Gasoline Range Organics

Organic Analysis:
Gasoline 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
Gasoline 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: 04/15/05

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

Gasoline Range Organics

Sample Name:	TO63-IDW-01	**Units:**	mg/Kg
Lab Code:	K2502554-001	**Basis:**	Dry
Extraction Method:	EPA 5035/5030B	**Level:**	Med
Analysis Method:	8015B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	**1.3**	J	4.1	1.1	1	04/08/05	04/14/05	KWG0505639	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	78	25-133	04/14/05	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

Gasoline Range Organics

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0505639-4	**Basis:**	Dry
Extraction Method:	EPA 5035/5030B	**Level:**	Med
Analysis Method:	8015B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	**0.94**	J	2.5	0.71	1	04/08/05	04/14/05	KWG0505639	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	80	25-133	04/14/05	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
Gasoline Range Organics

Extraction Method: EPA 5035/5030B
Analysis Method: 8015B

Units: PERCENT
Level: Med

Sample Name	Lab Code	Sur1
TO63-IDW-01	K2502554-001	78
Method Blank	KWG0505639-4	80
Lab Control Sample	KWG0505639-3	79

Surrogate Recovery Control Limits (%)

Sur1 = 4-Bromofluorobenzene 25-133

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:**	04/08/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/14/2005

Lab Control Spike Summary
Gasoline Range Organics

Extraction Method:	EPA 5035/5030B	**Units:**	mg/Kg
Analysis Method:	8015B	**Basis:**	Dry
		Level:	Med
		Extraction Lot:	KWG0505639

	Lab Control Sample KWG0505639-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Gasoline Range Organics (GRO)	9.98	10.0	100	73-115

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:**	04/08/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/14/2005
		Time Analyzed:	16:34

Method Blank Summary
Gasoline Range Organics

Sample Name:	Method Blank	**File ID:**	J:\GC06\DATA\041405.FID\0414R007.D
Lab Code:	KWG0505639-4	**Instrument ID:**	GC06
Extraction Method:	EPA 5035/5030B	**Level:**	Med
Analysis Method:	8015B	**Extraction Lot:**	KWG0505639

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0505639-3	J:\GC06\DATA\041405.FID\0414R006.D	04/14/05	16:01
TO63-IDW-01	K2502554-001	J:\GC06\DATA\041405.FID\0414R015.D	04/14/05	21:03

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Extracted:**	04/08/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/14/2005
		Time Analyzed:	16:01

Lab Control Sample Summary
Gasoline Range Organics

Sample Name:	Lab Control Sample	**File ID:**	J:\GC06\DATA\041405.FID\0414R006.D
Lab Code:	KWG0505639-3	**Instrument ID:**	GC06
Extraction Method:	EPA 5035/5030B	**Level:**	Med
Analysis Method:	8015B	**Extraction Lot:**	KWG0505639

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0505639-4	J:\GC06\DATA\041405.FID\0414R007.D	04/14/05	16:34
TO63-IDW-01	K2502554-001	J:\GC06\DATA\041405.FID\0414R015.D	04/14/05	21:03

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Calibration Date: 03/31/2005

Initial Calibration Summary
Gasoline Range Organics

Calibration ID: CAL4341
Instrument ID: GC06

Column: DB-624

Level ID	File ID	Level ID	File ID
A	J:\GC06\DATA\033105.FID\0331R007.D	E	J:\GC06\DATA\033105.FID\0331R011.D
B	J:\GC06\DATA\033105.FID\0331R008.D	F	J:\GC06\DATA\033105.FID\0331R012.D
C	J:\GC06\DATA\033105.FID\0331R009.D	G	J:\GC06\DATA\033105.FID\0331R022.D
D	J:\GC06\DATA\033105.FID\0331R010.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Gasoline Range Organics (GRO)	A	100	8730	B	200	8440	C	500	7720	D	1000	7920	E	5000	8120
	F	10000	8320	G	50	7820									
4-Bromofluorobenzene	A	40	6440	B	50	6150	C	100	6210	D	150	6350			
				G	25	5960									

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

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Calibration Date: 03/31/2005

Initial Calibration Summary
Gasoline Range Organics

Calibration ID: CAL4341
Instrument ID: GC06

Column: DB-624

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Gasoline Range Organics (GRO)	MS	AverageRF	% RSD	4.5		≤ 20
4-Bromofluorobenzene	SURR	AverageRF	% RSD	3.0		≤ 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: 03/31/2005
Date Analyzed: 04/01/2005

Second Source Calibration Verification
Gasoline Range Organics

Calibration Type: External Standard
Analysis Method: 8015B

Calibration ID: CAL4341
Units: ug/L

File ID: J:\GC06\DATA\033105.FID\0331R023.D

Column ID: DB-624

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Gasoline Range Organics (GRO)	500	470	8150	7670	-6	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: 04/14/2005

Continuing Calibration Verification Summary
Gasoline Range Organics

Calibration Type: External Standard
Analysis Method: 8015B

Calibration Date: 03/31/2005
Calibration ID: CAL4341
Analysis Lot: KWG0506089
Units: ug/L

File ID: J:\GC06\DATA\041405.FID\0414R005.D

Column ID: DB-624

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Gasoline Range Organics (GRO)	500	490	8150	7980	-2	NA	± 15 %	AverageRF
4-Bromofluorobenzene	100	87	6220	5400	-13	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
Date Analyzed: 04/14/2005

Continuing Calibration Verification Summary
Gasoline Range Organics

Calibration Type: External Standard
Analysis Method: 8015B

Calibration Date: 03/31/2005
Calibration ID: CAL4341
Analysis Lot: KWG0506089
Units: ug/L

File ID: J:\GC06\DATA\041405.FID\0414R017.D

Column ID: DB-624

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Gasoline Range Organics (GRO)	500	450	8150	7410	-9	NA	± 15 %	AverageRF
4-Bromofluorobenzene	100	87	6220	5440	-13	NA	± 15 %	AverageRF

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

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554

Analysis Run Log
Gasoline Range Organics

Analysis Method: 8015B

Analysis Lot: KWG0506089
Instrument ID: GC06
Column: DB-624

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0414R005.D	Continuing Calibration Verification	KWG0506089-1	4/14/2005	11:11		4/14/2005	11:27
0414R006.D	Lab Control Sample	KWG0505639-3	4/14/2005	16:01		4/14/2005	16:17
0414R007.D	Method Blank	KWG0505639-4	4/14/2005	16:34		4/14/2005	16:50
0414R008.D	ZZZZZZ	ZZZZZZ	4/14/2005	17:08		4/14/2005	17:24
0414R009.D	ZZZZZZ	ZZZZZZ	4/14/2005	17:42		4/14/2005	17:58
0414R010.D	ZZZZZZ	ZZZZZZ	4/14/2005	18:15		4/14/2005	18:31
0414R011.D	ZZZZZZ	ZZZZZZ	4/14/2005	18:49		4/14/2005	19:05
0414R012.D	ZZZZZZ	ZZZZZZ	4/14/2005	19:23		4/14/2005	19:39
0414R013.D	ZZZZZZ	ZZZZZZ	4/14/2005	19:56		4/14/2005	20:12
0414R014.D	ZZZZZZ	ZZZZZZ	4/14/2005	20:30		4/14/2005	20:46
0414R015.D	TO63-IDW-01	K2502554-001	4/14/2005	21:03		4/14/2005	21:19
0414R016.D	Instrument Blank	KWG0506089-4	4/14/2005	21:37		4/14/2005	21:53
0414R017.D	Continuing Calibration Verification	KWG0506089-2	4/14/2005	22:11		4/14/2005	22:27

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: 4/8/2005

Extraction Prep Log
Gasoline Range Organics

Extraction Method: EPA 5035/5030B
Analysis Method: 8015B

Extraction Lot: KWG0505639
Level: Med

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	MeOH Volume	MeOH Aliquot	Final Volume	% Solids	Note
TO63-IDW-01	K2502554-001	04/07/05	04/08/05	4.46g	5ml	1ml	50ml	69.1	
Method Blank	KWG0505639-4	NA	NA	5.0g	5ml	1ml	50ml	NA	
Lab Control Sample	KWG0505639-3	NA	NA	5.0g	5ml	1ml	50ml	NA	

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

Organic Analysis:
Gasoline Range Organics

Validation Package

Organic Analysis:
Gasoline 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
Gasoline Range Organics

Extraction Method: EPA 5035/5030B
Analysis Method: 8015B

Units: PERCENT
Level: Med

Sample Name	Lab Code	Sur1
TO63-IDW-01	K2502554-001	78
Method Blank	KWG0505639-4	80
Lab Control Sample	KWG0505639-3	79

Surrogate Recovery Control Limits (%)

Sur1 = 4-Bromofluorobenzene 25-133

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:**	04/08/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/14/2005

Lab Control Spike Summary
Gasoline Range Organics

Extraction Method:	EPA 5035/5030B	**Units:**	mg/Kg
Analysis Method:	8015B	**Basis:**	Dry
		Level:	Med
		Extraction Lot:	KWG0505639

	Lab Control Sample KWG0505639-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Gasoline Range Organics (GRO)	9.98	10.0	100	73-115

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:**	04/08/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/14/2005
		Time Analyzed:	16:34

Method Blank Summary
Gasoline Range Organics

Sample Name:	Method Blank	**File ID:**	J:\GC06\DATA\041405.FID\0414R007.D
Lab Code:	KWG0505639-4	**Instrument ID:**	GC06
Extraction Method:	EPA 5035/5030B	**Level:**	Med
Analysis Method:	8015B	**Extraction Lot:**	KWG0505639

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG0505639-3	J:\GC06\DATA\041405.FID\0414R006.D	04/14/05	16:01
TO63-IDW-01	K2502554-001	J:\GC06\DATA\041405.FID\0414R015.D	04/14/05	21:03

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Battelle Memorial Institute	**Service Request:**	K2502554
Project:	Novato Ballfields/G486063	**Date Extracted:**	04/08/2005
Sample Matrix:	Soil	**Date Analyzed:**	04/14/2005
		Time Analyzed:	16:01

Lab Control Sample Summary
Gasoline Range Organics

Sample Name:	Lab Control Sample	**File ID:**	J:\GC06\DATA\041405.FID\0414R006.D
Lab Code:	KWG0505639-3	**Instrument ID:**	GC06
Extraction Method:	EPA 5035/5030B	**Level:**	Med
Analysis Method:	8015B	**Extraction Lot:**	KWG0505639

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG0505639-4	J:\GC06\DATA\041405.FID\0414R007.D	04/14/05	16:34
TO63-IDW-01	K2502554-001	J:\GC06\DATA\041405.FID\0414R015.D	04/14/05	21:03

Organic Analysis:
Gasoline 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

Gasoline Range Organics

Sample Name:	TO63-IDW-01	**Units:**	mg/Kg
Lab Code:	K2502554-001	**Basis:**	Dry
Extraction Method:	EPA 5035/5030B	**Level:**	Med
Analysis Method:	8015B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	**1.3**	J	4.1	1.1	1	04/08/05	04/14/05	KWG0505639	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	78	25-133	04/14/05	Acceptable

Comments:

Exception Report

Data File: J:\GC06\DATA\041405.FID\0414R015.D
Lab ID: K2502554-001
RunType: SMPL
Matrix: SOIL

Date Acquired: 04/14/2005 21:03
Date Quantitated: 04/15/2005 07:17
Batch ID: KWG0506089
Analysis Method: 8015B
MethodJoinID: MJ184

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	

Primary Review: 04/15/05

Secondary Review: ME

Quantitation Report

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

Analysis Lot:	KWG0506089	**Prep Lot:**	KWG0505639	**Report Group:**	K2502554
Analysis Method:	8015B	**Prep Method:**	EPA 5035/5030B		
Prep Ref:	375287	**Prep Date:**	04/08/2005		

Quant Method:	J:\GC06\METHODS\033105GX.M	**Calibration ID:**	CAL4341
Title:	Gasoline Range Organics	**Report List ID:**	LJ1016
		Method ID:	MJ184
MB Ref:	J:\GC06\DATA\041405.FID\0414R007.D	**Quant based on Report List**	

Data File:	J:\GC06\DATA\041405.FID\0414R015.D			**Instrument:**	GC06
Acqu Date:	04/14/2005 21:03	**Quant Date:**	04/15/2005 07:17	**Vial:**	15
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K2502554-001			**Soln Conc. Units:**	ug/L

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
4-Bromofluorobenzene	8.76	0.09	241542	38.83	78	25-133	OK

Target Compounds

Final Conc. Units: mg/Kg Dry Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Gasoline Range Organics (GRO	2.49	?	133496	16.38	1.3	J	

Prep Amount:	4.46 g	**Dilution:**	1.0	**MeOH Ext. Vol:**	5 ml
Prep Final Vol:	50 ml	**Unit Factor:**	0.001	**MeOH Aliq. Vol:**	1 ml
Solids:	69.1 %				

Final Concentration = ((Soln Conc x MeOH Ext. Vol x Prep Final Vol x Dilution) / (Prep Amount x MeOH Aliq. 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:\GC06\DATA\041405.FID\0414R015.D Vial: 15
Acq On : 14 Apr 2005 09:03 pm Operator: cq
Sample : k2502554-001 Inst : GC06
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 15 07:17:41 2005 Quant Results File: 033105GX.RES

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL 4341
Last Update : Fri Apr 15 07:17:07 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) S 4-Bromofluorobenzene	8.76	241542	38.830 ug/L
Target Compounds			
4) H C6 - C10 GRO	3.69	100588	14.688 ug/L
5) H 8015b(CA) 2mp-1,2,4tmb	2.49	133496	16.378 ug/L
6) H NWTPH-GX	6.86	132424	29.281 ug/L

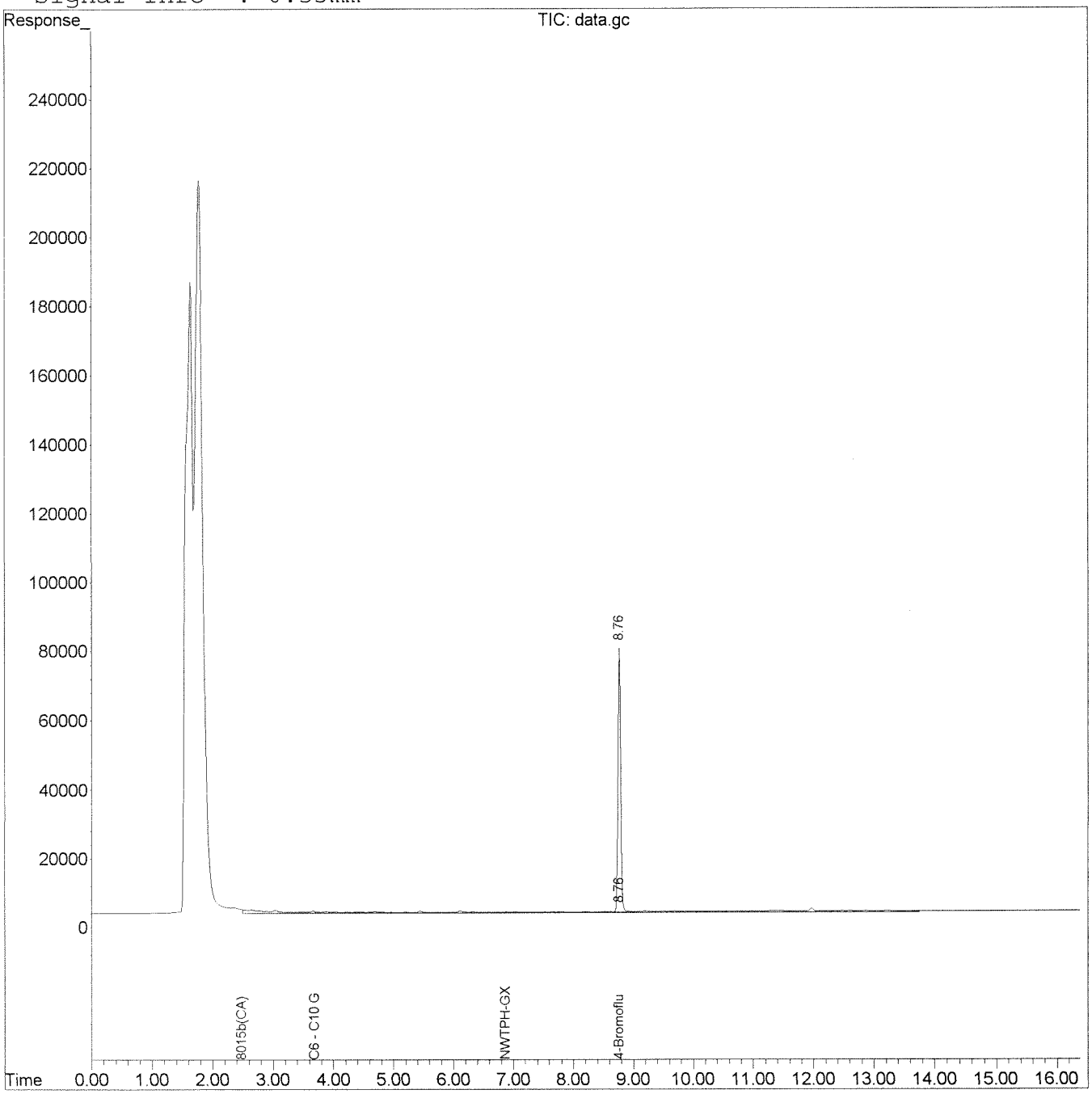
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\041405.FID\0414R015.D Vial: 15
Acq On : 14 Apr 2005 09:03 pm Operator: cq
Sample : k2502554-001 Inst : GC06
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 15 7:17 2005 Quant Results File: 033105GX.RES

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL 4341
Last Update : Fri Apr 15 07:17:07 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



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

Gasoline Range Organics

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0505639-4	**Basis:**	Dry
Extraction Method:	EPA 5035/5030B	**Level:**	Med
Analysis Method:	8015B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	**0.94**	J	2.5	0.71	1	04/08/05	04/14/05	KWG0505639	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	80	25-133	04/14/05	Acceptable

Comments:

Exception Report

Data File: J:\GC06\DATA\041405.FID\0414R007.D
Lab ID: KWG0505639-4
RunType: MB
Matrix: SOIL

Date Acquired: 04/14/2005 16:34
Date Quantitated: 04/15/2005 07:17
Batch ID: KWG0506089
Analysis Method: 8015B
MethodJoinID: MJ184

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	

Primary Review: 4/15/05

Secondary Review: MC

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	GRO-8015	**Collect Date:**		**Receive Date:**	04/15/2005

Analysis Lot:	KWG0506089	**Prep Lot:**	KWG0505639	**Report Group:**	
Analysis Method:	8015B	**Prep Method:**	EPA 5035/5030B		
Prep Ref:	373605	**Prep Date:**	04/08/2005		

Quant Method:	J:\GC06\METHODS\033105GX.M	**Calibration ID:**	CAL4341
Title:		**Method ID:**	MJ184
MB Ref:		**Quant based on Method**	

Data File:	J:\GC06\DATA\041405.FID\0414R007.D			**Instrument:**	GC06
Acqu Date:	04/14/2005 16:34	**Quant Date:**	04/15/2005 07:17	**Vial:**	7
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG0505639-4			**Soln Conc. Units:**	ug/L

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
4-Bromofluorobenzene	8.67	0.00	249418	40.10	80	25-133	OK

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
C6 - C10 GRO	3.69	?	119542	17.46	0.873	J	
Gasoline Range Organics (GRO	2.49	?	152665	18.73	0.937	J	

Prep Amount:	5.0 g	**Dilution:**	1.0	**MeOH Ext. Vol:**	5 ml
Prep Final Vol:	50 ml	**Unit Factor:**	0.001	**MeOH Aliq. Vol:**	1 ml
Solids:	%				

Final Concentration = ((Soln Conc x MeOH Ext. Vol x Prep Final Vol x Dilution) / (Prep Amount x MeOH Aliq. 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:\GC06\DATA\041405.FID\0414R007.D Vial: 7
Acq On : 14 Apr 2005 04:34 pm Operator: cq
Sample : kwg0505639-4 mb s Inst : GC06
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 15 07:17:29 2005 Quant Results File: 033105GX.RES

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL 4341
Last Update : Fri Apr 15 07:17:07 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) S 4-Bromofluorobenzene	8.67	249418	40.097 ug/L
Target Compounds			
4) H C6 - C10 GRO	3.69	119542	17.456 ug/L
5) H 8015b(CA) 2mp-1,2,4tmb	2.49	152665	18.730 ug/L
6) H NWTPH-GX	6.86	174617	38.610 ug/L

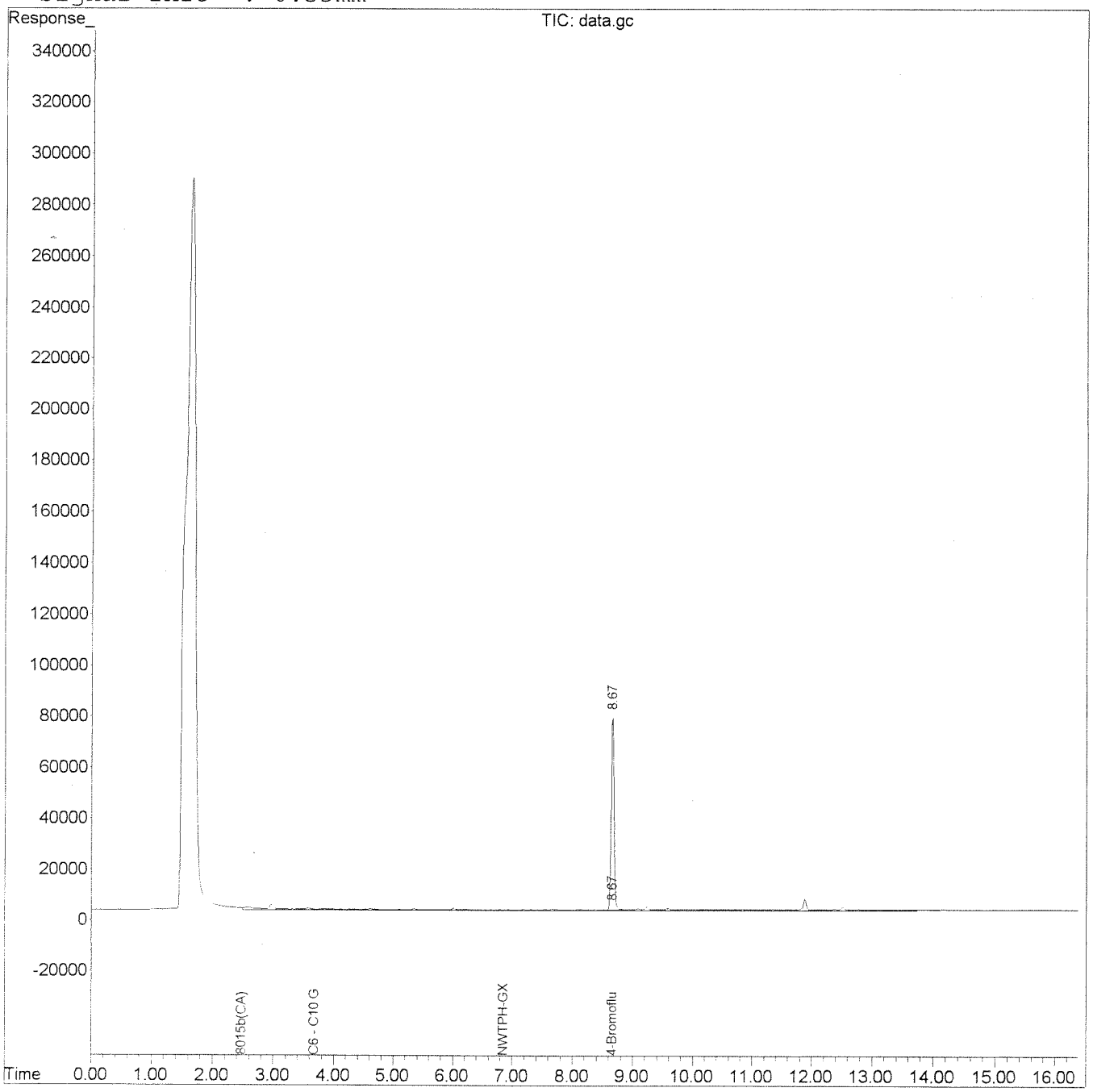
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\041405.FID\0414R007.D Vial: 7
Acq On : 14 Apr 2005 04:34 pm Operator: cq
Sample : kwg0505639-4 mb s Inst : GC06
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 15 7:17 2005 Quant Results File: 033105GX.RES

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL 4341
Last Update : Fri Apr 15 07:17:07 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



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

Gasoline Range Organics

Sample Name:	Lab Control Sample	**Units:**	mg/Kg
Lab Code:	KWG0505639-3	**Basis:**	Dry
Extraction Method:	EPA 5035/5030B	**Level:**	Med
Analysis Method:	8015B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	**9.98**		2.5	0.71	1	04/08/05	04/14/05	KWG0505639	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	79	25-133	04/14/05	Acceptable

Comments:

Exception Report

Data File: J:\GC06\DATA\041405.FID\0414R006.D
Lab ID: KWG0505639-3
RunType: LCS
Matrix: SOIL

Date Acquired: 04/14/2005 16:01
Date Quantitated: 04/15/2005 07:17
Batch ID: KWG0506089
Analysis Method: 8015B
MethodJoinID: MJ184

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	

Primary Review: 041505

Secondary Review: [illegible]

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	SOIL
Prod Code:	GRO-8015	**Collect Date:**		**Receive Date:**	04/08/2005

Analysis Lot:	KWG0506089	**Prep Lot:**	KWG0505639	**Report Group:**	
Analysis Method:	8015B	**Prep Method:**	EPA 5035/5030B		
Prep Ref:	373604	**Prep Date:**	04/08/2005		

Quant Method:	J:\GC06\METHODS\033105GX.M	**Calibration ID:**	CAL4341
Title:			
		Method ID:	MJ184
MB Ref:	J:\GC06\DATA\041405.FID\0414R007.D	**Quant based on Method**	

Data File:	J:\GC06\DATA\041405.FID\0414R006.D			**Instrument:**	GC06
Acqu Date:	04/14/2005 16:01	**Quant Date:**	04/15/2005 07:17	**Vial:**	6
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG0505639-3			**Soln Conc. Units:**	ug/L

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
4-Bromofluorobenzene	8.69	0.02	244610	39.32	79	25-133	OK

Target Compounds

Final Conc. Units: mg/Kg Wet Weight

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
C6 - C10 GRO	3.69	?	1258506	183.77	9.19		
Gasoline Range Organics (GRO	2.49	?	1626644	199.56	9.98		

Prep Amount:	5.0 g	**Dilution:**	1.0	**MeOH Ext. Vol:**	5 ml
Prep Final Vol:	50 ml	**Unit Factor:**	0.001	**MeOH Aliq. Vol:**	1 ml
Solids:	%				

Final Concentration = ((Soln Conc x MeOH Ext. Vol x Prep Final Vol x Dilution) / (Prep Amount x MeOH Aliq. 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:\GC06\DATA\041405.FID\0414R006.D Vial: 6
Acq On : 14 Apr 2005 04:01 pm Operator: cq
Sample : kwg0505639-3 lcs s Inst : GC06
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 15 07:17:28 2005 Quant Results File: 033105GX.RES

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL 4341
Last Update : Fri Apr 15 07:17:07 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) S 4-Bromofluorobenzene	8.69	244610	39.324 ug/L
Target Compounds			
4) H C6 - C10 GRO	3.69	1258506	183.767 ug/L
5) H 8015b(CA) 2mp-1,2,4tmb	2.49	1626644	199.564 ug/L
6) H NWTPH-GX	6.86	836180	184.891 ug/L

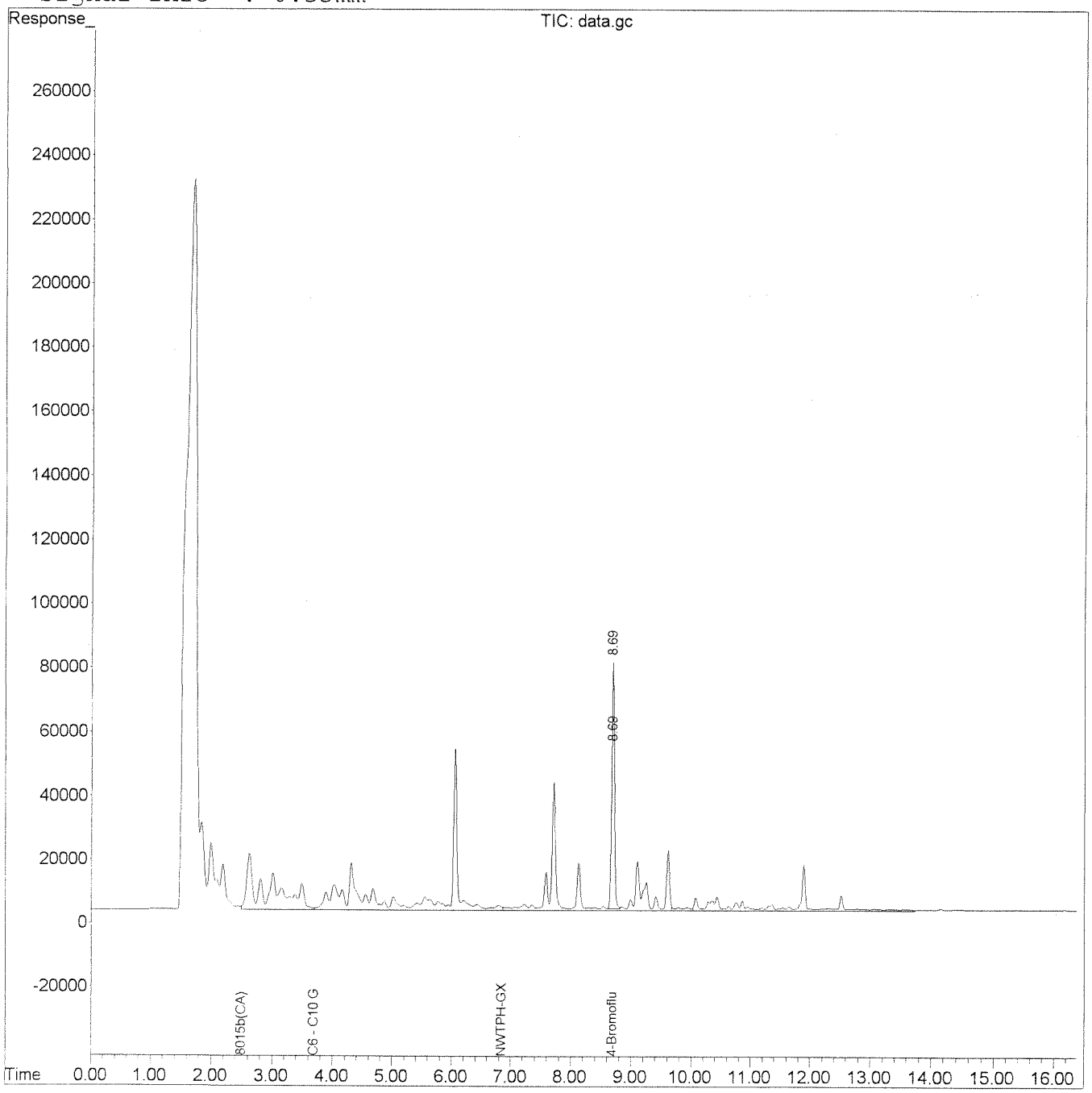
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\041405.FID\0414R006.D Vial: 6
Acq On : 14 Apr 2005 04:01 pm Operator: cq
Sample : kwg0505639-3 lcs s Inst : GC06
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 15 7:17 2005 Quant Results File: 033105GX.RES

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL 4341
Last Update : Fri Apr 15 07:17:07 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



Organic Analysis:
Gasoline 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: 03/31/2005

Initial Calibration Summary
Gasoline Range Organics

Calibration ID: CAL4341
Instrument ID: GC06

Column: DB-624

Level ID	File ID	Level ID	File ID
A	J:\GC06\DATA\033105.FID\0331R007.D	E	J:\GC06\DATA\033105.FID\0331R011.D
B	J:\GC06\DATA\033105.FID\0331R008.D	F	J:\GC06\DATA\033105.FID\0331R012.D
C	J:\GC06\DATA\033105.FID\0331R009.D	G	J:\GC06\DATA\033105.FID\0331R022.D
D	J:\GC06\DATA\033105.FID\0331R010.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Gasoline Range Organics (GRO)	A	100	8730	B	200	8440	C	500	7720	D	1000	7920	E	5000	8120
	F	10000	8320	G	50	7820									
4-Bromofluorobenzene	A	40	6440	B	50	6150	C	100	6210	D	150	6350			
				G	25	5960									

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

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Calibration Date: 03/31/2005

Initial Calibration Summary
Gasoline Range Organics

Calibration ID: CAL4341
Instrument ID: GC06

Column: DB-624

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Gasoline Range Organics (GRO)	MS	AverageRF	% RSD	4.5		≤ 20
4-Bromofluorobenzene	SURR	AverageRF	% RSD	3.0		≤ 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: 03/31/2005
Date Analyzed: 04/01/2005

Second Source Calibration Verification
Gasoline Range Organics

Calibration Type: External Standard
Analysis Method: 8015B

Calibration ID: CAL4341
Units: ug/L

File ID: J:\GC06\DATA\033105.FID\0331R023.D

Column ID: DB-624

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Gasoline Range Organics (GRO)	500	470	8150	7670	-6	NA	± 15 %	AverageRF

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

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

DATA ANALYSIS PARAMETERS

Method Name: J:\GC06\METHODS\033105GX.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: No
Printer: Yes
File: No

Generate Report During Run Method: No

CAL A3A1
Calibration Last Updated: Fri Apr 01 12:37:02 2005

5040105

Reference Window: 2.00 Minutes
Non-Reference Window: 1.00 Minutes
Correlation Window: 0.10 minutes
Default Multiplier: 1.00
Default Sample Concentration: 0.00

Compound Information

1) a,a,a-Trifluorotoluene ( )

Ret. Time 5.52 min., Extract & Integrate from 5.32 to 5.72 min.

Lvl	ID	Conc (ug/L)	Response
1		50.000	556978
2		50.000	571222
3		50.000	579308
4		50.000	581546
5		50.000	597654
6		not used for this compound	
7		not used for this compound	
w_cc		50.000	-1
s_cc		50.000	-1

Curve Fit: Avg. RF

---

2) 1,4-Difluorobenzene ( )

Ret. Time 0.00 min., Extract & Integrate from 0.00 to 0.20 min.

Lvl	ID	Conc (ug/L)	Response
1		25.000	259686
2		40.000	437607
3		50.000	537242
4		100.000	1116710
5		150.000	1743744
6		not used for this compound	
7		not used for this compound	
w_cc		100.000	-1
s_cc		not used for this compound	

Curve Fit: Avg. RF

---

3) 4-Bromofluorobenzene ( )

Ret. Time 0.00 min., Extract & Integrate from 0.00 to 0.20 min.

Lvl	ID	Conc (ug/L)	Response
1		25.000	148921
2		40.000	257564
3		50.000	307358
4		100.000	621362
5		150.000	951822
6		not used for this compound	
7		not used for this compound	
w_cc		not used for this compound	
s_cc		100.000	-1

Curve Fit: Avg. RF

---

4) C6 - C10 GRO ( )

Ret. Time 3.25 min., Extract & Integrate from 3.25 to 9.54 min.

Lvl	ID	Conc (ug/L)	Response
1		50.000	327684
2		100.000	735906
3		200.000	1418594

4	500.000	3242830
5	1000.000	6651435
6	5000.000	34183437
7	10000.000	69590300
w_cc	500.000	-1
s_cc	500.000	-1

Curve Fit: Avg. RF

---

5) 8015b(CA) 2mp-1,2,4tmb ( )
Ret. Time 2.85 min., Extract & Integrate from 2.85 to 10.11 min.

Lvl	ID	Conc (ug/L)	Response
1		50.000	391200
2		100.000	872853
3		200.000	1687893
4		500.000	3858689
5		1000.000	7915673
6		5000.000	40577553
7		10000.000	83163860
w_cc		500.000	-1
s_cc		500.000	-1

Curve Fit: Avg. RF

---

6) NWTPH-GX ( )
Ret. Time 6.34 min., Extract & Integrate from 6.34 to 13.10 min.

Lvl	ID	Conc (ug/L)	Response
1		50.000	257521
2		100.000	512281
3		200.000	941337
4		500.000	2097698
5		1000.000	4070143
6		5000.000	20306415
7		10000.000	43512253
w_cc		500.000	-1
s_cc		500.000	-1

Curve Fit: Avg. RF

END OF DATA ANALYSIS PARAMETERS

Fri Apr 01 12:39:43 2005

F040105

Calibration Status Report GC06

Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	50.00	0.00	J:\GC06\DATA\033105.FID\0331R022.D
2	2	100.00	0.00	J:\GC06\DATA\033105.FID\0331R007.D
3	3	200.00	0.00	J:\GC06\DATA\033105.FID\0331R008.D
4	4	500.00	0.00	J:\GC06\DATA\033105.FID\0331R009.D
5	5	1000.00	0.00	J:\GC06\DATA\033105.FID\0331R010.D
6	6	5000.00	0.00	J:\GC06\DATA\033105.FID\0331R011.D
7	7	10000.00	0.00	J:\GC06\DATA\033105.FID\0331R012.D
8	w_cc	500.00	0.00	J:\GC06\DATA\042302.FID\0423R015.D
9	s_cc	500.00	0.00	J:\GC06\DATA\042902.FID\0429R028.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Apr 01 12:35 2005	Apr 01 12:34 2005	01 Apr 2005 12:14 pm
2	2	Apr 01 08:11 2005	Apr 01 08:03 2005	31 Mar 2005 11:35 am
3	3	Apr 01 08:11 2005	Apr 01 08:03 2005	31 Mar 2005 12:09 pm
4	4	Apr 01 08:11 2005	Apr 01 08:03 2005	31 Mar 2005 12:43 pm
5	5	Apr 01 08:11 2005	Apr 01 08:03 2005	31 Mar 2005 01:18 pm
6	6	Apr 01 08:11 2005	Apr 01 08:04 2005	31 Mar 2005 01:52 pm
7	7	Apr 01 08:11 2005	Apr 01 08:04 2005	31 Mar 2005 02:26 pm
8	w_cc	Apr 24 08:37 2002	Apr 24 06:53 2002	23 Apr 2002 08:15 pm
9	s_cc	Apr 30 07:32 2002	Apr 30 07:29 2002	30 Apr 2002 03:55 am

033105GX.M Fri Apr 01 12:39:42 2005

3040105

Injection Log

Directory: J:\GC06\DATA\033105.FID

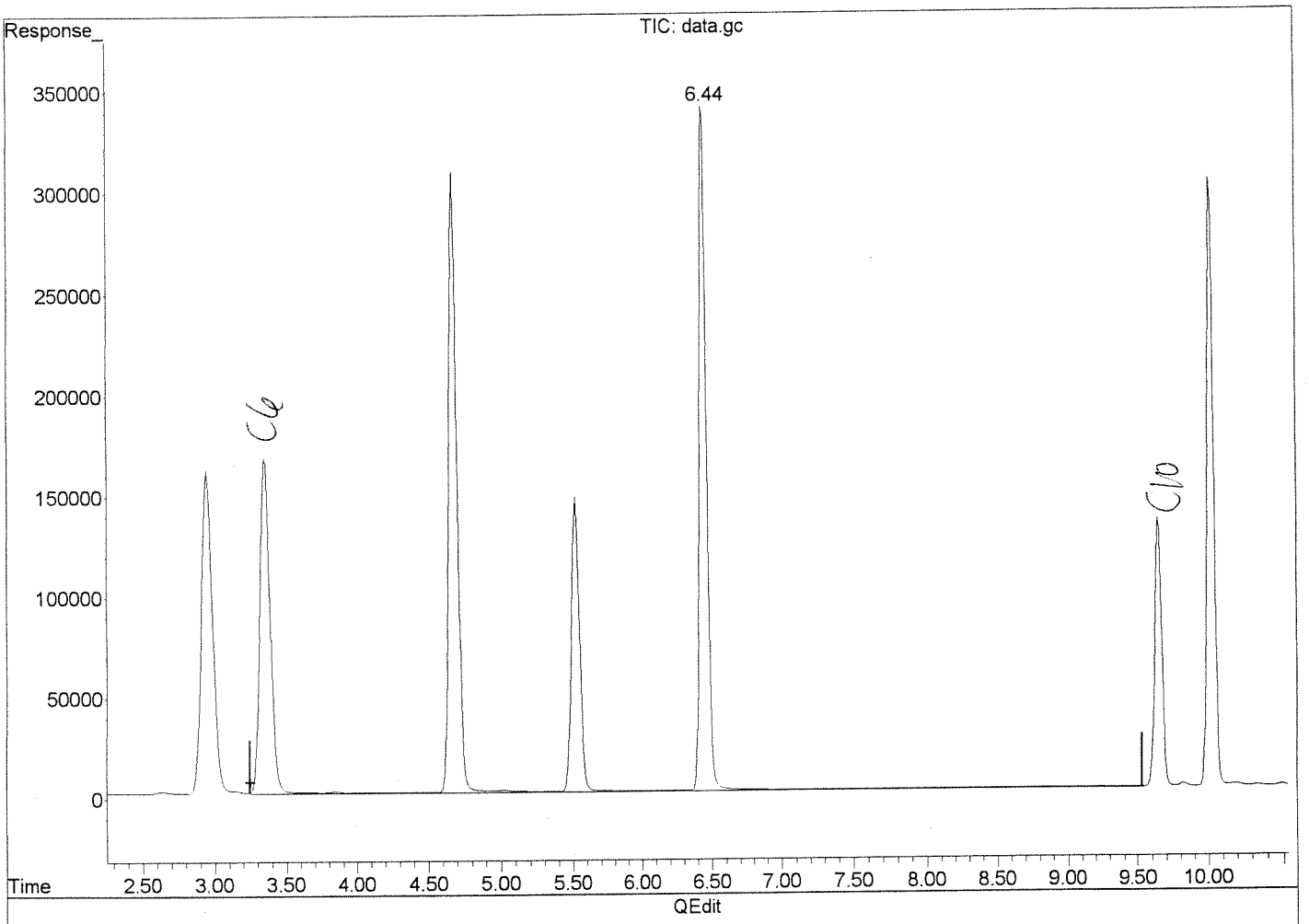
Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0331R001.D	1.	ib		31 Mar 2005 07:3
2	2	0331R002.D	1.	marker hcv296c		31 Mar 2005 08:0
3	3	0331R003.D	1.	ib		31 Mar 2005 08:4
4	4	0331R004.D	1.	ib		31 Mar 2005 09:4
5	5	0331R005.D	1.	ib		31 Mar 2005 10:1
6	6	0331R006.D	1.	gas @ 50 ug/L hcv296d – not used		31 Mar 2005 11:0
7	7	0331R007.D	1.	gas @ 100 ug/L hcv296e		31 Mar 2005 11:3
8	8	0331R008.D	1.	gas @ 200 ug/L hcv296f		31 Mar 2005 12:0
9	9	0331R009.D	1.	gas @ 500 ug/L hcv296g		31 Mar 2005 12:4
10	10	0331R010.D	1.	gas @ 1000 ug/L hcv296h		31 Mar 2005 13:1
11	11	0331R011.D	1.	gas @ 5000 ug/L hcv296i		31 Mar 2005 13:5
12	12	0331R012.D	1.	gas @ 10000 ug/L hcv296j		31 Mar 2005 14:2
13	13	0331R013.D	1.	ib		31 Mar 2005 15:0
14	14	0331R014.D	1.	ib		31 Mar 2005 15:3
15	15	0331R015.D	1.	gas @ 500 ug/L hcv296k – not used		31 Mar 2005 16:1
16	16	0331R016.D	1.	ib		01 Apr 2005 08:4
17	17	0331R017.D	1.	marker hcv296o		01 Apr 2005 09:1
18	18	0331R018.D	1.	ib		01 Apr 2005 09:5
19	19	0331R019.D	1.	ib		01 Apr 2005 10:2
20	20	0331R020.D	1.	~~gas @ 50 ug/L hcv296p~~ IB g04005		01 Apr 2005 11:0
21	21	0331R021.D	1.	ib		01 Apr 2005 11:3
22	22	0331R022.D	1.	gas @ 50 ug/L hcv296p		01 Apr 2005 12:1
23	23	0331R023.D	1.	gas @ 500 ug/L hcv296q		01 Apr 2005 12:4

Quantitation Report (QEdit)

Data File : J:\GC06\DATA\033105.FID\0331R002.D
Acq On : 31 Mar 2005 08:08 am
Sample : marker hcv296c
Misc :
IntFile : RTEINT.P
Quant Time: Mar 31 8:36 2005 Quant Results File: 033105GX.RES

Vial: 2
Operator: cq
Inst : GC06
Multiplr: 1.00

Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Multiple Level Calibration



(4) C6 - C10 GRO (H)

3.25min 486.940ug/L

response 3356954

(+) = Expected Retention Time

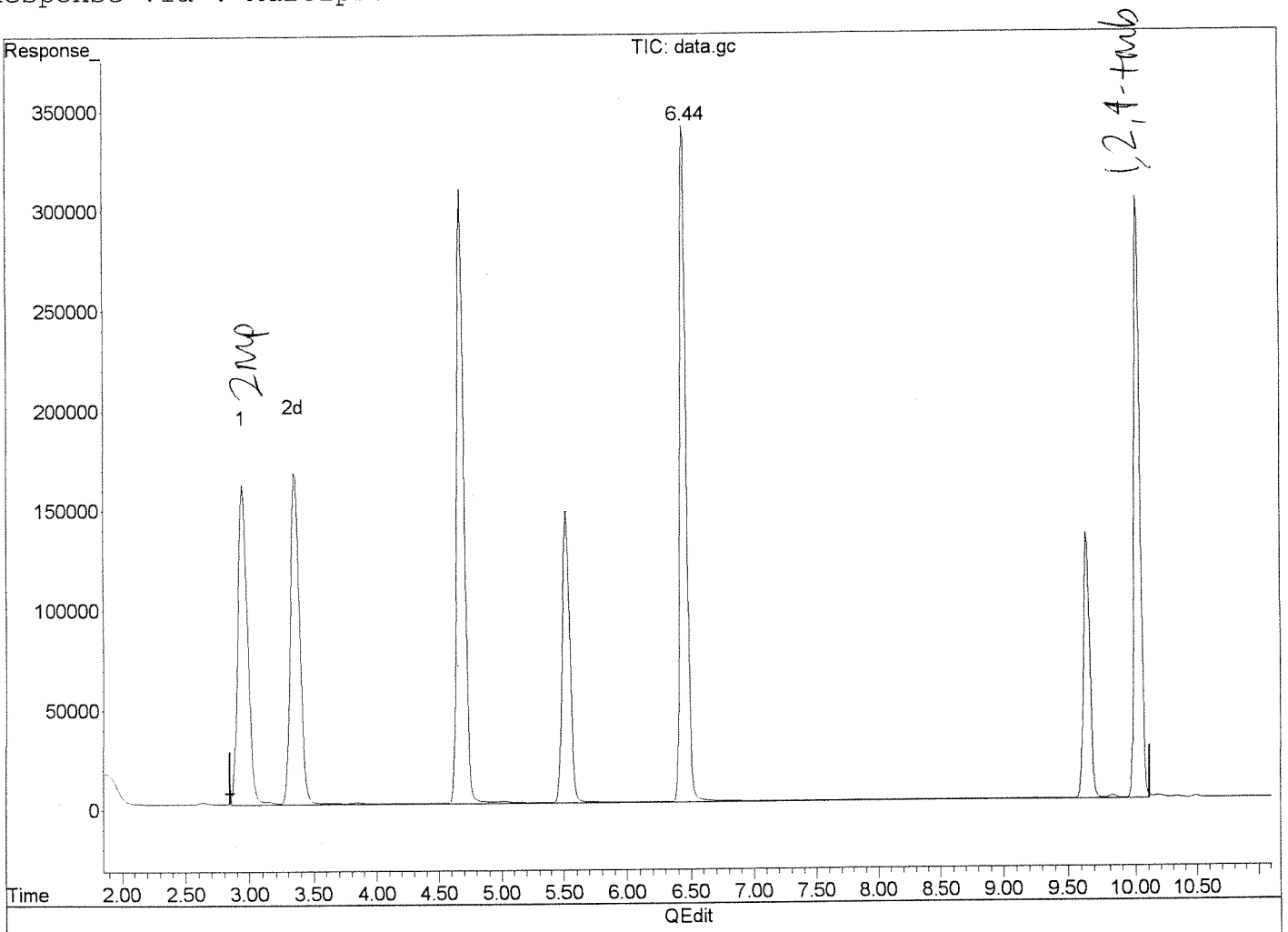
0331R002.D 033105GX.M Fri Apr 01 12:38:38 2005

Quantitation Report (QEdit)

Data File : J:\GC06\DATA\033105.FID\0331R002.D
Acq On : 31 Mar 2005 08:08 am
Sample : marker hcv296c
Misc :
IntFile : RTEINT.P
Quant Time: Mar 31 8:36 2005 Quant Results File: 033105GX.RES

Vial: 2
Operator: cq
Inst : GC06
Multiplr: 1.00

Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Multiple Level Calibration



(5) 8015b(CA) 2mp-1,2,4tmb (H)

2.85min 683.834ug/L

response 5670678

5040105

mk

(+) = Expected Retention Time

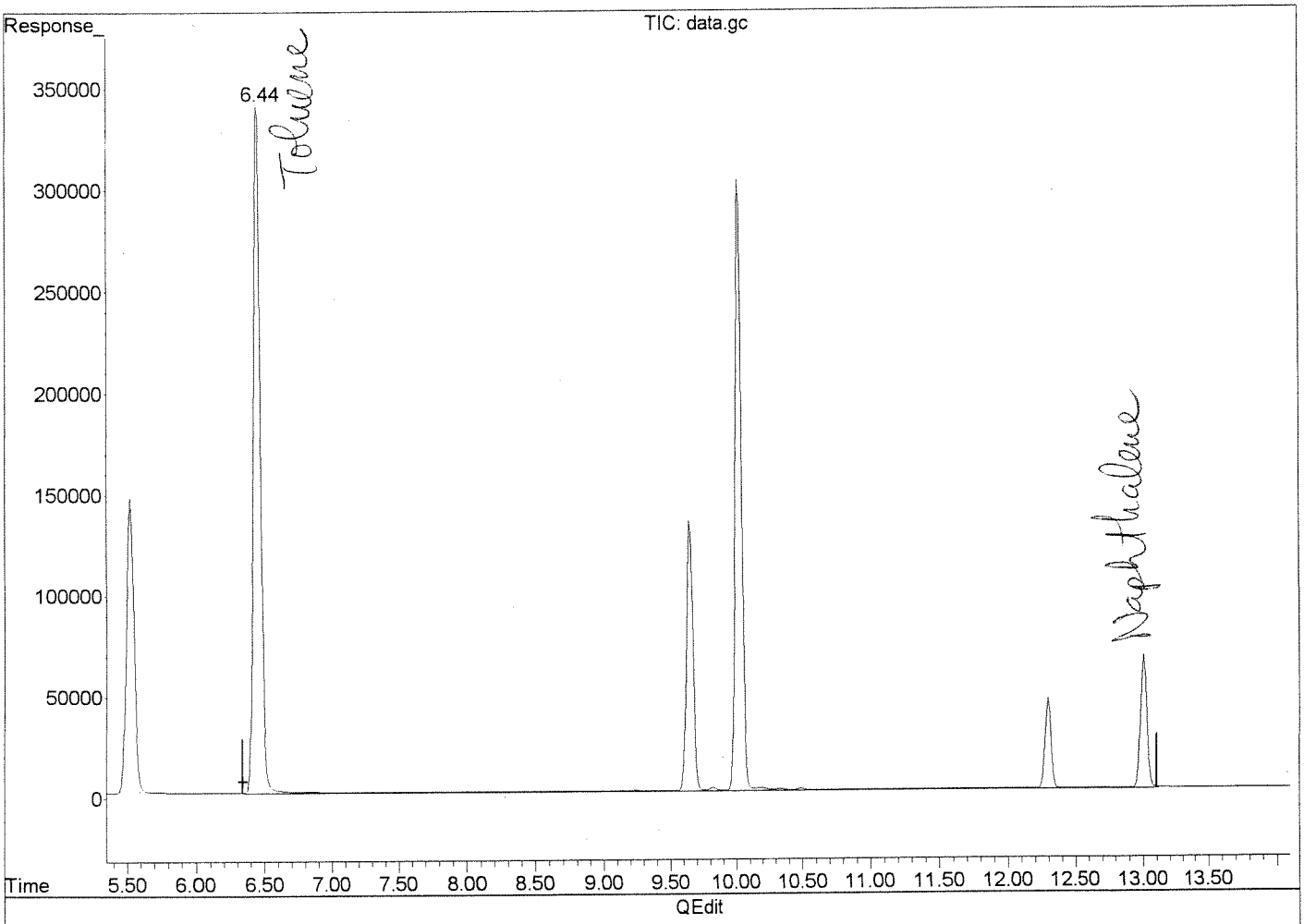
0331R002.D 033105GX.M Fri Apr 01 12:38:46 2005

Quantitation Report (Qedit)

Data File : J:\GC06\DATA\033105.FID\0331R002.D
Acq On : 31 Mar 2005 08:08 am
Sample : marker hcv296c
Misc :
IntFile : RTEINT.P
Quant Time: Mar 31 8:36 2005 Quant Results File: 033105GX.RES

Vial: 2
Operator: cq
Inst : GC06
Multiplr: 1.00

Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Multiple Level Calibration



(6) NWTPH-GX (H)

6.34min 601.589ug/L

response 3099490

4/1/05

MK

(+) = Expected Retention Time

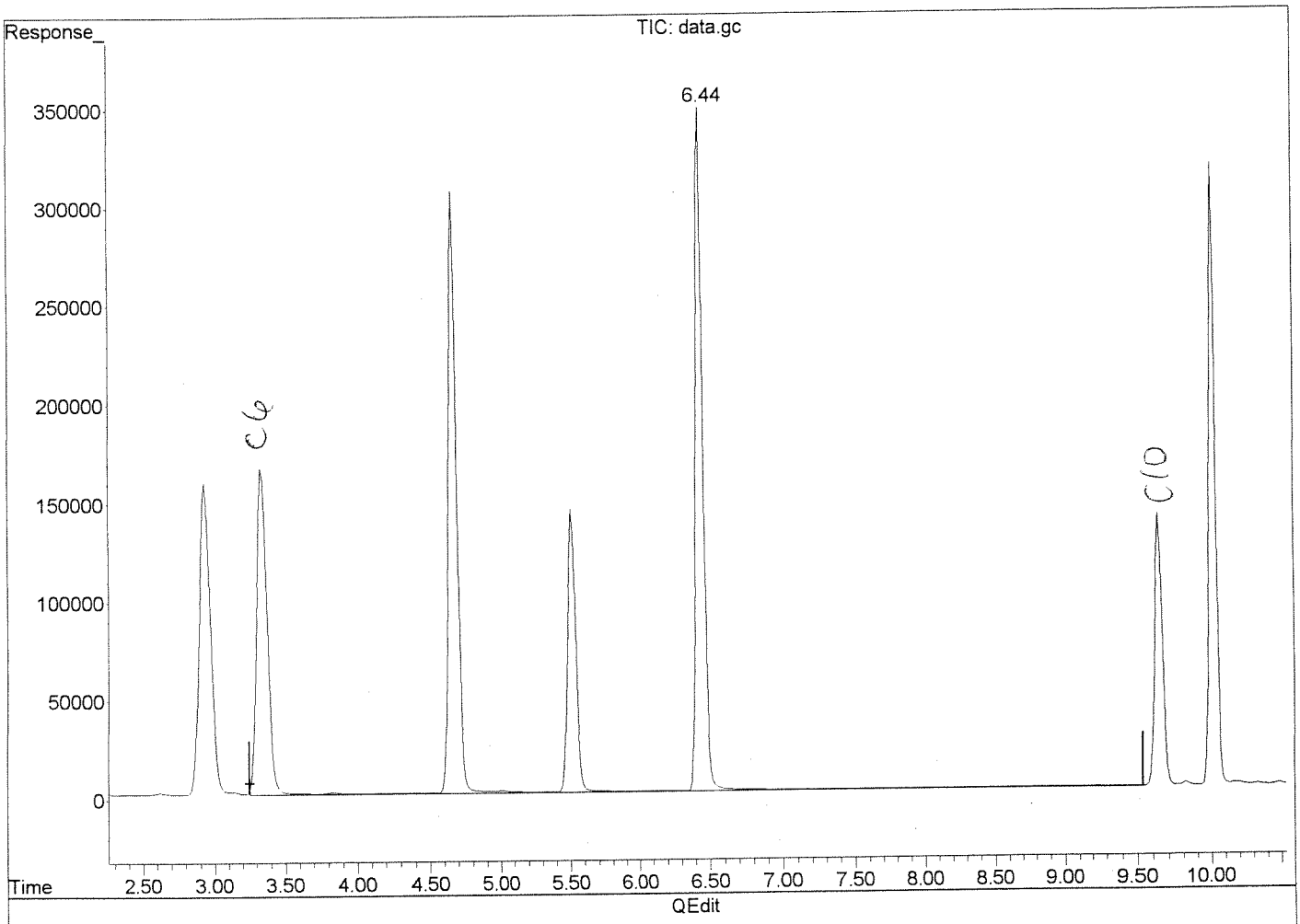
0331R002.D 033105GX.M Fri Apr 01 12:39:05 2005

Quantitation Report (QEdit)

Data File : J:\GC06\DATA\033105.FID\0331R017.D
Acq On : 01 Apr 2005 09:16 am
Sample : marker hcv296o
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 10:44 2005 Quant Results File: 033105GX.RES

Vial: 17
Operator: cq
Inst : GC06
Multiplr: 1.00

Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Multiple Level Calibration



(4) C6 - C10 GRO (H)

3.25min 481.142ug/L

response 3355726

(+) = Expected Retention Time

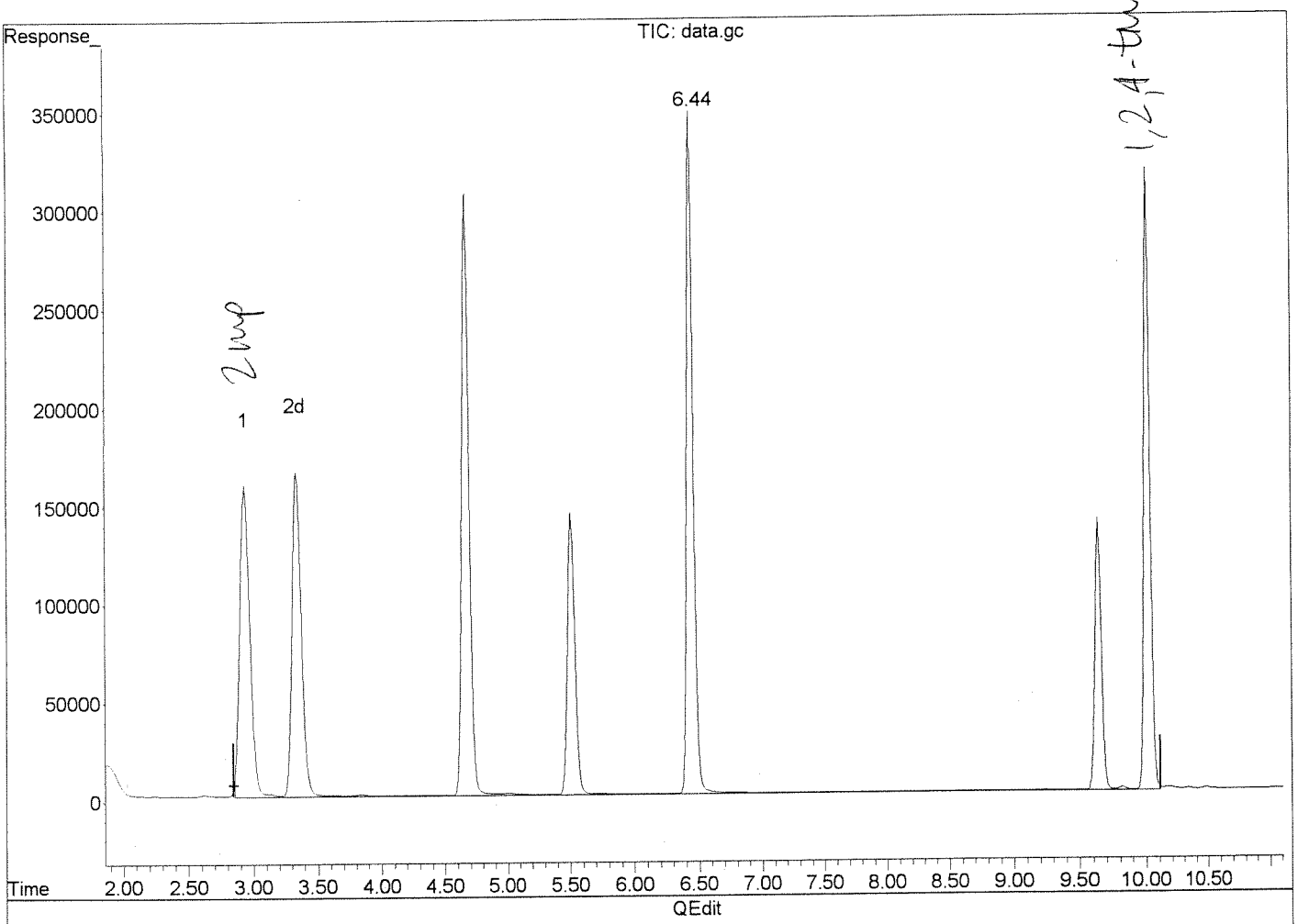
0331R017.D 033105GX.M Fri Apr 01 12:39:20 2005

Quantitation Report (QEdit)

Data File : J:\GC06\DATA\033105.FID\0331R017.D
Acq On : 01 Apr 2005 09:16 am
Sample : marker hcv296o
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 10:44 2005 Quant Results File: 033105GX.RES

Vial: 17
Operator: cq
Inst : GC06
Multiplr: 1.00

Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Multiple Level Calibration



(5) 8015b(CA) 2mp-1,2,4tmb (H)

2.85min 683.923ug/L

response 5678822

040105

mk

(+) = Expected Retention Time

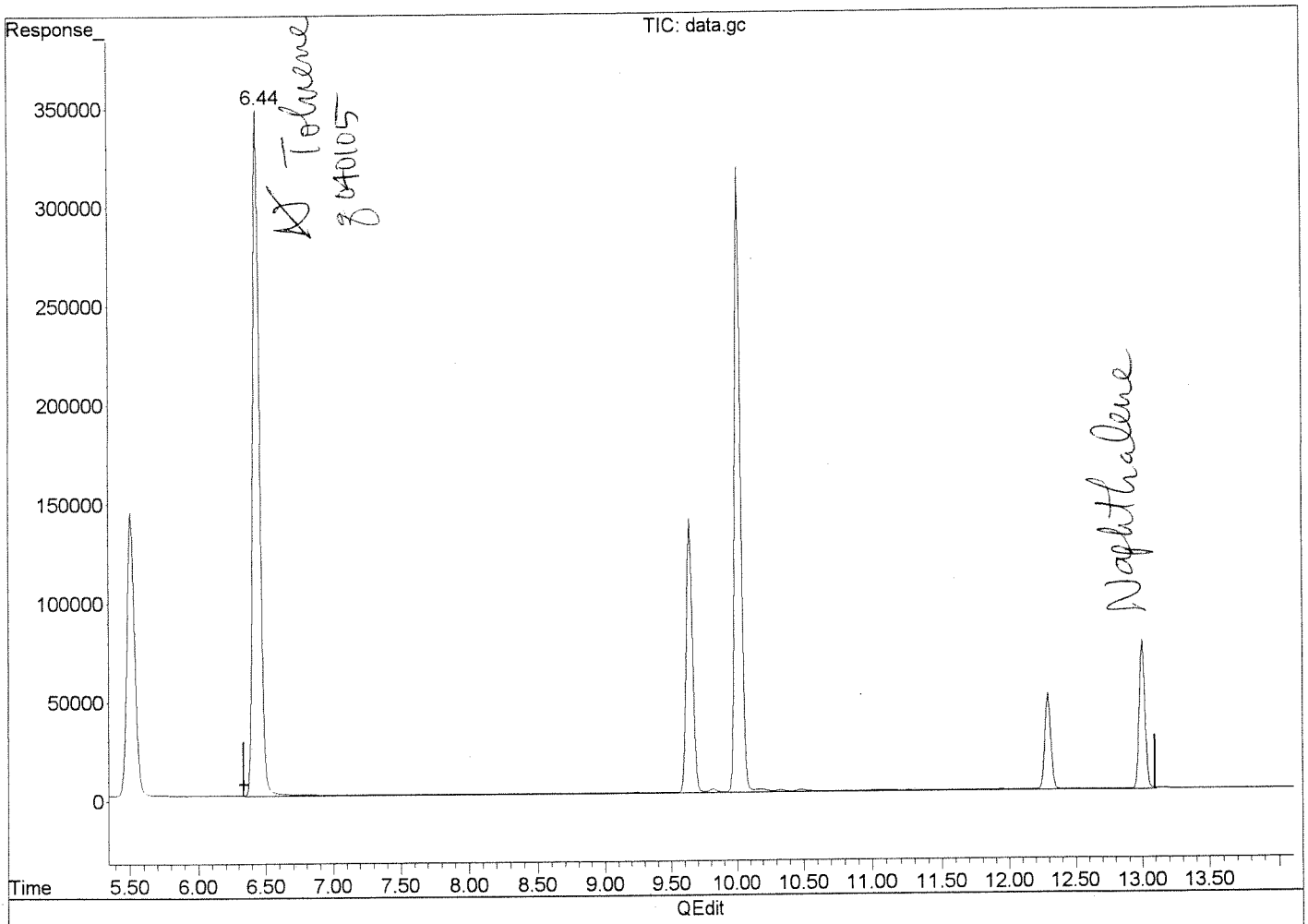
0331R017.D 033105GX.M Fri Apr 01 12:39:24 2005

Quantitation Report (QEdit)

Data File : J:\GC06\DATA\033105.FID\0331R017.D
Acq On : 01 Apr 2005 09:16 am
Sample : marker hcv296o
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 10:44 2005 Quant Results File: 033105GX.RES

Vial: 17
Operator: cq
Inst : GC06
Multiplr: 1.00

Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Multiple Level Calibration



(6) NWTPH-GX (H)

6.34min 719.644ug/L

response 3179333

(+) = Expected Retention Time

0331R017.D 033105GX.M Fri Apr 01 12:39:28 2005

Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R007.D
Acq On : 31 Mar 2005 11:35 am
Sample : gas @ 100 ug/L hcv296e
Misc :
IntFile : RTEINT.P
Quant Time: Apr 01 12:35:58 2005 Quant Results File: 033105GX.RES

Vial: 7
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:35:03 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	a,a,a-Trifluorotoluene	5.44	571222	49.470 ug/L
2) S	1,4-Difluorobenzene	4.93	437607	39.881 ug/L
3) S	4-Bromofluorobenzene	9.01	257564	41.406 ug/L
	Target Compounds			
4) H	C6 - C10 GRO	3.25	735906	107.457 ug/L
5) H	8015b(CA) 2mp-1,2,4tmb	2.85	872853	107.085 ug/L
6) H	NWTPH-GX	6.34	512281	113.272 ug/L ±15%

4/01/05

MK

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

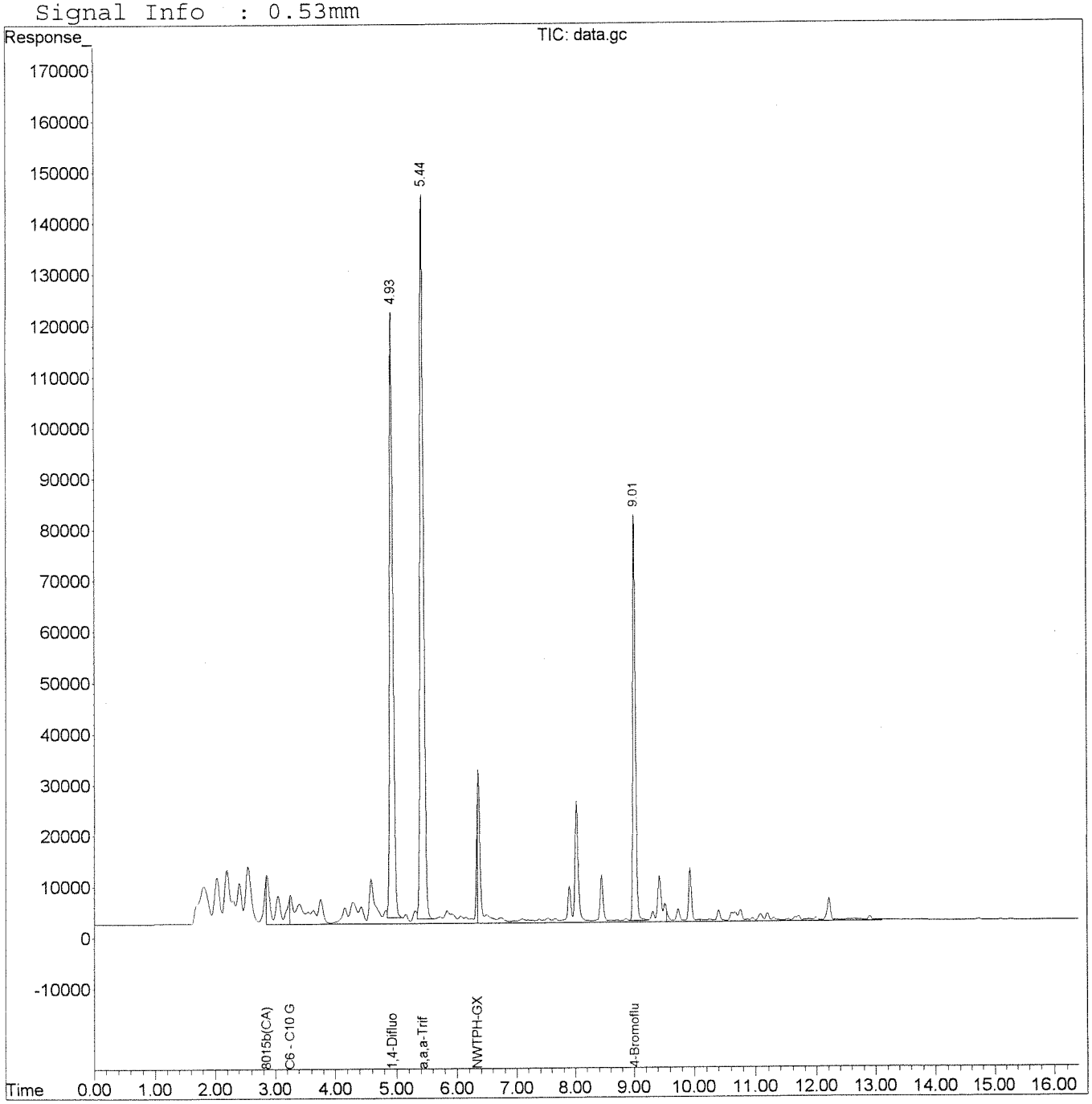
Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R007.D
Acq On : 31 Mar 2005 11:35 am
Sample : gas @ 100 ug/L hcv296e
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 12:35 2005 Quant Results File: 033105GX.RES

Vial: 7
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:35:03 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R008.D
Acq On : 31 Mar 2005 12:09 pm
Sample : gas @ 200 ug/L hcv296f
Misc :
IntFile : RTEINT.P
Quant Time: Apr 01 12:36:11 2005 Quant Results File: 033105GX.RES

Vial: 8
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:35:03 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

		Compound	R.T.	Response	Conc Units
		System Monitoring Compounds			
1)	S	a,a,a-Trifluorotoluene	5.44	579308	50.170 ug/L
2)	S	1,4-Difluorobenzene	4.93	537242	48.961 ug/L
3)	S	4-Bromofluorobenzene	9.01	307358	49.411 ug/L
		Target Compounds			
4)	H	C6 - C10 GRO	3.25	1418594	207.144 ug/L
5)	H	8015b(CA) 2mp-1,2,4tmb	2.85	1687893	207.078 ug/L
6)	H	NWTPH-GX	6.34	941337	208.142 ug/L ±15%

4/4/05

MA

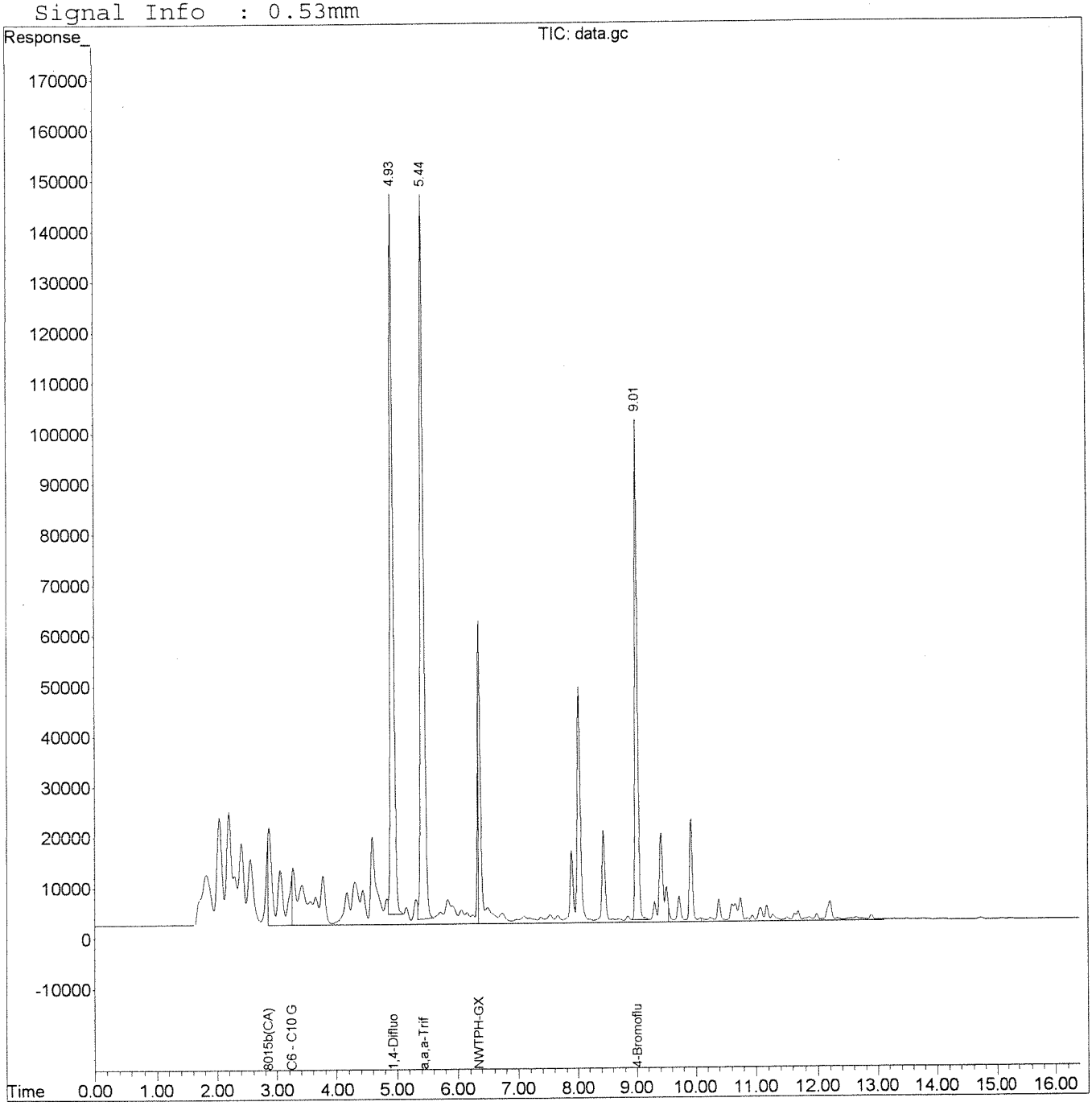
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC06\DATA\033105.FID\0331R008.D
Acq On : 31 Mar 2005 12:09 pm
Sample : gas @ 200 ug/L hcv296f
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 12:36 2005 Quant Results File: 033105GX.RES

Vial: 8
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:35:03 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R009.D
Acq On : 31 Mar 2005 12:43 pm
Sample : gas @ 500 ug/L hcv296g
Misc :
IntFile : RTEINT.P
Quant Time: Apr 01 12:36:22 2005 Quant Results File: 033105GX.RES

Vial: 9
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:35:03 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
1)	S	a,a,a-Trifluorotoluene	5.43	581546	50.364	ug/L
2)	S	1,4-Difluorobenzene	4.93	1116710	101.770	ug/L
3)	S	4-Bromofluorobenzene	9.01	621362	99.890	ug/L
Target Compounds						
4)	H	C6 - C10 GRO	3.25	3242830	473.519	ug/L
5)	H	8015b(CA) 2mp-1,2,4tmb	2.85	3858689	473.401	ug/L
6)	H	NWTPH-GX	6.34	2097698	463.829	ug/L ±15%

040105

MC

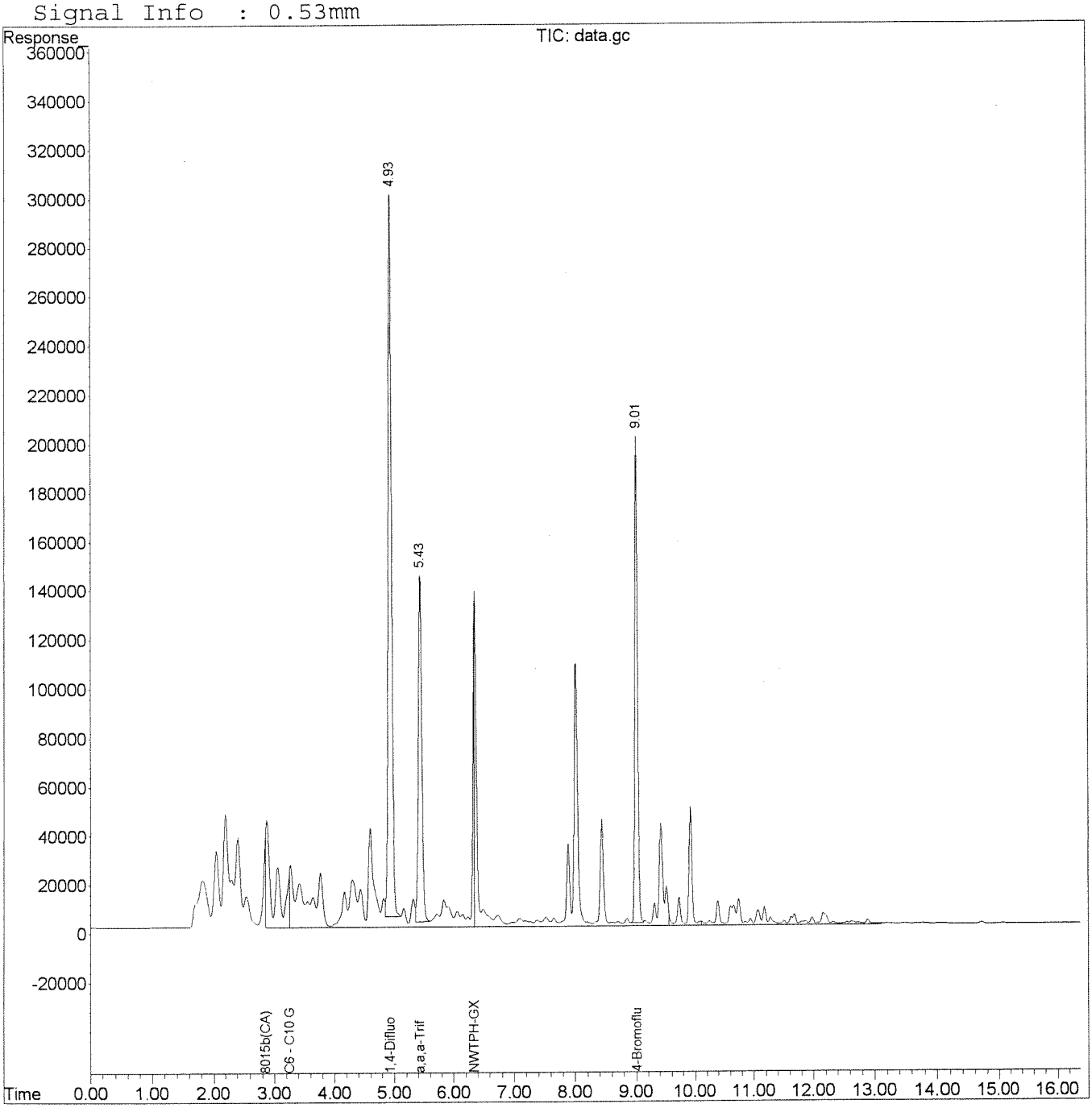
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC06\DATA\033105.FID\0331R009.D
Acq On : 31 Mar 2005 12:43 pm
Sample : gas @ 500 ug/L hcv296g
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 12:36 2005 Quant Results File: 033105GX.RES

Vial: 9
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:35:03 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R010.D
Acq On : 31 Mar 2005 01:18 pm
Sample : gas @ 1000 ug/L hcv296h
Misc :
IntFile : RTEINT.P
Quant Time: Apr 01 12:36:39 2005 Quant Results File: 033105GX.RES

Vial: 10
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:35:03 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

		Compound	R.T.	Response	Conc Units
		System Monitoring Compounds			
1)	S	a,a,a-Trifluorotoluene	5.41f	597654	51.759 ug/L
2)	S	1,4-Difluorobenzene	4.92	1743744	158.914 ug/L
3)	S	4-Bromofluorobenzene	8.99	951822	153.015 ug/L
		Target Compounds			
4)	H	C6 - C10 GRO	3.25	6651435	971.245 ug/L
5)	H	8015b(CA) 2mp-1,2,4tmb	2.85	7915673	971.130 ug/L
6)	H	NWTPH-GX	6.34	4070143	899.963 ug/L ±15%

8040105

MK

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

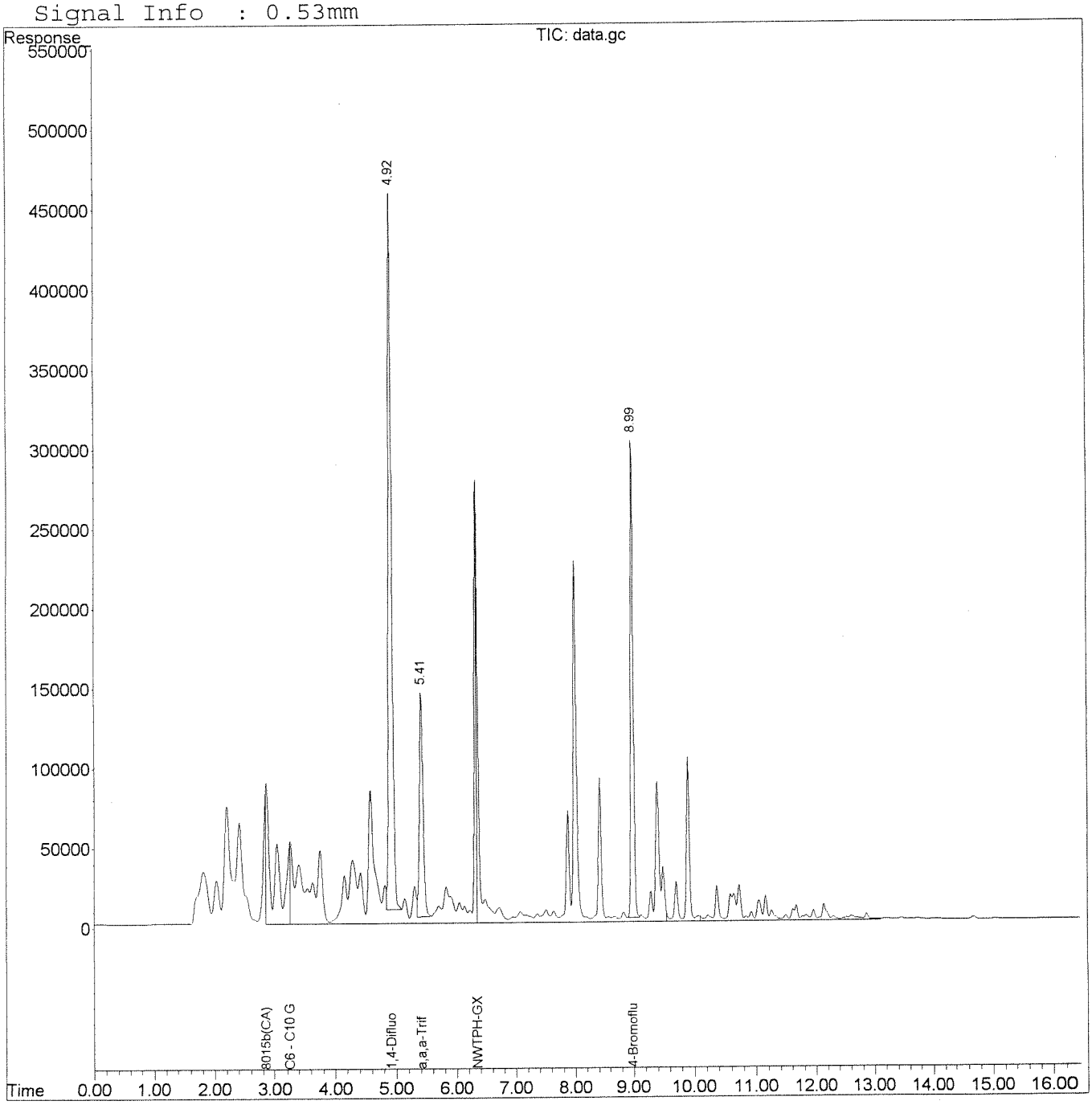
Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R010.D
Acq On : 31 Mar 2005 01:18 pm
Sample : gas @ 1000 ug/L hcv296h
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 12:36 2005 Quant Results File: 033105GX.RES

Vial: 10
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:35:03 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R011.D
Acq On : 31 Mar 2005 01:52 pm
Sample : gas @ 5000 ug/L hcv296i
Misc :
IntFile : RTEINT.P
Quant Time: Apr 01 12:37:09 2005 Quant Results File: 033105GX.RES

Vial: 11
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
4) H C6 - C10 GRO	3.25	34183437	4991.478	ug/L
5) H 8015b(CA) 2mp-1,2,4tmb	2.85	40577553	4978.235	ug/L
6) H NWTPH-GX	6.34	20306415	4490.021	ug/L ±15%

3040105

MK

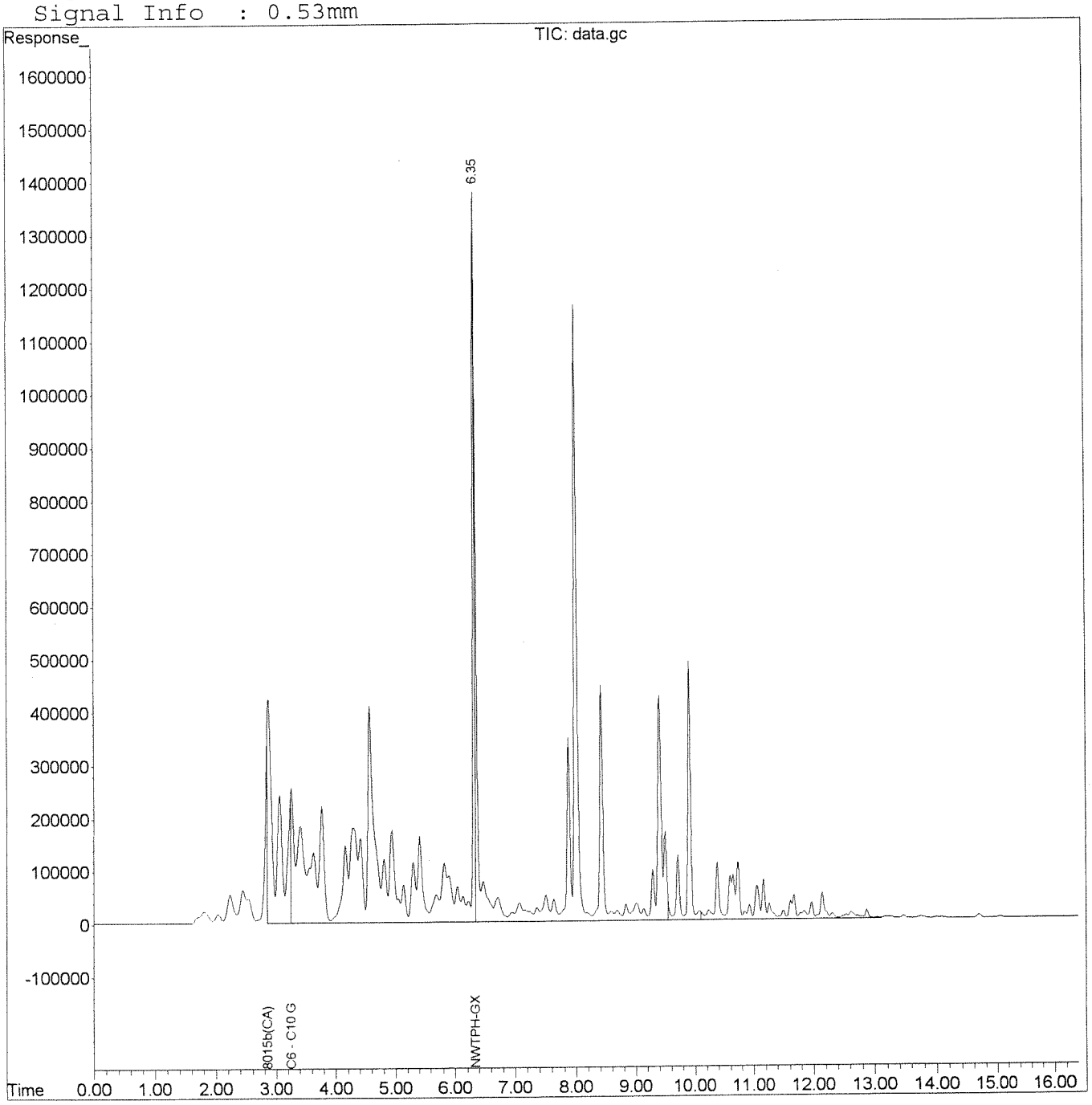
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC06\DATA\033105.FID\0331R011.D
Acq On : 31 Mar 2005 01:52 pm
Sample : gas @ 5000 ug/L hcv296i
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 12:37 2005 Quant Results File: 033105GX.RES

Vial: 11
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R012.D
Acq On : 31 Mar 2005 02:26 pm
Sample : gas @ 10000 ug/L hcv296j
Misc :
IntFile : RTEINT.P
Quant Time: Apr 01 12:37:28 2005 Quant Results File: 033105GX.RES

Vial: 12
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

Compound	R.T.	Response	Conc	Units
System Monitoring Compounds				
Target Compounds				
4) H C6 - C10 GRO	3.25	69590300	10161.600	ug/L
5) H 8015b(CA) 2mp-1,2,4tmb	2.85	83163860	10202.913	ug/L
6) H NWTPH-GX	6.34	43512253	9621.143	ug/L ±15%

gm 040105

MK

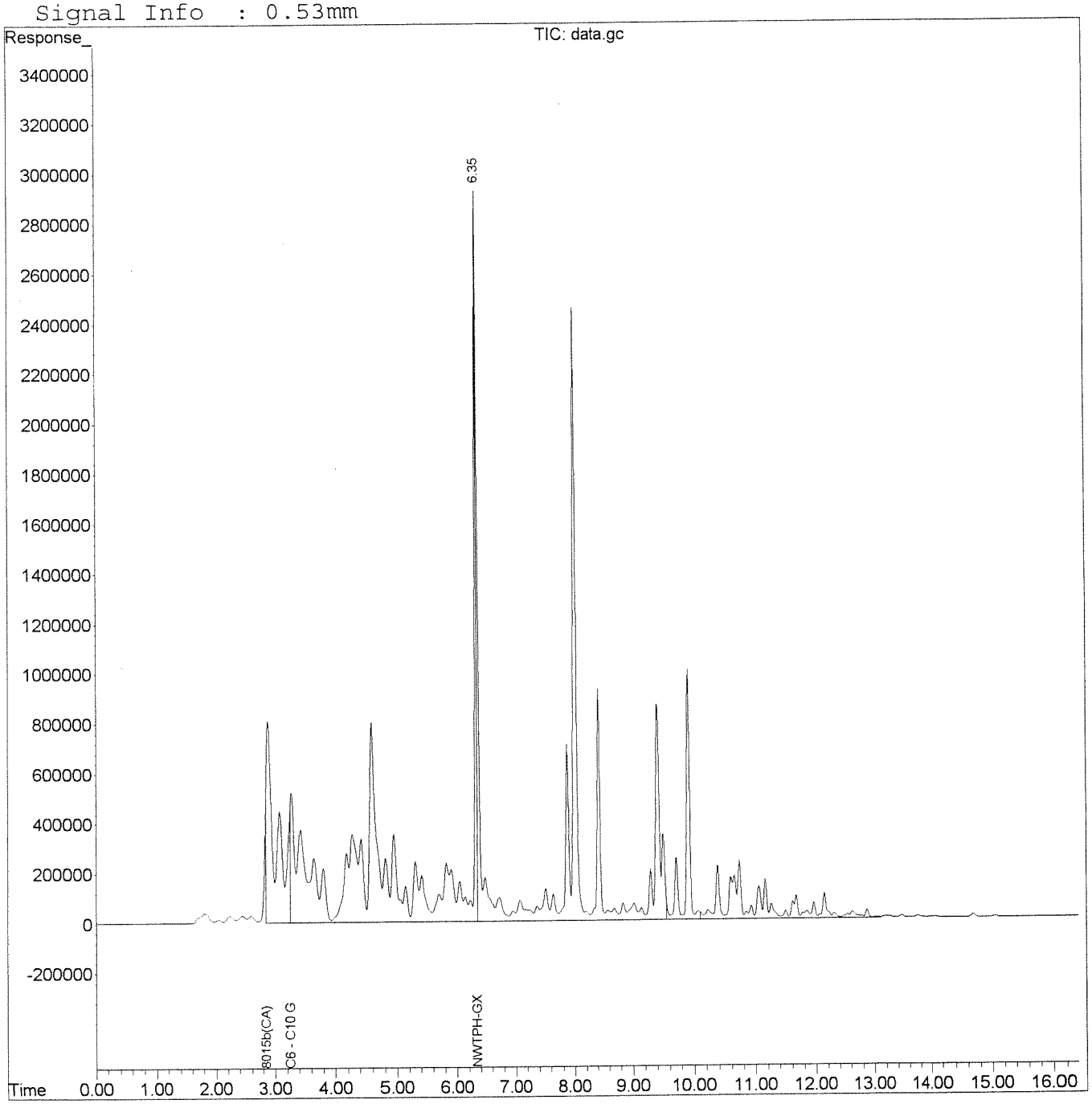
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC06\DATA\033105.FID\0331R012.D
Acq On : 31 Mar 2005 02:26 pm
Sample : gas @ 10000 ug/L hcv296j
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 12:37 2005 Quant Results File: 033105GX.RES

Vial: 12
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R022.D
Acq On : 01 Apr 2005 12:14 pm
Sample : gas @ 50 ug/L hcv296p
Misc :
IntFile : RTEINT.P
Quant Time: Apr 01 12:35:28 2005 Quant Results File: 033105GX.RES

Vial: 22
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:35:03 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

		Compound	R.T.	Response	Conc	Units
System Monitoring Compounds						
1)	S	a,a,a-Trifluorotoluene	5.45	556978	48.236	ug/L
2)	S	1,4-Difluorobenzene	4.96	259686	23.666	ug/L
3)	S	4-Bromofluorobenzene	9.04	148921	23.941	ug/L
Target Compounds						
4)	H	C6 - C10 GRO	3.25	327684	47.849	ug/L
5)	H	8015b(CA) 2mp-1,2,4tmb	2.85	391200	47.994	ug/L
6)	H	NWTPH-GX	6.34	257521	56.941	ug/L ±15%

3040105

MK

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

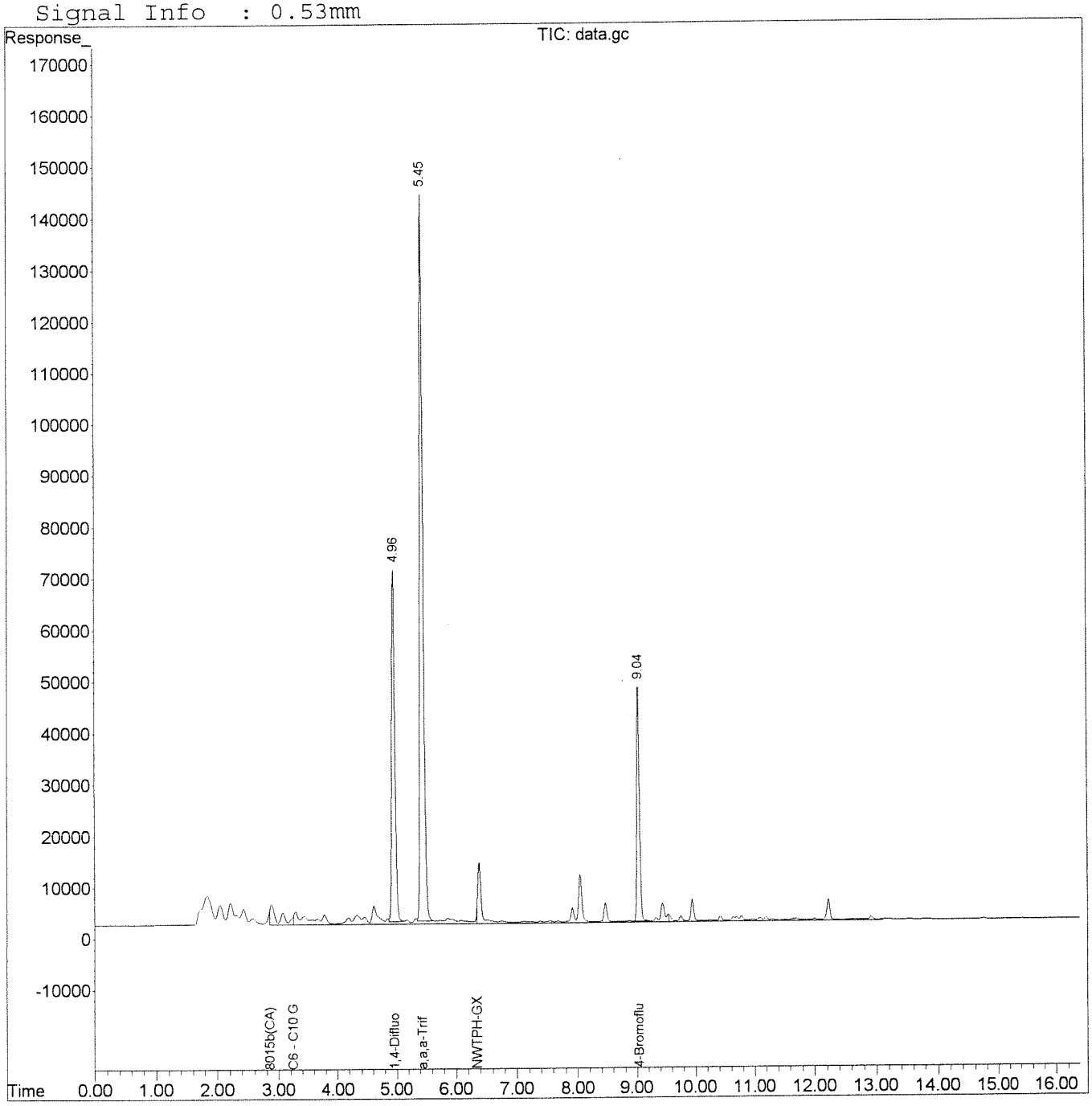
Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R022.D
Acq On : 01 Apr 2005 12:14 pm
Sample : gas @ 50 ug/L hcv296p
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 12:35 2005 Quant Results File: 033105GX.RES

Vial: 22
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:35:03 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\033105.FID\0331R023.D
Acq On : 01 Apr 2005 12:48 pm
Sample : gas @ 500 ug/L hcv296q
Misc :
IntFile : RTEINT.P
Quant Time: Apr 01 13:22:42 2005 Quant Results File: 033105GX.RES

Vial: 23
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S a,a,a-Trifluorotoluene	5.49	665949	57.674 ug/L
Target Compounds			
4) H C6 - C10 GRO	3.25	3311880	483.602 ug/L
5) H 8015b(CA) 2mp-1,2,4tmb	2.85	3834482	470.431 ug/L
6) H NWTPH-GX	6.34	2418886	534.848 ug/L

040105

MK

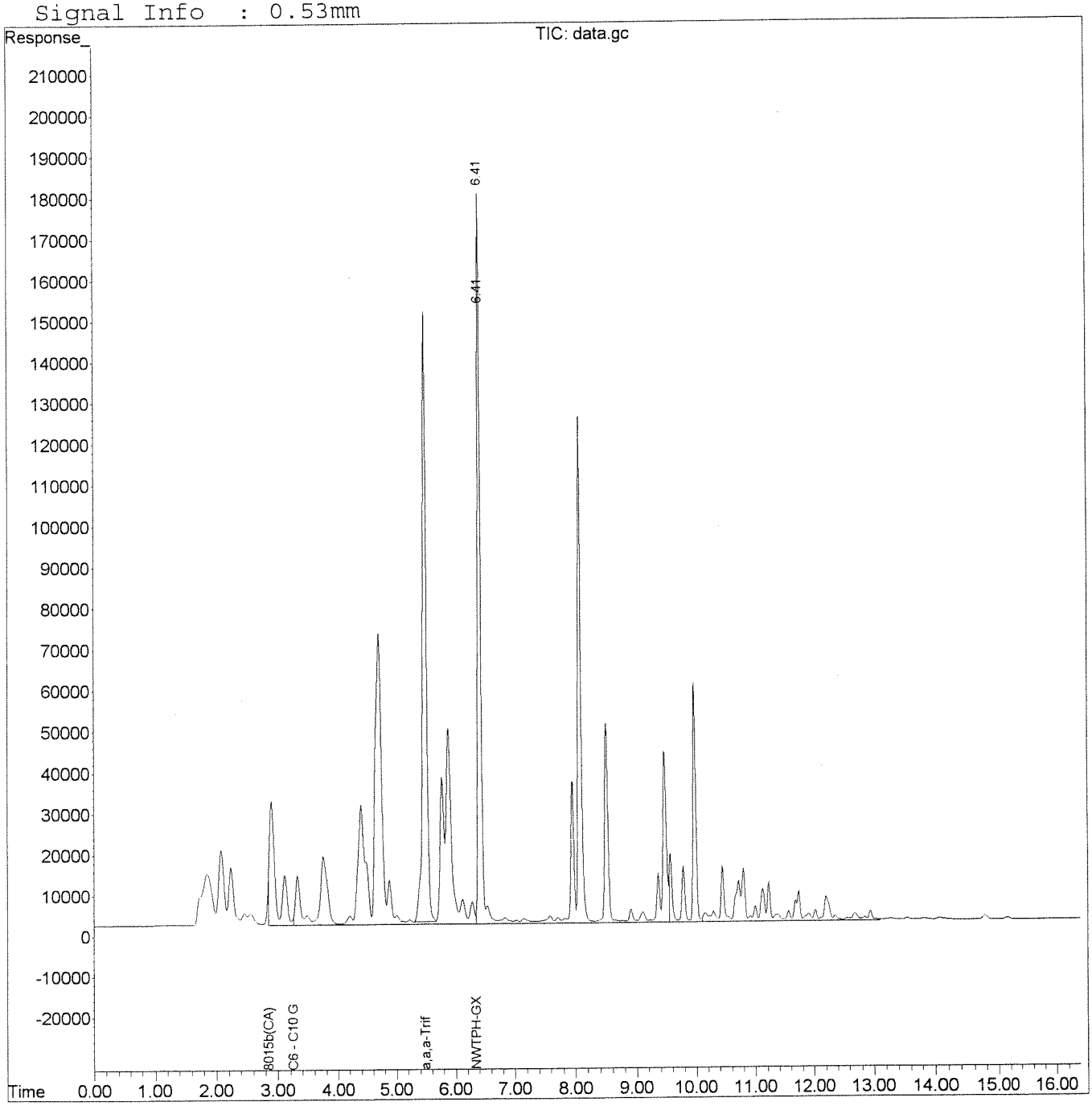
(f)=RT Delta > 1/2 Window (m)=manual int.

Data File : J:\GC06\DATA\033105.FID\0331R023.D
Acq On : 01 Apr 2005 12:48 pm
Sample : gas @ 500 ug/L hcv296q
Misc :
IntFile : RTEINT.P
Quant Time: Apr 1 13:22 2005 Quant Results File: 033105GX.RES

Vial: 23
Operator: cq
Inst : GC06
Multiplr: 1.00

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL
Last Update : Fri Apr 01 12:37:02 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Date Analyzed: 04/14/2005

Continuing Calibration Verification Summary
Gasoline Range Organics

Calibration Type: External Standard
Analysis Method: 8015B

Calibration Date: 03/31/2005
Calibration ID: CAL4341
Analysis Lot: KWG0506089
Units: ug/L

File ID: J:\GC06\DATA\041405.FID\0414R005.D

Column ID: DB-624

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Gasoline Range Organics (GRO)	500	490	8150	7980	-2	NA	± 15 %	AverageRF
4-Bromofluorobenzene	100	87	6220	5400	-13	NA	± 15 %	AverageRF

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

Exception Report

Data File: J:\GC06\DATA\041405.FID\0414R005.D
Lab ID: KWG0506089-1
RunType: CCV
Matrix: WATER

Date Acquired: 04/14/2005 11:11
Date Quantitated: 04/14/2005 16:38
Batch ID: KWG0506089
Analysis Method: 8015B
MethodJoinID: MJ184

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: 04/14/05

Secondary Review: MK

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	GRO-8015	**Collect Date:**		**Receive Date:**	04/15/2005

Analysis Lot:	KWG0506089	**Prep Lot:**		**Report Group:**	
Analysis Method:	8015B	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC06\METHODS\033105GX.M	**Calibration ID:**	CAL4341
Title:			
		Method ID:	MJ184
MB Ref:		**Quant based on Method**	

Data File:	J:\GC06\DATA\041405.FID\0414R005.D			**Instrument:**	GC06
Acqu Date:	04/14/2005 11:11	**Quant Date:**	04/14/2005 16:38	**Vial:**	5
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0506089-1			**Soln Conc. Units:**	ug/L

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
4-Bromofluorobenzene	8.67		540038	86.82		25-133	NA

Target Compounds

Final Conc. Units:

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
C6 - C10 GRO	3.69	?	3086487	450.69			
Gasoline Range Organics (GRO	2.49	?	3988656	489.35			

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:\GC06\DATA\041405.FID\0414R005.D Vial: 5
Acq On : 14 Apr 2005 11:11 am Operator: cq
Sample : gas @ 500 ug/L hcv297n Inst : GC06
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 14 16:38:22 2005 Quant Results File: 033105GX.RES

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL 4341
Last Update : Thu Apr 14 16:38:18 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) S 4-Bromofluorobenzene	8.67	540038	86.817 ug/L
Target Compounds			
4) H C6 - C10 GRO	3.69	3086487	450.690 ug/L
5) H 8015b(CA) 2mp-1,2,4tmb	2.49	3988656	489.346 ug/L
6) H NWTPH-GX	6.86	1880948	415.903 ug/L

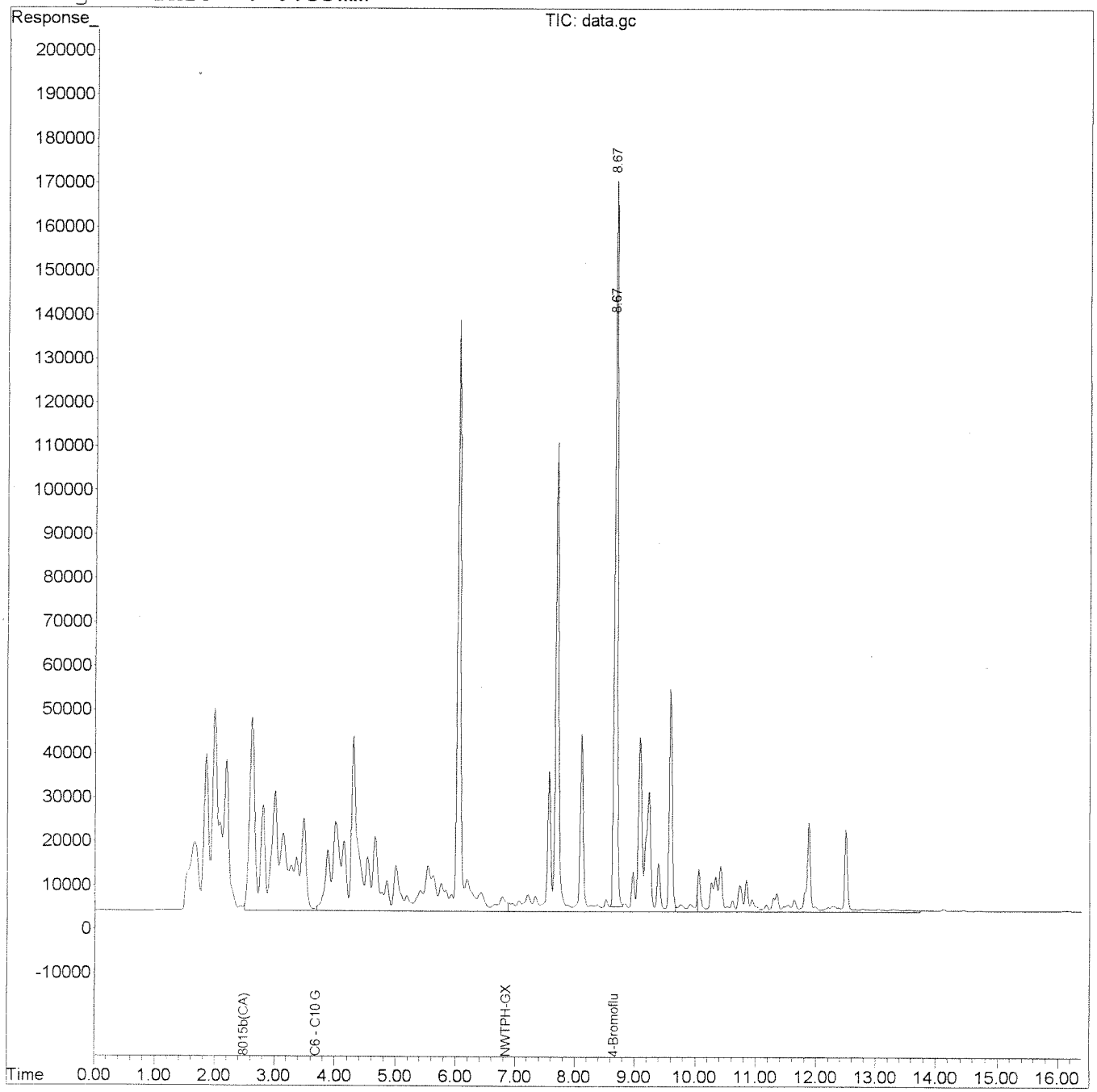
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\041405.FID\0414R005.D Vial: 5
Acq On : 14 Apr 2005 11:11 am Operator: cq
Sample : gas @ 500 ug/L hcv297n Inst : GC06
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 14 16:38 2005 Quant Results File: 033105GX.RES

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL 4341
Last Update : Thu Apr 14 16:38:18 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Results

Client: Battelle Memorial Institute
Project: Novato Ballfields/G486063

Service Request: K2502554
Date Analyzed: 04/14/2005

Continuing Calibration Verification Summary
Gasoline Range Organics

Calibration Type: External Standard
Analysis Method: 8015B

Calibration Date: 03/31/2005
Calibration ID: CAL4341
Analysis Lot: KWG0506089
Units: ug/L

File ID: J:\GC06\DATA\041405.FID\0414R017.D

Column ID: DB-624

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Gasoline Range Organics (GRO)	500	450	8150	7410	-9	NA	± 15 %	AverageRF
4-Bromofluorobenzene	100	87	6220	5440	-13	NA	± 15 %	AverageRF

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

Exception Report

Data File: J:\GC06\DATA\041405.FID\0414R017.D
Lab ID: KWG0506089-2
RunType: CCV
Matrix: WATER

Date Acquired: 04/14/2005 22:11
Date Quantitated: 04/15/2005 07:20
Batch ID: KWG0506089
Analysis Method: 8015B
MethodJoinID: MJ184

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: 4/15/05

Secondary Review: MK

Quantitation Report

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	GRO-8015	**Collect Date:**		**Receive Date:**	04/15/2005

Analysis Lot:	KWG0506089	**Prep Lot:**		**Report Group:**	
Analysis Method:	8015B	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\GC06\METHODS\033105GX.M	**Calibration ID:**	CAL4341
Title:			
		Method ID:	MJ184
MB Ref:		**Quant based on Method**	

Data File:	J:\GC06\DATA\041405.FID\0414R017.D			**Instrument:**	GC06
Acqu Date:	04/14/2005 22:11	**Quant Date:**	04/15/2005 07:20	**Vial:**	17
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG0506089-2			**Soln Conc. Units:**	ug/L

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
4-Bromofluorobenzene	8.87		543617	87.39		25-133	NA

Target Compounds

Final Conc. Units:

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
C6 - C10 GRO	3.69	?	2954450	431.41			
Gasoline Range Organics (GRO	2.49	?	3704099	454.44			

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:\GC06\DATA\041405.FID\0414R017.D Vial: 17
Acq On : 14 Apr 2005 10:11 pm Operator: cq
Sample : gas @ 500 ug/L hcv297n Inst : GC06
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 15 07:20:10 2005 Quant Results File: 033105GX.RES

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL 4341
Last Update : Fri Apr 15 07:19:49 2005
Response via : Initial Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
3) S 4-Bromofluorobenzene	8.87	543617	87.392 ug/L
Target Compounds			
4) H C6 - C10 GRO	3.69	2954450	431.410 ug/L
5) H 8015b(CA) 2mp-1,2,4tmb	2.49	3704099	454.435 ug/L
6) H NWTPH-GX	6.86	1669382	369.123 ug/L

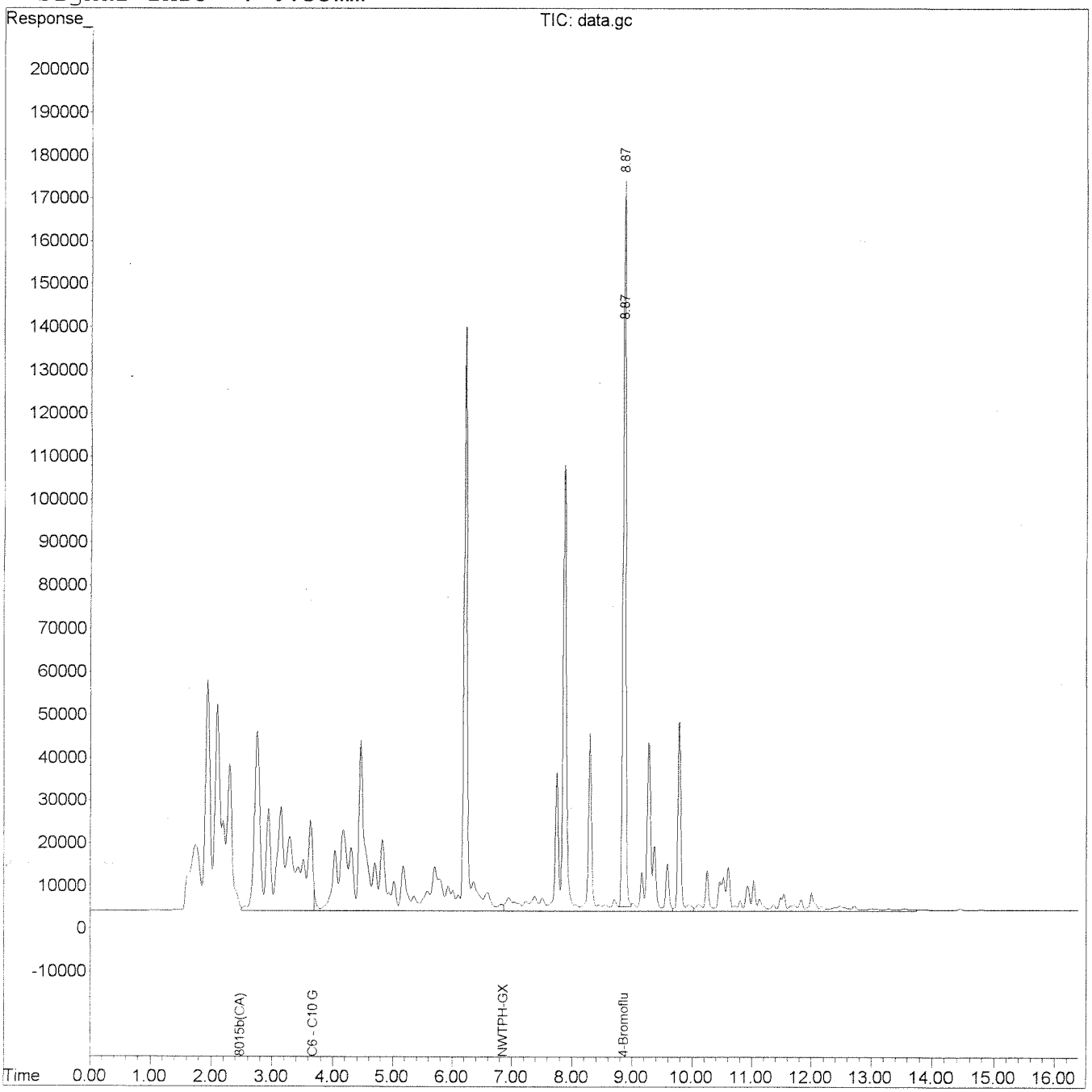
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : J:\GC06\DATA\041405.FID\0414R017.D Vial: 17
Acq On : 14 Apr 2005 10:11 pm Operator: cq
Sample : gas @ 500 ug/L hcv297n Inst : GC06
Misc : Multiplr: 1.00
IntFile : RTEINT.P
Quant Time: Apr 15 7:20 2005 Quant Results File: 033105GX.RES

Quant Method : J:\GC06\METHODS\033105GX.M (RTE Integrator)
Title : CAL 4341
Last Update : Fri Apr 15 07:19:49 2005
Response via : Multiple Level Calibration
DataAcq Meth : TPH1.MTH

Volume Inj. : 5mL
Signal Phase : DB-624
Signal Info : 0.53mm



Organic Analysis:
Gasoline Range Organics

Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID:	KWG0505639	**Prep Method:**	EPA 5035/5030B	**Prep Date:**	04/08/05 00:00
Department:	PHC				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	MeOH Vol.	MeOH Aliq.	Final Vol.	Solids
K2502499-011	T063-R1-SB02-0-0.5	GRO-8015	SOIL	4.44g	5ml	1ml	50ml	
K2502499-012	T063-R1-SB01-0-0.5 DUP	GRO-8015	SOIL	4.82g	5ml	1ml	50ml	
K2502505-001	TO63-R3-SB04-0-0.5	GRO-8015	SOIL	6.29g	5ml	1ml	50ml	
K2502505-002	TO63-R3-SB04-2-3	GRO-8015	SOIL	3.92g	5ml	1ml	50ml	
K2502505-003	TO63-R3-SB01-0-0.5	GRO-8015	SOIL	4.70g	5ml	1ml	50ml	
K2502505-004	TO63-R3-SB01-4-5	GRO-8015	SOIL	5.59g	5ml	1ml	50ml	
K2502505-005	TO63-R3-SB02-0-0.5	GRO-8015	SOIL	6.08g	5ml	1ml	50ml	
K2502505-006	TO63-R3-SB03-0-0.5	GRO-8015	SOIL	6.71g	5ml	1ml	50ml	
K2502505-007	TO63-R4-SB03-0-0.5	GRO-8015	SOIL	6.09g	5ml	1ml	50ml	
K2502505-008	TO63-R4-SB03-3-4	GRO-8015	SOIL	4.48g	5ml	1ml	50ml	
K2502505-009	TO63-R4-SB02-0-0.5	GRO-8015	SOIL	5.48g	5ml	1ml	50ml	
K2502505-010	TO63-R4-SB01-0-0.5	GRO-8015	SOIL	5.85g	5ml	1ml	50ml	
K2502554-001	TO63-IDW-01	GRO-8015	SOIL	4.46g	5 ~~10~~ml 8 041505	1ml	50ml	
KWG0505639-1	Matrix Spike	GRO-8015	SOIL	5.53g	5ml	1ml	50ml	
KWG0505639-2	Duplicate Matrix Spike	GRO-8015	SOIL	5.61g	5ml	1ml	50ml	
KWG0505639-3	Lab Control Sample	GRO-8015	SOIL	5.0g	5ml	1ml	50ml	
KWG0505639-4	Method Blank	GRO-8015	SOIL	5.0g	5ml	1ml	50ml	

Lab Code	Parent Lab Code	Comments
KWG0505639-1	K2502505-010	
KWG0505639-2	K2502505-010	

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K2502499-011	373590	HCV295F	50uL			SJones
K2502499-012	373591	HCV295F	50uL			SJones
K2502505-001	373592	HCV295F	50uL			SJones
K2502505-002	373593	HCV295F	50uL			SJones
K2502505-003	373594	HCV295F	50uL			SJones
K2502505-004	373595	HCV295F	50uL			SJones
K2502505-005	373596	HCV295F	50uL			SJones
K2502505-006	373597	HCV295F	50uL			SJones
K2502505-007	373598	HCV295F	50uL			SJones
K2502505-008	373599	HCV295F	50uL			SJones
K2502505-009	373600	HCV295F	50uL			SJones
K2502505-010	373601	HCV295F	50uL			SJones

Comments:

Started By: CQuinn Assisted By: Training Yes No

Completed By: CQuinn Assisted By: Yes No

Reviewed By: [illegible] Date: 4/15/05 Storage: to instrument

Chain of Custody

Relinquished By: Date: 040805

Received By: Date: Extracts Examined Yes No

Group ID:	KWG0505639	**Prep Method:**	EPA 5035/5030B	**Prep Date:**	04/08/05 00:00
Department:	PHC				

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K2502554-001	375287	HCV295F	50uL			SJones
KWG0505639-1	373602	HCV295F	50uL	HCV297D	50uL	SJones
KWG0505639-2	373603	HCV295F	50uL	HCV297D	50uL	SJones
KWG0505639-3	373604	HCV295F	50uL	HCV297D	50uL	SJones
KWG0505639-4	373605	HCV295F	50uL			SJones

Comments:

Started By: CQuinn Assisted By: Training Yes No

Completed By: CQuinn Assisted By: Yes No

Reviewed By: M Curlen Date: 4/15/05 Storage: to instrument

Chain of Custody

Relinquished By: Date: 042805

Received By: Date: Extracts Examined Yes No

Preparation Information

Group ID: KWG0505639	**Prep Method:**		**Prep Date:**
Department: PHC			

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext.	pH	Int. Vol.	Final Vol.	Surr. Added	Spike Added
1	K2502499-011	T063-R1-SB02-0-0.5			GRO-8015	SOIL	4.44					
2	K2502499-012	T063-R1-SB01-0-0.5DUP			GRO-8015	SOIL	4.82					
3	K2502505-001	TO63-R3-SB04-0-0.5			GRO-8015	SOIL	6.29					
4	K2502505-002	TO63-R3-SB04-2-3			GRO-8015	SOIL	3.92					
5	K2502505-003	TO63-R3-SB01-0-0.5			GRO-8015	SOIL	4.70					
6	K2502505-004	TO63-R3-SB01-4-5			GRO-8015	SOIL	5.59					
7	K2502505-005	TO63-R3-SB02-0-0.5			GRO-8015	SOIL	6.08					
8	K2502505-006	TO63-R3-SB03-0-0.5			GRO-8015	SOIL	6.71					
9	K2502505-007	TO63-R4-SB03-0-0.5			GRO-8015	SOIL	6.09					
10	K2502505-008	TO63-R4-SB03-3-4			GRO-8015	SOIL	4.48					
11	K2502505-009	TO63-R4-SB02-0-0.5			GRO-8015	SOIL	5.48					
12	K2502505-010	TO63-R4-SB01-0-0.5			GRO-8015	SOIL	5.85					
13	KWG0505639-1	Matrix Spike 2505.10			GRO-8015	SOIL	5.53					
14	KWG0505639-2	Duplicate Matrix Spike 2505.10			GRO-8015	SOIL	5.61					
15	KWG0505639-3	Lab Control Sample			GRO-8015	SOIL	5.0					
16	KWG0505639-4	Method Blank			GRO-8015	SOIL	↓					

2554-1 4.46

Comments: Meoh # A1090

Surrogate ID: HCV2-95F BFB 250ppm xp. 04195 52ul

Spike ID: HCV2-97D gas 1000ppm xp. 04195 52ul

Witness:

Started By: CQuinn Assisted By:

Completed By: CQuinn Assisted By: