00	0.96	96	1,2,3,6,7,8-HxCDD-13C	2.00	83
				1,2,3,4,6,7,8-HpCDF-13C	2.00	72
1,2,3,4,7,8-HxCDF	1.00	1.00	100	1,2,3,4,7,8,9-HpCDF-13C	2.00	67
1,2,3,6,7,8-HxCDF	1.00	1.08	108	1,2,3,4,6,7,8-HpCDD-13C	2.00	70
2,3,4,6,7,8-HxCDF	1.00	1.07	107	OCDD-13C	4.00	76
1,2,3,7,8,9-HxCDF	1.00	1.04	104	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.07	107	2,3,7,8-TCDD-37Cl4	0.20	40
1,2,3,6,7,8-HxCDD	1.00	1.15	115			
1,2,3,7,8,9-HxCDD	1.00	1.14	114			
1,2,3,4,6,7,8-HpCDF	1.00	1.23	123			
1,2,3,4,7,8,9-HpCDF	1.00	1.14	114			
1,2,3,4,6,7,8-HpCDD	1.00	1.73	173			
OCDF	2.00	2.45	123			
OCDD	2.00	7.62	381			

Qs = Quantity Spiked  
 Qm = Quantity Measured  
 Rec. = Recovery (Expressed as Percent)  
 P = Recovery outside of target range of 40-135%  
 X = Background subtracted value  
 E = PCDE Interference  
 Nn = Value obtained from additional analysis  
 NA = Not Applicable  
 \* = See Discussion

Report No.....1042387

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### Method 8290 Spike Sample Results

Client - Analytical Resources Inc.

Client's Sample ID	06-23502-KG06E DC106-3A-MSD		
Lab Sample ID	1042387005-MSD		
Filename	U61201A_14	Matrix	Solid
Total Amount Extracted	30.3 g	Dilution	NA
ICAL Date	09/19/2006	Extracted	11/21/2006
CCal Filename(s)	U61130A_21 & U61201A_16	Analyzed	12/01/2006 15:14
Method Blank ID	BLANK-11543	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.20	98	2,3,7,8-TCDF-13C	2.00	106
				2,3,7,8-TCDD-13C	2.00	38 P
				1,2,3,7,8-PeCDF-13C	2.00	92
2,3,7,8-TCDD	0.20	0.19	97	2,3,4,7,8-PeCDF-13C	2.00	98
				1,2,3,7,8-PeCDD-13C	2.00	99
				1,2,3,4,7,8-HxCDF-13C	2.00	97
1,2,3,7,8-PeCDF	1.00	1.18	118	1,2,3,6,7,8-HxCDF-13C	2.00	101
2,3,4,7,8-PeCDF	1.00	1.05	105	2,3,4,6,7,8-HxCDF-13C	2.00	100
1,2,3,7,8-PeCDD	1.00	0.96	96	1,2,3,7,8,9-HxCDF-13C	2.00	99
				1,2,3,4,7,8-HxCDD-13C	2.00	82
				1,2,3,6,7,8-HxCDD-13C	2.00	96
1,2,3,4,7,8-HxCDF	1.00	0.98	98	1,2,3,4,6,7,8-HpCDF-13C	2.00	82
1,2,3,6,7,8-HxCDF	1.00	1.09	109	1,2,3,4,7,8,9-HpCDF-13C	2.00	78
2,3,4,6,7,8-HxCDF	1.00	1.05	105	1,2,3,4,6,7,8-HpCDD-13C	2.00	78
1,2,3,7,8,9-HxCDF	1.00	1.04	104	OCDD-13C	4.00	90
1,2,3,4,7,8-HxCDD	1.00	1.05	105	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
				2,3,7,8-TCDD-37Cl4	0.20	38
1,2,3,6,7,8-HxCDD	1.00	1.14	114			
1,2,3,7,8,9-HxCDD	1.00	1.12	112			
1,2,3,4,6,7,8-HpCDF	1.00	1.17	117			
				1,2,3,4,7,8,9-HpCDF	1.00	1.15
1,2,3,4,6,7,8-HpCDD	1.00	1.47	147			
OCDF	2.00	2.21	110			
OCDD	2.00	4.99	250			

Qs = Quantity Spiked  
Qm = Quantity Measured  
Rec. = Recovery (Expressed as Percent)  
P = Recovery outside of target range of 40-135%  
X = Background subtracted value  
E = PCDE Interference  
Nn = Value obtained from additional analysis  
NA = Not Applicable  
\* = See Discussion

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Pace Analytical Services, Inc.  
1700 Elm Street - Suite 200  
Minneapolis, MN 55414

Tel: 612-607-1700  
Fax: 612-607-6444

### Method 8290 Spike Sample Results

Client - Analytical Resources Inc.

Client Sample ID 06-23502-KG06E DC106-3A  
Lab Sample ID 1042387005-R  
MS ID 1042387005-MS  
MSD ID 1042387005-MSD

Dry Weights  
Sample Amount 10.3 g  
MS Amount 25.2 g  
MSD Amount 25.1 g

Sample Filename F61206A\_06  
MS Filename U61201A\_13  
MSD Filename U61201A\_14

Analyte	Sample Conc. ng/Kg	MS/MSD Qs (ng)	MS Qm (ng)	MSD Qm (ng)	RPD	MS % Rec.	Background Subtracted MSD % Rec.	RPD
2,3,7,8-TCDF	0.000	0.20	0.20	0.20	0.7	99	98	0.7
2,3,7,8-TCDD	0.000	0.20	0.20	0.19	3.6	101	97	3.6
1,2,3,7,8-PeCDF	0.000	1.00	1.18	1.18	0.2	118	118	0.2
2,3,4,7,8-PeCDF	0.000	1.00	1.04	1.05	0.4	104	105	0.4
1,2,3,7,8-PeCDD	0.000	1.00	0.96	0.96	0.5	96	96	0.5
1,2,3,4,7,8-HxCDF	0.000	1.00	1.00	0.98	2.1	100	98	2.1
1,2,3,6,7,8-HxCDF	0.000	1.00	1.08	1.09	0.3	108	109	0.3
2,3,4,6,7,8-HxCDF	0.000	1.00	1.07	1.05	1.2	107	105	1.2
1,2,3,7,8,9-HxCDF	0.000	1.00	1.04	1.04	0.1	104	104	0.1
1,2,3,4,7,8-HxCDD	0.000	1.00	1.07	1.05	1.8	107	105	1.8
1,2,3,6,7,8-HxCDD	1.219	1.00	1.15	1.14	0.7	112	111	0.7
1,2,3,7,8,9-HxCDD	0.000	1.00	1.14	1.12	2.0	114	112	2.0
1,2,3,4,6,7,8-HpCDF	3.640	1.00	1.23	1.17	4.9	114	108	5.3
1,2,3,4,7,8,9-HpCDF	0.000	1.00	1.14	1.15	1.1	114	115	1.1
1,2,3,4,6,7,8-HpCDD	17.862	1.00	1.73	1.47	16.2	128	103	22.3
OCDF	5.582	2.00	2.45	2.21	10.5	115	103	11.2
OCDD	126.440	2.00	7.62	4.99	41.7	221	91	83.8

#### Definitions

MS = Matrix Spike  
MSD = Matrix Spike Duplicate  
Qm = Quantity Measured  
Qs = Quantity Spiked  
% Rec. = Percent Recovery  
RPD = Relative Percent Difference

CDD = Chlorinated dibenzo-p-dioxin  
CDF = Chlorinated dibenzo-p-furan  
T = Tetra  
Pe = Penta  
Hx = Hexa  
Hp = Hepta  
O = Octa





**Client:** Floyd Snider

**Project No.:** KG06

**Client Project:** DCL- Marina

### Case Narrative

1. Nine samples were received on November 18, 2006, and were in good condition.
2. The samples were submitted for grain size analysis according to Puget Sound Estuary Protocols (PSEP) methodology.
3. The triplicate was chosen on one sample from another job, which is reported in the attached QA summary.
4. PSEP methodology calls for between 5 to 25 grams of sediment passing the #230 sieve for the pipette portion of the analysis.
5. The data is provided in summary tables and plots.
6. There were no other noted anomalies in the samples or methods on this project.

Approved by:  
Title:

*Stuena Smith*  
Lead Technician

Date:

*12/14/06*

Floyd Snider  
DCL-Marina

Apparent Grain Size Distribution Summary  
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt					Clay					
	-3	-2	-1						0	1	2	3	4	5	6	7	8	9	10
Phi Size																			
Sieve Size (microns)	3/8"	#4	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (62)											
RS-02-111406-C	100.0	100.0	99.5	98.6	96.5	77.1	42.1	21.0	13.4	8.8	6.0	4.4	3.0	2.2					
RS-02-111406-C	100.0	99.8	99.3	98.7	96.6	77.9	43.3	22.2	14.1	9.0	6.2	4.4	3.0	1.9					
RS-02-111406-C	100.0	100.0	99.7	99.0	96.9	77.5	42.8	22.0	14.0	9.2	6.2	4.4	3.0	2.2					
DC106-1a	100.0	82.9	59.5	49.9	43.0	28.4	16.1	11.7	10.2	8.6	6.9	5.6	4.5	3.4					
DC106-8a	100.0	80.1	70.6	64.1	51.3	29.2	18.3	14.5	11.4	8.5	6.4	5.2	4.3	3.4					
DC106-6a	100.0	73.8	60.9	50.3	40.8	27.1	10.7	6.3	4.7	3.4	2.8	2.3	1.9	1.3					
DC106-3a	100.0	90.0	72.6	60.7	50.5	36.7	26.3	20.1	16.4	12.7	9.8	7.5	5.7	4.3					
DC106-7a	100.0	100.0	99.4	97.8	95.9	92.0	79.6	56.4	35.7	24.2	18.3	14.5	11.9	8.9					
DC106-5a	100.0	100.0	96.8	93.6	89.7	83.7	71.6	59.8	52.1	35.6	28.3	22.0	18.3	13.5					
DC106-2a	100.0	70.5	58.6	50.2	38.4	21.0	12.3	10.2	4.9	4.0	3.2	2.6	2.1	1.5					
DC106-2-D	100.0	95.4	84.6	73.7	56.3	22.6	11.2	8.3	5.7	4.6	3.6	2.8	2.2	1.6					
DC106-4a	100.0	87.8	78.0	72.9	68.4	59.4	42.1	27.6	17.1	13.0	10.4	8.0	6.9	5.2					

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

Floyd Snider  
DCL-Marina

Apparent Grain Size Distribution Summary  
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
											7 to 8	8 to 9	9 to 10	
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (-62)
RS-02-111406-C	0.5	0.9	2.1	19.4	35.0	21.1	7.6	4.6	2.8	1.5	1.5	0.8	2.2	21.0
RS-02-111406-C	0.7	0.6	2.1	18.7	34.6	21.1	8.1	5.1	2.9	1.7	1.5	1.1	1.9	22.2
RS-02-111406-C	0.3	0.7	2.1	19.4	34.7	20.8	8.0	4.8	3.0	1.7	1.4	0.8	2.2	22.0
DC106-1a	40.5	9.7	6.8	14.7	12.2	4.4	1.5	1.7	1.6	1.3	1.1	1.1	3.4	11.7
DC106-8a	29.4	6.5	12.8	22.1	10.9	3.9	3.1	2.9	2.0	1.2	0.9	1.0	3.4	14.5
DC106-6a	39.1	10.6	9.5	13.7	16.4	4.4	1.6	1.3	0.7	0.5	0.4	0.6	1.3	6.3
DC106-3a	27.4	11.9	10.1	13.8	10.4	6.2	3.7	3.7	2.9	2.3	1.8	1.5	4.3	20.1
DC106-7a	0.6	1.6	1.9	3.9	12.5	23.1	20.7	11.5	5.9	3.8	2.6	2.9	8.9	56.4
DC106-5a	3.2	3.3	3.9	6.0	12.1	11.8	7.7	16.5	7.4	6.2	3.7	4.8	13.5	59.8
DC106-2a	41.4	8.4	11.8	17.4	8.7	2.2	5.3	0.9	0.8	0.6	0.5	0.6	1.5	10.2
DC106-2-D	15.4	10.9	17.3	33.7	11.4	2.9	2.7	1.1	0.9	0.8	0.6	0.6	1.6	8.3
DC106-4a	22.0	5.2	4.5	9.0	17.3	14.5	10.5	4.1	2.6	2.4	1.1	1.6	5.2	27.6

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

## DATA QUALIFIERS FOR PHYSICAL ANALYSES

- SM** Indicates that the sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with moisture content, porosity, and saturation calculations that assume only water is present. It can also cause particles to adhere to one another, causing errors in grain size distribution analyses.
- SS** Indicates that the sample was not appropriate for the method requested because it did not contain the proportion of "fines" required to perform the pipette portion of the analysis.
- W** Indicates that the amount of sample in some pipette readings was below the level required for accurate weighing, resulting in negative weights, which were adjusted to eliminate the negative value.
- F** Indicates that the samples were frozen prior to particle size determination.

**QA SUMMARY**

PROJECT:	Floyd Snider	Project No.:	DCL-Marina
ARI Triplicate Sample ID:	KF99 G	Batch No.:	KG06 -1
Client Triplicate Sample ID:	RS-02-111406-C	Page:	1 of 1

Sample ID	Relative Standard Deviation, By Phi Size													
	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
S-02-111406-	100.0	100.0	99.5	98.6	96.5	77.1	42.1	21.0	13.4	8.8	6.0	4.4	3.0	2.2
S-02-111406-	100.0	99.8	99.3	98.7	96.6	77.9	43.3	22.2	14.1	9.0	6.2	4.4	3.0	1.9
S-02-111406-	100.0	100.0	99.7	99.0	96.9	77.5	42.8	22.0	14.0	9.2	6.2	4.4	3.0	2.2
AVE	NA	99.92	99.52	98.76	96.68	77.50	42.73	21.76	13.83	9.02	6.11	4.44	2.99	2.13
STDEV	NA	0.14	0.17	0.18	0.20	0.39	0.60	0.65	0.40	0.20	0.11	0.00	0.04	0.17
%RSD	NA	0.14	0.17	0.18	0.21	0.50	1.39	2.98	2.90	2.21	1.87	0.10	1.38	7.99

The Triplicate Applies To The Following Samples

Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5.0-25.0g)
RS-02-111406-C	11/17/2006	12/6/2006	12/13/2006	100.5		8.3
RS-02-111406-C	11/17/2006	12/6/2006	12/13/2006	99.9		8.7
RS-02-111406-C	11/17/2006	12/6/2006	12/13/2006	99.6		8.5
DC106-1a	11/17/2006	12/6/2006	12/13/2006	98.9		6.1
DC106-8a	11/17/2006	12/6/2006	12/13/2006	100.1		7.4
DC106-6a	11/17/2006	12/6/2006	12/13/2006	99.5		7.9
DC106-3a	11/17/2006	12/6/2006	12/13/2006	99.5		10.0
DC106-7a	11/17/2006	12/6/2006	12/13/2006	99.4		16.8
DC106-5a	11/17/2006	12/6/2006	12/13/2006	100.0		13.6
DC106-2a	11/17/2006	12/6/2006	12/13/2006	104.8		13.0
DC106-2-D	11/17/2006	12/6/2006	12/13/2006	101.5		10.3
DC106-4a	11/17/2006	12/6/2006	12/13/2006	102.7		12.8

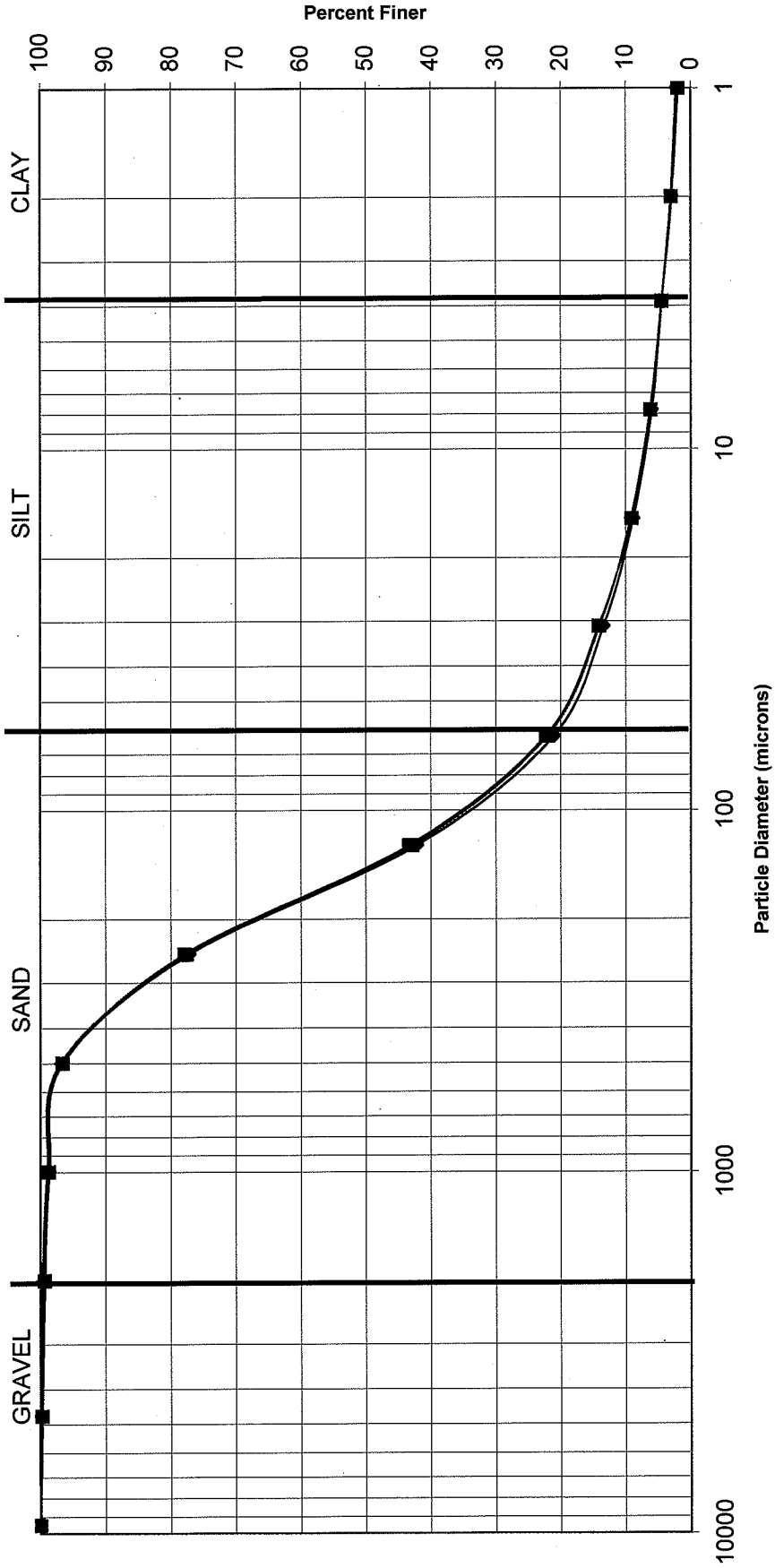
\* ARI Internal QA limits = 95-105%

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

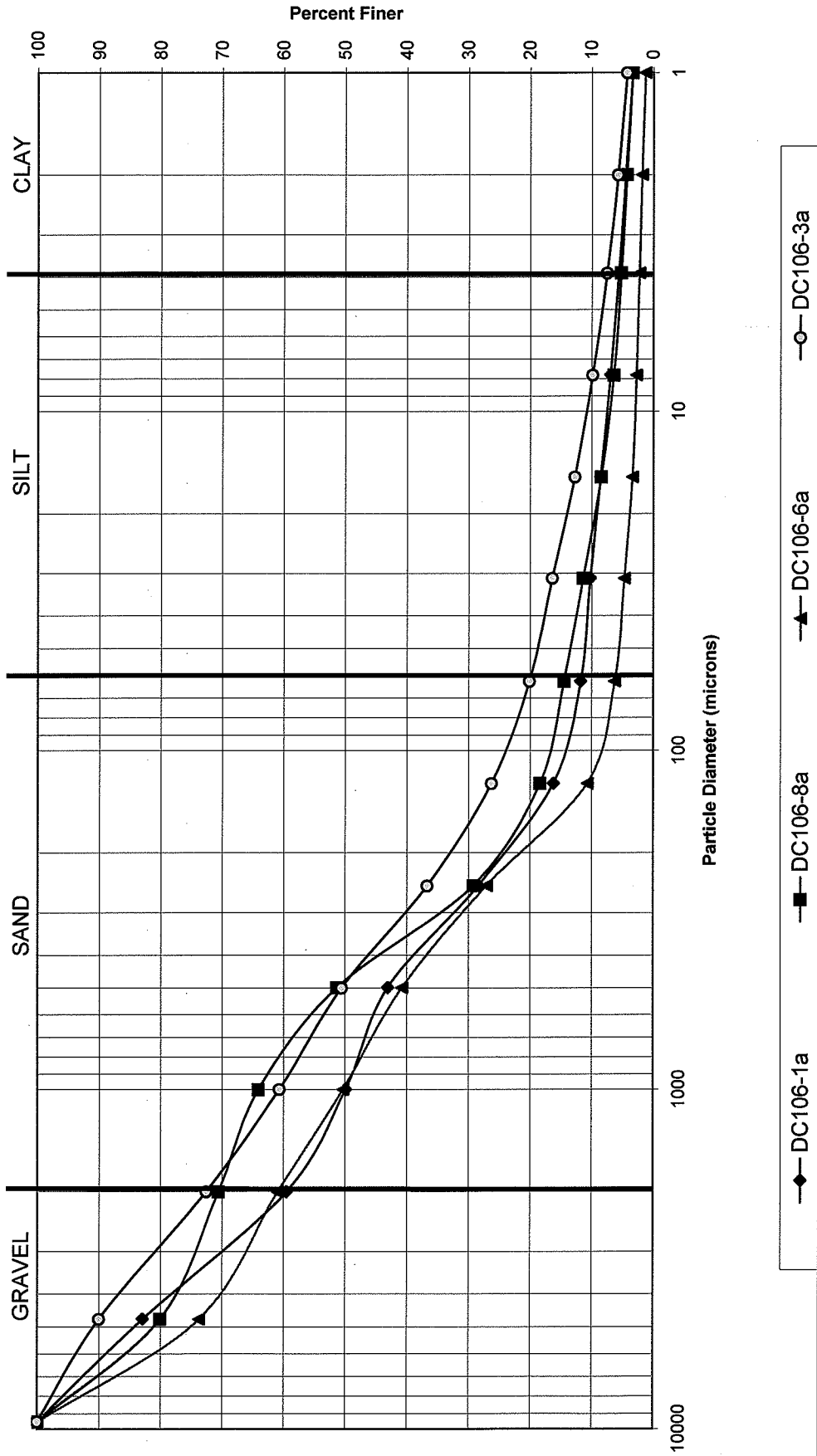
### PSEP Grain Size Distribution

Triplicate Sample Plot

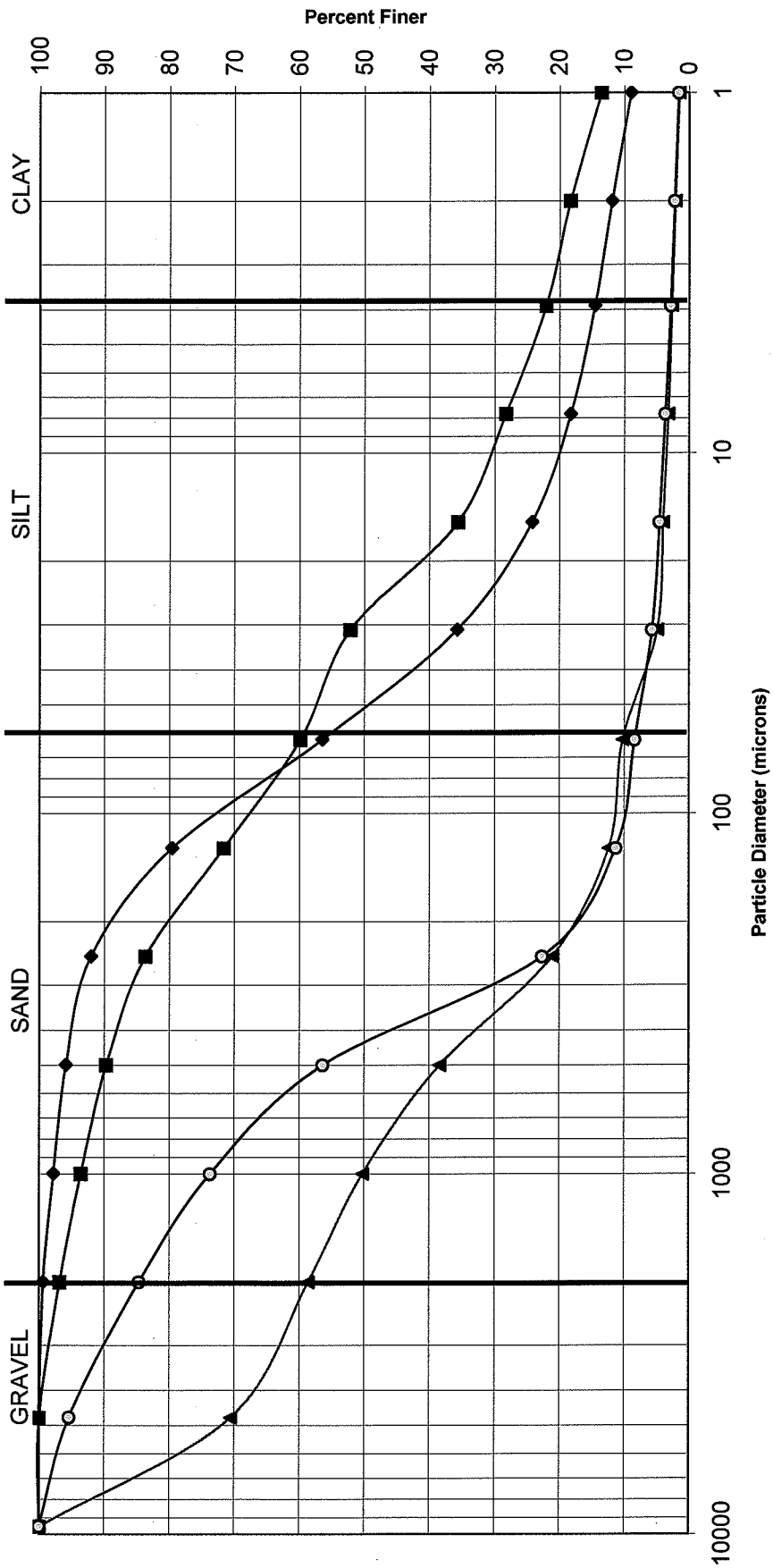


RS-02-111406-C  
 RS-02-111406-C  
 RS-02-111406-C

# PSEP Grain Size Distribution

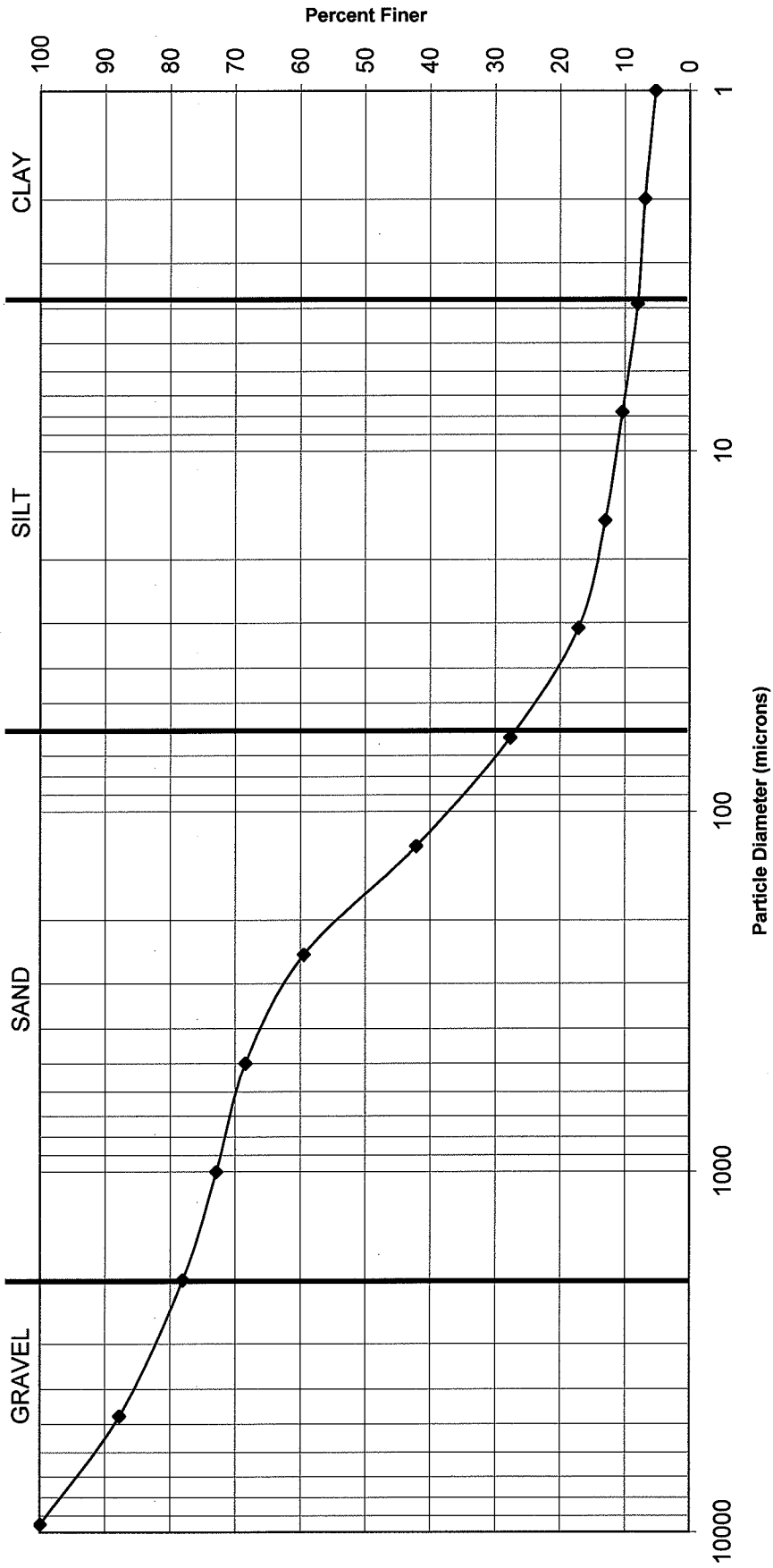


# PSEP Grain Size Distribution





# PSEP Grain Size Distribution



—◆— DC106-4a



**Analytical Resources, Incorporated**

Analytical Chemists and Consultants

December 21, 2006

Jessi Massingale  
Floyd Snider  
Two Union Square  
601 Union Street, Suite 600  
Seattle, WA 98101-2341

**RE: Project: DCI Marina**  
**ARI Job No: KJ09**

Dear Jessi:

Please find enclosed the original chain of custody documentation (COC) and the final results for the samples from the project referenced above.

Thirteen sediment samples were received November 18, 2006 under ARI Job KG06. The cooler temperature measure by IR thermometer following ARI SOP was 4.0° C. Samples were received in good condition with no discrepancies in paperwork. On November 20<sup>th</sup>, emailed instructions were received to put four samples on hold until the Dioxin results were completed for all samples.

On December 18<sup>th</sup>, ARI was instructed to complete the analysis of the four hold samples on a rush basis. Analyses were completed with no incidents and results are reported.

An electronic copy of this report as well as all supporting raw data will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Susan D. Dunnihoo  
Client Services Manager  
206-695-6207  
sue@arilabs.com

Enclosures

cc: Efile KJ09

SD/sdrd

# Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated  
 Analytical Chemists and Consultants  
 4611 South 134th Place, Suite 100  
 Tukwila, WA 98168  
 206-695-6200 206-695-6201 (fax)



Page: 1 of 2  
 Date: 11/17/06  
 No. of Coolers: 1  
 Ice Present? Y  
 Cooler Temps: 4°F

ARI Assigned Number: HG06  
 Turn-around Requested:  
 ARI Client Company: FLOYD SWIDER  
 Phone: (206) 292-2078  
 Client Contact: JESSI MASSINGALE  
 Client Project Name: DCI  
 Client Project #: DCI-Marine  
 Samplers: JESSI MASSINGALE

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested				Notes/Comments
					Tic/TS	GS	Dioxin 8390		
DC106-1a	11/17/06	1351	Sediment	3	✓	✓			
DC106-8a	11/17/06	1328	Sediment	3	✓				
DC106-9a	11/17/06	1041	Sediment	3	✓				
DC106-6a	11/17/06	1538	Sediment	3	✓				
DC106-3a	11/17/06	1610	Sediment	3	✓				
DC106-7a	11/17/06	1202	Sediment	3	✓				
DC106-7b	11/17/06	1150	Sediment	3	✓				
DC106-5a	11/17/06	1126	Sediment	3	✓				
DC106-5b	11/17/06	1116	Sediment	3	✓				
DC106-2a	11/17/06	1301	Sediment	3	✓	✓			
Comments/Special Instructions	Relinquished by: (Signature) <i>Jessi Massingale</i> Relinquished by: (Signature) <i>Susan Dunning</i> Printed Name: JESSI MASSINGALE Company: FLS Date & Time: 11/18/06 9:40				Received by: (Signature) <i>Susan Dunning</i> Received by: (Signature) <i>ANA</i> Printed Name: SUSAN DUNNING Company: ANA Date & Time: 11/18/06 9:40				

**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, notwithstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



# Chain of Custody Record & Laboratory Analysis Request

Analytical Resources, Incorporated  
 Analytical Chemists and Consultants  
 4611 South 134th Place, Suite 100  
 Tukwila, WA 98168  
 206-695-6200 206-695-6201 (fax)



ARI Assigned Number: **5606** Turn-around Requested: \_\_\_\_\_  
 Page: **2** of **2**  
 ARI Client Company: **FLOYD SNIDER** Phone: **(206) 292-2078**  
 Date: **11/17/06** Ice Present? **Y**  
 Client Contact: **JESSI MASSINGALE**  
 No. of Coolers: **1** Cooler Temps: **3°F**  
 Client Project Name: **DCI**

Analysis Requested \_\_\_\_\_

Notes/Comments \_\_\_\_\_

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested	Notes/Comments
DC106-2-D	11/17/06	1311	Sediment	3	✓	✓
DC106-4a	11/17/06	1439	Sediment	3	✓	✓
DC106-4b	11/17/06	1430	Sediment	3	✓	✓

Comments/Special Instructions	Relinquished by: (Signature) <i>Jessi Massingale</i> Printed Name: <b>JESSI MASSI</b> Company: <b>FIS</b> Date & Time: <b>11/18/06 9:40</b>	Received by: (Signature) <i>Sue Dunning</i> Printed Name: <b>SUE DUNNING</b> Company: <b>ARA</b> Date & Time: <b>11/18/06 9:40</b>
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**Limits of Liability:** ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.

**Sample Retention Policy:** All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.



# Cooler Receipt Form



ARI Client: Floyd Snider Project Name: DCI  
DOC NO.: \_\_\_\_\_ Delivered By: J. Massimale  
Tracking NO.: \_\_\_\_\_ Date: 11/18/06  
ARI Job No.: KG66 Lims NO.: 06-23498 to 06-23510

### Preliminary Examination Phase:

1. Were intact, properly signed and dated custody seals attached  
To the outside of the cooler? ..... N/A - Hand Delivered YES  NO
2. Were custody papers included with the cooler ..... YES  NO
3. Were custody papers properly filled out (ink, signed etc.)? ..... YES  NO
4. Complete custody forms and attach all shipping documents ..... OK  NA

Cooler Accepted BY: [Signature] Date: 11/18/06 Time: 9:40

### Log-IN Phase:

5. Was a temperature blank include in the cooler? ..... YES  NO
6. Record Cooler Temperature ..... 3.0, 4.0°C
7. What kind of packing material was used? ..... Bubble wrap/bags
8. Was sufficient ice used (if appropriate)? ..... YES  NO
9. Were all bottles sealed in ~~separate~~ plastic bags? ..... YES  NO
10. Did all bottles arrive in good condition (unbroken)? ..... YES  NO
11. Were all bottle labels complete and legible? ..... YES  NO
12. Did all bottle labels and tags agree with custody papers? ..... YES  NO
13. Were all bottles used correct for the requested analyses? ..... YES  NO
14. Do any of the analyses (bottles) require preservative?  
(If so, Preservation checklist must be attached) ..... YES  NO
15. Were all VOA vials free of air bubbles? ..... ~~YES~~ NO
16. Was sufficient amount of sample sent in each bottle? ..... YES  NO
17. Notify Project Manager of any discrepancies or concerns ..... OK  NA

Cooler Opened By: [Signature] Date: 11/20/06 Time: 12:30

plain any discrepancies or negative responses:

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## Sue Dunnihoo

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**From:** Jessi Massingale [jessi.massingale@floydsnider.com]  
**Sent:** Monday, November 20, 2006 8:13 AM  
**To:** Sue Dunnihoo  
**Subject:** DCI Sed Samples To Archive

Hi Sue,

I left you a voicemail this morning about four sediment samples that we would like to have archived at ARI until we receive the results of the dioxin testing.

Here are the four samples:

DCI06-7b  
DCI06-5b  
DCI06-4b  
DCI06-9a

Thank you

J

Jessi Massingale  
**FLOYD|SNIDER**  
Two Union Square  
601 Union Street  
Suite 600  
Seattle, WA 98101-2341  
Tel: (206) 292-2078 Ext. 2157  
Fax: (206) 682-7867  
<mailto:jessi.massingale@floydsnider.com>

## Sue Dunnihoo

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**From:** Jessi Massingale [jessi.massingale@floydsnider.com]  
**Sent:** Monday, December 18, 2006 10:25 AM  
**To:** Sue Dunnihoo  
**Subject:** RE: Data

Hi Sue,

I realized last week that the dioxin analysis was ran for all samples including those that on the ARI COC we stated to be held. Which is fine, but I just realized that those samples weren't analyzed for TOC,TS, or GS. There are four samples, DCI06-4B, DCI06-5B, DCI06-7B, and DCI06-9A.

Is there anyway we can get the TOC,TS, and GS ran on these ASAP? I am working on the data report to Ecology. Thank you.

Jessi

---

**From:** Sue Dunnihoo [mailto:sue@arilabs.com]  
**Sent:** Monday, December 18, 2006 10:20 AM  
**To:** Jessi Massingale  
**Subject:** Data

Sorry about the delay. - Sue

Susan D. Dunnihoo  
206-695-6207



Client: Floyd Snider

Project No.: KJ09

Client Project: DCI: DCL-Marina

### Case Narrative

1. Four samples were submitted for grain size analysis according to PSEP methodology.
2. The samples were run in a single batch, and sample DC106-7b was chosen for triplicate analysis. The triplicate data is reported on the QA summary.
3. Sample DC106-9a was sand and contained fewer than the required 5 grams in the pipette portion of the analysis. When this occurs, we generally run the samples anyway, and flag the data. Our balance has a capacity of about 200 g (by 0.0001), and a sample size that would give 5 grams of fines could not be split and stay within the capacity of the balance.
4. Samples DC106-7b, DC106-5b and DC106-4b contained woody matter, which may have broken down during the sieving process, affecting grain size analysis.
5. Sample DC106-4b contained abundant shells and shell fragments.
6. Sample DC106-7b had a fuel odor.
7. The data is provided in summary tables and plots.
8. There were no other noted anomalies in this project.

Approved by: \_\_\_\_\_

Title:

*Taylor McKenzie*  
Lead Technician

Date:

*12/21/06*



## DATA QUALIFIERS FOR PHYSICAL ANALYSES

- SM** Indicates that the sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with moisture content, porosity, and saturation calculations that assume only water is present. It can also cause particles to adhere to one another, causing errors in grain size distribution analyses.
- SS** Indicates that the sample was not appropriate for the method requested because it did not contain the proportion of "fines" required to perform the pipette portion of the analysis.
- W** Indicates that the amount of sample in some pipette readings was below the level required for accurate weighing, resulting in negative weights, which were adjusted to eliminate the negative value.
- F** Indicates that the samples were frozen prior to particle size determination.

Floyd Snider  
DCI: DCL-Marina

Apparent Grain Size Distribution Summary  
Percent Finer Than Indicated Size

Sample No.	Gravel			Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Silt					Clay				
	-3	-2	-1						0	1	2	3	4	5	6	7	8	9
Phi Size																		
Sieve Size (microns)	3/8"	#4	#10 (2000)	#18 (1000)	#35 (500)	#60 (250)	#120 (125)	#230 (62)	31.00	15.60	7.80	3.90	2.00	1.00				
DC106-7b	100.0	98.0	97.9	97.2	95.6	90.6	77.1	56.9	35.4	22.4	16.6	13.5	10.9	8.0				
DC106-7b	100.0	98.2	97.7	96.9	95.2	90.7	77.7	57.0	34.4	22.0	16.3	13.1	10.6	8.0				
DC106-7b	100.0	100.0	99.6	98.7	97.2	92.6	79.5	58.2	34.8	22.3	16.5	13.3	10.9	8.2				
DC106-9a	100.0	100.0	100.0	99.9	97.0	18.9	0.3	0.2	NA	NA	NA	NA	NA	NA				
DC106-5b	100.0	100.0	98.6	96.4	93.9	89.8	77.5	64.4	52.5	40.4	31.6	24.9	19.6	13.9				
DC106-4b	100.0	75.6	67.3	62.7	59.2	52.4	37.9	27.8	20.6	14.9	11.1	8.4	6.5	4.4				

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

KJ09

Floyd Snider  
DCI: DCL-Marina

Apparent Grain Size Distribution Summary  
Percent Retained in Each Size Fraction

Sample No.	Gravel	Very Coarse Sand	Coarse Sand	Medium Sand	Fine Sand	Very Fine Sand	Coarse Silt	Medium Silt	Fine Silt	Very Fine Silt	Clay			Total Fines
											9 to 10	8 to 9	7 to 8	
Phi Size	> -1	-1 to 0	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 7	7 to 8	8 to 9	9 to 10	< 10	<4
Sieve Size (microns)	> #10 (2000)	10 to 18 (2000-1000)	18-35 (1000-500)	35-60 (500-250)	60-120 (250-125)	120-230 (125-62)	62.5-31.0	31.0-15.6	15.6-7.8	7.8-3.9	3.9-2.0	2.0-1.0	<1.0	<230 (-62)
DC106-7b	2.1	0.7	1.6	4.9	13.5	20.2	21.5	13.0	5.8	3.1	2.6	2.8	8.0	56.9
DC106-7b	2.3	0.9	1.7	4.5	13.1	20.7	22.6	12.4	5.7	3.2	2.5	2.7	8.0	57.0
DC106-7b	0.4	0.8	1.6	4.6	13.1	21.3	23.4	12.5	5.8	3.2	2.4	2.7	8.2	58.2
DC106-9a	0.0	0.1	2.9	78.1	18.7	0.0	NA	NA	NA	NA	NA	NA	NA	0.2
DC106-5b	1.4	2.2	2.5	4.1	12.3	13.0	11.9	12.1	8.8	6.7	5.3	5.7	13.9	64.4
DC106-4b	32.7	4.6	3.5	6.8	14.5	10.1	7.2	5.6	3.9	2.6	1.9	2.1	4.4	27.8

Notes to the Testing:

1. Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

QA SUMMARY

PROJECT:	Floyd Snider	Project No.:	DCI: DCL-Marina
ARI Triplicate Sample ID:	KJ09 B	Batch No.:	KJ09 -1
Client Triplicate Sample ID:	DC106-7b	Page:	1 of 1

Sample ID	Relative Standard Deviation, By Phi Size													
	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
DC106-7b	100.0	98.0	97.9	97.2	95.6	90.6	77.1	56.9	35.4	22.4	16.6	13.5	10.9	8.0
DC106-7b	100.0	98.2	97.7	96.9	95.2	90.7	77.7	57.0	34.4	22.0	16.3	13.1	10.6	8.0
DC106-7b	100.0	100.0	99.6	98.7	97.2	92.6	79.5	58.2	34.8	22.3	16.5	13.3	10.9	8.2
AVE	NA	98.73	98.41	97.59	95.97	91.32	78.08	57.37	34.87	22.23	16.45	13.28	10.81	8.06
STDEV	NA	1.10	1.02	0.99	1.04	1.11	1.23	0.73	0.52	0.18	0.14	0.18	0.14	0.09
%RSD	NA	1.12	1.03	1.02	1.08	1.21	1.58	1.27	1.49	0.82	0.85	1.38	1.34	1.14

The Triplicate Applies To The Following Samples

Client ID	Date Sampled	Date Extracted	Date Complete	QA Ratio (95-105)	Data Qualifiers	Pipette Portion (5.0-25.0g)
DC106-7b	11/17/2006	12/19/2006	12/21/2006	102.4		16.7
DC106-7b	11/17/2006	12/19/2006	12/21/2006	102.1		17.0
DC106-7b	11/17/2006	12/19/2006	12/21/2006	101.6		17.0
DC106-9a	11/17/2006	12/19/2006	12/21/2006	100.1	SS	0.3
DC106-5b	11/17/2006	12/19/2006	12/21/2006	101.2		14.9
DC106-4b	11/17/2006	12/19/2006	12/21/2006	102.2		17.4

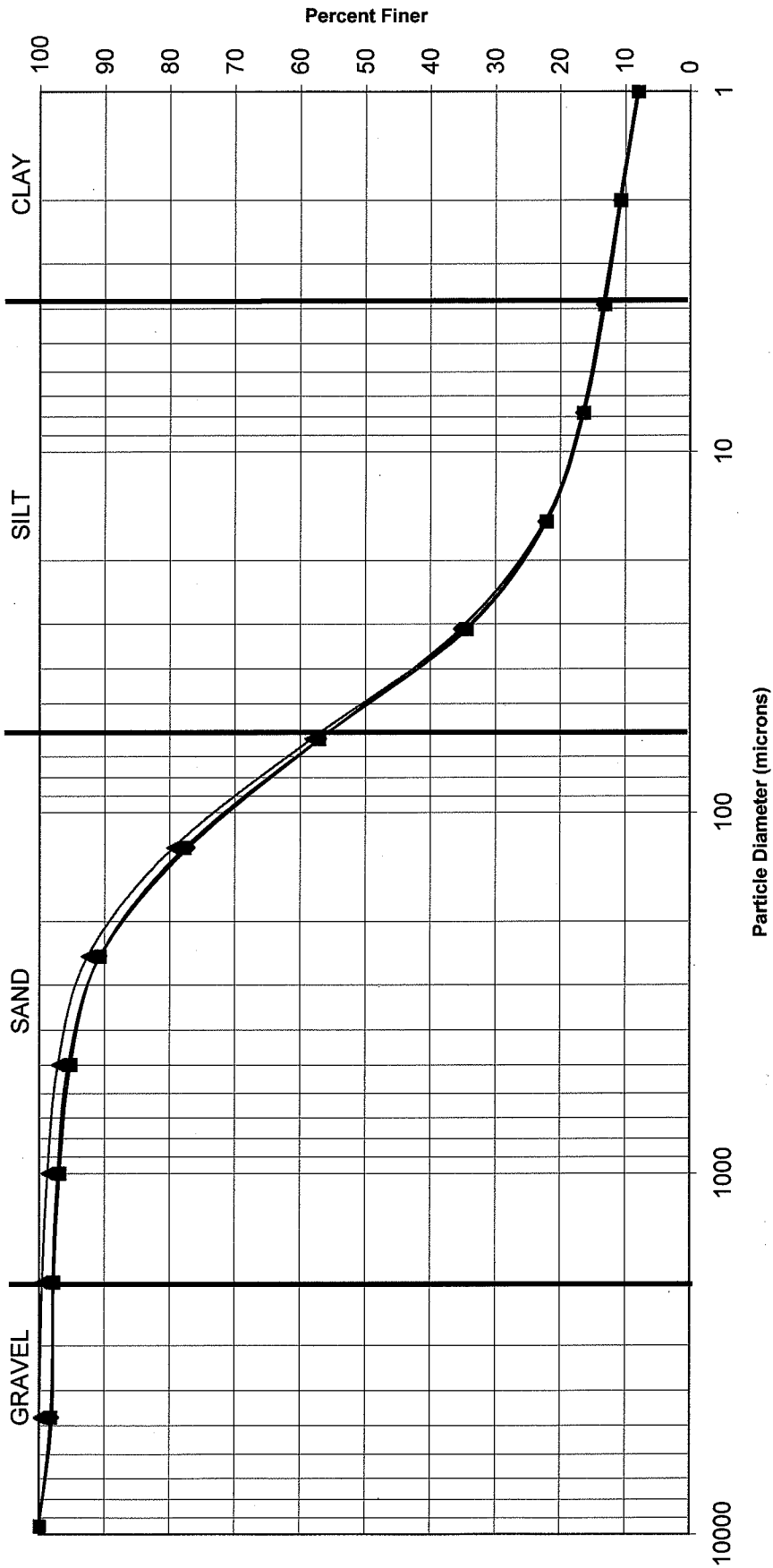
\* ARI Internal QA limits = 95-105%

Notes to the Testing:

- Organic matter was not removed prior to testing, thus the reported values are the "apparent" grain size distribution. See narrative for discussion of the testing.

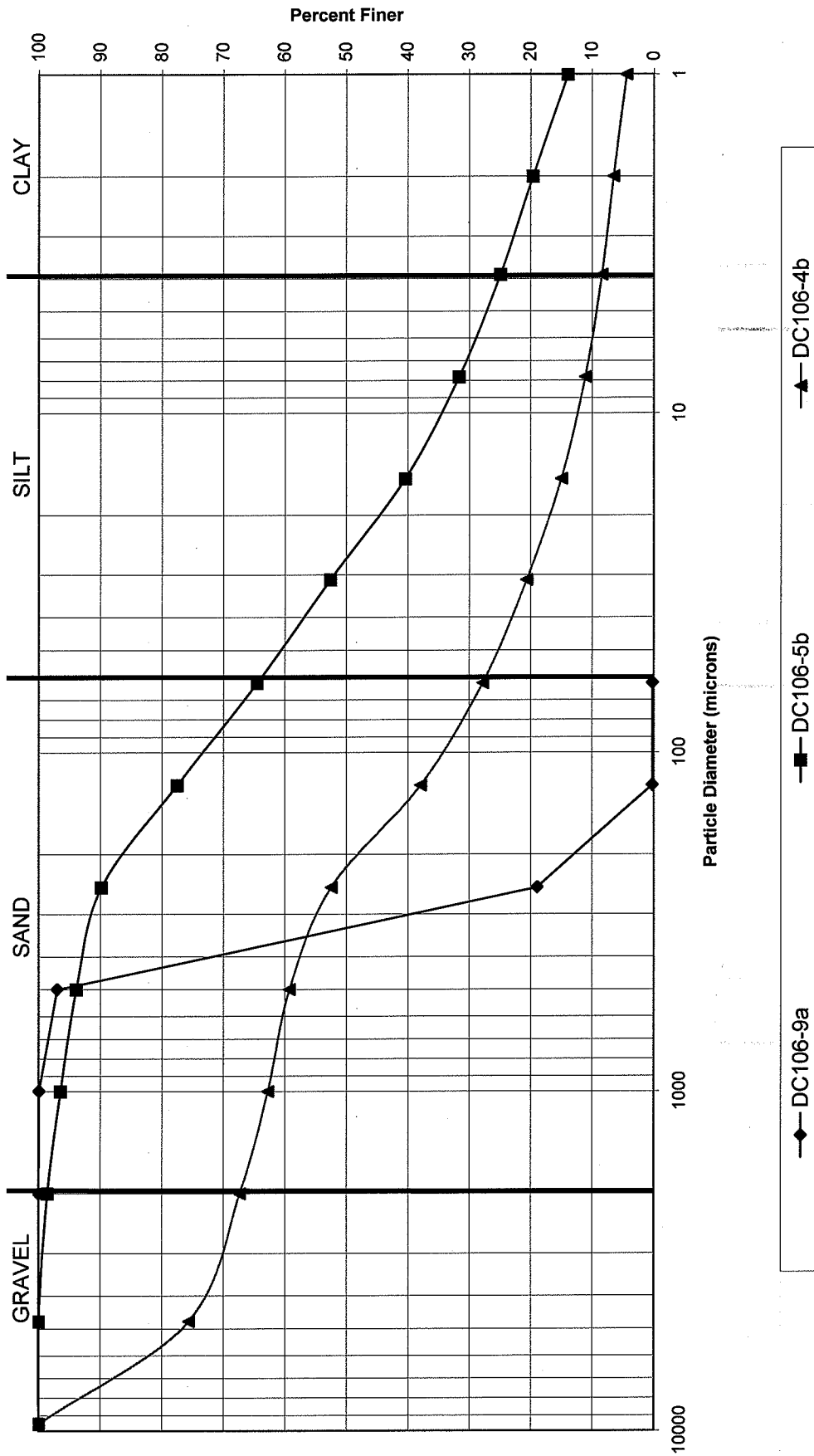
# PSEP Grain Size Distribution

Triplicate Sample Plot



Legend:  
—◆— DC106-7b  
—■— DC106-7b  
—▲— DC106-7b

# PSEP Grain Size Distribution



SAMPLE RESULTS-CONVENTIONALS  
KJ09-Floyd Snider



Matrix: Sediment  
Data Release Authorized  
Reported: 12/21/06

A handwritten signature in black ink, appearing to be 'F. Snider', written over the 'Data Release Authorized' text.

Project: DCI  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06


Client ID: DC106-9a  
ARI ID: 06-25045 KJ09A

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/18/06 121806#1	EPA 160.3	Percent	0.01	95.80
Total Organic Carbon	12/20/06 122006#1	Plumb, 1981	Percent	0.020	0.239

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
KJ09-Floyd Snider



Matrix: Sediment  
Data Release Authorized:   
Reported: 12/21/06

Project: DCI  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-7b  
ARI ID: 06-25046 KJ09B

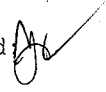
Analyte	Date	Method	Units	RL	Sample
Total Solids	12/18/06 121806#1	EPA 160.3	Percent	0.01	57.20
Total Organic Carbon	12/20/06 122006#1	Plumb,1981	Percent	0.020	1.06

RL Analytical reporting limit  
U Undetected at reported detection limit



SAMPLE RESULTS-CONVENTIONALS  
KJ09-Floyd Snider



Matrix: Sediment  
Data Release Authorized:   
Reported: 12/21/06

Project: DCI  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-5b  
ARI ID: 06-25047 KJ09C

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/18/06 121806#1	EPA 160.3	Percent	0.01	42.90
Total Organic Carbon	12/20/06 122006#1	Plumb,1981	Percent	0.020	2.88

RL Analytical reporting limit  
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS  
KJ09-Floyd Snider



Matrix: Sediment  
Data Release Authorized  
Reported: 12/21/06

A handwritten signature in black ink, appearing to be 'Floyd Snider', written over the 'Data Release Authorized' text.

Project: DCI  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Client ID: DC106-4b  
ARI ID: 06-25048 KJ09D

Analyte	Date	Method	Units	RL	Sample
Total Solids	12/18/06 121806#1	EPA 160.3	Percent	0.01	59.60
Total Organic Carbon	12/20/06 122006#1	Plumb, 1981	Percent	0.020	3.43

RL Analytical reporting limit  
U Undetected at reported detection limit

METHOD BLANK RESULTS-CONVENTIONALS  
KJ09-Floyd Snider



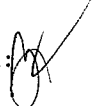
Matrix: Sediment  
Data Release Authorized *AS*  
Reported: 12/21/06

Project: DCI  
Event: DCL-MARINA  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	Blank
Total Solids	12/18/06	Percent	< 0.01 U
Total Organic Carbon	12/20/06	Percent	< 0.020 U

LAB CONTROL RESULTS-CONVENTIONALS  
KJ09-Floyd Snider




Matrix: Sediment  
Data Release Authorized:   
Reported: 12/21/06

Project: DCI  
Event: DCL-MARINA  
Date Sampled: NA  
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Total Organic Carbon	12/20/06	Percent	0.476	0.500	95.2%

STANDARD REFERENCE RESULTS-CONVENTIONALS  
KJ09-Floyd Snider




Matrix: Sediment  
Data Release Authorized:   
Reported: 12/21/06

Project: DCI  
Event: DCL-MARINA  
Date Sampled: NA  
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Total Organic Carbon NIST #8704	12/20/06	Percent	3.35	3.35	100.0%

REPLICATE RESULTS-CONVENTIONALS  
KJ09-Floyd Snider



Matrix: Sediment  
Data Release Authorized:   
Reported: 12/21/06

Project: DCI  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Analyte	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: KJ09B Client ID: DC106-7b					
Total Solids	12/18/06	Percent	57.20	56.10 57.10	1.1%
Total Organic Carbon	12/20/06	Percent	1.06	1.10 1.24	8.3%

MS/MSD RESULTS-CONVENTIONALS  
KJ09-Floyd Snider



Matrix: Sediment  
Data Release Authorized: *[Signature]*  
Reported: 12/21/06

Project: DCI  
Event: DCL-MARINA  
Date Sampled: 11/17/06  
Date Received: 11/18/06

Analyte	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: KJ09B Client ID: DC106-7b						
Total Organic Carbon	12/20/06	Percent	1.06	2.12	1.17	90.9%