Diesel & Residual Range Organics

Organic Analysis:
Diesel and Residual Range Organics

Summary Package

Sample and QC Results

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554

Cover Page - Organic Analysis Data Package
Diesel and Residual Range Organics

Sample Name	Lab Code	Date Collected	Date Received
TO63-IDW-01	K2502554-001	04/07/2005	04/08/2005

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on floppy diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: christina Quinn

Name: CHRISTINA QUINN

Date: 041905

Title: SCIENTIST

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Collected:**	04/07/2005
Sample Matrix:	Soil	**Date Received:**	04/08/2005

Diesel and Residual Range Organics

Sample Name:	TO63-IDW-01	**Units:**	mg/Kg
Lab Code:	K2502554-001	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	13	5.0	1	04/18/05	04/19/05	KWG0506162	
Residual Range Organics (RRO)	**22**	Z	20	4.7	1	04/18/05	04/19/05	KWG0506162	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	82	54-140	04/19/05	Acceptable
n-Triacontane	98	50-150	04/19/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0506162-4	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	13	3.4	1	04/18/05	04/19/05	KWG0506162	
Residual Range Organics (RRO)	ND	U	20	3.2	1	04/18/05	04/19/05	KWG0506162	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	83	54-140	04/19/05	Acceptable
n-Triacontane	97	50-150	04/19/05	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063
Sample Matrix: Soil

Service Request: K2502554

Surrogate Recovery Summary
Diesel and Residual Range Organics

Extraction Method: EPA 3550B
Analysis Method: 8015M

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
TO63-IDW-01	K2502554-001	82	98
Method Blank	KWG0506162-4	83	97
Batch QC	K2502505-010	80	94
Batch QCMS	KWG0506162-1	89	95
Batch QCDMS	KWG0506162-2	89	97
Lab Control Sample	KWG0506162-3	90	95

Surrogate Recovery Control Limits (%)

Sur1 =	o-Terphenyl	54-140
Sur2 =	n-Triacontane	50-150

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Extracted:**	04/18/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/19/2005

Matrix Spike/Duplicate Matrix Spike Summary
Diesel and Residual Range Organics

Sample Name:	Batch QC	**Units:**	mg/Kg
Lab Code:	K2502505-010	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M	**Extraction Lot:**	KWG0506162

		Batch QCMS KWG0506162-1			Batch QCDMS KWG0506162-2					
		Matrix Spike			Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Diesel Range Organics (DRO)	ND	305	313	97	299	313	96	62-161	2	40
Residual Range Organics (RRO)	6.9	153	156	94	157	156	96	57-158	2	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Extracted:**	04/18/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/19/2005

Lab Control Spike Summary
Diesel and Residual Range Organics

Extraction Method:	EPA 3550B	**Units:**	mg/Kg
Analysis Method:	8015M	**Basis:**	Dry
		Level:	Low
		Extraction Lot:	KWG0506162

	Lab Control Sample KWG0506162-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diesel Range Organics (DRO)	317	320	99	74-146
Residual Range Organics (RRO)	167	160	104	70-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Extracted:**	04/18/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/19/2005
		Time Analyzed:	05:58

Method Blank Summary
Diesel and Residual Range Organics

Sample Name:	Method Blank	**File ID:**	J:\GC21\DATA\041805\0418F086.D
Lab Code:	KWG0506162-4	**Instrument ID:**	gc21
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M	**Extraction Lot:**	KWG0506162

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0506162-3	J:\GC21\DATA\041805\0418F082.D	04/19/05	01:59
TO63-IDW-01	K2502554-001	J:\GC21\DATA\041805\0418F088.D	04/19/05	06:18
Batch QC	K2502505-010	J:\GC21\DATA\041805\0418F090.D	04/19/05	06:38
Batch QCMS	KWG0506162-1	J:\GC21\DATA\041805\0418F092.D	04/19/05	06:58
Batch QCDMS	KWG0506162-2	J:\GC21\DATA\041805\0418F094.D	04/19/05	07:18

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Extracted:**	04/18/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/19/2005
		Time Analyzed:	01:59

Lab Control Sample Summary
Diesel and Residual Range Organics

Sample Name:	Lab Control Sample	**File ID:**	J:\GC21\DATA\041805\0418F082.D
Lab Code:	KWG0506162-3	**Instrument ID:**	gc21
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M	**Extraction Lot:**	KWG0506162

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0506162-4	J:\GC21\DATA\041805\0418F086.D	04/19/05	05:58
TO63-IDW-01	K2502554-001	J:\GC21\DATA\041805\0418F088.D	04/19/05	06:18
Batch QC	K2502505-010	J:\GC21\DATA\041805\0418F090.D	04/19/05	06:38
Batch QCMS	KWG0506162-1	J:\GC21\DATA\041805\0418F092.D	04/19/05	06:58
Batch QCDMS	KWG0506162-2	J:\GC21\DATA\041805\0418F094.D	04/19/05	07:18

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Calibration Date: 04/18/2005

Initial Calibration Summary
Diesel and Residual Range Organics

Calibration ID: CAL4385
Instrument ID: gc21

Column: RTX-1

Level ID	File ID	Level ID	File ID
A	J:\GC21\DATA\041805\0418F044.D	H	J:\GC21\DATA\041805\0418F058.D
B	J:\GC21\DATA\041805\0418F046.D	I	J:\GC21\DATA\041805\0418F060.D
C	J:\GC21\DATA\041805\0418F048.D	J	J:\GC21\DATA\041805\0418F062.D
D	J:\GC21\DATA\041805\0418F050.D	K	J:\GC21\DATA\041805\0418F064.D
E	J:\GC21\DATA\041805\0418F052.D	L	J:\GC21\DATA\041805\0418F066.D
F	J:\GC21\DATA\041805\0418F054.D	M	J:\GC21\DATA\041805\0418F068.D
G	J:\GC21\DATA\041805\0418F056.D	N	J:\GC21\DATA\041805\0418F070.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Diesel Range Organics (DRO)				B	20	33100				D	50	35200			
	F	200	33800				H	500	34900				J	1000	31200
				L	2000	35000				N	5000	33800			
Residual Range Organics (RRO)							C	50	27500				E	200	27800
				G	500	27200				I	1000	23700			
	K	2000	24000				M	5000	23700						
o-Terphenyl				B	1.0	50800				D	2.5	48900			
	F	10	48500				H	25	48100				J	50	47100
				L	100	48600				N	250	47000			
n-Triacontane				B	1.0	38500				D	2.5	36600			
	F	10	39100				H	25	38200				J	50	37600
				L	100	38500				N	250	37200			

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Calibration Date: 04/18/2005

Initial Calibration Summary
Diesel and Residual Range Organics

Calibration ID: CAL4385
Instrument ID: gc21

Column: RTX-1

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Diesel Range Organics (DRO)	MS	AverageRF	% RSD	4.1		≤ 20
Residual Range Organics (RRO)	MS	AverageRF	% RSD	8.0		≤ 20
o-Terphenyl	SURR	AverageRF	% RSD	2.6		≤ 20
n-Triacontane	SURR	AverageRF	% RSD	2.3		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Calibration Date: 04/18/2005
Date Analyzed: 04/19/2005

Second Source Calibration Verification
Diesel and Residual Range Organics

Calibration Type: External Standard
Analysis Method: 8015M

Calibration ID: CAL4385
Units: ppm

File ID: J:\GC21\DATA\041805\0418F074.D
J:\GC21\DATA\041805\0418F076.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	1100	33900	37400	11	NA	± 15 %	AverageRF
Residual Range Organics (RRO)	1000	980	25700	25200	-2	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Date Analyzed: 04/19/2005

Continuing Calibration Verification Summary
Diesel and Residual Range Organics

Calibration Type: External Standard
Analysis Method: 8015M

Calibration Date: 04/18/2005
Calibration ID: CAL4385
Analysis Lot: KWG0506268
Units: ppm

File ID: J:\GC21\DATA\041805\0418F078.D
J:\GC21\DATA\041805\0418F080.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	940	33900	31800	-6	NA	± 15 %	AverageRF
Residual Range Organics (RRO)	1000	940	25700	24200	-6	NA	± 15 %	AverageRF
o-Terphenyl	50	49	48400	47900	-1	NA	± 15 %	AverageRF
n-Triacontane	50	51	38000	38400	1	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Date Analyzed: 04/19/2005

Continuing Calibration Verification Summary
Diesel and Residual Range Organics

Calibration Type: External Standard
Analysis Method: 8015M

Calibration Date: 04/18/2005
Calibration ID: CAL4385
Analysis Lot: KWG0506268
Units: ppm

File ID: J:\GC21\DATA\041805\0418F104.D
J:\GC21\DATA\041805\0418F106.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	950	33900	32300	-5	NA	± 15 %	AverageRF
Residual Range Organics (RRO)	1000	940	25700	24000	-6	NA	± 15 %	AverageRF
o-Terphenyl	50	51	48400	49200	2	NA	± 15 %	AverageRF
n-Triacontane	50	52	38000	39200	3	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554

Analysis Run Log
Diesel and Residual Range Organics

Analysis Method: 8015M

Analysis Lot: KWG0506268
Instrument ID: gc21
Column: RTX-1

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0418F072.D	Instrument Blank	KWG0506268-10	4/19/2005	00:20		4/19/2005	00:34
0418F078.D	Continuing Calibration Verification	KWG0506268-1	4/19/2005	01:19		4/19/2005	01:33
0418F080.D	Continuing Calibration Verification	KWG0506268-1	4/19/2005	01:39		4/19/2005	01:53
0418F082.D	Lab Control Sample	KWG0506162-3	4/19/2005	01:59		4/19/2005	02:13
0418F086.D	Method Blank	KWG0506162-4	4/19/2005	05:58		4/19/2005	06:12
0418F088.D	TO63-IDW-01	K2502554-001	4/19/2005	06:18		4/19/2005	06:32
0418F090.D	Batch QC	K2502505-010	4/19/2005	06:38		4/19/2005	06:52
0418F092.D	Batch QCMS	KWG0506162-1	4/19/2005	06:58		4/19/2005	07:12
0418F094.D	Batch QCDMS	KWG0506162-2	4/19/2005	07:18		4/19/2005	07:32
0418F096.D	ZZZZZZ	ZZZZZZ	4/19/2005	07:38		4/19/2005	07:52
0418F098.D	ZZZZZZ	ZZZZZZ	4/19/2005	07:58		4/19/2005	08:12
0418F100.D	ZZZZZZ	ZZZZZZ	4/19/2005	08:17		4/19/2005	08:31
0418F102.D	ZZZZZZ	ZZZZZZ	4/19/2005	08:37		4/19/2005	08:51
0418F104.D	Continuing Calibration Verification	KWG0506268-2	4/19/2005	08:57		4/19/2005	09:11
0418F106.D	Continuing Calibration Verification	KWG0506268-2	4/19/2005	09:16		4/19/2005	09:30
0418F108.D	Instrument Blank	KWG0506268-6	4/19/2005	09:36		4/19/2005	09:50

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063
Sample Matrix: Soil

Service Request: K2502554
Date Extracted: 04/18/2005

Extraction Prep Log
Diesel and Residual Range Organics

Extraction Method: EPA 3550B
Analysis Method: 8015M

Extraction Lot: KWG0506162
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
TO63-IDW-01	K2502554-001	04/07/05	04/08/05	7.52g	2ml	69.1	
Method Blank	KWG0506162-4	NA	NA	10.00g	4ml	NA	
Batch QC	K2502505-010	NA	NA	11.07g	4ml	92.5	
Batch QCMS	KWG0506162-1	NA	NA	11.06g	4ml	92.5	
Batch QCDMS	KWG0506162-2	NA	NA	11.06g	4ml	92.5	
Lab Control Sample	KWG0506162-3	NA	NA	10.00g	4ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Organic Analysis:
Diesel and Residual Range Organics

Validation Package

Organic Analysis:
Diesel and Residual Range Organics

Validation Package

QC Reports

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063
Sample Matrix: Soil

Service Request: K2502554

Surrogate Recovery Summary
Diesel and Residual Range Organics

Extraction Method: EPA 3550B
Analysis Method: 8015M

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2
TO63-IDW-01	K2502554-001	82	98
Method Blank	KWG0506162-4	83	97
Batch QC	K2502505-010	80	94
Batch QCMS	KWG0506162-1	89	95
Batch QCDMS	KWG0506162-2	89	97
Lab Control Sample	KWG0506162-3	90	95

Surrogate Recovery Control Limits (%)

Sur1 =	o-Terphenyl	54-140
Sur2 =	n-Triacontane	50-150

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Extracted:**	04/18/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/19/2005

Matrix Spike/Duplicate Matrix Spike Summary
Diesel and Residual Range Organics

Sample Name:	Batch QC	**Units:**	mg/Kg
Lab Code:	K2502505-010	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M	**Extraction Lot:**	KWG0506162

		Batch QCMS KWG0506162-1 Matrix Spike			Batch QCDMS KWG0506162-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Diesel Range Organics (DRO)	ND	305	313	97	299	313	96	62-161	2	40
Residual Range Organics (RRO)	6.9	153	156	94	157	156	96	57-158	2	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063
Sample Matrix: Soil

Service Request: K2502554
Date Extracted: 04/18/2005
Date Analyzed: 04/19/2005

Lab Control Spike Summary
Diesel and Residual Range Organics

Extraction Method: EPA 3550B
Analysis Method: 8015M

Units: mg/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG0506162

	Lab Control Sample KWG0506162-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Diesel Range Organics (DRO)	317	320	99	74-146
Residual Range Organics (RRO)	167	160	104	70-135

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Extracted:**	04/18/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/19/2005
		Time Analyzed:	05:58

Method Blank Summary
Diesel and Residual Range Organics

Sample Name:	Method Blank	**File ID:**	J:\GC21\DATA\041805\0418F086.D
Lab Code:	KWG0506162-4	**Instrument ID:**	gc21
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M	**Extraction Lot:**	KWG0506162

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0506162-3	J:\GC21\DATA\041805\0418F082.D	04/19/05	01:59
TO63-IDW-01	K2502554-001	J:\GC21\DATA\041805\0418F088.D	04/19/05	06:18
Batch QC	K2502505-010	J:\GC21\DATA\041805\0418F090.D	04/19/05	06:38
Batch QCMS	KWG0506162-1	J:\GC21\DATA\041805\0418F092.D	04/19/05	06:58
Batch QCDMS	KWG0506162-2	J:\GC21\DATA\041805\0418F094.D	04/19/05	07:18

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Extracted:**	04/18/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/19/2005
		Time Analyzed:	01:59

Lab Control Sample Summary
Diesel and Residual Range Organics

Sample Name:	Lab Control Sample	**File ID:**	J:\GC21\DATA\041805\0418F082.D
Lab Code:	KWG0506162-3	**Instrument ID:**	gc21
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M	**Extraction Lot:**	KWG0506162

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0506162-4	J:\GC21\DATA\041805\0418F086.D	04/19/05	05:58
TO63-IDW-01	K2502554-001	J:\GC21\DATA\041805\0418F088.D	04/19/05	06:18
Batch QC	K2502505-010	J:\GC21\DATA\041805\0418F090.D	04/19/05	06:38
Batch QCMS	KWG0506162-1	J:\GC21\DATA\041805\0418F092.D	04/19/05	06:58
Batch QCDMS	KWG0506162-2	J:\GC21\DATA\041805\0418F094.D	04/19/05	07:18

Organic Analysis:
Diesel and Residual Range Organics

Validation Package

Raw Data

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Collected:**	04/07/2005
Sample Matrix:	Soil	**Date Received:**	04/08/2005

Diesel and Residual Range Organics

Sample Name:	TO63-IDW-01	**Units:**	mg/Kg
Lab Code:	K2502554-001	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	13	5.0	1	04/18/05	04/19/05	KWG0506162	
Residual Range Organics (RRO)	**22**	Z	20	4.7	1	04/18/05	04/19/05	KWG0506162	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	82	54-140	04/19/05	Acceptable
n-Triacontane	98	50-150	04/19/05	Acceptable

Comments:

Exception Report

Data File: J:\GC21\DATA\041805\0418F088.D
Lab ID: K2502554-001
RunType: SMPL
Matrix: SOIL

Date Acquired: 04/19/2005 06:18
Date Quantitated: 04/19/2005 11:15
Batch ID: KWG0506268
Analysis Method: 8015M
MethodJoinID: MJ234

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA		x
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Std MRL Unsupported by ICAL	Residual Range Organics (RRO)	20	13	NA	NA

MRL = 25; WE CAN SEE 19 FOR THIS SAMPLE.

(LOW POINT = 50 ppm

VM041905 ~~50 (7.52g)~~ → $\frac{50\,(2\,mL)}{7.52g\,(0.691\ solids)} = 19.2$)

Primary Review: VM041905

Secondary Review: go041905

Printed: 04/19/2005 12:38:14
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	DRO-X-8015	**Collect Date:**	04/07/2005	**Receive Date:**	04/08/2005

Analysis Lot:	KWG0506268	**Prep Lot:**	KWG0506162	**Report Group:**	K2502554
Analysis Method:	8015M	**Prep Method:**	EPA 3550B		
Prep Ref:	375643	**Prep Date:**	04/18/2005		

Quant Method:	J:\GC21\METHODS\0418FRNT.M	**Calibration ID:**	CAL4385
Title:	Diesel and Residual Range Organics	**Report List ID:**	LJ3073
		Method ID:	MJ234
MB Ref:	J:\GC21\DATA\041805\0418F086.D	**Quant based on Report List**	

Data File:	J:\GC21\DATA\041805\0418F088.D			**Instrument:**	gc21
Acqu Date:	04/19/2005 06:18	**Quant Date:**	04/19/2005 11:15	**Vial:**	33
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K2502554-001			**Soln Conc. Units:**	ppm

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
o-Terphenyl	5.64	0.00?	1988301	41.05	82	54-140	OK	
n-Triacontane	7.71	0.00?	1860466	49.01	98	50-150	OK	

Target Compounds

Final Conc. Units: mg/Kg Dry Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (DRO)	3.76	?	234571	6.93	5.0	U	
Residual Range Organics (RRO)	6.69	?	1491357	58.14	22	Z	

Prep Amount:	7.52 g	**Dilution:**	1.0
Prep Final Vol:	2 ml	**Unit Factor:**	1
Solids:	69.1 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

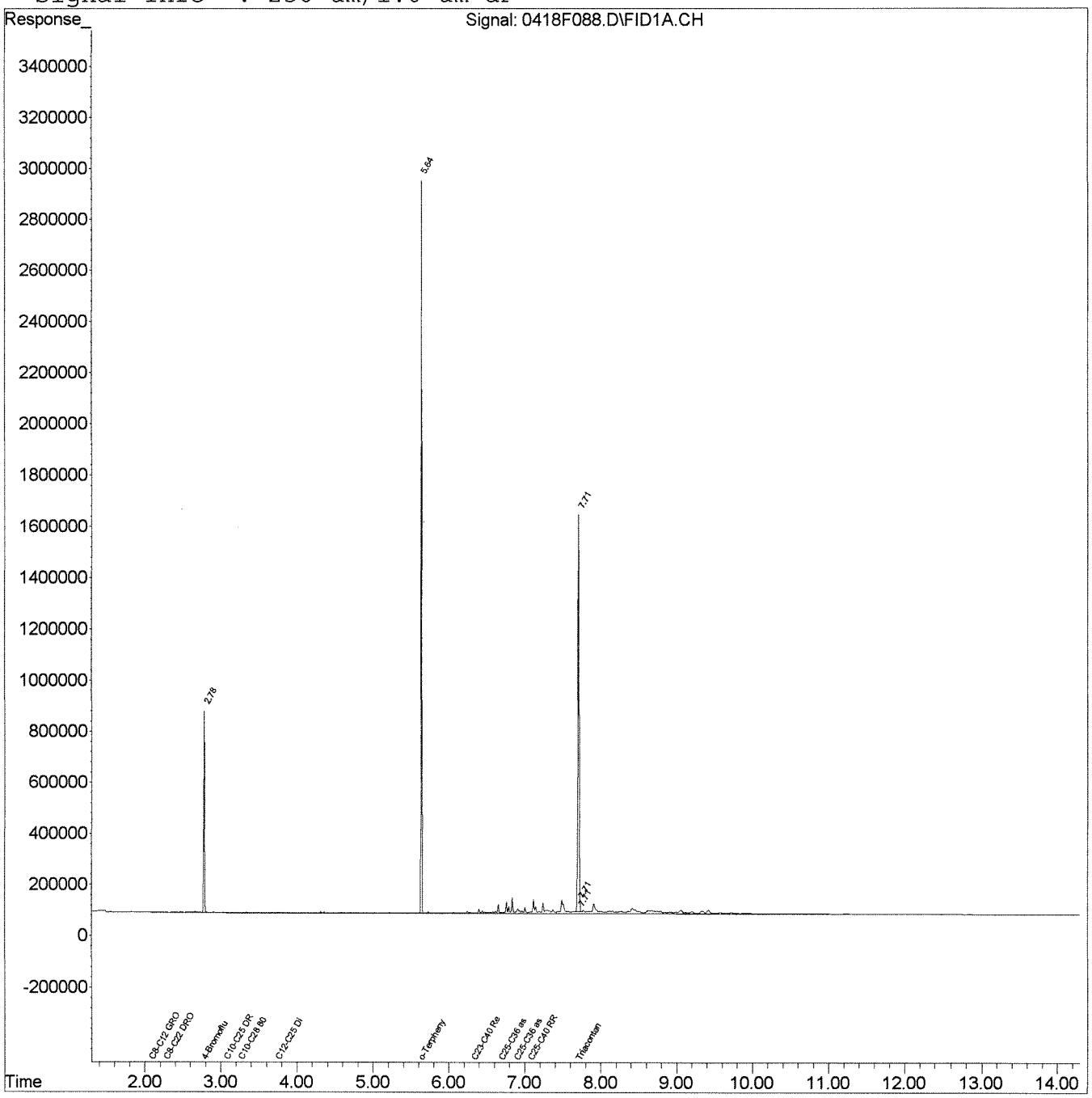
*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (Not Reviewed)

Data File : J:\GC21\DATA\041805\0418F088.D Vial: 33
Acq On : 19 Apr 2005 6:18 am Operator: PMulheri
Sample : K2502554-001 Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 11:15 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0506162-4	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	13	3.4	1	04/18/05	04/19/05	KWG0506162	
Residual Range Organics (RRO)	ND	U	20	3.2	1	04/18/05	04/19/05	KWG0506162	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	83	54-140	04/19/05	Acceptable
n-Triacontane	97	50-150	04/19/05	Acceptable

Comments:

Exception Report

Data File: J:\GC21\DATA\041805\0418F086.D
Lab ID: KWG0506162-4
RunType: MB
Matrix: SOIL

Date Acquired: 04/19/2005 05:58
Date Quantitated: 04/19/2005 11:15
Batch ID: KWG0506268
Analysis Method: 8015M
MethodJoinID: MJ234

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA		x
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Std MRL Unsupported by ICAL	Motor Oil	20	13	NA	NONE - NA
	Residual Range Organics (RRO)	20	13	NA	↓

Primary Review: VM 041905

Secondary Review: 4/21/05

Printed: 04/19/2005 12:38:11
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	DRO-X-8015	**Collect Date:**		**Receive Date:**	04/18/2005

Analysis Lot:	KWG0506268	**Prep Lot:**	KWG0506162	**Report Group:**	
Analysis Method:	8015M	**Prep Method:**	EPA 3550B		
Prep Ref:	375642	**Prep Date:**	04/18/2005		

Quant Method:	J:\GC21\METHODS\0418FRNT.M	**Calibration ID:**	CAL4385
Title:		**Method ID:**	MJ234
MB Ref:		**Quant based on Method**	

Data File:	J:\GC21\DATA\041805\0418F086.D			**Instrument:**	gc21
Acqu Date:	04/19/2005 05:58	**Quant Date:**	04/19/2005 11:15	**Vial:**	32
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG0506162-4			**Soln Conc. Units:**	ppm

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
o-Terphenyl	5.64	0.00?	999433	20.64	83	54-140	OK
n-Triacontane	7.71	0.00?	924350	24.35	97	50-150	OK

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel	3.76	?	88381	2.61	3.4	U	
Residual Range Organics (RRO)	6.69	?	174822	6.82	3.2	U	
Motor Oil	6.89	?	174822	6.82	3.2	U	

Prep Amount:	10.00 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

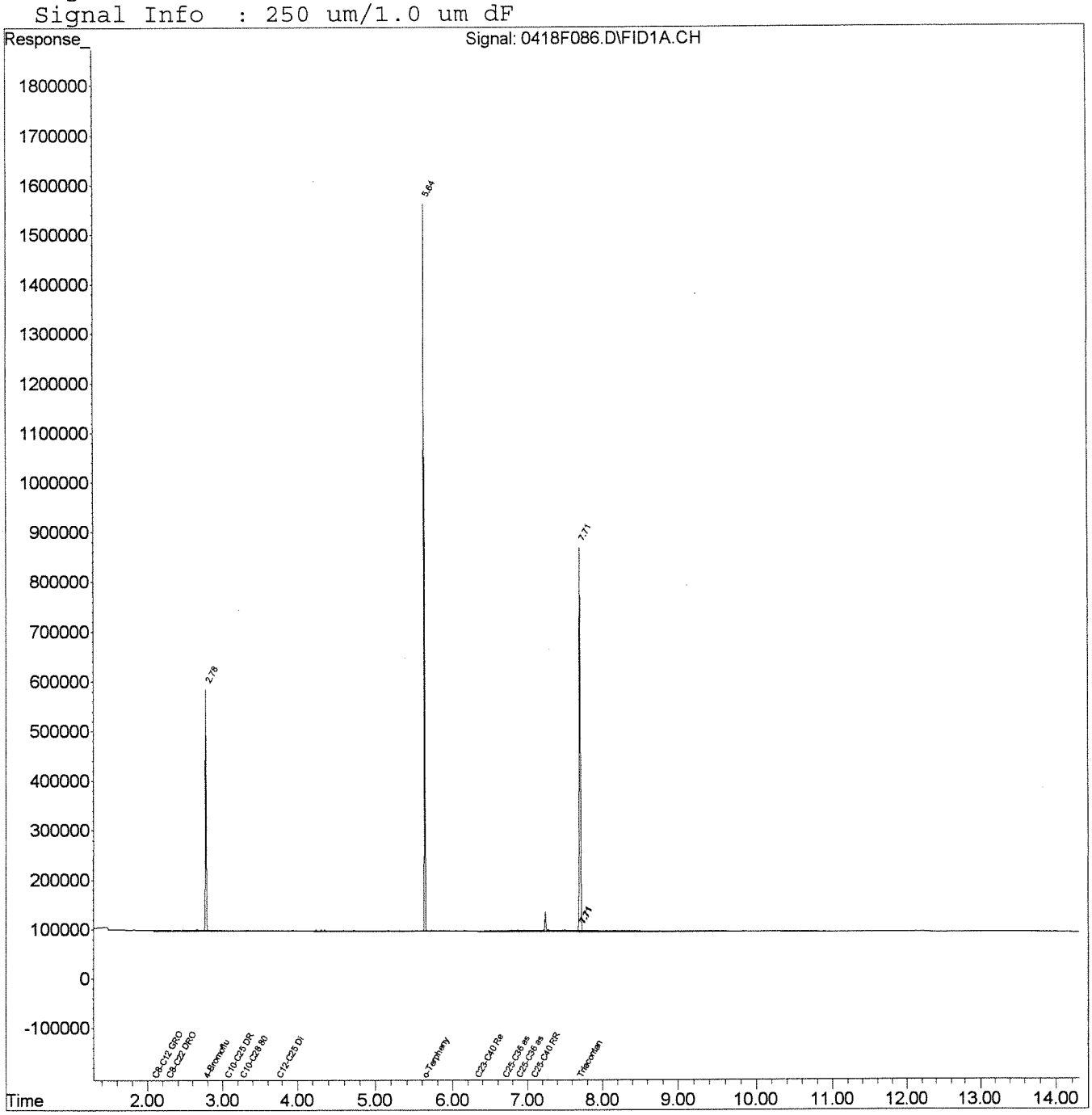
*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\GC21\DATA\041805\0418F086.D
Acq On : 19 Apr 2005 5:58 am
Sample : KWG0506162MB
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 11:15 2005 Quant Results File: 0418FRNT.RES

Vial: 32
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Batch QC	**Units:**	mg/Kg
Lab Code:	K2502505-010	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	ND	U	13	3.7	1	04/18/05	04/19/05	KWG0506162	
Residual Range Organics (RRO)	**6.9**	J	20	3.5	1	04/18/05	04/19/05	KWG0506162	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	80	54-140	04/19/05	Acceptable
n-Triacontane	94	50-150	04/19/05	Acceptable

Comments:

Exception Report

Data File: J:\GC21\DATA\041805\0418F090.D
Lab ID: K2502505-010
RunType: SMPL
Matrix: SOIL

Date Acquired: 04/19/2005 06:38
Date Quantitated: 04/19/2005 11:15
Batch ID: KWG0506268
Analysis Method: 8015M
MethodJoinID: MJ234

Batch QC

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA		x
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Std MRL Unsupported by ICAL	Residual Range Organics (RRO)	20	13	NA	NA

Primary Review: VM041905

Secondary Review: [illegible]

Printed: 04/19/2005 12:38:17
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**	V	**Matrix:**	SOIL
Prod Code:	DRO-X-8015	**Collect Date:**	04/06/2005	**Receive Date:**	04/07/2005

Analysis Lot:	KWG0506268	**Prep Lot:**	KWG0506162	**Report Group:**	K2502505
Analysis Method:	8015M	**Prep Method:**	EPA 3550B		
Prep Ref:	375638	**Prep Date:**	04/18/2005		

Quant Method:	J:\GC21\METHODS\0418FRNT.M	**Calibration ID:**	CAL4385
Title:	Diesel and Residual Range Organics	**Report List ID:**	LJ3073
		Method ID:	MJ234
MB Ref:	J:\GC21\DATA\041805\0418F086.D	**Quant based on Report List**	

Data File:	J:\GC21\DATA\041805\0418F090.D			**Instrument:**	gc21
Acqu Date:	04/19/2005 06:38	**Quant Date:**	04/19/2005 11:15	**Vial:**	34
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K2502505-010			**Soln Conc. Units:**	ppm

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
o-Terphenyl	5.64	0.00?	967688	19.98	80	54-140	OK
n-Triacontane	7.71	0.00?	896855	23.62	94	50-150	OK

Target Compounds

Final Conc. Units: mg/Kg Dry Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (DRO)	3.76	?	94123	2.78	3.7	U	
Residual Range Organics (RRO)	6.69	?	454692	17.73	6.9	J	

Prep Amount:	11.07 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	92.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

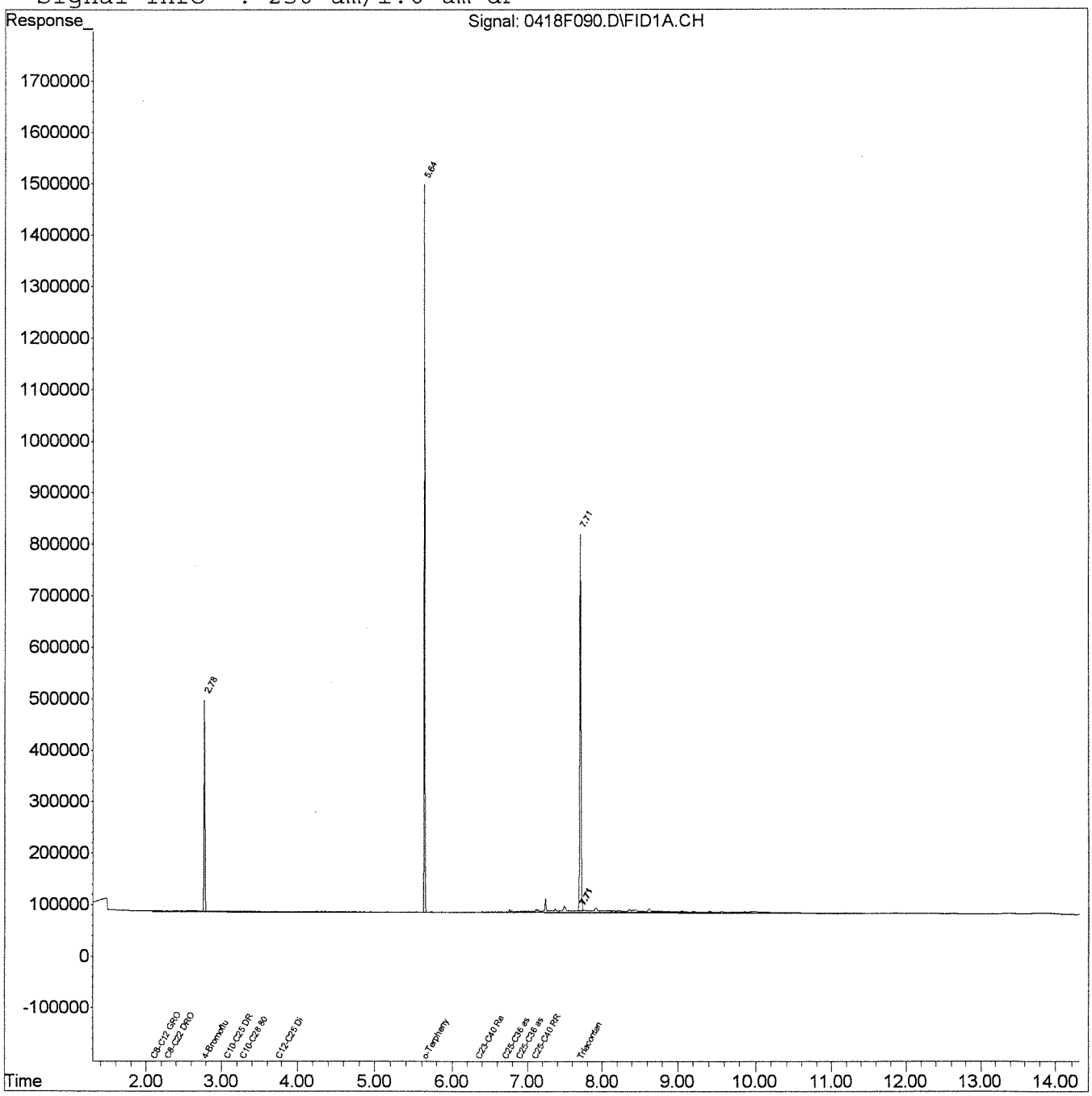
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\GC21\DATA\041805\0418F090.D Vial: 34
Acq On : 19 Apr 2005 6:38 am Operator: PMulheri
Sample : K2502505-010 Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 11:15 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Batch QCMS	**Units:**	mg/Kg
Lab Code:	KWG0506162-1	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**305**		13	3.7	1	04/18/05	04/19/05	KWG0506162	
Residual Range Organics (RRO)	**153**		20	3.5	1	04/18/05	04/19/05	KWG0506162	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	89	54-140	04/19/05	Acceptable
n-Triacontane	95	50-150	04/19/05	Acceptable

Comments:

Exception Report

Data File: J:\GC21\DATA\041805\0418F092.D
Lab ID: KWG0506162-1 -- K2502505-010MS
RunType: MS
Matrix: SOIL

Date Acquired: 04/19/2005 06:58
Date Quantitated: 04/19/2005 11:15
Batch ID: KWG0506268
Analysis Method: 8015M
MethodJoinID: MJ234

Batch QC

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA		x
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Std MRL Unsupported by ICAL	Motor Oil	20	13	NA	NA
	Residual Range Organics (RRO)	20	13	NA	↓

Primary Review: PM 041905

Secondary Review: 4/21/2005

Printed: 04/19/2005 12:38:20
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	DRO-X-8015	**Collect Date:**		**Receive Date:**	04/18/2005

Analysis Lot:	KWG0506268	**Prep Lot:**	KWG0506162	**Report Group:**	
Analysis Method:	8015M	**Prep Method:**	EPA 3550B		
Prep Ref:	375639	**Prep Date:**	04/18/2005		

Quant Method:	J:\GC21\METHODS\0418FRNT.M	**Calibration ID:**	CAL4385
Title:		**Method ID:**	MJ234
MB Ref:	J:\GC21\DATA\041805\0418F086.D	**Quant based on Method**	

Data File:	J:\GC21\DATA\041805\0418F092.D			**Instrument:**	gc21
Acqu Date:	04/19/2005 06:58	**Quant Date:**	04/19/2005 11:15	**Vial:**	35
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG0506162-1 -- K2502505-010MS			**Soln Conc. Units:**	ppm

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
o-Terphenyl	5.64	0.00?	1078276	22.26	89	54-140	OK
n-Triacontane	7.71	0.00?	898982	23.68	95	50-150	OK

Target Compounds

Final Conc. Units: mg/Kg Dry Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel	3.76	?	26406425	779.53	305		
Residual Range Organics (RRO)	6.69	?	10056607	392.02	153		
Motor Oil	6.89	?	10056607	392.02	153		

Prep Amount:	11.06 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	92.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

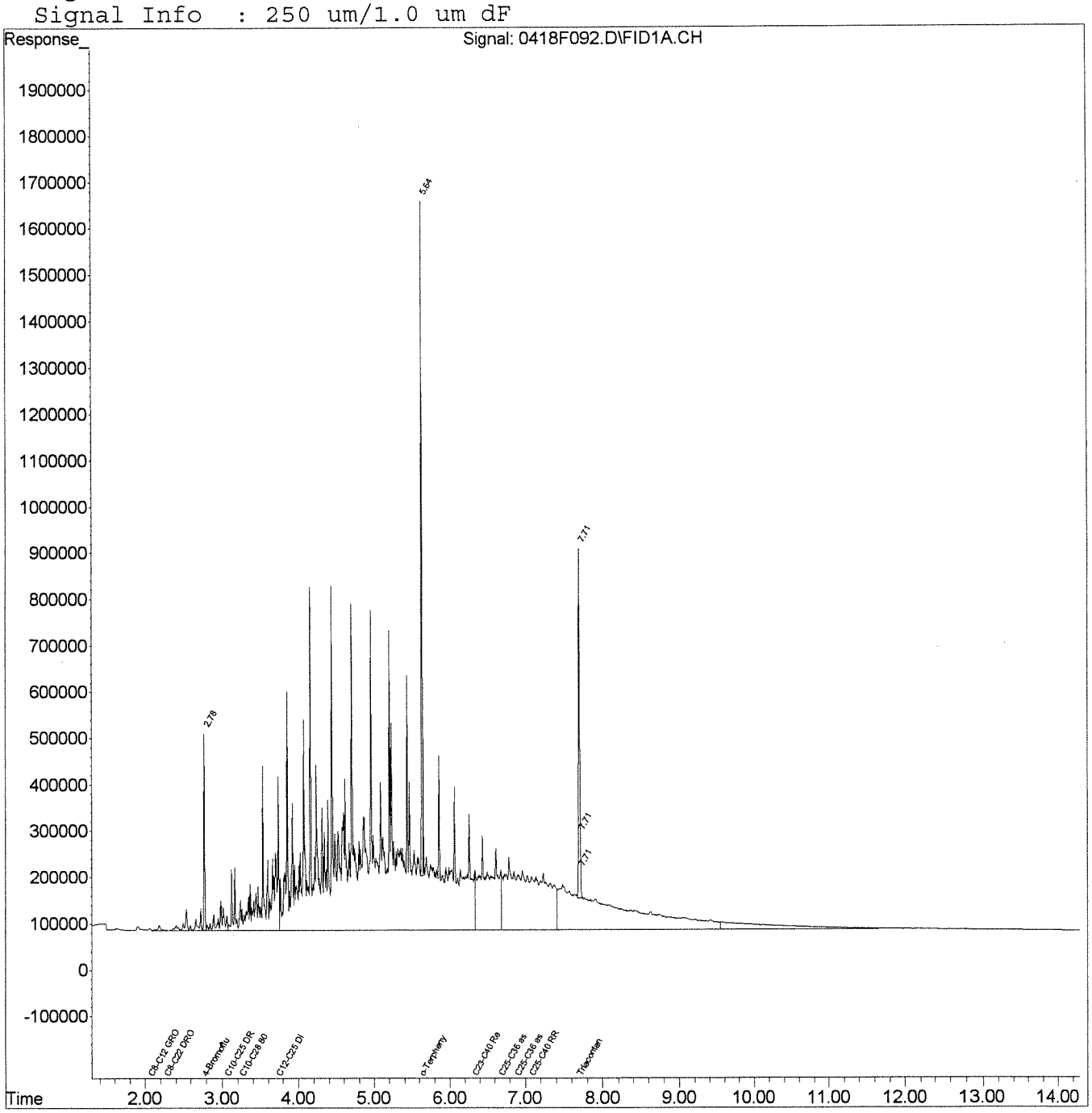
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\GC21\DATA\041805\0418F092.D Vial: 35
Acq On : 19 Apr 2005 6:58 am Operator: PMulheri
Sample : K2502505-010MS Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 11:15 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Batch QCDMS	**Units:**	mg/Kg
Lab Code:	KWG0506162-2	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**299**		13	3.7	1	04/18/05	04/19/05	KWG0506162	
Residual Range Organics (RRO)	**157**		20	3.5	1	04/18/05	04/19/05	KWG0506162	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	89	54-140	04/19/05	Acceptable
n-Triacontane	97	50-150	04/19/05	Acceptable

Comments:

Exception Report

Data File: J:\GC21\DATA\041805\0418F094.D
Lab ID: KWG0506162-2 -- K2502505-010DMS
RunType: DMS
Matrix: SOIL

Date Acquired: 04/19/2005 07:18
Date Quantitated: 04/19/2005 11:15
Batch ID: KWG0506268
Analysis Method: 8015M
MethodJoinID: MJ234

Batch QC

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA		x
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Std MRL Unsupported by ICAL	Motor Oil	20	13	NA	NA
	Residual Range Organics (RRO)	20	13	NA	

Primary Review: YM 041905

Secondary Review: 04/19/05

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	DRO-X-8015	**Collect Date:**		**Receive Date:**	04/18/2005

Analysis Lot:	KWG0506268	**Prep Lot:**	KWG0506162	**Report Group:**	
Analysis Method:	8015M	**Prep Method:**	EPA 3550B		
Prep Ref:	375640	**Prep Date:**	04/18/2005		

Quant Method:	J:\GC21\METHODS\0418FRNT.M	**Calibration ID:**	CAL4385
Title:			
		Method ID:	MJ234
MB Ref:	J:\GC21\DATA\041805\0418F086.D	**Quant based on Method**	

Data File:	J:\GC21\DATA\041805\0418F094.D			**Instrument:**	gc21
Acqu Date:	04/19/2005 07:18	**Quant Date:**	04/19/2005 11:15	**Vial:**	36
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG0506162-2 -- K2502505-010DMS			**Soln Conc. Units:**	ppm

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
o-Terphenyl	5.64	0.00?	1083471	22.37	89	54-140	OK
n-Triacontane	7.71	0.00?	918869	24.20	97	50-150	OK

Target Compounds

Final Conc. Units: mg/Kg Dry Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel	3.76	?	25933389	765.57	299		
Residual Range Organics (RRO)	6.69	?	10307578	401.81	157		
Motor Oil	6.89	?	10307578	401.81	157		

Prep Amount:	11.06 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	92.5 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

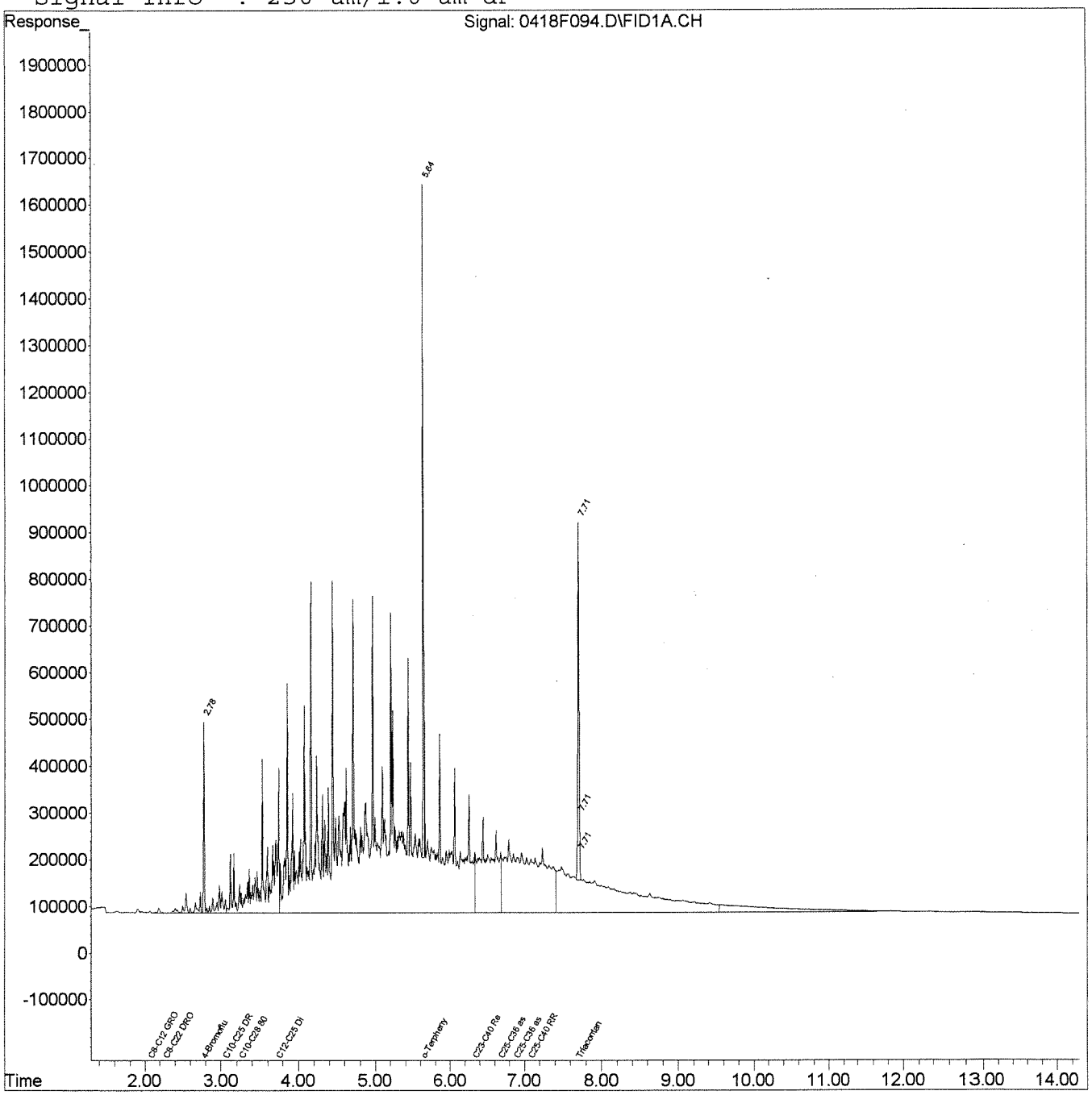
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\GC21\DATA\041805\0418F094.D Vial: 36
Acq On : 19 Apr 2005 7:18 am Operator: PMulheri
Sample : K2502505-010DMS Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 11:15 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Diesel and Residual Range Organics

Sample Name:	Lab Control Sample	**Units:**	mg/Kg
Lab Code:	KWG0506162-3	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	8015M		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Diesel Range Organics (DRO)	**317**		13	3.4	1	04/18/05	04/19/05	KWG0506162	
Residual Range Organics (RRO)	**167**		20	3.2	1	04/18/05	04/19/05	KWG0506162	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
o-Terphenyl	90	54-140	04/19/05	Acceptable
n-Triacontane	95	50-150	04/19/05	Acceptable

Comments:

Exception Report

Data File: J:\GC21\DATA\041805\0418F082.D
Lab ID: KWG0506162-3
RunType: LCS
Matrix: SOIL

Date Acquired: 04/19/2005 01:59
Date Quantitated: 04/19/2005 11:15
Batch ID: KWG0506268
Analysis Method: 8015M
MethodJoinID: MJ234

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA		x
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Std MRL Unsupported by ICAL	Motor Oil	20	13	NA	NONE
	Residual Range Organics (RRO)	20	13	NA	↓

THAT'S RIGHT

THAT'S WRONG – SHOULD BE 25.

OH, I GET IT; THE OPTIMAL PREP AMOUNT IS GIVEN AS 5g IN STEALTH – WE ARE TARGETING 10g DRY.

Primary Review: PM 04/19/05

Secondary Review: gDA 4/19/05

Printed: 04/19/2005 12:38:08
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	DRO-X-8015	**Collect Date:**		**Receive Date:**	04/18/2005

Analysis Lot:	KWG0506268	**Prep Lot:**	KWG0506162	**Report Group:**	
Analysis Method:	8015M	**Prep Method:**	EPA 3550B		
Prep Ref:	375641	**Prep Date:**	04/18/2005		

Quant Method:	J:\GC21\METHODS\0418FRNT.M	**Calibration ID:**	CAL4385
Title:		**Method ID:**	MJ234
MB Ref:	J:\GC21\DATA\041805\0418F086.D	**Quant based on Method**	

Data File:	J:\GC21\DATA\041805\0418F082.D			**Instrument:**	gc21
Acqu Date:	04/19/2005 01:59	**Quant Date:**	04/19/2005 11:15	**Vial:**	31
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG0506162-3			**Soln Conc. Units:**	ppm

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
o-Terphenyl	5.64	0.00?	1084809	22.40	90	54-140	OK
n-Triacontane	7.71	0.00?	905684	23.86	95	50-150	OK

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel	3.76	?	26842404	792.40	317		
Residual Range Organics (RRO)	6.69	?	10711758	417.56	167		
Motor Oil	6.89	?	10711758	417.56	167		

Prep Amount:	10.00 g	**Dilution:**	1.0
Prep Final Vol:	4 ml	**Unit Factor:**	1
Solids:	%		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

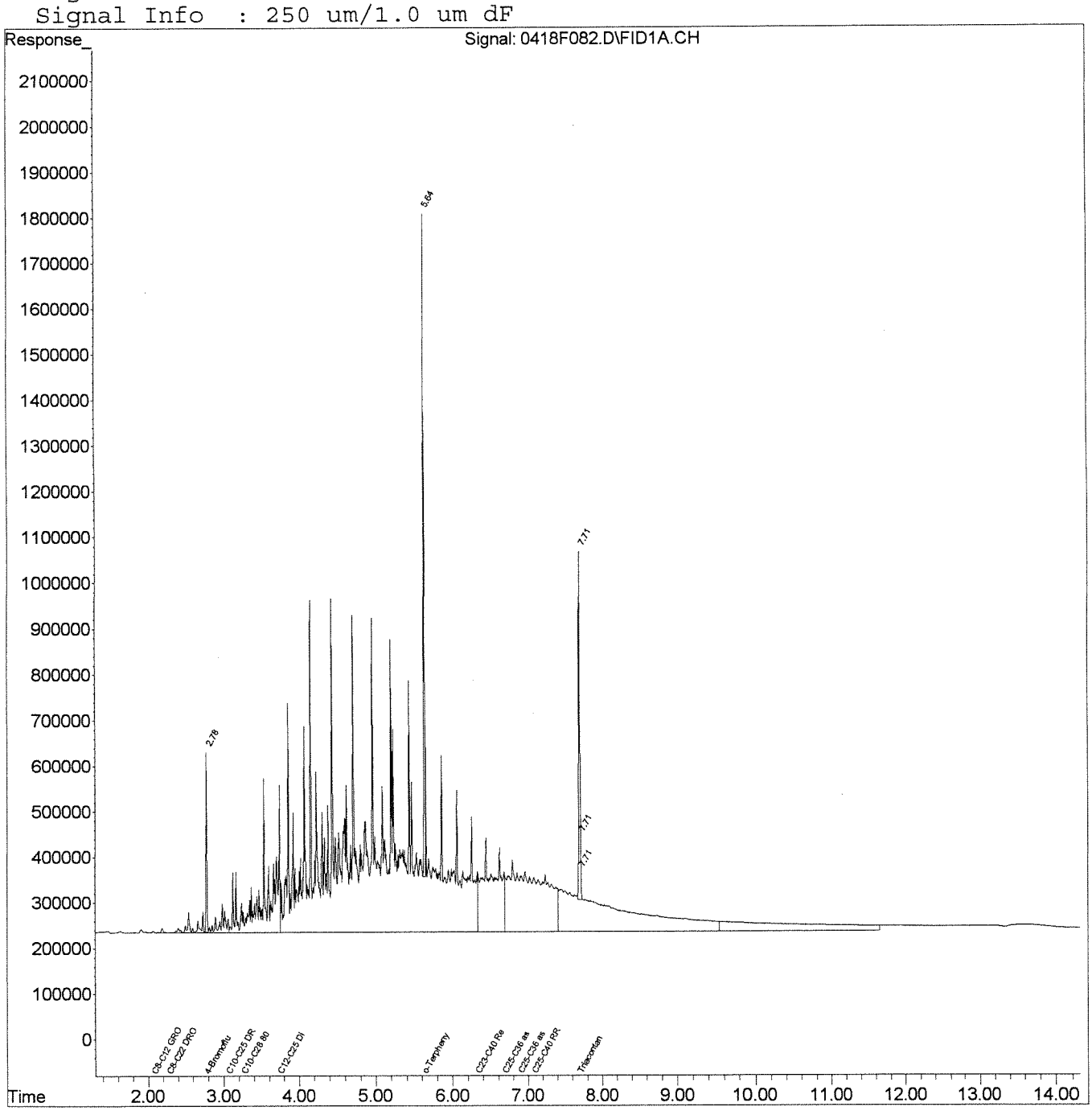
*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\GC21\DATA\041805\0418F082.D
Acq On : 19 Apr 2005 1:59 am
Sample : KWG0506162LCS
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 11:15 2005 Quant Results File: 0418FRNT.RES

Vial: 31
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Organic Analysis:
Diesel and Residual Range Organics

Validation Package

Standards Data

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Calibration Date: 04/18/2005

Initial Calibration Summary
Diesel and Residual Range Organics

Calibration ID: CAL4385
Instrument ID: gc21

Column: RTX-1

Level ID	File ID	Level ID	File ID
A	J:\GC21\DATA\041805\0418F044.D	H	J:\GC21\DATA\041805\0418F058.D
B	J:\GC21\DATA\041805\0418F046.D	I	J:\GC21\DATA\041805\0418F060.D
C	J:\GC21\DATA\041805\0418F048.D	J	J:\GC21\DATA\041805\0418F062.D
D	J:\GC21\DATA\041805\0418F050.D	K	J:\GC21\DATA\041805\0418F064.D
E	J:\GC21\DATA\041805\0418F052.D	L	J:\GC21\DATA\041805\0418F066.D
F	J:\GC21\DATA\041805\0418F054.D	M	J:\GC21\DATA\041805\0418F068.D
G	J:\GC21\DATA\041805\0418F056.D	N	J:\GC21\DATA\041805\0418F070.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Diesel Range Organics (DRO)				B	20	33100				D	50	35200			
	F	200	33800				H	500	34900				J	1000	31200
				L	2000	35000				N	5000	33800			
Residual Range Organics (RRO)							C	50	27500				E	200	27800
				G	500	27200				I	1000	23700			
	K	2000	24000				M	5000	23700						
o-Terphenyl				B	1.0	50800				D	2.5	48900			
	F	10	48500				H	25	48100				J	50	47100
				L	100	48600				N	250	47000			
n-Triacontane				B	1.0	38500				D	2.5	36600			
	F	10	39100				H	25	38200				J	50	37600
				L	100	38500				N	250	37200			

Results flagged with an asterisk (*) indicate values outside control criteria.

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Calibration Date: 04/18/2005

Initial Calibration Summary
Diesel and Residual Range Organics

Calibration ID: CAL4385
Instrument ID: gc21

Column: RTX-1

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Diesel Range Organics (DRO)	MS	AverageRF	% RSD	4.1		≤ 20
Residual Range Organics (RRO)	MS	AverageRF	% RSD	8.0		≤ 20
o-Terphenyl	SURR	AverageRF	% RSD	2.6		≤ 20
n-Triacontane	SURR	AverageRF	% RSD	2.3		≤ 20

Results flagged with an asterisk (*) indicate values outside control criteria.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Calibration Date: 04/18/2005
Date Analyzed: 04/19/2005

Second Source Calibration Verification
Diesel and Residual Range Organics

Calibration Type: External Standard
Analysis Method: 8015M

Calibration ID: CAL4385
Units: ppm

File ID: J:\GC21\DATA\041805\0418F074.D
J:\GC21\DATA\041805\0418F076.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	1100	33900	37400	11	NA	± 15 %	AverageRF
Residual Range Organics (RRO)	1000	980	25700	25200	-2	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

DATA ANALYSIS PARAMETERS

Method Name: J:\GC21\METHODS\0418FRNT.M

Percent Report Settings

Sort By: Signal

Output Destination
Screen: No
Printer: Yes
File: No

Integration Events: Meth Default

Generate Report During Run Method: No

Signal Correlation Window: 0.020

Quantitative Report Settings

Report Type: Summary

Output Destination
Screen: Yes
Printer: No
File: No

Generate Report During Run Method: No

PM 041905

GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Calibration Last Updated: Tue Apr 19 05:05:45 2005

Reference Window: 10.00 Minutes
Non-Reference Window: 5.00 Minutes
Correlation Window: 0.02 minutes
Default Multiplier: 1.00
Default Sample Concentration: 0.00

Compound Information

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1) 4-Bromofluorobenzene ( )
Ret. Time 2.78 min., Extract & Integrate from 2.73 to 2.83 min.

Lvl ID Conc (ppm) Response

G/O	not used for this compound	
Xtra	not used for this compound	
1	1.000	19375
2	2.500	46323
3	10.000	183060
4	25.000	452730
5	50.000	897711
6	100.000	1837482
7	250.000	4453815

Curve Fit: Avg. RF

---

2) o-Terphenyl ( )

Ret. Time 5.64 min., Extract & Integrate from 5.59 to 5.69 min.

Lvl	ID	Conc (ppm)	Response
D/S		50.000	-1
G/O		not used for this compound	
Xtra		not used for this compound	
1		1.000	50766
2		2.500	122170
3		10.000	485109
4		25.000	1203349
5		50.000	2357044
6		100.000	4862606
7		250.000	11743140

Curve Fit: Avg. RF

---

3) Triacontane (C-30) ( )

Ret. Time 7.71 min., Extract & Integrate from 7.66 to 7.76 min.

Lvl	ID	Conc (ppm)	Response
D/S		50.000	-1
G/O		not used for this compound	
Xtra		not used for this compound	
1		1.000	38480
2		2.500	91621
3		10.000	391347
4		25.000	955388
5		50.000	1877514
6		100.000	3848658
7		250.000	9309493

1M041905

Curve Fit: Avg. RF

---

4) C12-C25 Diesel Range Organics (DRO) ( )

Ret. Time 3.76 min., Extract & Integrate from 3.76 to 6.69 min.

Lvl	ID	Conc (ppm)	Response
D/S		1000.000	-1
G/O		not used for this compound	
Xtra		not used for this compound	
1		20.000	662758
2		50.000	1760715
3		200.000	6764275

9041905

5	1000.000	31232540
6	2000.000	70007552
7	5000.000	169171550

Curve Fit: Avg. RF

---

5) C10-C25 DRO (AK102) ( )

Ret. Time 3.07 min., Extract & Integrate from 3.07 to 6.69 min.

Lvl	ID	Conc (ppm)	Response
D/S		1000.000	-1
G/O		not used for this compound	
Xtra		not used for this compound	
1		20.000	864363
2		50.000	2009990
3		200.000	7687577
4		500.000	19776096
5		1000.000	35425298
6		2000.000	79446662
7		5000.000	192017507

Curve Fit: Avg. RF

---

6) C10-C28 8015 DRO ( )

Ret. Time 3.27 min., Extract & Integrate from 3.07 to 7.42 min.

Lvl	ID	Conc (ppm)	Response
D/S		1000.000	-1
G/O		not used for this compound	
Xtra		not used for this compound	
1		20.000	919695
2		50.000	2101398
3		200.000	7740367
4		500.000	20005334
5		1000.000	35686805
6		2000.000	79917702
7		5000.000	192996865

PM 1419/05

Curve Fit: Avg. RF

---

7) C8-C22 DRO ( )

Ret. Time 2.29 min., Extract & Integrate from 2.09 to 6.34 min.

Lvl	ID	Conc (ppm)	Response
D/S		1000.000	-1
G/O		not used for this compound	
Xtra		not used for this compound	
1		20.000	915414
2		50.000	2044437
3		200.000	7870890
4		500.000	20143824
5		1000.000	36114189
6		2000.000	81057028
7		5000.000	196000604

8/04/05

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8) C23-C40 Residual Range (RRO) ( )
Ret. Time 6.34 min., Extract & Integrate from 6.34 to 11.66 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		1000.000	-1
Xtra		not used for this compound	
1		20.000	-1
2		50.000	1817333
3		200.000	7848213
4		500.000	17937147
5		1000.000	30522068
6		2000.000	62604363
7		5000.000	153572817

Curve Fit: Avg. RF

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9) C25-C36 as RRO (AK103, 'X') ( )
Ret. Time 6.69 min., Extract & Integrate from 6.69 to 9.55 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		1000.000	-1
Xtra		not used for this compound	
1		20.000	-1
2		50.000	1375149
3		200.000	5564478
4		500.000	13615036
5		1000.000	23665687
6		2000.000	48060543
7		5000.000	118337497

pm 041905

Curve Fit: Avg. RF

---

10) C25-C36 as Motor OIL ( )
Ret. Time 6.89 min., Extract & Integrate from 6.69 to 9.55 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		1000.000	-1
Xtra		not used for this compound	
1		20.000	-1
2		50.000	1375149
3		200.000	5564478
4		500.000	13615036
5		1000.000	23665687
6		2000.000	48060543
7		5000.000	118337497

pm 041905

Curve Fit: Avg. RF

---

11) C25-C40 RRO ( )
Ret. Time 7.09 min., Extract & Integrate from 6.69 to 11.66 min.

D/S	not used for this compound	
G/O	1000.000	-1
Xtra	not used for this compound	
1	20.000	-1
2	50.000	1524022
3	200.000	6718200
4	500.000	14972232
5	1000.000	25244625
6	2000.000	51915177
7	5000.000	127238476

Curve Fit: Avg. RF

---

12) C8-C12 GRO (8015) ( )
Ret. Time 2.09 min., Extract & Integrate from 2.09 to 3.76 min.

Lvl ID	Conc (ppm)	Response
D/S	not used for this compound	
G/O	500.000	-1
Xtra	not used for this compound	
1	20.000	227645
2	50.000	674124
3	200.000	2614615
4	500.000	7115069
5	1000.000	12841241
6	2000.000	26150145
7	5000.000	64820709

Curve Fit: Avg. RF

---

13) Kerosene (C9-C18) ( )
Ret. Time 2.20 min., Extract & Integrate from 2.20 to 2.20 min.

Lvl ID	Conc (ppm)	Response
D/S	not used for this compound	
G/O	not used for this compound	
Xtra	1000.000	-1
1	20.000	-1
2	50.000	-1
3	200.000	-1
4	500.000	-1
5	1000.000	-1
6	2000.000	-1
7	5000.000	-1

PM041905

Curve Fit: Avg. RF

PM041905

14) Future Development ( )
Ret. Time 7.00 min., Extract & Integrate from 7.00 to 7.00 min.

Lvl ID	Conc (ppm)	Response
D/S	not used for this compound	
G/O	not used for this compound	
Xtra	not used for this compound	
1	not used for this compound	
2	not used for this compound	

4 not used for this compound
5 not used for this compound
6 not used for this compound
7 5000.000 -1

Curve Fit: Avg. RF

---

15) Ethylbenzene ( )
Ret. Time 2.50 min., Extract & Integrate from 2.45 to 2.55 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		not used for this compound	
Xtra		not used for this compound	
1		not used for this compound	
2		not used for this compound	
3		not used for this compound	
4		not used for this compound	
5		not used for this compound	
6		not used for this compound	
7		5000.000	-1

Curve Fit: Avg. RF

---

16) p,m-Xylenes ( )
Ret. Time 2.55 min., Extract & Integrate from 2.50 to 2.60 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		not used for this compound	
Xtra		not used for this compound	
1		not used for this compound	
2		not used for this compound	
3		not used for this compound	
4		not used for this compound	
5		not used for this compound	
6		not used for this compound	
7		5000.000	-1

VM041905

Curve Fit: Avg. RF

---

17) o-Xylene ( )
Ret. Time 2.67 min., Extract & Integrate from 2.62 to 2.72 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		not used for this compound	
Xtra		not used for this compound	
1		not used for this compound	
2		not used for this compound	
3		not used for this compound	
4		not used for this compound	
5		not used for this compound	
6		not used for this compound	
7		5000.000	-1

Curve Fit: Avg. RF

---

18) a-Pinene ( )
Ret. Time 2.92 min., Extract & Integrate from 2.87 to 2.97 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		not used for this compound	
Xtra		not used for this compound	
1		not used for this compound	
2		not used for this compound	
3		not used for this compound	
4		not used for this compound	
5		not used for this compound	
6		not used for this compound	
7		5000.000	-1

Curve Fit: Avg. RF

---

19) b-Pinene ( )
Ret. Time 3.10 min., Extract & Integrate from 3.05 to 3.15 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		not used for this compound	
Xtra		not used for this compound	
1		not used for this compound	
2		not used for this compound	
3		not used for this compound	
4		not used for this compound	
5		not used for this compound	
6		not used for this compound	
7		5000.000	-1

pm 041905

Curve Fit: Avg. RF

---

20) 1,2,3-Trimethylbenzene ( )
Ret. Time 3.24 min., Extract & Integrate from 3.19 to 3.29 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		not used for this compound	
Xtra		not used for this compound	
1		not used for this compound	
2		not used for this compound	
3		not used for this compound	
4		not used for this compound	
5		not used for this compound	
6		not used for this compound	
7		5000.000	-1

Curve Fit: Avg. RF

---

21) Fluoranthene ( )
Ret. Time 6.06 min., Extract & Integrate from 6.01 to 6.11 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		not used for this compound	
Xtra		not used for this compound	
1		not used for this compound	
2		not used for this compound	
3		not used for this compound	
4		not used for this compound	
5		not used for this compound	
6		not used for this compound	
7		5000.000	-1

Curve Fit: Avg. RF

---

22) Pyrene ( )

Ret. Time 6.17 min., Extract & Integrate from 6.12 to 6.22 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		not used for this compound	
Xtra		not used for this compound	
1		not used for this compound	
2		not used for this compound	
3		not used for this compound	
4		not used for this compound	
5		not used for this compound	
6		not used for this compound	
7		5000.000	-1

Curve Fit: Avg. RF

---

23) Pristane ( )

Ret. Time 5.23 min., Extract & Integrate from 5.18 to 5.28 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		not used for this compound	
Xtra		not used for this compound	
1		not used for this compound	
2		not used for this compound	
3		not used for this compound	
4		not used for this compound	
5		not used for this compound	
6		not used for this compound	
7		5000.000	-1

PM 6/15/15

Curve Fit: Avg. RF

---

24) Phytane ( )

Ret. Time 5.47 min., Extract & Integrate from 5.42 to 5.52 min.

Lvl	ID	Conc (ppm)	Response
D/S		not used for this compound	
G/O		not used for this compound	
Xtra		not used for this compound	
1		not used for this compound	

3	not used for this compound	
4	not used for this compound	
5	not used for this compound	
6	not used for this compound	
7	5000.000	-1

Curve Fit: Avg. RF

END OF DATA ANALYSIS PARAMETERS

Tue Apr 19 05:16:17 2005

PM041905

SA1905

Data File : J:\GC21\DATA\041805\0418F046.D Vial: 11
Acq On : 18 Apr 2005 8:04 pm Operator: PMulheri
Sample : HCSV7-8R 20/1 ppm Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 04:54:55 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 04:46:36 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units	ppm against new
System Monitoring Compounds				
1) S 4-Bromofluorobenzene	2.78	19375	0.946 ppm	1.05
Spiked Amount 50.000	Recovery	=	1.89%	1.05
2) S o-Terphenyl	5.64	50766	1.105 ppm	
Spiked Amount 50.000	Recovery	=	2.21%	1.01
3) S Triacontane (C-30)	7.71	38480	0.932 ppm	
Spiked Amount 50.000	Recovery	=	1.86%	
Target Compounds				ppm against new
4) H C12-C25 Diesel Range Organ	3.76	662758	17.930 ppm	19.6
5) H C10-C25 DRO (AK102)	3.07	864363	20.587 ppm	~~27.6~~ NA
6) H C10-C28 8015 DRO	3.27	919695	21.844 ppm	NA
7) H C8-C22 DRO	2.29	915414	20.678 ppm	22.7

PM 041905

g 04/19/05

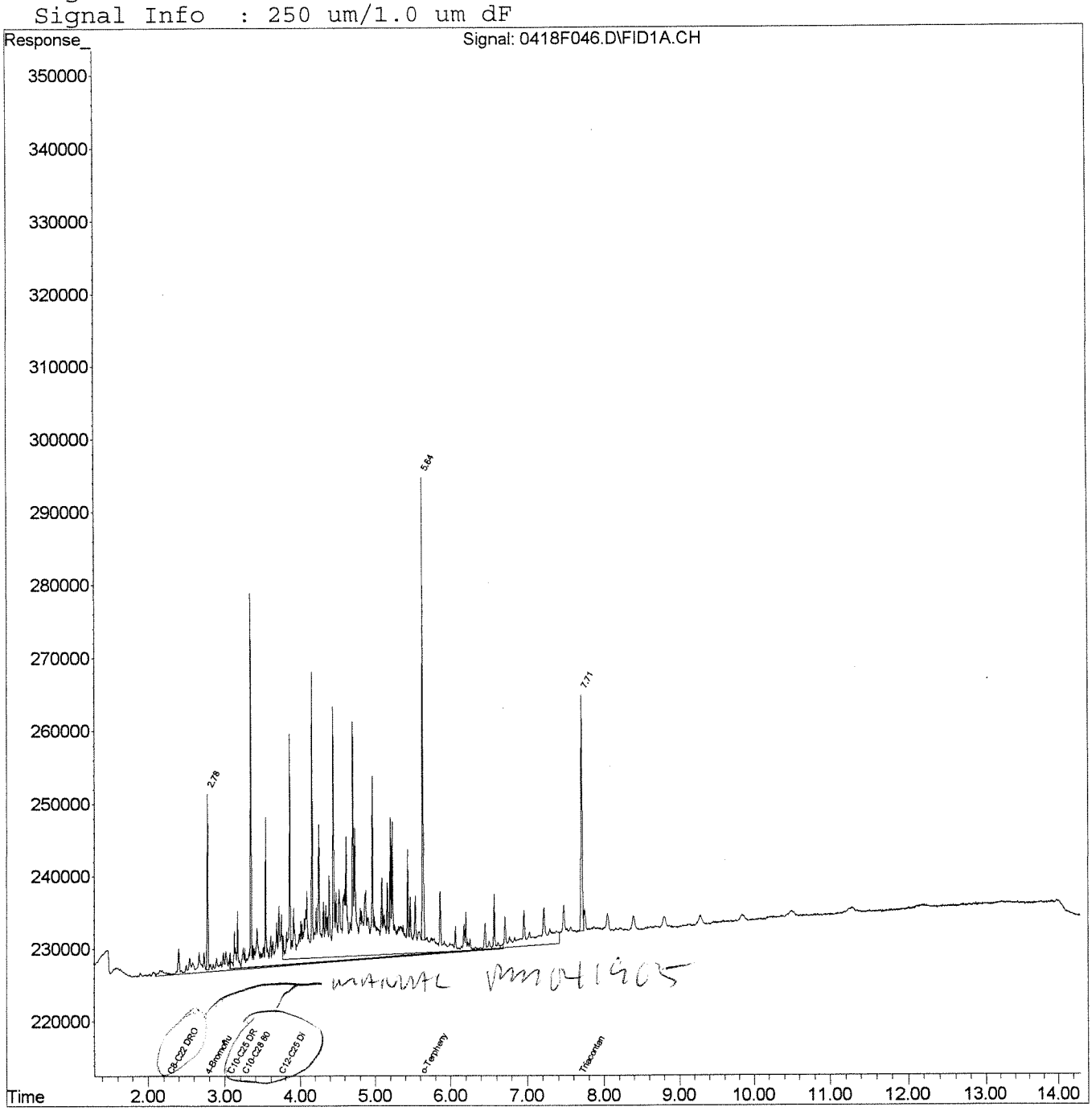
(f)=RT Delta > 1/2 Window (m)=manual int.
0418F046.D 0418FRNT.M Tue Apr 19 06:41:57 2005 Page 1

Data File : J:\GC21\DATA\041805\0418F046.D
Acq On : 18 Apr 2005 8:04 pm
Sample : HCSV7-8R 20/1 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 5:04 2005 Quant Results File: 0418FRNT.RES

Vial: 11
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 04:46:36 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

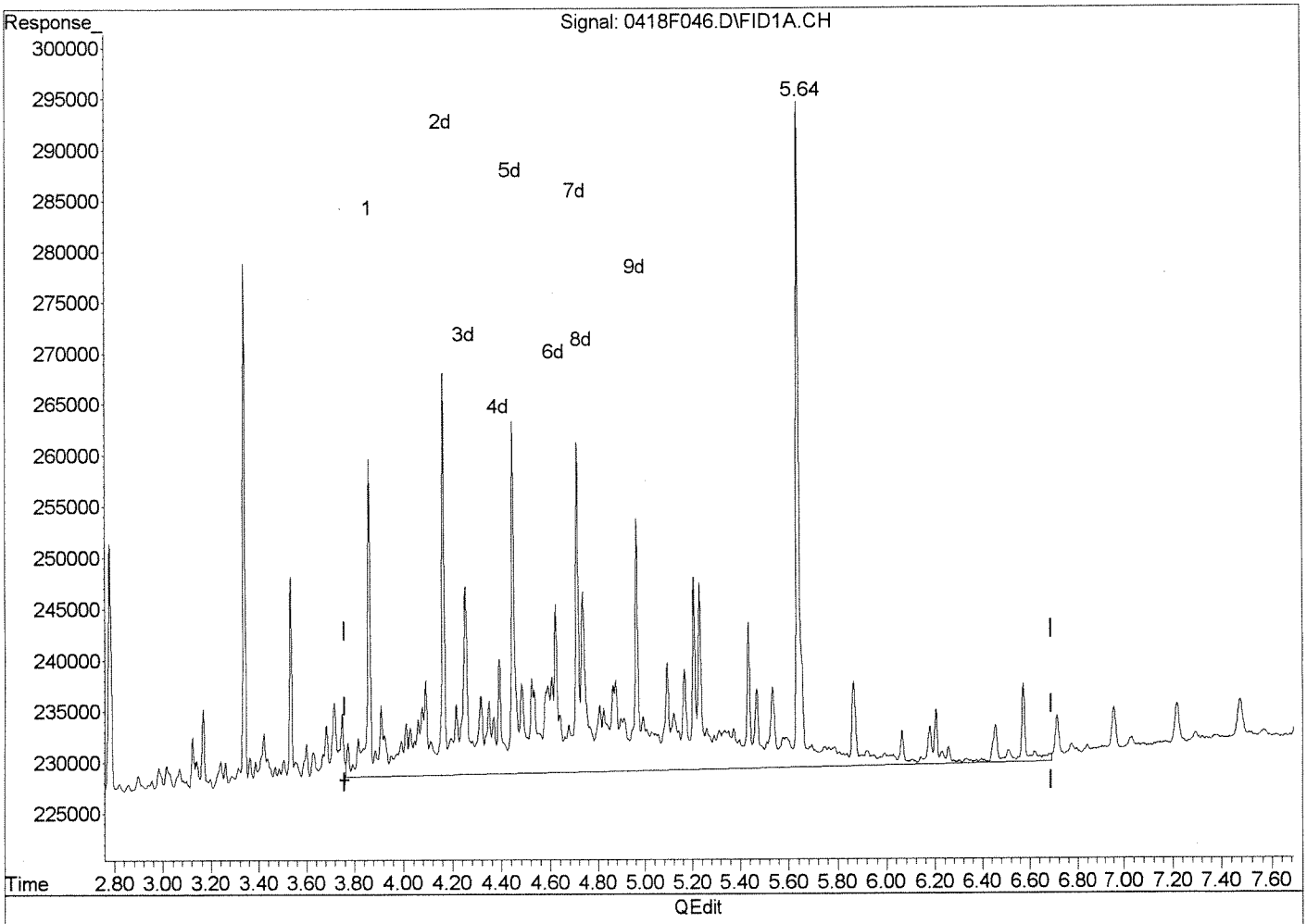


MATRIXAL PM041905

Data File : J:\GC21\DATA\041805\0418F046.D
Acq On : 18 Apr 2005 8:04 pm
Sample : HCSV7-8R 20/1 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 4:56 2005 Quant Results File: 0418FRNT.RES

Vial: 11
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:01:54 2005
Response via : Multiple Level Calibration



(4) C12-C25 Diesel Range Organics (DRO) (H) MANUALLY

3.76min 17.930ppm

IMPROVED

response 662758

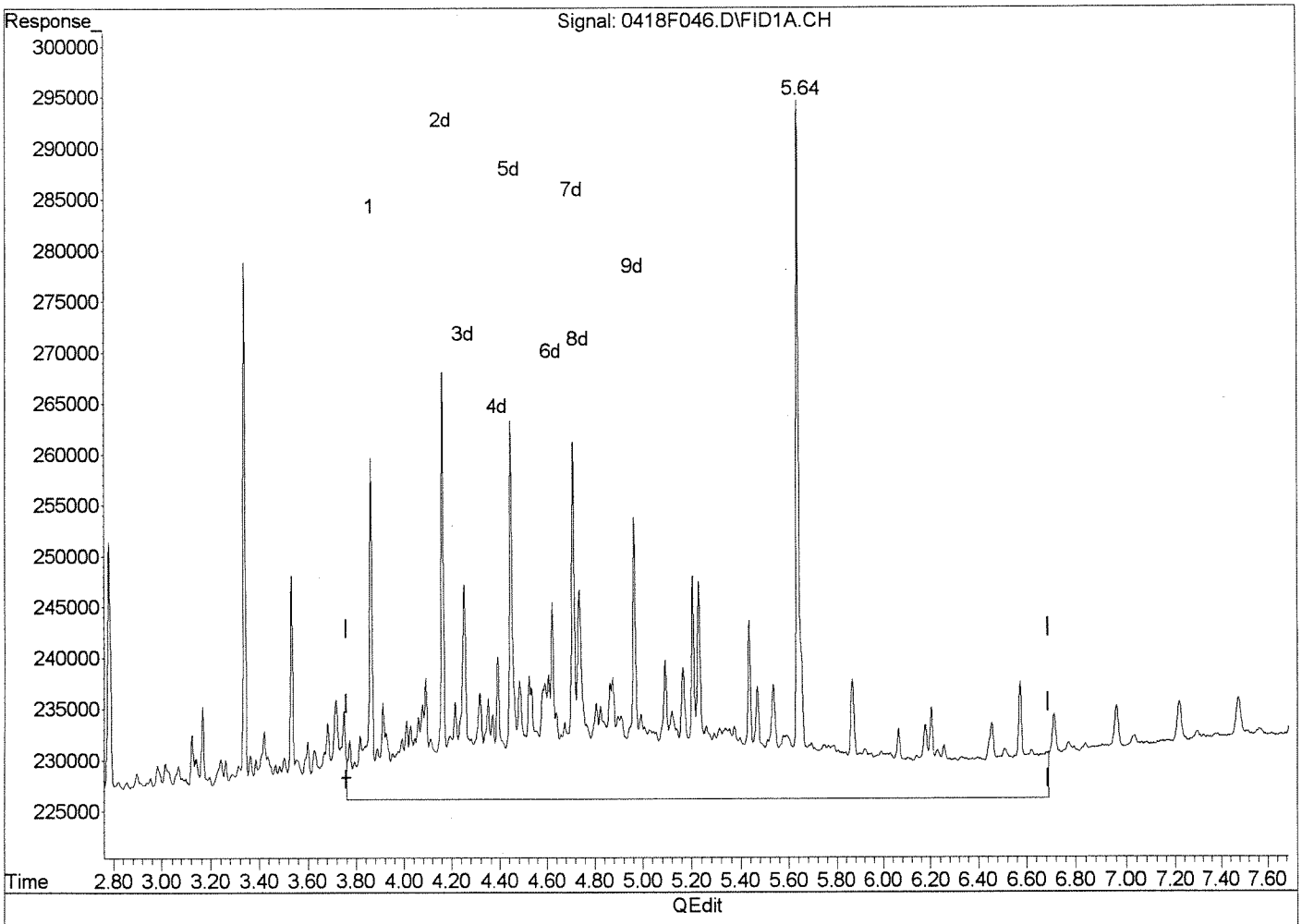
MMU4/19/05 MC 4/19/05

(+) = Expected Retention Time
0418F046.D 0418FRNT.M Tue Apr 19 05:03:25 2005

Data File : J:\GC21\DATA\041805\0418F046.D
Acq On : 18 Apr 2005 8:04 pm
Sample : HCSV7-8R 20/1 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 4:56 2005 Quant Results File: 0418FRNT.RES

Vial: 11
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:01:54 2005
Response via : Multiple Level Calibration



(4) C12-C25 Diesel Range Organics (DRO) (H)

3.76min 32.614ppm

response 1205512

ORIGINAL

PM

M & 4/19/05

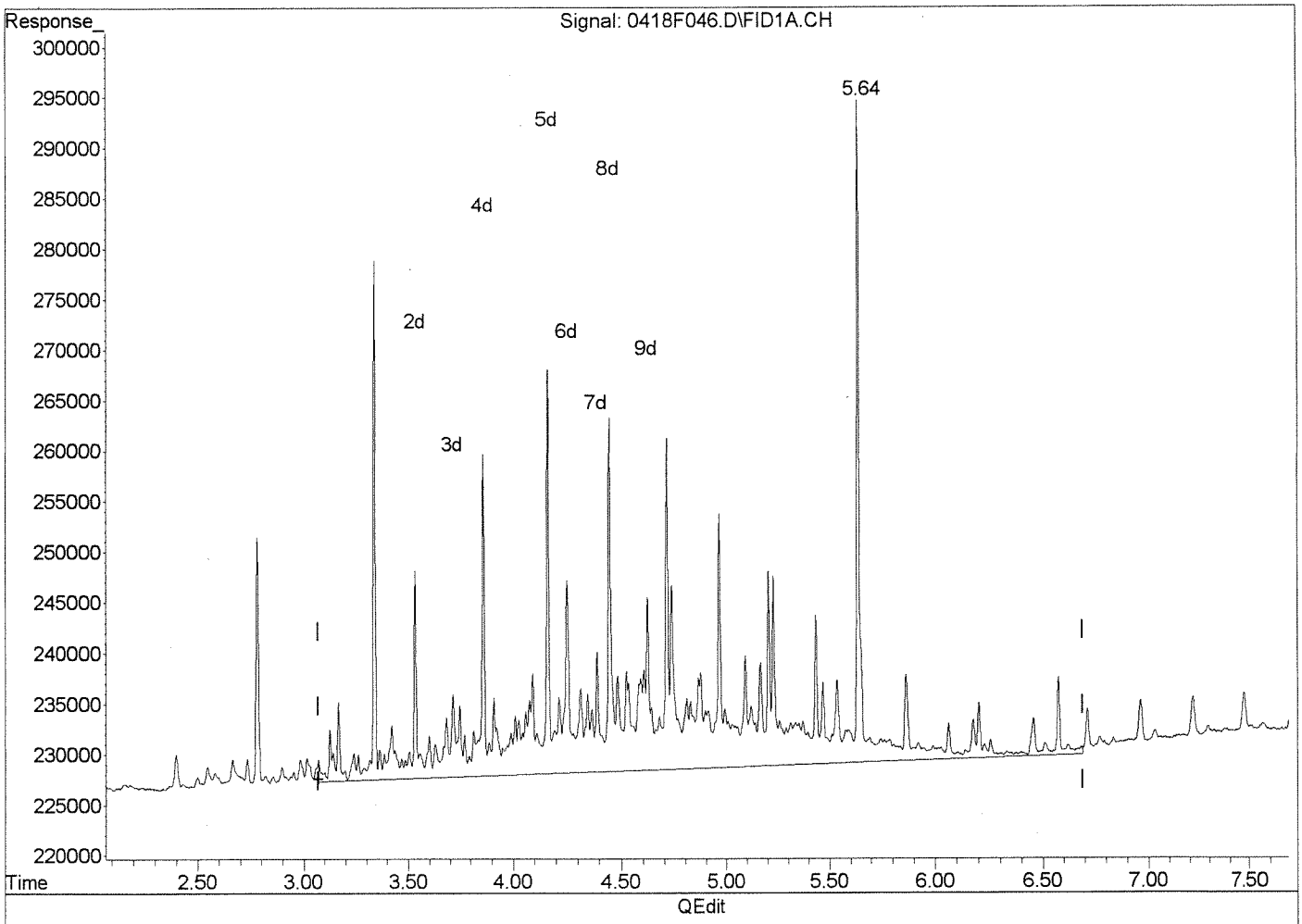
(+) = Expected Retention Time

0418F046.D 0418FRNT.M Tue Apr 19 05:03:00 2005

Data File : J:\GC21\DATA\041805\0418F046.D
Acq On : 18 Apr 2005 8:04 pm
Sample : HCSV7-8R 20/1 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 4:56 2005 Quant Results File: 0418FRNT.RES

Vial: 11
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:01:54 2005
Response via : Multiple Level Calibration



(5) C10-C25 DRO (AK102) (H)
3.07min 20.587ppm
response 864363

INITIALLY
IMPROVED
MMC 4/19/05

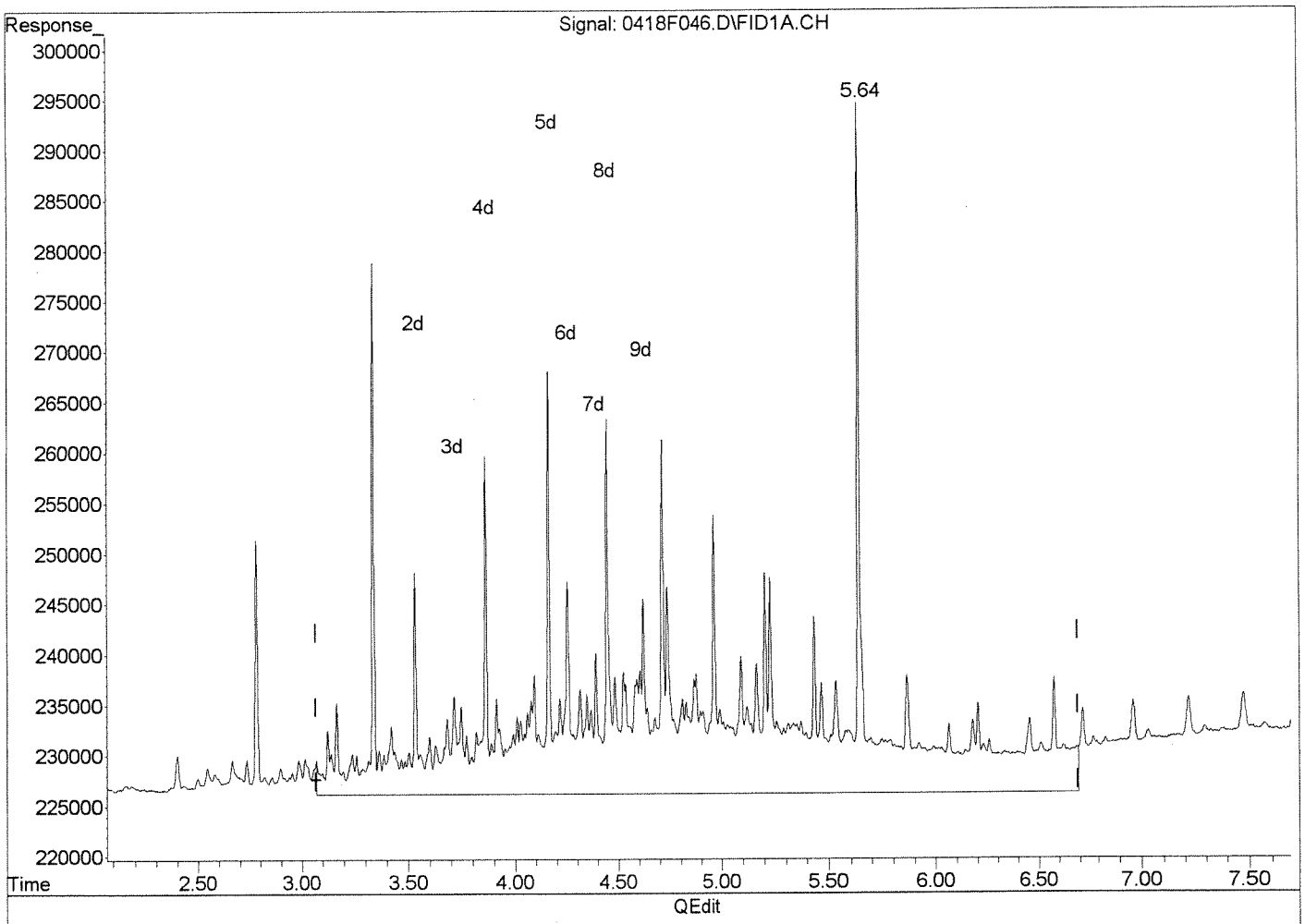
MEG 4/19/05

(+) = Expected Retention Time
0418F046.D 0418FRNT.M Tue Apr 19 05:03:56 2005

Data File : J:\GC21\DATA\041805\0418F046.D
Acq On : 18 Apr 2005 8:04 pm
Sample : HCSV7-8R 20/1 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 4:56 2005 Quant Results File: 0418FRNT.RES

Vial: 11
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:01:54 2005
Response via : Multiple Level Calibration



(5) C10-C25 DRO (AK102) (H)

3.07min 33.252ppm

response 1396107

ORIGINAL

PM 041905

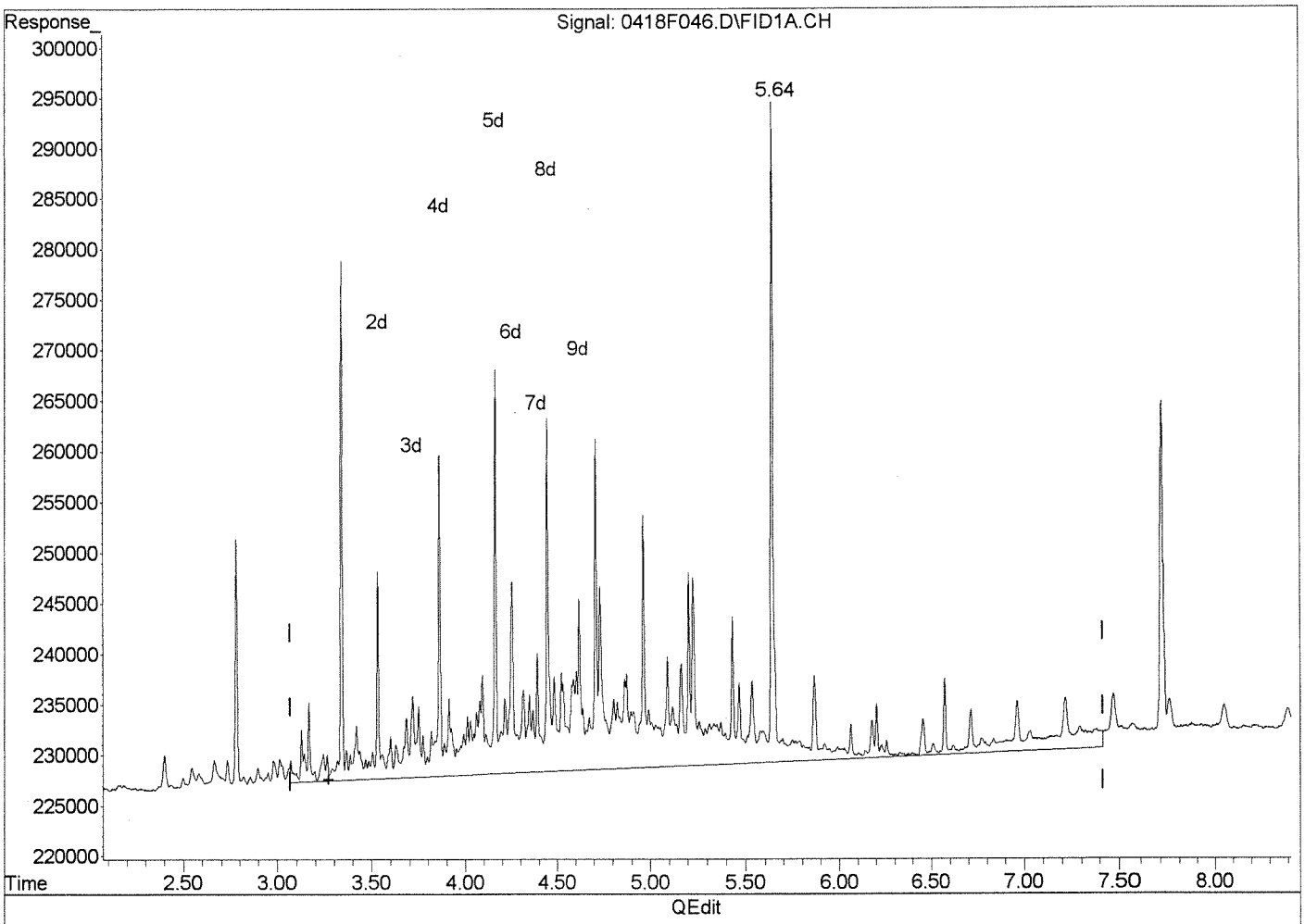
MK 4/19/05

(+) = Expected Retention Time
0418F046.D 0418FRNT.M Tue Apr 19 05:03:31 2005

Data File : J:\GC21\DATA\041805\0418F046.D
Acq On : 18 Apr 2005 8:04 pm
Sample : HCSV7-8R 20/1 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 4:56 2005 Quant Results File: 0418FRNT.RES

Vial: 11
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:01:54 2005
Response via : Multiple Level Calibration



(6) C10-C28 8015 DRO (H)

3.27min 21.844ppm

response 919695

INITIALLY
IMPROVED
MMU 4/19/05

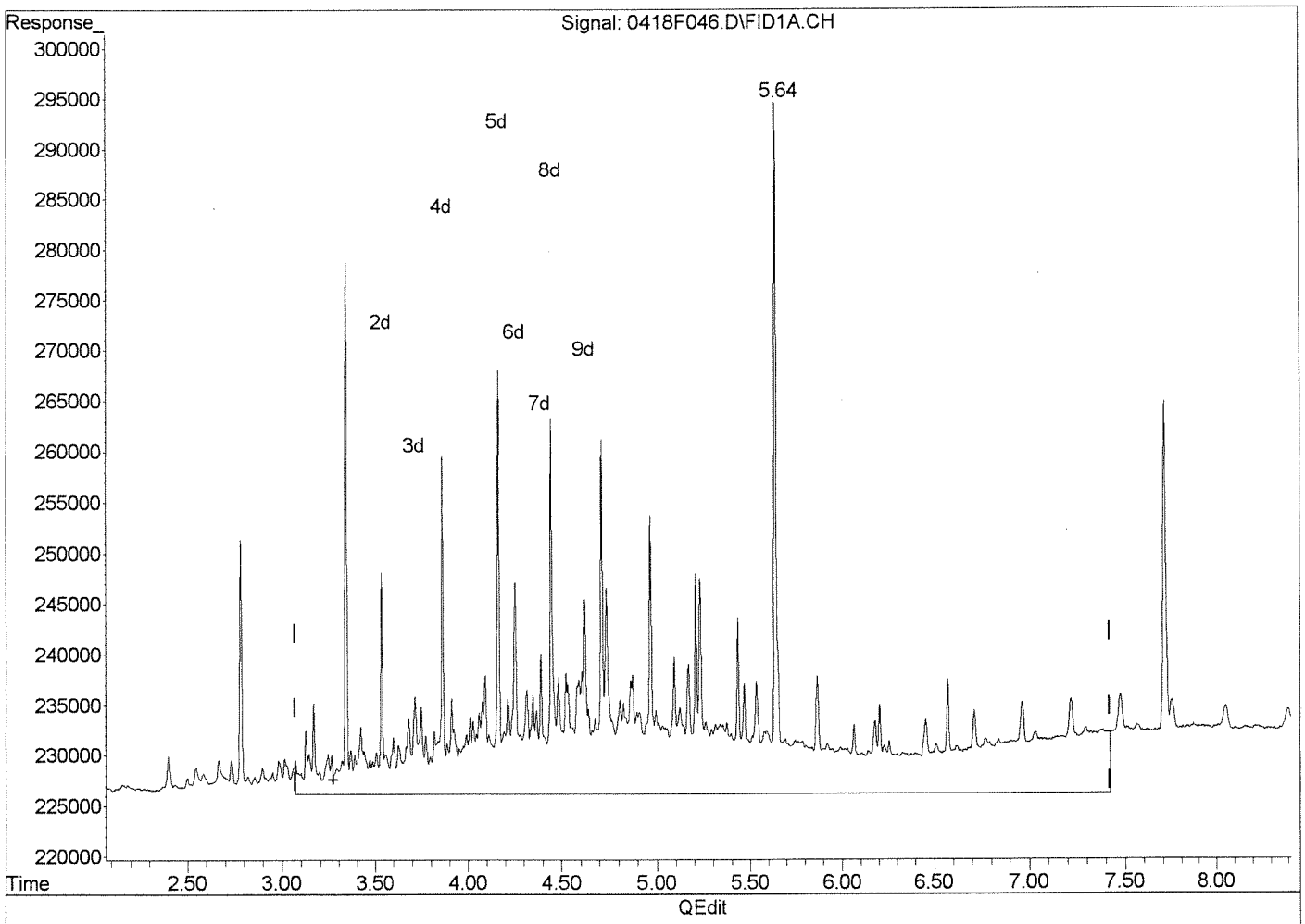
MK 4/19/05

(+) = Expected Retention Time
0418F046.D 0418FRNT.M Tue Apr 19 05:04:31 2005

Data File : J:\GC21\DATA\041805\0418F046.D
Acq On : 18 Apr 2005 8:04 pm
Sample : HCSV7-8R 20/1 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 4:56 2005 Quant Results File: 0418FRNT.RES

Vial: 11
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:01:54 2005
Response via : Multiple Level Calibration



(6) C10-C28 8015 DRO (H)

3.27min 39.034ppm

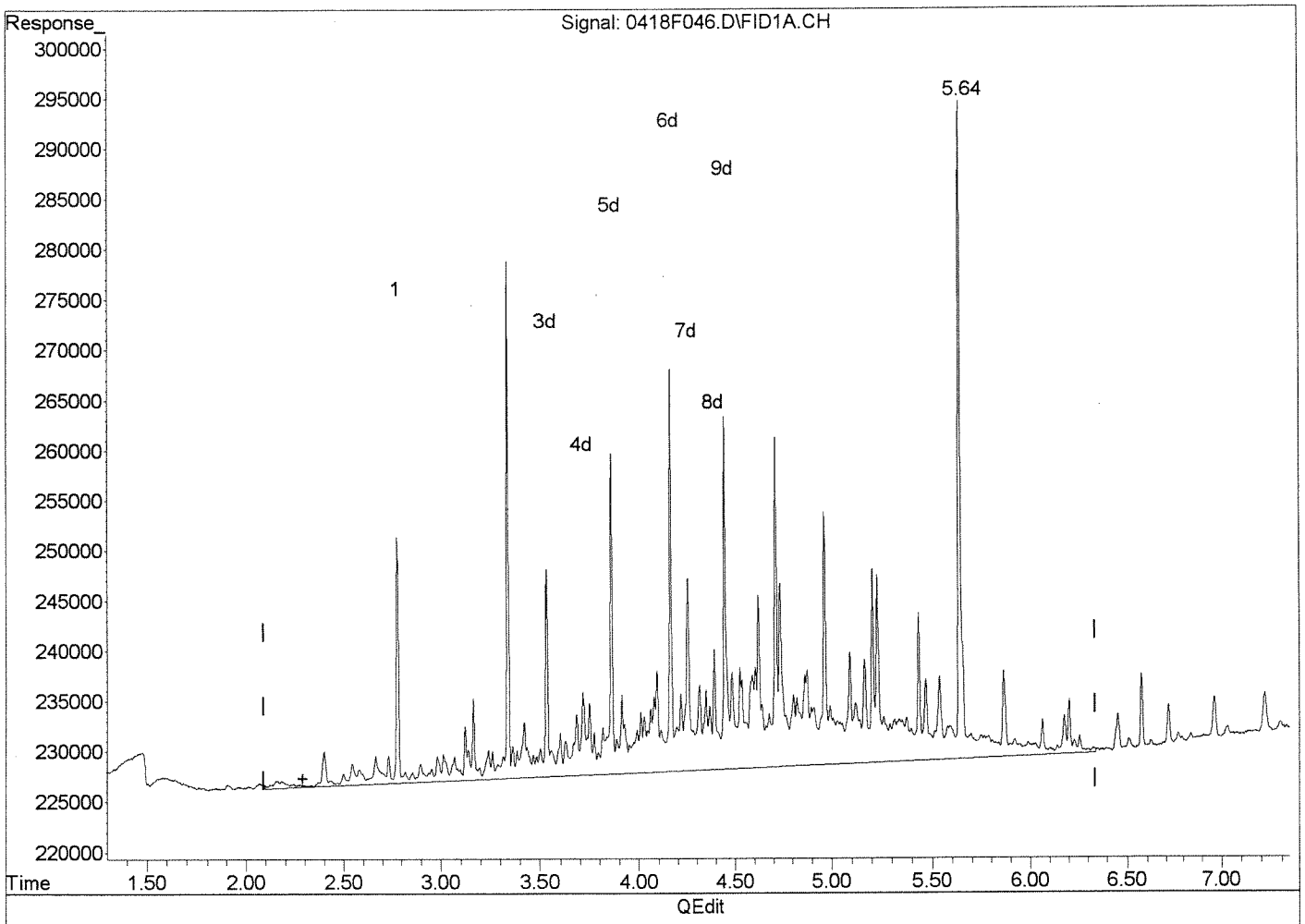
response 1643414

(+) = Expected Retention Time
0418F046.D 0418FRNT.M Tue Apr 19 05:04:02 2005

Data File : J:\GC21\DATA\041805\0418F046.D
Acq On : 18 Apr 2005 8:04 pm
Sample : HCSV7-8R 20/1 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 4:56 2005 Quant Results File: 0418FRNT.RES

Vial: 11
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:01:54 2005
Response via : Multiple Level Calibration



(7) C8-C22 DRO (H)

2.29min 20.678ppm

response 915414

MANUALLY INTEGRATED

AMC 4/19/05

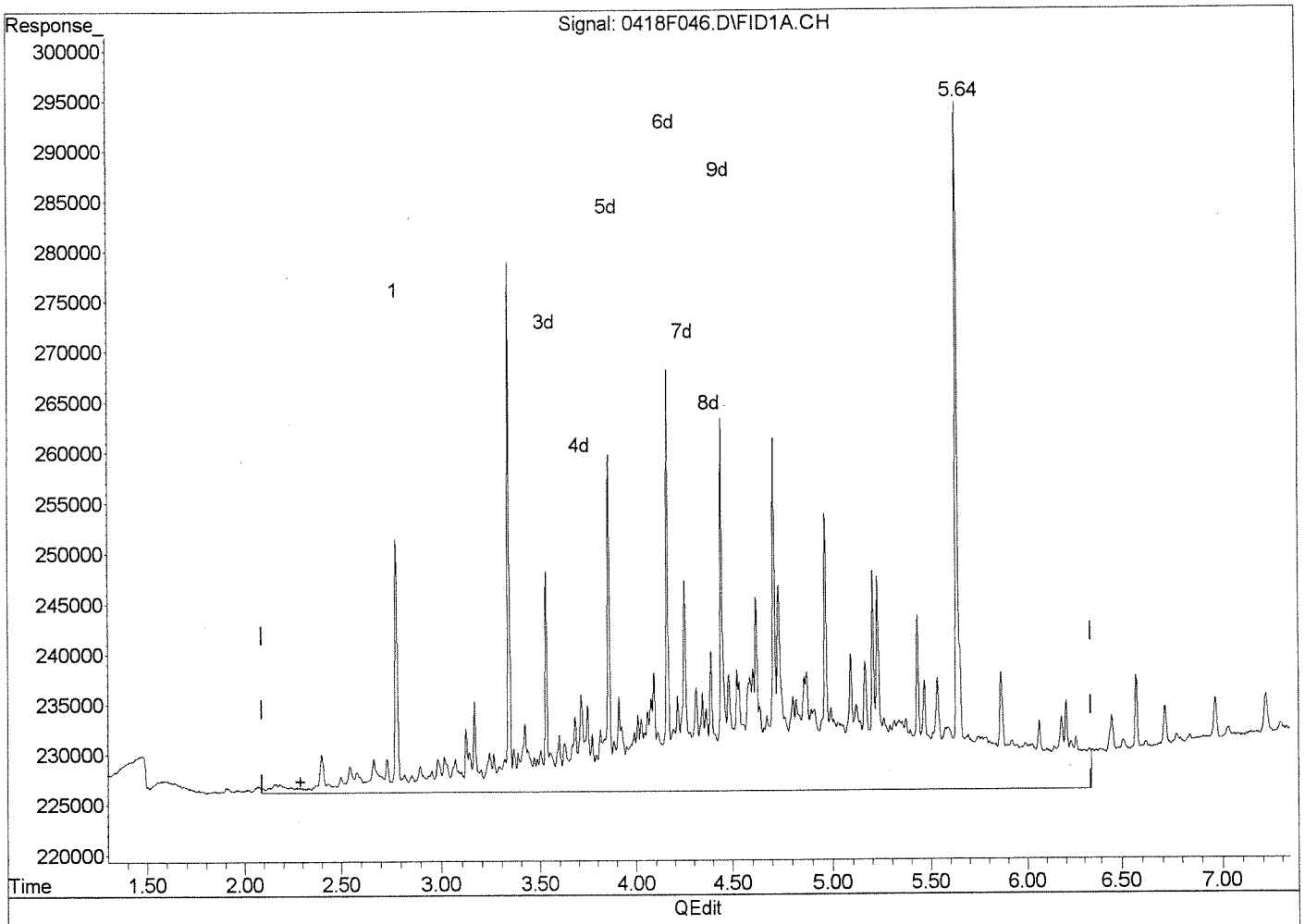
(+) = Expected Retention Time

0418F046.D 0418FRNT.M Tue Apr 19 05:05:01 2005

Data File : J:\GC21\DATA\041805\0418F046.D
Acq On : 18 Apr 2005 8:04 pm
Sample : HCSV7-8R 20/1 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 4:56 2005 Quant Results File: 0418FRNT.RES

Vial: 11
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:01:54 2005
Response via : Multiple Level Calibration



(7) C8-C22 DRO (H)
2.29min 31.147ppm
response 1378872

ORIGINAL
PM

MU 4/19/05

(+) = Expected Retention Time
0418F046.D 0418FRNT.M Tue Apr 19 05:04:40 2005

Data File : J:\GC21\DATA\041805\0418F044.D
Acq On : 18 Apr 2005 7:45 pm
Sample : HCSV7-9F 20 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 06:37:58 2005 Quant Results File: 0418FRNT.RES

Vial: 12
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
12) H C8-C12 GRO (8015)	2.09	227645	17.502 ppm

PM 041915

gd 041905

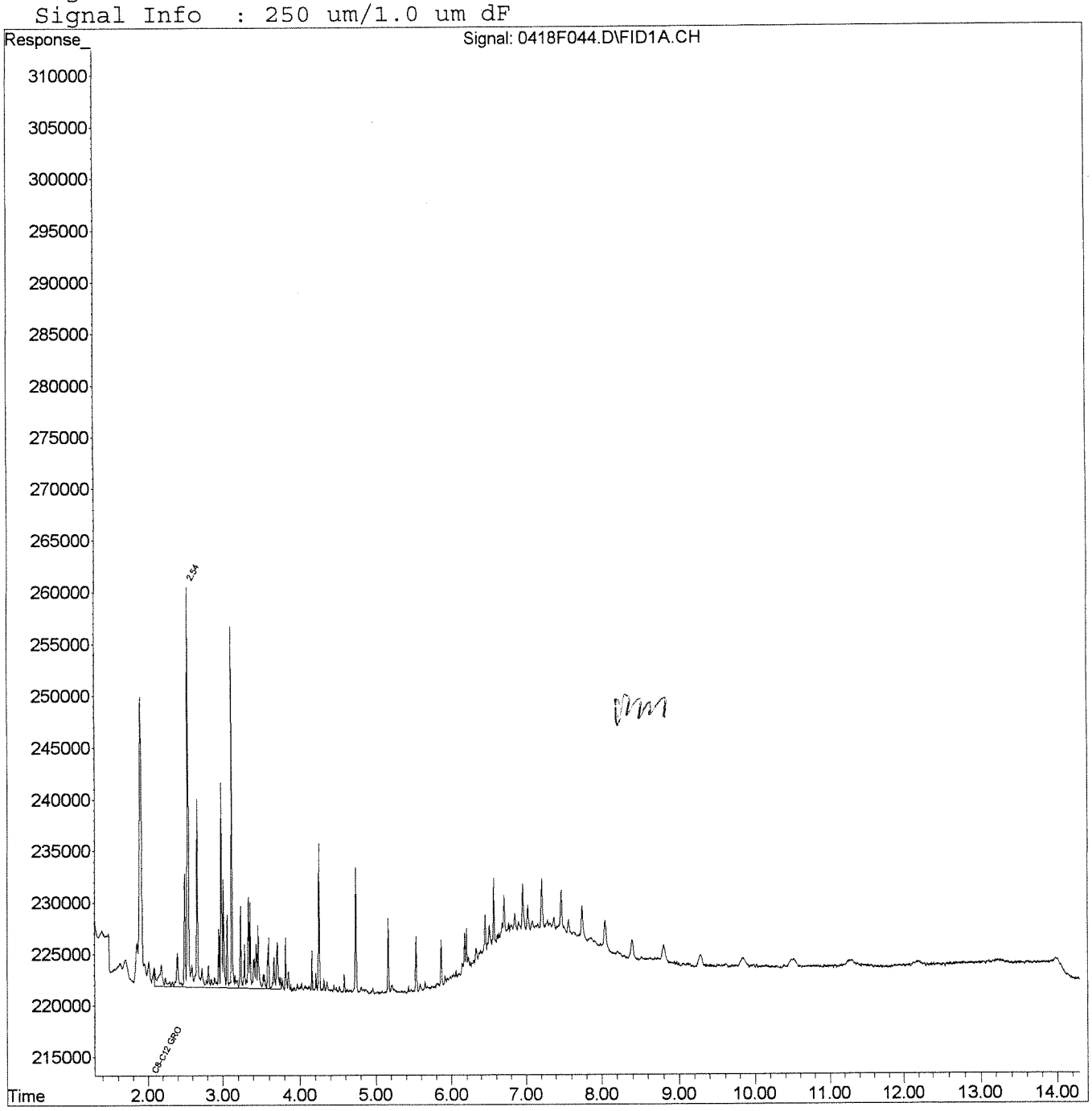
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F044.D
Acq On : 18 Apr 2005 7:45 pm
Sample : HCSV7-9F 20 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:39 2005 Quant Results File: 0418FRNT.RES

Vial: 12
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F048.D
Acq On : 18 Apr 2005 8:24 pm
Sample : HCSV7-9E 50 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 06:37:59 2005 Quant Results File: 0418FRNT.RES

Vial: 14
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
	Target Compounds			
8) H	C23-C40 Residual Range (RR	6.34	1817333	53.451 ppm
9) H	C25-C36 as RRO (AK103, 'X'	6.69	1375149	53.605 ppm
10) H	C25-C36 as Motor OIL	6.89	1375149	53.605 ppm
11) H	C25-C40 RRO	7.09	1524022	53.579 ppm
12) H	C8-C12 GRO (8015)	2.09	674124	51.828 ppm

pm 041905

gm 4/19/05

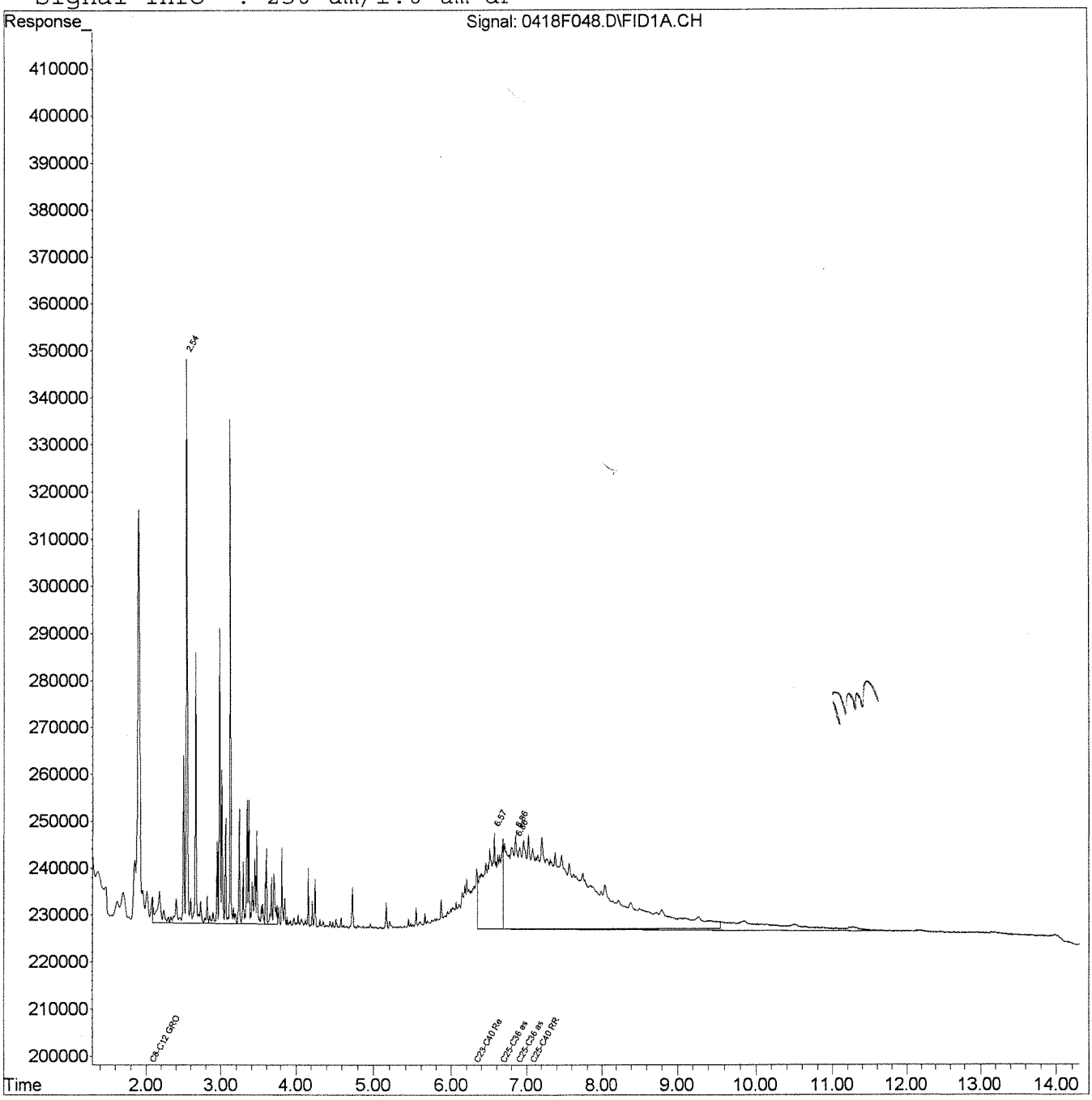
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F048.D
Acq On : 18 Apr 2005 8:24 pm
Sample : HCSV7-9E 50 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:39 2005 Quant Results File: 0418FRNT.RES

Vial: 14
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F050.D
Acq On : 18 Apr 2005 8:43 pm
Sample : HCSV7-8Q 50/2.5 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:01 2005 Quant Results File: 0418FRNT.RES

Vial: 13
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.78	46323	2.524 ppm
Spiked Amount 50.000	Recovery	=	5.05%
2) S o-Terphenyl	5.64	122170	2.523 ppm
Spiked Amount 50.000	Recovery	=	5.05%
3) S Triacontane (C-30)	7.71	91621	2.413 ppm
Spiked Amount 50.000	Recovery	=	4.83%
Target Compounds			
4) H C12-C25 Diesel Range Organ	3.76	1760715	51.977 ppm
5) H C10-C25 DRO (AK102)	3.07	2009990	51.171 ppm
6) H C10-C28 8015 DRO	3.27	2101398	52.354 ppm
7) H C8-C22 DRO	2.29	2044437	50.722 ppm

PM041905

8 041905

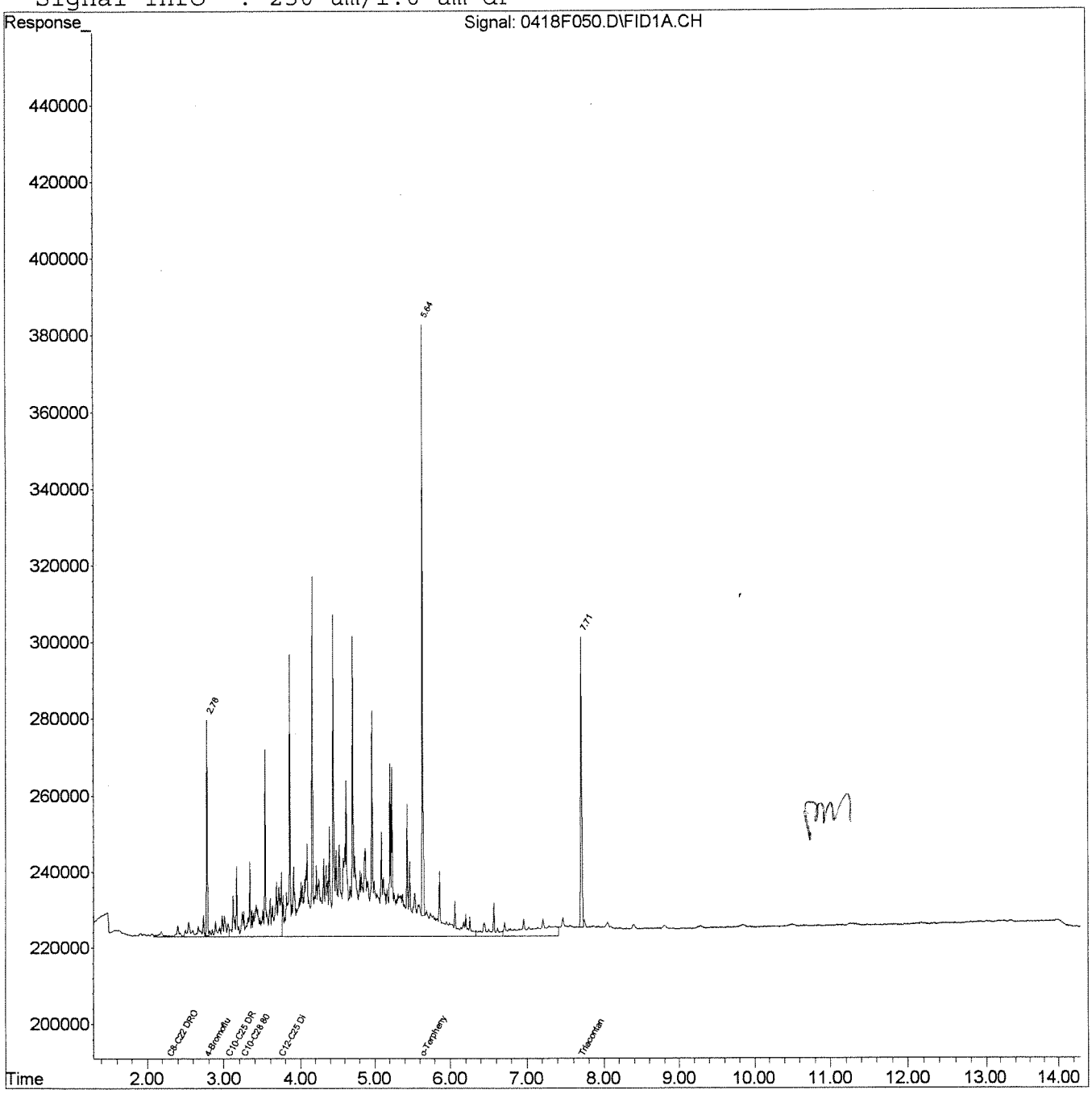
(f)=RT Delta > 1/2 Window (m)=manual int.
0418F050.D 0418FRNT.M Tue Apr 19 06:42:00 2005 Page 1

Data File : J:\GC21\DATA\041805\0418F050.D
Acq On : 18 Apr 2005 8:43 pm
Sample : HCSV7-8Q 50/2.5 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:39 2005 Quant Results File: 0418FRNT.RES

Vial: 13
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



pm

Data File : J:\GC21\DATA\041805\0418F052.D
Acq On : 18 Apr 2005 9:03 pm
Sample : HCSV7-9D 200 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:03 2005 Quant Results File: 0418FRNT.RES

Vial: 16
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
	Target Compounds			
8) H	C23-C40 Residual Range (RR	6.34	7848213	230.829 ppm
9) H	C25-C36 as RRO (AK103, 'X'	6.69	5564478	216.912 ppm
10) H	C25-C36 as Motor OIL	6.89	5564478	216.912 ppm
11) H	C25-C40 RRO	7.09	6718200	236.188 ppm
12) H	C8-C12 GRO (8015)	2.09	2614615	201.017 ppm

pm041905

9041905

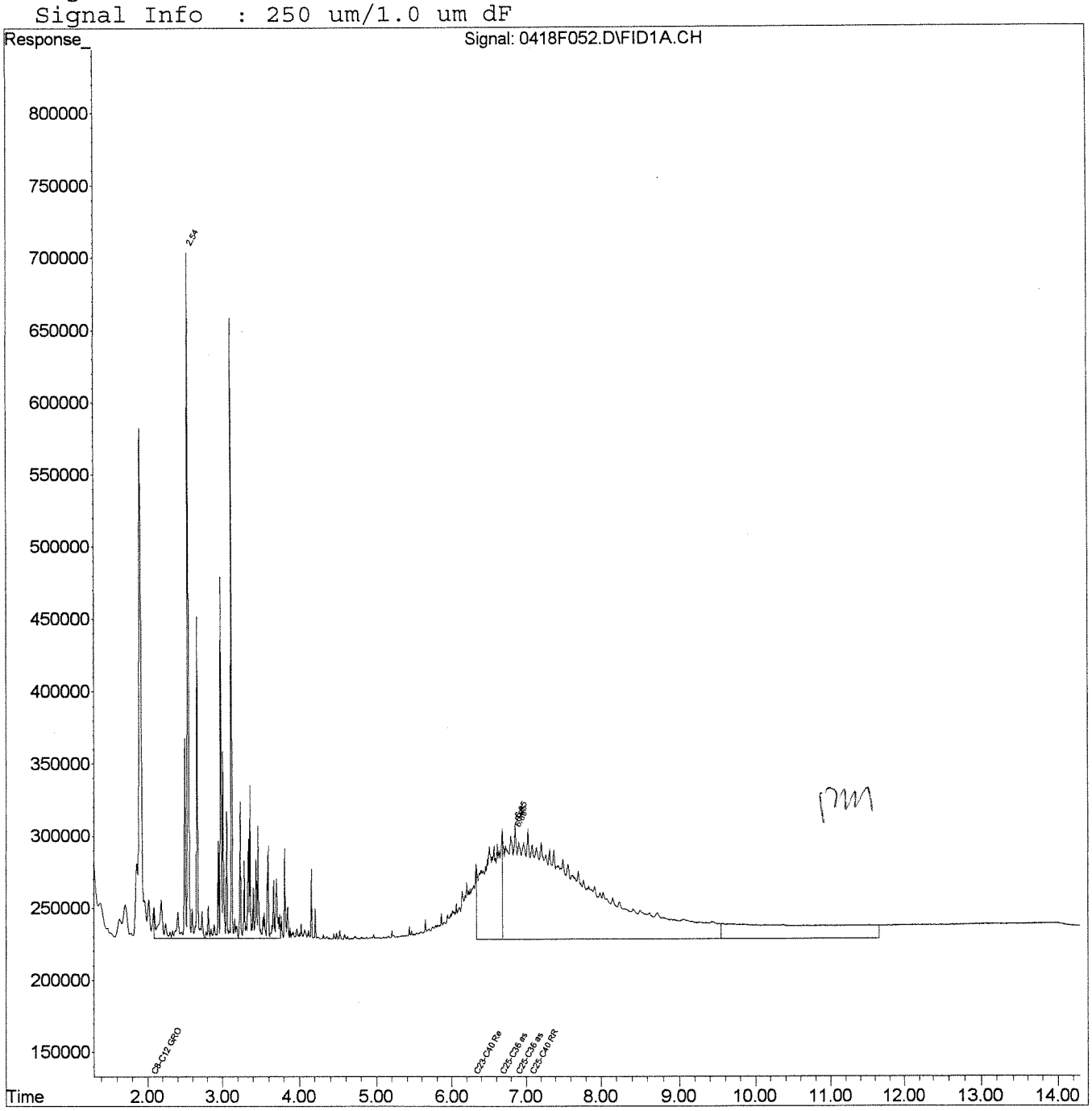
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F052.D
Acq On : 18 Apr 2005 9:03 pm
Sample : HCSV7-9D 200 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:39 2005 Quant Results File: 0418FRNT.RES

Vial: 16
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F054.D
Acq On : 18 Apr 2005 9:23 pm
Sample : HCSV7-8P 200/10 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:04 2005 Quant Results File: 0418FRNT.RES

Vial: 15
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.78	183060	9.975 ppm
Spiked Amount 50.000	Recovery	=	19.95%
2) S o-Terphenyl	5.64	485109	10.016 ppm
Spiked Amount 50.000	Recovery	=	20.03%
3) S Triacontane (C-30)	7.71	391347	10.308 ppm
Spiked Amount 50.000	Recovery	=	20.62%
Target Compounds			
4) H C12-C25 Diesel Range Organ	3.76	6764275	199.685 ppm
5) H C10-C25 DRO (AK102)	3.07	7687577	195.712 ppm
6) H C10-C28 8015 DRO	3.27	7740367	192.841 ppm
7) H C8-C22 DRO	2.29	7870890	195.277 ppm

VM041905

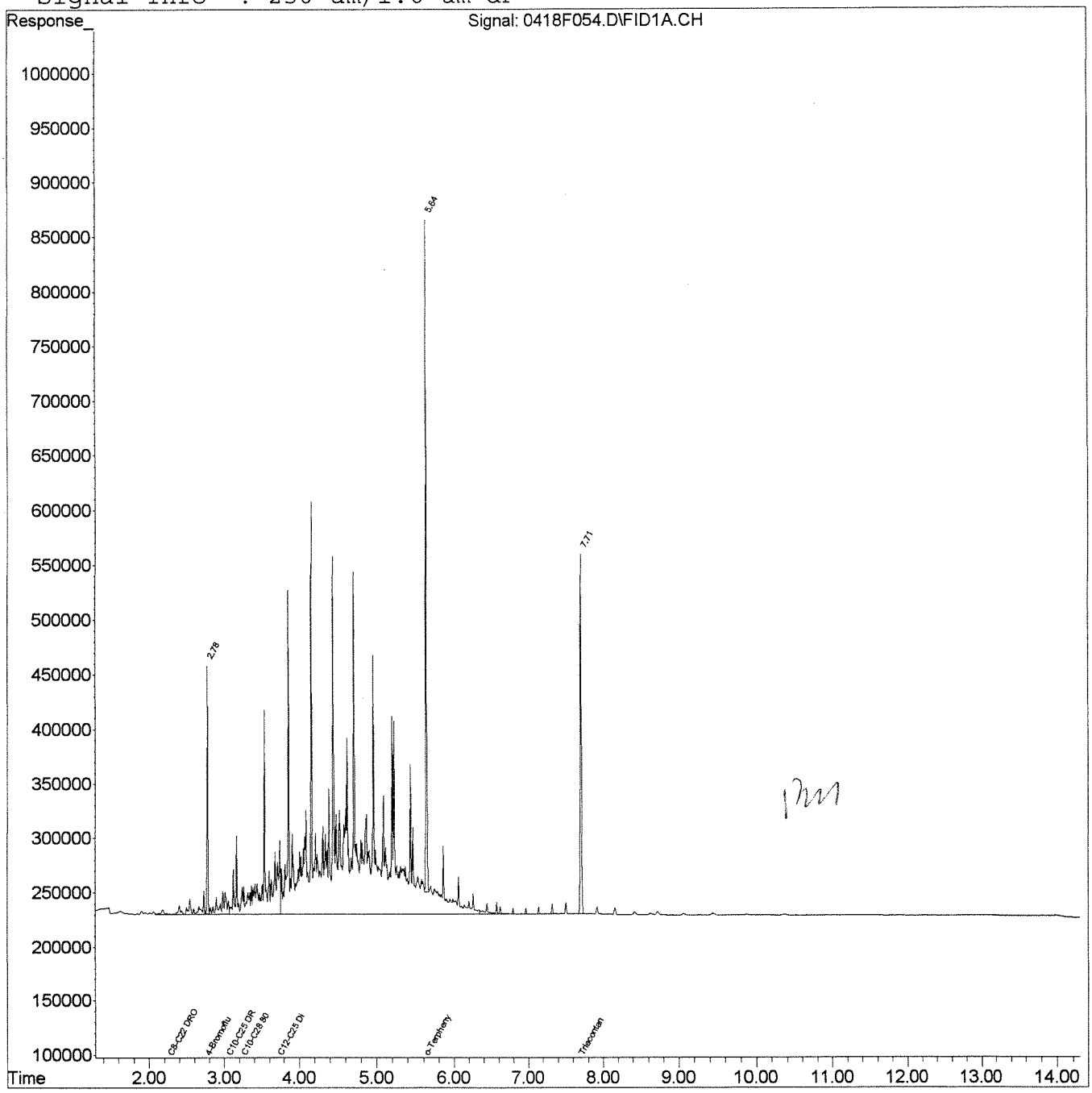
041905

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F054.D Vial: 15
Acq On : 18 Apr 2005 9:23 pm Operator: PMulheri
Sample : HCSV7-8P 200/10 ppm Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 6:40 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F056.D Vial: 18
Acq On : 18 Apr 2005 9:42 pm Operator: PMulheri
Sample : HCSV7-9C 500 ppm each Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:06 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
Target Compounds			
8) H C23-C40 Residual Range (RR	6.34	17937147	527.561 ppm
9) H C25-C36 as RRO (AK103, 'X'	6.69	13615036	530.735 ppm
10) H C25-C36 as Motor OIL	6.89	13615036	530.735 ppm
11) H C25-C40 RRO	7.09	14972232	526.370 ppm
12) H C8-C12 GRO (8015)	2.09	7115069	547.022 ppm

PM 041905

041905

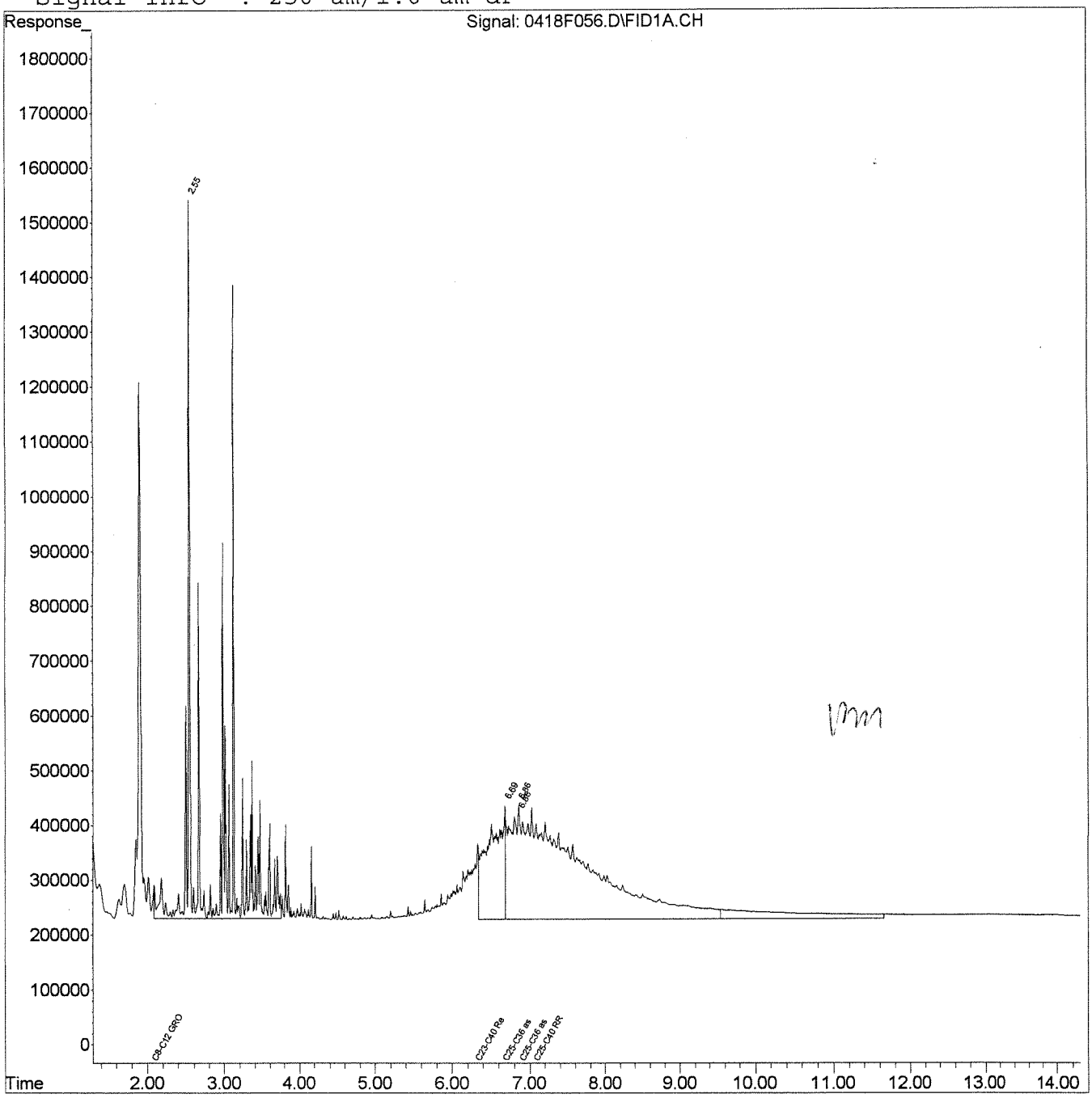
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F056.D
Acq On : 18 Apr 2005 9:42 pm
Sample : HCSV7-9C 500 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:40 2005 Quant Results File: 0418FRNT.RES

Vial: 18
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F058.D Vial: 17
Acq On : 18 Apr 2005 10:02 pm Operator: PMulheri
Sample : HCSV7-8O 500/25 ppm Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:08 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.78	452730	24.669 ppm
Spiked Amount 50.000	Recovery	=	49.34%
2) S o-Terphenyl	5.64	1203349	24.847 ppm
Spiked Amount 50.000	Recovery	=	49.69%
3) S Triacontane (C-30)	7.71	955388	25.165 ppm
Spiked Amount 50.000	Recovery	=	50.33%
Target Compounds			
4) H C12-C25 Diesel Range Organ	3.76	17439435	514.821 ppm
5) H C10-C25 DRO (AK102)	3.07	19776096	503.464 ppm
6) H C10-C28 8015 DRO	3.27	20005334	498.406 ppm
7) H C8-C22 DRO	2.29	20143824	499.768 ppm

pm041905

g 041905

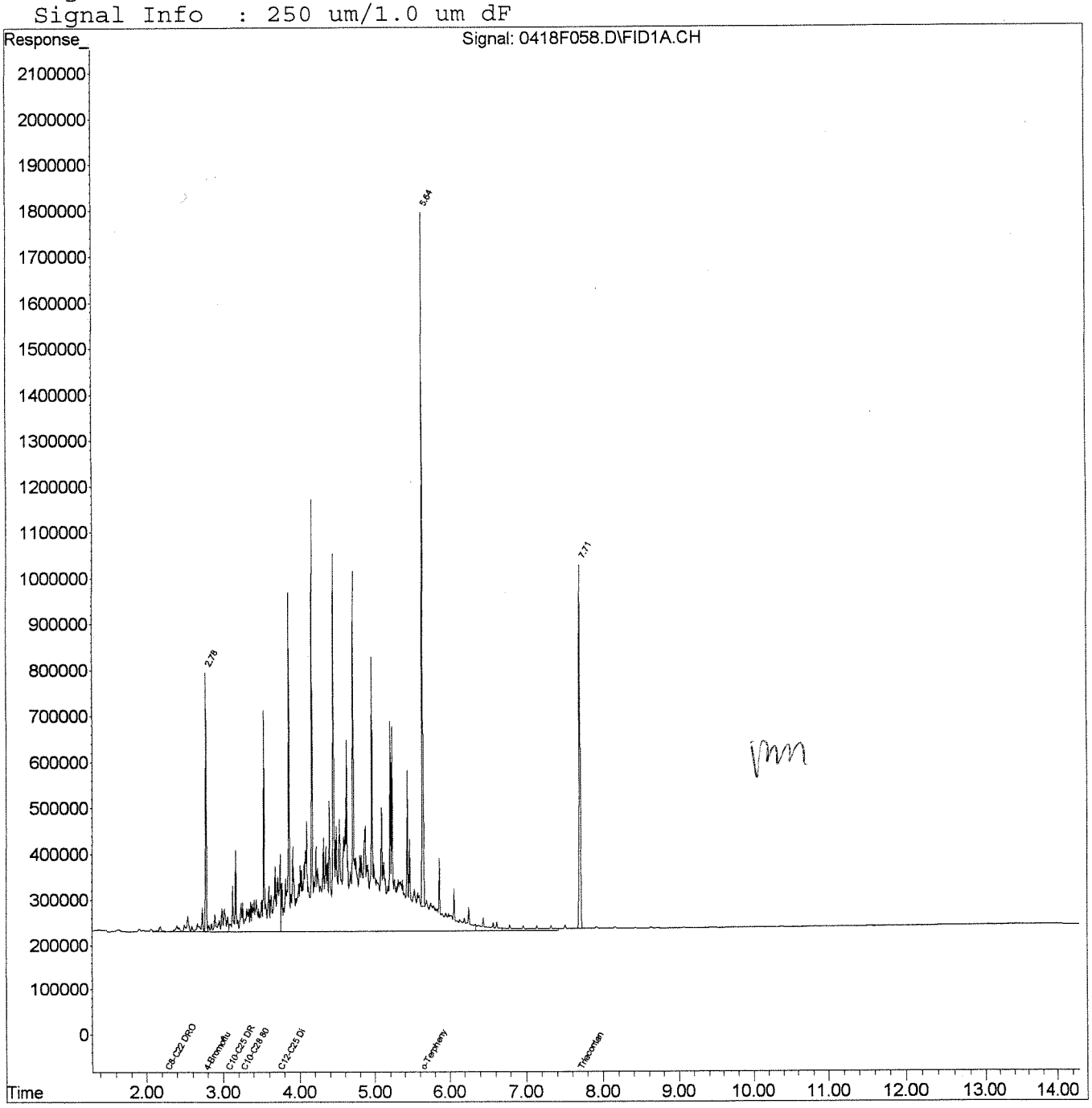
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F058.D
Acq On : 18 Apr 2005 10:02 pm
Sample : HCSV7-80 500/25 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:40 2005 Quant Results File: 0418FRNT.RES

Vial: 17
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Quantitation Report (QT Reviewed)

Data File : J:\GC21\DATA\041805\0418F060.D
Acq On : 18 Apr 2005 10:22 pm
Sample : HCSV7-9B 1000 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:10 2005 Quant Results File: 0418FRNT.RES

Vial: 20
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

		Compound	R.T.	Response	Conc Units
System Monitoring Compounds					
Target Compounds					
8)	H	C23-C40 Residual Range (RR	6.34	30522068	897.704 ppm
9)	H	C25-C36 as RRO (AK103, 'X'	6.69	23665687	922.526 ppm
10)	H	C25-C36 as Motor OIL	6.89	23665687	922.526 ppm
11)	H	C25-C40 RRO	7.09	25244625	887.511 ppm
12)	H	C8-C12 GRO (8015)	2.09	12841241	987.263 ppm

PM 041905

041905

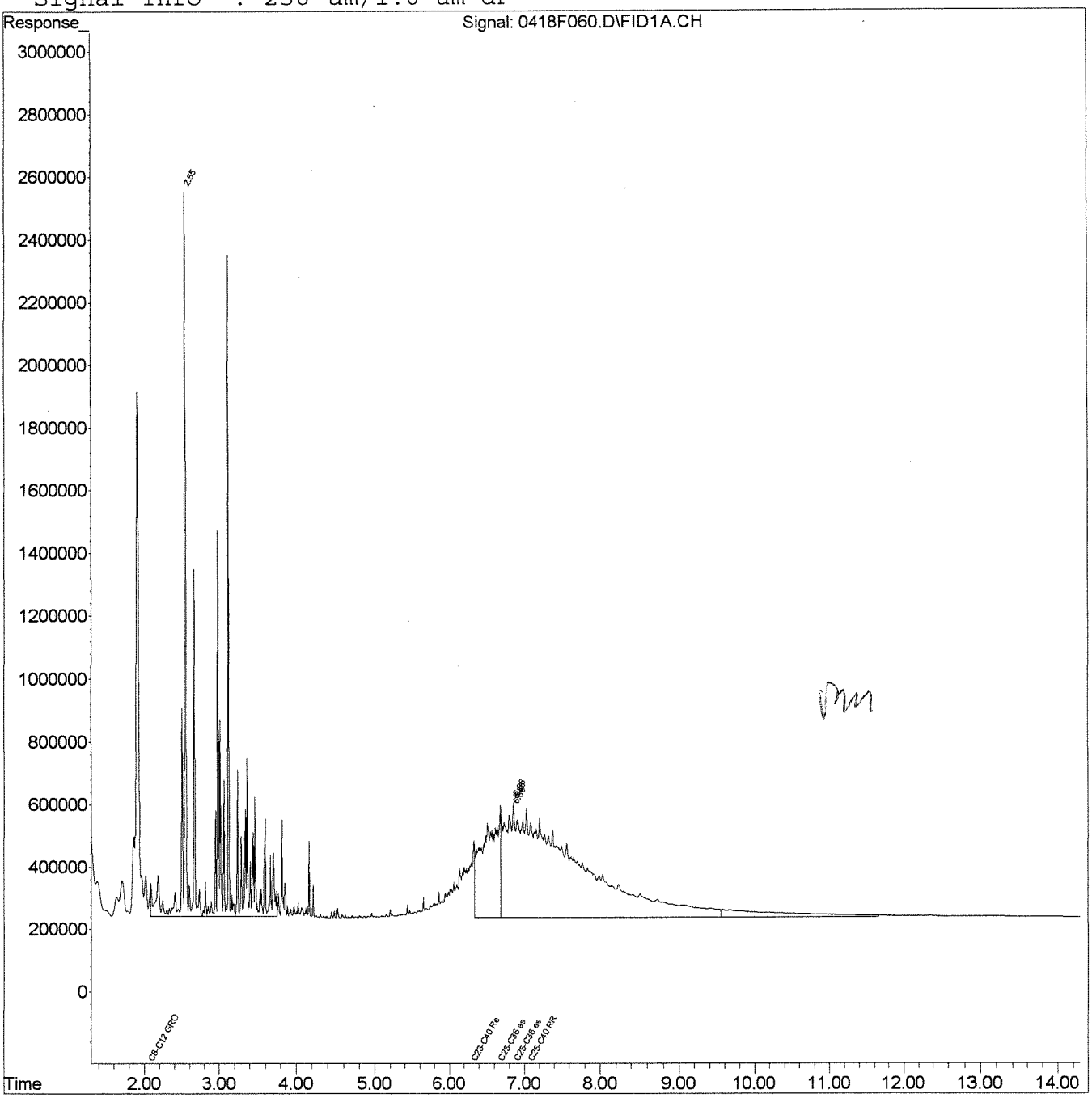
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F060.D
Acq On : 18 Apr 2005 10:22 pm
Sample : HCSV7-9B 1000 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:40 2005 Quant Results File: 0418FRNT.RES

Vial: 20
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Quantitation Report (QT Reviewed)

Data File : J:\GC21\DATA\041805\0418F062.D
Acq On : 18 Apr 2005 10:41 pm
Sample : HCSV7-9H 1000/50 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:12 2005 Quant Results File: 0418FRNT.RES

Vial: 19
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.78	897711	48.916 ppm
Spiked Amount 50.000		Recovery =	97.83%
2) S o-Terphenyl	5.64	2357044	48.668 ppm
Spiked Amount 50.000		Recovery =	97.34%
3) S Triacontane (C-30)	7.71	1877514	49.454 ppm
Spiked Amount 50.000		Recovery =	98.91%
Target Compounds			
4) H C12-C25 Diesel Range Organ	3.76	31232540	922.001 ppm
5) H C10-C25 DRO (AK102)	3.07	35425298	901.866 ppm
6) H C10-C28 8015 DRO	3.27	35686805	889.089 ppm
7) H C8-C22 DRO	2.29	36114189	895.993 ppm

pm 041905

gc 041905

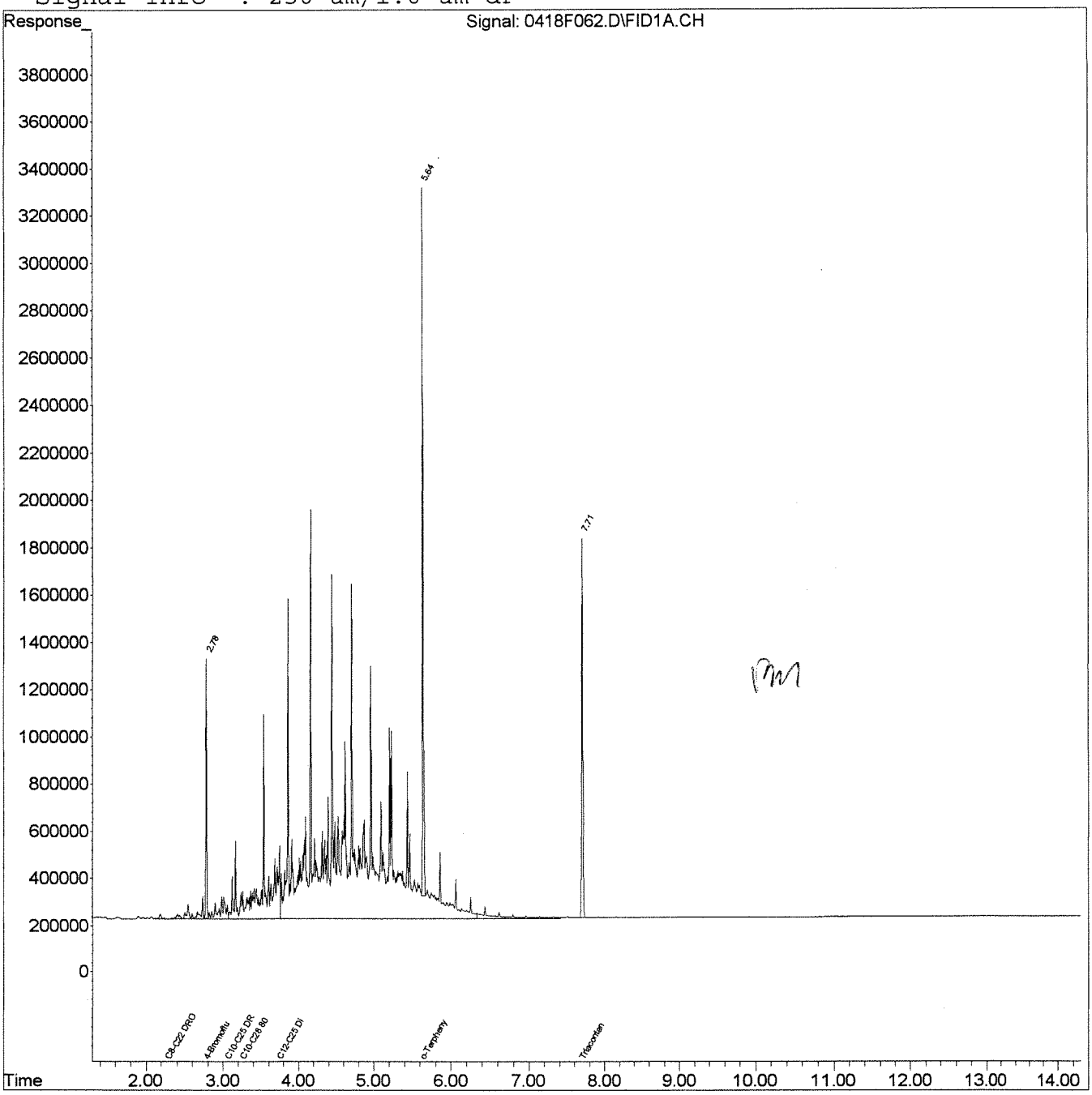
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F062.D
Acq On : 18 Apr 2005 10:41 pm
Sample : HCSV7-9H 1000/50 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:40 2005 Quant Results File: 0418FRNT.RES

Vial: 19
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



PM

Data File : J:\GC21\DATA\041805\0418F064.D
Acq On : 18 Apr 2005 11:01 pm
Sample : HCSV7-9A 2000 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:13 2005 Quant Results File: 0418FRNT.RES

Vial: 22
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
	Target Compounds				
8) H	C23-C40 Residual Range (RR	6.34	62604363	1841.297	ppm
9) H	C25-C36 as RRO (AK103, 'X'	6.69	48060543	1873.475	ppm
10) H	C25-C36 as Motor OIL	6.89	48060543	1873.475	ppm
11) H	C25-C40 RRO	7.09	51915177	1825.152	ppm
12) H	C8-C12 GRO (8015)	2.09	26150145	2010.480	ppm

PM041905

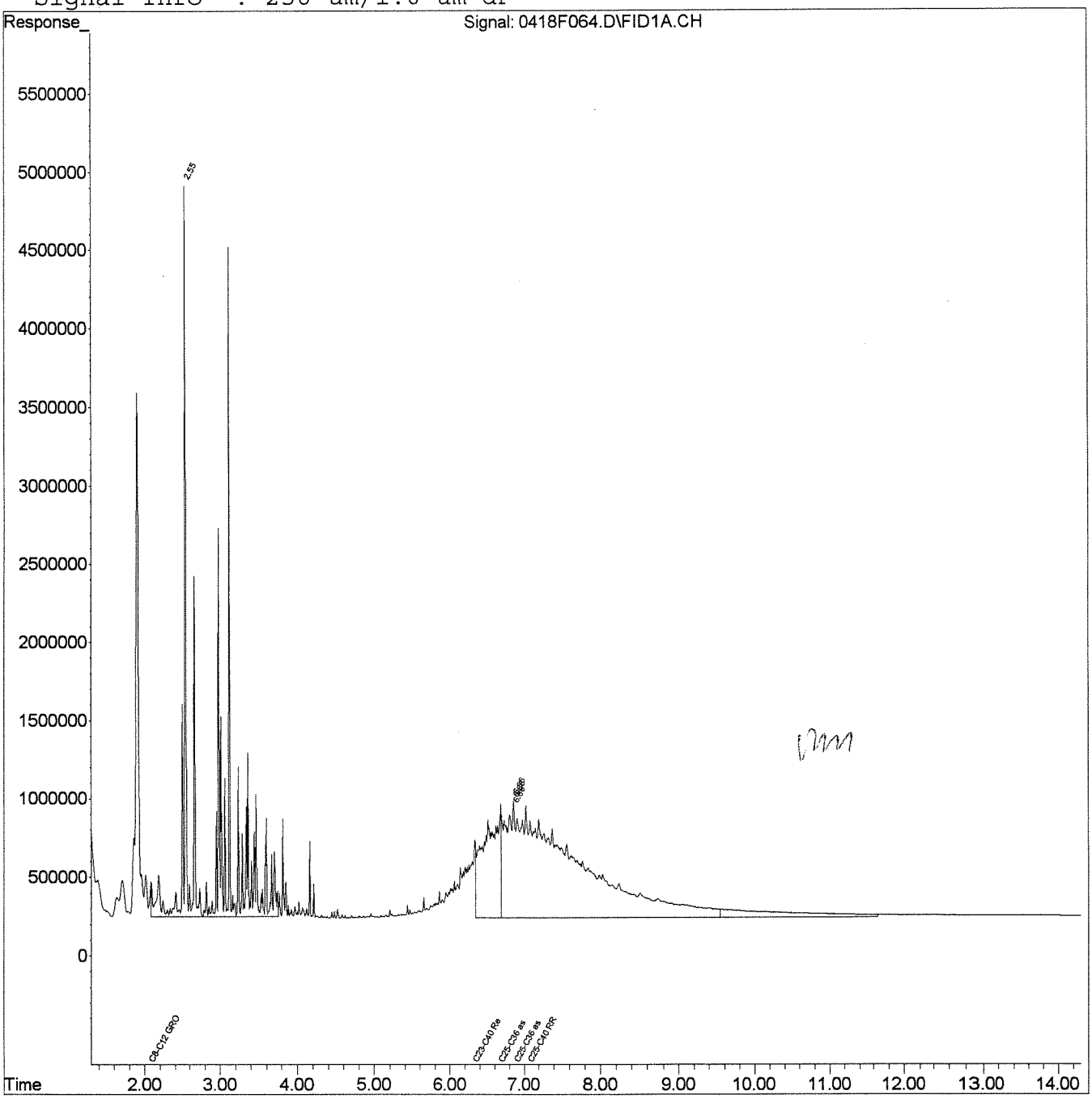
041905

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F064.D Vial: 22
Acq On : 18 Apr 2005 11:01 pm Operator: PMulheri
Sample : HCSV7-9A 2000 ppm each Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 6:41 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Quantitation Report (QT Reviewed)

Data File : J:\GC21\DATA\041805\0418F066.D Vial: 21
Acq On : 18 Apr 2005 11:21 pm Operator: PMulheri
Sample : HCSV7-8M 2000/100 ppm Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:15 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.78	1837482	100.125 ppm
Spiked Amount 50.000		Recovery =	200.25%
2) S o-Terphenyl	5.64	4862606	100.402 ppm
Spiked Amount 50.000		Recovery =	200.80%
3) S Triacontane (C-30)	7.71	3848658	101.374 ppm
Spiked Amount 50.000		Recovery =	202.75%
Target Compounds			
4) H C12-C25 Diesel Range Organ	3.76	70007552	2066.660 ppm
5) H C10-C25 DRO (AK102)	3.07	79446662	2022.572 ppm
6) H C10-C28 8015 DRO	3.27	79917702	1991.043 ppm
7) H C8-C22 DRO	2.29	81057028	2011.024 ppm

Vm041905

g041905

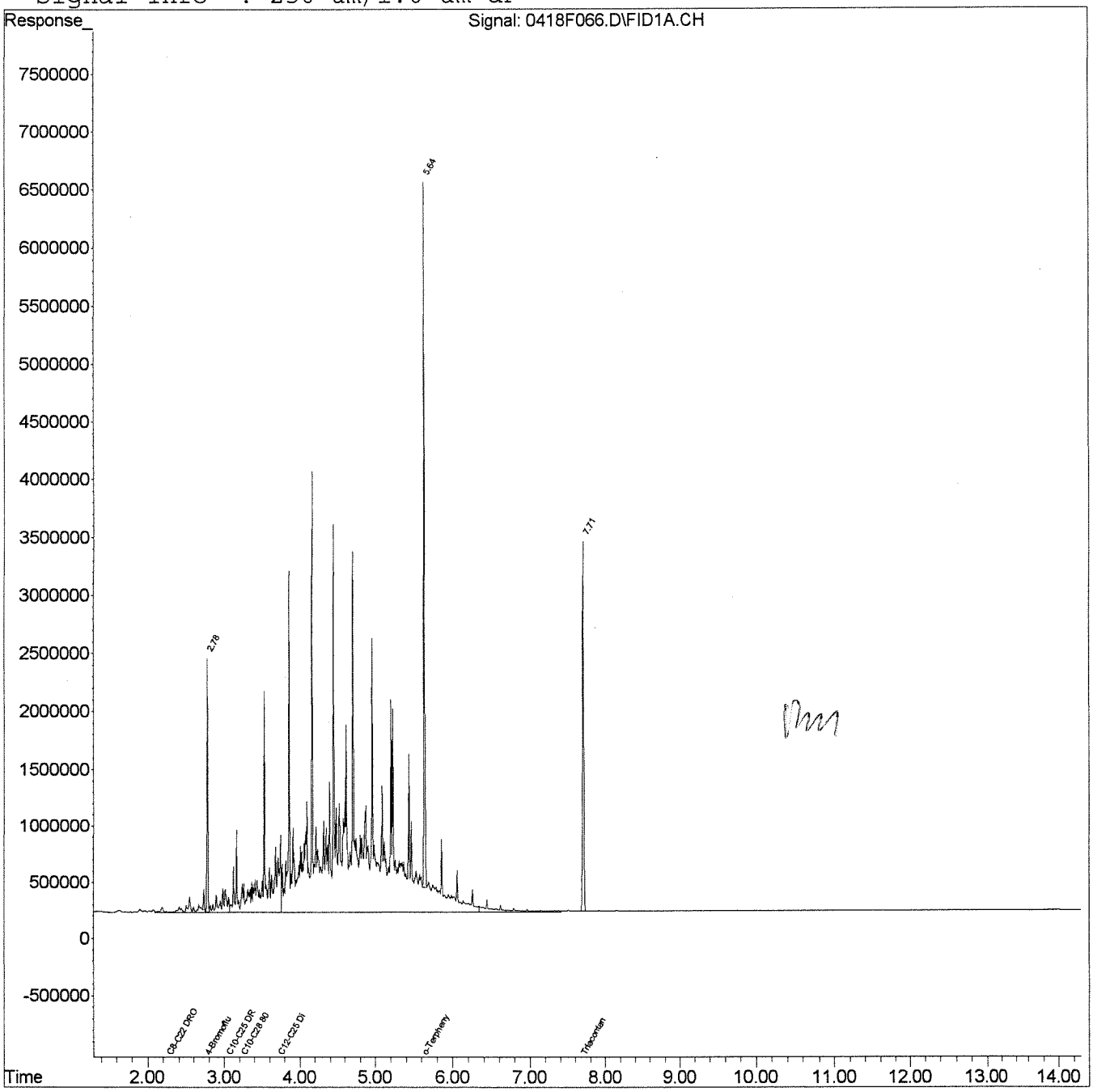
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F066.D
Acq On : 18 Apr 2005 11:21 pm
Sample : HCSV7-8M 2000/100 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:41 2005 Quant Results File: 0418FRNT.RES

Vial: 21
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Quantitation Report (QT Reviewed)

Data File : J:\GC21\DATA\041805\0418F068.D Vial: 24
Acq On : 18 Apr 2005 11:40 pm Operator: PMulheri
Sample : HCSV7-8S 5000 ppm each Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:17 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
8) H C23-C40 Residual Range (RR	6.34	153572817	4516.829	ppm
9) H C25-C36 as RRO (AK103, 'X'	6.69	118337497	4612.981	ppm
10) H C25-C36 as Motor OIL	6.89	118337497	4612.981	ppm
11) H C25-C40 RRO	7.09	127238476	4473.250	ppm
12) H C8-C12 GRO (8015)	2.09	64820709	4983.558	ppm

PM041905

304905

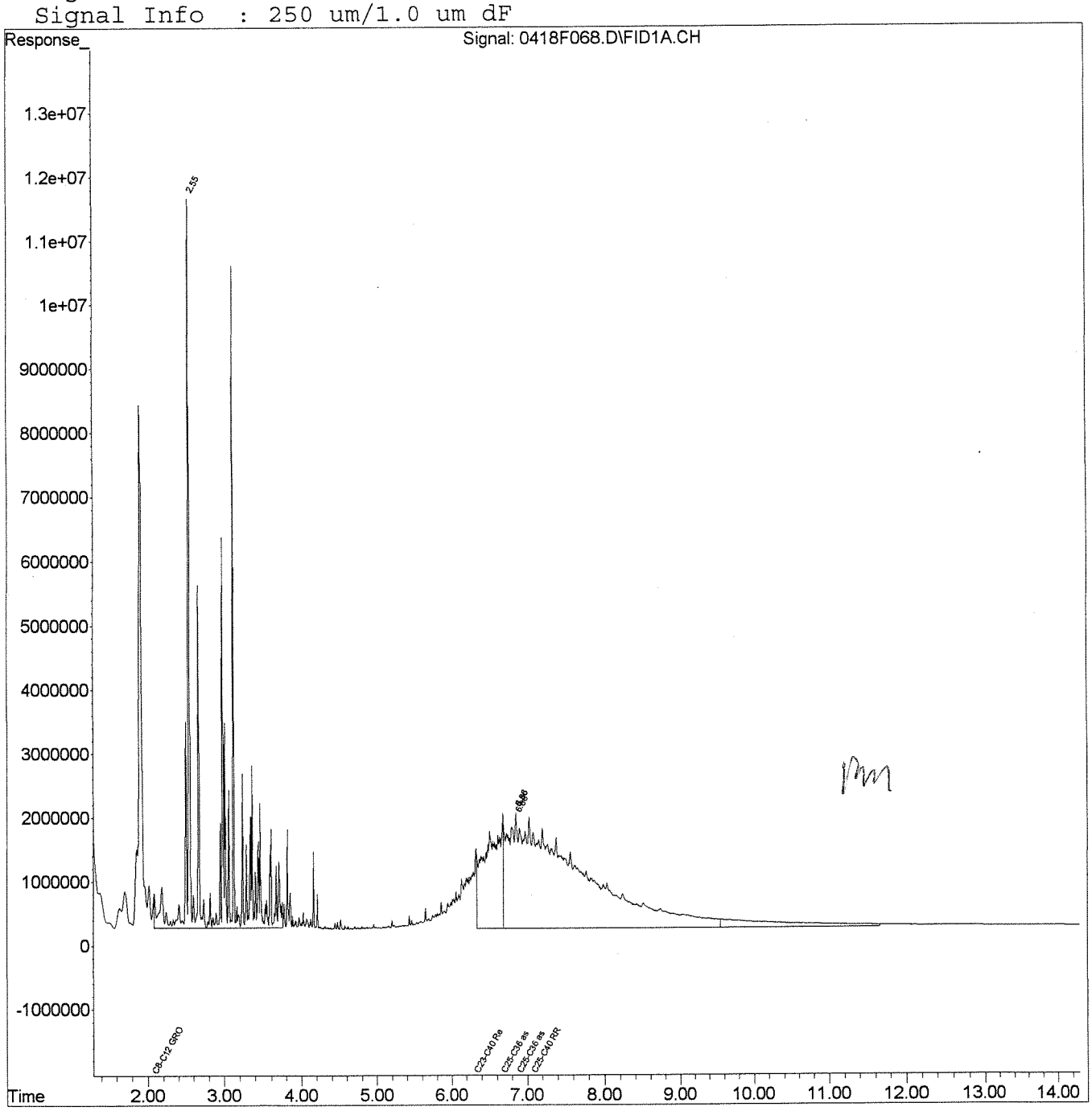
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F068.D
Acq On : 18 Apr 2005 11:40 pm
Sample : HCSV7-8S 5000 ppm each
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:38 2005 Quant Results File: 0418FRNT.RES

Vial: 24
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F070.D Vial: 23
Acq On : 19 Apr 2005 12:00 am Operator: PMulheri
Sample : HCSV7-8L 5000/250 ppm Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 06:38:19 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.78	4453815	242.689 ppm
Spiked Amount 50.000		Recovery =	485.38%
2) S o-Terphenyl	5.64	11743140	242.471 ppm
Spiked Amount 50.000		Recovery =	484.94%
3) S Triacontane (C-30)	7.71	9309493	245.214 ppm
Spiked Amount 50.000		Recovery =	490.43%
Target Compounds			
4) H C12-C25 Diesel Range Organ	3.76	169171550	4994.035 ppm
5) H C10-C25 DRO (AK102)	3.07	192017507	4888.427 ppm
6) H C10-C28 8015 DRO	3.27	192996865	4808.260 ppm
7) H C8-C22 DRO	2.29	196000604	4862.774 ppm

PM041905

8041905

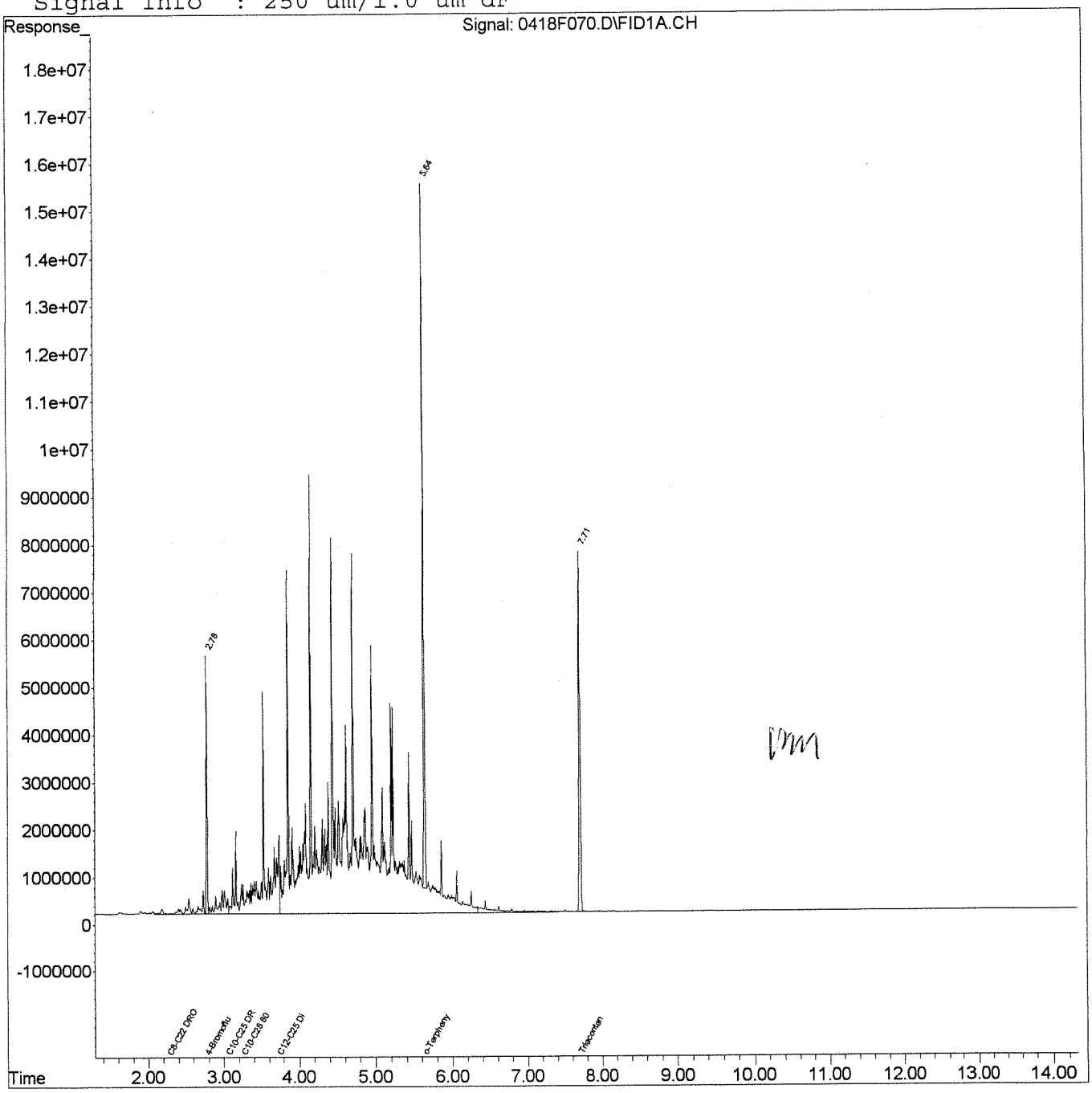
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F070.D
Acq On : 19 Apr 2005 12:00 am
Sample : HCSV7-8L 5000/250 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 6:38 2005 Quant Results File: 0418FRNT.RES

Vial: 23
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F004.D Vial: 4
Acq On : 18 Apr 2005 1:21 pm Operator: PMulheri
Sample : 7-7R n-Alkanes marker Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 05:17:36 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.78	380589	20.738 ppm
Spiked Amount 50.000		Recovery =	41.48%
2) S o-Terphenyl	5.64	938706	19.382 ppm
Spiked Amount 50.000		Recovery =	38.76%
3) S Triacontane (C-30)	7.71	1697191	44.704 ppm
Spiked Amount 50.000		Recovery =	89.41%
Target Compounds			
4) H C12-C25 Diesel Range Organ	3.76	13148999	388.165 ppm
5) H C10-C25 DRO (AK102)	3.07	14842877	377.873 ppm
6) H C10-C28 8015 DRO	3.27	18545437	462.035 ppm
7) H C8-C22 DRO	2.29	14679034	364.187 ppm
8) H C23-C40 Residual Range (RR	6.34	15329726	450.872 ppm
9) H C25-C36 as RRO (AK103, 'X'	6.69	10550238	411.265 ppm
10) H C25-C36 as Motor OIL	6.89	10550238	411.265 ppm
11) H C25-C40 RRO	7.09	13509659	474.951 ppm
12) H C8-C12 GRO (8015)	2.09	3350102	257.563 ppm

PM 041915

9/24/05

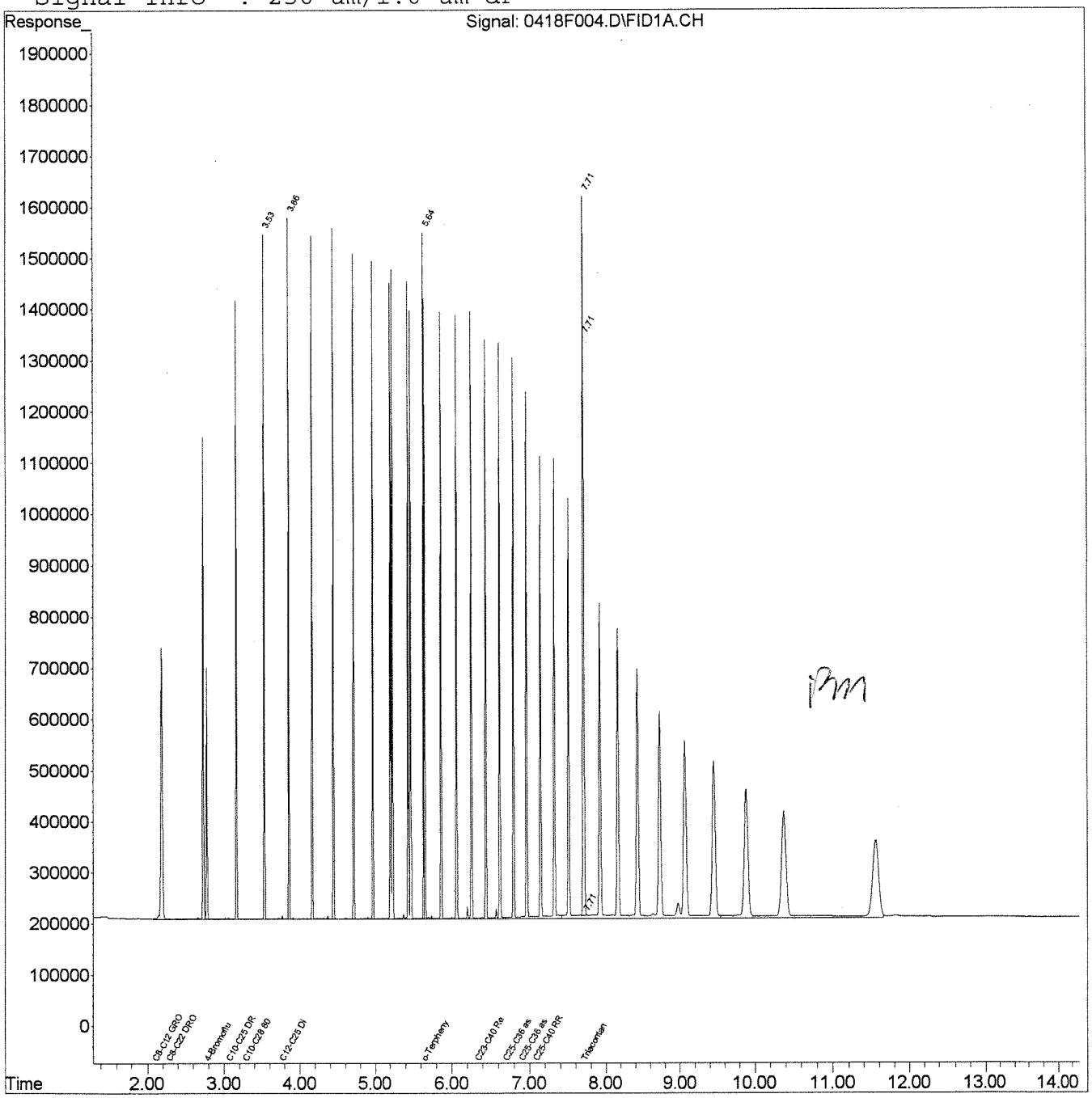
(f)=RT Delta > 1/2 Window (m)=manual int.
0418F004.D 0418FRNT.M Tue Apr 19 05:17:38 2005 Page 1

Data File : J:\GC21\DATA\041805\0418F004.D
Acq On : 18 Apr 2005 1:21 pm
Sample : 7-7R n-Alkanes marker
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 5:17 2005 Quant Results File: 0418FRNT.RES

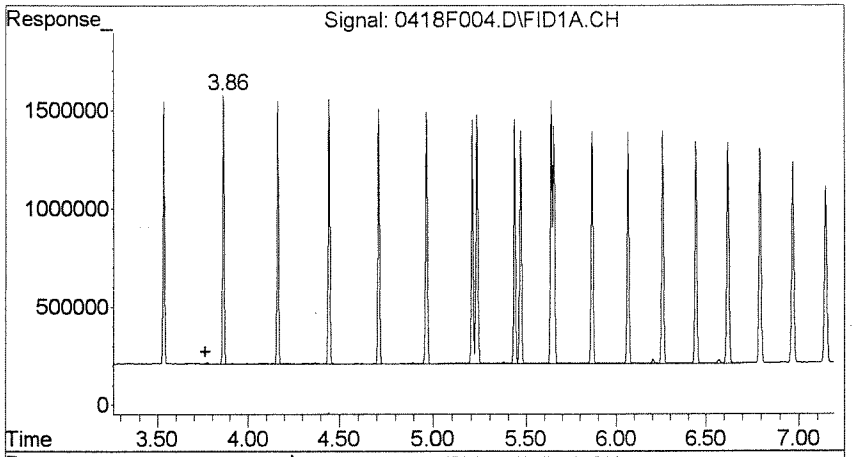
Vial: 4
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

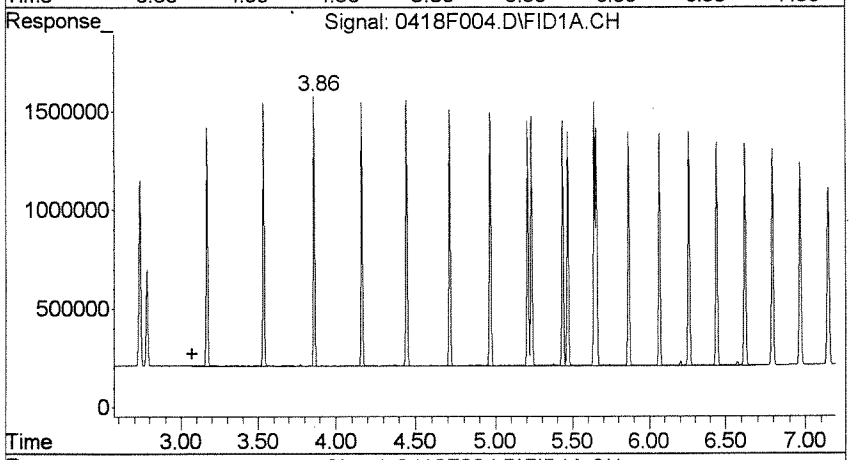


PM



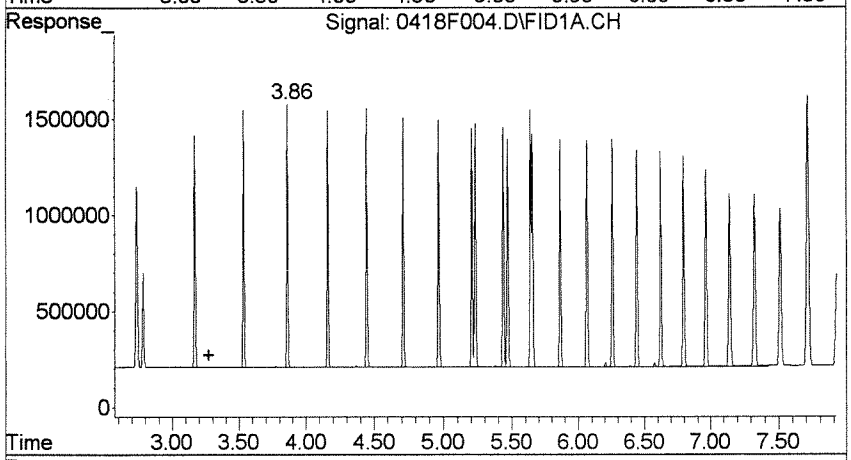
#4 C12-C25 Diesel Range Orga

R.T.: 3.760 min
Delta R.T.: 0.000 min
Response: 13148999
Conc: 388.17 ppm m



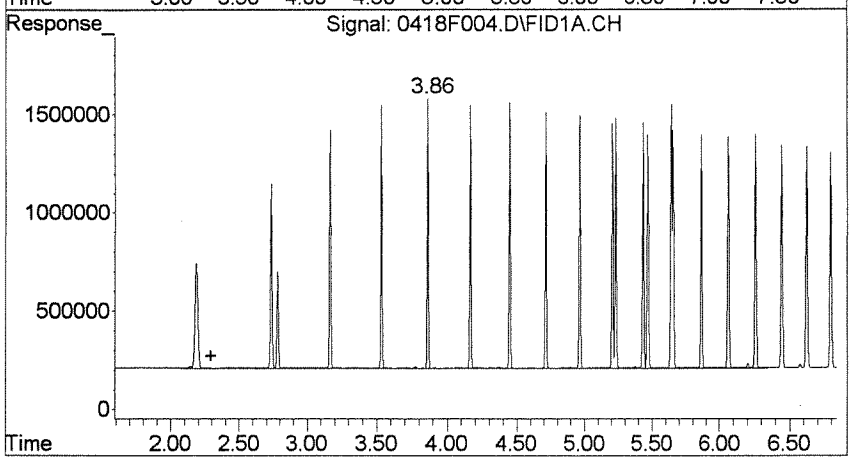
#5 C10-C25 DRO (AK102)

R.T.: 3.070 min
Delta R.T.: 0.000 min
Response: 14842877
Conc: 377.87 ppm m



#6 C10-C28 8015 DRO

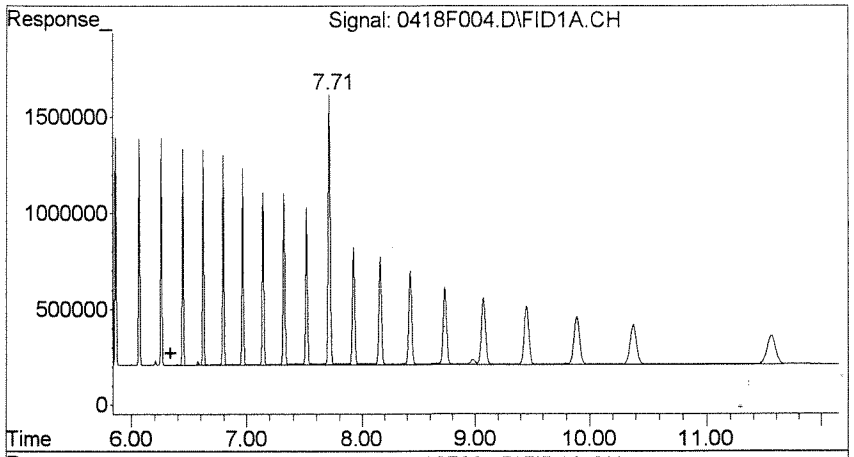
R.T.: 3.270 min
Delta R.T.: 0.000 min
Response: 18545437
Conc: 462.03 ppm m



#7 C8-C22 DRO

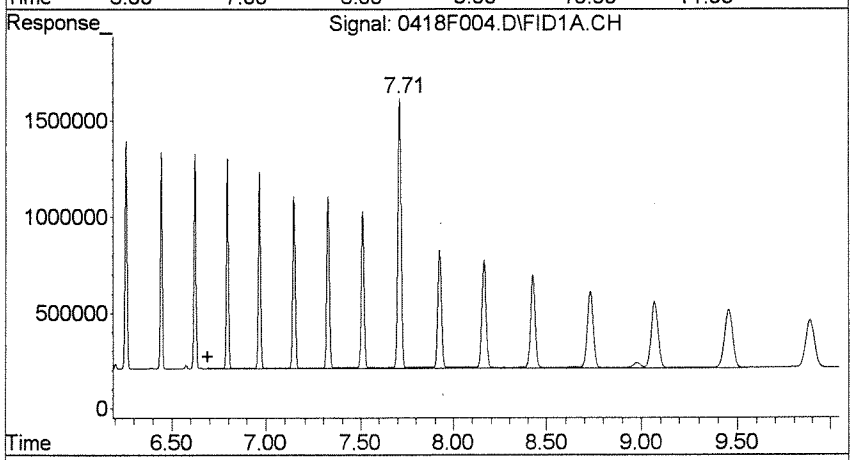
R.T.: 2.290 min
Delta R.T.: 0.000 min
Response: 14679034
Conc: 364.19 ppm m

pm



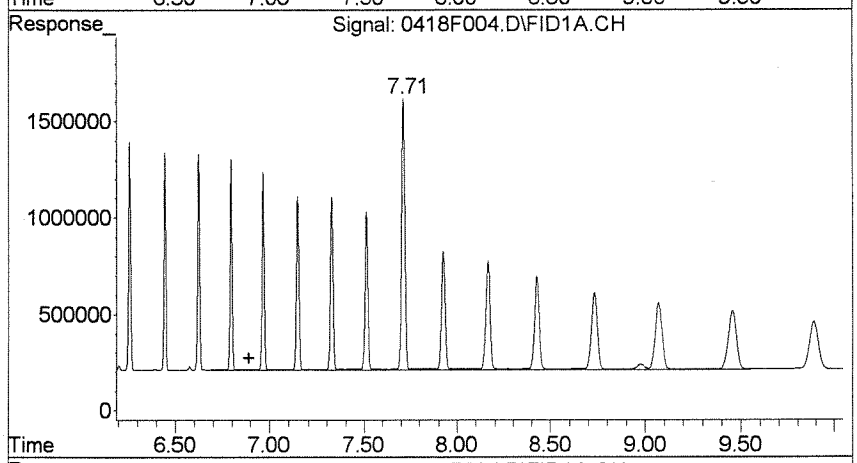
#8 C23-C40 Residual Range (R

R.T.: 6.340 min
Delta R.T.: 0.000 min
Response: 15329726
Conc: 450.87 ppm m



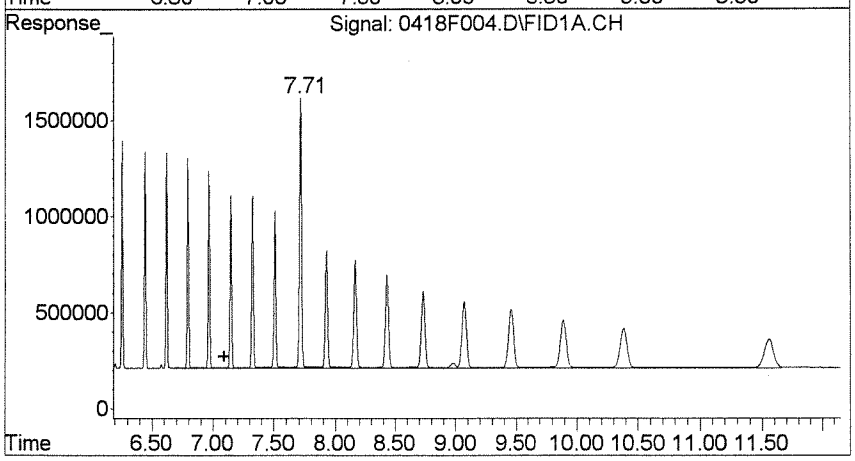
#9 C25-C36 as RRO (AK103, 'X

R.T.: 6.690 min
Delta R.T.: 0.000 min
Response: 10550238
Conc: 411.26 ppm m



#10 C25-C36 as Motor OIL

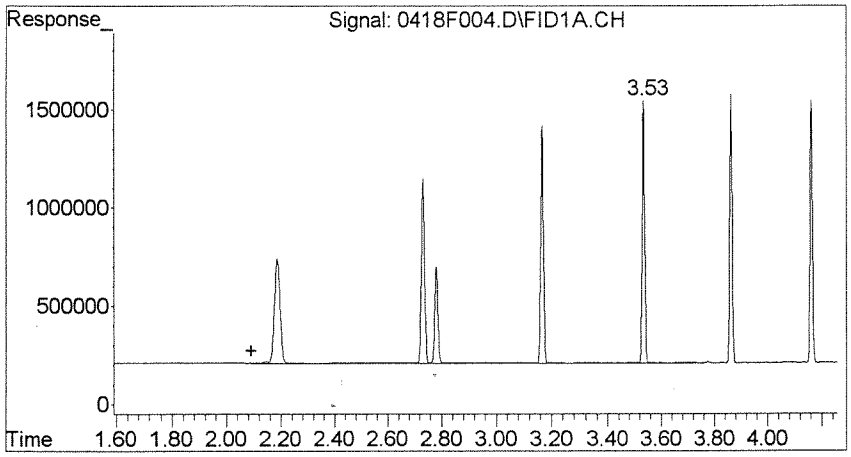
R.T.: 6.890 min
Delta R.T.: 0.000 min
Response: 10550238
Conc: 411.26 ppm m



#11 C25-C40 RRO

R.T.: 7.090 min
Delta R.T.: 0.000 min
Response: 13509659
Conc: 474.95 ppm m

ppm



#12 C8-C12 GRO (8015)

R.T.: 2.090 min
Delta R.T.: 0.000 min
Response: 3350102
Conc: 257.56 ppm m

Data File : J:\GC21\DATA\041805\0418F006.D Vial: 5
Acq On : 18 Apr 2005 1:41 pm Operator: PMulheri
Sample : 7-7S MAHs/PAHs marker Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 05:17:57 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.82f	5146	0.280 ppm
Spiked Amount 50.000	Recovery	=	0.56%
2) S o-Terphenyl	5.59f	7347	0.152 ppm
Spiked Amount 50.000	Recovery	=	0.30%
3) S Triacontane (C-30)	7.71	6412	0.169 ppm
Spiked Amount 50.000	Recovery	=	0.34%
Target Compounds			
4) H C12-C25 Diesel Range Organ	3.76	7832242	231.212 ppm
5) H C10-C25 DRO (AK102)	3.07	9382876	238.871 ppm
6) H C10-C28 8015 DRO	3.27	13042894	324.946 ppm
7) H C8-C22 DRO	2.29	34264579	850.104 ppm
8) H C23-C40 Residual Range (RR	6.34	8003480	235.396 ppm
9) H C25-C36 as RRO (AK103, 'X'	6.69	7547027	294.195 ppm
10) H C25-C36 as Motor OIL	6.89	7547027	294.195 ppm
11) H C25-C40 RRO	7.09	7908734	278.043 ppm
12) H C8-C12 GRO (8015)	2.09	26506742	2037.896 ppm

PM 041905

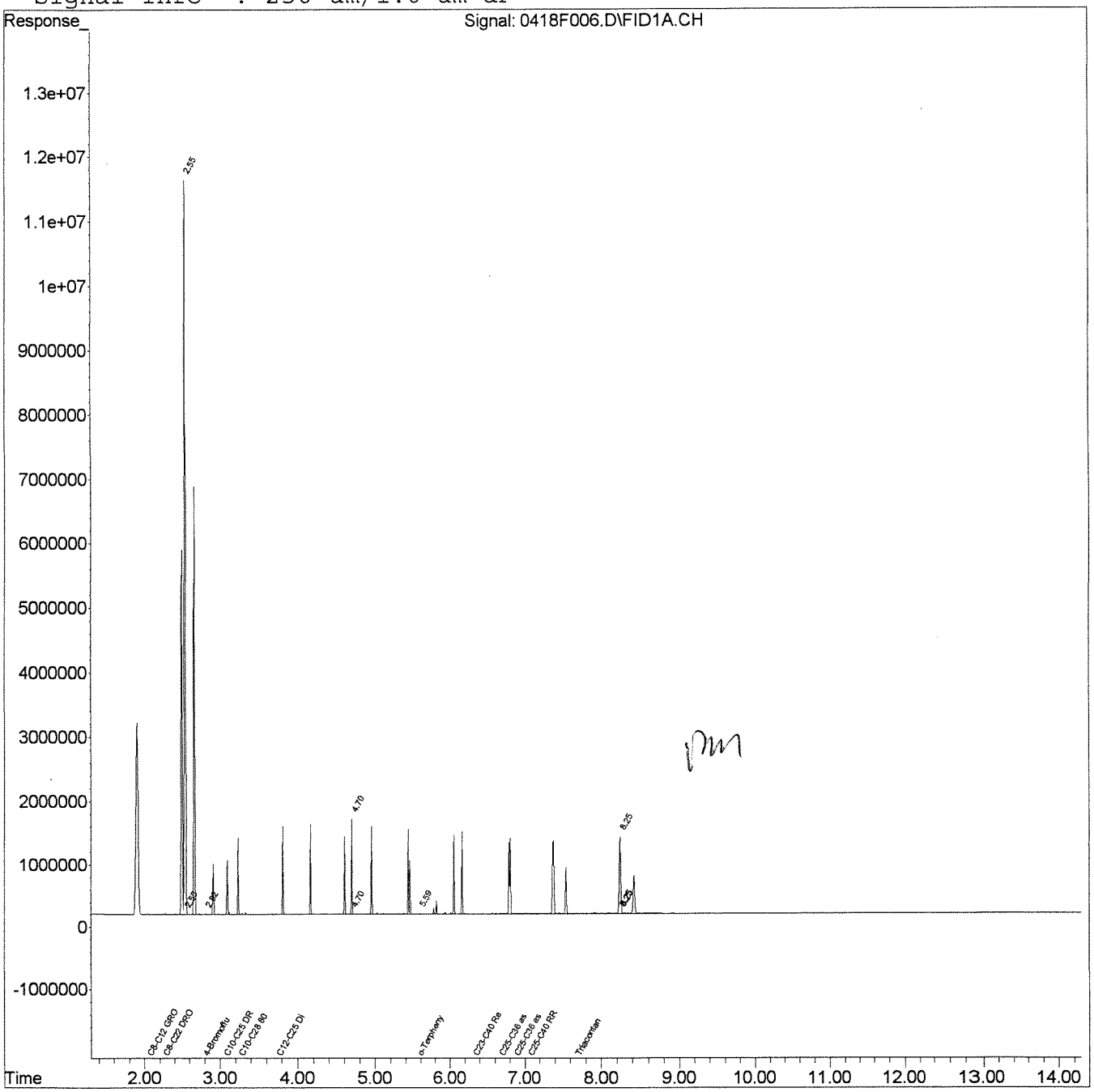
4/19/05

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F006.D Vial: 5
Acq On : 18 Apr 2005 1:41 pm Operator: PMulheri
Sample : 7-7S MAHs/PAHs marker Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 5:17 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F042.D Vial: 1
Acq On : 18 Apr 2005 7:25 pm Operator: PMulheri
Sample : dcm Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 05:18:00 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) S Triacontane (C-30)	7.75f	26196	0.690 ppm
Spiked Amount 50.000		Recovery =	1.38%
Target Compounds			
4) H C12-C25 Diesel Range Organ	3.76	421962	12.457 ppm
5) H C10-C25 DRO (AK102)	3.07	528468	13.454 ppm
6) H C10-C28 8015 DRO	3.27	710315	17.697 ppm
7) H C8-C22 DRO	2.29	521286	12.933 ppm
8) H C23-C40 Residual Range (RR	6.34	830656	24.431 ppm
9) H C25-C36 as RRO (AK103, 'X'	6.69	558448	21.769 ppm
10) H C25-C36 as Motor OIL	6.89	558448	21.769 ppm
11) H C25-C40 RRO	7.09	774050	27.213 ppm
12) H C8-C12 GRO (8015)	2.09	125523	9.650 ppm

PM041905

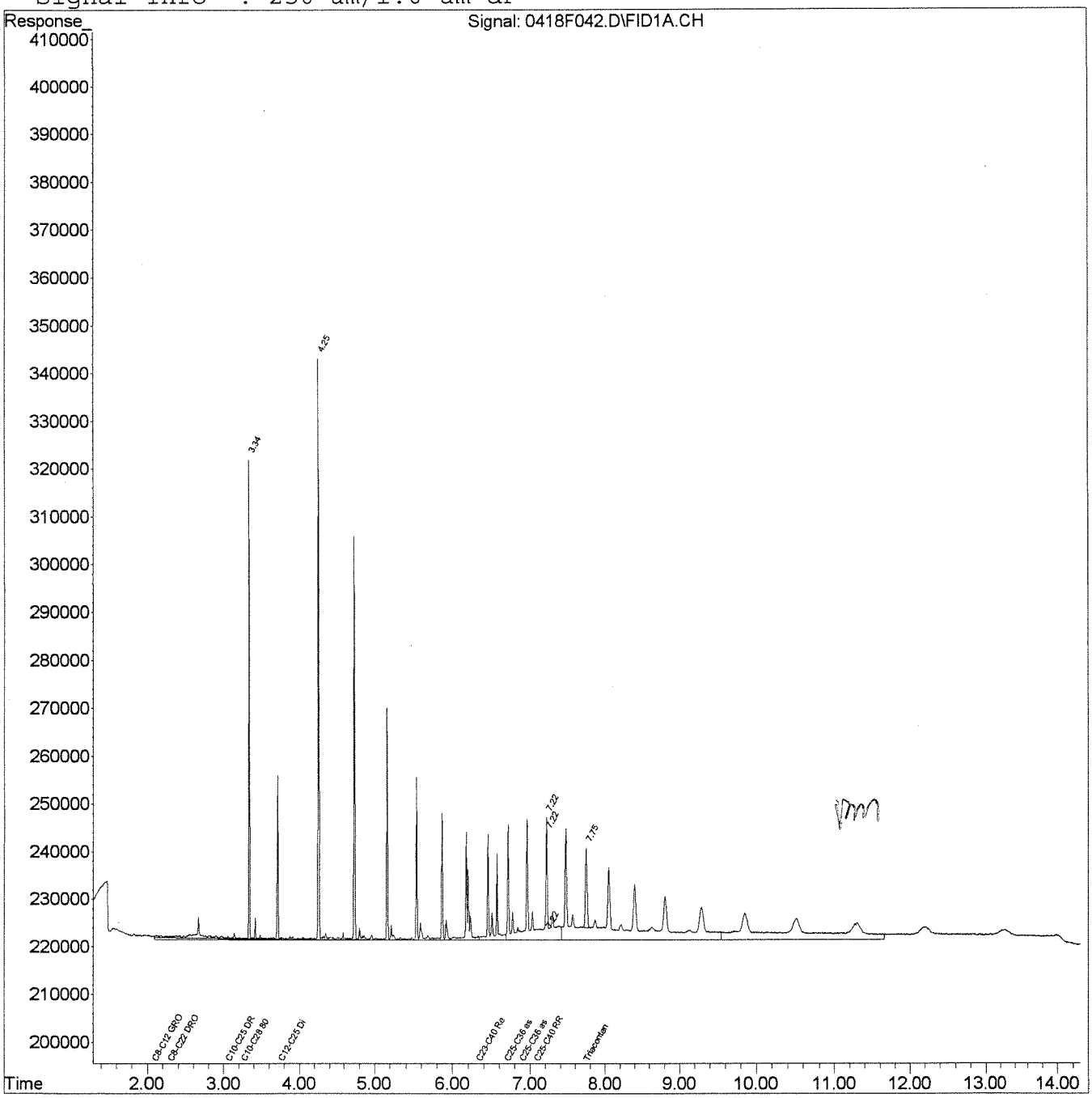
4/04/05

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC21\DATA\041805\0418F042.D Vial: 1
Acq On : 18 Apr 2005 7:25 pm Operator: PMulheri
Sample : dcm Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 5:18 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F072.D Vial: 1
Acq On : 19 Apr 2005 12:20 am Operator: PMulheri
Sample : dcm Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 05:18:04 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
3)	S	Triacontane (C-30)	7.75f	28176	0.742	ppm
Spiked Amount		50.000	Recovery	=	1.48%	
		Target Compounds				
4)	H	C12-C25 Diesel Range Organ	3.76	635905	18.772	ppm
5)	H	C10-C25 DRO (AK102)	3.07	763291	19.432	ppm
6)	H	C10-C28 8015 DRO	3.27	1072653	26.724	ppm
7)	H	C8-C22 DRO	2.29	706697	17.533	ppm
8)	H	C23-C40 Residual Range (RR	6.34	2754710	81.021	ppm
9)	H	C25-C36 as RRO (AK103, 'X'	6.69	1408418	54.902	ppm
10)	H	C25-C36 as Motor OIL	6.89	1408418	54.902	ppm
11)	H	C25-C40 RRO	7.09	2663094	93.625	ppm
12)	H	C8-C12 GRO (8015)	2.09	162407	12.486	ppm

PM 041905
9041905

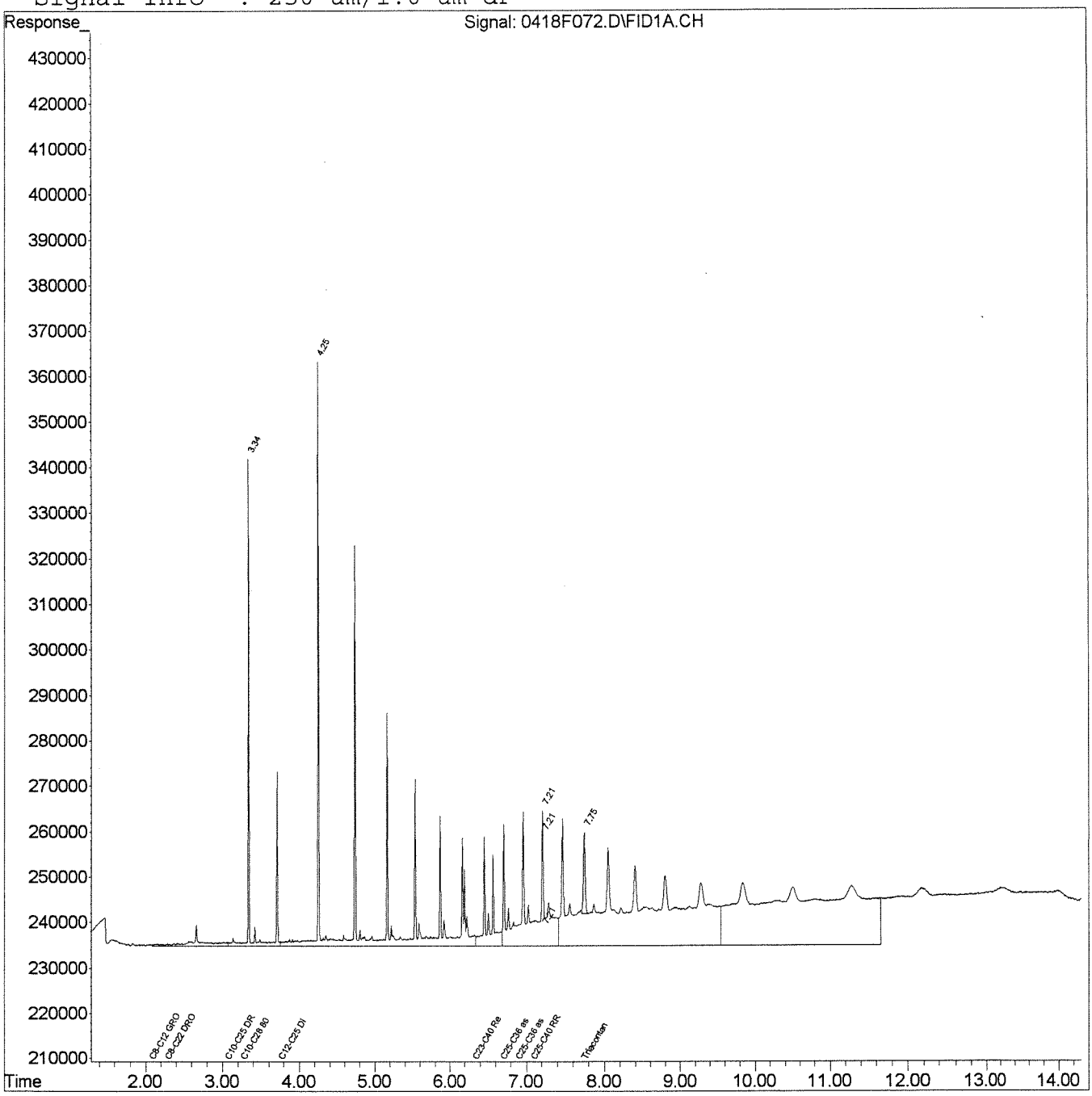
(f)=RT Delta > 1/2 Window (m)=manual int.
0418F072.D 0418FRNT.M Tue Apr 19 05:18:05 2005 Page 1

Data File : J:\GC21\DATA\041805\0418F072.D
Acq On : 19 Apr 2005 12:20 am
Sample : dcm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 5:18 2005 Quant Results File: 0418FRNT.RES

Vial: 1
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F074.D
Acq On : 19 Apr 2005 12:40 am
Sample : HCSV7-7Q 1000 ppm each ICV
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 05:06:12 2005 Quant Results File: 0418FRNT.RES

Vial: 26
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

	Compound	R.T.	Response	Conc	Units
	System Monitoring Compounds				
	Target Compounds				
8) H	C23-C40 Residual Range (RR	6.34	34226406	1006.655	ppm
9) H	C25-C36 as RRO (AK103, 'X'	6.69	25177670	981.465	ppm
10) H	C25-C36 as Motor OIL	6.89	25177670	981.465	ppm
11) H	C25-C40 RRO	7.09	28824655	1013.372	ppm
12) H	C8-C12 GRO (8015)	2.09	13944800	1072.107	ppm

pm041905

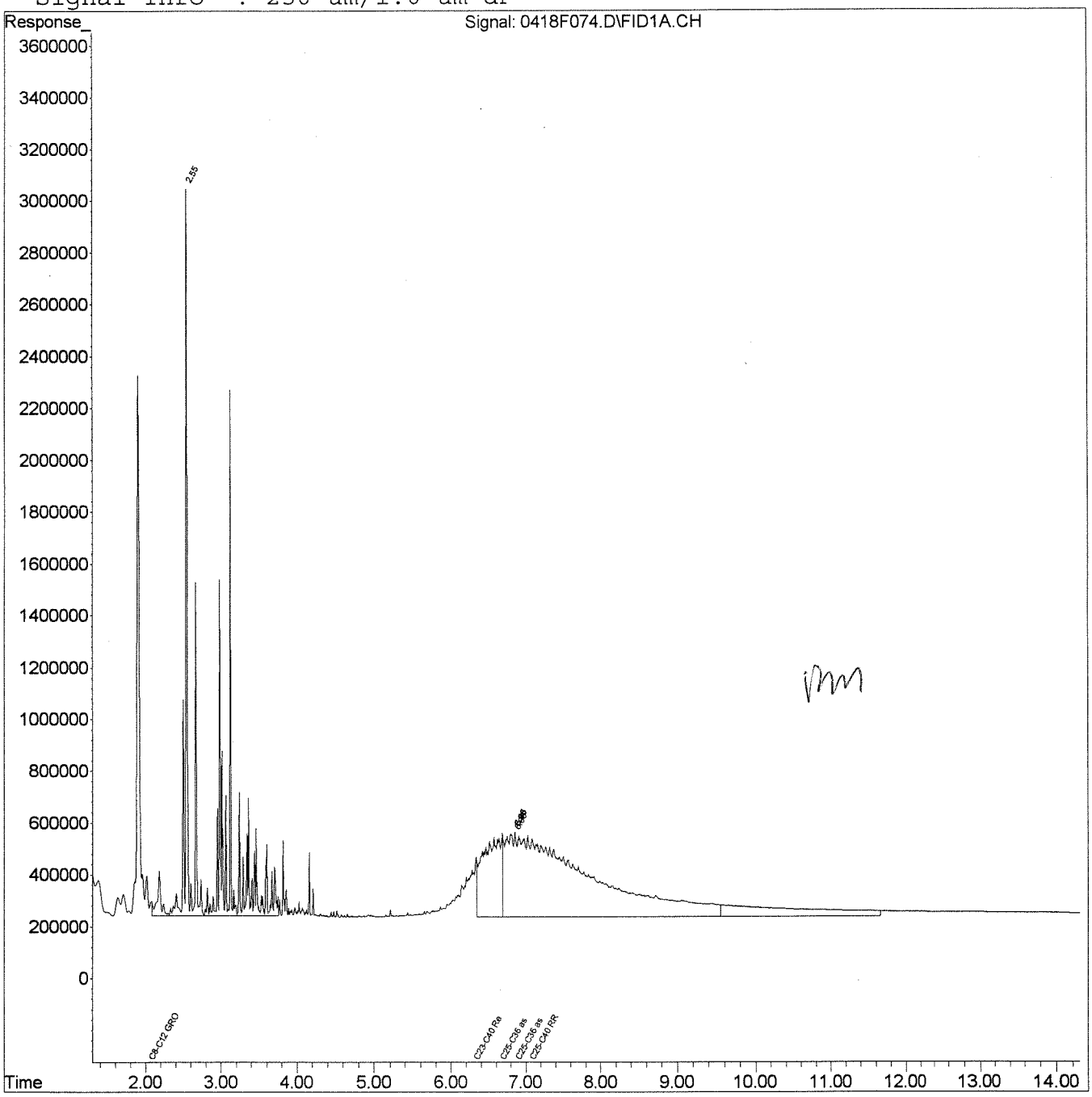
7 041905

(f)=RT Delta > 1/2 Window (m)=manual int.
0418F074.D 0418FRNT.M Tue Apr 19 05:17:18 2005 Page 1

Data File : J:\GC21\DATA\041805\0418F074.D Vial: 26
Acq On : 19 Apr 2005 12:40 am Operator: PMulheri
Sample : HCSV7-7Q 1000 ppm each ICV Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 5:07 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Data File : J:\GC21\DATA\041805\0418F076.D Vial: 25
Acq On : 19 Apr 2005 12:59 am Operator: PMulheri
Sample : HCSV7-7P 1000 ppm ICV Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 05:06:29 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:05:45 2005
Response via : Initial Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
4) H C12-C25 Diesel Range Organ	3.76	37441614	1105.296	ppm
5) H C10-C25 DRO (AK102)	3.07	41663256	1060.673	ppm
6) H C10-C28 8015 DRO	3.27	42471902	1058.131	ppm
7) H C8-C22 DRO	2.29	41465867	1028.768	ppm

pm041905

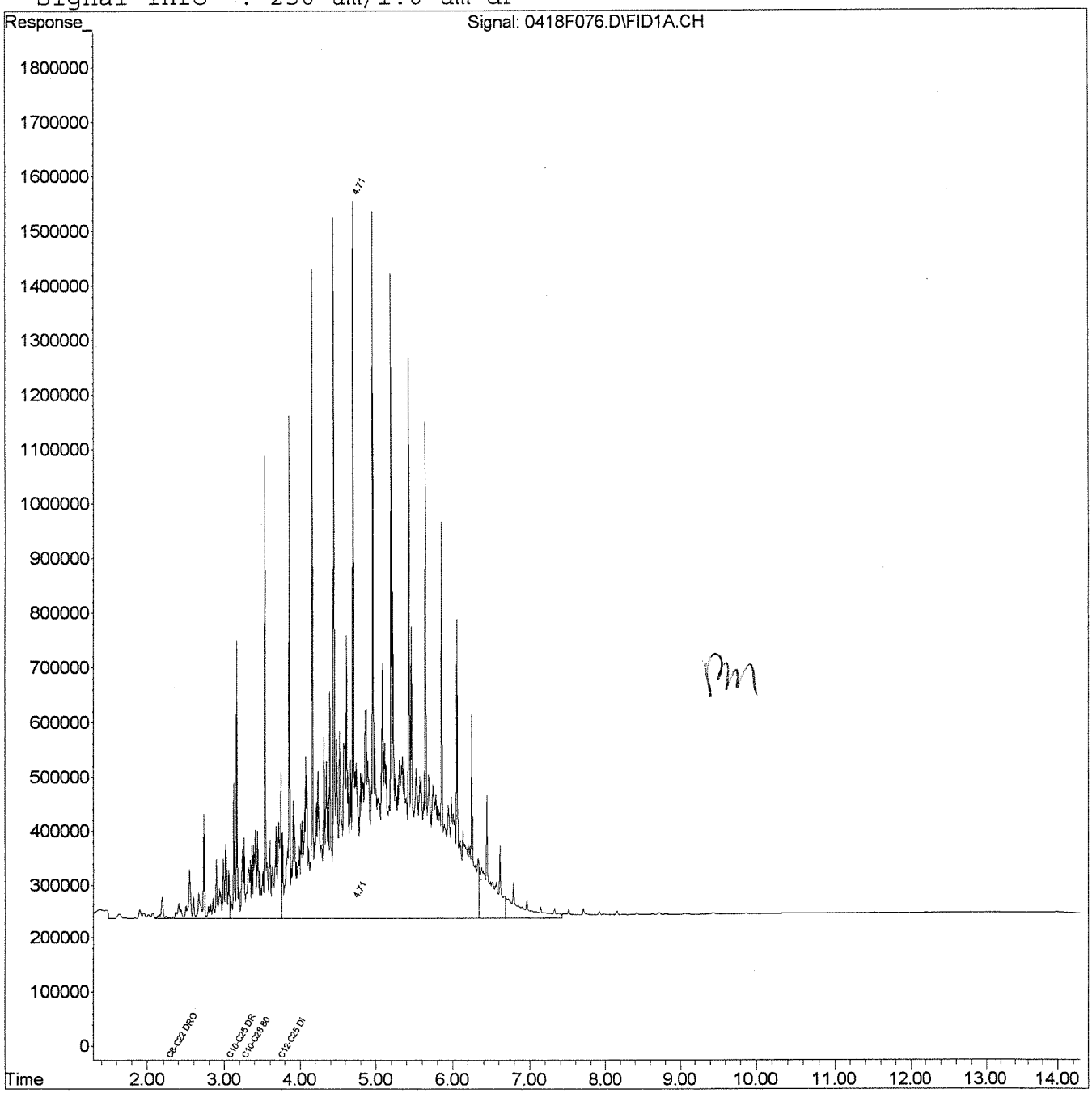
gc041905

(f)=RT Delta > 1/2 Window (m)=manual int.
0418F076.D 0418FRNT.M Tue Apr 19 05:17:20 2005 Page 1

Data File : J:\GC21\DATA\041805\0418F076.D Vial: 25
Acq On : 19 Apr 2005 12:59 am Operator: PMulheri
Sample : HCSV7-7P 1000 ppm ICV Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 5:07 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0417FRNT CAL
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



PM

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Date Analyzed: 04/19/2005

Continuing Calibration Verification Summary
Diesel and Residual Range Organics

Calibration Type: External Standard
Analysis Method: 8015M

Calibration Date: 04/18/2005
Calibration ID: CAL4385
Analysis Lot: KWG0506268
Units: ppm

File ID: J:\GC21\DATA\041805\0418F078.D
J:\GC21\DATA\041805\0418F080.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	940	33900	31800	-6	NA	± 15 %	AverageRF
Residual Range Organics (RRO)	1000	940	25700	24200	-6	NA	± 15 %	AverageRF
o-Terphenyl	50	49	48400	47900	-1	NA	± 15 %	AverageRF
n-Triacontane	50	51	38000	38400	1	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: J:\GC21\DATA\041805\0418F078.D
Lab ID: KWG0506268-1
RunType: CCV
Matrix: SOIL

Date Acquired: 04/19/2005 01:19
Date Quantitated: 04/19/2005 11:15
Batch ID: KWG0506268
Analysis Method: 8015M
MethodJoinID: MJ234

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: PM 041905

Secondary Review: CMA 4/19/05

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	DX-NWTPH	**Collect Date:**		**Receive Date:**	04/19/2005

Analysis Lot:	KWG0506268	**Prep Lot:**		**Report Group:**	
Analysis Method:	8015M	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC21\METHODS\0418FRNT.M	**Calibration ID:**	CAL4385
Title:		**Method ID:**	MJ234
MB Ref:		**Quant based on Method**	

Data File:	J:\GC21\DATA\041805\0418F078.D			**Instrument:**	gc21
Acqu Date:	04/19/2005 01:19	**Quant Date:**	04/19/2005 11:15	**Vial:**	3
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0506268-1			**Soln Conc. Units:**	ppm

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
o-Terphenyl	5.65	?	32678	0.6750		54-140	NA	NR
n-Triacontane			0			50-150	NA	NR

Target Compounds

Final Conc. Units:

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel	3.76	?	10190857	300.84			NR
Residual Range Organics (RRO)	6.69	?	24197679	943.26			
Motor Oil	6.89	?	24197679	943.26			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

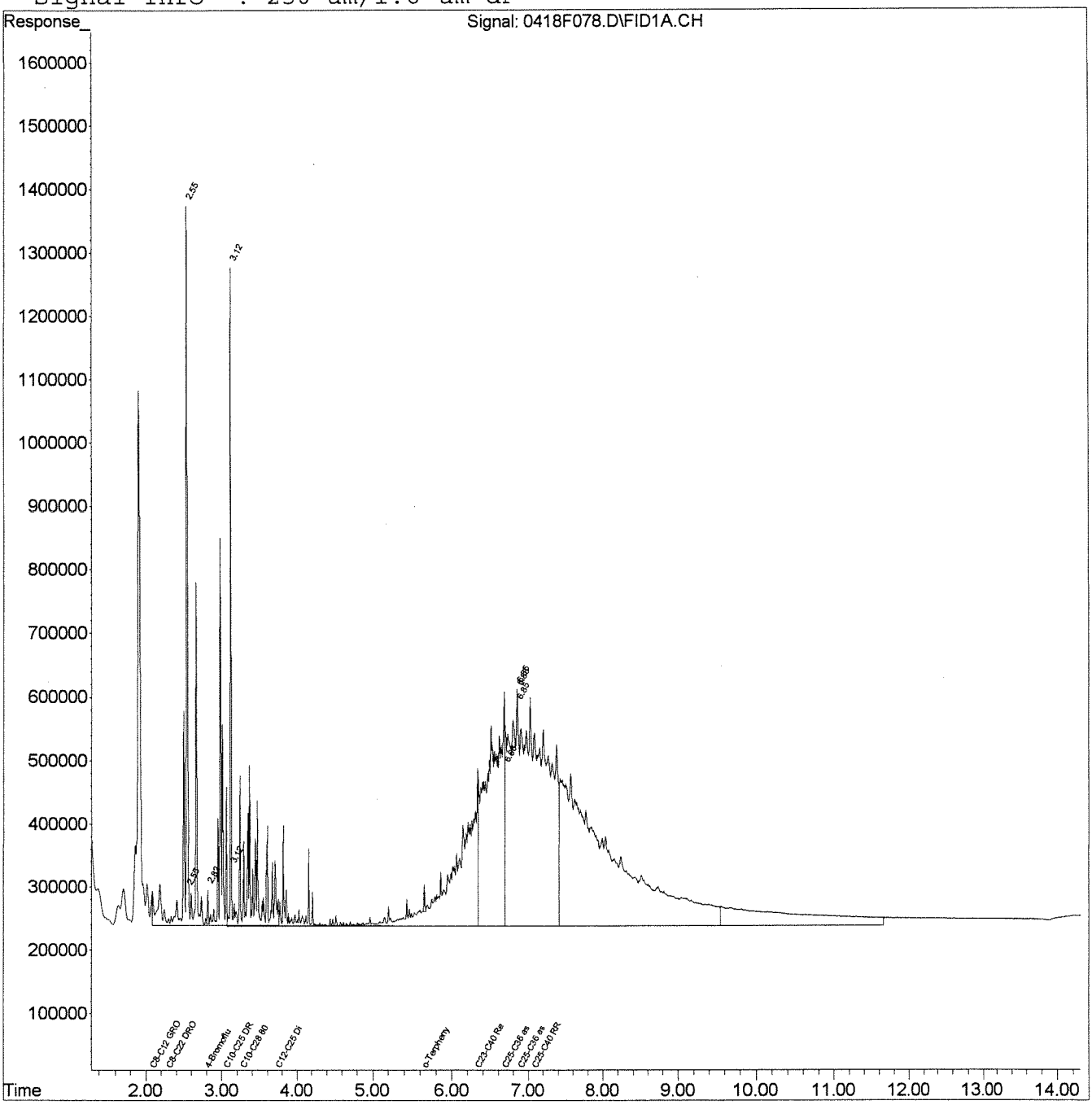
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\GC21\DATA\041805\0418F078.D Vial: 3
Acq On : 19 Apr 2005 1:19 am Operator: PMulheri
Sample : HCSV6-82K G/O @ 500/1000 ppm Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 11:15 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Exception Report

Data File: J:\GC21\DATA\041805\0418F080.D
Lab ID: KWG0506268-1
RunType: CCV
Matrix: SOIL

Date Acquired: 04/19/2005 01:39
Date Quantitated: 04/19/2005 11:15
Batch ID: KWG0506268
Analysis Method: 8015M
MethodJoinID: MJ234

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: PM 041905

Secondary Review: cg 04/19/05

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	DX-NWTPH	**Collect Date:**		**Receive Date:**	04/19/2005

Analysis Lot:	KWG0506268	**Prep Lot:**		**Report Group:**	
Analysis Method:	8015M	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC21\METHODS\0418FRNT.M	**Calibration ID:**	CAL4385
Title:		**Method ID:**	MJ234
MB Ref:		**Quant based on Method**	

Data File:	J:\GC21\DATA\041805\0418F080.D			**Instrument:**	gc21
Acqu Date:	04/19/2005 01:39	**Quant Date:**	04/19/2005 11:15	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0506268-1			**Soln Conc. Units:**	ppm

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
o-Terphenyl	5.64	?	2394042	49.43		54-140	NA
n-Triacontane	7.71	?	1919072	50.55		50-150	NA

Target Compounds

Final Conc. Units:

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel	3.76	?	31835532	939.80			
Residual Range Organics (RRO)	6.69	?	989582	38.58			NR
Motor Oil	6.89	?	989582	38.58			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

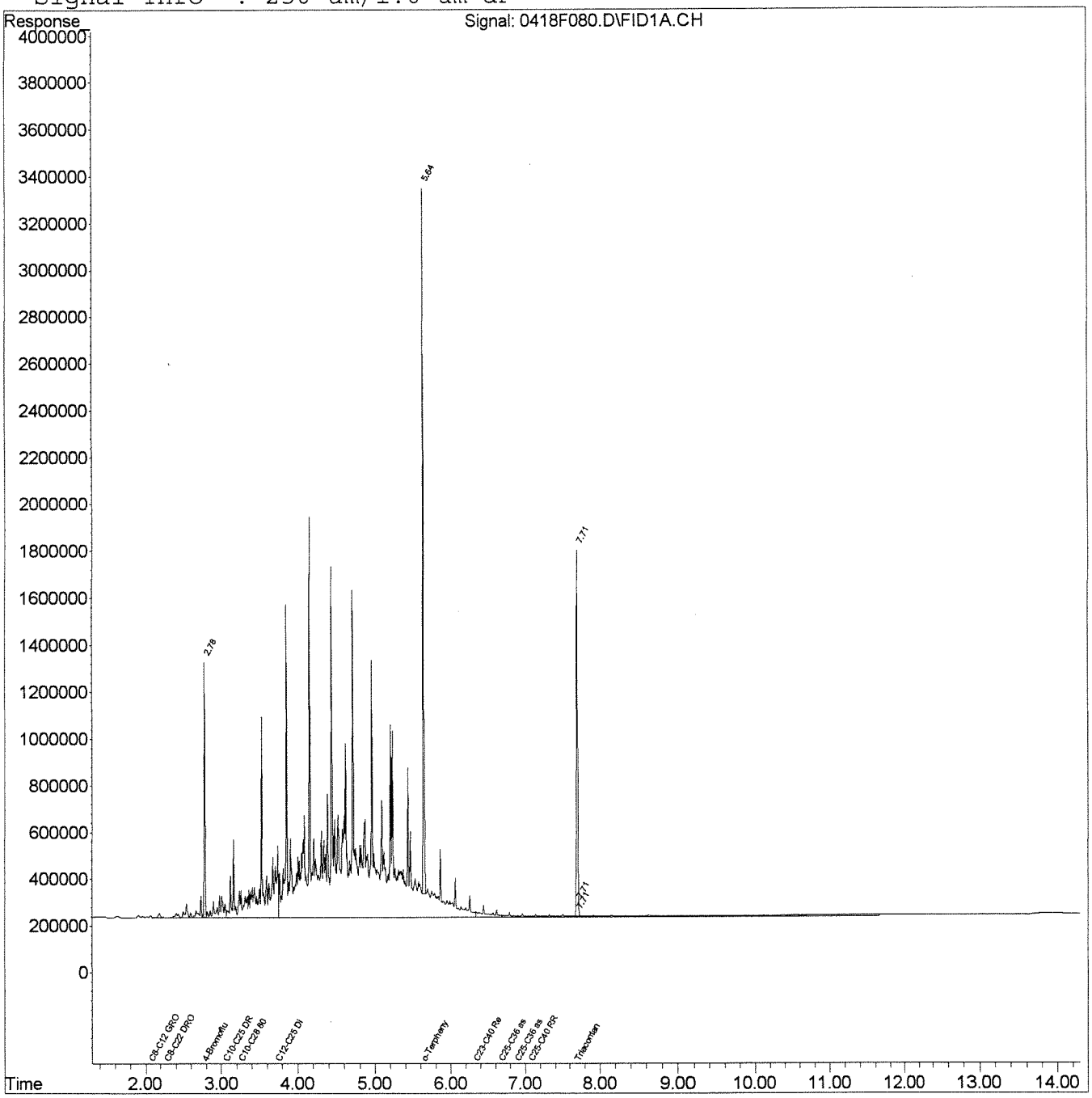
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\GC21\DATA\041805\0418F080.D Vial: 2
Acq On : 19 Apr 2005 1:39 am Operator: PMulheri
Sample : HCSV6-7-9H D/S @ 1000/50 ppm Inst : gc21
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 19 11:15 2005 Quant Results File: 0418FRNT.RES

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Date Analyzed: 04/19/2005

Continuing Calibration Verification Summary
Diesel and Residual Range Organics

Calibration Type: External Standard
Analysis Method: 8015M

Calibration Date: 04/18/2005
Calibration ID: CAL4385
Analysis Lot: KWG0506268
Units: ppm

File ID: J:\GC21\DATA\041805\0418F104.D
J:\GC21\DATA\041805\0418F106.D

Column ID: RTX-1

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Diesel Range Organics (DRO)	1000	950	33900	32300	-5	NA	± 15 %	AverageRF
Residual Range Organics (RRO)	1000	940	25700	24000	-6	NA	± 15 %	AverageRF
o-Terphenyl	50	51	48400	49200	2	NA	± 15 %	AverageRF
n-Triacontane	50	52	38000	39200	3	NA	± 15 %	AverageRF

Results flagged with an asterisk (*) indicate values outside control criteria.

Exception Report

Data File: J:\GC21\DATA\041805\0418F104.D
Lab ID: KWG0506268-2
RunType: CCV
Matrix: SOIL

Date Acquired: 04/19/2005 08:57
Date Quantitated: 04/19/2005 11:15
Batch ID: KWG0506268
Analysis Method: 8015M
MethodJoinID: MJ234

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: MM041905

Secondary Review: 041905

Printed: 04/19/2005 12:38:38
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	DX-NWTPH	**Collect Date:**		**Receive Date:**	04/19/2005

Analysis Lot:	KWG0506268	**Prep Lot:**		**Report Group:**	
Analysis Method:	8015M	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC21\METHODS\0418FRNT.M	**Calibration ID:**	CAL4385
Title:		**Method ID:**	MJ234
MB Ref:		**Quant based on Method**	

Data File:	J:\GC21\DATA\041805\0418F104.D			**Instrument:**	gc21
Acqu Date:	04/19/2005 08:57	**Quant Date:**	04/19/2005 11:15	**Vial:**	3
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0506268-2			**Soln Conc. Units:**	ppm

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
o-Terphenyl	5.65	?	31601	0.6520		54-140	NA	NR
n-Triacontane			0			50-150	NA	NR

Target Compounds

Final Conc. Units:

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel	3.76	?	10117096	298.66			NR
Residual Range Organics (RRO)	6.69	?	24015506	936.16			
Motor Oil	6.89	?	24015506	936.16			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

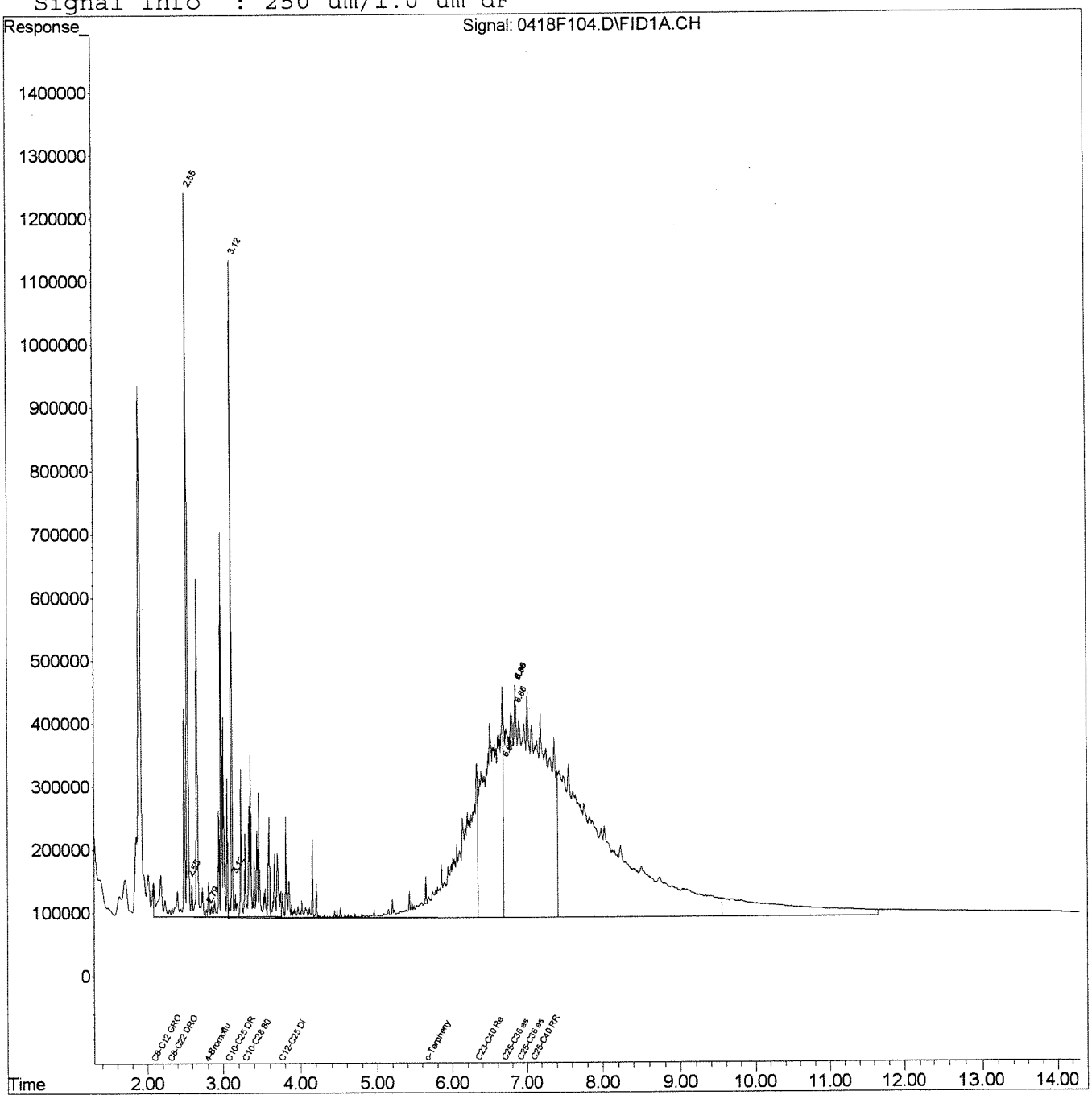
*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\GC21\DATA\041805\0418F104.D
Acq On : 19 Apr 2005 8:57 am
Sample : HCSV6-82K G/O @ 500/1000 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 11:15 2005 Quant Results File: 0418FRNT.RES

Vial: 3
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Exception Report

Data File: J:\GC21\DATA\041805\0418F106.D
Lab ID: KWG0506268-2
RunType: CCV
Matrix: SOIL

Date Acquired: 04/19/2005 09:16
Date Quantitated: 04/19/2005 11:15
Batch ID: KWG0506268
Analysis Method: 8015M
MethodJoinID: MJ234

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 04/19/05

Secondary Review: 04/19/05

Printed: 04/19/2005 12:38:41
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	DX-NWTPH	**Collect Date:**		**Receive Date:**	04/19/2005

Analysis Lot:	KWG0506268	**Prep Lot:**		**Report Group:**	
Analysis Method:	8015M	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC21\METHODS\0418FRNT.M	**Calibration ID:**	CAL4385
Title:			
		Method ID:	MJ234
MB Ref:		**Quant based on Method**	

Data File:	J:\GC21\DATA\041805\0418F106.D			**Instrument:**	gc21
Acqu Date:	04/19/2005 09:16	**Quant Date:**	04/19/2005 11:15	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0506268-2			**Soln Conc. Units:**	ppm

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
o-Terphenyl	5.64	?	2461752	50.83		54-140	NA
n-Triacontane	7.71	?	1958684	51.59		50-150	NA

Target Compounds

Final Conc. Units:

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel	3.76	?	32262838	952.42			
Residual Range Organics (RRO)	6.69	?	468656	18.27			NR
Motor Oil	6.89	?	468656	18.27			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

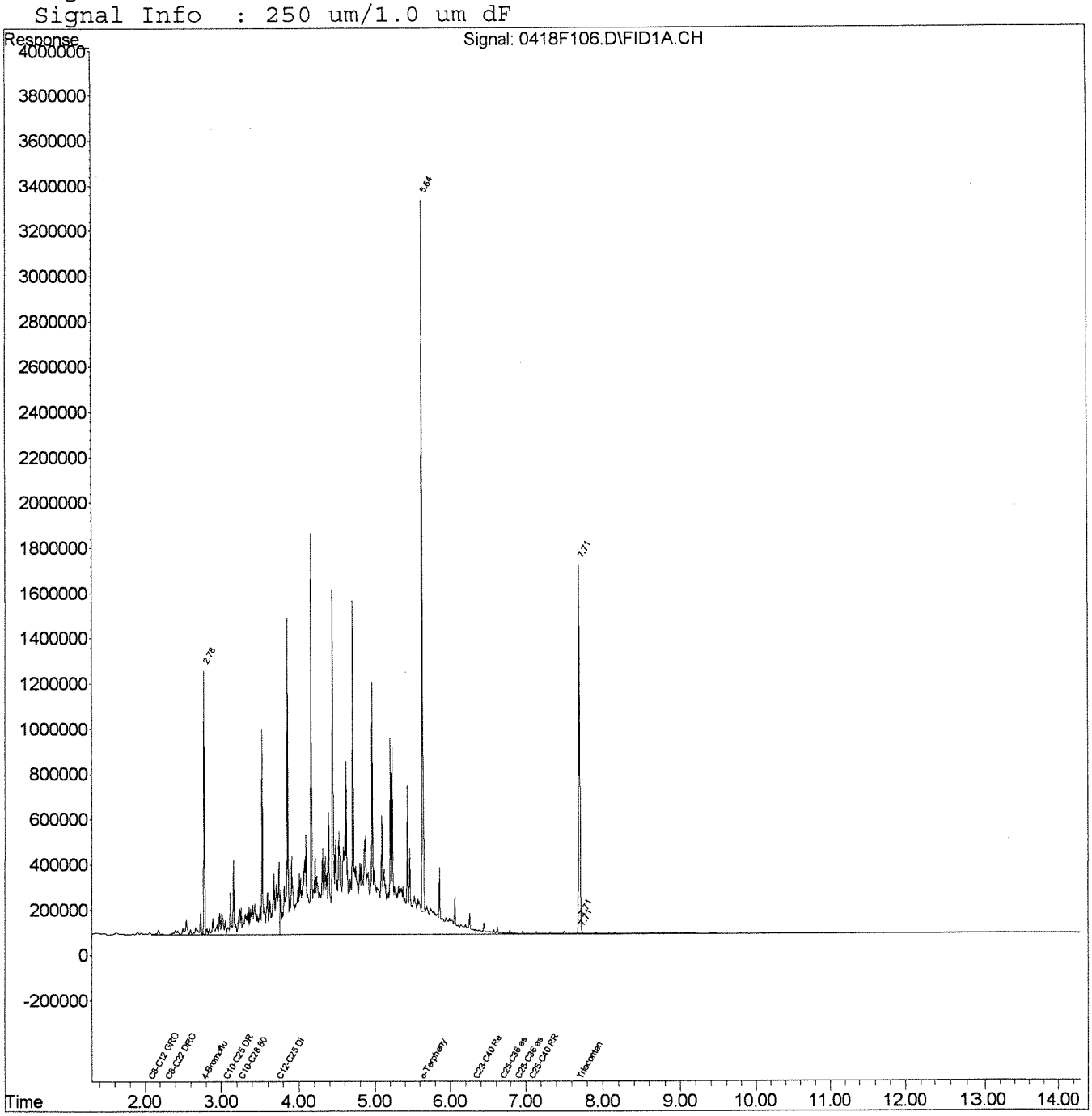
*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File : J:\GC21\DATA\041805\0418F106.D
Acq On : 19 Apr 2005 9:16 am
Sample : HCSV6-7-9H D/S @ 1000/50 ppm
Misc :
IntFile : RTEINT.P
Quant Time: Apr 19 11:15 2005 Quant Results File: 0418FRNT.RES

Vial: 2
Operator: PMulheri
Inst : gc21
Multiplr: 1.00

Quant Method : J:\GC21\METHODS\0418FRNT.M (RTE Integrator)
Title : GRO, DRO, RRO, oh my! 0418FRNT CAL4385
Last Update : Tue Apr 19 05:05:45 2005
Response via : Single Level Calibration
DataAcq Meth : BOTH.M

Volume Inj. : 1 uL
Signal Phase : RTX-1
Signal Info : 250 um/1.0 um dF



Organic Analysis:
Diesel and Residual Range Organics

Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID:	KWG0506162	**Prep Method:**	EPA 3550B	**Prep Date:**	04/18/05 09:00
Department:	PHP				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
K2502499-011	T063-R1-SB02-0-0.5	DRO-X-8015	SOIL	11.85g	4ml	
K2502499-012	T063-R1-SB01-0-0.5 DUP	DRO-X-8015	SOIL	11.86g	4ml	
K2502505-001	TO63-R3-SB04-0-0.5	DRO-X-8015	SOIL	11.57g	4ml	
K2502505-002	TO63-R3-SB04-2-3	DRO-X-8015	SOIL	8.58g	2ml	
K2502505-003	TO63-R3-SB01-0-0.5	DRO-X-8015	SOIL	7.19g	2ml	
K2502505-004	TO63-R3-SB01-4-5	DRO-X-8015	SOIL	11.53g	4ml	
K2502505-005	TO63-R3-SB02-0-0.5	DRO-X-8015	SOIL	11.53g	4ml	
K2502505-006	TO63-R3-SB03-0-0.5	DRO-X-8015	SOIL	12.10g	4ml	
K2502505-007	TO63-R4-SB03-0-0.5	DRO-X-8015	SOIL	11.11g	4ml	
K2502505-008	TO63-R4-SB03-3-4	DRO-X-8015	SOIL	8.20g	2ml	
K2502505-009	TO63-R4-SB02-0-0.5	DRO-X-8015	SOIL	11.26g	4ml	
K2502505-010	TO63-R4-SB01-0-0.5	DRO-X-8015	SOIL	11.07g	4ml	
K2502554-001	TO63-IDW-01	DRO-X-8015	SOIL	7.52g	2ml	
KWG0506162-1	Matrix Spike	DRO-X-8015	SOIL	11.06g	4ml	
KWG0506162-2	Duplicate Matrix Spike	DRO-X-8015	SOIL	11.06g	4ml	
KWG0506162-3	Lab Control Sample	DRO-X-8015	SOIL	10.00g	4ml	
KWG0506162-4	Method Blank	DRO-X-8015	SOIL	10.00g	4ml	

Lab Code	Parent Lab Code	Comments
KWG0506162-1	K2502505-010	
KWG0506162-2	K2502505-010	

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K2502499-011	375627	HCSV7-7-H	200uL			MErickso
K2502499-012	375628	HCSV7-7-H	200uL			MErickso
K2502505-001	375629	HCSV7-7-H	200uL			MErickso
K2502505-002	375630	HCSV7-7-H	200uL			MErickso
K2502505-003	375631	HCSV7-7-H	200uL			MErickso
K2502505-004	375632	HCSV7-7-H	200uL			MErickso
K2502505-005	375633	HCSV7-7-H	200uL			MErickso
K2502505-006	375634	HCSV7-7-H	200uL			MErickso
K2502505-007	375635	HCSV7-7-H	200uL			MErickso
K2502505-008	375636	HCSV7-7-H	200uL			MErickso
K2502505-009	375637	HCSV7-7-H	200uL			MErickso
K2502505-010	375638	HCSV7-7-H	200uL			MErickso
K2502554-001	375643	HCSV7-7-H	200uL			MErickso

Comments:

Started By: CRuble Assisted By: Training Yes No

Completed By: CRuble Assisted By: Yes No

Reviewed By: PM Date: 041805 Storage: to instrument

Chain of Custody

Relinquished By: CRW Date: 4/18/05

Received By: PM Date: CRW 4/18/05 04/20/05

Extracts Examined Yes No

Group ID:	KWG0506162	**Prep Method:**	EPA 3550B	**Prep Date:**	04/18/05 09:00
Department:	PHP				

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
KWG0506162-1	375639	HCSV7-7-H	200uL	HCSV6-92-P	200uL	MErickso
KWG0506162-2	375640	HCSV7-7-H	200uL	HCSV6-92-P	200uL	MErickso
KWG0506162-3	375641	HCSV7-7-H	200uL	HCSV6-92-P	200uL	MErickso
KWG0506162-4	375642	HCSV7-7-H	200uL			MErickso

Comments:

Started By: CRuble

Assisted By:

Training

Yes No

Completed By: CRuble

Assisted By:

Yes No

Reviewed By: MM

Date: 041805

Storage: Box 5 to instrument
CRW 4/18/05

Chain of Custody

Relinquished By: CRW

Date: 4/18/05

Extracts Examined

Received By: MM

Date: 041805

Yes No

Preparation Information

Group ID:	KWG0506162	**Prep Method:**	EPA 3550B	**Prep Date:**	04/18/05 09:00
Department:	PHP				

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext. g.	pH	Int. Vol.	Final Vol.	Surr. Added	Spike Added
1	K2502499-011	T063-R1-SB02-0-0.5		√	DRO-X-8015	SOIL	11.85			4	200µL	
2	K2502499-012	T063-R1-SB01-0-0.5 DUP		√	DRO-X-8015	SOIL	11.86			4		
3	K2502505-001	TO63-R3-SB04-0-0.5		√	DRO-X-8015	SOIL	11.57			4		
* 4	K2502505-002	TO63-R3-SB04-2-3		√	DRO-X-8015	SOIL	8.58			2		
* 5	K2502505-003	TO63-R3-SB01-0-0.5		√	DRO-X-8015	SOIL	7.19			2		
6	K2502505-004	TO63-R3-SB01-4-5		√	DRO-X-8015	SOIL	11.53			4		
7	K2502505-005	TO63-R3-SB02-0-0.5		√	DRO-X-8015	SOIL	11.53			4		
8	K2502505-006	TO63-R3-SB03-0-0.5		√	DRO-X-8015	SOIL	12.10			4		
9	K2502505-007	TO63-R4-SB03-0-0.5		√	DRO-X-8015	SOIL	11.11			4		
* 10	K2502505-008	TO63-R4-SB03-3-4		√	DRO-X-8015	SOIL	8.20			2		
11	K2502505-009	TO63-R4-SB02-0-0.5		√	DRO-X-8015	SOIL	11.26			4		
12	K2502505-010	TO63-R4-SB01-0-0.5		√	DRO-X-8015	SOIL	11.07			4		
* 13	K2502554-001	TO63-IDW-01		√	DRO-X-8015	SOIL	7.52			2		
14	KWG0506162-1	Matrix Spike 2505-10			DRO-X-8015	SOIL	11.06			4		200µL
15	KWG0506162-2	Duplicate Matrix Spike 2505-10			DRO-X-8015	SOIL	11.06			4		↓
16	KWG0506162-3	Lab Control Sample			DRO-X-8015	SOIL	10.00			4		↓
17	KWG0506162-4	Method Blank			DRO-X-8015	SOIL	10.00			4	√	

DCM Lot # 45014

Glass Wool Lot # NA

Na_2SO_4 Lot # 44321508

Comments: * Sample matrix was heavy clay for the samples that went to 2mL F.V.

Surrogate ID: HCSV7-7-H

Sonic Horn Tuned CRW 4/18/05
Initial / Date

Spike ID: HCSV6-92-P

Witness: SJ 4/18/05

Started By: CRuble

Assisted By: —

Completed By: CRuble

Assisted By: —