1,4-DIOXANE BY METHOD 8260B SIM

Data File Name P0319019.D
Data File Path D:\HPCHEM\1\DATA\031905\
Sample Name SS/CCV

Date Acquired 3/19/2005 4:27
Operator JG/MS/CLS
Acq. Method File DX021605
GCMS1

3/21/05 JG

INTERNAL STANDARDS	CAL RESPONSE	TARGET RESPONSE	LOW LIMIT	HIGH LIMIT	T/F
Pentafluorobenzene (IS)	47071	46539	23536	94142	TRUE
1,4-DIOXANE-d8	5034	4918	2517	10068	TRUE

SURROGATE	AMOUNT	% RECOVERY	Low	High	T/F
Dibromofluoromethane (SU1)	1.08	107.7	80	125	TRUE

TARGET ANALYTE	AMOUNT	TRUE VALUE	RECOVER	Low	High	T/F
1,4-DIOXANE	9.75	10.00	97.48	70	130	TRUE

3/21/05

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\031905\P0319019.D
Acq On : 19 Mar 2005 4:27 pm
Sample : SS/CCV
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: Mar 21 12:54 2005

Vial: 19
Operator: JG/MS/CLS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Quant Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 12:54:07 2005
Response via : Initial Calibration
DataAcq Meth : DX021605

3/21/05 JG

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene (IS)	10.56	99	46539	1.00	ug/L	0.00
3) 1,4-DIOXANE-d8	12.35	64	4918	25.00	ug/L	0.00
5) 1,2,3-Trichloropropane-d5	0.00	79	0	0.00	ug/L	-15.08
System Monitoring Compounds						
2) Dibromofluoromethane (SU1)	10.07	113	37865	1.08	ug/L	0.00
Spiked Amount 1.000	Range 80 - 120		Recovery = 108.00%			
Target Compounds						Qvalue
4) 1,4-DIOXANE	12.43	88	3745	9.75	ug/L	93
6) 1,2,3-Trichloropropane	0.00	75	0	N.D.		

3/21/05

(#) = qualifier out of range (m) = manual integration
P0319019.D DX031905.M Mon Mar 21 12:55:20 2005 GCMS1

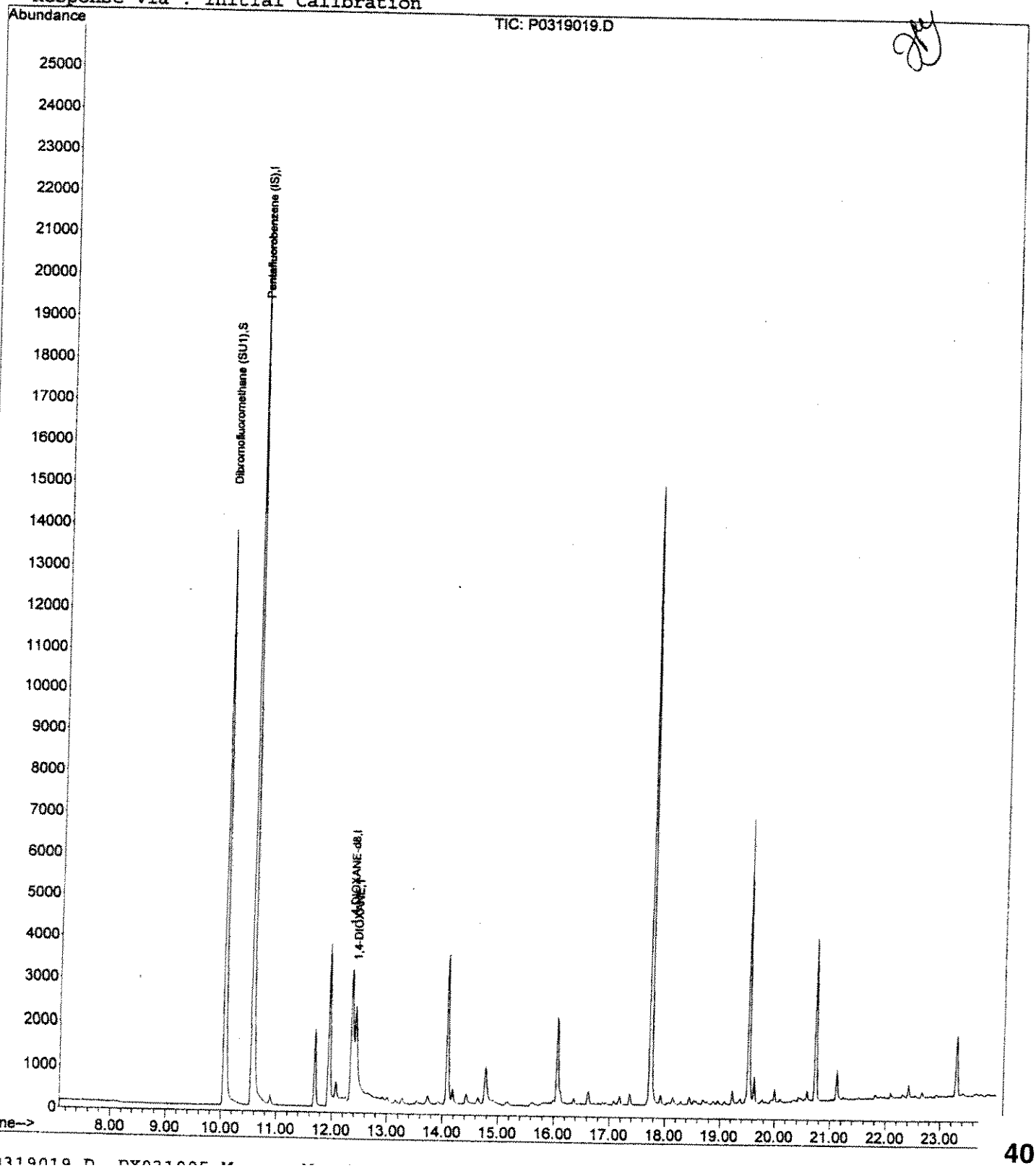
Quantitation Report

Data File : D:\HPCHEM\1\DATA\031905\P0319019.D
Acq On : 19 Mar 2005 4:27 pm
Sample : SS/CCV
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: Mar 21 12:54 2005

Vial: 19
Operator: JG/MS/CLS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 12:54:07 2005
Response via : Initial Calibration



METHOD: 624 (8260B) 624.2

CMS #: 1

Date Analyzed: 5/2/5

ANALYST REVIEW	METHOD CRITERIA	PEER REVIEW
✓	1. Sequence File is printed and in the file folder? Standard IDs and analyst's initials are present?	✓
N/A	2. Initial Calibration met criteria?	
	a. Print calibration as Average Response Factor (624: RSD ≤ 35%) (8260B: ≤ 30% for CCCs, ≤ 15% for all other compounds, SPCCs met Criteria) (524.2: RSD ≤ 20%)	N/A
	b. If non CCC RSD > 15%, print out the curve as Linear Regression $r \geq 0.995$ or $r^2 \geq 0.99$ (do not force through zero for 8260B)	
	c. If non CCC RSD > 15%, print out the curve as Quadratic $r \geq 0.995$ or $r^2 \geq 0.99$ (do not force through zero for 8260B)	
	d. Choose option (b or c) with the least negative intercept	
	e. Requant the low (RL) standard against the curve must be ± 30%, file with the calibration for reference	
	f. If samples contain negative values then: compare the area counts with the low standard on file if <, then report as N.D. with no flag if >, then report from RSD curve and flag that curve is out or report at an elevated RL as compared to a curve standard	
✓	3. Initial Midpoint / LCS / BFB Tune (624: use Table 5) (524.2: ±30%) (8260B: see control chart) SPCCs met criteria? CCCs met criteria (±20%)?	✓
✓	4. Checked integration of all peaks in Midpoint?	
✓	5. Method Blank < Report Limit, if not is data flagged? (624: every 20 samples) (524.2: every 12 hours) (8260B: every 12 hours)	
✓	6. MS/MSD (every 20 samples) (624: use Table 5) (524.2: N/A) (8260B: see Control Chart)	m-HA flag.
✓	7. All samples met holding time? (Soil 72hr ext, 7/14days water)	
✓	8. All water samples checked to be pH < 2? (Note this on the sequence file)	
✓	9. LCS every 20 samples (624: See Table 5) (524.2: ±30%) (8260B: See Control Chart)	
✓	10. Cont. Midpoint / LCS / BFB Tune done every 12 hours (624: use Table 5) (524.2: ±30%) (8260B: see control chart) SPCCs met criteria? CCCs met criteria (±20%)?	
✓	11. Surrogates within acceptance limits (624 / 524.2 / 8260B: See Control Chart)	
✓	12. Internal Standards within acceptance limits (624 / 524.2 / 8260B: response must be -50 to +100%).	
	13. Manual re-integration(s) performed? yes: ✓ no:	
	14. Corrective Action Report required? yes: (Attached) no:	
	15. Reports impacted by the Corrective Action Report	

Analyst: [signature]

Reviewer / Date: [signature] 5/11/05

Injection Log

Directory: D:\HPCHEM\1\DATA\050205

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	P0502001.D	1.	TUNE/BLANK	1X 10ML	2 May 2005 09:55
2	2	P0502002.D	1.	CCV	1X 10ML	2 May 2005 10:25
3	3	P0502003.D	1.	LCS	1X 10ML	2 May 2005 10:58
4	4	P0502004.D	1.	BLK	1X 10ML	2 May 2005 11:31
5	5	P0502005.D	1.	TUNE	1X 10ML	2 May 2005 12:09
6	6	P0502006.D	1.	p5e0214-bs1	1X 10ML	2 May 2005 12:37
7	7	P0502007.D	1.	p5e0214-bsd1	1X 10ML	2 May 2005 13:10
8	8	P0502008.D	1.	p5d0214-blk1	1X 10ML	2 May 2005 13:43
9	9	P0502009.D	1.	POD0904-01	1X 10ML	2 May 2005 14:24
10	10	P0502010.D	1.	POD0904-02	1X 10ML	2 May 2005 14:57
11	11	P0502011.D	1.	POD0904-03	1X 10ML	2 May 2005 15:30
12	12	P0502012.D	1.	POD0904-04	1X 10ML	2 May 2005 16:02
13	13	P0502013.D	1.	CLEAN OUT BLANK	1X 10ML	2 May 2005 16:35
14	14	P0502014.D	1.	POD0904-05	1X 10ML	2 May 2005 17:08
15	15	P0502015.D	1.	P5E0214-MS1	1X 10ML	2 May 2005 17:41
16	16	P0502016.D	1.	P5E0214-MSD1	1X 10ML	2 May 2005 18:13
17	17	P0502017.D	1.	POD0792-05	1X 10ML	2 May 2005 18:46
18	18	P0502018.D	1.	POD0792-06	1X 10ML	2 May 2005 19:19
19	19	P0502019.D	1.	POD0815-01	1X 10ML	2 May 2005 19:52
20	20	P0502020.D	1.	POD0815-02	1X 10ML	2 May 2005 20:25
21	21	P0502021.D	1.	POD0902-01	1X 10ML	2 May 2005 20:57
22	22	P0502022.D	1.	POD0903-01	1X 10ML	2 May 2005 21:30
23	23	P0502023.D	1.	POD0904-02	10X 10ML	2 May 2005 22:03

DNU

DMAP GC/MS 1 DAILY LOG SUMMARY

DATE: 5/2/05 QC BATCH # (s): P5E0214

ANALYST: CW/AMS SEQUENCE FILE: C:\GCMS1\DATA\

CALIBRATION METHOD(S): DX031905.M

POS #	FILENAME	SAMPLE ID.CLIENT	SAMPLE VOL.	pH	EPA METHOD	MATRIX	COMMENTS
/	P0502001	BFB	1X10ml	NA	8260	H_2O	DNU - Remade Standards
1	2	CCV					
2	3	LCSD					
3	4	Blank					
	5	Tune					
	6	CCV					
	7	LCSD					
	8	Blank					
4	9	P0D0904-02 016		LL			
5	10	-03 02A					
6	11	-04-03A					
7	12	~~Clean out Blank~~ CCW					
8	13	~~P0D0904-05~~					
7	12	P0D0904-04 A					
8	13	Clean out Blank					
9	14	P0D0904-05 A					
10	15	P5E0214-MS1					P0D0904-02
11	16	-MSD1					5
12	17	P0D0792-05 A	1X10ml	LL	8260	H_2O	
13	18	-06 A					
14	19	P0D0815-01 A					
15	20	-02 A					
16	21	P0D0902-01 A					
17	22	903-01 A					
18	23	904-02 B	10X 1ml	LL	8260	H_2O	

STANDARD ID NUMBERS

CCV / H_2O LCS / H20 SPIKE: 5050010 Internal Std:

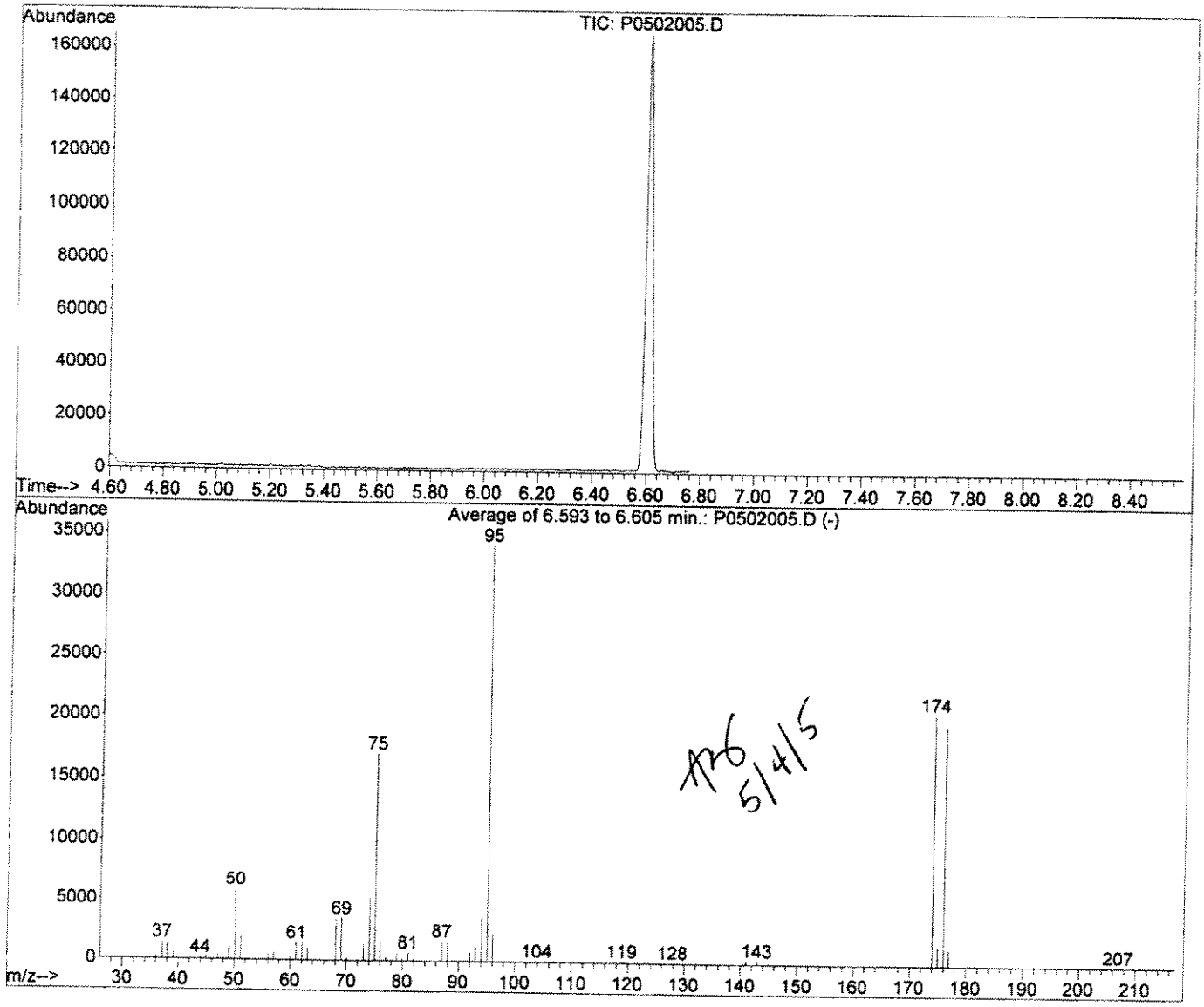
CALIBRATION STD: IS / Surrogate / BFB: 5050011

REVIEWER / DATE: 5/5/11/05

BFB

Data File : D:\HPCHEM\1\DATA\050205\P0502005.D
Acq On : 2 May 2005 12:09 pm
Sample : TUNE
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)

Vial: 5
Operator: CS
Inst : GCMS1
Multiplr: 1.00



Spectrum Information: Average of 6.593 to 6.605 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	5925	PASS
75	95	30	60	49.9	17034	PASS
95	95	100	100	100.0	34120	PASS
96	95	5	9	6.7	2290	PASS
173	174	0.00	2	0.3	56	PASS
174	95	50	100	60.4	20618	PASS
175	174	5	9	7.8	1607	PASS
176	174	95	101	95.3	19646	PASS
177	176	5	9	7.1	1400	PASS

5/11/05

P0502005.D DX031905.M Mon May 02 12:18:36 2005 GCMS1

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\050205\P0502006.D
Acq On : 2 May 2005 12:37 pm
Sample : p5e0214-bs1
Misc : 1X 10ML
MS Integration Params: DIOXANE.P

Vial: 6
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	1.000	1.000	0.0	67	0.00
2	S	Dibromofluoromethane (SU1)	0.756	0.759	-0.4	69	0.00
3	I	1,4-DIOXANE-d8	1.000	1.000	0.0	110	0.00
4	T	1,4-DIOXANE	2.130	2.326	-9.2	134	0.00
5	I	1,2,3-Trichloropropane-d5	1.000	1.000	0.0	0#	-15.08#
6	T	1,2,3-Trichloropropane	0.000	0.000#	0.0	0#	-15.08#

AG 5/4/5

5/5/11/05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P0502006.D DX031905.M Tue May 03 12:43:37 2005 GCMS1

1,4-DIOXANE BY METHOD 8260B SIM

Data File Name P0502006.D
Data File Path D:\HPCHEM\1\DATA\050205\
Sample Name p5e0214-bs1

Date Acquired 5/2/2005 12:37
Operator CS
Acq. Method File DX031905
GCMS1

INTERNAL STANDARDS	CAL RESPONSE	TARGET RESPONSE	LOW LIMIT	HIGH LIMIT	T/F
Pentafluorobenzene (IS)	47071	31370	23536	94142	TRUE
1,4-DIOXANE-d8	5034	5521	2517	10068	TRUE

SURROGATE	AMOUNT	% RECOVERY	Low	High	T/F
Dibromofluoromethane (SU1)	1.00	100.4	80	125	TRUE

TARGET ANALYTE	AMOUNT	TRUE VALUE	RECOVER	Low	High	T/F
1,4-DIOXANE	12.29	10.00	122.91	70	130	TRUE

AG 5/4/5

5/11/05

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\050205\P0502006.D Vial: 6
Acq On : 2 May 2005 12:37 pm Operator: CS
Sample : p5e0214-bs1 Inst : GCMS1
Misc : 1X 10ML Multiplr: 1.00
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:43 2005 Quant Results File: DX031905.RES

Quant Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration
DataAcq Meth : DX031905

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene (IS)	10.56	99	31370	1.00	ug/L	0.00
3) 1,4-DIOXANE-d8	12.35	64	5521	25.00	ug/L	0.00
5) 1,2,3-Trichloropropane-d5	0.00	79	0	0.00	ug/L	-15.08
System Monitoring Compounds						
2) Dibromofluoromethane (SU1)	10.07	113	23813	1.00	ug/L	0.00
Spiked Amount 1.000	Range 80 - 120		Recovery = 100.00%			
Target Compounds						Qvalue
4) 1,4-DIOXANE	12.43	88	5136	12.29	ug/L	96

AG 5/4/5

(#) = qualifier out of range (m) = manual integration
P0502006.D DX031905.M Tue May 03 12:43:35 2005 GCMS1 Page 1

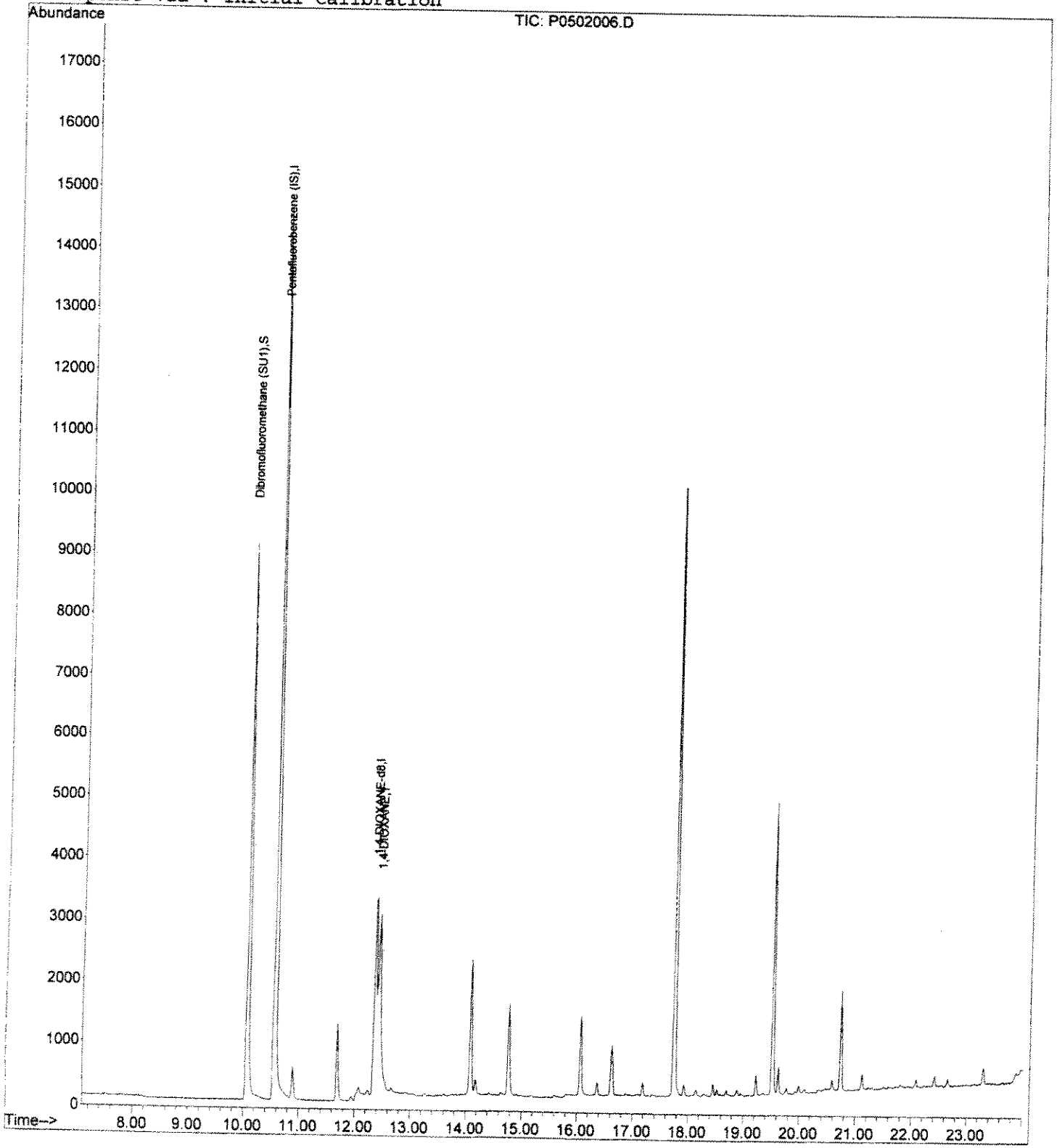
Quantitation Report

Data File : D:\HPCHEM\1\DATA\050205\P0502006.D
Acq On : 2 May 2005 12:37 pm
Sample : p5e0214-bs1
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:43 2005

Vial: 6
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration



1,4-DIOXANE BY METHOD 8260B SIM

Data File Name P0502007.D
Data File Path D:\HPCHEM\1\DATA\050205\
Sample Name p5e0214-bsd1

Date Acquired 5/2/2005 1:10
Operator CS
Acq. Method File DX031905
GCMS1

INTERNAL STANDARDS	CAL RESPONSE	TARGET RESPONSE	LOW LIMIT	HIGH LIMIT	T/F
Pentafluorobenzene (IS)	47071	37728	23536	94142	TRUE
1,4-DIOXANE-d8	5034	5922	2517	10068	TRUE

SURROGATE	AMOUNT	% RECOVERY	Low	High	T/F
Dibromofluoromethane (SU1)	0.97	97.0	80	125	TRUE

TARGET ANALYTE	AMOUNT	TRUE VALUE	RECOVER	Low	High	T/F
1,4-DIOXANE	9.82	10.00	98.24	70	130	TRUE

5/4/5
5/11/05

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\050205\P0502007.D Vial: 7
Acq On : 2 May 2005 1:10 pm Operator: CS
Sample : p5e0214-bsd1 Inst : GCMS1
Misc : 1X 10ML Multiplr: 1.00
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:43 2005 Quant Results File: DX031905.RES

Quant Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration
DataAcq Meth : DX031905

5/11/05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene (IS)	10.56	99	37728	1.00	ug/L	0.00
3) 1,4-DIOXANE-d8	12.35	64	5922	25.00	ug/L	0.00
5) 1,2,3-Trichloropropane-d5	0.00	79	0	0.00	ug/L	-15.08
System Monitoring Compounds						
2) Dibromofluoromethane (SU1)	10.07	113	27657	0.97	ug/L	0.00
Spiked Amount 1.000	Range 80 - 120		Recovery = 97.00%			
Target Compounds						Qvalue
4) 1,4-DIOXANE	12.43	88	4403	9.82	ug/L	93

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

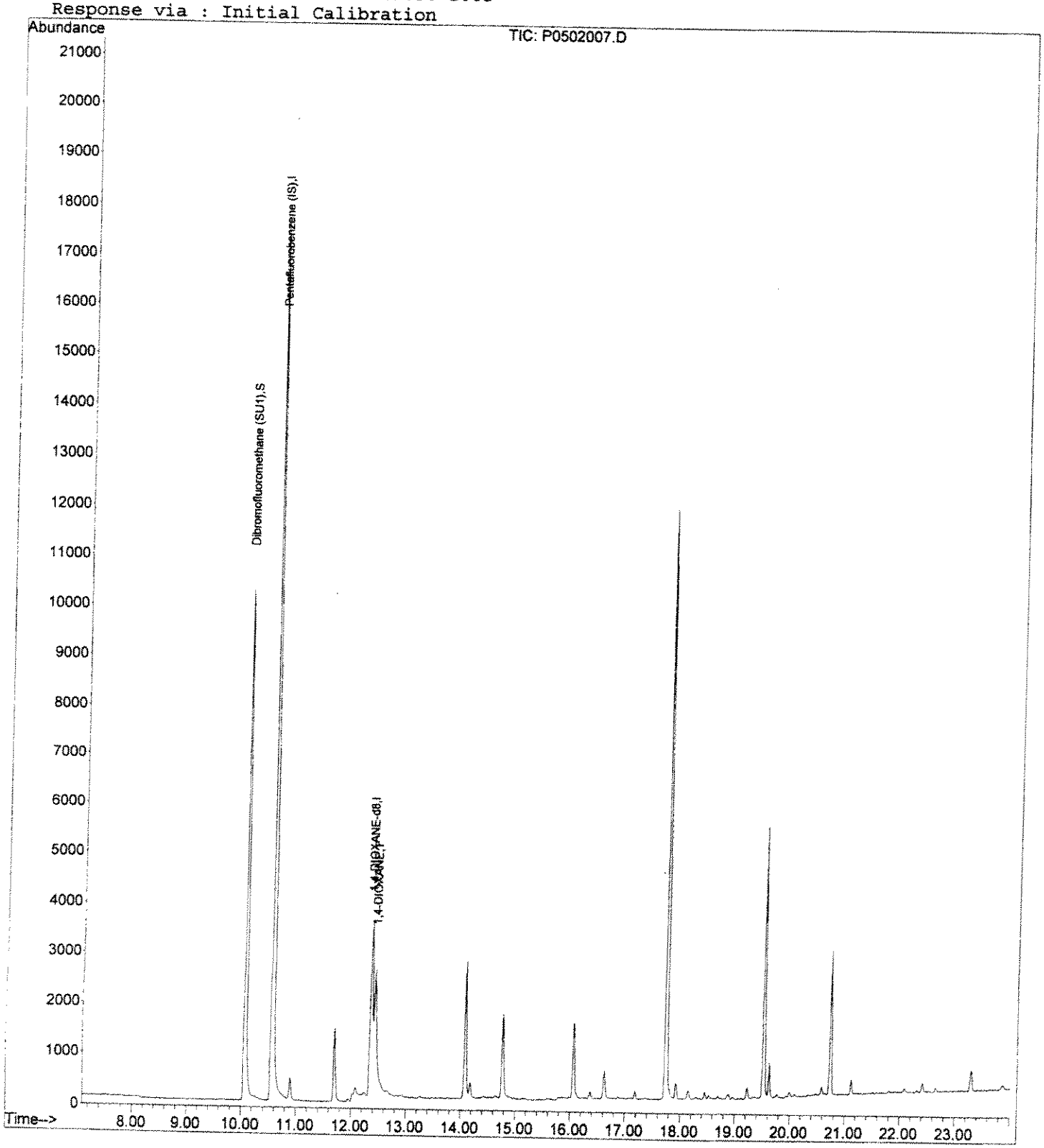
Quantitation Report

Data File : D:\HPCHEM\1\DATA\050205\P0502007.D
Acq On : 2 May 2005 1:10 pm
Sample : p5e0214-bsd1
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:43 2005

Vial: 7
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\050205\P0502008.D
Acq On : 2 May 2005 1:43 pm
Sample : p502014-blk1
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:44 2005

Vial: 8
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Quant Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration
DataAcq Meth : DX031905

5/11/05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene (IS)	10.56	99	38749	1.00	ug/L	0.00
3) 1,4-DIOXANE-d8	12.35	64	7594	25.00	ug/L	0.00
5) 1,2,3-Trichloropropane-d5	0.00	79	0	0.00	ug/L	-15.08
System Monitoring Compounds						
2) Dibromofluoromethane (SU1)	10.07	113	30097	1.03	ug/L	0.00
Spiked Amount 1.000	Range 80 - 120		Recovery = 103.00%			
Target Compounds						Qvalue
4) 1,4-DIOXANE	12.45	88	200	0.35	ug/L	95

5/4/5

(#) = qualifier out of range (m) = manual integration
P0502008.D DX031905.M Tue May 03 12:44:51 2005 GCMS1

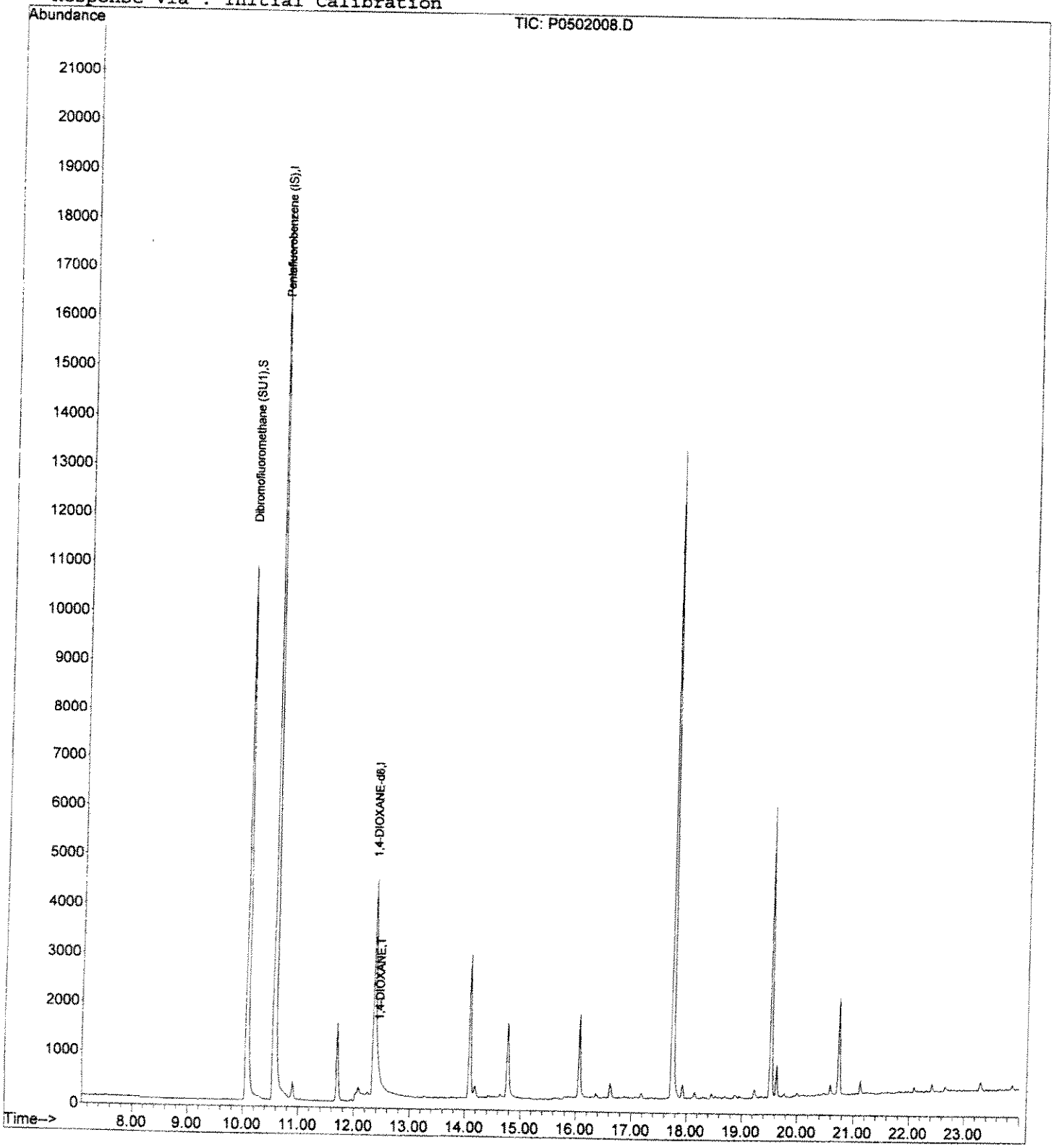
Quantitation Report

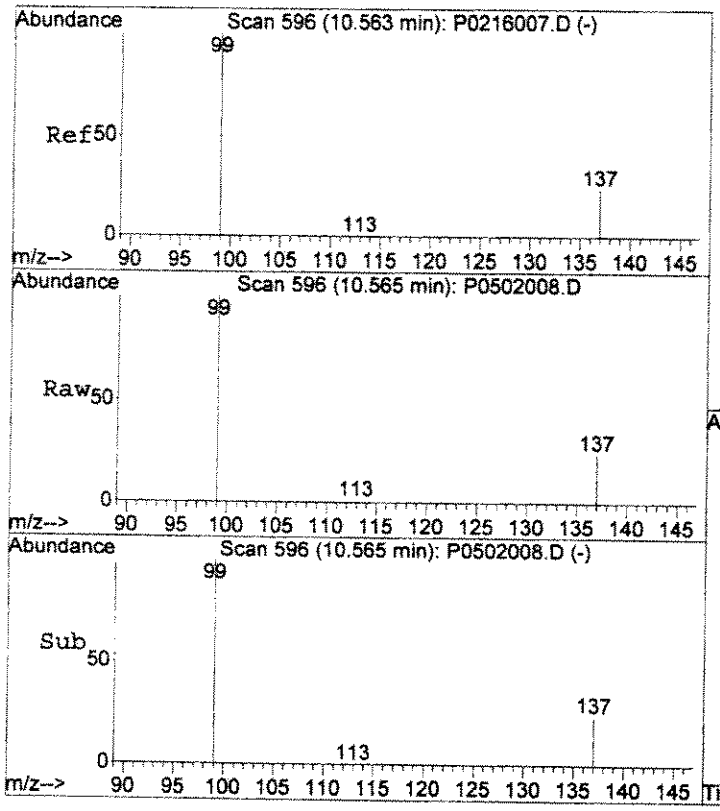
Data File : D:\HPCHEM\1\DATA\050205\P0502008.D
Acq On : 2 May 2005 1:43 pm
Sample : p5d0214-blk1
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:44 2005

Vial: 8
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration

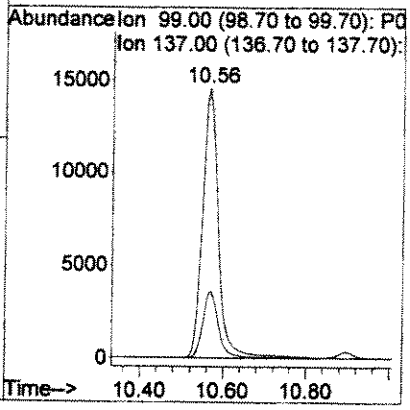


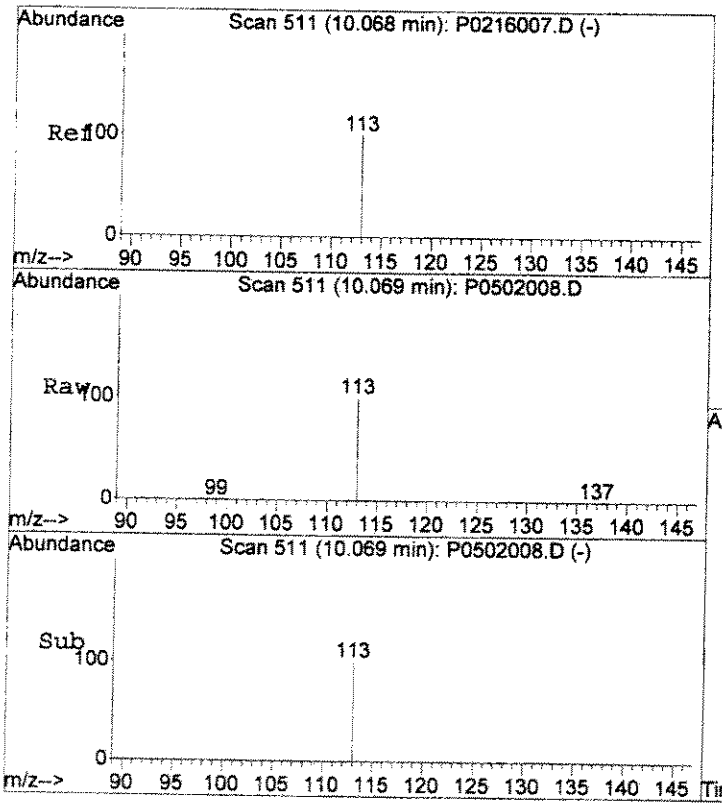


#1
Pentafluorobenzene (IS)
Concen: 1.00 ug/L
RT: 10.56 min Scan# 596
Delta R.T. -0.00 min
Lab File: P0502008.D
Acq: 2 May 2005 1:43 pm

Tgt Ion: 99 Resp: 38749

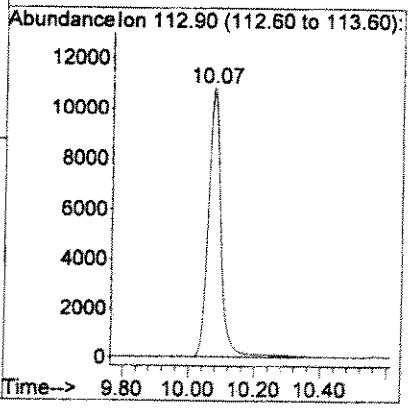
Ion	Ratio	Lower	Upper
99	100		
137	24.0	3.8	43.8

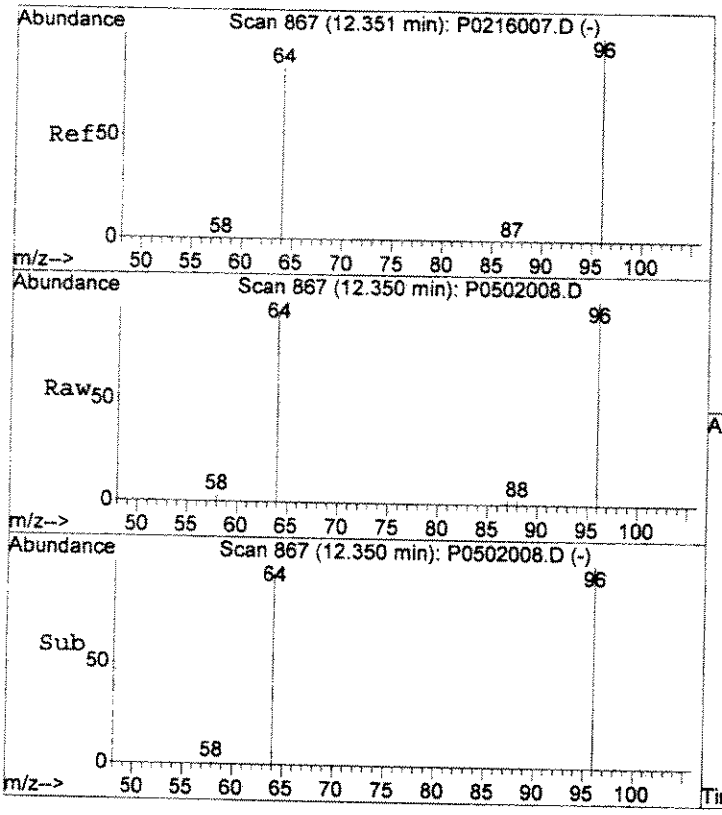




#2
Dibromofluoromethane (SU1)
Concen: 1.00 ug/L
RT: 10.07 min Scan# 511
Delta R.T. -0.00 min
Lab File: P0502008.D
Acq: 2 May 2005 1:43 pm

Tgt Ion:113 Resp: 30097

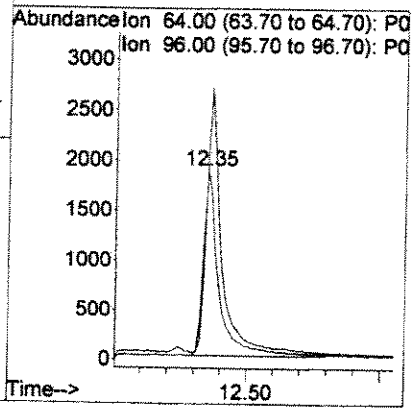


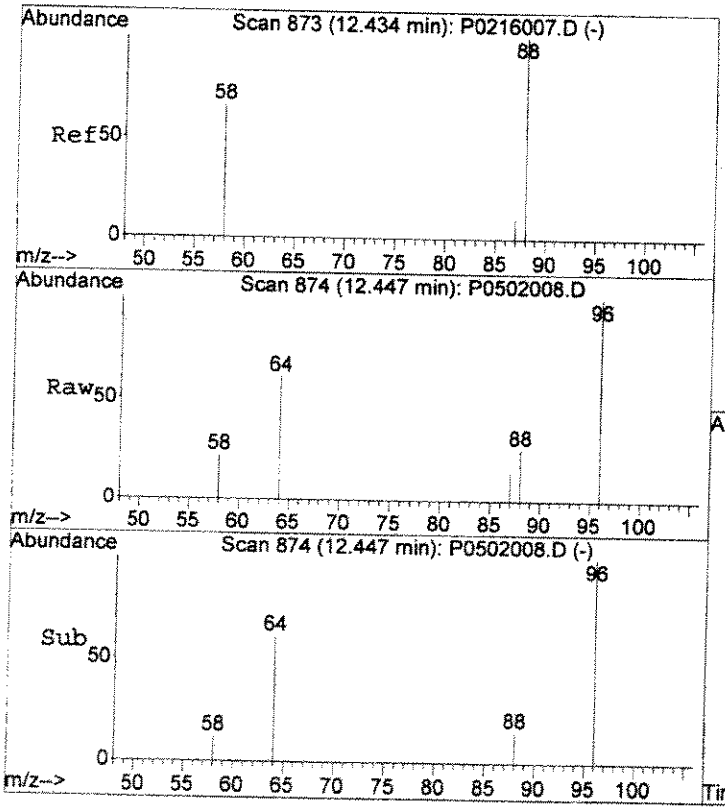


#3
1,4-DIOXANE-d8
Concen: 25.00 ug/L
RT: 12.35 min Scan# 867
Delta R.T. -0.00 min
Lab File: P0502008.D
Acq: 2 May 2005 1:43 pm

Tgt Ion: 64 Resp: 7594

Ion	Ratio	Lower	Upper
64	100		
96	106.5	72.7	172.7

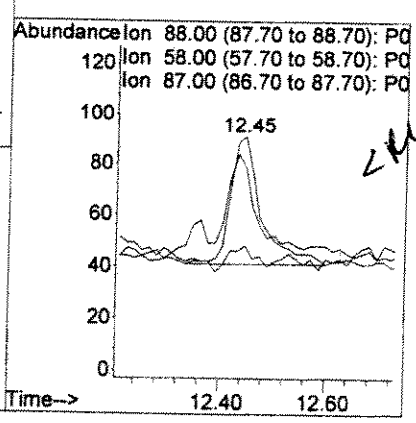


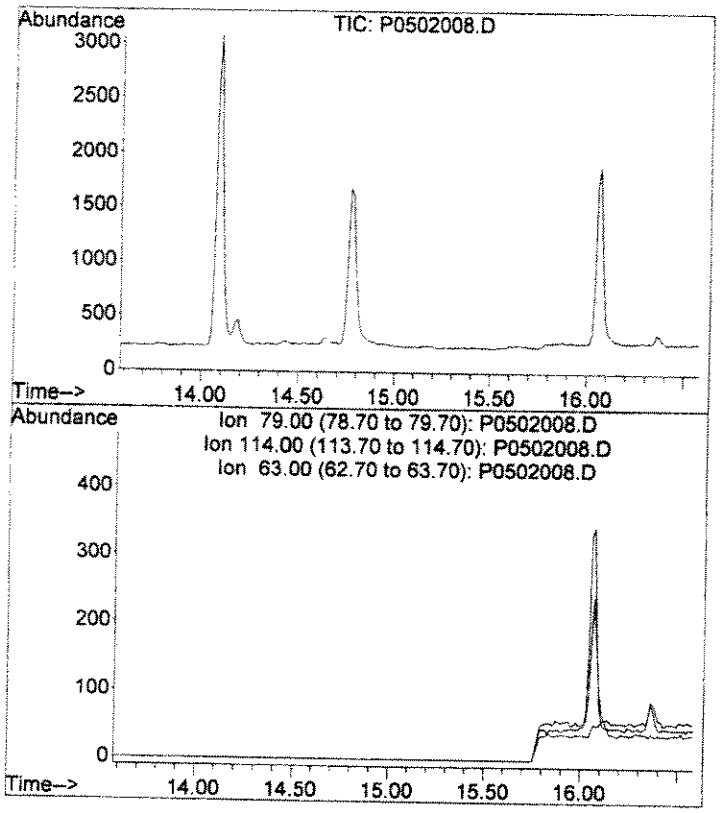


#4
1,4-DIOXANE
Concen: 0.35 ug/L
RT: 12.45 min Scan# 874
Delta R.T. 0.01 min
Lab File: P0502008.D
Acq: 2 May 2005 1:43 pm

Tgt Ion: 88 Resp: 200

Ion	Ratio	Lower	Upper
88	100		
58	62.0	15.8	115.8
87	12.0	0.0	59.5





#5
1,2,3-Trichloropropane-d5
Concen: 0.00 ug/L
Expected RT: 15.08 min

Lab File: P0502008.D
Acq: 2 May 2005 1:43 pm

Tgt Ion: 79

Sig	Exp Ratio
79	100
114	0.0
63	98.0

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\050205\P0502010.D Vial: 10
Acq On : 2 May 2005 2:57 pm Operator: CS
Sample : POD0904-02 Inst : GCMS1
Misc : 1X 10ML Multiplr: 1.00
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:45 2005 Quant Results File: DX031905.RES

Quant Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration
DataAcq Meth : DX031905

E 5/4/05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene (IS)	10.56	99	38220	1.00	ug/L	0.00
3) 1,4-DIOXANE-d8	12.35	64	5709	25.00	ug/L	0.00
5) 1,2,3-Trichloropropane-d5	0.00	79	0	0.00	ug/L	-15.08
System Monitoring Compounds						
2) Dibromofluoromethane (SU1)	10.07	113	30105	1.04	ug/L	0.00
Spiked Amount 1.000	Range 80 - 120		Recovery = 104.00%			
Target Compounds						Qvalue
4) 1,4-DIOXANE	12.43	88	60813	140.74	ug/L	95

off scale

Rerun @ 10X

AP6 5/4/5

(#) = qualifier out of range (m) = manual integration
P0502010.D DX031905.M Tue May 03 12:45:18 2005 GCMS1 Page

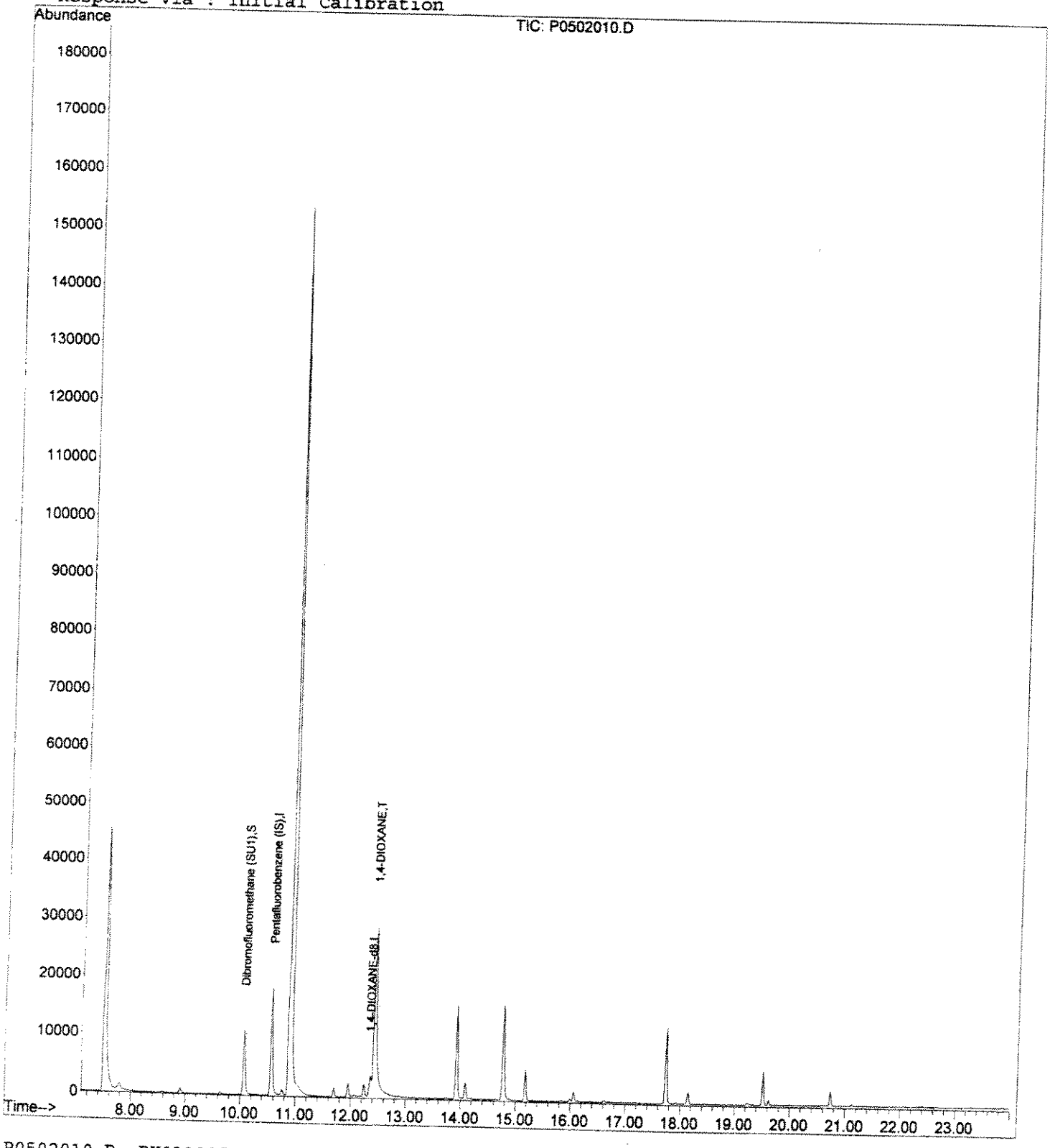
Quantitation Report

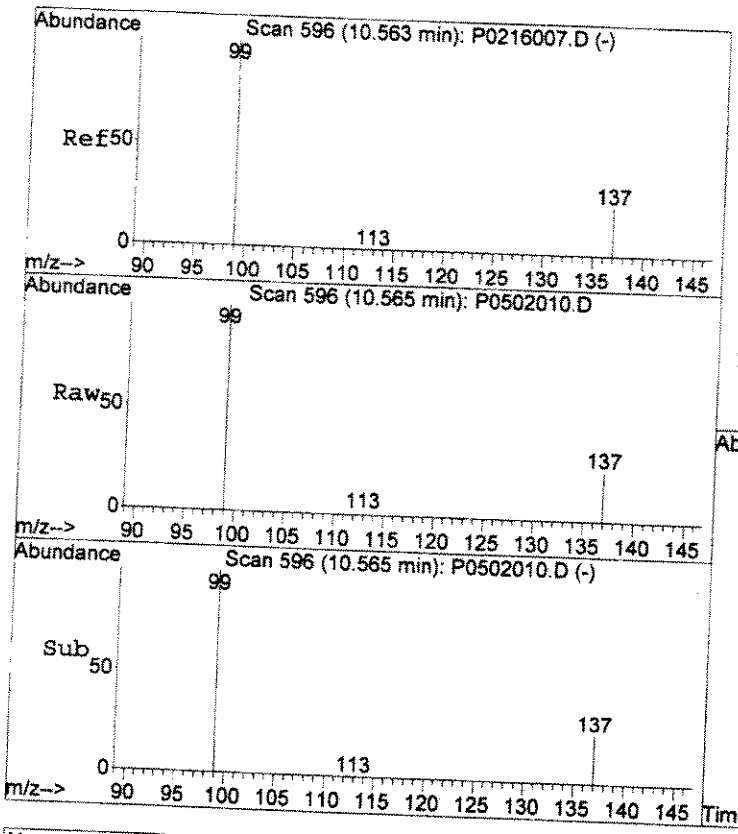
Data File : D:\HPCHEM\1\DATA\050205\P0502010.D
Acq On : 2 May 2005 2:57 pm
Sample : POD0904-02
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:45 2005

Vial: 10
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration

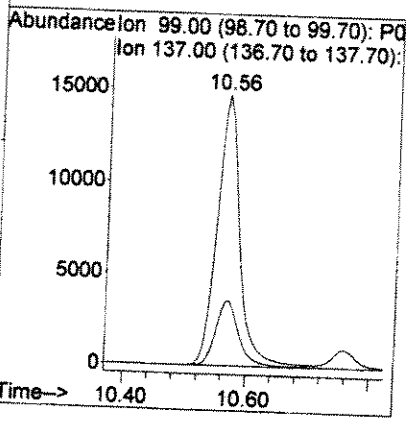


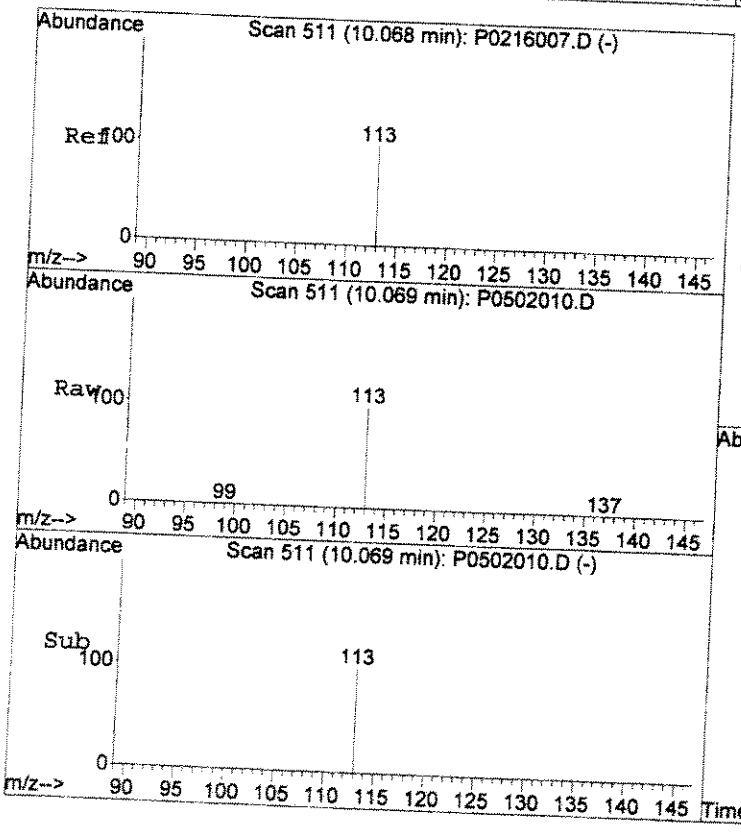


#1
Pentafluorobenzene (IS)
Concen: 1.00 ug/L
RT: 10.56 min Scan# 596
Delta R.T. -0.00 min
Lab File: P0502010.D
Acq: 2 May 2005 2:57 pm

Tgt Ion: 99 Resp: 38220

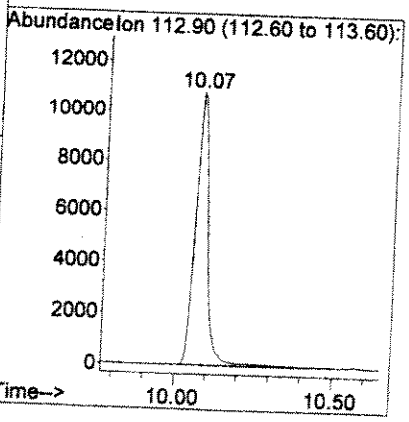
Ion	Ratio	Lower	Upper
99	100		
137	24.4	3.8	43.8

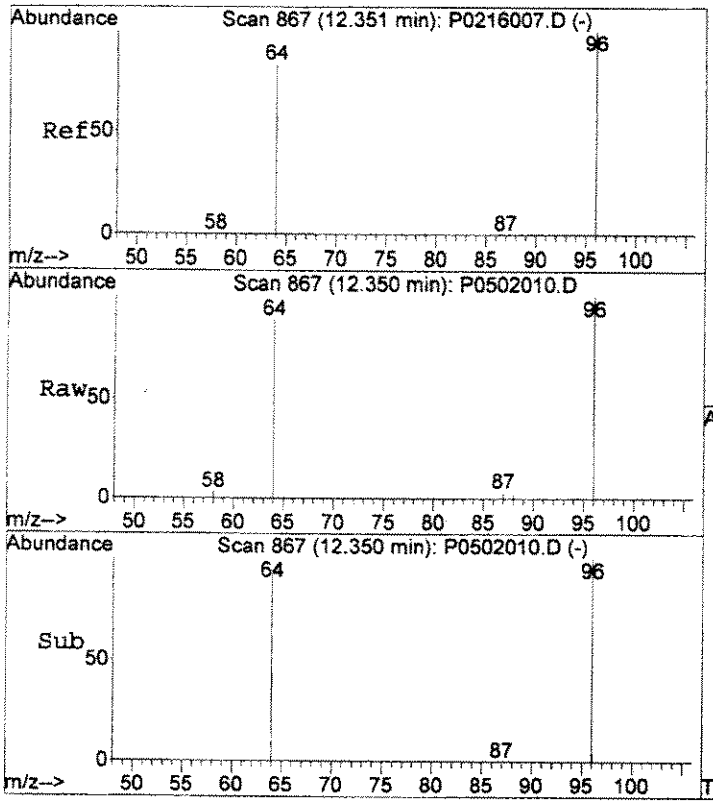




#2
Dibromofluoromethane (SU1)
Concen: 1.00 ug/L
RT: 10.07 min Scan# 511
Delta R.T. -0.00 min
Lab File: P0502010.D
Acq: 2 May 2005 2:57 pm

Tgt Ion:113 Resp: 30105

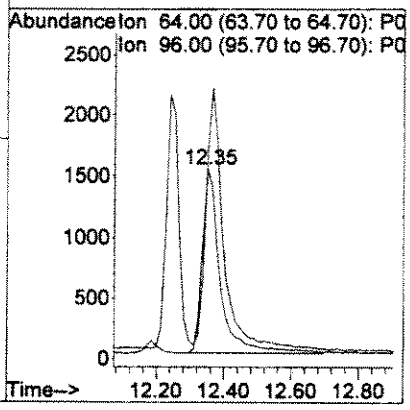


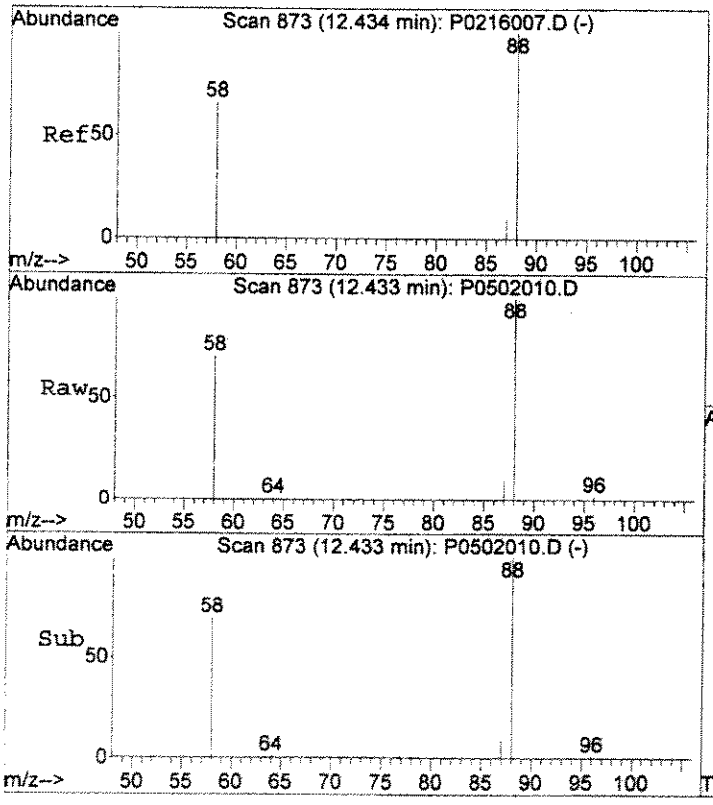


#3
1,4-DIOXANE-d8
Concen: 25.00 ug/L
RT: 12.35 min Scan# 867
Delta R.T. -0.00 min
Lab File: P0502010.D
Acq: 2 May 2005 2:57 pm

Tgt Ion: 64 Resp: 5709

Ion	Ratio	Lower	Upper
64	100		
96	109.9	72.7	172.7

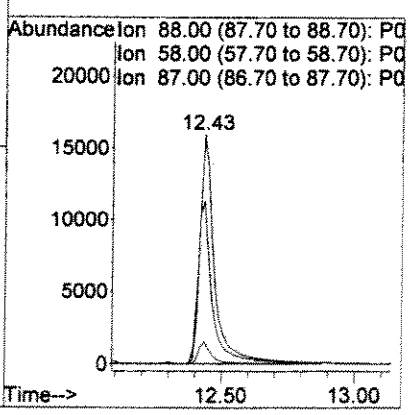


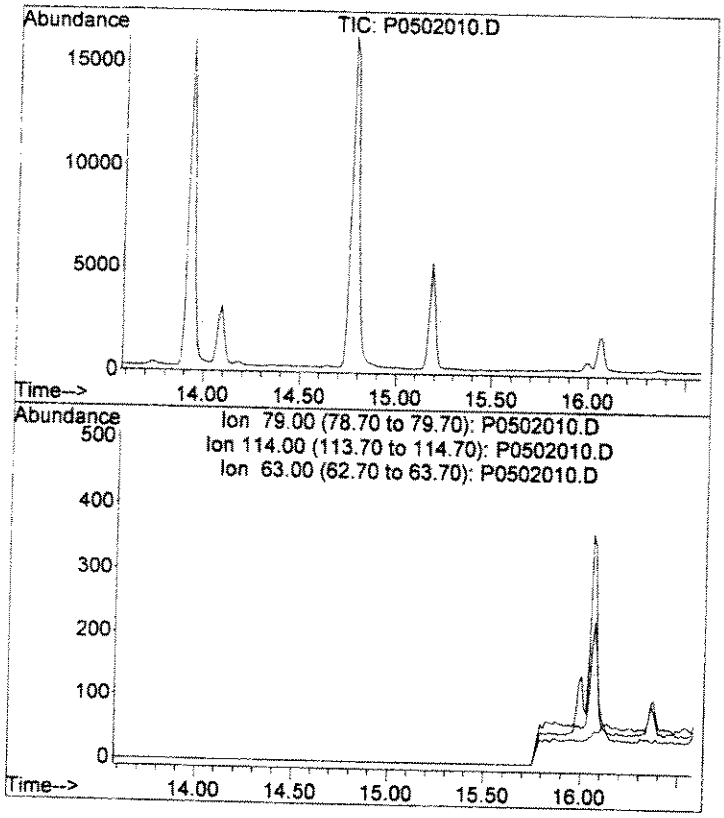


#4
1,4-DIOXANE
Concen: 140.74 ug/L
RT: 12.43 min Scan# 873
Delta R.T. 0.00 min
Lab File: P0502010.D
Acq: 2 May 2005 2:57 pm

Tgt Ion: 88 Resp: 60813

Ion	Ratio	Lower	Upper
88	100		
58	70.6	15.8	115.8
87	9.4	0.0	59.5





#5
1,2,3-Trichloropropane-d5
Concen: 0.00 ug/L
Expected RT: 15.08 min

Lab File: P0502010.D
Acq: 2 May 2005 2:57 pm

Tgt Ion: 79

Sig	Exp Ratio
79	100
114	0.0
63	98.0

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\050205\P0502015.D
Acq On : 2 May 2005 5:41 pm
Sample : P5E0214-MS1
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:46 2005

Vial: 15
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Quant Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration
DataAcq Meth : DX031905

5/11/05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene (IS)	10.57	99	33840	1.00	ug/L	0.00
3) 1,4-DIOXANE-d8	12.35	64	5808	25.00	ug/L	0.00
5) 1,2,3-Trichloropropane-d5	0.00	79	0	0.00	ug/L	-15.08
System Monitoring Compounds						
2) Dibromofluoromethane (SU1)	10.07	113	24981	0.98	ug/L	0.00
Spiked Amount 1.000	Range 80 - 120		Recovery = 98.00%			
Target Compounds						Qvalue
4) 1,4-DIOXANE	12.43	88	77467	176.23	ug/L	99

Off scale

AB 5/4/5

(#) = qualifier out of range (m) = manual integration
P0502015.D DX031905.M Tue May 03 12:46:11 2005 GCMS1 Page

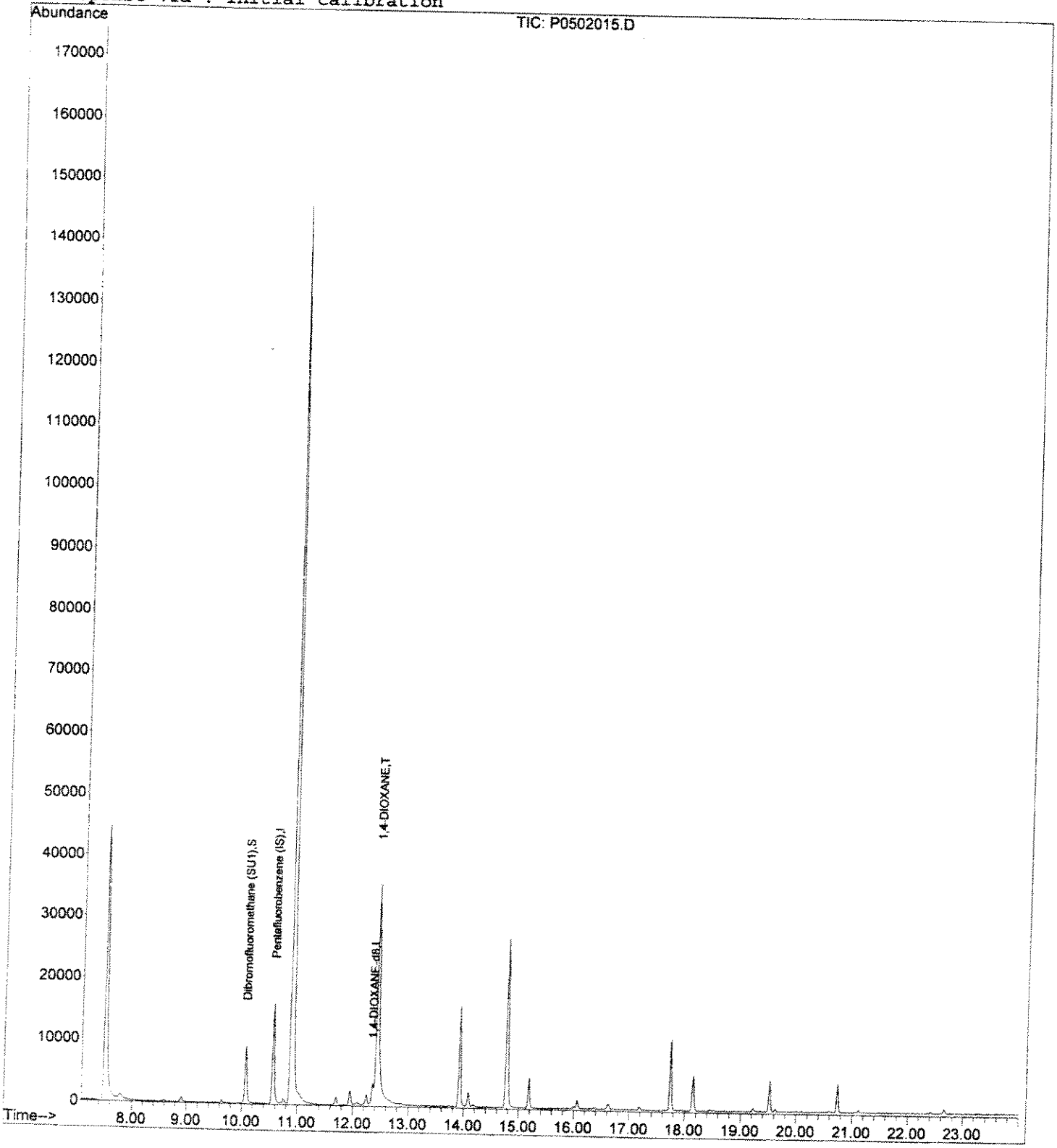
Quantitation Report

Data File : D:\HPCHEM\1\DATA\050205\P0502015.D
Acq On : 2 May 2005 5:41 pm
Sample : P5E0214-MS1
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:46 2005

Vial: 15
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\050205\P0502016.D
Acq On : 2 May 2005 6:13 pm
Sample : P5E0214-MSD1
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:46 2005

Vial: 16
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Quant Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration
DataAcq Meth : DX031905

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene (IS)	10.56	99	38435	1.00	ug/L	0.00
3) 1,4-DIOXANE-d8	12.35	64	5963	25.00	ug/L	0.00
5) 1,2,3-Trichloropropane-d5	0.00	79	0	0.00	ug/L	-15.08
System Monitoring Compounds						
2) Dibromofluoromethane (SU1)	10.07	113	28056	0.97	ug/L	0.00
Spiked Amount 1.000	Range 80 - 120		Recovery = 97.00%			
Target Compounds						Qvalue
4) 1,4-DIOXANE	12.43	88	68048	150.78	ug/L	98 offscale

5/11/05

AR 5/4/5

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

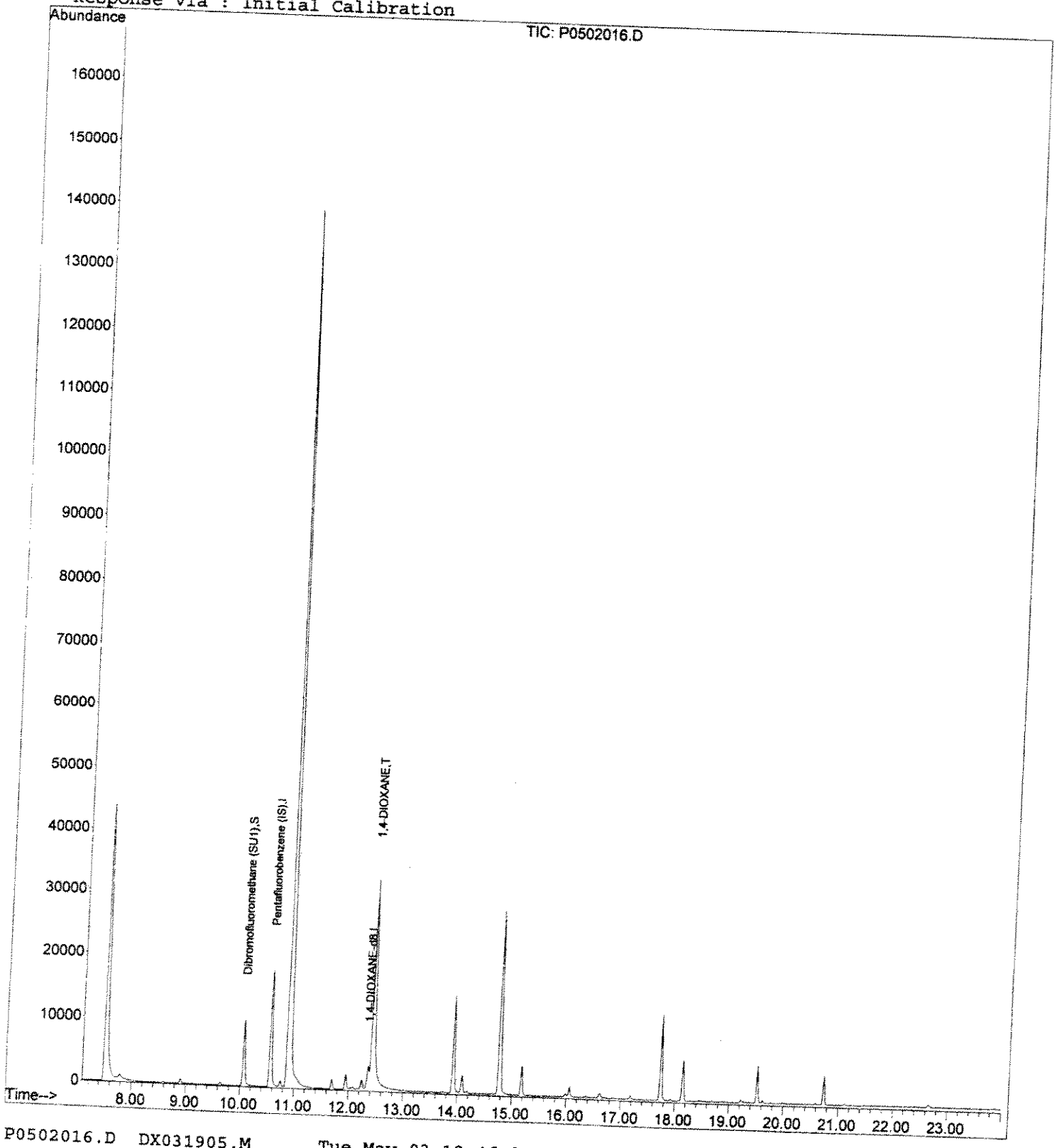
Quantitation Report

Data File : D:\HPCHEM\1\DATA\050205\P0502016.D
Acq On : 2 May 2005 6:13 pm
Sample : P5E0214-MSD1
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:46 2005

Vial: 16
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\050205\P0502022.D
Acq On : 2 May 2005 9:30 pm
Sample : POD0903-01
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:48 2005

Vial: 22
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Quant Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration
DataAcq Meth : DX031905

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene (IS)	10.57	99	37147	1.00	ug/L	0.00
3) 1,4-DIOXANE-d8	12.35	64	5982	25.00	ug/L	0.00
5) 1,2,3-Trichloropropane-d5	0.00	79	0	0.00	ug/L	-15.08
System Monitoring Compounds						
2) Dibromofluoromethane (SU1)	10.07	113	27252	0.97	ug/L	0.00
Spiked Amount 1.000	Range 80 - 120		Recovery = 97.00%			
Target Compounds						Qvalue
4) 1,4-DIOXANE	12.43	88	187	0.41	ug/L	<RL 63

5/11/05

5/4/5

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

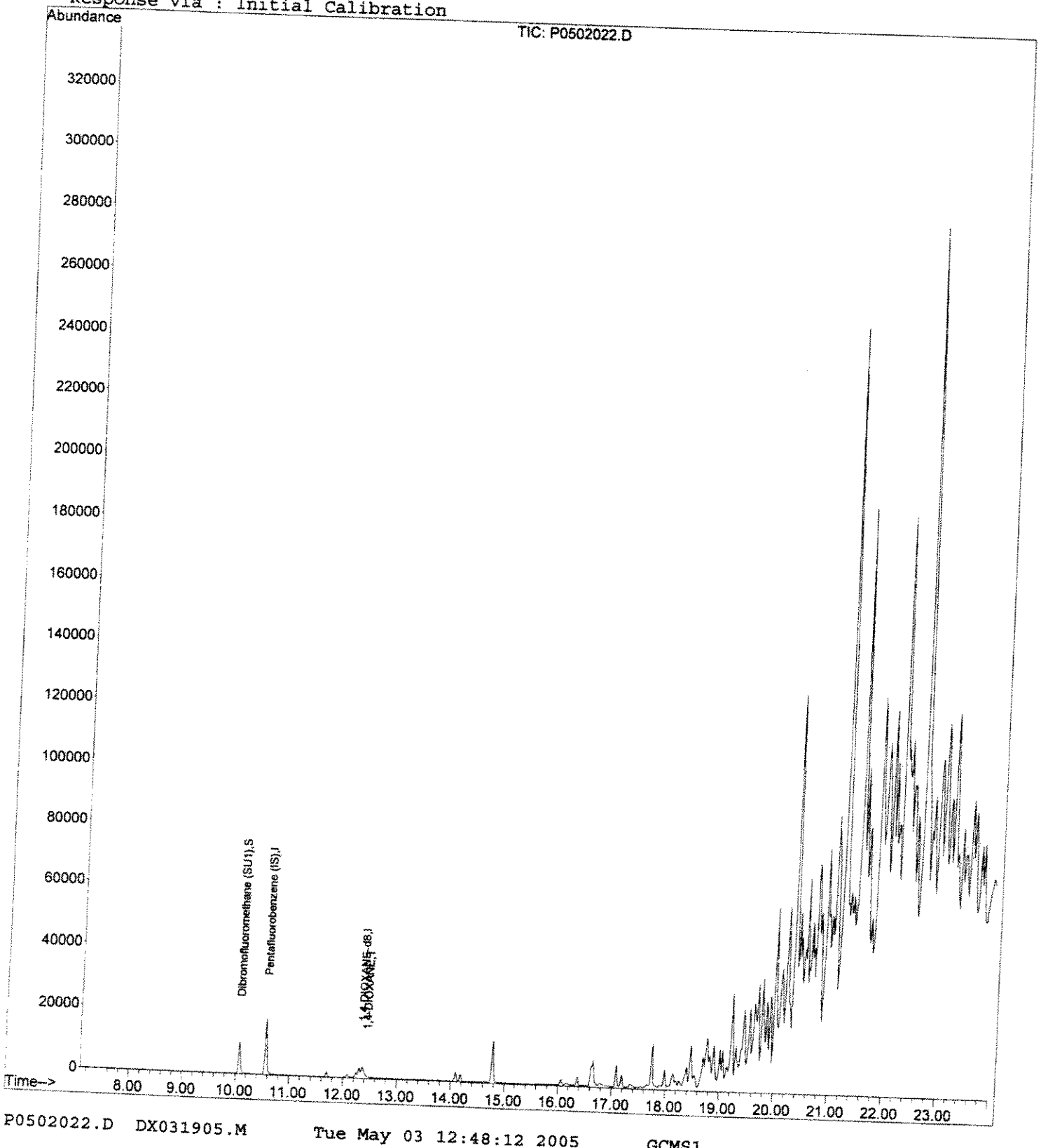
Quantitation Report

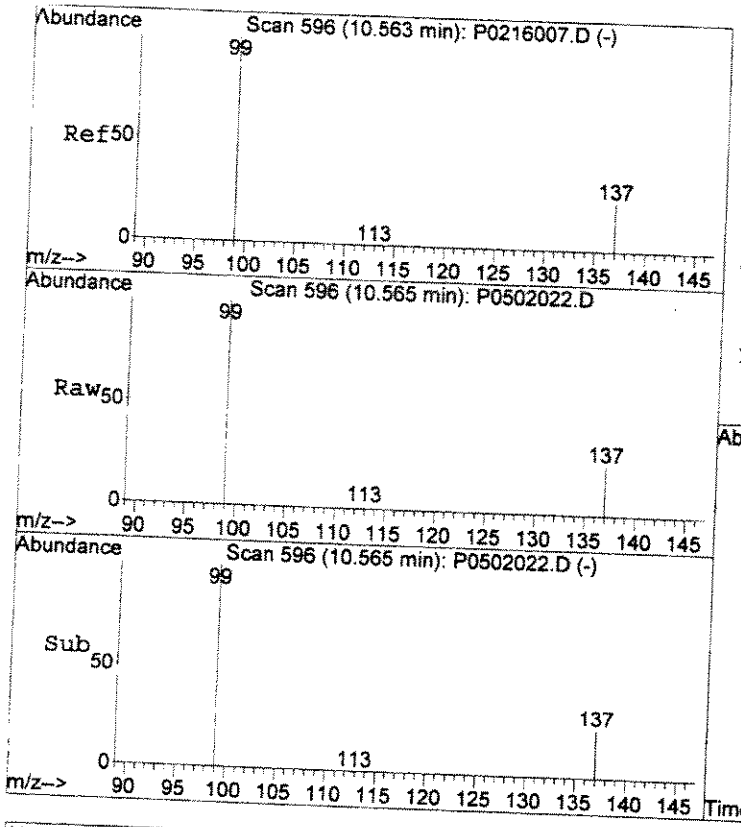
Data File : D:\HPCHEM\1\DATA\050205\P0502022.D
Acq On : 2 May 2005 9:30 pm
Sample : POD0903-01
Misc : 1X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:48 2005

Vial: 22
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration

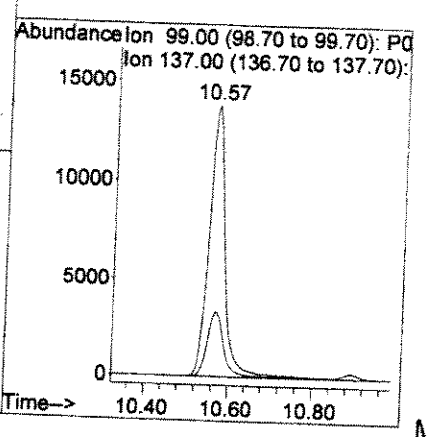


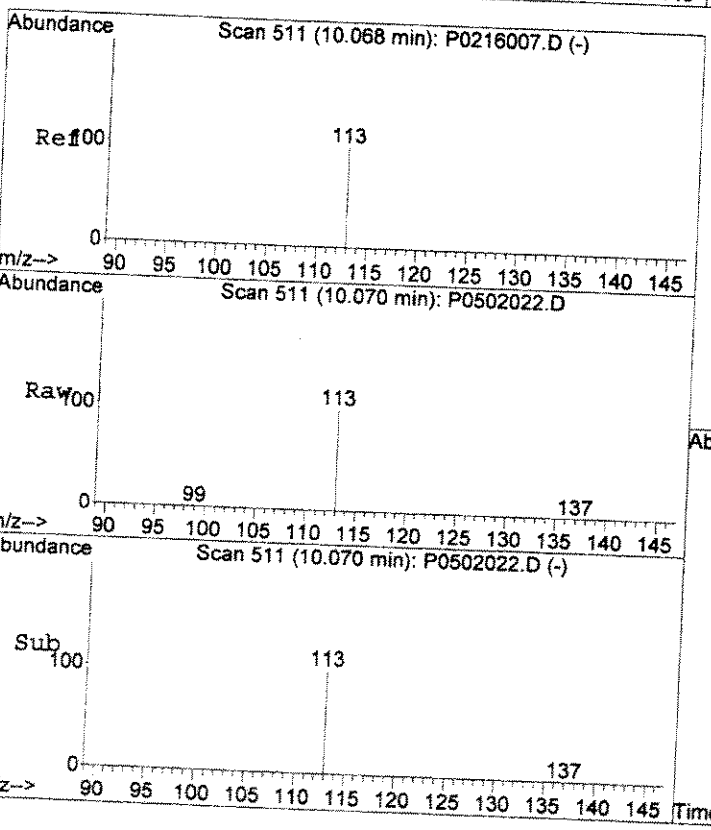


#1
Pentafluorobenzene (IS)
Concen: 1.00 ug/L
RT: 10.57 min Scan# 596
Delta R.T. -0.00 min
Lab File: P0502022.D
Acq: 2 May 2005 9:30 pm

Tgt Ion: 99 Resp: 37147

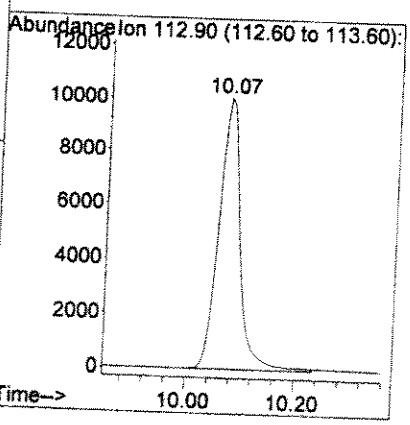
Ion	Ratio	Lower	Upper
99	100		
137	23.9	3.8	43.8

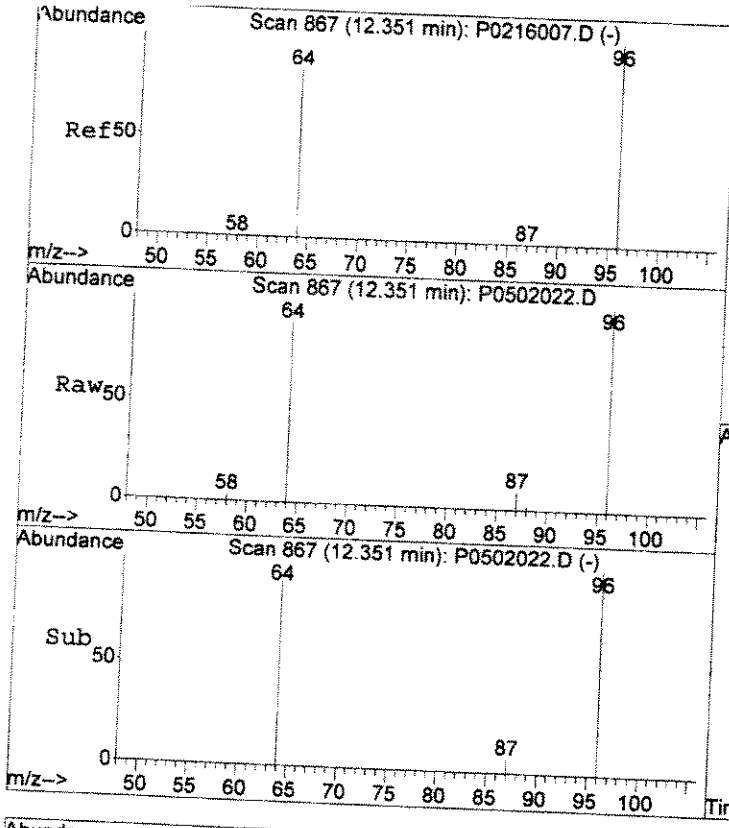




#2
Dibromofluoromethane (SU1)
Concen: 1.00 ug/L
RT: 10.07 min Scan# 511
Delta R.T. -0.00 min
Lab File: P0502022.D
Acq: 2 May 2005 9:30 pm

Tgt Ion:113 Resp: 27252

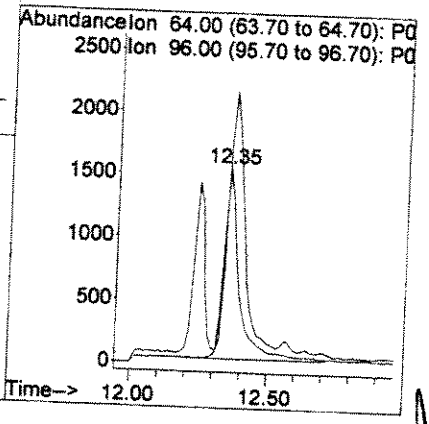


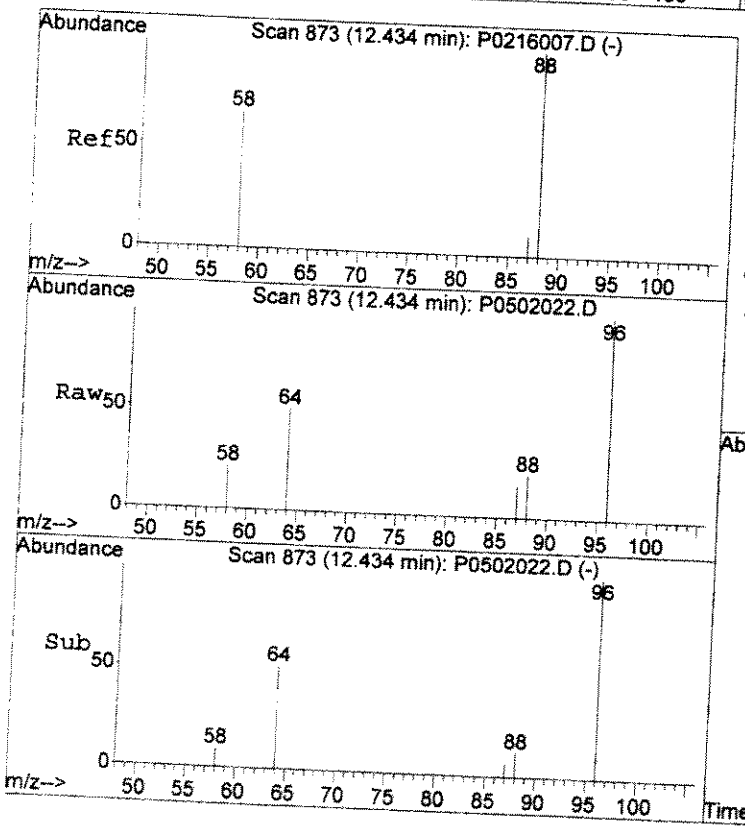


#3
1,4-DIOXANE-d8
Concen: 25.00 ug/L
RT: 12.35 min Scan# 867
Delta R.T. -0.00 min
Lab File: P0502022.D
Acq: 2 May 2005 9:30 pm

Tgt Ion: 64 Resp: 5982

Ion	Ratio	Lower	Upper
64	100		
96	109.1	72.7	172.7

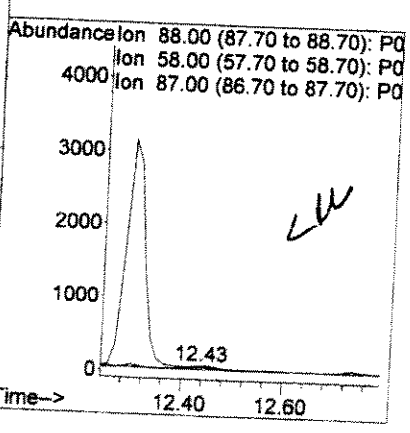


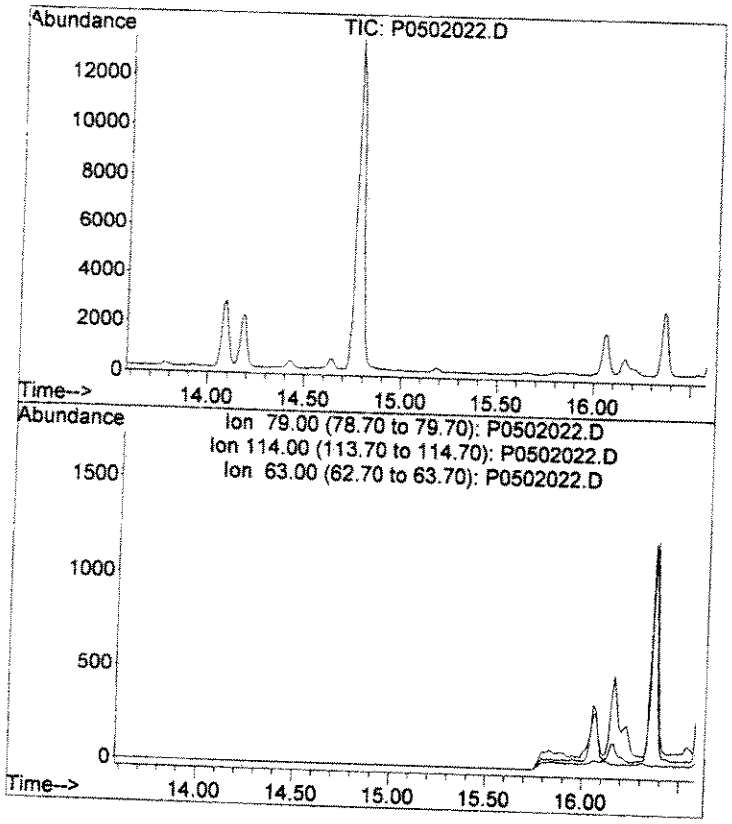


#4
1,4-DIOXANE
Concen: 0.41 ug/L
RT: 12.43 min Scan# 873
Delta R.T. 0.00 min
Lab File: P0502022.D
Acq: 2 May 2005 9:30 pm

Tgt Ion: 88 Resp: 187

Ion	Ratio	Lower	Upper
88	100		
58	91.8	15.8	115.8
87	34.7	0.0	59.5





#5
1,2,3-Trichloropropane-d5
Concen: 0.00 ug/L
Expected RT: 15.08 min

Lab File: P0502022.D
Acq: 2 May 2005 9:30 pm

Tgt Ion: 79

Sig	Exp Ratio
79	100
114	0.0
63	98.0

Qualitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\050205\P0502023.D
Acq On : 2 May 2005 10:03 pm
Sample : P0D0904-02
Misc : 10X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:48 2005

Vial: 23
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Quant Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration
DataAcq Meth : DX031905

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene (IS)	10.56	99	38786	1.00 ug/L	0.00
3) 1,4-DIOXANE-d8	12.35	64	6095	25.00 ug/L	0.00
5) 1,2,3-Trichloropropane-d5	0.00	79	0	0.00 ug/L	-15.08
System Monitoring Compounds					
2) Dibromofluoromethane (SU1)	10.07	113	27266	0.93 ug/L	0.00
Spiked Amount 1.000	Range 80 - 120		Recovery = 93.00%		
Target Compounds					Qvalue
4) 1,4-DIOXANE	12.43	88	6290	13.64 ug/L	72

5/4/5 5/11/05

(#) = qualifier out of range (m) = manual integration
P0502023.D DX031905.M Tue May 03 12:48:20 2005 GCMS1

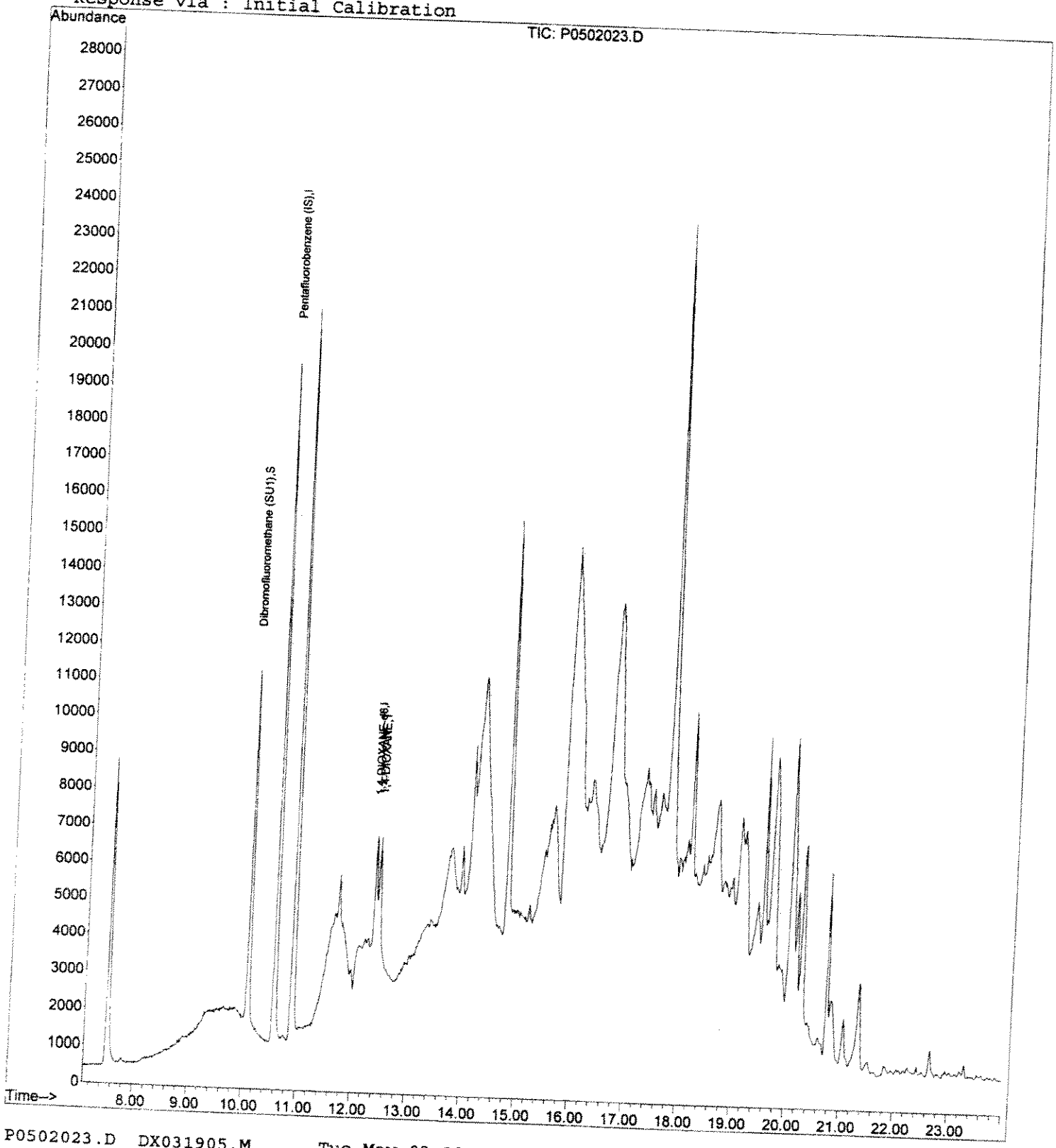
Quantitation Report

Data File : D:\HPCHEM\1\DATA\050205\P0502023.D
Acq On : 2 May 2005 10:03 pm
Sample : POD0904-02
Misc : 10X 10ML
MS Integration Params: DIOXANE.P
Quant Time: May 3 12:48 2005

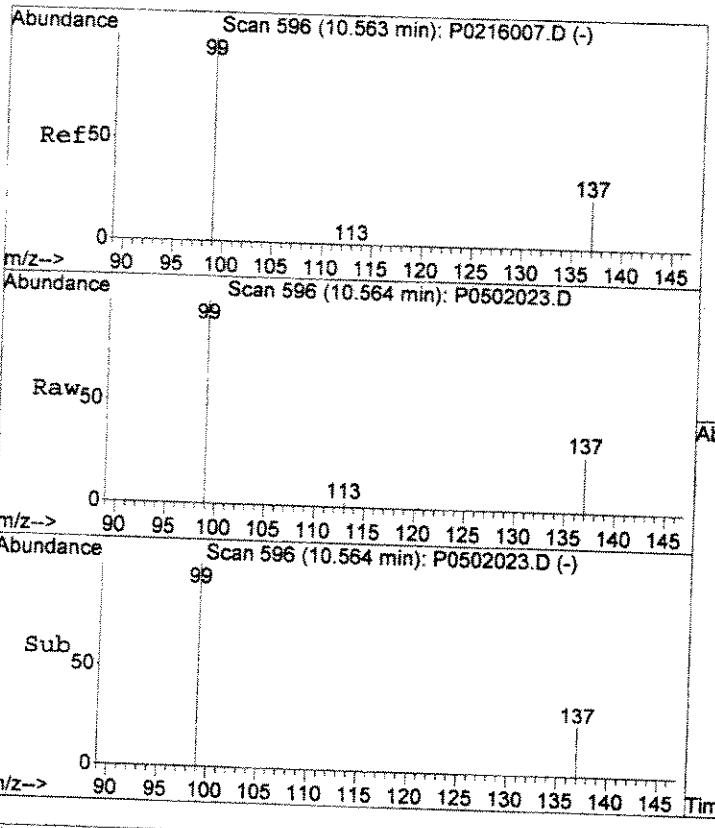
Vial: 23
Operator: CS
Inst : GCMS1
Multiplr: 1.00

Quant Results File: DX031905.RES

Method : D:\HPCHEM\1\METHODS\DX031905.M (RTE Integrator)
Title : 8260 1,4-Dioxane Ini. Cal. (05/02/02)
Last Update : Mon Mar 21 07:49:30 2005
Response via : Initial Calibration



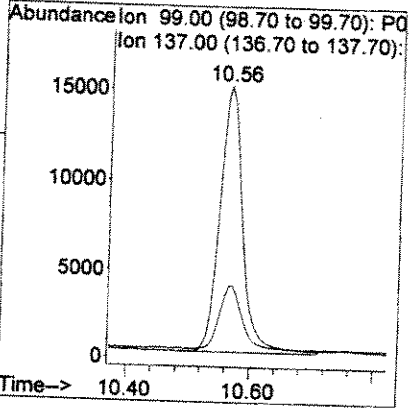
P0502023.D DX031905.M Tue May 03 12:48:21 2005 GCMS1 Page

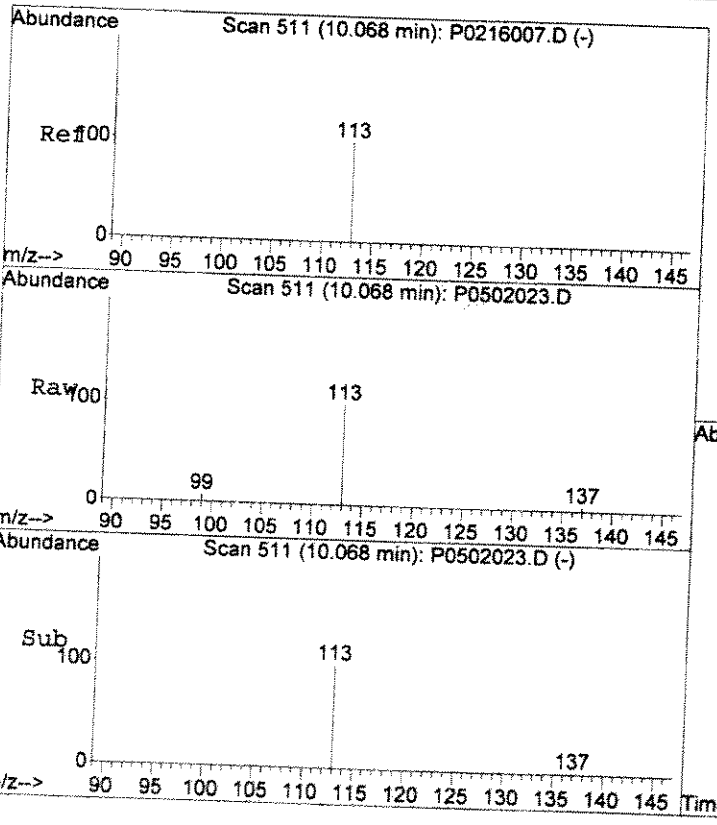


#1
Pentafluorobenzene (IS)
Concen: 1.00 ug/L
RT: 10.56 min Scan# 596
Delta R.T. -0.00 min
Lab File: P0502023.D
Acq: 2 May 2005 10:03 pm

Tgt Ion: 99 Resp: 38786

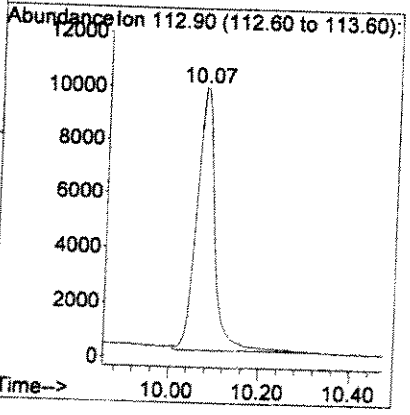
Ion	Ratio	Lower	Upper
99	100		
137	24.6	3.8	43.8

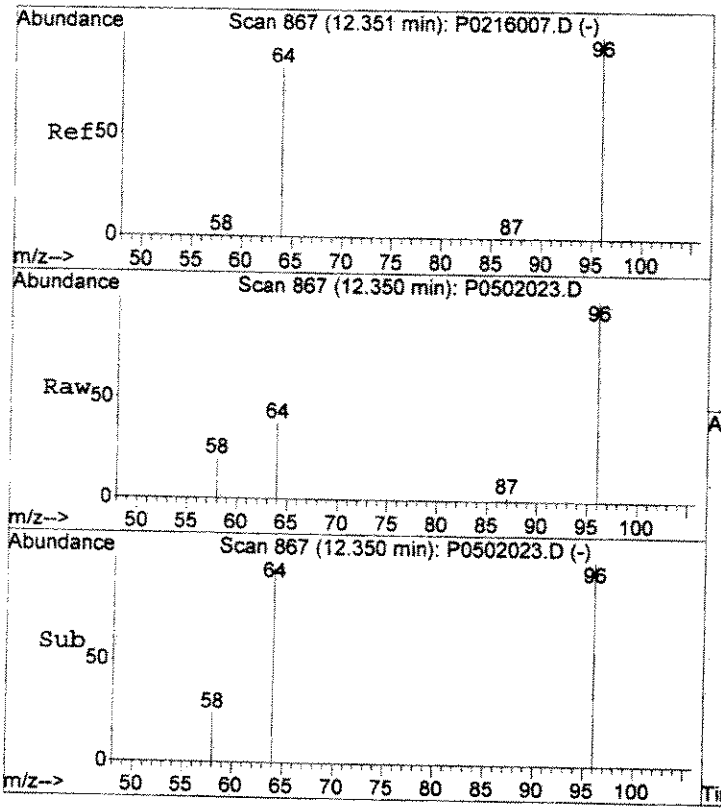




#2
Dibromofluoromethane (SU1)
Concen: 1.00 ug/L
RT: 10.07 min Scan# 511
Delta R.T. -0.00 min
Lab File: P0502023.D
Acq: 2 May 2005 10:03 pm

Tgt Ion:113 Resp: 27266

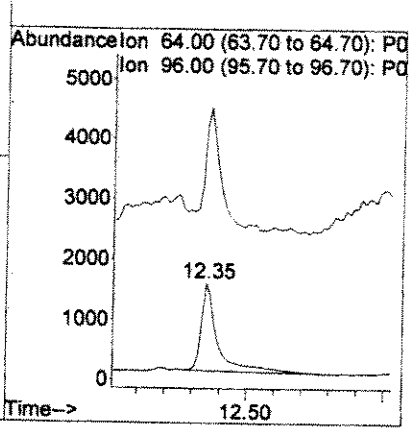


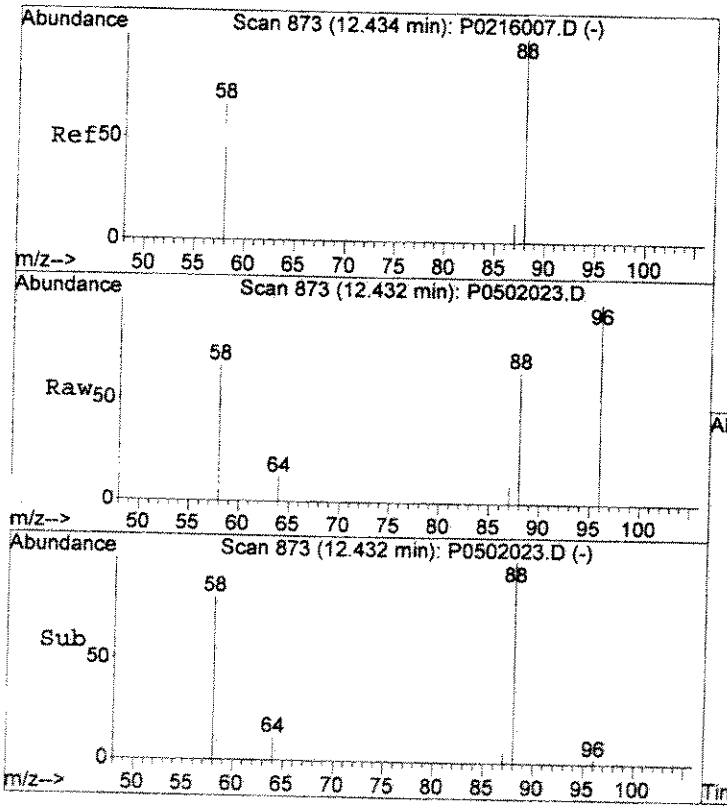


#3
1,4-DIOXANE-d8
Concen: 25.00 ug/L
RT: 12.35 min Scan# 867
Delta R.T. -0.00 min
Lab File: P0502023.D
Acq: 2 May 2005 10:03 pm

Tgt Ion: 64 Resp: 6095

Ion	Ratio	Lower	Upper
64	100		
96	114.1	72.7	172.7

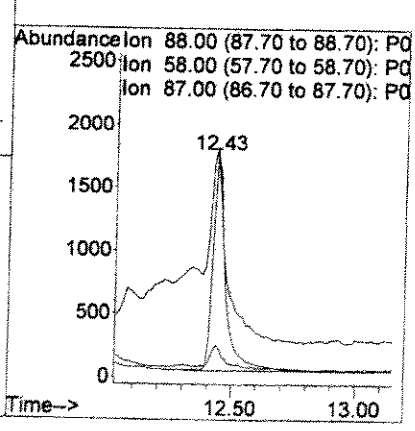


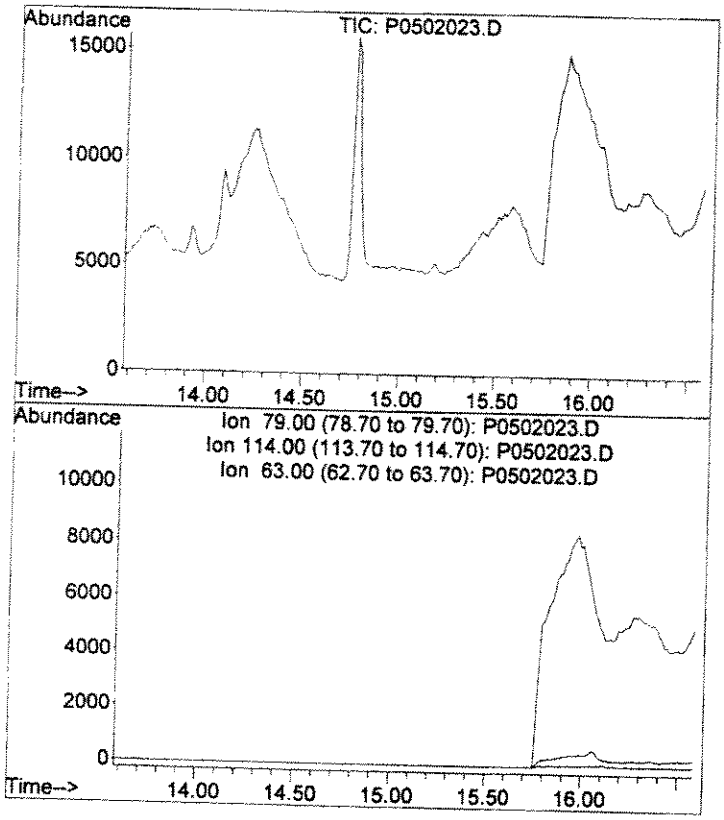


#4
1,4-DIOXANE
Concen: 13.64 ug/L
RT: 12.43 min Scan# 873
Delta R.T. -0.00 min
Lab File: P0502023.D
Acq: 2 May 2005 10:03 pm

Tgt Ion: 88 Resp: 6290

Ion	Ratio	Lower	Upper
88	100		
58	90.7	15.8	115.8
87	11.1	0.0	59.5





#5
1,2,3-Trichloropropane-d5
Concen: 0.00 ug/L
Expected RT: 15.08 min

Lab File: P0502023.D
Acq: 2 May 2005 10:03 pm

Tgt Ion: 79

Sig	Exp Ratio
79	100
114	0.0
63	98.0

PREPARATION BENCH SHEET

P5E0214

Del Mar Analytical - Phoenix

Matrix: Water

Printed: 5/19/2005 12:59:34PM

Prepared using: GCMS - EPA 5030 GCMS

Surrogate used: 5050011

Lab Number	C	Analysis	Prepared	Initial (ml)	Final (ml)	Source ID	Spike 1	ul Spike	Spike 2	ul Spike	ul Surrogate	Initials			Extraction Comments
P5E0214-BLK1		QC	05/02/05 00:00	10	10						1				
P5E0214-BS1		QC	05/02/05 00:00	10	10		5050010	10			1				
P5E0214-BSD1		QC	05/02/05 00:00	10	10		5050010	10			1				
P5E0214-MS1		QC	05/02/05 00:00	10	10	POD0904-02RE1	5050010	10			1				
P5E0214-MSD1		QC	05/02/05 00:00	10	10	POD0904-02RE1	5050010	10			1				
POD0792-05	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				
POD0792-06	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				
POD0815-01	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				
POD0815-02	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				
POD0902-01	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				
POD0903-01	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				
POD0904-01	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				Boeing-permit, J flags,ID=DMA+(
POD0904-02	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				
POD0904-02RE	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				
POD0904-03	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				Added 5/4/2005 by AB
POD0904-04	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				
POD0904-05	A	8260B (1,4-Dioxane)	05/02/05 00:00	10	10						1				

Reagents used in Batch

Reagent	Description	Solvent

ıg Witnessed By Date

Preparation Reviewed By Date

Extracts Received By Date

Analytical Standard Record
Del Mar Analytical - Phoenix
5030018

Description:	1,4-Dioxane SSC 10 ppm	Expires:	04/01/05
Standard Type:	Analyte Spike	Prepared:	03/01/05
Solvent:	MeOH #44337	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/01/05 12:38 by MS

1,4-Dioxane SSC 10ppm

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	10

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	Amount (mls)
5030017	1,4-Dioxane SS 2000 ppm STOCK	03/01/05	Melissa Spencer	04/01/05	03/01/05 12:38 by M	0.005

Brenda Steffy
Reviewed By

03-08-2005
Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030017

Description:	1,4-Dioxane SS 2000 ppm STOCK	Expires:	04/01/05
Standard Type:	Other Solution	Prepared:	03/01/05
Solvent:	MeOH	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/01/05 12:38 by MS

O2SI, 1,4-Dioxane 2000 ppm in Methanol PART#020223-01 LOT#109885
CRACKED NEW AMPULE -- original log in #4120027

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	2000

Brenda Steffy
Reviewed By

03-08-2005
Date

Analytical Standard Record
Del Mar Analytical - Phoenix
5030348

Description:	1,4-Dioxane/Surr CAL Dil 100/10ppm	Expires:	04/18/05
Standard Type:	Other Solution	Prepared:	03/19/05
Solvent:	MeOH/EMD#44337	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/19/05 09:36 by MS

1,4-Dioxane/Surr CAL DIL 100/10ppm

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	100
4-Bromofluorobenzene	460-00-4	10
Dibromofluoromethane	1868-53-7	10
Toluene-d8	2037-26-5	10

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	Amount (mls)
5030320	8260 SURR,2000PPM	03/18/05	Corey Schrader	04/18/05	03/18/05 11:08 by c	0.005
5030347	1,4-Dioxane ps 2000 ppm	03/19/05	Melissa Spencer	04/19/05	03/19/05 09:34 by M	0.05

Jody Galassi
Reviewed By

03-30-2005
Date

Analytical Standard Record
Del Mar Analytical - Phoenix
5030320

Description:	8260 SURR,2000PPM	Expires:	04/18/05
Standard Type:	Surrogate Spike	Prepared:	03/18/05
Solvent:	MEOH	Prepared By:	Corey Schrader
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/18/05 11:08 by cs

ABSOLUTE, PART#21002, LOT#060304, 3 COMP @ 2000ug/mL
CRACKED NEW AMPULE--original log in #5010497

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	2000
Dibromofluoromethane	1868-53-7	2000
Toluene-d8	2037-26-5	2000

Melissa Spencer
Reviewed By

03-18-2005
Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030347

Description:	1,4-Dioxane ps 2000 ppm	Expires:	04/19/05
Standard Type:	Analyte Spike	Prepared:	03/19/05
Solvent:	METHANOL	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/19/05 09:34 by MS

CRESCENT PART #3195M.20 LOT #12DD087 ; 1,4-DIOXANE 2000 PPM IN MEOH
original log-in ID#-5010041

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	2000

Jody Galassi — Reviewed By

03-30-2005 — Date

Analytical Standard Record
Del Mar Analytical - Phoenix
5030349

Description:	1,4-Dioxane/Surr CAL Dil 10/1ppm	Expires:	04/18/05
Standard Type:	Other Solution	Prepared:	03/19/05
Solvent:	MeOH/EMD#44337	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/19/05 09:37 by MS

1,4-Dioxane/Surr CAL DIL 100/1ppm

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	10
4-Bromofluorobenzene	460-00-4	1
Dibromofluoromethane	1868-53-7	1
Toluene-d8	2037-26-5	1

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	Amount (mls)
5030348	1,4-Dioxane/Surr CAL Dil 100/10ppm	03/19/05	Melissa Spencer	04/18/05	03/19/05 09:36 by M	0.1

Jody Galassi
Reviewed By

03-30-2005
Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030348

Description:	1,4-Dioxane/Surr CAL Dil 100/10ppm	Expires:	04/18/05
Standard Type:	Other Solution	Prepared:	03/19/05
Solvent:	MeOH/EMD#44337	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/19/05 09:36 by MS

1,4-Dioxane/Surr CAL DIL 100/10ppm

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	100
4-Bromofluorobenzene	460-00-4	10
Dibromofluoromethane	1868-53-7	10
Toluene-d8	2037-26-5	10

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	Amount (mls)
5030320	8260 SURR,2000PPM	03/18/05	Corey Schrader	04/18/05	03/18/05 11:08 by c	0.005
5030347	1,4-Dioxane ps 2000 ppm	03/19/05	Melissa Spencer	04/19/05	03/19/05 09:34 by M	0.05

Jody Galassi — Reviewed By

03-30-2005 — Date

Analytical Standard Record
Del Mar Analytical - Phoenix
5030353

Description:	IS ONLY MIX DIOXANE250/10PPM	Expires:	04/01/05
Standard Type:	Surrogate Spike	Prepared:	03/19/05
Solvent:	MeOH/EMD#44337	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/19/05 10:34 by MS

IS ONLY MIX for 1,4-Dioxane:1,4-Dioxane-d8 at 250 ppm,Pentafluorobenzene at 10 ppm

Analyte	CAS Number	Concentration (ppm)
1,4-Dichlorobenzene d4	3855-82-1	10
1,4-Difluorobenzene	540-36-3	10
1,4-Dioxane-d8	17647-74-4	250
Chlorobenzene-d5	3114-55-4	10
Pentafluorobenzene	NA	10

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	Amount (mls)
5030019	1,4-Dioxane-d8 10000 PPB	03/01/05	Melissa Spencer	04/01/05	03/01/05 12:03 by M	0.025
5030256	8260 INTERNAL STANDARD	03/15/05	Jody Galassi	04/15/05	03/15/05 10:23 by J	0.005

Jody Galassi
Reviewed By

03-30-2005
Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030019

Description:	1,4-Dioxane-d8 10000 PPB	Expires:	04/01/05
Standard Type:	Other Solution	Prepared:	03/01/05
Solvent:	MeOH	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/01/05 12:03 by MS

Absolute Part# 92785, Lot# 022301, 1,4-Dioxane-d8, 10mg/mL in methanol
ORIGINAL LOG-IN ID#5010501

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	10000

Brenda Steffy
Reviewed By

03-08-2005
Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030256

Description:	8260 INTERNAL STANDARD	Expires:	04/15/05
Standard Type:	Other Solution	Prepared:	03/15/05
Solvent:	N/A	Prepared By:	Jody Galassi
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/15/05 10:23 by JG

Absolute PART#20013, LOT#122104, 2000PPM
CRACKED NEW AMPULE--ORIGINAL LOG-IN ID#5010496

Analyte	CAS Number	Concentration (ppm)
1,4-Dichlorobenzene d4	3855-82-1	2000
1,4-Difluorobenzene	540-36-3	2000
Chlorobenzene-d5	3114-55-4	2000
Pentafluorobenzene	NA	2000

Melissa Spencer — Reviewed By

03-18-2005 — Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030321

Description:	IS/SURR MIX DIOXANE250/10/10PPM	Expires:	04/01/05
Standard Type:	Surrogate Spike	Prepared:	03/18/05
Solvent:	MeOH/EMD#44337	Prepared By:	Corey Schrader
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/18/05 11:10 by cs

IS/SURR MIX for 1,4-Dioxane:1,4-Dioxane-d8 at 250 ppm,Pentafluorobenzene at 10 ppm,Dibromofluoromethane at 10 ppm

Analyte	CAS Number	Concentration (ppm)
1,4-Dichlorobenzene d4	3855-82-1	10
1,4-Difluorobenzene	540-36-3	10
1,4-Dioxane-d8	17647-74-4	250
4-Bromofluorobenzene	460-00-4	10
Chlorobenzene-d5	3114-55-4	10
Dibromofluoromethane	1868-53-7	10
Pentafluorobenzene	NA	10
Toluene-d8	2037-26-5	10

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	Amount (mls)
5030019	1,4-Dioxane-d8 10000 PPB	03/01/05	Melissa Spencer	04/01/05	03/01/05 12:03 by M	0.025
5030256	8260 INTERNAL STANDARD	03/15/05	Jody Galassi	04/15/05	03/15/05 10:23 by J	0.005
5030320	8260 SURR,2000PPM	03/18/05	Corey Schrader	04/18/05	03/18/05 11:08 by c	0.005

Melissa Spencer — Reviewed By

03-18-2005 — Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030019

Description:	1,4-Dioxane-d8 10000 PPB	Expires:	04/01/05
Standard Type:	Other Solution	Prepared:	03/01/05
Solvent:	MeOH	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/01/05 12:03 by MS

Absolute Part# 92785, Lot# 022301, 1,4-Dioxane-d8, 10mg/mL in methanol
ORIGINAL LOG-IN ID#5010501

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	10000

Brenda Steffy
Reviewed By

03-08-2005
Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030256

Description:	8260 INTERNAL STANDARD	Expires:	04/15/05
Standard Type:	Other Solution	Prepared:	03/15/05
Solvent:	N/A	Prepared By:	Jody Galassi
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/15/05 10:23 by JG

Absolute PART#20013, LOT#122104, 2000PPM
CRACKED NEW AMPULE--ORIGINAL LOG-IN ID#5010496

Analyte	CAS Number	Concentration (ppm)
1,4-Dichlorobenzene d4	3855-82-1	2000
1,4-Difluorobenzene	540-36-3	2000
Chlorobenzene-d5	3114-55-4	2000
Pentafluorobenzene	NA	2000

Melissa Spencer — Reviewed By

03-18-2005 — Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030320

Description:	8260 SURR,2000PPM	Expires:	04/18/05
Standard Type:	Surrogate Spike	Prepared:	03/18/05
Solvent:	MEOH	Prepared By:	Corey Schrader
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/18/05 11:08 by cs

ABSOLUTE, PART#21002, LOT#060304, 3 COMP @ 2000ug/mL
CRACKED NEW AMPULE--original log in #5010497

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	2000
Dibromofluoromethane	1868-53-7	2000
Toluene-d8	2037-26-5	2000

Melissa Spencer — Reviewed By

03-18-2005 — Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030090

Description:	4-BFB FOR TUNE	Expires:	04/04/05
Standard Type:	Surrogate Spike	Prepared:	03/04/05
Solvent:	MeOH/EMD-#44337	Prepared By:	Jody Galassi
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	03/04/05 14:55 by JG

Analyte	CAS Number	Concentration (ppm)
4-BFB (FID)	460-00-4	40
4-BFB (PID)	460-00-4	40
4-Bromofluorobenzene	460-00-4	40

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	Amount (mls)
5030084	4-BFB STOCK 2000ppm	03/04/05	Carlos Warner	04/04/05	03/04/05 13:48 by c	0.02

Brenda Steffy
Reviewed By

03-08-2005
Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5030084

Description:	4-BFB STOCK 2000ppm	Expires:	04/04/05
Standard Type:	Surrogate Spike	Prepared:	03/04/05
Solvent:	MeOH	Prepared By:	Carlos Warner
Final Volume (mls):	1	Department:	BTEX
Vials:	1	Last Edit:	03/04/05 13:48 by cw

CRACKED NEW VIAL OF ULTRA SCIENTIFIC PART# STS-110N, LOT# U-1409, 2000ug/ml in methanol. Original Log in # 4100456
This lot # has been used previously, no confirmation necessary.

Analyte	CAS Number	Concentration (ppm)
4-BFB (FID)	460-00-4	2000
4-BFB (PID)	460-00-4	2000
4-Bromofluorobenzene	460-00-4	2000

Melissa Spencer — Reviewed By

04-20-2005 — Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5050010

Description:	1,4-Dioxane SSC 10 ppm	Expires:	06/02/05
Standard Type:	Analyte Spike	Prepared:	05/02/05
Solvent:	MeOH #44337	Prepared By:	Corey Schrader
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	05/02/05 11:59 by cs

1,4-Dioxane SSC 10ppm

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	10

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	Amount (mls)
5050008	1,4-Dioxane SS 2000 ppm STOCK	05/02/05	Corey Schrader	06/02/05	05/02/05 11:41 by c	0.005

Elizabeth Wueschner — Reviewed By

05-11-2005 — Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5050008

Description:	1,4-Dioxane SS 2000 ppm STOCK	Expires:	06/02/05
Standard Type:	Other Solution	Prepared:	05/02/05
Solvent:	MeOH	Prepared By:	Corey Schrader
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	05/02/05 11:41 by cs

O2SI, 1,4-Dioxane 2000 ppm in Methanol PART#020223-01 LOT#109885
CRACKED NEW AMPULE -- original log in #5010214

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane	123-91-1	2000

Elizabeth Wueschner — 05-11-2005
Reviewed By — Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5050011

Description:	IS/SURR MIX DIOXANE250/10/10PPM	Expires:	05/25/05
Standard Type:	Surrogate Spike	Prepared:	05/02/05
Solvent:	MeOH/EMD#44337	Prepared By:	Corey Schrader
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	05/02/05 12:01 by cs

IS/SURR MIX for 1,4-Dioxane:1,4-Dioxane-d8 at 250 ppm,Pentafluorobenzene at 10 ppm,Dibromofluoromethane at 10 ppm

Analyte	CAS Number	Concentration (ppm)
1,4-Dichlorobenzene d4	3855-82-1	10
1,4-Difluorobenzene	540-36-3	10
1,4-Dioxane-d8	17647-74-4	250
4-Bromofluorobenzene	460-00-4	10
Chlorobenzene-d5	3114-55-4	10
Dibromofluoromethane	1868-53-7	10
Pentafluorobenzene	NA	10
Toluene-d8	2037-26-5	10

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	Amount (mls)
5040415	8260 SURR,2000PPM	04/25/05	Melissa Spencer	05/25/05	04/25/05 11:50 by M	0.005
5040458	8260 INTERNAL STANDARD	04/27/05	Melissa Spencer	05/27/05	04/27/05 09:35 by M	0.005
5050009	1,4-Dioxane-d8 10000 PPB	05/02/05	Corey Schrader	06/02/05	05/02/05 11:42 by c	0.025

Elizabeth Wueschner — Reviewed By

05-11-2005 — Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5040415

Description:	8260 SURR,2000PPM	Expires:	05/25/05
Standard Type:	Surrogate Spike	Prepared:	04/25/05
Solvent:	MEOH	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	04/25/05 11:50 by MS

ABSOLUTE, PART#21002, LOT#060304, 3 COMP @ 2000ug/mL
CRACKED NEW AMPULE--original log in #5020381

Analyte	CAS Number	Concentration (ppm)
4-Bromofluorobenzene	460-00-4	2000
Dibromofluoromethane	1868-53-7	2000
Toluene-d8	2037-26-5	2000

Reviewed By _____ Date _____

Analytical Standard Record

Del Mar Analytical - Phoenix

5040458

Description:	8260 INTERNAL STANDARD	Expires:	05/27/05
Standard Type:	Other Solution	Prepared:	04/27/05
Solvent:	N/A	Prepared By:	Melissa Spencer
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	04/27/05 09:35 by MS

Absolute PART#20013, LOT#081604, 2000PPM
CRACKED NEW AMPULE--ORIGINAL LOG-IN ID#4120170

Analyte	CAS Number	Concentration (ppm)
1,4-Dichlorobenzene d4	3855-82-1	2000
1,4-Difluorobenzene	540-36-3	2000
Chlorobenzene-d5	3114-55-4	2000
Pentafluorobenzene	NA	2000

Reviewed By Date

Analytical Standard Record

Del Mar Analytical - Phoenix

5050009

Description:	1,4-Dioxane-d8 10000 PPB	Expires:	06/02/05
Standard Type:	Other Solution	Prepared:	05/02/05
Solvent:	MeOH	Prepared By:	Corey Schrader
Final Volume (mls):	1	Department:	GCMS
Vials:	1	Last Edit:	05/02/05 11:42 by cs

Absolute Part# 92785, Lot# 022301, 1,4-Dioxane-d8, 10mg/mL in methanol
ORIGINAL LOG-IN ID#5010501

Analyte	CAS Number	Concentration (ppm)
1,4-Dioxane-d8	17647-74-4	10000

Elizabeth Wueschner — Reviewed By

05-11-2005 — Date

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Laboratory: Del Mar
Reviewer: H. Chang
Analysis/Method: Semivolatiles/625

Package ID: T711SV57
Task Order: 313150010
SDG No.: IOD2047, IOD2049
No. of Analyses: 2

Date: June 6, 2005
Reviewer's Signature: H. Chang

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	
COMMENTS[b]	Acceptable as reviewed.

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: SEMIVOLATILES

SAMPLE DELIVERY GROUP: IOD2047, IOD2049

Prepared by

AMEC Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	NPDES Monitoring
Contract Task Order #:	313150010
SDG#:	IOD2047, IOD2049
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	Semivolatiles
QC Level:	Level IV
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Reviewer:	H. Chang
Date of Review:	June 6, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *AMEC Data Validation Procedure for Levels C and D Semivolatile Organics (DVP-3, Rev. 2), EPA Method 625,* and the *National Functional Guidelines For Organic Data Review* (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 012	Outfall 012	IOD2047-01	water	625
Outfall 018	Outfall 018	IOD2049-01	water	625

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The samples in these SDGs were received at the laboratory within the temperature limits of 4°C ±2°C. The analyses did not require preservation, and no preservation was noted in the field. The COCs noted that the samples were received intact. No qualifications were required.

2.1.2 Chain of Custody

The COCs were signed and dated by both field and laboratory personnel. The COCs accounted for the analyses presented in these SDGs. As the samples were couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The water samples were extracted within seven days of collection and analyzed within 40 days of extractopm. No qualifications were required.

2.2 GC/MS TUNING

The DFTPP tunes met the criteria specified in Method 625, and the samples were analyzed within 12 hours of the DFTPP injection time. No qualifications were required.

2.3 CALIBRATION

The initial calibrations associated with these SDGs were dated 05/02/05 and 05/03/05. The average RRFs were ≥0.05 and the %RSDs were ≤35% for the target compounds listed on the sample summary forms. A representative number of average RRFs and %RSDs were checked from the raw data, and no calculation or transcription errors were noted.

The continuing calibration associated with the sample analyses were analyzed on 05/03/05 and 05/04/05. The RRFs for the applicable target compounds were ≥0.05, and the %Ds were ≤20%. A representative number of RRFs, r^2 values, and %Ds were checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.4 BLANKS

Two method blanks (5E01020-BLK1 and 5E01024-BLK1) was extracted and analyzed with these SDGs. No target compounds were reported in the method blanks. Review of the raw data indicated no reportable false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Two blank spike/blank spike duplicate pairs (5E01020-BS1/BSD1 and 5E01024-BS1/BSD1) were extracted and analyzed with these SDGs. All percent recoveries and RPDs were within the laboratory QC limits. A representative number of recoveries and RPDs were calculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

The sample surrogate recoveries were within the laboratory QC limits with the exception of terphenyl-d14 above the QC limit in sample Outfall 012. No qualifications were required for single surrogate above the QC limits. A representative number of recoveries were calculated from the raw data, and no transcription or calculation errors were noted.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

No MS/MSD analyses were associated with this SDG. Evaluation of method accuracy and precision was based on blank spike/blank spike duplicate results. No qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site sample. Following are findings associated with field QC samples:

2.8.1 Field Blanks and Equipment Rinsates

There were no field QC samples associated with this SDG. No qualifications were required.

2.8.2 Field Duplicates

There were no field duplicate samples associated with this SDG. No qualifications were required.

2.9 INTERNAL STANDARDS PERFORMANCE

The internal standard area counts and retention times were within the control limits established by the continuing calibration standards: -50%/+100% for internal standard areas and ±30 seconds for retention times. A representative number of recoveries were checked from the raw data, and no transcription or calculation errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for naphthalene and n-nitrosodimethylamine in sample Outfall 012 and bis(2-ethylhexyl)phthalate, 2,4-dinitrotoluene, n-nitrosodimethylamine, pentachlorophenol, and 2,4,6-trichlorophenol in sample Outfall 018 by EPA Method 625. Review of the sample chromatogram, retention times, and spectra indicated no problems with target compound identification. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. No calculation or transcription errors were found. The reporting limits were supported by the low level of the initial calibration and the method detection limit study. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

TICs were not reported by the laboratory for these SDGs. No qualifications were required.

2.13 SYSTEM PERFORMANCE

Review of the raw data indicated no problems with system performance. No qualifications were required.

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX [illegible]
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9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX [illegible]
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX [illegible]

MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IOD2047

Sampled: 04/28/05
Received: 04/28/05

DRAFT: ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Sample ID: **IOD2047-01 (DRAFT: Outfall 012 - Water)**
Reporting Units: ug/l

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Naphthalene	EPA 625	5E01019	4.5	10	24	0.99	05/01/05	05/04/05			
N-Nitrosodimethylamine	EPA 625	5E01019	3.7	20	ND	0.99	05/01/05	05/04/05		u	
Surrogate: 2-Fluorophenol (30-120%)					*53 %*						
Surrogate: Phenol-d6 (35-120%)					*68 %*						
Surrogate: 2,4,6-Tribromophenol (45-120%)					*69 %*						
Surrogate: Nitrobenzene-d5 (45-120%)					*85 %*						
Surrogate: 2-Fluorobiphenyl (45-120%)					*74 %*						
Surrogate: Terphenyl-d14 (45-120%)					*132 %*				ZX		

AMEC VALIDATED
LEVEL IV

DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced except in full, without written permission from Del Mar Analytical.

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 261-1228
1234 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 560-7717 FAX (858) 560-7779
4350 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-7620 FAX (702) 798-7621

MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 018

Report Number: IOD2049

Sampled: 04/28/05
Received: 04/28/05

DRAFT: ACID & BASE/NEUTRALS BY GC/MS (EPA 625)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers: Rev Qual	Data Qualifiers: Qual Code
Sample ID: IOD2049-01 (DRAFT: Outfall 018 - Water)										
Reporting Units: ug/l										
Bis(2-ethylhexyl)phthalate	EPA 625	5E01024	1.1	5.0	ND	0.962	05/01/05	05/04/05	U	
2,4-Dinitrotoluene	EPA 625	5E01024	0.23	9.0	ND	0.962	05/01/05	05/04/05		
N-Nitrosodimethylamine	EPA 625	5E01024	0.22	8.0	ND	0.962	05/01/05	05/04/05		
Pentachlorophenol	EPA 625	5E01024	0.78	8.0	ND	0.962	05/01/05	05/04/05		
2,4,6-Trichlorophenol	EPA 625	5E01024	0.10	6.0	ND	0.962	05/01/05	05/04/05		
Surrogate: 2-Fluorophenol (30-120%)					*65 %*					
Surrogate: Phenol-d6 (35-120%)					*66 %*					
Surrogate: 2,4,6-Tribromophenol (45-120%)					*84 %*					
Surrogate: Nitrobenzene-d5 (45-120%)					*68 %*					
Surrogate: 2-Fluorobiphenyl (45-120%)					*73 %*					
Surrogate: Terphenyl-d14 (45-120%)					*77 %*					

AMEC VALIDATED

LEVEL IV

DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Laboratory Del Mar
Reviewer H. Chang
Analysis/Method GRO/8015BMod

Package ID T711TF68
Task Order 313150010
SDG No. IOD2047
No. of Analyses 2

Date: June 13, 2005
Reviewer's Signature

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	
COMMENTS[b]	Acceptable as reviewed.

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: TPH/Purgeable

SAMPLE DELIVERY GROUP: IOD2047

Prepared by

AMEC Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	NPDES Monitoring
Contract Task Order #:	313150010
SDG#:	IOD2047
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	TPH-Purgeable
QC Level:	Level IV
No. of Samples:	2
No. of Reanalyses/Dilutions:	0
Reviewer:	H. Chang
Date of Review:	June 13, 2005

The samples listed in Table 1 were validated based on the general guidelines outlined in the *AMEC Data Validation Procedure for Levels C and D Extractable Total Fuel Hydrocarbons by GC (DVP-8, Rev. 2)*, USEPA SW-846 Method 8015M, and validation guidelines outlined in the USEPA CLP *National Functional Guidelines for Organic Data Review* (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 012	Outfall 012	IOD2047-01	water	8015M/GRO
Trip Blank	Trip Blank	IOD2047-02	water	8015M/GRO

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in this SDG were received at Del Mar Analytical on ice within the temperature limits of 4°C ±2°C, at 4°C. The Del Mar Analytical case narrative noted that the samples were received intact, and the COC indicated the samples were properly preserved. No qualifications were required.

2.1.2 Chain of Custody

The COC was signed and dated by both field and laboratory personnel. The EFH analysis (rather than the GRO analysis) was requested in error on the COC for the Trip Blank sample. The sample was analyzed correctly. As the samples were couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The water samples were analyzed within 14 days of collection. No qualifications were required.

2.2 CALIBRATION

One gasoline standard initial calibration dated 08/20/04 was associated with the sample analyses. The %RSD for GRO (C4-C12) were within the QC limit of ≤20%. An initial calibration verification (ICV) was not provided in the data package. The %Ds for the CCVs bracketing the samples were within the Method QC limit of ≤15%. The %RSD and %Ds were recalculated from the raw data and no transcription or calculation errors were noted. No further qualifications were required

2.4 METHOD BLANKS

One water method blank (5E04040-BLK1) was associated with the sample analyses. GRO (C4-C12) was not detected above the MDL in the method blank. Review of the raw data indicated no false negative result. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

One water method blank spike (5E04040-BS1) was associated with the sample analyses. GRO (C4-C12) was recovered within the laboratory-established QC limits of 70-140%. The recovery was checked from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.6 SURROGATE RECOVERY

The samples were fortified with the surrogate compound 4-bromofluorobenzene (BFB). Surrogate recoveries were within the laboratory-established QC limits of 65-140%. Recoveries were calculated from the raw data and no transcription or calculation errors were noted. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/MSD analyses were not performed on the site sample in this SDG. Evaluation of method accuracy was based on the blank spike results. No qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples are evaluated, and if necessary, qualified based on method blanks and laboratory QC samples for usability. Any remaining detects are used to evaluate the associated samples. The following are findings associated with field QC samples:

2.9.1 Trip Blanks, Field Blanks, and Equipment Rinsates

Sample Trip Blank was the trip blank associated with site sample Outfall 012. GRO (C4-C12) was not detected above the MDL in the trip blank. Review of the raw data indicated no false negative result. There were no field blank or equipment rinsate samples associated with this SDG. No qualifications were required.

2.9.2 Field Duplicates

There were no field duplicate samples in this SDG.

2.10 COMPOUND IDENTIFICATION

The laboratory analyzed for GRO (C4-C12) by Method 8015M. Compound identification is verified at a Level IV validation. Review of chromatograms and retention times indicated no problems with compound identification for the samples in this SDG. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification was verified for this SDG by recalculating any sample detects, blank spike recoveries, and a representative number of surrogate recoveries. Reporting limits were supported by the low level standard of the initial calibration and by the laboratory MDL. The results were reported in mg/L (ppm). No qualifications were required.

Del Mar Analytical

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9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-8689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IOD2047

Sampled: 04/28/05
Received: 04/28/05

DRAFT: VOLATILE FUEL HYDROCARBONS (EPA 5030/CADHS Mod. 8015)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qual Code
Sample ID: IOD2047-01 (DRAFT: Outfall 012 - Water) - cont.											
Reporting Units: mg/l											
GRO (C4 - C12)	EPA 8015 Mod.	5E04040	0.50	1.0	2.7	10	05/04/05	05/04/05			
Surrogate: 4-BFB (FID) (65-140%)					*100 %*						
Sample ID: IOD2047-02 (DRAFT: Trip Blank - Water)											
Reporting Units: mg/l											
GRO (C4 - C12)	EPA 8015 Mod.	5E04040	0.050	0.10	ND	1	05/04/05	05/04/05	U		
Surrogate: 4-BFB (FID) (65-140%)					*89 %*						

AMEC VALIDATED

Level IV

DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Laboratory Del Mar
Reviewer H. Chang
Analysis/Method EFH/8015BMod

Package ID T711TF69
Task Order 313150010
SDG No. IOD2047
No. of Analyses 1

Date: June 13, 2005
Reviewer's Signature

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	
COMMENTS[b]	Acceptable as reviewed.

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: TPH/Extractable

SAMPLE DELIVERY GROUP: IOD2047

Prepared by

AMEC Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	NPDES Monitoring
Contract Task Order #:	313150010
SDG#:	IOD2047
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	TPH-Extractable
QC Level:	Level IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Reviewer:	H. Chang
Date of Review:	June 13, 2005

The samples listed in Table 1 were validated based on the general guidelines outlined in the *AMEC Data Validation Procedure for Levels C and D Extractable Total Fuel Hydrocarbons by GC (DVP-8, Rev. 2)*, USEPA SW-846 Method 8015B, and validation guidelines outlined in the USEPA CLP *National Functional Guidelines for Organic Data Review* (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 012	Outfall 012	IOD2047-01	water	8015B

Del Mar Analytical

17461 Derian Ave., Suite 100, Irvine, CA 92614 [illegible] 261-1022 FAX [illegible]
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) [illegible] FAX [illegible]
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9[illegible]
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-08[illegible]
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3[illegible]

MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IOD2047

Sampled: 04/28/05
Received: 04/28/05

DRAFT: EXTRACTABLE FUEL HYDROCARBONS (CADHS/8015 Modified)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	Rev Qual	Qua Code
Sample ID: IOD2047-01 (DRAFT: Outfall 012 - Water) - cont.											
Reporting Units: mg/l											
EFH (C13 - C22)	EPA 8015B	5E03053	0.082	0.50	**1.2**	0.962	05/03/05	05/03/05			
Surrogate: n-Octacosane (40-125%)					*74 %*						

AMEC VALIDATED

LEVEL IV✓

DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE

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CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500

Lakewood, CO 80226

Laboratory Del Mar
Reviewer M. Pokorny
Analysis/Method Volatiles

Package ID T711VO105
Task Order 313150010
SDG No. IOD2043, 2045, 2047, 2049
No. of Analyses 8

Date: June 13, 2005
Reviewer's Signature M. Pokorny

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	Qualifications were required for calibration outliers.
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	
COMMENTS[b]	

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUPs: IOD2043, IOD2044, IOD2047, IOD2049

Prepared by

AMEC Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	NPDES Monitoring
Contract Task Order #:	313150010
SDG#:	IOD2043, IOD2044, IOD2047, IOD2049
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	Volatiles
QC Level:	Level IV
No. of Samples:	8
No. of Reanalyses/Dilutions:	0
Reviewer:	M. Pokorny
Date of Review:	June 13, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in the *AMEC Data Validation Procedure for Levels C and D Volatile Organics (DVP-2, Rev. 2), EPA Method 624, SW846 Method 8260B,* and the *National Functional Guidelines For Organic Data Review* (2/94). Any deviations from these procedures are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the summary forms as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No.	Matrix	Method
Outfall 001	Outfall 001	IOD2043-01	water	624
Trip Blank	Trip Blank	IOD2043-02	water	624
Outfall 002	Outfall 002	IOD2044-01	water	624
Trip Blank	Trip Blank	IOD2044-02	water	624
Outfall 012	Outfall 012	IOD2047-01	water	624
Trip Blank	Trip Blank	IOD2047-02	water	624
Outfall 018	Outfall 018	IOD2049-01	water	624
Trip Blank	Trip Blank	IOD2049-02	water	624

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

The following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The samples in these SDGs were received at the laboratory within the temperature limits of 4°C ±2°C. The samples were properly preserved. The COCs noted that the samples were received intact; however, information regarding absence of headspace was not provided. No qualifications were required.

2.1.2 Chain of Custody

The COCs were signed and dated by both field and laboratory personnel. The COCs accounted for the analyses presented in these SDGs. As the samples were couriered directly to the laboratory, custody seals were not required. No qualifications were required.

2.1.3 Holding Times

The samples were analyzed within 14 days of collection. No qualifications were required.

2.2 GC/MS TUNING

The ion abundance windows shown on the quantitation reports were consistent with those specified in EPA Method 624, and all ion abundances were within the established windows. The samples and associated QC were analyzed within 12 hours of the BFB injection time. The BFB summary report was verified from the raw data and no discrepancies between the summary report and the raw data were noted. No qualifications were required.

2.3 CALIBRATION

Four initial calibrations dated 03/31/05, 04/20/05, 04/29/05, and 04/30/05 were associated with these SDGs. The average RRFs were ≥0.05 for the target compounds listed on the sample result summaries. The %RSDs were ≤35% for all applicable target compounds. Five continuing calibrations were associated with the sample analyses in these SDGs. The %D for trichlorofluoromethane exceeded 20% in the continuing calibration associated with samples Outfall 001 and Outfall 002; therefore, the nondetect results for trichlorofluoromethane were qualified as estimated, "UJ," in samples Outfall 001 and Outfall 002. No qualifications were required for the Trip Blanks. All remaining %Ds were ≤20%. The RRFs were ≥0.05 for the target compounds listed on the sample result summaries. A representative number of %RSDs and average RRFs from the initial calibration, and %Ds and RRFs from the continuing calibration were recalculated from the raw data, and no calculation or transcription errors were found. No further qualifications were required.

2.4 BLANKS

Three water method blanks (5E04019-BLK1, 5E05024-BLK1, and 5E10003-BLK1) were associated with the sample analyses. There were no detects above the MDLs for the target compounds listed on the sample result summaries. The method blank raw data showed no evidence of false negatives. No qualifications were required.

2.5 BLANK SPIKES AND LABORATORY CONTROL SAMPLES

Three water blank spikes (5E04019-BS1, 5E05024-BS1, and 5E10003-BS1) were associated with the sample analyses. All recoveries were within the laboratory-established QC limits. A representative number of recoveries were recalculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.6 SURROGATE RECOVERY

The surrogates were recovered within the QC limits of 80-120% in the samples and associated QC. A representative number of surrogate recoveries were recalculated from the raw data and no calculation or transcription errors were found. No qualifications were required.

2.7 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Sample Outfall 001 was the MS/MSD analyses performed with these SDGs. All percent recoveries and RPDs were within the QC limits. No qualifications were required.

2.8 FIELD QC SAMPLES

Field QC samples were evaluated, and if necessary, qualified based on method blanks and other laboratory QC results affecting the usability of the field QC data. Any remaining detects were used to evaluate the associated site sample. Following are findings associated with field QC samples:

2.8.1 Trip Blanks

Samples Trip Blank (IOD2043-02), Trip Blank (IOD2044-02), Trip Blank (IOD2047-02), and Trip Blank (IOD2049-02) were the trip blanks associated with these SDGs. There were no target compounds detected above the MDLs in the trip blanks. No qualifications were required.

2.8.2 Field Blanks and Equipment Rinsates

There were no field QC samples associated with these SDGs. No qualifications were required.

2.8.3 Field Duplicates

There were no field duplicate samples associated with these SDGs.

2.9 INTERNAL STANDARDS PERFORMANCE

Internal standard area counts and retention times for the samples in these SDGs were within the control limits established by the continuing calibration standards: +100%/-50% for internal standard areas and ±0.50 minutes for retention times. A representative number of internal standard areas and retention times were verified from the raw data, and no calculation or transcription errors were noted. No qualifications were required.

2.10 COMPOUND IDENTIFICATION

Target compound identification was verified at a Level IV data validation. The laboratory analyzed for volatile target compounds by EPA Method 624. Chromatograms, retention times, and spectra for the samples and QC were examined and no target compound identification problems were noted. No qualifications were required.

2.11 COMPOUND QUANTIFICATION AND REPORTED DETECTION LIMITS

Compound quantification is verified at a Level IV data validation. The reporting limits were supported by the lowest concentrations of the initial calibration standard and by the MDL study. Compound quantitation was verified by recalculating a representative number of target compound detects, blank spike, and surrogate recoveries from the raw data. Results were reported in µg/L (ppb). No calculation or transcription errors were noted. No qualifications were required.

2.12 TENTATIVELY IDENTIFIED COMPOUNDS

The laboratory did not provide TICs for these SDGs. No qualifications were required.

2.13 SYSTEM PERFORMANCE

A review of the chromatograms and other raw data showed no identifiable problems with system performance. No qualifications were required.

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2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 001

Report Number: IOD2043

Sampled: 04/28/05
Received: 04/28/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD2043-01 (DRAFT: Outfall 001 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	U
Carbon tetrachloride	EPA 624	5E04019	0.28	5.0	ND	1	05/04/05	05/05/05	
Chloroform	EPA 624	5E04019	0.33	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethane	EPA 624	5E04019	0.27	2.0	ND	1	05/04/05	05/05/05	
1,2-Dichloroethane	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethene	EPA 624	5E04019	0.32	3.0	ND	1	05/04/05	05/05/05	
Ethylbenzene	EPA 624	5E04019	0.25	2.0	ND	1	05/04/05	05/05/05	
Tetrachloroethene	EPA 624	5E04019	0.32	2.0	ND	1	05/04/05	05/05/05	
Toluene	EPA 624	5E04019	0.36	2.0	ND	1	05/04/05	05/05/05	
1,1,1-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
1,1,2-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
Trichloroethene	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	
Trichlorofluoromethane	EPA 624	5E04019	0.34	5.0	ND	1	05/04/05	05/05/05	UJ C
Vinyl chloride	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	U
Xylenes, Total	EPA 624	5E04019	0.52	4.0	ND	1	05/04/05	05/05/05	U
Surrogate: Dibromofluoromethane (80-120%)					*107 %*				
Surrogate: Toluene-d8 (80-120%)					*109 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*99 %*				
Sample ID: IOD2043-02 (DRAFT: Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/04/05	U
Carbon tetrachloride	EPA 624	5E04019	0.28	5.0	ND	1	05/04/05	05/04/05	
Chloroform	EPA 624	5E04019	0.33	2.0	ND	1	05/04/05	05/04/05	
1,1-Dichloroethane	EPA 624	5E04019	0.27	2.0	ND	1	05/04/05	05/04/05	
1,2-Dichloroethane	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/04/05	
1,1-Dichloroethene	EPA 624	5E04019	0.32	3.0	ND	1	05/04/05	05/04/05	
Ethylbenzene	EPA 624	5E04019	0.25	2.0	ND	1	05/04/05	05/04/05	
Tetrachloroethene	EPA 624	5E04019	0.32	2.0	ND	1	05/04/05	05/04/05	
Toluene	EPA 624	5E04019	0.36	2.0	ND	1	05/04/05	05/04/05	
1,1,1-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/04/05	
1,1,2-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/04/05	
Trichloroethene	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/04/05	
Trichlorofluoromethane	EPA 624	5E04019	0.34	5.0	ND	1	05/04/05	05/04/05	
Vinyl chloride	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/04/05	
Xylenes, Total	EPA 624	5E04019	0.52	4.0	ND	1	05/04/05	05/04/05	
Surrogate: Dibromofluoromethane (80-120%)					*101 %*				
Surrogate: Toluene-d8 (80-120%)					*108 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*98 %*				

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Routine Outfall 002

Report Number: IOD2044

Sampled: 04/28/05
Received: 04/28/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IOD2044-01 (DRAFT: Outfall 002 - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	U
Carbon tetrachloride	EPA 624	5E04019	0.28	5.0	ND	1	05/04/05	05/05/05	
Chloroform	EPA 624	5E04019	0.33	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethane	EPA 624	5E04019	0.27	2.0	ND	1	05/04/05	05/05/05	
1,2-Dichloroethane	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethene	EPA 624	5E04019	0.32	3.0	ND	1	05/04/05	05/05/05	
Ethylbenzene	EPA 624	5E04019	0.25	2.0	ND	1	05/04/05	05/05/05	
Tetrachloroethene	EPA 624	5E04019	0.32	2.0	ND	1	05/04/05	05/05/05	
Toluene	EPA 624	5E04019	0.36	2.0	ND	1	05/04/05	05/05/05	
1,1,1-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
1,1,2-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
Trichloroethene	EPA 624	5E04019	0.26	5.0	**0.27**	1	05/04/05	05/05/05	J
Trichlorofluoromethane	EPA 624	5E04019	0.34	5.0	ND	1	05/04/05	05/05/05	UJ
Vinyl chloride	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	U
Xylenes, Total	EPA 624	5E04019	0.52	4.0	ND	1	05/04/05	05/05/05	U
Surrogate: Dibromofluoromethane (80-120%)					*106 %*				
Surrogate: Toluene-d8 (80-120%)					*106 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*100 %*				
Sample ID: IOD2044-02 (DRAFT: Trip Blank - Water)									
Reporting Units: ug/l									
Benzene	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	U
Carbon tetrachloride	EPA 624	5E04019	0.28	5.0	ND	1	05/04/05	05/05/05	
Chloroform	EPA 624	5E04019	0.33	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethane	EPA 624	5E04019	0.27	2.0	ND	1	05/04/05	05/05/05	
1,2-Dichloroethane	EPA 624	5E04019	0.28	2.0	ND	1	05/04/05	05/05/05	
1,1-Dichloroethene	EPA 624	5E04019	0.32	3.0	ND	1	05/04/05	05/05/05	
Ethylbenzene	EPA 624	5E04019	0.25	2.0	ND	1	05/04/05	05/05/05	
Tetrachloroethene	EPA 624	5E04019	0.32	2.0	ND	1	05/04/05	05/05/05	
Toluene	EPA 624	5E04019	0.36	2.0	ND	1	05/04/05	05/05/05	
1,1,1-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
1,1,2-Trichloroethane	EPA 624	5E04019	0.30	2.0	ND	1	05/04/05	05/05/05	
Trichloroethene	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	
Trichlorofluoromethane	EPA 624	5E04019	0.34	5.0	ND	1	05/04/05	05/05/05	
Vinyl chloride	EPA 624	5E04019	0.26	5.0	ND	1	05/04/05	05/05/05	
Xylenes, Total	EPA 624	5E04019	0.52	4.0	ND	1	05/04/05	05/05/05	
Surrogate: Dibromofluoromethane (80-120%)					*101 %*				
Surrogate: Toluene-d8 (80-120%)					*108 %*				
Surrogate: 4-Bromofluorobenzene (80-120%)					*95 %*				

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Alfa Outfall 012 - During Test

Report Number: IOD2047

Sampled: 04/28/05
Received: 04/28/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers (REV QUAL)	(QUAL CODE)
Sample ID: IOD2047-01 (DRAFT: Outfall 012 - Water)										
Reporting Units: ug/l										
1,2-Dibromoethane (EDB)	EPA 624	5E05024	0.32	2.0	ND	1	05/05/05	05/05/05	U	
Methyl-tert-butyl Ether (MTBE)	EPA 624	5E05024	0.32	5.0	ND	1	05/05/05	05/05/05		
1,2,3-Trichloropropane	EPA 624	5E05024	0.85	10	ND	1	05/05/05	05/05/05		
Di-isopropyl Ether (DIPE)	EPA 624	5E05024	0.25	5.0	ND	1	05/05/05	05/05/05		
tert-Butanol (TBA)	EPA 624	5E05024	3.1	25	ND	1	05/05/05	05/05/05		
Surrogate: Dibromofluoromethane (80-120%)					*114 %*					
Surrogate: Toluene-d8 (80-120%)					*112 %*					
Surrogate: 4-Bromofluorobenzene (80-120%)					*110 %*					
Sample ID: IOD2047-02 (DRAFT: Trip Blank - Water)										
Reporting Units: ug/l										
1,2-Dibromoethane (EDB)	EPA 624	5E05024	0.32	2.0	ND	1	05/05/05	05/05/05	U	
Methyl-tert-butyl Ether (MTBE)	EPA 624	5E05024	0.32	5.0	ND	1	05/05/05	05/05/05		
1,2,3-Trichloropropane	EPA 624	5E05024	0.85	10	ND	1	05/05/05	05/05/05		
Di-isopropyl Ether (DIPE)	EPA 624	5E05024	0.25	5.0	ND	1	05/05/05	05/05/05		
tert-Butanol (TBA)	EPA 624	5E05024	3.1	25	ND	1	05/05/05	05/05/05		
Surrogate: Dibromofluoromethane (80-120%)					*111 %*					
Surrogate: Toluene-d8 (80-120%)					*112 %*					
Surrogate: 4-Bromofluorobenzene (80-120%)					*107 %*					

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MWH-Pasadena/Boeing
300 North Lake Avenue, Suite 1200
Pasadena, CA 91101
Attention: Bronwyn Kelly

Project ID: Quarterly Outfall 018

Report Number: IOD2049

Sampled: 04/28/05
Received: 04/28/05

DRAFT: PURGEABLES BY GC/MS (EPA 624)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers	REV QUAL	QUAL CO[DE]
Sample ID: IOD2049-01 (DRAFT: Outfall 018 - Water)											
Reporting Units: ug/l											
Benzene	EPA 624	5E10003	0.28	2.0	ND	1	05/10/05	05/10/05		U	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5E10003	1.2	5.0	ND	1	05/10/05	05/10/05			
Carbon tetrachloride	EPA 624	5E10003	0.28	5.0	ND	1	05/10/05	05/10/05			
Chloroform	EPA 624	5E10003	0.33	2.0	ND	1	05/10/05	05/10/05			
1,1-Dichloroethane	EPA 624	5E10003	0.27	2.0	ND	1	05/10/05	05/10/05			
1,2-Dichloroethane	EPA 624	5E10003	0.28	2.0	ND	1	05/10/05	05/10/05			
1,1-Dichloroethene	EPA 624	5E10003	0.42	3.0	ND	1	05/10/05	05/10/05			
Ethylbenzene	EPA 624	5E10003	0.25	2.0	ND	1	05/10/05	05/10/05			
Tetrachloroethene	EPA 624	5E10003	0.32	2.0	ND	1	05/10/05	05/10/05			
Toluene	EPA 624	5E10003	0.36	2.0	ND	1	05/10/05	05/10/05			
1,1,1-Trichloroethane	EPA 624	5E10003	0.30	2.0	ND	1	05/10/05	05/10/05			
1,1,2-Trichloroethane	EPA 624	5E10003	0.30	2.0	ND	1	05/10/05	05/10/05			
Trichloroethene	EPA 624	5E10003	0.26	5.0	**1.0**	1	05/10/05	05/10/05	J	J	DNQ
Trichlorofluoromethane	EPA 624	5E10003	0.34	5.0	ND	1	05/10/05	05/10/05		U	
Vinyl chloride	EPA 624	5E10003	0.26	5.0	ND	1	05/10/05	05/10/05		U	
Xylenes, Total	EPA 624	5E10003	0.52	4.0	ND	1	05/10/05	05/10/05		U	
Surrogate: Dibromofluoromethane (80-120%)					*108 %*						
Surrogate: Toluene-d8 (80-120%)					*104 %*						
Surrogate: 4-Bromofluorobenzene (80-120%)					*104 %*						
Sample ID: IOD2049-02 (DRAFT: Trip Blank - Water)											
Reporting Units: ug/l											
Benzene	EPA 624	5E10003	0.28	2.0	ND	1	05/10/05	05/10/05		U	
Trichlorotrifluoroethane (Freon 113)	EPA 624	5E10003	1.2	5.0	ND	1	05/10/05	05/10/05			
Carbon tetrachloride	EPA 624	5E10003	0.28	5.0	ND	1	05/10/05	05/10/05			
Chloroform	EPA 624	5E10003	0.33	2.0	ND	1	05/10/05	05/10/05			
1,1-Dichloroethane	EPA 624	5E10003	0.27	2.0	ND	1	05/10/05	05/10/05			
1,2-Dichloroethane	EPA 624	5E10003	0.28	2.0	ND	1	05/10/05	05/10/05			
1,1-Dichloroethene	EPA 624	5E10003	0.42	3.0	ND	1	05/10/05	05/10/05			
Ethylbenzene	EPA 624	5E10003	0.25	2.0	ND	1	05/10/05	05/10/05			
Tetrachloroethene	EPA 624	5E10003	0.32	2.0	ND	1	05/10/05	05/10/05			
Toluene	EPA 624	5E10003	0.36	2.0	ND	1	05/10/05	05/10/05			
1,1,1-Trichloroethane	EPA 624	5E10003	0.30	2.0	ND	1	05/10/05	05/10/05			
1,1,2-Trichloroethane	EPA 624	5E10003	0.30	2.0	ND	1	05/10/05	05/10/05			
Trichloroethene	EPA 624	5E10003	0.26	5.0	ND	1	05/10/05	05/10/05			
Trichlorofluoromethane	EPA 624	5E10003	0.34	5.0	ND	1	05/10/05	05/10/05			
Vinyl chloride	EPA 624	5E10003	0.26	5.0	ND	1	05/10/05	05/10/05			
Xylenes, Total	EPA 624	5E10003	0.52	4.0	ND	1	05/10/05	05/10/05			
Surrogate: Dibromofluoromethane (80-120%)					*105 %*						
Surrogate: Toluene-d8 (80-120%)					*102 %*						
Surrogate: 4-Bromofluorobenzene (80-120%)					*103 %*						

DRAFT REPORT
DRAFT REPORT
DATA SUBJECT TO CHANGE

AMEC VALIDATED

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical.

CONTRACT COMPLIANCE SCREENING FORM FOR HARDCOPY DATA

AMEC Earth & Environmental
550 South Wadsworth Boulevard
Suite 500
Lakewood, CO 80226

Laboratory Del Mar
Reviewer M. Pokorny
Analysis/Method Volatiles

Package ID T711VO107
Task Order 313150010
SDG No. IOD2047
No. of Analyses 20

Date: June 10, 2005
Reviewer's Signature

ACTION ITEMS[a]	
1. **Case Narrative Deficiencies**	
2. **Out of Scope Analyses**	
3. **Analyses Not Conducted**	
4. **Missing Hardcopy Deliverables**	
5. **Incorrect Hardcopy Deliverables**	
6. **Deviations from Analysis Protocol, e.g.,**	
Holding Times	
GC/MS Tune/Inst. Perform	
Calibrations	
Blanks	
Surrogates	
Matrix Spike/Dup LCS	
Field QC	
Internal Standard Performance	
Compound Identification and Quantitation	
System Performance	
COMMENTS[b]	Acceptable as reviewed.

[a] Subcontracted analytical laboratory is not meeting contract and/or method requirements.
[b] Differences in protocol have been adopted by the laboratory but no action against the laboratory is required.

DATA VALIDATION REPORT

NPDES Monitoring

ANALYSIS: VOLATILES

SAMPLE DELIVERY GROUP: IOD2047

Prepared by

AMEC—Denver Operations
550 South Wadsworth Boulevard, Suite 500
Lakewood, Colorado 80226

1. INTRODUCTION

Task Order Title:	NPDES Monitoring
Contract Task Order #:	313150010
Sample Delivery Group #:	IOD2047
Project Manager:	B. McIlvaine
Matrix:	Water
Analysis:	Volatiles (1,4-dioxane)
QC Level:	Level IV
No. of Samples:	1
No. of Reanalyses/Dilutions:	0
Reviewer:	M. Pokorny
Date of Review:	June 10, 2005

The samples listed in Table 1 were validated based on the guidelines outlined in *the AMEC Data Validation Procedure for Levels C and D Volatile Organics (DVP-2, Rev. 2), EPA Method SW-846 8260B* and the *National Functional Guidelines For Organic Data Review* (2/94). Any deviations from these procedures and guidelines are documented herein. Qualifiers were applied in cases where the data did not meet the required QC criteria or where special consideration by the data user is required. Data qualifiers were placed on Form Is with the associated qualification codes. Analytes that were rejected for any reason are denoted on the Form I as having only the "R" data qualifier and associated qualification code(s) denoting the reason for rejection. Any additional problems with the data that may have resulted in an estimated value were not denoted by a qualification code since the data had already been rejected.

Table 1. Sample identification

Client ID	EPA ID	Lab No. Del Mar, CA	Lab No. Del Mar, AZ	Matrix	Method
Outfall 012	Outfall 012	IOD2047-01	POD0903-01	water	8260B

2. DATA VALIDATION FINDINGS

2.1 SAMPLE MANAGEMENT

Following are findings associated with sample management:

2.1.1 Sample Preservation, Handling, and Transport

The sample in this SDG was received at the Del Mar within the temperature limits of 4°C ±2°C. The sample was subcontracted to Del Mar (Phoenix) for 1,4-dioxane analysis, and the sample was received within the temperature limits of 4°C ±2°C. The sample was properly preserved. The COC and transfer COC noted that the sample was received intact; however, information regarding absence of headspace was not provided. No qualifications were required.

2.1.2 Chain of Custody

The COC and transfer COC were signed by field and laboratory personnel. As the sample was couriered directly to the laboratory from the field, custody seals were not required. According to the transfer COC, there were no custody seals present on the cooler received by Del Mar Analytical in Arizona. No qualifications were required.

2.1.3 Holding Times

The sample was analyzed within 14 days of collection. No qualifications were required.

2.2 GC/MS TUNING

The ion abundance windows were consistent with those specified in EPA Method 8260B. All ion abundances were within the established windows, and the sample was analyzed within 12 hours of the BFB injection time. No qualifications were required.

2.3 CALIBRATION

One initial calibration, dated 03/19/05, was associated with this SDG. The average RRF for 1,4-dioxane was ≥0.05 and the %RSD was ≤35%. The laboratory reported the continuing calibration and the blank spike (P5D1803-BS1) from the same analysis. As the analysis cannot be reported as both a CCV and a blank spike, the reviewer evaluated P5E0214-BS1 as the continuing calibration. The RRF for 1,4-dioxane was ≥0.05; and, the %D was ≤20%. The r^2 value and average RRF for 1,4-dioxane in the initial calibration, and the %D and RRF for 1,4-dioxane in the continuing calibration were recalculated from the raw data, and no calculation or transcription errors were found. No qualifications were required.