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CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax:(310) 618-0818

Date: 04-06-2006
EMAX Batch No.: 06C106

Attn: Linda Geddes

MWH
750 Royal Oaks Dr, Suite 100
Monrovia CA 91016-3629

Subject: Laboratory Report
Project: Upgradient Investigation, Tronox

Enclosed is the Laboratory report for samples received on 03/11/06.
The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
M121-0.5	C106-01	03/10/06	SOIL	METALS, TOTAL BY ICP-MS
				MERCURY
				PERCHLORATE BY IC
				METHANOL & ETHANOL
				CHROMIUM HEXAVALENT BY IC
				DIESEL RANGE ORGANICS
				MOTOR OIL
				VOLATILE ORGANICS BY GC/MS
				ETHYLENE GLYCOL
				GASOLINE RANGE ORGANICS
M121-5	C106-02	03/10/06	SOIL	METALS, TOTAL BY ICP-MS
				MERCURY
				PERCHLORATE BY IC
				METHANOL & ETHANOL
				CHROMIUM HEXAVALENT BY IC
				DIESEL RANGE ORGANICS
				MOTOR OIL
				VOLATILE ORGANICS BY GC/MS
				ETHYLENE GLYCOL

Sample ID	Control #	Col Date	Matrix	Analysis
				GASOLINE RANGE ORGANICS
M121-10	C106-03	03/10/06	SOIL	METALS, TOTAL BY ICP-MS
				MERCURY
				PERCHLORATE BY IC
				METHANOL & ETHANOL
				CHROMIUM HEXAVALENT BY IC
				DIESEL RANGE ORGANICS
				MOTOR OIL
				VOLATILE ORGANICS BY GC/MS
				ETHYLENE GLYCOL
				GASOLINE RANGE ORGANICS
M121-5D	C106-04	03/10/06	SOIL	METALS, TOTAL BY ICP-MS
				MERCURY
				PERCHLORATE BY IC
				METHANOL & ETHANOL
				CHROMIUM HEXAVALENT BY IC
				DIESEL RANGE ORGANICS
				MOTOR OIL
				VOLATILE ORGANICS BY GC/MS
				ETHYLENE GLYCOL
				GASOLINE RANGE ORGANICS
M121-20	C106-05	03/10/06	SOIL	METALS, TOTAL BY ICP-MS
				MERCURY
				PERCHLORATE BY IC
				CHROMIUM HEXAVALENT BY IC
M121-30	C106-06	03/10/06	SOIL	METALS, TOTAL BY ICP-MS
				MERCURY
				PERCHLORATE BY IC
				METHANOL & ETHANOL
				CHROMIUM HEXAVALENT BY IC
				ALKALINITY
				CHLORIDE BY IC
				CYANIDE TOTAL
				NITRATE-N BY IC
				NITRITE-N BY IC
				SULFATE BY IC
				CONDUCTIVITY
				DIESEL RANGE ORGANICS
				MOTOR OIL
				CHLORATE BY IC
				VOLATILE ORGANICS BY GC/MS

Sample ID	Control #	Col Date	Matrix	Analysis
				PH
				ETHYLENE GLYCOL
				GASOLINE RANGE ORGANICS
M121-40	C106-07	03/10/06	SOIL	METALS, TOTAL BY ICP-MS
				MERCURY
				PERCHLORATE BY IC
				CHROMIUM HEXAVALENT BY IC
M121-50	C106-08	03/10/06	SOIL	METALS, TOTAL BY ICP-MS
				MERCURY
				PERCHLORATE BY IC
				METHANOL & ETHANOL
				CHROMIUM HEXAVALENT BY IC
				ALKALINITY
				CHLORIDE BY IC
				CYANIDE TOTAL
				NITRATE-N BY IC
				NITRITE-N BY IC
				SULFATE BY IC
				CONDUCTIVITY
				DIESEL RANGE ORGANICS
				MOTOR OIL
				CHLORATE BY IC
				VOLATILE ORGANICS BY GC/MS
				PH
				ETHYLENE GLYCOL
				GASOLINE RANGE ORGANICS
M121-60	C106-09	03/10/06	SOIL	METALS, TOTAL BY ICP-MS
				MERCURY
				PERCHLORATE BY IC
				CHROMIUM HEXAVALENT BY IC
				DIESEL RANGE ORGANICS
				MOTOR OIL
				VOLATILE ORGANICS BY GC/MS
				GASOLINE RANGE ORGANICS
M121-80	C106-10	03/10/06	SOIL	METALS, TOTAL BY ICP-MS
				MERCURY
				PERCHLORATE BY IC
				METHANOL & ETHANOL
				CHROMIUM HEXAVALENT BY IC
				DIESEL RANGE ORGANICS
				MOTOR OIL

Sample ID	Control #	Col Date	Matrix	Analysis
				VOLATILE ORGANICS BY GC/MS
				ETHYLENE GLYCOL
				GASOLINE RANGE ORGANICS
M121-70	C106-11	03/10/06	SOIL	DIESEL RANGE ORGANICS
				MOTOR OIL
				VOLATILE ORGANICS BY GC/MS
				GASOLINE RANGE ORGANICS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

EI JVS01-05

ENSR International
1220 Avenida Acaso
Camarillo, CA 93012-8738
Phone (805) 388-3775
Fax (805) 388-3577

ANALYTICAL LAB: EMAX Laboratories, Inc.
Attn: Ye Myint (310) 618-8889 x121
1835 West 205th Street
Torrance, CA 90501

OG C106

SITE Henderson DATE 3/10/06 PAGE 1 OF 2

CLIENT Tronox LLC
PROJECT NAME: Upgradient Investigation
PROJECT MANAGER: D. Gerry
JOB #: 04020-023-150
COELT LOG CODE: YES / NO
SAMPLER SIGNATURE Brian Ho
Brian Ho

LINE ITEM	SAMPLE NO.	DATE	TIME	8260B / 5035 Volatile Organics	8260B BTEX / MTBE / Oxygenates	8015 Diesel / Gasoline (Full Range)	8081A Pesticides	Metals	Perchlorate 314.0	Fuel Alcohols 8015B	Hex Chromium 7199	Wet Chem	Radionuclides	Moisture Content							MATRIX TYPE	CONTAINER TYPE	NUMBER OF CONTAINERS	OBSERVATIONS/ COMMENTS
1.	M121-0.5	3/10/06	07:46	X		X		X	X	X	X		X	X							S	G/O	9	
2.	M121-5	3/10/06	07:55	X		X		X	X	X	X		X								S	G/O	9	
3.	M121-10	3/10/06	08:05	X		X		X	X	X	X		O	X							S	G/O	9	O = Hold for Radionuclides
4.	M121-5D	3/10/06	—	X		X		X	X	X	X		X								S	G/O	9	
5.	M121-20	3/10/06	08:20					X	X		X										S	O	1	
6.	M121-30	3/10/06	09:25	X		X		X	X	X	X	X									S	G/O	9	
7.	M121-40	3/10/06	09:37					X	X		X										S	O	1	
8.	M121-50	3/10/06	10:40	X		X		X	X	X	X	X									S	G/O	9	
9.	M121-60	3/10/06	11:08	X		X		X	X	-	X										S	G/O	7	
10.	M121-80	3/10/06	12:00	X		X		X	X	X	X		X								S	G/O	9	

TURN-AROUND TIME: Standard

MATRIX TYPE: S - Soil, W - Water, O - Other
CONTAINER TYPE: G - Glass Bottle, P - Plastic, O - Other (Brass Tubes)

PRESERVATIVES:
All samples are preserved on ice.
Water samples are preserved as indicated on the sample labels.

TEMPERATURE BLANK EACH COOLER: [X] YES [ ] NO

RELINQUISHED BY:	SIGNATURE		DATE	TIME	TOTAL NUMBER OF CONTAINERS:
Brian Ho	Brian Ho	ENSR International	3/10/06	16:10	
RECEIVED BY:	SIGNATURE	COMPANY	DATE	TIME	METHOD OF SHIPMENT
Federal Express #: 8555		1006 0980	3/10/06	16:10	Federal Express
RELINQUISHED BY:	SIGNATURE	COMPANY	DATE	TIME	SPECIAL SHIMENT/HANDLING/STORAGE REQUIREMENTS:
RECEIVED BY INDRA PATEL	SIGNATURE	COMPANY EMAX	DATE 3-11-06	TIME 11:00	

DISTRIBUTION: White and Canary = Laboratory Pink = ENSR International

T = 3.8°C

Serial No. 5134

ENSR International
1220 Avenida Acaso
Camarillo, CA 93012-8738
Phone (805) 388-3775
Fax (805) 388-3577

ANALYTICAL LAB: EMAX Laboratories, Inc
Attn: Ye Myint (310) 618-8889 x121
1835 West 205th Street
Torrance, CA 90501 SITE Henderson DATE 3/10/06 PAGE 2 OF 2

0606106

CLIENT Tronox LLC
PROJECT NAME: Upgradient Investigation
PROJECT MANAGER: D. Gerry
JOB #: 04020-023-150
COELT LOG CODE: YES / (NO)
SAMPLER SIGNATURE Brian Ho
Brian Ho

LINE ITEM	SAMPLE NO.	DATE	TIME	8260B / 5035 Volatile Organics	8260B BTEX / MTBE / Oxygenates	8015 Diesel / Gasoline (Full Range)	8081A Pesticides	~~CAM 17~~ Metals	Perchlorate 314.0	Fuel Alcohols 8015B	Hex Chromium 7199	Radionuclides	Wet Chem	Moisture Content	MATRIX TYPE	CONTAINER TYPE	NUMBER OF CONTAINERS	OBSERVATIONS/ COMMENTS
1.	M121-70	3/10/06	11:45	X		X									S	G	6	
2.																		
3.																		
4.																		
5.																		
6.																		
7.																		
8.																		
9.																		
10.																		

TURN-AROUND TIME: Standard

MATRIX TYPE: S - Soil, W - Water, O - Other
CONTAINER TYPE: G - Glass Bottle, P - Plastic, O - Other

PRESERVATIVES:
All samples are preserved on ice.
Water samples are preserved as indicated on the sample labels.

TEMPERATURE BLANK EACH COOLER: [X] YES [ ] NO

RELINQUISHED BY:	SIGNATURE		DATE	TIME	TOTAL NUMBER OF CONTAINERS:
Brian Ho	Brian Ho	ENSR International	3/10/06	16:10	
RECEIVED BY:	SIGNATURE	COMPANY	DATE	TIME	METHOD OF SHIPMENT
Federal Express #8555		1006 0980	3/10/06	16:10	Fed Ex
RELINQUISHED BY:	SIGNATURE	COMPANY	DATE	TIME	SPECIAL SHIMENT/HANDLING/STORAGE REQUIREMENTS:
RECEIVED BY	SIGNATURE	COMPANY	DATE	TIME	
		EMAX	3-11-06	11:0	T=3.8°C

DISTRIBUTION: White and Canary = Laboratory Pink = ENSR International

Serial No. 5136

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill		
☐ EMAX Courier		ECN	06C106
☐ Client Delivery		Recepient	1-PATEL
☑ Third Party FEDEX	8555 1006 0980	Date	3-11-06
		Time	1100

COC Inspection

☑ Client Name	☑ Sampler Name	☑ Sampling Date/Time/Location
☑ Address	☐ Courier Signature/Date/Time	☑ Analysis Required
☑ Client PM/FC	☑ TAT	☑ Matrix
☑ Tel #/Fax #	☑ Sample ID	☐ Preservative (if any)
Safety Issues: ☑ None	☐ High Concentrations expected	☐ Superfund Site Samples
Comments: ☐ Rad Screening Required		

Packaging Inspection

Container	☑ Cooler	☐ Box	☐	☐
Condition	☐ Custody Seal	☐ Intact	☐ Damaged	☐
Packaging	☑ Bubble Pack	☐ Styrofoam	☑ Sufficient	☑ plastic bag
Temperatures	☑ Cooler 1 3.8 °C	☑ Cooler 2 ____	☐ Cooler 3 ____	☐ Cooler 4 ____
	☐ Cooler 5 ____	☐ Cooler 6 ____	☐ Cooler 7 ____	☐ Cooler 8 ____
	☐ Cooler 9 ____	☐ Cooler 10 ____	☐ Cooler 11 ____	☐ Cooler 12 ____

Comments:

LSCID	Client ID	Discrepancy	Corrective Action
C106-01	MI21-0.5	1 VIAL RCVD BROKEN (D.I. WATER)	Analyze remaining intact vial. Informed client.
-06	MI21-30	RCVD ONLY 7 # OF CONTAINERS (9 ON CoC)	↓
-08	MI21-50		
			3/13/06
-09	MI21-60	NO COLLECTION TIME ON ALL LABELS	
-11	MI21-70	NO DATE/TIME ON JAR CONTAINER LABEL	

LSCID : Lab Sample Container ID

REVIEWS

Sample Labeling _____
Date 3/11/06

SRF _____
Date 3/13/06

PM _____
Date 3/13/06

FedEx. US Airbill
Express

FedEx Tracking Number 8555 1006 0980

Form ID No. 0200

Recipient's Copy

1 From

Date 3/10/06

Sender's Name Brian Ho Phone 805 795-3334

Company ENSR

06C106
3-11-06

Address 1220 Avenida Acaso

Dept./Floor/Suite/Room

City Camarillo State CA ZIP 93012

2 Your Internal Billing Reference 04020-023-150

3 To

Recipient's Name Ye Myint Phone 310 618-8889

Company EMAX Laboratories, Inc.

Recipient's Address 1835 West 205th Street

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

To request a package be held at a specific FedEx location, print FedEx address here.

City Torrance State CA ZIP 90501

8555 1006 0980

4a Express Package Service — *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

FedEx Envelope rate not available. Minimum charge: One-pound rate.

*To most locations.

4b Express Freight Service — *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight* — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

* Call for Confirmation: ____ ** To most locations.

5 Packaging

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

*Declared value limit $500.

6 Special Handling — Include FedEx address in Section 3.

- [X] SATURDAY Delivery — Not available for FedEx Standard Overnight, FedEx First Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] HOLD Weekday at FedEx Location — Not available for FedEx First Overnight.
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* — Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Obtain Recip. Acct. No. [ ]

Total Packages	Total Weight	Total Declared Value†	Total Charges
1	72	$ .00	Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See back for details.

8 *NEW* Residential Delivery Signature Options If you require a signature, check Direct or Indirect.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Anyone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, anyone at a neighboring address may sign for delivery. *Fee applies.*

520

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fedex.com 1.800.GoFedEx 1.800.463.3339

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

ENSR

UPGRADIENT INVESTIGATION, TRONOX

METHOD SW5035/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 06C106

CASE NARRATIVE

CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

METHOD SW5035/8260B
VOLATILE ORGANICS BY GC/MS

Nine (9) soil samples were received on 03/11/06 for Volatile Organic analysis by Method 5035/8260B in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Soil samples were received in pre weighed 40 ml vials preserved with water. Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX

SDG NO. : 06C106
Instrument ID : T-003

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	VO03C24B	1	NA	03/17/0608:12	03/17/0608:12	RCB283	RBB058	VO03C24	Method Blank
LCS1S	VO03C24L	1	NA	03/17/0606:58	03/17/0606:58	RCB281	RBB058	VO03C24	Lab Control Sample (LCS)
LCD1S	VO03C24C	1	NA	03/17/0607:35	03/17/0607:35	RCB282	RBB058	VO03C24	LCS Duplicate
M121-0.5	C106-01	.98	4.3	03/17/0611:18	03/17/0611:18	RCB288	RBB058	VO03C24	Field Sample
M121-5	C106-02	1.1	10.3	03/17/0611:55	03/17/0611:55	RCB289	RBB058	VO03C24	Field Sample
M121-10	C106-03	.91	5.7	03/17/0612:32	03/17/0612:32	RCB290	RBB058	VO03C24	Field Sample
M121-5D	C106-04	1.0	9.5	03/17/0613:09	03/17/0613:09	RCB291	RBB058	VO03C24	Field Sample
M121-30	C106-06	.89	5.8	03/17/0613:46	03/17/0613:46	RCB292	RBB058	VO03C24	Field Sample
M121-50	C106-08	.89	6.1	03/17/0614:23	03/17/0614:23	RCB293	RBB058	VO03C24	Field Sample
M121-60	C106-09	.96	17.8	03/17/0615:00	03/17/0615:00	RCB294	RBB058	VO03C24	Field Sample
M121-80	C106-10	1.3	27.5	03/17/0615:38	03/17/0615:38	RCB295	RBB058	VO03C24	Field Sample
M121-70	C106-11	.91	22.8	03/17/0616:15	03/17/0616:15	RCB296	RBB058	VO03C24	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client : ENSR	Date Collected: 03/10/06
Project : UPGRADIENT INVESTIGATION, TRONOX	Date Received: 03/11/06
Batch No. : 06C106	Date Extracted: 03/17/06 11:18
Sample ID: M121-0.5	Date Analyzed: 03/17/06 11:18
Lab Samp ID: C106-01	Dilution Factor: .98
Lab File ID: RCB288	Matrix : SOIL
Ext.Btch ID: V003C24	% Moisture : 4.3
Calib. Ref.: RBB058	Instrument ID : T-003

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1,2-TETRACHLOROETHANE	ND	5.1	2
1,1,1-TRICHLOROETHANE	ND	5.1	2
1,1,2,2-TETRACHLOROETHANE	ND	5.1	2
1,1,2-TRICHLOROETHANE	ND	5.1	2
1,1-DICHLOROETHANE	ND	5.1	2
1,1-DICHLOROETHENE	ND	5.1	2
1,1-DICHLOROPROPENE	ND	5.1	2
1,2,3-TRICHLOROBENZENE	ND	5.1	2
1,2,3-TRICHLOROPROPANE	ND	5.1	2
1,2,4-TRICHLOROBENZENE	ND	5.1	2
1,2,4-TRIMETHYLBENZENE	ND	5.1	2
1,2-DIBROMO-3-CHLOROPROPANE	ND	5.1	2
1,2-DICHLOROBENZENE	ND	5.1	2
1,2-DICHLOROETHANE	ND	5.1	2
1,2-DICHLOROPROPANE	ND	5.1	2
1,2-DIBROMOETHANE	ND	5.1	2
1,3,5-TRIMETHYLBENZENE	ND	5.1	2
1,3-DICHLOROBENZENE	ND	5.1	2
1,3-DICHLOROPROPANE	ND	5.1	2
1,4-DICHLOROBENZENE	ND	5.1	2
1-CHLOROHEXANE	ND	5.1	2
2,2-DICHLOROPROPANE	ND	5.1	2
2-CHLOROTOLUENE	ND	5.1	2
4-CHLOROTOLUENE	ND	5.1	2
BENZENE	ND	5.1	2
BROMOBENZENE	ND	5.1	2
BROMOCHLOROMETHANE	ND	5.1	2
BROMODICHLOROMETHANE	ND	5.1	2
BROMOFORM	ND	5.1	2
BROMOMETHANE	ND	10	2
CARBON TETRACHLORIDE	ND	5.1	2
CHLOROBENZENE	ND	5.1	2
CHLOROETHANE	ND	5.1	2
CHLOROFORM	ND	5.1	2
CHLOROMETHANE	ND	5.1	2
CIS-1,2-DICHLOROETHENE	ND	5.1	2
CIS-1,3-DICHLOROPROPENE	ND	5.1	2
DIBROMOCHLOROMETHANE	ND	5.1	2
DIBROMOMETHANE	ND	5.1	2
DICHLORODIFLUOROMETHANE	ND	5.1	2
ETHYLBENZENE	ND	5.1	2
HEXACHLOROBUTADIENE	ND	5.1	2
ISOPROPYL BENZENE	ND	5.1	2
XYLENES	ND	10	2
METHYLENE CHLORIDE	ND	10	2
N-BUTYLBENZENE	ND	5.1	2
N-PROPYLBENZENE	ND	5.1	2
NAPHTHALENE	ND	5.1	2
P-ISOPROPYLTOLUENE	ND	5.1	2
SEC-BUTYLBENZENE	ND	5.1	2
STYRENE	ND	5.1	2
TERT-BUTYLBENZENE	ND	5.1	2
TETRACHLOROETHYLENE	ND	5.1	2
TOLUENE	ND	5.1	2
TRANS-1,2-DICHLOROETHENE	ND	5.1	2
TRANS-1,3-DICHLOROPROPENE	ND	5.1	2
TRICHLOROETHENE	ND	5.1	2
TRICHLOROFLUOROMETHANE	ND	5.1	2
VINYL CHLORIDE	ND	5.1	2
ACETONE	ND	10	5.1
2-BUTANONE	ND	10	5.1
MTBE	ND	5.1	2
4-METHYL-2-PENTANONE	ND	10	5.1
DIPE	ND	5.1	2
ETBE	ND	5.1	2
TAME	ND	5.1	2
TERT-BUTANOL	ND	51	20
2-HEXANONE	ND	10	5.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	109	60-160
4-BROMOFLUOROBENZENE	104	70-150
TOLUENE-D8	103	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB288.D Vial: 12
Acq On : 17 Mar 2006 11:18 am Operator: CGM
Sample : 06C106-01 5.1g Inst : TO03
Misc : DF=0.98 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:41 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2499719	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2426022	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1264848	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	1406326	54.62	ug/l	0.00
Spiked Amount 50.000			Recovery = 109.24%			
50) Toluene-d8	13.87	98	2820788	51.40	ug/l	0.02
Spiked Amount 50.000			Recovery = 102.80%			
71) 4-Bromofluorobenzene	20.08	95	1483116	51.91	ug/l	-0.02
Spiked Amount 50.000			Recovery = 103.82%			

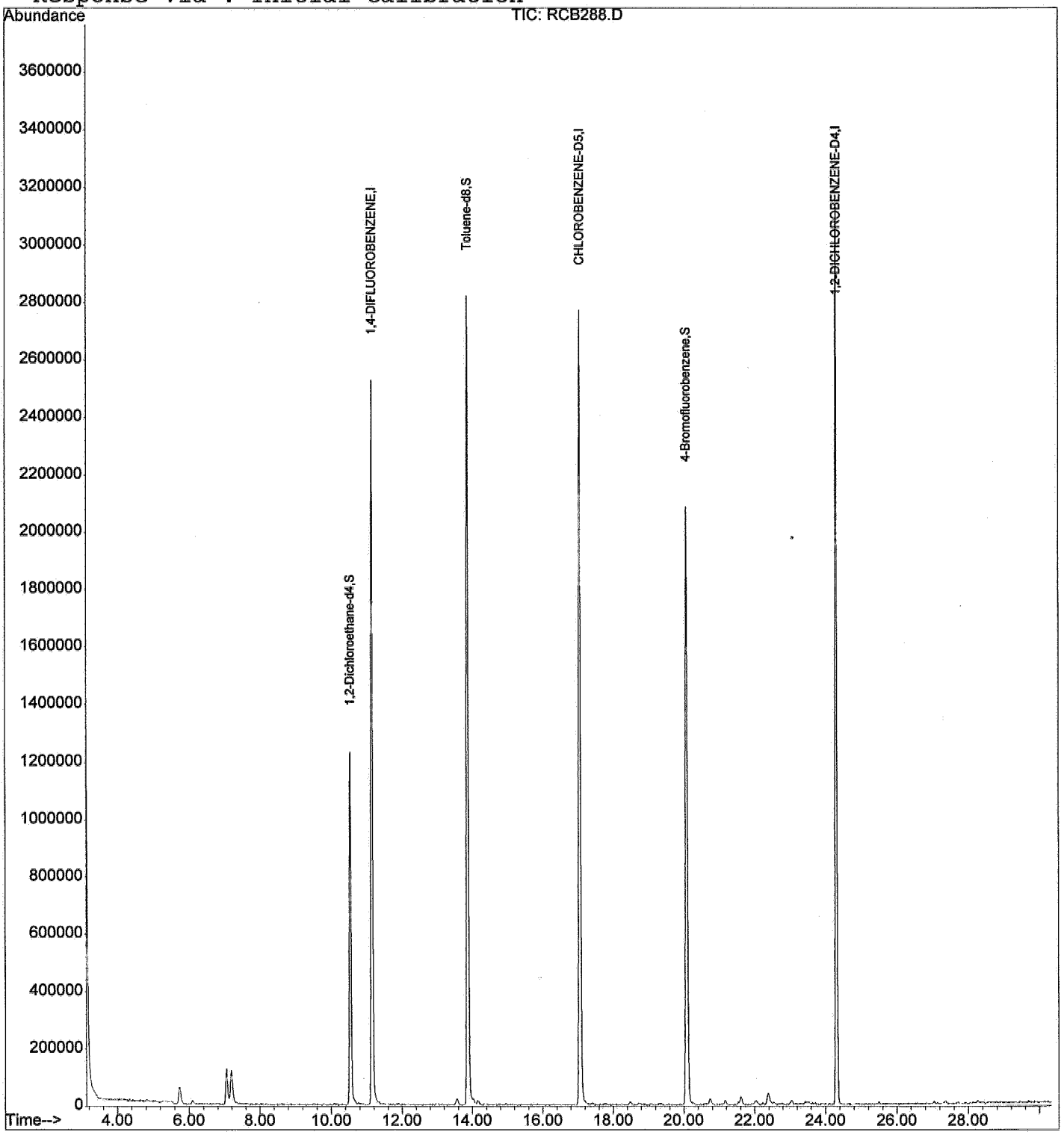
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB288.D Vial: 12
Acq On : 17 Mar 2006 11:18 am Operator: CGM
Sample : 06C106-01 5.1g Inst : TO03
Misc : DF=0.98 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:41 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



2606

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ENSR	Date Collected	: 03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received	: 03/11/06
Batch No.	: 06C106	Date Extracted	: 03/17/06 11:55
Sample ID	: M121-5	Date Analyzed	: 03/17/06 11:55
Lab Samp ID	: C106-02	Dilution Factor	: 1.1
Lab File ID	: RCB289	Matrix	: SOIL
Ext Btch ID	: VOO3C24	% Moisture	: 10.3
Calib. Ref.	: RBB058	Instrument ID	: T-003

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1,2-TETRACHLOROETHANE	ND	6.1	2.5
1,1,1-TRICHLOROETHANE	ND	6.1	2.5
1,1,2,2-TETRACHLOROETHANE	ND	6.1	2.5
1,1,2-TRICHLOROETHANE	ND	6.1	2.5
1,1-DICHLOROETHANE	ND	6.1	2.5
1,1-DICHLOROETHENE	ND	6.1	2.5
1,1-DICHLOROPROPENE	ND	6.1	2.5
1,2,3-TRICHLOROBENZENE	ND	6.1	2.5
1,2,3-TRICHLOROPROPANE	ND	6.1	2.5
1,2,4-TRICHLOROBENZENE	ND	6.1	2.5
1,2,4-TRIMETHYLBENZENE	ND	6.1	2.5
1,2-DIBROMO-3-CHLOROPROPANE	ND	6.1	2.5
1,2-DICHLOROBENZENE	ND	6.1	2.5
1,2-DICHLOROETHANE	ND	6.1	2.5
1,2-DICHLOROPROPANE	ND	6.1	2.5
1,2-DIBROMOETHANE	ND	6.1	2.5
1,3,5-TRIMETHYLBENZENE	ND	6.1	2.5
1,3-DICHLOROBENZENE	ND	6.1	2.5
1,3-DICHLOROPROPANE	ND	6.1	2.5
1,4-DICHLOROBENZENE	ND	6.1	2.5
1-CHLOROHEXANE	ND	6.1	2.5
2,2-DICHLOROPROPANE	ND	6.1	2.5
2-CHLOROTOLUENE	ND	6.1	2.5
4-CHLOROTOLUENE	ND	6.1	2.5
BENZENE	ND	6.1	2.5
BROMOBENZENE	ND	6.1	2.5
BROMOCHLOROMETHANE	ND	6.1	2.5
BROMODICHLOROMETHANE	ND	6.1	2.5
BROMOFORM	ND	6.1	2.5
BROMOMETHANE	ND	12	2.5
CARBON TETRACHLORIDE	ND	6.1	2.5
CHLOROBENZENE	ND	6.1	2.5
CHLOROETHANE	ND	6.1	2.5
CHLOROFORM	ND	6.1	2.5
CHLOROMETHANE	ND	6.1	2.5
CIS-1,2-DICHLOROETHENE	ND	6.1	2.5
CIS-1,3-DICHLOROPROPENE	ND	6.1	2.5
DIBROMOCHLOROMETHANE	ND	6.1	2.5
DIBROMOMETHANE	ND	6.1	2.5
DICHLORODIFLUOROMETHANE	ND	6.1	2.5
ETHYLBENZENE	ND	6.1	2.5
HEXACHLOROBUTADIENE	ND	6.1	2.5
ISOPROPYL BENZENE	ND	6.1	2.5
XYLENES	ND	12	2.5
METHYLENE CHLORIDE	ND	12	2.5
N-BUTYLBENZENE	ND	6.1	2.5
N-PROPYLBENZENE	ND	6.1	2.5
NAPHTHALENE	ND	6.1	2.5
P-ISOPROPYLTOLUENE	ND	6.1	2.5
SEC-BUTYLBENZENE	ND	6.1	2.5
STYRENE	ND	6.1	2.5
TERT-BUTYLBENZENE	ND	6.1	2.5
TETRACHLOROETHYLENE	ND	6.1	2.5
TOLUENE	ND	6.1	2.5
TRANS-1,2-DICHLOROETHENE	ND	6.1	2.5
TRANS-1,3-DICHLOROPROPENE	ND	6.1	2.5
TRICHLOROETHENE	ND	6.1	2.5
TRICHLOROFLUOROMETHANE	ND	6.1	2.5
VINYL CHLORIDE	ND	6.1	2.5
ACETONE	6.5J	12	6.1
2-BUTANONE	ND	12	6.1
MTBE	ND	6.1	2.5
4-METHYL-2-PENTANONE	ND	12	6.1
DIPE	ND	6.1	2.5
ETBE	ND	6.1	2.5
TAME	ND	6.1	2.5
TERT-BUTANOL	ND	61	25
2-HEXANONE	ND	12	6.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	109	60-160
4-BROMOFLUOROBENZENE	103	70-150
TOLUENE-D8	106	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB289.D Vial: 13
Acq On : 17 Mar 2006 11:55 am Operator: CGM
Sample : 06C106-02 4.4g Inst : TO03
Misc : DF=1.1 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:42 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2442525	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2350058	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1237400	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	1370244	54.47	ug/l	0.00
Spiked Amount 50.000			Recovery = 108.94%			
50) Toluene-d8	13.87	98	2821605	53.08	ug/l	-0.02
Spiked Amount 50.000			Recovery = 106.16%			
71) 4-Bromofluorobenzene	20.08	95	1435708	51.36	ug/l	-0.02
Spiked Amount 50.000			Recovery = 102.72%			
Target Compounds						Qvalue
11) Acetone	6.08	43	39992	5.29	ug/l	97

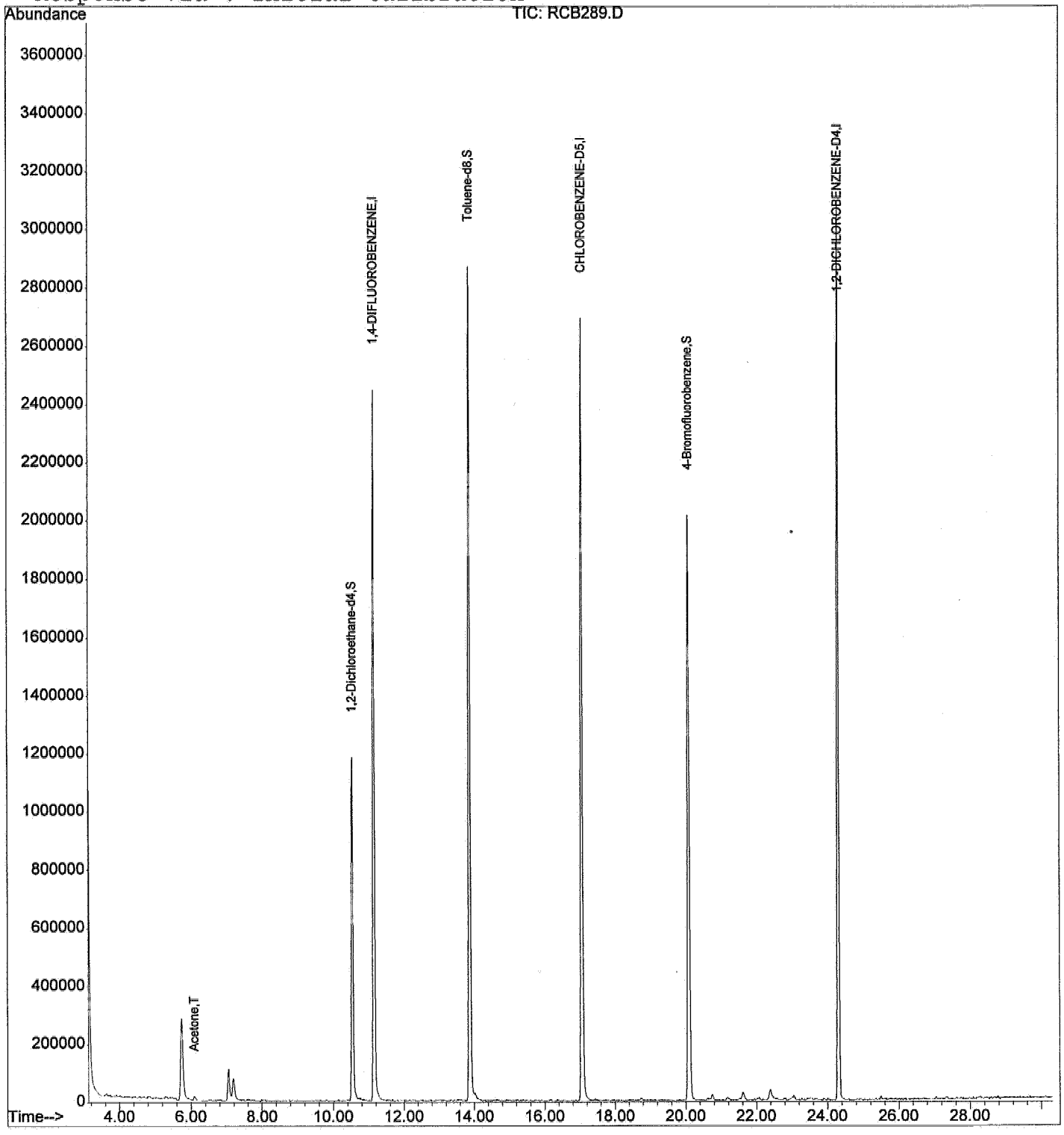
(#) = qualifier out of range (m) = manual integration

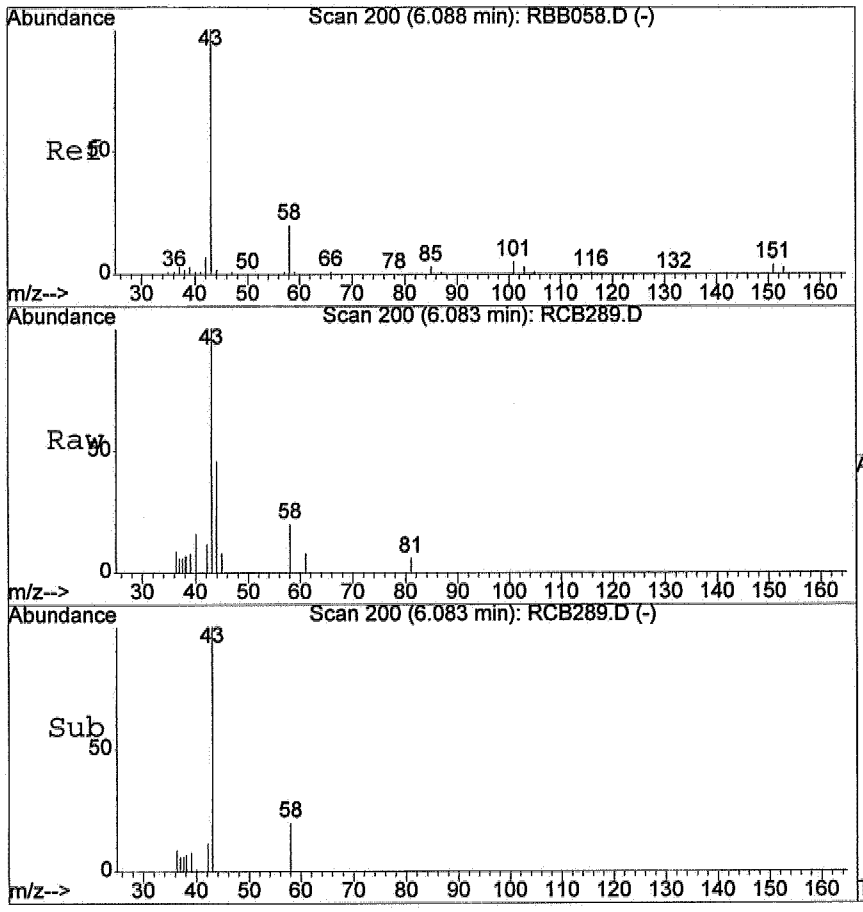
2008

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB289.D Vial: 13
Acq On : 17 Mar 2006 11:55 am Operator: CGM
Sample : 06C106-02 4.4g Inst : TO03
Misc : DF=1.1 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:42 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration

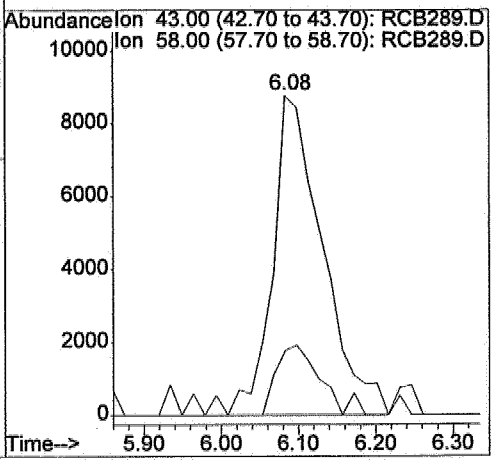




#11
Acetone
Concen: 5.29 ug/l
RT: 6.08 min Scan# 200
Delta R.T. -0.01 min
Lab File: RCB289.D
Acq: 17 Mar 2006 11:55 am

Tgt Ion: 43 Resp: 39992

Ion	Ratio	Lower	Upper
43	100		
58	19.4	0.0	50.9



2018

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/17/06 12:32
Sample ID:	M121-10	Date Analyzed:	03/17/06 12:32
Lab Samp ID:	C106-03	Dilution Factor:	.91
Lab File ID:	RCB290	Matrix	: SOIL
Ext Btch ID:	V003C24	% Moisture	: 5.7
Calib. Ref.:	RBB058	Instrument ID	: T-003

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1,2-TETRACHLOROETHANE	ND	4.8	1.9
1,1,1-TRICHLOROETHANE	ND	4.8	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.8	1.9
1,1,2-TRICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHANE	ND	4.8	1.9
1,1-DICHLOROETHENE	ND	4.8	1.9
1,1-DICHLOROPROPENE	ND	4.8	1.9
1,2,3-TRICHLOROBENZENE	ND	4.8	1.9
1,2,3-TRICHLOROPROPANE	ND	4.8	1.9
1,2,4-TRICHLOROBENZENE	ND	4.8	1.9
1,2,4-TRIMETHYLBENZENE	ND	4.8	1.9
1,2-DIBROMO-3-CHLOROPROPANE	ND	4.8	1.9
1,2-DICHLOROBENZENE	ND	4.8	1.9
1,2-DICHLOROETHANE	ND	4.8	1.9
1,2-DICHLOROPROPANE	ND	4.8	1.9
1,2-DIBROMOETHANE	ND	4.8	1.9
1,3,5-TRIMETHYLBENZENE	ND	4.8	1.9
1,3-DICHLOROBENZENE	ND	4.8	1.9
1,3-DICHLOROPROPANE	ND	4.8	1.9
1,4-DICHLOROBENZENE	ND	4.8	1.9
1-CHLOROHEXANE	ND	4.8	1.9
2,2-DICHLOROPROPANE	ND	4.8	1.9
2-CHLOROTOLUENE	ND	4.8	1.9
4-CHLOROTOLUENE	ND	4.8	1.9
BENZENE	ND	4.8	1.9
BROMOBENZENE	ND	4.8	1.9
BROMOCHLOROMETHANE	ND	4.8	1.9
BROMODICHLOROMETHANE	ND	4.8	1.9
BROMOFORM	ND	4.8	1.9
BROMOMETHANE	ND	9.7	1.9
CARBON TETRACHLORIDE	ND	4.8	1.9
CHLOROBENZENE	ND	4.8	1.9
CHLOROETHANE	ND	4.8	1.9
CHLOROFORM	ND	4.8	1.9
CHLOROMETHANE	ND	4.8	1.9
CIS-1,2-DICHLOROETHENE	ND	4.8	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.8	1.9
DIBROMOCHLOROMETHANE	ND	4.8	1.9
DIBROMOMETHANE	ND	4.8	1.9
DICHLORODIFLUOROMETHANE	ND	4.8	1.9
ETHYLBENZENE	ND	4.8	1.9
HEXACHLOROBUTADIENE	ND	4.8	1.9
ISOPROPYL BENZENE	ND	4.8	1.9
XYLENES	ND	9.7	1.9
METHYLENE CHLORIDE	ND	9.7	1.9
N-BUTYLBENZENE	ND	4.8	1.9
N-PROPYLBENZENE	ND	4.8	1.9
NAPHTHALENE	ND	4.8	1.9
P-ISOPROPYLTOLUENE	ND	4.8	1.9
SEC-BUTYLBENZENE	ND	4.8	1.9
STYRENE	ND	4.8	1.9
TERT-BUTYLBENZENE	ND	4.8	1.9
TETRACHLOROETHYLENE	ND	4.8	1.9
TOLUENE	ND	4.8	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.8	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.8	1.9
TRICHLOROETHENE	ND	4.8	1.9
TRICHLOROFLUOROMETHANE	ND	4.8	1.9
VINYL CHLORIDE	ND	4.8	1.9
ACETONE	5.5J	9.7	4.8
2-BUTANONE	ND	9.7	4.8
MTBE	ND	4.8	1.9
4-METHYL-2-PENTANONE	ND	9.7	4.8
DIPE	ND	4.8	1.9
ETBE	ND	4.8	1.9
TAME	ND	4.8	1.9
TERT-BUTANOL	ND	48	19
2-HEXANONE	ND	9.7	4.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	113	60-160
4-BROMOFLUOROBENZENE	102	70-150
TOLUENE-D8	98	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB290.D Vial: 14
Acq On : 17 Mar 2006 12:32 pm Operator: CGM
Sample : 06C106-03 5.5g Inst : TO03
Misc : DF=0.91 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:42 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

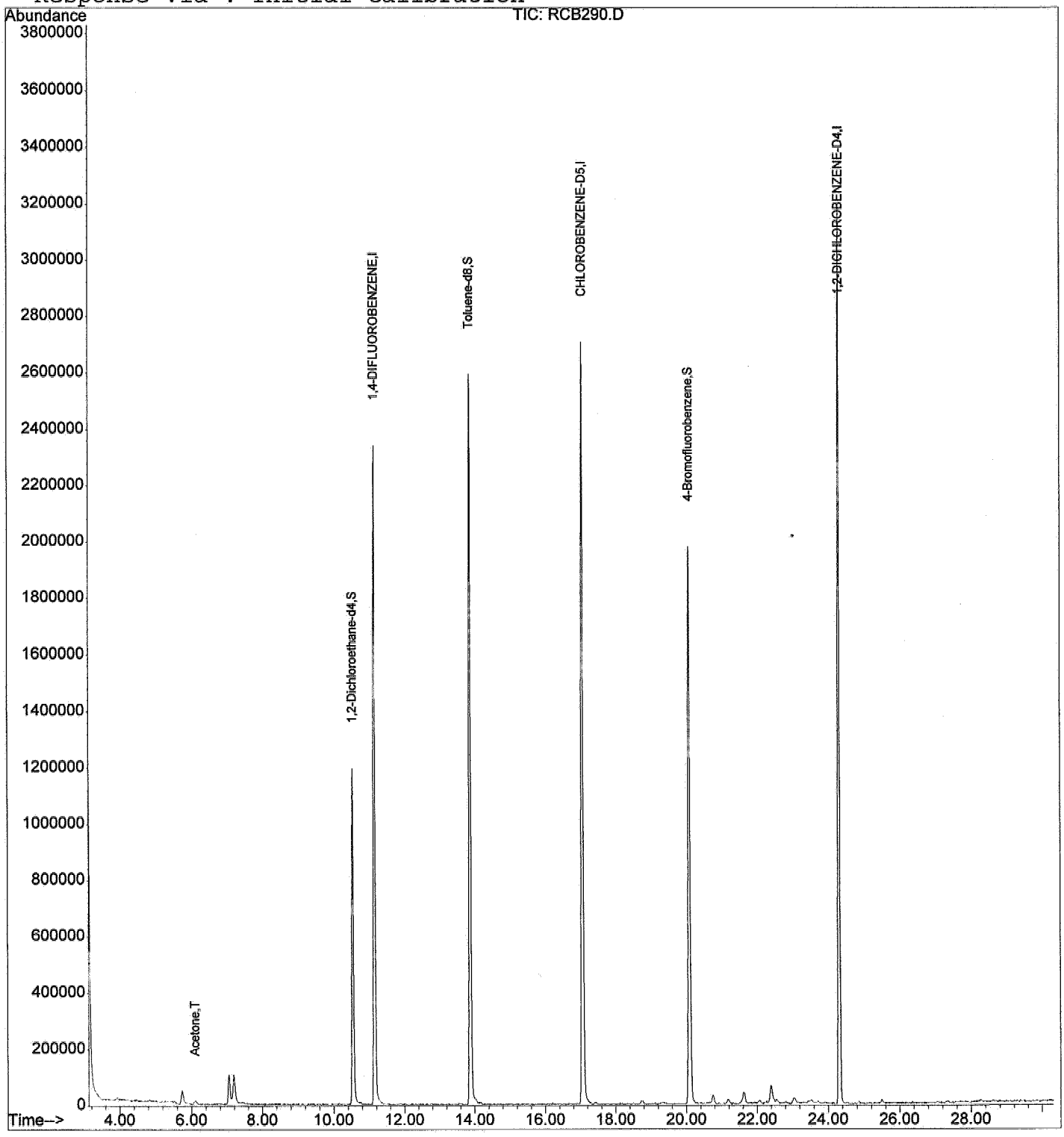
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2282498	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2332669	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.32	152	1234165	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	1332989	56.70	ug/l	0.00
Spiked Amount 50.000			Recovery = 113.40%			
50) Toluene-d8	13.87	98	2575071	48.80	ug/l	-0.02
Spiked Amount 50.000			Recovery = 97.60%			
71) 4-Bromofluorobenzene	20.08	95	1416555	50.81	ug/l	-0.02
Spiked Amount 50.000			Recovery = 101.62%			
Target Compounds						Qvalue
11) Acetone	6.10	43	39962	5.66	ug/l	90

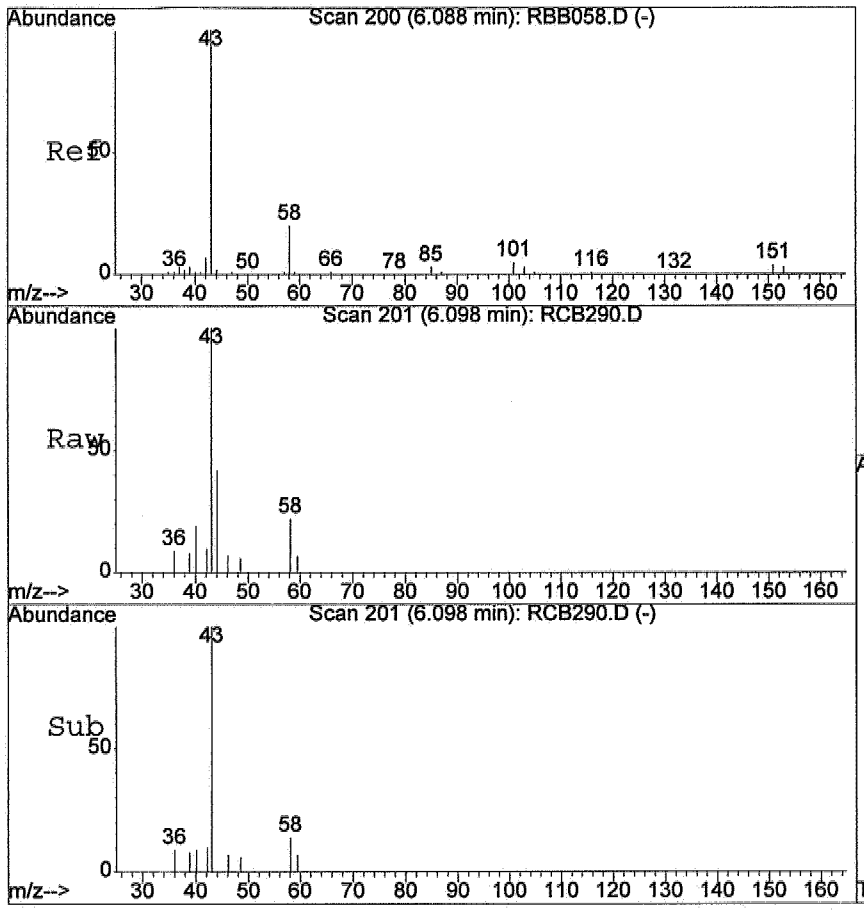
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB290.D Vial: 14
Acq On : 17 Mar 2006 12:32 pm Operator: CGM
Sample : 06C106-03 5.5g Inst : TO03
Misc : DF=0.91 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:42 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration

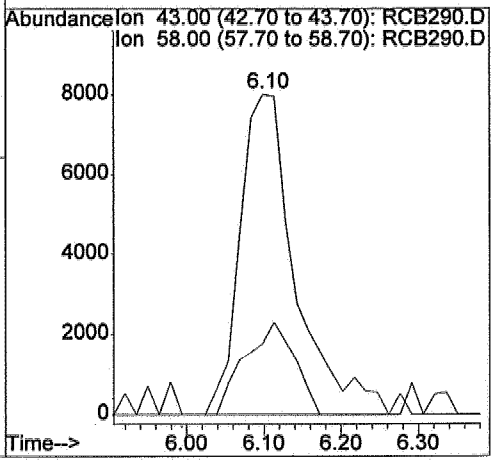




#11
Acetone
Concen: 5.66 ug/l
RT: 6.10 min Scan# 201
Delta R.T. 0.01 min
Lab File: RCB290.D
Acq: 17 Mar 2006 12:32 pm

Tgt Ion: 43 Resp: 39962

Ion	Ratio	Lower	Upper
43	100		
58	25.8	0.0	50.9



2014

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client : ENSR	Date Collected: 03/10/06
Project : UPGRADIENT INVESTIGATION, TRONOX	Date Received: 03/11/06
Batch No. : 06C106	Date Extracted: 03/17/06 13:09
Sample ID: M121-5D	Date Analyzed: 03/17/06 13:09
Lab Samp ID: C106-04	Dilution Factor: 1.0
Lab File ID: RCB291	Matrix : SOIL
Ext Btch ID: VOO3C24	% Moisture : 9.5
Calib. Ref.: RBB058	Instrument ID : T-003

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1,2-TETRACHLOROETHANE	ND	5.5	2.2
1,1,1-TRICHLOROETHANE	ND	5.5	2.2
1,1,2,2-TETRACHLOROETHANE	ND	5.5	2.2
1,1,2-TRICHLOROETHANE	ND	5.5	2.2
1,1-DICHLOROETHANE	ND	5.5	2.2
1,1-DICHLOROETHENE	ND	5.5	2.2
1,1-DICHLOROPROPENE	ND	5.5	2.2
1,2,3-TRICHLOROBENZENE	ND	5.5	2.2
1,2,3-TRICHLOROPROPANE	ND	5.5	2.2
1,2,4-TRICHLOROBENZENE	ND	5.5	2.2
1,2,4-TRIMETHYLBENZENE	ND	5.5	2.2
1,2-DIBROMO-3-CHLOROPROPANE	ND	5.5	2.2
1,2-DICHLOROBENZENE	ND	5.5	2.2
1,2-DICHLOROETHANE	ND	5.5	2.2
1,2-DICHLOROPROPANE	ND	5.5	2.2
1,2-DIBROMOETHANE	ND	5.5	2.2
1,3,5-TRIMETHYLBENZENE	ND	5.5	2.2
1,3-DICHLOROBENZENE	ND	5.5	2.2
1,3-DICHLOROPROPANE	ND	5.5	2.2
1,4-DICHLOROBENZENE	ND	5.5	2.2
1-CHLOROHEXANE	ND	5.5	2.2
2,2-DICHLOROPROPANE	ND	5.5	2.2
2-CHLOROTOLUENE	ND	5.5	2.2
4-CHLOROTOLUENE	ND	5.5	2.2
BENZENE	ND	5.5	2.2
BROMOBENZENE	ND	5.5	2.2
BROMOCHLOROMETHANE	ND	5.5	2.2
BROMODICHLOROMETHANE	ND	5.5	2.2
BROMOFORM	ND	5.5	2.2
BROMOMETHANE	ND	11	2.2
CARBON TETRACHLORIDE	ND	5.5	2.2
CHLOROBENZENE	ND	5.5	2.2
CHLOROETHANE	ND	5.5	2.2
CHLOROFORM	ND	5.5	2.2
CHLOROMETHANE	ND	5.5	2.2
CIS-1,2-DICHLOROETHENE	ND	5.5	2.2
CIS-1,3-DICHLOROPROPENE	ND	5.5	2.2
DIBROMOCHLOROMETHANE	ND	5.5	2.2
DIBROMOMETHANE	ND	5.5	2.2
DICHLORODIFLUOROMETHANE	ND	5.5	2.2
ETHYLBENZENE	ND	5.5	2.2
HEXACHLOROBUTADIENE	ND	5.5	2.2
ISOPROPYL BENZENE	ND	5.5	2.2
XYLENES	ND	11	2.2
METHYLENE CHLORIDE	ND	11	2.2
N-BUTYLBENZENE	ND	5.5	2.2
N-PROPYLBENZENE	ND	5.5	2.2
NAPHTHALENE	ND	5.5	2.2
P-ISOPROPYLTOLUENE	ND	5.5	2.2
SEC-BUTYLBENZENE	ND	5.5	2.2
STYRENE	ND	5.5	2.2
TERT-BUTYLBENZENE	ND	5.5	2.2
TETRACHLOROETHYLENE	ND	5.5	2.2
TOLUENE	ND	5.5	2.2
TRANS-1,2-DICHLOROETHENE	ND	5.5	2.2
TRANS-1,3-DICHLOROPROPENE	ND	5.5	2.2
TRICHLOROETHENE	ND	5.5	2.2
TRICHLOROFLUOROMETHANE	ND	5.5	2.2
VINYL CHLORIDE	ND	5.5	2.2
ACETONE	5.6J	11	5.5
2-BUTANONE	ND	11	5.5
MTBE	ND	5.5	2.2
4-METHYL-2-PENTANONE	ND	11	5.5
DIPE	ND	5.5	2.2
ETBE	ND	5.5	2.2
TAME	ND	5.5	2.2
TERT-BUTANOL	ND	55	22
2-HEXANONE	ND	11	5.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	113	60-160
4-BROMOFLUOROBENZENE	104	70-150
TOLUENE-D8	102	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB291.D Vial: 15
Acq On : 17 Mar 2006 1:09 pm Operator: CGM
Sample : 06C106-04 5.0g Inst : TO03
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:43 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

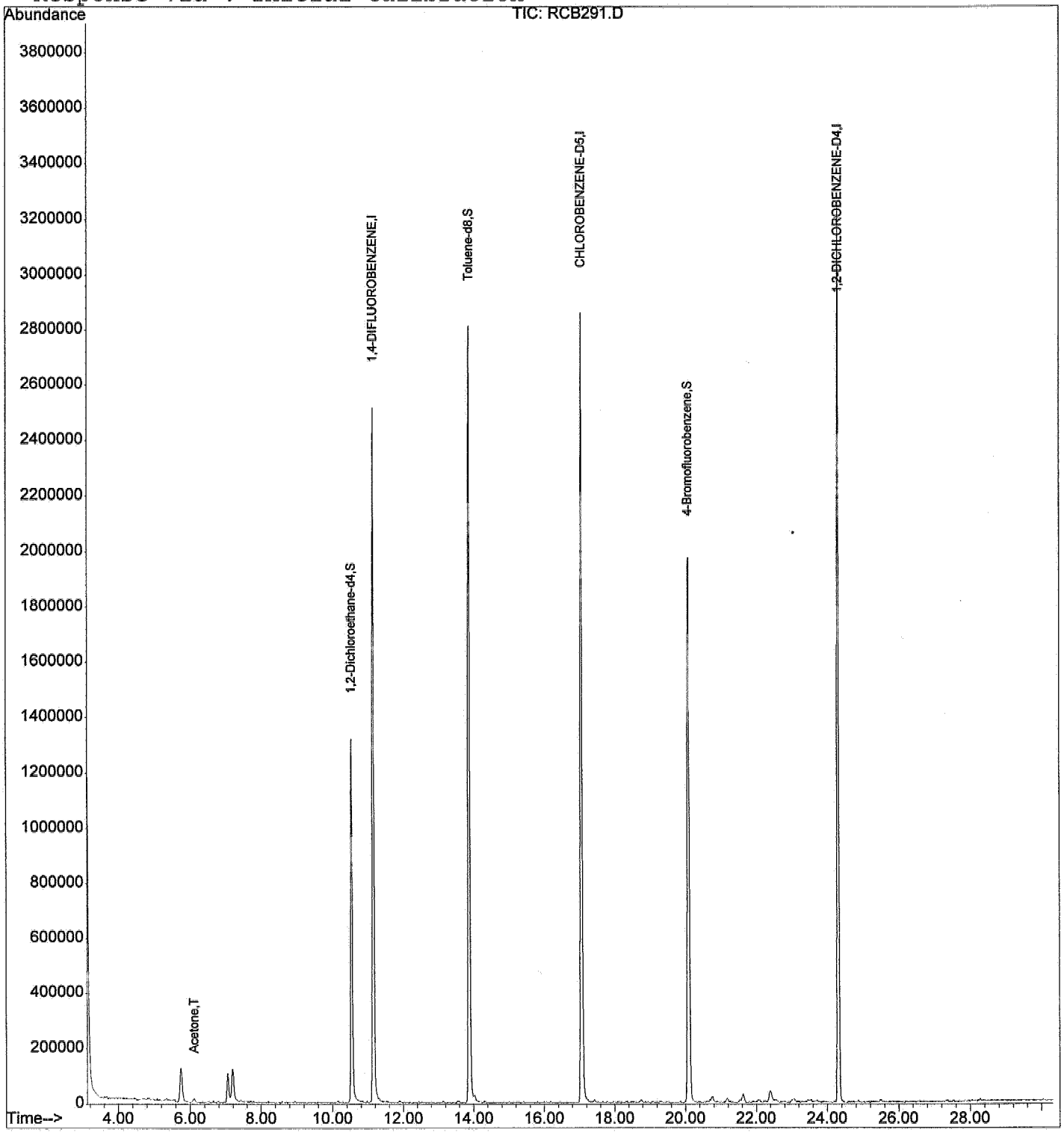
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2479072	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2455161	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1239396	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	1444399	56.57	ug/l	0.00
Spiked Amount 50.000			Recovery =	113.14%		
50) Toluene-d8	13.88	98	2842312	51.18	ug/l	0.00
Spiked Amount 50.000			Recovery =	102.36%		
71) 4-Bromofluorobenzene	20.08	95	1459737	52.14	ug/l	0.02
Spiked Amount 50.000			Recovery =	104.28%		
Target Compounds						Qvalue
11) Acetone	6.11	43	39112	5.10	ug/l	99

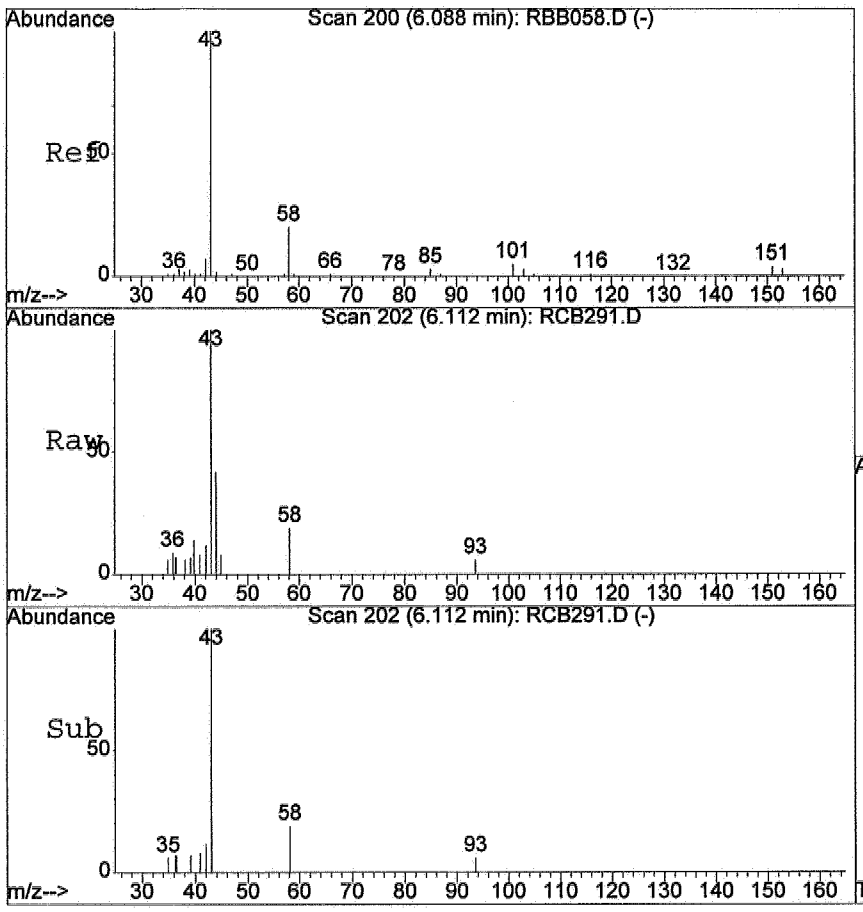
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB291.D Vial: 15
Acq On : 17 Mar 2006 1:09 pm Operator: CGM
Sample : 06C106-04 5.0g Inst : TO03
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:43 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration

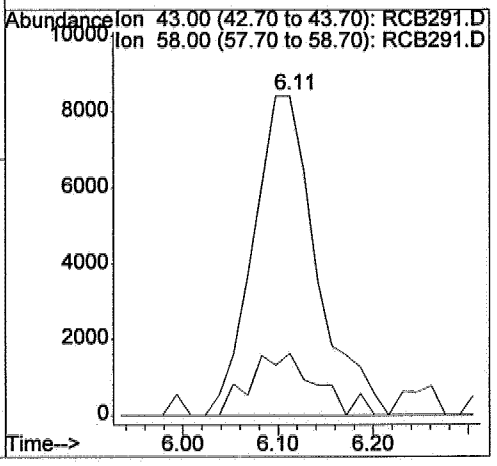




#11
Acetone
Concen: 5.10 ug/l
RT: 6.11 min Scan# 202
Delta R.T. 0.02 min
Lab File: RCB291.D
Acq: 17 Mar 2006 1:09 pm

Tgt Ion: 43 Resp: 39112

Ion	Ratio	Lower	Upper
43	100		
58	20.4	0.0	50.9



2018

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/17/06 13:46
Sample ID:	M121-30	Date Analyzed:	03/17/06 13:46
Lab Samp ID:	C106-06	Dilution Factor:	.89
Lab File ID:	RCB292	Matrix	: SOIL
Ext Btch ID:	V003C24	% Moisture	: 5.8
Calib. Ref.:	RBB058	Instrument ID	: T-003

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1,2-TETRACHLOROETHANE	ND	4.7	1.9
1,1,1-TRICHLOROETHANE	ND	4.7	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.7	1.9
1,1,2-TRICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHENE	ND	4.7	1.9
1,1-DICHLOROPROPENE	ND	4.7	1.9
1,2,3-TRICHLOROBENZENE	ND	4.7	1.9
1,2,3-TRICHLOROPROPANE	ND	4.7	1.9
1,2,4-TRICHLOROBENZENE	ND	4.7	1.9
1,2,4-TRIMETHYLBENZENE	ND	4.7	1.9
1,2-DIBROMO-3-CHLOROPROPANE	ND	4.7	1.9
1,2-DICHLOROBENZENE	ND	4.7	1.9
1,2-DICHLOROETHANE	ND	4.7	1.9
1,2-DICHLOROPROPANE	ND	4.7	1.9
1,2-DIBROMOETHANE	ND	4.7	1.9
1,3,5-TRIMETHYLBENZENE	ND	4.7	1.9
1,3-DICHLOROBENZENE	ND	4.7	1.9
1,3-DICHLOROPROPANE	ND	4.7	1.9
1,4-DICHLOROBENZENE	ND	4.7	1.9
1-CHLOROHEXANE	ND	4.7	1.9
2,2-DICHLOROPROPANE	ND	4.7	1.9
2-CHLOROTOLUENE	ND	4.7	1.9
4-CHLOROTOLUENE	ND	4.7	1.9
BENZENE	ND	4.7	1.9
BROMOBENZENE	ND	4.7	1.9
BROMOCHLOROMETHANE	ND	4.7	1.9
BROMODICHLOROMETHANE	ND	4.7	1.9
BROMOFORM	ND	4.7	1.9
BROMOMETHANE	ND	9.4	1.9
CARBON TETRACHLORIDE	ND	4.7	1.9
CHLOROBENZENE	ND	4.7	1.9
CHLOROETHANE	ND	4.7	1.9
CHLOROFORM	ND	4.7	1.9
CHLOROMETHANE	ND	4.7	1.9
CIS-1,2-DICHLOROETHENE	ND	4.7	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.7	1.9
DIBROMOCHLOROMETHANE	ND	4.7	1.9
DIBROMOMETHANE	ND	4.7	1.9
DICHLORODIFLUOROMETHANE	ND	4.7	1.9
ETHYLBENZENE	ND	4.7	1.9
HEXACHLOROBUTADIENE	ND	4.7	1.9
ISOPROPYL BENZENE	ND	4.7	1.9
XYLENES	ND	9.4	1.9
METHYLENE CHLORIDE	ND	9.4	1.9
N-BUTYLBENZENE	ND	4.7	1.9
N-PROPYLBENZENE	ND	4.7	1.9
NAPHTHALENE	ND	4.7	1.9
P-ISOPROPYLTOLUENE	ND	4.7	1.9
SEC-BUTYLBENZENE	ND	4.7	1.9
STYRENE	ND	4.7	1.9
TERT-BUTYLBENZENE	ND	4.7	1.9
TETRACHLOROETHYLENE	ND	4.7	1.9
TOLUENE	ND	4.7	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.7	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.7	1.9
TRICHLOROETHENE	ND	4.7	1.9
TRICHLOROFLUOROMETHANE	ND	4.7	1.9
VINYL CHLORIDE	ND	4.7	1.9
ACETONE	14	9.4	4.7
2-BUTANONE	ND	9.4	4.7
MTBE	ND	4.7	1.9
4-METHYL-2-PENTANONE	ND	9.4	4.7
DIPE	ND	4.7	1.9
ETBE	ND	4.7	1.9
TAME	ND	4.7	1.9
TERT-BUTANOL	ND	47	19
2-HEXANONE	ND	9.4	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	113	60-160
4-BROMOFLUOROBENZENE	106	70-150
TOLUENE-D8	106	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB292.D Vial: 16
Acq On : 17 Mar 2006 1:46 pm Operator: CGM
Sample : 06C106-06 5.6g Inst : TO03
Misc : DF=0.89 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:43 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

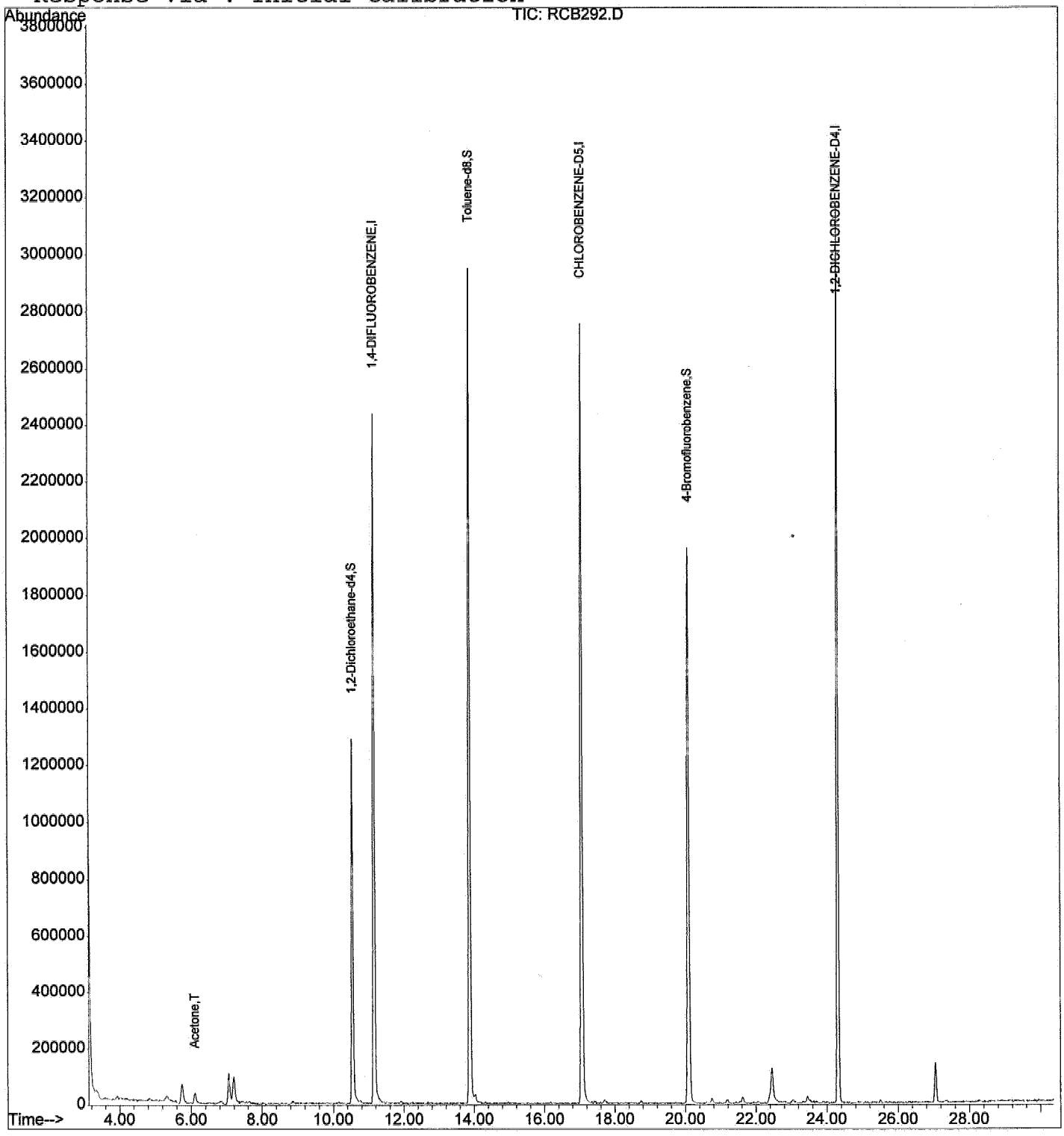
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2419071	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2396539	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1180490	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	1409080	56.55	ug/l	0.00
Spiked Amount 50.000			Recovery =	113.10%		
50) Toluene-d8	13.88	98	2862182	52.80	ug/l	0.00
Spiked Amount 50.000			Recovery =	105.60%		
71) 4-Bromofluorobenzene	20.09	95	1413609	53.01	ug/l	0.00
Spiked Amount 50.000			Recovery =	106.02%		
Target Compounds						Qvalue
11) Acetone	6.10	43	107594	14.38	ug/l	97

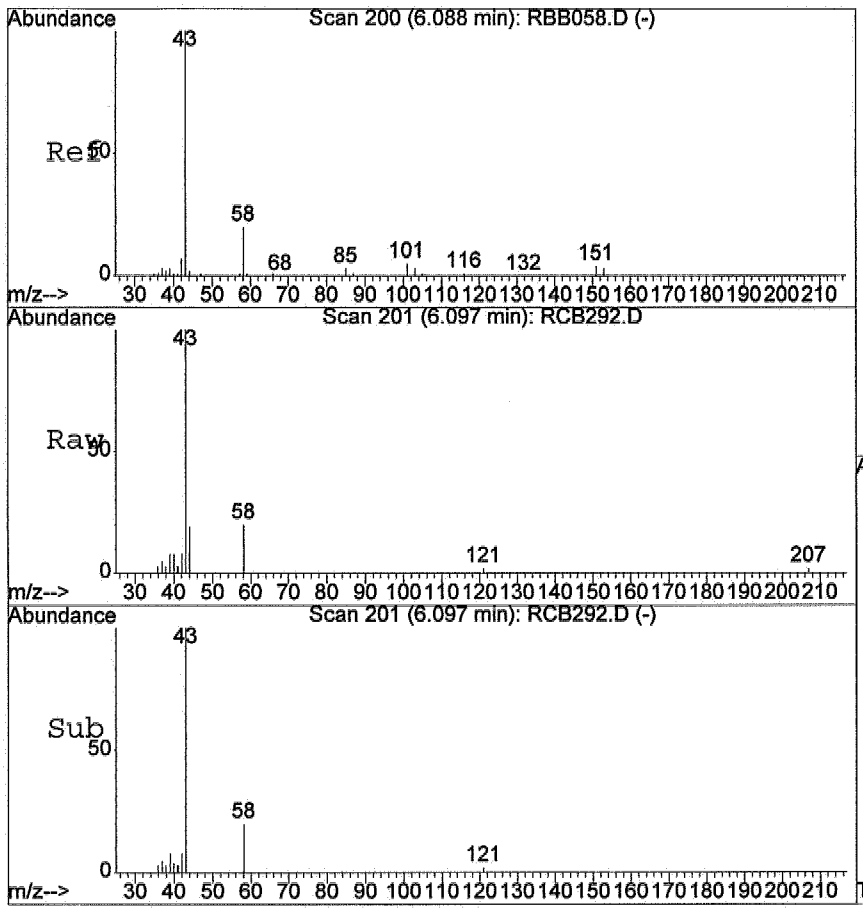
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB292.D Vial: 16
Acq On : 17 Mar 2006 1:46 pm Operator: CGM
Sample : 06C106-06 5.6g Inst : TO03
Misc : DF=0.89 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:43 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration

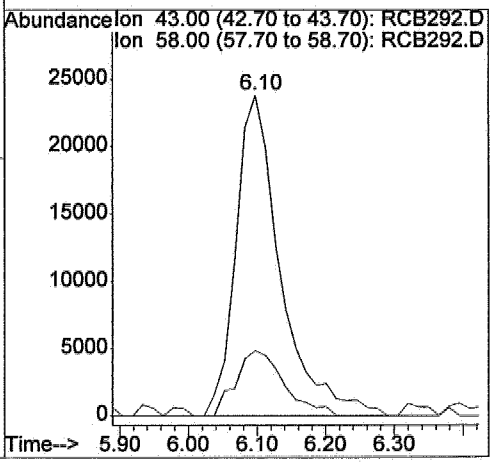




#11
Acetone
Concen: 14.38 ug/l
RT: 6.10 min Scan# 201
Delta R.T. 0.01 min
Lab File: RCB292.D
Acq: 17 Mar 2006 1:46 pm

Tgt Ion: 43 Resp: 107594

Ion	Ratio	Lower	Upper
43	100		
58	22.1	0.0	50.9



2022

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/17/06 14:23
Sample ID:	M121-50	Date Analyzed:	03/17/06 14:23
Lab Samp ID:	C106-08	Dilution Factor:	.89
Lab File ID:	RCB293	Matrix :	SOIL
Ext Btch ID:	V003C24	% Moisture :	6.1
Calib. Ref.:	RBB058	Instrument ID :	T-003

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1,2-TETRACHLOROETHANE	ND	4.7	1.9
1,1,1-TRICHLOROETHANE	ND	4.7	1.9
1,1,2,2-TETRACHLOROETHANE	ND	4.7	1.9
1,1,2-TRICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHANE	ND	4.7	1.9
1,1-DICHLOROETHENE	ND	4.7	1.9
1,1-DICHLOROPROPENE	ND	4.7	1.9
1,2,3-TRICHLOROBENZENE	ND	4.7	1.9
1,2,3-TRICHLOROPROPANE	ND	4.7	1.9
1,2,4-TRICHLOROBENZENE	ND	4.7	1.9
1,2,4-TRIMETHYLBENZENE	ND	4.7	1.9
1,2-DIBROMO-3-CHLOROPROPANE	ND	4.7	1.9
1,2-DICHLOROBENZENE	ND	4.7	1.9
1,2-DICHLOROETHANE	ND	4.7	1.9
1,2-DICHLOROPROPANE	ND	4.7	1.9
1,2-DIBROMOETHANE	ND	4.7	1.9
1,3,5-TRIMETHYLBENZENE	ND	4.7	1.9
1,3-DICHLOROBENZENE	ND	4.7	1.9
1,3-DICHLOROPROPANE	ND	4.7	1.9
1,4-DICHLOROBENZENE	ND	4.7	1.9
1-CHLOROHEXANE	ND	4.7	1.9
2,2-DICHLOROPROPANE	ND	4.7	1.9
2-CHLOROTOLUENE	ND	4.7	1.9
4-CHLOROTOLUENE	ND	4.7	1.9
BENZENE	ND	4.7	1.9
BROMOBENZENE	ND	4.7	1.9
BROMOCHLOROMETHANE	ND	4.7	1.9
BROMODICHLOROMETHANE	ND	4.7	1.9
BROMOFORM	ND	4.7	1.9
BROMOMETHANE	ND	9.5	1.9
CARBON TETRACHLORIDE	ND	4.7	1.9
CHLOROBENZENE	ND	4.7	1.9
CHLOROETHANE	ND	4.7	1.9
CHLOROFORM	ND	4.7	1.9
CHLOROMETHANE	ND	4.7	1.9
CIS-1,2-DICHLOROETHENE	ND	4.7	1.9
CIS-1,3-DICHLOROPROPENE	ND	4.7	1.9
DIBROMOCHLOROMETHANE	ND	4.7	1.9
DIBROMOMETHANE	ND	4.7	1.9
DICHLORODIFLUOROMETHANE	ND	4.7	1.9
ETHYLBENZENE	ND	4.7	1.9
HEXACHLOROBUTADIENE	ND	4.7	1.9
ISOPROPYL BENZENE	ND	4.7	1.9
XYLENES	ND	9.5	1.9
METHYLENE CHLORIDE	ND	9.5	1.9
N-BUTYLBENZENE	ND	4.7	1.9
N-PROPYLBENZENE	ND	4.7	1.9
NAPHTHALENE	ND	4.7	1.9
P-ISOPROPYLTOLUENE	ND	4.7	1.9
SEC-BUTYLBENZENE	ND	4.7	1.9
STYRENE	ND	4.7	1.9
TERT-BUTYLBENZENE	ND	4.7	1.9
TETRACHLOROETHYLENE	ND	4.7	1.9
TOLUENE	ND	4.7	1.9
TRANS-1,2-DICHLOROETHENE	ND	4.7	1.9
TRANS-1,3-DICHLOROPROPENE	ND	4.7	1.9
TRICHLOROETHENE	ND	4.7	1.9
TRICHLOROFLUOROMETHANE	ND	4.7	1.9
VINYL CHLORIDE	ND	4.7	1.9
ACETONE	ND	9.5	4.7
2-BUTANONE	ND	9.5	4.7
MTBE	ND	4.7	1.9
4-METHYL-2-PENTANONE	ND	9.5	4.7
DIPE	ND	4.7	1.9
ETBE	ND	4.7	1.9
TAME	ND	4.7	1.9
TERT-BUTANOL	ND	47	19
2-HEXANONE	ND	9.5	4.7

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	110	60-160
4-BROMOFLUOROBENZENE	100	70-150
TOLUENE-D8	104	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB293.D Vial: 17
Acq On : 17 Mar 2006 2:23 pm Operator: CGM
Sample : 06C106-08 5.6g Inst : TO03
Misc : DF=0.89 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:44 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2511797	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.08	117	2442066	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1256160	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	1422374	54.98	ug/l	0.00
Spiked Amount 50.000			Recovery =	109.96%		
50) Toluene-d8	13.88	98	2877938	52.10	ug/l	0.00
Spiked Amount 50.000			Recovery =	104.20%		
71) 4-Bromofluorobenzene	20.09	95	1425764	50.25	ug/l	0.00
Spiked Amount 50.000			Recovery =	100.50%		

Target Compounds Qvalue

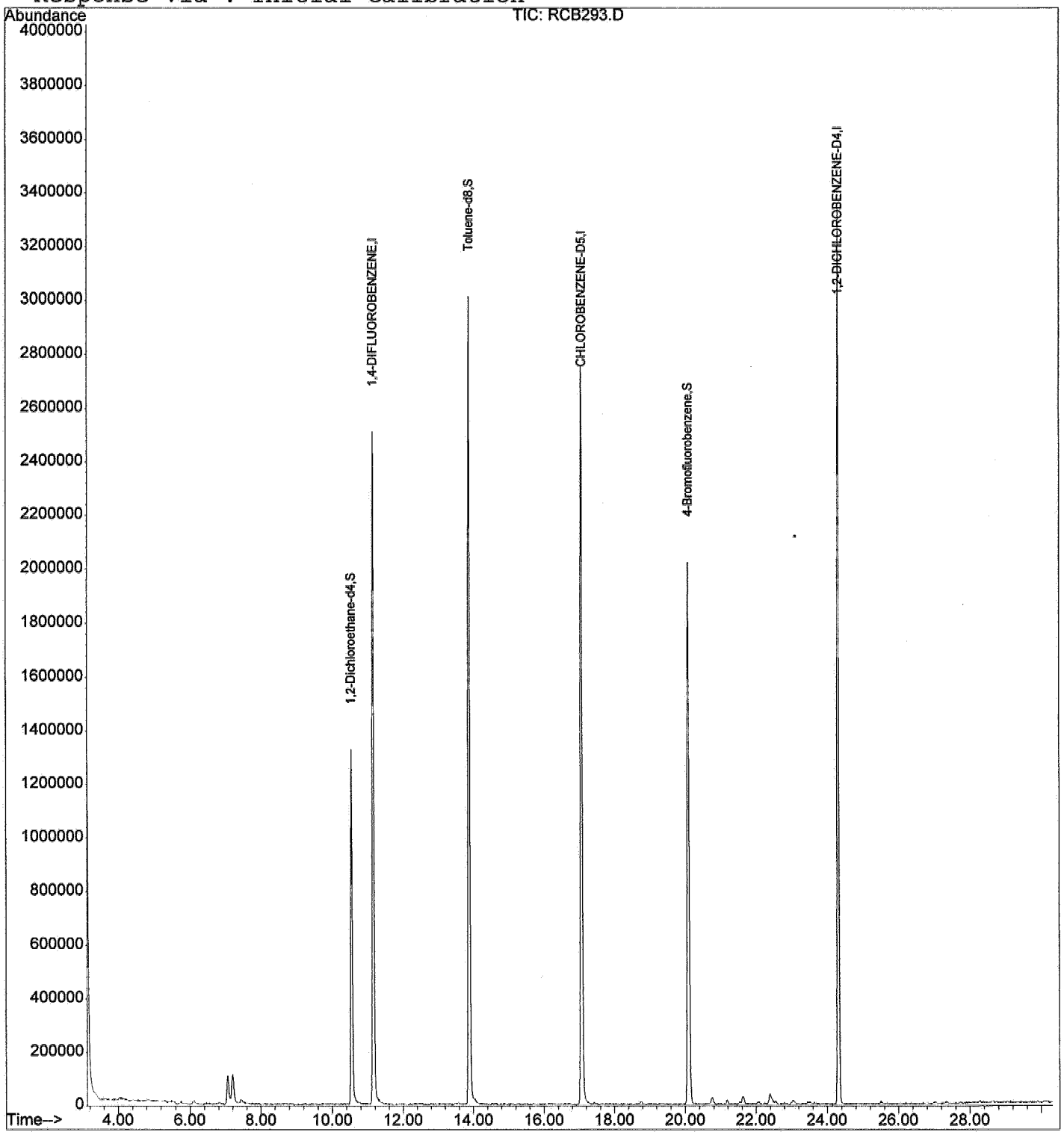
(#) = qualifier out of range (m) = manual integration

2024

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB293.D Vial: 17
Acq On : 17 Mar 2006 2:23 pm Operator: CGM
Sample : 06C106-08 5.6g Inst : TO03
Misc : DF=0.89 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:44 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client : ENSR	Date Collected: 03/10/06
Project : UPGRADIENT INVESTIGATION, TRONOX	Date Received: 03/11/06
Batch No. : 06C106	Date Extracted: 03/17/06 15:00
Sample ID: M121-60	Date Analyzed: 03/17/06 15:00
Lab Samp ID: C106-09	Dilution Factor: .96
Lab File ID: RCB294	Matrix : SOIL
Ext Btch ID: V003C24	% Moisture : 17.8
Calib. Ref.: RBB058	Instrument ID : T-003

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1,2-TETRACHLOROETHANE	ND	5.8	2.3
1,1,1-TRICHLOROETHANE	ND	5.8	2.3
1,1,2,2-TETRACHLOROETHANE	ND	5.8	2.3
1,1,2-TRICHLOROETHANE	ND	5.8	2.3
1,1-DICHLOROETHANE	ND	5.8	2.3
1,1-DICHLOROETHENE	ND	5.8	2.3
1,1-DICHLOROPROPENE	ND	5.8	2.3
1,2,3-TRICHLOROBENZENE	ND	5.8	2.3
1,2,3-TRICHLOROPROPANE	ND	5.8	2.3
1,2,4-TRICHLOROBENZENE	ND	5.8	2.3
1,2,4-TRIMETHYLBENZENE	ND	5.8	2.3
1,2-DIBROMO-3-CHLOROPROPANE	ND	5.8	2.3
1,2-DICHLOROBENZENE	ND	5.8	2.3
1,2-DICHLOROETHANE	ND	5.8	2.3
1,2-DICHLOROPROPANE	ND	5.8	2.3
1,2-DIBROMOETHANE	ND	5.8	2.3
1,3,5-TRIMETHYLBENZENE	ND	5.8	2.3
1,3-DICHLOROBENZENE	ND	5.8	2.3
1,3-DICHLOROPROPANE	ND	5.8	2.3
1,4-DICHLOROBENZENE	ND	5.8	2.3
1-CHLOROHEXANE	ND	5.8	2.3
2,2-DICHLOROPROPANE	ND	5.8	2.3
2-CHLOROTOLUENE	ND	5.8	2.3
4-CHLOROTOLUENE	ND	5.8	2.3
BENZENE	ND	5.8	2.3
BROMOBENZENE	ND	5.8	2.3
BROMOCHLOROMETHANE	ND	5.8	2.3
BROMODICHLOROMETHANE	ND	5.8	2.3
BROMOFORM	ND	5.8	2.3
BROMOMETHANE	ND	12	2.3
CARBON TETRACHLORIDE	ND	5.8	2.3
CHLOROBENZENE	ND	5.8	2.3
CHLOROETHANE	ND	5.8	2.3
CHLOROFORM	ND	5.8	2.3
CHLOROMETHANE	ND	5.8	2.3
CIS-1,2-DICHLOROETHENE	ND	5.8	2.3
CIS-1,3-DICHLOROPROPENE	ND	5.8	2.3
DIBROMOCHLOROMETHANE	ND	5.8	2.3
DIBROMOMETHANE	ND	5.8	2.3
DICHLORODIFLUOROMETHANE	ND	5.8	2.3
ETHYLBENZENE	ND	5.8	2.3
HEXACHLOROBUTADIENE	ND	5.8	2.3
ISOPROPYL BENZENE	ND	5.8	2.3
XYLENES	ND	12	2.3
METHYLENE CHLORIDE	ND	12	2.3
N-BUTYLBENZENE	ND	5.8	2.3
N-PROPYLBENZENE	ND	5.8	2.3
NAPHTHALENE	ND	5.8	2.3
P-ISOPROPYLTOLUENE	ND	5.8	2.3
SEC-BUTYLBENZENE	ND	5.8	2.3
STYRENE	ND	5.8	2.3
TERT-BUTYLBENZENE	ND	5.8	2.3
TETRACHLOROETHYLENE	ND	5.8	2.3
TOLUENE	ND	5.8	2.3
TRANS-1,2-DICHLOROETHENE	ND	5.8	2.3
TRANS-1,3-DICHLOROPROPENE	ND	5.8	2.3
TRICHLOROETHENE	ND	5.8	2.3
TRICHLOROFLUOROMETHANE	ND	5.8	2.3
VINYL CHLORIDE	ND	5.8	2.3
ACETONE	ND	12	5.8
2-BUTANONE	ND	12	5.8
MTBE	ND	5.8	2.3
4-METHYL-2-PENTANONE	ND	12	5.8
DIPE	ND	5.8	2.3
ETBE	ND	5.8	2.3
TAME	ND	5.8	2.3
TERT-BUTANOL	ND	58	23
2-HEXANONE	ND	12	5.8

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	115	60-160
4-BROMOFLUOROBENZENE	100	70-150
TOLUENE-D8	101	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB294.D Vial: 18
Acq On : 17 Mar 2006 3:00 pm Operator: CGM
Sample : 06C106-09 5.2g Inst : TO03
Misc : DF=0.96 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:44 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2125875	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.07	117	2143834	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.32	152	1147037	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.55	65	1256218	57.37	ug/l	0.00
Spiked Amount 50.000			Recovery =	114.74%		
50) Toluene-d8	13.89	98	2445774	50.43	ug/l	0.00
Spiked Amount 50.000			Recovery =	100.86%		
71) 4-Bromofluorobenzene	20.10	95	1301460	50.23	ug/l	0.00
Spiked Amount 50.000			Recovery =	100.46%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
RCB294.D VO03B03.M Mon Mar 20 17:44:45 2006 Page 1

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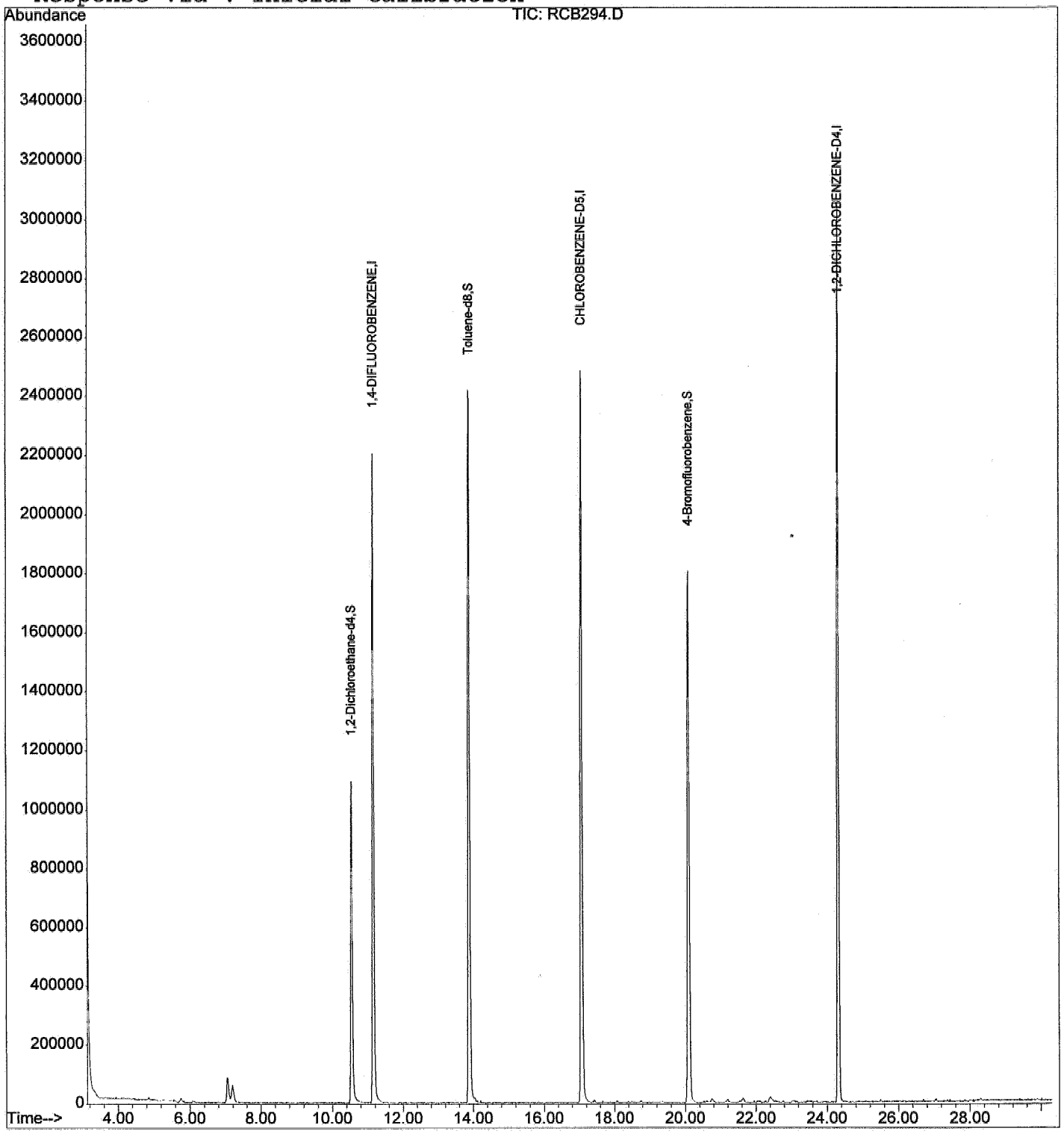
Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB294.D Vial: 18
Acq On : 17 Mar 2006 3:00 pm Operator: CGM
Sample : 06C106-09 5.2g Inst : TO03
Misc : DF=0.96 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:44 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/17/06 15:38
Sample ID:	M121-80	Date Analyzed:	03/17/06 15:38
Lab Samp ID:	C106-10	Dilution Factor:	1.3
Lab File ID:	RCB295	Matrix	: SOIL
Ext Btch ID:	V003C24	% Moisture	: 27.5
Calib. Ref.:	RBB058	Instrument ID	: T-003

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1,2-TETRACHLOROETHANE	ND	9	3.6
1,1,1-TRICHLOROETHANE	ND	9	3.6
1,1,2,2-TETRACHLOROETHANE	ND	9	3.6
1,1,2-TRICHLOROETHANE	ND	9	3.6
1,1-DICHLOROETHANE	ND	9	3.6
1,1-DICHLOROETHENE	ND	9	3.6
1,1-DICHLOROPROPENE	ND	9	3.6
1,2,3-TRICHLOROBENZENE	ND	9	3.6
1,2,3-TRICHLOROPROPANE	ND	9	3.6
1,2,4-TRICHLOROBENZENE	ND	9	3.6
1,2,4-TRIMETHYLBENZENE	ND	9	3.6
1,2-DIBROMO-3-CHLOROPROPANE	ND	9	3.6
1,2-DICHLOROBENZENE	ND	9	3.6
1,2-DICHLOROETHANE	ND	9	3.6
1,2-DICHLOROPROPANE	ND	9	3.6
1,2-DIBROMOETHANE	ND	9	3.6
1,3,5-TRIMETHYLBENZENE	ND	9	3.6
1,3-DICHLOROBENZENE	ND	9	3.6
1,3-DICHLOROPROPANE	ND	9	3.6
1,4-DICHLOROBENZENE	ND	9	3.6
1-CHLOROHEXANE	ND	9	3.6
2,2-DICHLOROPROPANE	ND	9	3.6
2-CHLOROTOLUENE	ND	9	3.6
4-CHLOROTOLUENE	ND	9	3.6
BENZENE	ND	9	3.6
BROMOBENZENE	ND	9	3.6
BROMOCHLOROMETHANE	ND	9	3.6
BROMODICHLOROMETHANE	ND	9	3.6
BROMOFORM	ND	9	3.6
BROMOMETHANE	ND	18	3.6
CARBON TETRACHLORIDE	ND	9	3.6
CHLOROBENZENE	ND	9	3.6
CHLOROETHANE	ND	9	3.6
CHLOROFORM	ND	9	3.6
CHLOROMETHANE	ND	9	3.6
CIS-1,2-DICHLOROETHENE	ND	9	3.6
CIS-1,3-DICHLOROPROPENE	ND	9	3.6
DIBROMOCHLOROMETHANE	ND	9	3.6
DIBROMOMETHANE	ND	9	3.6
DICHLORODIFLUOROMETHANE	ND	9	3.6
ETHYLBENZENE	ND	9	3.6
HEXACHLOROBUTADIENE	ND	9	3.6
ISOPROPYL BENZENE	ND	9	3.6
XYLENES	ND	18	3.6
METHYLENE CHLORIDE	4.5J	18	3.6
N-BUTYLBENZENE	ND	9	3.6
N-PROPYLBENZENE	ND	9	3.6
NAPHTHALENE	ND	9	3.6
P-ISOPROPYLTOLUENE	ND	9	3.6
SEC-BUTYLBENZENE	ND	9	3.6
STYRENE	ND	9	3.6
TERT-BUTYLBENZENE	ND	9	3.6
TETRACHLOROETHYLENE	ND	9	3.6
TOLUENE	ND	9	3.6
TRANS-1,2-DICHLOROETHENE	ND	9	3.6
TRANS-1,3-DICHLOROPROPENE	ND	9	3.6
TRICHLOROETHENE	ND	9	3.6
TRICHLOROFLUOROMETHANE	ND	9	3.6
VINYL CHLORIDE	ND	9	3.6
ACETONE	11J	18	9
2-BUTANONE	ND	18	9
MTBE	ND	9	3.6
4-METHYL-2-PENTANONE	ND	18	9
DIPE	ND	9	3.6
ETBE	ND	9	3.6
TAME	ND	9	3.6
TERT-BUTANOL	ND	90	36
2-HEXANONE	ND	18	9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	120	60-160
4-BROMOFLUOROBENZENE	98	70-150
TOLUENE-D8	101	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB295.D Vial: 19
Acq On : 17 Mar 2006 3:38 pm Operator: CGM
Sample : 06C106-10 4.0g Inst : TO03
Misc : DF=1.3 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:46 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

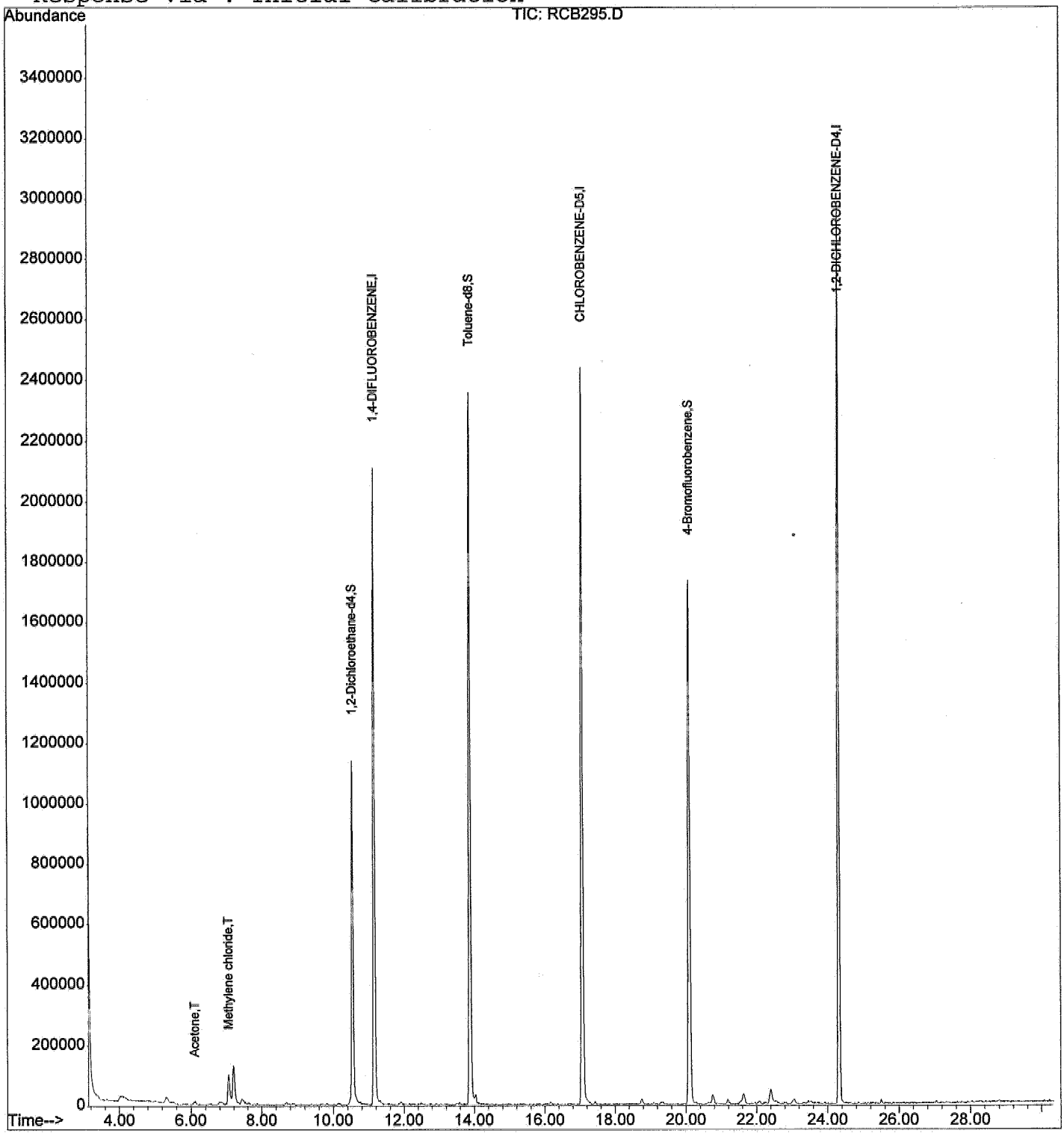
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.16	114	2028448	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.07	117	2054391	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.32	152	1135998	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.55	65	1251048	59.88	ug/l	0.00
Spiked Amount 50.000			Recovery =	119.76%		
50) Toluene-d8	13.89	98	2345356	50.47	ug/l	0.00
Spiked Amount 50.000			Recovery =	100.94%		
71) 4-Bromofluorobenzene	20.10	95	1263309	49.23	ug/l	0.00
Spiked Amount 50.000			Recovery =	98.46%		
Target Compounds						Qvalue
11) Acetone	6.10	43	37225	5.93	ug/l	95
17) Methylene chloride	7.05	49	156185	2.49	ug/l	96

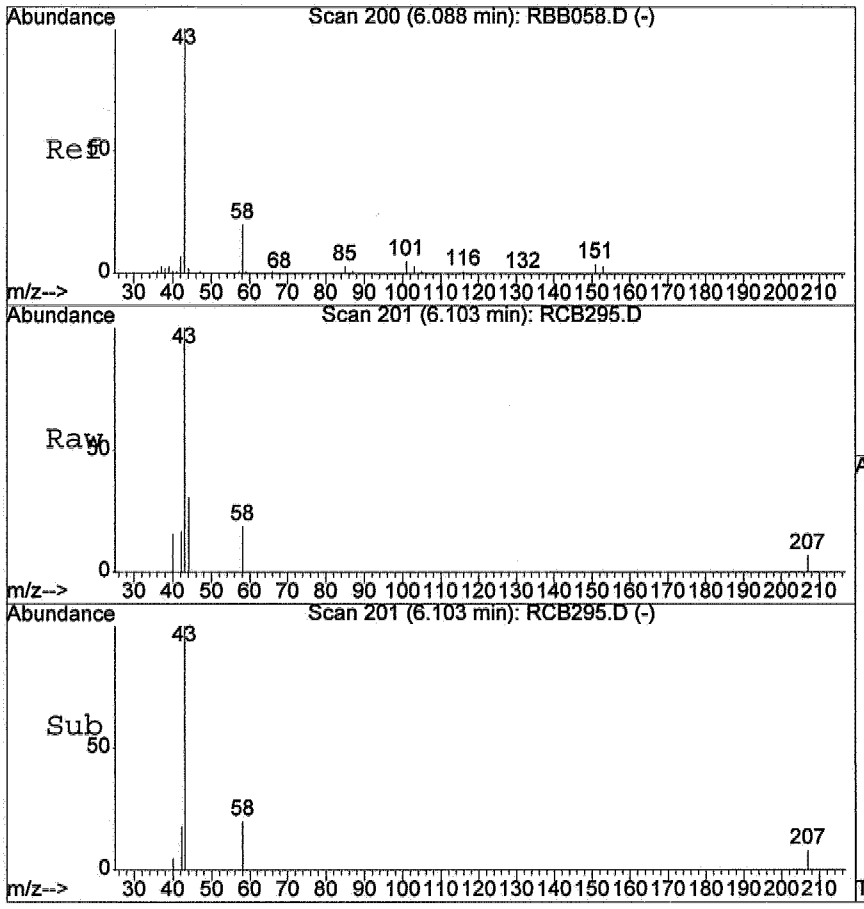
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB295.D Vial: 19
Acq On : 17 Mar 2006 3:38 pm Operator: CGM
Sample : 06C106-10 4.0g Inst : TO03
Misc : DF=1.3 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:46 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration

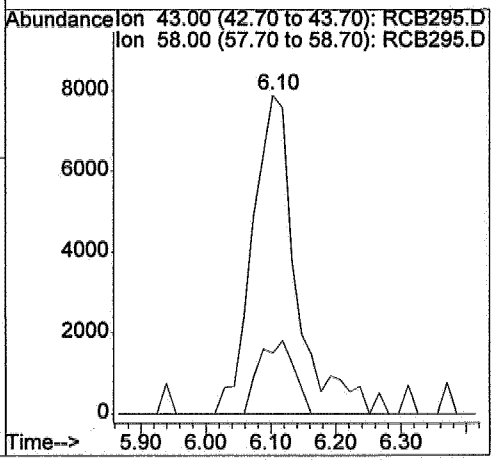


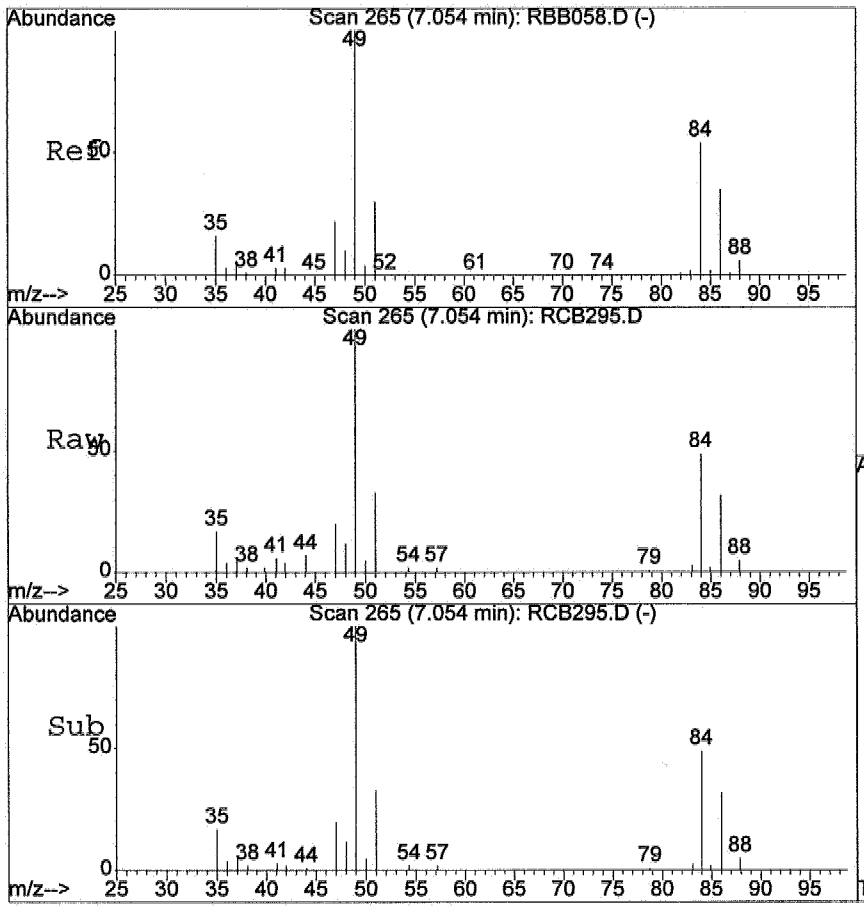


#11
Acetone
Concen: 5.93 ug/l
RT: 6.10 min Scan# 201
Delta R.T. 0.01 min
Lab File: RCB295.D
Acq: 17 Mar 2006 3:38 pm

Tgt Ion: 43 Resp: 37225

Ion	Ratio	Lower	Upper
43	100		
58	18.4	0.0	50.9

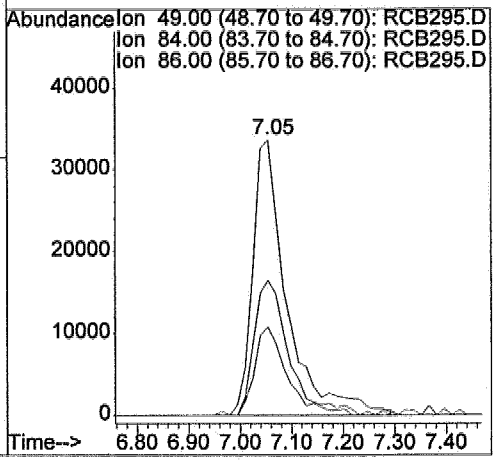




#17
Methylene chloride
Concen: 2.49 ug/l
RT: 7.05 min Scan# 265
Delta R.T. -0.00 min
Lab File: RCB295.D
Acq: 17 Mar 2006 3:38 pm

Tgt Ion: 49 Resp: 156185

Ion	Ratio	Lower	Upper
49	100		
84	49.7	22.5	82.5
86	30.7	3.8	63.8



SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/17/06 16:15
Sample ID	: M121-70	Date Analyzed:	03/17/06 16:15
Lab Samp ID	: C106-11	Dilution Factor:	.91
Lab File ID	: RCB296	Matrix	: SOIL
Ext Btch ID	: V003C24	% Moisture	: 22.8
Calib. Ref.	: RBB058	Instrument ID	: T-003

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1,2-TETRACHLOROETHANE	ND	5.9	2.4
1,1,1-TRICHLOROETHANE	ND	5.9	2.4
1,1,2,2-TETRACHLOROETHANE	ND	5.9	2.4
1,1,2-TRICHLOROETHANE	ND	5.9	2.4
1,1-DICHLOROETHANE	ND	5.9	2.4
1,1-DICHLOROETHENE	ND	5.9	2.4
1,1-DICHLOROPROPENE	ND	5.9	2.4
1,2,3-TRICHLOROBENZENE	ND	5.9	2.4
1,2,3-TRICHLOROPROPANE	ND	5.9	2.4
1,2,4-TRICHLOROBENZENE	ND	5.9	2.4
1,2,4-TRIMETHYLBENZENE	ND	5.9	2.4
1,2-DIBROMO-3-CHLOROPROPANE	ND	5.9	2.4
1,2-DICHLOROBENZENE	ND	5.9	2.4
1,2-DICHLOROETHANE	ND	5.9	2.4
1,2-DICHLOROPROPANE	ND	5.9	2.4
1,2-DIBROMOETHANE	ND	5.9	2.4
1,3,5-TRIMETHYLBENZENE	ND	5.9	2.4
1,3-DICHLOROBENZENE	ND	5.9	2.4
1,3-DICHLOROPROPANE	ND	5.9	2.4
1,4-DICHLOROBENZENE	ND	5.9	2.4
1-CHLOROHEXANE	ND	5.9	2.4
2,2-DICHLOROPROPANE	ND	5.9	2.4
2-CHLOROTOLUENE	ND	5.9	2.4
4-CHLOROTOLUENE	ND	5.9	2.4
BENZENE	ND	5.9	2.4
BROMOBENZENE	ND	5.9	2.4
BROMOCHLOROMETHANE	ND	5.9	2.4
BROMODICHLOROMETHANE	ND	5.9	2.4
BROMOFORM	ND	5.9	2.4
BROMOMETHANE	ND	12	2.4
CARBON TETRACHLORIDE	ND	5.9	2.4
CHLOROBENZENE	ND	5.9	2.4
CHLOROETHANE	ND	5.9	2.4
CHLOROFORM	ND	5.9	2.4
CHLOROMETHANE	ND	5.9	2.4
CIS-1,2-DICHLOROETHENE	ND	5.9	2.4
CIS-1,3-DICHLOROPROPENE	ND	5.9	2.4
DIBROMOCHLOROMETHANE	ND	5.9	2.4
DIBROMOMETHANE	ND	5.9	2.4
DICHLORODIFLUOROMETHANE	ND	5.9	2.4
ETHYLBENZENE	ND	5.9	2.4
HEXACHLOROBUTADIENE	ND	5.9	2.4
ISOPROPYL BENZENE	ND	5.9	2.4
XYLENES	ND	12	2.4
METHYLENE CHLORIDE	ND	12	2.4
N-BUTYLBENZENE	ND	5.9	2.4
N-PROPYLBENZENE	ND	5.9	2.4
NAPHTHALENE	ND	5.9	2.4
P-ISOPROPYLTOLUENE	ND	5.9	2.4
SEC-BUTYLBENZENE	ND	5.9	2.4
STYRENE	ND	5.9	2.4
TERT-BUTYLBENZENE	ND	5.9	2.4
TETRACHLOROETHYLENE	ND	5.9	2.4
TOLUENE	ND	5.9	2.4
TRANS-1,2-DICHLOROETHENE	ND	5.9	2.4
TRANS-1,3-DICHLOROPROPENE	ND	5.9	2.4
TRICHLOROETHENE	ND	5.9	2.4
TRICHLOROFLUOROMETHANE	ND	5.9	2.4
VINYL CHLORIDE	ND	5.9	2.4
ACETONE	ND	12	5.9
2-BUTANONE	ND	12	5.9
MTBE	ND	5.9	2.4
4-METHYL-2-PENTANONE	ND	12	5.9
DIPE	ND	5.9	2.4
ETBE	ND	5.9	2.4
TAME	ND	5.9	2.4
TERT-BUTANOL	ND	59	24
2-HEXANONE	ND	12	5.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	116	60-160
4-BROMOFLUOROBENZENE	100	70-150
TOLUENE-D8	103	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB296.D Vial: 20
Acq On : 17 Mar 2006 4:15 pm Operator: CGM
Sample : 06C106-11 5.5g Inst : TO03
Misc : DF=0.91 Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:47 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2296265	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.08	117	2286565	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1195867	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	1374906	58.13	ug/l	0.00
Spiked Amount 50.000			Recovery = 116.26%			
50) Toluene-d8	13.88	98	2672989	51.68	ug/l	0.00
Spiked Amount 50.000			Recovery = 103.36%			
71) 4-Bromofluorobenzene	20.09	95	1353478	50.10	ug/l	0.00
Spiked Amount 50.000			Recovery = 100.20%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

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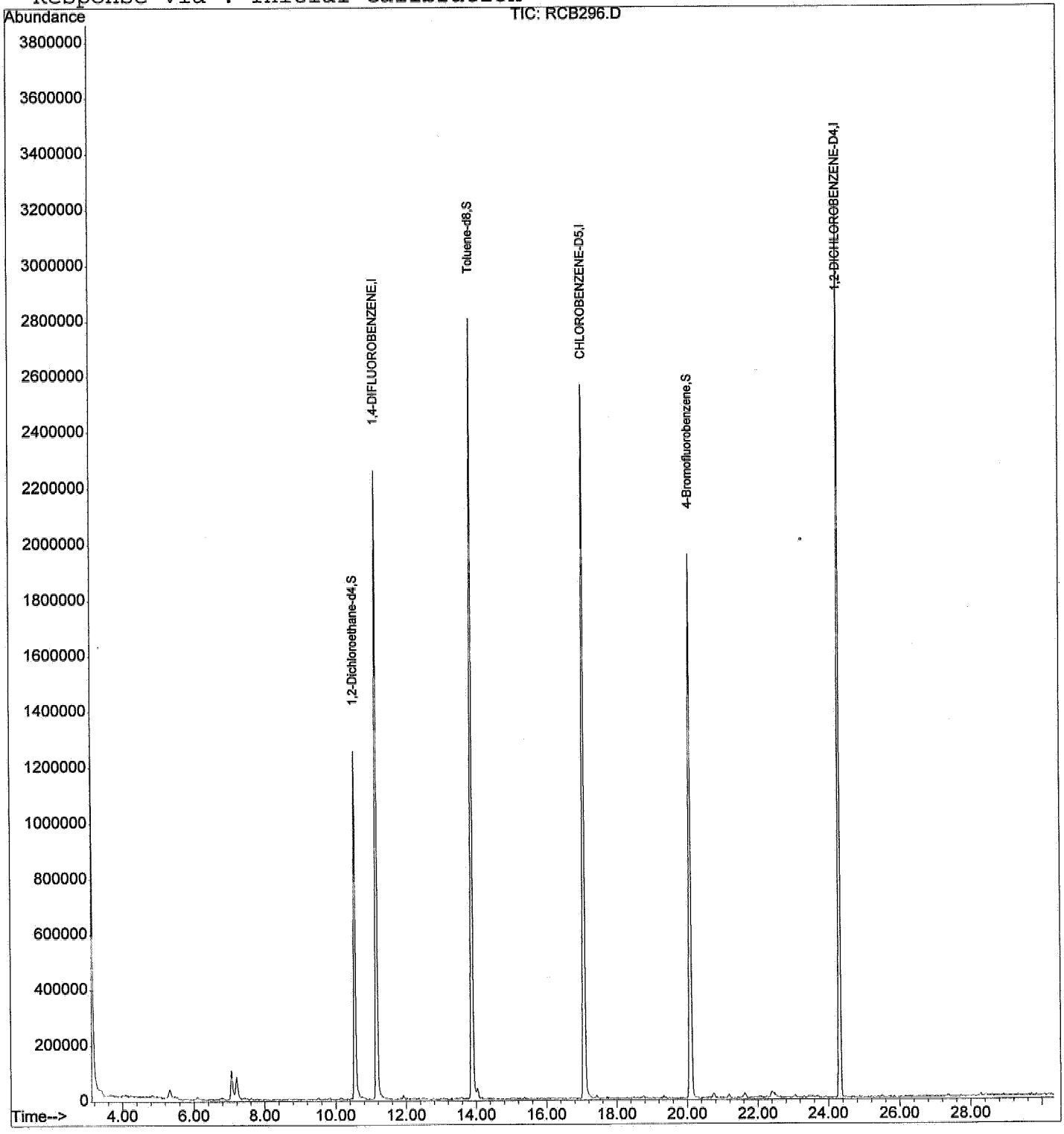
Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB296.D
Acq On : 17 Mar 2006 4:15 pm
Sample : 06C106-11 5.5g
Misc : DF=0.91
MS Integration Params: 524INT.P
Quant Time: Mar 20 17:47 2006

Vial: 20
Operator: CGM
Inst : TO03
Multiplr: 1.00

Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



QC SUMMARIES

SW 5035/8260B
VOLATILE ORGANICS BY GC/MS

Client : ENSR	Date Collected: NA
Project : UPGRADIENT INVESTIGATION, TRONOX	Date Received: 03/17/06
Batch No. : 06C106	Date Extracted: 03/17/06 08:12
Sample ID: MBLK1S	Date Analyzed: 03/17/06 08:12
Lab Samp ID: V003C24B	Dilution Factor: 1
Lab File ID: RCB283	Matrix : SOIL
Ext Btch ID: V003C24	% Moisture : NA
Calib. Ref.: RBB058	Instrument ID : T-003

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1,2-TETRACHLOROETHANE	ND	5	2
1,1,1-TRICHLOROETHANE	ND	5	2
1,1,2,2-TETRACHLOROETHANE	ND	5	2
1,1,2-TRICHLOROETHANE	ND	5	2
1,1-DICHLOROETHANE	ND	5	2
1,1-DICHLOROETHENE	ND	5	2
1,1-DICHLOROPROPENE	ND	5	2
1,2,3-TRICHLOROBENZENE	ND	5	2
1,2,3-TRICHLOROPROPANE	ND	5	2
1,2,4-TRICHLOROBENZENE	ND	5	2
1,2,4-TRIMETHYLBENZENE	ND	5	2
1,2-DIBROMO-3-CHLOROPROPANE	ND	5	2
1,2-DICHLOROBENZENE	ND	5	2
1,2-DICHLOROETHANE	ND	5	2
1,2-DICHLOROPROPANE	ND	5	2
1,2-DIBROMOETHANE	ND	5	2
1,3,5-TRIMETHYLBENZENE	ND	5	2
1,3-DICHLOROBENZENE	ND	5	2
1,3-DICHLOROPROPANE	ND	5	2
1,4-DICHLOROBENZENE	ND	5	2
1-CHLOROHEXANE	ND	5	2
2,2-DICHLOROPROPANE	ND	5	2
2-CHLOROTOLUENE	ND	5	2
4-CHLOROTOLUENE	ND	5	2
BENZENE	ND	5	2
BROMOBENZENE	ND	5	2
BROMOCHLOROMETHANE	ND	5	2
BROMODICHLOROMETHANE	ND	5	2
BROMOFORM	ND	5	2
BROMOMETHANE	ND	10	2
CARBON TETRACHLORIDE	ND	5	2
CHLOROBENZENE	ND	5	2
CHLOROETHANE	ND	5	2
CHLOROFORM	ND	5	2
CHLOROMETHANE	ND	5	2
CIS-1,2-DICHLOROETHENE	ND	5	2
CIS-1,3-DICHLOROPROPENE	ND	5	2
DIBROMOCHLOROMETHANE	ND	5	2
DIBROMOMETHANE	ND	5	2
DICHLORODIFLUOROMETHANE	ND	5	2
ETHYLBENZENE	ND	5	2
HEXACHLOROBUTADIENE	ND	5	2
ISOPROPYL BENZENE	ND	5	2
XYLENES	ND	10	2
METHYLENE CHLORIDE	ND	10	2
N-BUTYLBENZENE	ND	5	2
N-PROPYLBENZENE	ND	5	2
NAPHTHALENE	ND	5	2
P-ISOPROPYLTOLUENE	ND	5	2
SEC-BUTYLBENZENE	ND	5	2
STYRENE	ND	5	2
TERT-BUTYLBENZENE	ND	5	2
TETRACHLOROETHYLENE	ND	5	2
TOLUENE	ND	5	2
TRANS-1,2-DICHLOROETHENE	ND	5	2
TRANS-1,3-DICHLOROPROPENE	ND	5	2
TRICHLOROETHENE	ND	5	2
TRICHLOROFLUOROMETHANE	ND	5	2
VINYL CHLORIDE	ND	5	2
ACETONE	ND	10	5
2-BUTANONE	ND	10	5
MTBE	ND	5	2
4-METHYL-2-PENTANONE	ND	10	5
DIPE	ND	5	2
ETBE	ND	5	2
TAME	ND	5	2
TERT-BUTANOL	ND	50	20
2-HEXANONE	ND	10	5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	99	70-140
4-BROMOFLUOROBENZENE	107	70-130
TOLUENE-D8	107	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: SW 5035/8260B

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: V003C24B V003C24L V003C24C
LAB FILE ID: RCB283 RCB281 RCB282
DATE EXTRACTED: 03/17/0608:12 03/17/0606:58 03/17/0607:35 DATE COLLECTED: NA
DATE ANALYZED: 03/17/0608:12 03/17/0606:58 03/17/0607:35 DATE RECEIVED: 03/17/06
PREP. BATCH: V003C24 V003C24 V003C24
CALIB. REF: RBB058 RBB058 RBB058

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1,2-Tetrachloroethane	ND	20	20.7	104	20	20.2	101	2	70-130	50
1,1,1-Trichloroethane	ND	20	20	100	20	19.3	97	3	60-130	50
1,1,2,2-Tetrachloroethane	ND	20	18.6	93	20	17.8	89	5	70-150	50
1,1,2-Trichloroethane	ND	20	20	100	20	19.8	99	1	70-140	50
1,1-Dichloroethane	ND	20	19.8	99	20	19.6	98	1	70-130	50
1,1-Dichloroethene	ND	20	16.3	81	20	16.7	84	3	60-130	50
1,1-Dichloropropene	ND	20	18.3	92	20	17.2	86	6	70-130	50
1,2,3-Trichlorobenzene	ND	20	19.5	98	20	18.8	94	4	60-150	50
1,2,3-Trichloropropane	ND	20	17.9	90	20	18.3	91	2	60-150	50
1,2,4-Trichlorobenzene	ND	20	19.3	97	20	18.6	93	4	60-140	50
1,2,4-Trimethylbenzene	ND	20	19.5	98	20	19.1	95	2	70-130	50
1,2-Dibromo-3-chloropropane	ND	20	16.6	83	20	17.7	89	7	50-150	50
1,2-Dichlorobenzene	ND	20	19.8	99	20	19.2	96	3	70-130	50
1,2-Dichloroethane	ND	20	19.7	99	20	18.9	94	4	60-140	50
1,2-Dichloropropane	ND	20	20.9	105	20	19	95	10	70-130	50
1,2-Dibromoethane	ND	20	20.4	102	20	19.7	99	3	50-150	50
1,3,5-Trimethylbenzene	ND	20	19.9	99	20	19.4	97	2	70-130	50
1,3-Dichlorobenzene	ND	20	19.1	96	20	19	95	1	70-130	50
1,3-Dichloropropane	ND	20	20.5	103	20	19.3	97	6	70-140	50
1,4-Dichlorobenzene	ND	20	19.6	98	20	18.6	93	6	70-130	50
1-Chlorohexane	ND	20	20.9	104	20	20.1	101	4	70-130	50
2,2-Dichloropropane	ND	20	19.1	96	20	18.6	93	3	40-140	50
2-Chlorotoluene	ND	20	18.5	93	20	18	90	3	70-130	50
4-Chlorotoluene	ND	20	19.2	96	20	18.7	94	2	70-130	50
Benzene	ND	20	20.7	103	20	19.2	96	7	70-130	50
Bromobenzene	ND	20	19.9	99	20	19.2	96	3	70-130	50
Bromochloromethane	ND	20	18.7	94	20	19.2	96	2	60-150	50
Bromodichloromethane	ND	20	19.7	98	20	18.7	94	5	60-130	50
Bromoform	ND	20	16.8	84	20	16.3	82	3	60-130	50
Bromomethane	ND	20	16.9	84	20	17.5	87	3	40-160	50
Carbon Tetrachloride	ND	20	19.4	97	20	18.7	94	4	50-130	50
Chlorobenzene	ND	20	20.3	101	20	20	100	1	70-130	50
Chloroethane	ND	20	21.5	108	20	21.6	108	1	60-150	50
Chloroform	ND	20	20.4	102	20	20.5	102	0	70-130	50
Chloromethane	ND	20	18.5	92	20	18.7	94	1	50-150	50
cis-1,2-Dichloroethene	ND	20	19.5	98	20	19.8	99	1	70-130	50
cis-1,3-Dichloropropene	ND	20	19.9	99	20	18.3	91	8	60-130	50
Dibromochloromethane	ND	20	19.4	97	20	18.3	91	6	70-130	50
Dibromomethane	ND	20	20	100	20	19.4	97	3	70-130	50
Dichlorodifluoromethane	ND	20	16.4	82	20	17.5	87	6	50-130	50
Ethylbenzene	ND	20	20.3	102	20	20.2	101	1	70-130	50
Hexachlorobutadiene	ND	20	18.9	94	20	18.4	92	2	50-140	50
Isopropyl Benzene	ND	20	22.7	113	20	21.2	106	6	70-140	50
Xylenes	ND	60	62.6	104	60	60.2	100	4	70-130	50
Methylene Chloride	ND	20	18.6	93	20	19.3	96	4	70-130	50
n-Butylbenzene	ND	20	19.5	98	20	18.5	92	5	50-150	50
n-Propylbenzene	ND	20	19.7	99	20	19.1	96	3	70-130	50
Naphthalene	ND	20	19.2	96	20	19.1	96	0	40-160	50
p-Isopropyltoluene	ND	20	21	105	20	20.2	101	4	60-140	50
Sec-Butylbenzene	ND	20	19.1	95	20	18.6	93	2	70-130	50
Styrene	ND	20	20.2	101	20	19	95	6	60-140	50
Tert-Butylbenzene	ND	20	20.2	101	20	19.6	98	3	70-130	50
Tetrachloroethylene	ND	20	19.8	99	20	18.7	93	6	70-130	50
Toluene	ND	20	20.9	105	20	20.1	101	4	70-130	50
Trans-1,2-Dichloroethene	ND	20	18.4	92	20	18.8	94	2	70-130	50
Trans-1,3-Dichloropropene	ND	20	20.1	101	20	18.8	94	7	60-140	50
Trichloroethene	ND	20	20.1	101	20	18.6	93	8	70-130	50
Trichlorofluoromethane	ND	20	20.1	100	20	21.1	106	5	70-140	50
Vinyl Chloride	ND	20	17.6	88	20	18.2	91	4	60-150	50
Acetone	ND	80	75	94	80	84.1	105	11	40-160	50
2-Butanone	ND	80	77.8	97	80	86.4	108	11	50-160	50
MTBE	ND	20	20.4	102	20	20.5	102	1	60-150	50
4-Methyl-2-Pentanone	ND	80	88.1	110	80	90.2	113	2	70-160	50
DIPE	ND	20	21.8	109	20	22	110	1	70-130	50
ETBE	ND	20	22.4	112	20	22.2	111	1	70-130	50
TAME	ND	20	22.8	114	20	22.4	112	2	70-130	50
tert-Butanol	ND	100	100	100	100	113	113	12	70-160	50
2-Hexanone	ND	80	85.5	107	80	89.6	112	5	60-160	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50	51.4	103	50	53.1	106	70-140
4-Bromofluorobenzene	50	53.6	107	50	52.5	105	70-130
Toluene-d8	50	53.5	107	50	52.5	105	70-130

QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB283.D Vial: 7
Acq On : 17 Mar 2006 8:12 am Operator: CGM
Sample : VO03C24B 5.0g Inst : TO03
Misc : DF=1.0 MB Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 16:06 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2314091	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2194185	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1109680	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.52	65	1179327	49.48	ug/l	-0.02
Spiked Amount 50.000			Recovery =	98.96%		
50) Toluene-d8	13.87	98	2645217	53.30	ug/l	-0.02
Spiked Amount 50.000			Recovery =	106.60%		
71) 4-Bromofluorobenzene	20.08	95	1341030	53.50	ug/l	-0.02
Spiked Amount 50.000			Recovery =	107.00%		

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

2048

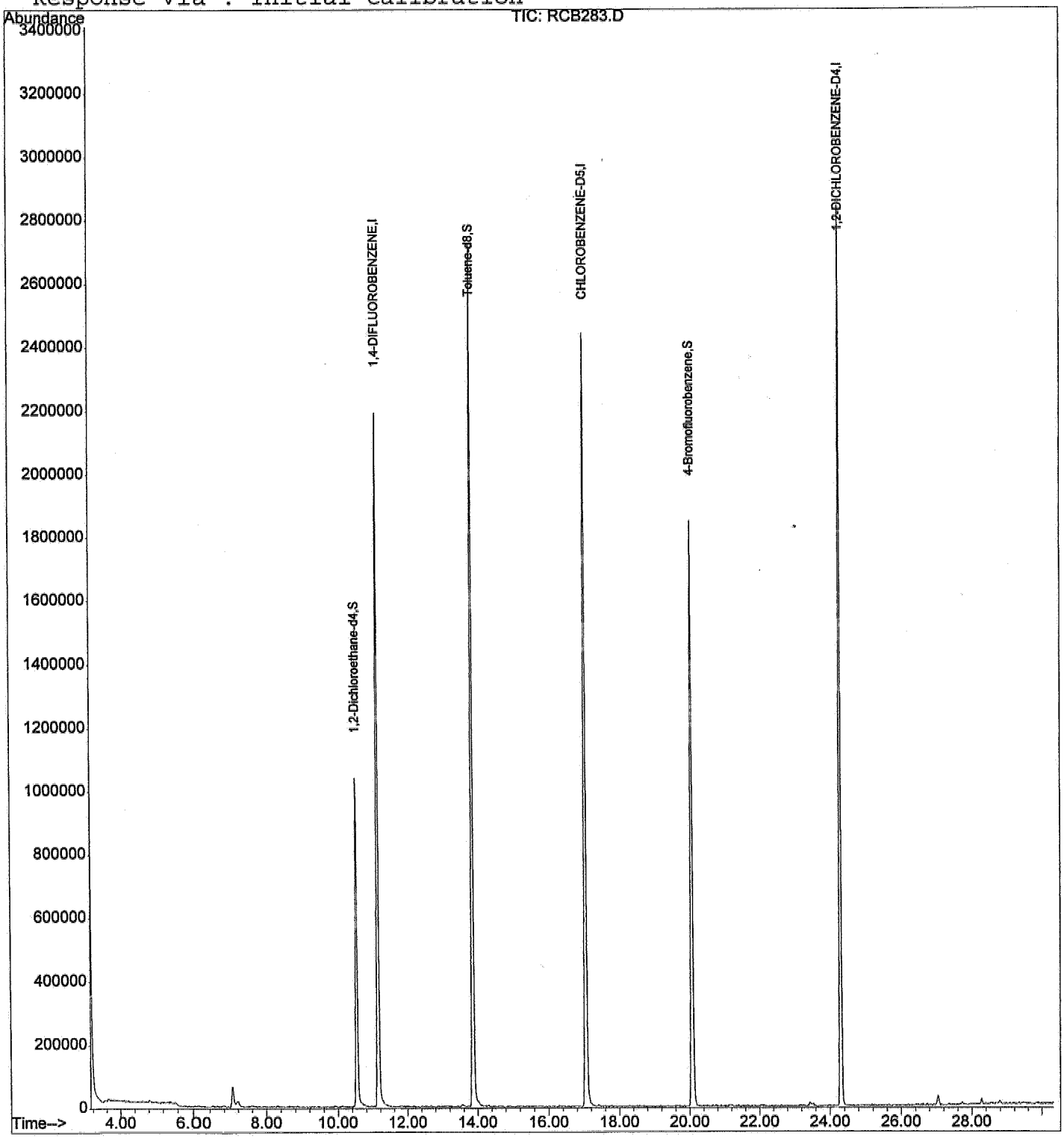
Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB283.D
Acq On : 17 Mar 2006 8:12 am
Sample : VO03C24B 5.0g
Misc : DF=1.0 MB
MS Integration Params: 524INT.P
Quant Time: Mar 17 16:06 2006

Vial: 7
Operator: CGM
Inst : TO03
Multiplr: 1.00

Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



2044

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB281.D Vial: 5
Acq On : 17 Mar 2006 6:58 am Operator: CGM
Sample : VO03C24L 5.0g Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:16 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.14	114	2635083	50.00	ug/l	-0.02
37) CHLOROBENZENE-D5	17.05	117	2430019	50.00	ug/l	-0.02
67) 1,2-DICHLOROBENZENE-D4	24.30	152	1285786	50.00	ug/l	-0.02
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.53	65	1395864	51.43	ug/l	-0.02
Spiked Amount 50.000			Recovery = 102.86%			
50) Toluene-d8	13.87	98	2938159	53.45	ug/l	-0.02
Spiked Amount 50.000			Recovery = 106.90%			
71) 4-Bromofluorobenzene	20.08	95	1555496	53.55	ug/l	-0.02
Spiked Amount 50.000			Recovery = 107.10%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.40	85	402664	16.44	ug/l	98
3) Chloromethane	3.83	50	565392	18.45	ug/l	97
4) Vinyl chloride	4.02	62	367521	17.57	ug/l	99
5) Bromomethane	4.77	94	239118	16.90	ug/l	99
6) Chloroethane	4.90	64	250995	21.52	ug/l	98
7) Trichlorofluoromethane	5.31	101	530405	20.07	ug/l	99
9) Acrolein	5.98	56	170703	77.48	ug/l	99
10) 1,1,2-Trichloro-1,2,2-trif	6.01	151	230683	17.90	ug/l	99
11) Acetone	6.09	43	611188	74.97	ug/l	100
12) 1,1-Dichloroethene	6.30	61	650222	16.30	ug/l	99
13) tert-Butyl alcohol	6.44	59	144676	100.30	ug/l	87
15) Iodomethane	6.80	142	307365	18.57	ug/l	97
16) Methyl acetate	6.80	43	69509	3.40	ug/l	93
17) Methylene chloride	7.04	49	806284	18.60	ug/l	99
18) Carbon disulfide	7.13	76	786633	13.88	ug/l	100
19) Acrylonitrile	7.22	53	503122	76.26	ug/l	99
20) tert-Butyl methyl ether (M	7.29	73	792755	20.38	ug/l	100
21) trans-1,2-Dichloroethene	7.51	61	704483	18.39	ug/l	97
22) Isopropyl ether (DIPE)	7.97	45	1831447	21.77	ug/l	98
23) 1,1-Dichloroethane	8.17	63	826383	19.76	ug/l	98
24) Vinyl acetate	8.14	43	666750	14.87	ug/l	100
25) tert-Butyl ethyl ether (ET	8.61	59	1205786	22.37	ug/l	98
26) 2-Butanone	8.81	43	856562	77.77	ug/l	100
27) 2,2-Dichloropropane	9.07	77	347786	19.12	ug/l	91
28) cis-1,2-Dichloroethene	9.13	61	794664	19.54	ug/l	99
30) Chloroform	9.39	83	790598	20.40	ug/l	98
31) Bromochloromethane	9.65	49	443636	18.74	ug/l	99
32) Tetrahydrofuran	9.76	42	15513	2.36	ug/l	80
33) 1,1,1-Trichloroethane	10.05	97	578639	20.01	ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB281.D Vial: 5
Acq On : 17 Mar 2006 6:58 am Operator: CGM
Sample : VO03C24L 5.0g Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:16 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	tert-Amyl methyl ether (TA	10.47	73	868541	22.84	ug/l	96
38)	1,1-Dichloropropene	10.31	77	182339	18.32	ug/l	94
39)	Carbon tetrachloride	10.49	119	438778	19.39	ug/l	100
40)	1,2-Dichloroethane	10.68	62	721535	19.74	ug/l	99
41)	Benzene	10.75	78	1499280	20.65	ug/l	99
42)	Trichloroethene	11.76	130	381053	20.12	ug/l	98
44)	1,2-Dichloropropane	12.05	63	486119	20.93	ug/l	97
45)	Bromodichloromethane	12.45	83	533068	19.66	ug/l	100
46)	Dibromomethane	12.55	93	266728	20.03	ug/l	99
47)	2-Chloroethyl vinyl ether	12.89	63	213635	23.22	ug/l	98
48)	4-Methyl-2-pentanone	12.95	43	2269589	88.11	ug/l	99
49)	cis-1,3-Dichloropropene	13.37	75	554951	19.85	ug/l	99
51)	Toluene	14.02	91	1483513	20.94	ug/l	99
52)	Ethyl methacrylate	14.22	69	475321	20.78	ug/l	96
53)	trans-1,3-Dichloropropene	14.29	75	424293	20.11	ug/l	97
54)	1,1,2-Trichloroethane	14.63	97	303707	19.98	ug/l	100
55)	2-Hexanone	14.59	43	1465336	85.49	ug/l	98
56)	1,3-Dichloropropane	15.14	76	585261	20.54	ug/l	100
57)	Tetrachloroethene	15.36	164	323212	19.83	ug/l	99
58)	Dibromochloromethane	15.76	129	316855	19.36	ug/l	98
59)	1,2-Dibromoethane	16.21	107	290894	20.38	ug/l	99
60)	1-Chlorohexane	16.46	91	531396	20.88	ug/l	98
61)	Chlorobenzene	17.14	112	947674	20.29	ug/l	97
62)	1,1,1,2-Tetrachloroethane	17.22	131	316622	20.74	ug/l	97
63)	Ethylbenzene	17.23	91	1690725	20.33	ug/l	99
64)	m-Xylene & p-Xylene	17.41	91	2850602	41.71	ug/l	99
65)	o-Xylene	18.49	91	1477231	20.88	ug/l	99
66)	Styrene	18.57	104	979911	20.19	ug/l	98
68)	Bromoform	19.49	173	176600	16.78	ug/l	99
69)	Isopropylbenzene	19.39	105	1634060	22.66	ug/l	99
70)	1,1,2,2-Tetrachloroethane	19.82	83	406432	18.59	ug/l	97
72)	1,2,3-Trichloropropane	20.22	61	105579	17.92	ug/l	99
73)	trans-1,4-Dichloro-2-buten	20.37	53	82047	23.75	ug/l	88
74)	n-Propylbenzene	20.49	91	2063956	19.71	ug/l	99
75)	Bromobenzene	20.65	156	427725	19.87	ug/l	98
76)	2-Chlorotoluene	21.02	91	1217346	18.55	ug/l	98
77)	1,3,5-Trimethylbenzene	20.92	105	1387882	19.88	ug/l	99
78)	4-Chlorotoluene	21.14	91	1389060	19.18	ug/l	99
79)	tert-Butylbenzene	21.96	119	1133951	20.16	ug/l	99
80)	1,2,4-Trimethylbenzene	22.08	105	1389211	19.50	ug/l	99
81)	sec-Butylbenzene	22.60	105	1714241	19.06	ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB281.D Vial: 5
Acq On : 17 Mar 2006 6:58 am Operator: CGM
Sample : VO03C24L 5.0g Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:16 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

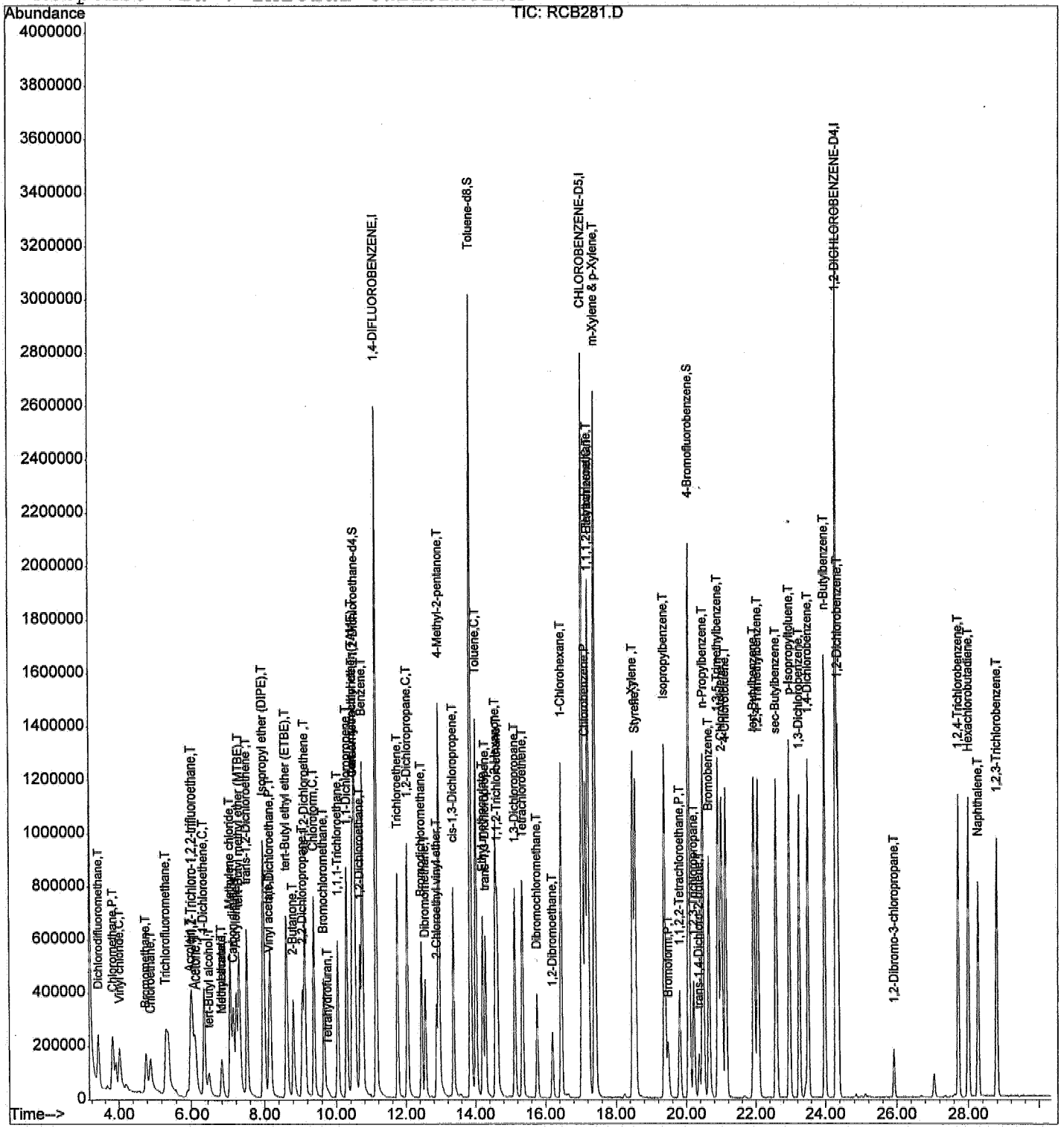
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
82)	p-Isopropyltoluene	22.98	119	1374002	21.04	ug/l	99
83)	1,3-Dichlorobenzene	23.26	146	747291	19.11	ug/l	98
84)	1,4-Dichlorobenzene	23.52	146	778552	19.63	ug/l	100
85)	n-Butylbenzene	23.98	91	1483612	19.52	ug/l	100
86)	1,2-Dichlorobenzene	24.36	146	748948	19.83	ug/l	97
87)	1,2-Dibromo-3-chloropropan	25.92	157	55806	16.56	ug/l	96
88)	1,2,4-Trichlorobenzene	27.72	180	583909	19.33	ug/l	98
89)	Hexachlorobutadiene	28.00	225	468205	18.87	ug/l	98
90)	Naphthalene	28.27	128	973920	19.19	ug/l	98
91)	1,2,3-Trichlorobenzene	28.79	180	535063	19.52	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB281.D Vial: 5
Acq On : 17 Mar 2006 6:58 am Operator: CGM
Sample : VO03C24L 5.0g Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:16 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB282.D Vial: 6
Acq On : 17 Mar 2006 7:35 am Operator: CGM
Sample : VO03C24C 5.0g Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:16 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2568257	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2458652	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1302749	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	1405903	53.15	ug/l	0.00
Spiked Amount 50.000			Recovery = 106.30%			
50) Toluene-d8	13.87	98	2917261	52.45	ug/l	-0.02
Spiked Amount 50.000			Recovery = 104.90%			
71) 4-Bromofluorobenzene	20.08	95	1545719	52.52	ug/l	-0.02
Spiked Amount 50.000			Recovery = 105.04%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.39	85	417299	17.48	ug/l	98
3) Chloromethane	3.82	50	558812	18.71	ug/l	97
4) Vinyl chloride	4.02	62	370251	18.20	ug/l	100
5) Bromomethane	4.77	94	241047	17.48	ug/l	97
6) Chloroethane	4.89	64	245906	21.63	ug/l	97
7) Trichlorofluoromethane	5.32	101	544301	21.13	ug/l	97
9) Acrolein	5.98	56	178632	83.19	ug/l	100
10) 1,1,2-Trichloro-1,2,2-trif	6.02	151	225228	17.93	ug/l	95
11) Acetone	6.08	43	668124	84.08	ug/l	98
12) 1,1-Dichloroethene	6.30	61	650718	16.73	ug/l	99
13) tert-Butyl alcohol	6.44	59	158779	112.94	ug/l	88
15) Iodomethane	6.81	142	298669	18.51	ug/l	98
16) Methyl acetate	6.79	43	72192	3.62	ug/l	95
17) Methylene chloride	7.05	49	810473	19.27	ug/l	99
18) Carbon disulfide	7.12	76	806001	14.59	ug/l	99
19) Acrylonitrile	7.21	53	538935	83.81	ug/l	97
20) tert-Butyl methyl ether (M	7.30	73	776914	20.48	ug/l	98
21) trans-1,2-Dichloroethene	7.52	61	700818	18.77	ug/l	97
22) Isopropyl ether (DIPE)	7.98	45	1802983	21.99	ug/l	98
23) 1,1-Dichloroethane	8.18	63	799255	19.60	ug/l	99
24) Vinyl acetate	8.13	43	666827	15.26	ug/l	100
25) tert-Butyl ethyl ether (ET	8.62	59	1163637	22.16	ug/l	99
26) 2-Butanone	8.82	43	928013	86.45	ug/l	99
27) 2,2-Dichloropropane	9.07	77	330402	18.64	ug/l	94
28) cis-1,2-Dichloroethene	9.13	61	785685	19.82	ug/l	99
30) Chloroform	9.40	83	773081	20.46	ug/l	99
31) Bromochloromethane	9.66	49	442150	19.16	ug/l	99
32) Tetrahydrofuran	9.80	42	14366	2.25	ug/l	83
33) 1,1,1-Trichloroethane	10.05	97	544973	19.33	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB282.D Vial: 6
Acq On : 17 Mar 2006 7:35 am Operator: CGM
Sample : VO03C24C 5.0g Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:16 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35) tert-Amyl methyl ether (TA	10.47	73	830991	22.42	ug/l	95
38) 1,1-Dichloropropene	10.30	77	173329	17.21	ug/l	93
39) Carbon tetrachloride	10.49	119	428413	18.71	ug/l	98
40) 1,2-Dichloroethane	10.69	62	698814	18.89	ug/l	100
41) Benzene	10.75	78	1411363	19.22	ug/l	99
42) Trichloroethene	11.76	130	355912	18.57	ug/l	98
44) 1,2-Dichloropropane	12.04	63	446377	18.99	ug/l	95
45) Bromodichloromethane	12.46	83	513285	18.71	ug/l	99
46) Dibromomethane	12.56	93	261309	19.40	ug/l	99
47) 2-Chloroethyl vinyl ether	12.89	63	202233	21.72	ug/l	97
48) 4-Methyl-2-pentanone	12.95	43	2350240	90.18	ug/l	99
49) cis-1,3-Dichloropropene	13.38	75	511643	18.28	ug/l	95
51) Toluene	14.03	91	1443151	20.13	ug/l	98
52) Ethyl methacrylate	14.21	69	469921	20.30	ug/l	97
53) trans-1,3-Dichloropropene	14.30	75	394874	18.76	ug/l	96
54) 1,1,2-Trichloroethane	14.64	97	305089	19.84	ug/l	99
55) 2-Hexanone	14.58	43	1554319	89.63	ug/l	97
56) 1,3-Dichloropropane	15.13	76	556502	19.31	ug/l	100
57) Tetrachloroethene	15.35	164	308378	18.70	ug/l	98
58) Dibromochloromethane	15.77	129	299679	18.26	ug/l	99
59) 1,2-Dibromoethane	16.20	107	285086	19.74	ug/l	96
60) 1-Chlorohexane	16.45	91	518239	20.12	ug/l	99
61) Chlorobenzene	17.15	112	947517	20.05	ug/l	97
62) 1,1,1,2-Tetrachloroethane	17.23	131	312722	20.25	ug/l	98
63) Ethylbenzene	17.23	91	1699451	20.20	ug/l	100
64) m-Xylene & p-Xylene	17.40	91	2792403	40.38	ug/l	98
65) o-Xylene	18.49	91	1415462	19.77	ug/l	100
66) Styrene	18.56	104	933097	19.00	ug/l	99
68) Bromoform	19.48	173	172941	16.34	ug/l	99
69) Isopropylbenzene	19.38	105	1552207	21.24	ug/l	99
70) 1,1,2,2-Tetrachloroethane	19.81	83	393370	17.76	ug/l	99
72) 1,2,3-Trichloropropane	20.21	61	108981	18.26	ug/l	98
73) trans-1,4-Dichloro-2-buten	20.36	53	81878	23.42	ug/l	88
74) n-Propylbenzene	20.48	91	2029189	19.12	ug/l	100
75) Bromobenzene	20.66	156	419425	19.23	ug/l	98
76) 2-Chlorotoluene	21.02	91	1195622	17.98	ug/l	97
77) 1,3,5-Trimethylbenzene	20.91	105	1375880	19.45	ug/l	99
78) 4-Chlorotoluene	21.13	91	1373181	18.71	ug/l	99
79) tert-Butylbenzene	21.95	119	1115833	19.58	ug/l	99
80) 1,2,4-Trimethylbenzene	22.07	105	1374952	19.05	ug/l	99
81) sec-Butylbenzene	22.59	105	1694869	18.59	ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB282.D Vial: 6
Acq On : 17 Mar 2006 7:35 am Operator: CGM
Sample : VO03C24C 5.0g Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:16 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

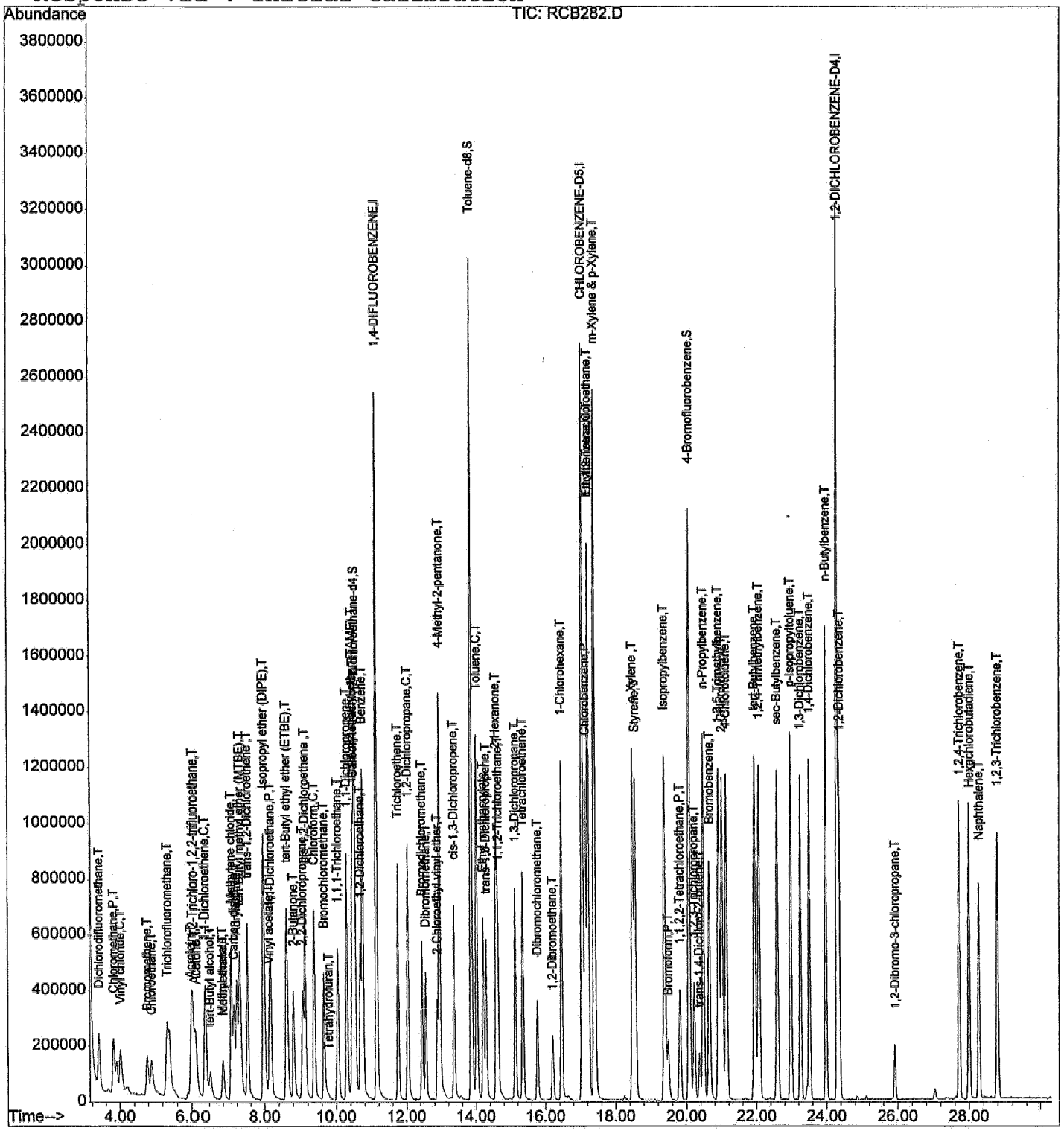
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
82) p-Isopropyltoluene	22.98	119	1333726	20.16	ug/l	99
83) 1,3-Dichlorobenzene	23.26	146	751536	18.96	ug/l	98
84) 1,4-Dichlorobenzene	23.51	146	745719	18.56	ug/l	99
85) n-Butylbenzene	23.99	91	1423401	18.49	ug/l	100
86) 1,2-Dichlorobenzene	24.37	146	735001	19.21	ug/l	97
87) 1,2-Dibromo-3-chloropropan	25.93	157	61666	17.74	ug/l	97
88) 1,2,4-Trichlorobenzene	27.73	180	567894	18.55	ug/l	100
89) Hexachlorobutadiene	28.01	225	462690	18.40	ug/l	97
90) Naphthalene	28.28	128	983263	19.12	ug/l	99
91) 1,2,3-Trichlorobenzene	28.79	180	523124	18.84	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB282.D Vial: 6
Acq On : 17 Mar 2006 7:35 am Operator: CGM
Sample : VO03C24C 5.0g Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:16 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



INITIAL CALIBRATION

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RBB053
Instrument ID: T-003
GC Column:RTX502.2ID:0.32mm (mm)

Contract: UPGRADIENT INVESTIGATION, TRONOX
SAS No.: SDG No.: 06C106
BFB Injection Date : 02/03/06
BFB Injection Time : 13:03
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	26.71
75	30.0 - 60.0% of mass 95	53.21
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.38
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	71.75
175	5.0 - 9.0% of mass 174	5.93(8.3)1
176	95.0 - 101.0% of mass 174	70.77(98.6)1
177	5.0 - 9.0% of mass 176	4.73(6.7)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
1	VSTD02	V003B031	RBB054	02/03/06	13:40
2	VSTD05	V003B032	RBB055	02/03/06	14:17
3	VSTD010	V003B033	RBB056	02/03/06	14:54
4	VSTD020	V003B034	RBB057	02/03/06	15:32
5	VSTD050	V003B035	RBB058	02/03/06	16:09
6	VSTD080	V003B036	RBB059	02/03/06	16:46
7	VSTD100	V003B037	RBB060	02/03/06	17:24
8	VSTD200	V003B038	RBB061	02/03/06	18:01
9	VSTD300	V003B039	RBB062	02/03/06	18:38
10	VSTD050	IV003B031	RBB065	02/03/06	20:30

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :T003
Beginning DateTime :02/03/06 13:40
Spike Units :PPB
IC File :RBB058

Column Spec :RTX502.2 ID :0.32MM
Ending DateTime :02/03/06 18:38
HPChem Method :V003B03

M	IDX	Parameters	2 13:40 RBB054	5 14:17 RBB055	10 14:54 RBB056	20 15:32 RBB057	50 16:09 RBB058	80 16:46 RBB059	100 17:24 RBB060	200 18:01 RBB061	300 18:38 RBB062	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	0	11.1513
	2	Dichlorodifluoromethane	0.414	0.459	0.469	0.596	0.460	0.455	0.431	0.489	0.411	0.465	11.93	3.3883
	3	Chloromethane	0.617	0.548	0.574	0.661	0.532	0.539	0.518	0.643	0.601	0.581	8.88	3.8142
	4	Vinyl chloride	0.372	0.384	0.378	0.462	0.315	0.290	0.264	------	------	0.352	19.12	4.0089
	5	Bromomethane	0.247	0.240	0.264	0.329	0.270	0.270	0.264	0.298	0.237	0.269	10.88	4.7603
	6	Chloroethane	0.217	0.211	0.223	0.286	0.220	0.218	0.206	0.233	0.179	0.221	12.91	4.8890
	7	Trichlorofluoromethane	0.505	0.496	0.492	0.641	0.486	0.486	0.463	0.527	0.419	0.502	11.99	5.3200
	8	sec-Propyl alcohol	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
4	9	Acrolein	0.034	0.039	0.045	0.042	0.046	0.045	0.041	0.045	0.040	0.042	9.35	5.9853
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	0.276	0.241	0.246	0.274	0.255	0.230	0.207	0.263	0.209	0.245	10.44	6.0200
4	11	Acetone	0.181	0.153	0.162	0.155	0.155	0.152	0.139	0.154	0.142	0.155	7.85	6.0976
	12	1,1-Dichloroethene	0.844	0.786	0.772	0.829	0.759	0.705	0.650	0.810	0.658	0.757	9.41	6.3056
5	13	tert-Butyl alcohol	0.025	0.022	0.024	0.029	0.031	0.033	0.028	------	------	0.027	14.59	6.4458
	14	Acetonitrile	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	15	Iodomethane	0.274	0.286	0.325	0.379	0.337	0.303	0.275	0.336	------	0.314	11.66	6.8127
	16	Methyl acetate	0.447	0.341	0.354	0.377	0.395	0.404	0.374	0.422	0.378	0.388	8.51	6.7992
	17	Methylene chloride	------	1.116	0.906	0.894	0.781	0.703	0.633	0.770	------	0.829	19.22	7.0498
	18	Carbon disulfide	0.985	1.024	1.067	1.183	1.144	1.060	0.973	1.231	1.014	1.076	8.45	7.1295
4	19	Acrylonitrile	0.115	0.115	0.124	0.129	0.133	0.131	0.121	0.133	0.125	0.125	5.70	7.2170
	20	tert-Butyl methyl ether (MTBE)	0.506	0.547	0.588	0.699	0.772	0.743	0.669	0.889	0.763	0.686	17.81	7.3078
	21	trans-1,2-Dichloroethene	0.740	0.719	0.732	0.805	0.758	0.694	0.642	0.793	0.658	0.727	7.64	7.5240
	22	Isopropyl ether (DIPE)	1.416	1.433	1.513	1.736	1.723	1.647	1.496	1.860	1.540	1.596	9.58	7.9896
	23	1,1-Dichloroethane	0.794	0.789	0.788	0.886	0.831	0.769	0.704	0.871	0.711	0.794	7.88	8.1795
	24	Vinyl acetate	0.650	0.726	0.765	0.928	0.952	0.928	0.821	1.015	0.873	0.851	14.03	8.1366
	25	tert-Butyl ethyl ether (ETBE)	0.705	0.731	0.814	1.026	1.068	1.044	0.921	1.195	1.052	0.951	17.69	8.6303
4	26	2-Butanone	0.186	0.175	0.197	0.213	0.228	0.228	0.208	0.226	0.219	0.209	9.22	8.8201
	27	2,2-Dichloropropane	------	0.290	0.295	0.350	0.399	0.384	0.353	------	------	0.345	13.08	9.0736
	28	cis-1,2-Dichloroethene	0.745	0.740	0.780	0.849	0.813	0.750	0.686	0.864	0.718	0.772	7.77	9.1420
	29	tert-Butyl formate (TBF)	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	30	Chloroform	0.766	0.741	0.757	0.808	0.766	0.702	0.642	0.783	0.653	0.736	7.87	9.3980
	31	Bromochloromethane	0.480	0.455	0.465	0.491	0.464	0.423	0.382	0.480	0.403	0.449	8.40	9.6654
2	32	Tetrahydrofuran	0.131	0.103	0.108	0.113	0.134	0.135	0.125	0.141	0.132	0.125	10.76	9.7480
	33	1,1,1-Trichloroethane	0.472	0.509	0.532	0.595	0.600	0.557	0.510	0.631	0.533	0.549	9.38	10.0617
	34	Cyclohexane	0.657	0.676	0.748	0.782	0.777	0.772	0.755	0.818	0.671	0.740	7.75	10.1211
	35	tert-Amyl methyl ether (TAME)	------	0.565	0.615	0.738	0.802	0.768	0.678	0.852	0.756	0.722	13.34	10.4729
	36	1,2-Dichloroethane-d4	0.541	0.519	0.540	0.512	0.456	0.555	0.523	0.534	0.456	0.515	6.98	10.5421
	37	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	0	17.0669
	38	1,1-Dichloropropene	0.185	0.203	0.197	0.233	0.220	0.198	0.190	0.232	0.184	0.205	9.28	10.3044
	39	Carbon tetrachloride	------	0.369	0.406	0.526	0.509	0.472	0.451	0.555	0.437	0.466	13.45	10.4970
	40	1,2-Dichloroethane	0.757	0.771	0.753	0.848	0.775	0.722	0.691	0.807	0.645	0.752	8.06	10.6907
	41	Benzene	1.443	1.515	1.518	1.718	1.583	1.440	1.376	1.590	1.259	1.494	8.96	10.7650
	42	Trichloroethene	0.369	0.394	0.383	0.434	0.409	0.380	0.364	0.430	0.345	0.390	7.69	11.7705
	43	Methylcyclohexane	0.537	0.588	0.640	0.693	0.678	0.671	0.689	0.722	0.560	0.642	10.18	11.9092
	44	1,2-Dichloropropane	0.442	0.476	0.457	0.521	0.502	0.468	0.449	0.547	0.439	0.478	7.90	12.0495
	45	Bromodichloromethane	0.447	0.463	0.515	0.590	0.624	0.582	0.562	0.681	0.559	0.558	13.35	12.4589
	46	Dibromomethane	0.260	0.282	0.270	0.302	0.295	0.268	0.249	0.295	0.245	0.274	7.59	12.5630
	47	2-Chloroethyl vinyl ether	------	0.144	0.162	0.198	0.200	0.195	0.183	0.224	0.207	0.189	13.56	12.8931
4	48	4-Methyl-2-pentanone	0.426	0.458	0.518	0.556	0.594	0.582	0.550	0.564	0.521	0.530	10.60	12.9641
	49	cis-1,3-Dichloropropene	------	0.412	0.466	0.580	0.640	0.608	0.574	0.723	0.603	0.576	16.93	13.3797
	50	Toluene-d8	0.977	1.089	1.167	1.137	1.046	1.235	1.252	1.263	1.012	1.131	9.43	13.8854
	51	Toluene	1.456	1.470	1.523	1.585	1.549	1.433	1.332	1.539	1.234	1.458	7.74	14.0340
	52	Ethyl methacrylate	------	0.365	0.406	0.485	0.519	0.507	0.459	0.546	0.479	0.471	12.70	14.2248
	53	trans-1,3-Dichloropropene	------	0.269	0.307	0.412	0.494	0.468	0.443	0.573	0.502	0.434	23.51	14.3010
	54	1,1,2-Trichloroethane	0.307	0.299	0.320	0.325	0.337	0.310	0.289	0.343	0.286	0.313	6.46	14.6432
4	55	2-Hexanone	0.285	0.303	0.347	0.356	0.394	0.392	0.368	0.371	0.359	0.353	10.49	14.5937
	56	1,3-Dichloropropane	0.544	0.545	0.576	0.614	0.641	0.598	0.550	0.649	0.557	0.586	7.04	15.1484
	57	Tetrachloroethene	0.341	0.348	0.343	0.348	0.355	0.324	0.302	0.361	0.296	0.335	6.88	15.3680
	58	Dibromochloromethane	------	0.235	0.268	0.333	0.377	0.360	0.335	0.427	0.371	0.338	18.24	15.7720
	59	1,2-Dibromoethane	0.246	0.274	0.294	0.312	0.327	0.296	0.271	0.331	0.293	0.294	9.36	16.2183
	60	1-Chlorohexane	0.410	0.465	0.516	0.571	0.585	0.538	0.510	0.610	0.509	0.524	11.82	16.4709
	61	Chlorobenzene	1.010	1.015	1.003	1.034	1.010	0.916	0.848	0.992	0.823	0.961	8.21	17.1594
	62	1,1,1,2-Tetrachloroethane	0.250	0.267	0.293	0.336	0.355	0.334	0.306	0.372	0.314	0.314	12.71	17.2287
	63	Ethylbenzene	1.732	1.788	1.805	1.898	1.843	1.660	1.529	1.738	1.406	1.711	9.18	17.2436
2	64	m-Xylene & p-Xylene	1.445	1.501	1.510	1.584	1.543	1.365	1.270	1.376	1.063	1.406	11.53	17.4252
	65	o-Xylene	1.311	1.385	1.508	1.616	1.608	1.460	1.341	1.574	1.302	1.456	8.70	18.5049
	66	Styrene	0.857	0.949	1.001	1.102	1.107	1.005	0.934	1.107	0.927	0.999	9.09	18.5792
	67	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	0	24.3165
	68	Bromoform	------	0.248	0.291	0.386	0.479	0.484	0.444	0.587	0.508	0.428	26.59	19.4979
	69	Isopropylbenzene	2.500	2.797	2.744	3.097	3.071	2.866	2.643	3.091	2.427	2.804	8.98	19.4014
	70	1,1,2,2-Tetrachloroethane	0.743	0.815	0.818	0.882	0.909	0.892	0.797	0.955	0.838	0.850	7.66	19.8274
	71	4-Bromofluorobenzene	1.054	1.096	1.106	1.088	1.022	1.241	1.241	1.273	1.043	1.129	8.50	20.0949
	72	1,2,3-Trichloropropane	0.249	0.224	0.222	0.240	0.229	0.230	0.200	0.251	0.217	0.229	7.04	20.2286
	73	trans-1,4-Dichloro-2-butene	------	0.102	0.110	0.117	0.142	0.152	0.140	------	------	0.127	15.80	20.3789
	74	n-Propylbenzene	3.636	4.201	4.161	4.514	4.444	4.096	3.780	4.386	3.439	4.073	9.24	20.4944
	75	Bromobenzene	0.809	0.836	0.845	0.899	0.899	0.837	0.759	0.909	0.742	0.837	7.18	20.6694
	76	2-Chlorotoluene	3.133	2.513	2.470	2.609	2.565	2.374	2.152	2.501	2.657	2.553	10.31	21.0310
	77	1,3,5-Trimethylbenzene	2.394	2.678	2.734	2.986	2.981	2.757	2.522	2.995	2.390	2.715	8.95	21.9319
	78	4-Chlorotoluene	2.761	2.862	2.894	3.052	3.001	2.762	2.560	3.011	2.444	2.816	7.38	21.1548
	79	tert-Butylbenzene	1.946	2.155	2.187	2.421	2.375	2.200	2.044	2.405	1.951	2.187	8.44	21.9688
	80	1,2,4-Trimethylbenzene	2.584	2.822	2.813	3.033	2.969	2.772	2.537	2.980	2.418	2.770	7.76	22.0877
	81	sec-Butylbenzene	3.107	3.489	3.518	3.897	3.777	3.541	3.270	3.848	3.038	3.498	8.91	22.6077
	82	p-Isopropyltoluene	2.177	2.516	2.507	2.855	2.796	2.566	2.397	2.794	2.249	2.540	9.52	22.9941
	83	1,3-Dichlorobenzene	1.589	1.586	1.523	1.650	1.610	1.476	1.363	1.584	1.307	1.521	7.73	23.2731
	84	1,4-Dichlorobenzene	1.595	1.616	1.559	1.680	1.646	1.482	1.378	1.624	1.302	1.542	8.37	23.5290
	85	n-Butylbenzene	2.665	2.972	3.000	3.340	3.216	2.934	2.737	3.172	2.557	2.955	8.93	23.9929
	86	1,2-Dichlorobenzene	1.618	1.570	1.470	1.578	1.535	1.403	1.281	1.506	1.256	1.469	8.85	24.3760
	87	1,2-Dibromo-3-chloropropane	------	0.090	0.096	0.124	0.151	0.152	0.137	0.182	0.163	0.137	23.38	25.9357
	88	1,2,4-Trichlorobenzene	1.142	1.174	1.155	1.246	1.223	1.152	1.092	1.302	1.087	1.175	6.02	27.7341
	89	Hexachlorobutadiene	0.991	0.978	0.938	1.041	0.984	0.933	0.875	1.054	0.892	0.965	6.38	28.0164
	90	Naphthalene	1.642	1.737	1.899	2.108	2.174	2.081	1.899	2.265	1.961	1.974	10.32	28.2839
	91	1,2,3-Trichlorobenzene	1.040	1.028	1.039	1.140	1.118	1.062	0.982	1.171	1.011	1.066	5.96	28.8023

Spike Amount = Nominal Amount * M
Ave_%RSD : 10.6 Max_%RSD : 26.6

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Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
4	Vinyl chloride	0.00963	0.29076	0.9833*
17	Methylene chloride	0.04162	0.71073	0.9951
20	tert-Butyl methyl ether (MTBE)	-0.02037	0.78823	0.9954
25	tert-Butyl ethyl ether (ETBE)	-0.02603	1.08082	0.9964
49	cis-1,3-Dichloropropene	-0.02733	0.64405	0.9955
53	trans-1,3-Dichloropropene	-0.03477	0.52061	0.9960
58	Dibromochloromethane	-0.01952	0.38720	0.9963
68	Bromoform	-0.04027	0.52930	0.9954
73	trans-1,4-Dichloro-2-butene	-0.00614	0.14726	0.9981
87	1,2-Dibromo-3-chloropropane	-0.01181	0.16672	0.9957

Use Quadratic Regression of inv conc w.f. for comps of linear reg of inv conc w.f. with CCF < .995
Resp_Ratio = xo + x1 * Amt_Ratio + x2 * Amt_Ratio * Amt_Ratio

IDX	Parameter	x0	x1	x2	CCF2
4	Vinyl chloride	-0.00241	0.43478	-0.08811	0.9959

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Compound List Report TO03

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
Total Cpnds : 91

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-DIFLUOROBENZENE	114	11.16	1.000	A	1	A	B
2	T	Dichlorodifluoromethane	85	3.40	0.305	A	2	A	B
3	T	Chloromethane	50	3.81	0.342	A	1	A	B
4	T	Vinyl chloride	62	4.01	0.359	Q✓	1	A	B
5	T	Bromomethane	94	4.77	0.427	A	1	A	B
6	T	Chloroethane	64	4.90	0.439	A	2	A	B
7	T	Trichlorofluoromethane	101	5.33	0.478	A	1	A	B
8	T	sec-Propyl alcohol	45	5.06	0.454	A	1	A	B
9	T	Acrolein	56	5.98	0.536	A	1	A	B
10	T	1,1,2-Trichloro-1,2,2-trifluor	151	6.03	0.540	A	1	A	B
11	T	Acetone	43	6.09	0.546	A	1	A	B
12	T	1,1-Dichloroethene	61	6.31	0.566	A	2	A	B
13	T	tert-Butyl alcohol	59	6.44	0.578	A	1	A	B
14	T	Acetonitrile	39	7.29	0.654	A	2	A	B
15	T	Iodomethane	142	6.82	0.611	A	2	A	B
16	T	Methyl acetate	43	6.80	0.610	A	1	A	B
17	T	Methylene chloride	49	7.05	0.632	L✓	2	A	B
18	T	Carbon disulfide	76	7.13	0.639	A	1	A	B
19	T	Acrylonitrile	53	7.22	0.647	A	2	A	B
20	T	tert-Butyl methyl ether (MTBE)	73	7.31	0.655	L✓	1	A	B
21	T	trans-1,2-Dichloroethene	61	7.53	0.675	A	2	A	B
22	T	Isopropyl ether (DIPE)	45	7.99	0.716	A	1	A	B
23	T	1,1-Dichloroethane	63	8.18	0.734	A	2	A	B
24	T	Vinyl acetate	43	8.14	0.730	A	1	A	B
25	T	tert-Butyl ethyl ether (ETBE)	59	8.63	0.774	L✓	1	A	B
26	T	2-Butanone	43	8.81	0.790	A	1	A	B
27	T	2,2-Dichloropropane	77	9.07	0.813	A	3	A	B
28	T	cis-1,2-Dichloroethene	61	9.15	0.820	A	2	A	B
29	T	tert-Butyl formate (TBF)	59	9.15	0.820	A	2	A	B
30	T	Chloroform	83	9.40	0.843	A	2	A	B
31	T	Bromochloromethane	49	9.67	0.867	A	2	A	B
32	T	Tetrahydrofuran	42	9.74	0.873	A	1	A	B
33	T	1,1,1-Trichloroethane	97	10.06	0.901	A	2	A	B
34	T	Cyclohexane	56	10.12	0.907	A	2	A	B
35	T	tert-Amyl methyl ether (TAME)	73	10.47	0.939	A	2	A	B
36	S	1,2-Dichloroethane-d4	65	10.55	0.945	A	1	A	B
37	I	CHLOROBENZENE-D5	117	17.07	1.000	A	2	A	B
38	T	1,1-Dichloropropene	77	10.31	0.604	A	2	A	B
39	T	Carbon tetrachloride	119	10.50	0.615	A	1	A	B
40	T	1,2-Dichloroethane	62	10.69	0.627	A	2	A	B
41	T	Benzene	78	10.77	0.631	A	2	A	B
42	T	Trichloroethene	130	11.76	0.689	A	3	A	B
43	T	Methylcyclohexane	83	11.91	0.698	A	2	A	B
44	T	1,2-Dichloropropane	63	12.05	0.706	A	2	A	B
45	T	Bromodichloromethane	83	12.46	0.730	A	2	A	B
46	T	Dibromomethane	93	12.57	0.736	A	2	A	B
47	T	2-Chloroethyl vinyl ether	63	12.89	0.755	A	2	A	B
48	T	4-Methyl-2-pentanone	43	12.95	0.759	A	3	A	B
49	T	cis-1,3-Dichloropropene	75	13.38	0.784	L✓	3	A	B
50	S	Toluene-d8	98	13.89	0.814	A	1	A	B
51	T	Toluene	91	14.04	0.822	A	1	A	B
52	T	Ethyl methacrylate	69	14.22	0.833	A	2	A	B
53	T	trans-1,3-Dichloropropene	75	14.31	0.838	L✓	3	A	B
54	T	1,1,2-Trichloroethane	97	14.65	0.858	A	3	A	B
55	T	2-Hexanone	43	14.59	0.855	A	2	A	B
56	T	1,3-Dichloropropane	76	15.15	0.888	A	2	A	B
57	T	Tetrachloroethene	164	15.38	0.901	A	3	A	B
58	T	Dibromochloromethane	129	15.78	0.924	L✓	2	A	B
59	T	1,2-Dibromoethane	107	16.22	0.950	A	1	A	B
60	T	1-Chlorohexane	91	16.47	0.965	A	3	A	B
61	P	Chlorobenzene	112	17.16	1.005	A	3	A	B

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62	T	1,1,1,2-Tetrachloroethane	131	17.23	1.010	A	3	A	B
63	T	Ethylbenzene	91	17.25	1.010	A	1	A	B
64	T	m-Xylene & p-Xylene	91	17.43	1.021	A	1	A	B
65	T	o-Xylene	91	18.51	1.084	A	1	A	B
66	T	Styrene	104	18.58	1.089	A	2	A	B
67	I	1,2-DICHLOROBENZENE-D4	152	24.32	1.000	A	1	A	B
68	T	Bromoform	173	19.49	0.801	L ✓	2	A	B
69	T	Isopropylbenzene	105	19.40	0.798	A	3	A	B
70	T	1,1,2,2-Tetrachloroethane	83	19.83	0.815	A	2	A	B
71	S	4-Bromofluorobenzene	95	20.10	0.826	A	2	A	B
72	T	1,2,3-Trichloropropane	61	20.23	0.832	A	2	A	B
73	T	trans-1,4-Dichloro-2-butene	53	20.38	0.838	L ✓	1	A	B
74	T	n-Propylbenzene	91	20.49	0.842	A	2	A	B
75	T	Bromobenzene	156	20.66	0.850	A	2	A	B
76	T	2-Chlorotoluene	91	21.04	0.865	A	1	A	B
77	T	1,3,5-Trimethylbenzene	105	20.93	0.861	A	2	A	B
78	T	4-Chlorotoluene	91	21.16	0.870	A	1	A	B
79	T	tert-Butylbenzene	119	21.97	0.903	A	2	A	B
80	T	1,2,4-Trimethylbenzene	105	22.09	0.908	A	1	A	B
81	T	sec-Butylbenzene	105	22.61	0.930	A	1	A	B
82	T	p-Isopropyltoluene	119	23.00	0.946	A	2	A	B
83	T	1,3-Dichlorobenzene	146	23.28	0.957	A	2	A	B
84	T	1,4-Dichlorobenzene	146	23.53	0.968	A	2	A	B
85	T	n-Butylbenzene	91	23.99	0.987	A	2	A	B
86	T	1,2-Dichlorobenzene	146	24.38	1.002	A	2	A	B
87	T	1,2-Dibromo-3-chloropropane	157	25.94	1.067	L ✓	2	A	B
88	T	1,2,4-Trichlorobenzene	180	27.74	1.141	A	2	A	B
89	T	Hexachlorobutadiene	225	28.02	1.152	A	2	A	B
90	T	Naphthalene	128	28.29	1.163	A	1	A	B
91	T	1,2,3-Trichlorobenzene	180	28.81	1.185	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VO03B03.M Mon Feb 06 13:21:35 2006

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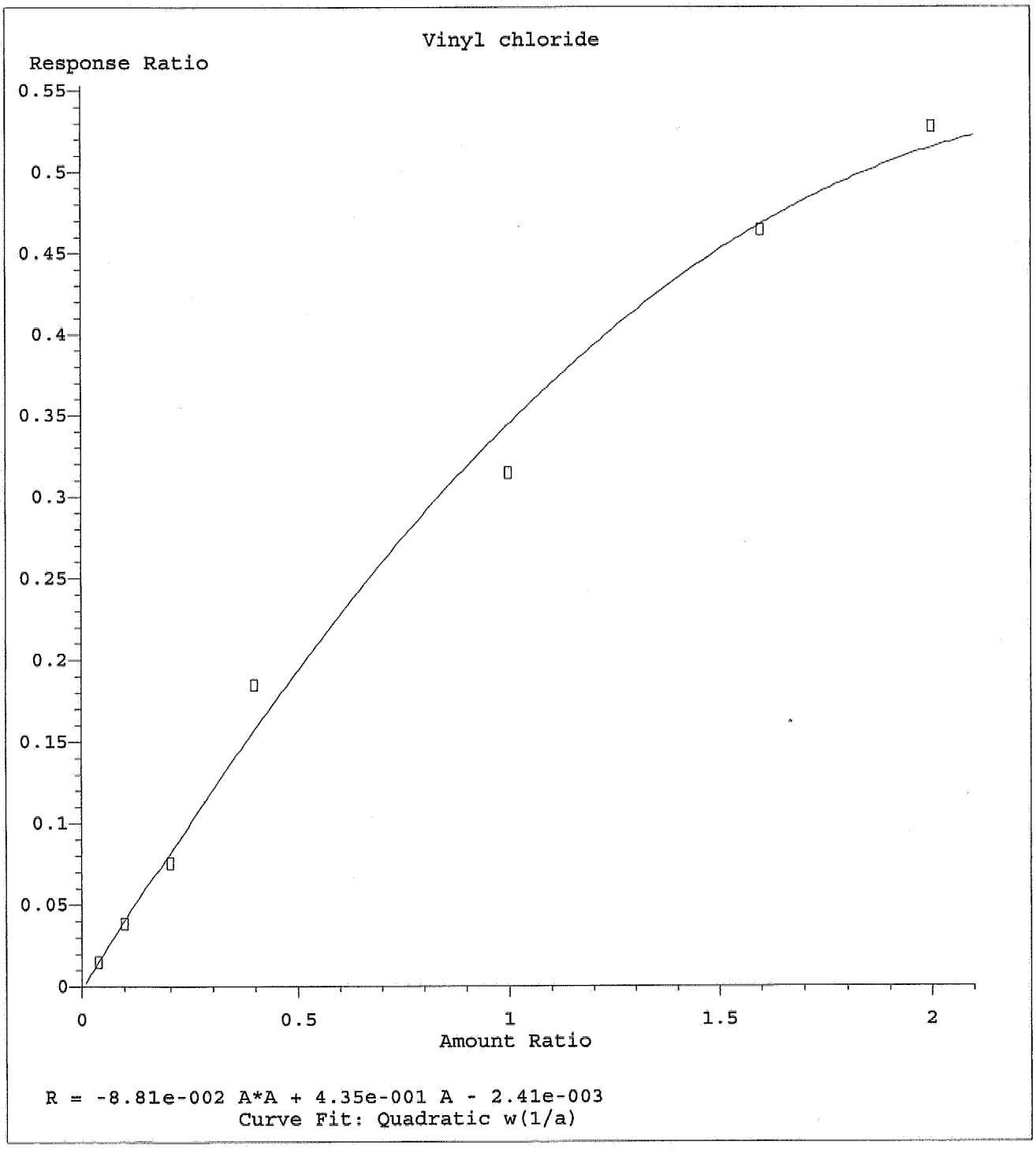

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Calibration Table Last Updated: Mon Feb 06 13:18:50 2006

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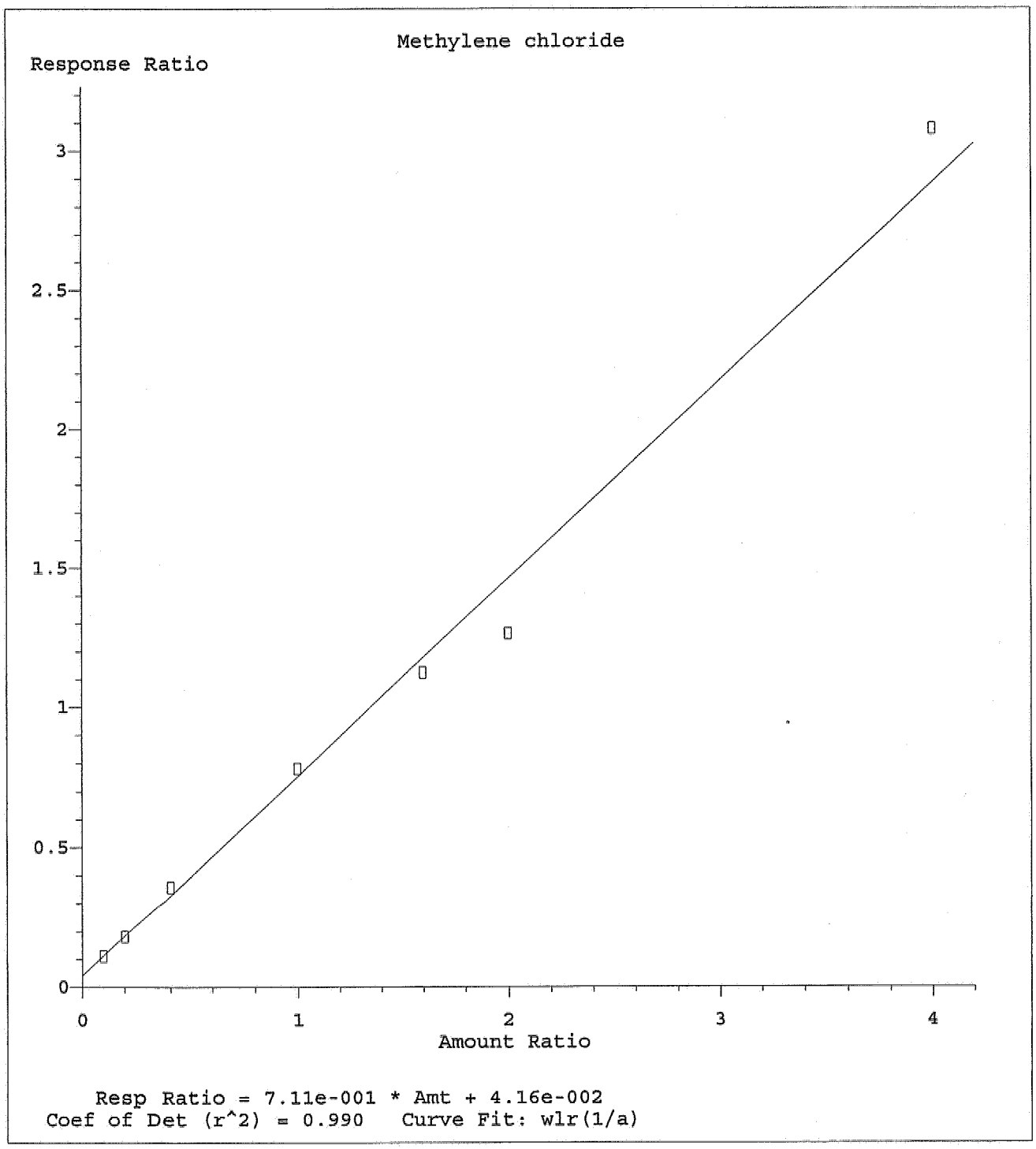

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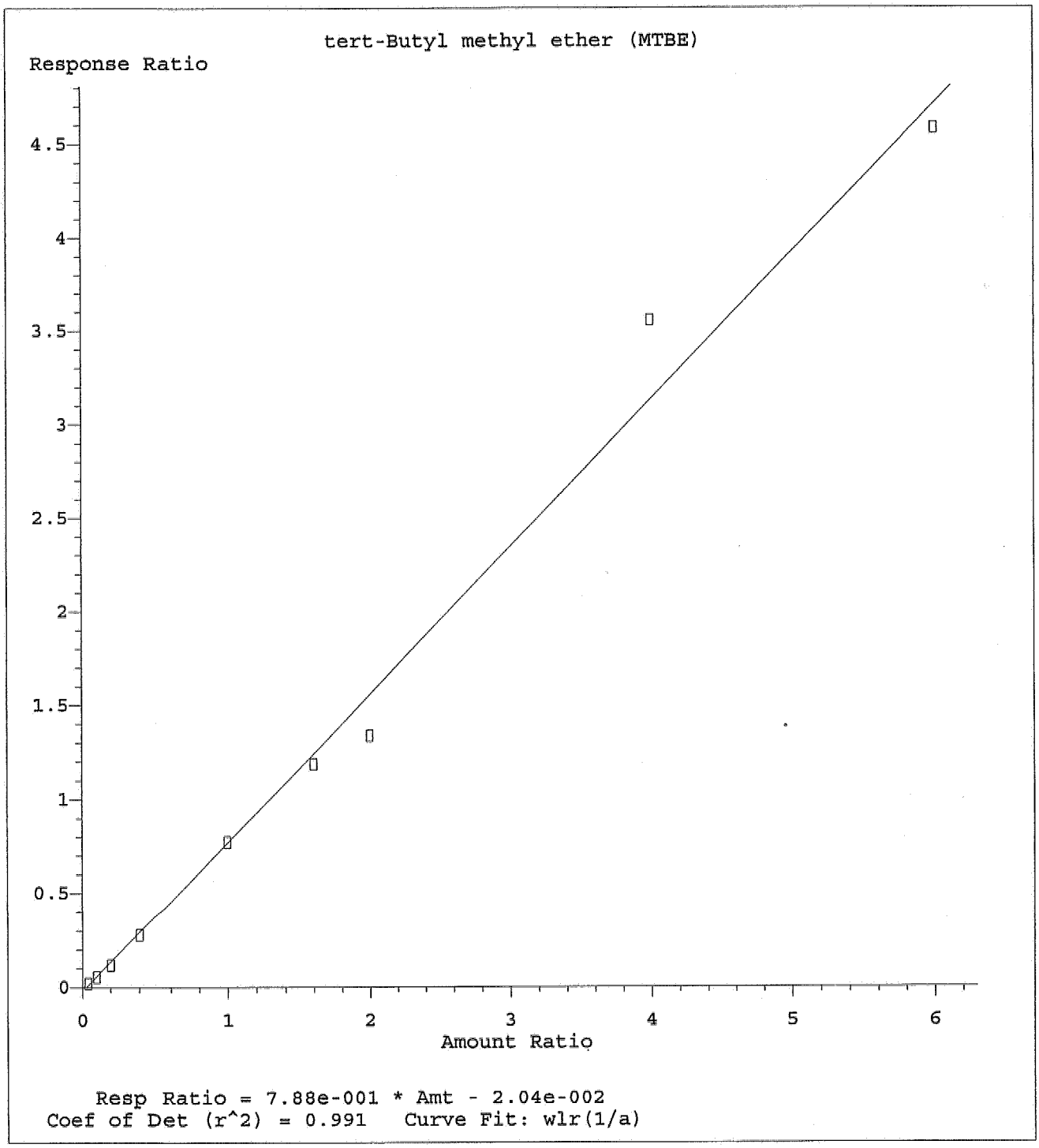
2-a-06



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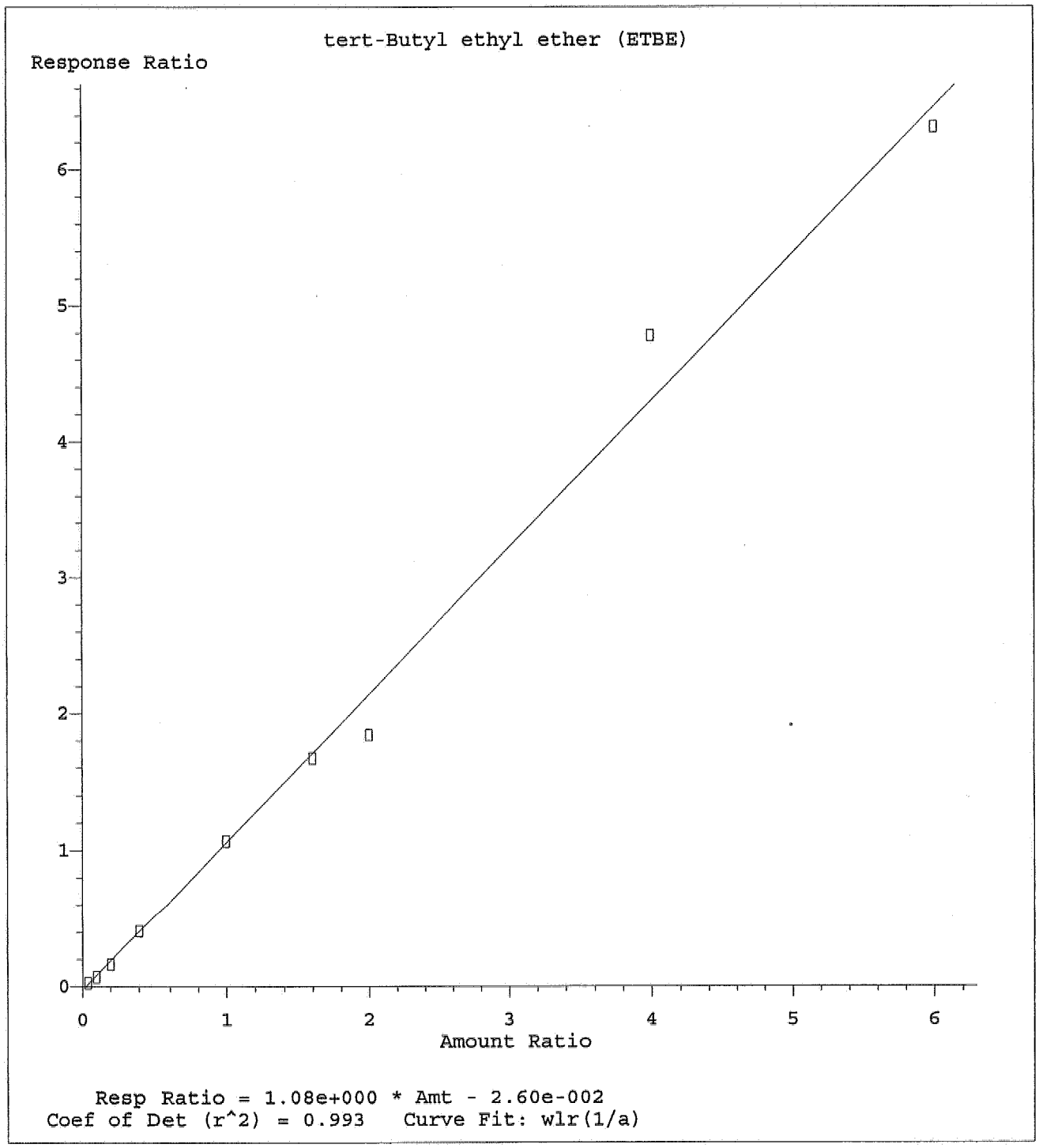

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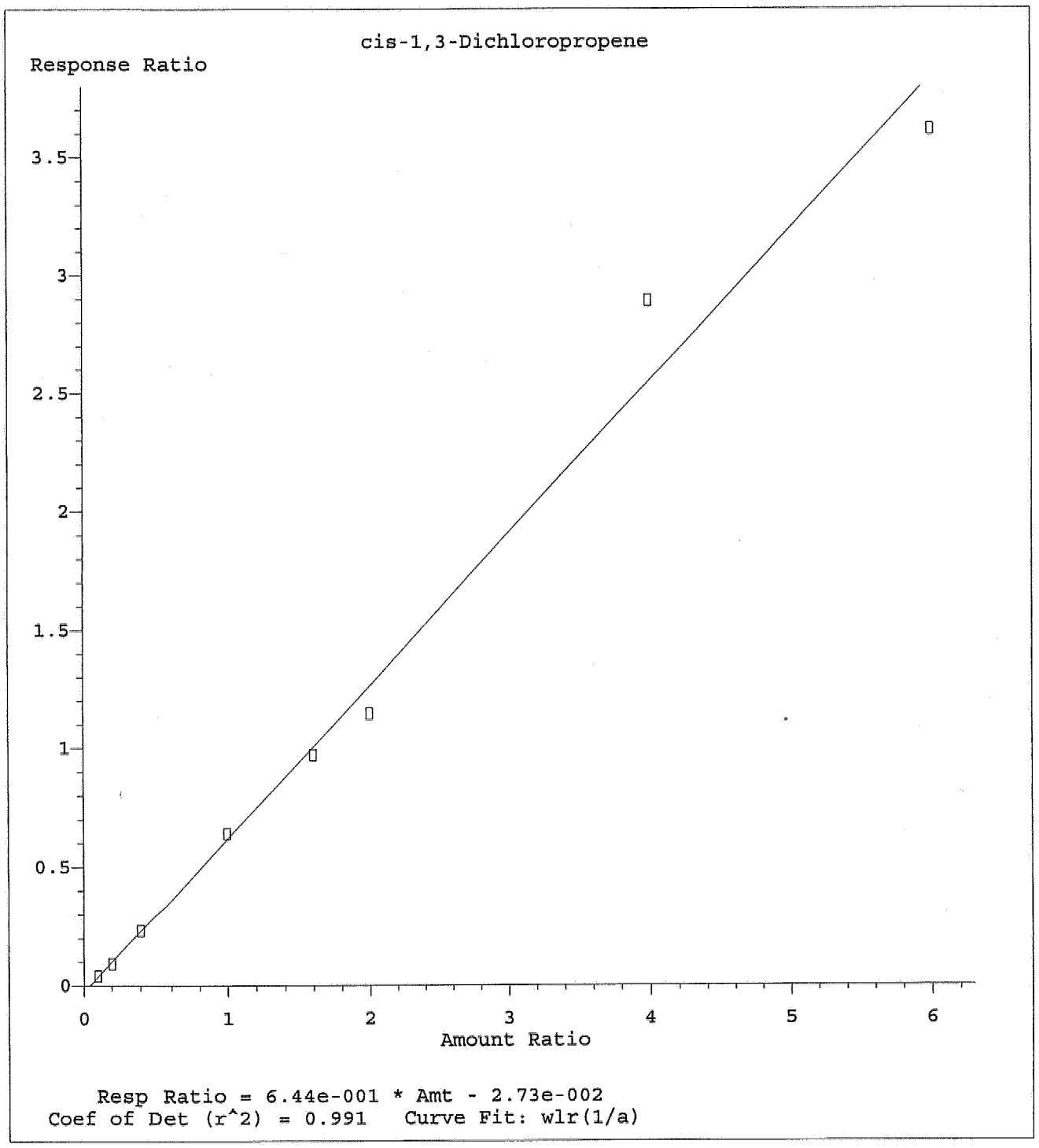

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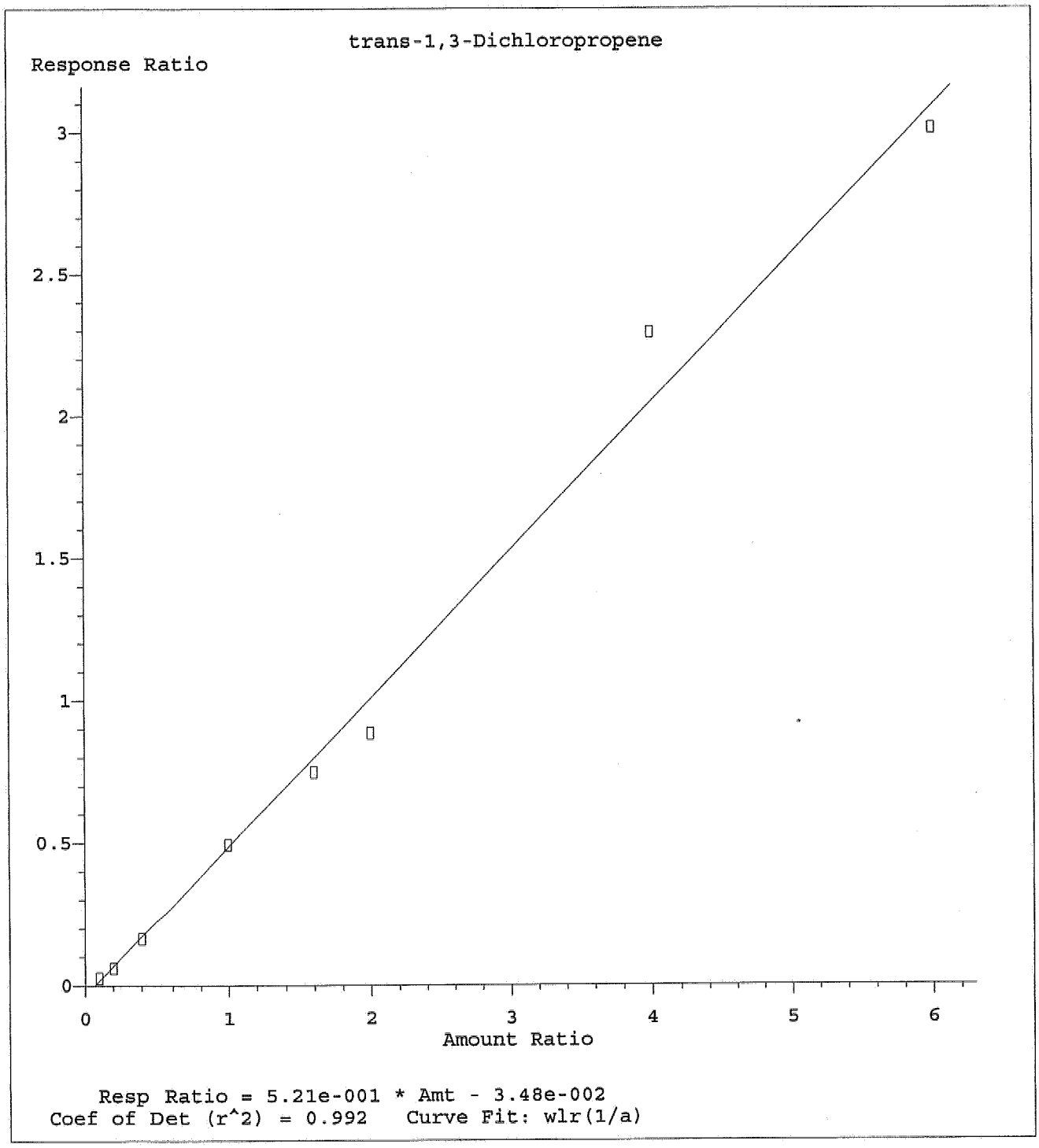

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Calibration Table Last Updated: Mon Feb 06 13:18:50 2006

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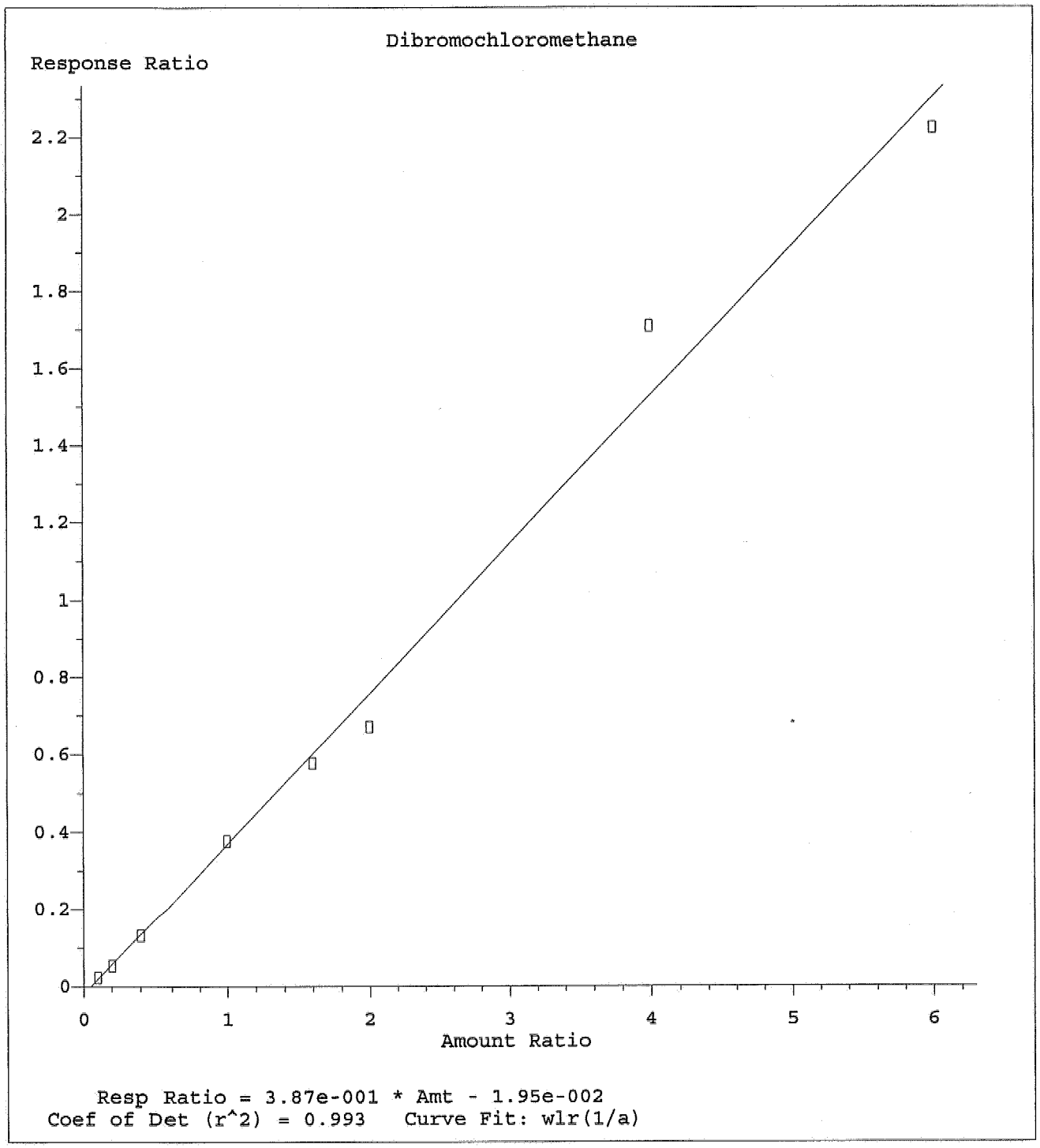

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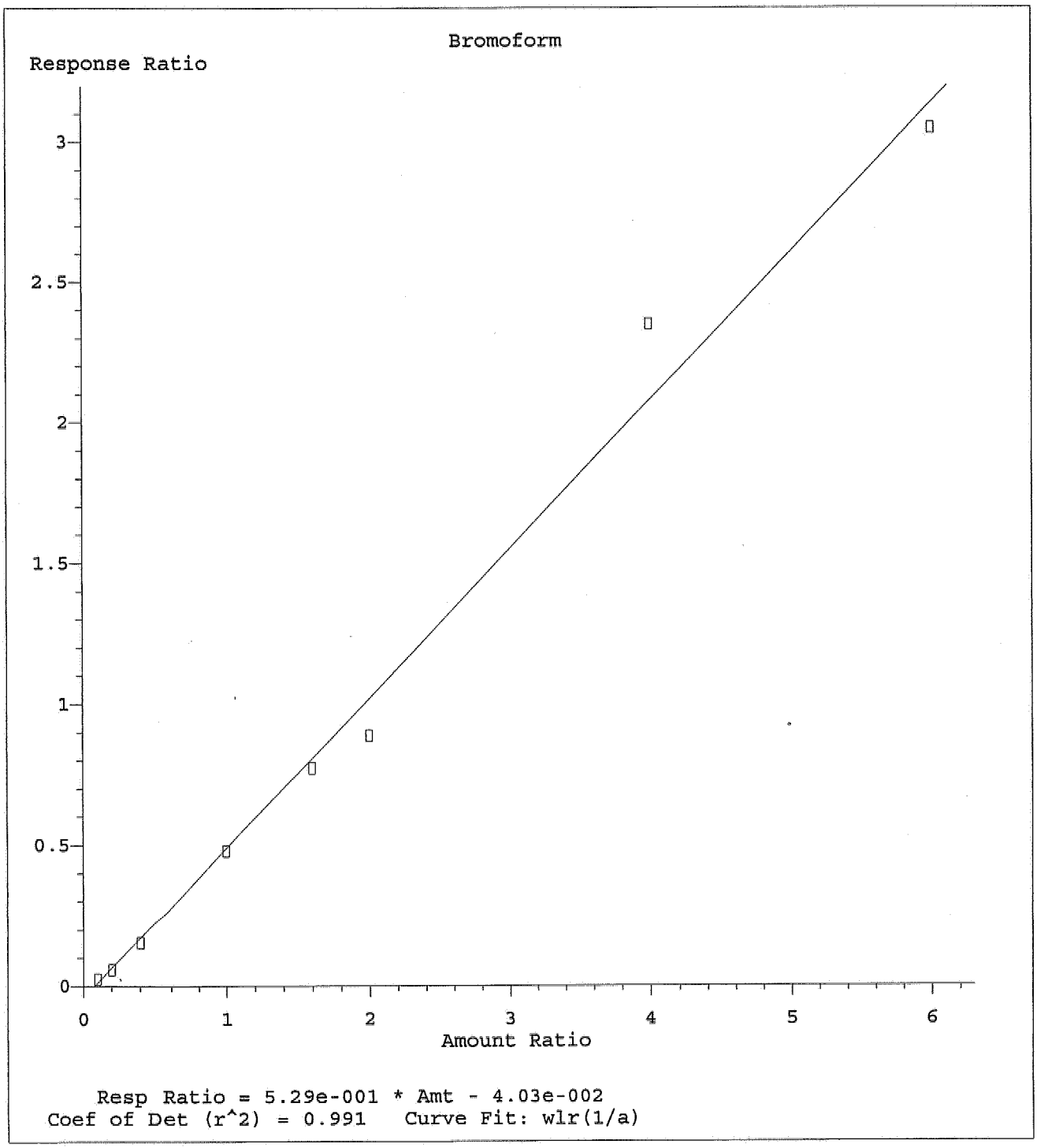
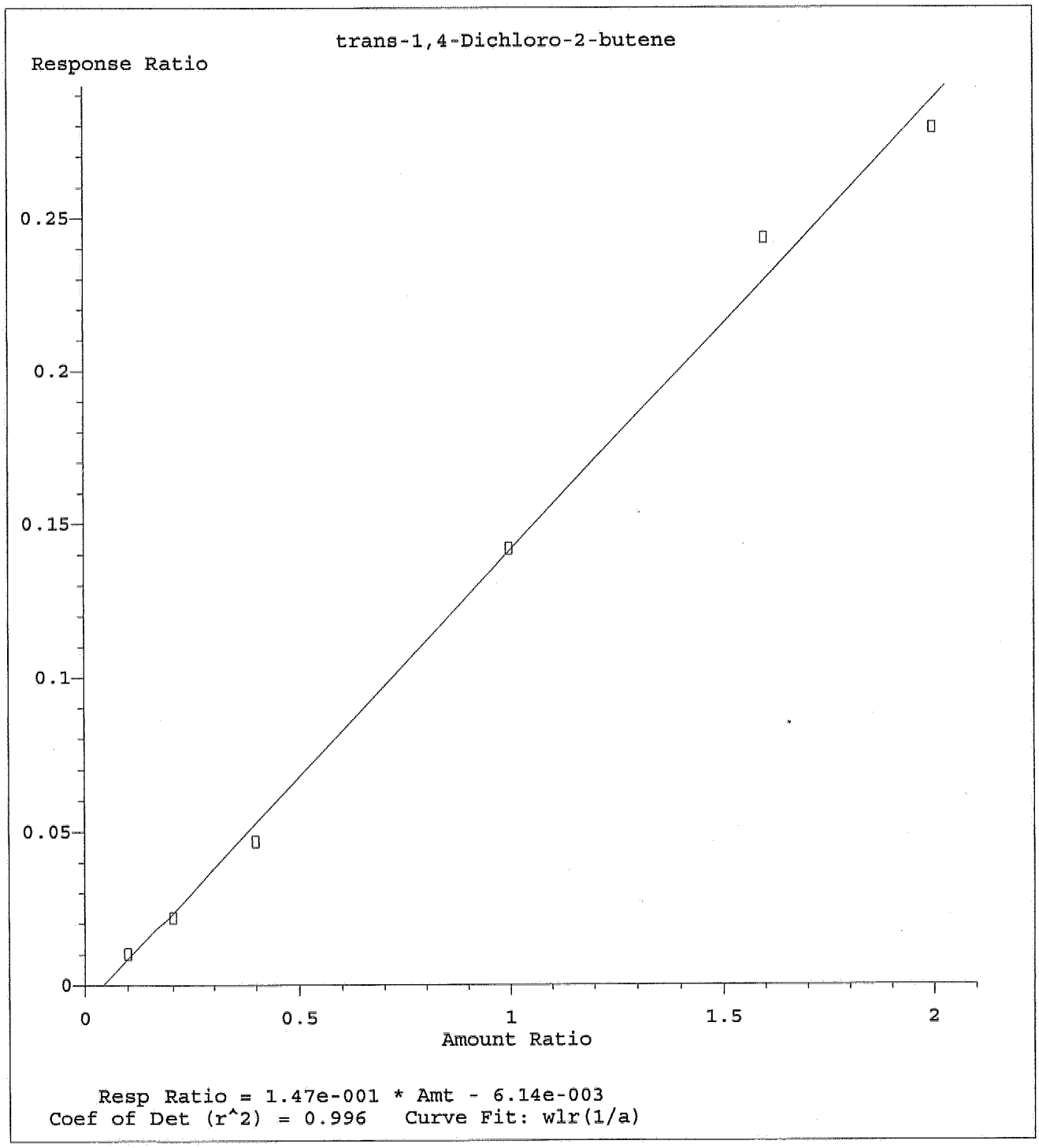


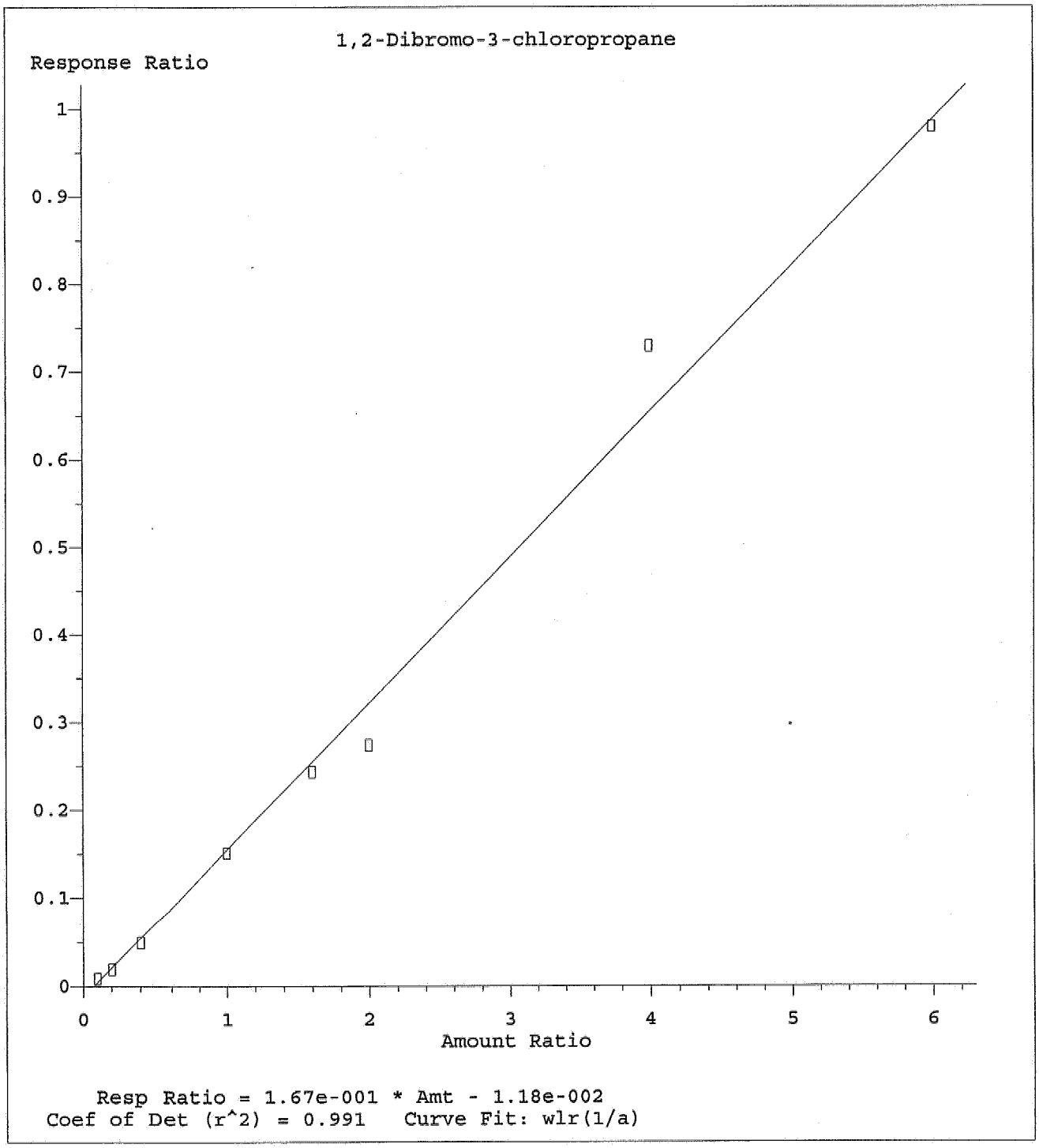
Method Name: D:\HPCHEM\1\METHODS\VO03B03.M
Calibration Table Last Updated: Mon Feb 06 13:18:50 2006

2-9-06



Method Name: D:\HPCHEM\1\METHODS\VO03B03.M
Calibration Table Last Updated: Mon Feb 06 13:18:50 2006

2-9-06



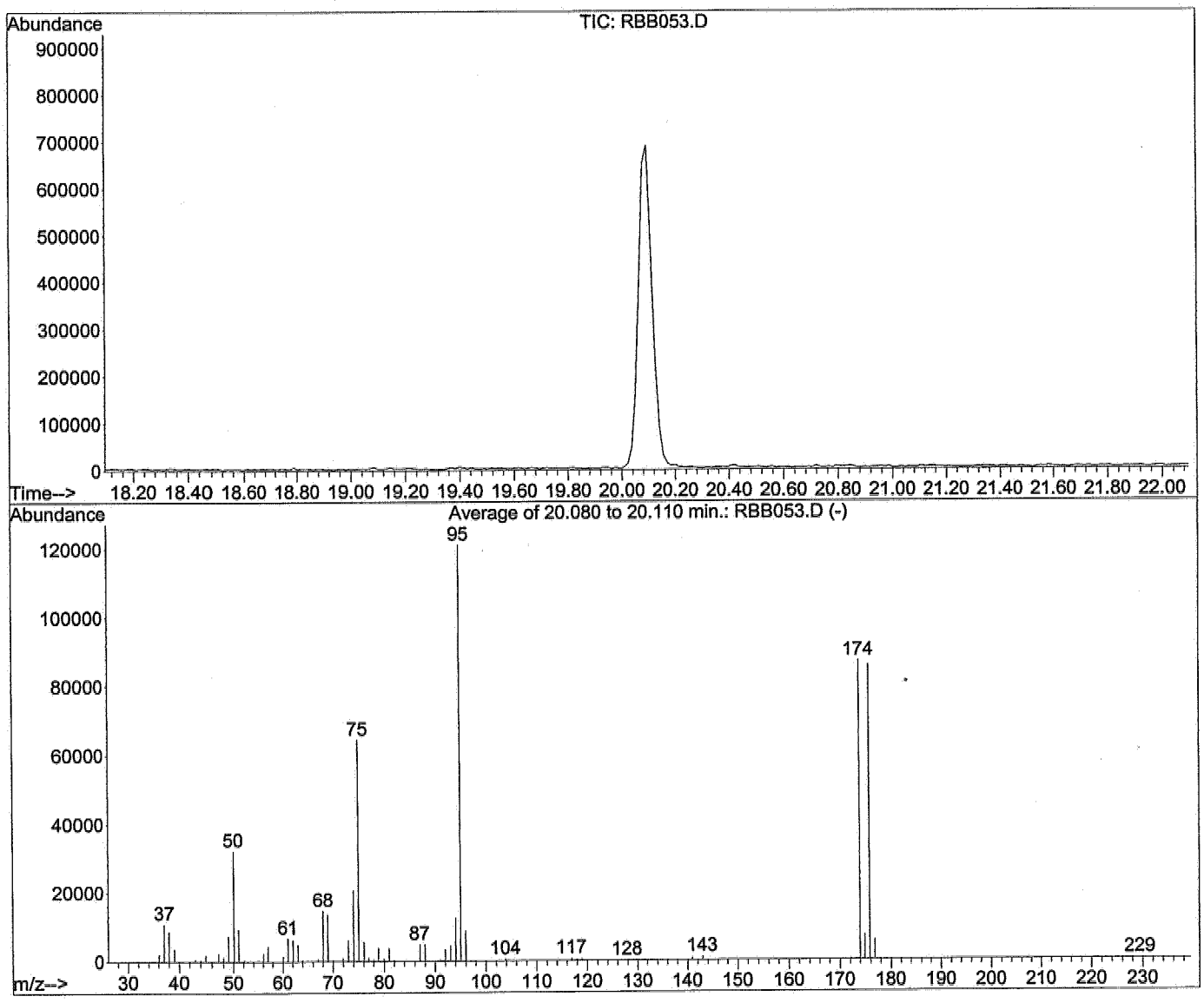
Method Name: D:\HPCHEM\1\METHODS\VO03B03.M
Calibration Table Last Updated: Mon Feb 06 13:18:50 2006

pw 2-9-06

BFB

Data File : D:\HPCHEM\1\DATA\06B03\RBB053.D
Acq On : 3 Feb 2006 1:03 pm
Sample : BFB03B05
Misc : T/CHECK
MS Integration Params: 524INT.P
Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260

Vial: 1
Operator: CGM
Inst : TO03
Multiplr: 1.00



AutoFind: Scans 1142, 1143, 1144; Background Corrected with Scan 1135

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.7	32400	PASS
75	95	30	60	53.2	64544	PASS
95	95	100	100	100.0	121299	PASS
96	95	5	9	7.4	8956	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	71.7	87029	PASS
175	174	5	9	8.3	7199	PASS
176	174	95	101	98.6	85840	PASS
177	176	5	9	6.7	5738	PASS

2-9-06

RBB053.D VO03B03.M Mon Feb 06 19:20:37 2006

2066

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB054.D Vial: 2
Acq On : 3 Feb 2006 1:40 pm Operator: CGM
Sample : VO03B031 2/8/10 Inst : TO03
Misc : 2ppb 8260/8ppb Ket-AA/10ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:38 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:36:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.16	114	2510783	50.00	ug/l		0.00
37) CHLOROBENZENE-D5	17.07	117	2466285	50.00	ug/l		0.00
67) 1,2-DICHLOROBENZENE-D4	24.32	152	1230324	50.00	ug/l		0.00
System Monitoring Compounds							
36) 1,2-Dichloroethane-d4	10.55	65	54297	2.37	ug/l		0.00
Spiked Amount 50.000			Recovery =	4.74%			
50) Toluene-d8	13.89	98	96431	1.87	ug/l		0.00
Spiked Amount 50.000			Recovery =	3.74%			
71) 4-Bromofluorobenzene	20.10	95	51851	2.06	ug/l		0.00
Spiked Amount 50.000			Recovery =	4.12%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.38	85	41530	1.80	ug/l		91
3) Chloromethane	3.83	50	61997	2.32	ug/l		97
4) Vinyl chloride	4.01	62	37388	2.37	ug/l		93
5) Bromomethane	4.77	94	24763	1.83	ug/l		98
6) Chloroethane	4.90	64	21820	1.98	ug/l		98
7) Trichlorofluoromethane	5.33	101	50741	2.09	ug/l		97
9) Acrolein	5.98	56	13546	5.93	ug/l		86
10) 1,1,2-Trichloro-1,2,2-trif	6.03	151	27715	2.18	ug/l		88
11) Acetone	6.10	43	72761	9.35	ug/l		98
12) 1,1-Dichloroethene	6.31	61	84782	2.22	ug/l		97
13) tert-Butyl alcohol	6.47	59	12627	8.10	ug/l	#	1
15) Iodomethane	6.82	142	27486	1.63	ug/l		94
16) Methyl acetate	6.80	43	44903	2.27	ug/l		89
17) Methylene chloride	7.05	49	185404	4.73	ug/l		98
18) Carbon disulfide	7.13	76	98885	1.72	ug/l		96
19) Acrylonitrile	7.22	53	46266	6.94	ug/l		93
20) tert-Butyl methyl ether (M	7.32	73	50829	1.32	ug/l		96
21) trans-1,2-Dichloroethene	7.53	61	74296	1.95	ug/l		98
22) Isopropyl ether (DIPE)	8.01	45	142177	1.65	ug/l		99
23) 1,1-Dichloroethane	8.18	63	79788	1.91	ug/l		97
24) Vinyl acetate	8.15	43	65241	1.37	ug/l		95
25) tert-Butyl ethyl ether (ET	8.64	59	70803	1.32	ug/l		96
26) 2-Butanone	8.84	43	74708	6.51	ug/l		95
27) 2,2-Dichloropropane	9.07	77	26979	1.35	ug/l		87
28) cis-1,2-Dichloroethene	9.15	61	74810	1.83	ug/l		98
30) Chloroform	9.40	83	76945	2.01	ug/l		98
31) Bromochloromethane	9.67	49	48182	2.08	ug/l		96
32) Tetrahydrofuran	9.77	42	26227	3.94	ug/l		77
33) 1,1,1-Trichloroethane	10.07	97	47404	1.57	ug/l		93
34) Cyclohexane	10.13	56	65987	1.69	ug/l		95
35) tert-Amyl methyl ether (TA	10.49	73	50766	1.26	ug/l		78
38) 1,1-Dichloropropene	10.31	77	18284	1.69	ug/l		98
39) Carbon tetrachloride	10.50	119	31323	1.25	ug/l		97
40) 1,2-Dichloroethane	10.69	62	74680	1.95	ug/l		97
41) Benzene	10.77	78	142375	1.83	ug/l		98
42) Trichloroethene	11.76	130	36376	1.81	ug/l		95
43) Methylcyclohexane	11.91	83	52954	1.58	ug/l		96
44) 1,2-Dichloropropane	12.05	63	43628	1.77	ug/l		90

(#) = qualifier out of range (m) = manual integration

2-9-06

2667

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB054.D Vial: 2
Acq On : 3 Feb 2006 1:40 pm Operator: CGM
Sample : VO03B031 2/8/10 Inst : TO03
Misc : 2ppb 8260/8ppb Ket-AA/10ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:38 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:36:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	Bromodichloromethane	12.46	83	44088	1.43 ug/l		93
46)	Dibromomethane	12.57	93	25628	1.76 ug/l		95
47)	2-Chloroethyl vinyl ether	12.91	63	11925	1.21 ug/l		89
48)	4-Methyl-2-pentanone	12.98	43	168116	5.74 ug/l		99
49)	cis-1,3-Dichloropropene	13.38	75	35343	1.12 ug/l		89
51)	Toluene	14.04	91	143682	1.88 ug/l		95
52)	Ethyl methacrylate	14.23	69	32855	1.29 ug/l		85
53)	trans-1,3-Dichloropropene	14.31	75	22811	0.94 ug/l		98
54)	1,1,2-Trichloroethane	14.65	97	30242	1.82 ug/l		91
55)	2-Hexanone	14.62	43	112289	5.80 ug/l		92
56)	1,3-Dichloropropane	15.15	76	53687	1.70 ug/l		96
57)	Tetrachloroethene	15.36	164	33684	1.93 ug/l		95
58)	Dibromochloromethane	15.79	129	20499	1.10 ug/l		94
59)	1,2-Dibromoethane	16.22	107	24227	1.50 ug/l		94
60)	1-Chlorohexane	16.47	91	40399	1.40 ug/l		89
61)	Chlorobenzene	17.16	112	99605	2.00 ug/l		96
62)	1,1,1,2-Tetrachloroethane	17.23	131	24678	1.41 ug/l	#	69
63)	Ethylbenzene	17.25	91	170862	1.88 ug/l		100
64)	m-Xylene & p-Xylene	17.43	91	285035	3.75 ug/l		100
65)	o-Xylene	18.50	91	129300	1.63 ug/l		100
66)	Styrene	18.57	104	84523	1.55 ug/l		97
68)	Bromoform	19.51	173	10496	0.89 ug/l		93
69)	Isopropylbenzene	19.40	105	123054	1.63 ug/l		97
70)	1,1,2,2-Tetrachloroethane	19.83	83	36570	1.63 ug/l		94
72)	1,2,3-Trichloropropane	20.23	61	12253	2.17 ug/l		83
73)	trans-1,4-Dichloro-2-buten	20.37	53	5886	1.68 ug/l	#	35
74)	n-Propylbenzene	20.49	91	178946	1.64 ug/l		98
75)	Bromobenzene	20.67	156	39836	1.80 ug/l		96
76)	2-Chlorotoluene	21.02	91	154178	2.47 ug/l		86
77)	1,3,5-Trimethylbenzene	20.93	105	117832	1.61 ug/l		99
78)	4-Chlorotoluene	21.16	91	135889	1.84 ug/l		97
79)	tert-Butylbenzene	21.97	119	95773	1.66 ug/l		94
80)	1,2,4-Trimethylbenzene	22.09	105	127179	1.74 ug/l		97
81)	sec-Butylbenzene	22.61	105	152893	1.64 ug/l		98
82)	p-Isopropyltoluene	23.00	119	107143	1.56 ug/l		97
83)	1,3-Dichlorobenzene	23.27	146	78202	1.97 ug/l		98
84)	1,4-Dichlorobenzene	23.53	146	78481	1.94 ug/l		97
85)	n-Butylbenzene	23.99	91	131162	1.66 ug/l		99
86)	1,2-Dichlorobenzene	24.38	146	79628	2.11 ug/l		76
87)	1,2-Dibromo-3-chloropropan	25.94	157	3800	1.02 ug/l	#	73
88)	1,2,4-Trichlorobenzene	27.74	180	56213	1.87 ug/l		98
89)	Hexachlorobutadiene	28.02	225	48785	2.02 ug/l		98
90)	Naphthalene	28.29	128	80814	1.51 ug/l		98
91)	1,2,3-Trichlorobenzene	28.79	180	51200	1.86 ug/l		98

RW 2-9-06

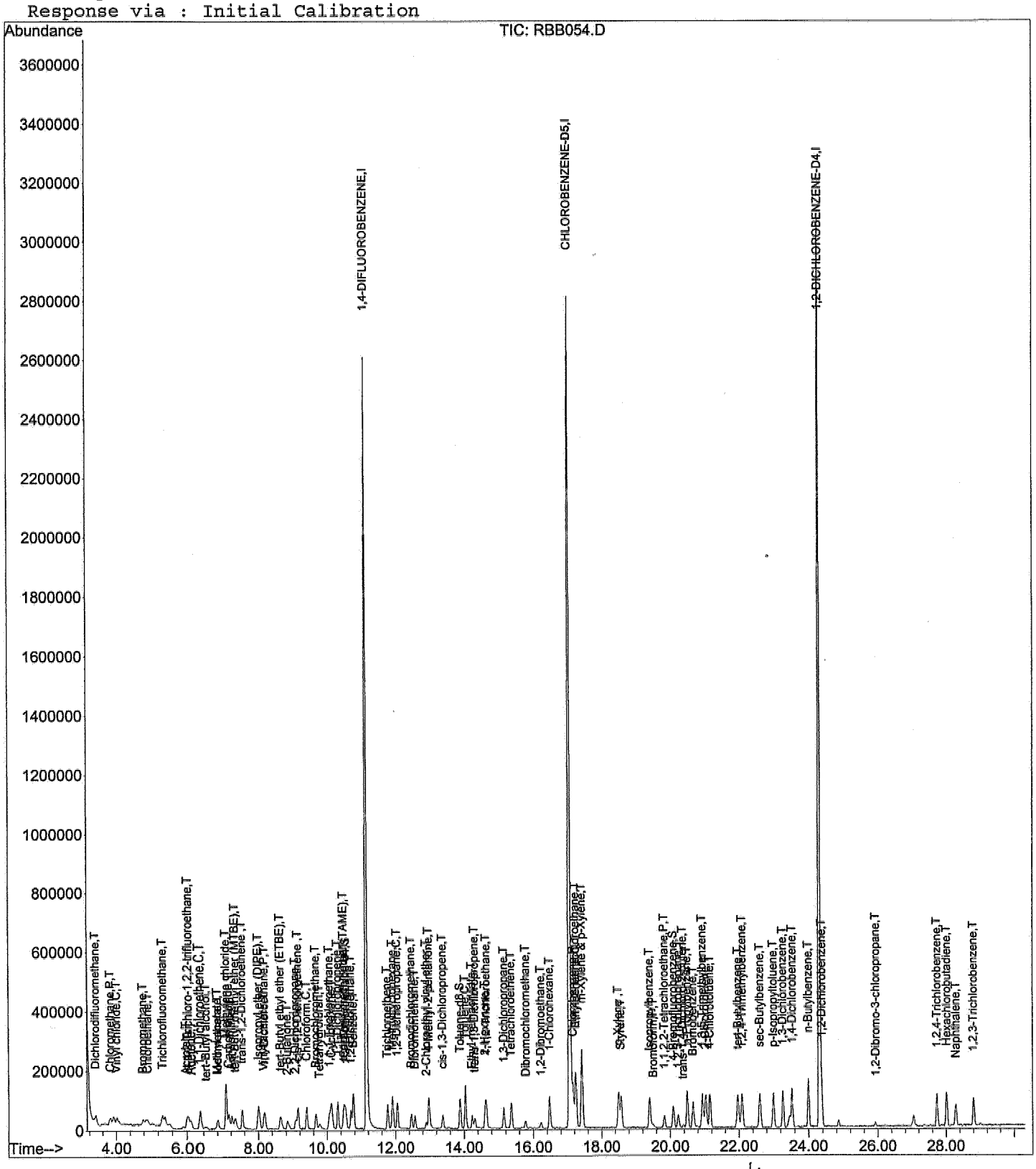
(#) = qualifier out of range (m) = manual integration

2068

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB054.D Vial: 2
Acq On : 3 Feb 2006 1:40 pm Operator: CGM
Sample : VO03B031 2/8/10 Inst : TO03
Misc : 2ppb 8260/8ppb Ket-AA/10ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:38 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB055.D Vial: 3
Acq On : 3 Feb 2006 2:17 pm Operator: CGM
Sample : VO03B032 5/20/25 Inst : TO03
Misc : 5ppb 8260/20ppb Ket-AA/25ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:39 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:39:18 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2540899	50.00	ug/l		0.00
37) CHLOROBENZENE-D5	17.07	117	2376505	50.00	ug/l		0.00
67) 1,2-DICHLOROBENZENE-D4	24.32	152	1156593	50.00	ug/l		0.00
System Monitoring Compounds							
36) 1,2-Dichloroethane-d4	10.54	65	131877	5.20	ug/l		0.00
Spiked Amount 50.000			Recovery = 10.40%				
50) Toluene-d8	13.89	98	258877	5.39	ug/l		0.00
Spiked Amount 50.000			Recovery = 10.78%				
71) 4-Bromofluorobenzene	20.08	95	126718	5.28	ug/l		-0.02
Spiked Amount 50.000			Recovery = 10.56%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.38	85	116580	5.25	ug/l		96
3) Chloromethane	3.81	50	139159	4.77	ug/l		94
4) Vinyl chloride	4.02	62	97621	5.60	ug/l		97
5) Bromomethane	4.76	94	60881	4.64	ug/l		92
6) Chloroethane	4.88	64	53701	4.85	ug/l		96
7) Trichlorofluoromethane	5.31	101	125984	5.01	ug/l		99
9) Acrolein	5.98	56	39293	19.52	ug/l		94
10) 1,1,2-Trichloro-1,2,2-trif	6.03	151	61117	4.54	ug/l		95
11) Acetone	6.10	43	155161	18.17	ug/l		100
12) 1,1-Dichloroethene	6.31	61	199681	4.90	ug/l		100
13) tert-Butyl alcohol	6.44	59	27805	19.48	ug/l	#	50
15) Iodomethane	6.81	142	72636	4.69	ug/l		96
16) Methyl acetate	6.80	43	86653	4.06	ug/l		98
17) Methylene chloride	7.05	49	283488	4.25	ug/l		98
18) Carbon disulfide	7.13	76	260280	4.81	ug/l		100
19) Acrylonitrile	7.22	53	116557	18.51	ug/l		97
20) tert-Butyl methyl ether (M	7.32	73	139038	4.29	ug/l		98
21) trans-1,2-Dichloroethene	7.53	61	182632	4.80	ug/l		98
22) Isopropyl ether (DIPE)	8.00	45	364077	4.57	ug/l		100
23) 1,1-Dichloroethane	8.18	63	200596	4.86	ug/l		99
24) Vinyl acetate	8.14	43	184403	4.54	ug/l		100
25) tert-Butyl ethyl ether (ET	8.64	59	185630	4.12	ug/l		97
26) 2-Butanone	8.84	43	178303	16.93	ug/l		99
27) 2,2-Dichloropropane	9.07	77	73601	4.34	ug/l		91
28) cis-1,2-Dichloroethene	9.13	61	188044	4.75	ug/l		99
30) Chloroform	9.40	83	188394	4.85	ug/l		98
31) Bromochloromethane	9.67	49	115668	4.84	ug/l		98
32) Tetrahydrofuran	9.76	42	52262	7.82	ug/l		98
33) 1,1,1-Trichloroethane	10.05	97	129262	4.74	ug/l		98
34) Cyclohexane	10.13	56	171642	4.71	ug/l		98
35) tert-Amyl methyl ether (TA	10.48	73	143548	4.32	ug/l		88
38) 1,1-Dichloropropene	10.31	77	48291	5.02	ug/l		93
39) Carbon tetrachloride	10.50	119	87734	4.47	ug/l		98
40) 1,2-Dichloroethane	10.69	62	183264	5.03	ug/l		100
41) Benzene	10.77	78	360108	5.01	ug/l		99
42) Trichloroethene	11.78	130	93578	5.07	ug/l		95
43) Methylcyclohexane	11.91	83	139745	4.84	ug/l		98
44) 1,2-Dichloropropane	12.04	63	113229	5.05	ug/l		96

(#) = qualifier out of range (m) = manual integration
RBB055.D VO03B03.M Mon Feb 06 19:21:45 2006

2-9-06

2878

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB055.D Vial: 3
Acq On : 3 Feb 2006 2:17 pm Operator: CGM
Sample : VO03B032 5/20/25 Inst : TO03
Misc : 5ppb 8260/20ppb Ket-AA/25ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:39 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:39:18 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Bromodichloromethane	12.46	83	109961	4.32 ug/l	98
46)	Dibromomethane	12.56	93	66952	5.08 ug/l	91
47)	2-Chloroethyl vinyl ether	12.89	63	34134	4.47 ug/l	94
48)	4-Methyl-2-pentanone	12.97	43	435712	17.97 ug/l	99
49)	cis-1,3-Dichloropropene	13.38	75	97961	4.13 ug/l	94
51)	Toluene	14.04	91	349356	4.89 ug/l	100
52)	Ethyl methacrylate	14.23	69	86851	4.30 ug/l	94
53)	trans-1,3-Dichloropropene	14.30	75	63927	3.71 ug/l	86
54)	1,1,2-Trichloroethane	14.65	97	71042	4.65 ug/l	98
55)	2-Hexanone	14.60	43	288367	17.92 ug/l	97
56)	1,3-Dichloropropane	15.15	76	129595	4.60 ug/l	98
57)	Tetrachloroethene	15.36	164	82813	5.01 ug/l	98
58)	Dibromochloromethane	15.77	129	55818	4.02 ug/l	95
59)	1,2-Dibromoethane	16.22	107	65117	4.78 ug/l	98
60)	1-Chlorohexane	16.47	91	110416	4.67 ug/l	90
61)	Chlorobenzene	17.16	112	241217	5.03 ug/l	96
62)	1,1,1,2-Tetrachloroethane	17.23	131	63469	4.41 ug/l	93
63)	Ethylbenzene	17.25	91	424938	5.00 ug/l	99
64)	m-Xylene & p-Xylene	17.42	91	713271	10.05 ug/l	100
65)	o-Xylene	18.51	91	329150	4.75 ug/l	99
66)	Styrene	18.58	104	225529	4.84 ug/l	99
68)	Bromoform	19.49	173	28640	3.58 ug/l	95
69)	Isopropylbenzene	19.40	105	323554	5.02 ug/l	99
70)	1,1,2,2-Tetrachloroethane	19.82	83	94265	4.93 ug/l	98
72)	1,2,3-Trichloropropane	20.22	61	25866	4.68 ug/l	92
73)	trans-1,4-Dichloro-2-buten	20.38	53	11782	3.89 ug/l	74
74)	n-Propylbenzene	20.50	91	485844	5.20 ug/l	98
75)	Bromobenzene	20.66	156	96682	4.89 ug/l	97
76)	2-Chlorotoluene	21.03	91	290671	4.43 ug/l	100
77)	1,3,5-Trimethylbenzene	20.93	105	309747	4.98 ug/l	99
78)	4-Chlorotoluene	21.15	91	331072	4.97 ug/l	99
79)	tert-Butylbenzene	21.97	119	249263	5.02 ug/l	99
80)	1,2,4-Trimethylbenzene	22.09	105	326373	5.08 ug/l	99
81)	sec-Butylbenzene	22.61	105	403533	5.07 ug/l	99
82)	p-Isopropyltoluene	23.00	119	290997	5.06 ug/l	100
83)	1,3-Dichlorobenzene	23.26	146	183483	4.96 ug/l	99
84)	1,4-Dichlorobenzene	23.53	146	186857	4.99 ug/l	98
85)	n-Butylbenzene	23.99	91	343717	5.05 ug/l	99
86)	1,2-Dichlorobenzene	24.38	146	181614	4.98 ug/l	92
87)	1,2-Dibromo-3-chloropropan	25.94	157	10448	3.95 ug/l	91
88)	1,2,4-Trichlorobenzene	27.74	180	135751	4.96 ug/l	99
89)	Hexachlorobutadiene	28.02	225	113088	4.95 ug/l	98
90)	Naphthalene	28.29	128	200903	4.55 ug/l	99
91)	1,2,3-Trichlorobenzene	28.81	180	118881	4.76 ug/l	98

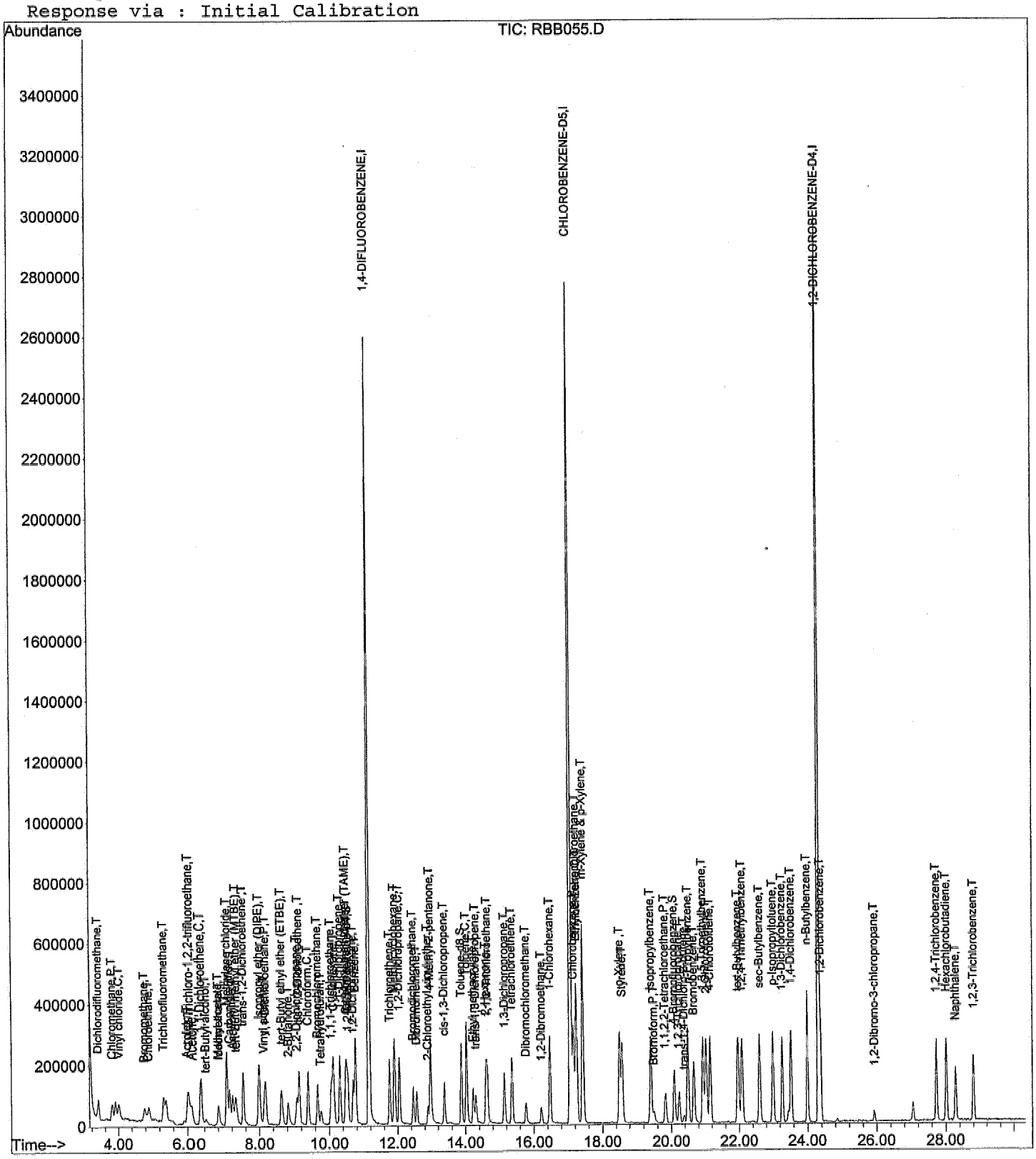
2-9-06

(#) = qualifier out of range (m) = manual integration
RBB055.D VO03B03.M Mon Feb 06 19:21:46 2006

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB055.D Vial: 3
Acq On : 3 Feb 2006 2:17 pm Operator: CGM
Sample : VO03B032 5/20/25 Inst : TO03
Misc : 5ppb 8260/20ppb Ket-AA/25ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:39 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB056.D Vial: 4
Acq On : 3 Feb 2006 2:54 pm Operator: CGM
Sample : VO03B033 10/40/50 Inst : TO03
Misc : 10ppb 8260/40ppb Ket-AA/50ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:40 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:39:55 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2171346	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2063654	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.32	152	1078589	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	234412	10.68	ug/l	0.00
Spiked Amount 50.000			Recovery =	21.36%		
50) Toluene-d8	13.88	98	481762	11.25	ug/l	0.00
Spiked Amount 50.000			Recovery =	22.50%		
71) 4-Bromofluorobenzene	20.10	95	238624	10.47	ug/l	0.00
Spiked Amount 50.000			Recovery =	20.94%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.39	85	203692	10.56	ug/l	98
3) Chloromethane	3.81	50	249278	10.15	ug/l	99
4) Vinyl chloride	4.00	62	164287	10.60	ug/l	97
5) Bromomethane	4.78	94	114440	10.46	ug/l	94
6) Chloroethane	4.89	64	96661	10.31	ug/l	97
7) Trichlorofluoromethane	5.33	101	213710	9.94	ug/l	99
9) Acrolein	5.98	56	77389	45.35	ug/l	94
10) 1,1,2-Trichloro-1,2,2-trif	6.02	151	106816	9.58	ug/l	96
11) Acetone	6.10	43	280770	39.69	ug/l	98
12) 1,1-Dichloroethene	6.31	61	335428	9.70	ug/l	99
13) tert-Butyl alcohol	6.44	59	51314	45.41	ug/l	73
15) Iodomethane	6.81	142	141106	10.89	ug/l	99
16) Methyl acetate	6.80	43	153823	8.99	ug/l	99
17) Methylene chloride	7.05	49	393557	7.26	ug/l	100
18) Carbon disulfide	7.14	76	463231	10.15	ug/l	99
19) Acrylonitrile	7.21	53	216131	41.18	ug/l	98
20) tert-Butyl methyl ether (M	7.32	73	255282	9.68	ug/l	98
21) trans-1,2-Dichloroethene	7.52	61	317921	9.91	ug/l	98
22) Isopropyl ether (DIPE)	7.98	45	657013	9.93	ug/l	100
23) 1,1-Dichloroethane	8.18	63	342130	9.79	ug/l	98
24) Vinyl acetate	8.13	43	332325	9.88	ug/l	100
25) tert-Butyl ethyl ether (ET	8.64	59	353601	9.76	ug/l	97
26) 2-Butanone	8.82	43	341531	39.99	ug/l	98
27) 2,2-Dichloropropane	9.08	77	127970	9.23	ug/l	93
28) cis-1,2-Dichloroethene	9.14	61	338939	10.19	ug/l	98
30) Chloroform	9.40	83	328881	10.00	ug/l	97
31) Bromochloromethane	9.66	49	202112	10.00	ug/l	98
32) Tetrahydrofuran	9.75	42	94205	17.78	ug/l	98
33) 1,1,1-Trichloroethane	10.07	97	230946	10.09	ug/l	98
34) Cyclohexane	10.12	56	324974	10.64	ug/l	98
35) tert-Amyl methyl ether (TA	10.48	73	266952	9.85	ug/l	92
38) 1,1-Dichloropropene	10.30	77	81413	9.73	ug/l	95
39) Carbon tetrachloride	10.50	119	167547	10.20	ug/l	98
40) 1,2-Dichloroethane	10.69	62	310742	9.81	ug/l	98
41) Benzene	10.76	78	626427	10.03	ug/l	99
42) Trichloroethene	11.77	130	158107	9.82	ug/l	98
43) Methylcyclohexane	11.91	83	264265	10.66	ug/l	99
44) 1,2-Dichloropropane	12.06	63	188743	9.66	ug/l	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB056.D Vial: 4
Acq On : 3 Feb 2006 2:54 pm Operator: CGM
Sample : VO03B033 10/40/50 Inst : TO03
Misc : 10ppb 8260/40ppb Ket-AA/50ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:40 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:39:55 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Bromodichloromethane	12.46	83	212389	10.07 ug/l	99
46)	Dibromomethane	12.56	93	111587	9.69 ug/l	98
47)	2-Chloroethyl vinyl ether	12.90	63	67031	10.48 ug/l	94
48)	4-Methyl-2-pentanone	12.96	43	855279	42.05 ug/l	100
49)	cis-1,3-Dichloropropene	13.38	75	192168	9.91 ug/l	96
51)	Toluene	14.03	91	628526	10.21 ug/l	97
52)	Ethyl methacrylate	14.23	69	167451	10.01 ug/l	91
53)	trans-1,3-Dichloropropene	14.30	75	126751	9.27 ug/l	93
54)	1,1,2-Trichloroethane	14.64	97	132103	10.19 ug/l	97
55)	2-Hexanone	14.60	43	573248	42.50 ug/l	97
56)	1,3-Dichloropropane	15.15	76	237806	9.99 ug/l	100
57)	Tetrachloroethene	15.37	164	141445	9.84 ug/l	98
58)	Dibromochloromethane	15.77	129	110517	9.80 ug/l	99
59)	1,2-Dibromoethane	16.22	107	121296	10.41 ug/l	99
60)	1-Chlorohexane	16.47	91	213045	10.61 ug/l	99
61)	Chlorobenzene	17.17	112	414051	9.92 ug/l	97
62)	1,1,1,2-Tetrachloroethane	17.23	131	120862	10.07 ug/l	96
63)	Ethylbenzene	17.24	91	745176	10.10 ug/l	100
64)	m-Xylene & p-Xylene	17.42	91	1246072	20.19 ug/l	98
65)	o-Xylene	18.51	91	622230	10.51 ug/l	99
66)	Styrene	18.58	104	413068	10.31 ug/l	99
68)	Bromoform	19.50	173	62805	9.29 ug/l	98
69)	Isopropylbenzene	19.40	105	592005	9.84 ug/l	98
70)	1,1,2,2-Tetrachloroethane	19.83	83	176413	9.94 ug/l	97
72)	1,2,3-Trichloropropane	20.23	61	47952	9.50 ug/l	95
73)	trans-1,4-Dichloro-2-buten	20.38	53	23788	9.10 ug/l	79
74)	n-Propylbenzene	20.50	91	897677	10.17 ug/l	99
75)	Bromobenzene	20.66	156	182216	9.96 ug/l	100
76)	2-Chlorotoluene	21.03	91	532850	9.05 ug/l	98
77)	1,3,5-Trimethylbenzene	20.93	105	589687	10.18 ug/l	98
78)	4-Chlorotoluene	21.15	91	624320	10.07 ug/l	100
79)	tert-Butylbenzene	21.97	119	471677	10.17 ug/l	99
80)	1,2,4-Trimethylbenzene	22.09	105	606763	10.08 ug/l	98
81)	sec-Butylbenzene	22.61	105	758828	10.17 ug/l	96
82)	p-Isopropyltoluene	22.99	119	540720	10.04 ug/l	100
83)	1,3-Dichlorobenzene	23.27	146	328445	9.54 ug/l	98
84)	1,4-Dichlorobenzene	23.53	146	336283	9.63 ug/l	97
85)	n-Butylbenzene	23.99	91	647100	10.16 ug/l	99
86)	1,2-Dichlorobenzene	24.37	146	317153	9.34 ug/l	96
87)	1,2-Dibromo-3-chloropropan	25.93	157	20748	9.05 ug/l	88
88)	1,2,4-Trichlorobenzene	27.73	180	249097	9.79 ug/l	96
89)	Hexachlorobutadiene	28.01	225	202414	9.53 ug/l	99
90)	Naphthalene	28.28	128	409594	10.26 ug/l	98
91)	1,2,3-Trichlorobenzene	28.80	180	224138	9.78 ug/l	100

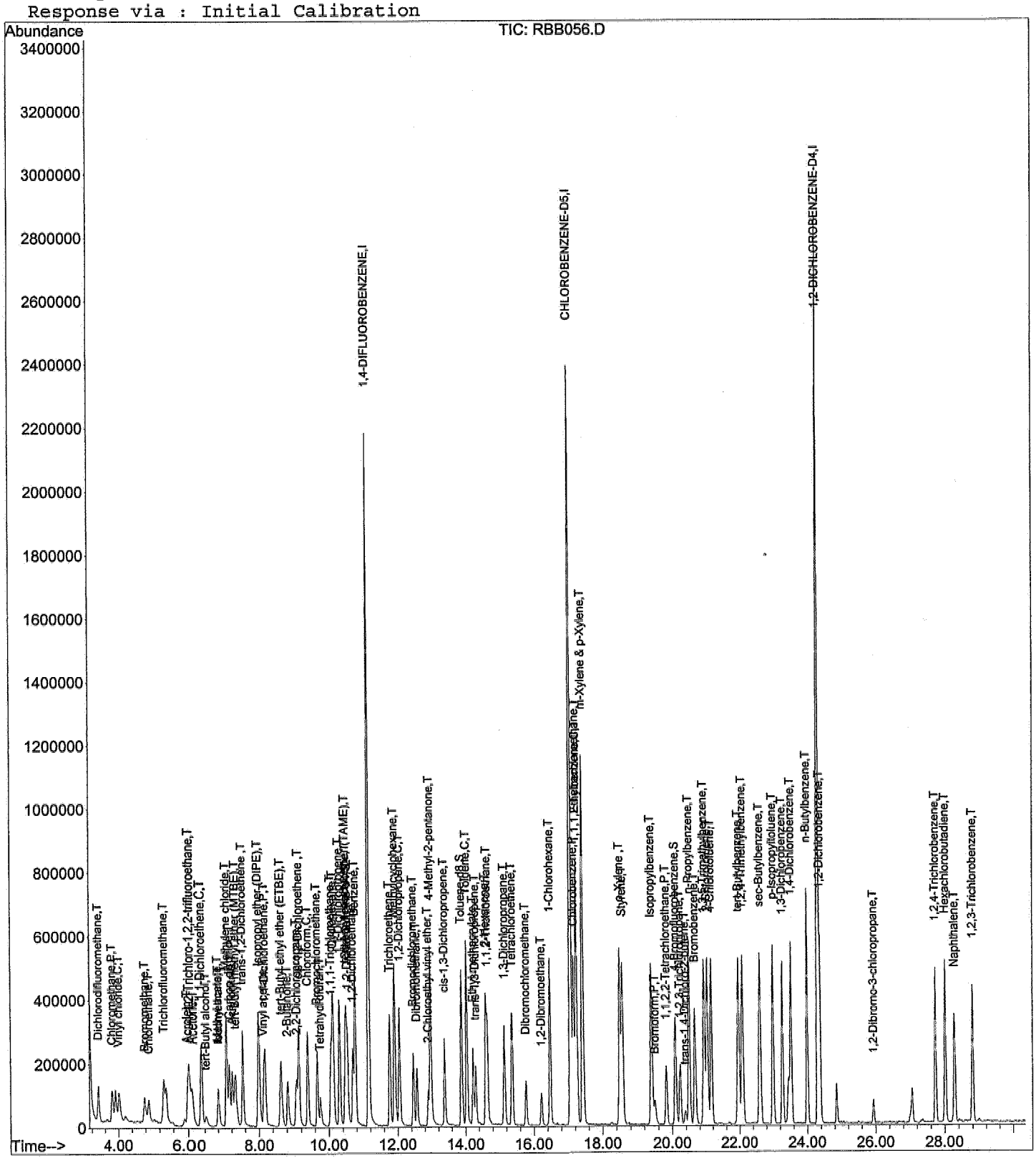
2-9-06

(#) = qualifier out of range (m) = manual integration
RBB056.D VO03B03.M Mon Feb 06 19:26:53 2006

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB056.D Vial: 4
Acq On : 3 Feb 2006 2:54 pm Operator: CGM
Sample : VO03B033 10/40/50 Inst : TO03
Misc : 10ppb 8260/40ppb Ket-AA/50ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:40 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



2-9-06

2875

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB057.D Vial: 5
Acq On : 3 Feb 2006 3:32 pm Operator: CGM
Sample : VO03B034 20/80/100 Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:40 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:40:40 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2366101	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2098123	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1080497	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	484999	19.94	ug/l	0.00
Spiked Amount 50.000			Recovery =	39.88%		
50) Toluene-d8	13.88	98	954032	21.25	ug/l	0.00
Spiked Amount 50.000			Recovery =	42.50%		
71) 4-Bromofluorobenzene	20.09	95	470337	20.35	ug/l	0.00
Spiked Amount 50.000			Recovery =	40.70%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.39	85	563725	26.46	ug/l	98
3) Chloromethane	3.81	50	625415	23.28	ug/l	98
4) Vinyl chloride	4.02	62	437110	25.50	ug/l	99
5) Bromomethane	4.77	94	311032	25.79	ug/l	100
6) Chloroethane	4.89	64	271094	26.34	ug/l	97
7) Trichlorofluoromethane	5.32	101	606294	25.92	ug/l	100
9) Acrolein	5.99	56	160337	83.44	ug/l	92
10) 1,1,2-Trichloro-1,2,2-trif	6.02	151	259735	21.60	ug/l	99
11) Acetone	6.10	43	587418	76.35	ug/l	100
12) 1,1-Dichloroethene	6.30	61	784676	20.98	ug/l	99
13) tert-Butyl alcohol	6.44	59	136302	113.28	ug/l	84
15) Iodomethane	6.81	142	358268	24.82	ug/l	99
16) Methyl acetate	6.79	43	356426	19.62	ug/l	99
17) Methylene chloride	7.05	49	845723	15.38	ug/l	99
18) Carbon disulfide	7.14	76	1119979	22.43	ug/l	100
19) Acrylonitrile	7.21	53	487144	84.56	ug/l	100
20) tert-Butyl methyl ether (M	7.30	73	661576	23.20	ug/l	98
21) trans-1,2-Dichloroethene	7.52	61	761750	21.84	ug/l	100
22) Isopropyl ether (DIPE)	7.98	45	1643259	22.84	ug/l	100
23) 1,1-Dichloroethane	8.18	63	838224	22.13	ug/l	100
24) Vinyl acetate	8.13	43	878361	24.03	ug/l	99
25) tert-Butyl ethyl ether (ET	8.62	59	970695	24.74	ug/l	99
26) 2-Butanone	8.82	43	807276	86.76	ug/l	100
27) 2,2-Dichloropropane	9.07	77	330792	22.33	ug/l	100
28) cis-1,2-Dichloroethene	9.14	61	803327	22.06	ug/l	99
30) Chloroform	9.40	83	765184	21.35	ug/l	100
31) Bromochloromethane	9.66	49	464473	21.09	ug/l	100
32) Tetrahydrofuran	9.75	42	213152	37.97	ug/l	97
33) 1,1,1-Trichloroethane	10.06	97	563043	22.52	ug/l	99
34) Cyclohexane	10.12	56	739793	21.88	ug/l	99
35) tert-Amyl methyl ether (TA	10.48	73	698175	23.73	ug/l	95
38) 1,1-Dichloropropene	10.30	77	195693	23.16	ug/l	95
39) Carbon tetrachloride	10.49	119	441398	26.29	ug/l	99
40) 1,2-Dichloroethane	10.69	62	712002	22.21	ug/l	99
41) Benzene	10.76	78	1442144	22.70	ug/l	100
42) Trichloroethene	11.77	130	364392	22.36	ug/l	99
43) Methylcyclohexane	11.91	83	581845	22.70	ug/l	99
44) 1,2-Dichloropropane	12.06	63	437328	22.21	ug/l	100

(#) = qualifier out of range (m) = manual integration
RBB057.D VO03B03.M Mon Feb 06 19:27:02 2006

2-9-06

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB057.D Vial: 5
Acq On : 3 Feb 2006 3:32 pm Operator: CGM
Sample : VO03B034 20/80/100 Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:40 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:40:40 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Bromodichloromethane	12.46	83	495151	23.05 ug/l	100
46)	Dibromomethane	12.56	93	253871	21.86 ug/l	99
47)	2-Chloroethyl vinyl ether	12.90	63	166497	25.30 ug/l	100
48)	4-Methyl-2-pentanone	12.96	43	1865728	89.08 ug/l	100
49)	cis-1,3-Dichloropropene	13.38	75	486487	24.72 ug/l	99
51)	Toluene	14.03	91	1330061	21.14 ug/l	99
52)	Ethyl methacrylate	14.22	69	406934	23.92 ug/l	98
53)	trans-1,3-Dichloropropene	14.30	75	345580	25.32 ug/l	97
54)	1,1,2-Trichloroethane	14.64	97	273018	20.61 ug/l	99
55)	2-Hexanone	14.60	43	1193785	85.71 ug/l	99
56)	1,3-Dichloropropane	15.15	76	515628	21.31 ug/l	99
57)	Tetrachloroethene	15.37	164	292068	20.07 ug/l	97
58)	Dibromochloromethane	15.77	129	279692	24.52 ug/l	99
59)	1,2-Dibromoethane	16.22	107	261767	21.88 ug/l	97
60)	1-Chlorohexane	16.47	91	479029	23.12 ug/l	99
61)	Chlorobenzene	17.15	112	867970	20.49 ug/l	99
62)	1,1,1,2-Tetrachloroethane	17.23	131	282032	23.08 ug/l	98
63)	Ethylbenzene	17.24	91	1593030	21.18 ug/l	100
64)	m-Xylene & p-Xylene	17.42	91	2658567	42.26 ug/l	100
65)	o-Xylene	18.50	91	1356278	22.25 ug/l	100
66)	Styrene	18.58	104	925251	22.54 ug/l	98
68)	Bromoform	19.50	173	166763	25.07 ug/l	99
69)	Isopropylbenzene	19.40	105	1338735	22.30 ug/l	99
70)	1,1,2,2-Tetrachloroethane	19.83	83	381320	21.48 ug/l	98
72)	1,2,3-Trichloropropane	20.23	61	103716	20.78 ug/l	91
73)	trans-1,4-Dichloro-2-buten	20.38	53	50669	19.80 ug/l	91
74)	n-Propylbenzene	20.50	91	1950798	21.96 ug/l	99
75)	Bromobenzene	20.67	156	388534	21.22 ug/l	100
76)	2-Chlorotoluene	21.03	91	1127409	19.58 ug/l	98
77)	1,3,5-Trimethylbenzene	20.93	105	1290748	22.15 ug/l	99
78)	4-Chlorotoluene	21.15	91	1319272	21.20 ug/l	100
79)	tert-Butylbenzene	21.97	119	1046297	22.42 ug/l	98
80)	1,2,4-Trimethylbenzene	22.09	105	1310810	21.69 ug/l	99
81)	sec-Butylbenzene	22.61	105	1684091	22.44 ug/l	100
82)	p-Isopropyltoluene	22.99	119	1233751	22.85 ug/l	100
83)	1,3-Dichlorobenzene	23.27	146	713343	20.93 ug/l	100
84)	1,4-Dichlorobenzene	23.53	146	726060	20.95 ug/l	99
85)	n-Butylbenzene	23.99	91	1443744	22.55 ug/l	99
86)	1,2-Dichlorobenzene	24.37	146	682053	20.38 ug/l	99
87)	1,2-Dibromo-3-chloropropan	25.93	157	53693	23.95 ug/l	93
88)	1,2,4-Trichlorobenzene	27.73	180	538580	21.24 ug/l	99
89)	Hexachlorobutadiene	28.01	225	450080	21.41 ug/l	99
90)	Naphthalene	28.28	128	911182	22.63 ug/l	99
91)	1,2,3-Trichlorobenzene	28.80	180	492887	21.59 ug/l	98

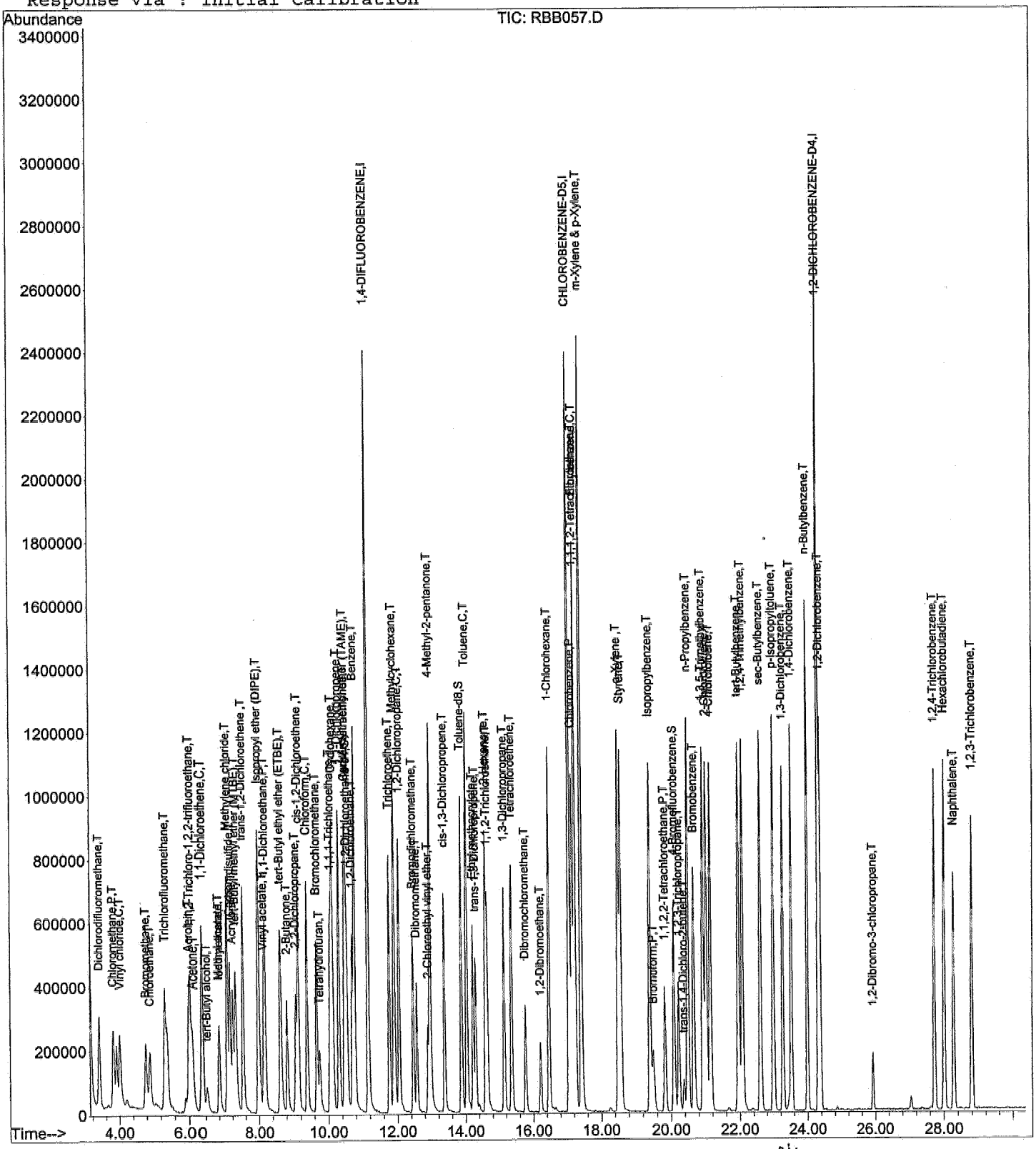
2-9-06

(#) = qualifier out of range (m) = manual integration
RBB057.D VO03B03.M Mon Feb 06 19:27:03 2006

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB057.D Vial: 5
Acq On : 3 Feb 2006 3:32 pm Operator: CGM
Sample : VO03B034 20/80/100 Inst : TO03
Misc : 20ppb 8260/80ppb Ket-AA/100ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:40 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



8-9-04

2678

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB058.D Vial: 6
Acq On : 3 Feb 2006 4:09 pm Operator: CGM
Sample : VO03B035 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:42 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:41:56 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.16	114	2354321	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.07	117	2189381	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.32	152	1126337	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.55	65	1073153	44.37	ug/l	0.00
Spiked Amount 50.000			Recovery =	88.74%		
50) Toluene-d8	13.89	98	2290395	48.29	ug/l	0.00
Spiked Amount 50.000			Recovery =	96.58%		
71) 4-Bromofluorobenzene	20.10	95	1151509	47.64	ug/l	0.00
Spiked Amount 50.000			Recovery =	95.28%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.40	85	1082012	47.94	ug/l	100
3) Chloromethane	3.81	50	1252657	45.38	ug/l	100
4) Vinyl chloride	4.01	62	741077	41.18	ug/l	100
5) Bromomethane	4.77	94	636417	50.14	ug/l	100
6) Chloroethane	4.90	64	517218	47.49	ug/l	100
7) Trichlorofluoromethane	5.33	101	1143382	46.37	ug/l	100
9) Acrolein	5.98	56	429841	222.88	ug/l	100
10) 1,1,2-Trichloro-1,2,2-trif	6.03	151	599636	49.33	ug/l	100
11) Acetone	6.09	43	1456645	192.03	ug/l	100
12) 1,1-Dichloroethene	6.31	61	1787468	47.56	ug/l	100
13) tert-Butyl alcohol	6.44	59	370074	301.12	ug/l	99
15) Iodomethane	6.82	142	793122	52.69	ug/l	100
16) Methyl acetate	6.80	43	929688	51.62	ug/l	100
17) Methylene chloride	7.05	49	1837928	35.21	ug/l	100
18) Carbon disulfide	7.13	76	2692318	52.90	ug/l	100
19) Acrylonitrile	7.22	53	1254428	216.37	ug/l	100
20) tert-Butyl methyl ether (M	7.31	73	1817569	62.07	ug/l	100
21) trans-1,2-Dichloroethene	7.53	61	1784573	50.49	ug/l	100
22) Isopropyl ether (DIPE)	7.99	45	4056317	55.09	ug/l	100
23) 1,1-Dichloroethane	8.18	63	1955622	50.80	ug/l	100
24) Vinyl acetate	8.14	43	2240720	59.22	ug/l	100
25) tert-Butyl ethyl ether (ET	8.63	59	2514934	61.50	ug/l	100
26) 2-Butanone	8.81	43	2148720	228.22	ug/l	100
27) 2,2-Dichloropropane	9.07	77	940312	62.34	ug/l	100
28) cis-1,2-Dichloroethene	9.15	61	1914210	51.76	ug/l	100
30) Chloroform	9.40	83	1803845	49.92	ug/l	100
31) Bromochloromethane	9.67	49	1091560	49.28	ug/l	100
32) Tetrahydrofuran	9.74	42	630928	114.12	ug/l	100
33) 1,1,1-Trichloroethane	10.06	97	1413656	55.43	ug/l	100
34) Cyclohexane	10.12	56	1829846	53.39	ug/l	100
35) tert-Amyl methyl ether (TA	10.47	73	1889320	62.21	ug/l	100
38) 1,1-Dichloropropene	10.31	77	480788	52.86	ug/l	100
39) Carbon tetrachloride	10.50	119	1113638	59.81	ug/l	100
40) 1,2-Dichloroethane	10.69	62	1697222	49.64	ug/l	100
41) Benzene	10.77	78	3466115	50.91	ug/l	100
42) Trichloroethene	11.76	130	895131	51.42	ug/l	100
43) Methylcyclohexane	11.91	83	1485332	54.08	ug/l	100
44) 1,2-Dichloropropane	12.05	63	1099251	52.34	ug/l	100

(#) = qualifier out of range (m) = manual integration
RBB058.D VO03B03.M Mon Feb 06 19:22:20 2006

RO 2-9-06

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB058.D Vial: 6
Acq On : 3 Feb 2006 4:09 pm Operator: CGM
Sample : VO03B035 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:42 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:41:56 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Bromodichloromethane	12.46	83	1366004	59.13 ug/l	100
46)	Dibromomethane	12.57	93	646295	52.36 ug/l	100
47)	2-Chloroethyl vinyl ether	12.89	63	438700	60.67 ug/l	100
48)	4-Methyl-2-pentanone	12.95	43	5204851	232.87 ug/l	100
49)	cis-1,3-Dichloropropene	13.38	75	1401481	65.18 ug/l	100
51)	Toluene	14.04	91	3391321	51.08 ug/l	100
52)	Ethyl methacrylate	14.22	69	1135704	61.56 ug/l	99
53)	trans-1,3-Dichloropropene	14.31	75	1081020	72.07 ug/l	100
54)	1,1,2-Trichloroethane	14.65	97	737782	53.06 ug/l	100
55)	2-Hexanone	14.59	43	3447792	233.88 ug/l	100
56)	1,3-Dichloropropane	15.15	76	1403736	54.88 ug/l	100
57)	Tetrachloroethene	15.38	164	776673	51.11 ug/l	100
58)	Dibromochloromethane	15.78	129	824917	66.31 ug/l	100
59)	1,2-Dibromoethane	16.22	107	716163	56.30 ug/l	100
60)	1-Chlorohexane	16.47	91	1281288	57.46 ug/l	100
61)	Chlorobenzene	17.16	112	2211986	49.80 ug/l	100
62)	1,1,1,2-Tetrachloroethane	17.23	131	776911	59.10 ug/l	100
63)	Ethylbenzene	17.25	91	4034379	50.81 ug/l	100
64)	m-Xylene & p-Xylene	17.43	91	6757651	101.80 ug/l	100
65)	o-Xylene	18.51	91	3519717	54.12 ug/l	100
66)	Styrene	18.58	104	2422607	55.16 ug/l	100
68)	Bromoform	19.49	173	539845	74.09 ug/l	100
69)	Isopropylbenzene	19.40	105	3459493	54.03 ug/l	100
70)	1,1,2,2-Tetrachloroethane	19.83	83	1024353	54.55 ug/l	100
72)	1,2,3-Trichloropropane	20.23	61	258045	49.21 ug/l	100
73)	trans-1,4-Dichloro-2-buten	20.38	53	159959	60.08 ug/l	100
74)	n-Propylbenzene	20.49	91	5005390	53.02 ug/l	100
75)	Bromobenzene	20.66	156	1012346	52.40 ug/l	100
76)	2-Chlorotoluene	21.04	91	2888845	48.34 ug/l	99
77)	1,3,5-Trimethylbenzene	20.93	105	3357782	54.11 ug/l	100
78)	4-Chlorotoluene	21.16	91	3379606	51.48 ug/l	100
79)	tert-Butylbenzene	21.97	119	2674548	53.68 ug/l	100
80)	1,2,4-Trimethylbenzene	22.09	105	3343576	52.19 ug/l	100
81)	sec-Butylbenzene	22.61	105	4254673	53.09 ug/l	100
82)	p-Isopropyltoluene	23.00	119	3148885	54.39 ug/l	100
83)	1,3-Dichlorobenzene	23.28	146	1813579	50.58 ug/l	100
84)	1,4-Dichlorobenzene	23.53	146	1853418	50.82 ug/l	100
85)	n-Butylbenzene	23.99	91	3622779	52.92 ug/l	100
86)	1,2-Dichlorobenzene	24.38	146	1729152	49.38 ug/l	100
87)	1,2-Dibromo-3-chloropropan	25.94	157	170411	70.14 ug/l	100
88)	1,2,4-Trichlorobenzene	27.74	180	1377250	51.47 ug/l	100
89)	Hexachlorobutadiene	28.02	225	1107866	49.85 ug/l	100
90)	Naphthalene	28.29	128	2448686	56.85 ug/l	100
91)	1,2,3-Trichlorobenzene	28.81	180	1259559	52.10 ug/l	100

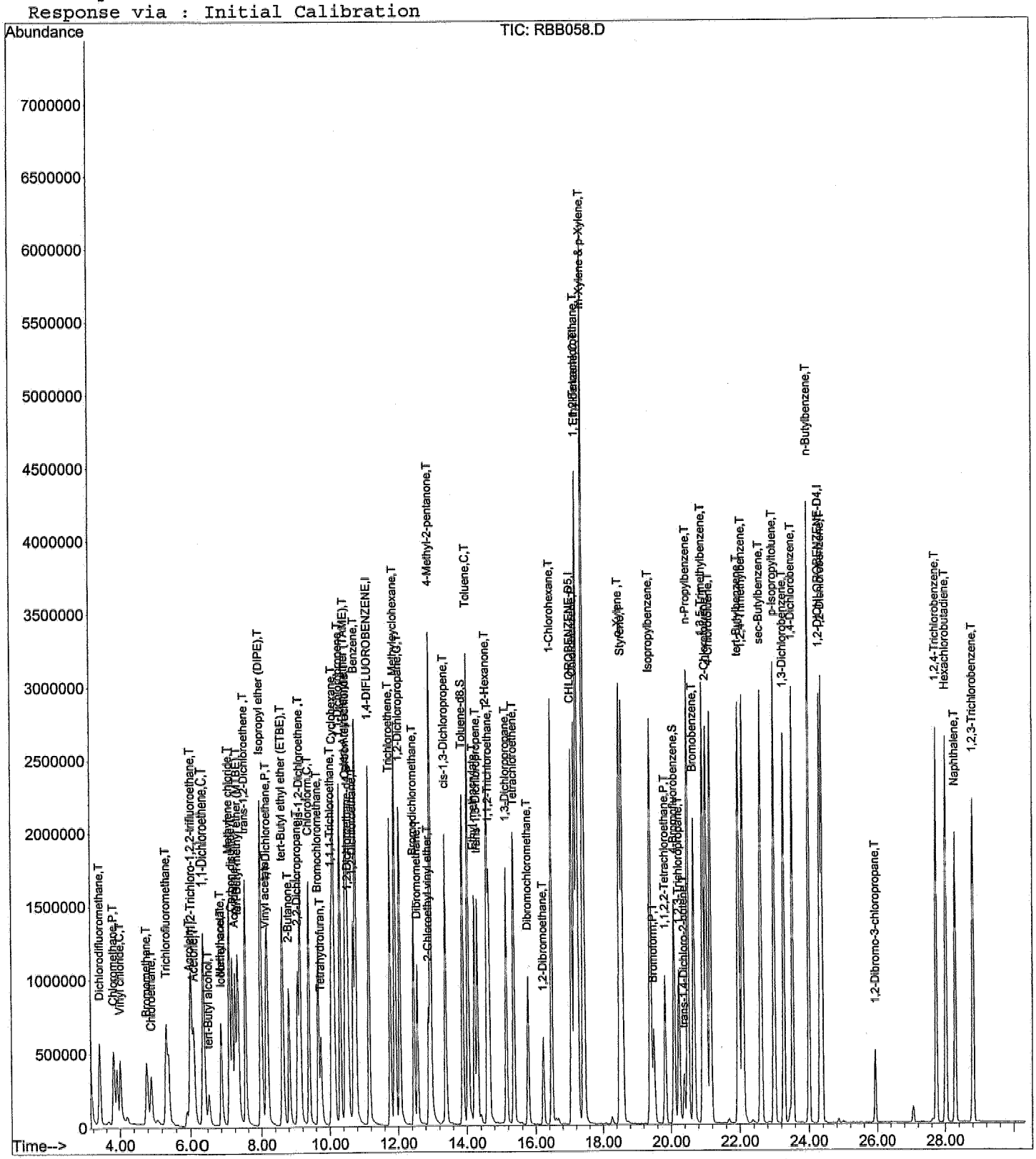
2-9-06

(#) = qualifier out of range (m) = manual integration
RBB058.D VO03B03.M Mon Feb 06 19:22:21 2006

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB058.D Vial: 6
Acq On : 3 Feb 2006 4:09 pm Operator: CGM
Sample : VO03B035 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:42 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB059.D Vial: 7
Acq On : 3 Feb 2006 4:46 pm Operator: CGM
Sample : VO03B036 80/320/400 Inst : TO03
Misc : 80ppb 8260/320ppb Ket-AA/400ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:45 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:44:55 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2459458	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2303321	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.32	152	1143708	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	2183070	86.42	ug/l	0.00
Spiked Amount 50.000			Recovery =	172.84%		
50) Toluene-d8	13.88	98	4552299	91.21	ug/l	0.00
Spiked Amount 50.000			Recovery =	182.42%		
71) 4-Bromofluorobenzene	20.10	95	2271289	92.52	ug/l	0.00
Spiked Amount 50.000			Recovery =	185.04%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.39	85	1790997	75.96	ug/l	99
3) Chloromethane	3.83	50	2119361	73.48	ug/l	97
4) Vinyl chloride	4.00	62	1141803	60.72	ug/l	99
5) Bromomethane	4.76	94	1060576	79.94	ug/l	99
6) Chloroethane	4.90	64	856375	75.22	ug/l	97
7) Trichlorofluoromethane	5.33	101	1913626	74.26	ug/l	99
9) Acrolein	5.98	56	704989	349.69	ug/l	99
10) 1,1,2-Trichloro-1,2,2-trif	6.02	151	905451	71.26	ug/l	98
11) Acetone	6.10	43	2397060	302.58	ug/l	99
12) 1,1-Dichloroethene	6.31	61	2775174	70.69	ug/l	99
13) tert-Butyl alcohol	6.44	59	641985	498.51	ug/l	95
15) Iodomethane	6.81	142	1191056	75.67	ug/l	99
16) Methyl acetate	6.80	43	1590515	84.48	ug/l	100
17) Methylene chloride	7.05	49	2767252	50.75	ug/l	100
18) Carbon disulfide	7.14	76	4170439	78.47	ug/l	100
19) Acrylonitrile	7.21	53	2060467	339.92	ug/l	99
20) tert-Butyl methyl ether (M	7.30	73	2922536	95.45	ug/l	100
21) trans-1,2-Dichloroethene	7.53	61	2732008	73.99	ug/l	100
22) Isopropyl ether (DIPE)	7.99	45	6480614	84.23	ug/l	100
23) 1,1-Dichloroethane	8.18	63	3027752	75.28	ug/l	100
24) Vinyl acetate	8.13	43	3651444	92.32	ug/l	100
25) tert-Butyl ethyl ether (ET	8.62	59	4106818	96.11	ug/l	99
26) 2-Butanone	8.82	43	3596283	365.77	ug/l	100
27) 2,2-Dichloropropane	9.07	77	1511977	95.94	ug/l	97
28) cis-1,2-Dichloroethene	9.14	61	2951705	76.40	ug/l	100
30) Chloroform	9.40	83	2763880	73.17	ug/l	99
31) Bromochloromethane	9.66	49	1665779	71.91	ug/l	99
32) Tetrahydrofuran	9.74	42	1062001	183.44	ug/l	98
33) 1,1,1-Trichloroethane	10.07	97	2192200	82.29	ug/l	99
34) Cyclohexane	10.13	56	3037911	84.84	ug/l	100
35) tert-Amyl methyl ether (TA	10.47	73	3020926	95.21	ug/l	100
38) 1,1-Dichloropropene	10.30	77	730919	76.39	ug/l	97
39) Carbon tetrachloride	10.50	119	1737971	88.68	ug/l	100
40) 1,2-Dichloroethane	10.69	62	2662280	74.00	ug/l	98
41) Benzene	10.76	78	5307562	74.07	ug/l	99
42) Trichloroethene	11.77	130	1398807	76.35	ug/l	99
43) Methylcyclohexane	11.91	83	2474471	85.62	ug/l	98
44) 1,2-Dichloropropane	12.04	63	1723442	77.97	ug/l	99

2-9-06

(#) = qualifier out of range (m) = manual integration
RBB059.D VO03B03.M Mon Feb 06 19:22:32 2006

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB059.D Vial: 7
Acq On : 3 Feb 2006 4:46 pm Operator: CGM
Sample : VO03B036 80/320/400 Inst : TO03
Misc : 80ppb 8260/320ppb Ket-AA/400ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:45 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:44:55 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Bromodichloromethane	12.46	83	2145427	88.27 ug/l	100
46)	Dibromomethane	12.56	93	986344	75.95 ug/l	100
47)	2-Chloroethyl vinyl ether	12.89	63	719743	94.61 ug/l	99
48)	4-Methyl-2-pentanone	12.96	43	8574523	364.60 ug/l	99
49)	cis-1,3-Dichloropropene	13.38	75	2239402	98.97 ug/l	99
51)	Toluene	14.03	91	5280924	75.59 ug/l	99
52)	Ethyl methacrylate	14.23	69	1867977	96.19 ug/l	98
53)	trans-1,3-Dichloropropene	14.30	75	1725541	109.34 ug/l	99
54)	1,1,2-Trichloroethane	14.64	97	1141952	78.06 ug/l	98
55)	2-Hexanone	14.58	43	5777481	372.28 ug/l	100
56)	1,3-Dichloropropane	15.15	76	2204101	81.89 ug/l	99
57)	Tetrachloroethene	15.37	164	1193789	74.67 ug/l	99
58)	Dibromochloromethane	15.77	129	1327996	101.47 ug/l	100
59)	1,2-Dibromoethane	16.22	107	1089547	81.42 ug/l	98
60)	1-Chlorohexane	16.47	91	1983424	84.54 ug/l	99
61)	Chlorobenzene	17.15	112	3374519	72.21 ug/l	99
62)	1,1,1,2-Tetrachloroethane	17.23	131	1229394	88.90 ug/l	99
63)	Ethylbenzene	17.24	91	6119116	73.26 ug/l	99
64)	m-Xylene & p-Xylene	17.42	91	10063735	144.06 ug/l	99
65)	o-Xylene	18.51	91	5381097	78.64 ug/l	100
66)	Styrene	18.58	104	3705254	80.18 ug/l	100
68)	Bromoform	19.50	173	885252	119.66 ug/l	99
69)	Isopropylbenzene	19.40	105	5244561	80.67 ug/l	99
70)	1,1,2,2-Tetrachloroethane	19.83	83	1632218	85.61 ug/l	100
72)	1,2,3-Trichloropropane	20.23	61	421403	79.14 ug/l	93
73)	trans-1,4-Dichloro-2-buten	20.38	53	278332	102.94 ug/l	96
74)	n-Propylbenzene	20.50	91	7495898	78.19 ug/l	99
75)	Bromobenzene	20.68	156	1530964	78.05 ug/l	99
76)	2-Chlorotoluene	21.03	91	4345119	71.47 ug/l	99
77)	1,3,5-Trimethylbenzene	20.93	105	5044640	80.06 ug/l	100
78)	4-Chlorotoluene	21.15	91	5053460	75.81 ug/l	99
79)	tert-Butylbenzene	21.97	119	4025032	79.38 ug/l	99
80)	1,2,4-Trimethylbenzene	22.09	105	5072072	77.97 ug/l	99
81)	sec-Butylbenzene	22.61	105	6479793	79.63 ug/l	99
82)	p-Isopropyltoluene	22.99	119	4695629	79.88 ug/l	99
83)	1,3-Dichlorobenzene	23.28	146	2701725	74.20 ug/l	99
84)	1,4-Dichlorobenzene	23.53	146	2712315	73.24 ug/l	99
85)	n-Butylbenzene	23.99	91	5369735	77.25 ug/l	99
86)	1,2-Dichlorobenzene	24.38	146	2566708	72.19 ug/l	99
87)	1,2-Dibromo-3-chloropropan	25.94	157	278682	112.96 ug/l	95
88)	1,2,4-Trichlorobenzene	27.73	180	2107300	77.55 ug/l	99
89)	Hexachlorobutadiene	28.02	225	1706417	75.62 ug/l	99
90)	Naphthalene	28.28	128	3807703	87.06 ug/l	100
91)	1,2,3-Trichlorobenzene	28.80	180	1943321	79.16 ug/l	99

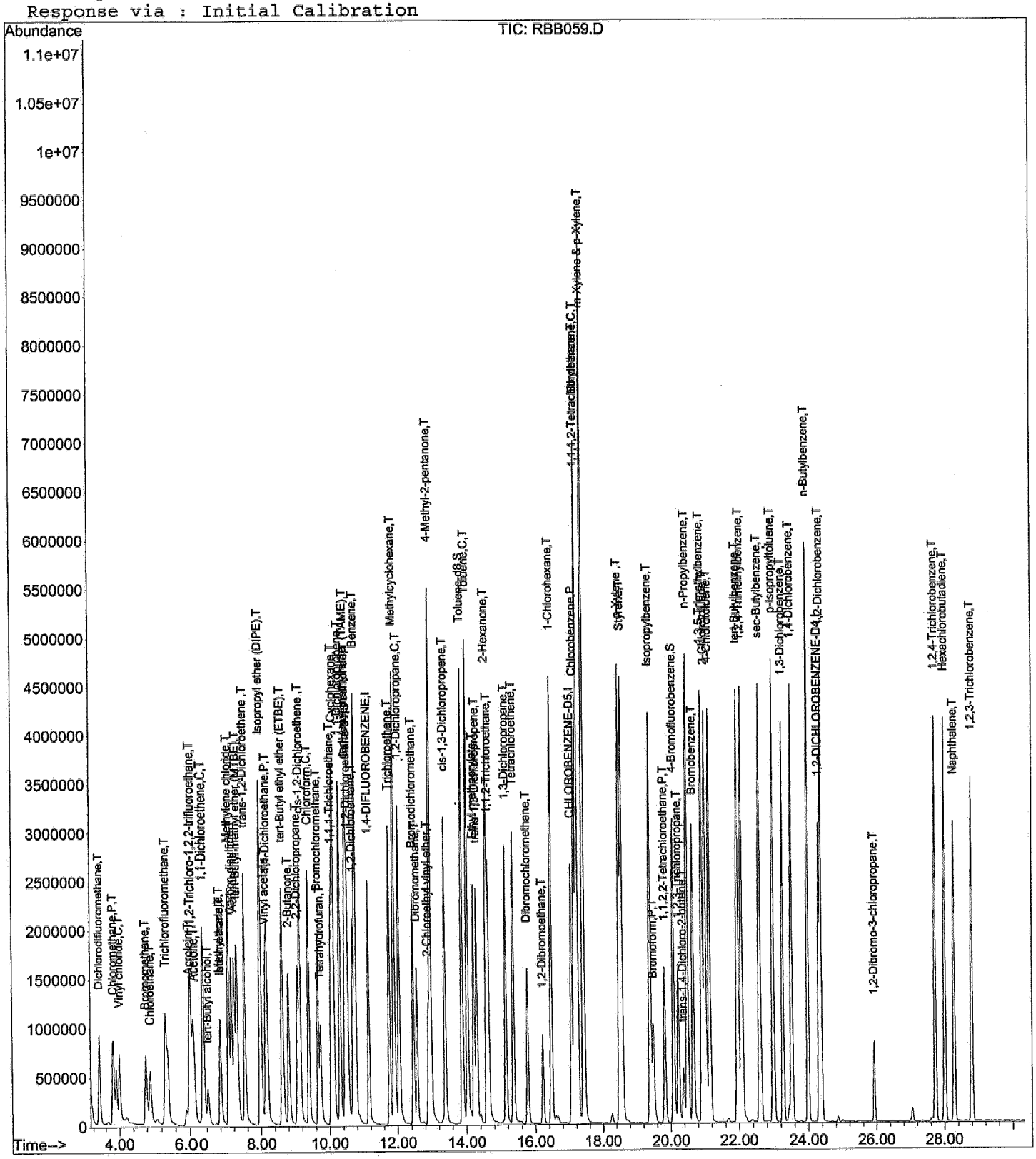
2-9-06

(#) = qualifier out of range (m) = manual integration
RBB059.D VO03B03.M Mon Feb 06 19:22:32 2006

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB059.D Vial: 7
Acq On : 3 Feb 2006 4:46 pm Operator: CGM
Sample : VO03B036 80/320/400 Inst : TO03
Misc : 80ppb 8260/320ppb Ket-AA/400ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:45 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



2-9-06

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB060.D Vial: 8
Acq On : 3 Feb 2006 5:24 pm Operator: CGM
Sample : VO03B037 100/400/500 Inst : TO03
Misc : 100ppb 8260/400ppb Ket-AA/500ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:46 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:46:09 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2540569	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2242170	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.32	152	1126128	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	2656779	100.47	ug/l	0.00
Spiked Amount 50.000			Recovery =	200.94%		
50) Toluene-d8	13.88	98	5612584	112.89	ug/l	0.00
Spiked Amount 50.000			Recovery =	225.78%		
71) 4-Bromofluorobenzene	20.10	95	2796014	112.73	ug/l	0.00
Spiked Amount 50.000			Recovery =	225.46%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.39	85	2190512	90.70	ug/l	99
3) Chloromethane	3.81	50	2630249	89.50	ug/l	96
4) Vinyl chloride	4.00	62	1339767	71.86	ug/l	100
5) Bromomethane	4.76	94	1342628	97.98	ug/l	99
6) Chloroethane	4.89	64	1044207	89.68	ug/l	98
7) Trichlorofluoromethane	5.33	101	2350372	89.36	ug/l	99
9) Acrolein	5.98	56	840243	397.33	ug/l	99
10) 1,1,2-Trichloro-1,2,2-trif	6.02	151	1052187	81.65	ug/l	96
11) Acetone	6.10	43	2816550	347.33	ug/l	100
12) 1,1-Dichloroethene	6.31	61	3301015	83.01	ug/l	100
13) tert-Butyl alcohol	6.44	59	712848	514.73	ug/l	93
15) Iodomethane	6.81	142	1394856	86.57	ug/l	98
16) Methyl acetate	6.80	43	1902268	96.91	ug/l	100
17) Methylene chloride	7.05	49	3217376	60.83	ug/l	99
18) Carbon disulfide	7.14	76	4941719	90.30	ug/l	100
19) Acrylonitrile	7.21	53	2455627	388.15	ug/l	99
20) tert-Butyl methyl ether (M	7.30	73	3400984	104.18	ug/l	100
21) trans-1,2-Dichloroethene	7.52	61	3261024	86.58	ug/l	98
22) Isopropyl ether (DIPE)	7.98	45	7602310	94.82	ug/l	100
23) 1,1-Dichloroethane	8.18	63	3576397	86.94	ug/l	99
24) Vinyl acetate	8.13	43	4172665	99.57	ug/l	99
25) tert-Butyl ethyl ether (ET	8.62	59	4677979	102.54	ug/l	99
26) 2-Butanone	8.82	43	4223240	406.14	ug/l	100
27) 2,2-Dichloropropane	9.07	77	1796042	106.78	ug/l	97
28) cis-1,2-Dichloroethene	9.14	61	3486582	88.02	ug/l	100
30) Chloroform	9.40	83	3260366	84.76	ug/l	100
31) Bromochloromethane	9.66	49	1942499	82.57	ug/l	100
32) Tetrahydrofuran	9.74	42	1265757	206.61	ug/l	99
33) 1,1,1-Trichloroethane	10.07	97	2592020	93.75	ug/l	99
34) Cyclohexane	10.12	56	3837252	102.71	ug/l	99
35) tert-Amyl methyl ether (TA	10.47	73	3445732	101.90	ug/l	99
38) 1,1-Dichloropropene	10.30	77	852117	92.18	ug/l	96
39) Carbon tetrachloride	10.50	119	2024626	104.24	ug/l	100
40) 1,2-Dichloroethane	10.69	62	3097196	89.56	ug/l	98
41) Benzene	10.76	78	6172238	89.59	ug/l	98
42) Trichloroethene	11.77	130	1633306	92.28	ug/l	99
43) Methylcyclohexane	11.91	83	3091505	108.62	ug/l	100
44) 1,2-Dichloropropane	12.06	63	2012804	93.94	ug/l	99

(#) = qualifier out of range (m) = manual integration
RBB060.D VO03B03.M Mon Feb 06 19:22:45 2006

2-9-06

2085

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB060.D Vial: 8
Acq On : 3 Feb 2006 5:24 pm Operator: CGM
Sample : VO03B037 100/400/500 Inst : TO03
Misc : 100ppb 8260/400ppb Ket-AA/500ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:46 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:46:09 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
45)	Bromodichloromethane	12.46	83	2520737	104.73	ug/l	100
46)	Dibromomethane	12.56	93	1116522	89.07	ug/l	99
47)	2-Chloroethyl vinyl ether	12.89	63	821733	107.69	ug/l	99
48)	4-Methyl-2-pentanone	12.96	43	9869435	421.32	ug/l	99
49)	cis-1,3-Dichloropropene	13.38	75	2571821	112.32	ug/l	100
51)	Toluene	14.03	91	5972779	88.64	ug/l	100
52)	Ethyl methacrylate	14.23	69	2056489	105.23	ug/l	98
53)	trans-1,3-Dichloropropene	14.30	75	1985478	121.80	ug/l	99
54)	1,1,2-Trichloroethane	14.64	97	1294302	91.25	ug/l	98
55)	2-Hexanone	14.58	43	6598854	425.22	ug/l	100
56)	1,3-Dichloropropane	15.15	76	2467864	93.82	ug/l	99
57)	Tetrachloroethene	15.37	164	1355049	88.04	ug/l	99
58)	Dibromochloromethane	15.77	129	1503608	112.97	ug/l	100
59)	1,2-Dibromoethane	16.22	107	1215589	93.04	ug/l	96
60)	1-Chlorohexane	16.47	91	2288503	99.27	ug/l	99
61)	Chlorobenzene	17.15	112	3800498	84.92	ug/l	99
62)	1,1,1,2-Tetrachloroethane	17.23	131	1370847	99.98	ug/l	100
63)	Ethylbenzene	17.24	91	6855623	85.51	ug/l	99
64)	m-Xylene & p-Xylene	17.42	91	11389457	170.32	ug/l	99
65)	o-Xylene	18.51	91	6014497	90.55	ug/l	100
66)	Styrene	18.58	104	4189767	93.11	ug/l	100
68)	Bromoform	19.50	173	1001097	126.94	ug/l	100
69)	Isopropylbenzene	19.40	105	5953344	92.87	ug/l	99
70)	1,1,2,2-Tetrachloroethane	19.83	83	1795947	94.56	ug/l	99
72)	1,2,3-Trichloropropane	20.23	61	450102	86.00	ug/l	96
73)	trans-1,4-Dichloro-2-buten	20.38	53	314330	112.69	ug/l	98
74)	n-Propylbenzene	20.50	91	8512550	90.52	ug/l	99
75)	Bromobenzene	20.67	156	1709264	88.86	ug/l	99
76)	2-Chlorotoluene	21.03	91	4845933	82.42	ug/l	99
77)	1,3,5-Trimethylbenzene	20.93	105	5679526	91.53	ug/l	100
78)	4-Chlorotoluene	21.15	91	5765621	88.62	ug/l	100
79)	tert-Butylbenzene	21.97	119	4603844	92.33	ug/l	100
80)	1,2,4-Trimethylbenzene	22.09	105	5715086	89.60	ug/l	99
81)	sec-Butylbenzene	22.61	105	7365080	91.99	ug/l	100
82)	p-Isopropyltoluene	22.99	119	5399600	93.31	ug/l	99
83)	1,3-Dichlorobenzene	23.27	146	3068971	86.65	ug/l	99
84)	1,4-Dichlorobenzene	23.53	146	3103999	86.34	ug/l	99
85)	n-Butylbenzene	23.99	91	6165544	90.61	ug/l	99
86)	1,2-Dichlorobenzene	24.37	146	2884562	83.76	ug/l	100
87)	1,2-Dibromo-3-chloropropan	25.93	157	308576	118.87	ug/l	96
88)	1,2,4-Trichlorobenzene	27.73	180	2458882	92.37	ug/l	100
89)	Hexachlorobutadiene	28.02	225	1970013	89.48	ug/l	99
90)	Naphthalene	28.28	128	4276913	97.88	ug/l	99
91)	1,2,3-Trichlorobenzene	28.80	180	2212074	91.68	ug/l	99

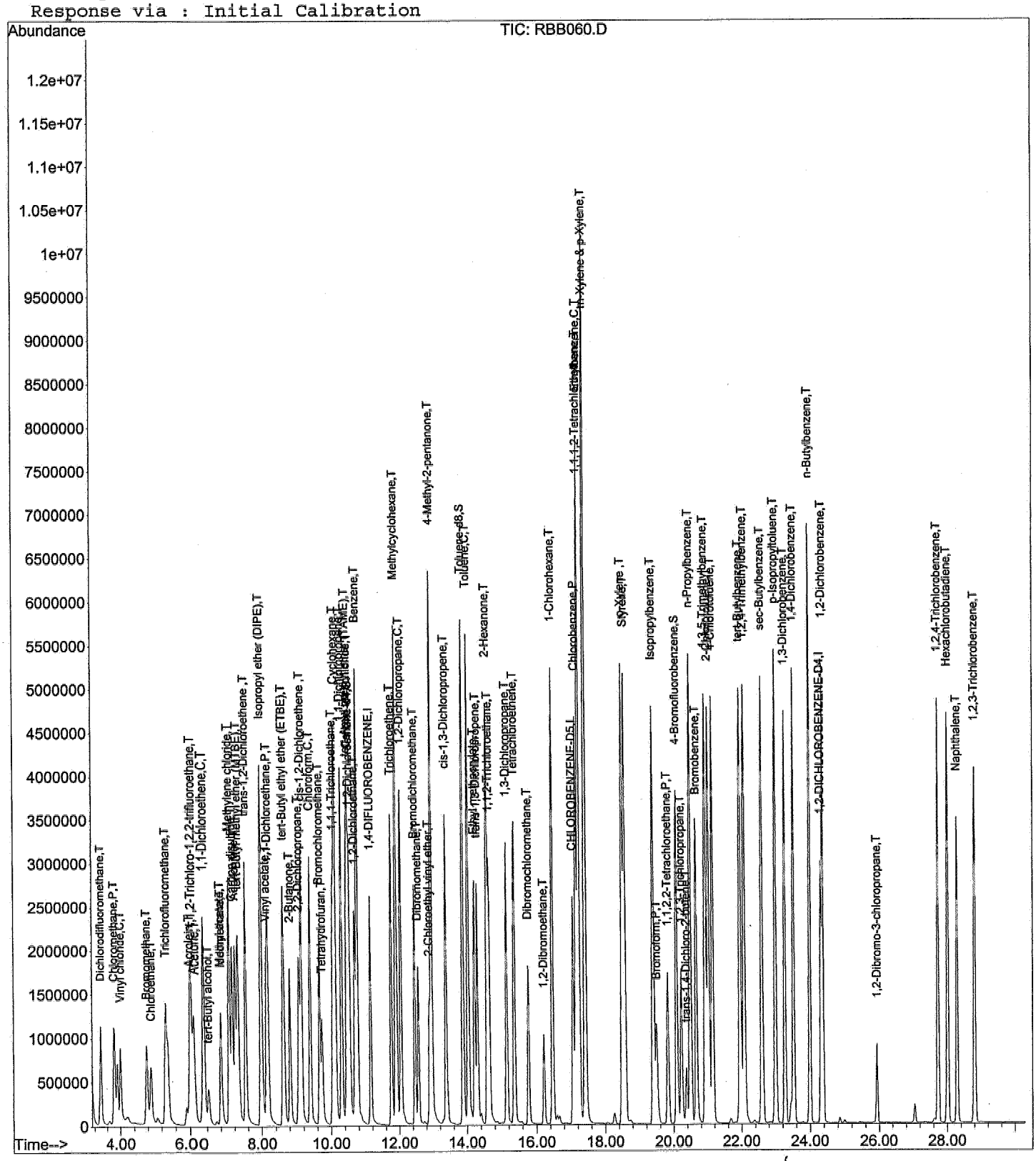
dw 2-9-06

(#) = qualifier out of range (m) = manual integration
RBB060.D VO03B03.M Mon Feb 06 19:22:46 2006

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB060.D Vial: 8
Acq On : 3 Feb 2006 5:24 pm Operator: CGM
Sample : VO03B037 100/400/500 Inst : TO03
Misc : 100ppb 8260/400ppb Ket-AA/500ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:46 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB061.D Vial: 9
Acq On : 3 Feb 2006 6:01 pm Operator: CGM
Sample : VO03B038 200/800/1000 Inst : TO03
Misc : 200ppb 8260/800ppb Ket-AA/1000ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:46 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:46:36 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2150874	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.08	117	1941589	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	979380	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	4594048	205.07	ug/l	0.00
Spiked Amount 50.000			Recovery =	410.14%		
50) Toluene-d8	13.88	98	9811400	223.77	ug/l	0.00
Spiked Amount 50.000			Recovery =	447.54%		
71) 4-Bromofluorobenzene	20.09	95	4988191	227.13	ug/l	0.00
Spiked Amount 50.000			Recovery =	454.26%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.38	85	4210631	208.71	ug/l	98
3) Chloromethane	3.81	50	5533434	225.78	ug/l	97
4) Vinyl chloride	4.00	62	2471142	163.11	ug/l	99
5) Bromomethane	4.74	94	2560123	221.31	ug/l	98
6) Chloroethane	4.88	64	2001046	206.03	ug/l	99
7) Trichlorofluoromethane	5.31	101	4529992	206.58	ug/l	100
9) Acrolein	5.99	56	1556914	870.44	ug/l	96
10) 1,1,2-Trichloro-1,2,2-trif	6.01	151	2261491	212.87	ug/l	98
11) Acetone	6.10	43	5305491	787.62	ug/l	99
12) 1,1-Dichloroethene	6.30	61	6971220	212.21	ug/l	98
13) tert-Butyl alcohol	6.47	59	1631208	1385.43	ug/l	88
15) Iodomethane	6.81	142	2888428	215.89	ug/l	99
16) Methyl acetate	6.81	43	3632941	219.57	ug/l	99
17) Methylene chloride	7.05	49	6621843	156.65	ug/l	99
18) Carbon disulfide	7.12	76	10591785	231.82	ug/l	100
19) Acrylonitrile	7.23	53	4591916	860.97	ug/l	99
20) tert-Butyl methyl ether (M	7.30	73	7649434	275.13	ug/l	99
21) trans-1,2-Dichloroethene	7.52	61	6820297	218.06	ug/l	99
22) Isopropyl ether (DIPE)	7.98	45	16000222	237.48	ug/l	100
23) 1,1-Dichloroethane	8.18	63	7493418	219.26	ug/l	100
24) Vinyl acetate	8.13	43	8734580	246.35	ug/l	100
25) tert-Butyl ethyl ether (ET	8.62	59	10280106	265.19	ug/l	100
26) 2-Butanone	8.82	43	7779420	881.74	ug/l	99
27) 2,2-Dichloropropane	9.07	77	4207201	292.62	ug/l	97
28) cis-1,2-Dichloroethene	9.14	61	7437092	225.63	ug/l	98
30) Chloroform	9.40	83	6739495	211.57	ug/l	99
31) Bromochloromethane	9.66	49	4130769	212.69	ug/l	98
32) Tetrahydrofuran	9.74	42	2429823	466.28	ug/l	99
33) 1,1,1-Trichloroethane	10.06	97	5431426	234.12	ug/l	99
34) Cyclohexane	10.11	56	7036425	221.60	ug/l	99
35) tert-Amyl methyl ether (TA	10.47	73	7328677	255.30	ug/l	99
38) 1,1-Dichloropropene	10.30	77	1802146	227.67	ug/l	100
39) Carbon tetrachloride	10.50	119	4313160	254.90	ug/l	100
40) 1,2-Dichloroethane	10.69	62	6268991	212.51	ug/l	99
41) Benzene	10.76	78	12349354	210.13	ug/l	97
42) Trichloroethene	11.77	130	3339097	220.29	ug/l	99
43) Methylcyclohexane	11.91	83	5606514	224.71	ug/l	99
44) 1,2-Dichloropropane	12.06	63	4247625	230.93	ug/l	98

(#) = qualifier out of range (m) = manual integration
RBB061.D VO03B03.M Mon Feb 06 19:22:57 2006

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2088

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB061.D Vial: 9
Acq On : 3 Feb 2006 6:01 pm Operator: CGM
Sample : VO03B038 200/800/1000 Inst : TO03
Misc : 200ppb 8260/800ppb Ket-AA/1000ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:46 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 08:46:36 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Bromodichloromethane	12.46	83	5288455	252.04 ug/l	99
46)	Dibromomethane	12.56	93	2287670	214.09 ug/l	99
47)	2-Chloroethyl vinyl ether	12.89	63	1739919	260.45 ug/l	99
48)	4-Methyl-2-pentanone	12.96	43	17533382	857.84 ug/l	98
49)	cis-1,3-Dichloropropene	13.38	75	5615208	278.31 ug/l	100
51)	Toluene	14.03	91	11954007	208.24 ug/l	100
52)	Ethyl methacrylate	14.22	69	4240457	248.73 ug/l	97
53)	trans-1,3-Dichloropropene	14.30	75	4452796	305.92 ug/l	98
54)	1,1,2-Trichloroethane	14.64	97	2663476	219.60 ug/l	99
55)	2-Hexanone	14.58	43	11531467	850.45 ug/l	99
56)	1,3-Dichloropropane	15.15	76	5042334	223.35 ug/l	99
57)	Tetrachloroethene	15.37	164	2807209	214.29 ug/l	99
58)	Dibromochloromethane	15.77	129	3319293	282.76 ug/l	99
59)	1,2-Dibromoethane	16.22	107	2569182	229.36 ug/l	98
60)	1-Chlorohexane	16.47	91	4738648	237.62 ug/l	99
61)	Chlorobenzene	17.17	112	7701023	203.09 ug/l	98
62)	1,1,1,2-Tetrachloroethane	17.23	131	2891704	243.56 ug/l	99
63)	Ethylbenzene	17.24	91	13500009	198.57 ug/l	97
64)	m-Xylene & p-Xylene	17.43	91	21369874	377.03 ug/l	96
65)	o-Xylene	18.50	91	12225549	215.46 ug/l	98
66)	Styrene	18.58	104	8594531	222.75 ug/l	99
68)	Bromoform	19.50	173	2301125	323.07 ug/l	100
69)	Isopropylbenzene	19.41	105	12107152	219.40 ug/l	98
70)	1,1,2,2-Tetrachloroethane	19.83	83	3739864	228.19 ug/l	99
72)	1,2,3-Trichloropropane	20.23	61	983814	220.55 ug/l	92
73)	trans-1,4-Dichloro-2-buten	20.38	53	820883	332.36 ug/l	100
74)	n-Propylbenzene	20.50	91	17181688	212.97 ug/l	98
75)	Bromobenzene	20.67	156	3562573	216.40 ug/l	99
76)	2-Chlorotoluene	21.03	91	9798517	196.55 ug/l	97
77)	1,3,5-Trimethylbenzene	20.94	105	11731443	220.05 ug/l	100
78)	4-Chlorotoluene	21.16	91	11793781	211.88 ug/l	100
79)	tert-Butylbenzene	21.97	119	9419688	219.63 ug/l	99
80)	1,2,4-Trimethylbenzene	22.09	105	11674732	213.63 ug/l	100
81)	sec-Butylbenzene	22.61	105	15074107	219.00 ug/l	99
82)	p-Isopropyltoluene	22.99	119	10945729	219.59 ug/l	97
83)	1,3-Dichlorobenzene	23.27	146	6206377	205.41 ug/l	99
84)	1,4-Dichlorobenzene	23.53	146	6362639	207.56 ug/l	98
85)	n-Butylbenzene	24.00	91	12427684	212.85 ug/l	97
86)	1,2-Dichlorobenzene	24.37	146	5899137	201.64 ug/l	99
87)	1,2-Dibromo-3-chloropropan	25.93	157	714427	308.14 ug/l	97
88)	1,2,4-Trichlorobenzene	27.73	180	5100246	222.74 ug/l	99
89)	Hexachlorobutadiene	28.01	225	4130797	219.04 ug/l	100
90)	Naphthalene	28.28	128	8874134	234.22 ug/l	99
91)	1,2,3-Trichlorobenzene	28.80	180	4587015	221.22 ug/l	98

.1

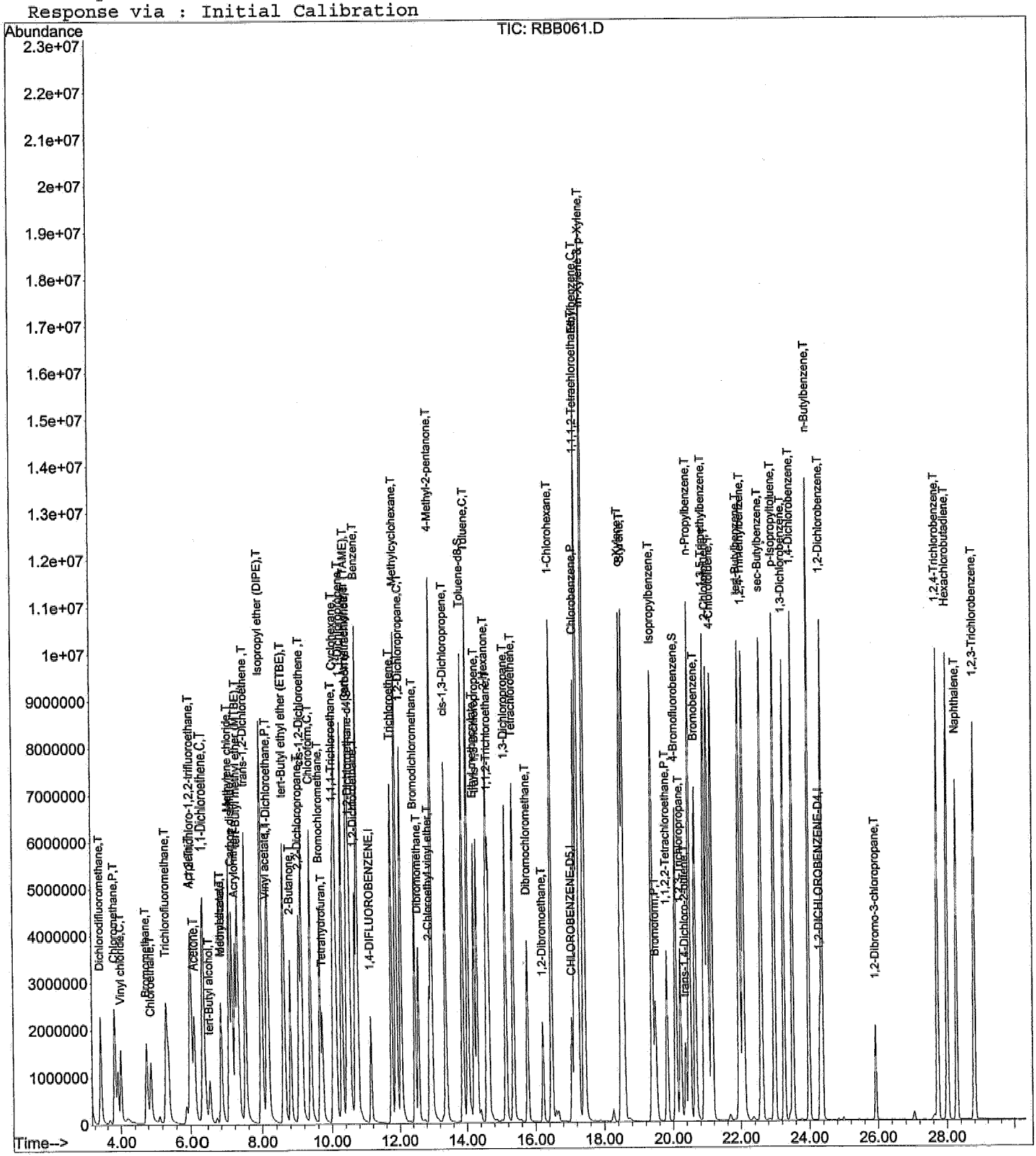
ae 2-9-06

(#) = qualifier out of range (m) = manual integration
RBB061.D VO03B03.M Mon Feb 06 19:22:57 2006

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB061.D Vial: 9
Acq On : 3 Feb 2006 6:01 pm Operator: CGM
Sample : VO03B038 200/800/1000 Inst : TO03
Misc : 200ppb 8260/800ppb Ket-AA/1000ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 8:46 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB062.D Vial: 10
Acq On : 3 Feb 2006 6:38 pm Operator: CGM
Sample : VO03B039 300/1200/1500 Inst : TO03
Misc : 300ppb 8260/1200ppb Ket-AA/1500ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 9:19 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 09:16:22 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2112542	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2001320	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1065793	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	5773672	265.35	ug/l	0.00
Spiked Amount 50.000			Recovery = 530.70%			
50) Toluene-d8	13.88	98	12151699	268.42	ug/l	0.00
Spiked Amount 50.000			Recovery = 536.84%			
71) 4-Bromofluorobenzene	20.09	95	6672047	277.13	ug/l	0.00
Spiked Amount 50.000			Recovery = 554.26%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.38	85	5204219	265.03	ug/l	98
3) Chloromethane	3.81	50	7622439	310.30	ug/l	97
4) Vinyl chloride	3.99	62	3043568	295.15	ug/l	99
5) Bromomethane	4.73	94	3001754	264.57	ug/l	100
6) Chloroethane	4.86	64	2270907	242.81	ug/l	98
7) Trichlorofluoromethane	5.30	101	5308681	250.53	ug/l	99
9) Acrolein	5.99	56	2025109	1146.54	ug/l	96
10) 1,1,2-Trichloro-1,2,2-trif	5.99	151	2648918	256.41	ug/l	97
11) Acetone	6.10	43	7198150	1101.30	ug/l	100
12) 1,1-Dichloroethene	6.29	61	8345590	260.88	ug/l	99
13) tert-Butyl alcohol	6.50	59	2385662	2062.98	ug/l	87
15) Iodomethane	6.80	142	3432760	258.67	ug/l	99
16) Methyl acetate	6.80	43	4797422	292.55	ug/l	99
17) Methylene chloride	7.03	49	8020238	264.15	ug/l	100
18) Carbon disulfide	7.11	76	12857044	282.91	ug/l	100
19) Acrylonitrile	7.23	53	6355443	1201.60	ug/l	99
20) tert-Butyl methyl ether (M	7.30	73	9676832	291.86	ug/l	98
21) trans-1,2-Dichloroethene	7.51	61	8341492	271.67	ug/l	98
22) Isopropyl ether (DIPE)	7.98	45	19525200	289.56	ug/l	100
23) 1,1-Dichloroethane	8.18	63	9013496	268.78	ug/l	99
24) Vinyl acetate	8.13	43	11068205	307.87	ug/l	99
25) tert-Butyl ethyl ether (ET	8.62	59	13335074	293.22	ug/l	99
26) 2-Butanone	8.82	43	11112415	1258.48	ug/l	100
27) 2,2-Dichloropropane	9.07	77	5170079	354.52	ug/l	96
28) cis-1,2-Dichloroethene	9.13	61	9097834	279.01	ug/l	99
30) Chloroform	9.40	83	8271418	266.17	ug/l	99
31) Bromochloromethane	9.66	49	5108936	269.14	ug/l	98
32) Tetrahydrofuran	9.74	42	3343332	635.27	ug/l	99
33) 1,1,1-Trichloroethane	10.05	97	6751257	291.17	ug/l	99
34) Cyclohexane	10.11	56	8506709	272.24	ug/l	99
35) tert-Amyl methyl ether (TA	10.47	73	9577721	314.13	ug/l	98
38) 1,1-Dichloropropene	10.30	77	2211110	269.75	ug/l	99
39) Carbon tetrachloride	10.50	119	5247374	281.54	ug/l	98
40) 1,2-Dichloroethane	10.69	62	7743928	257.21	ug/l	100
41) Benzene	10.76	78	15115278	252.82	ug/l	96
42) Trichloroethene	11.76	130	4146124	265.78	ug/l	99
43) Methylcyclohexane	11.91	83	6722206	261.53	ug/l	97
44) 1,2-Dichloropropane	12.04	63	5268192	275.39	ug/l	99

(#) = qualifier out of range (m) = manual integration
RBB062.D VO03B03.M Mon Feb 06 19:23:08 2006

for 2-9-06

2091

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB062.D Vial: 10
Acq On : 3 Feb 2006 6:38 pm Operator: CGM
Sample : VO03B039 300/1200/1500 Inst : TO03
Misc : 300ppb 8260/1200ppb Ket-AA/1500ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 9:19 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 09:16:22 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
45)	Bromodichloromethane	12.46	83	6708032	300.34 ug/l	99
46)	Dibromomethane	12.56	93	2942609	268.33 ug/l	99
47)	2-Chloroethyl vinyl ether	12.89	63	2487815	328.30 ug/l	99
48)	4-Methyl-2-pentanone	12.96	43	25031774	1179.97 ug/l	97
49)	cis-1,3-Dichloropropene	13.38	75	7240254	282.98 ug/l	99
51)	Toluene	14.03	91	14818624	253.94 ug/l	98
52)	Ethyl methacrylate	14.23	69	5752937	305.37 ug/l	96
53)	trans-1,3-Dichloropropene	14.30	75	6028675	292.65 ug/l	98
54)	1,1,2-Trichloroethane	14.64	97	3430151	273.99 ug/l	97
55)	2-Hexanone	14.60	43	17223857	1220.15 ug/l	98
56)	1,3-Dichloropropane	15.15	76	6687726	285.02 ug/l	99
57)	Tetrachloroethene	15.37	164	3554553	264.74 ug/l	99
58)	Dibromochloromethane	15.77	129	4451176	289.73 ug/l	99
59)	1,2-Dibromoethane	16.22	107	3514373	299.02 ug/l	98
60)	1-Chlorohexane	16.47	91	6108991	291.41 ug/l	98
61)	Chlorobenzene	17.17	112	9880884	256.85 ug/l	97
62)	1,1,1,2-Tetrachloroethane	17.23	131	3771461	300.01 ug/l	100
63)	Ethylbenzene	17.24	91	16879231	246.46 ug/l	97
64)	m-Xylene & p-Xylene	17.44	91	25536644	453.68 ug/l	93
65)	o-Xylene	18.51	91	15634850	268.27 ug/l	97
66)	Styrene	18.58	104	11134918	278.52 ug/l	98
68)	Bromoform	19.50	173	3247390	291.63 ug/l	99
69)	Isopropylbenzene	19.41	105	15519358	259.63 ug/l	96
70)	1,1,2,2-Tetrachloroethane	19.83	83	5358852	295.78 ug/l	100
72)	1,2,3-Trichloropropane	20.23	61	1386793	283.95 ug/l	94
73)	trans-1,4-Dichloro-2-buten	20.38	53	1212554	388.37 ug/l	99
74)	n-Propylbenzene	20.50	91	21993038	253.32 ug/l	97
75)	Bromobenzene	20.67	156	4741896	265.73 ug/l	99
76)	2-Chlorotoluene	21.03	91	16988787	312.23 ug/l	88
77)	1,3,5-Trimethylbenzene	20.94	105	15282897	264.06 ug/l	99
78)	4-Chlorotoluene	21.16	91	15629319	260.35 ug/l	100
79)	tert-Butylbenzene	21.97	119	12474102	267.60 ug/l	98
80)	1,2,4-Trimethylbenzene	22.09	105	15460885	261.88 ug/l	100
81)	sec-Butylbenzene	22.61	105	19429486	260.56 ug/l	98
82)	p-Isopropyltoluene	22.99	119	14381562	265.67 ug/l	96
83)	1,3-Dichlorobenzene	23.27	146	8356376	257.75 ug/l	99
84)	1,4-Dichlorobenzene	23.53	146	8323295	253.18 ug/l	96
85)	n-Butylbenzene	24.00	91	16352260	259.61 ug/l	97
86)	1,2-Dichlorobenzene	24.37	146	8032760	256.61 ug/l	99
87)	1,2-Dibromo-3-chloropropan	25.93	157	1044370	297.42 ug/l	96
88)	1,2,4-Trichlorobenzene	27.73	180	6954202	277.73 ug/l	99
89)	Hexachlorobutadiene	28.01	225	5701799	277.17 ug/l	100
90)	Naphthalene	28.28	128	12542442	298.07 ug/l	97
91)	1,2,3-Trichlorobenzene	28.80	180	6462624	284.48 ug/l	99

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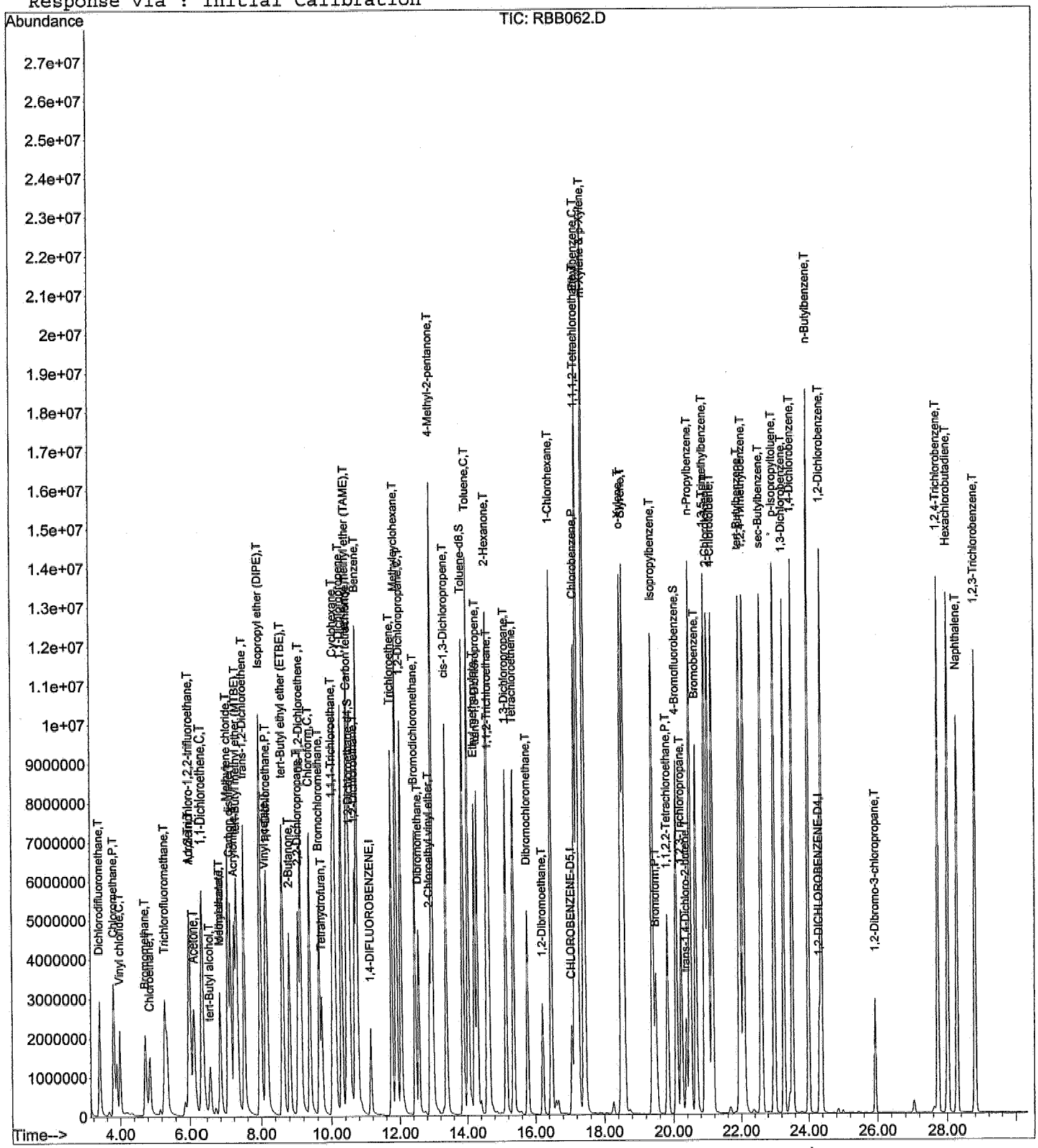
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB062.D Vial: 10
Acq On : 3 Feb 2006 6:38 pm Operator: CGM
Sample : VO03B039 300/1200/1500 Inst : TO03
Misc : 300ppb 8260/1200ppb Ket-AA/1500ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 9:19 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



SECOND SOURCE VERIFICATION

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB065.D Vial: 13
Acq On : 3 Feb 2006 8:30 pm Operator: CGM
Sample : IVO03B031 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Multiple Level Calibration

* Not valid for Acrolein.

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.		%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000		0.0	103	0.00
2	T	Dichlorodifluoromethane	50.000	44.633		10.7	93	-0.02
3	P,T	Chloromethane	50.000	43.649		12.7	98	0.00
4	C,T	Vinyl chloride	50.000	41.305		17.4	97	0.00
5	T	Bromomethane	50.000	45.234		9.5	92	0.00
6	T	Chloroethane	50.000	46.754		6.5	97	0.00
7	T	Trichlorofluoromethane	50.000	47.715		4.6	101	0.00
8	T	sec-Propyl alcohol	-1.000	0.000		0.0	110	0.00
9	T	Acrolein	200.000	261.514	*	-30.8#	123	0.00
10	T	1,1,2-Trichloro-1,2,2-trifl	50.000	47.141		5.7	93	0.00
11	T	Acetone	200.000	190.680		4.7	98	0.00
12	C,T	1,1-Dichloroethene	50.000	46.201		7.6	95	0.00
13	T	tert-Butyl alcohol	250.000	261.609		-4.6	94	0.00
14	T	Acetonitrile	-1.000	0.000		0.0	93	0.00
15	T	Iodomethane	50.000	62.362		-24.7#	120	0.00
17	T	Methylene chloride	50.000	48.323		3.4	96	0.00
18	T	Carbon disulfide	50.000	54.524		-9.0	105	0.00
19	T	Acrylonitrile	200.000	195.623		2.2	94	0.00
20	T	tert-Butyl methyl ether (MT	50.000	45.927		8.1	94	0.00
21	T	trans-1,2-Dichloroethene	50.000	48.895		2.2	96	0.00
22	T	Isopropyl ether (DIPE)	50.000	52.871		-5.7	101	0.00
23	P,T	1,1-Dichloroethane	50.000	49.446		1.1	97	0.00
24	T	Vinyl acetate	50.000	51.347		-2.7	94	0.00
25	T	tert-Butyl ethyl ether (ETB	50.000	48.744		2.5	99	0.00
26	T	2-Butanone	200.000	201.435		-0.7	95	0.00
27	T	2,2-Dichloropropane	50.000	54.521		-9.0	97	0.00
28	T	cis-1,2-Dichloroethene	50.000	48.941		2.1	96	0.00
29	T	tert-Butyl formate (TBF)	-1.000	0.000		0.0	95	-0.02
30	C,T	Chloroform	50.000	48.963		2.1	97	0.00
31	T	Bromochloromethane	50.000	46.360		7.3	92	0.00
32	T	Tetrahydrofuran	100.000	97.525		2.5	93	0.00
33	T	1,1,1-Trichloroethane	50.000	50.012		-0.0	94	0.00
35	T	tert-Amyl methyl ether (TAM	50.000	50.294		-0.6	93	0.00
36	S	1,2-Dichloroethane-d4	50.000	51.093		-2.2	119	0.00
37	I	CHLOROBENZENE-D5	50.000	50.000		0.0	100	0.00
38	T	1,1-Dichloropropene	50.000	49.532		0.9	92	0.00
39	T	Carbon tetrachloride	50.000	50.148		-0.3	92	0.00
40	T	1,2-Dichloroethane	50.000	48.004		4.0	93	0.00
41	T	Benzene	50.000	50.786		-1.6	96	0.00
42	T	Trichloroethene	50.000	48.587		2.8	93	0.00
44	C,T	1,2-Dichloropropane	50.000	50.166		-0.3	96	0.00
45	T	Bromodichloromethane	50.000	49.451		1.1	89	0.00
46	T	Dibromomethane	50.000	48.574		2.9	90	0.00
47	T	2-Chloroethyl vinyl ether	50.000	53.642		-7.3	101	0.00
48	T	4-Methyl-2-pentanone	200.000	208.169		-4.1	93	0.00
49	T	cis-1,3-Dichloropropene	50.000	45.871		8.3	88	0.00
50	S	Toluene-d8	50.000	55.532		-11.1	120	-0.02
51	C,T	Toluene	50.000	49.937		0.1	94	0.00
52	T	Ethyl methacrylate	50.000	50.297		-0.6	91	0.00
53	T	trans-1,3-Dichloropropene	50.000	46.835		6.3	92	0.00
54	T	1,1,2-Trichloroethane	50.000	47.515		5.0	88	0.00
55	T	2-Hexanone	200.000	208.121		-4.1	93	0.00
56	T	1,3-Dichloropropane	50.000	48.769		2.5	89	-0.02

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57	T	Tetrachloroethene	50.000	48.901	2.2	93	-0.02
58	T	Dibromochloromethane	50.000	45.382	9.2	88	0.00
59	T	1,2-Dibromoethane	50.000	48.061	3.9	86	0.00
60	T	1-Chlorohexane	50.000	51.752	-3.5	93	0.00
61	P	Chlorobenzene	50.000	47.817	4.4	91	0.00
62	T	1,1,1,2-Tetrachloroethane	50.000	50.746	-1.5	90	0.00
63	C,T	Ethylbenzene	50.000	49.788	0.4	93	0.00
64	T	m-Xylene & p-Xylene	100.000	102.884	-2.9	94	0.00
65	T	o-Xylene	50.000	50.839	-1.7	92	-0.02
66	T	Styrene	50.000	48.998	2.0	89	-0.02
67	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	99	0.00
68	P,T	Bromoform	50.000	41.344	17.3	82	0.00
69	T	Isopropylbenzene	50.000	56.948	-13.9	103	0.00
70	P,T	1,1,2,2-Tetrachloroethane	50.000	46.984	6.0	87	-0.02
71	S	4-Bromofluorobenzene	50.000	55.270	-10.5	121	-0.02
72	T	1,2,3-Trichloropropane	50.000	43.531	12.9	86	-0.02
73	T	trans-1,4-Dichloro-2-butene	50.000	61.376	-22.8#	121	-0.02
74	T	n-Propylbenzene	50.000	51.563	-3.1	93	0.00
75	T	Bromobenzene	50.000	50.134	-0.3	92	0.00
76	T	2-Chlorotoluene	50.000	45.854	8.3	90	-0.02
77	T	1,3,5-Trimethylbenzene	50.000	52.283	-4.6	94	0.00
78	T	4-Chlorotoluene	50.000	50.893	-1.8	94	0.00
79	T	tert-Butylbenzene	50.000	51.701	-3.4	94	-0.02
80	T	1,2,4-Trimethylbenzene	50.000	50.541	-1.1	93	-0.02
81	T	sec-Butylbenzene	50.000	49.294	1.4	90	0.00
82	T	p-Isopropyltoluene	50.000	54.575	-9.2	98	0.00
83	T	1,3-Dichlorobenzene	50.000	49.332	1.3	92	-0.02
84	T	1,4-Dichlorobenzene	50.000	48.449	3.1	90	0.00
85	T	n-Butylbenzene	50.000	52.183	-4.4	95	0.00
86	T	1,2-Dichlorobenzene	50.000	48.528	2.9	92	0.00
87	T	1,2-Dibromo-3-chloropropane	50.000	42.348	15.3	84	0.00
88	T	1,2,4-Trichlorobenzene	50.000	49.403	1.2	94	0.00
89	T	Hexachlorobutadiene	50.000	48.272	3.5	94	0.00
90	T	Naphthalene	50.000	50.149	-0.3	90	0.00
91	T	1,2,3-Trichlorobenzene	50.000	49.601	0.8	93	0.00

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

RBB058.D VO03B03.M Mon Feb 06 19:27:45 2006

2-9-06

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB065.D Vial: 13
Acq On : 3 Feb 2006 8:30 pm Operator: CGM
Sample : IVO03B031 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 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	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	103	0.00
2	T	Dichlorodifluoromethane	0.465	0.415	10.8	93	-0.02
3	P,T	Chloromethane	0.581	0.508	12.6	98	0.00
4	C,T	Vinyl chloride	0.352	0.297	15.6	97	0.00
5	T	Bromomethane	0.269	0.243	9.7	92	0.00
6	T	Chloroethane	0.221	0.207	6.3	97	0.00
7	T	Trichlorofluoromethane	0.502	0.479	4.6	101	0.00
8	T	sec-Propyl alcohol	0.000	0.000	0.0	110	0.00
9	T	Acrolein	0.042	0.055	-31.0#	123	0.00
10	T	1,1,2-Trichloro-1,2,2-trifl	0.245	0.231	5.7	93	0.00
11	T	Acetone	0.155	0.147	5.2	98	0.00
12	C,T	1,1-Dichloroethene	0.757	0.700	7.5	95	0.00
13	T	tert-Butyl alcohol	0.027	0.029	-7.4	94	0.00
14	T	Acetonitrile	0.000	0.000	0.0	93	0.00
15	T	Iodomethane	0.314	0.392	-24.8#	120	0.00
17	T	Methylene chloride	0.829	0.729	12.1	96	0.00
18	T	Carbon disulfide	1.076	1.173	-9.0	105	0.00
19	T	Acrylonitrile	0.125	0.122	2.4	94	0.00
20	T	tert-Butyl methyl ether (MT	0.686	0.704	-2.6	94	0.00
21	T	trans-1,2-Dichloroethene	0.727	0.711	2.2	96	0.00
22	T	Isopropyl ether (DIPE)	1.596	1.688	-5.8	101	0.00
23	P,T	1,1-Dichloroethane	0.794	0.785	1.1	97	0.00
24	T	Vinyl acetate	0.851	0.874	-2.7	94	0.00
25	T	tert-Butyl ethyl ether (ETB	0.951	1.028	-8.1	99	0.00
26	T	2-Butanone	0.209	0.210	-0.5	95	0.00
27	T	2,2-Dichloropropane	0.345	0.376	-9.0	97	0.00
28	T	cis-1,2-Dichloroethene	0.772	0.755	2.2	96	0.00
29	T	tert-Butyl formate (TBF)	0.000	0.000	0.0	95	-0.02
30	C,T	Chloroform	0.736	0.720	2.2	97	0.00
31	T	Bromochloromethane	0.449	0.417	7.1	92	0.00
32	T	Tetrahydrofuran	0.125	0.121	3.2	93	0.00
33	T	1,1,1-Trichloroethane	0.549	0.549	0.0	94	0.00
35	T	tert-Amyl methyl ether (TAM	0.722	0.726	-0.6	93	0.00
36	S	1,2-Dichloroethane-d4	0.515	0.526	-2.1	119	0.00
37	I	CHLOROBENZENE-D5	1.000	1.000	0.0	100	0.00
38	T	1,1-Dichloropropene	0.205	0.203	1.0	92	0.00
39	T	Carbon tetrachloride	0.466	0.467	-0.2	92	0.00
40	T	1,2-Dichloroethane	0.752	0.722	4.0	93	0.00
41	T	Benzene	1.494	1.517	-1.5	96	0.00
42	T	Trichloroethene	0.390	0.379	2.8	93	0.00
44	C,T	1,2-Dichloropropane	0.478	0.480	-0.4	96	0.00
45	T	Bromodichloromethane	0.558	0.552	1.1	89	0.00
46	T	Dibromomethane	0.274	0.266	2.9	90	0.00
47	T	2-Chloroethyl vinyl ether	0.189	0.203	-7.4	101	0.00
48	T	4-Methyl-2-pentanone	0.530	0.552	-4.2	93	0.00
49	T	cis-1,3-Dichloropropene	0.576	0.564	2.1	88	0.00
50	S	Toluene-d8	1.131	1.256	-11.1	120	-0.02
51	C,T	Toluene	1.458	1.456	0.1	94	0.00
52	T	Ethyl methacrylate	0.471	0.473	-0.4	91	0.00
53	T	trans-1,3-Dichloropropene	0.434	0.453	-4.4	92	0.00
54	T	1,1,2-Trichloroethane	0.313	0.297	5.1	88	0.00
55	T	2-Hexanone	0.353	0.367	-4.0	93	0.00
56	T	1,3-Dichloropropane	0.586	0.572	2.4	89	-0.02

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57	T	Tetrachloroethene	0.335	0.328	2.1	93	-0.02
58	T	Dibromochloromethane	0.338	0.332	1.8	88	0.00
59	T	1,2-Dibromoethane	0.294	0.282	4.1	86	0.00
60	T	1-Chlorohexane	0.524	0.542	-3.4	93	0.00
61	P	Chlorobenzene	0.961	0.919	4.4	91	0.00
62	T	1,1,1,2-Tetrachloroethane	0.314	0.319	-1.6	90	0.00
63	C,T	Ethylbenzene	1.711	1.704	0.4	93	0.00
64	T	m-Xylene & p-Xylene	1.406	1.447	-2.9	94	0.00
65	T	o-Xylene	1.456	1.480	-1.6	92	-0.02
66	T	Styrene	0.999	0.979	2.0	89	-0.02
67	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	99	0.00
68	P,T	Bromoform	0.428	0.397	7.2	82	0.00
69	T	Isopropylbenzene	2.804	3.194	-13.9	103	0.00
70	P,T	1,1,2,2-Tetrachloroethane	0.850	0.799	6.0	87	-0.02
71	S	4-Bromofluorobenzene	1.129	1.249	-10.6	121	-0.02
72	T	1,2,3-Trichloropropane	0.229	0.199	13.1	86	-0.02
73	T	trans-1,4-Dichloro-2-butene	0.127	0.175	-37.8#	121	-0.02
74	T	n-Propylbenzene	4.073	4.200	-3.1	93	0.00
75	T	Bromobenzene	0.837	0.839	-0.2	92	0.00
76	T	2-Chlorotoluene	2.553	2.341	8.3	90	-0.02
77	T	1,3,5-Trimethylbenzene	2.715	2.839	-4.6	94	0.00
78	T	4-Chlorotoluene	2.816	2.867	-1.8	94	0.00
79	T	tert-Butylbenzene	2.187	2.261	-3.4	94	-0.02
80	T	1,2,4-Trimethylbenzene	2.770	2.800	-1.1	93	-0.02
81	T	sec-Butylbenzene	3.498	3.449	1.4	90	0.00
82	T	p-Isopropyltoluene	2.540	2.772	-9.1	98	0.00
83	T	1,3-Dichlorobenzene	1.521	1.501	1.3	92	-0.02
84	T	1,4-Dichlorobenzene	1.542	1.494	3.1	90	0.00
85	T	n-Butylbenzene	2.955	3.084	-4.4	95	0.00
86	T	1,2-Dichlorobenzene	1.469	1.425	3.0	92	0.00
87	T	1,2-Dibromo-3-chloropropane	0.137	0.129	5.8	84	0.00
88	T	1,2,4-Trichlorobenzene	1.175	1.161	1.2	94	0.00
89	T	Hexachlorobutadiene	0.965	0.932	3.4	94	0.00
90	T	Naphthalene	1.974	1.980	-0.3	90	0.00
91	T	1,2,3-Trichlorobenzene	1.066	1.057	0.8	93	0.00

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

RBB058.D VO03B03.M Mon Feb 06 19:28:15 2006

2-9-06

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB065.D Vial: 13
Acq On : 3 Feb 2006 8:30 pm Operator: CGM
Sample : IVO03B031 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 13:19 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.15	114	2420063	50.00	ug/l	0.00
37) CHLOROBENZENE-D5	17.06	117	2191990	50.00	ug/l	0.00
67) 1,2-DICHLOROBENZENE-D4	24.31	152	1112308	50.00	ug/l	0.00
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.54	65	1273535	51.09	ug/l	0.00
Spiked Amount 50.000			Recovery =	102.18%		
50) Toluene-d8	13.87	98	2753464	55.53	ug/l	-0.02
Spiked Amount 50.000			Recovery =	111.06%		
71) 4-Bromofluorobenzene	20.08	95	1388748	55.27	ug/l	-0.02
Spiked Amount 50.000			Recovery =	110.54%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.38	85	1004022	44.63	ug/l	99
3) Chloromethane	3.81	50	1228304	43.65	ug/l	99
4) Vinyl chloride	4.00	62	717859	41.30	ug/l	99
5) Bromomethane	4.76	94	587918	45.23	ug/l	99
6) Chloroethane	4.89	64	500911	46.75	ug/l	97
7) Trichlorofluoromethane	5.32	101	1158221	47.71	ug/l	99
9) Acrolein	5.98	56	529145	261.51	ug/l	97
10) 1,1,2-Trichloro-1,2,2-trif	6.02	151	557893	47.14	ug/l	99
11) Acetone	6.08	43	1427712	190.68	ug/l	99
12) 1,1-Dichloroethene	6.31	61	1693111	46.20	ug/l	99
13) tert-Butyl alcohol	6.44	59	346568	261.61	ug/l	98
15) Iodomethane	6.81	142	948089	62.36	ug/l	99
16) Methyl acetate	6.80	43	113737	6.05	ug/l	99
17) Methylene chloride	7.05	49	1763056	48.32	ug/l	100
18) Carbon disulfide	7.12	76	2838558	54.52	ug/l	100
19) Acrylonitrile	7.21	53	1185298	195.62	ug/l	99
20) tert-Butyl methyl ether (M	7.30	73	1702902	45.93	ug/l	99
21) trans-1,2-Dichloroethene	7.52	61	1719814	48.90	ug/l	99
22) Isopropyl ether (DIPE)	7.98	45	4084159	52.87	ug/l	99
23) 1,1-Dichloroethane	8.18	63	1899543	49.45	ug/l	99
24) Vinyl acetate	8.13	43	2114667	51.35	ug/l	99
25) tert-Butyl ethyl ether (ET	8.62	59	2486947	48.74	ug/l	99
26) 2-Butanone	8.80	43	2037594	201.43	ug/l	100
27) 2,2-Dichloropropane	9.07	77	910827	54.52	ug/l	98
28) cis-1,2-Dichloroethene	9.14	61	1828137	48.94	ug/l	99
30) Chloroform	9.40	83	1743029	48.96	ug/l	99
31) Bromochloromethane	9.66	49	1008139	46.36	ug/l	99
32) Tetrahydrofuran	9.74	42	587977	97.52	ug/l	100
33) 1,1,1-Trichloroethane	10.05	97	1328403	50.01	ug/l	99
35) tert-Amyl methyl ether (TA	10.47	73	1756698	50.29	ug/l	99
38) 1,1-Dichloropropene	10.30	77	444694	49.53	ug/l	99
39) Carbon tetrachloride	10.50	119	1023701	50.15	ug/l	99
40) 1,2-Dichloroethane	10.69	62	1582982	48.00	ug/l	100
41) Benzene	10.76	78	3325660	50.79	ug/l	99
42) Trichloroethene	11.76	130	830154	48.59	ug/l	99
44) 1,2-Dichloropropane	12.04	63	1051093	50.17	ug/l	98
45) Bromodichloromethane	12.46	83	1209694	49.45	ug/l	100
46) Dibromomethane	12.56	93	583435	48.57	ug/l	100

(#) = qualifier out of range (m) = manual integration

2099

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06B03\RBB065.D Vial: 13
Acq On : 3 Feb 2006 8:30 pm Operator: CGM
Sample : IVO03B031 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 13:19 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
47)	2-Chloroethyl vinyl ether	12.89	63	445218	53.64	ug/l	100
48)	4-Methyl-2-pentanone	12.95	43	4836823	208.17	ug/l	99
49)	cis-1,3-Dichloropropene	13.38	75	1235270	45.87	ug/l	99
51)	Toluene	14.03	91	3191719	49.94	ug/l	99
52)	Ethyl methacrylate	14.21	69	1037826	50.30	ug/l	98
53)	trans-1,3-Dichloropropene	14.30	75	992730	46.84	ug/l	99
54)	1,1,2-Trichloroethane	14.64	97	651523	47.52	ug/l	98
55)	2-Hexanone	14.58	43	3217769	208.12	ug/l	98
56)	1,3-Dichloropropane	15.13	76	1253311	48.77	ug/l	99
57)	Tetrachloroethene	15.35	164	719117	48.90	ug/l	98
58)	Dibromochloromethane	15.77	129	727566	45.38	ug/l	99
59)	1,2-Dibromoethane	16.22	107	618683	48.06	ug/l	96
60)	1-Chlorohexane	16.47	91	1188291	51.75	ug/l	99
61)	Chlorobenzene	17.15	112	2014767	47.82	ug/l	98
62)	1,1,1,2-Tetrachloroethane	17.23	131	698721	50.75	ug/l	99
63)	Ethylbenzene	17.24	91	3734719	49.79	ug/l	100
64)	m-Xylene & p-Xylene	17.42	91	6342881	102.88	ug/l	100
65)	o-Xylene	18.49	91	3245220	50.84	ug/l	99
66)	Styrene	18.56	104	2145505	49.00	ug/l	100
68)	Bromoform	19.49	173	442030	41.34	ug/l	99
69)	Isopropylbenzene	19.40	105	3552553	56.95	ug/l	99
70)	1,1,2,2-Tetrachloroethane	19.81	83	888399	46.98	ug/l	100
72)	1,2,3-Trichloropropane	20.21	61	221884	43.53	ug/l	96
73)	trans-1,4-Dichloro-2-buten	20.36	53	194236	61.38	ug/l	96
74)	n-Propylbenzene	20.48	91	4672055	51.56	ug/l	99
75)	Bromobenzene	20.66	156	933650	50.13	ug/l	100
76)	2-Chlorotoluene	21.02	91	2603868	45.85	ug/l	99
77)	1,3,5-Trimethylbenzene	20.93	105	3157994	52.28	ug/l	99
78)	4-Chlorotoluene	21.15	91	3188604	50.89	ug/l	98
79)	tert-Butylbenzene	21.95	119	2515241	51.70	ug/l	98
80)	1,2,4-Trimethylbenzene	22.07	105	3114135	50.54	ug/l	100
81)	sec-Butylbenzene	22.61	105	3836283	49.29	ug/l	99
82)	p-Isopropyltoluene	22.99	119	3083309	54.58	ug/l	99
83)	1,3-Dichlorobenzene	23.26	146	1669201	49.33	ug/l	100
84)	1,4-Dichlorobenzene	23.53	146	1662288	48.45	ug/l	99
85)	n-Butylbenzene	23.99	91	3430354	52.18	ug/l	100
86)	1,2-Dichlorobenzene	24.37	146	1585422	48.53	ug/l	99
87)	1,2-Dibromo-3-chloropropan	25.93	157	143926	42.35	ug/l	97
88)	1,2,4-Trichlorobenzene	27.73	180	1291031	49.40	ug/l	99
89)	Hexachlorobutadiene	28.01	225	1036359	48.27	ug/l	99
90)	Naphthalene	28.28	128	2202291	50.15	ug/l	100
91)	1,2,3-Trichlorobenzene	28.80	180	1175973	49.60	ug/l	99

(#) = qualifier out of range (m) = manual integration

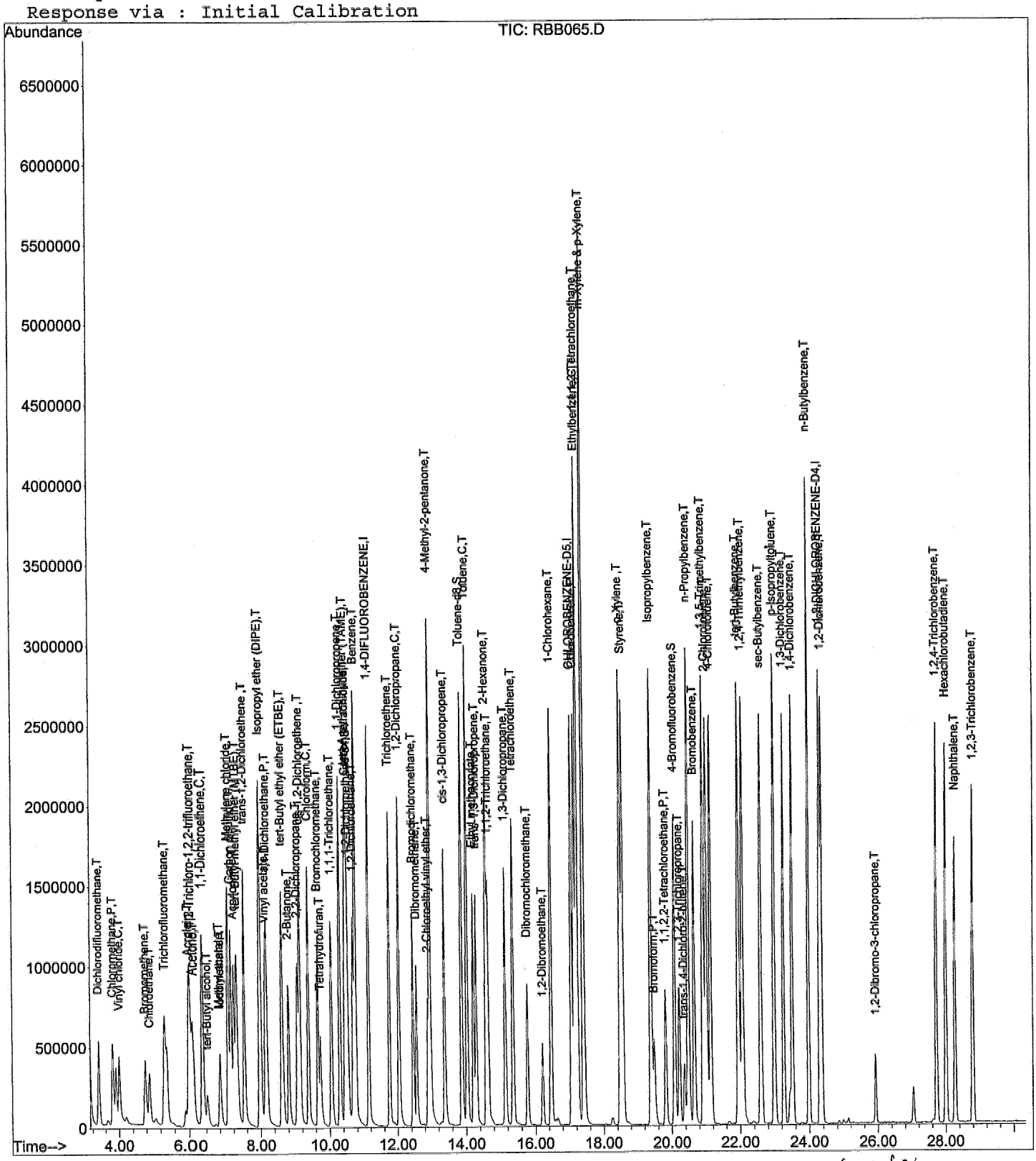
2-9-06

2188

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06B03\RBB065.D Vial: 13
Acq On : 3 Feb 2006 8:30 pm Operator: CGM
Sample : IVO03B031 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Feb 6 13:19 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



DAILY CALIBRATION

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RCB278
Instrument ID: T-003
GC Column:RTX502.2ID:0.32mm (mm)

Contract: UPGRADIENT INVESTIGATION, TRONOX
SAS No.: SDG No.: 06C106
BFB Injection Date : 03/17/06
BFB Injection Time : 05:07
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	26.97
75	30.0 - 60.0% of mass 95	53.20
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.32
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	65.08
175	5.0 - 9.0% of mass 174	5.74(8.8)1
176	95.0 - 101.0% of mass 174	62.40(95.9)1
177	5.0 - 9.0% of mass 176	4.60(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
1	VSTD050	CV003B0382	RCB279	03/17/06	05:44
2	MBLK1S	V003C24B	RCB283	03/17/06	08:12
3	LCS1S	V003C24L	RCB281	03/17/06	06:58
4	LCD1S	V003C24C	RCB282	03/17/06	07:35
5	M121-0.5	C106-01	RCB288	03/17/06	11:18
6	M121-5	C106-02	RCB289	03/17/06	11:55
7	M121-10	C106-03	RCB290	03/17/06	12:32
8	M121-5D	C106-04	RCB291	03/17/06	13:09
9	M121-30	C106-06	RCB292	03/17/06	13:46
10	M121-50	C106-08	RCB293	03/17/06	14:23
11	M121-60	C106-09	RCB294	03/17/06	15:00
12	M121-80	C106-10	RCB295	03/17/06	15:38
13	M121-70	C106-11	RCB296	03/17/06	16:15

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBB058
Instrument ID: T-003
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: UPGRADIENT INVESTIGATION, TRONOX
SDG No.: 06C106
Date Analyzed: 02/03/06
Time Analyzed: 16:09
Heated Purge: (Y/N) Y

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	2354321	11.16	2189381	17.07	1126337	24.32
	UPPER LIMIT	4708642	11.66	4378762	17.57	2252674	24.82
	LOWER LIMIT	1177161	10.66	1094691	16.57	563169	23.82
	SAMPLE ID						
1	VSTD050	2572479	11.14	2382671	17.05	1270086	24.30
2	MBLK1S	2314091	11.15	2194185	17.06	1109680	24.31
3	LCS1S	2635083	11.14	2430019	17.05	1285786	24.30
4	LCD1S	2568257	11.15	2458652	17.06	1302749	24.31
5	M121-0.5	2499719	11.15	2426022	17.06	1264848	24.31
6	M121-5	2442525	11.15	2350058	17.06	1237400	24.31
7	M121-10	2282498	11.15	2332669	17.06	1234165	24.32
8	M121-5D	2479072	11.15	2455161	17.06	1239396	24.31
9	M121-30	2419071	11.15	2396539	17.06	1180490	24.31
10	M121-50	2511797	11.15	2442066	17.08	1256160	24.32
11	M121-60	2125875	11.15	2143834	17.07	1147037	24.32
12	M121-80	2028448	11.15	2054391	17.07	1135998	24.32
13	M121-70	2296265	11.15	2286565	17.08	1195867	24.31

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

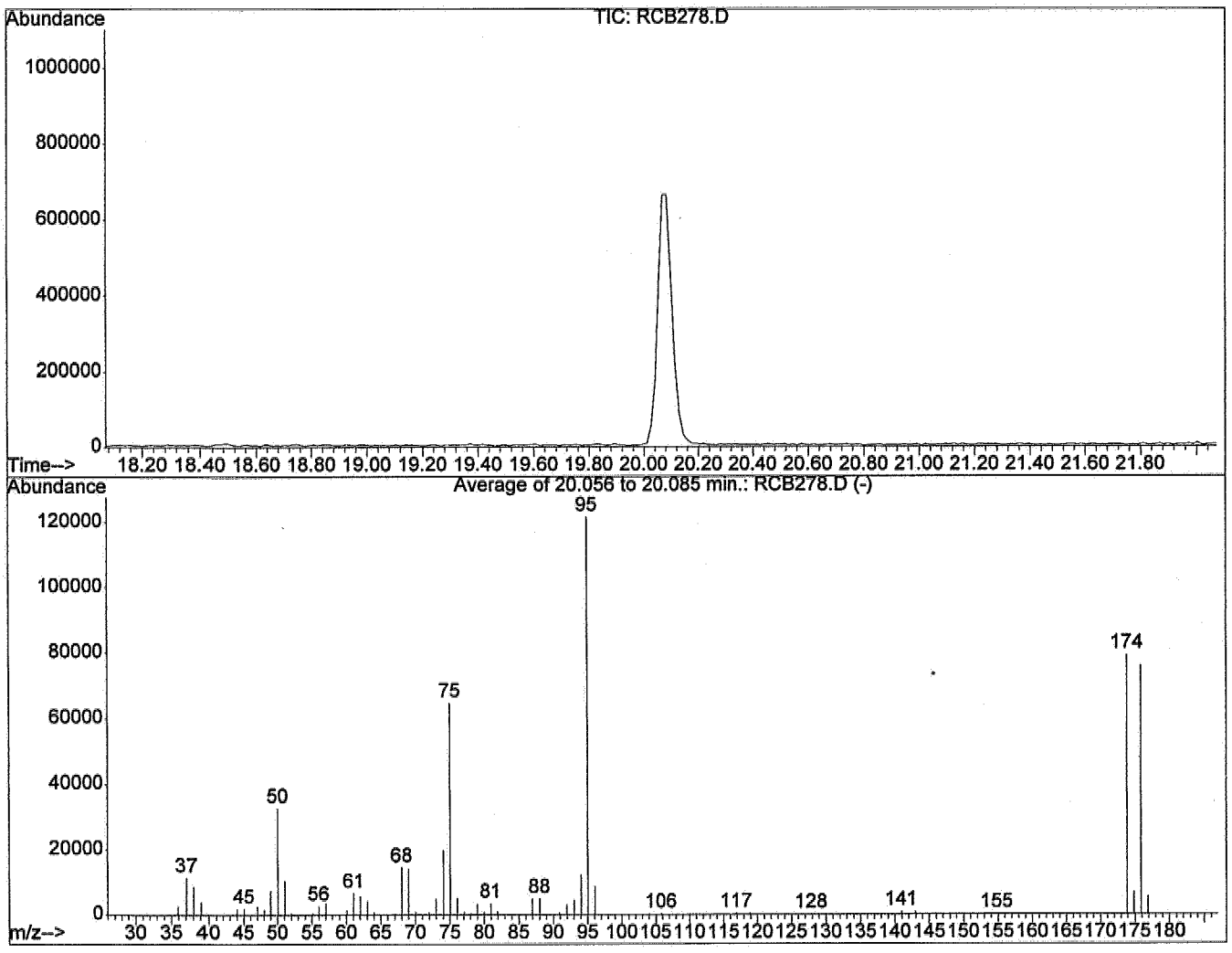
AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
AREA UPPER LIMIT = + 50% of surrogate area
AREA LOWER LIMIT = - 50% of surrogate area

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

BFB

Data File : D:\HPCHEM\1\DATA\06C17\RCB278.D
Acq On : 17 Mar 2006 5:07 am
Sample : BFB03C24
Misc : T/CHECK
MS Integration Params: 524INT.P
Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260

Vial: 2
Operator: CGM
Inst : TO03
Multiplr: 1.00



AutoFind: Scans 1140, 1141, 1142; Background Corrected with Scan 1134

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	27.0	32813	PASS
75	95	30	60	53.2	64723	PASS
95	95	100	100	100.0	121669	PASS
96	95	5	9	7.3	8904	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	65.1	79187	PASS
175	174	5	9	8.8	6979	PASS
176	174	95	101	95.9	75928	PASS
177	176	5	9	7.4	5594	PASS

RCB278.D VO03B03.M Fri Mar 17 16:05:40 2006

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB279.D Vial: 3
Acq On : 17 Mar 2006 5:44 am Operator: CGM
Sample : CVO03B0382 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	109	-0.02
2	T	Dichlorodifluoromethane	50.000	41.441	17.1	92	0.00
3	P,T	Chloromethane	50.000	42.035	15.9	100	0.00
4	C,T	Vinyl chloride	50.000	43.117	13.8	107	0.00
5	T	Bromomethane	50.000	46.219	7.6	100	0.00
6	T	Chloroethane	50.000	53.685	-7.4	118	0.00
7	T	Trichlorofluoromethane	50.000	50.479	-1.0	114	0.00
8	T	sec-Propyl alcohol	-1.000	0.000	0.0	56	0.01
9	T	Acrolein	200.000	197.959	1.0	99	0.00
10	T	1,1,2-Trichloro-1,2,2-trifl	50.000	46.949	6.1	98	-0.02
11	T	Acetone	200.000	179.552	10.2	98	0.00
12	C,T	1,1-Dichloroethene	50.000	42.456	15.1	93	-0.02
13	T	tert-Butyl alcohol	250.000	247.263	1.1	94	0.00
14	T	Acetonitrile	-1.000	0.000	0.0	118	0.00
15	T	Iodomethane	50.000	40.142	19.7	82	-0.02
16	T	Methyl acetate	50.000	4.108	NT 91.8#	9	0.00
17	T	Methylene chloride	50.000	48.193	3.6	102	-0.02
18	T	Carbon disulfide	50.000	42.267	15.5	87	0.00
19	T	Acrylonitrile	200.000	186.812	6.6	96	0.00
20	T	tert-Butyl methyl ether (MT	50.000	50.731	-1.5	110	-0.02
21	T	trans-1,2-Dichloroethene	50.000	47.492	5.0	100	-0.02
22	T	Isopropyl ether (DIPE)	50.000	54.781	-9.6	111	-0.02
23	P,T	1,1-Dichloroethane	50.000	48.947	2.1	102	-0.02
24	T	Vinyl acetate	50.000	45.732	8.5	89	-0.02
25	T	tert-Butyl ethyl ether (ETB	50.000	55.329	-10.7	120	-0.02
26	T	2-Butanone	200.000	197.210	1.4	99	0.00
27	T	2,2-Dichloropropane	50.000	57.320	-14.6	108	-0.02
28	T	cis-1,2-Dichloroethene	50.000	50.935	-1.9	106	-0.02
29	T	tert-Butyl formate (TBF)	-1.000	0.000	0.0	111	-0.02
30	C,T	Chloroform	50.000	49.624	0.8	104	-0.02
31	T	Bromochloromethane	50.000	48.547	2.9	103	-0.02
32	T	Tetrahydrofuran	100.000	2.661	NT 97.3#	3	0.03
33	T	1,1,1-Trichloroethane	50.000	50.515	-1.0	101	0.00
34	T	Cyclohexane	50.000	0.344	NT 99.3#	1	-0.08
35	T	tert-Amyl methyl ether (TAM	50.000	56.783	-13.6	112	-0.02
36	S	1,2-Dichloroethane-d4	50.000	52.069	-4.1	129	-0.02
37	I	CHLOROBENZENE-D5	50.000	50.000	0.0	109	-0.02
38	T	1,1-Dichloropropene	50.000	48.780	2.4	99	0.00
39	T	Carbon tetrachloride	50.000	51.394	-2.8	102	-0.02
40	T	1,2-Dichloroethane	50.000	50.905	-1.8	108	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB279.D Vial: 3
Acq On : 17 Mar 2006 5:44 am Operator: CGM
Sample : CVO03B0382 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T	Benzene	50.000	51.318	-2.6	105	-0.02
42	T	Trichloroethene	50.000	51.151	-2.3	106	0.00
43	T	Methylcyclohexane	50.000	0.250	99.5#	1	0.12
44	C,T	1,2-Dichloropropane	50.000	52.211	-4.4	108	0.00
45	T	Bromodichloromethane	50.000	54.078	-8.2	105	-0.02
46	T	Dibromomethane	50.000	51.506	-3.0	104	-0.02
47	T	2-Chloroethyl vinyl ether	50.000	55.116	-10.2	113	-0.02
48	T	4-Methyl-2-pentanone	200.000	211.382	-5.7	103	0.00
49	T	cis-1,3-Dichloropropene	50.000	52.947	-5.9	111	-0.02
50	S	Toluene-d8	50.000	53.109	-6.2	125	-0.02
51	C,T	Toluene	50.000	50.505	-1.0	103	-0.02
52	T	Ethyl methacrylate	50.000	51.937	-3.9	103	0.00
53	T	trans-1,3-Dichloropropene	50.000	50.773	-1.5	109	-0.02
54	T	1,1,2-Trichloroethane	50.000	51.771	-3.5	105	-0.02
55	T	2-Hexanone	200.000	208.309	-4.2	102	-0.02
56	T	1,3-Dichloropropane	50.000	53.747	-7.5	107	-0.02
57	T	Tetrachloroethene	50.000	49.096	1.8	101	-0.02
58	T	Dibromochloromethane	50.000	50.276	-0.6	107	-0.02
59	T	1,2-Dibromoethane	50.000	55.037	-10.1	108	-0.02
60	T	1-Chlorohexane	50.000	51.784	-3.6	101	-0.02
61	P	Chlorobenzene	50.000	50.259	-0.5	104	-0.02
62	T	1,1,1,2-Tetrachloroethane	50.000	55.495	-11.0	107	-0.02
63	C,T	Ethylbenzene	50.000	49.913	0.2	101	-0.02
64	T	m-Xylene & p-Xylene	100.000	100.333	-0.3	99	-0.02
65	T	o-Xylene	50.000	52.336	-4.7	103	-0.02
66	T	Styrene	50.000	52.993	-6.0	104	-0.02
67	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	113	-0.02
68	P,T	Bromoform	50.000	43.056	13.9	98	-0.02
69	T	Isopropylbenzene	50.000	49.894	0.2	103	-0.02
70	P,T	1,1,2,2-Tetrachloroethane	50.000	46.487	7.0	98	-0.02
71	S	4-Bromofluorobenzene	50.000	52.387	-4.8	131	-0.02
72	T	1,2,3-Trichloropropane	50.000	44.973	10.1	101	-0.02
73	T	trans-1,4-Dichloro-2-butene	50.000	49.873	0.3	112	-0.02
74	T	n-Propylbenzene	50.000	46.899	6.2	97	0.00
75	T	Bromobenzene	50.000	48.334	3.3	102	0.00
76	T	2-Chlorotoluene	50.000	44.603	10.8	100	-0.02
77	T	1,3,5-Trimethylbenzene	50.000	48.598	2.8	100	-0.02
78	T	4-Chlorotoluene	50.000	47.022	6.0	100	-0.02
79	T	tert-Butylbenzene	50.000	50.031	-0.1	104	-0.02
80	T	1,2,4-Trimethylbenzene	50.000	48.079	3.8	101	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB279.D Vial: 3
Acq On : 17 Mar 2006 5:44 am Operator: CGM
Sample : CVO03B0382 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T	sec-Butylbenzene	50.000	48.619	2.8	102	-0.02
82	T	p-Isopropyltoluene	50.000	49.633	0.7	102	-0.02
83	T	1,3-Dichlorobenzene	50.000	47.663	4.7	102	-0.02
84	T	1,4-Dichlorobenzene	50.000	47.602	4.8	101	-0.02
85	T	n-Butylbenzene	50.000	45.715	8.6	95	-0.02
86	T	1,2-Dichlorobenzene	50.000	48.526	2.9	105	-0.02
87	T	1,2-Dibromo-3-chloropropane	50.000	43.668	12.7	100	-0.02
88	T	1,2,4-Trichlorobenzene	50.000	47.936	4.1	104	-0.02
89	T	Hexachlorobutadiene	50.000	47.454	5.1	105	-0.02
90	T	Naphthalene	50.000	50.665	-1.3	104	-0.02
91	T	1,2,3-Trichlorobenzene	50.000	49.564	0.9	107	-0.02

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB279.D Vial: 3
Acq On : 17 Mar 2006 5:44 am Operator: CGM
Sample : CVO03B0382 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 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	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	109	-0.02
2	T	Dichlorodifluoromethane	0.465	0.385	17.2	92	0.00
3	P,T	Chloromethane	0.581	0.489	15.8	100	0.00
4	C,T	Vinyl chloride	0.352	0.307	12.8	107	0.00
5	T	Bromomethane	0.269	0.248	7.8	100	0.00
6	T	Chloroethane	0.221	0.238	-7.7	118	0.00
7	T	Trichlorofluoromethane	0.502	0.506	-0.8	114	0.00
8	T	sec-Propyl alcohol	0.000	0.000	0.0	56	0.01
9	T	Acrolein	0.042	0.041	2.4	99	0.00
10	T	1,1,2-Trichloro-1,2,2-trifl	0.245	0.230	6.1	98	-0.02
11	T	Acetone	0.155	0.139	10.3	98	0.00
12	C,T	1,1-Dichloroethene	0.757	0.643	15.1	93	-0.02
13	T	tert-Butyl alcohol	0.027	0.027	0.0	94	0.00
14	T	Acetonitrile	0.000	0.000	0.0	118	0.00
15	T	Iodomethane	0.314	0.252	19.7	82	-0.02
16	T	Methyl acetate	0.388	0.032	NT 91.8#	9#	0.00
17	T	Methylene chloride	0.829	0.727	12.3	102	-0.02
18	T	Carbon disulfide	1.076	0.909	15.5	87	0.00
19	T	Acrylonitrile	0.125	0.117	6.4	96	0.00
20	T	tert-Butyl methyl ether (MT	0.686	0.779	-13.6	110	-0.02
21	T	trans-1,2-Dichloroethene	0.727	0.690	5.1	100	-0.02
22	T	Isopropyl ether (DIPE)	1.596	1.749	-9.6	111	-0.02
23	P,T	1,1-Dichloroethane	0.794	0.777	2.1	102	-0.02
24	T	Vinyl acetate	0.851	0.778	8.6	89	-0.02
25	T	tert-Butyl ethyl ether (ETB	0.951	1.170	-23.0#	120	-0.02
26	T	2-Butanone	0.209	0.206	1.4	99	0.00
27	T	2,2-Dichloropropane	0.345	0.396	-14.8	108	-0.02
28	T	cis-1,2-Dichloroethene	0.772	0.786	-1.8	106	-0.02
29	T	tert-Butyl formate (TBF)	0.000	0.000	0.0	111	-0.02
30	C,T	Chloroform	0.736	0.730	0.8	104	-0.02
31	T	Bromochloromethane	0.449	0.436	2.9	103	-0.02
32	T	Tetrahydrofuran	0.125	0.003	NT 97.6#	3#	0.03
33	T	1,1,1-Trichloroethane	0.549	0.554	-0.9	101	0.00
34	T	Cyclohexane	0.740	0.005	NT 99.3#	1#	-0.08
35	T	tert-Amyl methyl ether (TAM	0.722	0.820	-13.6	112	-0.02
36	S	1,2-Dichloroethane-d4	0.515	0.536	-4.1	129	-0.02
37	I	CHLOROBENZENE-D5	1.000	1.000	0.0	109	-0.02
38	T	1,1-Dichloropropene	0.205	0.200	2.4	99	0.00
39	T	Carbon tetrachloride	0.466	0.479	-2.8	102	-0.02
40	T	1,2-Dichloroethane	0.752	0.766	-1.9	108	-0.02

(#) = Out of Range

2109

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB279.D Vial: 3
Acq On : 17 Mar 2006 5:44 am Operator: CGM
Sample : CVO03B0382 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 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)
41	T	Benzene	1.494	1.533	-2.6	105	-0.02
42	T	Trichloroethene	0.390	0.399	-2.3	106	0.00
43	T	Methylcyclohexane	0.642	0.003	NT 99.5#	1#	0.12
44	C,T	1,2-Dichloropropane	0.478	0.499	-4.4	108	0.00
45	T	Bromodichloromethane	0.558	0.604	-8.2	105	-0.02
46	T	Dibromomethane	0.274	0.282	-2.9	104	-0.02
47	T	2-Chloroethyl vinyl ether	0.189	0.209	-10.6	113	-0.02
48	T	4-Methyl-2-pentanone	0.530	0.560	-5.7	103	0.00
49	T	cis-1,3-Dichloropropene	0.576	0.655	-13.7	111	-0.02
50	S	Toluene-d8	1.131	1.201	-6.2	125	-0.02
51	C,T	Toluene	1.458	1.473	-1.0	103	-0.02
52	T	Ethyl methacrylate	0.471	0.489	-3.8	103	0.00
53	T	trans-1,3-Dichloropropene	0.434	0.494	-13.8	109	-0.02
54	T	1,1,2-Trichloroethane	0.313	0.324	-3.5	105	-0.02
55	T	2-Hexanone	0.353	0.367	-4.0	102	-0.02
56	T	1,3-Dichloropropane	0.586	0.630	-7.5	107	-0.02
57	T	Tetrachloroethene	0.335	0.329	1.8	101	-0.02
58	T	Dibromochloromethane	0.338	0.370	-9.5	107	-0.02
59	T	1,2-Dibromoethane	0.294	0.323	-9.9	108	-0.02
60	T	1-Chlorohexane	0.524	0.542	-3.4	101	-0.02
61	P	Chlorobenzene	0.961	0.966	-0.5	104	-0.02
62	T	1,1,1,2-Tetrachloroethane	0.314	0.349	-11.1	107	-0.02
63	C,T	Ethylbenzene	1.711	1.708	0.2	101	-0.02
64	T	m-Xylene & p-Xylene	1.406	1.411	-0.4	99	-0.02
65	T	o-Xylene	1.456	1.524	-4.7	103	-0.02
66	T	Styrene	0.999	1.059	-6.0	104	-0.02
67	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	113	-0.02
68	P,T	Bromoform	0.428	0.416	2.8	98	-0.02
69	T	Isopropylbenzene	2.804	2.798	0.2	103	-0.02
70	P,T	1,1,2,2-Tetrachloroethane	0.850	0.790	7.1	98	-0.02
71	S	4-Bromofluorobenzene	1.129	1.183	-4.8	131	-0.02
72	T	1,2,3-Trichloropropane	0.229	0.206	10.0	101	-0.02
73	T	trans-1,4-Dichloro-2-butene	0.127	0.141	-11.0	112	-0.02
74	T	n-Propylbenzene	4.073	3.820	6.2	97	0.00
75	T	Bromobenzene	0.837	0.809	3.3	102	0.00
76	T	2-Chlorotoluene	2.553	2.277	10.8	100	-0.02
77	T	1,3,5-Trimethylbenzene	2.715	2.639	2.8	100	-0.02
78	T	4-Chlorotoluene	2.816	2.649	5.9	100	-0.02
79	T	tert-Butylbenzene	2.187	2.188	-0.0	104	-0.02
80	T	1,2,4-Trimethylbenzene	2.770	2.663	3.9	101	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB279.D Vial: 3
Acq On : 17 Mar 2006 5:44 am Operator: CGM
Sample : CVO03B0382 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Multiple Level Calibration

Min. RRF : 0.000 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)
81	T	sec-Butylbenzene	3.498	3.402	2.7	102	-0.02
82	T	p-Isopropyltoluene	2.540	2.521	0.7	102	-0.02
83	T	1,3-Dichlorobenzene	1.521	1.450	4.7	102	-0.02
84	T	1,4-Dichlorobenzene	1.542	1.468	4.8	101	-0.02
85	T	n-Butylbenzene	2.955	2.702	8.6	95	-0.02
86	T	1,2-Dichlorobenzene	1.469	1.425	3.0	105	-0.02
87	T	1,2-Dibromo-3-chloropropane	0.137	0.134	2.2	100	-0.02
88	T	1,2,4-Trichlorobenzene	1.175	1.126	4.2	104	-0.02
89	T	Hexachlorobutadiene	0.965	0.916	5.1	105	-0.02
90	T	Naphthalene	1.974	2.000	-1.3	104	-0.02
91	T	1,2,3-Trichlorobenzene	1.066	1.056	0.9	107	-0.02

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB279.D Vial: 3
Acq On : 17 Mar 2006 5:44 am Operator: CGM
Sample : CVO03B0382 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:15 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	11.14	114	2572479	50.00	ug/l	-0.02
37) CHLOROBENZENE-D5	17.05	117	2382671	50.00	ug/l	-0.02
67) 1,2-DICHLOROBENZENE-D4	24.30	152	1270086	50.00	ug/l	-0.02
System Monitoring Compounds						
36) 1,2-Dichloroethane-d4	10.53	65	1379603	52.07	ug/l	-0.02
Spiked Amount 50.000			Recovery =	104.14%		
50) Toluene-d8	13.87	98	2862381	53.11	ug/l	-0.02
Spiked Amount 50.000			Recovery =	106.22%		
71) 4-Bromofluorobenzene	20.08	95	1503020	52.39	ug/l	-0.02
Spiked Amount 50.000			Recovery =	104.78%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.40	85	990917	41.44	ug/l	97
3) Chloromethane	3.81	50	1257394	42.04	ug/l	97
4) Vinyl chloride	4.01	62	789740	43.12	ug/l	99
5) Bromomethane	4.76	94	638561	46.22	ug/l	100
6) Chloroethane	4.90	64	611402	53.69	ug/l	98
7) Trichlorofluoromethane	5.33	101	1302504	50.48	ug/l	99
9) Acrolein	5.98	56	425774	197.96	ug/l	98
10) 1,1,2-Trichloro-1,2,2-trif	6.01	151	590623	46.95	ug/l	98
11) Acetone	6.09	43	1429061	179.55	ug/l	98
12) 1,1-Dichloroethene	6.29	61	1653859	42.46	ug/l	99
13) tert-Butyl alcohol	6.44	59	348193	247.26	ug/l	89
15) Iodomethane	6.80	142	648705	40.14	ug/l	99
16) Methyl acetate	6.80	43	82040	4.11	ug/l	98
17) Methylene chloride	7.04	49	1869332	48.19	ug/l	100
18) Carbon disulfide	7.13	76	2338994	42.27	ug/l	100
19) Acrylonitrile	7.22	53	1203196	186.81	ug/l	98
20) tert-Butyl methyl ether (M	7.29	73	2004984	50.73	ug/l	99
21) trans-1,2-Dichloroethene	7.51	61	1775668	47.49	ug/l	100
22) Isopropyl ether (DIPE)	7.97	45	4498199	54.78	ug/l	98
23) 1,1-Dichloroethane	8.17	63	1998817	48.95	ug/l	99
24) Vinyl acetate	8.12	43	2002065	45.73	ug/l	99
25) tert-Butyl ethyl ether (ET	8.61	59	3009765	55.33	ug/l	99
26) 2-Butanone	8.81	43	2120499	197.21	ug/l	100
27) 2,2-Dichloropropane	9.06	77	1017897	57.32	ug/l	96
28) cis-1,2-Dichloroethene	9.13	61	2022421	50.93	ug/l	100
30) Chloroform	9.39	83	1877824	49.62	ug/l	99
31) Bromochloromethane	9.65	49	1122189	48.55	ug/l	99
32) Tetrahydrofuran	9.77	42	17051	2.66	ug/l	80
33) 1,1,1-Trichloroethane	10.05	97	1426259	50.51	ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB279.D Vial: 3
Acq On : 17 Mar 2006 5:44 am Operator: CGM
Sample : CVO03B0382 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:15 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
35)	tert-Amyl methyl ether (TA	10.46	73	2108242	56.78	ug/l	95
38)	1,1-Dichloropropene	10.31	77	476036	48.78	ug/l	95
39)	Carbon tetrachloride	10.48	119	1140407	51.39	ug/l	100
40)	1,2-Dichloroethane	10.68	62	1824673	50.90	ug/l	100
41)	Benzene	10.75	78	3652765	51.32	ug/l	99
42)	Trichloroethene	11.76	130	949989	51.15	ug/l	99
44)	1,2-Dichloropropane	12.05	63	1189103	52.21	ug/l	99
45)	Bromodichloromethane	12.45	83	1437966	54.08	ug/l	100
46)	Dibromomethane	12.55	93	672461	51.51	ug/l	99
47)	2-Chloroethyl vinyl ether	12.88	63	497247	55.12	ug/l	100
48)	4-Methyl-2-pentanone	12.95	43	5338732	211.38	ug/l	100
49)	cis-1,3-Dichloropropene	13.37	75	1559914	52.95	ug/l	99
51)	Toluene	14.02	91	3508851	50.51	ug/l	100
52)	Ethyl methacrylate	14.21	69	1164893	51.94	ug/l	95
53)	trans-1,3-Dichloropropene	14.29	75	1176770	50.77	ug/l	97
54)	1,1,2-Trichloroethane	14.63	97	771633	51.77	ug/l	99
55)	2-Hexanone	14.57	43	3500843	208.31	ug/l	99
56)	1,3-Dichloropropane	15.14	76	1501394	53.75	ug/l	100
57)	Tetrachloroethene	15.36	164	784795	49.10	ug/l	98
58)	Dibromochloromethane	15.76	129	881158	50.28	ug/l	99
59)	1,2-Dibromoethane	16.21	107	770111	55.04	ug/l	99
60)	1-Chlorohexane	16.46	91	1292452	51.78	ug/l	99
61)	Chlorobenzene	17.14	112	2301870	50.26	ug/l	100
62)	1,1,1,2-Tetrachloroethane	17.22	131	830572	55.49	ug/l	99
63)	Ethylbenzene	17.23	91	4069798	49.91	ug/l	99
64)	m-Xylene & p-Xylene	17.41	91	6723708	100.33	ug/l	99
65)	o-Xylene	18.49	91	3631398	52.34	ug/l	100
66)	Styrene	18.57	104	2522280	52.99	ug/l	99
68)	Bromoform	19.47	173	527750	43.06	ug/l	97
69)	Isopropylbenzene	19.39	105	3554013	49.89	ug/l	100
70)	1,1,2,2-Tetrachloroethane	19.82	83	1003681	46.49	ug/l	100
72)	1,2,3-Trichloropropane	20.22	61	261748	44.97	ug/l	96
73)	trans-1,4-Dichloro-2-buten	20.37	53	178758	49.87	ug/l	92
74)	n-Propylbenzene	20.49	91	4852153	46.90	ug/l	100
75)	Bromobenzene	20.66	156	1027812	48.33	ug/l	99
76)	2-Chlorotoluene	21.02	91	2892077	44.60	ug/l	100
77)	1,3,5-Trimethylbenzene	20.92	105	3351818	48.60	ug/l	100
78)	4-Chlorotoluene	21.14	91	3363926	47.02	ug/l	100
79)	tert-Butylbenzene	21.96	119	2779276	50.03	ug/l	98
80)	1,2,4-Trimethylbenzene	22.08	105	3382606	48.08	ug/l	100
81)	sec-Butylbenzene	22.60	105	4320462	48.62	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCB279.D Vial: 3
Acq On : 17 Mar 2006 5:44 am Operator: CGM
Sample : CVO03B0382 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:15 2006 Quant Results File: VO03B03.RES

Quant Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration
DataAcq Meth : VO03B03

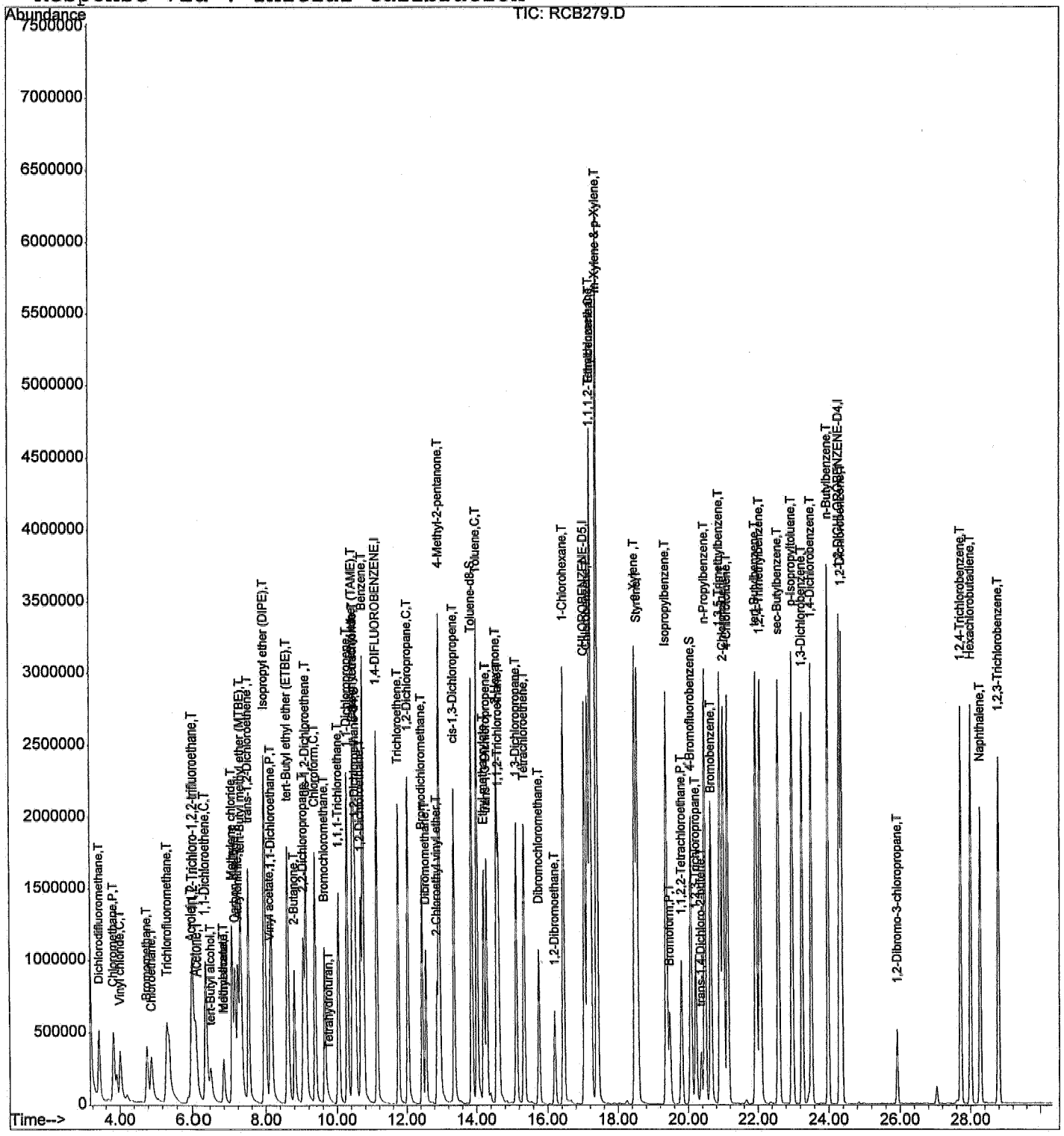
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
82)	p-Isopropyltoluene	22.98	119	3201862	49.63	ug/l	97
83)	1,3-Dichlorobenzene	23.26	146	1841472	47.66	ug/l	100
84)	1,4-Dichlorobenzene	23.52	146	1864928	47.60	ug/l	99
85)	n-Butylbenzene	23.98	91	3431471	45.72	ug/l	99
86)	1,2-Dichlorobenzene	24.36	146	1810217	48.53	ug/l	99
87)	1,2-Dibromo-3-chloropropan	25.92	157	169931	43.67	ug/l	100
88)	1,2,4-Trichlorobenzene	27.72	180	1430376	47.94	ug/l	98
89)	Hexachlorobutadiene	28.00	225	1163303	47.45	ug/l	98
90)	Naphthalene	28.27	128	2540593	50.67	ug/l	100
91)	1,2,3-Trichlorobenzene	28.79	180	1341762	49.56	ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCB279.D Vial: 3
Acq On : 17 Mar 2006 5:44 am Operator: CGM
Sample : CVO03B0382 50/200/250 Inst : TO03
Misc : 50ppb 8260/200ppb Ket-AA/250ppbTBA Multiplr: 1.00
MS Integration Params: 524INT.P
Quant Time: Mar 17 11:15 2006 Quant Results File: VO03B03.RES

Method : D:\HPCHEM\1\METHODS\VO03B03.M (RTE Integrator)
Title : METHOD 8260
Last Update : Mon Feb 06 13:18:50 2006
Response via : Initial Calibration



ANALYTICAL LOGS

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 2 ☐ EMAX-524.2 Rev.No. 3 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 2/3/06 ☑ 5-ml Purge ☐ 25-ml Purge **Book # A03 -024**

BATCH VO03B03

	Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01		RBB053	BFB03B05 ✓	2 µL				~~$250 Kel/AA TOA~~
02		054	VO03B031 ✓	.04/.2/.08 µL				2 8 10 ppb
03		055	2 ✓	.1/.5/.2 µL				5 20 25
04		056	3 ✓	.2/1/.4 µL				10 40 50
05		057	4 ✓	.4/2/.8 µL				20 80 100
06		058	5 ✓	1/5/2 µL				50 200 250
07		059	6 ✓	1.6/8/3.2 µL				80 320 400
08		060	7 ✓	2/10/4 µL				100 400 500
09		061	8 ✓	4/20/8 µL				200 800 1000
10		062	9 ✓	6/30/12 µL				300 1200 1500
11		063	15/55 check					
12		064	VO03B05B					
13		065	VO03B031 ✓ *	1/5/4 µL				CGM 2/3/06
14		066	2	↓				
15		067	3 ✓	5 µL				for 3 Addn'l. Cpds. only
16		068	4	↓				
17		069	Rinse					
18								
19								
20								
21								
22								
23								
24								
25								CGM 2/3/06

Instrument No.	03
INITIAL CALIBRATION REFERENCE	
DATE	2/3/06
ICAL ID	VO03B03

STANDARDS

NAME	ID	CONC. (mg/L)
DCC	SVIC - 10 - 45 - 2, 28 - 3	
DCC	22 - 3, 42 - 2	
DCC	44 - 1	
BFB	70 - 3	50/200/500
IS/SURR.	45 - 3	
LCS	25 - 3, 29 - 1	
LCS	41 - 3, 42 - 3	
LCS	41 - 2	
~~SOLVENT~~ IS	SVIC-10-45-2	ID 2500ppm
~~METHANOL~~ SS	43 - 1	
DATA FILE	06B03	

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO03	

Comments:

* Not valid for Acrolein

Analyzed By: CGM

Date Disposed:

Disposed By:

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 2 ☐ EMAX-524.2 Rev.No. 3 ☐ EMAX-CLP-VOA ☐ EMAX 624 Rev.No. 1 ☐

Start Date: 3/17/06 ☑ 5-ml Purge ☐ 25-ml Purge **Book # A03 -025**

BATCH CV0030423

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix pH-W	Matrix S	Notes
01	RCB277	BFB@3C23	2µL				
02	278	24	1				05:07
03	279	CV0@3B@382	2/5/1µL				
04	280	183 CGM 3/17/06	2/5/1µL	2/5/1µL			
05	281	V0@3C24L	1-6/2.4µL	1.0			
06	282	C	1-6/2.4µL				
07	283	B	5.0g				
08	284	Q					
09	285	VPC00458 X	5.0g			✓	
10	286	06C152-01	4.0g	0.83		✓	
11	287	02	5.6g	0.89		✓	
12	288	06C106-01	5.1g	0.98		✓	
13	289	02	4.4g	1.1		✓	
14	290	03	5.5g	0.91		✓	
15	291	04	5.0g	1.0		✓	
16	292	06	5.6g	0.89		✓	
17	293	08	5.6g	0.89		✓	
18	294	09	5.2g	0.96		✓	
19	295	10	4.0g	1.3		✓	
20	296	11	5.5g	0.91		✓	16:15
21							
22							
23							
24							
25							CGM 3/17/06

Instrument No.	03
INITIAL CALIBRATION REFERENCE	
DATE	2/3/06
ICAL ID	V0@3B@3

STANDARDS		
NAME	ID	CONC. (mg/L)
DCC	SV1C-10-22-3	
DCC	42-2	
DCC	44-1	
BFB	20-3	50/250/500
IS/SURR.	43-3	
LCS	44-3	
LCS	42-3	
LCS	44-2	

SOLVENT	ID
METHANOL	
DATA FILE	06C17

Electronic Data Archival	
Location	Date
HPCHEM_VOA/T003	

Comments:

Analyzed By: CGM

Date Disposed:

Disposed By:

EXTRACTION LOG

SAMPLE WEIGHT LOG FOR VOLATILES

METHOD [X] 5035 **Book #** E02-013

Matrix: SOIL STARTING DATE 3/11/06 13:45 Ending Date 3/11/06 14:00

Lab Sample ID	W1 (g)	Wf (g)	Ws(g)	D.F.
BLANK	29.9	34.9	5.0	1.00
06C106-01	31.2	36.3	5.1	0.98
06C106-02	31.3	35.7	4.4	1.14
06C106-03	31.5	37.0	5.5	0.91
06C106-04	31.7	36.7	5.0	1.00
06C106-06	31.6	37.2	5.6	0.89
06C106-08	31.6	37.2	5.6	0.89
06C106-09	31.6	36.8	5.2	0.96
06C106-10	31.2	35.2	4.0	1.25
06C106-11	31.2	36.7	5.5	0.91
06C106-02R	31.5	36.2	4.7	1.06
06C106-03R	31.5	36.5	5.0	1.00
06C106-04R	31.3	36.1	4.8	1.04
06C106-06R	31.4	37.2	5.8	0.86
06C106-08R	31.2	36.4	5.2	0.96
06C106-09R	31.6	36.6	5.0	1.00
06C106-10R	31.6	37.2	5.6	0.89
06C106-11R	31.6	37.2	5.6	0.89

Standards / Reagents	ID / Lot#	Amount Added (ml)
SURROGATE		
LCS/MS		
REAGENT (WATER)		5.0 ML
NaHS04 H20		
SAND	SW1A-03-133	5.0G

DISPENSER CHECK WITH 5.0 ML

VOLUME METRIC FLUSH.

PREWEIGHED VIALS

C106-01 ONE VIAL BROKEN

Prepared By: RT

Standard Added By:

Witnessed By:

Checked By: CGM 3/17/06

Extract Received By: CGM

Extract Location	VWO5

LABORATORY REPORT FOR

ENSR

UPGRADIENT INVESTIGATION, TRONOX

METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 06C106

CASE NARRATIVE

CLIENT: ENSR

PROJECT: UPGRADIENT INVESTIGATION, TRONOX

SDG: 06C106

METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Nine (9) soil samples were received on 03/11/06 for Total Petroleum Hydrocarbons by Purge and Trap analysis by Method 5035/8015B in accordance with SW846 3rd Edition.

1. Holding Time

Analytical holding time was met. Samples were received in pre-weighed vials with methanol.

2. Calibration

Initial calibration was seven points. %RSD was within 20%. Continuing calibrations were carried out within 12-hour intervals and at the end of the analysis sequence. All recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

All recoveries were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No sample was spiked.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met. Results were quantified from C6 to C10 using GRO (C6-C10) calibration factor.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX

SDG NO. : 06C106
Instrument ID : GCT039

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	VMC008SB	1	NA	03/14/0621:46	03/14/0621:46	EC13056A	EC13048A	VMC008S	Method Blank
LCS1S	VMC008SL	1	NA	03/14/0622:24	03/14/0622:24	EC13057A	EC13048A	VMC008S	Lab Control Sample (LCS)
LCD1S	VMC008SC	1	NA	03/14/0623:03	03/14/0623:03	EC13058A	EC13048A	VMC008S	LCS Duplicate
M121-0.5	C106-01	1.1	4.3	03/15/0600:57	03/15/0600:57	EC13061A	EC13059A	VMC008S	Field Sample
M121-5	C106-02	1.1	10.3	03/15/0601:35	03/15/0601:35	EC13062A	EC13059A	VMC008S	Field Sample
M121-10	C106-03	.85	5.7	03/15/0602:13	03/15/0602:13	EC13063A	EC13059A	VMC008S	Field Sample
M121-5D	C106-04	1	9.5	03/15/0602:52	03/15/0602:52	EC13064A	EC13059A	VMC008S	Field Sample
M121-30	C106-06	.88	5.8	03/15/0603:30	03/15/0603:30	EC13065A	EC13059A	VMC008S	Field Sample
M121-50	C106-08	.93	6.1	03/15/0604:08	03/15/0604:08	EC13066A	EC13059A	VMC008S	Field Sample
M121-60	C106-09	.93	17.8	03/15/0604:46	03/15/0604:46	EC13067A	EC13059A	VMC008S	Field Sample
M121-80	C106-10	.96	27.5	03/15/0605:24	03/15/0605:24	EC13068A	EC13059A	VMC008S	Field Sample
M121-70	C106-11	.91	22.8	03/15/0606:02	03/15/0606:02	EC13069A	EC13059A	VMC008S	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : ENSR	Date Collected: 03/10/06
Project : UPGRADIENT INVESTIGATION, TRONOX	Date Received: 03/11/06
Batch No. : 06C106	Date Extracted: 03/15/06 00:57
Sample ID: M121-0.5	Date Analyzed: 03/15/06 00:57
Lab Samp ID: C106-01	Dilution Factor: 1.1
Lab File ID: EC13061A	Matrix : SOIL
Ext Btch ID: VMC008S	% Moisture : 4.3
Calib. Ref.: EC13059A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
GRO	ND	1.1	.57

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	85	70-140

RL : Reporting Limit

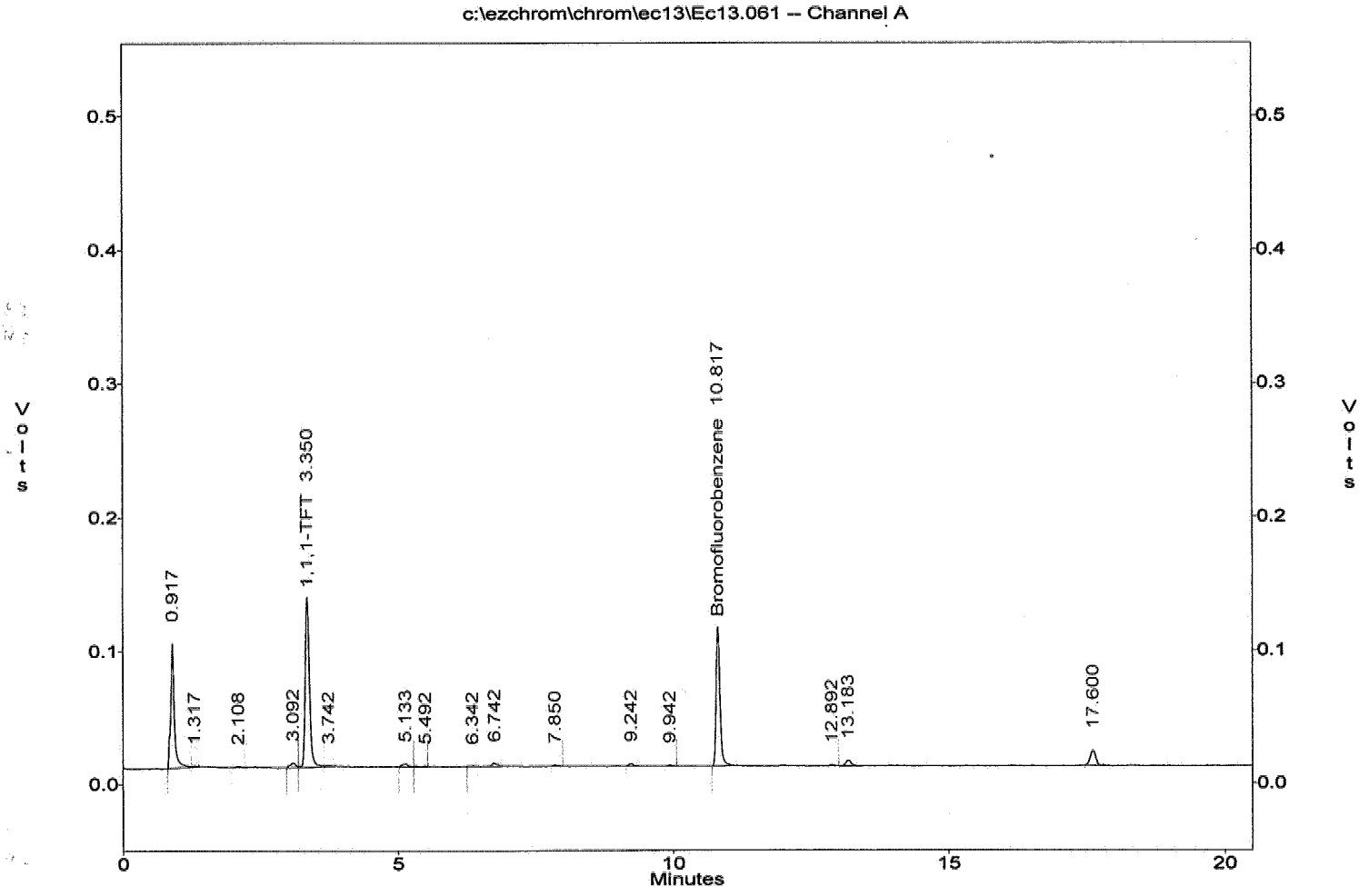
Parameter	H-C Range
GRO	C6-C10

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.061
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : 06C106-01 100UL S
Acquired : Mar 15, 2006 00:57:22
Printed : Mar 15, 2006 01:17:54
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
5	1,1,1-TFT	3.350	702229.0	21531.8	32.61
14	Bromofluorobenzene	10.817	508081.0	15026.0	33.81
G1	GASOLINE(TOTAL)		217826.0	15352.4	14.19
G2	GRO(C6-C10)		108829.0	12418.6	8.76
G3	GRO(2MP-124TMB)		108829.0	12455.2	8.74
G4	GRO(C5-C12)		217826.0	15149.8	14.38



METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/15/06 01:35
Sample ID:	M121-5	Date Analyzed:	03/15/06 01:35
Lab Samp ID:	C106-02	Dilution Factor:	1.1
Lab File ID:	EC13062A	Matrix :	SOIL
Ext Btch ID:	VMC008S	% Moisture :	10.3
Calib. Ref.:	EC13059A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
GRO	ND	1.2	.61

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	85	70-140

RL : Reporting Limit

Parameter	H-C Range
GRO	C6-C10

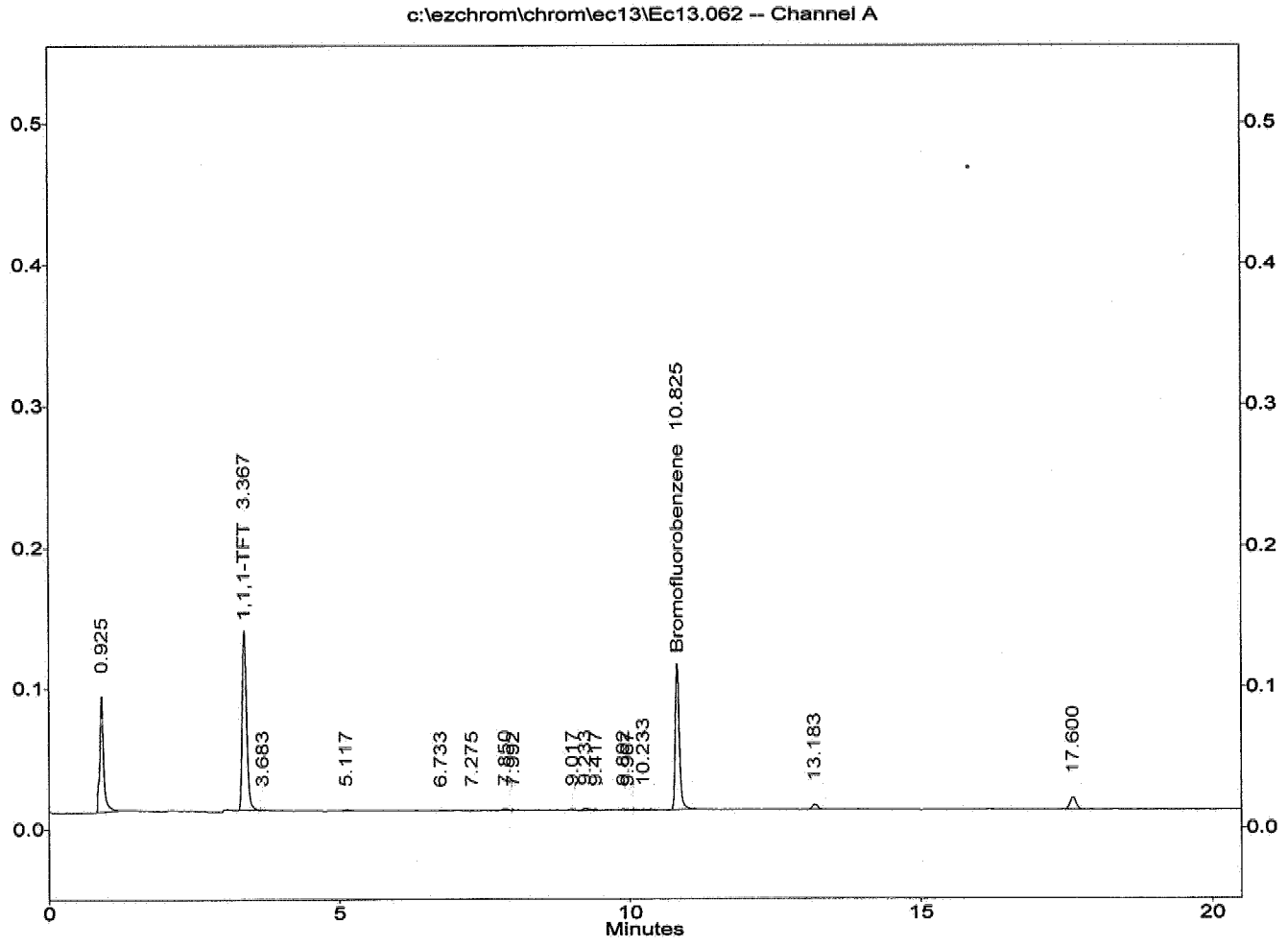
4805

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.062
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : 06C106-02 100UL S
Acquired : Mar 15, 2006 01:35:30
Printed : Mar 15, 2006 01:56:02
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
2	1,1,1-TFT	3.367	679207.0	21531.8	31.54
15	Bromofluorobenzene	10.825	509628.0	15026.0	33.92
G1	GASOLINE(TOTAL)		128755.0	15352.4	8.39
G2	GRO(C6-C10)		44835.0	12418.6	3.61
G3	GRO(2MP-124TMB)		44835.0	12455.2	3.60
G4	GRO(C5-C12)		128755.0	15149.8	8.50



METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/15/06 02:13
Sample ID:	M121-10	Date Analyzed:	03/15/06 02:13
Lab Samp ID:	C106-03	Dilution Factor:	.85
Lab File ID:	EC13063A	Matrix :	SOIL
Ext Btch ID:	VMC008S	% Moisture :	5.7
Calib. Ref.:	EC13059A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
GRO	ND	.9	.45

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	87	70-140

RL : Reporting Limit

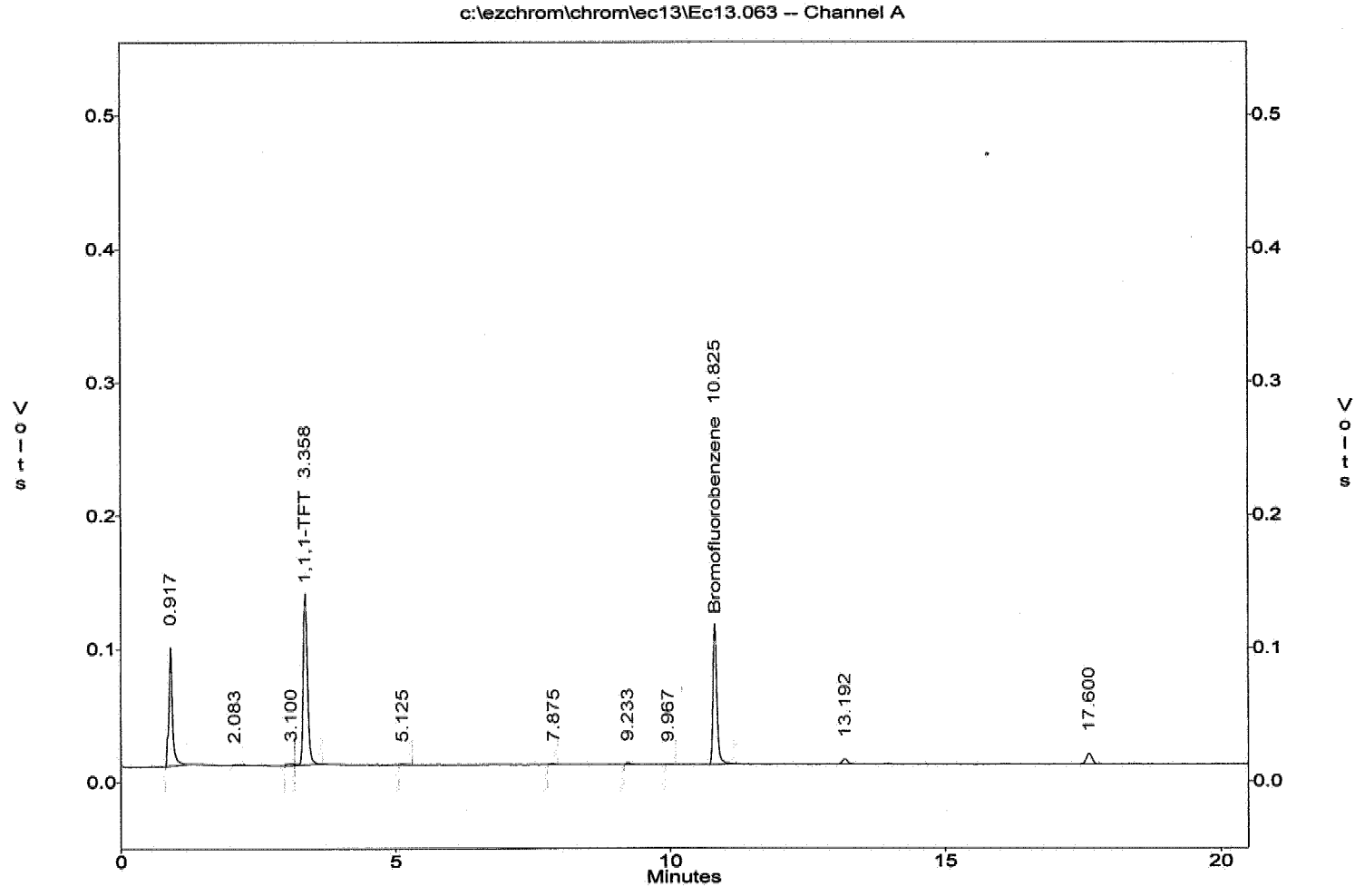
Parameter	H-C Range
GRO	C6-C10

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.063
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : 06C106-03 100UL S
Acquired : Mar 15, 2006 02:13:49
Printed : Mar 15, 2006 02:34:21
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
4	1,1,1-TFT	3.358	703491.0	21531.8	32.67
9	Bromofluorobenzene	10.825	521989.0	15026.0	34.74
G1	GASOLINE(TOTAL)		113456.0	15352.4	7.39
G2	GRO(C6-C10)		36115.0	12418.6	2.91
G3	GRO(2MP-124TMB)		36115.0	12455.2	2.90
G4	GRO(C5-C12)		113456.0	15149.8	7.49



4869

METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/15/06 02:52
Sample ID:	M121-5D	Date Analyzed:	03/15/06 02:52
Lab Samp ID:	C106-04	Dilution Factor:	1
Lab File ID:	EC13064A	Matrix :	SOIL
Ext Btch ID:	VMC008S	% Moisture :	9.5
Calib. Ref.:	EC13059A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
GRO	ND	1.1	.55

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	83	70-140

RL : Reporting Limit

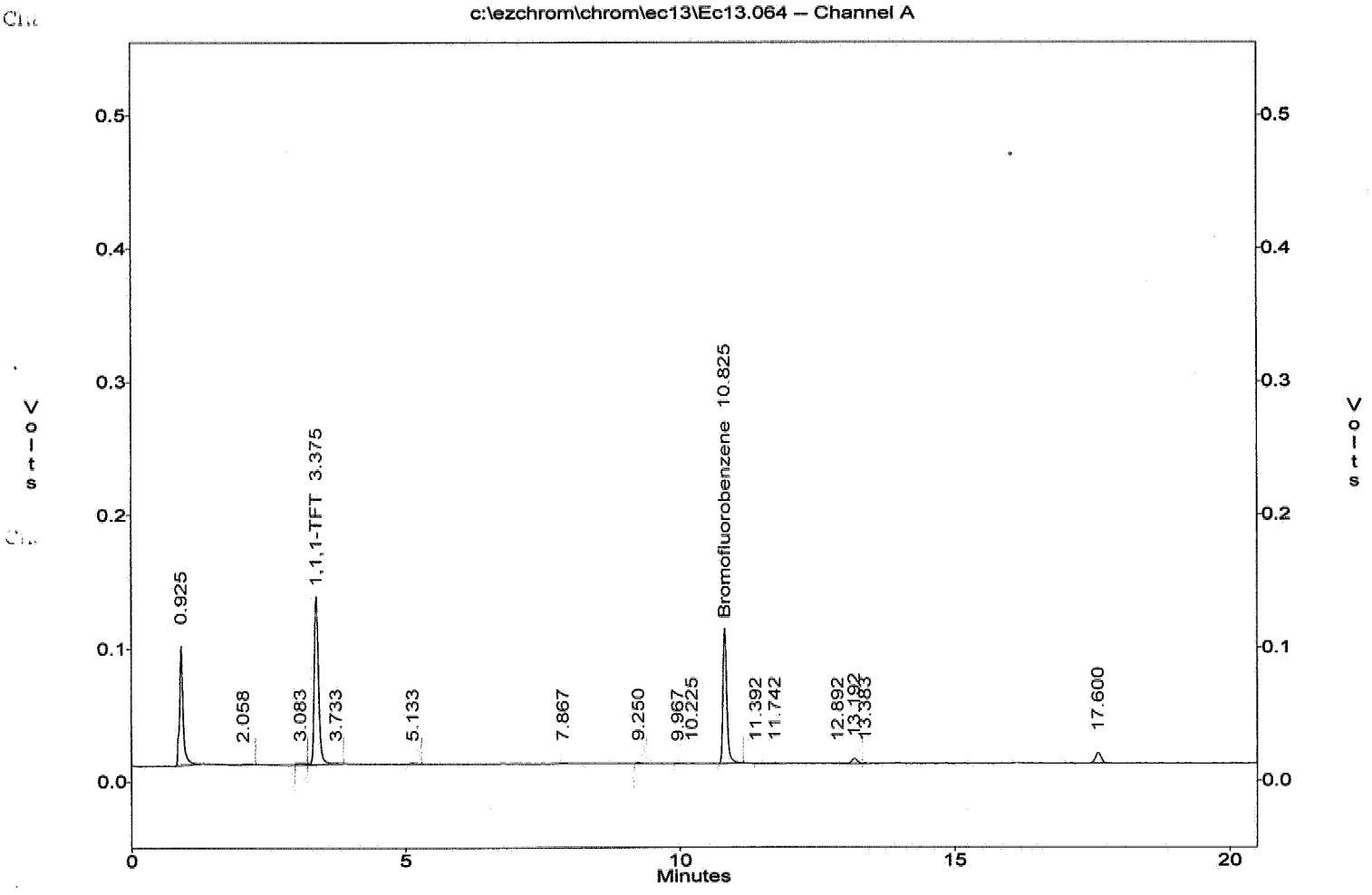
Parameter	H-C Range
GRO	C6-C10

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.064
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : 06C106-04 100UL S
Acquired : Mar 15, 2006 02:52:00
Printed : Mar 15, 2006 03:12:32
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
4	1,1,1-TFT	3.375	690973.0	21531.8	32.09
11	Bromofluorobenzene	10.825	498128.0	15026.0	33.15
G1	GASOLINE(TOTAL)		135825.0	15352.4	8.85
G2	GRO(C6-C10)		49758.0	12418.6	4.01
G3	GRO(2MP-124TMB)		49758.0	12455.2	3.99
G4	GRO(C5-C12)		135825.0	15149.8	8.97



METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/15/06 03:30
Sample ID:	M121-30	Date Analyzed:	03/15/06 03:30
Lab Samp ID:	C106-06	Dilution Factor:	.88
Lab File ID:	EC13065A	Matrix :	SOIL
Ext Btch ID:	VMC008S	% Moisture :	5.8
Calib. Ref.:	EC13059A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
GRO	ND	.93	.47

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	84	70-140

RL : Reporting Limit

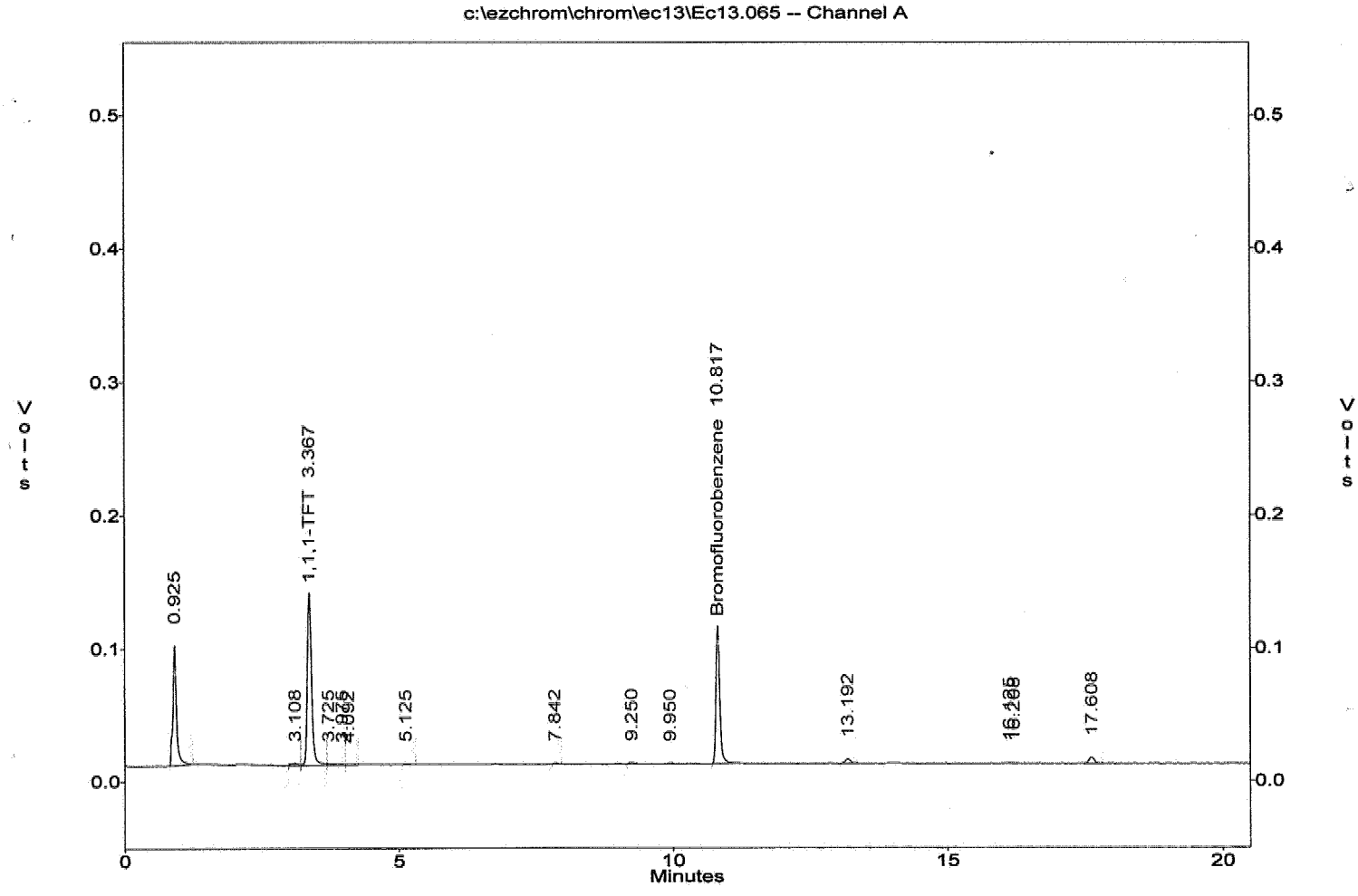
Parameter	H-C Range
GRO	C6-C10

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.065
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : 06C106-06 100UL S
Acquired : Mar 15, 2006 03:30:10
Printed : Mar 15, 2006 03:50:41
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
3	1,1,1-TFT	3.367	716346.0	21531.8	33.27
11	Bromofluorobenzene	10.817	504361.0	15026.0	33.57
G1	GASOLINE(TOTAL)		116344.0	15352.4	7.58
G2	GRO(C6-C10)		57213.0	12418.6	4.61
G3	GRO(2MP-124TMB)		57213.0	12455.2	4.59
G4	GRO(C5-C12)		116344.0	15149.8	7.68



METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/15/06 04:08
Sample ID:	M121-50	Date Analyzed:	03/15/06 04:08
Lab Samp ID:	C106-08	Dilution Factor:	.93
Lab File ID:	EC13066A	Matrix :	SOIL
Ext Btch ID:	VMC008S	% Moisture :	6.1
Calib. Ref.:	EC13059A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
GRO	ND	.99	.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	86	70-140

RL : Reporting Limit

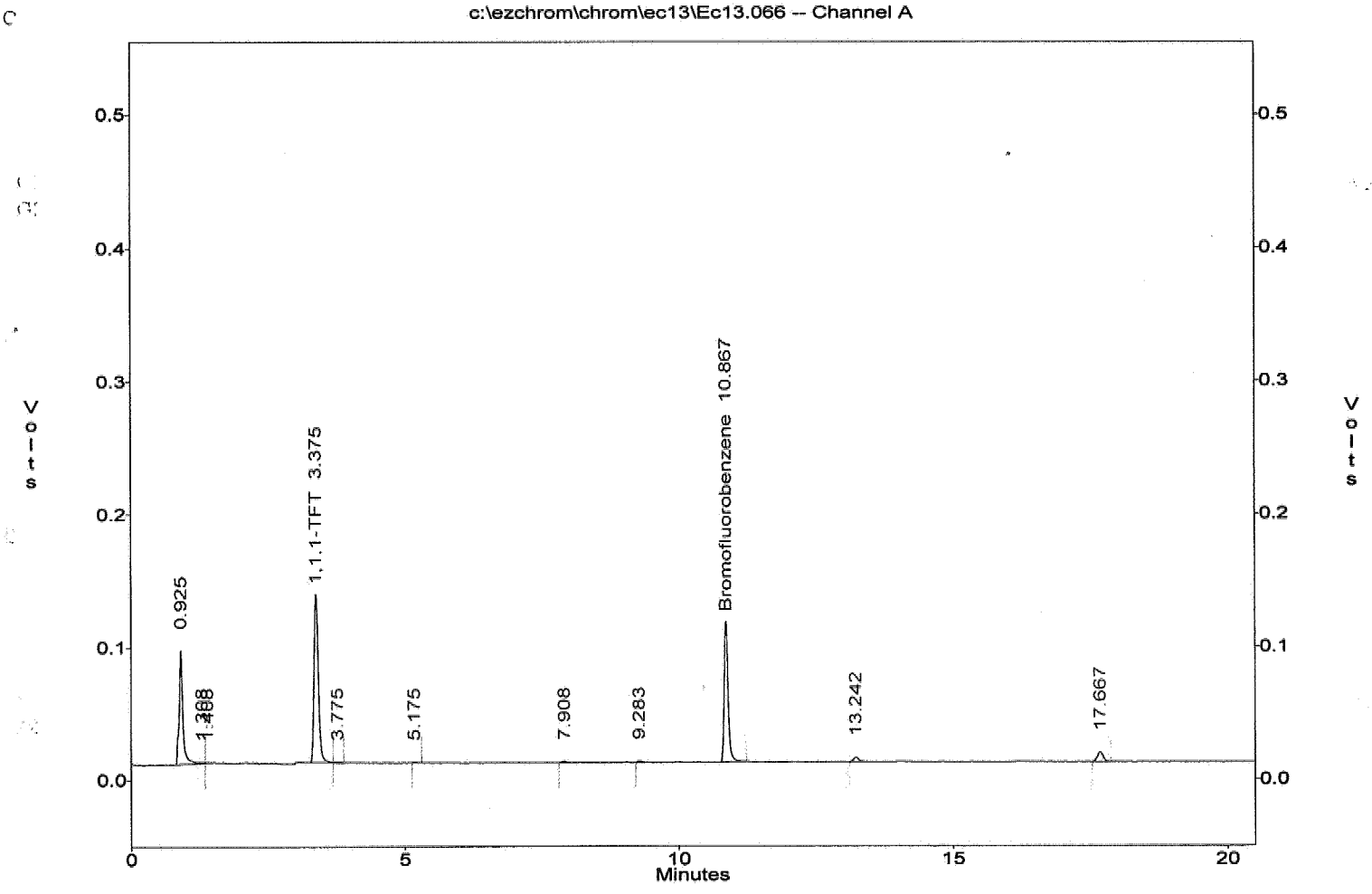
Parameter	H-C Range
GRO	C6-C10

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.066
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : 06C106-08 100UL S
Acquired : Mar 15, 2006 04:08:10
Printed : Mar 15, 2006 04:28:41
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
4	1,1,1-TFT	3.375	695565.0	21531.8	32.30
9	Bromofluorobenzene	10.867	518342.0	15026.0	34.50
G1	GASOLINE(TOTAL)		99453.0	15352.4	6.48
G2	GRO(C6-C10)		21115.0	12418.6	1.70
G3	GRO(2MP-124TMB)		21115.0	12455.2	1.70
G4	GRO(C5-C12)		99453.0	15149.8	6.56



METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/15/06 04:46
Sample ID:	M121-60	Date Analyzed:	03/15/06 04:46
Lab Samp ID:	C106-09	Dilution Factor:	.93
Lab File ID:	EC13067A	Matrix :	SOIL
Ext Btch ID:	VMC008S	% Moisture :	17.8
Calib. Ref.:	EC13059A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
GRO	ND	1.1	.57

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	85	70-140

RL : Reporting Limit

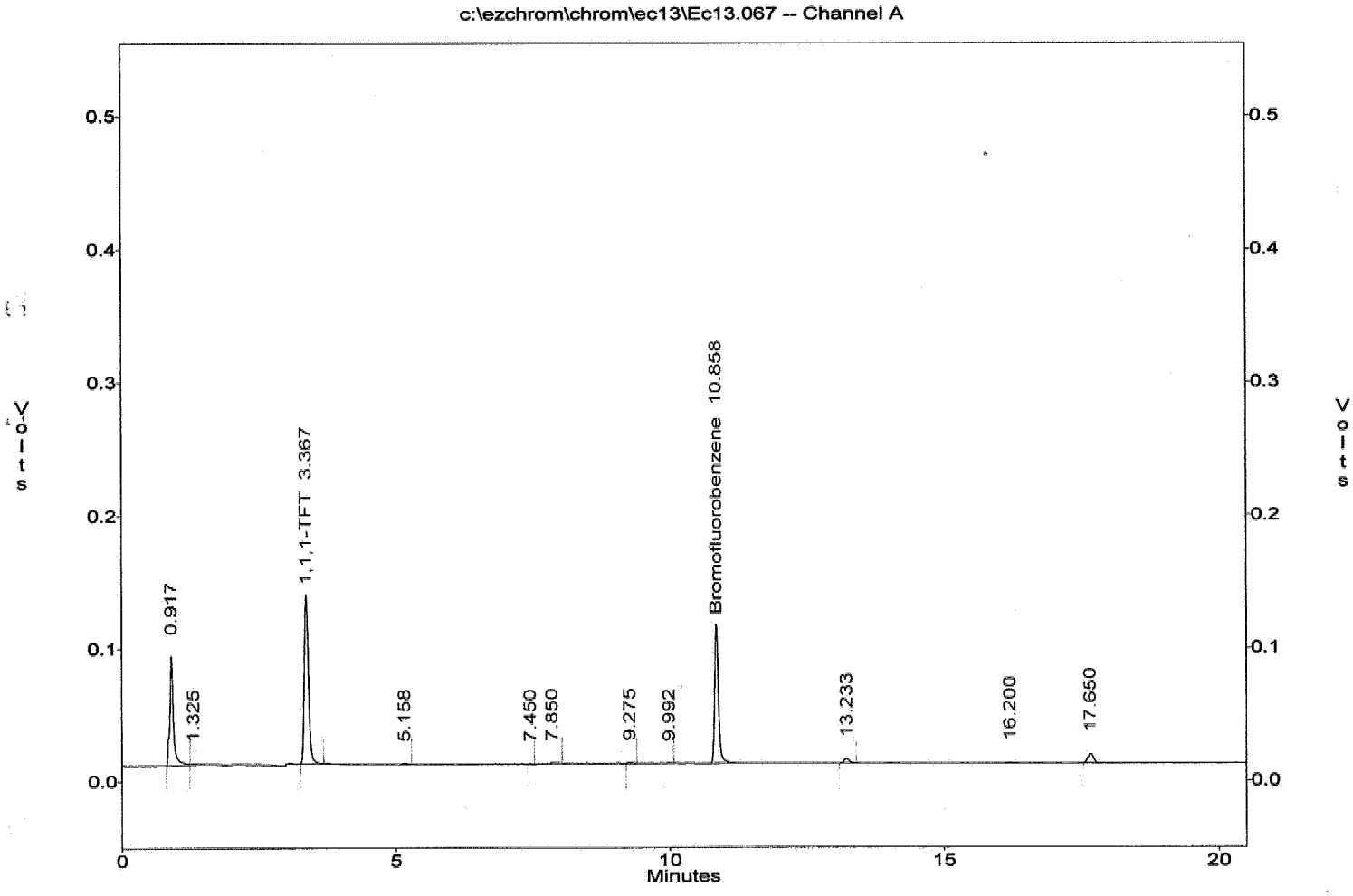
Parameter	H-C Range
GRO	C6-C10

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.067
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : 06C106-09 100UL S
Acquired : Mar 15, 2006 04:46:13
Printed : Mar 15, 2006 05:06:45
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
3	1,1,1-TFT	3.367	684770.0	21531.8	31.80
9	Bromofluorobenzene	10.858	511211.0	15026.0	34.02
G1	GASOLINE(TOTAL)		98861.0	15352.4	6.44
G2	GRO(C6-C10)		19554.0	12418.6	1.57
G3	GRO(2MP-124TMB)		19554.0	12455.2	1.57
G4	GRO(C5-C12)		98861.0	15149.8	6.53



METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/15/06 05:24
Sample ID:	M121-80	Date Analyzed:	03/15/06 05:24
Lab Samp ID:	C106-10	Dilution Factor:	.96
Lab File ID:	EC13068A	Matrix :	SOIL
Ext Btch ID:	VMC008S	% Moisture :	27.5
Calib. Ref.:	EC13059A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
GRO	ND	1.3	.66

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	86	70-140

RL : Reporting Limit

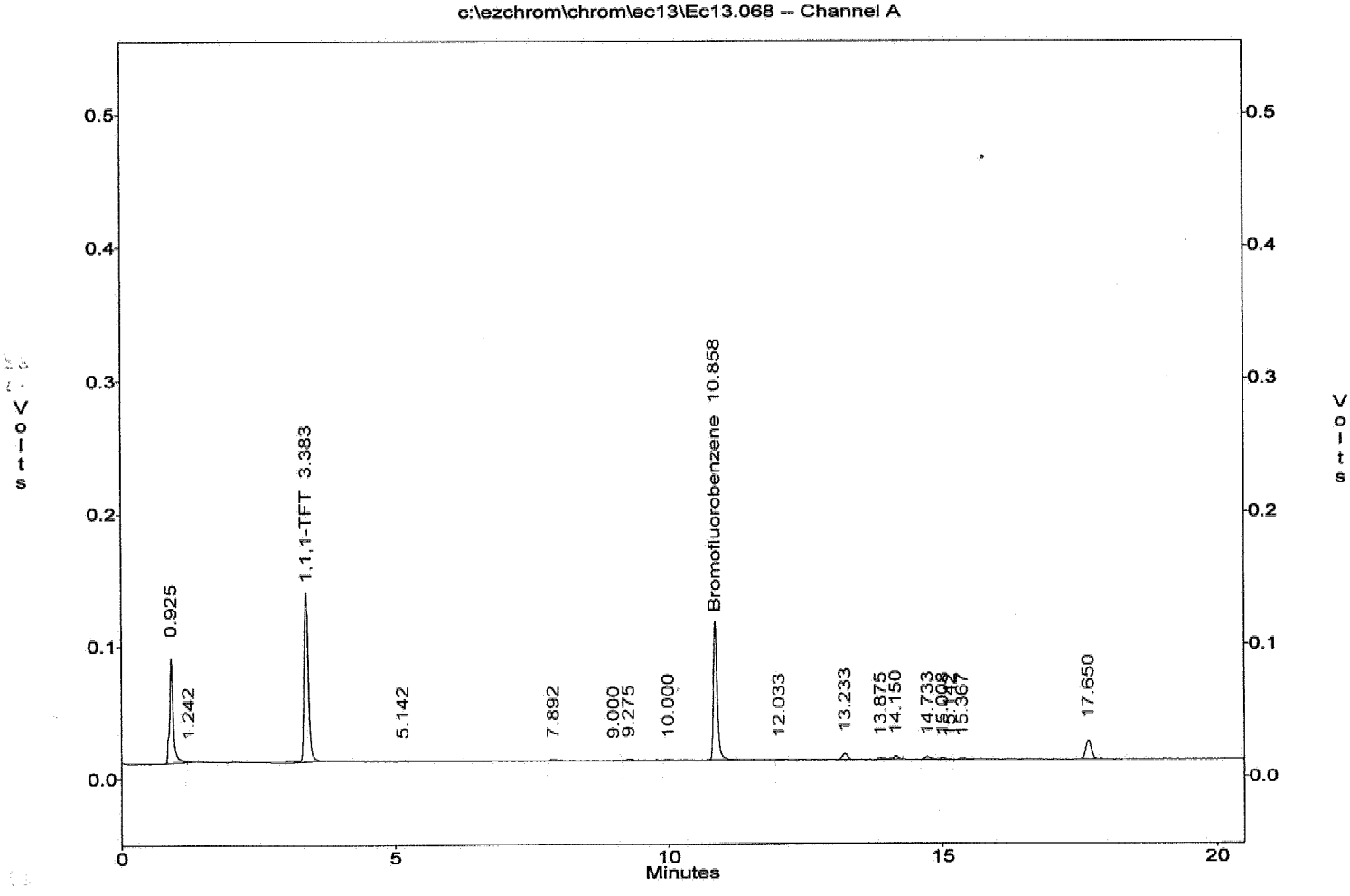
Parameter	H-C Range
GRO	C6-C10

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.068
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : 06C106-10 100UL S
Acquired : Mar 15, 2006 05:24:20
Printed : Mar 15, 2006 05:44:52
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
3	1,1,1-TFT	3.383	716968.0	21531.8	33.30
9	Bromofluorobenzene	10.858	514177.0	15026.0	34.22
G1	GASOLINE(TOTAL)		219446.0	15352.4	14.29
G2	GRO(C6-C10)		30801.0	12418.6	2.48
G3	GRO(2MP-124TMB)		30801.0	12455.2	2.47
G4	GRO(C5-C12)		219446.0	15149.8	14.49



METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/15/06 06:02
Sample ID:	M121-70	Date Analyzed:	03/15/06 06:02
Lab Samp ID:	C106-11	Dilution Factor:	.91
Lab File ID:	EC13069A	Matrix :	SOIL
Ext Btch ID:	VMC008S	% Moisture :	22.8
Calib. Ref.:	EC13059A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
GRO	ND	1.2	.59

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	84	70-140

RL : Reporting Limit

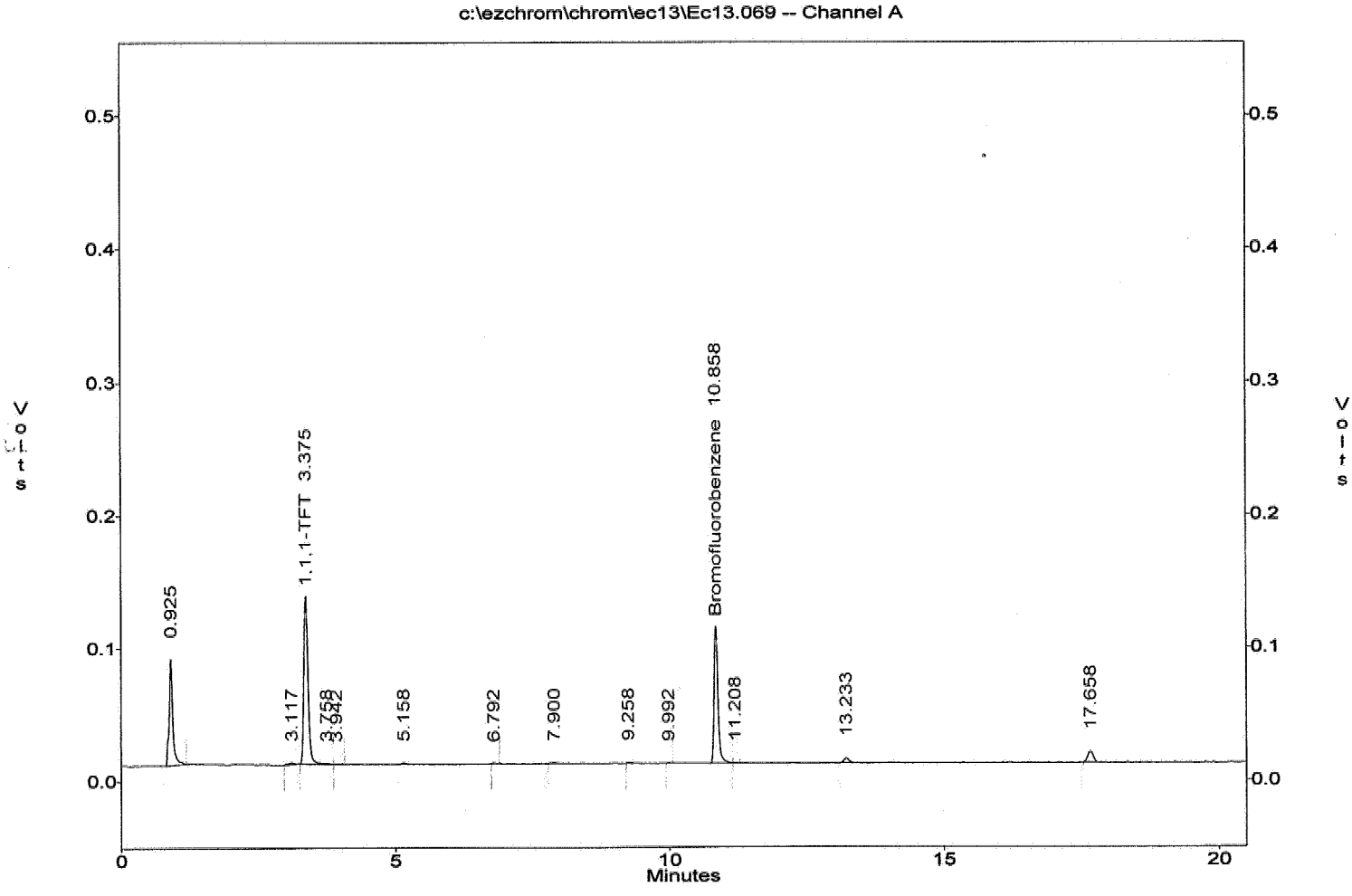
Parameter	H-C Range
GRO	C6-C10

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.069
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : 06C106-11 100UL S
Acquired : Mar 15, 2006 06:02:20
Printed : Mar 15, 2006 06:22:51
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
3	1,1,1-TFT	3.375	680363.0	21531.8	31.60
11	Bromofluorobenzene	10.858	504602.0	15026.0	33.58
G1	GASOLINE(TOTAL)		123474.0	15352.4	8.04
G2	GRO(C6-C10)		45042.0	12418.6	3.63
G3	GRO(2MP-124TMB)		45042.0	12455.2	3.62
G4	GRO(C5-C12)		123474.0	15149.8	8.15



QC SUMMARIES

METHOD 5035/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: ENSR	Date Collected:	NA
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/14/06
Batch No.	: 06C106	Date Extracted:	03/14/06 21:46
Sample ID:	MBLK1S	Date Analyzed:	03/14/06 21:46
Lab Samp ID:	VMC008SB	Dilution Factor:	1
Lab File ID:	EC13056A	Matrix :	SOIL
Ext Btch ID:	VMC008S	% Moisture :	NA
Calib. Ref.:	EC13048A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
GRO	ND	1	.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	83	70-140

RL : Reporting Limit

Parameter	H-C Range
GRO	C6-C10

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 5035/8015B

MATRIX: SOIL % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1S
LAB SAMP ID: VMC008SB VMC008SL VMC008SC
LAB FILE ID: EC13056A EC13057A EC13058A
DATE EXTRACTED: 03/14/0621:46 03/14/0622:24 03/14/0623:03 DATE COLLECTED: NA
DATE ANALYZED: 03/14/0621:46 03/14/0622:24 03/14/0623:03 DATE RECEIVED: 03/14/06
PREP. BATCH: VMC008S VMC008S VMC008S
CALIB. REF: EC13048A EC13048A EC13048A

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
GRO	ND	25	22.9	91	25	25.4	102	11	60-130	50

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromofluorobenzene	2	1.87	94	2	1.92	96	70-140

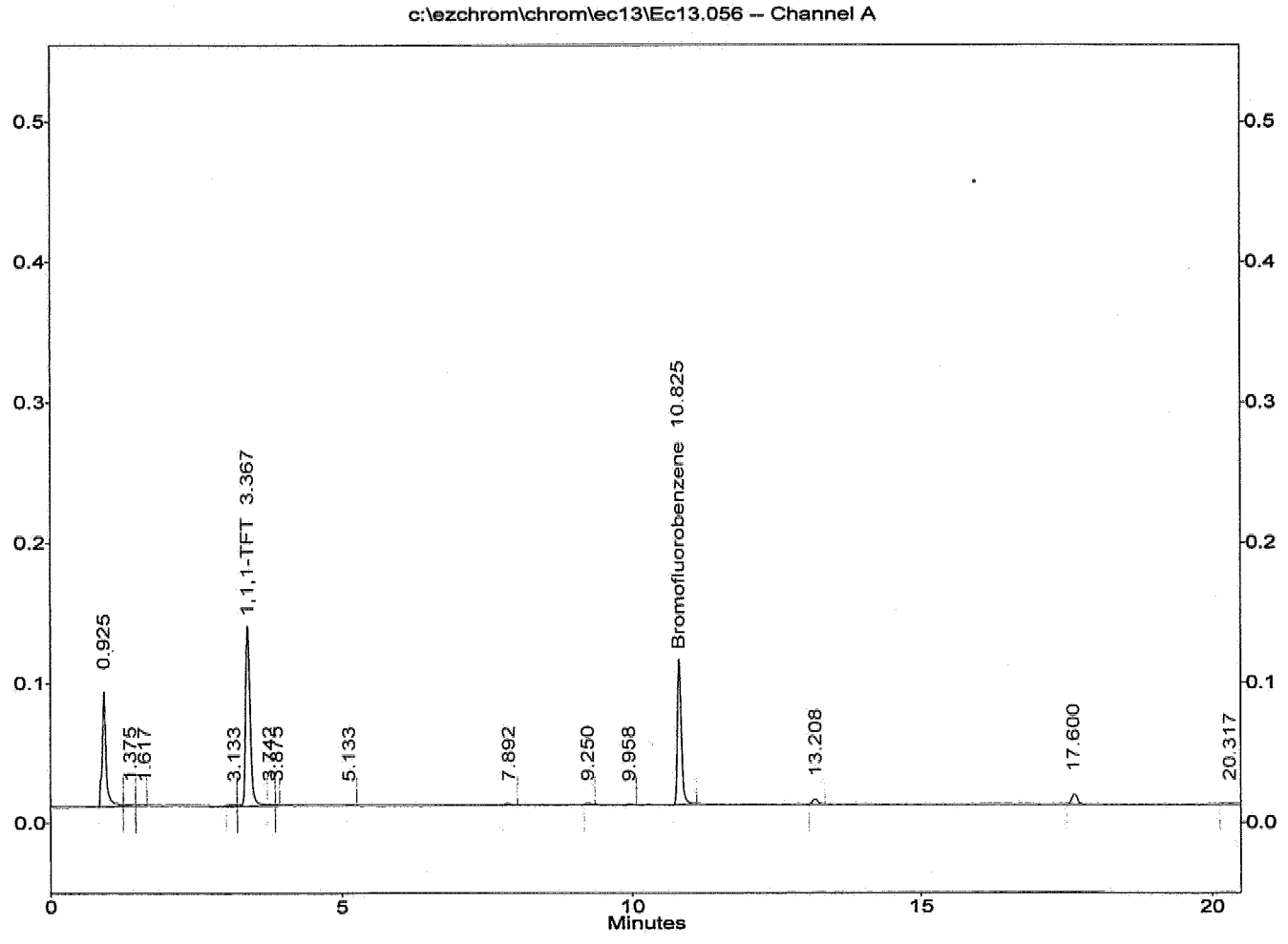
QC DATA

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.056
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : VMC008SB 100UL S
Acquired : Mar 14, 2006 21:46:43
Printed : Mar 14, 2006 22:07:15
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
5	1,1,1-TFT	3.367	703292.0	21531.8	32.66
12	Bromofluorobenzene	10.825	498991.0	15026.0	33.21
G1	GASOLINE(TOTAL)		134487.0	15352.4	8.76
G2	GRO(C6-C10)		39149.0	12418.6	3.15
G3	GRO(2MP-124TMB)		44501.0	12455.2	3.57
G4	GRO(C5-C12)		129937.0	15149.8	8.58

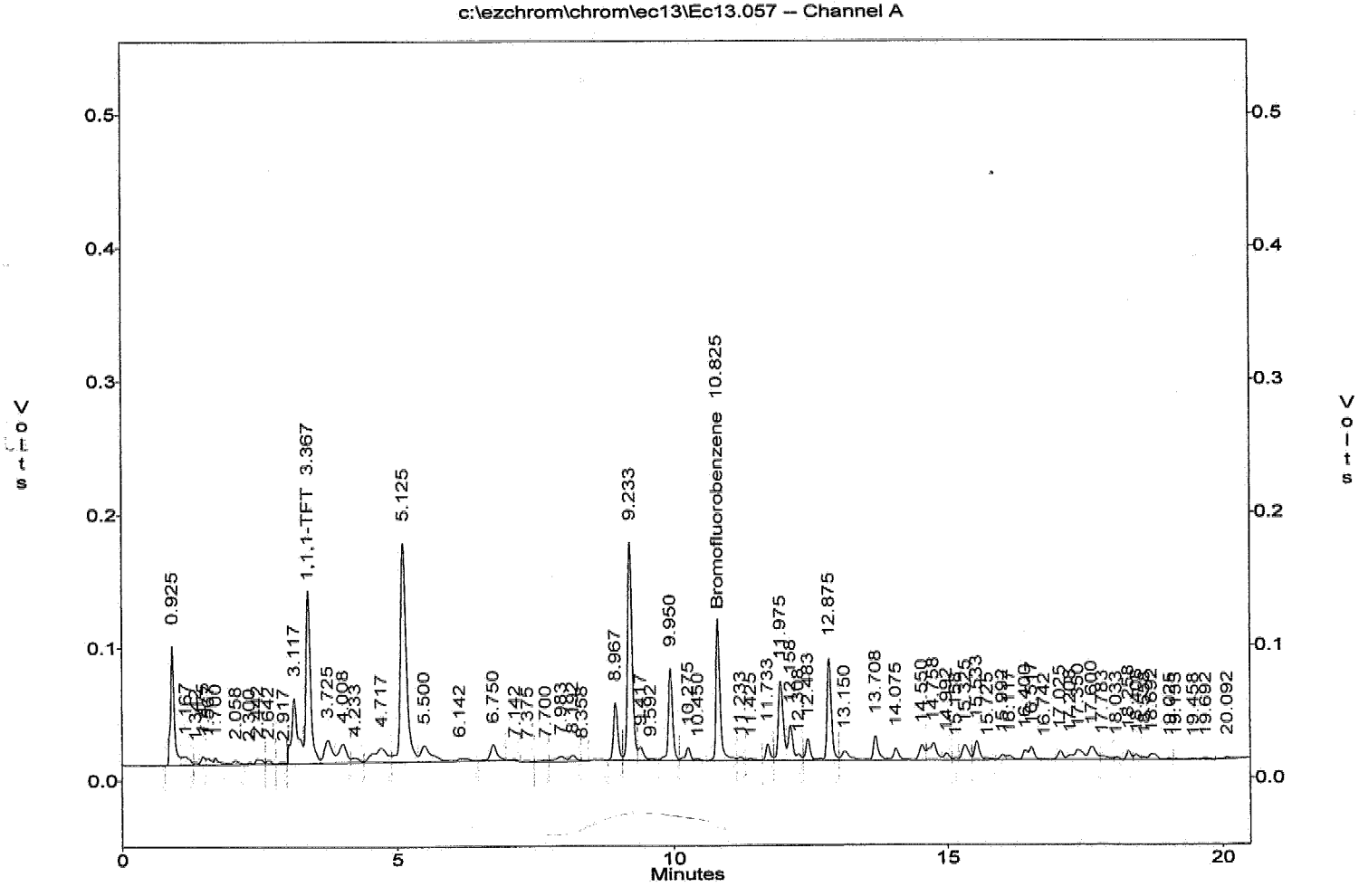


METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.057
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : VMC008SL 100UL S
Acquired : Mar 14, 2006 22:24:55
Printed : Mar 14, 2006 22:45:26
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
13	1,1,1-TFT	3.367	774255.0	21531.8	35.96
35	Bromofluorobenzene	10.825	562147.0	15026.0	37.41
G1	GASOLINE(TOTAL)		7033012.0	15352.4	458.11
G2	GRO(C6-C10)		5676581.0	12418.6	457.10
G3	GRO(2MP-124TMB)		5672391.0	12455.2	455.42
G4	GRO(C5-C12)		6991050.0	15149.8	461.46

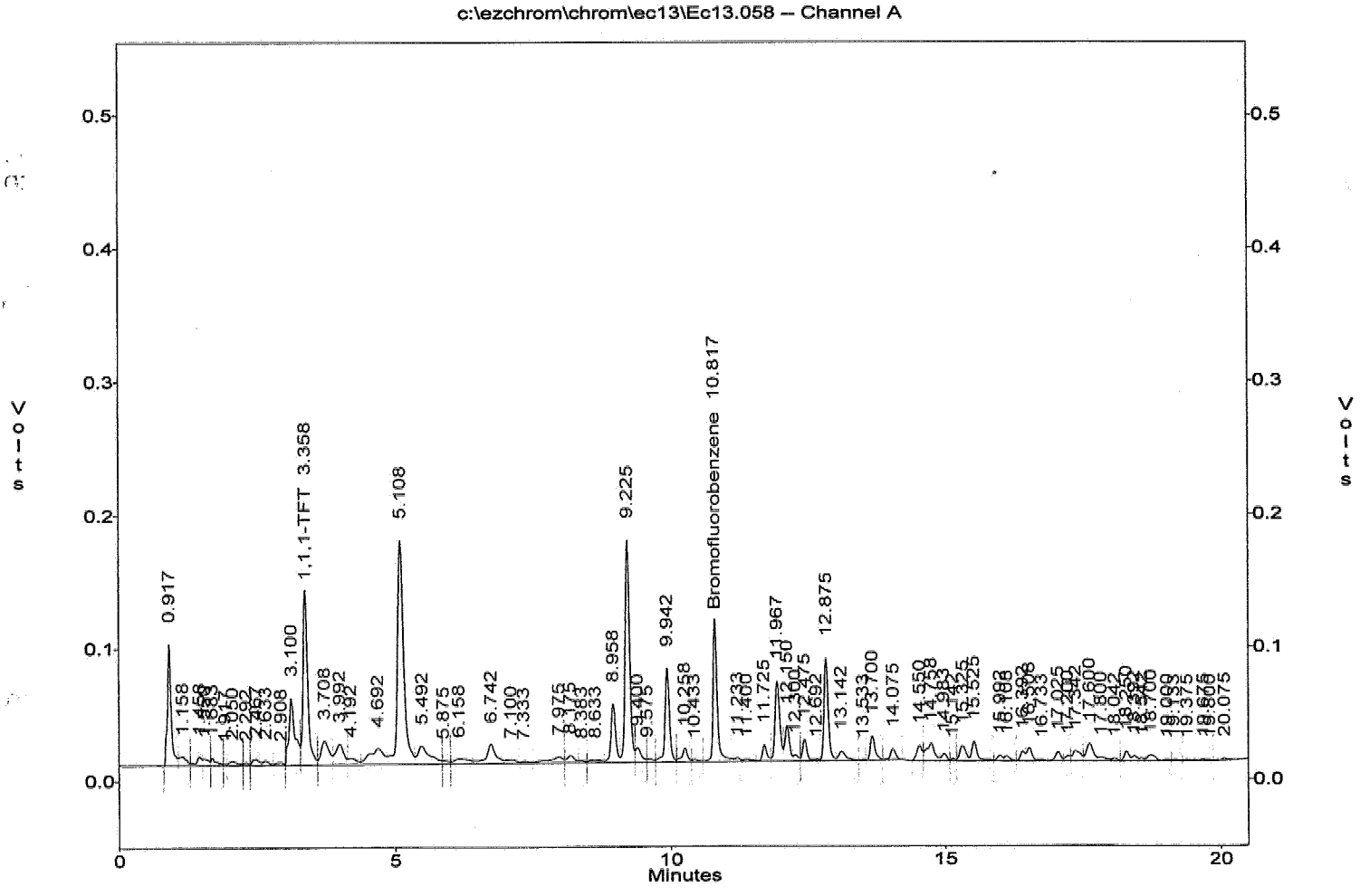


METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.058
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : VMC008SC 100UL S
Acquired : Mar 14, 2006 23:03:00
Printed : Mar 14, 2006 23:23:32
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
13	1,1,1-TFT	3.358	793196.0	21531.8	36.84
36	Bromofluorobenzene	10.817	575545.0	15026.0	38.30
G1	GASOLINE(TOTAL)		7713581.0	15352.4	502.44
G2	GRO(C6-C10)		6318616.0	12418.6	508.80
G3	GRO(2MP-124TMB)		6336009.0	12455.2	508.70
G4	GRO(C5-C12)		7665234.0	15149.8	505.96



INITIAL CALIBRATION

INITIAL CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Columm : DB-5
Column size ID : 30MX.53MM
LFID & Datetime: EC03019A 03/03/06 23:46
LFID & Datetime: EC03020A 03/04/06 00:24
LFID & Datetime: EC03021A 03/04/06 01:02
LFID & Datetime: EC03022A 03/04/06 01:40
LFID & Datetime: EC03023A 03/04/06 02:18
LFID & Datetime: EC03024A 03/04/06 02:57
LFID & Datetime: EC03025A 03/04/06 03:35
CONC UNIT: ppb

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.50X	5.00X	25.00X	50.00X	100.00X	150.00X	MEAN	%RSD
Gasoline(TOTAL)	20.00	12417	13454	15665	15778	16779	16708	16666	15352.4	11.3
GRO(C6-C10)	20.00	9660	10361	13007	12779	13750	13695	13678	12418.6	13.7
GRO(2MP-124TMB)	20.00	9660	10361	13148	12809	13777	13723	13709	12455.2	13.8
GRO(C5-C12)	20.00	11591	13210	15575	15708	16713	16645	16607	15149.8	13.1
SURROGATE	X	1.00X	2.00X	3.00X	4.00X	5.00X	7.50X	10.00X	MEAN	%RSD
Bromofluorobenzene	10.00	12063	13106	13108	14879	17078	17312	17635	15026.0	15.5
1,1,1-Trifluorotoluene	10.00	17166	19380	19227	21362	23275	24612	25700	21531.8	14.6

VG39C03.MET

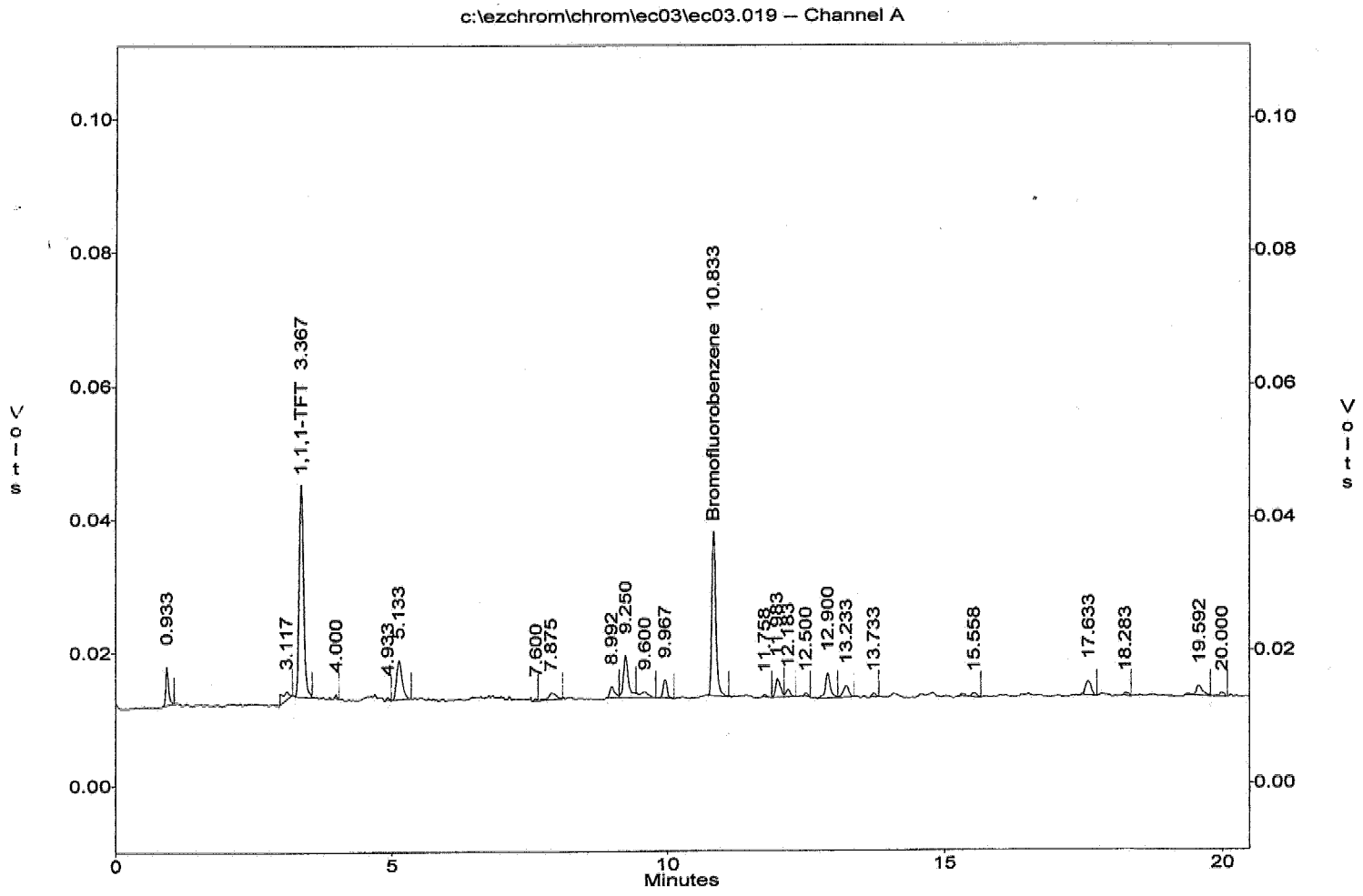
03/06/06

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec03\ec03.019
Method : c:\ezchrom\methods\vg39c03.met
Sample ID : VG39C03-01 20/10
Acquired : Mar 03, 2006 23:46:19
Printed : Mar 06, 2006 12:14:18
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
3	1,1,1-TFT	3.367	171660.0	21531.8	10.00
13	Bromofluorobenzene	10.833	120632.0	15026.0	10.00
G1	GASOLINE(TOTAL)		248347.0	15352.4	20.00
G2	GRO(C6-C10)		193196.0	12418.6	20.00
G3	GRO(2MP-124TMB)		193196.0	12455.2	20.00
G4	GRO(C5-C12)		231819.0	15149.8	20.00



03/06/06

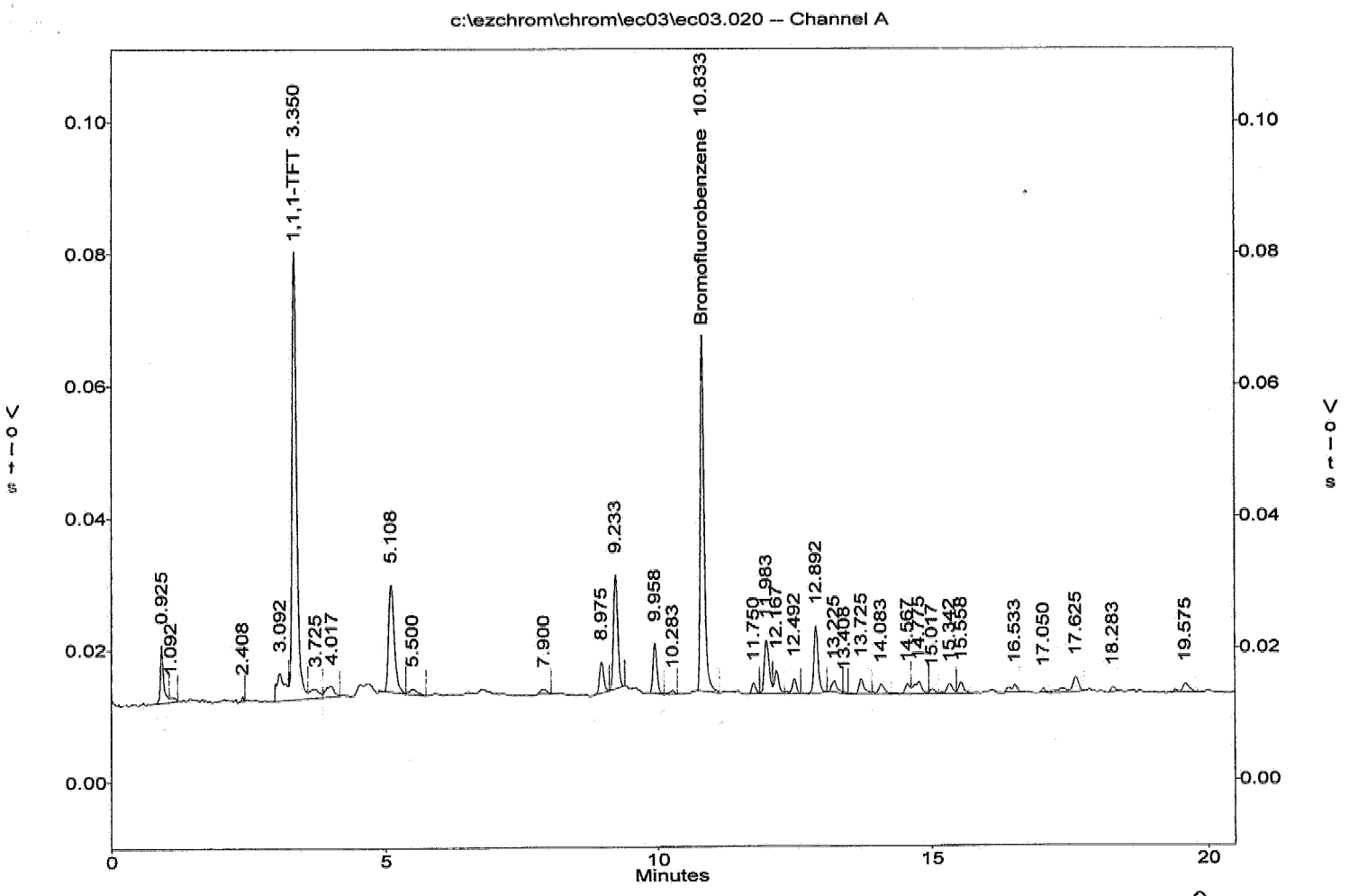
4031

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec03\ec03.020
Method : c:\ezchrom\methods\vg39c03.met
Sample ID : VG39C03-02 50/20
Acquired : Mar 04, 2006 00:24:42
Printed : Mar 06, 2006 12:14:41
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
5	1,1,1-TFT	3.350	387603.0	21531.8	20.00
15	Bromofluorobenzene	10.833	262122.0	15026.0	20.00
G1	GASOLINE(TOTAL)		672683.0	15352.4	50.00
G2	GRO(C6-C10)		518064.0	12418.6	50.00
G3	GRO(2MP-124TMB)		518064.0	12455.2	50.00
G4	GRO(C5-C12)		660488.0	15149.8	50.00



03/06/06

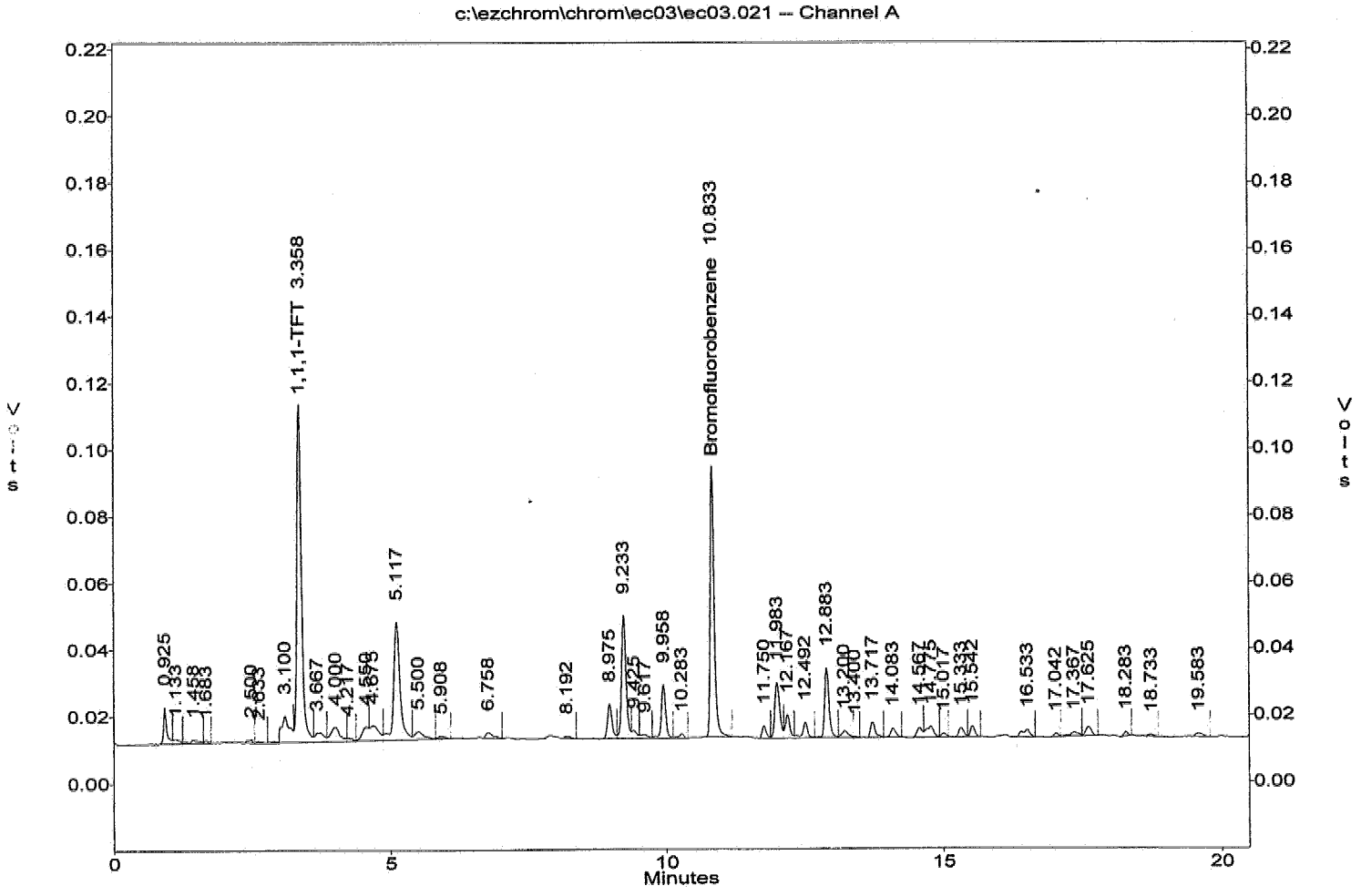
4832

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec03\ec03.021
Method : c:\ezchrom\methods\vg39c03.met
Sample ID : VG39C03-03 100/30
Acquired : Mar 04, 2006 01:02:51
Printed : Mar 06, 2006 12:17:19
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
8	1,1,1-TFT	3.358	576813.0	21531.8	30.00
25	Bromofluorobenzene	10.833	393242.0	15026.0	30.00
G1	GASOLINE(TOTAL)		1566460.0	15352.4	100.00
G2	GRO(C6-C10)		1300710.0	12418.6	100.00
G3	GRO(2MP-124TMB)		1314789.0	12455.2	100.00
G4	GRO(C5-C12)		1557478.0	15149.8	100.00



03/06/06

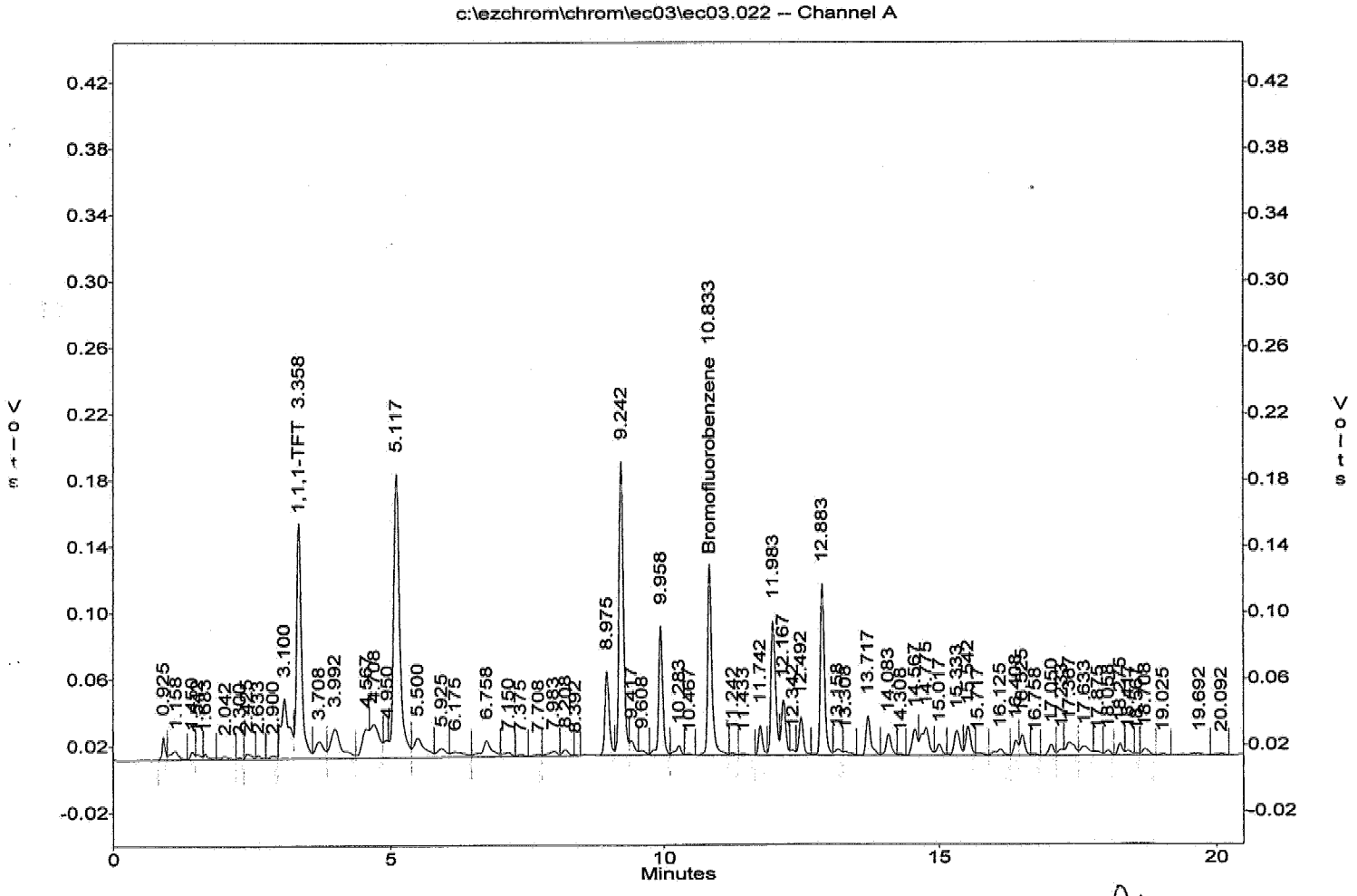
4033

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec03\ec03.022
Method : c:\ezchrom\methods\vg39c03.met
Sample ID : VG39C03-04 500/40
Acquired : Mar 04, 2006 01:40:58
Printed : Mar 06, 2006 12:18:47
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	3.358	854497.0	21531.8	40.00
36	Bromofluorobenzene	10.833	595155.0	15026.0	40.00
G1	GASOLINE(TOTAL)		7888862.0	15352.4	500.00
G2	GRO(C6-C10)		6389639.0	12418.6	500.00
G3	GRO(2MP-124TMB)		6404459.0	12455.2	500.00
G4	GRO(C5-C12)		7853986.0	15149.8	500.00



03/06/06

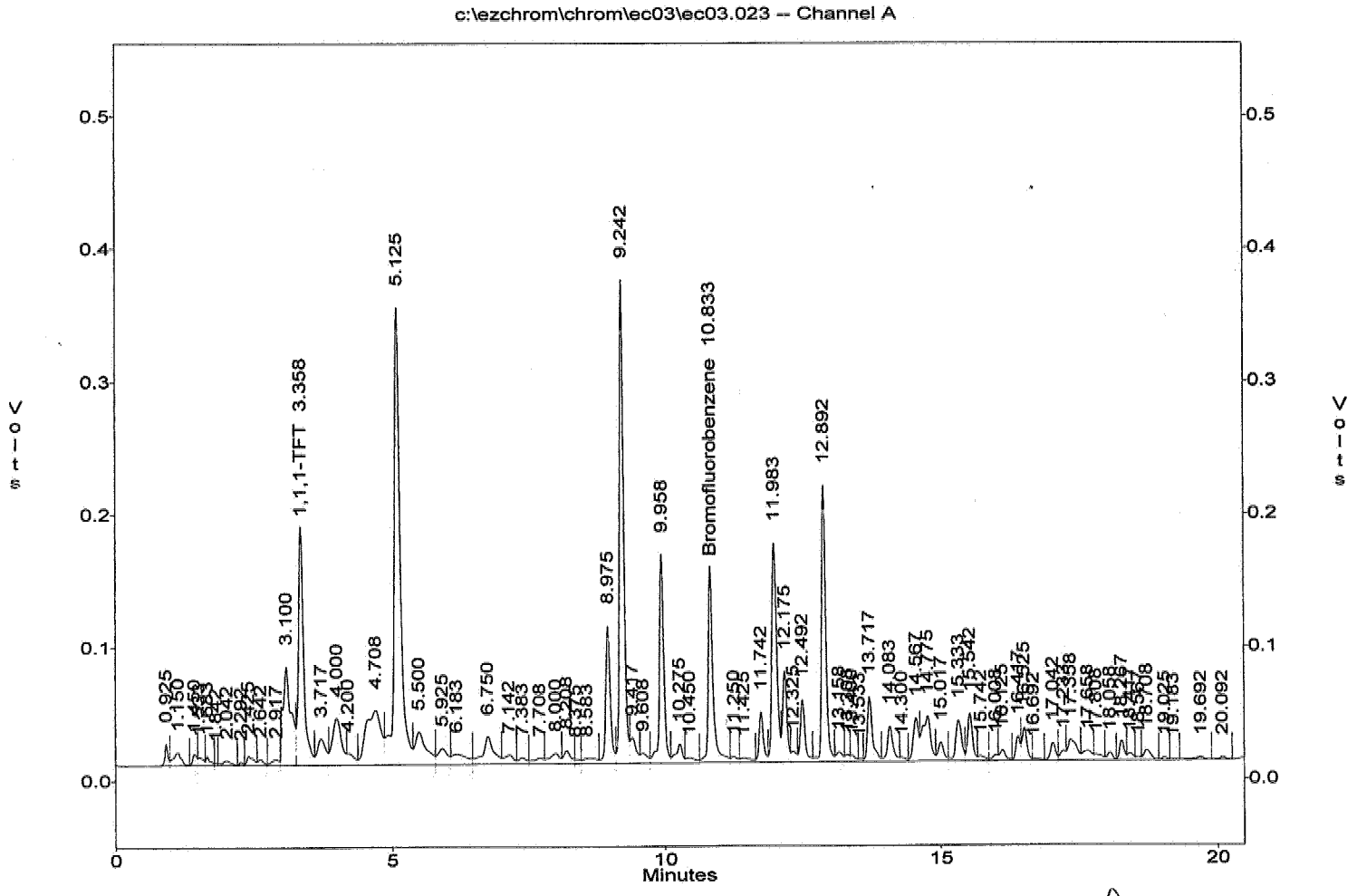
4034

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec03\ec03.023
Method : c:\ezchrom\methods\vg39c03.met
Sample ID : VG39C03-05 1000/50
Acquired : Mar 04, 2006 02:18:59
Printed : Mar 06, 2006 12:20:22
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
13	1,1,1-TFT	3.358	1163757.0	21531.8	50.00
37	Bromofluorobenzene	10.833	853904.0	15026.0	50.00
G1	GASOLINE(TOTAL)		16778924.0	15352.4	1000.00
G2	GRO(C6-C10)		13749773.0	12418.6	1000.00
G3	GRO(2MP-124TMB)		13776743.0	12455.2	1000.00
G4	GRO(C5-C12)		16712874.0	15149.8	1000.00



03/06/06

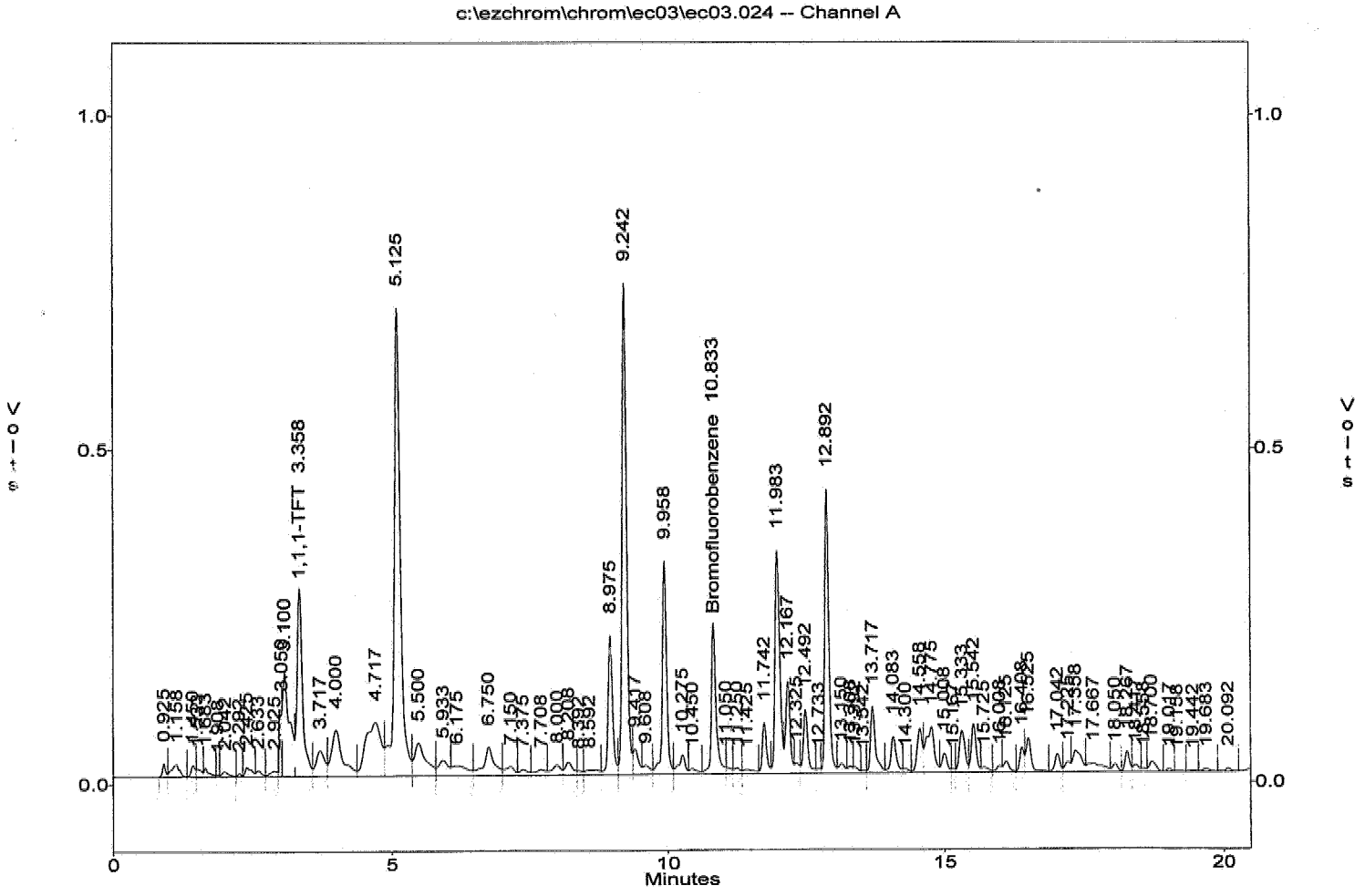
4835

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec03\ec03.024
Method : c:\ezchrom\methods\vg39c03.met
Sample ID : VG39C03-06 2000/75
Acquired : Mar 04, 2006 02:57:07
Printed : Mar 06, 2006 12:21:39
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
14	1,1,1-TFT	3.358	1845865.0	21531.8	75.00
37	Bromofluorobenzene	10.833	1298426.0	15026.0	75.00
G1	GASOLINE(TOTAL)		33415984.0	15352.4	2000.00
G2	GRO(C6-C10)		27390820.0	12418.6	2000.00
G3	GRO(2MP-124TMB)		27446880.0	12455.2	2000.00
G4	GRO(C5-C12)		33290400.0	15149.8	2000.00



A
03/06/06

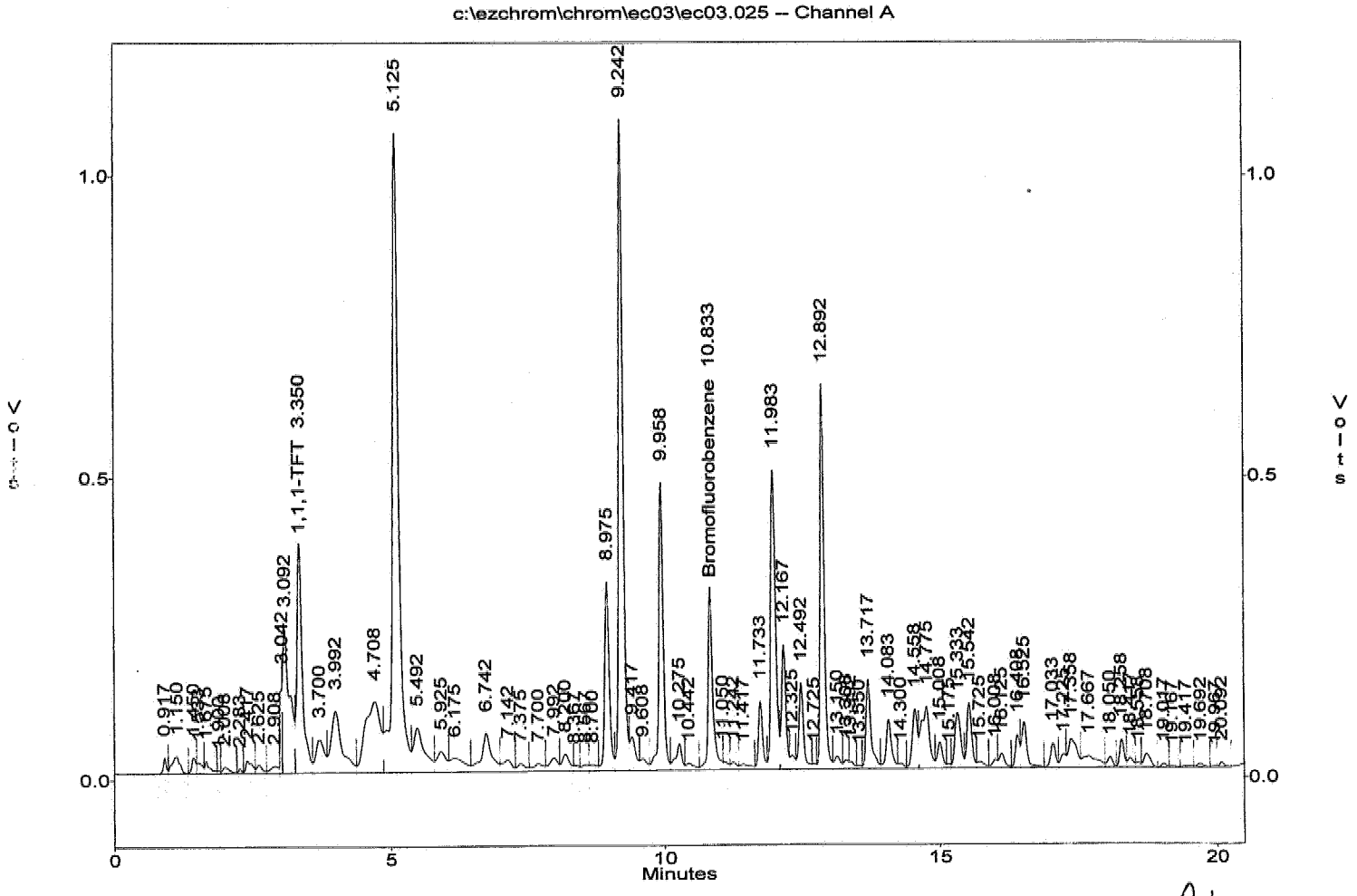
#635

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec03\ec03.025
Method : c:\ezchrom\methods\vg39c03.met
Sample ID : VG39C03-07 3000/100
Acquired : Mar 04, 2006 03:35:22
Printed : Mar 06, 2006 12:22:07
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
14	1,1,1-TFT	3.350	2570044.0	21531.8	100.00
38	Bromofluorobenzene	10.833	1763520.0	15026.0	100.00
G1	GASOLINE(TOTAL)		49999240.0	15352.4	3000.00
G2	GRO(C6-C10)		41032744.0	12418.6	3000.00
G3	GRO(2MP-124TMB)		41125540.0	12455.2	3000.00
G4	GRO(C5-C12)		49821432.0	15149.8	3000.00



Rd
03/06/06

4037

SECOND SOURCE

INITIAL CALIBRATION VERIFICATION
5030B/M8015

Lab Name : EMAX
Instrument ID : GCT39
GC Columm : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EC03022A 03/04/2006 01:40
Conc Cont LFID & Datetime: EC03026A 03/04/2006 04:13
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	0.000	0.000	0.000	500.0	15352.4	7188130	468.21	-6		15
GRO(C6-C10)	0.000	0.000	0.000	500.0	12418.6	5837213	470.04	-6		15
GRO(2MP-124TMB)	0.000	0.000	0.000	500.0	12455.2	5812679	466.69	-7		15
GRO(C5-C12)	0.000	0.000	0.000	500.0	15149.8	7136784	471.08	-6		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.833	10.771	10.895	40.0	15026.0	621377	41.35	3		15
1,1,1-Trifluorotoluene	3.358	3.257	3.459	40.0	21531.8	834546	38.76	-3		15

VG39C03.MET

AA
03/06/06

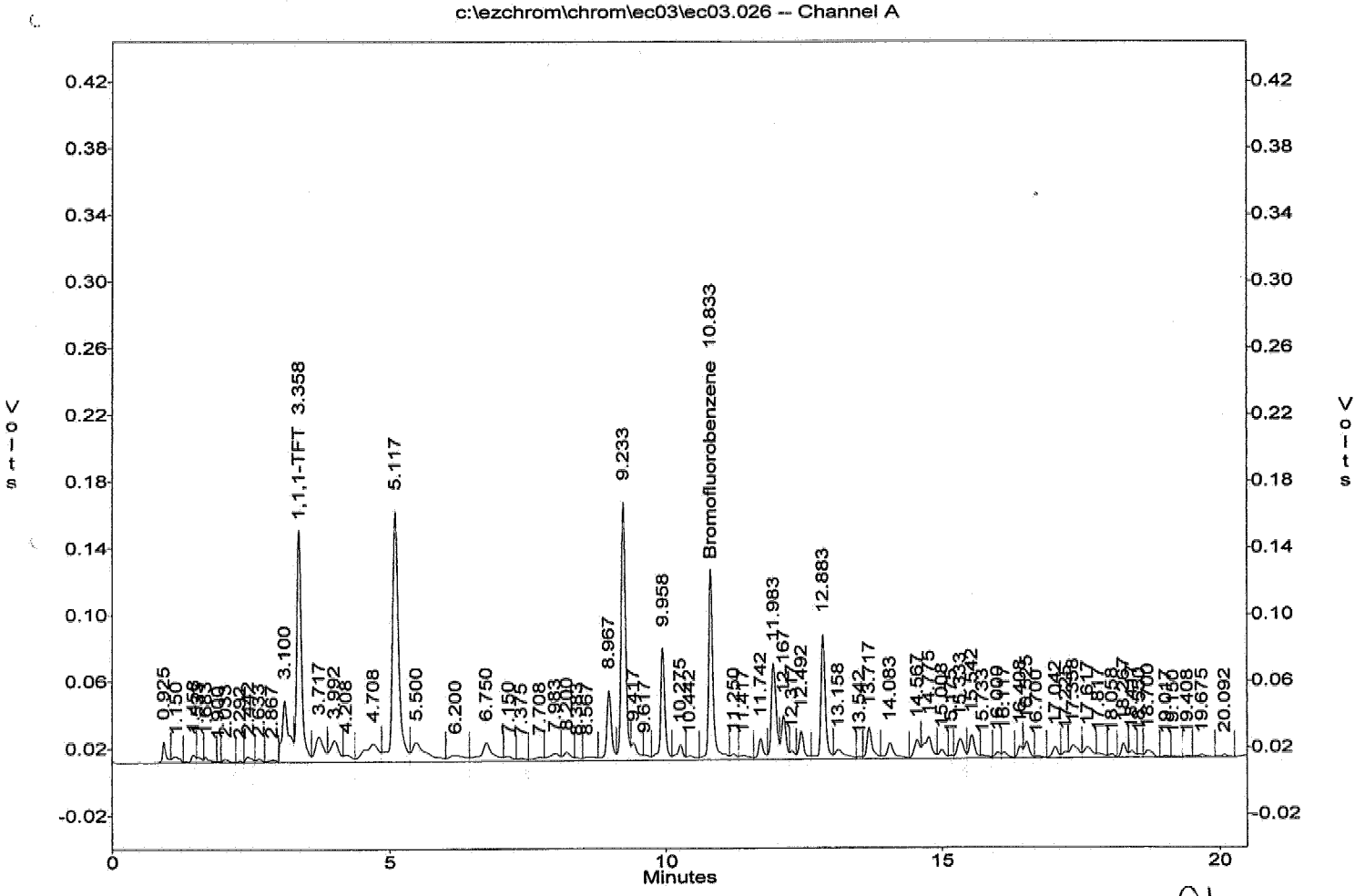
4039

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec03\ec03.026
Method : c:\ezchrom\methods\vg39c03.met
Sample ID : IVG39C0301 500/40
Acquired : Mar 04, 2006 04:13:31
Printed : Mar 06, 2006 12:24:44
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
13	1,1,1-TFT	3.358	834546.0	21531.8	38.76
36	Bromofluorobenzene	10.833	621377.0	15026.0	41.35
G1	GASOLINE(TOTAL)		7188130.0	15352.4	468.21
G2	GRO(C6-C10)		5837213.0	12418.6	470.04
G3	GRO(2MP-124TMB)		5812679.0	12455.2	466.69
G4	GRO(C5-C12)		7136784.0	15149.8	471.08



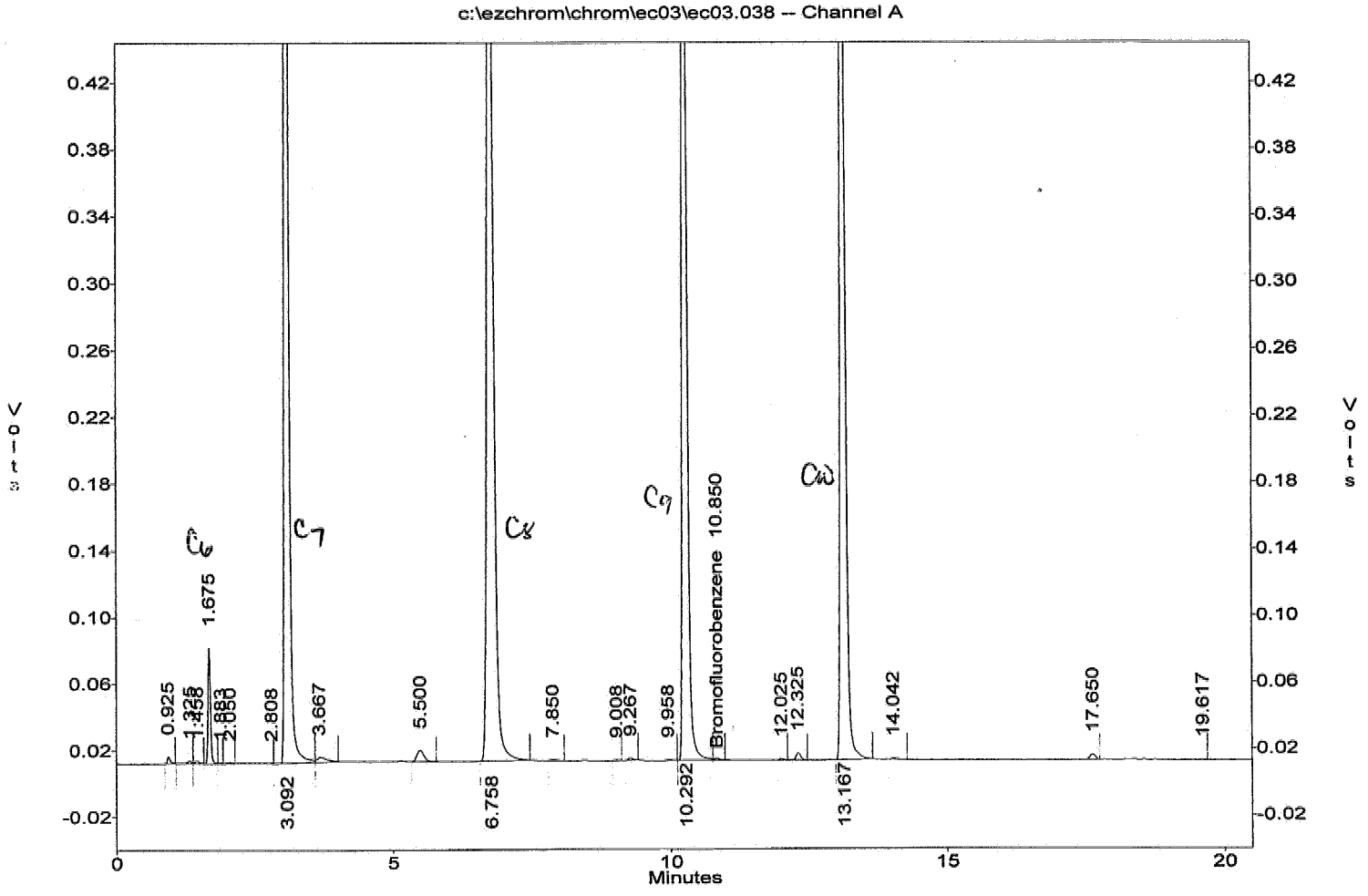
03/06/06

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec03\ec03.038
Method : c:\ezchrom\methods\vg39c03.met
Sample ID : GRO
Acquired : Mar 04, 2006 11:51:49
Printed : Mar 07, 2006 09:10:15
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.330	0.0	0.0	0.00
17	Bromofluorobenzene	10.850	7464.0	15026.0	0.50
G1	GASOLINE(TOTAL)		19320312.0	15352.4	1258.46
G2	GRO(C6-C10)		19276316.0	12418.6	1552.21
G3	GRO(2MP-124TMB)		14900208.0	12455.2	1196.30
G4	GRO(C5-C12)		19318510.0	15149.8	1275.17



DAILY CALIBRATION

CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EC03022A 03/04/2006 01:40
Conc Cont LFID & Datetime: EC13048A 03/14/2006 16:40
CONC UNIT : ppb

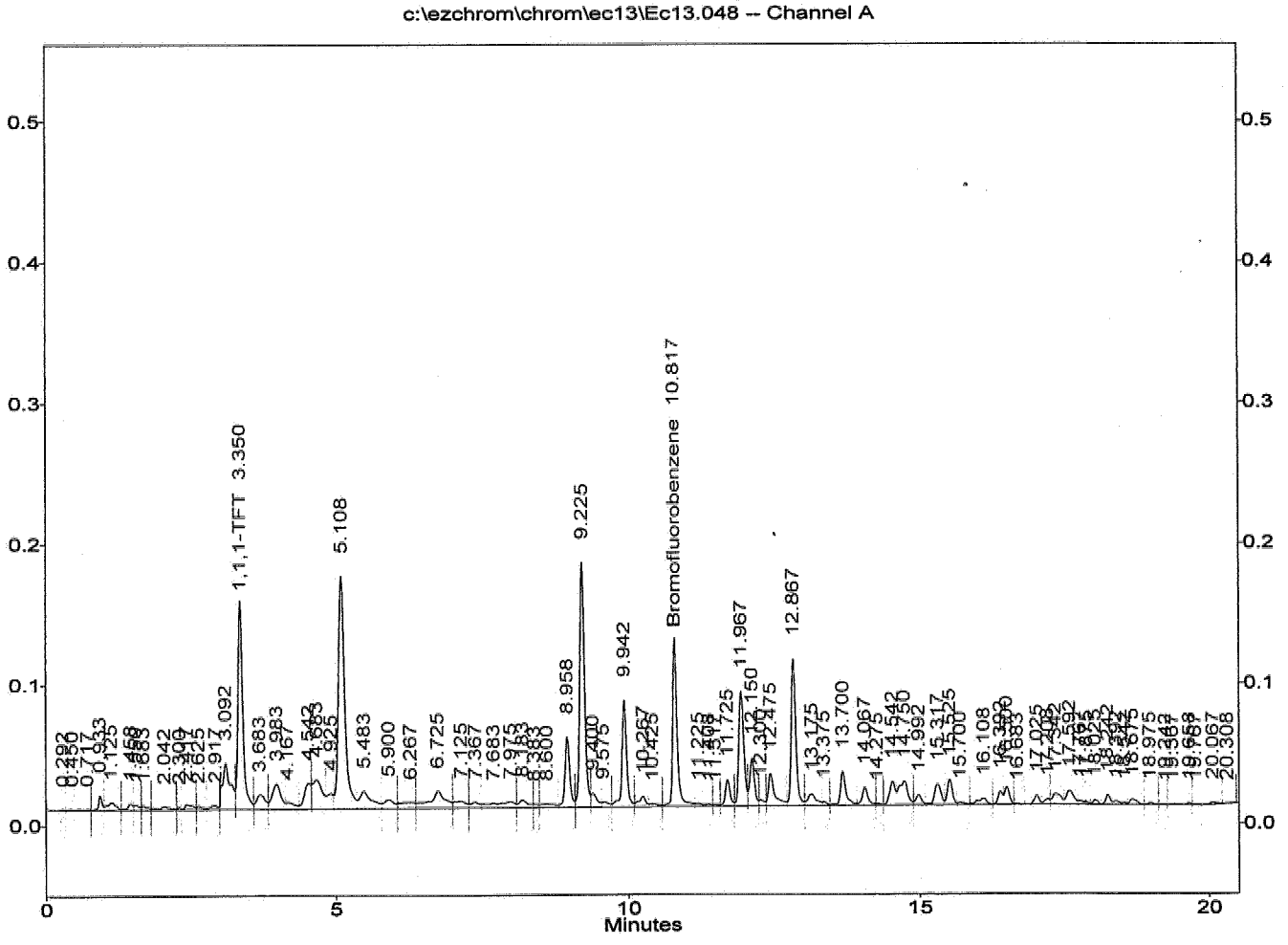
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	0.000	0.000	0.000	500.0	15352.4	8602243	560.32	12		15
GRO(C6-C10)	0.000	0.000	0.000	500.0	12418.6	6970054	561.26	12		15
GRO(2MP-124TMB)	0.000	0.000	0.000	500.0	12455.2	7022253	563.80	13		15
GRO(C5-C12)	0.000	0.000	0.000	500.0	15149.8	8496189	560.81	12		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.817	10.755	10.879	40.0	15026.0	652587	43.43	9		15
1,1,1-Trifluorotoluene	3.350	3.249	3.451	40.0	21531.8	881070	40.92	2		15

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.048
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : CVG39C03762 500/40
Acquired : Mar 14, 2006 16:40:25
Printed : Mar 14, 2006 17:00:57
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
15	1,1,1-TFT	3.350	881070.0	21531.8	40.92
41	Bromofluorobenzene	10.817	652587.0	15026.0	43.43
G1	GASOLINE(TOTAL)		8602243.0	15352.4	560.32
G2	GRO(C6-C10)		6970054.0	12418.6	561.26
G3	GRO(2MP-124TMB)		7022253.0	12455.2	563.80
G4	GRO(C5-C12)		8496189.0	15149.8	560.81



CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EC03022A 03/04/2006 01:40
Conc Cont LFID & Datetime: EC13059A 03/14/2006 23:41
CONC UNIT : ppb

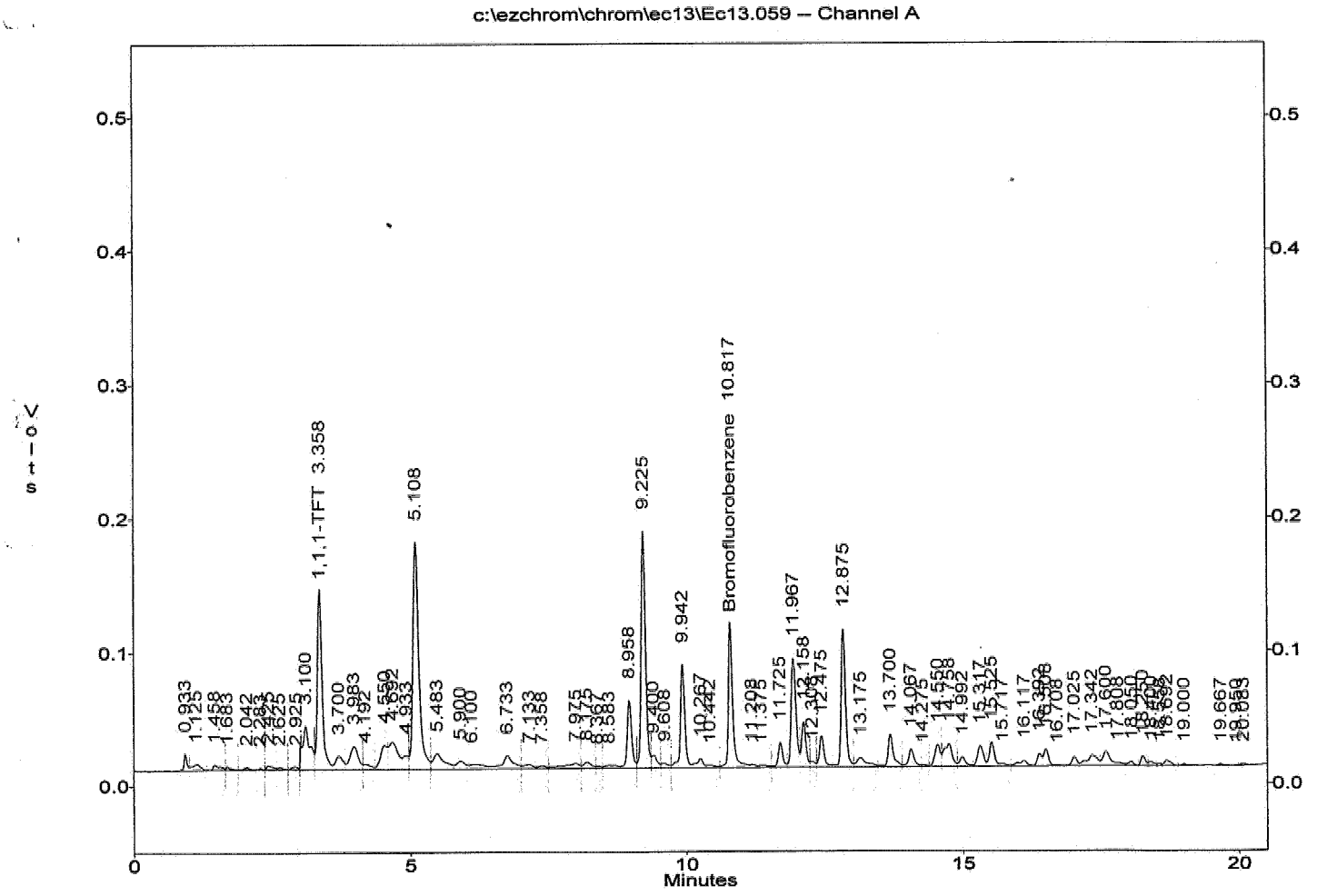
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	0.000	0.000	0.000	500.0	15352.4	8266399	538.44	8		15
GRO(C6-C10)	0.000	0.000	0.000	500.0	12418.6	6622686	533.29	7		15
GRO(2MP-124TMB)	0.000	0.000	0.000	500.0	12455.2	6659807	534.70	7		15
GRO(C5-C12)	0.000	0.000	0.000	500.0	15149.8	8193306	540.82	8		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.817	10.755	10.879	40.0	15026.0	598260	39.81	-0		15
1,1,1-Trifluorotoluene	3.358	3.257	3.459	40.0	21531.8	794532	36.90	-8		15

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.059
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : CVG39C03763 500/40
Acquired : Mar 14, 2006 23:41:05
Printed : Mar 15, 2006 00:01:37
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	3.358	794532.0	21531.8	36.90
36	Bromofluorobenzene	10.817	598260.0	15026.0	39.82
G1	GASOLINE(TOTAL)		8266399.0	15352.4	538.44
G2	GRO(C6-C10)		6622686.0	12418.6	533.29
G3	GRO(2MP-124TMB)		6659807.0	12455.2	534.70
G4	GRO(C5-C12)		8193306.0	15149.8	540.82



CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EC03022A 03/04/2006 01:40
Conc Cont LFID & Datetime: EC13070A 03/15/2006 06:40
CONC UNIT : ppb

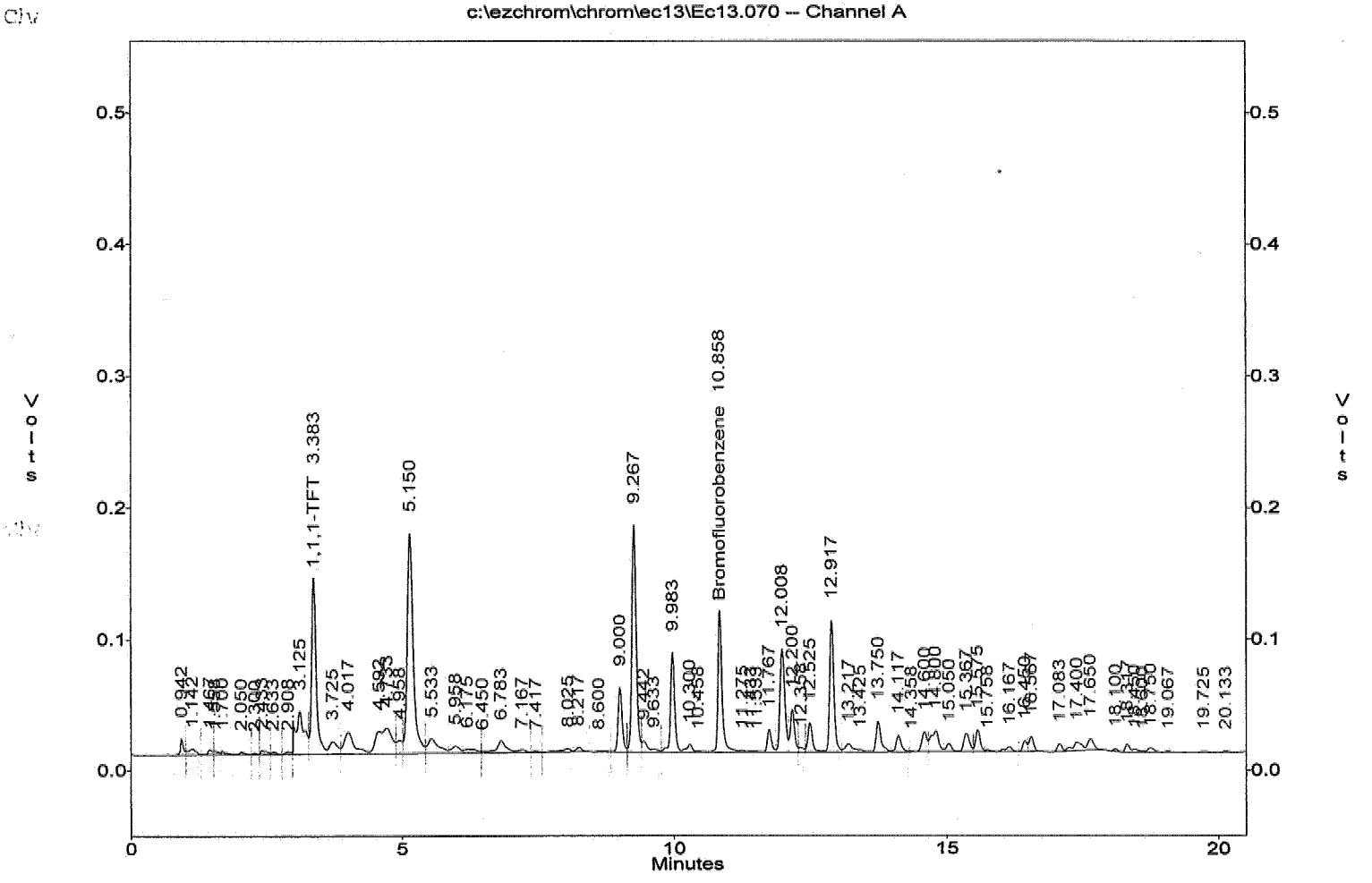
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	0.000	0.000	0.000	500.0	15352.4	7493518	488.10	-2		15
GRO(C6-C10)	0.000	0.000	0.000	500.0	12418.6	6146678	494.96	-1		15
GRO(2MP-124TMB)	0.000	0.000	0.000	500.0	12455.2	6186253	496.68	-1		15
GRO(C5-C12)	0.000	0.000	0.000	500.0	15149.8	7475881	493.46	-1		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.858	10.796	10.920	40.0	15026.0	573283	38.15	-5		15
1,1,1-Trifluorotoluene	3.383	3.282	3.484	40.0	21531.8	801292	37.21	-7		15

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ec13\Ec13.070
Method : c:\ezchrom\methods\Vg39c03.met
Sample ID : CVG39C03765 500/40
Acquired : Mar 15, 2006 06:40:23
Printed : Mar 15, 2006 07:00:55
User : MICHAEL

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	3.383	801292.0	21531.8	37.21
36	Bromofluorobenzene	10.858	573283.0	15026.0	38.15
G1	GASOLINE(TOTAL)		7493518.0	15352.4	488.10
G2	GRO(C6-C10)		6146678.0	12418.6	494.96
G3	GRO(2MP-124TMB)		6186253.0	12455.2	496.68
G4	GRO(C5-C12)		7475881.0	15149.8	493.46



ANALYTICAL LOGS

ANALYSIS RUN LOG FOR NONHALOGENATED VOLATILES

SOP: ☑ EMAX-5030B Rev. No. 1 ☑ EMAX-BTEXM Rev. No. 1 ☑ EMAX-8015G Rev. No. 1 ☐ SC 3/06/06 13:46

Starting Date: 3/03/06 Time: 23:07 Ending Date: ~~3/03/06~~ 3/04/06 Time: ~~22:29~~ SC 3/06/06 Book # A39-024

ANALYTICAL BATCH # N/A

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	Purge Volume	pH	Matrix	Notes
*01	FC03-018	LB39C735	5.0ml	5.0ml	N/A	W	
*02	-019	VG39C03-01	.04ml/1ml				20/10
*03	-020	-02	.1ml/2ml				50/20
*04	-021	-03	.2ml/3ml				100/30
*05	-022	-04	1ml/4ml				500/40 GAS
*06	-023	-05	2ml/5ml				1000/50 ICAL
*07	-024	-06	4ml/7.5ml				2000/75
*08	-025	-07	6ml/10ml				3000/100
*09	-026	IVG39C0301	.5ml/4ml				500/40 GAS ICV
*10	-027	IVG39C0302	1ml/5ml				1000/50 GAS ICV
*11	-028	LB39C736 SC 3/06/06 ~~TEST~~	5.0ml				
*12	-029	VA39C03-01	.05ml				.5 PPB
*13	-030	-02	.1ml				1 PPB
*14	-031	-03	.5ml				5 PPB
*15	-032	-04	2ml				20 PPB BTEXM
*16	-033	-05	4ml				40 PPB ICAL
*17	-034	-06	7.5ml				75 PPB
*18	-035	-07	10ml				100 PPB
*19	-036	IVA39C0303	2ml				BTEX ICV 20/20
*20	-037	IVA39C0304	4ml				BTEX ICV 40/40
*21	-038	GRO	.5ml				
*22	-039	2MP/1,2,4-TMB	1ml/.5ml				
*23	-040	PENTANE/NAPHTHALENE	3ml/.5ml				
*24	-041	DRO	.5ml				
*25							
*26							
*27							
*28							SC 3/03/06
*29							
*30							

Instrument No:		39
Initial Calibration Reference		
	FIDChannel A	PIDChannel B
Method File	VG39C03	VG39C03
Date	3/03/06	3/03/06
ICAL ID	VG39C03-GAS	
	VA39C03-BTEXM	
ICV ID	IVG39C0301/02 GAS	
	IVA39C0303/-04 BTEXM	
Std.	ID	Conc.(mg/L)
DCC GAS ICAL	SV2A-04-58	2500
DCC BTEX ICAL	SV2C-04-30-3	50
BFB/TFT	SV2C-04-31-3	50
LCS/LCSD GAS ICV	SV2A-04-67	5000
MS/MSD	—	—
BTEX LCS/ICV	SV2C-04-31-1	50
Solvent	ID	
Methanol		

Electronic Data Archival		
Location		Date
	EZC-3-BTEX	

Comments:

Analyzed By: SC

Disposed on: 3/06/06 By: SC

ANALYSIS RUN LOG FOR NONHALOGENATED VOLATILES

SOP: ☑ EMAX-5030B Rev. No. 1 ☐ EMAX-BTEXM Rev. No. 1 ☑ EMAX-8015G Rev. No. 1 ☐

Starting Date: 3/14/06 **Time:** 05:10 **Ending Date:** 3/15/06 **Time:** 00:19 **Book # A39-024**

ANALYTICAL BATCH # VMC0085 ** VA39C07 ***

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	Purge Volume	pH	Matrix	Notes
*01	EC13.031	06C081-06	100ml	5.0ml	N/A	S	
*02	.032	-08					
*03	.033	-08M					
*04	.034	-08S					
*05	.035	-10					
*06	.036	CVG39C03761	1ml/1ml				500/40 GAS
*07	.037	IB39C762	5.0ml				
**08	.038	VA39C07B	5.0ml			W	
*09	.039	L	.5ml/1ml				
*10	.040	C					
*11	.041	06C081-11R	5.0ml		<2		
*12	.042	06C098-12T	50ml				DF=100
*13	.043	06C080-16T	50ml				DF=100
*14	.044	-21T	.5ml				DF=10
*15	.045	-23T	.5ml				DF=10
*16	.046	06C090-12T	1ml				DF=5 Δ ~~a.k. to report~~
*17	.047	RINSE	5.0ml		N/A		SC Confirmation only 3/15/06
*18	.048	CVG39C03762	1ml/1ml				500/40 GAS
*19	.049	06C090-12I	.5ml		<2		DF=10 ~~a.k. to report~~ Δ SC 3/15/06 Confirmation only
*20	.050	RINSE	5.0mL		N/A	W	
*21	.051	06C073-01			<2		
*22	.052	-02					
*23	.053	RINSE			N/A		
*24	.054	06C107-29			<2		
*25	.055	06C115-14					
**26	.056	VMC0085B	100ml		N/A	S	
*27	.057	L	5ml/1ml				
*28	.058	C					
*29	.059	CVG39C03763	1ml/1ml				500/40 GAS
*30	.060	CVG39C03764	1ml/1ml				500/40 GAS

Instrument No:		39
Initial Calibration Reference		
	FIDChannel A	PIDChannel B
Method File	VG39C03	—
Date	3/03/06	—
ICAL ID	—	
	—	
ICV ID	—	
	—	

Std.	ID	Conc.(mg/L)
DCC GAS	SV2A-04-58	2500
DCC BTEX	—	—
BFB/TFT	SV2C-04-32-1	200
LCS/LCSD	SV2A-04-67	5000
MS/MSD	SV2A-04-67	5000

Solvent	ID
Methanol	

Electronic Data Archival		
	Location	Date
	EZC-3-BTEX	

Comments:
Δ Sample with very strong odor and amber colored

Analyzed By: SC

Disposed on: 3/15/06 By: SC

VMC0085

ANALYSIS RUN LOG FOR NONHALOGENATED VOLATILES

SOP: ☑ EMAX-5030B Rev. No. 1 ☐ EMAX-BTEXM Rev. No. 1 ☑ EMAX-8015G Rev. No. 1 ☐

Starting Date: 3/15/06 Time: 00:57 Ending Date: 3/15/06 Time: 07:18 Book # A39-024

ANALYTICAL BATCH # VM00825

	Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	Purge Volume	pH	Matrix	Notes
*01		EC13.061	06C106-01	100ml	5.0mL	N/A	S	
*02		.062	02					
*03		.063	03					
*04		.064	04					
*05		.065	06					
*06		.066	08					
*07		.067	09					
*08		.068	10					
*09		.069	11					
*10		.070	CVG39C03765	1ml/1ml				500/40 GAS
*11		.071	CVG39C03766	1ml/1ml				500/40 GAS
*12								
*13								
*14								
*15								
*16								
*17								
*18								
*19								
*20							SC	3/15/06
*21								
*22								
*23								
*24								
*25								
*26								
*27								
*28								
*29								
*30								

Instrument No:	39
Initial Calibration Reference	
	FIDChannel A / PIDChannel B
Method File	VG39C03 / —
Date	3/03/06 / —
ICAL ID	—
	—
ICV ID	—
	—

Std.	ID	Conc.(mg/L)
DCC GAS	See previous page	
DCC BTEX	↓	
BFB/TFT		
LCS/LCSD		
MS/MSD	↓	
Solvent	ID	
Methanol		

Electronic Data Archival		
	Location	Date
	EZC-3-BTEX	

Comments:

Analyzed By: SC

Disposed on: 3/15/06 By: SC

EXTRACTION LOGS

EXTRACTION LOG FOR NONHALOGENATED VOLATILES

SOP ☐ EMAX-5035 Rev.#: 1 ☑ EMAX-8015G Rev.#: 1 ☐ EMAX-BTEXM Rev.#: 1 ☐ Book #: E39-012

Matrix: SOIL Start Date: 03/11/06 Time: 14:25 End Date: 03/11/06 Time: 14:30

PREPARATION BATCH# VMC0062

	Data File Name	Lab Sample ID	W_1 (g)	W_f (g)	W_s (g)	DF	Notes
* 1		VMLCO455B	28.9	33.9	5.0	1	
* 2		L	29.0	34.0	5.0	1	
* 3		C	29.0	34.0	5.0	1	
* 4		OLC/OLC01	28.8	33.5	4.7	1.1	
* 5		02	29.0	33.5	4.5	1.1	
* 6		03	29.3	35.2	5.9	0.85	
* 7		04	28.9	33.8	4.9	1	
* 8		06	29.1	34.8	5.7	0.88	Pre-weighed
* 9		08	29.0	34.4	5.4	0.93	Encores
* 0		09	29.2	34.6	5.4	0.93	
* 1		10	28.9	34.1	5.2	0.96	
* 2		11	29.0	34.5	5.5	0.91	
* 3							
* 4							
* 5							
* 6							
* 7					SC 3/13/06		
* 8							
* 9							
* 0							
* 1							
* 2							
* 3							
* 4							

Standards / Reagents	ID / Lot#	Amount Added (ml)	Conc. (mg/L)
Surrogate	SC 3/13/06 SV2A-04-02		
LCS/MS			
Methanol	LOT# 45270	5.0ml	N/A
Silica Sand	SWA-03-133		↓

W_1 = Weight of Vial+Solvent

W_f = Weight of Vial+Solvent+Sample

W_s = Weight of Sample

Comments:

Samples were received preserved with Methanol. Surrogate will be added during analysis.

Prepared By: ET

Standard Added By:

Checked By: SC

Extract Location: VMC06

Disposed on: By:

LABORATORY REPORT FOR

ENSR

UPGRADIENT INVESTIGATION, TRONOX

METHOD 3550B/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 06C106

5000

CASE NARRATIVE

CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

METHOD 3550B/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Nine (9) soil samples were received on 03/11/06 for Total Petroleum Hydrocarbons by Extraction analysis by Method 3550B/8015B in accordance with SW846, 3rd edition.

1. Holding Time

Analytical holding time was met. Extraction was performed and completed on 03/16/06.

2. Calibration

Initial calibration was seven points for Diesel and Motor Oil. %RSDs were within 20%. Continuing calibrations were carried out at every 12-hour interval and all recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Surrogate recovery in sample C106-01 could not be evaluated due to dilution. All others met the QC criteria.

5. Lab Control Sample

Recovery was within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No sample was designated for MS/MSD.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were me with the aforementioned exception. Sample results were quantitated from C10 to C28 using Diesel (C10-C28) calibration factor and from C28 to C38 using Motor Oil calibration factor.

Samples C106-01 and –06 displayed motor oil-like fuel pattern.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX

SDG NO. : 06C106
Instrument ID : GCT050

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	DSC013SB	1	NA	03/17/0611:31	03/16/0614:15	TC16034A	TC16027A	DSC013S	Method Blank
LCS1S	DSC013SL	1	NA	03/17/0610:48	03/16/0614:15	TC16033A	TC16027A	DSC013S	Lab Control Sample (LCS)
M121-0.5	C106-01T	10	4.3	03/18/0604:37	03/16/0614:15	TC16058A	TC16053A	DSC013S	Diluted Sample
M121-5	C106-02	1	10.3	03/17/0620:57	03/16/0614:15	TC16047A	TC16040A	DSC013S	Field Sample
M121-10	C106-03	1	5.7	03/17/0621:39	03/16/0614:15	TC16048A	TC16040A	DSC013S	Field Sample
M121-5D	C106-04	1	9.5	03/17/0622:21	03/16/0614:15	TC16049A	TC16040A	DSC013S	Field Sample
M121-30	C106-06	1	5.8	03/17/0623:02	03/16/0614:15	TC16050A	TC16040A	DSC013S	Field Sample
M121-50	C106-08	1	6.1	03/17/0623:44	03/16/0614:15	TC16051A	TC16040A	DSC013S	Field Sample
M121-60	C106-09	1	17.8	03/18/0602:32	03/16/0614:15	TC16055A	TC16053A	DSC013S	Field Sample
M121-80	C106-10	1	27.5	03/18/0603:13	03/16/0614:15	TC16056A	TC16053A	DSC013S	Field Sample
M121-70	C106-11	1	22.8	03/18/0603:55	03/16/0614:15	TC16057A	TC16053A	DSC013S	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 3550B/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/16/06 14:15
Sample ID	: M121-0.5	Date Analyzed:	03/18/06 04:37
Lab Samp ID	: C106-01T	Dilution Factor:	10
Lab File ID	: TC16058A	Matrix	: SOIL
Ext Btch ID	: DSC013S	% Moisture	: 4.3
Calib. Ref.	: TC16053A	Instrument ID	: GCT050

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
DRO	290	100	52
ORO	800	100	52

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	DO	54-165
HEXACOSANE	DO	54-176

RL : Reporting Limit

Parameter	H-C Range
DRO	C10-C28
ORO	C28-C38

DO : Diluted Out

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

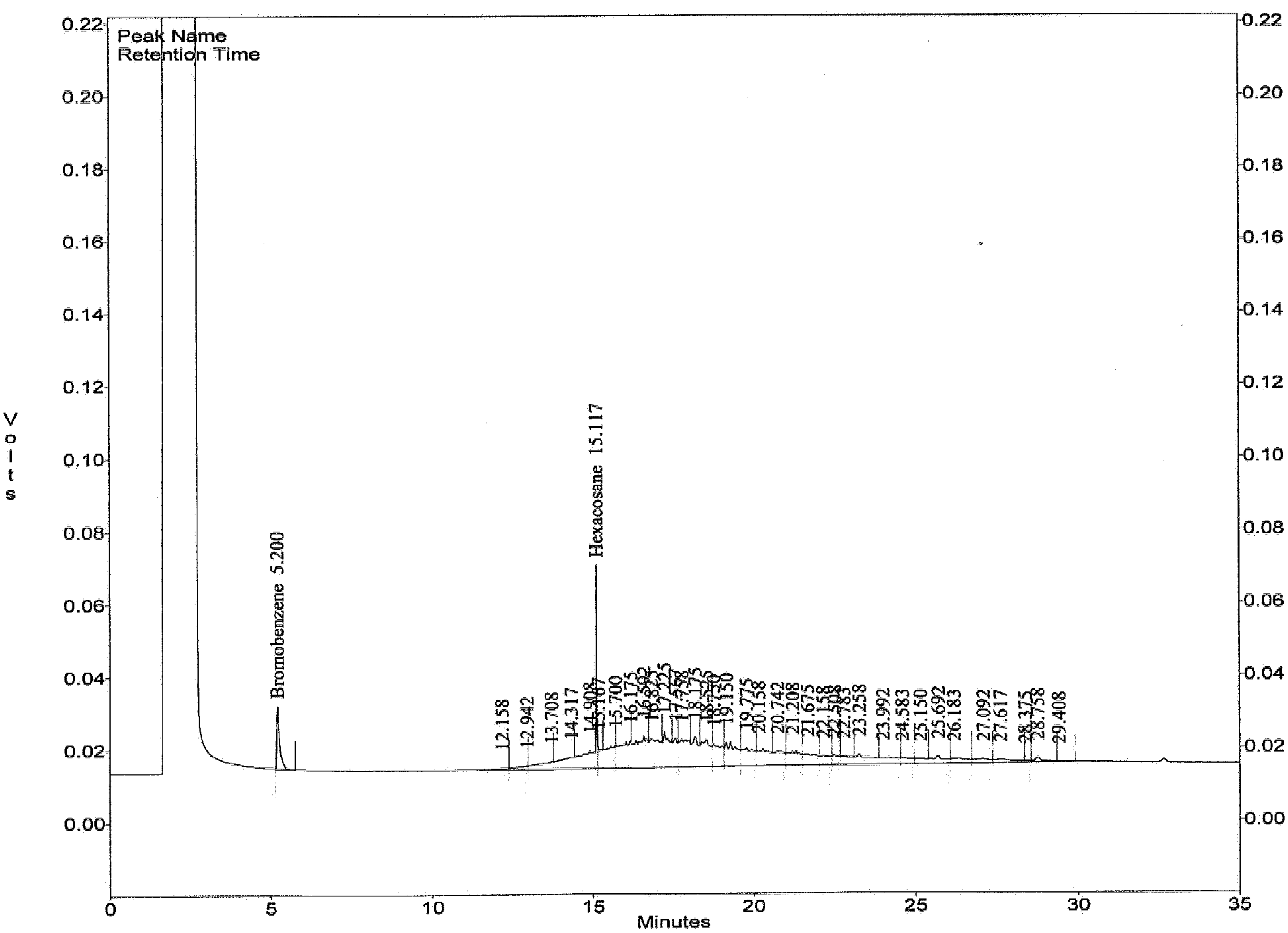
File	:	c:\ezchrom\chrom\tc16\tc16.058
Method	:	c:\ezchrom\methods\ds50a31.met
Sample ID	:	06C106-01T .1/1ML
Acquired	:	Mar 18, 2006 04:37:18
Printed	:	Mar 21, 2006 16:04:29
User	:	JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Bromobenzene	5.200	104993	14214.3	7.4
7	Hexacosane	15.117	101013	28984.5	3.5
G1	Diesel(TOTAL)		3190427	26500.7	120.4
G2	Diesel(C10-C24)		210855	26460.6	8.0
G3	Diesel(C10-C28)		732763	26478.8	27.7
G4	Motor Oil(C28-C38)		2457664	0.0	0.0

$$9W30 = \frac{2457664}{321688} \times \frac{1}{0.957} \times 10 = 798$$

c:\ezchrom\chrom\tc16\tc16.058 -- Channel A



03-21-06

METHOD 3550B/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/16/06 14:15
Sample ID:	M121-5	Date Analyzed:	03/17/06 20:57
Lab Samp ID:	C106-02	Dilution Factor:	1
Lab File ID:	TC16047A	Matrix :	SOIL
Ext Btch ID:	DSC013S	% Moisture :	10.3
Calib. Ref.:	TC16040A	Instrument ID :	GCT050

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
DRO	ND	11	5.6
ORO	ND	11	5.6

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	59	54-165
HEXACOSANE	110	54-176

RL : Reporting Limit

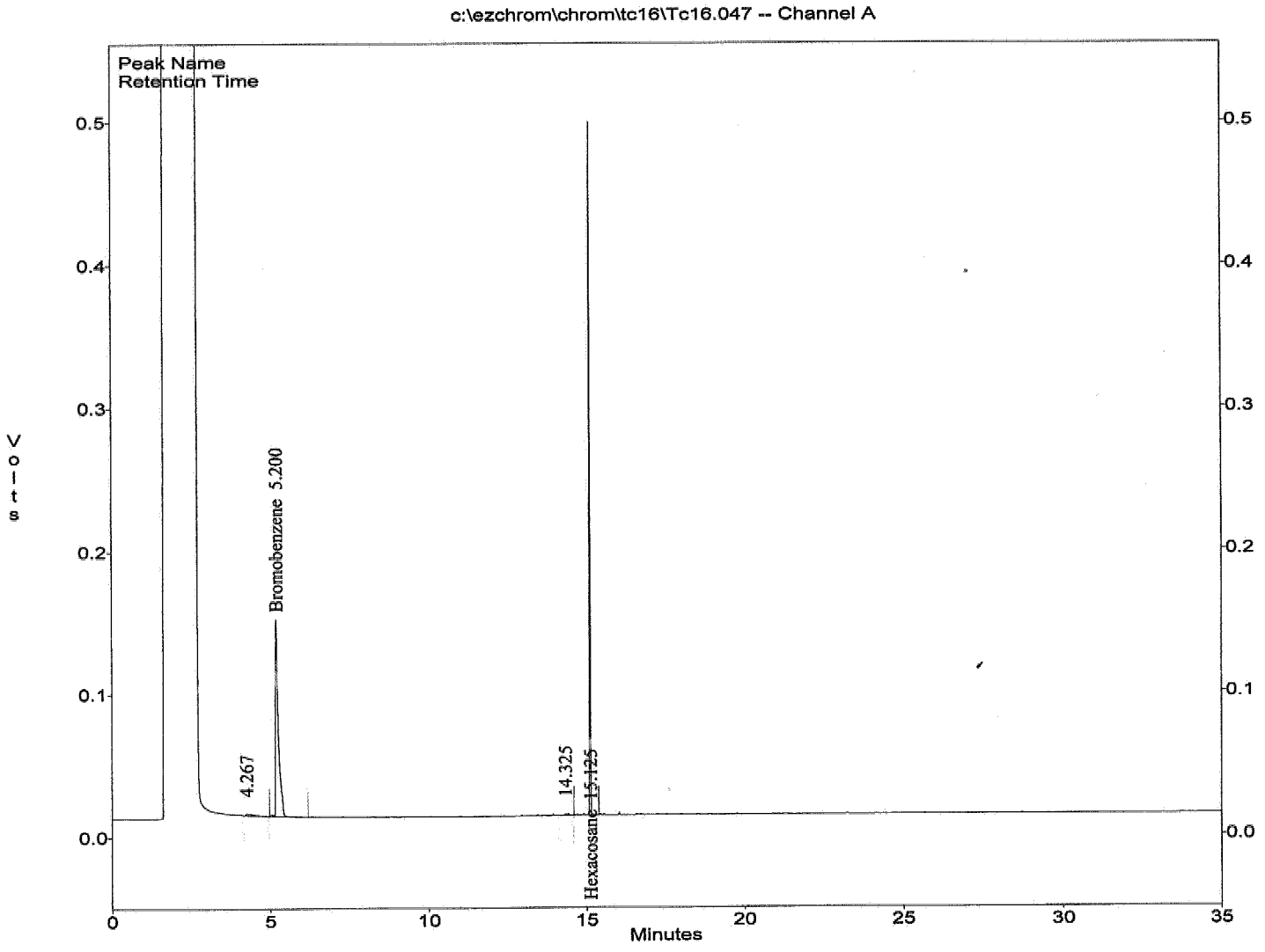
Parameter	H-C Range
DRO	C10-C28
ORO	C28-C38

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.047
Method : c:\ezchrom\methods\Ds50a31.met
Sample ID : 06C106-02
Acquired : Mar 17, 2006 20:57:14
Printed : Mar 17, 2006 21:32:15
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.200	835614	14214.3	58.8
4	Hexacosane	15.125	796330	28984.5	27.5
G1	Diesel(TOTAL)		26514	26500.7	1.0
G2	Diesel(C10-C24)		5913	26460.6	0.2
G3	Diesel(C10-C28)		5913	26478.8	0.2



METHOD 3550B/8015B

TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/16/06 14:15
Sample ID	: M121-10	Date Analyzed:	03/17/06 21:39
Lab Samp ID	: C106-03	Dilution Factor:	1
Lab File ID	: TC16048A	Matrix :	SOIL
Ext Btch ID	: DSC013S	% Moisture :	5.7
Calib. Ref.	: TC16040A	Instrument ID :	GCT050

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
DRO	ND	11	5.3
ORO	ND	11	5.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	71	54-165
HEXACOSANE	112	54-176

RL : Reporting Limit

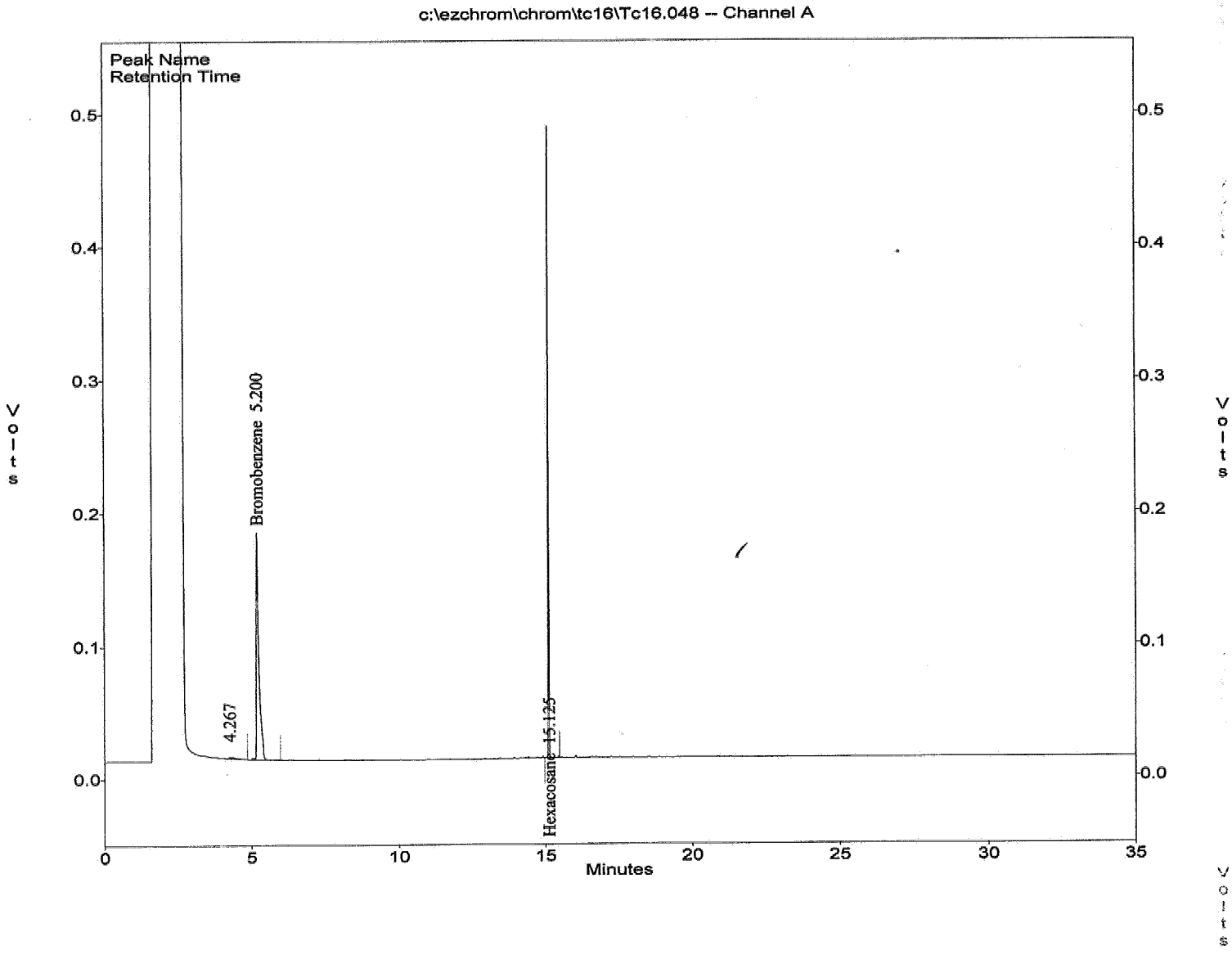
Parameter	H-C Range
DRO	C10-C28
ORO	C28-C38

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.048
Method : c:\ezchrom\methods\Ds50a31.met
Sample ID : 06C106-03
Acquired : Mar 17, 2006 21:39:07
Printed : Mar 17, 2006 22:14:08
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.200	1006115	14214.3	70.8
3	Hexacosane	15.125	813789	28984.5	28.1
G1	Diesel(TOTAL)		18950	26500.7	0.7
G2	Diesel(C10-C24)		0	26460.6	0.0
G3	Diesel(C10-C28)		0	26478.8	0.0



METHOD 3550B/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/16/06 14:15
Sample ID:	M121-5D	Date Analyzed:	03/17/06 22:21
Lab Samp ID:	C106-04	Dilution Factor:	1
Lab File ID:	TC16049A	Matrix :	SOIL
Ext Btch ID:	DSC013S	% Moisture :	9.5
Calib. Ref.:	TC16040A	Instrument ID :	GCT050

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
DRO	ND	11	5.5
ORO	ND	11	5.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	66	54-165
HEXACOSANE	110	54-176

RL : Reporting Limit

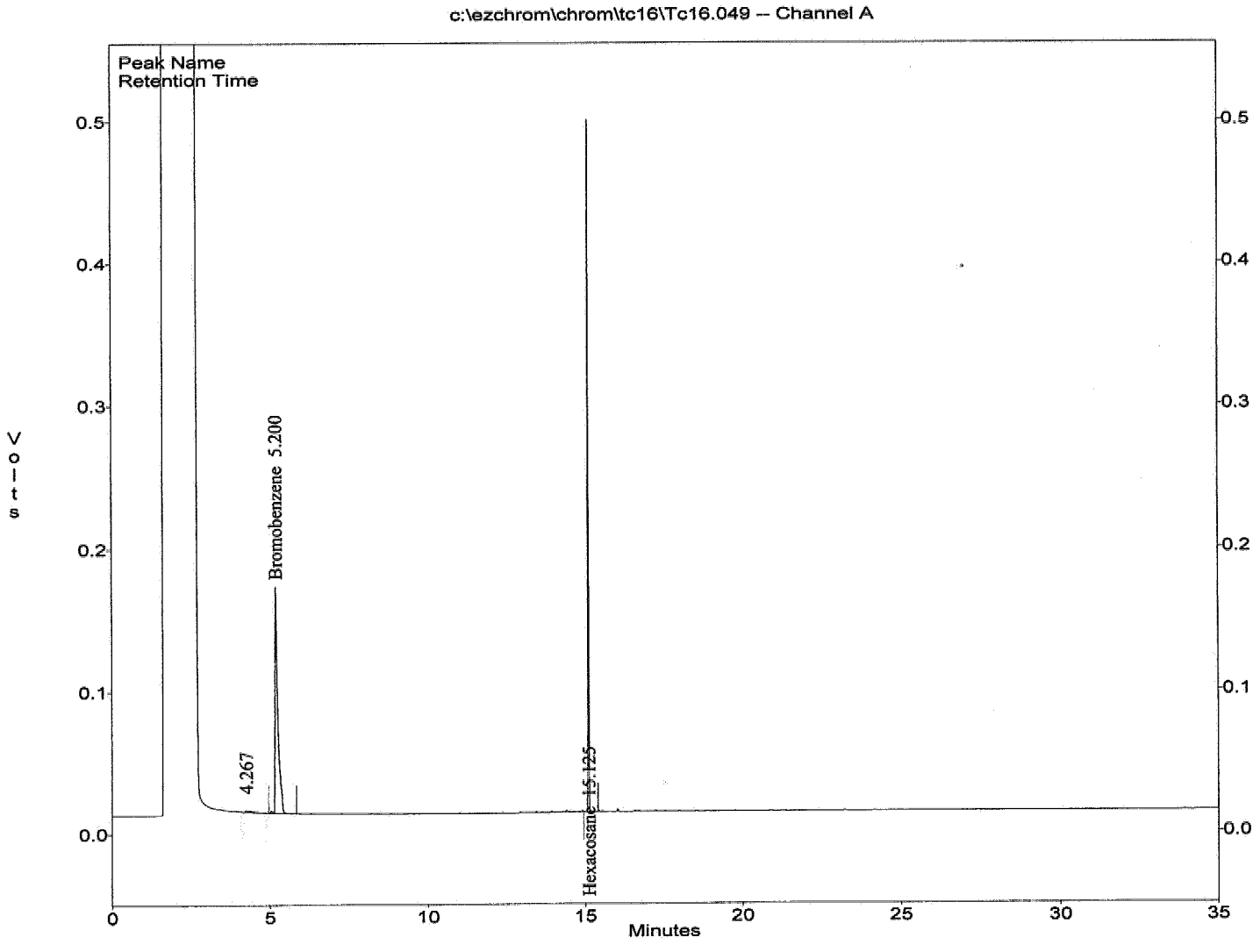
Parameter	H-C Range
DRO	C10-C28
ORO	C28-C38

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.049
Method : c:\ezchrom\methods\Ds50a31.met
Sample ID : 06C106-04
Acquired : Mar 17, 2006 22:21:01
Printed : Mar 17, 2006 22:56:02
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.200	936615	14214.3	65.9
3	Hexacosane	15.125	795386	28984.5	27.4
G1	Diesel(TOTAL)		19725	26500.7	0.7
G2	Diesel(C10-C24)		0	26460.6	0.0
G3	Diesel(C10-C28)		0	26478.8	0.0



METHOD 3550B/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : ENSR	Date Collected: 03/10/06
Project : UPGRADIENT INVESTIGATION, TRONOX	Date Received: 03/11/06
Batch No. : 06C106	Date Extracted: 03/16/06 14:15
Sample ID: M121-30	Date Analyzed: 03/17/06 23:02
Lab Samp ID: C106-06	Dilution Factor: 1
Lab File ID: TC16050A	Matrix : SOIL
Ext Btch ID: DSC013S	% Moisture : 5.8
Calib. Ref.: TC16040A	Instrument ID : GCT050

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
DRO	9J	11	5.3
ORO	ND	11	5.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	67	54-165
HEXACOSANE	109	54-176

RL : Reporting Limit

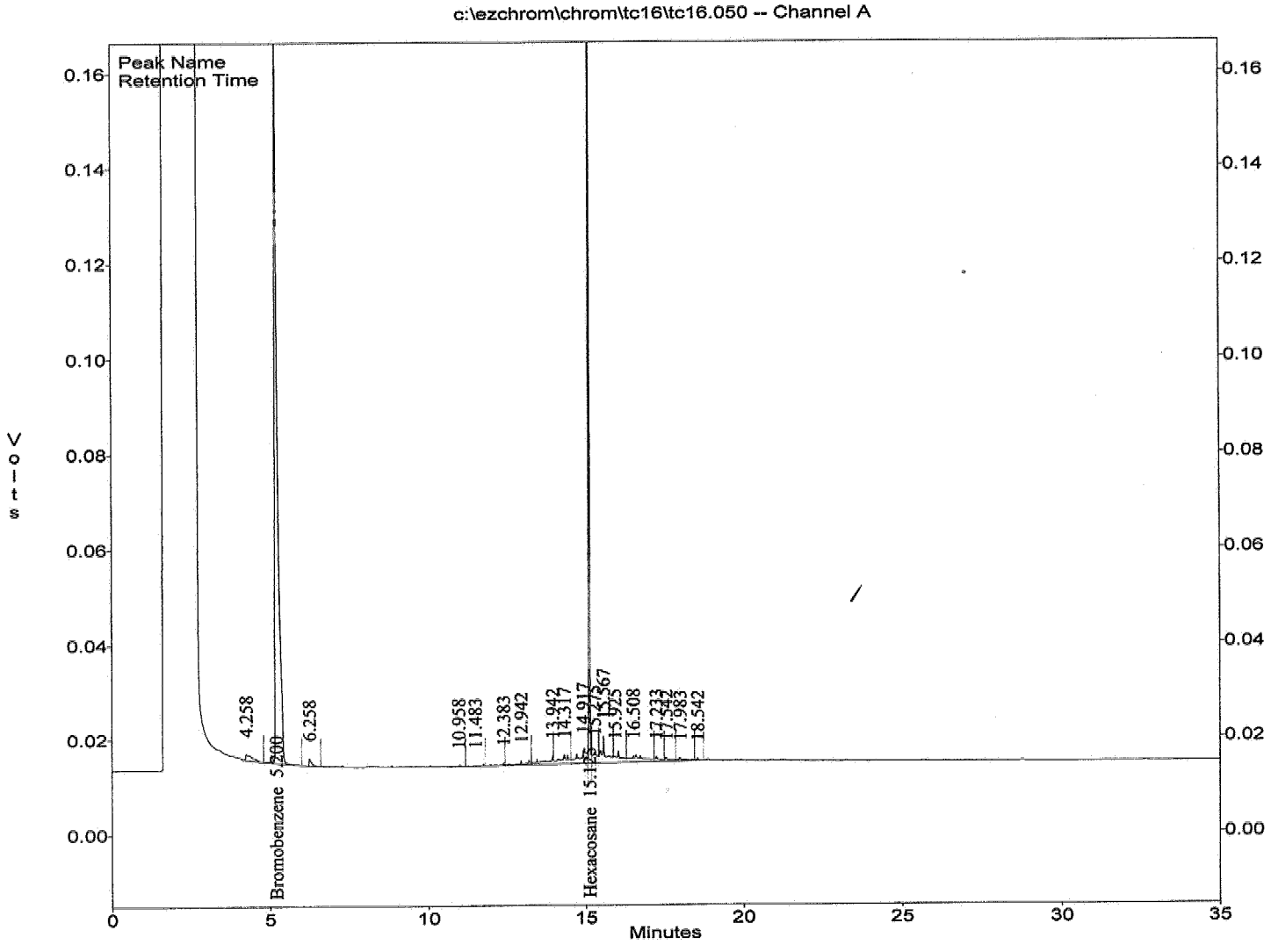
Parameter	H-C Range
DRO	C10-C28
ORO	C28-C38

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\tc16.050
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : 06C106-06
Acquired : Mar 17, 2006 23:02:52
Printed : Mar 20, 2006 11:40:44
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.200	952213	14214.3	67.0
11	Hexacosane	15.125	786924	28984.5	27.1
G1	Diesel(TOTAL)		311466	26500.7	11.8
G2	Diesel(C10-C24)		86586	26460.6	3.3
G3	Diesel(C10-C28)		223388	26478.8	8.4
G4	Motor Oil(C28-C38)		68177	0.0	0.0



03-20-06

METHOD 3550B/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/16/06 14:15
Sample ID	: M121-50	Date Analyzed:	03/17/06 23:44
Lab Samp ID	: C106-08	Dilution Factor:	1
Lab File ID	: TC16051A	Matrix :	SOIL
Ext Btch ID	: DSC013S	% Moisture :	6.1
Calib. Ref.	: TC16040A	Instrument ID :	GCT050

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
DRO	ND	11	5.3
ORO	ND	11	5.3

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	58	54-165
HEXACOSANE	113	54-176

RL : Reporting Limit

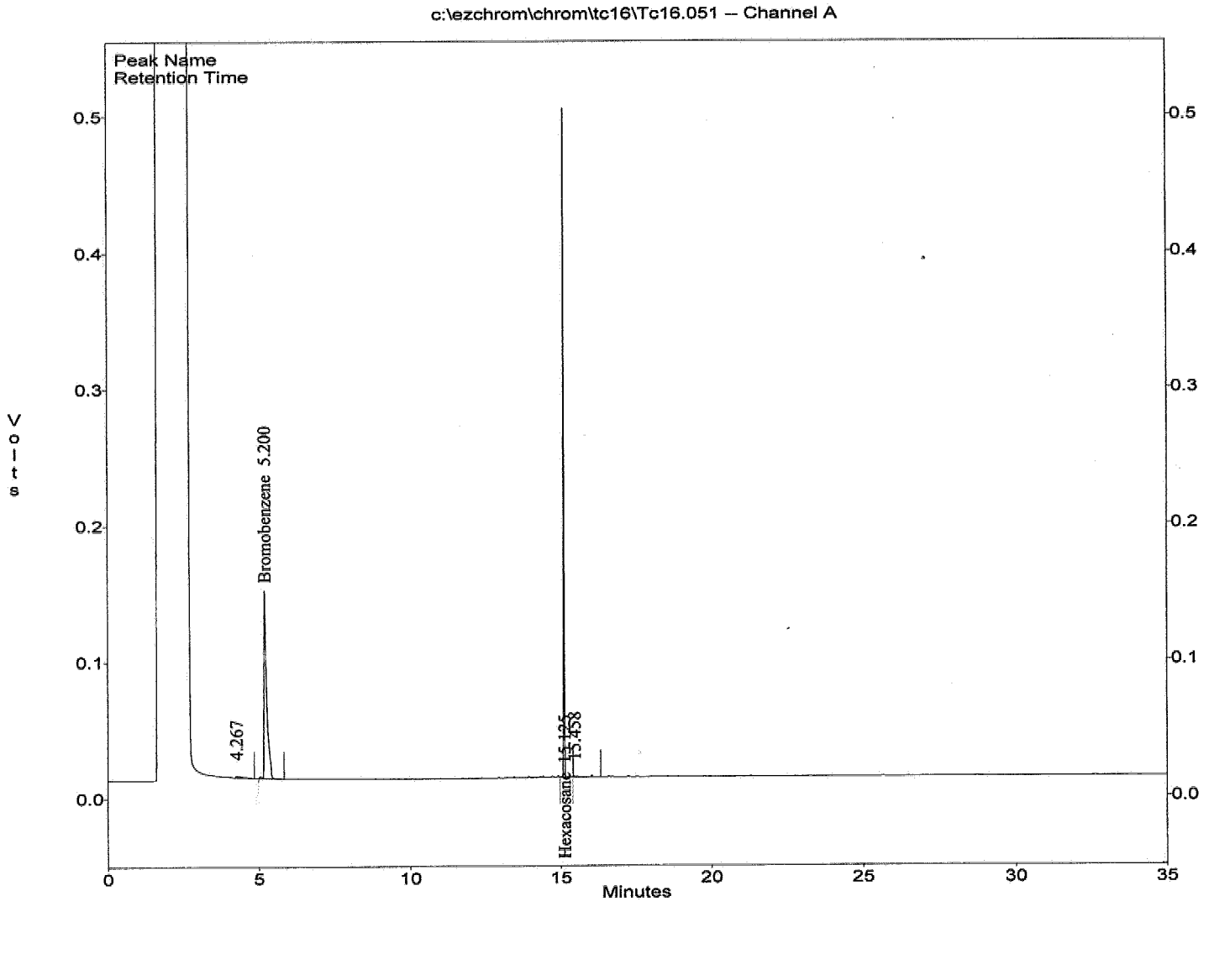
Parameter	H-C Range
DRO	C10-C28
ORO	C28-C38

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.051
Method : c:\ezchrom\methods\Ds50a31.met
Sample ID : 06C106-08
Acquired : Mar 17, 2006 23:44:44
Printed : Mar 18, 2006 00:19:46
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.200	828709	14214.3	58.3
3	Hexacosane	15.125	818814	28984.5	28.3
G1	Diesel(TOTAL)		20036	26500.7	0.8
G2	Diesel(C10-C24)		0	26460.6	0.0
G3	Diesel(C10-C28)		0	26478.8	0.0



METHOD 3550B/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : ENSR	Date Collected: 03/10/06
Project : UPGRADIENT INVESTIGATION, TRONOX	Date Received: 03/11/06
Batch No. : 06C106	Date Extracted: 03/16/06 14:15
Sample ID: M121-60	Date Analyzed: 03/18/06 02:32
Lab Samp ID: C106-09	Dilution Factor: 1
Lab File ID: TC16055A	Matrix : SOIL
Ext Btch ID: DSC013S	% Moisture : 17.8
Calib. Ref.: TC16053A	Instrument ID : GCT050

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
DRO	ND	12	6.1
ORO	ND	12	6.1

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	68	54-165
HEXACOSANE	111	54-176

RL : Reporting Limit

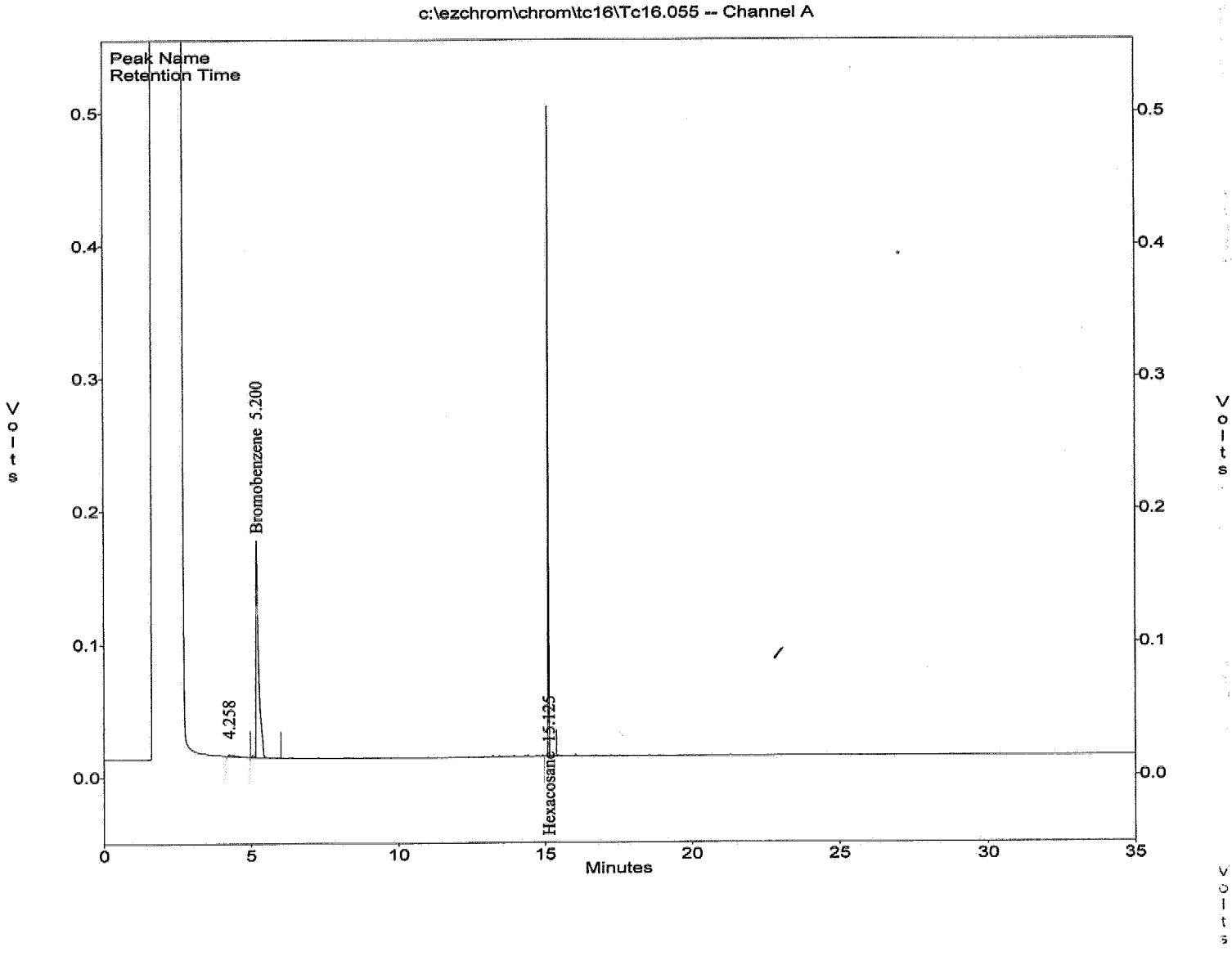
Parameter	H-C Range
DRO	C10-C28
ORO	C28-C38

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.055
Method : c:\ezchrom\methods\Ds50a31.met
Sample ID : 06C106-09
Acquired : Mar 18, 2006 02:32:01
Printed : Mar 18, 2006 03:07:02
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.200	970875	14214.3	68.3
3	Hexacosane	15.125	804447	28984.5	27.8
G1	Diesel(TOTAL)		24779	26500.7	0.9
G2	Diesel(C10-C24)		0	26460.6	0.0
G3	Diesel(C10-C28)		0	26478.8	0.0



METHOD 3550B/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : ENSR	Date Collected: 03/10/06
Project : UPGRADIENT INVESTIGATION, TRONOX	Date Received: 03/11/06
Batch No. : 06C106	Date Extracted: 03/16/06 14:15
Sample ID: M121-80	Date Analyzed: 03/18/06 03:13
Lab Samp ID: C106-10	Dilution Factor: 1
Lab File ID: TC16056A	Matrix : SOIL
Ext Btch ID: DSC013S	% Moisture : 27.5
Calib. Ref.: TC16053A	Instrument ID : GCT050

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
DRO	ND	14	6.9
ORO	ND	14	6.9

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	78	54-165
HEXACOSANE	110	54-176

RL : Reporting Limit

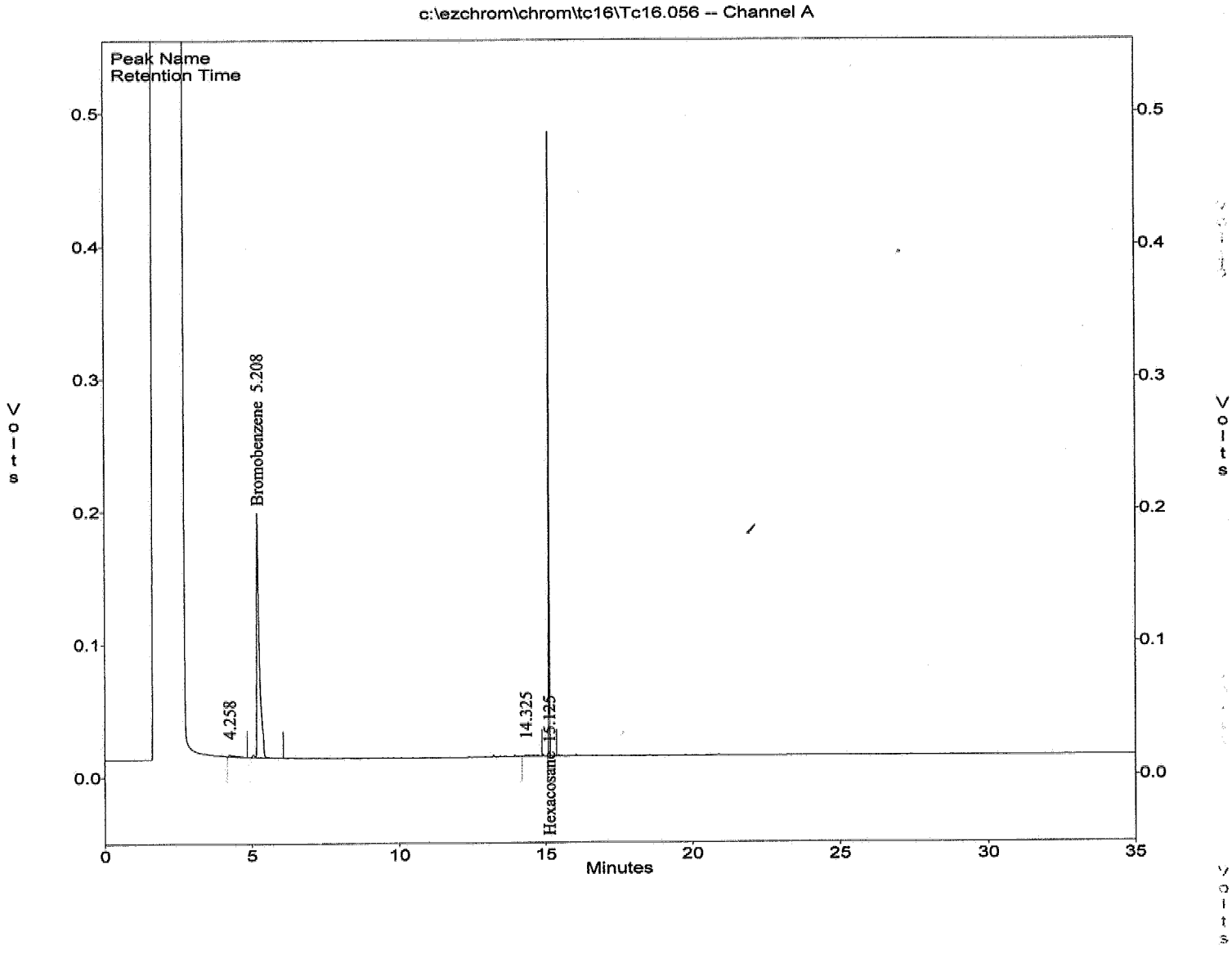
Parameter	H-C Range
DRO	C10-C28
ORO	C28-C38

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.056
Method : c:\ezchrom\methods\Ds50a31.met
Sample ID : 06C106-10
Acquired : Mar 18, 2006 03:13:47
Printed : Mar 18, 2006 03:48:49
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.208	1109654	14214.3	78.1
4	Hexacosane	15.125	793799	28984.5	27.4
G1	Diesel(TOTAL)		39610	26500.7	1.5
G2	Diesel(C10-C24)		17891	26460.6	0.7
G3	Diesel(C10-C28)		17891	26478.8	0.7



METHOD 3550B/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/16/06 14:15
Sample ID:	M121-70	Date Analyzed:	03/18/06 03:55
Lab Samp ID:	C106-11	Dilution Factor:	1
Lab File ID:	TC16057A	Matrix :	SOIL
Ext Btch ID:	DSC013S	% Moisture :	22.8
Calib. Ref.:	TC16053A	Instrument ID :	GCT050

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
DRO	ND	13	6.5
ORO	ND	13	6.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	79	54-165
HEXACOSANE	108	54-176

RL : Reporting Limit

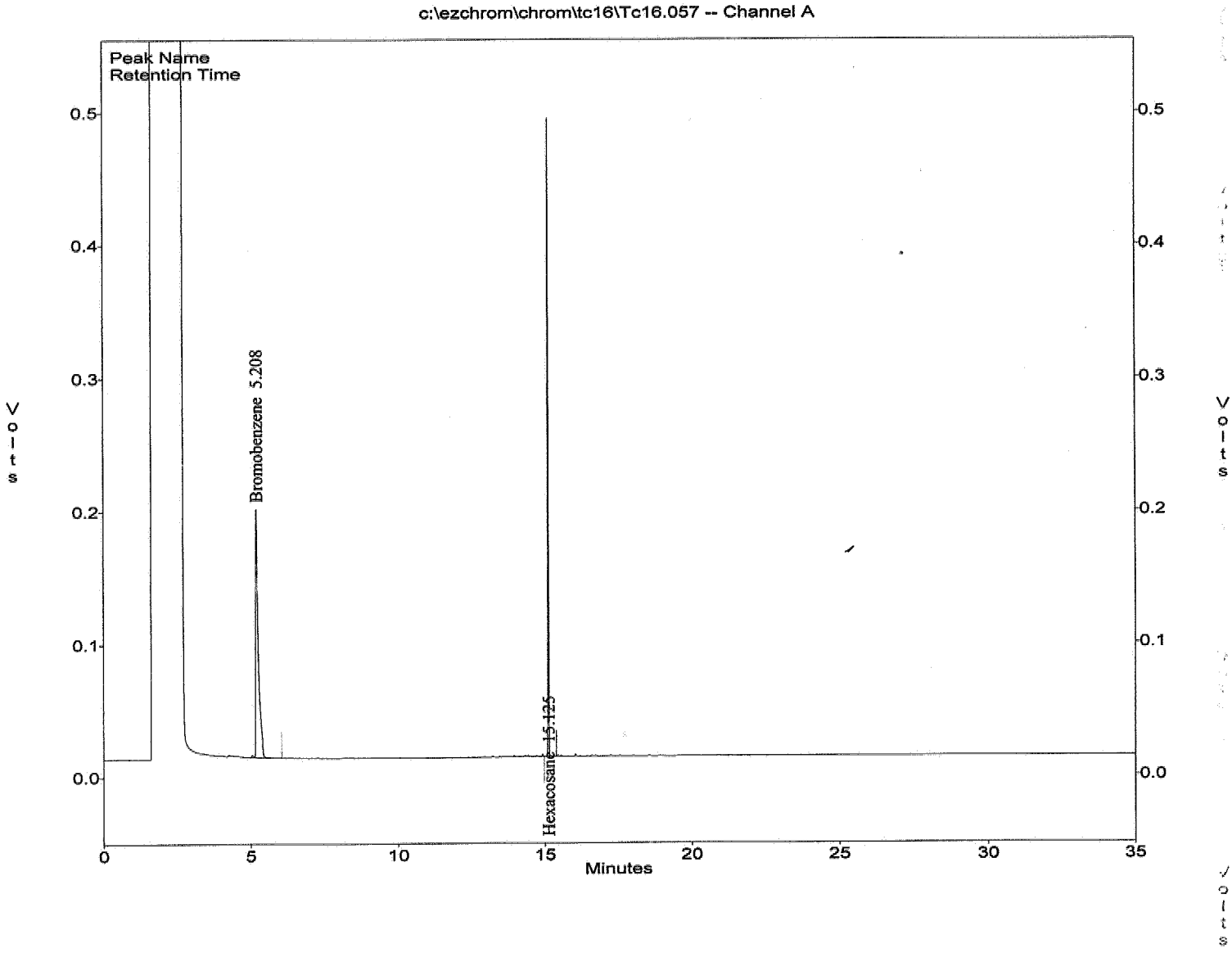
Parameter	H-C Range
DRO	C10-C28
ORO	C28-C38

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.057
Method : c:\ezchrom\methods\Ds50a31.met
Sample ID : 06C106-11
Acquired : Mar 18, 2006 03:55:34
Printed : Mar 18, 2006 04:30:35
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Bromobenzene	5.208	1124109	14214.3	79.1
2	Hexacosane	15.125	784211	28984.5	27.1
G1	Diesel(TOTAL)		0	26500.7	0.0
G2	Diesel(C10-C24)		0	26460.6	0.0
G3	Diesel(C10-C28)		0	26478.8	0.0



QC SUMMARIES

METHOD 3550B/8015B

TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: ENSR	Date Collected:	NA
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/16/06
Batch No.	: 06C106	Date Extracted:	03/16/06 14:15
Sample ID:	MBLK1S	Date Analyzed:	03/17/06 11:31
Lab Samp ID:	DSC013SB	Dilution Factor:	1
Lab File ID:	TC16034A	Matrix :	SOIL
Ext Btch ID:	DSC013S	% Moisture :	NA
Calib. Ref.:	TC16027A	Instrument ID :	GCT050

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
DRO	ND	10	5
ORO	ND	10	5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	78	60-150
HEXACOSANE	110	60-160

RL : Reporting Limit

Parameter	H-C Range
DRO	C10-C28
ORO	C28-C38

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3550B/8015B

MATRIX:	SOIL		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	MBLK1S			
LAB SAMP ID:	DSC013SB	DSC013SL		
LAB FILE ID:	TC16034A	TC16033A		
DATE EXTRACTED:	03/16/0614:15	03/16/0614:15	DATE COLLECTED:	NA
DATE ANALYZED:	03/17/0611:31	03/17/0610:48	DATE RECEIVED:	03/16/06
PREP. BATCH:	DSC013S	DSC013S		
CALIB. REF:	TC16027A	TC16027A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
DRO	ND	500	475	95	60-150

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Bromobenzene	100	89.1	89	60-150
Hexacosane	25	28.8	115	60-160

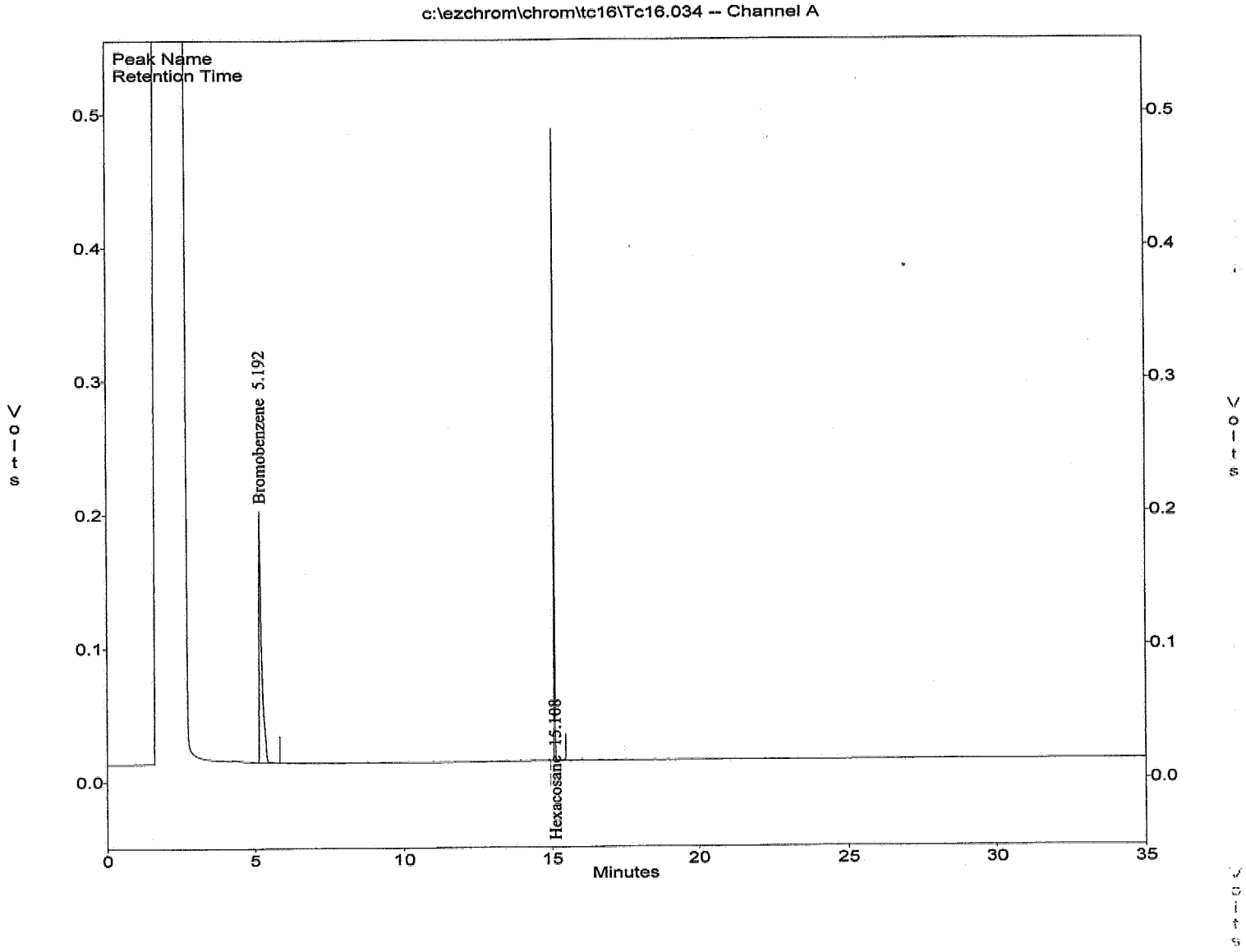
QC DATA

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.034
Method : c:\ezchrom\methods\Ds50a31.met
Sample ID : DSC013SB
Acquired : Mar 17, 2006 11:31:00
Printed : Mar 17, 2006 12:06:02
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc. (ppm)
1	Bromobenzene	5.192	1115777	14214.3	78.5
2	Hexacosane	15.108	798497	28984.5	27.5
G1	Diesel(TOTAL)		0	26500.7	0.0
G2	Diesel(C10-C24)		0	26460.6	0.0
G3	Diesel(C10-C28)		0	26478.8	0.0

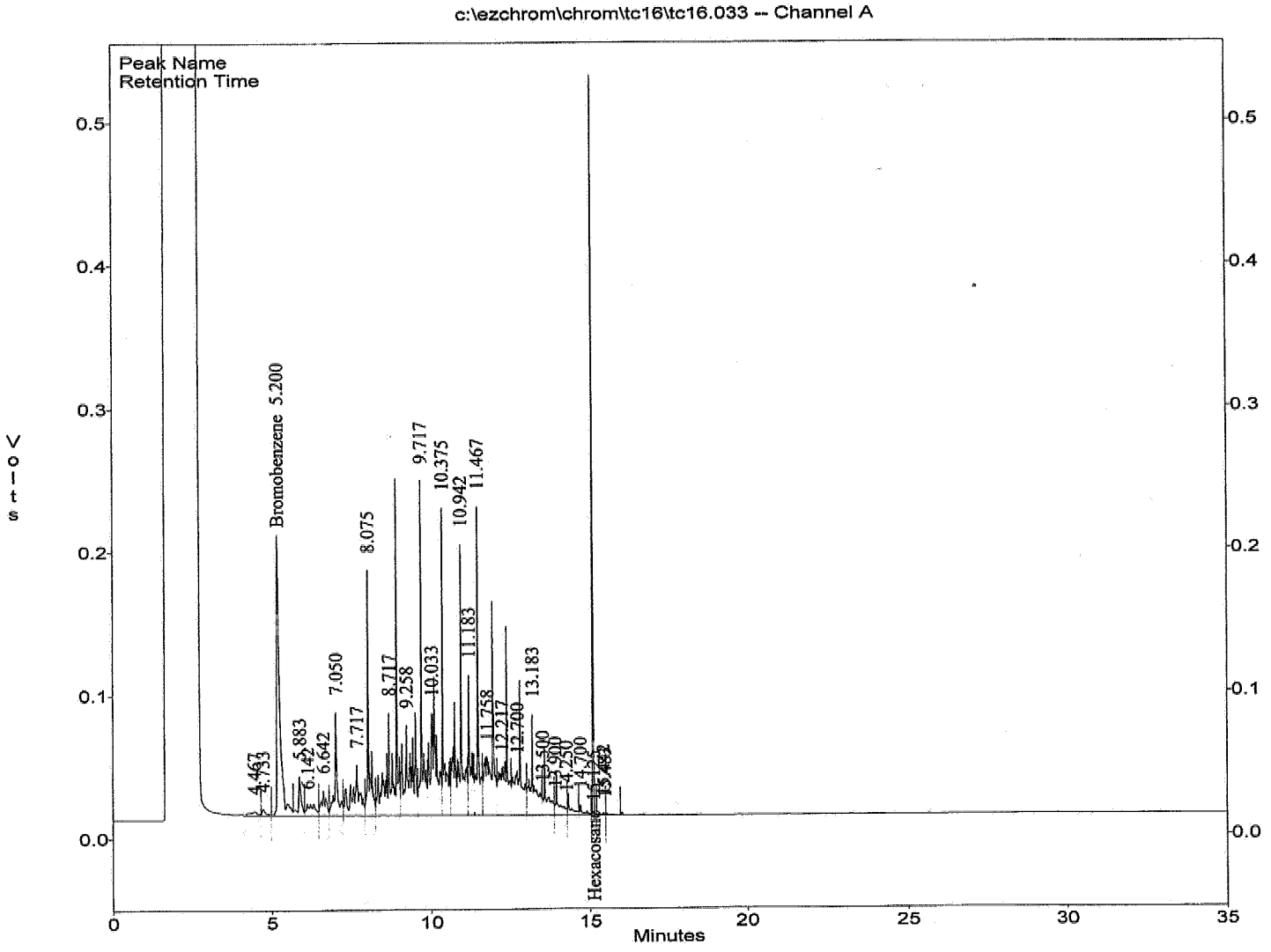


METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\tc16.033
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : DSC013SL
Acquired : Mar 17, 2006 10:48:59
Printed : Mar 17, 2006 11:29:35
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc. (ppm)
3	Bromobenzene	5.200	1266827	14214.3	89.1
26	Hexacosane	15.125	834799	28984.5	28.8
G1	Diesel(TOTAL)		12817204	26500.7	483.7
G2	Diesel(C10-C24)		12523087	26460.6	473.3
G3	Diesel(C10-C28)		12569859	26478.8	474.7



INITIAL CALIBRATION

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : GCTO50
GC Column : DB-5
Column size ID : 30MX0.25MM
LFID & Datetime: TA31009A 01/31/06 19:57
LFID & Datetime: TA31010A 01/31/06 20:39
LFID & Datetime: TA31004A 01/31/06 16:26
LFID & Datetime: TA31005A 01/31/06 17:08
LFID & Datetime: TA31006A 01/31/06 17:51
LFID & Datetime: TA31007A 01/31/06 18:33
LFID & Datetime: TA31008A 01/31/06 19:15
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA or HEIGHT)/UNIT 1.00X	2.00X	10.00X	20.00X	100.00X	300.00X	600.00X	MEAN	%RSD
DIESEL(TOTAL)	5.00	29695	33603	21928	26105	23350	24931	25894	26500.7	15.0
DIESEL(C10-C24)	5.00	29695	33603	21896	26080	23330	24845	25775	26460.6	15.1
DIESEL(C10-C28)	5.00	29695	33603	21928	26105	23350	24872	25800	26478.8	15.0
SURROGATE	X	0.50X	1.00X	2.00X	3.00X	5.00X	7.00X	11.00X	MEAN	%RSD
BROMOBENZENE	20.00	-1	13517	14356	15142	13341	14495	14436	14214.3	4.7
HEXACOSANE	5.00	-1	29580	29371	31178	27128	28544	28106	28984.5	4.8

DS50A31.MET

2/1/06

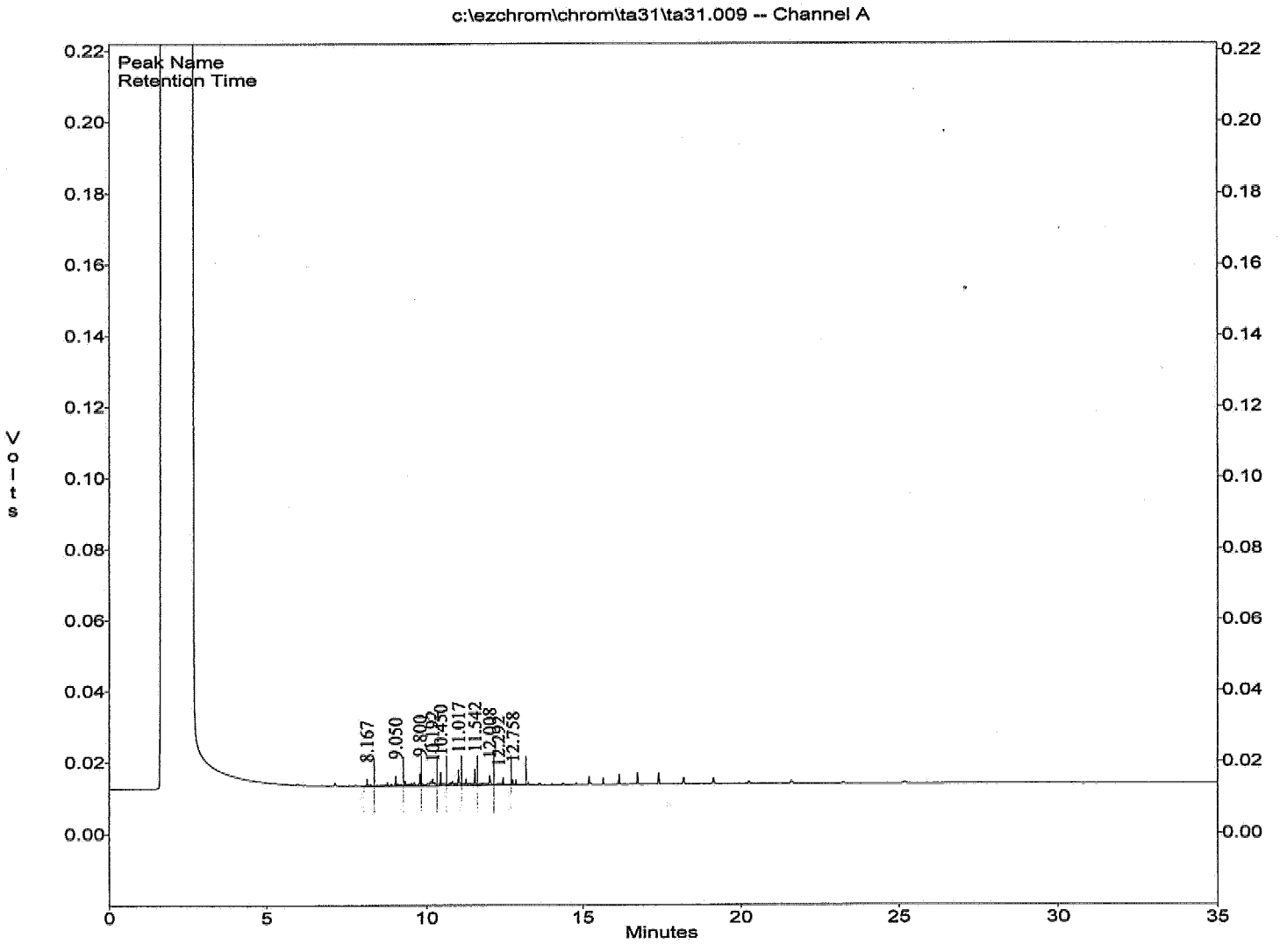
5823

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta31\ta31.009
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : DS50A3101 5PPM
Acquired : Jan 31, 2006 19:57:35
Printed : Feb 01, 2006 09:34:38
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Bromobenzene	5.283	0	0.0	0.0
--	Hexacosane	15.233	0	0.0	0.0
G1	Diesel(TOTAL)		148474	26500.7	5.0
G2	Diesel(C10-C24)		148474	26460.6	5.0
G3	Diesel(C10-C28)		148474	26478.8	5.0



02/01/06

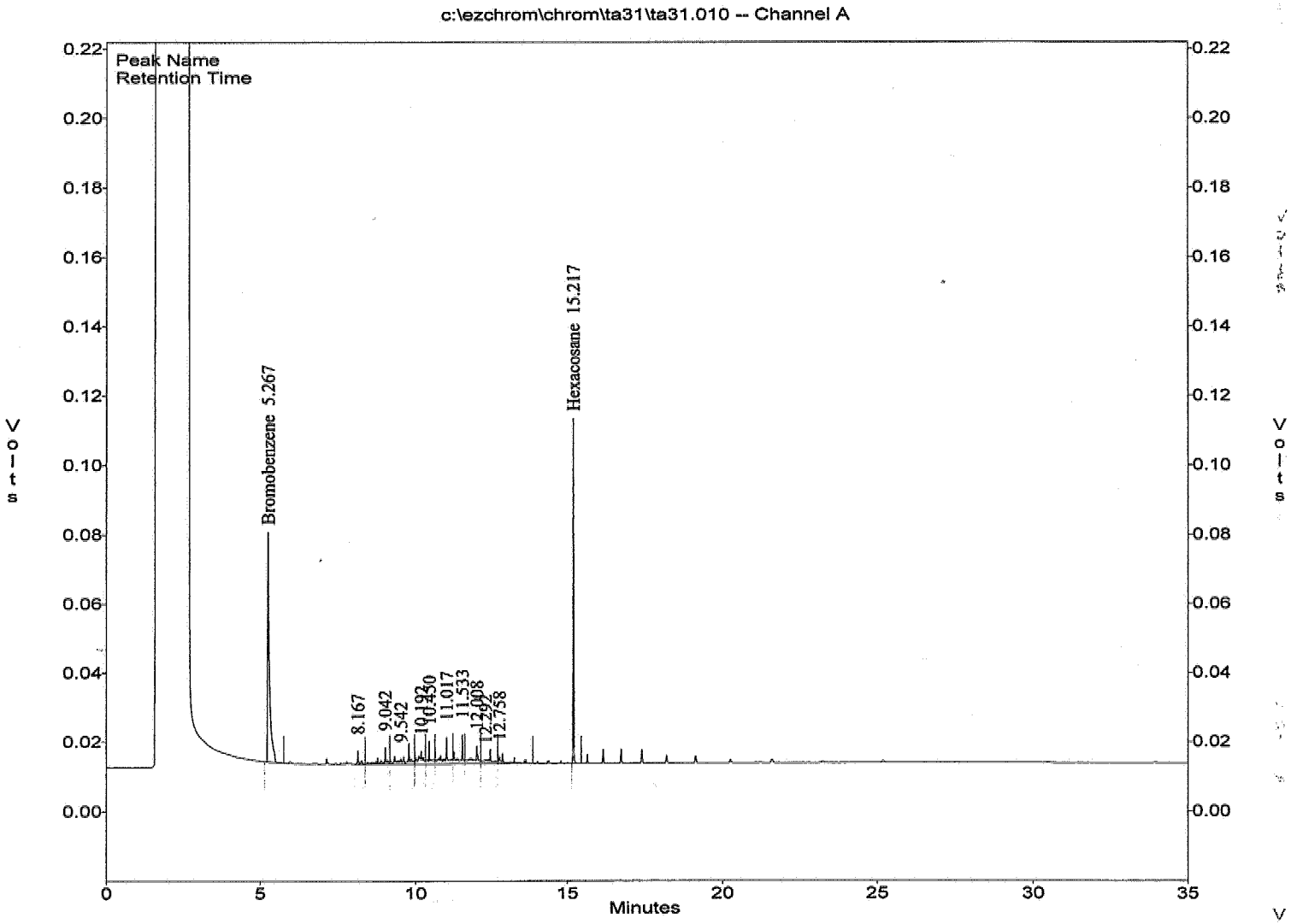
5038

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta31\ta31.010
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : DS50A3102 10/20/5
Acquired : Jan 31, 2006 20:39:42
Printed : Feb 01, 2006 09:34:43
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Bromobenzene	5.267	270334	14214.3	20.0
12	Hexacosane	15.217	147901	28984.5	5.0
G1	Diesel(TOTAL)		336030	26500.7	10.0
G2	Diesel(C10-C24)		336030	26460.6	10.0
G3	Diesel(C10-C28)		336030	26478.8	10.0



DA 02/01/06

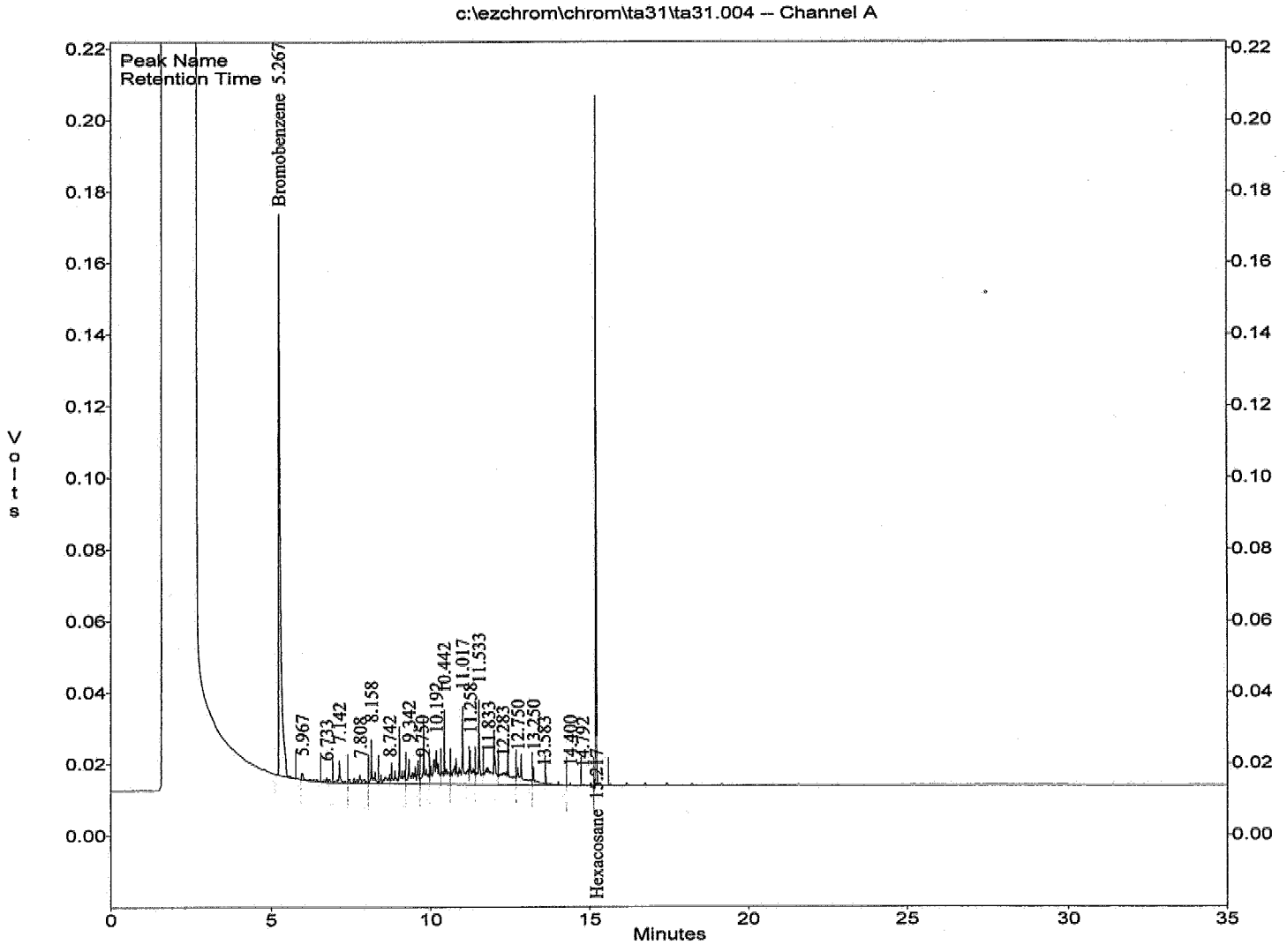
5831

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta31\ta31.004
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : DS50A3103 50/40/10
Acquired : Jan 31, 2006 16:26:47
Printed : Feb 01, 2006 09:34:49
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Bromobenzene	5.267	574237	14214.3	40.0
22	Hexacosane	15.217	293707	28984.5	10.0
G1	Diesel(TOTAL)		1096379	26500.7	50.0
G2	Diesel(C10-C24)		1094793	26460.6	50.0
G3	Diesel(C10-C28)		1096379	26478.8	50.0



02/01/06

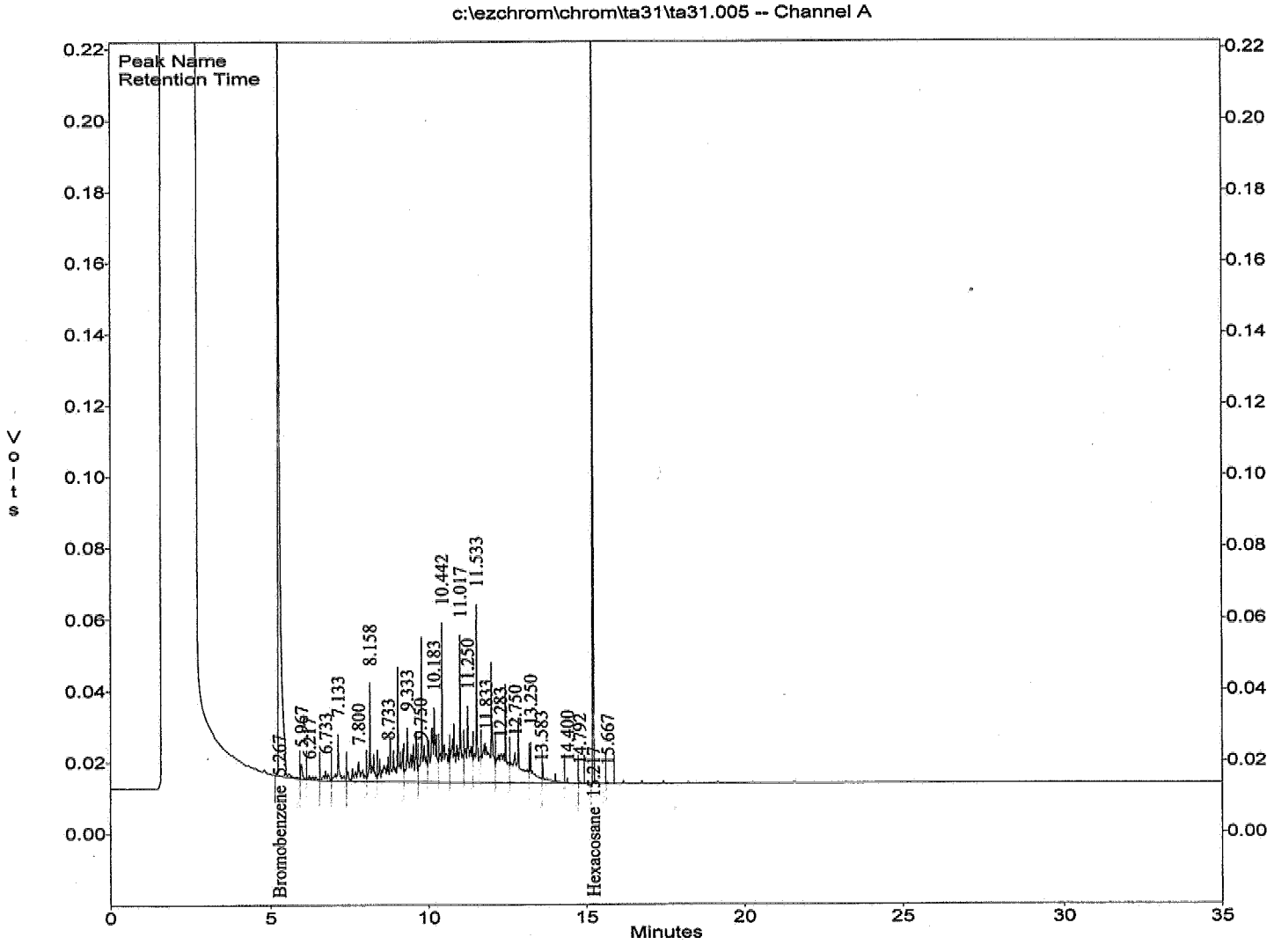
5032

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta31\ta31.005
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : DS50A3104 100/60/15
Acquired : Jan 31, 2006 17:08:56
Printed : Feb 01, 2006 09:35:08
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Bromobenzene	5.267	908499	14214.3	60.0
23	Hexacosane	15.217	467670	28984.5	15.0
G1	Diesel(TOTAL)		2610524	26500.7	100.0
G2	Diesel(C10-C24)		2608042	26460.6	100.0
G3	Diesel(C10-C28)		2610524	26478.8	100.0



02/01/06

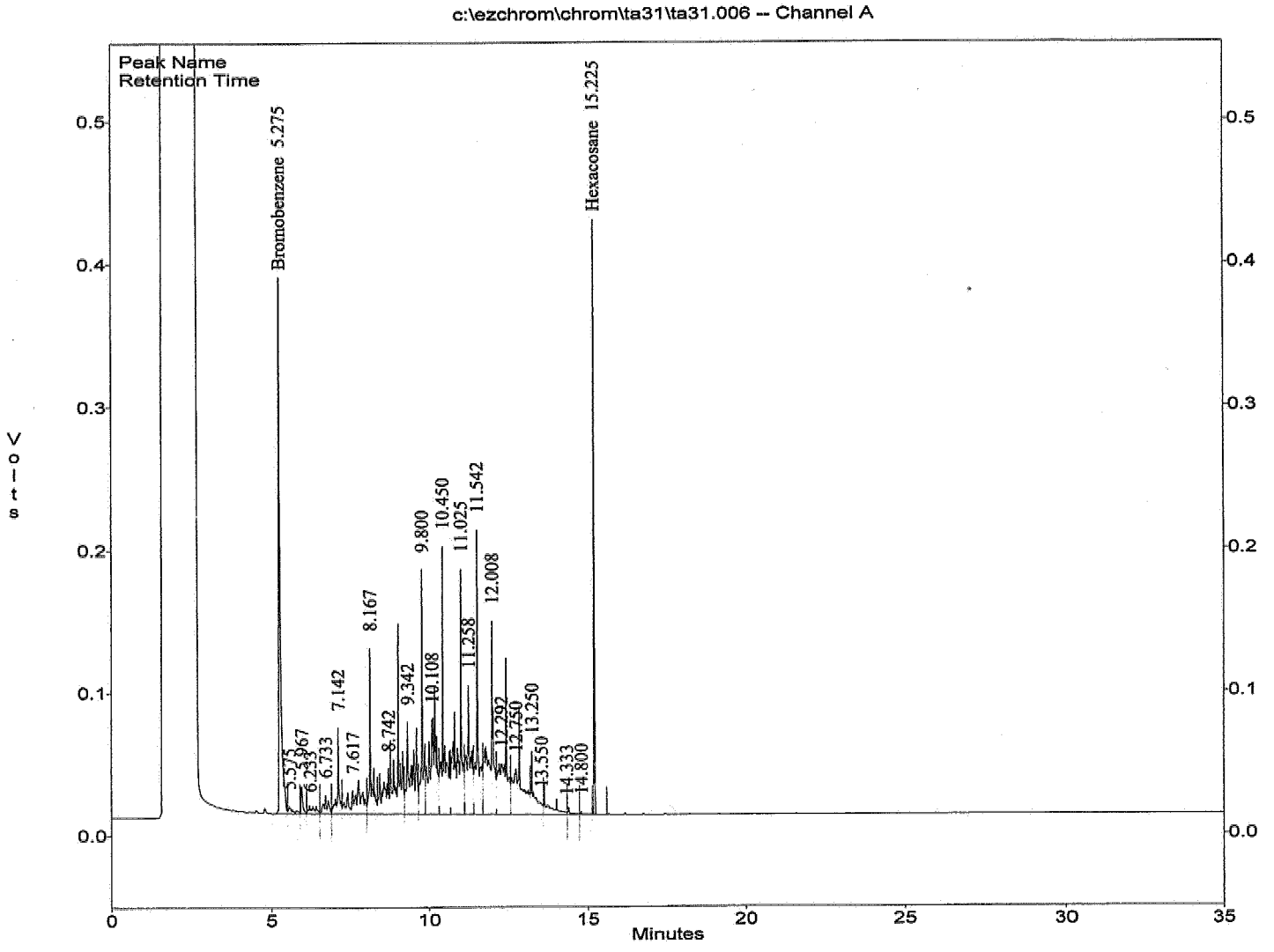
5033

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta31\ta31.006
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : DS50A3105 500/100/2
Acquired : Jan 31, 2006 17:51:21
Printed : Feb 01, 2006 09:35:17
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc. (ppm)
1	Bromobenzene	5.275	1334115	14214.3	100.0
24	Hexacosane	15.225	678205	28984.5	25.0
G1	Diesel(TOTAL)		11674800	26500.7	500.0
G2	Diesel(C10-C24)		11665009	26460.6	500.0
G3	Diesel(C10-C28)		11674800	26478.8	500.0



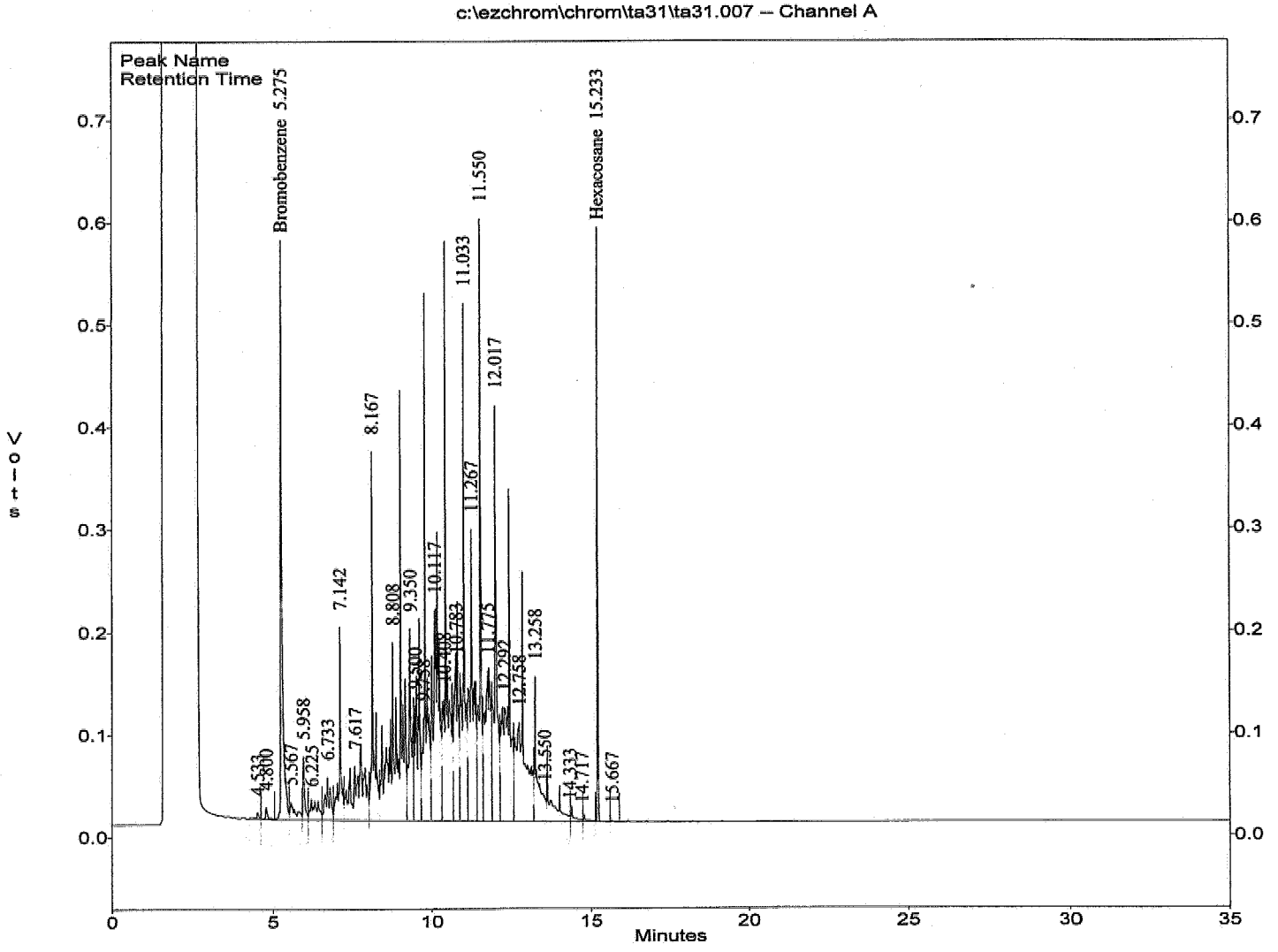
02/01/06
5684

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta31\ta31.007
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : DS50A3106 1500/140/
Acquired : Jan 31, 2006 18:33:25
Printed : Feb 01, 2006 09:35:43
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
3	Bromobenzene	5.275	2029250	14214.3	140.0
29	Hexacosane	15.233	999027	28984.5	35.0
G1	Diesel(TOTAL)		37395864	26500.7	1500.0
G2	Diesel(C10-C24)		37267404	26460.6	1500.0
G3	Diesel(C10-C28)		37307612	26478.8	1500.0



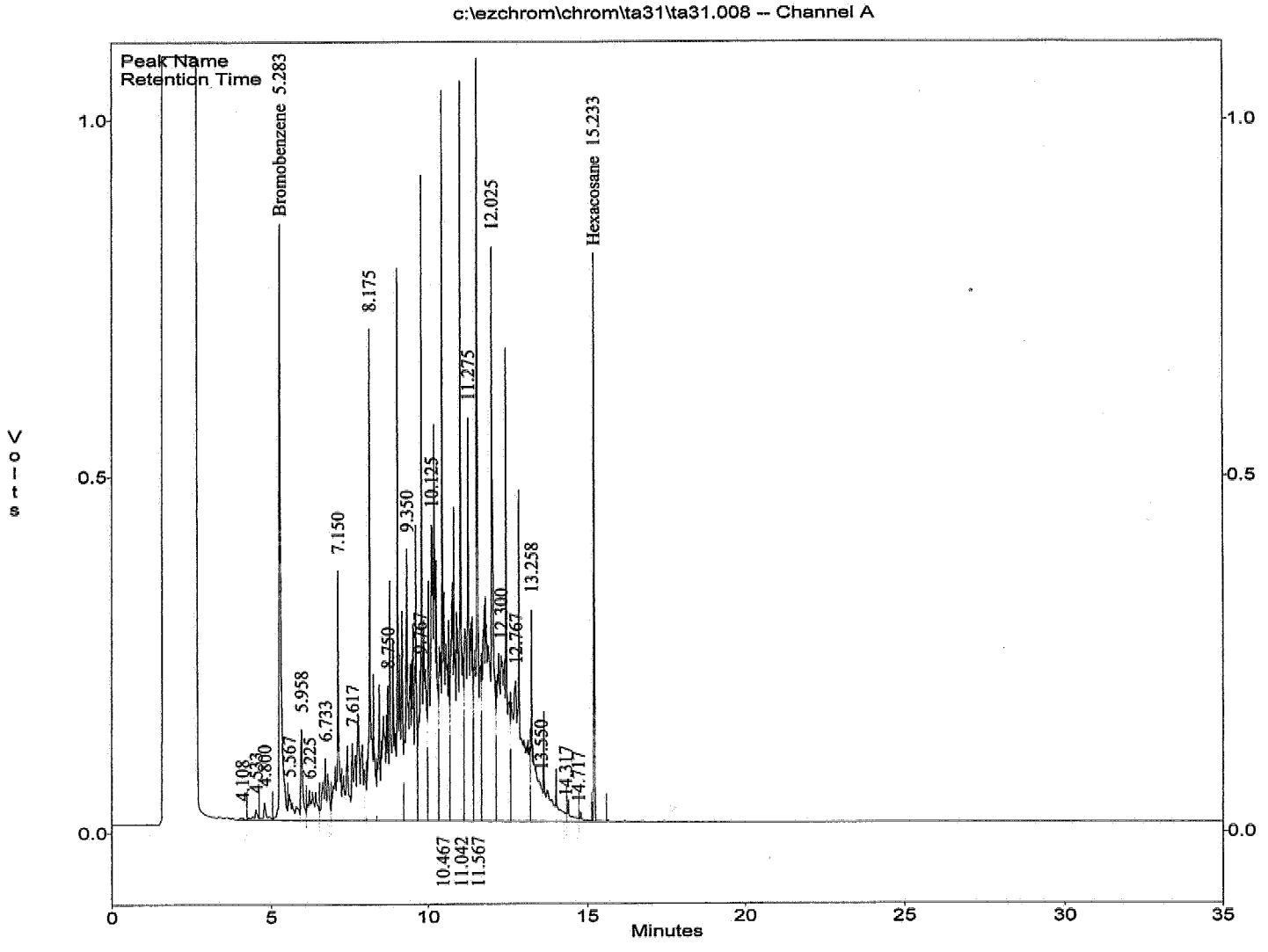
AA 02/01/06
5835

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta31\ta31.008
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : DS50A3107 3000/220/
Acquired : Jan 31, 2006 19:15:30
Printed : Feb 01, 2006 09:35:51
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
4	Bromobenzene	5.283	3175897	14214.3	220.0
27	Hexacosane	15.233	1545839	28984.5	55.0
G1	Diesel(TOTAL)		77682664	26500.7	3000.0
G2	Diesel(C10-C24)		77324912	26460.6	3000.0
G3	Diesel(C10-C28)		77399448	26478.8	3000.0



DA 2/01/06

5636

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : GCTO50
GC Columm : DB-5
Column size ID : 30MX0.25MM
LFID & Datetime: TA05019A 01/05/06 23:55
LFID & Datetime: TA05020A 01/06/06 00:37
LFID & Datetime: TA05021A 01/06/06 01:19
LFID & Datetime: TA05022A 01/06/06 02:01
LFID & Datetime: TA05023A 01/06/06 02:43
LFID & Datetime: TA05024A 01/06/06 03:25
LFID & Datetime: TA05025A 01/06/06 04:07
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA or HEIGHT)/UNIT 1.00X	2.00X	5.00X	50.00X	100.00X	150.00X	300.00X	MEAN	%RSD
JP5	10.00	19089	21129	20033	24716	24172	25573	26612	23046.2	12.7
5W30	10.00	33589	31968	34659	32099	30917	30603	31346	32168.8	4.6

J550A05M.MET

AA 1/9/06

5087

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : GCTO50
GC Column : DB-5
Column size ID : 30MX0.25MM
LFID & Datetime: TA05019A 01/05/06 23:55
LFID & Datetime: TA05020A 01/06/06 00:37
LFID & Datetime: TA05021A 01/06/06 01:19
LFID & Datetime: TA05022A 01/06/06 02:01
LFID & Datetime: TA05023A 01/06/06 02:43
LFID & Datetime: TA05024A 01/06/06 03:25
LFID & Datetime: TA05025A 01/06/06 04:07

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	5.0X	50.0X	100.0X	150.0X	300.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
JP5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.500
5W30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.500

NB AS 1/9/06

J550A05M.MET

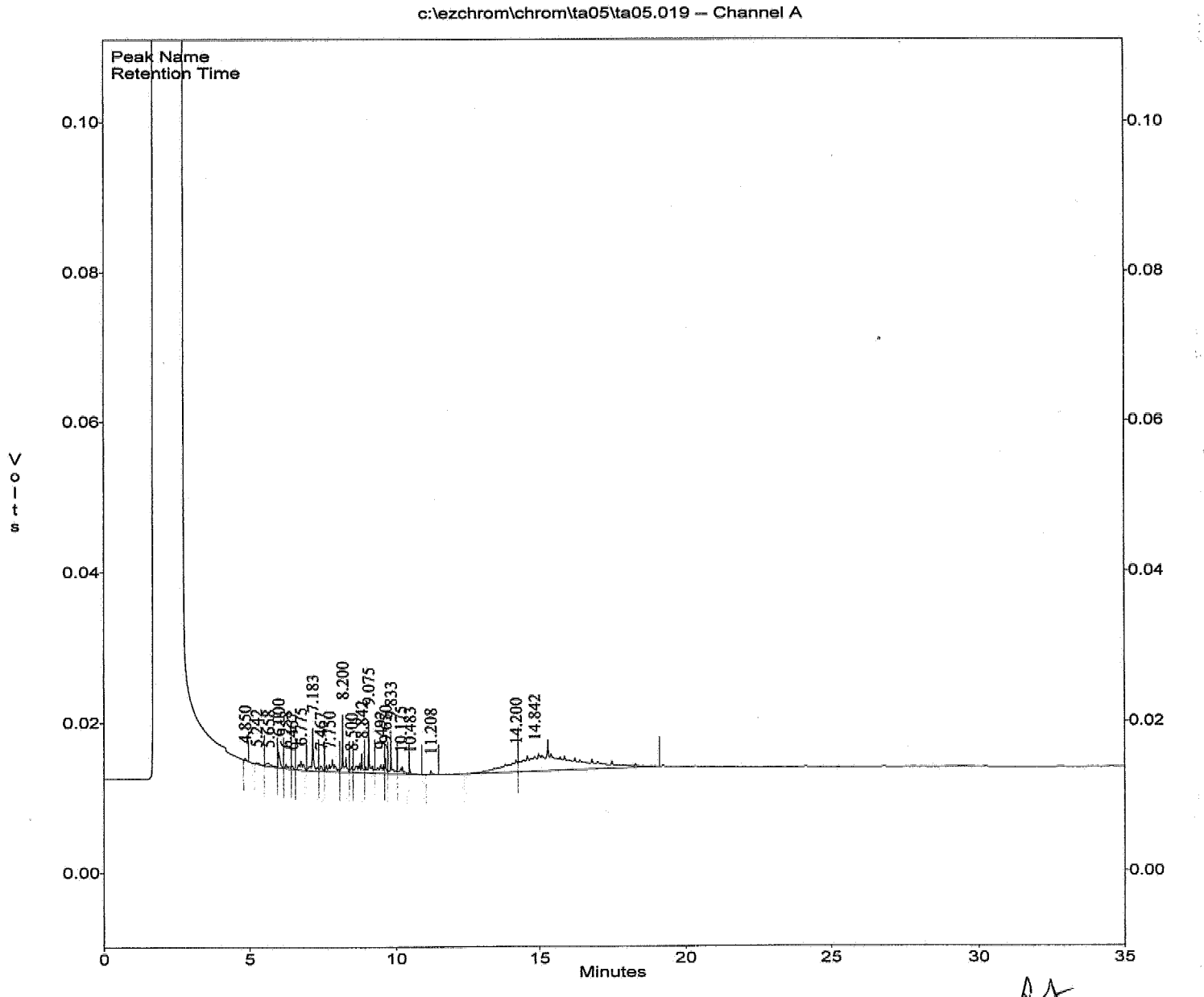
AA 1/9/06

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta05\ta05.019 ✓
Method : c:\ezchrom\methods\j550a05m.met
Sample ID : J550A05M01 10PPM
Acquired : Jan 05, 2006 23:55:57 ✓
Printed : Jan 06, 2006 09:55:49
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
G1	JP5		190889 ✓	23046.2	10.0
G2	5W30		335894 ✓	32168.8	10.0



1/9/06

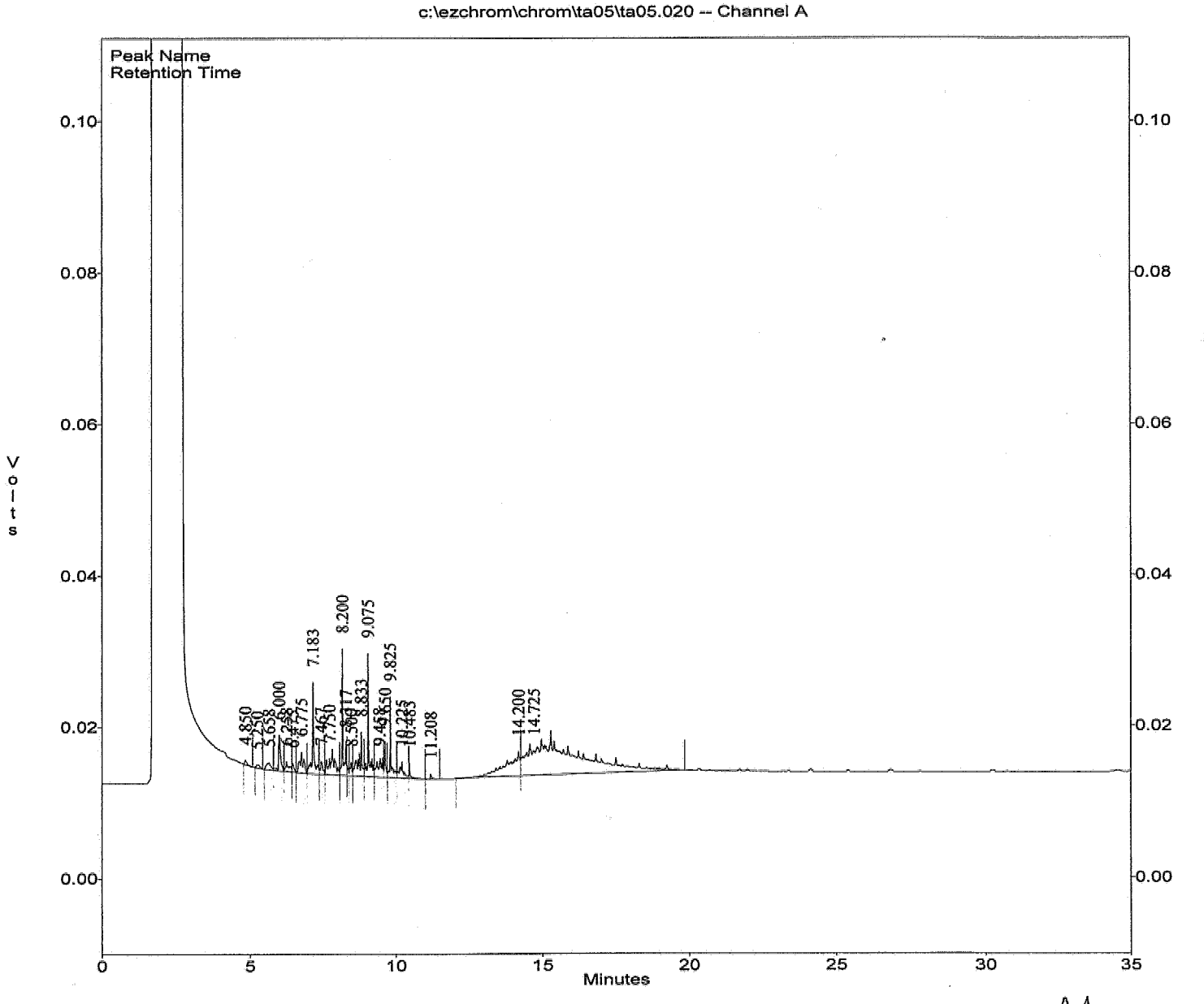
5839

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta05\ta05.020
Method : c:\ezchrom\methods\j550a05m.met
Sample ID : J550A05M02 20PPM
Acquired : Jan 06, 2006 00:37:56
Printed : Jan 06, 2006 09:55:55
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
G1	JP5		422586	23046.2	20.0
G2	5W30		639352	32168.8	20.0



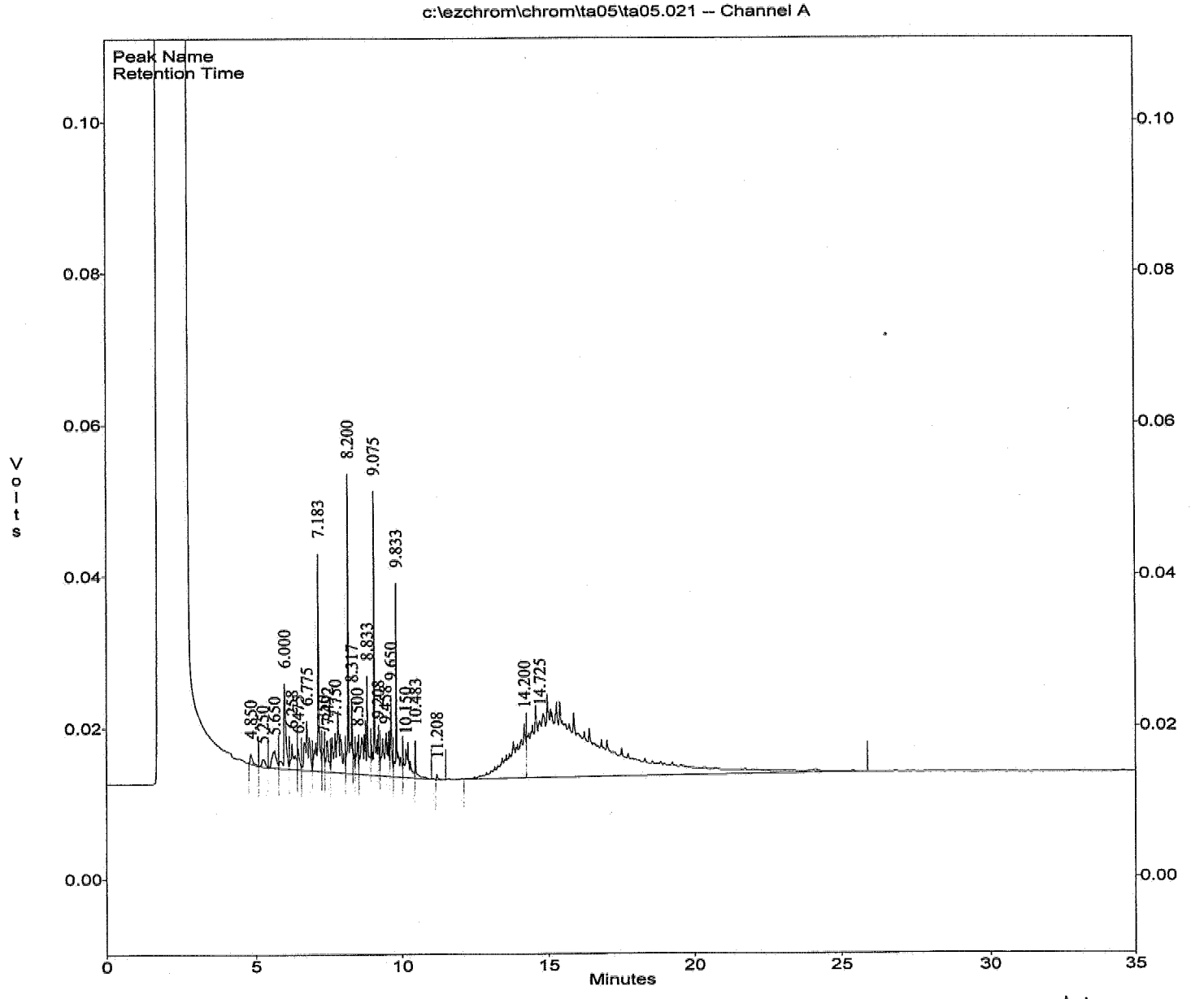
1/9/06

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta05\ta05.021
Method : c:\ezchrom\methods\j550a05m.met
Sample ID : J550A05M03 50PPM
Acquired : Jan 06, 2006 01:19:54
Printed : Jan 06, 2006 09:56:08
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
G1	JP5		1001658	23046.2	50.0
G2	5W30		1732935	32168.8	50.0



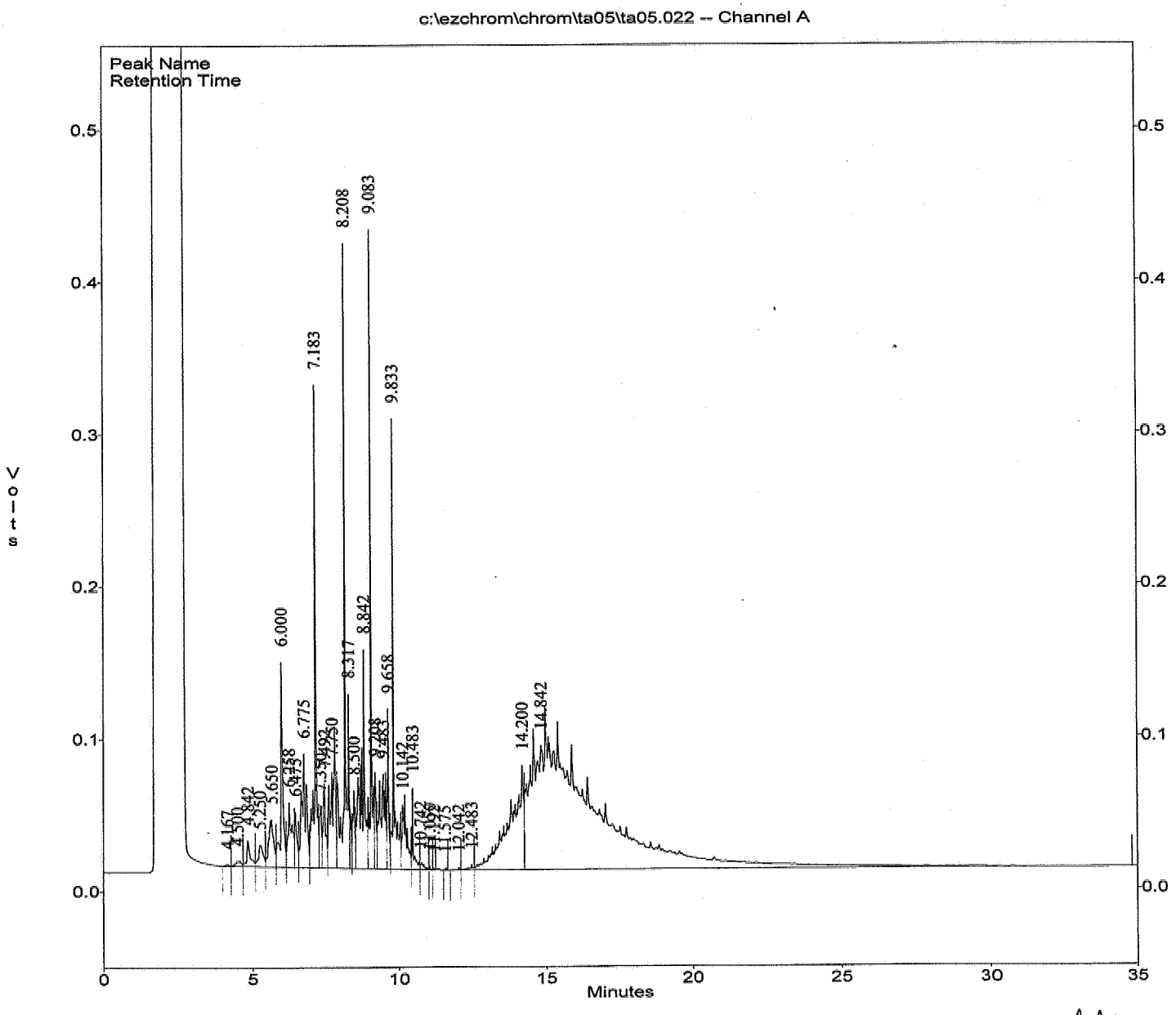
5841 1/9/06

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta05\ta05.022
Method : c:\ezchrom\methods\j550a05m.met
Sample ID : J550A05M04 500PPM
Acquired : Jan 06, 2006 02:01:52
Printed : Jan 06, 2006 09:56:41
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
G1	JP5		12357981	23046.2	500.0
G2	5W30		16049524	32168.8	500.0



1/9/06

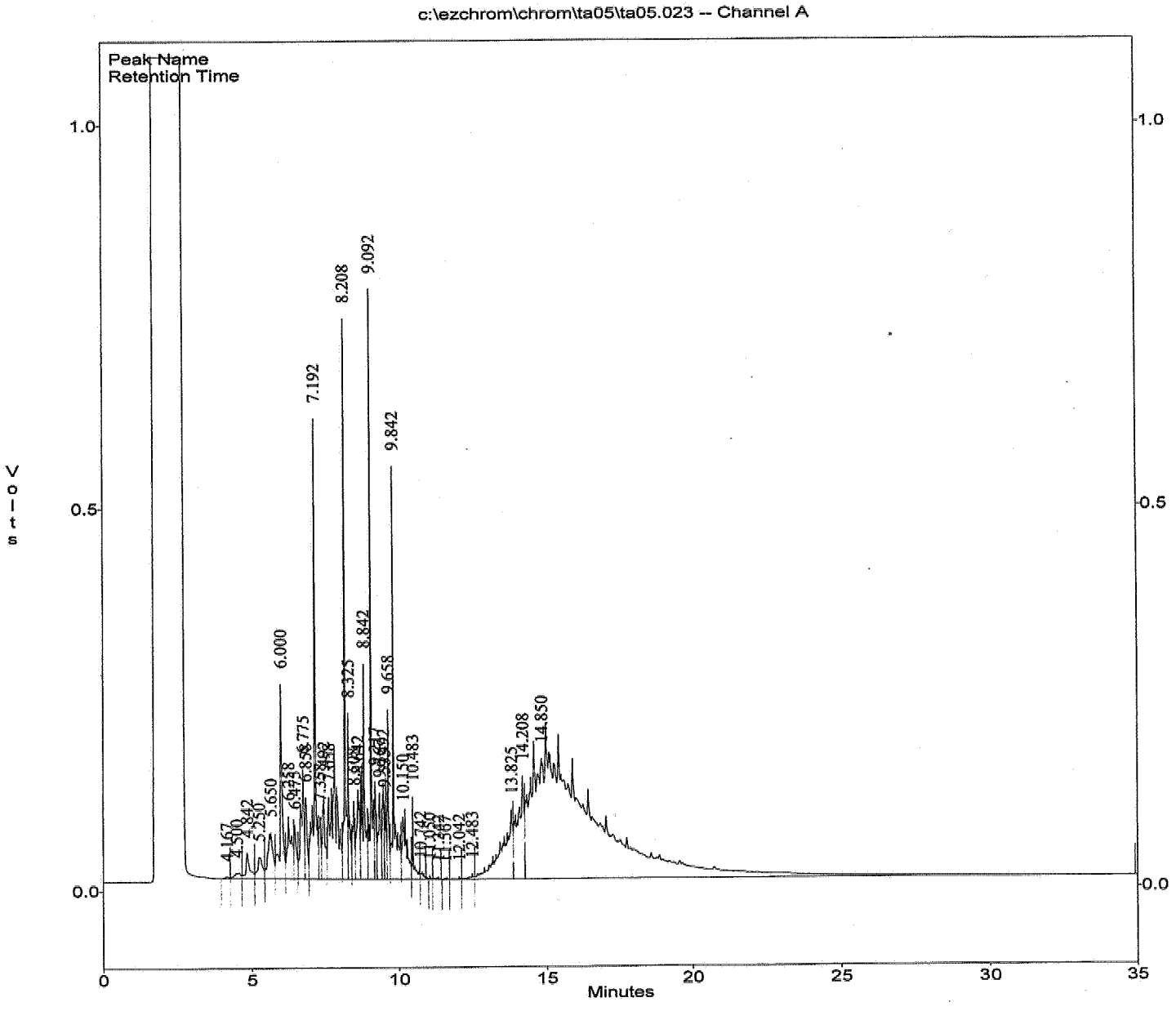
5842

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta05\ta05.023
Method : c:\ezchrom\methods\j550a05m.met
Sample ID : J550A05M05 1000PPM
Acquired : Jan 06, 2006 02:43:50
Printed : Jan 06, 2006 09:57:19
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
G1	JP5		24171588	23046.2	1000.0
G2	5W30		30917232	32168.8	1000.0



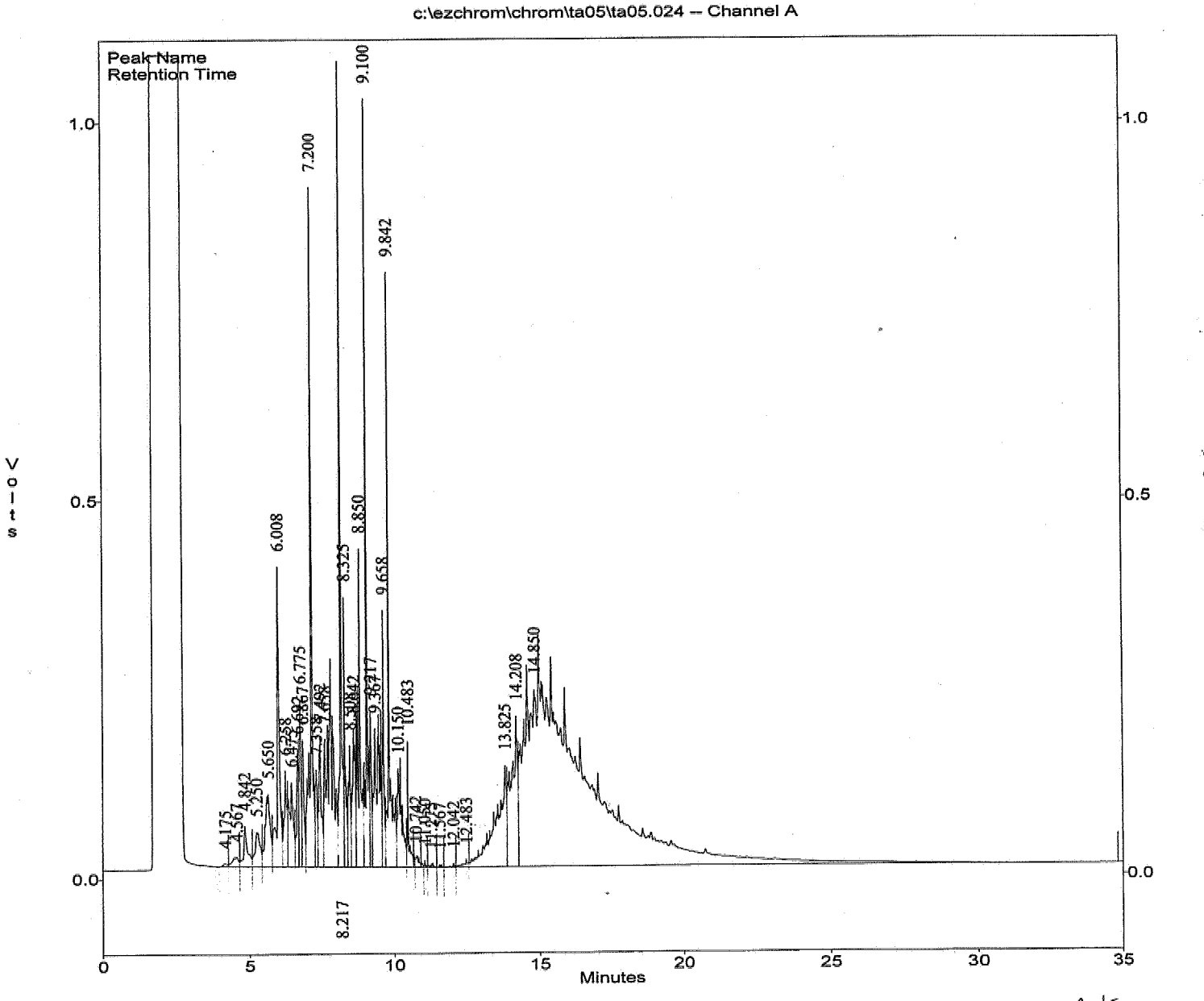
1/9/06

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta05\ta05.024
Method : c:\ezchrom\methods\j550a05m.met
Sample ID : J550A05M06 1500PPM
Acquired : Jan 06, 2006 03:25:48
Printed : Jan 06, 2006 09:57:24
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
G1	JP5		38358784	23046.2	1500.0
G2	5W30		45905100	32168.8	1500.0



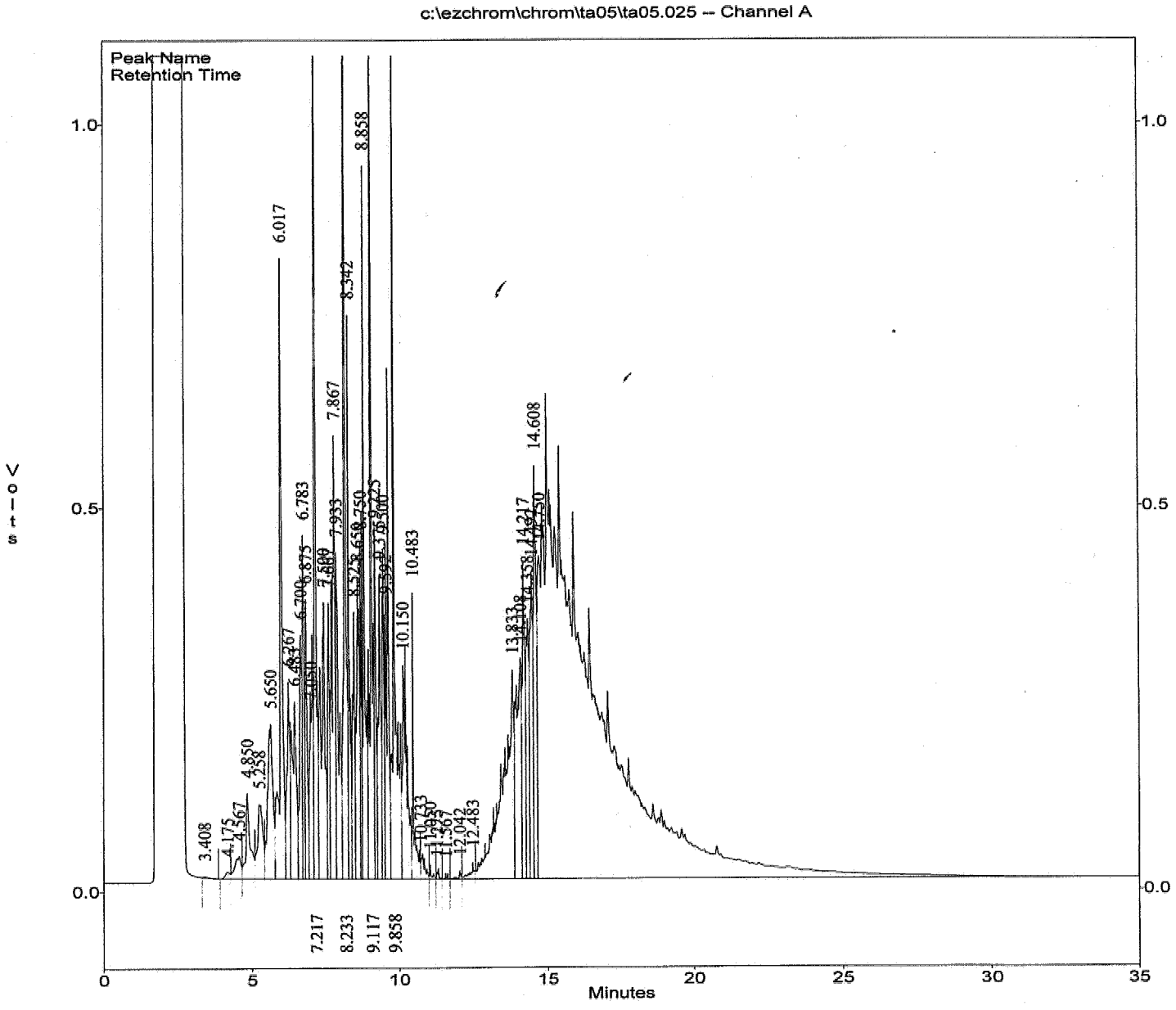
1/9/06

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta05\ta05.025
Method : c:\ezchrom\methods\j550a05m.met
Sample ID : J550A05M07 3000PPM
Acquired : Jan 06, 2006 04:07:45
Printed : Jan 06, 2006 09:57:28
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
G1	JP5		79836656	23046.2	3000.0
G2	5W30		94039104	32168.8	3000.0



RA 1/9/06

SECOND SOURCE

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO50
GC Column : DB-5
Column size ID : 30MX0.25MM
Mid Conc Init LFID & Datetime: TA31006A 01/31/2006 17:51
Conc Cont LFID & Datetime: TA31011A 01/31/2006 21:21
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	0.000	0.000	0.000	500.0	26500.7	13255810	500.21	0		15
DIESEL(C10-C24)	0.000	0.000	0.000	500.0	26460.6	13131692	496.27	-1		15
DIESEL(C10-C28)	0.000	0.000	0.000	500.0	26478.8	13174570	497.55	-0		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	5.275	5.188	5.362	100.0	14214.3	1337667	94.11	-6		15
HEXACOSANE	15.225	14.892	15.558	25.0	28984.5	687118	23.71	-5		15

DS50A31.MET

LA
02/01/06

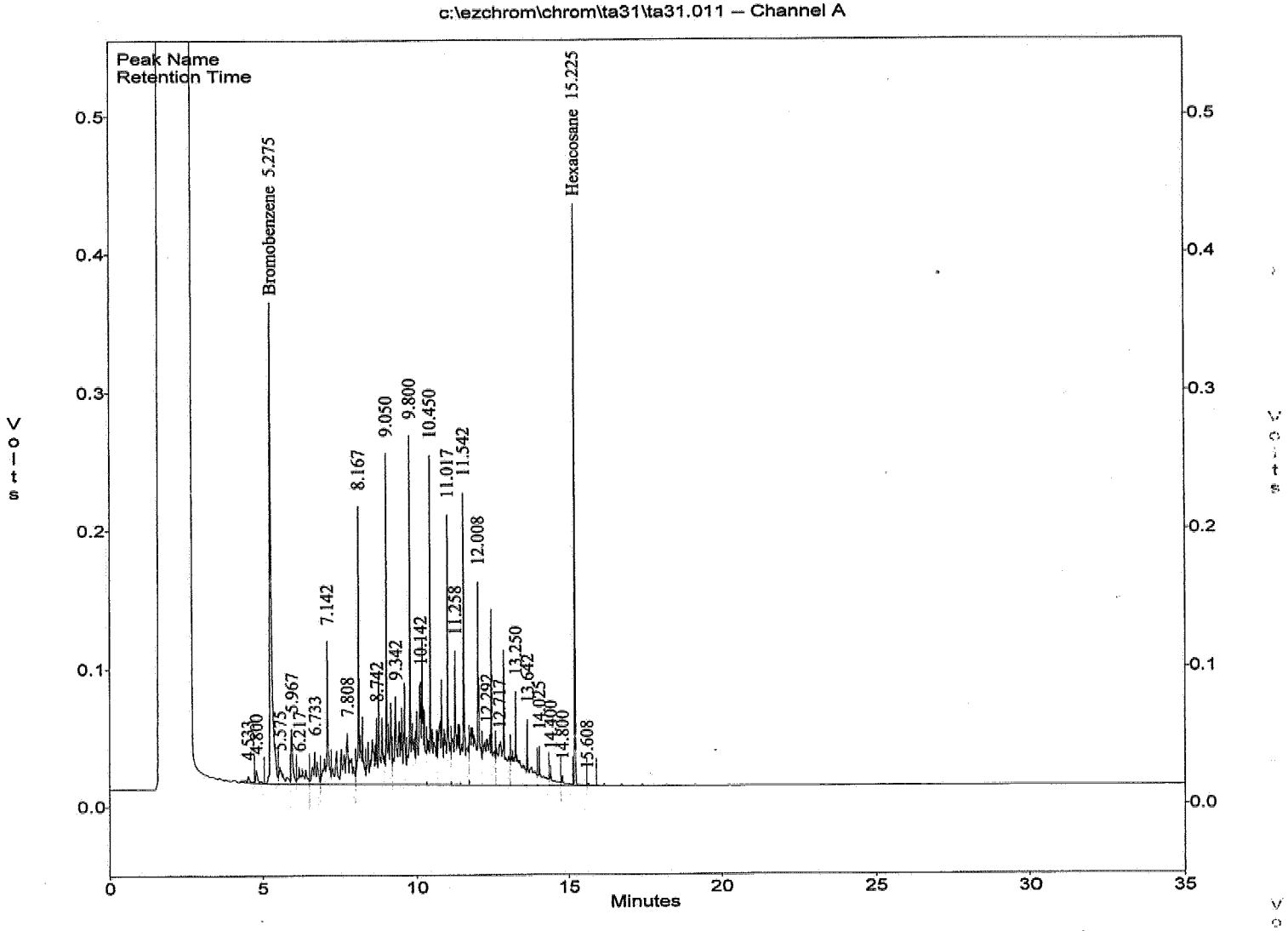
5647

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta31\ta31.011
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : IDS50A3101 500PPM
Acquired : Jan 31, 2006 21:21:44
Printed : Feb 01, 2006 09:36:17
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc. (ppm)
3	Bromobenzene	5.275	1337667	14214.3	94.1
28	Hexacosane	15.225	687118	28984.5	23.7
G1	Diesel(TOTAL)		13255810	26500.7	500.2
G2	Diesel(C10-C24)		13131692	26460.6	496.3
G3	Diesel(C10-C28)		13174570	26478.8	497.6



02/01/06

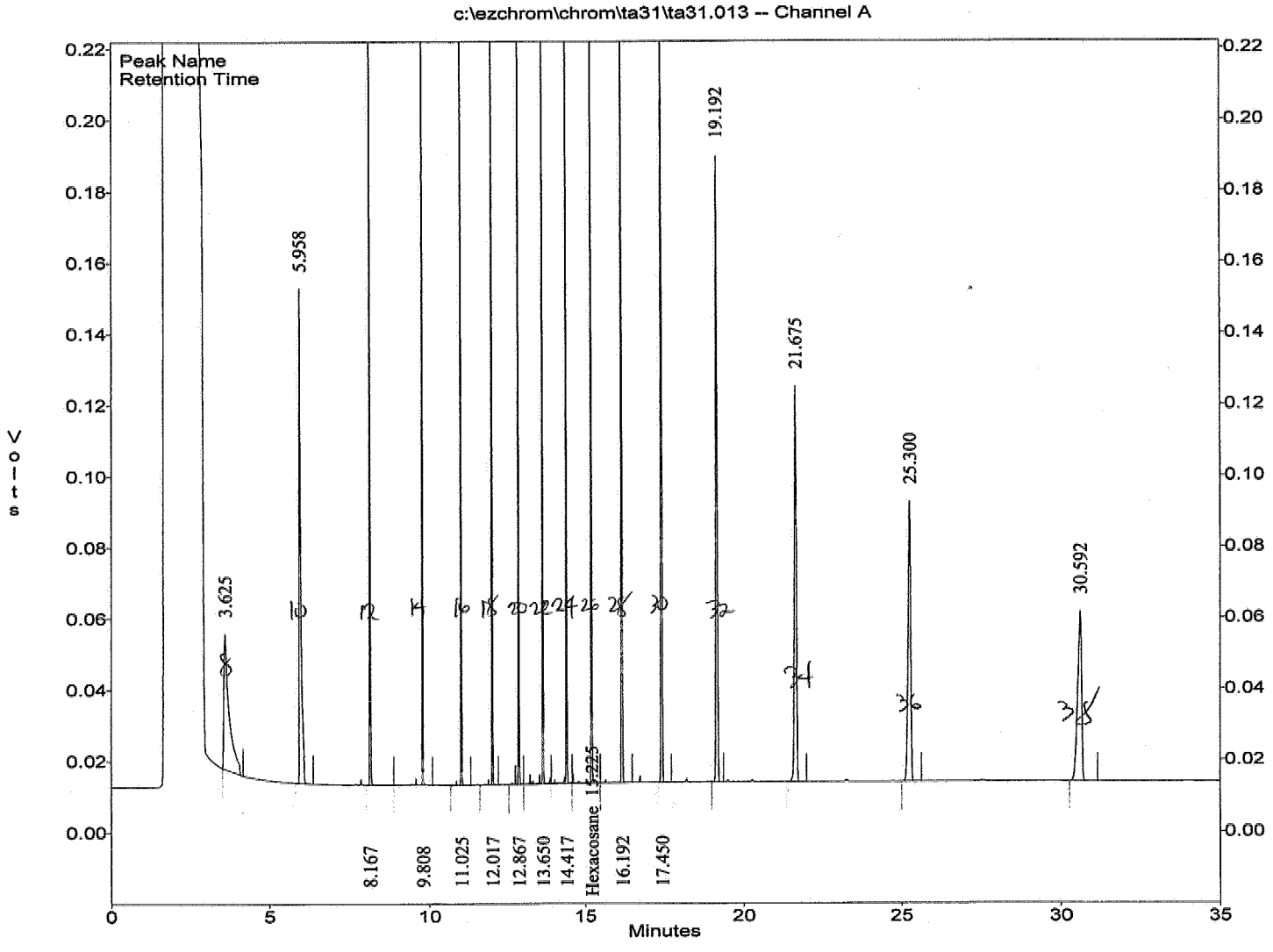
5848

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta31\ta31.013
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : HC-CHAIN
Acquired : Jan 31, 2006 22:45:44
Printed : Feb 01, 2006 09:38:59
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Bromobenzene	5.283	0	0.0	0.0
10	Hexacosane	15.225	612551	28984.5	21.1
G1	Diesel(TOTAL)		7808933	26500.7	294.7
G2	Diesel(C10-C24)		4312145	26460.6	163.0
G3	Diesel(C10-C28)		4904687	26478.8	185.2



02/01/06

5848

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO50
GC Column : DB-5
Column size ID : 30MX0.25MM
Mid Conc Init LFID & Datetime: TA05022A 01/06/2006 02:01
Conc Cont LFID & Datetime: TA05026A 01/06/2006 04:49
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5	0.000	0.000	0.000	500.0	23046.2	11649619	505.49	1		15
5W30	0.000	0.000	0.000	500.0	32168.8	16021303	498.04	-0		15

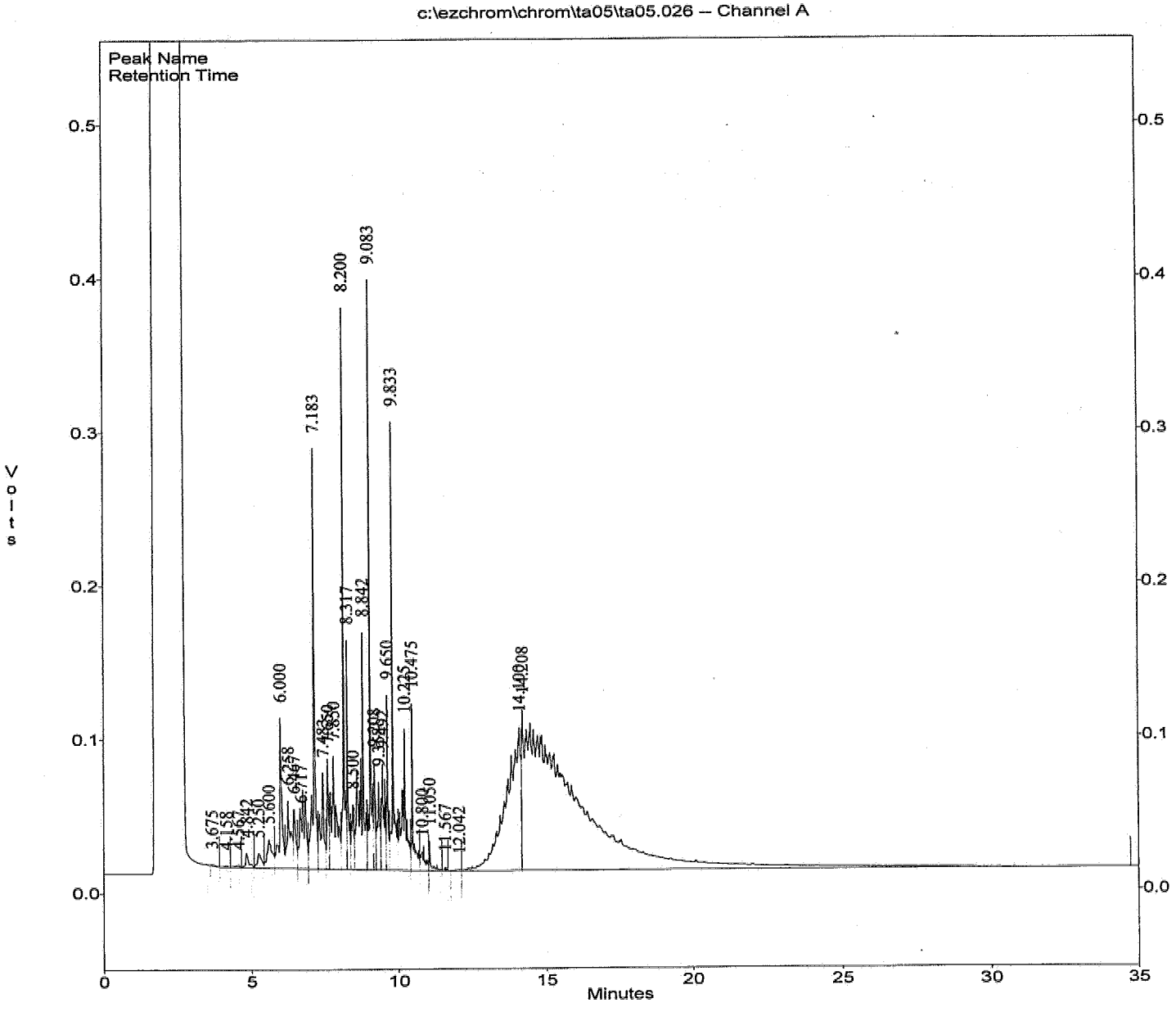
J550A05M.MET

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta05\ta05.026
Method : c:\ezchrom\methods\j550a05m.met
Sample ID : IJ550A05M01 500PPM
Acquired : Jan 06, 2006 04:49:39
Printed : Jan 06, 2006 09:57:56
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
G1	JP5		11649619	23046.2	505.5
G2	5W30		16021303	32168.8	498.0

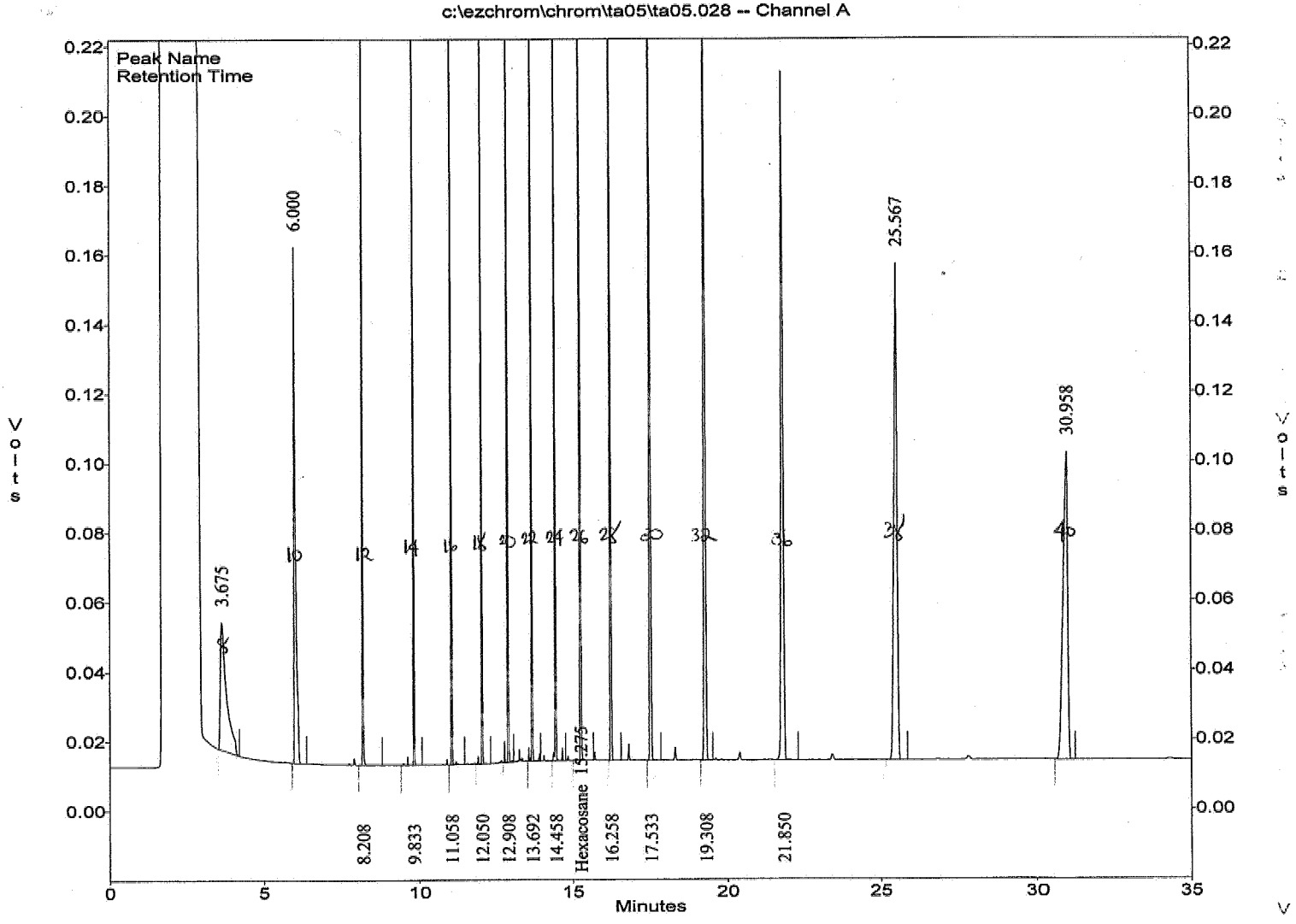


METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ta05\ta05.028
Method : c:\ezchrom\methods\ds50k28.met
Sample ID : HC-CHAIN
Acquired : Jan 06, 2006 06:13:28
Printed : Jan 06, 2006 09:49:23
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Bromobenzene	5.350	0	0.0	0.0
10	Hexacosane	15.275	785899	31441.2	25.0
G1	Diesel(TOTAL)		10840643	25617.3	423.2
G2	Diesel(C10-C24)		5027696	25569.5	196.6
G3	Diesel(C10-C28)		5789143	25586.1	226.3



DAILY CALIBRATION

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO50
GC Columm : DB-5
Column size ID : 30MX0.25MM
Mid Conc Init LFID & Datetime: TA31006A 01/31/2006 17:51
Conc Cont LFID & Datetime: TC16027A 03/17/2006 06:37
CONC UNIT : ppm

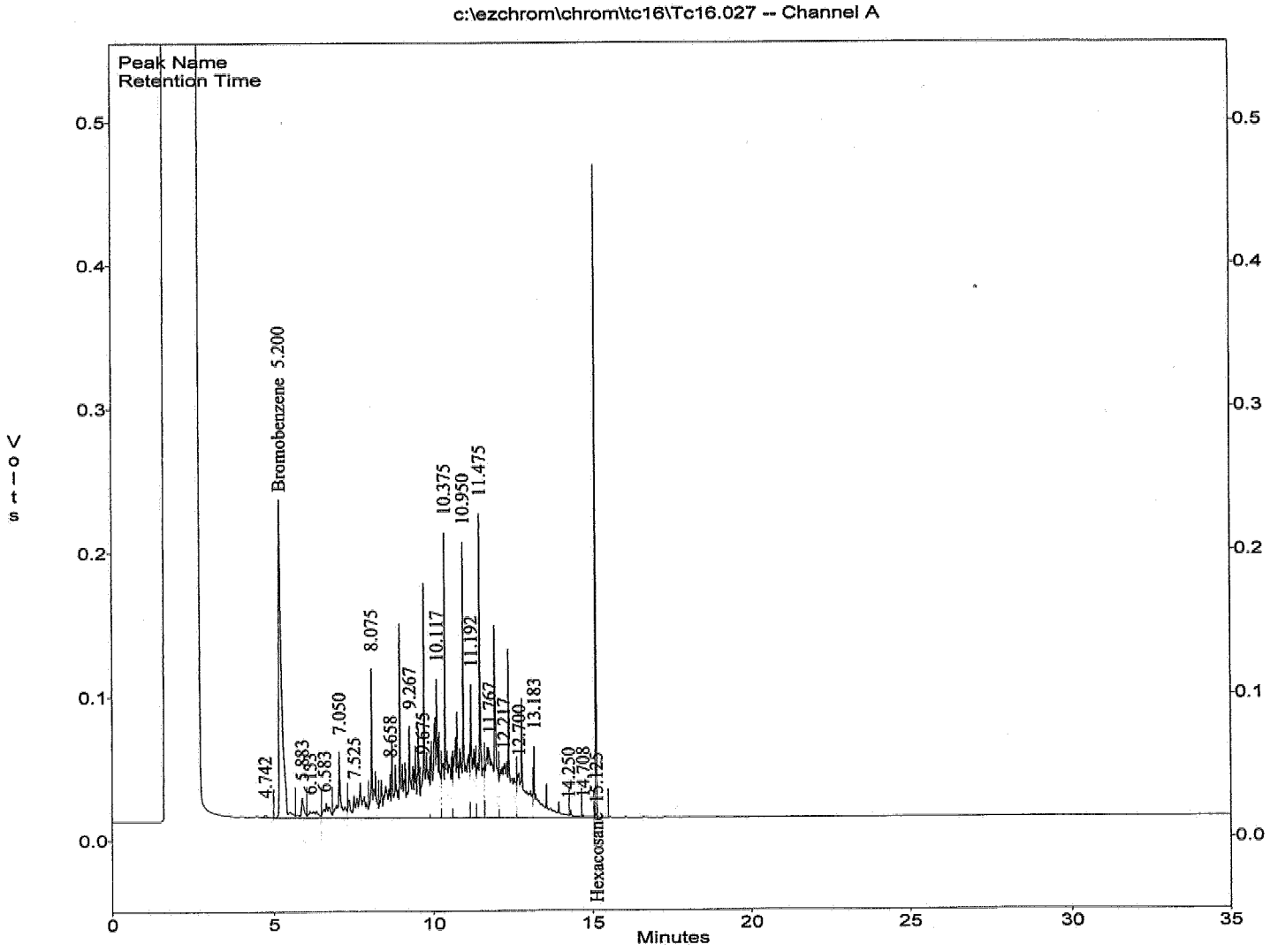
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	0.000	0.000	0.000	500.0	26500.7	12200958	460.40	-8		15
DIESEL(C10-C24)	0.000	0.000	0.000	500.0	26460.6	12089099	456.87	-9		15
DIESEL(C10-C28)	0.000	0.000	0.000	500.0	26478.8	12098802	456.92	-9		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	5.200	5.113	5.287	100.0	14214.3	1344509	94.59	-5		15
HEXACOSANE	15.125	14.792	15.458	25.0	28984.5	710582	24.52	-2		15

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.027
Method : c:\ezchrom\methods\Ds50a31.met
Sample ID : CDS50A31524 D500
Acquired : Mar 17, 2006 06:37:31
Printed : Mar 17, 2006 07:12:33
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.200	1344509	14214.3	94.6
23	Hexacosane	15.125	710582	28984.5	24.5
G1	Diesel(TOTAL)		12200958	26500.7	460.4
G2	Diesel(C10-C24)		12089099	26460.6	456.9
G3	Diesel(C10-C28)		12098802	26478.8	456.9



CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO50
GC Columm : DB-5
Column size ID : 30MX0.25MM
Mid Conc Init LFID & Datetime: TA05022A 01/06/2006 02:01
Conc Cont LFID & Datetime: TC16028A 03/17/2006 07:19
CONC UNIT : ppm

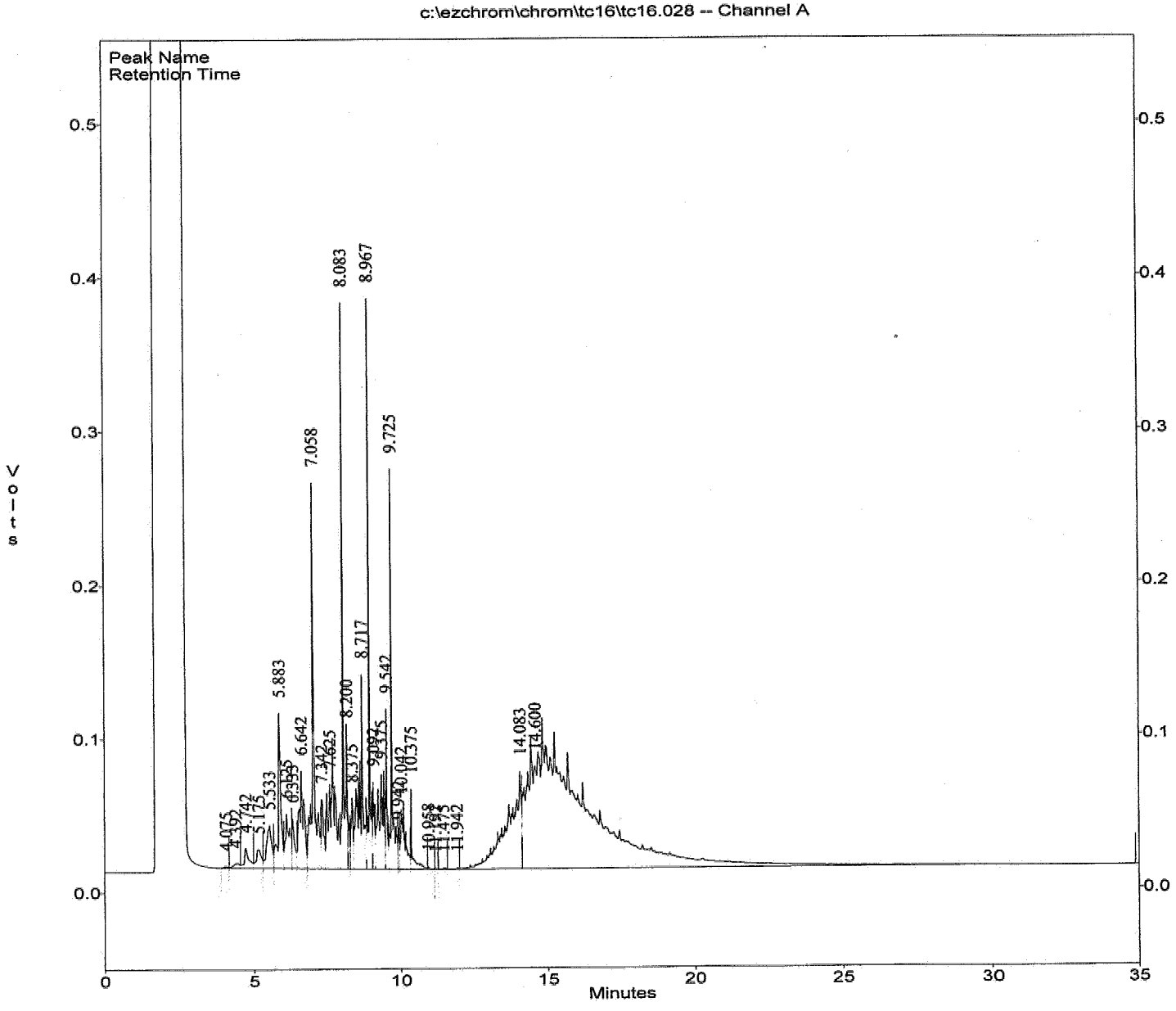
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5	0.000	0.000	0.000	500.0	23046.2	11192579	485.66	-3		15
5W30	0.000	0.000	0.000	500.0	32168.8	13969727	434.26	-13		15

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\tc16.028
Method : c:\ezchrom\methods\j550a05m.met
Sample ID : CJ550A05M525 JP5/MO
Acquired : Mar 17, 2006 07:19:15
Printed : Mar 17, 2006 11:27:40
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
G1	JP5		11192579	23046.2	485.7
G2	5W30		13969727	32168.8	434.3



CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO50
GC Column : DB-5
Column size ID : 30MX0.25MM
Mid Conc Init LFID & Datetime: TA31006A 01/31/2006 17:51
Conc Cont LFID & Datetime: TC16040A 03/17/2006 16:02
CONC UNIT : ppm

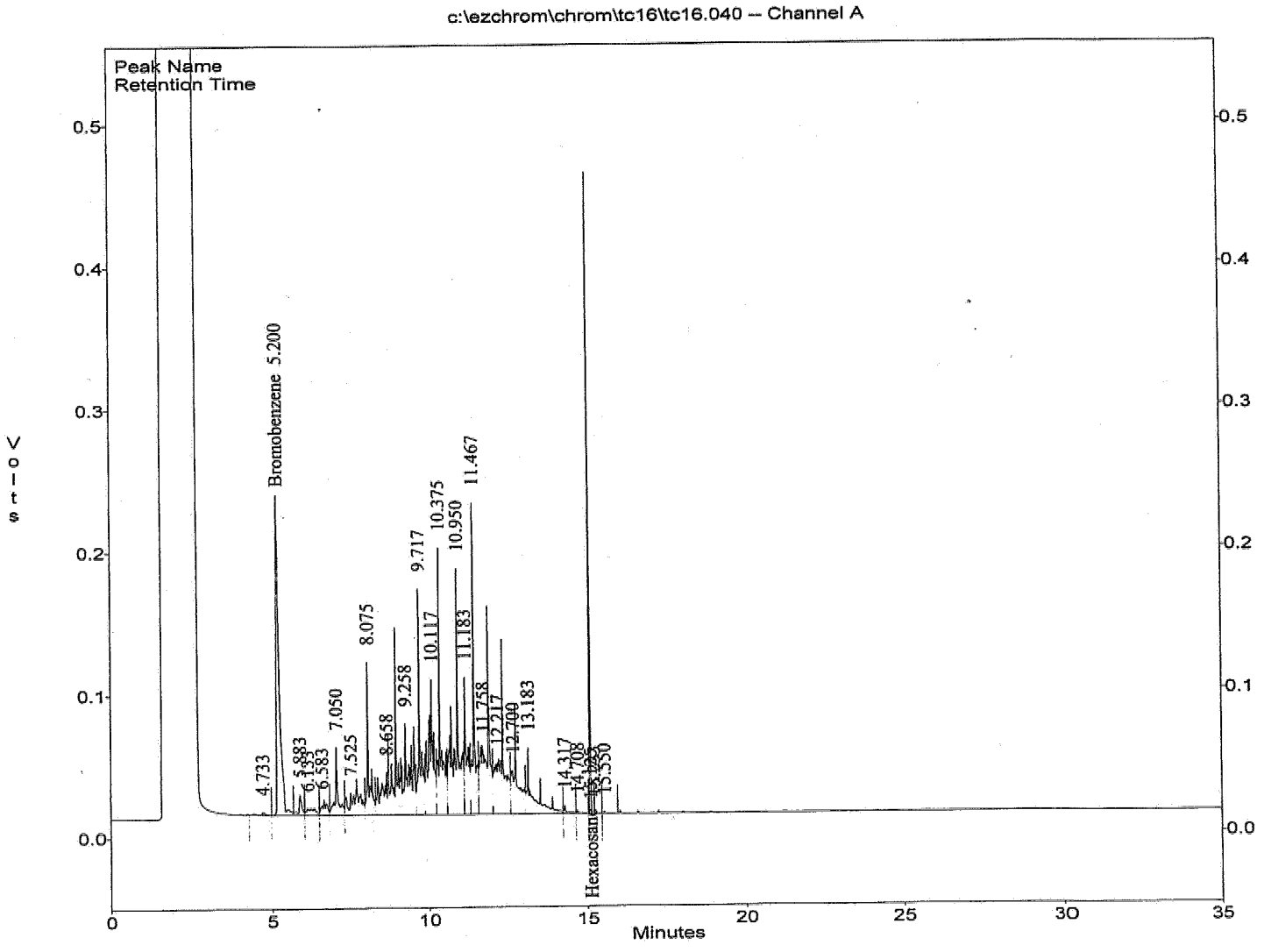
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	0.000	0.000	0.000	500.0	26500.7	12203082	460.48	-8		15
DIESEL(C10-C24)	0.000	0.000	0.000	500.0	26460.6	12078065	456.45	-9		15
DIESEL(C10-C28)	0.000	0.000	0.000	500.0	26478.8	12089287	456.56	-9		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	5.200	5.113	5.287	100.0	14214.3	1370358	96.41	-4		15
HEXACOSANE	15.125	14.792	15.458	25.0	28984.5	726573	25.07	0		15

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\tc16.040
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : CDS50A31526 D500
Acquired : Mar 17, 2006 16:02:49
Printed : Mar 20, 2006 11:20:35
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc. (ppm)
2	Bromobenzene	5.200	1370358	14214.3	96.4
23	Hexacosane	15.125	726573	28984.5	25.1
G1	Diesel(TOTAL)		12203082	26500.7	460.5
G2	Diesel(C10-C24)		12078065	26460.6	456.5
G3	Diesel(C10-C28)		12089287	26478.8	456.6



CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO50
GC Column : DB-5
Column size ID : 30MX0.25MM
Mid Conc Init LFID & Datetime: TA05022A 01/06/2006 02:01
Conc Cont LFID & Datetime: TC16041A 03/17/2006 16:44
CONC UNIT : ppm

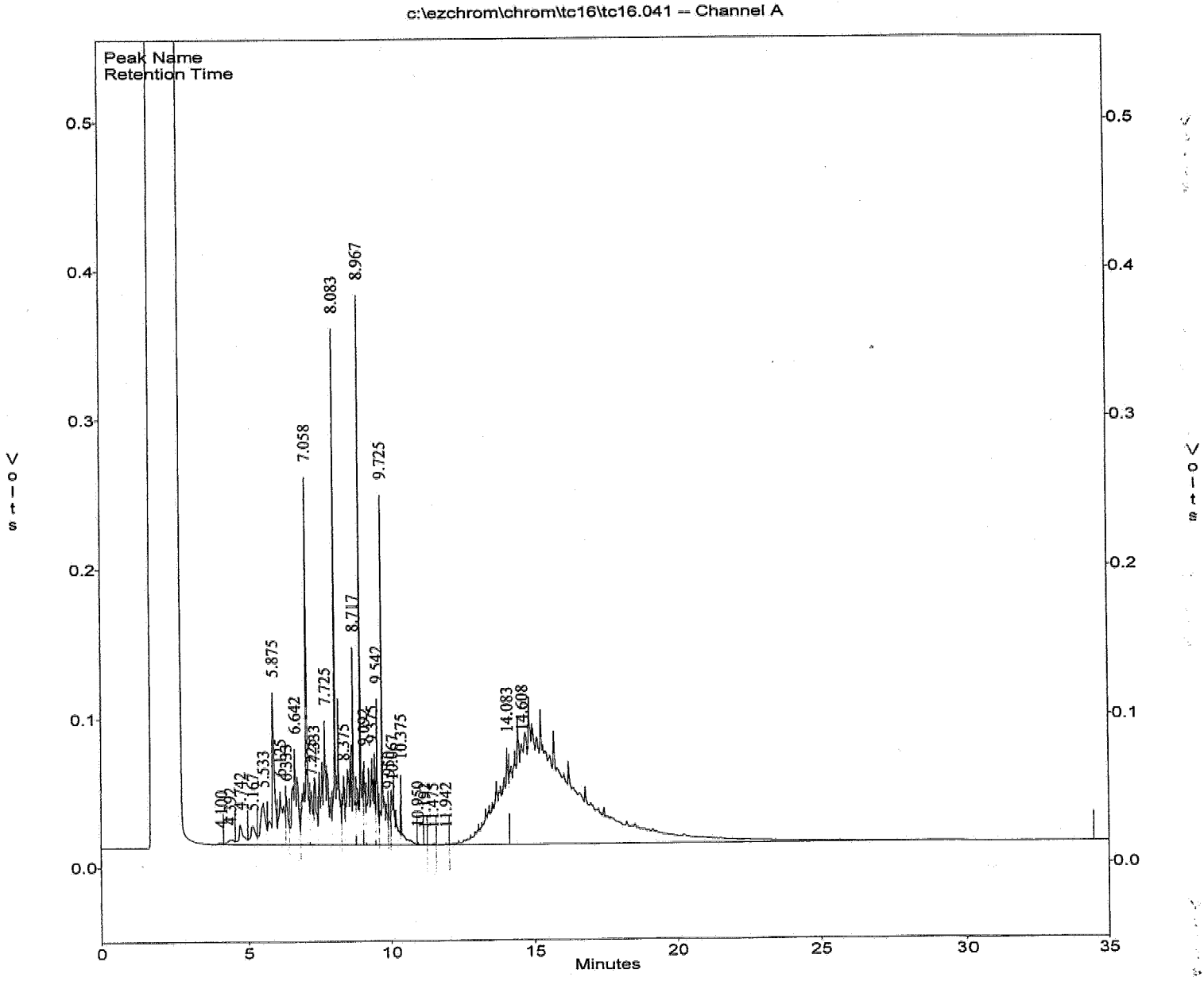
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5	0.000	0.000	0.000	500.0	23046.2	11276178	489.29	-2		15
5W30	0.000	0.000	0.000	500.0	32168.8	14106196	438.51	-12		15

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\tc16.041
Method : c:\ezchrom\methods\j550a05m.met
Sample ID : CJ550A05M527 JP5/MO
Acquired : Mar 17, 2006 16:44:53
Printed : Mar 20, 2006 11:20:56
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc. (ppm)
G1	JP5		11276178	23046.2	489.3
G2	5W30		14106196	32168.8	438.5



CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO50
GC Column : DB-5
Column size ID : 30MX0.25MM
Mid Conc Init LFID & Datetime: TA31006A 01/31/2006 17:51
Conc Cont LFID & Datetime: TC16053A 03/18/2006 01:08
CONC UNIT : ppm

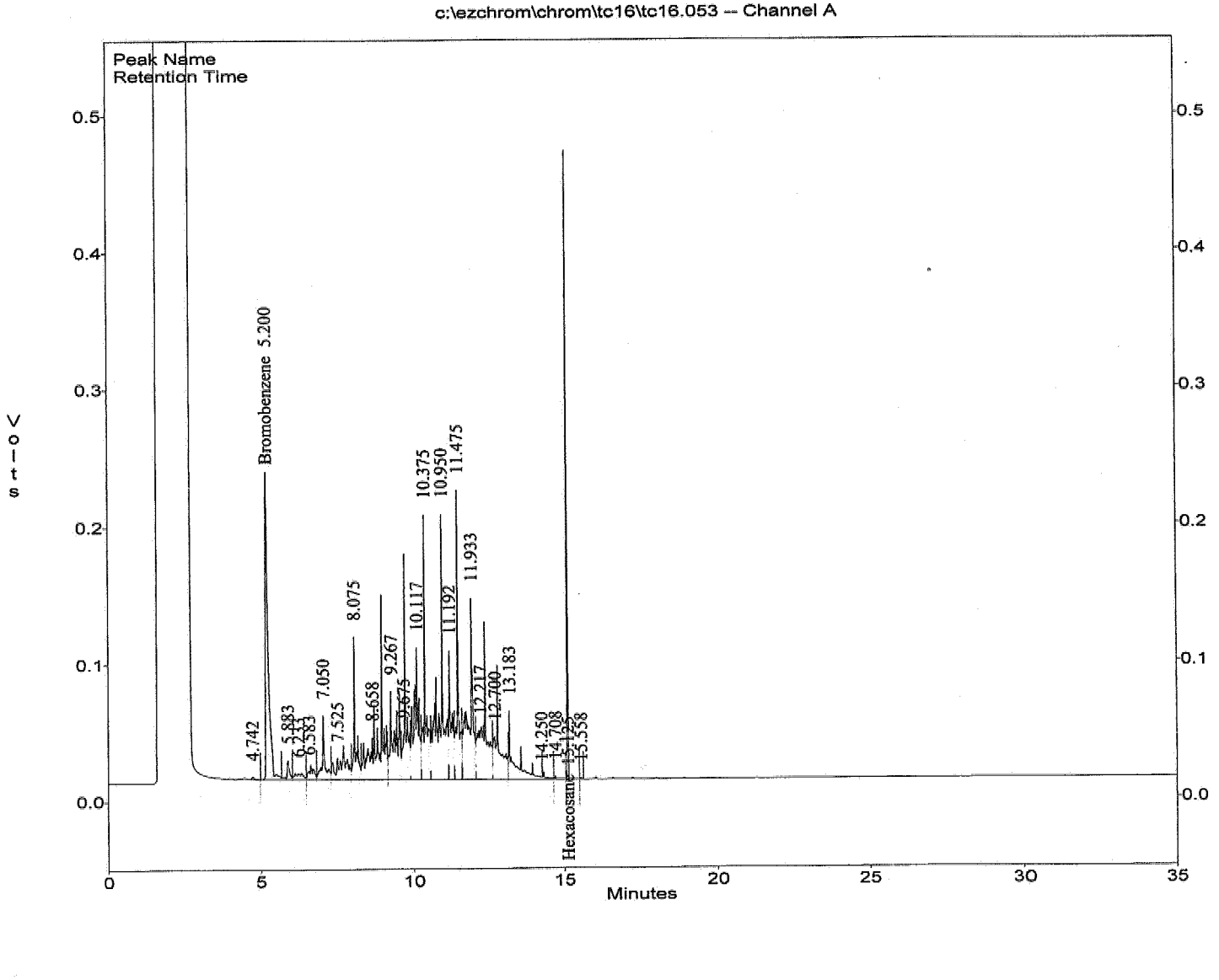
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	0.000	0.000	0.000	500.0	26500.7	12219121	461.09	-8		15
DIESEL(C10-C24)	0.000	0.000	0.000	500.0	26460.6	12104284	457.45	-9		15
DIESEL(C10-C28)	0.000	0.000	0.000	500.0	26478.8	12114988	457.54	-8		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	5.200	5.113	5.287	100.0	14214.3	1362970	95.89	-4		15
HEXACOSANE	15.125	14.792	15.458	25.0	28984.5	724928	25.01	0		15

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\tc16.053
Method : c:\ezchrom\methods\ds50a31.met
Sample ID : CDS50A31528 D500
Acquired : Mar 18, 2006 01:08:21
Printed : Mar 20, 2006 11:41:43
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc. (ppm)
2	Bromobenzene	5.200	1362970	14214.3	95.9
23	Hexacosane	15.125	724928	28984.5	25.0
G1	Diesel(TOTAL)		12219121	26500.7	461.1
G2	Diesel(C10-C24)		12104284	26460.6	457.4
G3	Diesel(C10-C28)		12114988	26478.8	457.5



CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO50
GC Column : DB-5
Column size ID : 30MX0.25MM
Mid Conc Init LFID & Datetime: TA05022A 01/06/2006 02:01
Conc Cont LFID & Datetime: TC16054A 03/18/2006 01:50
CONC UNIT : ppm

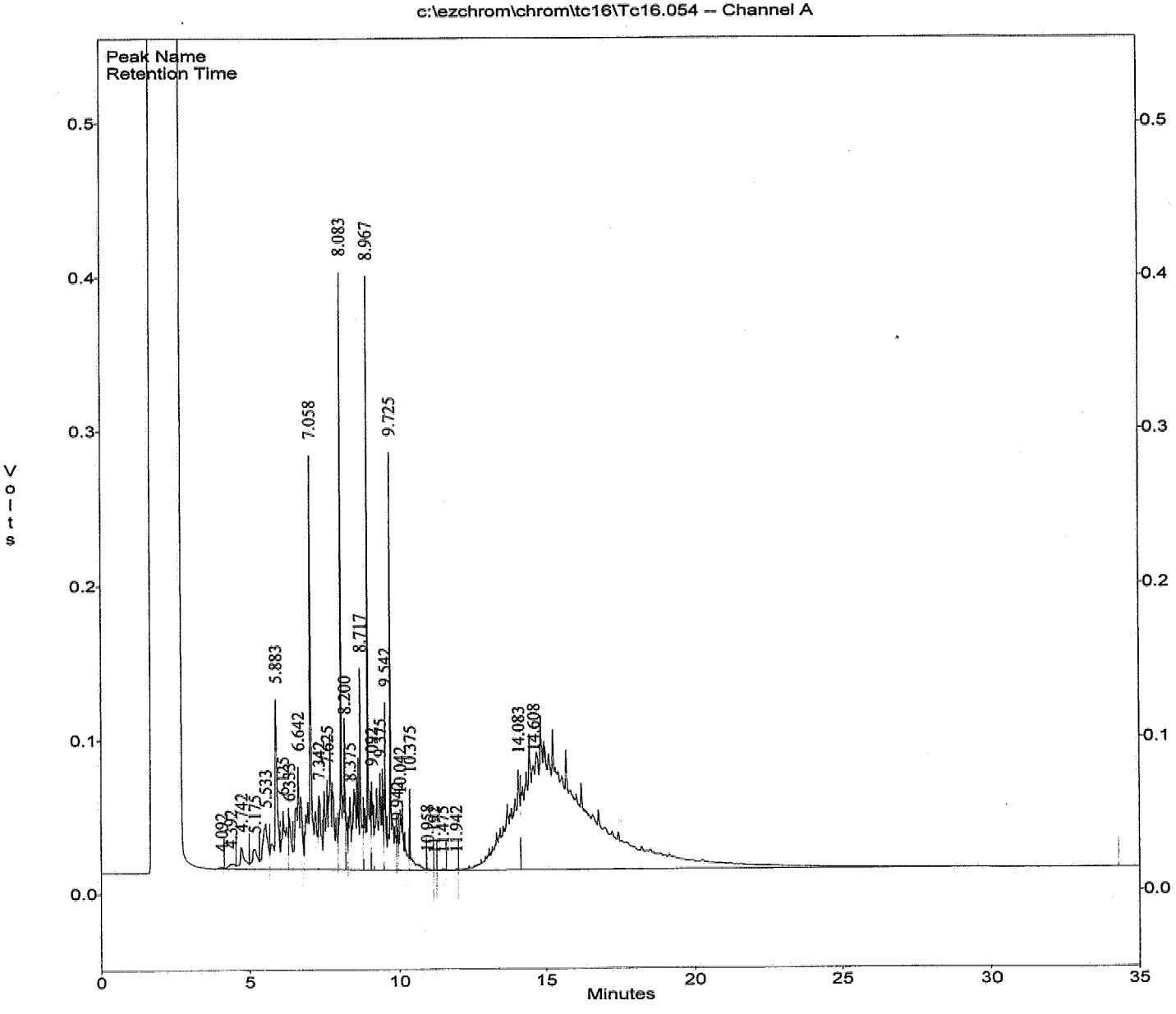
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5	0.000	0.000	0.000	500.0	23046.2	11659432	505.92	1		15
5W30	0.000	0.000	0.000	500.0	32168.8	14267501	443.52	-11		15

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.054
Method : c:\ezchrom\methods\J550a05m.met
Sample ID : CJ550A05M529 JP5/MO
Acquired : Mar 18, 2006 01:50:10
Printed : Mar 18, 2006 02:25:11
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc. (ppm)
G1	JP5		11659432	23046.2	505.9
G2	5W30		14267501	32168.8	443.5



CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO50
GC Column : DB-5
Column size ID : 30MX0.25MM
Mid Conc Init LFID & Datetime: TA31006A 01/31/2006 17:51
Conc Cont LFID & Datetime: TC16065A 03/18/2006 09:29
CONC UNIT : ppm

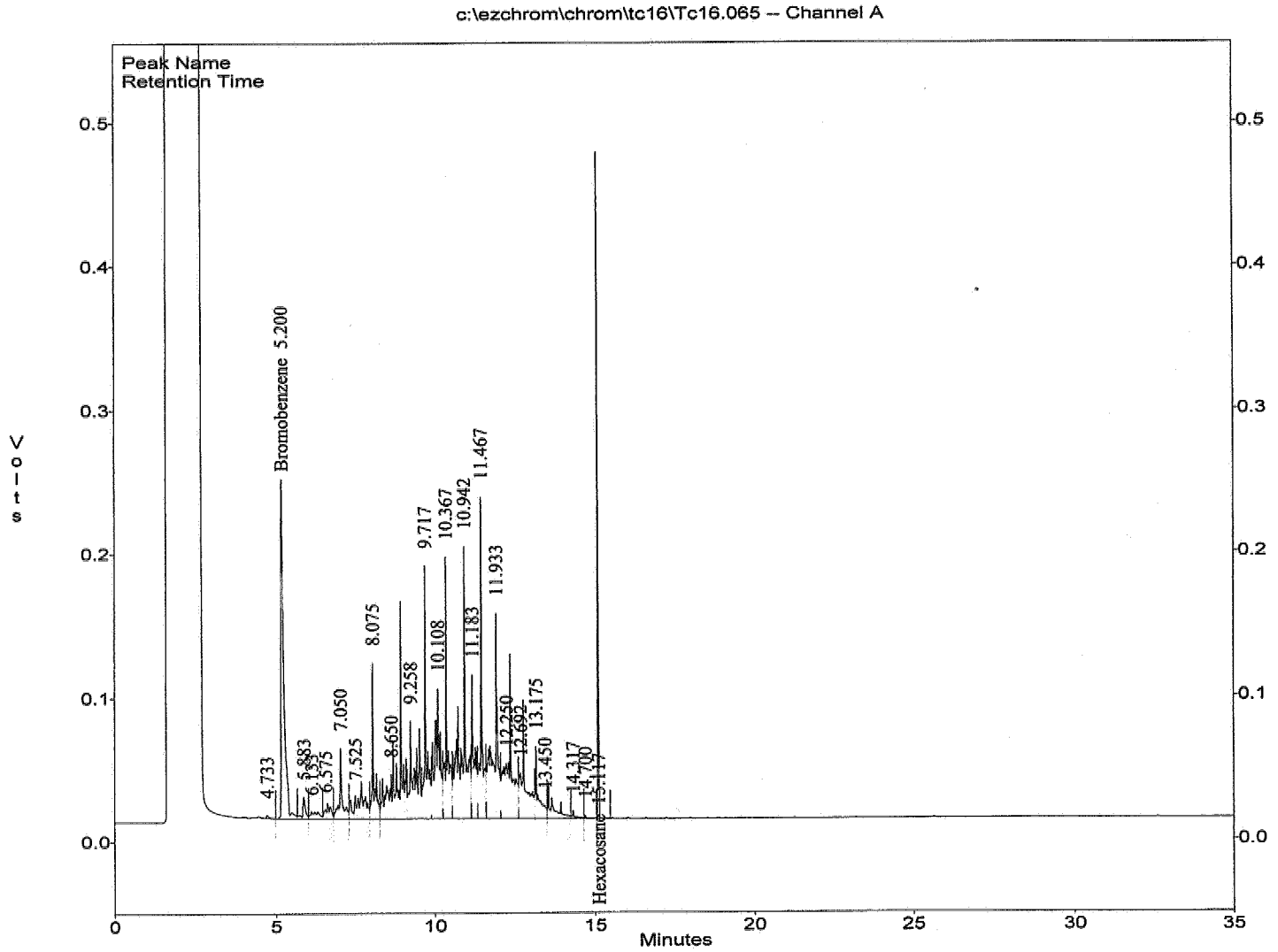
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	0.000	0.000	0.000	500.0	26500.7	12378345	467.10	-7		15
DIESEL(C10-C24)	0.000	0.000	0.000	500.0	26460.6	12261337	463.38	-7		15
DIESEL(C10-C28)	0.000	0.000	0.000	500.0	26478.8	12271666	463.45	-7		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	5.200	5.113	5.287	100.0	14214.3	1406039	98.92	-1		15
HEXACOSANE	15.117	14.784	15.450	25.0	28984.5	760280	26.23	5		15

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.065
Method : c:\ezchrom\methods\Ds50a31.met
Sample ID : CDS50A31530 D500
Acquired : Mar 18, 2006 09:29:18
Printed : Mar 18, 2006 10:04:19
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc. (ppm)
2	Bromobenzene	5.200	1406039	14214.3	98.9
24	Hexacosane	15.117	760280	28984.5	26.2
G1	Diesel(TOTAL)		12378345	26500.7	467.1
G2	Diesel(C10-C24)		12261337	26460.6	463.4
G3	Diesel(C10-C28)		12271666	26478.8	463.5



CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO50
GC Columm : DB-5
Column size ID : 30MX0.25MM
Mid Conc Init LFID & Datetime: TA05022A 01/06/2006 02:01
Conc Cont LFID & Datetime: TC16066A 03/18/2006 10:11
CONC UNIT : ppm

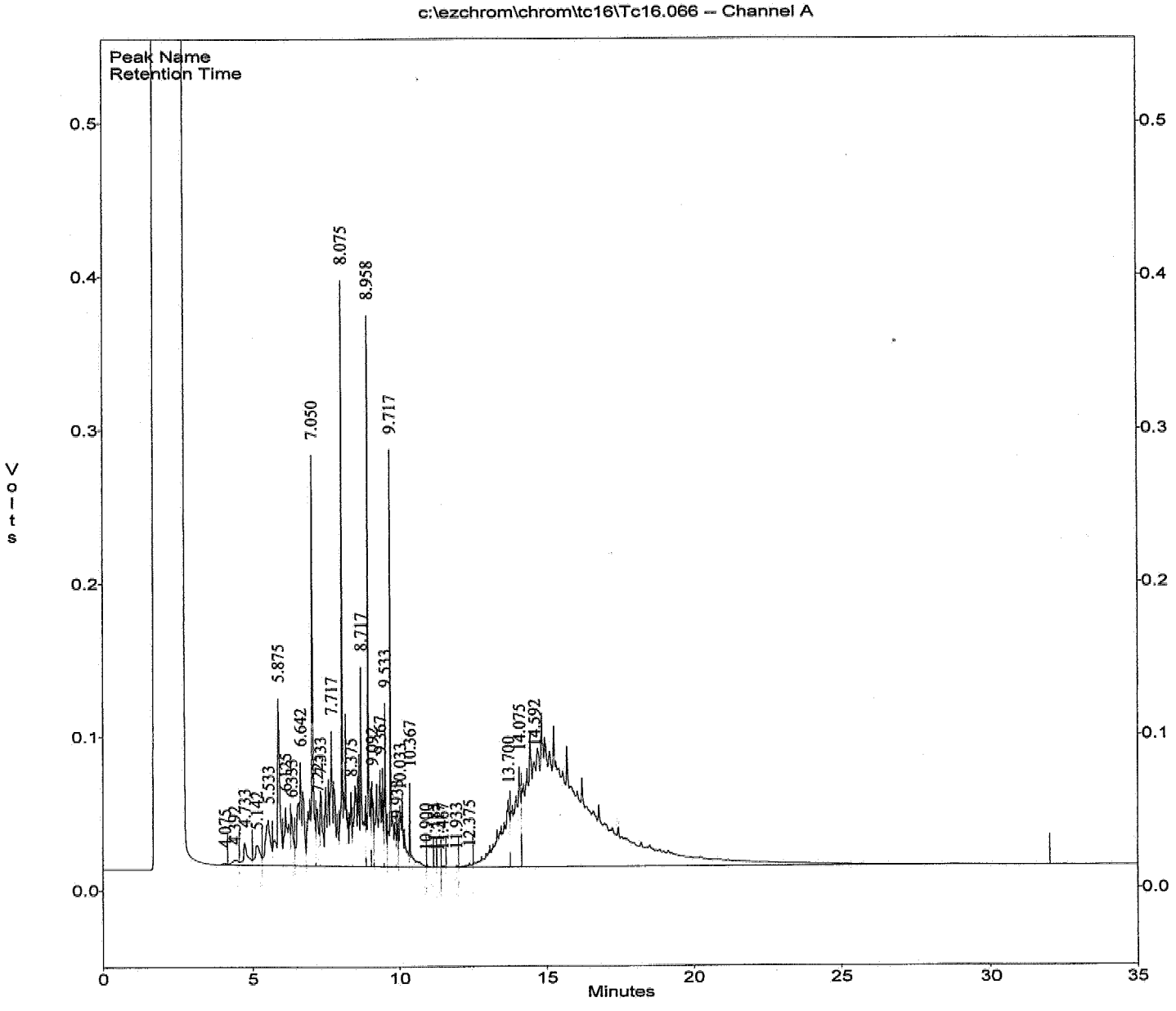
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5	0.000	0.000	0.000	500.0	23046.2	11589347	502.87	1		15
5W30	0.000	0.000	0.000	500.0	32168.8	14491190	450.47	-10		15

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\tc16\Tc16.066
Method : c:\ezchrom\methods\J550a05m.met
Sample ID : CJ550A05M531 JP5/MO
Acquired : Mar 18, 2006 10:11:01
Printed : Mar 18, 2006 10:46:03
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
G1	JP5		11589347	23046.2	502.9
G2	5W30		14491190	32168.8	450.5



5663

ANALYTICAL LOGS

ANALYSIS RUN LOG FOR TPH

SOP ☑ EMAX-M8015D Revision No. 3 ☐ EMAX-LUFTE Revision No. 3 ☐ Book # A50-021

Starting Date: 01-05-06 Time: 22:31 Ending Date: 01-06-06 Time: 07:37

ANALYTICAL BATCH N/A

Preparative Batch	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
	TA05-017	TEST				
	.018	IB30A233				
	.019	J330A05M01				10 PPM
	.020	02				20
	.021	03				30
	.022	04				500
	.023	05				1000
	.024	06				1500
	.025	07				3000
	.026	IJ330A05M01				500 J JP5+SW30 ICV
	.027	02				1500
	.028	HC-CHAIN				
	.029	MeCl2				
	.030	MeCl2				

no 01-06-06

Instrument No:	50
INITIAL CALIBRATION REFERENCE	

	ID	Date
Diesel		
Motor oil		
JP5		
JP5+SW30	J330A05M	01-05-06

Standards

Name	ID	Conc. (mg/L)
CH_2Cl_2	45209	pure
DCC		
JP5+SW30ICAL	J33B-07-01-1	10-3000
JP5 ICV	J33B-06-35-3	50,000
SW30 ICV	J33B-06-69-3	50,000

Electronic Data Archival

Location	Date
☐ EZC_1_Diesel	
☐	

Comments:

Analyzed By: JO

Disposed on: 01.06.06 By: JO

ANALYSIS RUN LOG FOR TPH

SOP ☑ EMAX-M8015D Revision No. 3 ☐ EMAX-LUFTE Revision No. 3 ☐ Book # A50-021

Starting Date: 01-31-06 Time: 14:20 Ending Date: 01-31-06 Time: 23:27

ANALYTICAL BATCH N/A

Preparative Batch	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes	
	TA31-001	IBS0A336				DSL (PPM) SURR	
	.002	DS50A31 01				> bad injection	
	.003	02					
	.004	03				50	40/10
	.005	04				100	60/15
	.006	05				500	100/25
	.007	06				1500	140/35
	.008	07				3000	220/35
	.009	01				5	
	.010	02				10	20/15
	.011	IDS50A31 01				500	100/25 ; DSL ICV
	.012	02				1500	140/35
	.013	HC-CHAIN					
	.014	MeCl2					

Instrument No:	50
INITIAL CALIBRATION REFERENCE	

	ID	Date
Diesel	DS50A31	01-31-06
Motor oil		
JP 5		

Standards

Name	ID	Conc. (mg/L)
CH_2Cl_2	45257	pure
DCC		
DSL 1GAL	SS3C-07-04-2	5-3000
+ SURR		20/15 · 220/35
DSL ICV	SS3C-07-03-3	2000

Electronic Data Archival

Location	Date
☐ EZC_1_Diesel	
☐	

Comments:

Analyzed By: JO

Disposed on: 02-01-06 By: JO

01/31/06

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

2-1-06

ANALYSIS RUN LOG FOR TPH

SOP ☑ EMAX-M8015D Revision No. 3 ☐ EMAX-LUFTE Revision No. 3 ☐ Book # A50-023

Starting Date: 03.17.06 Time: 05:35 Ending Date: 03.17.06 Time: 23:02

ANALYTICAL BATCH CDSSDA31C20

Preparative Batch	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
	TC16.026	1B20C524				
	.027	CDSSDA31524				DRO
	.028	CUSSDA05M525				UP5/5W30, 500 PPM
DSC0125	.029	06C501-05	1	✓		
↓	.030	06	↓	↓		
↓	.031	07	↓	↓	✓	
DSC009W	.032	06C090-12I	20		✓	-05 1mL
DSC0135	.033	DSC0135L	1	✓		
↓	.034	1B	↓	↓		
↓	.035	06C081-01	↓	↓		
	.036	TEST				- For Marina
DSC0135	.037	06C081-02	1	✓		
↓	.038	03	↓	↓		
	.039	TEST				- For Marina
	.040	CDSSDA31526				DRO
	.041	CUSSDA05M527				UP5/5W30, 500 PPM
DSC0135	.042	06C081-06	1	✓		
↓	.043	08	↓	↓		
↓	.044	08M	↓	↓		
↓	.045	085	↓	↓		
↓	.046	10	↓	↓		
↓	.047	06C106-02	↓	↓		
↓	.048	03	↓	↓		
↓	.049	04	↓	↓		
↓	.050	06	↓	↓		

Instrument No:		50
INITIAL CALIBRATION REFERENCE		
	ID	Date
Diesel	DS50A31	03/04
Motor oil		
JP 5/5W30	US50A05M	01-05-06

Standards		
Name	ID	Conc. (mg/L)
CH_2Cl_2	45257	pure
DCC DSL	053C-04-10-1	500
UP5/5W30 DCC	053C-07-04-3	500

Electronic Data Archival		
	Location	Date
☑	EZC_1_Diesel	03/20/06
☑		

Comments:

Analyzed By:

Disposed on: 08-20-06 By:

ANALYSIS RUN LOG FOR TPH

SOP ☑ EMAX-M8015D Revision No. 3 ☐ EMAX-LUFTE Revision No. 3 ☐ Book # A50-023

Starting Date: 03.17.06 Time: 23:44 Ending Date: 03.18.06 Time: 16:27

ANALYTICAL BATCH: DSC0135

Preparative Batch	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
	TC16.051	OCC106.08				
	.052	IBSDC528				
	.053	CDSSDA31528				DRO
	.054	CWSSDA05M529				JP5/SW30; 500 PPM
DSC0135	.055	06C106.09	1	✓		
↓	.056	↓ 10	↓	↓		
↓	.057	11	↓	↓		
↓	.058	↓ 01T	10	↓		.1/1ML; dark-colored
DSC0145	.059	DSC0145L	1	✓		
↓	.060	↓ 8	↓	↓		
↓	.061	06C107.04	↓	↓		
↓	.062	↓ 05	↓	↓		
↓	.063	↓ 08	↓	↓		
↓	.064	↓ 02	↓	↓		yellowish
	.065	CDSSDA31530				DRO
	.066	CWSSDA05M531				JP5/SW30; 500 PPM
DSC0145	.067	06C108.02	1	✓		
↓	.068	06C107.11	↓	↓		-yellowish
↓	.069	↓ 12	↓	↓		↓
↓	.070	↓ 15	↓	↓		↓
↓	.071	↓ 01	↓	↓		-dark yellow
↓	.072	↓ 07	↓	↓		↓
↓	.073	06C108.06	↓	↓		↓
↓	.074	↓ 01	↓	↓		-amber colored
↓	.075	06C107.14	↓	↓		↓

Instrument No:		50
INITIAL CALIBRATION REFERENCE		
	ID	Date
Diesel	DSSDA31	01/31/06
Motor oil		
JP 5/SW30	JSSDA05M	01-05-06

Standards		
Name	ID	Conc. (mg/L)
CH_2Cl_2	45257	pure
DCC DSL	SS3C-07-10-1	500
JP5/SW30 DCC	SS3C-07-09-3	500

Electronic Data Archival		
Location		Date
☑ EZC_1_Diesel	JP	03/20/06
☐		

Comments:

Analyzed By: JP

Disposed on: 03-20-06 By: JP

EXTRACTION LOGS

EXTRACTION LOG FOR TPH

SOP ☑ EMAX-3550 Rev. No.1 ☐ EMAX-3520 Rev. No.1 ☐ EMAX-LUFT E Rev. No.1 ☐ EMAX-3540 Rev. No.0 ☐ EMAX-3510Rev.No. 1

Matrix: SOIL Start Date: 3/16/06 Time: 14:15 End Date: 3/16/06 Time: 16:30 Book # EDS-026

PREPARATION BATCH # DSC013

Sample Prep ID	Lab Sample ID	Sonicator Number	Sample Amount (g | ml)	Extract Volume (ml)	Silica Gel Clean-up	Notes
01	DSC013 -SB	1	10.02	10		
02	-SL	3	10.01	10		
03	06C081 -01	3	10.03	10		
04	-02	1	10.01	10		
05	-03	3	10.01	10		
06	-06	3	10.03	10		
07	-08	3	10.03	10		
08	-08M	3	10.02	10		
09	-08S	3	10.01	10		
10	-10	1	10.00	10		
11	06C106 -01	3	10.01	10		
12	-02	3	10.03	10		
13	-03	1	10.03	10		
14	-04	3	10.02	10		
15	-06	3	10.01	10		
16	-08	1	10.03	10		
17	-09	3	10.02	10		
18	-10	3	10.02	10		
19	-11	1	10.03	10		
20						
21			JV 3/16/06			
22						
23						
24						
25						
26						
27						

Standards	ID	Amount Added (ml)
Surrogate	SS3C-07-04-1	1.0
LCS/MS	SS3C-07-04-3	1.0

Reagent	Lot# / ID
CH_2Cl_2	45257
Na_2SO4	45045
HCl	-
Silica Sand	44273

TUNING

Sonicator #	Reading
1	N/A
3	90%

Concentrator Water Bath Temp. (C)

1	35	35
2	35	35
3	35	35
4	35	35
5		
6		

Comments: Test thermometer = T_1

Prepared By: JV Standard Added By: JV

Witnessed By: AB Checked By: ML

Extract Received by: JO 03-16-06 Extract Location: SE06 #16

Disposal Date: Disposed By:

This page is checked during data review.

LABORATORY REPORT FOR

ENSR

UPGRADIENT INVESTIGATION, TRONOX

METHOD M8015
ALCOHOLS BY GC

SDG#: 06C106

CASE NARRATIVE

CLIENT: ENSR

PROJECT: UPGRADIENT INVESTIGATION, TRONOX

SDG: 06C106

METHOD M8015
ALCOHOLS BY GC

Seven (7) soil samples were received on 03/11/06 for Alcohols by GC analysis by Method M8015 in accordance with USEPA SW846, 3rd Ed.

1. Holding Time

Analytical holding time was met.

2. Calibration

Initial calibration was five points. %RSD was within 20%. Continuing calibrations were carried out within 10-sample interval. All recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

5. Matrix Spike/Matrix Spike Duplicate

No sample was spiked.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met. All positive results above RL were confirmed by GC-MS.

Samples were leached at ratio of 1:1 (w:v) with organic free water.

LAB CHRONICLE
ALCOHOLS BY GC

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX

SDG NO. : 06C106
Instrument ID : GCT043

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	MEC010SB	1	NA	03/14/0615:05	03/14/0610:00	DC14015A	DC14014A	MEC010S	Method Blank
LCS1S	MEC010SL	1	NA	03/14/0615:22	03/14/0610:00	DC14016A	DC14014A	MEC010S	Lab Control Sample (LCS)
LCD1S	MEC010SC	1	NA	03/14/0615:39	03/14/0610:00	DC14017A	DC14014A	MEC010S	LCS Duplicate
M121-0.5	C106-01	1	4.3	03/14/0615:56	03/14/0610:00	DC14018A	DC14014A	MEC010S	Field Sample
M121-5	C106-02	1	10.3	03/14/0616:13	03/14/0610:00	DC14019A	DC14014A	MEC010S	Field Sample
M121-10	C106-03	1	5.7	03/14/0616:29	03/14/0610:00	DC14020A	DC14014A	MEC010S	Field Sample
M121-5D	C106-04	1	9.5	03/14/0616:46	03/14/0610:00	DC14021A	DC14014A	MEC010S	Field Sample
M121-30	C106-06	1	5.8	03/14/0617:03	03/14/0610:00	DC14022A	DC14014A	MEC010S	Field Sample
M121-50	C106-08	1	6.1	03/14/0617:19	03/14/0610:00	DC14023A	DC14014A	MEC010S	Field Sample
M121-50DL	C106-08T	2	6.1	03/14/0618:20	03/14/0610:00	DC14027A	DC14014A	MEC010S	Diluted Sample
M121-80	C106-10	1	27.5	03/14/0617:51	03/14/0610:00	DC14025A	DC14014A	MEC010S	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD M8015
ALCOHOLS BY GC

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-0.5	Date Analyzed:	03/14/06 15:56
Lab Samp ID:	C106-01	Dilution Factor:	1
Lab File ID:	DC14018A	Matrix	: SOIL
Ext Btch ID:	MEC010S	% Moisture	: 4.3
Calib. Ref.:	DC14014A	Instrument ID	: GCT043

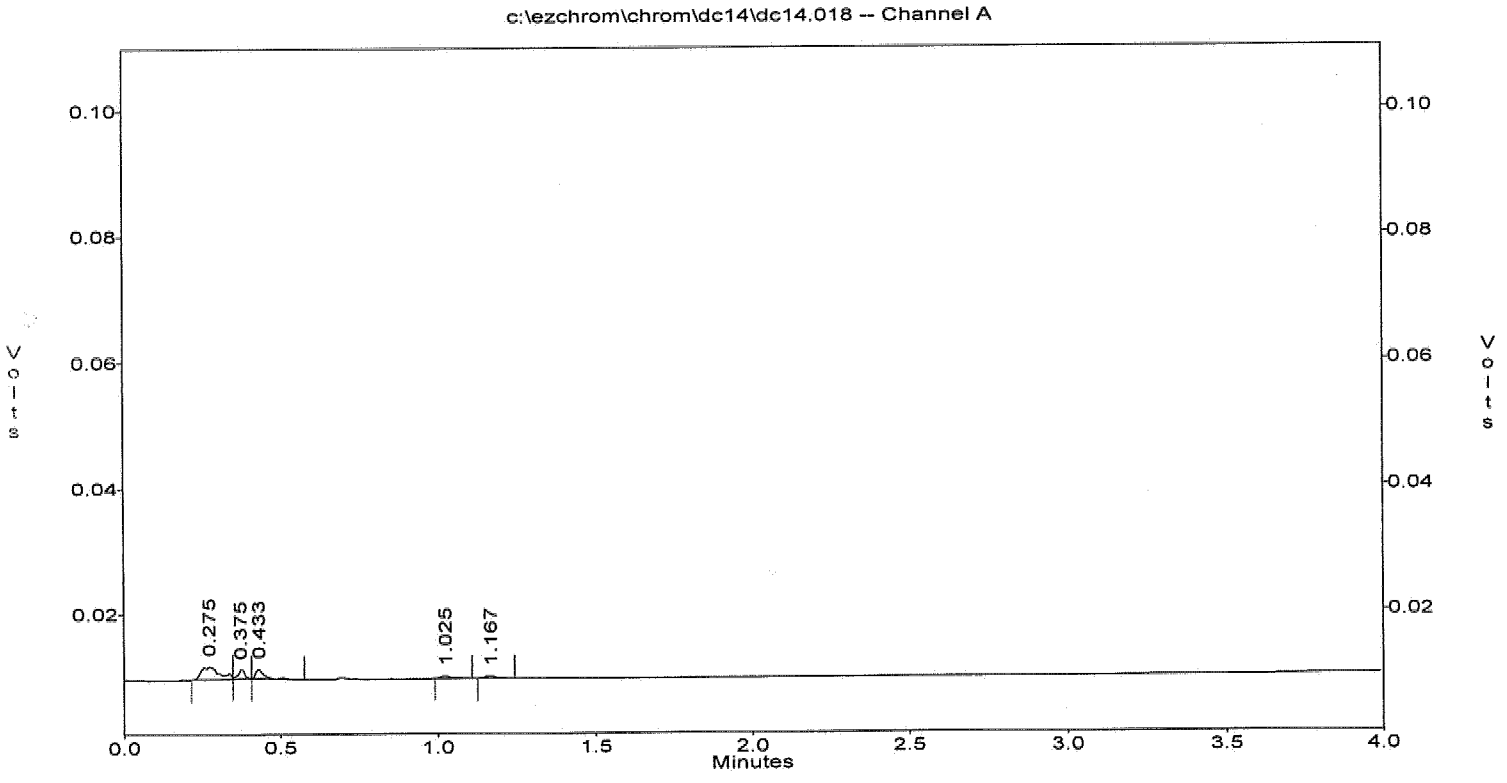
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
METHANOL	ND	1	.52
ETHANOL	ND	1	.52

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc14\dc14.018
Method : c:\ezchrom\methods\me43c06.met
Sample ID : 06C106-01
Acquired : Mar 14, 2006 15:56:34
Printed : Mar 14, 2006 16:01:54
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
4	METHANOL	1.025	985	9735.5	0.1
--	ETHANOL	1.217	0	0.0	0.0



METHOD M8015
ALCOHOLS BY GC

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-5	Date Analyzed:	03/14/06 16:13
Lab Samp ID:	C106-02	Dilution Factor:	1
Lab File ID:	DC14019A	Matrix	: SOIL
Ext Btch ID:	MEC010S	% Moisture	: 10.3
Calib. Ref.:	DC14014A	Instrument ID	: GCT043

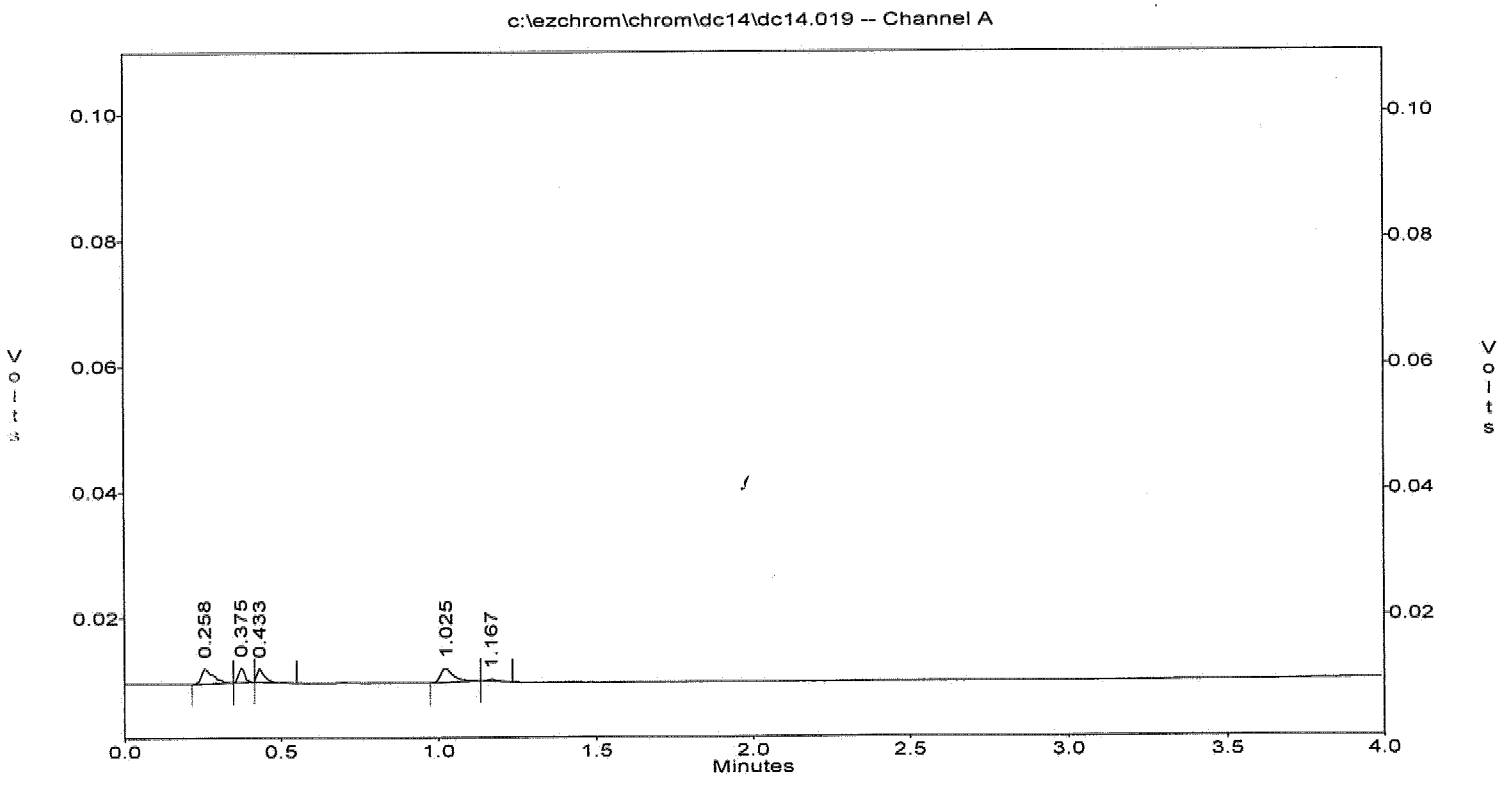
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
METHANOL	.72J	1.1	.56
ETHANOL	ND	1.1	.56

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc14\dc14.019
Method : c:\ezchrom\methods\me43c06.met
Sample ID : 06C106-02
Acquired : Mar 14, 2006 16:13:16
Printed : Mar 14, 2006 16:20:22
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
4	METHANOL	1.025	6273	9735.5	0.6
--	ETHANOL	1.217	0	0.0	0.0



METHOD M8015
ALCOHOLS BY GC

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-10	Date Analyzed:	03/14/06 16:29
Lab Samp ID:	C106-03	Dilution Factor:	1
Lab File ID:	DC14020A	Matrix :	SOIL
Ext Btch ID:	MEC010S	% Moisture :	5.7
Calib. Ref.:	DC14014A	Instrument ID :	GCT043

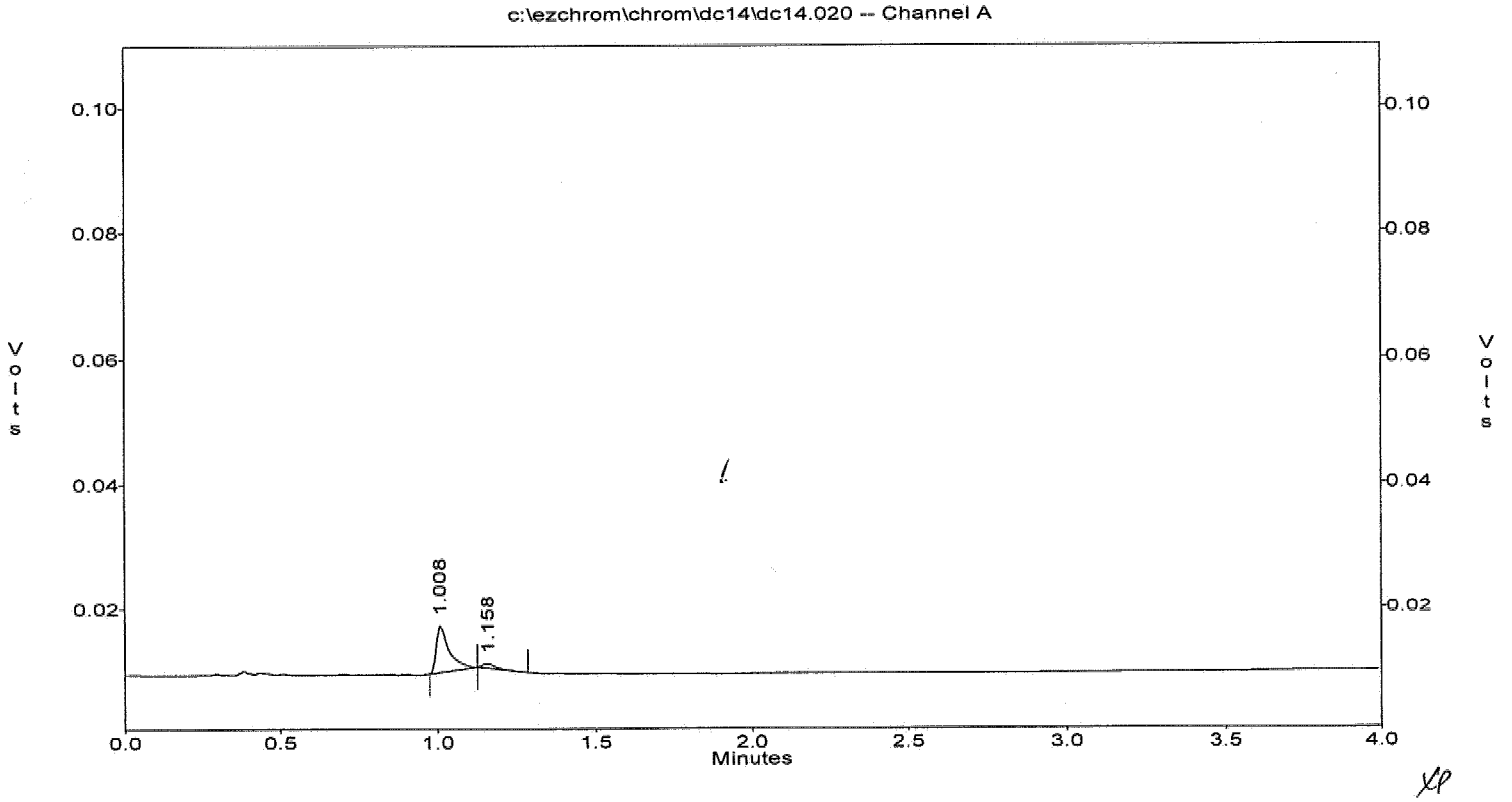
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
METHANOL	2.3	1.1	.53
ETHANOL	ND	1.1	.53

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc14\dc14.020
Method : c:\ezchrom\methods\me43c06.met
Sample ID : 06C106-03
Acquired : Mar 14, 2006 16:29:56
Printed : Mar 14, 2006 16:55:59
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
1	METHANOL	1.008	20696	9735.5	2.1
--	ETHANOL	1.217	0	0.0	0.0



XP
3/14/06

5686

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C21\RCP059.D Vial: 10
Acq On : 21 Mar 2006 8:31 pm Operator: CR
Sample : C106-03 Inst : TO02
Misc : ETHYLENE GLYCOL EXTRACTION Multiplr: 1.00
MS Integration Params: 524TAIL.P
Quant Time: Mar 28 17:18 2006 Quant Results File: VO02C27A.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02C27A.M (RTE Integrator)
Title : METHANOL CONFIRMATION
Last Update : Tue Mar 28 15:25:00 2006
Response via : Initial Calibration
DataAcq Meth : VO02C16

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Methanol	4.40	31	1545918	2.25	ug/l	95

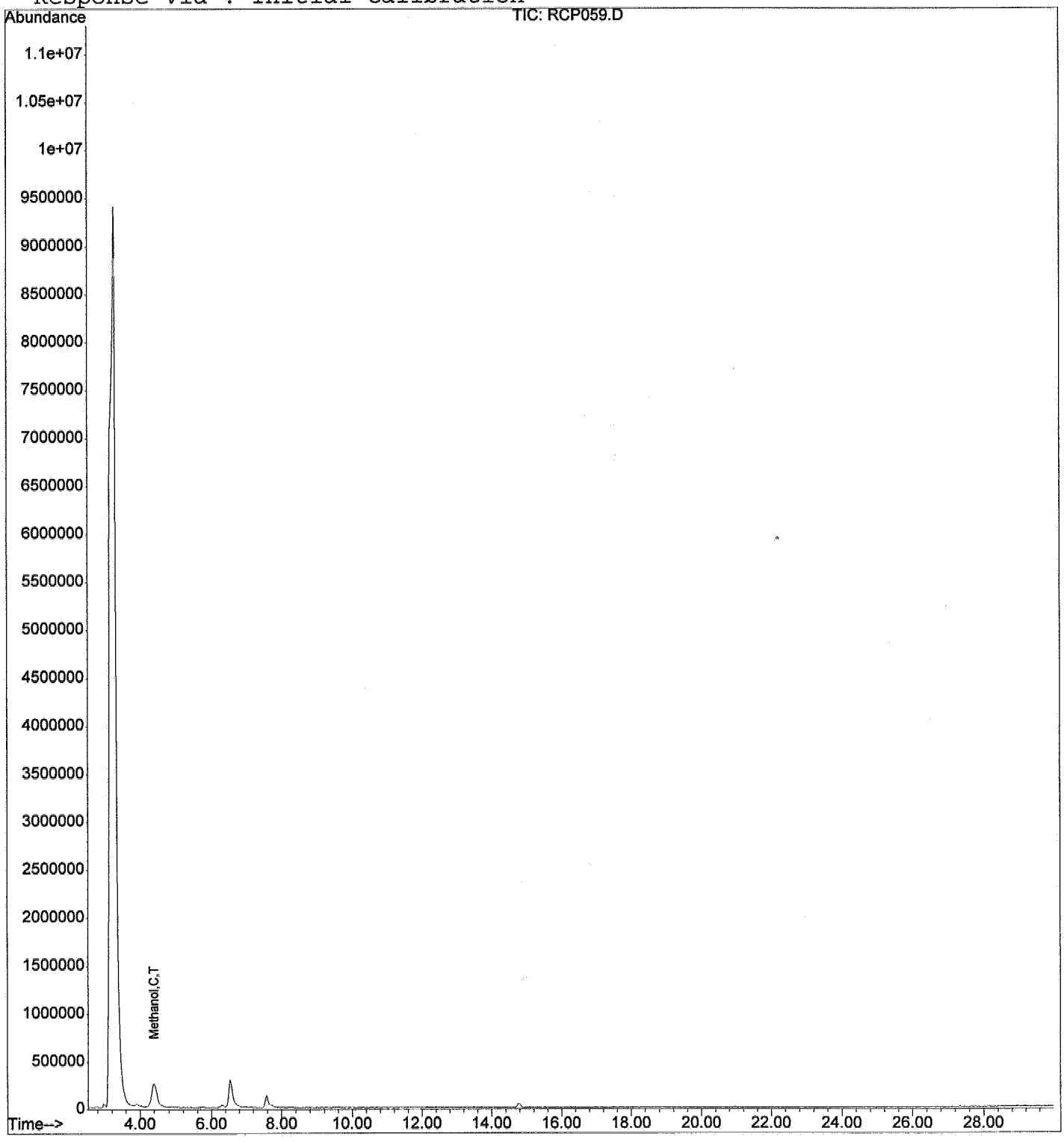
(#) = qualifier out of range (m) = manual integration

5087

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C21\RCP059.D Vial: 10
Acq On : 21 Mar 2006 8:31 pm Operator: CR
Sample : C106-03 Inst : TO02
Misc : ETHYLENE GLYCOL EXTRACTION Multiplr: 1.00
MS Integration Params: 524TAIL.P
Quant Time: Mar 28 17:18 2006 Quant Results File: VO02C27A.RES

Method : D:\HPCHEM\1\METHODS\VO02C27A.M (RTE Integrator)
Title : METHANOL CONFIRMATION
Last Update : Tue Mar 28 15:25:00 2006
Response via : Initial Calibration



5888

METHOD M8015
ALCOHOLS BY GC

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-5D	Date Analyzed:	03/14/06 16:46
Lab Samp ID:	C106-04	Dilution Factor:	1
Lab File ID:	DC14021A	Matrix :	SOIL
Ext Btch ID:	MEC010S	% Moisture :	9.5
Calib. Ref.:	DC14014A	Instrument ID :	GCT043

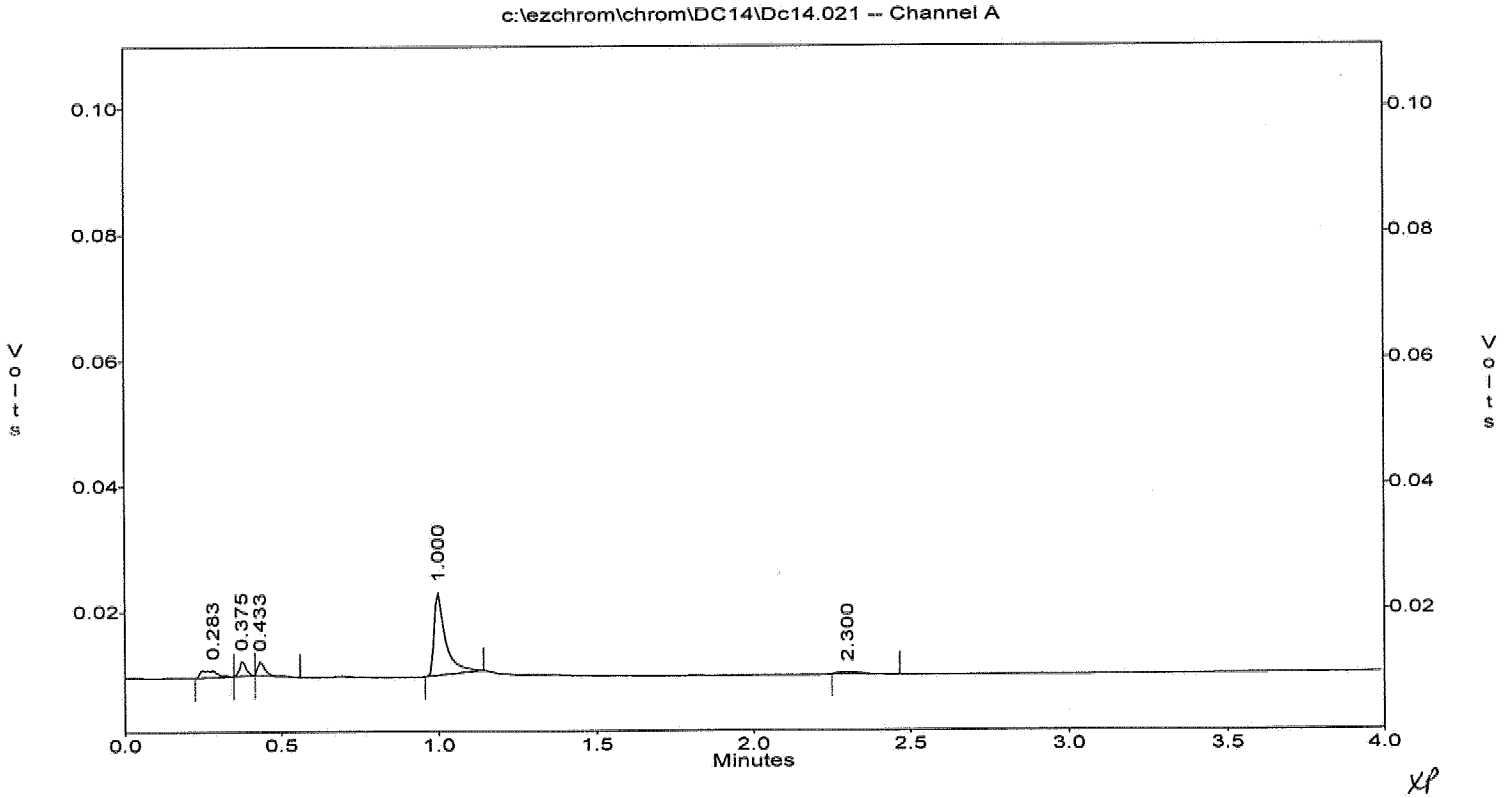
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
METHANOL	3.7	1.1	.55
ETHANOL	ND	1.1	.55

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC14\Dc14.021
Method : c:\ezchrom\methods\Me43c06.met
Sample ID : 06C106-04
Acquired : Mar 14, 2006 16:46:40
Printed : Mar 14, 2006 16:50:41
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
4	METHANOL	1.000	32460	9735.5	3.3
--	ETHANOL	1.217	0	0.0	0.0



XP
3/14/06

5856

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C21\RCP065.D Vial: 16
Acq On : 22 Mar 2006 12:12 am Operator: CR
Sample : C106-04 Inst : TO02
Misc : ETHYLENE GLYCOL EXTRACTION Multiplr: 1.00
MS Integration Params: 524TAIL.P
Quant Time: Mar 28 17:19 2006 Quant Results File: VO02C27A.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02C27A.M (RTE Integrator)
Title : METHANOL CONFIRMATION
Last Update : Tue Mar 28 15:25:00 2006
Response via : Initial Calibration confirmation
DataAcq Meth : VO02C16

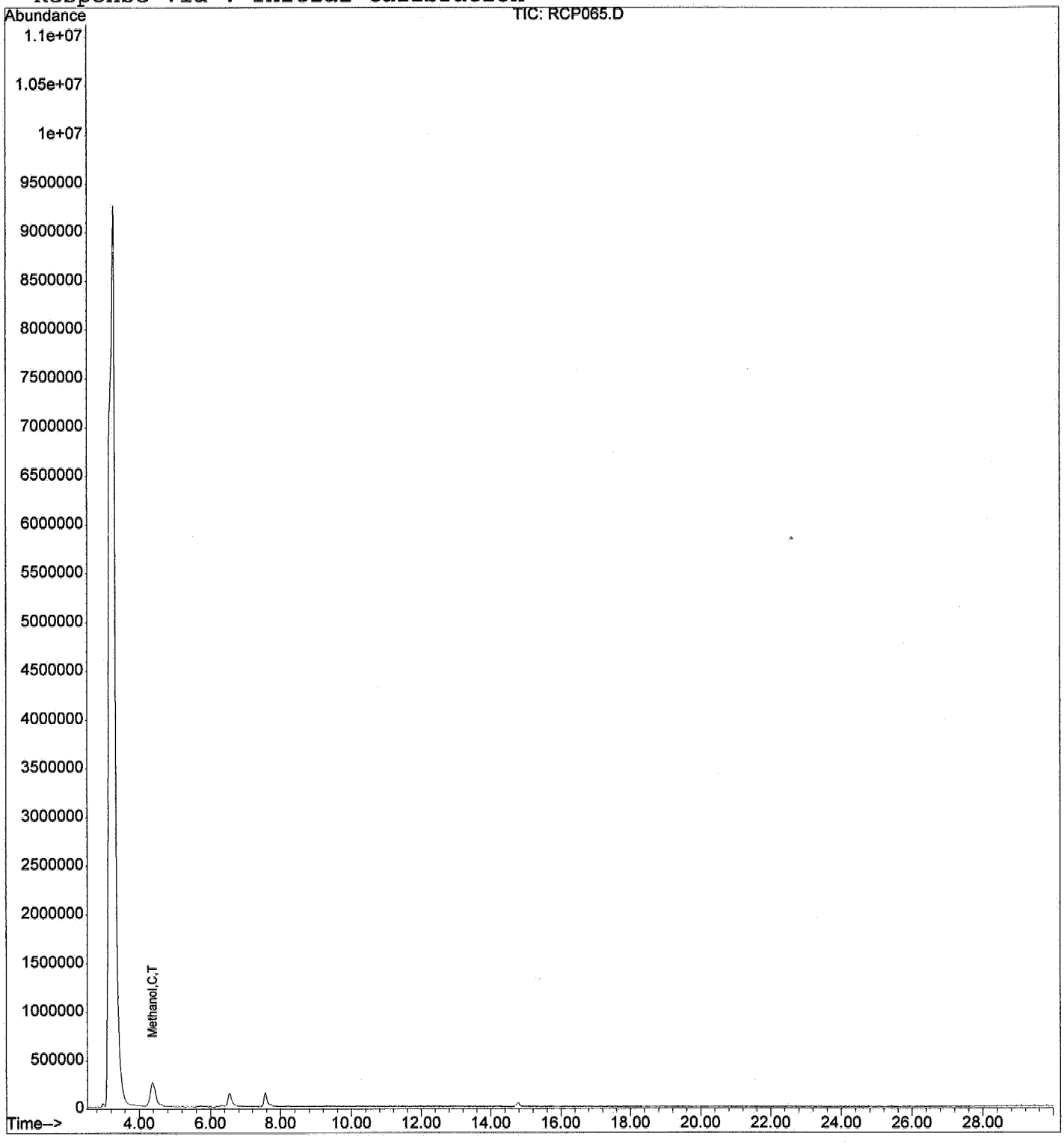
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Methanol	4.38	31	1564900	2.28	ug/l	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C21\RCP065.D Vial: 16
Acq On : 22 Mar 2006 12:12 am Operator: CR
Sample : C106-04 Inst : TO02
Misc : ETHYLENE GLYCOL EXTRACTION Multiplr: 1.00
MS Integration Params: 524TAIL.P
Quant Time: Mar 28 17:19 2006 Quant Results File: VO02C27A.RES

Method : D:\HPCHEM\1\METHODS\VO02C27A.M (RTE Integrator)
Title : METHANOL CONFIRMATION
Last Update : Tue Mar 28 15:25:00 2006
Response via : Initial Calibration



METHOD M8015
ALCOHOLS BY GC

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-30	Date Analyzed:	03/14/06 17:03
Lab Samp ID:	C106-06	Dilution Factor:	1
Lab File ID:	DC14022A	Matrix :	SOIL
Ext Btch ID:	MEC010S	% Moisture :	5.8
Calib. Ref.:	DC14014A	Instrument ID :	GCT043

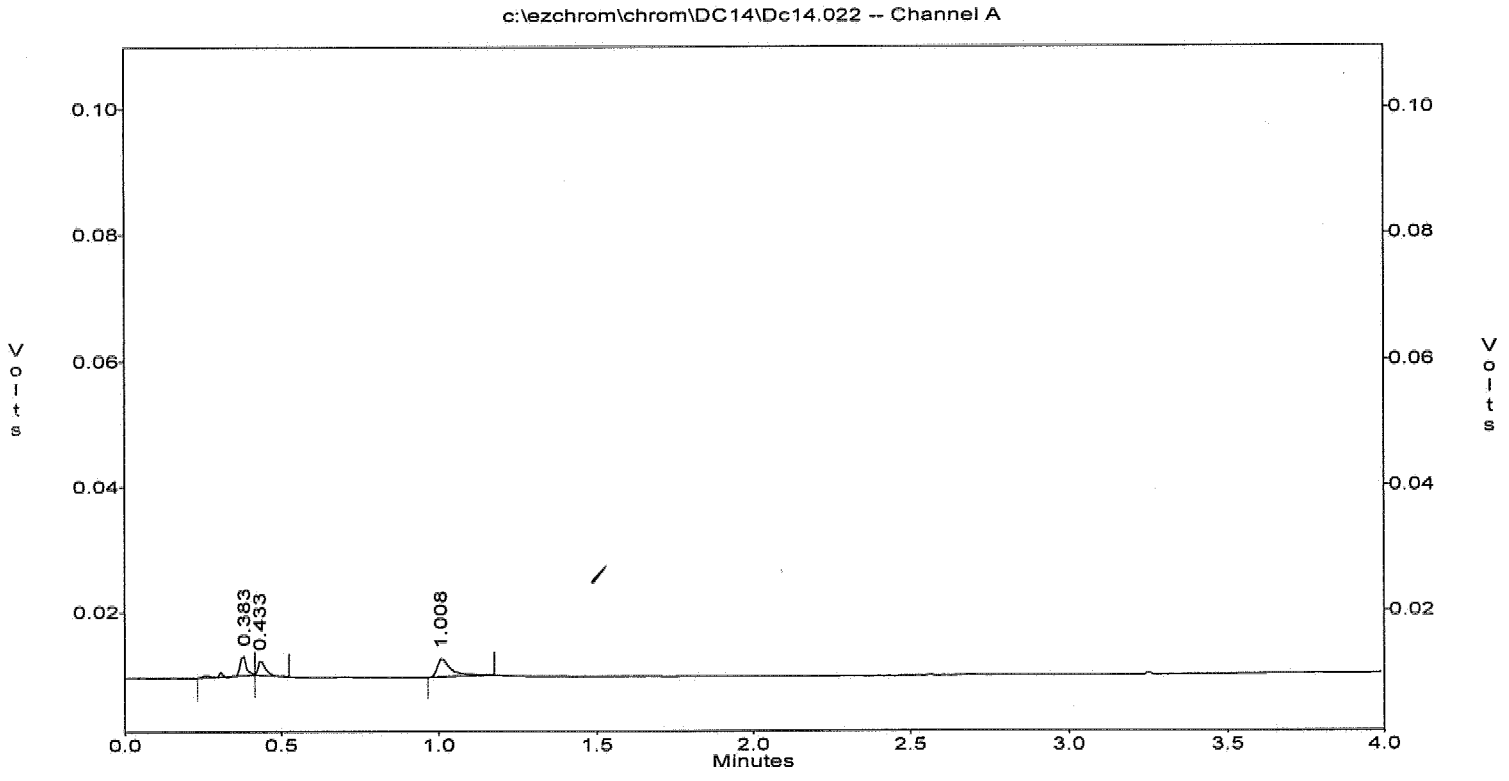
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
METHANOL	.92J	1.1	.53
ETHANOL	ND	1.1	.53

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC14\Dc14.022
Method : c:\ezchrom\methods\Me43c06.met
Sample ID : 06C106-06
Acquired : Mar 14, 2006 17:03:45
Printed : Mar 14, 2006 17:07:46
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
3	METHANOL	1.008	8391	9735.5	0.9
--	ETHANOL	1.217	0	0.0	0.0



METHOD M8015
ALCOHOLS BY GC

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID	: M121-50	Date Analyzed:	03/14/06 17:19
Lab Samp ID	: C106-08	Dilution Factor:	1
Lab File ID	: DC14023A	Matrix :	SOIL
Ext Btch ID	: MEC010S	% Moisture :	6.1
Calib. Ref.	: DC14014A	Instrument ID :	GCT043

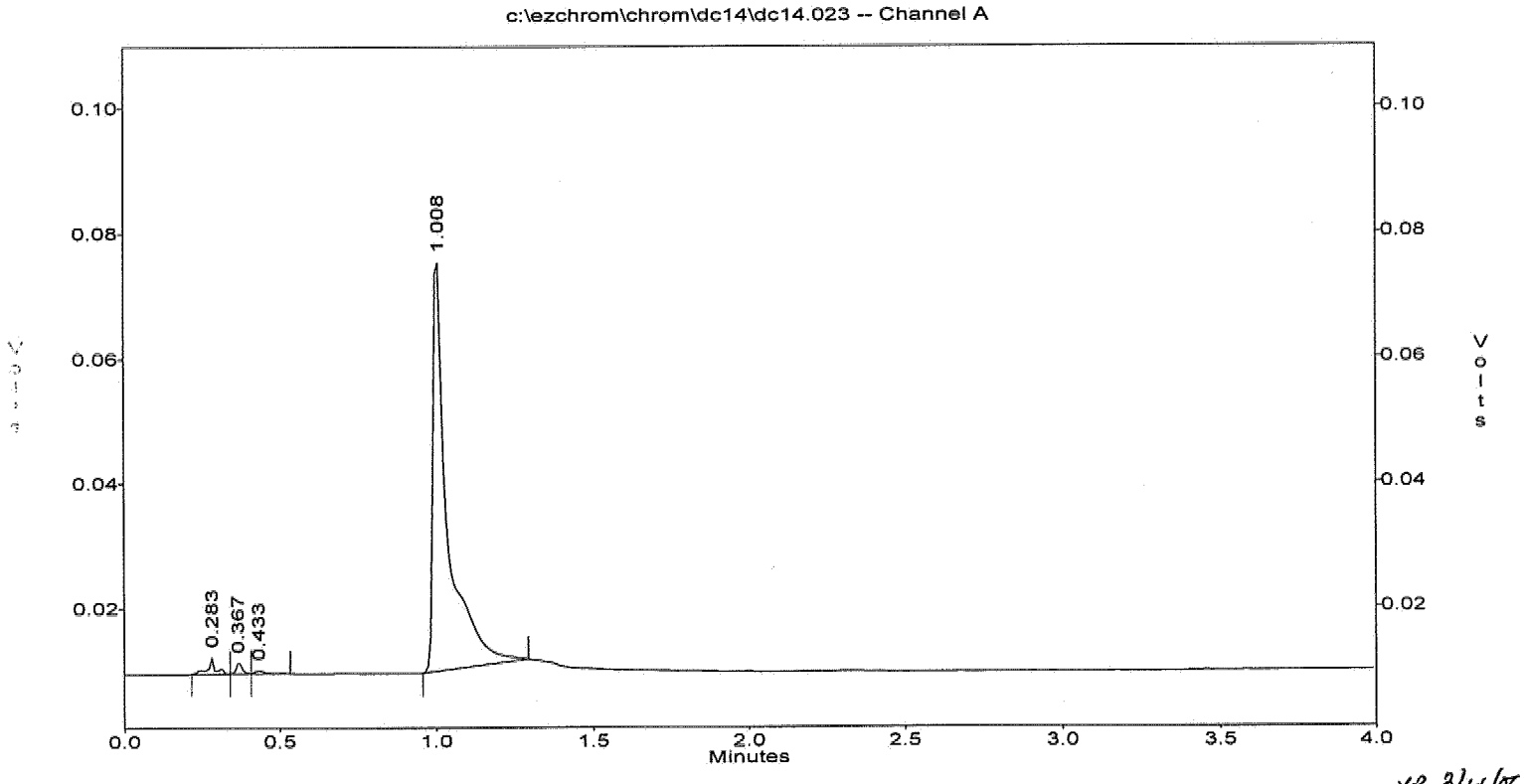
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
METHANOL	23E	1.1	.53
ETHANOL	ND	1.1	.53

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc14\dc14.023
Method : c:\ezchrom\methods\me43c06.met
Sample ID : 06C106-08
Acquired : Mar 14, 2006 17:19:43
Printed : Mar 14, 2006 17:30:21
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)	
4	METHANOL	1.008	212088	9735.5	21.8	E
--	ETHANOL	1.217	0	0.0	0.0	



XP 3/14/06

METHOD M8015
ALCOHOLS BY GC

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-50DL	Date Analyzed:	03/14/06 18:20
Lab Samp ID:	C106-08T	Dilution Factor:	2
Lab File ID:	DC14027A	Matrix :	SOIL
Ext Btch ID:	MEC010S	% Moisture :	6.1
Calib. Ref.:	DC14014A	Instrument ID :	GCT043

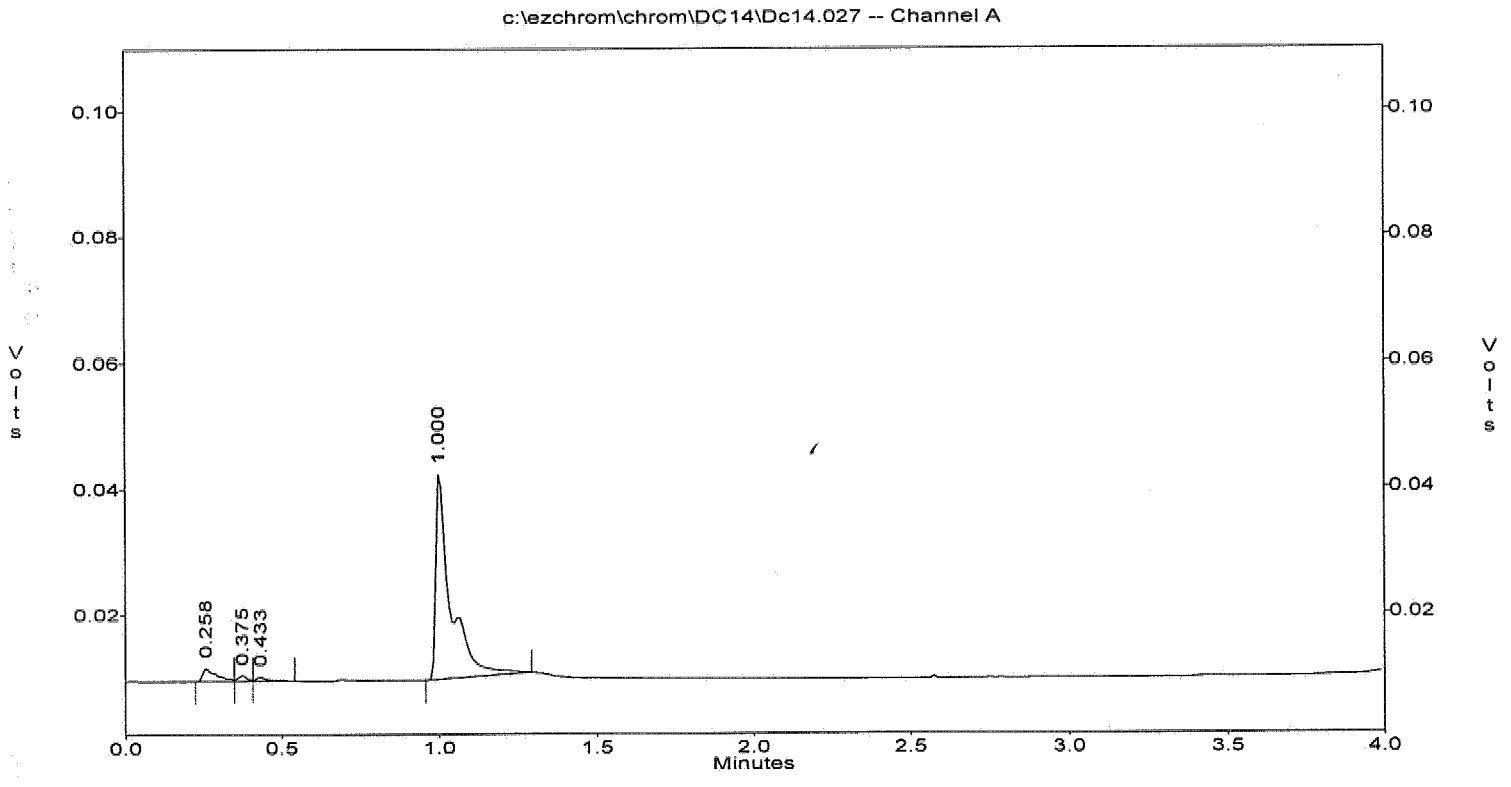
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
METHANOL	23	2.1	1.1
ETHANOL	ND	2.1	1.1

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC14\Dc14.027
Method : c:\ezchrom\methods\Me43c06.met
Sample ID : 06C106-08T DF=2
Acquired : Mar 14, 2006 18:20:45
Printed : Mar 14, 2006 18:24:46
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)	
4	METHANOL	1.000	105795	9735.5	21.7	✓
--	ETHANOL	1.217	0	0.0	0.0	



5898

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C17\RCP038.D Vial: 10
Acq On : 17 Mar 2006 3:54 pm Operator: CR
Sample : 06C106-08 4mL/10mL DF 2.5 Inst : TO02
Misc : Confirm Multiplr: 1.00
MS Integration Params: 524TAIL.P
Quant Time: Mar 28 17:21 2006 Quant Results File: VO02C27A.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02C27A.M (RTE Integrator)
Title : METHANOL CONFIRMATION
Last Update : Tue Mar 28 15:25:00 2006
Response via : Initial Calibration
DataAcq Meth : VO02C16

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
Target Compounds					Qvalue
1) Methanol	4.39	31	6098632	8.88 ug/l	100

4.5x
22.2

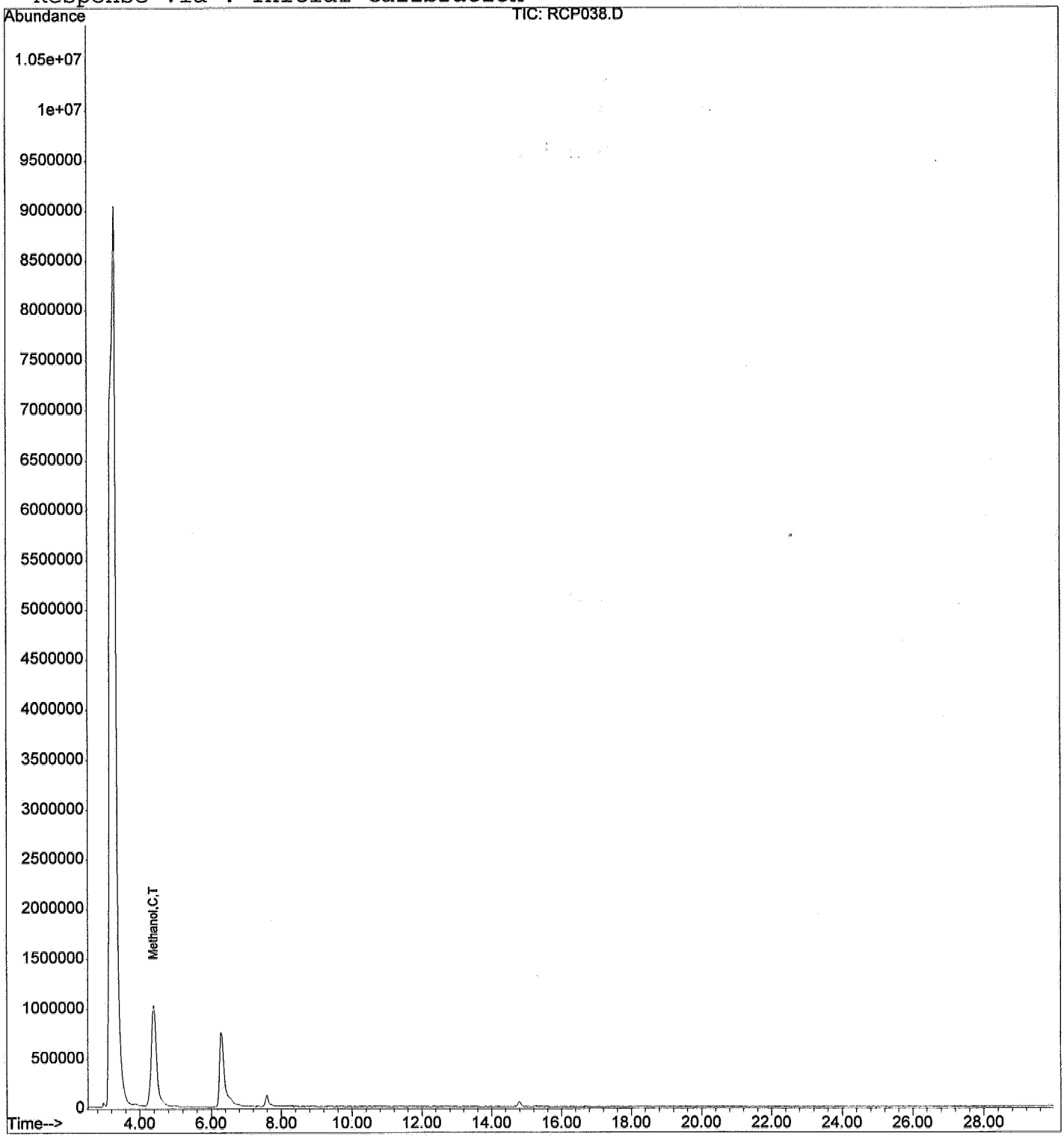
(#) = qualifier out of range (m) = manual integration
RCP038.D VO02C27A.M Tue Mar 28 17:21:47 2006 Page 1

5099

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C17\RCP038.D Vial: 10
Acq On : 17 Mar 2006 3:54 pm Operator: CR
Sample : 06C106-08 4mL/10mL Inst : TO02
Misc : Multiplr: 1.00
MS Integration Params: 524TAIL.P
Quant Time: Mar 28 17:21 2006 Quant Results File: VO02C27A.RES

Method : D:\HPCHEM\1\METHODS\VO02C27A.M (RTE Integrator)
Title : METHANOL CONFIRMATION
Last Update : Tue Mar 28 15:25:00 2006
Response via : Initial Calibration



METHOD M8015
ALCOHOLS BY GC

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-80	Date Analyzed:	03/14/06 17:51
Lab Samp ID:	C106-10	Dilution Factor:	1
Lab File ID:	DC14025A	Matrix :	SOIL
Ext Btch ID:	MEC010S	% Moisture :	27.5
Calib. Ref.:	DC14014A	Instrument ID :	GCT043

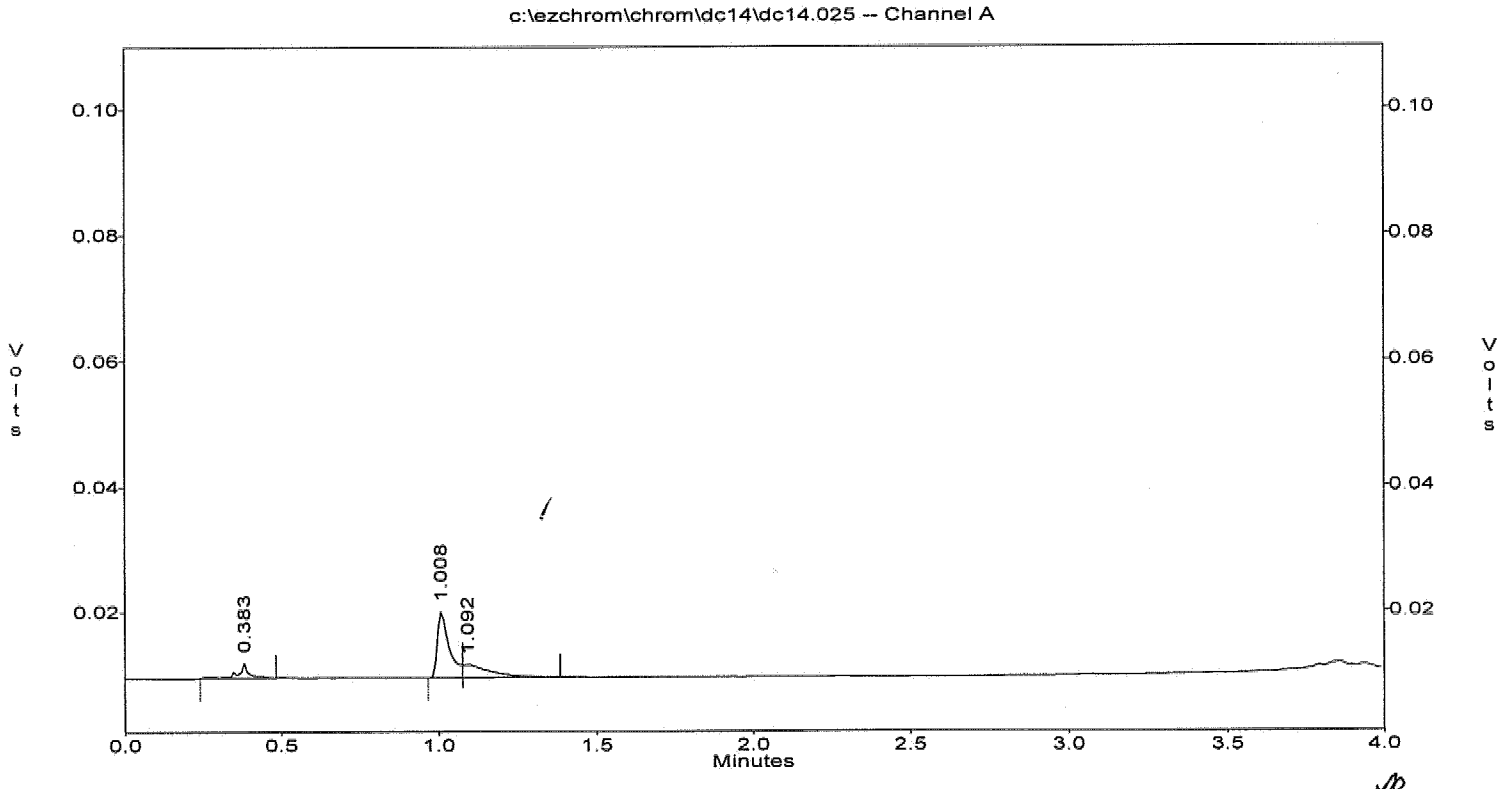
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
METHANOL	3.8	1.4	.69
ETHANOL	ND	1.4	.69

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc14\dc14.025
Method : c:\ezchrom\methods\me43c06.met
Sample ID : 06C106-10
Acquired : Mar 14, 2006 17:51:32
Printed : Mar 14, 2006 18:04:01
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
2	METHANOL	1.008	26697	9735.5	2.7
--	ETHANOL	1.217	0	0.0	0.0



KP
3/14/06

5182

Quantitation Report (Not Reviewed)

Data File : D:\HPCHEM\1\DATA\06C21\RCP063.D Vial: 14
Acq On : 21 Mar 2006 10:59 pm confirmation Operator: CR
Sample : C106-10 Inst : TO02
Misc : ETHYLENE GLYCOL EXTRACTION Multiplr: 1.00
MS Integration Params: 524TAIL.P
Quant Time: Mar 28 17:24 2006 Quant Results File: VO02C27A.RES

Quant Method : D:\HPCHEM\1\METHODS\VO02C27A.M (RTE Integrator)
Title : METHANOL CONFIRMATION
Last Update : Tue Mar 28 15:25:00 2006
Response via : Initial Calibration
DataAcq Meth : VO02C16

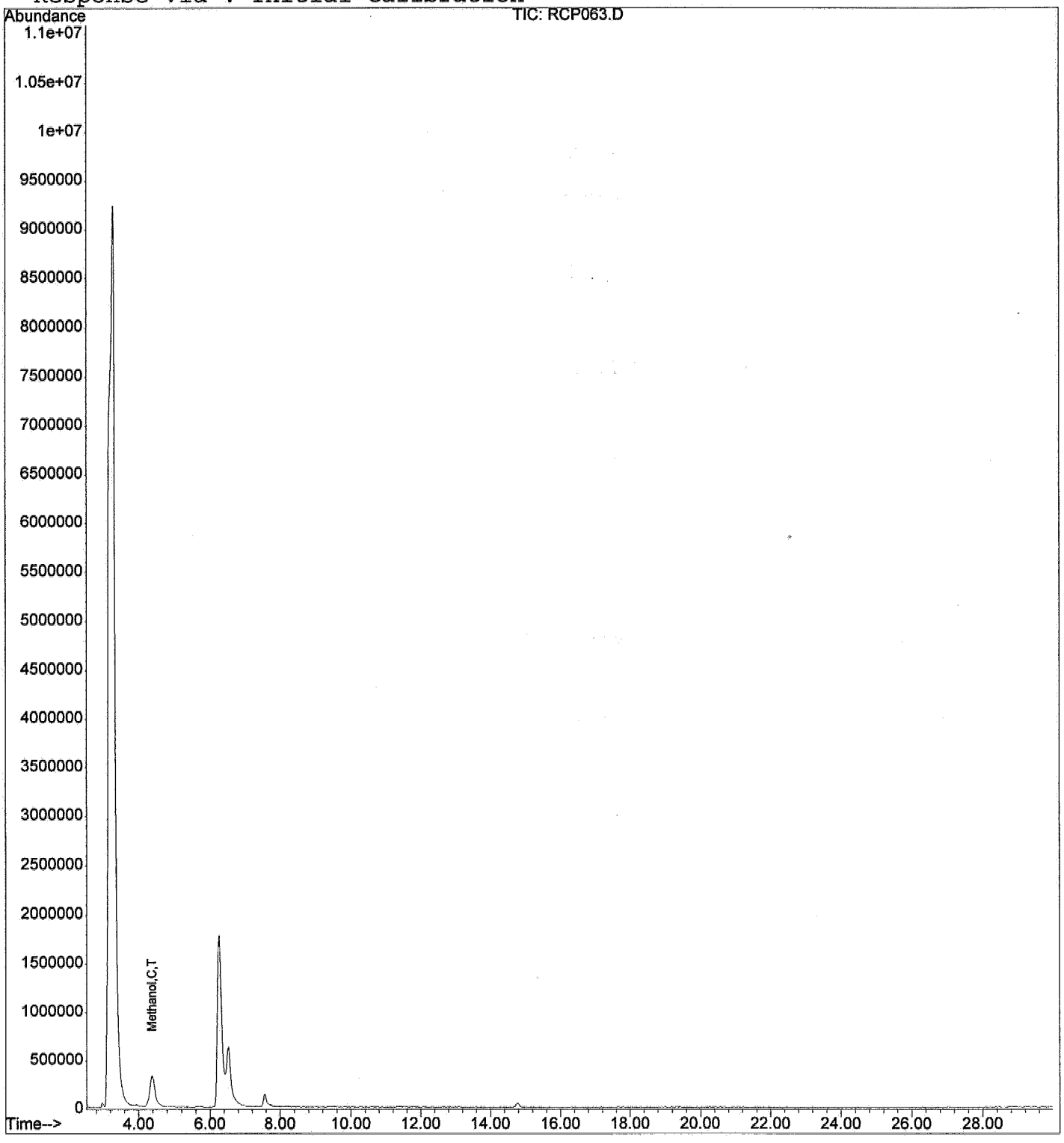
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
Target Compounds						Qvalue
1) Methanol	4.38	31	1917583	2.79	ug/l	99

(#) = qualifier out of range (m) = manual integration
RCP063.D VO02C27A.M Tue Mar 28 17:24:44 2006 Page 1

Quantitation Report

Data File : D:\HPCHEM\1\DATA\06C21\RCP063.D Vial: 14
Acq On : 21 Mar 2006 10:59 pm Operator: CR
Sample : C106-10 Inst : TO02
Misc : ETHYLENE GLYCOL EXTRACTION Multiplr: 1.00
MS Integration Params: 524TAIL.P
Quant Time: Mar 28 17:24 2006 Quant Results File: VO02C27A.RES

Method : D:\HPCHEM\1\METHODS\VO02C27A.M (RTE Integrator)
Title : METHANOL CONFIRMATION
Last Update : Tue Mar 28 15:25:00 2006
Response via : Initial Calibration



QC SUMMARIES

METHOD M8015
ALCOHOLS BY GC

Client	: ENSR	Date Collected:	NA
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/14/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	MBLK1S	Date Analyzed:	03/14/06 15:05
Lab Samp ID:	MEC010SB	Dilution Factor:	1
Lab File ID:	DC14015A	Matrix :	SOIL
Ext Btch ID:	MEC010S	% Moisture :	NA
Calib. Ref.:	DC14014A	Instrument ID :	GCT043

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
METHANOL	ND	1	.5
ETHANOL	ND	1	.5

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD M8015

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	MEC010SB	MEC010SL	MEC010SC		
LAB FILE ID:	DC14015A	DC14016A	DC14017A		
DATE EXTRACTED:	03/14/0610:00	03/14/0610:00	03/14/0610:00	DATE COLLECTED:	NA
DATE ANALYZED:	03/14/0615:05	03/14/0615:22	03/14/0615:39	DATE RECEIVED:	03/14/06
PREP. BATCH:	MEC010S	MEC010S	MEC010S		
CALIB. REF:	DC14014A	DC14014A	DC14014A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Methanol	ND	10	7.19	72	10	7.03	70	2	60-130	30
Ethanol	ND	10	5.97	60	10	7.65	77	25	60-130	30

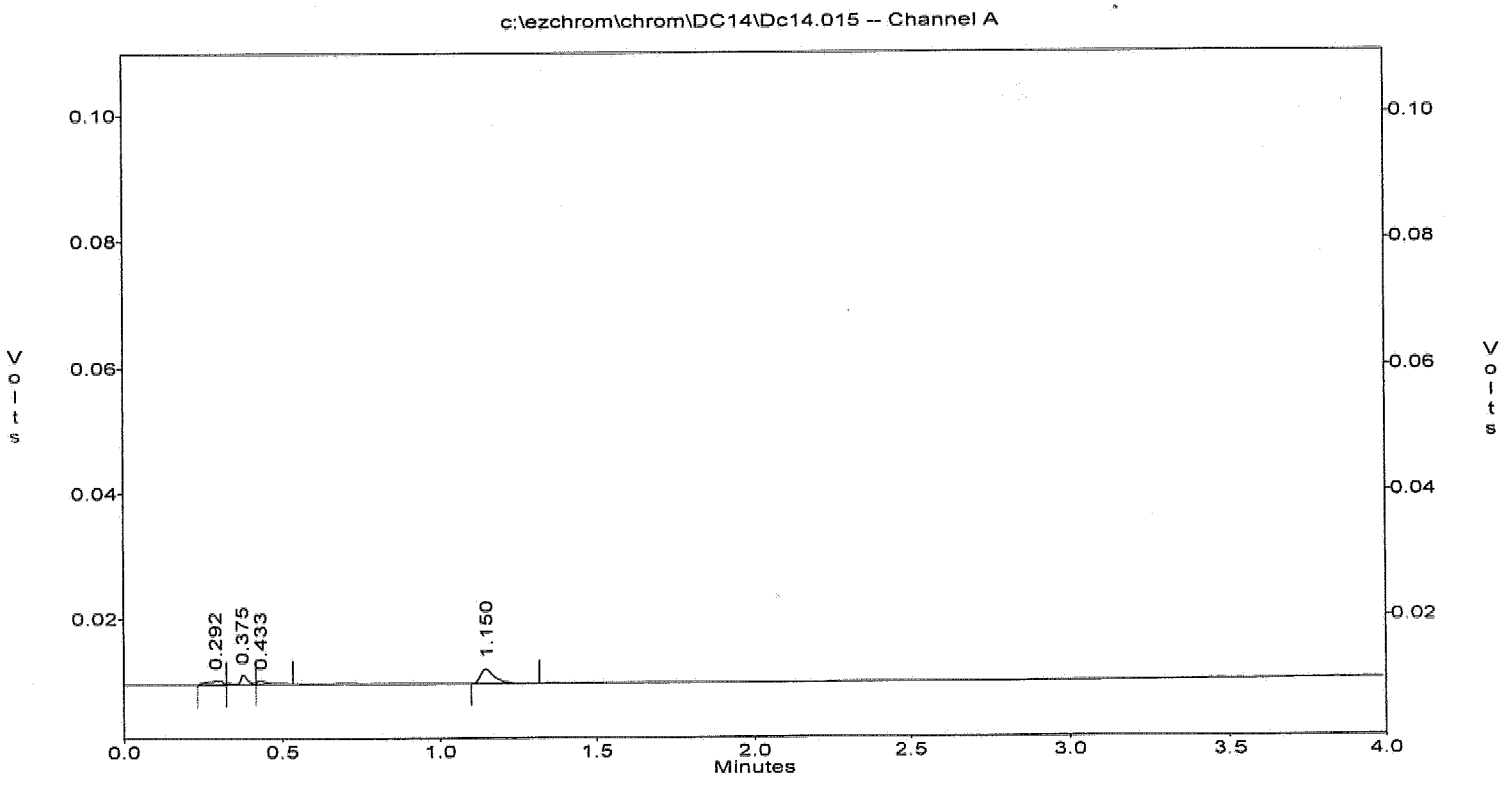
QC DATA

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC14\Dc14.015
Method : c:\ezchrom\methods\Me43c06.met
Sample ID : MEC010SB
Acquired : Mar 14, 2006 15:05:02
Printed : Mar 14, 2006 15:09:04
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
--	METHANOL	0.992	0	0.0	0.0
--	ETHANOL	1.208	0	0.0	0.0

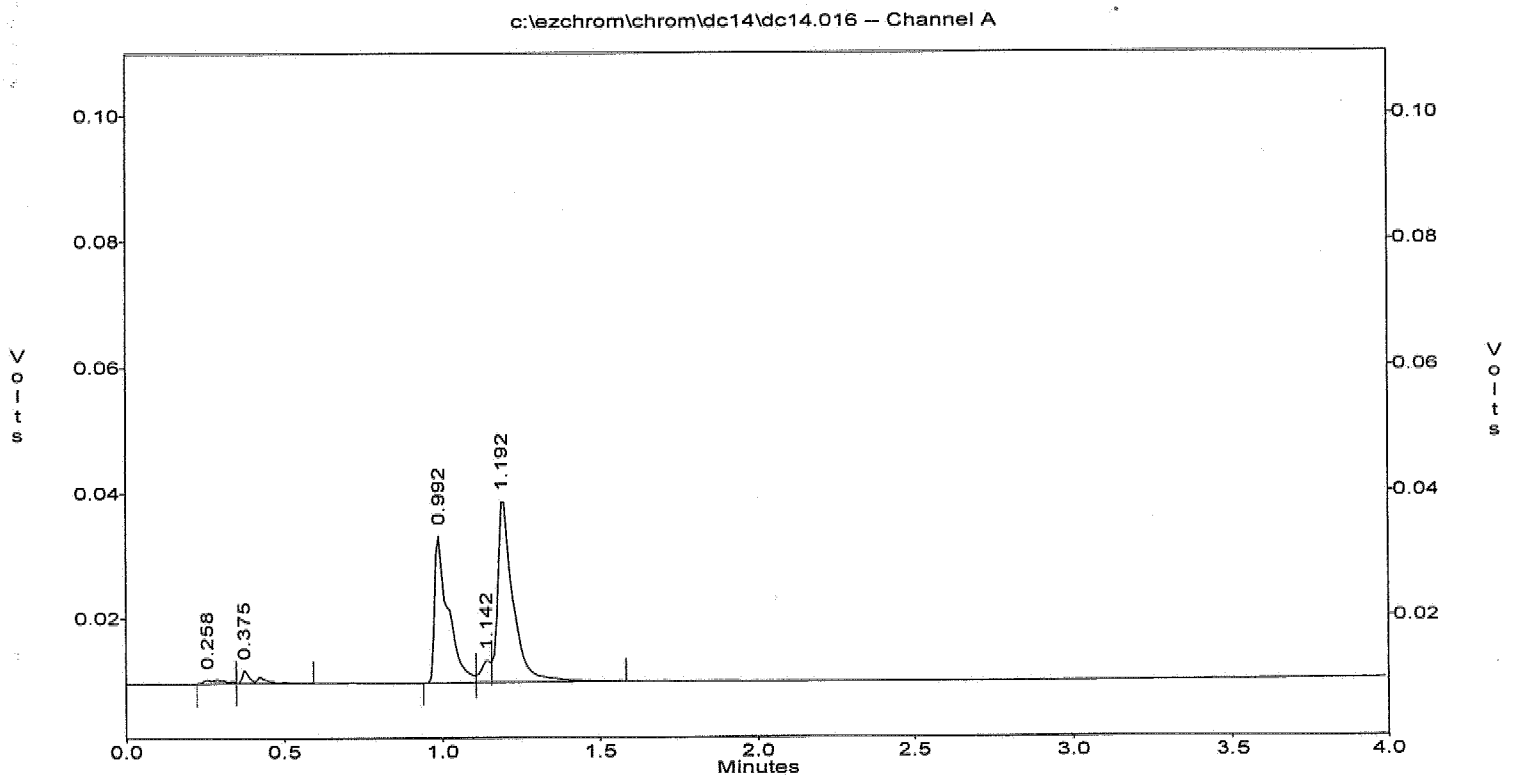


EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc14\dc14.016
Method : c:\ezchrom\methods\me43c06.met
Sample ID : MEC010SL
Acquired : Mar 14, 2006 15:22:35
Printed : Mar 14, 2006 15:27:38
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
3	METHANOL	0.992	69983	9735.5	7.2
5	ETHANOL	1.192	97407	16319.3	6.0

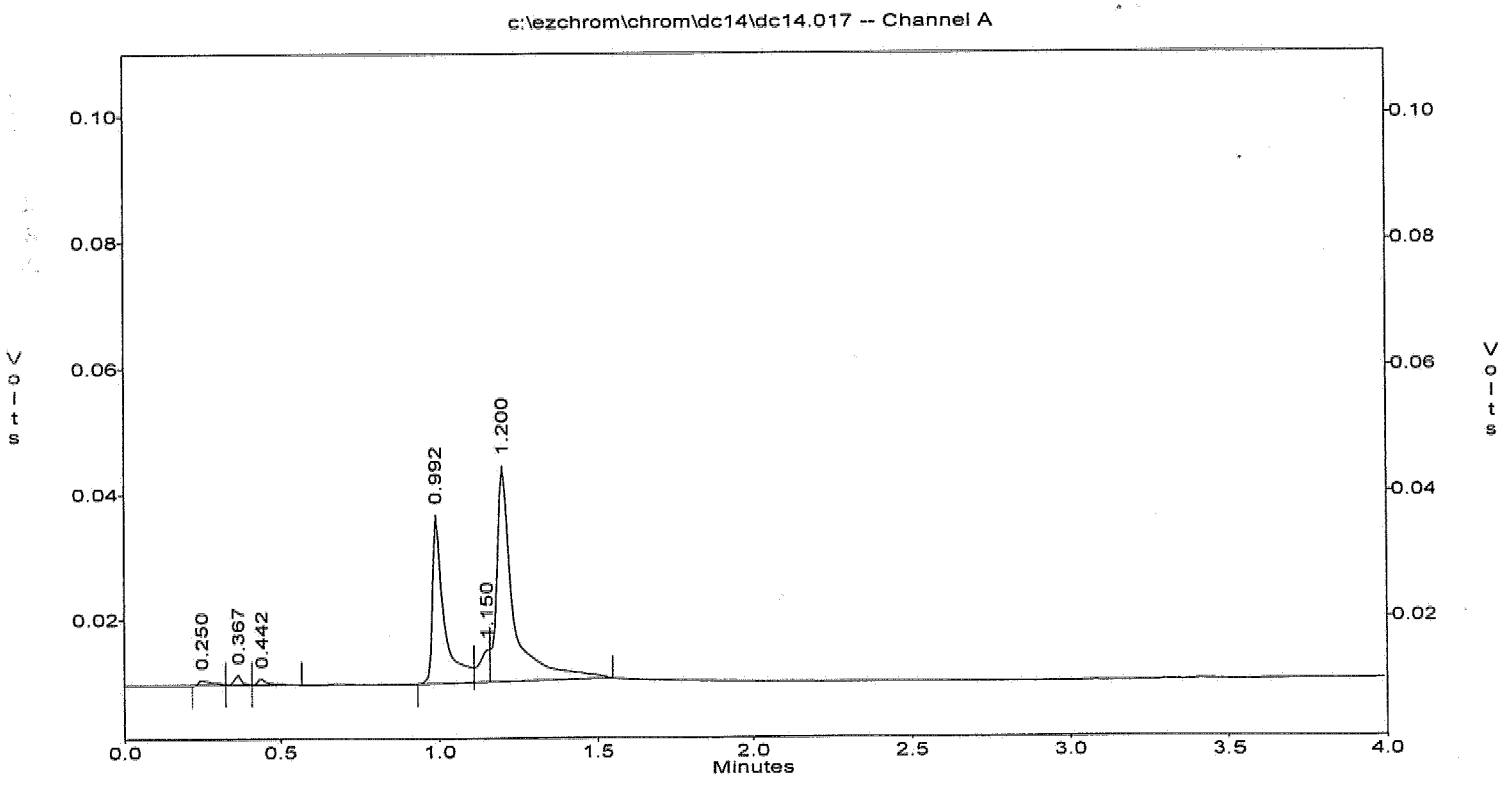


EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc14\dc14.017
Method : c:\ezchrom\methods\me43c06.met
Sample ID : MEC010SC
Acquired : Mar 14, 2006 15:39:56
Printed : Mar 14, 2006 15:48:40
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
4	METHANOL	0.992	68464	9735.5	7.0
6	ETHANOL	1.200	124930	16319.3	7.7



INITIAL CALIBRATION

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : GCTO43
GC Columm : SUPELCO WAX 10
Column size ID : 30MXO.53MMXO.25UM
LFID & Datetime: DC06002A 03/06/06 13:33
LFID & Datetime: DC06003A 03/06/06 13:53
LFID & Datetime: DC06004A 03/06/06 14:11
LFID & Datetime: DC06005A 03/06/06 14:29
LFID & Datetime: DC06006A 03/06/06 14:47
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA or HEIGHT)/UNIT 1.00X	5.00X	10.00X	15.00X	20.00X	MEAN	%RSD
METHANOL	1.00	9358.00	9968.80	9945.50	9619.93	9785.45	9735.54	2.6
ETHANOL	1.00	14498	16802	17403	17481	15412	16319	8.0

ME43C06.MET

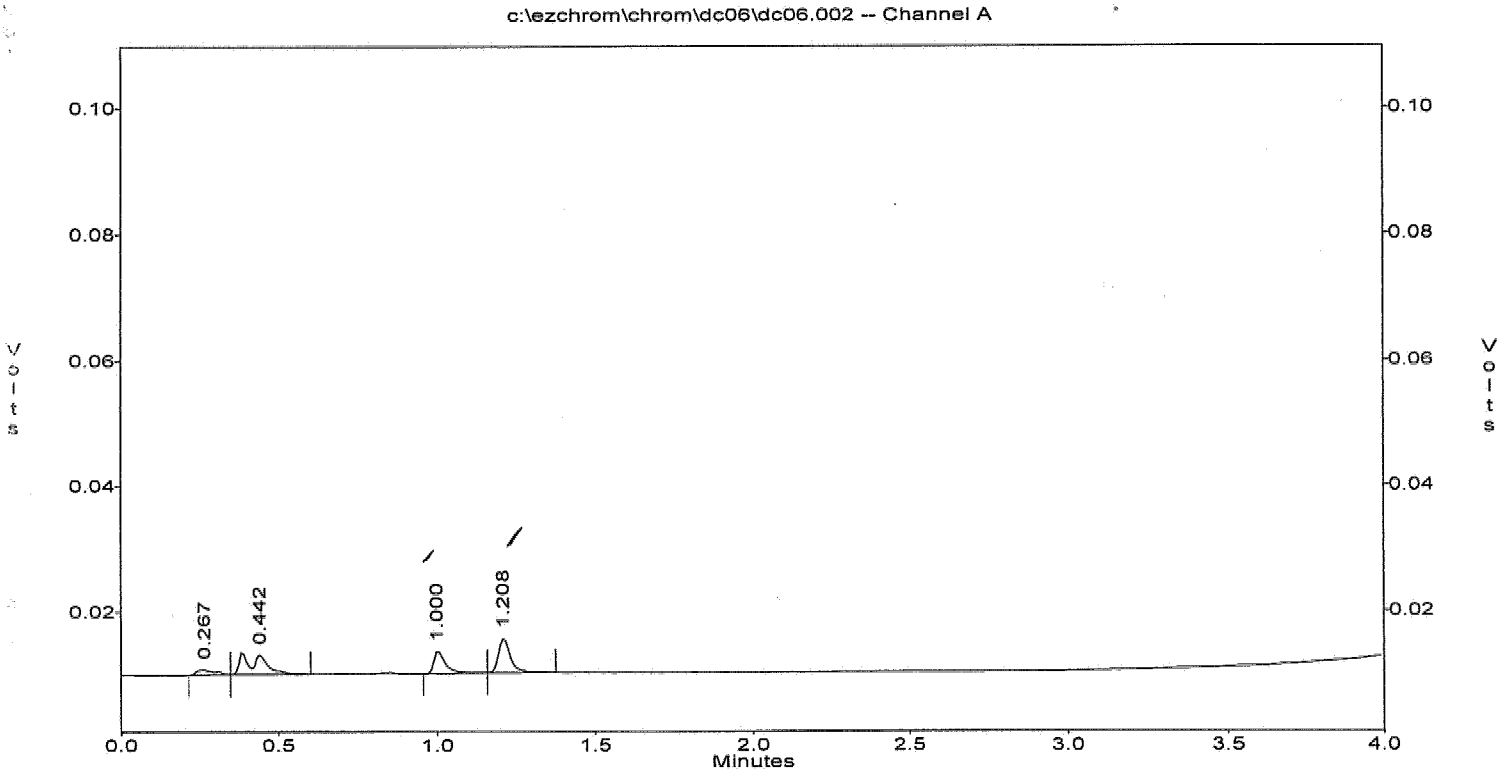
03/08/06

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc06\dc06.002
Method : c:\ezchrom\methods\me43c06.met
Sample ID : ME43C0601 1PPM
Acquired : Mar 06, 2006 13:33:28
Printed : Mar 06, 2006 15:11:10
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
3	METHANOL	1.000	9358	9735.5	1.0
4	ETHANOL	1.208	14498	16319.3	1.0



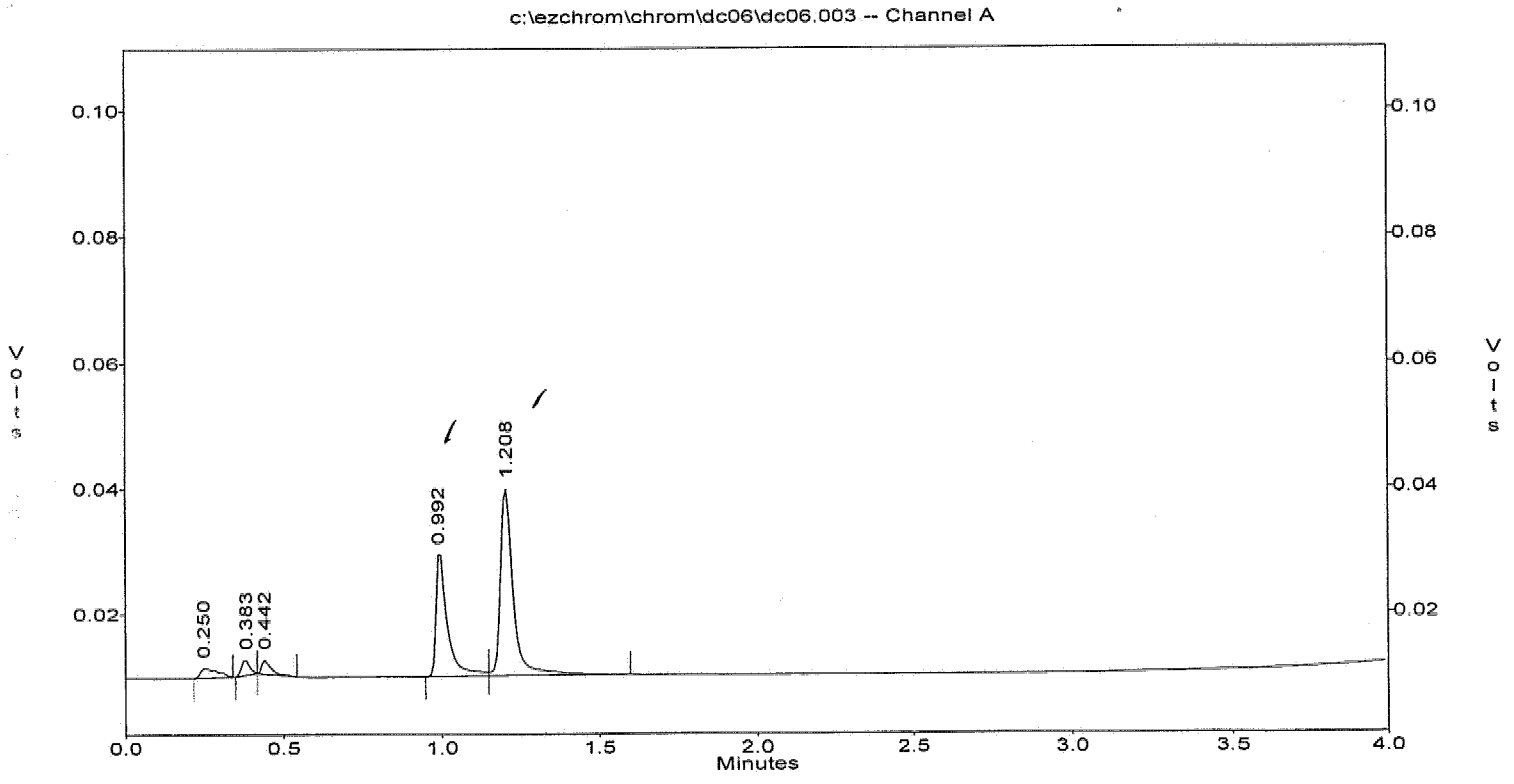
03/08/06

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc06\dc06.003
Method : c:\ezchrom\methods\me43c06.met
Sample ID : ME43C0602 5PPM
Acquired : Mar 06, 2006 13:53:42
Printed : Mar 06, 2006 15:11:14
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc. (ppm)
4	METHANOL	0.992	49844	9735.5	5.0
5	ETHANOL	1.208	84012	16319.3	5.0



03/08/06

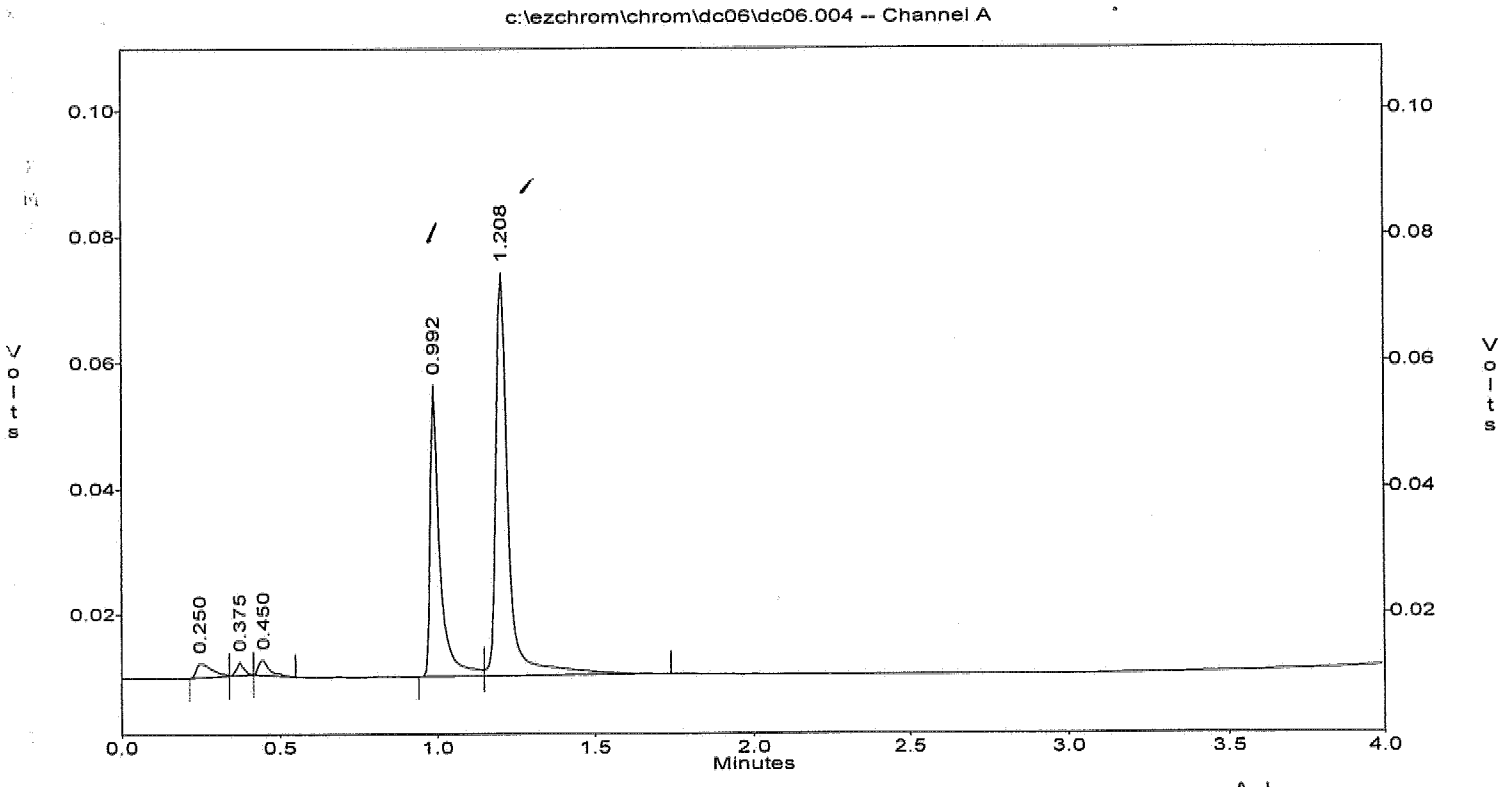
5115

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc06\dc06.004
Method : c:\ezchrom\methods\me43c06.met
Sample ID : ME43C0603 10PPM
Acquired : Mar 06, 2006 14:11:39
Printed : Mar 06, 2006 15:11:18
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc. (ppm)
4	METHANOL	0.992	99455	9735.5	10.0
5	ETHANOL	1.208	174031	16319.3	10.0



RA
03/08/06

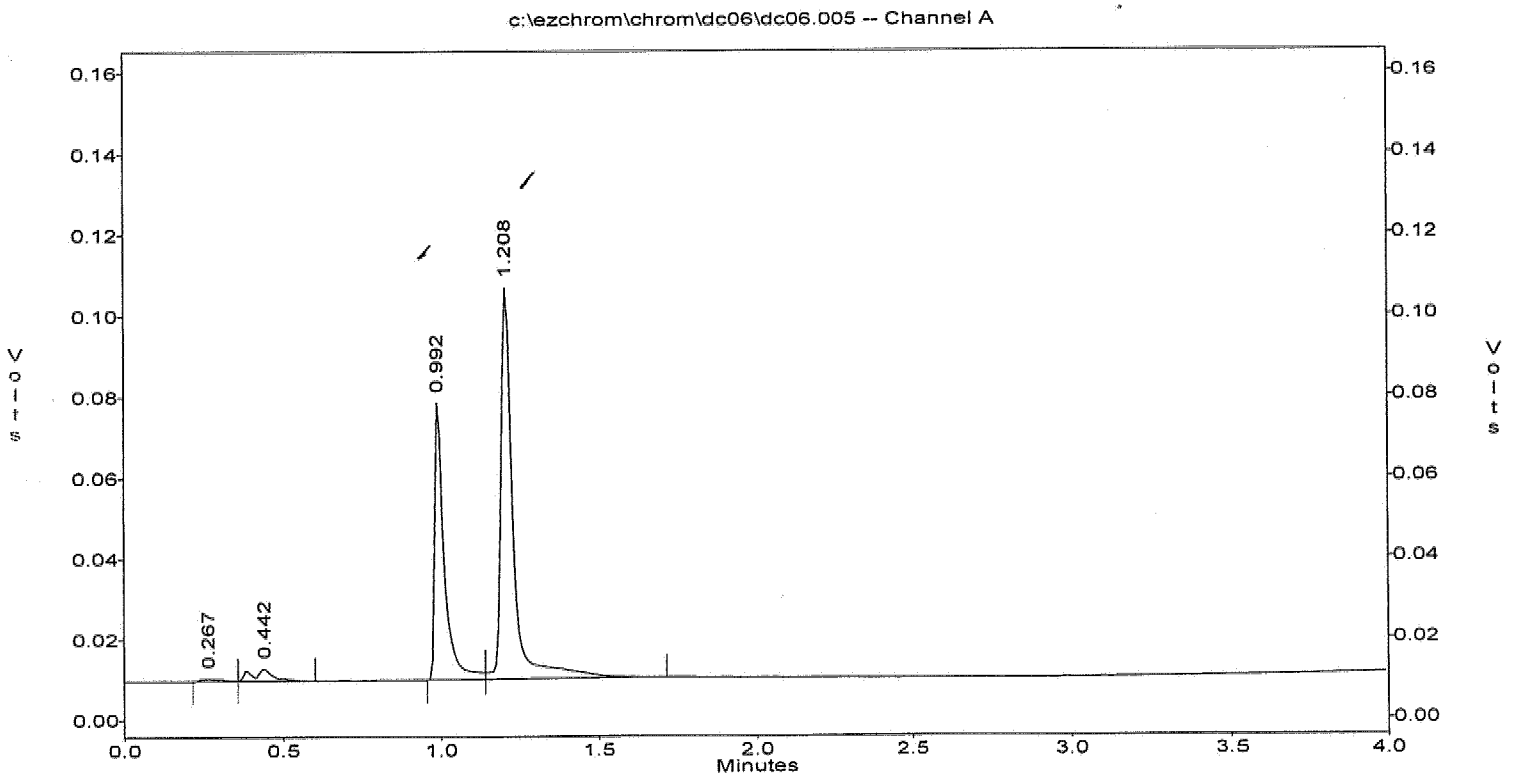
516

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc06\dc06.005
Method : c:\ezchrom\methods\me43c06.met
Sample ID : ME43C0604 15PPM
Acquired : Mar 06, 2006 14:29:43
Printed : Mar 06, 2006 15:11:28
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
3	METHANOL	0.992	144299	9735.5	15.0
4	ETHANOL	1.208	262213	16319.3	15.0



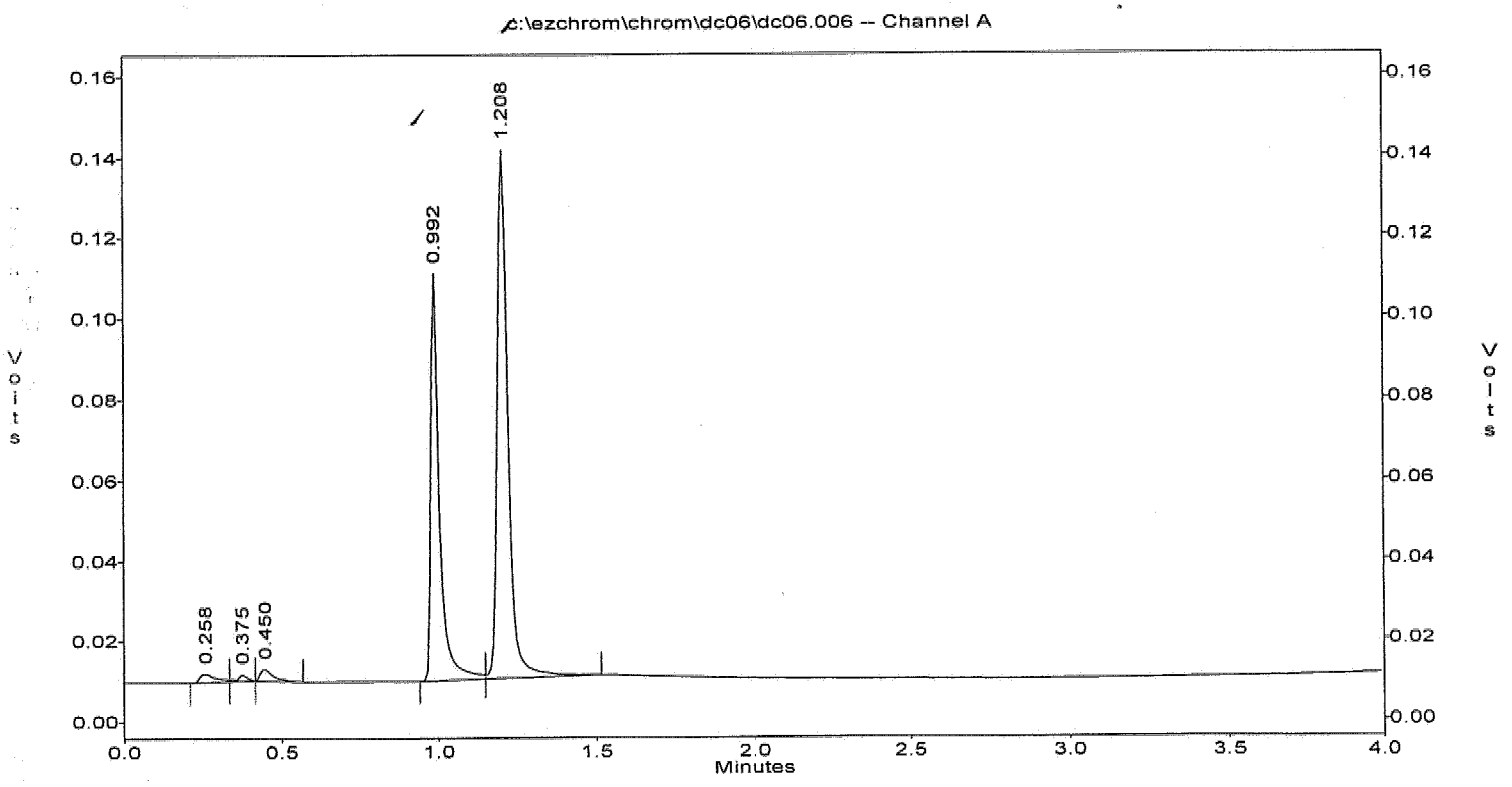
03/08/06
5117

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc06\dc06.006
Method : c:\ezchrom\methods\me43c06.met
Sample ID : ME43C0605 20PPM
Acquired : Mar 06, 2006 14:47:41
Printed : Mar 06, 2006 15:11:33
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
4	METHANOL	0.992	195709	9735.5	20.0
5	ETHANOL	1.208	308245	16319.3	20.0



03/08/06

SECOND SOURCE

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO43
GC Column : SUPELCO WAX 10
Column size ID : 30MX0.53MMX0.25UM
Mid Conc Init LFID & Datetime: DC06004A 03/06/2006 14:11
Conc Cont LFID & Datetime: DC06007A 03/06/2006 15:04
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
METHANOL	1.008	0.982	1.034	10.0	9735.5	103117	10.59	6		15
ETHANOL	1.225	1.196	1.254	10.0	16319.3	164274	10.07	1		15

ME43C06.MET

03/08/07

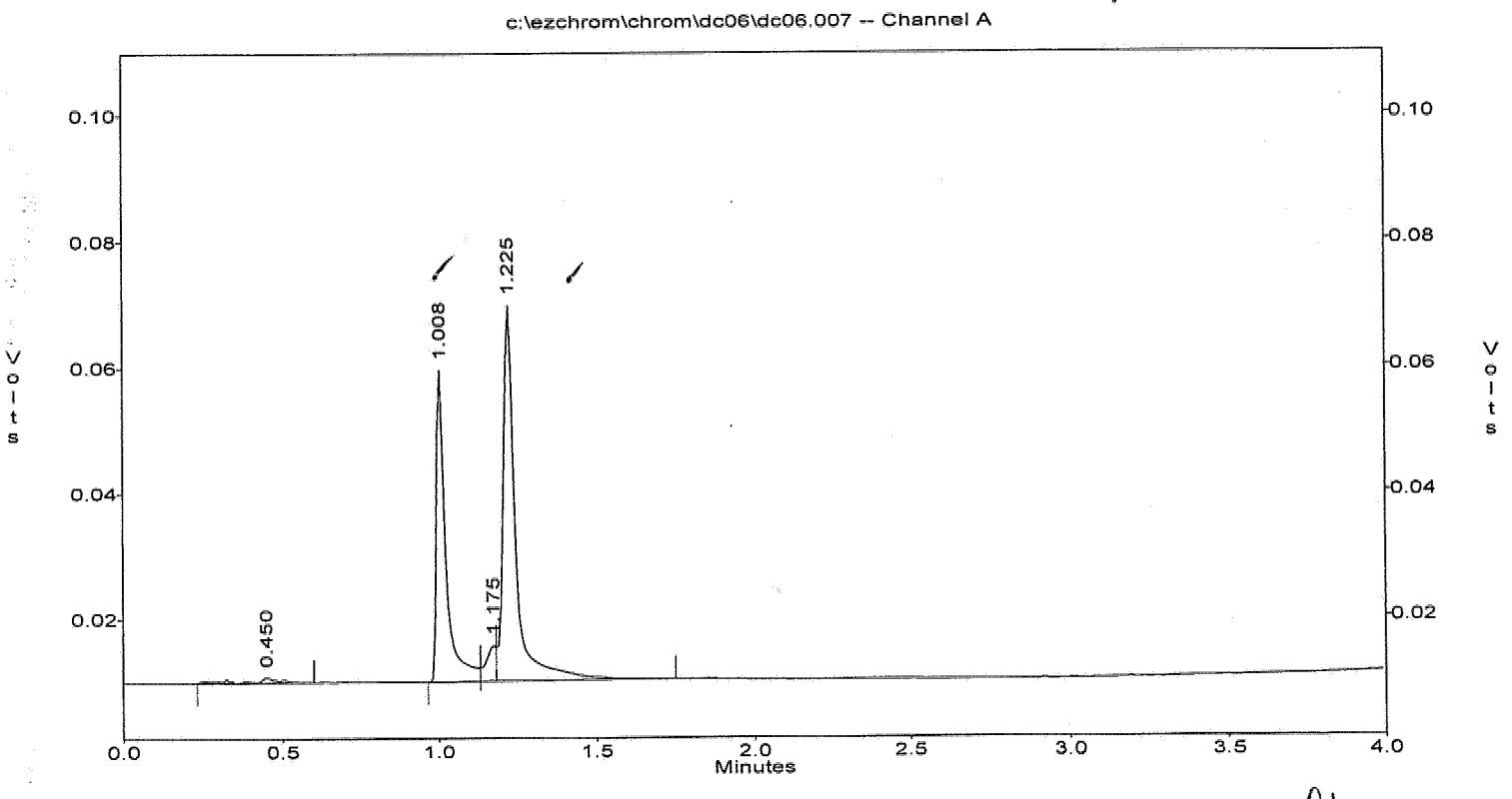
5120

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc06\dc06.007
Method : c:\ezchrom\methods\me43c06.met
Sample ID : IME43C0601 10PPM
Acquired : Mar 06, 2006 15:04:40
Printed : Mar 06, 2006 15:11:45
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc. (ppm)
2	METHANOL	1.008	103117	9735.5	10.6
4	ETHANOL	1.225	164274	16319.3	10.1



03/08

5121

DAILY CALIBRATION

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO43
GC Column : SUPELCO WAX 10
Column size ID : 30MX0.53MMX0.25UM
Mid Conc Init LFID & Datetime: DC06004A 03/06/2006 14:11
Conc Cont LFID & Datetime: DC14014A 03/14/2006 14:45
CONC UNIT : ppm

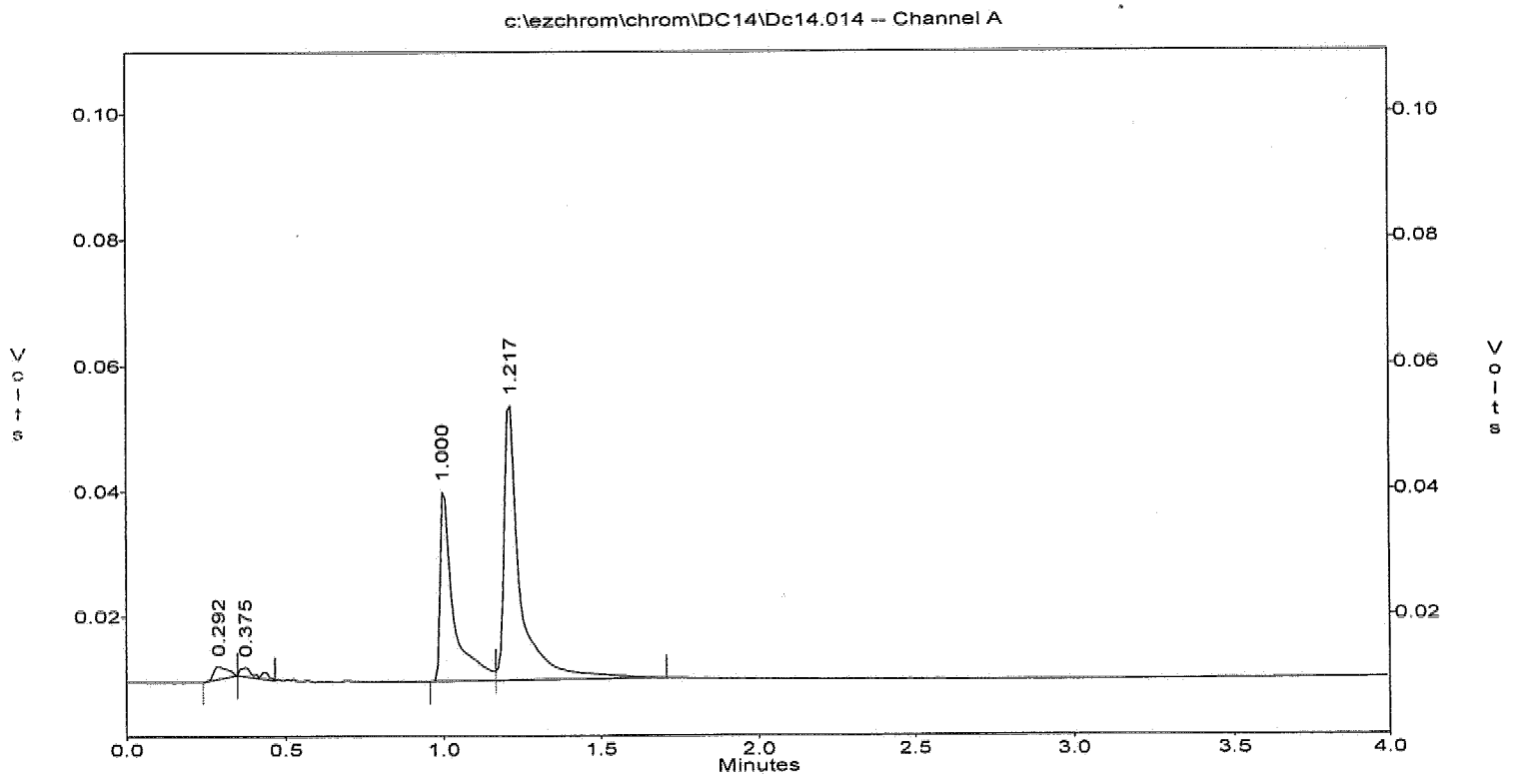
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
METHANOL	1.000	0.974	1.026	10.0	9735.5	87848	9.02	-10		15
ETHANOL	1.217	1.188	1.246	10.0	16319.3	155190	9.51	-5		15

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC14\Dc14.014
Method : c:\ezchrom\methods\Me43c06.met
Sample ID : CME43C06025 10PPM
Acquired : Mar 14, 2006 14:45:09
Printed : Mar 14, 2006 14:49:10
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
3	METHANOL	1.000	87848	9735.5	9.0
4	ETHANOL	1.217	155190	16319.3	9.5



CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX
Instrument ID : GCTO43
GC Columm : SUPELCO WAX 10
Column size ID : 30MX0.53MMX0.25UM
Mid Conc Init LFID & Datetime: DC06004A 03/06/2006 14:11
Conc Cont LFID & Datetime: DC14028A 03/14/2006 18:36
CONC UNIT : ppm

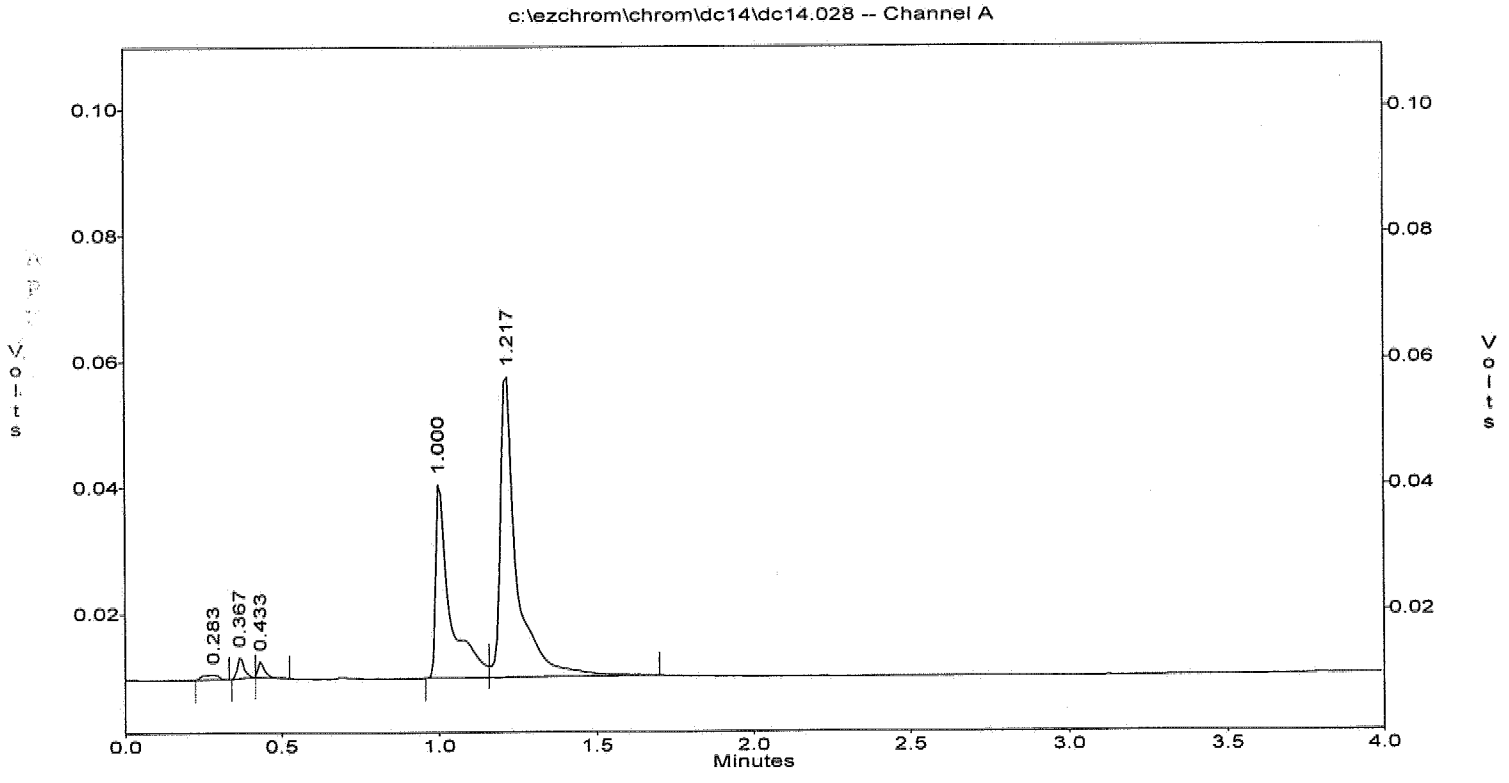
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
METHANOL	1.000	0.974	1.026	10.0	9735.5	96334	9.90	-1		15
ETHANOL	1.217	1.188	1.246	10.0	16319.3	171441	10.51	5		15

EPA 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc14\dc14.028
Method : c:\ezchrom\methods\me43c06.met
Sample ID : CME43C06026 10PPM
Acquired : Mar 14, 2006 18:36:51
Printed : Mar 22, 2006 11:32:40
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
4	METHANOL	1.000	96334	9735.5	9.9
5	ETHANOL	1.217	171441	16319.3	10.5



ANALYTICAL LOGS

ANALYSIS RUN LOG FOR TPH

SOP ☐ EMAX-M8015D Revision No. 3 ☐ EMAX-LUFTE Revision No. 3 ☑ Alcohols Book # A43-012

Starting Date: 3/6/06 Time: 13:13 Ending Date: 3/6/06 Time: 17:41

ANALYTICAL BATCH DCO6003

Preparative Batch	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
	DC06.001	IB43C012				
	2	ME43C0601				~~10ppm~~ xp 3/6/06
	3	2				5
	4	3				10
	5	4				15
	6	5				20
	7	IME43C0601				10
MEC002W	8	MEC002WB	1		✓	
	9	L				
	10	C				
	11	MOLVER-01				1ppm
	12	02				0.5ppm
	13	06C032-04				
	14	04D				
	15	CME43C06012				Bad inj.
	16	NO Injection				
	17	CME43C06012				10ppm

xp 3/6/06

Instrument No:	43
INITIAL CALIBRATION REFERENCE	

	ID	Date
Diesel		
Motor oil		
JP 5		
Alcohols	ME43C06	3/6/06

Standards

Name	ID	Conc. (mg/L)
CH_2Cl_2	—	—
~~xp 3/6/06~~ Dec/Ical	SS3C-07-11-1	1-200ppm
~~LCS~~/ICV	SS3C-07-11-2	10ppm
Dec	SS3C-07-10-2	100
LCS	SS3C-07-10-3	↓

Electronic Data Archival

Location	Date
☐ EZC_2_Diesel	
☐	

Comments:

Analyzed By: xp

Disposed on: 3/6/06 By: xp

This page is checked during the data review process.

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

ANALYSIS RUN LOG FOR TPH

SOP ☐ EMAX-M8015D Revision No. 3 ☐ EMAX-LUFTE Revision No. 3 ☑ Methanol / Ethanol Book # A43-012

Starting Date: 3/14/06 **Time:** 10:42 **Ending Date:** 3/14/06 **Time:** 17:57

ANALYTICAL BATCH DC14.003

Preparative Batch	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
	DC14.001	IB				
	2	IB43C024				
	3	CME43C060624	1			10 ppm
MEC0095	4	MEC0095Q	1	✓		
	5	X				
	6	Y				
	7	06C081-06				
	8	08				
	9	08M				
	10	08S				
	11	10				
	12	03W				
	13	01W				
	14	CME43C060625				10 ppm
xp 3/14/06 MEC0105	15	MEC0105B	1	✓		
	16	L				
	17	C				
	18	06C106-01				
	19	02				
	20	03				
	21	04				
	22	06				
	23	08				RR - high (meox)
	24	09				
	25	10				

Instrument No:		43
INITIAL CALIBRATION REFERENCE		
	ID	Date
Diesel		
Motor oil		
JP 5		
Alcohols	ME43C06	3/6/06

Standards		
Name	ID	Conc. (mg/L)
CH_2Cl_2	—	—
DCC	553C-07-10-2	100
LCS	—	—

Electronic Data Archival	
Location	Date
☐ EZC_2_Diesel	
☐	

Comments:

Analyzed By: XP

Disposed on: 3/14/06 By: XP

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EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

ANALYSIS RUN LOG FOR TPH

SOP ☐ EMAX-M8015D Revision No. 3 ☐ EMAX-LUFTE Revision No. 3 ☑ ✓ Methanol / Ethanol Book # A43-012

Starting Date: 3/14/06 Time: 18:06 Ending Date: 3/14/06 Time: 18:36

ANALYTICAL BATCH DC14003

Preparative Batch	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
MEC0105	DC14.026	06C106-11	1	✓		
↓	27	↓ 08T	2	↓		
	↓ 28	CME43C06026				10ppm

XP 3/14/06

Instrument No:		43
INITIAL CALIBRATION REFERENCE		
	ID	Date
Diesel		
Motor oil		
JP 5		
Alcohols	ME43C06	3/6/06

Standards		
Name	ID	Conc. (mg/L)
CH_2Cl_2	—	—
DCC	SS3C-07-10-2	100
LCS	—	—

Electronic Data Archival	
Location	Date
☐ EZC_2_Diesel	
☐	

Comments:

Analyzed By: XP

Disposed on: 3/14/06 By: XP

This page is checked during the data review process.

EXTRACTION LOGS

EXTRACTION LOG FOR SPECIAL TEST

SOP ☐ EMAX-8015M ☑ Alcohols

Book # EST-001

Matrix Soil | Start Date 3/14/06 | Time 10:80 | End Date 3/14/06 | Time 11:00

PREPARATION BATCH # MEC0115

Sample Prep ID	Lab Sample ID	Sample Amount, (g_ml)	Extract Volume, (ml)	pH	Notes
01	MEC0115B	10g	10	7	
02	L				
03	C				
04	06C106-01				
05	-02				
06	-03				
07	-04				
08	-06				
09	-08				
10	-09				
11	-10				
12	-11				
13					
14					
15					
16					
17			XP 3/14/06		
18					
19					
20					
21					
22					
23					
24					
25					

Standards	ID	Amount Added (ul)
LCS/MS	SS3C-07-14-2 (1000 ppm)	100

Reagent	Lot# / ID
H_2O	Organic free
SILICA SAND	SUA-03-133

SDG #	Extract Location
	VW03

Comments:

Prepared By: SC

Standard Added By: XP

This page is checked during data review

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

LABORATORY REPORT FOR

ENSR

UPGRADIENT INVESTIGATION, TRONOX

METHOD M8015
ETHYLENE GLYCOL BY GC

SDG#: 06C106

CASE NARRATIVE

CLIENT: ENSR

PROJECT: UPGRADIENT INVESTIGATION, TRONOX

SDG: 06C106

METHOD M8015
ETHYLENE GLYCOL BY GC

Six (6) soil samples were received on 03/11/06 for Ethylene Glycol by GC analysis by Method M8015 in accordance with USEPA SW846, 3rd Ed.

1. Holding Time

Analytical holding time was met.

2. Calibration

Initial calibration was five points. %RSD was within 20%. Continuing calibrations were carried out within 10-sample interval. All recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

5. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in SDG.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were leached at a ratio of 1:1(w:v) with organic free water.

LAB CHRONICLE
ETHYLENE GLYCOL

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX

SDG NO. : 06C106
Instrument ID : GCT043

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	EGC010SB	1	NA	03/17/0614:13	03/14/0610:00	DC17024A	DC17023A	EGC010S	Method Blank
LCS1S	EGC010SL	2	NA	03/17/0614:26	03/14/0610:00	DC17025A	DC17023A	EGC010S	Lab Control Sample (LCS)
LCD1S	EGC010SC	2	NA	03/17/0614:39	03/14/0610:00	DC17026A	DC17023A	EGC010S	LCS Duplicate
M121-0.5	C106-01	1	4.3	03/17/0614:50	03/14/0610:00	DC17027A	DC17023A	EGC010S	Field Sample
M121-5	C106-02	1	10.3	03/17/0615:02	03/14/0610:00	DC17028A	DC17023A	EGC010S	Field Sample
M121-10	C106-03	1	5.7	03/17/0615:13	03/14/0610:00	DC17029A	DC17023A	EGC010S	Field Sample
M121-5D	C106-04	1	9.5	03/17/0615:26	03/14/0610:00	DC17030A	DC17023A	EGC010S	Field Sample
M121-30	C106-06	1	5.8	03/17/0615:37	03/14/0610:00	DC17031A	DC17023A	EGC010S	Field Sample
M121-50	C106-08	1	6.1	03/17/0615:49	03/14/0610:00	DC17032A	DC17023A	EGC010S	Field Sample
M121-80	C106-10	1	27.5	03/17/0616:11	03/14/0610:00	DC17034A	DC17023A	EGC010S	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD M8015
ETHYLENE GLYCOL

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-0.5	Date Analyzed:	03/17/06 14:50
Lab Samp ID:	C106-01	Dilution Factor:	1
Lab File ID:	DC17027A	Matrix :	SOIL
Ext Btch ID:	EGC010S	% Moisture :	4.3
Calib. Ref.:	DC17023A	Instrument ID :	GCT043

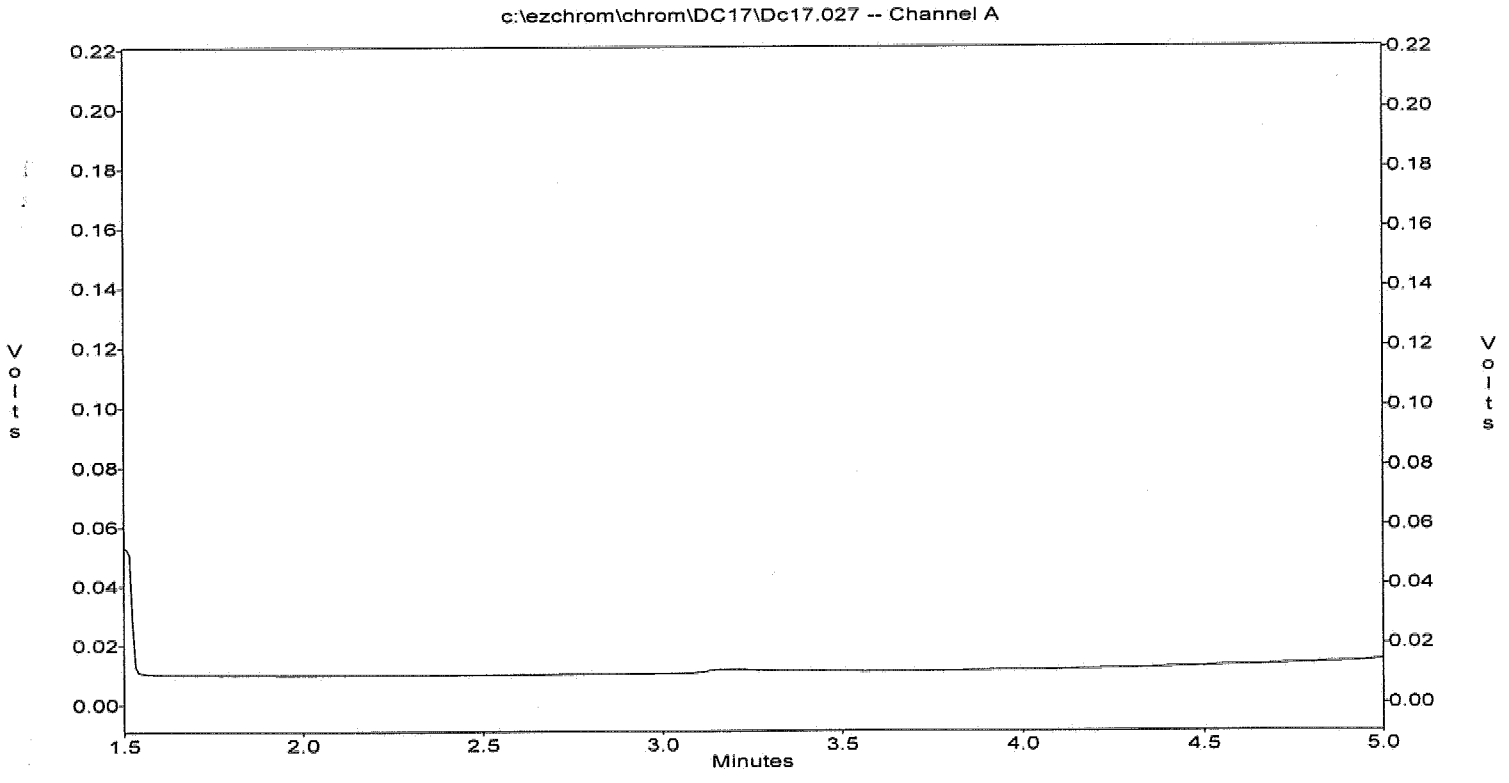
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ETHYLENE GLYCOL	ND	42	21

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC17\Dc17.027
Method : c:\ezchrom\methods\Eg43c10.met
Sample ID : 06C106-01
Acquired : Mar 17, 2006 14:50:51
Printed : Mar 17, 2006 14:57:52
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Ethylene Glycol	2.975	0	0.0	0.0



METHOD M8015
ETHYLENE GLYCOL

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-5	Date Analyzed:	03/17/06 15:02
Lab Samp ID:	C106-02	Dilution Factor:	1
Lab File ID:	DC17028A	Matrix	: SOIL
Ext Btch ID:	EGC010S	% Moisture	: 10.3
Calib. Ref.:	DC17023A	Instrument ID	: GCT043

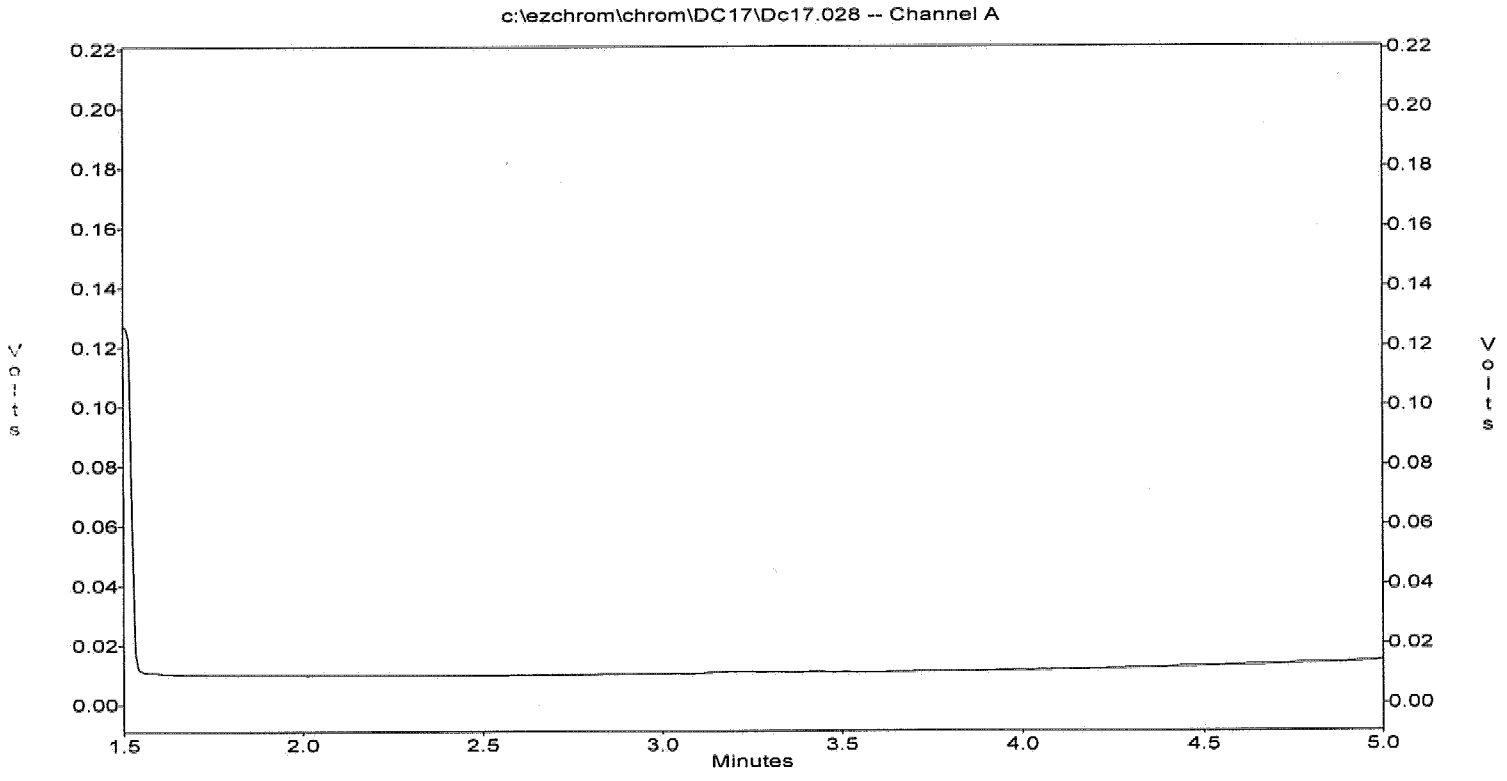
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ETHYLENE GLYCOL	ND	45	22

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC17\Dc17.028
Method : c:\ezchrom\methods\Eg43c10.met
Sample ID : 06C106-02
Acquired : Mar 17, 2006 15:02:24
Printed : Mar 17, 2006 15:09:25
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Ethylene Glycol	2.975	0	0.0	0.0



METHOD M8015
ETHYLENE GLYCOL

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-10	Date Analyzed:	03/17/06 15:13
Lab Samp ID:	C106-03	Dilution Factor:	1
Lab File ID:	DC17029A	Matrix :	SOIL
Ext Btch ID:	EGC010S	% Moisture :	5.7
Calib. Ref.:	DC17023A	Instrument ID :	GCT043

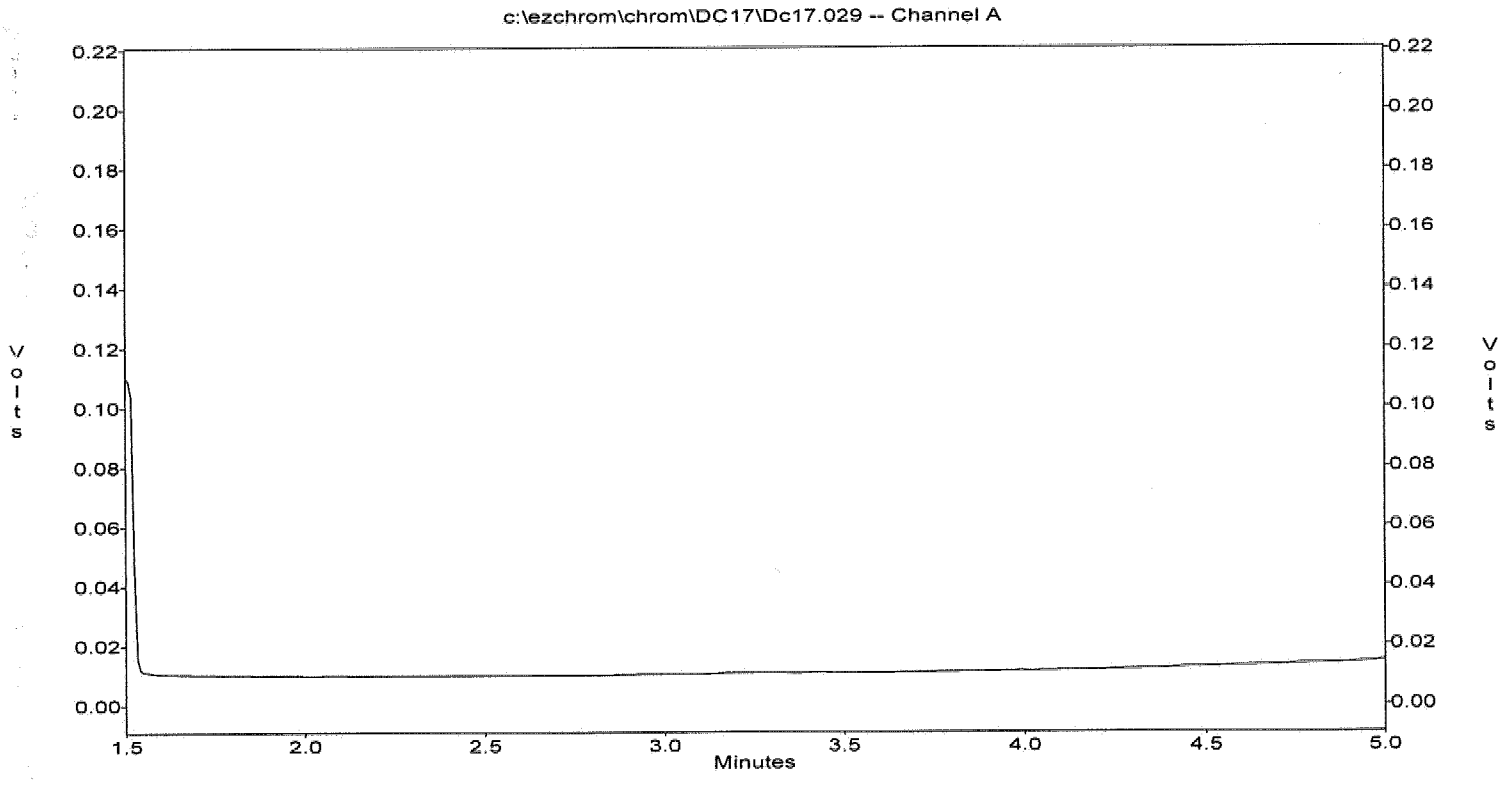
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ETHYLENE GLYCOL	ND	42	21

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC17\Dc17.029
Method : c:\ezchrom\methods\Eg43c10.met
Sample ID : 06C106-03
Acquired : Mar 17, 2006 15:13:59
Printed : Mar 17, 2006 15:21:01
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Ethylene Glycol	2.975	0	0.0	0.0



METHOD M8015
ETHYLENE GLYCOL

Client	: ENSR	Date Collected	: 03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received	: 03/11/06
Batch No.	: 06C106	Date Extracted	: 03/14/06 10:00
Sample ID	: M121-5D	Date Analyzed	: 03/17/06 15:26
Lab Samp ID	: C106-04	Dilution Factor	: 1
Lab File ID	: DC17030A	Matrix	: SOIL
Ext Btch ID	: EGC010S	% Moisture	: 9.5
Calib. Ref.	: DC17023A	Instrument ID	: GCT043

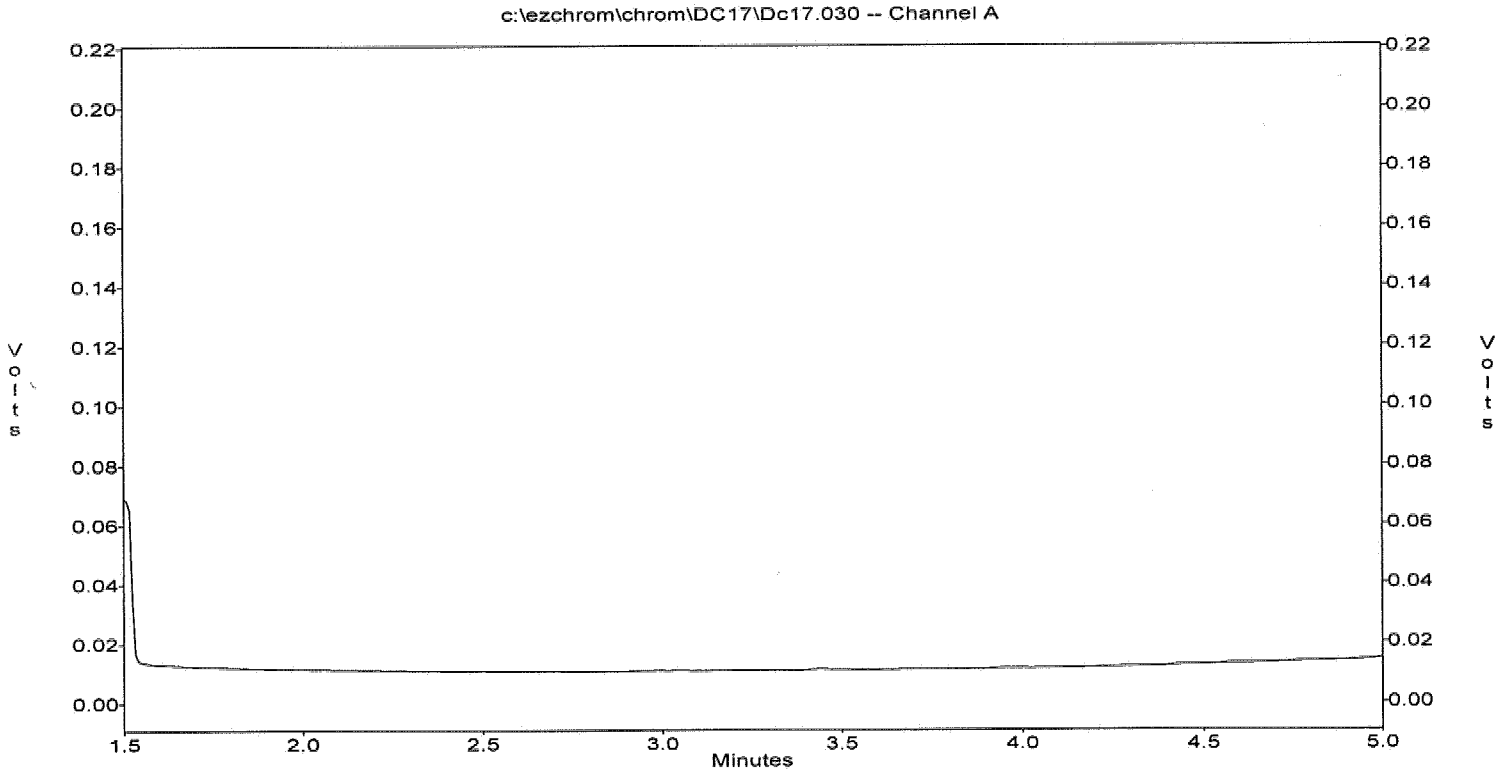
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ETHYLENE GLYCOL	ND	44	22

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC17\Dc17.030
Method : c:\ezchrom\methods\Eg43c10.met
Sample ID : 06C106-04
Acquired : Mar 17, 2006 15:26:07
Printed : Mar 17, 2006 15:33:09
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Ethylene Glycol	2.975	0	0.0	0.0



METHOD M8015
ETHYLENE GLYCOL

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-30	Date Analyzed:	03/17/06 15:37
Lab Samp ID:	C106-06	Dilution Factor:	1
Lab File ID:	DC17031A	Matrix :	SOIL
Ext Btch ID:	EGC010S	% Moisture :	5.8
Calib. Ref.:	DC17023A	Instrument ID :	GCT043

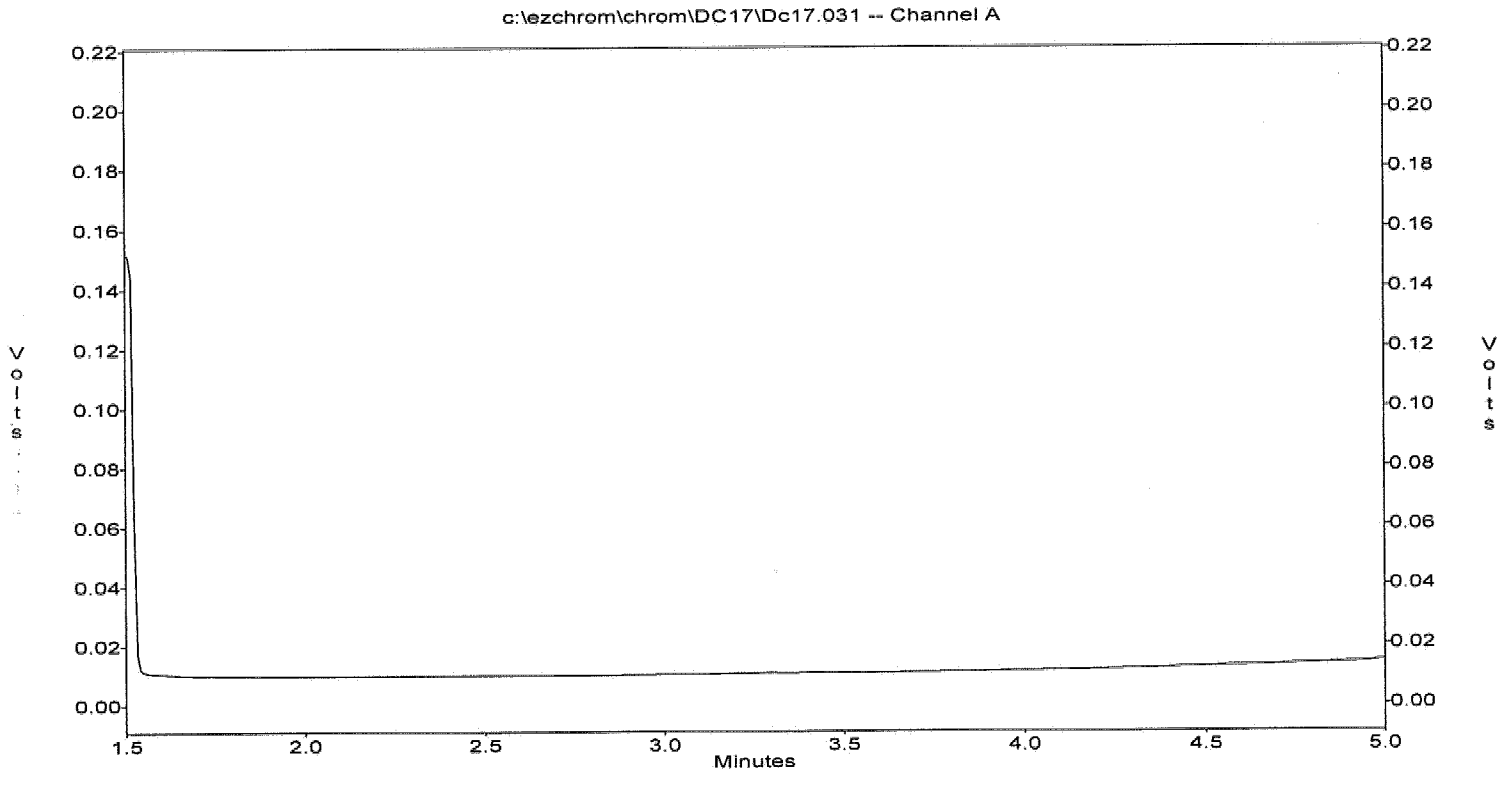
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ETHYLENE GLYCOL	ND	42	21

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC17\Dc17.031
Method : c:\ezchrom\methods\Eg43c10.met
Sample ID : 06C106-06
Acquired : Mar 17, 2006 15:37:38
Printed : Mar 17, 2006 15:44:39
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Ethylene Glycol	2.975	0	0.0	0.0



METHOD M8015
ETHYLENE GLYCOL

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-50	Date Analyzed:	03/17/06 15:49
Lab Samp ID:	C106-08	Dilution Factor:	1
Lab File ID:	DC17032A	Matrix	: SOIL
Ext Btch ID:	EGC010S	% Moisture	: 6.1
Calib. Ref.:	DC17023A	Instrument ID	: GCT043

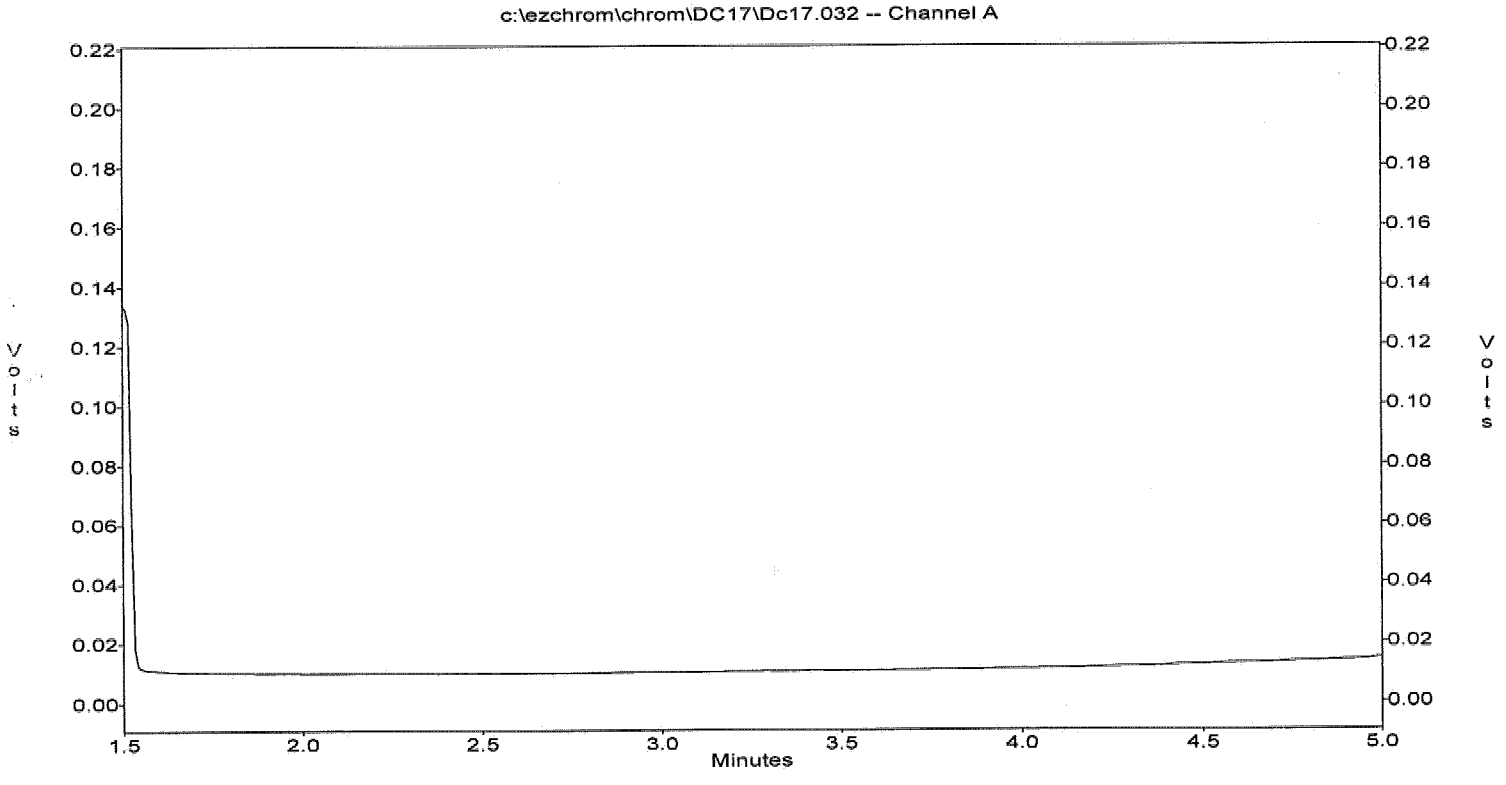
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ETHYLENE GLYCOL	ND	43	21

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC17\Dc17.032
Method : c:\ezchrom\methods\Eg43c10.met
Sample ID : 06C106-08
Acquired : Mar 17, 2006 15:49:10
Printed : Mar 17, 2006 15:56:11
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Ethylene Glycol	2.975	0	0.0	0.0



METHOD M8015
ETHYLENE GLYCOL

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	M121-80	Date Analyzed:	03/17/06 16:11
Lab Samp ID:	C106-10	Dilution Factor:	1
Lab File ID:	DC17034A	Matrix :	SOIL
Ext Btch ID:	EGC010S	% Moisture :	27.5
Calib. Ref.:	DC17023A	Instrument ID :	GCT043

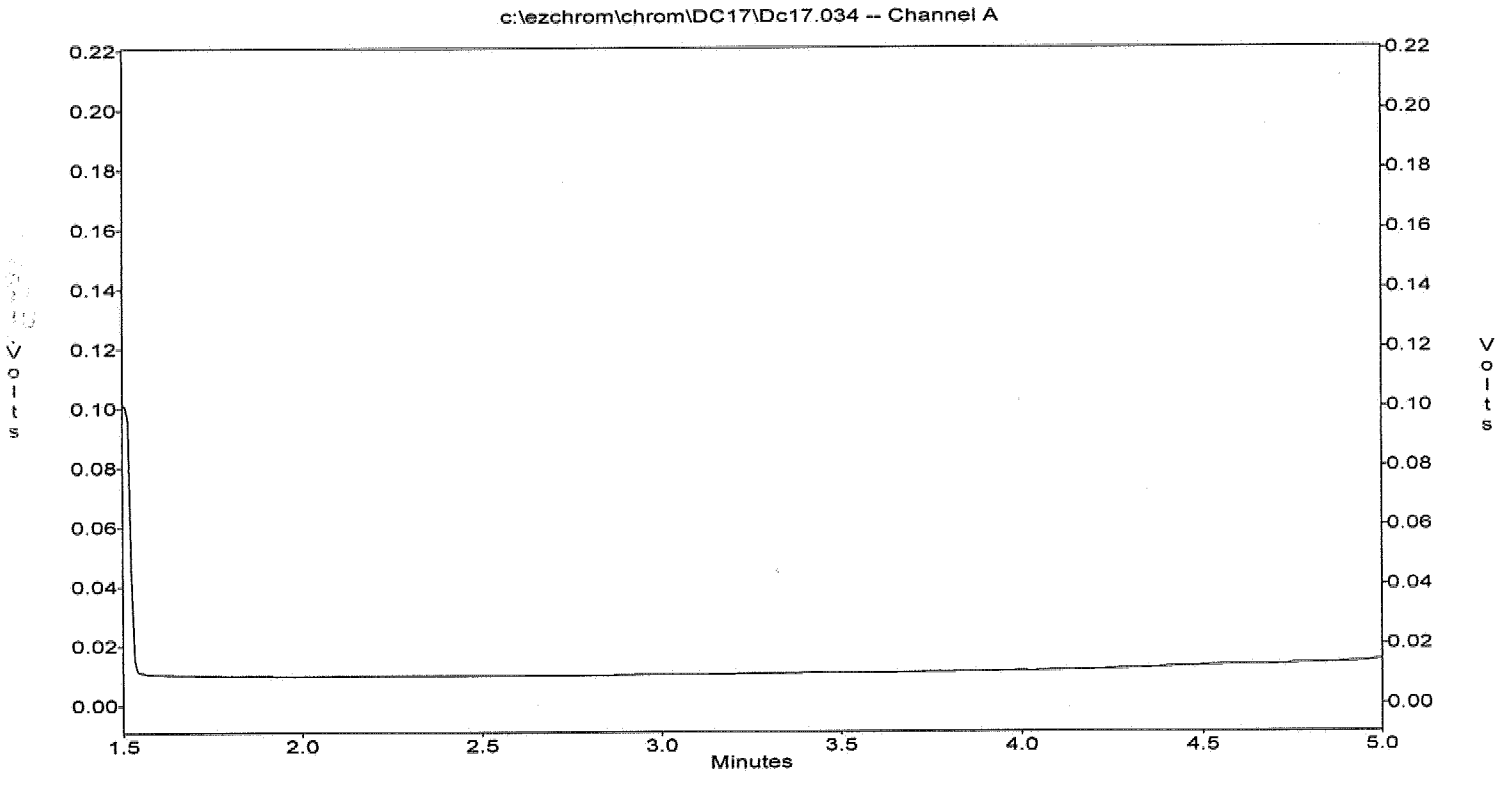
PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ETHYLENE GLYCOL	ND	55	28

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC17\Dc17.034
Method : c:\ezchrom\methods\Eg43c10.met
Sample ID : 06C106-10
Acquired : Mar 17, 2006 16:11:28
Printed : Mar 17, 2006 16:18:29
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Ethylene Glycol	2.975	0	0.0	0.0



QC SUMMARIES

METHOD M8015
ETHYLENE GLYCOL

Client	: ENSR	Date Collected:	NA
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/14/06
Batch No.	: 06C106	Date Extracted:	03/14/06 10:00
Sample ID:	MBLK1S	Date Analyzed:	03/17/06 14:13
Lab Samp ID:	EGC010SB	Dilution Factor:	1
Lab File ID:	DC17024A	Matrix :	SOIL
Ext Btch ID:	EGC010S	% Moisture :	NA
Calib. Ref.:	DC17023A	Instrument ID :	GCT043

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
ETHYLENE GLYCOL	ND	40	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD M8015

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	2	2		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	EGC010SB	EGC010SL	EGC010SC		
LAB FILE ID:	DC17024A	DC17025A	DC17026A		
DATE EXTRACTED:	03/14/0610:00	03/14/0610:00	03/14/0610:00	DATE COLLECTED:	NA
DATE ANALYZED:	03/17/0614:13	03/17/0614:26	03/17/0614:39	DATE RECEIVED:	03/14/06
PREP. BATCH:	EGC010S	EGC010S	EGC010S		
CALIB. REF:	DC17023A	DC17023A	DC17023A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Ethylene Glycol	ND	100	99.9	100	100	105	105	5	40-140	50

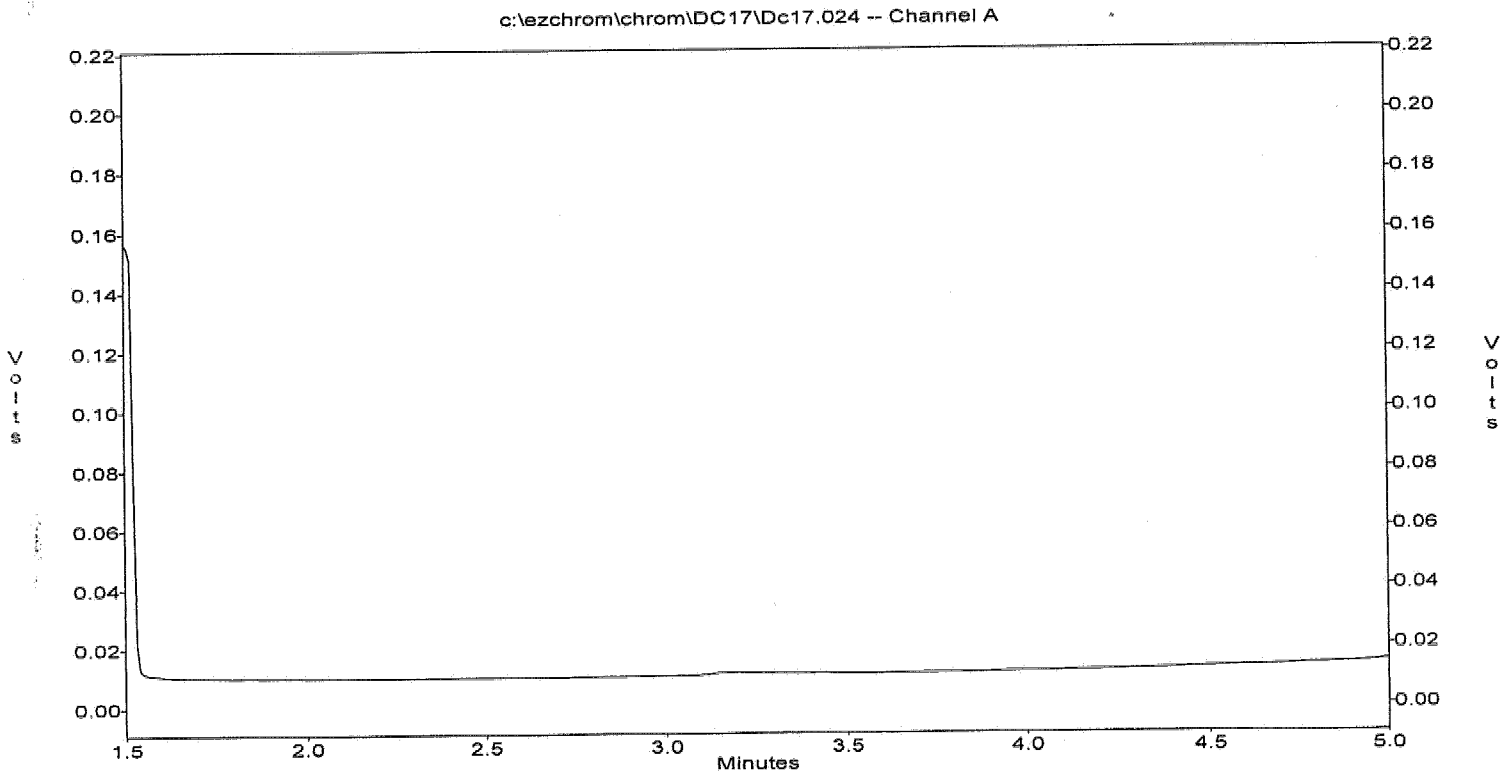
QC DATA

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC17\Dc17.024
Method : c:\ezchrom\methods\Eg43c10.met
Sample ID : EGC010SB
Acquired : Mar 17, 2006 14:13:27
Printed : Mar 17, 2006 14:20:29
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Ethylene Glycol	2.975	0	0.0	0.0

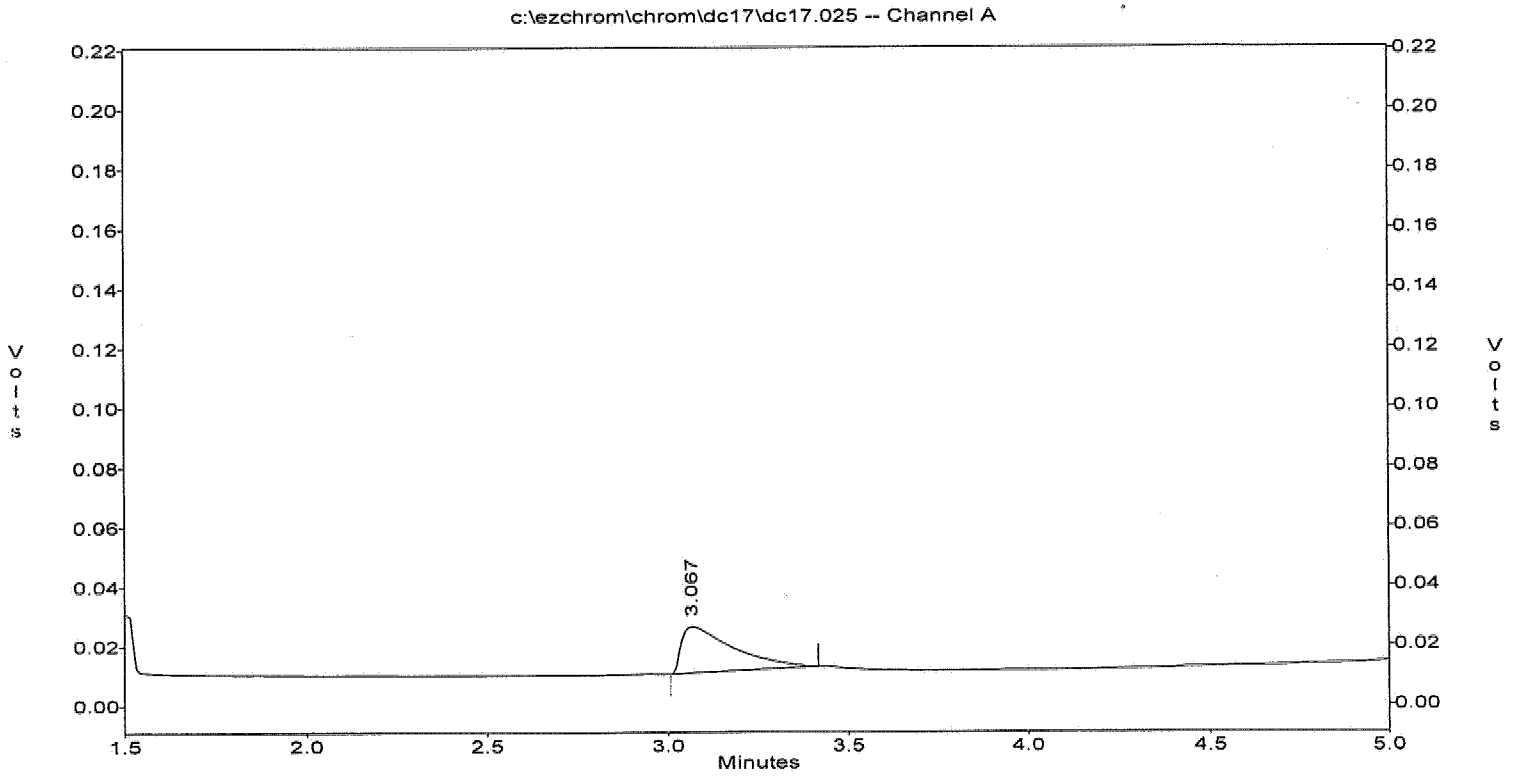


EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc17\dc17.025
Method : c:\ezchrom\methods\eg43c10.met
Sample ID : EGC010SL(2x)
Acquired : Mar 17, 2006 14:26:33
Printed : Mar 17, 2006 16:42:27
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Ethylene Glycol	3.067	152721	3058.1	49.9

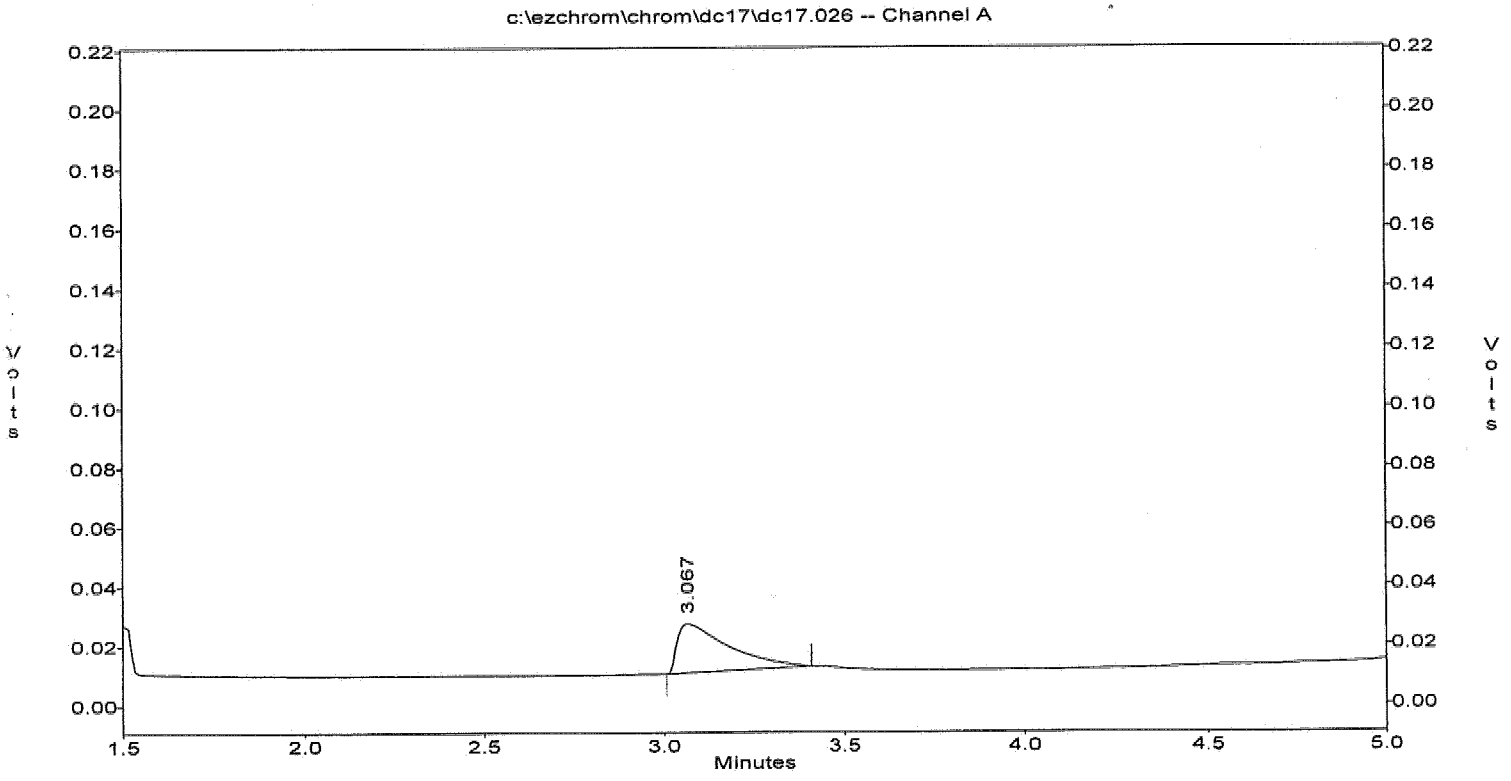


EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc17\dc17.026
Method : c:\ezchrom\methods\eg43c10.met
Sample ID : EGC010SC(2x)
Acquired : Mar 17, 2006 14:39:18
Printed : Mar 17, 2006 16:42:53
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Ethylene Glycol	3.067	160806	3058.1	52.6

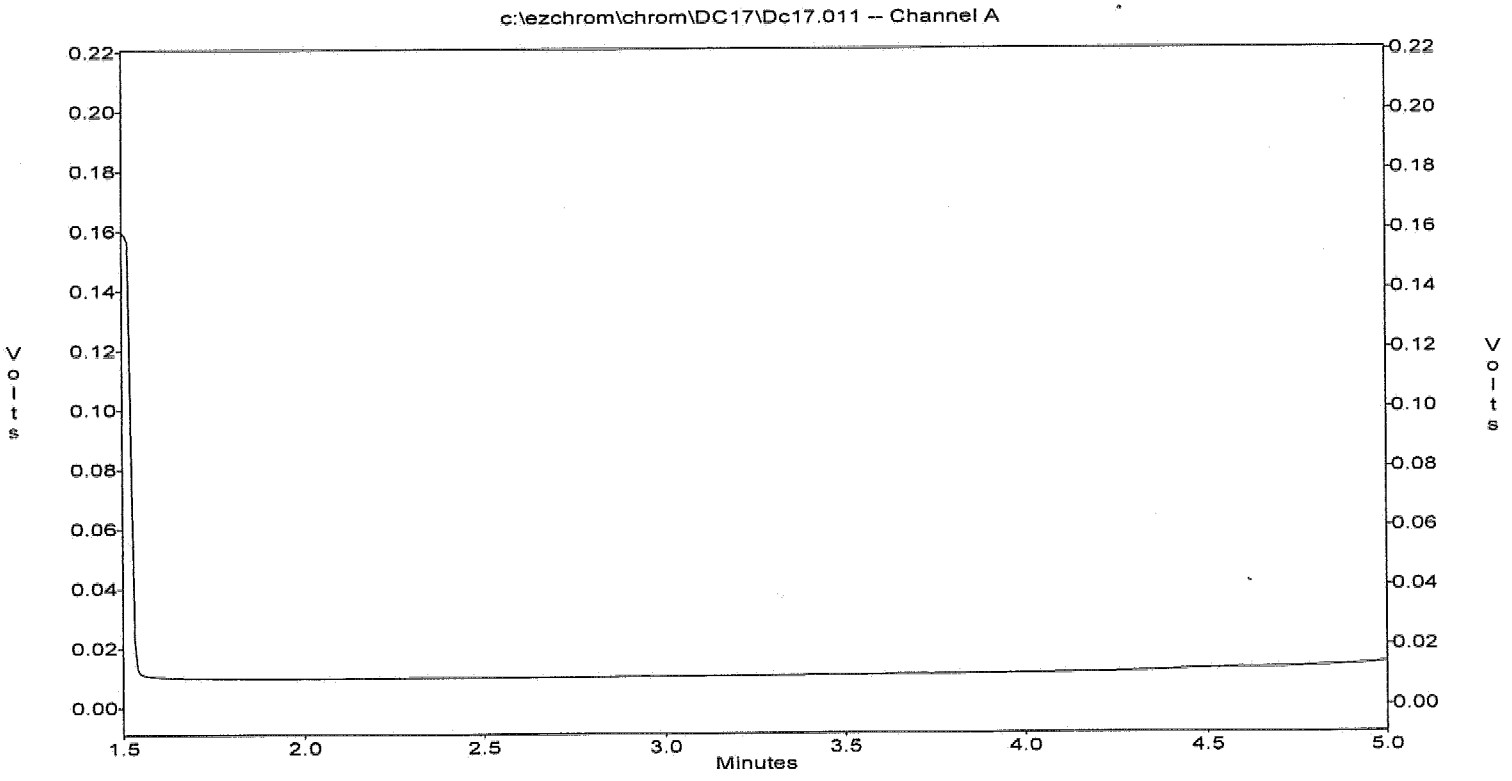


EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC17\Dc17.011
Method : c:\ezchrom\methods\Eg43c10.met
Sample ID : IB43C038
Acquired : Mar 17, 2006 11:02:17
Printed : Mar 17, 2006 11:09:18
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
--	Ethylene Glycol	2.975	0	0.0	0.0



INITIAL CALIBRATION

INITIAL CALIBRATION
METHOD M8015EG

Lab Name : EMAX Inc
Instrument ID : GCTO43
GC Column : SUPELCO WAX 10
Column size ID : 30MX0.53MMX0.25UM
LFID & Datetime: DC10024A 03/10/06 16:45
LFID & Datetime: DC10025A 03/10/06 16:57
LFID & Datetime: DC10026A 03/10/06 17:12
LFID & Datetime: DC10029A 03/10/06 17:57
LFID & Datetime: DC10028A 03/10/06 17:39
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA or HEIGHT)/UNIT 1.00X	2.00X	5.00X	7.50X	10.00X	MEAN	%RSD
Ethylene Glycol	10.00	2634.70	2679.95	3055.42	3332.45	3588.02	3058.11	13.5

EG43C10.MET

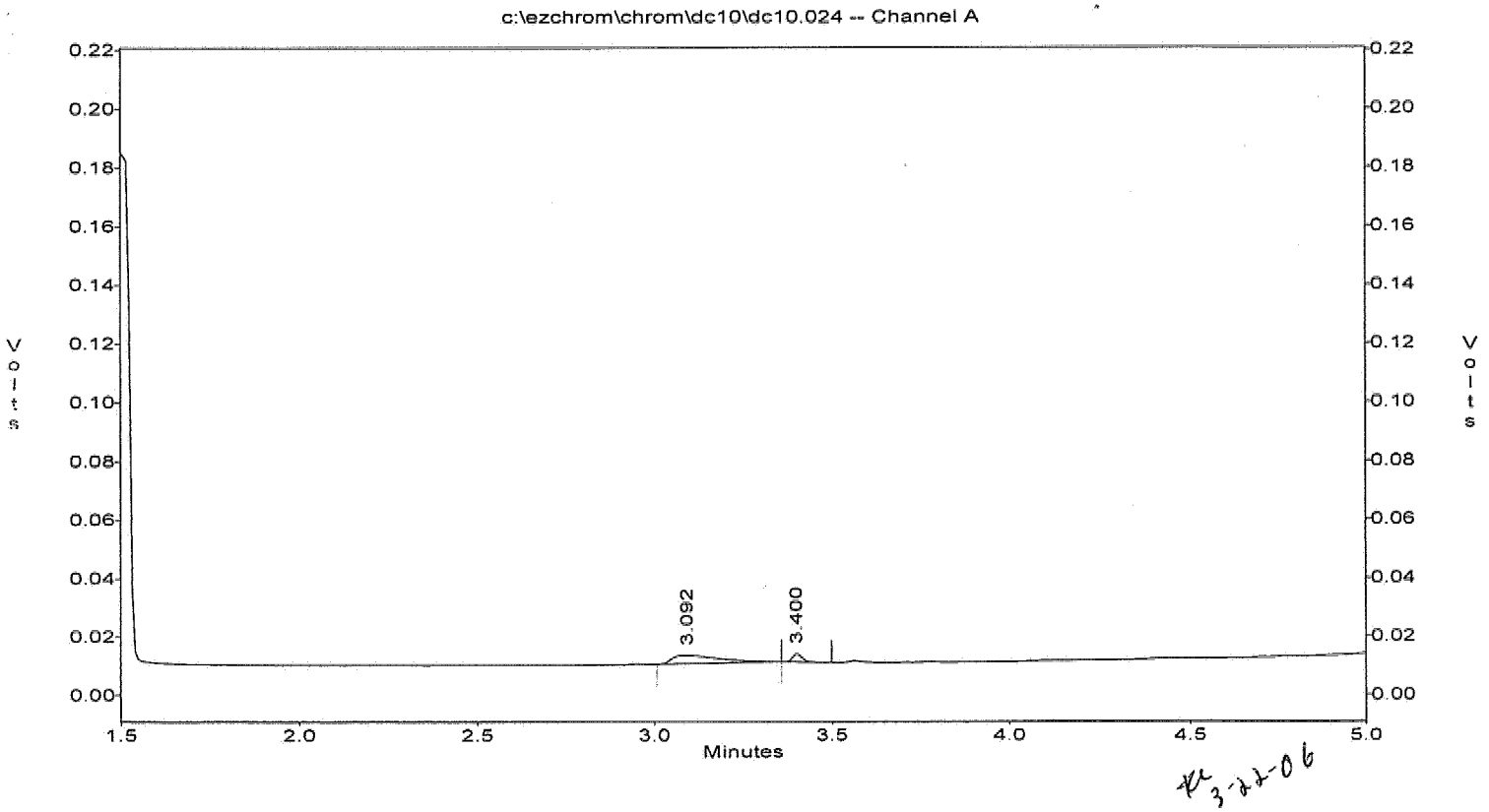
KW 3-22-06

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc10\dc10.024
Method : c:\ezchrom\methods\eg43c10.met
Sample ID : EG43C1001 10PPM
Acquired : Mar 10, 2006 16:45:04
Printed : Mar 15, 2006 17:09:13
User : LUCY

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Ethylene Glycol	3.092	26347	3058.1	10.0



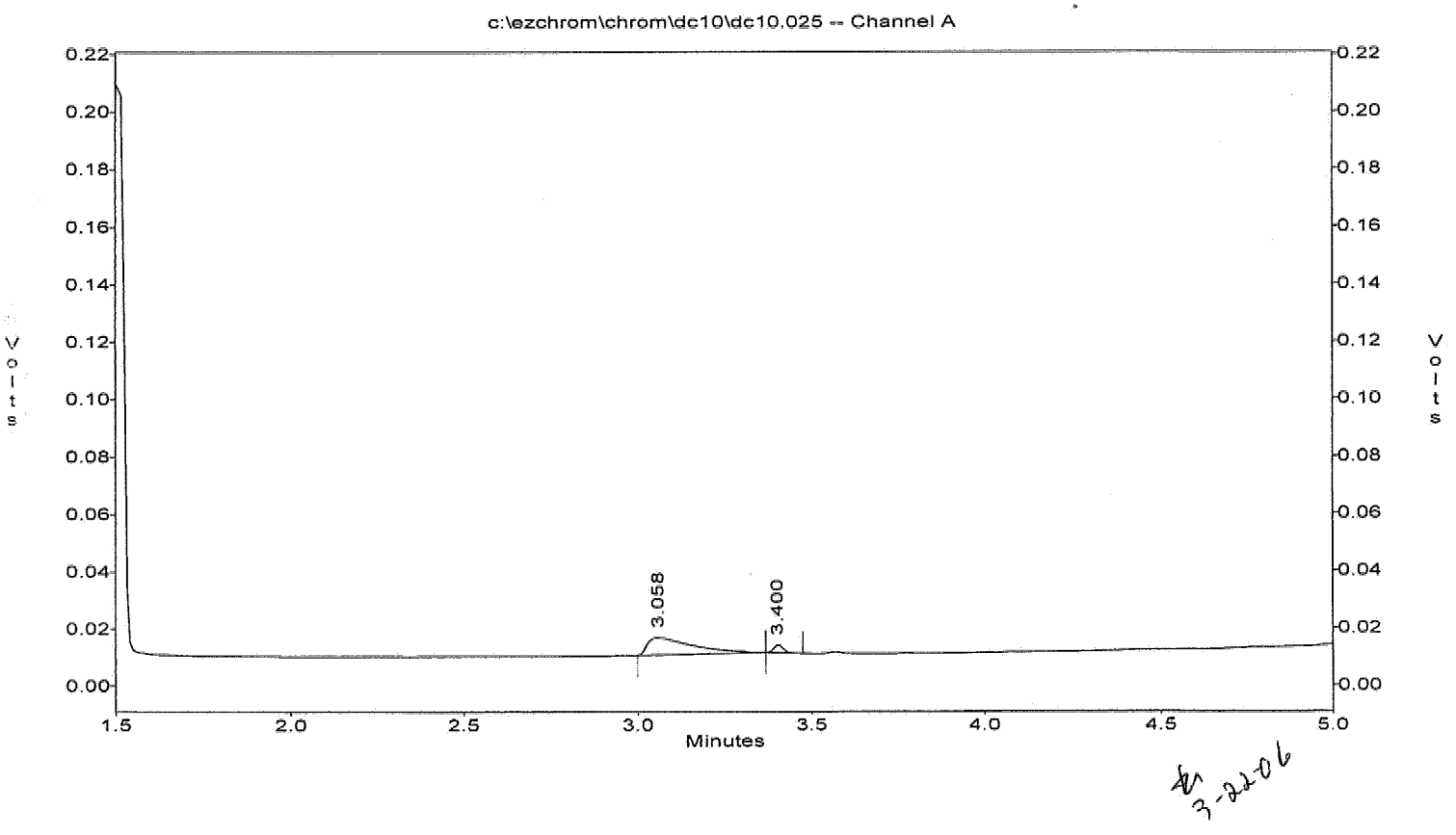
3-22-06

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc10\dc10.025
Method : c:\ezchrom\methods\eg43c10.met
Sample ID : EG43C1002 20PPM
Acquired : Mar 10, 2006 16:57:52
Printed : Mar 15, 2006 17:09:44
User : LUCY

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Ethylene Glycol	3.058	53599	3058.1	20.0



3-22-06

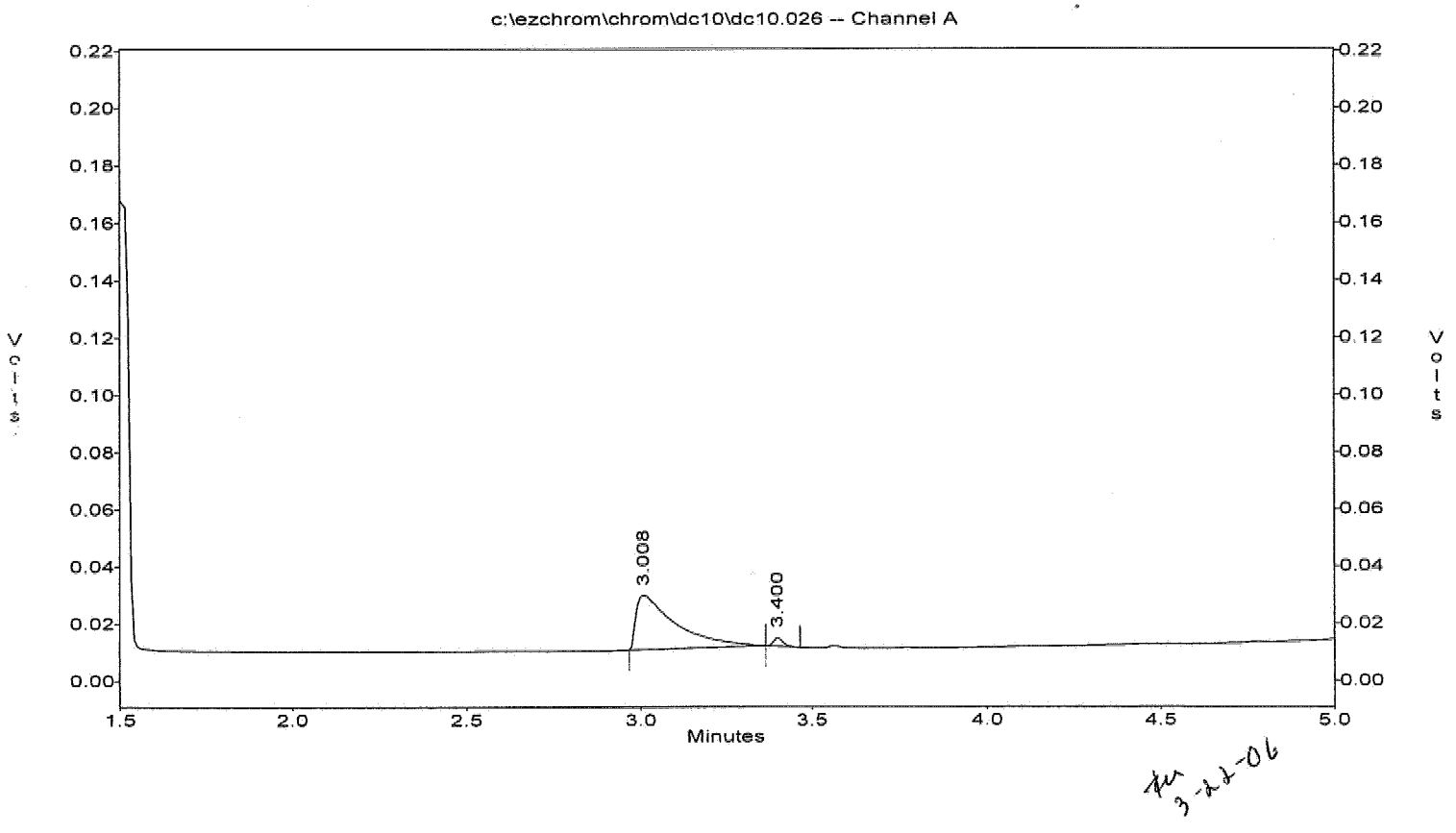
5162

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc10\dc10.026
Method : c:\ezchrom\methods\eg43c10.met
Sample ID : EG43C1003 50PPM
Acquired : Mar 10, 2006 17:12:34
Printed : Mar 15, 2006 17:09:57
User : LUCY

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Ethylene Glycol	3.008	152771	3058.1	50.0



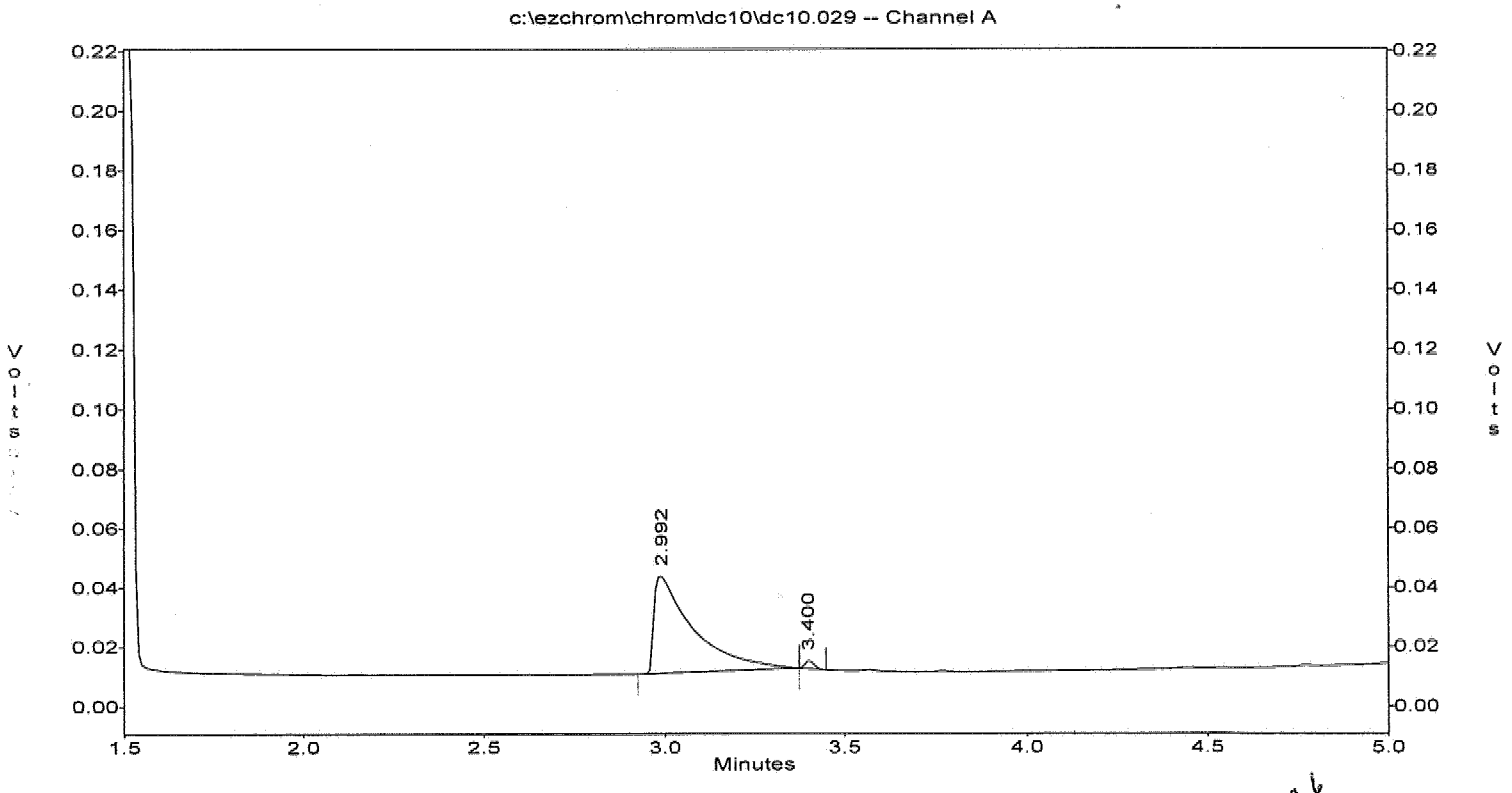
3-22-06

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc10\dc10.029
Method : c:\ezchrom\methods\eg43c10.met
Sample ID : EG43C1004 75PPM
Acquired : Mar 10, 2006 17:57:02
Printed : Mar 15, 2006 17:10:07
User : LUCY

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc. (ppm)
1	Ethylene Glycol	2.992	249934	3058.1	75.0



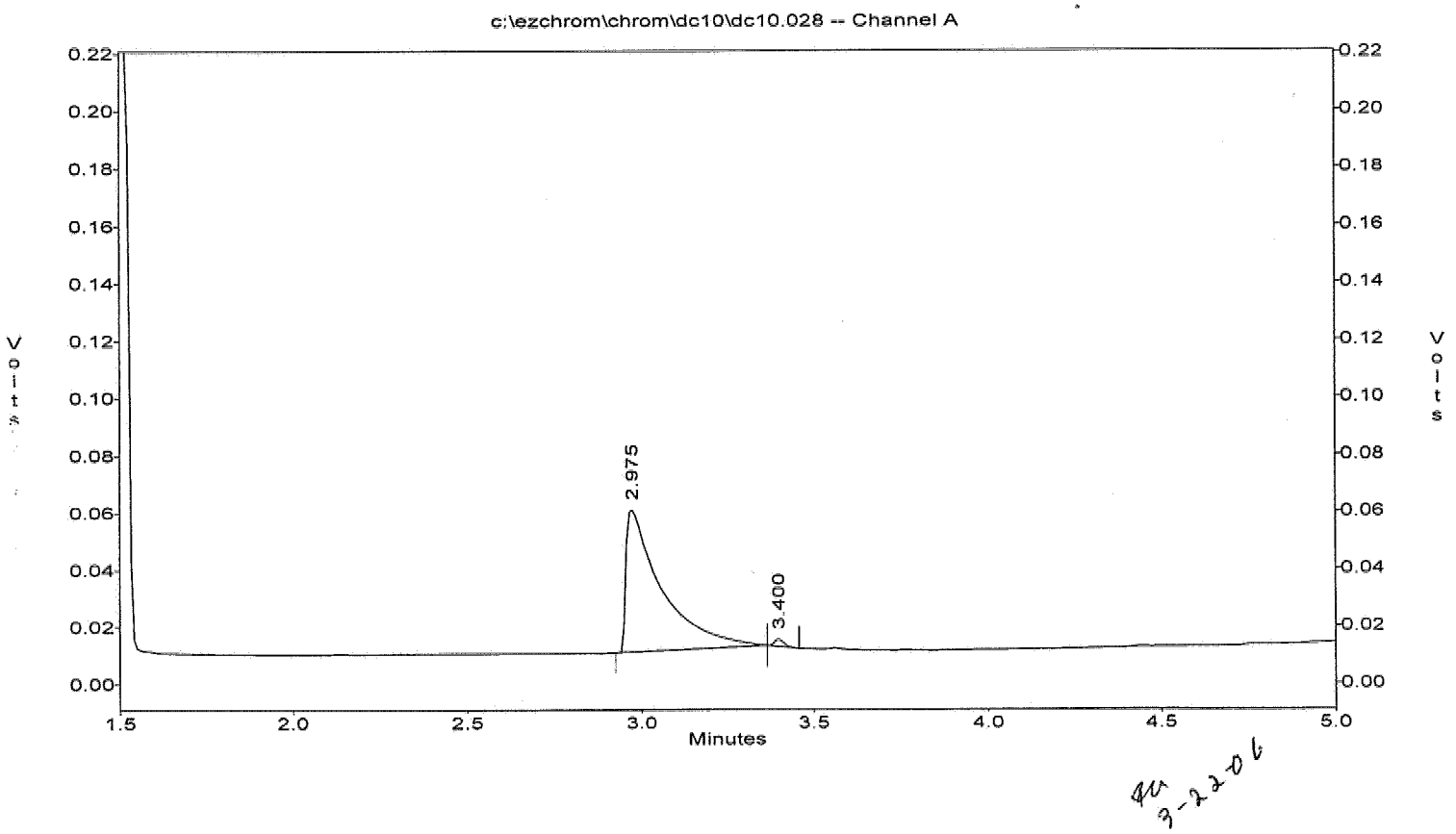
3-22-06

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc10\dc10.028
Method : c:\ezchrom\methods\eg43c10.met
Sample ID : EG43C1005 100PPM
Acquired : Mar 10, 2006 17:39:51
Printed : Mar 15, 2006 17:10:18
User : LUCY

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Ethylene Glycol	2.975	358802	3058.1	100.0



3-22-06

SECOND SOURCE

INITIAL CALIBRATION VERIFICATION
METHOD M8015EG

Lab Name : EMAX
Instrument ID : GCTO43
GC Columm : SUPELCO WAX 10
Column size ID : 30MX0.53MMX0.25UM
Mid Conc Init LFID & Datetime: DC10026A 03/10/2006 17:12
Conc Cont LFID & Datetime: DC10030A 03/10/2006 18:14
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Ethylene Glycol	3.008	2.769	3.247	50.0	3058.1	174073	56.92	14		15

EG43C10.MET

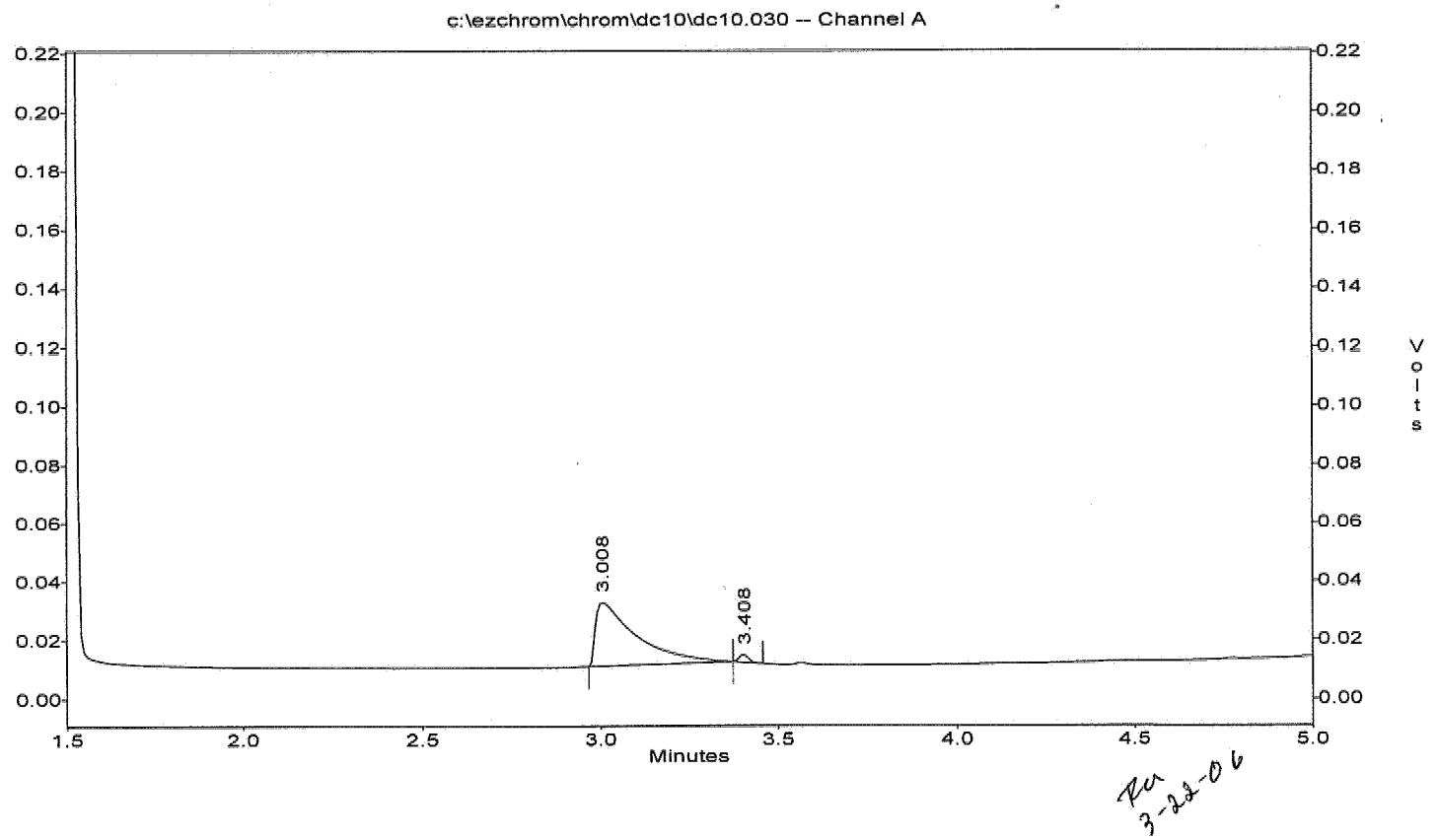
3-22-06

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc10\dc10.030
Method : c:\ezchrom\methods\eg43c10.met
Sample ID : IEG43C1001 50PPM
Acquired : Mar 10, 2006 18:14:40
Printed : Mar 15, 2006 17:10:38
User : LUCY

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc. (ppm)
1	Ethylene Glycol	3.008	174073	3058.1	56.9



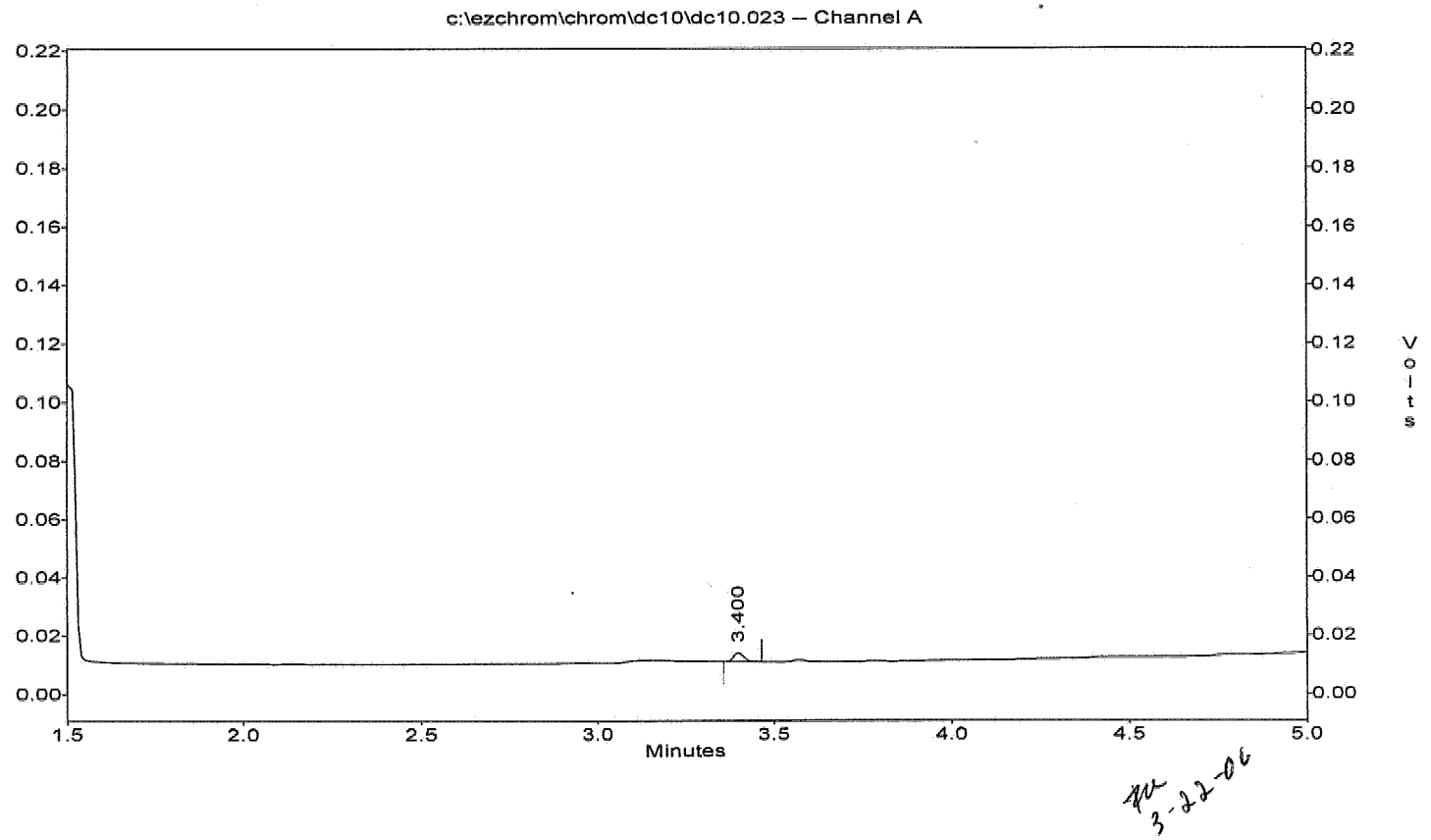
RA 3-22-06

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc10\dc10.023
Method : c:\ezchrom\methods\eg43c10.met
Sample ID : IB43C021
Acquired : Mar 10, 2006 16:33:44
Printed : Mar 15, 2006 17:10:52
User : LUCY

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc. (ppm)
--	Ethylene Glycol	2.975	0	0.0	0.0



3-22-06

5169

DAILY CALIBRATION

CONTINUE CALIBRATION
METHOD M8015EG

Lab Name : EMAX
Instrument ID : GCTO43
GC Columm : SUPELCO WAX 10
Column size ID : 30MX0.53MMX0.25UM
Mid Conc Init LFID & Datetime: DC10026A 03/10/2006 17:12
Conc Cont LFID & Datetime: DC17023A 03/17/2006 13:59
CONC UNIT : ppm

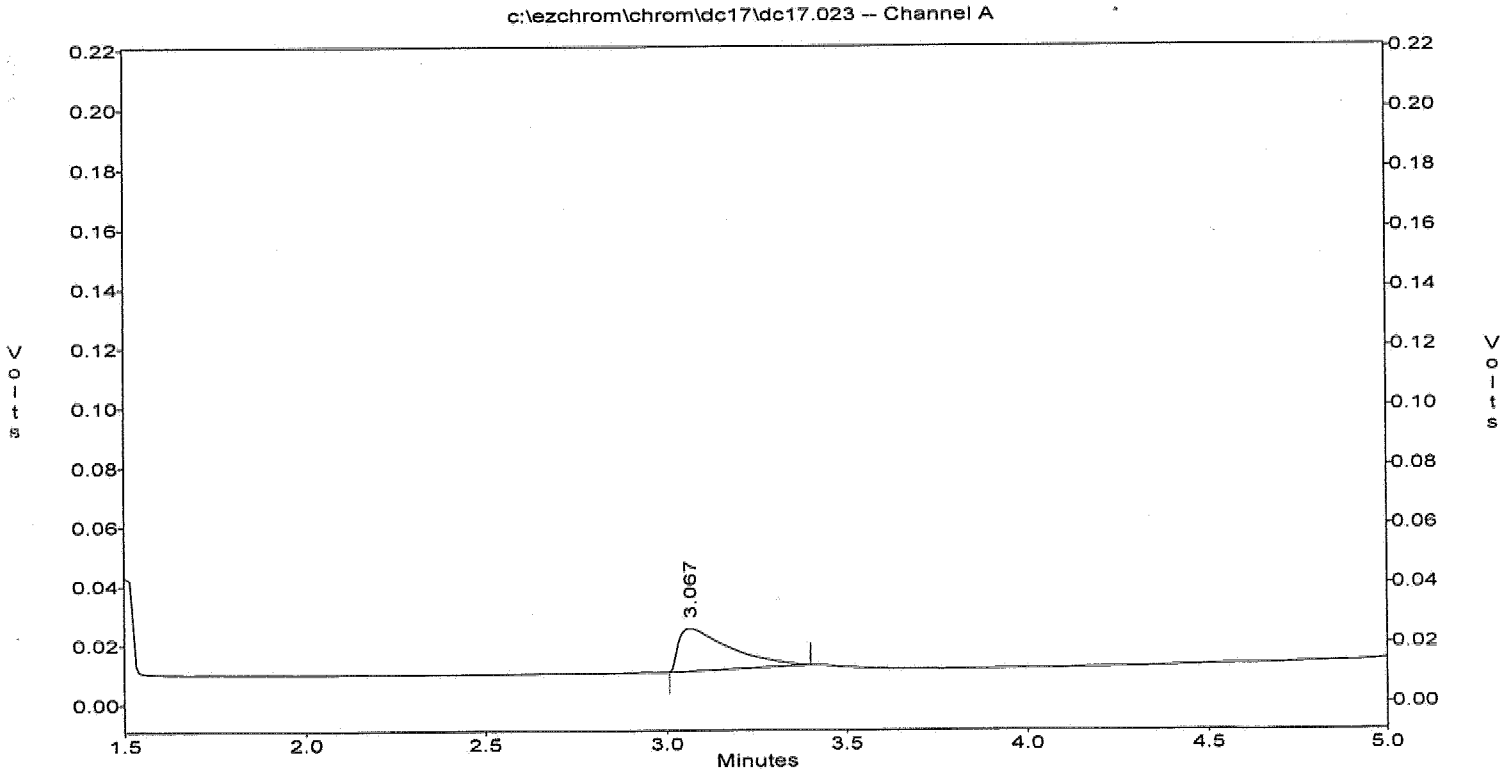
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Ethylene Glycol	3.067	2.828	3.306	50.0	3058.1	142463	46.58	-7		15

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\dc17\dc17.023
Method : c:\ezchrom\methods\eg43c10.met
Sample ID : CEG43C10039 50PPM
Acquired : Mar 17, 2006 13:59:58
Printed : Mar 17, 2006 16:41:07
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Ethylene Glycol	3.067	142463	3058.1	46.6



CONTINUE CALIBRATION
METHOD M8015EG

Lab Name : EMAX
Instrument ID : GCTO43
GC Columm : SUPELCO WAX 10
Column size ID : 30MX0.53MMX0.25UM
Mid Conc Init LFID & Datetime: DC10026A 03/10/2006 17:12
Conc Cont LFID & Datetime: DC17036A 03/17/2006 16:36
CONC UNIT : ppm

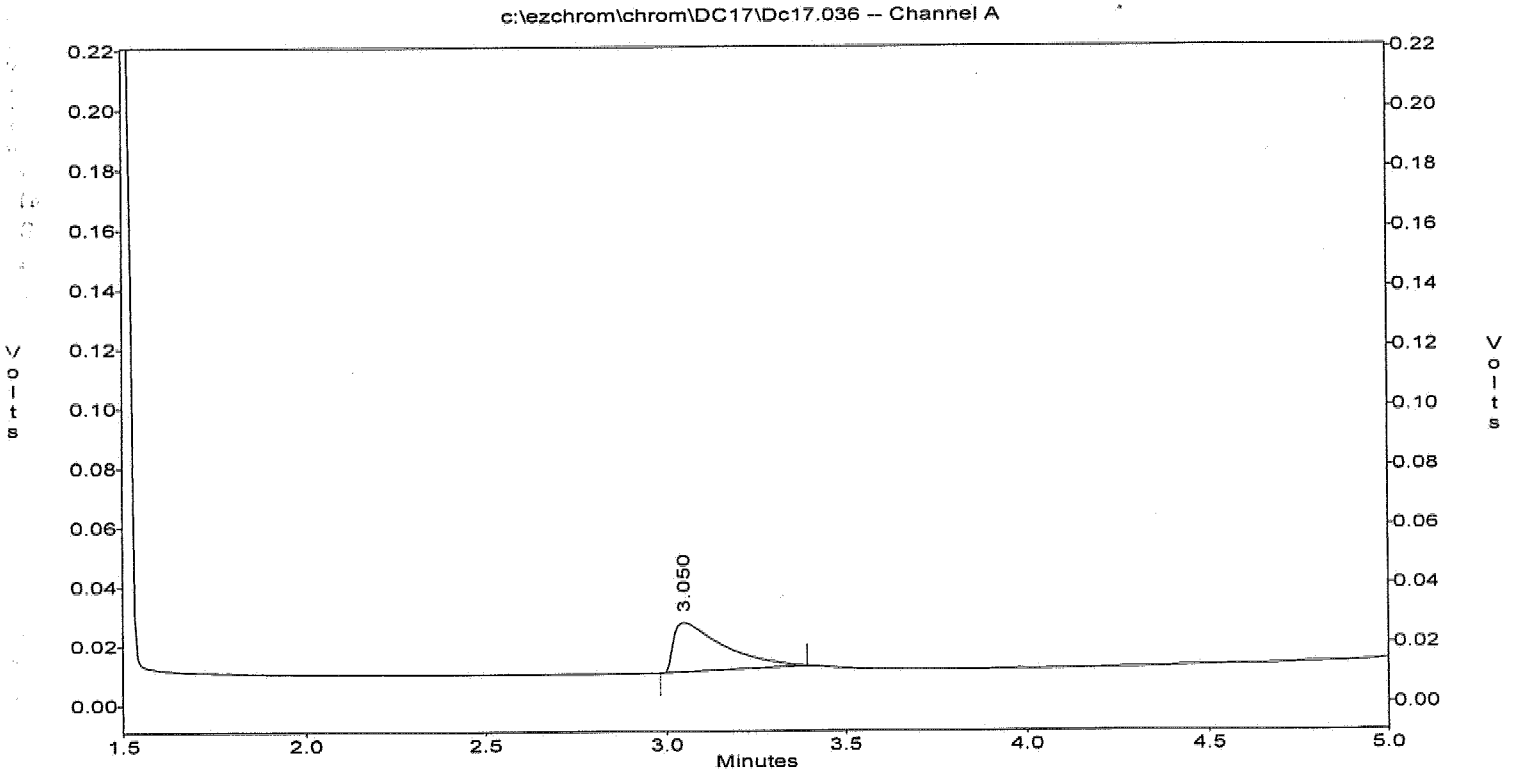
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Ethylene Glycol	3.050	2.811	3.289	50.0	3058.1	159209	52.06	4		15

EPA 8015 by GC/FID - GCT043
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\DC17\Dc17.036
Method : c:\ezchrom\methods\Eg43c10.met
Sample ID : CEG43C10040 50PPM
Acquired : Mar 17, 2006 16:36:32
Printed : Mar 17, 2006 16:43:33
User : XUYEN

Channel A Results

#	Peak Name	Ret.Time(min)	Area	Ave. CF	ESTD Conc.(ppm)
1	Ethylene Glycol	3.050	159209	3058.1	52.1



ANALYTICAL LOGS

ANALYSIS RUN LOG FOR TPH

SOP ☐ EMAX-M8015D Revision No. 3 ☐ EMAX-LUFTE Revision No. 3 ☑ Ethylene Glycol Book # A43-012

Starting Date: 3/10/06 Time: 16:33 Ending Date: 3/10/06 Time: 18:14

ANALYTICAL BATCH NA

Preparative Batch	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
NA	DC10.023	IB43C021	NA			
	24	EG43C1001				10 ppm
	25	02				20
	26	03				50
	27	04				75 → Bad inj.
	28	05				100
	29	04				75
	30	IEG43C1001				50

KP 3/10/06

Instrument No:	43
INITIAL CALIBRATION REFERENCE	

	ID	Date
Diesel		
Motor oil		
JP 5		
Alcohols		
Ethylene Glycol	EG43C10	3/10/06

Standards

Name	ID	Conc. (mg/L)
CH_2Cl_2	—	—
DCC / Ical	SS3C-07-13-3	10 - 100
LCS / ICV	SS3C-07-14-1	50

Electronic Data Archival

Location	Date
☑ EZC_2_Diesel	3/13/06
☐	

Comments:

Analyzed By: KP

Disposed on: 3/10/06 By: KP

This page is checked during the data review process.

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

ANALYSIS RUN LOG FOR TPH

SOP ☐ **EMAX-M8015D Revision No. 3** ☐ **EMAX-LUFTE Revision No. 3** ☑ Ethylene Glycol. **Book # A43-012**

Starting Date: 3/17/06 **Time:** 11:07 **Ending Date:** 3/17/06 **Time:** 16:23

ANALYTICAL BATCH DC17013

Preparative Batch	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
	DC17.011	IB43C038				
	12	NO INJECTION				
	13	CEG43C10038	2			
EGC010W	14	EGC010WL	↓		✓	50 ppm
↓	15	↓ C	↓		↓	↓
	16	↓ B	1			
	17	06C127-09	1			pH7
↓	18	↓ 10	↓		↓	↓
EGC006S	19	EGC006SB	1	✓		
↓	20	↓ L	↓	↓		100 ppm } For conf. only
↓	21	↓ C	↓	↓		↓
↓	22	MDLVET2-01	↓	↓		10 ppm
	23	CEG43C10039	2			
EGC010S	24	EGC010SB	1	✓		
↓	25	↓ L	2	↓		50 ppm
↓	26	↓ C	↓	↓		↓
↓	27	06C106-01	1	↓		
↓	28	↓ 02	↓	↓		
↓	29	↓ 03	↓	↓		
↓	30	↓ 04	↓	↓		
↓	31	↓ 06	↓	↓		
↓	32	↓ 08	↓	↓		
↓	33	↓ 09	↓	↓		
↓	34	↓ 10	↓	↓		
↓	35	↓ 11	↓	↓		

Instrument No:		43
INITIAL CALIBRATION REFERENCE		
	ID	Date
Diesel		
Motor oil		
JP 5		
Alcohols		
Ethylene Glycol	EG43C10	3/10/06

Standards

Name	ID	Conc. (mg/L)
CH_2Cl_2	—	—
DCC	SS3C-07-12-3	100
LCS (water)	SS3C-07-08-1	100
H_2O	organic free	—

Electronic Data Archival

Location	Date
☑ EZC_2_Diesel	3/20/06 XP
☐	

Comments:

Analyzed By: XP

Disposed on: 3/20/06 By: XP

This page is checked during the data review process.

ANALYSIS RUN LOG FOR TPH

SOP ☐ EMAX-M8015D Revision No. 3 ☐ EMAX-LUFTE Revision No. 3 ☑ Ethylene Glycol Book # A43-012

Starting Date: 3/17/06 Time: 16:36 Ending Date: 3/17/06 Time: 18:03

ANALYTICAL BATCH DC17013

Preparative Batch	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
	DC17.036	CEG43C10040	2			50 ppm
EGC0125	37	EGC0125Q	1	✓		
↓	38	↓ X	2	↓		50 ppm
↓	39	↓ Y	↓	↓		↓
↓	40	06C120-14	1	↓		
↓	41	~~06~~ 16 XP 3/20/06	↓	↓		
↓	42	18	↓	↓		
↓	43	↓ 19	↓	↓		
	↓ 44	CEG43C10041	2			50 ppm

XP 3/20/06

Instrument No:		43
INITIAL CALIBRATION REFERENCE		
	ID	Date
Diesel		
Motor oil		
JP 5		
Alcohols		
Ethylene Glycol	EG43C10	3/10/06

Standards		
Name	ID	Conc. (mg/L)
CH_2Cl_2	—	—
DCC	SS3C-07-12-3	100
LCS	—	—
H_2O	organic free	—

Electronic Data Archival	
Location	Date
☑ EZC_2_Diesel	3/20/06 XP
☐	

Comments:

Analyzed By: XP

Disposed on: 3/20/06 By: XP

This page is checked during the data review process.

EXTRACTION LOGS

EXTRACTION LOG FOR SPECIAL TEST

SOP ☐ EMAX-8015M ☑ Ethylene Glycol

Book # EST-001

Matrix Soil Start Date 3/14/06 Time 10:00 End Date 3/14/06 Time 11:00

PREPARATION BATCH # EGC010C

Sample Prep ID	Lab Sample ID	Sample Amount, (g_ml)	Extract Volume, (ml)	pH	Notes
01	EGC010SB	10g	10	7	
02	L				
03	C				
04	06C106 - 01				
05	-02				
06	-03				
07	-04				
08	-06				
09	-08				
10	-09				
11	-10				
12	-11				
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Standards	ID	Amount Added (ul)
LCS/MS	SSC-07-12-2	1000

Reagent	Lot# / ID
H2O	Organic free
SILICA SAND	SWIA-03-133

SDG #	Extract Location
	VW03

Comments:

Prepared By: JO/SC

Standard Added By: JO

This page is checked during data review

3/14/06

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

5 of 65

LABORATORY REPORT FOR

ENSR

UPGRADIENT INVESTIGATION, TRONOX

METALS / MERCURY

SDG#: 06C106

CASE NARRATIVE

CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

METHOD 3050B/6020A
METALS BY ICP-MS

Ten (10) soil samples were received on 03/11/06 for Metals analysis by Method 3050B/6020A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. **Holding Time**

   Analysis met holding time criteria.

2. **Method Blank**

   Method blank was free of contamination at the reporting limit.

3. **Lab Control Sample/Lab Control Sample Duplicate**

   Lab control results were within QC limit.

4. **Serial Dilution / Post-Analytical Spike**

   Sample C081-08 was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. **Matrix Spike/Matrix Spike Duplicate**

   No MS/MSD sample was designated in this SDG.

6. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

LAB CHRONICLE
METALS BY ICP-MS

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX

SDG NO. : 06C106
Instrument ID :

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	IMC021SB	1	NA	03/28/0617:23	03/16/0613:30	98C23015	98C23013	IMC021S	Method Blank
LCS1S	IMC021SL	1	NA	03/28/0617:31	03/16/0613:30	98C23016	98C23013	IMC021S	Lab Control Sample (LCS)
LCD1S	IMC021SC	1	NA	03/28/0617:39	03/16/0613:30	98C23017	98C23013	IMC021S	LCS Duplicate
M118-50AS	C081-08A	1	17.7	03/28/0618:59	03/16/0613:30	98C23027	98C23025	IMC021S	Analytical Spike Sample
M118-50	C081-08	1	17.7	03/28/0619:23	03/16/0613:30	98C23030	98C23025	IMC021S	Field Sample
M118-50DL	C081-08J	5	17.7	03/28/0619:31	03/16/0613:30	98C23031	98C23025	IMC021S	Diluted Sample
M121-0.5	C106-01	1	4.3	03/28/0619:55	03/16/0613:30	98C23034	98C23025	IMC021S	Field Sample
M121-5	C106-02	1	10.3	03/28/0620:03	03/16/0613:30	98C23035	98C23025	IMC021S	Field Sample
M121-10	C106-03	1	5.7	03/28/0620:11	03/16/0613:30	98C23036	98C23025	IMC021S	Field Sample
M121-5D	C106-04	1	9.5	03/28/0620:35	03/16/0613:30	98C23039	98C23037	IMC021S	Field Sample
M121-20	C106-05	1	3.6	03/28/0620:43	03/16/0613:30	98C23040	98C23037	IMC021S	Field Sample
M121-30	C106-06	1	5.8	03/28/0620:51	03/16/0613:30	98C23041	98C23037	IMC021S	Field Sample
M121-40	C106-07	1	8.9	03/28/0620:59	03/16/0613:30	98C23042	98C23037	IMC021S	Field Sample
M121-50	C106-08	1	6.1	03/28/0621:07	03/16/0613:30	98C23043	98C23037	IMC021S	Field Sample
M121-60	C106-09	1	17.8	03/28/0621:15	03/16/0613:30	98C23044	98C23037	IMC021S	Field Sample
M121-80	C106-10	1	27.5	03/28/0621:23	03/16/0613:30	98C23045	98C23037	IMC021S	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	M121-0.5	Date Analyzed:	03/28/06 19:55
Lab Samp ID:	C106-01	Dilution Factor:	1
Lab File ID:	98C23034	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	4.3
Calib. Ref.:	98C23025	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	6610	10.4	5.22
Antimony	.174J	.522	.104
Arsenic	4.4	.522	.104
Barium	200	.522	.104
Beryllium	.418J	.522	.104
Boron	13.6	10.4	5.22
Cadmium	.6	.522	.104
Calcium	24000	52.2	20.9
Chromium	9.43	.522	.104
Cobalt	6.89	.522	.104
Copper	367	.522	.209
Iron	8740	10.4	5.22
Lead	50.8	.522	.104
Magnesium	8130	52.2	20.9
Manganese	684	.522	.104
Molybdenum	.786	.522	.104
Nickel	16.4	.522	.104
Platinum	ND	.0209	.0104
Potassium	2200	52.2	20.9
Selenium	.23J	.522	.104
Silver	.154J	.522	.104
Sodium	376	52.2	20.9
Strontium	146	.522	.104
Thallium	.194J	.522	.104
Tin	ND	10.4	5.22
Titanium	495	2.09	.209
Tungsten	.609J	2.09	.522
Uranium	.65	.522	.104
Vanadium	21.7	.522	.104
Zinc	61.4	4.18	.522

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	M121-5	Date Analyzed:	03/28/06 20:03
Lab Samp ID:	C106-02	Dilution Factor:	1
Lab File ID:	98C23035	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	10.3
Calib. Ref.:	98C23025	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	8000	11.1	5.57
Antimony	ND	.557	.111
Arsenic	3.96	.557	.111
Barium	136	.557	.111
Beryllium	.483J	.557	.111
Boron	ND	11.1	5.57
Cadmium	.388J	.557	.111
Calcium	64400	55.7	22.3
Chromium	8.28	.557	.111
Cobalt	6	.557	.111
Copper	13.2	.557	.223
Iron	9410	11.1	5.57
Lead	5.99	.557	.111
Magnesium	10800	55.7	22.3
Manganese	253	.557	.111
Molybdenum	.363J	.557	.111
Nickel	13.4	.557	.111
Platinum	ND	.0223	.0111
Potassium	1770	55.7	22.3
Selenium	.205J	.557	.111
Silver	ND	.557	.111
Sodium	765	55.7	22.3
Strontium	256	.557	.111
Thallium	ND	.557	.111
Tin	ND	11.1	5.57
Titanium	508	2.23	.223
Tungsten	ND	2.23	.557
Uranium	1.01	.557	.111
Vanadium	23.6	.557	.111
Zinc	27	4.46	.557

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	M121-10	Date Analyzed:	03/28/06 20:11
Lab Samp ID:	C106-03	Dilution Factor:	1
Lab File ID:	98C23036	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	5.7
Calib. Ref.:	98C23025	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	8890	10.6	5.3
Antimony	ND	.53	.106
Arsenic	3.38	.53	.106
Barium	187	.53	.106
Beryllium	.605	.53	.106
Boron	ND	10.6	5.3
Cadmium	.424J	.53	.106
Calcium	30900	53	21.2
Chromium	11	.53	.106
Cobalt	7.02	.53	.106
Copper	26.5	.53	.212
Iron	11500	10.6	5.3
Lead	7.25	.53	.106
Magnesium	10000	53	21.2
Manganese	298	.53	.106
Molybdenum	.604	.53	.106
Nickel	18.3	.53	.106
Platinum	ND	.0212	.0106
Potassium	1560	53	21.2
Selenium	.176J	.53	.106
Silver	ND	.53	.106
Sodium	1110	53	21.2
Strontium	271	.53	.106
Thallium	.114J	.53	.106
Tin	ND	10.6	5.3
Titanium	656	2.12	.212
Tungsten	.557J	2.12	.53
Uranium	1.21	.53	.106
Vanadium	30.2	.53	.106
Zinc	36.1	4.24	.53

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	M121-5D	Date Analyzed:	03/28/06 20:35
Lab Samp ID:	C106-04	Dilution Factor:	1
Lab File ID:	98C23039	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	9.5
Calib. Ref.:	98C23037	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	8410	11	5.52
Antimony	.328J	.552	.11
Arsenic	3.8	.552	.11
Barium	145	.552	.11
Beryllium	.517J	.552	.11
Boron	ND	11	5.52
Cadmium	.367J	.552	.11
Calcium	50300	55.2	22.1
Chromium	9.99	.552	.11
Cobalt	6.44	.552	.11
Copper	14.1	.552	.221
Iron	10500	11	5.52
Lead	5.93	.552	.11
Magnesium	12600	55.2	22.1
Manganese	260	.552	.11
Molybdenum	.468J	.552	.11
Nickel	14.8	.552	.11
Platinum	ND	.0221	.011
Potassium	1620	55.2	22.1
Selenium	.201J	.552	.11
Silver	ND	.552	.11
Sodium	851	55.2	22.1
Strontium	260	.552	.11
Thallium	ND	.552	.11
Tin	ND	11	5.52
Titanium	593	2.21	.221
Tungsten	ND	2.21	.552
Uranium	1.04	.552	.11
Vanadium	28.1	.552	.11
Zinc	28.3	4.42	.552

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	M121-20	Date Analyzed:	03/28/06 20:43
Lab Samp ID:	C106-05	Dilution Factor:	1
Lab File ID:	98C23040	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	3.6
Calib. Ref.:	98C23037	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	6390	10.4	5.19
Antimony	ND	.519	.104
Arsenic	2.34	.519	.104
Barium	150	.519	.104
Beryllium	.394J	.519	.104
Boron	ND	10.4	5.19
Cadmium	.284J	.519	.104
Calcium	14800	51.9	20.7
Chromium	8.23	.519	.104
Cobalt	6.43	.519	.104
Copper	36.9	.519	.207
Iron	8020	10.4	5.19
Lead	6.12	.519	.104
Magnesium	6530	51.9	20.7
Manganese	355	.519	.104
Molybdenum	.549	.519	.104
Nickel	13.1	.519	.104
Platinum	ND	.0207	.0104
Potassium	1040	51.9	20.7
Selenium	.169J	.519	.104
Silver	ND	.519	.104
Sodium	652	51.9	20.7
Strontium	178	.519	.104
Thallium	ND	.519	.104
Tin	ND	10.4	5.19
Titanium	484	2.07	.207
Tungsten	.526J	2.07	.519
Uranium	.742	.519	.104
Vanadium	24.1	.519	.104
Zinc	33.7	4.15	.519

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	M121-30	Date Analyzed:	03/28/06 20:51
Lab Samp ID:	C106-06	Dilution Factor:	1
Lab File ID:	98C23041	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	5.8
Calib. Ref.:	98C23037	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	8060	10.6	5.31
Antimony	.13J	.531	.106
Arsenic	3.37	.531	.106
Barium	145	.531	.106
Beryllium	.523J	.531	.106
Boron	ND	10.6	5.31
Cadmium	.412J	.531	.106
Calcium	25000	53.1	21.2
Chromium	10	.531	.106
Cobalt	6.72	.531	.106
Copper	61.5	.531	.212
Iron	12200	10.6	5.31
Lead	6.48	.531	.106
Magnesium	8520	53.1	21.2
Manganese	254	.531	.106
Molybdenum	.665	.531	.106
Nickel	14.9	.531	.106
Platinum	ND	.0212	.0106
Potassium	1410	53.1	21.2
Selenium	.197J	.531	.106
Silver	ND	.531	.106
Sodium	714	53.1	21.2
Strontium	215	.531	.106
Thallium	ND	.531	.106
Tin	ND	10.6	5.31
Titanium	571	2.12	.212
Tungsten	ND	2.12	.531
Uranium	.913	.531	.106
Vanadium	29.6	.531	.106
Zinc	48.3	4.25	.531

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	M121-40	Date Analyzed:	03/28/06 20:59
Lab Samp ID:	C106-07	Dilution Factor:	1
Lab File ID:	98C23042	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	8.9
Calib. Ref.:	98C23037	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	7140	11	5.49
Antimony	ND	.549	.11
Arsenic	5.38	.549	.11
Barium	86.7	.549	.11
Beryllium	.429J	.549	.11
Boron	7.33J	11	5.49
Cadmium	.274J	.549	.11
Calcium	4830	54.9	22
Chromium	8	.549	.11
Cobalt	3.88	.549	.11
Copper	37.9	.549	.22
Iron	6070	11	5.49
Lead	5.1	.549	.11
Magnesium	7120	54.9	22
Manganese	100	.549	.11
Molybdenum	.397J	.549	.11
Nickel	10.7	.549	.11
Platinum	ND	.022	.011
Potassium	1790	54.9	22
Selenium	.133J	.549	.11
Silver	ND	.549	.11
Sodium	626	54.9	22
Strontium	199	.549	.11
Thallium	ND	.549	.11
Tin	ND	11	5.49
Titanium	328	2.2	.22
Tungsten	ND	2.2	.549
Uranium	1.06	.549	.11
Vanadium	26.1	.549	.11
Zinc	27.8	4.39	.549

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	M121-50	Date Analyzed:	03/28/06 21:07
Lab Samp ID:	C106-08	Dilution Factor:	1
Lab File ID:	98C23043	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	6.1
Calib. Ref.:	98C23037	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	8380	10.6	5.32
Antimony	ND	.532	.106
Arsenic	9.79	.532	.106
Barium	153	.532	.106
Beryllium	.407J	.532	.106
Boron	8.79J	10.6	5.32
Cadmium	.329J	.532	.106
Calcium	5110	53.2	21.3
Chromium	9.51	.532	.106
Cobalt	6.55	.532	.106
Copper	34.8	.532	.213
Iron	8710	10.6	5.32
Lead	6.95	.532	.106
Magnesium	8500	53.2	21.3
Manganese	173	.532	.106
Molybdenum	.504J	.532	.106
Nickel	21.1	.532	.106
Platinum	ND	.0213	.0106
Potassium	2120	53.2	21.3
Selenium	.14J	.532	.106
Silver	ND	.532	.106
Sodium	853	53.2	21.3
Strontium	226	.532	.106
Thallium	.122J	.532	.106
Tin	ND	10.6	5.32
Titanium	453	2.13	.213
Tungsten	ND	2.13	.532
Uranium	.761	.532	.106
Vanadium	28	.532	.106
Zinc	34.4	4.26	.532

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	M121-60	Date Analyzed:	03/28/06 21:15
Lab Samp ID:	C106-09	Dilution Factor:	1
Lab File ID:	98C23044	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	17.8
Calib. Ref.:	98C23037	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	12600	12.2	6.08
Antimony	ND	.608	.122
Arsenic	15.4	.608	.122
Barium	201	.608	.122
Beryllium	.667	.608	.122
Boron	12J	12.2	6.08
Cadmium	.458J	.608	.122
Calcium	12900	60.8	24.3
Chromium	20.3	.608	.122
Cobalt	6.65	.608	.122
Copper	14.7	.608	.243
Iron	12500	12.2	6.08
Lead	7.56	.608	.122
Magnesium	14500	60.8	24.3
Manganese	454	.608	.122
Molybdenum	1.03	.608	.122
Nickel	25.9	.608	.122
Platinum	ND	.0243	.0122
Potassium	3080	60.8	24.3
Selenium	.162J	.608	.122
Silver	ND	.608	.122
Sodium	827	60.8	24.3
Strontium	202	.608	.122
Thallium	.454J	.608	.122
Tin	ND	12.2	6.08
Titanium	682	2.43	.243
Tungsten	.669J	2.43	.608
Uranium	1.39	.608	.122
Vanadium	30.9	.608	.122
Zinc	34.3	4.87	.608

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	03/10/06
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/11/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	M121-80	Date Analyzed:	03/28/06 21:23
Lab Samp ID:	C106-10	Dilution Factor:	1
Lab File ID:	98C23045	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	27.5
Calib. Ref.:	98C23037	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	16800	13.8	6.9
Antimony	ND	.69	.138
Arsenic	26.6	.69	.138
Barium	80.7	.69	.138
Beryllium	.804	.69	.138
Boron	21.4	13.8	6.9
Cadmium	.473J	.69	.138
Calcium	5460	69	27.6
Chromium	25.7	.69	.138
Cobalt	7.37	.69	.138
Copper	16.1	.69	.276
Iron	15900	13.8	6.9
Lead	8.59	.69	.138
Magnesium	22000	69	27.6
Manganese	327	.69	.138
Molybdenum	.613J	.69	.138
Nickel	31.5	.69	.138
Platinum	ND	.0276	.0138
Potassium	4430	69	27.6
Selenium	.149J	.69	.138
Silver	ND	.69	.138
Sodium	585	69	27.6
Strontium	106	.69	.138
Thallium	.282J	.69	.138
Tin	ND	13.8	6.9
Titanium	755	2.76	.276
Tungsten	ND	2.76	.69
Uranium	1.82	.69	.138
Vanadium	35.9	.69	.138
Zinc	47.4	5.52	.69

METHOD 3050B/6020A
METALS BY ICP-MS

Client	: ENSR	Date Collected:	NA
Project	: UPGRADIENT INVESTIGATION, TRONOX	Date Received:	03/16/06
SDG NO.	: 06C106	Date Extracted:	03/16/0613:30
Sample ID:	MBLK1S	Date Analyzed:	03/28/06 17:23
Lab Samp ID:	IMC021SB	Dilution Factor:	1
Lab File ID:	98C23015	Matrix :	SOIL
Ext Btch ID:	IMC021S	% Moisture :	NA
Calib. Ref.:	98C23013	Instrument ID :	EMAXTI98

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Aluminum	ND	10	5
Antimony	ND	.5	.1
Arsenic	ND	.5	.1
Barium	ND	.5	.1
Beryllium	ND	.5	.1
Boron	ND	10	5
Cadmium	ND	.5	.1
Calcium	ND	50	20
Chromium	ND	.5	.1
Cobalt	ND	.5	.1
Copper	ND	.5	.2
Iron	ND	10	5
Lead	ND	.5	.1
Magnesium	ND	50	20
Manganese	ND	.5	.1
Molybdenum	.137J	.5	.1
Nickel	ND	.5	.1
Platinum	ND	.02	.01
Potassium	ND	50	20
Selenium	ND	.5	.1
Silver	ND	.5	.1
Sodium	ND	50	20
Strontium	ND	.5	.1
Thallium	ND	.5	.1
Tin	ND	10	5
Titanium	ND	2	.2
Tungsten	ND	2	.5
Uranium	ND	.5	.1
Vanadium	.132J	.5	.1
Zinc	ND	4	.5

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
SDG NO.: 06C106
METHOD: METHOD 3050B/6020A

MATRIX:	SOIL			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1S				
CONTROL NO.:	IMC021SB	IMC021SL	IMC021SC		
LAB FILE ID:	98C23015	98C23016	98C23017		
DATIME EXTRCTD:	03/16/0613:30	03/16/0613:30	03/16/0613:30	DATE COLLECTED:	NA
DATIME ANALYZD:	03/28/0617:23	03/28/0617:31	03/28/0617:39	DATE RECEIVED:	03/16/06
PREP. BATCH:	IMC021S	IMC021S	IMC021S		
CALIB. REF:	98C23013	98C23013	98C23013		

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Aluminum	ND	5000	4840	97	5000	4880	98	1	80-120	20
Antimony	ND	50	48.6	97	50	48.5	97	0	80-120	20
Arsenic	ND	50	47.6	95	50	48.2	96	1	80-120	20
Barium	ND	50	48.2	96	50	48.2	96	0	80-120	20
Beryllium	ND	50	48.5	97	50	48	96	1	80-120	20
Boron	ND	50	46.3	93	50	45.9	92	1	80-120	20
Cadmium	ND	50	47.5	95	50	47.4	95	0	80-120	20
Calcium	ND	5000	4950	99	5000	4920	98	1	80-120	20
Chromium	ND	50	49.7	100	50	49.6	99	0	80-120	20
Cobalt	ND	50	50.4	101	50	50.1	100	0	80-120	20
Copper	ND	50	49.9	100	50	50	100	0	80-120	20
Iron	ND	5000	4950	99	5000	4920	98	1	80-120	20
Lead	ND	50	49	98	50	49.2	98	1	80-120	20
Magnesium	ND	5000	4860	97	5000	4880	98	0	80-120	20
Manganese	ND	50	50.1	100	50	49.9	100	0	80-120	20
Molybdenum	.137J	50	48.1	96	50	48.2	96	0	80-120	20
Nickel	ND	50	50.1	100	50	50.2	100	0	80-120	20
Platinum	ND	50	47.9	96	50	48.1	96	0	80-120	20
Potassium	ND	5000	4960	99	5000	4960	99	0	80-120	20
Selenium	ND	50	48.5	97	50	48.7	97	0	80-120	20
Silver	ND	50	47	94	50	46.9	94	0	80-120	20
Sodium	ND	5000	5010	100	5000	4970	99	1	80-120	20
Strontium	ND	50	50	100	50	49.8	100	0	80-120	20
Thallium	ND	50	48.3	97	50	48.1	96	0	80-120	20
Tin	ND	50	49.8	100	50	49.5	99	1	80-120	20
Titanium	ND	50	49.6	99	50	49.3	99	0	80-120	20
Tungsten	ND	50	44.6	89	50	47.6	95	6	80-120	20
Uranium	ND	50	49.5	99	50	49.6	99	0	80-120	20
Vanadium	.132J	50	49.6	99	50	49.7	99	0	80-120	20
Zinc	ND	50	49.3	99	50	49.5	99	0	80-120	20

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3050B/6020A

MATRIX:	SOIL		% MOISTURE:	17.7
DILUTION FACTOR:	1	5		
SAMPLE ID:	M118-50	M118-50DL		
EMAX SAMP ID:	C081-08	C081-08J		
LAB FILE ID:	98C23030	98C23031		
DATE EXTRACTED:	03/16/0613:30	03/16/0613:30	DATE COLLECTED:	03/08/06
DATE ANALYZED:	03/28/0619:23	03/28/0619:31	DATE RECEIVED:	03/09/06
PREP. BATCH:	IMC021S	IMC021S		
CALIB. REF:	98C23025	98C23025		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Aluminum	11600	11800	2	10
Antimony	.19J	ND	NA	10
Arsenic	15.6	16	3	10
Barium	78.6	79.3	1	10
Beryllium	.579J	.616J	NA	10
Boron	14.7	ND	NA	10
Cadmium	.298J	ND	NA	10
Calcium	6880	7530	10	10
Chromium	12.8	12.8	0	10
Cobalt	5.75	5.99	4	10
Copper	18.6	19.7	6	10
Iron	9910	10300	4	10
Lead	8.96	9.02	1	10
Magnesium	15500	15900	3	10
Manganese	253	267	5	10
Molybdenum	1.05	1.15J	NA	10
Nickel	15.7	16.7	6	10
Platinum	ND	ND	0	10
Potassium	2960	3110	5	10
Selenium	.224J	ND	NA	10
Silver	ND	ND	0	10
Sodium	721	788	9	10
Strontium	145	147	1	10
Thallium	.444J	.629J	NA	10
Tin	ND	ND	0	10
Titanium	490	491	0	10
Tungsten	.8J	ND	NA	10
Uranium	1.3	1.24J	NA	10
Vanadium	26.3	27	3	10
Zinc	36.2	63.9	77*	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
SDG NO.: 06C106
METHOD: METHOD 3050B/6020A

MATRIX:	SOIL		% MOISTURE:	17.7
DILTN FACTR:	1	1		
SAMPLE ID:	M118-50			
CONTROL NO.:	C081-08	C081-08A		
LAB FILE ID:	98C23030	98C23027		
DATIME EXTRCTD:	03/16/0613:30	03/16/0613:30	DATE COLLECTED:	03/08/06
DATIME ANALYZD:	03/28/0619:23	03/28/0618:59	DATE RECEIVED:	03/09/06
PREP. BATCH:	IMC021S	IMC021S		
CALIB. REF:	98C23025	98C23025		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Aluminum	11600	6080	17300	95	75-125
Antimony	.19J	60.8	59.7	98	75-125
Arsenic	15.6	60.8	75.3	98	75-125
Barium	78.6	60.8	139	100	75-125
Beryllium	.579J	60.8	60.7	99	75-125
Boron	14.7	60.8	73.5	97	75-125
Cadmium	.298J	60.8	60	98	75-125
Calcium	6880	6080	12500	93	75-125
Chromium	12.8	60.8	72.5	98	75-125
Cobalt	5.75	60.8	65.5	98	75-125
Copper	18.6	60.8	78.5	99	75-125
Iron	9910	6080	15400	90	75-125
Lead	8.96	60.8	69.1	99	75-125
Magnesium	15500	6080	21200	94	75-125
Manganese	253	60.8	311	94	75-125
Molybdenum	1.05	60.8	61	99	75-125
Nickel	15.7	60.8	75.8	99	75-125
Platinum	ND	60.8	59.3	98	75-125
Potassium	2960	6080	9000	99	75-125
Selenium	.224J	60.8	59.6	98	75-125
Silver	ND	60.8	59	97	75-125
Sodium	721	6080	6540	96	75-125
Strontium	145	60.8	206	99	75-125
Thallium	.444J	60.8	60.5	99	75-125
Tin	ND	60.8	61.7	102	75-125
Titanium	490	60.8	555	107	75-125
Tungsten	.8J	60.8	59.3	96	75-125
Uranium	1.3	60.8	62.2	100	75-125
Vanadium	26.3	60.8	86.7	100	75-125
Zinc	36.2	60.8	96.5	99	75-125

ICP-MS QC CHECK TABLE

QC	CCV HIGH	ICV	CCV	ICSAB	ICSA
Limit%	95-105	90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	10000	6000	4500	100000	100000
Sb	100	60	45	20	0
As	100	60	45	20	0
Ba	100	60	45	20	0
Be	100	60	45	20	0
B	100	60	45	20	0
Cd	100	60	45	20	0
Ca	10000	6000	4500	100000	100000
Cr	100	60	45	20	0
Co	100	60	45	20	0
Cu	100	60	45	20	0
Fe	10000	60	4500	100000	100000
Pb	100	60	45	20	0
Mg	10000	6000	4500	100000	100000
Mn	100	60	45	20	0
Mo	100	60	45	2000	2000
Ni	100	60	45	20	0
Pt	100	60	45	20	0
K	10000	6000	4500	100000	100000
Se	100	60	45	20	0
Si	10000	6000	4500	2000	0
Ag	100	60	45	20	0
Na	10000	6000	4500	100000	100000
Sr	100	60	45	20	0
Tl	100	60	45	20	0
Sn	100	60	45	20	0
Ti	100	60	45	2000	2000
Th	100	60	45	20	0
W	100	60	45	20	0
V	100	60	45	20	0
U	100	60	45	20	0
Zn	100	60	45	20	0
Zr	100	60	45	20	0

SEQUENCE FILE : I98C23

4-18	19-33	34-43	44-53	54-63
LFID	LSID	TIME	DATE	DF
98C23003	BLNK	14:44	03/28/06	1.00
98C23004	S0	14:52	03/28/06	1.00
98C23005	S3 10	15:00	03/28/06	1.00
98C23006	S4 50	15:08	03/28/06	1.00
98C23007	S5 100	15:16	03/28/06	1.00
98C23008	ICV	15:24	03/28/06	1.00
98C23009	ICB	16:01	03/28/06	1.00
98C23010	ICSA	16:09	03/28/06	1.00
98C23011	ICSAB	16:17	03/28/06	1.00
98C23012	BLANK	16:26	03/28/06	1.00
98C23013	CCV1	16:34	03/28/06	1.00
98C23014	CCB1	17:15	03/28/06	1.00
98C23015	IMC021SB	17:23	03/28/06	1.00
98C23016	IMC021SL	17:31	03/28/06	1.00
98C23017	IMC021SC	17:39	03/28/06	1.00
98C23018	C081-01	17:47	03/28/06	1.00
98C23019	C081-02	17:55	03/28/06	1.00
98C23020	C081-03	18:03	03/28/06	1.00
98C23021	C081-04	18:11	03/28/06	1.00
98C23022	C081-05	18:19	03/28/06	1.00
98C23023	C081-06	18:27	03/28/06	1.00
98C23024	C081-07	18:35	03/28/06	1.00
98C23025	CCV2	18:43	03/28/06	1.00
98C23026	CCB2	18:51	03/28/06	1.00
98C23027	C081-08A	18:59	03/28/06	1.00
98C23028	C081-08M	19:07	03/28/06	1.00
98C23029	C081-08S	19:15	03/28/06	1.00
98C23030	C081-08	19:23	03/28/06	1.00
98C23031	C081-08J	19:31	03/28/06	5.00
98C23032	C081-09	19:39	03/28/06	1.00
98C23033	C081-10	19:47	03/28/06	1.00
98C23034	C106-01	19:55	03/28/06	1.00
98C23035	C106-02	20:03	03/28/06	1.00
98C23036	C106-03	20:11	03/28/06	1.00
98C23037	CCV3	20:19	03/28/06	1.00
98C23038	CCB3	20:27	03/28/06	1.00
98C23039	C106-04	20:35	03/28/06	1.00
98C23040	C106-05	20:43	03/28/06	1.00
98C23041	C106-06	20:51	03/28/06	1.00
98C23042	C106-07	20:59	03/28/06	1.00
98C23043	C106-08	21:07	03/28/06	1.00
98C23044	C106-09	21:15	03/28/06	1.00
98C23045	C106-10	21:23	03/28/06	1.00
98C23046	ICSA2	21:31	03/28/06	1.00
98C23047	ICSAB2	21:40	03/28/06	1.00
98C23048	BLANK	21:48	03/28/06	1.00
98C23049	CCV4	21:56	03/28/06	1.00
98C23050	CCB4	22:04	03/28/06	1.00
98C23051	IPC022WB	22:12	03/28/06	1.00
98C23052	IPC022WL	22:20	03/28/06	1.00
98C23053	IPC022WC	22:28	03/28/06	1.00
98C23054	C062-05	22:36	03/28/06	1.00
98C23055	BLANK	22:44	03/28/06	1.00
98C23056	IMC017WB	22:52	03/28/06	1.00
98C23057	IMC017WL	23:01	03/28/06	1.00
98C23058	IMC017WC	23:09	03/28/06	1.00
98C23059	CCV5	23:17	03/28/06	1.00

98C23060	CCB5	23:25	03/28/06	1.00
98C23061	C073-01A	23:33	03/28/06	1.00
98C23062	C073-01	23:41	03/28/06	1.00
98C23063	C073-01J	23:49	03/28/06	5.00
98C23064	C073-02	23:57	03/28/06	1.00
98C23065	C102-08	00:05	03/29/06	1.00
98C23066	C102-11	00:13	03/29/06	1.00
98C23067	C103-11	00:21	03/29/06	1.00
98C23068	C103-12	00:29	03/29/06	1.00
98C23069	CCV6	00:37	03/29/06	1.00
98C23070	CCB6	00:45	03/29/06	1.00
98C23071	IMC030SB	00:53	03/29/06	1.00
98C23072	IMC030SL	01:01	03/29/06	1.00
98C23073	IMC030SC	01:09	03/29/06	1.00
98C23074	C071-01	01:17	03/29/06	1.00
98C23075	C071-02	01:25	03/29/06	1.00
98C23076	C071-03	01:33	03/29/06	1.00
98C23077	C071-04A	01:41	03/29/06	1.00
98C23078	C071-04M	01:49	03/29/06	1.00
98C23079	C071-04S	01:57	03/29/06	1.00
98C23080	CCV7	02:05	03/29/06	1.00
98C23081	CCB7	02:13	03/29/06	1.00
98C23082	C071-04	02:21	03/29/06	1.00
98C23083	C071-04J	02:29	03/29/06	5.00
98C23084	C071-05	02:37	03/29/06	1.00
98C23085	C071-06	02:46	03/29/06	1.00
98C23086	C071-07	02:54	03/29/06	1.00
98C23087	C071-08	03:02	03/29/06	1.00
98C23088	C071-09	03:10	03/29/06	1.00
98C23089	C071-10	03:18	03/29/06	1.00
98C23090	C127-01	03:26	03/29/06	1.00
98C23091	C127-02	03:34	03/29/06	1.00
98C23092	CCV8	03:42	03/29/06	1.00
98C23093	CCB8	03:50	03/29/06	1.00
98C23094	C127-03	03:58	03/29/06	1.00
98C23095	C127-04	04:06	03/29/06	1.00
98C23096	C127-05	04:14	03/29/06	1.00
98C23097	C127-06	04:22	03/29/06	1.00
98C23098	C127-07	04:30	03/29/06	1.00
98C23099	C127-08	04:38	03/29/06	1.00
98C23100	ICSA3	04:46	03/29/06	1.00
98C23101	ICSAB3	04:55	03/29/06	1.00
98C23102	BLANK	05:03	03/29/06	1.00
98C23103	CCV9	05:11	03/29/06	1.00
98C23104	CCB9	05:19	03/29/06	1.00
98C23105	IMC008SB	05:27	03/29/06	1.00
98C23106	IMC008SL	05:35	03/29/06	1.00
98C23107	IMC008SC	05:43	03/29/06	1.00
98C23108	C075-01A	05:51	03/29/06	1.00
98C23109	C075-01M	05:59	03/29/06	1.00
98C23110	C075-01S	06:07	03/29/06	1.00
98C23111	C075-01	06:15	03/29/06	1.00
98C23112	C075-01J	06:23	03/29/06	5.00
98C23113	C075-02	06:31	03/29/06	1.00
98C23114	C075-04	06:40	03/29/06	1.00
98C23115	CCV10	06:48	03/29/06	1.00
98C23116	CCB10	06:56	03/29/06	1.00
98C23117	C075-05	07:04	03/29/06	1.00
98C23118	C075-07	07:12	03/29/06	1.00
98C23119	C075-08	07:20	03/29/06	1.00

98C23120	C075-11	07:28	03/29/06	1.00
98C23121	C075-12	07:36	03/29/06	1.00
98C23122	C075-15	07:44	03/29/06	1.00
98C23123	C075-16	07:52	03/29/06	1.00
98C23124	C075-18	08:00	03/29/06	1.00
98C23125	C075-19	08:08	03/29/06	1.00
98C23126	C075-20	08:16	03/29/06	1.00
98C23127	CCV11	08:24	03/29/06	1.00
98C23128	CCB11	08:32	03/29/06	1.00
98C23129	C075-22	08:40	03/29/06	1.00
98C23130	C075-23	08:48	03/29/06	1.00
98C23131	ICSA4	08:56	03/29/06	1.00
98C23132	ICSAB4	09:05	03/29/06	1.00
98C23133	BLANK	09:13	03/29/06	1.00
98C23134	CCV12	09:21	03/29/06	1.00
98C23135	CCB12	09:29	03/29/06	1.00

SDG : 06C106 UNIT : % ICPMS CHECK : I98C23 DATE : 03/28/06 INST : EMAXTI98

ANALYTE	Li	Be	B	Na	Mg	Al	Si	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Continue to Next Page
BLNK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
S0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
S3 10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
S4 50	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
S5 100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
ICV	95	97	102	103	100	99	108	101	103	100	100	100	101	103	101	100	100	100	97	100	Continue to Next Page
ICB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
ICSA	----	----	----	97	92	93	----	90	100	100	----	----	----	99	----	----	----	----	----	----	Continue to Next Page
ICSAB	92	91	104	103	97	98	107	97	105	106	103	103	110	104	98	100	104	110	92	98	Continue to Next Page
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV1	97	97	97	100	98	99	102	102	101	102	103	101	101	101	102	102	102	102	102	101	Continue to Next Page
CCB1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC021SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC021SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC021SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV2	98	99	99	101	99	100	102	102	101	103	103	101	101	101	101	102	103	102	101	101	Continue to Next Page
CCB2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-08A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
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C081-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-08J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV3	98	99	98	100	99	99	101	102	100	102	103	102	101	101	101	104	104	102	102	102	Continue to Next Page
CCB3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
ICSA2	----	----	----	97	92	93	----	90	99	100	----	----	----	98	----	----	----	----	----	----	Continue to Next Page
ICSAB2	91	91	102	100	96	98	105	97	103	106	102	103	109	103	97	99	105	110	93	101	Continue to Next Page
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CCV4	97	96	94	101	99	100	102	101	101	103	102	100	100	102	101	102	103	101	101	103	Continue to Next Page
CCB4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IPC022WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
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IMC017WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC017WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC017WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV5	98	98	97	99	99	99	100	101	99	101	102	100	100	101	100	101	102	101	101	102	Continue to Next Page

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S5 100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV	99	87*	98	97	97	97	97	97	6*	95	98	99	99	130*	100
ICB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA	----	----	104	----	----	----	----	----	----	----	----	----	----	----	----
ICSAB	112	91	107	94	99	99	100	111	1055*	98	96	97	100	133*	102
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV1	103	100	104	97	98	99	97	99	163*	95	95	98	97	113*	97
CCB1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC021SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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IMC021SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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C081-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV2	102	100	100	99	99	99	97	100	55*	94	95	99	96	112*	96
CCB2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-08A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-08M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-08S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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C081-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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C106-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV3	103	101	100	97	98	99	97	99	65*	95	96	99	97	112*	99
CCB3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C106-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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ICSA2	----	----	103	----	----	----	----	----	----	----	----	----	----	----	----
ICSAB2	113	94	106	93	101	99	100	112	1160*	96	96	96	99	132*	101
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV4	104	100	103	97	98	98	96	99	141*	93	94	97	96	112*	97
CCB4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPC022WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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IMC017WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV5	104	100	99	97	98	98	96	99	165*	92	94	97	96	111*	97

CCB5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C073-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C073-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C073-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C073-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C102-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C102-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C103-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C103-12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV6	96	96	100	101	98	99	100	101	98	101	100	98	99	99	99	98	99	100	101	102		Continue to Next Page
CCB6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC030SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC030SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC030SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-04A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
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CCV7	98	96	97	101	99	99	103	103	101	102	101	99	99	101	99	100	101	100	101	101		Continue to Next Page
CCB7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
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C071-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C127-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
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CCV8	97	97	94	100	99	99	100	101	99	101	101	99	99	102	99	101	101	100	102	102		Continue to Next Page
CCB8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C127-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C127-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
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ICSA3	----	----	----	94	91	93	----	91	97	100	----	----	----	99	----	----	----	----	----	----	----	Continue to Next Page
ICSAB3	90	91	102	98	95	97	104	97	102	105	102	102	108	103	97	100	105	109	94	102		Continue to Next Page
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV9	95	96	95	97	97	98	98	101	98	100	101	100	99	101	100	101	102	100	101	102		Continue to Next Page
CCB9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC008SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
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C075-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV10	97	98	96	97	97	98	99	101	99	100	102	100	99	102	99	102	101	100	102	102		Continue to Next Page
CCB10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page

CCB5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C073-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C073-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C073-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C073-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C102-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C102-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C103-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C103-12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV6	104	100	99	96	98	98	95	98	90	92	94	96	96	113*	98
CCB6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC030SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC030SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC030SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-04A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-04M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-04S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV7	105	101	98	95	96	97	95	97	115*	93	94	97	96	112*	97
CCB7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-04J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV8	105	101	97	95	96	98	95	98	108	90	92	94	94	109	94
CCB8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA3	----	----	102	----	----	----	----	----	----	----	----	----	----	----	----
ICSAB3	114	95	105	93	101	99	100	112	1207*	95	94	95	98	131*	100
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV9	105	102	101	95	97	97	94	98	205*	90	91	95	93	110	95
CCB9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC008SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC008SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC008SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV10	104	100	97	95	96	96	94	97	130*	89*	91	94	93	109	95
CCB10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

C075-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-15	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-16	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-18	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-19	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-20	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV11	95	97	95	94	96	97	95	101	97	100	101	99	99	100	99	101	101	99	103	101		Continue to Next Page
CCB11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-22	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-23	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
ICSA4	----	----	----	91	89	91	----	90	97	100	----	----	----	98	----	----	----	----	----	----	----	Continue to Next Page
ICSAB4	90	92	102	96	94	96	102	96	101	106	103	103	109	104	98	101	106	107	93	101		Continue to Next Page
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV12	95	96	95	94	96	97	95	99	98	102	101	99	100	102	101	101	102	98	101	101		Continue to Next Page
CCB12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page

QC limit of each parameter are listed in a table attached next to all the ICP check forms
* : Out of QC Limit

5

C075-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-15	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-16	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-18	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-19	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-20	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV11	104	99	98	95	95	96	93	97	71*	90	92	93	93	109	94
CCB11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-22	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-23	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA4	----	----	101	----	----	----	----	----	----	----	----	----	----	----	----
ICSAB4	114	93	105	92	99	98	98	112	980*	94	94	95	98	132*	101
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV12	104	99	101	95	95	96	93	98	212*	88*	90	92	92	108	93
CCB12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

QC limit of each parameter are listed in a table attached next to all the ICP check forms
* : Out of QC Limit

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SDG : 06C106 UNIT : UG/L SUMMARY of CALIBRATION BLANKS : I98C23 (SOIL) DATE : 03/28/06 INST : EMAXTI98

ANALYTE	Li	Be	B	Na	Mg	Al	Si	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Continue to Next Page
BLNK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
S0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
S3 10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
S4 50	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
S5 100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
ICV	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
ICB	.035	.002	.056	27.8	.945	-.085	1.68	2.77	1.83	.053	.025	.001	-.012	1.79	-.001	.005	.012	-.023	.004	-.006	Continue to Next Page
ICSA	.951	.020	2.38	----	----	----	17.4	----	----	----	.070	.471	2.38	----	2.53	.776	1.75	4.06	.114	.065	Continue to Next Page
ICSAB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB1	.067	-.002	.040	16.0	.416	-.235	-.290	-1.33	.732	.044	.129	-.005	-.006	.300	-.009	-.007	-.003	-.140	.012	.005	Continue to Next Page
IMC021SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC021SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC021SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB2	.014	.001	.316	-3.76	.794	.167	.359	-1.75	.635	.055	.167	-.000	.008	3.46	-.000	.007	.002	-.116	.067	.059	Continue to Next Page
C081-08A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-08M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-08S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-08J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C081-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB3	.078	.002	.297	-5.30	.355	.154	-.147	.131	.376	.044	.121	.002	.008	3.28	-.000	.002	.010	-.110	.036	.054	Continue to Next Page
C106-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C106-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
ICSA2	1.00	.015	2.32	----	----	----	17.8	----	----	----	.068	.471	2.37	----	2.51	.767	1.78	4.13	.110	.059	Continue to Next Page
ICSAB2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB4	.138	.010	.246	10.4	1.74	.302	.972	.160	.699	.101	.129	-.005	.003	5.29	.000	.005	.040	-.134	.045	.048	Continue to Next Page
IPC022WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IPC022WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IPC022WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C062-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC017WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC017WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC017WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page

SDG : 06C106 UNIT : UG/L SUMMARY of CALIBRATION BLANKS : I98C23 (SOIL) DATE : 03/28/06 INST : EMAXTI98

2

ANALYTE	Sr	Zr	Mo	Ag	Cd	Sn	Sb	Ba	Gd	W	Pt	Tl	Pb	Th	U
BLNK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S3 10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S4 50	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S5 100	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICB	-.000	-.043	.518	.001	-.021	.000	.110	-.006	-13.1	.053	-.002	.001	-.018	-.001	.000
ICSA	2.97	.620	----	.079	.442	.101	2.33	.719	311	.335	.017	.024	.659	.050	.014
ICSAB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB1	-.018	.145	.189	.000	-.023	.056	.010	-.011	-13.1	.112	-.010	.048	-.024	.022	-.004
IMC021SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC021SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC021SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB2	-.011	-.012	.210	.012	-.028	.078	.604	.000	-4.10	.213	-.000	.030	-.005	.037	.006
C081-08A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-08M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-08S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-08J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C081-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C106-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C106-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C106-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB3	-.012	-.012	.169	.012	.012	.076	.589	.003	-25.4	.239	-.004	.032	.000	.035	.006
C106-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C106-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C106-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C106-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C106-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C106-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C106-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA2	2.98	1.50	----	.085	.526	.102	2.30	.689	214	.275	.020	.025	.640	.069	.015
ICSAB2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB4	-.010	-.017	.942	.009	.018	.080	.564	.000	-12.7	.220	-.002	.041	-.012	.035	.006
IPC022WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPC022WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPC022WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C062 05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC017WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC017WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC017WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

CCB5	.039	.009	.508	2.75	1.62	.549	.288	4.56	1.17	.062	.149	.004	.021	4.18	.003	.011	.022	-.128	.075	.081	Continue to Next Page
C073-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C073-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C073-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C073-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C102-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C102-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C103-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C103-12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB6	.178	.008	1.43	108	1.26	.712	.387	10.9	1.48	.049	.111	.063	.029	4.27	.006	.012	.119	-.122	.065	.061	Continue to Next Page
IMC030SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC030SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC030SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-04A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-04M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-04S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB7	.215	.015	.708	13.2	2.19	1.18	.967	7.83	2.18	.046	.161	.019	.028	5.54	.010	.021	.060	-.104	.082	.083	Continue to Next Page
C071-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-04J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C071-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C127-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C127-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB8	.114	.015	.317	1.03	2.02	1.39	.831	4.45	2.49	.087	.073	.005	.021	5.95	.010	.022	.038	-.112	.076	.075	Continue to Next Page
C127-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C127-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C127-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C127-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C127-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C127-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
ICSA3	1.000	.020	2.26	----	----	----	16.2	----	----	----	.035	.457	2.38	----	2.51	.743	1.77	4.18	.129	.046	Continue to Next Page
ICSAB3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB9	.001	.014	.320	16.8	3.12	1.63	1.71	4.28	3.00	.127	.063	.005	.014	7.64	.011	.018	.056	-.113	.062	.059	Continue to Next Page
IMC008SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC008SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
IMC008SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB10	.024	.022	.335	-4.66	3.14	1.78	2.64	1.72	2.83	.076	.097	.012	.026	7.82	.016	.021	.031	.113	.079	.066	Continue to Next Page
C075-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page

CCB5	-.008	-.015	.237	.015	-.003	.093	.602	.003	-3.90	.213	-.000	.070	-.007	.040	.009
C073-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C073-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C073-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C073-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C102-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C102-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C103-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C103-12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB6	.002	-.014	.185	.011	.069	.080	.591	.005	5.40	.202	-.000	.030	-.014	.044	.010
IMC030SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC030SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC030SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-04A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-04M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-04S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB7	.002	.021	.224	.027	.022	.107	.623	.004	9.30	.372	.004	.106	.006	.054	.013
C071-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-04J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C071-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB8	.005	-.002	.186	.020	.004	.085	.609	.020	5.08	.225	.006	.040	.001	.052	.015
C127-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C127-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA3	3.04	1.13	----	.078	.499	.100	2.28	.710	292	.271	.019	.025	.632	.072	.016
ICSAB3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB9	.009	.002	1.04	.023	.008	.092	.612	.006	-8.36	.232	.012	.051	-.001	.055	.018
IMC008SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC008SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMC008SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB10	.009	.004	.223	.026	.018	.095	.615	017	-16.9	.219	.013	.058	.016	.058	.020
C075-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

C075-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-15	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-16	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-18	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-19	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-20	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB11	-.028	.031	.336	-3.38	4.05	3.15	6.26	4.14	4.84	.089	.106	.029	.054	10.2	.027	.035	.042	-.082	.078	.093		Continue to Next Page
C075-22	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
C075-23	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
ICSA4	.945	.025	2.28	----	----	----	22.7	----	----	----	.051	.474	2.42	----	2.53	.751	1.78	4.10	.111	.047		Continue to Next Page
ICSAB4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCV12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	Continue to Next Page
CCB12	.068	.052	.435	15.5	7.44	5.88	7.03	5.22	7.73	.204	.126	.060	.062	15.0	.046	.055	.093	-.080	.079	.085		Continue to Next Page

QC limit of each parameter are listed in a table attached next to all the ICP check forms
* : Out of QC Limit

C075-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-15	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-16	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-18	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-19	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-20	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB11	.027	.017	.215	.032	-.002	.112	.678	.025	-3.45	.213	.025	.050	.164	.069	.031
C075-22	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
C075-23	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA4	3.05	.724	----	.084	.430	.101	2.30	.700	259	.271	.016	.029	.755	.069	.016
ICSAB4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB12	.054	.046	1.24	.049	.022	.125	.728	.067	-3.74	.239	.033	.072	.129	.098	.049

QC limit of each parameter are listed in a table attached next to all the ICP check forms
* : Out of QC Limit

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples, relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

START DATE: 03/28/16 14:20
END DATE: 03/29/16 09:29

Book #: A98-08
Instrument No.: 98
Analytical Batch: I98C23
Analytical Sequence: 98C23
Method File: EMAX 6020 / 200.8

SOP #	Rev. #
☑ EMAX-6020	1
☑ EMAX-200.8	0
☐ EMAX-	

STANDARDS ID	
S0	SMLB. 02.07.05
S1	NA
S2	NA
S3	SMLB. 02.07.08
S4	02.08.01
S5	02.08.02
S6	NA
S7	NA
ICV	SMLB. 02.08.03
CCV	02.09.01
ICSA	02.07.03
ICSAB	02.07.04
6020 TUNE SOLN.	02.07.06
200.8 TUNE SOLN.	02.07.07
CRI/MRL	NA

Analyzed By: JEE
Date: 03/29/16

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Fi	Sa	Dil	ISTD Conc	Action on Failure	Skip	LC	LC	Result
1		Keyword		TUNBEG	Start of TUNE											
2	C:\ICPCHEM\1\METHODS\TN6020.M	Tun6	1301	98C23001	6020tunchk		1.000									
3	C:\ICPCHEM\1\METHODS\TN200_8.M	Tun2	1302	98C23002	2008tunchk		1.000									
4		Keyword		Pause												
5		Keyword		TUNEND	End of TUNE											
6		Keyword		CALBEG	Start of CALIB											
7	C:\ICPCHEM\1\METHODS\EMAX6020.M	CalBlk	1101	98C23003	BLNK		Level 1									
8	C:\ICPCHEM\1\METHODS\EMAX6020.M	CalBlk	1102	98C23004	S0		Level 1									
9	C:\ICPCHEM\1\METHODS\EMAX6020.M	CalStd	1105	98C23005	S3 10		Level 4									
10	C:\ICPCHEM\1\METHODS\EMAX6020.M	CalStd	1106	98C23006	S4 50		Level 5									
11	C:\ICPCHEM\1\METHODS\EMAX6020.M	CalStd	1107	98C23007	S5 100		Level 6									
12	C:\ICPCHEM\1\METHODS\EMAX6020.M	ICV1	1203	98C23008	ICV	OK	1.000									
13	C:\ICPCHEM\1\METHODS\EMAX6020.M	ICB	1101	98C23009	ICB	OK	1.000									
14	C:\ICPCHEM\1\METHODS\EMAX6020.M	ICS-A	1201	98C23010	ICSA	OK	1.000									
15	C:\ICPCHEM\1\METHODS\EMAX6020.M	ICS-AB	1202	98C23011	ICSAB	OK	1.000									
16	C:\ICPCHEM\1\METHODS\EMAX6020.M	Blank	1101	98C23012	BLANK		1.000									
17	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23013	CCV1	OK	1.000									
18	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23014	CCB1	OK	1.000									
19		Keyword		CALEND	End of CALIB											
20		Keyword		SMPLBEG	Start of SMPL											
21	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2309	98C23015	IMC021SB	OK	1.000									
22	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2310	98C23016	IMC021SL	OK	1.000									
23	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2311	98C23017	IMC021SC	OK	1.000									
24	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2312	98C23018	C081-01		1.000									
25	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2401	98C23019	C081-02		1.000									
26	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2402	98C23020	C081-03		1.000									
27	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2403	98C23021	C081-04		1.000									
28	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2404	98C23022	C081-05		1.000									
29	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2405	98C23023	C081-06		1.000									
30	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2406	98C23024	C081-07		1.000									
31	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23025	CCV2	OK	1.000									
32	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23026	CCB2	(Pb=0.2104) Sb(0.0057)	1.000									
33	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2407	98C23027	C081-08A		1.000									
34	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2408	98C23028	C081-08M		1.000									
35	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2409	98C23029	C081-08S		1.000									
36	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2410	98C23030	C081-08		1.000									
37	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2411	98C23031	C081-08J		5.000									
38	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2412	98C23032	C081-09		1.000									
39	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2501	98C23033	C081-10		1.000									
40	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2502	98C23034	C106-01		1.000									
41	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2503	98C23035	C106-02		1.000									
42	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2504	98C23036	C106-03		1.000									
43	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23037	CCV3	OK	1.000									
44	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23038	CCB3	Sb(0.5913)	1.000									
45	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2505	98C23039	C106-04		1.000									
46	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2506	98C23040	C106-05		1.000									

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Fi	Sa	Dil	ISTD Conc	Action on Failure	Skip	LC	LC	Result
47	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2507	98C23041	C106-06		1.000									
48	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2508	98C23042	C106-07		1.000									
49	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2509	98C23043	C106-08		1.000									
50	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2510	98C23044	C106-09		1.000									
51	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	2511	98C23045	C106-10		1.000									
52	C:\ICPCHEM\1\METHODS\EMAX6020.M	ICS-A	1201	98C23046	ICSA2	OK	1.000									
53	C:\ICPCHEM\1\METHODS\EMAX6020.M	ICS-AB	1202	98C23047	ICSAB2	OK	1.000									
54	C:\ICPCHEM\1\METHODS\EMAX6020.M	Blank	1101	98C23048	BLANK	OK	1.000									
55	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23049	CCV4	OK	1.000									
56	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23050	CCB4	Mo(.9422) Sb(.5639)	1.000									
57	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3101	98C23051	IPC022WB		1.000									
58	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3102	98C23052	IPC022WL		1.000									
59	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3103	98C23053	IPC022WC		1.000									
60	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3104	98C23054	C062-05		1.000									
61	C:\ICPCHEM\1\METHODS\EMAX6020.M	Blank	1101	98C23055	BLANK		1.000									
62	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3105	98C23056	IMC017WB		1.000									
63	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3106	98C23057	IMC017WL		1.000									
64	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3107	98C23058	IMC017WC		1.000									
65	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23059	CCV5		1.000									
66	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23060	CCB5		1.000									
67	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3108	98C23061	C073-01A		1.000									
68	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3109	98C23062	C073-01		1.000									
69	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3110	98C23063	C073-01J		1.000									
70	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3111	98C23064	C073-02		1.000									
71	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3112	98C23065	C102-08		1.000									
72	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3201	98C23066	C102-11		1.000									
73	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3202	98C23067	C103-11		1.000									
74	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3203	98C23068	C103-12		1.000									
75	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23069	CCV6		1.000									
76	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23070	CCB6		1.000									
77	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3204	98C23071	IMC030SB		1.000									
78	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3205	98C23072	IMC030SL		1.000									
79	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3206	98C23073	IMC030SC		1.000									
80	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3207	98C23074	C071-01		1.000									
81	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3208	98C23075	C071-02		1.000									
82	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3209	98C23076	C071-03		1.000									
83	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3210	98C23077	C071-04A		1.000									
84	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3211	98C23078	C071-04M		1.000									
85	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3212	98C23079	C071-04S		1.000									
86	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23080	CCV7		1.000									
87	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23081	CCB7		1.000									
88	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3301	98C23082	C071-04		1.000									
89	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3302	98C23083	C071-04J		5.000									
90	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3303	98C23084	C071-05		1.000									
91	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3304	98C23085	C071-06		1.000									
92	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3305	98C23086	C071-07		1.000									

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Fi	Sa	Dil	ISTD Conc	Action on Failure	Skip	LC	LC	Result
93	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3306	98C23087	C071-08		1.000									
94	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3307	98C23088	C071-09		1.000									
95	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3308	98C23089	C071-10		1.000									
96	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3309	98C23090	C127-01		1.000									
97	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3310	98C23091	C127-02		1.000									
98	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23092	CCV8		1.000									
99	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23093	CCB8		1.000									
100	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3311	98C23094	C127-03		1.000									
101	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3312	98C23095	C127-04		1.000									
102	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3401	98C23096	C127-05		1.000									
103	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3402	98C23097	C127-06		1.000									
104	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3403	98C23098	C127-07		1.000									
105	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3404	98C23099	C127-08		1.000									
106	C:\ICPCHEM\1\METHODS\EMAX6020.M	ICS-A	1201	98C23100	ICSA3		1.000									
107	C:\ICPCHEM\1\METHODS\EMAX6020.M	ICS-AB	1202	98C23101	ICSAB3		1.000									
108	C:\ICPCHEM\1\METHODS\EMAX6020.M	Blank	1101	98C23102	BLANK		1.000									
109	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23103	CCV9		1.000									
110	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23104	CCB9		1.000									
111	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3405	98C23105	IMC008SB		1.000									
112	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3406	98C23106	IMC008SL		1.000									
113	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3407	98C23107	IMC008SC		1.000									
114	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3408	98C23108	C075-01A		1.000									
115	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3409	98C23109	C075-01M		1.000									
116	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3410	98C23110	C075-01S		1.000									
117	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3411	98C23111	C075-01		1.000									
118	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3412	98C23112	C075-01J		5.000									
119	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3501	98C23113	C075-02		1.000									
120	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3502	98C23114	C075-04		1.000									
121	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23115	CCV10		1.000									
122	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23116	CCB10		1.000									
123	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3503	98C23117	C075-05		1.000									
124	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3504	98C23118	C075-07		1.000									
125	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3505	98C23119	C075-08		1.000									
126	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3506	98C23120	C075-11		1.000									
127	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3507	98C23121	C075-12		1.000									
128	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3508	98C23122	C075-15		1.000									
129	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3509	98C23123	C075-16		1.000									
130	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3510	98C23124	C075-18		1.000									
131	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3511	98C23125	C075-19		1.000									
132	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	3512	98C23126	C075-20		1.000									
133	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23127	CCV11		1.000									
134	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23128	CCB11		1.000									
135	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	4101	98C23129	C075-22		1.000									
136	C:\ICPCHEM\1\METHODS\EMAX6020.M	Sample	4102	98C23130	C075-23		1.000									
137	C:\ICPCHEM\1\METHODS\EMAX6020.M	ICS-A	1201	98C23131	ICSA4		1.000									
138	C:\ICPCHEM\1\METHODS\EMAX6020.M	ICS-AB	1202	98C23132	ICSAB4		1.000									

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Fi	Sa	Dil	ISTD Conc	Action on Failure	Skip	LC	LC	Result
139	C:\ICPCHEM\1\METHODS\EMAX6020.M	Blank	1101	98C23133	BLANK		1.000									
140	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCV	1305	98C23134	CCV12		1.000									
141	C:\ICPCHEM\1\METHODS\EMAX6020.M	CCB	1102	98C23135	CCB12		1.000									
142		Keyword		StandBy												
143		Keyword		SMPLEND	End of SMPL											
144		Keyword		End	End of Sequence											
145		Keyword		CCVBEG	Start of CCV											
146		Keyword		CCVEND	End of CCV											
147		Keyword		BLKBEG	Start of BLANK											
148		Keyword		BLKEND	End of BLANK											
149		Keyword		ERRBEG	Start of ERRTERM											
150		Keyword		ERREND	End of ERRTERM											

Calibration - C:\ICPCHEM\1\CALIB\EMAX6020.C

Last Calib: Mar 28, 2006 03:21 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Multi Tune: #1 h2.u
#2 he.u
#3 norm.u

=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

	Data File	Sample Name	Date Acquired
1	d:\data\i982006\c\i98c23.b\98c23004.d\98c23004.d#	S0	Mar 28 2006 02:52 pm
2	---		
3	---		
4	d:\data\i982006\c\i98c23.b\98c23005.d\98c23005.d#	S3 10	Mar 28 2006 03:00 pm
5	d:\data\i982006\c\i98c23.b\98c23006.d\98c23006.d#	S4 50	Mar 28 2006 03:08 pm
6	d:\data\i982006\c\i98c23.b\98c23007.d\98c23007.d#	S5 100	Mar 28 2006 03:16 pm
7	---		
8	---		
9	---		
10	---		
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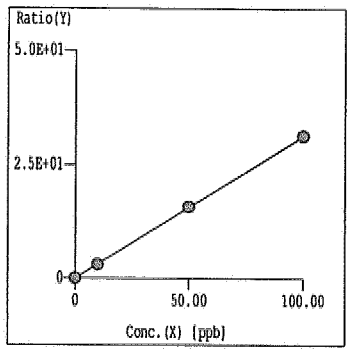
12	---		
13	---		
14	---		
15	---		
16	---		
17	---		
18	---		
19	---		
20	---		

7838

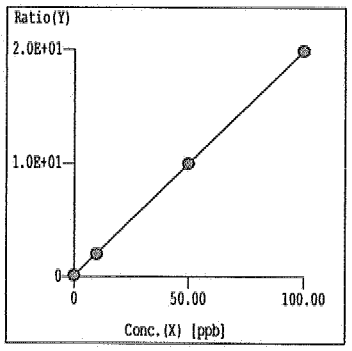
=== Graph Detail ===

Step Mass Element (3) 9 Be | ISTD 6 | Unit ppb



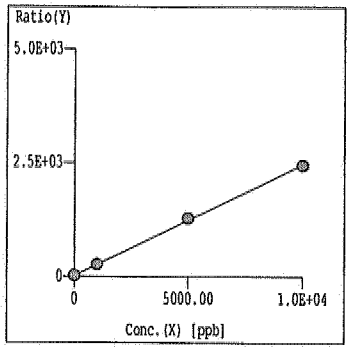
Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 3.129E-001*X +5.546E-003
X = 3.196E+000*Y -1.773E-002
DL = 2.942E-03 ppb
BEC = 1.773E-02 ppb

Step Mass Element (3) 11 B | ISTD 6 | Unit ppb



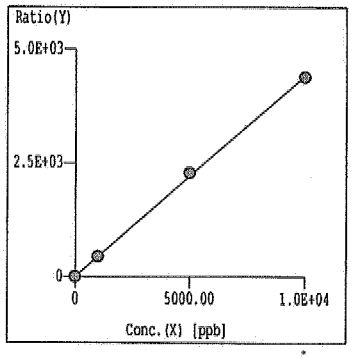
Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 1.975E-001*X +8.750E-002
X = 5.063E+000*Y -4.430E-001
DL = 9.597E-02 ppb
BEC = 4.430E-01 ppb

Step Mass Element (1) 23 Na | ISTD 45 | Unit ppb



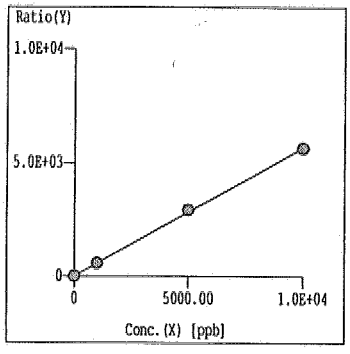
Curve Fit: Y=aX+[blank]
r = 0.9998
Y = 2.440E-001*X +2.311E+001
X = 4.098E+000*Y -9.469E+001
DL = 6.161 ppb
BEC = 94.69 ppb

Step Mass Element (3) 24 Mg | ISTD 45 | Unit ppb



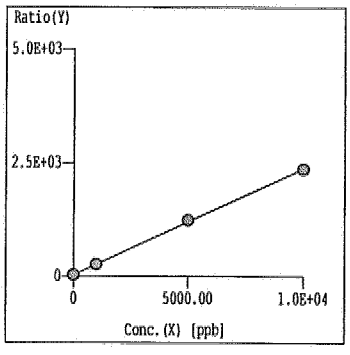
Curve Fit: Y=aX+[blank]
r = 0.9998
Y = 4.413E-001*X +1.211E+000
X = 2.266E+000*Y -2.745E+000
DL = 7.662E-02 ppb
BEC = 2.745 ppb

Step Mass Element (3) 27 Al | ISTD 45 | Unit ppb



Curve Fit: Y=aX+[blank]
r = 0.9998
Y = 5.689E-001*X +9.435E-001
X = 1.758E+000*Y -1.659E+000
DL = 4.822E-01 ppb
BEC = 1.659 ppb

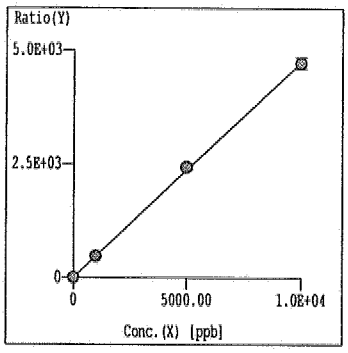
Step Mass Element (2) 39 K | ISTD 45 | Unit ppb



Curve Fit: Y=aX+[blank]
r = 0.9998
Y = 2.357E-001*X +2.612E+001
X = 4.243E+000*Y -1.108E+002
DL = 1.193 ppb
BEC = 110.8 ppb

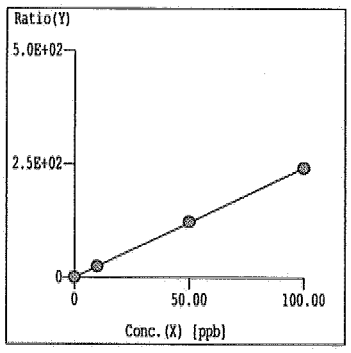
=== Graph Detail ===

Step Mass Element (1) 40 Ca | ISTD 45 | Unit ppb



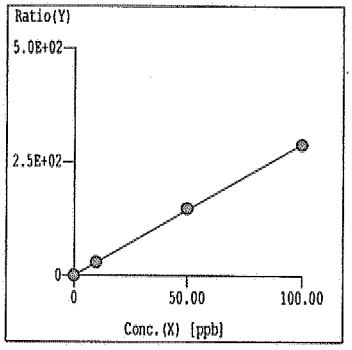
Curve Fit: Y=aX+[blank]
r = 0.9999
Y = 4.742E-001*X +2.812E+000
X = 2.109E+000*Y -5.930E+000
DL = 3.491E-01 ppb
BEC = 5.930 ppb

Step Mass Element (2) 51 V | ISTD 45 | Unit ppb



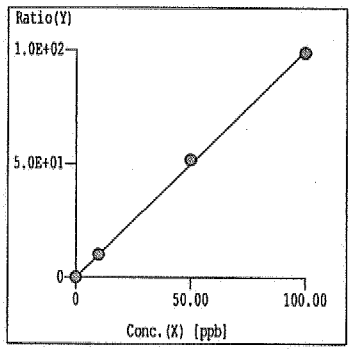
Curve Fit: Y=aX+[blank]
r = 0.9999
Y = 2.416E+000*X +5.792E-001
X = 4.139E-001*Y -2.397E-001
DL = 1.676E-02 ppb
BEC = 2.397E-01 ppb

Step Mass Element (2) 52 Cr | ISTD 45 | Unit ppb



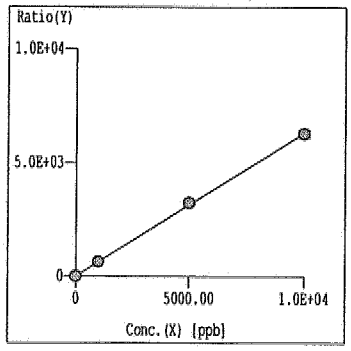
Curve Fit: Y=aX+[blank]
r = 0.9999
Y = 2.891E+000*X +2.970E-001
X = 3.460E-001*Y -1.027E-001
DL = 2.196E-02 ppb
BEC = 1.027E-01 ppb

Step Mass Element (3) 55 Mn | ISTD 45 | Unit ppb



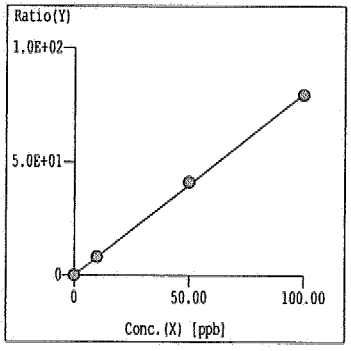
Curve Fit: Y=aX+[blank]
r = 0.9997
Y = 9.941E-001*X +1.003E-001
X = 1.006E+000*Y -1.009E-001
DL = 1.115E-02 ppb
BEC = 1.009E-01 ppb

Step Mass Element (1) 56 Fe | ISTD 45 | Unit ppb



Curve Fit: Y=aX+[blank]
r = 0.9999
Y = 6.330E-001*X +1.786E+000
X = 1.580E+000*Y -2.821E+000
DL = 1.865E-01 ppb
BEC = 2.821 ppb

Step Mass Element (3) 59 Co | ISTD 45 | Unit ppb

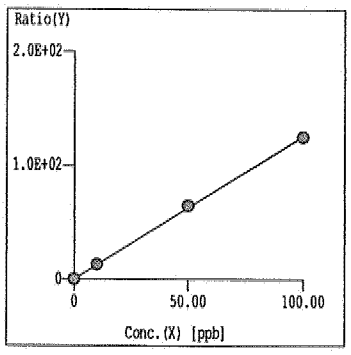


Curve Fit: Y=aX+[blank]
r = 0.9998
Y = 8.000E-001*X +1.324E-002
X = 1.250E+000*Y -1.656E-002
DL = 4.691E-03 ppb
BEC = 1.656E-02 ppb

7818

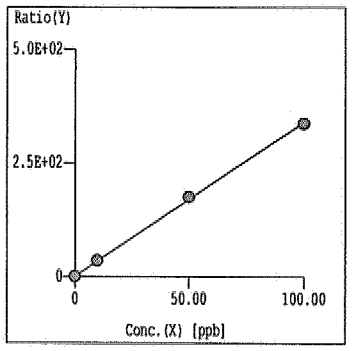
=== Graph Detail ===

Step	Mass	Element	ISTD	Unit
(2)	60	Ni	45	ppb



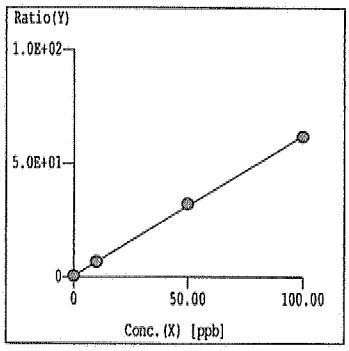
Curve Fit: Y=aX+[blank]
r = 0.9998
Y = 1.255E+000*X +7.153E-002
X = 7.968E-001*Y -5.699E-002
DL = 3.373E-02 ppb
BEC = 5.699E-02 ppb

Step	Mass	Element	ISTD	Unit
(2)	63	Cu	45	ppb



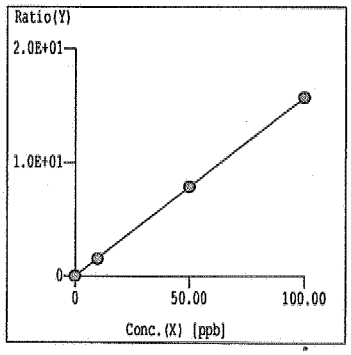
Curve Fit: Y=aX+[blank]
r = 0.9998
Y = 3.386E+000*X +3.524E-001
X = 2.953E-001*Y -1.041E-001
DL = 6.840E-03 ppb
BEC = 1.041E-01 ppb

Step	Mass	Element	ISTD	Unit
(3)	66	Zn	72	ppb



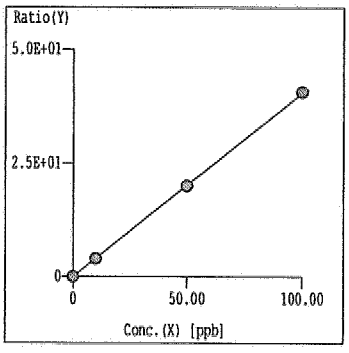
Curve Fit: Y=aX+[blank]
r = 0.9998
Y = 6.169E-001*X +4.764E-001
X = 1.621E+000*Y -7.722E-001
DL = 1.126E-01 ppb
BEC = 7.722E-01 ppb

Step	Mass	Element	ISTD	Unit
(3)	95	Mo	115	ppb



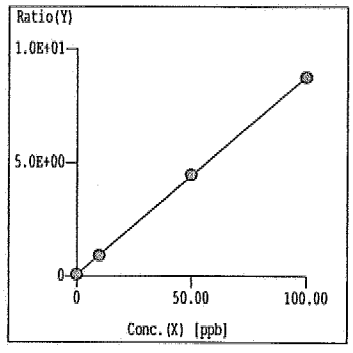
Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 1.572E-001*X +6.168E-003
X = 6.363E+000*Y -3.924E-002
DL = 5.199E-03 ppb
BEC = 3.924E-02 ppb

Step	Mass	Element	ISTD	Unit
(3)	107	Ag	115	ppb



Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 4.049E-001*X +4.529E-003
X = 2.470E+000*Y -1.119E-002
DL = 4.083E-03 ppb
BEC = 1.119E-02 ppb

Step	Mass	Element	ISTD	Unit
(3)	111	Cd	115	ppb

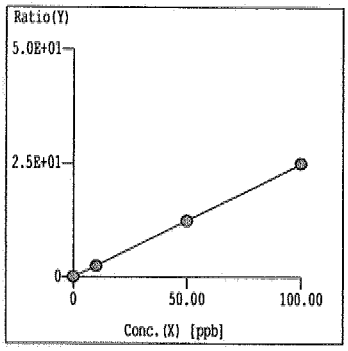


Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 8.716E-002*X +5.545E-002
X = 1.147E+001*Y -6.362E-001
DL = 9.611E-02 ppb
BEC = 6.362E-01 ppb

7541

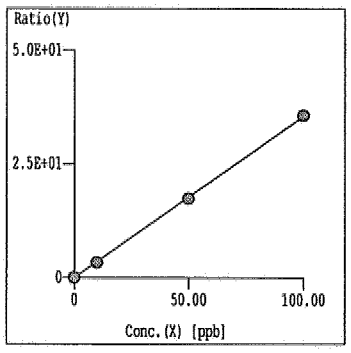
=== Graph Detail ===

Step Mass Element (3) 118 Sn | ISTD 115 | Unit ppb



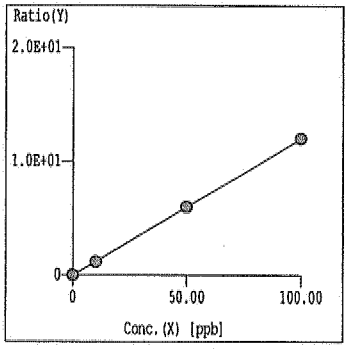
Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 2.481E-001*X +1.880E-002
X = 4.031E+000*Y -7.578E-002
DL = 7.205E-03 ppb
BEC = 7.578E-02 ppb

Step Mass Element (3) 121 Sb | ISTD 115 | Unit ppb



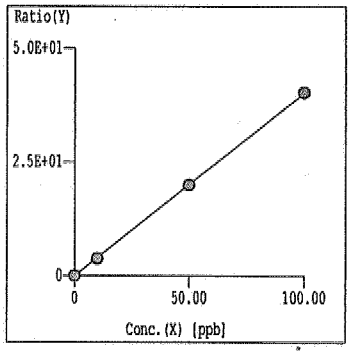
Curve Fit: Y=aX+[blank]
r = 0.9999
Y = 3.545E-001*X +1.671E-002
X = 2.821E+000*Y -4.713E-002
DL = 6.182E-03 ppb
BEC = 4.713E-02 ppb

Step Mass Element (3) 137 Ba | ISTD 115 | Unit ppb



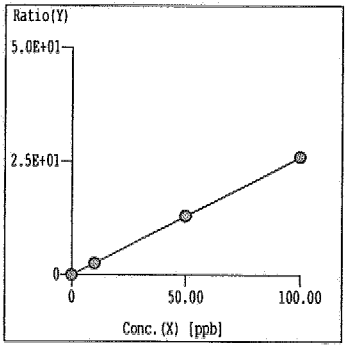
Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 1.199E-001*X +2.626E-003
X = 8.343E+000*Y -2.191E-002
DL = 1.624E-02 ppb
BEC = 2.191E-02 ppb

Step Mass Element (3) 182 W | ISTD 209 | Unit ppb



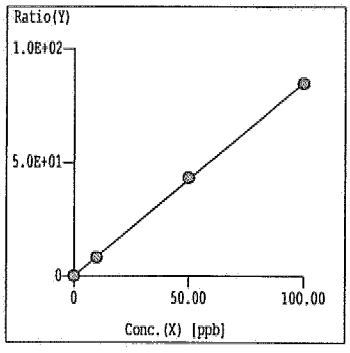
Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 4.011E-001*X +1.585E-002
X = 2.493E+000*Y -3.951E-002
DL = 5.506E-03 ppb
BEC = 3.951E-02 ppb

Step Mass Element (3) 195 Pt | ISTD 209 | Unit ppb



Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 2.594E-001*X +3.421E-003
X = 3.854E+000*Y -1.319E-002
DL = 5.910E-03 ppb
BEC = 1.319E-02 ppb

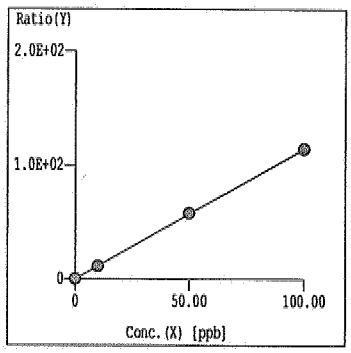
Step Mass Element (3) 205 Tl | ISTD 209 | Unit ppb



Curve Fit: Y=aX+[blank]
r = 0.9999
Y = 8.510E-001*X +1.246E-002
X = 1.175E+000*Y -1.464E-002
DL = 3.456E-03 ppb
BEC = 1.464E-02 ppb

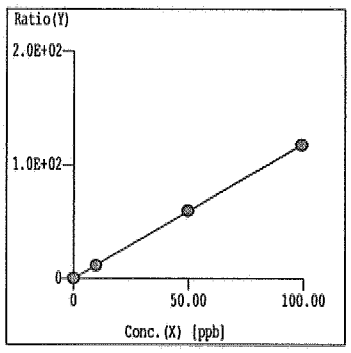
=== Graph Detail ===

Step	Mass	Element	ISTD	Unit
(3)	208	Pb	209	ppb



Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 1.145E+000*X +5.365E-002
X = 8.734E-001*Y -4.686E-002
DL = 6.475E-03 ppb
BEC = 4.686E-02 ppb

Step	Mass	Element	ISTD	Unit
(3)	238	U	209	ppb



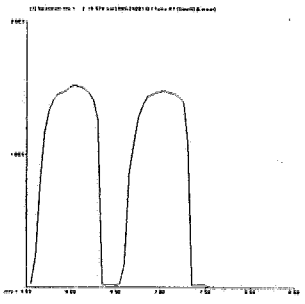
Curve Fit: Y=aX+[blank]
r = 1.0000
Y = 1.187E+000*X +8.965E-003
X = 8.427E-001*Y -7.554E-003
DL = 1.443E-03 ppb
BEC = 7.554E-03 ppb

6020 QC Tune Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23001.D
Date Acquired:	Mar 28 2006 02:20 pm
Acq. Method:	TN6020.M
Operator:	JEE
Sample Name:	6020tunchk
Misc Info:	
Vial Number:	1301
Current Method:	C:\ICPCHEM\1\METHODS\TN6020.M

RSD (%)

Element	Actual	Required	Flag
7 Li	0.59	5.00	
59 Co	0.70	5.00	
115 In	0.82	5.00	
205 Tl	1.26	5.00	



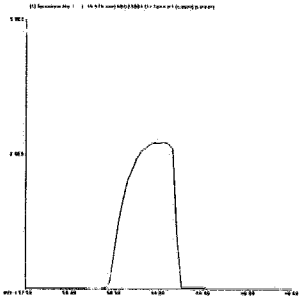
7 Li

Mass Calib.

Actual: 7.05
Required: 6.90 - 7.10
Flag:

Peak Width

Actual: 0.70
Required: 0.90
Flag:



59 Co

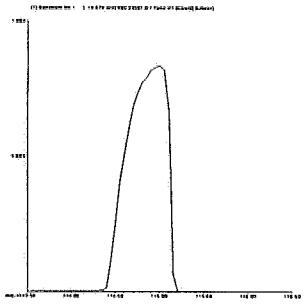
Mass Calib.

Actual: 59.00
Required: 58.90 - 59.10
Flag:

Peak Width

Actual: 0.65
Required: 0.90
Flag:

7644



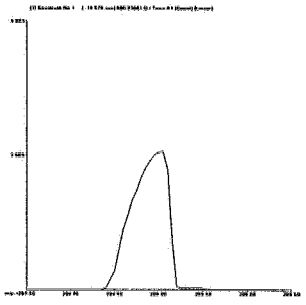
115 In

Mass Calib.

Actual:	114.95	
Required:	114.90 -	115.10
Flag:		

Peak Width

Actual:	0.55
Required:	0.90
Flag:	



205 Tl

Mass Calib.

Actual:	204.95	
Required:	204.90 -	205.10
Flag:		

Peak Width

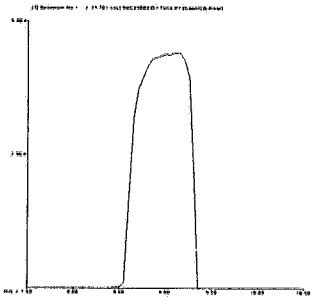
Actual:	0.60
Required:	0.90
Flag:	

200.8 QC Tune Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23002.D
Date Acquired:	Mar 28 2006 02:24 pm
Acq. Method:	TN200_8.M
Operator:	JEE
Sample Name:	2008tunchk
Misc Info:	
Vial Number:	1302
Current Method:	C:\ICPCHEM\1\METHODS\TN200_8.M

RSD (%)

Element	Actual	Required	Flag
9 Be	0.56	5.00	
24 Mg	1.44	5.00	
59 Co	1.03	5.00	
115 In	0.76	5.00	
208 Pb	0.81	5.00	



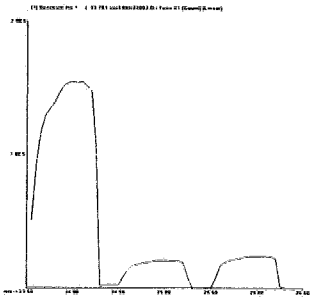
9 Be

Mass Calib.

Actual:	9.05	
Required:	8.90 -	9.10
Flag:		

Peak Width

Actual:	0.70
Required:	1.00
Flag:	



24 Mg

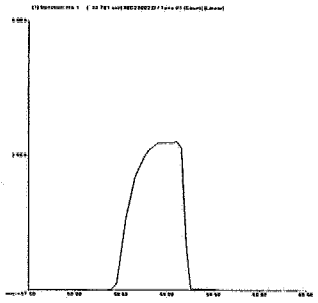
Mass Calib.

Actual:	24.00	
Required:	23.90 -	24.10
Flag:		

Peak Width

Actual:	0.70
Required:	1.00
Flag:	

7846



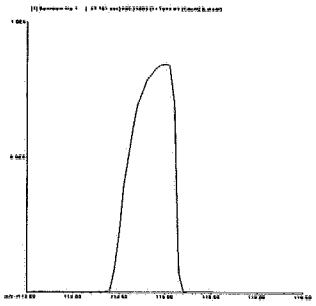
59 Co

Mass Calib.

Actual:	59.00	
Required:	58.90 -	59.10
Flag:		

Peak Width

Actual:	0.65
Required:	1.00
Flag:	



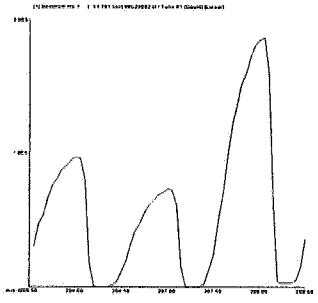
115 In

Mass Calib.

Actual:	114.95	
Required:	114.90 -	115.10
Flag:		

Peak Width

Actual:	0.55
Required:	1.00
Flag:	



208 Pb

Mass Calib.

Actual:	208.00	
Required:	207.90 -	208.10
Flag:		

Peak Width

Actual:	0.60
Required:	1.00
Flag:	

Tune Result: Pass

Calibration Blank QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23003.D\98
Date Acquired: Mar 28 2006 02:44 pm
Operator: JEE
Sample Name: BLNK
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal Update: Mar 28 2006 09:43 am
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	CPS RSD(%)
6	Li	1446678.00	A	11770.00	0.81
7	Li	91343.85	P	511.50	0.56
9	Be	95.56	P	13.47	14.10
11	B	1254.55	P	58.54	4.67
23	Na	480629.09	P	8569.00	1.78
24	Mg	93457.21	P	1098.00	1.17
27	Al	102457.00	P	241.40	0.24
28	Si	9421.68	P	104.00	1.10
39	K	31835.33	P	315.20	0.99
40	Ca	102193.90	P	4866.00	4.76
45	Sc	1784183.00	A	46310.00	2.60
45	Sc	117450.30	P	1124.00	0.96
45	Sc	3322644.00	A	19260.00	0.58
47	Ti	281.13	P	30.98	11.02
51	V	616.46	P	43.13	7.00
52	Cr	364.67	P	19.20	5.27
55	Mn	3271.66	P	42.23	1.29
56	Fe	136294.30	P	12270.00	9.00
59	Co	511.14	P	74.94	14.66
60	Ni	100.22	P	7.34	7.33
63	Cu	490.90	P	29.85	6.08
66	Zn	3500.63	P	25.17	0.72
72	Ge	421834.50	P	14400.00	3.41
72	Ge	72470.12	P	859.80	1.19
72	Ge	712057.69	P	2727.00	0.38
75	As	42.22	P	6.34	15.01
78	Se	21.33	P	5.46	25.58
88	Sr	1006.75	P	72.66	7.22
89	Y	4747056.00	A	54720.00	1.15
90	Zr	1672.40	P	45.26	2.71
95	Mo	867.84	P	50.15	5.78
107	Ag	143.34	P	17.64	12.31
111	Cd	2227.31	P	116.80	5.24
115	In	4317099.00	A	4652.00	0.11
118	Sn	871.18	P	36.57	4.20
121	Sb	781.17	P	48.58	6.22
137	Ba	92.23	P	25.24	27.37
157	Gd	7.78	P	5.09	65.47
159	Tb	5202920.00	A	37020.00	0.71
182	W	426.69	P	56.67	13.28
195	Pt	234.46	P	25.89	11.04
197	Au	6.67	P	3.33	49.99
205	Tl	443.36	P	32.15	7.25
208	Pb	2200.18	P	89.89	4.09
209	Bi	2973660.00	A	27440.00	0.92
232	Th	530.04	P	37.57	7.09
235	U	12.22	P	6.94	56.77
238	U	243.35	P	40.00	16.44

7648

Calibration Blank QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23004.D\98
Date Acquired: Mar 28 2006 02:52 pm
Operator: JEE
Sample Name: S0
Misc Info:
Vial Number: 1102
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal Update: Mar 28 2006 02:49 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	CPS RSD(%)
6	Li	1462063.00	A	10750.00	0.74
7	Li	92263.11	P	1480.00	1.60
9	Be	81.11	P	5.09	6.28
11	B	1279.00	P	84.76	6.63
23	Na	480222.19	P	1341.00	0.28
24	Mg	40254.74	P	476.50	1.18
27	Al	31346.00	P	2967.00	9.47
28	Si	9940.80	P	289.20	2.91
39	K	36290.61	P	241.50	0.67
40	Ca	58452.04	P	159.50	0.27
45	Sc	2079052.00	A	46840.00	2.25
45	Sc	138937.50	P	499.80	0.36
45	Sc	3322690.00	A	8407.00	0.25
47	Ti	94.45	P	23.41	24.79
51	V	804.70	P	21.46	2.67
52	Cr	412.68	P	30.75	7.45
55	Mn	3331.69	P	116.60	3.50
56	Fe	37140.12	P	1580.00	4.25
59	Co	440.03	P	40.56	9.22
60	Ni	99.33	P	19.23	19.36
63	Cu	489.57	P	10.18	2.08
66	Zn	3322.80	P	152.20	4.58
72	Ge	414358.69	P	3093.00	0.75
72	Ge	81558.63	P	1548.00	1.90
72	Ge	697603.00	P	3053.00	0.44
75	As	49.11	P	4.54	9.24
78	Se	22.00	P	2.00	9.09
88	Sr	1032.31	P	76.92	7.45
89	Y	4640031.00	A	25360.00	0.55
90	Zr	1367.91	P	52.75	3.86
95	Mo	258.90	P	10.71	4.14
107	Ag	190.01	P	21.86	11.51
111	Cd	2327.70	P	111.80	4.80
115	In	4198229.00	A	62500.00	1.49
118	Sn	788.95	P	13.88	1.76
121	Sb	701.16	P	26.95	3.84
137	Ba	110.01	P	26.03	23.66
157	Gd	8.89	P	5.09	57.28
159	Tb	4961901.00	A	39690.00	0.80
182	W	457.81	P	20.09	4.39
195	Pt	98.89	P	15.40	15.57
197	Au	6.67	P	3.33	50.01
205	Tl	360.02	P	27.29	7.58
208	Pb	1550.11	P	68.40	4.41
209	Bi	2889394.00	A	34640.00	1.20
232	Th	527.81	P	34.70	6.57
235	U	6.67	P	3.33	50.01
238	U	258.90	P	13.47	5.20

Calibration Standard QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23005.D\98C23005.D#
Date Acquired: Mar 28 2006 03:00 pm
Operator: JEE
Sample Name: S3 10
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal Update: Mar 28 2006 02:57 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	CPS RSD(%)
6 Li	1483246.00	A	11930.00	0.80
7 Li	235694.59	P	1833.00	0.78
9 Be	44680.70	P	783.70	1.75
11 B	29200.76	P	236.80	0.81
23 Na	5792116.00	A	31580.00	0.55
24 Mg	14783350.00	A	83830.00	0.57
27 Al	18975090.00	A	195300.00	1.03
28 Si	2126243.00	A	30120.00	1.42
39 K	360687.59	P	1809.00	0.50
40 Ca	10279040.00	A	171800.00	1.67
45 Sc	2169659.00	A	51430.00	2.37
45 Sc	139994.30	P	1253.00	0.90
45 Sc	3343045.00	A	28690.00	0.86
47 Ti	20674.91	P	223.30	1.08
51 V	34469.72	P	89.14	0.26
52 Cr	41448.24	P	56.07	0.14
55 Mn	336269.19	P	1815.00	0.54
56 Fe	13799300.00	A	183000.00	1.33
59 Co	270602.00	P	628.10	0.23
60 Ni	18157.71	P	64.97	0.36
63 Cu	49691.03	P	146.70	0.30
66 Zn	46332.40	P	344.20	0.74
72 Ge	428998.69	P	4610.00	1.07
72 Ge	82520.60	P	772.20	0.94
72 Ge	695111.69	P	629.00	0.09
75 As	5780.90	P	67.02	1.16
78 Se	4233.41	P	18.59	0.44
88 Sr	357962.91	P	825.20	0.23
89 Y	4644530.00	A	13890.00	0.30
90 Zr	236634.59	P	1526.00	0.64
95 Mo	63073.13	P	286.50	0.45
107 Ag	165069.59	P	1478.00	0.90
111 Cd	37900.82	P	428.80	1.13
115 In	4195170.00	A	56170.00	1.34
118 Sn	100599.40	P	1083.00	1.08
121 Sb	139020.50	P	1321.00	0.95
137 Ba	48865.87	P	418.40	0.86
157 Gd	6.67	P	8.82	132.28
159 Tb	5008422.00	A	45780.00	0.91
182 W	110566.70	P	1222.00	1.11
195 Pt	74856.56	P	471.90	0.63
197 Au	10.00	P	3.33	33.34
205 Tl	239826.91	P	2829.00	1.18
208 Pb	332610.31	P	1890.00	0.57
209 Bi	2946101.00	A	27990.00	0.95
232 Th	356724.00	P	3180.00	0.89
235 U	2493.71	P	161.00	6.46
238 U	336236.91	P	1935.00	0.58

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1483246.10	0.80	1462063.40	101.4	60 - 125	
45 Sc	2169659.50	2.37	2079052.30	104.4	60 - 125	
45 Sc	139994.28	0.90	138937.50	100.8	60 - 125	
45 Sc	3343045.30	0.86	3322690.30	100.6	60 - 125	
72 Ge	428998.66	1.07	414358.66	103.5	60 - 125	
72 Ge	82520.60	0.94	81558.63	101.2	60 - 125	
72 Ge	695111.69	0.09	697602.94	99.6	60 - 125	
115 In	4195170.00	1.34	4198228.50	99.9	60 - 125	
159 Tb	5008422.00	0.91	4961901.50	100.9	60 - 125	
209 Bi	2946101.30	0.95	2889393.80	102.0	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

=== :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23006.D\98C23006.D#
Date Acquired: Mar 28 2006 03:08 pm
Operator: JEE
Sample Name: S4 50
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal Update: Mar 28 2006 03:05 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	CPS RSD(%)
6 Li	1451711.00	A	6724.00	0.46
7 Li	834754.00	A	5911.00	0.71
9 Be	228268.09	P	620.80	0.27
11 B	144429.59	P	413.00	0.29
23 Na	27870390.00	A	536600.00	1.93
24 Mg	76615440.00	A	292100.00	0.38
27 Al	98682272.00	A	243000.00	0.25
28 Si	10343040.00	A	152300.00	1.47
39 K	1726743.00	A	9504.00	0.55
40 Ca	52898620.00	A	553100.00	1.05
45 Sc	2175207.00	A	31470.00	1.45
45 Sc	139696.50	P	1807.00	1.29
45 Sc	3367440.00	A	31270.00	0.93
47 Ti	107862.40	P	680.30	0.63
51 V	172362.50	P	224.40	0.13
52 Cr	206577.50	P	227.80	0.11
55 Mn	1740090.00	A	2555.00	0.15
56 Fe	70549208.00	A	1163000.00	1.65
59 Co	1386402.00	A	1359.00	0.10
60 Ni	90117.68	P	351.10	0.39
63 Cu	244185.50	P	184.10	0.08
66 Zn	222561.20	P	1061.00	0.48
72 Ge	430530.09	P	1801.00	0.42
72 Ge	81640.93	P	322.20	0.39
72 Ge	691816.81	P	1764.00	0.25
75 As	29201.98	P	120.50	0.41
78 Se	21754.23	P	347.50	1.60
88 Sr	1891671.00	A	29650.00	1.57
89 Y	4662697.00	A	27080.00	0.58
90 Zr	1230497.00	A	24540.00	1.99
95 Mo	327210.81	P	2136.00	0.65
107 Ag	834184.88	P	4841.00	0.58
111 Cd	185981.80	P	1288.00	0.69
115 In	4165904.00	A	20350.00	0.49
118 Sn	514244.50	P	4566.00	0.89
121 Sb	723281.13	P	8812.00	1.22
137 Ba	249658.09	P	3459.00	1.39
157 Gd	17.78	P	10.71	60.24
159 Tb	5008610.00	A	33410.00	0.67
182 W	578947.38	P	3472.00	0.60
195 Pt	377234.81	P	5054.00	1.34
197 Au	22.22	P	10.18	45.81
205 Tl	1260547.00	A	7972.00	0.63
208 Pb	1681383.00	P	8366.00	0.50
209 Bi	2909200.00	A	4330.00	0.15
232 Th	1434918.00	A	12340.00	0.86
235 U	12462.76	P	190.40	1.53
238 U	1734211.00	A	3312.00	0.19

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1451711.30	0.46	1462063.40	99.3	60 - 125	
45 Sc	2175206.80	1.45	2079052.30	104.6	60 - 125	
45 Sc	139696.50	1.29	138937.50	100.5	60 - 125	
45 Sc	3367440.00	0.93	3322690.30	101.3	60 - 125	
72 Ge	430530.13	0.42	414358.66	103.9	60 - 125	
72 Ge	81640.93	0.39	81558.63	100.1	60 - 125	
72 Ge	691816.75	0.25	697602.94	99.2	60 - 125	
115 In	4165904.00	0.49	4198228.50	99.2	60 - 125	
159 Tb	5008610.50	0.67	4961901.50	100.9	60 - 125	
209 Bi	2909200.30	0.15	2889393.80	100.7	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23007.D\98C23007.D#
Date Acquired:	Mar 28 2006 03:16 pm
Operator:	JEE
Sample Name:	S5 100
Misc Info:	
Vial Number:	1107
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal Update:	Mar 28 2006 03:13 pm
Sample Type:	CalStd
Total Dil Factor:	1.00

QC&ISTD Elements

Element	CPS Mean		SD	CPS RSD(%)
6 Li	1451110.00	A	5554.00	0.38
7 Li	1563417.00	A	3924.00	0.25
9 Be	453800.81	P	1309.00	0.29
11 B	288144.59	P	2241.00	0.78
23 Na	54054992.00	A	631200.00	1.17
24 Mg	151622300.00	A	644000.00	0.42
27 Al	195457500.00	A	1590000.00	0.81
28 Si	20436430.00	A	311400.00	1.52
39 K	3382621.00	A	24060.00	0.71
40 Ca	104307900.00	A	1994000.00	1.91
45 Sc	2212042.00	A	25400.00	1.15
45 Sc	142897.70	P	762.30	0.53
45 Sc	3461222.00	A	17070.00	0.49
47 Ti	217587.59	P	1058.00	0.49
51 V	344679.09	P	2031.00	0.59
52 Cr	411217.19	P	1473.00	0.36
55 Mn	3411735.00	A	21120.00	0.62
56 Fe	139180000.00	A	2232000.00	1.60
59 Co	2748854.00	A	2673.00	0.10
60 Ni	178188.50	P	521.10	0.29
63 Cu	480526.91	P	2527.00	0.53
66 Zn	434766.69	P	941.20	0.22
72 Ge	434374.41	P	4072.00	0.94
72 Ge	82836.58	P	880.10	1.06
72 Ge	704178.19	P	4547.00	0.65
75 As	58678.21	P	335.80	0.57
78 Se	42691.30	P	420.00	0.98
88 Sr	3725227.00	A	10430.00	0.28
89 Y	4730607.00	A	35280.00	0.75
90 Zr	2459301.00	A	21460.00	0.87
95 Mo	653137.88	P	3721.00	0.57
107 Ag	1686076.00	A	19700.00	1.17
111 Cd	363129.31	P	3995.00	1.10
115 In	4150804.00	A	9332.00	0.22
118 Sn	1032419.00	A	8648.00	0.84
121 Sb	1480946.00	A	13110.00	0.89
137 Ba	497825.50	P	3561.00	0.72
157 Gd	37.78	P	7.70	20.38
159 Tb	5008110.00	A	42880.00	0.86
182 W	1173377.00	A	16730.00	1.43
195 Pt	756977.38	P	4238.00	0.56
197 Au	35.56	P	12.62	35.49
205 Tl	2472106.00	A	28620.00	1.16
208 Pb	3333950.00	A	6802.00	0.20
209 Bi	2916192.00	A	10120.00	0.35
232 Th	3023066.00	A	28130.00	0.93
235 U	24838.43	P	315.10	1.27
238 U	3428830.00	A	42410.00	1.24

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1451109.60	0.38	1462063.40	99.3	60 - 125	
45 Sc	2212041.80	1.15	2079052.30	106.4	60 - 125	
45 Sc	142897.69	0.53	138937.50	102.9	60 - 125	
45 Sc	3461221.80	0.49	3322690.30	104.2	60 - 125	
72 Ge	434374.41	0.94	414358.66	104.8	60 - 125	
72 Ge	82836.58	1.06	81558.63	101.6	60 - 125	
72 Ge	704178.19	0.65	697602.94	100.9	60 - 125	
115 In	4150803.80	0.22	4198228.50	98.9	60 - 125	
159 Tb	5008110.00	0.86	4961901.50	100.9	60 - 125	
209 Bi	2916192.30	0.35	2889393.80	100.9	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23008.D\98C23008.D#
Date Acquired:	Mar 28 2006 03:24 pm
Acq. Method:	EMAX6020.M
Operator:	JEE
Sample Name:	ICV
Misc Info:	
Vial Number:	1203
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update:	Mar 28 2006 03:21 pm
Sample Type:	ICV1
Dilution Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc. RSD(%)	Expected	QC Range(%)	Flag
7 Li	56.93	968123.9 ppb	1.32	60.00	90 - 110	
9 Be	58.24	275137.7 ppb	0.40	60.00	90 - 110	
11 B	61.09	183462.1 ppb	0.56	60.00	90 - 110	
23 Na	6198.00	32910980.0 ppb	2.20	6000.00	90 - 110	
24 Mg	6025.00	91975688.0 ppb	0.14	6000.00	90 - 110	
27 Al	5961.00	117281700.0 ppb	0.32	6000.00	90 - 110	
28 Si	6484.00	12925250.0 ppb	1.99	6000.00	90 - 110	
39 K	6052.00	2099954.0 ppb	1.10	6000.00	90 - 110	
40 Ca	6163.00	62710528.0 ppb	1.72	6000.00	90 - 110	
47 Ti	60.25	131459.4 ppb	0.39	60.00	90 - 110	
51 V	60.10	210804.4 ppb	1.15	60.00	90 - 110	
52 Cr	60.07	251458.0 ppb	1.14	60.00	90 - 110	
55 Mn	60.88	2095897.0 ppb	0.46	60.00	90 - 110	
56 Fe	6195.00	84096176.0 ppb	1.64	6000.00	90 - 110	
59 Co	60.71	1679596.0 ppb	0.57	60.00	90 - 110	
60 Ni	60.12	109202.5 ppb	0.64	60.00	90 - 110	
63 Cu	59.81	293324.0 ppb	1.20	60.00	90 - 110	
66 Zn	59.93	266601.4 ppb	0.37	60.00	90 - 110	
75 As	58.08	34823.8 ppb	1.20	60.00	90 - 110	
78 Se	59.76	25717.2 ppb	0.91	60.00	90 - 110	
88 Sr	59.39	2251630.0 ppb	0.37	60.00	90 - 110	
89 Y	--------	4801202.0 ppb	--------	60.00	90 - 110	
90 Zr	52.08	1299904.0 ppb	1.11	60.00	90 - 110	Fail
95 Mo	59.01	395892.8 ppb	0.88	60.00	90 - 110	
107 Ag	58.10	1003856.0 ppb	0.43	60.00	90 - 110	
111 Cd	58.42	219566.2 ppb	0.80	60.00	90 - 110	
118 Sn	57.98	614311.5 ppb	0.79	60.00	90 - 110	
121 Sb	58.21	880833.5 ppb	0.71	60.00	90 - 110	
137 Ba	58.23	297809.5 ppb	1.17	60.00	90 - 110	
157 Gd	3.41	10.0 ppb	714.71	60.00	90 - 110	Fail
182 W	56.88	676029.4 ppb	0.63	60.00	90 - 110	
195 Pt	58.78	451703.9 ppb	0.31	60.00	90 - 110	
197 Au	--------	21.1 ppb	--------	60.00	90 - 110	
205 Tl	59.43	1498050.0 ppb	0.49	60.00	90 - 110	
208 Pb	59.53	2019923.0 ppb	0.55	60.00	90 - 110	
232 Th	77.81	2368691.0 ppb	0.82	60.00	90 - 110	Fail
235 U	0.12	4485.5 ppb	2.31	0.42	90 - 110	Fail
238 U	59.72	2098675.0 ppb	0.72	59.58	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1509325.3	0.20	1462063.40	103.2	60 - 125	
45 Sc	2143849.3	1.53	2079052.30	103.1	60 - 125	
45 Sc	144587.3	0.87	138937.50	104.1	60 - 125	
45 Sc	3457698.8	0.27	3322690.30	104.1	60 - 125	
72 Ge	435325.4	0.73	414358.66	105.1	60 - 125	
72 Ge	84462.3	1.02	81558.63	103.6	60 - 125	
72 Ge	711922.1	0.41	697602.94	102.1	60 - 125	
115 In	4265898.5	1.03	4198228.50	101.6	60 - 125	
159 Tb	5152786.0	0.25	4961901.50	103.8	60 - 125	
209 Bi	2961024.3	0.10	2889393.80	102.5	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

4 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Fail
ISTD:	Pass

7853

ICB QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23009.D\98C23009.D#
Date Acquired:	Mar 28 2006 04:01 pm
Acq. Method:	EMAX6020.M
Operator:	JEE
Sample Name:	ICB
Misc Info:	
Vial Number:	1101
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update:	Mar 28 2006 03:21 pm
Sample Type:	ICB
Dilution Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc	RSD(%)	High Limit	Flag
7 Li	0.0353	91382.6	ppb	44.20	1.00	
9 Be	0.0015	86.7	ppb	215.32	1.00	
11 B	0.0559	1419.0	ppb	19.44	1.00	
23 Na	27.8300	527988.2	ppb	4.40	1.00	
24 Mg	0.9446	54731.9	ppb	6.93	1.00	
27 Al	-0.0855	30079.8	ppb	23.02	1.00	
28 Si	1.6840	11209.2	ppb	20.75	1.00	
39 K	2.7710	36386.3	ppb	42.22	1.00	
40 Ca	1.8300	64994.2	ppb	7.11	1.00	
47 Ti	0.0535	208.9	ppb	32.16	1.00	
51 V	0.0253	870.0	ppb	32.19	1.00	
52 Cr	0.0013	408.7	ppb	314.15	1.00	
55 Mn	-0.0121	2964.9	ppb	4.27	1.00	
56 Fe	1.7890	51540.7	ppb	13.05	1.00	
59 Co	-0.0013	411.1	ppb	114.72	1.00	
60 Ni	0.0048	105.3	ppb	54.50	1.00	
63 Cu	0.0119	533.6	ppb	24.14	1.00	
66 Zn	-0.0233	3322.8	ppb	93.82	1.00	
75 As	0.0045	52.9	ppb	147.30	1.00	
78 Se	-0.0059	20.0	ppb	34.83	1.00	
88 Sr	-0.0005	1045.6	ppb	274.31	1.00	
89 Y	--------	4800653.0	ppb	--------	1.00	
90 Zr	-0.0435	314.5	ppb	2.92	1.00	
95 Mo	0.5184	3772.9	ppb	4.70	1.00	
107 Ag	0.0013	218.9	ppb	231.90	1.00	
111 Cd	-0.0206	2310.1	ppb	166.86	1.00	
118 Sn	0.0009	819.0	ppb	607.35	1.00	
121 Sb	0.1102	2407.5	ppb	99.00	1.00	
137 Ba	-0.0055	84.4	ppb	100.58	1.00	
157 Gd	-13.1100	5.6	ppb	54.41	1.00	
182 W	0.0533	1093.4	ppb	12.25	1.00	
195 Pt	-0.0018	86.7	ppb	131.59	1.00	
197 Au	--------	3.3	ppb	--------	1.00	
205 Tl	0.0010	391.1	ppb	91.05	1.00	
208 Pb	-0.0178	975.6	ppb	4.70	1.00	
232 Th	-0.0014	492.3	ppb	168.91	1.00	
235 U	0.0002	12.2	ppb	128.38	1.00	
238 U	0.0001	267.8	ppb	752.23	1.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1439939.9	0.18	1462063.40	98.5	60 - 125	
45 Sc	1766070.6	0.22	2079052.30	84.9	60 - 125	
45 Sc	135901.7	0.64	138937.50	97.8	60 - 125	
45 Sc	3361475.3	0.96	3322690.30	101.2	60 - 125	
72 Ge	423340.3	0.95	414358.66	102.2	60 - 125	
72 Ge	83411.4	1.17	81558.63	102.3	60 - 125	
72 Ge	719275.8	0.92	697602.94	103.1	60 - 125	
115 In	4306433.0	1.03	4198228.50	102.6	60 - 125	
159 Tb	5143702.0	0.54	4961901.50	103.7	60 - 125	
209 Bi	2936638.0	0.87	2889393.80	101.6	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

7854

ICS-A QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23010.D\98C23010.D#
Date Acquired:	Mar 28 2006 04:09 pm
Acq. Method:	EMAX6020.M
Operator:	JEE
Sample Name:	ICSA
Misc Info:	
Vial Number:	1201
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update:	Mar 28 2006 03:21 pm
Sample Type:	ICS-A
Dilution Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	High Limit	Flag
7 Li	0.95	105512.7 ppb	5.43	---	
9 Be	0.02	168.9 ppb	21.54	---	
11 B	2.38	8077.2 ppb	4.15	---	
23 Na	96830.00	535868190.0 ppb	3.73	---	
24 Mg	91880.00	1504577000.0 ppb	0.63	---	
27 Al	92990.00	1962829100.0 ppb	0.34	---	
28 Si	17.43	47516.2 ppb	7.97	---	
39 K	90210.00	32111690.0 ppb	1.54	---	
40 Ca	100200.00	1077054000.0 ppb	3.91	---	
47 Ti	1998.00	4676277.0 ppb	0.68	---	
51 V	0.07	1129.6 ppb	19.62	---	
52 Cr	0.47	2503.2 ppb	1.79	---	
55 Mn	2.38	91583.5 ppb	0.56	---	
56 Fe	98640.00	1414805000.0 ppb	3.87	---	
59 Co	2.53	75587.3 ppb	1.66	---	
60 Ni	0.78	1578.1 ppb	3.36	---	
63 Cu	1.75	9489.3 ppb	1.05	---	
66 Zn	4.06	23607.1 ppb	1.07	---	
75 As	0.11	134.4 ppb	9.20	---	
78 Se	0.06	57.3 ppb	17.55	---	
88 Sr	2.97	126421.3 ppb	1.28	---	
89 Y	--------	4997384.0 ppb	--------	---	
90 Zr	0.62	18734.5 ppb	3.16	---	
95 Mo	2088.00	13837010.0 ppb	0.74	---	
107 Ag	0.08	1539.0 ppb	4.67	---	
111 Cd	0.44	3961.6 ppb	11.04	---	
118 Sn	0.10	1853.6 ppb	11.06	---	
121 Sb	2.33	35583.0 ppb	1.15	---	
137 Ba	0.72	3740.7 ppb	3.29	---	
157 Gd	311.40	92.2 ppb	2.99	---	
182 W	0.34	4448.8 ppb	1.29	---	
195 Pt	0.02	228.9 ppb	15.19	---	
197 Au	--------	8.9 ppb	--------	---	
205 Tl	0.02	981.2 ppb	3.85	---	
208 Pb	0.66	23921.5 ppb	3.30	---	
232 Th	0.05	2061.4 ppb	4.88	---	
235 U	0.00	11.1 ppb	119.08	---	
238 U	0.01	766.7 ppb	17.97	---	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1450215.3	0.91	1462063.40	99.2	60 - 125	
45 Sc	2267265.5	2.43	2079052.30	109.1	60 - 125	
45 Sc	150875.9	0.90	138937.50	108.6	60 - 125	
45 Sc	3710511.5	0.09	3322690.30	111.7	60 - 125	
72 Ge	489410.8	0.46	414358.66	118.1	60 - 125	
72 Ge	95343.6	1.57	81558.63	116.9	60 - 125	
72 Ge	791426.5	0.38	697602.94	113.4	60 - 125	
115 In	4215419.0	0.78	4198228.50	100.4	60 - 125	
159 Tb	5421456.0	0.27	4961901.50	109.3	60 - 125	
209 Bi	2960236.5	0.75	2889393.80	102.5	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Pass

ICS-AB QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23011.D\98C23011.D#
Date Acquired:	Mar 28 2006 04:17 pm
Acq. Method:	EMAX6020.M
Operator:	JEE
Sample Name:	ICSAB
Misc Info:	
Vial Number:	1202
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update:	Mar 28 2006 03:21 pm
Sample Type:	ICS-AB
Dilution Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	18.40	344111.2 ppb	1.18	20.00	80 - 120	
9 Be	18.22	78556.0 ppb	0.89	20.00	80 - 120	
11 B	20.72	57532.4 ppb	0.79	20.00	80 - 120	
23 Na	102800.00	496820610.0 ppb	3.06	100000.00	80 - 120	
24 Mg	96670.00	1411282900.0 ppb	1.03	100000.00	80 - 120	
27 Al	97660.00	1837646000.0 ppb	1.36	100000.00	80 - 120	
28 Si	2145.00	3953478.0 ppb	3.77	2000.00	80 - 120	
39 K	96890.00	30305050.0 ppb	1.38	100000.00	80 - 120	
40 Ca	105400.00	988756420.0 ppb	3.56	100000.00	80 - 120	
47 Ti	2116.00	4414402.0 ppb	0.87	2000.00	80 - 120	
51 V	20.56	66616.8 ppb	1.06	20.00	80 - 120	
52 Cr	20.64	79483.3 ppb	0.84	20.00	80 - 120	
55 Mn	22.02	727461.5 ppb	1.21	20.00	80 - 120	
56 Fe	103800.00	1299989000.0 ppb	2.57	100000.00	80 - 120	
59 Co	19.55	517736.7 ppb	0.94	20.00	80 - 120	
60 Ni	19.99	33349.7 ppb	0.44	20.00	80 - 120	
63 Cu	20.85	94054.0 ppb	0.73	20.00	80 - 120	
66 Zn	21.96	96912.8 ppb	0.19	20.00	80 - 120	
75 As	18.45	11081.3 ppb	0.71	20.00	80 - 120	
78 Se	19.56	8305.2 ppb	1.24	20.00	80 - 120	
88 Sr	22.33	822502.7 ppb	0.11	20.00	80 - 120	
89 Y	--------	4677738.0 ppb	--------	20.00	80 - 120	
90 Zr	18.29	444100.3 ppb	0.30	20.00	80 - 120	
95 Mo	2132.00	13198910.0 ppb	1.01	2000.00	80 - 120	
107 Ag	18.74	299159.1 ppb	0.63	20.00	80 - 120	
111 Cd	19.78	70106.0 ppb	1.17	20.00	80 - 120	
118 Sn	19.83	194544.1 ppb	1.03	20.00	80 - 120	
121 Sb	19.94	279142.8 ppb	1.26	20.00	80 - 120	
137 Ba	22.18	104856.4 ppb	1.27	20.00	80 - 120	
157 Gd	211.10	61.1 ppb	8.16	20.00	80 - 120	Fail
182 W	19.67	214938.6 ppb	1.56	20.00	80 - 120	
195 Pt	19.27	136030.2 ppb	0.76	20.00	80 - 120	
197 Au	--------	20.0 ppb	--------	20.00	80 - 120	
205 Tl	19.42	449907.9 ppb	0.34	20.00	80 - 120	
208 Pb	19.98	623588.9 ppb	1.28	20.00	80 - 120	
232 Th	26.58	743557.5 ppb	0.91	20.00	80 - 120	Fail
235 U	0.04	1373.5 ppb	2.93	0.14	80 - 120	Fail
238 U	20.39	658366.4 ppb	0.78	19.86	80 - 120	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1376265.8	0.51	1462063.40	94.1	60 - 125	
45 Sc	1979138.9	1.15	2079052.30	95.2	60 - 125	
45 Sc	132572.2	0.58	138937.50	95.4	60 - 125	
45 Sc	3308226.3	1.57	3322690.30	99.6	60 - 125	
72 Ge	428624.3	1.37	414358.66	103.4	60 - 125	
72 Ge	84329.5	0.54	81558.63	103.4	60 - 125	
72 Ge	691116.0	0.42	697602.94	99.1	60 - 125	
115 In	3939976.5	1.40	4198228.50	93.8	60 - 125	
159 Tb	5032521.5	0.15	4961901.50	101.4	60 - 125	
209 Bi	2719439.3	0.51	2889393.80	94.1	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

3 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Fail
ISTD:	Pass

Blank QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23012.D\98C23012.D#
Date Acquired: Mar 28 2006 04:26 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: BLANK
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Blank
Dilution Factor: 1.00

QC Elements

Element	Corr. Conc.		CPS	RSD(%)	Conc Raw Conc.	High Limit	Flag
7 Li	0.04926	ppb	93497.7	228.38	0.04926	---	
9 Be	0.00714	ppb	114.4	63.64	0.007136	---	
11 B	0.12430	ppb	1646.8	20.38	0.1243	---	
23 Na	57.81000	ppb	708155.0	4.87	57.81	---	
24 Mg	4.96800	ppb	113450.5	0.58	4.968	---	
27 Al	4.12300	ppb	109622.5	1.21	4.123	---	
28 Si	1.40900	ppb	11594.5	13.35	1.409	---	
39 K	8.04300	ppb	37593.0	14.25	8.043	---	
40 Ca	7.42500	ppb	120543.1	5.38	7.425	---	
47 Ti	0.46170	ppb	1064.6	19.47	0.4617	---	
51 V	0.02123	ppb	845.8	34.71	0.02123	---	
52 Cr	0.00046	ppb	400.2	752.44	0.0004605	---	
55 Mn	-0.01048	ppb	2994.9	3.41	-0.01048	---	
56 Fe	31.46000	ppb	413083.3	5.20	31.46	---	
59 Co	0.00915	ppb	685.6	6.70	0.009154	---	
60 Ni	0.00939	ppb	111.8	28.70	0.009391	---	
63 Cu	0.08348	ppb	852.0	6.32	0.08348	---	
66 Zn	0.05784	ppb	3588.4	54.88	0.05784	---	
75 As	0.00959	ppb	53.6	236.40	0.009594	---	
78 Se	0.01005	ppb	25.1	170.75	0.01005	---	
88 Sr	0.00245	ppb	1129.0	43.95	0.002448	---	
89 Y	----	ppb	4669239.0	--------	----	---	
90 Zr	-0.03189	ppb	591.1	7.84	-0.03189	---	
95 Mo	8.16700	ppb	54235.2	10.36	8.167	---	
107 Ag	0.00747	ppb	317.8	22.47	0.007469	---	
111 Cd	-0.06578	ppb	2091.3	25.78	-0.06578	---	
118 Sn	0.02817	ppb	1084.5	15.38	0.02817	---	
121 Sb	0.04661	ppb	1397.9	14.25	0.04661	---	
137 Ba	-0.00183	ppb	101.1	310.01	-0.001828	---	
157 Gd	-12.67000	ppb	5.6	150.04	-12.67	---	
182 W	0.11420	ppb	1770.2	14.74	0.1142	---	
195 Pt	0.00203	ppb	113.3	153.69	0.002032	---	
197 Au	----	ppb	7.8	--------	----	---	
205 Tl	0.08187	ppb	2358.1	11.74	0.08187	---	
208 Pb	-0.00771	ppb	1286.8	30.87	-0.007712	---	
232 Th	0.01974	ppb	1106.8	19.31	0.01974	---	
235 U	-0.00003	ppb	5.6	183.24	-3E-005	---	
238 U	0.00471	ppb	417.8	16.61	0.00471	---	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1470193.6	1.49	1462063.40	100.6	60 - 125	
45 Sc	1903234.5	1.23	2079052.30	91.5	60 - 125	
45 Sc	134179.4	1.41	138937.50	96.6	60 - 125	
45 Sc	3333137.8	0.52	3322690.30	100.3	60 - 125	
72 Ge	398319.5	0.59	414358.66	96.1	60 - 125	
72 Ge	79852.1	0.20	81558.63	97.9	60 - 125	
72 Ge	700938.3	0.78	697602.94	100.5	60 - 125	
115 In	4206058.0	0.57	4198228.50	100.2	60 - 125	
159 Tb	4959338.5	0.91	4961901.50	99.9	60 - 125	
209 Bi	2870668.5	0.14	2889393.80	99.4	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

QC Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23013.D\98C23013.D#
Date Acquired:	Mar 28 2006 04:34 pm
Operator:	JEE
Sample Name:	CCV1
Misc Info:	
Vial Number:	1305
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal Update:	Mar 28 2006 03:21 pm
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	43.61	708897.63 ppb	0.94	45.00	90 - 110	
9 Be	43.85	192259.30 ppb	0.41	45.00	90 - 110	
11 B	43.81	122456.00 ppb	0.32	45.00	90 - 110	
23 Na	4513.00	23104640.00 ppb	3.34	4500.00	90 - 110	
24 Mg	4432.00	65085032.00 ppb	0.22	4500.00	90 - 110	
27 Al	4444.00	84101808.00 ppb	0.52	4500.00	90 - 110	
28 Si	4588.00	8772392.00 ppb	2.54	4500.00	90 - 110	
39 K	4581.00	1479291.00 ppb	1.11	4500.00	90 - 110	
40 Ca	4566.00	44562248.00 ppb	2.86	4500.00	90 - 110	
47 Ti	46.06	96694.67 ppb	0.60	45.00	90 - 110	
51 V	46.17	150011.00 ppb	0.39	45.00	90 - 110	
52 Cr	45.30	175585.20 ppb	0.78	45.00	90 - 110	
55 Mn	45.32	1501411.00 ppb	0.43	45.00	90 - 110	
56 Fe	4565.00	59426072.00 ppb	2.73	4500.00	90 - 110	
59 Co	45.76	1217840.00 ppb	0.76	45.00	90 - 110	
60 Ni	45.84	77057.86 ppb	0.97	45.00	90 - 110	
63 Cu	46.08	209226.59 ppb	0.71	45.00	90 - 110	
66 Zn	46.01	196382.80 ppb	0.65	45.00	90 - 110	
75 As	45.76	25617.65 ppb	0.28	45.00	90 - 110	
78 Se	45.43	18320.85 ppb	0.59	45.00	90 - 110	
88 Sr	46.20	1674030.00 ppb	0.61	45.00	90 - 110	
89 Y	--------	4617949.00 ppb	--------	---	90 - 110	
90 Zr	45.08	1075393.00 ppb	0.19	45.00	90 - 110	
95 Mo	47.02	303815.41 ppb	0.60	45.00	90 - 110	
107 Ag	43.83	729197.81 ppb	0.47	45.00	90 - 110	
111 Cd	44.22	160597.59 ppb	0.70	45.00	90 - 110	
118 Sn	44.47	453880.00 ppb	0.37	45.00	90 - 110	
121 Sb	43.53	634477.31 ppb	0.67	45.00	90 - 110	
137 Ba	44.43	218846.59 ppb	0.83	45.00	90 - 110	
157 Gd	73.13	27.78 ppb	70.82	45.00	90 - 110	Fail
182 W	42.65	497573.09 ppb	0.23	45.00	90 - 110	
195 Pt	42.96	323993.69 ppb	0.39	45.00	90 - 110	
197 Au	--------	20.00 ppb	--------	45.00	90 - 110	
205 Tl	44.12	1091370.00 ppb	1.25	45.00	90 - 110	
208 Pb	43.48	1448044.00 ppb	0.43	45.00	90 - 110	
232 Th	50.81	1518096.00 ppb	0.28	45.00	90 - 110	Fail
235 U	0.31	10999.02 ppb	1.51	0.32	90 - 110	
238 U	43.62	1504488.00 ppb	1.20	44.69	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1400767.60	0.35	1462063.40	95.8	60 - 125	
45 Sc	2055804.80	1.92	2079052.30	98.9	60 - 125	
45 Sc	133785.31	1.25	138937.50	96.3	60 - 125	
45 Sc	3325580.80	0.21	3322690.30	100.1	60 - 125	
72 Ge	407777.63	0.77	414358.66	98.4	60 - 125	
72 Ge	78812.25	0.72	81558.63	96.6	60 - 125	
72 Ge	680389.44	0.50	697602.94	97.5	60 - 125	
115 In	4107848.80	0.77	4198228.50	97.8	60 - 125	
159 Tb	4934034.00	0.85	4961901.50	99.4	60 - 125	
209 Bi	2905881.80	0.59	2889393.80	100.6	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

2 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail

ISTD: Pass

7858

ICB QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23014.D\98C23014.D#
Date Acquired:	Mar 28 2006 05:15 pm
Acq. Method:	EMAX6020.M
Operator:	JEE
Sample Name:	CCB1
Misc Info:	
Vial Number:	1102
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update:	Mar 28 2006 03:21 pm
Sample Type:	CCB
Dilution Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	High Limit	Flag
7 Li	0.0669	90267.5 ppb	42.04	1.00	
9 Be	-0.0017	71.1 ppb	132.79	1.00	
11 B	0.0401	1350.1 ppb	43.72	1.00	
23 Na	16.0200	474451.8 ppb	6.32	1.00	
24 Mg	0.4157	45747.2 ppb	16.57	1.00	
27 Al	-0.2350	26559.9 ppb	4.84	1.00	
28 Si	-0.2904	7927.2 ppb	78.65	1.00	
39 K	-1.3340	31132.7 ppb	80.66	1.00	
40 Ca	0.7321	55510.3 ppb	56.89	1.00	
47 Ti	0.0436	183.3 ppb	27.05	1.00	
51 V	0.1291	1075.4 ppb	10.51	1.00	
52 Cr	-0.0053	339.8 ppb	70.47	1.00	
55 Mn	-0.0061	3090.5 ppb	20.08	1.00	
56 Fe	0.3001	34701.0 ppb	9.34	1.00	
59 Co	-0.0085	210.0 ppb	16.98	1.00	
60 Ni	-0.0070	75.8 ppb	51.42	1.00	
63 Cu	-0.0029	413.3 ppb	133.47	1.00	
66 Zn	-0.1398	2742.6 ppb	25.84	1.00	
75 As	0.0119	50.7 ppb	36.41	1.00	
78 Se	0.0053	24.9 ppb	279.98	1.00	
88 Sr	-0.0177	378.9 ppb	4.87	1.00	
89 Y	--------	4706051.0 ppb	--------	1.00	
90 Zr	0.1449	4947.8 ppb	2.21	1.00	
95 Mo	0.1892	1541.3 ppb	7.21	1.00	
107 Ag	0.0004	202.2 ppb	314.88	1.00	
111 Cd	-0.0227	2296.3 ppb	47.56	1.00	
118 Sn	0.0564	1407.9 ppb	18.45	1.00	
121 Sb	0.0100	869.0 ppb	6.99	1.00	
137 Ba	-0.0107	57.8 ppb	28.55	1.00	
157 Gd	-13.0800	5.6 ppb	54.01	1.00	
182 W	0.1120	1759.1 ppb	4.51	1.00	
195 Pt	-0.0099	24.4 ppb	5.16	1.00	
197 Au	--------	7.8 ppb	--------	1.00	
205 Tl	0.0478	1537.9 ppb	9.18	1.00	
208 Pb	-0.0236	770.0 ppb	2.24	1.00	
232 Th	0.0221	1184.6 ppb	23.51	1.00	
235 U	0.0001	11.1 ppb	85.91	1.00	
238 U	-0.0039	125.6 ppb	18.88	1.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1415244.5	1.16	1462063.40	96.8	60 - 125	
45 Sc	1756164.1	1.07	2079052.30	84.5	60 - 125	
45 Sc	120653.1	1.19	138937.50	86.8	60 - 125	
45 Sc	3279778.0	0.74	3322690.30	98.7	60 - 125	
72 Ge	425532.7	2.22	414358.66	102.7	60 - 125	
72 Ge	73752.2	1.55	81558.63	90.4	60 - 125	
72 Ge	703312.9	0.73	697602.94	100.8	60 - 125	
115 In	4294349.0	1.05	4198228.50	102.3	60 - 125	
159 Tb	5061246.0	0.58	4961901.50	102.0	60 - 125	
209 Bi	2894014.3	0.37	2889393.80	100.2	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Pass

7859

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23015.D\98C23015.D#
Date Acquired: Mar 28 2006 05:23 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: IMC021SB
Misc Info:
Vial Number: 2309
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	88894.3	0.0000	0.0854	ppb	29.60	250.00	
9 Be	# 3	6	55.6	0.0000	-0.0050	ppb	43.19	500.00	
11 B	# 3	6	1062.3	0.0000	-0.0559	ppb	38.29	400.00	
23 Na	# 1	45	493676.0	0.0000	1.2820	ppb	162.64	400000.00	
24 Mg	# 3	45	45347.9	0.0000	0.3811	ppb	8.63	200000.00	
27 Al	# 3	45	25431.0	0.0000	-0.2985	ppb	7.66	100000.00	
28 Si	# 1	45	8030.6	0.0000	-1.0460	ppb	13.31	50000.00	
39 K	# 2	45	36203.6	0.0000	1.0030	ppb	191.63	400000.00	
40 Ca	# 1	45	56209.9	0.0000	-0.3066	ppb	59.49	200000.00	
47 Ti	# 3	45	200.0	0.0000	0.0514	ppb	24.65	3000.00	
51 V	# 2	45	1233.6	0.0000	0.1319	ppb	5.82	3000.00	
52 Cr	# 2	45	370.2	0.0000	-0.0095	ppb	52.90	3000.00	
55 Mn	# 3	45	3029.4	0.0000	-0.0082	ppb	8.05	3000.00	
56 Fe	# 1	45	43177.7	0.0000	0.4122	ppb	14.88	200000.00	
59 Co	# 3	45	238.9	0.0000	-0.0075	ppb	12.23	3000.00	
60 Ni	# 2	45	72.9	0.0000	-0.0147	ppb	38.12	3000.00	
63 Cu	# 2	45	444.5	0.0000	-0.0085	ppb	13.36	3000.00	
66 Zn	# 3	72	2726.0	0.0000	-0.1333	ppb	11.58	3000.00	
75 As	# 2	72	57.1	0.0000	0.0135	ppb	85.07	3000.00	
78 Se	# 1	72	23.6	0.0000	0.0022	ppb	506.08	3000.00	
88 Sr	# 3	72	393.4	0.0000	-0.0171	ppb	1.38	3000.00	
89 Y	# 3	---	4585777.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	3561.8	0.0000	0.0910	ppb	5.45	1000.00	
95 Mo	# 3	115	1156.8	0.0000	0.1372	ppb	5.87	3000.00	
107 Ag	# 3	115	167.8	0.0000	-0.0012	ppb	78.92	250.00	
111 Cd	# 3	115	2127.9	0.0000	-0.0511	ppb	56.23	3000.00	
118 Sn	# 3	115	1104.5	0.0000	0.0309	ppb	26.41	3000.00	
121 Sb	# 3	115	588.9	0.0000	-0.0073	ppb	24.58	3000.00	
137 Ba	# 3	115	68.9	0.0000	-0.0081	ppb	32.37	3000.00	
157 Gd	# 3	115	6.7	0.0000	-8.3110	ppb	304.05	3000.00	
182 W	# 3	209	1224.6	0.0000	0.0682	ppb	8.13	1000.00	
195 Pt	# 3	209	27.8	0.0000	-0.0094	ppb	11.53	#VALUE!	
197 Au	# 3	209	11.1	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	620.0	0.0000	0.0111	ppb	17.67	3000.00	
208 Pb	# 3	209	748.9	0.0000	-0.0238	ppb	2.99	3000.00	
232 Th	# 3	209	662.3	0.0000	0.0050	ppb	33.25	1000.00	
235 U	# 3	209	7.8	0.0000	0.0000	ppb	400.05	3000.00	
238 U	# 3	209	76.7	0.0000	-0.0053	ppb	11.40	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1389609.40	0.84	1462063.40	95.0	60 - 125	
45 Sc # 1	2108817.80	2.46	2079052.30	101.4	60 - 125	
45 Sc # 2	137375.98	1.19	138937.50	98.9	60 - 125	
45 Sc # 3	3287033.30	0.65	3322690.30	98.9	60 - 125	
72 Ge # 1	425966.50	0.46	414358.66	102.8	60 - 125	
72 Ge # 2	81734.88	0.54	81558.63	100.2	60 - 125	
72 Ge # 3	691704.25	0.65	697602.94	99.2	60 - 125	
115 In # 3	4172775.00	0.80	4198228.50	99.4	60 - 125	
159 Tb # 3	4951407.50	0.36	4961901.50	99.8	60 - 125	
209 Bi # 3	2832831.00	0.88	2889393.80	98.0	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23016.D\98C23016.D#
Date Acquired: Mar 28 2006 05:31 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: IMC021SL
Misc Info:
Vial Number: 2310
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	721660.3	0.0000	46.3900	ppb	0.95	250.00	
9 Be	# 3	6	204897.0	0.0000	48.4700	ppb	1.11	500.00	
11 B	# 3	6	124586.1	0.0000	46.2600	ppb	0.71	400.00	
23 Na	# 1	45	25882980.0	0.0000	5014.0000	ppb	3.61	400000.00	
24 Mg	# 3	45	69007488.0	0.0000	4862.0000	ppb	0.93	200000.00	
27 Al	# 3	45	88606064.0	0.0000	4844.0000	ppb	0.60	100000.00	
28 Si	# 1	45	35615.8	0.0000	13.2500	ppb	56.35	50000.00	
39 K	# 2	45	1582796.0	0.0000	4957.0000	ppb	1.11	400000.00	
40 Ca	# 1	45	48814968.0	0.0000	4951.0000	ppb	3.35	200000.00	
47 Ti	# 3	45	100557.0	0.0000	49.5700	ppb	0.58	3000.00	
51 V	# 2	45	159712.6	0.0000	49.6400	ppb	0.19	3000.00	
52 Cr	# 2	45	190956.9	0.0000	49.7500	ppb	0.33	3000.00	
55 Mn	# 3	45	1604573.0	0.0000	50.1100	ppb	1.29	3000.00	
56 Fe	# 1	45	65168140.0	0.0000	4955.0000	ppb	3.41	200000.00	
59 Co	# 3	45	1295771.0	0.0000	50.3800	ppb	0.69	3000.00	
60 Ni	# 2	45	83424.8	0.0000	50.1000	ppb	0.33	3000.00	
63 Cu	# 2	45	224254.1	0.0000	49.8700	ppb	0.18	3000.00	
66 Zn	# 3	72	204996.1	0.0000	49.3400	ppb	0.85	3000.00	
75 As	# 2	72	26140.2	0.0000	47.5600	ppb	0.74	3000.00	
78 Se	# 1	72	19699.6	0.0000	48.4600	ppb	1.18	3000.00	
88 Sr	# 3	72	1766996.0	0.0000	50.0400	ppb	0.41	3000.00	
89 Y	# 3	---	4545591.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	988182.1	0.0000	42.5000	ppb	0.62	1000.00	
95 Mo	# 3	115	308910.0	0.0000	48.1000	ppb	0.74	3000.00	
107 Ag	# 3	115	777165.9	0.0000	47.0000	ppb	0.86	250.00	
111 Cd	# 3	115	171353.3	0.0000	47.5100	ppb	0.20	3000.00	
118 Sn	# 3	115	505196.7	0.0000	49.8000	ppb	0.54	3000.00	
121 Sb	# 3	115	703611.7	0.0000	48.5600	ppb	0.82	3000.00	
137 Ba	# 3	115	236156.1	0.0000	48.2300	ppb	0.31	3000.00	
157 Gd	# 3	115	14.4	0.0000	22.2700	ppb	121.10	3000.00	
182 W	# 3	209	511762.6	0.0000	44.6300	ppb	0.32	1000.00	
195 Pt	# 3	209	355235.1	0.0000	47.9200	ppb	0.18	#VALUE!	
197 Au	# 3	209	13.3	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	1173859.0	0.0000	48.2600	ppb	1.02	3000.00	
208 Pb	# 3	209	1603337.0	0.0000	48.9700	ppb	0.23	3000.00	
232 Th	# 3	209	1870772.0	0.0000	63.6900	ppb	1.06	1000.00	
235 U	# 3	209	3517.4	0.0000	0.1009	ppb	4.61	3000.00	
238 U	# 3	209	1679789.0	0.0000	49.5300	ppb	1.77	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1350579.50	0.38	1462063.40	92.4	60 - 125	
45 Sc # 1	2077668.90	2.76	2079052.30	99.9	60 - 125	
45 Sc # 2	132523.47	0.21	138937.50	95.4	60 - 125	
45 Sc # 3	3214349.00	0.84	3322690.30	96.7	60 - 125	
72 Ge # 1	411133.09	0.71	414358.66	99.2	60 - 125	
72 Ge # 2	77384.63	0.51	81558.63	94.9	60 - 125	
72 Ge # 3	663045.94	0.69	697602.94	95.0	60 - 125	
115 In # 3	4083472.80	1.98	4198228.50	97.3	60 - 125	
159 Tb # 3	4959817.50	2.75	4961901.50	100.0	60 - 125	
209 Bi # 3	2856497.80	2.68	2889393.80	98.9	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23017.D\98C23017.D#
Date Acquired: Mar 28 2006 05:39 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: IMC0218C
Misc Info:
Vial Number: 2311
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	737177.1	0.0000	46.6400	ppb	0.81	250.00	
9 Be	# 3	6	206233.1	0.0000	47.9800	ppb	0.52	500.00	
11 B	# 3	6	125618.6	0.0000	45.8700	ppb	1.19	400.00	
23 Na	# 1	45	25652190.0	0.0000	4971.0000	ppb	3.47	400000.00	
24 Mg	# 3	45	68828840.0	0.0000	4882.0000	ppb	0.29	200000.00	
27 Al	# 3	45	88657728.0	0.0000	4880.0000	ppb	0.81	100000.00	
28 Si	# 1	45	28356.7	0.0000	9.5560	ppb	3.25	50000.00	
39 K	# 2	45	1578605.0	0.0000	4962.0000	ppb	0.63	400000.00	
40 Ca	# 1	45	48469392.0	0.0000	4918.0000	ppb	2.33	200000.00	
47 Ti	# 3	45	99402.6	0.0000	49.3300	ppb	0.20	3000.00	
51 V	# 2	45	159239.1	0.0000	49.6700	ppb	0.47	3000.00	
52 Cr	# 2	45	189590.8	0.0000	49.5700	ppb	0.42	3000.00	
55 Mn	# 3	45	1587384.0	0.0000	49.9200	ppb	0.29	3000.00	
56 Fe	# 1	45	64612152.0	0.0000	4915.0000	ppb	2.56	200000.00	
59 Co	# 3	45	1280737.0	0.0000	50.1300	ppb	0.91	3000.00	
60 Ni	# 2	45	83267.3	0.0000	50.1900	ppb	0.73	3000.00	
63 Cu	# 2	45	223850.2	0.0000	49.9600	ppb	0.37	3000.00	
66 Zn	# 3	72	204397.2	0.0000	49.5000	ppb	0.51	3000.00	
75 As	# 2	72	26193.0	0.0000	48.1600	ppb	0.91	3000.00	
78 Se	# 1	72	19668.9	0.0000	48.6600	ppb	0.83	3000.00	
88 Sr	# 3	72	1749525.0	0.0000	49.8400	ppb	1.81	3000.00	
89 Y	# 3	---	4498968.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	1022224.0	0.0000	44.2300	ppb	1.03	1000.00	
95 Mo	# 3	115	305576.9	0.0000	48.1500	ppb	0.14	3000.00	
107 Ag	# 3	115	765711.2	0.0000	46.8600	ppb	0.60	250.00	
111 Cd	# 3	115	169053.0	0.0000	47.4400	ppb	0.69	3000.00	
118 Sn	# 3	115	495814.8	0.0000	49.4600	ppb	0.69	3000.00	
121 Sb	# 3	115	695049.0	0.0000	48.5500	ppb	0.95	3000.00	
137 Ba	# 3	115	233209.3	0.0000	48.2000	ppb	0.74	3000.00	
157 Gd	# 3	115	11.1	0.0000	10.0300	ppb	153.24	3000.00	
182 W	# 3	209	527775.3	0.0000	47.5800	ppb	0.58	1000.00	
195 Pt	# 3	209	345115.2	0.0000	48.1200	ppb	0.50	#VALUE!	
197 Au	# 3	209	40.0	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	1131274.0	0.0000	48.0900	ppb	0.64	3000.00	
208 Pb	# 3	209	1559740.0	0.0000	49.2500	ppb	0.33	3000.00	
232 Th	# 3	209	1844816.0	0.0000	64.9300	ppb	0.86	1000.00	
235 U	# 3	209	3245.0	0.0000	0.0963	ppb	2.53	3000.00	
238 U	# 3	209	1628268.0	0.0000	49.6400	ppb	0.82	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1373090.30	0.39	1462063.40	93.9	60 - 125	
45 Sc # 1	2075877.00	1.39	2079052.30	99.8	60 - 125	
45 Sc # 2	132049.50	0.31	138937.50	95.0	60 - 125	
45 Sc # 3	3192657.80	0.60	3322690.30	96.1	60 - 125	
72 Ge # 1	408821.28	0.19	414358.66	98.7	60 - 125	
72 Ge # 2	76586.78	0.53	81558.63	93.9	60 - 125	
72 Ge # 3	659060.13	0.17	697602.94	94.5	60 - 125	
115 In # 3	4034922.80	1.08	4198228.50	96.1	60 - 125	
159 Tb # 3	4860317.00	0.62	4961901.50	98.0	60 - 125	
209 Bi # 3	2763516.30	0.38	2889393.80	95.6	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

7662

CCV QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23025.D\98C23025.D#
Date Acquired:	Mar 28 2006 06:43 pm
Operator:	JEE
Sample Name:	CCV2
Misc Info:	
Vial Number:	1305
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal Update:	Mar 28 2006 03:21 pm
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	43.99	740825.13 ppb	1.07	45.00	90 - 110	
9 Be	44.41	201951.80 ppb	0.36	45.00	90 - 110	
11 B	44.46	128848.40 ppb	0.33	45.00	90 - 110	
23 Na	4550.00	23628640.00 ppb	3.08	4500.00	90 - 110	
24 Mg	4474.00	67686088.00 ppb	0.73	4500.00	90 - 110	
27 Al	4482.00	87384072.00 ppb	0.24	4500.00	90 - 110	
28 Si	4575.00	8872828.00 ppb	2.59	4500.00	90 - 110	
39 K	4603.00	1495953.00 ppb	2.42	4500.00	90 - 110	
40 Ca	4537.00	44916180.00 ppb	2.78	4500.00	90 - 110	
47 Ti	46.35	100227.30 ppb	0.35	45.00	90 - 110	
51 V	46.38	151709.70 ppb	1.69	45.00	90 - 110	
52 Cr	45.36	176967.70 ppb	1.66	45.00	90 - 110	
55 Mn	45.40	1549817.00 ppb	1.08	45.00	90 - 110	
56 Fe	4530.00	59816300.00 ppb	2.70	4500.00	90 - 110	
59 Co	45.54	1248604.00 ppb	0.64	45.00	90 - 110	
60 Ni	46.12	78063.95 ppb	1.49	45.00	90 - 110	
63 Cu	46.16	211000.09 ppb	1.28	45.00	90 - 110	
66 Zn	45.93	202234.41 ppb	0.25	45.00	90 - 110	
75 As	45.56	25619.88 ppb	0.99	45.00	90 - 110	
78 Se	45.28	18593.46 ppb	0.04	45.00	90 - 110	
88 Sr	46.12	1723795.00 ppb	0.96	45.00	90 - 110	
89 Y	--------	4756958.00 ppb	--------	---	90 - 110	
90 Zr	45.08	1109298.00 ppb	0.80	45.00	90 - 110	
95 Mo	45.11	298483.50 ppb	0.92	45.00	90 - 110	
107 Ag	44.44	756996.69 ppb	0.60	45.00	90 - 110	
111 Cd	44.46	165326.70 ppb	1.32	45.00	90 - 110	
118 Sn	44.75	467737.81 ppb	0.12	45.00	90 - 110	
121 Sb	43.81	653910.00 ppb	1.27	45.00	90 - 110	
137 Ba	45.09	227411.91 ppb	0.86	45.00	90 - 110	
157 Gd	24.80	15.56 ppb	28.51	45.00	90 - 110	Fail
182 W	42.19	513836.31 ppb	0.61	45.00	90 - 110	
195 Pt	42.80	336965.59 ppb	0.03	45.00	90 - 110	
197 Au	========	18.89 ppb	========	45.00	90 - 110	
205 Tl	44.43	1147455.00 ppb	0.33	45.00	90 - 110	
208 Pb	43.35	1507582.00 ppb	0.09	45.00	90 - 110	
232 Th	50.18	1565461.00 ppb	1.31	45.00	90 - 110	Fail
235 U	0.30	11225.82 ppb	1.19	0.32	90 - 110	
238 U	43.40	1562782.00 ppb	0.52	44.69	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1452687.80	0.10	1462063.40	99.4	60 - 125	
45 Sc	2085546.60	1.94	2079052.30	100.3	60 - 125	
45 Sc	134699.55	1.53	138937.50	96.9	60 - 125	
45 Sc	3426010.50	0.49	3322690.30	103.1	60 - 125	
72 Ge	415246.69	0.22	414358.66	100.2	60 - 125	
72 Ge	79174.61	0.76	81558.63	97.1	60 - 125	
72 Ge	701828.88	0.37	697602.94	100.6	60 - 125	
115 In	4206224.50	0.27	4198228.50	100.2	60 - 125	
159 Tb	5098728.50	0.80	4961901.50	102.8	60 - 125	
209 Bi	3033900.00	0.35	2889393.80	105.0	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

2 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail

ISTD: Pass

ICB QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23026.D\98C23026.D#
Date Acquired:	Mar 28 2006 06:51 pm
Acq. Method:	EMAX6020.M
Operator:	JEE
Sample Name:	CCB2
Misc Info:	
Vial Number:	1102
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update:	Mar 28 2006 03:21 pm
Sample Type:	CCB
Dilution Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc	RSD(%)	High Limit	Flag
7 Li	0.0140	91882.0	ppb	498.07	1.00	
9 Be	0.0011	85.6	ppb	142.32	1.00	
11 B	0.3161	2178.0	ppb	4.96	1.00	
23 Na	-3.7570	456503.0	ppb	49.99	1.00	
24 Mg	0.7935	51133.8	ppb	4.89	1.00	
27 Al	0.1668	34003.9	ppb	7.32	1.00	
28 Si	0.3591	10523.5	ppb	52.35	1.00	
39 K	-1.7450	35442.7	ppb	119.20	1.00	
40 Ca	0.6349	64072.8	ppb	12.23	1.00	
47 Ti	0.0555	207.8	ppb	33.76	1.00	
51 V	0.1669	1354.5	ppb	0.93	1.00	
52 Cr	-0.0007	406.5	ppb	50.71	1.00	
55 Mn	0.0079	3540.6	ppb	77.22	1.00	
56 Fe	3.4610	81900.6	ppb	9.61	1.00	
59 Co	-0.0006	417.8	ppb	117.91	1.00	
60 Ni	0.0072	111.1	ppb	11.05	1.00	
63 Cu	0.0018	494.2	ppb	114.42	1.00	
66 Zn	-0.1159	2812.6	ppb	15.19	1.00	
75 As	0.0675	87.8	ppb	21.44	1.00	
78 Se	0.0585	46.4	ppb	34.85	1.00	
88 Sr	-0.0115	604.5	ppb	10.61	1.00	
89 Y	--------	4618663.0	ppb	--------	1.00	
90 Zr	-0.0117	1077.9	ppb	34.19	1.00	
95 Mo	0.2104	1636.8	ppb	5.93	1.00	
107 Ag	0.0116	384.5	ppb	15.42	1.00	
111 Cd	-0.0278	2212.1	ppb	57.47	1.00	
118 Sn	0.0778	1589.1	ppb	13.55	1.00	
121 Sb	0.6037	9626.4	ppb	15.09	1.00	
137 Ba	0.0003	111.1	ppb	1179.40	1.00	
157 Gd	-4.1020	7.8	ppb	466.85	1.00	
182 W	0.2135	2882.7	ppb	12.47	1.00	
195 Pt	-0.0007	92.2	ppb	294.39	1.00	
197 Au	--------	5.6	ppb	--------	1.00	
205 Tl	0.0300	1079.0	ppb	0.59	1.00	
208 Pb	-0.0048	1369.0	ppb	20.75	1.00	
232 Th	0.0366	1588.0	ppb	19.70	1.00	
235 U	0.0001	8.9	ppb	215.99	1.00	
238 U	0.0056	443.4	ppb	34.21	1.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1452869.5	1.26	1462063.40	99.4	60 - 125	
45 Sc	2057947.3	2.17	2079052.30	99.0	60 - 125	
45 Sc	137857.1	0.88	138937.50	99.2	60 - 125	
45 Sc	3274461.5	0.67	3322690.30	98.5	60 - 125	
72 Ge	418851.6	0.20	414358.66	101.1	60 - 125	
72 Ge	81218.0	0.76	81558.63	99.6	60 - 125	
72 Ge	694709.2	0.79	697602.94	99.6	60 - 125	
115 In	4170905.8	0.41	4198228.50	99.3	60 - 125	
159 Tb	5018108.0	0.44	4961901.50	101.1	60 - 125	
209 Bi	2840895.8	0.38	2889393.80	98.3	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Pass

7654

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23027.D\98C23027.D#
Date Acquired: Mar 28 2006 06:59 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C081-08A
Misc Info:
Vial Number: 2407
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	1239276.0	0.0000	84.2200	ppb	0.60	250.00	
9 Be	# 3	6	210890.1	0.0000	49.9400	ppb	0.19	500.00	
11 B	# 3	6	162457.8	0.0000	60.5200	ppb	0.67	400.00	
23 Na	# 1	45	28203990.0	0.0000	5385.0000	ppb	3.31	400000.00	
24 Mg	# 3	45	251517500.0	0.0000	17460.0000	ppb	0.51	200000.00	
27 Al	# 3	45	264537200.0	0.0000	14240.0000	ppb	0.46	100000.00	
28 Si	# 1	45	9936819.0	0.0000	5064.0000	ppb	3.44	50000.00	
39 K	# 2	45	2333724.0	0.0000	7408.0000	ppb	0.88	400000.00	
40 Ca	# 1	45	103289000.0	0.0000	10320.0000	ppb	3.00	200000.00	
47 Ti	# 3	45	940537.2	0.0000	456.9000	ppb	0.73	3000.00	
51 V	# 2	45	227864.8	0.0000	71.3600	ppb	0.92	3000.00	
52 Cr	# 2	45	227646.2	0.0000	59.6900	ppb	0.80	3000.00	
55 Mn	# 3	45	8302146.0	0.0000	255.8000	ppb	0.92	3000.00	
56 Fe	# 1	45	168946000.0	0.0000	12650.0000	ppb	2.61	200000.00	
59 Co	# 3	45	1407093.0	0.0000	53.8700	ppb	1.05	3000.00	
60 Ni	# 2	45	103240.4	0.0000	62.4000	ppb	0.81	3000.00	
63 Cu	# 2	45	288738.3	0.0000	64.6400	ppb	0.90	3000.00	
66 Zn	# 3	72	325355.9	0.0000	79.4000	ppb	0.33	3000.00	
75 As	# 2	72	33578.2	0.0000	61.9700	ppb	1.06	3000.00	
78 Se	# 1	72	19675.1	0.0000	49.0100	ppb	0.46	3000.00	
88 Sr	# 3	72	5924291.0	0.0000	169.2000	ppb	0.14	3000.00	
89 Y	# 3	---	4745544.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	1660438.0	0.0000	72.0200	ppb	0.99	1000.00	
95 Mo	# 3	115	310960.1	0.0000	50.2400	ppb	0.63	3000.00	
107 Ag	# 3	115	773827.4	0.0000	48.5600	ppb	0.79	250.00	
111 Cd	# 3	115	171547.0	0.0000	49.3800	ppb	0.50	3000.00	
118 Sn	# 3	115	496831.5	0.0000	50.8200	ppb	0.66	3000.00	
121 Sb	# 3	115	686089.4	0.0000	49.1400	ppb	0.28	3000.00	
137 Ba	# 3	115	540309.1	0.0000	114.5000	ppb	0.27	3000.00	
157 Gd	# 3	115	19865.8	0.0000	79540.0000	ppb	1.94	3000.00	>LRS
182 W	# 3	209	539896.9	0.0000	48.7700	ppb	1.34	1000.00	
195 Pt	# 3	209	349380.0	0.0000	48.8200	ppb	1.37	#VALUE!	
197 Au	# 3	209	33.3	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	1168537.0	0.0000	49.7700	ppb	1.05	3000.00	
208 Pb	# 3	209	1798538.0	0.0000	56.9100	ppb	1.25	3000.00	
232 Th	# 3	209	1456246.0	0.0000	51.3500	ppb	0.78	1000.00	
235 U	# 3	209	12268.1	0.0000	0.3652	ppb	2.24	3000.00	
238 U	# 3	209	1675973.0	0.0000	51.2000	ppb	1.32	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1349099.60	0.41	1462063.40	92.3	60 - 125	
45 Sc # 1	2110791.80	3.11	2079052.30	101.5	60 - 125	
45 Sc # 2	131715.22	1.25	138937.50	94.8	60 - 125	
45 Sc # 3	3264300.00	0.61	3322690.30	98.2	60 - 125	
72 Ge # 1	405987.47	1.02	414358.66	98.0	60 - 125	
72 Ge # 2	76330.84	1.14	81558.63	93.6	60 - 125	
72 Ge # 3	657822.50	0.12	697602.94	94.3	60 - 125	
115 In # 3	3935004.00	0.41	4198228.50	93.7	60 - 125	
159 Tb # 3	4844053.50	0.37	4961901.50	97.6	60 - 125	
209 Bi # 3	2758178.00	1.15	2889393.80	95.5	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23030.D\98C23030.D#
Date Acquired: Mar 28 2006 07:23 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C081-08
Misc Info:
Vial Number: 2410
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	578244.8	0.0000	33.6800	ppb	0.91	250.00	
9 Be	# 3	6	2208.1	0.0000	0.4768	ppb	1.20	500.00	
11 B	# 3	6	35265.7	0.0000	12.0700	ppb	0.53	400.00	
23 Na	# 1	45	3392069.0	0.0000	593.0000	ppb	2.96	400000.00	
24 Mg	# 3	45	186396400.0	0.0000	12740.0000	ppb	0.15	200000.00	
27 Al	# 3	45	179346400.0	0.0000	9513.0000	ppb	0.30	100000.00	
28 Si	# 1	45	208464.3	0.0000	105.7000	ppb	4.86	50000.00	
39 K	# 2	45	800631.4	0.0000	2440.0000	ppb	1.63	400000.00	
40 Ca	# 1	45	54305552.0	0.0000	5660.0000	ppb	3.47	200000.00	
47 Ti	# 3	45	843155.7	0.0000	403.5000	ppb	0.93	3000.00	
51 V	# 2	45	70325.4	0.0000	21.6100	ppb	1.68	3000.00	
52 Cr	# 2	45	40906.8	0.0000	10.5200	ppb	1.53	3000.00	
55 Mn	# 3	45	6872867.0	0.0000	208.6000	ppb	0.16	3000.00	
56 Fe	# 1	45	104397800.0	0.0000	8156.0000	ppb	2.85	200000.00	
59 Co	# 3	45	125792.1	0.0000	4.7290	ppb	0.83	3000.00	
60 Ni	# 2	45	21659.3	0.0000	12.9000	ppb	1.36	3000.00	
63 Cu	# 2	45	69662.5	0.0000	15.3400	ppb	1.19	3000.00	
66 Zn	# 3	72	127837.7	0.0000	29.7700	ppb	0.37	3000.00	
75 As	# 2	72	7094.2	0.0000	12.8000	ppb	2.40	3000.00	
78 Se	# 1	72	93.8	0.0000	0.1842	ppb	9.77	3000.00	
88 Sr	# 3	72	4321785.0	0.0000	119.6000	ppb	0.89	3000.00	
89 Y	# 3	---	4811959.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	508458.8	0.0000	21.3400	ppb	0.58	1000.00	
95 Mo	# 3	115	5690.4	0.0000	0.8637	ppb	2.21	3000.00	
107 Ag	# 3	115	1264.6	0.0000	0.0667	ppb	13.76	250.00	
111 Cd	# 3	115	3081.4	0.0000	0.2454	ppb	5.40	3000.00	
118 Sn	# 3	115	20012.4	0.0000	1.9360	ppb	1.54	3000.00	
121 Sb	# 3	115	2892.7	0.0000	0.1564	ppb	2.20	3000.00	
137 Ba	# 3	115	310784.3	0.0000	64.6500	ppb	0.36	3000.00	
157 Gd	# 3	115	20059.4	0.0000	78810.0000	ppb	0.35	3000.00	>LRS
182 W	# 3	209	7710.6	0.0000	0.6588	ppb	1.14	1000.00	
195 Pt	# 3	209	158.9	0.0000	0.0091	ppb	10.78	#VALUE!	
197 Au	# 3	209	24.4	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	8899.3	0.0000	0.3653	ppb	5.31	3000.00	
208 Pb	# 3	209	233783.9	0.0000	7.3700	ppb	0.43	3000.00	
232 Th	# 3	209	203476.6	0.0000	7.1730	ppb	0.67	1000.00	
235 U	# 3	209	261.1	0.0000	0.0076	ppb	17.86	3000.00	
238 U	# 3	209	35233.6	0.0000	1.0710	ppb	1.19	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1426867.00	0.31	1462063.40	97.6	60 - 125	
45 Sc # 1	2022304.40	2.49	2079052.30	97.3	60 - 125	
45 Sc # 2	133195.03	1.16	138937.50	95.9	60 - 125	
45 Sc # 3	3313448.30	0.58	3322690.30	99.7	60 - 125	
72 Ge # 1	399153.56	0.88	414358.66	96.3	60 - 125	
72 Ge # 2	77661.88	1.32	81558.63	95.2	60 - 125	
72 Ge # 3	678537.63	0.25	697602.94	97.3	60 - 125	
115 In # 3	4009687.80	0.79	4198228.50	95.5	60 - 125	
159 Tb # 3	4878559.50	2.06	4961901.50	98.3	60 - 125	
209 Bi # 3	2753091.80	0.97	2889393.80	95.3	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23031.D\98C23031.D#
Date Acquired: Mar 28 2006 07:31 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C081-08J
Misc Info:
Vial Number: 2411
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 5.00
Autodil Factor: Undiluted
Final Dil Factor: 5.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	193916.8	0.0000	6.7240	ppb	1.41	250.00	
9 Be	# 3	6	550.0	0.0000	0.1014	ppb	6.01	500.00	
11 B	# 3	6	9206.9	0.0000	2.7160	ppb	1.98	400.00	
23 Na	# 1	45	1118075.0	0.0000	129.7000	ppb	4.65	400000.00	
24 Mg	# 3	45	38920480.0	0.0000	2625.0000	ppb	0.56	200000.00	
27 Al	# 3	45	37006752.0	0.0000	1937.0000	ppb	0.24	100000.00	
28 Si	# 1	45	56476.2	0.0000	24.5600	ppb	14.41	50000.00	
39 K	# 2	45	202016.7	0.0000	511.1000	ppb	1.61	400000.00	
40 Ca	# 1	45	12059820.0	0.0000	1240.0000	ppb	2.48	200000.00	
47 Ti	# 3	45	171254.3	0.0000	80.8800	ppb	0.84	3000.00	
51 V	# 2	45	15614.8	0.0000	4.4490	ppb	1.69	3000.00	
52 Cr	# 2	45	8782.1	0.0000	2.1020	ppb	1.09	3000.00	
55 Mn	# 3	45	1466980.0	0.0000	43.8700	ppb	0.65	3000.00	
56 Fe	# 1	45	21929490.0	0.0000	1694.0000	ppb	2.67	200000.00	
59 Co	# 3	45	26901.2	0.0000	0.9855	ppb	1.98	3000.00	
60 Ni	# 2	45	4848.1	0.0000	2.7460	ppb	2.17	3000.00	
63 Cu	# 2	45	15608.2	0.0000	3.2400	ppb	1.35	3000.00	
66 Zn	# 3	72	48342.2	0.0000	10.5200	ppb	0.78	3000.00	
75 As	# 2	72	1555.9	0.0000	2.6400	ppb	1.62	3000.00	
78 Se	# 1	72	32.9	0.0000	0.0264	ppb	58.62	3000.00	
88 Sr	# 3	72	895823.5	0.0000	24.2300	ppb	0.33	3000.00	
89 Y	# 3	---	4692386.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	101344.3	0.0000	4.1150	ppb	0.73	1000.00	
95 Mo	# 3	115	1472.4	0.0000	0.1893	ppb	6.14	3000.00	
107 Ag	# 3	115	426.7	0.0000	0.0145	ppb	13.89	250.00	
111 Cd	# 3	115	2307.7	0.0000	0.0095	ppb	82.08	3000.00	
118 Sn	# 3	115	4976.9	0.0000	0.4137	ppb	5.55	3000.00	
121 Sb	# 3	115	1112.3	0.0000	0.0295	ppb	27.70	3000.00	
137 Ba	# 3	115	64273.2	0.0000	13.0600	ppb	2.01	3000.00	
157 Gd	# 3	115	4031.9	0.0000	15460.0000	ppb	0.97	3000.00	>LRS
182 W	# 3	209	3119.4	0.0000	0.2329	ppb	1.24	1000.00	
195 Pt	# 3	209	65.6	0.0000	-0.0043	ppb	50.42	#VALUE!	
197 Au	# 3	209	10.0	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	2871.6	0.0000	0.1036	ppb	5.85	3000.00	
208 Pb	# 3	209	50029.3	0.0000	1.4840	ppb	0.37	3000.00	
232 Th	# 3	209	42378.3	0.0000	1.4270	ppb	2.48	1000.00	
235 U	# 3	209	61.1	0.0000	0.0016	ppb	19.04	3000.00	
238 U	# 3	209	7181.4	0.0000	0.2045	ppb	1.76	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1475690.60	0.32	1462063.40	100.9	60 - 125	
45 Sc # 1	2042530.80	2.14	2079052.30	98.2	60 - 125	
45 Sc # 2	137839.25	1.25	138937.50	99.2	60 - 125	
45 Sc # 3	3356233.50	0.74	3322690.30	101.0	60 - 125	
72 Ge # 1	415355.41	0.09	414358.66	100.2	60 - 125	
72 Ge # 2	80522.92	0.30	81558.63	98.7	60 - 125	
72 Ge # 3	693825.88	0.79	697602.94	99.5	60 - 125	
115 In # 3	4100683.80	1.28	4198228.50	97.7	60 - 125	
159 Tb # 3	4925900.50	0.19	4961901.50	99.3	60 - 125	
209 Bi # 3	2854388.30	0.52	2889393.80	98.8	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

7667

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23034.D\98C23034.D#
Date Acquired: Mar 28 2006 07:55 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C106-01
Misc Info:
Vial Number: 2502
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	257044.3	0.0000	12.1800	ppb	0.91	250.00	
9 Be	# 3	6	1799.1	0.0000	0.4001	ppb	2.14	500.00	
11 B	# 3	6	36452.1	0.0000	12.9700	ppb	1.79	400.00	
23 Na	# 1	45	2295823.0	0.0000	359.9000	ppb	3.07	400000.00	
24 Mg	# 3	45	112980600.0	0.0000	7777.0000	ppb	0.23	200000.00	
27 Al	# 3	45	118400000.0	0.0000	6323.0000	ppb	0.15	100000.00	
28 Si	# 1	45	1599809.0	0.0000	826.7000	ppb	2.22	50000.00	
39 K	# 2	45	695115.1	0.0000	2104.0000	ppb	0.19	400000.00	
40 Ca	# 1	45	225437500.0	0.0000	22960.0000	ppb	2.70	200000.00	
47 Ti	# 3	45	983971.4	0.0000	474.1000	ppb	0.86	3000.00	
51 V	# 2	45	67668.5	0.0000	20.7900	ppb	0.13	3000.00	
52 Cr	# 2	45	35125.9	0.0000	9.0230	ppb	0.20	3000.00	
55 Mn	# 3	45	21410270.0	0.0000	654.4000	ppb	0.33	3000.00	
56 Fe	# 1	45	109596900.0	0.0000	8363.0000	ppb	2.42	200000.00	
59 Co	# 3	45	174134.0	0.0000	6.5980	ppb	0.29	3000.00	
60 Ni	# 2	45	26407.7	0.0000	15.7400	ppb	0.60	3000.00	
63 Cu	# 2	45	1583649.0	0.0000	351.1000	ppb	0.31	3000.00	
66 Zn	# 3	72	247660.9	0.0000	58.7300	ppb	0.59	3000.00	
75 As	# 2	72	2377.8	0.0000	4.2120	ppb	2.50	3000.00	
78 Se	# 1	72	112.2	0.0000	0.2202	ppb	5.48	3000.00	
88 Sr	# 3	72	5004295.0	0.0000	139.3000	ppb	0.48	3000.00	
89 Y	# 3	---	4962069.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	593498.7	0.0000	25.0600	ppb	0.48	1000.00	
95 Mo	# 3	115	5036.8	0.0000	0.7525	ppb	1.98	3000.00	
107 Ag	# 3	115	2601.5	0.0000	0.1476	ppb	7.60	250.00	
111 Cd	# 3	115	4269.8	0.0000	0.5741	ppb	5.57	3000.00	
118 Sn	# 3	115	20930.6	0.0000	2.0090	ppb	1.31	3000.00	
121 Sb	# 3	115	3067.2	0.0000	0.1666	ppb	6.78	3000.00	
137 Ba	# 3	115	929142.1	0.0000	191.5000	ppb	0.23	3000.00	
157 Gd	# 3	115	29415.5	0.0000	114500.0000	ppb	1.30	3000.00	>LRS
182 W	# 3	209	7033.5	0.0000	0.5830	ppb	2.59	1000.00	
195 Pt	# 3	209	64.4	0.0000	-0.0044	ppb	60.82	#VALUE!	
197 Au	# 3	209	37.8	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	4791.2	0.0000	0.1852	ppb	2.89	3000.00	
208 Pb	# 3	209	1570812.0	0.0000	48.6500	ppb	0.30	3000.00	
232 Th	# 3	209	187569.2	0.0000	6.4600	ppb	0.90	1000.00	
235 U	# 3	209	176.7	0.0000	0.0050	ppb	13.95	3000.00	
238 U	# 3	209	21034.3	0.0000	0.6217	ppb	1.73	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1375725.80	1.16	1462063.40	94.1	60 - 125	
45 Sc # 1	2070158.80	1.47	2079052.30	99.6	60 - 125	
45 Sc # 2	133158.86	0.14	138937.50	95.8	60 - 125	
45 Sc # 3	3290903.00	0.19	3322690.30	99.0	60 - 125	
72 Ge # 1	414808.94	0.53	414358.66	100.1	60 - 125	
72 Ge # 2	78062.23	0.47	81558.63	95.7	60 - 125	
72 Ge # 3	674646.63	0.91	697602.94	96.7	60 - 125	
115 In # 3	4047890.30	0.76	4198228.50	96.4	60 - 125	
159 Tb # 3	4933353.00	0.28	4961901.50	99.4	60 - 125	
209 Bi # 3	2817043.80	0.35	2889393.80	97.5	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

7668

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23035.D\98C23035.D#
Date Acquired: Mar 28 2006 08:03 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C106-02
Misc Info:
Vial Number: 2503
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	277671.8	0.0000	13.1900	ppb	1.15	250.00	
9 Be	# 3	6	1989.1	0.0000	0.4335	ppb	2.54	500.00	
11 B	# 3	6	14723.1	0.0000	4.8480	ppb	0.47	400.00	
23 Na	# 1	45	3979399.0	0.0000	685.9000	ppb	3.98	400000.00	
24 Mg	# 3	45	143315390.0	0.0000	9683.0000	ppb	0.69	200000.00	
27 Al	# 3	45	136960300.0	0.0000	7179.0000	ppb	0.56	100000.00	
28 Si	# 1	45	345728.9	0.0000	172.9000	ppb	4.65	50000.00	
39 K	# 2	45	523593.1	0.0000	1589.0000	ppb	0.91	400000.00	
40 Ca	# 1	45	572766590.0	0.0000	57800.0000	ppb	3.51	200000.00	
47 Ti	# 3	45	963092.0	0.0000	455.5000	ppb	0.83	3000.00	
51 V	# 2	45	67677.7	0.0000	21.1900	ppb	1.00	3000.00	
52 Cr	# 2	45	28450.1	0.0000	7.4270	ppb	0.34	3000.00	
55 Mn	# 3	45	7554610.0	0.0000	226.5000	ppb	0.15	3000.00	
56 Fe	# 1	45	111655700.0	0.0000	8441.0000	ppb	3.78	200000.00	
59 Co	# 3	45	144774.0	0.0000	5.3820	ppb	1.45	3000.00	
60 Ni	# 2	45	19866.7	0.0000	12.0500	ppb	0.41	3000.00	
63 Cu	# 2	45	52824.9	0.0000	11.8300	ppb	0.42	3000.00	
66 Zn	# 3	72	105877.8	0.0000	24.2500	ppb	0.97	3000.00	
75 As	# 2	72	1970.4	0.0000	3.5550	ppb	0.85	3000.00	
78 Se	# 1	72	96.0	0.0000	0.1842	ppb	6.11	3000.00	
88 Sr	# 3	72	8392757.0	0.0000	229.8000	ppb	1.00	3000.00	
89 Y	# 3	---	5027509.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	459845.5	0.0000	19.0900	ppb	0.49	1000.00	
95 Mo	# 3	115	2370.3	0.0000	0.3258	ppb	5.73	3000.00	
107 Ag	# 3	115	1029.0	0.0000	0.0503	ppb	6.45	250.00	
111 Cd	# 3	115	3543.0	0.0000	0.3476	ppb	7.32	3000.00	
118 Sn	# 3	115	20235.1	0.0000	1.8980	ppb	2.50	3000.00	
121 Sb	# 3	115	1682.4	0.0000	0.0678	ppb	12.55	3000.00	
137 Ba	# 3	115	605494.9	0.0000	122.2000	ppb	0.49	3000.00	
157 Gd	# 3	115	27523.2	0.0000	104900.0000	ppb	0.66	3000.00	>LRS
182 W	# 3	209	4534.4	0.0000	0.3552	ppb	1.86	1000.00	
195 Pt	# 3	209	44.4	0.0000	-0.0072	ppb	18.02	#VALUE!	
197 Au	# 3	209	33.3	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	2338.1	0.0000	0.0812	ppb	7.08	3000.00	
208 Pb	# 3	209	177665.3	0.0000	5.3700	ppb	0.43	3000.00	
232 Th	# 3	209	187203.7	0.0000	6.3410	ppb	0.16	1000.00	
235 U	# 3	209	275.6	0.0000	0.0077	ppb	8.88	3000.00	
238 U	# 3	209	31027.0	0.0000	0.9053	ppb	1.47	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1408779.30	0.41	1462063.40	96.4	60 - 125	
45 Sc # 1	2090576.30	2.89	2079052.30	100.6	60 - 125	
45 Sc # 2	130714.58	0.59	138937.50	94.1	60 - 125	
45 Sc # 3	3352932.80	1.15	3322690.30	100.9	60 - 125	
72 Ge # 1	408597.13	0.28	414358.66	98.6	60 - 125	
72 Ge # 2	76358.71	0.48	81558.63	93.6	60 - 125	
72 Ge # 3	685947.75	1.00	697602.94	98.3	60 - 125	
115 In # 3	4132731.30	1.34	4198228.50	98.4	60 - 125	
159 Tb # 3	5074816.00	1.03	4961901.50	102.3	60 - 125	
209 Bi # 3	2864341.50	1.07	2889393.80	99.1	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23036.D\98C23036.D#
Date Acquired: Mar 28 2006 08:11 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C106-03
Misc Info:
Vial Number: 2504
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	305690.9	0.0000	15.2400	ppb	0.97	250.00	
9 Be	# 3	6	2581.5	0.0000	0.5703	ppb	1.25	500.00	
11 B	# 3	6	14526.2	0.0000	4.7990	ppb	0.90	400.00	
23 Na	# 1	45	5748870.0	0.0000	1043.0000	ppb	2.44	400000.00	
24 Mg	# 3	45	140478210.0	0.0000	9452.0000	ppb	0.58	200000.00	
27 Al	# 3	45	160648700.0	0.0000	8386.0000	ppb	0.37	100000.00	
28 Si	# 1	45	281684.2	0.0000	141.4000	ppb	8.24	50000.00	
39 K	# 2	45	486340.5	0.0000	1474.0000	ppb	0.84	400000.00	
40 Ca	# 1	45	285963010.0	0.0000	29120.0000	ppb	2.26	200000.00	
47 Ti	# 3	45	1313365.0	0.0000	618.6000	ppb	0.35	3000.00	
51 V	# 2	45	90325.0	0.0000	28.4800	ppb	0.82	3000.00	
52 Cr	# 2	45	39318.6	0.0000	10.3500	ppb	0.17	3000.00	
55 Mn	# 3	45	9412094.0	0.0000	281.1000	ppb	0.73	3000.00	
56 Fe	# 1	45	141968100.0	0.0000	10830.0000	ppb	1.91	200000.00	
59 Co	# 3	45	178620.5	0.0000	6.6160	ppb	1.08	3000.00	
60 Ni	# 2	45	28245.6	0.0000	17.2300	ppb	0.96	3000.00	
63 Cu	# 2	45	110476.4	0.0000	24.9600	ppb	0.73	3000.00	
66 Zn	# 3	72	148382.8	0.0000	34.0800	ppb	0.63	3000.00	
75 As	# 2	72	1769.0	0.0000	3.1830	ppb	1.97	3000.00	
78 Se	# 1	72	88.4	0.0000	0.1661	ppb	17.98	3000.00	
88 Sr	# 3	72	9385993.0	0.0000	255.5000	ppb	0.59	3000.00	
89 Y	# 3	---	5127226.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	624373.4	0.0000	25.7800	ppb	0.80	1000.00	
95 Mo	# 3	115	4003.0	0.0000	0.5696	ppb	1.98	3000.00	
107 Ag	# 3	115	1354.6	0.0000	0.0688	ppb	4.42	250.00	
111 Cd	# 3	115	3777.2	0.0000	0.3997	ppb	7.89	3000.00	
118 Sn	# 3	115	21587.2	0.0000	2.0050	ppb	0.84	3000.00	
121 Sb	# 3	115	1956.9	0.0000	0.0848	ppb	0.54	3000.00	
137 Ba	# 3	115	882191.2	0.0000	175.9000	ppb	0.22	3000.00	
157 Gd	# 3	115	35311.1	0.0000	133000.0000	ppb	1.22	3000.00	>LRS
182 W	# 3	209	6564.3	0.0000	0.5252	ppb	1.28	1000.00	
195 Pt	# 3	209	66.7	0.0000	-0.0043	ppb	17.05	#VALUE!	
197 Au	# 3	209	24.4	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	3012.7	0.0000	0.1075	ppb	6.46	3000.00	
208 Pb	# 3	209	228462.6	0.0000	6.8370	ppb	0.13	3000.00	
232 Th	# 3	209	245013.1	0.0000	8.2070	ppb	0.55	1000.00	
235 U	# 3	209	292.2	0.0000	0.0081	ppb	7.07	3000.00	
238 U	# 3	209	39358.9	0.0000	1.1370	ppb	0.15	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1402978.40	0.42	1462063.40	96.0	60 - 125	
45 Sc # 1	2070671.90	1.42	2079052.30	99.6	60 - 125	
45 Sc # 2	130185.43	0.70	138937.50	93.7	60 - 125	
45 Sc # 3	3366809.50	0.66	3322690.30	101.3	60 - 125	
72 Ge # 1	407028.97	1.06	414358.66	98.2	60 - 125	
72 Ge # 2	76353.18	0.63	81558.63	93.6	60 - 125	
72 Ge # 3	690079.44	0.47	697602.94	98.9	60 - 125	
115 In # 3	4183222.50	0.11	4198228.50	99.6	60 - 125	
159 Tb # 3	5095783.00	0.11	4961901.50	102.7	60 - 125	
209 Bi # 3	2898482.30	0.54	2889393.80	100.3	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail
ISTD: Pass

CCV QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23037.D\98C23037.D#
Date Acquired:	Mar 28 2006 08:19 pm
Operator:	JEE
Sample Name:	CCV3
Misc Info:	
Vial Number:	1305
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal Update:	Mar 28 2006 03:21 pm
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	44.10	732712.13 ppb	0.51	45.00	90 - 110	
9 Be	44.38	199158.20 ppb	0.09	45.00	90 - 110	
11 B	44.07	126041.50 ppb	1.27	45.00	90 - 110	
23 Na	4486.00	23573520.00 ppb	3.69	4500.00	90 - 110	
24 Mg	4443.00	65896840.00 ppb	0.29	4500.00	90 - 110	
27 Al	4475.00	85540768.00 ppb	0.55	4500.00	90 - 110	
28 Si	4523.00	8876480.00 ppb	3.00	4500.00	90 - 110	
39 K	4570.00	1471927.00 ppb	1.44	4500.00	90 - 110	
40 Ca	4493.00	45003528.00 ppb	3.41	4500.00	90 - 110	
47 Ti	45.88	97270.60 ppb	0.59	45.00	90 - 110	
51 V	46.56	150879.30 ppb	1.05	45.00	90 - 110	
52 Cr	45.88	177359.70 ppb	1.01	45.00	90 - 110	
55 Mn	45.27	1514740.00 ppb	0.48	45.00	90 - 110	
56 Fe	4565.00	60990528.00 ppb	2.98	4500.00	90 - 110	
59 Co	45.67	1227483.00 ppb	0.33	45.00	90 - 110	
60 Ni	46.83	78521.88 ppb	1.15	45.00	90 - 110	
63 Cu	46.99	212776.80 ppb	1.19	45.00	90 - 110	
66 Zn	45.97	197506.50 ppb	0.19	45.00	90 - 110	
75 As	45.93	25630.80 ppb	1.15	45.00	90 - 110	
78 Se	46.01	19208.11 ppb	0.54	45.00	90 - 110	
88 Sr	46.19	1684697.00 ppb	0.78	45.00	90 - 110	
89 Y	--------	4652166.00 ppb	--------	---	90 - 110	
90 Zr	45.25	1086725.00 ppb	1.00	45.00	90 - 110	
95 Mo	44.93	295088.59 ppb	0.71	45.00	90 - 110	
107 Ag	43.80	740716.00 ppb	0.49	45.00	90 - 110	
111 Cd	44.12	162888.00 ppb	0.47	45.00	90 - 110	
118 Sn	44.65	463281.59 ppb	0.77	45.00	90 - 110	
121 Sb	43.75	648249.81 ppb	0.39	45.00	90 - 110	
137 Ba	44.68	223699.80 ppb	0.87	45.00	90 - 110	
157 Gd	29.47	16.67 ppb	43.67	45.00	90 - 110	Fail
182 W	42.56	509025.69 ppb	0.43	45.00	90 - 110	
195 Pt	43.02	332610.91 ppb	0.00	45.00	90 - 110	
197 Au	--------	16.67 ppb	--------	45.00	90 - 110	
205 Tl	44.64	1132106.00 ppb	0.68	45.00	90 - 110	
208 Pb	43.69	1491866.00 ppb	0.33	45.00	90 - 110	
232 Th	50.46	1545670.00 ppb	0.06	45.00	90 - 110	Fail
235 U	0.31	11225.84 ppb	1.42	0.32	90 - 110	
238 U	44.45	1571927.00 ppb	0.70	44.69	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1433639.90	0.75	1462063.40	98.1	60 - 125	
45 Sc	2110399.30	2.44	2079052.30	101.5	60 - 125	
45 Sc	133434.56	1.23	138937.50	96.0	60 - 125	
45 Sc	3358792.80	0.27	3322690.30	101.1	60 - 125	
72 Ge	422154.59	0.61	414358.66	101.9	60 - 125	
72 Ge	78573.06	1.29	81558.63	96.3	60 - 125	
72 Ge	684893.75	0.24	697602.94	98.2	60 - 125	
115 In	4175562.00	0.48	4198228.50	99.5	60 - 125	
159 Tb	5072117.50	0.37	4961901.50	102.2	60 - 125	
209 Bi	2979228.30	0.64	2889393.80	103.1	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

2 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	**Fail**
ISTD:	**Pass**

7071

ICB QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23038.D\98C23038.D#
Date Acquired:	Mar 28 2006 08:27 pm
Acq. Method:	EMAX6020.M
Operator:	JEE
Sample Name:	CCB3
Misc Info:	
Vial Number:	1102
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update:	Mar 28 2006 03:21 pm
Sample Type:	CCB
Dilution Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	High Limit	Flag
7 Li	0.0778	97958.9 ppb	80.42	1.00	
9 Be	0.0022	95.6 ppb	106.96	1.00	
11 B	0.2966	2240.3 ppb	12.22	1.00	
23 Na	-5.3010	431402.9 ppb	52.88	1.00	
24 Mg	0.3550	46119.6 ppb	6.78	1.00	
27 Al	0.1541	34760.5 ppb	8.34	1.00	
28 Si	-0.1465	9190.3 ppb	104.16	1.00	
39 K	0.1309	34787.6 ppb	429.79	1.00	
40 Ca	0.3760	59162.1 ppb	34.81	1.00	
47 Ti	0.0438	188.9 ppb	47.14	1.00	
51 V	0.1211	1159.6 ppb	6.77	1.00	
52 Cr	0.0018	402.0 ppb	288.25	1.00	
55 Mn	0.0078	3640.7 ppb	92.59	1.00	
56 Fe	3.2790	76479.0 ppb	6.64	1.00	
59 Co	-0.0003	438.9 ppb	493.98	1.00	
60 Ni	0.0020	98.4 ppb	102.12	1.00	
63 Cu	0.0104	515.6 ppb	12.93	1.00	
66 Zn	-0.1097	2909.3 ppb	18.07	1.00	
75 As	0.0356	66.2 ppb	34.51	1.00	
78 Se	0.0542	43.3 ppb	37.40	1.00	
88 Sr	-0.0124	582.3 ppb	20.04	1.00	
89 Y	--------	4765229.0 ppb	--------	1.00	
90 Zr	-0.0116	1106.8 ppb	38.48	1.00	
95 Mo	0.1690	1414.6 ppb	14.84	1.00	
107 Ag	0.0118	403.4 ppb	4.47	1.00	
111 Cd	0.0119	2443.7 ppb	74.55	1.00	
118 Sn	0.0757	1624.6 ppb	9.45	1.00	
121 Sb	0.5893	9749.8 ppb	15.62	1.00	
137 Ba	0.0034	131.1 ppb	108.21	1.00	
157 Gd	-25.3500	2.2 ppb	27.74	1.00	
182 W	0.2394	3305.0 ppb	9.40	1.00	
195 Pt	-0.0045	66.7 ppb	34.45	1.00	
197 Au	--------	4.4 ppb	--------	1.00	
205 Tl	0.0318	1167.9 ppb	12.38	1.00	
208 Pb	0.0004	1599.1 ppb	3079.40	1.00	
232 Th	0.0355	1615.7 ppb	22.88	1.00	
235 U	0.0000	5.6 ppb	415.28	1.00	
238 U	0.0056	461.1 ppb	24.60	1.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1533193.9	0.61	1462063.40	104.9	60 - 125	
45 Sc	1979153.5	3.25	2079052.30	95.2	60 - 125	
45 Sc	133024.3	0.85	138937.50	95.7	60 - 125	
45 Sc	3370939.8	0.26	3322690.30	101.5	60 - 125	
72 Ge	406165.6	0.82	414358.66	98.0	60 - 125	
72 Ge	77472.8	0.47	81558.63	95.0	60 - 125	
72 Ge	711981.8	0.72	697602.94	102.1	60 - 125	
115 In	4325526.0	0.98	4198228.50	103.0	60 - 125	
159 Tb	5177128.0	0.73	4961901.50	104.3	60 - 125	
209 Bi	2954095.8	0.24	2889393.80	102.2	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Pass

7672

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23039.D\98C23039.D#
Date Acquired: Mar 28 2006 08:35 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C106-04
Misc Info:
Vial Number: 2505
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	298399.5	0.0000	15.0700	ppb	2.14	250.00	
9 Be	# 3	6	2096.9	0.0000	0.4676	ppb	2.30	500.00	
11 B	# 3	6	13898.9	0.0000	4.6550	ppb	1.88	400.00	
23 Na	# 1	45	4302048.0	0.0000	770.1000	ppb	3.12	400000.00	
24 Mg	# 3	45	162209900.0	0.0000	11400.0000	ppb	0.34	200000.00	
27 Al	# 3	45	139611100.0	0.0000	7611.0000	ppb	0.62	100000.00	
28 Si	# 1	45	297915.5	0.0000	152.3000	ppb	13.62	50000.00	
39 K	# 2	45	472102.3	0.0000	1462.0000	ppb	0.76	400000.00	
40 Ca	# 1	45	440588990.0	0.0000	45560.0000	ppb	3.28	200000.00	
47 Ti	# 3	45	1091013.0	0.0000	536.7000	ppb	0.60	3000.00	
51 V	# 2	45	78976.4	0.0000	25.4200	ppb	1.00	3000.00	
52 Cr	# 2	45	33665.4	0.0000	9.0390	ppb	1.20	3000.00	
55 Mn	# 3	45	7534418.0	0.0000	235.0000	ppb	0.52	3000.00	
56 Fe	# 1	45	122611500.0	0.0000	9498.0000	ppb	2.72	200000.00	
59 Co	# 3	45	150825.8	0.0000	5.8320	ppb	0.44	3000.00	
60 Ni	# 2	45	21496.0	0.0000	13.3900	ppb	0.84	3000.00	
63 Cu	# 2	45	55403.9	0.0000	12.7400	ppb	0.46	3000.00	
66 Zn	# 3	72	107462.1	0.0000	25.6300	ppb	0.70	3000.00	
75 As	# 2	72	1842.6	0.0000	3.4420	ppb	0.76	3000.00	
78 Se	# 1	72	91.3	0.0000	0.1815	ppb	11.53	3000.00	
88 Sr	# 3	72	8273454.0	0.0000	235.6000	ppb	0.22	3000.00	
89 Y	# 3	---	4865509.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	505426.7	0.0000	21.8200	ppb	0.33	1000.00	
95 Mo	# 3	115	2924.9	0.0000	0.4234	ppb	1.46	3000.00	
107 Ag	# 3	115	994.5	0.0000	0.0499	ppb	4.97	250.00	
111 Cd	# 3	115	3394.9	0.0000	0.3322	ppb	4.25	3000.00	
118 Sn	# 3	115	24854.6	0.0000	2.4150	ppb	0.50	3000.00	
121 Sb	# 3	115	4896.7	0.0000	0.2964	ppb	8.46	3000.00	
137 Ba	# 3	115	633047.2	0.0000	131.3000	ppb	0.59	3000.00	
157 Gd	# 3	115	27145.6	0.0000	106300.0000	ppb	0.93	3000.00	>LRS
182 W	# 3	209	5766.1	0.0000	0.4708	ppb	5.63	1000.00	
195 Pt	# 3	209	82.2	0.0000	-0.0019	ppb	175.99	#VALUE!	
197 Au	# 3	209	37.8	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	2240.3	0.0000	0.0788	ppb	4.66	3000.00	
208 Pb	# 3	209	174590.1	0.0000	5.3650	ppb	0.50	3000.00	
232 Th	# 3	209	203903.2	0.0000	7.0240	ppb	0.48	1000.00	
235 U	# 3	209	227.8	0.0000	0.0065	ppb	24.52	3000.00	
238 U	# 3	209	31805.7	0.0000	0.9437	ppb	1.56	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1380285.80	1.89	1462063.40	94.4	60 - 125	
45 Sc # 1	2039515.40	1.93	2079052.30	98.1	60 - 125	
45 Sc # 2	127402.15	0.53	138937.50	91.7	60 - 125	
45 Sc # 3	3223710.00	0.79	3322690.30	97.0	60 - 125	
72 Ge # 1	393169.72	0.58	414358.66	94.9	60 - 125	
72 Ge # 2	73686.38	0.96	81558.63	90.3	60 - 125	
72 Ge # 3	659718.06	0.60	697602.94	94.6	60 - 125	
115 In # 3	4021997.00	0.27	4198228.50	95.8	60 - 125	
159 Tb # 3	4969404.50	0.53	4961901.50	100.2	60 - 125	
209 Bi # 3	2817272.00	0.63	2889393.80	97.5	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

7873

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23040.D\98C23040.D#
Date Acquired: Mar 28 2006 08:43 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C106-05
Misc Info:
Vial Number: 2506
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	229240.1	0.0000	9.7130	ppb	2.36	250.00	
9 Be	# 3	6	1764.6	0.0000	0.3802	ppb	4.67	500.00	
11 B	# 3	6	10682.5	0.0000	3.3730	ppb	2.61	400.00	
23 Na	# 1	45	3570843.0	0.0000	628.9000	ppb	3.18	400000.00	
24 Mg	# 3	45	91171312.0	0.0000	6291.0000	ppb	0.57	200000.00	
27 Al	# 3	45	115100500.0	0.0000	6162.0000	ppb	0.12	100000.00	
28 Si	# 1	45	2687196.0	0.0000	1423.0000	ppb	7.16	50000.00	
39 K	# 2	45	337016.0	0.0000	1004.0000	ppb	1.41	400000.00	
40 Ca	# 1	45	136609900.0	0.0000	14240.0000	ppb	3.28	200000.00	
47 Ti	# 3	45	966241.7	0.0000	466.8000	ppb	0.60	3000.00	
51 V	# 2	45	72720.0	0.0000	23.2300	ppb	1.27	3000.00	
52 Cr	# 2	45	29803.3	0.0000	7.9380	ppb	1.24	3000.00	
55 Mn	# 3	45	11172140.0	0.0000	342.3000	ppb	0.48	3000.00	
56 Fe	# 1	45	99036232.0	0.0000	7734.0000	ppb	3.13	200000.00	
59 Co	# 3	45	163324.2	0.0000	6.2030	ppb	0.55	3000.00	
60 Ni	# 2	45	20390.6	0.0000	12.6100	ppb	1.27	3000.00	
63 Cu	# 2	45	154819.8	0.0000	35.5500	ppb	1.24	3000.00	
66 Zn	# 3	72	139332.5	0.0000	32.4400	ppb	0.72	3000.00	
75 As	# 2	72	1243.6	0.0000	2.2530	ppb	1.41	3000.00	
78 Se	# 1	72	86.0	0.0000	0.1632	ppb	12.82	3000.00	
88 Sr	# 3	72	6221526.0	0.0000	171.9000	ppb	0.26	3000.00	
89 Y	# 3	---	4996051.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	414208.6	0.0000	17.3400	ppb	0.35	1000.00	
95 Mo	# 3	115	3656.2	0.0000	0.5294	ppb	6.15	3000.00	
107 Ag	# 3	115	775.6	0.0000	0.0356	ppb	5.90	250.00	
111 Cd	# 3	115	3246.5	0.0000	0.2741	ppb	25.62	3000.00	
118 Sn	# 3	115	24098.9	0.0000	2.2990	ppb	1.95	3000.00	
121 Sb	# 3	115	1819.1	0.0000	0.0783	ppb	8.54	3000.00	
137 Ba	# 3	115	707326.8	0.0000	144.2000	ppb	0.29	3000.00	
157 Gd	# 3	115	34273.7	0.0000	132000.0000	ppb	1.11	3000.00	>LRS
182 W	# 3	209	6289.7	0.0000	0.5075	ppb	1.22	1000.00	
195 Pt	# 3	209	53.3	0.0000	-0.0060	ppb	6.51	#VALUE!	
197 Au	# 3	209	14.4	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	2299.2	0.0000	0.0796	ppb	2.26	3000.00	
208 Pb	# 3	209	195033.6	0.0000	5.8950	ppb	0.45	3000.00	
232 Th	# 3	209	202237.1	0.0000	6.8460	ppb	0.89	1000.00	
235 U	# 3	209	207.8	0.0000	0.0058	ppb	16.58	3000.00	
238 U	# 3	209	24595.8	0.0000	0.7154	ppb	0.36	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1417243.40	0.91	1462063.40	96.9	60 - 125	
45 Sc # 1	2023273.50	2.26	2079052.30	97.3	60 - 125	
45 Sc # 2	128231.80	0.93	138937.50	92.3	60 - 125	
45 Sc # 3	3282441.50	0.63	3322690.30	98.8	60 - 125	
72 Ge # 1	401347.66	0.70	414358.66	96.9	60 - 125	
72 Ge # 2	75015.18	0.60	81558.63	92.0	60 - 125	
72 Ge # 3	679939.63	0.48	697602.94	97.5	60 - 125	
115 In # 3	4091053.80	0.39	4198228.50	97.4	60 - 125	
159 Tb # 3	5004197.00	0.60	4961901.50	100.9	60 - 125	
209 Bi # 3	2866620.50	0.90	2889393.80	99.2	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23041.D\98C23041.D#
Date Acquired: Mar 28 2006 08:51 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C106-06
Misc Info:
Vial Number: 2507
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	273541.3	0.0000	12.6900	ppb	1.78	250.00	
9 Be	# 3	6	2274.7	0.0000	0.4925	ppb	1.76	500.00	
11 B	# 3	6	13121.4	0.0000	4.2190	ppb	1.92	400.00	
23 Na	# 1	45	3766326.0	0.0000	672.6000	ppb	4.90	400000.00	
24 Mg	# 3	45	117289400.0	0.0000	8030.0000	ppb	0.76	200000.00	
27 Al	# 3	45	142973100.0	0.0000	7595.0000	ppb	0.52	100000.00	
28 Si	# 1	45	349553.9	0.0000	181.8000	ppb	4.16	50000.00	
39 K	# 2	45	438131.5	0.0000	1329.0000	ppb	1.15	400000.00	
40 Ca	# 1	45	224536610.0	0.0000	23530.0000	ppb	3.27	200000.00	
47 Ti	# 3	45	1122799.0	0.0000	538.1000	ppb	0.69	3000.00	
51 V	# 2	45	87833.8	0.0000	27.9100	ppb	1.24	3000.00	
52 Cr	# 2	45	35666.7	0.0000	9.4530	ppb	1.00	3000.00	
55 Mn	# 3	45	7878318.0	0.0000	239.4000	ppb	0.58	3000.00	
56 Fe	# 1	45	146722800.0	0.0000	11520.0000	ppb	3.61	200000.00	
59 Co	# 3	45	168008.8	0.0000	6.3310	ppb	0.77	3000.00	
60 Ni	# 2	45	22838.0	0.0000	14.0400	ppb	1.38	3000.00	
63 Cu	# 2	45	253973.9	0.0000	57.9800	ppb	1.77	3000.00	
66 Zn	# 3	72	193227.4	0.0000	45.4900	ppb	0.67	3000.00	
75 As	# 2	72	1728.8	0.0000	3.1790	ppb	3.18	3000.00	
78 Se	# 1	72	94.4	0.0000	0.1857	ppb	15.92	3000.00	
88 Sr	# 3	72	7303437.0	0.0000	202.7000	ppb	0.44	3000.00	
89 Y	# 3	---	5046825.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	569093.3	0.0000	23.9500	ppb	0.79	1000.00	
95 Mo	# 3	115	4273.1	0.0000	0.6264	ppb	2.01	3000.00	
107 Ag	# 3	115	1016.8	0.0000	0.0503	ppb	5.93	250.00	
111 Cd	# 3	115	3648.1	0.0000	0.3883	ppb	9.83	3000.00	
118 Sn	# 3	115	20304.0	0.0000	1.9290	ppb	1.66	3000.00	
121 Sb	# 3	115	2460.4	0.0000	0.1228	ppb	6.33	3000.00	
137 Ba	# 3	115	670832.6	0.0000	137.0000	ppb	1.14	3000.00	
157 Gd	# 3	115	35709.0	0.0000	137800.0000	ppb	1.36	3000.00	>LRS
182 W	# 3	209	5047.9	0.0000	0.4006	ppb	0.79	1000.00	
195 Pt	# 3	209	64.4	0.0000	-0.0045	ppb	3.71	#VALUE!	
197 Au	# 3	209	27.8	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	1935.8	0.0000	0.0649	ppb	7.94	3000.00	
208 Pb	# 3	209	201443.1	0.0000	6.1060	ppb	1.19	3000.00	
232 Th	# 3	209	238856.2	0.0000	8.1090	ppb	0.77	1000.00	
235 U	# 3	209	212.2	0.0000	0.0059	ppb	9.83	3000.00	
238 U	# 3	209	29429.3	0.0000	0.8597	ppb	1.15	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1424885.30	0.77	1462063.40	97.5	60 - 125	
45 Sc # 1	2013279.40	2.74	2079052.30	96.8	60 - 125	
45 Sc # 2	129131.55	1.05	138937.50	92.9	60 - 125	
45 Sc # 3	3308601.30	0.78	3322690.30	99.6	60 - 125	
72 Ge # 1	399367.94	0.43	414358.66	96.4	60 - 125	
72 Ge # 2	74711.07	0.14	81558.63	91.6	60 - 125	
72 Ge # 3	676974.00	0.46	697602.94	97.0	60 - 125	
115 In # 3	4084244.50	1.00	4198228.50	97.3	60 - 125	
159 Tb # 3	5011964.50	0.31	4961901.50	101.0	60 - 125	
209 Bi # 3	2859784.80	1.20	2889393.80	99.0	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

7875

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23042.D\98C23042.D#
Date Acquired: Mar 28 2006 08:59 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C106-07
Misc Info:
Vial Number: 2508
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	396527.5	0.0000	21.2400	ppb	1.48	250.00	
9 Be	# 3	6	1815.8	0.0000	0.3904	ppb	3.94	500.00	
11 B	# 3	6	20000.3	0.0000	6.6780	ppb	1.32	400.00	
23 Na	# 1	45	3240548.0	0.0000	570.2000	ppb	4.00	400000.00	
24 Mg	# 3	45	93580792.0	0.0000	6489.0000	ppb	0.10	200000.00	
27 Al	# 3	45	120900900.0	0.0000	6504.0000	ppb	0.22	100000.00	
28 Si	# 1	45	1505365.0	0.0000	806.1000	ppb	5.32	50000.00	
39 K	# 2	45	522807.6	0.0000	1635.0000	ppb	0.98	400000.00	
40 Ca	# 1	45	41735880.0	0.0000	4400.0000	ppb	3.38	200000.00	
47 Ti	# 3	45	615945.9	0.0000	299.0000	ppb	0.33	3000.00	
51 V	# 2	45	73732.3	0.0000	23.7700	ppb	0.52	3000.00	
52 Cr	# 2	45	27131.3	0.0000	7.2840	ppb	0.80	3000.00	
55 Mn	# 3	45	2964471.0	0.0000	91.1900	ppb	0.35	3000.00	
56 Fe	# 1	45	69968288.0	0.0000	5531.0000	ppb	3.80	200000.00	
59 Co	# 3	45	92714.7	0.0000	3.5310	ppb	0.62	3000.00	
60 Ni	# 2	45	15652.9	0.0000	9.7580	ppb	0.83	3000.00	
63 Cu	# 2	45	149111.5	0.0000	34.5500	ppb	0.73	3000.00	
66 Zn	# 3	72	108309.3	0.0000	25.3400	ppb	0.98	3000.00	
75 As	# 2	72	2663.2	0.0000	4.8970	ppb	2.66	3000.00	
78 Se	# 1	72	68.7	0.0000	0.1214	ppb	9.00	3000.00	
88 Sr	# 3	72	6485252.0	0.0000	181.2000	ppb	0.45	3000.00	
89 Y	# 3	---	4935506.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	380471.8	0.0000	16.1100	ppb	0.73	1000.00	
95 Mo	# 3	115	2568.1	0.0000	0.3618	ppb	3.02	3000.00	
107 Ag	# 3	115	761.2	0.0000	0.0350	ppb	11.07	250.00	
111 Cd	# 3	115	3144.6	0.0000	0.2493	ppb	12.04	3000.00	
118 Sn	# 3	115	28046.2	0.0000	2.6990	ppb	0.93	3000.00	
121 Sb	# 3	115	1280.1	0.0000	0.0415	ppb	14.33	3000.00	
137 Ba	# 3	115	385877.0	0.0000	78.9900	ppb	0.31	3000.00	
157 Gd	# 3	115	29034.3	0.0000	112300.0000	ppb	0.68	3000.00	>LRS
182 W	# 3	209	3191.7	0.0000	0.2405	ppb	7.32	1000.00	
195 Pt	# 3	209	46.7	0.0000	-0.0069	ppb	29.03	#VALUE!	
197 Au	# 3	209	24.4	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	2164.7	0.0000	0.0749	ppb	2.67	3000.00	
208 Pb	# 3	209	152773.7	0.0000	4.6480	ppb	0.20	3000.00	
232 Th	# 3	209	201221.5	0.0000	6.8700	ppb	0.48	1000.00	
235 U	# 3	209	252.2	0.0000	0.0071	ppb	15.43	3000.00	
238 U	# 3	209	32900.0	0.0000	0.9678	ppb	1.17	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1422027.00	1.14	1462063.40	97.3	60 - 125	
45 Sc # 1	1998666.60	2.44	2079052.30	96.1	60 - 125	
45 Sc # 2	127069.63	0.58	138937.50	91.5	60 - 125	
45 Sc # 3	3266658.30	0.51	3322690.30	98.3	60 - 125	
72 Ge # 1	396876.19	0.13	414358.66	95.8	60 - 125	
72 Ge # 2	75406.58	0.10	81558.63	92.5	60 - 125	
72 Ge # 3	672232.38	0.58	697602.94	96.4	60 - 125	
115 In # 3	4074522.00	0.63	4198228.50	97.1	60 - 125	
159 Tb # 3	4996831.00	1.13	4961901.50	100.7	60 - 125	
209 Bi # 3	2842217.80	0.65	2889393.80	98.4	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

7875

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23043.D\98C23043.D#
Date Acquired: Mar 28 2006 09:07 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C106-08
Misc Info:
Vial Number: 2509
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	343384.1	0.0000	17.2200	ppb	1.24	250.00	
9 Be	# 3	6	1804.6	0.0000	0.3822	ppb	7.50	500.00	
11 B	# 3	6	24791.8	0.0000	8.2580	ppb	0.85	400.00	
23 Na	# 1	45	4333282.0	0.0000	800.7000	ppb	3.58	400000.00	
24 Mg	# 3	45	116116000.0	0.0000	7983.0000	ppb	0.15	200000.00	
27 Al	# 3	45	147506700.0	0.0000	7868.0000	ppb	0.93	100000.00	
28 Si	# 1	45	196198.5	0.0000	101.3000	ppb	1.15	50000.00	
39 K	# 2	45	638267.9	0.0000	1994.0000	ppb	1.60	400000.00	
40 Ca	# 1	45	45194992.0	0.0000	4799.0000	ppb	3.61	200000.00	
47 Ti	# 3	45	884217.2	0.0000	425.5000	ppb	0.57	3000.00	
51 V	# 2	45	82428.4	0.0000	26.2700	ppb	1.29	3000.00	
52 Cr	# 2	45	33593.5	0.0000	8.9300	ppb	1.62	3000.00	
55 Mn	# 3	45	5311179.0	0.0000	162.0000	ppb	0.56	3000.00	
56 Fe	# 1	45	102677800.0	0.0000	8176.0000	ppb	3.47	200000.00	
59 Co	# 3	45	162681.3	0.0000	6.1550	ppb	0.68	3000.00	
60 Ni	# 2	45	32140.0	0.0000	19.8400	ppb	1.05	3000.00	
63 Cu	# 2	45	142808.6	0.0000	32.6700	ppb	1.38	3000.00	
66 Zn	# 3	72	137217.9	0.0000	32.2600	ppb	0.31	3000.00	
75 As	# 2	72	4942.3	0.0000	9.1910	ppb	1.07	3000.00	
78 Se	# 1	72	72.4	0.0000	0.1311	ppb	11.66	3000.00	
88 Sr	# 3	72	7599719.0	0.0000	212.0000	ppb	0.14	3000.00	
89 Y	# 3	---	4957719.0	====	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	495854.3	0.0000	20.9700	ppb	0.15	1000.00	
95 Mo	# 3	115	3269.5	0.0000	0.4730	ppb	1.61	3000.00	
107 Ag	# 3	115	971.2	0.0000	0.0479	ppb	11.54	250.00	
111 Cd	# 3	115	3344.2	0.0000	0.3085	ppb	14.81	3000.00	
118 Sn	# 3	115	23821.7	0.0000	2.2890	ppb	1.89	3000.00	
121 Sb	# 3	115	1602.4	0.0000	0.0642	ppb	12.10	3000.00	
137 Ba	# 3	115	700844.3	0.0000	144.0000	ppb	0.37	3000.00	
157 Gd	# 3	115	28892.9	0.0000	112100.0000	ppb	0.60	3000.00	>LRS
182 W	# 3	209	3210.6	0.0000	0.2448	ppb	4.55	1000.00	
195 Pt	# 3	209	52.2	0.0000	-0.0060	ppb	48.27	#VALUE!	
197 Au	# 3	209	12.2	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	3106.1	0.0000	0.1150	ppb	0.80	3000.00	
208 Pb	# 3	209	211833.7	0.0000	6.5250	ppb	0.37	3000.00	
232 Th	# 3	209	214479.5	0.0000	7.3940	ppb	0.97	1000.00	
235 U	# 3	209	175.6	0.0000	0.0049	ppb	11.02	3000.00	
238 U	# 3	209	24112.5	0.0000	0.7142	ppb	1.73	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1442487.50	0.81	1462063.40	98.7	60 - 125	
45 Sc # 1	1984482.30	2.63	2079052.30	95.5	60 - 125	
45 Sc # 2	128672.98	0.59	138937.50	92.6	60 - 125	
45 Sc # 3	3294968.80	0.52	3322690.30	99.2	60 - 125	
72 Ge # 1	396871.28	0.44	414358.66	95.8	60 - 125	
72 Ge # 2	75160.71	0.98	81558.63	92.2	60 - 125	
72 Ge # 3	673340.19	0.03	697602.94	96.5	60 - 125	
115 In # 3	4061154.00	0.28	4198228.50	96.7	60 - 125	
159 Tb # 3	4943993.50	0.41	4961901.50	99.6	60 - 125	
209 Bi # 3	2815342.00	0.24	2889393.80	97.4	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

7677

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23044.D\98C23044.D#
Date Acquired: Mar 28 2006 09:15 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C106-09
Misc Info:
Vial Number: 2510
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	660044.7	0.0000	38.4100	ppb	1.60	250.00	
9 Be	# 3	6	2579.3	0.0000	0.5482	ppb	2.54	500.00	
11 B	# 3	6	29588.4	0.0000	9.8430	ppb	0.56	400.00	
23 Na	# 1	45	3794835.0	0.0000	680.1000	ppb	3.46	400000.00	
24 Mg	# 3	45	173232500.0	0.0000	11880.0000	ppb	0.27	200000.00	
27 Al	# 3	45	193909900.0	0.0000	10320.0000	ppb	0.01	100000.00	
28 Si	# 1	45	258299.7	0.0000	133.3000	ppb	2.23	50000.00	
39 K	# 2	45	820694.4	0.0000	2530.0000	ppb	0.93	400000.00	
40 Ca	# 1	45	100892300.0	0.0000	10590.0000	ppb	2.66	200000.00	
47 Ti	# 3	45	1168058.0	0.0000	560.7000	ppb	0.28	3000.00	
51 V	# 2	45	81672.0	0.0000	25.3900	ppb	1.45	3000.00	
52 Cr	# 2	45	63912.9	0.0000	16.6600	ppb	1.41	3000.00	
55 Mn	# 3	45	12255900.0	0.0000	373.1000	ppb	0.58	3000.00	
56 Fe	# 1	45	130603800.0	0.0000	10280.0000	ppb	2.70	200000.00	
59 Co	# 3	45	144815.4	0.0000	5.4640	ppb	0.79	3000.00	
60 Ni	# 2	45	35395.8	0.0000	21.3300	ppb	1.53	3000.00	
63 Cu	# 2	45	54613.8	0.0000	12.1200	ppb	1.12	3000.00	
66 Zn	# 3	72	120913.7	0.0000	28.2100	ppb	0.82	3000.00	
75 As	# 2	72	6986.8	0.0000	12.6900	ppb	0.73	3000.00	
78 Se	# 1	72	73.3	0.0000	0.1333	ppb	12.97	3000.00	
88 Sr	# 3	72	5973734.0	0.0000	165.9000	ppb	0.70	3000.00	
89 Y	# 3	---	4887886.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	623965.0	0.0000	26.2900	ppb	0.32	1000.00	
95 Mo	# 3	115	5664.8	0.0000	0.8461	ppb	0.44	3000.00	
107 Ag	# 3	115	1109.0	0.0000	0.0561	ppb	5.64	250.00	
111 Cd	# 3	115	3592.9	0.0000	0.3763	ppb	5.28	3000.00	
118 Sn	# 3	115	31536.9	0.0000	3.0470	ppb	0.21	3000.00	
121 Sb	# 3	115	1821.3	0.0000	0.0791	ppb	3.30	3000.00	
137 Ba	# 3	115	805124.8	0.0000	165.0000	ppb	0.56	3000.00	
157 Gd	# 3	115	23269.8	0.0000	90050.0000	ppb	2.31	3000.00	>LRS
182 W	# 3	209	6686.6	0.0000	0.5503	ppb	0.94	1000.00	
195 Pt	# 3	209	45.6	0.0000	-0.0070	ppb	20.20	#VALUE!	
197 Au	# 3	209	26.7	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	9336.3	0.0000	0.3734	ppb	1.13	3000.00	
208 Pb	# 3	209	202654.8	0.0000	6.2150	ppb	0.29	3000.00	
232 Th	# 3	209	209812.1	0.0000	7.2040	ppb	0.71	1000.00	
235 U	# 3	209	268.9	0.0000	0.0076	ppb	9.72	3000.00	
238 U	# 3	209	38495.0	0.0000	1.1400	ppb	1.26	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1456275.10	0.92	1462063.40	99.6	60 - 125	
45 Sc # 1	2007893.30	1.81	2079052.30	96.6	60 - 125	
45 Sc # 2	131900.73	1.39	138937.50	94.9	60 - 125	
45 Sc # 3	3303105.50	0.11	3322690.30	99.4	60 - 125	
72 Ge # 1	397032.00	0.40	414358.66	95.8	60 - 125	
72 Ge # 2	77124.30	0.40	81558.63	94.6	60 - 125	
72 Ge # 3	676185.50	0.33	697602.94	96.9	60 - 125	
115 In # 3	4071296.30	0.87	4198228.50	97.0	60 - 125	
159 Tb # 3	4970441.50	0.46	4961901.50	100.2	60 - 125	
209 Bi # 3	2826764.00	0.52	2889393.80	97.8	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

7678

Sample QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23045.D\98C23045.D#
Date Acquired: Mar 28 2006 09:23 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: C106-10
Misc Info:
Vial Number: 2511
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	755186.5	0.0000	44.1000	ppb	0.44	250.00	
9 Be	# 3	6	2776.0	0.0000	0.5826	ppb	1.72	500.00	
11 B	# 3	6	46614.1	0.0000	15.5300	ppb	0.77	400.00	
23 Na	# 1	45	2566028.0	0.0000	424.0000	ppb	3.65	400000.00	
24 Mg	# 3	45	240725900.0	0.0000	15920.0000	ppb	0.29	200000.00	
27 Al	# 3	45	236957300.0	0.0000	12160.0000	ppb	0.75	100000.00	
28 Si	# 1	45	465087.6	0.0000	241.7000	ppb	2.09	50000.00	
39 K	# 2	45	1032470.0	0.0000	3213.0000	ppb	1.26	400000.00	
40 Ca	# 1	45	38121392.0	0.0000	3959.0000	ppb	3.05	200000.00	
47 Ti	# 3	45	1182009.0	0.0000	547.2000	ppb	0.62	3000.00	
51 V	# 2	45	83656.1	0.0000	26.0200	ppb	1.13	3000.00	
52 Cr	# 2	45	71376.7	0.0000	18.6300	ppb	1.21	3000.00	
55 Mn	# 3	45	8083336.0	0.0000	237.3000	ppb	0.60	3000.00	
56 Fe	# 1	45	148153410.0	0.0000	11540.0000	ppb	2.92	200000.00	
59 Co	# 3	45	146917.4	0.0000	5.3450	ppb	0.93	3000.00	
60 Ni	# 2	45	37852.5	0.0000	22.8200	ppb	1.28	3000.00	
63 Cu	# 2	45	52564.8	0.0000	11.6700	ppb	0.63	3000.00	
66 Zn	# 3	72	150871.3	0.0000	34.3300	ppb	0.61	3000.00	
75 As	# 2	72	10501.0	0.0000	19.2800	ppb	0.95	3000.00	
78 Se	# 1	72	63.6	0.0000	0.1079	ppb	13.74	3000.00	
88 Sr	# 3	72	2864055.0	0.0000	77.2100	ppb	0.37	3000.00	
89 Y	# 3	---	4953352.0	----	--------	ppb	--------	#VALUE!	
90 Zr	# 3	72	590027.0	0.0000	24.1300	ppb	0.88	1000.00	
95 Mo	# 3	115	3135.0	0.0000	0.4441	ppb	4.56	3000.00	
107 Ag	# 3	115	993.4	0.0000	0.0483	ppb	13.07	250.00	
111 Cd	# 3	115	3523.2	0.0000	0.3431	ppb	12.09	3000.00	
118 Sn	# 3	115	17691.0	0.0000	1.6520	ppb	1.22	3000.00	
121 Sb	# 3	115	1936.9	0.0000	0.0853	ppb	8.55	3000.00	
137 Ba	# 3	115	289381.5	0.0000	58.4800	ppb	0.96	3000.00	
157 Gd	# 3	115	18668.4	0.0000	71250.0000	ppb	1.21	3000.00	>LRS
182 W	# 3	209	4393.2	0.0000	0.3436	ppb	6.40	1000.00	
195 Pt	# 3	209	52.2	0.0000	-0.0061	ppb	27.71	#VALUE!	
197 Au	# 3	209	22.2	----	--------	ppb	--------	#VALUE!	
205 Tl	# 3	209	5335.9	0.0000	0.2046	ppb	1.70	3000.00	
208 Pb	# 3	209	205550.2	0.0000	6.2310	ppb	1.12	3000.00	
232 Th	# 3	209	193758.8	0.0000	6.5750	ppb	0.80	1000.00	
235 U	# 3	209	356.7	0.0000	0.0101	ppb	9.42	3000.00	
238 U	# 3	209	45007.3	0.0000	1.3190	ppb	1.79	3000.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1477696.00	0.26	1462063.40	101.1	60 - 125	
45 Sc # 1	2028027.50	1.97	2079052.30	97.5	60 - 125	
45 Sc # 2	131836.91	1.17	138937.50	94.9	60 - 125	
45 Sc # 3	3425428.50	0.53	3322690.30	103.1	60 - 125	
72 Ge # 1	398031.31	0.16	414358.66	96.1	60 - 125	
72 Ge # 2	76473.96	0.31	81558.63	93.8	60 - 125	
72 Ge # 3	696606.75	0.28	697602.94	99.9	60 - 125	
115 In # 3	4127209.50	0.27	4198228.50	98.3	60 - 125	
159 Tb # 3	5045181.00	0.45	4961901.50	101.7	60 - 125	
209 Bi # 3	2859620.50	1.08	2889393.80	99.0	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

7875

ICS-A QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23046.D\98C23046.D#
Date Acquired:	Mar 28 2006 09:31 pm
Acq. Method:	EMAX6020.M
Operator:	JEE
Sample Name:	ICSA2
Misc Info:	
Vial Number:	1201
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update:	Mar 28 2006 03:21 pm
Sample Type:	ICS-A
Dilution Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	High Limit	Flag
7 Li	1.00	110084.4 ppb	2.09	---	
9 Be	0.01	152.2 ppb	60.96	---	
11 B	2.32	8192.8 ppb	2.25	---	
23 Na	96530.00	513841410.0 ppb	3.61	---	
24 Mg	91730.00	1497913000.0 ppb	0.33	---	
27 Al	92860.00	1954727000.0 ppb	0.58	---	
28 Si	17.85	46561.4 ppb	7.46	---	
39 K	90060.00	31040940.0 ppb	1.06	---	
40 Ca	99280.00	1026326000.0 ppb	3.14	---	
47 Ti	2005.00	4678178.0 ppb	0.49	---	
51 V	0.07	1084.9 ppb	21.72	---	
52 Cr	0.47	2423.1 ppb	2.06	---	
55 Mn	2.37	90681.7 ppb	1.07	---	
56 Fe	98270.00	1355821100.0 ppb	3.36	---	
59 Co	2.51	74840.3 ppb	0.61	---	
60 Ni	0.77	1511.2 ppb	0.20	---	
63 Cu	1.78	9316.5 ppb	1.08	---	
66 Zn	4.13	23706.1 ppb	2.50	---	
75 As	0.11	126.4 ppb	12.33	---	
78 Se	0.06	52.4 ppb	34.18	---	
88 Sr	2.98	125716.1 ppb	0.70	---	
89 Y	--------	5083028.0 ppb	--------	---	
90 Zr	1.50	42805.0 ppb	6.95	---	
95 Mo	2057.00	13737710.0 ppb	0.90	---	
107 Ag	0.08	1648.0 ppb	2.54	---	
111 Cd	0.53	4303.9 ppb	16.03	---	
118 Sn	0.10	1875.8 ppb	3.30	---	
121 Sb	2.30	35303.5 ppb	2.15	---	
137 Ba	0.69	3617.4 ppb	3.11	---	
157 Gd	213.60	66.7 ppb	45.90	---	
182 W	0.27	3834.1 ppb	1.56	---	
195 Pt	0.02	263.3 ppb	13.11	---	
197 Au	--------	11.1 ppb	--------	---	
205 Tl	0.03	1033.4 ppb	11.36	---	
208 Pb	0.64	23934.8 ppb	0.95	---	
232 Th	0.07	2716.0 ppb	3.19	---	
235 U	0.00	13.3 ppb	54.99	---	
238 U	0.02	826.7 ppb	13.98	---	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1502502.3	1.78	1462063.40	102.8	60 - 125	
45 Sc	2180790.8	2.47	2079052.30	104.9	60 - 125	
45 Sc	146082.9	0.85	138937.50	105.1	60 - 125	
45 Sc	3700285.3	1.83	3322690.30	111.4	60 - 125	
72 Ge	473334.9	0.93	414358.66	114.2	60 - 125	
72 Ge	91646.9	0.73	81558.63	112.4	60 - 125	
72 Ge	784104.3	1.20	697602.94	112.4	60 - 125	
115 In	4248387.0	1.69	4198228.50	101.2	60 - 125	
159 Tb	5454956.5	1.54	4961901.50	109.9	60 - 125	
209 Bi	3042453.0	2.12	2889393.80	105.3	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Pass

7086

ICS-AB QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23047.D\98C23047.D#
Date Acquired:	Mar 28 2006 09:40 pm
Acq. Method:	EMAX6020.M
Operator:	JEE
Sample Name:	ICSAB2
Misc Info:	
Vial Number:	1202
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update:	Mar 28 2006 03:21 pm
Sample Type:	ICS-AB
Dilution Factor:	1.00

QC Elements

Element	Conc.	CPS		Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	18.27	343375.4	ppb	0.59	20.00	80 - 120	
9 Be	18.25	78902.6	ppb	0.65	20.00	80 - 120	
11 B	20.38	56776.8	ppb	1.27	20.00	80 - 120	
23 Na	100100.00	476590210.0	ppb	3.37	100000.00	80 - 120	
24 Mg	96370.00	1385270000.0	ppb	0.48	100000.00	80 - 120	
27 Al	97640.00	1809119000.0	ppb	0.37	100000.00	80 - 120	
28 Si	2100.00	3813753.0	ppb	3.04	2000.00	80 - 120	
39 K	96610.00	29320960.0	ppb	0.71	100000.00	80 - 120	
40 Ca	102600.00	948820930.0	ppb	3.32	100000.00	80 - 120	
47 Ti	2114.00	4341723.0	ppb	0.75	2000.00	80 - 120	
51 V	20.46	64349.9	ppb	0.77	20.00	80 - 120	
52 Cr	20.60	76977.1	ppb	0.23	20.00	80 - 120	
55 Mn	21.88	711853.7	ppb	0.51	20.00	80 - 120	
56 Fe	102900.00	1269214000.0	ppb	3.24	100000.00	80 - 120	
59 Co	19.44	507041.3	ppb	0.63	20.00	80 - 120	
60 Ni	19.90	32214.6	ppb	0.73	20.00	80 - 120	
63 Cu	20.94	91681.1	ppb	0.81	20.00	80 - 120	
66 Zn	22.00	95083.6	ppb	0.06	20.00	80 - 120	
75 As	18.64	10748.6	ppb	0.75	20.00	80 - 120	
78 Se	20.13	8403.0	ppb	0.45	20.00	80 - 120	
88 Sr	22.54	813178.8	ppb	0.63	20.00	80 - 120	
89 Y	--------	4618529.0	ppb	--------	20.00	80 - 120	
90 Zr	18.86	448281.9	ppb	0.10	20.00	80 - 120	
95 Mo	2124.00	12995450.0	ppb	0.36	2000.00	80 - 120	
107 Ag	18.68	294743.3	ppb	0.05	20.00	80 - 120	
111 Cd	20.10	70366.0	ppb	1.00	20.00	80 - 120	
118 Sn	19.77	191652.2	ppb	0.75	20.00	80 - 120	
121 Sb	20.04	277236.5	ppb	0.85	20.00	80 - 120	
137 Ba	22.44	104811.6	ppb	0.35	20.00	80 - 120	
157 Gd	232.00	65.6	ppb	18.94	20.00	80 - 120	Fail
182 W	19.27	209796.1	ppb	1.01	20.00	80 - 120	
195 Pt	19.16	134786.1	ppb	0.45	20.00	80 - 120	
197 Au	--------	23.3	ppb	--------	20.00	80 - 120	
205 Tl	19.14	441532.1	ppb	0.98	20.00	80 - 120	
208 Pb	19.80	615513.7	ppb	0.56	20.00	80 - 120	
232 Th	26.45	736993.4	ppb	0.57	20.00	80 - 120	Fail
235 U	0.04	1332.4	ppb	1.95	0.14	80 - 120	Fail
238 U	20.24	650816.5	ppb	0.39	19.86	80 - 120	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1380573.4	0.08	1462063.40	94.4	60 - 125	
45 Sc	1950265.6	1.96	2079052.30	93.8	60 - 125	
45 Sc	128635.1	0.35	138937.50	92.6	60 - 125	
45 Sc	3257067.8	0.20	3322690.30	98.0	60 - 125	
72 Ge	421569.0	0.39	414358.66	101.7	60 - 125	
72 Ge	80956.8	0.23	81558.63	99.3	60 - 125	
72 Ge	676816.8	0.44	697602.94	97.0	60 - 125	
115 In	3893565.0	0.38	4198228.50	92.7	60 - 125	
159 Tb	4943881.5	0.24	4961901.50	99.6	60 - 125	
209 Bi	2709003.5	0.55	2889393.80	93.8	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

3 :Element Failures	0 :Max. Number of Failures Allowed
0 :ISTD Failures	0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Fail
ISTD:	Pass

7881

Blank QC Report

Data File: D:\DATA\I982006\C\I98C23.B\98C23048.D\98C23048.D#
Date Acquired: Mar 28 2006 09:48 pm
Acq. Method: EMAX6020.M
Operator: JEE
Sample Name: BLANK
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File: C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update: Mar 28 2006 03:21 pm
Sample Type: Blank
Dilution Factor: 1.00

QC Elements

Element	Corr. Conc.		CPS	RSD(%)	Conc Raw Conc.	High Limit	Flag
7 Li	-0.00671	ppb	94918.5	872.18	-0.006705	---	
9 Be	0.00726	ppb	117.8	43.64	0.007255	---	
11 B	0.14770	ppb	1756.9	5.70	0.1477	---	
23 Na	55.81000	ppb	684231.3	1.85	55.81	---	
24 Mg	9.63300	ppb	177945.6	1.05	9.633	---	
27 Al	8.43700	ppb	187072.9	1.35	8.437	---	
28 Si	1.08700	ppb	10785.3	29.33	1.087	---	
39 K	12.73000	ppb	38249.5	20.37	12.73	---	
40 Ca	14.65000	ppb	181948.0	5.00	14.65	---	
47 Ti	0.54620	ppb	1214.6	10.79	0.5462	---	
51 V	0.00569	ppb	778.7	124.07	0.005692	---	
52 Cr	-0.00382	ppb	375.6	113.09	-0.00382	---	
55 Mn	-0.00412	ppb	3132.7	75.05	-0.004124	---	
56 Fe	43.01000	ppb	540982.5	6.54	43.01	---	
59 Co	0.01073	ppb	711.2	6.47	0.01073	---	
60 Ni	0.00746	ppb	106.2	147.26	0.007456	---	
63 Cu	0.10020	ppb	908.5	0.84	0.1002	---	
66 Zn	0.05187	ppb	3494.0	60.09	0.05187	---	
75 As	0.00452	ppb	50.0	217.51	0.004522	---	
78 Se	0.01135	ppb	25.3	87.35	0.01135	---	
88 Sr	0.00592	ppb	1233.4	53.32	0.005915	---	
89 Y	----	ppb	4627066.0	--------	----	---	
90 Zr	-0.02755	ppb	684.5	9.03	-0.02755	---	
95 Mo	7.54300	ppb	49403.5	13.00	7.543	---	
107 Ag	0.00926	ppb	343.4	18.93	0.009262	---	
111 Cd	-0.02863	ppb	2196.4	47.78	-0.02863	---	
118 Sn	0.02778	ppb	1065.7	22.48	0.02778	---	
121 Sb	0.03399	ppb	1192.3	11.52	0.03399	---	
137 Ba	0.00044	ppb	111.1	146.74	0.0004442	---	
157 Gd	-20.85000	ppb	3.3	60.48	-20.85	---	
182 W	0.10430	ppb	1653.5	3.63	0.1043	---	
195 Pt	0.00162	ppb	110.0	350.28	0.001619	---	
197 Au	----	ppb	3.3	--------	----	---	
205 Tl	0.09376	ppb	2644.9	9.23	0.09376	---	
208 Pb	-0.00973	ppb	1219.0	23.23	-0.009732	---	
232 Th	0.02175	ppb	1164.6	13.45	0.02175	---	
235 U	0.00013	ppb	11.1	186.14	0.0001299	---	
238 U	0.00655	ppb	480.0	24.57	0.006548	---	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1505877.1	1.24	1462063.40	103.0	60 - 125	
45 Sc	1863194.8	2.39	2079052.30	89.6	60 - 125	
45 Sc	131347.0	0.44	138937.50	94.5	60 - 125	
45 Sc	3257408.3	0.16	3322690.30	98.0	60 - 125	
72 Ge	393566.3	1.45	414358.66	95.0	60 - 125	
72 Ge	78766.6	0.51	81558.63	96.6	60 - 125	
72 Ge	687269.1	0.27	697602.94	98.5	60 - 125	
115 In	4147367.8	0.58	4198228.50	98.8	60 - 125	
159 Tb	4883990.5	0.18	4961901.50	98.4	60 - 125	
209 Bi	2867297.0	0.48	2889393.80	99.2	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Nnumber of ISTD Failures Allowed

QC Results:
Analytes: Pass
ISTD: Pass

7682

CCV QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23049.D\98C23049.D#
Date Acquired:	Mar 28 2006 09:56 pm
Operator:	JEE
Sample Name:	CCV4
Misc Info:	
Vial Number:	1305
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal Update:	Mar 28 2006 03:21 pm
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	43.53	741063.13 ppb	0.95	45.00	90 - 110	
9 Be	43.37	199134.20 ppb	0.55	45.00	90 - 110	
11 B	42.52	124464.70 ppb	0.85	45.00	90 - 110	
23 Na	4543.00	22592800.00 ppb	2.90	4500.00	90 - 110	
24 Mg	4442.00	65553100.00 ppb	0.54	4500.00	90 - 110	
27 Al	4479.00	85181352.00 ppb	1.41	4500.00	90 - 110	
28 Si	4597.00	8536373.00 ppb	3.08	4500.00	90 - 110	
39 K	4566.00	1484934.00 ppb	1.50	4500.00	90 - 110	
40 Ca	4556.00	43194600.00 ppb	2.65	4500.00	90 - 110	
47 Ti	46.27	97592.24 ppb	1.19	45.00	90 - 110	
51 V	46.04	150651.30 ppb	0.84	45.00	90 - 110	
52 Cr	45.16	176266.20 ppb	1.02	45.00	90 - 110	
55 Mn	45.19	1504427.00 ppb	1.37	45.00	90 - 110	
56 Fe	4605.00	58229112.00 ppb	2.55	4500.00	90 - 110	
59 Co	45.27	1210623.00 ppb	1.15	45.00	90 - 110	
60 Ni	45.94	77775.80 ppb	0.79	45.00	90 - 110	
63 Cu	46.42	212259.41 ppb	0.85	45.00	90 - 110	
66 Zn	45.31	195468.20 ppb	0.57	45.00	90 - 110	
75 As	45.55	25712.72 ppb	0.56	45.00	90 - 110	
78 Se	46.21	18445.69 ppb	0.76	45.00	90 - 110	
88 Sr	46.77	1712671.00 ppb	0.83	45.00	90 - 110	
89 Y	--------	4690246.00 ppb	--------	---	90 - 110	
90 Zr	45.05	1086101.00 ppb	0.92	45.00	90 - 110	
95 Mo	46.35	303795.50 ppb	0.79	45.00	90 - 110	
107 Ag	43.61	735844.69 ppb	0.53	45.00	90 - 110	
111 Cd	44.10	162441.70 ppb	0.83	45.00	90 - 110	
118 Sn	44.18	457348.00 ppb	0.85	45.00	90 - 110	
121 Sb	43.28	639924.19 ppb	0.56	45.00	90 - 110	
137 Ba	44.51	222392.09 ppb	0.62	45.00	90 - 110	
157 Gd	63.24	25.56 ppb	50.52	45.00	90 - 110	Fail
182 W	41.70	496831.09 ppb	0.11	45.00	90 - 110	
195 Pt	42.47	327125.31 ppb	0.35	45.00	90 - 110	
197 Au	--------	24.45 ppb	--------	45.00	90 - 110	
205 Tl	43.75	1105222.00 ppb	0.18	45.00	90 - 110	
208 Pb	43.12	1466656.00 ppb	0.42	45.00	90 - 110	
232 Th	50.47	1540011.00 ppb	0.40	45.00	90 - 110	Fail
235 U	0.30	10936.68 ppb	3.81	0.32	90 - 110	
238 U	43.43	1529702.00 ppb	0.79	44.69	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1466736.30	0.99	1462063.40	100.3	60 - 125	
45 Sc	1997078.50	2.08	2079052.30	96.1	60 - 125	
45 Sc	134729.73	0.95	138937.50	97.0	60 - 125	
45 Sc	3341993.00	1.05	3322690.30	100.6	60 - 125	
72 Ge	403675.53	0.48	414358.66	97.4	60 - 125	
72 Ge	79484.16	0.37	81558.63	97.5	60 - 125	
72 Ge	687617.88	0.56	697602.94	98.6	60 - 125	
115 In	4166471.30	0.32	4198228.50	99.2	60 - 125	
159 Tb	4981759.00	0.19	4961901.50	100.4	60 - 125	
209 Bi	2967638.30	0.38	2889393.80	102.7	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

2 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: **Fail**

ISTD: **Pass**

7683

ICB QC Report

Data File:	D:\DATA\I982006\C\I98C23.B\98C23050.D\98C23050.D#
Date Acquired:	Mar 28 2006 10:04 pm
Acq. Method:	EMAX6020.M
Operator:	JEE
Sample Name:	CCB4
Misc Info:	
Vial Number:	1102
Current Method:	C:\ICPCHEM\1\METHODS\EMAX6020.M
Calibration File:	C:\ICPCHEM\1\CALIB\EMAX6020.C
Last Cal. Update:	Mar 28 2006 03:21 pm
Sample Type:	CCB
Dilution Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	High Limit	Flag
7 Li	0.1379	94718.2 ppb	54.38	1.00	
9 Be	0.0096	125.6 ppb	20.76	1.00	
11 B	0.2458	1998.0 ppb	2.00	1.00	
23 Na	10.4400	496172.5 ppb	12.37	1.00	
24 Mg	1.7420	64850.4 ppb	2.71	1.00	
27 Al	0.3019	36525.1 ppb	14.76	1.00	
28 Si	0.9717	10998.6 ppb	103.32	1.00	
39 K	0.1599	35243.2 ppb	187.24	1.00	
40 Ca	0.6994	60816.1 ppb	10.67	1.00	
47 Ti	0.1007	301.1 ppb	3.05	1.00	
51 V	0.1289	1199.6 ppb	9.40	1.00	
52 Cr	-0.0053	379.3 ppb	158.60	1.00	
55 Mn	0.0029	3379.5 ppb	171.40	1.00	
56 Fe	5.2890	99363.2 ppb	7.16	1.00	
59 Co	0.0001	436.7 ppb	1126.90	1.00	
60 Ni	0.0046	104.2 ppb	95.20	1.00	
63 Cu	0.0400	657.1 ppb	15.46	1.00	
66 Zn	-0.1337	2746.0 ppb	8.72	1.00	
75 As	0.0450	73.8 ppb	43.13	1.00	
78 Se	0.0480	40.0 ppb	36.47	1.00	
88 Sr	-0.0102	654.5 ppb	12.00	1.00	
89 Y	--------	4653421.0 ppb	--------	1.00	
90 Zr	-0.0170	953.4 ppb	13.91	1.00	
95 Mo	0.9422	6504.2 ppb	5.71	1.00	
107 Ag	0.0090	344.5 ppb	12.78	1.00	
111 Cd	0.0178	2403.7 ppb	48.31	1.00	
118 Sn	0.0802	1631.3 ppb	8.83	1.00	
121 Sb	0.5639	9132.7 ppb	15.88	1.00	
137 Ba	0.0003	112.2 ppb	829.90	1.00	
157 Gd	-12.6900	5.6 ppb	56.96	1.00	
182 W	0.2203	2959.4 ppb	5.21	1.00	
195 Pt	-0.0019	83.3 ppb	1.72	1.00	
197 Au	--------	6.7 ppb	--------	1.00	
205 Tl	0.0410	1345.7 ppb	7.47	1.00	
208 Pb	-0.0121	1131.2 ppb	9.69	1.00	
232 Th	0.0347	1532.4 ppb	19.61	1.00	
235 U	0.0001	8.9 ppb	293.94	1.00	
238 U	0.0060	455.6 ppb	15.08	1.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1468497.4	0.94	1462063.40	100.4	60 - 125	
45 Sc	1934484.8	1.69	2079052.30	93.0	60 - 125	
45 Sc	134733.1	1.10	138937.50	97.0	60 - 125	
45 Sc	3275207.3	0.47	3322690.30	98.6	60 - 125	
72 Ge	398221.4	0.45	414358.66	96.1	60 - 125	
72 Ge	79995.7	0.98	81558.63	98.1	60 - 125	
72 Ge	697217.7	0.46	697602.94	99.9	60 - 125	
115 In	4216710.5	0.34	4198228.50	100.4	60 - 125	
159 Tb	4940040.5	0.50	4961901.50	99.6	60 - 125	
209 Bi	2839975.5	0.28	2889393.80	98.3	60 - 125	

ISTD Ref File : D:\DATA\I982006\C\I98C23.B\98C23004.D\98C23004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes:	Pass
ISTD:	Pass

7864

DIGESTION LOG FOR ICP-MS METALS

SOP ☐ EMAX-3005 Rev. No.4 ☐ EMAX-3010 Rev. No. 3 ☐ EMAX-3050 Rev. No. 3 ☐ EMAX-CLP-TAL ☐ EMAX-200.7 Rev. 0 ☐ Book # EIM-005

Matrix: SOIL Start Date: 3-16-06 Time: 13:30 Temp: 90°C Ending Date: 3-16-06 Time: 17:30 Temp.: 90°C

BATCH: IMC021-S

Sample Prep ID	Lab Sample ID	Matrix Description: Color	Matrix Description: Texture / Clarity	Matrix Description: Artifacts	Sample Amount (g | ml)	pH	Extract Volume (ml)	Digestate Description: Color	Digestate Description: Clarity
01	IMC021-SB				—	N/A	100		
02	-SL				—		100		
03	-SC				—		100		
04	C081-01				1.003		100		
05	-02				1.001		100		
06	-03				1.000		100		
07	-04				1.002		100		
08	-05				1.001		100		
09	-06				1.002		100		
10	-07				1.000		100		
11	-08				1.003		100		
12	-08M				1.001		100		
13	-08S				1.001		100		
14	-09				1.002		100		
15	-10				1.001		100		
16	C106-01				1.002		100		
17	-02				1.003		100		
18	-03				1.001		100		
19	-04				1.002		100		
20	-05				1.003		100		
21	-06				1.001		100		
22	-07				1.000		100		
23	-08				1.000		100		
24	-09				1.002		100		
25	-10				1.003	✓	100		

Standards	ID	Amount Added (ml)
LCS -1	SM1A-09-84	5.0
LCS -2	SM1A-09-85	5.0
LCS -3	N/A	
MS	SM6B02-05-06 MIX4 SM6B02-05-05 10 ppm	5.00 5.00

Reagent	Lot# / ID	Amount Added (ml)
HNO_3	SW1A-03-152	10.0
HCl	SW1A-03-115	10.0
H_2O_2	SW1A-03-082	10.0
HNO3 (1:1)	SM5B-02-52	10.0

Digestate Location	ICP MS
Extract Location	

Legend:

Texture	Cs = Coarse	Md = Medium	Fn = Fine
Clarity	Cr = Clear	Cy = Cloudy	Td = Turbid
Artifacts	Rk = rocks	Sl = Shale	Vg=Vegetation
Color	Bu = blue	Bk = Black	Bn = Brown
	Gn = Green	Og = Orange	Rd = Red
	Yw = Yellow	Cl = Colorless	

Comments:

☐ Water Samples - diluted 2-ml of digestate to 10-ml reagent water (DF=5X)

☐ Soil Samples - diluted 1-ml of digestate to 10-ml reagent water (DF=10X)

Prepared By: MC Standard Added By: MC

Witnessed By: NT Extracts Rcvd. By: NT 3/16/06

Checked By: NT

Date Disposed: Disposed by:

CASE NARRATIVE

CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

METHOD 7471A
MERCURY BY COLD VAPOR

Ten (10) soil samples were received on 03/11/06 for Mercury analysis by Method 7471A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. **Holding Time**

   Analysis met holding time criteria.

2. **Method Blank**

   Method blank was free of contamination at the reporting limit.

3. **Lab Control Sample/Lab Control Sample Duplicate**

   Lab control results were within QC limit.

4. **Serial Dilution / Post-Analytical Spike**

   Sample C081-08 from another SDG was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. **Matrix Spike/Matrix Spike Duplicate**

   MS/MSD sample was not designated in this SDG.

6. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

LAB CHRONICLE
MERCURY BY COLD VAPOR

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX

SDG NO. : 06C106
Instrument ID : TI047

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	HGC035SB	1	NA	03/21/0620:21	03/21/0614:00	M47C024041	M47C024032	HGC035S	Method Blank
LCS1S	HGC035SL	1	NA	03/21/0620:24	03/21/0614:00	M47C024042	M47C024032	HGC035S	Lab Control Sample (LCS)
LCD1S	HGC035SC	1	NA	03/21/0620:26	03/21/0614:00	M47C024043	M47C024032	HGC035S	LCS Duplicate
M118-50AS	C081-08A	1	17.7	03/21/0620:33	03/21/0614:00	M47C024046	M47C024044	HGC035S	Analytical Spike Sample
M118-50	C081-08	1	17.7	03/21/0620:35	03/21/0614:00	M47C024047	M47C024044	HGC035S	Field Sample
M118-50DL	C081-08J	5	17.7	03/21/0620:38	03/21/0614:00	M47C024048	M47C024044	HGC035S	Diluted Sample
M121-0.5	C106-01	1	4.3	03/21/0621:10	03/21/0614:00	M47C024062	M47C024056	HGC035S	Field Sample
M121-5	C106-02	1	10.3	03/21/0621:13	03/21/0614:00	M47C024063	M47C024056	HGC035S	Field Sample
M121-10	C106-03	1	5.7	03/21/0621:15	03/21/0614:00	M47C024064	M47C024056	HGC035S	Field Sample
M121-5D	C106-04	1	9.5	03/21/0621:17	03/21/0614:00	M47C024065	M47C024056	HGC035S	Field Sample
M121-20	C106-05	1	3.6	03/21/0621:20	03/21/0614:00	M47C024066	M47C024056	HGC035S	Field Sample
M121-30	C106-06	1	5.8	03/21/0621:22	03/21/0614:00	M47C024067	M47C024056	HGC035S	Field Sample
M121-40	C106-07	1	8.9	03/21/0621:28	03/21/0614:00	M47C024070	M47C024068	HGC035S	Field Sample
M121-50	C106-08	1	6.1	03/21/0621:30	03/21/0614:00	M47C024071	M47C024068	HGC035S	Field Sample
M121-60	C106-09	1	17.8	03/21/0621:32	03/21/0614:00	M47C024072	M47C024068	HGC035S	Field Sample
M121-80	C106-10	1	27.5	03/21/0621:34	03/21/0614:00	M47C024073	M47C024068	HGC035S	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD 7471A
MERCURY BY COLD VAPOR

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	HGC035SB	ND	1	NA	.1	.033	03/21/0620:21	03/21/0614:00	M47C024041	M47C024032	HGC035S	NA	03/21/06
LCS1S	HGC035SL	.855	1	NA	.1	.033	03/21/0620:24	03/21/0614:00	M47C024042	M47C024032	HGC035S	NA	03/21/06
LCD1S	HGC035SC	.852	1	NA	.1	.033	03/21/0620:26	03/21/0614:00	M47C024043	M47C024032	HGC035S	NA	03/21/06
M121-0.5	C106-01	ND	1	4.3	.104	.0345	03/21/0621:10	03/21/0614:00	M47C024062	M47C024056	HGC035S	03/10/06	03/11/06
M121-5	C106-02	ND	1	10.3	.111	.0368	03/21/0621:13	03/21/0614:00	M47C024063	M47C024056	HGC035S	03/10/06	03/11/06
M121-10	C106-03	ND	1	5.7	.106	.035	03/21/0621:15	03/21/0614:00	M47C024064	M47C024056	HGC035S	03/10/06	03/11/06
M121-5D	C106-04	ND	1	9.5	.11	.0365	03/21/0621:17	03/21/0614:00	M47C024065	M47C024056	HGC035S	03/10/06	03/11/06
M121-20	C106-05	ND	1	3.6	.104	.0342	03/21/0621:20	03/21/0614:00	M47C024066	M47C024056	HGC035S	03/10/06	03/11/06
M121-30	C106-06	ND	1	5.8	.106	.035	03/21/0621:22	03/21/0614:00	M47C024067	M47C024056	HGC035S	03/10/06	03/11/06
M121-40	C106-07	ND	1	8.9	.11	.0362	03/21/0621:28	03/21/0614:00	M47C024070	M47C024068	HGC035S	03/10/06	03/11/06
M121-50	C106-08	ND	1	6.1	.106	.0351	03/21/0621:30	03/21/0614:00	M47C024071	M47C024068	HGC035S	03/10/06	03/11/06
M121-60	C106-09	ND	1	17.8	.122	.0401	03/21/0621:32	03/21/0614:00	M47C024072	M47C024068	HGC035S	03/10/06	03/11/06
M121-80	C106-10	ND	1	27.5	.138	.0455	03/21/0621:34	03/21/0614:00	M47C024073	M47C024068	HGC035S	03/10/06	03/11/06

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
SDG NO.: 06C106
METHOD: METHOD 7471A

MATRIX:	SOIL			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1S				
CONTROL NO.:	HGC035SB	HGC035SL	HGC035SC		
LAB FILE ID:	M47C024041	M47C024042	M47C024043		
DATIME EXTRCTD:	03/21/0614:00	03/21/0614:00	03/21/0614:00	DATE COLLECTED:	NA
DATIME ANALYZD:	03/21/0620:21	03/21/0620:24	03/21/0620:26	DATE RECEIVED:	03/21/06
PREP. BATCH:	HGC035S	HGC035S	HGC035S		
CALIB. REF:	M47C024032	M47C024032	M47C024032		

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Mercury	ND	.833	.855	103	.833	.852	102	0	80-120	20

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 7471A

MATRIX:	SOIL		% MOISTURE:	17.7
DILUTION FACTOR:	1	5		
SAMPLE ID:	M118-50	M118-50DL		
EMAX SAMP ID:	C081-08	C081-08J		
LAB FILE ID:	M47C024047	M47C024048		
DATE EXTRACTED:	03/21/0614:00	03/21/0614:00	DATE COLLECTED:	03/08/06
DATE ANALYZED:	03/21/0620:35	03/21/0620:38	DATE RECEIVED:	03/09/06
PREP. BATCH:	HGC035S	HGC035S		
CALIB. REF:	M47C024044	M47C024044		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Mercury	ND	ND	0	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
SDG NO.: 06C106
METHOD: METHOD 7471A

MATRIX:	SOIL		% MOISTURE:	17.7
DILTN FACTR:	1	1		
SAMPLE ID:	M118-50			
CONTROL NO.:	C081-08	C081-08A		
LAB FILE ID:	M47C024047	M47C024046		
DATIME EXTRCTD:	03/21/0614:00	03/21/0614:00	DATE COLLECTED:	03/08/06
DATIME ANALYZD:	03/21/0620:35	03/21/0620:33	DATE RECEIVED:	03/09/06
PREP. BATCH#:	HGC035S	HGC035S		
CALIB. REF:	M47C024044	M47C024044		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Mercury	ND	.405	.417	103	85-115

ANALYSIS RUN LOG
for
MERCURY

Note: For samples, relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 3/21/06 **Start Time:** 18:45

End Date: 3/21/06 **End Time:** 21:40

Comments:

QC OK

Book #: A47-44

Instrument No.: 47

Analytical Sequence/Batch: M47C024

Method File: Hg

SOP #	Rev. #
☐ EMAX-7470	3
☑ EMAX-7471	3
☐ EMAX-CLP-245.5	
☐ EMAX-CLP-245.1	
☐ EMAX-	

STANDARDS ID	
S1	BLANK
S2	SM3B-06-723
S3	↓
S4	↓
S5	↓
S6	↓
ICV	SM3B-06-724
CCV	↓
LCS	↓

Analyzed By: NT

Date: 3/21/06

"M47C024"

EMAX1fid	EMAX1sid	conc	Raw_resp	rsd/rf	adatetime	DF
M47C024000	STD1REP1	0	6964		03/21/0618:45	1
M47C024001	STD2REP1	.2	26556		03/21/0618:47	1
M47C024002	STD3REP1	1	124378		03/21/0618:50	1
M47C024003	STD4REP1	2	246901		03/21/0618:52	1
M47C024004	STD5REP1	5	593941		03/21/0618:55	1
M47C024005	STD6REP1	10	1156945		03/21/0618:57	1
M47C024006	ICV	2.08	248895	0	03/21/0619:00	1
M47C024007	ICB	-.074	1172	0	03/21/0619:02	1
M47C024008	CCV1	5.13	601158	0	03/21/0619:04	1
M47C024009	CCB1	-.015	7874	0	03/21/0619:06	1
M47C024010	HGC034SB	-.009	8643	0	03/21/0619:09	1
M47C024011	HGC034SL	5.12	599306	0	03/21/0619:11	1
M47C024012	HGC034SC	5.06	592919	0	03/21/0619:13	1
M47C024013	C071-04A	1.94	233328	0	03/21/0619:16	1
M47C024014	C071-04	-.044	4632	0	03/21/0619:18	1
M47C024015	C071-04J	-.05	3911	0	03/21/0619:20	5
M47C024016	C071-04M	4.71	552612	0	03/21/0619:23	1
M47C024017	C071-04S	4.49	527364	0	03/21/0619:25	1
M47C024018	C071-01	-.038	5335	0	03/21/0619:27	1
M47C024019	C071-02	.006	10299	0	03/21/0619:30	1
M47C024020	CCV2	5.09	596114	0	03/21/0619:32	1
M47C024021	CCB2	-.033	5845	0	03/21/0619:34	1
M47C024022	C071-03	.085	19497	0	03/21/0619:37	1
M47C024023	C071-05	-.012	8270	0	03/21/0619:39	1
M47C024024	C071-06	.047	15031	0	03/21/0619:41	1
M47C024025	C071-07	.085	19501	0	03/21/0619:43	1
M47C024026	C071-08	.04	14259	0	03/21/0619:46	1
M47C024027	C071-09	.073	18096	0	03/21/0619:49	1
M47C024028	C071-10	-.006	8932	0	03/21/0619:52	1
M47C024029	C107-01	1.27	155567	0	03/21/0619:54	1
M47C024030	C107-02	1.28	157049	0	03/21/0619:56	1
M47C024031	C107-04	.117	23172	0	03/21/0619:58	1
M47C024032	CCV3	5.08	595560	0	03/21/0620:01	1
M47C024033	CCB3	-.052	3669	0	03/21/0620:03	1
M47C024034	C107-05	.157	27734	0	03/21/0620:05	1
M47C024035	C107-07	.619	80967	0	03/21/0620:07	1
M47C024036	C107-08	.246	38019	0	03/21/0620:09	1
M47C024037	C107-11	.358	50868	0	03/21/0620:12	1
M47C024038	C107-12	.245	37946	0	03/21/0620:14	1
M47C024039	C107-14	2.7	321141	0	03/21/0620:16	1
M47C024040	C107-15	.23	36139	0	03/21/0620:18	1
M47C024041	HGC035SB	-.048	4102	0	03/21/0620:21	1
M47C024042	HGC035SL	5.13	600521	0	03/21/0620:24	1
M47C024043	HGC035SC	5.11	598759	0	03/21/0620:26	1
M47C024044	CCV4	5.12	599256	0	03/21/0620:28	1
M47C024045	CCB4	-.021	7197	0	03/21/0620:31	1
M47C024046	C081-08A	2.06	246523	0	03/21/0620:33	1
M47C024047	C081-08	.039	14129	0	03/21/0620:35	1
M47C024048	C081-08J	-.018	7625	0	03/21/0620:38	5
M47C024049	C081-08M	4.87	570771	0	03/21/0620:40	1
M47C024050	C081-08S	4.75	557309	0	03/21/0620:42	1
M47C024051	C081-01	.031	13242	0	03/21/0620:44	1
M47C024052	C081-02	.03	13173	0	03/21/0620:47	1
M47C024053	C081-03	.054	15862	0	03/21/0620:50	1
M47C024054	C081-04	.051	15513	0	03/21/0620:52	1
M47C024055	C081-05	.08	18901	0	03/21/0620:54	1
M47C024056	CCV5	5.07	594396	0	03/21/0620:57	1
M47C024057	CCB5	-.089	-624	0	03/21/0620:59	1
M47C024058	C081-06	-.012	8227	0	03/21/0621:01	1
M47C024059	C081-07	-.02	7314	0	03/21/0621:03	1
M47C024060	C081-09	-.029	6327	0	03/21/0621:06	1
M47C024061	C081-10	-.027	6544	0	03/21/0621:08	1
M47C024062	C106-01	.047	15046	0	03/21/0621:10	1
M47C024063	C106-02	.148	26668	0	03/21/0621:13	1
M47C024064	C106-03	.038	13981	0	03/21/0621:15	1
M47C024065	C106-04	.021	12125	0	03/21/0621:17	1
M47C024066	C106-05	.026	12671	0	03/21/0621:20	1
M47C024067	C106-06	.026	12685	0	03/21/0621:22	1
M47C024068	CCV6	5	585498	0	03/21/0621:24	1
M47C024069	CCB6	-.068	1865	0	03/21/0621:26	1
M47C024070	C106-07	-.031	6120	0	03/21/0621:28	1
M47C024071	C106-08	-.032	5952	0	03/21/0621:30	1
M47C024072	C106-09	-.035	5637	0	03/21/0621:32	1
M47C024073	C106-10	-.012	8300	0	03/21/0621:34	1
M47C024074	CCV7	5.04	590812	0	03/21/0621:37	1
M47C024075	CCB7	.024	12433	0	03/21/0621:40	1
**********	**********	**********	**********	**********	**********	***
EMAX1fid	EMAX1sid	Xint	Yint	rrf	adatetime	DF

M47C024000	BLANK	-.0843623	9721.846	.9999081	03/21/0621:40 1

RunProt: HGCOM

RunFold: M470824 Seq: 6 Batch:

Prnt: R/T On Pump: On

Rev: 4.2 18:58:01 21 Mar 2006 Wait: Off Gas: 0.35 LPM

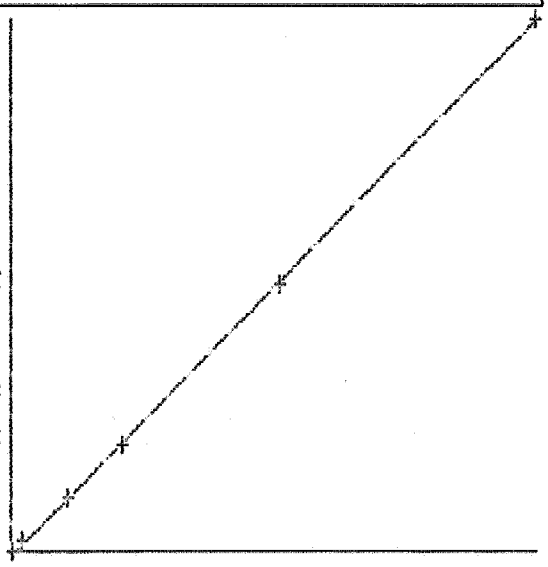
State: Idle User: WT W/S: On

CALIBRATION: Line proto: HGCOM

	Hg Conc.	Calc.	Dev.	Accepted ->linear
S1	.000	-.023	-.023	Quadratic
S2	.200	.147	-.053	Widlinear
S3	1.00	.995	-.005	
S4	2.00	2.06	.058	Accept
S5	5.00	5.07	.069	
S6	10.0	9.95	-.046	

A .00000069 r .999988

B 8.67601e-6 C -8.37898e-2



	Mean		SD	6964
S1	6964	0	%RSD	6964
S2	26556	0	%RSD	26556
S3	124378	0	%RSD	124378
S4	246901	0	%RSD	246901
S5	593941	0	%RSD	593941
S6	1156945	0	%RSD	1156945

New cal coefficients stored

18:58:41 21 Mar 2006 Protocol: HGCOM

POST-RUN REPORT

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Standard: 1 Rep: 1				Seq: 0	18:45:30 21 mar 2006 HG			
Hg	.000		6964					
*** Standard: 2 Rep: 1				Seq: 1	18:47:32 21 Mar 2006 HG			
Hg	.200		26506					
*** Standard: 3 Rep: 1				Seq: 2	18:50:14 21 Mar 2006 HG			
Hg	1.00		124378					
*** Standard: 4 Rep: 1				Seq: 3	18:52:48 21 Mar 2006 HG			
Hg	2.00		246901					
*** Standard: 5 Rep: 1				Seq: 4	18:55:31 21 Mar 2006 HG			
Hg	5.00		593941					
*** Standard: 6 Rep: 1				Seq: 5	18:57:33 21 Mar 2006 HG			
Hg	10.0		1186945					

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: ICV				Seq: 6	19:00:03 21 Mar 2006 HG			
Hg	2.08		248095					
*** Sample ID: ICB				Seq: 7	19:02:01 21 Mar 2006 HG			
Hg	-.074		1172					
*** Sample ID: CCV1				Seq: 8	19:04:11 21 Mar 2006 HG			
Hg	5.13		601158					
*** Sample ID: CLB1				Seq: 9	19:06:20 21 Mar 2006 HG			
Hg	-.015		7874					
*** Sample ID: HGL0345B				Seq: 10	19:09:50 21 Mar 2006 HG			
Hg	-.009		8643					
*** Sample ID: HGC034SL				Seq: 11	19:11:59 21 Mar 2006 HG			
Hg	5.12		599306					
*** Sample ID: HGC034SC				Seq: 12	19:13:59 21 Mar 2006 HG			
Hg	5.06		592919					
*** Sample ID: C071-04A				Seq: 13	19:16:03 21 Mar 2006 HG			
Hg	1.94		233328					
*** Sample ID: C071-04				Seq: 14	19:18:01 21 Mar 2006 HG			
Hg	-.044		4632					
*** Sample ID: C071-04J				Seq: 15	19:20:34 21 Mar 2006 HG			
Hg	-.030		3911					
*** Sample ID: C071-04M				Seq: 16	19:23:17 21 Mar 2006 HG			
Hg	4.71		552612					
*** Sample ID: C071-04S				Seq: 17	19:25:17 21 Mar 2006 HG			
Hg	4.49		527364					

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: C071-01				Seq: 18	19:27:57 21 Mar 2006 HG			
Hg	-.038		5335					
*** Sample ID: C071-02				Seq: 19	19:30:35 21 Mar 2006 HG			
Hg	.006		10299					
*** Sample ID: CCV2				Seq: 20	19:32:48 21 Mar 2006 HG			
Hg	5.09		596114					
*** Sample ID: CCB2				Seq: 21	19:34:57 21 Mar 2006 HG			
Hg	-.033		5845					
*** Sample ID: C071-03				Seq: 22	19:37:09 21 Mar 2006 HG			
Hg	.085		19497					
*** Sample ID: C071-05				Seq: 23	19:39:47 21 Mar 2006 HG			
Hg	-.012		8270					
*** Sample ID: C071-06				Seq: 24	19:41:47 21 Mar 2006 HG			
Hg	.047		15031					
*** Sample ID: C071-07				Seq: 25	19:43:01 21 Mar 2006 HG			
Hg	.003		19201					
*** Sample ID: C071-08				Seq: 26	19:46:21 21 Mar 2006 HG			
Hg	.040		14259					
*** Sample ID: C071-09				Seq: 27	19:49:43 21 Mar 2006 HG			
Hg	.073		18096					
*** Sample ID: C071-10				Seq: 28	19:52:01 21 Mar 2006 HG			
Hg	-.006		8932					
*** Sample ID: C107-01				Seq: 29	19:54:21 21 Mar 2006 HG			
Hg	1.27		155567					

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: C107-02				Seq: 30		19:56:32 21 Mar 2006 HG		
Hg	1.28		157049					
*** Sample ID: C107-04				Seq: 31		19:58:34 21 Mar 2006 HG		
Hg	.117		23172					
*** Sample ID: CCV3				Seq: 32		20:01:07 21 Mar 2006 HG		
Hg	5.08		595360					
*** Sample ID: CCB3				Seq: 33		20:03:08 21 Mar 2006 HG		
Hg	-.052		3609					
*** Sample ID: C107-05				Seq: 34		20:05:10 21 Mar 2006 HG		
Hg	.157		27734					
*** Sample ID: C107-07				Seq: 35		20:07:28 21 Mar 2006 HG		
Hg	.619		80967					
*** Sample ID: C107-08				Seq: 36		20:09:57 21 Mar 2006 HG		
Hg	.246		38019					
*** Sample ID: C107-11				Seq: 37		20:12:11 21 Mar 2006 HG		
Hg	.358		50868					
*** Sample ID: C107-12				Seq: 38		20:14:21 21 Mar 2006 HG		
Hg	.245		37946					
*** Sample ID: C107-14				Seq: 39		20:16:23 21 Mar 2006 HG		
Hg	2.70		321141					
*** Sample ID: C107-15				Seq: 40		20:18:31 21 Mar 2006 HG		
Hg	.280		36139					
*** Sample ID: HGL03008				Seq: 41		20:21:59 21 Mar 2006 HG		
Hg	-.048		4102					

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: HGC0356L				Seq: 42	20:24:00 21 Mar 2006 HG			
Hg	5.13		600541					
*** Sample ID: HGL0356L				Seq: 43	20:26:42 21 Mar 2006 HG			
Hg	5.11		598759					
*** Sample ID: CCV4				Seq: 44	20:28:56 21 Mar 2006 HG			
Hg	5.12		599256					
*** Sample ID: CCB4				Seq: 45	20:31:15 21 Mar 2006 HG			
Hg	-.021		7197					
*** Sample ID: C081-08A				Seq: 46	20:33:14 21 Mar 2006 HG			
Hg	2.06		246523					
*** Sample ID: C081-08				Seq: 47	20:35:16 21 Mar 2006 HG			
Hg	.039		14129					
*** Sample ID: C081-08J				Seq: 48	20:38:09 21 Mar 2006 HG			
Hg	-.018		7625					
*** Sample ID: C081-08M				Seq: 49	20:40:30 21 Mar 2006 HG			
Hg	4.87		570771					
*** Sample ID: C081-085				Seq: 50	20:42:28 21 Mar 2006 HG			
Hg	4.75		557309					
*** Sample ID: C081-01				Seq: 51	20:44:53 21 Mar 2006 HG			
Hg	.031		13242					
*** Sample ID: C081-02				Seq: 52	20:47:46 21 Mar 2006 HG			
Hg	.030		13173					
*** Sample ID: C081-03				Seq: 53	20:50:15 21 Mar 2006 HG			
Hg	.054		15862					

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: C081-04 Seq: 54 20:52:25 21 Mar 2006 HG

Hg .051 13513

*** Sample ID: C081-05 Seq: 55 20:54:36 21 Mar 2006 HG

Hg .080 18901

*** Sample ID: CCV5 Seq: 56 20:57:18 21 Mar 2006 HG

Hg 5.07 594396

*** Sample ID: CCB5 Seq: 57 20:59:31 21 Mar 2006 HG

Hg -.089 -624

*** Sample ID: C081-06 Seq: 58 21:01:43 21 Mar 2006 HG

Hg -.012 8027

*** Sample ID: C081-07 Seq: 59 21:03:53 21 Mar 2006 HG

Hg -.020 7314

*** Sample ID: C081-09 Seq: 60 21:06:24 21 Mar 2006 HG

Hg -.029 6327

*** Sample ID: C081-10 Seq: 61 21:08:24 21 Mar 2006 HG

Hg -.027 6544

*** Sample ID: C106-01 Seq: 62 21:10:23 21 Mar 2006 HG

Hg .047 15046

*** Sample ID: C106-02 Seq: 63 21:13:03 21 Mar 2006 HG

Hg .148 26668

*** Sample ID: C106-03 Seq: 64 21:15:47 21 Mar 2006 HG

Hg .038 13981

*** Sample ID: C106-04 Seq: 65 21:17:57 21 Mar 2006 HG

Hg .021 12125

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: C106-05				Seq: 66		21:20:02 21 Mar 2006 HG		
Hg	.026		12671					
*** Sample ID: C106-06				Seq: 67		21:22:03 21 Mar 2006 HG		
Hg	.026		12605					
*** Sample ID: CCV6				Seq: 68		21:24:07 21 Mar 2006 HG		
Hg	5.00		585498					
*** Sample ID: CCB6				Seq: 69		21:26:19 21 Mar 2006 HG		
Hg	-.068		1865					
*** Sample ID: C106-07				Seq: 70		21:28:23 21 Mar 2006 HG		
Hg	-.031		6120					
*** Sample ID: C106-08				Seq: 71		21:30:54 21 Mar 2006 HG		
Hg	-.032		5952					
*** Sample ID: C106-09				Seq: 72		21:32:54 21 Mar 2006 HG		
Hg	-.035		5637					
*** Sample ID: C106-10				Seq: 73		21:34:54 21 Mar 2006 HG		
Hg	-.012		8300					
*** Sample ID: CCV7				Seq: 74		21:37:15 21 Mar 2006 HG		
Hg	5.04		590012					
*** Sample ID: CCB7				Seq: 75		21:40:04 21 Mar 2006 HG		
Hg	.024		12433					

DIGESTION LOG FOR MERCURY

SOP ☐ EMAX-7470 Rev. No.3 ☑ EMAX-7471 Rev. No.3 ☐ EMAX-CLP-245.5 ☐ EMAX-CLP-245.1 ☐

Matrix: Soil **Start Date:** 3/21/06 **Time:** 14:00 **Ending Date:** 3/21/06 **Time:** 15:00 **Book #** E47-045

BATCH: HG0355

Sample Prep ID	Lab Sample ID	Matrix Description: Color	Matrix Description: Texture / Clarity	Matrix Description: Artifacts	Sample Amount (g/ml)	Dry Weight	pH	Extract Volume (ml)	Matrix Description: Color	Matrix Description: Clarity
01	S-0	Cr	Cr	N/A	0	N/A	N/A	100	Cr	Cr
02	0.2				0.2					
03	1				1					
04	2				2					
05	5				5					
06	10				10					
07	ICV				2					
08	ICB				0					
09	CCV				5					
10	CCB				0					
11	HGC035SB				0.600g					
12	SL				0.600					
13	SC				0.600					
14	C081-01	Bn	Fn		0.602					
15	02				0.604					
16	03				0.604					
17	04				0.603					
18	05				0.604					
19	06				0.604					
20	07				0.603					
21	08				0.604					
22	08M				0.603					
23	08S				0.603					
24	09				0.604					
25	10				0.601					
26	C106-01				0.602					
27	02				0.602					
28	03				0.600					

Standards	ID	Conc. (µg/L)	Amount Added (ml)
ICAL	SMBB-06-723	100	0.2,1,2,5,10
ICV	SMBB-06-724		2
CCV/MS			5
LCS			5

Reagent	Lot# / ID
HNO_3	SWA-03-152
HCl	093
H_2SO_4	N/A
$KMnO_4$	SMSB-02-51
$K_2S_2O_8$	N/A
$NH_2OH.HCl$	SMSB-02-49
$SnCl_2$	50

Temp of Digestion Bath: 95 °C

Legend

Color			
Bu = blue	Cs = Coarse	Cr = Clear	Rk = rocks
Bk = black	Md = Medium	Cy = Cloudy	Sl = Shale
Bn = Brown	Fn = Fine	Td = Turbid	Vg=Vegetation
Gn = Green			
Og = Orange			
Rd = Red			
Yw = Yellow			

Comments:

Prepared By: NT

Standard Added By: NT Witnessed By: MC

Checked By:

Disposed By: Date Disposed:

DIGESTION LOG FOR MERCURY

SOP ☐ EMAX-7470 Rev. No.3 ☑ EMAX-7471 Rev. No.3 ☐ EMAX-CLP-245.5 ☐ EMAX-CLP-245.1 ☐

Matrix: Soil Start Date: 3/21/06 Time: 14:00 Ending Date: 3/21/06 Time: 15:00 Book # E47-045

BATCH: HG0355

Sample Prep ID	Lab Sample ID	Matrix Description			Sample Amount (g | ml)	Dry Weight	pH	Extract Volume (ml)	Matrix Description	
		Color	Texture / Clarity	Artifacts					Color	Clarity
01	C106-04	Bn	Fn	N/A	0.602	N/A	N/A	100	Cr	Cr
02	05				0.602					
03	06				0.603					
04	07				0.602					
05	08				0.603					
06	09				0.603					
07	10	↓	↓	↓	0.602	↓	↓	↓	↓	↓
08										
09										
10										
11										
12										
13										
14										
15										
16						NT				
17						3/21/06				
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										

Standards	ID	Conc. (µg/L)	Amount Added (ml)
ICAL			
ICV			
CCV/MS			
LCS			
Reagent	Lot# / ID		
HNO_3			
HCl			
H_2SO_4			
$KMnO_4$			
$K_2S_2O_8$			
$NH_2OH.HCl$			
$SnCl_2$			

SAME AS PAGE 21

Temp of Digestion Bath: °C

Legend

Color			
Bu = blue	Cs = Coarse	Cr = Clear	Rk = rocks
Bk = black	Md = Medium	Cy = Cloudy	Sl = Shale
Bn = Brown	Fn = Fine	Td = Turbid	Vg=Vegetation
Gn = Green			
Og = Orange			
Rd = Red			
Yw = Yellow			

Comments:

Prepared By: NT

Standard Added By: NT Witnessed By: MC

Checked By:

Disposed By: Date Disposed:

LABORATORY REPORT FOR

ENSR

UPGRADIENT INVESTIGATION, TRONOX

WET CHEMICAL ANALYSES

SDG#: 06C106

CASE NARRATIVE

CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

METHOD 310.1
ALKALINITY

Two (2) soil samples were received on 03/11/06 for Bicarbonate, Carbonate and Total Alkalinity analysis by Method 310.1 in accordance with "Method for Chemical Analysis of Water and Wastewater", EPA 600/4-79-020 (1983).

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Duplicate

Duplicate sample was not designated in this SDG.

5. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were leached with DI water at a ratio of 1:10 (w:v).

METHOD 310.1
CARBONATE ALKALINITY

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : I53

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	ALC015SB	ND	1	NA	50	10	03/20/0613:20	03/20/0609:50	ALC015S-01	NA	ALC015S	NA	03/20/06
M121-30	C106-06	ND	1	5.8	53.1	10.6	03/20/0615:30	03/20/0609:50	ALC015S-10	NA	ALC015S	03/10/06	03/11/06
M121-50	C106-08	ND	1	6.1	53.2	10.6	03/20/0615:33	03/20/0609:50	ALC015S-11	NA	ALC015S	03/10/06	03/11/06

2952

METHOD 310.1
BICARBONATE ALKALINITY

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : I53

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	ALC015SB	ND	1	NA	50	10	03/20/0613:20	03/20/0609:50	ALC015S-01	NA	ALC015S	NA	03/20/06
LCS1S	ALC015SL	79.4	1	NA	50	10	03/20/0613:43	03/20/0609:50	ALC015S-02	NA	ALC015S	NA	03/20/06
LCD1S	ALC015SC	79.4	1	NA	50	10	03/20/0613:50	03/20/0609:50	ALC015S-03	NA	ALC015S	NA	03/20/06
M121-30	C106-06	548	1	5.8	53.1	10.6	03/20/0615:30	03/20/0609:50	ALC015S-10	NA	ALC015S	03/10/06	03/11/06
M121-50	C106-08	369	1	6.1	53.2	10.6	03/20/0615:33	03/20/0609:50	ALC015S-11	NA	ALC015S	03/10/06	03/11/06

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
METHOD: METHOD 310.1
MATRIX: SOIL
% MOISTURE: NA

BATCH NO.: 06C106
SAMPLE ID: LCS1S/LCD1S
CONTROL NO.: ALC015SL/C

DATE RECEIVED: 03/20/06
DATE EXTRACTED: 03/20/06 09:50
DATE ANALYZED: 03/20/06 13:43/13:50

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Bicarbonate Alkalinity	ND	82.70	79.40	96	82.70	79.40	96	0	80-120	20

METHOD 310.1
TOTAL ALKALINITY

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106
Matrix : SOIL
Instrument ID : I53

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	ALC015SB	ND	1	NA	50	10	03/20/0613:20	03/20/0609:50	ALC015S-01	NA	ALC015S	NA	03/20/06
LCS1S	ALC015SL	79.4	1	NA	50	10	03/20/0613:43	03/20/0609:50	ALC015S-02	NA	ALC015S	NA	03/20/06
LCD1S	ALC015SC	79.4	1	NA	50	10	03/20/0613:50	03/20/0609:50	ALC015S-03	NA	ALC015S	NA	03/20/06
M121-30	C106-06	548	1	5.8	53.1	10.6	03/20/0615:30	03/20/0609:50	ALC015S-10	NA	ALC015S	03/10/06	03/11/06
M121-50	C106-08	369	1	6.1	53.2	10.6	03/20/0615:33	03/20/0609:50	ALC015S-11	NA	ALC015S	03/10/06	03/11/06

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
METHOD: METHOD 310.1
MATRIX: SOIL
% MOISTURE: NA

BATCH NO.: 06C106
SAMPLE ID: LCS1S/LCD1S
CONTROL NO.: ALC015SL/C

DATE RECEIVED: 03/20/06
DATE EXTRACTED: 03/20/06 09:50
DATE ANALYZED: 03/20/06 13:43/13:50

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Total Alkalinity	ND	82.70	79.40	96	82.70	79.40	96	0	80-120	20

6

ANALYSIS RUN LOG
for
ALKALINITY

Note: For samples, relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #: AAL-012

Instrument No.: ☑ 53 ☐ 97

Analytical Batch: ALC015S

SOP #	Rev. #
☐ EMAX-310.1	2
☑ EMAX-2320B	0
☐ EMAX-	

STANDARDS ID		CONC. (~~mg/L~~ N) 3/20/06
LCS	SW7A-06-278	82.7 mg/L
Na_2CO_3 Solution	SW7B-07-061A	0.0500N
Acid Titrant	SW3B-02-816	0.02N

pH Buffer	ID
pH 4	SW7A-06-299
pH 7	229
pH 10	298
pH Check	229

Analyzed By: IV /JL

Date:

ALKALINITY REPORT FORM

ALC015S

EMAX LABORATORIES, INC.

SOP: ~~EMAX 310.1 Rev. 2~~ Emax-2320B

Book #: AAL-012

Start Date/Time: 3/20/06 10:58 3/20/06

End Date/Time: 3/20/06 15:44

Page: 8

Data File Name	Lab Sample ID	Sample Amount (ml)	Volume of Acid Titant (A) ml pH=8.3	Volume of Acid Titant (B) ml pH=4.5	Volume of Acid Titant (C) ml pH=4.2	ALKALINITY (mg/L) TOTAL[P]	TOTAL[T]	[OH]	[CO_3]	[HCO_3]
ALC015S 01	ALC015SB	50	NA	0.01	NA	ND	ND	ND	ND	ND
ALC015S 02	ALC015SL	50	NA	0.45	0.5	ND	7.94	ND	ND	7.94
ALC015S 03	ALC015SC	50	NA	0.45	0.5	ND	7.94	ND	ND	7.94
ALC015S 04	C071-01	50	NA	1.75	NA	ND	34.7	ND	ND	34.7
ALC015S 05	C071-07	50	NA	12.6	NA	ND	250	ND	ND	250
ALC015S 06	C071-09	50	NA	11.65	NA	ND	231	ND	ND	231
ALC015S 07	C081-06	50	NA	1.25	NA	ND	24.8	ND	ND	24.8
ALC015S 08	C081-08	50	NA	1.25	NA	ND	24.8	ND	ND	24.8
ALC015S 09	C081-08D	50	NA	1.3	NA	ND	25.8	ND	ND	25.8
ALC015S 10	C106-06	50	NA	2.6	NA	ND	51.6	ND	ND	51.6
ALC015S 11	C106-08	50	NA	1.75	NA	ND	34.7	ND	ND	34.7
ALC015S 12	C120-14	50	NA	1.75	NA	ND	34.7	ND	ND	34.7
ALC015S 13	C120-16	50	NA	1.3	NA	ND	25.8	ND	ND	25.8
ALC015S 14	C127-06	50	NA	1.75	NA	ND	34.7	ND	ND	34.7

MISCELLANEOUS INFORMATION			STANDARDIZATION				
Standard		Concentration	VNaCO3 / Vb (ml)	VHCl (ml)	DATE	TIME	Acid Titrant HCl (N)
Acid Titrant, HCl	N	0.02	5	0.01	03/20/06	10:58:11	NA
Na_2CO_3 (Zor Z_N)*	N	0.05	5	12.15	03/20/06	10:58:18	0.02057613
LCS	mg/L	82.7	5	12.8	03/20/06	10:58:28	0.01953125
MDL	mg/L	10	5	12.85	03/20/06	10:58:35	0.01945525
RL	mg/L	50				Average HCl (N)=	0.01985

Z=g/L Na_2CO_3. If the concentration of Na_2CO_3 is in N, then Z=Z_N

Comments:

Standardization of Acid Titrant (N)

$$N = \frac{(Z)(V_{Na2CO3})}{(53)(V_{HCl})}$$

$$N = \frac{(Z_N)(V_{Na2CO3})}{(V_{HCl})}$$

ALKALINITY (mg/L)

$$P = \frac{(A)(N)(50,000)}{S}$$

$$T = \frac{(2B-C)(N)(50,000)}{S} \quad for\ T < 20 mg/L$$

$$T = \frac{(B)(N)(50,000)}{S} \quad for\ T > 20 mg/L$$

Analyzed by: IV/JL

EMAX LABORATORIES, INC.

ALKALINITY RAW DATA

MISCELLANEOUS INFORMATION		
Standard	Concentration	
Acid Titrant, HCl	N	0.02
Na_2CO_3 (Zor Z_N)*	N	0.05
LCS	mg/L mg/kg	82.7
MDL	mg/L mg/kg	10
RL	mg/L mg/kg	50

pH Meter Calibration			
Instrument ID:		53	
Buffer 4	4	03/20/06	10:57:22
Buffer 7	7	03/20/06	10:57:26
Buffer 10	10	03/20/06	10:57:37
pH Check Buffer	6.99	03/20/06	10:57:44

STANDARDIZATION				
V_{NaCO3} / V_b (ml)	V_{HCl} (ml)	DATE	TIME	Acid Titrant HCl (N)
5	0.01	03/20/06	10:58:11	NA
5	12.15	03/20/06	10:58:18	0.02058
5	12.8	03/20/06	10:58:28	0.01953
5	12.85	03/20/06	10:58:35	0.01946
			Average HCl (N)=	0.01985

Book #: AAL-012

Page: 8

SOP: ~~EMAX-310.1 Rev. 3~~ Emax-2320B 4/3/201

Analytical Batch: ALC015S

Analyzed By: IV/JL

Data File Name	Lab Sample ID	Sample Amount (ml)	Sample pH	Analysis Date mm:dd:yy	Analysis Time hh:mm:ss	Volume of Acid Titant (A) ml pH=8.3	Analysis Date mm:dd:yy	Analysis Time hh:mm:ss	Volume of Acid Titant (B) ml pH=4.5	Analysis Date mm:dd:yy	Analysis Time hh:mm:ss	Volume of Acid Titant (C) ml pH=4.2	Analysis Date mm:dd:yy	Analysis Time hh:mm:ss	Final pH	Analysis Date mm:dd:yy	Analysis Time hh:mm:ss
ALC015S 01	ALC015SB	50	5.23	03/20/06	13:19:45	NA	03/20/06	13:19:54	0.01	03/20/06	13:20:19	NA	03/20/06	13:20:29	4.47	03/20/06	13:20:36
ALC015S 02	ALC015SL	50	8.78	03/20/06	13:43:10	NA	03/20/06	13:43:17	0.45	03/20/06	13:43:23	0.5	03/20/06	13:43:26	4.2	03/20/06	13:43:33
ALC015S 03	ALC015SC	50	8.78	03/20/06	13:49:42	NA	03/20/06	13:49:45	0.45	03/20/06	13:49:59	0.5	03/20/06	13:50:03	4.21	03/20/06	13:50:09
ALC015S 04	C071-01	50	9.26	03/20/06	14:41:14	NA	03/20/06	14:41:17	1.75	03/20/06	14:48:38	NA	03/20/06	14:49:14	4.52	03/20/06	14:49:34
ALC015S 05	C071-07	50	9.42	03/20/06	14:51:41	NA	03/20/06	14:51:44	12.6	03/20/06	15:03:37	NA	03/20/06	15:03:41	4.55	03/20/06	15:03:46
ALC015S 06	C071-09	50	9.3	03/20/06	15:04:55	NA	03/20/06	15:04:58	11.65	03/20/06	15:13:02	NA	03/20/06	15:13:05	4.54	03/20/06	15:13:45
ALC015S 07	C081-06	50	9.16	03/20/06	15:17:06	NA	03/20/06	15:17:08	1.25	03/20/06	15:18:36	NA	03/20/06	15:18:39	4.45	03/20/06	15:18:45
ALC015S 08	C081-08	50	8.81	03/20/06	15:20:57	NA	03/20/06	15:21:00	1.25	03/20/06	15:21:59	NA	03/20/06	15:22:02	4.45	03/20/06	15:22:06
ALC015S 09	C081-08D	50	8.82	03/20/06	15:25:53	NA	03/20/06	15:25:55	1.3	03/20/06	15:26:00	NA	03/20/06	15:26:04	4.45	03/20/06	15:26:10
ALC015S 10	C106-06	50	9.28	03/20/06	15:28:02	NA	03/20/06	15:28:04	2.6	03/20/06	15:30:47	NA	03/20/06	15:30:50	4.46	03/20/06	15:30:55
ALC015S 11	C106-08	50	9.14	03/20/06	15:31:37	NA	03/20/06	15:31:39	1.75	03/20/06	15:33:06	NA	03/20/06	15:33:08	4.45	03/20/06	15:33:14
ALC015S 12	C120-14	50	9.22	03/20/06	15:34:01	NA	03/20/06	15:34:03	1.75	03/20/06	15:37:09	NA	03/20/06	15:37:12	4.54	03/20/06	15:37:19
ALC015S 13	C120-16	50	9.07	03/20/06	15:38:58	NA	03/20/06	15:39:01	1.3	03/20/06	15:41:28	NA	03/20/06	15:41:39	4.45	03/20/06	15:41:45
ALC015S 14	C127-06	50	8.16	03/20/06	15:42:53	NA	03/20/06	15:42:56	1.75	03/20/06	15:44:45	NA	03/20/06	15:44:48	4.46	03/20/06	15:44:54

Comments:

EXTRACTION LOG FOR WET CHEMISTRY

Method ☐ Distillation: EMAX_____- Rev. No.___ ☐ Digestion: EMAX_____- Rev. No.___ ☑ Leaching

Matrix: S Start Date: 3/20/06 Time: 9:50 End Date: 3/20/06 Time: 12:00

Book # EWE-010

PREPARATION BATCH # ALC0153

Sample Prep ID	Lab Sample ID	Sample Amount (g)	Extraction Solution (ml)	Notes
01	ALC0153B	10.000	100	
02	SL	10.008		
03	SC	10.000		
04	C071-01	10.050		
05	07	10.059		
06	09	10.085		
07	C081-06	10.047		
08	08	10.065		
09	08D	10.035		
10	C120-14	10.075		
11	16	10.009		
12	C106-06	10.003		
13	08	10.007		
14	C127-06	10.060		
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

N 3/20/06

Calibration of pH meter

Buffer ID	Value	Reading
	7	
	4	
Slope		
pH meter ID		

Reagents

Reagents	Lot #	Amount (ml)	Final Volume (ml)
Nanopure			
pH		Exp. Date	
Rotary Agitator #		rpm	

Room Temperature (°C)

High	Low	Thermostat Setting	Criteria
			20-40

Comments:

Prepared By: IV/N

Checked By:

Extracts Received By:

Disposed by: Disposal Date:

CASE NARRATIVE

CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

METHOD 314.0
PERCHLORATE

Ten (10) soil samples were received on 03/11/06 for Perchlorate analysis by Method 314.0 in accordance with "Method for Determination of Perchlorate by Ion Chromatography", EPA 600/98-118.

1. **Holding Time**

   Analysis met holding time criteria.

2. **Method Blank**

   Method blank was free of contamination at half the reporting limit.

3. **Lab Control Sample/Lab Control Sample Duplicate**

   Lab control sample results were within QC limits.

4. **Duplicate**

   No Duplicate sample was designated in this SDG.

5. **Matrix Spike**

   No MS sample was designated in this SDG.

6. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

   Samples were leached with DI water at a ratio of 1:20 (w:v).

SAMPLE RESULTS

METHOD 314.0
PERCHLORATE

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : I57

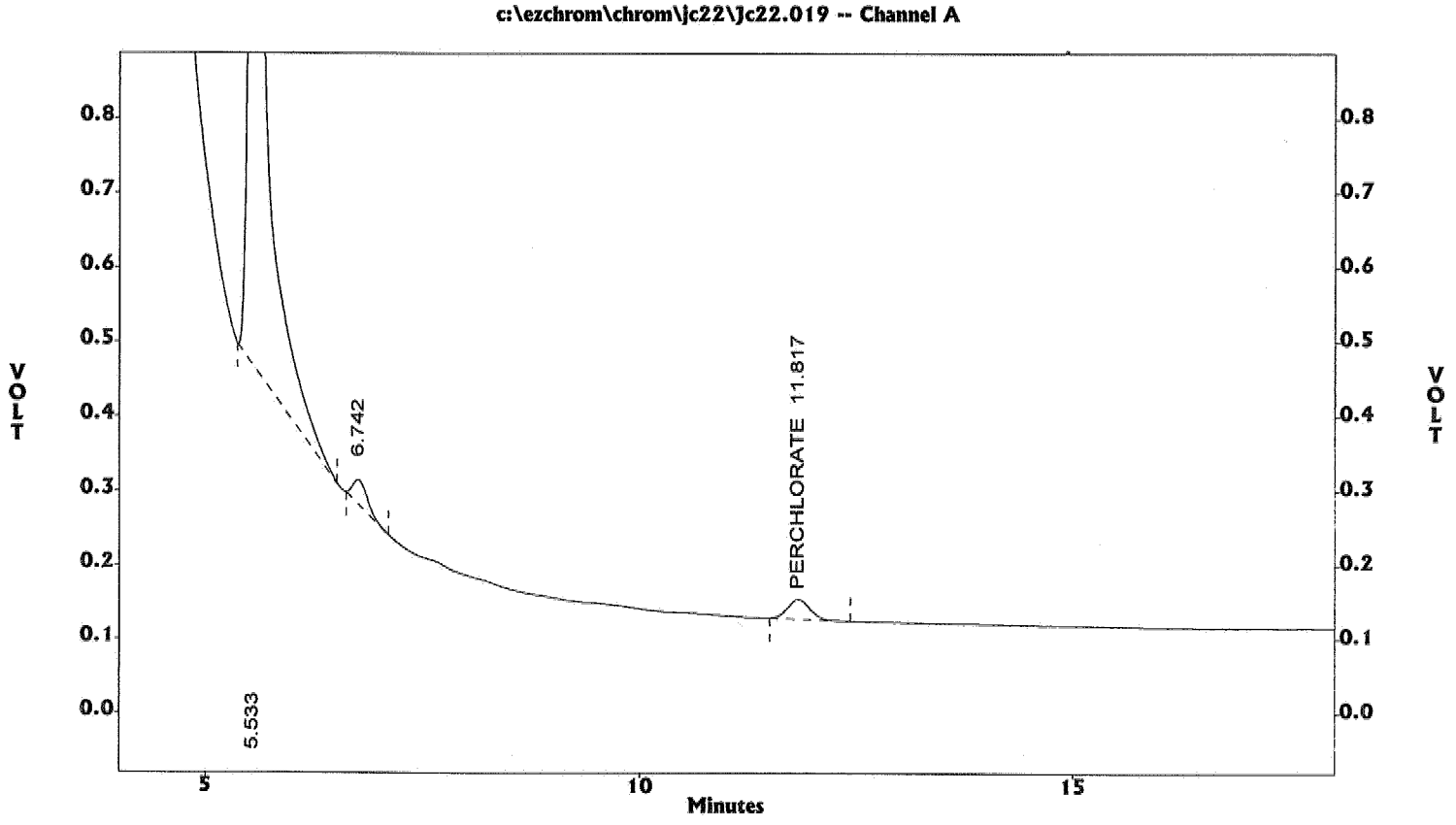
SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/kg)	DLF	MOIST	RL (ug/kg)	MDL (ug/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	PCC010SB	ND	1	NA	40	20	03/22/0613:29	03/21/0617:02	JC22002	JC22001	PCC010S	NA	03/21/06
LCS1S	PCC010SL	202	1	NA	40	20	03/22/0614:10	03/21/0617:02	JC22004	JC22001	PCC010S	NA	03/21/06
LCD1S	PCC010SC	202	1	NA	40	20	03/22/0614:50	03/21/0617:02	JC22005	JC22001	PCC010S	NA	03/21/06
M121-0.5	C106-01	42.6	1	4.3	41.8	20.9	03/22/0619:46	03/21/0617:02	JC22019	JC22013	PCC010S	03/10/06	03/11/06
M121-10	C106-03	ND	1	5.7	42.4	21.2	03/22/0620:27	03/21/0617:02	JC22021	JC22013	PCC010S	03/10/06	03/11/06
M121-20	C106-05	ND	1	3.6	41.5	20.7	03/22/0621:07	03/21/0617:02	JC22023	JC22013	PCC010S	03/10/06	03/11/06
M121-30	C106-06	ND	1	5.8	42.5	21.2	03/22/0621:48	03/21/0617:02	JC22025	JC22024	PCC010S	03/10/06	03/11/06
M121-40	C106-07	ND	1	8.9	43.9	22	03/22/0622:08	03/21/0617:02	JC22026	JC22024	PCC010S	03/10/06	03/11/06
M121-50	C106-08	ND	1	6.1	42.6	21.3	03/22/0622:28	03/21/0617:02	JC22027	JC22024	PCC010S	03/10/06	03/11/06
M121-60	C106-09	ND	1	17.8	48.7	24.3	03/22/0623:08	03/21/0617:02	JC22028	JC22024	PCC010S	03/10/06	03/11/06
M121-80	C106-10	116	1	27.5	55.2	27.6	03/22/0623:28	03/21/0617:02	JC22029	JC22024	PCC010S	03/10/06	03/11/06
M121-5	C106-02	3610	10	10.3	446	223	03/27/0615:47	03/21/0617:02	JC27006	JC27001	PCC010S	03/10/06	03/11/06
M121-5D	C106-04	3010	10	9.5	442	221	03/27/0616:10	03/21/0617:02	JC27007	JC27001	PCC010S	03/10/06	03/11/06

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.019
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : C106-01
Acquired : Mar 22, 2006 19:46:39
Printed : Mar 22, 2006 20:04:40
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
6	PERCHLORATE	11.82	482716.00	26740.00	13239.125	2.044

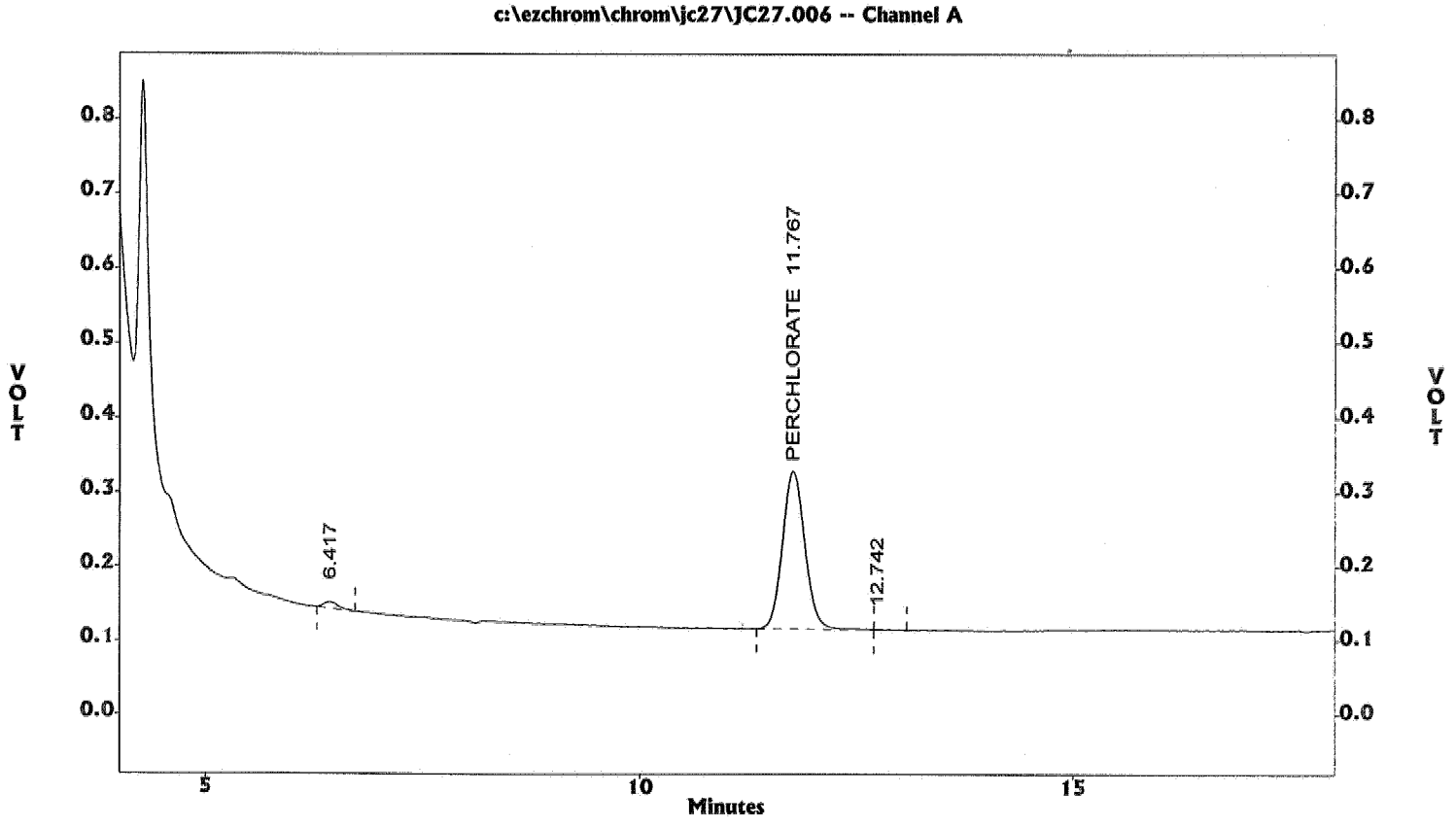


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc27\JC27.006
Method : c:\ezchrom\methods\ic57c07.met
Sample ID : C106-02 DF=10
Acquired : Mar 27, 2006 15:47:31
Printed : Mar 27, 2006 16:08:13
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
5	PERCHLORATE	11.77	3874419.00	213061.00	13239.125	161.679

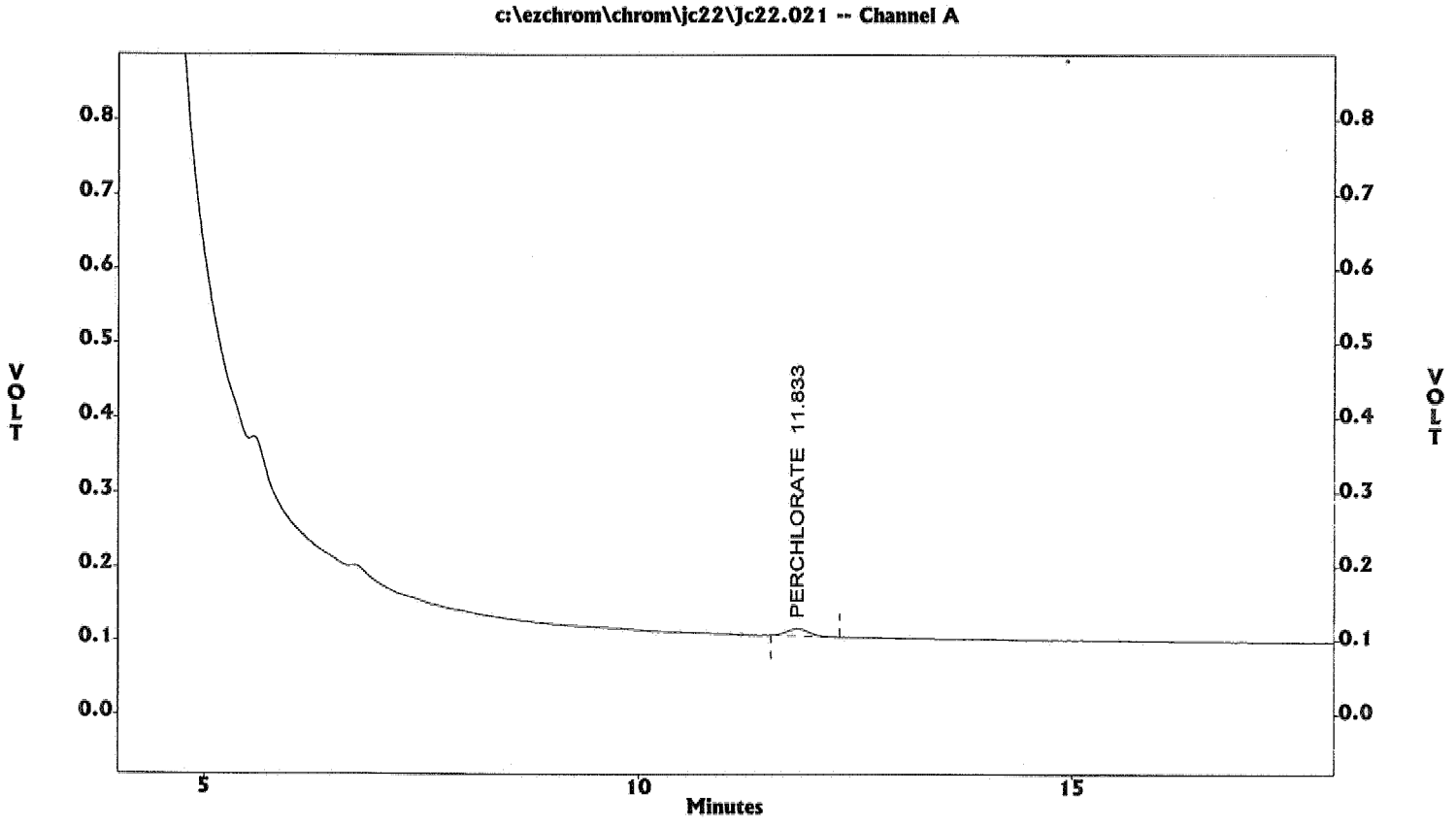


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.021
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : C106-03
Acquired : Mar 22, 2006 20:27:10
Printed : Mar 22, 2006 20:45:10
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
4	PERCHLORATE	11.83	179155.00	9943.00	13239.125	0.771

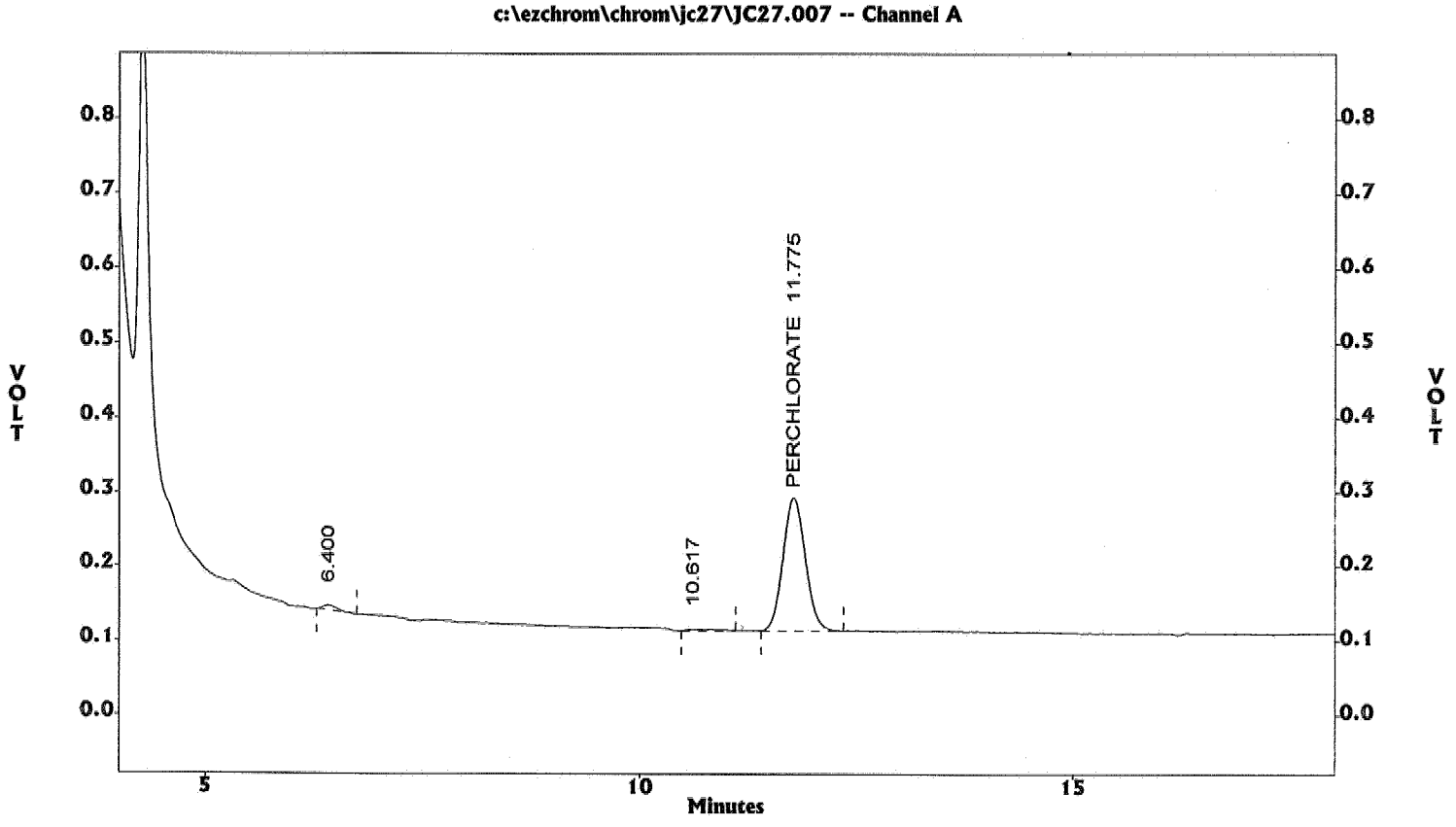


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc27\JC27.007
Method : c:\ezchrom\methods\ic57c07.met
Sample ID : C106-04 DF=10
Acquired : Mar 27, 2006 16:10:13
Printed : Mar 27, 2006 16:37:43
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
6	PERCHLORATE	11.77	3224254.00	179610.00	13239.125	136.322

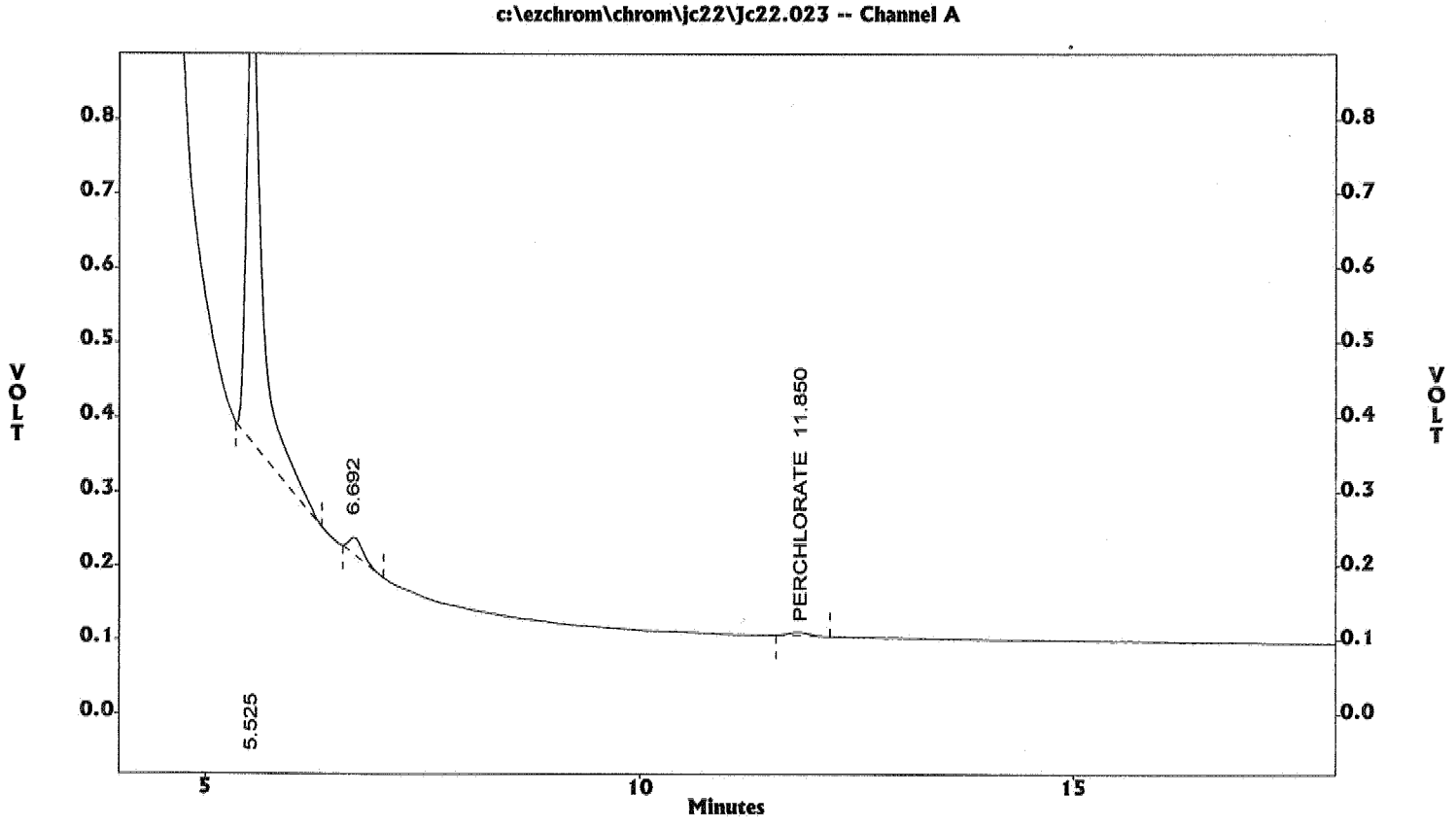


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.023
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : C106-05
Acquired : Mar 22, 2006 21:07:40
Printed : Mar 22, 2006 21:25:41
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.85	84350.00	5258.00	13239.125	0.416

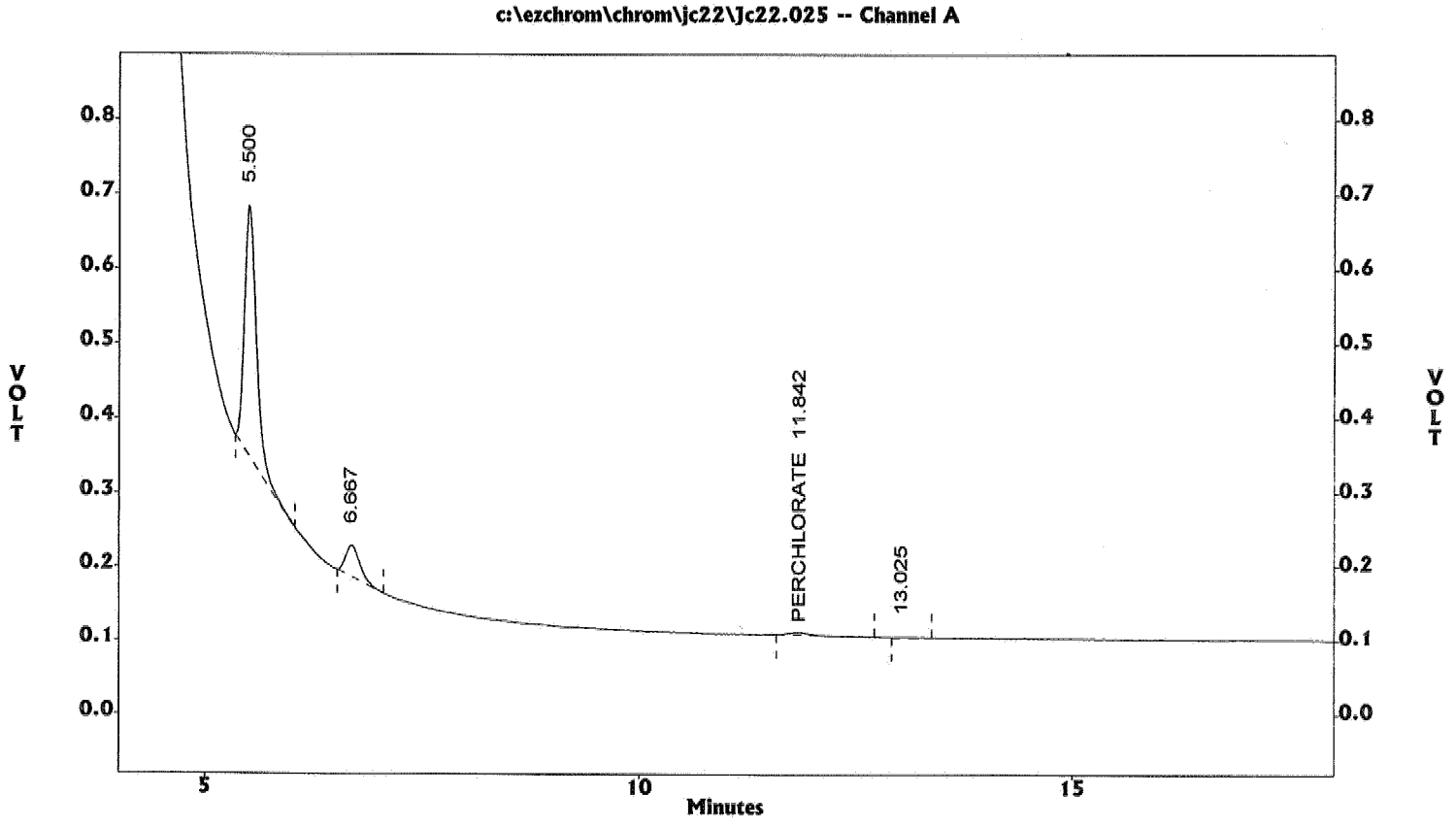


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.025
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : C106-06
Acquired : Mar 22, 2006 21:48:10
Printed : Mar 22, 2006 22:06:12
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.84	60038.00	3645.00	13239.125	0.293

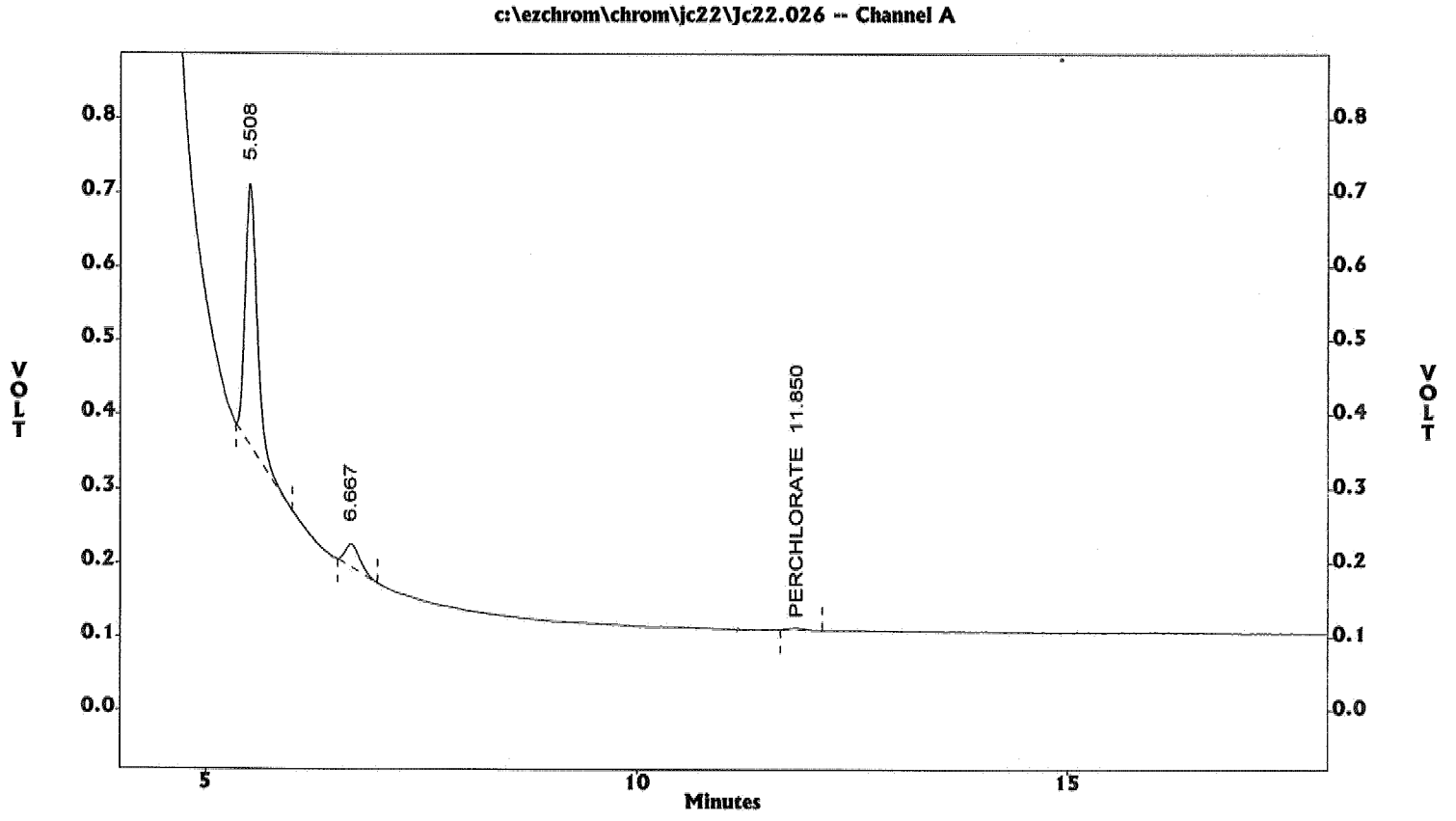


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.026
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : C106-07
Acquired : Mar 22, 2006 22:08:26
Printed : Mar 22, 2006 22:26:27
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
6	PERCHLORATE	11.85	39164.00	2936.00	13239.125	0.240

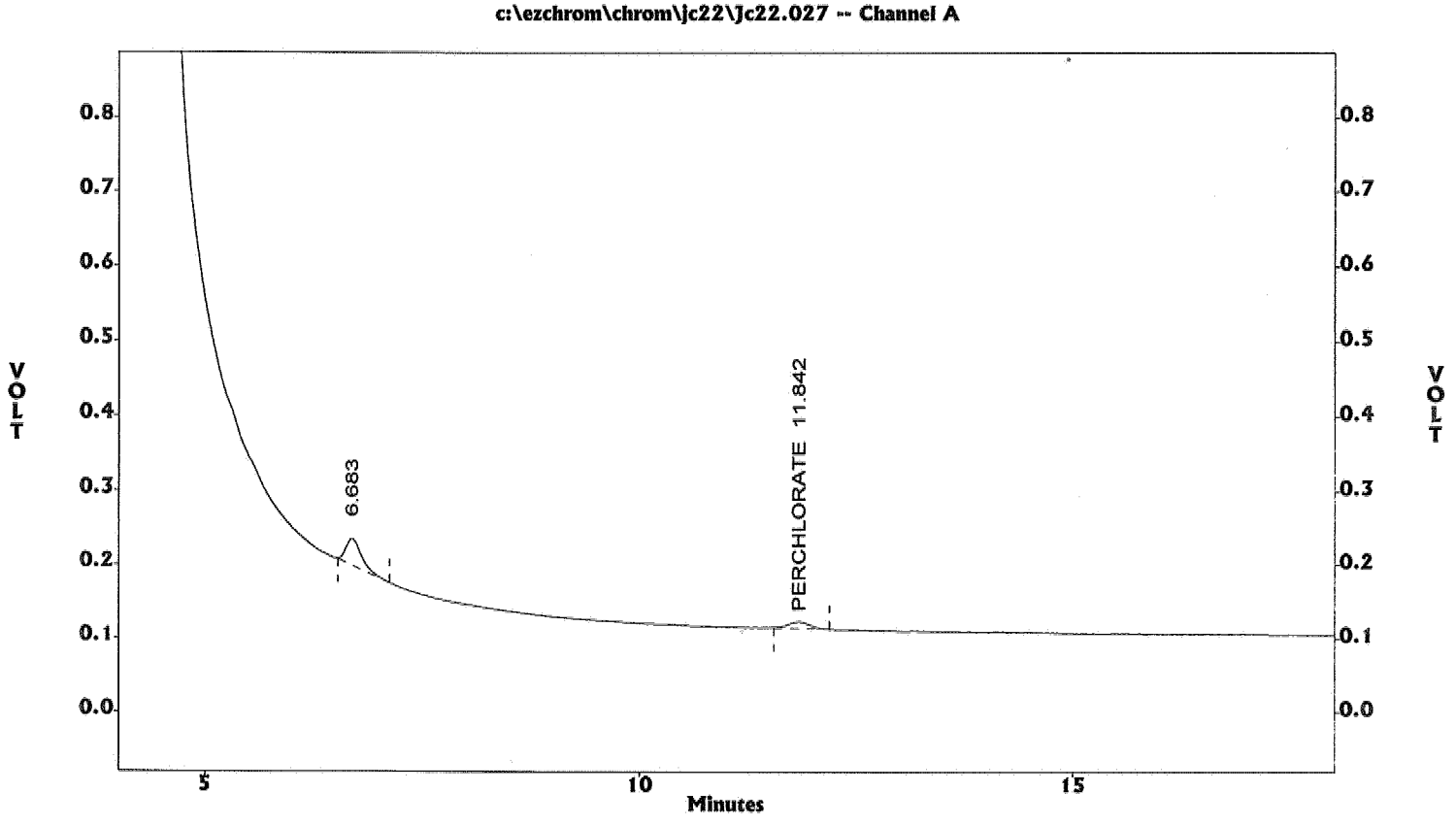


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.027
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : C106-08
Acquired : Mar 22, 2006 22:28:41
Printed : Mar 22, 2006 22:46:42
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
6	PERCHLORATE	11.84	159039.00	9583.00	13239.125	0.743

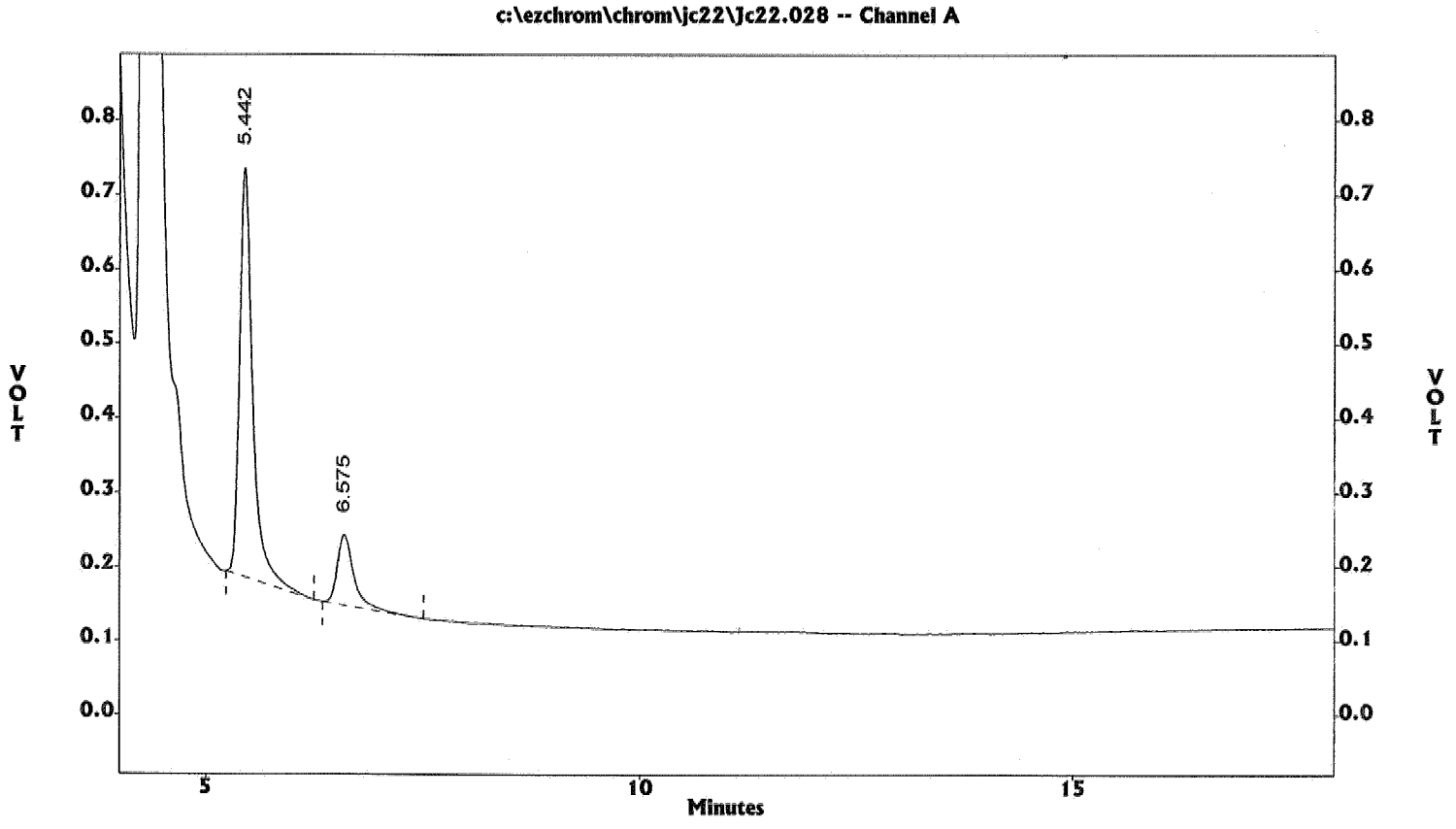


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.028
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : C106-09
Acquired : Mar 22, 2006 23:08:03
Printed : Mar 22, 2006 23:26:04
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	11.76	0.00	0.00	0.000	0.000



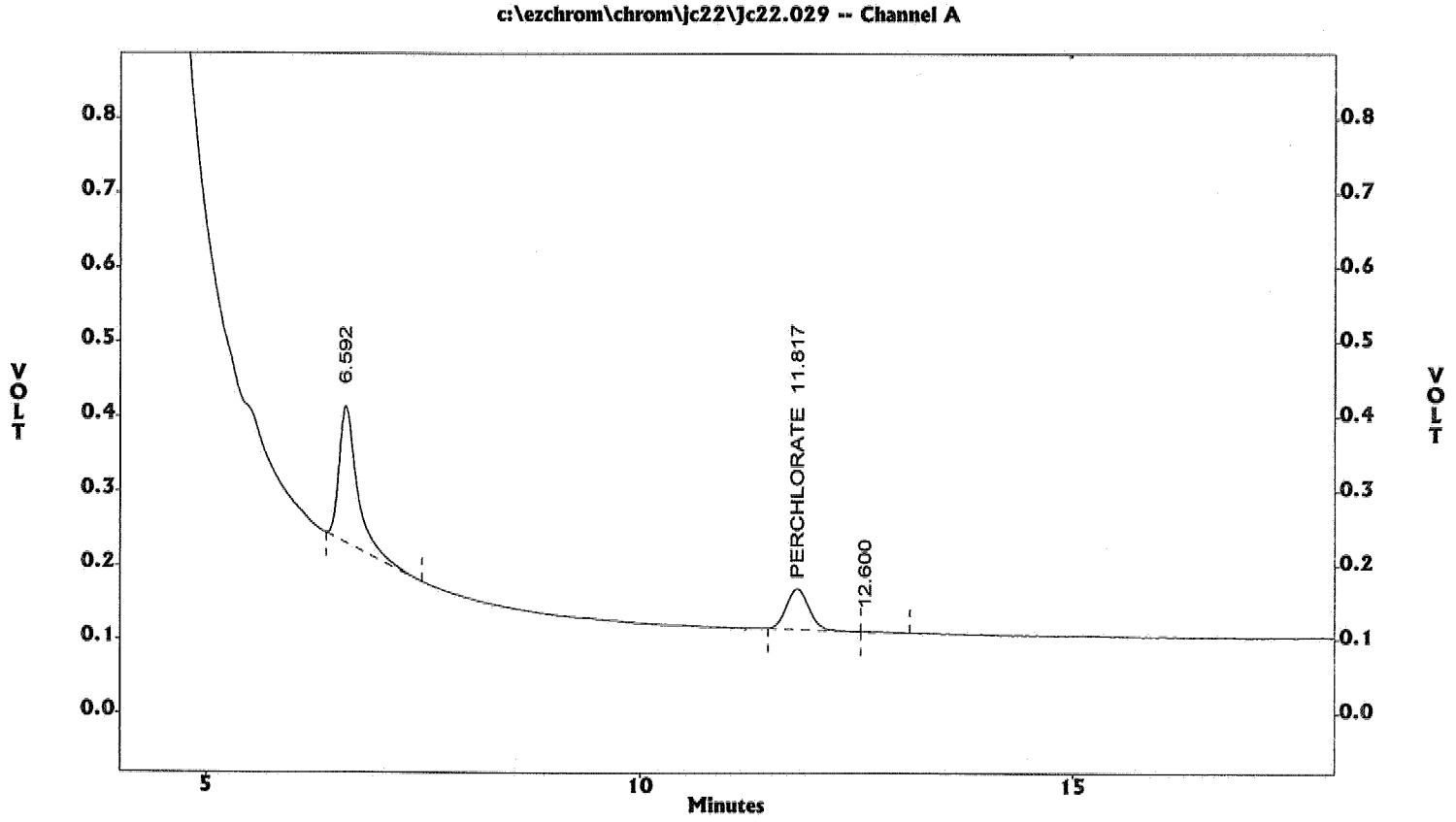
8822

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.029
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : C106-10
Acquired : Mar 22, 2006 23:28:18
Printed : Mar 22, 2006 23:46:19
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
5	PERCHLORATE	11.82	1006565.00	55494.00	13239.125	4.224



QC SUMMARY

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 314.0

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	PCC010SB	PCC010SL	PCC010SC		
LAB FILE ID:	JC22002	JC22004	JC22005		
DATE EXTRACTED:	03/21/0617:02	03/21/0617:02	03/21/0617:02	DATE COLLECTED:	NA
DATE ANALYZED:	03/22/0613:29	03/22/0614:10	03/22/0614:50	DATE RECEIVED:	03/21/06
PREP. BATCH:	PCC010S	PCC010S	PCC010S		
CALIB. REF:	JC22001	JC22001	JC22001		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Perchlorate	ND	200	202	101	200	202	101	0	85-115	20

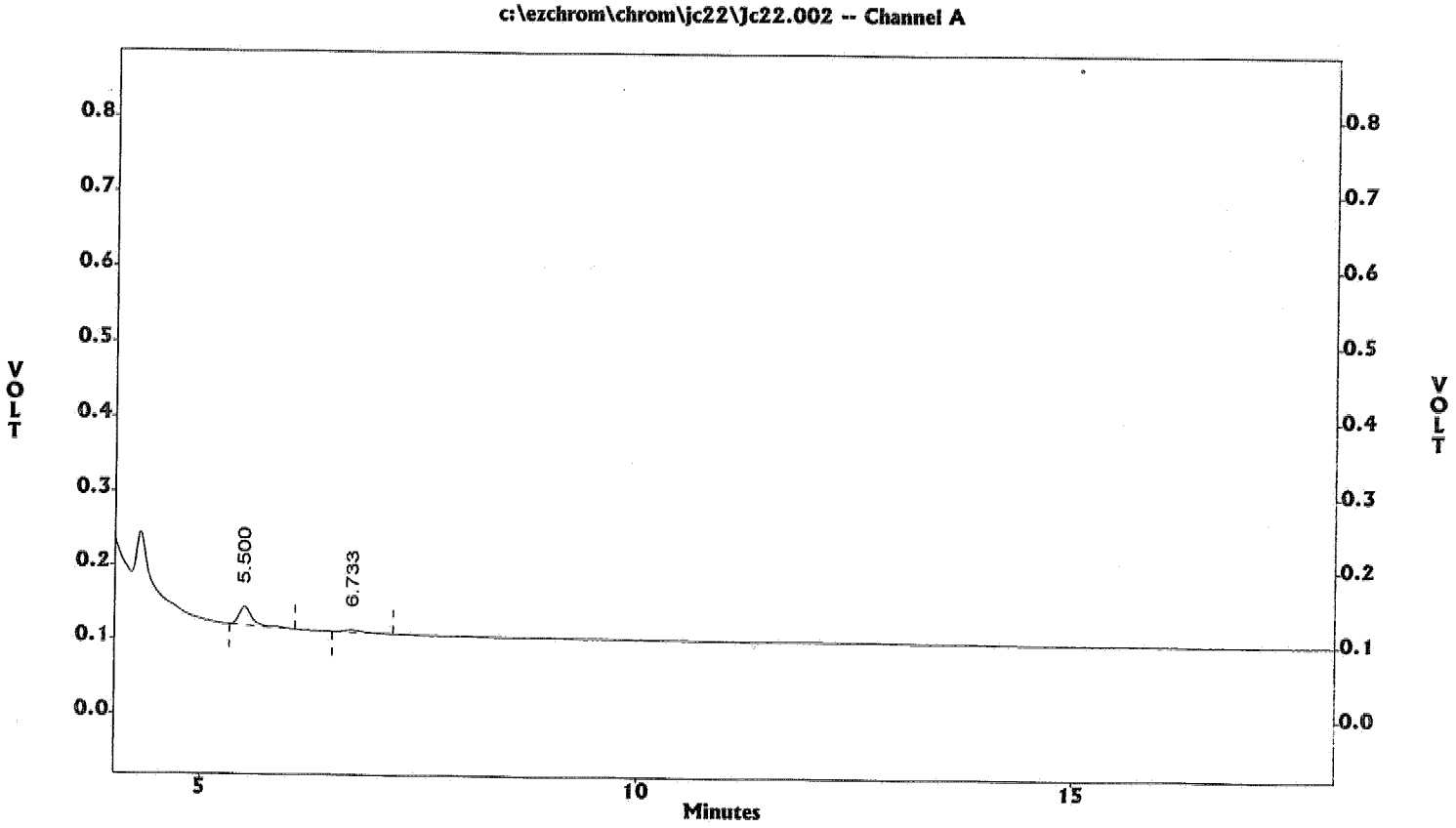
QC DATA

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.002
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : PCC010SB
Acquired : Mar 22, 2006 13:29:56
Printed : Mar 22, 2006 13:47:57
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	11.76	0.00	0.00	0.000	0.000

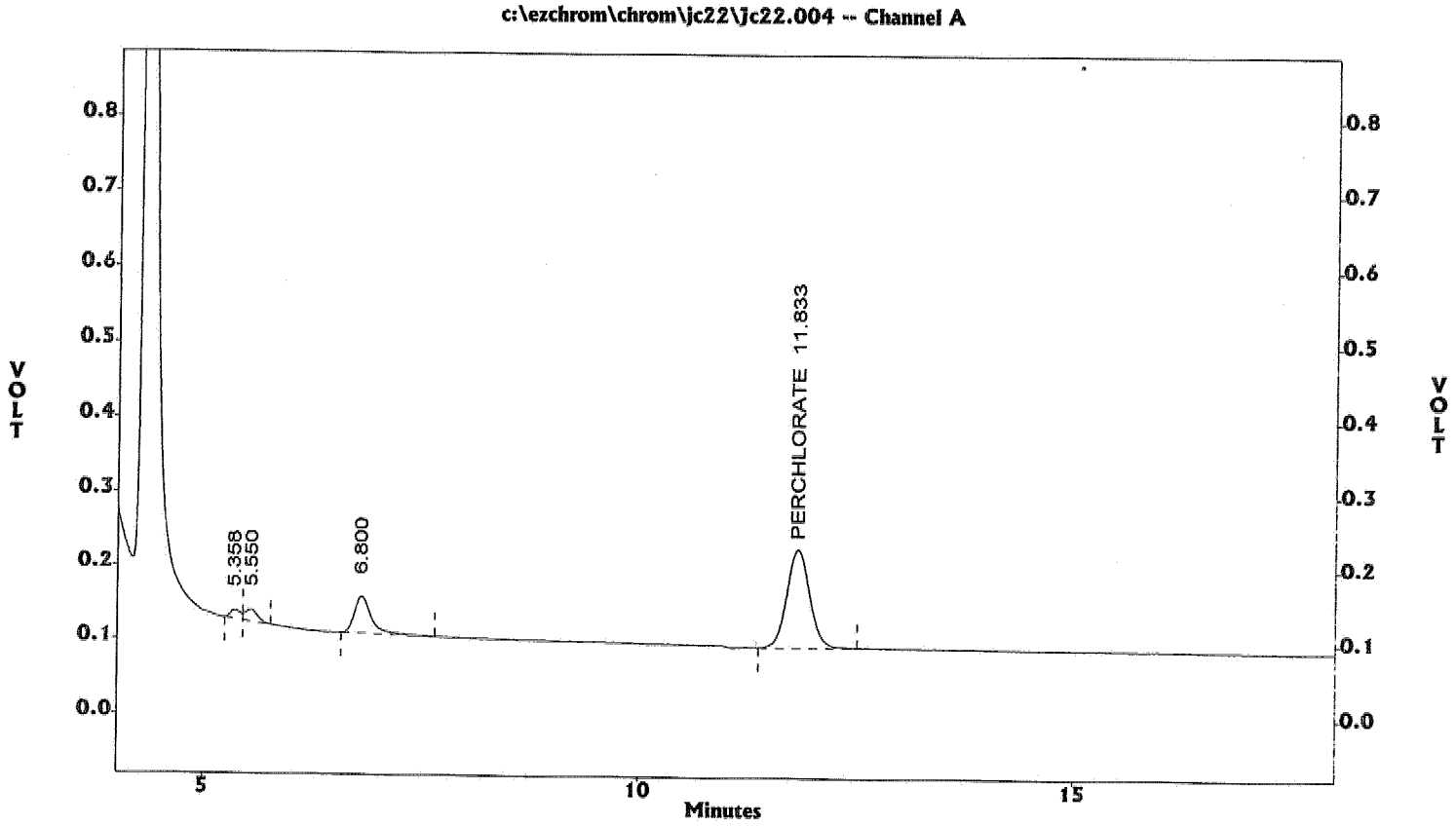


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.004
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : PCC010SL
Acquired : Mar 22, 2006 14:10:27
Printed : Mar 22, 2006 14:28:28
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.83	2418925.00	132616.00	13239.125	10.070

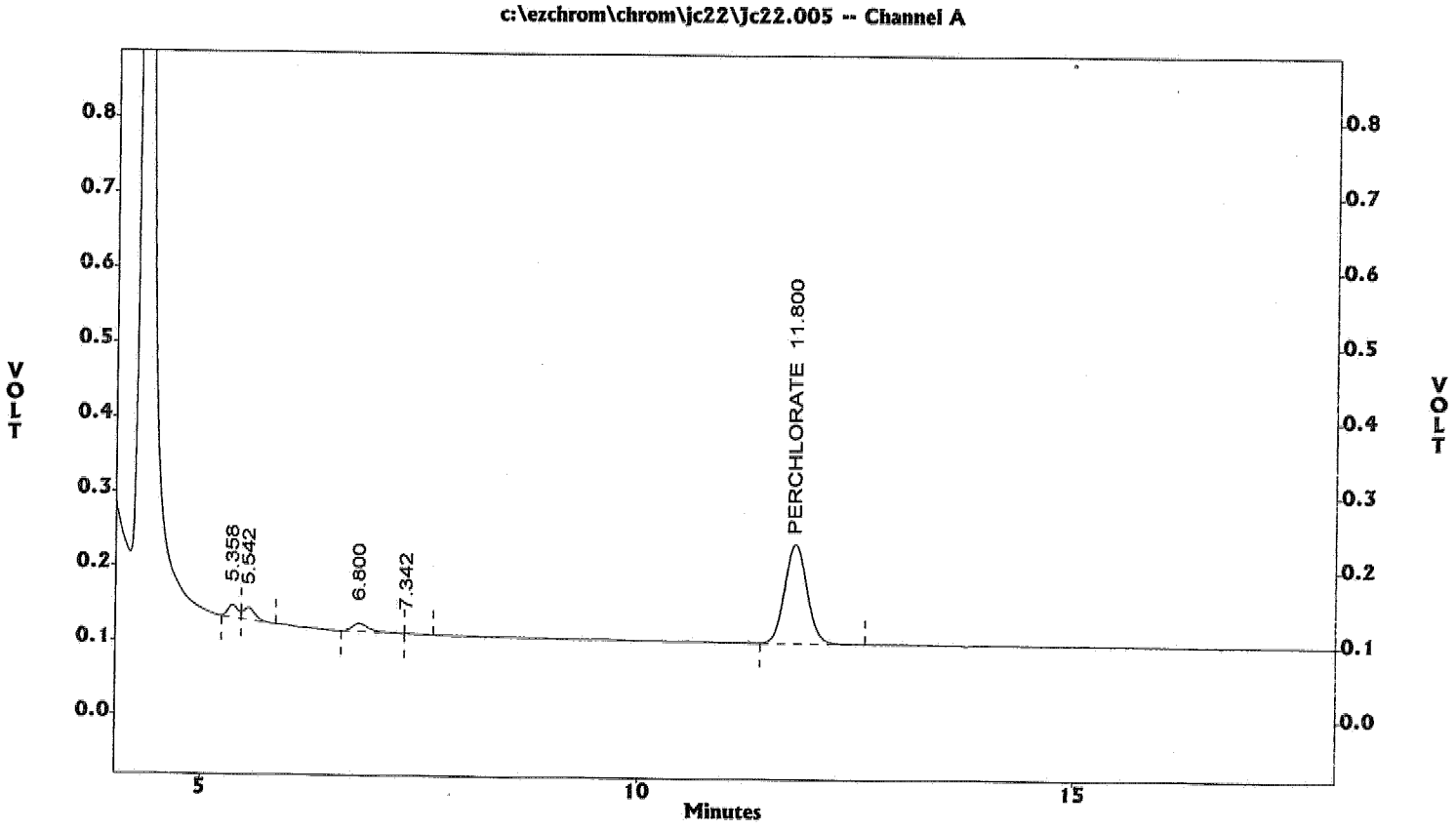


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.005
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : PCC010SC
Acquired : Mar 22, 2006 14:50:10
Printed : Mar 22, 2006 15:08:11
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
9	PERCHLORATE	11.80	2389489.00	132731.00	13239.125	10.079



INITIAL CALIBRATION

IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JC07001	IB	P	IC57C07	03/07/0613:40	1
JC07002	S-0.0	P	IC57C07	03/07/0614:00	1
JC07003	S-2.0	P	IC57C07	03/07/0614:20	1
JC07004	S-4.0	P	IC57C07	03/07/0614:40	1
JC07005	S-10.0	P	IC57C07	03/07/0615:01	1
JC07006	S-25.0	P	IC57C07	03/07/0615:21	1
JC07007	S-30.0	P	IC57C07	03/07/0615:41	1
JC07008	ICV	P	IC57C07	03/07/0616:01	1
JC07009	ICB	P	IC57C07	03/07/0616:22	1
JC07010	IPCS	P	IC57C07	03/07/0617:04	1
JC07011	PCC002WB	P	IC57C07	03/07/0617:24	1
JC07012	MRL	P	IC57C07	03/07/0617:44	1
JC07013	PCC002WL	P	IC57C07	03/07/0618:04	1
JC07014	PCC002WC	P	IC57C07	03/07/0618:25	1
JC07015	B195-03	P	IC57C07	03/07/0618:45	1
JC07016	CCV1-30	P	IC57C07	03/07/0619:05	1
JC07017	C024-02	P	IC57C07	03/07/0619:25	10
JC07018	C024-03	P	IC57C07	03/07/0619:46	10
JC07019	C042-03	P	IC57C07	03/07/0620:06	1
JC07020	C042-03D	P	IC57C07	03/07/0620:26	1
JC07021	C042-03M	P	IC57C07	03/07/0620:46	1
JC07022	CCV2-15	P	IC57C07	03/07/0621:07	1

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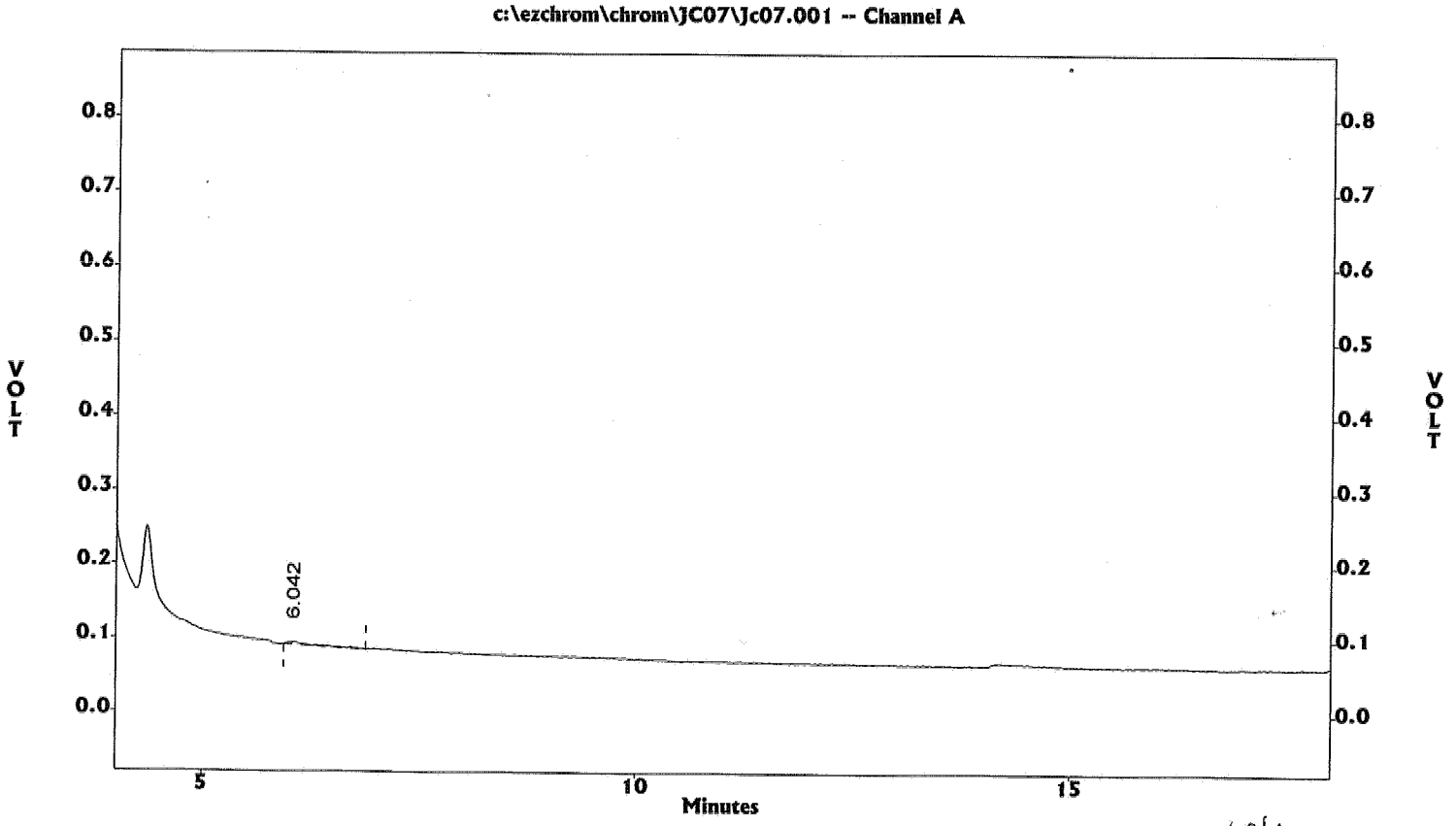
8831

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\JC07\Jc07.001
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : IB
Acquired : Mar 07, 2006 13:40:06
Printed : Mar 07, 2006 13:58:07
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.01	0.00	0.00	0.000	0.000



3/8/06

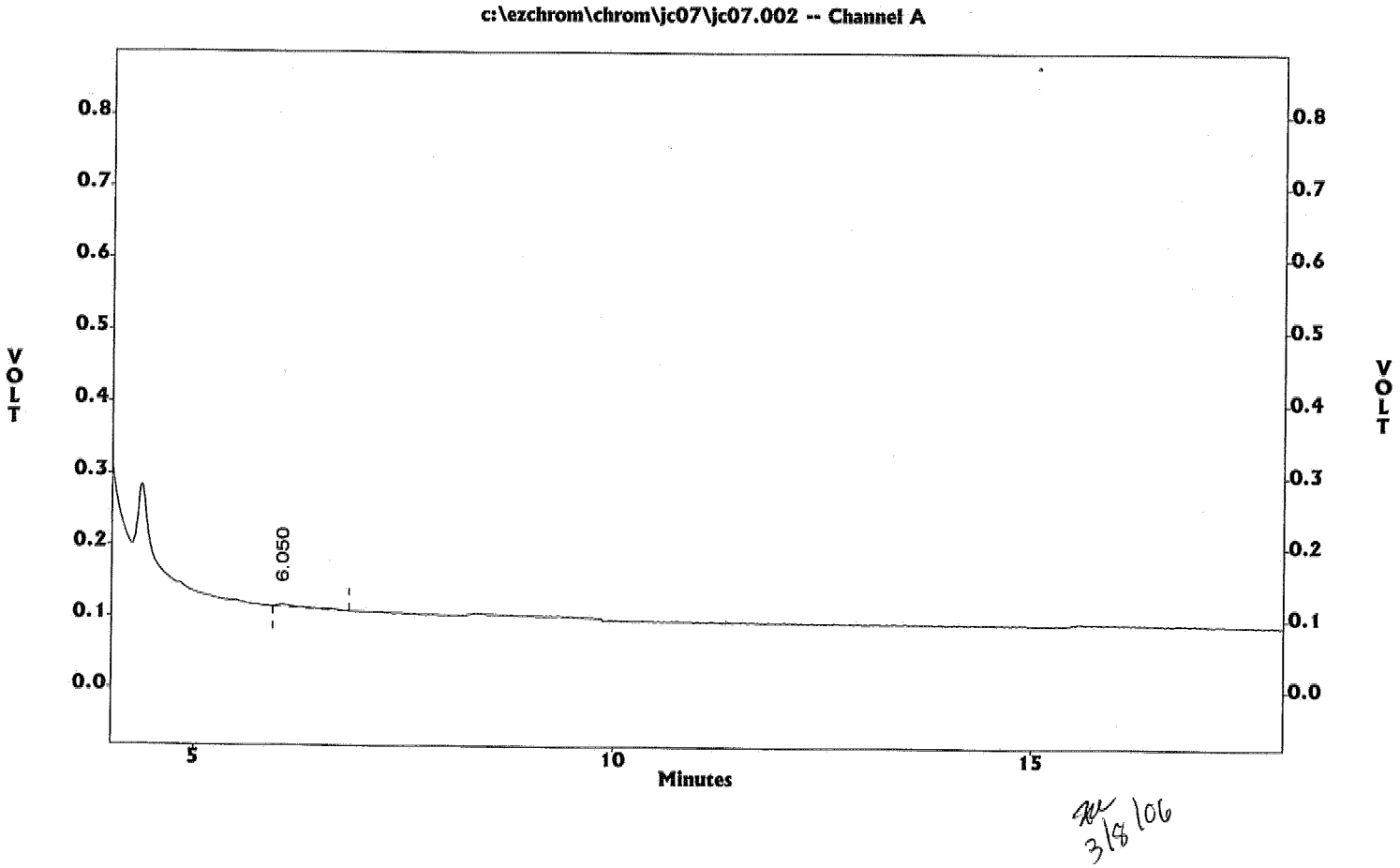
8032

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc07\jc07.002
Method : c:\ezchrom\methods\ic57c07.met
Sample ID : S-0.0
Acquired : Mar 07, 2006 14:00:21
Printed : Mar 07, 2006 16:02:22
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.01	0.00	0.00	0.000	0.000



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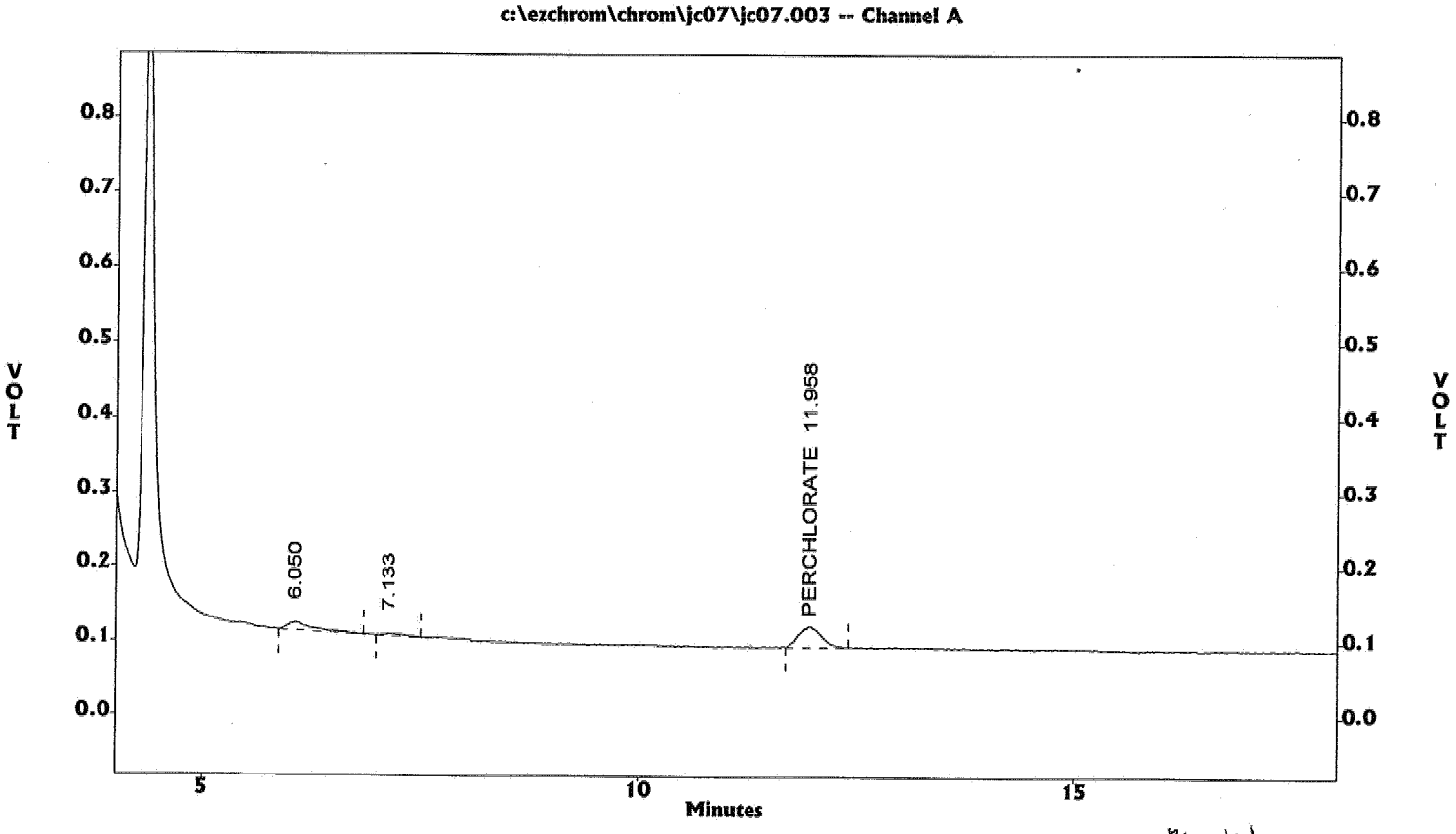
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc07\jc07.003
Method : c:\ezchrom\methods\ic57c07.met
Sample ID : S-2.0
Acquired : Mar 07, 2006 14:20:36
Printed : Mar 07, 2006 16:02:36
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.96	507531.00	27832.00	13239.127	2.000



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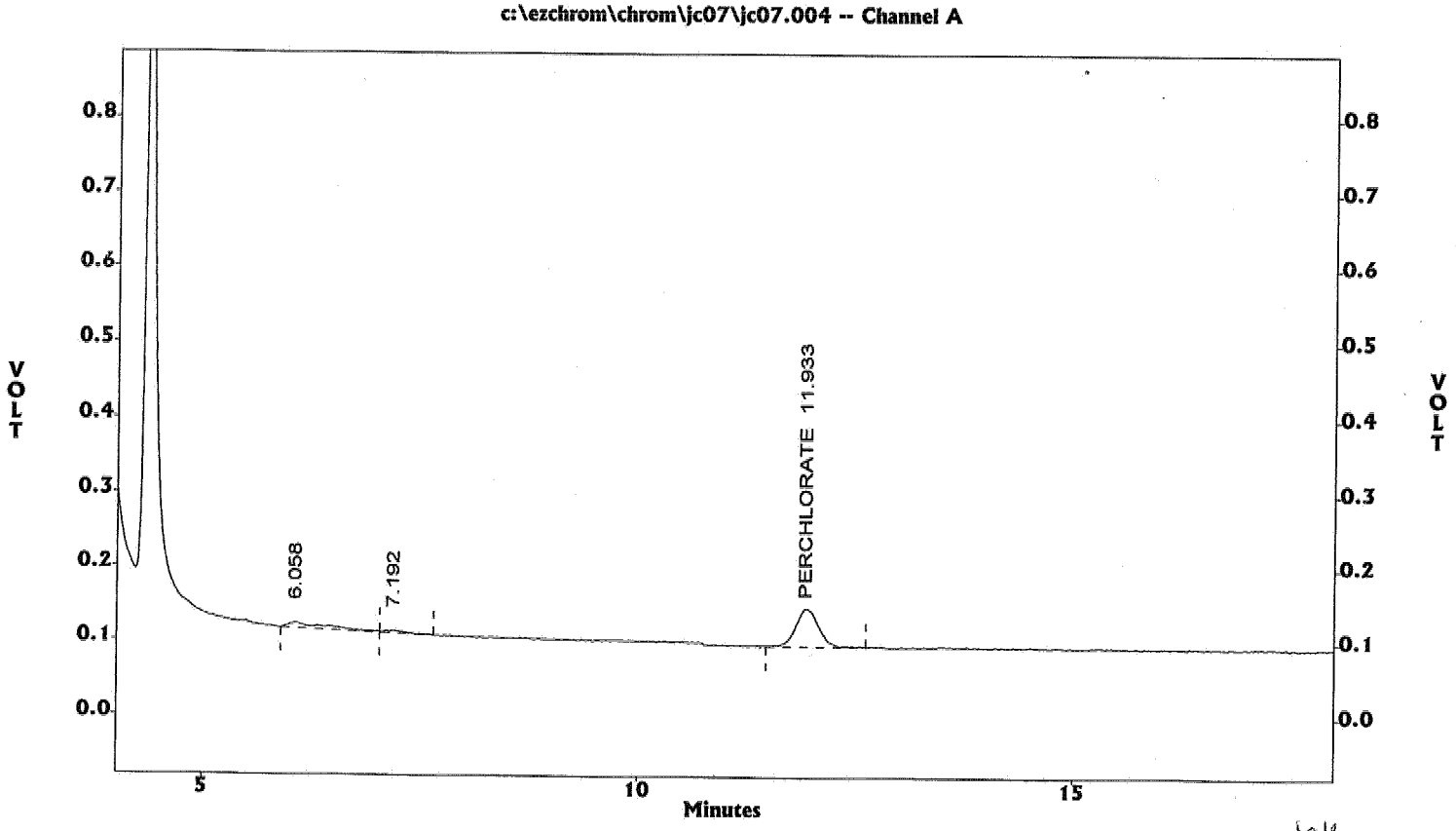
8834

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc07\jc07.004
Method : c:\ezchrom\methods\ic57c07.met
Sample ID : S-4.0
Acquired : Mar 07, 2006 14:40:52
Printed : Mar 07, 2006 16:02:43
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.93	963221.00	51207.00	13239.125	4.000



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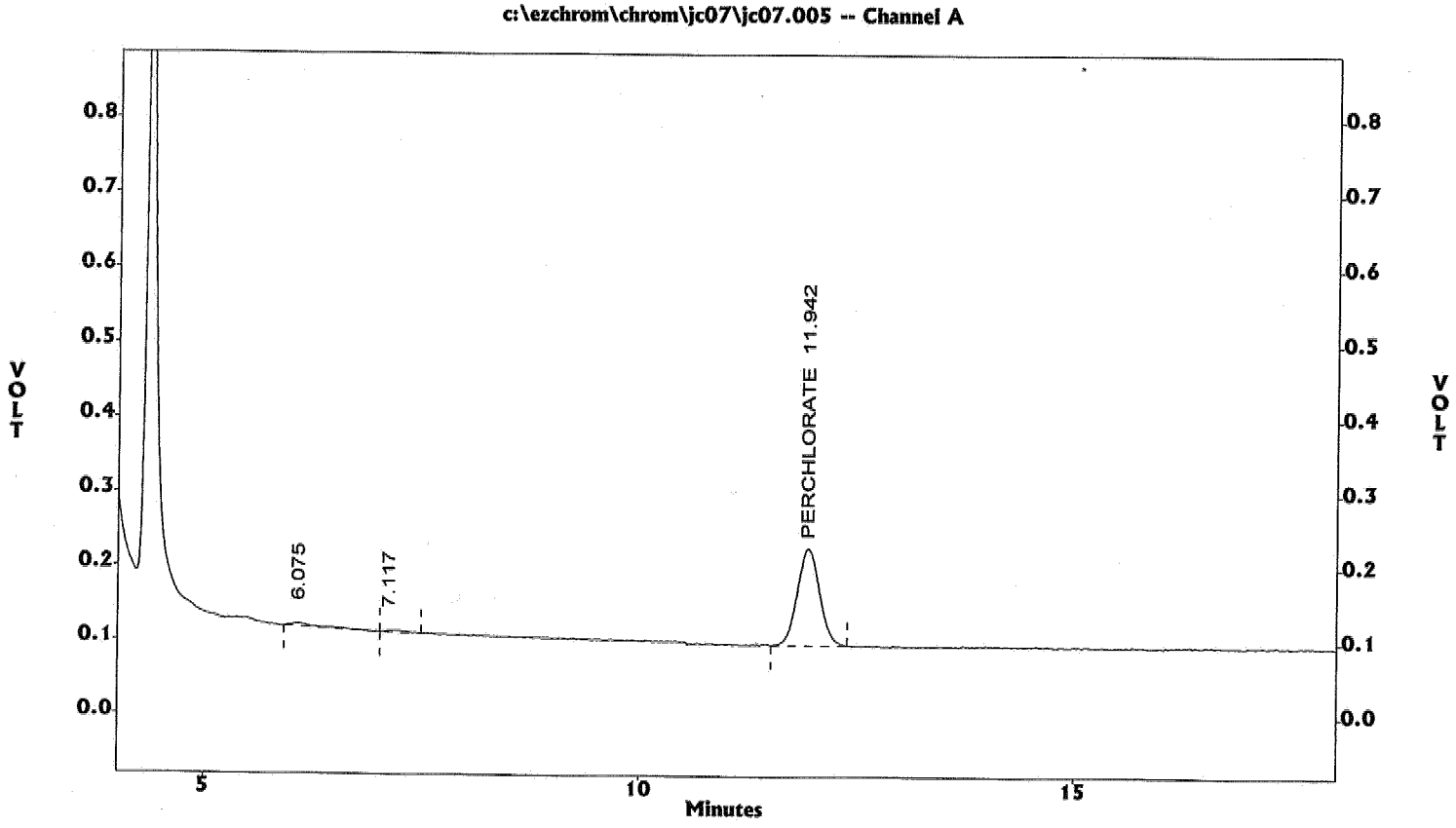
8035

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc07\jc07.005
Method : c:\ezchrom\methods\ic57c07.met
Sample ID : S-10.0
Acquired : Mar 07, 2006 15:01:07
Printed : Mar 07, 2006 16:02:49
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.94	2359182.00	130887.00	13239.125	10.000



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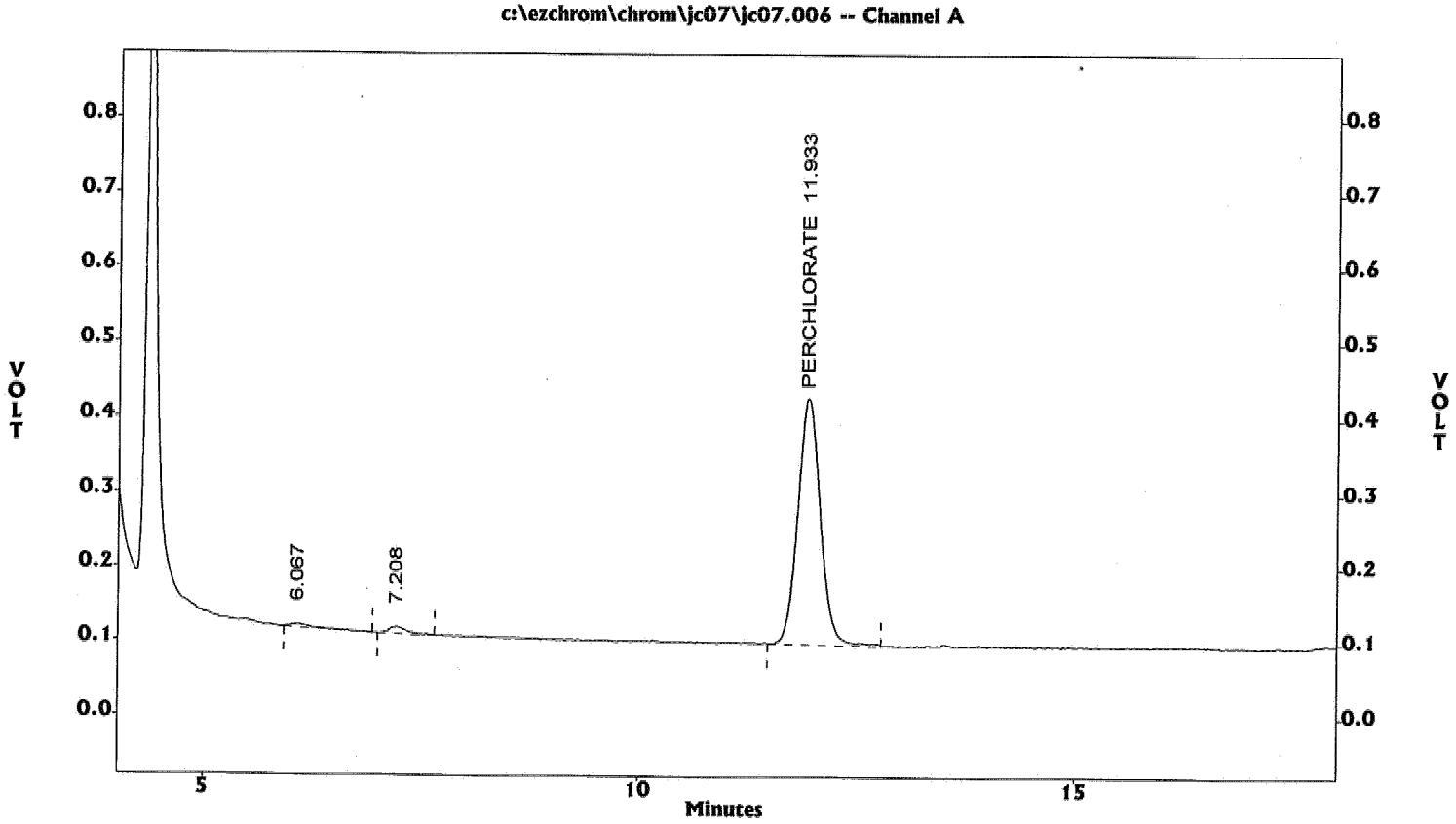
8835

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc07\jc07.006
Method : c:\ezchrom\methods\ic57c07.met
Sample ID : S-25.0
Acquired : Mar 07, 2006 15:21:22
Printed : Mar 07, 2006 16:02:55
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
6	PERCHLORATE	11.93	6067280.00	330487.00	13239.125	25.000



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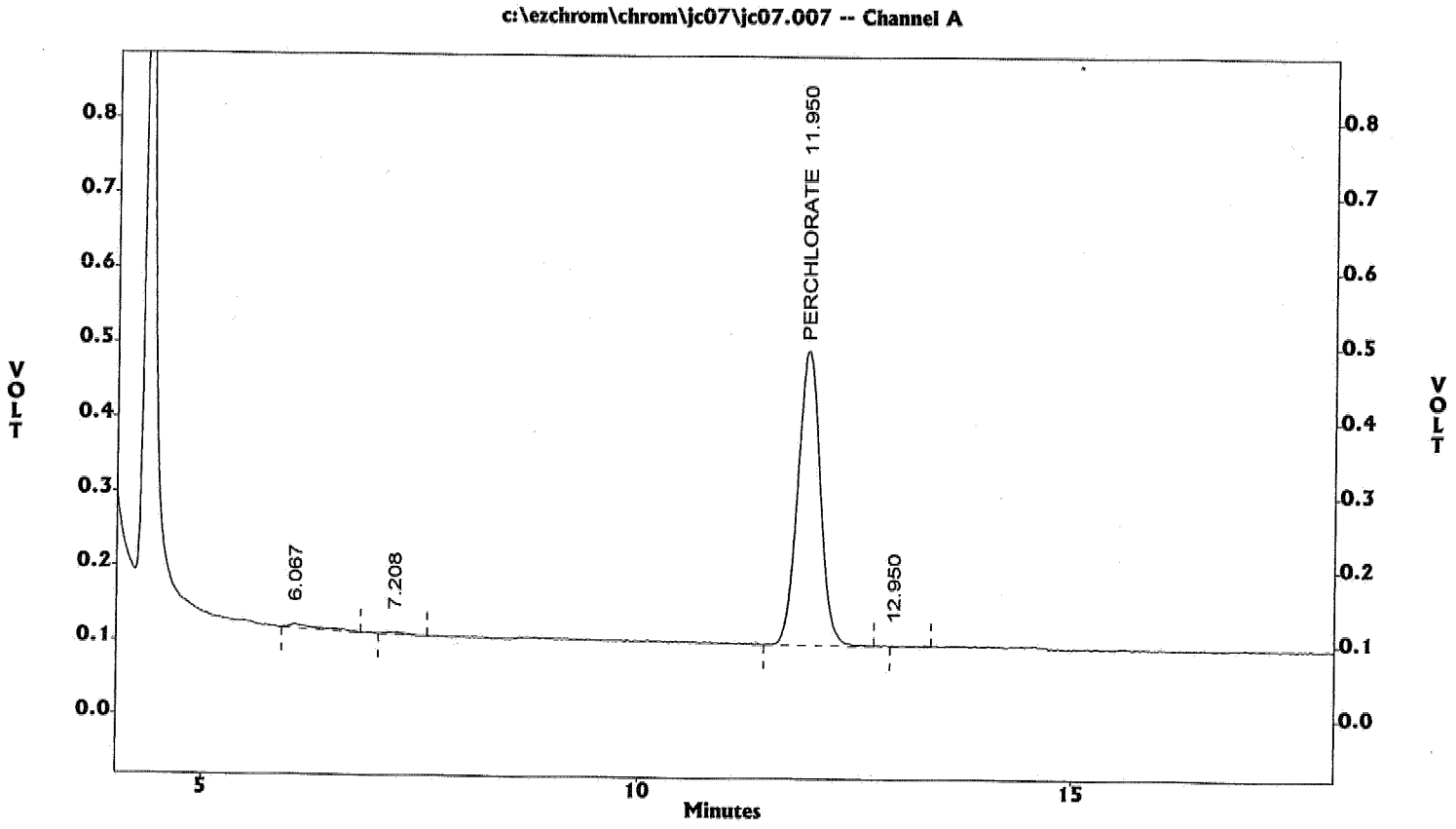
8037

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc07\jc07.007
Method : c:\ezchrom\methods\ic57c07.met
Sample ID : S-30.0
Acquired : Mar 07, 2006 15:41:37
Printed : Mar 07, 2006 16:03:02
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.95	7155466.00	395091.00	13239.125	30.000



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8038

Method : c:\ezchrom\methods\ic57c07.met
Printed : Mar 08, 2006 11:47:11
Channel : A
Peak : PERCHLORATE

* - Replicate Not Used

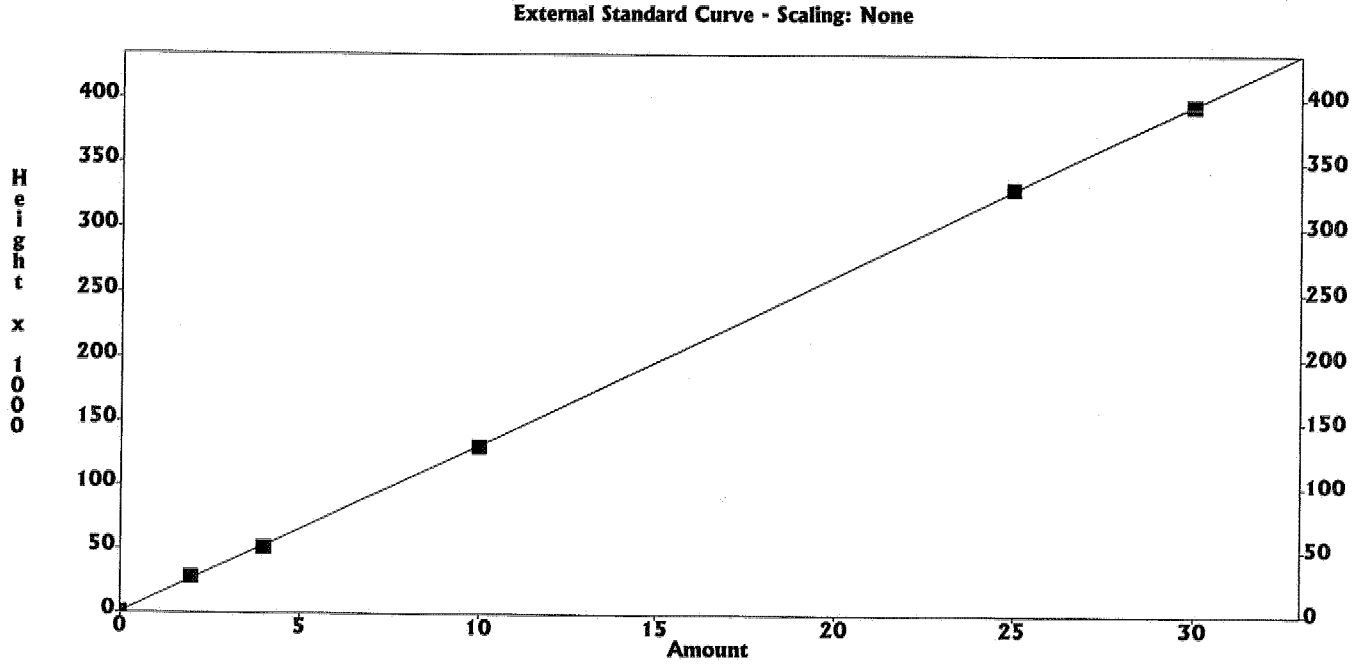
Level	Height	Amount	RF	Rep Hgt 1	Rep Hgt 2	Rep Hgt 3	Rep Hgt 4	Rep Hgt 5	Replic STD	Replic %RSD	Old Height
2	27832	2	13916.00	27832							0
3	51207	4	12801.75	51207							0
4	130887	10	13088.70	130887							0
5	330487	25	13219.48	330487							0
6	395091	30	13169.70	395091							0

Calib Flag: Replace

Average RF: 13239.1
RF StdDev: 411.488
RF %RSD: 3.108

RF Definition: Height / Amount
Weighting Method: None
Fit Through Zero: No

Linear Fit: Amount = 7.58042e-005 x Height + 0.0169654
R^2 = 0.999943



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8639

SECOND SOURCE

IC RESULT FORM CalVersion: PCHLO314.QA1

LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JC07001	IB	P	.000	03/07/0613:40	1
JC07002	S-0.0	P	.0000	03/07/0614:00	1
JC07003	S-2.0	P	2	03/07/0614:20	1
JC07004	S-4.0	P	4	03/07/0614:40	1
JC07005	S-10.0	P	10	03/07/0615:01	1
JC07006	S-25.0	P	25	03/07/0615:21	1
JC07007	S-30.0	P	30	03/07/0615:41	1
JC07008	ICV	P	104%	03/07/0616:01	1
JC07009	ICB	P	.000	03/07/0616:22	1
JC07010	IPCS	P	94.8%	03/07/0617:04	1
JC07011	PCC002WB	P	.000	03/07/0617:24	1
JC07012	MRL	P	97.6%	03/07/0617:44	1
JC07013	PCC002WL	P	10.1	03/07/0618:04	1
JC07014	PCC002WC	P	10.2	03/07/0618:25	1
JC07015	B195-03	P	2.19	03/07/0618:45	1
JC07016	CCV1-30	P	99.3%	03/07/0619:05	1
JC07017	C024-02	P	123	03/07/0619:25	10
JC07018	C024-03	P	88.9	03/07/0619:46	10
JC07019	C042-03	P	2.03	03/07/0620:06	1
JC07020	C042-03D	P	2.16	03/07/0620:26	1
JC07021	C042-03M	P	11.6	03/07/0620:46	1
JC07022	CCV2-15	P	98.3%	03/07/0621:07	1

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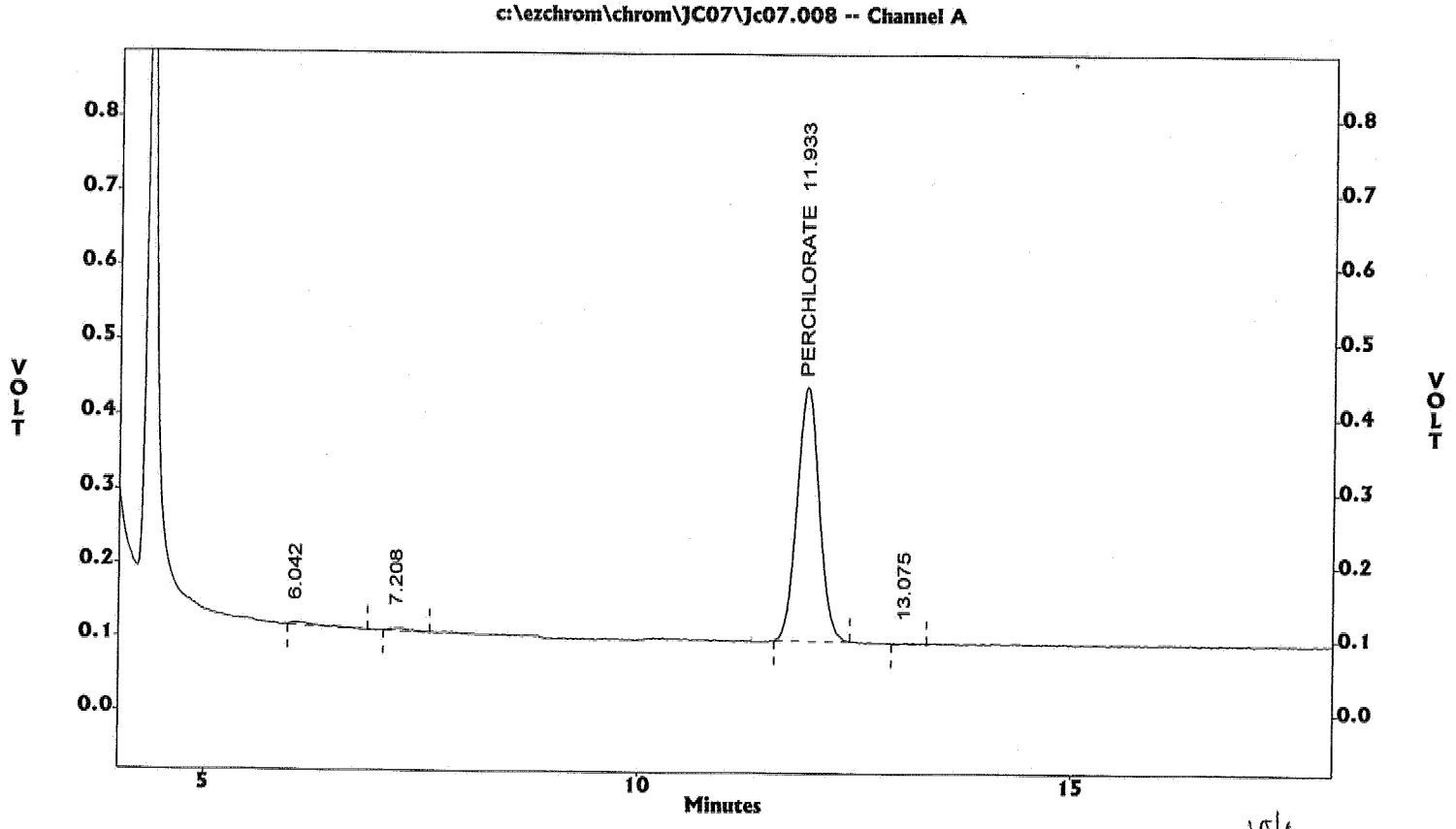
EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\JC07\Jc07.008
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : ICV
Acquired : Mar 07, 2006 16:01:52
Printed : Mar 07, 2006 16:19:54
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.93	6114177.00	342558.00	13239.125	25.984



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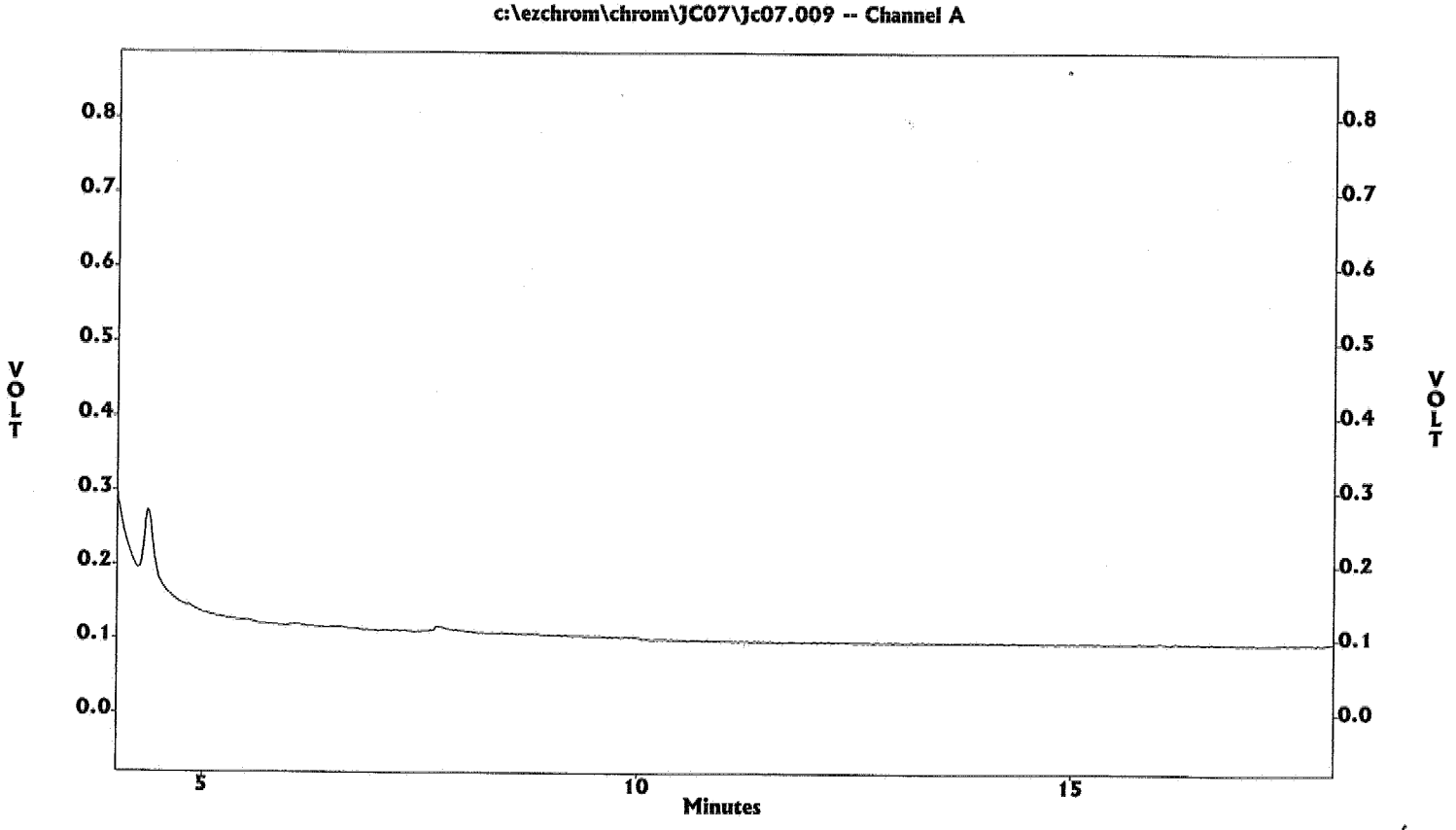
8842

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\JC07\Jc07.009
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : ICB
Acquired : Mar 07, 2006 16:22:07
Printed : Mar 07, 2006 16:40:08
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
--	PERCHLORATE	12.01	0.00	0.00	0.000	0.000



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8643

DAILY CALIBRATION

IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JC22001	IPCS	P	IC57C07	03/22/0613:09	1
JC22002	PCC010SB	P	IC57C07	03/22/0613:29	1
JC22003	MRL	P	IC57C07	03/22/0613:50	1
JC22004	PCC010SL	P	IC57C07	03/22/0614:10	1
JC22005	PCC010SC	P	IC57C07	03/22/0614:50	1
JC22006	C081-01	P	IC57C07	03/22/0615:23	1
JC22007	C081-02	P	IC57C07	03/22/0615:43	1
JC22008	C081-03	P	IC57C07	03/22/0616:03	1
JC22009	C081-04	P	IC57C07	03/22/0616:24	1
JC22010	C081-05	P	IC57C07	03/22/0616:44	1
JC22011	C081-06	P	IC57C07	03/22/0617:04	1
JC22012	C081-07	P	IC57C07	03/22/0617:24	1
JC22013	CCV17-30	P	IC57C07	03/22/0617:45	1
JC22014	C081-08	P	IC57C07	03/22/0618:05	1
JC22015	C081-08D	P	IC57C07	03/22/0618:25	1
JC22016	C081-08M	P	IC57C07	03/22/0618:45	1
JC22017	C081-09	P	IC57C07	03/22/0619:06	1
JC22018	C081-10	P	IC57C07	03/22/0619:26	1
JC22019	C106-01	P	IC57C07	03/22/0619:46	1
JC22020	C106-02	*	IC57C07	03/22/0620:06	1
JC22021	C106-03	P	IC57C07	03/22/0620:27	1
JC22022	C106-04	*	IC57C07	03/22/0620:47	1
JC22023	C106-05	P	IC57C07	03/22/0621:07	1
JC22024	CCV18-15	P	IC57C07	03/22/0621:27	1
JC22025	C106-06	P	IC57C07	03/22/0621:48	1
JC22026	C106-07	P	IC57C07	03/22/0622:08	1
JC22027	C106-08	P	IC57C07	03/22/0622:28	1
JC22028	C106-09	P	IC57C07	03/22/0623:08	1
JC22029	C106-10	P	IC57C07	03/22/0623:28	1
JC22030	CCV19-30	P	IC57C07	03/22/0623:48	1

IC RESULT FORM CalVersion: PCHLO314.QA1

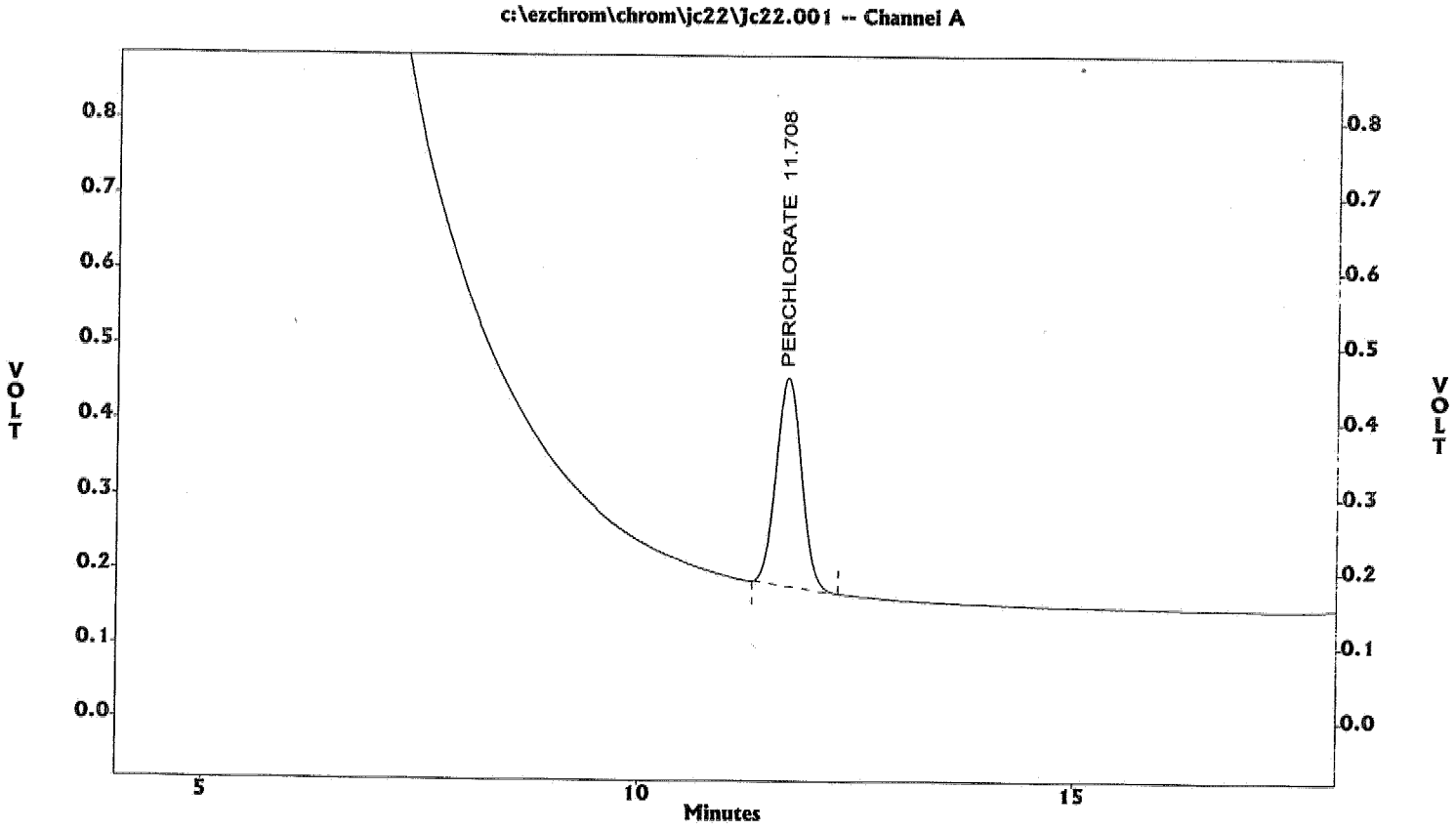
LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JC22001	IPCS	P	84.3%	03/22/0613:09	1
JC22002	PCC010SB	P	.000	03/22/0613:29	1
JC22003	MRL	P	98.3%	03/22/0613:50	1
JC22004	PCC010SL	P	10.1	03/22/0614:10	1
JC22005	PCC010SC	P	10.1	03/22/0614:50	1
JC22006	C081-01	P	14.1	03/22/0615:23	1
JC22007	C081-02	P	20.7	03/22/0615:43	1
JC22008	C081-03	P	12	03/22/0616:03	1
JC22009	C081-04	P	.237	03/22/0616:24	1
JC22010	C081-05	P	6.16	03/22/0616:44	1
JC22011	C081-06	P	.000	03/22/0617:04	1
JC22012	C081-07	P	.191	03/22/0617:24	1
JC22013	CCV17-30	P	103%	03/22/0617:45	1
JC22014	C081-08	P	.402	03/22/0618:05	1
JC22015	C081-08D	P	.09	03/22/0618:25	1
JC22016	C081-08M	P	10.4	03/22/0618:45	1
JC22017	C081-09	P	.000	03/22/0619:06	1
JC22018	C081-10	P	2.01	03/22/0619:26	1
JC22019	C106-01	P	2.04	03/22/0619:46	1
JC22020	C106-02	*	67.2E	03/22/0620:06	1
JC22021	C106-03	P	.771	03/22/0620:27	1
JC22022	C106-04	*	67.5E	03/22/0620:47	1
JC22023	C106-05	P	.416	03/22/0621:07	1
JC22024	CCV18-15	P	101%	03/22/0621:27	1
JC22025	C106-06	P	.293	03/22/0621:48	1
JC22026	C106-07	P	.24	03/22/0622:08	1
JC22027	C106-08	P	.743	03/22/0622:28	1
JC22028	C106-09	P	.000	03/22/0623:08	1
JC22029	C106-10	P	4.22	03/22/0623:28	1
JC22030	CCV19-30	P	102%	03/22/0623:48	1

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.001
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : IPCS
Acquired : Mar 22, 2006 13:09:41
Printed : Mar 22, 2006 13:27:42
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
5	PERCHLORATE	11.71	5691983.00	277799.00	13239.125	21.075

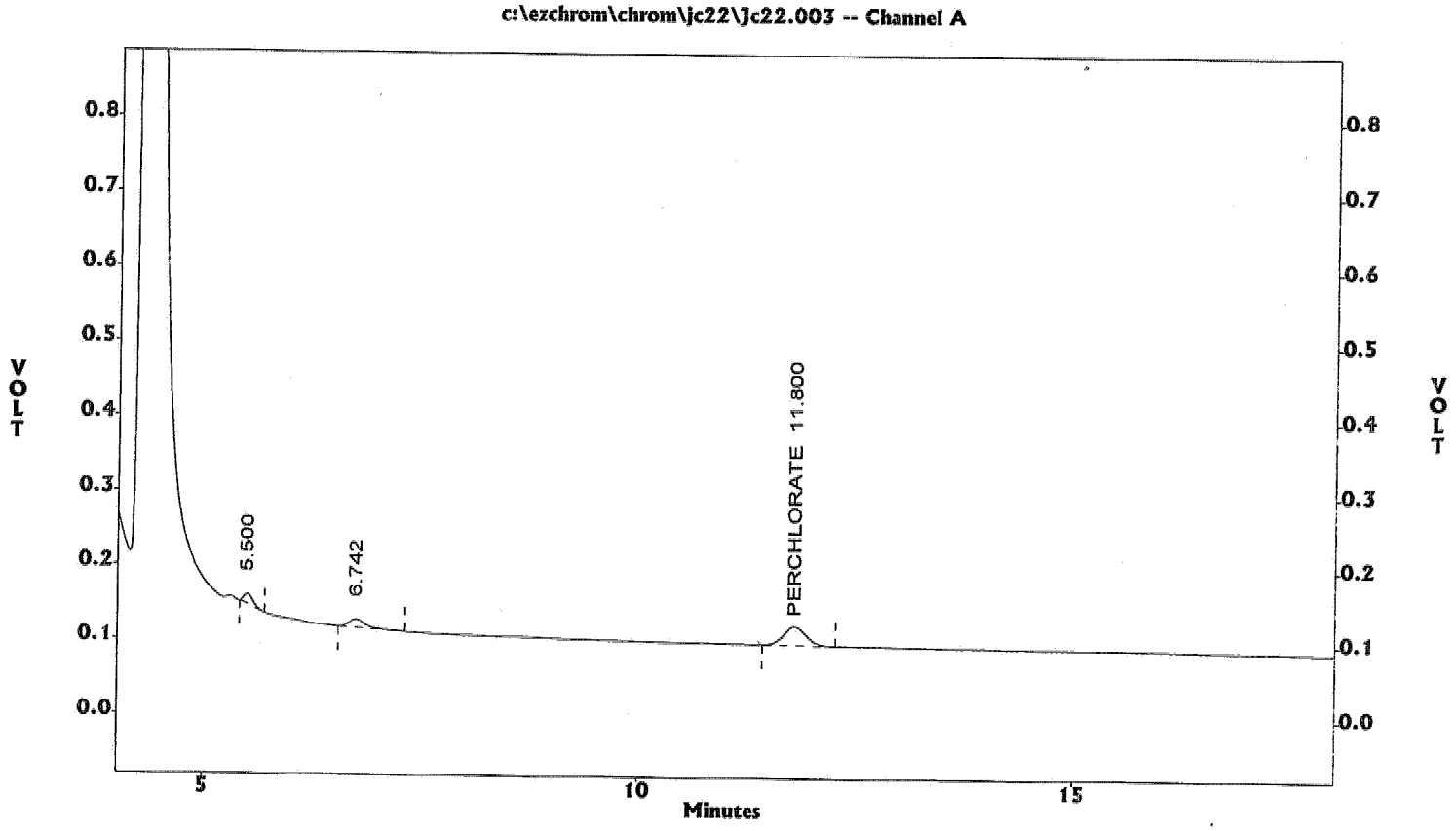


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.003
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : MRL
Acquired : Mar 22, 2006 13:50:12
Printed : Mar 22, 2006 14:08:13
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.80	472462.00	25710.00	13239.125	1.966

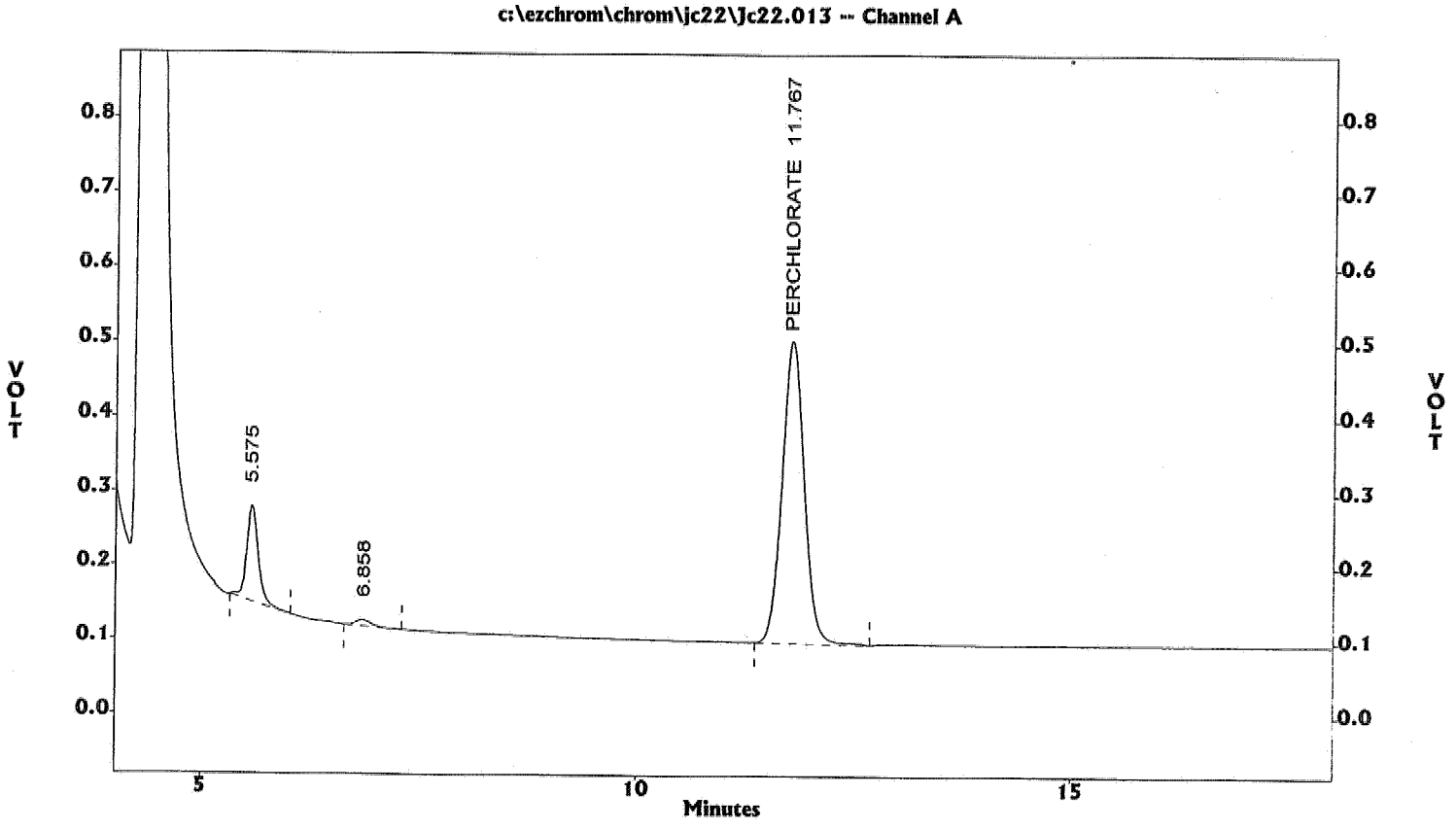


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.013
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : CCV17-30
Acquired : Mar 22, 2006 17:45:08
Printed : Mar 22, 2006 18:03:09
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.77	7311016.00	405483.00	13239.125	30.754

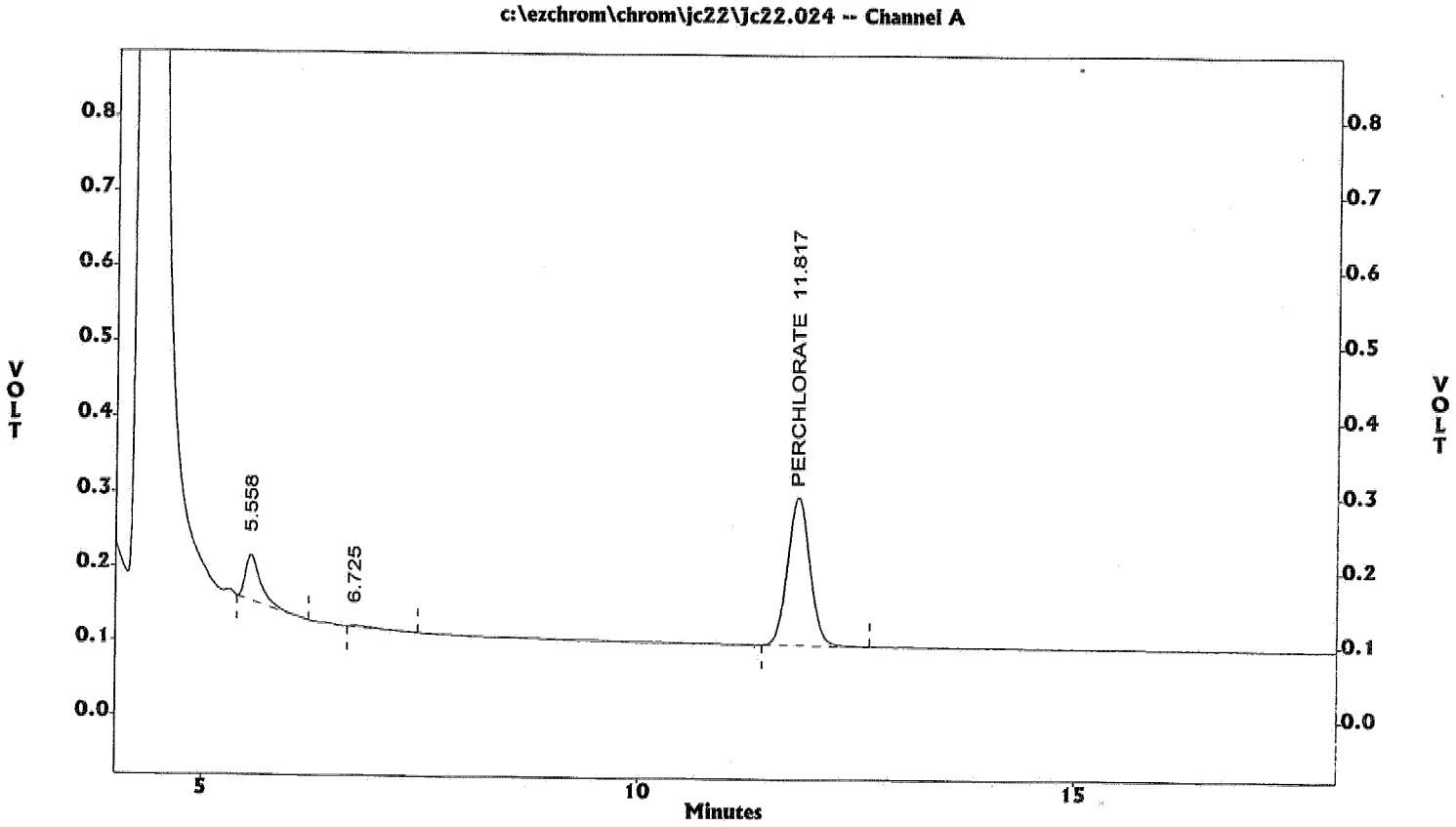


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.024
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : CCV18-15
Acquired : Mar 22, 2006 21:27:55
Printed : Mar 22, 2006 21:45:56
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
6	PERCHLORATE	11.82	3605956.00	200075.00	13239.125	15.183

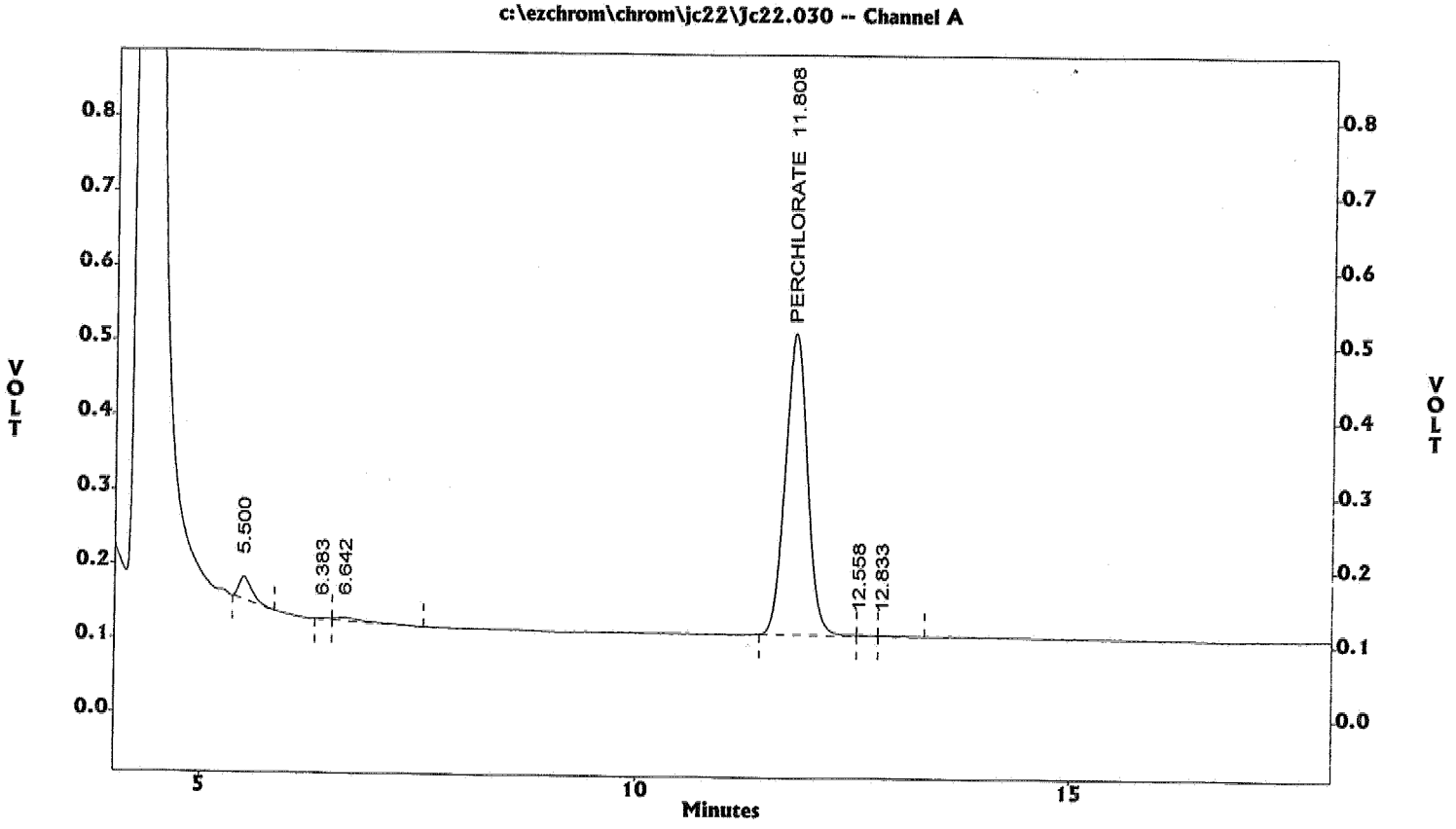


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc22\Jc22.030
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : CCV19-30
Acquired : Mar 22, 2006 23:48:34
Printed : Mar 23, 2006 00:06:34
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
8	PERCHLORATE	11.81	7284249.00	404180.00	13239.125	30.656



IC SEQ FORM (ESD)

LFID	LSID	SELCOMP	METHOD	DateTime	DF
JC27001	IPCS	P	IC57C07	03/27/0613:45	1
JC27002	PCC011SB	P	IC57C07	03/27/0614:05	1
JC27003	MRL	P	IC57C07	03/27/0614:26	1
JC27004	PCC011SL	P	IC57C07	03/27/0614:46	1
JC27005	PCC011SC	P	IC57C07	03/27/0615:06	1
JC27006	C106-02	P	IC57C07	03/27/0615:47	10
JC27007	C106-04	P	IC57C07	03/27/0616:10	10
JC27008	C120-01	P	IC57C07	03/27/0616:30	1
JC27009	C120-02	*	IC57C07	03/27/0616:50	1
JC27010	C120-03	*	IC57C07	03/27/0617:10	1
JC27011	C120-04	P	IC57C07	03/27/0617:31	1
JC27012	CCV20-15	P	IC57C07	03/27/0617:51	1
JC27013	C120-04D	P	IC57C07	03/27/0618:11	1
JC27014	C120-04M	P	IC57C07	03/27/0618:31	1
JC27015	C120-05	P	IC57C07	03/27/0618:52	1
JC27016	C120-06	P	IC57C07	03/27/0619:12	1
JC27017	C120-07	P	IC57C07	03/27/0619:32	1
JC27018	C120-08	P	IC57C07	03/27/0619:52	1
JC27019	C120-09	P	IC57C07	03/27/0620:13	1
JC27020	C120-10	P	IC57C07	03/27/0620:33	1
JC27021	C120-11	P	IC57C07	03/27/0620:53	1
JC27022	C120-12	P	IC57C07	03/27/0621:13	1
JC27023	CCV21-30	P	IC57C07	03/27/0621:34	1
JC27024	C120-13	P	IC57C07	03/27/0621:54	1
JC27025	C120-14	P	IC57C07	03/27/0622:14	1
JC27026	C120-15	P	IC57C07	03/27/0622:34	1
JC27027	C120-16	P	IC57C07	03/27/0623:00	1
JC27028	C120-17	P	IC57C07	03/27/0623:20	1
JC27029	C120-18	P	IC57C07	03/27/0623:41	1
JC27030	C120-19	P	IC57C07	03/28/0600:01	1
JC27031	CCV22-15	P	IC57C07	03/28/0600:21	1
JC27032	C120-02	P	IC57C07	03/28/0600:41	2
JC27033	C120-03	P	IC57C07	03/28/0601:02	5
JC27034	CCV23-30	P	IC57C07	03/28/0601:22	1

IC RESULT FORM CalVersion: PCHLO314.QA1

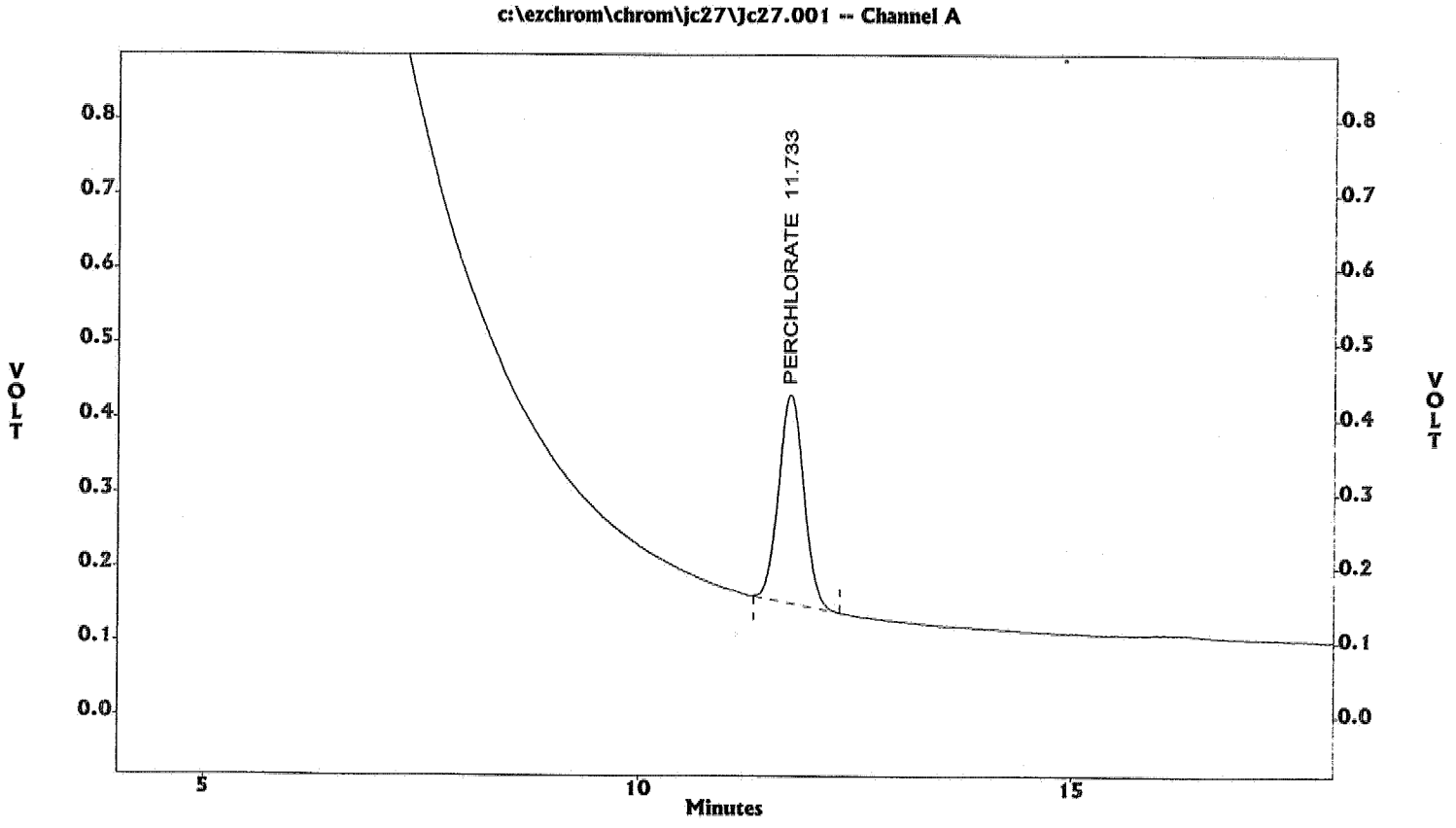
LFID	LSID	SELCOMP	PERCHLORATE	DateTime	Df
JC27001	IPCS	P	84.8%	03/27/0613:45	1
JC27002	PCC011SB	P	.000	03/27/0614:05	1
JC27003	MRL	P	98.5%	03/27/0614:26	1
JC27004	PCC011SL	P	10	03/27/0614:46	1
JC27005	PCC011SC	P	10	03/27/0615:06	1
JC27006	C106-02	P	162	03/27/0615:47	10
JC27007	C106-04	P	136	03/27/0616:10	10
JC27008	C120-01	P	28.4	03/27/0616:30	1
JC27009	C120-02	*	37.4E	03/27/0616:50	1
JC27010	C120-03	*	61.1E	03/27/0617:10	1
JC27011	C120-04	P	9.35	03/27/0617:31	1
JC27012	CCV20-15	P	103%	03/27/0617:51	1
JC27013	C120-04D	P	6.76	03/27/0618:11	1
JC27014	C120-04M	P	20.4	03/27/0618:31	1
JC27015	C120-05	P	1.06	03/27/0618:52	1
JC27016	C120-06	P	.000	03/27/0619:12	1
JC27017	C120-07	P	.000	03/27/0619:32	1
JC27018	C120-08	P	11	03/27/0619:52	1
JC27019	C120-09	P	.000	03/27/0620:13	1
JC27020	C120-10	P	1.88	03/27/0620:33	1
JC27021	C120-11	P	1.62	03/27/0620:53	1
JC27022	C120-12	P	.000	03/27/0621:13	1
JC27023	CCV21-30	P	102%	03/27/0621:34	1
JC27024	C120-13	P	.000	03/27/0621:54	1
JC27025	C120-14	P	.000	03/27/0622:14	1
JC27026	C120-15	P	.000	03/27/0622:34	1
JC27027	C120-16	P	.731	03/27/0623:00	1
JC27028	C120-17	P	.000	03/27/0623:20	1
JC27029	C120-18	P	3.81	03/27/0623:41	1
JC27030	C120-19	P	3.63	03/28/0600:01	1
JC27031	CCV22-15	P	101%	03/28/0600:21	1
JC27032	C120-02	P	37.2	03/28/0600:41	2
JC27033	C120-03	P	60	03/28/0601:02	5
JC27034	CCV23-30	P	102%	03/28/0601:22	1

EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc27\Jc27.001
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : IPCS
Acquired : Mar 27, 2006 13:45:35
Printed : Mar 27, 2006 14:03:37
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
7	PERCHLORATE	11.73	5695167.00	279564.00	13239.125	21.209

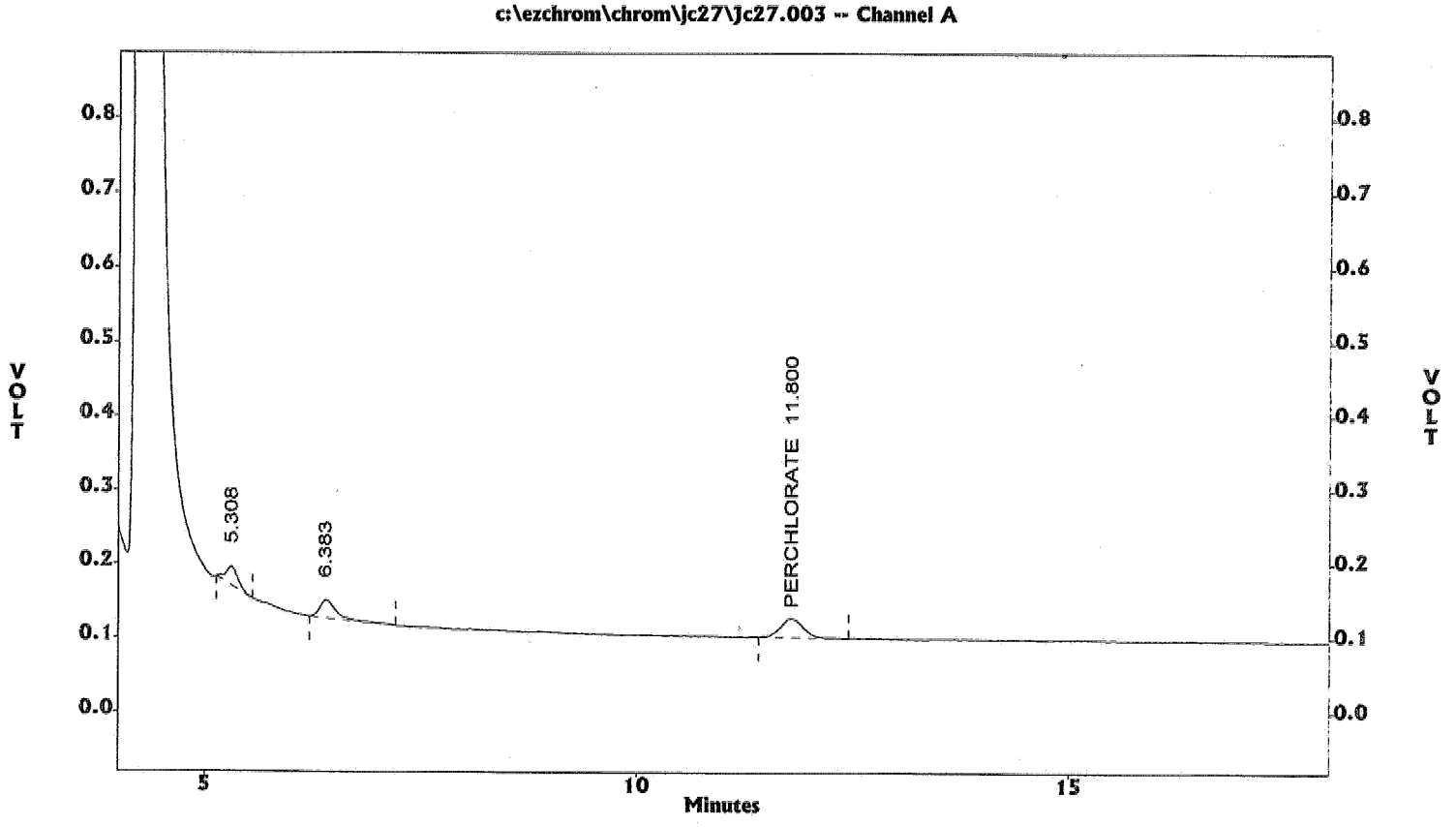


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc27\Jc27.003
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : MRL
Acquired : Mar 27, 2006 14:26:05
Printed : Mar 27, 2006 14:44:06
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
6	PERCHLORATE	11.80	486724.00	25762.00	13239.125	1.970

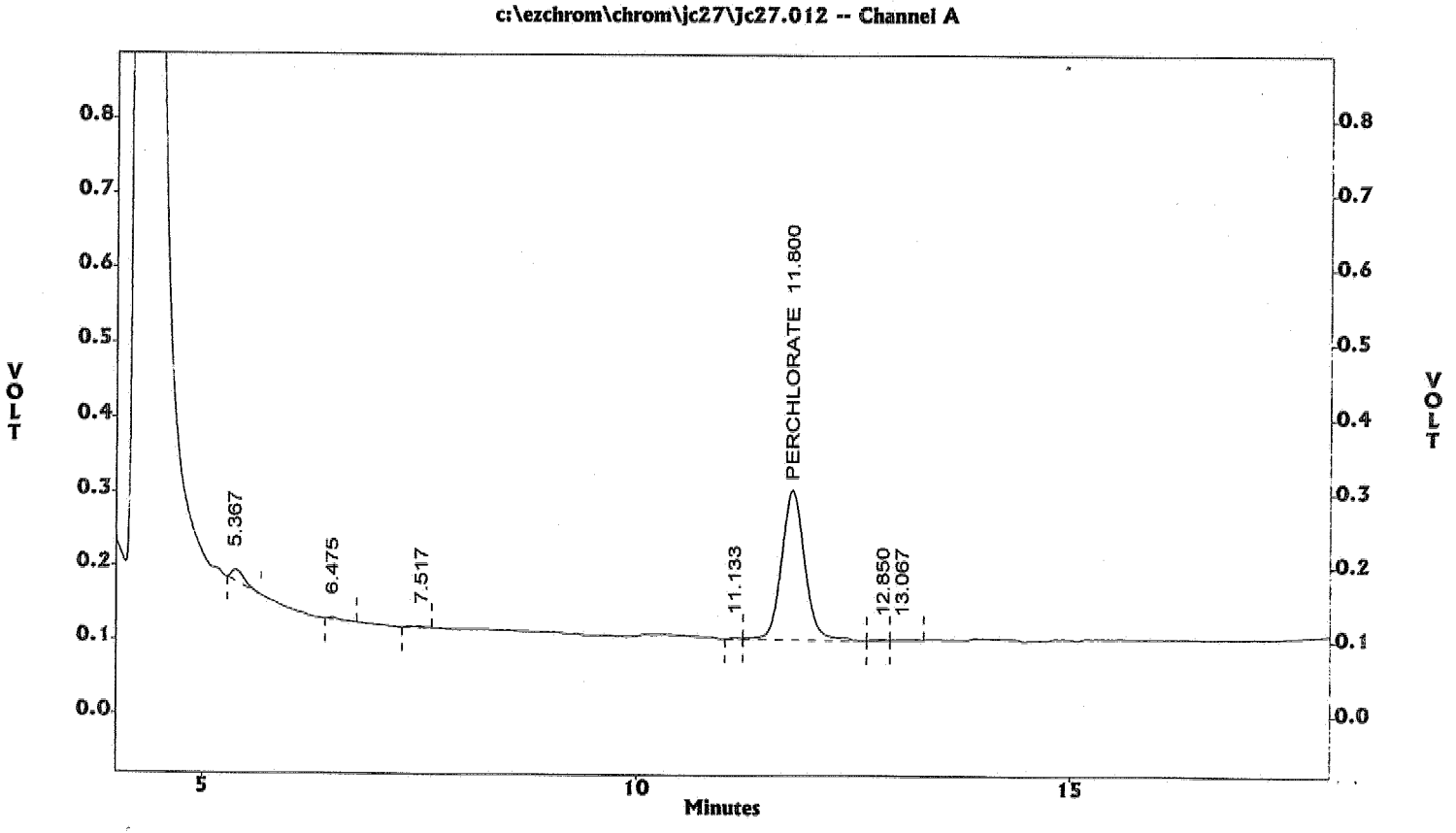


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc27\Jc27.012
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : CCV20-15
Acquired : Mar 27, 2006 17:51:28
Printed : Mar 27, 2006 18:09:30
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
8	PERCHLORATE	11.80	3821244.00	203271.00	13239.125	15.426

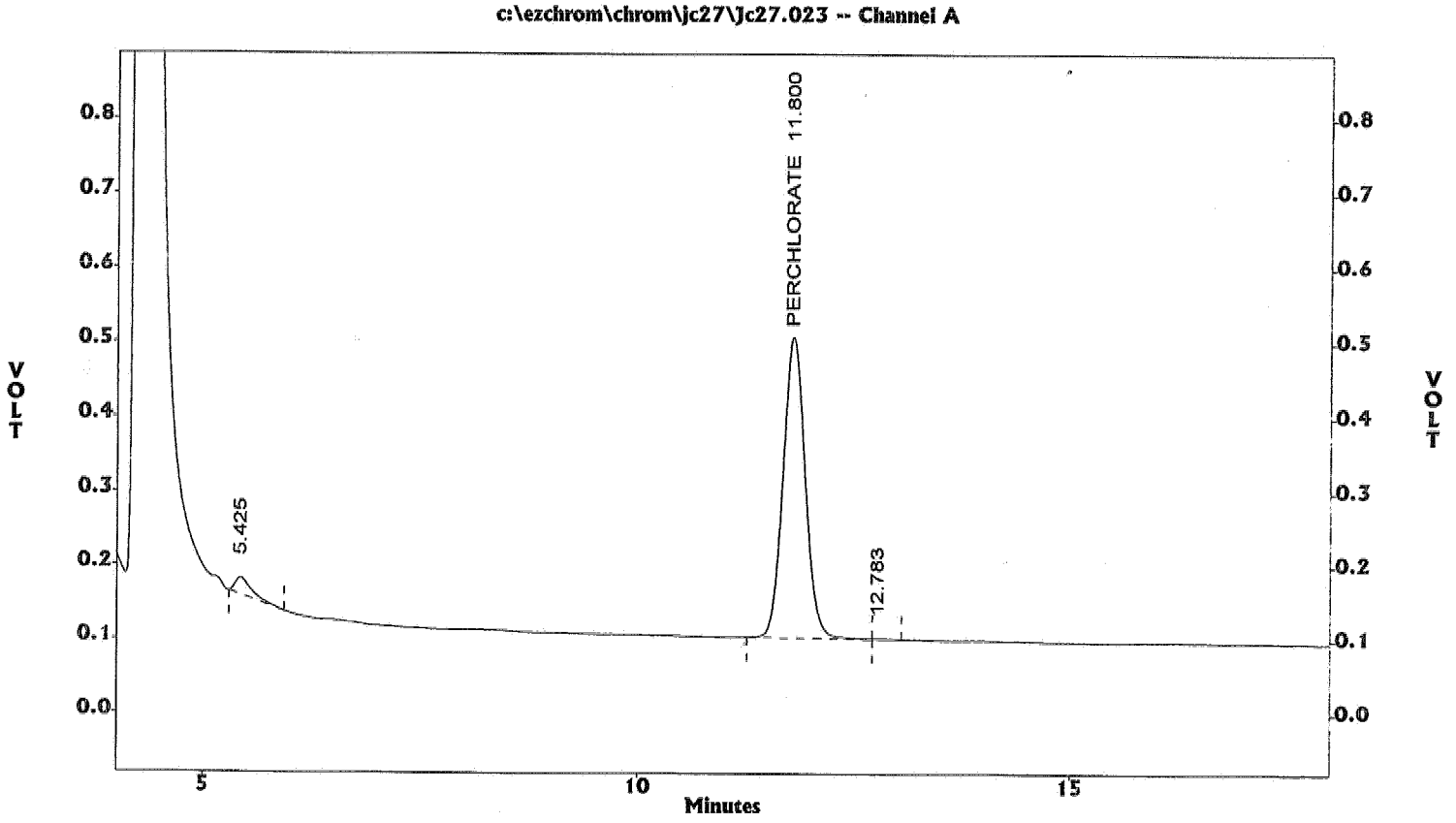


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc27\Jc27.023
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : CCV21-30
Acquired : Mar 27, 2006 21:34:09
Printed : Mar 27, 2006 21:52:10
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
6	PERCHLORATE	11.80	7331728.00	405176.00	13239.125	30.731

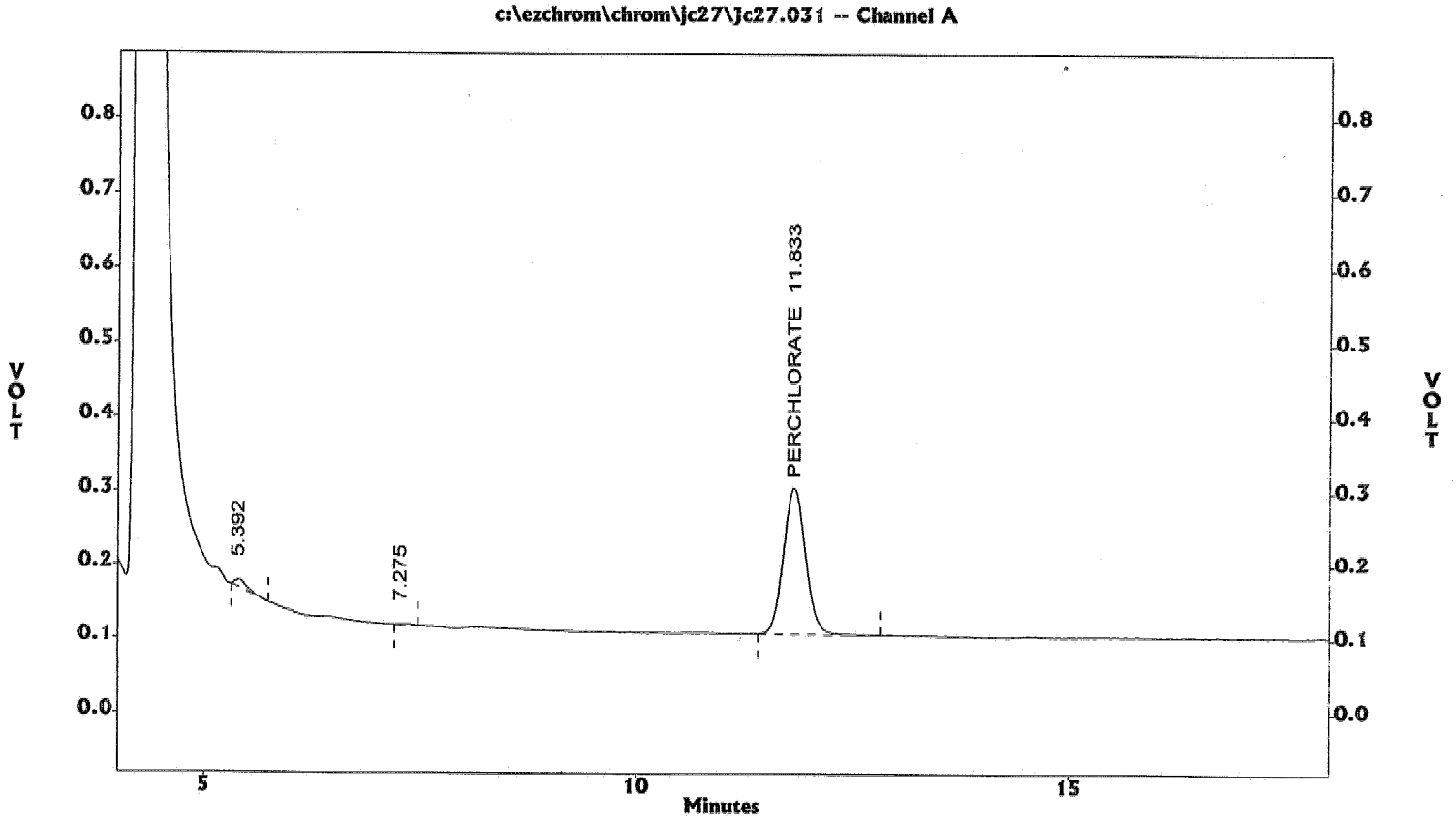


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc27\Jc27.031
Method : c:\ezchrom\methods\Ic57c07.met
Sample ID : CCV22-15
Acquired : Mar 28, 2006 00:21:32
Printed : Mar 28, 2006 00:39:34
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
8	PERCHLORATE	11.83	3648798.00	199765.00	13239.125	15.160

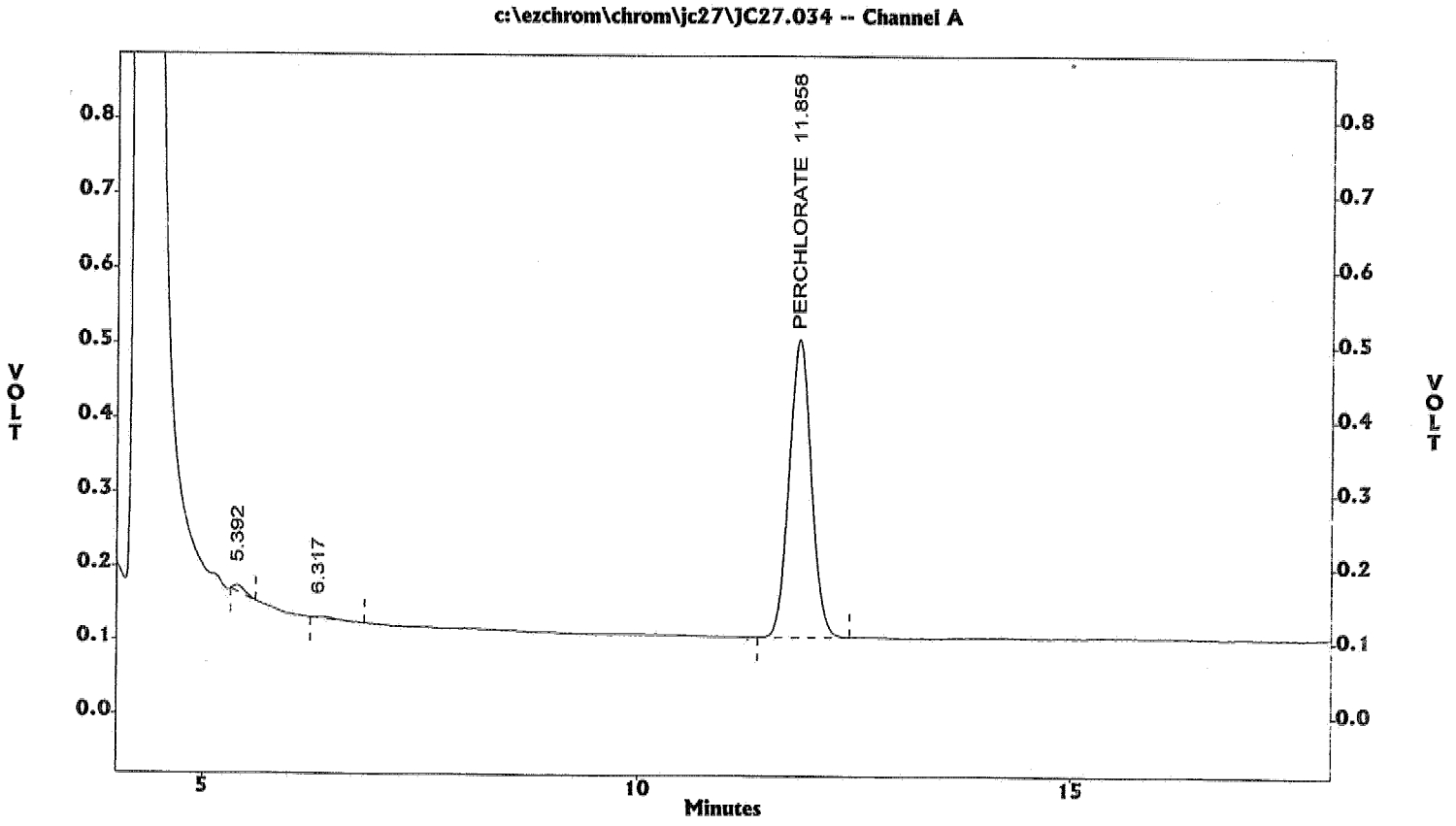


EPA METHOD 314.0 by IC
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\jc27\JC27.034
Method : c:\ezchrom\methods\ic57c07.met
Sample ID : CCV23-30
Acquired : Mar 28, 2006 01:22:18
Printed : Mar 28, 2006 11:27:55
User : jay

Channel A Results

#	Peak Name	R.T.(min)	AREA	HEIGHT	Ave. CF	ESTD Conc.(ppb)
6	PERCHLORATE	11.86	7242364.00	401590.00	13239.125	30.459



ANALYTICAL LOGS

ANALYSIS RUN LOG FOR IC - PERCHLORATE

SOP ☑ EMAX-314.0 Revision No. 2 ☐

Start Date 3/7/06 Time 13:40 Ending Date 3/7/06 Time 21:07 Book # A57-012

BATCH * PCC0026 **

	Sample Prep ID	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Conductivity, (us/cm)	Notes
*	1	JCC7C01	IB	1		X		
*	2	C02	S-0.0	↓		↓		
*	3	C03	S-2.0					
*	4	C04	S-4.0					
*	5	C05	S-10.0					
*	6	C06	S-25.0					
*	7	C07	S-30.0					
*	8	C08	ICV					
*	9	C09	ICB					
*	0	C10	IPCS				5030	
*	1	C11	PCC0026WB					
*	2	C12	MBL					
*	3	C13	PCC0026WL					
*	4	C14	↓ WC					
*	5	C15	B195-03				3340	
*	6	C16	CCV1-30	↓				
*	7	C17	C024-02	10			810	
*	8	C18	↓ 03	10			720	
*	9	C19	C042-03	1			3520	
*	0	C20	↓ 03D	↓				
*	1	C21	03M					
*	2	C22	CCV2-15	↓		↓		
*	3	~~C23~~	~~B214-01~~					omit #023-030
*	4	C24	02 ~ 3/7/06					
*	5	C25						
*	6	C26						~ 3/7/06
*	7	C27						
*	8	C28						
*	9	C29						
*	0	C30						

Instrument Number	57

INITIAL CALIBRATION REFERENCE	
Method File	IC57C07
ICAL ID	SW8B-02 ~ 3/7/06 ~~772~~ 776
ICV ID	↓ ~ 3/7/06 ~~743~~ 777

Standards

Name		ID 3/7/06	Conc. (ug/L)
ICAL	S1	SW8B-02-~~772~~ 776	~~2.0~~ 2.0
	S2	↓	~~4.0~~ 4.0
	S3		~~10.0~~ 10.0
	S4		~~25.0~~ 25.0
	S5	↓	30.0
ICV		SW8B-02-~~773~~ ~ 3/7/06 777	25.0
CCV-15		SW8B-02-778	15
CCV-30		779	30
LCS		780	10
MS		743	10
IPC		↓ 781	600/25
CMC		SW3B-02-654	1413 µs/cm

Comments:

CMC Reading, (us/cm)	QC Criteria (us/cm)	Temp. (°C)
1403	±30	25°C

Electronic Data Archival	
Location	Date

Analyzed By: ~

This page is checked during the data review process.

ANALYSIS RUN LOG FOR IC - PERCHLORATE

SOP ☑ EMAX-314.0 Revision No. 2 ☐

Book # A57-012

Start Date 3/22/06 Time 13:09 Ending Date 3/22/06 Time 23:48

BATCH * PCC0105 **

	Sample Prep ID	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Conductivity, (us/cm)	Notes
*	1	JC00001	LCS	1		X	5030	
*	2	002	PCCC105B		X			
*	3	003	MBL			X		
*	4	004	PCC0105L		X			
*	5	005	↓ SC					
*	6	006	CC81-01				129.9	
*	7	007	02				86.2	
*	8	008	03				141.8	
*	9	009	04				79.1	
*	0	010	05				108.2	
*	1	011	06				38.4	
*	2	012	07				18.8	
*	3	013	CCV17-30			X		
*	4	014	CC81-08		X		109.4	
*	5	015	08D				82.9	
*	6	016	08M				80.3	
*	7	017	09				60.5	
*	8	018	10				115.9	
*	9	019	C106-01				127.5	
*	0	020	02				214	
*	1	021	03				89.8	
*	2	022	04				200	
*	3	023	05				73.2	
*	4	024	CCV18-15			X		
*	5	025	C106-06		X		68.3	
*	6	026	07				69.3	
*	7	027	08				96.7	
*	8	028	09				22.0	
*	9	029	10				91.9	
*	0	030	CCV19-30			X		

Instrument Number	57

INITIAL CALIBRATION REFERENCE	
Method File	IC57C07
ICAL ID	SWBB-02-776
ICV ID	↓ 777

Standards

Name	ID	Conc. (ug/L)
ICAL S1		
S2		
S3		
S4		
S5		
ICV	see ICAL PAGE 39	
CCV-15	SWBB-02-778	15
CCV-30	779	30
LCS	780	10
MS	743	10
IPC	↓ 781	600/25
CMC	SW7A-06-213	1412 µs/cm

Comments:

CMC Reading, (us/cm)	QC Criteria (us/cm)	Temp. (°C)
	±30	

Electronic Data Archival	
Location	Date

Analyzed By: _____

This page is checked during the data review process.

ANALYSIS RUN LOG FOR IC - PERCHLORATE

SOP ☑ EMAX-314.0 Revision No. 2 ☐ Book # A57-012

Start Date 3/27/06 Time 13:45 Ending Date 3/28/06 Time 01:22

BATCH * PCC115 **

Sample Prep ID	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Conductivity, (us/cm)	Notes
* 1	JC27001	IPCS	1		X	5030	
* 2	002	PCC0115B		X			
* 3	003	MRL			X		
* 4	004	PCC0115L		X			
* 5	005	↓ SC	↓		.		
* 6	006	C106-02	10				
* 7	007	↓ 04	10				
* 8	008	C120-01	1			153.7	
* 9	009	02				193	
* 0	010	03				134.7	
* 1	011	↓ 04		✓		124.4	
* 2	012	CCV20-15			X		
* 3	013	C120-04D		X		154.7	
* 4	014	04M				134	
* 5	015	05				133.2	
* 6	016	06				151.0	
* 7	017	07				121.6	
* 8	018	08				168.2	
* 9	09	09				62.2	
* 0	020	10			.	122.3	
* 1	021	11				65.9	
* 2	022	↓ 12		↓		71.2	
* 3	023	CCV21-30			X		
* 4	024	C120-13		X		63.6	
* 5	025	14				64.2	
* 6	026	15				60.1	
* 7	027	16				72.5	
* 8	028	17				36.2	
* 9	029	↓ 18	↓			54.6	
* 0	↓ 030	19		↓		52.4	

Instrument Number	57

INITIAL CALIBRATION REFERENCE	
Method File	IC57C07
ICAL ID	SW8B-02-776
ICV ID	↓ 777

Standards

Name		ID	Conc. (ug/L)
ICAL	S1		
	S2		30
	S3		
	S4		
	S5		
ICV			
CCV-15		SW8B-02-778	15
CCV-30		779	30
LCS		780	10
MS		743	10
IPC		↓ 781	600/25
CMC		SW7A-06-213	1412 µs/cm

0.999 @ 10KV

Comments:

CMC Reading, (us/cm)	QC Criteria (us/cm)	Temp. (°C)
1410	±30	25°C

Electronic Data Archival	
Location	Date

Analyzed By: ~

This page is checked during the data review process.

ANALYSIS RUN LOG FOR IC - PERCHLORATE

SOP ☑ EMAX-314.0 Revision No. 2 ☐ Book # A57-012

Start Date 3/27/05 Time 13:45 Ending Date 3/28/06 Time 01:22

BATCH * Pcc115 **

	Sample Prep ID	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Conductivity, (us/cm)	Notes
*	1	JC27031	ccv22-15	1		X		
*	2	032	c120-02	2	X			
*	3	033	↓ 03	5	X			
*	4	034	ccv23-30	1		X		
*	5							
*	6							
*	7							
*	8							
*	9							
*	0							
*	1							
*	2							
*	3							
*	4							
*	5							
*	6						~ 3/28/06	
*	7							
*	8							
*	9							
*	0							
*	1							
*	2							
*	3							
*	4							
*	5							
*	6							
*	7							
*	8							
*	9							
*	0							

Instrument Number	57

INITIAL CALIBRATION REFERENCE	
Method File	
ICAL ID	
ICV ID	see previous page pg 41

Standards

Name		ID	Conc. (ug/L)
ICAL	S1		
	S2		
	S3		
	S4		
	S5		
ICV			
CCV-15			
CCV-30			
LCS			
MS			
IPC			
CMC			

see previous page pg. 41

Comments:

CMC Reading, (us/cm)	QC Criteria (us/cm)	Temp. (°C)
1410	±30	25°C

Electronic Data Archival	
Location	Date

Analyzed By: ~

This page is checked during the data review process.

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

EXTRACTION LOGS

SAMPLE PREPARATION LOG FOR ORGANIC ACID/PERCHLORATE

SOP ☑ EMAX-314.0 ☐ EMAX-300.0M Book # EOP-001

Matrix Soil Start Date 3/21/06 Time 17:02 End Date 3/21/06 Time 18:05

PREPARATION BATCH # _____

Sample Prep ID	Lab Sample ID	Sample Amount (g)	Dilution Volume (ml)	Extract Volume (ml)	Notes
*01	PCC010SB	5.0g	100	100	
*02	SL	5.0g			
*03	SC	5.0g			
*04	C081-01	5.03g			#8
*05	02	5.00g			#17
*06	03	5.02			#26
*07	04	5.00			#28
*08	05	5.03			#29
*09	06	5.04			#35
*10	07	5.00			#37
*11	08	5.01			#48
*12	08D	5.03			#49
*13	08M	5.01			#50
*14	09	5.04			#52
*15	10	5.00			#58
*16	C106-01	5.01			#7
*17	02	5.00			#16
*18	03	5.01			#25
*19	04	5.00			#34
*20	05	5.04			#36
*21	06	5.00			#42
*22	07	5.01			#44
*23	08	5.02			#50
*24	09	5.03			#58
*25	10	5.00			#66

Standards	ID	Amount Added (ml)
Acetate		
Butyrate		
Lactate		
Perchlorate	SLBB-02-743	1.0mL
Propionate		
Pyruvate		

Reagent	Lot # / ID
H_2SO_4	
Nanopure	

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = turbid	Vg= Vegetation
Yw = Yellow			

Comments: _____

Prepared By: _____

Standard Added By: _____

Checked By: _____

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

CASE NARRATIVE

CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

METHOD 300(M) / 9056
ANIONS

Two (2) soil samples were received on 03/11/06 for Chlorate analysis by Method 300.0(M) in accordance with "Method for Determination of Inorganic Anions by Ion Chromatography", EPA 600/84-017"; and for Chloride, Nitrate-N, Nitrite-N, and Sulfate analyses by method 9056 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition".

1. Holding Time

Analyses met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limits.

4. Duplicate

Duplicate sample was not designated in this SDG.

5. Matrix Spike

MS sample was not designated in this SDG.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Nitrate-N and Nitrite-N results were reported as Nitrogen concentration.

Samples were leached with DI water at a ratio of 1:10 (w:v).

SAMPLE RESULTS

METHOD 300.0(M)
CHLORATE

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : 100

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	ICC036SB	ND	1	NA	10	5	03/22/0601:34	03/21/0613:15	AC21-27	AC21-25	ICC036S	NA	03/21/06
LCS1S	ICC036SL	50.8	1	NA	10	5	03/22/0601:58	03/21/0613:15	AC21-28	AC21-25	ICC036S	NA	03/21/06
LCD1S	ICC036SC	48.4	1	NA	10	5	03/22/0602:22	03/21/0613:15	AC21-29	AC21-25	ICC036S	NA	03/21/06
M121-30	C106-06	ND	1	5.8	10.6	5.31	03/22/0606:47	03/21/0613:15	AC21-40	AC21-37	ICC036S	03/10/06	03/11/06
M121-50	C106-08	ND	1	6.1	10.6	5.32	03/22/0607:11	03/21/0613:15	AC21-41	AC21-37	ICC036S	03/10/06	03/11/06

METHOD 9056
CHLORIDE

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : 100

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	ICC036SB	ND	1	NA	2	1	03/22/0601:34	03/21/0613:15	AC21-27	AC21-25	ICC036S	NA	03/21/06
LCS1S	ICC036SL	47.2	1	NA	2	1	03/22/0601:58	03/21/0613:15	AC21-28	AC21-25	ICC036S	NA	03/21/06
LCD1S	ICC036SC	46.8	1	NA	2	1	03/22/0602:22	03/21/0613:15	AC21-29	AC21-25	ICC036S	NA	03/21/06
M121-50	C106-08	45.7	1	6.1	2.13	1.06	03/22/0607:11	03/21/0613:15	AC21-41	AC21-37	ICC036S	03/10/06	03/11/06
M121-30DL	C106-06T	162	5	5.8	10.6	5.31	03/22/0618:19	03/21/0613:15	AC22-09	AC22-01	ICC036S	03/10/06	03/11/06

METHOD 9056
NITRATE-N

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : 100

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	ICC036SB	ND	1	NA	1	.5	03/22/0601:34	03/21/0613:15	AC21-27	AC21-25	ICC036S	NA	03/21/06
LCS1S	ICC036SL	19.8	1	NA	1	.5	03/22/0601:58	03/21/0613:15	AC21-28	AC21-25	ICC036S	NA	03/21/06
LCD1S	ICC036SC	19.1	1	NA	1	.5	03/22/0602:22	03/21/0613:15	AC21-29	AC21-25	ICC036S	NA	03/21/06
M121-30	C106-06	4.25	1	5.8	1.06	.531	03/22/0606:47	03/21/0613:15	AC21-40	AC21-37	ICC036S	03/10/06	03/11/06
M121-50	C106-08	ND	1	6.1	1.06	.532	03/22/0607:11	03/21/0613:15	AC21-41	AC21-37	ICC036S	03/10/06	03/11/06

METHOD 9056
NITRITE-N

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : 100

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	ICC036SB	ND	1	NA	1	.5	03/22/0601:34	03/21/0613:15	AC21-27	AC21-25	ICC036S	NA	03/21/06
LCS1S	ICC036SL	19.2	1	NA	1	.5	03/22/0601:58	03/21/0613:15	AC21-28	AC21-25	ICC036S	NA	03/21/06
LCD1S	ICC036SC	18.2	1	NA	1	.5	03/22/0602:22	03/21/0613:15	AC21-29	AC21-25	ICC036S	NA	03/21/06
M121-30	C106-06	ND	1	5.8	1.06	.531	03/22/0606:47	03/21/0613:15	AC21-40	AC21-37	ICC036S	03/10/06	03/11/06
M121-50	C106-08	ND	1	6.1	1.06	.532	03/22/0607:11	03/21/0613:15	AC21-41	AC21-37	ICC036S	03/10/06	03/11/06

METHOD 9056
SULFATE

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

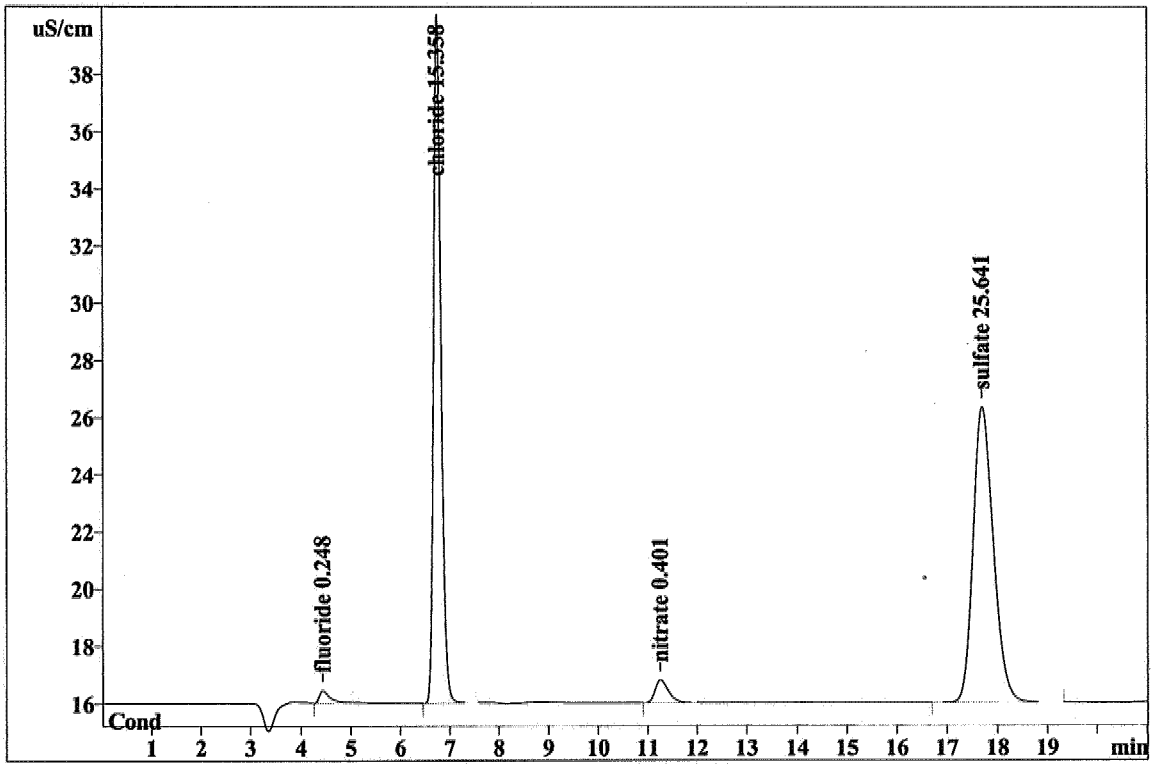
Matrix : SOIL
Instrument ID : 100

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	ICC036SB	ND	1	NA	5	2.5	03/22/0601:34	03/21/0613:15	AC21-27	AC21-25	ICC036S	NA	03/21/06
LCS1S	ICC036SL	50.4	1	NA	5	2.5	03/22/0601:58	03/21/0613:15	AC21-28	AC21-25	ICC036S	NA	03/21/06
LCD1S	ICC036SC	50	1	NA	5	2.5	03/22/0602:22	03/21/0613:15	AC21-29	AC21-25	ICC036S	NA	03/21/06
M121-50	C106-08	56.9	1	6.1	5.32	2.66	03/22/0607:11	03/21/0613:15	AC21-41	AC21-37	ICC036S	03/10/06	03/11/06
M121-30DL	C106-06T	293	5	5.8	26.5	13.3	03/22/0618:19	03/21/0613:15	AC22-09	AC22-01	ICC036S	03/10/06	03/11/06

Report date: 3/24/2006 11:42:07 AM
Printed by: Cherry Dam

Ident: AC21-40 C106-06
Analysis from: 3/22/2006 6:47:03 AM
File: q3220647.chw Last save: 3/24/2006 11:41:27 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13444

SAMPLE:
:
Vial number: 40
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.43	0.43	6.025	0.248	fluoride
2	6.75	24.02	248.292	15.358	chloride
3	11.25	0.79	14.813	0.401	nitrate
4	17.70	10.32	288.213	25.641	sulfate
4	21.00	35.57	557.343	41.648	

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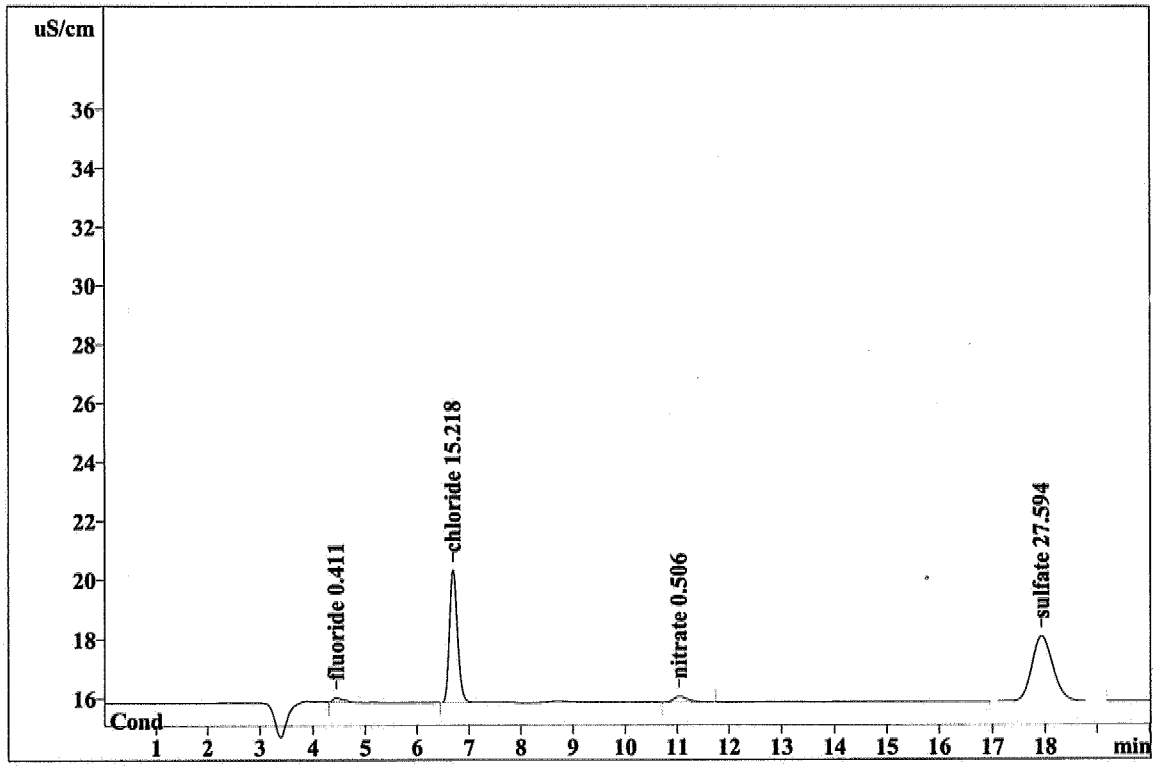
METROHM LTD

Report date: 3/24/2006 12:23:20 PM
Printed by: Cherry Dam

Ident: AC22-09 C106-06T DF=5
Analysis from: 3/22/2006 6:19:56 PM
File: q3221819.chw Last save: 3/22/2006 6:39:51 PM
Modified!
Method: IC100-C20.mtw Last save: 3/22/2006 2:54:57 PM
Run operator: Cherry Dam
Analysis number: 13462

SAMPLE:
:
Vial number: 9
Volume: 1.0 µL
Dilution: 5.00
Amount: 1.0000



Quantitation method: Custom

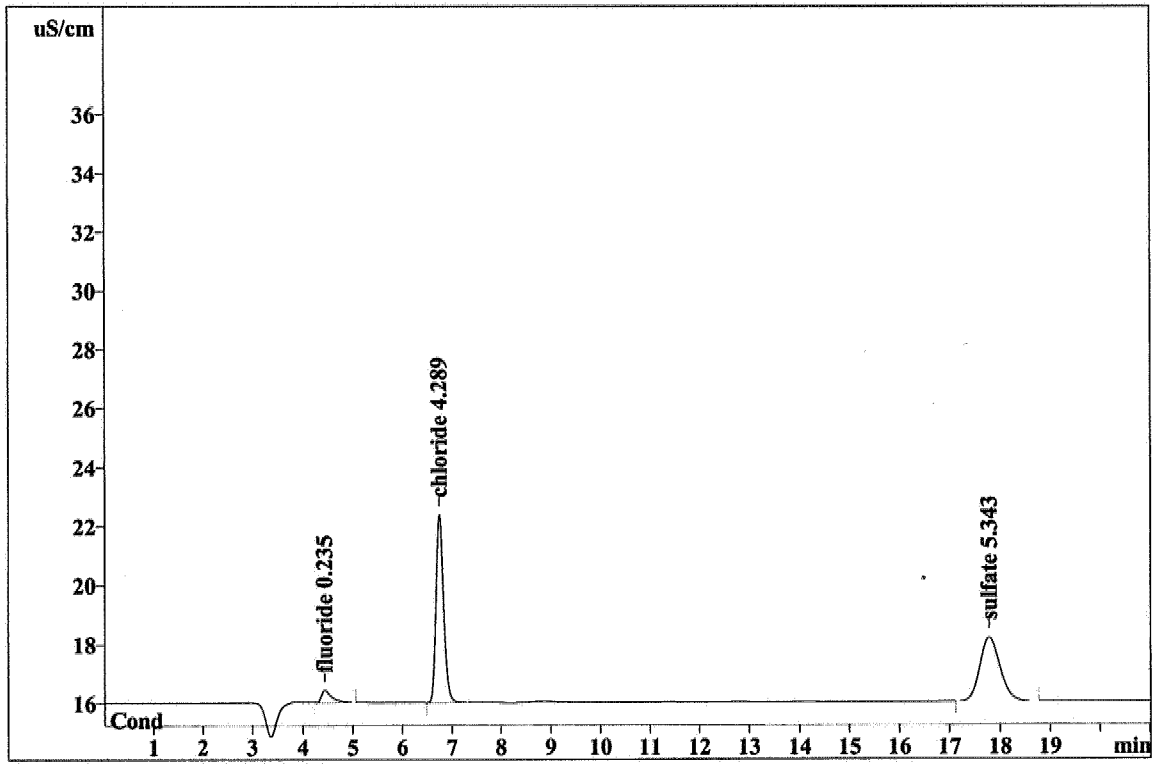
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.44	0.15	2.113	0.411	fluoride
2	6.69	4.50	47.976	15.218	chloride
3	11.04	0.19	3.448	0.506	nitrate
4	17.93	2.22	61.874	27.594	sulfate
4	20.00	7.05	115.412	43.730	

This report has been created by IC Net
METROHM LTD

Report date: 3/24/2006 11:41:52 AM
Printed by: Cherry Dam

Ident: AC21-41 C106-08
Analysis from: 3/22/2006 7:11:05 AM
File: q3220711.chw Last save: 3/22/2006 7:32:01 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13445

SAMPLE:
:
Vial number: 41
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.43	0.42	5.707	0.235	fluoride
2	6.75	6.37	68.234	4.289	chloride
3	17.78	2.17	59.894	5.343	sulfate
3	21.00	8.95	133.835	9.866	

This report has been created by IC Net
METROHM LTD

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 300.0(M)

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	ICC036SB	ICC036SL	ICC036SC		
LAB FILE ID:	AC21-27	AC21-28	AC21-29		
DATE EXTRACTED:	03/21/0613:15	03/21/0613:15	03/21/0613:15	DATE COLLECTED:	NA
DATE ANALYZED:	03/22/0601:34	03/22/0601:58	03/22/0602:22	DATE RECEIVED:	03/21/06
PREP. BATCH:	ICC036S	ICC036S	ICC036S		
CALIB. REF:	AC21-25	AC21-25	AC21-25		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Chlorate	ND	50	50.8	102	50	48.4	97	5	90-110	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 9056

MATRIX: SOIL % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	ICC036SB	ICC036SL	ICC036SC		
LAB FILE ID:	AC21-27	AC21-28	AC21-29		
DATE EXTRACTED:	03/21/0613:15	03/21/0613:15	03/21/0613:15	DATE COLLECTED:	NA
DATE ANALYZED:	03/22/0601:34	03/22/0601:58	03/22/0602:22	DATE RECEIVED:	03/21/06
PREP. BATCH:	ICC036S	ICC036S	ICC036S		
CALIB. REF:	AC21-25	AC21-25	AC21-25		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Chloride-Cl	ND	50	47.2	94	50	46.8	94	1	90-110	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 9056

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	ICC036SB	ICC036SL	ICC036SC		
LAB FILE ID:	AC21-27	AC21-28	AC21-29		
DATE EXTRACTED:	03/21/0613:15	03/21/0613:15	03/21/0613:15	DATE COLLECTED:	NA
DATE ANALYZED:	03/22/0601:34	03/22/0601:58	03/22/0602:22	DATE RECEIVED:	03/21/06
PREP. BATCH:	ICC036S	ICC036S	ICC036S		
CALIB. REF:	AC21-25	AC21-25	AC21-25		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
NITRATE-N	ND	20	19.8	99	20	19.1	95	4	90-110	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 9056

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	ICC036SB	ICC036SL	ICC036SC		
LAB FILE ID:	AC21-27	AC21-28	AC21-29		
DATE EXTRACTED:	03/21/0613:15	03/21/0613:15	03/21/0613:15	DATE COLLECTED:	NA
DATE ANALYZED:	03/22/0601:34	03/22/0601:58	03/22/0602:22	DATE RECEIVED:	03/21/06
PREP. BATCH:	ICC036S	ICC036S	ICC036S		
CALIB. REF:	AC21-25	AC21-25	AC21-25		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
NITRITE-N	ND	20	19.2	96	20	18.2	91	5	90-110	20

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 9056

MATRIX: SOIL % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	ICC036SB	ICC036SL	ICC036SC		
LAB FILE ID:	AC21-27	AC21-28	AC21-29		
DATE EXTRACTED:	03/21/0613:15	03/21/0613:15	03/21/0613:15	DATE COLLECTED:	NA
DATE ANALYZED:	03/22/0601:34	03/22/0601:58	03/22/0602:22	DATE RECEIVED:	03/21/06
PREP. BATCH:	ICC036S	ICC036S	ICC036S		
CALIB. REF:	AC21-25	AC21-25	AC21-25		

ACCESSION:

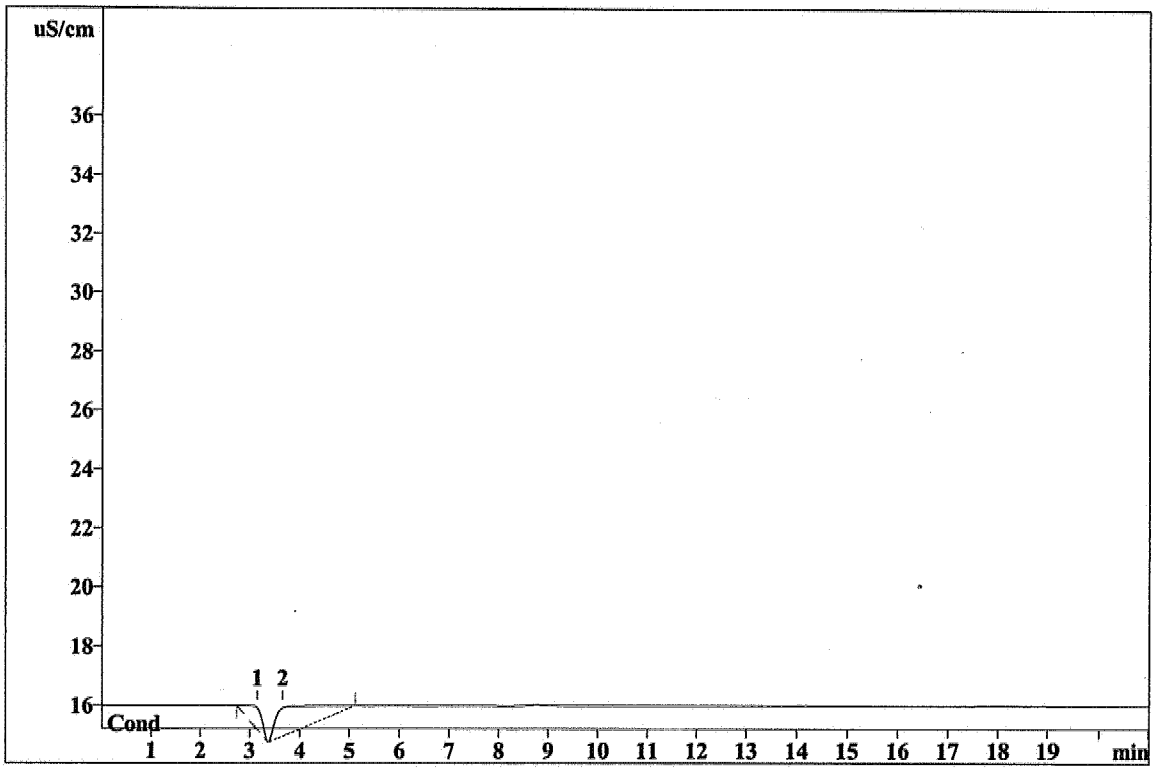
PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
SULFATE	ND	50	50.4	101	50	50	100	1	90-110	20

QC DATA

Report date: 3/24/2006 11:25:07 AM
Printed by: Cherry Dam

Ident: AC21-27 ICC036SB
Analysis from: 3/22/2006 1:34:35 AM
File: q3220134.chw Last save: 3/22/2006 1:55:30 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13431

SAMPLE:
:
Vial number: 27
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

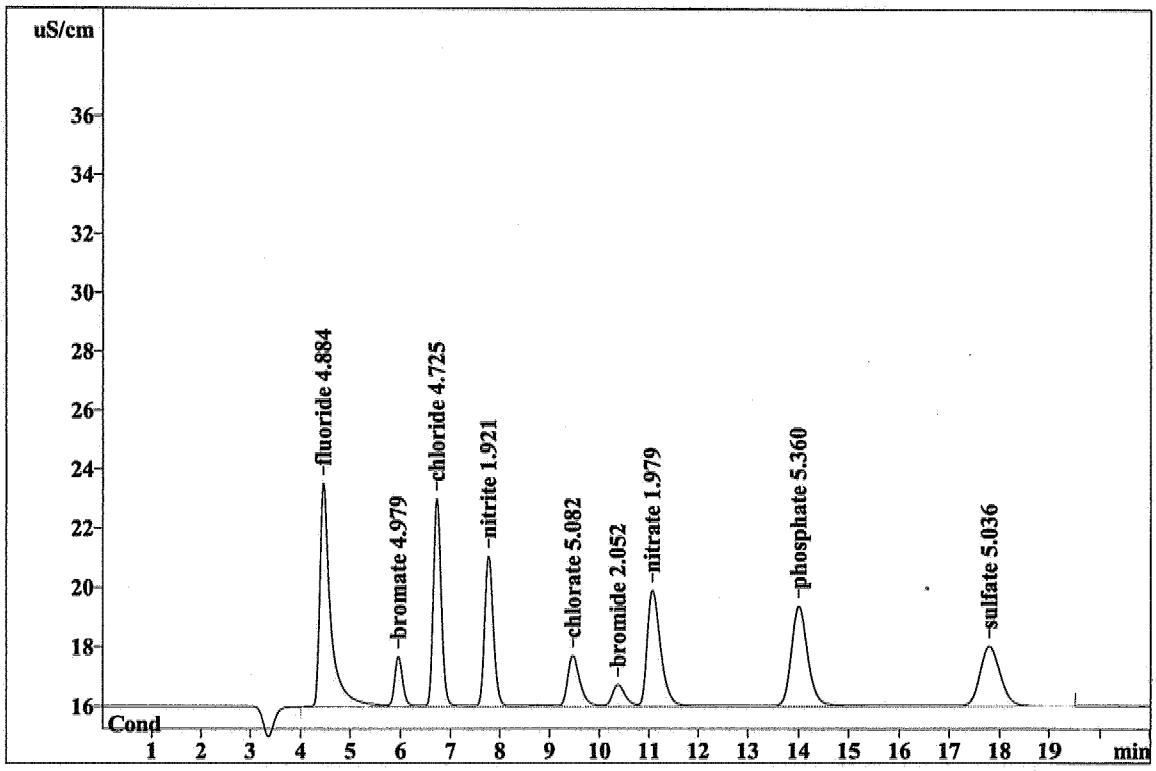
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.14	0.71	14.366	0.000	
2	3.67	0.95	53.676	0.000	
2	21.00	1.66	68.043	0.000	

This report has been created by IC Net
METROHM LTD

Report date: 3/24/2006 11:30:28 AM
Printed by: Cherry Dam

Ident: AC21-28 ICC036SL
Analysis from: 3/22/2006 1:58:37 AM
File: q3220158.chw Last save: 3/22/2006 2:19:32 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13432

SAMPLE:
:
Vial number: 28
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

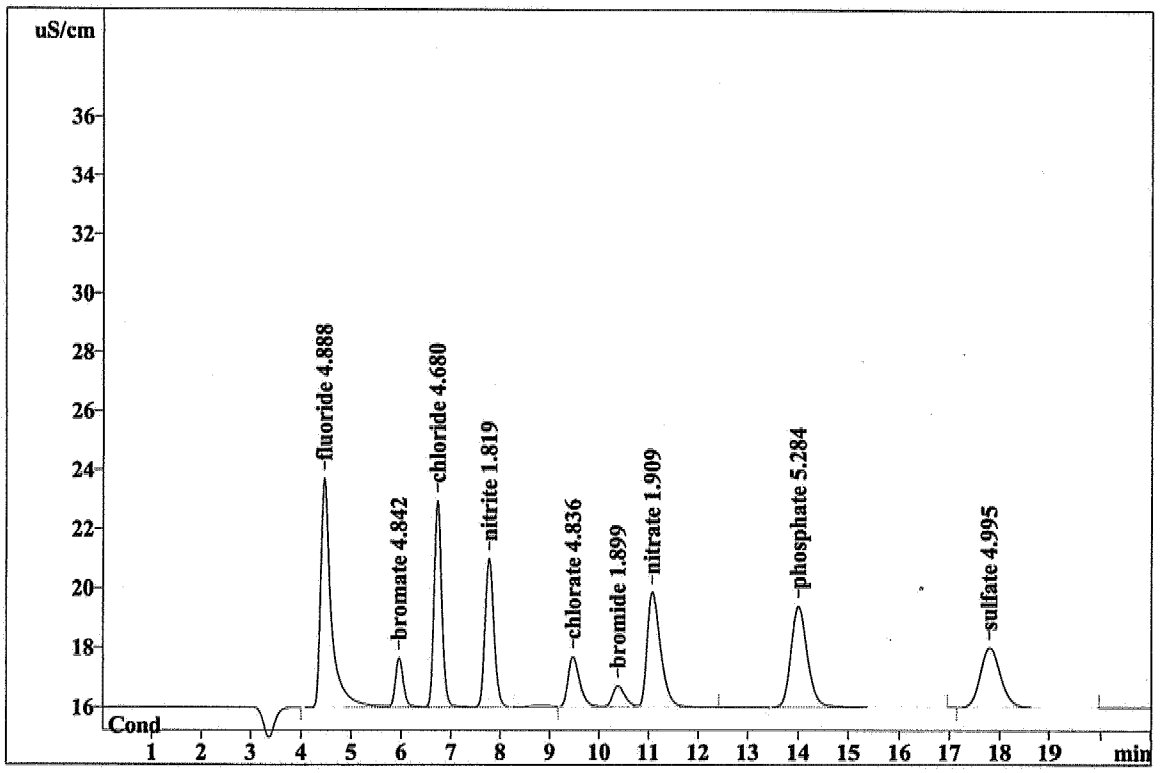
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.45	7.55	115.322	4.884	fluoride
2	5.95	1.69	19.081	4.979	bromate
3	6.72	7.02	75.322	4.725	chloride
4	7.76	5.08	66.404	1.921	nitrite
5	9.46	1.72	29.307	5.082	chlorate
6	10.37	0.74	13.397	2.052	bromide
7	11.06	3.91	74.761	1.979	nitrate
8	14.00	3.37	78.550	5.360	phosphate
9	17.79	2.02	56.443	5.036	sulfate
9	21.00	33.09	528.588	36.018	

This report has been created by IC Net
METROHM LTD

Report date: 3/24/2006 11:33:04 AM
Printed by: Cherry Dam

Ident: AC21-29 ICC036SC
Analysis from: 3/22/2006 2:22:39 AM
File: q3220222.chw Last save: 3/22/2006 2:43:35 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13433

SAMPLE:
:
Vial number: 29
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.45	7.74	115.412	4.888	fluoride
2	5.95	1.67	18.562	4.842	bromate
3	6.73	6.99	74.588	4.680	chloride
4	7.77	5.00	62.823	1.819	nitrite
5	9.47	1.69	27.880	4.836	chlorate
6	10.38	0.71	12.429	1.899	bromide
7	11.07	3.88	72.077	1.909	nitrate
8	14.00	3.40	77.421	5.284	phosphate
9	17.80	2.01	55.987	4.995	sulfate
9	21.00	33.09	517.180	35.152	

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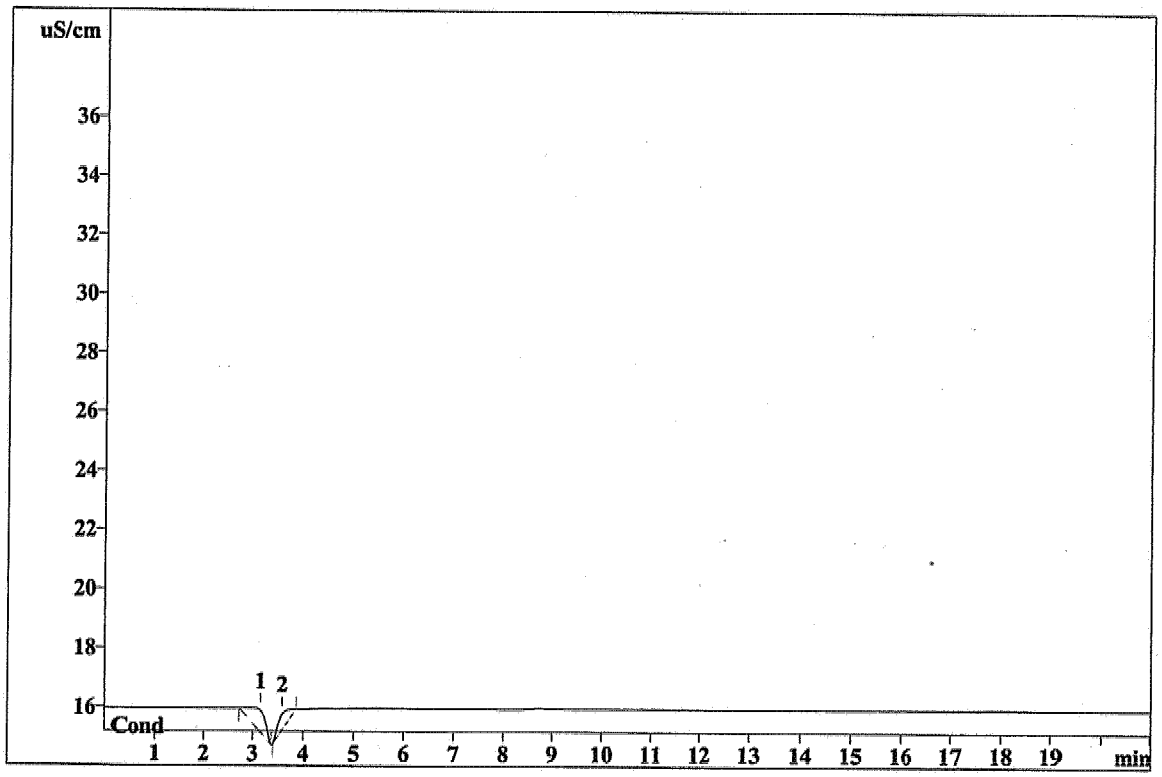
INITIAL CALIBRATION

File Name	Method	Ident	Vial	Volume	Dilution	Amount	Internal Standard Amount	Calibration Level	Sample Info 1	Sample Info 2 F
q3202352.chw	IC100-C20.mtw	AC20-01 IB	1	1.0	1.0	1.0	100.0	0		
q3210016.chw	IC100-C20.mtw	AC20-02 S0	2	1.0	1.0	1.0	100.0	0		
q3210040.chw	IC100-C20.mtw	AC20-03 S1	3	1.0	1.0	1.0	100.0	1		
q3210104.chw	IC100-C20.mtw	AC20-04 S2	4	1.0	1.0	1.0	100.0	2		
q3210128.chw	IC100-C20.mtw	AC20-05 S3	5	1.0	1.0	1.0	100.0	3		
q3210152.chw	IC100-C20.mtw	AC20-06 S4	6	1.0	1.0	1.0	100.0	4		
q3210216.chw	IC100-C20.mtw	AC20-07 S5	7	1.0	1.0	1.0	100.0	5		
q3210240.chw	IC100-C20.mtw	AC20-08 S6	8	1.0	1.0	1.0	100.0	6		
q3210304.chw	IC100-C20.mtw	AC20-09 S7	9	1.0	1.0	1.0	100.0	7		
q3210328.chw	IC100-C20.mtw	AC20-10 ICV	10	1.0	1.0	1.0	100.0	0		
q3210352.chw	IC100-C20.mtw	AC20-11 ICB	11	1.0	1.0	1.0	100.0	0		
q3210416.chw	IC100-C20.mtw	AC20-12 ICC034WB	12	1.0	1.0	1.0	100.0	0		
q3210440.chw	IC100-C20.mtw	AC20-13 ICC034WL	13	1.0	1.0	1.0	100.0	0		
q3210504.chw	IC100-C20.mtw	AC20-14 ICC034WC	14	1.0	1.0	1.0	100.0	0		
q3210528.chw	IC100-C20.mtw	AC20-15 MDLW-1	15	1.0	1.0	1.0	100.0	0		
q3210552.chw	IC100-C20.mtw	AC20-16 MDLW-2	16	1.0	1.0	1.0	100.0	0		
q3210616.chw	IC100-C20.mtw	AC20-17 MDLW-3	17	1.0	1.0	1.0	100.0	0		
q3210640.chw	IC100-C20.mtw	AC20-18 MDLW-4	18	1.0	1.0	1.0	100.0	0		
q3210704.chw	IC100-C20.mtw	AC20-19 MDLW-5	19	1.0	1.0	1.0	100.0	0		
q3210729.chw	IC100-C20.mtw	AC20-20 MDLW-6	20	1.0	1.0	1.0	100.0	0		
q3210753.chw	IC100-C20.mtw	AC20-21 MDLW-7	21	1.0	1.0	1.0	100.0	0		
q3210817.chw	IC100-C20.mtw	AC20-22 CCV1	22	1.0	1.0	1.0	100.0	0		
q3210841.chw	IC100-C20.mtw	AC20-23 CCB1	23	1.0	1.0	1.0	100.0	0		
q3210905.chw	IC100-C20.mtw	AC20-24 MDLVW	24	1.0	1.0	1.0	100.0	0		
q3210929.chw	IC100-C20.mtw	AC20-25 MDLVS	25	1.0	1.0	1.0	100.0	0		

Report date: 3/24/2006 10:44:52 AM
Printed by: Cherry Dam

Ident: AC20-01 IB
Analysis from: 3/20/2006 11:52:18 PM
File: q3202352.chw Last save: 3/21/2006 11:24:03 AM
Modified!
Method: IC100-C20.mtw Last save: 3/20/2006 9:54:42 PM
Run operator: Cherry Dam
Analysis number: 13374

SAMPLE:
:
Vial number: 1
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.15	0.73	15.368	0.000	
2	3.58	0.53	8.548	0.000	
2	21.00	1.26	23.917	0.000	

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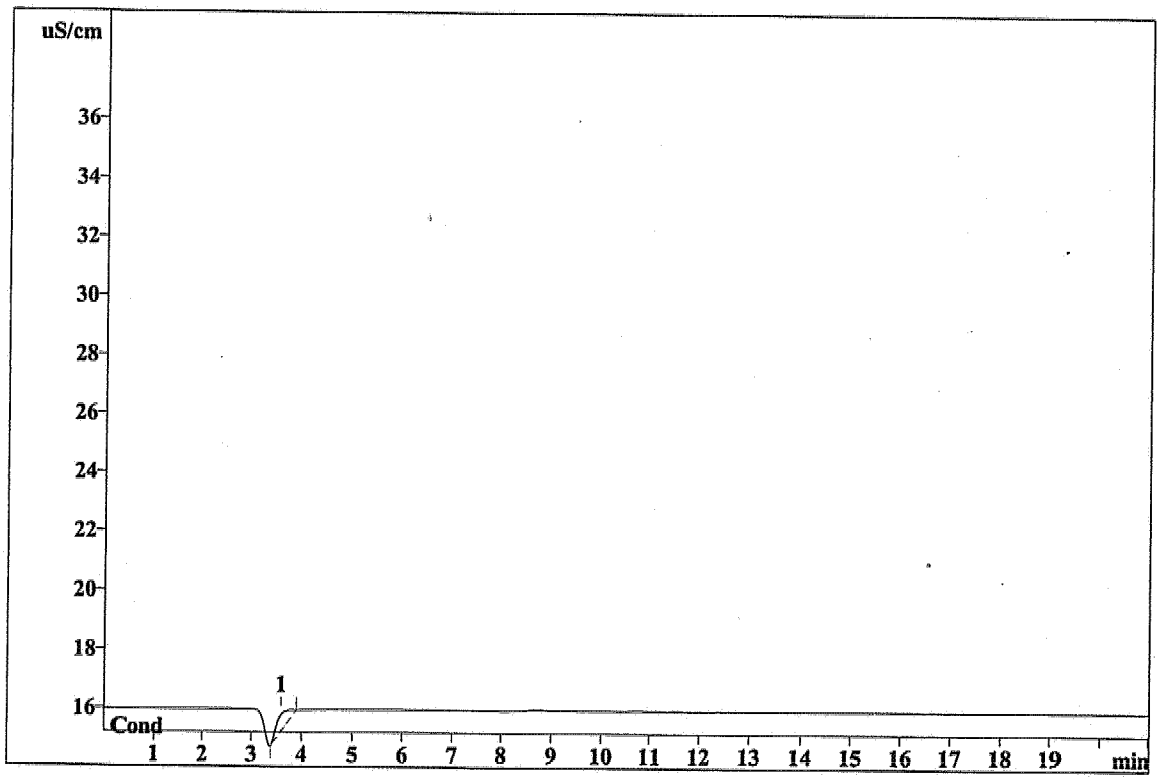
3/24/06

8089

Report date: 3/24/2006 10:45:19 AM
Printed by: Cherry Dam

Ident: AC20-02 S0
Analysis from: 3/21/2006 12:16:21 AM
File: q3210016.chw Last save: 3/21/2006 11:24:52 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 11:24:47 A
Run operator: Cherry Dam
Analysis number: 13375

SAMPLE:
:
Vial number: 2
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.58	0.56	9.995	0.000	

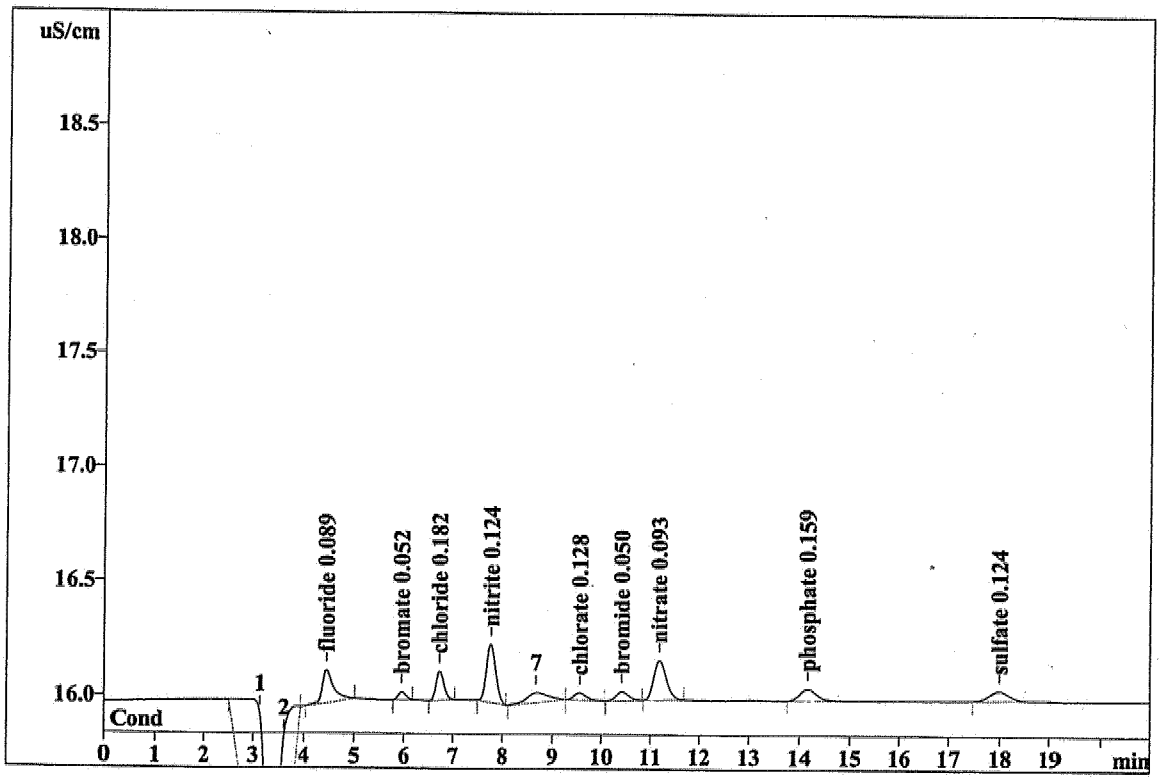
This report has been created by IC Net
METROHM LTD

3-24-06

Report date: 3/24/2006 10:45:55 AM
Printed by: Cherry Dam

Ident: AC20-03 S1
Analysis from: 3/21/2006 12:40:23 AM
File: q3210040.chw Last save: 3/21/2006 11:25:30 AM
Modified!
Method: IC100-C20.mtw Last save: 3/20/2006 9:54:42 PM
Run operator: Cherry Dam
Analysis number: 13376

SAMPLE:
:
Vial number: 3
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

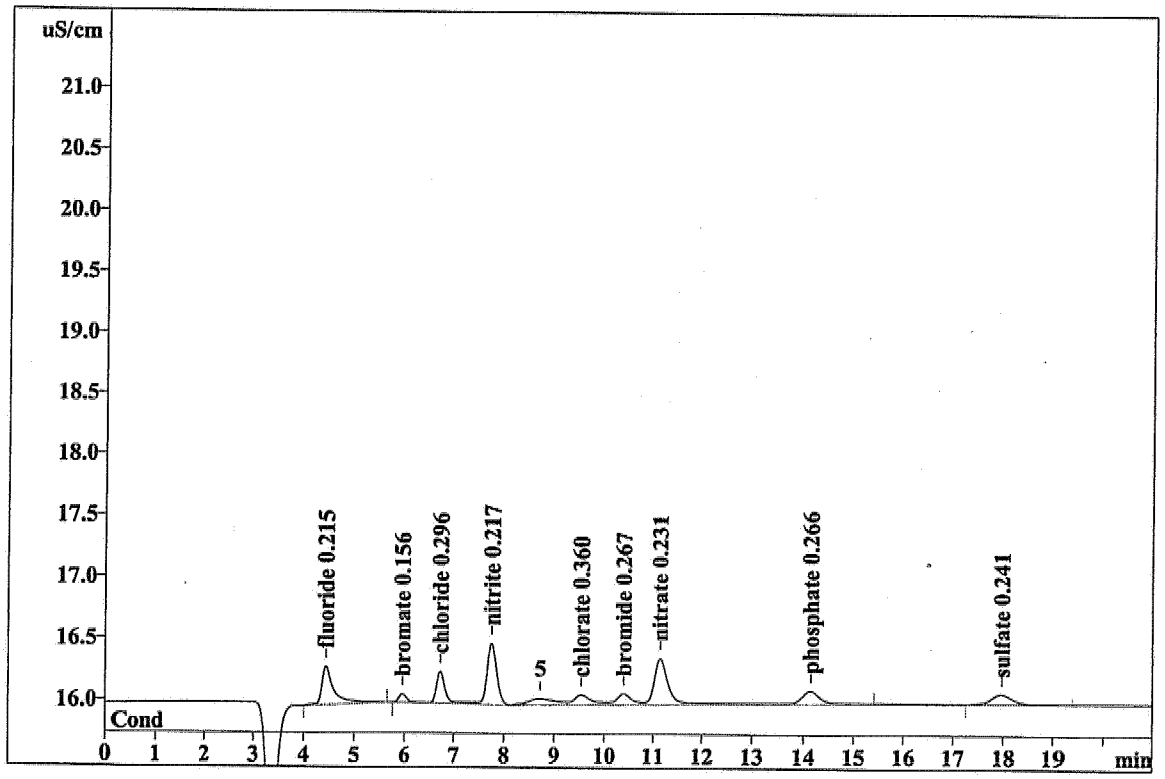
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.13	0.83	22.756	0.000	
2	3.59	0.59	11.216	0.000	
3	4.44	0.14	2.261	0.089	fluoride
4	5.96	0.04	0.377	0.052	bromate
5	6.73	0.13	1.425	0.182	chloride
6	7.76	0.25	3.251	0.124	nitrite
7	8.68	0.04	1.328	0.000	
8	9.56	0.03	0.556	0.128	chlorate
9	10.41	0.04	0.727	0.050	bromide
10	11.18	0.17	3.140	0.093	nitrate
11	14.15	0.05	1.189	0.159	phosphate
12	17.98	0.04	1.193	0.124	sulfate
12	21.00	2.35	49.419	1.001	

3-24-06

Report date: 3/24/2006 10:46:24 AM
Printed by: Cherry Dam

Ident: AC20-04 S2
Analysis from: 3/21/2006 1:04:26 AM
File: q3210104.chw Last save: 3/21/2006 11:25:57 AM
Modified!
Method: IC100-C20.mtw Last save: 3/20/2006 9:54:42 PM
Run operator: Cherry Dam
Analysis number: 13377

SAMPLE:
:
Vial number: 4
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.43	0.31	5.252	0.215	fluoride
2	5.96	0.07	0.772	0.156	bromate
3	6.73	0.26	3.290	0.296	chloride
4	7.76	0.50	6.510	0.217	nitrite
5	8.71	0.05	2.017	0.000	
6	9.54	0.08	1.907	0.360	chlorate
7	10.39	0.09	2.101	0.267	bromide
8	11.15	0.37	8.378	0.231	nitrate
9	14.13	0.11	2.769	0.266	phosphate
10	17.97	0.08	2.508	0.241	sulfate
10	21.00	1.92	35.505	2.250	

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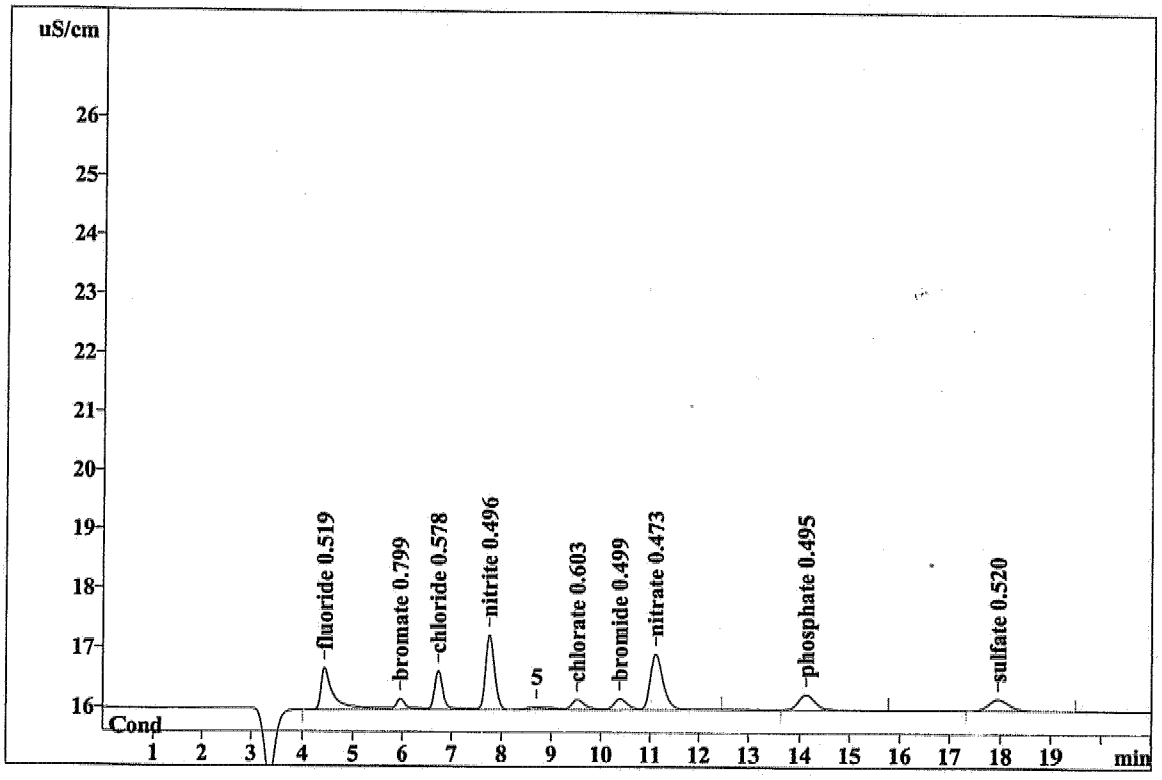
3-24-06

Report date: 3/24/2006 10:46:52 AM
Printed by: Cherry Dam

Ident: AC20-05 S3
Analysis from: 3/21/2006 1:28:29 AM
File: q3210128.chw Last save: 3/21/2006 11:26:24 AM
Modified!
Method: IC100-C20.mtw Last save: 3/20/2006 9:54:42 PM
Run operator: Cherry Dam
Analysis number: 13378

SAMPLE:
:
Vial number: 5
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.44	0.70	12.411	0.519	fluoride
2	5.96	0.19	3.213	0.799	bromate
3	6.73	0.65	7.862	0.578	chloride
4	7.76	1.26	16.317	0.496	nitrite
5	8.71	0.05	1.582	0.000	
6	9.52	0.17	3.315	0.603	chlorate
7	10.38	0.19	3.566	0.499	bromide
8	11.11	0.94	17.571	0.473	nitrate
9	14.13	0.26	6.182	0.495	phosphate
10	17.95	0.20	5.649	0.520	sulfate
10	21.00	4.60	77.670	4.982	

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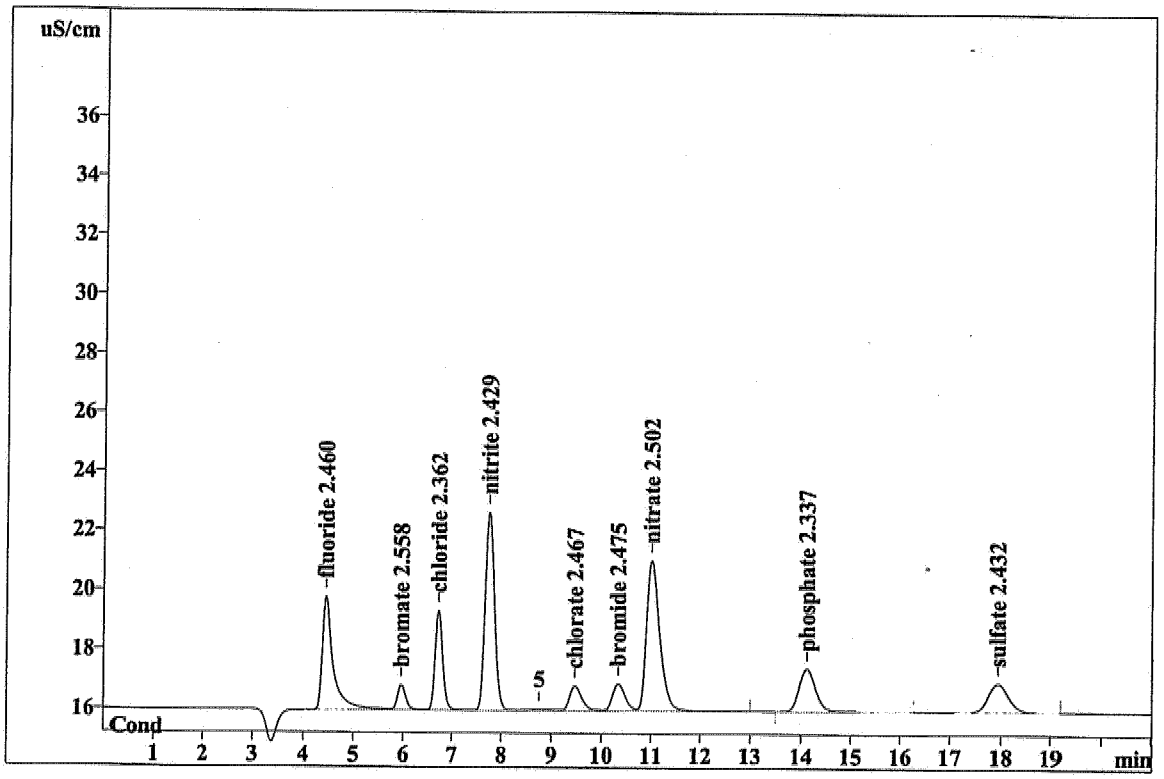
3-24-06

8893

Report date: 3/24/2006 10:47:22 AM
Printed by: Cherry Dam

Ident: AC20-06 S4
Analysis from: 3/21/2006 1:52:31 AM
File: q3210152.chw Last save: 3/21/2006 11:27:16 AM
Modified!
Method: IC100-C20.mtw Last save: 3/20/2006 9:54:42 PM
Run operator: Cherry Dam
Analysis number: 13379

SAMPLE:
:
Vial number: 6
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.45	3.82	58.162	2.460	fluoride
2	5.96	0.85	9.889	2.558	bromate
3	6.72	3.36	36.894	2.362	chloride
4	7.75	6.68	84.256	2.429	nitrite
5	8.77	0.05	1.868	0.000	
6	9.47	0.84	14.130	2.467	chlorate
7	10.33	0.90	16.073	2.475	bromide
8	11.01	5.06	94.621	2.502	nitrate
9	14.11	1.44	33.585	2.337	phosphate
10	17.94	0.97	27.151	2.432	sulfate
10	21.00	23.95	376.631	22.022	

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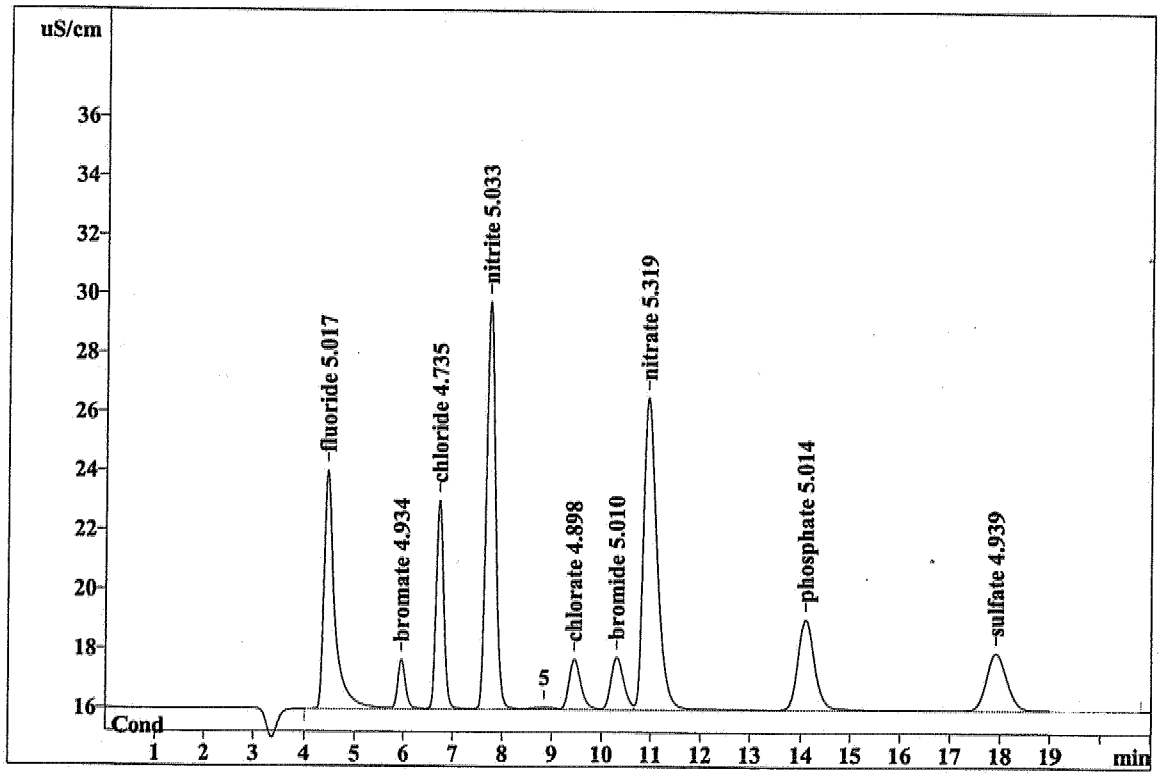
3-24-06

8694

Report date: 3/24/2006 10:47:49 AM
Printed by: Cherry Dam

Ident: AC20-07 S5
Analysis from: 3/21/2006 2:16:33 AM
File: q3210216.chw Last save: 3/21/2006 11:27:42 AM
Modified!
Method: IC100-C20.mtw Last save: 3/20/2006 9:54:42 PM
Run operator: Cherry Dam
Analysis number: 13380

SAMPLE:
:
Vial number: 7
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.46	8.06	118.464	5.017	fluoride
2	5.95	1.68	18.909	4.934	bromate
3	6.72	7.04	75.492	4.735	chloride
4	7.74	13.79	175.802	5.033	nitrite
5	8.86	0.06	2.345	0.000	
6	9.44	1.70	28.237	4.898	chlorate
7	10.30	1.77	32.116	5.010	bromide
8	10.94	10.55	201.551	5.319	nitrate
9	14.09	3.07	73.406	5.014	phosphate
10	17.91	1.94	55.349	4.939	sulfate
10	21.00	49.67	781.670	44.898	

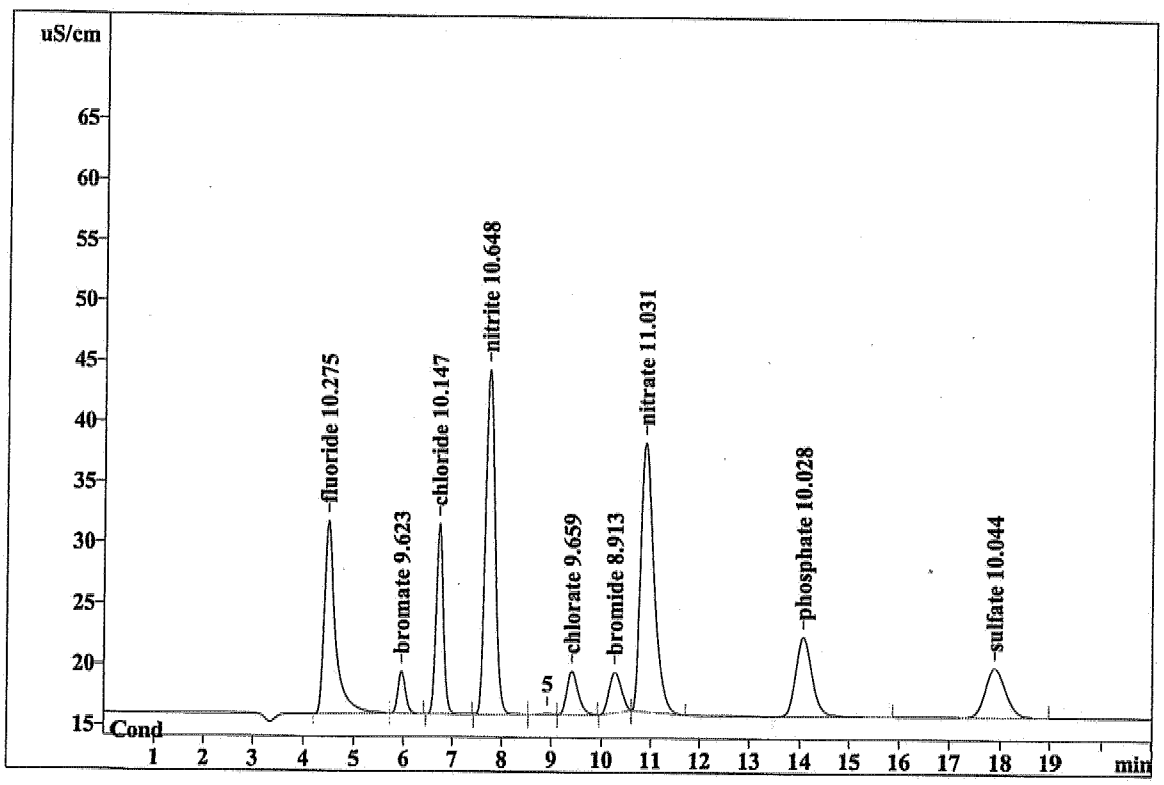
This report has been created by IC Net

3-24-06

Report date: 3/24/2006 10:48:29 AM
Printed by: Cherry Dam

Ident: AC20-08 S6
Analysis from: 3/21/2006 2:40:35 AM
File: q3210240.chw Last save: 3/21/2006 11:28:03 AM
Modified!
Method: IC100-C20.mtw Last save: 3/20/2006 9:54:42 PM
Run operator: Cherry Dam
Analysis number: 13381

SAMPLE:
:
Vial number: 8
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.48	15.88	242.429	10.275	fluoride
2	5.95	3.47	36.711	9.623	bromate
3	6.72	15.68	163.525	10.147	chloride
4	7.74	28.40	373.172	10.648	nitrite
5	8.91	0.04	0.619	0.000	
6	9.41	3.58	55.871	9.659	chlorate
7	10.26	3.34	56.825	8.913	bromide
8	10.88	22.21	418.469	11.031	nitrate
9	14.06	6.55	147.996	10.028	phosphate
10	17.88	4.06	112.778	10.044	sulfate
10	21.00	103.21	1608.394	90.371	

This report has been created by IC Net

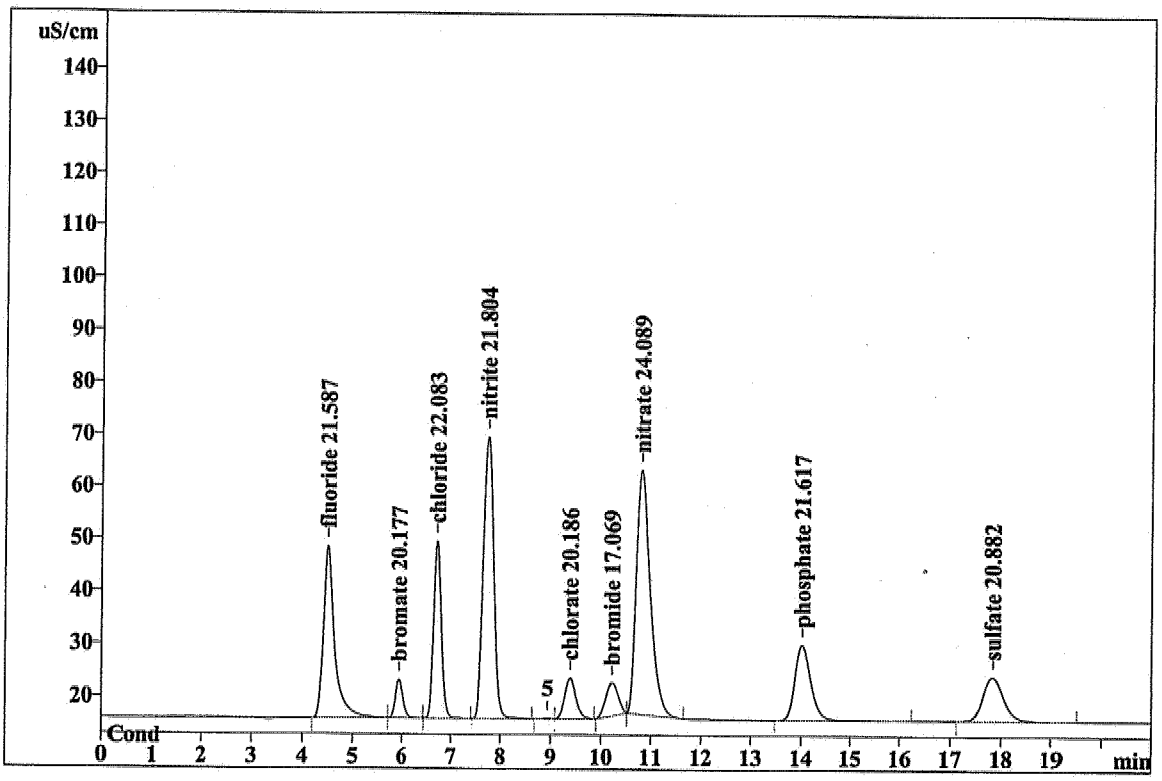
RT 3-24-06

8896

Report date: 3/24/2006 10:48:58 AM
Printed by: Cherry Dam

Ident: AC20-09 S7
Analysis from: 3/21/2006 3:04:36 AM
File: q3210304.chw Last save: 3/21/2006 11:28:26 AM
Modified!
Method: IC100-C20.mtw Last save: 3/20/2006 9:54:42 PM
Run operator: Cherry Dam
Analysis number: 13382

SAMPLE:
:
Vial number: 9
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.50	32.64	509.116	21.587	fluoride
2	5.94	7.27	76.778	20.177	bromate
3	6.73	33.72	357.688	22.083	chloride
4	7.74	53.84	765.312	21.804	nitrite
5	8.92	0.05	0.654	0.000	
6	9.38	7.75	116.958	20.186	chlorate
7	10.22	6.30	108.440	17.069	bromide
8	10.81	46.68	914.277	24.089	nitrate
9	14.01	14.26	320.389	21.617	phosphate
10	17.83	8.37	234.687	20.882	sulfate
10	21.00	210.88	3404.298	189.495	

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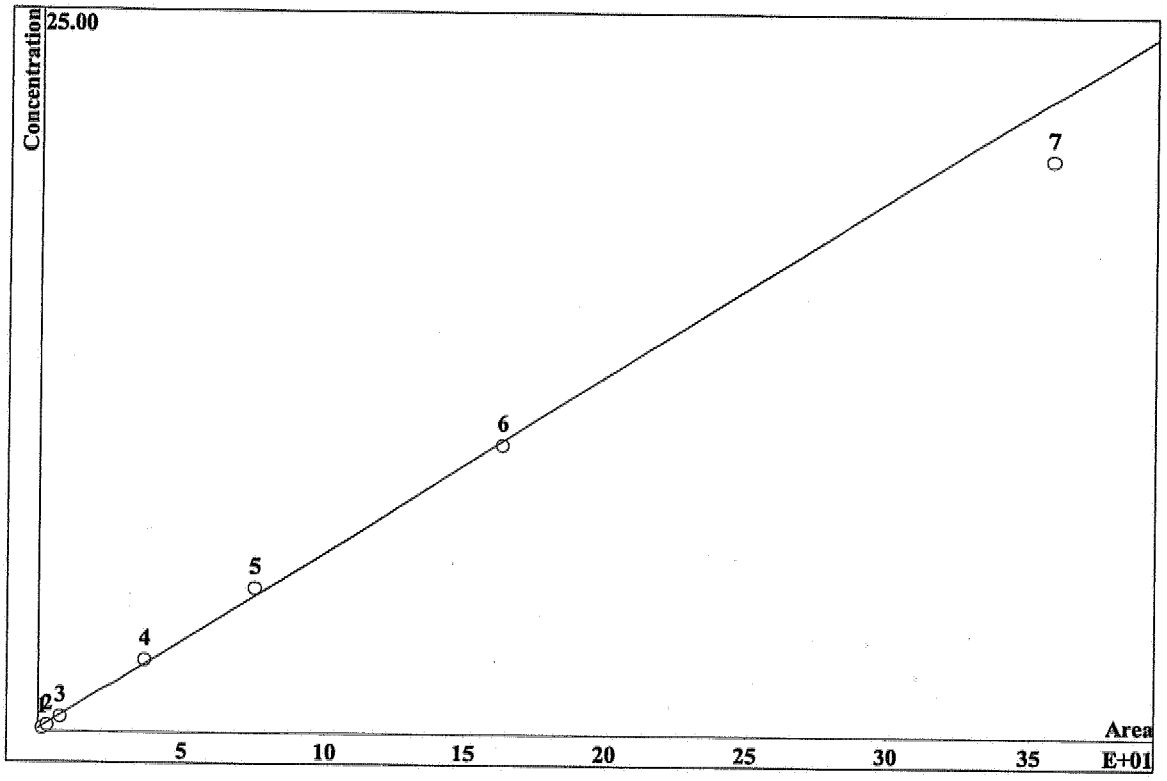
RE 3-24-06

CALIBRATION OF COMPONENT chloride

Method: IC100-C20.mtw
Equation: Q = 0.0614758·A + 0.0941691
RSD: 5.973 %
Correlation coefficient: 0.999123



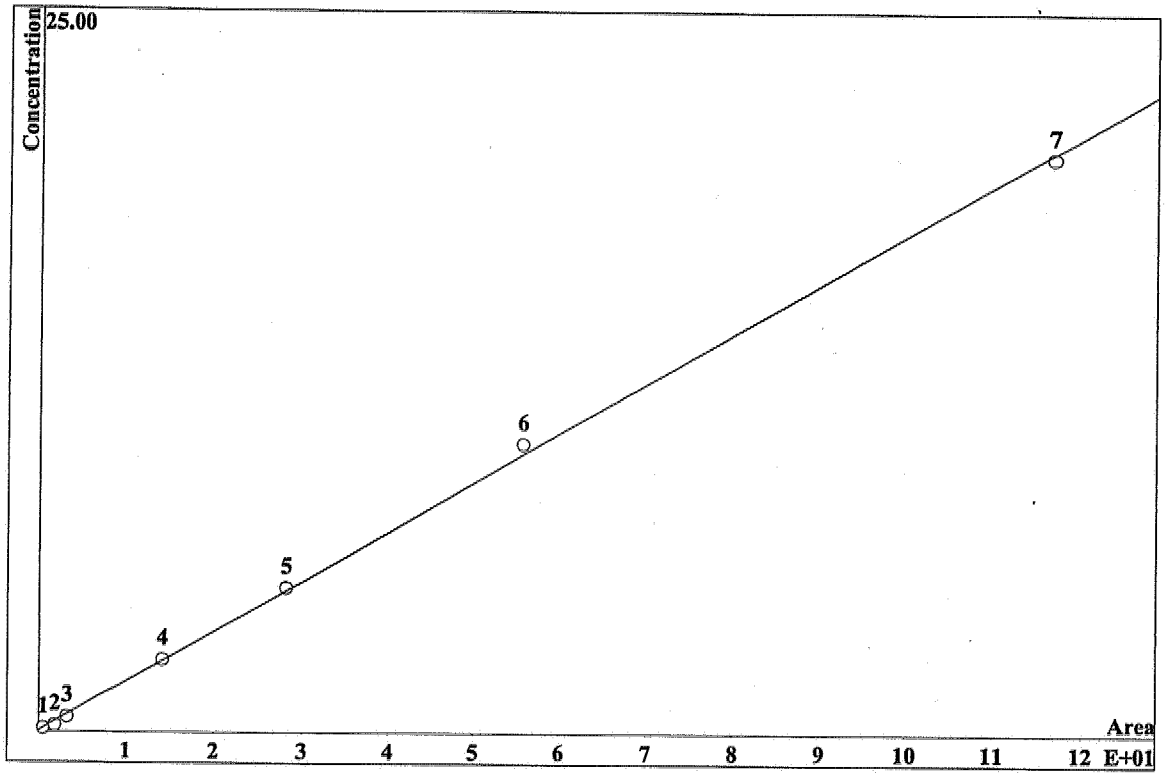
K3 = 0 K2 = 0 K1 = 0.0614758 K0 = 0.0941691
Base: Area
Ref.channel: Cond
ISTD:
Formula: Linear
Weight: 1

Level	Height	Area	Conc.	Vol/Dil	Retention	Used	File
1	0.1271	1.425	0.1	1	6.729	Yes	q3210040.chw
2	0.2594	3.29	0.2	1	6.729	Yes	q3210104.chw
3	0.6515	7.862	0.5	1	6.729	Yes	q3210128.chw
4	3.356	36.89	2.5	1	6.729	Yes	q3210152.chw
5	7.04	75.49	5	1	6.729	Yes	q3210216.chw
6	15.68	163.5	10	1	6.729	Yes	q3210240.chw
7	33.72	357.7	20	1	6.729	No	q3210304.chw

pw 3-24-06

CALIBRATION OF COMPONENT chlorate

Method: IC100-C20.mtw
Equation: Q = 0.17232·A + 0.0316544
RSD: 3.649 %
Correlation coefficient: 0.999690



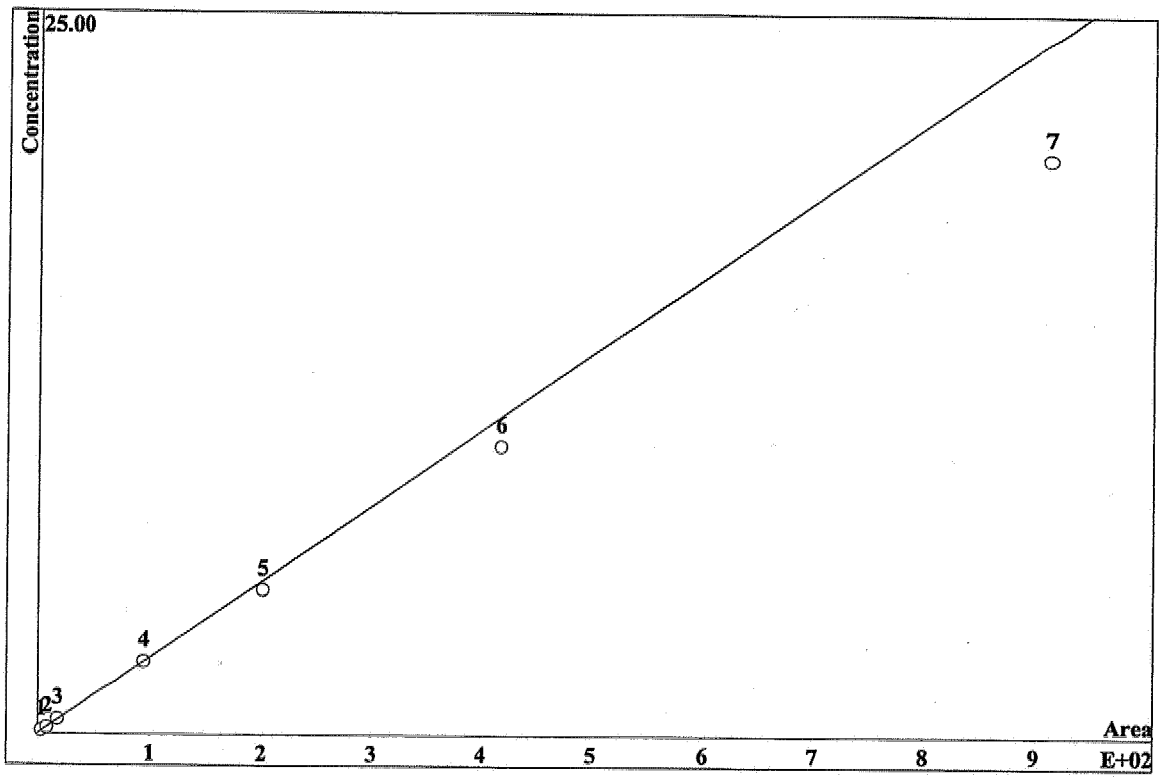
K3 = 0 K2 = 0 K1 = 0.17232 K0 = 0.0316544
Base: Area
Ref.channel: Cond
ISTD:
Formula: Linear
Weight: 1

Level	Height	Area	Conc.	Vol/Dil	Retention	Used	File
1	0.03205	0.5563	0.1	1	9.73	Yes	q3210040.chw
2	0.08324	1.907	0.2	1	9.73	Yes	q3210104.chw
3	0.1709	3.315	0.5	1	9.73	Yes	q3210128.chw
4	0.8373	14.13	2.5	1	9.73	Yes	q3210152.chw
5	1.704	28.24	5	1	9.73	Yes	q3210216.chw
6	3.581	55.87	10	1	9.73	Yes	q3210240.chw
7	7.75	117	20	1	9.73	Yes	q3210304.chw

3-24-06

CALIBRATION OF COMPONENT nitrate

Method: IC100-C20.mtw
Equation: Q = 0.026336·A + 0.0104842
RSD: 3.573 %
Correlation coefficient: 0.999773



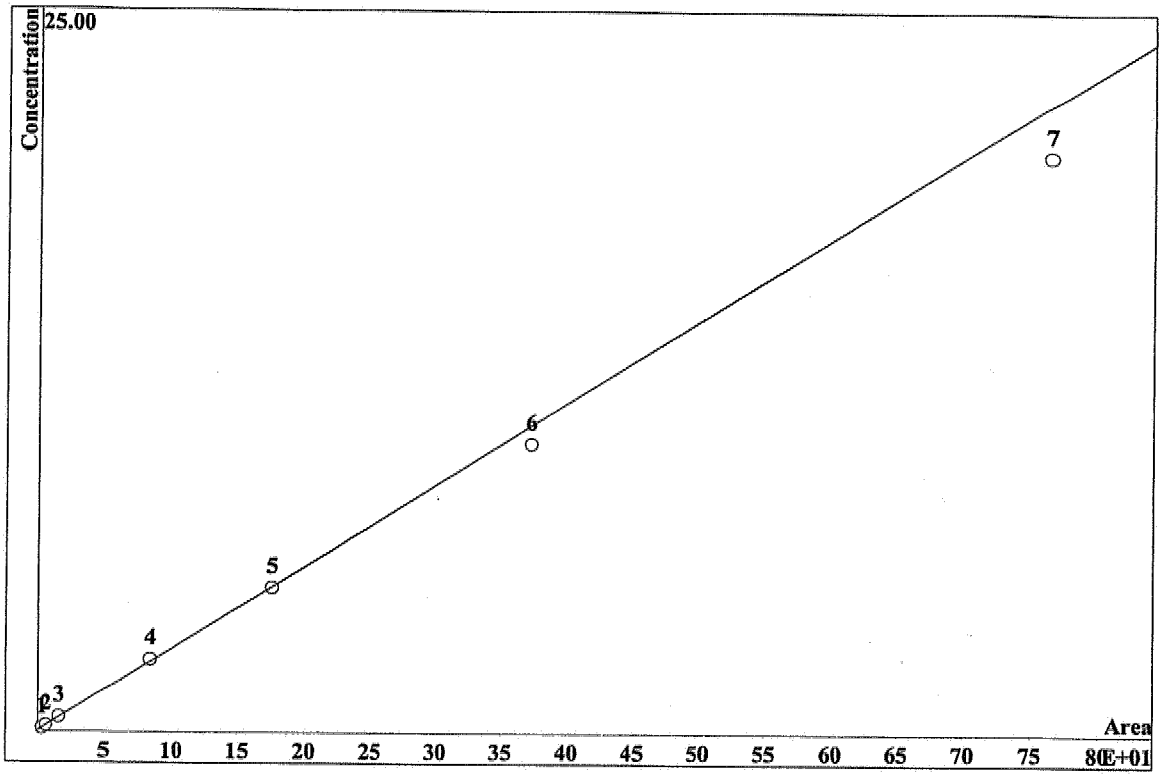
K3 = 0 K2 = 0 K1 = 0.026336 K0 = 0.0104842
Base: Area
Ref.channel: Cond
ISTD:
Formula: Linear
Weight: 1

Level	Height	Area	Conc.	Vol/Dil	Retention	Used	File
1	0.1743	3.14	0.1	1	11.17	Yes	q3210040.chw
2	0.3741	8.378	0.2	1	11.17	Yes	q3210104.chw
3	0.9379	17.57	0.5	1	11.17	Yes	q3210128.chw
4	5.055	94.62	2.5	1	11.17	Yes	q3210152.chw
5	10.55	201.6	5	1	11.17	No	q3210216.chw
6	22.21	418.5	10	1	11.17	No	q3210240.chw
7	46.68	914.3	20	1	11.17	No	q3210304.chw

RW 3-24-06

CALIBRATION OF COMPONENT nitrite

Method: IC100-C20.mtw
Equation: Q = 0.028449·A + 0.0319417
RSD: 2.924 %
Correlation coefficient: 0.999801



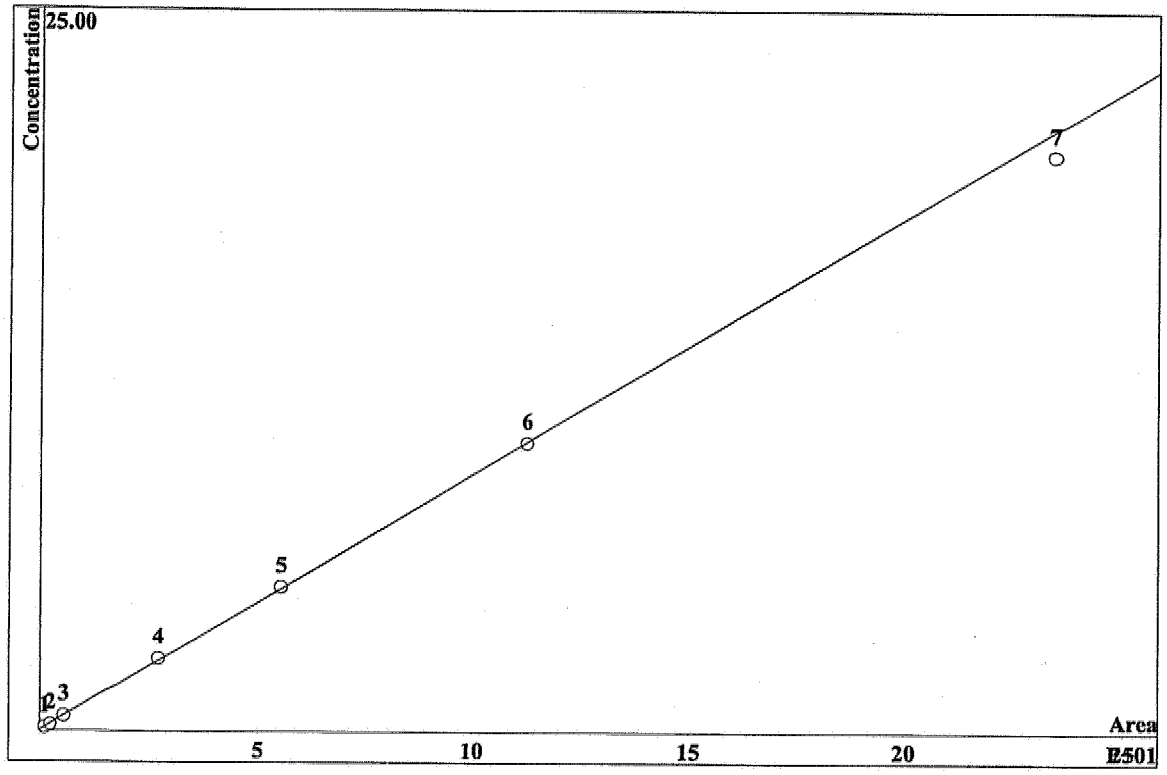
K3 = 0 K2 = 0 K1 = 0.028449 K0 = 0.0319417
Base: Area
Ref.channel: Cond
ISTD:
Formula: Linear
Weight: 1

Level	Height	Area	Conc.	Vol/Dil	Retention	Used	File
1	0.2534	3.251	0.1	1	7.763	Yes	q3210040.chw
2	0.4988	6.51	0.2	1	7.763	Yes	q3210104.chw
3	1.26	16.32	0.5	1	7.763	Yes	q3210128.chw
4	6.683	84.26	2.5	1	7.763	Yes	q3210152.chw
5	13.79	175.8	5	1	7.763	Yes	q3210216.chw
6	28.4	373.2	10	1	7.763	No	q3210240.chw
7	53.83	765.3	20	1	7.763	No	q3210304.chw

3-24-06

CALIBRATION OF COMPONENT sulfate

Method: IC100-C20.mtw
Equation: Q = 0.0889031·A + 0.0179885
RSD: 1.872 %
Correlation coefficient: 0.999914



K3 = 0 K2 = 0 K1 = 0.0889031 K0 = 0.0179885
Base: Area
Ref.channel: Cond
ISTD:
Formula: Linear
Weight: 1

Level	Height	Area	Conc.	Vol/Dil	Retention	Used	File
1	0.04319	1.193	0.1	1	17.95	Yes	q3210040.chw
2	0.08249	2.508	0.2	1	17.95	Yes	q3210104.chw
3	0.1957	5.649	0.5	1	17.95	Yes	q3210128.chw
4	0.967	27.15	2.5	1	17.95	Yes	q3210152.chw
5	1.943	55.35	5	1	17.95	Yes	q3210216.chw
6	4.056	112.8	10	1	17.95	Yes	q3210240.chw
7	8.372	234.7	20	1	17.95	No	q3210304.chw

pw 3-24-06

SECOND SOURCE

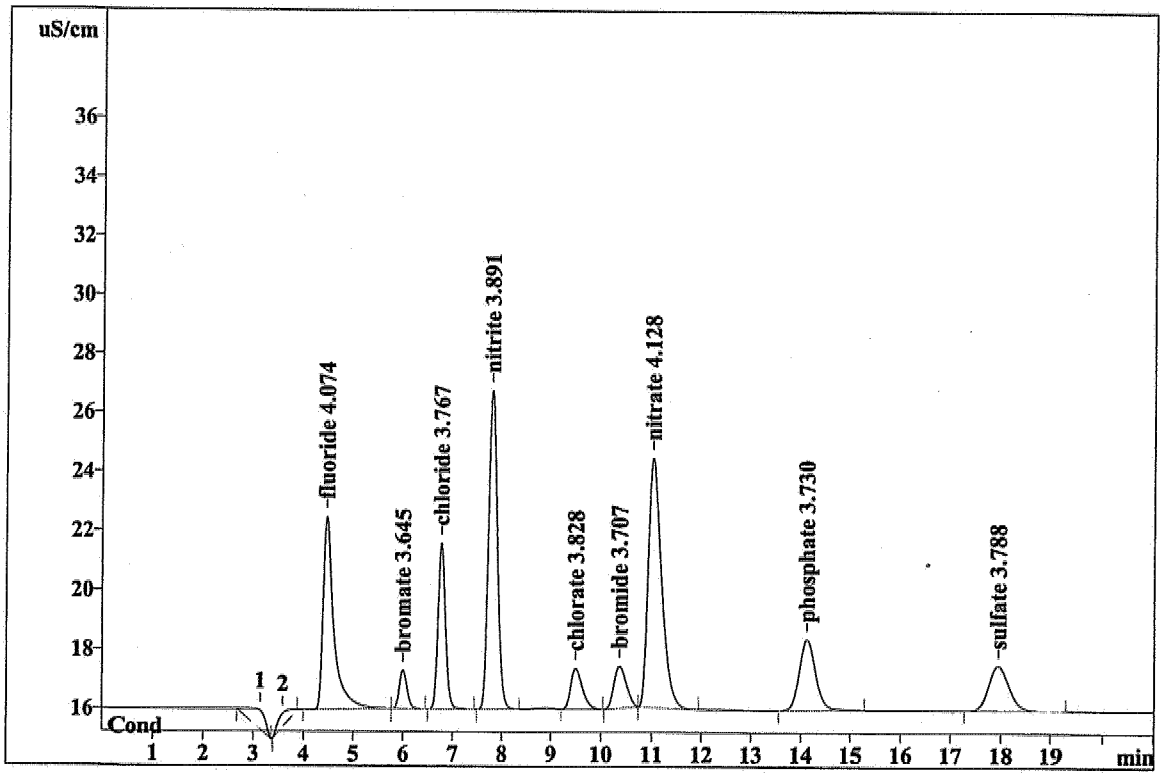
IC Result Check FormVersion : QC1

LFID	LSID	Selection	fluoride	bromate	nitrate	chloride	nitrite	chlorate	bromide	phosphate	sulfate	RawNetID	DF
AC20-10	ICV	FBNCICBPS	101.8%	91.1%	103.2%	94.2%	97.3%	95.7%	92.7%	93.3%	94.7%	q3210328	1
AC20-11	ICB	FBNCICBPS	0	0	0	0	0	0	0	0	0	q3210352	1
AC20-22	CCV1	FBNCICBPS	94.2%	93.4%	93.6%	94.7%	91.1%	94.2%	94.4%	93.9%	98%	q3210817	1
AC20-23	CCB1	FBNCICBPS	0	0	0	0	0	0	0	0	0	q3210841	1

Report date: 3/24/2006 10:49:30 AM
Printed by: Cherry Dam

Ident: AC20-10 ICV
Analysis from: 3/21/2006 3:28:38 AM
File: q3210328.chw Last save: 3/21/2006 11:28:51 AM
Modified!
Method: IC100-C20.mtw Last save: 3/20/2006 9:54:42 PM
Run operator: Cherry Dam
Analysis number: 13383

SAMPLE:
:
Vial number: 10
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.13	0.64	14.324	0.000	
2	3.57	0.45	7.739	0.000	
3	4.45	6.49	96.217	4.074	fluoride
4	5.99	1.31	14.018	3.645	bromate
5	6.76	5.60	59.748	3.767	chloride
6	7.79	10.76	135.636	3.891	nitrite
7	9.50	1.37	22.032	3.828	chlorate
8	10.36	1.42	23.873	3.707	bromide
9	11.02	8.43	156.332	4.128	nitrate
10	14.12	2.39	54.308	3.730	phosphate
11	17.94	1.52	42.402	3.788	sulfate
11	21.00	40.36	626.630	34.558	

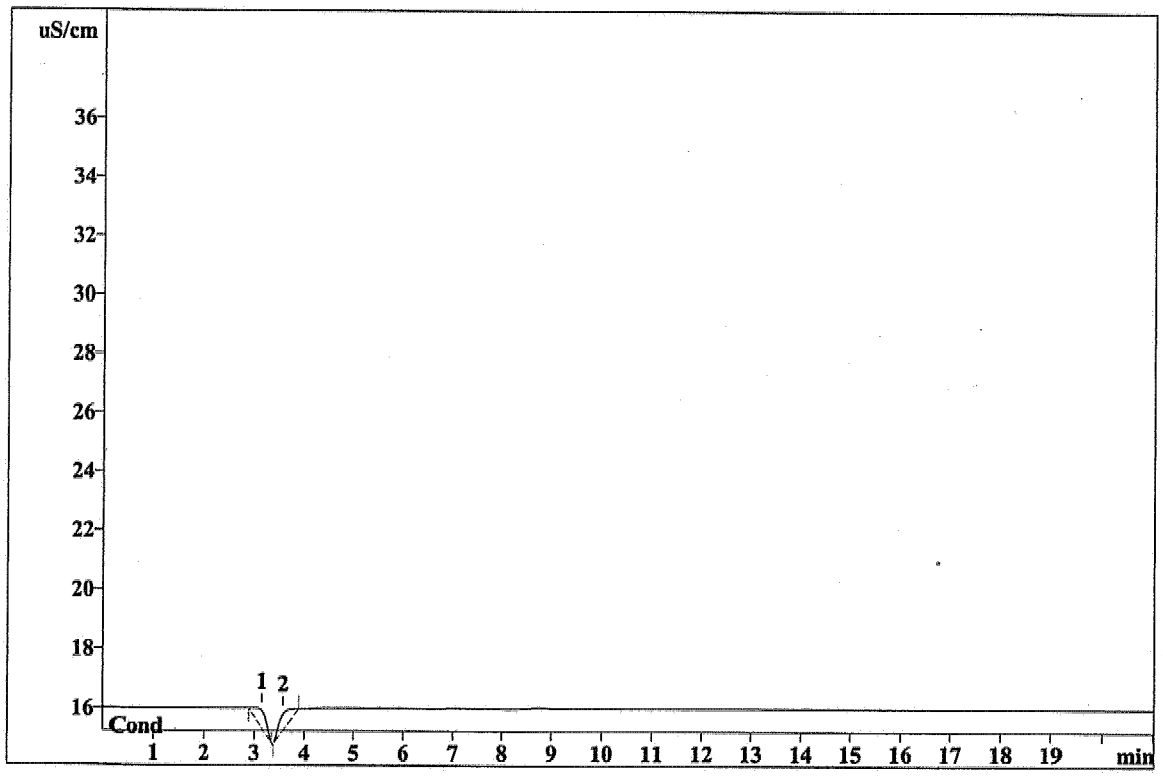
3-24-06

8105

Report date: 3/24/2006 10:50:07 AM
Printed by: Cherry Dam

Ident: AC20-11 ICB
Analysis from: 3/21/2006 3:52:40 AM
File: q3210352.chw Last save: 3/21/2006 11:29:58 AM
Modified!
Method: IC100-C20.mtw Last save: 3/20/2006 9:54:42 PM
Run operator: Cherry Dam
Analysis number: 13384

SAMPLE:
:
Vial number: 11
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.16	0.58	9.099	0.000	
2	3.58	0.55	9.612	0.000	
2	21.00	1.13	18.711	0.000	

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3-24-06

DAILY CALIBRATION

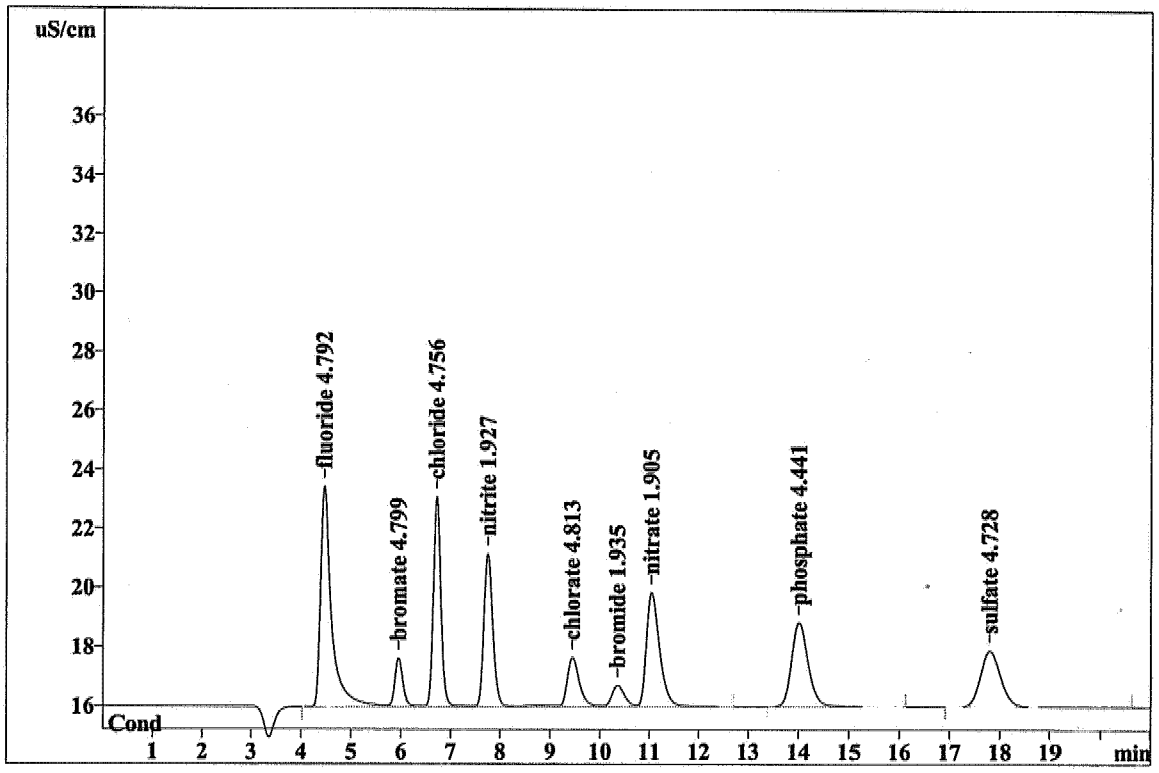
IC Result Check FormVersion : QC2

LFID	LSID	Selection	fluoride	bromate	phosphate	chloride	bromide	nitrate	nitrite	chlorate	sulfate	RawNetID	DF
AC21-01	CCV2	FBPCBNICS	97.1%	97.7%	95.9%	95.7%	98.8%	96.3%	97.3%	97.9%	94.8%	q3211506	1
AC21-02	CCB2	FBPCBNICS	0	0	0	0	0	0	0	0	0	q3211530	1
AC21-13	CCV3	FBPCBNICS	96.1%	96.1%	90%	95.2%	97.6%	95.5%	94.3%	102.7%	93.8%	q3211958	1
AC21-14	CCB3	FBPCBNICS	0	0	0	0	0	0	0	0	0	q3212022	1
AC21-25	CCV4	FBPCBNICS	95.8%	96%	88.8%*	95.1%	96.7%	95.3%	96.4%	96.3%	94.6%	q3220046	1
AC21-26	CCB4	FBPCBNICS	0	0	0	0	0	0	0	0	0	q3220110	1
AC21-37	CCV5	FBPCBNICS	96%	97.4%	91.3%	95.4%	99.9%	97.6%	97.5%	97.9%	94.6%	q3220534	1
AC21-38	CCB5	FBPCBNICS	0	0	0	0	0	0	0	0	0	q3220558	1
AC21-46	CCV6	FBPCBNICS	96.1%	96.8%	91%	95.2%	99.4%	97%	97.1%	97.5%	94.8%	q3220911	1
AC21-47	CCB6	FBPCBNICS	0	0	0	0	0	0	0	0	0	q3220935	1

Report date: 3/24/2006 11:22:44 AM
Printed by: Cherry Dam

Ident: AC21-25 CCV4
Analysis from: 3/22/2006 12:46:31 AM
File: q3220046.chw Last save: 3/22/2006 1:07:26 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13429

SAMPLE:
:
Vial number: 25
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.45	7.46	113.156	4.792	fluoride
2	5.95	1.64	18.397	4.799	bromate
3	6.71	7.11	75.836	4.756	chloride
4	7.75	5.18	66.621	1.927	nitrite
5	9.44	1.65	27.750	4.813	chlorate
6	10.35	0.71	12.655	1.935	bromide
7	11.04	3.87	71.938	1.905	nitrate
8	14.01	2.85	64.881	4.441	phosphate
9	17.80	1.90	52.975	4.728	sulfate
9	21.00	32.36	504.209	34.097	

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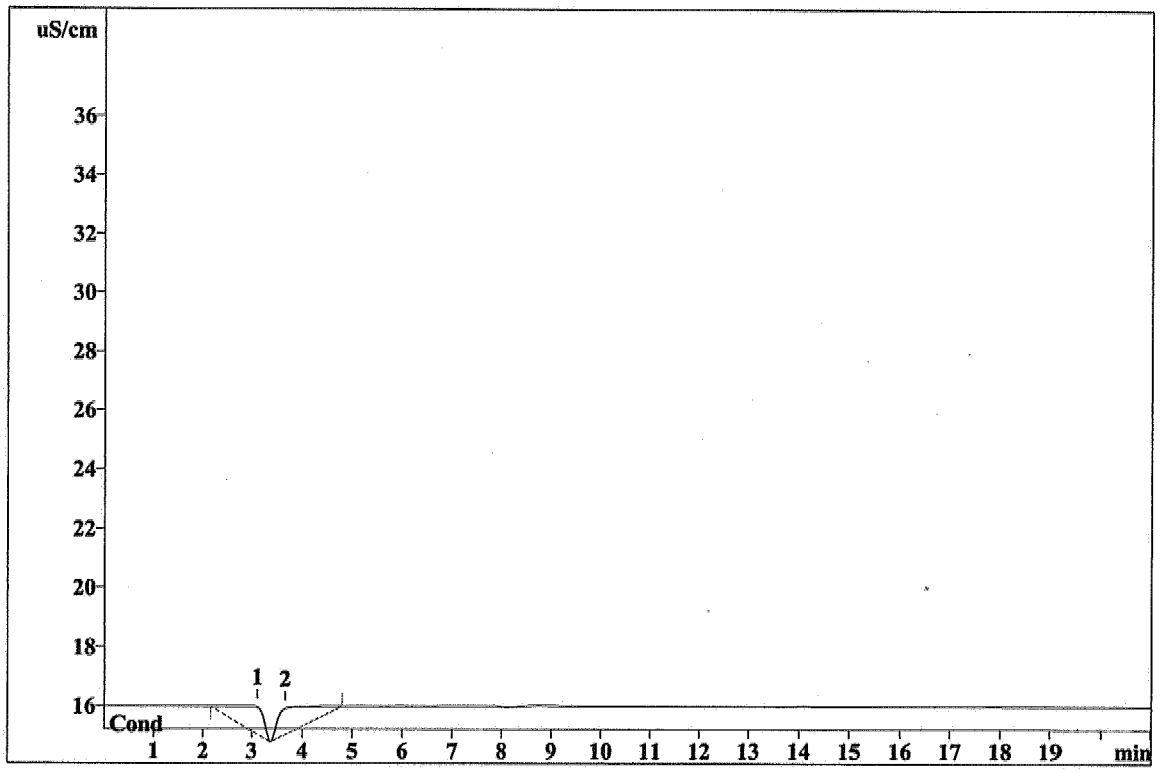
Report date: 3/24/2006 11:23:15 AM
Printed by: Cherry Dam

Ident: AC21-26 CCB4
Analysis from: 3/22/2006 1:10:33 AM
File: q3220110.chw Last save: 3/22/2006 1:31:28 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13430

SAMPLE:
:
Vial number: 26
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.11	0.92	35.420	0.000	
2	3.66	0.88	41.155	0.000	
2	21.00	1.80	76.574	0.000	

This report has been created by IC Net
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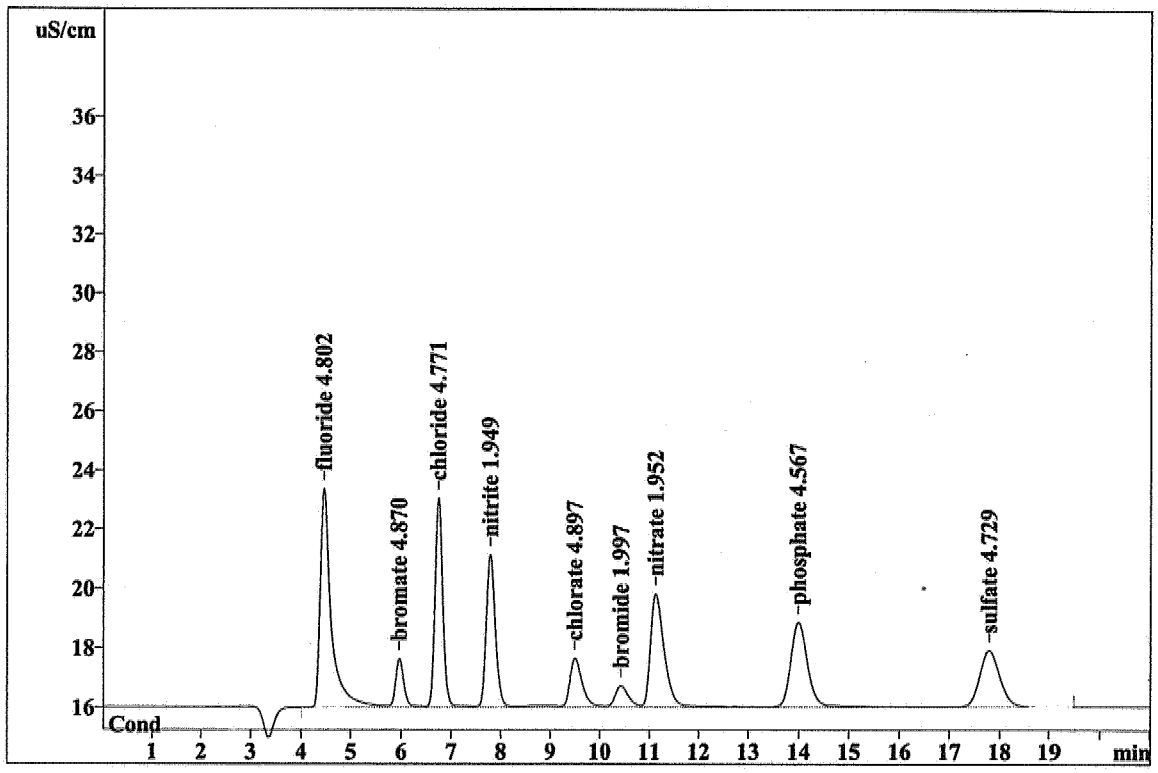
Report date: 3/24/2006 11:38:21 AM
Printed by: Cherry Dam

Ident: AC21-37 CCV5
Analysis from: 3/22/2006 5:34:57 AM
File: q3220534.chw Last save: 3/22/2006 5:55:53 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13441

SAMPLE:
:
Vial number: 37
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

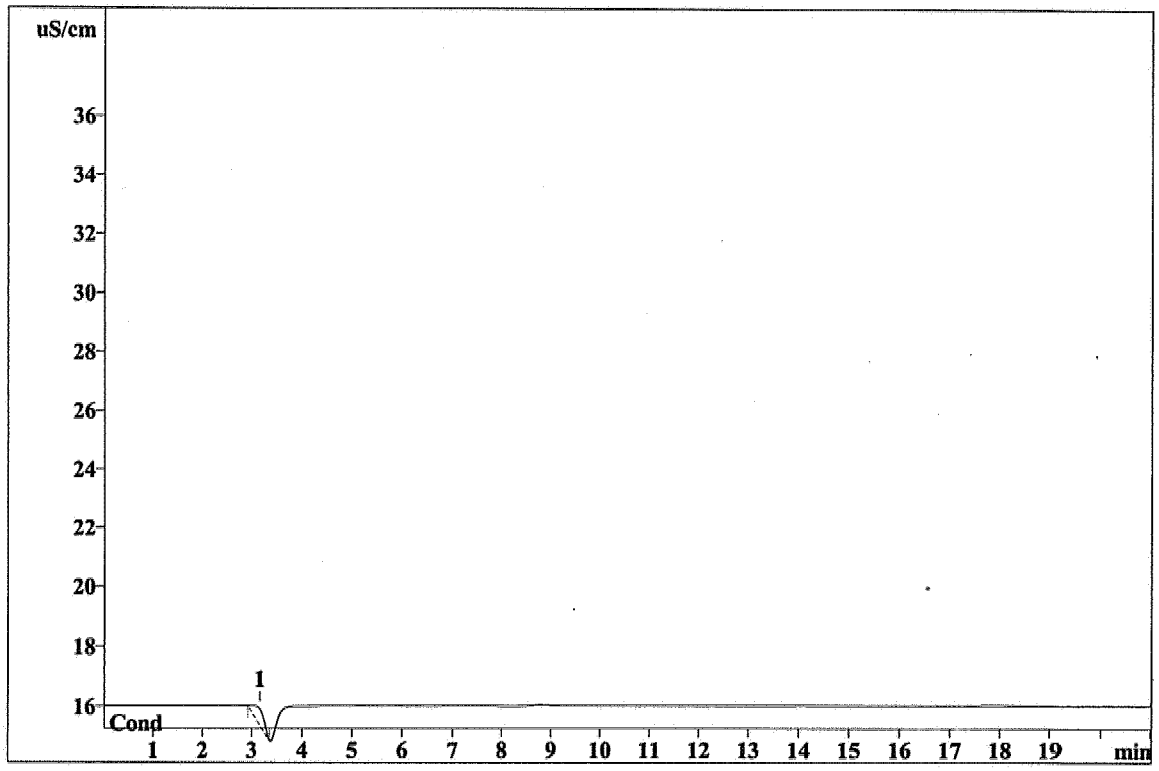
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.46	7.39	113.386	4.802	fluoride
2	5.96	1.64	18.668	4.870	bromate
3	6.74	7.07	76.084	4.771	chloride
4	7.79	5.15	67.397	1.949	nitrite
5	9.50	1.64	28.234	4.897	chlorate
6	10.43	0.71	13.053	1.997	bromide
7	11.13	3.83	73.717	1.952	nitrate
8	13.99	2.86	66.750	4.567	phosphate
9	17.79	1.90	52.988	4.729	sulfate
9	21.00	32.18	510.276	34.535	

This report has been created by IC Net
METROHM LTD

Report date: 3/24/2006 11:39:01 AM
Printed by: Cherry Dam

Ident: AC21-38 CCB5
Analysis from: 3/22/2006 5:58:59 AM
File: q3220558.chw Last save: 3/22/2006 6:19:54 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13442

SAMPLE:
:
Vial number: 38
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

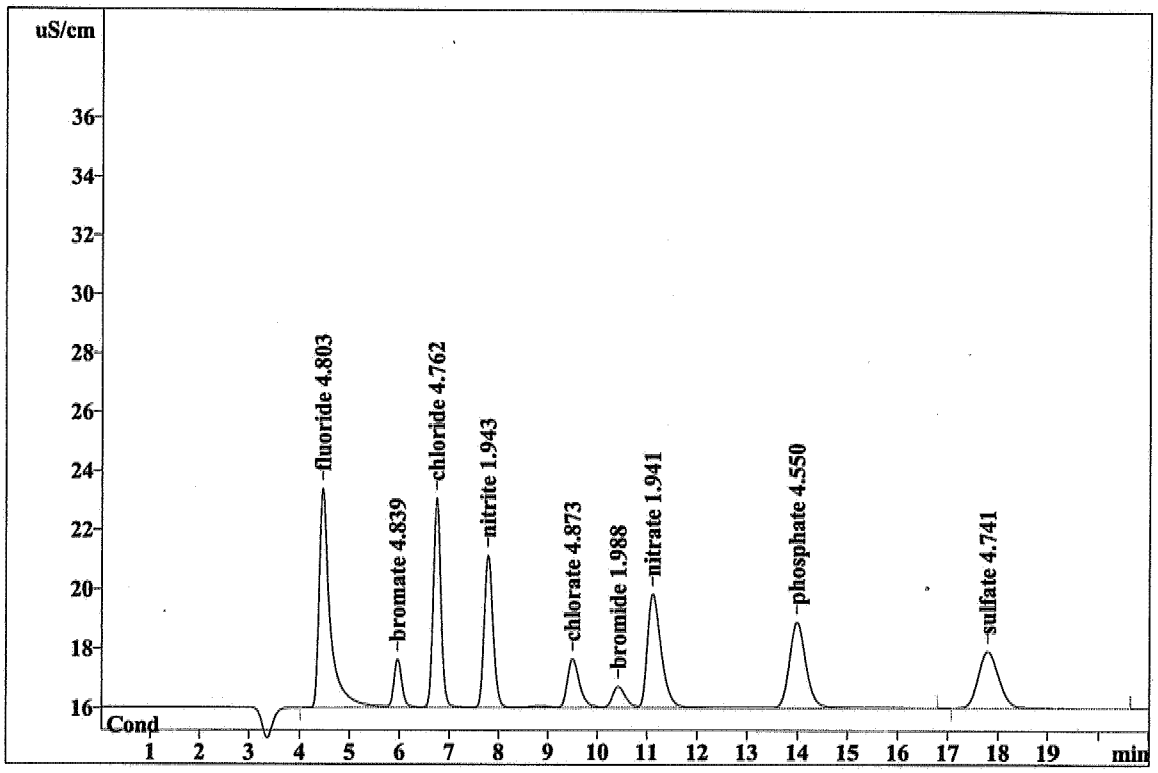
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.16	0.54	7.806	0.000	

This report has been created by IC Net
METROHM LTD

Report date: 3/24/2006 11:47:34 AM
Printed by: Cherry Dam

Ident: AC21-46 CCV6
Analysis from: 3/22/2006 9:11:15 AM
File: q3220911.chw Last save: 3/24/2006 11:46:28 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13450

SAMPLE:
:
Vial number: 46
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

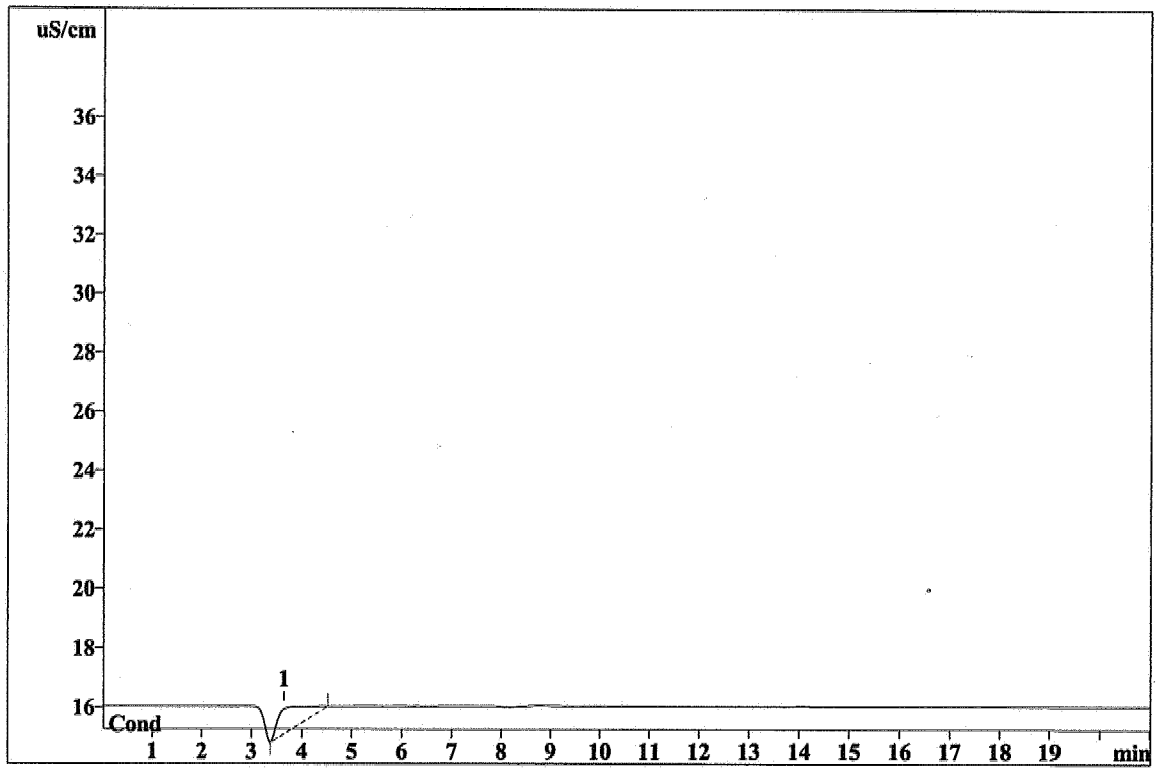
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.46	7.39	113.404	4.803	fluoride
2	5.96	1.64	18.549	4.839	bromate
3	6.74	7.06	75.935	4.762	chloride
4	7.78	5.14	67.167	1.943	nitrite
5	9.49	1.65	28.095	4.873	chlorate
6	10.41	0.71	12.991	1.988	bromide
7	11.11	3.83	73.301	1.941	nitrate
8	13.99	2.89	66.503	4.550	phosphate
9	17.79	1.90	53.124	4.741	sulfate
9	21.00	32.20	509.068	34.439	

This report has been created by IC Net
METROHM LTD

Report date: 3/24/2006 11:47:08 AM
Printed by: Cherry Dam

Ident: AC21-47 CCB6
Analysis from: 3/22/2006 9:35:17 AM
File: q3220935.chw Last save: 3/22/2006 9:56:12 AM
Modified!
Method: IC100-C20.mtw Last save: 3/21/2006 5:16:30 PM
Run operator: Cherry Dam
Analysis number: 13451

SAMPLE:
:
Vial number: 47
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.64	0.83	31.412	0.000	

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IC Result Check FormVersion : QC2

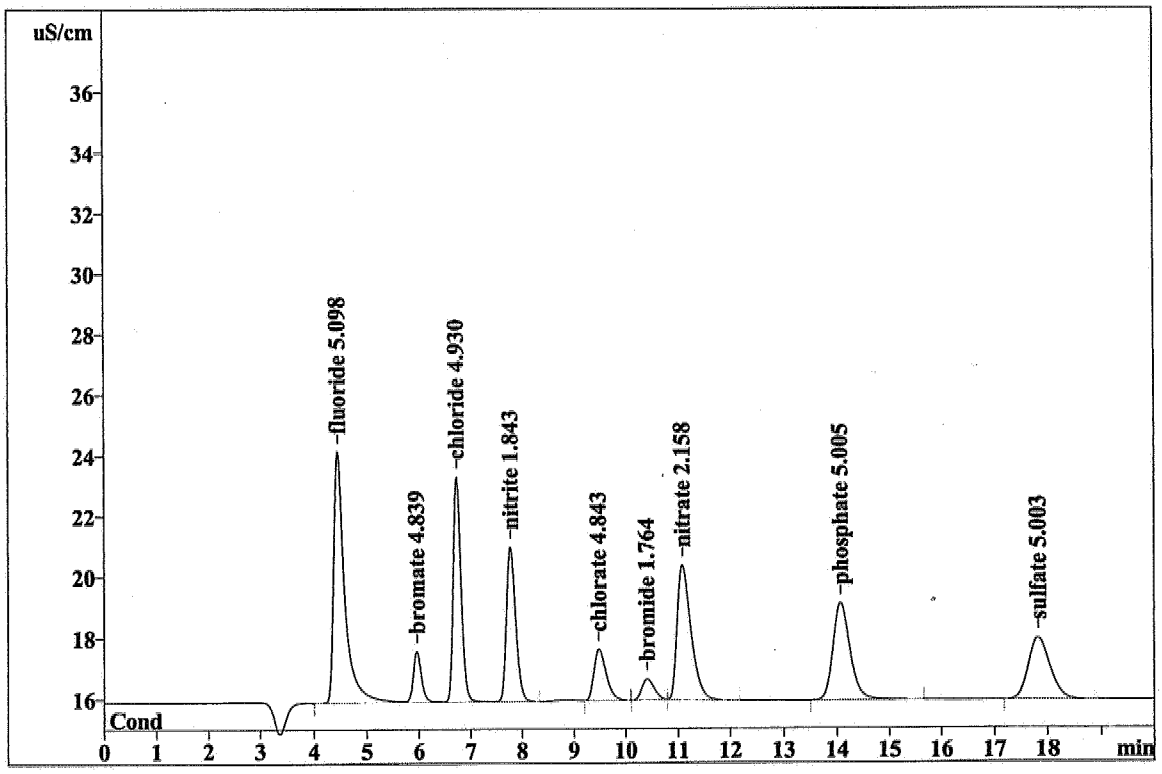
LFID	LSID	Selection	fluoride	bromate	nitrate	chloride	nitrite	chlorate	bromide	phosphate	sulfate	RawNetID	DF
AC22-01	CCV7	FBNCICBPS	102%	96.8%	107.9%	98.6%	92.1%	96.9%	88.2%*	100.1%	100.1%	q3221425	1
AC22-02	CCB7	FBNCICBPS	0	0	0	0	0	0	0	0	0	q3221455	1
AC22-11	CCV8	FBNCICBPS	101.6%	100.3%	108.6%	99.3%	97.7%	108.2%	102.3%	103.6%	101.2%	q3221906	1
AC22-12	CCB8	FBNCICBPS	0	0	0	0	0	0	0	0	0	q3221929	1

Report date: 3/24/2006 12:21:13 PM
Printed by: Cherry Dam

Ident: AC22-01 CCV7
Analysis from: 3/22/2006 2:25:31 PM
File: q3221425.chw Last save: 3/24/2006 12:19:10 PM

Method: IC100-C20.mtw Last save: 3/22/2006 2:31:21 PM
Run operator: Cherry Dam
Analysis number: 13454

SAMPLE:
:
Vial number: 1
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

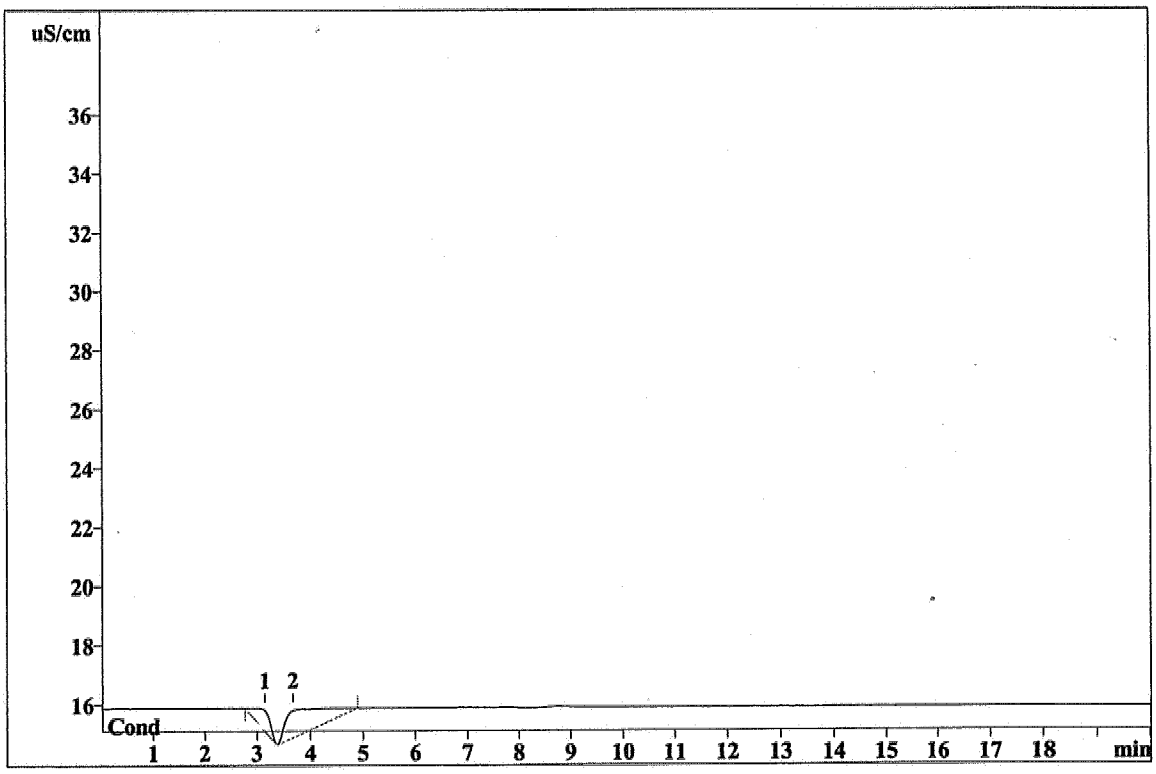
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.46	8.27	120.376	5.098	fluoride
2	5.96	1.68	18.549	4.839	bromate
3	6.74	7.40	78.670	4.930	chloride
4	7.79	5.07	63.646	1.843	nitrite
5	9.49	1.69	27.919	4.843	chlorate
6	10.41	0.69	11.574	1.764	bromide
7	11.09	4.42	81.544	2.158	nitrate
8	14.08	3.19	73.271	5.005	phosphate
9	17.84	2.03	56.073	5.003	sulfate
9	20.00	34.45	531.622	35.483	

This report has been created by IC Net
METROHM LTD

Report date: 3/24/2006 12:19:30 PM
Printed by: Cherry Dam

Ident: AC22-02 CCB7
Analysis from: 3/22/2006 2:55:28 PM
File: q3221455.chw Last save: 3/22/2006 3:15:24 PM
Modified!
Method: IC100-C20.mtw Last save: 3/22/2006 2:54:57 PM
Run operator: Cherry Dam
Analysis number: 13455

SAMPLE:
:
Vial number: 2
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

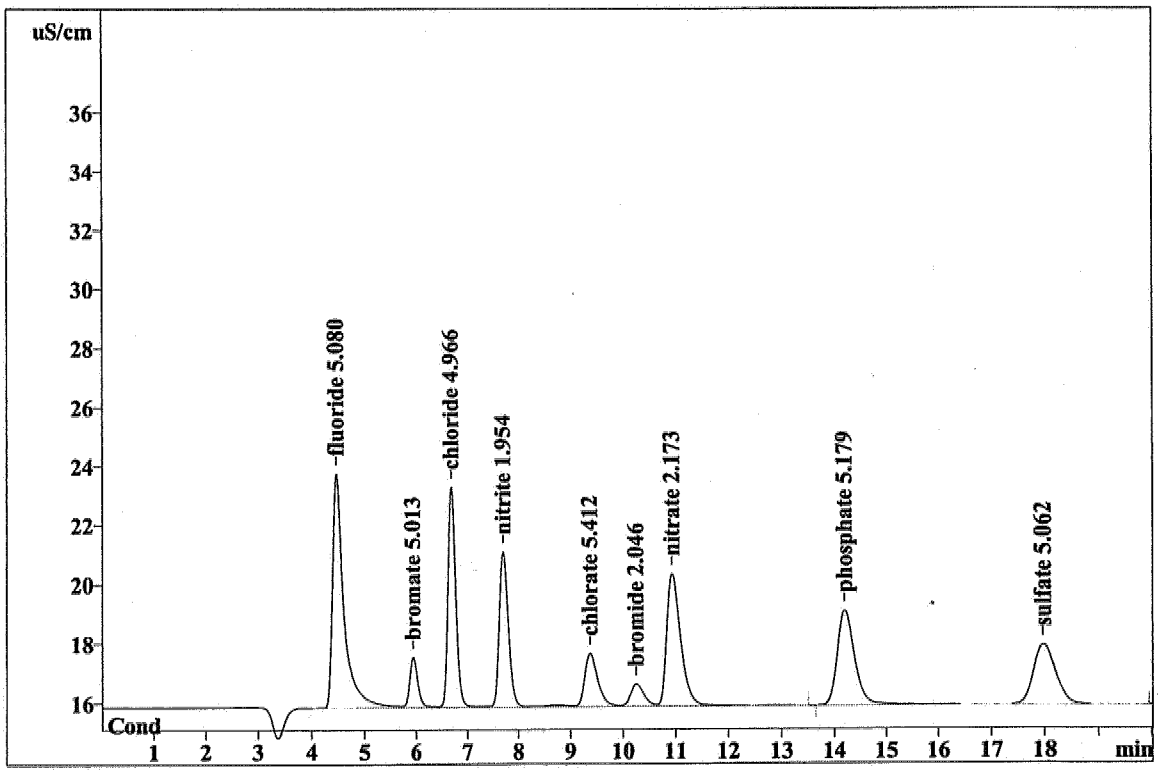
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.15	0.69	13.303	0.000	
2	3.67	0.91	45.003	0.000	
2	20.00	1.59	58.306	0.000	

This report has been created by IC Net
METROHM LTD

Report date: 3/24/2006 12:24:09 PM
Printed by: Cherry Dam

Ident: AC22-11 CCV8
Analysis from: 3/22/2006 7:06:00 PM
File: q3221906.chw Last save: 3/22/2006 7:25:55 PM
Modified!
Method: IC100-C20.mtw Last save: 3/22/2006 2:54:57 PM
Run operator: Cherry Dam
Analysis number: 13464

SAMPLE:
:
Vial number: 11
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

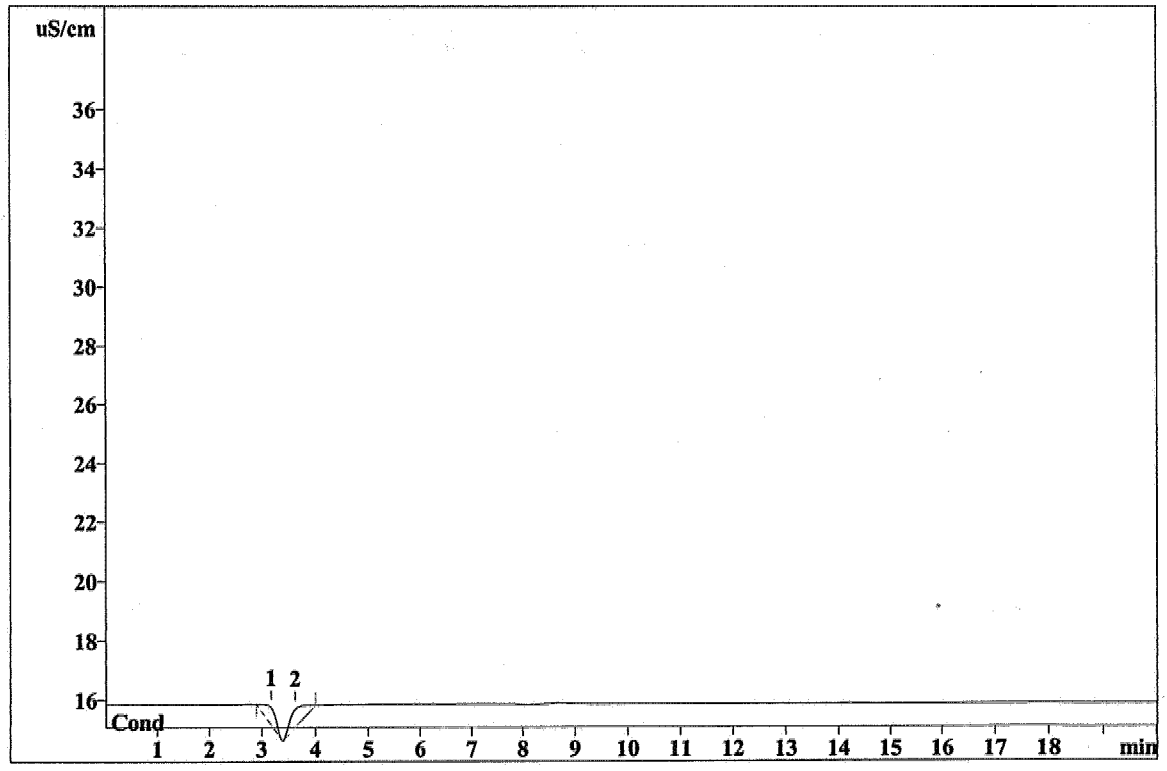
No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	4.47	7.92	119.948	5.080	fluoride
2	5.94	1.70	19.210	5.013	bromate
3	6.69	7.45	79.256	4.966	chloride
4	7.70	5.23	67.559	1.954	nitrite
5	9.37	1.79	31.221	5.412	chlorate
6	10.26	0.75	13.361	2.046	bromide
7	10.94	4.47	82.108	2.173	nitrate
8	14.20	3.21	75.865	5.179	phosphate
9	17.98	2.03	56.734	5.062	sulfate
9	20.00	34.56	545.263	36.886	

This report has been created by IC Net
METROHM LTD

Report date: 3/24/2006 12:24:35 PM
Printed by: Cherry Dam

Ident: AC22-12 CCB8
Analysis from: 3/22/2006 7:29:03 PM
File: q3221929.chw Last save: 3/22/2006 7:48:58 PM
Modified!
Method: IC100-C20.mtw Last save: 3/22/2006 2:54:57 PM
Run operator: Cherry Dam
Analysis number: 13465

SAMPLE:
:
Vial number: 12
Volume: 1.0 µL
Dilution: 1.00
Amount: 1.0000



Quantitation method: Custom

No	Retention min	Height uS/cm	Area uS/cm*sec	Conc. mg/L	Name
1	3.17	0.57	9.047	0.000	
2	3.61	0.61	12.779	0.000	
2	20.00	1.19	21.825	0.000	

This report has been created by IC Net
METROHM LTD

ANALYTICAL LOG

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples, relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #: A100-05

Instrument No.: 100

Analytical Sequence: AG21

Method File: IC100-C20.mtw

Analytical Batch: IC0035W + IC0036S

SOP #	Rev. #
☑ EMAX-300.0	3
☑ EMAX-9056	2
☐ EMAX-	

STANDARDS ID		
ICAL	S1B-02-62-3	
ICV/~~LCS/MS~~ (al 03/21/06)		63-1
CCV		65-1
LCS	↓	65-2
MS	NO_3N + NO_2N + Br^- = 2ppm; All = 5ppm ACC STD.	

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ IC METROHM	
☐	

Analyzed By: al

Date: 03/21/06

File Name	Method	Ident	Vial	Volume	Dilution	Amount	Internal Standard Amount	Calibration Level	Sample Info 1	Sample Info 2
q3211506.chw	IC100-C20.mtw	AC21-01 CCV2	1	1.0	1.0	1.0	100.0	0		
q3211530.chw	IC100-C20.mtw	AC21-02 CCB2	2	1.0	1.0	1.0	100.0	0		
q3211554.chw	IC100-C20.mtw	AC21-03 ICC035WB	3	1.0	1.0	1.0	100.0	0		
q3211618.chw	IC100-C20.mtw	AC21-04 ICC035WL } Bad Inj Not Used.	4	1.0	1.0	1.0	100.0	0		
q3211642.chw	IC100-C20.mtw	AC21-05 ICC035WC	5	1.0	1.0	1.0	100.0	0		
q3211709.chw	IC100-C20.mtw	AC21-06 ICC035WX	6	1.0	1.0	1.0	100.0	0		
q3211733.chw	IC100-C20.mtw	AC21-07 ICC035WY	7	1.0	1.0	1.0	100.0	0		
q3211757.chw	IC100-C20.mtw	AC21-08 C558-01 DF=5	8	1.0	5.0	1.0	100.0	0		
q3211821.chw	IC100-C20.mtw	AC21-09 C185-01	9	1.0	1.0	1.0	100.0	0		
q3211845.chw	IC100-C20.mtw	AC21-10 C185-02	10	1.0	1.0	1.0	100.0	0		
q3211910.chw	IC100-C20.mtw	AC21-11 C185-03	11	1.0	1.0	1.0	100.0	0		
q3211934.chw	IC100-C20.mtw	AC21-12 C558-01 DF=10	12	1.0	10.0	1.0	100.0	0		
q3211958.chw	IC100-C20.mtw	AC21-13 CCV3	13	1.0	1.0	1.0	100.0	0		
q3212022.chw	IC100-C20.mtw	AC21-14 CCB3	14	1.0	1.0	1.0	100.0	0		
q3212046.chw	IC100-C20.mtw	AC21-15 C185-04	15	1.0	1.0	1.0	100.0	0		
q3212110.chw	IC100-C20.mtw	AC21-16 C574-01	16	1.0	1.0	1.0	100.0	0		
q3212134.chw	IC100-C20.mtw	AC21-17 C574-02	17	1.0	1.0	1.0	100.0	0		
q3212158.chw	IC100-C20.mtw	AC21-18 C574-02D	18	1.0	1.0	1.0	100.0	0		
q3212222.chw	IC100-C20.mtw	AC21-19 C574-02M	19	1.0	1.0	1.0	100.0	0		
q3212246.chw	IC100-C20.mtw	AC21-20 C191-01	20	1.0	1.0	1.0	100.0	0		
q3212310.chw	IC100-C20.mtw	AC21-21 C191-02	21	1.0	1.0	1.0	100.0	0		
q3212334.chw	IC100-C20.mtw	AC21-22 C191-03	22	1.0	1.0	1.0	100.0	0		
q3212358.chw	IC100-C20.mtw	AC21-23 C191-04	23	1.0	1.0	1.0	100.0	0		
q3220022.chw	IC100-C20.mtw	AC21-24 RINSE	24	1.0	1.0	1.0	100.0	0		
q3220046.chw	IC100-C20.mtw	AC21-25 CCV4	25	1.0	1.0	1.0	100.0	0		
q3220110.chw	IC100-C20.mtw	AC21-26 CCB4	26	1.0	1.0	1.0	100.0	0		
q3220134.chw	IC100-C20.mtw	AC21-27 ICC036SB	27	1.0	1.0	1.0	100.0	0		
q3220158.chw	IC100-C20.mtw	AC21-28 ICC036SL	28	1.0	1.0	1.0	100.0	0		
q3220222.chw	IC100-C20.mtw	AC21-29 ICC036SC	29	1.0	1.0	1.0	100.0	0		
q3220246.chw	IC100-C20.mtw	AC21-30 C071-01	30	1.0	1.0	1.0	100.0	0		
q3220310.chw	IC100-C20.mtw	AC21-31 C071-07	31	1.0	1.0	1.0	100.0	0		
q3220334.chw	IC100-C20.mtw	AC21-32 C071-09	32	1.0	1.0	1.0	100.0	0		
q3220358.chw	IC100-C20.mtw	AC21-33 C081-06	33	1.0	1.0	1.0	100.0	0		
q3220422.chw	IC100-C20.mtw	AC21-34 C081-08	34	1.0	1.0	1.0	100.0	0		
q3220446.chw	IC100-C20.mtw	AC21-35 C081-08D	35	1.0	1.0	1.0	100.0	0		
q3220510.chw	IC100-C20.mtw	AC21-36 RINSE	36	1.0	1.0	1.0	100.0	0		
q3220534.chw	IC100-C20.mtw	AC21-37 CCV5	37	1.0	1.0	1.0	100.0	0		
q3220558.chw	IC100-C20.mtw	AC21-38 CCB5	38	1.0	1.0	1.0	100.0	0		
q3220623.chw	IC100-C20.mtw	AC21-39 C081-08M	39	1.0	1.0	1.0	100.0	0		
q3220647.chw	IC100-C20.mtw	AC21-40 C106-06	40	1.0	1.0	1.0	100.0	0		
q3220711.chw	IC100-C20.mtw	AC21-41 C106-08	41	1.0	1.0	1.0	100.0	0		
q3220735.chw	IC100-C20.mtw	AC21-42 C120-14	42	1.0	1.0	1.0	100.0	0		
q3220759.chw	IC100-C20.mtw	AC21-43 C120-16	43	1.0	1.0	1.0	100.0	0		
q3220823.chw	IC100-C20.mtw	AC21-44 C127-06	44	1.0	1.0	1.0	100.0	0		
q3220847.chw	IC100-C20.mtw	AC21-45 RINSE	45	1.0	1.0	1.0	100.0	0		
q3220911.chw	IC100-C20.mtw	AC21-46 CCV6	46	1.0	1.0	1.0	100.0	0		
q3220935.chw	IC100-C20.mtw	AC21-47 CCB6	47	1.0	1.0	1.0	100.0	0		

F

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

EMAX LABORATORIES, INC.

Note: For samples, relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #: A100-05

Instrument No.: 100

Analytical Sequence: AC22

Method File: IC100-C20.mtw

Analytical Batch: ICC037W

SOP #	Rev. #
☑ EMAX-300.0	3
☑ EMAX-9056	2
☐ EMAX-	

STANDARDS ID		
ICAL	S11B-02-62-3	
ICV/~~LCS/MS~~ ad 03/22/06		63-3
CCV		65-3
LCS	↓	66-1
MS	N/A	

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ IC METROHM	
☐	

Analyzed By: ad

Date: 03/22/06

File Name	Method	Ident	Vial	Volume	Dilution	Amount	Internal Standard Amount	Calibration Level	Sample Info 1	Sample Info 2
q3221425.chw	IC100-C20.mtw	AC22-01 CCV7	1	1.0	1.0	1.0	100.0	0		
q3221455.chw	IC100-C20.mtw	AC22-02 CCB7	2	1.0	1.0	1.0	100.0	0		
q3221526.chw	IC100-C20.mtw	AC22-03 ICC037WB	3	1.0	1.0	1.0	100.0	0		
q3221549.chw	IC100-C20.mtw	AC22-04 ICC037WL	4	1.0	1.0	1.0	100.0	0		
q3221612.chw	IC100-C20.mtw	AC22-05 ICC037WC	5	1.0	1.0	1.0	100.0	0		
q3221635.chw	IC100-C20.mtw	AC22-06 C071-01W	6	1.0	1.0	1.0	100.0	0		
q3221658.chw	IC100-C20.mtw	AC22-07 C071-07W	7	1.0	1.0	1.0	100.0	0		
q3221756.chw	IC100-C20.mtw	AC22-08 C071-09W	8	1.0	1.0	1.0	100.0	0		
q3221819.chw	IC100-C20.mtw	AC22-09 C106-06T DF=5	9	1.0	5.0	1.0	100.0	0		
q3221842.chw	IC100-C20.mtw	AC22-10 C127-06T DF=250	10	1.0	250.0	1.0	100.0	0		
q3221906.chw	IC100-C20.mtw	AC22-11 CCV8	11	1.0	1.0	1.0	100.0	0		
q3221929.chw	IC100-C20.mtw	AC22-12 CCB8	12	1.0	1.0	1.0	100.0	0		

F

ANALYSIS RUN LOG
for
ION CHROMATOGRAPHY

Note: For samples, relevant QCs/Standards analyzed, refer to attached analytical sequence.

Book #: A100-05

Instrument No.: 100

Analytical Sequence: AC20

Method File: IC100-C20.mtw

Analytical Batch: ICC034W

Comments:

Conc. of: S1 — 0.1 ppm
S2 — 0.2
S3 — 0.5
S4 — 2.5
S5 — 5.0
S6 — 10
S7 — 20 ↓

SOP #	Rev. #
☑ EMAX-300.0	3
☐ EMAX-9056	2
☐ EMAX-	

STANDARDS ID	
ICAL	S11B-02-62-3
ICV/~~LCS~~/~~MS~~ (ad 03/20/06)	63-1
CCV	63-2
LCS	63-3

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ IC METROHM	
☐	

Analyzed By: ad

Date: 03/20/06

SAMPLE PREPARATION LOG FOR IC/ANIONS

SOP ☑ EMAX-9056 ☐ EMAX-300.0 Book # EIC-002

Matrix Soil Start Date 3/21/06 Time ~~07~~ 13:15 cd 3/24/06 End Date 03/21/06 Time 14:45

PREPARATION BATCH * ICC0365

Sample Prep ID	Lab Sample ID	Sample Amount (g)	Dilution Volume (ml)	Extract Volume (ml)	Notes
*01	ICC0365B	10.000	100	100	
*02	SL				
*03	SC				
*04	C071-01	10.002			
*05	07	10.001			
*06	09	10.001			
*07	C081-06	10.003			
*08	08	10.001			
*09	08D	10.001			
*10	08M	10.001			
*11	C106-06	10.003			
*12	08	10.001			
*13	C120-14	10.003			
*14	16	10.001			
*15	C127-06	10.001			
*16					
*17					
*18					
*19					
*20					
*21					
*22					
*23					
*24					
*25					

cd 03/21/06

Standards	ID	Amount Added (ml)
Bromide	S11A-01-1	0.2
Chloride	2	0.5
Fluoride	3	0.5
NO_2	5	0.2
NO_3N	6	0.2
PO_4-P	7	0.5
SO_4	SW5A-12-012	0.5

ID (cont) Amt. Add

~~Reagent~~ ClO_3^-	S11A-01-15 ~~Lot # / ID~~ cd 03/21/06	0.5 ml
~~H_2SO_4~~ BrO_3^-	14	0.5 ml
~~HCl~~		

cd 3/21/06

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = turbid	Vg= Vegetation
Yw = Yellow			

Comments:

Prepared By: cd

Standard Added By: cd

Checked By:

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

CASE NARRATIVE

CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

METHOD 2510B
SPECIFIC CONDUCTIVITY

Two (2) soil sample were received on 03/11/06 for Specific Conductivity analysis by Method 2510B in accordance with "Standard Methods for the Examination of Water and Wastewater", 18th edition (1990).

1. Holding Time

Analysis met holding time criteria.

2. Duplicate

Duplicate sample was not designated in this SDG.

3. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were leached with DI water at a ratio of 1:1 (w:v).

METHOD 2510B
SPECIFIC CONDUCTIVITY

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : I104

SAMPLE ID	EMAX SAMPLE ID	RESULTS (umhos/cm)	DLF	MOIST	RL (umhos/cm)	MDL (umhos/cm)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
M121-30	C106-06	399	1	NA	10	5	03/17/0617:51	03/17/0609:30	ECC008S-12	NA	ECC008S	03/10/06	03/11/06
M121-50	C106-08	127	1	NA	10	5	03/17/0617:52	03/17/0609:30	ECC008S-13	NA	ECC008S	03/10/06	03/11/06

ANALYSIS LOG
for
SPECIFIC CONDUCTIVITY

Note: For samples, relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #: AEC-005

Instrument No.: 104

Analytical Batch: EC0085

SOP #	Rev. #
☑ EMAX-120.1	2
☑ EMAX-2510B	0

STANDARDS ID	Conductivity (µS/cm)
Initial Calibration SW3B-02-813	706
Standard High SW3B-02-806	1413
Standard Low ↓ 807	141.3
LCS SW7A-06-204	494

Analyzed By: IV

Date: 3/17/06

ECC008WS
IV 3/17/06

EMAX LABORATORIES, INC.

SPECIFIC CONDUCTIVITY ANALYSIS LOG

SOP: EMAX-120.1 Rev. 2 (EMAX - 2510B) Analytical Batch: ECC008S Book #: AEC-005 Page: 4

Data File Name	Lab Sample ID	Conductivity µS/cm	Analysis Date mm:dd:yy	Analysis Time hh:mm:ss	Result µS/cm
ECC008S 01	STD HIGH	1355	03/17/06	17:40:47	96%
ECC008S 02	STD LOW	140.2	03/17/06	17:40:52	99%
ECC008S 03	ECC008SL	479	03/17/06	17:40:57	479
ECC008S 04	C071-01	85.5	03/17/06	17:41:03	85.5
ECC008S 05	C071-07	87.4	03/17/06	17:42:41	87.4
ECC008S 06	C071-09	206	03/17/06	17:43:47	206
ECC008S 07	C081-06	79.9	03/17/06	17:45:28	79.9
ECC008S 08	C081-08	104	03/17/06	17:46:14	104
ECC008S 09	C081-08D	105	03/17/06	17:47:24	105
ECC008S 10	C120-14	98.4	03/17/06	17:48:55	98.4
ECC008S 11	C120-16	89.1	03/17/06	17:49:51	89.1
ECC008S 12	C106-06	399	03/17/06	17:51:01	399
ECC008S 13	C106-08	127.4	03/17/06	17:52:39	127
ECC008S 14	C127-06	1432	03/17/06	17:54:34	1430

INSTRUMENT NUMBER		104
CALIBRATION		
KCl Standard	706	µS/cm
Calibration Temperature	25	°C
LCS	494	µS/cm
Cell Constant (K)		(1.000 S/cm)
Initial Calibration		10:08:03

MISCELLANEOUS INFORMATION		
Standard High:	1413	µS/cm
Standard Low:	141.3	µS/cm
MDL:	0.5	µS/cm
RL:	1	µS/cm
Significant Number:	3	

LCS RECOVERY		
LAB SAMPLE ID	%RECOVERY	QC LIMITS
ECC008SL	97%	80-120%

Analyzed By: IV/JL 3/17/06

Reviewed By: [signature]

Date: 4/1/06

Comments:

EXTRACTION LOG FOR WET CHEMISTRY

Method ☐ Distillation: EMAX_____- Rev. No.___ ☐ Digestion: EMAX_____- Rev. No.___ ☑ Leaching Book # EWE-010

Matrix: Soil Start Date: 3/17/06 Time: 9:30 End Date: 3/17/06 Time: 11:35

PREPARATION BATCH * EC0009

Sample Prep ID	Lab Sample ID	Sample Amount (g)	Extraction Solution (ml)	Notes
01	C071-01	25.10	25	Leaching
02	07	25.01		
03	09	25.03		
04	C081-06	25.08		
05	08	25.05		
06	08D	25.05		
07	C120-14	25.10		
08	16	25.03		
09	C106-06	25.11		
10	08	25.09		
11	C127-06	25.10		
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

IV 3/17/06

Calibration of pH meter

Buffer ID	Value	Reading
	7	
N/A	4	
Slope		
pH meter ID		

Reagents

Reagents	Lot #	Amount (ml)	Final Volume (ml)
nanopure			
pH		Exp. Date	
Rotary Agitator #		rpm	

Room Temperature (°C)

High	Low	Thermostat Setting	Criteria
			20-40

Comments: _____

Prepared By: IV / 1L

Checked By:

Extracts Received By:

Disposed by: Disposal Date:

CASE NARRATIVE

CLIENT: ENSR

PROJECT: UPGRADIENT INVESTIGATION, TRONOX

SDG: 06C106

METHOD 3060A/7199
HEXAVALENT CHROMIUM

Ten (10) soil samples were received on 03/11/06 for Hexavalent Chromium analysis by Method 3060A/7199 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Method", SW846, 3rd edition.

1. **Holding Time**

   Analysis met holding time criteria.

2. **Method Blank**

   Method blank was free of contamination at the reporting limit.

3. **Lab Control Sample/Lab Control Sample Duplicate**

   Lab control results were within QC limit.

4. **Duplicate**

   Sample C106-07 was analyzed for duplicate. There was no Hexavalent Chromium detected in the parent and duplicate samples.

5. **Matrix Spike/Matrix Spike Duplicate**

   Sample C106-07 was spiked for soluble chromium (C106-07M) and insoluble chromium (C106-07U). Recoveries were within QC limit.

6. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

   Double injections were performed in all samples. Results from both injections were reported.

SAMPLE RESULTS

METHOD 3060A/7199
HEXAVALENT CHROMIUM

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : I59

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	HCC010SB	ND	1	NA	.5	.25	04/04/0602:15	04/03/0618:10	ID03-52	ID03-51	HCC010S	NA	04/03/06
LCS1S	HCC010SL	4.88	1	NA	.5	.25	04/04/0602:25	04/03/0618:10	ID03-53	ID03-51	HCC010S	NA	04/03/06
LCD1S	HCC010SC	4.9	1	NA	.5	.25	04/04/0602:36	04/03/0618:10	ID03-54	ID03-51	HCC010S	NA	04/03/06
M121-0.5	C106-01	ND	1	4.3	.522	.261	04/04/0602:46	04/03/0618:10	ID03-55	ID03-51	HCC010S	03/10/06	03/11/06
M121-0.5DUP	C106-01D	ND	1	4.3	.522	.261	04/04/0602:56	04/03/0618:10	ID03-56	ID03-51	HCC010S	03/10/06	03/11/06
M121-5	C106-02	ND	1	10.3	.557	.279	04/04/0603:06	04/03/0618:10	ID03-57	ID03-51	HCC010S	03/10/06	03/11/06
M121-5DUP	C106-02D	ND	1	10.3	.557	.279	04/04/0603:16	04/03/0618:10	ID03-58	ID03-51	HCC010S	03/10/06	03/11/06
M121-10	C106-03	ND	1	5.7	.53	.265	04/04/0603:26	04/03/0618:10	ID03-59	ID03-51	HCC010S	03/10/06	03/11/06
M121-10DUP	C106-03D	ND	1	5.7	.53	.265	04/04/0603:36	04/03/0618:10	ID03-60	ID03-51	HCC010S	03/10/06	03/11/06
M121-5D	C106-04	ND	1	9.5	.552	.276	04/04/0603:57	04/03/0618:10	ID03-62	ID03-61	HCC010S	03/10/06	03/11/06
M121-5DDUP	C106-04D	ND	1	9.5	.552	.276	04/04/0604:07	04/03/0618:10	ID03-63	ID03-61	HCC010S	03/10/06	03/11/06
M121-20	C106-05	ND	1	3.6	.519	.259	04/04/0604:17	04/03/0618:10	ID03-64	ID03-61	HCC010S	03/10/06	03/11/06
M121-20DUP	C106-05D	ND	1	3.6	.519	.259	04/04/0604:27	04/03/0618:10	ID03-65	ID03-61	HCC010S	03/10/06	03/11/06
M121-30	C106-06	ND	1	5.8	.531	.265	04/04/0604:37	04/03/0618:10	ID03-66	ID03-61	HCC010S	03/10/06	03/11/06
M121-30DUP	C106-06D	ND	1	5.8	.531	.265	04/04/0604:48	04/03/0618:10	ID03-67	ID03-61	HCC010S	03/10/06	03/11/06
M121-40	C106-07	ND	1	8.9	.549	.274	04/04/0604:58	04/03/0618:10	ID03-68	ID03-61	HCC010S	03/10/06	03/11/06
M121-40DUP	C106-07D	ND	1	8.9	.549	.274	04/04/0605:08	04/03/0618:10	ID03-69	ID03-61	HCC010S	03/10/06	03/11/06
M121-40MS	C106-07M	4.12	1	8.9	.549	.274	04/04/0605:18	04/03/0618:10	ID03-70	ID03-61	HCC010S	03/10/06	03/11/06
M121-50	C106-08	ND	1	6.1	.532	.266	04/04/0605:28	04/03/0618:10	ID03-71	ID03-61	HCC010S	03/10/06	03/11/06
M121-50DUP	C106-08D	ND	1	6.1	.532	.266	04/04/0605:48	04/03/0618:10	ID03-73	ID03-72	HCC010S	03/10/06	03/11/06
M121-60	C106-09	ND	1	17.8	.608	.304	04/04/0605:59	04/03/0618:10	ID03-74	ID03-72	HCC010S	03/10/06	03/11/06
M121-60DUP	C106-09D	ND	1	17.8	.608	.304	04/04/0606:09	04/03/0618:10	ID03-75	ID03-72	HCC010S	03/10/06	03/11/06
M121-80	C106-10	ND	1	27.5	.69	.345	04/04/0606:19	04/03/0618:10	ID03-76	ID03-72	HCC010S	03/10/06	03/11/06
M121-80DUP	C106-10D	ND	1	27.5	.69	.345	04/04/0606:29	04/03/0618:10	ID03-77	ID03-72	HCC010S	03/10/06	03/11/06
M121-40MS	C106-07U	82.9	20	8.9	11	5.49	04/04/0611:47	04/03/0618:10	ID03-103	ID03-94	HCC010S	03/10/06	03/11/06

EXTERNAL STANDARD TABLE

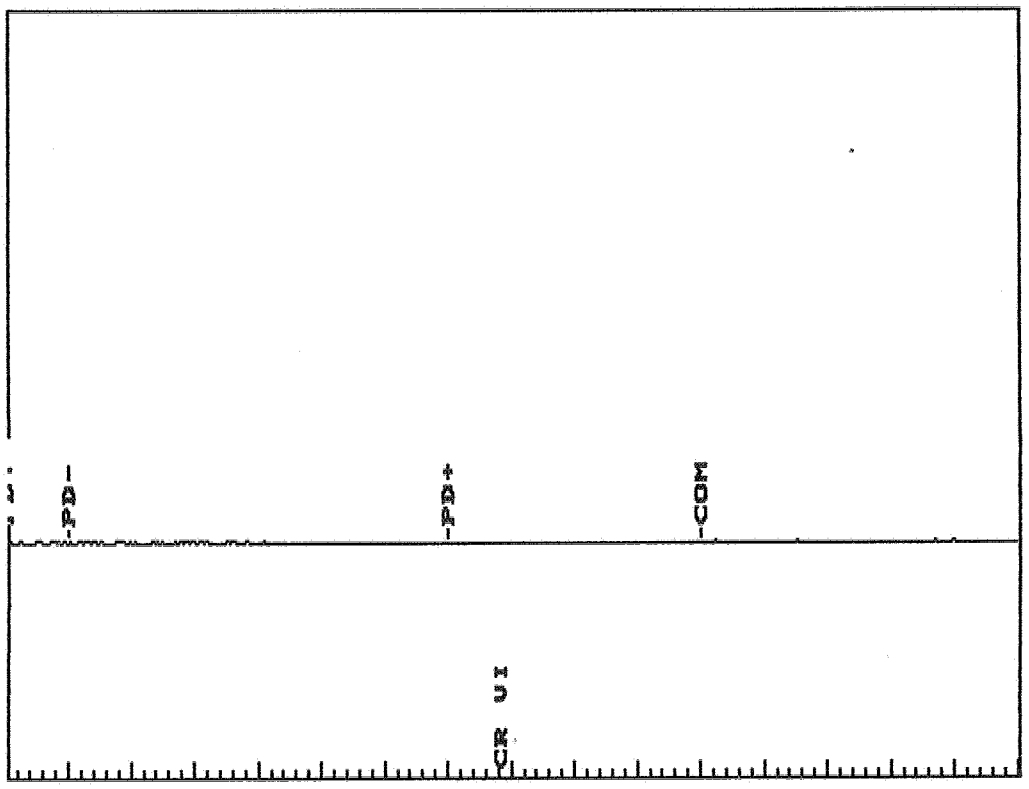
********** 04-04-2006 11:14:36 Version 5.2.0 **********
* Sample Name: C106-01 Data File: L:\ID03-55 *
* Date: 04-04-~~2006~~ 2006 02:46:10 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 55 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-55.PTS Printed on 04-04-2006 at 11:14:36
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

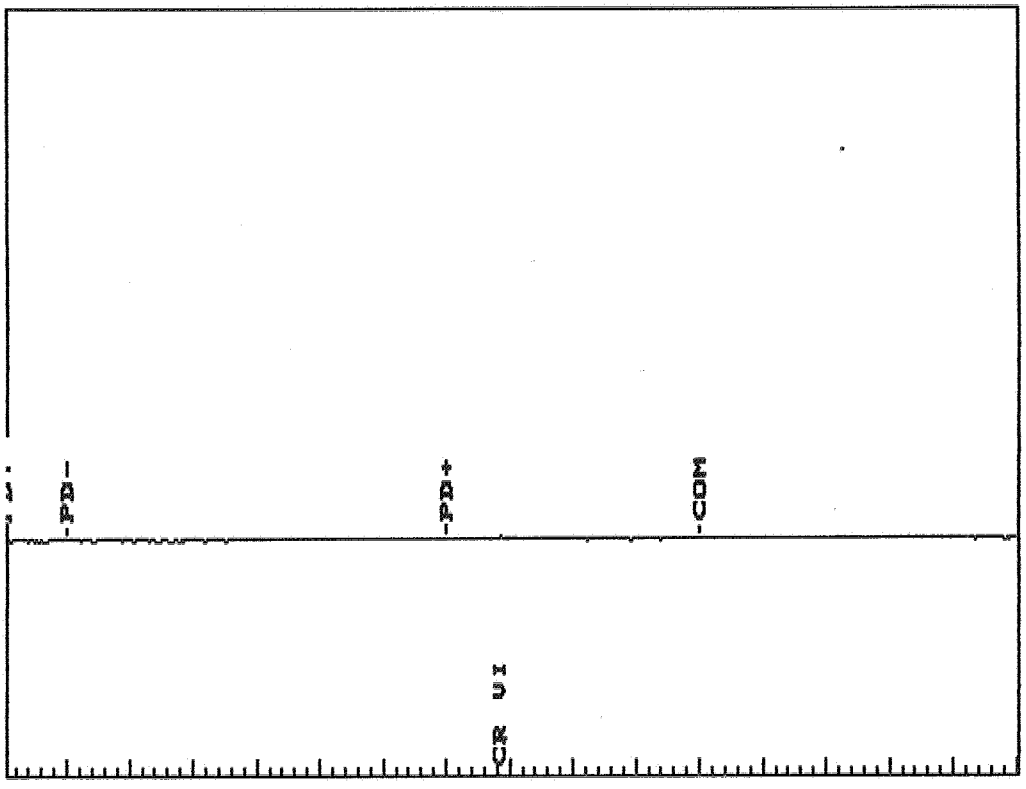
********** 04-04-2006 11:15:45 Version 5.2.0 **********
* Sample Name: C106-01D Data File: L:\ID03-56 *
* Date: 04-04-~~1906~~ 2006 ~ 44406 02:56:19 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 56 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-56.PTS Printed on 04-04-2006 at 11:15:45
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

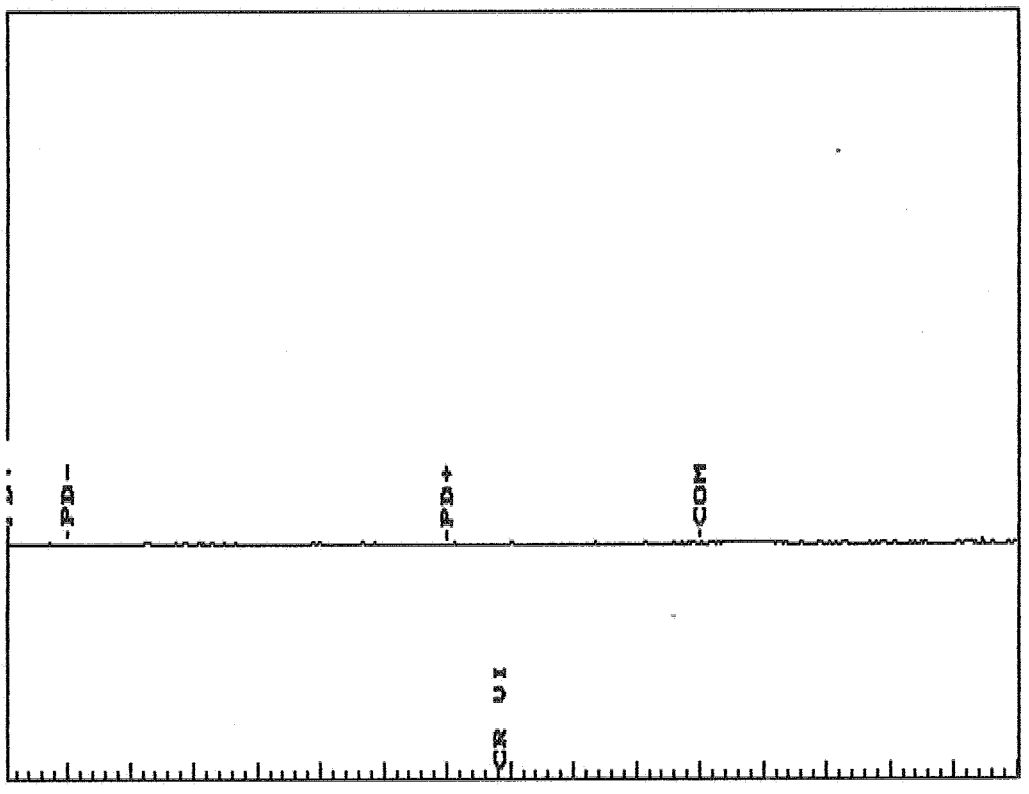
********** 04-04-2006 11:16:55 Version 5.2.0 **********
* Sample Name: C106-02 Data File: L:\ID03-57 *
* Date: 04-04-~~1906~~ 2006 w44406 03:06:29 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 57 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-57.PTS Printed on 04-04-2006 at 11:16:55
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

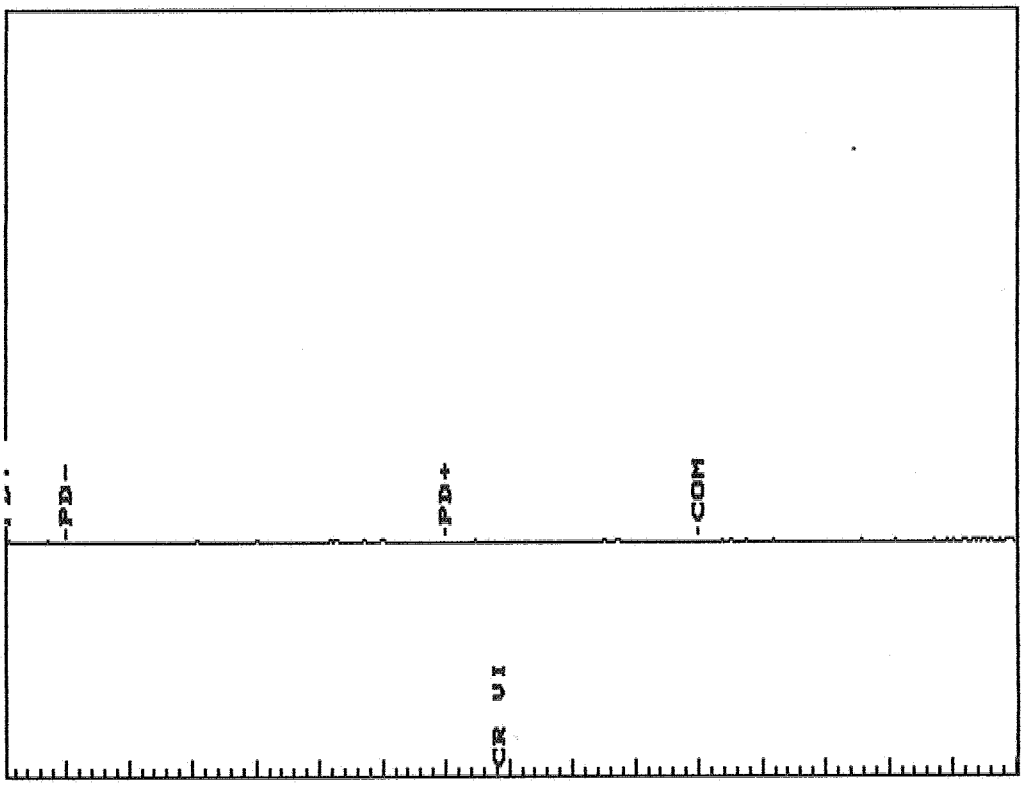
********** 04-04-2006 11:18:05 Version 5.2.0 **********
* Sample Name: C106-02D Data File: L:\ID03-58 *
* Date: 04-04-~~1906~~ 2006 ~ 4/4/06 03:16:38 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 58 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-58.PTS Printed on 04-04-2006 at 11:18:06
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

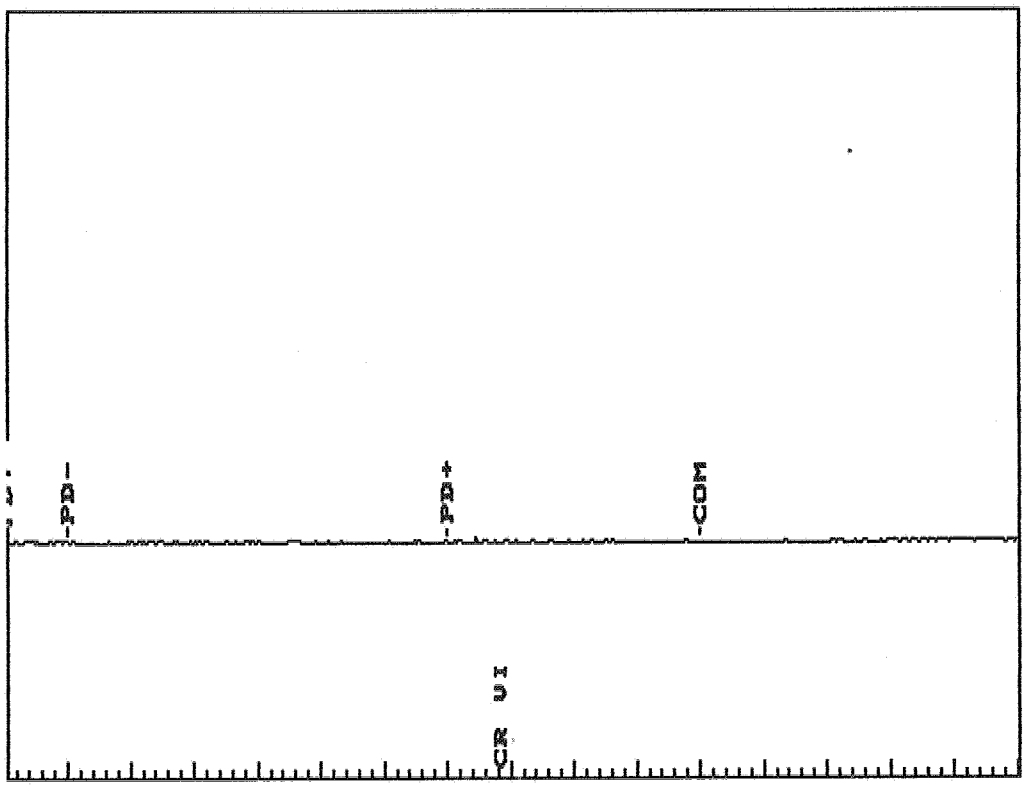
********** 04-04-2006 11:19:16 Version 5.2.0 **********
* Sample Name: C106-03 Data File: L:\ID03-59 *
* Date: 04-04-~~1906~~ 2006 03:26:47 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 59 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-59.PTS Printed on 04-04-2006 at 11:19:17
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

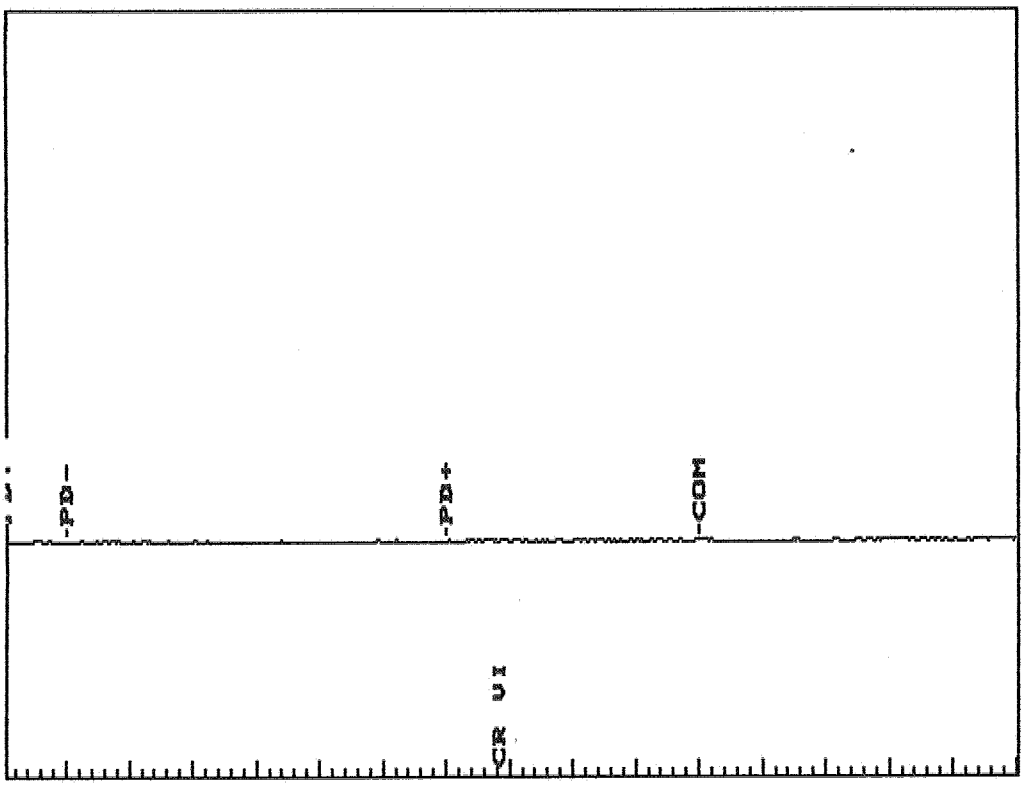
********** 04-04-2006 11:20:27 Version 5.2.0 **********
* Sample Name: C106-03D Data File: L:\ID03-60 *
* Date: 04-04-~~1906~~ 2006 ~ 4/4/06 03:36:56 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 60 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-60.PTS Printed on 04-04-2006 at 11:20:28
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

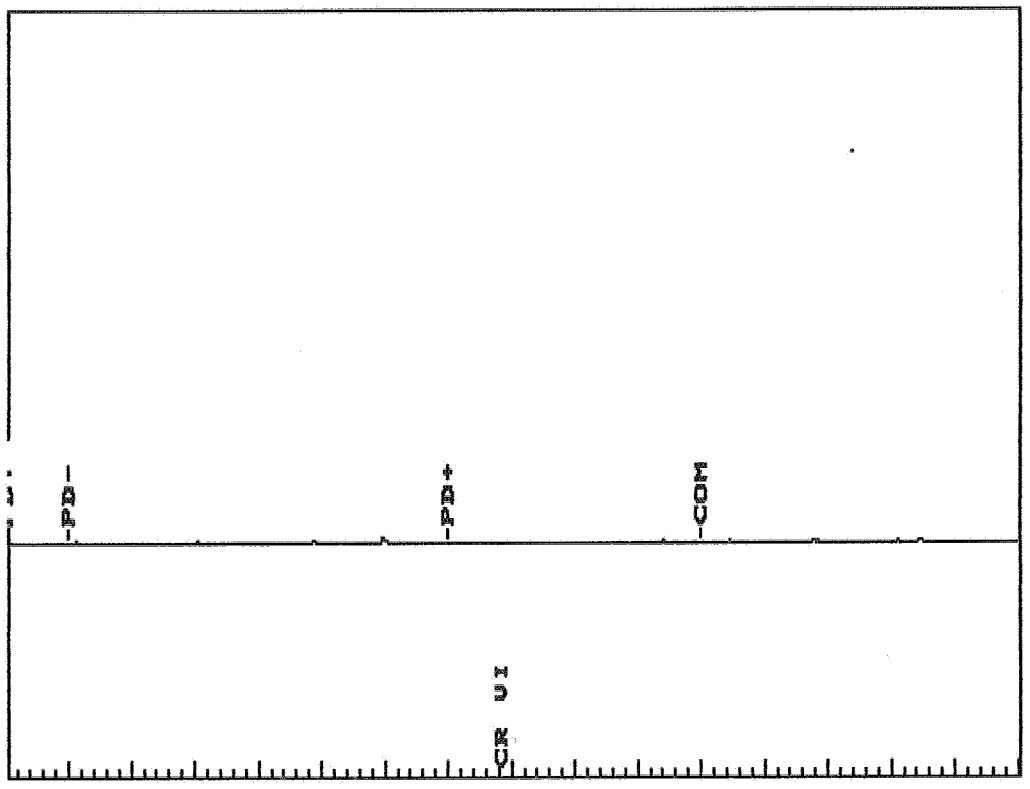
********** 04-04-2006 11:22:51 Version 5.2.0 **********
* Sample Name: C106-04 Data File: L:\ID03-62 *
* Date: 04-04-~~1906~~ 2006 03:57:14 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 62 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-62.PTS Printed on 04-04-2006 at 11:22:52
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

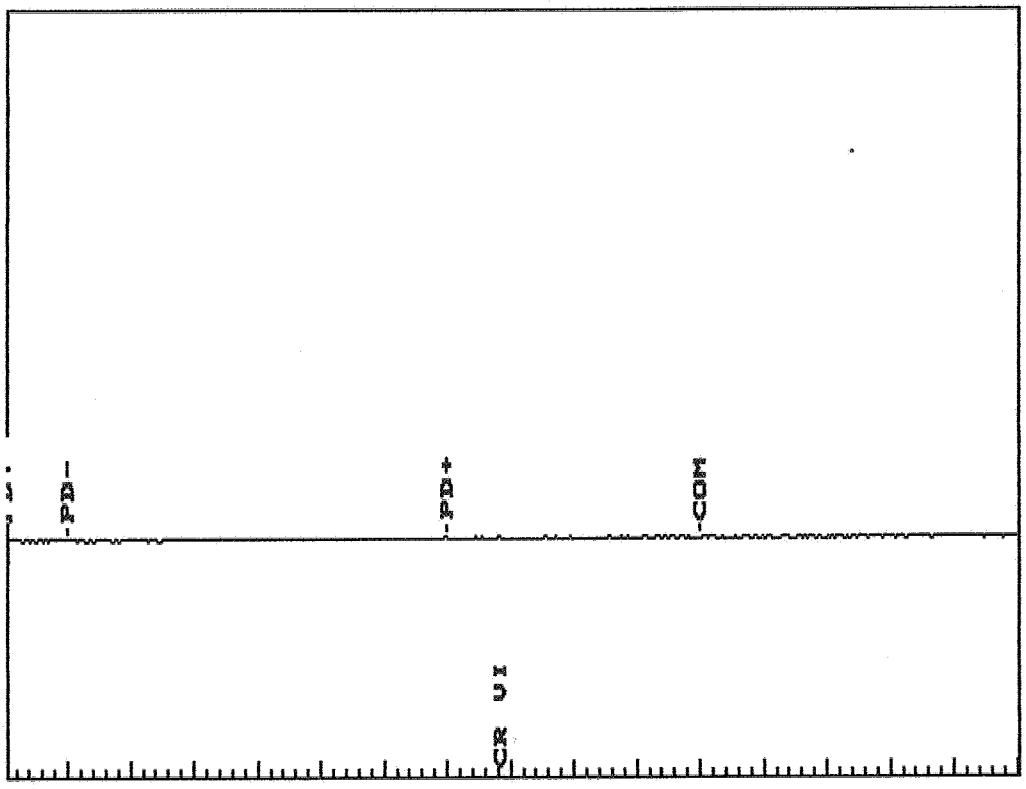
********** 04-04-2006 11:24:01 Version 5.2.0 **********
* Sample Name: C106-04D Data File: L:\ID03-63 *
* Date: 04-04-~~1906~~ 2006 ~ 4/4/06 04:07:24 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 63 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-63.PTS Printed on 04-04-2006 at 11:24:02
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

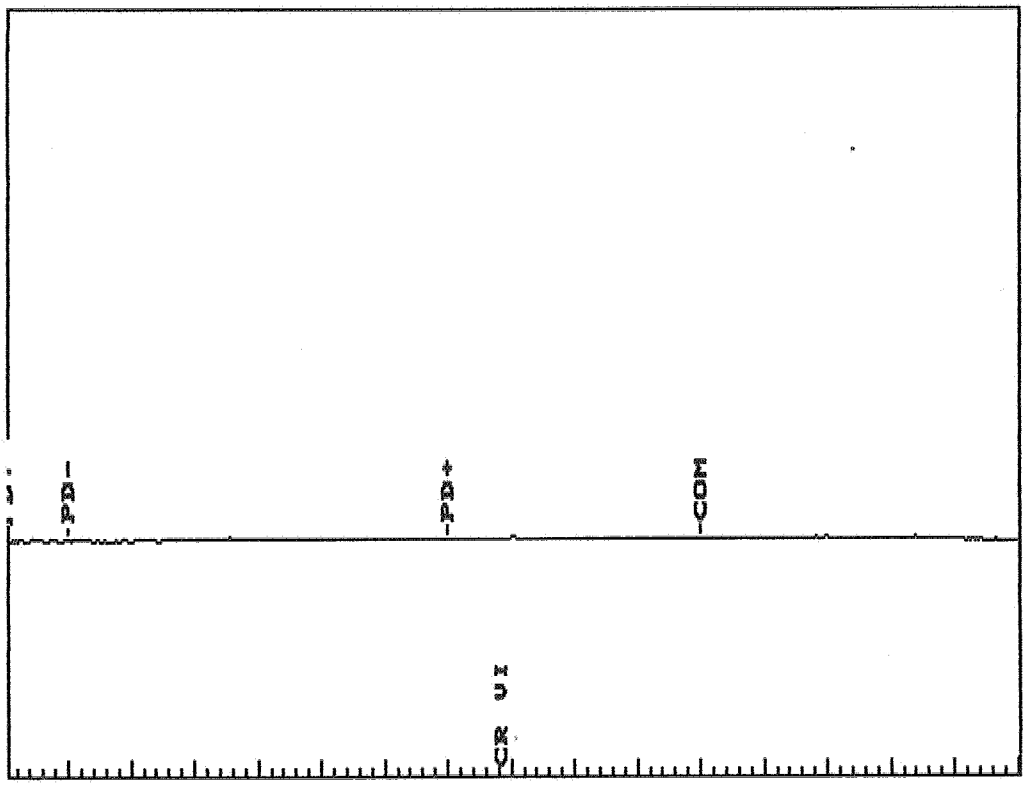
********** 04-04-2006 11:25:11 Version 5.2.0 **********
* Sample Name: C106-05 Data File: L:\ID03-64 *
* Date: 04-04-~~1906~~ 2006 04:17:33 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 ~44606 *
* Interface: 6 Cycle#: 64 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-64.PTS Printed on 04-04-2006 at 11:25:12
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

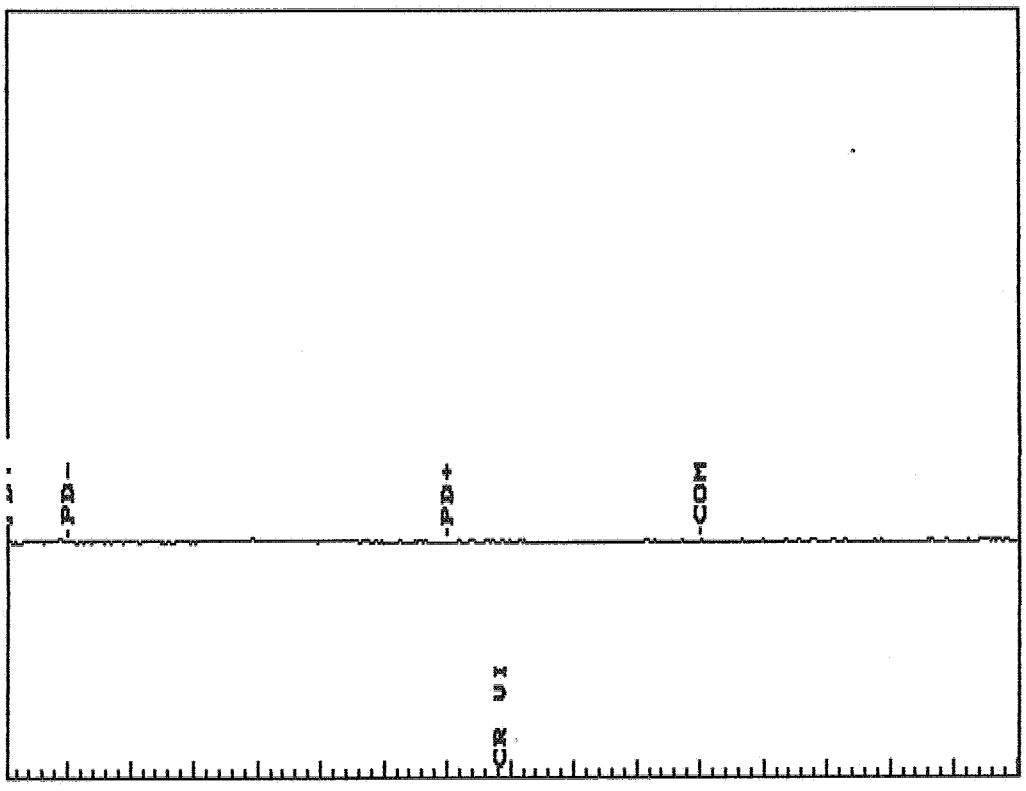
********** 04-04-2006 11:26:22 Version 5.2.0 **********
* Sample Name: C106-05D Data File: L:\ID03-65 *
* Date: 04-04-~~1906~~ 2006 04:27:42 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 65 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-65.PTS Printed on 04-04-2006 at 11:26:23
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

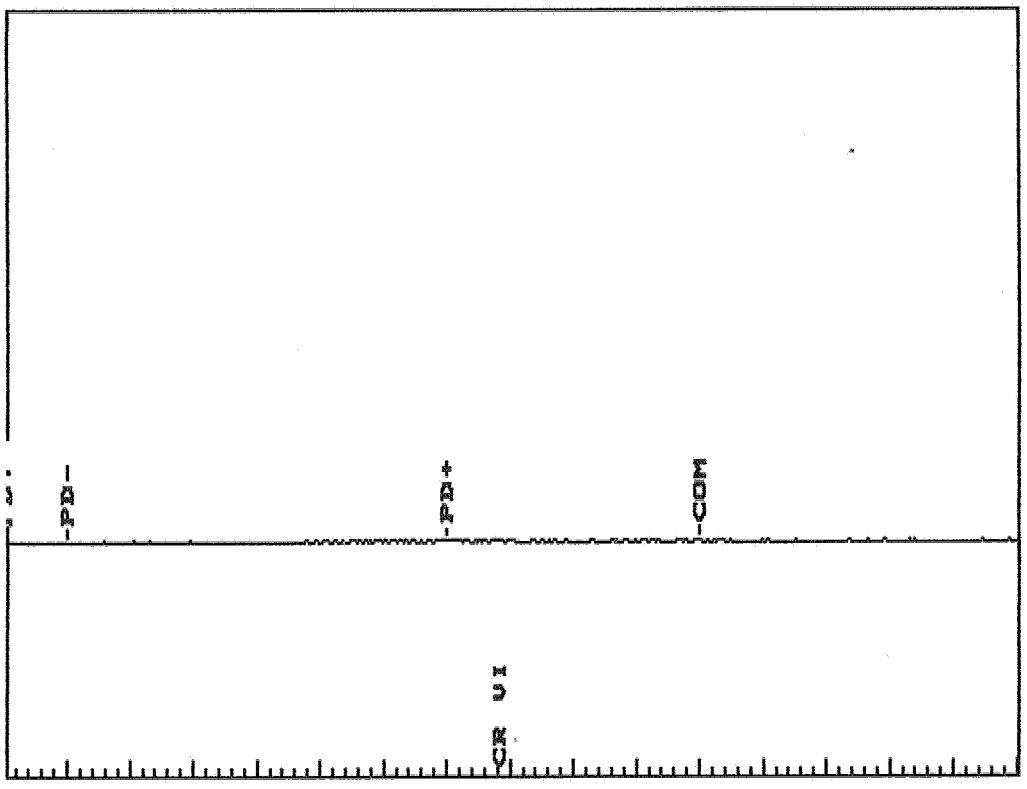
********** 04-04-2006 11:27:33 Version 5.2.0 **********
* Sample Name: C106-06 Data File: L:\ID03-66 *
* Date: 04-04-~~1906~~ 2006 w 4/4/06 04:37:51 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 66 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-66.PTS Printed on 04-04-2006 at 11:27:33
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

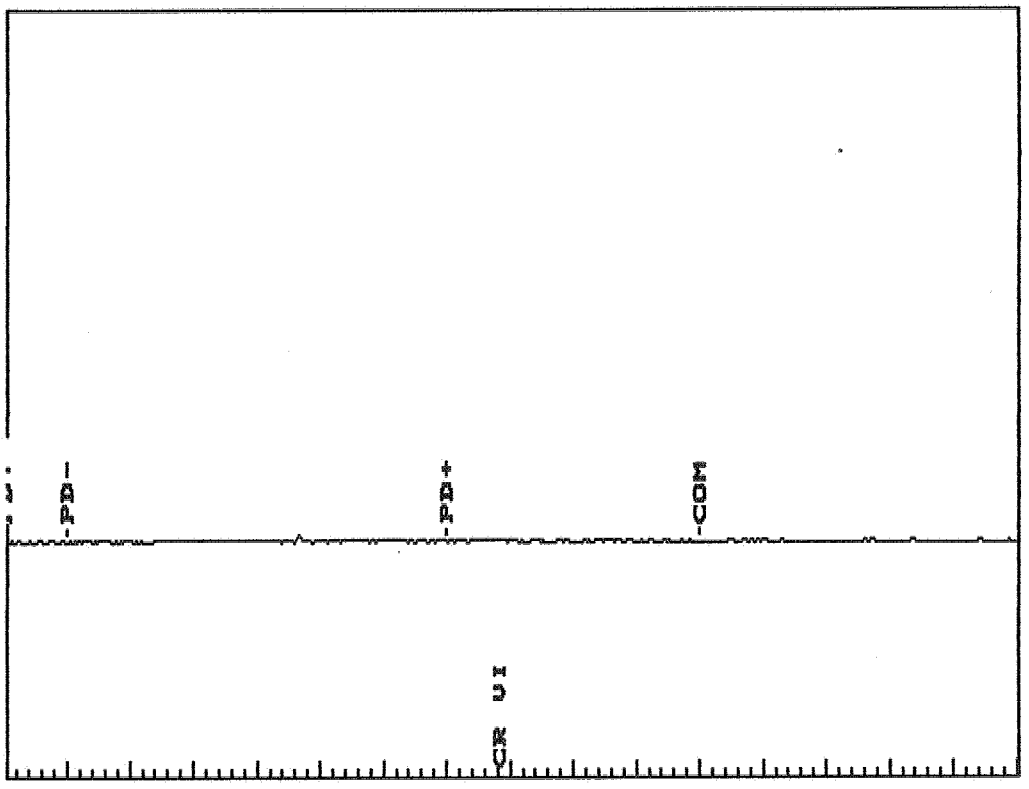
********** 04-04-2006 11:28:44 Version 5.2.0 **********
* Sample Name: C106-06D Data File: L:\ID03-67 *
* Date: 04-04-~~1906~~ 2006 ~ 4/4/06 04:48:00 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 67 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-67.PTS Printed on 04-04-2006 at 11:28:45
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

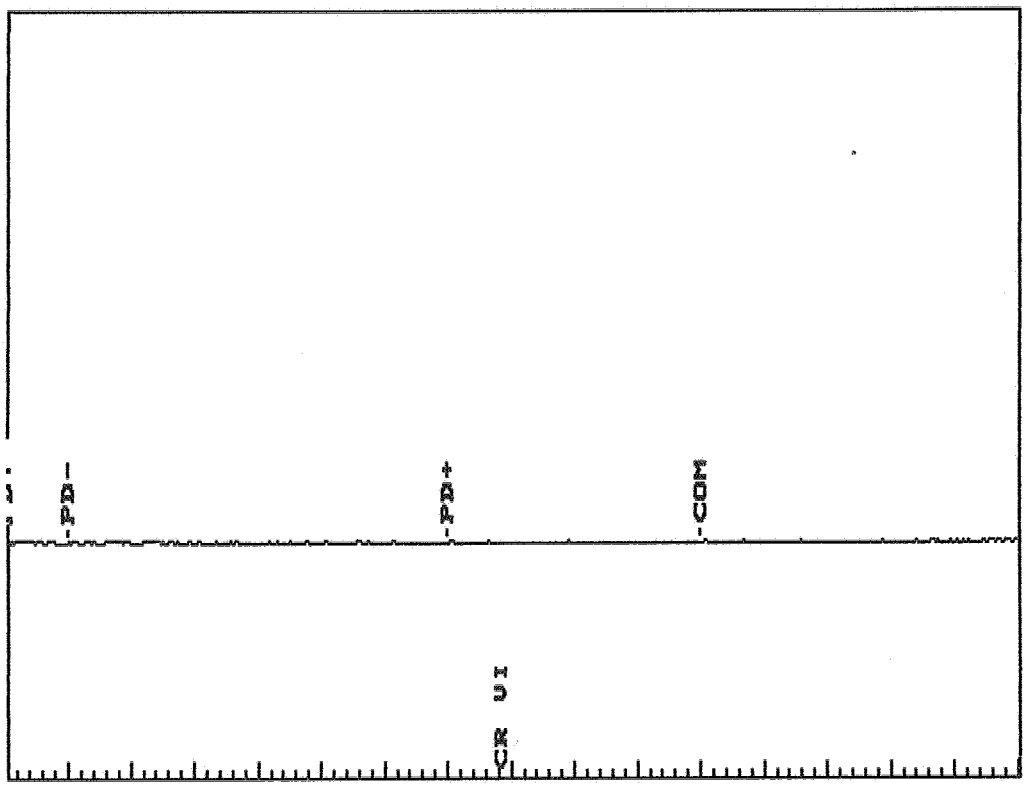
********** 04-04-2006 11:29:54 Version 5.2.0 **********
* Sample Name: C106-07 Data File: L:\ID03-68 *
* Date: 04-04-~~1906~~ 2006 ~ 4/4/06 04:58:09 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 68 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-68.PTS Printed on 04-04-2006 at 11:29:55
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

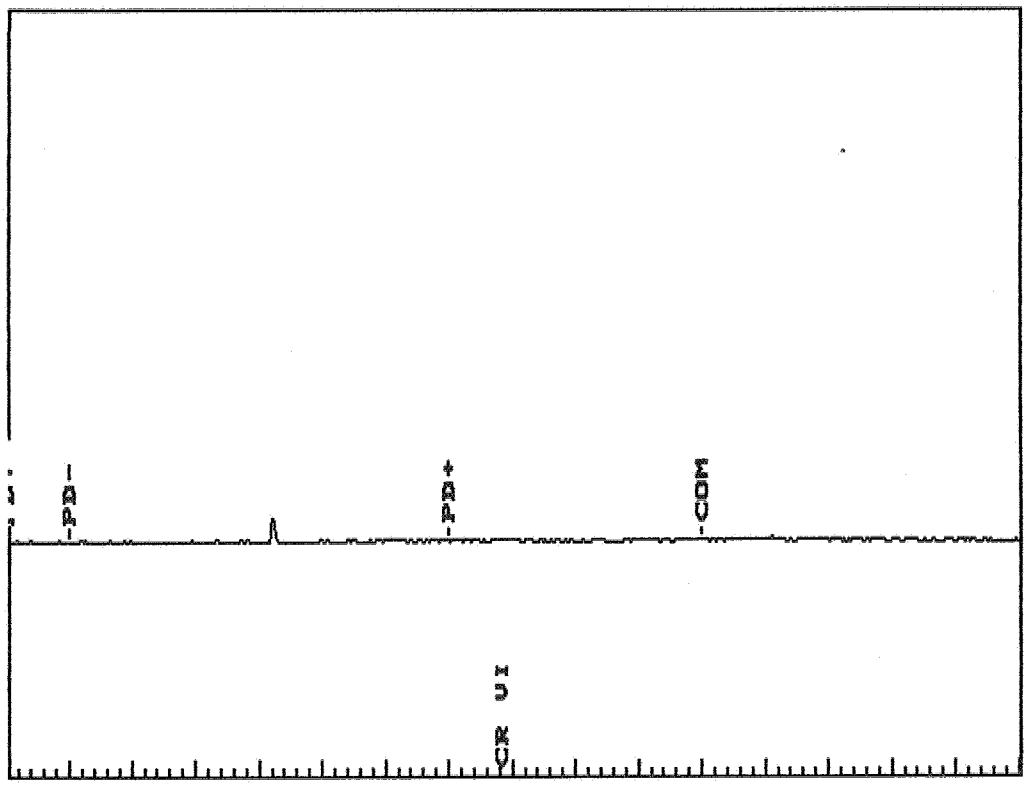
********** 04-04-2006 11:31:04 Version 5.2.0 **********
* Sample Name: C106-07D Data File: L:\ID03-69 *
* Date: 04-04-~~1906~~ 2006 in 414406 05:08:18 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 69 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-69.PTS Printed on 04-04-2006 at 11:31:05
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

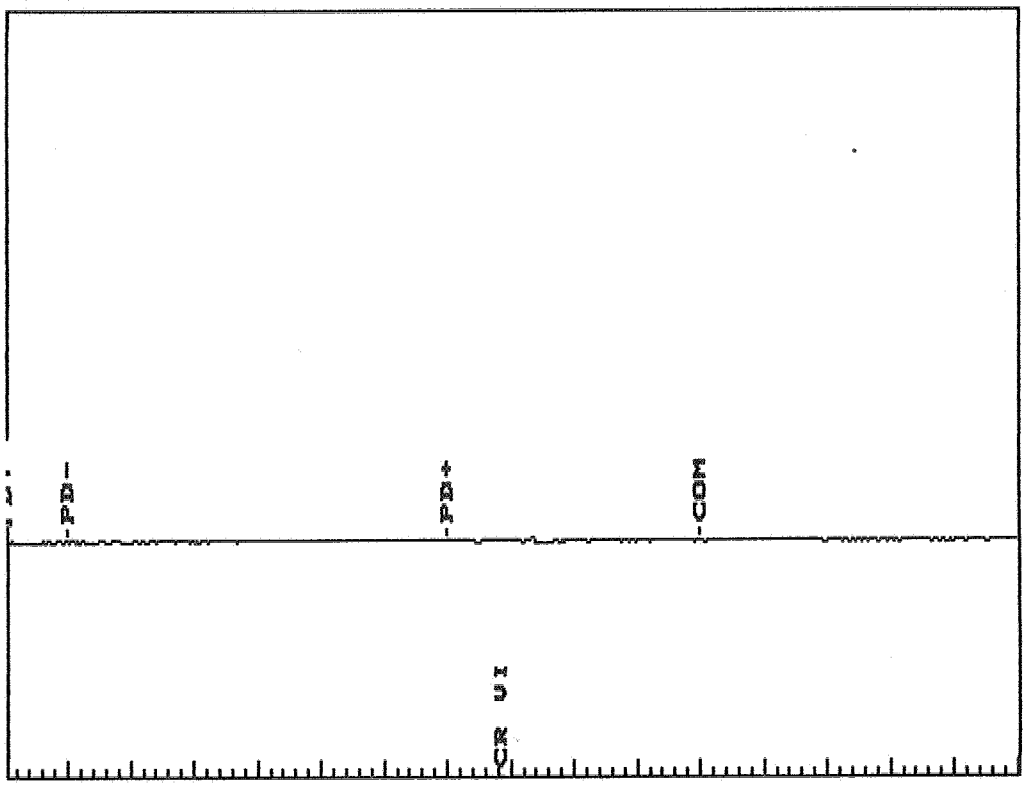
********** 04-04-2006 11:38:32 Version 5.2.0 **********
* Sample Name: C106-08 Data File: L:\ID03-71 *
* Date: 04-04-~~1906~~ 2006 ~ 4/4/06 05:28:37 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 71 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-71.PTS Printed on 04-04-2006 at 11:38:33
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

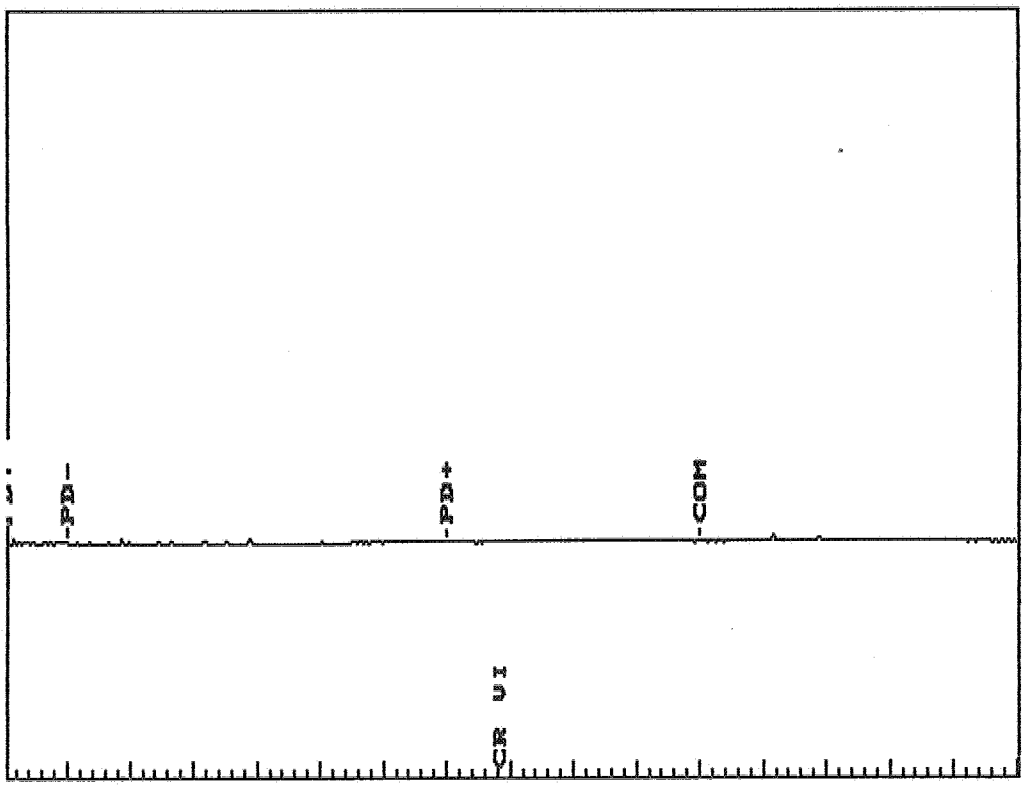
********** 04-04-2006 11:40:53 Version 5.2.0 **********
* Sample Name: C106-08D Data File: L:\ID03-73 *
* Date: 04-04-~~1906~~ 2006 in 4/4/06 05:48:55 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 73 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-73.PTS Printed on 04-04-2006 at 11:40:54
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

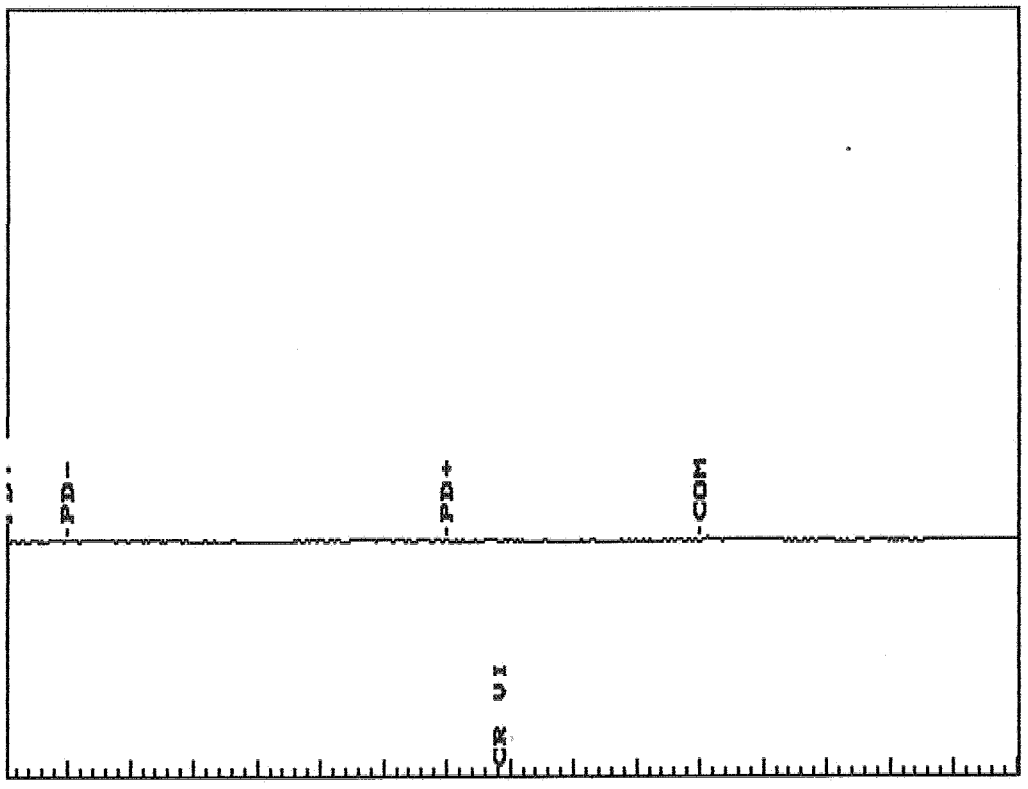
********** 04-04-2006 11:42:02 Version 5.2.0 **********
* Sample Name: C106-09 Data File: L:\ID03-74 *
* Date: 04-04-~~1906~~ 2006 ~ 4/4/06 05:59:04 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 74 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-74.PTS Printed on 04-04-2006 at 11:42:03
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

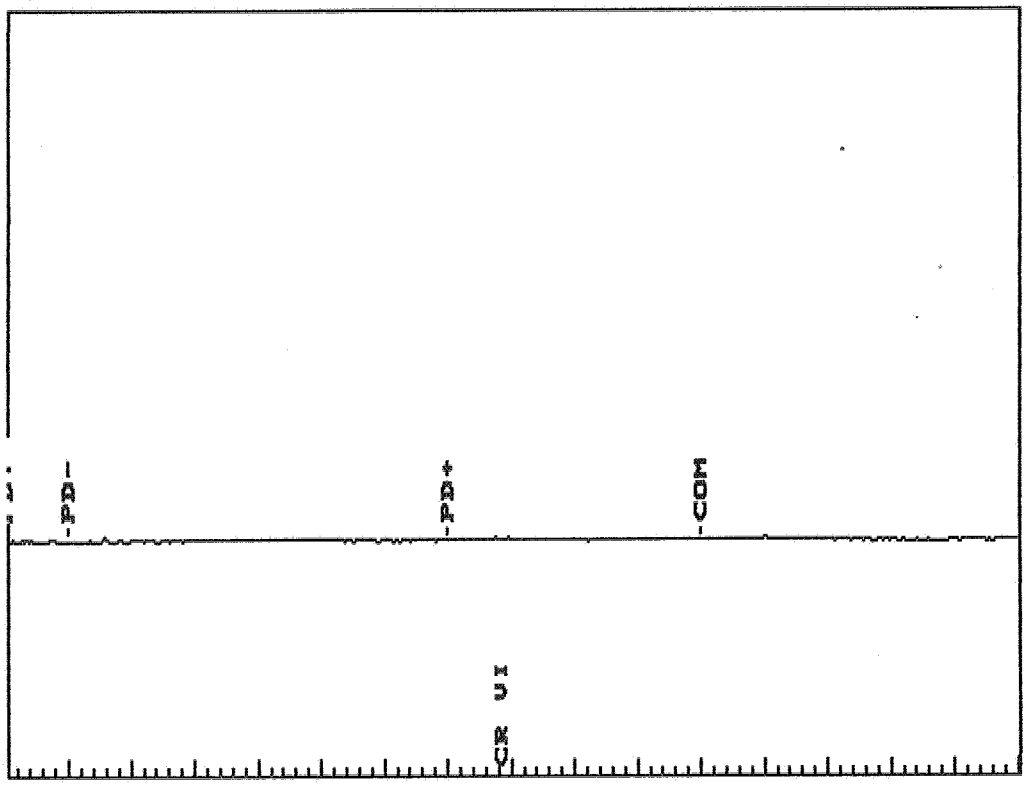
********** 04-04-2006 11:43:12 Version 5.2.0 **********
* Sample Name: C106-09D Data File: L:\ID03-75 *
* Date: 04-04-~~1906~~ 2006 06:09:13 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 75 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-75.PTS Printed on 04-04-2006 at 11:43:13
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

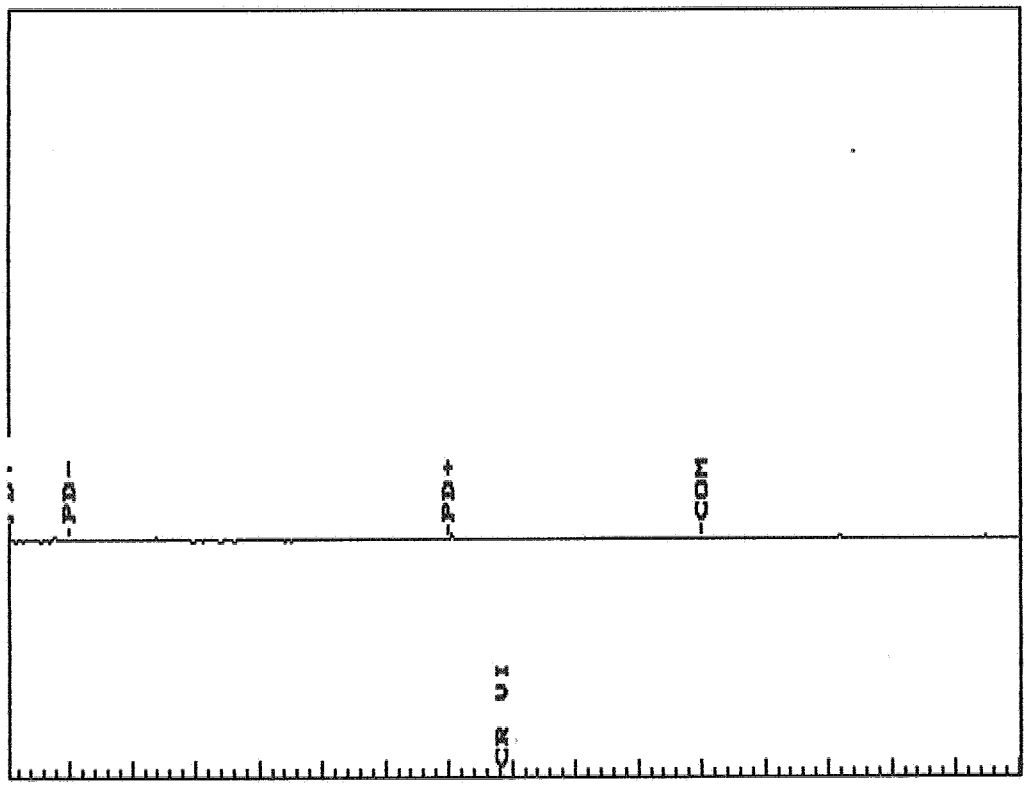
********** 04-04-2006 11:44:23 Version 5.2.0 **********
* Sample Name: C106-10 Data File: L:\ID03-76 *
* Date: 04-04-~~1906~~ 2006 06:19:23 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 76 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-76.PTS Printed on 04-04-2006 at 11:44:23
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



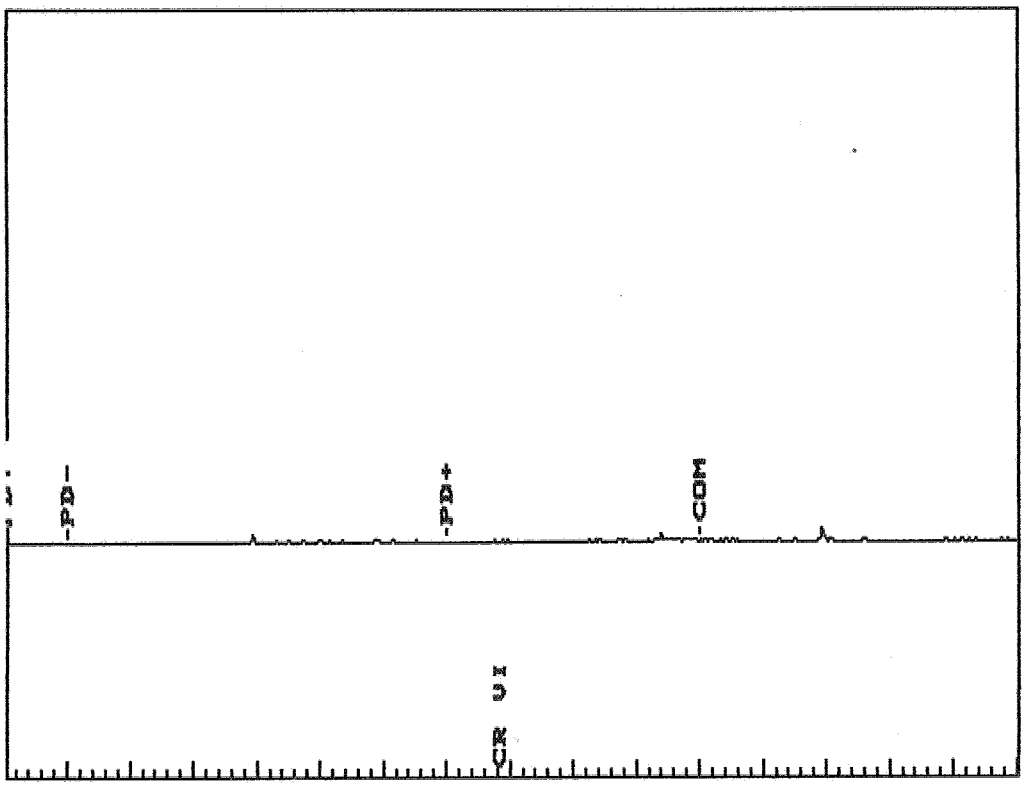
EXTERNAL STANDARD TABLE

```
********** 04-04-2006 11:45:33 Version 5.2.0 **********
* Sample Name: C106-10D              Data File: L:\ID03-77                *
* Date: 04-04-~~1906~~ 2006 06:29:32 Method: M:\IC59C31 04-02-2006 21:01:24 Version:  177
*                                                                         *
* Interface: 6   Cycle#: 77    Operator: JKN  Channel: A   Vial#: N.A.    *
* Starting Peak Width:  20   Threshold: 50  Area Threshold: 100           *
*************************************************************************
* Instrument Type: IC-057              Column Type: AS-16                 *
*              Solvent Description: 60 MM NAOH                            *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN                              *
*            Detector 0: CONDUCT            Detector 1:                   *
* Misc. Information:                                                      *
*************************************************************************
Starting Delay:    0.00                    Ending retention time:    8.00
Area reject:       1000                    One sample per   1.000 sec.
Amount injected:          1.00             Dilution factor:          1.00
Sample Weight:            1.00000
```

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-77.PTS Printed on 04-04-2006 at 11:45:33
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



QC SUMMARY

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	HCC010SB	HCC010SL	HCC010SC		
LAB FILE ID:	ID03-52	ID03-53	ID03-54		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	NA
DATE ANALYZED:	04/04/0602:15	04/04/0602:25	04/04/0602:36	DATE RECEIVED:	04/03/06
PREP. BATCH:	HCC010S	HCC010S	HCC010S		
CALIB. REF:	ID03-51	ID03-51	ID03-51		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Hexavalent Chromium	ND	5	4.88	98	5	4.9	98	1	80-120	20

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	8.9
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-40			
LAB SAMP ID:	C106-07	C106-07M		
LAB FILE ID:	ID03-68	ID03-70		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0604:58	04/04/0605:18	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-61	ID03-61		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	5.49	4.12	75	75-125

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX: SOIL % MOISTURE: 8.9
DILUTION FACTOR: 1 20
SAMPLE ID: M121-40
LAB SAMP ID: C106-07 C106-07U
LAB FILE ID: ID03-68 ID03-103
DATE EXTRACTED: 04/03/0618:10 04/03/0618:10 DATE COLLECTED: 03/10/06
DATE ANALYZED: 04/04/0604:58 04/04/0611:47 DATE RECEIVED: 03/11/06
PREP. BATCH: HCC010S HCC010S
CALIB. REF: ID03-61 ID03-94

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	QC LIMIT (%)
Hexavalent Chromium	ND	98.3	82.9	84	75-125

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	4.3
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-0.5			
EMAX SAMP ID:	C106-01	C106-01D		
LAB FILE ID:	ID03-55	ID03-56		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0602:46	04/04/0602:56	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-51	ID03-51		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Hexavalent Chromium	ND	ND	NA	20

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	10.3
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-5			
EMAX SAMP ID:	C106-02	C106-02D		
LAB FILE ID:	ID03-57	ID03-58		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0603:06	04/04/0603:16	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-51	ID03-51		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Hexavalent Chromium	ND	ND	NA	20

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	5.7
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-10			
EMAX SAMP ID:	C106-03	C106-03D		
LAB FILE ID:	ID03-59	ID03-60		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0603:26	04/04/0603:36	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-51	ID03-51		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Hexavalent Chromium	ND	ND	NA	20

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	9.5
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-5D			
EMAX SAMP ID:	C106-04	C106-04D		
LAB FILE ID:	ID03-62	ID03-63		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0603:57	04/04/0604:07	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-61	ID03-61		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Hexavalent Chromium	ND	ND	NA	20

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	3.6
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-20			
EMAX SAMP ID:	C106-05	C106-05D		
LAB FILE ID:	ID03-64	ID03-65		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0604:17	04/04/0604:27	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-61	ID03-61		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Hexavalent Chromium	ND	ND	NA	20

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	5.8
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-30			
EMAX SAMP ID:	C106-06	C106-06D		
LAB FILE ID:	ID03-66	ID03-67		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0604:37	04/04/0604:48	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-61	ID03-61		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Hexavalent Chromium	ND	ND	NA	20

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EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	8.9
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-40			
EMAX SAMP ID:	C106-07	C106-07D		
LAB FILE ID:	ID03-68	ID03-69		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0604:58	04/04/0605:08	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-61	ID03-61		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Hexavalent Chromium	ND	ND	NA	20

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	6.1
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-50			
EMAX SAMP ID:	C106-08	C106-08D		
LAB FILE ID:	ID03-71	ID03-73		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0605:28	04/04/0605:48	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-61	ID03-72		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Hexavalent Chromium	ND	ND	NA	20

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	17.8
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-60			
EMAX SAMP ID:	C106-09	C106-09D		
LAB FILE ID:	ID03-74	ID03-75		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0605:59	04/04/0606:09	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-72	ID03-72		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Hexavalent Chromium	ND	ND	NA	20

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
BATCH NO.: 06C106
METHOD: METHOD 3060A/7199

MATRIX:	SOIL		% MOISTURE:	27.5
DILUTION FACTOR:	1	1		
SAMPLE ID:	M121-80			
EMAX SAMP ID:	C106-10	C106-10D		
LAB FILE ID:	ID03-76	ID03-77		
DATE EXTRACTED:	04/03/0618:10	04/03/0618:10	DATE COLLECTED:	03/10/06
DATE ANALYZED:	04/04/0606:19	04/04/0606:29	DATE RECEIVED:	03/11/06
PREP. BATCH:	HCC010S	HCC010S		
CALIB. REF:	ID03-72	ID03-72		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Hexavalent Chromium	ND	ND	NA	20

QC DATA

SEQUENCE RECORDED IN M:\ID03.SEQ

***** EXTERNAL STANDARD TABLE *****

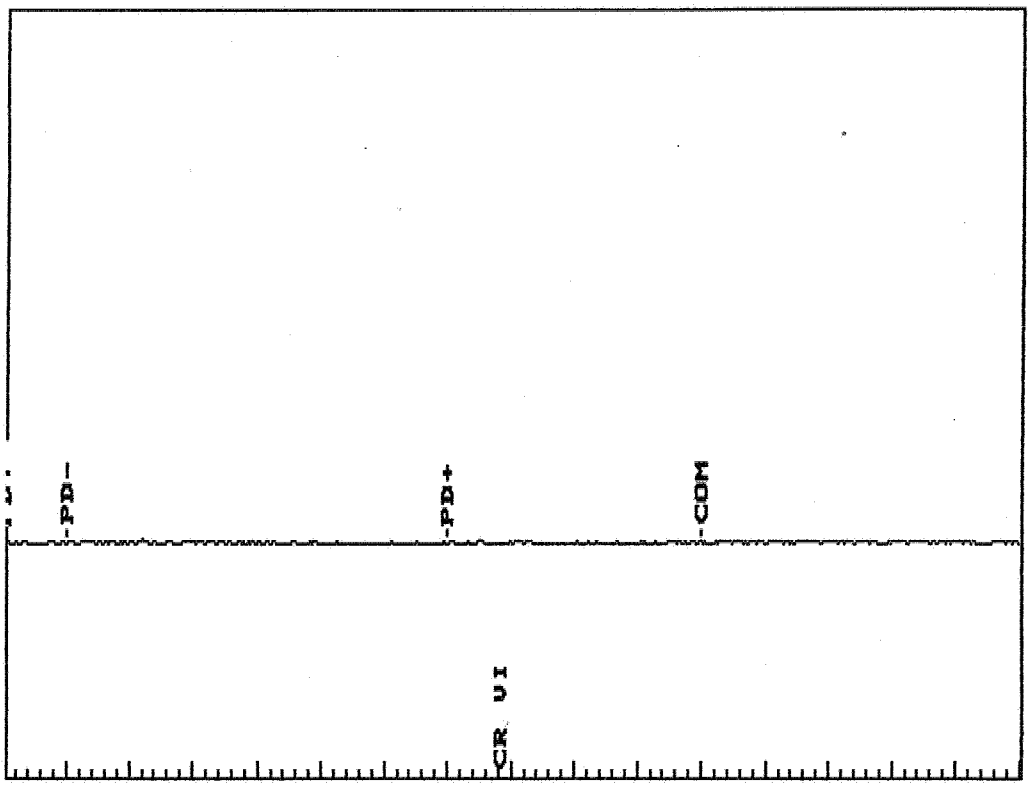
********** 04-04-2006 11:11:03 Version 5.2.0 **********
* Sample Name: HCC010SB Data File: L:\ID03-52 *
* Date: 04-04-~~1906~~ 2006 ~ 11:06 02:15:43 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 17 *
* Interface: 6 Cycle#: 52 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\ID03-52.PTS Printed on 04-04-2006 at 11:11:03
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

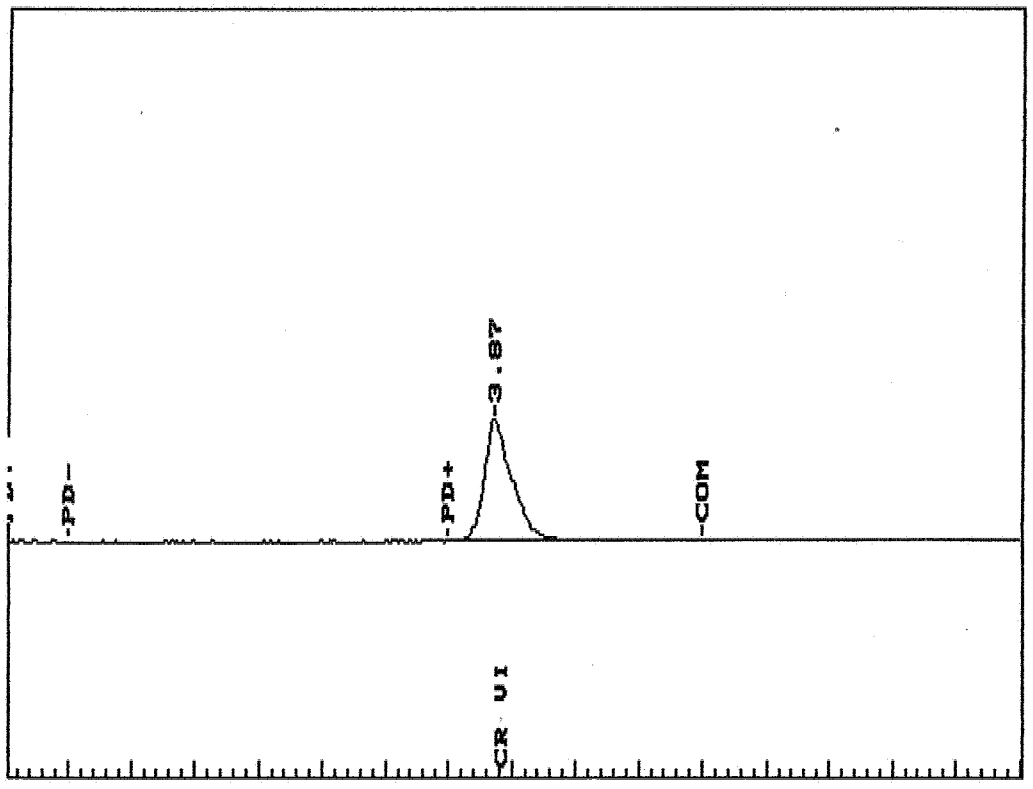
********** 04-04-2006 11:12:11 Version 5.2.0 **********
* Sample Name: HCC010SL Data File: L:\ID03-53 *
* Date: 04-04-~~4506~~ 2006 ~ 4/4/06 02:25:52 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 1 *
* Interface: 6 Cycle#: 53 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.867	CR VI	1.9548	100.0000%	1376071	93973	14.6	1	0	-1.360	2.0802E-05

TOTAL AMOUNT = 1.9548

Data File = L:\ID03-53.PTS Printed on 04-04-2006 at 11:12:11
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

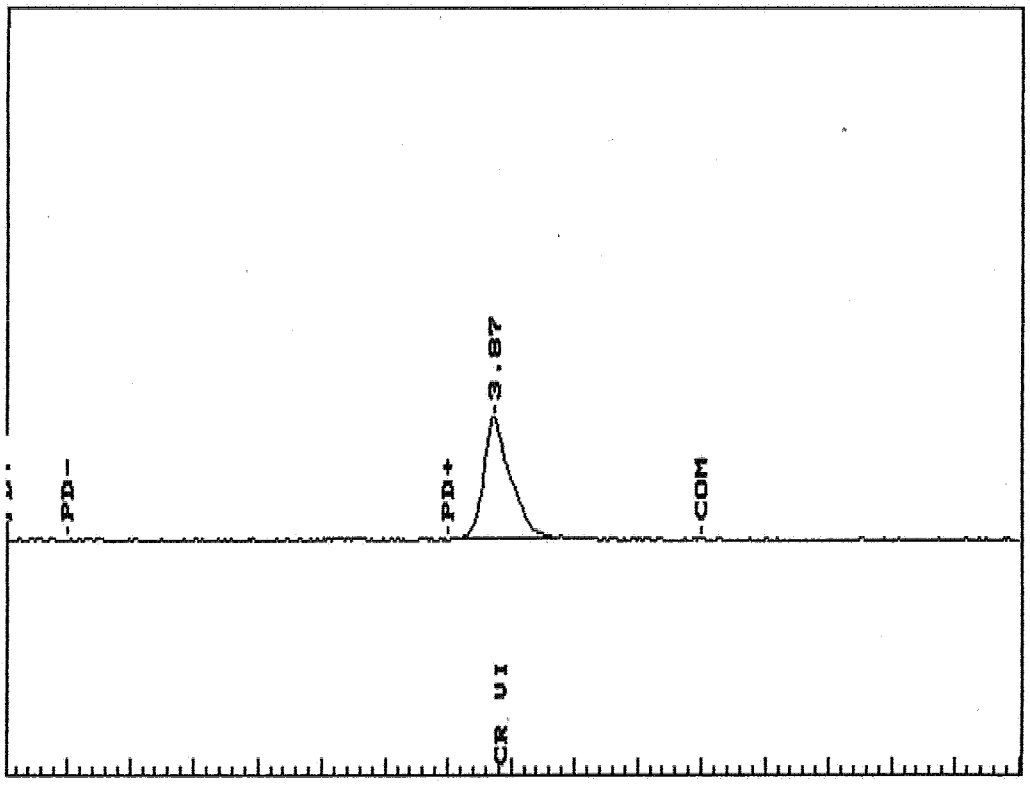
********** 04-04-2006 11:13:24 Version 5.2.0 **********
* Sample Name: HCC010SC Data File: L:\ID03-54 *
* Date: 04-04-~~1906~~ 2006 02:36:01 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 1
* Interface: 6 Cycle#: 54 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.867	CR VI	1.9593	100.0000%	1396118	94188	14.8	1	0	-1.360	2.0802E-05

TOTAL AMOUNT = 1.9593

Data File = L:\ID03-54.PTS Printed on 04-04-2006 at 11:13:25
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



****** EXTERNAL STANDARD TABLE ******

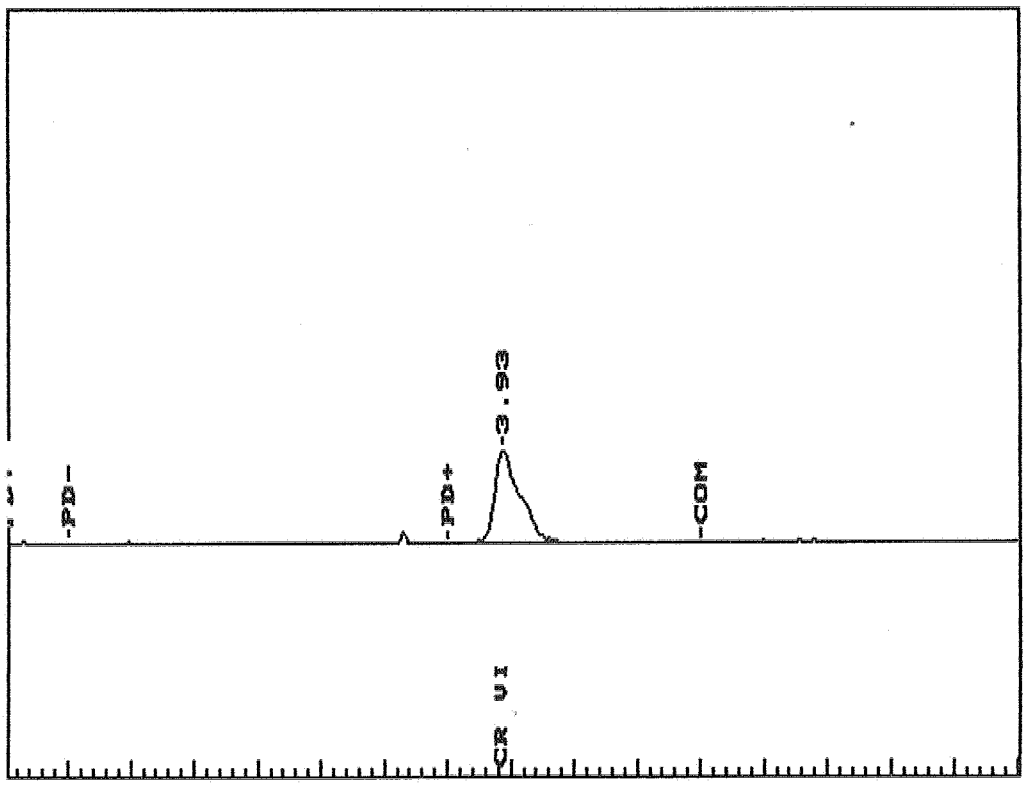
********** 04-04-2006 11:32:15 Version 5.2.0 **********
* Sample Name: C106-07M Data File: L:\ID03-70 *
* Date: 04-04-~~1906~~ 2006 05:18:28 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 177
* Interface: 6 Cycle#: 70 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.933	CR VI	1.4988	100.0000%	992808	71941	13.8	1	0	.3401	2.0834E-05

TOTAL AMOUNT = 1.4988

Data File = L:\ID03-70.PTS Printed on 04-04-2006 at 11:32:16
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



C106-07U D Processed: 04-04-2006 12:03:33, Segment 7, Cycle 103
RAW DATA SAVED IN FILE L:\ID03-103.PTS

EXTERNAL STANDARD TABLE

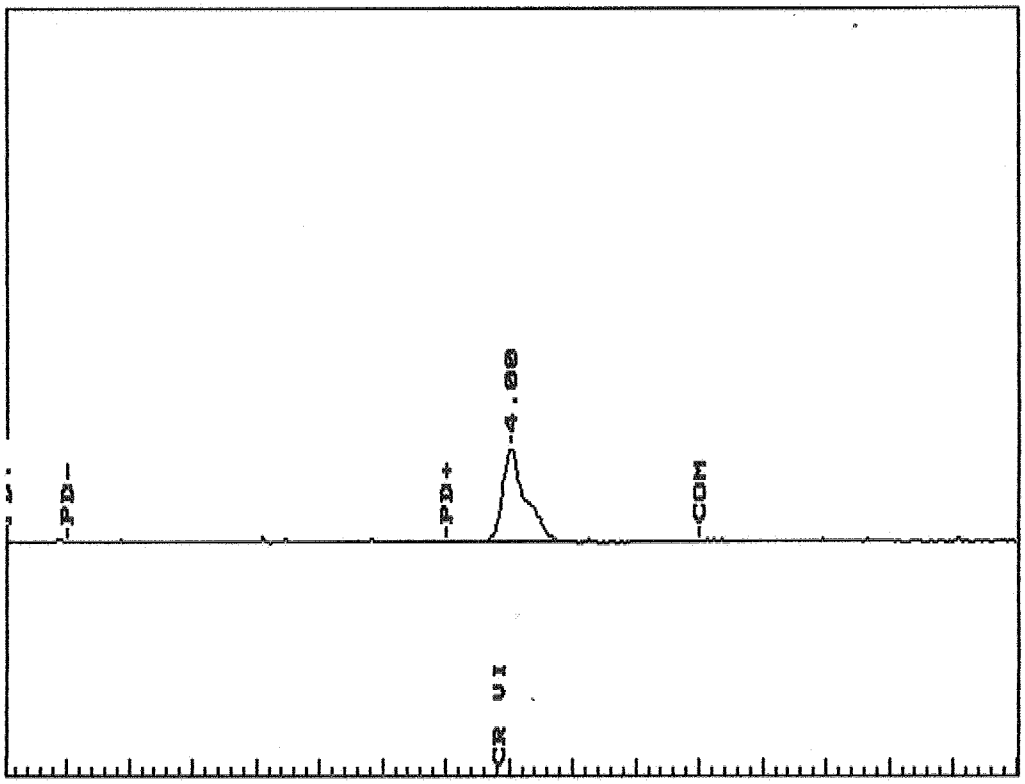
********** 04-04-2006 12:03:36 Version 5.2.0 **********
* Sample Name: C106-07U DF=20 Data File: L:\ID03-103 *
* Date: 04-04-~~2006~~ 11:47:36 Method: IC59C31 04-02-2006 21:01:24 Version: 177
2006 2-4-4-06 *
* Interface: 6 Cycle#: 103 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 20.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	4.000	CR VI	30.1588	100.0000%	939279	72383	13.0 1	0	2.040	4.1666E-04

TOTAL AMOUNT = 30.1588

Areas, times, and heights stored in: L:\ID03-103.ATB
Data File = L:\ID03-103.PTS Printed on 04-04-2006 at 12:03:38
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



INITIAL CALIBRATION

IC SEQUENCE FORM (ATB)

LFID	LSID	SELCOMP	METNAME	DateTime	DF
IC31-1	IB	C	IC59C31	03/31/0618:01	1
IC31-2	S-0.0	C	IC59C31	03/31/0618:11	1
IC31-3	S-0.2	C	IC59C31	03/31/0618:21	1
IC31-4	S-2.0	C	IC59C31	03/31/0618:31	1
IC31-5	S-5.0	C	IC59C31	03/31/0618:41	1
IC31-6	ICV	C	IC59C31	03/31/0618:51	1
IC31-7	ICB	C	IC59C31	03/31/0619:01	1
IC31-8	CCV1	C	IC59C31	03/31/0619:12	1
IC31-9	HCC009SB	C	IC59C31	03/31/0619:22	1
IC31-10	HCC009SL	C	IC59C31	03/31/0619:32	1
IC31-11	HCC009SC	C	IC59C31	03/31/0619:42	1
IC31-12	MDL	C	IC59C31	03/31/0619:52	1
IC31-13	C071-01	C	IC59C31	03/31/0620:02	1
IC31-14	C071-02	C	IC59C31	03/31/0620:12	1
IC31-15	C071-03	C	IC59C31	03/31/0620:23	1
IC31-16	C071-04	C	IC59C31	03/31/0620:33	1
IC31-17	C071-04D	C	IC59C31	03/31/0620:43	1
IC31-18	C071-04M	C	IC59C31	03/31/0620:53	1
IC31-19	CCV2	C	IC59C31	03/31/0621:03	1
IC31-20	C071-05	C	IC59C31	03/31/0621:13	1
IC31-21	C071-06	C	IC59C31	03/31/0621:24	1
IC31-22	C071-07	C	IC59C31	03/31/0621:34	1
IC31-23	C071-08	C	IC59C31	03/31/0621:44	1
IC31-24	C071-09	C	IC59C31	03/31/0621:54	1
IC31-25	C071-10	C	IC59C31	03/31/0622:04	1
IC31-26	C081-01	C	IC59C31	03/31/0622:14	1
IC31-27	C081-02	C	IC59C31	03/31/0622:24	1
IC31-28	C081-03	C	IC59C31	03/31/0622:35	1
IC31-29	C081-04	C	IC59C31	03/31/0622:45	1
IC31-30	CCV3	C	IC59C31	03/31/0622:55	1
IC31-31	C081-05	C	IC59C31	03/31/0623:05	1
IC31-32	C081-06	C	IC59C31	03/31/0623:15	1
IC31-33	C081-07	C	IC59C31	03/31/0623:25	1
IC31-34	C081-08	C	IC59C31	03/31/0623:36	1
IC31-35	C081-08D	C	IC59C31	03/31/0623:46	1
IC31-36	C081-08M	C	IC59C31	03/31/0623:56	1
IC31-37	C081-09	C	IC59C31	04/01/0600:06	1
IC31-38	C081-10	C	IC59C31	04/01/0600:16	1
IC31-39	CCV4	C	IC59C31	04/01/0600:26	1

4-4-06

IB Processed: 03-31-2006 18:09:02, Segment 1, Cycle 1
RAW DATA SAVED IN FILE L:\IC311.PTS

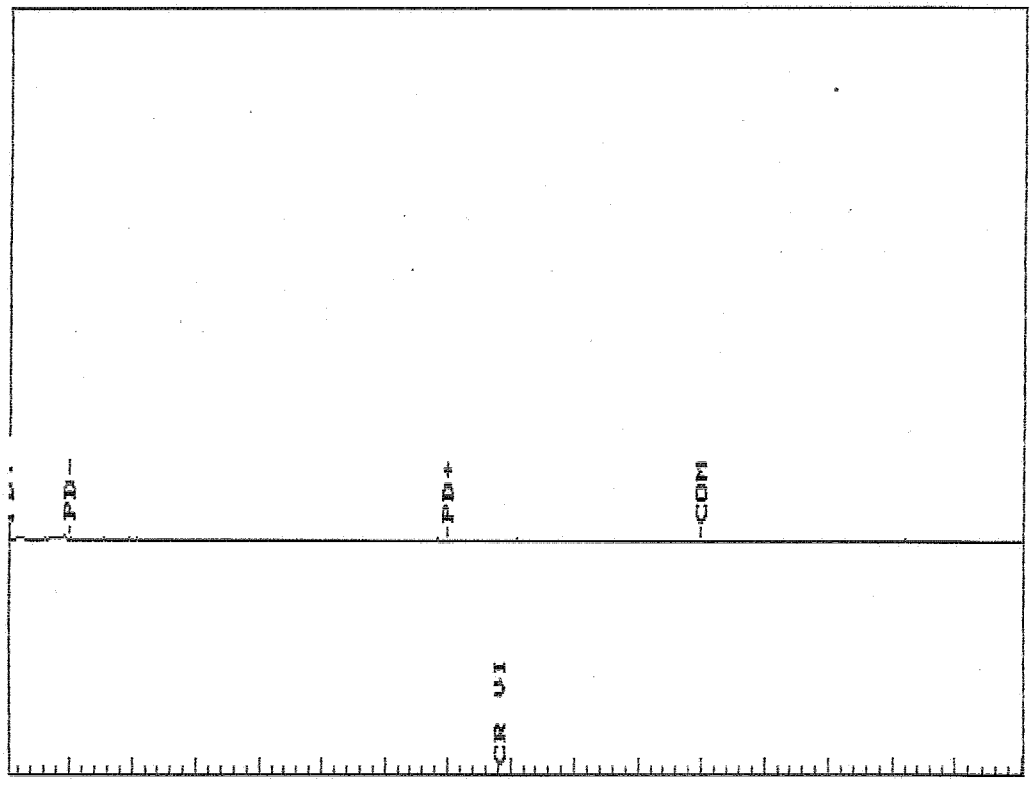
***** EXTERNAL STANDARD TABLE *****

********** 03-31-2006 18:09:07 Version 5.2.0 **********
* Sample Name: IB Data File: L:\IC311 *
* Date: 03-31-~~1906~~ 18:01:00 Method: IC59C31 03-31-2006 22:00:16 Version: 175
2006 n 3/31/06 *
* Interface: 6 Cycle#: 1 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****
Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Areas, times, and heights stored in: L:\IC311.ATB
Data File = L:\IC311.PTS Printed on 03-31-2006 at 18:09:08
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



4-4-06

S-0.0 Processed: 03-31-2006 18:19:11, Segment 2, Cycle 2
RAW DATA SAVED IN FILE L:\IC312.PTS

***** EXTERNAL STANDARD TABLE *****

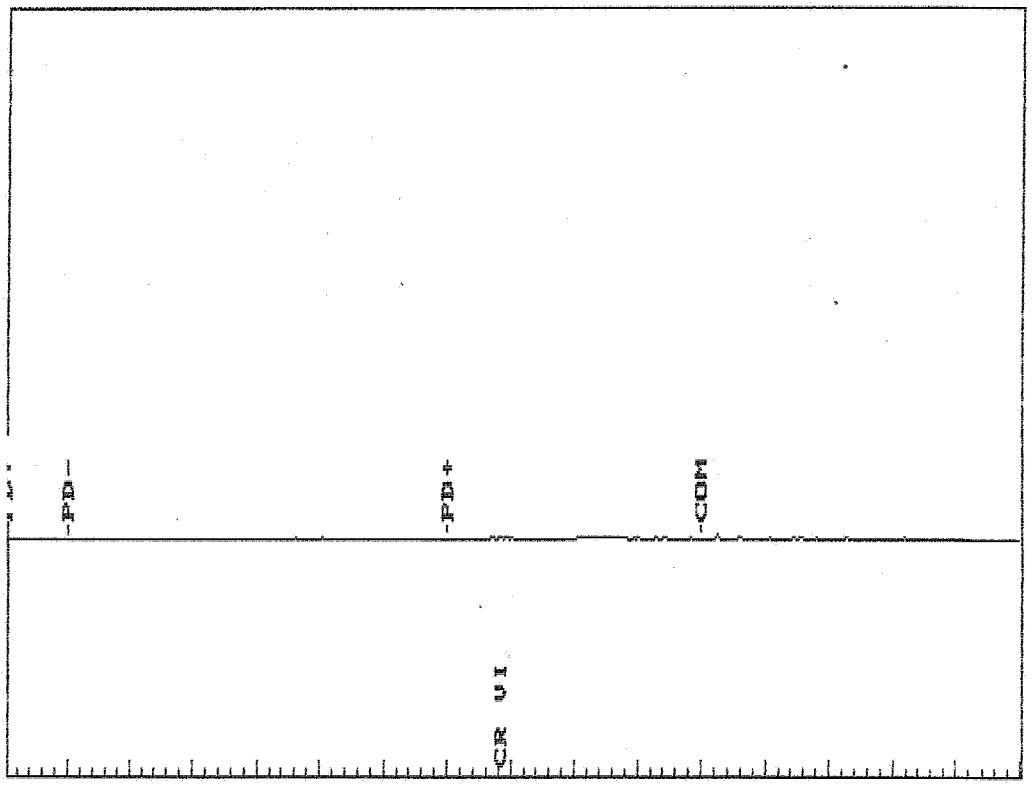
********** 03-31-2006 18:19:14 Version 5.2.0 **********
* Sample Name: S-0.0 Data File: L:\IC312 *
* Date: 03-31-~~1906~~ 2006 18:11:09 Method: IC59C31 03-31-2006 22:00:16 Version: 175 *
* Interface: 6 Cycle#: 2 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Areas, times, and heights stored in: L:\IC312.ATB
Data File = L:\IC312.PTS Printed on 03-31-2006 at 18:19:16
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



dh 4-4-06

EXTERNAL STANDARD TABLE

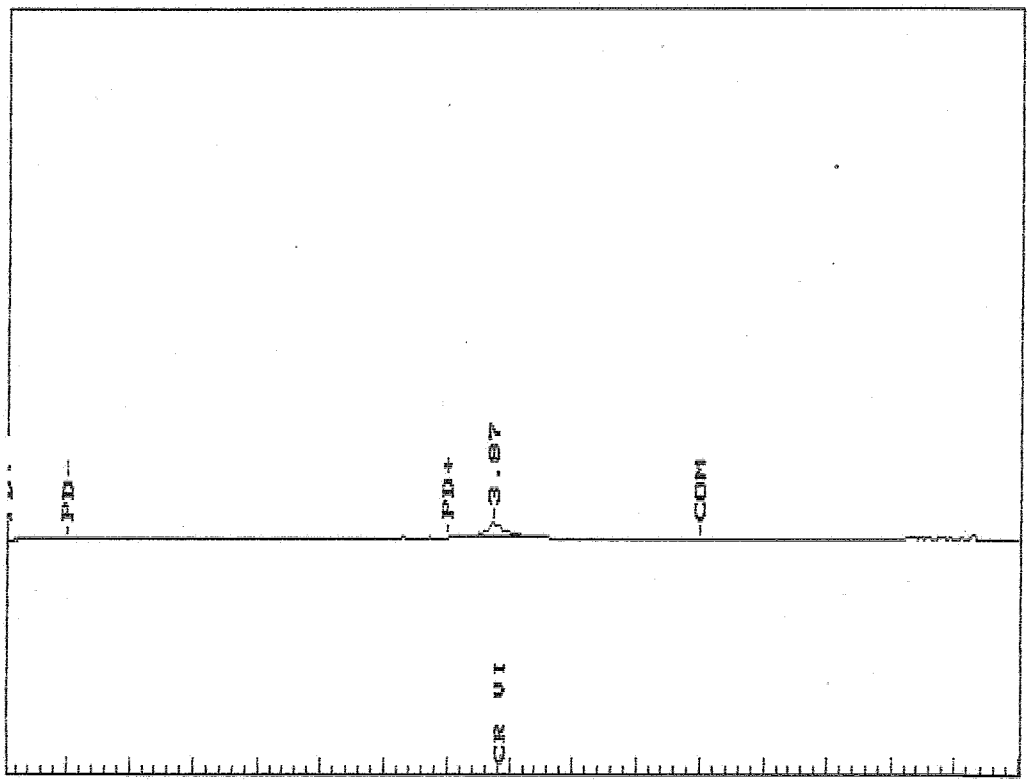
********** 03-31-2006 20:11:09 Version 5.2.0 **********
* Sample Name: S-0.2 Data File: L:\IC31-3 *
* Date: 03-31-~~1906~~ 2006 w 3/31/06 18:21:17 Method: M:\IC59C31 03-31-2006 18:51:22 Version: 1 *
* Interface: 6 Cycle#: 3 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.867	CR VI	0.1860	100.0000%	90471	9974	9.1 1	0	-1.360	1.8649E-05

TOTAL AMOUNT = 0.1860

Data File = L:\IC31-3.PTS Printed on 03-31-2006 at 20:11:09
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



4-4-06

EXTERNAL STANDARD TABLE

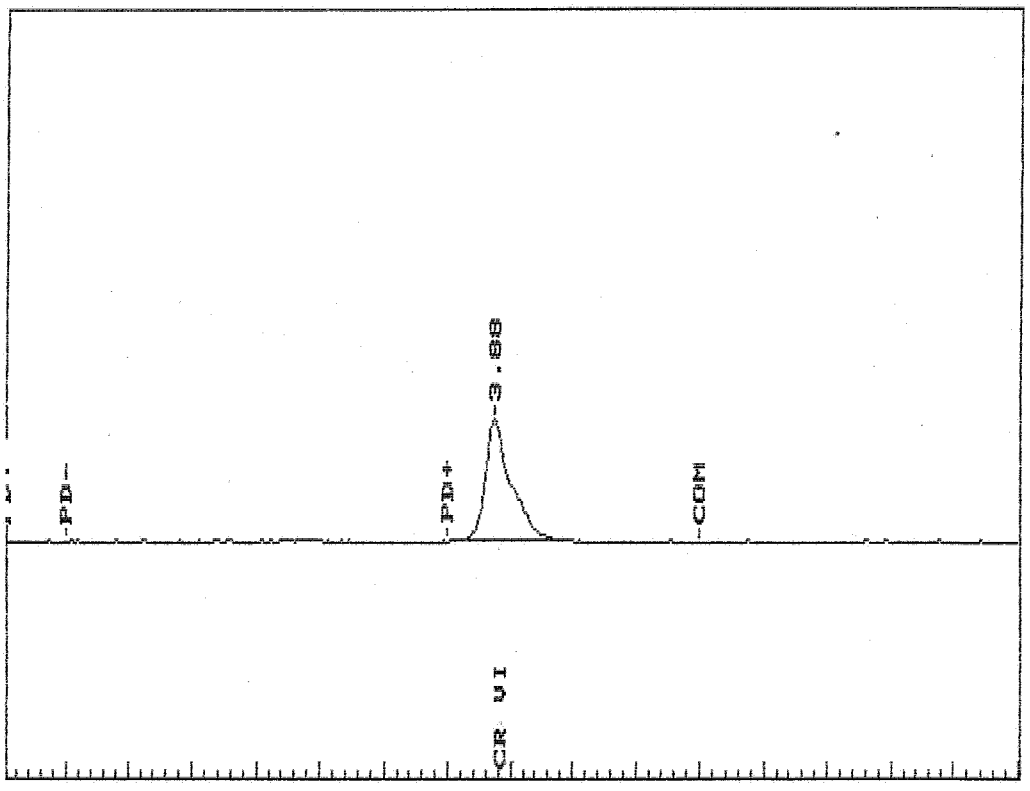
********** 03-31-2006 20:12:24 Version 5.2.0 **********
* Sample Name: S-2.0 Data File: L:\IC31-4 *
* Date: 03-31-~~1906~~ 2006 18:31:27 Method: M:\IC59C31 03-31-2006 18:51:22 Version: 1 *
* Interface: 6 Cycle#: 4 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.883	CR VI	2.2340	100.0000%	1349217	94908	14.2	1	0	-.9353	2.3539E-05

TOTAL AMOUNT = 2.2340

Data File = L:\IC31-4.PTS Printed on 03-31-2006 at 20:12:25
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



4-4-06

***** EXTERNAL STANDARD TABLE *****

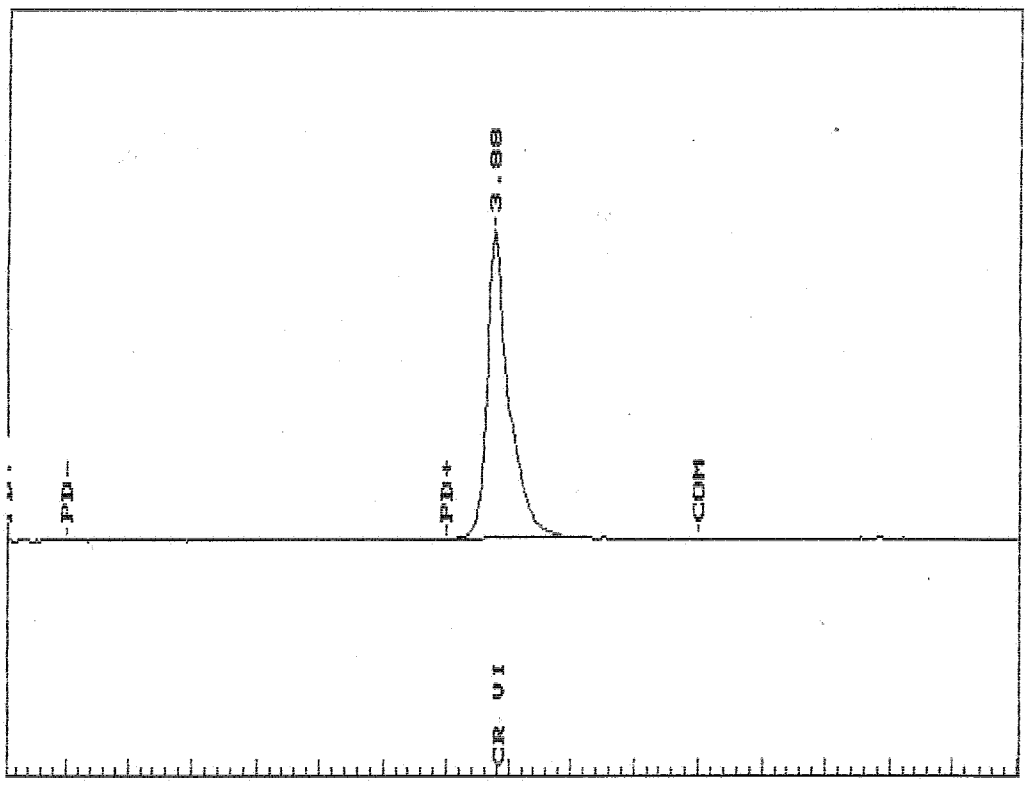
********** 03-31-2006 20:13:38 Version 5.2.0 **********
* Sample Name: S-5.0 Data File: L:\IC31-5 *
* Date: 03-31-~~2006~~ 2006 w 3/31/06 18:41:35 Method: M:\IC59C31 03-31-2006 18:51:22 Version: 1 *
* Interface: 6 Cycle#: 5 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.883	CR VI	5.7701	100.0000%	2960011	241554	12.3 1	0	-.9353	2.3887E-05

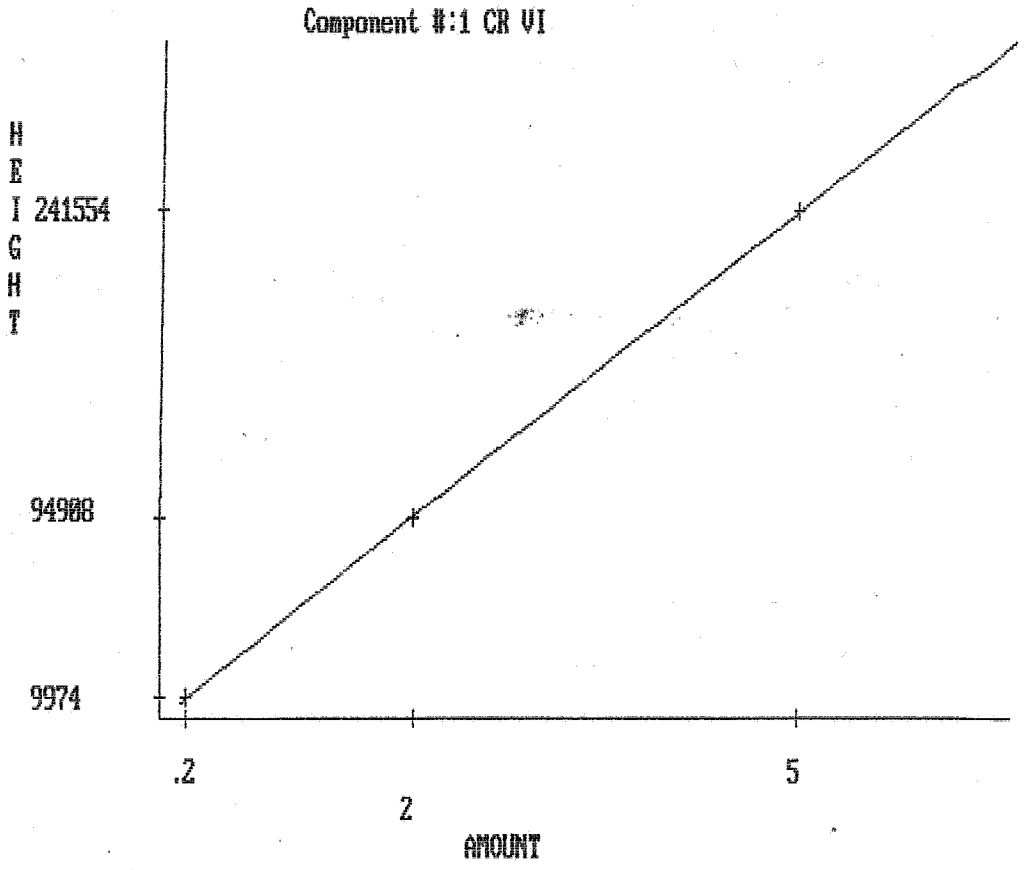
TOTAL AMOUNT = 5.7701

Data File = L:\IC31-5.PTS Printed on 03-31-2006 at 20:13:39
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



4-4-06

Method IC59C31
Sample CRVI
Operator JKN
Run date 04-02-2006 21:01:24 Version: 177
Printed on 04-02-2006 AT 21:01:38
Straight Line fit



Component 1 = CR VI
EXTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	HEIGHT
1	0.2000	9974
2	2.0000	94908
3	5.0000	241554

Y = SLOPE * X + INTERCEPT

Height = 4.8311E+04 * Amount + -4.6713E+02
Amount = 2.0699E-05 * Height + 9.6693E-03
R squared = 0.9999

4-4-06

8182

SECOND SOURCE

IC RESULT FORM CalVersion : CR6.QA1

LFID	LSID	SELCOMP	CR VI	DateTime	DF
IC31-1	IB	C	ND	03/31/0618:01	1
IC31-2	S-0.0	C	ND	03/31/0618:11	1
IC31-3	S-0.2	C	.2161	03/31/0618:21	1
IC31-4	S-2.0	C	1.974	03/31/0618:31	1
IC31-5	S-5.0	C	5.01	03/31/0618:41	1
IC31-6	ICV	C	90.4%	03/31/0618:51	1
IC31-7	ICB	C	ND	03/31/0619:01	1
IC31-8	CCV1	C	98.3%	03/31/0619:12	1
IC31-9	HCC009SB	C	ND	03/31/0619:22	1
IC31-10	HCC009SL	C	1.94	03/31/0619:32	1
IC31-11	HCC009SC	C	1.95	03/31/0619:42	1
IC31-12	MDL	C	.213	03/31/0619:52	1
IC31-13	C071-01	C	ND	03/31/0620:02	1
IC31-14	C071-02	C	ND	03/31/0620:12	1
IC31-15	C071-03	C	ND	03/31/0620:23	1
IC31-16	C071-04	C	ND	03/31/0620:33	1
IC31-17	C071-04D	C	ND	03/31/0620:43	1
IC31-18	C071-04M	C	1.71	03/31/0620:53	1
IC31-19	CCV2	C	93.9%	03/31/0621:03	1
IC31-20	C071-05	C	ND	03/31/0621:13	1
IC31-21	C071-06	C	ND	03/31/0621:24	1
IC31-22	C071-07	C	ND	03/31/0621:34	1
IC31-23	C071-08	C	ND	03/31/0621:44	1
IC31-24	C071-09	C	ND	03/31/0621:54	1
IC31-25	C071-10	C	ND	03/31/0622:04	1
IC31-26	C081-01	C	ND	03/31/0622:14	1
IC31-27	C081-02	C	ND	03/31/0622:24	1
IC31-28	C081-03	C	ND	03/31/0622:35	1
IC31-29	C081-04	C	ND	03/31/0622:45	1
IC31-30	CCV3	C	108%	03/31/0622:55	1
IC31-31	C081-05	C	ND	03/31/0623:05	1
IC31-32	C081-06	C	ND	03/31/0623:15	1
IC31-33	C081-07	C	ND	03/31/0623:25	1
IC31-34	C081-08	C	ND	03/31/0623:36	1
IC31-35	C081-08D	C	ND	03/31/0623:46	1
IC31-36	C081-08M	C	2.02	03/31/0623:56	1
IC31-37	C081-09	C	ND	04/01/0600:06	1
IC31-38	C081-10	C	ND	04/01/0600:16	1
IC31-39	CCV4	C	108%	04/01/0600:26	1

4-4-06

EXTERNAL STANDARD TABLE

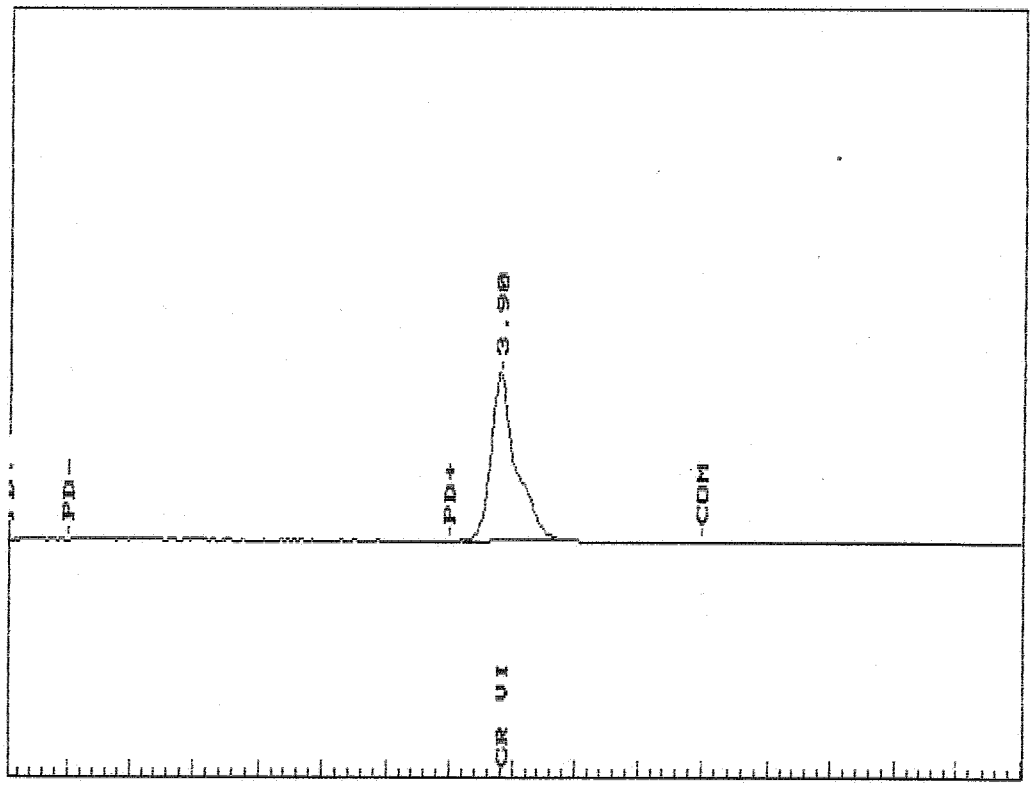
********** 04-02-2006 21:02:41 Version 5.2.0 **********
* Sample Name: ICV Data File: L:\IC31-6 *
* Date: 03-31-~~2006~~ 2006 n 4/2/06 18:51:46 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 1 *
* Interface: 6 Cycle#: 6 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.900	CR VI	2.7133	100.0000%	1829196	130615	14.0	1	0	-.5102	2.0773E-05

TOTAL AMOUNT = 2.7133

Data File = L:\IC31-6.PTS Printed on 04-02-2006 at 21:02:42
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



11 4-4-06

EXTERNAL STANDARD TABLE

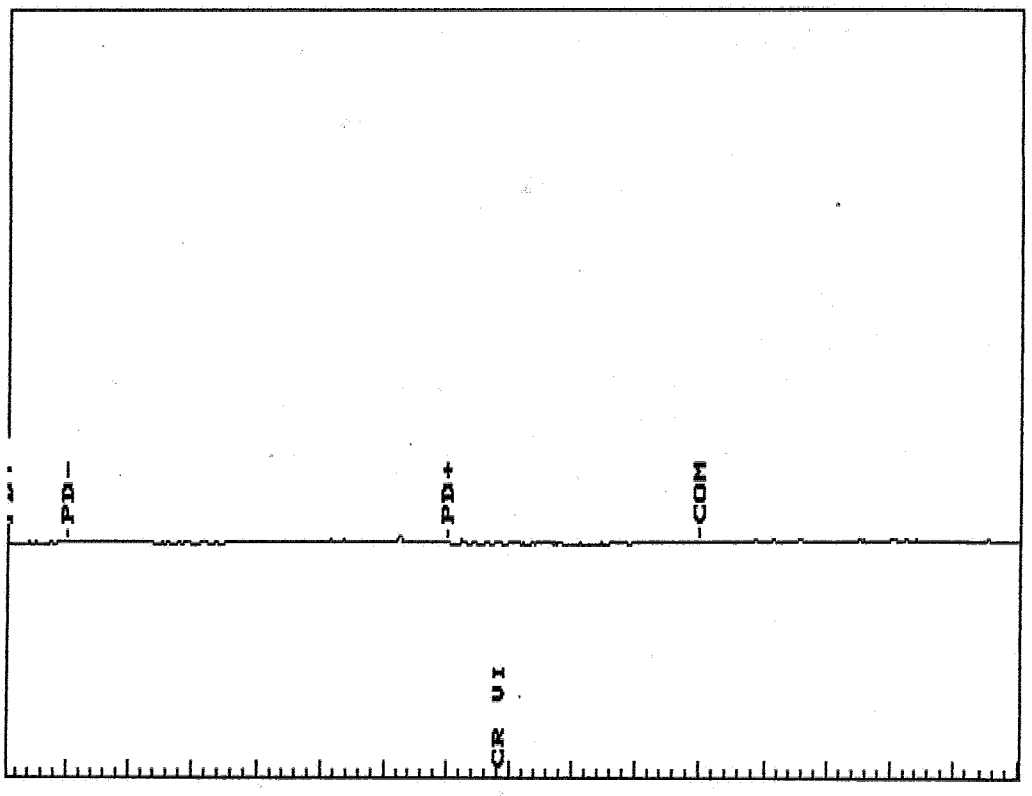
********** 04-02-2006 21:08:40 Version 5.2.0 **********
* Sample Name: ICB Data File: L:\IC31-7 *
* Date: 03-31-~~1906~~ 2006 on 4/2/06 19:01:55 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 1 *
* Interface: 6 Cycle#: 7 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA

TOTAL AMOUNT = 0.0000

Data File = L:\IC31-7.PTS Printed on 04-02-2006 at 21:08:41
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



DAILY CALIBRATION

IC RESULT FORM CalVersion : CR6.QA1

LFID	LSID	SELCOMP	CR VI	DateTime	DF
ID03-1	CCV5	C	110%	04/03/0617:27	1
ID03-2	HCC009SB	C	ND	04/03/0617:47	1
ID03-3	HCC009SL	C	2.21	04/03/0617:57	1
ID03-4	HCC009SC	C	2.27	04/03/0618:07	1
ID03-5	C071-01	C	ND	04/03/0618:17	1
ID03-6	C071-01D	C	ND	04/03/0618:27	1
ID03-7	C071-02	C	ND	04/03/0618:38	1
ID03-8	C071-02D	C	ND	04/03/0618:49	1
ID03-9	C071-03	C	ND	04/03/0618:59	1
ID03-10	C071-03D	C	ND	04/03/0619:09	1
ID03-11	C071-04	C	ND	04/03/0619:19	1
ID03-12	CCV6	C	102%	04/03/0619:29	1
ID03-13	C071-04D	C	ND	04/03/0619:39	1
ID03-14	C071-04M	C	1.85	04/03/0619:49	1
ID03-15	C071-05	C	ND	04/03/0620:00	1
ID03-16	C071-05D	C	ND	04/03/0620:10	1
ID03-17	C071-06	C	ND	04/03/0620:20	1
ID03-18	C071-06D	C	ND	04/03/0620:30	1
ID03-19	C071-07	C	ND	04/03/0620:40	1
ID03-20	C071-07D	C	ND	04/03/0620:50	1
ID03-21	C071-08	C	ND	04/03/0621:00	1
ID03-22	C071-08D	C	ND	04/03/0621:11	1
ID03-23	CCV7	C	98%	04/03/0621:21	1
ID03-24	C071-09	C	ND	04/03/0621:31	1
ID03-25	C071-09D	C	ND	04/03/0621:41	1
ID03-26	C071-10	C	ND	04/03/0621:51	1
ID03-27	C071-10D	C	ND	04/03/0622:01	1
ID03-28	C081-01	C	ND	04/03/0622:12	1
ID03-29	C081-01D	C	ND	04/03/0622:22	1
ID03-30	C081-02	C	ND	04/03/0622:32	1
ID03-31	C081-02D	C	ND	04/03/0622:42	1
ID03-32	C081-03	C	ND	04/03/0622:52	1
ID03-33	C081-03D	C	ND	04/03/0623:02	1
ID03-34	CCV9	C	98.3%	04/03/0623:12	1
ID03-35	C081-04	C	ND	04/03/0623:23	1
ID03-36	C081-04D	C	ND	04/03/0623:33	1
ID03-37	C081-05	C	ND	04/03/0623:43	1
ID03-38	C081-05D	C	ND	04/03/0623:53	1
ID03-39	C081-06	C	ND	04/04/0600:03	1
ID03-40	C081-06D	C	ND	04/04/0600:13	1
ID03-41	C081-07	C	ND	04/04/0600:24	1
ID03-42	C081-07D	C	ND	04/04/0600:34	1
ID03-43	C081-08	C	ND	04/04/0600:44	1
ID03-44	C081-08D	C	ND	04/04/0600:54	1
ID03-45	CCV10	C	98.6%	04/04/0601:04	1
ID03-46	C081-08M	C	1.79	04/04/0601:14	1
ID03-47	C081-09	C	ND	04/04/0601:24	1
ID03-48	C081-09D	C	ND	04/04/0601:35	1
ID03-49	C081-10	C	ND	04/04/0601:45	1
ID03-50	C081-10D	C	ND	04/04/0601:55	1
ID03-51	CCV11	C	98.1%	04/04/0602:05	1
ID03-52	HCC010SB	C	ND	04/04/0602:15	1
ID03-53	HCC010SL	C	1.95	04/04/0602:25	1
ID03-54	HCC010SC	C	1.96	04/04/0602:36	1
ID03-55	C106-01	C	ND	04/04/0602:46	1
ID03-56	C106-01D	C	ND	04/04/0602:56	1
ID03-57	C106-02	C	ND	04/04/0603:06	1
ID03-58	C106-02D	C	ND	04/04/0603:16	1
ID03-59	C106-03	C	ND	04/04/0603:26	1
ID03-60	C106-03D	C	ND	04/04/0603:36	1
ID03-61	CCV12	C	98.8%	04/04/0603:47	1
ID03-62	C106-04	C	ND	04/04/0603:57	1
ID03-63	C106-04D	C	ND	04/04/0604:07	1
ID03-64	C106-05	C	ND	04/04/0604:17	1
ID03-65	C106-05D	C	ND	04/04/0604:27	1
ID03-66	C106-06	C	ND	04/04/0604:37	1
ID03-67	C106-06D	C	ND	04/04/0604:48	1
ID03-68	C106-07	C	ND	04/04/0604:58	1
ID03-69	C106-07D	C	ND	04/04/0605:08	1
ID03-70	C106-07M	C	1.5	04/04/0605:18	1
ID03-71	C106-08	C	ND	04/04/0605:28	1
ID03-72	CCV13	C	99.6%	04/04/0605:38	1
ID03-73	C106-08D	C	ND	04/04/0605:48	1
ID03-74	C106-09	C	ND	04/04/0605:59	1

ID03-75	C106-09D	C	ND	04/04/0606:09	1
ID03-76	C106-10	C	ND	04/04/0606:19	1
ID03-77	C106-10D	C	ND	04/04/0606:29	1
ID03-78	C127-01	C	ND	04/04/0606:39	1
ID03-79	C127-01D	C	ND	04/04/0606:49	1
ID03-80	C127-02	C	ND	04/04/0606:59	1
ID03-81	C127-02D	C	ND	04/04/0607:10	1
ID03-82	C127-03	C	ND	04/04/0607:20	1
ID03-83	CCV14	C	99.6%	04/04/0607:30	1
ID03-84	C127-03D	C	ND	04/04/0607:40	1
ID03-85	C127-04	C	ND	04/04/0607:50	1
ID03-86	C127-04D	C	ND	04/04/0608:00	1
ID03-87	C127-05	C	ND	04/04/0608:11	1
ID03-88	C127-05D	C	ND	04/04/0608:21	1
ID03-89	C127-06	C	ND	04/04/0608:31	1
ID03-90	C127-06D	C	ND	04/04/0608:41	1
ID03-91	C127-07	C	ND	04/04/0608:51	1
ID03-92	C127-07D	C	ND	04/04/0609:01	1
ID03-93	C127-07M	C	1.6	04/04/0609:11	1
ID03-94	CCV15	C	99.7%	04/04/0609:22	1
ID03-95	C127-08	C	ND	04/04/0609:32	1
ID03-96	C127-08D	C	ND	04/04/0609:42	1
ID03-97	C081-08U	C	50.5	04/04/0610:46	25
ID03-98	C071-04U	C	38.4	04/04/0610:56	20
ID03-99	C120-01	C	ND	04/04/0611:06	1
ID03-100	C120-01D	C	ND	04/04/0611:17	1
ID03-101	C120-02	C	ND	04/04/0611:27	1
ID03-102	C120-02D	C	ND	04/04/0611:37	1
ID03-103	C106-07U	C	30.2	04/04/0611:47	20
ID03-104	C127-07U	C	93.2	04/04/0611:57	50
ID03-105	CCV16	C	98.8%	04/04/0612:07	1

IC SEQUENCE FORM (ATB)

LFID	LSID	SELCOMP	METNAME	DateTime	DF
ID03-1	CCV5	C	IC59C31	04/03/0617:27	1
ID03-2	HCC009SB	C	IC59C31	04/03/0617:47	1
ID03-3	HCC009SL	C	IC59C31	04/03/0617:57	1
ID03-4	HCC009SC	C	IC59C31	04/03/0618:07	1
ID03-5	C071-01	C	IC59C31	04/03/0618:17	1
ID03-6	C071-01D	C	IC59C31	04/03/0618:27	1
ID03-7	C071-02	C	IC59C31	04/03/0618:38	1
ID03-8	C071-02D	C	IC59C31	04/03/0618:49	1
ID03-9	C071-03	C	IC59C31	04/03/0618:59	1
ID03-10	C071-03D	C	IC59C31	04/03/0619:09	1
ID03-11	C071-04	C	IC59C31	04/03/0619:19	1
ID03-12	CCV6	C	IC59C31	04/03/0619:29	1
ID03-13	C071-04D	C	IC59C31	04/03/0619:39	1
ID03-14	C071-04M	C	IC59C31	04/03/0619:49	1
ID03-15	C071-05	C	IC59C31	04/03/0620:00	1
ID03-16	C071-05D	C	IC59C31	04/03/0620:10	1
ID03-17	C071-06	C	IC59C31	04/03/0620:20	1
ID03-18	C071-06D	C	IC59C31	04/03/0620:30	1
ID03-19	C071-07	C	IC59C31	04/03/0620:40	1
ID03-20	C071-07D	C	IC59C31	04/03/0620:50	1
ID03-21	C071-08	C	IC59C31	04/03/0621:00	1
ID03-22	C071-08D	C	IC59C31	04/03/0621:11	1
ID03-23	CCV7	C	IC59C31	04/03/0621:21	1
ID03-24	C071-09	C	IC59C31	04/03/0621:31	1
ID03-25	C071-09D	C	IC59C31	04/03/0621:41	1
ID03-26	C071-10	C	IC59C31	04/03/0621:51	1
ID03-27	C071-10D	C	IC59C31	04/03/0622:01	1
ID03-28	C081-01	C	IC59C31	04/03/0622:12	1
ID03-29	C081-01D	C	IC59C31	04/03/0622:22	1
ID03-30	C081-02	C	IC59C31	04/03/0622:32	1
ID03-31	C081-02D	C	IC59C31	04/03/0622:42	1
ID03-32	C081-03	C	IC59C31	04/03/0622:52	1
ID03-33	C081-03D	C	IC59C31	04/03/0623:02	1
ID03-34	CCV9	C	IC59C31	04/03/0623:12	1
ID03-35	C081-04	C	IC59C31	04/03/0623:23	1
ID03-36	C081-04D	C	IC59C31	04/03/0623:33	1
ID03-37	C081-05	C	IC59C31	04/03/0623:43	1
ID03-38	C081-05D	C	IC59C31	04/03/0623:53	1
ID03-39	C081-06	C	IC59C31	04/04/0600:03	1
ID03-40	C081-06D	C	IC59C31	04/04/0600:13	1
ID03-41	C081-07	C	IC59C31	04/04/0600:24	1
ID03-42	C081-07D	C	IC59C31	04/04/0600:34	1
ID03-43	C081-08	C	IC59C31	04/04/0600:44	1
ID03-44	C081-08D	C	IC59C31	04/04/0600:54	1
ID03-45	CCV10	C	IC59C31	04/04/0601:04	1
ID03-46	C081-08M	C	IC59C31	04/04/0601:14	1
ID03-47	C081-09	C	IC59C31	04/04/0601:24	1
ID03-48	C081-09D	C	IC59C31	04/04/0601:35	1
ID03-49	C081-10	C	IC59C31	04/04/0601:45	1
ID03-50	C081-10D	C	IC59C31	04/04/0601:55	1
ID03-51	CCV11	C	IC59C31	04/04/0602:05	1
ID03-52	HCC010SB	C	IC59C31	04/04/0602:15	1
ID03-53	HCC010SL	C	IC59C31	04/04/0602:25	1
ID03-54	HCC010SC	C	IC59C31	04/04/0602:36	1
ID03-55	C106-01	C	IC59C31	04/04/0602:46	1
ID03-56	C106-01D	C	IC59C31	04/04/0602:56	1
ID03-57	C106-02	C	IC59C31	04/04/0603:06	1
ID03-58	C106-02D	C	IC59C31	04/04/0603:16	1
ID03-59	C106-03	C	IC59C31	04/04/0603:26	1
ID03-60	C106-03D	C	IC59C31	04/04/0603:36	1
ID03-61	CCV12	C	IC59C31	04/04/0603:47	1
ID03-62	C106-04	C	IC59C31	04/04/0603:57	1
ID03-63	C106-04D	C	IC59C31	04/04/0604:07	1
ID03-64	C106-05	C	IC59C31	04/04/0604:17	1
ID03-65	C106-05D	C	IC59C31	04/04/0604:27	1
ID03-66	C106-06	C	IC59C31	04/04/0604:37	1
ID03-67	C106-06D	C	IC59C31	04/04/0604:48	1
ID03-68	C106-07	C	IC59C31	04/04/0604:58	1
ID03-69	C106-07D	C	IC59C31	04/04/0605:08	1
ID03-70	C106-07M	C	IC59C31	04/04/0605:18	1
ID03-71	C106-08	C	IC59C31	04/04/0605:28	1
ID03-72	CCV13	C	IC59C31	04/04/0605:38	1
ID03-73	C106-08D	C	IC59C31	04/04/0605:48	1
ID03-74	C106-09	C	IC59C31	04/04/0605:59	1

ID03-75	C106-09D	C	IC59C31	04/04/0606:09	1
ID03-76	C106-10	C	IC59C31	04/04/0606:19	1
ID03-77	C106-10D	C	IC59C31	04/04/0606:29	1
ID03-78	C127-01	C	IC59C31	04/04/0606:39	1
ID03-79	C127-01D	C	IC59C31	04/04/0606:49	1
ID03-80	C127-02	C	IC59C31	04/04/0606:59	1
ID03-81	C127-02D	C	IC59C31	04/04/0607:10	1
ID03-82	C127-03	C	IC59C31	04/04/0607:20	1
ID03-83	CCV14	C	IC59C31	04/04/0607:30	1
ID03-84	C127-03D	C	IC59C31	04/04/0607:40	1
ID03-85	C127-04	C	IC59C31	04/04/0607:50	1
ID03-86	C127-04D	C	IC59C31	04/04/0608:00	1
ID03-87	C127-05	C	IC59C31	04/04/0608:11	1
ID03-88	C127-05D	C	IC59C31	04/04/0608:21	1
ID03-89	C127-06	C	IC59C31	04/04/0608:31	1
ID03-90	C127-06D	C	IC59C31	04/04/0608:41	1
ID03-91	C127-07	C	IC59C31	04/04/0608:51	1
ID03-92	C127-07D	C	IC59C31	04/04/0609:01	1
ID03-93	C127-07M	C	IC59C31	04/04/0609:11	1
ID03-94	CCV15	C	IC59C31	04/04/0609:22	1
ID03-95	C127-08	C	IC59C31	04/04/0609:32	1
ID03-96	C127-08D	C	IC59C31	04/04/0609:42	1
ID03-97	C081-08U	C	IC59C31	04/04/0610:46	25
ID03-98	C071-04U	C	IC59C31	04/04/0610:56	20
ID03-99	C120-01	C	IC59C31	04/04/0611:06	1
ID03-100	C120-01D	C	IC59C31	04/04/0611:17	1
ID03-101	C120-02	C	IC59C31	04/04/0611:27	1
ID03-102	C120-02D	C	IC59C31	04/04/0611:37	1
ID03-103	C106-07U	C	IC59C31	04/04/0611:47	20
ID03-104	C127-07U	C	IC59C31	04/04/0611:57	50
ID03-105	CCV16	C	IC59C31	04/04/0612:07	1

SEQUENCE RECORDED IN M:\IDO3.SEQ
CCV5 Processed: 04-03-2006 17:36:00, Segment 1, Cycle 1
RAW DATA SAVED IN FILE L:\ID03-1.PTS

EXTERNAL STANDARD TABLE

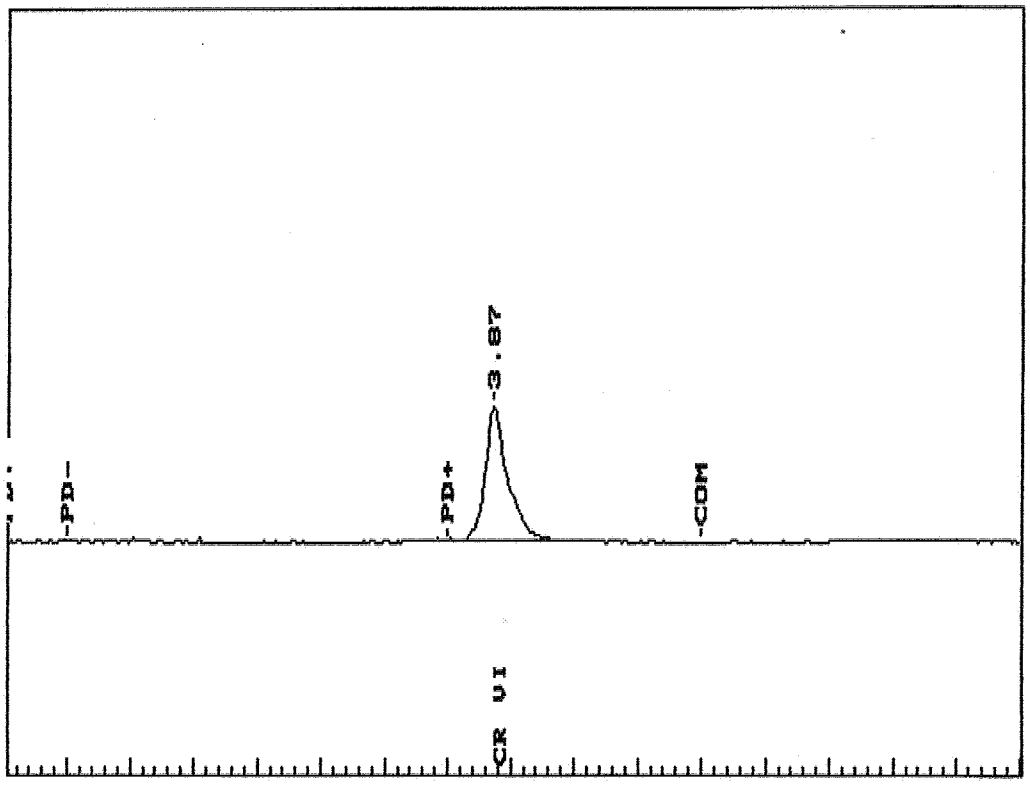
********** 04-03-2006 17:36:03 Version 5.2.0 **********
* Sample Name: CCV5 Data File: L:\ID03-1 *
* Date: 04-03-~~2006~~ 17:27:59 Method: IC59C31 04-02-2006 21:01:24 Version: 177
4/3/06 ~~2006~~ *
* Interface: 6 Cycle#: 1 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.867	CR VI	2.1979	100.0000%	1308460	105714	12.4	1	0	-1.360	2.0791E-05

TOTAL AMOUNT = 2.1979

Areas, times, and heights stored in: L:\ID03-1.ATB
Data File = L:\ID03-1.PTS Printed on 04-03-2006 at 17:36:05
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



CCV6 Processed: 04-03-2006 19:37:40, Segment 12, Cycle 12
RAW DATA SAVED IN FILE L:\ID03-12.PTS

EXTERNAL STANDARD TABLE

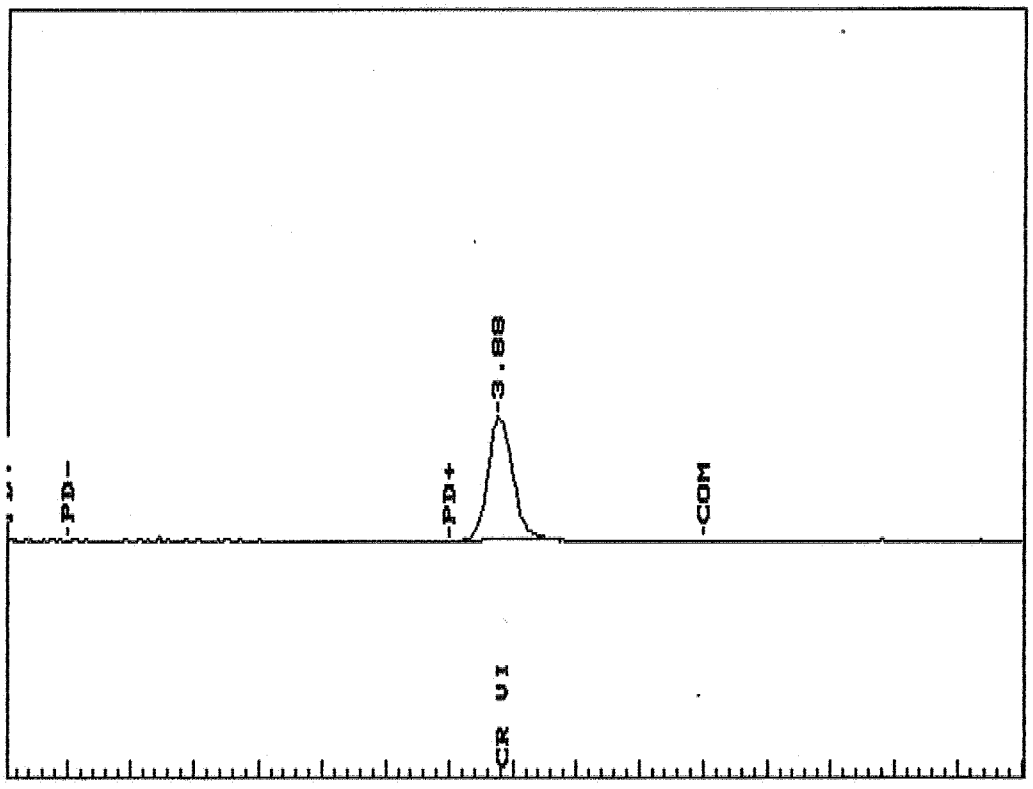
********** 04-03-2006 19:37:44 Version 5.2.0 **********
* Sample Name: CCV6 Data File: L:\ID03-12 *
* Date: 04-03-~~1906~~ 2006 19:29:36 Method: IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 12 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.883	CR VI	2.0339	100.0000%	1341617	97792	13.7	1	0	-.9353	2.0798E-05

TOTAL AMOUNT = 2.0339

Areas, times, and heights stored in: L:\ID03-12.ATB
Data File = L:\ID03-12.PTS Printed on 04-03-2006 at 19:37:45
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



CCV7 Processed: 04-03-2006 21:29:24, Segment 23, Cycle 23
RAW DATA SAVED IN FILE L:\ID03-23.PTS

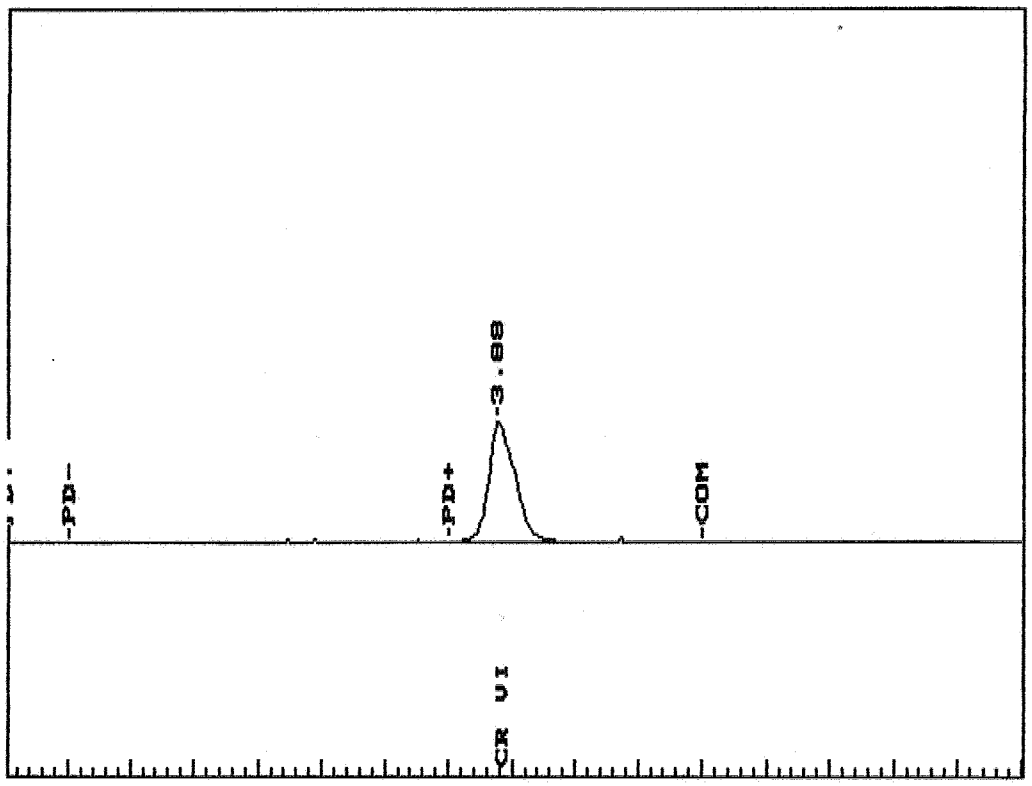
EXTERNAL STANDARD TABLE

********** 04-03-2006 21:29:27 Version 5.2.0 **********
* Sample Name: CCV7 Data File: L:\ID03-23 *
* Date: 04-03-~~1906~~ 2006 21:21:17 Method: IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 23 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****
Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.883	CR VI	1.9591	100.0000%	1322162	94179	14.0	1	0	-.9353	2.0802E-05

TOTAL AMOUNT = 1.9591

Areas, times, and heights stored in: L:\ID03-23.ATB
Data File = L:\ID03-23.PTS Printed on 04-03-2006 at 21:29:29
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



CCV9 Processed: 04-03-2006 23:21:08, Segment 34, Cycle 34
RAW DATA SAVED IN FILE L:\ID03-34.PTS

***** EXTERNAL STANDARD TABLE *****

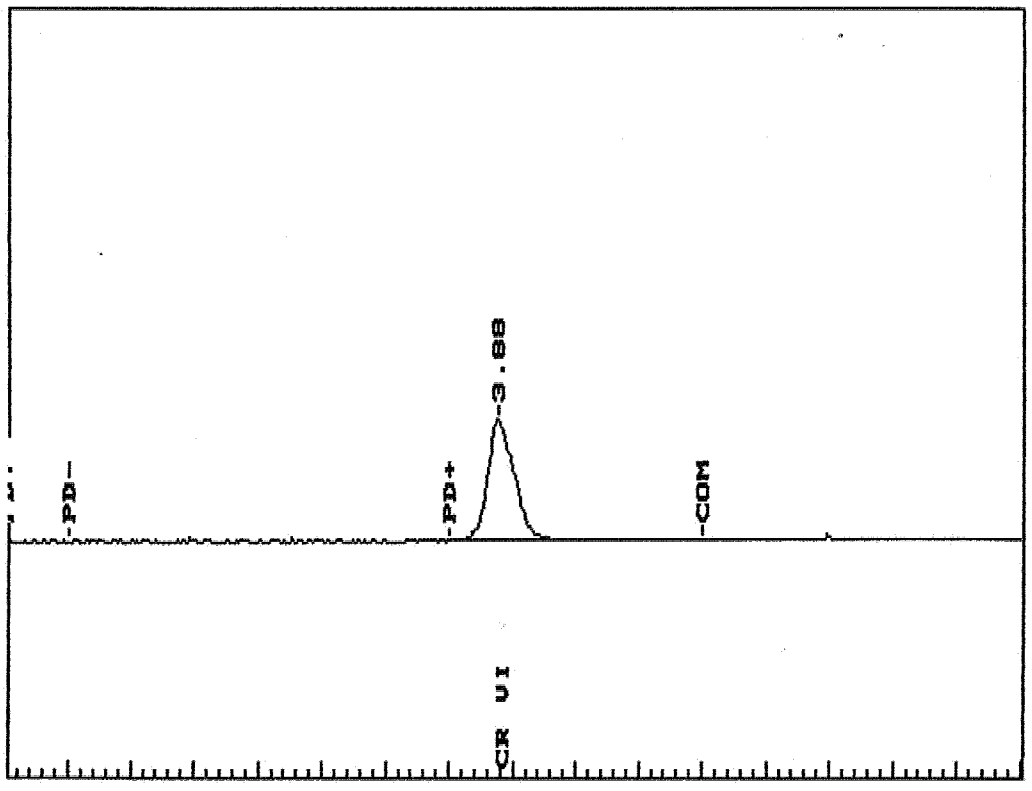
********** 04-03-2006 23:21:11 Version 5.2.0 **********
* Sample Name: CCV9 Data File: L:\ID03-34 *
* Date: 04-03-~~1906~~ 2006 23:12:58 Method: IC59C31 04-02-2006 21:01:24 Version: 177
* Interface: 6 Cycle#: 34 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.883	CR VI	1.9651	100.0000%	1354582	94469	14.3	1	0	-.9353	2.0802E-05

TOTAL AMOUNT = 1.9651

Areas, times, and heights stored in: L:\ID03-34.ATB
Data File = L:\ID03-34.PTS Printed on 04-03-2006 at 23:21:12
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



CCV10 Processed: 04-04-2006 01:12:52, Segment 45, Cycle 45
RAW DATA SAVED IN FILE L:\ID03-45.PTS

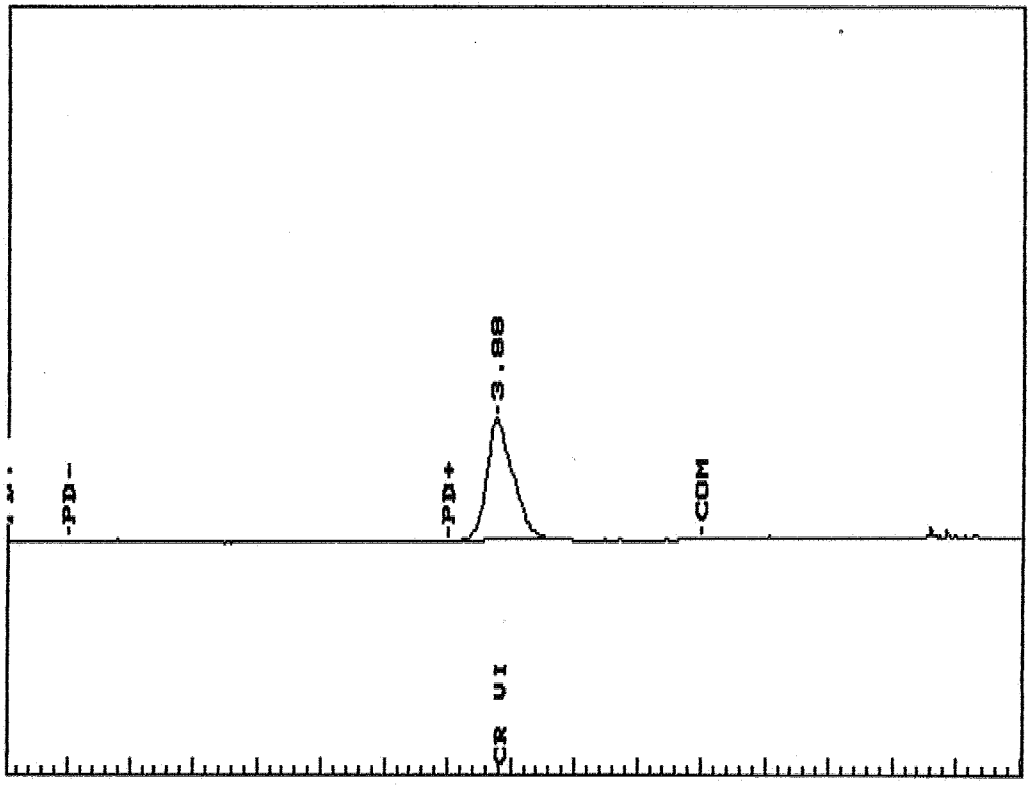
***** EXTERNAL STANDARD TABLE *****

********** 04-04-2006 01:12:55 Version 5.2.0 **********
* Sample Name: CCV10 Data File: L:\ID03-45 *
* Date: 04-04-~~1906~~ 7006 ~ 4/4/06 01:04:38 Method: IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 45 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****
Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.883	CR VI	1.9724	100.0000%	1356865	94820	14.3	1	0	-.9353	2.0801E-05

TOTAL AMOUNT = 1.9724

Areas, times, and heights stored in: L:\ID03-45.ATB
Data File = L:\ID03-45.PTS Printed on 04-04-2006 at 01:12:56
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



CCV11 Processed: 04-04-2006 02:13:48, Segment 51, Cycle 51
RAW DATA SAVED IN FILE L:\ID03-51.PTS

EXTERNAL STANDARD TABLE

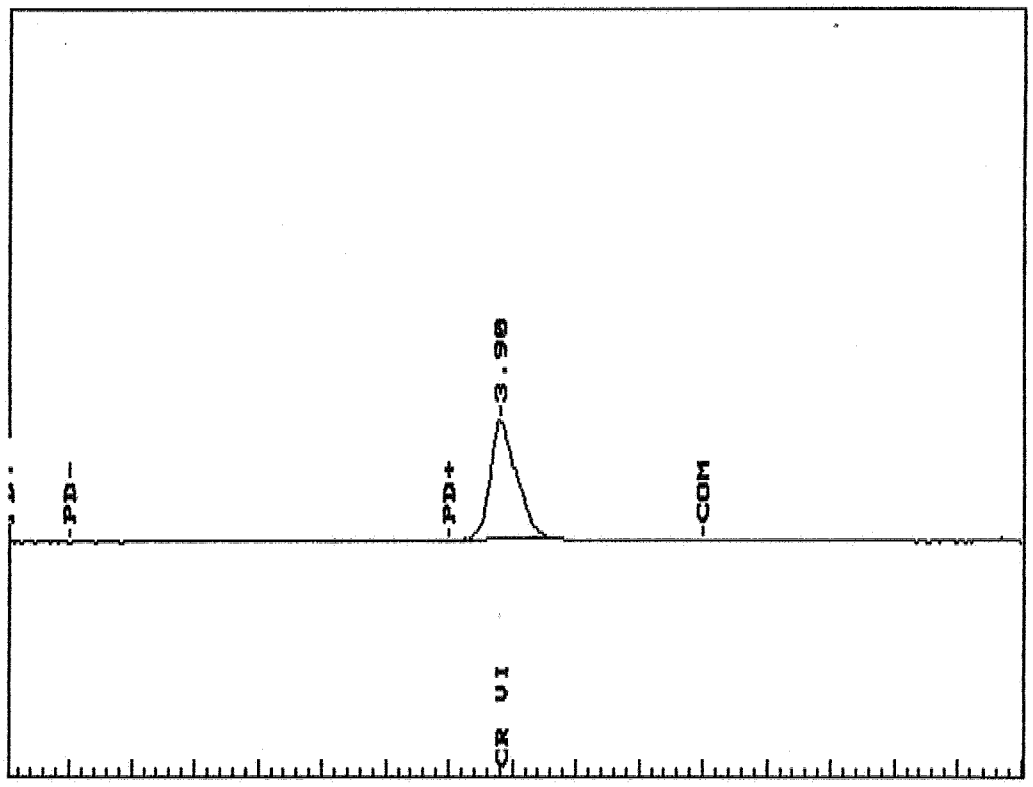
********** 04-04-2006 02:13:51 Version 5.2.0 **********
* Sample Name: CCV11 Data File: L:\ID03-51 *
* Date: 04-04-~~1906~~ 2006 ~ 4/4/06 02:05:34 Method: IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 51 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.900	CR VI	1.9615	100.0000%	1364542	94294	14.5	1	0	-.5102	2.0802E-05

TOTAL AMOUNT = 1.9615

Areas, times, and heights stored in: L:\ID03-51.ATB
Data File = L:\ID03-51.PTS Printed on 04-04-2006 at 02:13:53
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

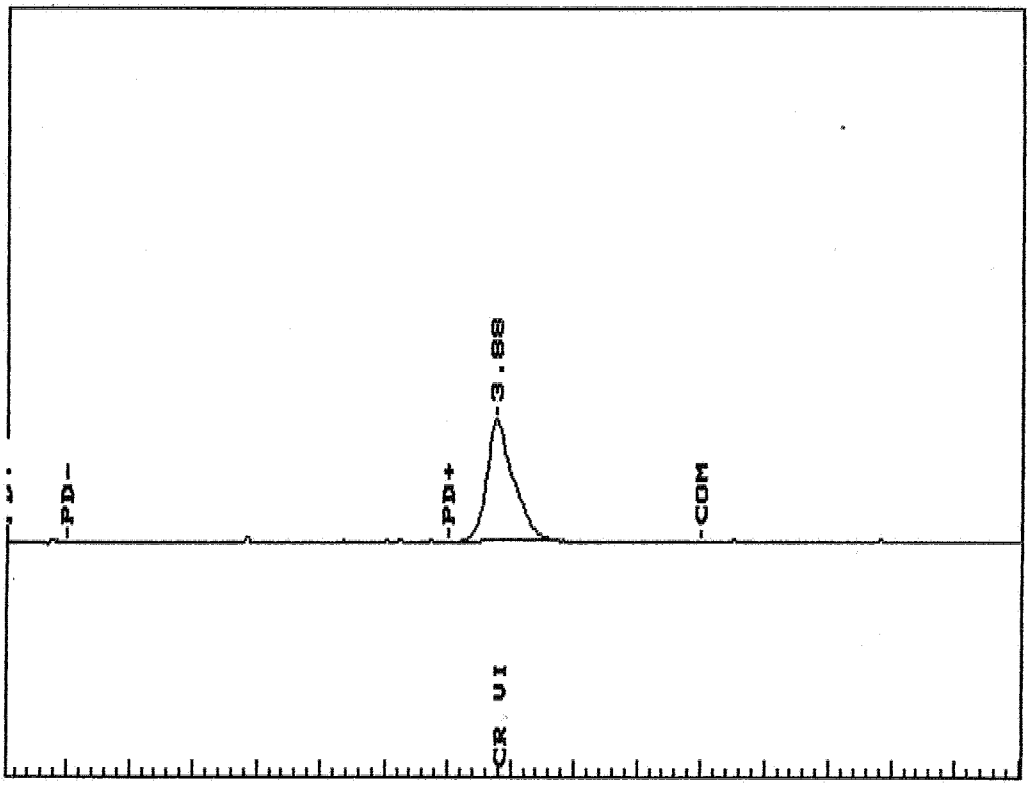
********** 04-04-2006 11:21:37 Version 5.2.0 **********
* Sample Name: CCV12 Data File: L:\ID03-61 *
* Date: 04-04-~~1906~~ 2006 w 44406 03:47:05 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 1 *
* Interface: 6 Cycle#: 61 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.883	CR VI	1.9760	100.0000%	1394172	94994	14.7	1	0	-.9353	2.0801E-05

TOTAL AMOUNT = 1.9760

Data File = L:\ID03-61.PTS Printed on 04-04-2006 at 11:21:38
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



***** EXTERNAL STANDARD TABLE *****

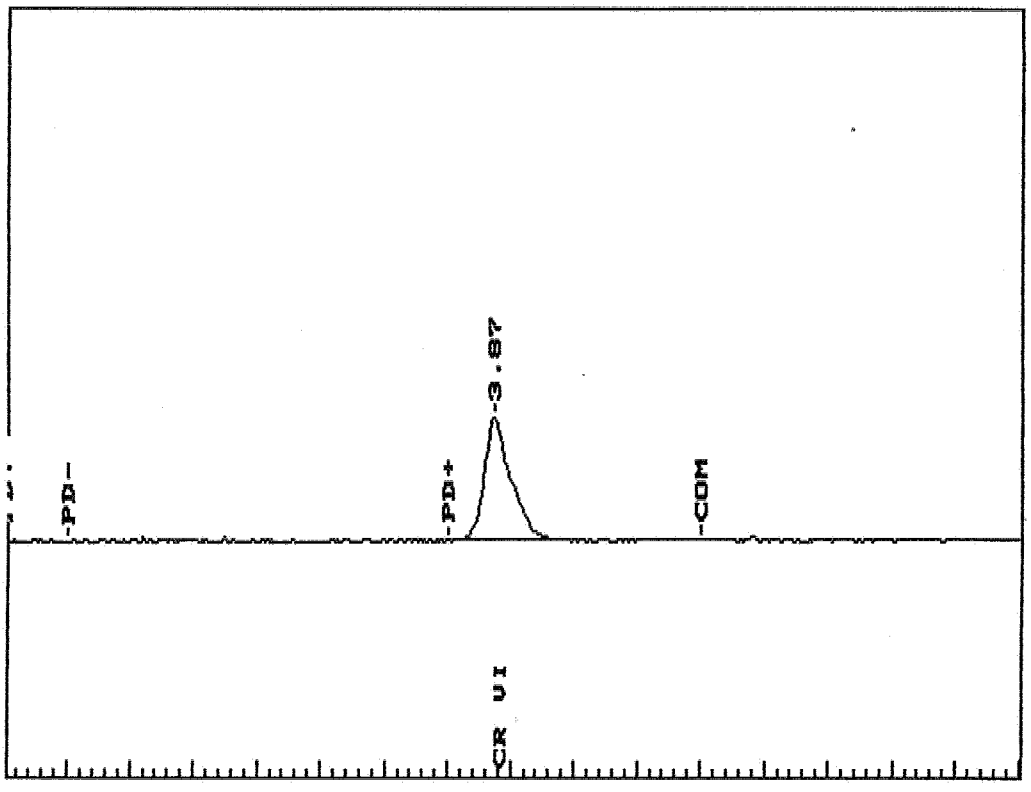
********** 04-04-2006 11:39:40 Version 5.2.0 **********
* Sample Name: CCV13 Data File: L:\ID03-72 *
* Date: 04-04-~~1906~~ 7006 ~ 4/4/06 05:38:46 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 1 *
* Interface: 6 Cycle#: 72 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.867	CR VI	1.9915	100.0000%	1401585	95746	14.6	1	0	-1.360	2.0800E-05

TOTAL AMOUNT = 1.9915

Data File = L:\ID03-72.PTS Printed on 04-04-2006 at 11:39:41
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

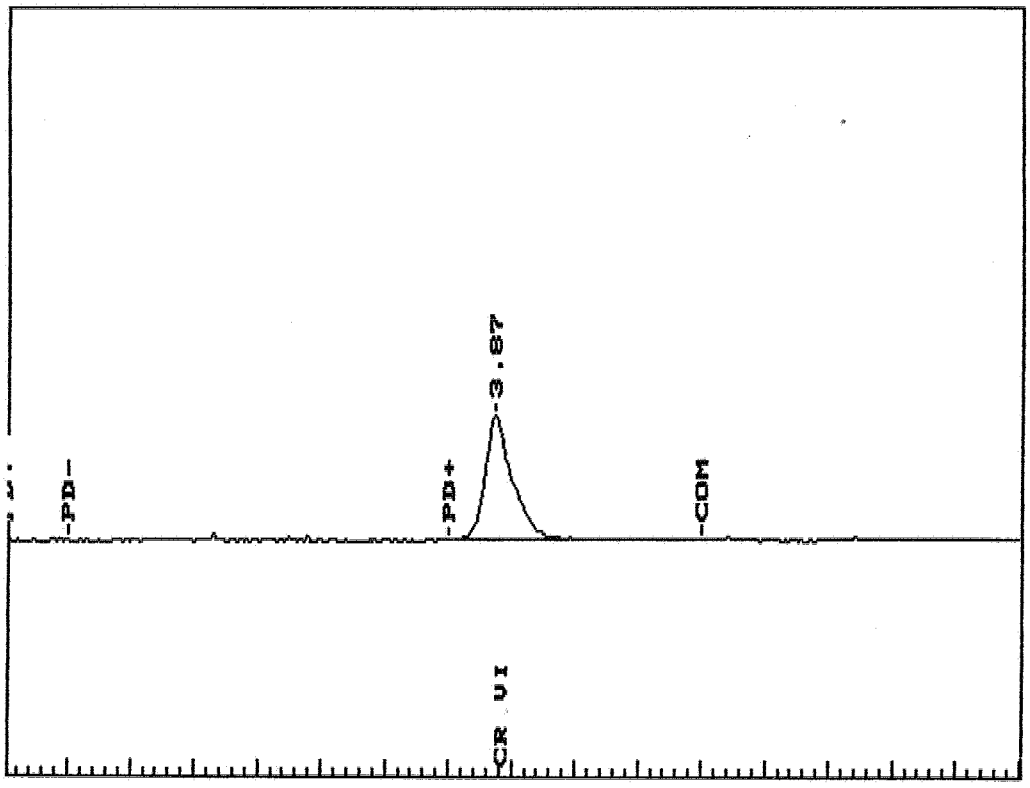
********** 04-04-2006 11:52:36 Version 5.2.0 **********
* Sample Name: CCV14 Data File: L:\ID03-83 *
* Date: 04-04-~~1906~~ 2006 w 44406 07:30:27 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 1 *
* Interface: 6 Cycle#: 83 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	AREA/ HEIGHT	HEIGHT BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.867	CR VI	1.9910	100.0000%	1410920	95721	14.7 1	0	-1.360	2.0800E-05

TOTAL AMOUNT = 1.9910

Data File = L:\ID03-83.PTS Printed on 04-04-2006 at 11:52:37
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



EXTERNAL STANDARD TABLE

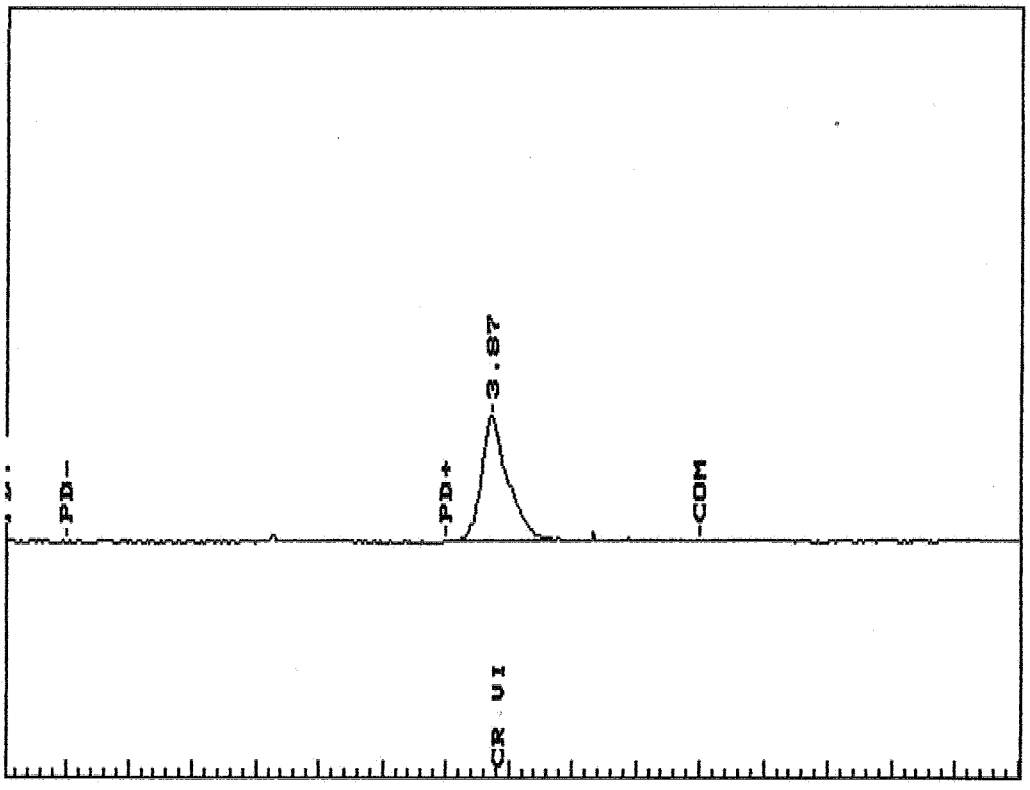
********** 04-04-2006 12:22:37 Version 5.2.0 **********
* Sample Name: CCV15 Data File: L:\ID03-94 *
* Date: 04-04-~~1206~~ 2006 09:22:08 Method: M:\IC59C31 04-02-2006 21:01:24 Version: 1
* Interface: 6 Cycle#: 94 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.867	CR VI	1.9946	100.0000%	1386552	95891	14.5	I	0	-1.360	2.0800E-05

TOTAL AMOUNT = 1.9946

Data File = L:\ID03-94.PTS Printed on 04-04-2006 at 12:22:38
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



CCV16 Processed: 04-04-2006 12:15:58, Segment 9, Cycle 105
End of sequence file reached at cycle 105
RAW DATA SAVED IN FILE L:\ID03-105.PTS

EXTERNAL STANDARD TABLE

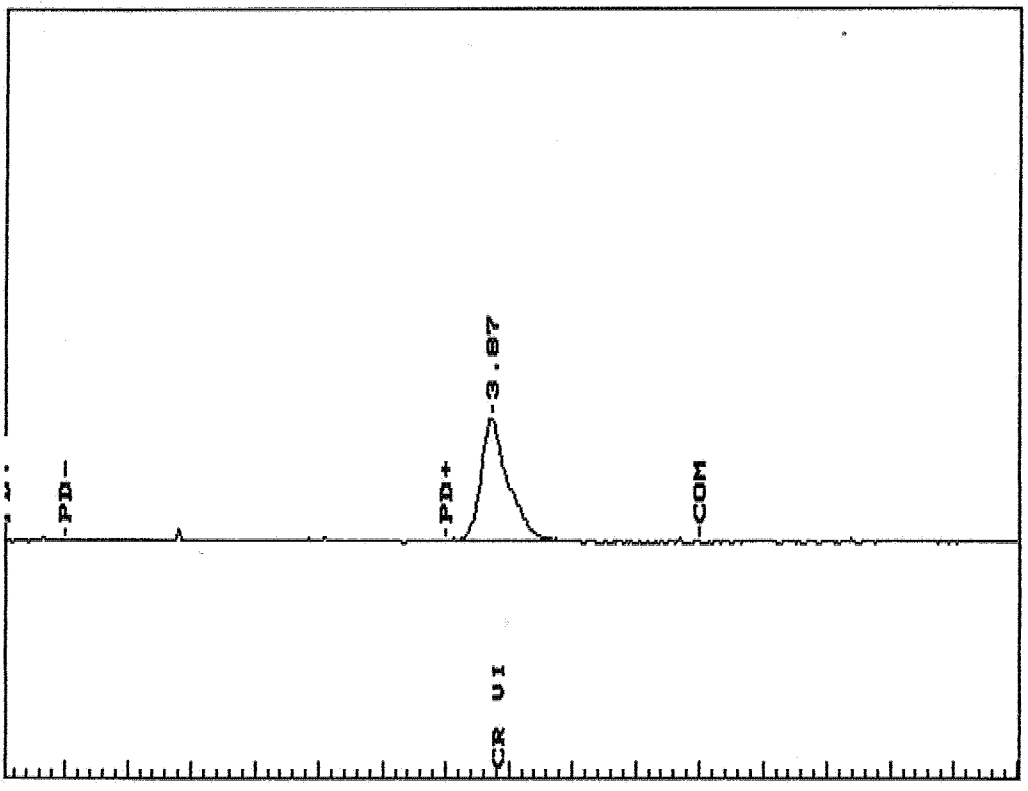
********** 04-04-2006 12:16:03 Version 5.2.0 **********
* Sample Name: CCV16 Data File: L:\ID03-105 *
* Date: 04-04-~~1906~~ 2006 12:07:54 Method: IC59C31 04-02-2006 21:01:24 Version: 177 *
* Interface: 6 Cycle#: 105 Operator: JKN Channel: A Vial#: N.A. *
* Starting Peak Width: 20 Threshold: 50 Area Threshold: 100 *
****
* Instrument Type: IC-057 Column Type: AS-16 *
* Solvent Description: 60 MM NAOH *
* Conditions: 300MA AT 1US FLOW AT 1.2ML/MIN *
* Detector 0: CONDUCT Detector 1: *
* Misc. Information: *
****

Starting Delay: 0.00 Ending retention time: 8.00
Area reject: 1000 One sample per 1.000 sec.
Amount injected: 1.00 Dilution factor: 1.00
Sample Weight: 1.00000

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in UG/L	NORMALIZED CONC	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	% DELTA RET TIME	CONC/AREA
1	3.867	CR VI	1.9762	100.0000%	1406808	95002	14.8	1	0	-1.360	2.0801E-05

TOTAL AMOUNT = 1.9762

Areas, times, and heights stored in: L:\ID03-105.ATB
Data File = L:\ID03-105.PTS Printed on 04-04-2006 at 12:16:04
Start time: 0.00 min. Stop time: 8.00 min. Offset: 25 K-cts
Full Range: 500 K-Counts



ANALYTICAL LOGS

ANALYSIS RUN LOG FOR IC - HEXAVALENT CHROMIUM

SOP ☐ EMAX-218.6 Revision No. 2 ☐ EMAX-7199 Revision No. 1 ☐ Book # A59-008

Start Date: 3/31/06 Time 18:01 Ending Date: 4/1/06 Time: 00:26

ANALYTICAL BATCH * HCC0095 **

	Sample Prep ID	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
*	1	1C31-1	IB	1		X	
*	2	2	S-0.0				
*	3	3	S-0.2				
*	4	4	S-2.0				
*	5	5	S-5.0				
*	6	6	ICV				
*	7	7	ICB				
*	8	8	CCV1				
*	9	9	HCC0095B		X		
*	0	10	SK				
*	1	11	SL				
*	2	12	MDL Verif.				
*	3	13	C071-01				
*	4	14	02				
*	5	15	03				
*	6	16	04				
*	7	17	04D				
*	8	18	04M				
*	9	19	CCV2				
*	0	20	C071-05		X		
*	1	21	06				
*	2	22	07				
*	3	23	08				
*	4	24	09				
*	5	25	10				
*	6	26	C081-01				
*	7	27	02				
*	8	28	03				
*	9	29	04				
*	0	30	CCV3				

Instrument Number	59
INITIAL CALIBRATION REFERENCE	
Method File	IC59C31
ICAL ID	SW9B-03-454
ICV ID	455

STANDARDS

Name		ID	Conc. (µg/L)
ICAL	S_1	SW9B-03-454	0.0
	S_2		0.2
	S_3		2.0
	S_4		5.0
	S_5		3/31/06
ICV/LCS/MS		SW9B-03-455	7.0
CCV		456	2.0

Comments:

Analyzed By:

This page is checked during the data review process.

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

ANALYSIS RUN LOG FOR IC - HEXAVALENT CHROMIUM

SOP ☐ EMAX-218.6 Revision No. 2 ☑ EMAX-7199 Revision No. 1 ☐ Book # A59-008

Start Date: 4/3/06 Time 17:27 Ending Date: 4/4/06 Time: 12:07

ANALYTICAL BATCH * HCC0915 ** HCC0105

	Sample Prep ID	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
*	1	1D03-1	CCV5	1		X	
*	2	2	HCC0915B *		X		
*	3	3	SL *				
*	4	4	SC *				
*	5	5	C071-01 *				
*	6	6	01D *				
*	7	7	02 *				
*	8	8	02D *				
*	9	9	03 *				
*	0	10	03D *				
*	1	11	04 *				
*	2	12	CCV6			X	
*	3	13	C071-04D *		X		
*	4	14	04M *				
*	5	15	05 *				
*	6	16	05D *				
*	7	17	06 *				
*	8	18	06D *				
*	9	19	07 *				
*	0	20	07D *				
*	1	21	08 *				
*	2	22	08D *				
*	3	23	CCV7			X	
*	4	24	C091-09 *		X		
*	5	25	09D *				
*	6	26	10 *				
*	7	27	10D *				
*	8	28	C081-01 *				
*	9	29	01D *				
*	0	30	02 *				

Instrument Number	59
INITIAL CALIBRATION REFERENCE	
Method File	IC59C31
ICAL ID	SW9B-03-454
ICV ID	455

STANDARDS

Name	ID	Conc. (µg/L)
ICAL S_1	SW9B-03-454	0.0
S_2		0.2
S_3		2.0
S_4		5.0
S_5	4/3/06	

ICV/LCS/MS	SW9B-03-455	3.0
CCV(1-11)	SW9B-03-456	2.0
CCV(12-17)	SW9B-03-457	2.0

Comments:

Analyzed By:

This page is checked during the data review process.

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

ANALYSIS RUN LOG FOR IC - HEXAVALENT CHROMIUM

SOP ☐ EMAX-218.6 Revision No. 2 ☑ EMAX-7199 Revision No. 1 ☐ Book # A59-008

Start Date: 4/3/06 Time 17:27 Ending Date: 4/4/06 Time: 12:07

ANALYTICAL BATCH * Hcc0105 ** Hcc0105

	Sample Prep ID	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
*	1	1D03-31	C081-02D	1	X		
*	2	32	03				
*	3	33	03D				
*	4	34	CCV9			X	
*	5	35	C081-04		X		
*	6	36	04D				
*	7	37	05				
*	8	38	05D				
*	9	39	06				
*	0	40	06D				
*	1	41	07				
*	2	42	07D				
*	3	43	08				
*	4	44	08D				
*	5	45	CCV10			X	
*	6	46	C081-08M		X		
*	7	47	09				
*	8	48	09D				
*	9	49	10				
*	0	50	10D				
*	1	51	CCV11			X	
*	2	52	Hcc0105B**		X		
*	3	53	SL **				
*	4	54	SC **				
*	5	55	C106-01 **				
*	6	56	01D **				
*	7	57	02 **				
*	8	58	02D **				
*	9	59	03 **				
*	0	60	03D **				

Instrument Number	59
INITIAL CALIBRATION REFERENCE	
Method File	IC59C31
ICAL ID	9W9B-03-454
ICV ID	↓ 455

STANDARDS

Name		ID	Conc. (µg/L)
ICAL	S_1		
	S_2		
	S_3		
	S_4		
	S_5		

see pg. 54

ICV/LCS/MS		54
CCV		

see pg

Comments:

Analyzed By:

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EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

ANALYSIS RUN LOG FOR IC - HEXAVALENT CHROMIUM

SOP ☐ EMAX-218.6 Revision No. 2 ☐ EMAX-7199 Revision No. 1 ☐ Book # A59-008

Start Date: 4/3/06 Time 17:27 Ending Date: 4/4/06 Time: 12:07

ANALYTICAL BATCH * H22005 ** H22010S

Sample Prep ID	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
* 1	1D03-61	CCV 12	1		X	
* 2	62	C106-04 **		X		
* 3	63	04D **				
* 4	64	05 **				
* 5	65	05D **				
* 6	66	06 **				
* 7	67	06D **				
* 8	68	07 **				
* 9	69	07D **				
* 0	70	07M **				
* 1	71	08 **				
* 2	72	CCV 13			X	
* 3	73	C106-08D **		X		
* 4	74	09 **				
* 5	75	09D **				
* 6	76	10 **				
* 7	77	10D **				
* 8	78	C127-01 **				
* 9	79	01D **				
* 0	80	02 **				
* 1	81	02D **				
* 2	82	03 **				
* 3	83	CCV 14			X	
* 4	84	C127-03D **		X		
* 5	85	04 **				
* 6	86	04D **				
* 7	87	05 **				
* 8	88	05D **				
* 9	89	06 **				
* 0	90	06D **				

Instrument Number	59
INITIAL CALIBRATION REFERENCE	
Method File	IC5C31
ICAL ID	SW98-03-454
ICV ID	455

STANDARDS

Name	ID	Conc. (µg/L)
ICAL S_1		
S_2		
S_3		
S_4		
S_5		

See pg. 54

ICV/LCS/MS		
CCV		

See pg. 54

Comments:

Analyzed By:

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ANALYSIS RUN LOG FOR IC - HEXAVALENT CHROMIUM

SOP ☐ EMAX-218.6 Revision No. 2 ☐ EMAX-7199 Revision No. 1 ☐ Book # A59-008

Start Date: 4/3/06 Time 17:27 Ending Date: 4/4/06 Time: 12:07

ANALYTICAL BATCH * HCC015 ** HCC015

	Sample Prep ID	Data File Name	Lab Sample ID	DF	Matrix S	Matrix W	Notes
*	1	1003-91	C127-07 **	1	X		
*	2	92	07D **				
*	3	93	07M **				
*	4	94	CCV15			X	
*	5	95	C127-08 **		X		
*	6	96	08D **				
*	7	97	C081-08U **	25			
*	8	98	C071-04U **	20			
*	9	99	C120-01 **	1			
*	0	100	01D **				
*	1	101	02 **				
*	2	102	02D **				
*	3	103	C106-07U **	20			
*	4	104	C127-07U **	50			
*	5	105	CCV17	1		X	
*	6						
*	7						
*	8						
*	9						
*	0						
*	1						
*	2						
*	3				W		4/4/06
*	4						
*	5						
*	6						
*	7						
*	8						
*	9						
*	0						

Instrument Number	59
INITIAL CALIBRATION REFERENCE	
Method File	IC59C31
ICAL ID	SW9B-03-454
ICV ID	↓ 455

STANDARDS

Name		ID	Conc. (µg/L)
ICAL	S_1		
	S_2		
	S_3		
	S_4		
	S_5		

see pg. 54

ICV/LCS/MS		
CCV		

see pg. 54

Comments:

Analyzed By: ✓

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EXTRACTION LOGS

SAMPLE PREPARATION LOG FOR HEXAVALENT CHROMIUM

SOP ☐ EMAX-7199 ☑ EMAX-218.6

Book # EHC-001

Matrix Soil (Alkali) Start Date 3/31/06 Time 11:15 End Date 3/31/06 Time 15:00

PREPARATION BATCH # HCC0095

Sample Prep ID	Lab Sample ID	container #	Sample Amount (g)	Dilution Volume (ml)	Extract Volume (ml)	Notes
						Amount Spike
*01	1B		N/A	100mL	100mL	N/A
*02	S-0.0		↓	↓	↓	↓
*03	S-0.2					0.1mL (P)
*04	S-2.0					1.0mL ↓
*05	S-5.0					2.5mL ↓
*06	ICV					1.5mL (S)
*07	ICB					N/A
*08	CCV		↓			1.0mL (P)
*09	HCL00998		2.5			N/A
*10	↓ SL					1.0mL (S)
*11	SC					1.0mL (S)
*12	C071-01	7				N/A
*13	02	12				↓
*14	03	13				
*15	04	28				
*16	04D	20				↓
*17	04M	19				1.0mL (S)
*18	05	29				N/A
*19	06	36				↓
*20	07	42				
*21	08	53				
*22	09	62				
*23	10	69				
*24	C081-01	8				
*25	↓ 02	18	↓	↓	↓	↓

cont. on pg. 53 — 3/31/06

Standards	ID	Amount Added (ml)
Hexavalent Chromium P/S	SW9B-03-449/450	(See Notes)
Pb CrO4	N/A	N/A
Reagent		~ 3/31/06
Alk Digestion	SW7B-07-042	50mL
Phosphate Buffer ↓	-014	0.5mL
$MgCl_2 \cdot 6H_2O$	SW7A-06-234	0.836g

Reagent	Lot # / ID
H_2SO_4	
Nanopure	DI
$(NH_4)_2SO_4$	
NH_4OH	

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = turbid	Vg= Vegetation
Yw = Yellow			

Comments: * All samples were further diluted 62.5 times prior to analysis. (1.6mL to 100mL total vol

Prepared By:

Standard Added By:

Checked By:

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

SAMPLE PREPARATION LOG FOR HEXAVALENT CHROMIUM

SOP ☑ EMAX-7199 ☐ EMAX-218.6

Book # EHC-001

Matrix Soil (Alkali) Start Date 4/3/06 Time 18:10 End Date 4/3/06 Time 23:15

PREPARATION BATCH # HCC0105

Sample Prep ID	Lab Sample ID	container #	Sample Amount (g)	Dilution Volume (ml)	Extract Volume (ml)	Notes
						Amount spiked
*01	HCC0105B		2.5g	100mL	100mL	N/A
*02	↓ SL		↓	↓	↓	1.0mL (g) (Soluble)
*03	↓ SC		↓	↓	↓	1.0mL (s) (soluble)
*04	C106-01	7	↓	↓	↓	N/A
*05	↓ 02	16	↓	↓	↓	↓
*06	↓ 03	25	↓	↓	↓	↓
*07	↓ 04	34	↓	↓	↓	↓
*08	↓ 05	36	↓	↓	↓	↓
*09	↓ 06	43	↓	↓	↓	↓
*10	↓ 07	44	↓	↓	↓	↓
*11	↓ 07D	44	↓	↓	↓	↓
*12	↓ 07M	44	↓	↓	↓	1.0mL (s) (soluble)
*13	↓ 08	51	↓	↓	↓	N/A
*14	↓ 09	58	↓	↓	↓	↓
*15	↓ 10	66	↓	↓	↓	↓
*16	C127-01	7	↓	↓	↓	↓
*17	↓ 02	15	↓	↓	↓	↓
*18	↓ 03	22	↓	↓	↓	↓
*19	↓ 04	32	↓	↓	↓	↓
*20	↓ 05	35	↓	↓	↓	↓
*21	↓ 06	42	↓	↓	↓	↓
*22	↓ 07	43	↓	↓	↓	↓
*23	↓ 07D	43	↓	↓	↓	↓
*24	↓ 07M	43	↓	↓	↓	1.0mL (s) (soluble)
*25	↓ 08	50	↓	↓	↓	N/A

Cont. pg. 54 or pg 55

Standards	ID	Amount Added (ml)
Hexavalent Chromium P/S (soluble)	SW9B-05-449/450	(see notes)
$PbCrO_4$ (insoluble)	SW9A-03-002	(see notes)
Reagent	———	~ 4/3/06
Alk. Digestion	SW7B-07-042	50mL
Phosphate Buffer	↓ -014	0.5mL
$MgCl_2 \cdot 6H_2O$	SW7A-06-234	0.836g

Reagent	Lot # / ID
H_2SO_4	
Nanopure	DI
$(NH_4)_2SO_4$	
NH_4OH	

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = turbid	Vg= Vegetation
Yw = Yellow			

Comments: * All samples were further diluted by factor of 62.5 times prior to analysis. (1.6mL to 100mL total volume)

Prepared By: ~

Standard Added By: ~

Checked By:

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

SAMPLE PREPARATION LOG FOR HEXAVALENT CHROMIUM

SOP ☑ EMAX-7199 ☐ EMAX-218.6

Book # EHC-001

Matrix Soil | Start Date 4/3/06 Time 18:10 | End Date 4/3/06 Time 23:15

PREPARATION BATCH # HC0105

Sample Prep ID	Lab Sample ID	Container #	Sample Amount (g)	Dilution Volume (ml)	Extract Volume (ml)	Notes
						Amount Spiked
*01	C106-07 u	44	2.5g	100mL	100mL	1.39 mg (insoluble)
*02	C127-07u	43	↓	↓	↓	5.21 mg (insoluble)
*03	C071-04u	20				1.32 mg (insoluble)
*04	C081-08u	50				2.33 mg (insoluble)
*05	ccv		N/A	100mL	100mL	1.0mL (soluble) (P)
*06	C120-01	6	2.5g	↓	↓	
*07	↓ -02	15	↓			
*08						
*09						
*10						
*11						
*12						
*13						
*14						
*15						~ 4/3/06
*16						
*17						
*18						
*19						
*20						
*21						
*22						
*23						
*24						
*25						

Standards	ID	Amount Added (ml)
Hexavalent Chromium		

see previous page 89.5

Reagent	Lot # / ID
H_2SO_4	
Nanopure	DI
$(NH_4)_2SO_4$	
NH_4OH	

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = turbid	Vg= Vegetation
Yw = Yellow			

Comments: All samples were further diluted by factor of 62.5 times prior to analysis. (1.6mL to 100mL)

Prepared By: ~

Standard Added By: ~

Checked By:

EMAX LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

CASE NARRATIVE

CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

METHOD 9010B/9014
TOTAL CYANIDE

Two (2) soil samples were received on 03/11/06 for Total Cyanide analysis by Method 9010B/9014 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Method", SW846, 3rd edition.

1. **Holding Time**

   Analysis met holding time criteria.

2. **Method Blank**

   Method blank was free of contamination at the reporting limit.

3. **Lab Control Sample/Lab Control Sample Duplicate**

   Lab control results were within QC limit.

4. **Matrix Spike/Matrix Spike Duplicate**

   MS/MSD sample was not designated in this SDG.

5. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met.

METHOD 9010B/9014
TOTAL CYANIDE

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : I70

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/kg)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	CNC020SB	ND	1	NA	.25	.125	03/27/0611:55	03/23/0614:00	CNC020S-12	CNC020S-08	CNC020S	NA	03/23/06
LCS1S	CNC020SL	4.87	1	NA	.25	.125	03/27/0611:56	03/23/0614:00	CNC020S-13	CNC020S-08	CNC020S	NA	03/23/06
LCD1S	CNC020SC	4.77	1	NA	.25	.125	03/27/0611:57	03/23/0614:00	CNC020S-14	CNC020S-08	CNC020S	NA	03/23/06
M121-30	C106-06	ND	1	5.8	.265	.133	03/27/0611:58	03/23/0614:00	CNC020S-15	CNC020S-08	CNC020S	03/10/06	03/11/06
M121-50	C106-08	ND	1	6.1	.266	.133	03/27/0611:59	03/23/0614:00	CNC020S-16	CNC020S-08	CNC020S	03/10/06	03/11/06

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ENSR
PROJECT: UPGRADIENT INVESTIGATION, TRONOX
METHOD: METHOD 9010B/9014
MATRIX: SOIL
% MOISTURE: NA

BATCH NO.: 06C106
SAMPLE ID: LCS1S/LCD1S
CONTROL NO.: CNC020SL/C

DATE RECEIVED: 03/23/06
DATE EXTRACTED: 03/23/06 14:00
DATE ANALYZED: 03/27/06 11:56/11:57

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Cyanide	ND	5.00	4.87	97	5.00	4.77	95	2	80-120	20

ANALYTICAL LOG FOR CYANIDE

SOP: ☐ EMAX-9014 Revision No. 1 ☐ EMAX-335.1 Revision No. 1 ☐ EMAX-335.2 Revision No. 1 ☐ Book # A70-CN-004

Start Date: 3/27/06 Time: 11:44 EndingDate: 3/27/06 Time: 12:08

PREPARATION/ANALYTICAL BATCH # OK060325

	Data File Name	Lab Sample ID	Buffer Solution	Chloramine -T	Pyridine/ Barbituric Acid	DF	Matrix S	Matrix W	Run Time	Absorbance	Curve Conc. (µg/L) Total	Curve Conc. (µg/L) Amenable	Final Conc. (mg/L)
1		S-0	3.0 mL	0.4 mL	1.0 mL	1		✓	11:44	0.000			
2		S-10							11:45	0.015			
3		S-20							11:46	0.030			
4		S-50							11:47	0.074			
5		S-100							11:48	0.150			
6		S-150							11:49	0.219			
7		S-200							11:50	0.300			
8		ICV							11:51	0.142	95.4		0.0952
9		ICB							11:52	0.000	0.0		ND
10		Std Low (20ppb)							11:53	0.028	18.8		0.0188
11		Std. High (150ppb)						↓	11:54	0.210	141.1		0.141
12		CN CO.20 SD					✓		11:55	0.000	0.0		ND
13		↓ SL							11:56	0.145	97.4		4.87
14		↓ SC							11:57	0.147	95.4		4.77
15		C106-06							11:58	0.000	0.0		ND
16		↓ -08							11:59	0.000	0.0		ND
17		C170-14							12:00	0.000	0.0		ND
18		↓ -16							12:01	0.000	0.0		ND
19		C127-06					↓		12:02	0.000	0.0		ND
20		CCV1						✓	12:03	0.141	94.7		0.0947
21		CCB1						✓	12:04	0.000	0.0		ND
22		C127-06M					✓		12:05	0.140	94.0		0.0941
23		↓ -08S					↓		12:06	0.137	92.1		0.0921
24		CCV2						✓	12:07	0.140	94.0		0.0941
25		CCB2	↓	↓	↓	↓		✓	12:08	0.000	0.0		ND
26													
27													
28													
29													
30											Rev	3/27/06	

Inst. No: 70	Wavelength: 578nm	
Std.	ID	Conc (µg/L)
S0	SMQB-02-263	0
S_1		10
S_2		20
S_3		50
S_4		100
S_5		150
S_6	SMQB-02-263	200
ICV	SMQB-02-258	100
CCV	SMQB-02-260	100
Reagent	ID	
Chloramine-T	SW7A-06-024	
Pyridine	SW7A-06-260	
Barbituric Acid	SW1A-66-698	
NaH_2PO_4	SW7B-07-058	
Standard Curve		
R	0.9996	
Y	0.000	
CF	671.99	

Comments:

Concentration is based on 250 ml final volume

Results are based on: ☐ Dry Weight ☑ Wet Weight

MS/LCS TV: 5.0 mg/kg

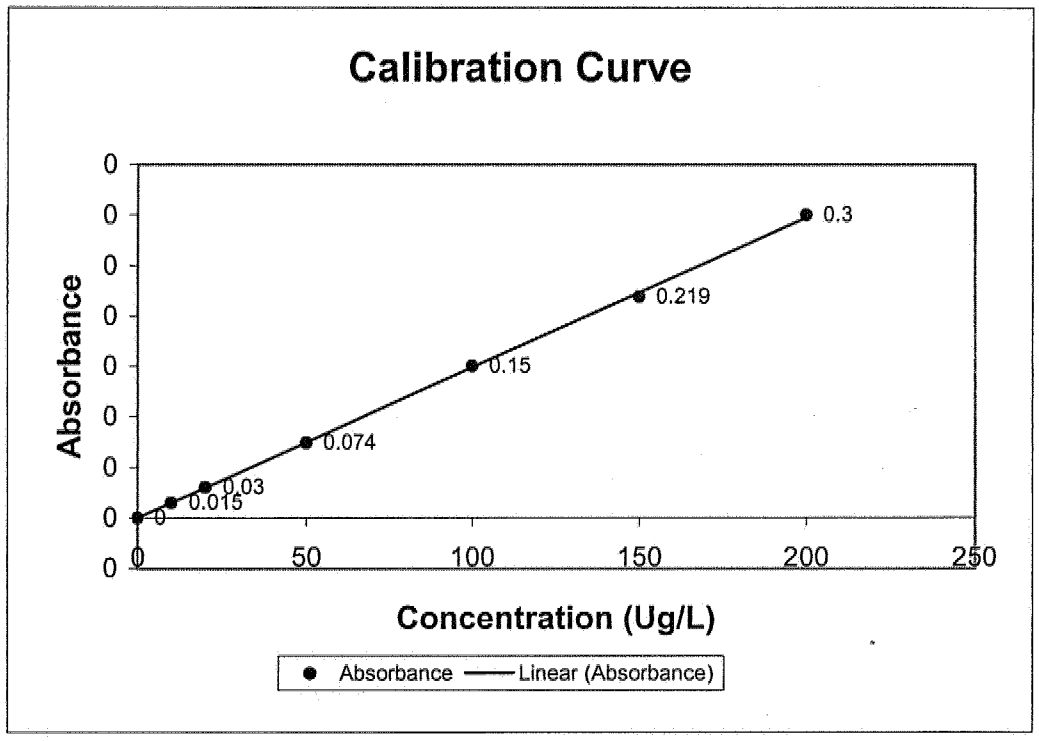
Analyzed By: [signature]

This page is checked during data review.

CYANIDE
3/27/06

Calibration Level	Concentration	Absorbance
1	0	0
2	10	0.015
3	20	0.03
4	50	0.074
5	100	0.15
6	150	0.219
7	200	0.3

Calculation	
Slope	0.001488
Intercept	0.000000
R^2 (≥0.995)	0.999681
Comment	Passed
Y(Intercept/Slope)	0.000000
CF(1/Slope)	671.99



Analyzed by: RM

C106
C120
C127

DISTILLATION LOG FOR CYANIDE

SOP ☐ EMAX-9010 Rev. No. 1 ☐ EMAX-335.1 Rev. No. _ ☐ EMAX-335.2 Rev. No. 1 ☐ Book # ECN-009

Matrix: SOIL Start Date: 3/23/06 Time: 14:00 End Date: 3/23/06 Time 16:00

PREPARATION BATCH # CN Cons

Sample Prep ID	Lab Sample ID	Matrix Description: Color	Matrix Description: Texture / Clarity	Matrix Description: Artifacts	Sample Amount g (ml)	pH	Distillate Volume (ml)	Distillate Description: Color	Distillate Description: Clarity
*01	ICV	Clr	Clr	NA	250	12+	250	colorless	
*02	ICB	↓	↓	↓	↓	↓	↓	↓	
*03	Std low (20 ppb)								
*04	Std. High (150ppb)								
*05	CN C020 SB				5.00 gm	NA			
*06	↓ SL				5.00				
*07	↓ SC	↓	↓		5.00				
*08	C106 - 06	Bn	Fn/Md		5.04				
*09	↓ -08				5.03				
*10	C120 - 14				5.02				
*11	↓ - 16				5.03				
*12	C127-06				5.04				
*13	↓ -06M				5.01				
*14	↓ -06S	↓	↓	↓	5.02	↓	↓	↓	
*15									
*16									
*17									
*18									
*19									
*20									
*21									
*22									
*23									
*24									
*25									
*26								RM 3/27/06	

Standards	ID	Conc. (ug/L)	Amount Added (ml)
LCS	SMSB 02-262	500	5
MS	SMSB 02-262	500	5
Cal.Std.			

Reagent	Lot# / ID
NaOH 1.25 N	SMB-07-072(A)
Ascorbic Acid	NA
H_2SO_4	SMA-03-158
$CdCO_3$	NA
$MgCl_2$	SMB-07-057
$Ca(OCl)_2$	NA
$Bi(NO_3)_3$	5% fue
H_2O	Nanpure

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue; Bk = Black	Cs = Coarse	Cr = Clear	Rk = rocks
Bn = Brown; Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange; Rd=Red Yw = Yellow	Fn = Fine	Td = Turbid	Vg=Vegetation

Comments:

Prepared By: RM

Standard Added By:

Disposal Date: Disposed by:

CASE NARRATIVE

CLIENT: **ENSR**

PROJECT: **UPGRADIENT INVESTIGATION, TRONOX**

SDG: **06C106**

METHOD 9045C
pH

Two (2) soil samples were received on 03/11/06 for pH analysis by Method 9045C in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Method", SW846, 3rd edition.

1. Holding Time

Analysis met holding time criteria.

2. Duplicate

Duplicate sample was not designated in this SDG.

6. Sample Analysis

Samples were analyzed were performed within the QC requirements. All criteria were met.

Samples were leached with DI water at a ratio of 1:1 (w:v).

METHOD 9045C
pH

Client : ENSR
Project : UPGRADIENT INVESTIGATION, TRONOX
Batch No. : 06C106

Matrix : SOIL
Instrument ID : I53

SAMPLE ID	EMAX SAMPLE ID	RESULTS (pHUnit)	DLF	MOIST	RL (pHUnit)	MDL (pHUnit)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
M121-30	C106-06	8.91	1	NA	NA	NA	03/17/0615:39	03/17/0609:30	PHC011S-13	NA	PHC011S	03/10/06	03/11/06
M121-50	C106-08	8.79	1	NA	NA	NA	03/17/0615:41	03/17/0609:30	PHC011S-14	NA	PHC011S	03/10/06	03/11/06

ANALYSIS LOG FOR pH

SOP ☐ EMAX-9040 Revision No. 3 ☑ EMAX-9045 Revision No. 0 ☑ EMAX-150.1 Revision No. 3 ☐

IV 3/17/06

Start Date: 3/17/2006 **Time:** 15:15 **Ending Date:** 3/17/06 **Time:** 15:43 **Book # APH-008**

	Data File Name	Lab Sample ID	Sample Amount	Matrix	Sample Temp. (°C)	Trials 1	Trials 2	pH Value	Time
* 1		pHcoll SL	20	S	21.3	7.01	7.01	7.01	15:15
* 2		C101-06			20.8	7.13	7.14	7.14	17
* 3		08			20.9	8.22	8.23	8.27	19
* 4		09			21.1	7.94	7.95	7.95	21
* 5		C071-01			20.9	9.10	9.11	9.11	23
* 6		07			20.9	9.12	9.13	9.13	25
* 7		09			21.0	8.63	8.63	8.63	27
* 8		C081-06			21.0	8.81	8.81	8.81	29
* 9		08			21.0	8.76	8.76	8.76	31
* 0		081			21.1	8.76	8.76	8.76	33
* 1		C120-14			21.1	9.03	9.03	9.03	35
* 2		16			21.1	8.81	8.81	8.81	37
* 3		C106-06			21.3	8.91	8.91	8.91	39
* 4		08			21.3	8.79	8.79	8.79	41
* 5		C127-06	↓	↓	21.3	8.27	8.26	8.26	↓ 43
* 6									
* 7									
* 8									
* 9									
* 0									
* 1									
* 2									
* 3									
* 4									
* 5									
* 6									
* 7									
* 8									
* 9									
* 0									

ANALYTICAL BATCH # pHcoll S

16 3/17/06

Instrument No:	53

Standards

Name	ID	pH Value
Buffer 4	SW7A-06-299	4.0
Buffer 7	SW7A-06-229	7.0
Buffer 10	SW7A-06-298	10.0
Buffer		
Buffer		
LCS/ICV	SW7A-06-229	7.0

Calibration

Standard ID	True Value	Found Value
Calibration Temperature (°C)	21.3	
Electrode ID	I-053	

Comments: Results are based on:

Dry Wt. ☐ Wet Wt. ☐

Analyzed By: IV

Date:

This page is checked during data review.

EMAX LABORATORIES, INC., 1835 W. 205th St., Torrance, CA 90501

EXTRACTION LOG FOR WET CHEMISTRY

Method ☐ Distillation: EMAX_____ - Rev. No.___ ☐ Digestion: EMAX_____ - Rev. No.___ ☑ Leaching

Matrix: Soil Start Date: 3/17/06 Time: 9:30 End Date: 3/17/06 Time: 11:35

Book # EWE-010

PREPARATION BATCH # PH 0115

Sample Prep ID	Lab Sample ID	Sample Amount (g)	Extraction Solution (ml)	Notes
01	C101-06	20.03	20	leaching
02	" 08	20.02		
03	" 09	20.09		
04	C071-01	20.03		
05	" 07	20.07		
06	" 09	20.11		
07	C081-06	20.12		
08	" 08	20.05		
09	" 08D	20.06		
10	C120-14	20.12		
11	" 16	20.18		
12	C106-06	20.03		
13	" 08	20.08		
14	C127-06	20.06		
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				

IV 3/17/2006

Calibration of pH meter

Buffer ID	Value	Reading
	7	
N/A	4	
Slope		
pH meter ID		

Reagents

Reagents	Lot #	Amount (ml)	Final Volume (ml)
Nanopure			
pH		Exp. Date	
Rotary Agitator #		rpm	

Room Temperature (°C)

High	Low	Thermostat Setting	Criteria
			20-40

Comments:

Prepared By: IV

Checked By:

Extracts Received By:

Disposed by: Disposal Date:

MAXXAM LABORATORIES, INC. 1835 W. 205th St. Torrance, CA 90501

LABORATORY REPORT FOR

ENSR

UPGRADIENT INVESTIGATION, TRONOX

MOISTURE CONTENT DETERMINATION

SDG#: 06C106

MOISTURE CONTENT DETERMINATION

Analytical Batch:	06MCC009	Start Date/Time:	03/16/06	15:46	Temp IN(°C): 103
Instrument ID:	10601202	End Date/Time:	03/17/06	9:28	Temp Out(°C): 106

Sample ID	Weight of Dish (g)	Wet Weight+ Dish (g)	Dry Weight+ Dish (g)	Percent Solids	Percent Moisture	NOTES
C106-01	1.086	6.61	6.373	95.7%	4.3%	
C106-02	1.127	6.621	6.054	89.7%	10.3%	
C106-03	1.134	6.313	6.016	94.3%	5.7%	
C106-04	1.088	6.26	5.768	90.5%	9.5%	
C106-05	1.146	7.97	7.725	96.4%	3.6%	
C106-06	1.223	6.736	6.417	94.2%	5.8%	
C106-07	1.147	6.268	5.814	91.1%	8.9%	
C106-08	1.136	6.61	6.276	93.9%	6.1%	
C106-09	1.098	6.156	5.254	82.2%	17.8%	
C106-10	1.164	6.476	5.015	72.5%	27.5%	
C106-11	1.152	6.232	5.072	77.2%	22.8%	
C106-11D	1.114	6.576	5.285	76.4%	23.6%	0.8%
C108-01	1.079	6.766	6.124	88.7%	11.3%	
C108-02	1.153	6.446	5.705	86.0%	14.0%	
C108-05	1.219	6.909	6.064	85.1%	14.9%	
C108-06	1.133	6.791	5.654	79.9%	20.1%	
C108-08	1.18	6.281	5.754	89.7%	10.3%	
C108-09	1.08	6.458	5.575	83.6%	16.4%	
C108-12	1.172	6.523	5.761	85.8%	14.2%	
C108-13	1.147	6.635	5.943	87.4%	12.6%	

COMMENT:

Initial Reading by: SSUNGA

Final Reading by: Jrunyan J. Runyan 3/17/06

Reviewed by: ML

RAW DATA

MOISTURE CONTENT DETERMINATION

BOOK# (Page): AMC-032

Analytical Batch: 06MCC009 Instrument ID: 10601202 Oven Temp IN (°C): 103 Oven Temp OUT (°C): 106

DATA FILE ID	Sample ID	Dish #	Dish (g)	Date	Time	Wet Weight + Dish (g)	Date	Time	1st Dry Weight + Dish (g)	Date	Time	2nd Dry Weight + Dish (g)	Date	Time	Difference of 1st & 2nd Dry Weight (<0.04g)
06MCC009 01	C106-01	39	1.0860	03/16/06	15:46	6.61	03/16/06	15:47	6.378	03/17/06	9:12	6.373	03/17/06	9:24	0.005
06MCC009 02	C106-02	87	1.1270	03/16/06	15:46	6.621	03/16/06	15:48	6.05	03/17/06	9:12	6.054	03/17/06	9:24	0.004
06MCC009 03	C106-03	109	1.1340	03/16/06	15:47	6.313	03/16/06	15:50	6.021	03/17/06	9:12	6.016	03/17/06	9:25	0.005
06MCC009 04	C106-04	95	1.0880	03/16/06	15:50	6.26	03/16/06	15:51	5.774	03/17/06	9:12	5.768	03/17/06	9:25	0.006
06MCC009 05	C106-05	55	1.1460	03/16/06	15:51	7.97	03/16/06	15:54	7.729	03/17/06	9:12	7.725	03/17/06	9:25	0.004
06MCC009 06	C106-06	49	1.2230	03/16/06	15:53	6.736	03/16/06	15:57	6.427	03/17/06	9:12	6.417	03/17/06	9:25	0.01
06MCC009 07	C106-07	92	1.1470	03/16/06	15:57	6.268	03/16/06	15:59	5.821	03/17/06	9:12	5.814	03/17/06	9:26	0.007
06MCC009 08	C106-08	33	1.1360	03/16/06	15:59	6.61	03/16/06	16:00	6.279	03/17/06	9:13	6.276	03/17/06	9:26	0.003
06MCC009 09	C106-09	43	1.0980	03/16/06	16:00	6.156	03/16/06	16:00	5.259	03/17/06	9:13	5.254	03/17/06	9:26	0.005
06MCC009 10	C106-10	108	1.1640	03/16/06	16:02	6.476	03/16/06	16:02	5.014	03/17/06	9:13	5.015	03/17/06	9:26	0.001
06MCC009 11	C106-11	54	1.1520	03/16/06	16:03	6.232	03/16/06	16:04	5.076	03/17/06	9:13	5.072	03/17/06	9:26	0.004
06MCC009 12	C106-11D	6	1.1140	03/16/06	16:04	6.576	03/16/06	16:05	5.289	03/17/06	9:13	5.285	03/17/06	9:27	0.004
06MCC009 13	C108-01	38	1.0790	03/16/06	16:06	6.766	03/16/06	16:06	6.118	03/17/06	9:13	6.124	03/17/06	9:27	0.006
06MCC009 14	C108-02	7	1.1530	03/16/06	16:07	6.446	03/16/06	16:07	5.7	03/17/06	9:13	5.705	03/17/06	9:27	0.005
06MCC009 15	C108-05	44	1.2190	03/16/06	16:08	6.909	03/16/06	16:09	6.062	03/17/06	9:13	6.064	03/17/06	9:27	0.002
06MCC009 16	C108-06	3	1.1330	03/16/06	16:08	6.791	03/16/06	16:09	5.647	03/17/06	9:14	5.654	03/17/06	9:28	0.007
06MCC009 17	C108-08	110	1.1800	03/16/06	16:11	6.281	03/16/06	16:11	5.754	03/17/06	9:14	5.754	03/17/06	9:28	
06MCC009 18	C108-09	60	1.0800	03/16/06	16:12	6.458	03/16/06	16:14	5.577	03/17/06	9:14	5.575	03/17/06	9:28	0.002
06MCC009 19	C108-12	14	1.1720	03/16/06	16:13	6.523	03/16/06	16:15	5.76	03/17/06	9:14	5.761	03/17/06	9:28	0.001
06MCC009 20	C108-13	56	1.1470	03/16/06	16:15	6.635	03/16/06	16:16	5.941	03/17/06	9:14	5.943	03/17/06	9:28	0.002

Initial Reading by: SSUNGA

Final Reading by: Jrunyan J Runyan 3/17/06

Reviewed by: ML