AR_M60050_002982
MCAS EL TORO
SSIC NO. 5090.3.A

SOUTHWESTNAVFACENGCOM
Code 06CC.LMH
San Diego, CA

File: etswtr22April2003toOCHCAUST308UST30.doc

TRANSMITTAL

Date: 22 April 2003

From: Lynn Marie Hornecker

To: **Ms. Arghavan Rashidi-Fard**
Orange County Health Care Agency (OCHCA)
2009 East Edinger Avenue
Santa Ana, CA 92705

Subj: Underground Storage Tank (UST) Removal Documentation
UST 30 and UST 308, Former Marine Corps Air Station, El Toro

Transmitted as the attachment is documentation for Underground Storage Tank (UST) 30 and UST 308 at the former Marine Corps Air Station, El Toro. The attached documentation includes the chain of custody forms and the laboratory reports for samples collected at these tank sites.

Please do not hesitate to call me at (619) 532-0783 if you have questions pertaining to this information transmittal.

Attachment
- Information Package, UST 30 and UST 308, Former MCAS El Toro

CF: w/o attachment
Andy Piszkin (BRAC Environmental Coordinator, MCAS El Toro)
Scott Kehe (CSO, MCAS El Toro)
Project File (MCAS El Toro)

SOUTHWESTNAVFACENGCOM
Code 06CC.LMH
1220 Pacific Highway
San Diego, CA 92132
Telephone: (619) 532-0783/Fax: (619) 532-0780

File: eltoroar.doc

TRANSMITTAL

Date: 12 June 2003

From: Lynn Marie Hornecker
MCAS El Toro

To: Diane Silva
Code ~~01LS.DS~~ 05G.DS

Subj: CERCLA Administrative Record Materials
Marine Corps Air Station, El Toro

Installation: Marine Corps Air Station, El Toro

UIC Number: M60050

Document Title (or subject): Tank 308

Author: Arghavan Rashidi-Fard OCHCA

Recipient: Patricia Hannon RWQCB

Record Date: 6 June 2003

Approximate Number of Pages: 200

EPA Category: 01.1

Sites: UST 308

Key Words: Petroleum

Contract: N/A

CTO Number: N/A

UST 308 is located near IRP Site 3.

GEOFON
INCORPORATED

GEOFON TRANSMITTAL/DELIVERABLE RECEIPT

CONTRACT No.: N68711-02-F-8210

TO: Naval Facilities Engineering Command
Southwest Division
Lynn Hornecker
1220 Pacific Highway
San Diego, California 92132-5190

DATE: 22-April-03

D.O.:

LOCATION: MCAS El Toro

FROM: Asrar Faheem, Senior Project Manager

Anthony Ford, Senior Geologist

DESCRIPTION OF ENCLOSURE: **Data Packages for UST 30 and UST 308 Marine Corps Air Station, El Toro, California**

TYPE: Contract Deliverable ( ) ($) D.O. Deliverable (**X**) (Tech) Request for Change ( ) Other ( )

VERSION: FINAL **REVISION:** 0

ADMIN RECORD: Yes ( ) No (**X**) Category ( ) Confidential ( )

DELIVERY DATE: 22-April-03

NUMBER OF COPIES SUBMITTED TO THE NAVY: 3 each
(AS REQUIRED/DIRECTED BY THE SOW)

COPIES TO: **SWDIV**	**GEOFON**	**OTHER**
Name, Code	Name, Location	Name, Company, Location
(✓) L. Hornecker, SWDIV RPM (1C)	( ) File (1E)	( ) A. Rashidi-Fard , OCHCA (1O)
( ) S. Kehe, SWDIV (1C)	( )	( )
( )	( )	( )
( )	( )	( )

Date/Time Received: _____ / _____

APCL

Applied Physics & Chemistry Laboratory

13760 Magnolia Ave. Chino CA 91710
Tel. (909) 590-1828 Fax (909) 590-1498

April 17, 2003

GEOFON, Inc.
Attention: Leo Williamson
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765

Dear Leo Williamson,

This package contains samples in our Service ID 03-2343 and your project : MCAS El Toro. Enclosed please find:

(1) Original analytical report.
(2) Original Chain of Custody.
(3) One diskette containing EDD deliverable.
(4) One original Level C Data Package Deliverable.

If anything is missing or you have any questions, please feel free to contact me.

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

DISKETTE CONTAINING EDD DELIVERABLE

THIS DISKETTE IS NOT AVAILABLE.

EXTENSIVE RESEARCH WAS PERFORMED BY NAVFAC SOUTHWEST RECORDS OFFICE TO LOCATE THE MISSING DISKETTE. THIS PAGE HAS BEEN INSERTED AS A PLACEHOLDER AND WILL BE REPLACED SHOULD THE MISSING ITEM BE LOCATED.

FOR ADDITIONAL INFORMATION, CONTACT:

DIANE C. SILVA, RECORDS MANAGER
NAVAL FACILITIES ENGINEERING COMMAND, SOUTHWEST
1220 PACIFIC HIGHWAY
SAN DIEGO, CA 92132

TELEPHONE: (619) 556-1280
E-MAIL: diane.silva@navy.mil

LABORATORY RESULTS

UNDERGROUND STORAGE TANK 30

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Leo Williamson
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-032343
Collected by: Leo Williamson
Collected on: 03/20/03

Received: 03/20/03
Extracted: 03/24/03
Tested: 03/24-26/03
Reported: 03/31/03

Sample Description: Soil from Bldg # 30, Santa Ana.
Project Description: MCAS El Toro

Analysis of Soil Samples

Component Analyzed	Method	Unit	PQL	Analysis Result UST-30-SP-1 03-02343-1
MOISTURE, PERCENT	ASTM-D2216	%Moisture	0.5	28.1
TRPH	418.1	mg/kg	20	157
Dilution Factor				1
PHC AS DIESEL FUEL	M8015E	mg/kg	10	<14
Dilution Factor				1
MOTOR OILS	M8015E	mg/kg	10	14
VOLATILE ORGANICS				
Dilution Factor				1
ACETONE	8260B	μg/kg	50	<70
BENZENE	8260B	μg/kg	5	<7.0
BROMOBENZENE	8260B	μg/kg	5	<7.0
BROMOCHLOROMETHANE	8260B	μg/kg	5	<7.0
BROMODICHLOROMETHANE	8260B	μg/kg	5	<7.0
BROMOFORM	8260B	μg/kg	5	<7.0
BROMOMETHANE	8260B	μg/kg	5	<7.0
METHYL ETHYL KETONE	8260B	μg/kg	100	<140
N-BUTYLBENZENE	8260B	μg/kg	5	<7.0
SEC-BUTYLBENZENE	8260B	μg/kg	5	<7.0
T-BUTYLBENZENE	8260B	μg/kg	5	<7.0
CARBON DISULFIDE	8260B	μg/kg	5	<7.0
CARBON TETRACHLORIDE	8260B	μg/kg	5	<7.0
CHLOROBENZENE	8260B	μg/kg	5	<7.0
DIBROMOCHLOROMETHANE	8260B	μg/kg	5	<7.0
CHLOROETHANE	8260B	μg/kg	5	<7.0
CHLOROFORM	8260B	μg/kg	5	<7.0
CHLOROMETHANE	8260B	μg/kg	5	<7.0
2-CHLOROTOLUENE	8260B	μg/kg	5	<7.0
4-CHLOROTOLUENE	8260B	μg/kg	5	<7.0
1,2-DIBROMO-3-CHLOROPROPANE	8260B	μg/kg	5	<7.0
1,2-DIBROMOETHANE	8260B	μg/kg	5	<7.0
DIBROMOMETHANE	8260B	μg/kg	5	<7.0
1,2-DICHLOROBENZENE	8260B	μg/kg	5	<7.0
1,3-DICHLOROBENZENE	8260B	μg/kg	5	<7.0
1,4-DICHLOROBENZENE	8260B	μg/kg	5	<7.0
DICHLORODIFLUOROMETHANE	8260B	μg/kg	5	<7.0
1,1-DICHLOROETHANE	8260B	μg/kg	5	<7.0
1,2-DICHLOROETHANE	8260B	μg/kg	5	<7.0

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result UST-30-SP-1 03-02343-1
1,1-DICHLOROETHENE	8260B	µg/kg	5	<7.0
CIS-1,2-DICHLOROETHENE	8260B	µg/kg	5	<7.0
TRANS-1,2-DICHLOROETHENE	8260B	µg/kg	5	<7.0
1,2-DICHLOROPROPANE	8260B	µg/kg	5	<7.0
1,3-DICHLOROPROPANE	8260B	µg/kg	5	<7.0
2,2-DICHLOROPROPANE	8260B	µg/kg	5	<7.0
1,1-DICHLOROPROPENE	8260B	µg/kg	5	<7.0
CIS-1,3-DICHLOROPROPENE	8260B	µg/kg	5	<7.0
TRANS-1,3-DICHLOROPROPENE	8260B	µg/kg	5	<7.0
ETHYLBENZENE	8260B	µg/kg	5	<7.0
HEXACHLOROBUTADIENE	8260B	µg/kg	5	<7.0
ISOPROPYLBENZENE (CUMENE)	8260B	µg/kg	5	<7.0
P-CYMENE (P-ISOPROPYLTOLUENE)	8260B	µg/kg	5	<7.0
METHYLENE CHLORIDE	8260B	µg/kg	5	<7.0
METHYL ISOBUTYL KETONE	8260B	µg/kg	50	<70
TERT-BUTYL METHYL ETHER	8260B	µg/kg	10	<14
NAPHTHALENE	8260B	µg/kg	5	<7.0
N-PROPYLBENZENE	8260B	µg/kg	5	<7.0
STYRENE	8260B	µg/kg	5	<7.0
1,1,1,2-TETRACHLOROETHANE	8260B	µg/kg	5	<7.0
1,1,2,2-TETRACHLOROETHANE	8260B	µg/kg	5	<7.0
TETRACHLOROETHENE(PCE)	8260B	µg/kg	5	<7.0
TOLUENE	8260B	µg/kg	5	<7.0
1,2,3-TRICHLOROBENZENE	8260B	µg/kg	5	<7.0
1,2,4-TRICHLOROBENZENE	8260B	µg/kg	5	<7.0
1,1,1-TRICHLOROETHANE	8260B	µg/kg	5	<7.0
1,1,2-TRICHLOROETHANE	8260B	µg/kg	5	<7.0
TRICHLOROETHENE (TCE)	8260B	µg/kg	5	<7.0
TRICHLOROFLUOROMETHANE	8260B	µg/kg	5	<7.0
1,2,3-TRICHLOROPROPANE	8260B	µg/kg	5	<7.0
1,2,4-TRIMETHYLBENZENE	8260B	µg/kg	5	<7.0
1,3,5-TRIMETHYLBENZENE	8260B	µg/kg	5	<7.0
VINYL CHLORIDE	8260B	µg/kg	5	<7.0
O-XYLENE	8260B	µg/kg	5	<7.0
M,P-XYLENE	8260B	µg/kg	10	<14
TERT BUTYL ALCOHOL (TBA)	8260B	µg/kg	20	<28
DIISOPROPYL ETHER (DIPE)	8260B	µg/kg	5	<7.0
ETHYL TERT BUTYL ETHER (ETBE)	8260B	µg/kg	5	<7.0
TERT AMYL METHYL ETHER (TAME)	8260B	µg/kg	5	<7.0

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
† All results are reported on dry basis for soil samples.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Level C Data Package Deliverables

General Information

Project: MCAS El Toro

APCL Service ID: 03-2343

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino, CA 91710
Telephone (909)590-1828
Fax (909)590-1498

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Case Narrative

Project: MCAS El Toro/Bldg # 30, Santa Ana.

For GEOFON, Inc.

APCL Service No: 03-2343

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
UST-30-SP-1	03-02343-1

2. Analytical Methodology

Samples are analyzed by EPA methods

ASTM-D2216 (Moisture, percent in soil),
418.1 (TRPH),
M8015E (TPH: Diesel),
M8015E (TPH: Motor Oil),
8260B (Volatile organics),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

(1) M8015E:

Diesel recoveries in the MS/MSD spiked on the sample UST308-1-7' were outside of control limits due to high level of Extractable TPH in the parent sample.

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CHAIN OF CUSTODY
Orange County Health Care Agency
Environmental Health Division
2009 E. Edinger Ave., Santa Ana, CA 92705
Telephone: (714) 667-3700

1. **ALL SAMPLES ARE TO BE HANDLED AS COURT EVIDENCE, AND ARE TO BE PROPERLY STORED IN A SECURE LOCATION.**

2. **PLEASE WRITE LEGIBLY.**

3. **ATTACH THIS FORM TO THE ORIGINAL REPORT OF THE ANALYTICAL RESULTS AND RETURN THEM TO THIS OFFICE. LABORATORY RESULTS RECEIVED WITHOUT PROPER CHAIN OF CUSTODY DOCUMENTATION WILL NOT BE ACCEPTED.**

4. **TO BE COMPLETED BY LABORATORY ANALYST**

LAB NO.: 1431
DATE RECEIVED: 3/20/03
SAMPLE(S) CONDITION (PLEASE CHECK):
CHILLED: ✓ COUNTY SEAL(S) INTACT: ✓
CONTAINER IN GOOD CONDITION: ✓
DATE ANALYSIS COMPLETED: 3/24~26/03
ANALYST: [illegible]

5. **TO BE COMPLETED BY SAMPLE COLLECTOR**

SITE NAME/ADDRESS: MCAS El Toro Former Bldg. #30, Santa Ana
DATE OF COLLECTION: 3-20-03
SAMPLE COLLECTOR/COMPANY: L. Williamson Geofon Inc.
TELEPHONE NO.:
HCA REPRESENTATIVE: A. Rahidi-Tard

6.

SAMPLE NUMBER	DETERMINATION REQUESTED	SAMPLE DESCRIPTION/COMMENTS	TIME OF COLLECTION
UST30-SP-1	TRPH (418.1), TPH diesel (8015), BTEX, MTBE + fuel oxygenates (8260B)		
		2343	

7. **CHAIN OF CUSTODY**

	SIGNATURE	COMPANY/AGENCY	INCLUSIVE DATES/TIMES
1.	Nighavan Rahidi-Tard	Haz. Waste	3-20-03 . 11:25am
2.	Leah W. Williamson	GEOFON INC.	3/20/03 . 1130 Am
3.	[illegible]	APCL	3/20/03 . 1520
4.	[illegible]	APCL	3/20/03 . 1710
5.	[illegible]	APCL	3/20/03. 1710
6.			

WHITE-RETURN THIS COPY TO ENVIRONMENTAL HEALTH, CANARY-LABORATORY COPY
PINK-CONTRACTOR/CONSULTANT COPY, GOLDENROD-OFFICE COPY

F272-9.1531.1(R8/89) CRS

Applied P & Ch Laboratory
13760 Magnolia Ave., Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID: 2343 **Client Name/Project:** Geofon / El Toro

1. **Sample Arrival**

Date/Time Received 3/20/03 1710 Date/Time Opened 3/20/03 1710 By (name): Kenny Chan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Adam Wood

2. **Chain-of-Custody (CoC)**

☑ With Samples? ☑ Faxed? ☐ Client has Copy? ☐ Signed, dated? By: ____
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold ____ # Received 1
☑ CoC/Docs Zip-Locked under lid? ☐ Compos.#: ___ ☑ #Samples OK? ____
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs): ____

3. **Shipping Container/Cooler**

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C ____ ____ ____ ____ ____ ____

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☑ Intact ☐ Tampered?

4. **Sample Preservation**

☐ pH <2 ☐ pH >12

If Not, pH = ____ Preserved by: ☐ Client ☐ APCL ☐ Third Party ____

5. **Holding-time Requirements**

☐ pH 24hr ☐ BACT 6/24hr ☐ Cr^{VI} 24hr ☐ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. **Sample Container Condition**

☑ Intact? ☐ Broken? ☐ Documented? Number: ____

Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?

Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. **Turn Around Time**

☐ RUSH TAT: ____ ☑ Std (7-10 days) ☐ Not Marked

8. **Sample Matrix**

☐ Drinking H_2O ☐ Other Liq ☑ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: ____
☐ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. **Pre-Login Check List Completed & OK?**

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:____)Date/Time:____

Received/Checked by: [signature] Date: 21 Mar 2003 Time: 7:37 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [ueal.texfiles]smprcl.tex.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

03-02343 (0470_ 123) (2202777_ 123)

03/21/03

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*MCAS El Toro*
			NEDTS EDD
		Project #:	
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	*2000_0026*
		Client Database #:	~~02~~ 00 (LP 3/31/03)
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*03/20/03 1710*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*4.0 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Rush 5 working day(s)*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	UST-30-SP-1	Sleeve	03-02343-1	S	B		250	1	G	032003	N	0	7	☐

Part 3: Analysis Information

Test Items:

- ☑ *8260B* Volatile organics
- ☐ *M8015V/M8015G* Gasoline
- ☑ *M8015E/M8015D* TPH: Diesel
- ☑ *M8015E/M8015M* TPH: Motor Oil
- ☑ *418.1* TRPH
- ☐ *ASTM-D2216* Moisture, percent in soil
- ☐ *9040B/150.1* pH

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	8260	TPH	TPH	TPH	TRPH	MOISTURE	pH	
1	UST-30-SP-1	Sleeve	03-02343-1	S	X		X	X	X	X	X	☐

☐ Client"s Requirement: **FOR 8260, INCLUDE BTEX, MTBE, AND OXYGENATES**

Login By En-Yu Paul Kou

Check By PX

Error Summary Log

04/16/03

EDF 1.2i All files present in deliverable.

2605

Laboratory:	Applied Physics & Chemistry Laboratory, Chino, CA
Project Name:	NONE
Work Order Number:	NA
Global ID:	NA
Lab Report Number:	032343

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run Sub
032343	UST-30-SP-1	03-2343-1	SO	CS	D2216	NONE	03/20/03	03/24/03	03/24/03	03W2092	1
032343	UST-30-SP-1	03-2343-1	SO	CS	E418.1	NONE	03/20/03	03/25/03	03/25/03	03W2113	1
032343	UST-30-SP-1	03-2343-1	SO	CS	M8015	SW3550	03/20/03	03/24/03	03/24/03	03G1810	1
032343	UST-30-SP-1	03-2343-1	SO	CS	SW8260B	SW5035	03/20/03	03/26/03	03/26/03	03G1833	1
		03G1810LSD01	SQ	BD1	M8015	SW3550	/ /	03/24/03	03/24/03	03G1810	1
		03G1810LCS01	SQ	BS1	M8015	SW3550	/ /	03/24/03	03/24/03	03G1810	1
		03G1810MB01	SQ	LB1	M8015	SW3550	/ /	03/24/03	03/24/03	03G1810	1
		03-2345-1MS	SO	MS1	M8015	SW3550	/ /	03/24/03	03/24/03	03G1810	1
		03-2345-1MSD	SO	SD1	M8015	SW3550	/ /	03/24/03	03/24/03	03G1810	1
		03G1833LCS01	SQ	BS1	SW8260B	SW5035	/ /	03/26/03	03/26/03	03G1833	1
		03G1833MB01	SQ	LB1	SW8260B	SW5035	/ /	03/26/03	03/26/03	03G1833	1
		03-2343-1MS	SO	MS1	SW8260B	SW5035	/ /	03/26/03	03/26/03	03G1833	1
		03-2343-1MSD	SO	SD1	SW8260B	SW5035	/ /	03/26/03	03/26/03	03G1833	1
		03-2339-1MD	SO	LR1	D2216	NONE	/ /	03/24/03	03/24/03	03W2092	1
		03W2113LSD01	SQ	BD1	E418.1	NONE	/ /	03/25/03	03/25/03	03W2113	1
		03W2113LCS01	SQ	BS1	E418.1	NONE	/ /	03/25/03	03/25/03	03W2113	1
		03W2113MB01	SQ	LB1	E418.1	NONE	/ /	03/25/03	03/25/03	03W2113	1
		03-2345-1MD	SO	LR1	E418.1	NONE	/ /	03/25/03	03/25/03	03W2113	1

EDFSAMP: Error Summary Log

04/16/03

2601

Error type	Logcode	Projname	Npdlwo	Sampid	Matrix
There are no errors in this data file					

EDFTEST: Error Summary Log

04/16/03

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
There are no errors in this data file					/ /	0

EDFRES: Error Summary Log

04/16/03

2609

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	03-2343-1	CS	SO	D2216	PR	03/24/03	1	MOIST
Warning: extra parameter	03-2343-1	CS	SO	SW8260B	PR	03/26/03	1	XYLENES1314
Warning: extra parameter	03-2343-1	CS	SO	SW8260B	PR	03/26/03	1	TBA
Warning: extra parameter	03-2343-1	CS	SO	SW8260B	PR	03/26/03	1	DIPE
Warning: extra parameter	03-2343-1	CS	SO	SW8260B	PR	03/26/03	1	ETBE
Warning: extra parameter	03-2343-1	CS	SO	SW8260B	PR	03/26/03	1	TAME
Warning: extra parameter	03-2339-1MD	LR1	SO	D2216	PR	03/24/03	1	MOIST
Warning: extra parameter	03G1833MB01	LB1	SQ	SW8260B	PR	03/26/03	1	XYLENES1314
Warning: extra parameter	03G1833MB01	LB1	SQ	SW8260B	PR	03/26/03	1	TBA
Warning: extra parameter	03G1833MB01	LB1	SQ	SW8260B	PR	03/26/03	1	DIPE
Warning: extra parameter	03G1833MB01	LB1	SQ	SW8260B	PR	03/26/03	1	ETBE
Warning: extra parameter	03G1833MB01	LB1	SQ	SW8260B	PR	03/26/03	1	TAME

2610

EDFQC: Error Summary Log

04/16/03

Error type	Lablotctl	Anmcode	Parlabel	Qccode	Labqcid
There are no errors in this data files					

EDFCL: Error Summary Log

04/16/03

Error type	Clrevdate	Anmcode	Exmcode	Parlabel	Clcode
There are no errors in this data file	/ /				

2611

Level C Data Package Deliverables

Volatile Organics

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260B

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/26/2003
Project ID:	MCAS El Toro	Service ID:	032343	Collected by:	
		Lab Sample ID:	03G1833MB01	Received Date:	03/26/2003
Sample ID:		Sample Matrix	Soil	Moisture %:	
Sample Type:	Method Blank	Prep. Method:	5035	Instrument ID:	GC/MS: X
Anal. Method:	8260B	Prep. Date:	03/26/03	Anal. Date:	03/26/03
Batch No:	03G1833	Prep. No:	–	Anal. Time:	14:32
Data File Name:	G1833K01	Sample Amount:	5.0 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	ACETONE	67-64-1	µg/kg	50	<6.8	U
2	BENZENE	71-43-2	µg/kg	5	<0.21	U
3	BROMOBENZENE	108-86-1	µg/kg	5	<0.49	U
4	BROMOCHLOROMETHANE	74-97-5	µg/kg	5	<0.81	U
5	BROMODICHLOROMETHANE	75-27-4	µg/kg	5	<0.94	U
6	BROMOFORM	75-25-2	µg/kg	5	<0.40	U
7	BROMOMETHANE	74-83-9	µg/kg	5	<0.59	U
8	METHYL ETHYL KETONE	78-93-3	µg/kg	100	<3.6	U
9	N-BUTYLBENZENE	104-51-8	µg/kg	5	<0.57	U
10	SEC-BUTYLBENZENE	135-98-8	µg/kg	5	<0.30	U
11	T-BUTYLBENZENE	98-06-6	µg/kg	5	<0.11	U
12	CARBON DISULFIDE	75-15-0	µg/kg	5	<0.21	U
13	CARBON TETRACHLORIDE	56-23-5	µg/kg	5	<0.78	U
14	CHLOROBENZENE	108-90-7	µg/kg	5	<0.28	U
15	DIBROMOCHLOROMETHANE	124-48-1	µg/kg	5	<0.43	U
16	CHLOROETHANE	75-00-3	µg/kg	5	<0.75	U
17	CHLOROFORM	67-66-3	µg/kg	5	<0.46	U
18	CHLOROMETHANE	74-87-3	µg/kg	5	<0.33	U
19	2-CHLOROTOLUENE	95-49-8	µg/kg	5	<0.38	U
20	4-CHLOROTOLUENE	106-43-4	µg/kg	5	<0.45	U
21	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/kg	5	<1.3	U
22	1,2-DIBROMOETHANE	106-93-4	µg/kg	5	<0.26	U
23	DIBROMOMETHANE	74-95-3	µg/kg	5	<1.2	U
24	1,2-DICHLOROBENZENE	95-50-1	µg/kg	5	<0.19	U
25	1,3-DICHLOROBENZENE	541-73-1	µg/kg	5	<0.29	U
26	1,4-DICHLOROBENZENE	106-46-7	µg/kg	5	<0.20	U
27	DICHLORODIFLUOROMETHANE	75-71-8	µg/kg	5	<0.77	U
28	1,1-DICHLOROETHANE	75-34-3	µg/kg	5	<0.30	U
29	1,2-DICHLOROETHANE	107-06-2	µg/kg	5	<0.39	U
30	1,1-DICHLOROETHENE	75-35-4	µg/kg	5	<0.23	U
31	CIS-1,2-DICHLOROETHENE	156-59-2	µg/kg	5	<0.51	U
32	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/kg	5	<0.40	U
33	1,2-DICHLOROPROPANE	78-87-5	µg/kg	5	<0.52	U
34	1,3-DICHLOROPROPANE	142-28-9	µg/kg	5	<0.22	U
35	2,2-DICHLOROPROPANE	594-20-7	µg/kg	5	<0.81	U
36	1,1-DICHLOROPROPENE	563-58-6	µg/kg	5	<0.71	U
37	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/kg	5	<0.45	U
38	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/kg	5	<0.28	U
39	ETHYLBENZENE	100-41-4	µg/kg	5	<0.32	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	HEXACHLOROBUTADIENE	87-68-3	µg/kg	5	<0.57	U
41	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/kg	5	<0.25	U
42	P-CYMENE (P-ISOPROPYLTOLUENE)	99-87-6	µg/kg	5	<0.20	U
43	METHYLENE CHLORIDE	75-09-2	µg/kg	5	<0.52	U
44	METHYL ISOBUTYL KETONE	108-10-1	µg/kg	50	<0.50	U
45	TERT-BUTYL METHYL ETHER	1634-04-4	µg/kg	10	<0.36	U
46	NAPHTHALENE	91-20-3	µg/kg	5	<0.25	U
47	N-PROPYLBENZENE	103-65-1	µg/kg	5	<0.51	U
48	STYRENE	100-42-5	µg/kg	5	<0.25	U
49	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/kg	5	<0.54	U
50	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/kg	5	<0.47	U
51	TETRACHLOROETHENE(PCE)	127-18-4	µg/kg	5	<0.50	U
52	TOLUENE	108-88-3	µg/kg	5	<0.57	U
53	1,2,3-TRICHLOROBENZENE	87-61-6	µg/kg	5	<0.37	U
54	1,2,4-TRICHLOROBENZENE	120-82-1	µg/kg	5	<0.48	U
55	1,1,1-TRICHLOROETHANE	71-55-6	µg/kg	5	<0.78	U
56	1,1,2-TRICHLOROETHANE	79-00-5	µg/kg	5	<0.60	U
57	TRICHLOROETHENE (TCE)	79-01-6	µg/kg	5	<0.47	U
58	TRICHLOROFLUOROMETHANE	75-69-4	µg/kg	5	<0.40	U
59	1,2,3-TRICHLOROPROPANE	96-18-4	µg/kg	5	<0.66	U
60	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/kg	5	<0.28	U
61	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/kg	5	<0.45	U
62	VINYL CHLORIDE	75-01-4	µg/kg	5	<0.52	U
63	O-XYLENE	95-47-6	µg/kg	5	<0.18	U
64	M,P-XYLENE	108-38-3	µg/kg	10	<0.39	U
65	TERT BUTYL ALCOHOL (TBA)		µg/kg	20	<9.5	U
66	DIISOPROPYL ETHER (DIPE)		µg/kg	5	<0.31	U
67	ETHYL TERT BUTYL ETHER (ETBE)		µg/kg	5	<1.4	U
68	TERT AMYL METHYL ETHER (TAME)	994-05-8	µg/kg	5	<0.64	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	80-120	108
2	1,2-DICHLOROETHANE-D4	17060-07-0	80-120	118
3	TOLUENE-D8	2037-26-5	80-120	106
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	95
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	92
3	FLUOROBENZENE	462-06-6	50-200	89
# of out-of-control				0

Not Detected is shown as MDL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260B

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/20/2003
Project ID:	MCAS El Toro	Service ID:	032343	Collected by:	
		Lab Sample ID:	03-2343-1	Received Date:	03/20/2003
Sample ID:	**UST-30-SP-1**	Sample Matrix	Soil	Moisture %:	28.1
Sample Type:	Field Sample	Prep. Method:	5035	Instrument ID:	GC/MS: X
Anal. Method:	8260B	Prep. Date:	03/26/03	Anal. Date:	03/26/03
Batch No:	03G1833	Prep. No:	–	Anal. Time:	21:01
Data File Name:	2343-01A	Sample Amount:	5.0 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	ACETONE	67-64-1	µg/kg	70	<70	U
2	BENZENE	71-43-2	µg/kg	7.0	<7.0	U
3	BROMOBENZENE	108-86-1	µg/kg	7.0	<7.0	U
4	BROMOCHLOROMETHANE	74-97-5	µg/kg	7.0	<7.0	U
5	BROMODICHLOROMETHANE	75-27-4	µg/kg	7.0	<7.0	U
6	BROMOFORM	75-25-2	µg/kg	7.0	<7.0	U
7	BROMOMETHANE	74-83-9	µg/kg	7.0	<7.0	U
8	METHYL ETHYL KETONE	78-93-3	µg/kg	140	<140	U
9	N-BUTYLBENZENE	104-51-8	µg/kg	7.0	<7.0	U
10	SEC-BUTYLBENZENE	135-98-8	µg/kg	7.0	<7.0	U
11	T-BUTYLBENZENE	98-06-6	µg/kg	7.0	<7.0	U
12	CARBON DISULFIDE	75-15-0	µg/kg	7.0	<7.0	U
13	CARBON TETRACHLORIDE	56-23-5	µg/kg	7.0	<7.0	U
14	CHLOROBENZENE	108-90-7	µg/kg	7.0	<7.0	U
15	DIBROMOCHLOROMETHANE	124-48-1	µg/kg	7.0	<7.0	U
16	CHLOROETHANE	75-00-3	µg/kg	7.0	<7.0	U
17	CHLOROFORM	67-66-3	µg/kg	7.0	<7.0	U
18	CHLOROMETHANE	74-87-3	µg/kg	7.0	<7.0	U
19	2-CHLOROTOLUENE	95-49-8	µg/kg	7.0	<7.0	U
20	4-CHLOROTOLUENE	106-43-4	µg/kg	7.0	<7.0	U
21	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/kg	7.0	<7.0	U
22	1,2-DIBROMOETHANE	106-93-4	µg/kg	7.0	<7.0	U
23	DIBROMOMETHANE	74-95-3	µg/kg	7.0	<7.0	U
24	1,2-DICHLOROBENZENE	95-50-1	µg/kg	7.0	<7.0	U
25	1,3-DICHLOROBENZENE	541-73-1	µg/kg	7.0	<7.0	U
26	1,4-DICHLOROBENZENE	106-46-7	µg/kg	7.0	<7.0	U
27	DICHLORODIFLUOROMETHANE	75-71-8	µg/kg	7.0	<7.0	U
28	1,1-DICHLOROETHANE	75-34-3	µg/kg	7.0	<7.0	U
29	1,2-DICHLOROETHANE	107-06-2	µg/kg	7.0	<7.0	U
30	1,1-DICHLOROETHENE	75-35-4	µg/kg	7.0	<7.0	U
31	CIS-1,2-DICHLOROETHENE	156-59-2	µg/kg	7.0	<7.0	U
32	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/kg	7.0	<7.0	U
33	1,2-DICHLOROPROPANE	78-87-5	µg/kg	7.0	<7.0	U
34	1,3-DICHLOROPROPANE	142-28-9	µg/kg	7.0	<7.0	U
35	2,2-DICHLOROPROPANE	594-20-7	µg/kg	7.0	<7.0	U
36	1,1-DICHLOROPROPENE	563-58-6	µg/kg	7.0	<7.0	U
37	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/kg	7.0	<7.0	U
38	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/kg	7.0	<7.0	U
39	ETHYLBENZENE	100-41-4	µg/kg	7.0	<7.0	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	HEXACHLOROBUTADIENE	87-68-3	µg/kg	7.0	<7.0	U
41	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/kg	7.0	<7.0	U
42	P-CYMENE (P-ISOPROPYLTOLUENE)	99-87-6	µg/kg	7.0	<7.0	U
43	METHYLENE CHLORIDE	75-09-2	µg/kg	7.0	<7.0	U
44	METHYL ISOBUTYL KETONE	108-10-1	µg/kg	70	<70	U
45	TERT-BUTYL METHYL ETHER	1634-04-4	µg/kg	14	<14	U
46	NAPHTHALENE	91-20-3	µg/kg	7.0	<7.0	U
47	N-PROPYLBENZENE	103-65-1	µg/kg	7.0	<7.0	U
48	STYRENE	100-42-5	µg/kg	7.0	<7.0	U
49	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/kg	7.0	<7.0	U
50	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/kg	7.0	<7.0	U
51	TETRACHLOROETHENE(PCE)	127-18-4	µg/kg	7.0	<7.0	U
52	TOLUENE	108-88-3	µg/kg	7.0	<7.0	U
53	1,2,3-TRICHLOROBENZENE	87-61-6	µg/kg	7.0	<7.0	U
54	1,2,4-TRICHLOROBENZENE	120-82-1	µg/kg	7.0	<7.0	U
55	1,1,1-TRICHLOROETHANE	71-55-6	µg/kg	7.0	<7.0	U
56	1,1,2-TRICHLOROETHANE	79-00-5	µg/kg	7.0	<7.0	U
57	TRICHLOROETHENE (TCE)	79-01-6	µg/kg	7.0	<7.0	U
58	TRICHLOROFLUOROMETHANE	75-69-4	µg/kg	7.0	<7.0	U
59	1,2,3-TRICHLOROPROPANE	96-18-4	µg/kg	7.0	<7.0	U
60	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/kg	7.0	<7.0	U
61	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/kg	7.0	<7.0	U
62	VINYL CHLORIDE	75-01-4	µg/kg	7.0	<7.0	U
63	O-XYLENE	95-47-6	µg/kg	7.0	<7.0	U
64	M,P-XYLENE	108-38-3	µg/kg	14	<14	U
65	TERT BUTYL ALCOHOL (TBA)		µg/kg	28	<28	U
66	DIISOPROPYL ETHER (DIPE)		µg/kg	7.0	<7.0	U
67	ETHYL TERT BUTYL ETHER (ETBE)		µg/kg	7.0	<7.0	U
68	TERT AMYL METHYL ETHER (TAME)	994-05-8	µg/kg	7.0	<7.0	U

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	80-120	111
2	1,2-DICHLOROETHANE-D4	17060-07-0	80-120	118
3	TOLUENE-D8	2037-26-5	80-120	104
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	105
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	99
3	FLUOROBENZENE	462-06-6	50-200	101
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

FORM-2B

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032343
Project ID:	MCAS El Toro	Project No:		Sample Matrix:	Soil
		Batch No:	03G1833		

#	Client Sample No	Lab Sample ID	S1 % #	S2 % #	S3 % #	TOT OUT
1		03G1833LCS01	110	112	107	0
2	UST-30-SP-1MS	03-2343-1MS	108	104	102	0
3	UST-30-SP-1MSD	03-2343-1MSD	112	101	106	0
4		03G1833MB01	108	118	106	0
5	UST-30-SP-1	03-2343-1	111	118	104	0
6						
7						
8						
9						
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12						
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20						
21						
22						
23						
24						
25						

	QC Control Limit
S1 = 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	80-120
S2 = 1,2-DICHLOROETHANE-D4	80-120
S3 = TOLUENE-D8	80-120

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-3B

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032343
Project ID:	MCAS El Toro	Project No:		Sample Matrix:	Soil
		Batch No:	03G1833		
LCS Filename:	G1833L01	Date Analyzed:	032603	Time Analyzed:	12:40
LCSD Filename:	–	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
BENZENE	μg/kg	50	0	47.0	94	75-125
CHLOROBENZENE	μg/kg	50	0	48.1	96	75-125
1,1-DICHLOROETHENE	μg/kg	50	0	55.6	111	75-125
TOLUENE	μg/kg	50	0	48.5	97	75-125
TRICHLOROETHENE (TCE)	μg/kg	50	0	50.5	101	75-125
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3B

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032343
Project ID:	MCAS El Toro	Project No:		Sample Matrix:	Soil
		Batch No:	03G1833		
MS Filename:	G1833M01	Date Analyzed:	032603	Time Analyzed:	13:06
MSD Filename:	G1833N01	Date Analyzed:	032603	Time Analyzed:	13:32
MS Sample No:	**UST-30-SP-1**	Sample Lab ID:	03-2343-1	Moisture, %	28.1

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
BENZENE	µg/kg	69.6	0	62.7	90	70-130
CHLOROBENZENE	µg/kg	69.6	0	63.6	91	70-130
1,1-DICHLOROETHENE	µg/kg	69.6	0	72.3	104	70-130
TOLUENE	µg/kg	69.6	0	64.4	93	70-130
TRICHLOROETHENE (TCE)	µg/kg	69.6	0	65.7	94	70-130
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
BENZENE	µg/kg	69.6	62.8	90	0	30	70-130
CHLOROBENZENE	µg/kg	69.6	65.4	94	3	30	70-130
1,1-DICHLOROETHENE	µg/kg	69.6	71.8	103	1	30	70-130
TOLUENE	µg/kg	69.6	66.3	95	2	30	70-130
TRICHLOROETHENE (TCE)	µg/kg	69.6	63.7	92	2	30	70-130
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-4A

Applied P & Ch Laboratory

Method Blank Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032343
Project ID:	MCAS El Toro	Project No:		Analysis Date:	03/26/03
		Sample Matrix:	Soil	Analysis Time:	14:32
Sample ID:		Batch No:	03G1833	Instrument ID:	GC/MS: X
Lab Sample ID:	03G1833MB01	Data File Name:	G1833K01	GC Column:	HP-VOC
		Heated Purge: (Y/N)	Y	Column ID:	0.20 mm

This Method Blank applies to the following samples and QC samples:

#	Client Sample No	Lab Sample ID	Sample Type	Data Filename	Analysis Date	Analysis Time
1		03G1833LCS01	Lab Control Spike	G1833L01	03/26/03	12:40
2	UST-30-SP-1MS	03-2343-1MS	Matrix Spike	G1833M01	03/26/03	13:06
3	UST-30-SP-1MSD	03-2343-1MSD	Matrix Spike Duplicate	G1833N01	03/26/03	13:32
4	UST-30-SP-1	03-2343-1	Field Sample	2343-01A	03/26/03	21:01
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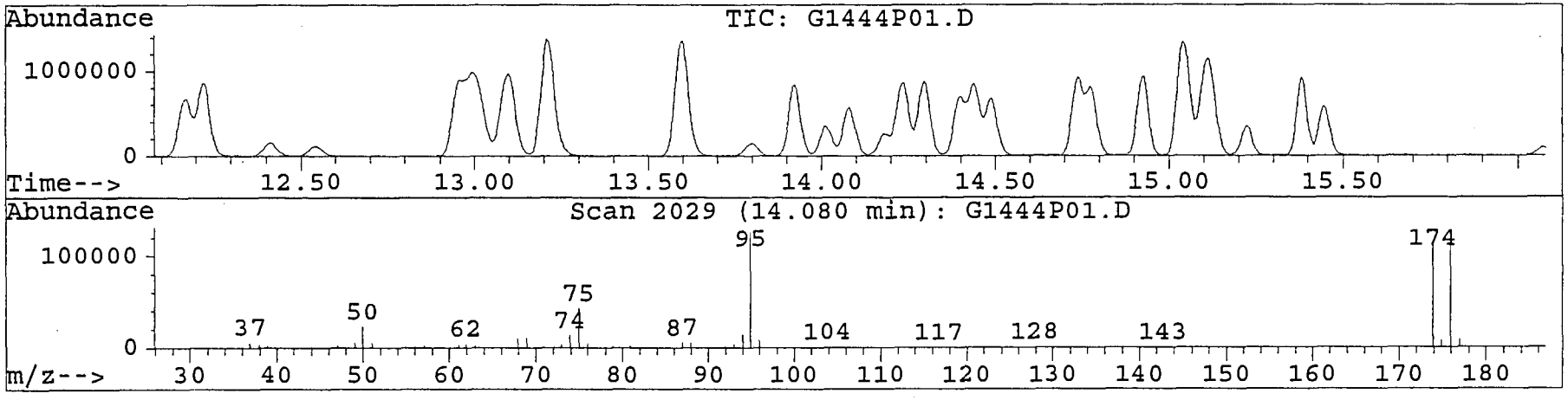
BFB

Data File : C:\HPCHEM\1\DATA\03G1444\G1444P01.D
Acq On : 17 Feb 03 12:04 pm
Sample : f=1
Misc :

Vial: 5
Operator: Ann
Inst : GCMS-X
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260



Peak Apex is scan: 2029

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	23136	PASS
75	95	30	60	34.2	43080	PASS
95	95	100	100	100.0	126136	PASS
96	95	5	9	6.6	8348	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	88.9	112080	PASS
175	174	5	9	6.7	7490	PASS
176	174	95	101	99.8	111872	PASS
177	176	5	9	7.4	8245	PASS

G1444P01.D 826SX090.M Tue Feb 18 10:16:08 2003

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : APPLIED P & CH LAB Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 03-2343

Lab File ID: G1444P01.D BFB Injection Date: 02/17/2003

Instrument ID: GCMS-X BFB Injection Time: 1204

GC Column: DB-624 ID: 0.20 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.3
75	30.0 - 60.0% of mass 95	34.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	88.9
175	5.0 - 9.0% of mass 174	5.9 (6.7)1
176	95.0 - 101.0% of mass 174	88.7 (99.8)1
177	5.0 - 9.0% of mass 176	6.5 (7.4)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD002	090-002	090-002.D	02/17/2003	1528
02	VSTD010	090-010	090-010.D	02/17/2003	1619
03	VSTD050	090-050	090-050.D	02/17/2003	1645
04	VSTD080	090-080	090-080.D	02/17/2003	1711
05	VSTD100	090-100	090-100.D	02/17/2003	1737
06	VSTD200	090-200	090-200.D	02/17/2003	1803
07					
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FORM V VOA

2623

INITIAL CALIBRATION SUMMARY

Method File 826SX090
Last Calibration Update Tue Feb 18 11:51:30 2003

Level 1 File Name	90-002.D	**Level 1 ID**	2
Level 2 File Name	90-010.D	**Level 2 ID**	10
Level 3 File Name	90-050.D	**Level 3 ID**	50
Level 4 File Name	90-050.D	**Level 4 ID**	cc
Level 5 File Name	90-080.D	**Level 5 ID**	80
Level 6 File Name	90-100.D	**Level 6 ID**	100
Level 7 File Name	90-200.D	**Level 7 ID**	200

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
1 Fluorobenzene	803625	778379	818266	-1	764960	721921	787926	------	------	------	------
3 di-Cl-di-F-methane	4354	19881	99985	-1	130359	160527	454302	0.0000	0.1245	0.0000	0.1148
2 F114	2645	18633	102283	-1	138924	160573	-1	0.0028	0.1121	0.0000	0.9962
4 Chloromethane	10584	41982	209902	-1	289509	353420	903872	0.0000	0.2706	0.0000	0.1251
5 vinyl chloride	6522	33424	180979	-1	241863	297305	830425	0.0000	0.2176	0.0000	0.1103
6 bromomethane	6023	27032	98393	-1	139341	166769	420548	-0.0075	0.1306	0.0000	0.9912
7 chloroethane	5043	22115	115645	-1	155222	191017	499781	0.0000	0.1430	0.0000	0.0893
8 tri-Cl-F-methane	5255	23169	134259	-1	181573	220238	654094	0.0000	0.1641	0.0000	0.1363
94 isopropyl alcohol x10	9236	34665	193171	-1	284721	375681	752276	0.0000	0.0246	0.0000	0.0958
9 acrolein [x10]	4470	20186	134844	-1	203140	297763	644042	-0.0363	0.0212	0.0000	0.9931
11 acetone [X10]	24914	100188	519266	-1	730541	872192	1754910	0.0000	0.0635	0.0000	0.1183
12 ethyl ether [X5]	19912	93422	493684	-1	715135	925962	2368899	0.0000	0.1267	0.0000	0.0965
13 11-dichloroethene	6826	28597	188169	-1	262610	318552	-1	0.0000	0.2122	0.0000	0.0818
14 Iodomethane	3645	24222	165103	-1	238353	275980	684445	-0.0195	0.2169	0.0000	0.9960
15 F-113	3908	17953	94716	-1	128567	152598	-1	0.0000	0.1127	0.0000	0.0632
16 acrylonitrile[X10]	22139	110306	666947	-1	976324	1246900	2565124	0.0000	0.0781	0.0000	0.0870
17 carbon disulfide	17141	76782	411802	-1	558290	697805	2020965	0.0000	0.5184	0.0000	0.1258
95 tert butyl alcohol x10	10973	45396	269532	-1	388507	472594	954815	0.0000	0.0318	0.0000	0.0577
96 Allyl chloride	25479	107452	596041	-1	858070	1101002	2569774	0.0000	0.7484	0.0000	0.0672
18 methylene chloride	-1	40055	175697	-1	244657	307171	728240	0.0000	0.2231	0.0000	0.0989
19 t-12-di-Cl-ethene	4188	21699	113005	-1	166943	207822	-1	0.0000	0.1376	0.0000	0.0361

Initial Calibration Responses

20 t-Bu-Me-ether	12965	59822	323768	-1	451778	549492	1213863	0.0000	0.3864	0.0000	0.0309
91 Acetonnitrile [x10]	25479	107452	592399	-1	858818	1090346	2569774	0.0000	0.0747	0.0000	0.0673
21 11-dichloroethane	9380	40295	248298	-1	371626	469690	-1	0.0000	0.2966	0.0000	0.0821
22 c-12-di-Cl-ethene	3839	23466	133090	-1	200522	260127	-1	0.0000	0.1554	0.0000	0.1458
23 22-Dichloropropane	5276	23400	121965	-1	170595	199828	-1	0.0000	0.1483	0.0000	0.0702
99 ETBE	21480	93515	511586	-1	725161	888595	1957956	0.0000	0.6205	0.0000	0.0427
24 Br-Cl-methane	2558	12796	75690	-1	109886	141404	340080	0.0000	0.0916	0.0000	0.1137
25 chloroform	7323	32635	170673	-1	255478	334080	-1	0.0000	0.2172	0.0000	0.0523
26 tetrahydrofuran[X5]	3331	17431	109322	-1	163572	206439	470449	0.0000	0.0258	0.0000	0.1377
100 Iso-buty alcohol X10	2969	12255	57436	-1	80533	113928	255918	0.0000	0.0078	0.0000	0.1188
27 Di-Br-F-Me (surr)	15392	28619	124946	-1	182993	240297	641992	0.0000	0.1712	0.0000	0.1322
29 1,2-Di-Cl-Et-d4 (S1)	13572	24875	103603	-1	143068	180913	462486	0.0000	0.1351	0.0000	0.1306
98 Diisoprop ether	34076	147306	781641	-1	1124789	1358077	3130040	0.0000	0.9690	0.0000	0.0524
92 Nitro-methane x10	4044	16739	111125	-1	164825	211432	428257	0.0000	0.0132	0.0000	0.1100
93 Ethyl Acetae x2	15981	58911	393066	-1	538105	667424	1388013	0.0000	0.2249	0.0000	0.0923
30 12-dichloroethane	3880	22332	116172	-1	169479	224968	588253	0.0000	0.1478	0.0000	0.1496
32 vinyl acetate[x5]	89727	391829	2189399	-1	3111689	3900799	8924206	0.0000	0.5353	0.0000	0.0476
33 2-butanone, MEK [x10]	36894	189494	1073005	-1	1609295	1872376	4036676	0.0000	0.1261	0.0000	0.0524
34 111-trichloroethane	5311	22798	122476	-1	160564	187708	-1	0.0000	0.1445	0.0000	0.1007
35 11-Di-Cl-propene	7024	29435	151463	-1	208161	233589	700045	0.0000	0.1911	0.0000	0.1293
36 benzene	23845	105500	544604	-1	773443	928272	2373997	0.0000	0.6855	0.0000	0.0741
37 CCl4	3810	18479	94071	-1	122664	143693	-1	0.0000	0.1104	0.0000	0.0880
38 thiophene	11898	52908	280641	-1	388974	486727	1297877	0.0000	0.3533	0.0000	0.0940
39 12-di-Cl-propane	6242	28477	153610	-1	214833	256705	641567	0.0000	0.1870	0.0000	0.0566
101 TAME	18467	86070	466635	-1	668265	837800	1811645	0.0000	0.5665	0.0000	0.0242
40 trichloroethene	5952	25361	134285	-1	182899	213168	588381	0.0000	0.1660	0.0000	0.1015
41 dibromomethane	2677	14368	86221	-1	128121	170056	-1	0.0000	0.1007	0.0000	0.1317
42 Br-di-Cl-methane	5456	25312	129317	-1	183853	220548	610680	0.0000	0.1645	0.0000	0.0969
43 Me-methacrylate	8041	29935	156439	-1	229334	286817	619157	0.0000	0.2027	0.0000	0.1164
44 2-ClEt-Vi-ether[x10]	27847	134521	745821	-1	1065654	1370007	2975624	0.0000	0.0901	0.0000	0.0437
45 c-13-di-Cl-propene	7812	39590	203750	-1	291745	354320	856033	0.0000	0.2503	0.0000	0.0470
46 t-1,3-dichloropropene	7710	32142	181684	-1	267508	337745	780270	0.0000	0.2281	0.0000	0.0664

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
47 Chlorobezene-d5	354113	341343	354560	-1	334473	321325	343067	------	------	------	------
48 112-tri-Cl-Et	4542	21768	117814	-1	170128	217827	506395	0.0000	0.3329	0.0000	0.0588

49 13-di-Cl-propane	8198	39452	215061	-1	307654	392491	910054	0.0000	0.6020	0.0000	0.0561
50 Et methacrylate	13196	56289	310046	-1	445865	574740	1247634	0.0000	0.8779	0.0000	0.0483
51 di-Br-Cl-methane	4424	23783	122648	-1	176350	224738	524250	0.0000	0.3446	0.0000	0.0676
52 bromoform	4201	20070	116478	-1	171526	224366	505806	0.0000	0.3262	0.0000	0.0896
53 1,4-dichlorobutane	14748	61764	344127	-1	495204	645044	1385418	0.0000	0.9759	0.0000	0.0539
54 MIBK	10821	49649	274579	-1	388763	511541	1082572	0.0000	0.7628	0.0000	0.0393
55 toluene-d8	84596	170777	688453	-1	950348	1107576	2789951	0.0000	1.9951	0.0000	0.1550
56 toluene	31349	137303	708790	-1	1009944	1207239	3102100	0.0000	2.0416	0.0000	0.0791
57 2-hexanone 5	39985	167297	961954	-1	1407721	1785162	3775801	0.0000	0.5382	0.0000	0.0500
58 12-dibromoethane	4629	23717	137226	-1	204291	256938	584168	0.0000	0.3781	0.0000	0.0947
59 tetra-Cl-ethene	7365	37793	202044	-1	275513	324848	891743	0.0000	0.5523	0.0000	0.0974
60 chlorobenzene	22142	95174	498454	-1	717375	889973	2143697	0.0000	1.4418	0.0000	0.0667
61 1112-tetra-Cl-Et	6768	29391	147577	-1	216208	265375	669831	0.0000	0.4383	0.0000	0.0817

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
62 1,4-Dichlorobenzene-d4	326477	324345	326750	-1	308789	299038	315369	------	------	------	------
63 1-chlorohexane	16916	52031	242711	-1	337497	391365	1094192	0.0000	0.7500	0.0000	0.1158
64 Et-Bz	33830	153538	804618	-1	1149681	1365306	3583924	0.0000	2.4785	0.0000	0.0842
65 m/p-Xylenes[X2]	51854	235032	1203515	-1	1712084	2034238	5300637	0.0000	1.8621	0.0000	0.0825
66 styrene	21015	96705	506441	-1	728185	895064	2156816	0.0000	1.5550	0.0000	0.0583
67 o-xylene	27240	121204	625998	-1	888957	1060053	2655891	0.0000	1.9245	0.0000	0.0738
68 1122-Tetra-Cl-Et	9601	39466	227771	-1	330461	430525	913239	0.0000	0.6922	0.0000	0.0684
69 123-tri-Cl-Pr	2251	10402	53831	-1	82332	107296	230909	0.0000	0.1711	0.0000	0.0516
70 4-Br-1-F-Bz (S3)	31788	59974	237586	-1	328535	398448	916053	0.0000	0.7418	0.0000	0.1437
71 isopropylbenzene	32506	148505	763357	-1	1084988	1280502	3397124	0.0000	2.3575	0.0000	0.0865
102 t-14-dicl-2-butene	923	7423	45966	-1	66454	87334	186936	-0.0089	0.1493	0.0000	0.9988
72 bromobenzene	8740	43210	229191	-1	333181	415325	960255	0.0000	0.6945	0.0000	0.0513
73 n-propylbenzene	10153	45811	250629	-1	355595	421435	1096609	0.0000	0.7574	0.0000	0.0832
74 2-Cl-Tol.	8272	41126	201189	-1	292276	352264	878605	0.0000	0.6267	0.0000	0.0628
75 4-Cl-Tol.	8452	42025	205018	-1	295330	358653	875004	0.0000	0.6356	0.0000	0.0565
76 135-tri-Me-Bz	27472	115975	604294	-1	876838	1042118	2689394	0.0000	1.8983	0.0000	0.0915
77 4-iso-Pr-toluene	31798	141947	735842	-1	1055306	1261839	3263073	0.0000	2.2846	0.0000	0.0823
78 124-tri-Me-Bz	25820	114916	601247	-1	863254	1043404	2637029	0.0000	1.8618	0.0000	0.0764
79 tert-butylbenzene	29923	134224	690746	-1	971751	1157301	3040030	0.0000	2.1310	0.0000	0.0873
80 13-DCB	19535	81971	423452	-1	615772	757541	1737125	0.0000	1.3243	0.0000	0.0725
81 sec-butylbenzene	37021	173465	884206	-1	1274927	1499937	4007824	0.0000	2.7468	0.0000	0.0869

Initial Calibration Responses

82 14-DCB	19081	81276	419860	-1	597201	749854	1755930	0.0000	1.3089	0.0000	0.0740
83 Cl-benzyl	3637	15618	88341	-1	128270	162951	335889	0.0000	0.2647	0.0000	0.0502
84 12-DCB	17034	78235	385982	-1	563599	712719	1612834	0.0000	1.2171	0.0000	0.0510
85 n-butylbenzene	8041	36213	193859	-1	273912	330472	867853	0.0000	0.5937	0.0000	0.0887
86 12-diBr-3-Cl-Pra	1865	8077	49981	-1	73061	96350	197640	0.0000	0.1477	0.0000	0.0883
87 124-tri-Cl-Bz	10178	43957	243538	-1	353473	455578	1016792	0.0000	0.7476	0.0000	0.0615
88 naphthalene	18843	76056	464850	-1	696555	940686	2002371	0.0000	1.4347	0.0000	0.1043
89 hx-Cl-butadiene	6062	28904	145634	-1	206647	249554	646093	0.0000	0.4505	0.0000	0.0781
90 123-Tri-Cl-Bz	8759	42484	220556	-1	317832	425291	934054	0.0000	0.6826	0.0000	0.0535

Response Factor Report GCMS-X

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:48:32 2003
Response via : Initial Calibration

Calibration Files
2 =90-002.D 10 =90-010.D 50 =90-050.D
80 =90-080.D 100 =90-100.D 200 =90-200.D

			Compound	2	10	50	80	100	200	Avg	%RSD	r^2
1)	I	1	Fluorobenzene	----------ISTD----------								
2)		3	di-Cl-di-F-metha	0.135	0.128	0.122	0.107	0.111	0.144	0.125	11.48	
3)		2	F114	0.082	0.120	0.125	0.114	0.111		0.110	15.03	0.994
4)	p	4	Chloromethane	0.329	0.270	0.257	0.237	0.245	0.287	0.271	12.51	
5)	C	5	vinyl chloride	0.203	0.215	0.221	0.198	0.206	0.263	0.218	11.03	
6)		6	bromomethane	0.187	0.174	0.120	0.114	0.116	0.133	0.141	22.68	0.991
7)		7	chloroethane	0.157	0.142	0.141	0.127	0.132	0.159	0.143	8.93	
8)		8	tri-Cl-F-methane	0.163	0.149	0.164	0.148	0.153	0.208	0.164	13.63	
9)		94	isopropyl alcoho	0.029	0.022	0.024	0.023	0.026	0.024	0.025#	9.58	
10)		9	acrolein [x10]		0.013	0.016	0.017	0.021	0.020	0.017#	18.32	0.993
11)		11	acetone [X10]	0.078	0.064	0.063	0.060	0.060	0.056	0.064	11.83	
12)		12	ethyl ether [X5]	0.124	0.120	0.121	0.117	0.128	0.150	0.127	9.65	
13)	M,	C13	11-dichloroethen	0.212	0.184	0.230	0.215	0.221		0.212	8.18	
14)		14	Iodomethane	0.113	0.156	0.202	0.195	0.191	0.217	0.179	21.24	0.996
15)		15	F-113	0.122	0.115	0.116	0.105	0.106		0.113	6.32	
16)		16	acrylonitrile[X1	0.069	0.071	0.082	0.080	0.086	0.081	0.078	8.70	
17)		17	carbon disulfide	0.533	0.493	0.503	0.456	0.483	0.641	0.518	12.58	
18)		95	tert butyl alcoh	0.034	0.029	0.033	0.032	0.033	0.030	0.032#	5.77	
19)		96	Allyl chloride	0.793	0.690	0.728	0.701	0.763	0.815	0.748	6.72	
20)		18	methylene chlori		0.257	0.215	0.200	0.213	0.231	0.223	9.89	
21)		19	t-12-di-Cl-ethen	0.130	0.139	0.138	0.136	0.144		0.138	3.61	
22)		20	t-Bu-Me-ether	0.403	0.384	0.396	0.369	0.381	0.385	0.386	3.09	
23)		91	Acetonnitrile [	0.079	0.069	0.072	0.070	0.076	0.082	0.075	6.73	
24)	p	21	11-dichloroethan	0.292	0.259	0.303	0.304	0.325		0.297	8.21	
25)		22	c-12-di-Cl-ethen	0.119	0.151	0.163	0.164	0.180		0.155	14.58	
26)		23	22-Dichloropropa	0.164	0.150	0.149	0.139	0.138		0.148	7.02	

(#) = Out of Range

Response Factor Report GCMS-X

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:48:32 2003
Response via : Initial Calibration

Calibration Files
2 =90-002.D 10 =90-010.D 50 =90-050.D
80 =90-080.D 100 =90-100.D 200 =90-200.D

		Compound	2	10	50	80	100	200	Avg	%RSD
27)		99 ETBE	0.668	0.601	0.625	0.592	0.615	0.621	0.621	4.27
28)		24 Br-Cl-methane	0.080	0.082	0.093	0.090	0.098	0.108	0.092	11.37
29)	C	25 chloroform	0.228	0.210	0.209	0.209	0.231		0.217	5.23
30)		26 tetrahydrofuran[	0.021	0.022	0.027	0.027	0.029	0.030	0.026#	13.77
31)		100 Iso-buty alcoh	0.009	0.008	0.007	0.007	0.008	0.008	0.008#	11.88
32)	S	27 Di-Br-F-Me (surr		0.184	0.153	0.150	0.166	0.204	0.171	13.22
33)	S	29 1,2-Di-Cl-Et-d4		0.160	0.127	0.117	0.125	0.147	0.135	13.06
34)		98 Diisoprop ether	1.060	0.946	0.955	0.919	0.941	0.993	0.969	5.24
35)		92 Nitro-methane x1		0.011	0.014	0.013	0.015	0.014	0.013#	11.00
36)		93 Ethyl Acetae x2	0.249	0.189	0.240	0.220	0.231	0.220	0.225	9.23
37)		30 12-dichloroethan	0.121	0.143	0.142	0.138	0.156	0.187	0.148	14.96
38)		32 vinyl acetate[x5	0.558	0.503	0.535	0.508	0.540	0.566	0.535	4.76
39)		33 2-butanone, MEK	0.115	0.122	0.131	0.131	0.130	0.128	0.126	5.24
40)		34 111-trichloroeth	0.165	0.146	0.150	0.131	0.130		0.145	10.07
41)		35 11-Di-Cl-propene	0.219	0.189	0.185	0.170	0.162	0.222	0.191	12.93
42)	M	36 benzene	0.742	0.678	0.666	0.632	0.643	0.753	0.686	7.41
43)		37 CCl4	0.119	0.119	0.115	0.100	0.100		0.110	8.80
44)		38 thiophene	0.370	0.340	0.343	0.318	0.337	0.412	0.353	9.40
45)	C	39 12-di-Cl-propane	0.194	0.183	0.188	0.176	0.178	0.204	0.187	5.66
46)		101 TAME	0.574	0.553	0.570	0.546	0.580	0.575	0.566	2.42
47)	M	40 trichloroethene	0.185	0.163	0.164	0.149	0.148	0.187	0.166	10.15
48)		41 dibromomethane	0.083	0.092	0.105	0.105	0.118		0.101	13.17
49)		42 Br-di-Cl-methane	0.170	0.163	0.158	0.150	0.153	0.194	0.165	9.69
50)		43 Me-methacrylate	0.250	0.192	0.191	0.187	0.199	0.196	0.203	11.64
51)		44 2-ClEt-Vi-ether[	0.087	0.086	0.091	0.087	0.095	0.094	0.090	4.37
52)		45 c-13-di-Cl-prope	0.243	0.254	0.249	0.238	0.245	0.272	0.250	4.70
53)		46 t-1,3-dichloropr	0.240	0.206	0.222	0.219	0.234	0.248	0.228	6.64

(#) = Out of Range

Response Factor Report GCMS-X

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:48:32 2003
Response via : Initial Calibration

Calibration Files
2 =90-002.D 10 =90-010.D 50 =90-050.D
80 =90-080.D 100 =90-100.D 200 =90-200.D

			Compound	2	10	50	80	100	200	Avg	%RSD
54)	I	47	Chlorobezene-d5	----------ISTD----------							
55)		48	112-tri-Cl-Et	0.321	0.319	0.332	0.318	0.339	0.369	0.333	5.88
56)		49	13-di-Cl-propane	0.579	0.578	0.607	0.575	0.611	0.663	0.602	5.61
57)		50	Et methacrylate	0.932	0.825	0.874	0.833	0.894	0.909	0.878	4.83
58)		51	di-Br-Cl-methane	0.312	0.348	0.346	0.330	0.350	0.382	0.345	6.76
59)	P	52	bromoform	0.297	0.294	0.329	0.321	0.349	0.369	0.326	8.96
60)		53	1,4-dichlorobuta	1.041	0.905	0.971	0.925	1.004	1.010	0.976	5.39
61)		54	MIBK	0.764	0.727	0.774	0.726	0.796	0.789	0.763	3.93
62)	s	55	toluene-d8		2.502	1.942	1.776	1.723	2.033	1.995	15.50
63)	M,C	56	toluene	2.213	2.011	1.999	1.887	1.879	2.261	2.042	7.91
64)		57	2-hexanone 5	0.565	0.490	0.543	0.526	0.556	0.550	0.538	5.00
65)		58	12-dibromoethane	0.327	0.347	0.387	0.382	0.400	0.426	0.378	9.47
66)		59	tetra-Cl-ethene	0.520	0.554	0.570	0.515	0.505	0.650	0.552	9.74
67)	M,P	60	chlorobenzene	1.563	1.394	1.406	1.340	1.385	1.562	1.442	6.67
68)		61	1112-tetra-Cl-Et	0.478	0.431	0.416	0.404	0.413	0.488	0.438	8.17
69)	I	62	1,4-Dichlorobenzen	----------ISTD----------							
70)		63	1-chlorohexane		0.802	0.743	0.683	0.654	0.867	0.750	11.58
71)	C	64	Et-Bz	2.591	2.367	2.462	2.327	2.283	2.841	2.478	8.42
72)		65	m/p-Xylenes[X2]	1.985	1.812	1.842	1.733	1.701	2.101	1.862	8.25
73)		66	styrene	1.609	1.491	1.550	1.474	1.497	1.710	1.555	5.83
74)		67	o-xylene	2.086	1.868	1.916	1.799	1.772	2.105	1.925	7.38
75)	p	68	1122-Tetra-Cl-Et	0.735	0.608	0.697	0.669	0.720	0.724	0.692	6.84
76)		69	123-tri-Cl-Pr	0.172	0.160	0.165	0.167	0.179	0.183	0.171	5.16
77)	S	70	4-Br-1-F-Bz (S3)		0.925	0.727	0.665	0.666	0.726	0.742	14.37
78)		71	isopropylbenzene	2.489	2.289	2.336	2.196	2.141	2.693	2.357	8.65

(#) = Out of Range

Response Factor Report GCMS-X

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:48:32 2003
Response via : Initial Calibration

Calibration Files
2 =90-002.D 10 =90-010.D 50 =90-050.D
80 =90-080.D 100 =90-100.D 200 =90-200.D

	Compound	2	10	50	80	100	200	Avg	%RSD	r2
79)	102 t-14-dicl-2-but	0.071	0.114	0.141	0.135	0.146	0.148	0.126	23.52	0.999
80)	72 bromobenzene	0.669	0.666	0.701	0.674	0.694	0.761	0.694	5.13	
81)	73 n-propylbenzene	0.777	0.706	0.767	0.720	0.705	0.869	0.757	8.32	
82)	74 2-Cl-Tol.	0.633	0.634	0.616	0.592	0.589	0.696	0.627	6.28	
83)	75 4-Cl-Tol.	0.647	0.648	0.627	0.598	0.600	0.694	0.636	5.65	
84)	76 135-tri-Me-Bz	2.104	1.788	1.849	1.775	1.742	2.132	1.898	9.15	
85)	77 4-iso-Pr-toluene	2.435	2.188	2.252	2.136	2.110	2.587	2.285	8.23	
86)	78 124-tri-Me-Bz	1.977	1.772	1.840	1.747	1.745	2.090	1.862	7.64	
87)	79 tert-butylbenzen	2.291	2.069	2.114	1.967	1.935	2.410	2.131	8.73	
88)	80 13-DCB	1.496	1.264	1.296	1.246	1.267	1.377	1.324	7.25	
89)	81 sec-butylbenzene	2.835	2.674	2.706	2.580	2.508	3.177	2.747	8.69	
90)	82 14-DCB	1.461	1.253	1.285	1.209	1.254	1.392	1.309	7.40	
91)	83 Cl-benzyl	0.279	0.241	0.270	0.260	0.272	0.266	0.265	5.02	
92)	84 12-DCB	1.304	1.206	1.181	1.141	1.192	1.279	1.217	5.10	
93)	85 n-butylbenzene	0.616	0.558	0.593	0.554	0.553	0.688	0.594	8.87	
94)	86 12-diBr-3-Cl-Pra	0.143	0.125	0.153	0.148	0.161	0.157	0.148	8.83	
95)	87 124-tri-Cl-Bz	0.779	0.678	0.745	0.715	0.762	0.806	0.748	6.15	
96)	88 naphthalene	1.443	1.172	1.423	1.410	1.573	1.587	1.435	10.43	
97)	89 hx-Cl-butadiene	0.464	0.446	0.446	0.418	0.417	0.512	0.451	7.81	
98)	90 123-Tri-Cl-Bz	0.671	0.655	0.675	0.643	0.711	0.740	0.683	5.35	

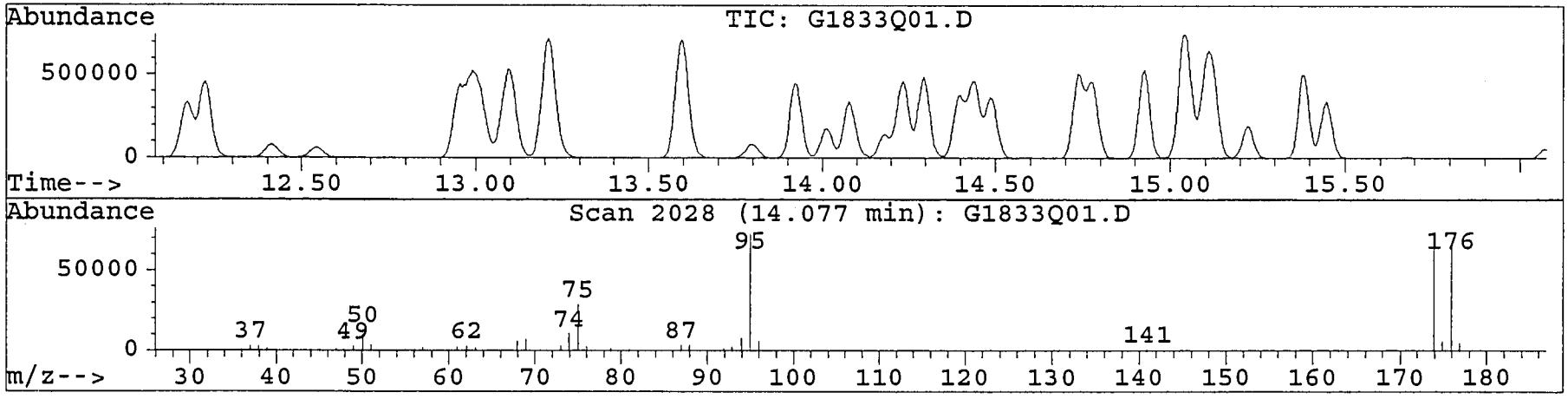
(#) = Out of Range

BFB

Data File : C:\HPCHEM\1\DATA\03G1833\G1833Q01.D
Acq On : 26 Mar 03 12:14 pm
Sample : f=1 ccv
Misc :

Vial: 2
Operator: Ann
Inst : GCMS-X
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260



Peak Apex is scan: 2028

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.7	12802	PASS
75	95	30	60	39.7	28800	PASS
95	95	100	100	100.0	72528	PASS
96	95	5	9	8.2	5944	PASS
173	174	0	2	0.7	442	PASS
174	95	50	100	90.6	65712	PASS
175	174	5	9	8.8	5806	PASS
176	174	95	101	100.1	65784	PASS
177	176	5	9	7.3	4831	PASS

G1833Q01.D 826SX090.M Thu Mar 27 15:22:20 2003

FORM-5A

Applied P & Ch Laboratory

Volatile Organic Instrument Performance Check for Method 8260B

Bromofluorobenzene (BFB), Part II

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032343
Project ID:	MCAS El Toro	BFB Inj. Date:	03/26/03	Batch No:	03G1833
		BFB Inj. Time:	12:14	Sequence No:	03G1833
Project No:		Instrument ID:	X	GC Column:	HP-VOC
Data File Name:	G1833Q01	Heated Purge: (Y/N)	Y	Column ID:	0.20 mm

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

#	Client Sample No	Lab Sample ID	Data File Name	Date Analyzed	Time Analyzed
1		03G1833CCV01	G1833Q01	03/26/03	12:14
2		03G1833LCS01	G1833L01	03/26/03	12:40
3	UST-30-SP-1MS	03-2343-1MS	G1833M01	03/26/03	13:06
4	UST-30-SP-1MSD	03-2343-1MSD	G1833N01	03/26/03	13:32
5		03G1833MB01	G1833K01	03/26/03	14:32
6	UST-30-SP-1	03-2343-1	2343-01A	03/26/03	21:01
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Continuing Calibration Concentration Summary

Data File G1833Q01.D
Method File 826SX090

Compound Name	Amount	Actual	Units	%Dev	Target Response
1 Fluorobenzene	50	50.00	ppb	0.00	436366
3 di-Cl-di-F-methane	50	39.30	ppb	21.41	42708
2 F114	50	51.07	ppb	2.14	51161
4 Chloromethane	50	39.79	ppb	20.42	93970
5 vinyl chloride	50	45.69	ppb	8.62	86778
6 bromomethane	50	46.54	ppb	6.91	49767
7 chloroethane	50	45.87	ppb	8.26	57241
8 tri-Cl-F-methane	50	62.79	ppb	25.59	89949
94 isopropyl alcohol x10	500	378.52	ppb	24.30	81353
9 acrolein [x10]	500	350.38	ppb	29.92	49050
11 acetone [X10]	500	732.79	ppb	46.56	406204
12 ethyl ether [X5]	250	218.78	ppb	12.49	241859
13 11-dichloroethene	50	54.22	ppb	8.45	100438
14 Iodomethane	50	46.14	ppb	7.72	78805
15 F-113	50	54.07	ppb	8.14	53169
16 acrylonitrile[X10]	500	410.50	ppb	17.90	279888
17 carbon disulfide	50	36.42	ppb	27.15	164793
95 tert butyl alcohol x10	500	426.60	ppb	14.68	118520
96 Allyl chloride	50	39.53	ppb	20.93	258204
18 methylene chloride	50	44.88	ppb	10.23	87407
19 t-12-di-Cl-ethene	50	48.62	ppb	2.76	58397
20 t-Bu-Me-ether	50	46.29	ppb	7.42	156088
91 Acetonnitrile [x10]	500	396.32	ppb	20.74	258204
21 11-dichloroethane	50	54.32	ppb	8.64	140606
22 c-12-di-Cl-ethene	50	54.51	ppb	9.02	73912
23 22-Dichloropropane	50	57.13	ppb	14.26	73921
99 ETBE	50	46.69	ppb	6.62	252866
24 Br-Cl-methane	50	51.78	ppb	3.56	41418
25 chloroform	50	52.99	ppb	5.99	100469
26 tetrahydrofuran[X5]	250	204.84	ppb	18.06	46188
100 Iso-buty alcohol X10	500	365.88	ppb	26.82	24863
27 Di-Br-F-Me (surr)	50	56.86	ppb	13.71	84965
29 1,2-Di-Cl-Et-d4 (S1)	50	54.01	ppb	8.03	63670
98 Diisoprop ether	50	43.72	ppb	12.56	369759
92 Nitro-methane x10	500	432.13	ppb	13.57	49806
93 Ethyl Acetae x2	100	71.97	ppb	28.03	141223
30 12-dichloroethane	50	50.16	ppb	0.33	64724
32 vinyl acetate[x5]	250	193.36	ppb	22.66	903365
33 2-butanone, MEK [x10]	500	536.87	ppb	7.37	591052
34 111-trichloroethane	50	56.21	ppb	12.43	70893
35 11-Di-Cl-propene	50	48.64	ppb	2.71	81132
36 benzene	50	47.93	ppb	4.14	286749
37 CCl4	50	62.87	ppb	25.73	60565
38 thiophene	50	44.35	ppb	11.30	136741

39 12-di-Cl-propane	50	45.24	ppb	9.52	73810
101 TAME	50	47.51	ppb	4.98	234874
40 trichloroethene	50	52.49	ppb	4.98	76039
41 dibromomethane	50	53.46	ppb	6.92	46976
42 Br-di-Cl-methane	50	50.66	ppb	1.33	72740
43 Me-methacrylate	50	40.89	ppb	18.22	72328
44 2-ClEt-Vi-ether[x10]	500	399.62	ppb	20.08	314208
45 c-13-di-Cl-propene	50	48.42	ppb	3.16	105769
46 t-1,3-dichloropropene	50	47.85	ppb	4.30	95240

Compound Name	Amount	Actual	Units	%Dev	Target Response
47 Chlorobezene-d5	50	50.00	ppb	0.00	194691
48 112-tri-Cl-Et	50	48.15	ppb	3.70	62424
49 13-di-Cl-propane	50	46.41	ppb	7.19	108779
50 Et methacrylate	50	42.75	ppb	14.49	146147
51 di-Br-Cl-methane	50	50.76	ppb	1.53	68124
52 bromoform	50	51.69	ppb	3.39	65662
53 1,4-dichlorobutane	50	43.57	ppb	12.86	165557
54 MIBK	50	37.93	ppb	24.13	112672
55 toluene-d8	50	56.34	ppb	12.69	437718
56 toluene	50	50.71	ppb	1.41	403106
57 2-hexanone 5	250	219.32	ppb	12.27	459619
58 12-dibromoethane	50	48.11	ppb	3.77	70832
59 tetra-Cl-ethene	50	54.74	ppb	9.49	117720
60 chlorobenzene	50	49.98	ppb	0.04	280599
61 1112-tetra-Cl-Et	50	51.55	ppb	3.10	87976

Compound Name	Amount	Actual	Units	%Dev	Target Response
62 1,4-Dichlorobenzene-d4	50	50.00	ppb	0.00	195162
63 1-chlorohexane	50	46.24	ppb	7.53	135346
64 Et-Bz	50	47.70	ppb	4.59	461486
65 m/p-Xylenes[X2]	100	94.75	ppb	5.25	688717
66 styrene	50	45.16	PPB	9.69	274074
67 o-xylene	50	47.09	ppb	5.81	353767
68 1122-Tetra-Cl-Et	50	41.51	ppb	16.98	112152
69 123-tri-Cl-Pr	50	44.13	ppb	11.73	29474
70 4-Br-1-F-Bz (S3)	50	55.92	ppb	11.83	161899
71 isopropylbenzene	50	48.29	ppb	3.42	444363
102 t-14-dicl-2-butene	50	41.87	ppb	16.26	22664
72 bromobenzene	50	48.22	ppb	3.55	130717
73 n-propylbenzene	50	50.67	ppb	1.33	149788
74 2-Cl-Tol.	50	47.52	ppb	4.97	116235
75 4-Cl-Tol.	50	48.37	ppb	3.26	120000
76 135-tri-Me-Bz	50	48.84	ppb	2.31	361922
77 4-iso-Pr-toluene	50	49.62	ppb	0.76	442482
78 124-tri-Me-Bz	50	49.05	ppb	1.91	356431
79 tert-butylbenzene	50	49.46	ppb	1.08	411404
80 13-DCB	50	47.26	ppb	5.48	244284
81 sec-butylbenzene	50	49.48	ppb	1.05	530443
82 14-DCB	50	47.91	ppb	4.18	244770
83 Cl-benzyl	50	47.05	ppb	5.91	48600

84 12-DCB	50	47.10	ppb	5.79	223775
85 n-butylbenzene	50	51.24	ppb	2.48	118744
86 12-diBr-3-Cl-Pra	50	45.17	ppb	9.65	26036
87 124-tri-Cl-Bz	50	50.43	ppb	0.86	147151
88 naphthalene	50	45.21	ppb	9.58	253163
89 hx-Cl-butadiene	50	56.18	ppb	12.37	98800
90 123-Tri-Cl-Bz	50	49.42	ppb	1.17	131661
Average %Dev				9.53	

Evaluate Continuing Calibration Report

2636

Data File : C:\HPCHEM\1\DATA\03G1833\G1833Q01.D Vial: 2
Acq On : 26 Mar 03 12:14 pm Operator: Ann
Sample : f=1 ccv Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

			Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1	Fluorobenzene	1.000	1.000	0.0	53	-0.06
2		3	di-Cl-di-F-methane	0.125	0.098	21.4#	43#	-0.04
3		2	F114	0.110	0.117	-6.3	50	-0.04
4	p	4	Chloromethane	0.271	0.215	20.4#	45#	-0.04
5	C	5	vinyl chloride	0.218	0.199	8.6	48#	-0.02
6		6	bromomethane	0.141	0.114	18.9	51	-0.03
7		7	chloroethane	0.143	0.131	8.3	49#	-0.05
8		8	tri-Cl-F-methane	0.164	0.206	-25.6#	67	-0.04
9		94	isopropyl alcohol x10	0.025	0.019#	24.3#	42#	-0.08
10		9	acrolein [x10]	0.017	0.011#	35.5#	36#	-0.06
11		11	acetone [X10]	0.064	0.093	-46.6#	78	-0.07
12		12	ethyl ether [X5]	0.127	0.111	12.5	49#	-0.06
13	M, C	13	11-dichloroethene	0.212	0.230	-8.4	53	-0.05
14		14	Iodomethane	0.179	0.181	-0.9	48#	-0.05
15		15	F-113	0.113	0.122	-8.1	56	-0.06
16		16	acrylonitrile[X10]	0.078	0.064	17.9	42#	-0.08
17		17	carbon disulfide	0.518	0.378	27.2#	40#	-0.06
18		95	tert butyl alcohol x10	0.032	0.027#	14.7	44#	-0.09
19		96	Allyl chloride	0.748	0.592	20.9#	43#	-0.06
20		18	methylene chloride	0.223	0.200	10.2	50#	-0.06
21		19	t-12-di-Cl-ethene	0.138	0.134	2.8	52	-0.07
22		20	t-Bu-Me-ether	0.386	0.358	7.4	48#	-0.06
23		91	Acetonnitrile [x10]	0.075	0.059	20.7#	44#	-0.06
24	p	21	11-dichloroethane	0.297	0.322	-8.6	57	-0.06
25		22	c-12-di-Cl-ethene	0.155	0.169	-9.0	56	-0.06

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1833\G1833Q01.D Vial: 2
Acq On : 26 Mar 03 12:14 pm Operator: Ann
Sample : f=1 ccv Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
26		23 22-Dichloropropane	0.148	0.169	-14.3	61	-0.07
27		99 ETBE	0.621	0.579	6.6	49#	-0.08
28		24 Br-Cl-methane	0.092	0.095	-3.6	55	-0.05
29	C	25 chloroform	0.217	0.230	-6.0	59	-0.06
30		26 tetrahydrofuran[X5]	0.026	0.021#	18.1	42#	-0.08
31		100 Iso-buty alcohol X10	0.008	0.006#	26.8#	43#	-0.08
32	S	27 Di-Br-F-Me (surr)	0.171	0.195	-13.7	68	-0.07
33	S	29 1,2-Di-Cl-Et-d4 (S1)	0.135	0.146	-8.0	61	-0.06
34		98 Diisoprop ether	0.969	0.847	12.6	47#	-0.06
35		92 Nitro-methane x10	0.013	0.011#	13.6	45#	-0.08
36		93 Ethyl Acetae x2	0.225	0.162	28.0#	36#	-0.08
37		30 12-dichloroethane	0.148	0.148	-0.3	56	-0.05
38		32 vinyl acetate[x5]	0.535	0.414	22.7#	41#	-0.07
39		33 2-butanone, MEK [x10]	0.126	0.135	-7.4	55	-0.09
40		34 111-trichloroethane	0.145	0.162	-12.4	58	-0.06
41		35 11-Di-Cl-propene	0.191	0.186	2.7	54	-0.05
42	M	36 benzene	0.686	0.657	4.1	53	-0.06
43		37 CCl4	0.110	0.139	-25.7#	64	-0.06
44		38 thiophene	0.353	0.313	11.3	49#	-0.05
45	C	39 12-di-Cl-propane	0.187	0.169	9.5	48#	-0.05
46		101 TAME	0.566	0.538	5.0	50	-0.06
47	M	40 trichloroethene	0.166	0.174	-5.0	57	-0.05
48		41 dibromomethane	0.101	0.108	-6.9	54	-0.05
49		42 Br-di-Cl-methane	0.165	0.167	-1.3	56	-0.05
50		43 Me-methacrylate	0.203	0.166	18.2	46#	-0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1833\G1833Q01.D Vial: 2
Acq On : 26 Mar 03 12:14 pm Operator: Ann
Sample : f=1 ccv Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

			Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51		44	2-ClEt-Vi-ether[x10]	0.090	0.072	20.1#	42#	-0.05
52		45	c-13-di-Cl-propene	0.250	0.242	3.2	52	-0.05
53		46	t-1,3-dichloropropene	0.228	0.218	4.3	52	-0.04
54	I	47	Chlorobezene-d5	1.000	1.000	0.0	55	-0.04
55		48	112-tri-Cl-Et	0.333	0.321	3.7	53	-0.04
56		49	13-di-Cl-propane	0.602	0.559	7.2	51	-0.05
57		50	Et methacrylate	0.878	0.751	14.5	47#	-0.04
58		51	di-Br-Cl-methane	0.345	0.350	-1.5	56	-0.04
59	P	52	bromoform	0.326	0.337	-3.4	56	-0.04
60		53	1,4-dichlorobutane	0.976	0.850	12.9	48#	-0.04
61		54	MIBK	0.763	0.579	24.1#	41#	-0.05
62	s	55	toluene-d8	1.995	2.248	-12.7	64	-0.04
63	M,C	56	toluene	2.042	2.070	-1.4	57	-0.05
64		57	2-hexanone 5	0.538	0.472	12.3	48#	-0.05
65		58	12-dibromoethane	0.378	0.364	3.8	52	-0.05
66		59	tetra-Cl-ethene	0.552	0.605	-9.5	58	-0.04
67	M,P	60	chlorobenzene	1.442	1.441	0.0	56	-0.04
68		61	1112-tetra-Cl-Et	0.438	0.452	-3.1	60	-0.04
69	I	62	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	60	-0.03
70		63	1-chlorohexane	0.750	0.694	7.5	56	-0.04
71	C	64	Et-Bz	2.478	2.365	4.6	57	-0.04
72		65	m/p-Xylenes[X2]	1.862	1.764	5.2	57	-0.03
73		66	styrene	1.555	1.404	9.7	54	-0.03

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1833\G1833Q01.D Vial: 2
Acq On : 26 Mar 03 12:14 pm Operator: Ann
Sample : f=1 ccv Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
74		67 o-xylene	1.925	1.813	5.8	57	-0.04
75	p	68 1122-Tetra-Cl-Et	0.692	0.575	17.0	49#	-0.04
76		69 123-tri-Cl-Pr	0.171	0.151	11.7	55	-0.04
77	S	70 4-Br-1-F-Bz (S3)	0.742	0.830	-11.8	68	-0.04
78		71 isopropylbenzene	2.357	2.277	3.4	58	-0.04
79		102 t-14-dicl-2-butene	0.126	0.116	7.7	49#	-0.04
80		72 bromobenzene	0.694	0.670	3.6	57	-0.04
81		73 n-propylbenzene	0.757	0.768	-1.3	60	-0.04
82		74 2-Cl-Tol.	0.627	0.596	5.0	58	-0.04
83		75 4-Cl-Tol.	0.636	0.615	3.3	59	-0.03
84		76 135-tri-Me-Bz	1.898	1.854	2.3	60	-0.03
85		77 4-iso-Pr-toluene	2.285	2.267	0.8	60	-0.03
86		78 124-tri-Me-Bz	1.862	1.826	1.9	59	-0.03
87		79 tert-butylbenzene	2.131	2.108	1.1	60	-0.04
88		80 13-DCB	1.324	1.252	5.5	58	-0.03
89		81 sec-butylbenzene	2.747	2.718	1.0	60	-0.03
90		82 14-DCB	1.309	1.254	4.2	58	-0.03
91		83 Cl-benzyl	0.265	0.249	5.9	55	-0.03
92		84 12-DCB	1.217	1.147	5.8	58	-0.03
93		85 n-butylbenzene	0.594	0.608	-2.5	61	-0.03
94		86 12-diBr-3-Cl-Pra	0.148	0.133	9.7	52	-0.04
95		87 124-tri-Cl-Bz	0.748	0.754	-0.9	60	-0.02
96		88 naphthalene	1.435	1.297	9.6	54	-0.03
97		89 hx-Cl-butadiene	0.451	0.506	-12.4	68	-0.03
98		90 123-Tri-Cl-Bz	0.683	0.675	1.2	60	-0.03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FORM-8A

Applied P & Ch Laboratory

Internal Standard Area and RT Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032343
Project ID:	MCAS El Toro	Project No:		Sample Matrix:	Soil
		CCV Data File:	G1833Q01	Instrument ID:	X

Batch No: 03G1833

#	Client Sample No	Lab Sample ID	Analysis Date & Time	IS-1 Area #	IS-1 RT #	IS-2 Area #	IS-2 RT #	IS-3 Area #	IS-3 RT #
12 Hour CCV STD			03/26/03 12:14	436366	9.68	194691	12.98	195162	15.11
CCV Upper Limit				872732	10.18	389382	13.48	390324	15.61
CCV Lower Limit				218183	9.18	97345	12.48	97581	14.61
1		03G1833LCS01	03/26/03 12:40	409674	9.69	185523	12.99	180309	15.11
2	UST-30-SP-1MS	03-2343-1MS	03/26/03 13:06	397355	9.69	187942	12.99	184085	15.11
3	UST-30-SP-1MSD	03-2343-1MSD	03/26/03 13:32	374768	9.69	171231	12.99	163071	15.10
4		03G1833MB01	03/26/03 14:32	388721	9.70	185095	12.99	179921	15.11
5	UST-30-SP-1	03-2343-1	03/26/03 21:01	440236	9.70	204926	12.99	193674	15.11
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									

IS-1 = FLUOROBENZENE
IS-2 = CHLOROBENZENE-D5
IS-3 = 1,4-DICHLOROBENZENE-D4

Area Upper Limit = +100% of CCV internal standard area
Area Lower Limit = - 50% of CCV internal standard area
RT Upper Limit = +0.50 minutes of CCV internal standard RT
RT Lower Limit = - 0.50 minutes of CCV internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

Applied P & Ch Laboratory
5760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

VOC Analysis General Logbook

Reference # 0361833 Batch # 0361833 Matrix: S Date: 3-26-03 Analyst: Hun

Lot #: IS/Surrogate: GC-14507/14508 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

☐ Calib. + Ini. Batch ☑ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

Op. #	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{spg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
1321	SP	0361833P01	8265X	5/5=1	/ =	/ =	1		0361833P01		
1322	CW	Q01	090	/ =	/ =	/ =			Q01	3-26-03 12:14pm	GC-14944
1323	LCS	L01		/ =	/ =	/ =			L01		
1324	MS	M01		/ =	/ =	/ =			M01	82343-01A	
1325	MSD	N01		/ =	/ =	/ =			N01	82343-01A	
1326	MB	K01		/ =	/ =	/ =			K01		
1327	sample	219102		/ =	/ =	/ =			219102	jar	
1328		03		/ =	/ =	/ =			03		
1329		04		/ =	/ =	/ =			04		
1330		05		/ =	/ =	/ =			05		
1331		07		/ =	/ =	/ =			07		
1332		08		/ =	/ =	/ =			08		
1333		09		/ =	/ =	/ =			09		
1334		2339-01A		5/3.82=1.31	/ =	/ =	1.31		2339-01A	vial	
1335		02A		4.68=1.07	/ =	/ =	1.07		02A		
1336		03A		3.57=1.40	/ =	/ =	1.40		03A		
1337		04A		5.04=0.99	/ =	/ =	0.99		04A		
1338		05A		4.58=1.09	/ =	/ =	1.09		05A		
1339		07A		3.85=1.30	/ =	/ =	1.30		07A		
1340		2343-01A		5/5=1	/ =	/ =	1		2343-01A	sleeve	
1341		2341-01		5/5.18=0.97	/ =	/ =	0.97		2341-01	vial	
1342		02		4.91=1.02	/ =	/ =	1.02		02		
1343		03		5/5.38=0.93	/ =	/ =	0.93		03		
1344				/ =	/ =	/ =					
1345				/ =	/ =	/ =					
1346				/ =	/ =	/ =					
1347				/ =	/ =	/ =					
1348				/ =	/ =	/ =					
1349				/ =	/ =	/ =					
1350				/ =	/ =	/ =					
1351				/ =	/ =	/ =					
1352				/ =	/ =	/ =					

AN 3-28-03

Type	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$
LCS/LCSD	1323	GC-14944	200 × 1.25 /X= 50 ppb		GC-	× /X= ppb
MS/MSD	1324/1325	GC-	× /X= ppb		GC-	× /X= ppb

Footnote/Anomaly:

Applied P & Ch Laboratory
3760 Magnolia Ave. Chino CA 91710
(909) 590-1828 Fax: (909) 590-1498

VOC Analysis General Logbook

Batch #: 03G1444 Matrix: S Date: 2-17-03 Analyst: Ann

Lot #: IS/Surrogate: GC- 1450/1450B Methanol(mark-M): _____ PEG (mark-PEG): _____ Defoaming(mark-DF): _____

☐ Calib. + Ini. Batch ☐ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

Op. #	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{rpg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
5257	SP	G1444P01	8260X	5 / 5 = 1	/ =	/ =	1		G1444P01	2-17-03 1:20 pm	
5258	calib	90-002	090	/ =	/ =	/ =			90-002	GC14841	
5259		90-010		/ =	/ =	/ =			90-010		
5260		90-050		/ =	/ =	/ =			90-050		
5261		90-080		/ =	/ =	/ =			90-080		
5262		90-100		/ =	/ =	/ =			90-100		
5263		90-200		/ =	/ =	/ =			90-200		
5264	SP	G1444P02		/ =	/ =	/ =			G1444P02		
5265	CCV	Q01		/ =	/ =	/ =			Q01	2-18-03 GC14842 4:41 pm	
5266	Lcs	L01		/ =	/ =	/ =			L01		
5267	MS	M01		5 / 4.87 = 1.03	/ =	/ =	1.03		M01	# 1671-03	
5268	MSD	N01		5 / 4.42 = 1.13	/ =	/ =	1.13		N01	# 1671-03	
5269	MB	K01		5 / 5 = 1	/ =	/ =	1		K01		
5270	Sample	1671-02		5 / 4.35 = 1.15	/ =	5 / 4.35 = 1.15	1.15		1671-02	1 more	
5271		03		5 / 4.57 = 1.09	/ =	5 / 4.57 = 1.09	1.09		03		
5272		05		5 / 4.39 = 1.14	/ =	5 / 4.39 = 1.14	1.14		05		
5273		06		5 / 5.61 = 0.89	/ =	5 / 5.61 = 0.89	0.89		06		
5274		08		5 / 5.41 = 0.92	/ =	5 / 5.41 = 0.92	0.92		08		
5275		09		5 / 5.30 = 0.94	/ =	5 / 5.30 = 0.94	0.94		09		
5276		10		5 / 5.10 = 0.98	/ =	5 / 5.10 = 0.98	0.98		10		
5277		12		5 / 5.14 = 0.97	/ =	5 / 5.14 = 0.97	0.97		12		
5278		13		5 / 4.74 = 0.97	/ =	5 / 4.74 = 1.05	1.05		13		
5279		1676-02		5 / 6.33 = 0.79	/ =	5 / 6.33 = 0.79	0.79		1676-02		
5280				/ =	/ =	/ =					
5281				/ =	/ =	/ =					
5282				/ =	/ =	/ =					
5283				/ =	/ =	/ =					
5284				/ =	/ =	/ =					
5285				/ =	/ =	/ =					
5286				/ =	/ =	/ =					
5287				/ =	/ =	/ =					
5288				/ =	/ =	/ =					

Type	Op #	STD Lot #	$C_{std}(ng/\mu L) \times V_{std}(\mu L)/X(g \text{ or } mL) = T$	Op #	STD Lot #	$C_{std}(ng/\mu L) \times V_{std}(\mu L)/X(g \text{ or } mL) = T$
LCS/LCSD	5266	GC-	x /X= ppb		GC-	x /X= ppb
MS/MSD	5267/5268	GC-	200 x 1.25 /X= 50 ppb		GC-	x /X= ppb

Footnote/Anomaly:

2642

Level C Data Package Deliverables

Diesel / Motor Oils

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/24/2003
Project ID:	MCAS El Toro	Service ID:	032343	Collected by:	
		Lab Sample ID:	03G1810MB01	Received Date:	03/24/2003
Sample ID:		Sample Matrix	Soil	Moisture %:	
Sample Type:	Method Blank	Prep. Method:	3550	Instrument ID:	GC: W
Anal. Method:	M8015E	Prep. Date:	03/24/03	Anal. Date:	03/24/03
Batch No:	03G1810	Prep. No:	1 of 1	Anal. Time:	17:56
Data File Name:	1810G.K01	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	PHC AS DIESEL FUEL	11-84-7	mg/kg	10	<1.1	U
2	MOTOR OILS		mg/kg	10	<2.9	U

Surrogates			Control Limit, %	Surro. Rec.%
1	N-OCTACOSANE	630-02-4	50-148	102
# of out-of-control				0

Not Detected is shown as MDL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/20/2003
Project ID:	MCAS El Toro	Service ID:	032343	Collected by:	
		Lab Sample ID:	03-2343-1	Received Date:	03/20/2003
Sample ID:	**UST-30-SP-1**	Sample Matrix	Soil	Moisture %:	28.1
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: W
Anal. Method:	M8015E	Prep. Date:	03/24/03	Anal. Date:	03/24/03
Batch No:	03G1810	Prep. No:	1 of 1	Anal. Time:	21:41
Data File Name:	2343.001	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	PHC AS DIESEL FUEL	11-84-7	mg/kg	14	<14	U
2	MOTOR OILS		mg/kg	14	14	

Surrogates			Control Limit, %	Surro. Rec.%
1	N-OCTACOSANE	630-02-4	50-148	97
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

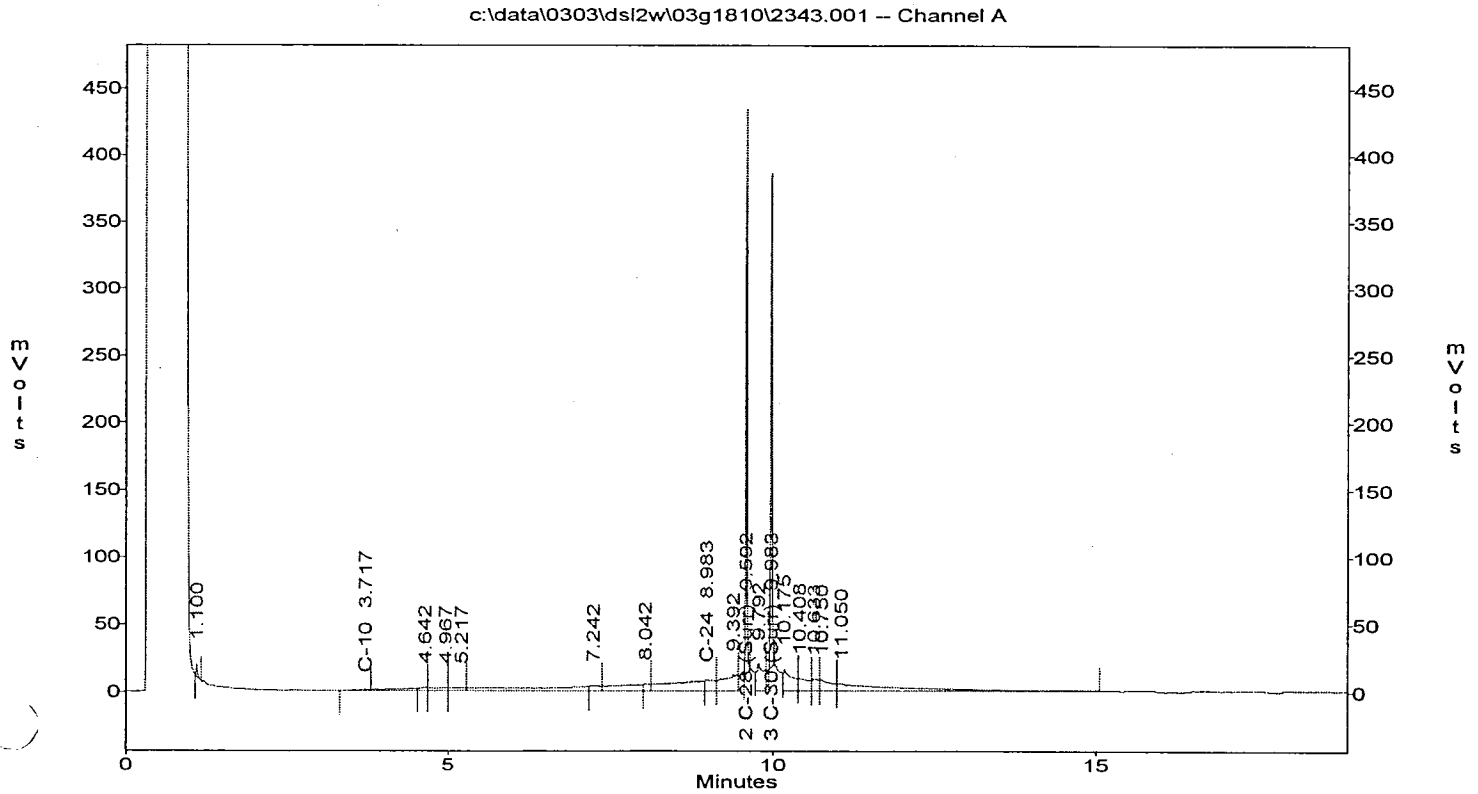
Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Lab
Total Extractable Petroleum Hydrocarbon Analysis by GC-FID
Instrument ID: GC-W, Column: DB-1 (0.32mm x 15m x 0.25 um), 1ul

File : c:\data\0303\dsl2w\03g1810\2343.001
Method : c:\ezchrom\methods\dsl2-054.w00
Sample ID : 2343-1 f=0.05
Vial : 10
Volume : 1
Acquired : Mar 24, 2003 21:41:06
Printed : Mar 25, 2003 08:52:35
User : Linda Liang
File Desc. : Continue

Channel A Results

Name	Time	Area	AVE RF	Conc (ppm)
C-10	3.72	12469	0.000	0.000
C-16	6.63	0	0.000	0.000
C-22	8.32	0	0.000	0.000
C-24	8.98	83410	0.000	0.000
2 C-28 (Surr)	9.59	563058	11643.521	48.358
3 C-30 (Surr)	9.98	513885	10855.848	47.337
C-36	12.12	0	0.000	0.000
1 Diesel c10-c24		186694	11346.117	16.454
4 Motor oil c24-c36		1029003	4964.982	207.252
5 JP5 c8-c16		122629	10625.313	11.541



FORM-2B

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method M8015E

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	032343
Project ID:	MCAS El Toro	Project No:		Sample Matrix:	Soil
		Batch No:	03G1810		

#	Client Sample No	Lab Sample ID	S1 % #	TOT OUT
1		03G1810MB01	102	0
2		03G1810LCS01	107	0
3		03G1810LSD01	109	0
4	UST308-1-7'MS	03-2345-1MS	98	0
5	UST308-1-7'MSD	03-2345-1MSD	101	0
6	UST-30-SP-1	03-2343-1	97	0
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

S1 = N-OCTACOSANE

QC Control Limit
50-148

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-3D

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032343
Project ID:	MCAS El Toro	Project No:		Sample Matrix:	Soil
		Batch No:	03G1810		
LCS Filename:	1810G.L01	Date Analyzed:	032403	Time Analyzed:	18:21
LCSD Filename:	1810G.J01	Date Analyzed:	032403	Time Analyzed:	18:46

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
PHC AS DIESEL FUEL	mg/kg	50	0	40.8	82	55-135
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
PHC AS DIESEL FUEL	mg/kg	50	44.6	89	8	50	55-135
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3D

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032343
Project ID:	MCAS El Toro	Project No:		Sample Matrix:	Soil
		Batch No:	03G1810		
MS Filename:	1810G.M01	Date Analyzed:	032403	Time Analyzed:	19:11
MSD Filename:	1810G.N01	Date Analyzed:	032403	Time Analyzed:	19:36
MS Sample No:	**UST308-1-7'**	Sample Lab ID:	03-2345-1	Moisture, %	13.1

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec%	#	QC Limit, % REC
PHC AS DIESEL FUEL	mg/kg	57.5	210	213	-1	*	40-139
# of Out-of-control					1		

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec%	#	RPD%	#	QC Limit, % RPD	QC Limit, % REC
PHC AS DIESEL FUEL	mg/kg	57.5	230	28	*	8		50	40-139
# of Out-of-control				1		0			

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-4B

Applied P & Ch Laboratory

Method Blank Summary for Method M8015E

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032343
Project ID:	MCAS El Toro	Project No:		Analysis Date:	03/24/03
		Sample Matrix:	Soil	Analysis Time:	17:56
Sample ID:		Batch No:	03G1810	Instrument ID:	GC: W
Lab Sample ID:	03G1810MB01	Data File Name:	1810G.K01	GC Column:	DB-1
				Column ID:	0.32 mm

This Method Blank applies to the following samples and QC samples:

#	Client Sample No	Lab Sample ID	Sample Type	Data Filename	Analysis Date	Analysis Time
1		03G1810LCS01	Lab Control Spike	1810G.L01	03/24/03	18:21
2		03G1810LSD01	Lab Control Spike Duplicate	1810G.J01	03/24/03	18:46
3	UST308-1-7'MS	03-2345-1MS	Matrix Spike	1810G.M01	03/24/03	19:11
4	UST308-1-7'MSD	03-2345-1MSD	Matrix Spike Duplicate	1810G.N01	03/24/03	19:36
5	UST-30-SP-1	03-2343-1	Field Sample	2343.001	03/24/03	21:41
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

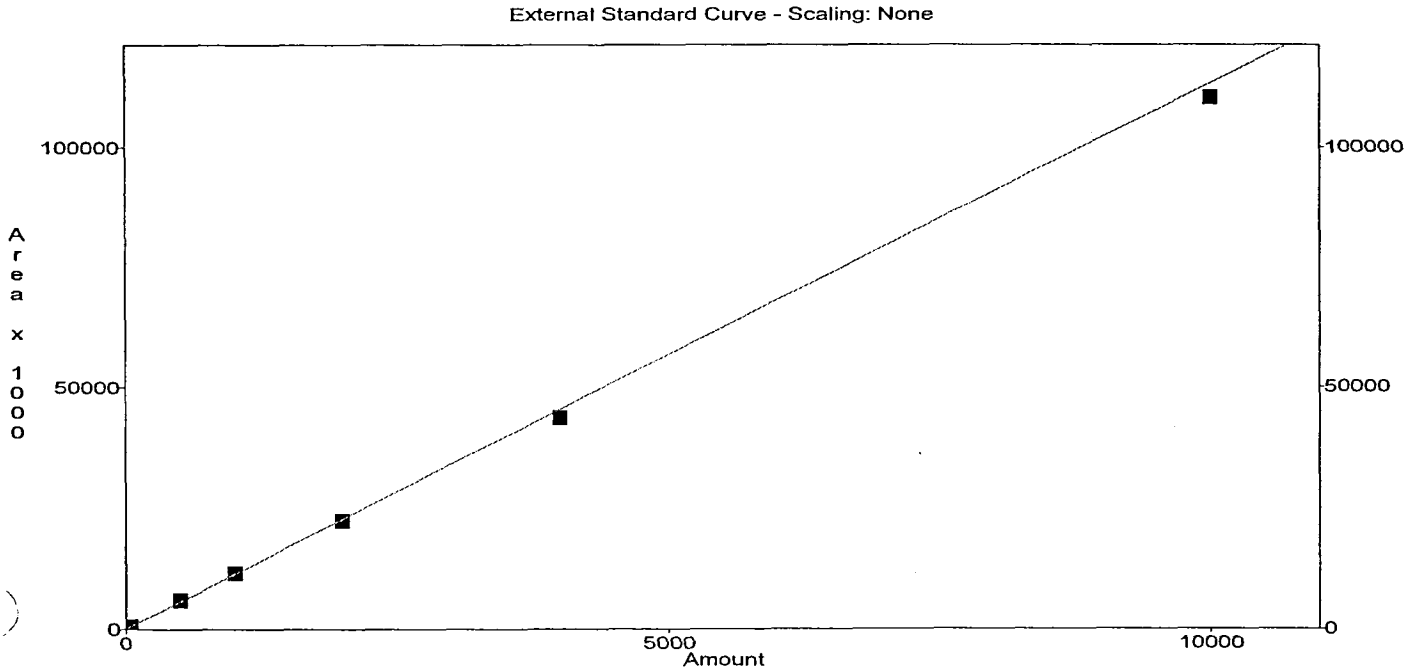
Method : c:\ezchrom\methods\dsl2-054.w00 * - Replicate Not Used
Printed : Jan 10, 2003 10:05:55
Channel : A
Group : 1 Diesel c10-c24

I	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
1	568647	50	11372.94	568647							0
2	6004819	500	12009.64	6004819							0
3	11566197	1000	11566.20	11566197							0
4	22324112	2000	11162.06	22324112							0
5	43682580	4000	10920.64	43682580							0
6	110452312	10000	11045.23	110452312							0

Calib Flag: Replace

Average RF: 11346.1
RF StdDev: 398.711
RF %RSD: 3.514

RF Definition: Area / Amount
Average RF Fit: Amount = Area / 11346.1



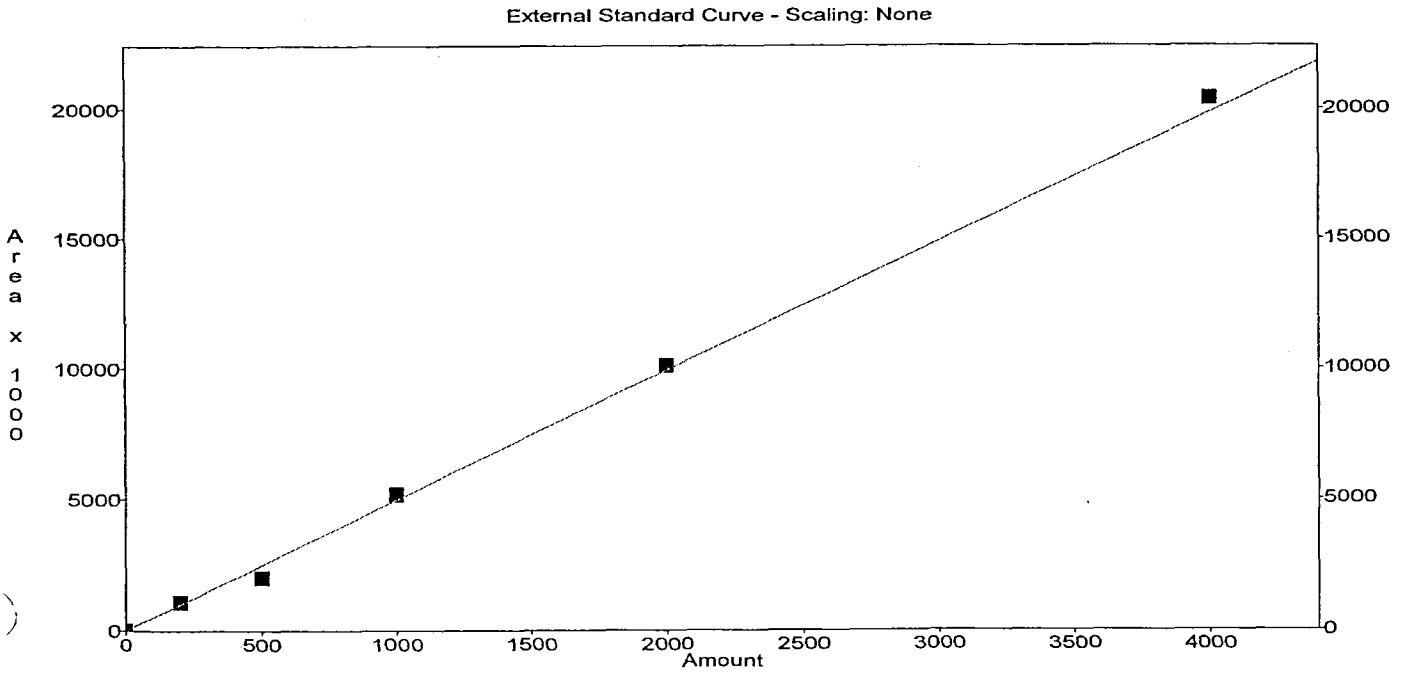
Method : c:\ezchrom\methods\dsl2-054.w00 * - Replicate Not Used
Printed : Jan 10, 2003 10:06:01
Channel : A
Group : 4 Motor oil c24-c36

I	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
7	1090927	200	5454.63	1090927							0
8	2006886	500	4013.77	2006886							0
9	5185936	1000	5185.94	5185936							0
10	10130355	2000	5065.18	10130355							0
11	20421564	4000	5105.39	20421564							0

Calib Flag: Replace

Average RF: 4964.98
RF StdDev: 552.977
RF %RSD: 11.138

RF Definition: Area / Amount
Average RF Fit: Amount = Area / 4964.98



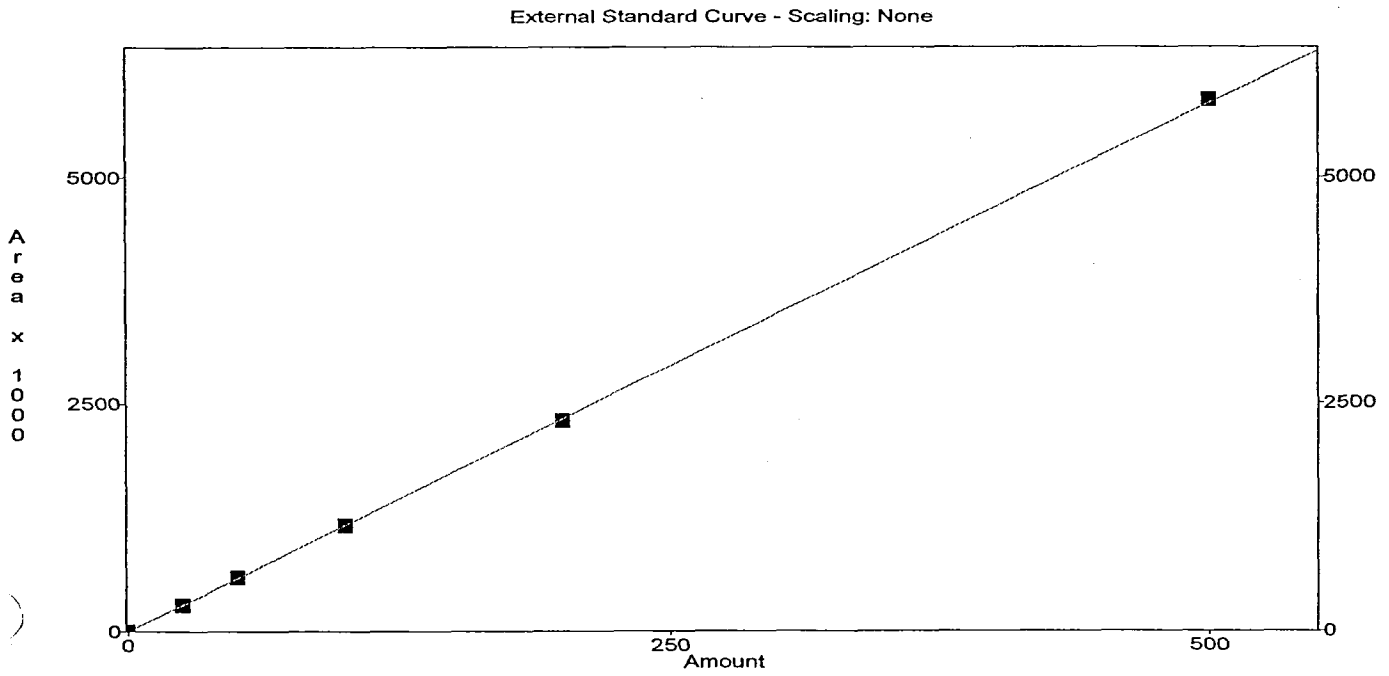
Method : c:\ezchrom\methods\dsl2-054.w00 * - Replicate Not Used
Printed : Jan 10, 2003 10:05:07
Channel : A
Peak : 2 C-28 (Surr)

L	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
2	288462	25	11538.48	288462							0
3	590433	50	11808.66	590433							0
4	1159433	100	11594.33	1159433							0
5	2308591	200	11542.96	2308591							0
6	5866588	500	11733.18	5866588							0

Calib Flag: Replace

Average RF: 11643.5
RF StdDev: 121.322
RF %RSD: 1.042

RF Definition: Area / Amount
Average RF Fit: Amount = Area / 11643.5



FORM-7B

Applied P & Ch Laboratory

CCV Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032343
Project ID:	MCAS El Toro	Project No.:		Instrument	W
		Batch No.:	03G1810	Sequence No.	03G1810
CVB File:	1810G.V01	Date Analyzed:	03/24/2003	Time Analyzed:	17:05
CVA File:	1810G.U01		03/24/2003		17:30

Target Components

#	Component Name	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	by
1	MOTOR OILS	mg/L	1000	921	92	-8	√	85-115	CVB
2	PHC as DIESEL FUEL	mg/L	1000	1130	113	13	√	85-115	CVA
						Total CCV Out of Control	0		

Surrogate Components

1	N-OCTACOSANE	μg/L	50000	57600	115	15	√	85-115	CVA
						Total Surrogate Out of Control	0		

FORM-7B

Applied P & Ch Laboratory

CCV Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032343
Project ID:	MCAS El Toro	Project No.:		Instrument	W
		Batch No.:	03G1810	Sequence No.	03G1810
CVB File:	1810G.V02	Date Analyzed:	03/24/2003	Time Analyzed:	22:06
CVA File:	1810G.U02		03/24/2003		22:31

Target Components

#	Component Name	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	by
1	MOTOR OILS	mg/L	1000	888	89	-11	√	85-115	CVB
2	PHC as DIESEL FUEL	mg/L	1000	1090	109	9	√	85-115	CVA
					Total CCV	**Out of Control**	0		

Surrogate Components

1	N-OCTACOSANE	μg/L	50000	57100	114	14	√	85-115	CVA
					Total Surrogate Out of Control		0		

FORM-7B

Applied P & Ch Laboratory

CCV Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032343
Project ID:	MCAS El Toro	Project No.:		Instrument	W
		Batch No.:	03G1810	Sequence No.	03G1810
CVB File:	1810G.V03	Date Analyzed:	03/25/2003	Time Analyzed:	03:54
CVA File:	1810G.U03		03/25/2003		04:19

Target Components

#	Component Name	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	by
1	MOTOR OILS	mg/L	1000	956	96	-4	√	85-115	CVB
2	PHC as DIESEL FUEL	mg/L	1000	1100	110	10	√	85-115	CVA
					Total CCV Out of Control		0		

Surrogate Components

1	N-OCTACOSANE	μg/L	50000	60600	121	21	X	85-115	CVA
					Total Surrogate Out of Control		1		

FORM-7B

Applied P & Ch Laboratory

CCV Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032343
Project ID:	MCAS El Toro	Project No.:		Instrument	W
		Batch No.:	03G1810	Sequence No.	03G1810
CVB File:	1810G.V04	Date Analyzed:	03/25/2003	Time Analyzed:	09:06
CVA File:	1810G.U04		03/25/2003		09:31

Target Components

#	Component Name	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	by
1	MOTOR OILS	mg/L	1000	1030	103	3	√	85-115	CVB
2	PHC as DIESEL FUEL	mg/L	1000	1100	110	10	√	85-115	CVA
					Total CCV Out of Control		0		

Surrogate Components

1	N-OCTACOSANE	μg/L	50000	56300	113	13	√	85-115	CVA
					Total Surrogate Out of Control		0		

FORM-7B

Applied P & Ch Laboratory

CCV Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032343
Project ID:	MCAS El Toro	Project No.:		Instrument	W
		Batch No.:	03G1810	Sequence No.	03G1810
CVB File:	1810G.V05	Date Analyzed:	03/25/2003	Time Analyzed:	10:48
CVA File:	1810G.U05		03/25/2003		11:13

Target Components

#	Component Name	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	by
1	MOTOR OILS	mg/L	1000	921	92	-8	√	85-115	CVB
2	PHC as DIESEL FUEL	mg/L	1000	1000	100	0	√	85-115	CVA
					Total CCV Out of Control		0		

Surrogate Components

1	N-OCTACOSANE	μg/L	50000	52800	106	6	√	85-115	CVA
					Total Surrogate Out of Control		0		

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

Analysis Anomaly Record

Batch #: 03G1810 Method: 8015B Matrix: S Date: 03-25-03

Samples Involved: 2345-1 MS/MSD

- **Anomaly for MS/MSD/MD**
  - ☒ 1. MS/MSD out of control limit, sample matrix interference suspected
  - ☐ 2. MS or MSD out of control limit, but $\overline{MS}$ is O.K.
  - ☐ 3. One of MS/MSD, and $\overline{MS}$ out of control limit, but not enough sample for re-analysis
  - ☐ 4. Not enough sample for MS/MSD, LCS/LCSD may be used
  - ☐ 5. Spiked samples contain high concentration of analytes (>4 × spiked concentration)
  - ☐ 6. MS/MSD out of control limit, but post spike is O.K.
  - ☐ 7. MS/MSD out of control limit, due to the heterogenous matrix
  - ☐ 8. MS/MSD out of control limit, due to the very special matrix
  - ☐ 9. Not enough sample for matrix duplicate (MD)
- **Anomaly for Holding time (HT)**
  - ☐ 10. HT has been exceeded when received, authorized by the Client to carry on with the analyses
  - ☐ 11. Extraction HT was passed, authorized by the Client to carry on with the analyses
  - ☐ 12. Analysis HT was passed, authorized by the Client to carry on with the analyses
- **Surrogates Anomaly**
  - ☐ 13. Surrogate recovery out of control limit (see Level-1 Part III), sample matrix interference suspected
  - ☐ 14. Surrogate recovery out of control limit (see Level-1 Part III), but not enough sample for re-analysis
  - ☐ 15. Surrogate recovery out of control limit, due to very special matrix
  - ☐ 16. Surrogate diluted out (for highly contaminated samples)
  - ☐ 17. Lower surrogate recovery due to cleanup process
- **Chromatogram Pattern Anomaly**
  - ☐ 18. Not a typical gasoline chromatogram pattern
  - ☐ 19. Not a typical diesel chromatogram pattern
  - ☐ 20. Not a typical diesel chromatogram pattern, but similar to heavy-oil or motor oil
  - ☐ 21. Not a typical kerosene chromatogram pattern
  - ☐ 22. Not a typical jet fuel chromatogram pattern
  - ☐ 23. Not a complete PCB chromatogram pattern, interference/degration suspected
- **Other anomaly**

Problem Description: _____

Reason: _____

Analyst: U Date: 3-25-03

Note: _____

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Organic Sample Preparation Logbook

Batch # 039810 Matrix: S Target method: 8015B EXT Method: 3550B Date: 3/24/3

Solvent: Hexane/Acetone Lot # 027471/CG3361 Exchange Solvent: NA Lot # NA ; Analyst: Yu

Lot #: Surr.: GC-14934 Conc.: 50.0 ppm Na_2SO_4: 20078 [S] Sonication Time

Op. #	Sample Type	Sample ID #	Smpl Amnt (mL or g)	Surr. Vol µL mL	Extract sub-ID	Final Vol. mL	Dilution F=V/X	Note & Anomaly
3551	MB	039810-K01	20.00	1.00	8015B	1.00	Q05 ~~0.005~~	3/24/3 Yu
3552	LCS	-101	20.01					
3553	LCSD	-101	20.00					
3554	Sample-1	2345 -1	20.00					
3555	MS	-1	20.00					
3556	MSD	-1	20.01					
3557	Sample-2	-2	20.00					
3558	Sample-3	-3	20.00					
3559	Sample-4	2347 -1	20.00					
3560	Sample-5	2343 -1	20.00					
3561	Sample-6	2341 -1	20.01					
3562	Sample-7	-2	20.00					
3563	Sample-8	-3	20.00					
3564	Sample-9	2339 -1	20.00					
3565	Sample-10	-2	20.01					
3566	Sample-11	-3	20.00					
3567	Sample-12	-4	20.00					
3568	Sample-13	-5	20.00					
3569	Sample-14	-6	20.00					
3570	Sample-15	-7	20.00					
3571	Sample-16							
3572	Sample-17							
3573	Sample-18							
3574	Sample-19							
3575	Sample-20							
3576	MTX Dup.							
3577	LCS'							
3578	LCSD'							
3579	MS'							
3580	MSD'							

3-24-3 Yu

Type	Op #	STD Lot #	C_{std}(ppm)×V_{std}(mL)/X(g or mL)= T	Op #	STD Lot #	C_{std}(ppm)×V_{std}(mL)/X(g or mL)= T
LCS/LCSD	3552	GC-14933	1000 × 10000 × 1.00 /X= ppb	3553	GC-14933	1000 × 10000 × 1.00 /X= ppb
MS/MSD	3555	GC- ↓	1000 × ↓ × /X= ppb	3556	GC- ↓	1000 × ↓ × /X= ppb
LCS'/LCSD'		GC-	1000 × × /X= ppb		GC-	1000 × × /X= ppb
MS'/MSD'		GC-	1000 × × /X= ppb		GC-	1000 × × /X= ppb

2660

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Organic Sample Preparation

Extraction method: **1** 3510–separate funnel; **2** 3520–L-L continue extraction; **3** 3550–Ultrasonic; **4** LUFT–Shaker; **5** 3540–Soxhlet; **6** Solid phase Extraction; **7** Microextraction; **8** SFE; **9** Dilution; **10** Concentration; **11** Other, specify.

Service ID: 2345 Batch # 039 1810 Matrix S GC, GC/MS Method 8015B Ext Method 3550B

Sample Extraction

OP. by [illegible] Date 3/24/03 Surro Lot GC-14934 Conc. 50.0 pp
LCS Lot GC-14933 Conc. 1000 pp MS Lot GC-14937 Conc. 1000 pp
Ext. solv. CH2Cl2/Acet Lot # 027471/CG374 Exchange solv. n/a Lot # n/a

Sample ID	-1501	-101	-301	-1MS	-1MSD	-2	-3	-1
Sample Matrix	S							
Sample Amount, X (g/mL)	20.00	20.01	20.00	20.00	20.01	20.00	20.00	20.00
Any TCLP, EP, WET, SPLP ?								
Surr. STD used, mL	1.00							
Spike STD used, mL		1.00						
[Extracted at pH]	1	1	1	1	1	1	1	1
Solvent amount, mL	3x60	x	x	x	x	x	x	x
Final volume, V, mL	1.00							
Extraction DF $f_e = V/X$	0.05							
Sub-ID of extracts	8015B							
Anomaly Footnote† :								

Sample Cleanup

Op. by ____ Date / / (For details, see Cleanup worksheet)

Cleanup method:								
Cleanup DF, f_c								
Preparation DF, $f_1 = f_e\ f_c$								

Pre-injection*:

Op. by Linda Date 3/24/03 IS Lot : GC- Conc. ____ pp

2nd dilution, f_2	(1)							
V_t, μL	(40)							
Single Extract GC, GC/MS Analysis:								
$V_2 = V_t/f_2$, μL	($40/f_2$)							
$V_{solvent} = V_t - V_2$, μL								
Double Extract GC, GC/MS Analysis:								
$V_> = \frac{1}{2}V_t/f_2$, μL	($20/f_2$)							
$V_< = \frac{1}{2}\frac{V_t}{f_2}\frac{f_<}{f_>}$, μL	($\frac{20}{f_2}\frac{f_<}{f_>}$)							
$V_{solvent} = V_t - V_> - V_<$								
IS volume, μL	(10)							
Final Conc. of IS	(40 ppm)							
Total $F = 2\ f_1\ f_>$ or $f_1\ f_2$		0.05	0.05	0.05	0.05	0.05	0.05	0.05/0.25

† Extraction Anomaly Footnote:

1. Difficult to concentrate to 1.0 mL.
2. Extract is dark color
3. Extract is sticky
4. Heterogenous matrix.
5. Too much precipitate during extraction.
6. There is an oil layer above the sample.
7. Mixture of soil & water.
8. BN-extract is interfered, A-extract only.
9. Sample has strong stink
10. Some solvent suspected
11. special color, specify

* For double extract analysis (ABN), $f_> = \max[f_A, f_B]$ and $f_< = \min[f_A, f_B]$, where f_A, f_B are f_1 for A and BN extracts, respectively. The values in () is the typical case for 625/8270 ABN analysis.

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Tel: (909) 590-1828 Fax: (909) 590-1498

Organic Sample Preparation

Extraction method: 1 3510–separate funnel; 2 3520–L-L continue extraction; 3 3550–Ultrasonic; 4 LUFT–Shaker; 5 3540–Soxhlet; 6 Solid phase Extraction; 7 Microextraction; 8 SFE; 9 Dilution; 10 Concentration; 11 Other, specify.

Service ID: 23B Batch # 039810 Matrix S GC, GC/MS Method 8015B Ext Method 3550B

Sample Extraction

OP. by Yv Date 3 24 13 Surro Lot GC-14934 Conc. 50.0 pp
LCS Lot GC-14933 Conc. 1000 pp MS Lot GC-14933 Conc. 1000 pp
Ext. solv. Chloh/Acet Lot # 027071/CG374 Exchage solv. an Lot # NA

Sample ID	-1							
Sample Matrix	S							
Sample Amount, X (g/mL)	2000							
Any TCLP, EP, WET, SPLP ?								
Surr. STD used, mL	1.00							
Spike STD used, mL								
[Extracted at pH]	/	/	/	/	/	/	/	/
Solvent amount, mL	3x60	x	x	x	x	x	x	x
Final volume, V, mL	1.00							
Extraction DF $f_e = V/X$	0.05							
Sub-ID of extracts	8015B							
Anomaly Footnote† :								

Sample Cleanup

Op. by Date / / (For details, see Cleanup worksheet)

Cleanup method:								
Cleanup DF, f_c								
Preparation DF, $f_1 = f_e\, f_c$								

Pre-injection*:

Op. by Linda Date 3 24 13 IS Lot : GC- Conc. pp

2nd dilution, f_2	(1)							
V_t, μL	(40)							

Single Extract GC, GC/MS Analysis:

$V_2 = V_t/f_2$, μL	($40/f_2$)							
$V_{solvent} = V_t - V_2$, μL								

Double Extract GC, GC/MS Analysis:

$V_> = \frac{1}{2}V_t/f_2$, μL	($20/f_2$)							
$V_< = \frac{1}{2}\frac{V_t}{f_2}\frac{f_<}{f_>}$, μL	($\frac{20}{f_2}\frac{f_<}{f_>}$)							
$V_{solvent} = V_t - V_> - V_<$								
IS volume, μL	(10)							
Final Conc. of IS	(40 ppm)							
Total $F = 2\, f_1\, f_>$ or $f_1\, f_2$	0.05							

† Extraction Anomaly Footnote:

1. Difficult to concentrate to 1.0 mL.
2. Extract is dark color
3. Extract is sticky
4. Heterogenous matrix.
5. Too much precipitate during extraction.
6. There is an oil layer above the sample.
7. Mixture of soil & water.
8. BN-extract is interfered, A-extract only.
9. Sample has strong stink
10. Some solvent suspected
11. special color, specify

* For double extract analysis (ABN), $f_> = \max[f_A, f_B]$ and $f_< = \min[f_A, f_B]$, where f_A, f_B are f_1 for A and BN extracts, respectively. The values in () is the typical case for 625/8270 ABN analysis.

W

LOG-045

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13760 Magnolia Ave. Chino CA 91710
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Semi-VOC Analysis Logbook

Sequence # dsl2-054 Starting Date: 1-9-03 Time 15:20 Analyst: U

Seq. type: ☒ Cal. ☒ Ini. Batch ☐ Middle ☐ Final ☐ Continue ☐ Study Datafile Path: _____

Routine Maintenance: ☐ Replace Septum ☐ Replace Liner ☐ Replace Seal ☐ Cut Guid Column ☐ Cut Column ☐ Others _____

Op. #	Batch-No	MTX	S Type*	Sample ID	Method**	f_2	F	A-#	Datafile	OK ?†	Note††
2321	dsl2-054	W	Carbon Chain	054cal.X01	dsl2-054		1		054cal.X01		-
2322			↓	X02			1		.X02		
2323		U	1-10-03	~~dsl2-054~~							
2324				50 ppm			50		dsl2-054.050		GC 14366
2325				500 ppm			500		.500		GC 14365
2326				1000 ppm			1000		.1P0		GC 14364
2327				2000 ppm			2000		.2P0		GC 14363
2328				4000 ppm			4000		.4P0		GC 14362
2329				10000 ppm			10000		.10P		GC 14361
2330			ICV	Diesel icv			1		dsl2-054.icv		GC 13319
2331				200 ppm			200		mtor-054.200		GC 14758
2332				500 ppm			500		.500		GC 14757
2333				1000 ppm			1000		.1P0		GC 14756
2334				2000 ppm			2000		.2P0		GC 14755
2335				4000 ppm			4000		.4P0		GC 14754
2336			ICV	motor icv			1		mtor-054.icv		GC 13909
2337	↓	↓	ICV	JP5 ICV	↓		1		jp5-054.icv		GC 13908
2338											
2339											
2340											
2341											
2342											
2343				U 1-10-03							
2344											
2345											
2346											
2347											
2348											
2349											
2350											

Footnote/Anomaly:

* Sample type such as, SP(BFB, or DFTPP), CCV, CVA, CVB, LCS, LCSD, MS, MSD, MD, CLS etc. For field samples leave as blank.

** Method name: [MMMM][S][nnn]. [MMMM] – method code, per SOP C-88. Special codes: DSL2: Diesel #2; FP30: Fuel Finger Print (C_8-C_{30}); FP40: Fuel Finger Print (C_8-C_{40}); EGLY: Ethylene Glycol; FORM: Formaldehyde; MEOH: Methyl Alcohol. [S] – APCL system code; [nnn] – initial calibration number.

† Specify the result of the injection is accepted (√), or denied (X), or need Re-run (R) or use as a reference data (ref).

†† Lot # for CCV/Closing, Time for SP (e.g. DFTPP) must be recorded.

FILE: [CUST.DOC.GC]GC_LOG .TEX Root-File: GC_LOG_ROOT.TEX 1-Page-File:[CUST.DOC.GC]GC_LOG1.TEX
APCL form 7-101, Nov 22, 2000; Ver 5.0 No pencil. Use blue pen for record. Use red pen for correction.

Supervisor Initial 2663

W

LOG-113

Applied P & Ch Laboratory
30 Magnolia Ave. Chino CA 91710
(909) 590-1828 Fax: (909) 590-1498

Semi-VOC Analysis Logbook

Sequence # 03G1810 Starting Date: 03-24-03 Time 15:15 Analyst: LL

Run type: ☐ Cal. ☒ Ini. Batch ☐ Middle ☐ Final ☐ Continue ☐ Study Datafile Path: _____

Routine Maintenance: ☐ Replace Septum ☐ Replace Liner ☐ Replace Seal ☐ Cut Guid Column ☐ Cut Column ☐ Others _____

#	Batch-No	MTX	S Type*	Sample ID	Method**	f_2	F	A-#	Datafile	OK ?†	Note††
4585	03G1810	S	Carbon Chain	1810g.X01	DSL2-054		1	97	1810g.X01	OK	
4586			CCV	V01				95	V01		
4587			CCV	U01				100	U01		
4588			MB	K01			0.05	1	K01		
4589			LCS	L01				2	L01		
4590			LCSD	J01				3	J01		
4591			MS	M01				4	M01		2345-1
4592			MSD	N01				5	N01		2345-1
4593				2345-1				6	2345.001		
4594				-2				7	002		overscale
4595				-3				8	003		
4596				2347-1				9	2347.001		
4597				2343-1				10	2343.001		overscale
4598			CCV	1810g.V02			1	95	1810g.V02		
4599			CCV	U02			1	100	U02		
4600				2341-1			0.05	11	2341.001		
4601				-2				12	002		
4602				-3				13	003		
4603				2339-1				14	2339.001		
4604				-2				15	002		
4605				-3				16	003		
4606				-4				17	004		
4607				-5				18	005		
4608				-6				19	006		
4609				-7				20	007		
4610			CCV	1810g.V03			1	95	1810g.V03		
4611			CCV	U03				100	U03		3-25-03 04:19
4612			CCV	1810g.V04				95	V04		3-25-03 9:06
4613			CCV	U04				100	U04		
4614				2345-2			0.25	7	2345.102		

Footnote/Anomaly:

V: GC14756 U: GC14364

* Sample type such as, SP(BFB, or DFTPP), CCV, CVA, CVB, LCS, LCSD, MS, MSD, MD, CLS etc. For field samples leave as blank.

** Method name: [MMMM][S][nnn]. [MMMM] – method code, per SOP C-88. Special codes: DSL2: Diesel #2; FP30: Fuel Finger Print (C8-C30); FP40: Fuel Finger Print (C8-C40); EGLY: Ethylene Glycol; FORM: Formaldehyde; MEOH: Methyl Alcohol. [S] – APCL system code; [nnn] – initial calibration number.

† Specify the result of the injection is accepted (√), or denied (X), or need Re-run (R) or use as a reference data (ref).

†† Lot # for CCV/Closing, Time for SP (e.g. DFTPP) must be recorded.

FILE: [CUST.DOC.GC]GC_LOG .TEX Root-File: GC_LOG_ROOT.TEX 1-Page-File:[CUST.DOC.GC]GC_LOG1.TEX
APCL form 7-101, Nov 22, 2000; Ver 5.0 No pencil. Use blue pen for record. Use red pen for correction.

Supervisor Initial RCT

W

LOG-114

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Semi-VOC Analysis Logbook

Sequence # 03G1810 Starting Date: 03-25-03 Time 10:18 Analyst: U

Seq. type: ☐ Cal. ☐ Ini. Batch ☐ Middle ☒ Final ☐ Continue ☐ Study Datafile Path: _____

Routine Maintenance: ☐ Replace Septum ☐ Replace Liner ☐ Replace Seal ☐ Cut Guid Column ☐ Cut Column ☐ Others _____

Op. #	Batch-No	MTX	S Type*	Sample ID	Method**	f_2	F	A-#	Datafile	OK ?†	Note††
4617	03G1810	S		2347-1	DSL2-054		1	9	2347.101	OK	-
4618	↓	↓	CW	1810g.V05	↓		↓	95	1810g.V05	↓	
4619	↓	↓	CW	U05	↓		↓	100	U05	↓	
4620											
4621											
4622											
4623											
4624											
4625											
4626											
4627											
4628											
4629											
4630											
4631								U	3-25-03		
4632											
4633											
4634											
4635											
4636											
4637											
4638											
4639											
4640											
4641											
4642											
4643											
4644											
4645											
4646											

Footnote/Anomaly:

V: GC14756 U: GC14364

* Sample type such as, SP(BFB, or DFTPP), CCV, CVA, CVB, LCS, LCSD, MS, MSD, MD, CLS etc. For field samples leave as blank.
** Method name: [MMMM][S][nnn]. [MMMM] – method code, per SOP C-88. Special codes: DSL2: Diesel #2; FP30: Fuel Finger Print (C8-C30); FP40: Fuel Finger Print (C8-C40); EGLY: Ethylene Glycol; FORM: Formaldehyde; MEOH: Methyl Alcohol. [S] – APCL system code; [nnn] – initial calibration number.
† Specify the result of the injection is accepted (√), or denied (X), or need Re-run (R) or use as a reference data (ref).
†† Inj. # for CCV/Closing, Time for SP (e.g. DFTPP) must be recorded.

Supervisor Initial 2865

Level C Data Package Deliverables

Wet Chemistry

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Wet Analysis Results for Method ASTM-D2216

Client Name: GEOFON, Inc. Project No: Anal. Method ASTM-D2216
Project ID: MCAS El Toro Service ID: 032343 Collected by:

Component Name: Moisture, percent
CAS No: 7732-18-5

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2343-1	UST-30-SP-1	Soil	03/20/03	03/20/03	03/24/03	03W2092	%Moisture	0.5	28.1	

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

Applied P & Ch Laboratory

Wet Analysis Results for Method 418.1

Client Name:	GEOFON, Inc.	Project No:		Anal. Method	418.1
Project ID:	MCAS El Toro	Service ID:	032343	Collected by:	

Component Name: TRPH
CAS No: 10-90-2

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2343-1	UST-30-SP-1	Soil	03/20/03	03/20/03	03/25/03	03W2113	mg/kg	28	157	
03W2113MB01		Soil	03/25/03	03/25/03	03/25/03	03W2113	mg/kg	20	<18	U

Not Detected is shown as MDL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

FORM-3

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 418.1

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032343
Project ID:	MCAS El Toro	Project No:		Sample Matrix:	Soil
		Batch No:	03W2113		
LCS Filename:	-	Date Analyzed:	032503	Time Analyzed:	10:16
LCSD Filename:	-	Date Analyzed:	032503	Time Analyzed:	10:16

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
TRPH	mg/kg	1000	0	864	86	80-119
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
TRPH	mg/kg	1000	847	85	1	20	80-119
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

Wet Chemistry QC Report B
Duplicate Results

Matrix: Soil

APCL Service ID: 03-2343

Analysis	Batch ID	Analysis Date	Sample Name	Unit	Result	Duplicate Result	RPD %	RPD Control limit
Moisture	03W2092	03/24/2003	03-2339-01	% moisture	14.82	15.17	2	20

Note: N/A = Not applicable; NR: Not requested; NC= Not Calculated; ND: Not detected.

6A

INITIAL CALIBRATION DATA

Lab Name: Applied P & Ch Lab Contract: _____

Analysis: TRPH Calibration Date: 03/25/2003

Concentration (mg/L)	0	10	50	100	200	400
Absorbance	0.000	0.013	0.025	0.122	0.235	0.480

A=-0.009 + 0.00122C

A=Absorbance

C=Concentration (mg/L)

r= 0.997

FORM-7

Applied P & Ch Laboratory

CCV Recovery for Wet Analysis

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032343
Project ID:	MCAS El Toro	Project No.:			

#	Component Name	Method	Batch No.	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	Test Date
1	TRPH	418.1	03W2113	mg/L	200	189	94	-6	√	90-110	03/25/2003
	TRPH	418.1	03W2113	mg/L	200	197	99	-1	√	90-110	03/25/2003

Applied P & Ch Laboratory
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TRPH/OG (418.1/9071/413.2 IR) Worksheet

Batch # 03W2113 Matrix: W S EPA Method _____ Test Date: 3/25/03 Analyst: [illegible]

Lot #: $C_2Cl_3F_3$ (F112) _____ Na_2SO_4 _____ $MgSO_4 \cdot H_2O$ _____ Silica gel _____ SOP: G-31, G-35

Calibration	STD Lot #	$C_{std} \times V_{std}/V_f = C_i$	A_i	$RF_i = A_i/C_i$	Calibration results	Note
STD-1	W-7433	× / = 0.0 mg/L	0.000		Least Square [RF]=	Cal. Code:
STD-2	W-	× / = 10.0 mg/L	0.013		Average $\bar{RF}$=	
STD-3	W-	× / = 50.0 mg/L	0.075		C.C.= 0.997 (≥ 0.995)	
STD-4	W-	× / = 100 mg/L	0.122		RSD= % (≤ 15%)	
STD-5	W-	× / = 200 mg/L	0.235		Ref. page	
STD-6	W-	× / = 400 mg/L	0.480		A = -0.009 + 0.00122C	

Analysis Type	Sample ID or Lot #	Samp. Amnt X (g or mL)	$C_2Cl_3F_3$ ratio V(mL)/X=f_1	2nd Dilu./Ext $V_f/V_i=f_2$	2930 cm^{-1} Abs. A	Concentration $C'=A/\bar{RF}$	C (Sample) $C=f_1 f_2 C'$	Anomaly Note
CCV	Lot: W-7433	Expected Conc.:	×	/ = 200 mg/L	0.221	188.5 mg/L	REC. %	90-110 %
M-Blk	Bl. Lot:	10.0g	50ml/X= 5	/ =	0.000	mg/L	0.00 ppm	
LCS1	Bl. Lot:		/X=	/ =	0.202	mg/L	864 ppm	
Smpl-1	2345-1		/X=	/ =	0.015	mg/L	96.5 ppm	
MS on S-1	MD/ -1		/X=	/ =	0.016	mg/L	101 ppm	
MSD on S-1			/X=	/ =		mg/L	ppm	
Smpl 2	2		/X=	/ =	0.490	mg/L	2050 ppm	
Smpl 3	3		/X=	/ =	0.018	mg/L	109 ppm	
Smpl 4	2343-1		/X=	/ =	0.019	mg/L	113 ppm	
Smpl 5	2341-1		/X=	/ =	0.016	mg/L	101 ppm	
Smpl 6	2		/X=	/ =	0.053	mg/L	252 ppm	
Smpl 7	3		/X=	/ =	0.084	mg/L	380 ppm	
Smpl 8			/X=	/ =		mg/L	ppm	
Smpl 9			/X=	/ =		mg/L	ppm	
Smpl 10			/X=	/ =		mg/L	ppm	
Blank	Lot:		/X=	/ =		mg/L	ppm	
LCS2	Bl. Lot:	10.0g	50ml/X= 5	/ =	0.198	mg/L	847 ppm	
Smpl 11			/X=	/ =		mg/L	ppm	
Smpl 12			/X=	/ =		mg/L	ppm	
Smpl 13			/X=	/ =		mg/L	ppm	
Smpl 14			/X=	/ =		mg/L	ppm	
Smpl 15			/X=	/ =		mg/L	ppm	
Smpl 16			/X=	/ =		mg/L	ppm	
Smpl 17			/X=	/ =		mg/L	ppm	
Smpl 18			/X=	/ =		mg/L	ppm	
Smpl 19			/X=	/ =		mg/L	ppm	
Smpl 20			/X=	/ =		mg/L	ppm	
Mtx Dup.	Dosing 200 mg/L		/X=	/ =	0.231	197 mg/L	ppm	

Type	STD Lot #	$C_{STD}(\mu g/mL) \times V_{STD}(mL)/X(g \text{ or } mL) = T$	Spike Rec.	Ctl Limit (W/S)
MS	W-	× / = ppm	%	76-113 %/75-120 %
MSD	W-	× / = ppm	%	.. ..
LCS	W-7433	× / = 1000 ppm	%	80-120 %/80-120 %
LCSD	W-	× / = ✓ ppm	%	.. ..

PQL/MDL (in ppm)	
PQL(w)	1
PQL(s)	10
MDL(w)	0.24
MDL(s)	5

[illegible] 3/25/03

2673

APCL form 5-128 March 31, 1995. Ver. 4.0 No pencil. Use blue pen for record. Use red pen for correction.
File:[CUST.DOC.WET]TRPH .TEX Root-File:[CUST.DOC.WET]TRPH_ROOT.TEX 1-Page-File: TRPH1.TEX
Control limits are subjected to change. The updated values are given in the latest version of APCL Technical Handbook Vol. 2

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Moisture (ASTM D2216) Worksheet

Batch # 03W2091 SOP: G-86
Date 3/24/03 Analyst SXC

Batch # 03W2092 SOP: G-86
Date 3/24/03 Analyst SXC

	Sample ID	Container Weight W_0, g	Before Drying W_1, g	After Drying W_2, g	Moisture $\frac{W_1-W_2}{W_1-W_0}\times 100\%$		Sample ID	Container Weight W_0, g	Before Drying W_1, g	After Drying W_2, g	Moisture $\frac{W_1-W_2}{W_1-W_0}\times 100\%$
Smpl-1	2348-1	20.89	48.39	43.31	18.47	Smpl-1	2339-1	23.58	51.46	47.30	14.82
Smpl-2	-2	20.36	47.81	44.84	10.82	Smpl-2	-2	20.73	43.22	40.59	13.62
Smpl-3	-3	23.57	49.93	46.78	11.95	Smpl-3	-3	22.69	45.04	42.39	11.86
Smpl-4	-4	20.79	49.46	46.52	10.26	Smpl-4	-4	23.75	44.47	41.88	12.50
Smpl-5	-5	23.33	51.95	48.47	12.16	Smpl-5	-5	22.16	47.72	44.09	14.20
Smpl-6	-6	22.81	46.06	43.40	11.44	Smpl-6	-6	22.47	49.10	44.24	20.05
Smpl-7	-7	23.14	50.49	46.89	13.16	Smpl-7	-7	22.33	48.26	43.37	10.20
Smpl-8	-8	21.97	49.83	46.42	10.96	Smpl-8	2345-1	22.32	47.86	44.52	13.08
Smpl-9	-9	23.01	41.73	38.48	17.36	Smpl-9	-2	22.64	43.75	41.99	8.34
Smpl-10	-10	20.98	43.97	38.92	21.97	Smpl-10	-3	22.64	52.37	48.85	11.84
Smpl-11	-11	22.80	50.01	45.59	16.24	Smpl-11	2347-1	22.38	50.36	46.84	12.58
Smpl-12	-12	22.29	48.58	45.00	13.62	Smpl-12	2350-1	22.40	47.93	45.13	10.97
Smpl-13	-13	22.36	49.57	44.66	17.86	Smpl-13	2371-21	21.35	41.37	36.10	26.32
Smpl-14	-14	23.35	50.13	45.19	18.45	Smpl-14	2343-1	23.43	47.39	40.79	28.13
Smpl-15	-15	21.04	50.93	46.44	15.02	Smpl-15	2376-1	22.42	56.60	52.38	12.35
Smpl-16	2341-1	23.41	56.23	50.97	16.03	Smpl-16	-2	22.25	42.50	39.45	14.21
Smpl-17	-2	23.31	60.09	53.06	19.11	Smpl-17	-3	21.17	43.68	40.16	15.64
Smpl-18	-3	21.99	51.40	46.26	17.48	Smpl-18	-4	22.86	46.12	42.71	14.66
Smpl-19	2384-21	22.33	44.42	36.97	37.73	Smpl-19	-5	22.37	35.26	30.65	35.76
Smpl-20	-22	22.62	46.00	37.54	34.47	Smpl-20	-6	22.35	41.68	36.21	28.30
Smpl-21	2348-1	22.13	44.86	40.67	18.43	Smpl-21	2339-1	21.39	46.24	42.47	18.17

Footnote/Anomaly:

Applied P & Ch Laboratory
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Balance Daily Calibration Worksheet

Weight Set S/N: 12006

Calib. Date	Lab Balance					Digital Balance					Analytical Balance					Calib. by
	Balance #	1 g ±0.05g	10 g ±0.1g	200 g ±0.5g	Note (C)	Balance #	1 g ±0.02g	10 g ±0.05g	200 g ±0.10g	Note (D) (C) (AR)	Balance #	1 g ±0.0002g	10 g ±0.0005g	200 g ±0.0010g	Note (D) (C) (AR)	
3/24/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.0000	10.0002	200.0001	✓✓✓	
~~3/24/03~~	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0000	10.0000	200.0000	✓✓✓	
	A-03	1.00	10.01	200.00	✓	B-06	1.00	10.00	200.01	✓✓✓	C-					
YZ 3/24/03	A-04					B-07	1.00	10.00	200.00	✓✓✓	C-					YZ
	A-		3/24/03			B-					C-		3/24/03			
	A-					B-		3/24/03			C-					
3/25/3	A-01	not	in	use	✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.0000	10.0002	200.0001	✓✓✓	
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0000	10.0000	200.0000	✓✓✓	
	A-03	1.00	10.01	200.00	✓	B-06	1.00	10.00	200.01	✓✓✓	C-					
	A-04					B-07	1.00	10.00	200.00	✓✓✓	C-					1/2
	A-		3/25/03			B-					C-		3/25/03			
	A-					B-		3/25/03			C-					
3/26/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.0000	10.0002	200.0001	✓✓✓	
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0000	10.0000	200.0000	✓✓✓	
	A-03	1.00	10.01	200.00	✓	B-06	1.00	10.00	200.01	✓✓✓	C-					
	A-04					B-07	1.00	10.00	200.00	✓✓✓	C-		3/26/03			YZ
	A-	3/26/03				B-					C-					
	A-					B-		3/26/03			C-					
	A-01					B-01					C-01					
	A-02					B-					C-					
	A-03					B-					C-					
	A-04					B-					C-					
	A-					B-					C-					
	A-					B-					C-					

Notation: (C) – Cleanliness; (D) – Display; (AR) – Auto Rezeroing.

LABORATORY RESULTS

UNDERGROUND STORAGE TANK 308

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
GEOFON, Inc.
Attention: Leo Williamson
22632 Golden Spring Dr Ste 270
Diamond Bar CA 91765
Tel: (909)396-7662 Fax: (909)396-1455

Service ID #: 801-032345
Collected by: Leo Williamson
Collected on: 03/20/03

Received: 03/20/03
Extracted: 03/24/03
Tested: 03/24-31/03
Reported: 04/02/03

Sample Description: Soil from Bldg 308.
Project Description: El Toro Marine Base

Analysis of Soil Samples

Component Analyzed	Method	Unit	PQL	Analysis Result UST308-1-7' 03-02345-1
MOISTURE	ASTM-D2216	%Moisture	0.5	13.1
TRPH	418.1	mg/kg	20	111
Dilution Factor				1
PHC AS DIESEL FUEL	M8015E	mg/kg	10	210 [a]
Dilution Factor				1
MOTOR OILS	M8015E	mg/kg	10	10J
VOLATILE ORGANICS				
Dilution Factor				200
ACETONE	8260B	µg/kg	50	<12000
BENZENE	8260B	µg/kg	5	260J
BROMOBENZENE	8260B	µg/kg	5	<1200
BROMOCHLOROMETHANE	8260B	µg/kg	5	<1200
BROMODICHLOROMETHANE	8260B	µg/kg	5	<1200
BROMOFORM	8260B	µg/kg	5	<1200
BROMOMETHANE	8260B	µg/kg	5	<1200
METHYL ETHYL KETONE	8260B	µg/kg	100	<23000
N-BUTYLBENZENE	8260B	µg/kg	5	<1200
SEC-BUTYLBENZENE	8260B	µg/kg	5	<1200
T-BUTYLBENZENE	8260B	µg/kg	5	<1200
CARBON DISULFIDE	8260B	µg/kg	5	<1200
CARBON TETRACHLORIDE	8260B	µg/kg	5	<1200
CHLOROBENZENE	8260B	µg/kg	5	<1200
DIBROMOCHLOROMETHANE	8260B	µg/kg	5	<1200
CHLOROETHANE	8260B	µg/kg	5	<1200
CHLOROFORM	8260B	µg/kg	5	200J
CHLOROMETHANE	8260B	µg/kg	5	<1200
2-CHLOROTOLUENE	8260B	µg/kg	5	<1200
4-CHLOROTOLUENE	8260B	µg/kg	5	<1200
1,2-DIBROMO-3-CHLOROPROPANE	8260B	µg/kg	5	<1200
1,2-DIBROMOETHANE	8260B	µg/kg	5	<1200
DIBROMOMETHANE	8260B	µg/kg	5	<1200
1,2-DICHLOROBENZENE	8260B	µg/kg	5	<1200
1,3-DICHLOROBENZENE	8260B	µg/kg	5	<1200
1,4-DICHLOROBENZENE	8260B	µg/kg	5	<1200
DICHLORODIFLUOROMETHANE	8260B	µg/kg	5	<1200
1,1-DICHLOROETHANE	8260B	µg/kg	5	<1200
1,2-DICHLOROETHANE	8260B	µg/kg	5	<1200
1,1-DICHLOROETHENE	8260B	µg/kg	5	<1200

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Component Analyzed	Method	Unit	PQL	Analysis Result UST308-1-7' 03-02345-1
CIS-1,2-DICHLOROETHENE	8260B	µg/kg	5	<1200
TRANS-1,2-DICHLOROETHENE	8260B	µg/kg	5	<1200
1,2-DICHLOROPROPANE	8260B	µg/kg	5	<1200
1,3-DICHLOROPROPANE	8260B	µg/kg	5	<1200
2,2-DICHLOROPROPANE	8260B	µg/kg	5	<1200
1,1-DICHLOROPROPENE	8260B	µg/kg	5	<1200
CIS-1,3-DICHLOROPROPENE	8260B	µg/kg	5	<1200
TRANS-1,3-DICHLOROPROPENE	8260B	µg/kg	5	<1200
ETHYLBENZENE	8260B	µg/kg	5	<1200
HEXACHLOROBUTADIENE	8260B	µg/kg	5	<1200
ISOPROPYLBENZENE (CUMENE)	8260B	µg/kg	5	<1200
P-CYMENE (P-ISOPROPYLTOLUENE)	8260B	µg/kg	5	<1200
METHYLENE CHLORIDE	8260B	µg/kg	5	<1200
METHYL ISOBUTYL KETONE	8260B	µg/kg	50	<12000
TERT-BUTYL METHYL ETHER	8260B	µg/kg	10	<2300
NAPHTHALENE	8260B	µg/kg	5	1,200J
N-PROPYLBENZENE	8260B	µg/kg	5	<1200
STYRENE	8260B	µg/kg	5	<1200
1,1,1,2-TETRACHLOROETHANE	8260B	µg/kg	5	<1200
1,1,2,2-TETRACHLOROETHANE	8260B	µg/kg	5	<1200
TETRACHLOROETHENE(PCE)	8260B	µg/kg	5	<1200
TOLUENE	8260B	µg/kg	5	1,000
1,2,3-TRICHLOROBENZENE	8260B	µg/kg	5	<1200
1,2,4-TRICHLOROBENZENE	8260B	µg/kg	5	<1200
1,1,1-TRICHLOROETHANE	8260B	µg/kg	5	<1200
1,1,2-TRICHLOROETHANE	8260B	µg/kg	5	<1200
TRICHLOROETHENE (TCE)	8260B	µg/kg	5	<1200
TRICHLOROFLUOROMETHANE	8260B	µg/kg	5	<1200
1,2,3-TRICHLOROPROPANE	8260B	µg/kg	5	<1200
1,2,4-TRIMETHYLBENZENE	8260B	µg/kg	5	4,400
1,3,5-TRIMETHYLBENZENE	8260B	µg/kg	5	1,000
VINYL CHLORIDE	8260B	µg/kg	5	<1200
O-XYLENE	8260B	µg/kg	5	2,500
M,P-XYLENE	8260B	µg/kg	10	5,000

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APCL Analytical Report

Component Analyzed	Method	Unit	PQL	Analysis Result UST308-2-7' 03-02345-2	UST308-SP-1' 03-02345-3
MOISTURE	ASTM-D2216	%Moisture	0.5	8.3	11.8
TRPH	418.1	mg/kg	20	2,240	124
Dilution Factor				5	1
PHC AS DIESEL FUEL	M8015E	mg/kg	10	230 [a]	<11
Dilution Factor				5	1
MOTOR OILS	M8015E	mg/kg	10	<55	<11
VOLATILE ORGANICS					
Dilution Factor				1000	1
ACETONE	8260B	µg/kg	50	<55000	<57
BENZENE	8260B	µg/kg	5	<5500	<5.7
BROMOBENZENE	8260B	µg/kg	5	<5500	<5.7
BROMOCHLOROMETHANE	8260B	µg/kg	5	<5500	<5.7
BROMODICHLOROMETHANE	8260B	µg/kg	5	<5500	<5.7
BROMOFORM	8260B	µg/kg	5	<5500	<5.7
BROMOMETHANE	8260B	µg/kg	5	<5500	<5.7
METHYL ETHYL KETONE	8260B	µg/kg	100	<110000	<110
N-BUTYLBENZENE	8260B	µg/kg	5	<5500	<5.7
SEC-BUTYLBENZENE	8260B	µg/kg	5	<5500	<5.7
T-BUTYLBENZENE	8260B	µg/kg	5	<5500	<5.7
CARBON DISULFIDE	8260B	µg/kg	5	<5500	<5.7
CARBON TETRACHLORIDE	8260B	µg/kg	5	<5500	<5.7
CHLOROBENZENE	8260B	µg/kg	5	<5500	<5.7
DIBROMOCHLOROMETHANE	8260B	µg/kg	5	<5500	<5.7
CHLOROETHANE	8260B	µg/kg	5	<5500	<5.7
CHLOROFORM	8260B	µg/kg	5	<5500	<5.7
CHLOROMETHANE	8260B	µg/kg	5	<5500	<5.7
2-CHLOROTOLUENE	8260B	µg/kg	5	<5500	<5.7
4-CHLOROTOLUENE	8260B	µg/kg	5	<5500	<5.7
1,2-DIBROMO-3-CHLOROPROPANE	8260B	µg/kg	5	<5500	<5.7
1,2-DIBROMOETHANE	8260B	µg/kg	5	<5500	<5.7
DIBROMOMETHANE	8260B	µg/kg	5	<5500	<5.7
1,2-DICHLOROBENZENE	8260B	µg/kg	5	<5500	<5.7
1,3-DICHLOROBENZENE	8260B	µg/kg	5	<5500	<5.7
1,4-DICHLOROBENZENE	8260B	µg/kg	5	<5500	<5.7
DICHLORODIFLUOROMETHANE	8260B	µg/kg	5	<5500	<5.7
1,1-DICHLOROETHANE	8260B	µg/kg	5	<5500	<5.7
1,2-DICHLOROETHANE	8260B	µg/kg	5	<5500	<5.7
1,1-DICHLOROETHENE	8260B	µg/kg	5	<5500	<5.7
CIS-1,2-DICHLOROETHENE	8260B	µg/kg	5	<5500	<5.7
TRANS-1,2-DICHLOROETHENE	8260B	µg/kg	5	<5500	<5.7
1,2-DICHLOROPROPANE	8260B	µg/kg	5	<5500	<5.7

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Component Analyzed	Method	Unit	PQL	Analysis Result UST308-2-7' 03-02345-2	UST308-SP-1' 03-02345-3
1,3-DICHLOROPROPANE	8260B	μg/kg	5	<5500	<5.7
2,2-DICHLOROPROPANE	8260B	μg/kg	5	<5500	<5.7
1,1-DICHLOROPROPENE	8260B	μg/kg	5	<5500	<5.7
CIS-1,3-DICHLOROPROPENE	8260B	μg/kg	5	<5500	<5.7
TRANS-1,3-DICHLOROPROPENE	8260B	μg/kg	5	<5500	<5.7
ETHYLBENZENE	8260B	μg/kg	5	13,000	<5.7
HEXACHLOROBUTADIENE	8260B	μg/kg	5	<5500	<5.7
ISOPROPYLBENZENE (CUMENE)	8260B	μg/kg	5	3,900J	<5.7
P-CYMENE (P-ISOPROPYLTOLUENE)	8260B	μg/kg	5	1,600J	<5.7
METHYLENE CHLORIDE	8260B	μg/kg	5	<5500	<5.7
METHYL ISOBUTYL KETONE	8260B	μg/kg	50	<55000	<57
TERT-BUTYL METHYL ETHER	8260B	μg/kg	10	<11000	<11
NAPHTHALENE	8260B	μg/kg	5	26,000	<5.7
N-PROPYLBENZENE	8260B	μg/kg	5	10,000	<5.7
STYRENE	8260B	μg/kg	5	<5500	<5.7
1,1,1,2-TETRACHLOROETHANE	8260B	μg/kg	5	<5500	<5.7
1,1,2,2-TETRACHLOROETHANE	8260B	μg/kg	5	<5500	<5.7
TETRACHLOROETHENE(PCE)	8260B	μg/kg	5	<5500	<5.7
TOLUENE	8260B	μg/kg	5	48,000	<5.7
1,2,3-TRICHLOROBENZENE	8260B	μg/kg	5	<5500	<5.7
1,2,4-TRICHLOROBENZENE	8260B	μg/kg	5	<5500	<5.7
1,1,1-TRICHLOROETHANE	8260B	μg/kg	5	<5500	<5.7
1,1,2-TRICHLOROETHANE	8260B	μg/kg	5	<5500	<5.7
TRICHLOROETHENE (TCE)	8260B	μg/kg	5	<5500	<5.7
TRICHLOROFLUOROMETHANE	8260B	μg/kg	5	<5500	<5.7
1,2,3-TRICHLOROPROPANE	8260B	μg/kg	5	<5500	<5.7
1,2,4-TRIMETHYLBENZENE	8260B	μg/kg	5	100,000	<5.7
1,3,5-TRIMETHYLBENZENE	8260B	μg/kg	5	31,000	<5.7
VINYL CHLORIDE	8260B	μg/kg	5	<5500	<5.7
O-XYLENE	8260B	μg/kg	5	44,000	<5.7
M,P-XYLENE	8260B	μg/kg	10	96,000	<11

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
† All results are reported on dry basis for soil samples.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0
(a) Main components similar to JP-5 with some mixture in Diesel range.

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Error Summary Log

04/15/03

EDF 1.2i All files present in deliverable.

Laboratory:	Applied Physics & Chemistry Laboratory, Chino, CA
Project Name:	ELTORO
Work Order Number:	NA
Global ID:	NA
Lab Report Number:	032345

Report Summary

Labreport	Sampid	Labsampid	Mtrx	QC	Anmcode	Exmcode	Logdate	Extdate	Anadate	Lablotctl	Run Sub
032345	UST308-1-7'	03-2345-1	SO	CS	D2216	NONE	03/20/03	03/24/03	03/24/03	03W2092	1
032345	UST308-1-7'	03-2345-1	SO	CS	E418.1	NONE	03/20/03	03/25/03	03/25/03	03W2113	1
032345	UST308-1-7'	03-2345-1	SO	CS	M8015	SW3550	03/20/03	03/24/03	03/24/03	03G1810	1
032345	UST308-1-7'	03-2345-1	SO	CS	SW8260B	SW5030	03/20/03	03/31/03	03/31/03	03G1879	1
032345	UST308-2-7'	03-2345-2	SO	CS	D2216	NONE	03/20/03	03/24/03	03/24/03	03W2092	1
032345	UST308-2-7'	03-2345-2	SO	CS	E418.1	NONE	03/20/03	03/25/03	03/25/03	03W2113	1
032345	UST308-2-7'	03-2345-2	SO	CS	M8015	SW3550	03/20/03	03/24/03	03/25/03	03G1810	1
032345	UST308-2-7'	03-2345-2	SO	CS	SW8260B	SW5030	03/20/03	03/28/03	03/28/03	03G1864	1
032345	UST308-SP-1'	03-2345-3	SO	CS	D2216	NONE	03/20/03	03/24/03	03/24/03	03W2092	1
032345	UST308-SP-1'	03-2345-3	SO	CS	E418.1	NONE	03/20/03	03/25/03	03/25/03	03W2113	1
032345	UST308-SP-1'	03-2345-3	SO	CS	M8015	SW3550	03/20/03	03/24/03	03/24/03	03G1810	1
032345	UST308-SP-1'	03-2345-3	SO	CS	SW8260B	SW5035	03/20/03	03/31/03	03/31/03	03G1870	1
		03G1810LSD01	SQ	BD1	M8015	SW3550	/ /	03/24/03	03/24/03	03G1810	1
		03G1810LCS01	SQ	BS1	M8015	SW3550	/ /	03/24/03	03/24/03	03G1810	1
		03G1810MB01	SQ	LB1	M8015	SW3550	/ /	03/24/03	03/24/03	03G1810	1
		03-2345-1MS	SO	MS1	M8015	SW3550	/ /	03/24/03	03/24/03	03G1810	1
		03-2345-1MSD	SO	SD1	M8015	SW3550	/ /	03/24/03	03/24/03	03G1810	1
		03G1864LCS01	SQ	BS1	SW8260B	SW5030	/ /	03/28/03	03/28/03	03G1864	1
		03G1864MB01	SQ	LB1	SW8260B	SW5030	/ /	03/28/03	03/28/03	03G1864	1
		03G1870LCS01	SQ	BS1	SW8260B	SW5035	/ /	03/31/03	03/31/03	03G1870	1
		03G1870MB01	SQ	LB1	SW8260B	SW5035	/ /	03/31/03	03/31/03	03G1870	1
		03-2345-3MS	SO	MS1	SW8260B	SW5035	/ /	03/31/03	03/31/03	03G1870	1
		03-2345-3MSD	SO	SD1	SW8260B	SW5035	/ /	03/31/03	03/31/03	03G1870	1
		03G1879LCS01	SQ	BS1	SW8260B	SW5030	/ /	03/31/03	03/31/03	03G1879	1
		03G1879MB01	SQ	LB1	SW8260B	SW5030	/ /	03/31/03	03/31/03	03G1879	1
		03-2339-1MD	SO	LR1	D2216	NONE	/ /	03/24/03	03/24/03	03W2092	1
		03W2113LSD01	SQ	BD1	E418.1	NONE	/ /	03/25/03	03/25/03	03W2113	1
		03W2113LCS01	SQ	BS1	E418.1	NONE	/ /	03/25/03	03/25/03	03W2113	1
		03W2113MB01	SQ	LB1	E418.1	NONE	/ /	03/25/03	03/25/03	03W2113	1
		03-2345-1MD	SO	LR1	E418.1	NONE	/ /	03/25/03	03/25/03	03W2113	1

EDFSAMP: Error Summary Log

04/15/03

Error type	Logcode	Projname	Npdlwo	Sampid	Matrix
There are no errors in this data file					

EDFTEST: Error Summary Log

04/15/03

Error type	Labsampid	Qccode	Anmcode	Exmcode	Anadate	Run number
There are no errors in this data file					/ /	0

EDFRES: Error Summary Log

04/15/03

Error type	Labsampid	Qccode	Matrix	Anmcode	Pvccode	Anadate	Run number	Parlabel
Warning: extra parameter	03-2345-1	CS	SO	D2216	PR	03/24/03	1	MOIST
Warning: extra parameter	03-2345-1	CS	SO	SW8260B	PR	03/31/03	1	XYLENES1314
Warning: extra parameter	03-2345-2	CS	SO	D2216	PR	03/24/03	1	MOIST
Warning: extra parameter	03-2345-2	CS	SO	SW8260B	PR	03/28/03	1	XYLENES1314
Warning: extra parameter	03-2345-3	CS	SO	D2216	PR	03/24/03	1	MOIST
Warning: extra parameter	03-2345-3	CS	SO	SW8260B	PR	03/31/03	1	XYLENES1314
Warning: extra parameter	03-2339-1MD	LR1	SO	D2216	PR	03/24/03	1	MOIST
Warning: extra parameter	03G1879MB01	LB1	SQ	SW8260B	PR	03/31/03	1	XYLENES1314
Warning: extra parameter	03G1864MB01	LB1	SQ	SW8260B	PR	03/28/03	1	XYLENES1314
Warning: extra parameter	03G1870MB01	LB1	SQ	SW8260B	PR	03/31/03	1	XYLENES1314

EDFQC: Error Summary Log

04/15/03

Error type	Lablotctl	Anmcode	Parlabel	Qccode	Labqcid
There are no errors in this data files					

EDFCL: Error Summary Log

04/15/03

Error type	Clrevdate	Anmcode	Exmcode	Parlabel	Clcode
There are no errors in this data file	/ /				

Level C Data Package Deliverables

General Information

Project: 04-4432.10 El Toro

APCL Service ID: 03-2345

Applied P & Ch Laboratory
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Case Narrative

Project: El Toro Marine Base/NEDTS EDD

For GEOFON, Inc.

APCL Service No: 03-2345

1. Sample Identification

The sample identifications are listed in the following table:

GEOFON, Inc. Sample ID	APCL Sample ID
UST308-1-7'	03-02345-1
UST308-2-7'	03-02345-2
UST308-SP-1'	03-02345-3

2. Analytical Methodology

Samples are analyzed by EPA methods

8260B (Volatile organics),
M8015E/M8015D (TPH: Diesel),
M8015E/M8015M (TPH: Motor Oil),
418.1 (TRPH),
ASTM-D2216 (Moisture, percent in soil),

3. Holding Time

All samples were extracted, digested and analyzed within the holding times defined by the appropriate EPA methods of the analyses.

4. Preservation

All samples were preserved and stored according to the appropriate EPA methods.

5. Tele-log

None

6. Anomaly

None

"I certify that these data are technically accurate, complete, and in compliance with the terms and conditions of the contract, for other than the conditions detailed above. Release of the data contained in the hardcopy data package and its electronic data deliverable submitted on diskette had been authorized by the Laboratory Manager or her/his designee, as verified by the following signature."

Respectfully submitted,

Regina Kirakozova
Associate QA/QC Director
Applied P & Ch Laboratory

CHAIN OF CUSTODY
Orange County Health Care Agency
Environmental Health Division
2009 E. Edinger Ave., Santa Ana, CA 92705
Telephone: (714) 667-3700

1. **ALL SAMPLES ARE TO BE HANDLED AS COURT EVIDENCE, AND ARE TO BE PROPERLY STORED IN A SECURE LOCATION.**

2. **PLEASE WRITE LEGIBLY.**

3. **ATTACH THIS FORM TO THE ORIGINAL REPORT OF THE ANALYTICAL RESULTS AND RETURN THEM TO THIS OFFICE. LABORATORY RESULTS RECEIVED WITHOUT PROPER CHAIN OF CUSTODY DOCUMENTATION WILL NOT BE ACCEPTED.**

4. **TO BE COMPLETED BY LABORATORY ANALYST**

LAB NO.: 1431
DATE RECEIVED: 3/20/03
SAMPLE(S) CONDITION (PLEASE CHECK):
CHILLED: ✓ COUNTY SEAL(S) INTACT: ✓
CONTAINER IN GOOD CONDITION: ✓
DATE ANALYSIS COMPLETED: 3/24-31/03
ANALYST: Becky Thou, [illegible] [illegible]

5. **TO BE COMPLETED BY SAMPLE COLLECTOR**

SITE NAME/ADDRESS: El Toro Marine Base [redacted] Bldg. 308, Santa Ana
DATE OF COLLECTION: 3-20-03
SAMPLE COLLECTOR/COMPANY: L. Williamson Geofon, Inc.
TELEPHONE NO.:
HCA REPRESENTATIVE: A. Rashidi-Tard

6.

SAMPLE NUMBER	DETERMINATION REQUESTED	SAMPLE DESCRIPTION/COMMENTS	TIME OF COLLECTION
UST 308-1-7'	TRPH (418.1), BTPH diesel (8015), BTEX, MTBE + all oxygenates		(8260B)
UST 308-2-7'	↓	↓	↓
UST 308-SP-1	↓	↓	
		Geotracker EDD	
			2345

7. **CHAIN OF CUSTODY**

	SIGNATURE	COMPANY/AGENCY	INCLUSIVE DATES/TIMES
1.	Dishauan Rashidi-Tard	Haz. Waste	3-20-03 - 11:25am
2.	Leo W. Williamson	GEOFON, INC.	3/20/03 - 1130 AM
3.	[illegible]	APCL	3/20/03 - 1720
4.	[illegible]	APCL	3/20/03 - 1710
5.	[illegible]	APCL	3/20/03 - 1710
6.			

WHITE-RETURN THIS COPY TO ENVIRONMENTAL HEALTH, CANARY-LABORATORY COPY
PINK-CONTRACTOR/CONSULTANT COPY, GOLDENROD-OFFICE COPY

F272-9.1531.1(R8/89) (CRS)

Applied P & Ch Laboratory
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Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Receiving Checklist

APCL ServiceID 2345 Client Name/Project: Geofon / El Toro

1. **Sample Arrival**

Date/Time Received 3/20/03 1710 Date/Time Opened 3/20/03 1710 By (name): Kenny Chan

Custody Transfer: ☐ Client ☐ Golden State ☐ UPS ☐ US Mail ☐ FedEx ☑ APCL Empl: Adam Wood

2. **Chain-of-Custody (CoC)**

☑ With Samples? ☑ Faxed? ☐ Client has Copy? ☐ Signed, dated? By:
☑ Project ID? ☑ Analyses Clear? ☐ Hold Samples? #on Hold ____ # Received 3
☑ CoC/Docs Zip-Locked under lid? ☐ Compos.#: ___ ☑ #Samples OK?
☐ Discrepancies? ☐ Client notified? ☐ Response (attach docs):

3. **Shipping Container/Cooler**

☑ Cooler Used? # of 1 Cooled by: ☑ Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Temp °C 4.0

(Cooler temperature measured from temp blank if present, otherwise measured from the cooler).

Cooler Custody Seal? ☐ Absent ☐ Intact ☐ Tampered?

4. **Sample Preservation**

☐ pH <2 ☐ pH >12

If Not, pH = ____ Preserved by: ☐ Client ☐ APCL ☐ Third Party

5. **Holding-time Requirements**

☐ pH 24hr ☐ BACT 6/24hr ☐ Cr^{VI} 24hr ☐ NO_3^- 48hr ☐ BOD 48hr
☐ Cl_2 ASAP ☐ Turbidity 48hr ☐ DO ASAP ☐ Fe(II) ASAP
☐ HT Expired? ☐ Client notified?

6. **Sample Container Condition**

☑ Intact? ☐ Broken? ☐ Documented? Number: ____
Type: ☑ plastic ☑ glass ☐ Tube: brass/SS ☐ Tedlar Bag
☑ Quantity OK? ☐ Leaking? ☐ Anomaly?
☑ Caps tight? ☐ Air Bubbles? ☐ Anomaly?
Labels: ☑ Unique ID? ☑ Date/Time ☐ Preserved?

7. **Turn Around Time**

☐ RUSH TAT: ____ ☑ Std (7-10 days) ☐ Not Marked

8. **Sample Matrix**

☐ Drinking H_2O ☐ Other Liq ☑ Soil ☐ Wipe ☐ Polymer ☐ Air ☐ Other: ____
☐ Ground H_2O ☐ Sludge ☐ Filter ☐ Oil/Petro ☐ Paint ☐ W. Water ☐ Extract ☐ Unknown

9. **Pre-Login Check List Completed & OK?**

☑ ALL OK? (if not, attach docs) ☐ Client Contact? (Name:____)Date/Time:____

Received/Checked by: [signature] Date: 21 Mar 2003 Time: 7:37 a.m.

*HT: Samples must be analyzed for results to reflect total concentrations. Results generated outside required of holding times are considered minimal values and may be used to define waste as hazardous but not as non-hazardous.

DocumentFile: [ueal.texfiles]smprcl.tex.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Sample Login: Check List

03-02345 (0470_ 124) (2202777_ 124)

03/21/03

Part 1: General Information

☐	Company Information	Name:	*GEOFON, Inc.*
		Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
☐	Project Information	Project Description:	*El Toro Marine Base*
			NEDTS EDD
		Project #:	
☐	Billing Information	P.O. #:	
		Bill Address:	*22632 Golden Spring Dr Ste 270 ,Diamond Bar ,CA 91765*
		Lab Project ID:	*2000_0026*
		Client Database #:	~~02~~ 0(LP 4/21/03)
☐	Receiving Information	Who Received Sample?	*Kenny Chan*
		Receiving Date/Time:	*03/20/03 1710*
		COC No.	
☐	Shipping Information	Shipping Company	*APCL pick up*
		Packing Information:	*Cooler/Ice Chester*
		Cooler Temperature:	*4.0 °C*
☐	Container Information	Container Provider:	*Client*
☐	Sampling Information	Sampling Person:	
		Sampling Company:	*Client*
☐	Turn-Around-Time Option:		*Rush 5 working day(s)*
☐	QC Option:		*NEESA C*
☐	Disposal Option:		*Not specify*

Part 2: Sample Information

Seq. #	Sample ID (on COC)	Sample Sub-ID	APCL Sample ID	Matrix	Cont-tainer	Preser-vative	Vol, ml Am. g	# of Replica	Condition G, L, B	Collected mmddyy	Hold ?	Composite Group	TAT Days	
1	UST308-1-7'	Sleeve	03-02345-1	S	B		250	1	G	032003	N	0	7	☐
2	UST308-2-7'	Sleeve	03-02345-2	S	B		250	1	G	032003	N	0	7	☐
3	UST308-SP-1'	Sleeve	03-02345-3	S	B		250	1	G	032003	N	0	7	☐

Part 3: Analysis Information

Test Items:

- ☒ *8260B* Volatile organics
- ☐ *M8015V/M8015G* Gasoline
- ☒ *M8015E/M8015D* TPH: Diesel
- ☒ *M8015E/M8015M* TPH: Motor Oil
- ☒ *418.1* TRPH
- ☐ *ASTM-D2216* Moisture, percent in soil
- ☐ *9040B/150.1* pH

Seq. #	Client"s Sample ID (as given on COC)	Sample Sub-ID	APCL Sample ID	Matrix	8260	TPH	TPH	TPH	TRPH	MOISTURE	pH	
1	UST308-1-7'	Sleeve	03-02345-1	S	X		X	X	X	X	X	☐
2	UST308-2-7'	Sleeve	03-02345-2	S	X		X	X	X	X	X	☐
3	UST308-SP-1'	Sleeve	03-02345-3	S	X		X	X	X	X	X	☐

☐ Client"s Requirement: **FOR 8260, INCLUDE BTEX, MTBE, AND OXYGENATES**

Login By En-Yu Paul Kou

Check By DY

Level C Data Package Deliverables

Volatile Organics

Applied P & Ch Laboratory

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260B

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/31/2003
Project ID:	El Toro Marine Base	Service ID:	032345	Collected by:	
		Lab Sample ID:	03G1879MB01	Received Date:	03/31/2003
Sample ID:		Sample Matrix	Soil	Moisture %:	
Sample Type:	Method Blank	Prep. Method:	5030	Instrument ID:	GC/MS: C
Anal. Method:	8260B	Prep. Date:	03/31/03	Anal. Date:	03/31/03
Batch No:	03G1879	Prep. No:	–	Anal. Time:	13:37
Data File Name:	G1879K01	Sample Amount:	5.0 g	Dilution Factor:	100
Methanol Vol.	5 mL				
Test Level:	Medium	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	ACETONE	67-64-1	µg/kg	5000	< 400	U
2	BENZENE	71-43-2	µg/kg	500	< 19	U
3	BROMOBENZENE	108-86-1	µg/kg	500	< 13	U
4	BROMOCHLOROMETHANE	74-97-5	µg/kg	500	< 88	U
5	BROMODICHLOROMETHANE	75-27-4	µg/kg	500	< 26	U
6	BROMOFORM	75-25-2	µg/kg	500	< 30	U
7	BROMOMETHANE	74-83-9	µg/kg	500	< 95	U
8	METHYL ETHYL KETONE	78-93-3	µg/kg	10000	< 240	U
9	N-BUTYLBENZENE	104-51-8	µg/kg	500	< 20	U
10	SEC-BUTYLBENZENE	135-98-8	µg/kg	500	< 11	U
11	T-BUTYLBENZENE	98-06-6	µg/kg	500	< 13	U
12	CARBON DISULFIDE	75-15-0	µg/kg	500	< 22	U
13	CARBON TETRACHLORIDE	56-23-5	µg/kg	500	< 19	U
14	CHLOROBENZENE	108-90-7	µg/kg	500	< 19	U
15	DIBROMOCHLOROMETHANE	124-48-1	µg/kg	500	< 24	U
16	CHLOROETHANE	75-00-3	µg/kg	500	< 73	U
17	CHLOROFORM	67-66-3	µg/kg	500	< 19	U
18	CHLOROMETHANE	74-87-3	µg/kg	500	< 40	U
19	2-CHLOROTOLUENE	95-49-8	µg/kg	500	< 21	U
20	4-CHLOROTOLUENE	106-43-4	µg/kg	500	< 13	U
21	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/kg	500	< 54	U
22	1,2-DIBROMOETHANE	106-93-4	µg/kg	500	< 14	U
23	DIBROMOMETHANE	74-95-3	µg/kg	500	< 52	U
24	1,2-DICHLOROBENZENE	95-50-1	µg/kg	500	< 13	U
25	1,3-DICHLOROBENZENE	541-73-1	µg/kg	500	< 11	U
26	1,4-DICHLOROBENZENE	106-46-7	µg/kg	500	< 13	U
27	DICHLORODIFLUOROMETHANE	75-71-8	µg/kg	500	< 38	U
28	1,1-DICHLOROETHANE	75-34-3	µg/kg	500	< 22	U
29	1,2-DICHLOROETHANE	107-06-2	µg/kg	500	< 52	U
30	1,1-DICHLOROETHENE	75-35-4	µg/kg	500	< 37	U
31	CIS-1,2-DICHLOROETHENE	156-59-2	µg/kg	500	< 29	U
32	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/kg	500	< 44	U
33	1,2-DICHLOROPROPANE	78-87-5	µg/kg	500	< 47	U
34	1,3-DICHLOROPROPANE	142-28-9	µg/kg	500	< 13	U
35	2,2-DICHLOROPROPANE	594-20-7	µg/kg	500	< 27	U
36	1,1-DICHLOROPROPENE	563-58-6	µg/kg	500	< 45	U
37	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/kg	500	< 22	U
38	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/kg	500	< 26	U
39	ETHYLBENZENE	100-41-4	µg/kg	500	< 11	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	HEXACHLOROBUTADIENE	87-68-3	µg/kg	500	<35	U
41	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/kg	500	<9	U
42	P-CYMENE (P-ISOPROPYLTOLUENE)	99-87-6	µg/kg	500	<14	U
43	METHYLENE CHLORIDE	75-09-2	µg/kg	500	108	
44	METHYL ISOBUTYL KETONE	108-10-1	µg/kg	5000	<41	U
45	TERT-BUTYL METHYL ETHER	1634-04-4	µg/kg	1000	<17	U
46	NAPHTHALENE	91-20-3	µg/kg	500	<7	U
47	N-PROPYLBENZENE	103-65-1	µg/kg	500	<25	U
48	STYRENE	100-42-5	µg/kg	500	<7	U
49	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/kg	500	<22	U
50	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/kg	500	<23	U
51	TETRACHLOROETHENE(PCE)	127-18-4	µg/kg	500	<23	U
52	TOLUENE	108-88-3	µg/kg	500	<16	U
53	1,2,3-TRICHLOROBENZENE	87-61-6	µg/kg	500	<19	U
54	1,2,4-TRICHLOROBENZENE	120-82-1	µg/kg	500	<15	U
55	1,1,1-TRICHLOROETHANE	71-55-6	µg/kg	500	<30	U
56	1,1,2-TRICHLOROETHANE	79-00-5	µg/kg	500	<34	U
57	TRICHLOROETHENE (TCE)	79-01-6	µg/kg	500	<28	U
58	TRICHLOROFLUOROMETHANE	75-69-4	µg/kg	500	<26	U
59	1,2,3-TRICHLOROPROPANE	96-18-4	µg/kg	500	<40	U
60	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/kg	500	<8	U
61	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/kg	500	<15	U
62	VINYL CHLORIDE	75-01-4	µg/kg	500	<53	U
63	O-XYLENE	95-47-6	µg/kg	500	<03	U
64	M,P-XYLENE	108-38-3	µg/kg	1000	<16	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	80-120	97
2	1,2-DICHLOROETHANE-D4	17060-07-0	80-120	86
3	TOLUENE-D8	2037-26-5	80-120	90
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	86
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	99
3	FLUOROBENZENE	462-06-6	50-200	75
# of out-of-control				0

Not Detected is shown as MDL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260B

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/28/2003
Project ID:	El Toro Marine Base	Service ID:	032345	Collected by:	
		Lab Sample ID:	03G1864MB01	Received Date:	03/28/2003
Sample ID:		Sample Matrix	Soil	Moisture %:	
Sample Type:	Method Blank	Prep. Method:	5030	Instrument ID:	GC/MS: X
Anal. Method:	8260B	Prep. Date:	03/28/03	Anal. Date:	03/28/03
Batch No:	03G1864	Prep. No:	–	Anal. Time:	16:11
Data File Name:	G1864K00	Sample Amount:	5.0 g	Dilution Factor:	100
Methanol Vol.	5 mL				
Test Level:	Medium	Sparge Size:	5 mL	Heated Purge: (Y/N) Y	

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	ACETONE	67-64-1	µg/kg	5000	<680	U
2	BENZENE	71-43-2	µg/kg	500	<21	U
3	BROMOBENZENE	108-86-1	µg/kg	500	<49	U
4	BROMOCHLOROMETHANE	74-97-5	µg/kg	500	<81	U
5	BROMODICHLOROMETHANE	75-27-4	µg/kg	500	<94	U
6	BROMOFORM	75-25-2	µg/kg	500	<40	U
7	BROMOMETHANE	74-83-9	µg/kg	500	<59	U
8	METHYL ETHYL KETONE	78-93-3	µg/kg	10000	<360	U
9	N-BUTYLBENZENE	104-51-8	µg/kg	500	<57	U
10	SEC-BUTYLBENZENE	135-98-8	µg/kg	500	<30	U
11	T-BUTYLBENZENE	98-06-6	µg/kg	500	<11	U
12	CARBON DISULFIDE	75-15-0	µg/kg	500	<21	U
13	CARBON TETRACHLORIDE	56-23-5	µg/kg	500	<78	U
14	CHLOROBENZENE	108-90-7	µg/kg	500	<28	U
15	DIBROMOCHLOROMETHANE	124-48-1	µg/kg	500	<43	U
16	CHLOROETHANE	75-00-3	µg/kg	500	<75	U
17	CHLOROFORM	67-66-3	µg/kg	500	<46	U
18	CHLOROMETHANE	74-87-3	µg/kg	500	<33	U
19	2-CHLOROTOLUENE	95-49-8	µg/kg	500	<38	U
20	4-CHLOROTOLUENE	106-43-4	µg/kg	500	<45	U
21	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/kg	500	<130	U
22	1,2-DIBROMOETHANE	106-93-4	µg/kg	500	<26	U
23	DIBROMOMETHANE	74-95-3	µg/kg	500	<120	U
24	1,2-DICHLOROBENZENE	95-50-1	µg/kg	500	<19	U
25	1,3-DICHLOROBENZENE	541-73-1	µg/kg	500	<29	U
26	1,4-DICHLOROBENZENE	106-46-7	µg/kg	500	<20	U
27	DICHLORODIFLUOROMETHANE	75-71-8	µg/kg	500	<77	U
28	1,1-DICHLOROETHANE	75-34-3	µg/kg	500	<30	U
29	1,2-DICHLOROETHANE	107-06-2	µg/kg	500	<39	U
30	1,1-DICHLOROETHENE	75-35-4	µg/kg	500	<23	U
31	CIS-1,2-DICHLOROETHENE	156-59-2	µg/kg	500	<51	U
32	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/kg	500	<40	U
33	1,2-DICHLOROPROPANE	78-87-5	µg/kg	500	<52	U
34	1,3-DICHLOROPROPANE	142-28-9	µg/kg	500	<22	U
35	2,2-DICHLOROPROPANE	594-20-7	µg/kg	500	<81	U
36	1,1-DICHLOROPROPENE	563-58-6	µg/kg	500	<71	U
37	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/kg	500	<45	U
38	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/kg	500	<28	U
39	ETHYLBENZENE	100-41-4	µg/kg	500	<32	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	HEXACHLOROBUTADIENE	87-68-3	µg/kg	500	<57	U
41	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/kg	500	<25	U
42	P-CYMENE (P-ISOPROPYLTOLUENE)	99-87-6	µg/kg	500	<20	U
43	METHYLENE CHLORIDE	75-09-2	µg/kg	500	<52	U
44	METHYL ISOBUTYL KETONE	108-10-1	µg/kg	5000	<50	U
45	TERT-BUTYL METHYL ETHER	1634-04-4	µg/kg	1000	<36	U
46	NAPHTHALENE	91-20-3	µg/kg	500	<25	U
47	N-PROPYLBENZENE	103-65-1	µg/kg	500	<51	U
48	STYRENE	100-42-5	µg/kg	500	<25	U
49	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/kg	500	<54	U
50	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/kg	500	<47	U
51	TETRACHLOROETHENE(PCE)	127-18-4	µg/kg	500	<50	U
52	TOLUENE	108-88-3	µg/kg	500	<57	U
53	1,2,3-TRICHLOROBENZENE	87-61-6	µg/kg	500	<37	U
54	1,2,4-TRICHLOROBENZENE	120-82-1	µg/kg	500	<48	U
55	1,1,1-TRICHLOROETHANE	71-55-6	µg/kg	500	<78	U
56	1,1,2-TRICHLOROETHANE	79-00-5	µg/kg	500	<60	U
57	TRICHLOROETHENE (TCE)	79-01-6	µg/kg	500	<47	U
58	TRICHLOROFLUOROMETHANE	75-69-4	µg/kg	500	<40	U
59	1,2,3-TRICHLOROPROPANE	96-18-4	µg/kg	500	<66	U
60	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/kg	500	<28	U
61	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/kg	500	<45	U
62	VINYL CHLORIDE	75-01-4	µg/kg	500	<52	U
63	O-XYLENE	95-47-6	µg/kg	500	<18	U
64	M,P-XYLENE	108-38-3	µg/kg	1000	<39	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	80-120	108
2	1,2-DICHLOROETHANE-D4	17060-07-0	80-120	119
3	TOLUENE-D8	2037-26-5	80-120	104
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	102
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	103
3	FLUOROBENZENE	462-06-6	50-200	93
# of out-of-control				0

Not Detected is shown as MDL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260B

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/31/2003
Project ID:	El Toro Marine Base	Service ID:	032345	Collected by:	
		Lab Sample ID:	03G1870MB01	Received Date:	03/31/2003
Sample ID:		Sample Matrix	Soil	Moisture %:	
Sample Type:	Method Blank	Prep. Method:	5030	Instrument ID:	GC/MS: X
Anal. Method:	8260B	Prep. Date:	03/31/03	Anal. Date:	03/31/03
Batch No:	03G1870	Prep. No:	–	Anal. Time:	14:38
Data File Name:	G1870K01	Sample Amount:	5.0 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	ACETONE	67-64-1	µg/kg	50	<6.8	U
2	BENZENE	71-43-2	µg/kg	5	<0.21	U
3	BROMOBENZENE	108-86-1	µg/kg	5	<0.49	U
4	BROMOCHLOROMETHANE	74-97-5	µg/kg	5	<0.81	U
5	BROMODICHLOROMETHANE	75-27-4	µg/kg	5	<0.94	U
6	BROMOFORM	75-25-2	µg/kg	5	<0.40	U
7	BROMOMETHANE	74-83-9	µg/kg	5	<0.59	U
8	METHYL ETHYL KETONE	78-93-3	µg/kg	100	<3.6	U
9	N-BUTYLBENZENE	104-51-8	µg/kg	5	<0.57	U
10	SEC-BUTYLBENZENE	135-98-8	µg/kg	5	<0.30	U
11	T-BUTYLBENZENE	98-06-6	µg/kg	5	<0.11	U
12	CARBON DISULFIDE	75-15-0	µg/kg	5	<0.21	U
13	CARBON TETRACHLORIDE	56-23-5	µg/kg	5	<0.78	U
14	CHLOROBENZENE	108-90-7	µg/kg	5	<0.28	U
15	DIBROMOCHLOROMETHANE	124-48-1	µg/kg	5	<0.43	U
16	CHLOROETHANE	75-00-3	µg/kg	5	<0.75	U
17	CHLOROFORM	67-66-3	µg/kg	5	<0.46	U
18	CHLOROMETHANE	74-87-3	µg/kg	5	<0.33	U
19	2-CHLOROTOLUENE	95-49-8	µg/kg	5	<0.38	U
20	4-CHLOROTOLUENE	106-43-4	µg/kg	5	<0.45	U
21	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/kg	5	<1.3	U
22	1,2-DIBROMOETHANE	106-93-4	µg/kg	5	<0.26	U
23	DIBROMOMETHANE	74-95-3	µg/kg	5	<1.2	U
24	1,2-DICHLOROBENZENE	95-50-1	µg/kg	5	<0.19	U
25	1,3-DICHLOROBENZENE	541-73-1	µg/kg	5	<0.29	U
26	1,4-DICHLOROBENZENE	106-46-7	µg/kg	5	<0.20	U
27	DICHLORODIFLUOROMETHANE	75-71-8	µg/kg	5	<0.77	U
28	1,1-DICHLOROETHANE	75-34-3	µg/kg	5	<0.30	U
29	1,2-DICHLOROETHANE	107-06-2	µg/kg	5	<0.39	U
30	1,1-DICHLOROETHENE	75-35-4	µg/kg	5	<0.23	U
31	CIS-1,2-DICHLOROETHENE	156-59-2	µg/kg	5	<0.51	U
32	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/kg	5	<0.40	U
33	1,2-DICHLOROPROPANE	78-87-5	µg/kg	5	<0.52	U
34	1,3-DICHLOROPROPANE	142-28-9	µg/kg	5	<0.22	U
35	2,2-DICHLOROPROPANE	594-20-7	µg/kg	5	<0.81	U
36	1,1-DICHLOROPROPENE	563-58-6	µg/kg	5	<0.71	U
37	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/kg	5	<0.45	U
38	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/kg	5	<0.28	U
39	ETHYLBENZENE	100-41-4	µg/kg	5	<0.32	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	HEXACHLOROBUTADIENE	87-68-3	µg/kg	5	<0.57	U
41	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/kg	5	<0.25	U
42	P-CYMENE (P-ISOPROPYLTOLUENE)	99-87-6	µg/kg	5	<0.20	U
43	METHYLENE CHLORIDE	75-09-2	µg/kg	5	<0.52	U
44	METHYL ISOBUTYL KETONE	108-10-1	µg/kg	50	<0.50	U
45	TERT-BUTYL METHYL ETHER	1634-04-4	µg/kg	10	<0.36	U
46	NAPHTHALENE	91-20-3	µg/kg	5	<0.25	U
47	N-PROPYLBENZENE	103-65-1	µg/kg	5	<0.51	U
48	STYRENE	100-42-5	µg/kg	5	<0.25	U
49	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/kg	5	<0.54	U
50	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/kg	5	<0.47	U
51	TETRACHLOROETHENE(PCE)	127-18-4	µg/kg	5	<0.50	U
52	TOLUENE	108-88-3	µg/kg	5	<0.57	U
53	1,2,3-TRICHLOROBENZENE	87-61-6	µg/kg	5	<0.37	U
54	1,2,4-TRICHLOROBENZENE	120-82-1	µg/kg	5	<0.48	U
55	1,1,1-TRICHLOROETHANE	71-55-6	µg/kg	5	<0.78	U
56	1,1,2-TRICHLOROETHANE	79-00-5	µg/kg	5	<0.60	U
57	TRICHLOROETHENE (TCE)	79-01-6	µg/kg	5	<0.47	U
58	TRICHLOROFLUOROMETHANE	75-69-4	µg/kg	5	<0.40	U
59	1,2,3-TRICHLOROPROPANE	96-18-4	µg/kg	5	<0.66	U
60	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/kg	5	<0.28	U
61	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/kg	5	<0.45	U
62	VINYL CHLORIDE	75-01-4	µg/kg	5	<0.52	U
63	O-XYLENE	95-47-6	µg/kg	5	<0.18	U
64	M,P-XYLENE	108-38-3	µg/kg	10	<0.39	U

Surrogates			Control Limit, %	Surro. Rec.%
1	4-BROMO-FLUOROBENZENE (BFB)	460-00-4	80-120	111
2	1,2-DICHLOROETHANE-D4	17060-07-0	80-120	109
3	TOLUENE-D8	2037-26-5	80-120	106
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	116
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	118
3	FLUOROBENZENE	462-06-6	50-200	106
# of out-of-control				0

Not Detected is shown as MDL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260B

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/20/2003
Project ID:	El Toro Marine Base	Service ID:	032345	Collected by:	
		Lab Sample ID:	03-2345-1	Received Date:	03/20/2003
Sample ID:	**UST308-1-7'**	Sample Matrix	Soil	Moisture %:	13.1
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: C
Anal. Method:	8260B	Prep. Date:	03/31/03	Anal. Date:	03/31/03
Batch No:	03G1879	Prep. No:	–	Anal. Time:	17:23
Data File Name:	2345-01A	Sample Amount:	5.0 g	Dilution Factor:	200
Methanol Vol.	5.0 mL				
Test Level:	Medium	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	ACETONE	67-64-1	µg/kg	12000	<12000	U
2	BENZENE	71-43-2	µg/kg	1200	260	J
3	BROMOBENZENE	108-86-1	µg/kg	1200	<1200	U
4	BROMOCHLOROMETHANE	74-97-5	µg/kg	1200	<1200	U
5	BROMODICHLOROMETHANE	75-27-4	µg/kg	1200	<1200	U
6	BROMOFORM	75-25-2	µg/kg	1200	<1200	U
7	BROMOMETHANE	74-83-9	µg/kg	1200	<1200	U
8	METHYL ETHYL KETONE	78-93-3	µg/kg	23000	<23000	U
9	N-BUTYLBENZENE	104-51-8	µg/kg	1200	<1200	U
10	SEC-BUTYLBENZENE	135-98-8	µg/kg	1200	<1200	U
11	T-BUTYLBENZENE	98-06-6	µg/kg	1200	<1200	U
12	CARBON DISULFIDE	75-15-0	µg/kg	1200	<1200	U
13	CARBON TETRACHLORIDE	56-23-5	µg/kg	1200	<1200	U
14	CHLOROBENZENE	108-90-7	µg/kg	1200	<1200	U
15	DIBROMOCHLOROMETHANE	124-48-1	µg/kg	1200	<1200	U
16	CHLOROETHANE	75-00-3	µg/kg	1200	<1200	U
17	CHLOROFORM	67-66-3	µg/kg	1200	200	J
18	CHLOROMETHANE	74-87-3	µg/kg	1200	<1200	U
19	2-CHLOROTOLUENE	95-49-8	µg/kg	1200	<1200	U
20	4-CHLOROTOLUENE	106-43-4	µg/kg	1200	<1200	U
21	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/kg	1200	<1200	U
22	1,2-DIBROMOETHANE	106-93-4	µg/kg	1200	<1200	U
23	DIBROMOMETHANE	74-95-3	µg/kg	1200	<1200	U
24	1,2-DICHLOROBENZENE	95-50-1	µg/kg	1200	<1200	U
25	1,3-DICHLOROBENZENE	541-73-1	µg/kg	1200	<1200	U
26	1,4-DICHLOROBENZENE	106-46-7	µg/kg	1200	<1200	U
27	DICHLORODIFLUOROMETHANE	75-71-8	µg/kg	1200	<1200	U
28	1,1-DICHLOROETHANE	75-34-3	µg/kg	1200	<1200	U
29	1,2-DICHLOROETHANE	107-06-2	µg/kg	1200	<1200	U
30	1,1-DICHLOROETHENE	75-35-4	µg/kg	1200	<1200	U
31	CIS-1,2-DICHLOROETHENE	156-59-2	µg/kg	1200	<1200	U
32	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/kg	1200	<1200	U
33	1,2-DICHLOROPROPANE	78-87-5	µg/kg	1200	<1200	U
34	1,3-DICHLOROPROPANE	142-28-9	µg/kg	1200	<1200	U
35	2,2-DICHLOROPROPANE	594-20-7	µg/kg	1200	<1200	U
36	1,1-DICHLOROPROPENE	563-58-6	µg/kg	1200	<1200	U
37	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/kg	1200	<1200	U
38	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/kg	1200	<1200	U
39	ETHYLBENZENE	100-41-4	µg/kg	1200	<1200	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	HEXACHLOROBUTADIENE	87-68-3	µg/kg	1200	<1200	U
41	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/kg	1200	<1200	U
42	P-CYMENE (P-ISOPROPYLTOLUENE)	99-87-6	µg/kg	1200	<1200	U
43	METHYLENE CHLORIDE	75-09-2	µg/kg	1200	<1200	U
44	METHYL ISOBUTYL KETONE	108-10-1	µg/kg	12000	<12000	U
45	TERT-BUTYL METHYL ETHER	1634-04-4	µg/kg	2300	<2300	U
46	NAPHTHALENE	91-20-3	µg/kg	1200	1200	J
47	N-PROPYLBENZENE	103-65-1	µg/kg	1200	<1200	U
48	STYRENE	100-42-5	µg/kg	1200	<1200	U
49	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/kg	1200	<1200	U
50	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/kg	1200	<1200	U
51	TETRACHLOROETHENE(PCE)	127-18-4	µg/kg	1200	<1200	U
52	TOLUENE	108-88-3	µg/kg	1200	1000	
53	1,2,3-TRICHLOROBENZENE	87-61-6	µg/kg	1200	<1200	U
54	1,2,4-TRICHLOROBENZENE	120-82-1	µg/kg	1200	<1200	U
55	1,1,1-TRICHLOROETHANE	71-55-6	µg/kg	1200	<1200	U
56	1,1,2-TRICHLOROETHANE	79-00-5	µg/kg	1200	<1200	U
57	TRICHLOROETHENE (TCE)	79-01-6	µg/kg	1200	<1200	U
58	TRICHLOROFLUOROMETHANE	75-69-4	µg/kg	1200	<1200	U
59	1,2,3-TRICHLOROPROPANE	96-18-4	µg/kg	1200	<1200	U
60	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/kg	1200	4400	
61	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/kg	1200	1000	
62	VINYL CHLORIDE	75-01-4	µg/kg	1200	<1200	U
63	O-XYLENE	95-47-6	µg/kg	1200	2500	
64	M,P-XYLENE	108-38-3	µg/kg	2300	5000	

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	80-120	97
2	1,2-DICHLOROETHANE-D4	17060-07-0	80-120	91
3	TOLUENE-D8	2037-26-5	80-120	85
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	116
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	140
3	FLUOROBENZENE	462-06-6	50-200	94
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260B

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/20/2003
Project ID:	El Toro Marine Base	Service ID:	032345	Collected by:	
		Lab Sample ID:	03-2345-2	Received Date:	03/20/2003
Sample ID:	**UST308-2-7'**	Sample Matrix	Soil	Moisture %:	8.3
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: X
Anal. Method:	8260B	Prep. Date:	03/28/03	Anal. Date:	03/28/03
Batch No:	03G1864	Prep. No:	–	Anal. Time:	23:30
Data File Name:	2345-02	Sample Amount:	5.0 g	Dilution Factor:	1000
Methanol Vol.	5.0 mL				
Test Level:	Medium	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	ACETONE	67-64-1	µg/kg	55000	<55000	U
2	BENZENE	71-43-2	µg/kg	5500	<5500	U
3	BROMOBENZENE	108-86-1	µg/kg	5500	<5500	U
4	BROMOCHLOROMETHANE	74-97-5	µg/kg	5500	<5500	U
5	BROMODICHLOROMETHANE	75-27-4	µg/kg	5500	<5500	U
6	BROMOFORM	75-25-2	µg/kg	5500	<5500	U
7	BROMOMETHANE	74-83-9	µg/kg	5500	<5500	U
8	METHYL ETHYL KETONE	78-93-3	µg/kg	110000	<110000	U
9	N-BUTYLBENZENE	104-51-8	µg/kg	5500	<5500	U
10	SEC-BUTYLBENZENE	135-98-8	µg/kg	5500	<5500	U
11	T-BUTYLBENZENE	98-06-6	µg/kg	5500	<5500	U
12	CARBON DISULFIDE	75-15-0	µg/kg	5500	<5500	U
13	CARBON TETRACHLORIDE	56-23-5	µg/kg	5500	<5500	U
14	CHLOROBENZENE	108-90-7	µg/kg	5500	<5500	U
15	DIBROMOCHLOROMETHANE	124-48-1	µg/kg	5500	<5500	U
16	CHLOROETHANE	75-00-3	µg/kg	5500	<5500	U
17	CHLOROFORM	67-66-3	µg/kg	5500	<5500	U
18	CHLOROMETHANE	74-87-3	µg/kg	5500	<5500	U
19	2-CHLOROTOLUENE	95-49-8	µg/kg	5500	<5500	U
20	4-CHLOROTOLUENE	106-43-4	µg/kg	5500	<5500	U
21	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/kg	5500	<5500	U
22	1,2-DIBROMOETHANE	106-93-4	µg/kg	5500	<5500	U
23	DIBROMOMETHANE	74-95-3	µg/kg	5500	<5500	U
24	1,2-DICHLOROBENZENE	95-50-1	µg/kg	5500	<5500	U
25	1,3-DICHLOROBENZENE	541-73-1	µg/kg	5500	<5500	U
26	1,4-DICHLOROBENZENE	106-46-7	µg/kg	5500	<5500	U
27	DICHLORODIFLUOROMETHANE	75-71-8	µg/kg	5500	<5500	U
28	1,1-DICHLOROETHANE	75-34-3	µg/kg	5500	<5500	U
29	1,2-DICHLOROETHANE	107-06-2	µg/kg	5500	<5500	U
30	1,1-DICHLOROETHENE	75-35-4	µg/kg	5500	<5500	U
31	CIS-1,2-DICHLOROETHENE	156-59-2	µg/kg	5500	<5500	U
32	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/kg	5500	<5500	U
33	1,2-DICHLOROPROPANE	78-87-5	µg/kg	5500	<5500	U
34	1,3-DICHLOROPROPANE	142-28-9	µg/kg	5500	<5500	U
35	2,2-DICHLOROPROPANE	594-20-7	µg/kg	5500	<5500	U
36	1,1-DICHLOROPROPENE	563-58-6	µg/kg	5500	<5500	U
37	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/kg	5500	<5500	U
38	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/kg	5500	<5500	U
39	ETHYLBENZENE	100-41-4	µg/kg	5500	13000	

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	HEXACHLOROBUTADIENE	87-68-3	µg/kg	5500	< 5500	U
41	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/kg	5500	3900	J
42	P-CYMENE (P-ISOPROPYLTOLUENE)	99-87-6	µg/kg	5500	1600	J
43	METHYLENE CHLORIDE	75-09-2	µg/kg	5500	< 5500	U
44	METHYL ISOBUTYL KETONE	108-10-1	µg/kg	55000	< 55000	U
45	TERT-BUTYL METHYL ETHER	1634-04-4	µg/kg	11000	< 11000	U
46	NAPHTHALENE	91-20-3	µg/kg	5500	26000	
47	N-PROPYLBENZENE	103-65-1	µg/kg	5500	10000	
48	STYRENE	100-42-5	µg/kg	5500	< 5500	U
49	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/kg	5500	< 5500	U
50	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/kg	5500	< 5500	U
51	TETRACHLOROETHENE(PCE)	127-18-4	µg/kg	5500	< 5500	U
52	TOLUENE	108-88-3	µg/kg	5500	48000	
53	1,2,3-TRICHLOROBENZENE	87-61-6	µg/kg	5500	< 5500	U
54	1,2,4-TRICHLOROBENZENE	120-82-1	µg/kg	5500	< 5500	U
55	1,1,1-TRICHLOROETHANE	71-55-6	µg/kg	5500	< 5500	U
56	1,1,2-TRICHLOROETHANE	79-00-5	µg/kg	5500	< 5500	U
57	TRICHLOROETHENE (TCE)	79-01-6	µg/kg	5500	< 5500	U
58	TRICHLOROFLUOROMETHANE	75-69-4	µg/kg	5500	< 5500	U
59	1,2,3-TRICHLOROPROPANE	96-18-4	µg/kg	5500	< 5500	U
60	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/kg	5500	100000	
61	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/kg	5500	31000	
62	VINYL CHLORIDE	75-01-4	µg/kg	5500	< 5500	U
63	O-XYLENE	95-47-6	µg/kg	5500	44000	
64	M,P-XYLENE	108-38-3	µg/kg	11000	96000	

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	80-120	109
2	1,2-DICHLOROETHANE-D4	17060-07-0	80-120	105
3	TOLUENE-D8	2037-26-5	80-120	111
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	102
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	105
3	FLUOROBENZENE	462-06-6	50-200	94
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method 8260B

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/20/2003
Project ID:	El Toro Marine Base	Service ID:	032345	Collected by:	
		Lab Sample ID:	03-2345-3	Received Date:	03/20/2003
Sample ID:	**UST308-SP-1'**	Sample Matrix	Soil	Moisture %:	11.8
Sample Type:	Field Sample	Prep. Method:	5030	Instrument ID:	GC/MS: X
Anal. Method:	8260B	Prep. Date:	03/31/03	Anal. Date:	03/31/03
Batch No:	03G1870	Prep. No:	–	Anal. Time:	15:30
Data File Name:	2345-03A	Sample Amount:	5.0 g	Dilution Factor:	1
Methanol Vol.	–				
Test Level:	Low	Sparge Size:	5 mL	Heated Purge: (Y/N)	Y

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	ACETONE	67-64-1	µg/kg	57	<57	U
2	BENZENE	71-43-2	µg/kg	5.7	<5.7	U
3	BROMOBENZENE	108-86-1	µg/kg	5.7	<5.7	U
4	BROMOCHLOROMETHANE	74-97-5	µg/kg	5.7	<5.7	U
5	BROMODICHLOROMETHANE	75-27-4	µg/kg	5.7	<5.7	U
6	BROMOFORM	75-25-2	µg/kg	5.7	<5.7	U
7	BROMOMETHANE	74-83-9	µg/kg	5.7	<5.7	U
8	METHYL ETHYL KETONE	78-93-3	µg/kg	110	<110	U
9	N-BUTYLBENZENE	104-51-8	µg/kg	5.7	<5.7	U
10	SEC-BUTYLBENZENE	135-98-8	µg/kg	5.7	<5.7	U
11	T-BUTYLBENZENE	98-06-6	µg/kg	5.7	<5.7	U
12	CARBON DISULFIDE	75-15-0	µg/kg	5.7	<5.7	U
13	CARBON TETRACHLORIDE	56-23-5	µg/kg	5.7	<5.7	U
14	CHLOROBENZENE	108-90-7	µg/kg	5.7	<5.7	U
15	DIBROMOCHLOROMETHANE	124-48-1	µg/kg	5.7	<5.7	U
16	CHLOROETHANE	75-00-3	µg/kg	5.7	<5.7	U
17	CHLOROFORM	67-66-3	µg/kg	5.7	<5.7	U
18	CHLOROMETHANE	74-87-3	µg/kg	5.7	<5.7	U
19	2-CHLOROTOLUENE	95-49-8	µg/kg	5.7	<5.7	U
20	4-CHLOROTOLUENE	106-43-4	µg/kg	5.7	<5.7	U
21	1,2-DIBROMO-3-CHLOROPROPANE	96-12-8	µg/kg	5.7	<5.7	U
22	1,2-DIBROMOETHANE	106-93-4	µg/kg	5.7	<5.7	U
23	DIBROMOMETHANE	74-95-3	µg/kg	5.7	<5.7	U
24	1,2-DICHLOROBENZENE	95-50-1	µg/kg	5.7	<5.7	U
25	1,3-DICHLOROBENZENE	541-73-1	µg/kg	5.7	<5.7	U
26	1,4-DICHLOROBENZENE	106-46-7	µg/kg	5.7	<5.7	U
27	DICHLORODIFLUOROMETHANE	75-71-8	µg/kg	5.7	<5.7	U
28	1,1-DICHLOROETHANE	75-34-3	µg/kg	5.7	<5.7	U
29	1,2-DICHLOROETHANE	107-06-2	µg/kg	5.7	<5.7	U
30	1,1-DICHLOROETHENE	75-35-4	µg/kg	5.7	<5.7	U
31	CIS-1,2-DICHLOROETHENE	156-59-2	µg/kg	5.7	<5.7	U
32	TRANS-1,2-DICHLOROETHENE	156-60-5	µg/kg	5.7	<5.7	U
33	1,2-DICHLOROPROPANE	78-87-5	µg/kg	5.7	<5.7	U
34	1,3-DICHLOROPROPANE	142-28-9	µg/kg	5.7	<5.7	U
35	2,2-DICHLOROPROPANE	594-20-7	µg/kg	5.7	<5.7	U
36	1,1-DICHLOROPROPENE	563-58-6	µg/kg	5.7	<5.7	U
37	CIS-1,3-DICHLOROPROPENE	10061-01-5	µg/kg	5.7	<5.7	U
38	TRANS-1,3-DICHLOROPROPENE	10061-02-6	µg/kg	5.7	<5.7	U
39	ETHYLBENZENE	100-41-4	µg/kg	5.7	<5.7	U

#	Component Name	CAS No	Unit	RL	Result	Qualifier
40	HEXACHLOROBUTADIENE	87-68-3	µg/kg	5.7	< 5.7	U
41	ISOPROPYLBENZENE (CUMENE)	98-82-8	µg/kg	5.7	< 5.7	U
42	P-CYMENE (P-ISOPROPYLTOLUENE)	99-87-6	µg/kg	5.7	< 5.7	U
43	METHYLENE CHLORIDE	75-09-2	µg/kg	5.7	< 5.7	U
44	METHYL ISOBUTYL KETONE	108-10-1	µg/kg	57	< 57	U
45	TERT-BUTYL METHYL ETHER	1634-04-4	µg/kg	11	< 11	U
46	NAPHTHALENE	91-20-3	µg/kg	5.7	< 5.7	U
47	N-PROPYLBENZENE	103-65-1	µg/kg	5.7	< 5.7	U
48	STYRENE	100-42-5	µg/kg	5.7	< 5.7	U
49	1,1,1,2-TETRACHLOROETHANE	630-20-6	µg/kg	5.7	< 5.7	U
50	1,1,2,2-TETRACHLOROETHANE	79-34-5	µg/kg	5.7	< 5.7	U
51	TETRACHLOROETHENE(PCE)	127-18-4	µg/kg	5.7	< 5.7	U
52	TOLUENE	108-88-3	µg/kg	5.7	< 5.7	U
53	1,2,3-TRICHLOROBENZENE	87-61-6	µg/kg	5.7	< 5.7	U
54	1,2,4-TRICHLOROBENZENE	120-82-1	µg/kg	5.7	< 5.7	U
55	1,1,1-TRICHLOROETHANE	71-55-6	µg/kg	5.7	< 5.7	U
56	1,1,2-TRICHLOROETHANE	79-00-5	µg/kg	5.7	< 5.7	U
57	TRICHLOROETHENE (TCE)	79-01-6	µg/kg	5.7	< 5.7	U
58	TRICHLOROFLUOROMETHANE	75-69-4	µg/kg	5.7	< 5.7	U
59	1,2,3-TRICHLOROPROPANE	96-18-4	µg/kg	5.7	< 5.7	U
60	1,2,4-TRIMETHYLBENZENE	95-63-6	µg/kg	5.7	< 5.7	U
61	1,3,5-TRIMETHYLBENZENE	108-67-8	µg/kg	5.7	< 5.7	U
62	VINYL CHLORIDE	75-01-4	µg/kg	5.7	< 5.7	U
63	O-XYLENE	95-47-6	µg/kg	5.7	< 5.7	U
64	M,P-XYLENE	108-38-3	µg/kg	11	< 11	U

Surrogates			Control Limit, %	Surro. Rec.%
1	1-BROMO-4-FLUOROBENZENE (4-BROMOFL	460-00-4	80-120	108
2	1,2-DICHLOROETHANE-D4	17060-07-0	80-120	110
3	TOLUENE-D8	2037-26-5	80-120	104
# of out-of-control				0

Internal Standard			Control Limit, %	IS Rec.%
1	CHLOROBENZENE-D5	3114-55-4	50-200	118
2	1,4-DICHLOROBENZENE-D4	3855-82-1	50-200	117
3	FLUOROBENZENE	462-06-6	50-200	108
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

FORM-2B

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03G1879		

#	Client Sample No	Lab Sample ID	S1 % #	S2 % #	S3 % #	TOT OUT
1		03G1879LCS01	95	108	89	0
2		03G1879MB01	97	86	90	0
3	UST308-1-7'	03-2345-1	97	91	85	0
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	QC Control Limit
S1 = 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	80-120
S2 = 1,2-DICHLOROETHANE-D4	80-120
S3 = TOLUENE-D8	80-120

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-2B

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03G1864		

#	Client Sample No	Lab Sample ID	S1 % #	S2 % #	S3 % #	TOT OUT
1		03G1864LCS01	117	107	118	0
2		03G1864MB01	108	119	104	0
3	UST308-2-7'	03-2345-2	109	105	111	0
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	QC Control Limit
S1 = 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	80-120
S2 = 1,2-DICHLOROETHANE-D4	80-120
S3 = TOLUENE-D8	80-120

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-2B

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03G1870		

#	Client Sample No	Lab Sample ID	S1 % #	S2 % #	S3 % #	TOT OUT
1		03G1870LCS01	112	107	110	0
2	UST308-SP-1'MS	03-2345-3MS	112	107	112	0
3	UST308-SP-1'MSD	03-2345-3MSD	110	105	111	0
4		03G1870MB01	111	109	106	0
5	UST308-SP-1'	03-2345-3	108	110	104	0
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	QC Control Limit
S1 = 1-BROMO-4-FLUOROBENZENE (4-BROMOFL	80-120
S2 = 1,2-DICHLOROETHANE-D4	80-120
S3 = TOLUENE-D8	80-120

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-3B

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03G1879		
LCS Filename:	G1879L01	Date Analyzed:	033103	Time Analyzed:	11:28
LCSD Filename:	–	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	LCS	LCS Rec% #	QC Limit, % REC
BENZENE	μg/kg	50	0	49.6	99	75-125
CHLOROBENZENE	μg/kg	50	0	45.9	92	75-125
1,1-DICHLOROETHENE	μg/kg	50	0	50.2	100	75-125
TOLUENE	μg/kg	50	0	42.6	85	75-125
TRICHLOROETHENE (TCE)	μg/kg	50	0	51.0	102	75-125
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3B

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03G1864		
LCS Filename:	G1864L01	Date Analyzed:	032803	Time Analyzed:	13:07
LCSD Filename:	–	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	LCS	LCS Rec% #	QC Limit, % REC
BENZENE	μg/kg	50	0	51.0	102	75-125
CHLOROBENZENE	μg/kg	50	0	52.4	105	75-125
1,1-DICHLOROETHENE	μg/kg	50	0	56.0	112	75-125
TOLUENE	μg/kg	50	0	54.8	110	75-125
TRICHLOROETHENE (TCE)	μg/kg	50	0	54.2	108	75-125
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3B

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03G1870		
LCS Filename:	G1870L01	Date Analyzed:	033103	Time Analyzed:	12:45
LCSD Filename:	–	Date Analyzed:	–	Time Analyzed:	–

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
BENZENE	μg/kg	50	0	49.5	99	75-125
CHLOROBENZENE	μg/kg	50	0	51.3	103	75-125
1,1-DICHLOROETHENE	μg/kg	50	0	55.9	112	75-125
TOLUENE	μg/kg	50	0	50.1	100	75-125
TRICHLOROETHENE (TCE)	μg/kg	50	0	53.4	107	75-125
# of Out-of-control					0	

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3B

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03G1870		
MS Filename:	G1870M01	Date Analyzed:	033103	Time Analyzed:	13:11
MSD Filename:	G1870N01	Date Analyzed:	033103	Time Analyzed:	13:37
MS Sample No:	**UST308-SP-1'**	Sample Lab ID:	03-2345-3	Moisture, %	11.8

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec% #	QC Limit, % REC
BENZENE	µg/kg	56.7	0	55.0	97	70-130
CHLOROBENZENE	µg/kg	56.7	0	60.2	106	70-130
1,1-DICHLOROETHENE	µg/kg	56.7	0	64.0	113	70-130
TOLUENE	µg/kg	56.7	0	59.0	104	70-130
TRICHLOROETHENE (TCE)	µg/kg	56.7	0	61.1	108	70-130
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
BENZENE	µg/kg	56.7	55.6	98	1	30	70-130
CHLOROBENZENE	µg/kg	56.7	59.4	105	1	30	70-130
1,1-DICHLOROETHENE	µg/kg	56.7	60.4	107	5	30	70-130
TOLUENE	µg/kg	56.7	58.2	103	1	30	70-130
TRICHLOROETHENE (TCE)	µg/kg	56.7	57.9	102	6	30	70-130
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-4A

Applied P & Ch Laboratory

Method Blank Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Analysis Date:	03/31/03
		Sample Matrix:	Soil	Analysis Time:	13:37
Sample ID:		Batch No:	03G1879	Instrument ID:	GC/MS: C
Lab Sample ID:	03G1879MB01	Data File Name:	G1879K01	GC Column:	HP-VOC
		Heated Purge: (Y/N)	Y	Column ID:	0.20 mm

This Method Blank applies to the following samples and QC samples:

#	Client Sample No	Lab Sample ID	Sample Type	Data Filename	Analysis Date	Analysis Time
1		03G1879LCS01	Lab Control Spike	G1879L01	03/31/03	11:28
2	UST308-1-7'	03-2345-1	Field Sample	2345-01A	03/31/03	17:23
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FORM-4A

Applied P & Ch Laboratory

Method Blank Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Analysis Date:	03/28/03
		Sample Matrix:	Soil	Analysis Time:	16:11
Sample ID:		Batch No:	03G1864	Instrument ID:	GC/MS: X
Lab Sample ID:	03G1864MB01	Data File Name:	G1864K00	GC Column:	HP-VOC
		Heated Purge: (Y/N)	Y	Column ID:	0.20 mm

This Method Blank applies to the following samples and QC samples:

#	Client Sample No	Lab Sample ID	Sample Type	Data Filename	Analysis Date	Analysis Time
1		03G1864LCS01	Lab Control Spike	G1864L01	03/28/03	13:07
2	UST308-2-7'	03-2345-2	Field Sample	2345-02	03/28/03	23:30
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FORM-4A

Applied P & Ch Laboratory

Method Blank Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Analysis Date:	03/31/03
		Sample Matrix:	Soil	Analysis Time:	14:38
Sample ID:		Batch No:	03G1870	Instrument ID:	GC/MS: X
Lab Sample ID:	03G1870MB01	Data File Name:	G1870K01	GC Column:	HP-VOC
		Heated Purge: (Y/N)	Y	Column ID:	0.20 mm

This Method Blank applies to the following samples and QC samples:

#	Client Sample No	Lab Sample ID	Sample Type	Data Filename	Analysis Date	Analysis Time
1		03G1870LCS01	Lab Control Spike	G1870L01	03/31/03	12:45
2	UST308-SP-1'MS	03-2345-3MS	Matrix Spike	G1870M01	03/31/03	13:11
3	UST308-SP-1'MSD	03-2345-3MSD	Matrix Spike Duplicate	G1870N01	03/31/03	13:37
4	UST308-SP-1'	03-2345-3	Field Sample	2345-03A	03/31/03	15:30
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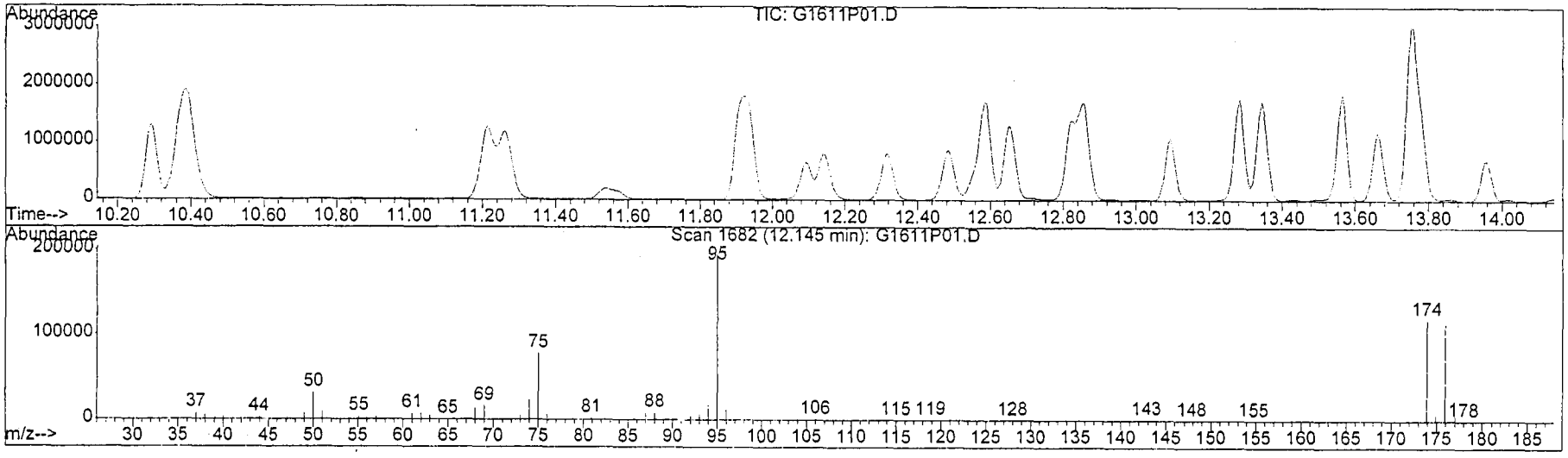
Data File : C:\MSDCHEM\1\DATA\03G1611\G1611P01.D Vial: 3
Acq On : 4 Mar 2003 2:46 pm Operator: Eddie
Sample : ##03g1611, w Inst : GCMS-C
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\826SC088.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 8260



Spectrum Information: Scan 1682

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.0	31144	PASS
75	95	30	60	40.0	77776	PASS
95	95	100	100	100.0	194368	PASS
96	95	5	9	6.5	12638	PASS
173	174	0.00	2	0.9	1063	PASS
174	95	50	100	61.0	118648	PASS
175	174	5	9	6.1	7186	PASS
176	174	95	101	96.5	114552	PASS
177	176	5	9	6.2	7081	PASS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : APPLIED P & CH LAB Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 032345

Lab File ID: G1611P01.D BFB Injection Date: 03/04/2003

Instrument ID: GCMS-C BFB Injection Time: 1446

GC Column: DB-5.624 ID: 0.32 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.0
75	30.0 - 60.0% of mass 95	40.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.5 (0.9)1
174	50.0 - 100.0% of mass 95	61.0
175	5.0 - 9.0% of mass 174	3.7 (6.1)1
176	95.0 - 101.0% of mass 174	58.9 (96.5)1
177	5.0 - 9.0% of mass 176	3.6 (6.2)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD002	88-0002	88-002.D	03/04/2003	1512
02	VSTD010	88-010	88-010.D	03/04/2003	1537
03	VSTD050	88-050	88-050.D	03/04/2003	1602
04	VSTD080	88-080	88-080.D	03/04/2003	1627
05	VSTD100	88-100	88-100.D	03/04/2003	1652
06	VSTD200	88-200	88-200.D	03/04/2003	1718
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Response Factor Report GCMS-C

Method : C:\MSDCHEM\1\METHODS\826SC088.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Wed Mar 05 10:31:03 2003
Response via : Initial Calibration

Calibration Files
2 =88-0002.D 10 =88-0010.D 80 =88-0080.D
50 =88-0050.D 100 =88-0100.D 200 =88-0200.D

			Compound	2	10	80	50	100	200	Avg	%RSD	r^2
1)	I	1	Fluorobenzene	----------ISTD----------								
2)		3	di-Cl-di-F-m	0.155	0.141	0.138	0.158	0.180	0.159	0.155	9.74	
3)	p	4	Chloromethan	0.358	0.278	0.265	0.263	0.310	0.281	0.292	12.41	
4)		2	F114	0.081	0.124		0.133	0.151	0.140	0.126	21.52	0.997
5)	C	5	vinyl chlori	0.212	0.180	0.174	0.194	0.217	0.190	0.195	8.78	
6)		6	bromomethane		0.111	0.104	0.090	0.102	0.105	0.102	7.39	
7)		7	chloroethane	0.104	0.100	0.093	0.106	0.118	0.103	0.104	7.95	
8)		8	tri-Cl-F-met	0.188	0.222	0.210	0.230	0.268	0.258	0.229	12.94	
9)		91	Acetonitrile	0.027	0.025	0.023	0.019	0.020	0.026	0.023#	14.42	
10)		9	acrolein	0.008	0.006	0.004	0.005	0.005	0.004	0.005#	28.04	
11)		11	acetone X		0.054	0.040	0.050	0.036	0.042	0.045#	16.67	
12)		12	ethyl ether	0.131	0.124	0.106	0.107	0.110	0.102	0.113	10.23	
13)	M,	C13	11-dichloroe	0.229	0.208	0.190	0.196	0.231	0.225	0.213	8.20#	
14)		14	Iodomethane	0.132	0.141	0.160	0.134	0.152	0.171	0.148	10.37	
15)		15	F-113	0.081	0.111	0.106	0.121	0.136	0.140	0.116	18.53	0.991
16)		16	acrylonitril	0.089	0.071	0.066	0.071	0.063	0.070	0.072	13.03	
17)		17	carbon disul	0.552	0.446	0.455	0.401	0.451	0.431	0.456	11.14	
18)		94	Isopropyl Al	0.026	0.016	0.016	0.016	0.014	0.016	0.017#	26.50	0.994
19)		18	methylene ch	0.269	0.202	0.176	0.187	0.201	0.187	0.204	16.33	0.997
20)		19	t-12-di-Cl-e	0.226	0.203	0.169	0.169	0.186	0.177	0.188	11.91	
21)		20	t-Bu-Me-ethe	0.523	0.467	0.406	0.415	0.417	0.401	0.438	10.88	
22)		95	Tert butyl a	0.063	0.032	0.027	0.032	0.027	0.032	0.036#	38.41	0.990
23)		94	allyl chlori	0.660	0.578	0.532	0.562	0.540	0.578	0.575	7.94	
24)	p	21	11-dichloroe	0.378	0.348	0.351	0.350	0.383	0.374	0.364	4.38	
25)		22	c-12-di-Cl-e	0.255	0.219	0.203	0.199	0.214	0.202	0.216	9.61	
26)		23	22-Dichlorop	0.292	0.260	0.244	0.235	0.270	0.268	0.261	7.80	
27)		24	Br-Cl-methan	0.108	0.091	0.089	0.089	0.093	0.090	0.093	7.73	
28)	C	25	chloroform	0.426	0.352	0.329	0.330	0.366	0.350	0.359	9.96	

(#) = Out of Range

Response Factor Report GCMS-C

Method : C:\MSDCHEM\1\METHODS\826SC088.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Wed Mar 05 10:31:03 2003
Response via : Initial Calibration

Calibration Files
2 =88-0002.D 10 =88-0010.D 80 =88-0080.D
50 =88-0050.D 100 =88-0100.D 200 =88-0200.D

		Compound	2	10	80	50	100	200	Avg	%RSD	
29)		26 tetrahydrofu	0.083	0.064	0.065	0.068	0.061	0.071	0.069	11.22	
30)		98 Diisopropyl	1.002	0.904	0.841	0.814	0.877	0.831	0.878	7.86	
31)	S	27 Di-Br-F-Me (	0.246	0.195	0.185	0.184	0.202	0.194	0.201	11.45	
32)		99 ETBE	0.863	0.733	0.667	0.647	0.687	0.673	0.712	11.18	
33)	S	29 1,2-Di-Cl-Et		0.205	0.187	0.187	0.193	0.193	0.193	3.77	
34)		30 12-dichloroe	0.087	0.076	0.073	0.072	0.077	0.075	0.077	7.09	
35)		32 vinyl acetat	0.565	0.493	0.465	0.470	0.464	0.461	0.486	8.23	
36)		92 Nitro Methan		0.007	0.008	0.009	0.008	0.010	0.008#	14.25	
37)		33 2-butanoneME	0.125	0.104	0.090	0.103	0.084	0.100	0.101	13.96	
38)		93 Ethyl Acetat	0.255	0.198	0.190	0.202	0.180	0.214	0.207	12.87	
39)		34 111-trichlor	0.295	0.265	0.235	0.244	0.280	0.277	0.266	8.46	
40)		35 11-Di-Cl-pro	0.278	0.289	0.255	0.263	0.300	0.289	0.279	6.20	
41)	M	36 benzene	1.148	0.986	0.910	0.905	0.990	0.944	0.980	9.12	
42)		37 CCl4	0.189	0.198	0.197	0.199	0.235	0.234	0.209	9.71	
43)		100 Isobutyl al	0.019	0.013	0.013	0.015	0.012	0.015	0.015#	17.21	0.990
44)		38 thiophene	0.582	0.499	0.480	0.473	0.513	0.511	0.510	7.61	
45)	C	39 12-di-Cl-pro	0.262	0.232	0.229	0.220	0.239	0.237	0.236	6.01#	
46)	M	40 trichloroeth	0.278	0.259	0.230	0.228	0.255	0.249	0.250	7.56	
47)		41 dibromometha	0.113	0.106	0.100	0.105	0.104	0.101	0.105	4.37	
48)		101 TAME	0.647	0.610	0.578	0.570	0.588	0.597	0.599	4.62	
49)		42 Br-di-Cl-met	0.337	0.263	0.269	0.267	0.291	0.280	0.285	9.77	
50)		43 Me-methacryl	0.185	0.177	0.177	0.178	0.175	0.189	0.180	2.97	
51)		44 2-ClEt-Vi-et	0.091	0.086	0.081	0.086	0.082	0.080	0.084	4.72	
52)		45 c-13-di-Cl-p	0.417	0.389	0.361	0.371	0.386	0.378	0.384	5.00	
53)		46 t-1,3-dichlo	0.385	0.338	0.345	0.353	0.360	0.349	0.355	4.63	
54)	I	47 Chlorobezene-d5	----------ISTD----------								
55)		48 112-tri-Cl-E	0.278	0.259	0.266	0.253	0.281	0.293	0.272	5.50	
56)		49 13-di-Cl-pro	0.492	0.456	0.467	0.438	0.476	0.489	0.470	4.38	

(#) = Out of Range

Response Factor Report GCMS-C

Method : C:\MSDCHEM\1\METHODS\826SC088.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Wed Mar 05 10:31:03 2003
Response via : Initial Calibration

Calibration Files
2 =88-0002.D 10 =88-0010.D 80 =88-0080.D
50 =88-0050.D 100 =88-0100.D 200 =88-0200.D

			Compound	2	10	80	50	100	200	Avg	%RSD
57)		50	Et methacryl	0.514	0.467	0.483	0.450	0.484	0.517	0.486	5.42
58)		51	di-Br-Cl-met	0.305	0.269	0.279	0.258	0.294	0.309	0.286	7.11
59)	P	52	bromoform	0.142	0.146	0.150	0.145	0.158	0.167	0.151	6.18
60)		53	1,4-dichloro	0.684	0.641	0.614	0.615	0.626	0.648	0.638	4.16
61)		54	MIBK	0.408	0.351	0.354	0.333	0.341	0.403	0.365	8.82
62)	s	55	toluene-d8	1.483	1.261	1.229	1.150	1.339	1.336	1.300	8.81
63)	M,C	56	toluene	2.019	1.577	1.447	1.371	1.571	1.566	1.592	14.15
64)		57	2-hexanone X	0.263	0.249	0.244	0.252	0.234	0.271	0.252	5.25
65)		58	12-dibromoet	0.301	0.267	0.270	0.262	0.281	0.302	0.281	6.24
66)		59	tetra-Cl-eth	0.270	0.282	0.261	0.261	0.307	0.305	0.281	7.40
67)	M,P	60	chlorobenzen	1.156	1.008	0.964	0.948	1.049	1.012	1.023	7.26
68)		61	1112-tetra-C	0.306	0.270	0.278	0.263	0.300	0.298	0.286	6.26
69)	I	62	1,4-Dichlorobenzen	----------	----------	----------	ISTD	----------	----------	----------	
70)		63	1-chlorohexa	0.395	0.413	0.400	0.441	0.501	0.481	0.439	10.09
71)	C	64	Et-Bz	4.447	3.966	3.695	3.684	4.108	3.941	3.973	7.17#
72)		65	m/p-Xylenes	3.379	3.133	2.844	2.881	3.113	2.927	3.046	6.66
73)		66	styrene	3.019	2.579	2.314	2.296	2.456	2.277	2.490	11.39
74)		67	o-xylene	3.471	3.272	2.950	2.915	3.206	2.993	3.135	6.98
75)	p	68	1122-Tetra-C	0.913	0.851	0.832	0.846	0.834	0.877	0.859	3.62
76)		69	123-tri-Cl-P	0.319	0.240	0.230	0.232	0.228	0.238	0.248	14.26
77)	S	70	4-Br-1-F-Bz		0.708	0.674	0.675	0.725	0.680	0.692	3.31
78)		71	isopropylben	3.990	3.775	3.463	3.599	4.011	3.791	3.772	5.69
79)		72	bromobenzene	0.832	0.761	0.714	0.727	0.755	0.708	0.750	6.11
80)		92	t-1,4-dichlo	0.190	0.194	0.205	0.204	0.205	0.223	0.204	5.65
81)		73	n-propylbenz	1.261	1.096	1.052	1.081	1.190	1.133	1.136	6.86
82)		74	2-Cl-Toluene	1.062	0.945	0.896	0.895	0.987	0.930	0.952	6.67
83)		75	4-Cl-Toluene	1.083	0.996	0.904	0.939	0.981	0.907	0.968	6.99
84)		76	135-tri-Me-B	3.418	3.354	2.929	3.088	3.336	3.128	3.209	5.92

(#) = Out of Range

Response Factor Report GCMS-C

Method : C:\MSDCHEM\1\METHODS\826SC088.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Wed Mar 05 10:31:03 2003
Response via : Initial Calibration

Calibration Files
2 =88-0002.D 10 =88-0010.D 80 =88-0080.D
50 =88-0050.D 100 =88-0100.D 200 =88-0200.D

	Compound	2	10	80	50	100	200	Avg	%RSD
85)	77 4-iso-Pr-tol	3.456	3.445	3.041	3.187	3.499	3.164	3.299	5.80
86)	78 124-tri-Me-B	3.844	3.287	3.045	3.101	3.315	3.189	3.297	8.72
87)	79 tert-butylbe	2.868	3.131	2.600	3.001	3.298	2.809	2.951	8.38
88)	80 13-DCB	1.731	1.537	1.379	1.402	1.449	1.321	1.470	10.02
89)	81 sec-butylben	4.338	4.300	3.870	4.130	4.586	4.253	4.246	5.59
90)	82 14-DCB	1.864	1.496	1.417	1.413	1.515	1.445	1.525	11.22
91)	83 Cl-benzyl	0.378	0.376	0.370	0.410	0.396	0.397	0.388	3.99
92)	84 12-DCB	1.610	1.377	1.313	1.315	1.393	1.303	1.385	8.37
93)	85 n-butylbenze	0.839	0.795	0.760	0.798	0.909	0.821	0.820	6.21
94)	86 12-diBr-2-Cl	0.185	0.138	0.156	0.154	0.153	0.172	0.160	10.37
95)	87 124-tri-Cl-B	1.011	0.886	0.858	0.886	0.926	0.841	0.901	6.76
96)	88 naphthalene	3.422	2.614	2.437	2.595	2.562	2.496	2.688	13.60
97)	89 hx-Cl-butadi	0.310	0.353	0.345	0.375	0.425	0.398	0.368	11.04
98)	90 123-Tri-Cl-B	1.031	0.830	0.756	0.778	0.817	0.755	0.828	12.61

(#) = Out of Range

INITIAL CALIBRATION SUMMARY

Method File	826SC088		
Last Calibration Update	Wed Mar 05 10:06:22 2003		
Level 1 File Name	88-0002.D	Level 1 ID	2
Level 2 File Name	88-0010.D	Level 2 ID	10
Level 3 File Name	88-0080.D	Level 3 ID	80
Level 4 File Name	88-0050.D	Level 4 ID	50
Level 5 File Name	88-0100.D	Level 5 ID	100
Level 6 File Name	88-0200.D	Level 6 ID	200
Level 7 File Name	88-0050.D	Level 7 ID	CC

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
1 Fluorobenzene	882091	986646	985363	930006	977599	981157	-1	------	------	------	------
3 di-Cl-di-F-methane	5483	27754	217455	147017	351751	623319	-1	0.0000	0.1551	0.0000	0.0974
4 Chloromethane	12635	54891	417313	244510	605138	1101591	-1	0.0000	0.2923	0.0000	0.1241
2 F114	2852	24450	-1	123292	295778	550461	-1	-0.0014	0.1424	0.0000	0.9977
5 vinyl chloride	7482	35600	274668	180723	425023	746016	-1	0.0000	0.1947	0.0000	0.0878
6 bromomethane	-1	21872	163402	83890	199963	412467	-1	0.0000	0.1024	0.0000	0.0739
7 chloroethane	3678	19714	146157	98366	230501	404961	-1	0.0000	0.1039	0.0000	0.0795
8 tri-Cl-F-methane	6635	43737	331784	213543	523634	1010854	-1	0.0000	0.2292	0.0000	0.1294
91 Acetonitrile X10	9690	49198	361238	179361	381785	1010477	-1	0.0000	0.0233	0.0000	0.1442
9 acrolein X10	2842	11803	66641	48756	97446	150450	-1	0.0000	0.0054	0.0000	0.2804
11 acetone X10	-1	106566	636399	468822	702190	1658307	-1	0.0000	0.0446	0.0000	0.1667
12 ethyl ether X5	23191	122408	834619	498453	1077192	2002817	-1	0.0000	0.1135	0.0000	0.1023
13 11-dichloroethene	8077	41119	299562	182514	450866	881564	-1	0.0000	0.2131	0.0000	0.0820
14 Iodomethane	4674	27756	251475	124234	297572	671122	-1	0.0000	0.1482	0.0000	0.1037
15 F-113	2867	21859	167271	112755	265108	547893	-1	-0.0158	0.1404	0.0000	0.9904
16 acrylonitrile X10	31556	139681	1034150	658282	1231011	2728448	-1	0.0000	0.0715	0.0000	0.1303
17 carbon disulfide	19463	88084	717393	373057	882156	1690358	-1	0.0000	0.4560	0.0000	0.1114
94 Isopropyl Alcoholx10	9320	30770	248813	148712	268762	625850	-1	-0.0031	0.0157	0.0000	0.9940
18 methylene chloride	9482	39776	277651	174170	393504	735638	-1	0.0020	0.1878	0.0000	0.9971
19 t-12-di-Cl-ethene	7977	40078	267192	157093	364414	693140	-1	0.0000	0.1884	0.0000	0.1191
20 t-Bu-Me-ether	18440	92080	639669	385544	815595	1574750	-1	0.0000	0.4380	0.0000	0.1088
95 Tert butyl alcoholx10	22405	63422	432235	300903	533981	1266547	-1	-0.0162	0.0315	0.0000	0.9897

94 allyl chloride	23271	114080	838245	522234	1056572	2268277	-1	0.0000	0.5749	0.0000	0.0794
21 11-dichloroethane	13325	68765	552739	325219	748610	1468793	-1	0.0000	0.3639	0.0000	0.0438
22 c-12-di-Cl-ethene	8985	43303	320734	185478	419135	791551	-1	0.0000	0.2155	0.0000	0.0961
23 22-Dichloropropane	10320	51227	384494	218636	527307	1050598	-1	0.0000	0.2614	0.0000	0.0780
24 Br-Cl-methane	3796	17986	139693	82684	182284	353964	-1	0.0000	0.0933	0.0000	0.0773
25 chloroform	15028	69496	518151	307254	714873	1374288	-1	0.0000	0.3588	0.0000	0.0996
26 tetrahydrofuranX5	14593	63444	511884	315953	595952	1398324	-1	0.0000	0.0687	0.0000	0.1122
98 Diisopropyl ether	35351	178386	1325601	756645	1714329	3260554	-1	0.0000	0.8780	0.0000	0.0786
27 Di-Br-F-Me (surr)	8674	38434	292243	170733	394514	761354	-1	0.0000	0.2009	0.0000	0.1145
99 ETBE	30461	144632	1052152	601561	1343821	2641907	-1	0.0000	0.7118	0.0000	0.1118
29 1,2-Di-Cl-Et-d4 (S1)	7913	40425	295207	173768	376974	755986	-1	0.0000	0.1981	0.0000	0.0726
30 12-dichloroethane	3078	14943	115414	67328	150176	292385	-1	0.0000	0.0766	0.0000	0.0709
32 vinyl acetate X5	99593	486307	3667050	2184653	4534945	9053270	-1	0.0000	0.4863	0.0000	0.0823
92 Nitro Methane(x10)	3600	13555	131139	79563	153304	397477	-1	0.0000	0.0083	0.0000	0.1425
33 2-butanoneMEK X10	43950	204545	1415799	960702	1638891	3907014	-1	0.0000	0.1008	0.0000	0.1396
93 Ethyl Acetate x2	18019	78197	598305	375267	703163	1682677	-1	0.0000	0.2065	0.0000	0.1287
34 111-trichloroethane	10395	52383	370887	227321	547213	1085652	-1	0.0000	0.2660	0.0000	0.0846
35 11-Di-Cl-propene	9824	57110	402574	244151	587529	1133450	-1	0.0000	0.2792	0.0000	0.0620
36 benzene	40488	194575	1434469	842076	1935583	3703696	-1	0.0000	0.9804	0.0000	0.0912
37 CCl4	6684	39017	310348	184670	459021	917920	-1	0.0000	0.2085	0.0000	0.0971
100 Isobutyl alcoholx10	6809	25749	207520	139040	242193	581729	-1	-0.0088	0.0146	0.0000	0.9909

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
38 thiophene	20522	98502	756412	440086	1003739	2005042	-1	------	------	------	------
39 12-di-Cl-propane	9237	45858	360486	204272	467812	930218	-1	0.0000	0.2365	0.0000	0.0601
40 trichloroethene	9822	51032	362453	212233	498753	977012	-1	0.0000	0.2499	0.0000	0.0756
41 dibromomethane	3982	20919	158056	97532	202418	395595	-1	0.0000	0.1047	0.0000	0.0437
101 TAME	22842	120455	911929	530452	1150604	2341597	-1	0.0000	0.5986	0.0000	0.0462
42 Br-di-Cl-methane	11900	51805	423957	248697	569146	1099176	-1	0.0000	0.2845	0.0000	0.0977
43 Me-methacrylate	6540	35016	279829	165573	342560	740686	-1	0.0000	0.1804	0.0000	0.0297
44 2-ClEt-Vi-ether10	31994	170229	1281926	799447	1608435	3137202	-1	0.0000	0.0844	0.0000	0.0472
45 c-13-di-Cl-propene	14698	76798	568881	344745	754344	1483194	-1	0.0000	0.3835	0.0000	0.0500
46 t-1,3-dichloropropene	13573	66657	543384	327953	703552	1370337	-1	0.0000	0.3548	0.0000	0.0463
47 Chlorobezene-d5	774374	781201	742545	776781	743819	699140	-1	0.0000	1.0000	0.0000	0.0000
48 112-tri-Cl-Et	8611	40510	316620	196776	417972	820622	-1	0.0000	0.2719	0.0000	0.0550

49 13-di-Cl-propane	15252	71180	554378	340478	708641	1366890	-1	0.0000	0.4697	0.0000	0.0438
50 Et methacrylate	15935	72988	574075	349220	719875	1445789	-1	0.0000	0.4859	0.0000	0.0542
51 di-Br-Cl-methane	9440	42078	331420	200452	438073	864435	-1	0.0000	0.2858	0.0000	0.0711

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
52 bromoform	4394	22863	178747	112292	234823	465916	-1	0.0000	0.1513	0.0000	0.0618
53 1,4-dichlorobutane-2	21196	100092	729209	477511	930863	1811059	-1	0.0000	0.6378	0.0000	0.0416
54 MIBK	12624	54773	420531	258618	506742	1125837	-1	0.0000	0.3647	0.0000	0.0882
55 toluene-d8	45943	197031	1460725	892986	1992147	3737481	-1	0.0000	1.2998	0.0000	0.0881
56 toluene	62530	246390	1718851	1064760	2337313	4378610	-1	0.0000	1.5917	0.0000	0.1415
57 2-hexanone X5	40778	194366	1452388	980537	1739183	3786767	-1	0.0000	0.2523	0.0000	0.0525
58 12-dibromoethane	9336	41695	321259	203659	418605	845165	-1	0.0000	0.2807	0.0000	0.0624
59 tetra-Cl-ethene	8362	44035	310334	202648	456442	852785	-1	0.0000	0.2809	0.0000	0.0740
60 chlorobenzene	35794	157540	1145456	736740	1560260	2830625	-1	0.0000	1.0229	0.0000	0.0726
61 1112-tetra-Cl-Et	9481	42204	329894	204281	446281	834115	-1	0.0000	0.2859	0.0000	0.0626
62 1,4-Dichlorobenzene-d4	338763	342920	326638	342036	328644	316229	-1	0.0000	1.0000	0.0000	0.0000
63 1-chlorohexane	5357	28291	209136	150754	329570	608626	-1	0.0000	0.4386	0.0000	0.1009
64 Et-Bz	60263	271985	1931068	1259891	2700445	4984974	-1	0.0000	3.9735	0.0000	0.0717
65 m/p-Xylenes X2	91581	429720	2972469	1970496	4092718	7403994	-1	0.0000	3.0461	0.0000	0.0666
66 styrene	40907	176875	1209490	785411	1614322	2880038	-1	0.0000	2.4902	0.0000	0.1139
67 o-xylene	47039	224392	1541662	997116	2107082	3786234	-1	0.0000	3.1345	0.0000	0.0698
68 1122-Tetra-Cl-Et	12368	58348	434684	289282	547994	1109562	-1	0.0000	0.8586	0.0000	0.0362
69 123-tri-Cl-Pr	4327	16486	120085	79379	149628	301041	-1	0.0000	0.2479	0.0000	0.1426
70 4-Br-1-F-Bz (S3)	-1	48539	352090	230708	476328	860119	-1	0.0000	0.6921	0.0000	0.0331
71 isopropylbenzene	54063	258938	1810036	1230968	2636403	4794797	-1	0.0000	3.7715	0.0000	0.0569
72 bromobenzene	11277	52191	373345	248657	496335	895334	-1	0.0000	0.7496	0.0000	0.0611
92 t-1,4-dichloro-2-butene	2579	13326	107353	69869	134609	282653	-1	0.0000	0.2038	0.0000	0.0565
73 n-propylbenzene	17093	75142	550004	369752	782332	1433094	-1	0.0000	1.1356	0.0000	0.0686
74 2-Cl-Toluene	14385	64782	468181	306054	648451	1175814	-1	0.0000	0.9521	0.0000	0.0667
75 4-Cl-Toluene	14676	68340	472349	321168	645047	1147074	-1	0.0000	0.9684	0.0000	0.0699
76 135-tri-Me-Benzene	46318	230015	1530633	1056201	2192410	3957016	-1	0.0000	3.2088	0.0000	0.0592
77 4-iso-Pr-toluene	46828	236260	1589540	1090074	2300035	4001618	-1	0.0000	3.2987	0.0000	0.0580
78 124-tri-Me-Benzene	52091	225412	1591417	1060581	2179009	4034032	-1	0.0000	3.2968	0.0000	0.0872
79 tert-butylbenzene	38858	214704	1358554	1026396	2167727	3553126	-1	0.0000	2.9509	0.0000	0.0838
80 13-DCB	23461	105388	720482	479426	952246	1671095	-1	0.0000	1.4697	0.0000	0.1002

2337

81 sec-butylbenzene	58784	294894	2022598	1412651	3014471	5380242	-1	0.0000	4.2463	0.0000	0.0559
82 14-DCB	25254	102568	740294	483149	995642	1828158	-1	0.0000	1.5247	0.0000	0.1122
83 Cl-benzyl	5121	25797	193179	140115	260044	502774	-1	0.0000	0.3877	0.0000	0.0399
84 12-DCB	21812	94458	686458	449938	915386	1648706	-1	0.0000	1.3853	0.0000	0.0837
85 n-butylbenzene	11364	54493	397406	272869	597478	1038928	-1	0.0000	0.8203	0.0000	0.0621
86 12-diBr-2-Cl-Pra	2509	9438	81520	52790	100591	217325	-1	0.0000	0.1597	0.0000	0.1037
87 124-tri-Cl-Bz	13698	60733	448339	303045	608505	1064408	-1	0.0000	0.9013	0.0000	0.0676
88 naphthalene	46365	179296	1273804	887585	1683847	3156645	-1	0.0000	2.6876	0.0000	0.1360
89 hx-Cl-butadiene	4206	24181	180431	128278	279095	503506	-1	0.0000	0.3677	0.0000	0.1104
90 123-Tri-Cl-Bz	13972	56906	395014	266217	537026	954439	-1	0.0000	0.8278	0.0000	0.1261
											0.0000

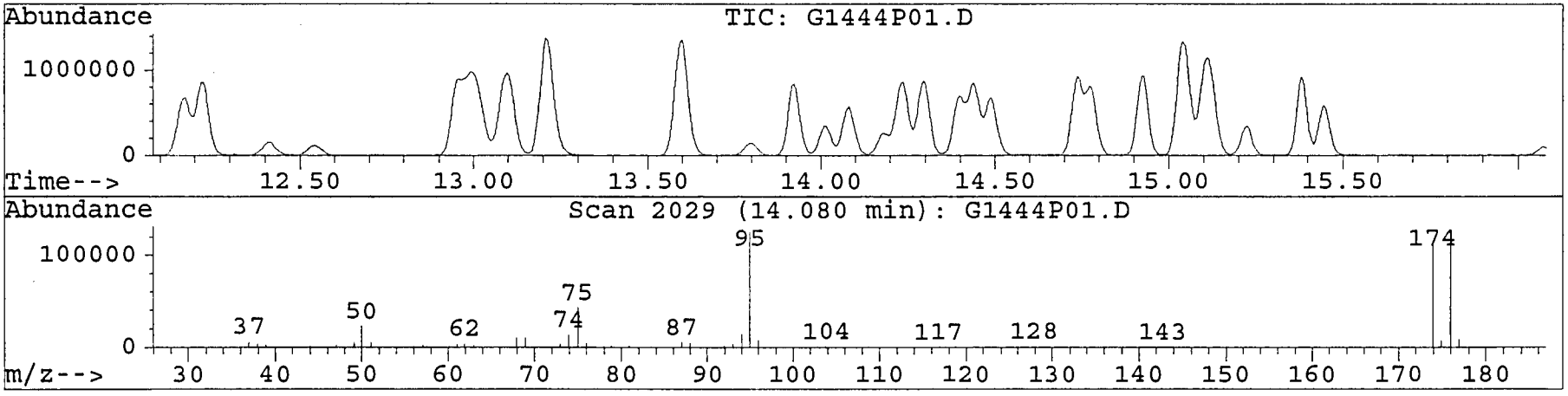
Method File	#########
Method File	#########
Method File	#########
Method File	#########
Method File	#########
Method File	#########
Method File	#########
Method File	#########
Method File	#########

BFB

Data File : C:\HPCHEM\1\DATA\03G1444\G1444P01.D
Acq On : 17 Feb 03 12:04 pm
Sample : f=1
Misc :

Vial: 5
Operator: Ann
Inst : GCMS-X
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260



Peak Apex is scan: 2029

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	23136	PASS
75	95	30	60	34.2	43080	PASS
95	95	100	100	100.0	126136	PASS
96	95	5	9	6.6	8348	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	88.9	112080	PASS
175	174	5	9	6.7	7490	PASS
176	174	95	101	99.8	111872	PASS
177	176	5	9	7.4	8245	PASS

G1444P01.D 826SX090.M Tue Feb 18 10:16:08 2003

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name : APPLIED P & CH LAB Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 032345

Lab File ID: G1444P01.D BFB Injection Date: 02/17/2003

Instrument ID: GCMS-X BFB Injection Time: 1204

GC Column: DB-624 ID: 0.20 (mm) Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	%RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.3
75	30.0 - 60.0% of mass 95	34.2
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 100.0% of mass 95	88.9
175	5.0 - 9.0% of mass 174	5.9 (6.7)1
176	95.0 - 101.0% of mass 174	88.7 (99.8)1
177	5.0 - 9.0% of mass 176	6.5 (7.4)2

1-Value is % mass 174 2-Value is % mass 176

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD002	090-002	090-002.D	02/17/2003	1528
02	VSTD010	090-010	090-010.D	02/17/2003	1619
03	VSTD050	090-050	090-050.D	02/17/2003	1645
04	VSTD080	090-080	090-080.D	02/17/2003	1711
05	VSTD100	090-100	090-100.D	02/17/2003	1737
06	VSTD200	090-200	090-200.D	02/17/2003	1803
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM V VOA

Response Factor Report GCMS-X

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:48:32 2003
Response via : Initial Calibration

Calibration Files
2 =90-002.D 10 =90-010.D 50 =90-050.D
80 =90-080.D 100 =90-100.D 200 =90-200.D

			Compound	2	10	50	80	100	200	Avg	%RSD	r^2
1)	I	1	Fluorobenzene	----------ISTD----------								
2)		3	di-Cl-di-F-metha	0.135	0.128	0.122	0.107	0.111	0.144	0.125	11.48	
3)		2	F114	0.082	0.120	0.125	0.114	0.111		0.110	15.03	0.994
4)	p	4	Chloromethane	0.329	0.270	0.257	0.237	0.245	0.287	0.271	12.51	
5)	C	5	vinyl chloride	0.203	0.215	0.221	0.198	0.206	0.263	0.218	11.03	
6)		6	bromomethane	0.187	0.174	0.120	0.114	0.116	0.133	0.141	22.68	0.991
7)		7	chloroethane	0.157	0.142	0.141	0.127	0.132	0.159	0.143	8.93	
8)		8	tri-Cl-F-methane	0.163	0.149	0.164	0.148	0.153	0.208	0.164	13.63	
9)		94	isopropyl alcoho	0.029	0.022	0.024	0.023	0.026	0.024	0.025#	9.58	
10)		9	acrolein [x10]		0.013	0.016	0.017	0.021	0.020	0.017#	18.32	0.993
11)		11	acetone [X10]	0.078	0.064	0.063	0.060	0.060	0.056	0.064	11.83	
12)		12	ethyl ether [X5]	0.124	0.120	0.121	0.117	0.128	0.150	0.127	9.65	
13)	M,	C13	11-dichloroethen	0.212	0.184	0.230	0.215	0.221		0.212	8.18	
14)		14	Iodomethane	0.113	0.156	0.202	0.195	0.191	0.217	0.179	21.24	0.996
15)		15	F-113	0.122	0.115	0.116	0.105	0.106		0.113	6.32	
16)		16	acrylonitrile[X1	0.069	0.071	0.082	0.080	0.086	0.081	0.078	8.70	
17)		17	carbon disulfide	0.533	0.493	0.503	0.456	0.483	0.641	0.518	12.58	
18)		95	tert butyl alcoh	0.034	0.029	0.033	0.032	0.033	0.030	0.032#	5.77	
19)		96	Allyl chloride	0.793	0.690	0.728	0.701	0.763	0.815	0.748	6.72	
20)		18	methylene chlori		0.257	0.215	0.200	0.213	0.231	0.223	9.89	
21)		19	t-12-di-Cl-ethen	0.130	0.139	0.138	0.136	0.144		0.138	3.61	
22)		20	t-Bu-Me-ether	0.403	0.384	0.396	0.369	0.381	0.385	0.386	3.09	
23)		91	Acetonnitrile [	0.079	0.069	0.072	0.070	0.076	0.082	0.075	6.73	
24)	p	21	11-dichloroethan	0.292	0.259	0.303	0.304	0.325		0.297	8.21	
25)		22	c-12-di-Cl-ethen	0.119	0.151	0.163	0.164	0.180		0.155	14.58	
26)		23	22-Dichloropropa	0.164	0.150	0.149	0.139	0.138		0.148	7.02	

(#) = Out of Range

Response Factor Report GCMS-X

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:48:32 2003
Response via : Initial Calibration

Calibration Files
2 =90-002.D 10 =90-010.D 50 =90-050.D
80 =90-080.D 100 =90-100.D 200 =90-200.D

			Compound	2	10	50	80	100	200	Avg	%RSD
27)		99	ETBE	0.668	0.601	0.625	0.592	0.615	0.621	0.621	4.27
28)		24	Br-Cl-methane	0.080	0.082	0.093	0.090	0.098	0.108	0.092	11.37
29)	C	25	chloroform	0.228	0.210	0.209	0.209	0.231		0.217	5.23
30)		26	tetrahydrofuran[	0.021	0.022	0.027	0.027	0.029	0.030	0.026#	13.77
31)		100	Iso-buty alcoh	0.009	0.008	0.007	0.007	0.008	0.008	0.008#	11.88
32)	S	27	Di-Br-F-Me (surr		0.184	0.153	0.150	0.166	0.204	0.171	13.22
33)	S	29	1,2-Di-Cl-Et-d4		0.160	0.127	0.117	0.125	0.147	0.135	13.06
34)		98	Diisoprop ether	1.060	0.946	0.955	0.919	0.941	0.993	0.969	5.24
35)		92	Nitro-methane x1		0.011	0.014	0.013	0.015	0.014	0.013#	11.00
36)		93	Ethyl Acetae x2	0.249	0.189	0.240	0.220	0.231	0.220	0.225	9.23
37)		30	12-dichloroethan	0.121	0.143	0.142	0.138	0.156	0.187	0.148	14.96
38)		32	vinyl acetate[x5	0.558	0.503	0.535	0.508	0.540	0.566	0.535	4.76
39)		33	2-butanone, MEK	0.115	0.122	0.131	0.131	0.130	0.128	0.126	5.24
40)		34	111-trichloroeth	0.165	0.146	0.150	0.131	0.130		0.145	10.07
41)		35	11-Di-Cl-propene	0.219	0.189	0.185	0.170	0.162	0.222	0.191	12.93
42)	M	36	benzene	0.742	0.678	0.666	0.632	0.643	0.753	0.686	7.41
43)		37	CCl4	0.119	0.119	0.115	0.100	0.100		0.110	8.80
44)		38	thiophene	0.370	0.340	0.343	0.318	0.337	0.412	0.353	9.40
45)	C	39	12-di-Cl-propane	0.194	0.183	0.188	0.176	0.178	0.204	0.187	5.66
46)		101	TAME	0.574	0.553	0.570	0.546	0.580	0.575	0.566	2.42
47)	M	40	trichloroethene	0.185	0.163	0.164	0.149	0.148	0.187	0.166	10.15
48)		41	dibromomethane	0.083	0.092	0.105	0.105	0.118		0.101	13.17
49)		42	Br-di-Cl-methane	0.170	0.163	0.158	0.150	0.153	0.194	0.165	9.69
50)		43	Me-methacrylate	0.250	0.192	0.191	0.187	0.199	0.196	0.203	11.64
51)		44	2-ClEt-Vi-ether[	0.087	0.086	0.091	0.087	0.095	0.094	0.090	4.37
52)		45	c-13-di-Cl-prope	0.243	0.254	0.249	0.238	0.245	0.272	0.250	4.70
53)		46	t-1,3-dichloropr	0.240	0.206	0.222	0.219	0.234	0.248	0.228	6.64

(#) = Out of Range

Response Factor Report GCMS-X

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:48:32 2003
Response via : Initial Calibration

Calibration Files
2 =90-002.D 10 =90-010.D 50 =90-050.D
80 =90-080.D 100 =90-100.D 200 =90-200.D

			Compound	2	10	50	80	100	200	Avg	%RSD
54)	I	47	Chlorobezene-d5	----------ISTD----------							
55)		48	112-tri-Cl-Et	0.321	0.319	0.332	0.318	0.339	0.369	0.333	5.88
56)		49	13-di-Cl-propane	0.579	0.578	0.607	0.575	0.611	0.663	0.602	5.61
57)		50	Et methacrylate	0.932	0.825	0.874	0.833	0.894	0.909	0.878	4.83
58)		51	di-Br-Cl-methane	0.312	0.348	0.346	0.330	0.350	0.382	0.345	6.76
59)	P	52	bromoform	0.297	0.294	0.329	0.321	0.349	0.369	0.326	8.96
60)		53	1,4-dichlorobuta	1.041	0.905	0.971	0.925	1.004	1.010	0.976	5.39
61)		54	MIBK	0.764	0.727	0.774	0.726	0.796	0.789	0.763	3.93
62)	s	55	toluene-d8		2.502	1.942	1.776	1.723	2.033	1.995	15.50
63)	M,C	56	toluene	2.213	2.011	1.999	1.887	1.879	2.261	2.042	7.91
64)		57	2-hexanone 5	0.565	0.490	0.543	0.526	0.556	0.550	0.538	5.00
65)		58	12-dibromoethane	0.327	0.347	0.387	0.382	0.400	0.426	0.378	9.47
66)		59	tetra-Cl-ethene	0.520	0.554	0.570	0.515	0.505	0.650	0.552	9.74
67)	M,P	60	chlorobenzene	1.563	1.394	1.406	1.340	1.385	1.562	1.442	6.67
68)		61	1112-tetra-Cl-Et	0.478	0.431	0.416	0.404	0.413	0.488	0.438	8.17
69)	I	62	1,4-Dichlorobenzen	----------ISTD----------							
70)		63	1-chlorohexane		0.802	0.743	0.683	0.654	0.867	0.750	11.58
71)	C	64	Et-Bz	2.591	2.367	2.462	2.327	2.283	2.841	2.478	8.42
72)		65	m/p-Xylenes[X2]	1.985	1.812	1.842	1.733	1.701	2.101	1.862	8.25
73)		66	styrene	1.609	1.491	1.550	1.474	1.497	1.710	1.555	5.83
74)		67	o-xylene	2.086	1.868	1.916	1.799	1.772	2.105	1.925	7.38
75)	p	68	1122-Tetra-Cl-Et	0.735	0.608	0.697	0.669	0.720	0.724	0.692	6.84
76)		69	123-tri-Cl-Pr	0.172	0.160	0.165	0.167	0.179	0.183	0.171	5.16
77)	S	70	4-Br-1-F-Bz (S3)		0.925	0.727	0.665	0.666	0.726	0.742	14.37
78)		71	isopropylbenzene	2.489	2.289	2.336	2.196	2.141	2.693	2.357	8.65

(#) = Out of Range

Response Factor Report GCMS-X

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:48:32 2003
Response via : Initial Calibration

Calibration Files
2 =90-002.D 10 =90-010.D 50 =90-050.D
80 =90-080.D 100 =90-100.D 200 =90-200.D

r2

	Compound	2	10	50	80	100	200	Avg	%RSD	
79)	102 t-14-dicl-2-but	0.071	0.114	0.141	0.135	0.146	0.148	0.126	23.52	0.999
80)	72 bromobenzene	0.669	0.666	0.701	0.674	0.694	0.761	0.694	5.13	
81)	73 n-propylbenzene	0.777	0.706	0.767	0.720	0.705	0.869	0.757	8.32	
82)	74 2-Cl-Tol.	0.633	0.634	0.616	0.592	0.589	0.696	0.627	6.28	
83)	75 4-Cl-Tol.	0.647	0.648	0.627	0.598	0.600	0.694	0.636	5.65	
84)	76 135-tri-Me-Bz	2.104	1.788	1.849	1.775	1.742	2.132	1.898	9.15	
85)	77 4-iso-Pr-toluene	2.435	2.188	2.252	2.136	2.110	2.587	2.285	8.23	
86)	78 124-tri-Me-Bz	1.977	1.772	1.840	1.747	1.745	2.090	1.862	7.64	
87)	79 tert-butylbenzen	2.291	2.069	2.114	1.967	1.935	2.410	2.131	8.73	
88)	80 13-DCB	1.496	1.264	1.296	1.246	1.267	1.377	1.324	7.25	
89)	81 sec-butylbenzene	2.835	2.674	2.706	2.580	2.508	3.177	2.747	8.69	
90)	82 14-DCB	1.461	1.253	1.285	1.209	1.254	1.392	1.309	7.40	
91)	83 Cl-benzyl	0.279	0.241	0.270	0.260	0.272	0.266	0.265	5.02	
92)	84 12-DCB	1.304	1.206	1.181	1.141	1.192	1.279	1.217	5.10	
93)	85 n-butylbenzene	0.616	0.558	0.593	0.554	0.553	0.688	0.594	8.87	
94)	86 12-diBr-3-Cl-Pra	0.143	0.125	0.153	0.148	0.161	0.157	0.148	8.83	
95)	87 124-tri-Cl-Bz	0.779	0.678	0.745	0.715	0.762	0.806	0.748	6.15	
96)	88 naphthalene	1.443	1.172	1.423	1.410	1.573	1.587	1.435	10.43	
97)	89 hx-Cl-butadiene	0.464	0.446	0.446	0.418	0.417	0.512	0.451	7.81	
98)	90 123-Tri-Cl-Bz	0.671	0.655	0.675	0.643	0.711	0.740	0.683	5.35	

(#) = Out of Range

2344

INITIAL CALIBRATION SUMMARY

Method File 826SX090
Last Calibration Update Tue Feb 18 11:51:30 2003

Level 1 File Name	90-002.D	**Level 1 ID**	2
Level 2 File Name	90-010.D	**Level 2 ID**	10
Level 3 File Name	90-050.D	**Level 3 ID**	50
Level 4 File Name	90-050.D	**Level 4 ID**	cc
Level 5 File Name	90-080.D	**Level 5 ID**	80
Level 6 File Name	90-100.D	**Level 6 ID**	100
Level 7 File Name	90-200.D	**Level 7 ID**	200

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
1 Fluorobenzene	803625	778379	818266	-1	764960	721921	787926	------	------	------	------
3 di-Cl-di-F-methane	4354	19881	99985	-1	130359	160527	454302	0.0000	0.1245	0.0000	0.1148
2 F114	2645	18633	102283	-1	138924	160573	-1	0.0028	0.1121	0.0000	0.9962
4 Chloromethane	10584	41982	209902	-1	289509	353420	903872	0.0000	0.2706	0.0000	0.1251
5 vinyl chloride	6522	33424	180979	-1	241863	297305	830425	0.0000	0.2176	0.0000	0.1103
6 bromomethane	6023	27032	98393	-1	139341	166769	420548	-0.0075	0.1306	0.0000	0.9912
7 chloroethane	5043	22115	115645	-1	155222	191017	499781	0.0000	0.1430	0.0000	0.0893
8 tri-Cl-F-methane	5255	23169	134259	-1	181573	220238	654094	0.0000	0.1641	0.0000	0.1363
94 isopropyl alcohol x10	9236	34665	193171	-1	284721	375681	752276	0.0000	0.0246	0.0000	0.0958
9 acrolein [x10]	4470	20186	134844	-1	203140	297763	644042	-0.0363	0.0212	0.0000	0.9931
11 acetone [X10]	24914	100188	519266	-1	730541	872192	1754910	0.0000	0.0635	0.0000	0.1183
12 ethyl ether [X5]	19912	93422	493684	-1	715135	925962	2368899	0.0000	0.1267	0.0000	0.0965
13 11-dichloroethene	6826	28597	188169	-1	262610	318552	-1	0.0000	0.2122	0.0000	0.0818
14 Iodomethane	3645	24222	165103	-1	238353	275980	684445	-0.0195	0.2169	0.0000	0.9960
15 F-113	3908	17953	94716	-1	128567	152598	-1	0.0000	0.1127	0.0000	0.0632
16 acrylonitrile[X10]	22139	110306	666947	-1	976324	1246900	2565124	0.0000	0.0781	0.0000	0.0870
17 carbon disulfide	17141	76782	411802	-1	558290	697805	2020965	0.0000	0.5184	0.0000	0.1258
95 tert butyl alcohol x10	10973	45396	269532	-1	388507	472594	954815	0.0000	0.0318	0.0000	0.0577
96 Allyl chloride	25479	107452	596041	-1	858070	1101002	2569774	0.0000	0.7484	0.0000	0.0672
18 methylene chloride	-1	40055	175697	-1	244657	307171	728240	0.0000	0.2231	0.0000	0.0989
19 t-12-di-Cl-ethene	4188	21699	113005	-1	166943	207822	-1	0.0000	0.1376	0.0000	0.0361

Initial Calibration Responses

20 t-Bu-Me-ether	12965	59822	323768	-1	451778	549492	1213863	0.0000	0.3864	0.0000	0.0309
91 Acetonnitrile [x10]	25479	107452	592399	-1	858818	1090346	2569774	0.0000	0.0747	0.0000	0.0673
21 11-dichloroethane	9380	40295	248298	-1	371626	469690	-1	0.0000	0.2966	0.0000	0.0821
22 c-12-di-Cl-ethene	3839	23466	133090	-1	200522	260127	-1	0.0000	0.1554	0.0000	0.1458
23 22-Dichloropropane	5276	23400	121965	-1	170595	199828	-1	0.0000	0.1483	0.0000	0.0702
99 ETBE	21480	93515	511586	-1	725161	888595	1957956	0.0000	0.6205	0.0000	0.0427
24 Br-Cl-methane	2558	12796	75690	-1	109886	141404	340080	0.0000	0.0916	0.0000	0.1137
25 chloroform	7323	32635	170673	-1	255478	334080	-1	0.0000	0.2172	0.0000	0.0523
26 tetrahydrofuran[X5]	3331	17431	109322	-1	163572	206439	470449	0.0000	0.0258	0.0000	0.1377
100 Iso-buty alcohol X10	2969	12255	57436	-1	80533	113928	255918	0.0000	0.0078	0.0000	0.1188
27 Di-Br-F-Me (surr)	15392	28619	124946	-1	182993	240297	641992	0.0000	0.1712	0.0000	0.1322
29 1,2-Di-Cl-Et-d4 (S1)	13572	24875	103603	-1	143068	180913	462486	0.0000	0.1351	0.0000	0.1306
98 Diisoprop ether	34076	147306	781641	-1	1124789	1358077	3130040	0.0000	0.9690	0.0000	0.0524
92 Nitro-methane x10	4044	16739	111125	-1	164825	211432	428257	0.0000	0.0132	0.0000	0.1100
93 Ethyl Acetae x2	15981	58911	393066	-1	538105	667424	1388013	0.0000	0.2249	0.0000	0.0923
30 12-dichloroethane	3880	22332	116172	-1	169479	224968	588253	0.0000	0.1478	0.0000	0.1496
32 vinyl acetate[x5]	89727	391829	2189399	-1	3111689	3900799	8924206	0.0000	0.5353	0.0000	0.0476
33 2-butanone, MEK [x10]	36894	189494	1073005	-1	1609295	1872376	4036676	0.0000	0.1261	0.0000	0.0524
34 111-trichloroethane	5311	22798	122476	-1	160564	187708	-1	0.0000	0.1445	0.0000	0.1007
35 11-Di-Cl-propene	7024	29435	151463	-1	208161	233589	700045	0.0000	0.1911	0.0000	0.1293
36 benzene	23845	105500	544604	-1	773443	928272	2373997	0.0000	0.6855	0.0000	0.0741
37 CCl4	3810	18479	94071	-1	122664	143693	-1	0.0000	0.1104	0.0000	0.0880
38 thiophene	11898	52908	280641	-1	388974	486727	1297877	0.0000	0.3533	0.0000	0.0940
39 12-di-Cl-propane	6242	28477	153610	-1	214833	256705	641567	0.0000	0.1870	0.0000	0.0566
101 TAME	18467	86070	466635	-1	668265	837800	1811645	0.0000	0.5665	0.0000	0.0242
40 trichloroethene	5952	25361	134285	-1	182899	213168	588381	0.0000	0.1660	0.0000	0.1015
41 dibromomethane	2677	14368	86221	-1	128121	170056	-1	0.0000	0.1007	0.0000	0.1317
42 Br-di-Cl-methane	5456	25312	129317	-1	183853	220548	610680	0.0000	0.1645	0.0000	0.0969
43 Me-methacrylate	8041	29935	156439	-1	229334	286817	619157	0.0000	0.2027	0.0000	0.1164
44 2-ClEt-Vi-ether[x10]	27847	134521	745821	-1	1065654	1370007	2975624	0.0000	0.0901	0.0000	0.0437
45 c-13-di-Cl-propene	7812	39590	203750	-1	291745	354320	856033	0.0000	0.2503	0.0000	0.0470
46 t-1,3-dichloropropene	7710	32142	181684	-1	267508	337745	780270	0.0000	0.2281	0.0000	0.0664

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
47 Chlorobezene-d5	354113	341343	354560	-1	334473	321325	343067	------	------	------	------
48 112-tri-Cl-Et	4542	21768	117814	-1	170128	217827	506395	0.0000	0.3329	0.0000	0.0588

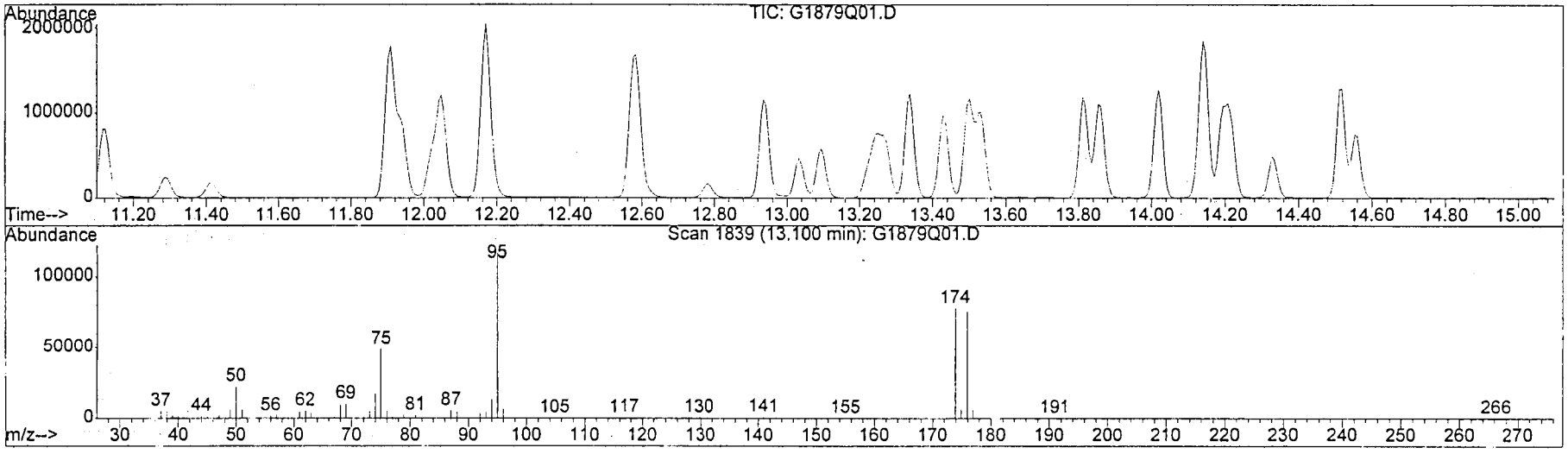
Initial Calibration Responses

49 13-di-Cl-propane	8198	39452	215061	-1	307654	392491	910054	0.0000	0.6020	0.0000	0.0561
50 Et methacrylate	13196	56289	310046	-1	445865	574740	1247634	0.0000	0.8779	0.0000	0.0483
51 di-Br-Cl-methane	4424	23783	122648	-1	176350	224738	524250	0.0000	0.3446	0.0000	0.0676
52 bromoform	4201	20070	116478	-1	171526	224366	505806	0.0000	0.3262	0.0000	0.0896
53 1,4-dichlorobutane	14748	61764	344127	-1	495204	645044	1385418	0.0000	0.9759	0.0000	0.0539
54 MIBK	10821	49649	274579	-1	388763	511541	1082572	0.0000	0.7628	0.0000	0.0393
55 toluene-d8	84596	170777	688453	-1	950348	1107576	2789951	0.0000	1.9951	0.0000	0.1550
56 toluene	31349	137303	708790	-1	1009944	1207239	3102100	0.0000	2.0416	0.0000	0.0791
57 2-hexanone 5	39985	167297	961954	-1	1407721	1785162	3775801	0.0000	0.5382	0.0000	0.0500
58 12-dibromoethane	4629	23717	137226	-1	204291	256938	584168	0.0000	0.3781	0.0000	0.0947
59 tetra-Cl-ethene	7365	37793	202044	-1	275513	324848	891743	0.0000	0.5523	0.0000	0.0974
60 chlorobenzene	22142	95174	498454	-1	717375	889973	2143697	0.0000	1.4418	0.0000	0.0667
61 1112-tetra-Cl-Et	6768	29391	147577	-1	216208	265375	669831	0.0000	0.4383	0.0000	0.0817

Compound Name	Level 1 Response	Level 2 Response	Level 3 Response	Level 4 Response	Level 5 Response	Level 6 Response	Level 7 Response	Coeff X^0	Coeff X^1 / ave RF	Coeff X^2	R^2 / RSD
62 1,4-Dichlorobenzene-d4	326477	324345	326750	-1	308789	299038	315369	------	------	------	------
63 1-chlorohexane	16916	52031	242711	-1	337497	391365	1094192	0.0000	0.7500	0.0000	0.1158
64 Et-Bz	33830	153538	804618	-1	1149681	1365306	3583924	0.0000	2.4785	0.0000	0.0842
65 m/p-Xylenes[X2]	51854	235032	1203515	-1	1712084	2034238	5300637	0.0000	1.8621	0.0000	0.0825
66 styrene	21015	96705	506441	-1	728185	895064	2156816	0.0000	1.5550	0.0000	0.0583
67 o-xylene	27240	121204	625998	-1	888957	1060053	2655891	0.0000	1.9245	0.0000	0.0738
68 1122-Tetra-Cl-Et	9601	39466	227771	-1	330461	430525	913239	0.0000	0.6922	0.0000	0.0684
69 123-tri-Cl-Pr	2251	10402	53831	-1	82332	107296	230909	0.0000	0.1711	0.0000	0.0516
70 4-Br-1-F-Bz (S3)	31788	59974	237586	-1	328535	398448	916053	0.0000	0.7418	0.0000	0.1437
71 isopropylbenzene	32506	148505	763357	-1	1084988	1280502	3397124	0.0000	2.3575	0.0000	0.0865
102 t-14-dicl-2-butene	923	7423	45966	-1	66454	87334	186936	-0.0089	0.1493	0.0000	0.9988
72 bromobenzene	8740	43210	229191	-1	333181	415325	960255	0.0000	0.6945	0.0000	0.0513
73 n-propylbenzene	10153	45811	250629	-1	355595	421435	1096609	0.0000	0.7574	0.0000	0.0832
74 2-Cl-Tol.	8272	41126	201189	-1	292276	352264	878605	0.0000	0.6267	0.0000	0.0628
75 4-Cl-Tol.	8452	42025	205018	-1	295330	358653	875004	0.0000	0.6356	0.0000	0.0565
76 135-tri-Me-Bz	27472	115975	604294	-1	876838	1042118	2689394	0.0000	1.8983	0.0000	0.0915
77 4-iso-Pr-toluene	31798	141947	735842	-1	1055306	1261839	3263073	0.0000	2.2846	0.0000	0.0823
78 124-tri-Me-Bz	25820	114916	601247	-1	863254	1043404	2637029	0.0000	1.8618	0.0000	0.0764
79 tert-butylbenzene	29923	134224	690746	-1	971751	1157301	3040030	0.0000	2.1310	0.0000	0.0873
80 13-DCB	19535	81971	423452	-1	615772	757541	1737125	0.0000	1.3243	0.0000	0.0725
81 sec-butylbenzene	37021	173465	884206	-1	1274927	1499937	4007824	0.0000	2.7468	0.0000	0.0869

82 14-DCB	19081	81276	419860	-1	597201	749854	1755930	0.0000	1.3089	0.0000	0.0740
83 Cl-benzyl	3637	15618	88341	-1	128270	162951	335889	0.0000	0.2647	0.0000	0.0502
84 12-DCB	17034	78235	385982	-1	563599	712719	1612834	0.0000	1.2171	0.0000	0.0510
85 n-butylbenzene	8041	36213	193859	-1	273912	330472	867853	0.0000	0.5937	0.0000	0.0887
86 12-diBr-3-Cl-Pra	1865	8077	49981	-1	73061	96350	197640	0.0000	0.1477	0.0000	0.0883
87 124-tri-Cl-Bz	10178	43957	243538	-1	353473	455578	1016792	0.0000	0.7476	0.0000	0.0615
88 naphthalene	18843	76056	464850	-1	696555	940686	2002371	0.0000	1.4347	0.0000	0.1043
89 hx-Cl-butadiene	6062	28904	145634	-1	206647	249554	646093	0.0000	0.4505	0.0000	0.0781
90 123-Tri-Cl-Bz	8759	42484	220556	-1	317832	425291	934054	0.0000	0.6826	0.0000	0.0535

Data File : C:\MSDCHEM\1\DATA\03G1879\G1879Q01.D Vial: 6
Acq On : 31 Mar 2003 11:03 am Operator: Eddie
Sample : f=1 Inst : GCMS-C
Misc : Multiplr: 1.00
MS Integration Params: rteint.p
Method : C:\MSDCHEM\1\METHODS\826SC088.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 8260



Spectrum Information: Scan 1839

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.1	22280	PASS
75	95	30	60	42.0	48936	PASS
95	95	100	100	100.0	116592	PASS
96	95	5	9	5.8	6716	PASS
173	174	0.00	2	0.7	509	PASS
174	95	50	100	66.8	77928	PASS
175	174	5	9	8.0	6231	PASS
176	174	95	101	97.3	75856	PASS
177	176	5	9	8.0	6061	PASS

FORM-5A

Applied P & Ch Laboratory

Volatile Organic Instrument Performance Check for Method 8260B

Bromofluorobenzene (BFB), Part II

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	BFB Inj. Date:	03/31/03	Batch No:	03G1879
		BFB Inj. Time:	11:03	Sequence No:	03G1879
Project No:		Instrument ID:	C	GC Column:	HP-VOC
Data File Name:	G1879P01	Heated Purge: (Y/N)	Y	Column ID:	0.20 mm

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

#	Client Sample No	Lab Sample ID	Data File Name	Date Analyzed	Time Analyzed
1		03G1879CCV01	G1879Q01	03/31/03	11:03
2		03G1879LCS01	G1879L01	03/31/03	11:28
3		03G1879MB01	G1879K01	03/31/03	13:37
4	UST308-1-7'	03-2345-1	2345-01A	03/31/03	17:23
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Continuing Calibration Concentration Summary

Data File G1879Q01.D
Method File 826SC088

Compound Name	Amount	Actual	Units	%Dev	Target Response
1 Fluorobenzene	50	50.00	ppb	0.00	711069
3 di-Cl-di-F-methane	50	50.83	ppb	1.66	112143
4 Chloromethane	50	44.60	ppb	10.80	185417
2 F114	50	44.52	ppb	10.97	89170
5 vinyl chloride	50	43.70	ppb	12.60	121035
6 bromomethane	50	46.74	ppb	6.53	68068
7 chloroethane	50	42.84	ppb	14.32	63328
8 tri-Cl-F-methane	50	53.52	ppb	7.03	174429
91 Acetonitrile X10	500	446.00	ppb	10.80	147856
9 acrolein X10	500	134.15	ppb	73.17	10278
11 acetone X10	500	419.37	ppb	16.13	265936
12 ethyl ether X5	250	220.12	ppb	11.95	355220
13 11-dichloroethene	50	47.46	ppb	5.08	143856
14 Iodomethane	50	61.08	ppb	22.16	128764
15 F-113	50	51.82	ppb	3.65	92203
16 acrylonitrile X10	500	466.53	ppb	6.69	474472
17 carbon disulfide	50	55.74	ppb	11.48	361493
94 Isopropyl Alcoholx10	500	508.10	ppb	1.62	111050
18 methylene chloride	50	49.89	ppb	0.21	134701
[illegible]-12-di-Cl-ethene	50	47.47	ppb	5.07	127193
20 t-Bu-Me-ether	50	47.53	ppb	4.93	296077
95 Tert butyl alcoholx10	500	401.58	ppb	19.68	168495
94 allyl chloride	50	45.81	ppb	8.39	374479
21 11-dichloroethane	50	51.22	ppb	2.45	265115
22 c-12-di-Cl-ethene	50	49.31	ppb	1.39	151111
23 22-Dichloropropane	50	48.08	ppb	3.84	178749
24 Br-Cl-methane	50	48.46	ppb	3.07	64290
25 chloroform	50	53.14	ppb	6.28	271180
26 tetrahydrofuranX5	250	221.32	ppb	11.47	216196
98 Diisopropyl ether	50	51.67	ppb	3.33	645104
27 Di-Br-F-Me (surr)	50	50.94	ppb	1.89	145544
99 ETBE	50	44.32	ppb	11.35	448682
29 1,2-Di-Cl-Et-d4 (S1)	50	52.56	ppb	5.12	144165
30 12-dichloroethane	50	52.17	ppb	4.34	56866
32 vinyl acetate X5	250	245.45	ppb	1.82	1697388
92 Nitro Methane(x10)	500	604.47	ppb	20.89	71713
33 2-butanoneMEK X10	500	432.25	ppb	13.55	619532
93 Ethyl Acetate x2	100	96.04	ppb	3.96	282086
34 111-trichloroethane	50	52.25	ppb	4.50	197689
35 11-Di-Cl-propene	50	49.90	ppb	0.19	198123
36 benzene	50	48.69	ppb	2.62	678915
37 CCl4	50	57.01	ppb	14.03	169083
100 Isobutyl alcoholx10	500	403.87	ppb	19.23	77396

Compound Name	Amount	Actual	Units	%Dev	Target Response
thiophene	50	47.35	ppb	5.30	343201
12-di-Cl-propane	50	47.53	ppb	4.94	159832
40 trichloroethene	50	48.11	ppb	3.78	170954
41 dibromomethane	50	47.89	ppb	4.21	71327
101 TAME	50	41.88	ppb	16.24	356529
42 Br-di-Cl-methane	50	50.09	ppb	0.18	202691
43 Me-methacrylate	50	46.01	ppb	7.97	118037
44 2-ClEt-Vi-ether10	500	392.77	ppb	21.45	471456
45 c-13-di-Cl-propene	50	46.27	ppb	7.47	252327
46 t-1,3-dichloropropene	50	45.78	ppb	8.45	230967
47 Chlorobezene-d5	50	50.00	ppb	0.00	596899
48 112-tri-Cl-Et	50	44.92	ppb	10.16	145821
49 13-di-Cl-propane	50	44.78	ppb	10.43	251101
50 Et methacrylate	50	41.06	ppb	17.87	238192
51 di-Br-Cl-methane	50	47.86	ppb	4.27	163297

Compound Name	Amount	Actual	Units	%Dev	Target Response
52 bromoform	50	47.04	ppb	5.93	84943
53 1,4-dichlorobutane-2	50	43.23	ppb	13.53	329180
54 MIBK	50	41.98	ppb	16.04	182785
55 toluene-d8	50	42.58	ppb	14.84	660731
56 toluene	50	41.74	ppb	16.52	793153
57 2-hexanone X5	250	212.27	ppb	15.09	639311
58 12-dibromoethane	50	44.06	ppb	11.88	147662
tetra-Cl-ethene	50	43.59	ppb	12.82	146201
chlorobenzene	50	43.76	ppb	12.48	534364
61 1112-tetra-Cl-Et	50	47.14	ppb	5.72	160865
62 1,4-Dichlorobenzene-d4	50	50.00	ppb	0.00	255612
63 1-chlorohexane	50	46.12	ppb	7.76	103401
64 Et-Bz	50	46.30	ppb	7.41	940456
65 m/p-Xylenes X2	100	91.16	ppb	8.84	1419543
66 styrene	50	44.51	PPB	10.97	566671
67 o-xylene	50	44.95	ppb	10.10	720282
68 1122-Tetra-Cl-Et	50	47.32	ppb	5.36	207718
69 123-tri-Cl-Pr	50	44.48	ppb	11.04	56364
70 4-Br-1-F-Bz (S3)	50	45.56	ppb	8.88	161198
71 isopropylbenzene	50	45.82	ppb	8.36	883471
72 bromobenzene	50	48.03	ppb	3.94	184049
92 t-1,4-dichloro-2-butene	50	40.14	ppb	19.72	41812
73 n-propylbenzene	50	45.11	ppb	9.77	261907
74 2-Cl-Toluene	50	47.16	ppb	5.67	229577
75 4-Cl-Toluene	50	43.80	ppb	12.40	216845
76 135-tri-Me-Benzene	50	44.80	ppb	10.41	734819
77 4-iso-Pr-toluene	50	44.47	ppb	11.06	749919
78 124-tri-Me-Benzene	50	44.06	ppb	11.88	742634
79 tert-butylbenzene	50	42.99	ppb	14.03	648497
80 13-DCB	50	47.59	ppb	4.82	357571
81 sec-butylbenzene	50	45.89	ppb	8.23	996081
14-DCB	50	45.62	ppb	8.77	355572

83 Cl-benzyl	50	39.94	ppb	20.11	79178
12-DCB	50	46.27	ppb	7.45	327710
n-butylbenzene	50	45.14	ppb	9.73	189281
86 12-diBr-2-Cl-Pra	50	41.55	ppb	16.90	33914
87 124-tri-Cl-Bz	50	44.16	ppb	11.68	203467
88 naphthalene	50	44.25	ppb	11.50	607989
89 hx-Cl-butadiene	50	39.32	ppb	21.35	73912
90 123-Tri-Cl-Bz	50	42.75	ppb	14.49	180925
			average D%	9.29	

Evaluate Continuing Calibration Report

2353

Data File : C:\MSDCHEM\1\DATA\03G1879\G1879Q01.D Vial: 6
Acq On : 31 Mar 2003 11:03 am Operator: Eddie
Sample : f=1 Inst : GCMS-C
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\826SC088.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Mon Mar 31 16:39:51 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 170%

			Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1	Fluorobenzene	1.000	1.000	0.0	76	0.00
2		3	di-Cl-di-F-methane	0.155	0.158	-1.9	76	0.00
3	p	4	Chloromethane	0.292	0.261	10.6	76	0.00
4		2	F114	0.126	0.125	0.8	72	0.00
5	C	5	vinyl chloride	0.195	0.170	12.8	67	0.00
6		6	bromomethane	0.102	0.096	5.9	81	0.00
7		7	chloroethane	0.104	0.089	14.4	64	0.00
8		8	tri-Cl-F-methane	0.229	0.245	-7.0	82	0.00
9		91	Acetonitrile X10	0.023	0.021#	8.7	82	0.00
10		9	acrolein X10	0.005	0.001#	80.0#	21#	0.00
11		11	acetone X10	0.045	0.037#	17.8	57	0.00
12		12	ethyl ether X5	0.113	0.100	11.5	71	0.00
13	M, C	13	11-dichloroethene	0.213	0.202	5.2	79	0.00
14		14	Iodomethane	0.148	0.181	-22.3#	104	0.00
15		15	F-113	0.116	0.130	-12.1	82	0.00
16		16	acrylonitrile X10	0.072	0.067	6.9	72	0.00
17		17	carbon disulfide	0.456	0.508	-11.4	97	0.00
18		94	Isopropyl Alcoholx10	0.017	0.016#	5.9	75	0.00
19		18	methylene chloride	0.204	0.189	7.4	77	0.00
20		19	t-12-di-Cl-ethene	0.188	0.179	4.8	81	0.00
21		20	t-Bu-Me-ether	0.438	0.416	5.0	77	0.00
22		95	Tert butyl alcoholx10	0.036	0.024#	33.3#	56	0.00
23		94	allyl chloride	0.575	0.527	8.3	72	0.00
24	p	21	11-dichloroethane	0.364	0.373	-2.5	82	0.00
25		22	c-12-di-Cl-ethene	0.216	0.213	1.4	81	0.00
26		23	22-Dichloropropane	0.261	0.251	3.8	82	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\03G1879\G1879Q01.D Vial: 6
Acq On : 31 Mar 2003 11:03 am Operator: Eddie
Sample : f=1 Inst : GCMS-C
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

2354

Method : C:\MSDCHEM\1\METHODS\826SC088.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Mon Mar 31 16:39:51 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 170%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
27		24 Br-Cl-methane	0.093	0.090	3.2	78	0.00
28	C	25 chloroform	0.359	0.381	-6.1	88	0.00
29		26 tetrahydrofuranX5	0.069	0.061	11.6	68	0.00
30		98 Diisopropyl ether	0.878	0.907	-3.3	85	0.00
31	S	27 Di-Br-F-Me (surr)	0.201	0.205	-2.0	85	0.00
32		99 ETBE	0.712	0.631	11.4	75	0.00
33	S	29 1,2-Di-Cl-Et-d4 (S1)	0.193	0.203	-5.2	83	0.00
34		30 12-dichloroethane	0.077	0.080	-3.9	84	0.00
35		32 vinyl acetate X5	0.486	0.477	1.9	78	0.00
36		92 Nitro Methane(x10)	0.008	0.010#	-25.0#	90	0.00
37		33 2-butanoneMEK X10	0.101	0.087	13.9	64	0.00
38		93 Ethyl Acetate x2	0.207	0.198	4.3	75	0.00
39		34 111-trichloroethane	0.266	0.278	-4.5	87	0.00
40		35 11-Di-Cl-propene	0.279	0.279	0.0	81	0.00
41	M	36 benzene	0.980	0.955	2.6	81	0.00
42		37 CCl4	0.209	0.238	-13.9	92	0.00
43		100 Isobutyl alcoholx10	0.015	0.011#	26.7#	56	0.00
44		38 thiophene	0.510	0.483	5.3	78	0.00
45	C	39 12-di-Cl-propane	0.236	0.225	4.7	78	0.00
46	M	40 trichloroethene	0.250	0.240	4.0	81	0.00
47		41 dibromomethane	0.105	0.100	4.8	73	0.00
48		101 TAME	0.599	0.501	16.4	67	0.00
49		42 Br-di-Cl-methane	0.285	0.285	0.0	82	0.00
50		43 Me-methacrylate	0.180	0.166	7.8	71	0.00
51		44 2-ClEt-Vi-ether10	0.084	0.066	21.4#	59	0.00
52		45 c-13-di-Cl-propene	0.384	0.355	7.6	73	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\03G1879\G1879Q01.D Vial: 6
Acq On : 31 Mar 2003 11:03 am Operator: Eddie
Sample : f=1 Inst : GCMS-C
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\826SC088.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Mon Mar 31 16:39:51 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 170%

			Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
53		46	t-1,3-dichloropropene	0.355	0.325	8.5	70	0.00
54	I	47	Chlorobezene-d5	1.000	1.000	0.0	77	0.00
55		48	112-tri-Cl-Et	0.272	0.244	10.3	74	0.00
56		49	13-di-Cl-propane	0.470	0.421	10.4	74	0.00
57		50	Et methacrylate	0.486	0.399	17.9	68	0.00
58		51	di-Br-Cl-methane	0.286	0.274	4.2	81	0.00
59	P	52	bromoform	0.151	0.142	6.0	76	0.00
60		53	1,4-dichlorobutane-2	0.638	0.551	13.6	69	0.00
61		54	MIBK	0.365	0.306	16.2	71	0.00
62	s	55	toluene-d8	1.300	1.107	14.8	74	0.00
63	M,C	56	toluene	1.592	1.329	16.5	74	0.00
64		57	2-hexanone X5	0.252	0.214	15.1	65	0.00
65		58	12-dibromoethane	0.281	0.247	12.1	73	0.00
66		59	tetra-Cl-ethene	0.281	0.245	12.8	72	0.00
67	M,P	60	chlorobenzene	1.023	0.895	12.5	73	0.00
68		61	1112-tetra-Cl-Et	0.286	0.270	5.6	79	0.00
69	I	62	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	75	0.00
70		63	1-chlorohexane	0.439	0.405	7.7	69	0.00
71	C	64	Et-Bz	3.973	3.679	7.4	75	0.00
72		65	m/p-Xylenes X2	3.046	2.777	8.8	72	0.00
73		66	styrene	2.490	2.217	11.0	72	0.00
74		67	o-xylene	3.135	2.818	10.1	72	0.00
75	p	68	1122-Tetra-Cl-Et	0.859	0.813	5.4	72	0.00
76		69	123-tri-Cl-Pr	0.248	0.221	10.9	71	0.00
77	S	70	4-Br-1-F-Bz (S3)	0.692	0.631	8.8	70	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\03G1879\G1879Q01.D Vial: 6
Acq On : 31 Mar 2003 11:03 am Operator: Eddie
Sample : f=1 Inst : GCMS-C
Misc : Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\826SC088.M (RTE Integrator)
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Mon Mar 31 16:39:51 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 170%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
78	71	isopropylbenzene	3.772	3.456	8.4	72	0.00
79	72	bromobenzene	0.750	0.720	4.0	74	0.00
80	92	t-1,4-dichloro-2-butene	0.204	0.164	19.6	60	0.00
81	73	n-propylbenzene	1.136	1.025	9.8	71	0.00
82	74	2-Cl-Toluene	0.952	0.898	5.7	75	0.00
83	75	4-Cl-Toluene	0.968	0.848	12.4	68	0.00
84	76	135-tri-Me-Benzene	3.209	2.875	10.4	70	0.00
85	77	4-iso-Pr-toluene	3.299	2.934	11.1	69	0.00
86	78	124-tri-Me-Benzene	3.297	2.905	11.9	70	0.00
87	79	tert-butylbenzene	2.951	2.537	14.0	63	0.00
88	80	13-DCB	1.470	1.399	4.8	75	0.00
89	81	sec-butylbenzene	4.246	3.897	8.2	71	0.00
90	82	14-DCB	1.525	1.391	8.8	74	0.00
91	83	Cl-benzyl	0.388	0.310	20.1#	57	0.00
92	84	12-DCB	1.385	1.282	7.4	73	0.00
93	85	n-butylbenzene	0.820	0.741	9.6	69	0.00
94	86	12-diBr-2-Cl-Pra	0.160	0.133	16.9	64	0.00
95	87	124-tri-Cl-Bz	0.901	0.796	11.7	67	0.00
96	88	naphthalene	2.688	2.379	11.5	68	0.00
97	89	hx-Cl-butadiene	0.368	0.289	21.5#	58	0.00
98	90	123-Tri-Cl-Bz	0.828	0.708	14.5	68	0.00

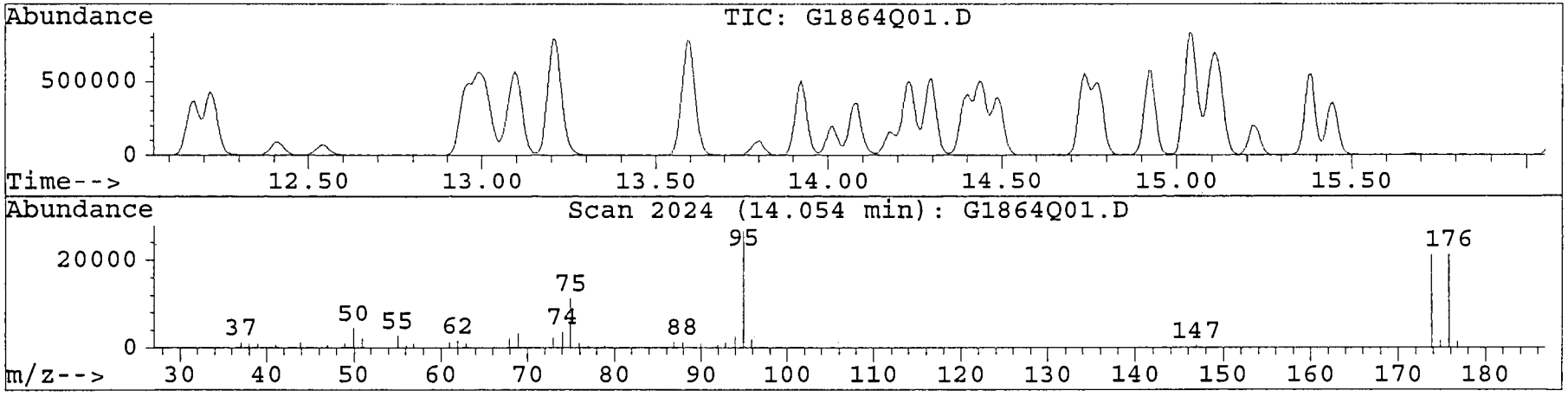
(#) = Out of Range SPCC's out = 0 CCC's out = 0
G1879Q01.D 826SC088.M Mon Mar 31 16:40:00 2003

BFB

Data File : C:\HPCHEM\1\DATA\03G1864\G1864Q01.D
Acq On : 28 Mar 03 12:41 pm
Sample : f=1
Misc :

Vial: 2
Operator: Ann
Inst : GCMS-X
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260



Peak Apex is scan: 2024

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.8	4483	PASS
75	95	30	60	42.4	11276	PASS
95	95	100	100	100.0	26608	PASS
96	95	5	9	7.3	1945	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	79.6	21184	PASS
175	174	5	9	7.7	1634	PASS
176	174	95	101	100.6	21304	PASS
177	176	5	9	6.7	1421	PASS

G1864Q01.D 826SX090.M Mon Mar 31 10:35:57 2003

FORM-5A

Applied P & Ch Laboratory

Volatile Organic Instrument Performance Check for Method 8260B

Bromofluorobenzene (BFB), Part II

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	BFB Inj. Date:	03/28/03	Batch No:	03G1864
		BFB Inj. Time:	12:41	Sequence No:	03G1864
Project No:		Instrument ID:	X	GC Column:	HP-VOC
Data File Name:	G1864P01	Heated Purge: (Y/N)	Y	Column ID:	0.20 mm

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

#	Client Sample No	Lab Sample ID	Data File Name	Date Analyzed	Time Analyzed
1		03G1864CCV01	G1864Q01	03/28/03	12:41
2		03G1864LCS01	G1864L01	03/28/03	13:07
3		03G1864MB01	G1864K00	03/28/03	16:11
4	UST308-2-7'	03-2345-2	2345-02	03/28/03	23:30
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1864\G1864Q01.D Vial: 2
Acq On : 28 Mar 03 12:41 pm Operator: Ann
Sample : f=1 Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

			Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1	Fluorobenzene	1.000	1.000	0.0	62	-0.06
2		3	di-Cl-di-F-methane	0.125	0.088	29.6#	45#	-0.03
3		2	F114	0.110	0.106	4.3	53	-0.04
4	p	4	Chloromethane	0.271	0.179	33.8#	44#	-0.04
5	C	5	vinyl chloride	0.218	0.185	14.9	52	-0.04
6		6	bromomethane	0.141	0.111	20.8#	58	-0.04
7		7	chloroethane	0.143	0.128	10.8	56	-0.05
8		8	tri-Cl-F-methane	0.164	0.195	-18.7	74	-0.04
9		94	isopropyl alcohol x10	0.025	0.018#	26.3#	48#	-0.08
10		9	acrolein [x10]	0.017	0.011#	34.5#	43#	-0.07
11		11	acetone [X10]	0.064	0.062	2.3	61	-0.07
12		12	ethyl ether [X5]	0.127	0.106	16.0	55	-0.06
13	M, C	13	11-dichloroethene	0.212	0.213	-0.1	58	-0.06
14		14	Iodomethane	0.179	0.175	2.0	54	-0.05
15		15	F-113	0.113	0.125	-10.9	67	-0.06
16		16	acrylonitrile[X10]	0.078	0.065	16.2	50	-0.08
17		17	carbon disulfide	0.518	0.359	30.7#	45#	-0.05
18		95	tert butyl alcohol x10	0.032	0.025#	20.0	48#	-0.09
19		96	Allyl chloride	0.748	0.537	28.3#	46#	-0.06
20		18	methylene chloride	0.223	0.196	12.3	57	-0.06
21		19	t-12-di-Cl-ethene	0.138	0.133	3.2	60	-0.08
22		20	t-Bu-Me-ether	0.386	0.337	12.9	53	-0.08
23		91	Acetonnitrile [x10]	0.075	0.054	28.1#	46#	-0.06
24	p	21	11-dichloroethane	0.297	0.302	-1.7	62	-0.06
25		22	c-12-di-Cl-ethene	0.155	0.165	-6.2	63	-0.07

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1864\G1864Q01.D Vial: 2
Acq On : 28 Mar 03 12:41 pm Operator: Ann
Sample : f=1 Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
26		23 22-Dichloropropane	0.148	0.164	-10.7	69	-0.08
27		99 ETBE	0.621	0.545	12.2	54	-0.08
28		24 Br-Cl-methane	0.092	0.089	2.5	60	-0.07
29	C	25 chloroform	0.217	0.215	1.1	64	-0.06
30		26 tetrahydrofuran[X5]	0.026	0.021#	18.3	49#	-0.07
31		100 Iso-buty alcohol X10	0.008	0.006#	26.7#	51	-0.08
32	S	27 Di-Br-F-Me (surr)	0.171	0.179	-4.7	73	-0.06
33	S	29 1,2-Di-Cl-Et-d4 (S1)	0.135	0.130	3.5	64	-0.06
34		98 Diisoprop ether	0.969	0.776	19.9	51	-0.07
35		92 Nitro-methane x10	0.013	0.012#	8.0	56	-0.08
36		93 Ethyl Acetae x2	0.225	0.154	31.4#	40#	-0.08
37		30 12-dichloroethane	0.148	0.135	9.0	59	-0.06
38		32 vinyl acetate[x5]	0.535	0.391	26.9#	46#	-0.08
39		33 2-butanone, MEK [x10]	0.126	0.106	16.4	50	-0.09
40		34 111-trichloroethane	0.145	0.159	-9.9	66	-0.07
41		35 11-Di-Cl-propene	0.191	0.178	6.8	60	-0.07
42	M	36 benzene	0.686	0.634	7.5	60	-0.06
43		37 CCl4	0.110	0.130	-17.6	71	-0.07
44		38 thiophene	0.353	0.310	12.4	56	-0.06
45	C	39 12-di-Cl-propane	0.187	0.162	13.2	54	-0.05
46		101 TAME	0.566	0.488	13.8	53	-0.06
47	M	40 trichloroethene	0.166	0.160	3.6	61	-0.05
48		41 dibromomethane	0.101	0.101	-0.0	60	-0.05
49		42 Br-di-Cl-methane	0.165	0.155	5.5	61	-0.05
50		43 Me-methacrylate	0.203	0.162	20.2#	53	-0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1864\G1864Q01.D Vial: 2
Acq On : 28 Mar 03 12:41 pm Operator: Ann
Sample : f=1 Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

			Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51		44	2-ClEt-Vi-ether[x10]	0.090	0.068	24.2#	47#	-0.05
52		45	c-13-di-Cl-propene	0.250	0.230	8.0	58	-0.05
53		46	t-1,3-dichloropropene	0.228	0.206	9.7	58	-0.05
54	I	47	Chlorobezene-d5	1.000	1.000	0.0	61	-0.04
55		48	112-tri-Cl-Et	0.333	0.330	0.9	60	-0.05
56		49	13-di-Cl-propane	0.602	0.558	7.2	56	-0.05
57		50	Et methacrylate	0.878	0.755	14.0	52	-0.05
58		51	di-Br-Cl-methane	0.345	0.358	-3.8	63	-0.05
59	P	52	bromoform	0.326	0.335	-2.5	62	-0.04
60		53	1,4-dichlorobutane	0.976	0.816	16.3	51	-0.04
61		54	MIBK	0.763	0.565	25.9#	44#	-0.05
62	s	55	toluene-d8	1.995	2.202	-10.4	69	-0.05
63	M,C	56	toluene	2.042	2.025	0.8	61	-0.05
64		57	2-hexanone 5	0.538	0.404	24.9#	45#	-0.05
65		58	12-dibromoethane	0.378	0.367	3.0	57	-0.05
66		59	tetra-Cl-ethene	0.552	0.598	-8.3	64	-0.04
67	M,P	60	chlorobenzene	1.442	1.388	3.8	60	-0.04
68		61	1112-tetra-Cl-Et	0.438	0.433	1.2	63	-0.04
69	I	62	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	65	-0.04
70		63	1-chlorohexane	0.750	0.674	10.2	59	-0.04
71	C	64	Et-Bz	2.478	2.391	3.5	63	-0.04
72		65	m/p-Xylenes[X2]	1.862	1.788	4.0	63	-0.04
73		66	styrene	1.555	1.476	5.1	62	-0.04

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1864\G1864Q01.D Vial: 2
Acq On : 28 Mar 03 12:41 pm Operator: Ann
Sample : f=1 Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
74		67 o-xylene	1.925	1.792	6.9	61	-0.04
75	p	68 1122-Tetra-Cl-Et	0.692	0.568	17.9	53	-0.04
76		69 123-tri-Cl-Pr	0.171	0.153	10.8	61	-0.04
77	S	70 4-Br-1-F-Bz (S3)	0.742	0.799	-7.7	72	-0.03
78		71 isopropylbenzene	2.357	2.332	1.1	65	-0.04
79		102 t-14-dicl-2-butene	0.126	0.120	4.9	56	-0.04
80		72 bromobenzene	0.694	0.653	5.9	61	-0.04
81		73 n-propylbenzene	0.757	0.752	0.7	64	-0.04
82		74 2-Cl-Tol.	0.627	0.595	5.0	63	-0.04
83		75 4-Cl-Tol.	0.636	0.595	6.4	62	-0.04
84		76 135-tri-Me-Bz	1.898	1.858	2.1	66	-0.03
85		77 4-iso-Pr-toluene	2.285	2.295	-0.4	67	-0.03
86		78 124-tri-Me-Bz	1.862	1.829	1.8	65	-0.03
87		79 tert-butylbenzene	2.131	2.117	0.7	65	-0.03
88		80 13-DCB	1.324	1.238	6.6	62	-0.04
89		81 sec-butylbenzene	2.747	2.765	-0.7	67	-0.03
90		82 14-DCB	1.309	1.252	4.3	64	-0.03
91		83 Cl-benzyl	0.265	0.237	10.5	57	-0.04
92		84 12-DCB	1.217	1.131	7.1	63	-0.03
93		85 n-butylbenzene	0.594	0.607	-2.3	67	-0.04
94		86 12-diBr-3-Cl-Pra	0.148	0.134	9.5	57	-0.03
95		87 124-tri-Cl-Bz	0.748	0.748	-0.1	66	-0.02
96		88 naphthalene	1.435	1.365	4.9	63	-0.03
97		89 hx-Cl-butadiene	0.451	0.508	-12.8	75	-0.02
98		90 123-Tri-Cl-Bz	0.683	0.687	-0.6	67	-0.03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Continuing Calibration Concentration Summary

Data File G1864Q01.D
Method File 826SX090

Compound Name	Amount	Actual	Units	%Dev	Target Response
1 Fluorobenzene	50	50.00	ppb	0.00	510993
3 di-Cl-di-F-methane	50	35.22	ppb	29.56	44824
2 F114	50	45.89	ppb	8.22	53976
4 Chloromethane	50	33.12	ppb	33.77	91583
5 vinyl chloride	50	42.53	ppb	14.93	94600
6 bromomethane	50	45.54	ppb	8.92	56937
7 chloroethane	50	44.61	ppb	10.77	65199
8 tri-Cl-F-methane	50	59.33	ppb	18.65	99515
94 isopropyl alcohol x10	500	368.36	ppb	26.33	92707
9 acrolein [x10]	500	354.27	ppb	29.15	58281
11 acetone [X10]	500	488.50	ppb	2.30	317099
12 ethyl ether [X5]	250	209.92	ppb	16.03	271754
13 11-dichloroethene	50	50.07	ppb	0.13	108597
14 Iodomethane	50	44.92	ppb	10.15	89587
15 F-113	50	55.44	ppb	10.88	63843
16 acrylonitrile[X10]	500	419.04	ppb	16.19	334572
17 carbon disulfide	50	34.67	ppb	30.66	183677
95 tert butyl alcohol x10	500	400.24	ppb	19.95	130214
96 Allyl chloride	50	35.85	ppb	28.30	274208
18 methylene chloride	50	43.85	ppb	12.31	99992
19 t-12-di-Cl-ethene	50	48.40	ppb	3.20	68070
20 t-Bu-Me-ether	50	43.56	ppb	12.89	171982
91 Acetonnitrile [x10]	500	359.42	ppb	28.12	274208
21 11-dichloroethane	50	50.84	ppb	1.69	154124
22 c-12-di-Cl-ethene	50	53.10	ppb	6.21	84315
23 22-Dichloropropane	50	55.36	ppb	10.73	83884
99 ETBE	50	43.89	ppb	12.22	278331
24 Br-Cl-methane	50	48.73	ppb	2.55	45638
25 chloroform	50	49.47	ppb	1.07	109818
26 tetrahydrofuran[X5]	250	204.22	ppb	18.31	53924
100 Iso-buty alcohol X10	500	366.31	ppb	26.74	29149
27 Di-Br-F-Me (surr)	50	52.37	ppb	4.75	91654
29 1,2-Di-Cl-Et-d4 (S1)	50	48.26	ppb	3.48	66617
98 Diisoprop ether	50	40.06	ppb	19.88	396747
92 Nitro-methane x10	500	460.16	ppb	7.97	62106
93 Ethyl Acetae x2	100	68.59	ppb	31.41	157629
30 12-dichloroethane	50	45.50	ppb	9.00	68748
32 vinyl acetate[x5]	250	182.73	ppb	26.91	999680
33 2-butanone, MEK [x10]	500	418.20	ppb	16.36	539138
34 111-trichloroethane	50	54.94	ppb	9.87	81132
35 11-Di-Cl-propene	50	46.60	ppb	6.80	91014
36 benzene	50	46.27	ppb	7.45	324196
37 CCl4	50	58.80	ppb	17.59	66331
38 thiophene	50	43.82	ppb	12.36	158214

39 12-di-Cl-propane	50	43.38	ppb	13.24	82886
101 TAME	50	43.11	ppb	13.78	249576
40 trichloroethene	50	48.21	ppb	3.57	81789
41 dibromomethane	50	50.02	ppb	0.04	51468
42 Br-di-Cl-methane	50	47.25	ppb	5.51	79437
43 Me-methacrylate	50	39.89	ppb	20.23	82622
44 2-ClEt-Vi-ether[x10]	500	379.01	ppb	24.20	348964
45 c-13-di-Cl-propene	50	46.01	ppb	7.98	117691
46 t-1,3-dichloropropene	50	45.17	ppb	9.66	105283

Compound Name	Amount	Actual	Units	%Dev	Target Response
47 Chlorobezene-d5	50	50.00	ppb	0.00	214964
48 112-tri-Cl-Et	50	49.53	ppb	0.94	70902
49 13-di-Cl-propane	50	46.38	ppb	7.24	120042
50 Et methacrylate	50	42.98	ppb	14.04	162218
51 di-Br-Cl-methane	50	51.89	ppb	3.79	76894
52 bromoform	50	51.27	ppb	2.54	71909
53 1,4-dichlorobutane	50	41.83	ppb	16.34	175506
54 MIBK	50	37.05	ppb	25.91	121495
55 toluene-d8	50	55.19	ppb	10.38	473401
56 toluene	50	49.59	ppb	0.81	435317
57 2-hexanone 5	250	187.74	ppb	24.90	434414
58 12-dibromoethane	50	48.48	ppb	3.03	78811
59 tetra-Cl-ethene	50	54.16	ppb	8.33	128603
60 chlorobenzene	50	48.12	ppb	3.76	298266
61 1112-tetra-Cl-Et	50	49.39	ppb	1.22	93060

Compound Name	Amount	Actual	Units	%Dev	Target Response
62 1,4-Dichlorobenzene-d4	50	50.00	ppb	0.00	213583
63 1-chlorohexane	50	44.92	ppb	10.16	143904
64 Et-Bz	50	48.23	ppb	3.53	510661
65 m/p-Xylenes[X2]	100	96.03	ppb	3.97	763840
66 styrene	50	47.45	PPB	5.09	315221
67 o-xylene	50	46.57	ppb	6.87	382816
68 1122-Tetra-Cl-Et	50	41.04	ppb	17.92	121347
69 123-tri-Cl-Pr	50	44.61	ppb	10.78	32603
70 4-Br-1-F-Bz (S3)	50	53.86	ppb	7.72	170669
71 isopropylbenzene	50	49.45	ppb	1.09	498014
102 t-14-dicl-2-butene	50	43.01	ppb	13.98	25532
72 bromobenzene	50	47.04	ppb	5.93	139537
73 n-propylbenzene	50	49.66	ppb	0.68	160672
74 2-Cl-Tol.	50	47.48	ppb	5.03	127115
75 4-Cl-Tol.	50	46.80	ppb	6.39	127073
76 135-tri-Me-Bz	50	48.94	ppb	2.11	396885
77 4-iso-Pr-toluene	50	50.22	ppb	0.45	490130
78 124-tri-Me-Bz	50	49.12	ppb	1.76	390653
79 tert-butylbenzene	50	49.67	ppb	0.66	452154
80 13-DCB	50	46.72	ppb	6.55	264309
81 sec-butylbenzene	50	50.34	ppb	0.68	590645
82 14-DCB	50	47.83	ppb	4.34	267419
83 Cl-benzyl	50	44.73	ppb	10.54	50567

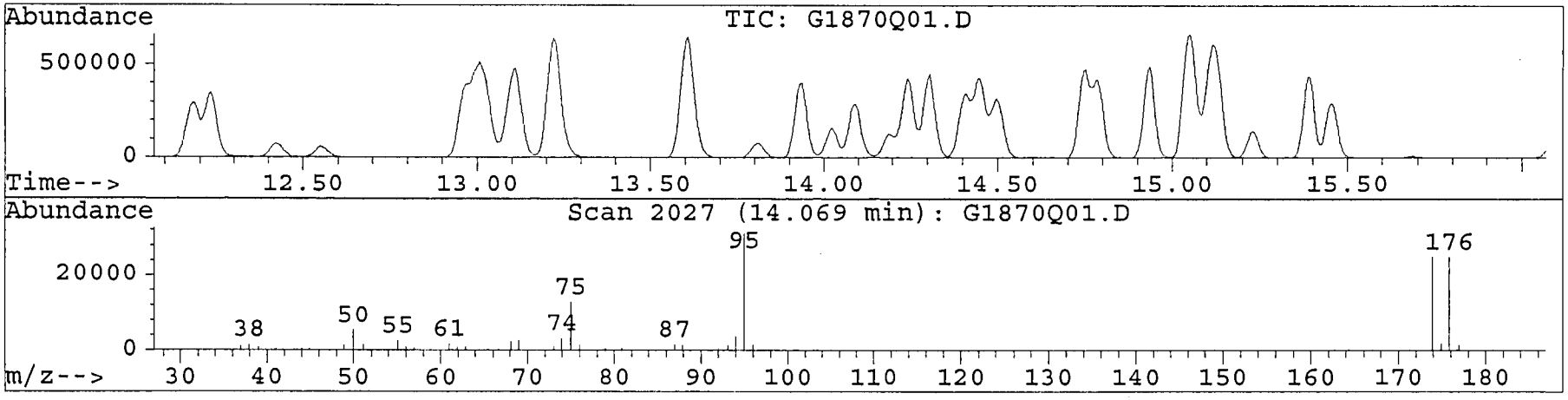
84 12-DCB	50	46.46	ppb	7.08	241556
85 n-butylbenzene	50	51.13	ppb	2.27	129683
86 12-diBr-3-Cl-Pra	50	45.26	ppb	9.49	28545
87 124-tri-Cl-Bz	50	50.05	ppb	0.10	159840
88 naphthalene	50	47.56	ppb	4.88	291470
89 hx-Cl-butadiene	50	56.38	ppb	12.76	108502
90 123-Tri-Cl-Bz	50	50.31	ppb	0.62	146689
Average %Dev				9.97	

BFB

Data File : C:\HPCHEM\1\DATA\03G1870\G1870Q01.D
Acq On : 31 Mar 03 12:19 pm
Sample : f=1 ccv
Misc :

Vial: 6
Operator: Ann
Inst : GCMS-X
Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260



Peak Apex is scan: 2027

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	5401	PASS
75	95	30	60	41.5	12890	PASS
95	95	100	100	100.0	31096	PASS
96	95	5	9	5.4	1679	PASS
173	174	0	2	0.0	0	PASS
174	95	50	100	80.2	24952	PASS
175	174	5	9	7.6	1907	PASS
176	174	95	101	100.1	24984	PASS
177	176	5	9	5.9	1471	PASS

G1870Q01.D 826SX090.M Mon Mar 31 14:17:11 2003

FORM-5A

Applied P & Ch Laboratory

Volatile Organic Instrument Performance Check for Method 8260B

Bromofluorobenzene (BFB), Part II

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	BFB Inj. Date:	03/31/03	Batch No:	03G1870
		BFB Inj. Time:	12:19	Sequence No:	03G1870
Project No:		Instrument ID:	X	GC Column:	HP-VOC
Data File Name:	G1870P01	Heated Purge: (Y/N)	Y	Column ID:	0.20 mm

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

#	Client Sample No	Lab Sample ID	Data File Name	Date Analyzed	Time Analyzed
1		03G1870CCV01	G1870Q01	03/31/03	12:19
2		03G1870LCS01	G1870L01	03/31/03	12:45
3	UST308-SP-1'MS	03-2345-3MS	G1870M01	03/31/03	13:11
4	UST308-SP-1'MSD	03-2345-3MSD	G1870N01	03/31/03	13:37
5		03G1870MB01	G1870K01	03/31/03	14:38
6	UST308-SP-1'	03-2345-3	2345-03A	03/31/03	15:30
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1870\G1870Q01.D Vial: 6
Acq On : 31 Mar 03 12:19 pm Operator: Ann
Sample : f=1 ccv Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

			Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1	Fluorobenzene	1.000	1.000	0.0	54	-0.04
2		3	di-Cl-di-F-methane	0.125	0.084	32.3#	38#	-0.03
3		2	F114	0.110	0.108	2.0	47#	-0.03
4	p	4	Chloromethane	0.271	0.184	31.8#	39#	-0.03
5	C	5	vinyl chloride	0.218	0.184	15.6	45#	-0.03
6		6	bromomethane	0.141	0.104	25.9#	47#	-0.02
7		7	chloroethane	0.143	0.126	11.7	49#	-0.03
8		8	tri-Cl-F-methane	0.164	0.193	-17.6	64	-0.03
9		94	isopropyl alcohol x10	0.025	0.018#	28.5#	41#	-0.07
10		9	acrolein [x10]	0.017	0.014#	19.8	46#	-0.05
11		11	acetone [X10]	0.064	0.043#	32.3#	37#	-0.06
12		12	ethyl ether [X5]	0.127	0.102	19.7	46#	-0.04
13	M, C	13	11-dichloroethene	0.212	0.201	5.2	48#	-0.03
14		14	Iodomethane	0.179	0.166	7.1	45#	-0.04
15		15	F-113	0.113	0.113	-0.2	53	-0.04
16		16	acrylonitrile[X10]	0.078	0.059	24.5#	39#	-0.06
17		17	carbon disulfide	0.518	0.323	37.8#	35#	-0.04
18		95	tert butyl alcohol x10	0.032	0.025#	20.3#	42#	-0.07
19		96	Allyl chloride	0.748	0.507	32.2#	38#	-0.04
20		18	methylene chloride	0.223	0.187	16.1	47#	-0.05
21		19	t-12-di-Cl-ethene	0.138	0.118	13.9	47#	-0.05
22		20	t-Bu-Me-ether	0.386	0.324	16.2	45#	-0.06
23		91	Acetonnitrile [x10]	0.075	0.051	32.1#	38#	-0.04
24	p	21	11-dichloroethane	0.297	0.275	7.2	49#	-0.04
25		22	c-12-di-Cl-ethene	0.155	0.151	2.6	51	-0.04

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1870\G1870Q01.D Vial: 6
Acq On : 31 Mar 03 12:19 pm Operator: Ann
Sample : f=1 ccv Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
26		23 22-Dichloropropane	0.148	0.149	-0.2	54	-0.04
27		99 ETBE	0.621	0.496	20.0#	43#	-0.06
28		24 Br-Cl-methane	0.092	0.083	8.9	49#	-0.05
29	C	25 chloroform	0.217	0.206	5.2	54	-0.05
30		26 tetrahydrofuran[X5]	0.026	0.020#	24.3#	40#	-0.06
31		100 Iso-buty alcohol X10	0.008	0.005#	33.7#	40#	-0.06
32	S	27 Di-Br-F-Me (surr)	0.171	0.173	-1.0	62	-0.04
33	S	29 1,2-Di-Cl-Et-d4 (S1)	0.135	0.134	0.7	58	-0.04
34		98 Diisoprop ether	0.969	0.709	26.8#	40#	-0.05
35		92 Nitro-methane x10	0.013	0.011#	14.2	45#	-0.07
36		93 Ethyl Acetae x2	0.225	0.144	35.8#	33#	-0.05
37		30 12-dichloroethane	0.148	0.128	13.6	49#	-0.03
38		32 vinyl acetate[x5]	0.535	0.360	32.8#	37#	-0.06
39		33 2-butanone, MEK [x10]	0.126	0.086	32.2#	36#	-0.06
40		34 111-trichloroethane	0.145	0.149	-3.4	54	-0.05
41		35 11-Di-Cl-propene	0.191	0.163	14.9	48#	-0.04
42	M	36 benzene	0.686	0.581	15.3	48#	-0.04
43		37 CCl4	0.110	0.123	-11.2	58	-0.04
44		38 thiophene	0.353	0.285	19.4	45#	-0.04
45	C	39 12-di-Cl-propane	0.187	0.150	19.8	44#	-0.03
46		101 TAME	0.566	0.469	17.2	45#	-0.04
47	M	40 trichloroethene	0.166	0.152	8.3	51	-0.03
48		41 dibromomethane	0.101	0.091	9.2	47#	-0.03
49		42 Br-di-Cl-methane	0.165	0.147	10.7	51	-0.03
50		43 Me-methacrylate	0.203	0.148	27.0#	42#	-0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1870\G1870Q01.D Vial: 6
Acq On : 31 Mar 03 12:19 pm Operator: Ann
Sample : f=1 ccv Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

			Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51		44	2-ClEt-Vi-ether[x10]	0.090	0.063	30.6#	37#	-0.04
52		45	c-13-di-Cl-propene	0.250	0.212	15.5	46#	-0.03
53		46	t-1,3-dichloropropene	0.228	0.195	14.7	48#	-0.03
54	I	47	Chlorobezene-d5	1.000	1.000	0.0	55	-0.03
55		48	112-tri-Cl-Et	0.333	0.283	15.1	47#	-0.04
56		49	13-di-Cl-propane	0.602	0.504	16.3	46#	-0.03
57		50	Et methacrylate	0.878	0.699	20.4#	44#	-0.03
58		51	di-Br-Cl-methane	0.345	0.330	4.3	53	-0.03
59	P	52	bromoform	0.326	0.312	4.3	53	-0.03
60		53	1,4-dichlorobutane	0.976	0.755	22.6#	43#	-0.03
61		54	MIBK	0.763	0.504	33.9#	36#	-0.04
62	s	55	toluene-d8	1.995	1.976	0.9	56	-0.03
63	M,C	56	toluene	2.042	1.812	11.3	50	-0.04
64		57	2-hexanone 5	0.538	0.354	34.2#	36#	-0.04
65		58	12-dibromoethane	0.378	0.326	13.8	47#	-0.04
66		59	tetra-Cl-ethene	0.552	0.554	-0.3	54	-0.03
67	M,P	60	chlorobenzene	1.442	1.302	9.7	51	-0.03
68		61	1112-tetra-Cl-Et	0.438	0.405	7.5	54	-0.03
69	I	62	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	59	-0.02
70		63	1-chlorohexane	0.750	0.612	18.5	49#	-0.03
71	C	64	Et-Bz	2.478	2.185	11.8	52	-0.03
72		65	m/p-Xylenes[X2]	1.862	1.636	12.1	53	-0.03
73		66	styrene	1.555	1.331	14.4	51	-0.03

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\03G1870\G1870Q01.D Vial: 6
Acq On : 31 Mar 03 12:19 pm Operator: Ann
Sample : f=1 ccv Inst : GCMS-X
Misc : Multiplr: 1.00

Method : C:\HPCHEM\1\METHODS\826SX090.M
Title : **Applied P &Ch Lab** EPA 8260
Last Update : Tue Feb 18 11:51:30 2003
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

			Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
74		67	o-xylene	1.925	1.671	13.2	52	-0.03
75	p	68	1122-Tetra-Cl-Et	0.692	0.536	22.6#	45#	-0.03
76		69	123-tri-Cl-Pr	0.171	0.138	19.2	50#	-0.03
77	S	70	4-Br-1-F-Bz (S3)	0.742	0.757	-2.0	62	-0.02
78		71	isopropylbenzene	2.357	2.171	7.9	55	-0.03
79		102	t-14-dicl-2-butene	0.126	0.106	15.7	45#	-0.02
80		72	bromobenzene	0.694	0.647	6.8	55	-0.03
81		73	n-propylbenzene	0.757	0.680	10.2	52	-0.03
82		74	2-Cl-Tol.	0.627	0.563	10.1	54	-0.03
83		75	4-Cl-Tol.	0.636	0.542	14.7	51	-0.02
84		76	135-tri-Me-Bz	1.898	1.723	9.2	55	-0.02
85		77	4-iso-Pr-toluene	2.285	2.087	8.6	55	-0.02
86		78	124-tri-Me-Bz	1.862	1.710	8.1	55	-0.02
87		79	tert-butylbenzene	2.131	2.000	6.1	56	-0.02
88		80	13-DCB	1.324	1.129	14.7	52	-0.03
89		81	sec-butylbenzene	2.747	2.549	7.2	56	-0.02
90		82	14-DCB	1.309	1.103	15.7	51	-0.02
91		83	Cl-benzyl	0.265	0.182	31.2#	40#	-0.03
92		84	12-DCB	1.217	1.068	12.2	53	-0.02
93		85	n-butylbenzene	0.594	0.523	11.9	52	-0.02
94		86	12-diBr-3-Cl-Pra	0.148	0.126	14.5	49#	-0.03
95		87	124-tri-Cl-Bz	0.748	0.663	11.4	53	-0.02
96		88	naphthalene	1.435	1.237	13.8	51	-0.03
97		89	hx-Cl-butadiene	0.451	0.482	-7.0	64	-0.02
98		90	123-Tri-Cl-Bz	0.683	0.634	7.1	56	-0.02

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Continuing Calibration Concentration Summary

Data File G1870Q01.D
Method File 826SX090

Compound Name	Amount	Actual	Units	%Dev	Target Response
1 Fluorobenzene	50	50.00	ppb	0.00	445589
3 di-Cl-di-F-methane	50	33.83	ppb	32.34	37544
2 F114	50	47.03	ppb	5.94	48205
4 Chloromethane	50	34.09	ppb	31.83	82198
5 vinyl chloride	50	42.21	ppb	15.58	81866
6 bromomethane	50	42.77	ppb	14.47	46423
7 chloroethane	50	44.16	ppb	11.69	56271
8 tri-Cl-F-methane	50	58.79	ppb	17.58	85992
94 isopropyl alcohol x10	500	357.62	ppb	28.48	78486
9 acrolein [x10]	500	414.79	ppb	17.04	62269
11 acetone [X10]	500	338.50	ppb	32.30	191604
12 ethyl ether [X5]	250	200.74	ppb	19.70	226608
13 11-dichloroethene	50	47.39	ppb	5.23	89626
14 Iodomethane	50	42.85	ppb	14.30	74117
15 F-113	50	50.12	ppb	0.24	50328
16 acrylonitrile[X10]	500	377.32	ppb	24.54	262705
17 carbon disulfide	50	31.11	ppb	37.77	143746
95 tert butyl alcohol x10	500	398.37	ppb	20.33	113017
96 Allyl chloride	50	33.88	ppb	32.24	225949
18 methylene chloride	50	41.93	ppb	16.14	83382
19 t-12-di-Cl-ethene	50	43.04	ppb	13.92	52789
20 t-Bu-Me-ether	50	41.89	ppb	16.22	144224
91 Acetonnitrile [x10]	500	339.63	ppb	32.07	225949
21 11-dichloroethane	50	46.41	ppb	7.19	122662
22 c-12-di-Cl-ethene	50	48.68	ppb	2.64	67398
23 22-Dichloropropane	50	50.12	ppb	0.24	66218
99 ETBE	50	39.99	ppb	20.01	221173
24 Br-Cl-methane	50	45.53	ppb	8.94	37185
25 chloroform	50	47.38	ppb	5.23	91730
26 tetrahydrofuran[X5]	250	189.30	ppb	24.28	43585
100 Iso-buty alcohol X10	500	331.43	ppb	33.71	22998
27 Di-Br-F-Me (surr)	50	50.49	ppb	0.99	77052
29 1,2-Di-Cl-Et-d4 (S1)	50	49.67	ppb	0.66	59785
98 Diisoprop ether	50	36.58	ppb	26.83	315933
92 Nitro-methane x10	500	429.24	ppb	14.15	50518
93 Ethyl Acetae x2	100	64.16	ppb	35.84	128563
30 12-dichloroethane	50	43.20	ppb	13.61	56912
32 vinyl acetate[x5]	250	168.07	ppb	32.77	801807
33 2-butanone, MEK [x10]	500	339.03	ppb	32.19	381127
34 111-trichloroethane	50	51.68	ppb	3.36	66554
35 11-Di-Cl-propene	50	42.54	ppb	14.91	72456
36 benzene	50	42.36	ppb	15.29	258761
37 CCl4	50	55.62	ppb	11.23	54712
38 thiophene	50	40.29	ppb	19.42	126840

39 12-di-Cl-propane	50	40.11	ppb	19.79	66821
101 TAME	50	41.40	ppb	17.21	208977
40 trichloroethene	50	45.86	ppb	8.29	67834
41 dibromomethane	50	45.39	ppb	9.22	40727
42 Br-di-Cl-methane	50	44.63	ppb	10.74	65431
43 Me-methacrylate	50	36.52	ppb	26.96	65963
44 2-ClEt-Vi-ether[x10]	500	346.92	ppb	30.62	278537
45 c-13-di-Cl-propene	50	42.27	ppb	15.47	94273
46 t-1,3-dichloropropene	50	42.66	ppb	14.68	86706

Compound Name	Amount	Actual	Units	%Dev	Target Response
47 Chlorobezene-d5	50	50.00	ppb	0.00	196029
48 112-tri-Cl-Et	50	42.47	ppb	15.07	55434
49 13-di-Cl-propane	50	41.83	ppb	16.35	98716
50 Et methacrylate	50	39.82	ppb	20.36	137050
51 di-Br-Cl-methane	50	47.83	ppb	4.33	64634
52 bromoform	50	47.87	ppb	4.25	61230
53 1,4-dichlorobutane	50	38.71	ppb	22.58	148094
54 MIBK	50	33.05	ppb	33.90	98836
55 toluene-d8	50	49.53	ppb	0.95	387394
56 toluene	50	44.37	ppb	11.25	355176
57 2-hexanone 5	250	164.44	ppb	34.23	346978
58 12-dibromoethane	50	43.08	ppb	13.84	63857
59 tetra-Cl-ethene	50	50.14	ppb	0.29	108569
60 chlorobenzene	50	45.15	ppb	9.70	255223
61 1112-tetra-Cl-Et	50	46.23	ppb	7.53	79444

Compound Name	Amount	Actual	Units	%Dev	Target Response
62 1,4-Dichlorobenzene-d4	50	50.00	ppb	0.00	193284
63 1-chlorohexane	50	40.77	ppb	18.45	118203
64 Et-Bz	50	44.09	ppb	11.82	422421
65 m/p-Xylenes[X2]	100	87.87	ppb	12.13	632562
66 styrene	50	42.81	PPB	14.38	257355
67 o-xylene	50	43.42	ppb	13.17	323004
68 1122-Tetra-Cl-Et	50	38.70	ppb	22.61	103547
69 123-tri-Cl-Pr	50	40.38	ppb	19.24	26706
70 4-Br-1-F-Bz (S3)	50	51.01	ppb	2.01	146264
71 isopropylbenzene	50	46.04	ppb	7.93	419541
102 t-14-dicl-2-butene	50	38.48	ppb	23.05	20488
72 bromobenzene	50	46.59	ppb	6.82	125078
73 n-propylbenzene	50	44.89	ppb	10.21	131440
74 2-Cl-Tol.	50	44.95	ppb	10.10	108896
75 4-Cl-Tol.	50	42.66	ppb	14.68	104812
76 135-tri-Me-Bz	50	45.38	ppb	9.23	333035
77 4-iso-Pr-toluene	50	45.68	ppb	8.64	403406
78 124-tri-Me-Bz	50	45.94	ppb	8.13	330612
79 tert-butylbenzene	50	46.93	ppb	6.14	386617
80 13-DCB	50	42.64	ppb	14.71	218299
81 sec-butylbenzene	50	46.40	ppb	7.20	492706
82 14-DCB	50	42.13	ppb	15.74	213167
83 Cl-benzyl	50	34.40	ppb	31.20	35197

84 12-DCB	50	43.88	ppb	12.25	206435
85 n-butylbenzene	50	44.05	ppb	11.90	101102
86 12-diBr-3-Cl-Pra	50	42.73	ppb	14.53	24392
87 124-tri-Cl-Bz	50	44.32	ppb	11.36	128090
88 naphthalene	50	43.12	ppb	13.75	239168
89 hx-Cl-butadiene	50	53.50	ppb	7.00	93179
90 123-Tri-Cl-Bz	50	46.43	ppb	7.13	122524
Average %Dev				15.02	

FORM-8A

Applied P & Ch Laboratory

Internal Standard Area and RT Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		CCV Data File:	G1879Q01	Instrument ID:	C

Batch No: 03G1879

#	Client Sample No	Lab Sample ID	Analysis Date & Time	IS-1 Area #	IS-1 RT #	IS-2 Area #	IS-2 RT #	IS-3 Area #	IS-3 RT #
12 Hour CCV STD			03/31/03 11:03	711069	8.14	596899	11.91	255612	14.19
CCV Upper Limit				1422138	8.64	1193798	12.41	511224	14.69
CCV Lower Limit				355534	7.64	298449	11.41	127806	13.69
1		03G1879LCS01	03/31/03 11:28	619856	8.15	538092	11.91	231973	14.20
2		03G1879MB01	03/31/03 13:37	536479	8.14	512141	11.91	254147	14.19
3	UST308-1-7'	03-2345-1	03/31/03 17:23	666830	8.14	691176	11.91	359053	14.20
4									
5									
6									
7									
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21									
22									

IS-1 = FLUOROBENZENE
IS-2 = CHLOROBENZENE-D5
IS-3 = 1,4-DICHLOROBENZENE-D4

Area Upper Limit = +100% of CCV internal standard area
Area Lower Limit = - 50% of CCV internal standard area
RT Upper Limit = +0.50 minutes of CCV internal standard RT
RT Lower Limit = - 0.50 minutes of CCV internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

FORM-8A

Applied P & Ch Laboratory

Internal Standard Area and RT Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		CCV Data File:	G1864Q01	Instrument ID:	X

Batch No: 03G1864

#	Client Sample No	Lab Sample ID	Analysis Date & Time	IS-1 Area #	IS-1 RT #	IS-2 Area #	IS-2 RT #	IS-3 Area #	IS-3 RT #
12 Hour CCV STD			03/28/03 12:41	510993	9.69	214964	12.99	213583	15.10
CCV Upper Limit				1021986	10.19	429928	13.49	427166	15.60
CCV Lower Limit				255496	9.19	107482	12.49	106791	14.60
1		03G1864LCS01	03/28/03 13:07	485611	9.68	197596	12.98	189358	15.11
2		03G1864MB01	03/28/03 16:11	476068	9.69	220245	12.99	220449	15.10
3	UST308-2-7'	03-2345-2	03/28/03 23:30	478034	9.68	218736	12.98	224306	15.09
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22									

IS-1 = FLUOROBENZENE
IS-2 = CHLOROBENZENE-D5
IS-3 = 1,4-DICHLOROBENZENE-D4

Area Upper Limit = +100% of CCV internal standard area
Area Lower Limit = - 50% of CCV internal standard area
RT Upper Limit = +0.50 minutes of CCV internal standard RT
RT Lower Limit = - 0.50 minutes of CCV internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

FORM-8A

Applied P & Ch Laboratory

Internal Standard Area and RT Summary for Method 8260B

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		CCV Data File:	G1870Q01	Instrument ID:	X

Batch No: 03G1870

#	Client Sample No	Lab Sample ID	Analysis Date & Time	IS-1 Area #	IS-1 RT #	IS-2 Area #	IS-2 RT #	IS-3 Area #	IS-3 RT #
12 Hour CCV STD			03/31/03 12:19	445589	9.70	196029	13.00	193284	15.11
CCV Upper Limit				891178	10.20	392058	13.50	386568	15.61
CCV Lower Limit				222794	9.20	98014	12.50	96642	14.61
1		03G1870LCS01	03/31/03 12:45	457453	9.71	211276	13.00	203225	15.11
2	UST308-SP-1'MS	03-2345-3MS	03/31/03 13:11	436725	9.71	192900	13.00	194058	15.11
3	UST308-SP-1'MSD	03-2345-3MSD	03/31/03 13:37	440490	9.70	193581	12.99	194242	15.11
4		03G1870MB01	03/31/03 14:38	471521	9.71	227776	13.00	228073	15.11
5	UST308-SP-1'	03-2345-3	03/31/03 15:30	479636	9.71	230975	13.00	225342	15.11
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22									

IS-1 = FLUOROBENZENE
IS-2 = CHLOROBENZENE-D5
IS-3 = 1,4-DICHLOROBENZENE-D4

Area Upper Limit = +100% of CCV internal standard area
Area Lower Limit = - 50% of CCV internal standard area
RT Upper Limit = +0.50 minutes of CCV internal standard RT
RT Lower Limit = - 0.50 minutes of CCV internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits

Ch Laboratory
Ave. Chino CA 91710
Fax: (909) 590-1498

VOC Analysis General Logbook

0364 1879 Batch # 0364 1879 Matrix: W Date: 3-3/03 Analyst: Eddie

Surrogate: GC-14507/14508 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

Batch ☑ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{epg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
		1879P01	8260L	5/5=1	/=	/=	1		1879P01		
	DW	Q01	088	/=	/=	/=			Q01	3/3/03 11:03AM	
	BW	L01		/=	/=	/=			L01		
	PS	M01		/=	/=	/=			M01	#2417-04 <2	
	MSD	N01		/=	/=	/=			N01	#2417-04 <2	
	MB	K01		5/0.05=100	/=	/=	100		K01	all	
	MB	K02		5/5=1	/=	/=	1		K02		
	Sample	2359-01		/=	/=	/=			2359-01		<2
		02		/=	/=	/=			02	MS	
		03		/=	/=	/=			03		
		2409-10		/=	/=	/=			2409-10	tb	
		2320-01A		5/0.005=1000	/=	/=	1000		2320-01A		<2
		2348-10A		5/5=1	5/0.05=200	/=	200		2348-10A	all	
		2345-01A		5/5=1	5/0.05=200	/=	200		2345-01A	all dere	
		2359-03A		5/5=1	/=	/=	1		2359-03A		<2
		2417-01		/=	/=	/=			2417-01		
		02		/=	/=	/=			02		
		03		/=	/=	/=			03		
		04		/=	/=	/=			04		
		05		/=	/=	/=			05	tb	
		2471-01		5/0.2=25	/=	/=	25		2471-01		
		2387-01B		5/0.5=10	5/0.005=1000	/=	10000		2387-01B	all or	
	MS	1879M02		5/5=1	/=	/=	1		1879M02	#2359-02	
	MSD	M02		5/5=1	/=	/=	1		M02	#2359-02	
				/=	/=	/=					
				/=	/=	/=					
				/=	/=	/=					
				/=	/=	/=					
				/=	/=	/=					
				/=	/=	/=					
				/=	/=	/=					
				/=	/=	/=					

Type	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$
LCS/LCSD	27P1	GC-	× /X= ppb		GC-	× /X= ppb
MS/MSD	27P2/27P3	GC-14492	200 × 1.5 /X= 50 ppb		GC-	× /X= ppb

Footnote/Anomaly:

Applied P & Ch Laboratory
1100 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

VOC Analysis General Logbook

Reference # 03GT1864 Batch # 03GT1864 Matrix: W Date: 3-28-03 Analyst: Ann

IS/Surrogate: GC- 14507/14508 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

Ini. Batch ☐ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

#	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{spg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
1417	SP	GT1864P01	8265X	5/5 = 1	/ =	/ =	1		GT1864P01		
1418	LW	Q01	090	/ =	/ =	/ =			Q01	3-28-03 1 2341PM	GW4991
1419	LW	L01		/ =	/ =	/ =			L01		
1420	MS	M01		/ =	/ =	/ =			M01	4 2429-01	
1421	MSD	N01		/ =	/ =	/ =			N01	4 2429-01	
1422	MB	K00		/ =	/ =	/ =			K00	old	
1423	MB	K01		/ =	/ =	/ =			K01		
1424	sample	2340-01		/ =	/ =	/ =			2340-01		<2
1425		02		/ =	/ =	/ =			02		
1426		03		/ =	/ =	/ =			03		
1427		2369-01		/ =	/ =	/ =			2369-01		
1428		2429-01		/ =	/ =	/ =			2429-01		
1429		04		/ =	/ =	/ =			04		
1430		05		/ =	/ =	/ =			05		
1431		2454-03		/ =	/ =	/ =			2454-03		
1432		2348-10		/ =	5/0.05=100	/ =	100		2348-10	alt jar	
1433		11		/ =	/ =	/ =			11		
1434		2409-01		/ =	/ =	/ =			2409-01		
1435		02		/ =	/ =	/ =			02		
1436		03		/ =	/ =	/ =			03		
1437		2341-03A		/ =	/ =	/ =			2341-03A	alt vial	
1438		2345-01		/ =	5/0.05=100	/ =	1000		2345-01	alt glove	
1439		02		/ =	5/0.05=100	/ =	1000		02		
1440		2347-01		/ =	5/0.05=100	5/0.1=50	5000		2347-01		
1441		2450-01		5/0.5=10	5/0.05=100	5/0.01=500	50000		2450-01	alt oil	
1442				/ =	/ =	/ =					
1443				/ =	/ =	/ =					
1444				/ =	/ =	/ =					
1445				/ =	/ =	/ =					
1446				/ =	/ =	/ =					
1447				/ =	/ =	/ =					
1448				/ =	/ =	/ =					

Type	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$
LCS/LCSD	1409	GC-	× /X= ppb		GC-	× /X= ppb
MS/MSD	1429/1429	GC-14992	200 × 1.25 /X= 50 ppb		GC-	× /X= ppb

Footnote/Anomaly:

Applied P & Ch Laboratory
[illegible] Magnolia Ave. Chino CA 91710
[illegible] (909) 590-1828 Fax: (909) 590-1498

VOC Analysis General Logbook

Batch #: 0361870 Batch #: 0361870 Matrix: S Date: 3-31-03 Analyst: Ann

IS/Surrogate: GC- 1450 / 1450 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

Batch + Ini. Batch ☑ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

#	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{epg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
1449	SP	0361870P01	8265X	5 / 5 = 1	/ =	/ =	1		0361870P01		
1450	CW	201	0910	/ =	/ =	/ =			201	3-31-03 (2:14pm)	4445P1
1451	LCS	L01		/ =	/ =	/ =			L01		
1452	MS	M01		/ =	/ =	/ =			M01	ϕ 234503A	
1453	MSD	N01		/ =	/ =	/ =			N01	ϕ 234503A	
1454	MB	K01		/ =	/ =	/ =			K01		
1455	Sample	234503A		/ =	/ =	/ =			234503A	dilute	
1456		234L-01A		5 / 4.82 = 1.04	/ =	/ =	1.04		234L01A	Vial	
1457		02A		5 / 4.72 = 1.06	/ =	/ =	1.06		02A	Vial	
1458				/ =	/ =	/ =					
1459				/ =	/ =	/ =					
1460				/ =	/ =	/ =					
1461				/ =	/ =	/ =					
1462				/ =	/ =	/ =					
1463				/ =	/ =	/ =					
1464				/ =	/ =	/ =					
1465				/ =	/ =	/ =					
1466				/ =	/ =	/ =					
1467				/ =	/ =	/ =					
1468				/ =	/ =	/ =					
1469				/ =	/ =	/ =					
1470				/ =	/ =	/ =					
1471				/ =	/ =	/ =					
1472				/ =	/ =	/ =					
1473				/ =	/ =	/ =					
1474				/ =	3-31-03						
1475				/ =	/ =	/ =					
1476				/ =	/ =	/ =					
1477				/ =	/ =	/ =					
1478				/ =	/ =	/ =					
1479				/ =	/ =	/ =					
1480				/ =	/ =	/ =					

Type	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$	Op #	STD Lot #	$C_{std}(ng/\mu L)\times V_{std}(\mu L)/X(g \text{ or } mL)=T$
LCS/LCSD	451	GC-	× /X= ppb		GC-	× /X= ppb
MS/MSD	(452/453)	GC- 4472	200 × 1.25 /X= 50 ppb		GC-	× /X= ppb

Footnote/Anomaly:

Applied P & Ch Laboratory
10760 Magnolia Ave. Chino CA 91710
(909) 590-1828 Fax: (909) 590-1498

VOC Analysis General Logbook

Lot #: 0361444 Batch # 0361444 Matrix: S Date: 2-17-03 Analyst: Ann

Lot #: IS/Surrogate: GC- 14507/14508 Methanol(mark-M): _____ PEG (mark-PEG): _____ Defoaming(mark-DF): _____

☐ Calib. + Ini. Batch ☑ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

Op. #	Type	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{spg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
5257	SP	G1444P01	8260X	5/5 = 1	/ =	/ =	1		G1444P01	2-17-03 12:04pm	
5258	calib	90-002	090	/ =	/ =	/ =			90-002	GC14841	
5259		90-010		/ =	/ =	/ =			90-010		
5260		90-050		/ =	/ =	/ =			90-050		
5261		90-080		/ =	/ =	/ =			90-080		
5262		90-100		/ =	/ =	/ =			90-100		
5263		90-200		/ =	/ =	/ =			90-200		
5264	SP	G1444P02		/ =	/ =	/ =			G1444P02		
5265	CCV	201		/ =	/ =	/ =			201	2-18-03 GC14842 4:24pm	
5266	Lcs	L01		/ =	/ =	/ =			L01		
5267	MS	M01		5/4.87 = 1.03	/ =	/ =	1.03		M01	¢ 1671-03	
5268	MSD	N01		5/4.42 = 1.13	/ =	/ =	1.13		N01	¢ 1671-03	
5269	MB	K01		5/5 = 1	/ =	/ =	1		K01		
5270	Sample	1671-02		5/4.35 = 1.15	/ =	5/4.35 = 1.15	1.15		1671-02	1 more	
5271		03		5/4.57 = 1.09	/ =	4.57 = 1.09	1.09		03		
5272		05		5/4.39 = 1.14	/ =	4.39 = 1.14	1.14		05		
5273		06		5/4.61 = 1.14	/ =	4.61 = 0.89	0.89		06		
5274		08		5/5.41 = 0.89	/ =	5.41 = 0.92	0.92		08		
5275		09		5/5.30 = 0.92	/ =	5.30 = 0.94	0.94		09		
5276		10		5/5.10 = 0.94	/ =	5.10 = 0.98	0.98		10		
5277		12		5/5.14 = 0.98	/ =	5.14 = 0.97	0.97		12		
5278		13		5/4.74 = 0.97	/ =	4.74 = 1.05	1.05		13		
5279		1676-02		5/6.33 = 0.79	/ =	6.33 = 0.79	0.79		1676-02		
5280				/ =	/ =	/ =					
5281				/ =	/ =	/ =					
5282				/ =	/ =	/ =					
5283				/ =	/ =	/ =					
5284				/ =	/ =	/ =					
5285				/ =	/ =	/ =					
5286				/ =	/ =	/ =					
5287				/ =	/ =	/ =					
5288				/ =	/ =	/ =					

Type	Op #	STD Lot #	$C_{std}(ng/\mu L) \times V_{std}(\mu L)/X(g \text{ or } mL) = T$	Op #	STD Lot #	$C_{std}(ng/\mu L) \times V_{std}(\mu L)/X(g \text{ or } mL) = T$
LCS/LCSD	5266	GC-	× /X= ppb		GC-	× /X= ppb
MS/MSD	5267/5268	GC-	20 × 1.25 /X= 50 ppb		GC-	× /X= ppb

Footnote/Anomaly:

2381

C

VOC-030

[illegible] & Ch Laboratory
[illegible] Ave., Chino CA 91710
[illegible] Fax: (909) 590-1498

VOC Analysis General Logbook

0361611 Batch# 0361611 Matrix: W Date: 3-4-03 Analyst: Eddie

Instrument: GC 14501/14502 Methanol(mark-*M*): _____ PEG (mark-*PEG*): _____ Defoaming(mark-*DF*): _____

Batch: ☑ Initial Batch; ☐ Middle Batch; ☐ Final Batch. ☐ Internal Study Datafile Path: _____

	Mark	Sample ID	Method	$V/X=f_1$	$V_f/V_i=f_2$	$V_{peg}/V_{inj}=f_3$	F	A-#	Datafile	Note	pH
[illegible]	SP	G1611P01	8260	5/5 = 1	/ =	/ =	1		G1611P01	3-4-03	
[illegible]	CCB	88-0002	088	/ =	/ =	/ =			88-0002	2.48ppm GC14884	
[illegible]		88-0010		/ =	/ =	/ =			88-0010		
[illegible]		88-0050		/ =	/ =	/ =			88-0050		
[illegible]		88-0080		/ =	/ =	/ =			88-0080		
[illegible]		88-0100		/ =	/ =	/ =			88-0100		
[illegible]		88-0200		/ =	/ =	/ =			88-0200		
[illegible]	SP	G1611P02		/ =	/ =	/ =			G1611P02		
[illegible]	CCV	001		/ =	/ =	/ =			001	ICV 3-4-03 GC14885	
[illegible]	LCS	L01		/ =	/ =	/ =			L01	0.48ppm	
[illegible]	MS	M01		/ =	/ =	/ =			M01	1860-03	<2
[illegible]	MSD	N01		/ =	/ =	/ =			N01	1860-03	<2
[illegible]	MB	K01		5/2.05 = 100	/ =	/ =	100		K01	alt	
[illegible]	MB	K02		5/5 = 1	/ =	/ =	1		K02		
[illegible]	Sample	1869-01		/ =	/ =	/ =			1869-01		<2
[illegible]		02		/ =	/ =	/ =			02		
[illegible]		03		/ =	/ =	/ =			03		
1946		04		/ =	/ =	/ =			04		
1947		1860-01		/ =	/ =	/ =			1860-01		
1948		02		/ =	/ =	/ =			02		
1949		03		/ =	/ =	/ =			03		
1950		04		/ =	/ =	/ =			04		
1951		05		/ =	/ =	/ =			05		
1952		06		/ =	/ =	/ =			06		
1953		08		/ =	/ =	/ =			08		
1954		09		/ =	/ =	/ =			09		
1955		11		/ =	/ =	/ =			11		
1956		12		/ =	/ =	/ =			12		
1957		13		/ =	/ =	/ =			13		
1958		10		/ =	/ =	/ =			10		
1959		07		/ =	/ =	/ =			07		
1960	A2	1869-01A	1781-01A	5/0.1 = 50	/ =	/ =	50		1781-01A		

3-4-03	Op #	STD Lot #	$C_{std}(ng/\mu L) \times V_{std}(\mu L)/X(g \text{ or } mL) = T$	Op #	STD Lot #	$C_{std}(ng/\mu L) \times V_{std}(\mu L)/X(g \text{ or } mL) = T$
LCS/LCSD	1938	GC-14885	500 × 1.25 /X = 50 ppb		GC-	× /X = ppb
MS/MSD	A39/1940	GC-	× /X = ppb		GC-	× /X = ppb

Note/Anomaly:

Level C Data Package Deliverables

Diesel / Motor Oils

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Organic Analysis Results for Method M8015E

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/24/2003
Project ID:	El Toro Marine Base	Service ID:	032345	Collected by:	
		Lab Sample ID:	03G1810MB01	Received Date:	03/24/2003
Sample ID:		Sample Matrix	Soil	Moisture %:	
Sample Type:	Method Blank	Prep. Method:	3550	Instrument ID:	GC: W
Anal. Method:	M8015E	Prep. Date:	03/24/03	Anal. Date:	03/24/03
Batch No:	03G1810	Prep. No:	1 of 1	Anal. Time:	17:56
Data File Name:	1810G.K01	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	PHC AS DIESEL FUEL	11-84-7	mg/kg	10	<1.1	U
2	MOTOR OILS		mg/kg	10	<2.9	U

Surrogates			Control Limit, %	Surro. Rec.%
1	N-OCTACOSANE	630-02-4	50-148	102
# of out-of-control				0

Not Detected is shown as MDL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/20/2003
Project ID:	El Toro Marine Base	Service ID:	032345	Collected by:	
		Lab Sample ID:	03-2345-1	Received Date:	03/20/2003
Sample ID:	**UST308-1-7'**	Sample Matrix	Soil	Moisture %:	13.1
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: W
Anal. Method:	M8015E	Prep. Date:	03/24/03	Anal. Date:	03/24/03
Batch No:	03G1810	Prep. No:	1 of 1	Anal. Time:	20:01
Data File Name:	2345.001	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	PHC AS DIESEL FUEL	11-84-7	mg/kg	12	210 [a]	
2	MOTOR OILS		mg/kg	12	10	J

Surrogates			Control Limit, %	Surro. Rec.%
1	N-OCTACOSANE	630-02-4	50-148	99
# of out-of-control				0

[a] Main components similar to JP-5 with some mixture in Diesel range.

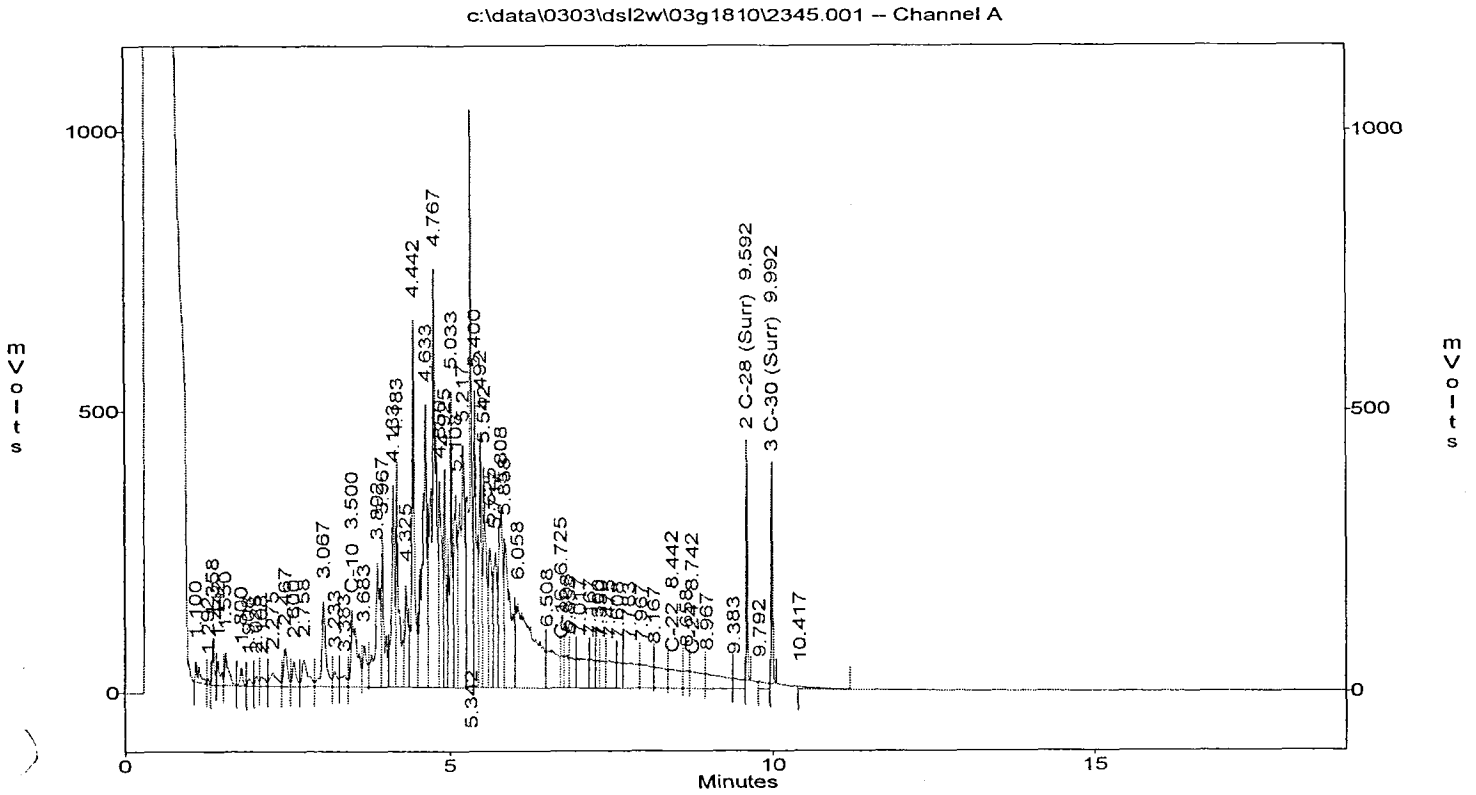
Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Lab
Total Extractable Petroleum Hydrocarbon Analysis by GC-FID
Instrument ID: GC-W, Column: DB-1 (0.32mm x 15m x 0.25 um), 1ul

File : c:\data\0303\dsl2w\03g1810\2345.001
Method : c:\ezchrom\methods\dsl2-054.w00
Sample ID : 2345-1 f=0.05
Vial : 6
Volume : 1
Acquired : Mar 24, 2003 20:01:37
Printed : Mar 25, 2003 08:49:09
User : Linda Liang
File Desc. : Continue

Channel A Results

Name	Time	Area	AVE RF	Conc (ppm)
C-10	3.50	842627	0.000	0.000
C-16	6.72	193593	0.000	0.000
C-22	8.44	442216	0.000	0.000
C-24	8.74	402893	0.000	0.000
2 C-28 (Surr)	9.59	575179	11643.521	49.399
3 C-30 (Surr)	9.99	535954	10855.848	49.370
C-36	12.12	0	0.000	0.000
1 Diesel c10-c24		42311044	11346.117	3729.121
4 Motor oil c24-c36		825964	4964.982	166.358
5 JP5 c8-c16		40481144	10625.313	3809.878



Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/20/2003
Project ID:	El Toro Marine Base	Service ID:	032345	Collected by:	
		Lab Sample ID:	03-2345-2	Received Date:	03/20/2003
Sample ID:	**UST308-2-7'**	Sample Matrix	Soil	Moisture %:	8.3
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: W
Anal. Method:	M8015E	Prep. Date:	03/24/03	Anal. Date:	03/25/03
Batch No:	03G1810	Prep. No:	1 of 1	Anal. Time:	09:56
Data File Name:	2345.102	Sample Amount:	20.0 g	Dilution Factor:	5
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	PHC AS DIESEL FUEL	11-84-7	mg/kg	55	230 [a]	
2	MOTOR OILS		mg/kg	55	<55	U

Surrogates			Control Limit, %	Surro. Rec.%
1	N-OCTACOSANE	630-02-4	50-148	107
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.
[a] Main components similar to JP-5 with some mixture in Diesel range.

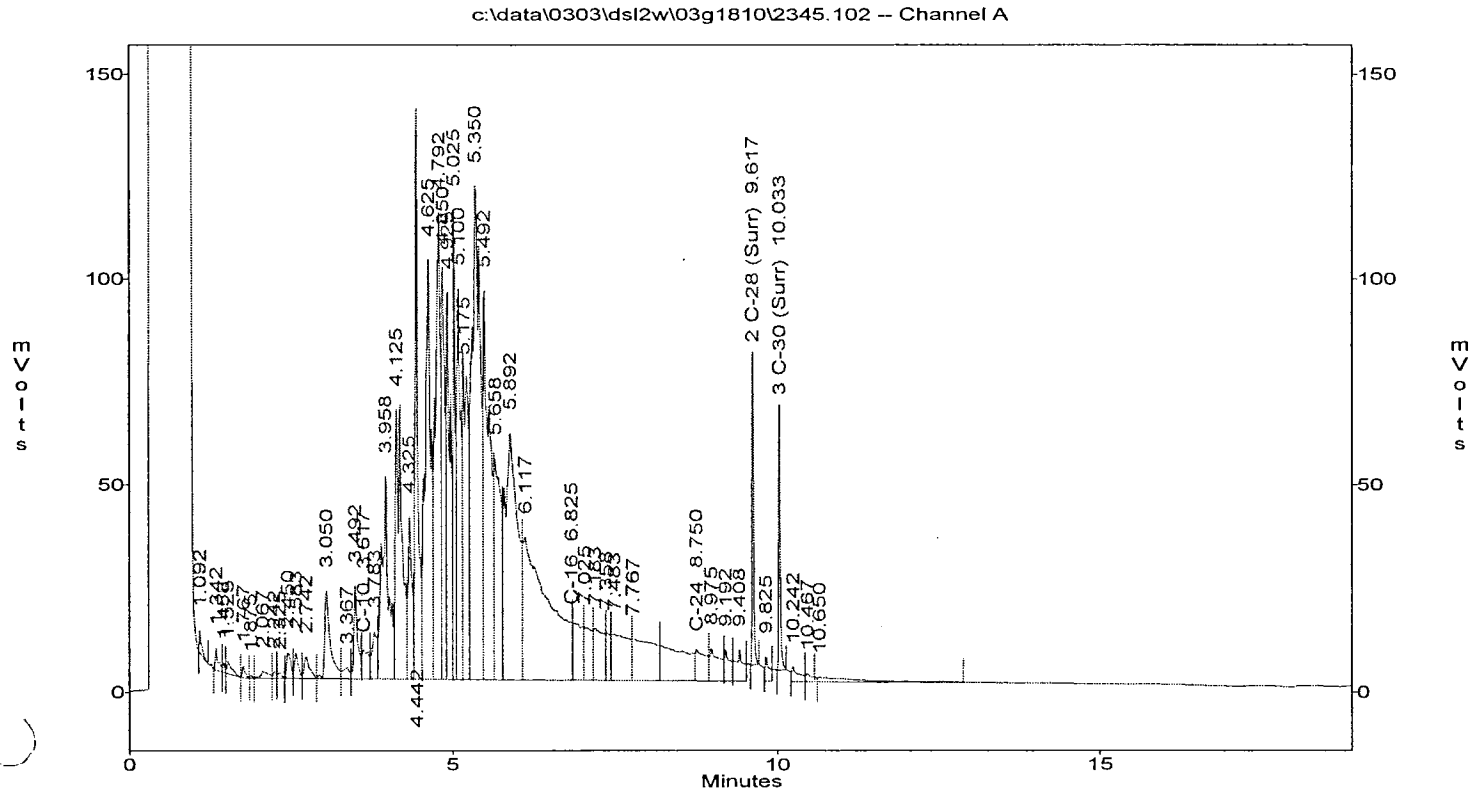
Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

Applied P & Ch Lab
Total Extractable Petroleum Hydrocarbon Analysis by GC-FID
Instrument ID: GC-W, Column: DB-1 (0.32mm x 15m x 0.25 um), 1ul

File : c:\data\0303\dsl2w\03g1810\2345.102
Method : c:\ezchrom\methods\dsl2-054.w00
Sample ID : 2345-2 f=0.25
Vial : 7
Volume : 1
Acquired : Mar 25, 2003 09:56:32
Printed : Mar 25, 2003 14:03:48
User : Linda Liang
File Desc. : Continue

Channel A Results

Name	Time	Area	AVE RF	Conc (ppm)
C-10	3.62	50048	0.000	0.000
C-16	6.82	139416	0.000	0.000
C-22	8.32	0	0.000	0.000
C-24	8.75	81666	0.000	0.000
2 C-28 (Surr)	9.62	124135	11643.521	10.661
3 C-30 (Surr)	10.03	110418	10855.848	10.171
C-36	12.12	0	0.000	0.000
1 Diesel c10-c24		9579991	11346.117	844.341
4 Motor oil c24-c36		273244	4964.982	55.034
5 JP5 c8-c16		9070423	10625.313	853.662



Applied P & Ch Laboratory

Organic Analysis Results for Method M8015E

Client Name:	GEOFON, Inc.	Project No:		Collection Date:	03/20/2003
Project ID:	El Toro Marine Base	Service ID:	032345	Collected by:	
		Lab Sample ID:	03-2345-3	Received Date:	03/20/2003
Sample ID:	**UST308-SP-1'**	Sample Matrix	Soil	Moisture %:	11.8
Sample Type:	Field Sample	Prep. Method:	3550	Instrument ID:	GC: W
Anal. Method:	M8015E	Prep. Date:	03/24/03	Anal. Date:	03/24/03
Batch No:	03G1810	Prep. No:	1 of 1	Anal. Time:	20:51
Data File Name:	2345.003	Sample Amount:	20.0 g	Dilution Factor:	1
Extract Vol.	1.0 mL				

#	Component Name	CAS No	Unit	RL	Result	Qualifier
1	PHC AS DIESEL FUEL	11-84-7	mg/kg	11	<11	U
2	MOTOR OILS		mg/kg	11	<11	U

Surrogates			Control Limit, %	Surro. Rec.%
1	N-OCTACOSANE	630-02-4	50-148	99
# of out-of-control				0

Not Detected is shown as PQL, with dilution and moisture corrected if applicable.

Qualifier: U - Not Detected or less than MDL
J - Less than RL (PQL, EQL or CRDL), but greater than MDL, or an estimated result (e.g. for TIC)
E - Exceed calibration range
B - A positive value was found in the method blank
D - Diluted

FORM-2B

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method M8015E

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03G1810		

#	Client Sample No	Lab Sample ID	S1 % #	TOT OUT
1		03G1810MB01	102	0
2		03G1810LCS01	107	0
3		03G1810LSD01	109	0
4	UST308-1-7'MS	03-2345-1MS	98	0
5	UST308-1-7'MSD	03-2345-1MSD	101	0
6	UST308-1-7'	03-2345-1	99	0
7	UST308-SP-1'	03-2345-3	99	0
8	UST308-2-7'	03-2345-2	107	0
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

	QC Control Limit
S1 = N-OCTACOSANE	50-148

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

FORM-3D

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03G1810		
LCS Filename:	1810G.L01	Date Analyzed:	032403	Time Analyzed:	18:21
LCSD Filename:	1810G.J01	Date Analyzed:	032403	Time Analyzed:	18:46

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
PHC AS DIESEL FUEL	mg/kg	50	0	40.8	82	55-135
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
PHC AS DIESEL FUEL	mg/kg	50	44.6	89	8	50	55-135
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-3D

Applied P & Ch Laboratory

Matrix Spike/Matrix Spike Duplicate Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03G1810		
MS Filename:	1810G.M01	Date Analyzed:	032403	Time Analyzed:	19:11
MSD Filename:	1810G.N01	Date Analyzed:	032403	Time Analyzed:	19:36
MS Sample No:	**UST308-1-7'**	Sample Lab ID:	03-2345-1	Moisture, %	13.1

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration MS	MS Rec%	#	QC Limit, % REC
PHC AS DIESEL FUEL	mg/kg	57.5	214	213	-1	*	40-139
# of Out-of-control					1		

Spiked Components	Unit	Spike Added	MSD Concentration	MSD Rec%	#	RPD%	#	QC Limit, % RPD	QC Limit, % REC
PHC AS DIESEL FUEL	mg/kg	57.5	230	28	*	215	*	50	40-139
# of Out-of-control				1		1			

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

FORM-4B

Applied P & Ch Laboratory

Method Blank Summary for Method M8015E

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Analysis Date:	03/24/03
		Sample Matrix:	Soil	Analysis Time:	17:56
Sample ID:		Batch No:	03G1810	Instrument ID:	GC: W
Lab Sample ID:	03G1810MB01	Data File Name:	1810G.K01	GC Column:	DB-1
				Column ID:	0.32 mm

This Method Blank applies to the following samples and QC samples:

#	Client Sample No	Lab Sample ID	Sample Type	Data Filename	Analysis Date	Analysis Time
1		03G1810LCS01	Lab Control Spike	1810G.L01	03/24/03	18:21
2		03G1810LSD01	Lab Control Spike Duplicate	1810G.J01	03/24/03	18:46
3	UST308-1-7'MS	03-2345-1MS	Matrix Spike	1810G.M01	03/24/03	19:11
4	UST308-1-7'MSD	03-2345-1MSD	Matrix Spike Duplicate	1810G.N01	03/24/03	19:36
5	UST308-1-7'	03-2345-1	Field Sample	2345.001	03/24/03	20:01
6	UST308-SP-1'	03-2345-3	Field Sample	2345.003	03/24/03	20:51
7	UST308-2-7'	03-2345-2	Field Sample	2345.102	03/25/03	09:56
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						

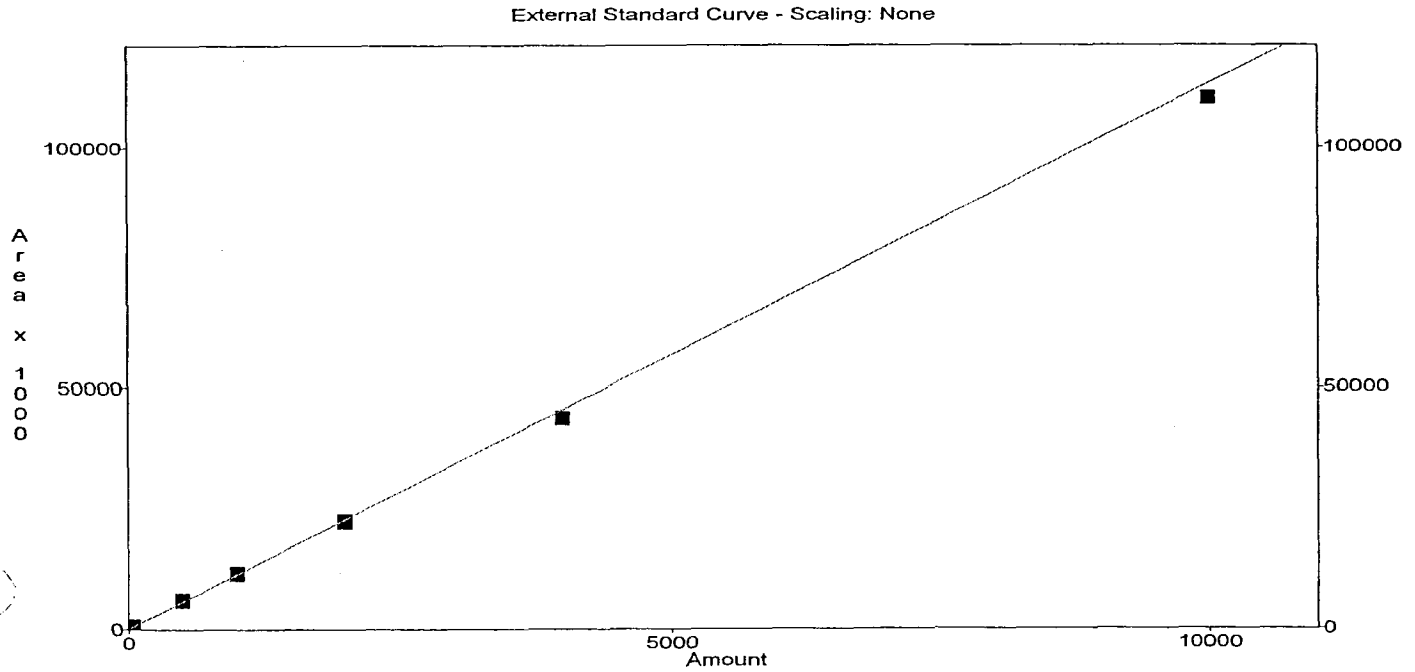
Method : c:\ezchrom\methods\dsl2-054.w00 * - Replicate Not Used
Printed : Jan 10, 2003 10:05:55
Channel : A
Group : 1 Diesel c10-c24

I	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
1	568647	50	11372.94	568647							0
2	6004819	500	12009.64	6004819							0
3	11566197	1000	11566.20	11566197							0
4	22324112	2000	11162.06	22324112							0
5	43682580	4000	10920.64	43682580							0
6	110452312	10000	11045.23	110452312							0

Calib Flag: Replace

Average RF: 11346.1
RF StdDev: 398.711
RF %RSD: 3.514

RF Definition: Area / Amount
Average RF Fit: Amount = Area / 11346.1



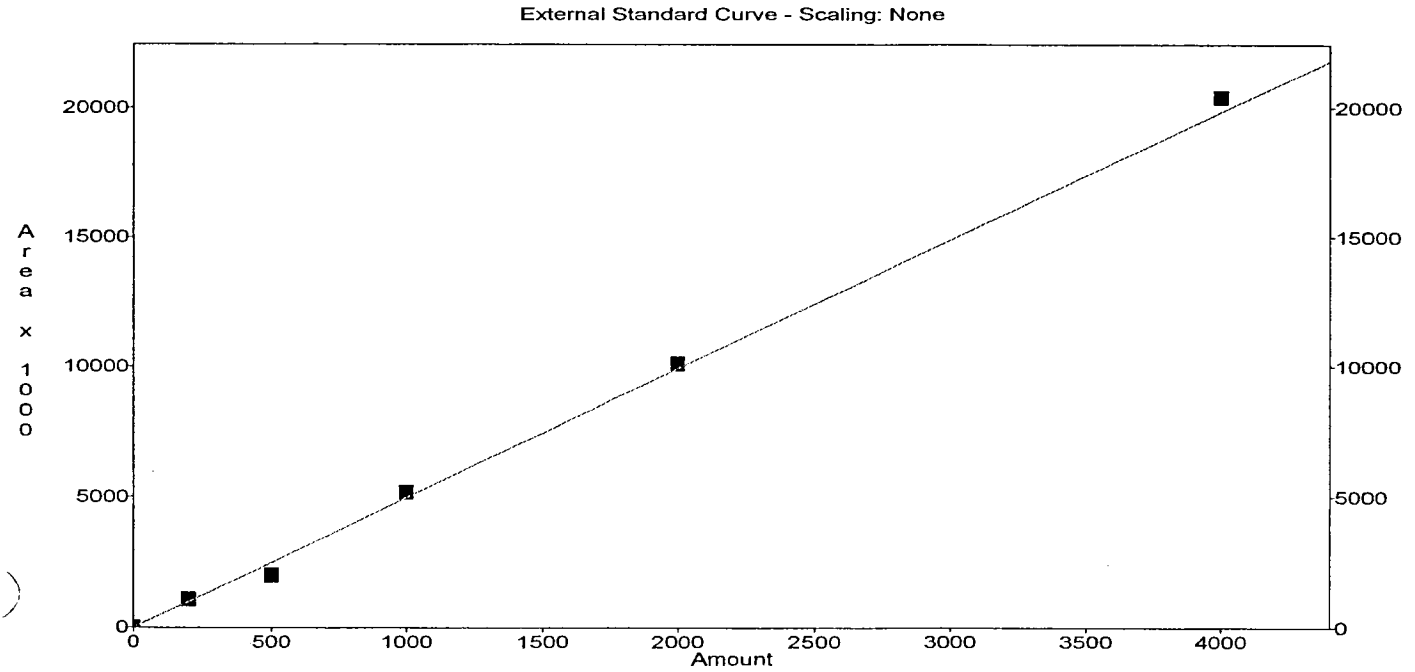
Method : c:\ezchrom\methods\dsl2-054.w00 * - Replicate Not Used
Printed : Jan 10, 2003 10:06:01
Channel : A
Group : 4 Motor oil c24-c36

I	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
7	1090927	200	5454.63	1090927							0
8	2006886	500	4013.77	2006886							0
9	5185936	1000	5185.94	5185936							0
10	10130355	2000	5065.18	10130355							0
11	20421564	4000	5105.39	20421564							0

Calib Flag: Replace

Average RF: 4964.98
RF StdDev: 552.977
RF %RSD: 11.138

RF Definition: Area / Amount
Average RF Fit: Amount = Area / 4964.98



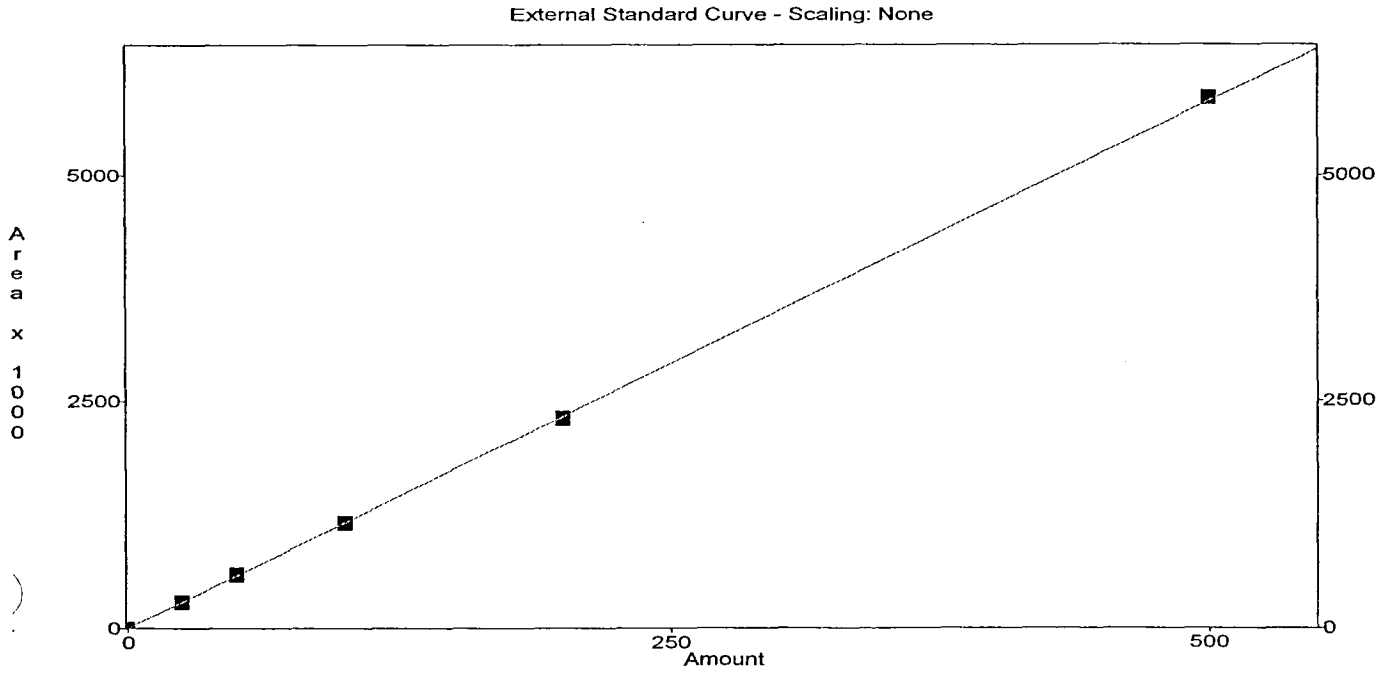
Method : c:\ezchrom\methods\dsl2-054.w00 * - Replicate Not Used
Printed : Jan 10, 2003 10:05:07
Channel : A
Peak : 2 C-28 (Surr)

Level	Area	Amount	RF	Rep Area 1	Rep Area 2	Rep Area 3	Rep Area 4	Rep Area 5	Replic STD	Replic %RSD	Old Area
2	288462	25	11538.48	288462							0
3	590433	50	11808.66	590433							0
4	1159433	100	11594.33	1159433							0
5	2308591	200	11542.96	2308591							0
6	5866588	500	11733.18	5866588							0

Calib Flag: Replace

Average RF: 11643.5
RF StdDev: 121.322
RF %RSD: 1.042

RF Definition: Area / Amount
Average RF Fit: Amount = Area / 11643.5



FORM-7B

Applied P & Ch Laboratory

CCV Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No.:		Instrument	W
		Batch No.:	03G1810	Sequence No.	03G1810
CVB File:	1810G.V01	Date Analyzed:	03/24/2003	Time Analyzed:	17:05
CVA File:	1810G.U01		03/24/2003		17:30

Target Components

#	Component Name	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	by
1	MOTOR OILS	mg/L	1000	921	92	-8	√	85-115	CVB
2	PHC as DIESEL FUEL	mg/L	1000	1130	113	13	√	85-115	CVA
						Total CCV Out of Control	0		

Surrogate Components

1	N-OCTACOSANE	μg/L	50000	57600	115	15	√	85-115	CVA
						Total Surrogate Out of Control	0		

FORM-7B

Applied P & Ch Laboratory

CCV Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No.:		Instrument	W
		Batch No.:	03G1810	Sequence No.	03G1810
CVB File:	1810G.V02	Date Analyzed:	03/24/2003	Time Analyzed:	22:06
CVA File:	1810G.U02		03/24/2003		22:31

Target Components

#	Component Name	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	by
1	MOTOR OILS	mg/L	1000	888	89	-11	√	85-115	CVB
2	PHC as DIESEL FUEL	mg/L	1000	1090	109	9	√	85-115	CVA
						Total CCV Out of Control	0		

Surrogate Components

1	N-OCTACOSANE	μg/L	50000	57100	114	14	√	85-115	CVA
						Total Surrogate Out of Control	0		

FORM-7B

Applied P & Ch Laboratory

CCV Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No.:		Instrument	W
		Batch No.:	03G1810	Sequence No.	03G1810
CVB File:	1810G.V03	Date Analyzed:	03/25/2003	Time Analyzed:	03:54
CVA File:	1810G.U03		03/25/2003		04:19

Target Components

#	Component Name	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	by
1	MOTOR OILS	mg/L	1000	956	96	-4	√	85-115	CVB
2	PHC as DIESEL FUEL	mg/L	1000	1100	110	10	√	85-115	CVA
					Total CCV Out of Control		0		

Surrogate Components

1	N-OCTACOSANE	μg/L	50000	60600	121	21	X	85-115	CVA
					Total Surrogate Out of Control		1		

FORM-7B

Applied P & Ch Laboratory

CCV Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No.:		Instrument	W
		Batch No.:	03G1810	Sequence No.	03G1810
CVB File:	1810G.V04	Date Analyzed:	03/25/2003	Time Analyzed:	09:06
CVA File:	1810G.U04		03/25/2003		09:31

Target Components

#	Component Name	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	by
1	MOTOR OILS	mg/L	1000	1030	103	3	√	85-115	CVB
2	PHC as DIESEL FUEL	mg/L	1000	1100	110	10	√	85-115	CVA
					Total CCV Out of Control		0		

Surrogate Components

1	N-OCTACOSANE	μg/L	50000	56300	113	13	√	85-115	CVA
					Total Surrogate Out of Control		0		

FORM-7B

Applied P & Ch Laboratory

CCV Recovery for Method M8015E

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No.:		Instrument	W
		Batch No.:	03G1810	Sequence No.	03G1810
CVB File:	1810G.V05	Date Analyzed:	03/25/2003	Time Analyzed:	10:48
CVA File:	1810G.U05		03/25/2003		11:13

Target Components

#	Component Name	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	by
1	MOTOR OILS	mg/L	1000	921	92	-8	√	85-115	CVB
2	PHC as DIESEL FUEL	mg/L	1000	1000	100	0	√	85-115	CVA
					Total CCV Out of Control		0		

Surrogate Components

1	N-OCTACOSANE	μg/L	50000	52800	106	6	√	85-115	CVA
					Total Surrogate Out of Control		0		

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Organic Sample Preparation Logbook

Batch # 039 1810 Matrix: S Target method: 8015B EXT Method: 3550B Date: 3/24/3

Solvent: Ethyl/Acetone Lot # 027471/CG 3341 Exchange Solvent: NA Lot # NA Analyst: Yc

Surr.#: Surr.: GC-14934 Conc.: 50.0 ppm Na_2SO_4: 20078 [S] Sonication Time

Op. #	Sample Type	Sample ID #	Smpl Amnt (mL or g)	Surr. Vol mL	Extract sub-ID	Final Vol. mL	Dilution F=V/X	Note & Anomaly
3551	MB	039 1810-K01	20.00	1.00	8015B	1.00	0.05 ~~0.005~~ 3/24/3 Yc	
3552	LCS	-L01	20.01					
3553	LCSD	-J01	20.00					
3554	Sample-1	2345 -1	20.00					
3555	MS	-1	20.00					
3556	MSD	-1	20.01					
3557	Sample-2	-2	20.00					
3558	Sample-3	-3	20.00					
3559	Sample-4	2347 -1	20.00					
3560	Sample-5	2343 -1	20.00					
3561	Sample-6	2341 -1	20.01					
3562	Sample-7	-2	20.00					
3563	Sample-8	-3	20.00					
3564	Sample-9	2339 -1	20.00					
3565	Sample-10	-2	20.01					
3566	Sample-11	-3	20.00					
3567	Sample-12	-4	20.00					
3568	Sample-13	-5	20.00					
3569	Sample-14	-6	20.00					
3570	Sample-15	-7	20.00					
3571	Sample-16							
3572	Sample-17							
3573	Sample-18							
3574	Sample-19							
3575	Sample-20							
3576	MTX Dup.							
3577	LCS'							
3578	LCSD'							
3579	MS'							
3580	MSD'							

3-24-3 Yc

Type	Op #	STD Lot #	$C_{std}(ppm) \times V_{std}(mL)/X(g \text{ or } mL) = T$	Op #	STD Lot #	$C_{std}(ppm) \times V_{std}(mL)/X(g \text{ or } mL) = T$
LCS/LCSD	3552	GC-14933	1000 × 10000 × 1.00 /X= ppb	3553	GC-14933	1000 × 10000 × 1.00 /X= ppb
MS/MSD	3555	GC- ↓	1000 × ↓ × /X= ppb	3556	GC- ↓	1000 × ↓ × /X= ppb
LCS'/LCSD'		GC-	1000 × × /X= ppb		GC-	1000 × × /X= ppb
MS'/MSD'		GC-	1000 × × /X= ppb		GC-	1000 × × /X= ppb

FILE: [CUST.DOC.GC]PREP_LOG .TEX Root-File: PREP_LOG_ROOT.TEX 1-Page-File: PREP_LOG1.TEX
APCL form 5-128, April 03, 1996; Ver 4.1 No pencil. Use blue pen for record. Use red pen for correction. Supervisor Initial

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Analysis Anomaly Record

Batch #: 03G1810 Method: 8015B Matrix: S Date: 03-25-03

Samples Involved: 2345-1 MS/MSD

- **Anomaly for MS/MSD/MD**
  - ☒ 1. MS/MSD out of control limit, sample matrix interference suspected
  - ☐ 2. MS or MSD out of control limit, but $\overline{MS}$ is O.K.
  - ☐ 3. One of MS/MSD, and $\overline{MS}$ out of control limit, but not enough sample for re-analysis
  - ☐ 4. Not enough sample for MS/MSD, LCS/LCSD may be used
  - ☐ 5. Spiked samples contain high concentration of analytes (>4 × spiked concentration)
  - ☐ 6. MS/MSD out of control limit, but post spike is O.K.
  - ☐ 7. MS/MSD out of control limit, due to the heterogenous matrix
  - ☐ 8. MS/MSD out of control limit, due to the very special matrix
  - ☐ 9. Not enough sample for matrix duplicate (MD)
- **Anomaly for Holding time (HT)**
  - ☐ 10. HT has been exceeded when received, authorized by the Client to carry on with the analyses
  - ☐ 11. Extraction HT was passed, authorized by the Client to carry on with the analyses
  - ☐ 12. Analysis HT was passed, authorized by the Client to carry on with the analyses
- **Surrogates Anomaly**
  - ☐ 13. Surrogate recovery out of control limit (see Level-1 Part III), sample matrix interference suspected
  - ☐ 14. Surrogate recovery out of control limit (see Level-1 Part III), but not enough sample for re-analysis
  - ☐ 15. Surrogate recovery out of control limit, due to very special matrix
  - ☐ 16. Surrogate diluted out (for highly contaminated samples)
  - ☐ 17. Lower surrogate recovery due to cleanup process
- **Chromatogram Pattern Anomaly**
  - ☐ 18. Not a typical gasoline chromatogram pattern
  - ☐ 19. Not a typical diesel chromatogram pattern
  - ☐ 20. Not a typical diesel chromatogram pattern, but similar to heavy-oil or motor oil
  - ☐ 21. Not a typical kerosene chromatogram pattern
  - ☐ 22. Not a typical jet fuel chromatogram pattern
  - ☐ 23. Not a complete PCB chromatogram pattern, interference/degration suspected
- **Other anomaly**

Problem Description: _____

Reason: _____

Analyst: ll Date: 3-25-03

Note: _____

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Organic Sample Preparation

Extraction method: **1** 3510–separate funnel; **2** 3520–L-L continue extraction; **3** 3550–Ultrasonic; **4** LUFT–Shaker; **5** 3540–Soxhlet; **6** Solid phase Extraction; **7** Microextraction; **8** SFE; **9** Dilution; **10** Concentration; **11** Other, specify.

Service ID: 2345 Batch # 039 1810 Matrix S GC, GC/MS Method 8015B Ext Method 3550 B

Sample Extraction

OP. by Vr Date 3/24/03 Surro Lot GC-14934 Conc. 50.0 pp
LCS Lot GC-14933 Conc. 1000 pp MS Lot GC-14933 Conc. 1000 pp
Ext. solv. CHCl3/Acet Lot # 027471/CG374 Exchage solv. an Lot # NA

Sample ID	-1501	-101	-101	-1MS	-1MSD	-2	-3	-1
Sample Matrix	S							
Sample Amount, X (g/mL)	20.00	20.01	20.00	20.00	20.01	20.00	20.00	20.00
Any TCLP, EP, WET, SPLP ?								
Surr. STD used, mL	1.00							
Spike STD used, mL		1.00						
[Extracted at pH]	1	1	1	1	1	1	1	1
Solvent amount, mL	3x60	x	x	x	x	x	x	x
Final volume, V, mL	1.00							
Extraction DF $f_e = V/X$	0.05							
Sub-ID of extracts	8015B							
Anomaly Footnote† :								

Sample Cleanup

Op. by ____ Date / / (For details, see Cleanup worksheet)

Cleanup method:								
Cleanup DF, f_c								
Preparation DF, $f_1 = f_e\, f_c$								

Pre-injection*:

Op. by Linda Date 3/24/03 IS Lot : GC- Conc. ____ pp

2nd dilution, f_2	(1)							
V_t, μL	(40)							
Single Extract GC, GC/MS Analysis:								
$V_2 = V_t/f_2$, μL	($40/f_2$)							
$V_{solvent} = V_t - V_2$, μL								
Double Extract GC, GC/MS Analysis:								
$V_> = \frac{1}{2} V_t/f_2$, μL	($20/f_2$)							
$V_< = \frac{1}{2}\frac{V_t}{f_2}\frac{f_<}{f_>}$, μL	($\frac{20}{f_2}\frac{f_<}{f_>}$)							
$V_{solvent} = V_t - V_> - V_<$								
IS volume, μL	(10)							
Final Conc. of IS	(40 ppm)							
Total $F = 2\, f_1\, f_>$ or $f_1\, f_2$	0.05	0.05	0.05	0.05	0.05	0.05	0.05/0.25	0.05

† Extraction Anomaly Footnote:

1. Difficult to concentrate to 1.0 mL.
2. Extract is dark color
3. Extract is sticky
4. Heterogenous matrix.
5. Too much precipitate during extraction.
6. There is an oil layer above the sample.
7. Mixture of soil & water.
8. BN-extract is interfered, A-extract only.
9. Sample has strong stink
10. Some solvent suspected
11. special color, specify

For double extract analysis (ABN), $f_> = \max[f_A, f_B]$ and $f_< = \min[f_A, f_B]$, where f_A, f_B are f_1 for A and BN extracts, respectively.
The values in () is the typical case for 625/8270 ABN analysis.

APCL form 7-122 (old 5-110), Ver. 3.0 April 5, 1996. No pencil. Use blue pen for record. Use red pen for correction.
File: [CUST.DOC.GC]EXTRACTION.TEX

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LOG-113

Applied P & Ch Laboratory
560 Magnolia Ave. Chino CA 91710
(909) 590-1828 Fax: (909) 590-1498

Semi-VOC Analysis Logbook

Sequence # 03G1810 Starting Date: 03-24-03 Time 15:15 Analyst: LL

Seq. type: ☐ Cal. ☒ Ini. Batch ☐ Middle ☐ Final ☐ Continue ☐ Study Datafile Path: _____

Routine Maintenance: ☐ Replace Septum ☐ Replace Liner ☐ Replace Seal ☐ Cut Guid Column ☐ Cut Column ☐ Others _____

#	Batch-No	MTX	S Type*	Sample ID	Method**	f_2	F	A-#	Datafile	OK ?†	Note††
4585	03G1810	S	Carbon Chain	1810g.X01	DSL2-054		1	97	1810g.X01	OK	
4586			CCV	V01				95	V01		
4587			CCV	U01				100	U01		
4588			MB	K01			0.05	1	K01		
4589			LCS	L01				2	L01		
4590			LCSD	J01				3	J01		
4591			MS	M01				4	M01		2345-1
4592			MSD	N01				5	N01		2345-1
4593				2345-1				6	2345.001		
4594				-2				7	002		overscale
4595				-3				8	003		
4596				2347-1				9	2347.001		
4597				2343-1				10	2343.001		overscale
4598			CCV	1810g.V02			1	95	1810g.V02		
4599			CCV	U02			1	100	U02		
4600				2341-1			0.05	11	2341.001		
4601				-2				12	002		
4602				-3				13	003		
4603				2339-1				14	2339.001		
4604				-2				15	002		
4605				-3				16	003		
4606				-4				17	004		
4607				-5				18	005		
4608				-6				19	006		
4609				-7				20	007		
4610			CCV	1810g.V03			1	95	1810g.V03		
4611			CCV	U03				100	U03		3-25-03 04:19
4612			CCV	1810g.V04				95	V04		3-25-03 9:06
4613			CCV	U04				100	U04		
4614				2345-2			0.25	7	2345.102		

Footnote/Anomaly:

V: GC 14756 U: GC 14364

* Sample type such as, SP(BFB, or DFTPP), CCV, CVA, CVB, LCS, LCSD, MS, MSD, MD, CLS etc. For field samples leave as blank.

** Method name: [MMMM][S][nnn]. [MMMM] – method code, per SOP C-88. Special codes: DSL2: Diesel #2; FP30: Fuel Finger Print (C8-C30); FP40: Fuel Finger Print (C8-C40); EGLY: Ethylene Glycol; FORM: Formaldehyde; MEOH: Methyl Alcohol. [S] – APCL system code; [nnn] – initial calibration number.

† Specify the result of the injection is accepted (√), or denied (X), or need Re-run (R) or use as a reference data (ref).

†† Lot # for CCV/Closing, Time for SP (e.g. DFTPP) must be recorded.

FILE: [CUST.DOC.GC]GC_LOG .TEX Root-File: GC_LOG_ROOT.TEX 1-Page-File:[CUST.DOC.GC]GC_LOG1.TEX
APCL form 7-101, Nov 22, 2000; Ver 5.0 No pencil. Use blue pen for record. Use red pen for correction. Supervisor Initial

W

LOG-114

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Semi-VOC Analysis Logbook

Sequence # 03G1810 Starting Date: 03-25-03 Time 10:18 Analyst: U

Seq. type: ☐ Cal. ☐ Ini. Batch ☐ Middle ☒ Final ☐ Continue ☐ Study Datafile Path: _____

Routine Maintenance: ☐ Replace Septum ☐ Replace Liner ☐ Replace Seal ☐ Cut Guid Column ☐ Cut Column ☐ Others _____

Op. #	Batch-No	MTX	S Type*	Sample ID	Method**	f_2	F	A-#	Datafile	OK ?†	Note††
4617	03G1810	S		2347-1	DSL2-054		1	9	2347.101	OK	-
4618	↓	↓	CW	18109.V05	↓		↓	95	18109.V05	↓	
4619	↓	↓	CW	U05	↓		↓	100	U05	↓	
4620											
4621											
4622											
4623											
4624											
4625											
4626											
4627											
4628											
4629											
4630											
4631								U	3-25-03		
4632											
4633											
4634											
4635											
4636											
4637											
4638											
4639											
4640											
4641											
4642											
4643											
4644											
4645											
4646											

Footnote/Anomaly:

V: GC14756 U: GC14364

* Sample type such as, SP(BFB, or DFTPP), CCV, CVA, CVB, LCS, LCSD, MS, MSD, MD, CLS etc. For field samples leave as blank.
** Method name: [MMMM][S][nnn]. [MMMM] – method code, per SOP C-88. Special codes: DSL2: Diesel #2; FP30: Fuel Finger Print (C_8-C_{30}); FP40: Fuel Finger Print (C_8-C_{40}); EGLY: Ethylene Glycol; FORM: Formaldehyde; MEOH: Methyl Alcohol. [S] – APCL system code; [nnn] – initial calibration number.
† Specify the result of the injection is accepted (√), or denied (X), or need Re-run (R) or use as a reference data (ref).
†† Lot # for CCV/Closing, Time for SP (e.g. DFTPP) must be recorded.

Supervisor Initial [illegible]

W

LOG-045

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

Semi-VOC Analysis Logbook

Sequence # dsl2-054 Starting Date: 1-9-03 Time 15:20 Analyst: UL

Seq. type: ☒ Cal. ☒ Ini. Batch ☐ Middle ☐ Final ☐ Continue ☐ Study Datafile Path: _____

Routine Maintenance: ☐ Replace Septum ☐ Replace Liner ☐ Replace Seal ☐ Cut Guid Column ☐ Cut Column ☐ Others _____

Op. #	Batch-No	MTX	S Type*	Sample ID	Method**	f_2	F	A-#	Datafile	OK ?†	Note††
2321	dsl2-054	W	Carbon Chain	054cal.X01	dsl2-054		1		054cal.X01		-
2322			↓	X02			1		.X02		
2323		UL	1-10-03	~~dsl2-054~~							
2324				50 ppm			50		dsl2-054.050		GC 14366
2325				500 ppm			500		.500		GC 14365
2326				1000 ppm			1000		.1P0		GC 14364
2327				2000 ppm			2000		.2P0		GC 14363
2328				4000 ppm			4000		.4P0		GC 14362
2329				10000 ppm			10000		.10P		GC 14361
2330			ICV	Diesel icv			1		dsl2-054.icv		GC 13319
2331				200 ppm			200		mtor-054.200		GC 14758
2332				500 ppm			500		.500		GC 14757
2333				1000 ppm			1000		.1P0		GC 14756
2334				2000 ppm			2000		.2P0		GC 14755
2335				4000 ppm			4000		.4P0		GC 14754
2336			ICV	motor icv			1		mtor-054.icv		GC 13909
2337	↓	↓	ICV	JP5 ICV	↓		1		jP5-054.icv		GC 13908
2338											
2339											
2340											
2341											
2342											
2343				UL 1-10-03							
2344											
2345											
2346											
2347											
2348											
2349											
2350											

Footnote/Anomaly:

* Sample type such as, SP(BFB, or DFTPP), CCV, CVA, CVB, LCS, LCSD, MS, MSD, MD, CLS etc. For field samples leave as blank.

** Method name: [MMMM][S][nnn]. [MMMM] – method code, per SOP C-88. Special codes: DSL2: Diesel #2; FP30: Fuel Finger Print (C8-C30); FP40: Fuel Finger Print (C8-C40); EGLY: Ethylene Glycol; FORM: Formaldehyde; MEOH: Methyl Alcohol. [S] – APCL system code; [nnn] – initial calibration number.

† Specify the result of the injection is accepted (√), or denied (X), or need Re-run (R) or use as a reference data (ref).

†† Lot # for CCV/Closing, Time for SP (e.g. DFTPP) must be recorded.

FILE: [CUST.DOC.GC]GC_LOG .TEX Root-File: GC_LOG_ROOT.TEX 1-Page-File:[CUST.DOC.GC]GC_LOG1.TEX
APCL form 7-101, Nov 22, 2000; Ver 5.0 No pencil. Use blue pen for record. Use red pen for correction. Supervisor Initial

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Level C Data Package Deliverables

Wet Chemistry

Applied P & Ch Laboratory

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Wet Analysis Results for Method ASTM-D2216

Client Name: GEOFON, Inc. Project No: Anal. Method ASTM-D2216
Project ID: El Toro Marine Base Service ID: 032345 Collected by:

Component Name: Moisture
CAS No: 7732-18-5

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2345-1	UST308-1-7'	Soil	03/20/03	03/20/03	03/24/03	03W2092	%Moisture	0.5	13.1	
03-2345-2	UST308-2-7'	Soil	03/20/03	03/20/03	03/24/03	03W2092	%Moisture	0.5	8.3	
03-2345-3	UST308-SP-1'	Soil	03/20/03	03/20/03	03/24/03	03W2092	%Moisture	0.5	11.8	

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

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Wet Analysis Results for Method 418.1

Client Name: GEOFON, Inc. Project No: Anal. Method 418.1
Project ID: El Toro Marine Base Service ID: 032345 Collected by:

Component Name: TRPH
CAS No: 10-90-2

Lab ID	Sample ID	Matrix	Coll. Date	Rcv Date	Anal. Date	Batch	Unit	RL	Result	Q
03-2345-1	UST308-1-7'	Soil	03/20/03	03/20/03	03/25/03	03W2113	mg/kg	23	111	
03-2345-2	UST308-2-7'	Soil	03/20/03	03/20/03	03/25/03	03W2113	mg/kg	22	2240	
03-2345-3	UST308-SP-1'	Soil	03/20/03	03/20/03	03/25/03	03W2113	mg/kg	23	124	
03W2113MB01		Soil	03/25/03	03/25/03	03/25/03	03W2113	mg/kg	20	<18	U

Not Detected is shown as MDL, with dilution and moisture corrected if applicable.

Note: Q - Qualifier.
Qualifier: U - Not Detected or less than MDL
B - Less than RL (PQL, EQL or CRDL), but greater than MDL.

FORM-3

Applied P & Ch Laboratory

Lab Control Spike/Lab Control Spike Duplicate Recovery for Method 418.1

Client Name:	GEOFON, Inc.	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No:		Sample Matrix:	Soil
		Batch No:	03W2113		
LCS Filename:	-	Date Analyzed:	032503	Time Analyzed:	10:16
LCSD Filename:	-	Date Analyzed:	032503	Time Analyzed:	10:16

Spiked Components	Unit	Spike Added	Concentration Unspiked	Concentration LCS	LCS Rec% #	QC Limit, % REC
TRPH	mg/kg	1000	0	864	86	80-119
# of Out-of-control					0	

Spiked Components	Unit	Spike Added	LCSD Concentration	LCSD Rec% #	RPD% #	QC Limit, % RPD	QC Limit, % REC
TRPH	mg/kg	1000	847	85	1	20	80-119
# of Out-of-control				0	0		

Column to be used to flag recovery and RPD values:

* – Values outside of contract required QC Limits D – Spiked components diluted out

Comments: _____

Wet Chemistry QC Report B
Duplicate Results

Matrix: Soil

APCL Service ID: 03-2345

Analysis	Batch ID	Analysis Date	Sample Name	Unit	Result	Duplicate Result	RPD %	RPD Control limit
Moisture	03W2092	03/24/2003	03-2339-01	% moisture	14.82	15.17	2	20
TRPH	03W2113	03/25/2003	UST308-1-7'	mg/kg	96.5	101.0	5	20

Note: N/A = Not applicable; NR: Not requested; NC= Not Calculated; ND: Not detected.

FORM-7

Applied P & Ch Laboratory

CCV Recovery for Wet Analysis

Client Name:	GEOFON, Inc.	Contract No.:		Lab Code:	APCL
Case No:		SAS No.:		Service ID:	032345
Project ID:	El Toro Marine Base	Project No.:			

#	Component Name	Method	Batch No.	Unit	Expe-cted	Test Result	Rec. %	Dev. %	Flag	Control Limit, %	Test Date
1	TRPH	418.1	03W2113	mg/L	200	189	94	-6	√	90-110	03/25/2003
	TRPH	418.1	03W2113	mg/L	200	197	99	-1	√	90-110	03/25/2003

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13760 Magnolia Ave. Chino CA 91710
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Moisture (ASTM D2216) Worksheet

Batch # 03W2091 SOP: G-86
Date 3/24/03 Analyst SXL

Batch # 03W2092 SOP: G-86
Date 3/24/03 Analyst SXL

	Sample ID	Container Weight W_0, g	Before Drying W_1, g	After Drying W_2, g	Moisture $\frac{W_1-W_2}{W_1-W_0}$ ×100%		Sample ID	Container Weight W_0, g	Before Drying W_1, g	After Drying W_2, g	Moisture $\frac{W_1-W_2}{W_1-W_0}$ ×100%
Smpl-1	2348-1	20.89	48.39	43.31	18.47	Smpl-1	2339-1	23.38	51.46	47.30	14.82
Smpl-2	-2	20.36	47.81	44.84	10.82	Smpl-2	-2	20.73	43.22	40.59	13.62
Smpl-3	-3	23.57	49.93	46.78	11.95	Smpl-3	-3	22.69	45.04	42.38	11.86
Smpl-4	-4	20.79	49.46	46.52	10.26	Smpl-4	-4	23.75	44.47	41.88	12.50
Smpl-5	-5	23.33	51.95	48.47	12.16	Smpl-5	-5	22.16	47.72	44.09	14.20
Smpl-6	-6	22.81	46.06	43.40	11.44	Smpl-6	-6	22.47	49.10	44.24	20.05
Smpl-7	-7	23.14	50.49	46.89	13.16	Smpl-7	-7	22.33	45.26	43.37	10.20
Smpl-8	-8	21.97	49.83	46.42	10.96	Smpl-8	2345-1	22.32	47.86	44.52	13.08
Smpl-9	-9	23.01	41.73	38.48	12.36	Smpl-9	-2	22.64	43.25	41.99	8.34
Smpl-10	-10	20.98	43.97	38.92	21.97	Smpl-10	-3	22.64	52.37	48.85	11.84
Smpl-11	-11	22.80	50.01	45.59	16.24	Smpl-11	2347-1	22.38	50.36	46.84	12.58
Smpl-12	-12	22.29	48.58	45.00	13.62	Smpl-12	2350-1	22.40	47.93	45.13	10.97
Smpl-13	-13	22.36	49.57	44.66	17.86	Smpl-13	2371-21	21.35	41.37	36.10	26.32
Smpl-14	-14	23.35	50.13	45.19	18.45	Smpl-14	2343-1	23.93	47.39	40.79	28.13
Smpl-15	-15	21.04	50.93	46.44	15.02	Smpl-15	2376-1	22.42	46.60	42.38	12.35
Smpl-16	2341-1	23.41	56.23	50.97	16.03	Smpl-16	-2	22.25	42.20	39.45	14.21
Smpl-17	-2	23.31	60.09	53.06	19.11	Smpl-17	-3	21.17	43.68	40.16	15.64
Smpl-18	-3	21.99	51.40	46.26	17.48	Smpl-18	-4	22.86	46.12	42.71	14.66
Smpl-19	2384-21	22.33	44.42	36.97	37.73	Smpl-19	-5	22.37	35.26	30.65	35.76
Smpl-20	-22	22.62	46.00	37.94	34.47	Smpl-20	-6	22.35	41.68	36.21	28.30
	2348-1	22.13	44.86	40.67	18.43		2339-1	21.39	46.24	42.47	18.17

Footnote/Anomaly:

Applied [illegible] Ch Laboratory
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Balance Daily Calibration Worksheet

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Weight Set S/N: 12006

Calib. Date	Lab Balance Balance #	1 g ±0.05g	10 g ±0.1g	200 g ±0.5g	Note (C)	Digital Balance Balance #	1 g ±0.02g	10 g ±0.05g	200 g ±0.10g	Note (D) (C) (AR)	Analytical Balance Balance #	1 g ±0.0002g	10 g ±0.0005g	200 g ±0.0010g	Note (D) (C) (AR)	Calib. by
3/24/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.000	10.002	200.001	✓✓✓	
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0000	10.000	200.0000	✓✓	
~~3/23/03~~	A-03	1.00	10.01	200.00	✓	B-06	1.00	10.00	200.01	✓✓✓	C-					
1/2 3/24/03	A-04					B-07	1.00	10.00	200.00	✓✓	C-					1/2
	A-		3/24/03			B-					C-		3/24/03			
	A-					B-		3/24/03			C-					
3/25/3	A-01	not	in	use	✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.0000	10.0002	200.0001	✓✓✓	
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0000	10.0000	200.0000	✓✓✓	
	A-03	1.00	10.01	200.00	✓	B-06	1.00	10.00	200.01	✓✓✓	C-					
	A-04					B-07	1.00	10.00	200.00	✓✓✓	C-					1/2
	A-		3/25/03			B-					C-		3/25/03			
	A-					B-		3/25/03			C-					
3/26/03	A-01	not	in	use	✓	B-01	1.00	10.00	200.00	✓✓✓	C-01	1.0000	10.0002	200.0001	✓✓✓	
	~~A-02~~					B-05	1.00	9.99	200.00	✓✓✓	C-02	1.0000	10.0000	200.0000	✓✓	
	A-03	1.00	10.01	200.00	✓	B-06	1.00	10.00	200.01	✓✓	C-					
	A-04					B-07	1.00	10.00	200.00	✓✓✓	C-		3/26/03			1/2
	A-		3/26/03			B-					C-					
	A-					B-		3/26/03			C-					
	A-01					B-01					C-01					
	A-02					B-					C-					
	A-03					B-					C-					
	A-04					B-					C-					
	A-					B-					C-					
	A-					B-					C-					

Notation: (C) – Cleanliness; (D) – Display; (AR) – Auto Rezeroing.

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TRPH/OG (418.1/9071/413.2 IR) Worksheet

Batch # 03W2113 Matrix: W S EPA Method _____ Test Date: 3/25/03 Analyst: [illegible]

Lot #: $C_2Cl_3F_3$ (F112) _____ Na_2SO_4 _____ $MgSO_4 \cdot H_2O$ _____ Silica gel _____ SOP: G-31, G-35

Calibration	STD Lot #	$C_{std} \times V_{std}/V_f = C_i$	A_i	$RF_i = A_i/C_i$	Calibration results	Note
STD-1	W-7434	× / = 0.0 mg/L	0.000		Least Square [RF]=	Cal. Code:
STD-2	W-	× / = 10.0 mg/L	0.013		Average $\bar{RF}$=	
STD-3	W-	× / = 50.0 mg/L	0.025		C.C.= 0.997 (≥ 0.995)	
STD-4	W-	× / = 100 mg/L	0.122		RSD= / % (≤ 15%)	
STD-5	W-	× / = 200 mg/L	0.235		Ref. page	
STD-6	W-	× / = 400 mg/L	0.480		A = -0.009 + 0.00122C	

Analysis Type	Sample ID or Lot #	Samp. Amnt X (g or mL)	$C_2Cl_3F_3$ ratio V(mL)/X=f_1	2nd Dilu./Ext $V_f/V_i=f_2$	2930 cm^{-1} Abs. A	Concentration $C'=A/\bar{RF}$	C (Sample) $C=f_1\ f_2\ C'$	Anomaly Note
CCV	Lot: W-7433	Expected Conc.:	×	/ = 200 mg/L	0.221	188.5 mg/L	REC. %	90-110 %
M-Blk	Bl. Lot:	10.0g	50ml /X= 5	/ =	0.000	mg/L	0.00 ppm	
LCS1	Bl. Lot:		/X=	/ =	0.202	mg/L	864 ppm	
Smpl-1	2245-1		/X=	/ =	0.015	mg/L	96.5 ppm	
MS on S-1	MD -1		/X=	/ =	0.016	mg/L	101 ppm	
MSD on S-1			/X=	/ =		mg/L	ppm	
Smpl 2	2		/X=	/ =	0.490	mg/L	2050 ppm	
Smpl 3	3		/X=	/ =	0.018	mg/L	109 ppm	
Smpl 4	2242-1		/X=	/ =	0.019	mg/L	113 ppm	
Smpl 5	2241-1		/X=	/ =	0.016	mg/L	101 ppm	
Smpl 6	2		/X=	/ =	0.053	mg/L	252 ppm	
Smpl 7	3		/X=	/ =	0.084	mg/L	380 ppm	
Smpl 8			/X=	/ =		mg/L	ppm	
Smpl 9			/X=	/ =		mg/L	ppm	
Smpl 10			/X=	/ =		mg/L	ppm	
Blank	Lot:		/X=	/ =		mg/L	ppm	
LCS2	Bl. Lot:	10.0g	50ml /X= 5	/ =	0.198	mg/L	847 ppm	
Smpl 11			/X=	/ =		mg/L	ppm	
Smpl 12			/X=	/ =		mg/L	ppm	
Smpl 13			/X=	/ =		mg/L	ppm	
Smpl 14			/X=	/ =		mg/L	ppm	
Smpl 15			/X=	/ =		mg/L	ppm	
Smpl 16			/X=	/ =		mg/L	ppm	
Smpl 17			/X=	/ =		mg/L	ppm	
Smpl 18			/X=	/ =		mg/L	ppm	
Smpl 19			/X=	/ =		mg/L	ppm	
Smpl 20			/X=	/ =		mg/L	ppm	
Mtx Dup.	Dosing 200 mg/L		/X=	/ =	0.231	197 mg/L	ppm	

Type	STD Lot #	$C_{STD}(\mu g/mL) \times V_{STD}(mL)/X(g \text{ or } mL) = T$	Spike Rec.	Ctl Limit (W/S)
MS	W-	× / = ppm	%	76-113 %/75-120 %
MSD	W-	× / = ppm	%	.. ..
LCS	W-7433	× / = 1000 ppm	%	80-120 %/80-120 %
LCSD	W- "	× / = ✓ ppm	%	.. ..

PQL/MDL (in ppm)	
PQL(w)	1
PQL(s)	10
MDL(w)	0.24
MDL(s)	5

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