

Soil Vapor Survey - 2008

Former Reilly Tar Site in St. Louis Park, Minnesota

STS Project 200802141

June 30, 2008

Prepared by: Peter A. Rzepecki, PhD PHg PG Senior Project Hydrogeologist STS 763-315-6345



STS 10900 73rd Avenue North, Suite 150, Maple Grove, MN 55369 T 763.315.6300 F 763.315.1836 www.sts.aecom.com

June 30, 2008

Mr. Nile Fellows Project Manager Minnesota Pollution Control Agency 520 Lafayette Road North St. Paul, MN 55155

Re: Former Reilly Tar Site Soil Vapor Survey - 2008; STS Project 200802141

Dear Mr. Fellows:

STS is pleased to present the results of the soil vapor survey conducted at the former Reilly Tar Site in St. Louis Park, Minnesota during June of 2008. The project scope of work was outlined in the STS Proposal 200800525 that was submitted to the Minnesota Pollution Control Agency (MPCA) on April 24, 2008. The work was authorized by the MPCA on April 30, 2008 (Contract Work Order SFST0823). All the project work, including preparation of this report, was completed by June 30, 2008. The only exception is that the subcontractor, W.L. Gore and Associates, Inc. (Gore), delivered the final report and documentation (included in Appendices B, C and D) by July 10, 2008. However, Gore provided STS with the preliminary report before June 30, 2008. This preliminary Gore report was sufficient to prepare this final report - no significant changes from the preliminary to the final Gore reports occurred that would change the content/conclusions and recommendations of this report.

1.0 Introduction

This investigation was conducted to address the issue of potential volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs) and polycyclic aromatic hydrocarbons (PAHs) soil vapor contamination near residential buildings at and around the former Reilly Tar Site, St. Louis Park, Minnesota (the Site). Several contaminants detected in soil and groundwater at the Site are characterized by a relatively high vapor pressure. Such contaminants can migrate at significant concentrations through the vadose zone as soil gas. The contaminants of concern (COCs) include the following: Acenaphthene, Acenaphthylene, Carbazole, Dibenzofuran, Fluorene, 2-Methyl Naphthalene, Naphthalene, Pyrene and Phenanthrene.

The soil vapor survey work was designed as a screen to evaluate the potential of these contaminants to intrude at significant concentrations into residential buildings present at the perimeter of the Site.

A total of 33 diffusional sampler modules were deployed in the field on June 5, 2008, at 33 locations designated in the Quality Assurance Project Plan (QAPP) (see Figure 1). All the deployed modules were retrieved on June 16-17, 2008 and shipped to Gore for analysis. The results of the analysis are presented in Table 1 and in Appendix B, Tables 1 and 2. Out of the 42 target compounds (or groups of compounds, like BTEX or TPH) analyzed for, 27 were detected at one or more probe locations. These COCs were detected at most of the sampling locations. The detected compounds include all the COCs, except for Carbazole and Dibenzofuran which were not included on the list of compounds analyzed. The list of compounds was included in the QAPP by reference and included in the bid materials (also by reference) submitted by Gore.

2.0 Updating the Quality Assurance Project Plan

The QAPP was developed for the soil vapor survey conducted in St. Louis Park in June 2007 (STS, 2007b) using the diffusional sampler technology. This QAPP was updated for use in the Reilly Tar Site Soil Vapor Survey, as this project was intended to utilize the same technology. The QAPP was developed to provide a complete set of protocols for the entirety of the project field work. It was developed following the Minnesota Pollution Control Agency's Draft Quality Assurance Project Plan Guidance issued on June 26, 2003. The U.S. Environmental Protection Agency (USEPA) requires a QAPP any time data is collected for use in making a decision.

Updating the QAPP document was completed after the subcontractor providing diffusional sampler's technology was selected (Gore), reviewed the draft QAPP and provided its input on May 31, 2008. The document specifies the sampling methodology, technology, locations, sampling depths, and field monitoring and laboratory methods to be used during the survey. STS submitted the finalized/updated QAPP to MPCA on June 2, 2008. The QAPP was approved by MPCA on June 2, 2008.

After the QAPP was updated and approved, all the project work was conducted following the content of that document. To the best of our knowledge, no divergence of project work from the contents of the QAPP took place.

The updated QAPP is included as Appendix A.

3.0 Development of the Request for Proposal, Administering the Bidding Process

STS developed a Request for Proposal (RFP) package after the objectives and scope of work for the project were established. The package included the following:

- Bid From
- Terms and Conditions
- Scope of Work
- MPCA's Subcontracting Unit Pricing Bid Sheet
- Qualifications Form

STS submitted the draft RFP to MPCA for approval on May 13, 2008. After the approval, on May 15, 2008, STS sent the RFP via e-mail to three vendors known to possess the required technology: Vista GeoScience, W.L. Gore & Associates, Inc., and Beacon Environmental Services, Inc.

After issuing the RFP, STS administered the bidding process in coordination with and on behalf of the MPCA. By the designated deadline of May 20, 2008, 3:00 PM, two contractors submitted their bids for providing the technology needed for conducting the Reilly Tar Superfund Site Soil Vapor Survey: W.L. Gore (proposal received on May 19, 2008, 1:00 PM) and Vista GeoScience (proposal received on May 20, 2008, 2:50 PM). Beacon Environmental Services, Inc. notified STS on May 20, 2008 that they would not be able to submit the proposal before the designated May 20, 2008 deadline.

Following is the comparison of the W.L. Gore and Vista GeoScience proposals.

Total price of services: W.L. Gore: Vista GeoScience:	\$8,665.00 \$7,340.00
Completeness of the proposal: W.L. Gore: Vista GeoScience	Complete Did not complete the Request for Bid Form, no authorized signature, no mention of capacity to test for SVOCs and PAHs (EPA Method 8270)
Quality Assurance Manual: W.L. Gore: Vista GeoScience:	Provided Not provided
Manuals: W.L. Gore: Vista GeoScience:	Provided Not provided

> Documentation of experience: W.L. Gore: Very thorough Vista GeoScience: Limited

After considering both proposals and the STS summary and recommendations, MPCA decided to select W.L. Gore & Associates, Inc. (Gore) for providing the necessary technology, equipment and analysis.

The GORE[™] Survey technology was reported in the USEPA "Environmental Technology Verification Report, Groundwater Sampling Technologies", W.L. Gore and Associates, Inc. GORE-SORBER[®] Water Quality Monitoring (EPA/600/R-00/091).

An abstract of this report can be found on the Interstate Technology Regulatory Council website: <u>http://www.diffusionsampler.org/Admin/EventDetails/DocumentViewInfo.asp?DocID=308&Location= Library</u>. Demonstration of this technology is presented in the USEPA Environmental Technology Verification Program's document posted on another website: <u>http://www.diffusionsampler.org/Documents/epa-vs-scm-</u> <u>38_gore_sorber.pdf</u>. The GORE[™] technology has been utilized at over 3,000 sites in all 50 states and in many countries worldwide (<u>http://www.gore.com/en_xx/products/geochemical/environmental/</u> and <u>http://www.gore.com/en_xx/products/geochemical/environmental/surveys_environmental_fag.html</u>).

4.0 Field Work

On June 2, 2008, MPCA obtained the needed access agreements for STS to enter the property and perform the field work (samplers' deployment) from three entities: Oak Park Properties (7400 Oak Park Village Drive, St. Louis Park, MN 55426), Oak Park Village Associates, LLLP (7267-1/2 West Oak Park Village Drive, St. Louis Park, MN 55426) and the City of St. Louis Park (Cindy Walsh, Director of Parks and Recreation). MPCA did not receive an access agreement from Gassen Company (which is a management company for Park Condominium at 3300 and 3320 Louisiana Ave. S., St. Louis Park, MN 55426). Consequently probes P-22 through P-30 (see Figure 1) had to be moved from originally planed locations to outside of this property's boundaries. These location changes were approved by MPCA and included in the QAPP.

Beginning June 2, 2008, after the QAPP was approved by MPCA, STS started the process of utility clearance. STS deployed the passive diffusional samplers, GORE[™] modules (the modules), at 33 locations designated in the QAPP (see Figure 1) on June 5, 2008. The modules were deployed with the use of an electrically powered, hand operated rotating hammer. The hammer was used to drill 3/4 inch to 1 inch diameter, 2-1/2 to 3 feet deep holes. The modules were placed in boreholes for 11 to 12 days, until June 16-17, 2008, when they were retrieved and shipped to Gore for analysis. Out of the 33 modules deployed, 33 were retrieved (a 100% recovery rate).

The modules' deployment and retrieval operations were conducted following procedures and protocols described in the approved QAPP (see Appendix A).

5.0 Laboratory Analysis and Report

The retrieved modules and the associated QA/QC modules (trip blanks and field blanks) were shipped to Gore, which received them on June 18, 2008. The modules were processed and analyzed as described in the Gore™ Surveys Final Report provided in Appendix B. The analyses were conducted with the use of gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units.

Following the analysis and data processing, Gore provided a series of documents included in Appendices B, C and D. Appendix B includes the following:

- Gore™ Surveys Final Report
- Chain of custody and installation/retrieval log
- Analytical data table
- Stacked total ion chromatograms

• Contour maps for three compounds identified for plotting by STS (in consultation with MPCA): Fluorene, 2-Methyl Naphthalene and Naphthalene

Appendix C is a disk which includes an electronic copy of the W.L. Gore and Associates QA/QC Deliverable Package.

Appendix D presents the methodology used to estimate soil gas concentrations based on mass of target compounds desorbed from the deployed and retrieved GORE™ Modules.

6.0 Review of the Survey Results and Analysis

The Gore report (included in Appendix B) provides two analytical data tables: one reporting the measured mass (in micrograms) of VOCs, SVOCs and PAHs that desorbed from the deployed and retrieved GORE[™] Modules; the other table presents soil gas concentrations estimated from the adsorbed mass, modules' exposure time and assumptions about the soil properties. These concentrations were calculated following the methodology that is documented in Appendix D (Vapor Concentration Calculations) using default porosity values for dry sandy loam soil, 0.39 cm³/cm³ total porosity and 0.126 cm³/cm³ water filled porosity. This table with estimated concentrations is also presented in the main body of the STS report as Table 1.

Inspection of the contents of Table 1 reveals the following:

- No target compounds (VOCs, SVOCs, PAHs) were detected above the method detection limit on the trip blanks and the method blanks – thus, the analyte levels reported for the field-installed modules are likely to have originated from on-site sources.
- The results obtained for the four field duplicates (two from the industrial area and two from the residential area) are very similar.
- 27 out of the 42 target compounds were detected in at least one module.
- All contaminants of concern for the former Reilly Tar Site (Acenaphthene, Acenaphthylene, Fluorene, 2-Methyl Naphthalene, Naphthalene, Pyrene and Phenanthrene) were detected at most of the sampling locations.
- Several target compounds were detected at each of the 33 sampling locations.
- Total petroleum hydrocarbons (TPH) was the most ubiquitous group of target compounds detected they were detected in modules deployed at all 33 locations (100% of the sampled locations).
- The following other analytes were also frequently detected: Acenaphthene (26 locations 79% of the sampled sites), Benzene, Fluorantene, Pyrene (24 locations – 73% of the sampled sites) and Naphthalene (23 locations – 70% of the sampled sites).

The estimated soil gas concentrations were compared to Screening Levels (Table 1, Row No. 4). For most target compounds the Screening Level values used were the "Intrusion Screening Values x 100" (new values recommended by MPCA, June 2008 – factor 100 is to be used for sample areas outside of a building footprint). For some compounds (PAHs) for which there are no Intrusion Screening Values available, RfC x 100 values were used. RfC (Reference Concentrations) were taken from the USEPA's Johnson & Ettinger February 2004 Workbooks (<u>http://www.epa.gov/oswer/riskassessment/airmodel/johnson_ettinger.htm</u>).

In Row No. 7 of Table 1 are presented the calculated ratios of maximum estimated concentration over Screening Level. Inspection of the contents of Row No. 7 reveals that none of the estimated concentrations exceeded the corresponding Screening Level. The maximum estimated concentration of Naphthalene was the closest to the Screening Level, with the calculated ratio (maximum concentration over the Screening Level) equal to 0.83. Other compounds with significant estimated concentrations (the ratio 0.1 or greater) are: 1,3,5-Trimethylbenzene, 2-Methyl Naphthalene, 1,2,4-Trimethylbenzene, Fluorene, Ethylbenzene, Benzene and Acenaphthene.

The calculated concentrations of target compounds shown in Table 1 represent only a gross estimate and most likely are biased low due to the following factors:

- The modules installed in areas of heavier contamination may have come to equilibrium with the environment (no net mass gain after the point of equilibrium) before their retrieval (after more than 10 days). As the first equation provided in Appendix D shows, the shorter the exposure time needed to bring about that equilibrium the higher the calculated contaminant concentration (thus overestimating the needed exposure period results in underestimating the contaminant concentration in soil air).
- At shallow depths, soil gas mixes with ambient air, thus diluting the VOC vapor concentrations this is especially the case with sandy soils, particularly when they are not capped by pavement or buildings.

Inspection of Gore generated figures of estimated soil gas concentrations for Fluorene, 2-Methyl Naphthalene and Naphthalene reveal the presence of hot spots (like around sampling locations P-21 and P-32). Because of limited coverage with sampling points, boundaries of these hot spots are not delineated.

7.0 Discussion

The results of this survey demonstrate that VOCs, SVOCs and PAHs are present in soil vapor throughout the surveyed area. Among the detected compounds are all the identified contaminants of concern (that were tested for) related to the operations of the former Reilly Tar Site: Acenaphthene, Acenaphthylene, Fluorene, 2-Methyl Naphthalene, Naphthalene, Pyrene and Phenanthrene. All these contaminants of concern were detected at most of the sampled 33 locations.

Chlorinated VOCs commonly present in the surrounding areas, 1,1,2,2-Tetrachloroethene, Trichloroethylene, cis-1,2-Dichloroethene and trans-1,2-Dichloroethene (STS, 2007a, 2007b, 2008; USEPA, 2008), are not present or are present at trace amounts at the former Reilly Tar Site.

The maximum estimated concentration of Naphthalene was the closest to the Screening Level, with the calculated ratio (maximum concentration over the Screening Level) equal to 0.83. Other compounds with significant estimated concentrations are: 1,3,5-Trimethylbenzene, 2-Methyl Naphthalene, 1,2,4-Trimethylbenzene, Fluorene, Ethylbenzene, Benzene and Acenaphthene. Of particular concern is the detected significant presence of Naphthalene at sampling location P-21 – southeast corner of Oak Park Village Apartments and northeast of Park Condominium's property boundary.

Although the soil vapor concentrations estimated from the desorbed mass are all below the Screening Levels, these estimates are highly unreliable (see discussion in Section 6.0). The fact that soil vapors of contaminants of concern are consistently present throughout the surveyed area strongly indicates that they may also be present under residential buildings.

8.0 Recommendations

It is recommended that a follow-up soil vapor survey be conducted to collect soil vapor samples for direct measurement of contaminant concentrations in soil vapor. The purpose of such a survey would be to verify if the contaminants of concern commonly detected throughout the former Reilly Tar Site are present in shallow soil vapors at the Site at concentrations above the appropriate and applicable Screening Levels.

9.0 General Qualifications

The evaluations and opinions presented in this report were developed from consideration of the project area characteristics and interpretation of available data. STS' interpretation of available data is based on normally accepted reasonable engineering judgment. STS' opinions were made based upon STS' knowledge, experience and qualifications and represent STS' judgment.

STS professional services were performed in accordance with generally accepted engineering practices. This warranty is in lieu of other warranties, either expressed or implied. STS assumes no responsibility for data or interpretations made by others. STS assumes responsibility for the accuracy of the report's contents subject to what is stated elsewhere in this section but recommends that the report be used only for the purpose intended by

the client and STS when the report was prepared. The report may be unsuitable for other uses and reliance on its content by anyone other than the client is done at the sole risk of the user.

If you have any questions regarding the contents of this report, or if we can be of further assistance to you, please do not hesitate to contact us at 763-315-6300.

Sincerely,

31015 Rypedi

Peter A. Rzepecki, PhD Phg PG Senior Project Scientist

B 0

ڊ. در

Robert L. DeGroot, PG PE Principal Engineer

PAR/dn Encs.

© STS 2008, ALL RIGHTS RESERVED

References

STS, 2007a. St. Louis Park Soil Vapor Survey Results Report. Prepared for the Minnesota Pollution Control Agency, STS Project 200605038, February 16, 2007.

STS, 2007b. St. Louis Park Soil Vapor and Groundwater Investigation. Report prepared for the Minnesota Pollution Control Agency, STS Project 200702018, September 19, 2007.

STS, 2008. Phase II Investigation of Edina and Hopkins Dry Cleaners Facilities. Prepared for the Minnesota Pollution Control Agency, STS Project 200705300, June 30, 2008.

USEPA, 2008. Highway 7 and Wooddale Avenue Soil Vapor Study (<u>http://www.pca.state.mn.us/cleanup/soil-vapor.html</u>)

Figures

Figure 1 – Reilly Tar Site Screening Soil Vapor Survey – Probe Location Diagram Gore Figure – Fluorene Estimated Soil Gas Concentrations Gore Figure – 2-Methyl Naphthalene Estimated Soil Gas Concentrations Gore Figure – Naphthalene Estimated Soil Gas Concentrations

Tables

Table 1 - W.L. Gore and Associates – Estimated Soil Vapor Concentrations of Analyzed and Detected Compounds

Table 2 - GPS Waypoints of Vapor Pt and Orientation Locations for Reilly Tar Sampling in St. Louis Park, MN

Appendices

Appendix A - QAPP

Appendix B - W.L. Gore and Associates Report

Appendix C - W.L. Gore and Associates QA/QC Deliverable Package (disc)

Appendix D - Vapor Concentration Calculations

Figures

Figure 1 – Reilly Tar Site Screening Soil Vapor Survey – Probe Location Diagram Gore Figure – Fluorene Estimated Soil Gas Concentrations Gore Figure – 2-Methyl Naphthalene Estimated Soil Gas Concentrations Gore Figure – Naphthalene Estimated Soil Gas Concentrations



 Drawn:
 TAK
 6/20/2008

 Checked:
 PR
 6/20/2008

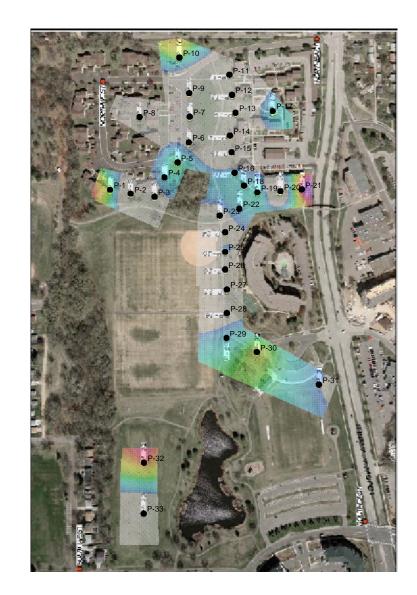
 Approved:
 RLD
 6/20/2008

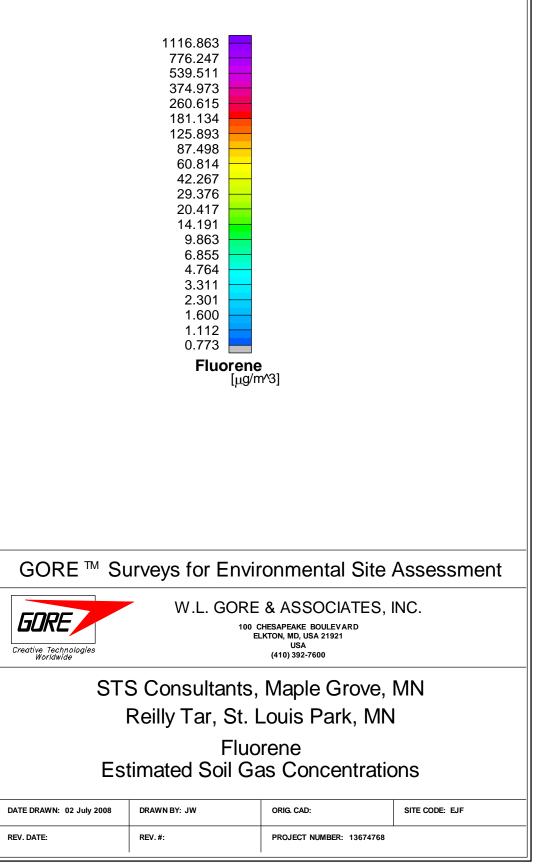
 PROJECT
 200802141

 FIGURE
 1

REILLY TAR SITE SCREENING SOIL VAPOR SURVEY PROBE LOCATION DIAGRAM ST. LOUIS PARK, MINNESOTA 10900 73rd Ave. N., Suite 150 Maple Grove, MN 55369 (763)-315-6301 www.stsconsultants.com copyright ©2008, By: STS Consultants, Ltd

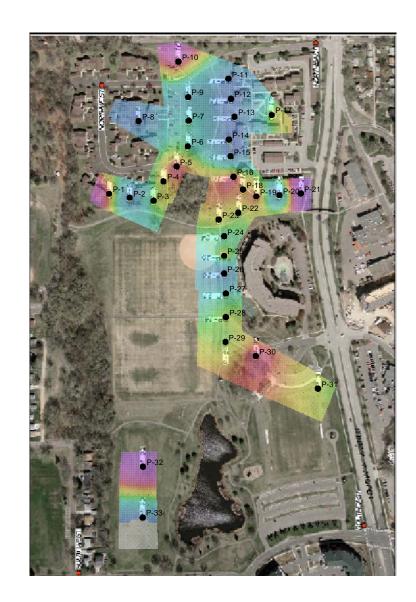
AECOM





ENTS HAVE BEEN PRODUCED FOR THE SOLE USE OF THE RECIPIENT IDENTIFIE UCED OR MODIFIED IN ANY WAY WITHOUT THE PRIOR WRITTEN CONSENT OF USE IS STRICTLY PROHIBITED PURSUANT TO COPYRIGHT, TRADEMARK AND WL. GORE & ASSOCIATES. UNAUTHORIZED USE IS STRICTLY PROHI OTHER APPLICABLE 1 AMS

Scale	e 1:1680		
100 0	100 200	300 DATE DRAWN: 02 July 2008	DR
US s	urvey foot	REV. DATE:	RE



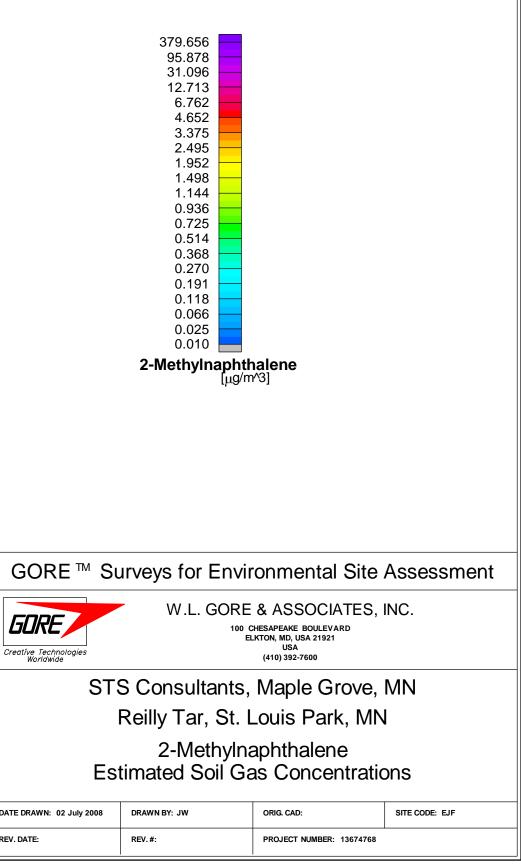
GORE - SI	irveys i
Creative Technologies Worldwide	W
	S Cons Reilly T
	2-N
DATE DRAWN: 02 July 2008	

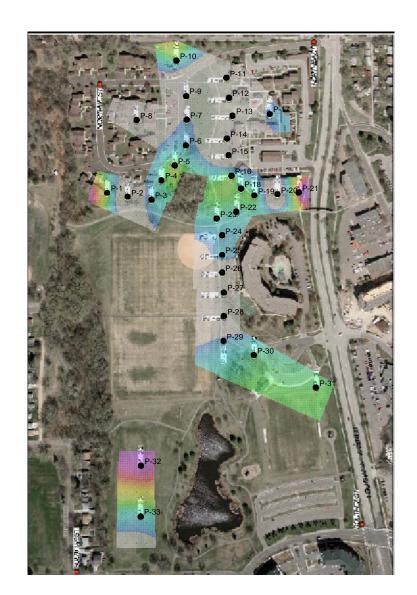
GORE and	desians	are	trademarks	of	W/I	GORE &		hes
GONL and	uesiyiis	aie	uaueiiiaiks	UI	VV.L.	GONE 8	Associat	.03

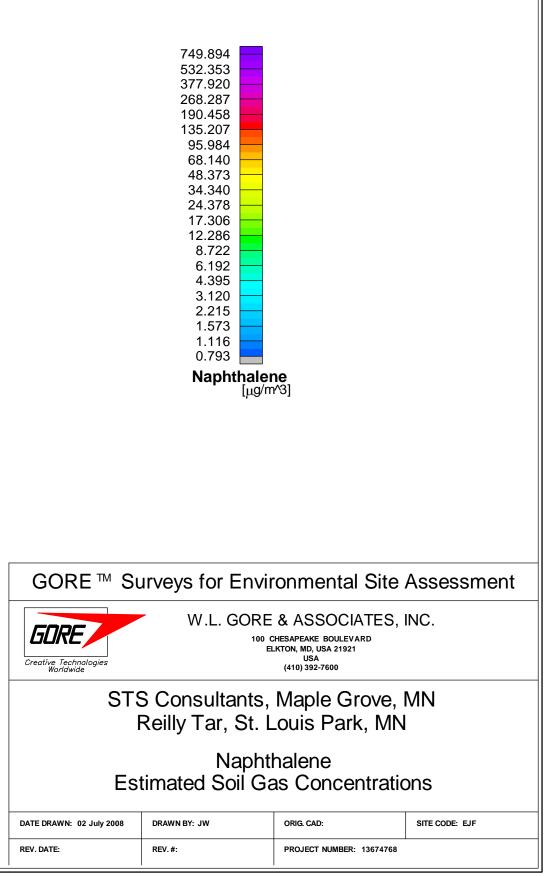
THIS DRAWING AND ANY OF ITS ATTACHMENTS HAVE BEEN PRODUCED FOR THE SOLE USE OF THE RECIPIENT IDENTIFIED HEREIN AND MUST NOT BE USED, REPRODUCED OR MODIFIED IN ANY WAY WITHOUT THE PRIOR WRITTEN CONSENT OF WLI GORE & ASSOCIATES, UNAUTHORIZED USE IS STRICTLY PROHIBITED PURSUANT TO COPYRIGHT, TRADEMARK AND OTHER APPLICABLE LAWS.

	S	Scale 1:168	0	
100	0	100	200	300
		US survey foot		

REV. DATE: REV. #:







GORE and designs a	are trademarks of W.L.	GORE & Associates
--------------------	------------------------	-------------------

THIS DRAWING AND ANY OF ITS ATTACHMENTS HAVE BEEN PRODUCED FOR THE SOLE USE OF THE RECIPIENT IDENTIFIE HEREIN AND MUST NOT BE USED, REPRODUCED OR MODIFIED IN ANY WAY WITHOUT THE PRIOR WRITTEN CONSENT OF WLI GORE & ASSOCIATES. UNAUTHORIZED USE IS STRICTLY PROHIBITED PURSUANT TO COPYRIGHT, TRADEMARK AND OTHER APPLICAME I AMO

		C	Scale 1:1680	Ś	
DATE DRAWN: 02 July 2	300	200	100	0	100
REV. DATE:			US survey foot		

Tables

Table 1 - W.L. Gore and Associates – Estimated Soil Vapor Concentrations of Analyzed and Detected Compounds

Table 2 - GPS Waypoints of Vapor Pt and Orientation Locations for Reilly Tar Sampling in St. Louis Park, MN

TABLE 1 - GORE[™] SURVEYS ANALYTICAL RESULTS STS, MAPLE GROVE, MN GORE STANDARD VOC/SVOC TARGET COMPOUNDS PLUS ADDITIONAL PAHs (A4) ESTIMATED CONCENTRATIONS REILLY TAR - ST. LOUIS PARK, MN SITE EJF - PRODUCTION ORDER #13674768

Row Number			Analyte Name:	H. nd/aur. - Hydorc.	X X Benzene + Toluene + Ethylbenzene + Xylenes	Benzene Benzene Bruz Bruz Benzene Bruz Bruz Bruz Bruz Bruz Bruz Bruz Bruz	eueno PL, ug/m^3;	Ethylbenzene Z, ug/m^3	enercylene Tr. ng/m^3	euej/X-o r/L, ug/m^3	6 6 Www wywy 8 8 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	eueoane Dudecane	Tridecane Tridecane		gg c Trimethylbenzene + ⇒ 1,2,4- b Trimethylbenzene		в. 1,3,5- ww/mathylbenzene	Tit bn cis-&trans-1,2- Dichloroethene εν	m trans-1,2- Dichloroethene	й та wy/b cis-1,2-Dichloroethene 6	<i>c</i> ombined PAHs combined PAHs	'X be Naphthalene + 2- w∭ Methyl Naphthalene	Naphthalene	Су	1. Methyl t-butyl Ether €v.	T mywy 2, 1, 1, -Dichloroethene	W.m/fn.1,1,-Dichloroethane	Y 6n 	'Y: 1,2,-Dichloroethane	E, ud/moethylene	Octane O
2				ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³
3			MDL ⁽¹⁾ =	0.82		0.24	0.24	0.55	0.61	0.49		0.37	0.37	0.40		0.44	0.32		0.61	0.59			0.79	0.35	0.40	2.14	1.47	0.66	0.20	0.23	0.46
4		Screening	g Level (ug/m ³) =			130	500000	400	10000	10000						700	600		6000	4000			900	7000	300000	20000	50000	100000	40	300	
5		Screening Lev	vel Source (3, 4) =			3	3	3	3	3						3	3		3	3			3	3	3	3	3	3	3	3	
6		Max. Estim.	Conc. (ug/m ³) =	1405.48	150.58	5.77	10.85	27.13	73.09	37.07	392.55	384.34	12.31	16.69	201.81	81.83	119.99	0.60	0.00	0.60	6854.69	1804.23	749.64	1054.59	0.00	0.00	0.00	0.00	0.00	0.24	0.94
7	Ma	x. Estim. Conc. / S	creening Level =			0.04	0.00	0.07	0.01	0.00						0.12	0.20		0.00	0.00			0.83	0.15	0.00	0.00	0.00	0.00	0.00	0.00	
8	Date Analyzed	Field Sample Location No.	Lab. Sample No.																												
9	06/27/08	1	569698	108.23	9.35	0.72	1.23	1.11	4.31	1.98	2.31	1.13	0.38	0.80	4.56	3.59	0.97	nd	nd	nd	458.95	34.01	28.01	6.00	bdl	nd	nd	nd	nd	nd	nd
10	06/28/08	2	569697	12.11	1.71	nd	nd	nd	1.22	0.49	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	3.11	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd
11	06/27/08	3	569696	19.39	0.90	0.90	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	10.48	4.34	3.35	0.99	nd	nd	nd	nd	nd	nd	nd
12	06/28/08	4	569695	57.80	3.24	nd	0.98	0.55	1.22	0.49	1.15	0.37	0.37	0.40	0.77	0.45	0.32	0.00	nd	bdl	45.34	10.10	8.34	1.75	nd	nd	nd	nd	nd	nd	nd
13	06/27/08	5	569694	26.82	6.53	0.72	1.48	1.11	1.23	1.98	nd	nd	nd	nd	1.42	0.45	0.97	nd	nd	nd	167.41	32.76	23.22	9.54	bdl	nd	nd	nd	nd	nd	nd
14 15	06/28/08 06/28/08	6 7	569693 569692	6.75 13.28	0.48	0.48	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	4.11 10.31	1.94 1.54	1.59 1.19	0.35 0.35	bdl nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd
16	06/27/08	8	569700	3.70	0.72 nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.35 nd	nd	nd	nd	nd	nd	nd	nd
17	06/28/08	9	569691	12.53	1.20	1.20	nd	nd	nd	nd	5.28	5.28	nd	nd	nd	nd	nd	nd	nd	nd	1.68	nd	nd	nd	bdl	nd	nd	nd	nd	0.24	nd
18	06/28/08	9 DUP	569691	53.33	0.48	0.48	nd	nd	nd	nd	33.94	33.56	0.38	nd	nd	nd	nd	nd	nd	nd	3.21	0.35	nd	0.35	nd	nd	nd	nd	nd	nd	nd
19	06/28/08	10	569690	48.18	nd	nd	nd	nd	nd	nd	3.77	3.40	0.38	nd	nd	nd	nd	nd	nd	nd	174.06	26.63	10.01	16.61	nd	nd	nd	nd	nd	nd	nd
20	06/28/08	11	569689	9.14	1.12	1.12	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
21	06/27/08	12	569688	518.26	nd	nd	nd	nd	nd	nd	392.55	384.34	3.39	4.82	nd	nd	nd	nd	nd	nd	0.78	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
22	06/28/08	13	569686	19.14	0.45	0.45	nd	nd	nd	nd	0.00	nd	nd	bdl	nd	nd	nd	nd	nd	nd	3.11	0.00	bdl	nd	nd	nd	nd	nd	nd	nd	nd
23 24	06/27/08 06/28/08	14 15	569685 569684	1.57 1.61	nd	nd	nd	nd nd	nd	nd	nd	nd	nd	nd nd	nd	nd	nd	nd	nd nd	nd	0.00 3.64	nd nd	nd	nd	nd nd	nd	nd	nd	nd	nd	nd
24	06/28/08	15	569683	278.09	nd 5.59	nd 0.96	nd 1.24	0.56	nd 1.85	nd 0.99	nd 0.78	nd 0.38	nd nd	0.40	nd 3.21	nd 2.25	nd 0.97	nd nd	nd	nd nd	127.23	23.35	nd 15.22	nd 8.13	nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd 0.94
26	06/28/08	10	569687	14.53	nd	nd	nd	nd	nd	nd	0.75	0.75	nd	nd	nd	nd	nd	nd	nd	nd	36.91	2.26	1.20	1.06	nd	nd	nd	nd	nd	nd	nd
27	06/28/08	18	569682	31.09	0.72	0.72	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	21.55	10.44	7.61	2.83	nd	nd	nd	nd	nd	nd	nd
28	06/27/08	19	569679	50.69	7.76	0.48	0.49	1.11	3.70	1.98	0.78	0.38	nd	0.40	1.22	0.90	0.32	nd	nd	nd	147.47	24.39	18.03	6.36	nd	nd	nd	nd	nd	nd	nd
29	06/27/08	20	569680	20.52	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
30	06/28/08	21	569681	1405.48	47.06	1.91	2.20	1.10	18.29	23.55	39.83	10.83	12.31	16.69	201.81	81.83	119.99	nd	nd	nd	6854.69		749.64	1054.59	nd	nd	nd	nd	nd	nd	nd
31	06/27/08	22	569678	117.41	0.48	0.48	nd	nd	nd	nd	0.78	0.38	nd	0.40	nd	nd	nd	0.60	nd	0.60	31.79	6.27	5.21	1.06	nd	nd	nd	nd	nd	nd	nd
32	06/28/08	23	569677 569676	2.84	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	15.93	7.37	5.61	1.77	nd	nd	nd	nd	nd	nd	nd
33 34	06/27/08 06/28/08	24 25	569675	58.76 70.66	nd 2.31	nd 1.20	nd nd	nd nd	nd 0.62	nd 0.50	0.77	0.37 nd	nd 0.38	0.40	nd 0.90	nd 0.90	nd nd	nd nd	nd nd	nd nd	6.79 31.69	1.54 7.37	1.19 5.60	0.35 1.77	nd bdl	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd
35	06/28/08	25	569674	1.86	0.72	0.72	nd	nd	0.02 nd	0.50 nd	nd	nd	0.38 nd	0.80 nd	0.90 nd	0.90 nd	nd	nd	nd	nd	31.09	nd	nd	nd	bdl	nd	nd	nd	nd	nd	nd
36	06/27/08	27	569673	3.06	1.19	1.19	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	5.44	1.19	1.19	bdl	bdl	nd	nd	nd	nd	nd	nd
37	06/27/08	28	569672	7.27	0.72	0.72	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	1.56	1.06	nd	1.06	bdl	nd	nd	nd	nd	nd	nd
38	06/27/08	29	569671	42.55	3.14	1.19	1.95	nd	nd	nd	0.79	nd	bdl	0.79	0.00	bdl	nd	nd	nd	nd	22.02	2.28	1.58	0.70	nd	nd	nd	nd	nd	nd	nd
39	06/27/08	30	569670	21.69	1.97	0.97	1.00	nd	nd	nd	nd	nd	nd	nd	0.45	0.45	nd	nd	nd	nd	293.69	17.73	8.47	9.26	nd	nd	nd	nd	nd	nd	nd
40	06/28/08	31	569669	4.26	0.48	0.48	nd	nd	nd	nd	2.23	2.23	nd	nd	0.00	bdl	nd	nd	nd	nd	14.97	11.32	10.27	1.05	nd	nd	nd	nd	nd	nd	nd
41 42	06/28/08 06/28/08	32 32-DUP	569668 569668	350.61 529.66	144.33 150.58	2.16 5.77	7.64 10.85	24.36 27.13	73.09 71.24	37.07 35.59	10.23 19.30	7.15 13.17	1.88 4.13	1.20 2.00	116.91 101.39	62.27 52.86	54.64 48.54	nd	nd	nd	1572.18 2584.83	545.86 940.02	432.68 657.62	113.17 282.40	nd bdl	nd	nd	nd	nd	nd	0.47
42	06/28/08	32-DUP 33	569667	3.07	0.72	0.72		27.13 nd	71.24 nd	35.59 nd	19.30 nd	13.17 nd	4.13 nd	2.00 nd	101.39 nd	52.86 nd	48.54 nd	nd nd	nd nd	nd nd	2584.83 3.80		2.80	282.40 nd	nd	nd nd	nd nd	nd nd	nd nd	nd nd	0.47 nd
44		FIELD BLANK	569699	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
45		TRIP BLANK	569701	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
																													-		
46	06/27/08		method blank	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
47	06/28/08		method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
40			Maximum	1405 40	150 50	E 77	10.05	07.40	72.00	27.07	202 55	204.04	10.04	16.00	204.04	01.00	110.00	0.00	0.00	0.00	6954.00	1904.00	740.04	1054.50	0.00	0.00	0.00	0.00	0.00	0.24	0.04
48 49			Maximum Standard Dev.	1405.48 262.09		5.77 1.03	10.85 2.22	27.13 6.04	73.09 17.06	37.07 9.23	392.55 66.37	384.34 64.87	12.31 2.22	16.69 2.90	201.81 41.79	81.83 18.92	119.99 23.18	0.60	0.00	0.60	6854.69 1236.21	1804.23 346.73	749.64 177.38	1054.59		0.00	0.00	0.00	0.00	0.24 0.04	0.94
49 50			Mean	112.17	34.96 11.26				5.05	2.99	14.75		0.68	0.84	12.36	5.91		0.10	0.00	0.03		100.60		43.48		0.00	0.00	0.00	0.00	0.04	
						0.70	0.00		0.00	2.50			0.00	0.01		0.01	0.10	0.02	0.00	0.00	001.77		50	10.10	0.00	0.00	0.00	0.00	0.00	0.01	0.00

Notes:

(1) - MDL - Method detection limit

(2) - TIC - Tentatively Identified Compound

⁽³⁾ - Screening Level Source = Intrusion Screening Values (MPCA, June 2008) x 100

 $^{(4)}$ - Screening Level Source = RfC x 100 (RfC values taken from databaase included in the

USEPA's Johnson & Ettinger February 2004 Workbooks;

RfC values for these compounds are not presently

available in the on-line IRIS database)

TABLE 1 - GORE[™] SURVEYS ANALYTICAL RESULTS STS, MAPLE GROVE, MN GORE STANDARD VOC/SVOC TARGET COMPOUNDS PLUS ADDITIONAL PAHs (A4) ESTIMATED CONCENTRATIONS REILLY TAR - ST. LOUIS PARK, MN SITE EJF - PRODUCTION ORDER #13674768

																r				
Row Number			Analyte Name:	n Tetrachloroethene €√	www. б.	e. ucenaphthene	be' nd Acenaphthylene	eu Lino ne. ua/m^3	(ე and Phenanthrene (TIC) ⁽²⁾ დ	(ე myw გ.	.0 Fluoranthene (TIC) ⁽²⁾ E	0) Pyrene (TIC) ⁽²⁾ &/w/m	E uolocota Chlorofor 13. ua/m^3	6, wybon Tetrachloride 5, wybon Tetrachloride	.∀ and 1,1,2-Trichloroethane ε	Chlorobenzene Chlorobenzene	W n 1,1,1,2- Tetrachloroethane	V n 1,1,2,2- Tetrachloroethane	a 1,3-Dichlorobenzene 6	m 1,2-Dichlorobenzene 6
2				ug/m ³	ug/m ³	ug/m ³	ug/m ³	uq/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³	ug/m ³
3			MDL ⁽¹⁾ =	0.84	0.69	0.50	1.36	0.77	0.77	0.77	0.77	0.77	1.26	1.30	2.55	0.82	0.36	1.03	0.62	3.77
4		Screenin	g Level (ug/m ³) =	2000	6000	21000		14000				11000	15000	70	60	5000		20	10000	20000
5		Screening Le	evel Source (3, 4) =	3	3	4		4				4	3	3	3	3		3	3	3
6			. Conc. $(ug/m^3) =$	1.68	0.00	792.34	1008.18	1116.67	1404.87	369.05	219.80	139.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Ma	x. Estim. Conc. / S		0.00	0.00	0.04		0.08				0.01	0.00	0.00	0.00	0.00		0.00	0.00	0.00
8	Date Analyzed	Field Sample Location No.	Lab. Sample No.																	
9	06/27/08	1	569698	nd	nd	335.88	3.44	18.35	9.39	19.95	22.29	15.64	nd	nd	nd	nd	nd	nd	nd	nd
10	06/28/08	2	569697	nd	nd	nd	nd	nd	0.78	0.78	0.78	0.78	nd	nd	nd	nd	nd	nd	nd	nd
11	06/27/08	3	569696	nd	nd	1.41	nd	bdl	1.09	1.09	1.46	1.09	nd	nd	nd	nd	nd	nd	nd	nd
12	06/28/08	4	569695	1.68	nd	6.51	bdl	2.71	11.65	7.77	3.88	2.72	nd	nd	nd	nd	nd	nd	nd	nd
13 14	06/27/08 06/28/08	5	569694 569693	nd nd	nd nd	47.43 1.00	bdl nd	14.06 bdl	41.08 1.16	10.17 nd	13.69 bdl	8.22 bdl	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd
15	06/28/08	7	569692	bdl	nd	1.00	nd	0.78	3.11	1.55	1.16	1.16	nd	nd	nd	nd	nd	nd	nd	nd
16	06/27/08	8	569700	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
17	06/28/08	9	569691	0.85	nd	0.50	nd	nd	1.17	nd	bdl	bdl	nd	nd	nd	nd	nd	nd	nd	nd
18	06/28/08	9 DUP	569691	nd	nd	0.50	nd	nd	1.57	0.78	bdl	bdl	nd	nd	nd	nd	nd	nd	nd	nd
19	06/28/08	10	569690	nd	nd	7.57	7.58	21.88	55.59	45.80	5.48	3.52	nd	nd	nd	nd	nd	nd	nd	nd
20	06/28/08	11	569689	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
21	06/27/08	12	569688	nd	nd	nd	nd	nd	nd	nd	0.78	bdl	nd	nd	nd	nd	nd	nd	nd	nd
22 23	06/28/08 06/27/08	13 14	569686 569685	nd nd	nd nd	0.93 nd	nd nd	bdl nd	bdl nd	bdl nd	1.09 nd	1.09 bdl	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd
23	06/28/08	14	569684	nd	nd	0.50	nd	nd	0.78	0.78	0.78	0.78	nd	nd	nd	nd	nd	nd	nd	nd
25	06/27/08	16	569683	nd	nd	7.57	bdl	2.74	9.79	25.06	37.98	20.75	nd	nd	nd	nd	nd	nd	nd	nd
26	06/28/08	17	569687	nd	nd	2.02	1.38	3.51	12.90	5.47	5.47	3.91	nd	nd	nd	nd	nd	nd	nd	nd
27	06/28/08	18	569682	nd	nd	1.51	1.38	2.34	3.52	0.78	0.78	0.78	nd	nd	nd	nd	nd	nd	nd	nd
28	06/27/08	19	569679	nd	nd	14.14	2.07	8.99	34.45	14.49	32.50	16.44	nd	nd	nd	nd	nd	nd	nd	nd
29	06/27/08	20	569680	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
30 31	06/28/08 06/27/08	21 22	569681 569678	nd nd	nd nd	792.34 9.08	1008.18 bdl	1116.67 1.95	1404.87 4.70	369.05 1.57	219.80 4.31	139.56 3.91	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd
31	06/28/08	22	569677	nd	nd	1.51	bdl	bdl	3.52	0.78	1.17	1.57	nd	nd	nd	nd	nd	nd	nd	nd
33	06/27/08	23	569676	0.84	nd	1.00	nd	bdl	1.55	nd	1.55	1.16	nd	nd	nd	nd	nd	nd	nd	nd
34	06/28/08	25	569675	nd	nd	5.55	bdl	1.56	7.43	1.96	3.91	3.91	nd	nd	nd	nd	nd	nd	nd	nd
35	06/28/08	26	569674	nd	nd	0.50	nd	nd	1.17	nd	0.78	0.78	nd	nd	nd	nd	nd	nd	nd	nd
36	06/27/08	27	569673	nd	nd	bdl	nd	nd	1.55	bdl	1.55	1.16	nd	nd	nd	nd	nd	nd	nd	nd
37	06/27/08	28	569672	nd	nd	0.50	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
38 39	06/27/08 06/27/08	29 30	569671 569670	nd nd	nd nd	1.99 151.02	bdl 2.78	1.93 37.78	7.33 42.59	2.32 17.74	3.86 15.38	2.32 8.67	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd	nd nd
40	06/28/08	31	569669	nd	nd	2.49	2.76 nd	bdl	1.16	bdl	bdl	bdl	nd	nd	nd	nd	nd	nd	nd	nd
41	06/28/08	32	569668	nd	nd	373.62	7.56	169.54	262.40	133.93	51.15	28.11	nd	nd	nd	nd	nd	nd	nd	nd
42	06/28/08	32-DUP	569668	bdl	nd	762.86	14.44	274.77	350.65	156.19	55.84	30.07	nd	nd	nd	nd	nd	nd	nd	nd
43	06/28/08	33	569667	nd	nd	1.01	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
44	06/28/08	FIELD BLANK	569699	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
45	06/27/08	TRIP BLANK	569701	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
46	06/27/08		method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
47	06/28/08		method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
48			Maximum	1.68	0.00	792.34	1008.18	1116.67	1404.87	369.05	219.80	139.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49			Standard Dev.	0.35	0.00	195.87	170.21	193.49	244.09	69.28	38.64	24.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50			Mean	0.12	0.00	72.37	30.10	48.07	65.08	23.43	13.98	8.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Notes:

MDL - Method detection limit
 TIC - Tentatively Identified Compound

⁽³⁾ - Screening Level Source = Intrusion Screening Values (MPCA, June 2008) x 100

 ⁽⁴⁾ - Screening Level Source = RfC x 100 (RfC values taken from databaase included in the USEPA's Johnson & Ettinger February 2004 Workbooks; RfC values for these compounds are not presently available in the on-line IRIS database)

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

Table 2. GPS Waypoints of Vapor Pt and Orientation Locations or Reilly Tar Sampling in St. Louis Park, Minnesota

Former Reilly Tar Site Soil Vapor Survey - 2008 STS Project 200802141

	Latitude/Longitude	in Decimal Degrees	UTM Datum=Nad 83-15					
Sample ID	Latitude	Longitude	E	N				
P-1	N 44.94393	W 93.37493	470421.0	4976790.1				
P-2	N 44.94373	W 93.37462	470445.3	4976767.8				
P-3	N 44.94371	W 93.37412	470484.8	4976765.4				
P-4	N 44.94404	W 93.37408	470488.1	4976802.0				
P-5	N 44.94419	W 93.37376	470513.4	4976818.6				
P-6	N 44.94452	W 93.37356	470529.4	4976855.2				
P-7	N 44.94487	W 93.37357	470528.8	4976894.1				
P-8	N 44.94491	W 93.37442	470461.7	4976898.8				
P-9	N 44.94530	W 93.37353	470532.1	4976941.8				
P-10	N 44.94568	W 93.37384	470507.9	4976984.1				
P-11	N 44.94538	W 93.37280	470589.8	4976950.4				
P-12	N 44.94510	W 93.37284	470586.5	4976919.3				
P-13	N 44.94482	W 93.37275	470593.4	4976888.2				
P-14	N 44.94453	W 93.37279	470590.1	4976856.0				
P-15	N 44.94432	W 93.37276	470592.4	4976832.7				
P-16	N 44.94405	W 93.37277	470591.4	4976802.7				
P-17	N 44.94486	W 93.37193	470658.1	4976892.3				
P-18	N 44.94385	W 93.37259	470605.5	4976780.4				
P-19	N 44.94376	W 93.37229	470629.2	4976770.3				
P-20	N 44.94376	W 93.37190	470659.9	4976770.3				
P-21	N 44.94382	W 93.37150	470691.5	4976776.7				
P-22	N 44.94360	W 93.37261	470603.8	4976752.6				
P-23	N 44.94346	W 93.37289	470581.7	4976737.2				
P-24	N 44.94326	W 93.37294	470577.6	4976715.0				
P-25	N 44.94297	W 93.37290	470580.6	4976682.8				
P-26	N 44.94270	W 93.37291	470579.7	4976652.8				
P-27	N 44.94244	W 93.37290	470580.4	4976623.9				
P-28	N 44.94219	W 93.37288	470581.8	4976596.1				
P-29	N 44.94182	W 93.37283	470585.6	4976555.0				
P-30	N 44.94170	W 93.37235	470623.4	4976541.5				
P-31	N 44.94137	W 93.37104	470726.6	4976504.3				
P-32	N 44.94030	W 93.37457	470447.5	4976386.8				
P-33	N 44.93947	W 93.37465	470440.8	4976294.6				
REILLY NE CRN	N 44.94590	W 93.37120	470716.2	4977007.6				
REILLY NW CRN	N 44.94533	W 93.37517	470402.8	4976945.7				
REILLY SE CRN	N 44.93938	W 93.37028	470785.5	4976283.0				
REILLY SW CRN	N 44.93892	W 93.37562	470364.0	4976233.8				

Appendix A

QAPP



Quality Assurance Project Plan

Reilly Tar Site Screening Soil Vapor Survey St. Louis Park, Minnesota

STS Project 200802141

May-June 2008

Prepared by: Peter A. Rzepecki, PhD PHg PG Senior Project Hydrogeologist STS 763-315-6345

the tollowing page

Reilly Tar Site Screening Soil Vapor Survey St. Louis Park, Minnesota

Quality Assurance Project Plan

Minnesota Pollution Control Agency

Prepared by STS 10900 – 73rd Ave. N., Suite 150 Maple Grove, MN 55369-5547 763-315-6300

Prepared by: Date: Peter Rzepecki – STS Environmental Staff

Reviewed by:___ Date:____

Robert DeGroot – STS Project Quality Assurance Officer

Reviewed and approved by:____ Date:_____

Nile Fellows- MPCA Project Manager

Reviewed and approved by: _____ Date:

Dave Scheer - MPCA Hydrogeologist

Reviewed and approved by:

Date: Jay W. Hodny - W. L. Gore & Associates, Inc.

Distribution List: Nile Fellows, Minnesota Pollution Control Agency Bob DeGroot, STS STS Field Staff W.L. Gore

© STS 2008, ALL RIGHTS RESERVED

Reilly Tar Site Screening Soil Vapor Survey QAPP - Revision Number 1 Minnesota Pollution Control Agency STS Project 200802141 May 30, 2008 Page 1

Reilly Tar Site Screening Soil Vapor Survey St. Louis Park, MN

Quality Assurance Project Plan

Minnesota Pollution Control Agency

Prepared by STS Consultants, Ltd. 10900 – 73rd Ave. N., Suite 150 Maple Grove, MN 55369-5547 7 63-315-6300

Prepared by: Date: · Peter Rzepecki - STS Environmental Staff Reviewed by: Date: /-2-2008 Robert DeGroot - STS Project Quality Assurance Officer Reviewed and approved by: Date:_ Nile Fellows-MPCA Project Manager Reviewed and approved by Date:_ Dave Scheer - MPCA Hydrogeologist

Reviewed and approved by: Date: 5-31-2008

Jay W. Hodny - W. L. Gore & Associates, Inc.

,

1

Table of Contents

1.0 Project and Task Organization	1
2.0 Personnel, Responsibilities and Communication	1
3.0 Project Description	3
4.0 Project Objectives, Data Quality Objectives	3
5.0 Sampling Process Design	4
6.0 Internal Quality Assurance	8
7.0 Laboratory Work and QA/QC	10
7.1 Laboratory Quality Assurance	
7.2 Analytical Services	11
8.0 Data Generation	11
9.0 Data Validation	11
10.0 Corrective Action	11
11.0 Documents and Records	12
12.0 Data Assessment	
13.0 Reference List	

1.0 Project and Task Organization

Introduction

The September 2006 Five Year Review for the Reilly Tar state and federal Superfund site required an evaluation of the potential for vapor intrusion into the on-site structures. To begin addressing this concern, this vapor study has been set up as a cooperative effort between the MPCA, STS which acts on behalf of MPCA, and W. L. Gore & Associates, Inc. (Gore), who has been selected and subcontracted to provide the needed GORE[™] Survey technology.

2.0 Personnel, Responsibilities and Communication

STS Project Manager

Peter Rzepecki Phone: 763/315-6345 Fax: 763/315-1836 Email: peter.rzepecki@sts.aecom.com

STS Project Quality Assurance Officer

Robert DeGroot Phone: 763/315-6317 Fax: 763/315-1836 Email: robert.degroot@sts.aecom.com

MPCA Project Manager

Nile Fellows Phone: 651/296-7299 Fax: 651/296-9707 Email: nile.fellows@pca.state.mn.us

MPCA Hydrogeologist

Dave Scheer Phone: 651/296-6630 Fax: 651/296-9707 Email: dave,scheer@pca.state.mn.us

Owner's Representative for the City of St Louis Park

Scott Anderson Phone: 952/924-2557 Fax: 952/924-2570 Email: sanderson@stlouispark.org

W. L. Gore's Representative

Jay Hodny Phone: 410/506-4774 Fax: 410/506-4780 Email: jhodny@wlgore.com The specific responsibilities of the project members are listed below.

STS Project Manager (and designated STS staff)

- 1. Provide supervision and project assignments to STS staff.
- 2. Be responsible for review of all project deliverables.
- 3. Meet with MPCA Project Manager for review of progress and results of the project activities.
- 4. Responsible for development of request for proposal, bidding process for subcontracting passive diffusional sampling technology and laboratory services.
- 5. Oversee the project activities to ensure sampling methodologies, sample preparation reports, chain of custody procedures and all other procedures are being adequately adhered to.
- 6. Maintain record of all samples taken at the site including sample identification information.
- 7. Be in charge of project team organization and delegate specific tasks to be performed by field staff.
- 8. Coordinate arrangements with subcontractor.
- 9. Prepare/review all chain of custody records and field paperwork.
- 10. Monitor for hazardous conditions while conducting the project field activities.
- 11. Complete the Project Report after all necessary work has been completed.

STS Project Manager/Quality Assurance Officer

- 1. Be responsible for review of all project deliverables.
- 2. Define the objectives of the soil gas survey sampling program.
- 3. Provide appropriate criteria and guidance to the sampling personnel on the proper methods.
- 4. Review the subcontractor laboratory provided reports, including the data validation report.

MPCA Project Manager

- 1. Coordinate the overall activities of the study.
- 2. Administer work orders and fiscal obligation with STS.
- 3. Provide assistance with site access issues, if required.
- 4. Serve as point of contact for all MPCA responsibilities associated with the site evaluation.
- 5. Meet with the project team to discuss and review analytical results prior to finalizing the report.
- 6. Act as point of contact for public inquiries related to the site study. All questions directed at STS will be deferred to the MPCA Project Manager.

MPCA Hydrogeologist

- 1. Participate in project meetings including data review.
- 2. Review the work plan prepared by STS related to the objectives of the study and anticipated site conditions.

- 3. Provide technical assistance to STS as requested during the field activities.
- 4. Review the draft report for technical accuracy.

Owner's Representatives for City of St. Louis Park and City of Edina

1. Provide assistance with site access issues, as required.

W. L. Gore's Representative

- 1. Provide STS with diffusional sampler technology to apply in the field, provide technical support and advise.
- 2. Provide QA/QC for the entire process of sampler's preparation, delivery, laboratory analysis of the samplers, data review and reporting of the results.

3.0 Project Description

This project is to be carried out to address the issue of a potential VOC, SVOC and PAH soil vapor contamination near residential buildings at and around the former Reilly Tar Site, St. Louis Park, Minnesota (Site). These buildings are located on the north and northeast portions of what was once the Reilly Tar Site (see Figure 1). Several contaminants detected in soil and groundwater samples collected at the Site have vapor pressure high enough for migration at significant concentrations through the vadose zone. These contaminants include, among others, the following: Acenaphthene, Acenaphthylene, Carbazole, Dibenzofuran, Fluorene, 2-Methyl naphthalene, Naphthalene, Pyrene and Phenanthrene.

Since in recent years several contaminants were detected in St. Louis Park in soil gas at concentrations significantly above the Residential Intrusion Screening Values (June 2006 Version provided by Dr. Laura Solem, the MPCA Toxicologist), there is a concern that contaminants may also be present at the former Reilly Tar Site near residential buildings.

The locations of the sample points are near buildings that are on the property that is part of the former Reilly Tar Site. Based on past reports, there is still some contamination in the this area, potentially near or under the buildings. The contaminants from Reilly Tar are SVOCs and PAHs. However, other areas of St. Louis Park have VOC vapor issues. This data collection effort will report on SVOC, VOC and PAHs found.

4.0 Project Objectives, Data Quality Objectives

The purpose of the proposed soil gas survey is to carry out a screening-level survey to help identify if a soil gas cloud is present around and near proximity of residential complexes at and around the Reilly Tar Site.

Since this survey will generate data reported as adsorbed mass, rather than concentration, the data cannot be used to evaluate risks to human health. The survey will provide information about the presence and distribution of soil

gas contamination to guide further studies. This may include the need to expand this survey and/or to focus on selected areas for more quantitative studies. The immediate goal of this screening level St. Louis Park soil vapor survey is to use the GORE[™] Survey for effective and economic characterization of the aerial extent of soil SVOC, VOC, and PAH contamination in the residential areas of St. Louis Park. Another goal is to pinpoint the sources of detected contamination.

In order to fulfill the project objectives, appropriate technology has been selected with the demonstrated track record of many successful applications in delineating soil gas clouds. The technology provider was selected through the competitive process of public bidding.

This Quality Assurance Project Plan (QAPP) represents Category IV of quality assurance programs (according to modified classification presented in QUALITY ASSURANCE AND QUALITY CONTROL Section of Great Lakes Contaminated Sediments - Assessment and Remediation of Contaminated Sediments (ARCS)) (http://www.epa.gov/grtlakes/arcs/EPA-905-B94-002/B94002-ch2.html). This category is defined as "projects that produce intermediate results in testing assumptions". In this case, the exploratory soil vapor survey tests the hypothesis that soil VOC, SVOC and light PAH gas clouds are present at the former Reilly Tar Superfund Site. The qualitative (rather than quantitative – mass adsorbed to probes vs. gas concentration) results of this survey will guide in planning further studies in this area. The Category IV projects involve the least stringent requirements for data acceptance, the fewest number of QA/QC samples, and the least number of issues to be addressed in the QAPP.

The STS field staff with soil vapor survey experience has been selected to perform the field tasks. The staff went through an internal training program designed based on the detailed materials provided by the selected technology provider. STS staff will all have current 40 hour OSHA training. STS site Health and Safety Plan will be followed while staff are on-site.

W.L. Gore & Associates, Inc. maintains a Quality Assurance Manual that spells out all aspects of quality assurance at all steps of the laboratory process. This document contains propriety information, is confidential and is available for the MPCA staff review.

5.0 Sampling Process Design

Sampling and Analysis Design

The following text has been compiled using the materials provided by Gore. Part of that material is available at GORE[™] Surveys website:

http://www.gore.com/en_xx/products/geochemical/environmental/surveys_environmental_faq.html

Field Sampling Procedure

STS will follow the Gore provided "Soil Gas Sampling – Storage, Installation and Retrieval Guidelines" appended to this Quality Assurance Project Plan (QAPP). This document included standard field operating procedures that STS will be involved in during this soil vapor survey.

Field Equipment

The modules deployment and retrieval operations may require the use of the following equipment:

- GORE[™] Modules
- GORE[™] Surveys sample containers
- Scaled site map and field notebook
- Corks
- Stakes/flags/markers
- Two or three 300 foot tape measures, or other distance measuring devices
- Pen/pencil
- Rotary hammer with 1" carbide-tipped bit (36" long)
- Several extension cords
- Power source (portable generator or nearby building)
- Slide hammer
- 4 5' Tile probe
- Insertion rod
- Gloves
- Paper towels
- Trash bag (for waste towels, etc.)
- Water to decontaminate slide hammer, drill bit and insertion rod
- Installation and Retrieval Information Sheet
- Installation and Retrieval Log
- Chain of Custody
- Scissors, cork screw or knife
- String
- Weights
- Cooler
- Small shovel
- Pliers or vise-grips (needle nose)
- Patching materials
- Steel pins for identification of deployed sampler locations

No equipment used in the field requires any calibration.

Sampling Design

This soil vapor survey will be conducted with the use of GORE[™] Modules (Modules) and associated equipment. The Module (formerly known as the GORE-SORBER[®] Screening Module) is constructed of a GORE-TEX[®] membrane tube, a chemically-inert, waterproof, yet vapor-permeable polymer, which houses engineered adsorbents. Volatile and semi-volatile compounds present in air, soil gas or water diffuse unimpeded through the membrane to the adsorbent material, while liquid water and soil particles are prevented from contacting the adsorbent. The membrane has over 80% open area and pore sizes that are 1,000 times larger than the largest SVOC molecule, thus offering essentially no resistance to vapor migration to the adsorbent. Compounds moving to the inside of the membrane are immediately collected by the adsorbents.

Each module (except for trip blank and field blank modules) will be deployed for a period of ten days by installing it in a small diameter, 2-1/2 to 3 feet deep hole. The holes will be created using 1 inch diameter, 36 inches long carbide drill bit operated with a generator powered Bosh Rotary Hammer Drill. The generator will be operated at least 30 feet away from the hole location to avoid exposure of the hole to contaminants coming from exhaust. In case the generator cannot be easily transported to near the sampling site, a manually operated slide hammer will be used to drive the bit.

The holes for module deployment will be drilled following utility clearance. Each hole will be located at least 15 feet away from any near ground surface conduits that may serve as preferential pathways for soil gas migration.

A stainless steel insertion rod will be supplied by Gore. One end of the rod fits into a small pocket cut in the module. The opposite end of the module is tied to a strong cord, which is then tied to a cork (cord and cork supplied by Gore). The assembly is slid into the hole to depth, and the rod extracted. The module will slide off the end of the insertion rod with a quick twist, or by pressing the assembly against the side of the hole when extracting the rod. The hole is sealed with the cork. The module serial number and sample location are noted on the field map, and the Installation and Retrieval Log is updated as the installation progresses to the next sample location.

All parts of the equipment that are in contact with the module will be decontaminated prior to and between the sampling locations (during module deployment and retrieval). Equipment will be decontaminated using D.I. water and soap (Alconox or equivalent).

During module deployment and module retrieval activities, the STS field team will carry four trip blank samples (per W.L. Gore QA procedures). These samples will also accompany the samplers during transport from Gore to STS and back to the Gore laboratory. One sampler will be used as a field blank. This sample will be exposed to ambient air (by removing them from and reinserting to the protective vial in which it is shipped) for a brief period of time – the same amount of time the other samplers are exposed during their installation and retrieval.

In Gore's soil vapor survey experience (over 3,000 surveys completed worldwide), duplicate samples are usually not necessary and not collected. These surveys provide the results that are more qualitative than quantitative. On the other hand, MPCA typically requires that 10% of the collected samples are field duplicates. Therefore, for added quality of this survey's results, two of the 33 samplers to be deployed during this project will be designated for duplicate analysis. The duplicate samples will be designated by the STS project manager (or other delegated staff) and indicated on the chain of custody accompanying the retrieved samplers on their way to the Gore laboratory.

Analysis of duplicate samples will be possible since each module contains a minimum of two samples of adsorbent available for analysis. One sample is analyzed, while the second sample is stored for a period of at least 15 days following the original analytical sequence. This provides a backup sample in the event of an instrument malfunction or if additional QA is required. However, because the laboratory will know that the "duplicate" sample comes from the same location as the first sample, this duplicate sample will not represent a blind duplicate sample.

After the ten day period of the deployment, the GORE modules will be retrieved and will be returned to their respective sample vials and the vials caps screwed in place; a custody seal is affixed to the outside of each of the vials and caps. These sample vials are designed to eliminate any need for refrigerated storage or shipment on ice. To ensure a tight seal on the glass container, all visible soil from the jar threads needs to be removed. The field personnel also need to check if the module tubing is not pinched between the jar lid and jar. Over-tightening will crack the jar lid.

Field documentation, daily logs and GORE-SORBER[®] Screening Survey Installation and Retrieval Logs will be maintained with recorded module deployment and collection date, time, module installation hole's depth, module deployment location (address, GPS coordinates, hand drawn orientation plan annotated with measured distances to some easily noticeable orientation points), name of a person who deployed and collected the module. Examples of the forms to be used are attached to this QAPP.

A GORE-SORBER[®] Screening Survey Chain of Custody will be initiated in the field at the time of sampling. A copy will accompany each set of samples shipped to the laboratory.

Soil gas samples will be collected from approximately 32 locations, as presented on Figure 1. The number of deployed samplers may vary due to private property site access issues.

The retrieved modules, the insertion rod, module logs and chain of custody will be shipped to the Gore laboratory to the address:

Elkton, MD 21921 Phone: 410/392-7600

The details of the module handling, installation, retrieval and necessary equipment are provided in the "Soil Gas Sampling – Storage, Installation and Retrieval Guidelines" provided by Gore and appended to this QAPP.

The field deployed modules, field blank and trip blanks delivered by STS to the Gore laboratory will be subject to analysis conducted following a modified US EPA 8260 and US EPA 8270 analytical method, using gas chromatography (GC) and mass selective detection (MS), conducted following thermal desorption (field deployed, trip blanks, and QA/QC samples). During analytical procedures, calibration standards (five point) containing the target compounds are introduced in the analytical sequence. Field sample results are compared against the calibration standards. If the compound in question satisfies the identification criteria, and it is present in quantities that exceed the method detection limit, Gore considers it a true result. Compound levels reported from the field installed modules that exceed the method detection limit and any levels observed in the QA blanks, are considered derived from the field. Field samples, trip blanks, and other QA blanks are subject to the same analytical methods and are analyzed concurrently.

6.0 Internal Quality Assurance

The GORE[™] Modules are constructed in a clean room. Before the modules are shipped to the field, they must pass internal QA criteria for cleanliness and "fitness-for-use." Modules shipped to the field are accompanied by trip blanks. Trip blanks are selected, by the consultant, from the shipment of modules slated for installation. They are left unopened and travel from Gore to the client, to the field during the installation and retrieval, and then returned to Gore with the rest of the modules. Trip blanks document any ambient contamination that may have occurred during the travel and storage of the modules away from Gore.

Each module is stored in individual glass jars, uniquely labeled with its own serial number. The jar lids have excellent sealing capabilities, and custody seals are affixed to the lid and jar. Completed modules are stored in zero-contamination cabinets until an order is received. All modules are tracked internally by their serial number. All module lots are tested for ambient contamination present during their construction. Module lots that do not meet QA criteria are destroyed.

Analytical QA includes the use of instrument blanks and method blanks to purge the instrument of residual organic vapors, and document ambient impact that may have occurred during the analytical sequence, respectively. These blanks are distributed throughout the analytical sequence.

Mass spectrometer tuning standards are analyzed and must meet QA criteria before a sequence can advance.

The module serial number serves as the Chain of Custody sample ID from the manufacturing through analysis, mapping and reporting.

Field Sampling QA

Quality assurance procedures to be used in the field are aimed at ensuring that contaminants are not introduced into the modules by field equipment, module deployment and retrieval procedures, or any other part of the field or transport procedures. STS will follow procedures described in the Gore provided "Soil Gas Sampling – Storage, Installation and Retrieval Guidelines" appended to this QAPP. All the field activities will be documented and recorded on the Gore provided module "Installation/Retrieval Log" and the STS Environmental Field Report. This documentation will serve as the project quality assurance record.

The following quality control tasks will be completed in the field to maintain the quality assurance objectives.

- Equipment is decontaminated prior to sampling.
- Proper operation of field equipment is performed.
- Proper techniques are used when installing and retrieving the modules.
- Proper module handling methods are used.
- Installation/Retrieval Log and STS Environmental Field Report are promptly filled out.
- Chain of custody form is properly completed prior to laboratory shipment.

Quality assurance procedures to be used in the field are aimed at ensuring that contaminants are not introduced into the samples by sample containers, sampling equipment, sampling procedures, sample label equipment, or any other part of the sampling transport procedures.

Field quality assurance procedures will include the following:

- Field Blank One sampler will be used as a field blank. This sampler will be exposed to ambient air for the amount of time equivalent to the time the other samplers are exposed during their installation and retrieval. Field blank exposure will be accomplished by removing the selected module from and reinserting it to the protective vial in which it is shipped from Gore.
- Field Duplicates MPCA typically requires that 10% of the collected samples are field duplicates.
 However, since the results produced by this type of survey are qualitative, it is Gore's experience that no field duplicates are necessary. Nonetheless, two among the approximately 33 retrieved samplers will be

designated for duplicate analysis. This will be possible since each module contains a minimum of two samples of adsorbent available for analysis. Typically, one sample is analyzed, while the second sample is stored for a period of at least 15 days following the original analytical sequence. This provides a backup sample in the event of an instrument malfunction or if additional QA is required.

 Trip Blanks - During module deployment and module retrieval activities, the STS field team will carry three trip blank samples. These samples will also accompany the samplers during transport from Gore to STS and back to the Gore laboratory.

No corrective actions will be taken in case the deployed samplers are stolen, tampered with, or some other problems in the field occur, other than documenting these problems in the project field forms. Corrective action will be taken by the laboratory if analytical results do not meet the required Quality Assurance standards. For discussion of the corrective action, see Section VI in the Sampling and Analysis Plan developed separately for this project.

7.0 Laboratory Work and QA/QC

7.1 Laboratory Quality Assurance

Gore provided STS with a copy of the Quality Assurance Manual (QAM). This document contains a detailed description of the analytical methods, equipment calibration, standard operating procedures (SOPs) and QA/QC measures implemented during the sampler's manufacture, analytical and reporting work. It describes the knowledge and provides ways to exercise a measure of control over many variables that affect the production of reliable data. Gore provided services that are described in the QAM and are organized into the following operational areas:

- Sales & Projects;
- Manufacturing;
- Analytical;
- Mapping;
- Reporting; and
- Quality Assurance.

These procedures help generate data of defined quality from samples collected in the field and analyzed in the laboratory.

These documents are available for Minnesota Pollution Control Agency's review.

7.2 Analytical Services

Project management, field operations and final reporting will be conducted by STS. STS will use the Gore provided equipment needed to carry out the GORE[™] Survey. Gore will carry out analysis of the retrieved samplers following methodology which is described in detail in a document that is on file with STS and available for MPCA for review: "W.L. Gore & Associates, Inc., Survey Products Group, Quality Assurance Manual, © COPYRIGHT. 2008. W.L. Gore & Associates, Inc.". This document contains propriety information and is confidential.

8.0 Data Generation

The GORE[™] Survey was introduced in late 1992. Since that time, over 3,000 surveys have been completed in all 50 states and many countries worldwide, for virtually all site types and geological and climatological conditions - in air, soil and water. The GORE[™] Survey technology has been reported in the USEPA Environmental Technology Verification Report, Soil Gas Sampling Technology, W. L. Gore and Associates, Inc. GORE-SORBER[®] Screening Survey (EPA/600/R-98/095) available at: <u>http://www.epa.gov/etv/pubs/01_vr_goresorber.pdf</u>. Another USEPA report Environmental Technology Verification Report, Groundwater Sampling Technologies, W. L. Gore and Associates, Inc. GORE-SORBER[®] Water Quality Monitoring (EPA/600/R-00/091) is available at: http://www.diffusionsampler.org/Admin/EventDetails/DocumentViewInfo.asp?DocID=308&Location=Library) and http://www.diffusionsampler.org/Documents/epa-vs-scm-38_gore_sorber.pdf. This kind of the methodology's track record provides a degree of assurance that the data generated by the survey will be of high quality and will serve the objectives of this project.

9.0 Data Validation

The data validation or review is critical to identifying the technical reliability of the data so it may be used correctly in decision making and project objectives. Any data that is considered to be an outlier will be reviewed for the effects the data has upon the project (see SAP for corrective action guidelines). If data is found to be of minimal importance, it may be excluded from the data set by the MPCA or re-sampling may be required. It is important that the data provided by the laboratory be verified by checking it for compliance, correctness, consistency, and completeness. Gore will provide a Data Validation Report to STS and MPCA once fieldwork and laboratory analysis is completed.

10.0 Corrective Action

Corrective action will be taken by the laboratory if analytical results do not meet the required Quality Assurance standards.

If the quality control audit detects unacceptable conditions or data, the Quality Assurance/Quality Control Officer and Project Manager are responsible for developing and initiating appropriate changes or modifications, and documenting those changes. The condition or problem will be specifically identified, recorded in the appropriate log or project file, investigated, and the cause determined. Changes or modifications will then be initiated to eliminate the problem. The corrective action may include the following options:

- Re-analyze samples if holding time and sample volume permit.
- Evaluating and amending analytical procedures.
- Accepting data, while documenting a level of uncertainty.

Upon implementation of corrective action, STS will document the corrective action in the study report. A Corrective Action Report (CAR) will be provided by the laboratory. The STS CAR will document actions taken and their effectiveness will be established and elimination of the problem verified. The laboratory CAR will be included as an attachment to the STS CAR. Details regarding the changes or modifications implemented and the results will be documented and retained in the project file. The case narrative(s) will fully describe any corrective action taken by the laboratory and/or STS. All field corrective action will be documented by the Project Manager on the Sampling Information Form and summarized for the site file.

11.0 Documents and Records

All data reported by the laboratory must have the following items present:

- a. date received,
- b. date analyzed,
- c. analytical method number,
- d. reporting limits / PQL
- e. alphabetized compound list,
- f. measured mass of VOC accumulated on sampler,
- g. narrative,
- h. signature of lab officer on report,
- i. flags for data that shows anomalies,
- j. laboratory sample numbers,
- k. project name on the report, and
- I. any method modifications explained.

All analytical reports received by the laboratory will be reviewed for the minimal reporting elements. The W.L. Gore & Associates SOP states that a copy of the raw data and the report will be maintained for a minimum of five years. STS will maintain a copy of the laboratory report within the project files. All data associated with the St. Louis Park soil vapor survey will be stored at MPCA and STS.

All the key project staff, STS and MPCA, will be provided with the most-current version of the QAPP.

The following personnel will be responsible for the project data and record's retention:

```
W. L. Gore & Associates, Inc. (Gore) – Jay W. Hodny, 410/506-4774
STS Consultants (STS) – Peter Rzepecki, 763/315-6345
Minnesota Pollution Control Agency (MPCA) – Nile Fellows, 651/296-7299
```

Gore and STS will maintain electronic records with the project data. MPCA and other parties authorized by MPCA will have access to these electronic records upon request.

12.0 Data Assessment

The collected field and laboratory data will be presented in a report that will include tabulation sample (module) collection time, sample depth, sampling location (address, GPS coordinates), tabulation of the laboratory VOC analytical results (presented as mass accumulated per analyte per module), data validation report, three contaminant contour maps for the three contaminants of most concern, interpretation and discussion of the results and recommendations for further work. The three most important contaminants of concern to be plotted will be the most ubiquitous VOCs, SVOCs and/or PAHs with the highest adsorbed mass measured by the Gore laboratory. They will be determined by STS staff upon receiving the analytical results from the Gore laboratory. If the data support the desire to produce additional maps, Gore can provide two maps at no additional cost.

Laboratory analysis report will be included as an appendix to the report and will include quality control samples results and description of qualifiers. Data Validation Report will be included as another appendix to the report.

The report will fulfill the requirements listed in Section 1.6.22 – Reports, from the State of Minnesota Sampling and Laboratory Analysis Services – Environmental, as pertains to soil vapor surveys and analysis. Appended to this QAPP is the Gore provided letter: "GORE™ Surveys Standard Final Report Deliverable vs. Contract Requirements (Section 1.6.22)" which spells out the Gore provided report deliverables. These deliverables will be consistent with Section 1.6.22 only to the extent that it is applicable to the applied technology and analytical methodology.

13.0 Reference List

Gore, 1998. Environmental Technology Verification Report, Soil Gas Sampling Technology, W. L. Gore and Associates, Inc. GORE-SORBER[®] Screening Survey (EPA/600/R-98/095) available at: <u>http://www.epa.gov/etv/pubs/01_vr_goresorber.pdf</u>.

Gore, 2000. Environmental Technology Verification Report, Groundwater Sampling Technologies, W. L. Gore and Associates, Inc. GORE-SORBER[®] Water Quality Monitoring (EPA/600/R-00/091) - Document Information,

Interstate Technology Regulatory Council website:

http://www.diffusionsampler.org/Admin/EventDetails/DocumentViewInfo.asp?DocID=308&Location=Library.

Gore, 2007. GORE[™] Surveys – Air, Soil, and Water Frequently Asked Questions. W. L. Gore and Associates, Inc. website: <u>http://www.gore.com/en_xx/products/geochemical/environmental/surveys_environmental_faq.html</u>

GORE[™] Surveys Summary of References (A Partial Listing) is attached to this QAPP.

GORE-SORBER[®] Screening Survey Chain of Custody

For W.L. Gore & Associates use only Production Order # 13674768



W. L. Gore & Associates, Inc., Survey Products Group

100 Chesapeake Boulevard • Elkton, Maryland 21921 • Tel: (410) 392-7600 • Fax (410) 506-4780

Instructions: Customer must complete ALL shaded cells

Customer Name: STS CONSULT	ΓANTS		Site Name: R	EILLY TAR SUPPER	<u></u>				
Address: 10900 73RD A	VENUE NORTH		Site Address: FUND ST LOUIS PARK MN						
SUITE 150	· · · · · · · · · · · · · · · · · · ·								
MAPLE GROV	/E MN 55369 U.S.A.		Project Manager: PETER RZEPECKI						
Phone: (736) 315-6345		<u></u>	Customer Project No.: 12266797						
FAX:	<u> </u>		Customer P.O. #: 20080214 Quote #: 228876						
Serial # of Modules Shipped			# of Modules for In	stallation 36 #	of Trip Blank	<u>s 4</u>			
# 569667 - # 569706	# - #		Total Modules Ship	······································	Piec	History and an and an and a second second			
# - #	# - #		Total Modules Rece	-	Piec				
# * #	# - #		Total Modules Insta		Piec				
т т # - #	# - #	· · · · ·		nks (<i>Client Decides)</i>		.63			
# - #	# - #		#	#	#				
# "	# - #		#	1 #	#				
$\frac{\tau\tau}{\#} - \#$	# - #		тт 1 #	#	#				
# - #			#	¹⁷ #	#				
# - #	# - #			#	#				
# - #	# - #		#	##	#				
			#						
	8 I A		# 	#	# ~				
	yellowdy_			#	#				
Installation Performed By:	V ,			(s) (circle those that a	oply):				
Name (please print):			Slide Hammer	Hammer Drill	Auger				
Company/Affiliation:			Other:	······································					
Installation Start Date and Time:		/	1	•	AM PM				
Installation Complete Date and Ti	ime:	/	/	•	AM PM				
Retrieval Performed By:			1	ieved:					
Name (please print):			Total Modules Lost						
Company/Affiliation:1			Total Unused Modu	lles Returned:		ces			
Retrieval Start Date and Time:		/	/	•	AM PM				
Retrieval Complete Date and Tim		1	/	•	AM PM				
Relinquished By Markene		Time	Received By:		_ Date	Time			
Affiliation: W.L. Gore & Associa			Affiliation:						
Relinquished By		Time	· · ·		_ Date	Time			
Affiliation:			Affiliation:		_				
Relinquished By		Time	Received By:		_ Date	Time			
Affiliation			Affiliation: W.L. G	ore & Associates, Inc.					

GOR	E-SORBEI	R [®] Screening States Screening Screening States Screening Screening States Screening Screening States Screening Screening States Screening Screening States Sc	SITE NAME & LOCATION						
Ineta	llation and	Retrieval Log	e un vog						
insta	nation and	Retrieval Lug					· · · · · · · · · · · · · · · · · · ·		······································
Deep 1	of 1					· · · · · · · · · · · · · · · · · · ·			
rage_1	of		<u></u>					wa -	
				EVIDENCE OF LIQUID			MODI	игры	
LINE	MODULE #	INSTALLATION	RETRIEVAL	HYDROCARBONS (LPH) or				JLE IN TER	
#		DATE/TIME	DATE/TIME	HYDROCARBON ODOR		WATER (check one)		COMMENTS	
					ck as appre				
				LPH	ODOR	NONE	YES	NO	
1.	569667								
2.	569668							: 	
3.	569669		· · · · · · · · · · · · · · · · · · ·						· · · ·
4.	569670		· · ·						
5.	569671	. <u>.</u>							
6.	569672								
7.	569673								
8.	569674								
9.	569675								
10.	569676								
11.	569677								
12.	569678								
13.	569679								
14.	569680								
15.	569681								
16.	569682								
17.	569683							···	
18.	569684							ML3ULIL 3L L I	
19.	569685				·				
20.	569686								\$^ \$^
21.	569687								
22.	569688	<u> </u>							· · ·
23.	569689		<u> </u>						
24.	569690	-m							
25.	569691								· · · · · · · · · · · · · · · · · · ·
26.	569692								
27.	569693								
28.	569694								
29.	569695								""
30.	569696			-					
31.	569697		· · · · · · · · · · · · · · · · · · ·						
32.	569698								
33.	569699		· · · · · · ·						
34.	569700		· · · · · · · · · · · · · · · · · · ·						
35.	569701								
36.	569702	······································							
37.	569703					<u> </u>			
38.	569704		·····						
39.	569705		***************************************			· · · · · · · · · · · · · · · · · · ·			
40.	569706								
41.			· · · · · · · · · · · · · · · · · · ·						
42.				1					

GORETM SURVEYS ENVIRONMENTAL SITE ASSESSMENT

FOCUSING YOUR REMEDIATION EFFORTS.

Soil Gas Sampling - Storage, Installation and Retrieval Guidelines

NOTE: If you have any questions regarding installation and retrieval, please call: Jay Hodny, Jim Whetzel or Diane Cooper (410) 392-7600

GENERAL

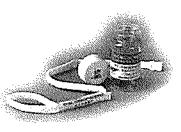
Always obtain utility clearance before digging or probing.

Site activities which may disturb the natural soil gas migration should not be conducted during the time when the modules are in the subsurface. Such activities include, but are not limited to, installation/operation of soil vapor extraction systems, drilling (e.g., air-rotary), excavation, air sparging, etc.

The following items are provided by Gore:

- Shipping container, boxes with partitions containing individually numbered GORE[™] Modules, including trip blanks (DO NOT DISCARD SHIPPING CONTAINER OR PARTITIONED BOXES),
- Insertion rod (please return after use),
- Corks with screw eyes,
- String (cord),
- Chain of Custody and Installation/Retrieval Log
- Custody seals
- Instructions.





GORETM Modules are carefully cleaned, sealed, and stored after manufacturing. They must remain sealed in their vials in the shipping boxes until deployment and after retrieval. **DO NOT** store them near potential sources of organic vapors such as petroleum fuels and exhaust, solvents, adhesives, paints, etc.

REQUIRED TOOLS/SUPPLIES

Depending on project objectives or restrictions, GORETM Modules can be installed to any depth. For soil gas sampling, a narrow diameter hole (approximately 1/2 to 1-inch) is drilled or driven to a depth of at least three feet. Simple hand tools such as a slam bar or rotary hammer drill will suffice. Direct-push or auger type tools can also create deeper installation holes.

Additional tools (to be supplied by the customer) required for installation may include:

- Equipment to lay out and mark sample locations (scaled map, measuring tapes, pin flags, GPS);
- Disposable gloves and equipment decontamination supplies
- If sample locations need to be hidden from view to prevent damage by vandalism or animals, a metal washer or nut on top of the cork and covered with dirt can be used in place of visible marker. Use a metal detector to locate modules for retrieval.
- Slide hammer/tile probe (slam bar) or electric rotary hammer drill (AC power outlet or portable generator and extension cords required) with carbide-tipped bits or augers (1/2 to 1-inch diameter, three feet or more in length).
- Information on where these items can be purchased is provided below as a courtesy and does not represent any endorsement of these products or suppliers:

ltem	Supplier	Phone No.
* Slide Hammer/Tile Probes	Forestry Supplies	(800) 647-5368
* Carbide Drill Bits (36" long)	 Kerfoot Technologies, Inc. the Blade Runner 	1. (508) 539-3002 2. (610) 444-6708
* Rotary Hammer Drill	SKILL-BOSCH Power Tools	(800) 334-5730

* Art's Manufacturing Supply (dba AMS) has all these items (800) 635-7330



TRIP BLANKS

An additional number (specified) of GORE[™] Modules are included as trip blanks. The customer selects which modules to be used/treated as trip blanks, and notes this on the Chain of Custody and Installation/Retrieval Log. These modules remain unopened, travel to and from the site during installation and retrieval, and while in storage away from Gore's facility.

MODULE INSTALLATION

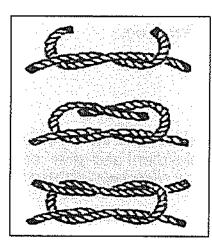
To facilitate the installation of the modules, it is recommended that the cord and corks be
prepared prior to going to the field. As an example, for a three foot installation, cut a piece of
the supplied cord to a length of approximately 7.0 feet or 2.25 meters. Tie the ends of the
cord together using a non-slip knot (square knot is suggested, Figure 1). Pass the looped
cord through the eyelet in the cork and pull it back through itself. Wrap the remainder of the
cord around the cork and secure the cord/cork combination with a rubber band. The cork and
cord are now ready to attach to the module after the pilot hole is created at the installation
location.

Square knot instructions (Figure 1)

- 1. Take an end of the cord in each hand.
- 2. Pass the left-hand cord over the right-hand cord and wrap it around the right-hand cord.
- 3. Take the cord end that is now in your right hand, place it over the cord end in your left hand and wrap it around that cord.
- 4. Pull the cord carefully to tighten the knot.

Figure 1. Square Knot

100100



- We do not recommend installation of modules within 15 feet of monitoring wells, utility trenches or other conduits, which may act as a preferential pathway for soil vapor migration.
- Drive/drill the narrow installation hole at the desired pre-marked location. In sandy soils, occasionally the hole will collapse after the drill or tile probe is removed. Adding deionized water to the sandy soil will temporarily compact the soil and keep the hole open for module insertion.
- Wearing clean surgical gloves, remove module from the numbered jar and re-seal the jar. The barcode on the jar lid should correspond with the serial number on the module please verify.
- Attach the cord and cork to the module by passing the looped cord through the loop on the module and pull the cord/cork back through itself.
- Place the insertion rod into the pre-cut pocket at the base of the module and lower it into the hole. If you encounter resistance remove the module and ream the hole and re-insert the module.
- Once deployed to the desired depth, press the insertion rod against the side of the hole and twist slightly to release the module. Remove the rod and push any excess cord into the hole and plug it with the cork (Figure 2).
- Indicate the module number, date and time of installation and any pertinent comments on the installation/retrieval log. Write the module serial number on the site map adjacent to the appropriate map location.
- To minimize sample location errors, it is preferable to record the GORE[™] Module serial number on the field map. However, if another sample numbering system is used, information relating the sample number system to the GORE[™] Module serial numbers must be provided either on the Installation and Retrieval Log, or in a separate table.

- Clean the tile probe or drill bit and the insertion rod prior to use at the next location. Replace the surgical gloves as necessary before handling any modules.
- Following module installation, the modules selected as trip blanks should be kept in the sample box 6 provided and stored as described above in "STORAGE" until sample retrieval.

MODULE RETRIEVAL

- Following the module exposure period identify and check each location in the field using the site map. ø
- Remove the cork with a penknife or corkscrew. Grasp the cord and pull the module from the ground; 0 verify the module ID number. Cut off and discard the cork and cord. Place the entire module in its labeled jar and secure the lid.
- Use caution when screwing down the lid on the sample jars. Clean any soil/debris from the ۲ threads of the jar and lid, and make sure no part of the module is pinched between the jar and lid. Be sure the seal is tight. Over-tightening may cause breakage.
- Affix a custody seal to the side of the jar and jar lid. Do not cover the barcode with the seal. ۲
- Place the jar in the supplied partitioned box. ø
- Complete the module retrieval date/time on the Installation/Retrieval log. ø

PACKAGING FOR RETURN

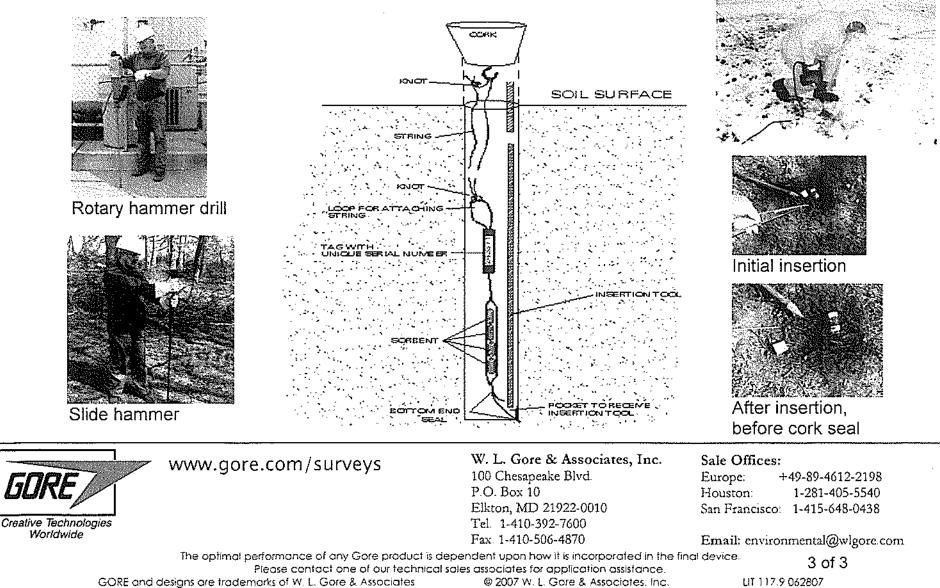
N00100

- Place boxes with modules back into outer shipping container using appropriate packing materials to protect fragile contents.
- Do not use Styrofoam "peanuts" as packing material. Bubble packing is acceptable.
- Label box to indicate fragile contents. ۵
- There is no need to return the shipment in coolers with ice. ø
- Return the GORE[™] Modules, insertion rod and paperwork (preferably by overnight courier) to:

Screening Modules Laboratory W.L. Gore & Associates, Inc. 100 Chesapeake Blvd. Elkton, MD 21921 Phone: (410) 392-7600 Attn: NOTIFY LAB IMMEDIATELY UPON DELIVERY!!

IMPORTANT: Samples should not be shipped for weekend or holiday delivery at GORE.

Figure 2. GORE[™] Module Installation



Appendix B

W.L. Gore and Associates Report



W. L. GORE & ASSOCIATES, INC.

100 Chesapeake Blvd., P.O. Box 10 • Elkton, Maryland 21922-0010 phone: 410.392.7600 • fax: 410.506.4780

GORETM EXPLORATION SURVEY

GORETM ENVIRONMENTAL SURVEY

GORE[™] Surveys Final Report

Reilly Tar Site St. Louis Park, MN

July 10, 2008

Prepared For: STS Consultants 10900 73rd Avenue North Suite 150 Maple Grove, MN, 55369

W.L. Gore & Associates, Inc.

Written/Submitted by: Jim E. Whetzel, Project Manager

Reviewed/Approved by: Hilary G. Trethewey, Project Manager

Analytical Data Reviewed by: Don D' Apolito, Chemist

This document shall not be reproduced, except in full, without written approval of W.L. Gore & Associates, Inc.

REPORT DATE: 07/10/2008

AUTHOR: JW

SITE INFORMATION

Site Reference: Reilly Tar Site, St. Louis Park, MN Gore Production Order Number: 13674768

Gore Site Code: EJF

FIELD PROCEDURES

Modules shipped: 40
Installation Date(s): 6/5/2008
Modules Installed: 33
Field work performed by: STS

Retrieval date(s): 6/16,17/2008 # Modules Retrieved: 33 # Modules Lost in Field: 0 # Modules Not Returned: 0 Exposure Time: 11-12 [days] # Trip Blanks Returned: 1 # Field Blanks Returned: 1 # Unused Modules Returned: 5

Date/Time Received by Gore: 6/18/2008 12:00 PM By: DY **Chain of Custody Form attached:** Yes **Chain of Custody discrepancies:** None

Comments:

Module 569701 was identified as a trip blank. Module 569699 was identified as a field blank. Modules 569702-706 were returned unused.

ANALYTICAL PROCEDURES

W.L. Gore & Associates' Screening Module Laboratory operates under the guidelines of its Quality Assurance Manual, Operating Procedures and Methods. The quality assurance program is consistent with Good Laboratory Practices (GLP) and ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories", third edition, 1990.

Instrumentation consists of state of the art gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbers, each containing engineered adsorbents) to a thermal desorption tube for analysis. Sorbers remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation.

Analytical Method Quality Assurance:

The analytical method employed is a modified EPA method 8260/8270. Before each run sequence, two instrument blanks, a sorber containing $5\mu g$ BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in the method before samples can be analyzed. A method blank and a sorber containing BFB are also analyzed after every 30 samples and/or trip blanks. Standards containing the selected target compounds at five calibration levels are analyzed at the beginning of each run. The criterion for each target compound is less than 25% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 10µg per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by 1) the presence of the target ion and at least two secondary ions; 2) retention time versus reference standard; and, 3) the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbers not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection

Instrument ID: # 8 Chemist: DD

Compounds/mixtures requested: A4

Deviations from Standard Method: None

Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 6). Modules 569668 and 569691 were analyzed in duplicate per STS consultant's request. Phenanthrene, anthracene, fluoranthene, and pyrene were quantified using calibration responses of fluorene.

DATA TABULATION

CONTOUR MAPS ENCLOSED: Three (3) B-sized color contour maps **LIST OF MAPS ENCLOSED:**

- Naphthalene (Naph)
- 2-Methyl naphthalene (2-MeNaph)
- Fluorene

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORETM Modules received and analyzed by W.L. Gore & Associates, Inc., as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on a five-level standard calibration.

General Comments:

- This survey reports soil gas mass levels present in the vapor phase. Vapors are subject to a variety of attenuation factors during migration away from the source concentration to the module. Thus, mass levels reported from the module will often be less than concentrations reported in soil and groundwater matrix data. In most instances, the soil gas masses reported on the modules compare favorably with concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels relative to other sampled locations on the site, matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.
- Soil gas signals reported by this method cannot be identified specifically to soil adsorbed, groundwater, and/or free-product contamination. The soil gas signal reported from each module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).
- QA/QC trip blank modules were provided to document potential exposures that were not part of the soil gas signal of interest (i.e., impact during module shipment, installation and retrieval, and storage). The trip blanks are identically manufactured and packaged soil gas modules to those modules placed in the subsurface. However, the trip blanks remain unopened during all phases of the soil gas survey. Levels reported on the trip blanks may indicate potential impact to modules other than the contaminant source of interest.

- Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central gas chromatograph elution time in the total ion chromatogram. Typically, UPEs are indicative of complex fluid mixtures that are present in the subsurface. UPEs observed early in the chromatogram are considered to indicate the presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids.
- Stacked total ion chromatograms (TICs) are included in Appendix A. The six-digit serial number of each module is incorporated into the TIC identification (e.g.: <u>123456</u>S.D represents module #<u>123456</u>).

Project Specific Comments:

- The minimum (gray) contour level, for each mapped analyte or group of analytes, was set at the maximum blank level observed or the method detection limit, whichever was greater. When target compounds are summed together (i.e., BTEX), the contour minimum is arbitrarily set at 0.02 µg or the maximum blank level, whichever is greater. The maximum contour level was set at the maximum value observed.
- No target compounds were detected above the method detection limit on the trip blanks and/or the method blanks. Thus, target analyte levels reported for the field-installed modules that exceed trip and method blank levels, and the analyte method detection limit, are more likely to have originated from on-site sources.
- In addition to results being reported in units of relative mass, estimated soil gas concentration values were reported. Calculations for concentration were performed using default porosity values for dry sandy loam soil, 0.39cm³/cm³ total porosity and 0.126cm³/cm³ water filled porosity. A summary of the procedure used to calculated concentrations is included in Appendix A.
- Contour maps were prepared using the estimated concentration values reported.
- The mapped spatial patterns indicated "hot spots" and partial soil gas plume delineation.
- If the objective of the soil gas survey was to delineate the nature and extent of the contamination, then additional soil gas sampling is recommended in those areas where the color contours appear to extend into unsampled areas. Subsequent sampling events can be combined with the data from this event and mapped together to provide greater coverage.

KEY TO DATA TABLE Reilly Tar Site, St. Louis Park, MN

UNITS	
μg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect
ANALYTES	
BTEX	combined masses of benzene, toluene, ethylbenzene and total xylenes (Gasoline Range Aromatics)
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
UNDEC	undecane
TRIDEC	tridecane
PENTADEC	pentadecane
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
135TMB	1,3,5-trimethylbenzene
124TMB	1,2,4-trimethylbenzene
ct12DCE	cis- & trans-1,2-dichloroethene
t12DCE	trans-1,2-dichloroethene
c12DCE	cis-1,2-dichloroethene
NAPH&2-MN	combined masses of naphthalene and 2-methyl naphthalene
Combined PAHs	combined masses of naphthalene, 2-methyl naphthalene, acenaphthene, acenaphthylene,
	fluorene, phenanthrene, anthracene, fluoranthene, and pyrene.
NAPH	naphthalene
VC	vinyl chloride
2MeNAPH	2-methyl naphthalene
MTBE	methyl t-butyl ether
PHEN	phenanthrene
11DCA	1.1-dichloroethane
CHC1 ₃	chloroform
111TCA	1,1,1-trichloroethane
12DCA	1.2-dichloroethane
CC1 ₄	carbon tetrachloride
TCE	trichloroethene
OCT	octane
PCE	tetrachloroethene
CIBENZ	chlorobenzene
14DCB	1,4-dichlorobenzene
112TCA	1,1,2-trichloroethane
1112TetCA	1,1,1,2-tetrachloroethane
1122TetCA	1,1,2,2-tetrachloroethane
13DCB	1,3-dichlorobenzene
12DCB	1,2-dichlorobenzene

BLANKS

method blank

QA/QC module, documents analytical conditions during analysis

APPENDIX A:

CHAIN OF CUSTODY

 DATA TABLE
 STACKED TOTAL ION CHROMATOGRAMS

 SUMMARY OF PROCEDURE FOR CALCULATING CONCENTRATIONS

 COLOR CONTOUR MAPS

GORE-SORBER[®] Screening Survey Chain of Custody

For W.L. Gore & Associates use only Production Order # <u>13674768</u>



,

 $\dot{\gamma}$

1.5 0

W. L. Gore & Associates, Inc., Survey Products Group

100 Chesapeake Boulevard • Elkton, Maryland 21921 • Tel: (410) 392-7600 • Fax (410) 506-4780

Instructions: Customer must complete ALL shaded cells

Customer]	Name: STS CONSUL	FANTS			Site Name: RI	EILLY TAR SUPPI	ER				
Address:	10900 73RD A	VENUE NOR	TH		Site Address: FL	JND ST LOUIS PA	RK MN	<u> </u>			
	SUITE 150					· · · · - ···					
•	MAPLE GROV	'E MN 55369	U.S.A.		Project Manager: PETER RZEPECKI						
Phone:	(736) 315-6345				Customer Project No	D.: 12266797					
FAX:	· · · · · · · · · · · · · · · · · · ·				Customer P.O. #: 20	080214 (Quote #: 22887	6			
Serial # of	Modules Shipped				# of Modules for Ins	tallation 36	# of Trip Blank	cs 4			
# 569667	- # 569706	#	- #		Total Modules Shipp	bed: 40	Piec	es			
#56966) - # 569701	#	- #		Total Modules Rece	ived: 40	Piec	es -			
#	- #	#	- #		Total Modules Insta	lled: 33	Piec	es 🚿			
#	- #	#	- #		Serial # of Trip Blan	ks (Client Decides)) #				
#	- #	#	- #		# 569701=Trip	#	#				
#	- #	#	- #		#569699- Tield Bland	#	#				
#	- #	#	- #		#	#	#				
#	- #	#	- #		#	#	#				
#	- #	#	- #	•	# ***	#	###				
#	- #	#	- #		#	#	#				
Prepared B	y: Darlene 1	rellow	ĺυ		#	#	#				
Verified By	: Darlere	Gillon	oly	_	#	#	#				
Installatio	n Performed By:	· · · · · · · · · · · · · · · · · · ·			Installation Method(s) (circle those that	t apply);	and some management			
Name (plea	se print): Jason	Rowe /	Tim Gra	ape	SlideHammer 🤇	Hammer Drill	Auger				
Company/2			-	<u> </u>	Other:						
Installation	Start Date and Time:		6	15	108	10:40	AM PM				
Installation	Complete Date and Ti	me:	6	15	108	14:35	AM				
	Performed By:				Total Modules Retri		Piec	ves.			
Name (plea	ase print): <u>Ryan</u>	Doherty 1	TimG	mpe	Total Modules Lost :	in Field: <u>O</u>	Piec	es			
	Affiliation:1	75		<u></u>	Total Unused Modul	les Returned:	Piec	es			
Retrieval S	tart Date and Time:	ġ	6	116	108	12:25	AMPM)			
Retrieval C	omplete Date and Tim	e:	6	1 17	128	11:40	AM PM				
Relinquish	ed By Marcene	Jellowly	Date	Time	Received By:		Date	Time			
	W.L. Gore & Associa		5-23-08	7. ODM	Affiliation: STS	>	Date				
	ed By	<u>~</u>	Date	Time	Received By:		Date	Time			
Affiliation:			6/17/08	1400	Affiliation:	<i>0</i>	<u></u>				
Relinquish	-		Date	Time	Received By: Mar	//		Time			
Affiliation_					Affiliation: W.L. Go	ore & Associates, II	nc. 6/18/08	12:00			

 $S_{1} \in \mathbb{R}^{n}$



GORE-SORBER @ Screening Survey is a registered service mark of W.L. Gore & Associates, Inc.

.b.a.

144 - 147 F

GORE	-SORBE	R [®] Screening	Survev	SITE NAME & LOCATION							
		Retrieval Log		Peilly Tar - St. Louis Fark, mk							
Page 1.	of_1_,	2008021	71								
						TATIT				in an ann an Anna Anna Anna Anna Anna An	
•					ENCE OF		MODI	ILEIN	•		
	MODULE #	INSTALLATION	RETRIEVAL		or	e sear ara	WA	TER		dan se si s	
#	· · ·	DATE/TIME	DATE/TIME		OCARBO		(chec	k one)	COMM		
rut 1			W N	LPH	ODOR	NONE	YES	NÖ	Install T	the (sec)	
1.33 5	69667	65/06 10:40	6/16/08 1225			X		X	90	• 6	
2.32 5	69668	6/6/06 10:52	616108 1232			×		×	70		
3.31 5	69669	6 5108 11:04	6/16/08 1542			×		Ý	55	•	
4.30 5	69670	6/5/08 11:15	6/17/0× 1020			X		×	50		
5.29 5		6 5/08 11:25	6/16/18 1610			X		X	55	·	
	69672	G/5/08 1135	6/16/07 1303			X		×	40		
· ·	69673	915/08 1145	6/16/03/6/7			×		X	40	25'-M	
	69674	6/5/08 1205	6/16/09 1315			Ŕ	•	\sim	50	2.5 m	
	69675	615/08 1210	6/16/08 1320			Ý		×	50		
		6 5/05 1220	6/16/08 1622		,	X		7	. 45	.25 mc	
4		65/06 1225	6161.9 328	•		×		Y	40		
	69678	6/6/08/230	6111.108 1833			_¥_		X	75		
		. 4	6/16/08 1337	÷ . (×		Y	35		
~~			6116/08 1342			<u> </u>		× .	50		
			6/16/08 1626			¥.		X	35		
		6 5 108 1253	6/16/08 1352			×		\succ	50		
	69683		6/16/04 1255			- ¥		<u>_</u> <u>×</u>	45		
1-			6/16/02 1401	• • •	·	×		<u>×</u>	40	·	
		615108 1306	6/16/08/14 07	-		Y		<u> </u>	SS		
	69686	45/08/309	6/17/08 11:40			<u> </u>		<u>X</u>	48		
• •		4/5/08 1315	6/16/08 1640	-		X		×	50		
		6151081320		· · -		X		<u> </u>	50		
	59689	615/08 1330	6/17/08-11:00			× _		×	35		
	69690 (6/16/08 1439		۰ بر مر	× ×		X	45	2 may	
	59691 (59692	GIS104 315		· · · · -		<u>×</u>	. '1"		DIA	Iman	
		C/5/06 1350	646/08 1700			×	þ.	×.	40 2	25'max	
<u></u>		6/5/08/1353	6/16/08 1704			·¥		ķ.	40 2	251	
			6/16/08 1505			X X		x X	35	SIV	
		G15108 1400	6/16/08 1708							monte	
			6/17/28 11:10	 	·····	<u>×</u>		<u></u>	50 0.	2500.1	
	59698 (615706 1420	6/16/08 1720				·	<u>×</u>		25° mary	
		Ce STOK 1422	6/16/08 1535		-	¥		×	40	Fredd Islan	
		G15106 1435	Field Bonk					- <u>×</u>	- 105 - C	INVIA DAY	
	59701	STOPAC	6116/08 1726			×		~	.70 0.07	2 Land	
	59702	STORAGE							1154-1	BIANK	
	59702										
	59703								.	• •	
	59705		· · · · · · · · · · · · · · · · · · ·					<u>·</u>			
. 1	59706	i.					···			· · · · · · · · · · · · · · · · · · ·	
41.											
42.		·	•			• · <u> </u>					

GORE-SORBER @ Screening Survey is a registered service mark of W.L. Gore & Associates, Inc.

DATE	SAMPLE										
ANALYZED	NAME	TPH, ug	BTEX, ug	BENZ, ug	TOL, ug	ETBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug		TRIDEC, ug
	MDL=			0.01	0.01	0.01	0.01	0.01		0.01	0.01
06-28-08	569667	0.07	0.03	0.03	nd	nd	nd	nd	nd		
06-28-08	569668	8.47	2.78	0.09	0.31	0.44	1.19	0.75	0.27	0.19	0.05
06-28-08	569668	12.80	3.05	0.24	0.44	0.49	1.16	0.72	0.51	0.35	0.11
06-28-08	569669	0.10	0.02	0.02	nd	nd	nd	nd	0.06		nd
06-27-08	569670	0.52	0.08	0.04	0.04	nd	nd	nd	nd	-	nd
06-27-08	569671	1.04	0.13	0.05	0.08	nd	nd	nd	0.03		0.01
06-27-08	569672	0.18	0.03	0.03	nd	nd	nd	nd	nd	nd	nd
06-27-08	569673	0.07	0.05	0.05	nd	nd	nd	nd	nd		nd
06-28-08	569674	0.04	0.03	0.03	nd	nd	nd	nd	nd		nd
06-28-08	569675	1.70	0.07	0.05	nd	nd	0.01	0.01	0.03		0.01
06-27-08	569676	1.43	nd	nd	nd	nd	nd	nd	0.02	0.01	nd
06-28-08	569677	0.07	nd	nd	nd	nd	nd	nd	nd		nd
06-27-08	569678	2.83	0.02	0.02	nd	nd	nd	nd	0.02		nd
06-27-08	569679	1.22	0.16	0.02	0.02	0.02	0.06	0.04	0.02	0.01	nd
06-27-08	569680	0.49	nd	nd	nd	nd	nd	nd	nd	-	nd
06-28-08	569681	34.20	0.97	0.08	0.09	0.02	0.30	0.48	1.04	0.29	0.33
06-28-08	569682	0.75	0.03	0.03	nd	nd	nd	nd	nd	-	nd
06-27-08	569683	6.70	0.15	0.04	0.05	0.01	0.03	0.02	0.02	0.01	nd
06-28-08	569684	0.04	nd	nd	nd	nd	nd	nd	nd		nd
06-27-08	569685	0.04	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-28-08	569686	0.50	0.02	0.02	nd	nd	nd	nd	0.01	nd	nd
06-28-08	569687	0.35	nd	nd	nd	nd	nd	nd	0.02		nd
06-27-08	569688	12.49	nd	nd	nd	nd	nd	nd	10.40	10.19	0.09
06-28-08	569689	0.24	0.05	0.05	nd	nd	nd	nd	nd	-	nd
06-28-08	569690	1.16	nd	nd	nd	nd	nd	nd	0.10	0.09	0.01
06-28-08	569691	0.30	0.05	0.05	nd	nd	nd	nd	0.14	0.14	nd
06-28-08	569691	1.29	0.02	0.02	nd	nd	nd	nd	0.90	0.89	0.01
06-28-08	569692	0.32	0.03	0.03	nd	nd	nd	nd	nd		nd
06-28-08	569693	0.16	0.02	0.02	nd	nd	nd	nd	nd	nd	nd
06-27-08	569694	0.65	0.17	0.03	0.06	0.02	0.02	0.04	nd	-	nd
06-28-08	569695	1.40	0.08	nd	0.04	0.01	0.02	0.01	0.03	0.01	0.01
06-27-08	569696	0.50	0.04	0.04	nd	nd	nd	nd	nd		nd
06-28-08	569697	0.29	0.03	nd	nd	nd	0.02	0.01	nd		nd
06-27-08	569698	2.61	0.21	0.03	0.05	0.02	0.07	0.04	0.06	0.03	0.01

No mdl is available for summed combinations of analytes. In summed

columns (eg., BTEX), the reported values should be considered

ESTIMATED if any of the individual compounds were reported as bdl.

DATE	SAMPLE										
ANALYZED	NAME	TPH, ug	BTEX, ug	BENZ, ug	TOL, ug	ETBENZ, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	UNDEC, ug	TRIDEC, ug
	MDL=			0.01	0.01	0.01	0.01	0.01		0.01	0.01
06-27-08	569700	0.09	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-28-08	569699	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-27-08	569701	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-27-08	method blank	0.00	nd	nd	nd	nd	nd	nd	nd	nd	nd
06-28-08	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	Maximum	34.20	3.05	0.24	0.44	0.49	1.19	0.75	10.40	10.19	0.33
	Standard Dev.	6.37	0.69	0.04	0.09	0.11	0.28	0.19	1.76	1.72	0.06
	Mean	2.72	0.24	0.03	0.03	0.03	0.08	0.06	0.39	0.35	0.02

SAMPLE									
NAME	PENTADEC, ug	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	Combined PAHs, ug	NAPH&2-MN, ug
MDL=	0.01		0.01	0.01		0.02	0.02		
569667	nd	nd	nd	nd	nd	nd	nd	0.09	0.07
569668	0.03	3.09	1.39	1.70	nd	nd	nd	38.10	14.04
569668	0.05	2.69	1.18	1.51	nd	nd	nd	62.06	24.47
569669	nd	0.01	0.01	nd	nd	nd	nd	0.43	0.29
569670	nd	0.01	0.01	nd	nd	nd	nd	6.58	0.47
569671	0.02	0.01	0.01	nd	nd	nd	nd	0.56	0.06
569672	nd	nd	nd	nd	nd	nd	nd	0.04	0.03
569673	nd	nd	nd	nd	nd	nd	nd	0.18	0.04
569674	nd	nd	nd	nd	nd	nd	nd	0.08	nd
569675	0.02	0.02	0.02	nd	nd	nd	nd	0.78	0.19
569676	0.01	nd	nd	nd	nd	nd	nd	0.17	0.04
569677	nd	nd	nd	nd	nd	nd	nd	0.40	0.19
569678	0.01	nd	nd	nd	0.02	nd	0.02	0.76	0.16
569679	0.01	0.03	0.02	0.01	nd	nd	nd	3.67	0.63
569680	nd	nd	nd	nd	nd	nd	nd	nd	nd
569681	0.42	5.60	1.84	3.76	nd	nd	nd	163.54	49.03
569682	nd	nd	nd	nd	nd	nd	nd	0.53	0.27
569683	0.01	0.08	0.05	0.03	nd	nd	nd	3.22	0.61
569684	nd	nd	nd	nd	nd	nd	nd	0.09	nd
569685	nd	nd	nd	nd	nd	nd	nd	0.00	nd
569686	0.01	nd	nd	nd	nd	nd	nd	0.12	0.02
569687	nd	nd	nd	nd	nd	nd	nd	0.92	0.06
569688	0.12	nd	nd	nd	nd	nd	nd	0.02	nd
569689	nd	nd	nd	nd	nd	nd	nd	0.01	nd
569690	nd	nd	nd	nd	nd	nd	nd	4.36	0.72
569691	nd	nd	nd	nd	nd	nd	nd	0.04	nd
569691	nd	nd	nd	nd	nd	nd	nd	0.08	0.01
569692	nd	nd	nd	nd	nd	nd	nd	0.26	0.04
569693	nd	nd	nd	nd	nd	nd	nd	0.10	0.05
569694	nd	0.04	0.01	0.03	nd	nd	nd	4.02	0.85
569695	0.01	0.02	0.01	0.01	0.00	nd	bdl	1.13	0.26
569696	nd	nd	nd	nd	nd	nd	nd	0.28	0.12
569697	nd	nd	nd	nd	nd	nd	nd	0.08	nd
569698	0.02	0.11	0.08	0.03	nd	nd	nd	9.77	0.87

No mdl is available for summed combinations of analytes. In summed

columns (eg., BTEX), the reported values should be considered

SAMPLE									
NAME	PENTADEC, ug	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	Combined PAHs, ug	NAPH&2-MN, ug
MDL=	0.01		0.01	0.01		0.02	0.02		
569700	nd	nd	nd	nd	nd	nd	nd	nd	nd
569699	nd	nd	nd	nd	nd	nd	nd	nd	nd
569701	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.42	5.60	1.84	3.76	0.02	0.00	0.02	163.54	49.03
Standard Dev.	0.07	1.14	0.42	0.73	0.00	0.00	0.00	29.52	9.32
Mean	0.02	0.33	0.13	0.20	0.00	0.00	0.00	8.64	2.67

SAMPLE											
NAME	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug	PCE, ug	14DCB, ug
MDL=	0.02	0.01	0.02	0.02	0.05	0.02	0.01	0.01	0.01	0.02	0.01
569667	0.07	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
569668	10.83	3.21	nd	nd	nd	nd	nd	nd	0.01	nd	nd
569668	16.46	8.01	bdl	nd	nd	nd	nd	nd	0.01	bdl	nd
569669	0.26	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd
569670	0.21	0.26	nd	nd	nd	nd	nd	nd	nd	nd	nd
569671	0.04	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd
569672	nd	0.03	bdl	nd	nd	nd	nd	nd	nd	nd	nd
569673	0.03	0.01	bdl	nd	nd	nd	nd	nd	nd	nd	nd
569674	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd
569675	0.14	0.05	bdl	nd	nd	nd	nd	nd	nd	nd	nd
569676	0.03	0.01	nd	nd	nd	nd	nd	nd	nd	0.02	nd
569677	0.14	0.05	nd	nd	nd	nd	nd	nd	nd	nd	nd
569678	0.13	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd
569679	0.45	0.18	nd	nd	nd	nd	nd	nd	nd	nd	nd
569680	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
569681	18.90	30.13	nd	nd	nd	nd	nd	nd	nd	nd	nd
569682	0.19	0.08	nd	nd	nd	nd	nd	nd	nd	nd	nd
569683	0.38	0.23	nd	nd	nd	nd	nd	nd	0.02	nd	nd
569684	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
569685	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
569686	0.02	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
569687	0.03	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd
569688	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
569689	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
569690	0.25	0.47	nd	nd	nd	nd	nd	nd	nd	nd	nd
569691	nd	nd	bdl	nd	nd	nd	nd	0.01	nd	0.02	nd
569691	nd	0.01	nd	nd	nd	nd	nd	nd	nd	nd	nd
569692	0.03	0.01	nd	nd	nd	nd	nd	nd	nd	bdl	nd
569693	0.04	0.01	bdl	nd	nd	nd	nd	nd	nd	nd	nd
569694	0.58	0.27	bdl	nd	nd	nd	nd	nd	nd	nd	nd
569695	0.21	0.05	nd	nd	nd	nd	nd	nd	nd	0.04	nd
569696	0.09	0.03	nd	nd	nd	nd	nd	nd	nd	nd	nd
569697	nd	nd	bdl	nd	nd	nd	nd	nd	nd	nd	nd
569698	0.70	0.17	bdl	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed

columns (eg., BTEX), the reported values should be considered

ESTIMATED if any of the individual compounds were reported as bdl.

SAMPLE											
NAME	NAPH, ug	2MeNAPH, ug	MTBE, ug	11DCE, ug	11DCA, ug	111TCA, ug	12DCA, ug	TCE, ug	OCT, ug	PCE, ug	14DCB, ug
MDL=	0.02	0.01	0.02	0.02	0.05	0.02	0.01	0.01	0.01	0.02	0.01
569700	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
569699	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
569701	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	18.90	30.13	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.04	0.00
Standard Dev.	4.46	5.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Mean	1.43	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

SAMPLE							
NAME	Acenaphthene, ug	Acenaphthylene, ug	Fluorene, ug	PHEN (TIC), ug	Anthracene (TIC), ug	Fluoranthene (TIC), ug	Pyrene (TIC), ug
MDL=	0.01	0.02	0.02	0.02	0.02	0.02	0.02
569667	0.02	nd	nd	nd	nd	nd	nd
569668	7.42	0.11	4.35	6.72	3.43	1.31	0.72
569668	15.15	0.21	7.05	8.98	4.00	1.43	0.77
569669	0.05	nd	0.02	0.03	0.02	0.02	bdl
569670	2.97	0.04	0.96	1.08	0.45	0.39	0.22
569671	0.04	bdl	0.05	0.19	0.06	0.10	0.06
569672	0.01	nd	bdl	nd	nd	nd	nd
569673	0.01	nd	nd	0.04	0.02	0.04	0.03
569674	0.01	nd	nd	0.03	nd	0.02	0.02
569675	0.11	bdl	0.04	0.19	0.05	0.10	0.10
569676	0.02	nd	bdl	0.04	nd	0.04	0.03
569677	0.03	bdl	bdl	0.09	0.02	0.03	0.04
569678	0.18	bdl	0.05	0.12	0.04	0.11	0.10
569679	0.28	0.03	0.23	0.88	0.37	0.83	0.42
569680	nd	nd	nd	nd	nd	nd	nd
569681	15.85	14.77	28.86	36.24	9.52	5.67	3.60
569682	0.03	0.02	0.06	0.09	0.02	0.02	0.02
569683	0.15	bdl	0.07	0.25	0.64	0.97	0.53
569684	0.01	nd	nd	0.02	0.02	0.02	0.02
569685	nd	nd	nd	nd	nd	nd	bdl
569686	0.02	nd	bdl	0.02	bdl	0.03	0.03
569687	0.04	0.02	0.09	0.33	0.14	0.14	0.10
569688	nd	nd	nd	nd	nd	0.02	bdl
569689	0.01	nd	nd	nd	nd	nd	nd
569690	0.15	0.11	0.56	1.42	1.17	0.14	0.09
569691	0.01	nd	nd	0.03	nd	bdl	bdl
569691	0.01	nd	nd	0.04	0.02	bdl	bdl
569692	0.02	nd	0.02	0.08	0.04	0.03	0.03
569693	0.02	nd	bdl	0.03	nd	bdl	bdl
569694	0.94	bdl	0.36	1.05	0.26	0.35	0.21
569695	0.13	bdl	0.07	0.30	0.20	0.10	0.07
569696	0.03	nd	bdl	0.03	0.03	0.04	0.03
569697	nd	nd	nd	0.02	0.02	0.02	0.02
569698	6.66	0.05	0.47	0.24	0.51	0.57	0.40

No mdl is available for summed combinations of analytes. In summed

columns (eg., BTEX), the reported values should be considered

07-10-2008 Page: 7 of 10

ESTIMATED if any of the individual compounds were reported as bdl.

SAMPLE							
NAME	Acenaphthene, ug	Acenaphthylene, ug	Fluorene, ug	PHEN (TIC), ug	Anthracene (TIC), ug	Fluoranthene (TIC), ug	Pyrene (TIC), ug
MDL=	0.01	0.02	0.02	0.02	0.02	0.02	0.02
569700	nd	nd	nd	nd	nd	nd	nd
569699	nd	nd	nd	nd	nd	nd	nd
569701	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd
Maximum	15.85	14.77	28.86	36.24	9.52	5.67	3.60
Standard Dev.	3.90	2.49	5.00	6.29	1.78	1.00	0.62
Mean	1.44	0.44	1.24	1.67	0.60	0.36	0.22

SAMPLE								
NAME	CHCl3, ug	CCl4, ug	112TCA, ug	CIBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.05	0.05	0.05	0.01	0.01	0.05	0.01	0.05
569667	nd	nd	nd	nd	nd	nd	nd	nd
569668	nd	nd	nd	nd	nd	nd	nd	nd
569668	nd	nd	nd	nd	nd	nd	nd	nd
569669	nd	nd	nd	nd	nd	nd	nd	nd
569670	nd	nd	nd	nd	nd	nd	nd	nd
569671	nd	nd	nd	nd	nd	nd	nd	nd
569672	nd	nd	nd	nd	nd	nd	nd	nd
569673	nd	nd	nd	nd	nd	nd	nd	nd
569674	nd	nd	nd	nd	nd	nd	nd	nd
569675	nd	nd	nd	nd	nd	nd	nd	nd
569676	nd	nd	nd	nd	nd	nd	nd	nd
569677	nd	nd	nd	nd	nd	nd	nd	nd
569678	nd	nd	nd	nd	nd	nd	nd	nd
569679	nd	nd	nd	nd	nd	nd	nd	nd
569680	nd	nd	nd	nd	nd	nd	nd	nd
569681	nd	nd	nd	nd	nd	nd	nd	nd
569682	nd	nd	nd	nd	nd	nd	nd	nd
569683	nd	nd	nd	nd	nd	nd	nd	nd
569684	nd	nd	nd	nd	nd	nd	nd	nd
569685	nd	nd	nd	nd	nd	nd	nd	nd
569686	nd	nd	nd	nd	nd	nd	nd	nd
569687	nd	nd	nd	nd	nd	nd	nd	nd
569688	nd	nd	nd	nd	nd	nd	nd	nd
569689	nd	nd	nd	nd	nd	nd	nd	nd
569690	nd	nd	nd	nd	nd	nd	nd	nd
569691	nd	nd	nd	nd	nd	nd	nd	nd
569691	nd	nd	nd	nd	nd	nd	nd	nd
569692	nd	nd	nd	nd	nd	nd	nd	nd
569693	nd	nd	nd	nd	nd	nd	nd	nd
569694	nd	nd	nd	nd	nd	nd	nd	nd
569695	nd	nd	nd	nd	nd	nd	nd	nd
569696	nd	nd	nd	nd	nd	nd	nd	nd
569697	nd	nd	nd	nd	nd	nd	nd	nd
569698	nd	nd	nd	nd	nd	nd	nd	nd

No mdl is available for summed combinations of analytes. In summed

columns (eg., BTEX), the reported values should be considered

ESTIMATED if any of the individual compounds were reported as bdl.

SAMPLE								
NAME	CHCl3, ug	CCl4, ug	112TCA, ug	CIBENZ, ug	1112TetCA, ug	1122TetCA, ug	13DCB, ug	12DCB, ug
MDL=	0.05	0.05	0.05	0.01	0.01	0.05	0.01	0.05
569700	nd	nd	nd	nd	nd	nd	nd	nd
569699	nd	nd	nd	nd	nd	nd	nd	nd
569701	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Standard Dev.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

DATE	SAMPLE								
ANALYZED	NAME	TPH, ug/m^3	BTEX, ug/m^3	BENZ, ug/m^3	TOL, ug/m^3	ETBENZ, ug/m^3	mpXYL, ug/m^3	oXYL, ug/m^3	C11, C13, &C15, ug/m^3
	MDL=	0.82		0.24	0.24	0.55	0.61	0.49	
06-28-08	569667	3.07	0.72	0.72	nd	nd	nd	nd	nd
06-28-08	569668	350.61	144.33	2.16	7.64	24.36	73.09	37.07	10.23
06-28-08	569668	529.66	150.58	5.77	10.85	27.13	71.24	35.59	19.30
06-28-08	569669	4.26	0.48	0.48	nd	nd	nd	nd	2.23
06-27-08	569670	21.69	1.97	0.97	1.00	nd	nd	nd	nd
06-27-08	569671	42.55	3.14	1.19	1.95	nd	nd	nd	0.79
06-27-08	569672	7.27	0.72	0.72	nd	nd	nd	nd	nd
06-27-08	569673	3.06	1.19	1.19	nd	nd	nd	nd	nd
06-28-08	569674	1.86	0.72	0.72	nd	nd	nd	nd	nd
06-28-08	569675	70.66	2.31	1.20	nd	nd	0.62	0.50	1.18
06-27-08	569676	58.76	nd	nd	nd	nd	nd	nd	0.77
06-28-08	569677	2.84	nd	nd	nd	nd	nd	nd	nd
06-27-08	569678	117.41	0.48	0.48	nd	nd	nd	nd	0.78
06-27-08	569679	50.69	7.76	0.48	0.49	1.11	3.70	1.98	0.78
06-27-08	569680	20.52	nd	nd	nd	nd	nd	nd	nd
06-28-08	569681	1405.48	47.06	1.91	2.20	1.10	18.29	23.55	39.83
06-28-08	569682	31.09	0.72	0.72	nd	nd	nd	nd	nd
06-27-08	569683	278.09	5.59	0.96	1.24	0.56	1.85	0.99	0.78
06-28-08	569684	1.61	nd	nd	nd	nd	nd	nd	nd
06-27-08	569685	1.57	nd	nd	nd	nd	nd	nd	nd
06-28-08	569686	19.14	0.45	0.45	nd	nd	nd	nd	0.00
06-28-08	569687	14.53	nd	nd	nd	nd	nd	nd	0.75
06-27-08	569688	518.26	nd	nd	nd	nd	nd	nd	392.55
06-28-08	569689	9.14	1.12	1.12	nd	nd	nd	nd	nd
06-28-08	569690	48.18	nd	nd	nd	nd	nd	nd	3.77
06-28-08	569691	12.53	1.20	1.20	nd	nd	nd	nd	5.28
06-28-08	569691	53.33	0.48	0.48	nd	nd	nd	nd	33.94
06-28-08	569692	13.28	0.72	0.72	nd	nd	nd	nd	nd
06-28-08	569693	6.75	0.48	0.48	nd	nd	nd	nd	nd
06-27-08	569694	26.82	6.53	0.72	1.48	1.11	1.23	1.98	nd
06-28-08	569695	57.80	3.24	nd	0.98	0.55	1.22	0.49	1.15
06-27-08	569696	19.39	0.90	0.90	nd	nd	nd	nd	nd
06-28-08	569697	12.11	1.71	nd	nd	nd	1.22	0.49	nd
06-27-08	569698	108.23	9.35	0.72	1.23	1.11	4.31	1.98	2.31

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

DATE	SAMPLE								
ANALYZED	NAME	TPH, ug/m^3	BTEX, ug/m^3	BENZ, ug/m^3	TOL, ug/m^3	ETBENZ, ug/m^3	mpXYL, ug/m^3	oXYL, ug/m^3	C11, C13, &C15, ug/m^3
	MDL=	0.82		0.24	0.24	0.55	0.61	0.49	
06-27-08	569700	3.70	nd	nd	nd	nd	nd	nd	nd
06-28-08	569699	bdl	nd	nd	nd	nd	nd	nd	nd
00-20-00	509099	Dui	na	na	nu	na	na	nu	nu
06-27-08	569701	nd	nd	nd	nd	nd	nd	nd	nd
06-27-08	method blank	bdl	nd	nd	nd	nd	nd	nd	nd
06-28-08	method blank	nd	nd	nd	nd	nd	nd	nd	nd
	Maximum	1405.48	150.58	5.77	10.85	27.13	73.09	37.07	392.55
	Standard Dev.	262.09	34.96	1.03	2.22	6.04	17.06	9.23	66.37
	Mean	112.17	11.26	0.76	0.83	1.63	5.05	2.99	14.75

SAMPLE								
NAME		TRIDEC, ug/m^3		TMBs, ug/m^3			ct12DCE, ug/m^3	t12DCE, ug/m^3
MDL=	0.37	0.37	0.40		0.44	0.32		0.61
569667	nd	nd	nd	nd	nd	nd	nd	nd
569668	7.15	1.88	1.20	116.91	62.27	54.64	nd	nd
569668	13.17	4.13	2.00	101.39	52.86	48.54	nd	nd
569669	2.23	nd	nd	0.00	bdl	nd	nd	nd
569670	nd	nd	nd	0.45	0.45	nd	nd	nd
569671	nd	bdl	0.79	0.00	bdl	nd	nd	nd
569672	nd	nd	nd	nd	nd	nd	nd	nd
569673	nd	nd	nd	nd	nd	nd	nd	nd
569674	nd	nd	nd	nd	nd	nd	nd	nd
569675	nd	0.38	0.80	0.90	0.90	nd	nd	nd
569676	0.37	nd	0.40	nd	nd	nd	nd	nd
569677	nd	nd	nd	nd	nd	nd	nd	nd
569678	0.38	nd	0.40	nd	nd	nd	0.60	nd
569679	0.38	nd	0.40	1.22	0.90	0.32	nd	nd
569680	nd	nd	nd	nd	nd	nd	nd	nd
569681	10.83	12.31	16.69	201.81	81.83	119.99	nd	nd
569682	nd	nd	nd	nd	nd	nd	nd	nd
569683	0.38	nd	0.40	3.21	2.25	0.97	nd	nd
569684	nd	nd	nd	nd	nd	nd	nd	nd
569685	nd	nd	nd	nd	nd	nd	nd	nd
569686	nd	nd	bdl	nd	nd	nd	nd	nd
569687	0.75	nd	nd	nd	nd	nd	nd	nd
569688	384.34	3.39	4.82	nd	nd	nd	nd	nd
569689	nd	nd	nd	nd	nd	nd	nd	nd
569690	3.40	0.38	nd	nd	nd	nd	nd	nd
569691	5.28	nd	nd	nd	nd	nd	nd	nd
569691	33.56	0.38	nd	nd	nd	nd	nd	nd
569692	nd	nd	nd	nd	nd	nd	nd	nd
569693	nd	nd	nd	nd	nd	nd	nd	nd
569694	nd	nd	nd	1.42	0.45	0.97	nd	nd
569695	0.37	0.37	0.40	0.77	0.45	0.32	0.00	nd
569696	nd	nd	nd	nd	nd	nd	nd	nd
569697	nd	nd	nd	nd	nd	nd	nd	nd
569698	1.13	0.38	0.80	4.56	3.59	0.97	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered

columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

SAMPLE								
NAME	UNDEC, ug/m^3	TRIDEC, ug/m^3	PENTADEC, ug/m^3	TMBs, ug/m^3	124TMB, ug/m^3	135TMB, ug/m^3	ct12DCE, ug/m^3	t12DCE, ug/m^3
MDL=	0.37	0.37	0.40		0.44	0.32		0.61
569700	nd	nd	nd	nd	nd	nd	nd	nd
569699	nd	nd	nd	nd	nd	nd	nd	nd
569701	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	384.34	12.31	16.69	201.81	81.83	119.99	0.60	0.00
Standard Dev.	64.87	2.22	2.90	41.79	18.92	23.18	0.10	0.00
Mean	13.25	0.68	0.84	12.36	5.91	6.48	0.02	0.00

SAMPLE								
NAME	c12DCE, ug/m^3	Combined PAHs, ug/m^3	NAPH&2-MN, ug/m^3	NAPH, ug/m^3	2MeNAPH, ug/m^3	MTBE, ug/m^3	11DCE, ug/m^3	11DCA, ug/m^3
MDL=	0.59			0.79	0.35	0.40	2.14	1.47
569667	nd	3.80	2.80	2.80	nd	nd	nd	nd
569668	nd	1572.18	545.86	432.68	113.17	nd	nd	nd
569668	nd	2584.83	940.02	657.62	282.40	bdl	nd	nd
569669	nd	14.97	11.32	10.27	1.05	nd	nd	nd
569670	nd	293.69	17.73	8.47	9.26	nd	nd	nd
569671	nd	22.02	2.28	1.58	0.70	nd	nd	nd
569672	nd	1.56	1.06	nd	1.06	bdl	nd	nd
569673	nd	5.44	1.19	1.19	bdl	bdl	nd	nd
569674	nd	3.24	nd	nd	nd	bdl	nd	nd
569675	nd	31.69	7.37	5.60	1.77	bdl	nd	nd
569676	nd	6.79	1.54	1.19	0.35	nd	nd	nd
569677	nd	15.93	7.37	5.61	1.77	nd	nd	nd
569678	0.60	31.79	6.27	5.21	1.06	nd	nd	nd
569679	nd	147.47	24.39	18.03	6.36	nd	nd	nd
569680	nd	nd	nd	nd	nd	nd	nd	nd
569681	nd	6854.69	1804.23	749.64	1054.59	nd	nd	nd
569682	nd	21.55	10.44	7.61	2.83	nd	nd	nd
569683	nd	127.23	23.35	15.22	8.13	nd	nd	nd
569684	nd	3.64	nd	nd	nd	nd	nd	nd
569685	nd	0.00	nd	nd	nd	nd	nd	nd
569686	nd	3.11	0.00	bdl	nd	nd	nd	nd
569687	nd	36.91	2.26	1.20	1.06	nd	nd	nd
569688	nd	0.78	nd	nd	nd	nd	nd	nd
569689	nd	0.00	nd	nd	nd	nd	nd	nd
569690	nd	174.06	26.63	10.01	16.61	nd	nd	nd
569691	nd	1.68	nd	nd	nd	bdl	nd	nd
569691	nd	3.21	0.35	nd	0.35	nd	nd	nd
569692	nd	10.31	1.54	1.19	0.35	nd	nd	nd
569693	nd	4.11	1.94	1.59	0.35	bdl	nd	nd
569694	nd	167.41	32.76	23.22	9.54	bdl	nd	nd
569695	bdl	45.34	10.10	8.34	1.75	nd	nd	nd
569696	nd	10.48	4.34	3.35	0.99	nd	nd	nd
569697	nd	3.11	nd	nd	nd	bdl	nd	nd
569698	nd	458.95	34.01	28.01	6.00	bdl	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

SAMPLE								
NAME	c12DCE, ug/m^3	Combined PAHs, ug/m^3	NAPH&2-MN, ug/m^3	NAPH, ug/m^3	2MeNAPH, ug/m^3	MTBE, ug/m^3	11DCE, ug/m^3	11DCA, ug/m^3
MDL=	0.59			0.79	0.35	0.40	2.14	1.47
569700	nd	nd	nd	nd	nd	nd	nd	nd
569699	nd	nd	nd	nd	nd	nd	nd	nd
569701	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.60	6854.69	1804.23	749.64	1054.59	0.20	0.00	0.00
Standard Dev.	0.11	1236.21	346.73	177.38	183.04	0.09	0.00	0.00
Mean	0.03	361.77	100.60	57.15	43.48	0.06	0.00	0.00

SAMPLE								
NAME	111TCA, ug/m^3			OCT, ug/m^3	PCE, ug/m^3	14DCB, ug/m^3		Acenaphthylene, ug/m^3
MDL=	0.66	0.20	0.23	0.46	0.84	0.69	0.50	1.36
569667	nd	nd	nd	nd	nd	nd	1.01	nd
569668	nd	nd	nd	0.47	nd	nd	373.62	7.56
569668	nd	nd	nd	0.47	bdl	nd	762.86	14.44
569669	nd	nd	nd	nd	nd	nd	2.49	nd
569670	nd	nd	nd	nd	nd	nd	151.02	2.78
569671	nd	nd	nd	nd	nd	nd	1.99	bdl
569672	nd	nd	nd	nd	nd	nd	0.50	nd
569673	nd	nd	nd	nd	nd	nd	bdl	nd
569674	nd	nd	nd	nd	nd	nd	0.50	nd
569675	nd	nd	nd	nd	nd	nd	5.55	bdl
569676	nd	nd	nd	nd	0.84	nd	1.00	nd
569677	nd	nd	nd	nd	nd	nd	1.51	bdl
569678	nd	nd	nd	nd	nd	nd	9.08	bdl
569679	nd	nd	nd	nd	nd	nd	14.14	2.07
569680	nd	nd	nd	nd	nd	nd	nd	nd
569681	nd	nd	nd	nd	nd	nd	792.34	1008.18
569682	nd	nd	nd	nd	nd	nd	1.51	1.38
569683	nd	nd	nd	0.94	nd	nd	7.57	bdl
569684	nd	nd	nd	nd	nd	nd	0.50	nd
569685	nd	nd	nd	nd	nd	nd	nd	nd
569686	nd	nd	nd	nd	nd	nd	0.93	nd
569687	nd	nd	nd	nd	nd	nd	2.02	1.38
569688	nd	nd	nd	nd	nd	nd	nd	nd
569689	nd	nd	nd	nd	nd	nd	bdl	nd
569690	nd	nd	nd	nd	-	nd	7.57	7.58
569691	nd	nd	0.24	nd	0.85	nd	0.50	nd
569691	nd	nd	nd	nd	nd	nd	0.50	nd
569692	nd	nd	nd	nd	bdl	nd	1.00	nd
569693	nd	nd	nd	nd	nd	nd	1.00	nd
569694	nd	nd	nd	nd	nd	nd	47.43	bdl
569695	nd	nd	nd	nd	1.68	nd	6.51	bdl
569696	nd	nd	nd	nd	nd	nd	1.41	nd
569697	nd	nd	nd	nd	nd	nd	nd	nd
569698	nd	nd	nd	nd	nd	nd	335.88	3.44

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered

SAMPLE								
NAME	111TCA, ug/m^3	12DCA, ug/m^3	TCE, ug/m^3	OCT, ug/m^3	PCE, ug/m^3	14DCB, ug/m^3	Acenaphthene, ug/m^3	Acenaphthylene, ug/m^3
MDL=	0.66	0.20	0.23	0.46	0.84	0.69	0.50	1.36
569700	nd	nd	nd	nd	nd	nd	nd	nd
569699	nd	nd	nd	nd	nd	nd	nd	nd
569701	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd	nd
Maximum	0.00	0.00	0.24	0.94	1.68	0.00	792.34	1008.18
Standard Dev.	0.00	0.00	0.04	0.19	0.35	0.00	195.87	170.21
Mean	0.00	0.00	0.01	0.05	0.12	0.00	72.37	30.10

SAMPLE							
NAME	Fluorene, ug/m^3	PHEN (TIC), ug/m^3	Anthracene (TIC), ug/m^3	Fluoranthene (TIC), ug/m^3	Pyrene (TIC), ug/m^3	CHCl3, ug/m^3	CCl4, ug/m^3
MDL=	0.77	0.77	0.77	0.77	0.77	1.26	1.30
569667	nd	nd	nd	nd	nd	nd	nd
569668	169.54	262.40	133.93	51.15	28.11	nd	nd
569668	274.77	350.65	156.19	55.84	30.07	nd	nd
569669	bdl	1.16	bdl	bdl	bdl	nd	nd
569670	37.78	42.59	17.74	15.38	8.67	nd	nd
569671	1.93	7.33	2.32	3.86	2.32	nd	nd
569672	bdl	nd	nd	nd	nd	nd	nd
569673	nd	1.55	bdl	1.55	1.16	nd	nd
569674	nd	1.17	nd	0.78	0.78	nd	nd
569675	1.56	7.43	1.96	3.91	3.91	nd	nd
569676	bdl	1.55	nd	1.55	1.16	nd	nd
569677	bdl	3.52	0.78	1.17	1.57	nd	nd
569678	1.95	4.70	1.57	4.31	3.91	nd	nd
569679	8.99	34.45	14.49	32.50	16.44	nd	nd
569680	nd	nd	nd	nd	nd	nd	nd
569681	1116.67	1404.87	369.05	219.80	139.56	nd	nd
569682	2.34	3.52	0.78	0.78	0.78	nd	nd
569683	2.74	9.79	25.06	37.98	20.75	nd	nd
569684	nd	0.78	0.78	0.78	0.78	nd	nd
569685	nd	nd	nd	nd	bdl	nd	nd
569686	bdl	bdl	bdl	1.09	1.09	nd	nd
569687	3.51	12.90	5.47	5.47	3.91	nd	nd
569688	nd	nd	nd	0.78	bdl	nd	nd
569689	nd	nd	nd	nd	nd	nd	nd
569690	21.88	55.59	45.80	5.48	3.52	nd	nd
569691	nd	1.17	nd	bdl	bdl	nd	nd
569691	nd	1.57	0.78	bdl	bdl	nd	nd
569692	0.78	3.11	1.55	1.16	1.16	nd	nd
569693	bdl	1.16	nd	bdl	bdl	nd	nd
569694	14.06	41.08	10.17	13.69	8.22	nd	nd
569695	2.71	11.65	7.77	3.88	2.72	nd	nd
569696	bdl	1.09	1.09	1.46	1.09	nd	nd
569697	nd	0.78	0.78	0.78	0.78	nd	nd
569698	18.35	9.39	19.95	22.29	15.64	nd	nd

No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered ESTIMATED if any of the individual compounds were reported as bdl.

SAMPLE							
NAME	Fluorene, ug/m^3	PHEN (TIC), ug/m^3	Anthracene (TIC), ug/m^3	Fluoranthene (TIC), ug/m^3	Pyrene (TIC), ug/m^3	CHCl3, ug/m^3	CCl4, ug/m^3
MDL=	0.77	0.77	0.77	0.77	0.77	1.26	1.30
569700	nd	nd	nd	nd	nd	nd	nd
569699	nd	nd	nd	nd	nd	nd	nd
569701	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd	nd
Maximum	1116.67	1404.87	369.05	219.80	139.56	0.00	0.00
Standard Dev.	193.49	244.09	69.28	38.64	24.11	0.00	0.00
Mean	48.07	65.08	23.43	13.98	8.58	0.00	0.00

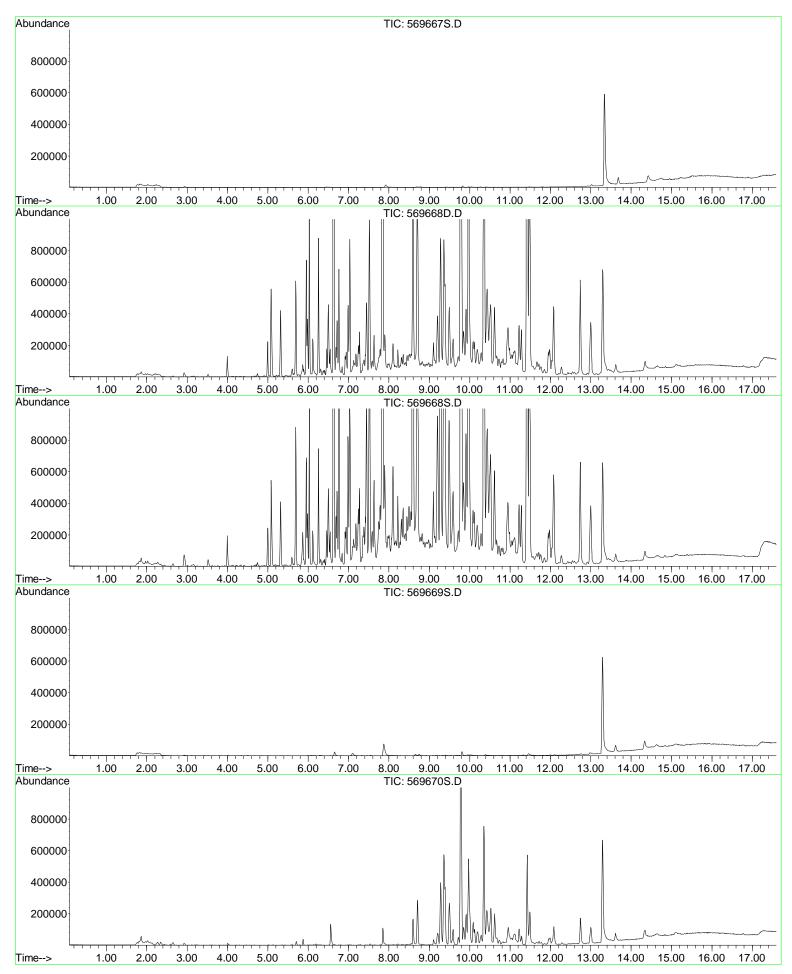
SAMPLE						
NAME	112TCA, ug/m^3	CIBENZ, ug/m^3	1112TetCA, ug/m^3	1122TetCA, ug/m^3	13DCB, ug/m^3	12DCB, ug/m^3
MDL=	2.55	0.82	0.36	1.03	0.62	3.77
569667	nd	nd	nd	nd	nd	nd
569668	nd	nd	nd	nd	nd	nd
569668	nd	nd	nd	nd	nd	nd
569669	nd	nd	nd	nd	nd	nd
569670	nd	nd	nd	nd	nd	nd
569671	nd	nd	nd	nd	nd	nd
569672	nd	nd	nd	nd	nd	nd
569673	nd	nd	nd	nd	nd	nd
569674	nd	nd	nd	nd	nd	nd
569675	nd	nd	nd	nd	nd	nd
569676	nd	nd	nd	nd	nd	nd
569677	nd	nd	nd	nd	nd	nd
569678	nd	nd	nd	nd	nd	nd
569679	nd	nd	nd	nd	nd	nd
569680	nd	nd	nd	nd	nd	nd
569681	nd	nd	nd	nd	nd	nd
569682	nd	nd	nd	nd	nd	nd
569683	nd	nd	nd	nd	nd	nd
569684	nd	nd	nd	nd	nd	nd
569685	nd	nd	nd	nd	nd	nd
569686	nd	nd	nd	nd	nd	nd
569687	nd	nd	nd	nd	nd	nd
569688	nd	nd	nd	nd	nd	nd
569689	nd	nd	nd	nd	nd	nd
569690	nd	nd	nd	nd	nd	nd
569691	nd	nd	nd	nd	nd	nd
569691	nd	nd	nd	nd	nd	nd
569692	nd	nd	nd	nd	nd	nd
569693	nd	nd	nd	nd	nd	nd
569694	nd	nd	nd	nd	nd	nd
569695	nd	nd	nd	nd	nd	nd
569696	nd	nd	nd	nd	nd	nd
569697	nd	nd	nd	nd	nd	nd
569698	nd	nd	nd	nd	nd	nd

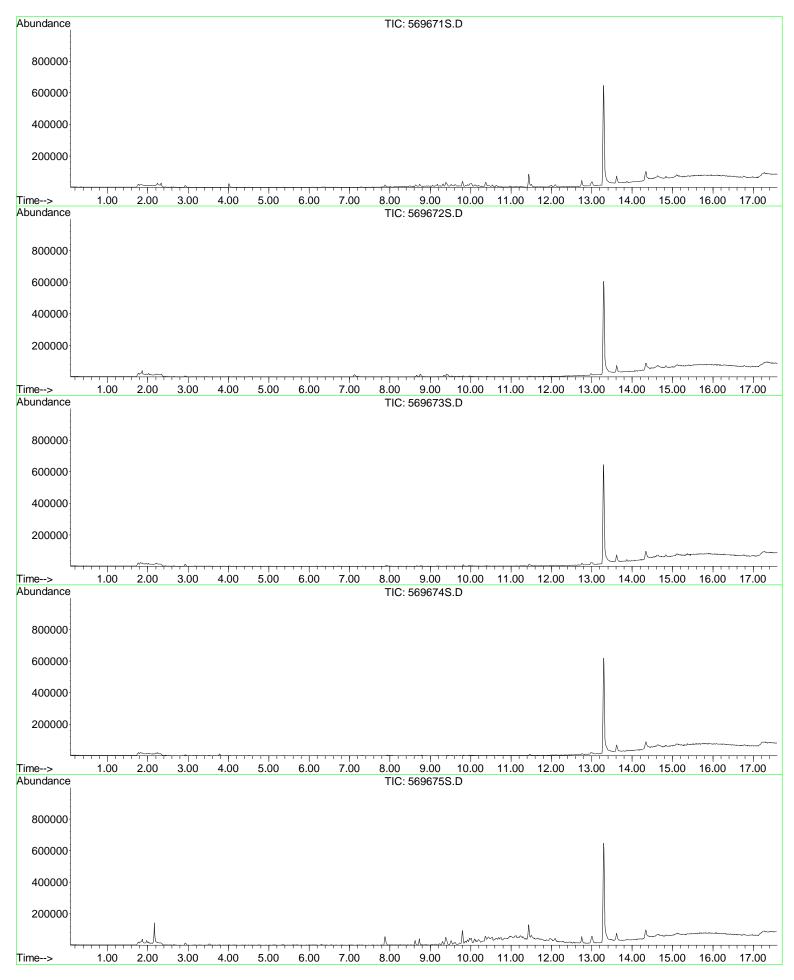
No mdl is available for summed combinations of analytes. In summed columns (eg., BTEX), the reported values should be considered

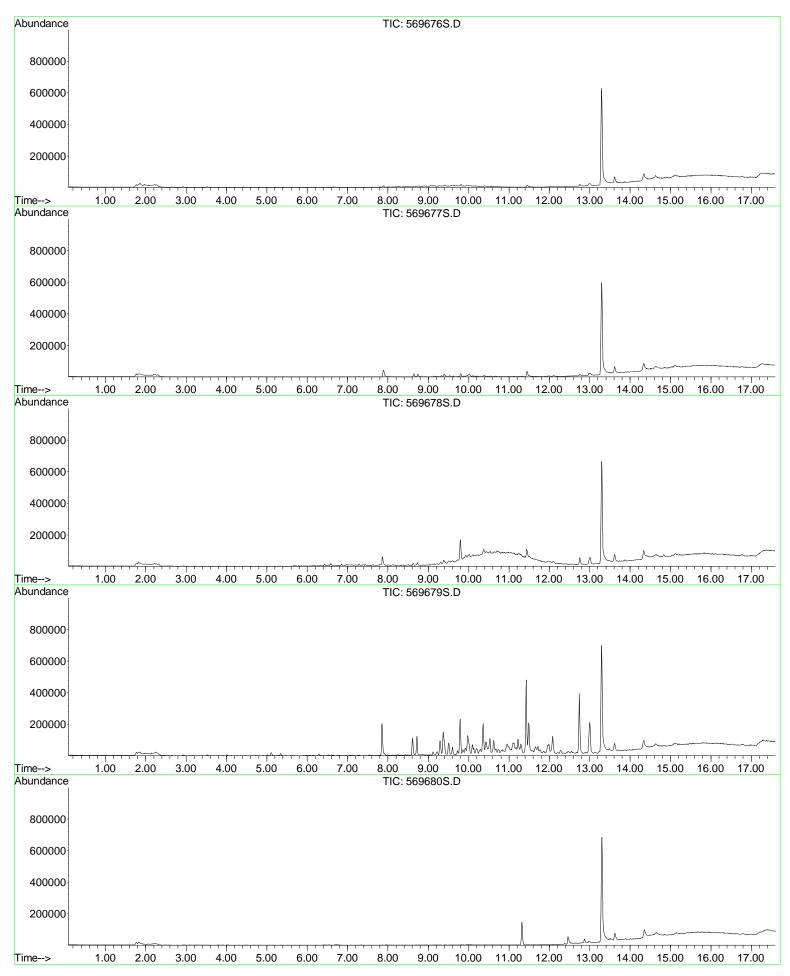
ESTIMATED if any of the individual compounds were reported as bdl.

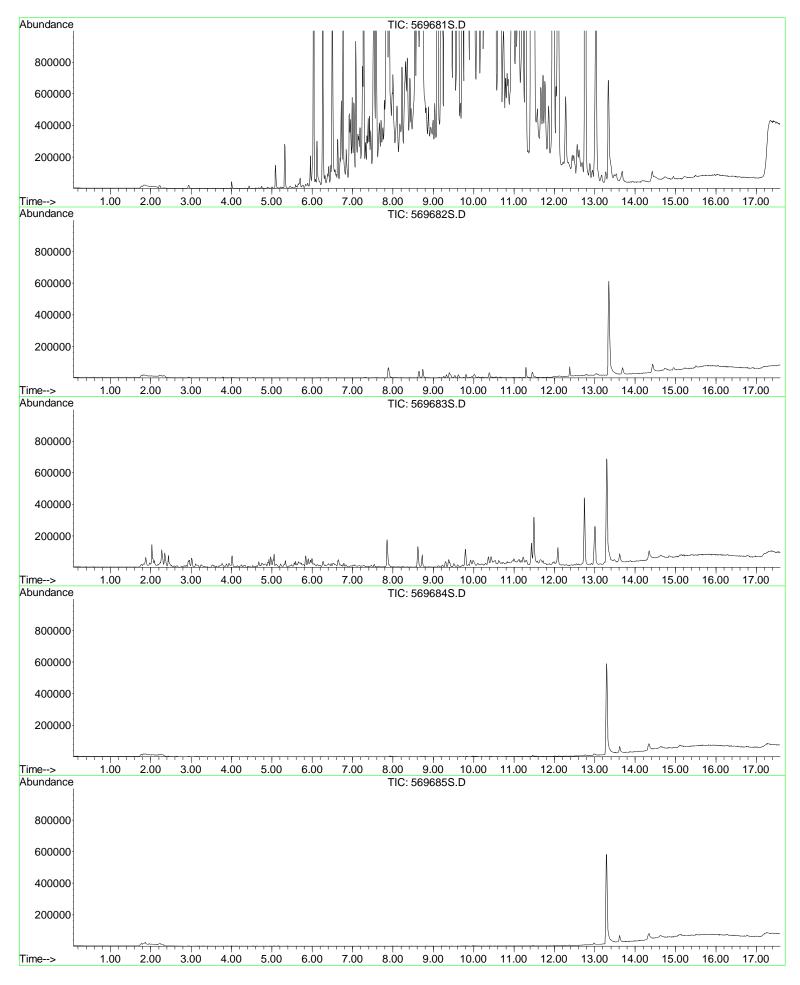
GORE(TM) SURVEYS ANALYTICAL RESULTS STS CONSULTANTS, MAPLE GROVE, MN GORE STANDARD VOC/SVOC TARGET COMPOUNDS PLUS ADDITIONAL PAHs (A4) ESTIMATED CONCENTRATIONS REILLY TAR - ST. LOUIS PARK, MN SITE EJF - PRODUCTION ORDER #13674768

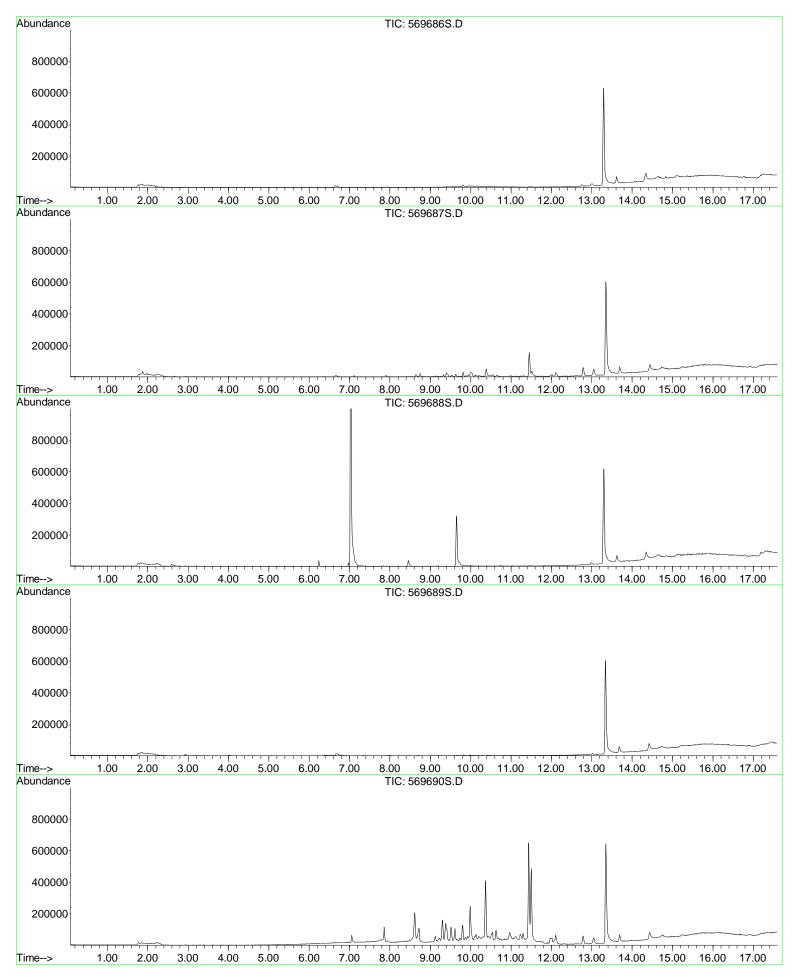
SAMPLE NAME	112TCA, ug/m^3		1112TetCA, ug/m^3	1122TetCA ug/m/3	13DCB, ug/m^3	12DCB, ug/m^3
MDL=	2.55	0.82	0.36	1.03	0.62	3.77
569700	nd	nd	nd	nd	nd	nd
569699	nd	nd	nd	nd	nd	nd
569701	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd
method blank	nd	nd	nd	nd	nd	nd
Maximum	0.00	0.00	0.00	0.00	0.00	0.00
Standard Dev.	0.00	0.00	0.00	0.00	0.00	0.00
Mean	0.00	0.00	0.00	0.00	0.00	0.00

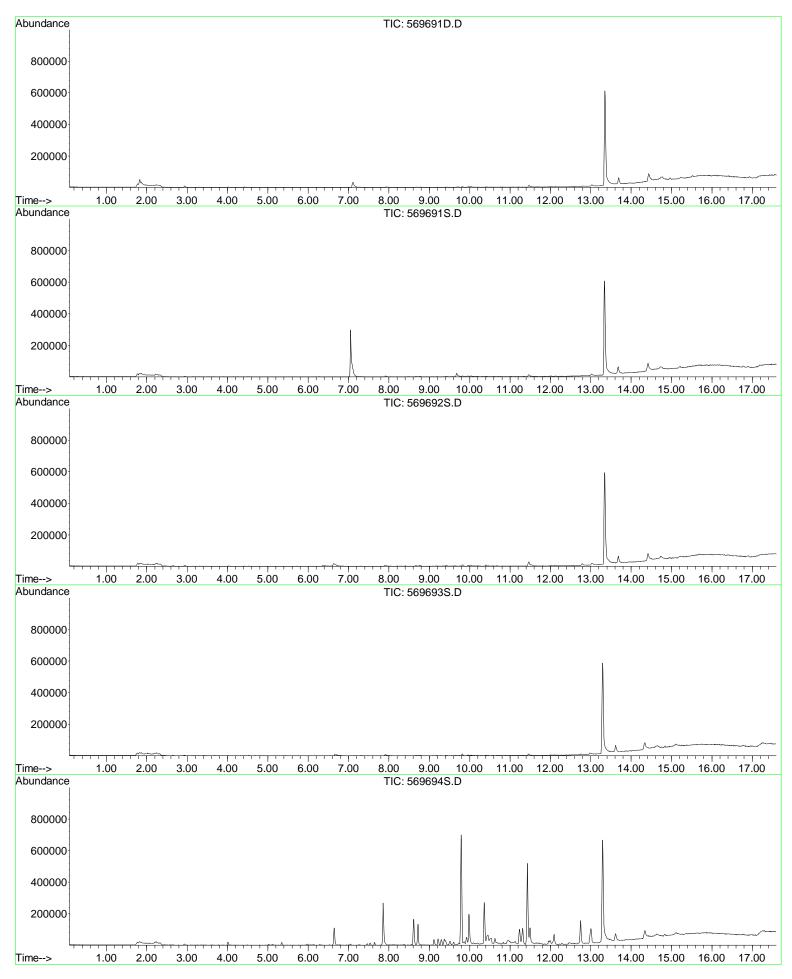


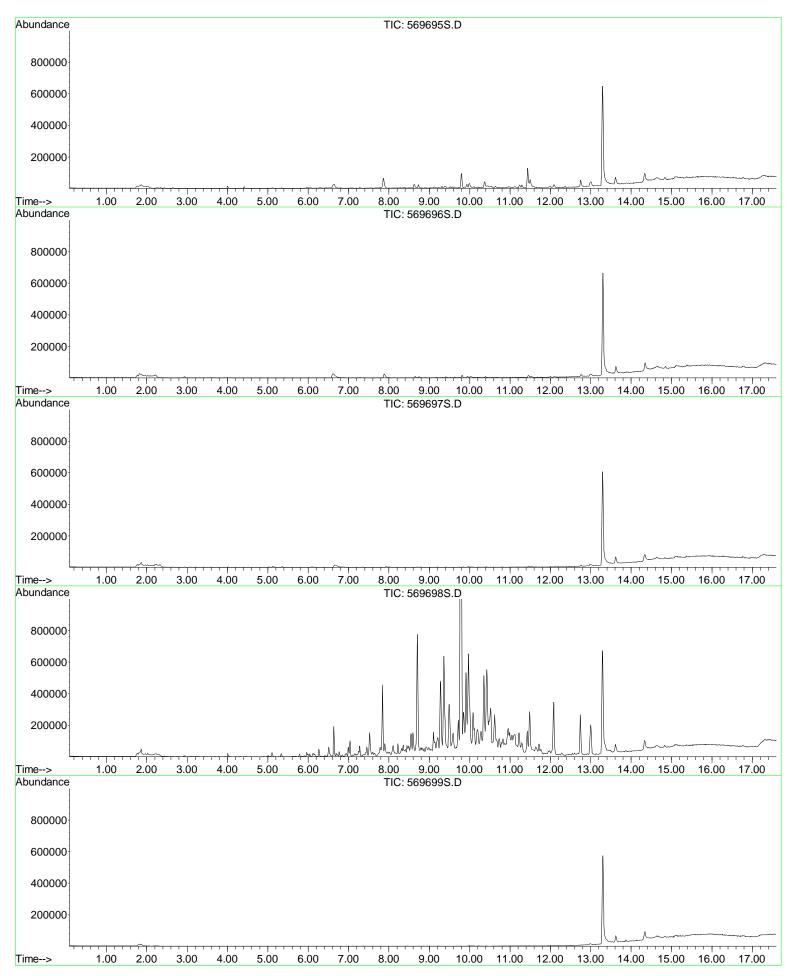


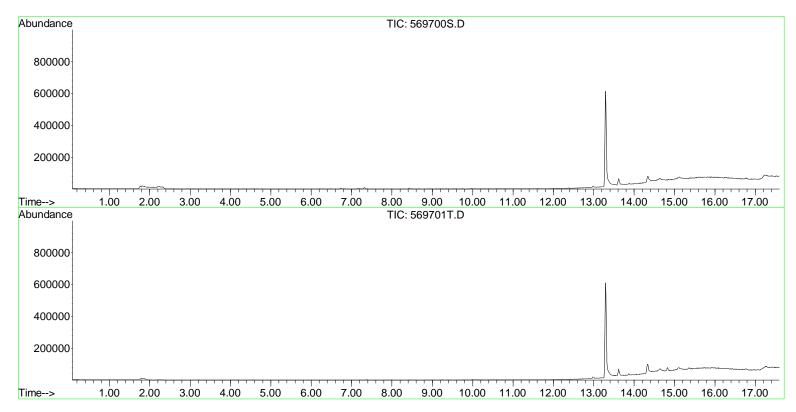












Appendix C

W.L. Gore and Associates QA/QC Deliverable Package (Electronic copy on disk)

W.L. Gore and Associates QA/ QC Deliverable Package STS Consultants, Maple Grove, MN Reilly Tar, St. Louis Park, MN Site EJF - Production Order #13674768

GORE(TM) SURVEYS ANALYTICAL RESULTS STS CONSULTANTS, MN GORE STANDARD TARGET COMPOUNDS VOCs/SVOCs (A4) REILLY TAR, ST. LOUIS PARK, MN SITE EJF - PRODUCTION ORDER #13674768

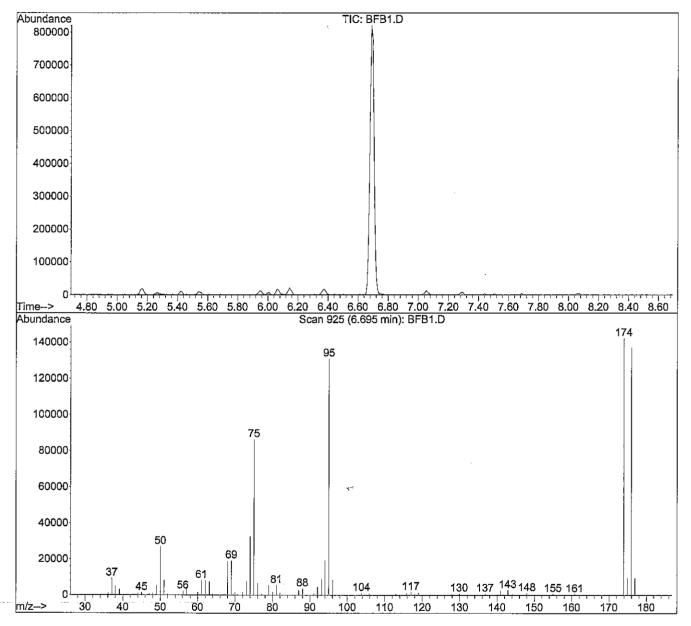
¢.

GORE	FIELD SAMPLE		
MODULE	OR	METHOD	
ANALYZED	TRIP BLANK	DEVIATIONS	COMMENT
569667S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569668D.D	Field Sample - Duplicate	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569668S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569669S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569670S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569671S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569672S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569673S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569674S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569675S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569676S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569677S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569678S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569679S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569680S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569681\$.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569682S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569683S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569684S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569685S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569686S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569687S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569688S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569689S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
69690S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569691D.D	Field Sample - Duplicate	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569691S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569692\$.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569693\$.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569694S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569695S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569696S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569697S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
69698\$.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569700S.D	Field Sample	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569699F.D	Field Blank	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None
569701T.D	Trip Blank	High level calibration response for Acenaphthylene was not used due to a non-linear curve	None

Additional Analysis Notes: (1) Response factor for Fluorene was used to quantify the following TICs: Phenanthrene, Anthracene, Fluoranthene, and Pyrene. (2) The initial BFB tune passed all mass critieria. The second BFB tune passed all mass critieria with the exception of mass 75 relative to mass 95. BFB Tune Reports Production Order #13674768

•

Data File : C:\MSDCHEM\#9\12345ABC\BFB1.D Vial: 3 Operator: DC/SE Acq On : 30 Jun 2008 11:05 am Sample : BFB 5 ug : UC-SPG9-D Inst Misc Multiplr: 1.00 : MS Integration Params: DDLSCINT.P Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs



Spectrum Information: Scan 925

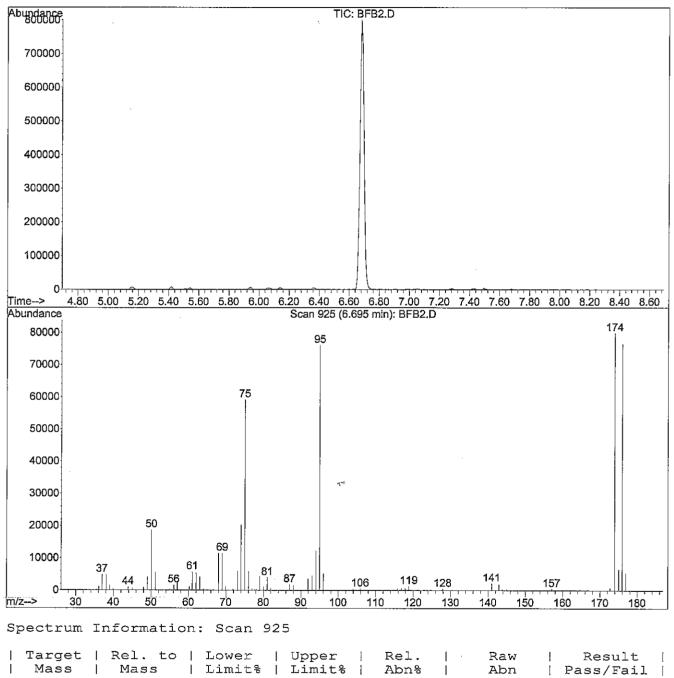
 	Target Mass	 	Rel. to Mass	1	Lower Limit%	 	Upper Limit%		Rel. Abn%	1	Raw Abn	 	Result Pass/Fail	
1	50	1	95		8	- <u>-</u> . 	40		20.5	1	26784		PASS	
1	75	1	95	Ì	30	Ì	66	1	65.9	Ì	86104	ĺ	PASS	1
1	95	I	95		100	I	100	Ì	100.0	I.	130656	İ	PASS	Ì
1	96		95	1	- 5	1	9	Ι	6.3	1	8202	1	PASS	Ì
	173		174		0.00		2	Ι	0.0	1	0	1	PASS	Ì
	174		95		50		120		108.7		142080	Ĺ	PASS	- İ
1	175	ļ	174	-1	4	1	9	l	6.8	1	9604	Ì	PASS	1
1	176	1	174	1	93	1	101		96.3	1	136832		PASS	1
1	177	1	176	1	5	Τ	9		6.9		9424	ł	PASS	1

BFB1.D A4-8.M

Tue Jul 01 15:52:35 2008 RPT1

BFB

Data File : C:\MSDCHEM\#9\12345ABC\BFB2.D Vial: 53 Operator: DC/SE Acq On : 1 Jul 2008 11:05 am Sample : UC-SPG9-D : Inst Misc Multiplr: 1.00 : MS Integration Param's: events.e Method : C:\MSDCHEM\1\METHODS\A4-8.M (Chemstation Integrator) Title : Gore Expanded Target VOCs/SVOCs



i	Mass		Mass		Limit%		Limit%	1	Abn%	I.	Abn	Pass/Fail	1
	 50 75 95		95 95 95		8 30		40 66	: 	24.6		18664 59112	PASS FAIL*	1
1	96 173	1	95 95 174	1	100 · 5 0.00		100 9 2		100.0 6.7 1.0	! 	76024 5128 790	PASS PASS PASS	
Ì	174 175	i	95 174	; 	50 4	i	120 9	 	105.0 8.2	Ì	79840 6536	PASS PASS	
	176 177	 	174 176		93 5	 	101 9	 	95.9 7.1		76544 5420	PASS PASS	

BFB

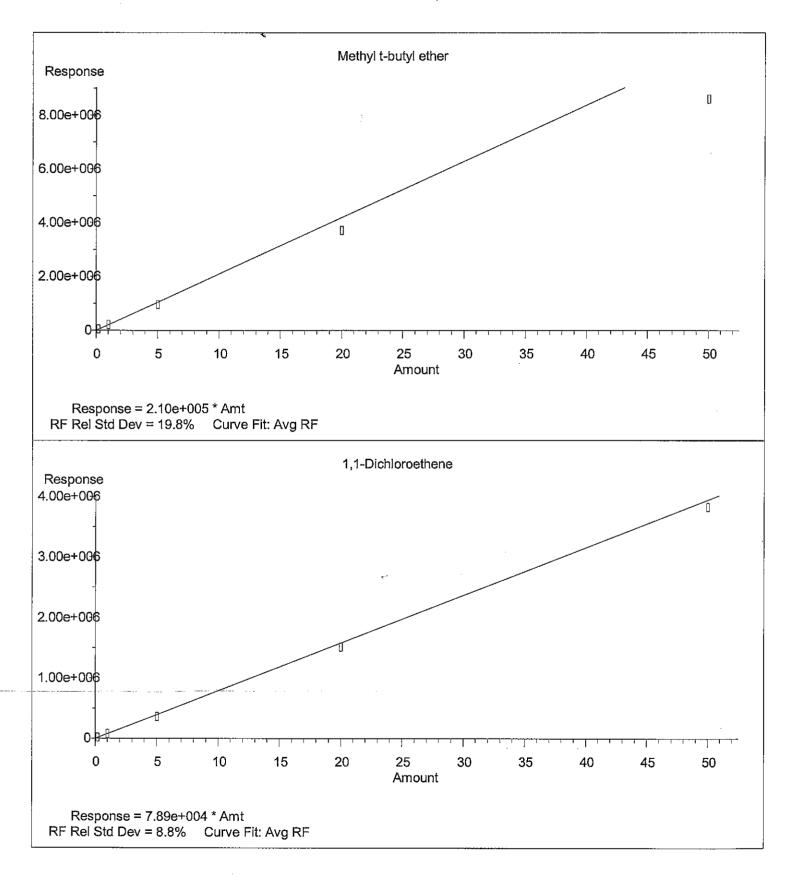
-8.M Wed Jul 02 06:53:05 2008 RPT1

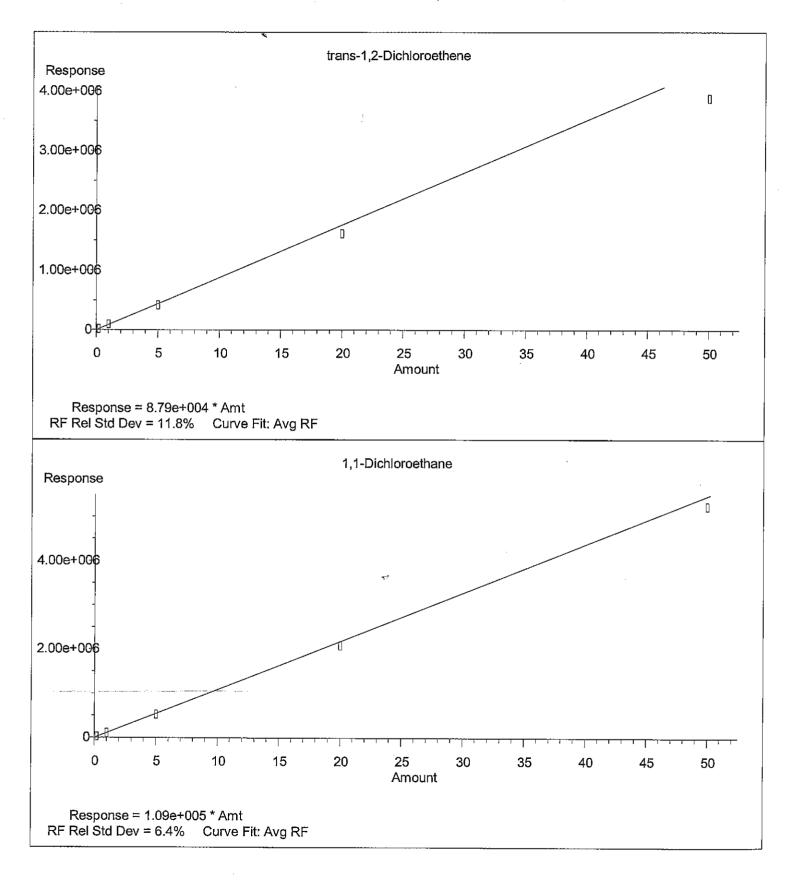
Initial Calibration Production Order #13674768

Compound List Report Instrumen

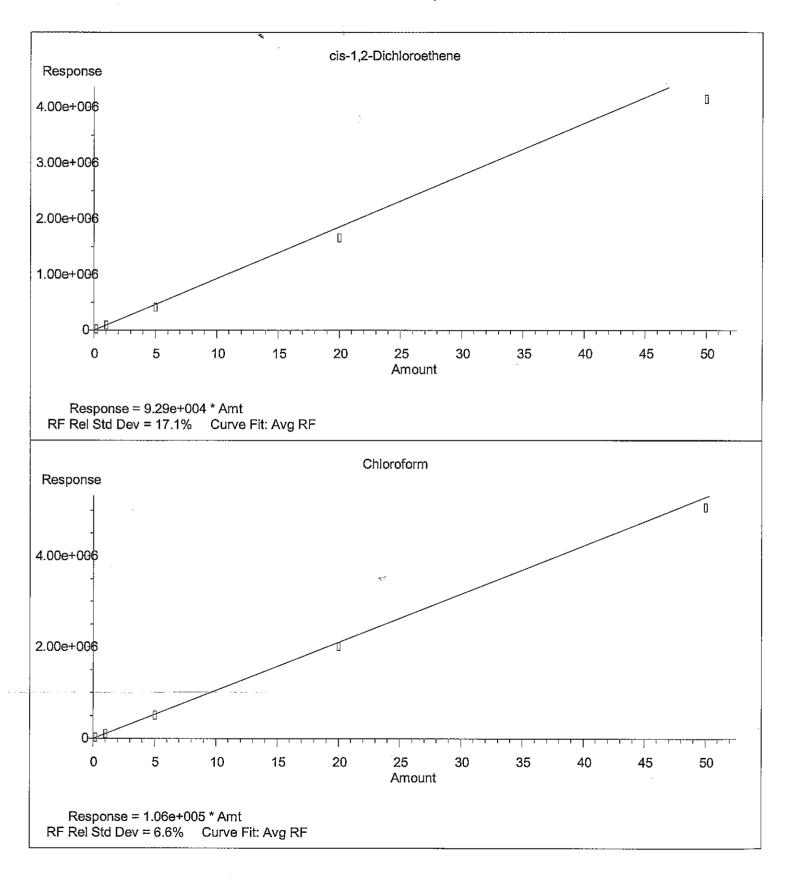
Method	:	C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator)
Title	:	Gore Expanded Target VOCs/SVOCs
Last Update	:	Mon Jun 30 14:43:38 2008
Response via	:	Initial Calibration
Total Cpnds	:	38

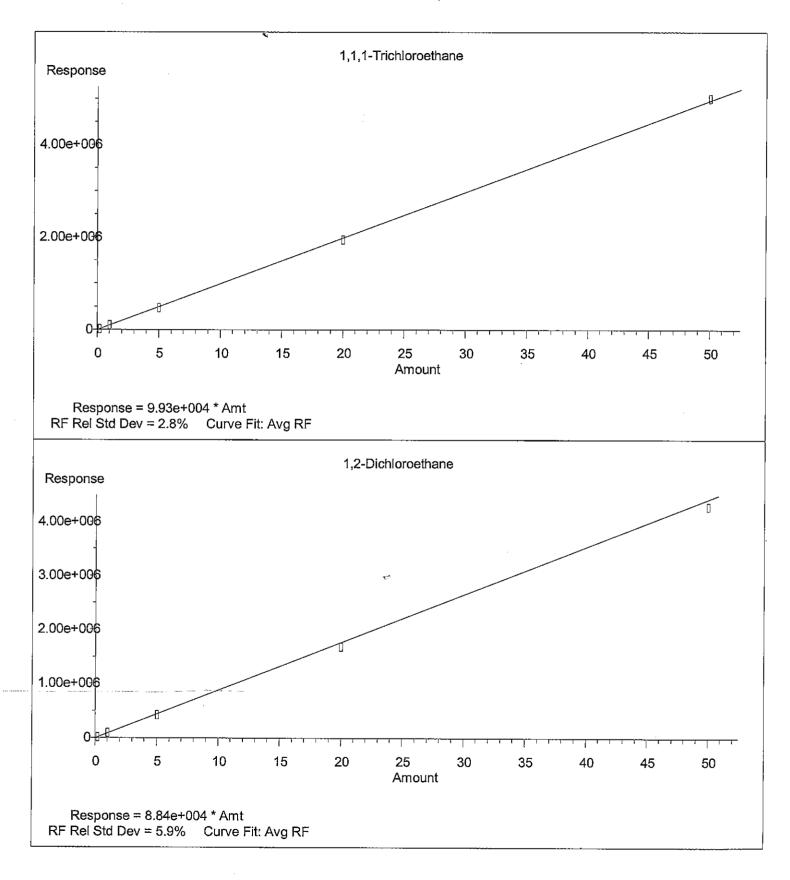
PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	Methyl t-butyl ether	 73	2.30	1.000	 A	2	 A	R
2	1,1-Dichloroethene	61	2.10	1.000	Ā	2	A	В
3	trans-1,2-Dichloroethene	61	2.30	1.000	A	2	A	R
4	1,1-Dichloroethane	63	2.37	1.000	Â	2	Ā	R
5	cis-1,2-Dichloroethene	61	2.52	1.000	A	2	A	R
6	Chloroform	83	2.64	1.000	Ā	2	Ã	R
7	1,1,1-Trichloroethane	97	2.79	1.000	A	2	A	R
8	1,2-Dichloroethane	62	2.87	1.000	A	$\tilde{2}$	A	R
9	Benzene	78	2.92	1.000	A	2	A	R
10	Carbon tetrachloride	117	2.92	1.000	A	2	A	R
11	Trichloroethene	95	3.28	1.000	A	2	A	R
12	1,1,2- Trichloroethane	97	4.13	1.000	A	2	A	В
13	Toluene	91	3.98	1.000	A	2	A	R
14	Octane	43	4.29	1.000	A	2	A	R
15	Tetrachloroethene	166	4.40	1.000	Ā	2	A	R
16	Chlorobenzene	112	4.86	1.000	A	2	A	R
17	1,1,1,2- Tetrachloroethane	131	4.93	1.000	A	2	A	R
18	Ethylbenzene	91	4.99	1.000	A	2	A	R
19	m,p-Xylene	91	5.08	1.000	A	2	A	R
20	o-Xylene	91	5.32	1.000	Ā	2	A	R
21	1,1,2,2-Tetrachloroethane	83	5.60	1.000	A	2	A	в
22	1,3,5-Trimethylbenzene	105	6.03	1.000	А	2	А	R
23	1,2,4-Trimethylbenzene	105	6.26	1.000	A	2	A	R
24	1,3-Dichlorobenzene	146	6.39	1.000	A	2	А	R
25	1,4-Dichlorobenzene	146	6.47	1.000	A	2	А	R
26	1,2-Dichlorobenzene	146	6.63	1.000	А	2	А	R
27	Undecane	57	7.03	1.000	А	2	А	R
28	Naphthalene	128	7.84	1.000	A	2	А	R
29	Tridecane	57	8.42	1.000	А	2	А	R
ЗÒ	2-Methyl naphthalene	142	8.60	1.000	A	2	A	R
31	Acenaphthylene	152	9.60	1.000	A	2	А	в
32	Pentadecane	57	9.62	1.000	A	2	А	R
33	Acenaphthene	153	9.79	1.000	А	2	А	в
34	Fluorene	166	10.36	1.000	А	2	А	в
35	Phenanthrene	178	11.44	1.000	А	2	А	В
36	Anthracene	178	11.50	1.000	А	2	А	в
37	Fluoranthene	202	12.76	1.000	А	2	A	В
38	Pyrene	202	13.02	1.000	A	2	A	В
#Qual =	Average L = Linear LO = Linear number of qualifiers Area or Height R.T. B = R.T. & Q Q = Qvalue					Quad	w/or	igin
· · · · · · · · · · · · · · · · · · ·	A4-8.M Wed Jul 02 10:06:			RPT1				

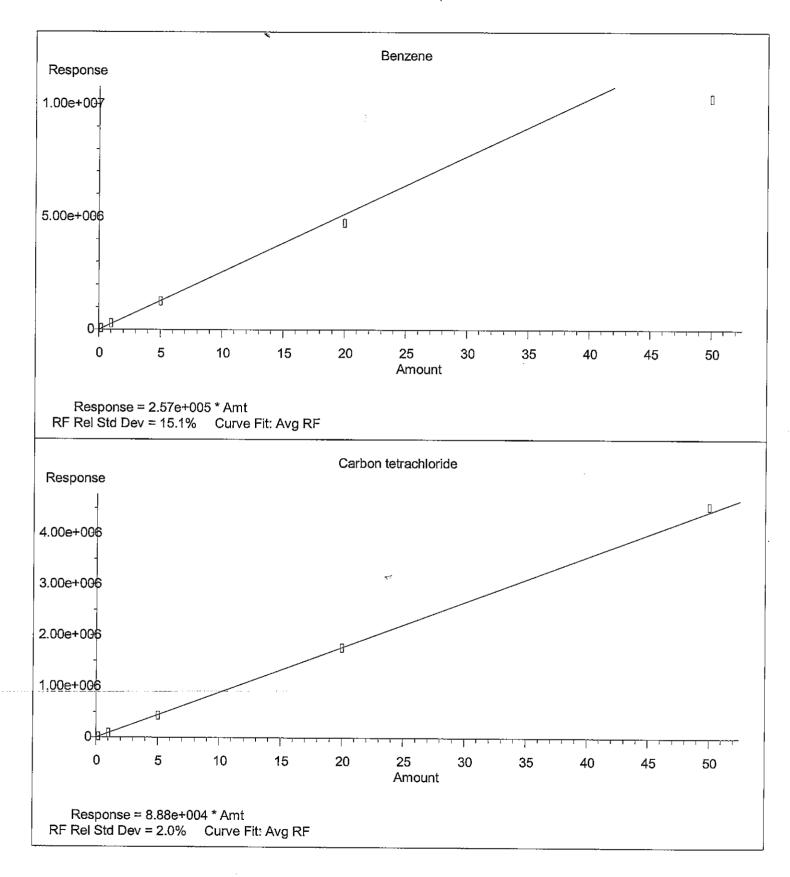




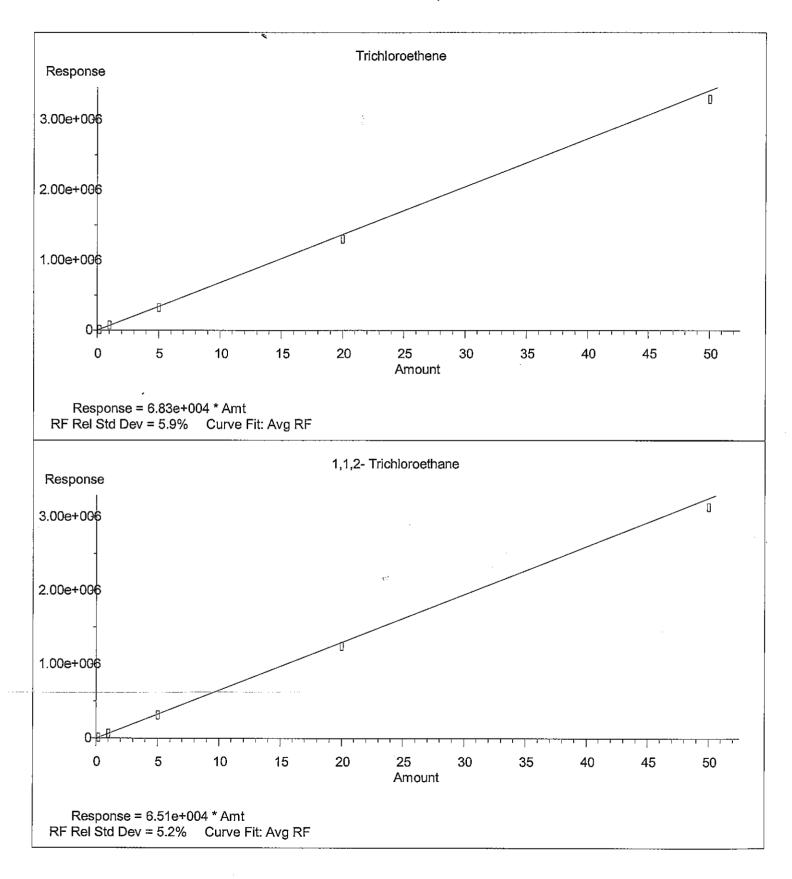
Page 2 A4-8.M Mon Jun 30 14:45:10 2008 RPT1

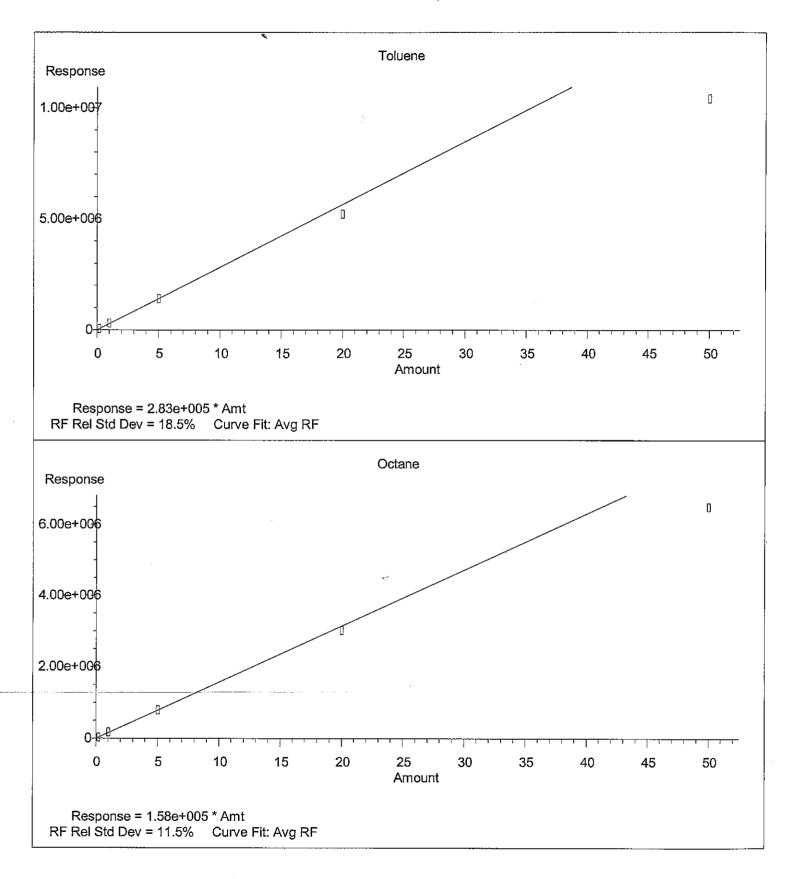




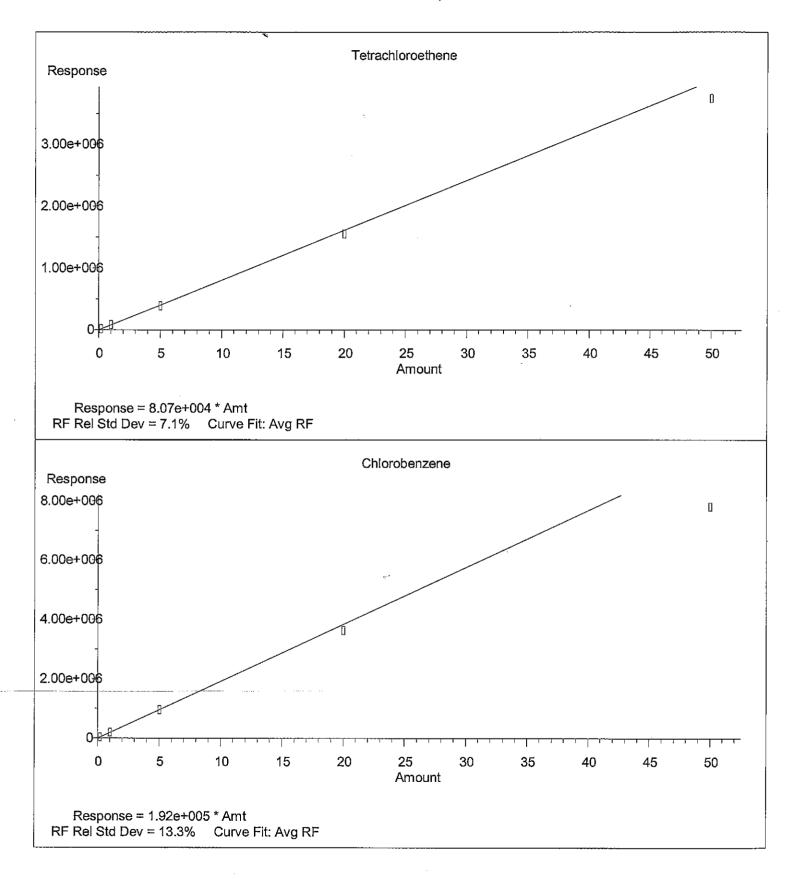


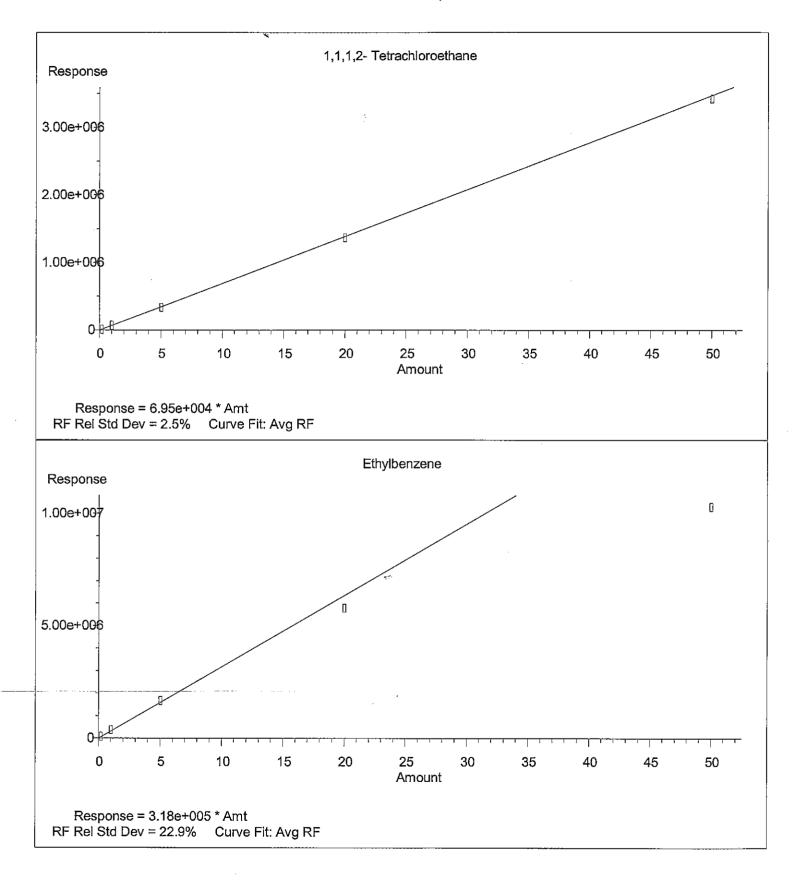
Page 5 A4-8.M Mon Jun 30 14:45:11 2008 RPT1

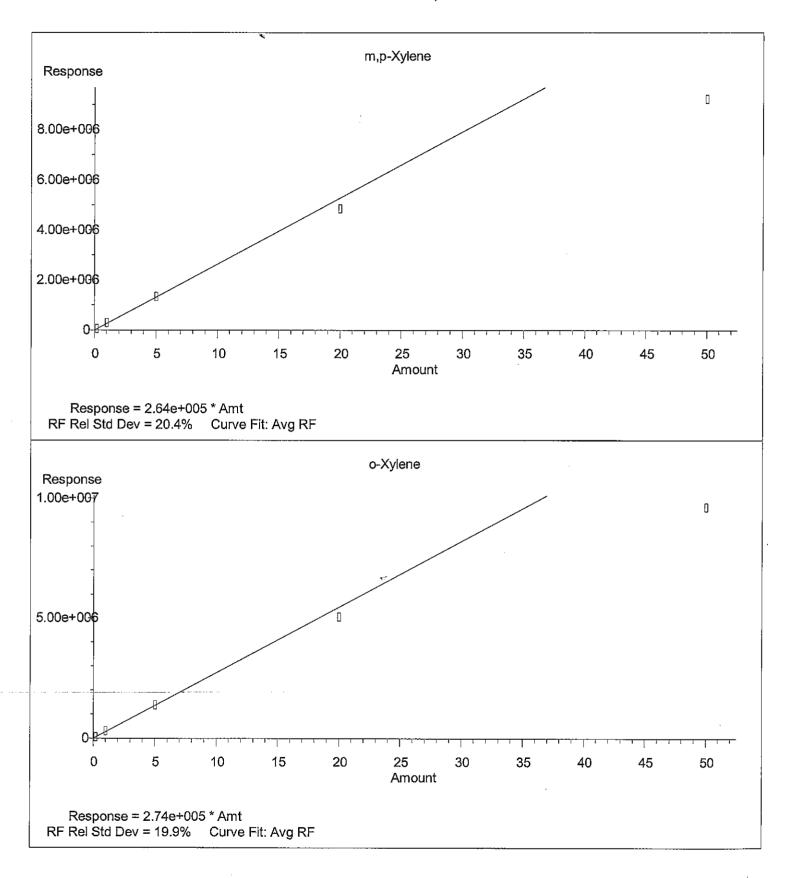




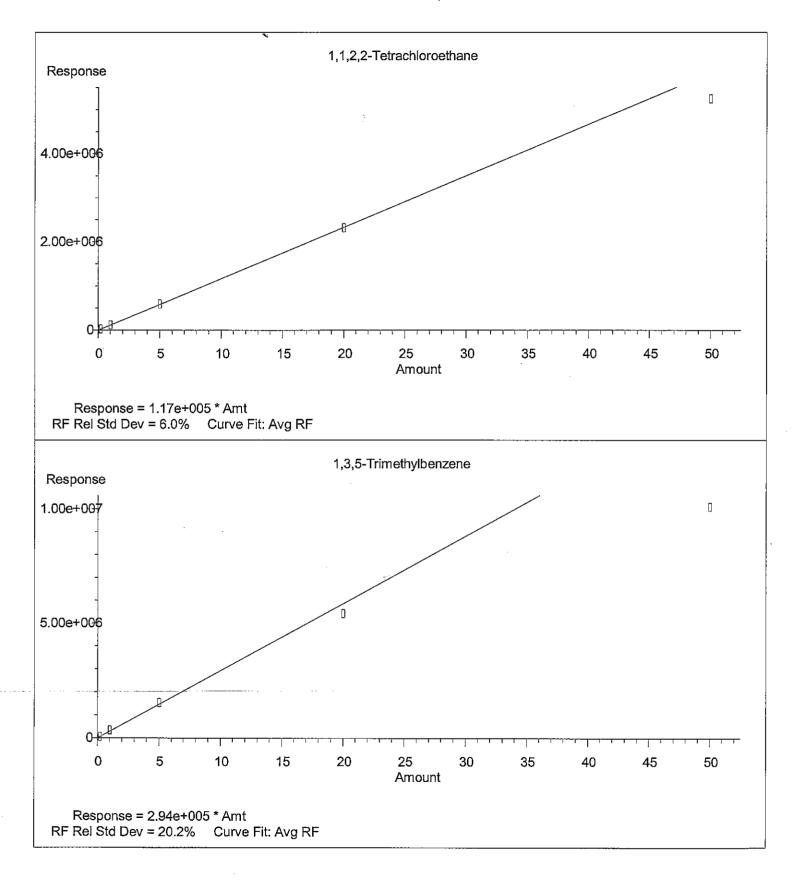
Page 7 A4-8.M Mon Jun 30 14:45:11 2008 RPT1



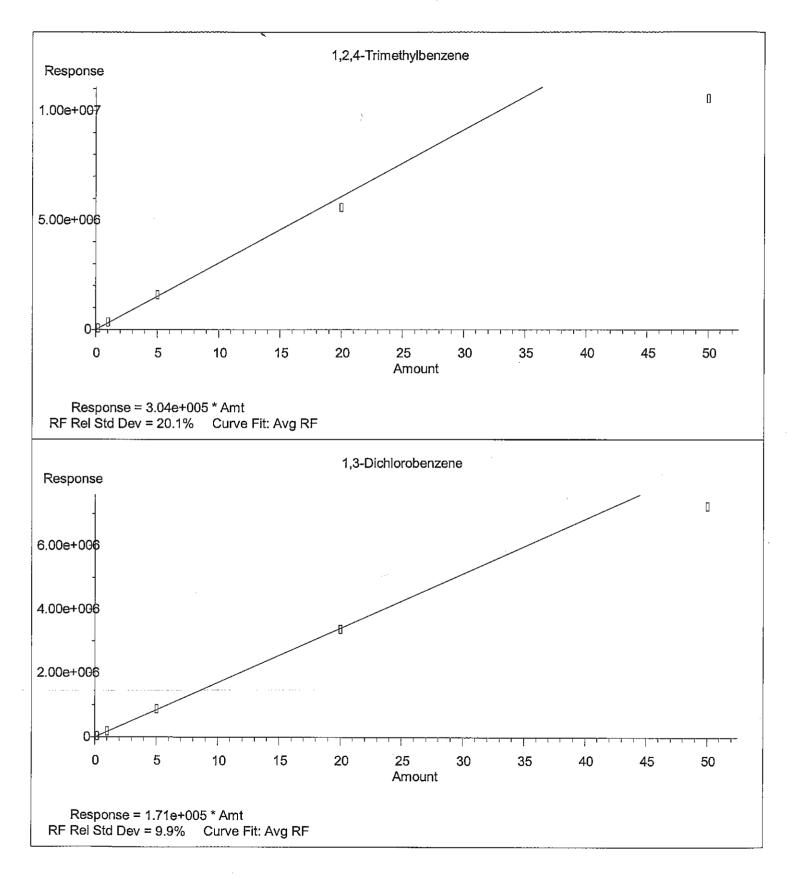


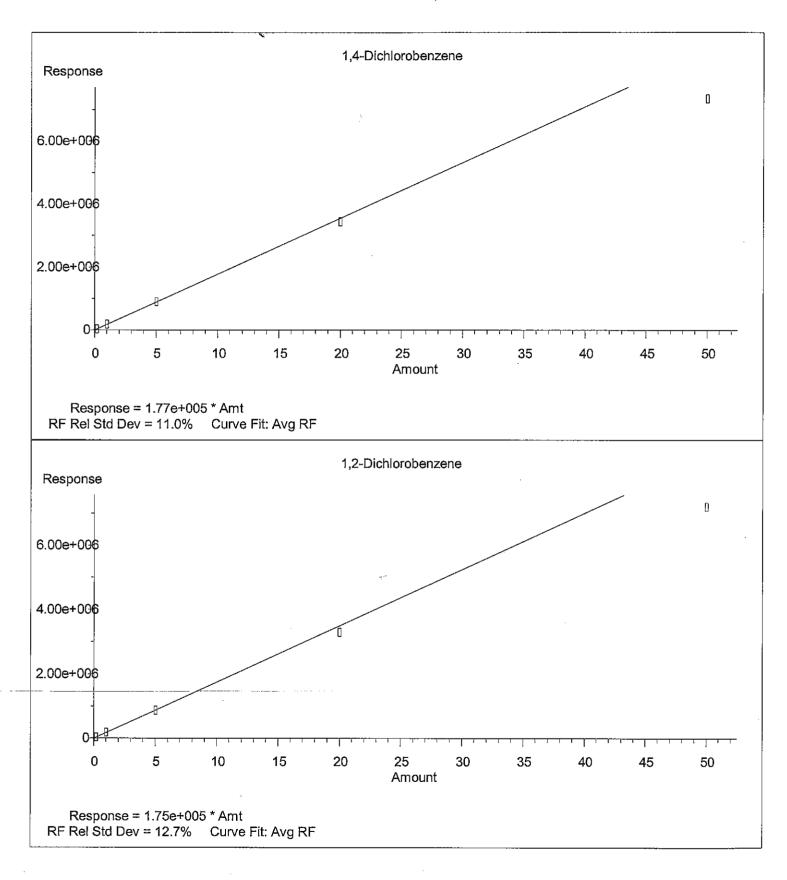


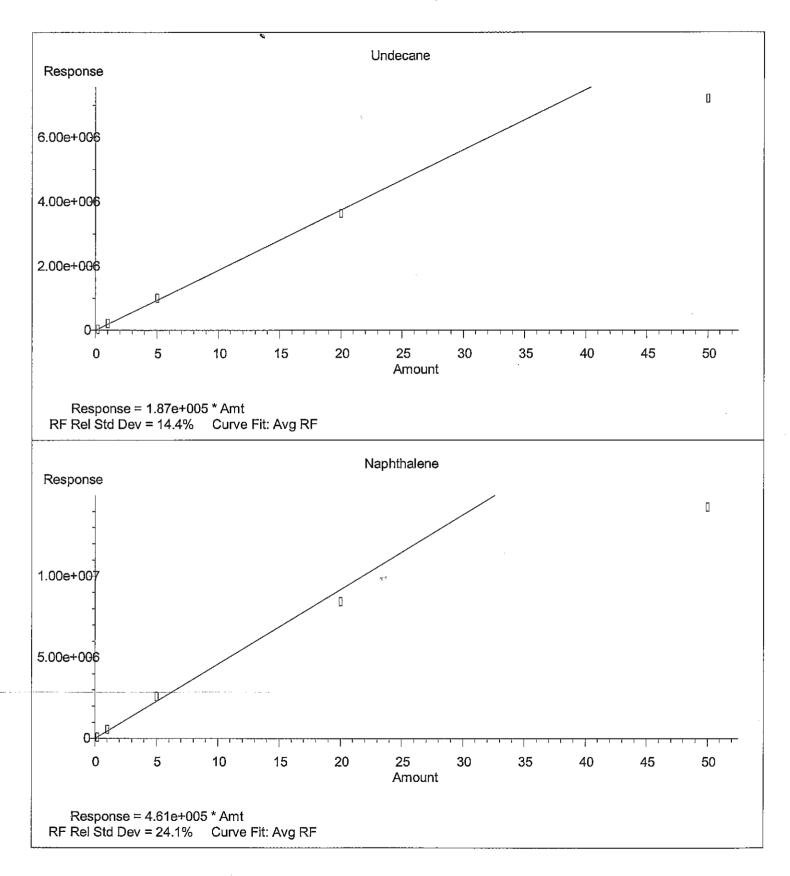
Page 10 A4-8.M Mon Jun 30 14:45:11 2008 RPT1

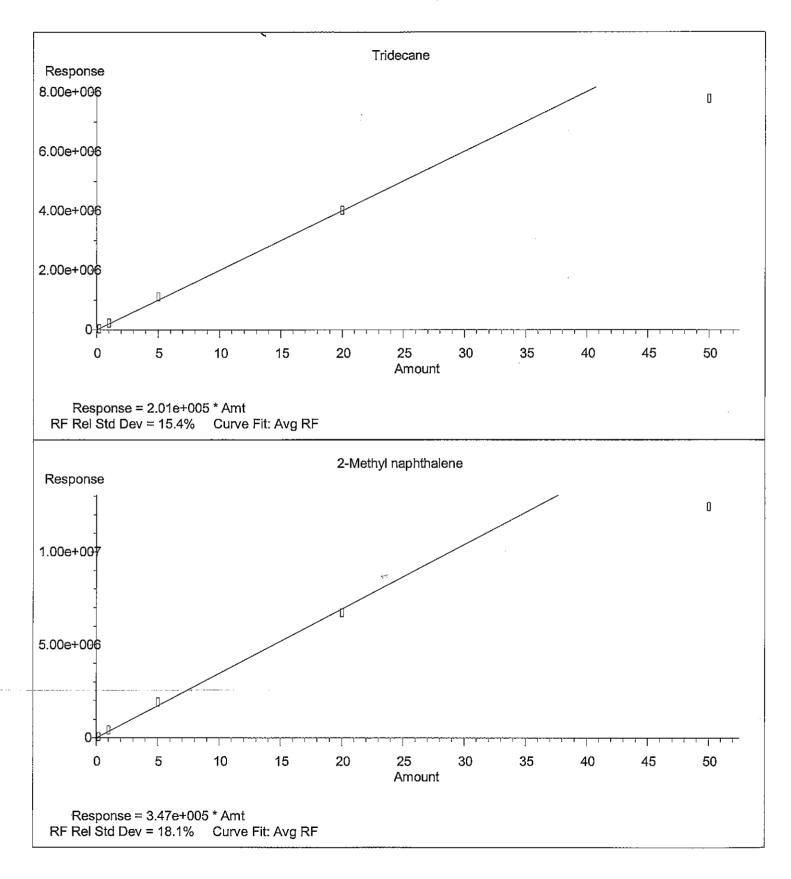


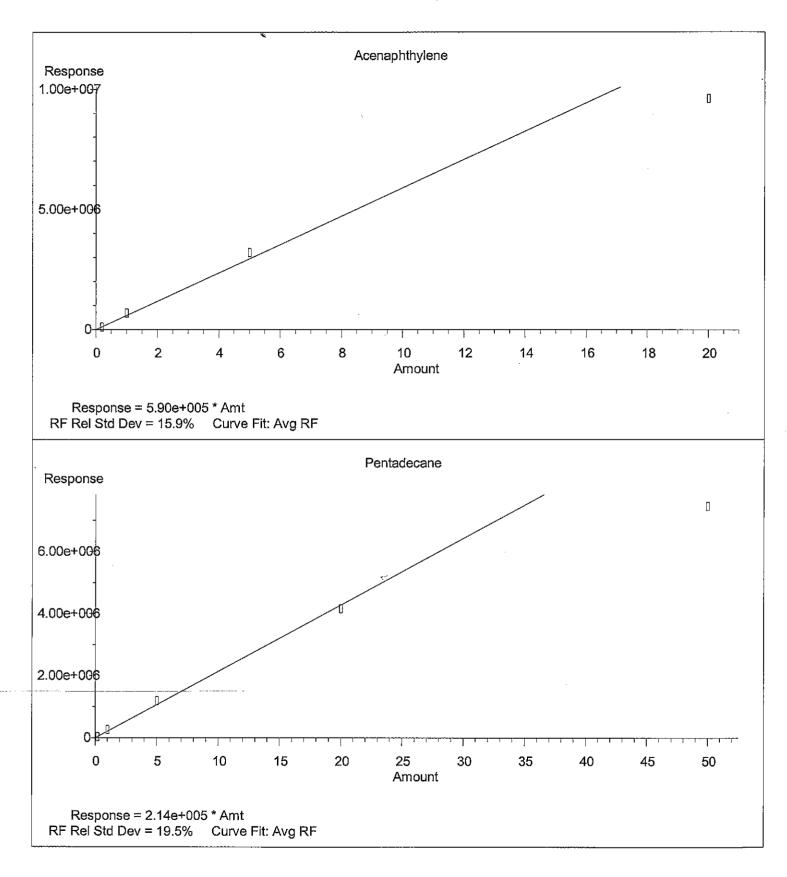
Page 11 A4-8.M Mon Jun 30 14:45:11 2008 RPT1

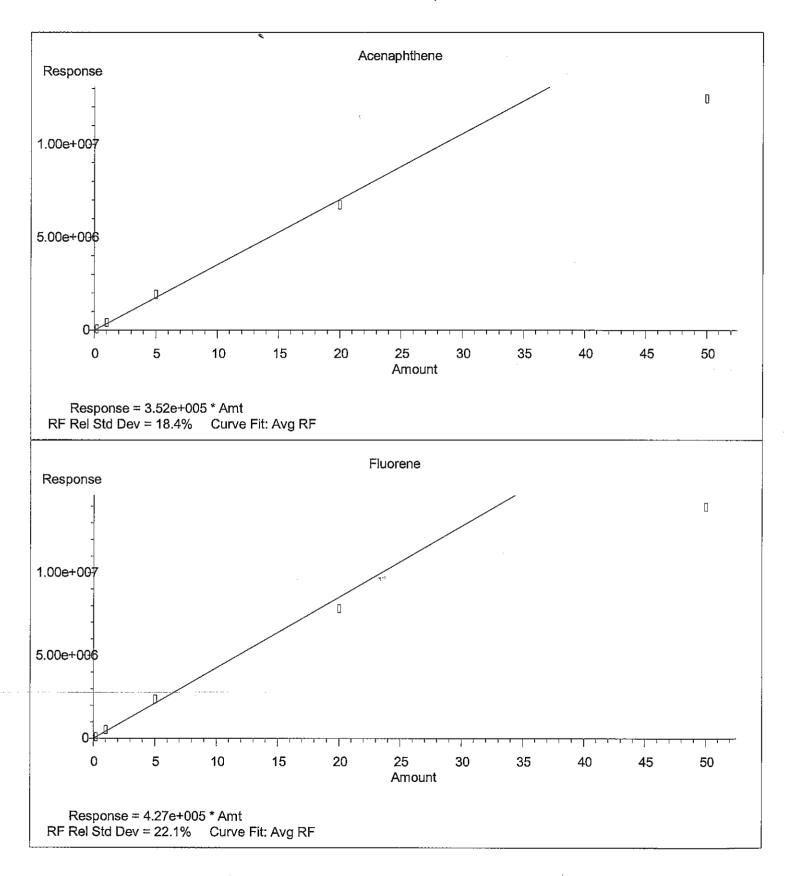




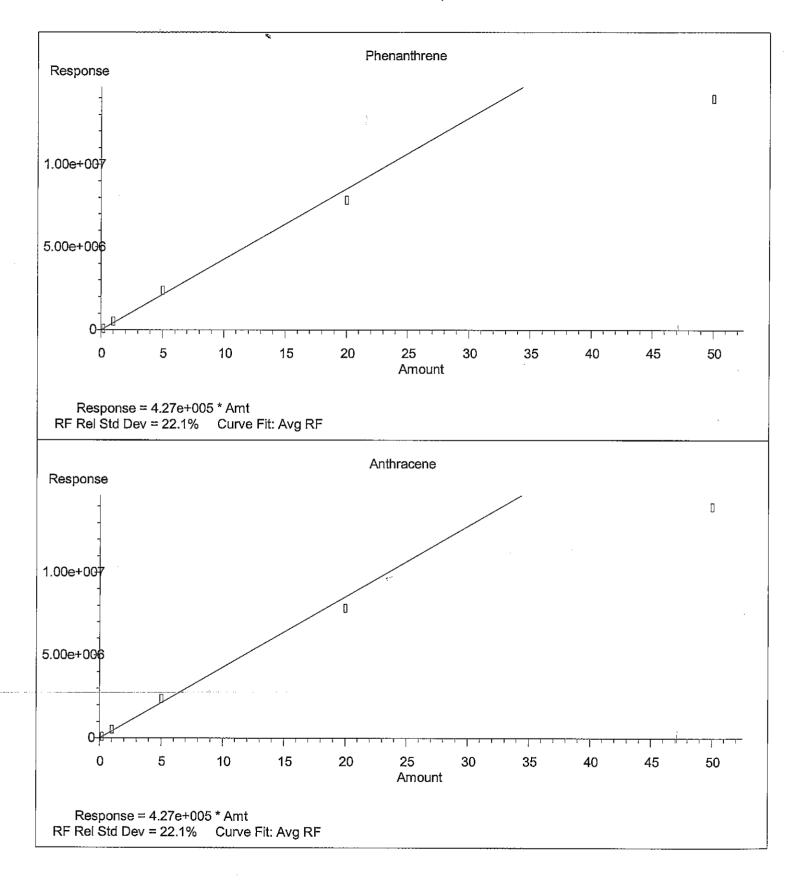


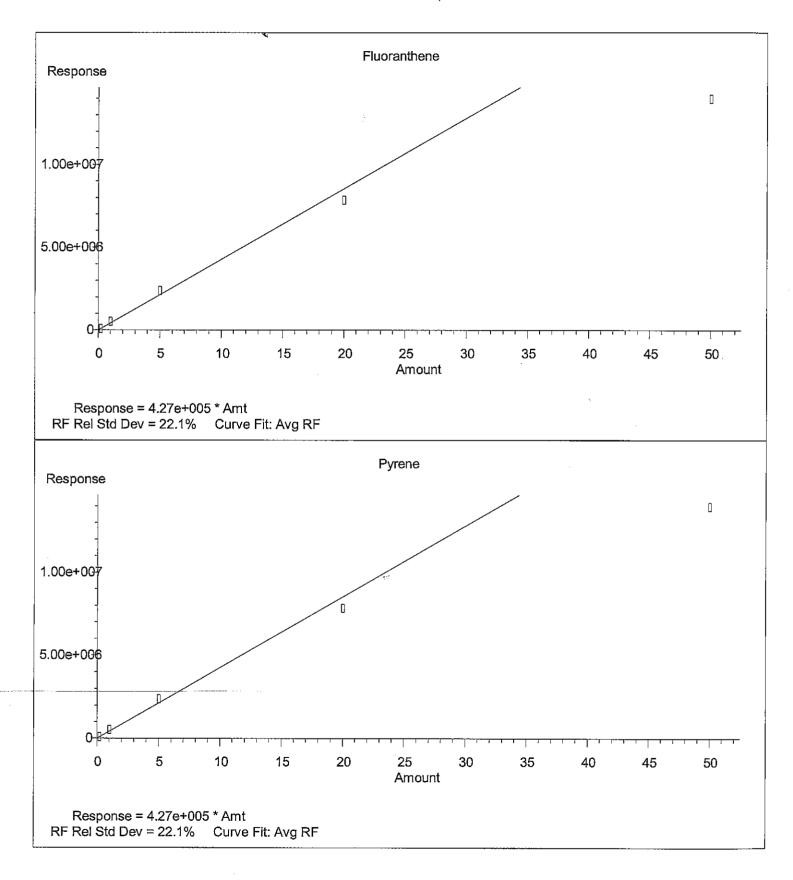






Calibration Plot Report



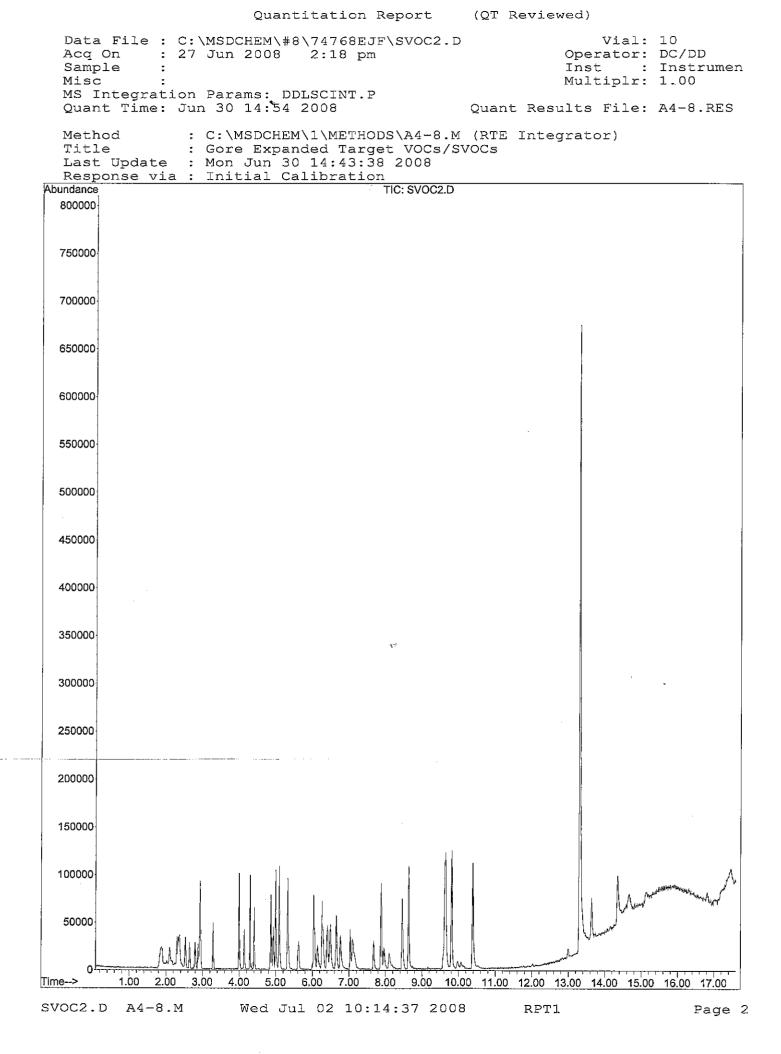


Calibration Standards Quantification Reports Production Order #13674768

¢

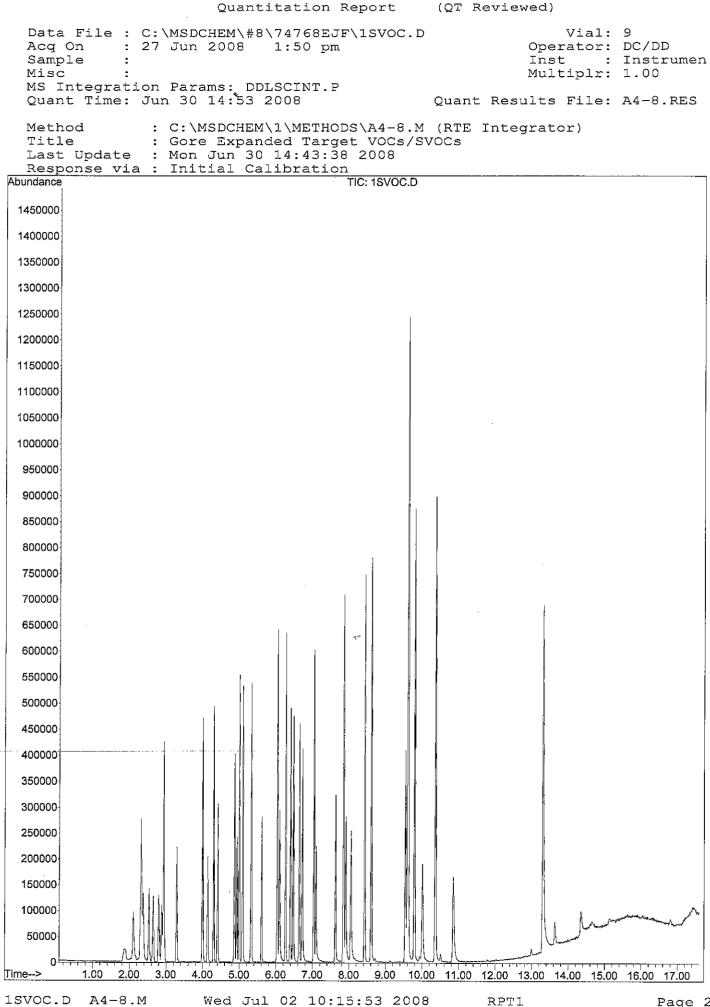
Quantitati	on Repo	ort	(QT Revie	wed)		
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 2:18 pm Sample : Misc : MS Integration Params: DDLSCINT.F	L	2.D	Op In	Vial: erator: st : ltiplr:	DC/1 Inst	rumen
Quant Time: Jun 30 14:54:05 2008		Qu	ant Result	s File:	A4-8	B.RES
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8						
Internal Standards	R.T.	QIon	Response	Conc Ur	nits	Dev(Min)
 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 	$\begin{array}{c} 2.30\\ 2.37\\ 2.52\\ 2.65\\ 2.79\\ 2.92\\ 3.28\\ 4.99\\ 4.46\\ 4.99\\ 4.86\\ 4.99\\ 5.32\\ 5.62\\ 5.62\\ 6.26\\ 6.41 \end{array}$	61 63 63 97 63 97 97 46 13 91 35 56 105 146 135 146 135 146 135 146 135 146 135 146 135 146 146 146 146 146 146 146 146	18103m 20512m 24101m 23960m 23413m 20397m 19150m 61023m 17471m 14832m 14054m 68997m 34504m 17798m 44505m 13971m 77235m 64863m 66951m 24152m 69428m 72625m 34172m	$\begin{array}{c} 0.23\\ 0.22\\ 0.26\\ 0.22\\ 0.21\\ 0.22\\ 0.24\\ 0.22\\ 0.24\\ 0.22\\ 0.24\\ 0.22\\ 0.24\\ 0.22\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\ 0.24\\$		# # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # # #
32) Pentadecane 33) Acenaphthene 34) Fluorene	9.65 9.80 10.38	153 166	42952m 73502m 93453m	0.21 0.22	uġ	₩ ₩ ₩

(#) = qualifier out of range (m) = manual integration (+) = signals summed SVOC2.D A4-8.M Wed Jul 02 10:14:37 2008 RPT1 Page 1

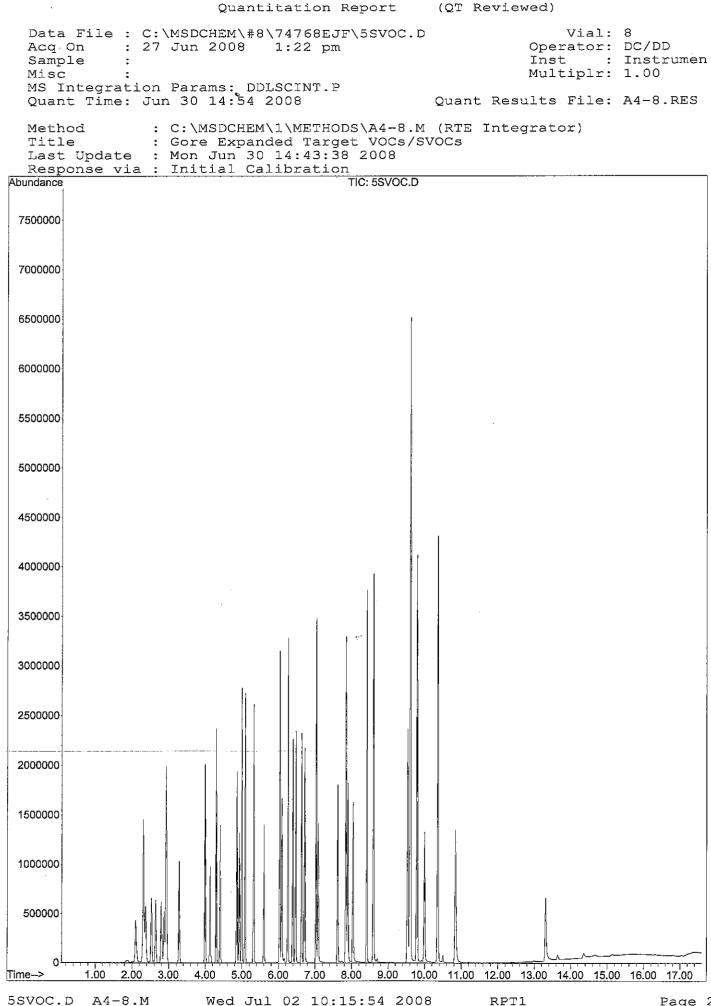


Quantitat	ion Repo	ort	(QT Revie	wed)		
Data File : C:\MSDCHEM\#8\74768E Acq On : 27 Jun 2008 1:50 p Sample : Misc : MS Integration Params: DDLSCINT.	m	C.D	Op In	Vial: erator: st : ltiplr:	DC/1 Inst	trumen
Quant Time: Jun 30 14:53:44 2008	_	Qu	ant Result	s File:	A4-8	8.RES
Quant Method : C:\MSDCHEM\1\METH Title : Gore Expanded Tar Last Update : Mon Jun 30 14:43: Response via : Initial Calibratic DataAcq Meth : VCGS3-8	get VOC: 38 2008			tor)		
Internal Standards			Response			
<pre>12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 20) o-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane</pre>	2.30 2.37 2.53 2.65 2.80 2.92 3.28 4.13 3.99 4.20 4.86 4.93 4.99 5.32 5.61 6.26 6.39	$\begin{array}{c} 61\\ 63\\ 61\\ 83\\ 97\\ 62\\ 78\\ 105\\ 97\\ 43\\ 62\\ 112\\ 91\\ 131\\ 91\\ 835\\ 105\\ 146\\ 105\\ 146\end{array}$	79435m 94301m 111626m 94668m 107778m 101415m 92105m 281943m 90386m 71047m 66736m 315046m 174183m 84112m 208503m 72323m 370656m 297853m 307850m 122762m 339805m 349764m 190514m	1.01 1.07 1.02 1.02 1.02 1.02 1.04 1.10 1.04 1.03 1.11 1.10 1.04 1.09 1.04 1.09 1.04 1.17 1.12 1.05 1.16 1.15 1.12	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	# #
33) Acenaphthene 34) Fluorene	9.79 10.36	153 166	418744m 519762m	1.19 1.22	ug	++ ++ ++

.



Quantitati	on Repo	ort	(QT Revie	wed)		
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 1:22 pm Sample : Misc : MS Integration Params: DDLSCINT.P			Op In Mu	Vial: erator: st : ltiplr:	DC/I Inst 1.00	rumen)
Quant Time: Jun 30 14:54:00 2008		Qu	ant Result	s File:	A4-8	B.RES
Quant Method : C:\MSDCHEM\1\METHO Title : Gore Expanded Targ Last Update : Mon Jun 30 14:43:3 Response via : Initial Calibratio DataAcq Meth : VCGS3-8	et VOC <i>s</i> 8 2008			tor)		
Internal Standards	R.T.		Response			
<pre>7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane</pre>	2.3072497722839990639820369773341901 2.3560234608419901	$\begin{array}{c} 61\\ 63\\ 83\\ 92\\ 87\\ 28\\ 71\\ 99\\ 94\\ 61\\ 139\\ 99\\ 80\\ 55\\ 66\\ 66\\ 78\\ 72\\ 25\\ 15\\ 15\\ 15\\ 57\\ 15\\ 25\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 57\\ 15\\ 15\\ 15\\ 15\\ 15\\ 15\\ 15\\ 15\\ 15\\ 15$	957601m 341204m 1680136m 1347050m 1400137m 596772m 1541854m 1594256m 897807m 875736m 1004526m 2605093m 1118898m 1928281m 3209315m 1198541m	4.80 4.80 4.59 4.87 4.89 5.89 4.27 4.89 5.22 4.27 4.89 5.22 2.00 7.68 5.55 5.55 5.55 5.55 5.55 5.55 5.55 5		# # # # # # # # # # # # # # # # # # #
32) Pentadecane 33) Acenaphthene 34) Fluorene	9.61 9.79 10.35	57 153 166	1198541m 1939400m 2382945m	5.59 5.51 5.58	ug	# # #



1

	Quantitati	on Report	(QT	Reviewed)	
Data File : C:\MS Acq On : 27 Ju Sample : Misc :	n 2008 12:54	pm	DC.D	Operator:	Instrumen
MS Integration Pa Quant Time: Jun 3	rams: DDLSCIN 0 14:57 2008	F.P	Quan	t Results File:	A4-8.RES
	\MSDCHEM\1\ME' re Expanded Ta n Jun 30 14:43	arget VOC:		Integrator)	
Response via : In Abundance					
2.6e+07					
2.5e+07					
2.4e+07					
2.3e+07					
2.2e+07					
2.1e+07					
2e+07					
1.9e+07					
1.8e+07					
1.7e+07					
1.6e+07					
1.5e+07					
1.4e+07					
1.3e+07					
1.2e+07					
1.1e+07					
1e+07					
9000000					
8000000					
7000000					
000000					
5000000					
4000000					
3000000					
2000000					
1000000				i	
	4.00 5.00 6.00 7.0	<u>, , , , , , , , , , , , , , , , , , , </u>	10.00 11.00	12.00 13.00 14.00 15.00	0 16.00 17.00
20SVOC.D A4-8.M	Wed Jul 02	10:15:53	2008	RPT1	Page 2

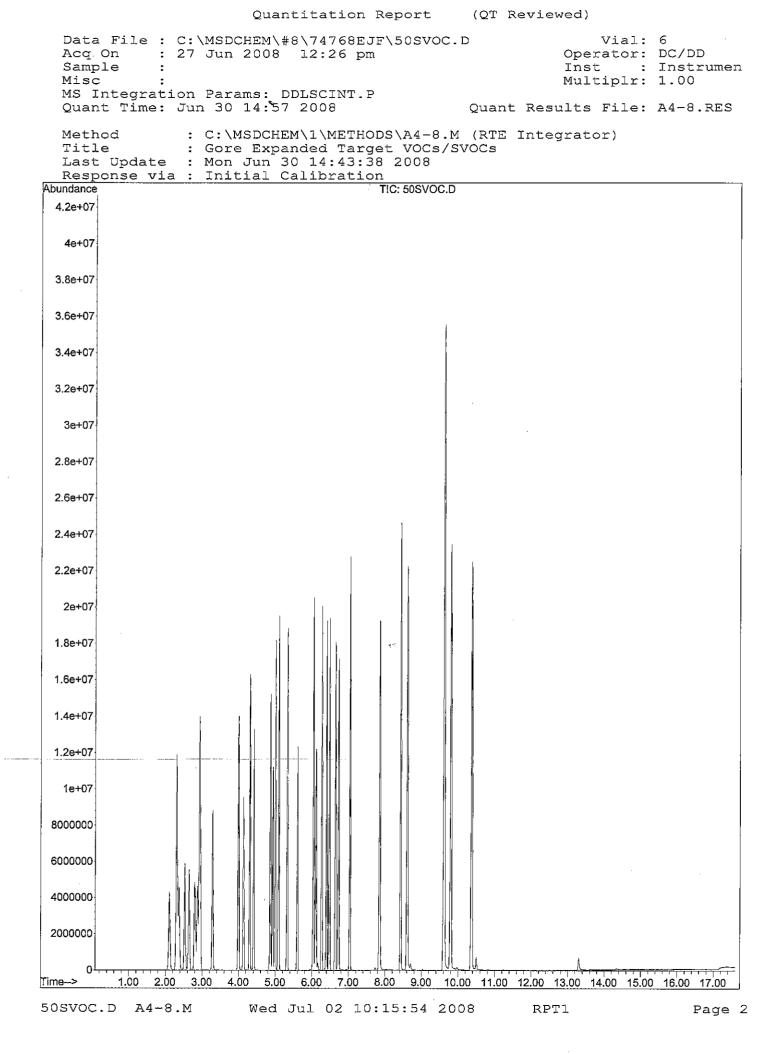
<u>.</u>

1

			(QT Revie			
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 12:26 pm Sample : Misc : MS Integration Params: DDLSCINT.P			In Mu	st : ltiplr:	Ins ⁻ 1.0	trumen O
MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:53:46 2008		Qı	uant Result	s File:	A4-:	8.RES
Quant Method : C:\MSDCHEM\1\METHO Title : Gore Expanded Targ Last Update : Mon Jun 30 14:43:3 Response via : Initial Calibratio DataAcq Meth : VCGS3-8	et VOCs 8 2008			tor)		
Internal Standards	R.T.	QIon	Response	Conc U	nits	Dev(Min)
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethane 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 34) Fluorene</pre>	$\begin{array}{c} 2.30\\ 2.10\\ 2.37\\ 2.54\\ 2.77\\ 2.564\\ 2.78\\ 2.99\\ 2.99\\ 2.93\\ 4.489\\ 0.09\\ 3.4\\ 4.890\\ 5.560\\ 4\\ 4.90\\ 5.604\\ 6\\ 6\end{array}$	3113137287571362111135566667872273 1999461399980044445254555 1111111111111111111111111111	8603435m 3824188m 3873610m 5225377m 4149219m 5064822m 5006893m 4279452m 10258883m 4542451m 3293805m 3132232m 10413635m 6492884m 3746597m 7807269m 3422407m 10286848m 9223276m 9634238m 5246830m 10083920m 10560037m 7227095m 7345236m 7204914m 7200718m 14284729m 7781836m 12448819m 15414773m	41.04 48.47 44.09 47.85 44.68 47.91 50.43 48.40 39.99 51.16 48.19 46.41 46.41 40.65 49.27 32.38 34.98 35.20 44.91 34.32 34.69 42.36	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Qvalue # # # # # # # # # # # # # # # # # # #

(#) = qualifier out of range (m) = manual integration (+) = signals summed 50SVOC.D A4-8.M Wed Jul 02 10:15:54 2008 RPT1 Page 1

....



Second Source Reference Standard Quantification Reports Production Order #13674768

	Quantitatior	n Repo	ort	(QT Revie	wed)		
Data File : C:\MSDCHEM\ Acq On : 27 Jun 2008 Sample : Misc : MS Integration Params:	8 8:21 pm		70C1.D	Op In	Vial: erator: st : ltiplr:	DC/I Inst	rumen
Quant Time: Jun 30 14:5	54:02 2008		Qu	ant Result	s File:	A4-8	3.RES
Quant Method : C:\MSDCH Title : Gore Exp Last Update : Mon Jun Response via : Initial DataAcq Meth : VCGS3-8	anded Target 30 14:43:38	: VOCs 2008			tor)		
Internal Standards				Response			
<pre>Target Compounds 1) Methyl t-butyl et 2) 1,1-Dichloroether 3) trans-1,2-Dichloroethar 5) cis-1,2-Dichloroethar 5) cis-1,2-Dichloroethar 7) 1,1,1-Trichloroethar 9) Benzene 10) Carbon tetrachlor 11) Trichloroethene 12) 1,1,2- Trichloroet 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachl 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachlor 22) 1,3,5-Trimethylbe 23) 1,2,4-Trimethylbe 24) 1,3-Dichlorobenze 25) 1,4-Dichlorobenze 26) 1,2-Dichlorobenze 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthal 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene</pre>	ther the coethene thene thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane thane	22222222222343990639820369	731 631 897287571362111391 9135556 1055	1898418m 707398m 808595m 1041016m 824537m 1016984m 963715m 875638m 2508068m 878510m 660243m 644866m 2831273m 1595805m 794182m 1954528m 705914m 3336703m 2690437m 2792958m 1245060m 3109716m 3131918m	9.06 8.97 9.53 8.88 9.62 9.71 9.90 9.78 9.90 9.66 9.91 10.02 10.12 9.84 10.16 10.20 10.20 10.20 10.20 10.20 10.58 10.29 10.41		Qvalue ####################################

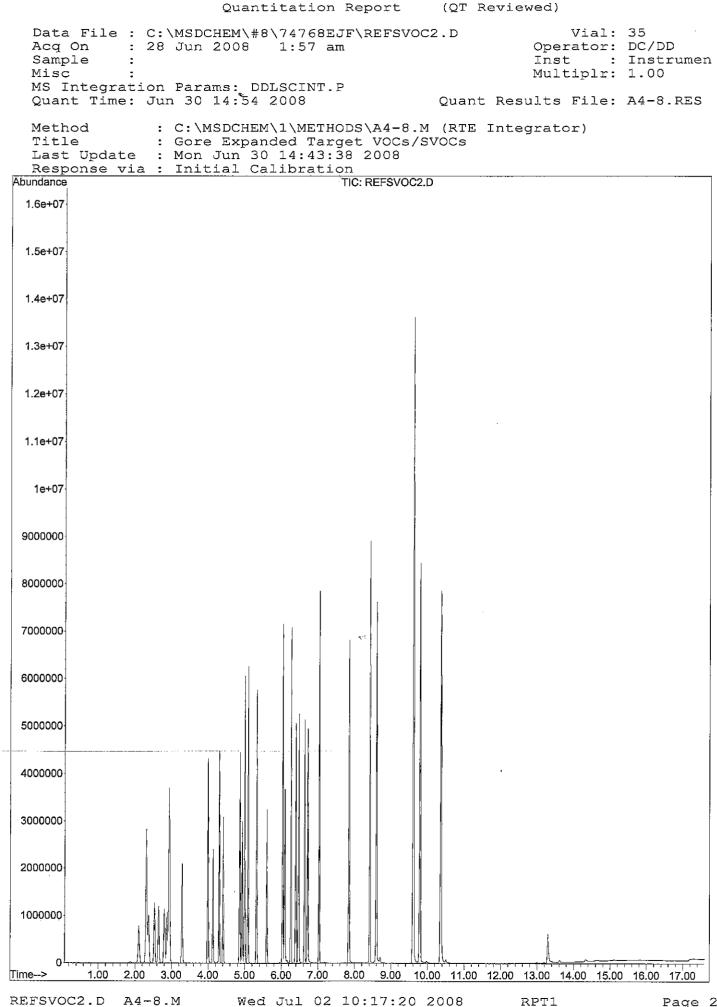
(#) = qualifier out of range (m) = manual integration (+) = signals summed REFSVOC1.D A4-8.M Wed Jul 02 10:17:19 2008 RPT1 Page 1

	ç	Quantitation	Report	(QT Revie	wed)	
Acq On Sample Misc	<pre>e : C:\MSDCHE : 27 Jun 20 : : : : : : :</pre>)08 8:21 p	m	1.D	Vial: Operator: Inst : Multiplr:	DC/DD Instrumen
MS Integr Quant Tim	ration Params ne: Jun 30 14	s: DDLSCINT. 4:54 2008	P	Quant Res	ults File:	A4-8.RES
	: Gore E te : Mon Ju		get VOCs/SV 38 2008		grator)	
Abundance 1,5e+07	via : Initia	il Calibrati	TIC: REFSVOC1.D			
1.45e+07						
1.4e+07						
1.35e+07						
1.3e+07						
1.25e+07						
1.2e+07						
1.15e+07						
1.1e+07						
1.05e+07	:					
1e+07						
9500000						
9000000						
8500000						
8000000						
7500000						
7000000						
6500000			4:			
6000000						
5500000						
5000000						
4500000						
4000000						
3500000						
3000000 2500000						
2000000						
1500000						
1000000						
500000						
0					$\frac{1}{1+1+1+1+1+1+1+1+1+1+1+1+1+1+1+1+1+1+$	
Time> 1.00	<u>2.00 3.00 4.00</u>	5.00 6.00 7.00			13.00 14.00 15.00	
REFSVOC1.D	A4-8.M	Wed Jul 02	10:17:19 2	:008 E	RPT1	Page 2

-24-

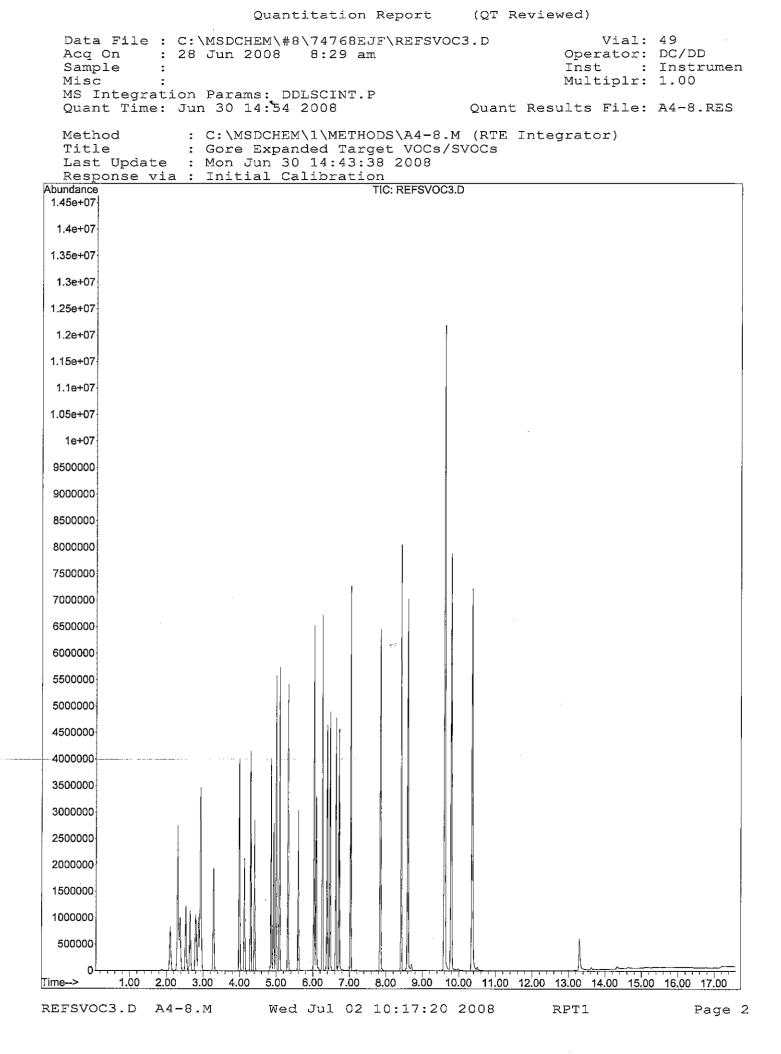
	Quantitation	n Repo	ort	(QT Revie	wed)		
Data File : C:\MSDCHEM\ Acq On : 28 Jun 2008 Sample : Misc : MS Integration Params:	3 1:57 am		roc2.D	Op In	Vial: erator: st : ltiplr:	DC/: Ins	trumen
Quant Time: Jun 30 14:5			Qu	ant Result	s File:	A4-	8.RES
Quant Method : C:\MSDCH Title : Gore Exp Last Update : Mon Jun Response via : Initial DataAcq Meth : VCGS3-8	anded Target 30 14:43:38	: VOCs			tor)		
Internal Standards							
<pre>Target Compounds 1) Methyl t-butyl et 2) 1,1-Dichloroethen 3) trans-1,2-Dichlor 4) 1,1-Dichloroethan 5) cis-1,2-Dichloroe 6) Chloroform 7) 1,1,1-Trichloroethan 9) Benzene 10) Carbon tetrachlor 11) Trichloroethene 12) 1,1,2- Trichloroe </pre>	ene	2.30 2.37 2.55 2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560 2.2.560	73 61 63 96 195 97 136 1131 91 85 105	1923250m 662004m 826891m 1062883m 851575m 1059403m 1004892m 928235m 2650593m 921638m 704887m 704887m 700602m 3044905m 1708069m 855837m 2121710m 768233m 3597740m 2933708m 3013904m 1367431m 3342839m 3402946m	9.17 8.39 9.41 9.73 9.17 10.02 10.12 10.50 10.33 10.38 10.31 10.77 10.77 10.83 10.60 11.05 11.06 11.32 11.13 11.01 11.70 11.38 11.18	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Qvalue # # # # # # # # # # # # # # # # # # #

.a.



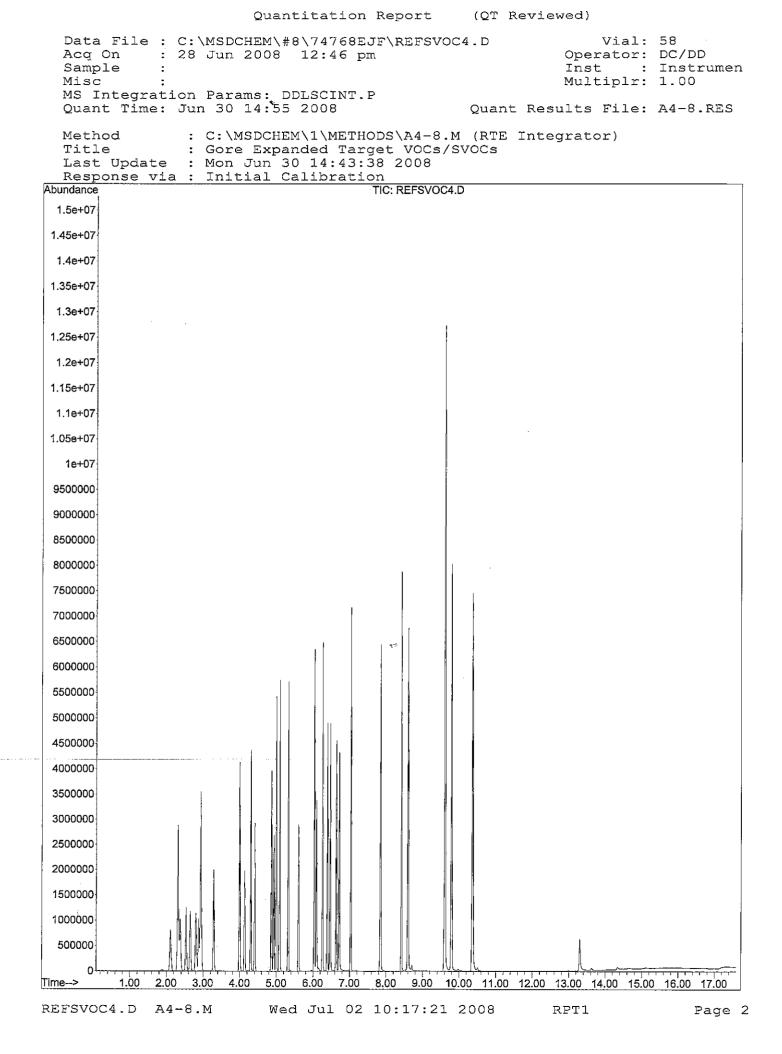
Quantitati	on Repo	ort	(QT Revie	wed)		
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 28 Jun 2008 8:29 am Sample : Misc : MS Integration Params: DDLSCINT.P			Op In Mu	erator: .st : .ltiplr:	DC/D Inst 1.00	rumen
MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:54:03 2008		Qu	ant Result	s File:	A4-8	.RES
Quant Method : C:\MSDCHEM\1\METHO Title : Gore Expanded Targ Last Update : Mon Jun 30 14:43:3 Response via : Initial Calibratio DataAcq Meth : VCGS3-8	et VOCs 8 2008			tor)		
Internal Standards			Response			
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene</pre>	2.30 2.337 2.355072283990248999036020 2.22222343990036023 4.99248999036023 4.444455556666	7613137287571362111399800556	809750m 1001666m 950596m 867722m 2468428m 868834m 647890m 640669m 2814555m 1583793m 795140m 1955888m 712726m 3347401m 2715171m 2805497m 1253025m 3138347m 3159376m 1789454m	8.96 8.68 9.332 9.372 9.372 9.372 9.372 9.372 9.372 9.372 9.372 9.372 9.372 9.382 9.351 9.385 10.255 10.254 10.355 10.355 10.355 10.359 10.359		Qvalue # # # # # # # # # # # # # # # # # # #

(#) = qualifier out of range (m) = manual integration (+) = signals summed REFSVOC3.D A4-8.M Wed Jul 02 10:17:20 2008 RPT1 Page 1



Quant	itation Rep	ort	(QT Revie	wed)		
Data File : C:\MSDCHEM\#8\74 Acq On : 28 Jun 2008 12: Sample : Misc : MS Integration Params: DDLSC	46 pm	VOC4.D	Op In	Vial: erator: st : ltiplr:	DC/I Inst	rumen
Quant Time: Jun 30 14:54:04	2008	Qu	ant Result	s File:	A4-8	3.RES
Quant Method : C:\MSDCHEM\1\ Title : Gore Expanded Last Update : Mon Jun 30 14 Response via : Initial Calib DataAcq Meth : VCGS3-8	Target VOC: :43:38 2008			tor)		
Internal Standards	R.T.	QIon	Response	Conc Ui	nits	Dev(Min)
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethane 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroeth 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroeth 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 34) Fluorene</pre>	ne 2.30 2.37 2.53 2.65 2.80 2.87 2.93 3.28 4.13 3.99 4.30 4.40 4.86 hane 4.93 4.99 5.08 5.32 ane 5.60 6.03 6.26 6.39	$\begin{array}{c} 61\\ 63\\ 61\\ 89\\ 72\\ 78\\ 117\\ 97\\ 43\\ 166\\ 113\\ 99\\ 105\\ 105\\ 146\\ 105\\ 146\\ \end{array}$	711834m 819638m 1045446m 831203m 1018487m 965065m 879891m 2508826m 881014m 660881m 646337m 2845468m 1593100m 796136m 1954068m 716525m 3353031m 2698897m 2777344m 1249228m 3131366m 3148310m 1775532m	9.02 9.33 9.57 8.95 9.63 9.72 9.95 9.92 9.92 9.93 10.07 10.10 9.86 10.17 10.32 10.55 10.24 10.55 10.69 10.66 10.34 10.41	сссссссссссссссссссссссссссссссссссс	# # # # # # # # # # # # # # # # # # #

.....

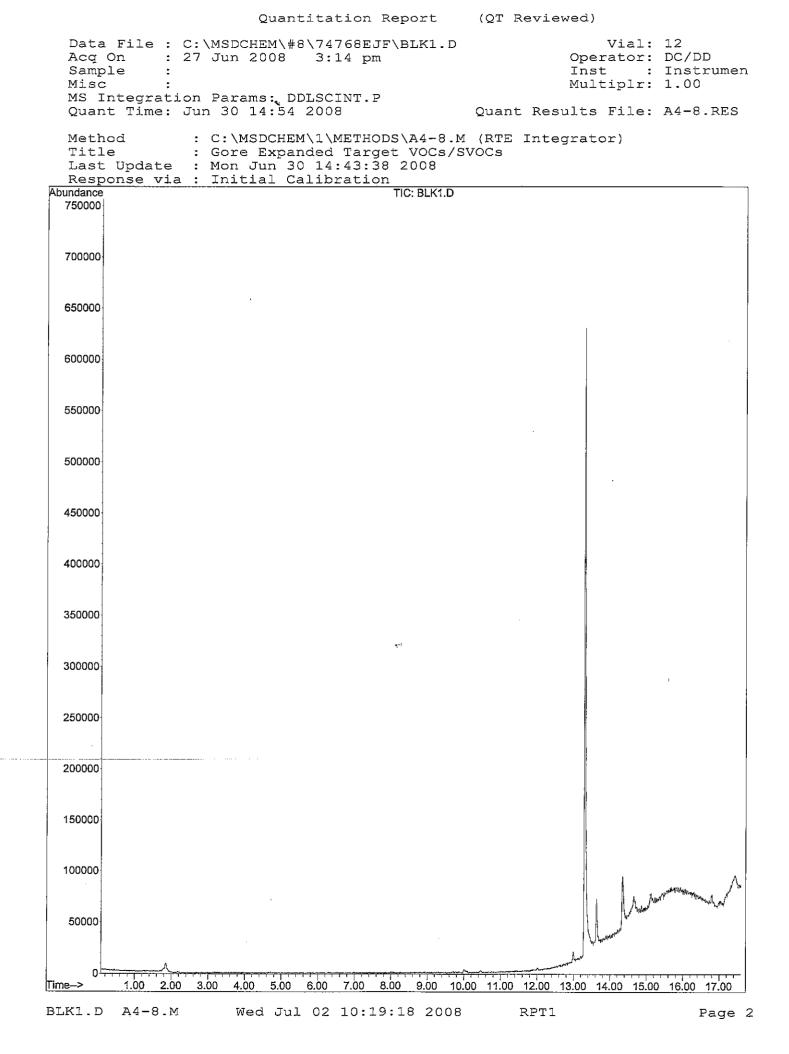


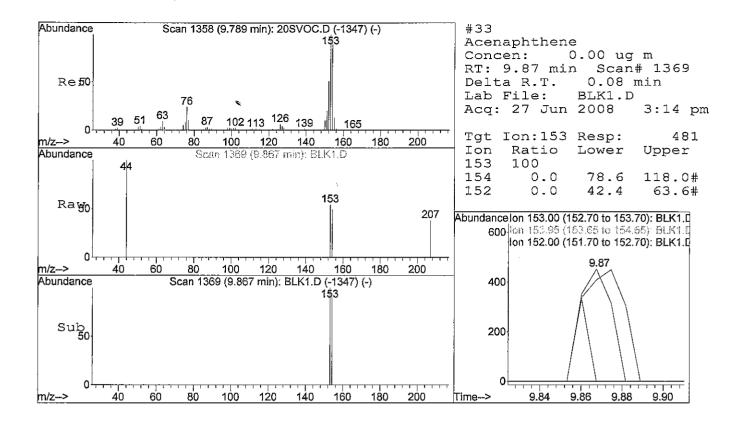
±.

Method Blanks Quantification Reports and Mass Spectra Production Order #13674768

Quantitati	on Repo	ort	(QT Revie	wed)	
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 3:14 pm Sample : Misc :		D	In	Vial: 12 erator: DC st : Ir ltiplr: 1.	C/DD Astrumen
MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:54:01 2008		Qu	ant Result	s File: A4	-8.RES
Quant Method : C:\MSDCHEM\1\METHO Title : Gore Expanded Targ Last Update : Mon Jun 30 14:43:3 Response via : Initial Calibratio DataAcq Meth : VCGS3-8	et VOCs 8 2008			tor)	
Internal Standards		QIon	Response	Conc Unit	s Dev(Min)
Target Compounds					Qvalue
 Methyl t-butyl ether 1,1-Dichloroethene 	2.30 2.10	73	0	N.D.	
2) 1,1-Dichloroethene	2.10	61		N.D.	
3) trans-1,2-Dichloroethene	2.30	61		N.D.	
4) 1,1-Dichloroethane	2.37 2.52 2.64	63 61	0 0	N.D. N.D.	
5) cis-1,2-Dichloroethene 6) Chloroform	2.52	83	0	N.D.	
7) 1,1,1-Trichloroethane	2.04	97	õ	N.D.	
8) 1.2-Dichloroethane	2.87	62	0	N.D.	
8) 1,2-Dichloroethane9) Benzene	2.92	78	ŏ	N.D.	
10) Carbon tetrachloride	2.92	117	Õ	N.D.	
11) Trichloroethene	3.28	95	Ő	N.D.	
12) 1,1,2- Trichloroethane	3.28 4.13	97	Ō	N.D.	
12) 1,1,2- Trichloroethane 13) Toluene	3.98	91	Ō	N.D.	
14) Octane	4 29	43	0	N.D.	
15) Tetrachloroethene	4.40	166	0	N.D.	
16) Chlorobenzene	4.86	112	U	N.D.	
17) 1,1,1,2- Tetrachloroethane	4.93	131	0	N.D.	
18) Ethylbenzene	4.99 5.08	91	0	N.D.	
	5.08	91		N.D.	
20) o-Xylene	5.32	91	. 0	N.D.	
21) 1,1,2,2-Tetrachloroethane	5.60	83	0		
 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 	6.03	105	0	N.D.	
23) 1,2,4-Trimethylbenzene	6.26		0	N.D.	
24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene	6.39 6.47	146	0 0	N.D.	
26) 1,2-Dichlorobenzene	6.63	140	0	N.D. N.D.	
27) Undecane	7.03	57	0	N.D.	
28) Naphthalene	7.84	128	ŏ	N.D.	
29) Tridecane	8 42	57	Ő	N.D.	
30) 2-Methyl naphthalene	8.60	142	Ő	N.D.	
31) Acenaphthylene	9.60	152	Õ	N.D.	
32) Pentadecane	9.62	57	0	N.D.	
33) Acenaphthene	9.87	153	481m	0.00 ug	r #
34) Fluorene	10.36	166	0	N.D.	
35) Phenanthrene	11.44	178	0	N.D.	
36) Anthracene	11.50	178	0	N.D.	
37) Fluoranthene	12.76	202	0	N.D.	
38) Pyrene	13.02	202	0	N.D.	

-a.





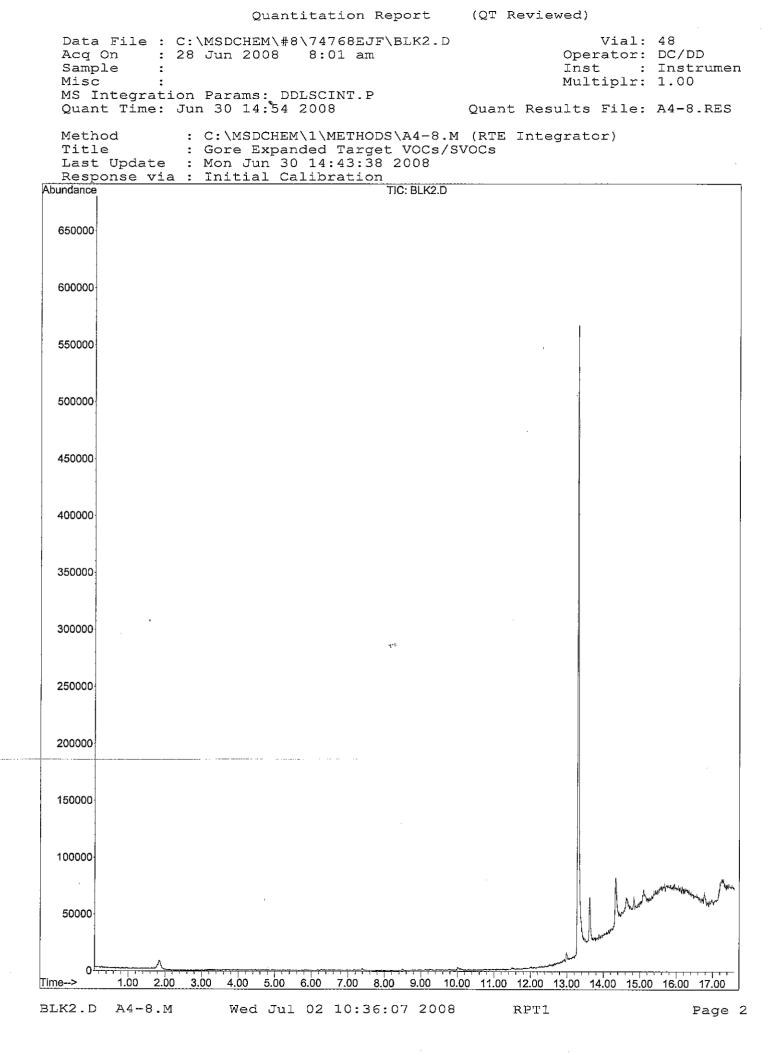
BLK1.D A4-8.M

Wed Jul 02 10:20:30 2008

RPT1

Quantitat	ion Repo	ort	(QT Revie	wed)			
Data File : C:\MSDCHEM\#8\74768E Acq On : 28 Jun 2008 8:01 a Sample : Misc : MS Integration Params: DDLSCINT.	m	D	In	Vial: erator: st : ltiplr:	DC/DD Instrumen		
Quant Time: Jun 30 14:54:01 2008.		Qu	ant Result	s File:	A4-8.RES		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards	R.T.	QION	Response	Conc Un	its Dev(Min)		
Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene	2.30	73					
 1,1-Dichloroethene trans-1,2-Dichloroethene 1,1-Dichloroethane cis-1,2-Dichloroethene 	2.10 2.30 2.37 2.52	61		N.D. N.D. N.D. N.D.			
 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 	2.64 2.79 2.87 2.92	97 62	0	N.D. N.D. N.D. N.D.			
10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene	2.92	117 95	0 0	N.D. N.D. N.D. N.D.			
14) Octane 15) Tetrachloroethene 16) Chlorobenzene	4.29 4.40 4.86	43 166 112	0 0 0	N.D. N.D. N.D.			
<pre>17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene</pre>		91 91	0 0 0	N.D. N.D. N.D. N.D.			
21) 1,1,2,2-Tetrachloroethane22) 1,3,5-Trimethylbenzene23) 1,2,4-Trimethylbenzene	5.60 6.03	83 105	0 0	N.D. N.D. N.D.			
24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane	6.47 6.63 7.03	146 146 57	0 0 0	N.D. N.D. N.D. N.D.			
28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene	7.84 8.42 8.60 9.60	128 57 142 152	0 0 0 0	N.D. N.D. N.D. N.D.			
32) Pentadecane 33) Acenaphthene 34) Fluorene	9.62 9.79 10.36	57 153 166	0 0 0	N.D. N.D. N.D.			
35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene	11.44 11.50 12.76 13.02	178 178 202 202	0 0 0	N.D. N.D. N.D. N.D.			

. _ ..

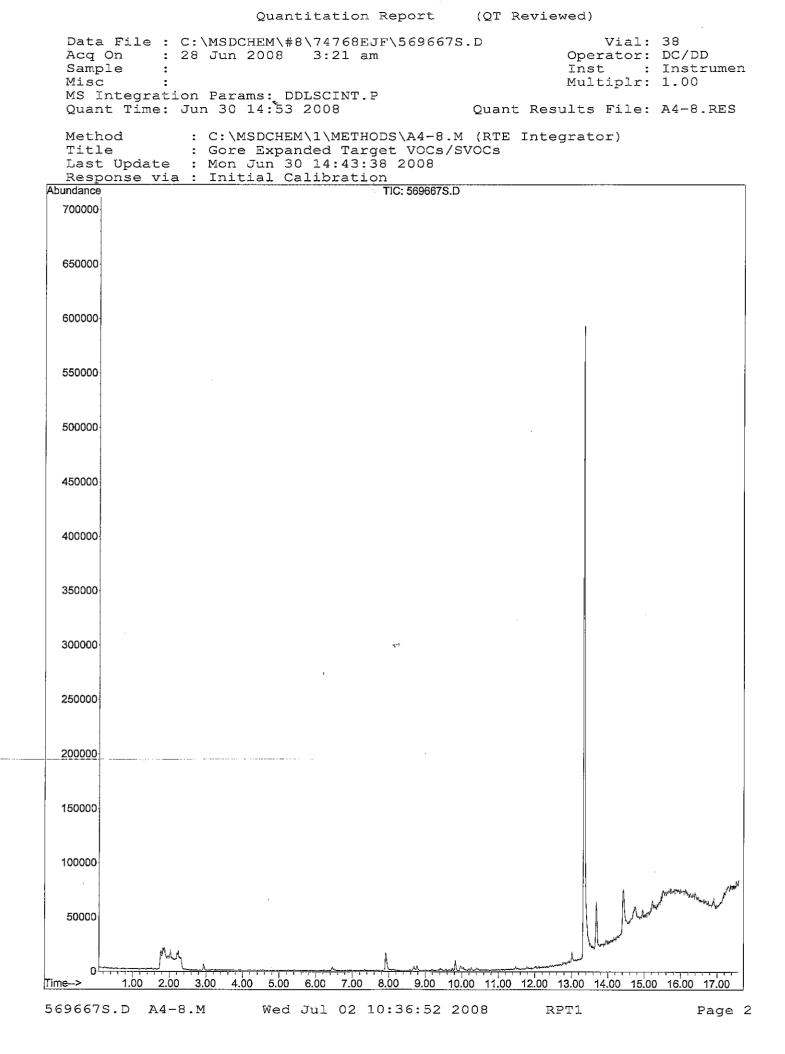


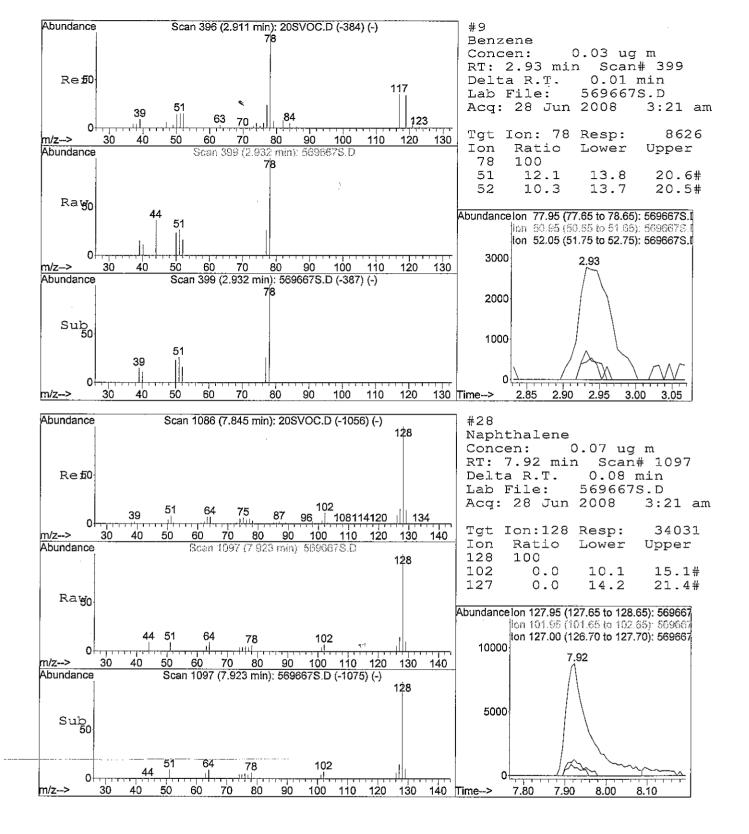
Field Exposed Modules Quantification Reports and Mass Spectra Production Order #13674768

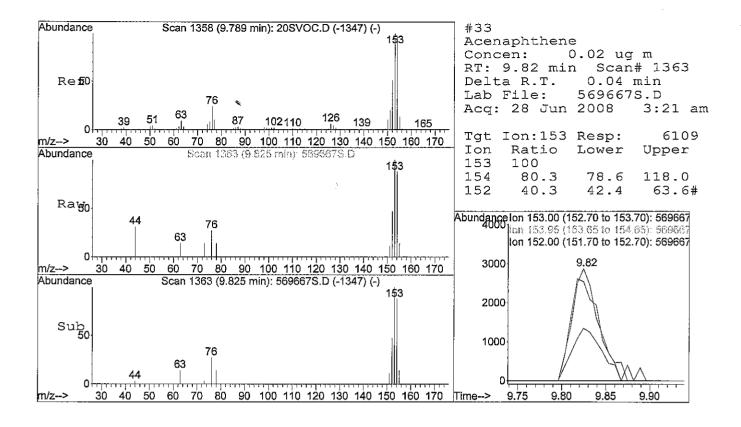
Quantitation Report (QT Reviewed)							
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 28 Jun 2008 3:21 am Sample : Misc :		57 S. D	Op In	Vial: 38 erator: DC, st : Ins ltiplr: 1.(strumen		
MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:53:46 2008		Qu	ant Result	s File: A4-	-8.RES		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards	R.T.	QIon	Response	Conc Units	B Dev(Min)		
Target Compounds					Qvalue		
<pre>1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene</pre>	2.37 2.564973283890 2.99223248990 2.2922343890 2.199248999820360234 4.489998203602346 5.5666666 6.6666666666666666666666666	61 63 63 97 99 46 13 91 99 80 55 66 66 13 99 10 10 10 10 10 10 10 10 10 10	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.			
 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 	7.03 7.92 8.42 8.60 9.60 9.62	57 128 57 142 152 57	0 34031m 0 0 0 0	N.D. 0.07 ug N.D. N.D. N.D. N.D. N.D.	#		
<pre>33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	9.82 10.36 11.44 11.50 12.76 13.02	153 166 178 178 202 202	6109m 0 0 0 0 0	0.02 ug N.D. N.D. N.D. N.D. N.D. N.D.	#		

(#) = qualifier out of range (m) = manual integration (+) = signals summed 569667S.D A4-8.M Wed Jul 02 10:36:52 2008 RPT1 Page 1

-7-



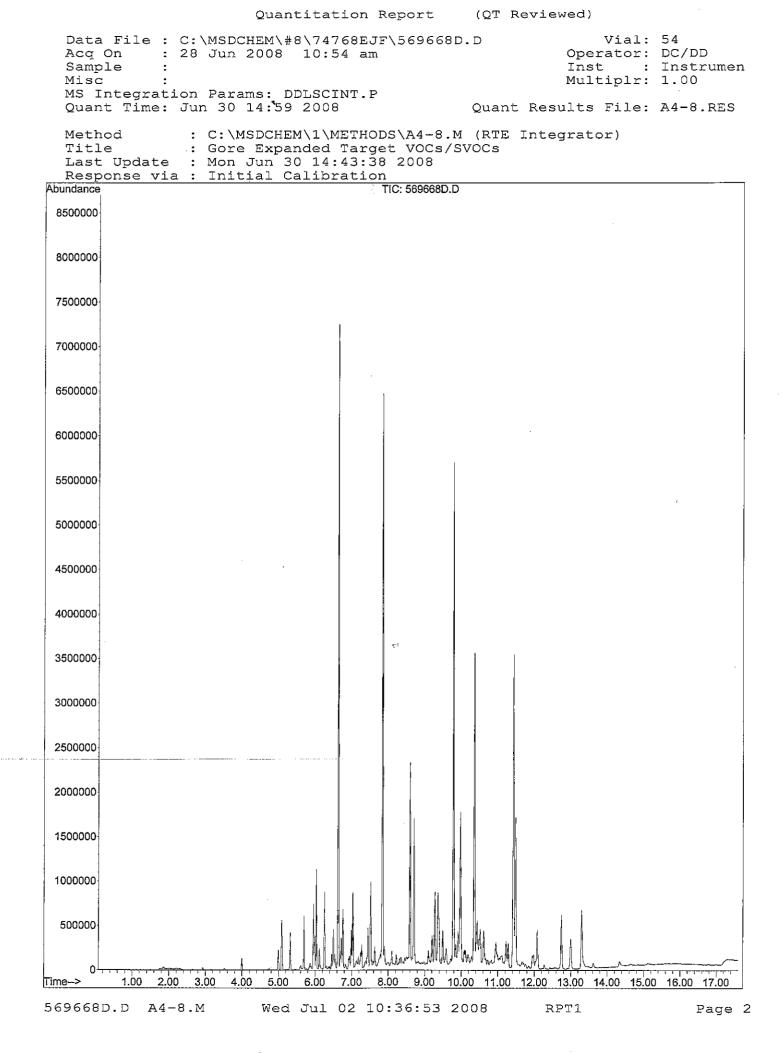


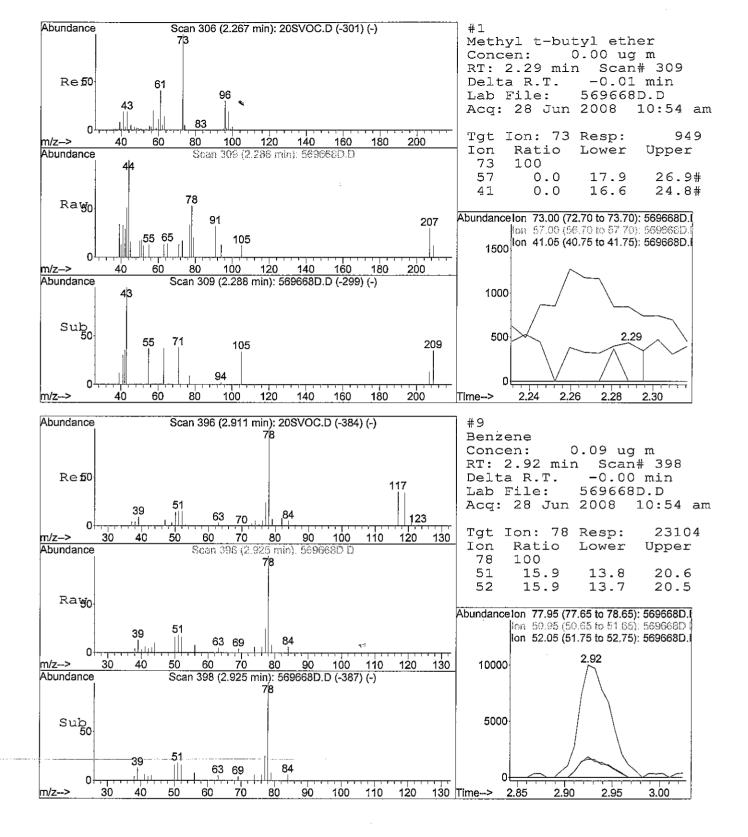


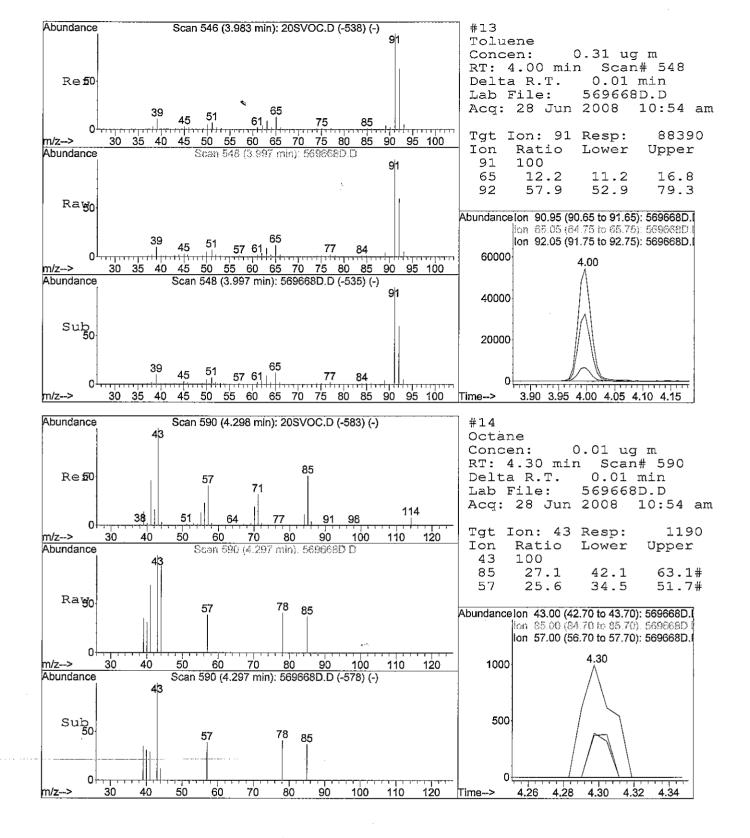
569667S.D A4-8.M

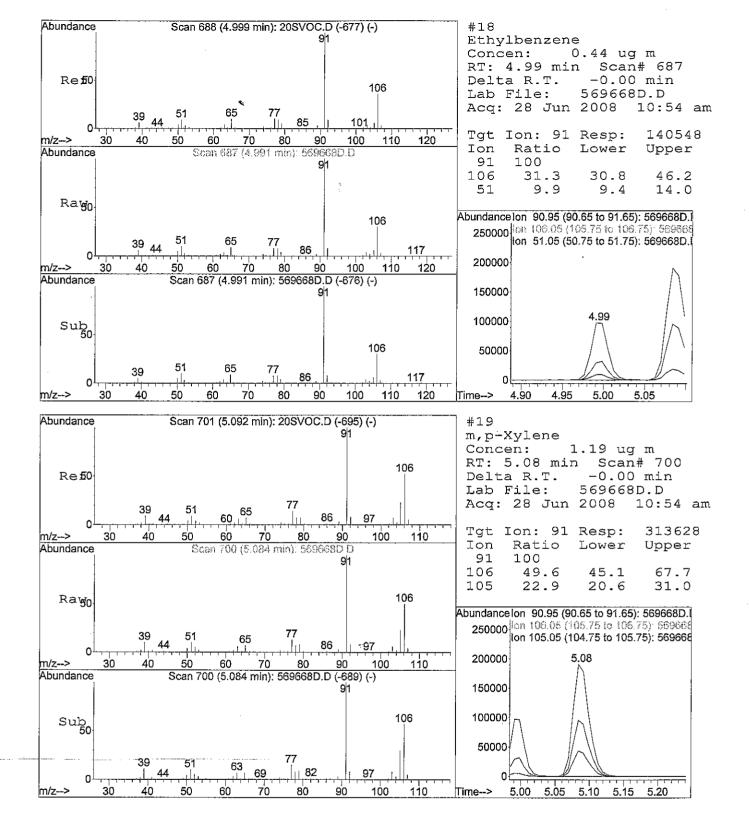
	Quantitati	on Repo	ort	(QT Revie	wed)			
Acq O Sampl Misc	File : C:\MSDCHEM\#8\74768EJ n : 28 Jun 2008 10:54 am e : : tegration Params: DDLSCINT.P		58D.D	Op In	Vial: erator: st : ltiplr:	DC/DD Instrumen		
Quant	Time: Jun 30 14:53: ¹ 47 2008		Qu	ant Result	s File:	A4-8.RES		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8								
Inte	rnal Standards			Response			.n)	
1) 2) 3) 4)	et Compounds Methyl t-butyl ether 1,1-Dichloroethene trans-1,2-Dichloroethene 1,1-Dichloroethane	2.10 2.30 2.37	61 61 63	0 0		Qvalu ug #	ıe	
6) 7) 8) 9)	1,2-Dichloroethane Benzene	2 61	83 97 62 78	0	N.D. N.D. N.D. 0.09 N.D. N.D.	ug #		
12) 13) 14) 15) 16)	1,1,2- Trichloroethane Toluene Octane Tetrachloroethene Chlorobenzene	4.13 4.00 4.30 4.40 4.86	97 91 43 166 112	0 88390m 1190m 0 0	N.D. 0.31 0.01 N.D. N.D.	nd #		
18) 19) 20) 21)	m,p-Xylene o-Xylene 1,1,2,2-Tetrachloroethane	4.99 5.08 5.32 0.00	91 91 91 83	140548m 313628m 205237m 0	1.19 0.75 N.D.	ug # ug # ug # d		
23) 24) 25) 26)	1,2,4-Trimethylbenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	6.26 6.39 6.47 6.63	105 146 146 146	0 0	1.39 N.D. N.D. N.D.	uğ #		
28) 29) 30) 31)	Undecane Naphthalene Tridecane 2-Methyl naphthalene Acenaphthylene	7.03 7.84 8.41 8.59 9.60	57 128 57 142 152	4988323m 10131m 1113345m 67041m	0.05 · 3.21 · 0.11 ·	nd # nd # nd #		
33) 34) 35)	Pentadecane Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene	9.61 9.78 10.35 11.43 11.48 12.74	57 153 166 178 178 202	2871039m 1465558m	3.43	1g # 1g # 1g #		
38)	Pyrene	13.00	202	557672m 308549m	0.72			

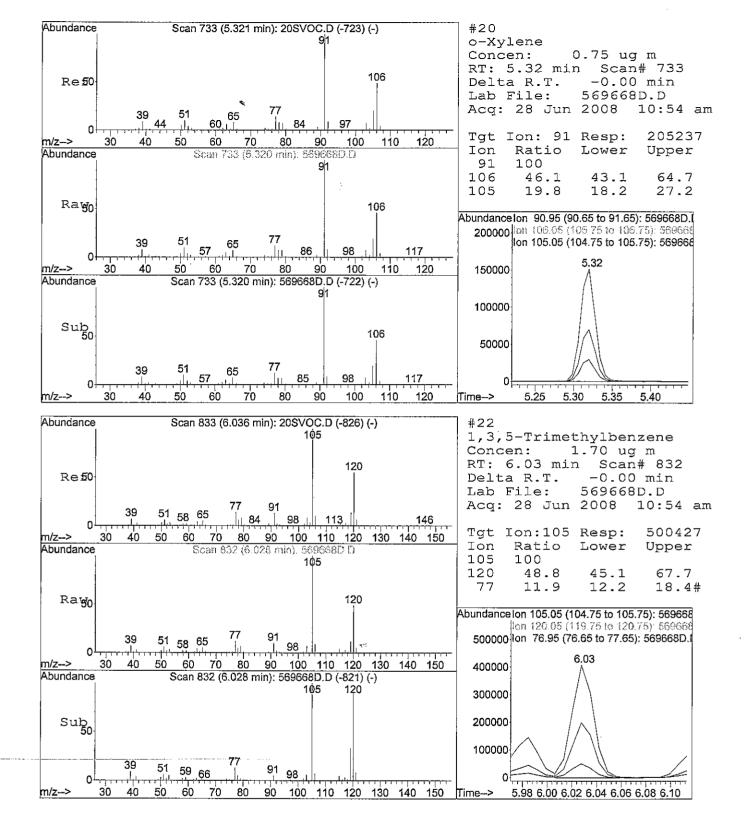
T

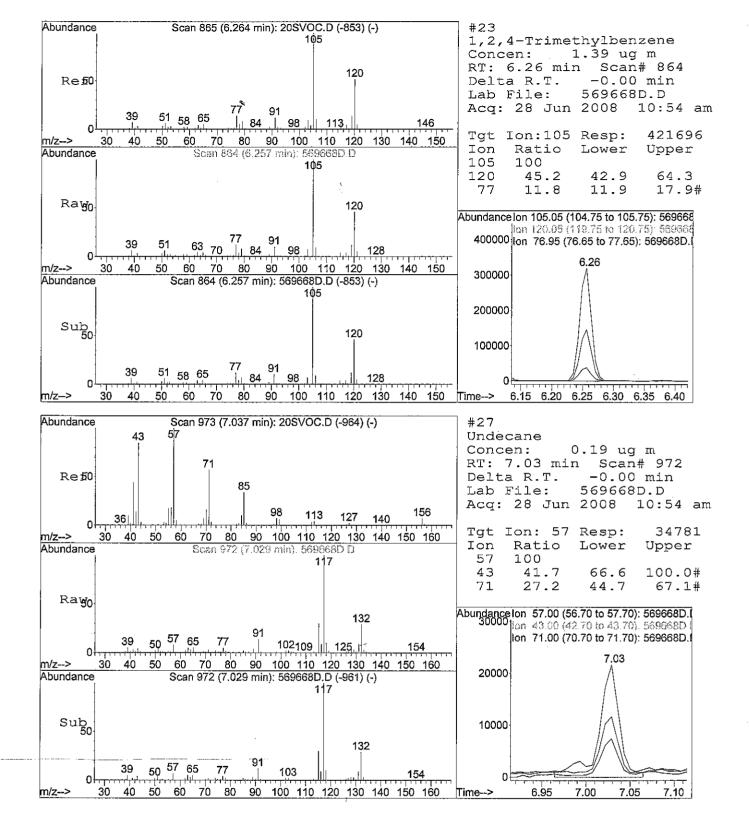






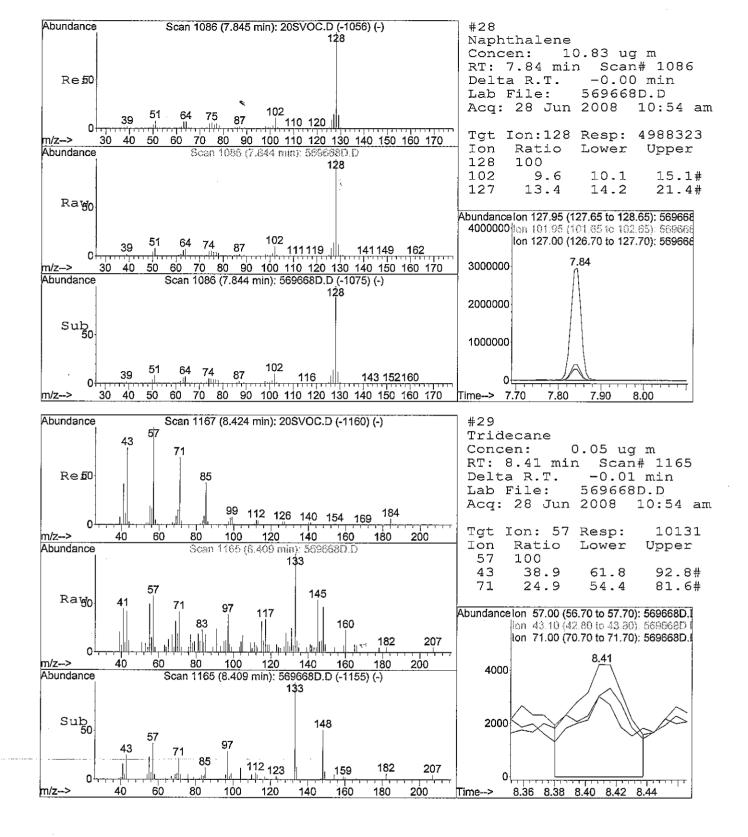






569668D.D A4-8.M

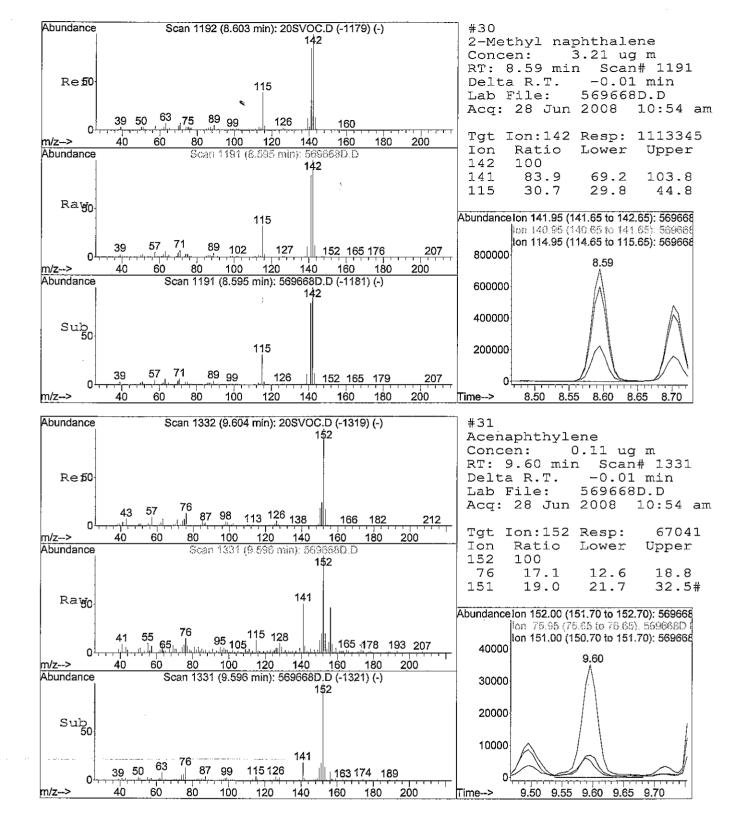
Wed Jul 02 10:42:29 2008

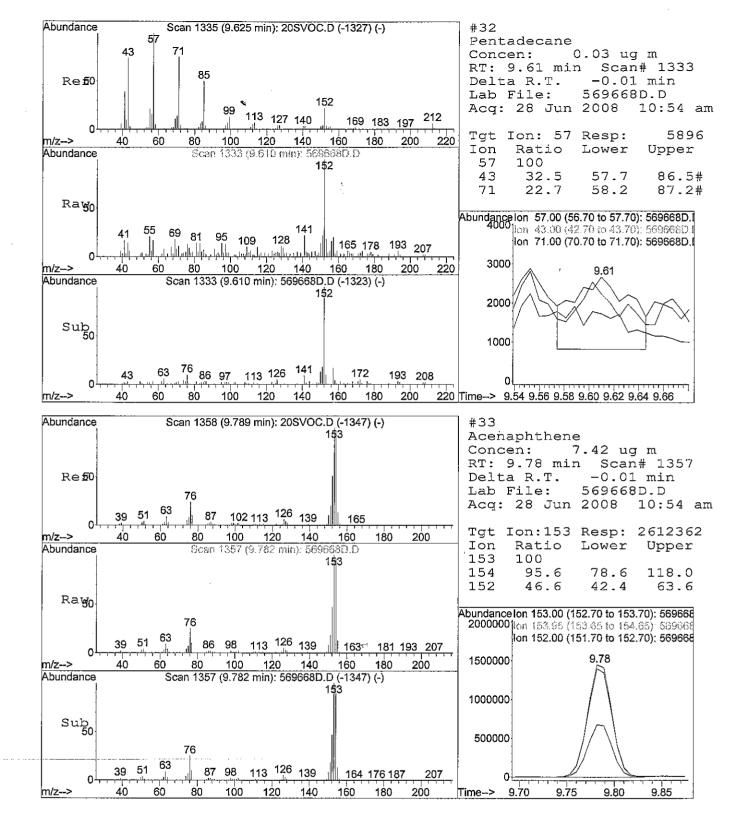


569668D.D A4-8.M

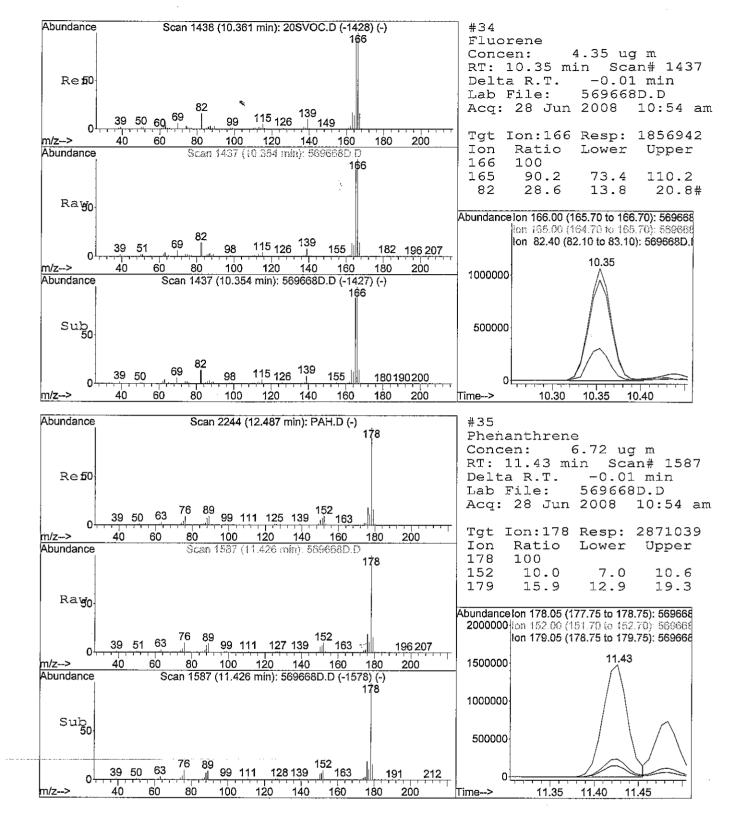
Wed Jul 02 10:42:29 2008

RPT1



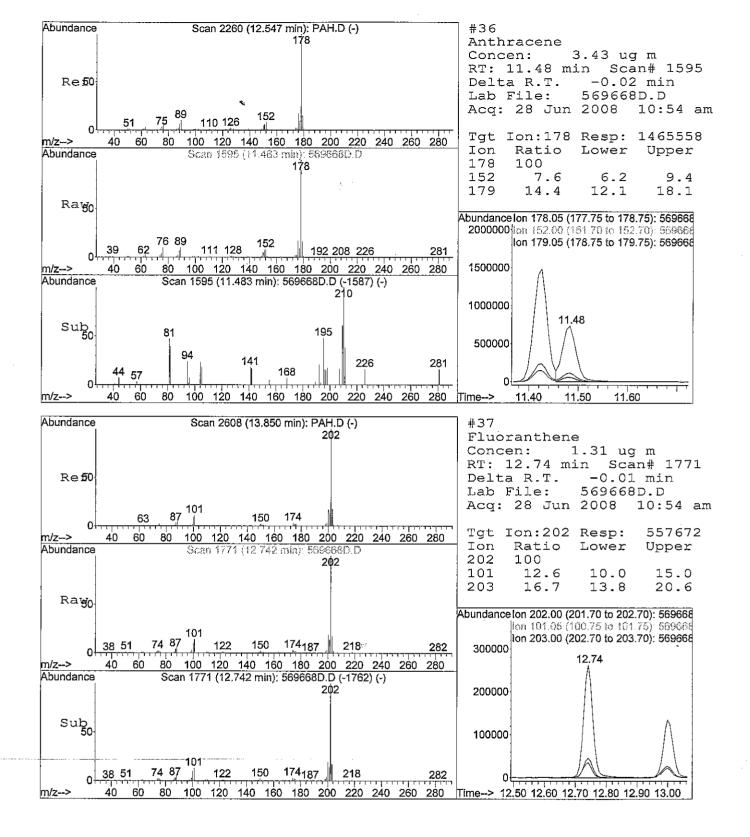


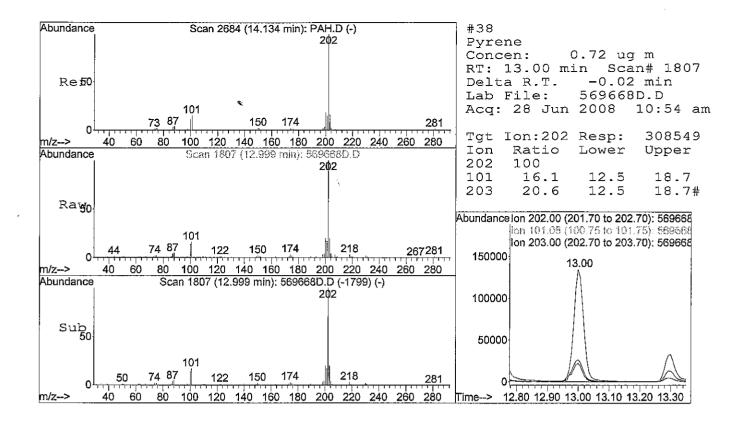
569668D.D A4-8.M



569668D.D A4-8.M

RPT1





569668D.D A4-8.M

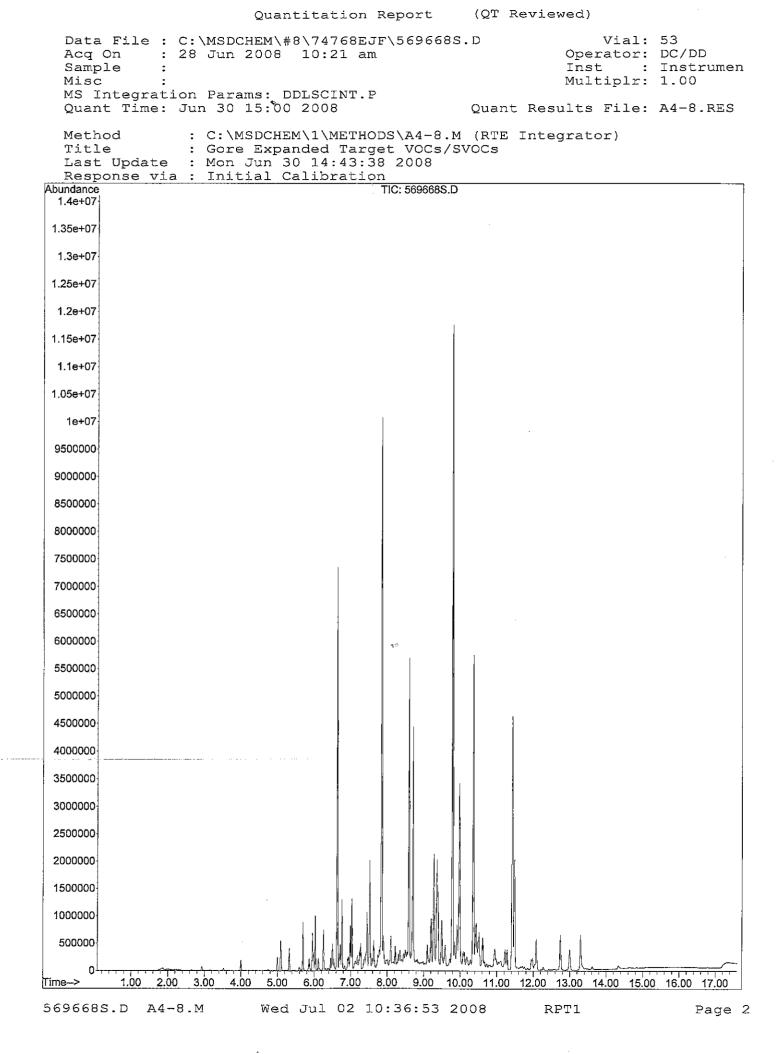
Wed Jul 02 10:42:30 2008

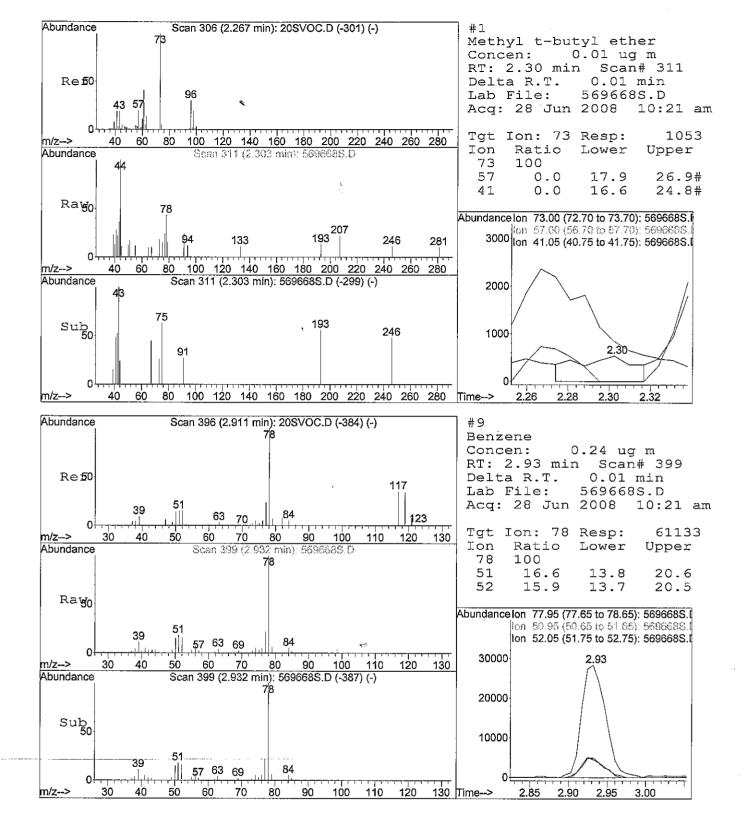
÷.,

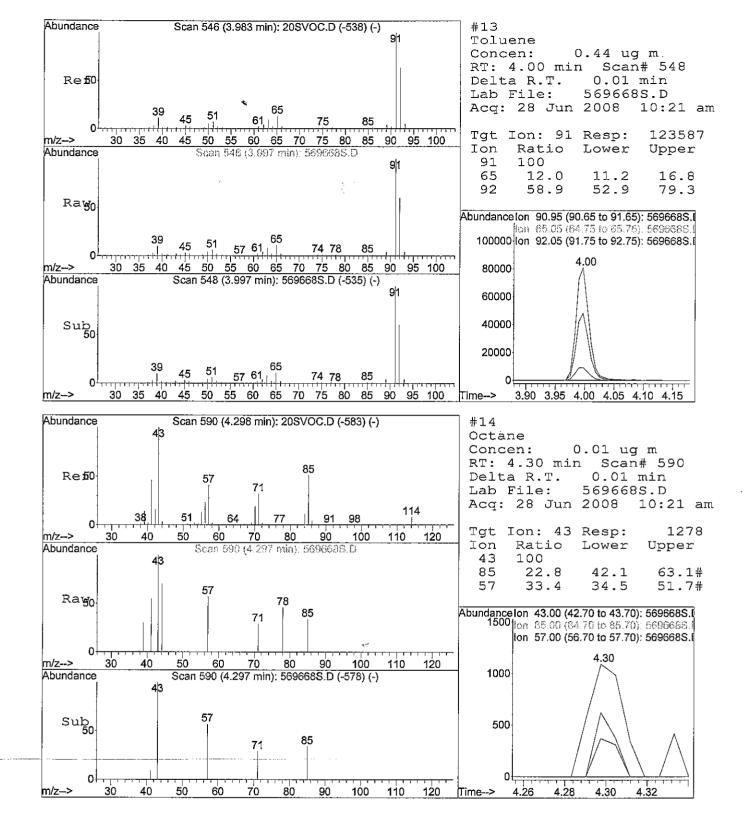
RPT1

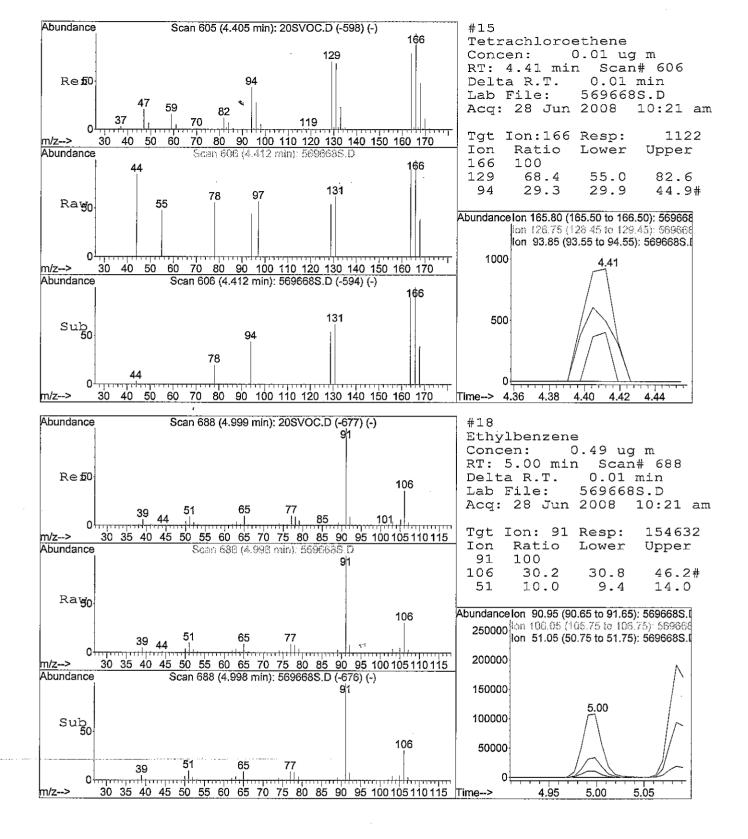
Quantitati	on Repo	ort	(QT Revie	wed)			
Data File : C:\MSDCHEM\#8\74768E3 Acq On : 28 Jun 2008 10:21 an Sample : Misc : MS Integration Params: DDLSCINT.F Quant Time: Jun 30 14:53:47 2008	n -		Op In Mu	Vial: 5 erator: D st : 1 ltiplr: 1 s File: A	DC/DD Instrumen .00		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards	R.T.	QIon	Response	Conc Uni	ts Dev(Min)		
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform</pre>	2.10 2.30 2.37 2.52	61 61 63 61	1053m 0 0 0 0 0	0.01 u N.D. N.D. N.D. N.D. N.D.	Qvalue g #		
 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 	2.92 3.28 4.13	117 95 97	0 0 61133m 0 0 0	N.D. N.D. 0.24 u N.D. N.D. N.D. N.D.	-		
 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 	4.41 4.86	166 112	0	0.44 u 0.01 u 0.01 u N.D. N.D.	g #		
19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane	5.08 5.32 0.00	91 91 83	154632m 305404m 196380m 0	0.49 u 1.16 u 0.72 u N.D.	g # g #		
 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 	6.26 6.39 6.47 6.63	105 146 146 146	0 0	1.18 u N.D. N.D. N.D.	ā #		
 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 	7.02 7.84 8.41 8.59 9.60	57 128 57 142 152	7580695m 22067m 2779502m 124833m		a # a # a #		
32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 39) Purene	9.58 9.79 10.35 11.42 11.48 12.74		610843m	1.43 u	- g g g g # # # #		
38) Pyrene	13.00	202	330691m	0.77 u	g #		

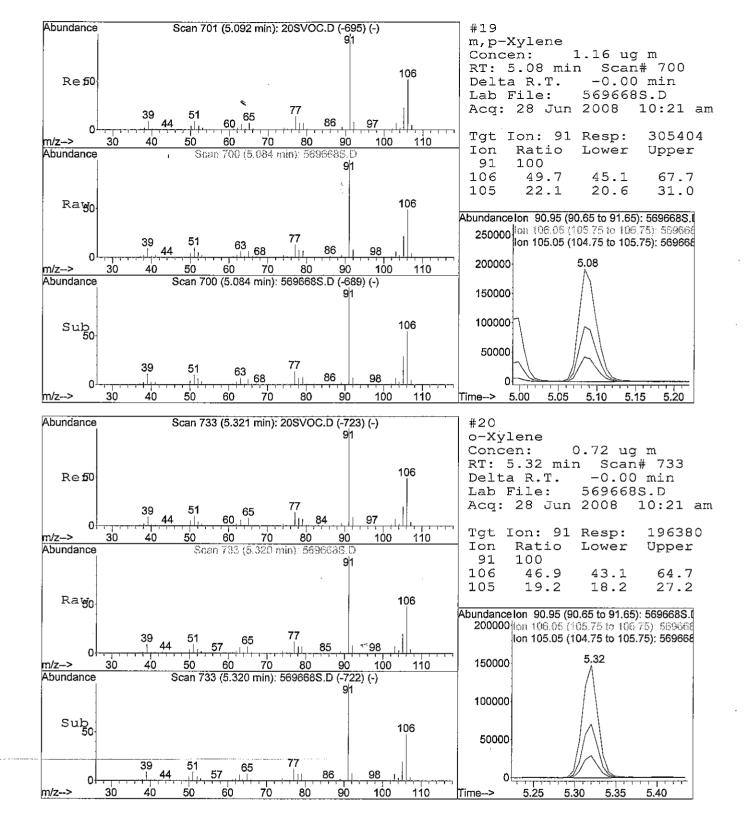
1

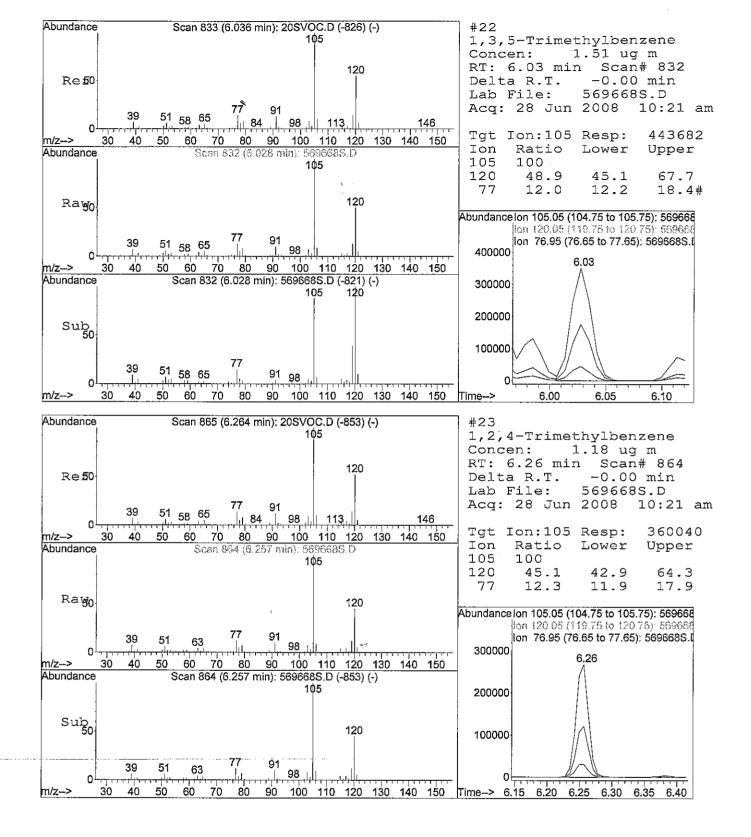


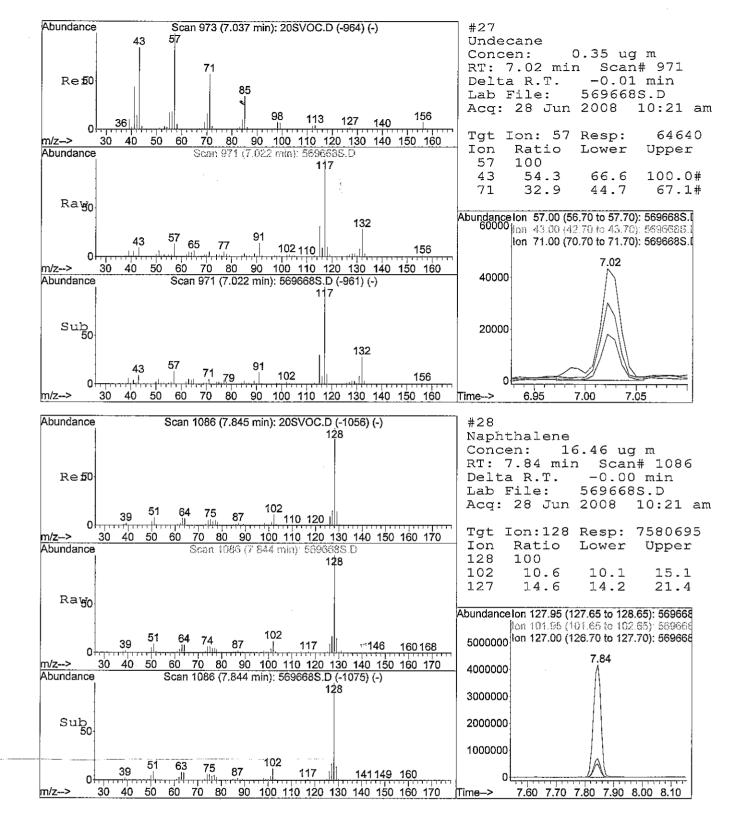


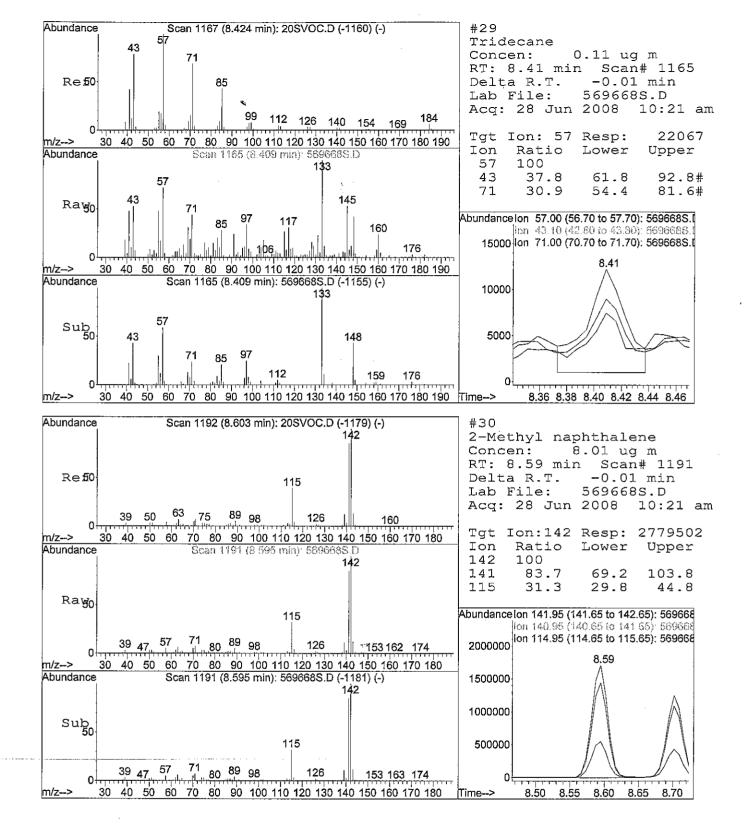


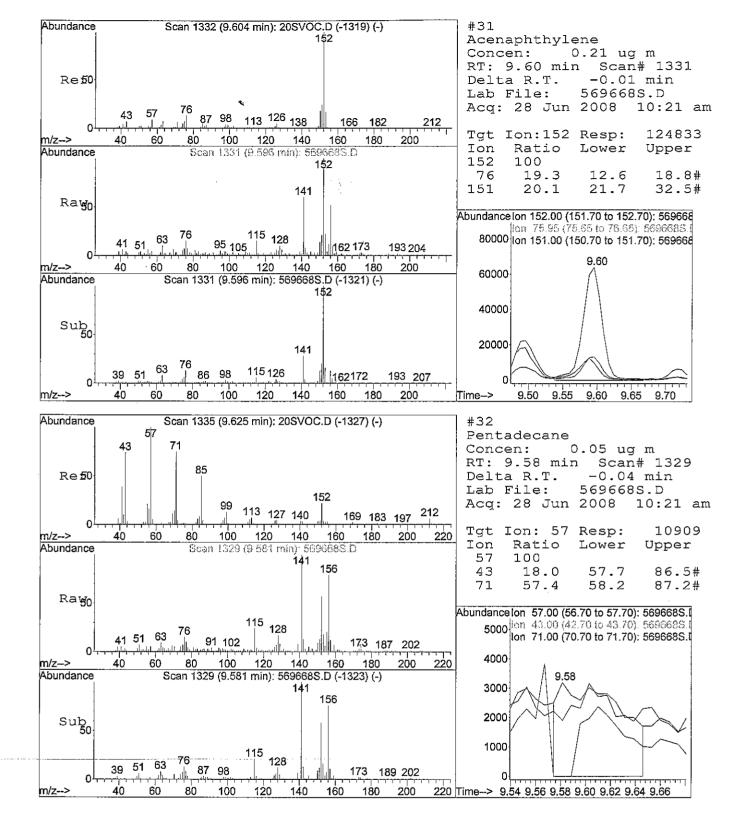


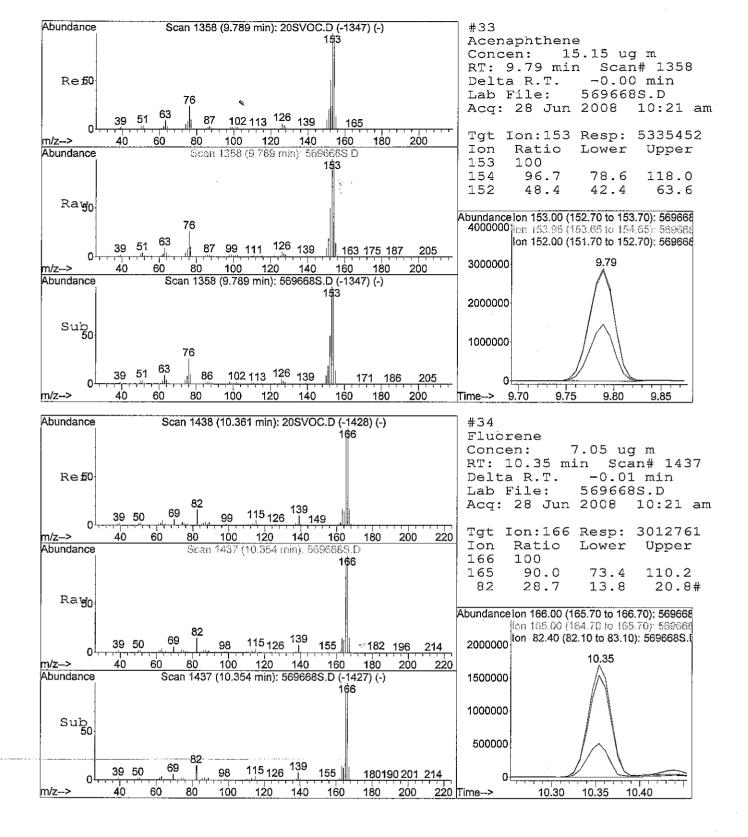






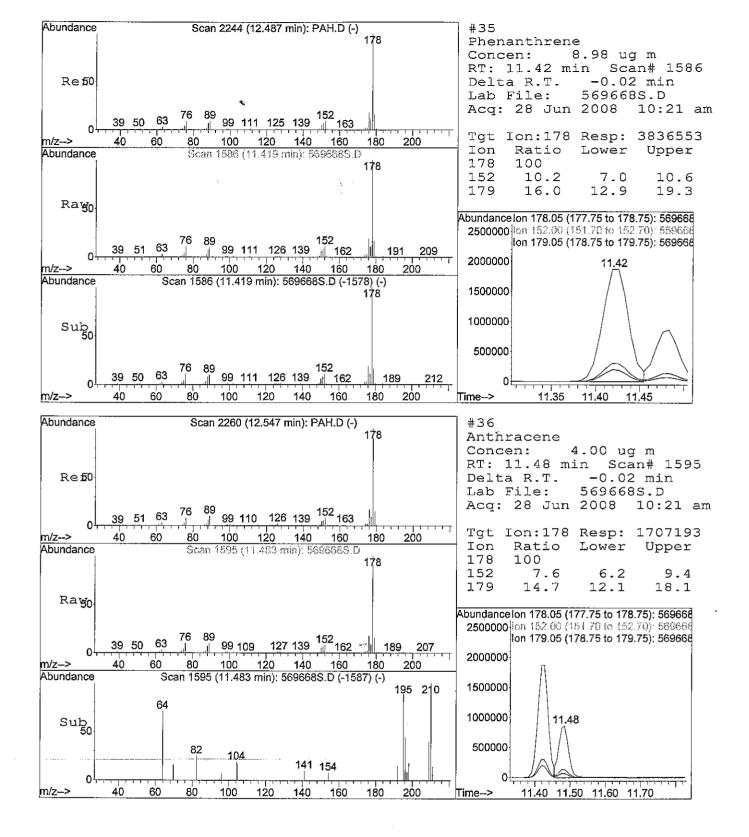


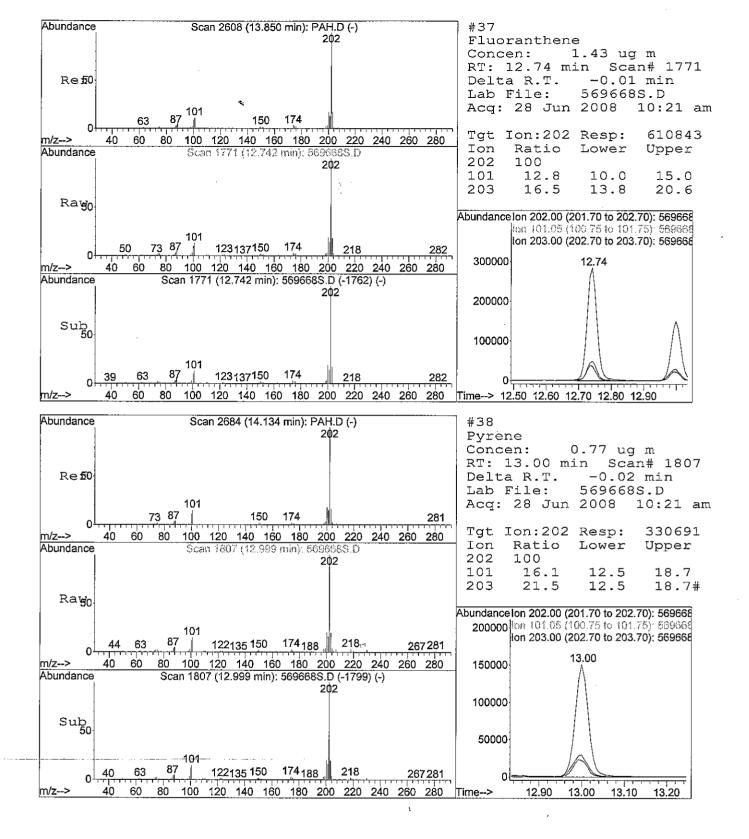




Wed Jul 02 10:42:32 2008

RPT1



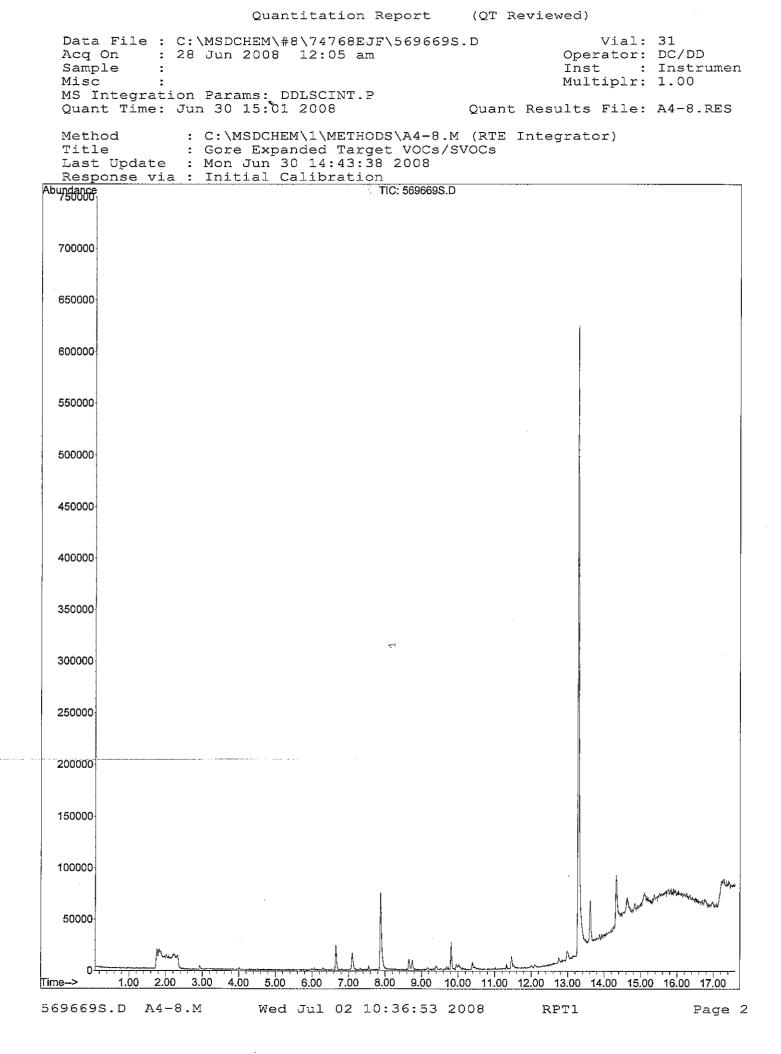


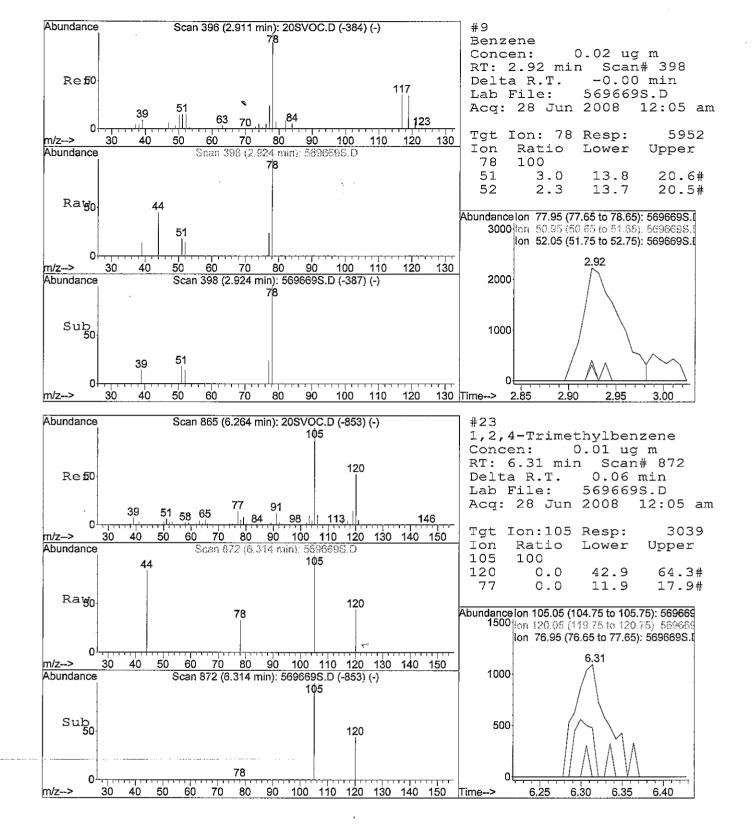
Quantitation Report (QT Reviewed)							
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 28 Jun 2008 12:05 am Sample : Misc : MS Integration Params: DDLSCINT.P	L	5 95. D	Op In	Vial: 31 erator: DC/ st : Ins ltiplr: 1.0	trumen		
Quant Time: Jun 30 14:53:48 2008		Qu	ant Result	s File: A4-	8.RES		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards	R.T.		Response	Conc Units	Dev(Min)		
Target Compounds					Qvalue		
 Methyl t-butyl ether 1,1-Dichloroethene trans-1,2-Dichloroethene 1,1-Dichloroethane cis-1,2-Dichloroethene Chloroform 1,1,1-Trichloroethane 1,2-Dichloroethane Benzene Carbon tetrachloride Trichloroethane 1,1,2- Trichloroethane 	2.30 2.37 2.52 2.64 2.79 2.87 2.92 3.28 4.13 3.98 4.29 4.40 4.86	61 63 61 97 62 78 117 97 43 162 131 91	0 0 0 0 5952m 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	Qvalue #		
<pre>21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene</pre>	5.60 6.03 6.31 6.39 6.47	83 105 105 146	0 0 3039m 0	N.D. N.D. 0.01 ug N.D. N.D.	#		
26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane	6.63 7.09 7.87 8.42	146 57 128 57	11507m 117679m 0	N.D. 0.06 ug 0.26 ug N.D.	# #		
30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane	8.66 9.60 9.62	142 152 57	10606m 0 0	0.03 ug N.D. N.D.	#		
33) Acenaphthene	9.81	153	16896m	0.05 ug	#		
34) Fluorene 35) Phenanthrene	10.39 11.46	166 178	7417m 14595m	0.02 ug 0.03 ug	# #		
36) Anthracene	11.52	178	10365m	0.02 ug			
37) Fluoranthene 38) Pyrene	12.76 13.01	202 202	6811m 6016m	0.02 ug 0.01 ug	# #		

(#) = qualifier out of range (m) = manual integration (+) = signals summed 569669S.D A4-8.M Wed Jul 02 10:36:53 2008 RPT1 Page 1

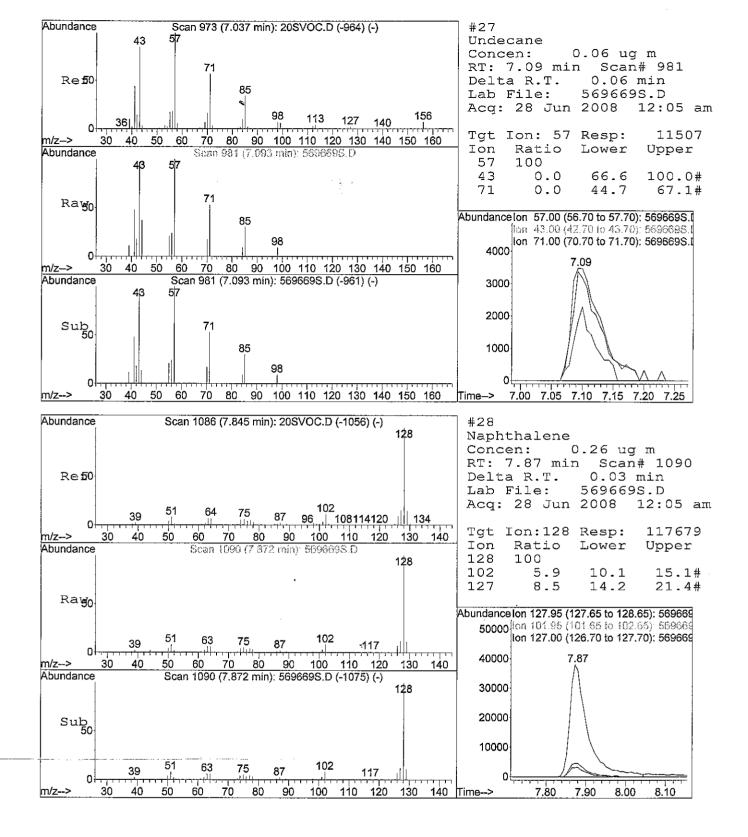
ć

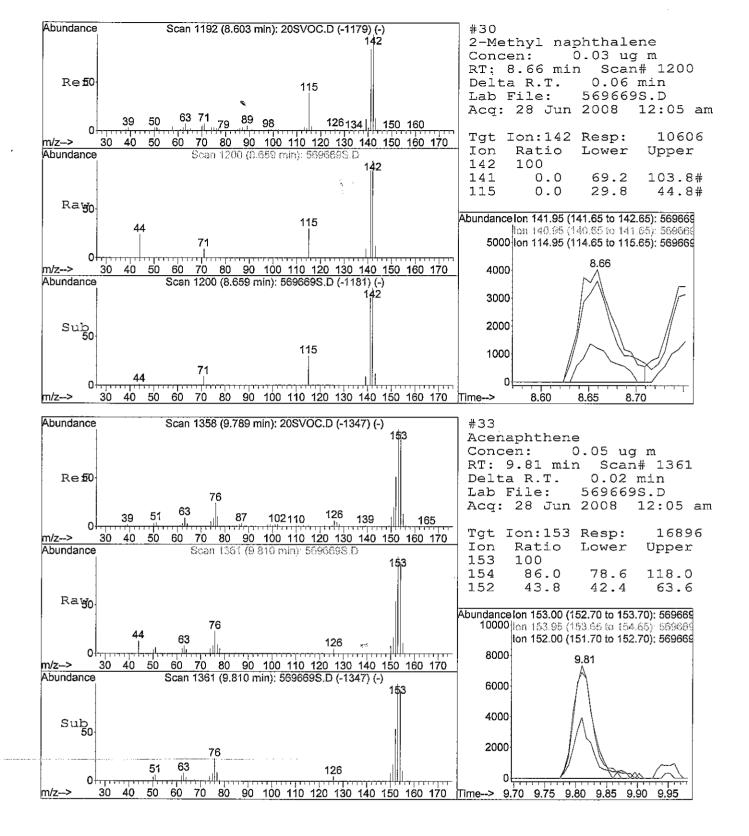
ŀ

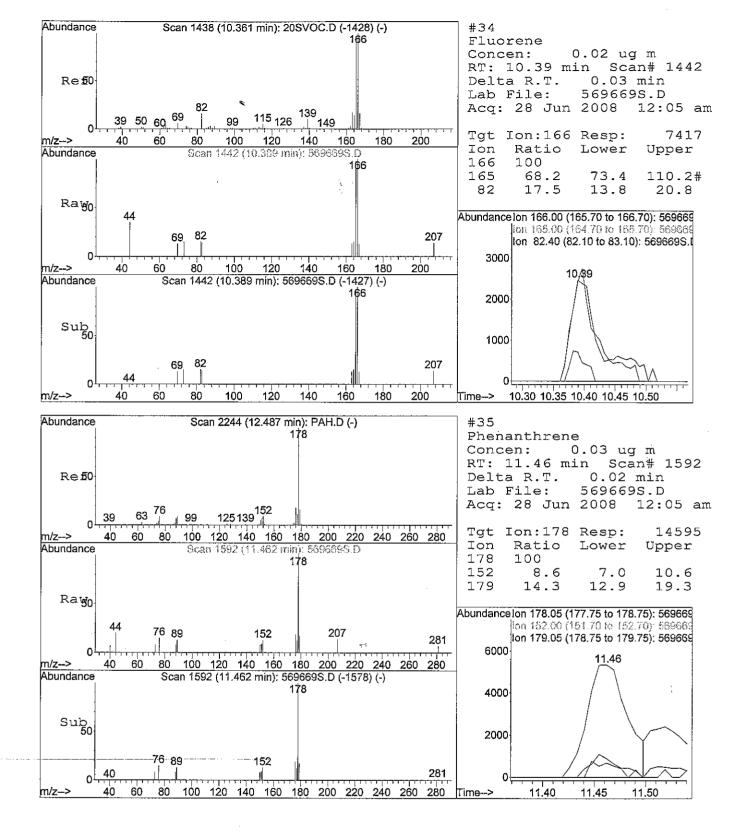


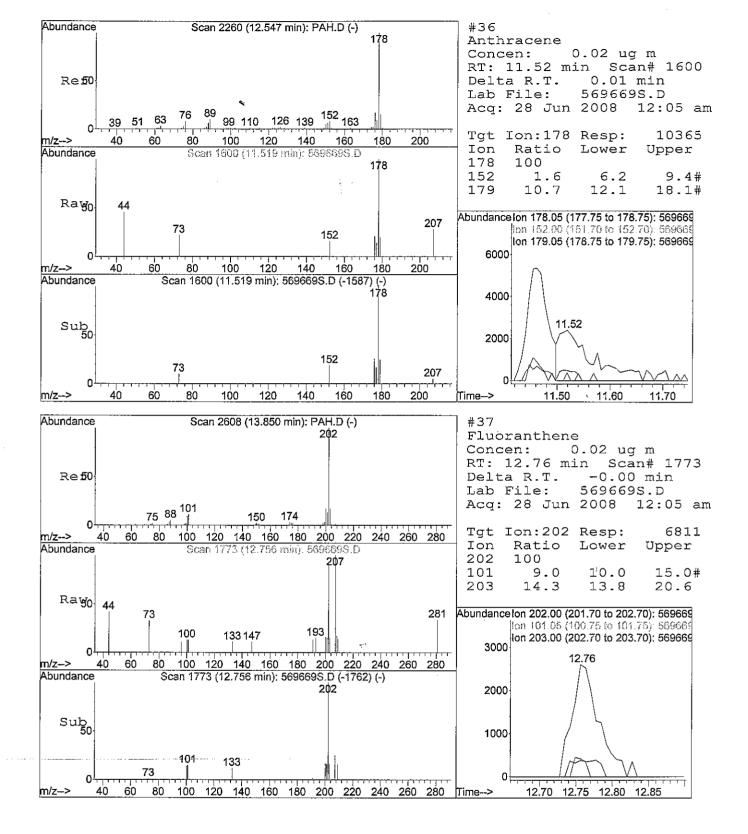


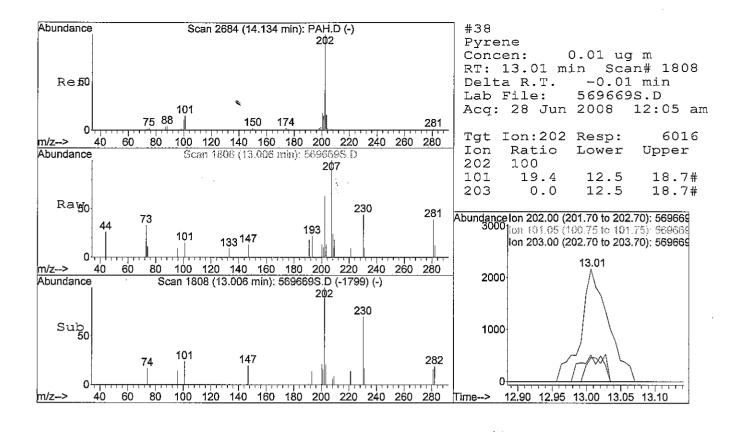
Wed Jul 02 10:42:32 2008











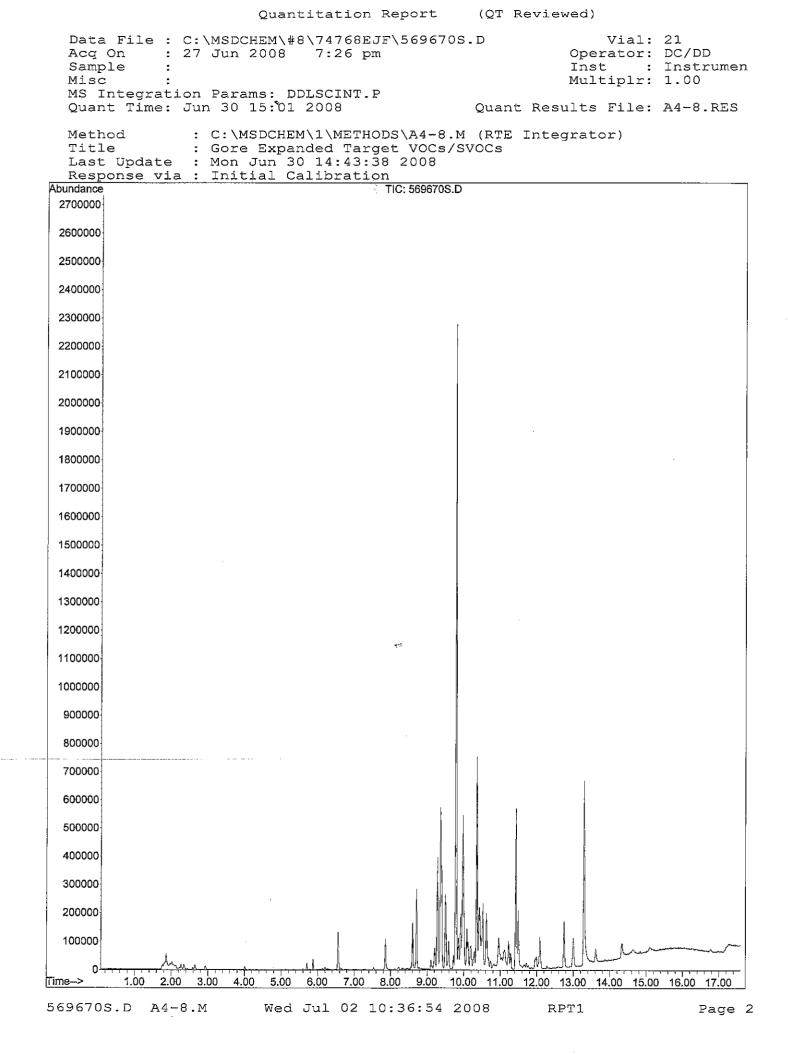
Wed Jul 02 10:42:33 2008

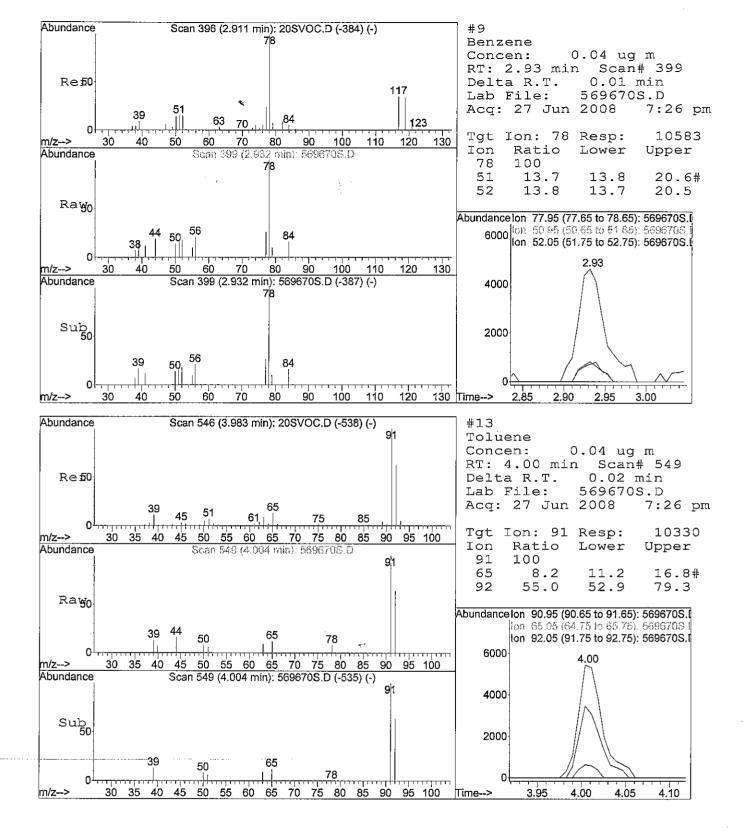
RPT1

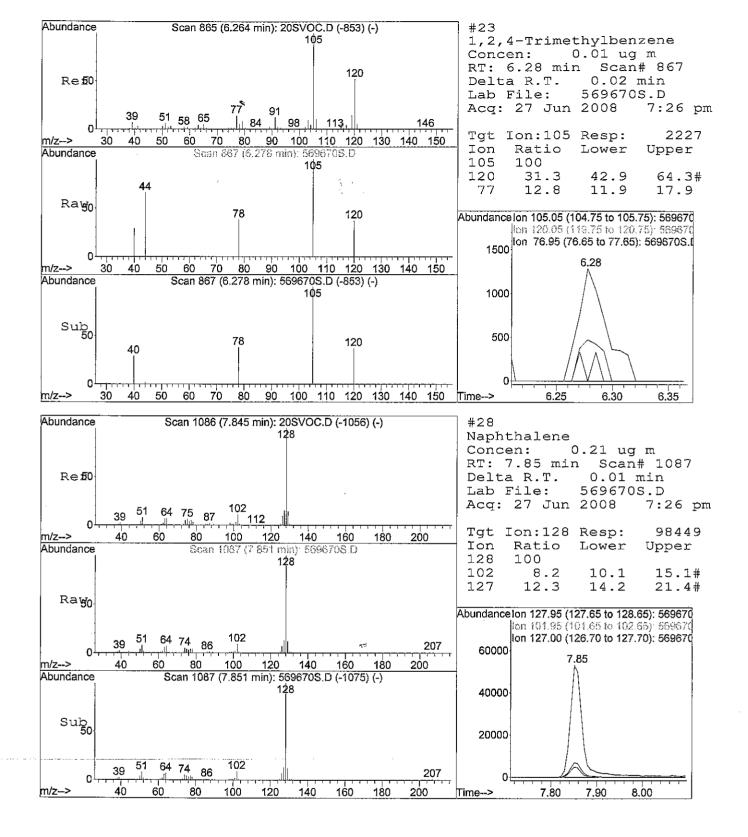
Quantitation Report (QT Reviewed)							
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 7:26 pm Sample : Misc : MS Integration Params: DDLSCINT.E	ı	70S.D	In	Vial: erator: st : ltiplr:	DC/DD Instrumen		
Quant Time: Jun 30 14:53:48 2008		Qu	ant Result	s File:	A4-8.RES		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards		QIon	Response	Conc Un	its Dev(Min)		
Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene		73 61	0	N.D. N.D.			
 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 	2.30 2.37 2.52 2.64	61 63 61 83		N.D. N.D. N.D. N.D.			
 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 	2.79 2.87 2.93 2.92 3.28	78 117	0 0 10583m 0 0	N.D. N.D. 0.04 N.D. N.D.	ug #		
12) 1,1,2- Trichloroethane	4.13 4.00 4.29 4.40	97 91 43	0 10330m 0	N.D.	ug #		
 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 	4.86	112 131 91		N.D. N.D. N.D. N.D.			
<pre>20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene</pre>	5.32 5.60 6.03	91 83 105	0 0 0	N.D. N.D. N.D.			
<pre>24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane</pre>	6.39	146	0	N.D. N.D. N.D. N.D.	-		
28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene	7.85 8.42 8.60	128 57 142	98449m 0 89470m	0.21 N.D. 0.26	ug #		
31) Acenaphthylene 32) Pentadecane 33) Acenaphthene	9.60 0.00 9.78	152 57 153	25623m 0 1044784m	0.04 N.D. 2.97	ug # d		
34) Fluorene 35) Phenanthrene 36) Anthracene	10.35 11.43 11.48	166 178 178	410362m 460326m 193300m	0.96 1.08 0.45	ug # ug #		
37) Fluoranthene 38) Pyrene	12.75 13.01	202 202	166086m 94094m	0.39	ug #		

(#) = qualifier out of range (m) = manual integration (+) = signals summed 569670S.D A4-8.M Wed Jul 02 10:36:54 2008 RPT1 Page 1

ь.

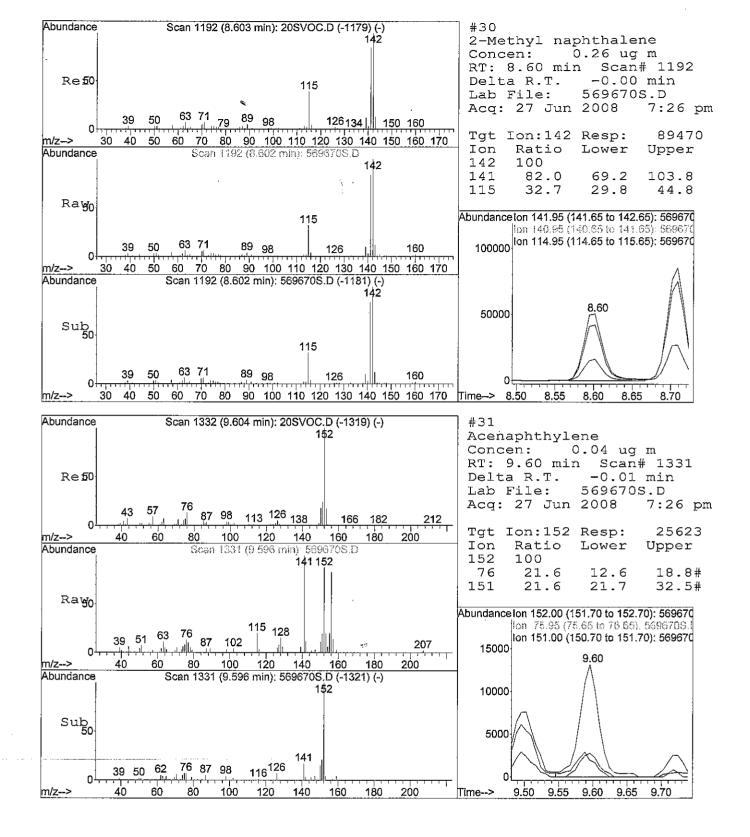




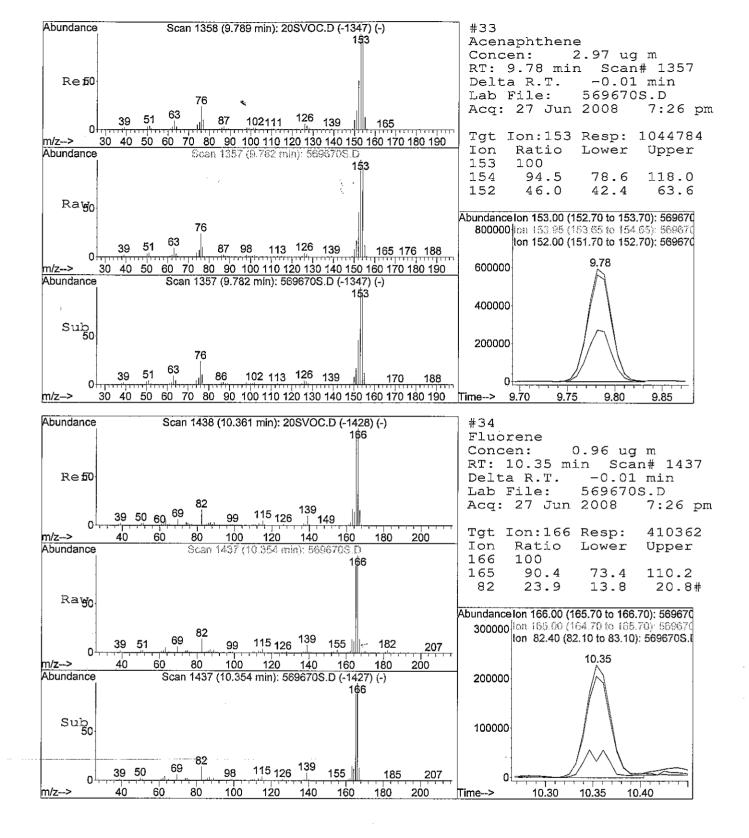


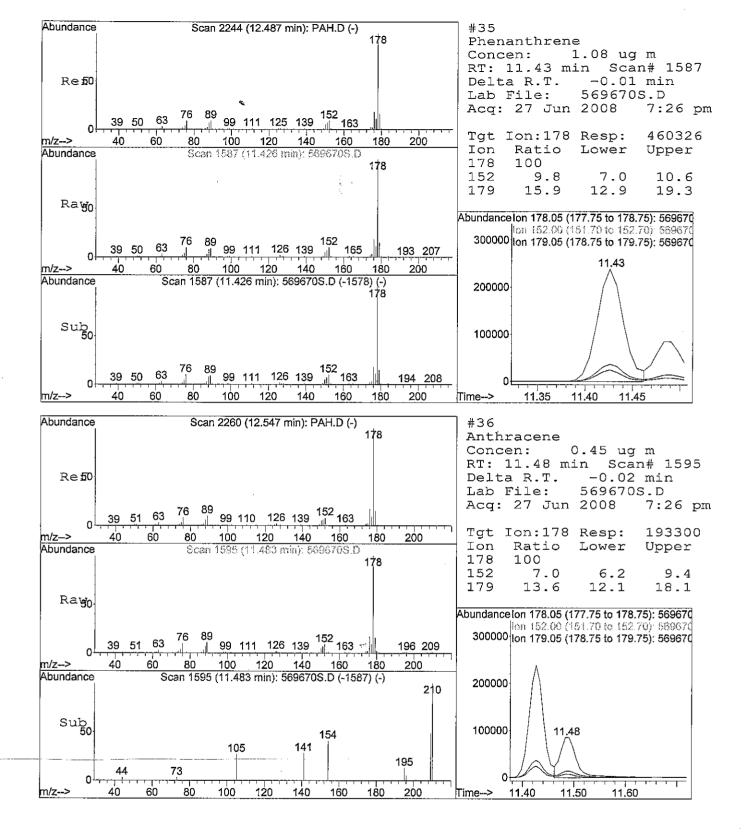
Wed Jul 02 10:42:34 2008

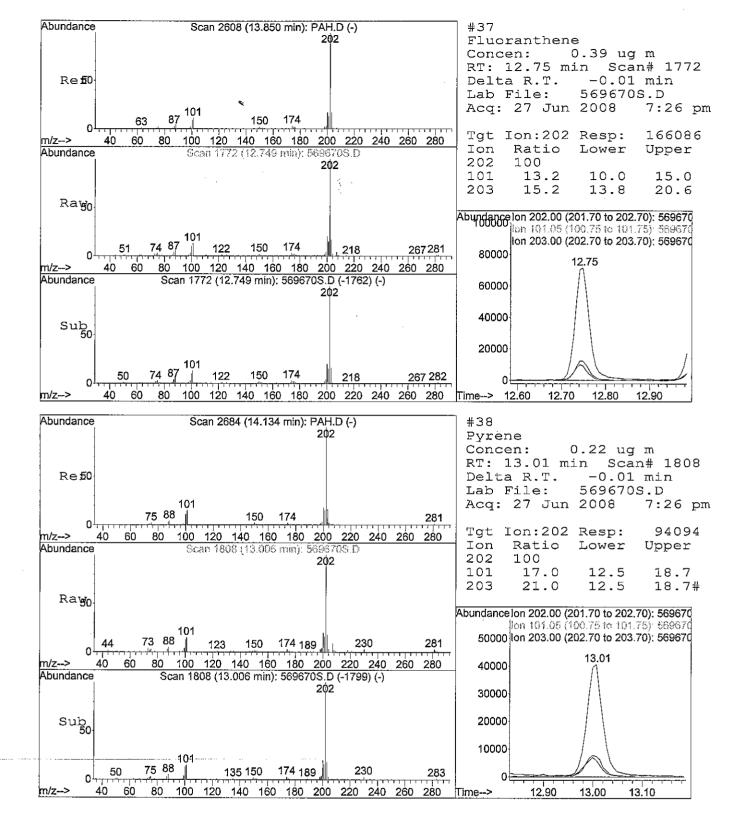
RPT1



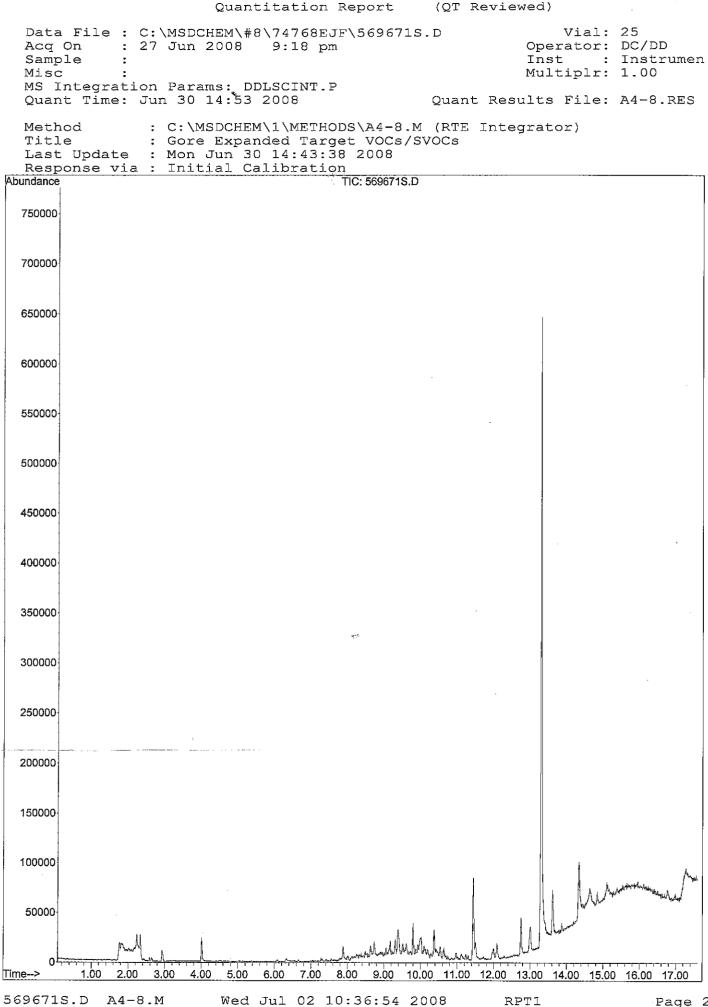
Wed Jul 02 10:42:34 2008

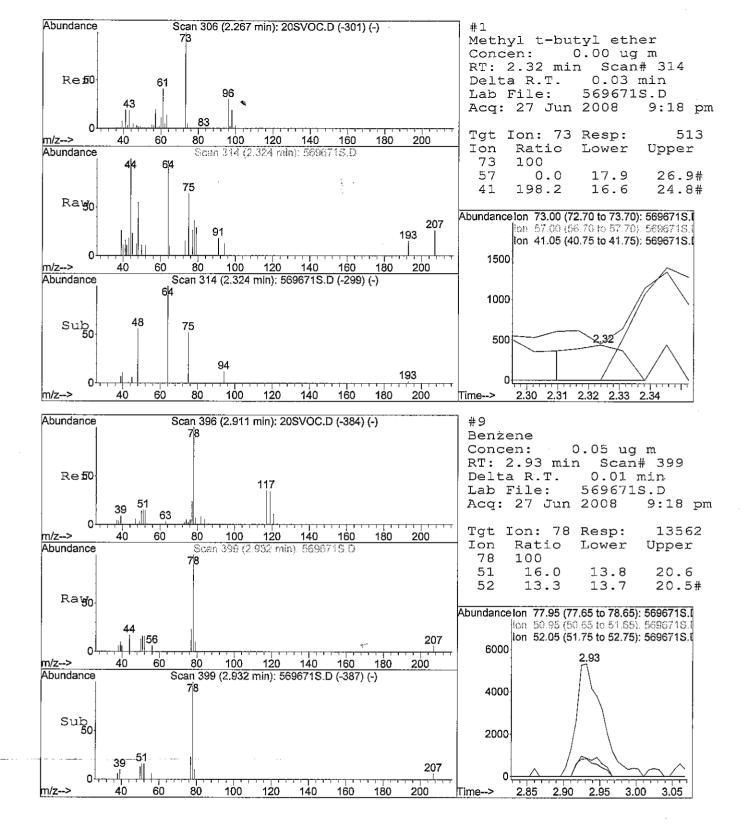


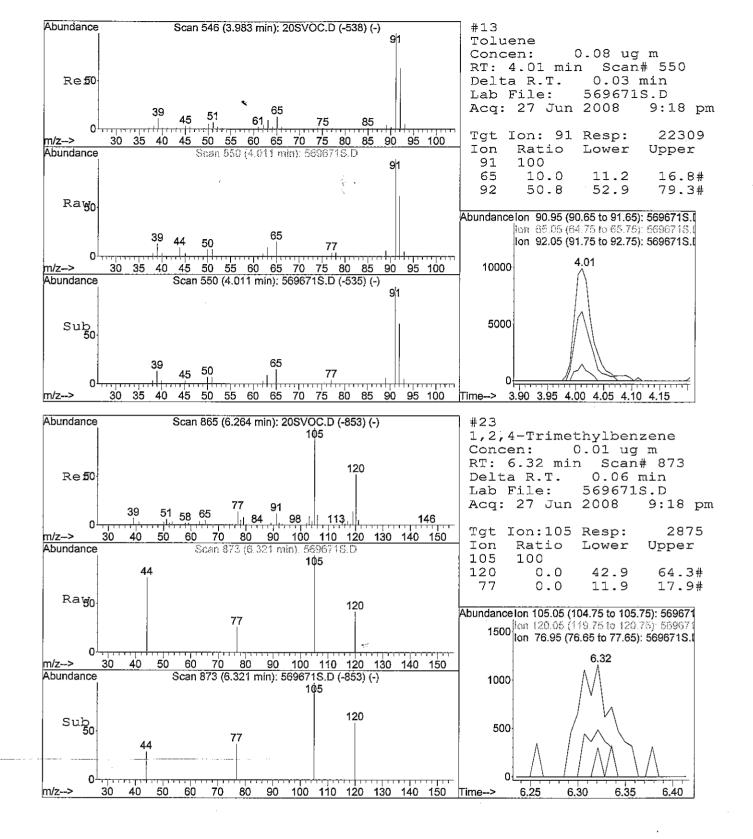


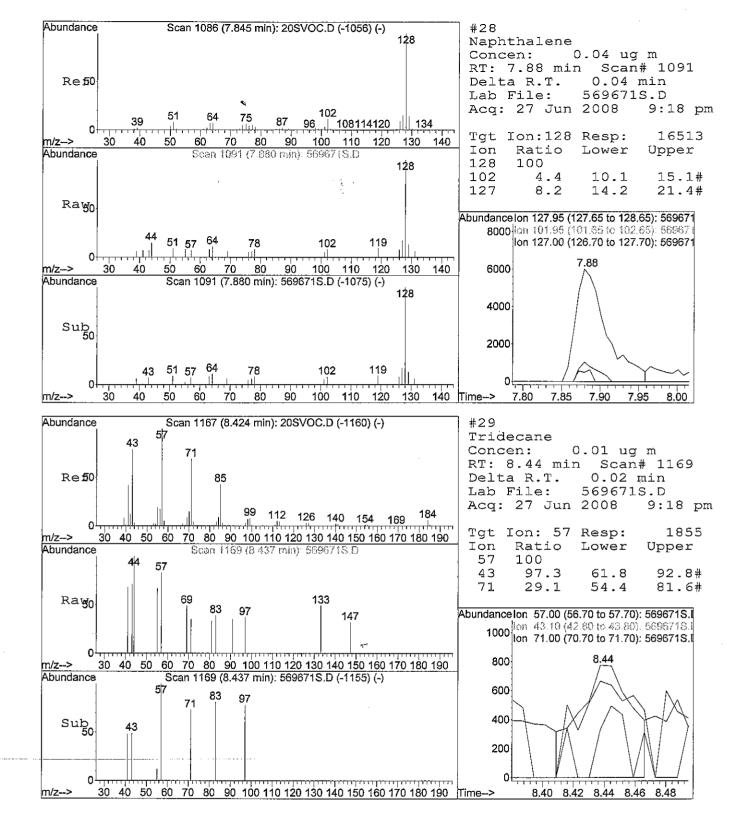


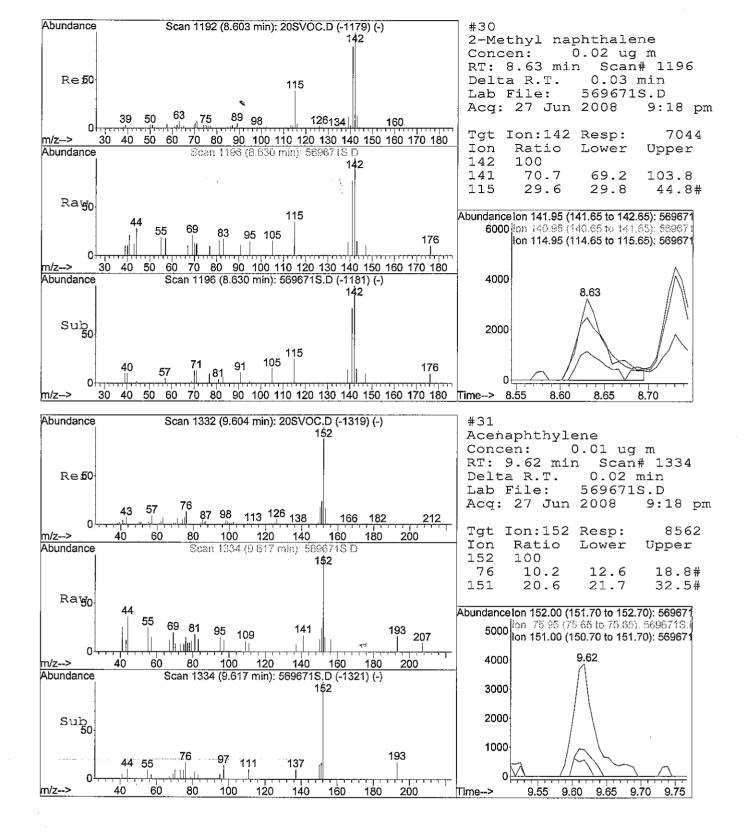
Quantitati	on Repo	ort	(QT Revie	wed)			
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 9:18 pm Sample : Misc : MS Integration Params: DDLSCINT.F Quant Time: Jun 30 14:53:49 2008	1		Op In Mu	Vial: 25 erator: DC/ st : Ins ltiplr: 1.0 s File: A4-	trumen O		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)		
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform</pre>	2.10 2.30 2.37 2.52	61 61 63 61	0		Qvalue #		
 1,2-Dichloroethane 	2.87 2.93 2.92 3.28	62 78 117 95 97	0 0 0	N.D. N.D. N.D.	#		
 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 	4.29 4.40 4.86 4.93 4.99 5.08	43 166 112 131 91 91		N.D. N.D. N.D. N.D. N.D. N.D. N.D.	T		
<pre>22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane</pre>	6.03 6.32 6.39 6.47 6.63 7.03	105 105 146 146 146 57	0 2875m 0 0 0 0	N.D. N.D. N.D. N.D.			
<pre>28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	7.88 8.44 8.63 9.62 9.64 9.80 10.38 11.44 11.50 12.76 13.01	128 57 142 152 57 153 166 178 178 202 202	16513m 1855m 7044m 8562m 3881m 15761m 21028m 79594m 24558m 41663m 27403m	0.04 ug 0.01 ug 0.02 ug 0.02 ug 0.02 ug 0.04 ug 0.05 ug 0.19 ug 0.06 ug 0.10 ug 0.06 ug	# # # # # # # # # #		



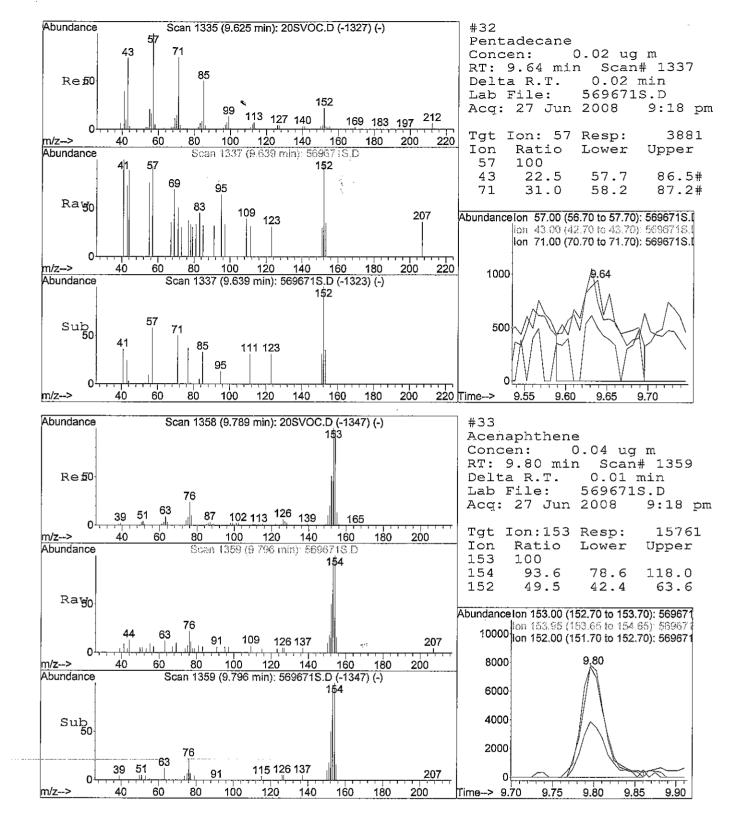


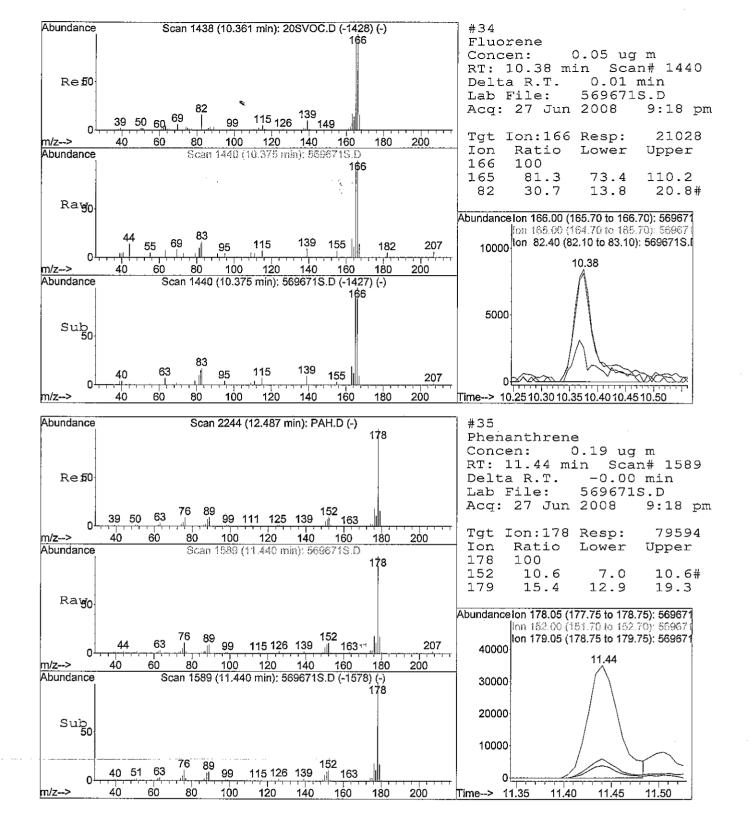


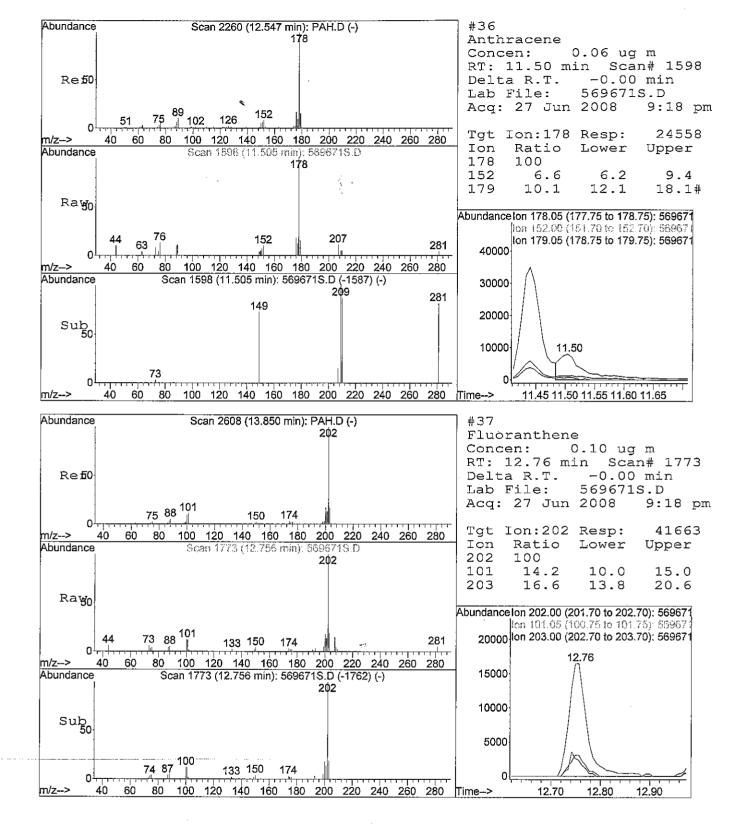


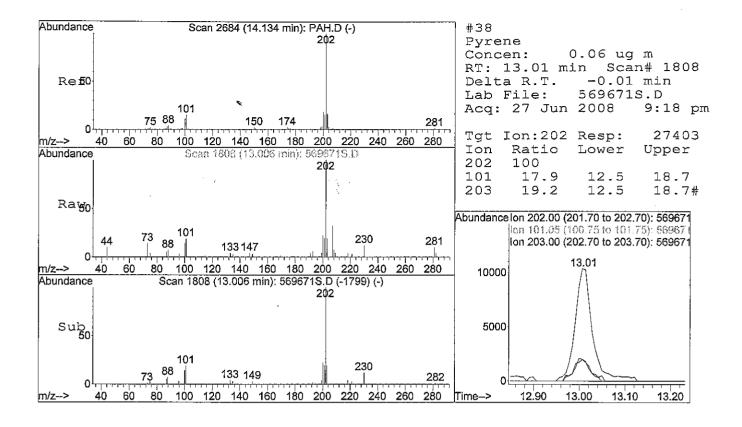


RPT1







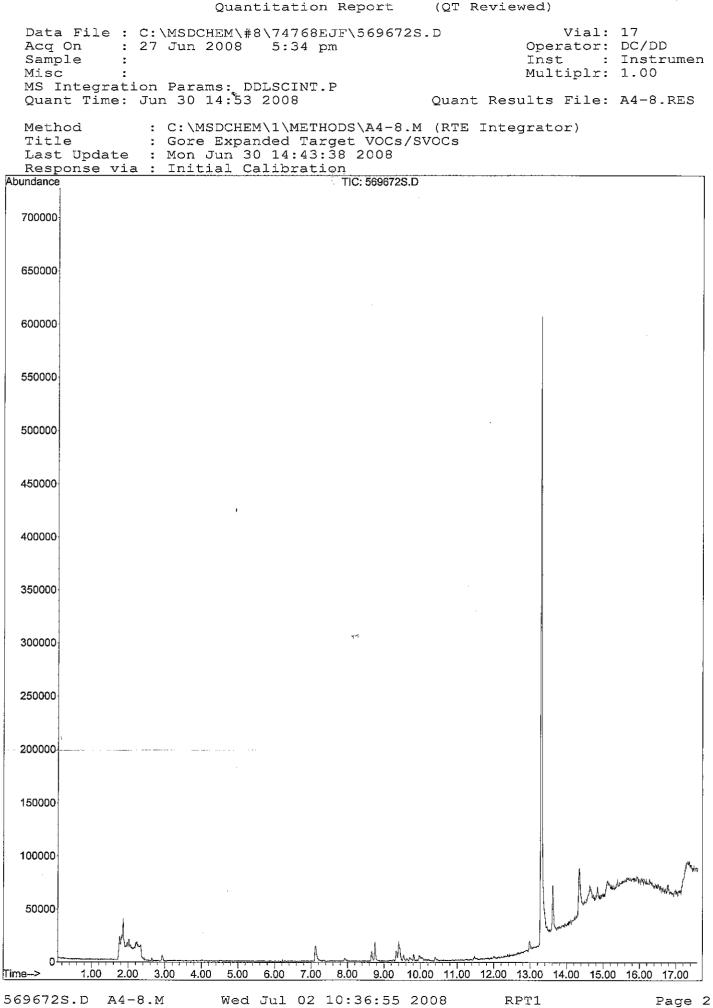


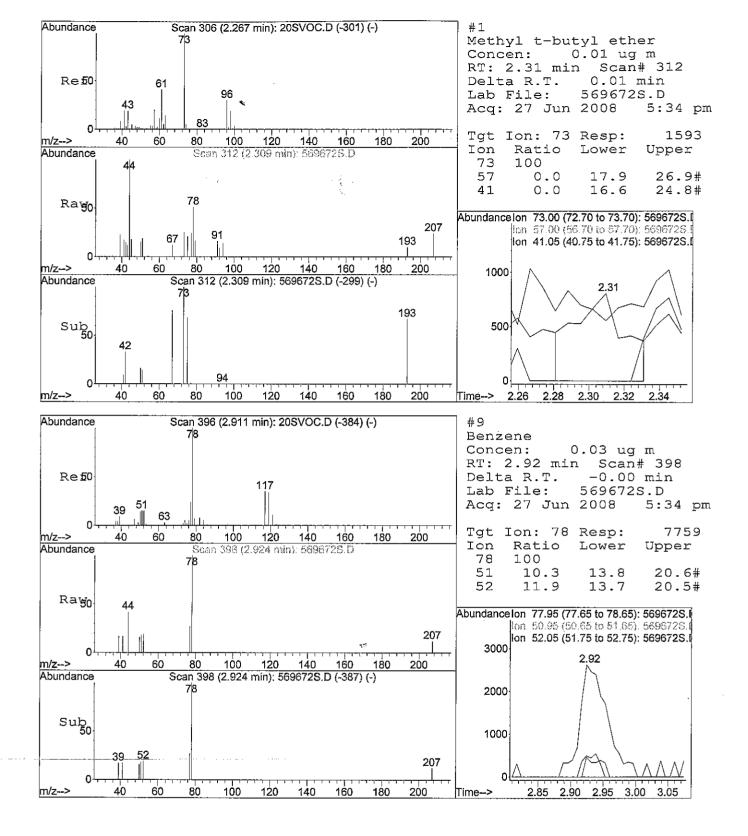
Wed Jul 02 10:42:36 2008

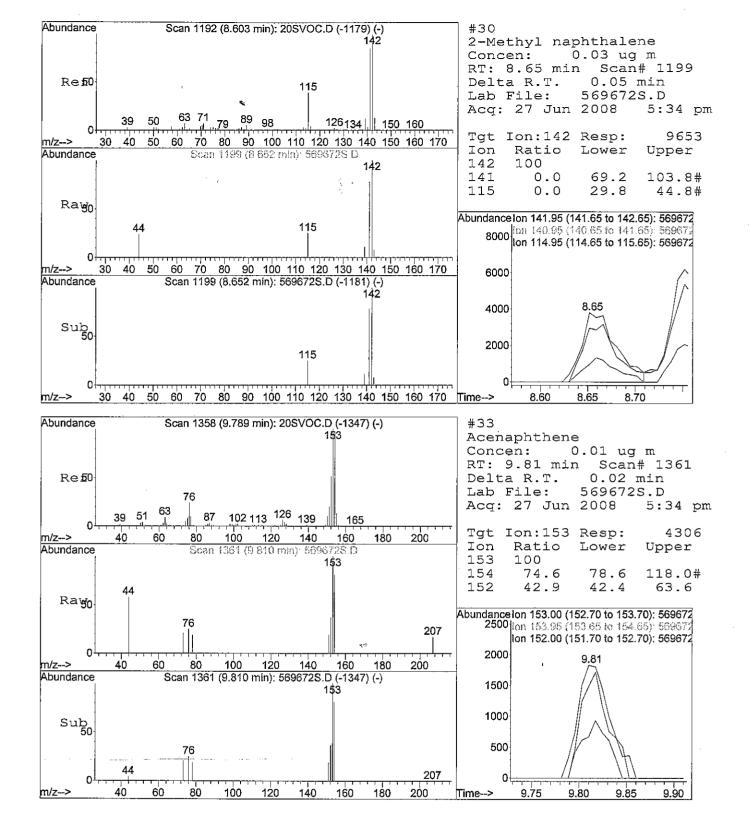
RPT1

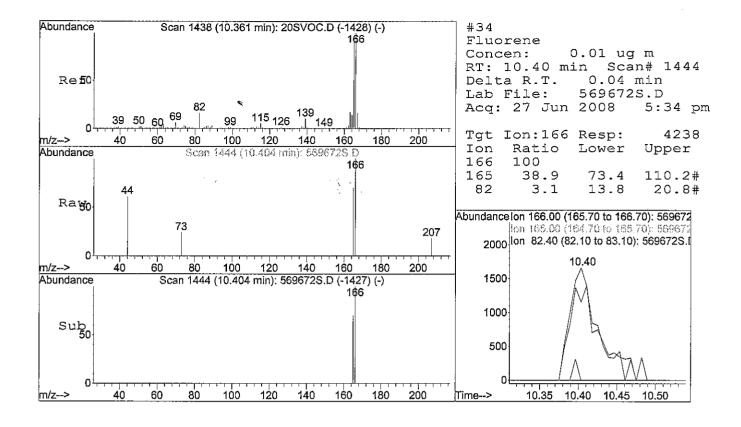
Quantitation Report (QT Reviewed)							
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 5:34 pm Sample : Misc :		72S.D	Op In	Vial: 17 erator: DC, st : Ins ltiplr: 1.('DD strumen		
MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:53:49 2008		Qu	ant Result	s File: A4-	8.RES		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards			Response	Conc Units	5 Dev(Min)		
Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene	2.31 2.10 2.30	61	1593m 0 0	0.01 ug N.D. N.D.	Qvalue #		
 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 	2.37 2.52 2.64	63 61 83 97		N.D. N.D. N.D. N.D. N.D.			
10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene		117 95 97 91	7759m 0 0 0 0 0	0.03 ug N.D. N.D. N.D. N.D. N.D. N.D.	#		
<pre>15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene</pre>	4.40 4.86	166 112 131 91		N.D. N.D. N.D. N.D. N.D. N.D.			
21) 1,1,2,2-Tetrachloroethane	5.32 5.60 6.03 6.26 6.39 6.47	83 105 105 146		N.D. N.D. N.D. N.D. N.D. N.D. N.D.			
26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane	6.63 7.03 7.84 8.42	146 57 128 57		N.D. N.D. N.D. N.D.	ц		
30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane	8.65 9.60 9.62	142 152 57	9653m 0 0	0.03 ug N.D. N.D.	#		
<pre>33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	9.81 10.40 11.44 11.50 12.76 13.02	153 166 178 178 202 202	4306m 4238m 0 0 0 0	0.01 ug 0.01 ug N.D. N.D. N.D. N.D.	# #		

2





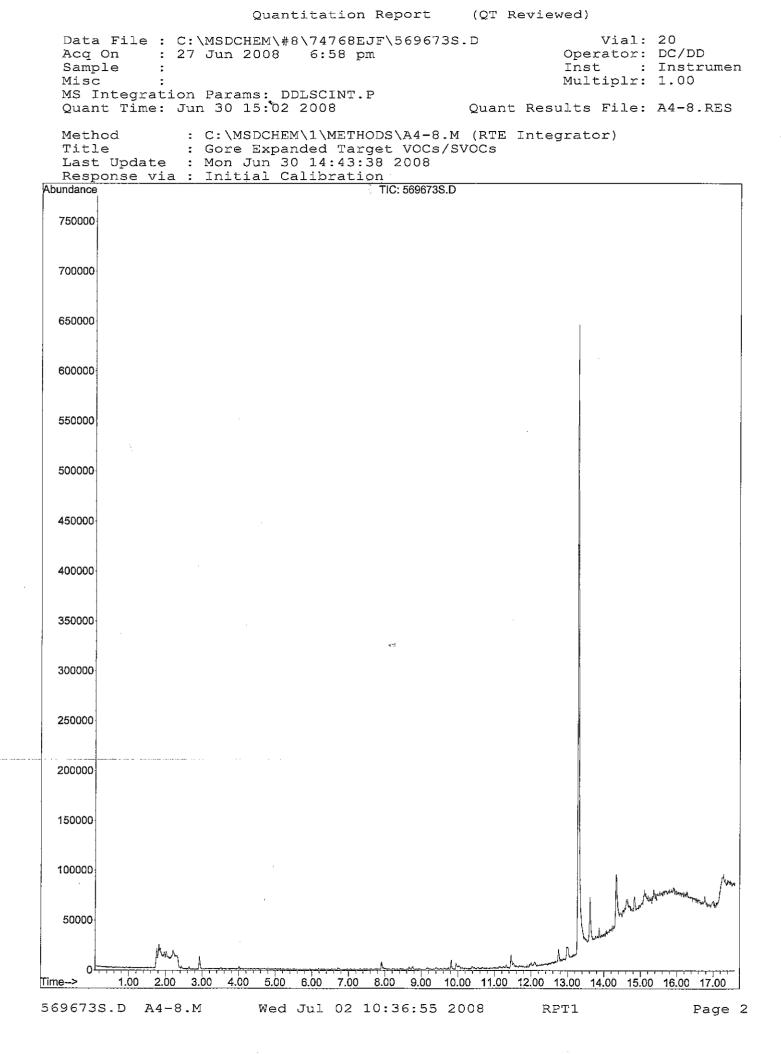


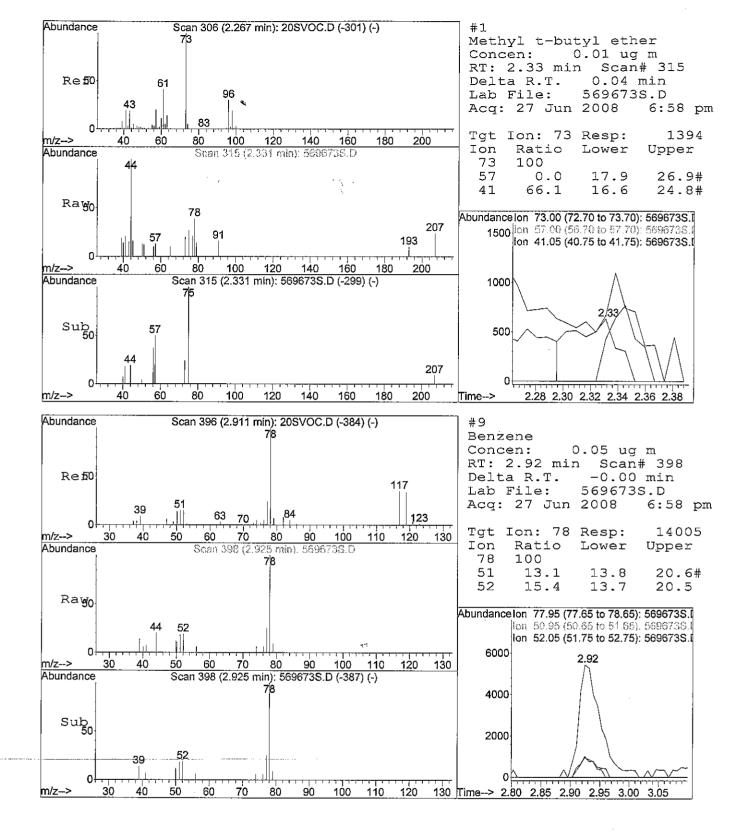


Wed Jul 02 10:42:36 2008

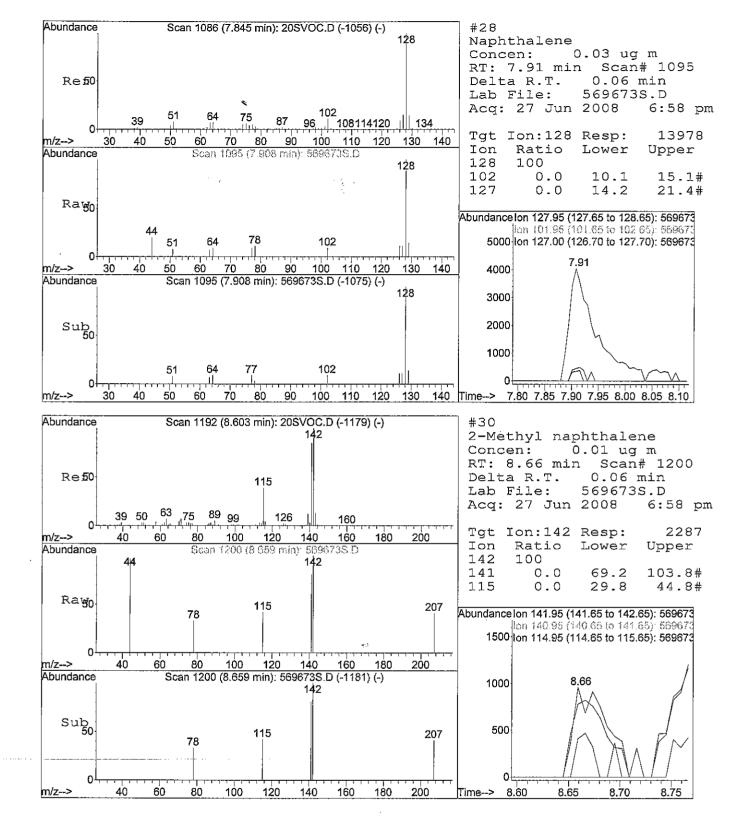
Quantitation Report (QT Reviewed)							
Data File : C:\MSDCHEM\#8\74768 Acq On : 27 Jun 2008 6:58 p Sample : Misc : MS Integration Params: DDLSCINT	om . P		Op In Mu	Vial: 20 erator: DC/ st : Ins ltiplr: 1.0	trumen O		
Quant Time: Jun 30 14:53:49 2008	3	Qu	ant Result	s File: A4-	8.RES		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards				Conc Units			
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane</pre>	2.30 2.37	61 63	0 0 0	N.D. N.D. N.D.	Qvalue #		
 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 	2.64 2.79 2.87 2.92	83 97 62 78	0 0 0 14005m 0	N.D. N.D. N.D. N.D. 0.05 ug N.D.	#		
<pre>10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene</pre>	4.13 3.98 4.29	97 91 43	0 0 0	N.D. N.D. N.D. N.D. N.D. N.D.			
<pre>16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene</pre>	4.86 4.93 4.99 5.08	112 131 91 91	0 0 0 0	N.D. N.D. N.D. N.D.			
<pre>20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene</pre>	6.26	105	0	N.D. N.D. N.D. N.D. N.D. N.D. N.D.			
27) Undecane 28) Naphthalene	7.03 7.91	57 128	0 13978m	N.D. 0.03 ug	#		
29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane	8.42 8.66 9.60 9.62	57 142 152 57	0 2287m 0 0	N.D. 0.01 ug N.D. N.D.	#		
33) Acenaphthene 34) Fluorene	9.82 9.82 10.36	153 166	5154m 0	N.D. 0.01 ug N.D.	#		
35) Phenanthrene 36) Anthracene	11.45 11.53	178 178	16457m 9251m	0.04 ug 0.02 ug	#		
37) Fluoranthene 38) Pyrene	12.76 13.01	202 202	16223m 11653m	0.04 ug 0.03 ug	# #		

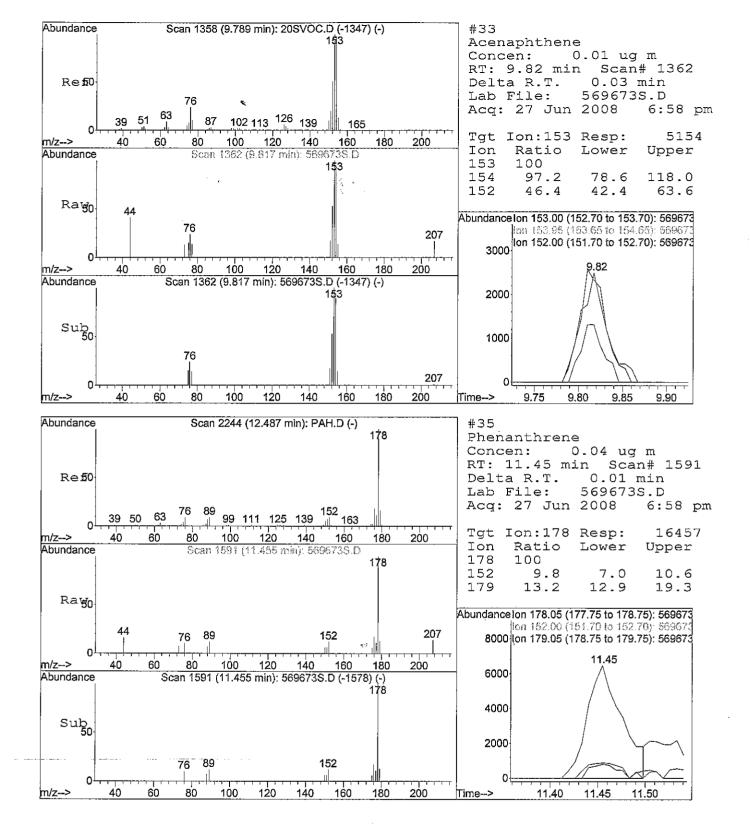
۵.





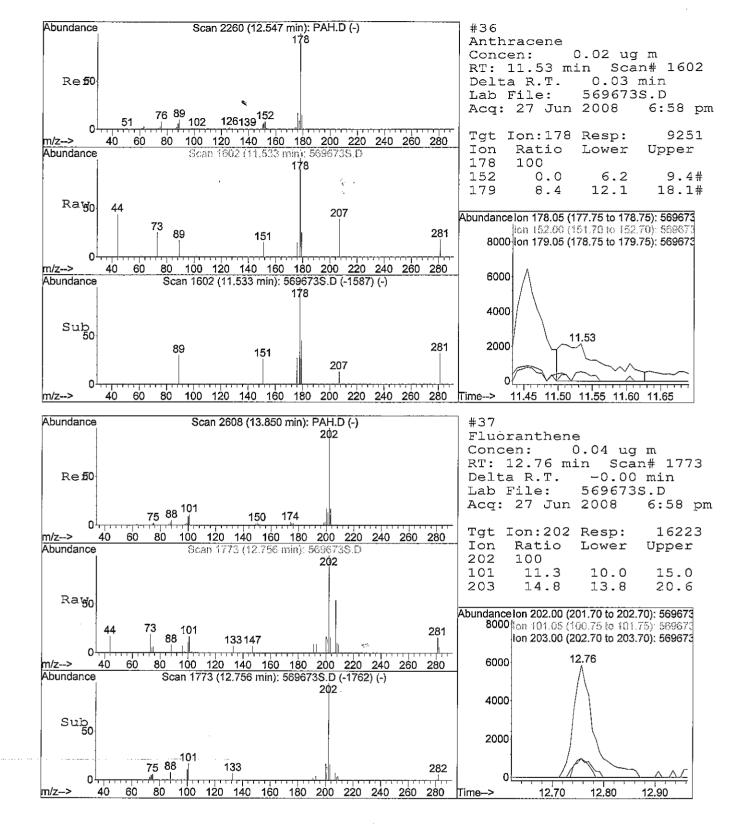
Wed Jul 02 10:42:37 2008

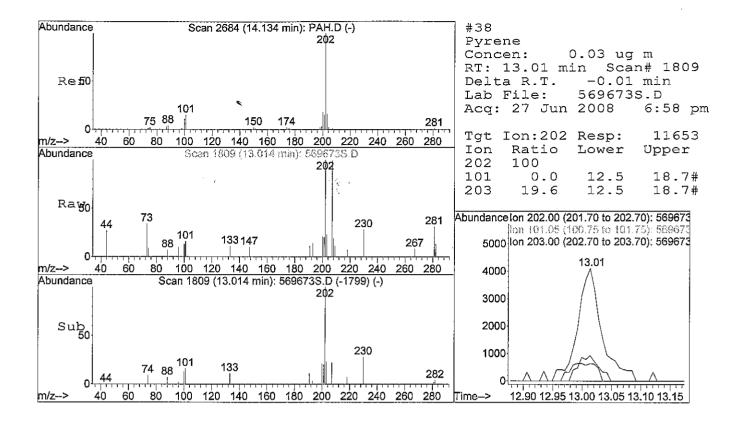




Wed Jul 02 10:42:37 2008

RPT1



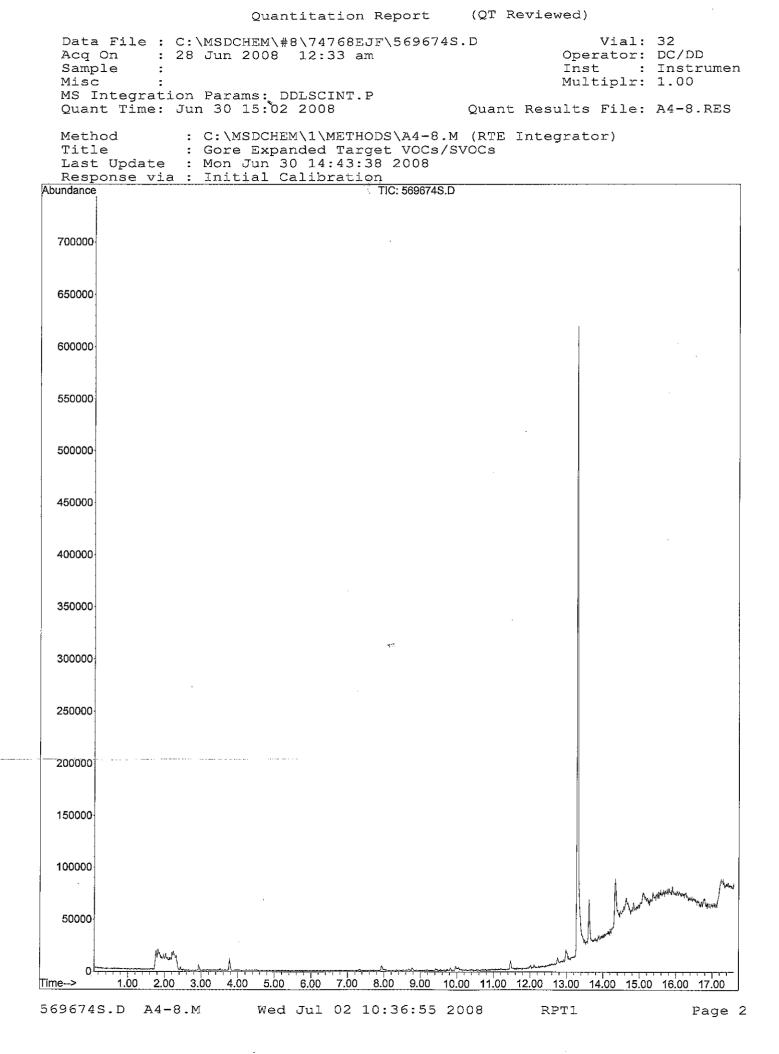


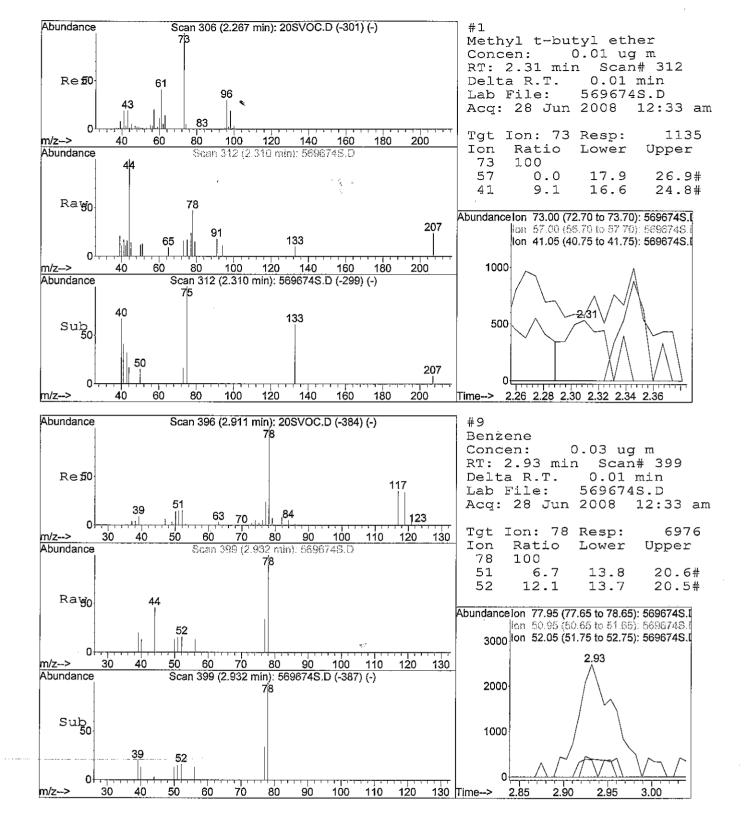
Wed Jul 02 10:42:37 2008

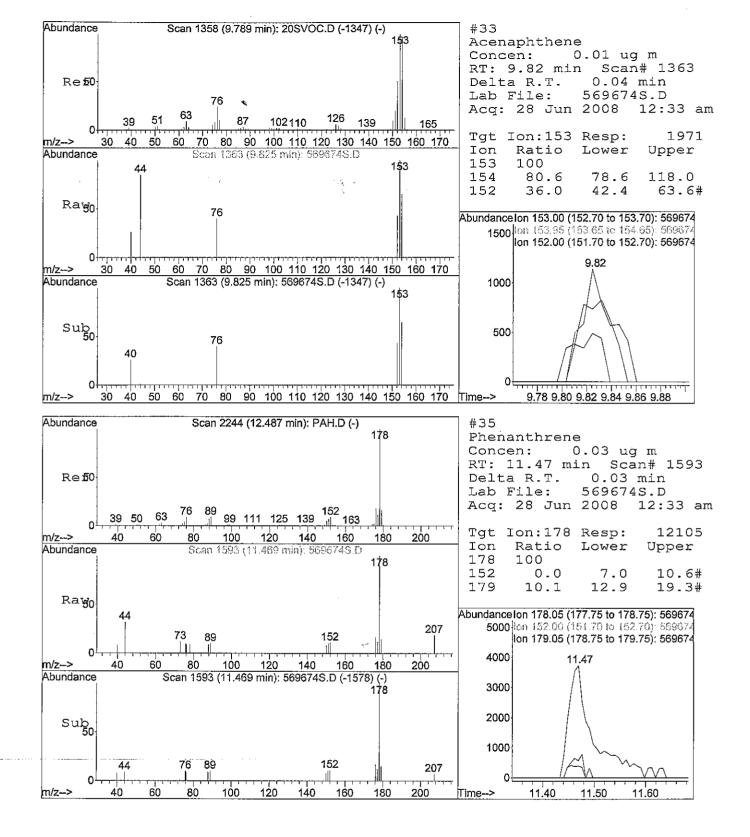
RPT1

Quantitation Report (QT Reviewed)						
Data File : C:\MSDCHEM\#8\74768EJH Acq On : 28 Jun 2008 12:33 am Sample : Misc : MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:53:50 2008			Op In Mu	Vial: 32 erator: DC, st : Ins ltiplr: 1.(s File: A4-	strumen)0	
Quant Time: Jun 30 14:53:50 2008 Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration						
DataAcq Meth : VCGS3-8						
Internal Standards	R.T.			Conc Units		
<pre>7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene</pre>	2.30 2.37 2.52 2.64 2.79 2.97 2.93 2.92 3.23 3.23 3.29 4.13 3.99 4.20 4.83 4.99 5.08	61 63 97 62 78 117 97 91 43 166 112 131 91	0 0 0 0 0 0 6976m 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	Qvalue #	
<pre>21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	6.03 6.26	105 105	0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	# # # #	

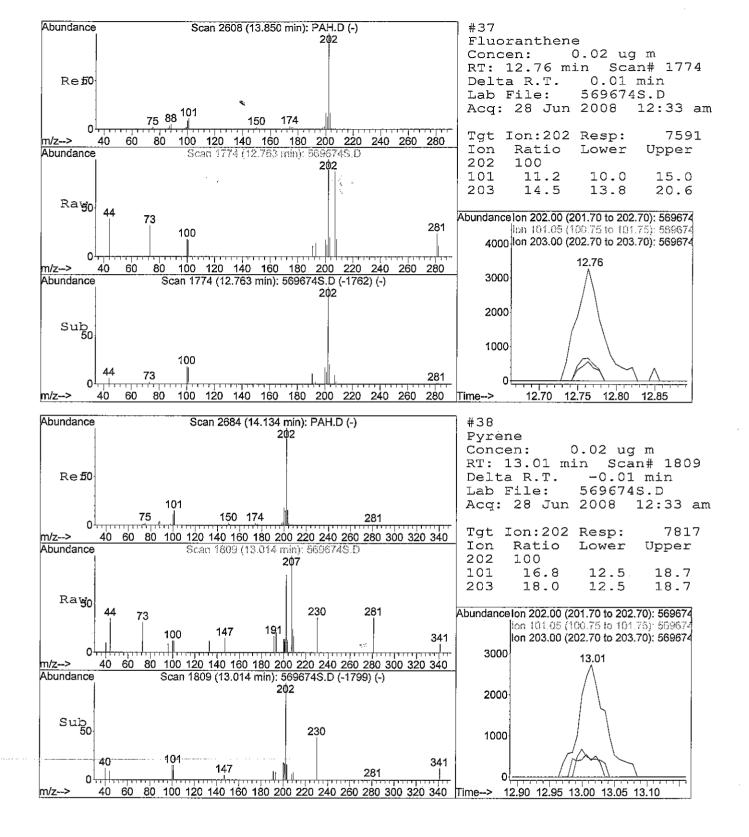
<u>--</u>...





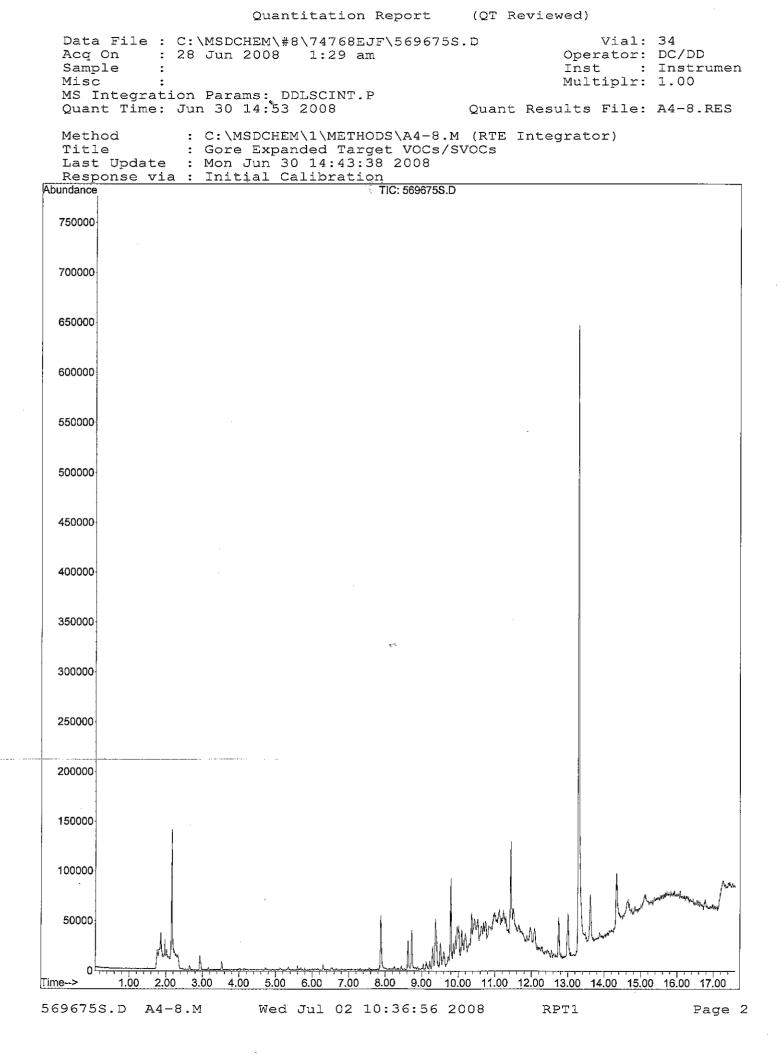


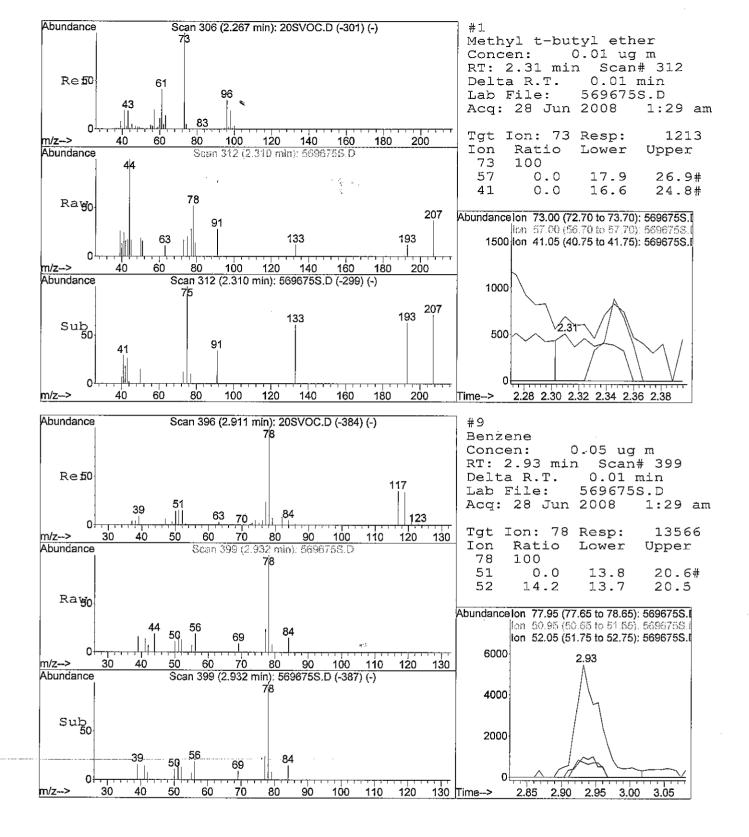
RPT1



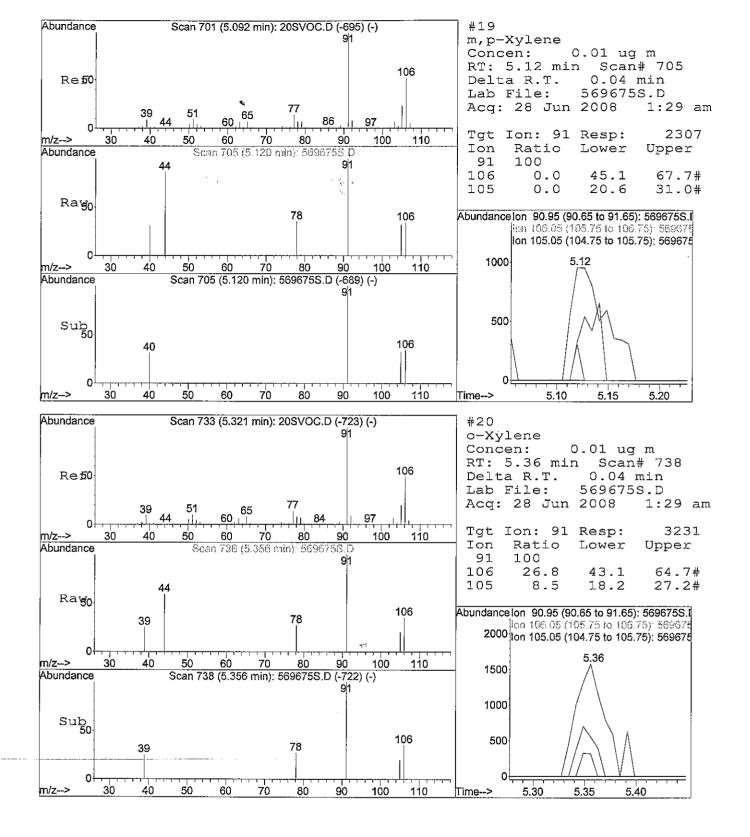
Quantitation Report (QT Reviewed)						
Data File : C:\MSDCHEM\#8\74768E Acq On : 28 Jun 2008 1:29 a Sample : Misc : MS Integration Params: DDLSCINT.	m	75S.D	Op In	Vial: 34 erator: DC st : In ltiplr: 1.	strumen	
Quant Time: Jun 30 14:53:50 2008		Qu	ant Result	s File: A4	-8.RES	
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8						
Internal Standards			Response		s Dev(Min)	
Target Compounds	2 31	73	1213m	0.01 ug	Qvalue #	
 Methyl t-butyl ether 1,1-Dichloroethene trans-1,2-Dichloroethene 1,1-Dichloroethane cis-1,2-Dichloroethene Chloroform 1,1,1-Trichloroethane 1,2-Dichloroethane 	2.30 2.37	61 63 61 83		N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	77	
 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 	2.93 2.92 3.28 4.13 3.98 4.29 4.40 4.86	78 117 95 97 91 43 166 112 131	13566m 0 0 0 0 0		#	
<pre>19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene</pre>	5.12	91	2307m	0.01 ug		
 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 	6.31 6.39 6.47 6.63 7.03	105 146 146 146 57	5017m 0 0 0	0.02 ug N.D. N.D. N.D. N.D.		
 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phonaphtheone 	7.88 8.44 8.62 9.61 9.62 9.80 10.37	128 57 142 152 57 153 166	66622m 1365m 19070m 3511m 3317m 39598m 18142m 82262m	0.14 ug 0.01 ug 0.05 ug 0.01 ug 0.02 ug 0.11 ug 0.04 ug	# #	
35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene	11.43 11.50 12.76 13.01	178 178 202 202	82262m 20513m 44473m 40917m	0.19 ug 0.05 ug 0.10 ug 0.10 ug	# # #	

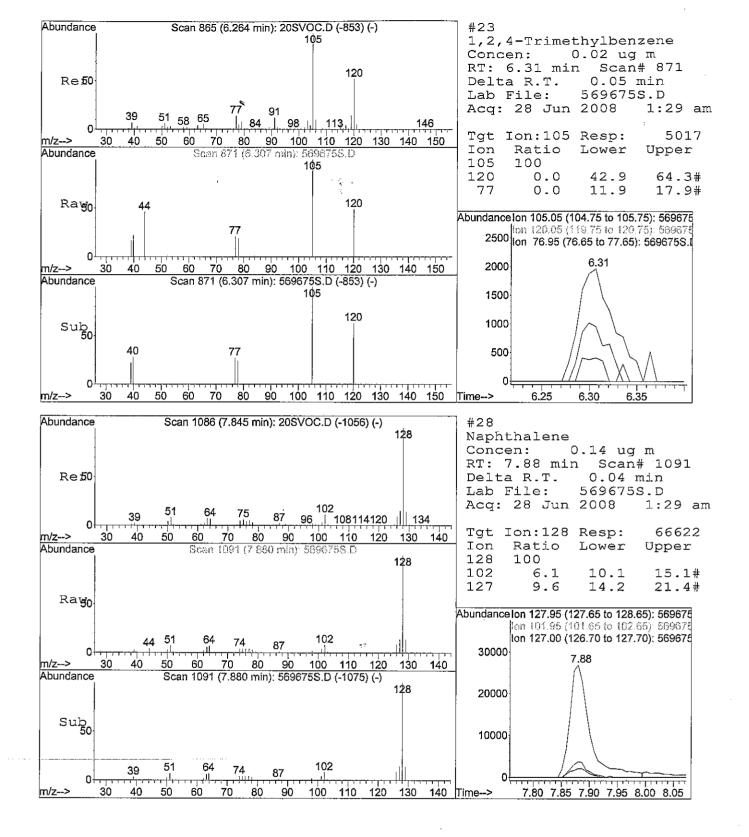
ъ. .|

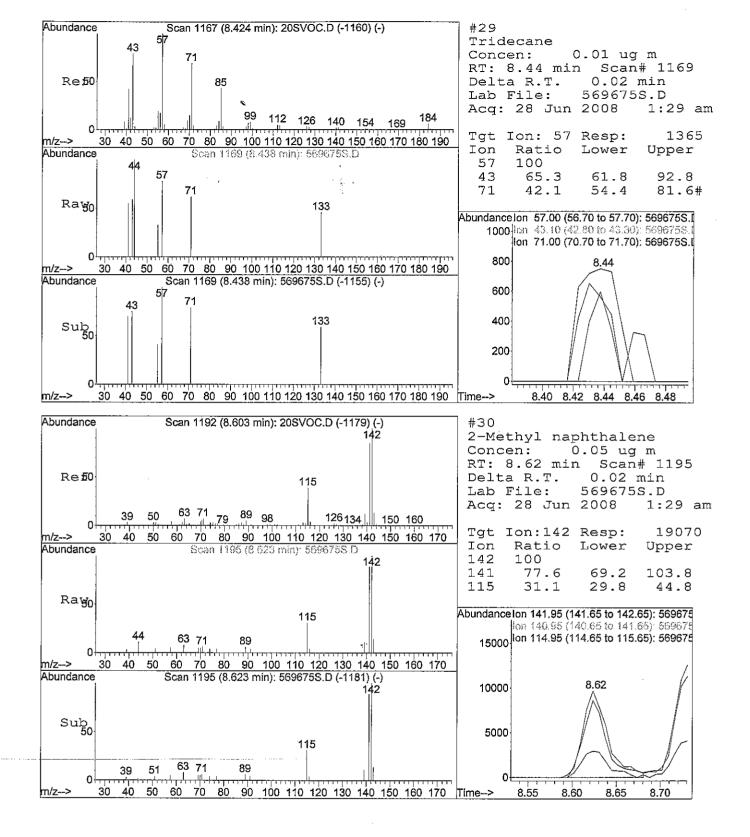


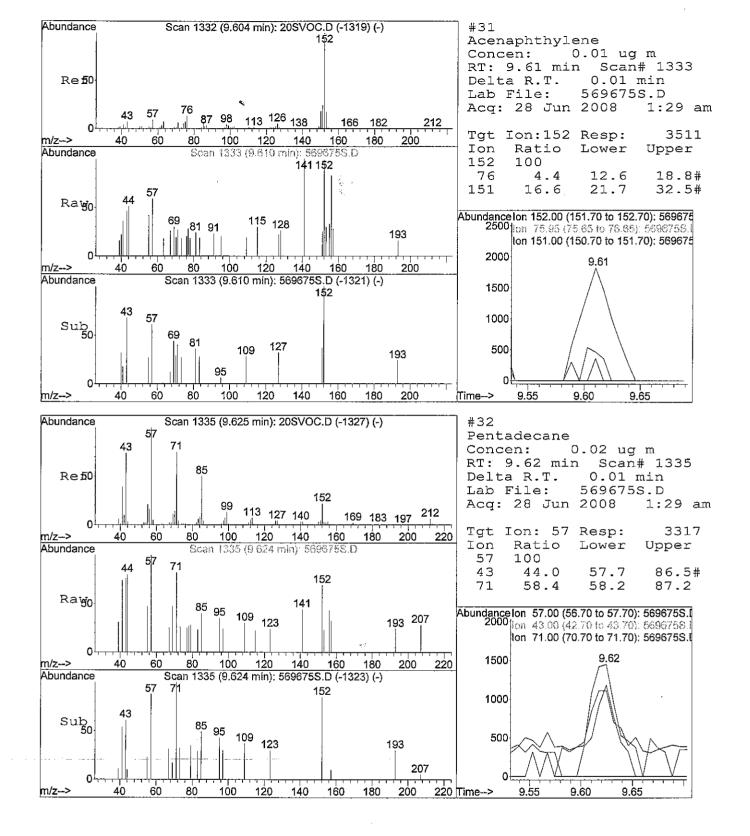


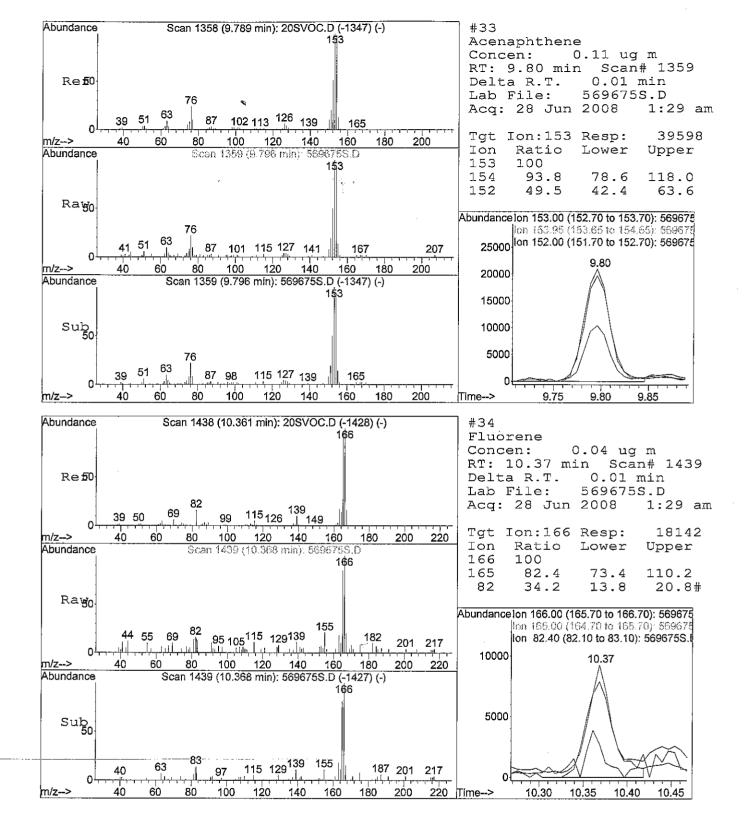
Wed Jul 02 10:42:39 2008

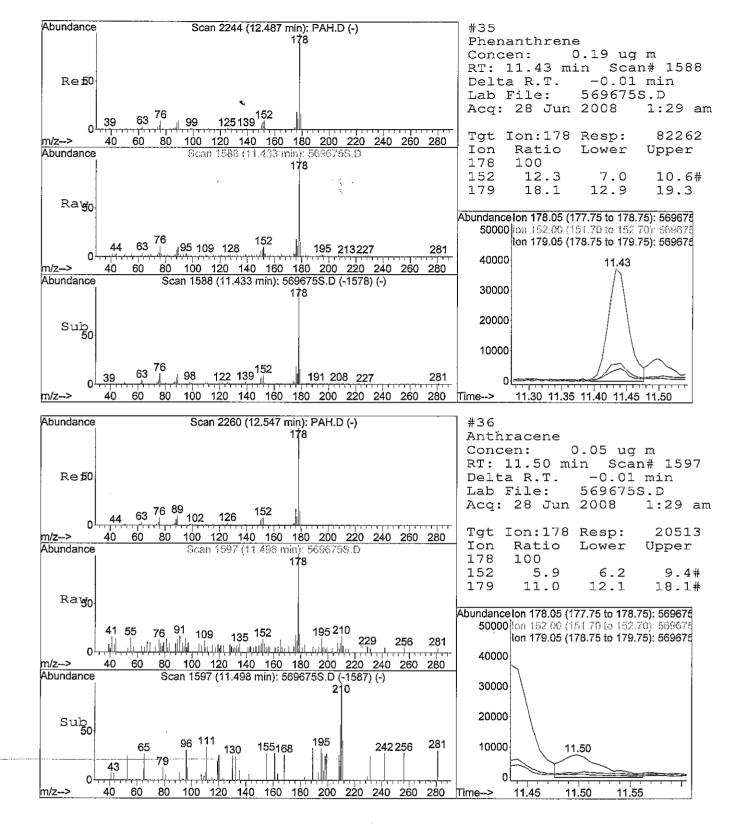


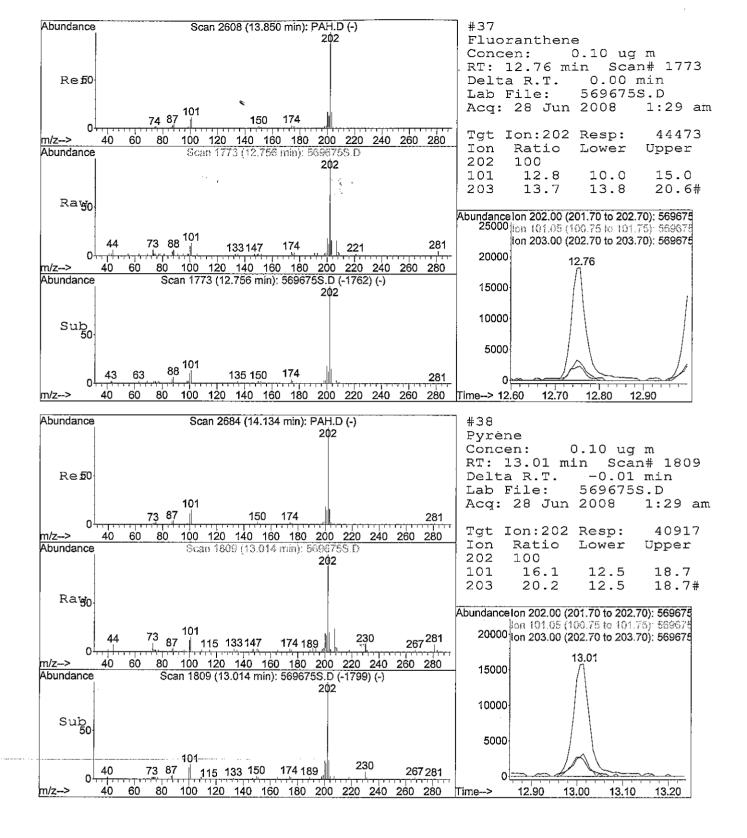












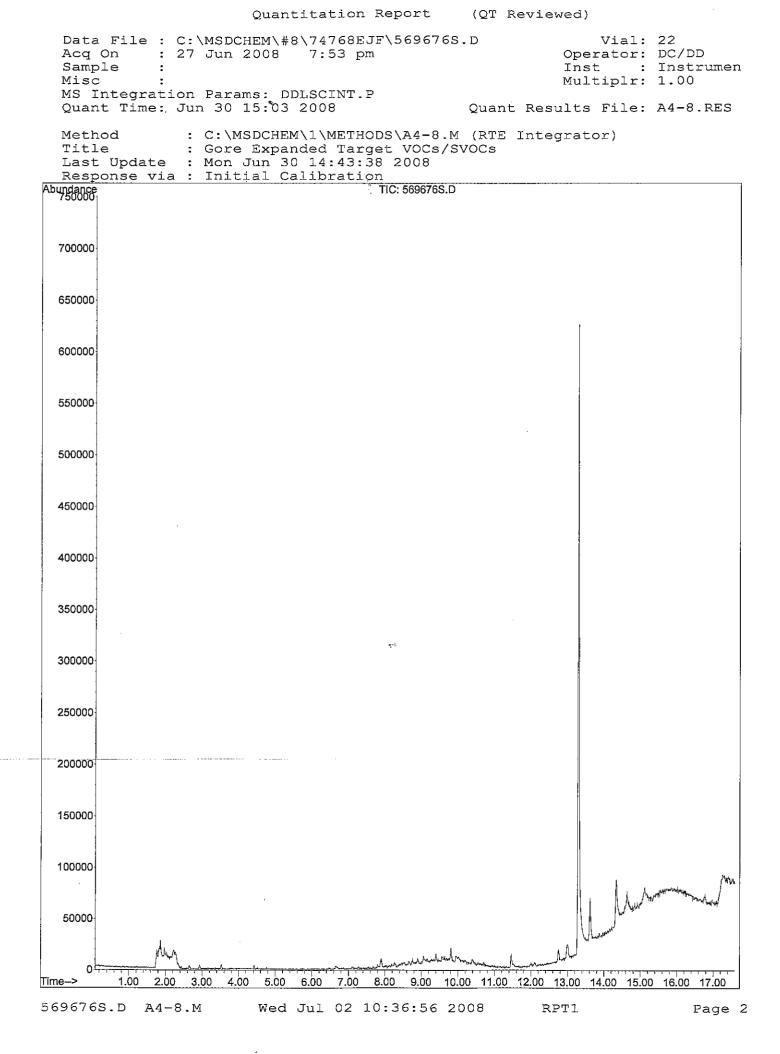
RPT1

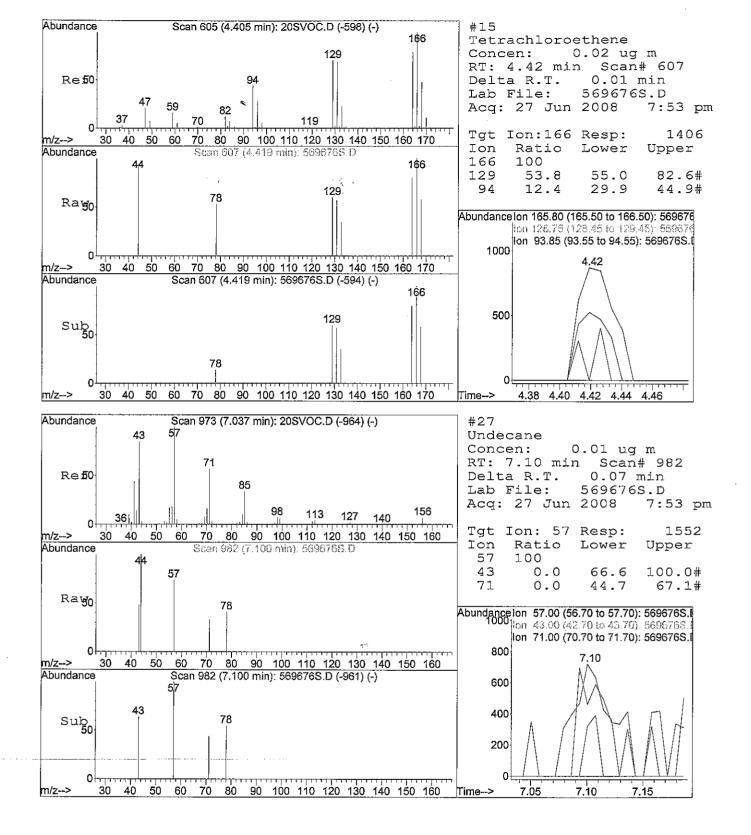
Page 10

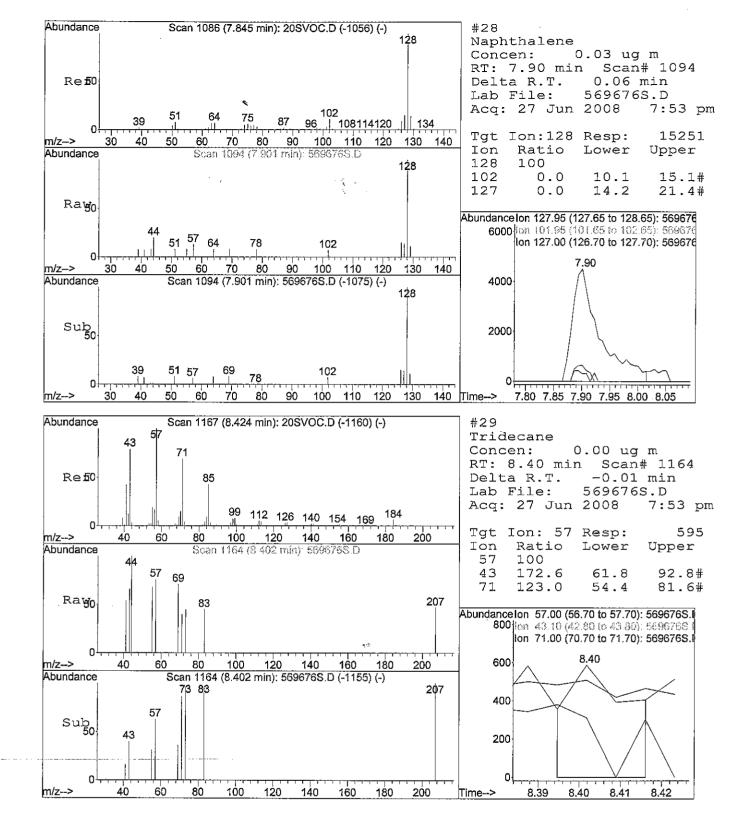
Quantitati	on Repo	ort	(QT Revie	wed)	
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 7:53 pm Sample : Misc :	L	'6S.D	In	Vial: 22 erator: DC/ st : Ins ltiplr: 1.0	trumen
MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:53:50 2008		Qu	ant Result	s File: A4-	8.RES
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8					
Internal Standards		QIon	Response	Conc Units	Dev(Min)
Target Compounds	0 00	70	0		Qvalue
<pre>3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene</pre>	2.37 2.524 2.797 2.922 3.232 4.992 4.899 4.899 5.36036 5.6036 6.37 6.47	61 63 63 97 28 77 97 36 27 97 36 21 97 36 21 97 35 56 60 105 66 105 105 105 105 105 105 105 105 105 105	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	#
 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 	6.63 7.10 7.90 8.40 8.66 9.60 9.65	146 57 128 57 142 152 57	0 1552m 15251m 595m 1990m 0 2987m	N.D. 0.01 ug 0.03 ug 0.00 ug 0.01 ug N.D. 0.01 ug	# # # #
33) Acenaphthene 34) Fluorene 35) Phenanthrene	9.81 10.39 11.45	153 166 178	7565m 3729m 15704m	0.02 ug 0.01 ug 0.04 ug	# # #
36) Anthracene 37) Fluoranthene 38) Pyrene	0.00 12.75 13.01	178 202 202	0 15435m 14517m	N.D. d 0.04 ug 0.03 ug	# #

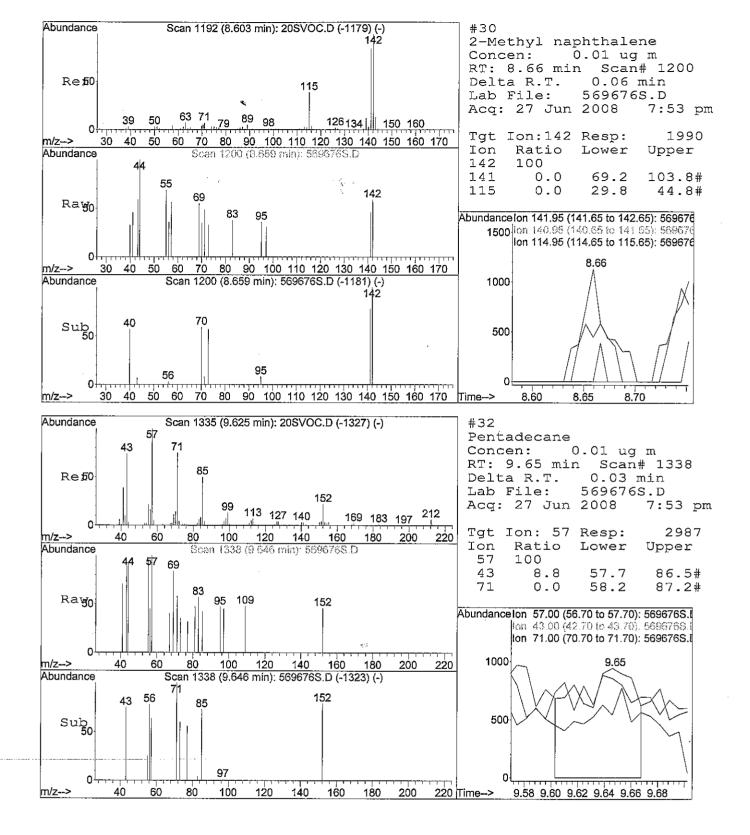
(#) = qualifier out of range (m) = manual integration (+) = signals summed 569676S.D A4-8.M Wed Jul 02 10:36:56 2008 RPT1 Page 1

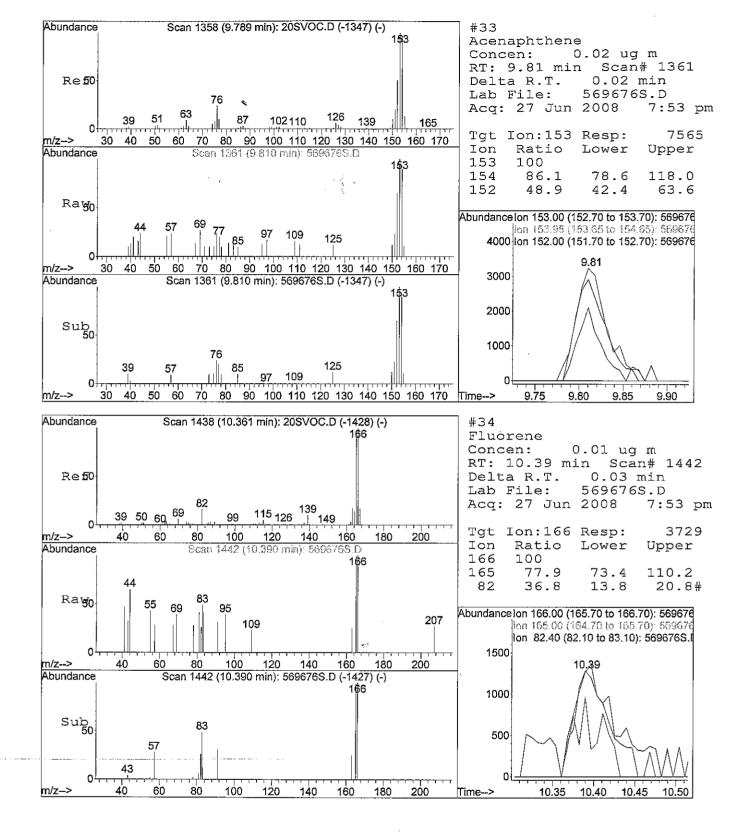
л.

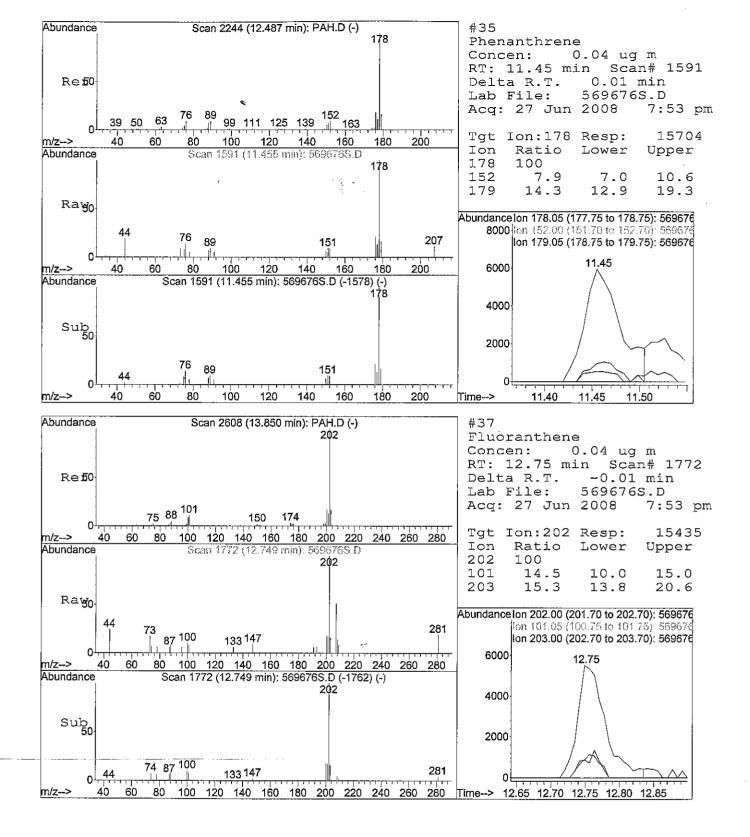


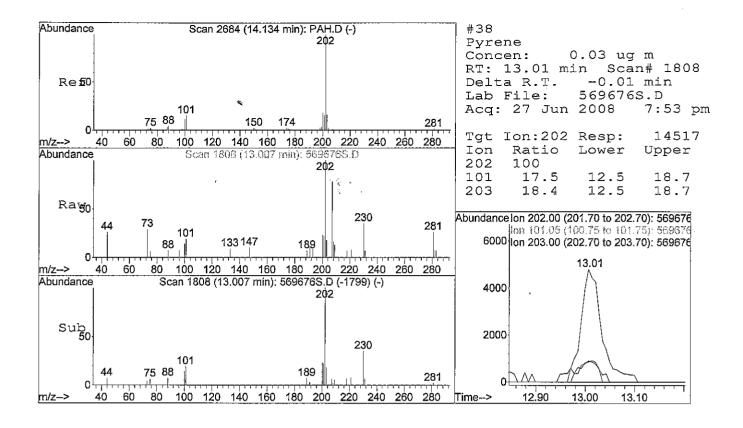












Wed Jul 02 10:42:41 2008

-3

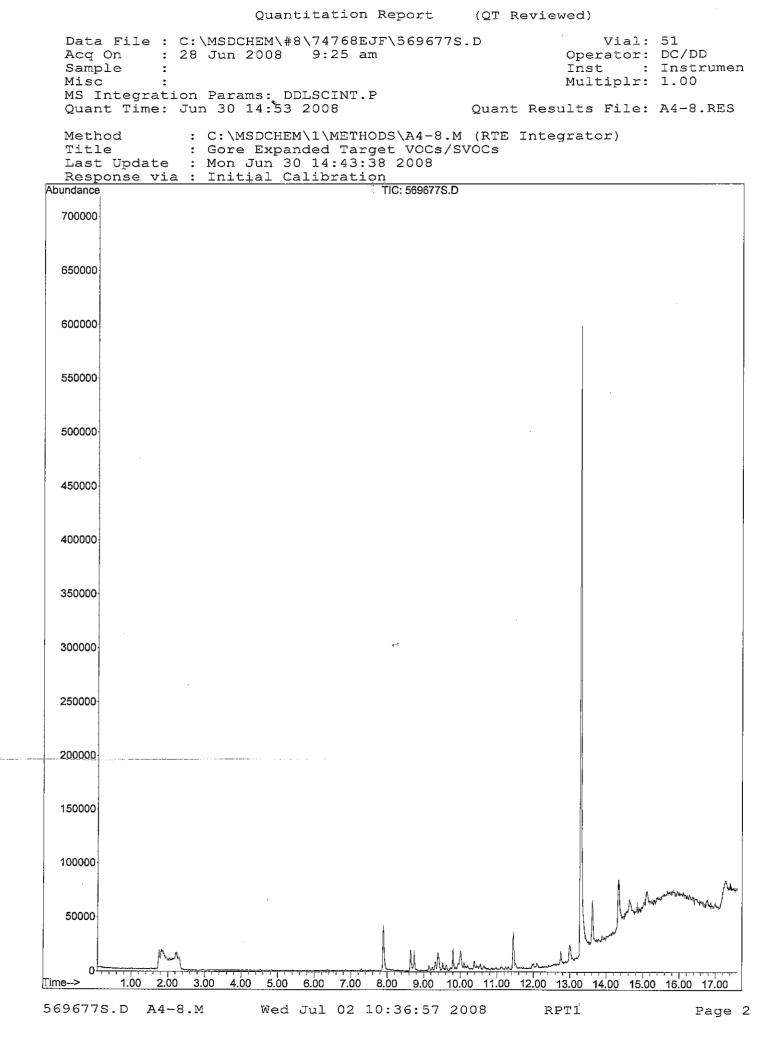
RPT1

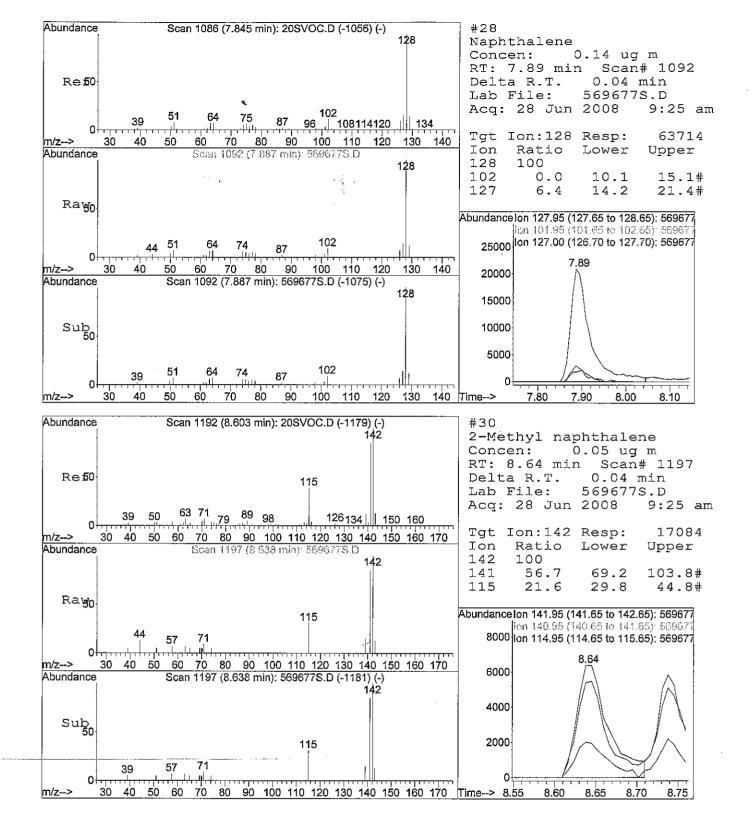
Page 8

Quantitation Report (QT Reviewed)					
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 28 Jun 2008 9:25 am Sample : Misc : MS Integration Params: DDLSCINT.F Quant Time: Jun 30 14:53:51 2008	L		Op In Mu	Vial: 51 erator: DC st : In ltiplr: 1. s File: A4	/DD strumen 00
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8					
Internal Standards				Conc Unit	s Dev(Min)
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethane 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylen 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene</pre>	2.30 2.372 2.35 2.35 2.22 2.22 2.23 4.34 4.49 9.03 602 9.73 4.60 8.46 2.23 4.66 6.83 9.03 6.66 6.66 6.68 8.35 11.	766668967199946613999800044452254555667 19994613999800044452254555667 111199980044452254555667	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	Qvalue # . # # #
36) Anthracene 37) Fluoranthene 38) Pyrene	11.51 12.76 13.01	178 202 202	7873m 14547m 16319m	0.02 ug 0.03 ug 0.04 ug	#

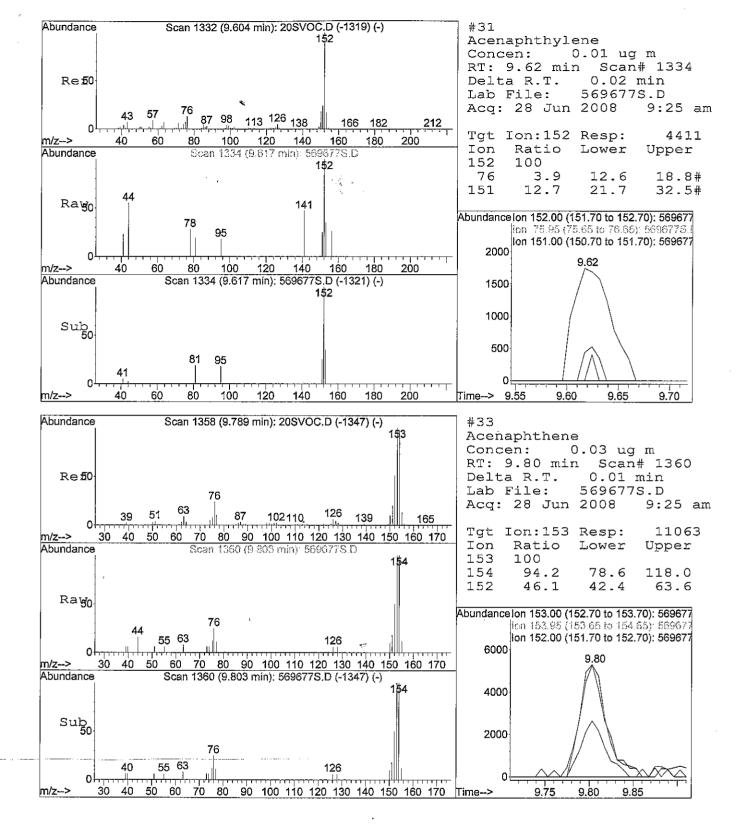
(#) = qualifier out of range (m) = manual integration (+) = signals summed 569677S.D A4-8.M Wed Jul 02 10:36:56 2008 RPT1 Page 1

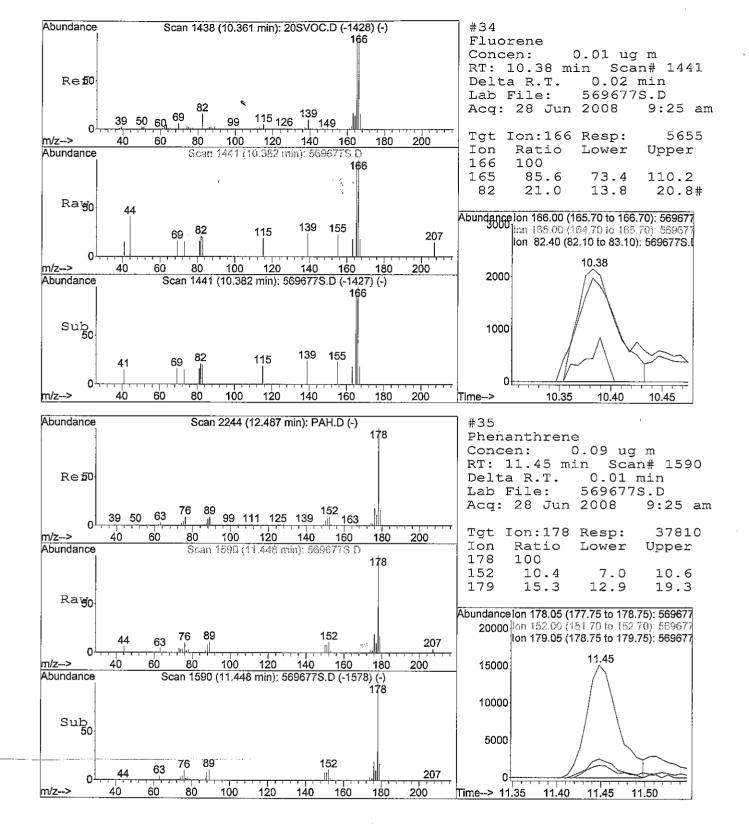
÷.,

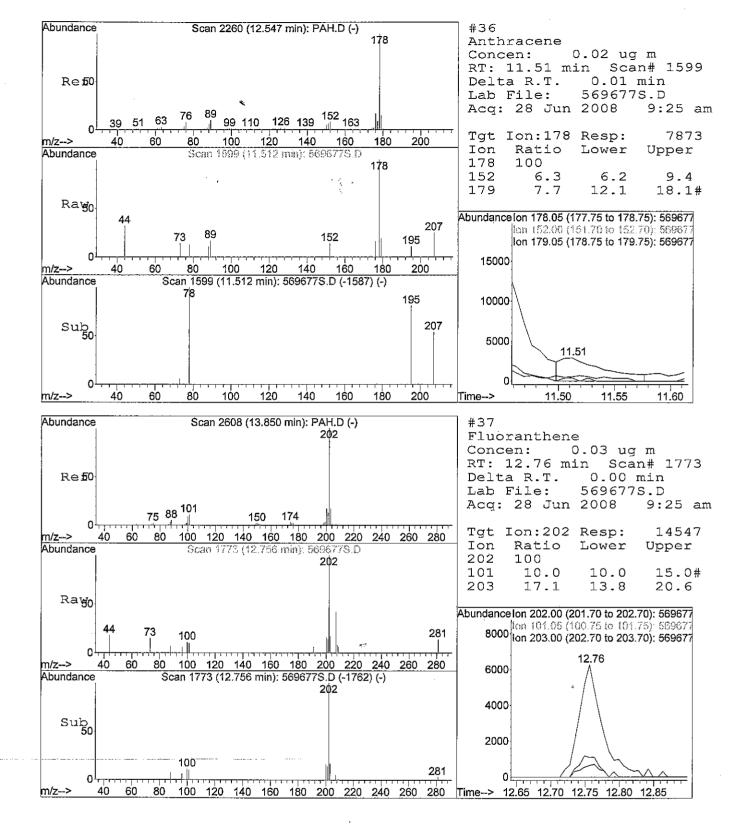




Wed Jul 02 10:42:41 2008

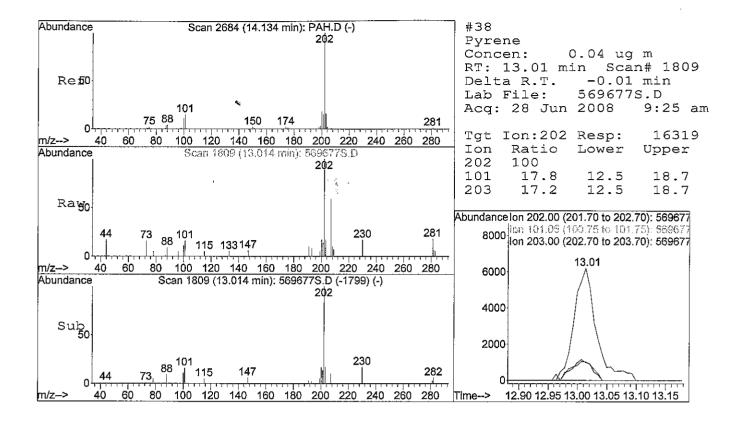






RPT1

Page 6



Wed Jul 02 10:42:41 2008

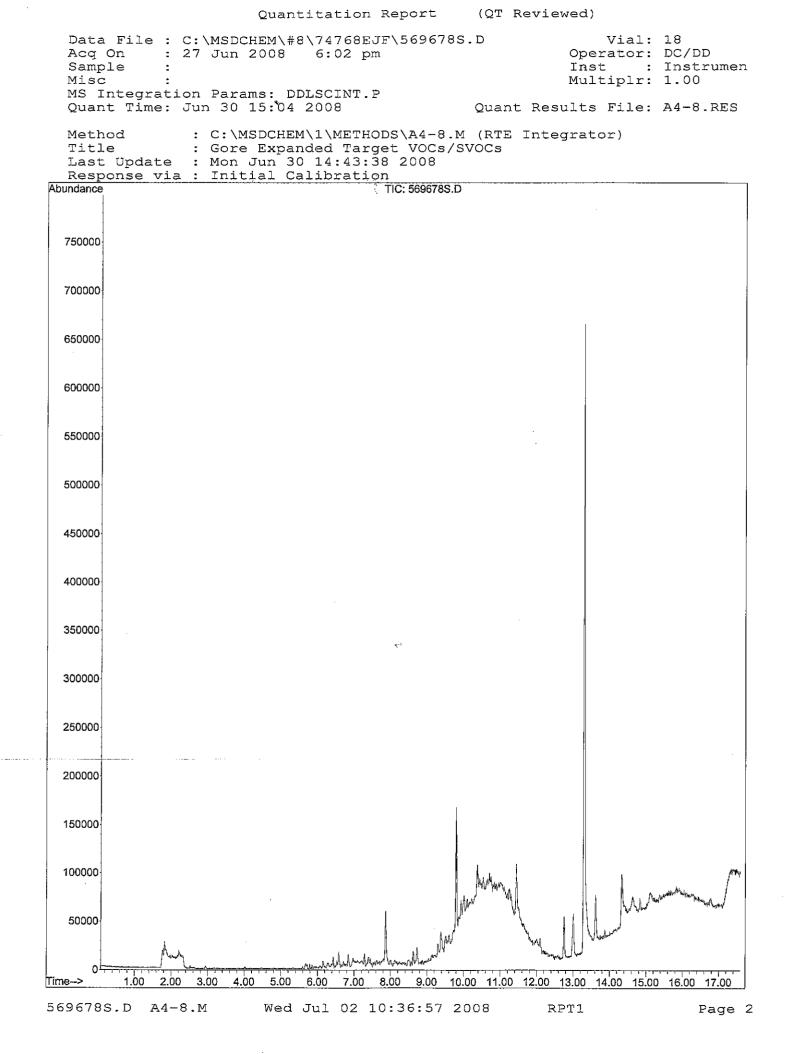
RPT1

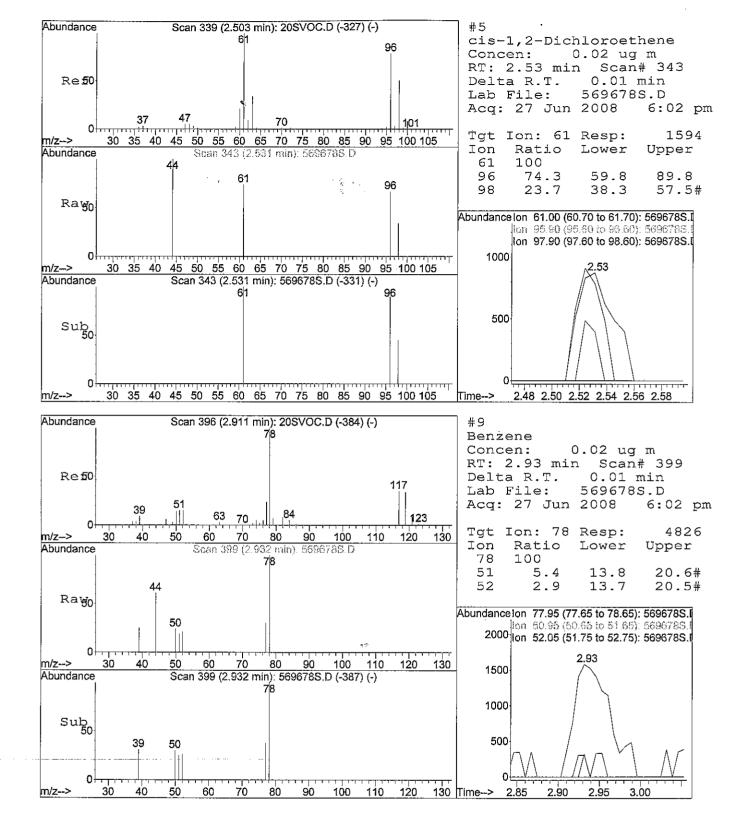
Page 7

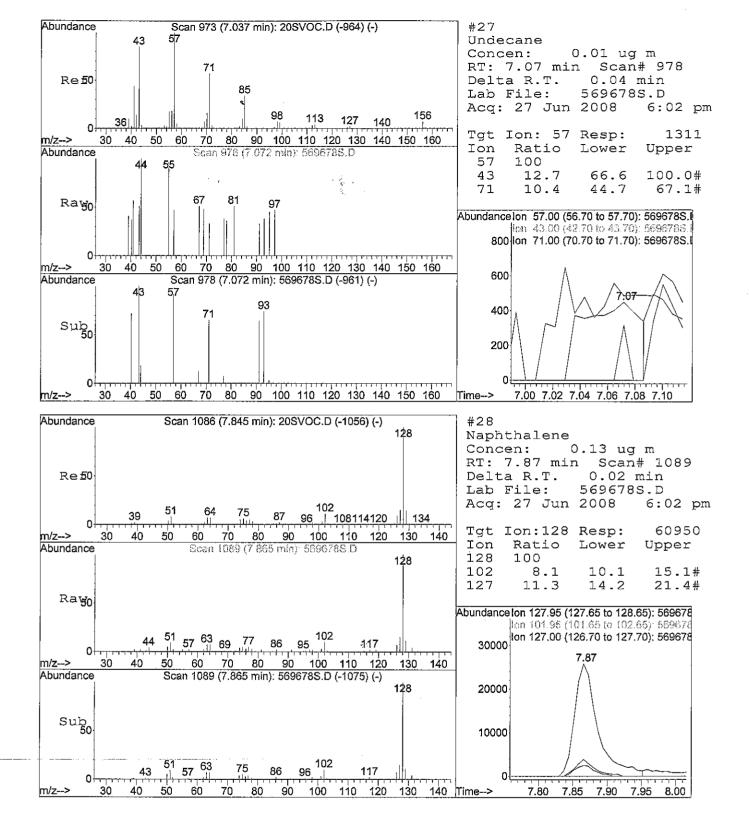
Quantitation Report (QT Reviewed)					
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 6:02 pm Sample : Misc : MS Integration Params: DDLSCINT.P	L	785.D	Op In	Vial: 18 erator: DC/ st : Ins ltiplr: 1.0	trumen
Quant Time: Jun 30 14:53:51 2008		Qu	ant Result	s File: A4-	8.RES
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8					
Internal Standards				Conc Units	
3) trans-1,2-Dichloroethene	0.00 2.10 2.30 2.37 2.53 2.64	61	0 0	N.D. d N.D. N.D. N.D. 0.02 ug	Qvalue #
 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 	2.79	97	0 0	N.D. N.D. N.D.	
<pre>10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane</pre>	2.92 3.28 4.13 3.98 4.29 4.40 4.86 4.93 4.99 5.08 5.32 5.60 5.60 5.60 6.26 6.39 6.47 6.63 7.07	117 95 97 43 166 112 91 91 91 91 91 91 91 91	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	#
<pre>28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	7.87 8.42 8.62 9.62 9.61 9.80 10.38 11.44 11.50 12.75 13.01	128 57 142 152 57 153 166 178 202 202	60950m 0 10387m 4306m 1606m 63067m 20792m 51061m 18249m 47077m 41262m	0.13 ug N.D. 0.03 ug 0.01 ug 0.01 ug 0.18 ug 0.12 ug 0.12 ug 0.04 ug 0.11 ug 0.10 ug	** ** ** ** ** ** * * * * * * * * * *

(#) = qualifier out of range (m) = manual integration (+) = signals summed 569678S.D A4-8.M Wed Jul 02 10:36:57 2008 RPT1 Page 1

----- أ

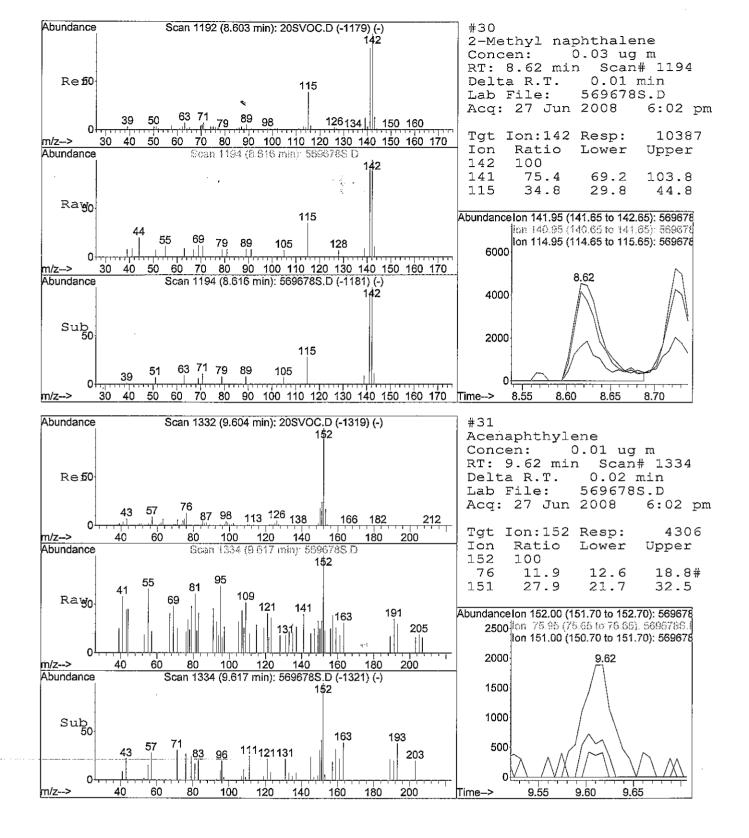


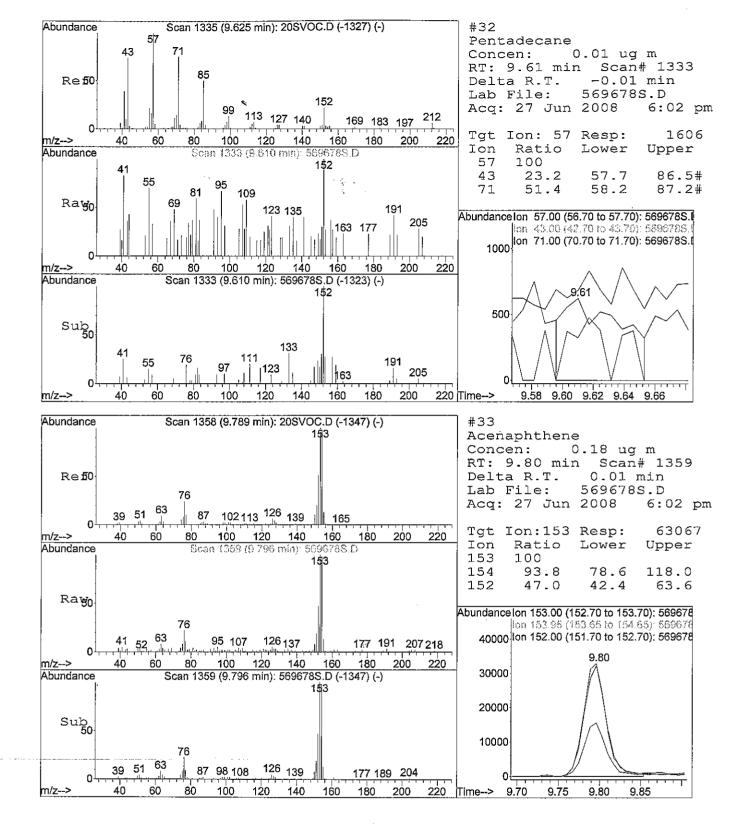


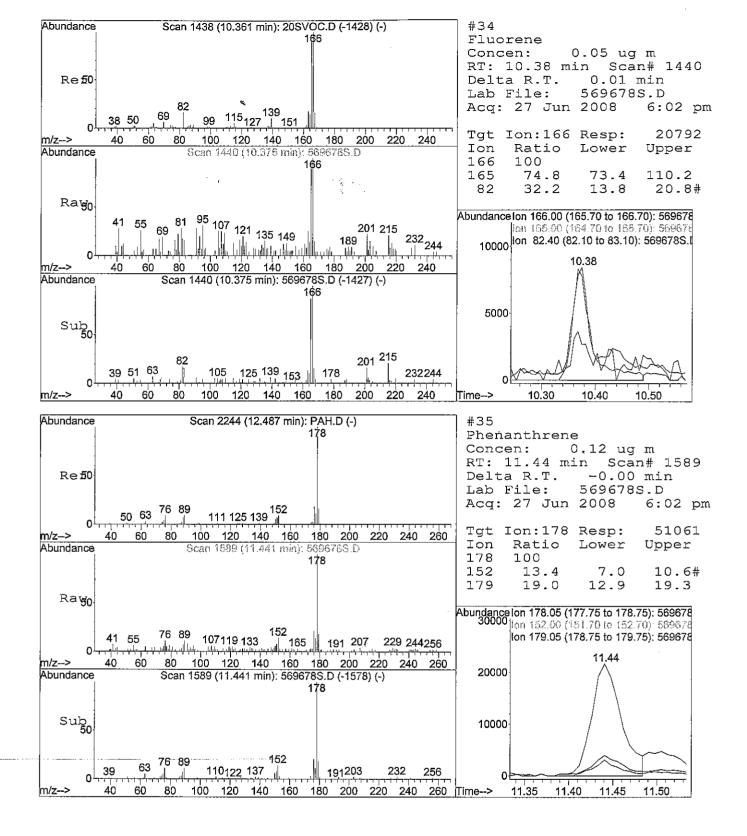


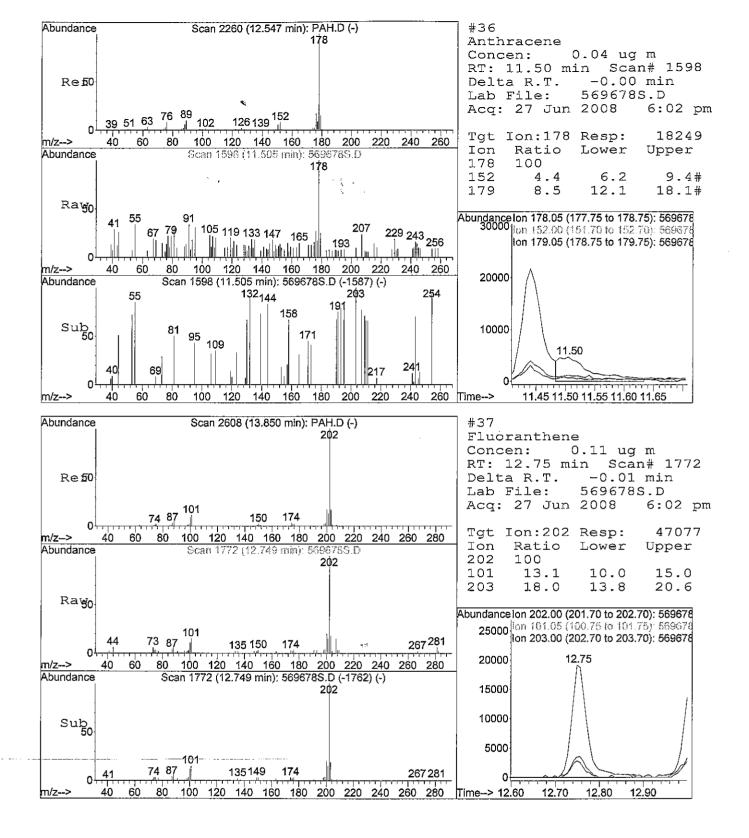
RPT1

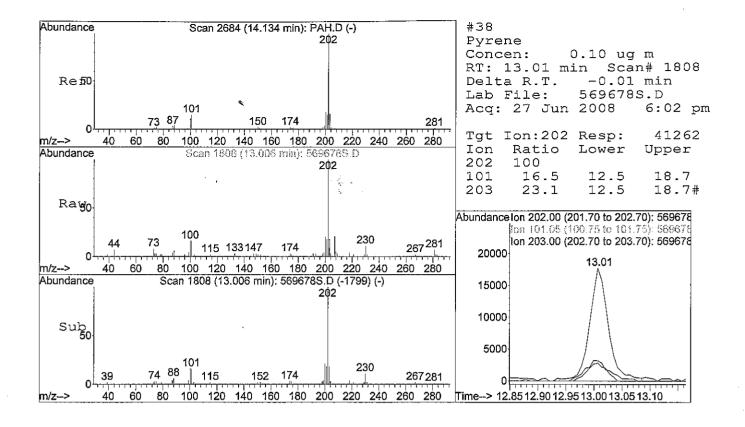
Page 4









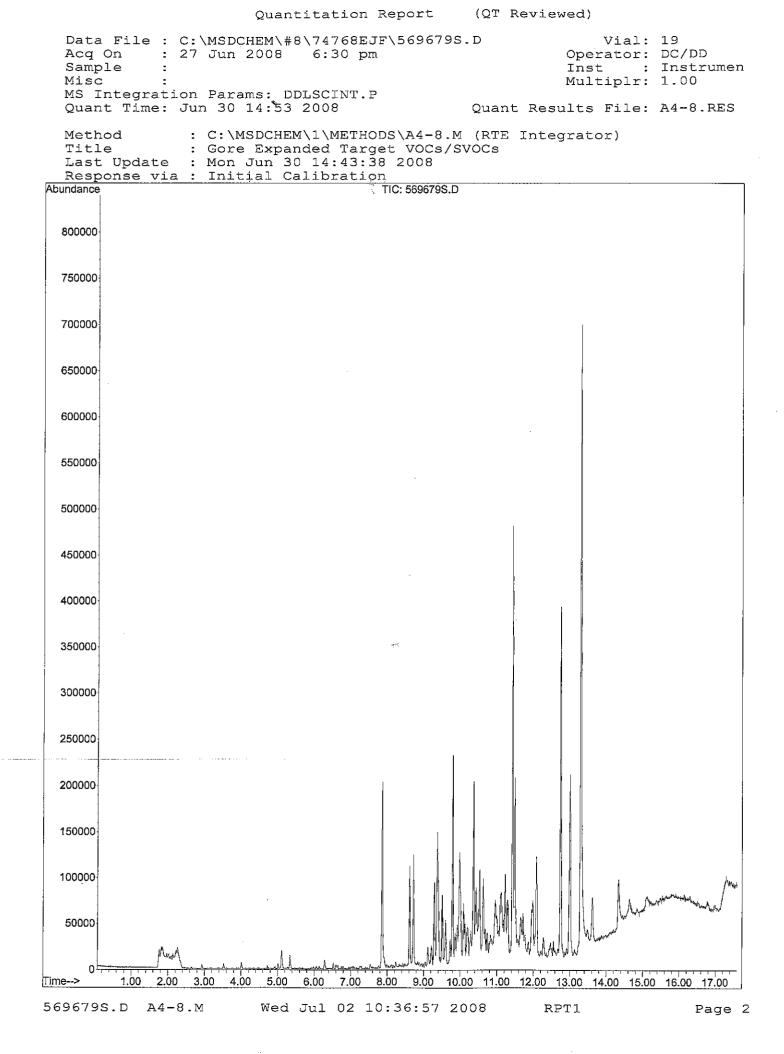


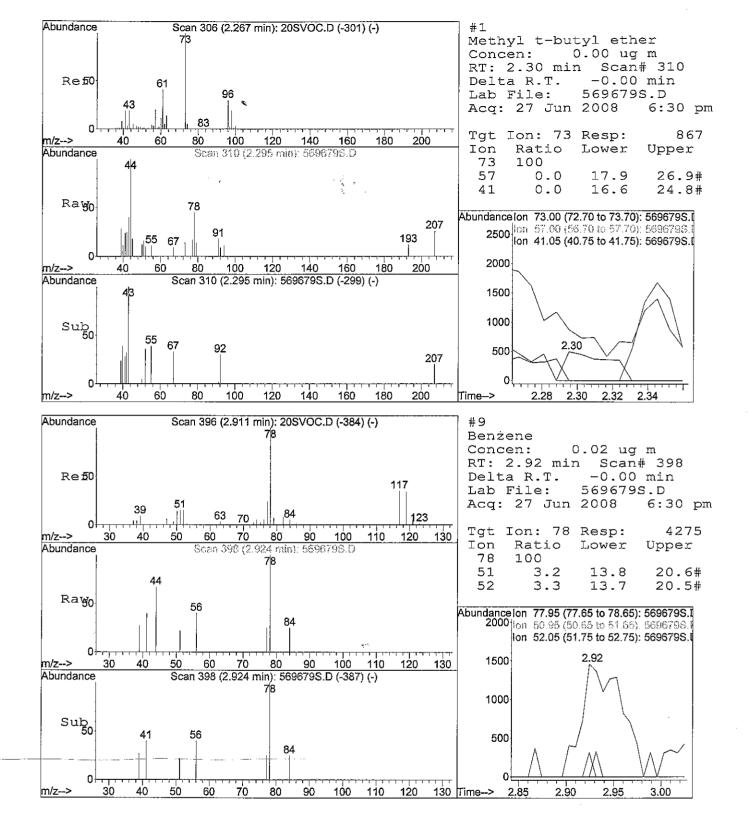
Wed Jul 02 10:42:43 2008

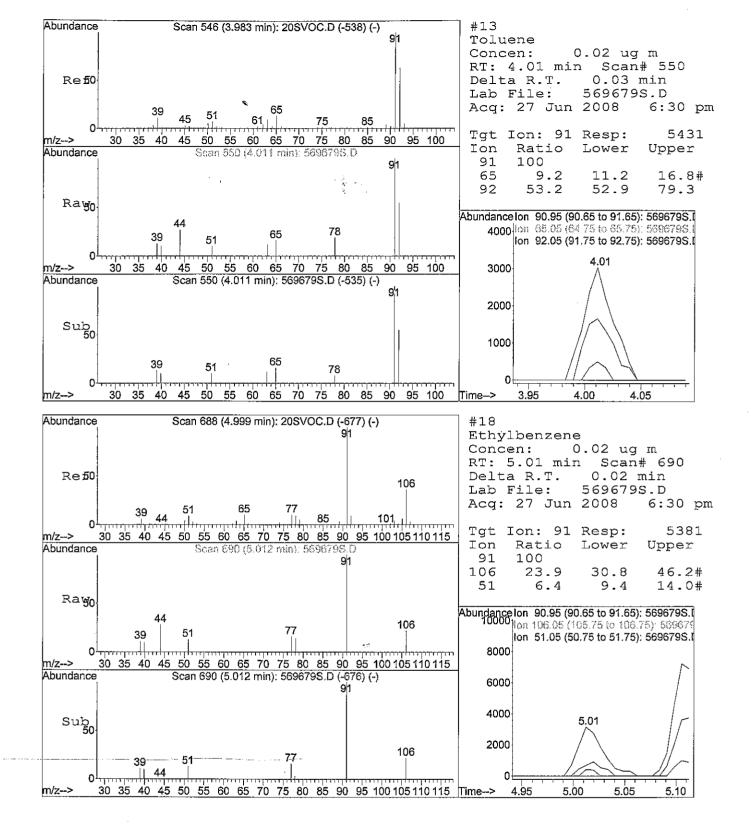
RPT1

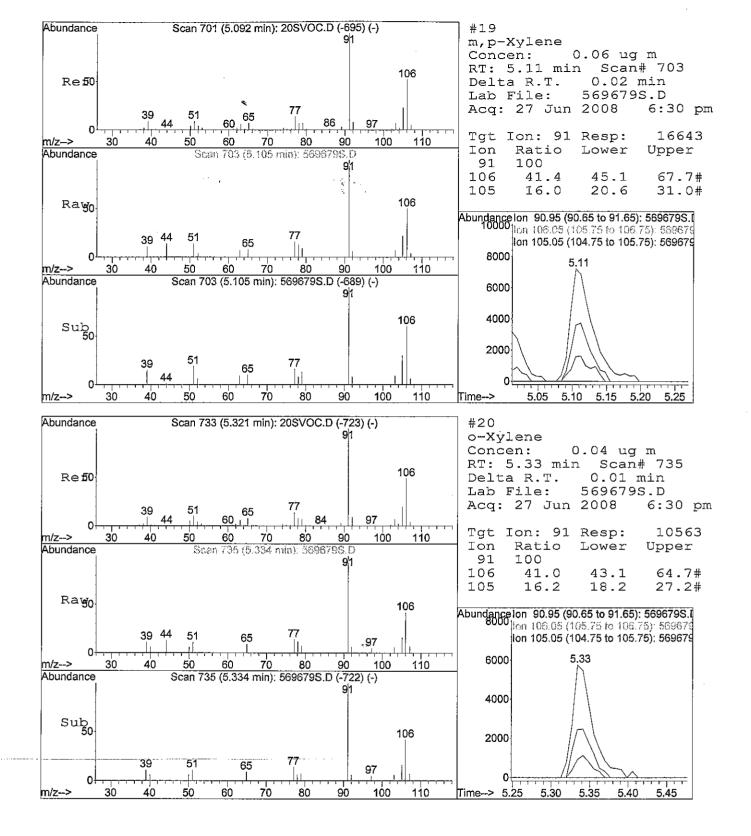
Page 9

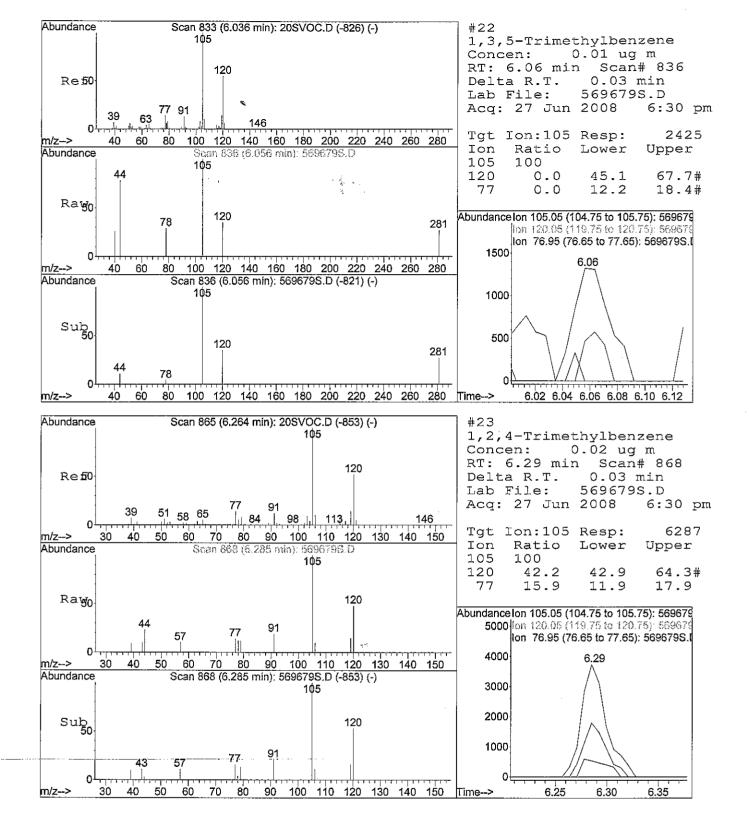
Quantitation Report (QT Reviewed)					
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 6:30 pm Sample : Misc : MS Integration Params: DDLSCINT.P	1	795.D	Op In	Vial: 19 erator: DC/ st : Ins ltiplr: 1.0	DD trumen
Quant Time: Jun 30 14:53:52 2008		Qu	ant Result	s File: A4-	8.RES
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8					
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
Target Compounds					
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane</pre>	2.10 2.30 2.37 2.52 2.64 2.79	61 63 61 83 97		N.D. N.D. N.D. N.D. N.D. N.D. N.D.	Qvalue #
 9) Benzene 9) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 	2.92	78 117	4275m 0	N D .	#
 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 	4.40 4.86 4.93	166 112 131	0 0 0	N.D. N.D. N.D.	#
18) Ethvlbenzene	5.01	91	5381m	0.02 ug	#
<pre>19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane</pre>	5.33	91 91	16643m 10563m	0.06 ug 0.04 ug	# #
21) 1,1,2,2-Tetrachloroethane	5.60	83	0	N.D.	Ш
 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 	6.29 6.39 6.47 6.63	105 105 146 146 146	6287m 0 0	0.01 ug 0.02 ug N.D. N.D. N.D. N.D.	
27) Undecane 28) Naphthalene 29) Tridecane	7.06 7.86 8.43	57 128 57	952m 206326m 978m	0.01 ug 0.45 ug 0.00 ug	# # #
30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene	8.61 9.60 9.62 9.79 10.36	142 152 57 153 166	62380m 20485m 1396m 99274m 96771m	0.18 ug 0.03 ug 0.01 ug 0.28 ug 0.23 ug	# # # # # # # #
35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene	10.38 11.43 11.48 12.74 13.00	178 178 202 202	374722m 159922m 352694m 180476m	0.23 ug 0.88 ug 0.37 ug 0.83 ug 0.42 ug	+ + + + +

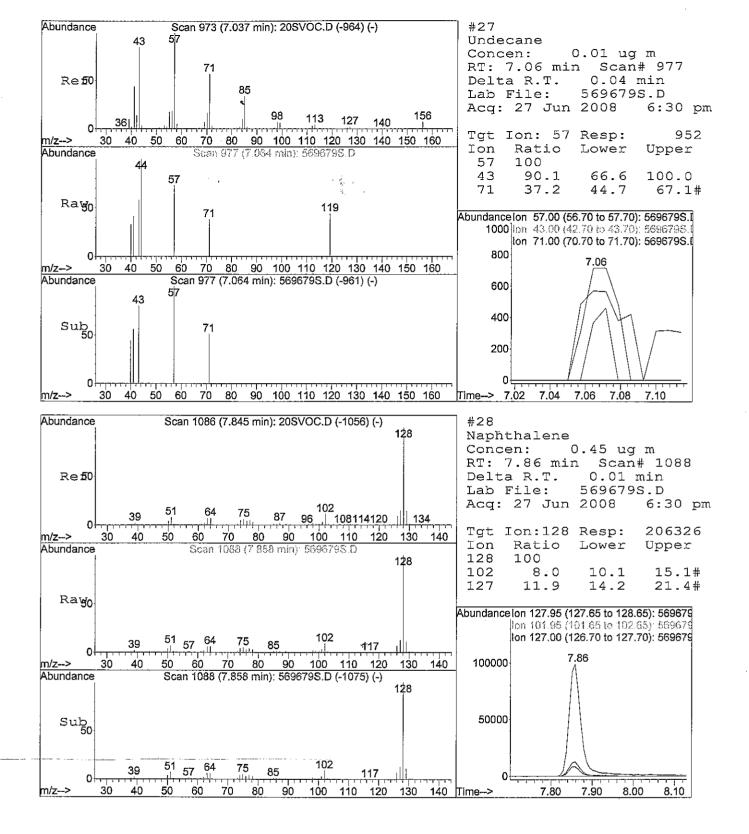


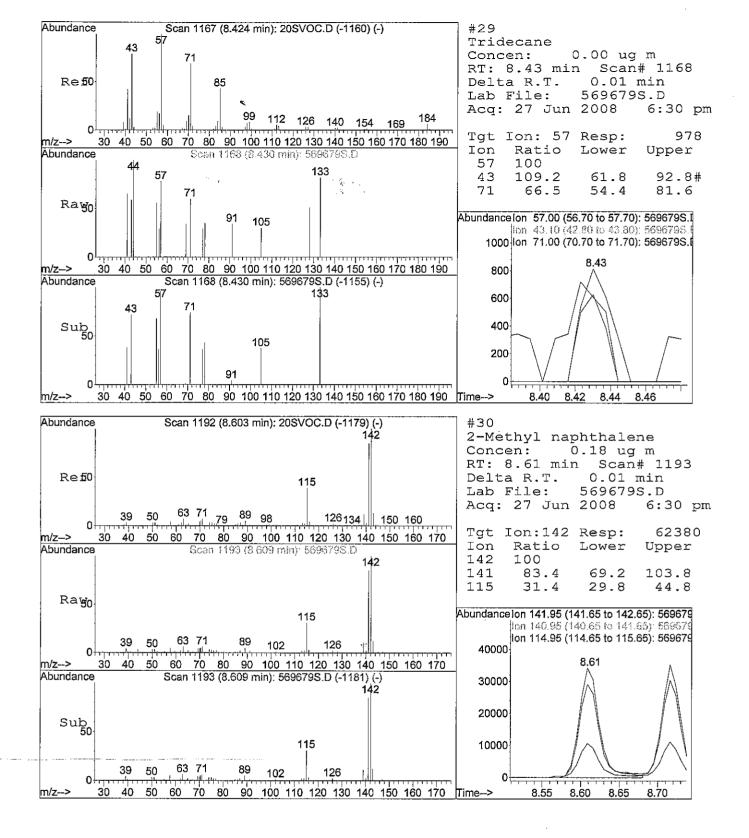


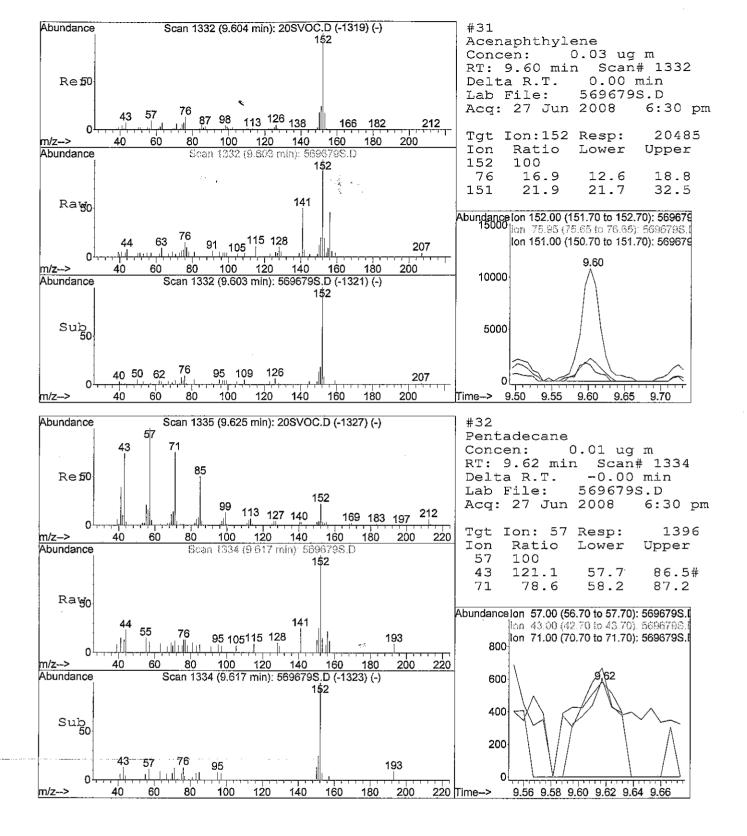


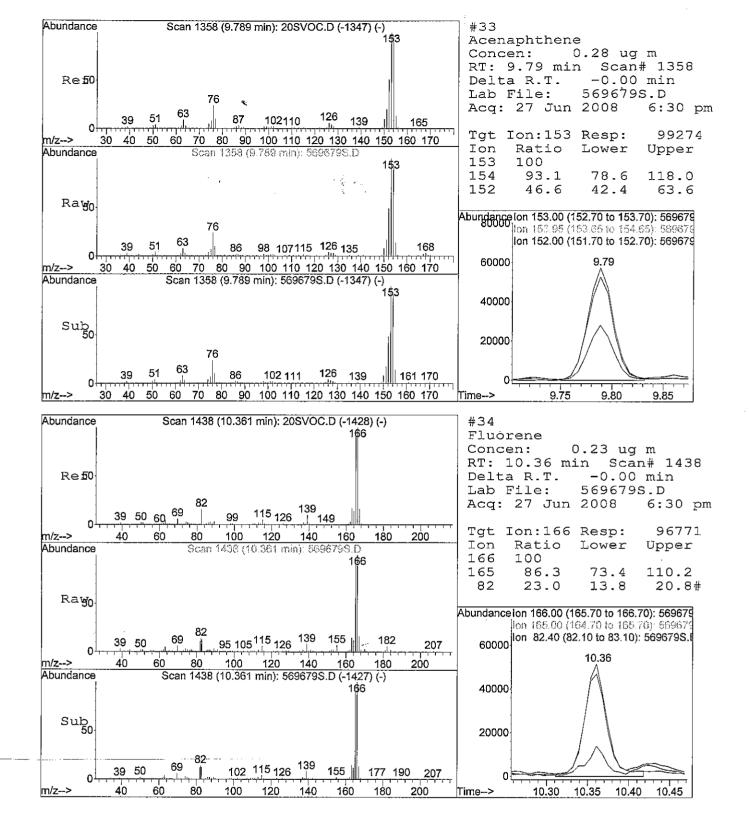


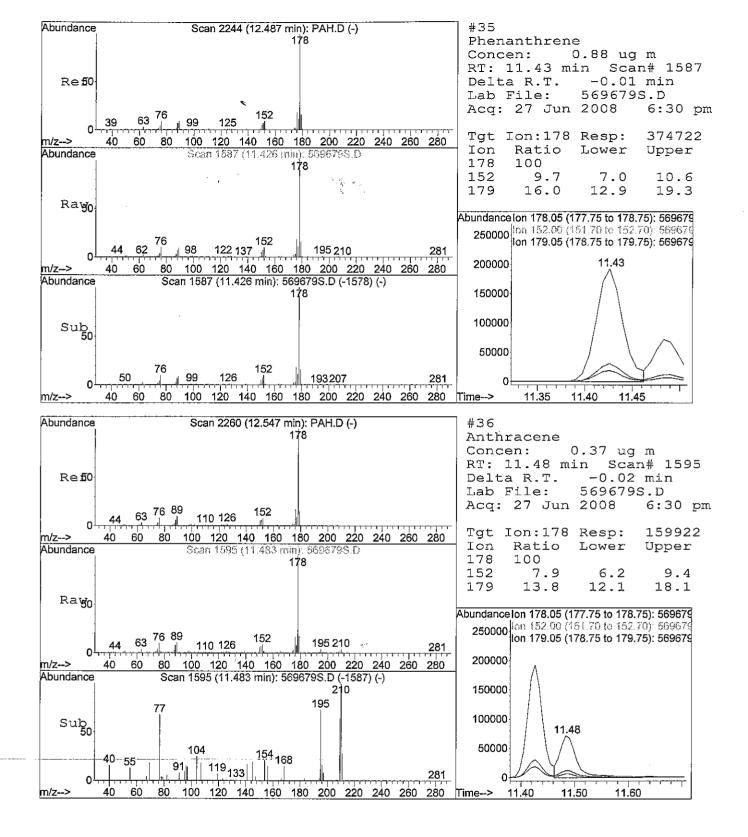




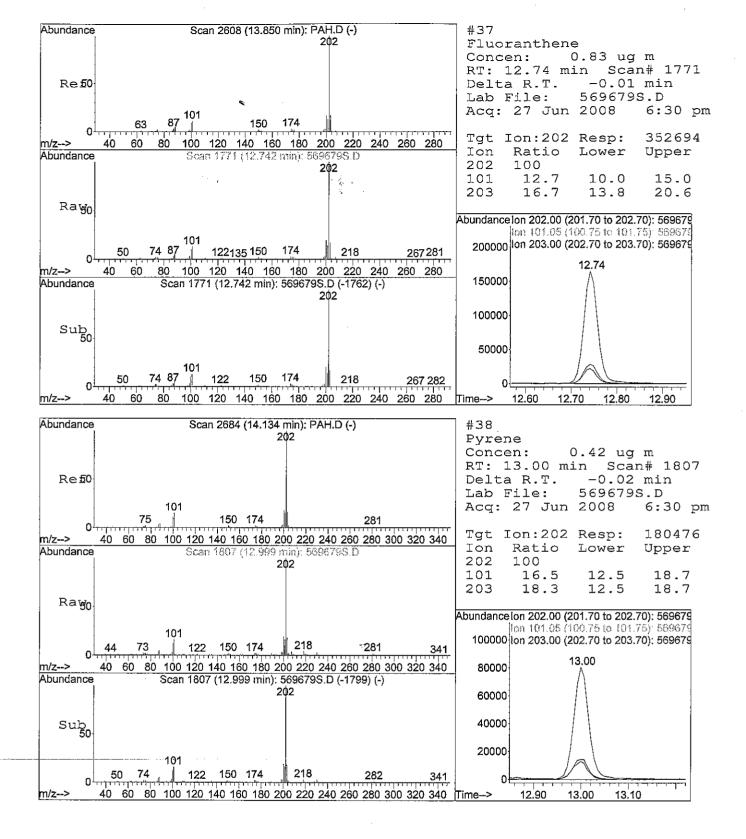






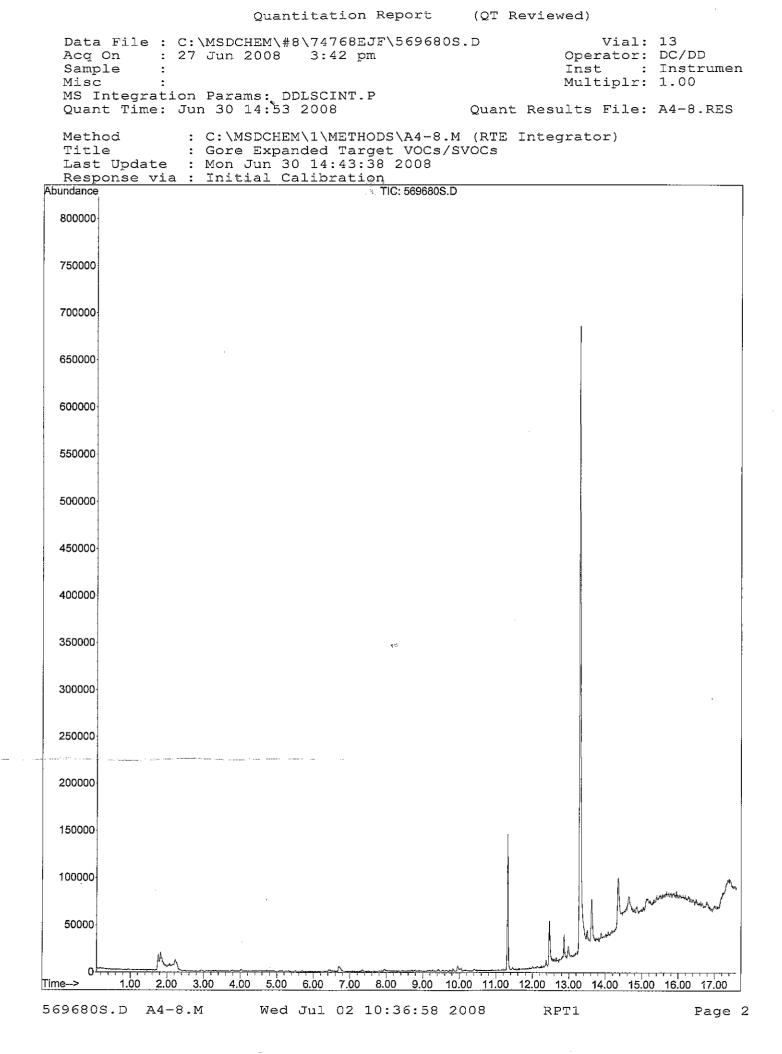


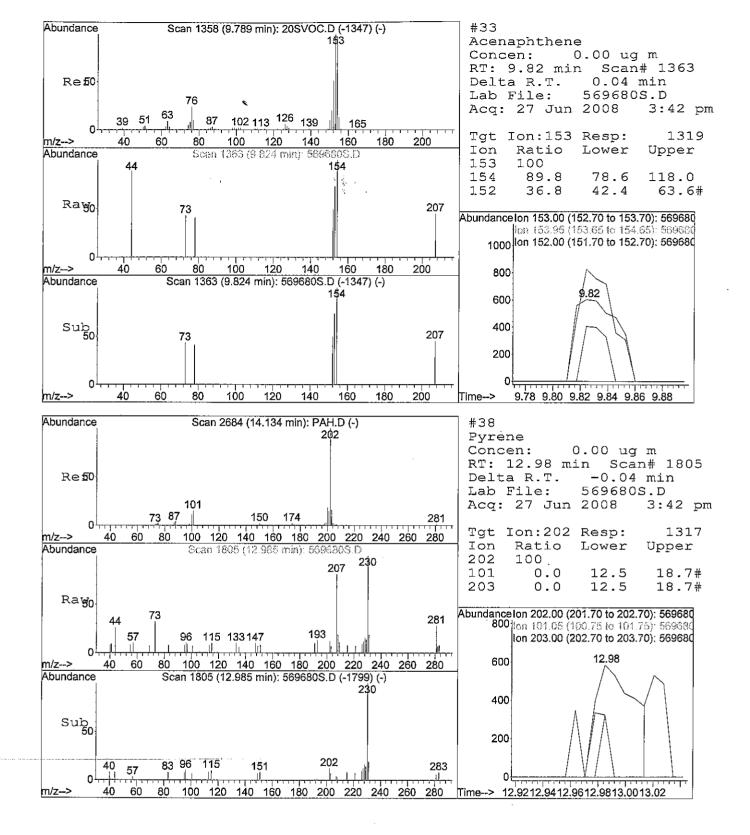
RPT1



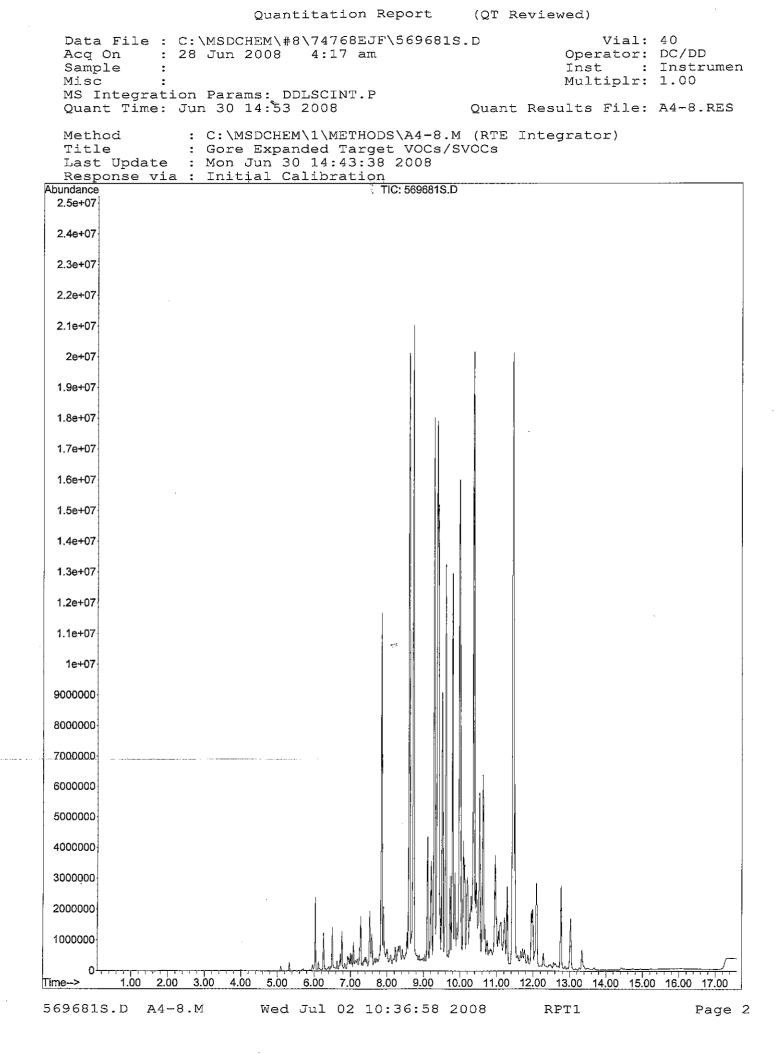
Quantitation Report (QT Reviewed)					
Data File : C:\MSDCHEM\#8\74768E3 Acq On : 27 Jun 2008 3:42 pm Sample : Misc :	L	BOS.D	Op In	Vial: 13 erator: DC/ st : Ins ltiplr: 1.0	trumen
MS Integration Params: DDLSCINT.F Quant Time: Jun 30 14:53:52 2008		Qu	ant Result	s File: A4-	8.RES
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8					
Internal Standards	R.T.		Response	Conc Units	Dev(Min)
Target Compounds	2 20	70	0	N.D.	Qvalue
<pre>6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene</pre>	2.30 2.37 2.52 2.64 2.79 2.92 3.287 2.92 3.283 4.292 3.292 3.283 4.406 4.999 5.320 5.6036 6.26	61 63 61 83 97 62 78 117 97 43 62 1121 91 83 55 105 146	000000000000000000000000000000000000000	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	
 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 	8.60 9.60 9.62 9.82 10.36	142 152 57 153 166	• 0 0 1319m 0	N.D. N.D. N.D. N.D. 0.00 ug N.D.	#
<pre>35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	11.44 11.50 12.76 12.98	178 178 202 202	0 0 0 1317m	N.D. N.D. N.D. 0.00 ug	#

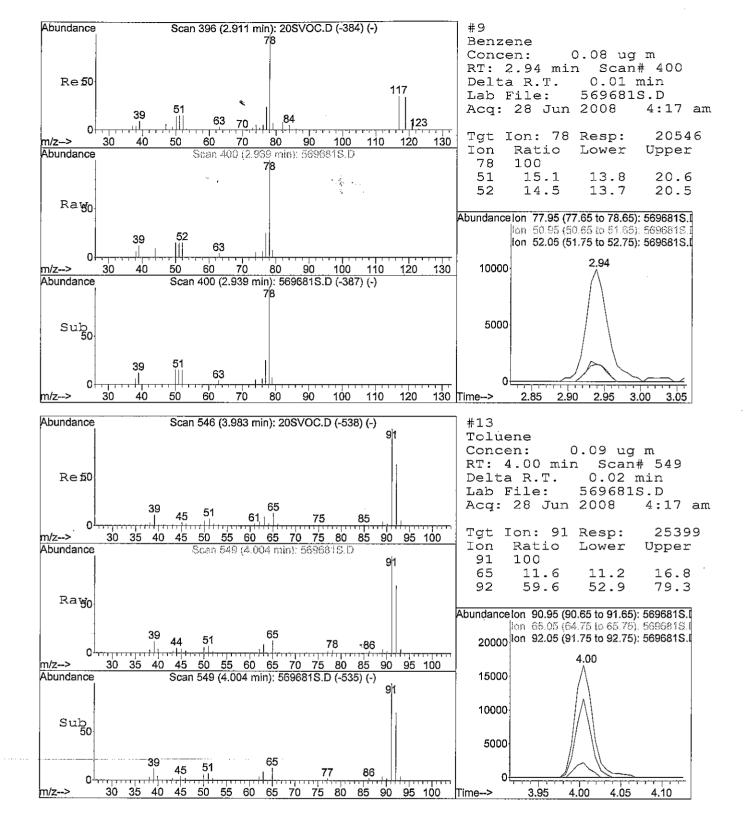
i



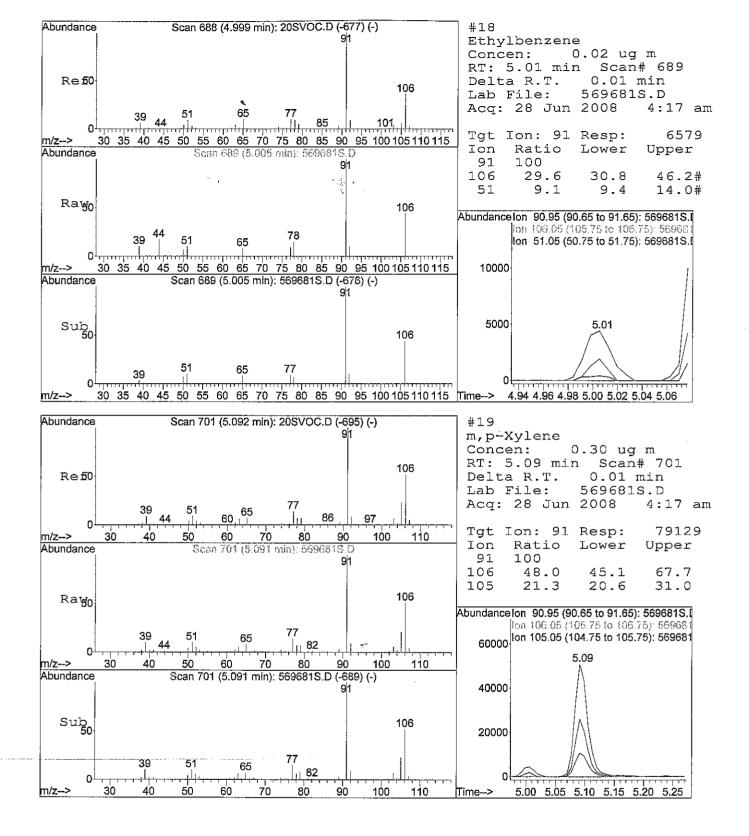


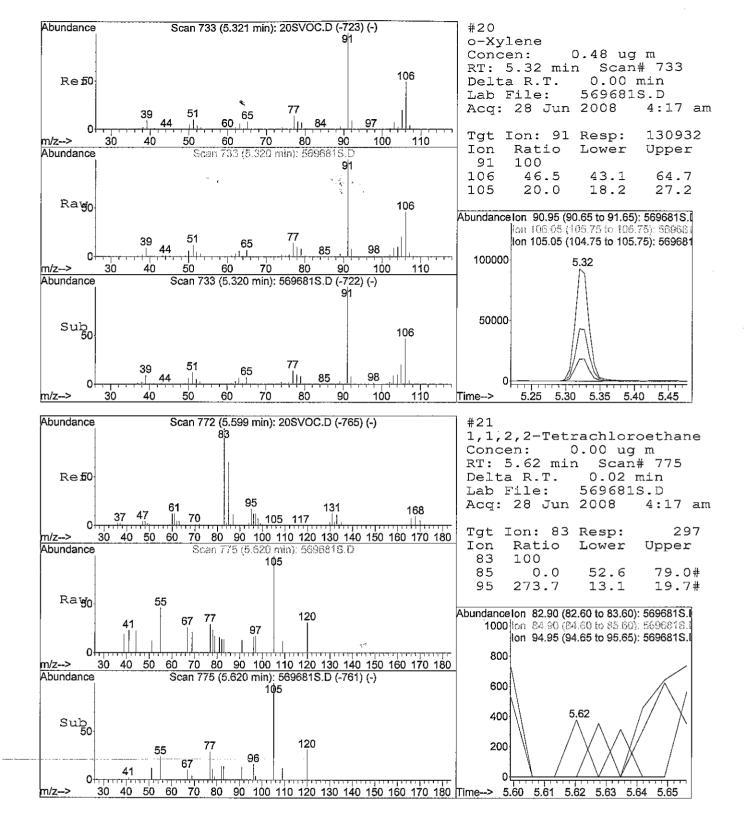
Quantitation Report (QT Reviewed)					
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 28 Jun 2008 4:17 am Sample : Misc : MS Integration Params: DDLSCINT.E Quant Time: Jun 30 14:53:52 2008	1 2		Op In Mu	Vial: 40 perator: DC/ st : Ins ltiplr: 1.0 s File: A4-	strumen)0
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8					
Internal Standards			_	Conc Units	
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane</pre>	2.30 2.10 2.30 2.37	73 61 61 63	0 0	N.D. N.D. N.D. N.D.	Qvalue
 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 	2.52 2.64 2.79 2.87 2.94	61 83 97 62 78	0 0 0 20546m	N.D. N.D. N.D. N.D. 0.08 ug	#
12) 1,1,2- Trichloroethane	4.00 4.29	97 91	0 25399m	0.09 ug N.D.	#
 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 	4.86 4.93 5.01 5.09	112 131 91 91	0 0 6579m 79129m	N.D. 0.02 ug 0.30 ug	#
<pre>20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene</pre>	6.04 6.26	$105 \\ 105$	1104064m 561314m	0.00 ug 3.76 ug 1.84 ug N.D.	# #
 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 	6.63	146 57 128 57	0 53734m 8702192m	N.D. 0.29 ug 18.90 ug 0.33 ug 30.13 ug 14.77 ug	# # # #
<pre>32) Pentadecane 32) Acenaphthene 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	9.60 9.80 10.38 11.45 11.49 12.76 13.03	57 153 166 178 178	89715m 5581829m 12330713m 15484613m 4066019m 2422256m	0.42 ug 15.85 ug 28.86 ug 36.24 ug 9.52 ug 5.67 ug	++ ++ ++ ++ ++ -++ ++

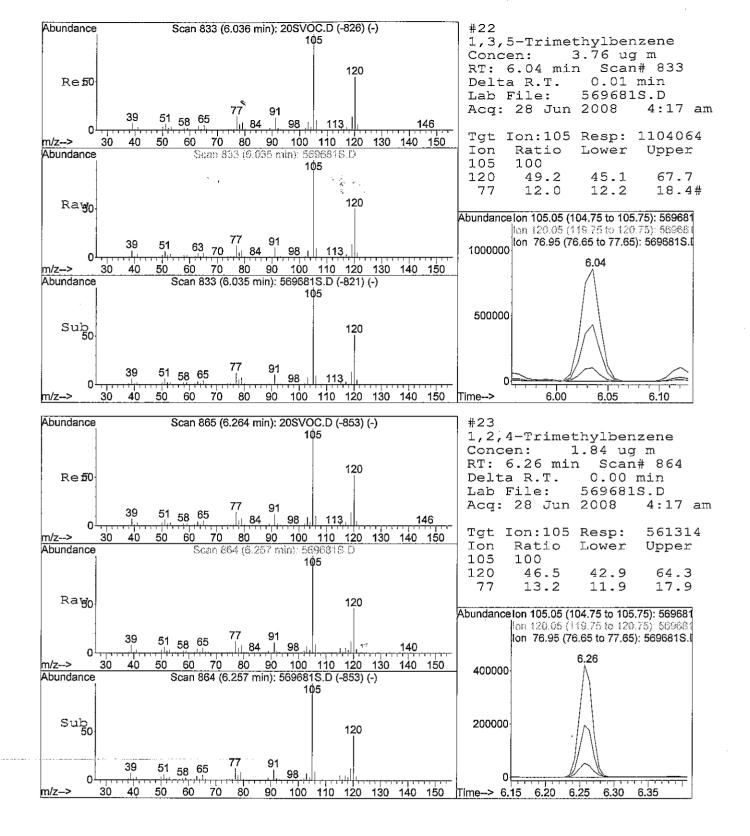


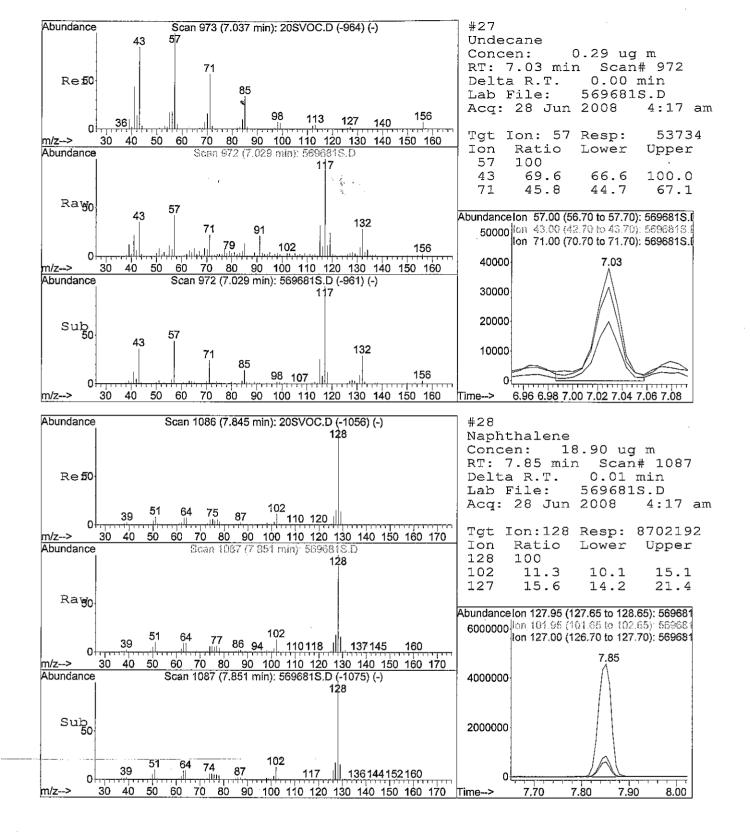


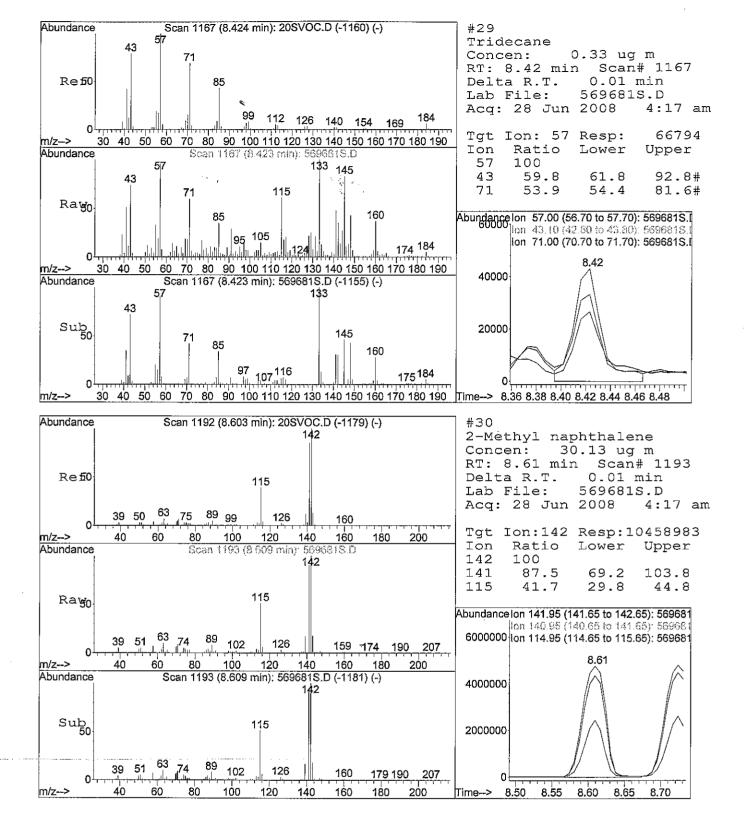
Wed Jul 02 10:42:45 2008

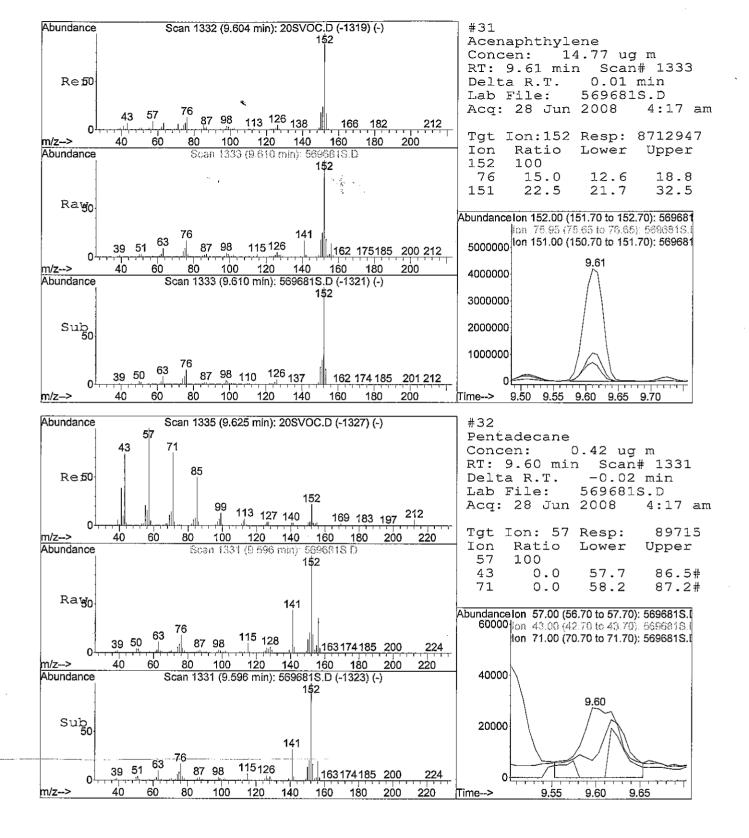


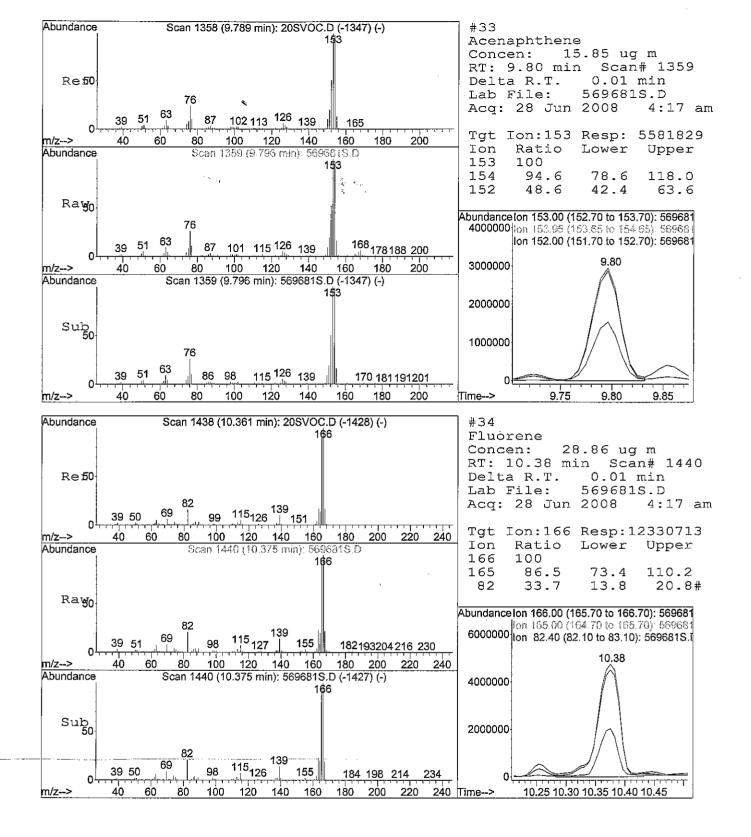






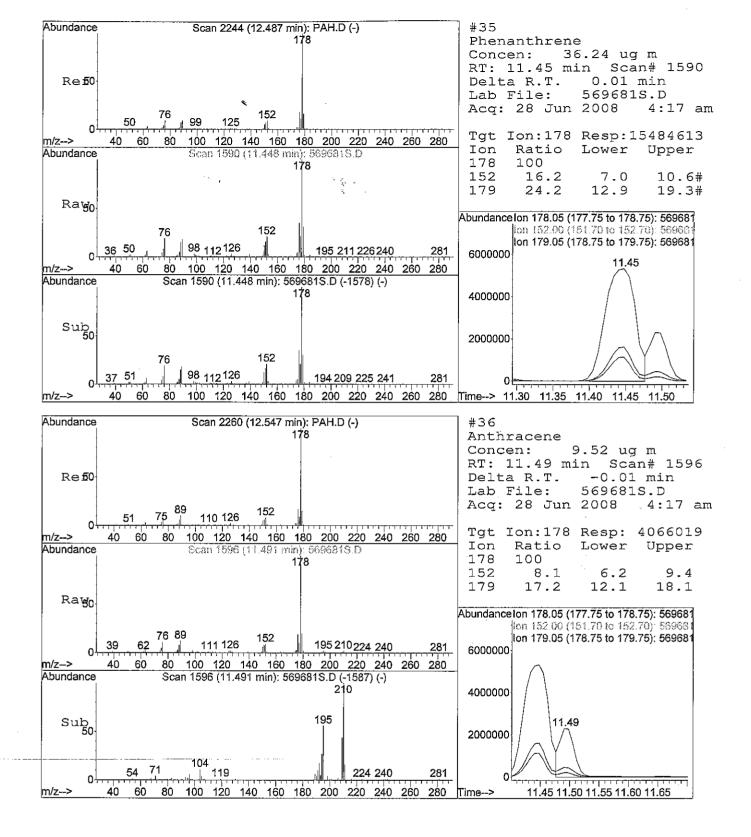


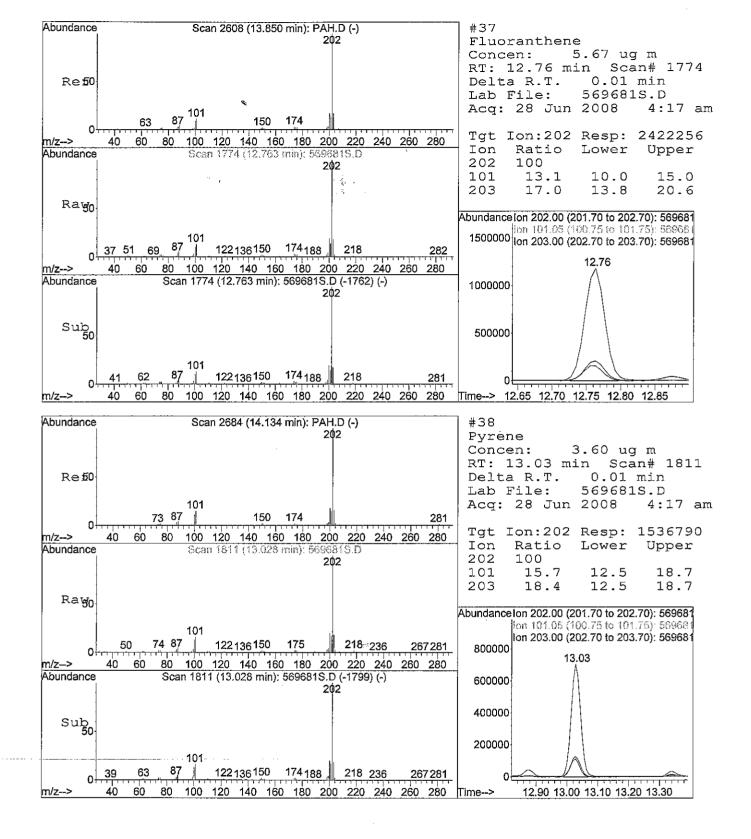




Wed Jul 02 10:42:46 2008

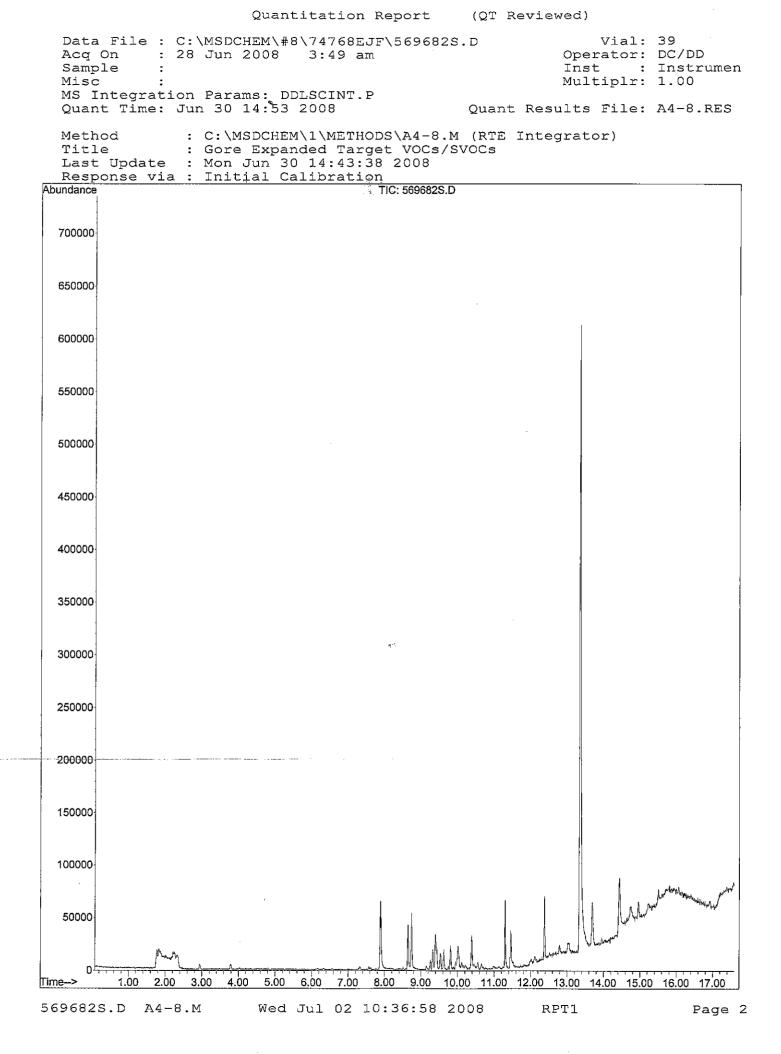
RPT1

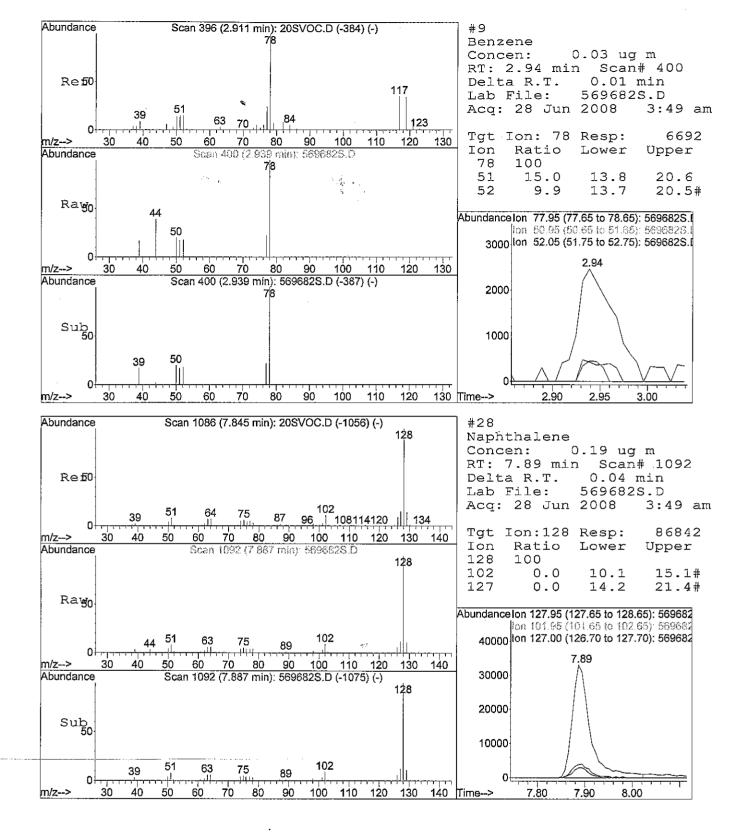


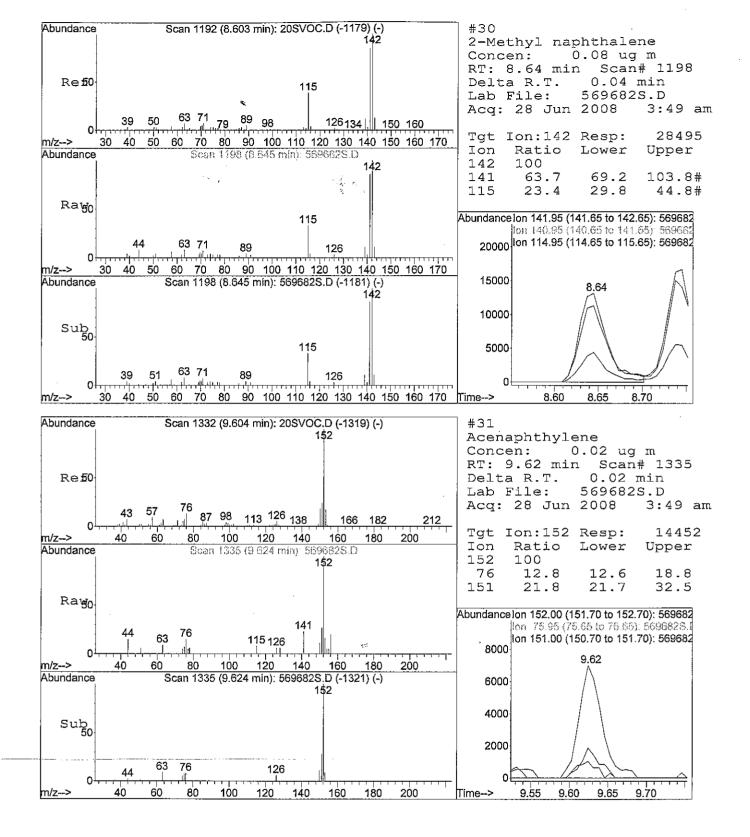


Quantitation Report (QT Reviewed)					
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 28 Jun 2008 3:49 am Sample : Misc : MS Integration Params: DDLSCINT.P			Op In Mu	Vial: 39 erator: DC/ st : Ins ltiplr: 1.0	trumen O
Quant Time: Jun 30 14:53:53 2008		Qu	ant Result	s File: A4-	8.RES
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8					
Internal Standards				Conc Units	
<pre>10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene</pre>	2.30 2.10 2.37 2.52 2.64 2.92 2.92 3.28 4.13 4.29 4.40 4.99 4.40 4.99 4.99 5.08	73 61 63 837 28 77 97 136 112 131 91	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	Qvalue
<pre>20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane</pre>	6.26 6.39 6.47 6.63 7.03 7.89 8.42	$ \begin{array}{r} 105 \\ 146 \\ 146 \\ 57 \\ 128 \\ 57 \\ 57 \\ \end{array} $	0 0 0 0 86842m 0	N.D. N.D. N.D. N.D. N.D. N.D. 0.19 ug N.D.	#
<pre>30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	8.64 9.62 9.62 9.81 10.39 11.45 11.52 12.79 13.06	142 152 57 153 166 178 178 202 202	28495m 14452m 0 12303m 24963m 37521m 7224m 8745m 7158m	0.08 ug 0.02 ug N.D. 0.03 ug 0.06 ug 0.09 ug 0.02 ug 0.02 ug 0.02 ug	# # # # # # #

(#) = qualifier out of range (m) = manual integration (+) = signals summed 569682S.D A4-8.M Wed Jul 02 10:36:58 2008 RPT1 Page 1

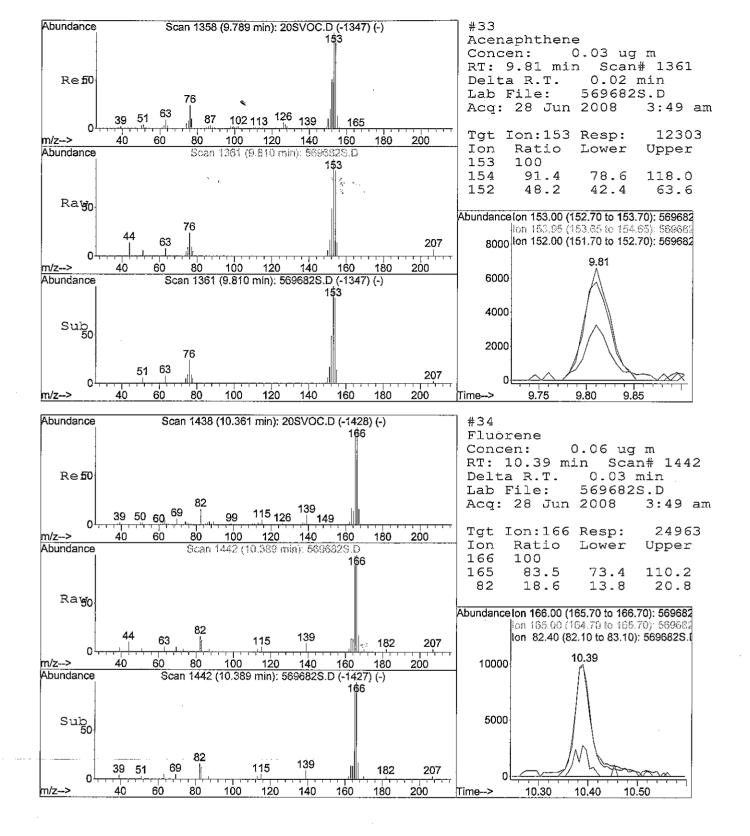


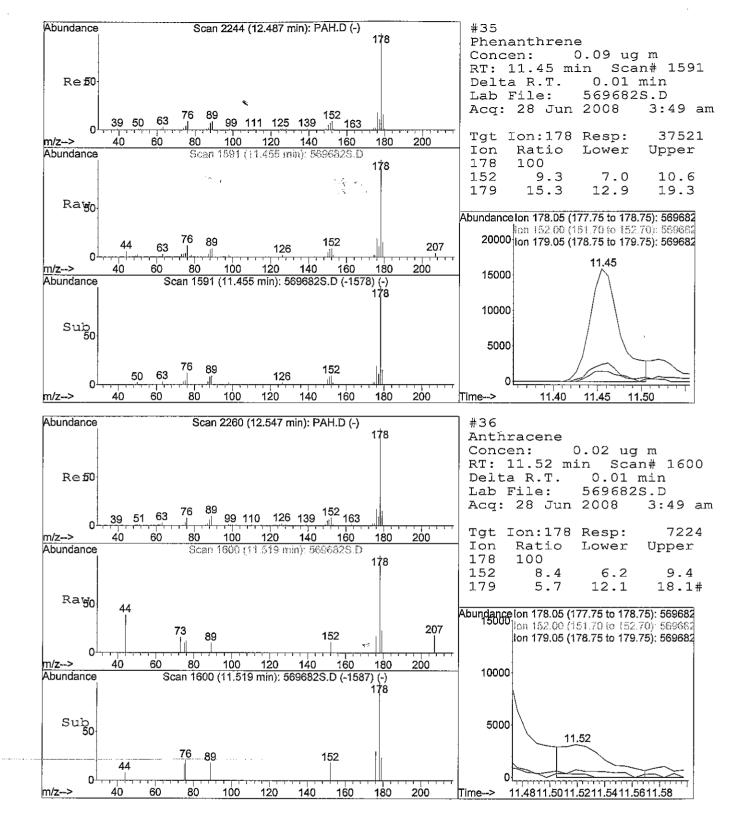




Wed Jul 02 10:42:47 2008

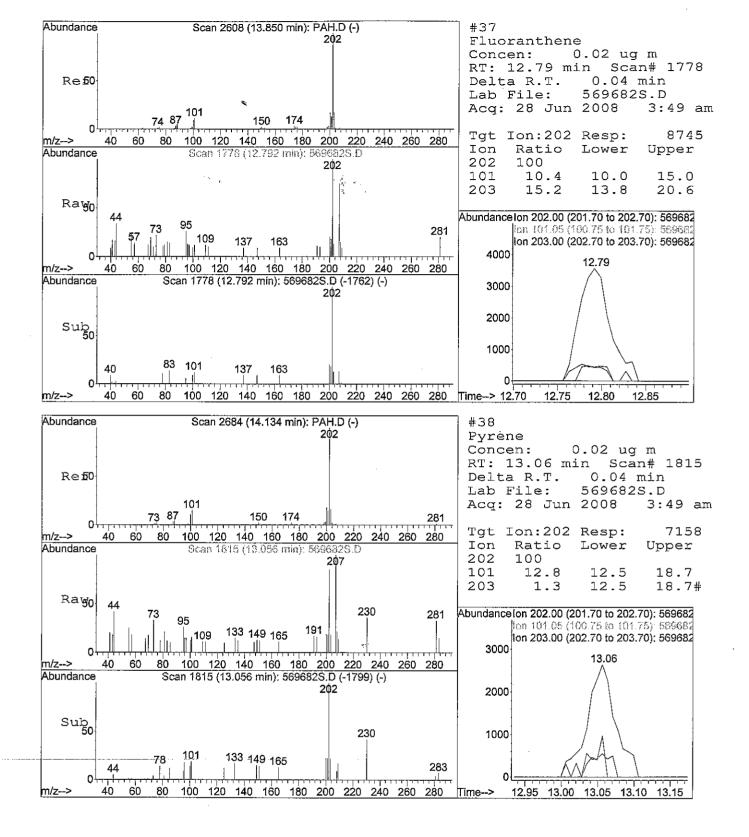
RPT1



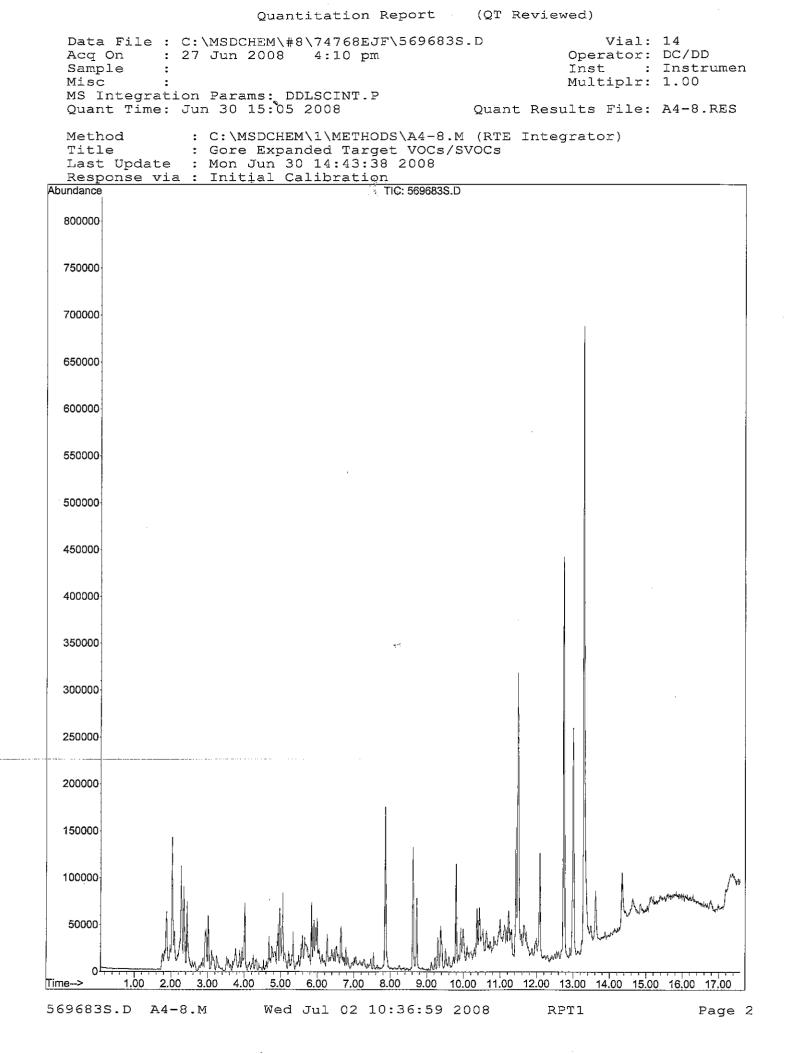


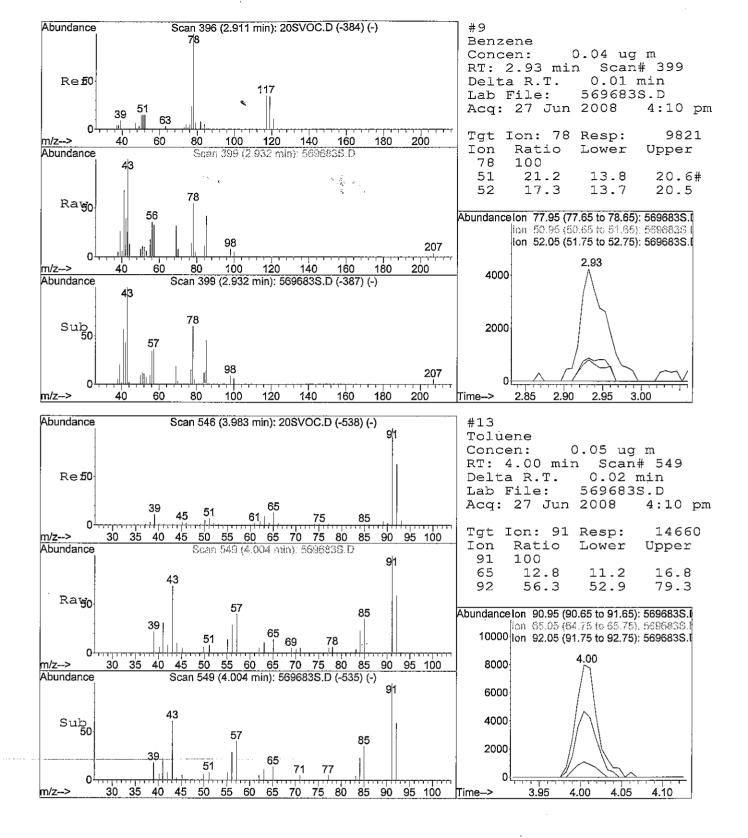
Wed Jul 02 10:42:48 2008

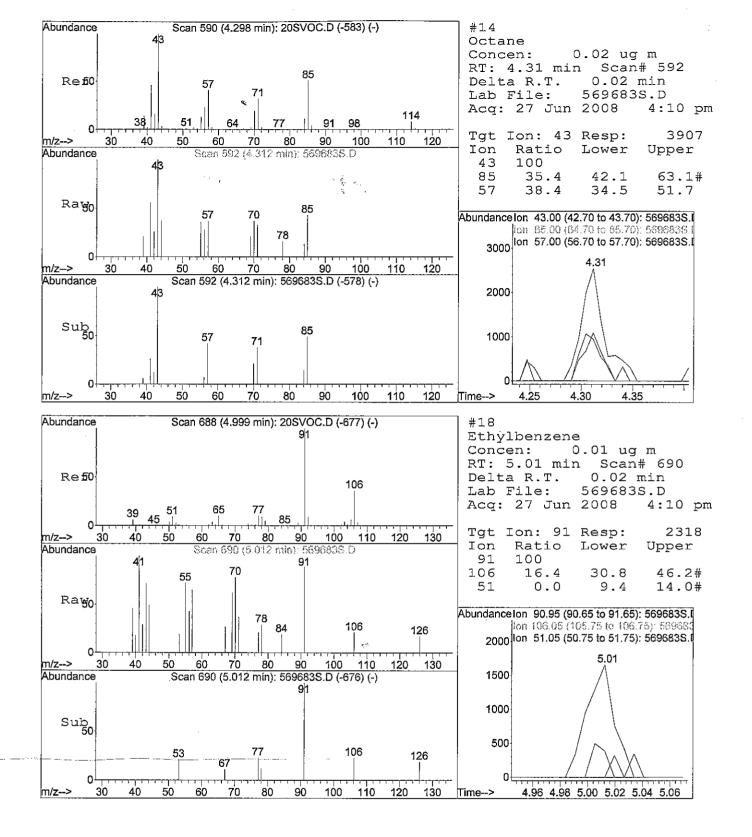
RPT1

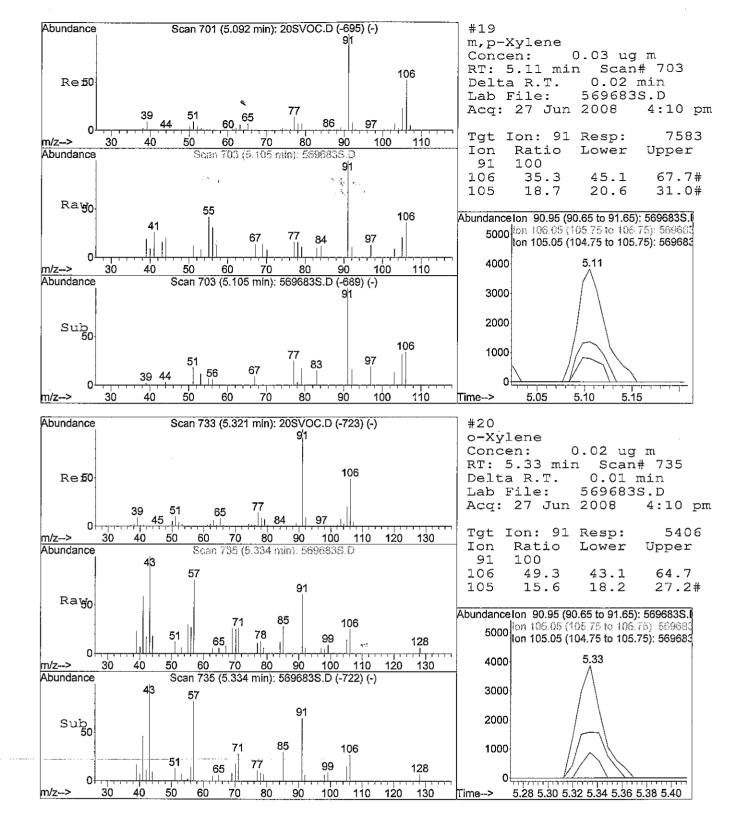


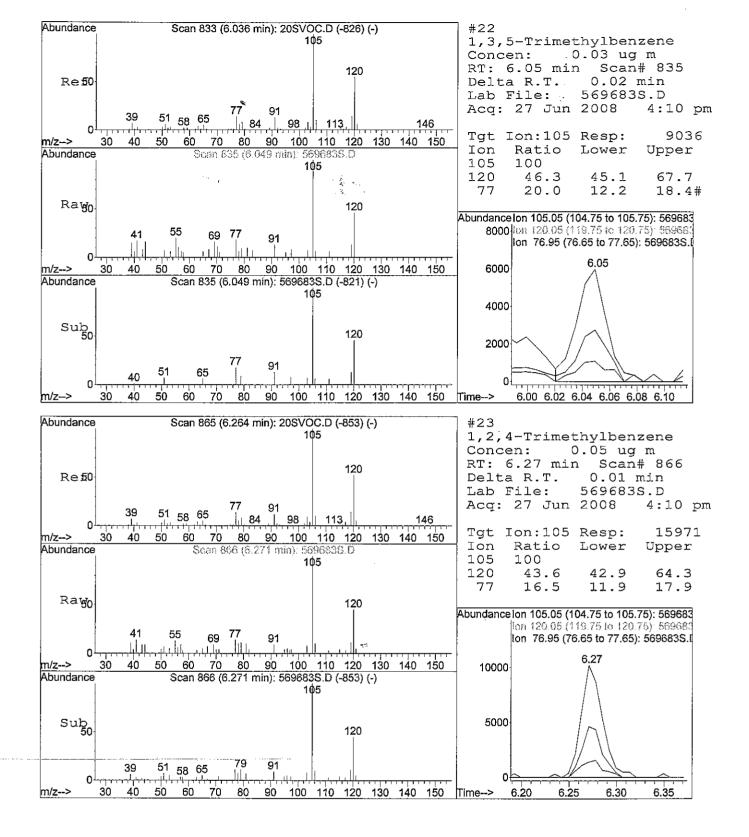
Quantitat	tion Repo	ort	(QT Revie	wed)	
Data File : C:\MSDCHEM\#8\74768H Acq On : 27 Jun 2008 4:10 H Sample : Misc : MS Integration Params: DDLSCINT	>m	335.D	Op In	Vial: 14 erator: DC/ st : Ins ltiplr: 1.0	trumen
Quant Time: Jun 30 14:53:53 2008	3	Qu	ant Result	s File: A4-	8.RES
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8					
Internal Standards				Conc Units	
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1.2-Dichloroethene</pre>	0.00 2.10 2.30	73 61 61		N.D. d N.D. N.D.	Qvalue
 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Paragana 	2.64	83	0 0 0	N.D. N.D. N.D. N.D. N.D. N.D.	
9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane	2.93 2.92 3.28 4.13	78 117 95 97	9821m 0 0 0	0.04 ug N.D. N.D. N.D.	
16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane	4.00 4.31 4.40 4.86 4.93	166 112	3907m 0	N.D. N.D.	
<pre>18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane</pre>	5.33	91 91 83	7583m 5406m 0	0.03 ug 0.02 ug N.D. d	# # #
22) 1,3,5-Trimethylbenzene23) 1,2,4-Trimethylbenzene	6.05 6.27 6.39	105 105 146	9036m 15971m 0		
27) Undecane 28) Naphthalene 29) Tridecane 20) 2 Mathul parkthalene	7.01 7.86 8.42	57 128 57	1924m 175148m 0	0.01 ug 0.38 ug N.D.	# #
 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 	8.62 9.61 9.61 9.80 10.37	142 152 57 153 166	78636m 5423m 1176m 51269m 29669m	0.23 ug 0.01 ug 0.01 ug 0.15 ug 0.07 ug	# # # #
35) Phenanthrene 36) Anthracene 37) Fluoranthene	11.43 11.49 12.75	178 178 202	106453m 272572m 412661m	0.25 ug 0.64 ug 0.97 ug	# # #
38) Pyrene	13.01	202	224536m	0.53 ug	#

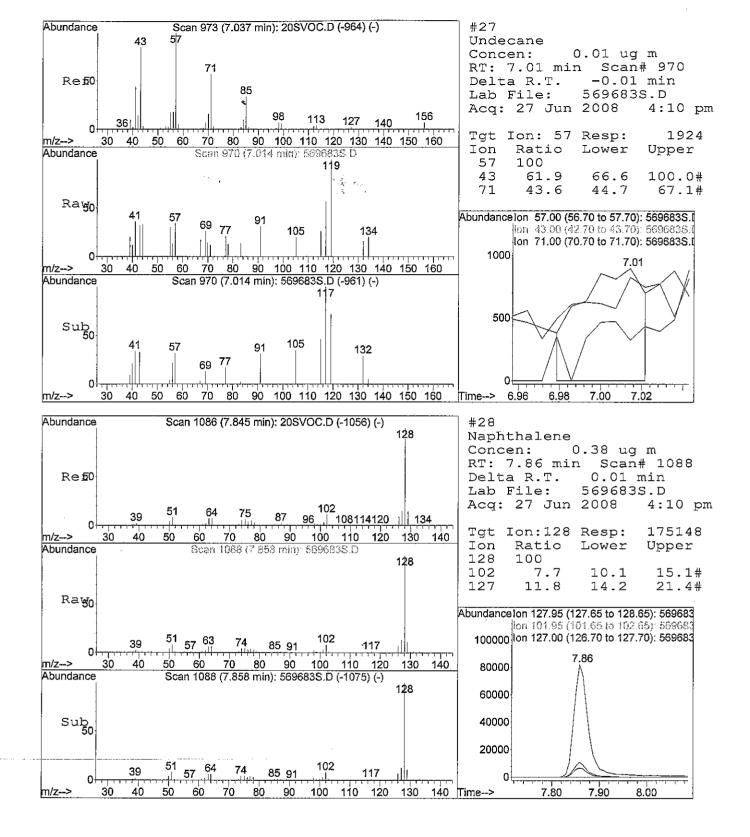




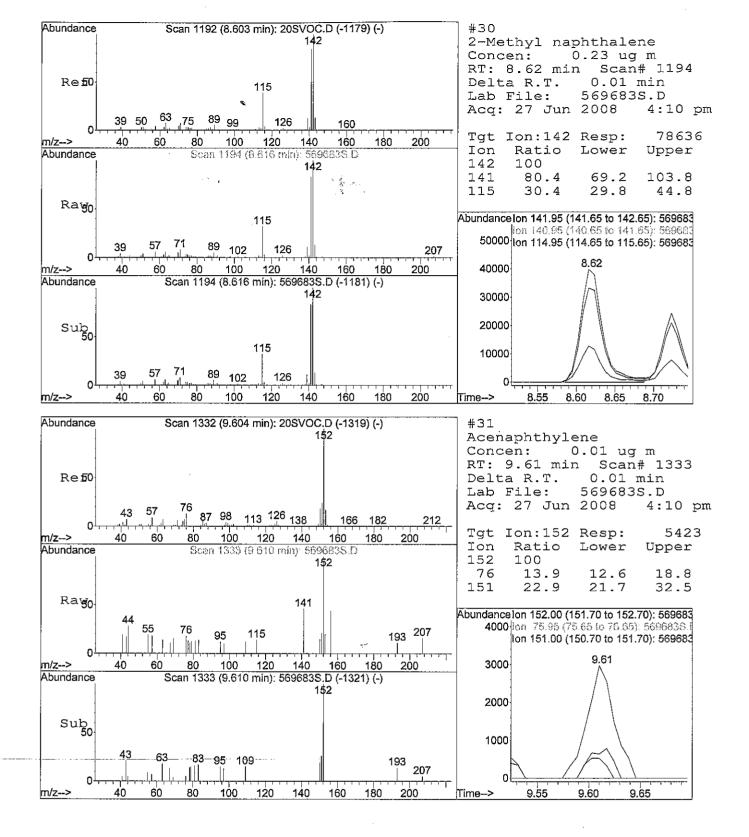


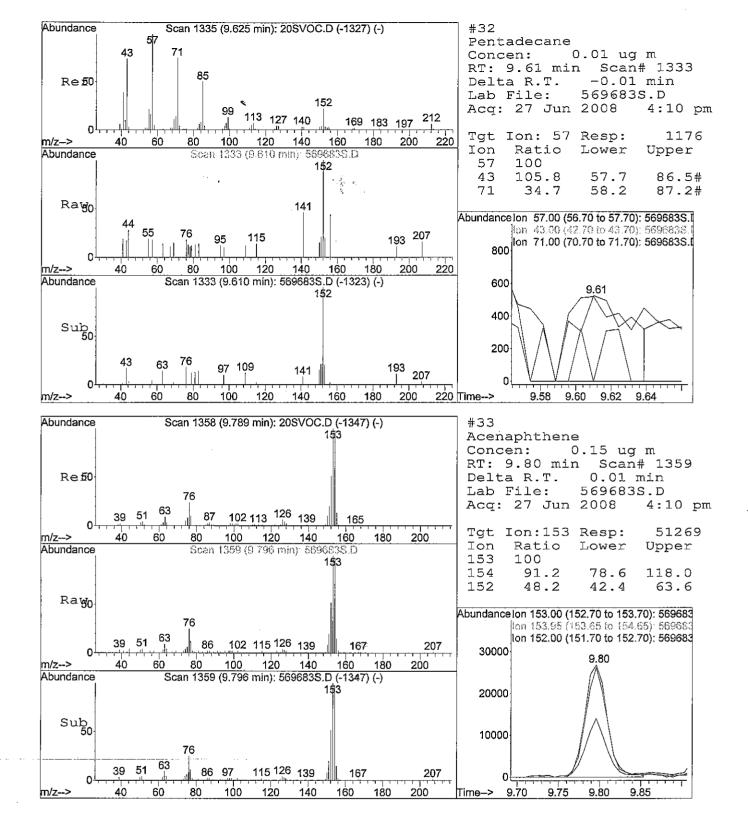


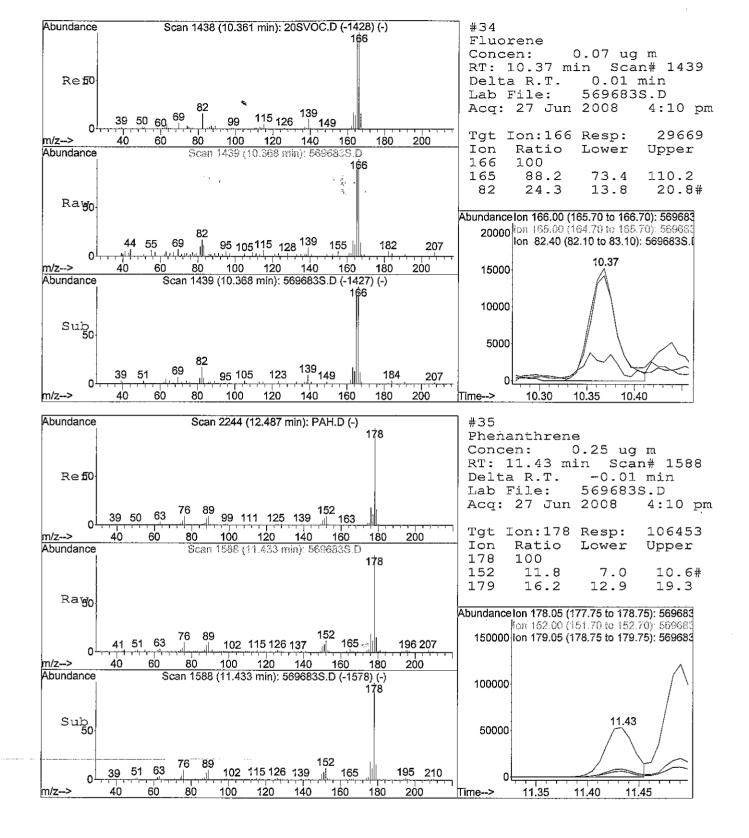


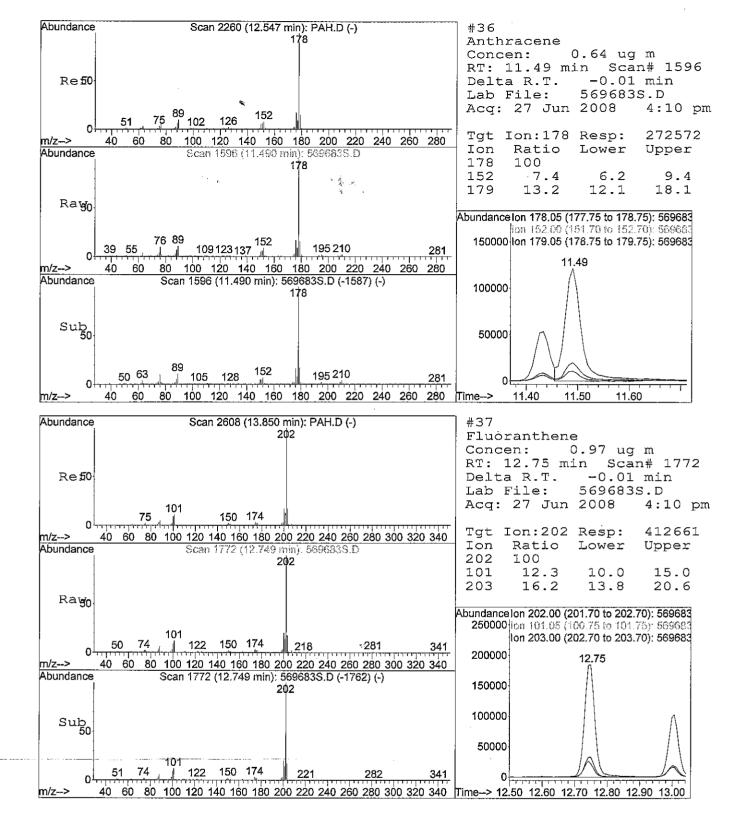


RPT1



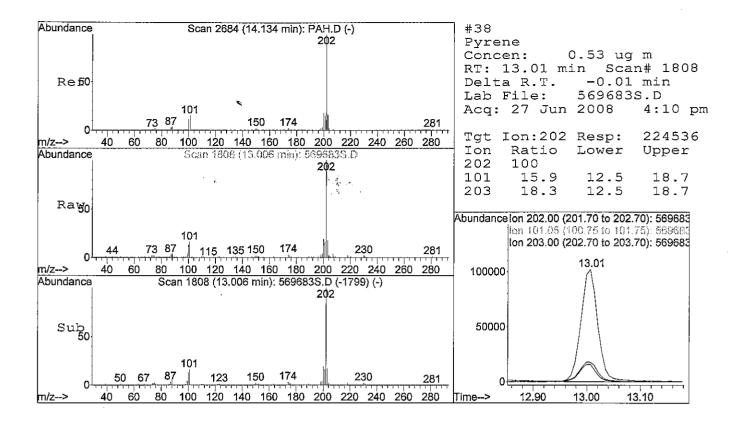






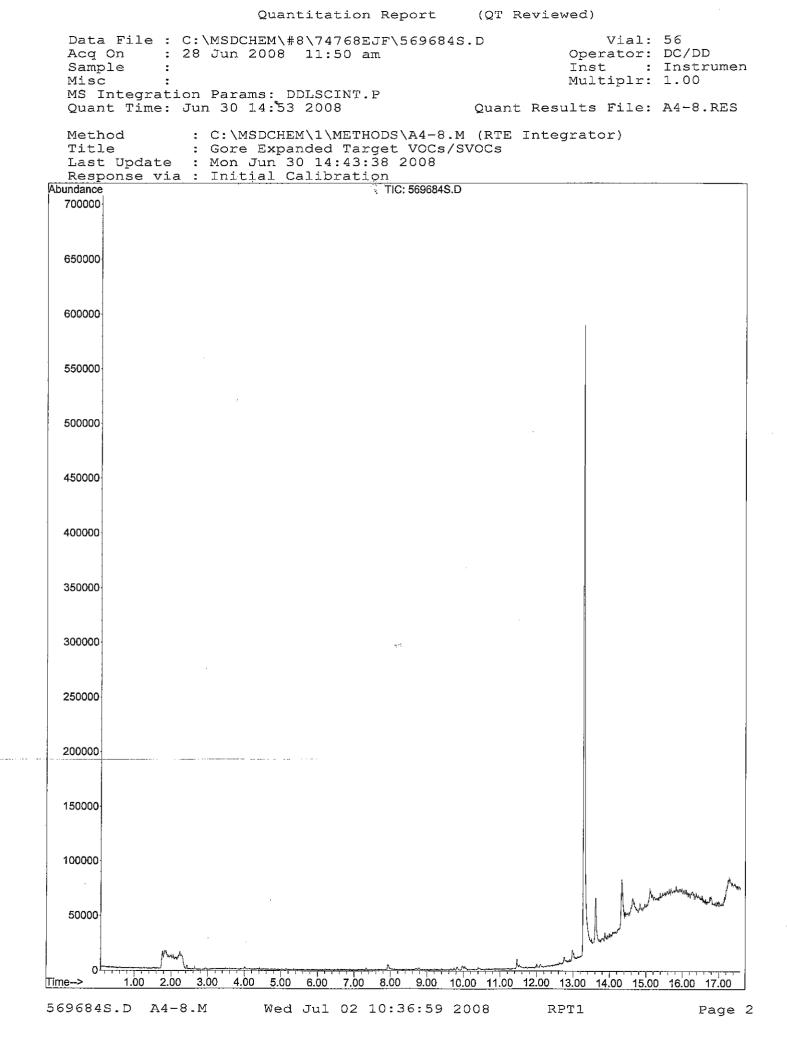
Wed Jul 02 10:42:49 2008

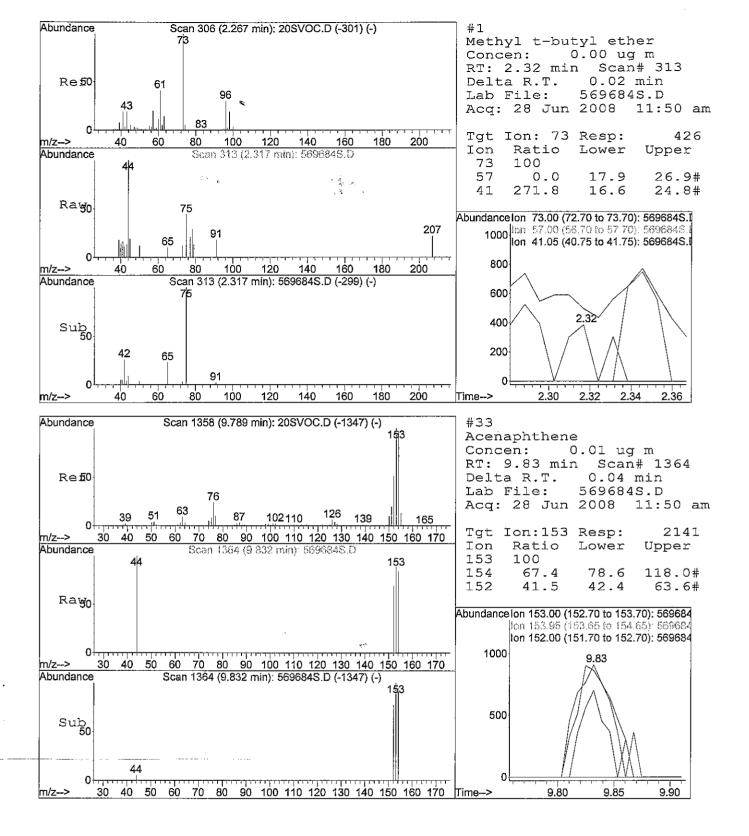
RPT1

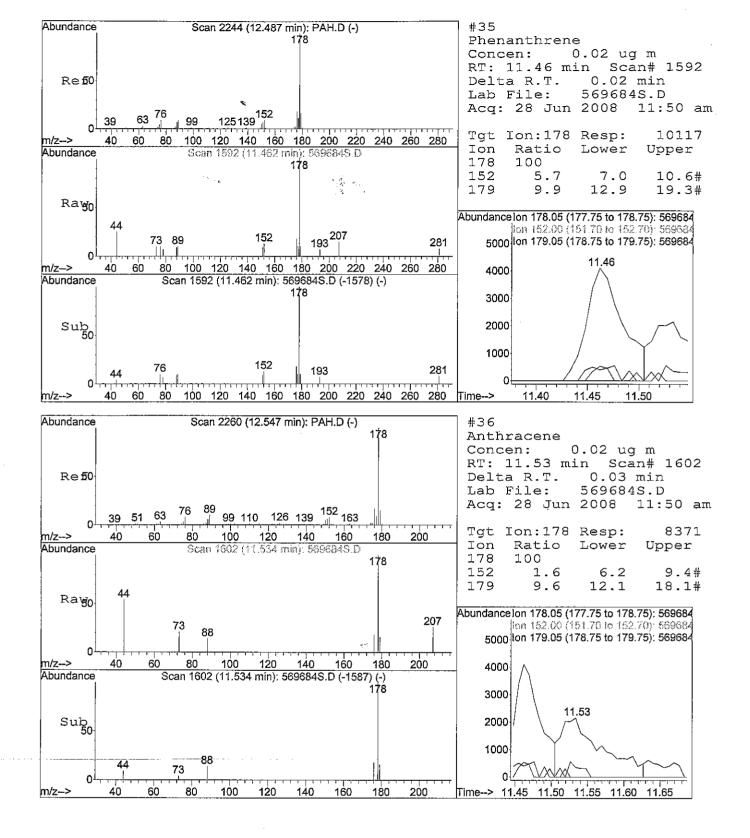


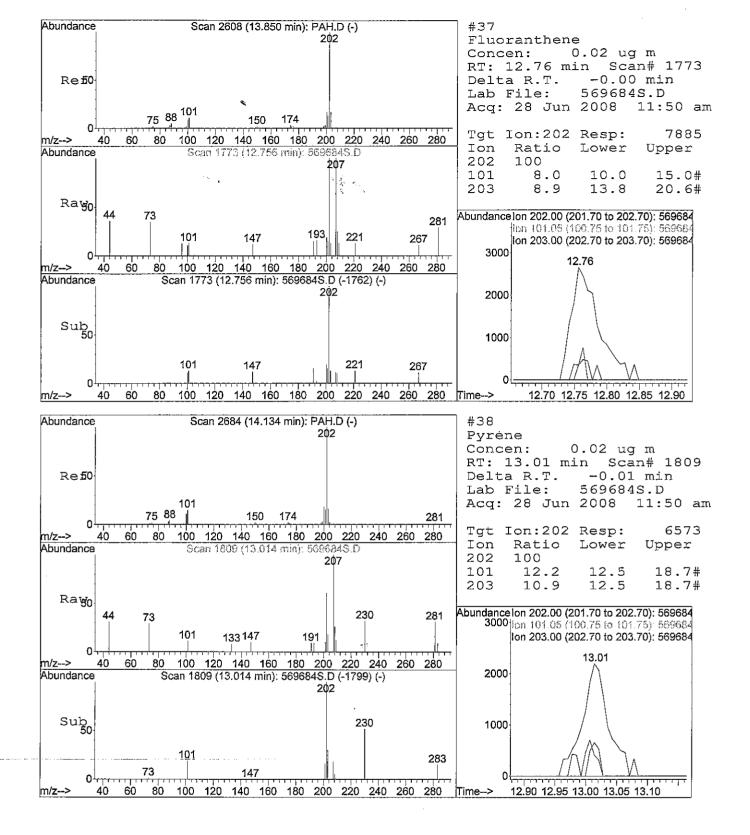
RPT1

Quantitati	on Repo	ort	(QT Revie	wed)	
Data File : C:\MSDCHEM\#8\74768E3 Acq On : 28 Jun 2008 11:50 an Sample : Misc : MS Integration Params: DDLSCINT.E Quant Time: Jun 30 14:53:54 2008	l		Op In Mu	Vial: 56 erator: DC/ st : Ins ltiplr: 1.0	strumen)0
Quant 11me. 0un 50 14.55.54 2000		γu	ant Nesult	S FILE. AT	0.1100
Quant Method : C:\MSDCHEM\1\METHO Title : Gore Expanded Targ Last Update : Mon Jun 30 14:43:3 Response via : Initial,Calibratic DataAcq Meth : VCGS3-8	ret VOCs 88 2008			tor)	
Internal Standards	R.T.	QIon	Response	Conc Units	B Dev(Min)
<pre>10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 20) o-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene</pre>	2.64 2.79 2.92 2.92 3.13 4.99 4.49 2.92 3.13 4.49 4.99 5.56 6.29 7.82 2.92 3.13 4.49 5.55 6.26 7.84 2.00 2.92 3.13 4.49 9.03 6.03 6.03 7.83 4.40 9.83 6.62 3.64 3.420 9.83 6.23 7.83 4.40 9.83 6.623 6.623 6.623 6.63 9.11 5.56 6.633 7.834 2.00 2.836 7.834 2.00 2.836 7.834 2.00 2.364 7.834 2.00 2.364 7.364 7.834 2.00 2.364 7.364 7.834 2.00 2.364 7.364 7.834 2.00 2.366 7.834 2.00 2.366 7.834 2.60 2.366 7.834 2.60 2.366 7.834 2.60 2.366 7.834 2.60 2.836 7.834 2.60 2.836 7.834 2.60 2.836 7.834 2.60 2.836 7.834 2.60 2.836 7.834 2.60 2.836 7.836 7.834 2.60 2.836 7.834 2.60 2.836 7.836 7.834 2.60 2.836 7.834 2.60 2.836 7.836 7.834 2.60 2.836 7.836 7.836 7.836 7.836 7.836 7.836 7.836 7.836 7.836 7.836 7.836 7.836 7.556 7.566 7.566 7.566 7.5666 7.5666 7.56667 7.56667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58667 7.58677 7.586777 7.58677777777777777777777777777777777777	6^{\perp} 9^{\perp} 9^{\perp} 9^{\perp} 9^{\perp} 9^{\perp} 9^{\perp} 9^{\perp} 9^{\perp} 9^{\perp} 9^{\perp} 9^{\perp} 1^{\perp} 9^{\perp} 9^{\perp} 1^{\perp} 9^{\perp} 1^{\perp} 9^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1^{\perp} 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	# # #
37) Fluoranthene 38) Pyrene	12.76 13.01	202 202	7885m 6573m	0.02 ug 0.02 ug 0.02 ug	# # #



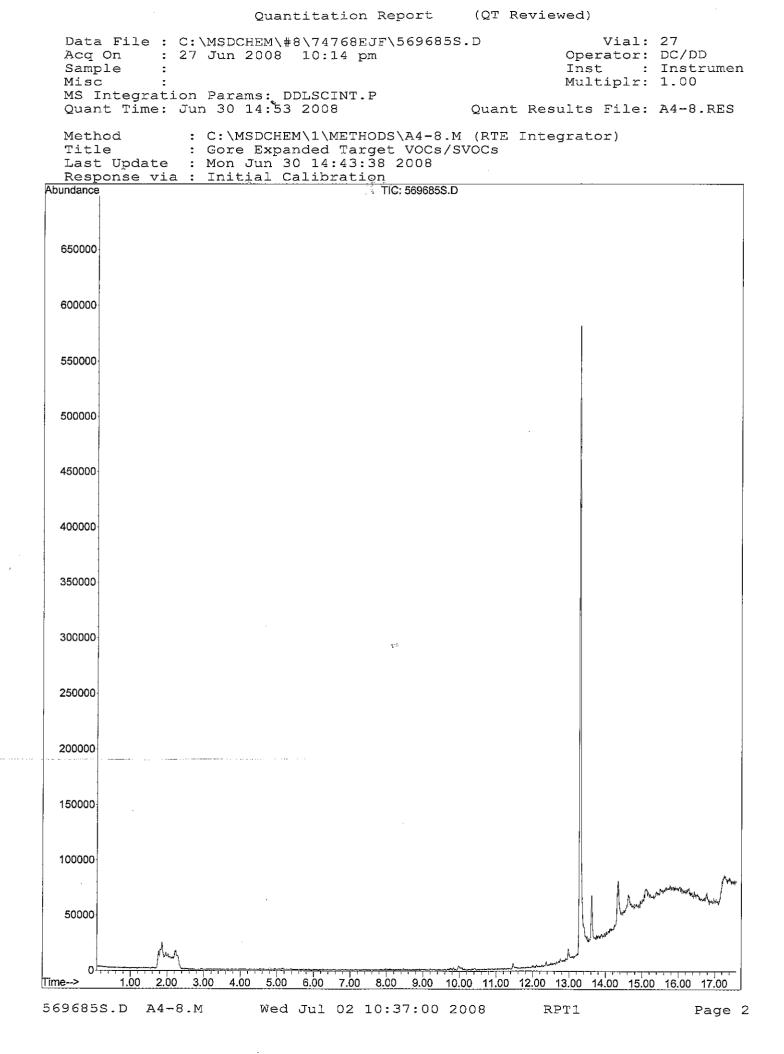


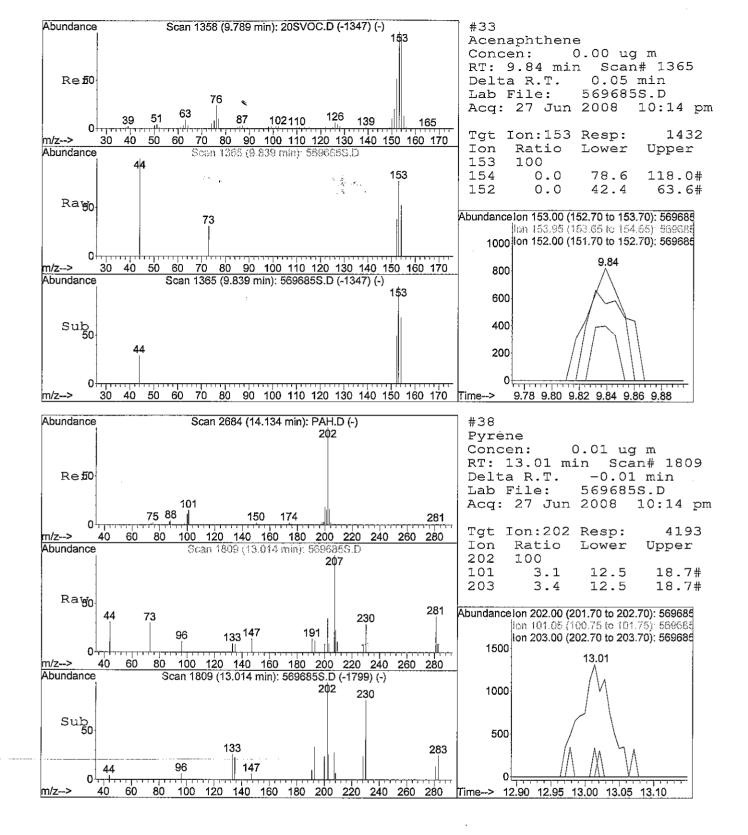




Quantitati	on Repo	ort	(QT Revie	wed)	
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 10:14 pm Sample : Misc : MS Integration Params: DDLSCINT.P			Op In Mu	ltiplr:	DC/DD Instrumen 1.00
Quant Time: Jun 30 14:53:54 2008		Qu	ant Result	s File:	A4-8.RES
Quant Method : C:\MSDCHEM\1\METHO Title : Gore Expanded Targ Last Update : Mon Jun 30 14:43:3 Response via : Initial Calibratio DataAcq Meth : VCGS3-8	et VOCs 8 2008			tor)	
Internal Standards			Response		its Dev(Min)
17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene	2.30 2.524 2.524 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 5.52 5.52 6.22 6.22 5.52 6.22 6.22	61 63 61 97 62 78 97 13 62 117 91 162 113 91 835 105	000000000000000000000000000000000000000	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	Qvalue
<pre>25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	6.47 6.63 7.03 7.84 8.42 8.60 9.60 9.62 9.84 10.36 11.44 11.50 12.76 13.01	$146 \\ 146 \\ 57 \\ 128 \\ 57 \\ 142 \\ 152 \\ 57 \\ 153 \\ 166 \\ 178 \\ 202 \\ 202 \\$	0 0 0 0 0 0 1432m 0 0 0 0 4193m	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	

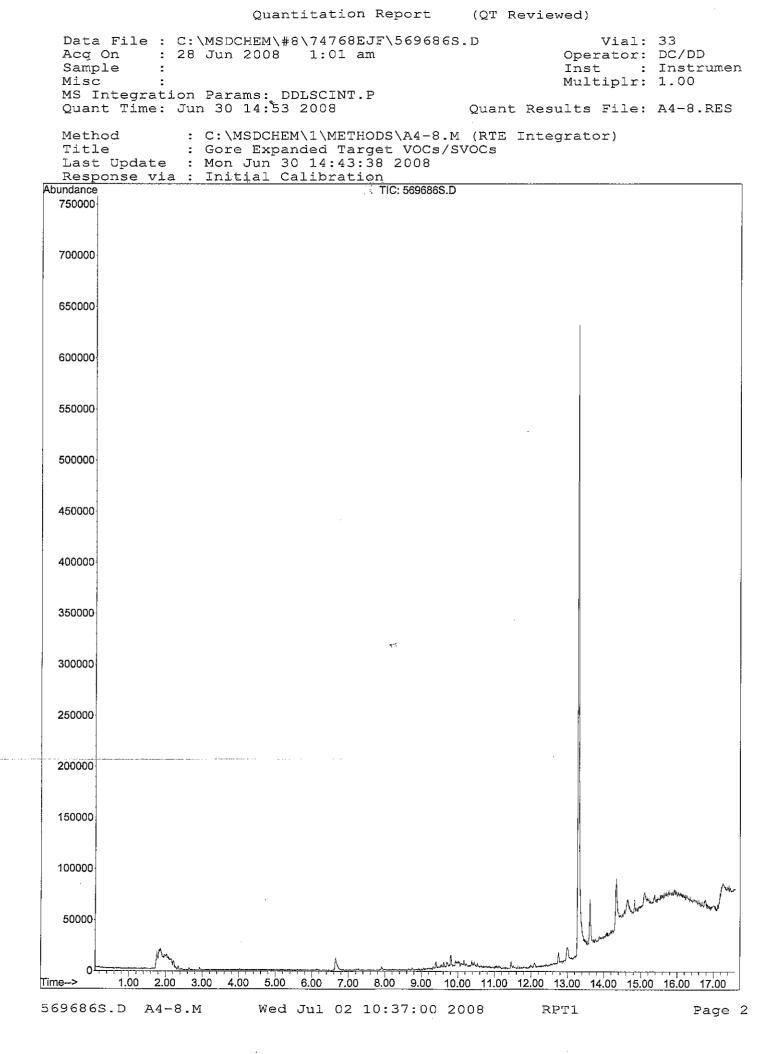
ч.

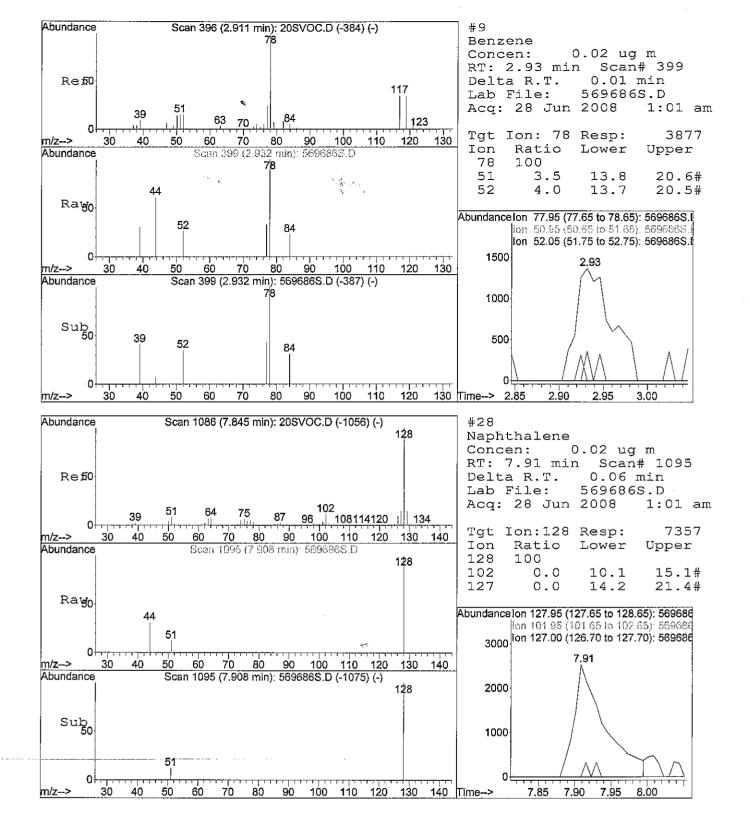


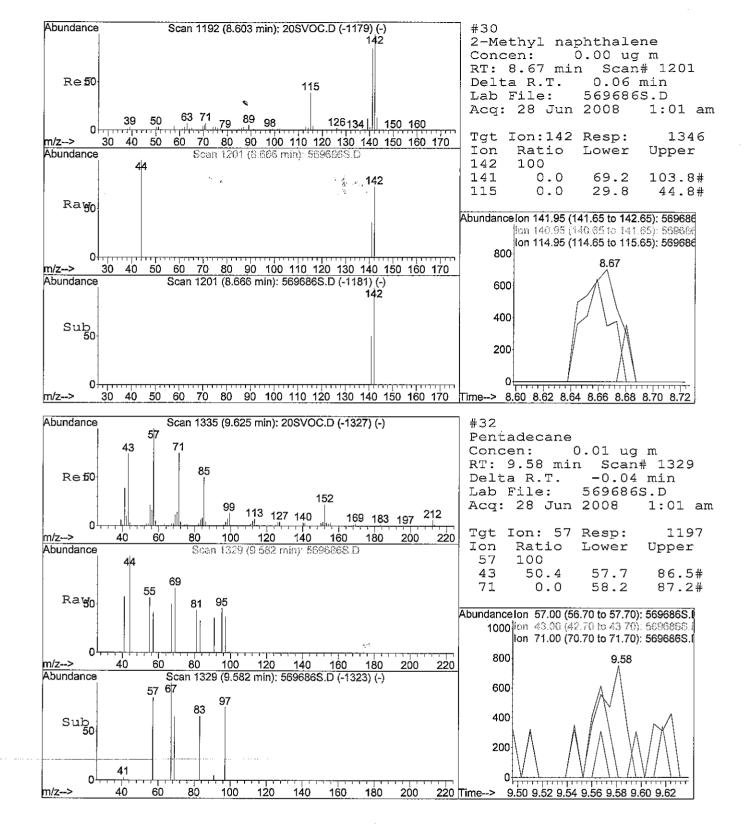


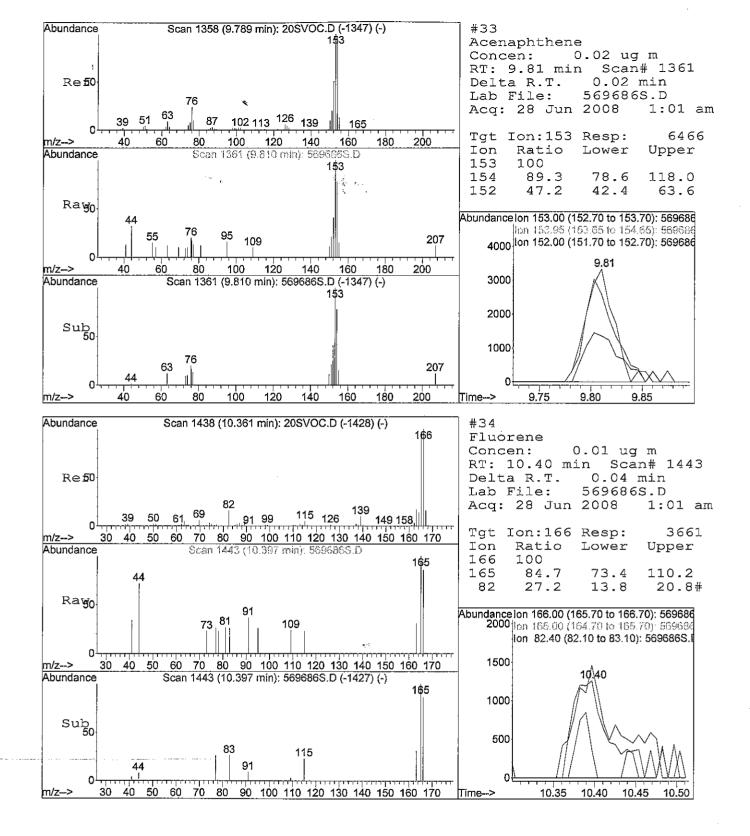
	Quantitati	on Repo	ort	(QT Revie	wed)	
Acq (Samp] Misc	File : C:\MSDCHEM\#8\74768EJ On : 28 Jun 2008 1:01 am le : : ntegration Params: DDLSCINT.P		365.D	Op In	Vial: 33 erator: DC st : In ltiplr: 1.	/DD strumen
	Time: Jun 30 14:53:54 2008		Qu	ant Result	s File: A4	-8.RES
Title Last Respo	E Method : C:\MSDCHEM\1\METHO : Gore Expanded Targ Update : Mon Jun 30 14:43:3 onse via : Initial Calibratio Acq Meth : VCGS3-8	et VOCs 8 2008			tor)	
Inte	ernal Standards	R.T.		Response		
Taro	get Compounds					Qvalue
1)	Methyl t-butyl ether 1,1-Dichloroethene	2.30	73		N.D.	
2)	1,1-Dichloroethene	2.10	61	0	N.D.	
	trans-1,2-Dichloroethene	2.30	61	0	N.D.	
4)	1,1-Dichloroethane	2.37 2.52	63	0	N.D.	
				0	N.D.	
	Chloroform	2.64	83	0	N.D.	
7)	1,1,1-Trichloroethane 1,2-Dichloroethane	2.79	97	0	N.D.	
8)	1,2-Dichloroethane	2.87	62		N.D.	
9)	Benzene	2.93	78	3877m	****	#
10)	Carbon tetrachloride	2.92	117	0	N.D.	
	Trichloroethene	3.28	95	0	N.D.	
		4.13		0	N.D.	
		3.98	91	0	N.D.	
•	Octane	4.29		0	N.D.	
	Tetrachloroethene	4.40			N.D.	
	Chlorobenzene	4.86			N.D.	
	1,1,1,2- Tetrachloroethane			0 0	N.D.	
	Ethylbenzene m,p-Xylene	4.99 5.08	91 91	0	N.D. N.D.	
	o-Xylene	5.32		0	N.D.	
		5.52	22		N.D.	
221	1,1,2,2-Tetrachloroethane 1,3,5-Trimethylbenzene	6 03	105	õ	N.D.	
221	1,2,4-Trimethylbenzene	6.26	105	0	N.D.	
	1,3-Dichlorobenzene		146	ŏ	N.D.	
25)	1,4-Dichlorobenzene	6.47			N.D.	
	1,2-Dichlorobenzene	6.63	146	õ	N.D.	
	Undecane	7.03	57	Ŏ	N.D.	
	Naphthalene	7.91	128	7357m	0.02 ug	井
	Tridecane	8.42	57	0	N.D.	
	2-Methyl naphthalene	8.67	142	1346m	0.00 ug	#
	Acenaphthylene	9.60	152	0	N.D.	
32)	Pentadecane	9.58	57	1197m	0.01 ug	#
	Acenaphthene	9.81	153	6466m	0.02 ug	
	Fluorene	10.40	166	3661m	0.01 ug	#
	Phenanthrene	11.45	178	7207m	0.02 ug	#
	Anthracene	11.52	178	5834m	0.01 ug	#
	Fluoranthene	12.76	202	11957m	0.03 ug	#
38)	Pyrene	13.01	202	13588m	0.03 ug	

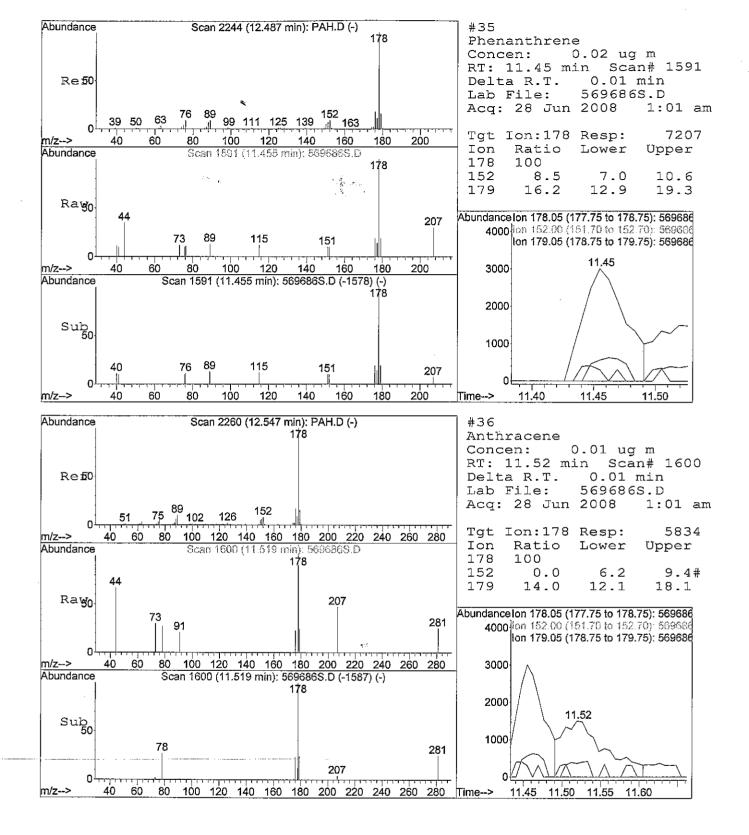
(#) = qualifier out of range (m) = manual integration (+) = signals summed 569686S.D A4-8.M Wed Jul 02 10:37:00 2008 RPT1 Page 1

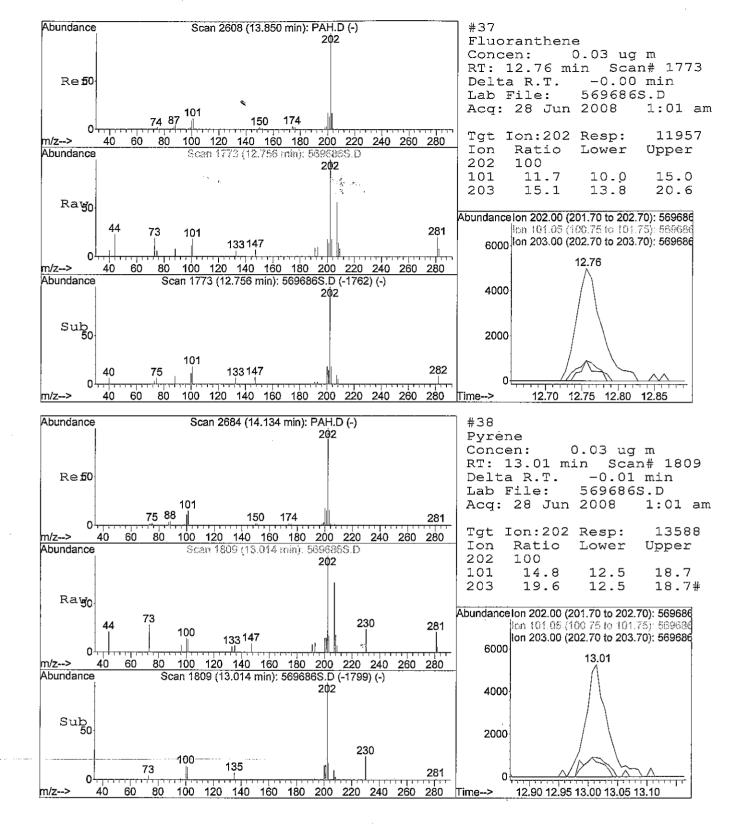






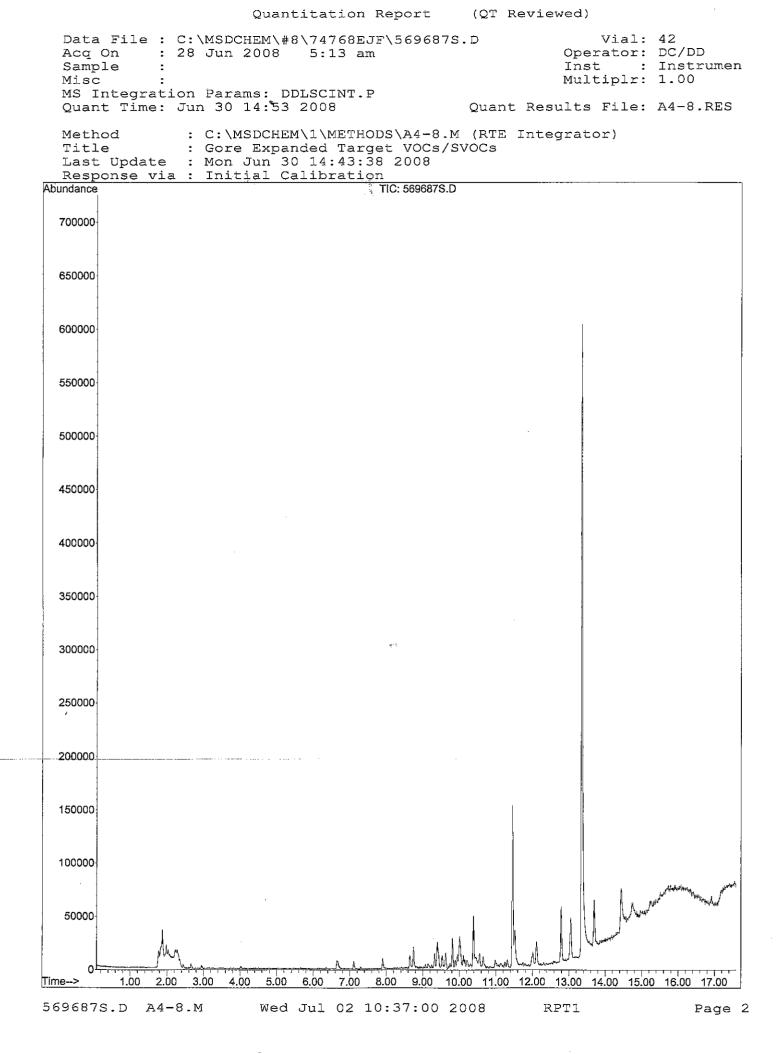


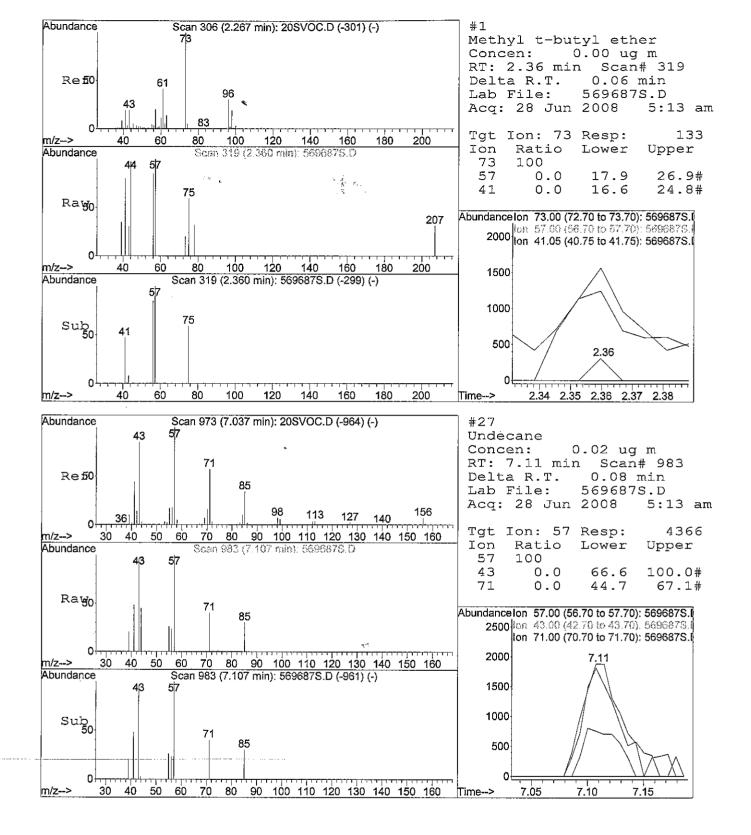


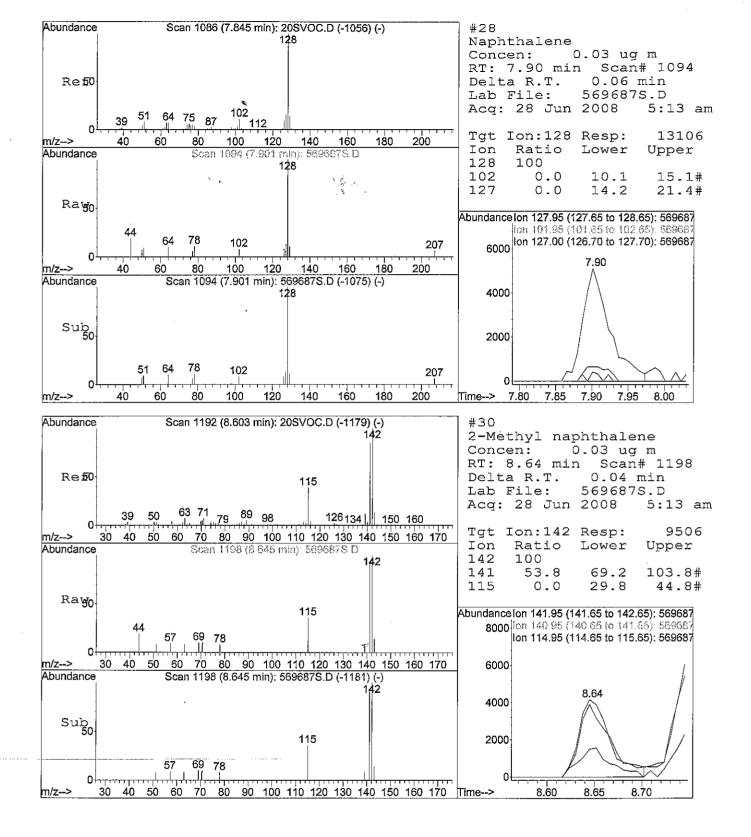


Wed Jul 02 10:42:52 2008

Quantita	ation Repo	ort	(QT Revie	wed)	
Data File : C:\MSDCHEM\#8\74768 Acq On : 28 Jun 2008 5:13 Sample : Misc : MS Integration Params: DDLSCINT Quant Time: Jun 30 14:53:55 200	am		Op In Mu	erator: DC/ st : Ins ltiplr: 1.(trumen)0
Quant Method : C:\MSDCHEM\1\MET Title : Gore Expanded Ta Last Update : Mon Jun 30 14:43 Response via : Initial_Calibrat DataAcq Meth : VCGS3-8	THODS\A4-8 arget VOCs 3:38 2008 tion	.M (R /SVOC	TE Integra s	tor) .	
Internal Standards				Conc Units	
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	2.30 2.37 2.52 2.64 2.79 2.87 2.92 3.28 4.13 3.98 4.29 4.40 4.86 4.93 4.99 5.08 5.32 5.60 6.03	613 63137287 1957136211139 16121139 10135	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	Qvalue # # # # # # # # # #

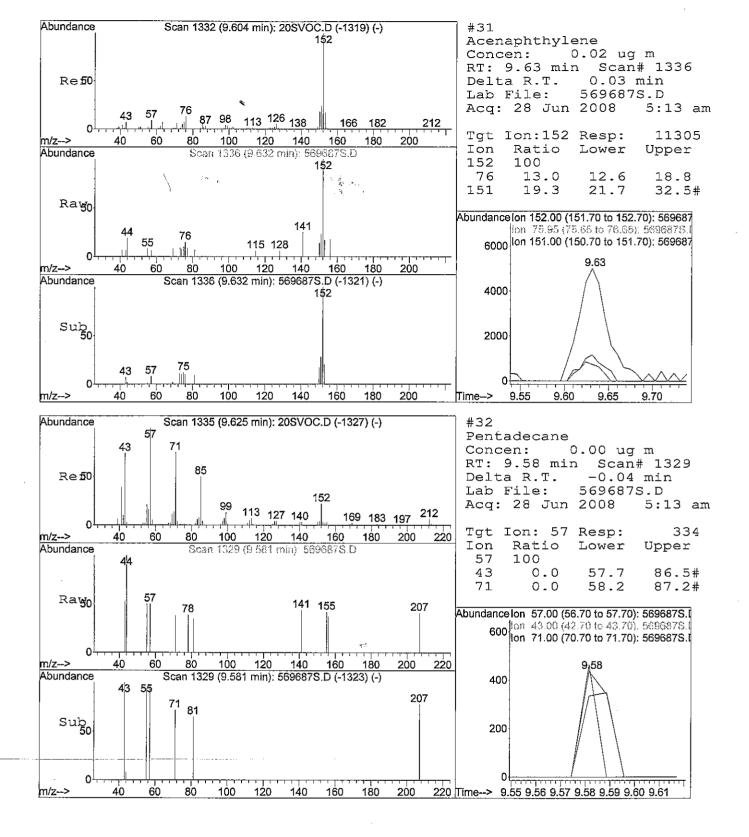


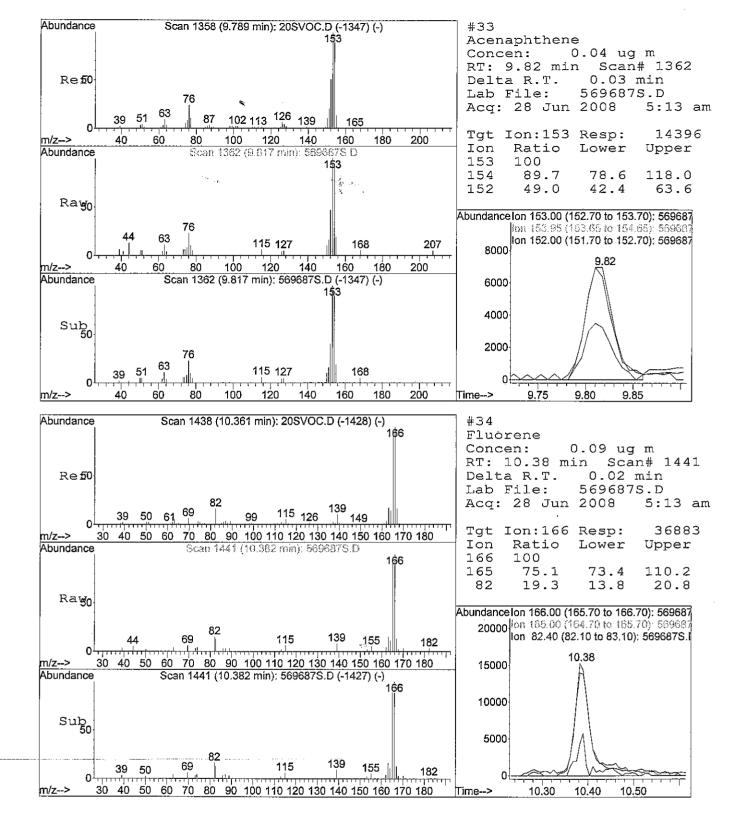




RPT1

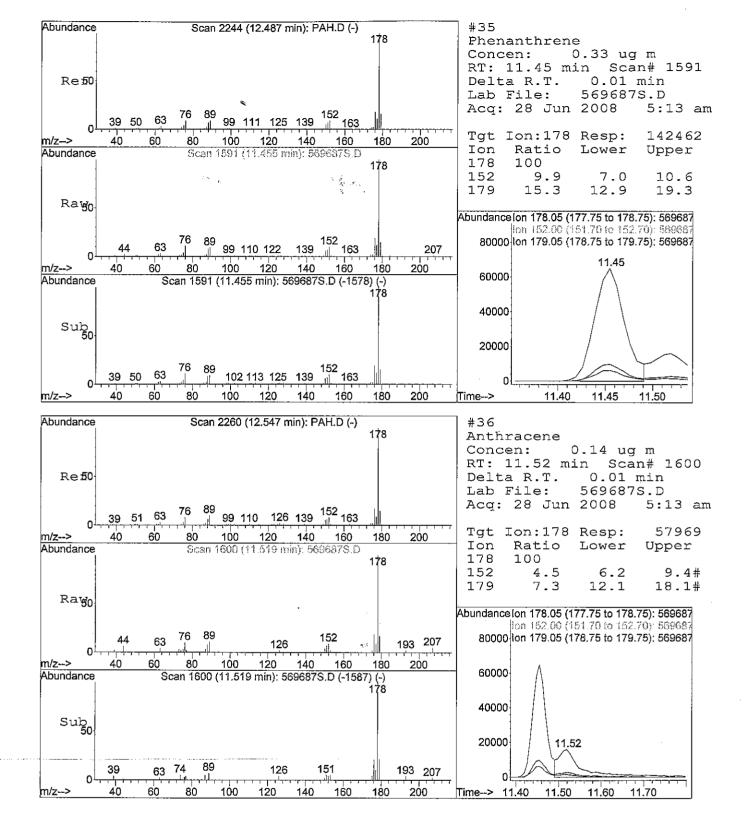
Page 4

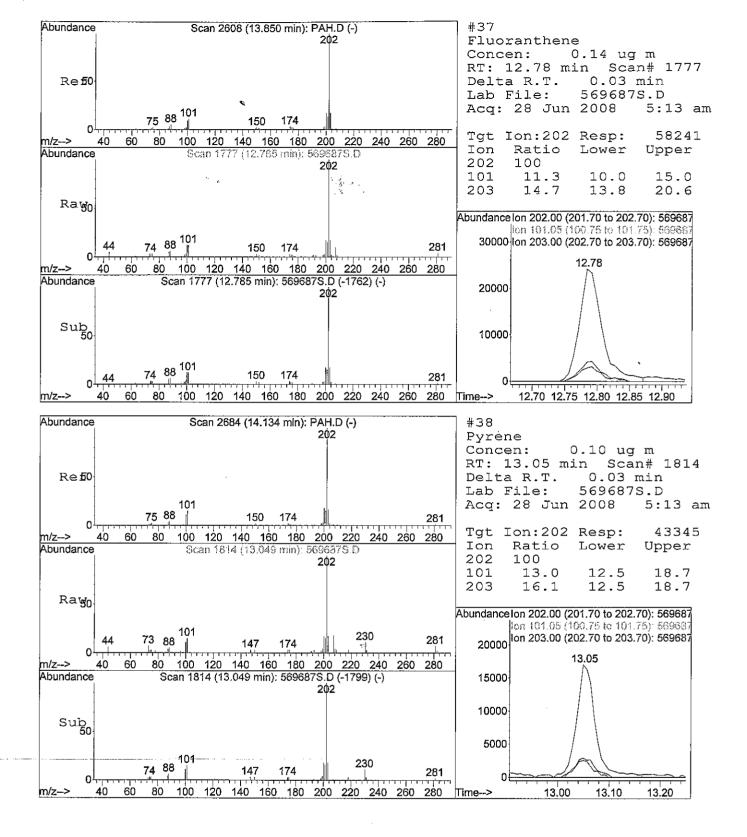




RPT1

Page 6





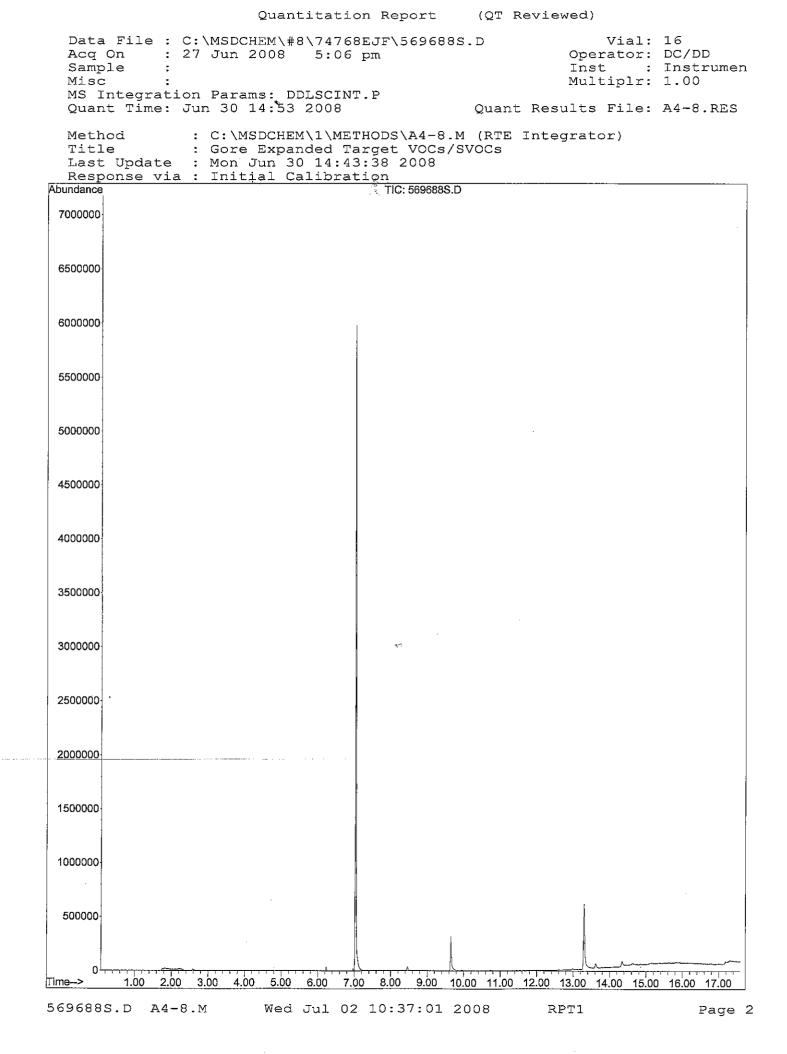
Wed Jul 02 10:42:53 2008

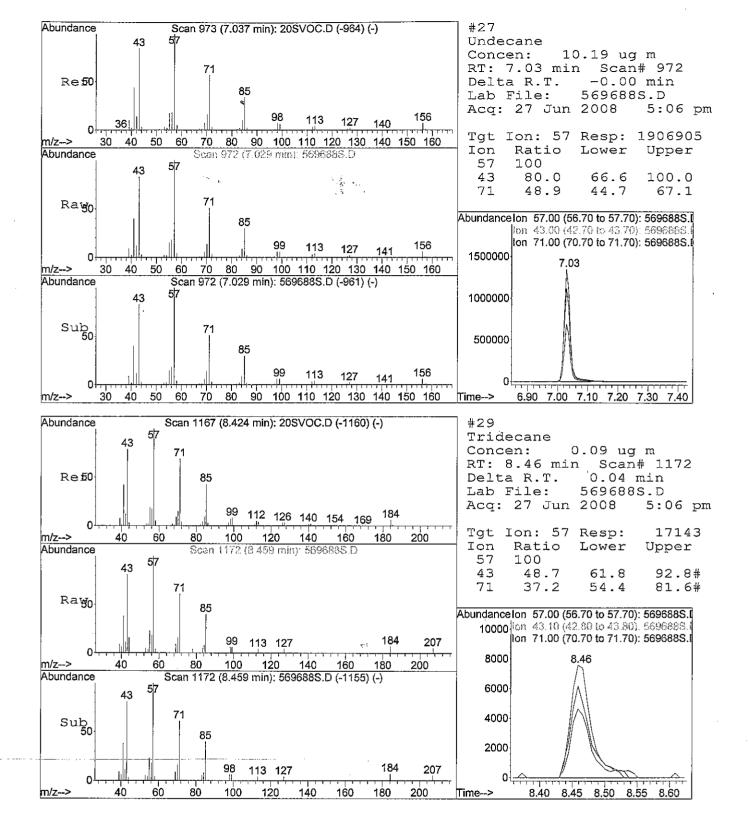
RPT1

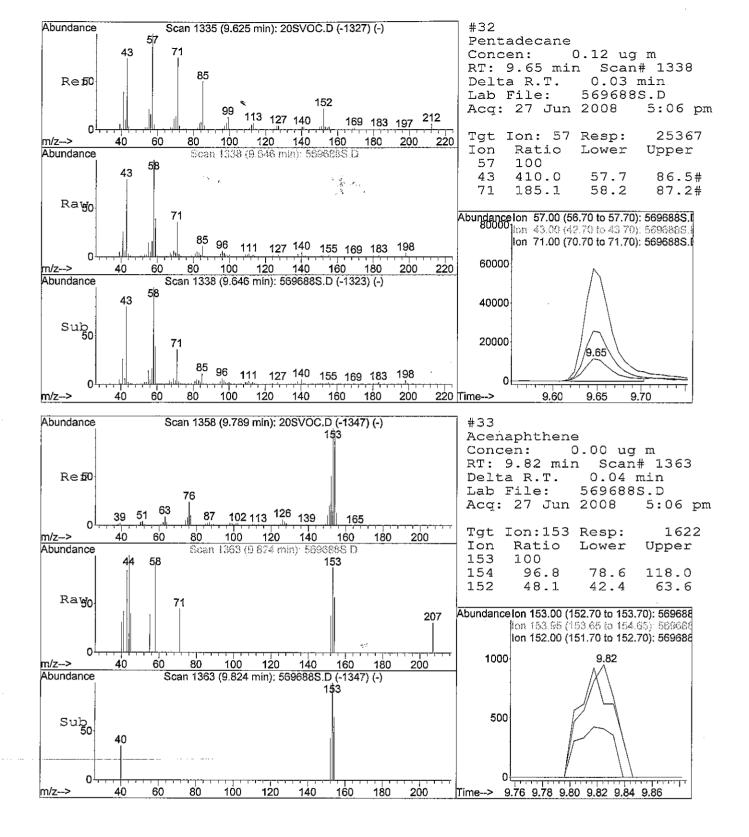
Page 8

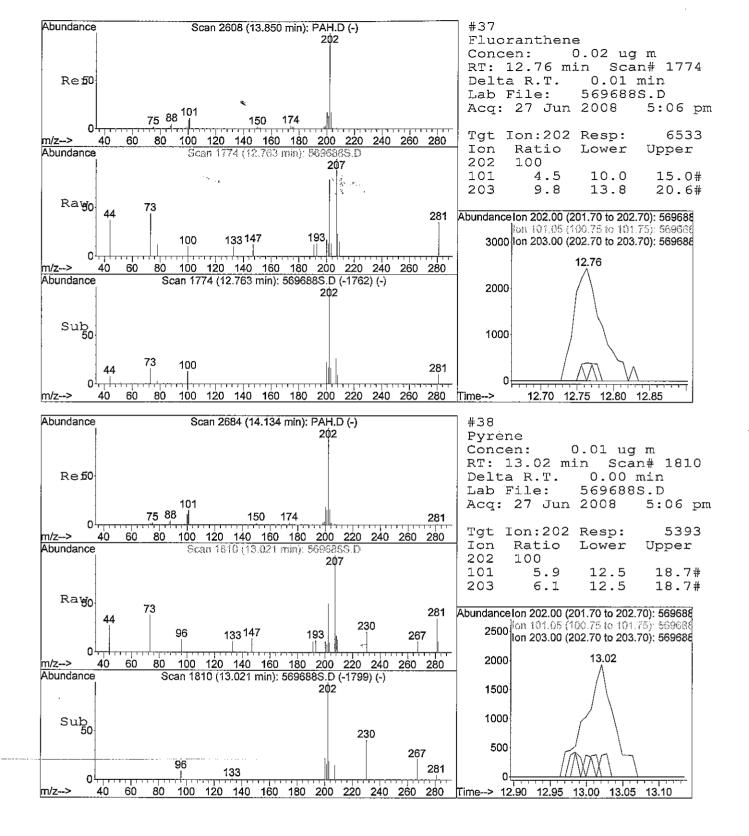
Quantitat	ion Repo	ort	(QT Revie	wed)	
Data File : C:\MSDCHEM\#8\74768E Acq On : 27 Jun 2008 5:06 p Sample : Misc : MS Integration Params: DDLSCINT.	m P		Op In Mu	ltiplr:	DC/DD Instrumen 1.00
Quant Time: Jun 30 14:53:55 2008		Qu	ant Result	s File: A	44-8.RES
Quant Method : C:\MSDCHEM\1\METH Title : Gore Expanded Tar Last Update : Mon Jun 30 14:43: Response via : Initial Calibrati DataAcq Meth : VCGS3-8	get VOC <i>s</i> 38 2008			tor)	
Internal Standards			Response		its Dev(Min)
12) 1,1,2- Trichloroethane 13) Toluene	2.30 2.37 2.52 2.64 2.79 2.87 2.92 3.28 4.13 3.98	61 63 61 97 62 78 117 95 97 91		N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	Qvalue
<pre>19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene</pre>	4.29 4.40 4.86 4.93 4.99 5.08 5.32 5.60 6.03 6.26 6.39 6.47 6.63	43 166 112 131 91 91 83 105 105 146 146		N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	, and the second second second second second second second second second second second second second second se
27) Undecane 28) Naphthalene	7.03 7.84	57 128	1906905m 0	10.19 ι N.D.	ıg #
<pre>29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene</pre>	8.46 8.60 9.60 9.65 9.82 10.36 11.44 11.50	57 142 152 57 153 166 178 178	17143m 0 25367m 1622m 0 0 0	0.09 1 N.D. 0.12 1 0.00 1 N.D. N.D. N.D.	1g # 1g #
37) Fluoranthene 38) Pyrene	12.76 13.02	202 202	6533m 5393m	0.02 ı 0.01 ı	

.....





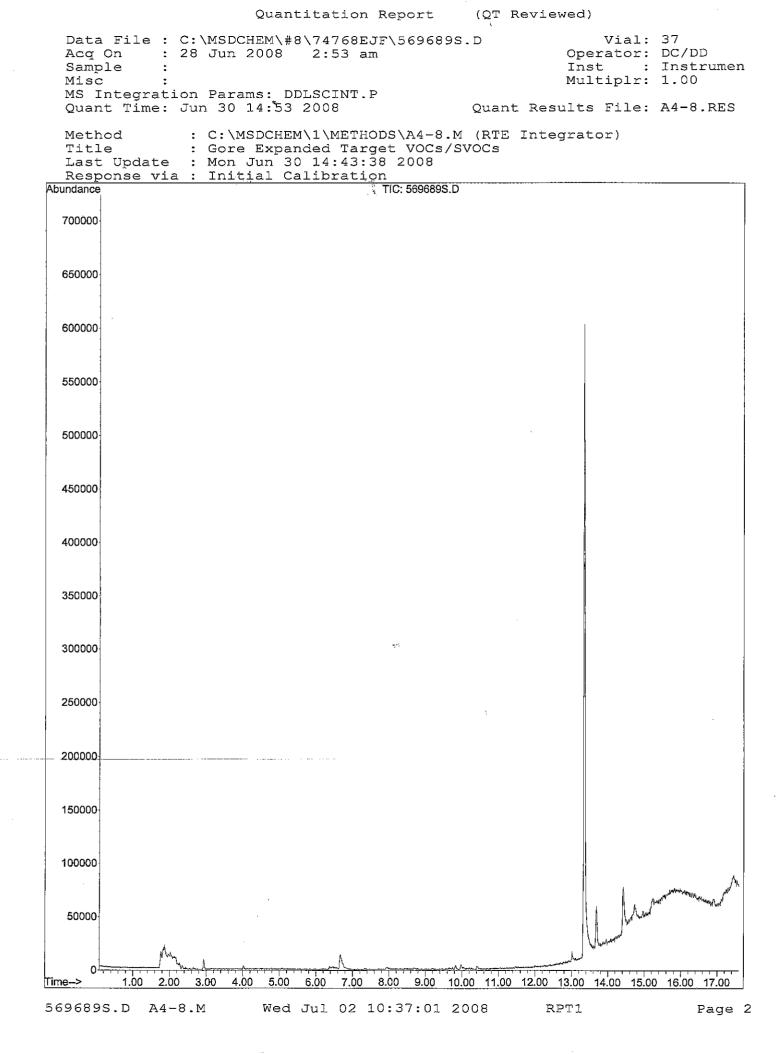


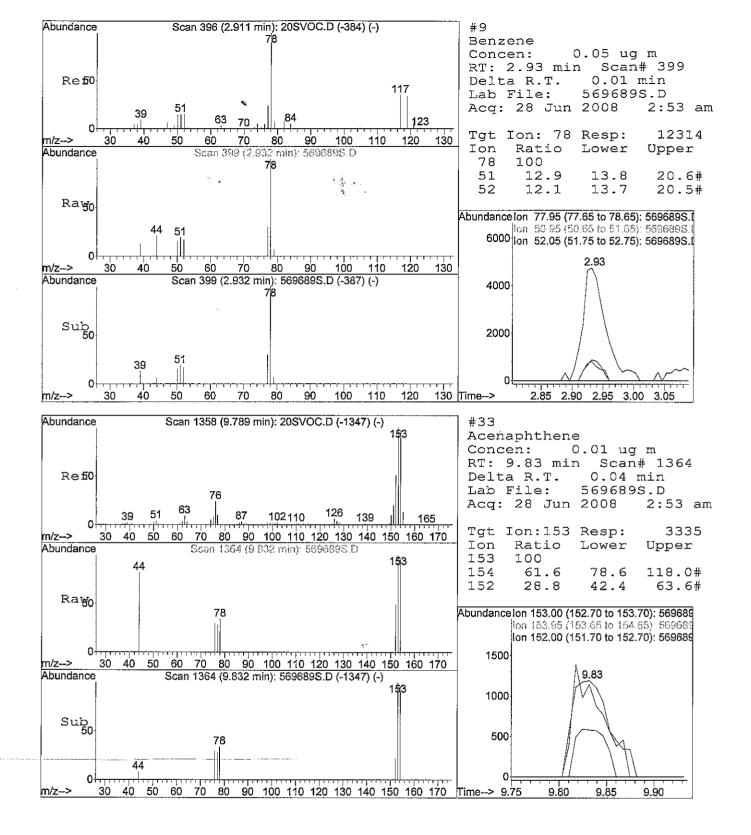


Quantitati	on Repo	ort	(QT Revie	wed)	
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 28 Jun 2008 2:53 am Sample : Misc : MS Integration Params: DDLSCINT.P		395.D	Op In	Vial: erator: st : ltiplr:	DC/DD Instrumen
Quant Time: Jun 30 14:53:55 2008		Qu	ant Result	s File:	A4-8.RES
Quant Method : C:\MSDCHEM\1\METHO Title : Gore Expanded Targ Last Update : Mon Jun 30 14:43:3 Response via : Initial_Calibratio DataAcq Meth : VCGS3-8	et VOCs 8 2008			tor)	
Internal Standards			Response		its Dev(Min)
<pre>7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene</pre>	2.30 2.37 2.54 2.64 2.77 2.87 2.99 2.99 2.23 3.23 3.23 3.23 4.89 9.23 4.89 9.20 4.89 9.08 4.998 5.00	61 63 97 62 78 97 91 166 112 131 91	0 0 0 0 0 0 0 12314m 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. O.05 N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D	ug #
<pre>20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	6.26 6.39	105 146	0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	ug #

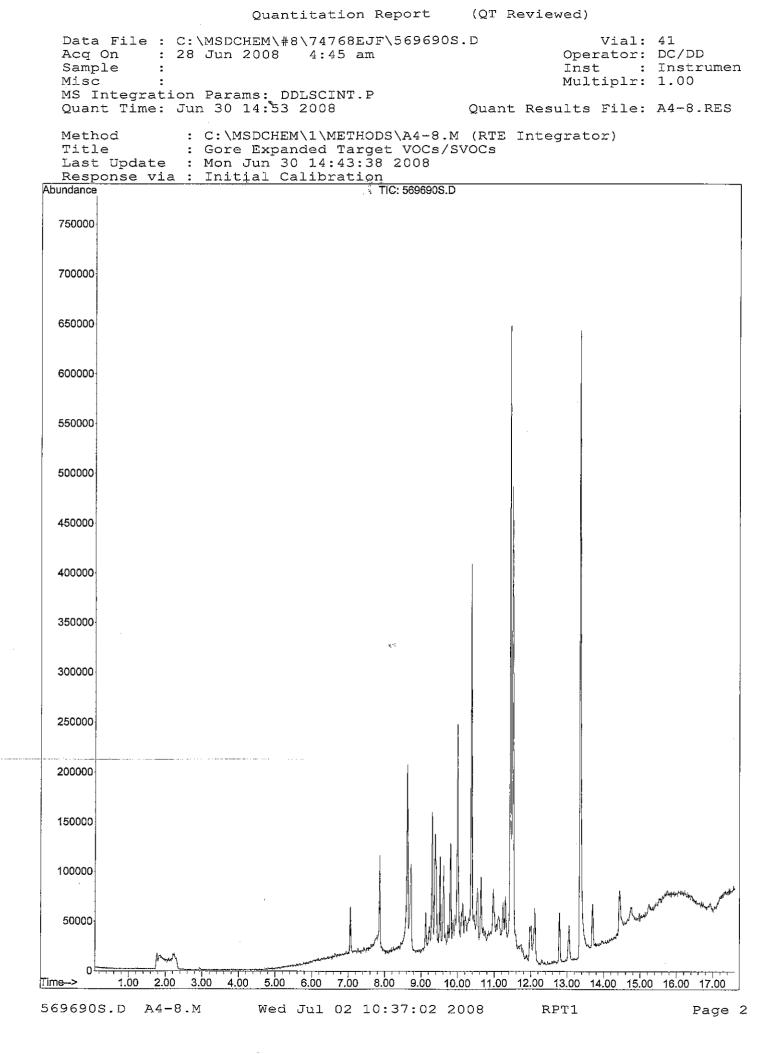
_ _ _ _ _ _

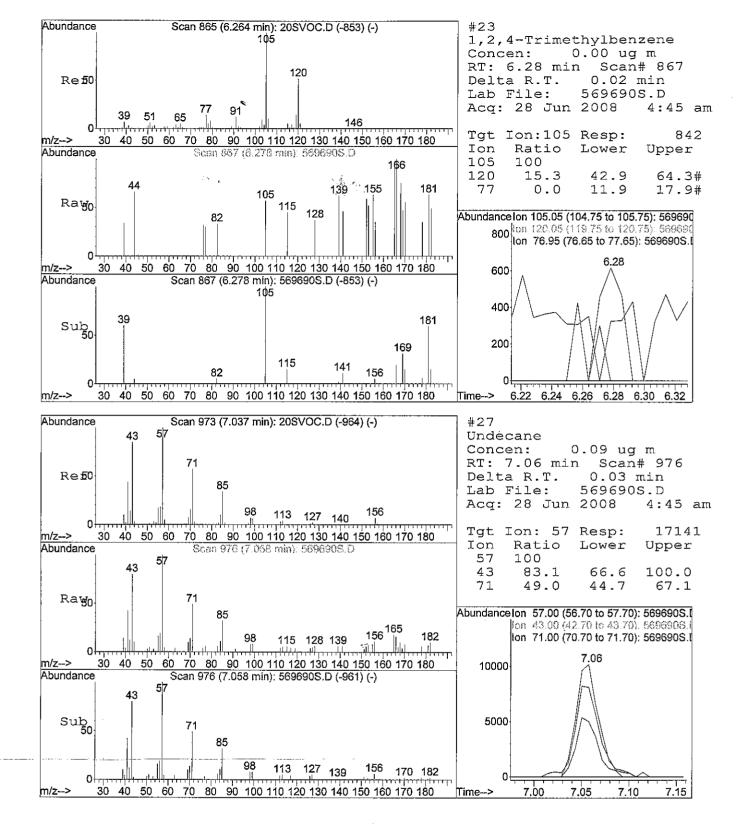
.

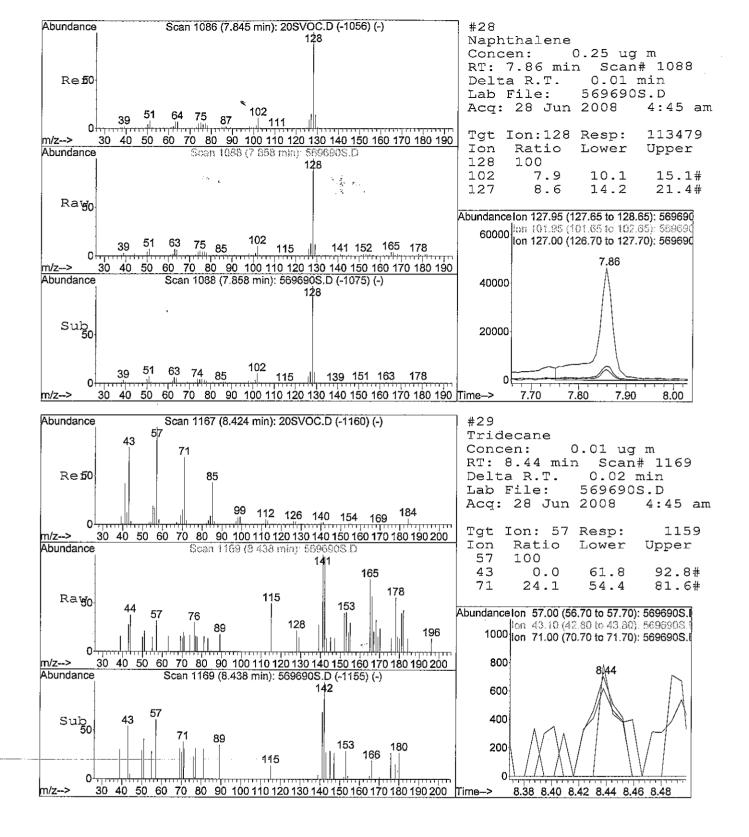


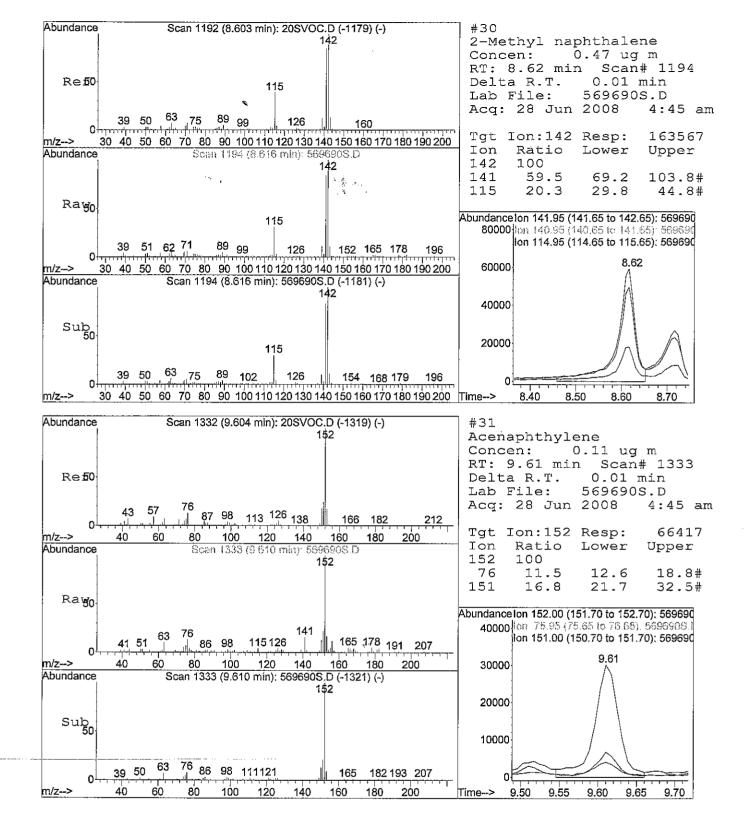


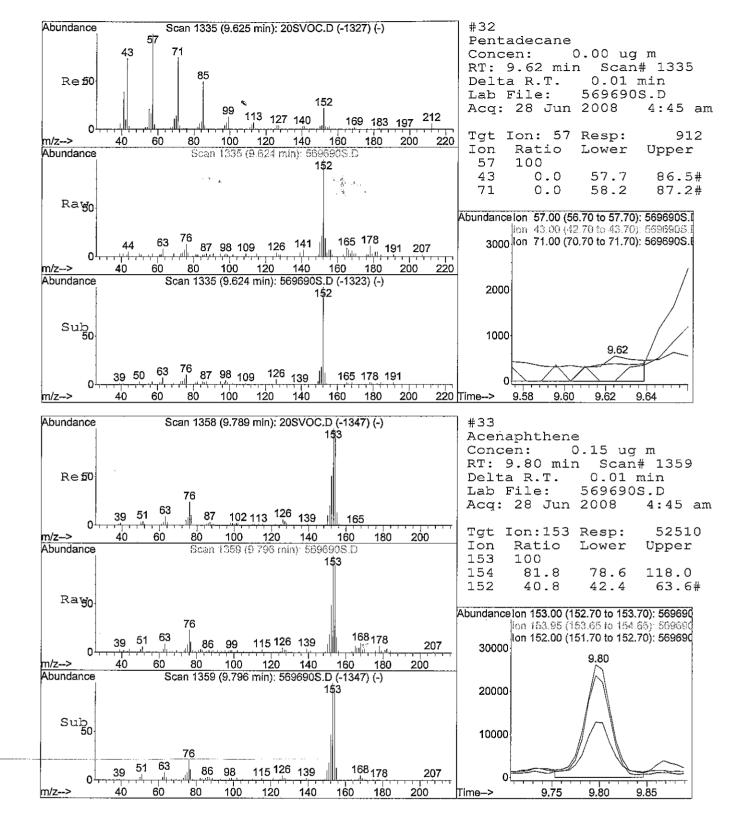
	Quantitati	on Repo	ort	(QT Revie	wed)		
Acq O Sampl Misc	:		0S.D	In	Vial: erator: st : ltiplr:	DC/D Inst	rumen
	tegration Params: DDLSCINT.P Time: Jun 30 14:53:56 2008		Qu	ant Result	s File:	A4-8	RES
Title Last Respo	Method : C:\MSDCHEM\1\METHO : Gore Expanded Targ Update : Mon Jun 30 14:43:3 nse via : Initial Calibratio cq Meth : VCGS3-8	et VOCs 8 2008			tor)		
	rnal Standards			Response			Dev(Min)
Targ	et Compounds			2			Qvalue
1)	Methyl t-butyl ether 1,1-Dichloroethene	2.30 2.10	73	0	N.D.		
2) 2)	1,1-Dichloroethene	2.10	61 61		N.D. N.D.		
	trans-1,2-Dichloroethene 1,1-Dichloroethane	2.30	61 63	0 0	N.D. N.D.		
	cis-1,2-Dichloroethene	2.37 2.52	61		N.D.		
	Chloroform	2.64	83		N.D.		
		2.79	97		N.D.		
8)	1,1,1-Trichloroethane 1,2-Dichloroethane	2.87	62		N.D.		
	Benzene	2.92	78		N.D.		
	Carbon tetrachloride			0	N.D.		
11)	Trichloroethene	3.28	95	0	N.D.		
12)	1,1,2- Trichloroethane	3.28 4.13	97	0	N.D.		
	Toluene	3.98	91	Ò	N.D.		
		4.29	43	0	N.D.		
	Tetrachloroethene	4.40			N.D.		
	Chlorobenzene	4.86			N.D.		
	1,1,1,2- Tetrachloroethane			0	N.D.		
	Ethylbenzene	4.99		0	N.D.		
	m,p-Xylene	5.08		0	N.D.		
	o-Xylene	5.32	91	0	N.D.		
22)	1,1,2,2-Tetrachloroethane 1,3,5-Trimethylbenzene	5.00	105	0 0	N.D. N.D.		
231	1,2,4-Trimethylbenzene	6.28	105	842m			#
24)	1,3-Dichlorobenzene	6.39	146	0,22,11	N.D.	-	π
25)	1,4-Dichlorobenzene	6.47			N.D.		
	1,2-Dichlorobenzene	6.63	146	õ	N.D.		
	Undecane	7.06	57	17141m	0.09		#
28)	Naphthalene	7.86	128	113479m	0.25		#
	Tridecane	8.44	57	1159m	0.01		#
	2-Methyl naphthalene	8.62	142	163567m	0.47	ug	#
	Acenaphthylene	9.61	152	66417m	0.11		#
	Pentadecane	9.62	57	912m	0.00	ug	#
	Acenaphthene	9.80	153	52510m	0.15		#
	Fluorene	10.37	166	237412m	0.56		#
	Phenanthrene	11.44	178	606711m	1.42		#
	Anthracene	11.50	178	499320m	1.17		#
	Fluoranthene	12.78	202	58365m	0.14		#
38)	Pyrene	13.05	202	39295m	0.09	ug	#



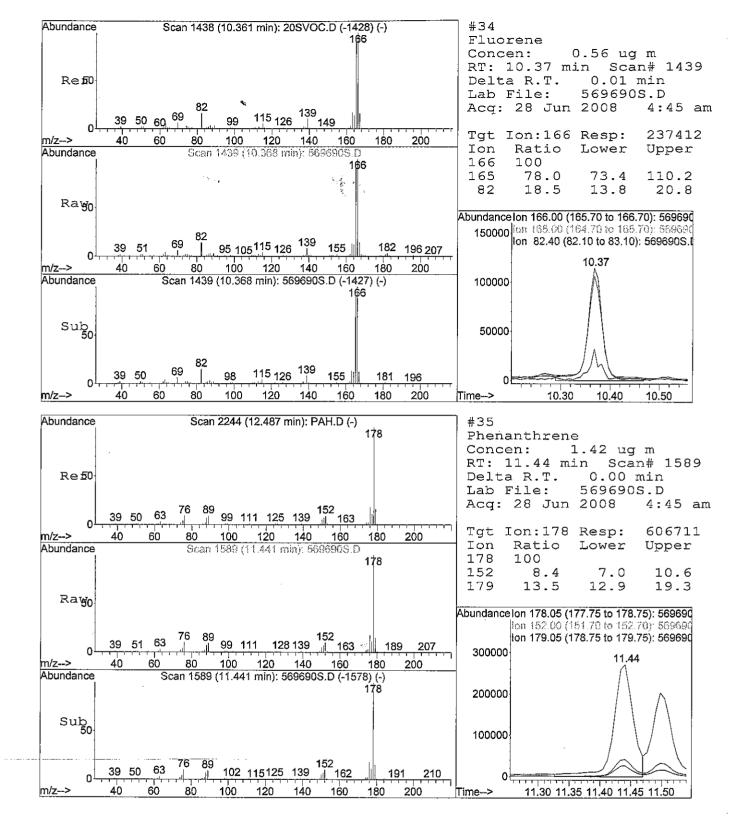


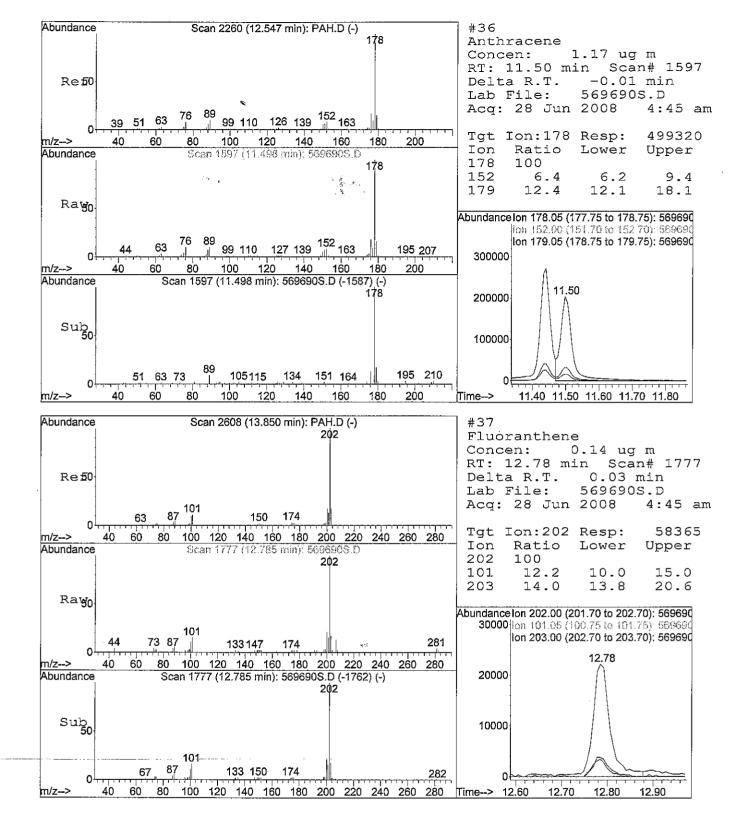




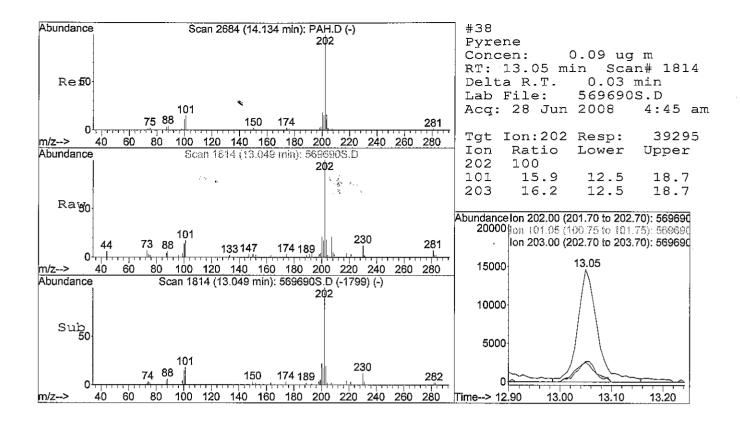


RPT1





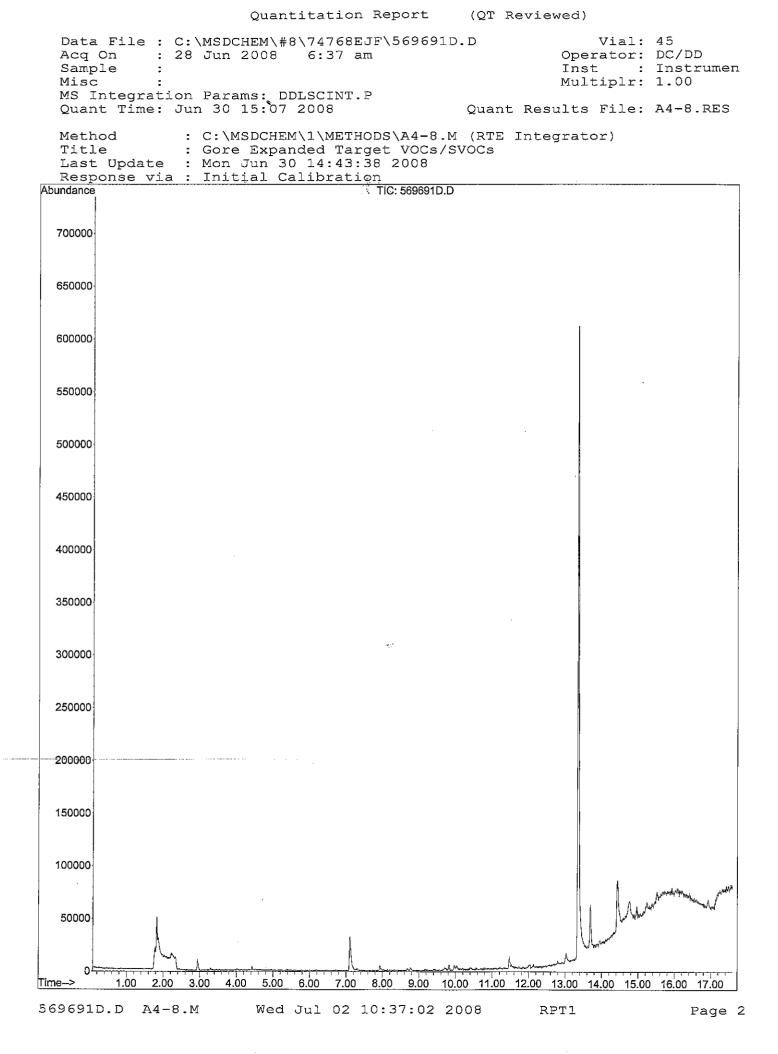
RPT1

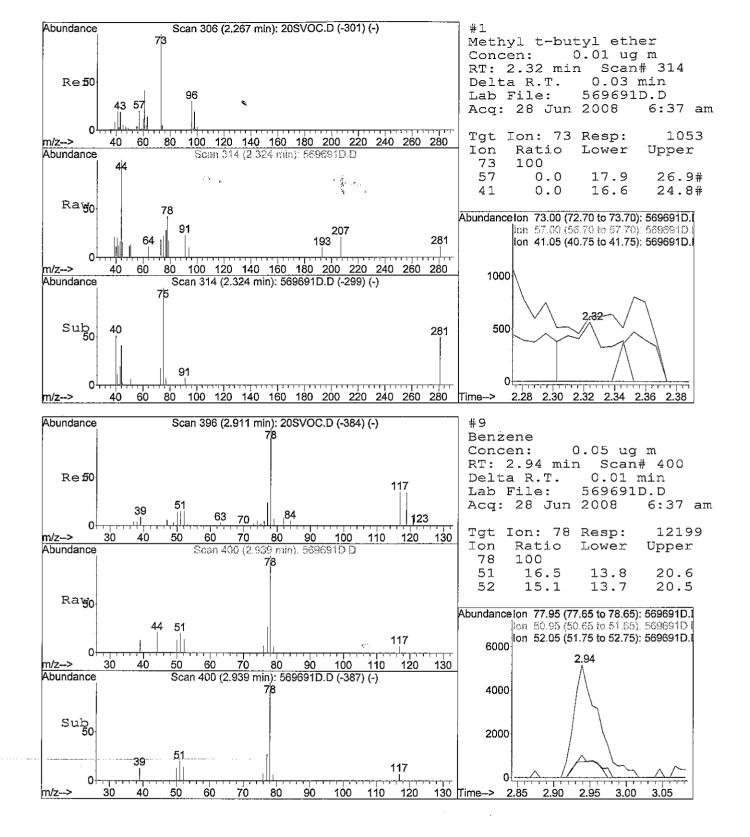


Wed Jul 02 10:42:55 2008

RPT1

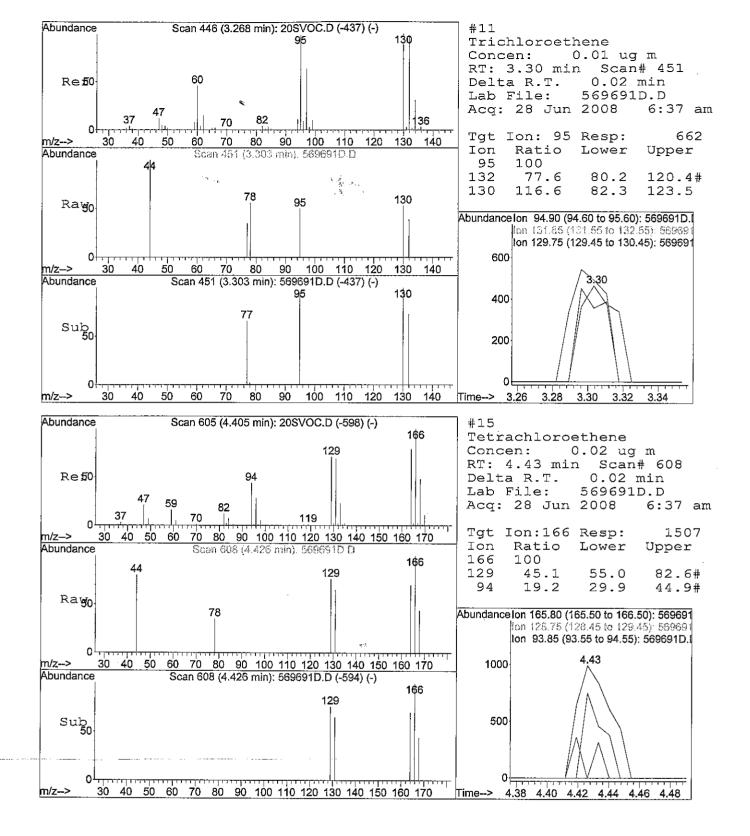
Quantitation Report (QT Reviewed)						
Data File : C:\MSDCHEM\#8\74768E3 Acq On : 28 Jun 2008 6:37 an Sample : Misc :	n	91D.D	In	Vial: 4 erator: D st : I ltiplr: 1	C/DD nstrumen	
MS Integration Params: DDLSCINT.E Quant Time: Jun 30 14:53:56 2008		Qu	ant Result	s File: A	4-8.RES	
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8						
Internal Standards	R.T.	QIon	Response	Conc Uni	ts Dev(Min)	
Target Compounds						
 1,1-Dichloroethene trans-1,2-Dichloroethene 1,1-Dichloroethane cis-1,2-Dichloroethene Chloroform 1,1,1-Trichloroethane 	2.37 2.52 2.64 2.79	61 63 61 83 97	1053m 0 0 0 0 0 0 0	0.01 u N.D. N.D. N.D. N.D. N.D. N.D. N.D.	Qvalue g #	
8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride	2.94	78 117			g #	
11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene	3.30 4.13 3.98	95 97 91	662m 0 0	0.01 u N.D. N.D.	ð #	
<pre>14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene</pre>	4.99 5.08 5.32 5.60 6.03 6.26 6.39 6.47	166 112 131 91 91 83 105 105 146 146		N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	g #	
 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 	6.63 7.10 7.84 8.42 8.60 9.60 9.62	$146 \\ 57 \\ 128 \\ 57 \\ 142 \\ 152 \\ 57 \\ 57 \\ 152 \\ 57 \\ 146 \\ 57 \\ 57 \\ 57 \\ 57 \\ 57 \\ 57 \\ 57 \\ 5$	0 25707m 0 0 0 0	N.D. 0.14 u N.D. N.D. N.D. N.D. N.D.	g #	
33) Acenaphthene 34) Fluorene	9.82 10.36	153 166	3181m 0	0.01 u N.D.	g #	
35) Phenanthrene 36) Anthracene	11.47 0.00	178 178	11892m 0	0.03 u N.D.		
37) Fluoranthene 38) Pyrene	12.80 13.06	202 202	4731m 4296m	0.01 u 0.01 u	g #	

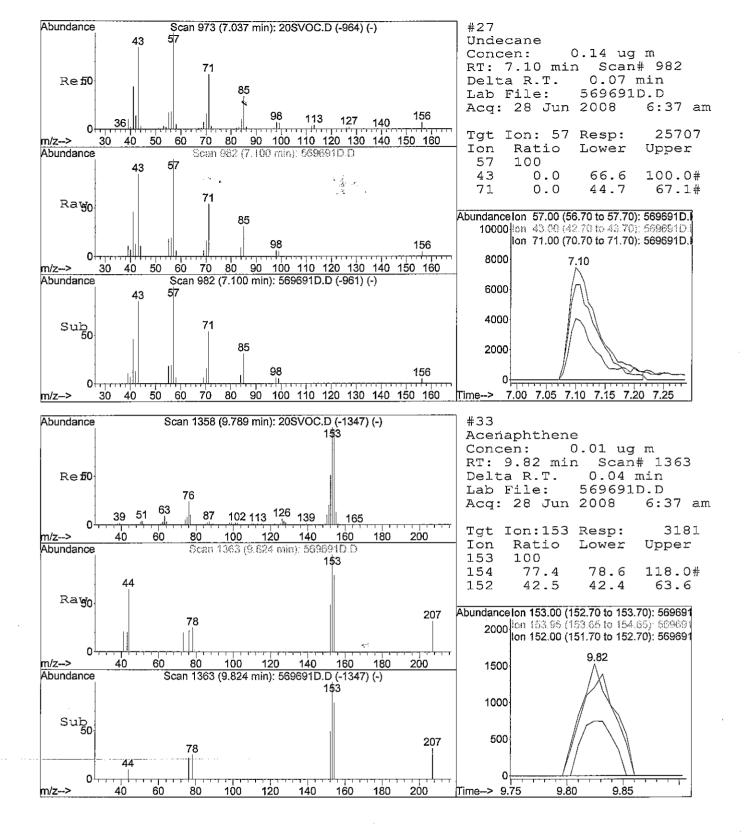




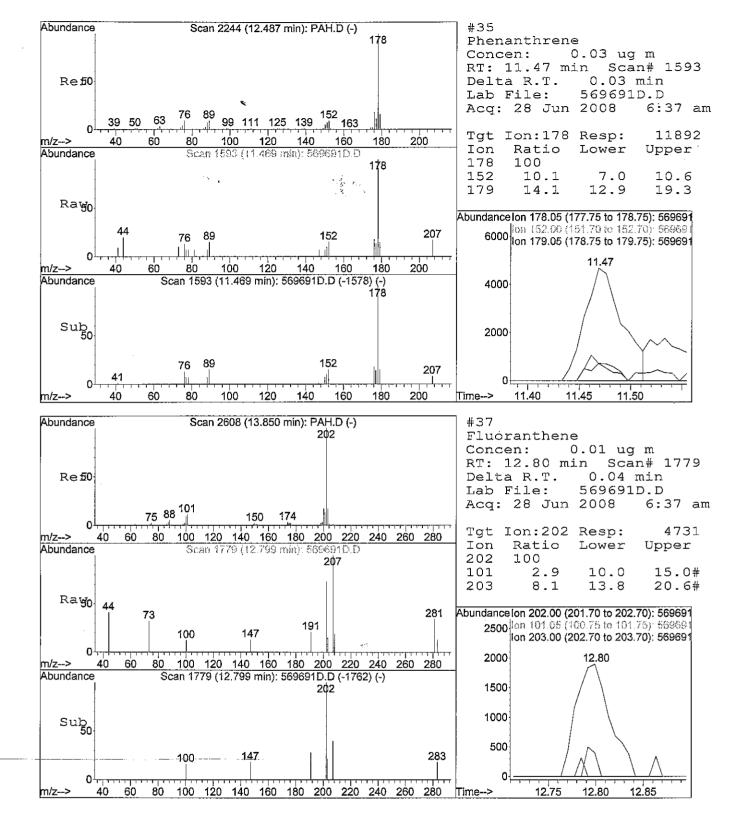
569691D.D A4-8.M

RPT1

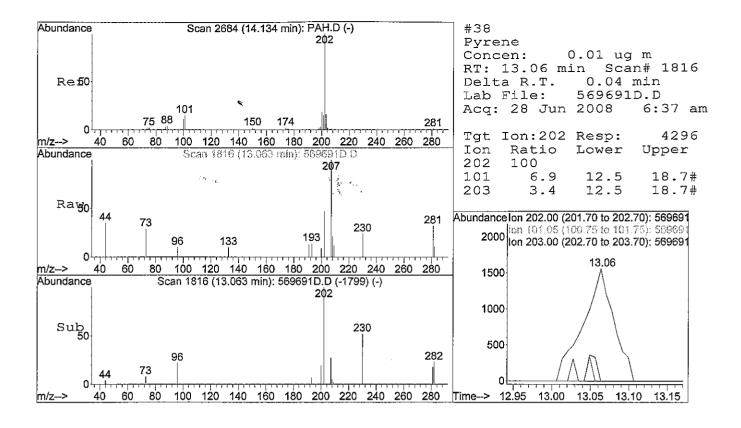




569691D.D A4-8.M



569691D.D A4-8.M

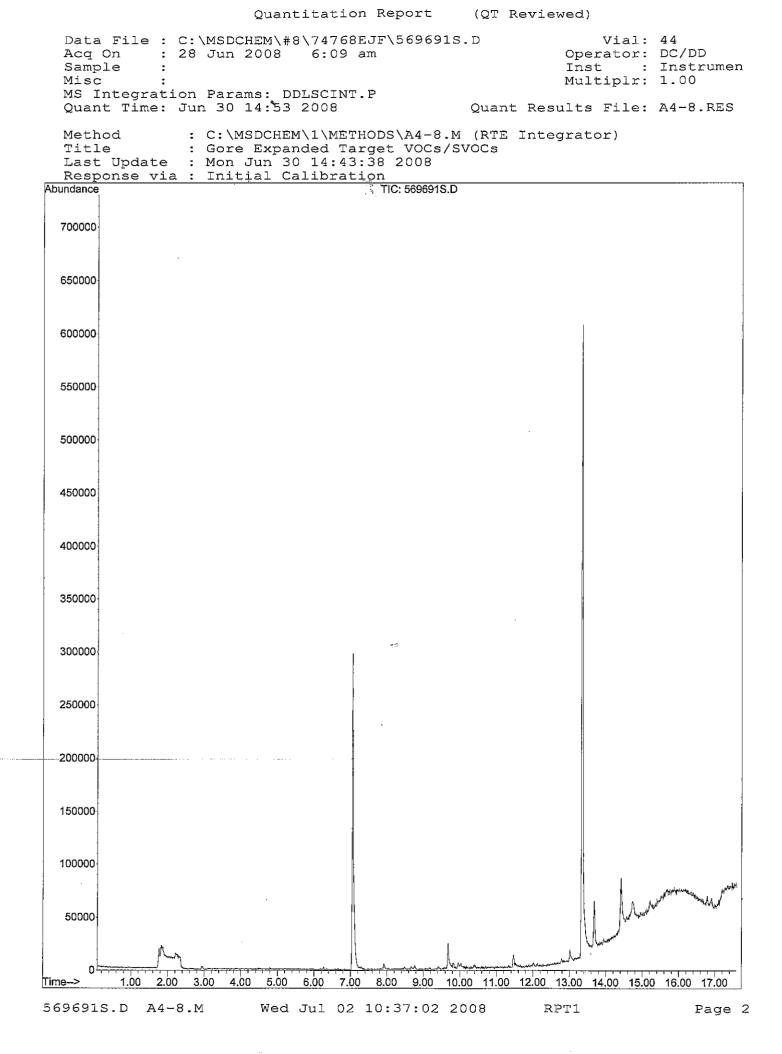


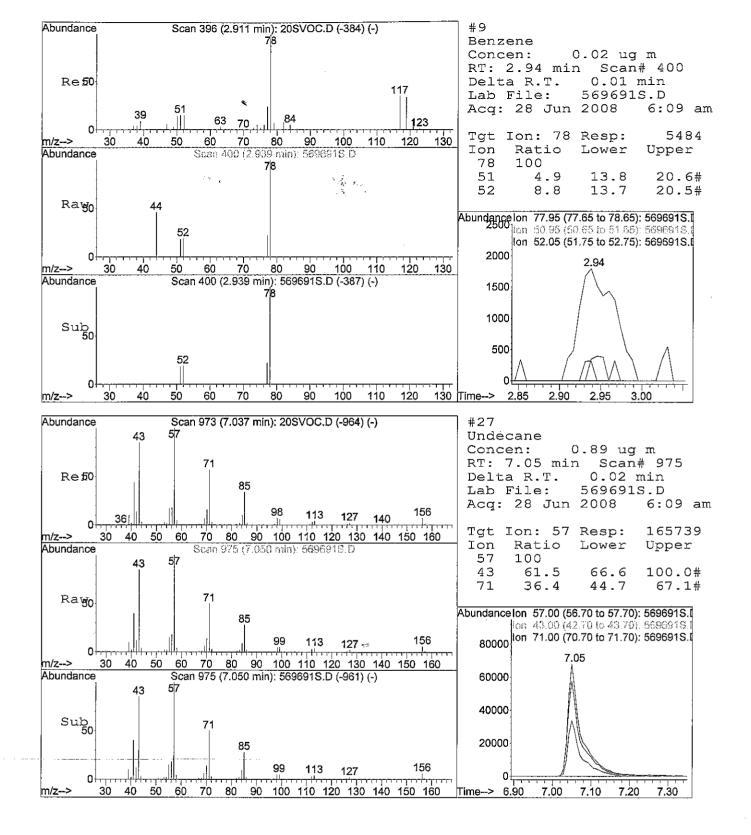
569691D.D A4-8.M Wed Jul 02 10:42:56 2008

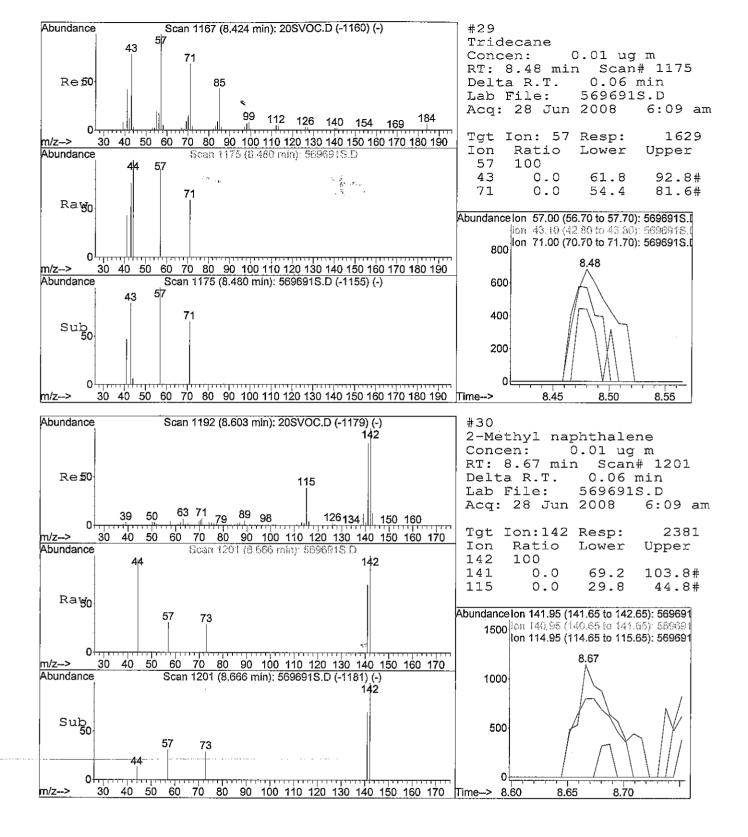
Quantitation Report (QT Reviewed)						
Data File : C:\MSDCHEM\#8\74768E3 Acq On : 28 Jun 2008 6:09 ar Sample : Misc :		915.D	Op In	Vial: erator: st : ltiplr:	DC/DD Instrumen	
MS Integration Params: DDLSCINT.H Quant Time: Jun 30 14:53:57 2008		Qu	ant Result	s File: .	A4-8.RES	
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration						
Internal Standards			Response		its Dev(Min)	
Target Compounds	2 30	73	0	ר זו	Qvalue	
<pre>3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane</pre>	$\begin{array}{c} 2.37\\ 2.52\\ 2.64\\ 2.79\\ 2.87\\ 2.94\\ 2.92\\ 3.28\\ 4.13\\ 3.98\\ 4.29\\ 4.86\\ 4.93\\ 4.99\\ 5.08\\ 5.60\end{array}$	61 63 61 97 68 77 97 13 66 112 91 91 83	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	ug #	
<pre>22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane</pre>	6.26 6.39 6.47 6.63 7.05	146	0 0 0 0 165739m	N.D. N.D. N.D. N.D. N.D. 0.89	nd #	
28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene	7.84 8.48 8.67	128 57 142	0 1629m 2381m	N.D. 0.01 1 0.01 1	ug #	
31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene	9.60 9.59 9.82 10.36	152 57 153 166	0 443m 3128m 0	N.D. 0.00 1 0.01 1 N.D.		
 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene 	11.47 11.53 12.79 13.05	178 178 202 202	15296m 6887m 5722m 5993m	0.04 0.02 0.01 0.01	ug # ug #	

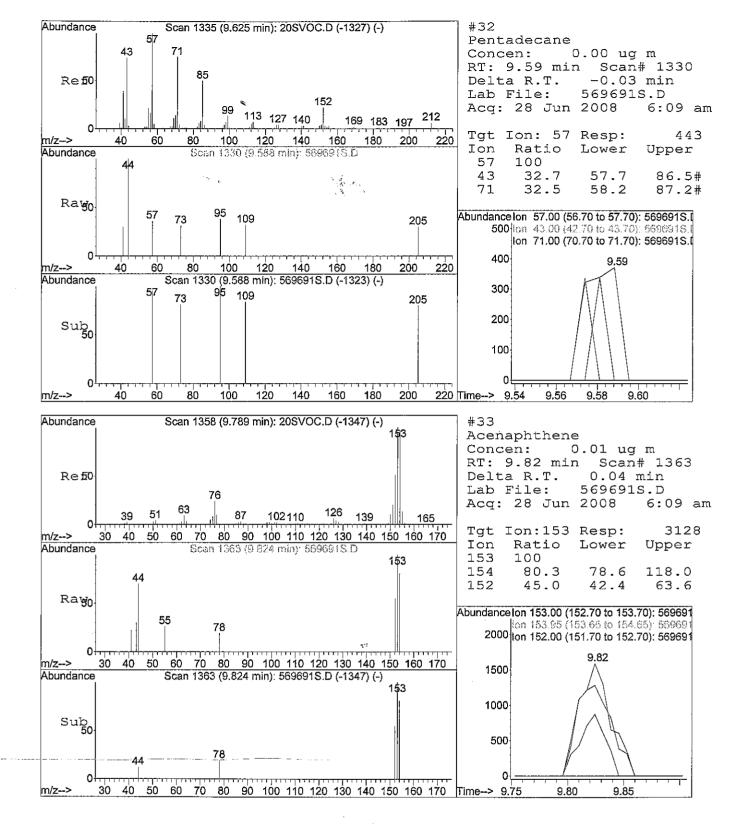
<u>a</u>.

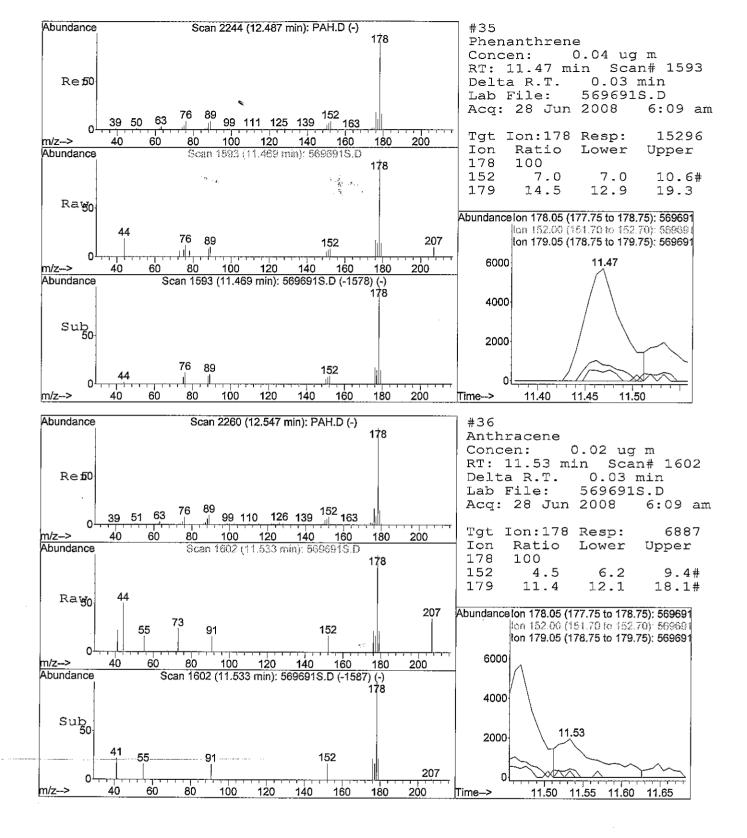
ł

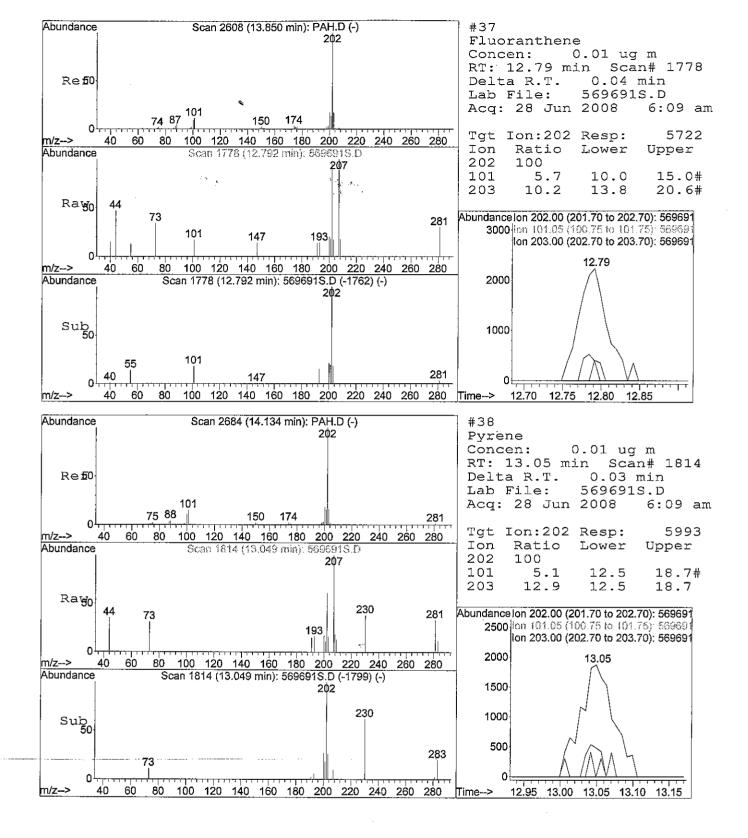






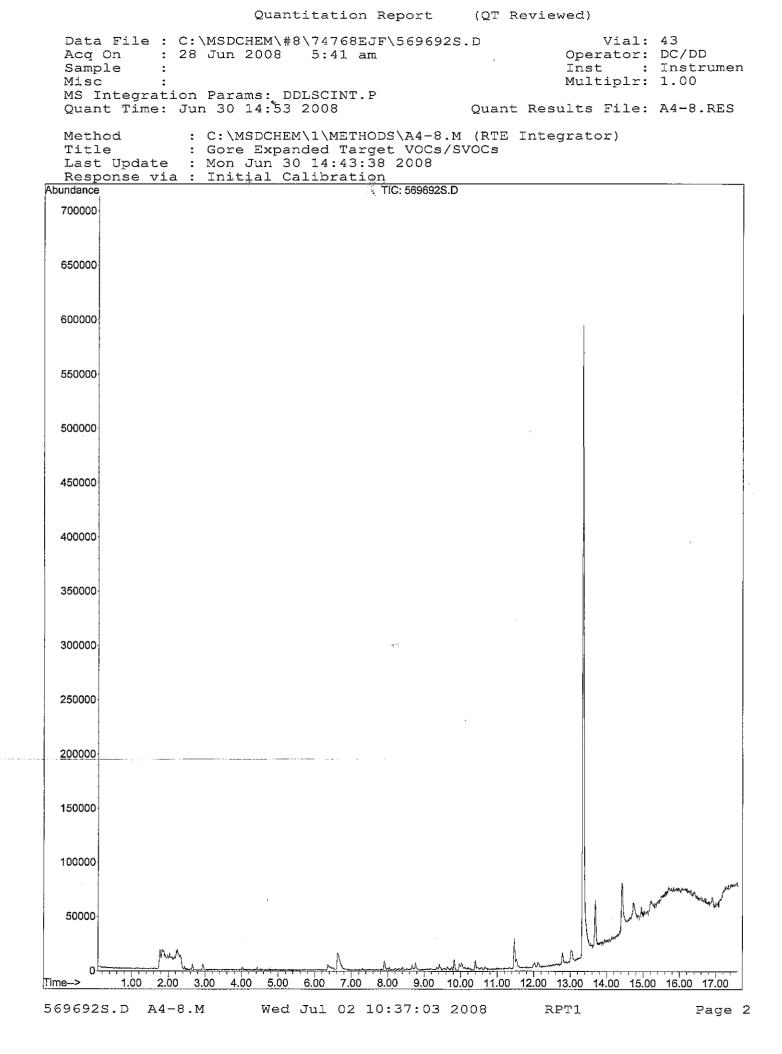


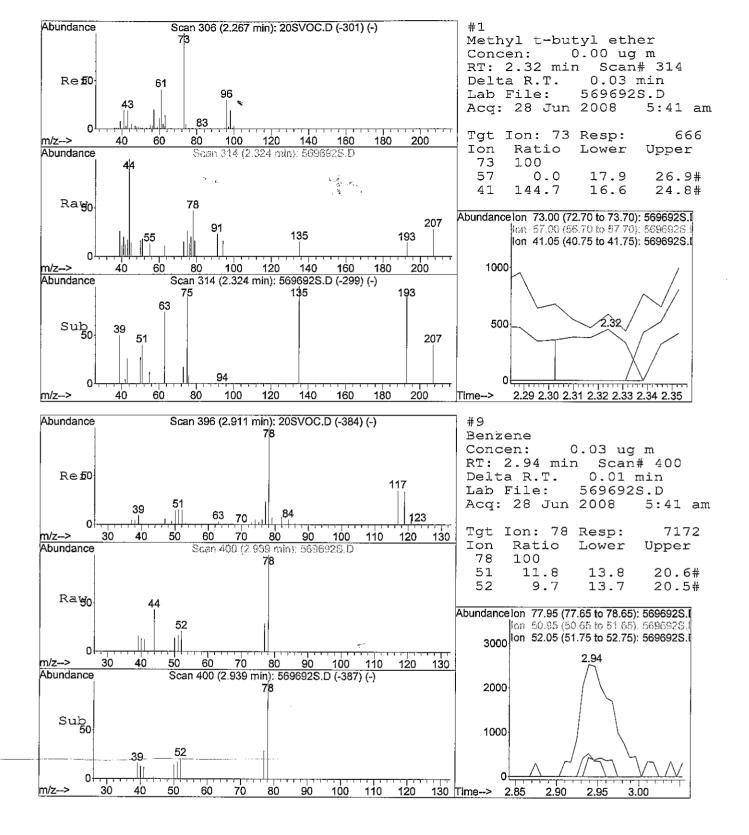


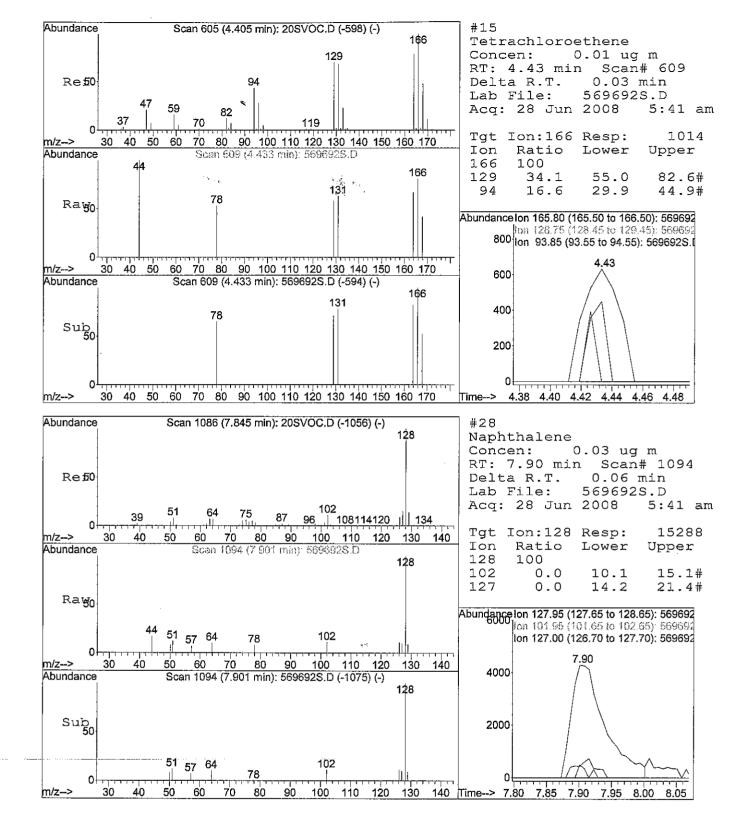


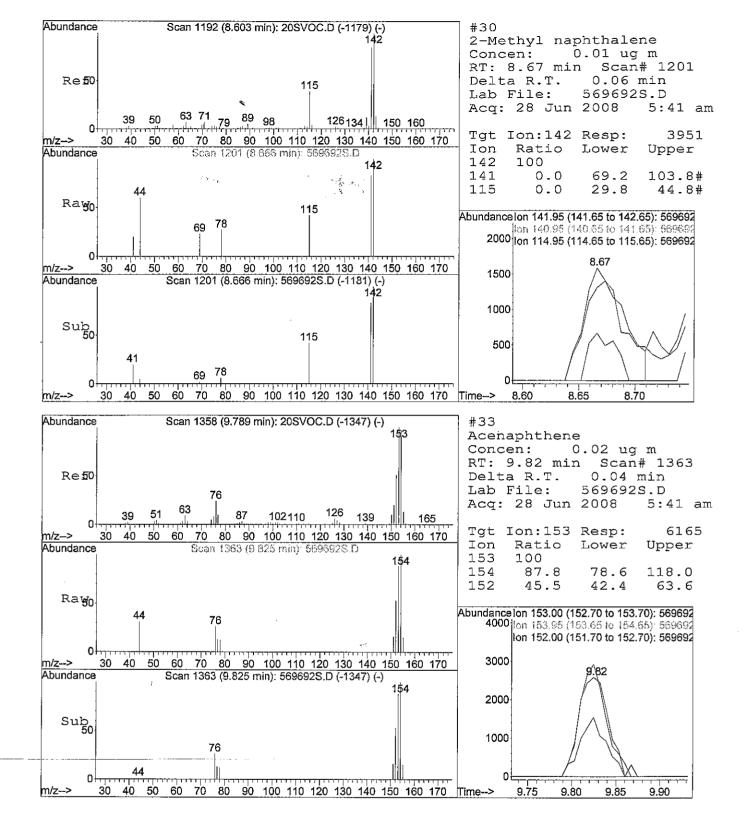
Data File : C:\MSDCHEM\#8\74768E Acq On : 28 Jun 2008 5:41 a Sample : Misc :	m	925.D	In	Vial: erator: st : ltiplr:	DC/DD Instrum	en	
MS Integration Params: DDLSCINT. Quant Time: Jun 30 14:53:57 2008	Ę	Qu	ant Result	s File:	A4-8.RE	S	
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards	R.T.	QIon	Response	Conc Un	its Dev 	(Min)	
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene</pre>	2.32 2.10 2.30 2.37 2.52	61 61	0 0	0.00 N.D. N.D. N.D. N.D.	ug #	alue	
 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 	2.64 2.79 2.87 2.94 2.92 3.28	83 97 62 78 117 95	0 0	N.D. N.D. N.D.	ug #		
 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 	4.13 3.98 4.29 4.43 4.86	91 43 166 112	1014m 0	N.D. N.D. 0.01 N.D. N.D. N.D.			
<pre>17) 1,1,1,2 Tetrachtorbethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene</pre>	4.99 5.08 5.32	91 91 91	0 0 0	N.D. N.D. N.D. N.D. N.D. N.D.			
 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 	6.26 6.39 6.47 6.63 7.03	105 146 146 146 57		N.D. N.D. N.D. N.D. N.D.			
28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane	7.90 8.42 8.67 9.60 9.62	128 57 142 152 57	15288m 0 3951m 0 0	0.03 N.D. 0.01 N.D. N.D.	_		
 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene 	9.82 10.40 11.46 11.53 12.79 13.06	153 166 178 178 202 202	6165m 7922m 33038m 15067m 13874m 11880m	0.02 0.02 0.08 0.04 0.03 0.03	ug # ug # ug # ug #		

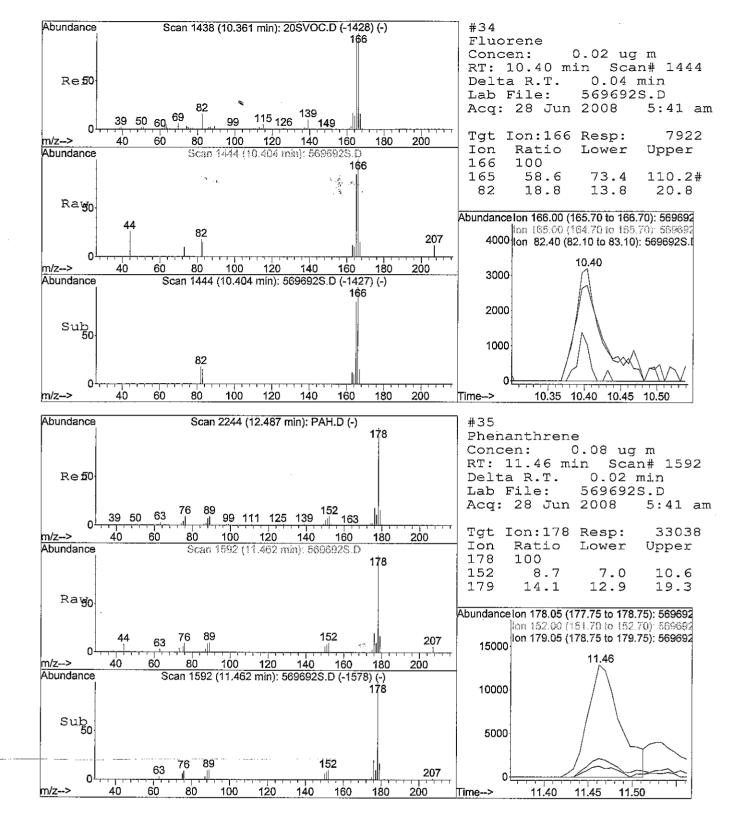
.....

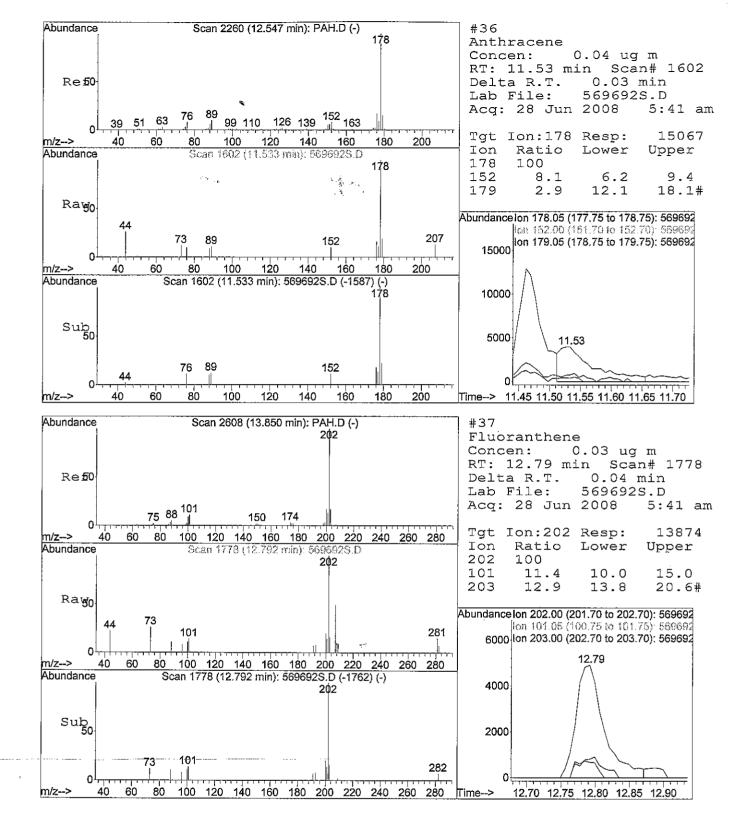


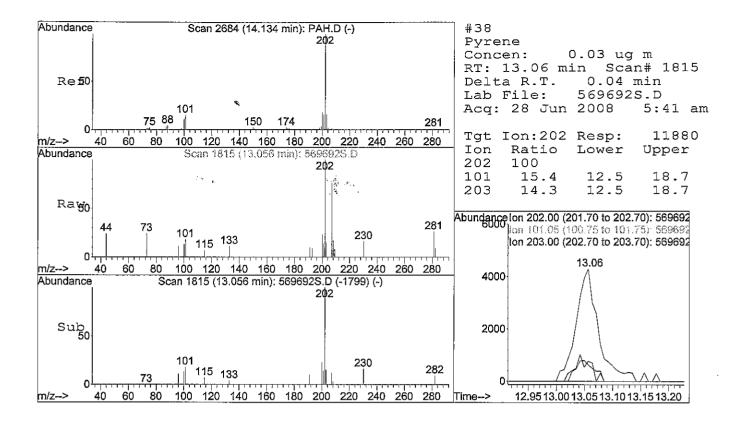






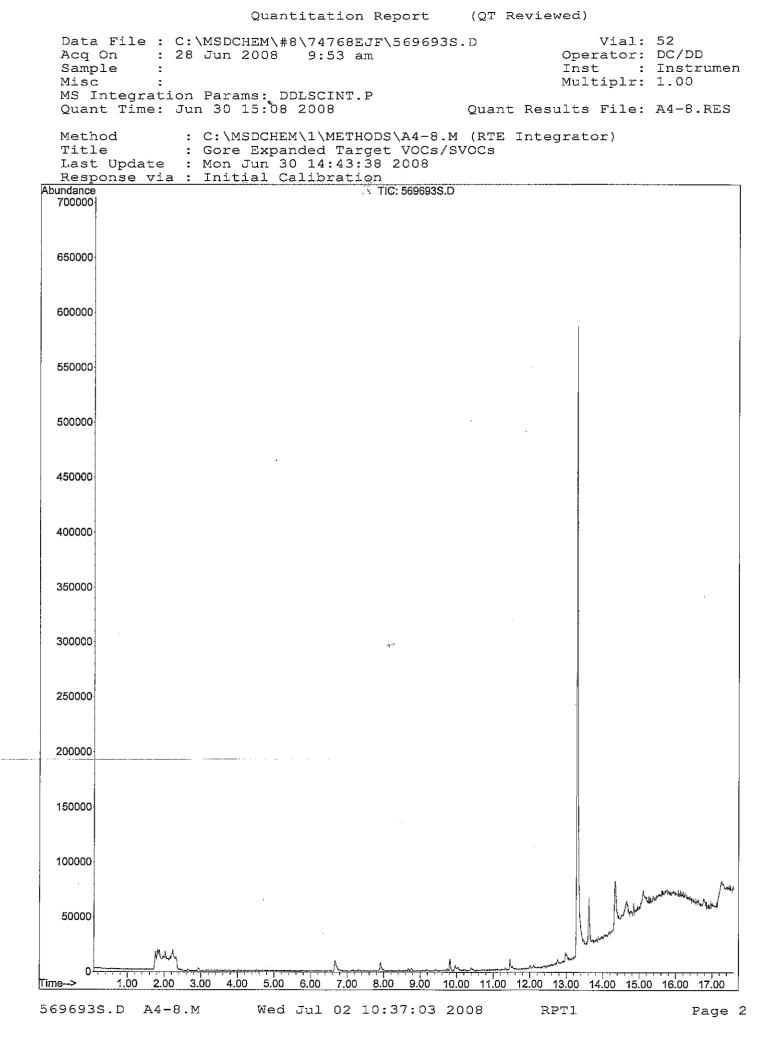


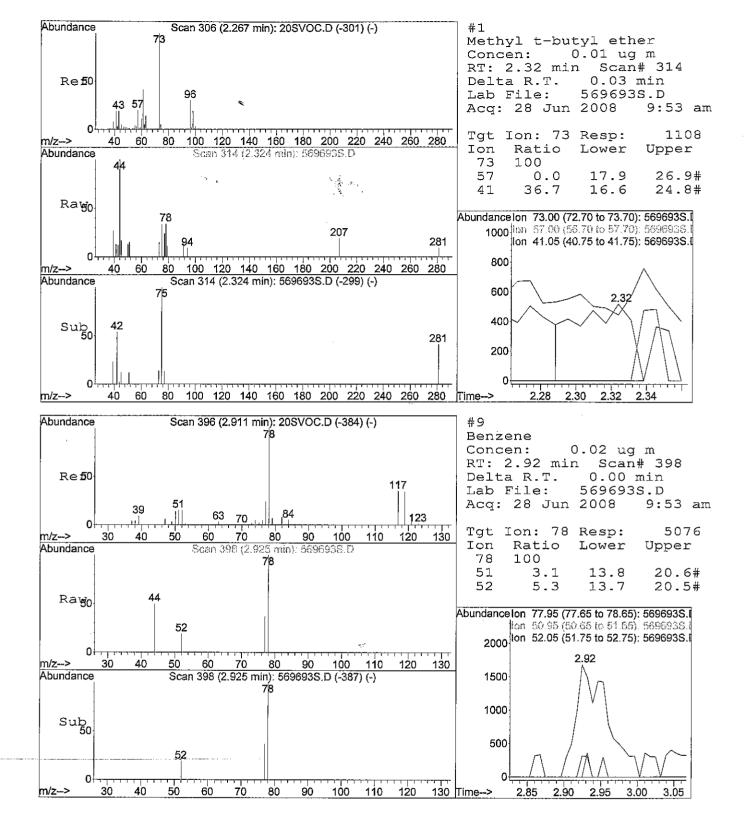


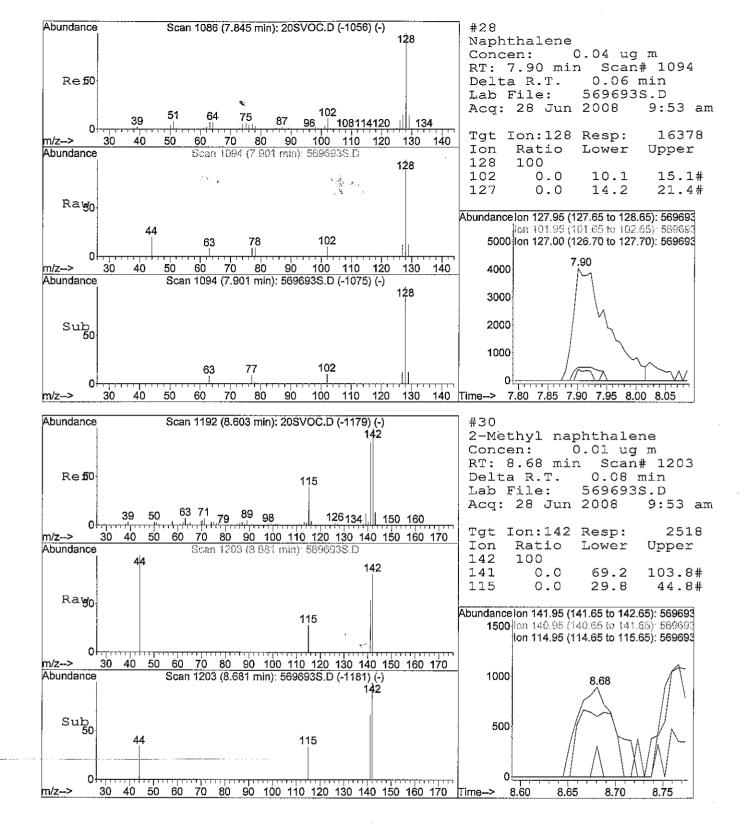


Quantitation Report (QT Reviewed)						
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 28 Jun 2008 9:53 am Sample : Misc :		935.D	Op In	Vial: erator: st : ltiplr:	DC/D Inst	rumen
MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:53:57 2008		Qu	ant Result	s File: 2	A4-8	.RES
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8						
Internal Standards			Response			
<pre>Target Compounds 1) Methyl t-butyl ether 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 27) Undecane</pre>	2222222283890639820369733 2222222222343444445556666667 	76631372875713621113998005666667	1108m 0 0 0 0 0 0 5076m 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.01 N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	na	Qvalue #
28) Naphthalene 29) Tridecane	7.90 8.42	128 57	16378m 0	0.04 N.D.		#
30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane	8.68 9.60 9.62	142 152 57	2518m 0 0	0.01 N.D. N.D. N.D.	ъg	#
33) Acenaphthene 34) Fluorene	9.82 10.40	153 166	6788m 3366m	0.02 t 0.01 t		# #
35) Phenanthrene	11.46	166 178	3366m 11234m	0.03 ι	uğ	# #
36) Anthracene	0.00	178	0	N.D.	d	
37) Fluoranthene 38) Pyrene	12.76 13.02	202 202	6210m 5931m	0.01 ι 0.01 ι		# #

<u>.</u>...

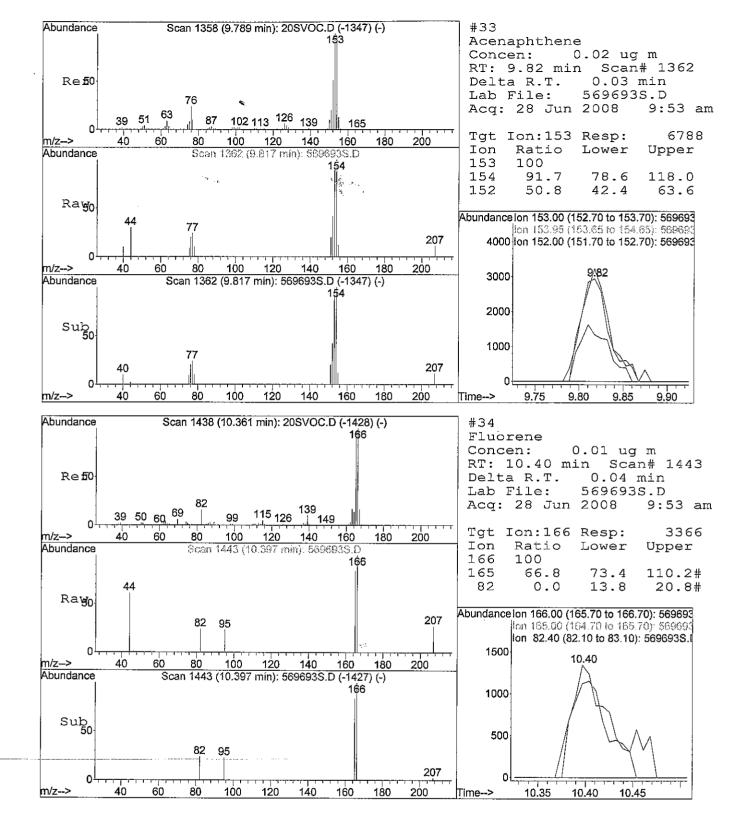


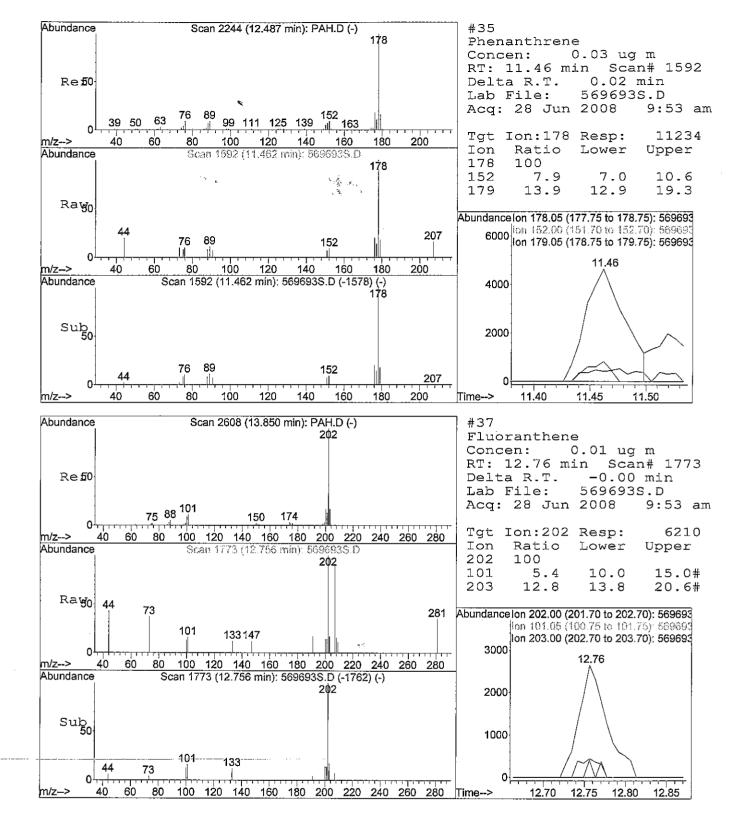


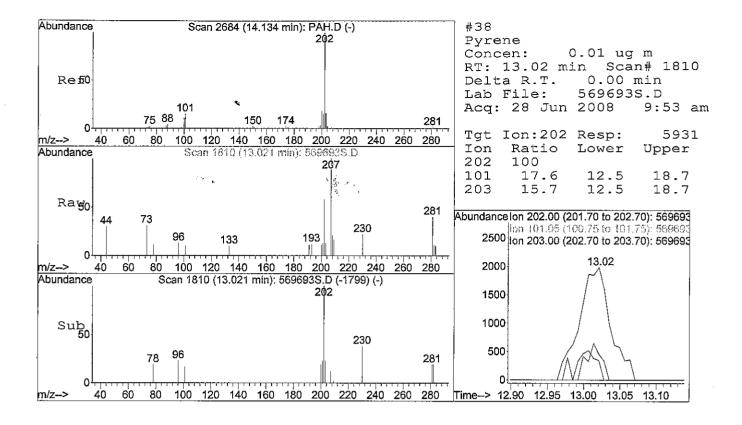


Wed Jul 02 10:42:59 2008

RPT1

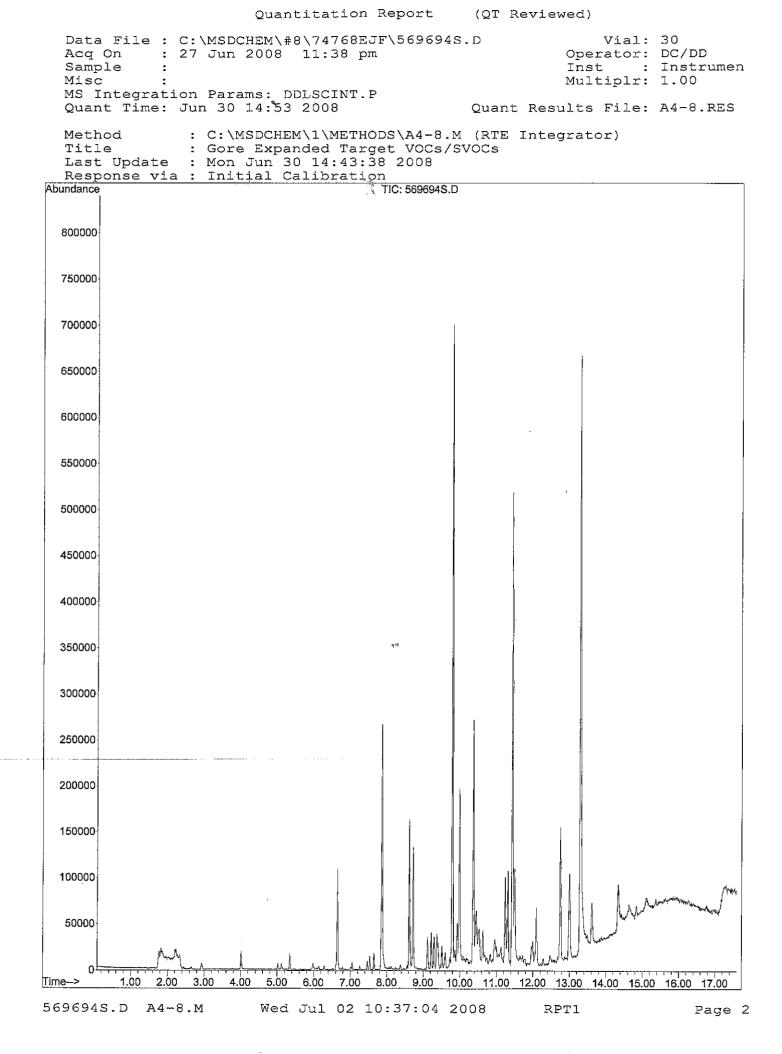


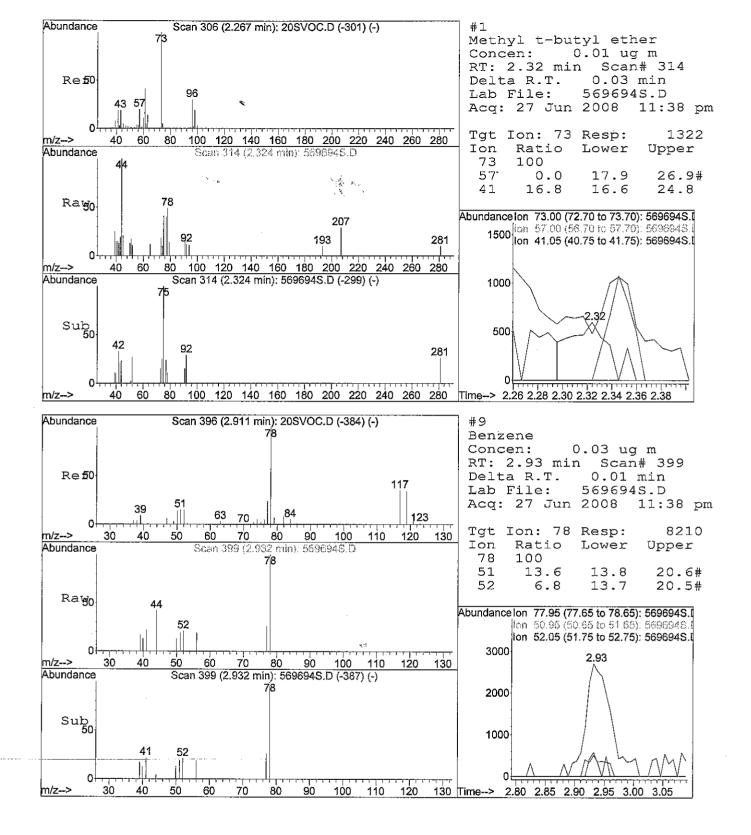


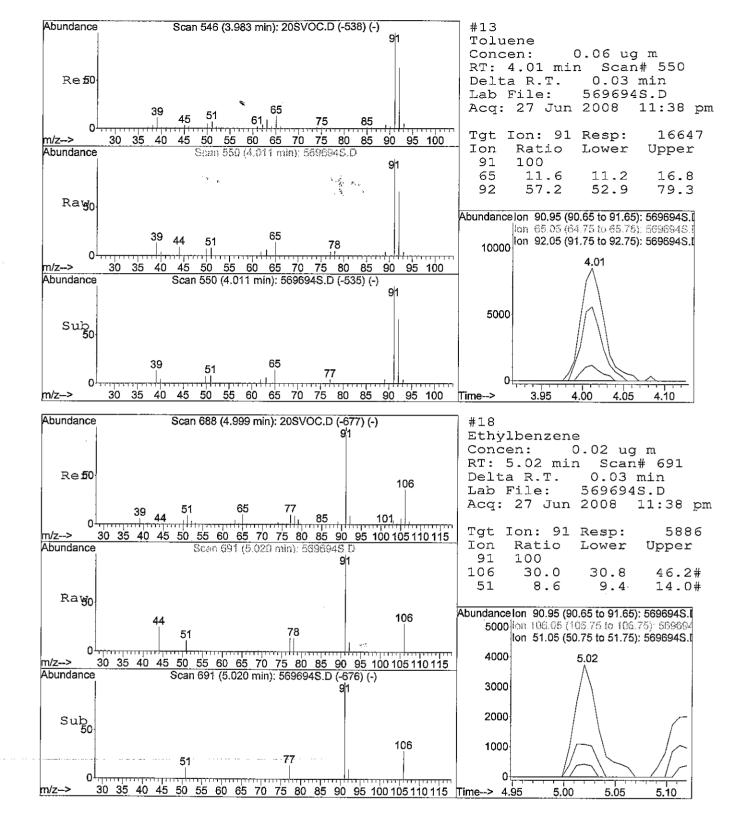


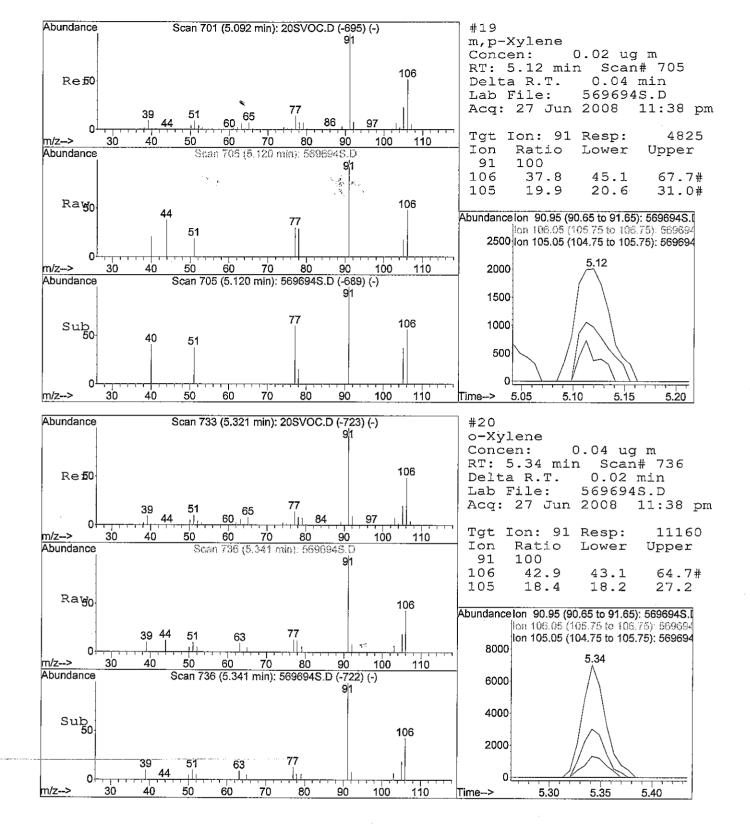
Quantitation Report (QT Reviewed)						
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 11:38 pm Sample : Misc :	ı	94S.D	In	Vial: erator: st : ltiplr:	DC/E Inst	rumen
MS Integration Params: DDLSCINT.F Quant Time: Jun 30 14:53:58 2008		Qu	ant Result	s File:	A4-8	RES
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8						
Internal Standards	R.T.		Response			
Target Compounds						Owaluo
 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 	2.37 2.52 2.64	61 63 61 83	0 0 0 0	N.D. N.D. N.D. N.D. N.D.	-	Qvalue #
10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane	2.87 2.93 2.92 3.28 4.13	62 78 117 95 97	8210m 0 0 0	N.D. N.D. N.D.	ug	#
 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 10) Etherbergere 	4.01 4.29 4.40 4.86 4.93	166 112 131	0 0 0	N.D. N.D. N.D. N.D.	-	#
18) Ethylbenzene 19) m,p-Xylene	5.02	91 91	5886m 4825m	0.02 0.02		# #
20) o-Xylene	5.34	91	11160m	0.04	ug	#
24) 1,3-Dichlorobenzene	5.60 5.98 6.29 6.39 6.47 6.63	105 146	3612m 0	N.D. 0.03 0.01 N.D. N.D. N.D.	ug ug	# #
27) Undecane 28) Naphthalene 29) Tridecane	7.03 7.86 8.42	57 128 57	0 267597m 0	N.D. 0.58 N.D.	ug	#
30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane	8.62 9.60 9.62	142 152 57	94143m 7579m 0	0.27 0.01 N.D.	ug ug	# #
33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene	9.79 10.36 11.43 11.49	153 166 178 178	332738m 151964m 446544m 111310m	0.94 0.36 1.05	ug ug ug	# # # #
37) Fluoranthene 38) Pyrene	12.75 13.01	202 202	148943m 89291m	0.26 0.35 0.21	uġ	# # #

-

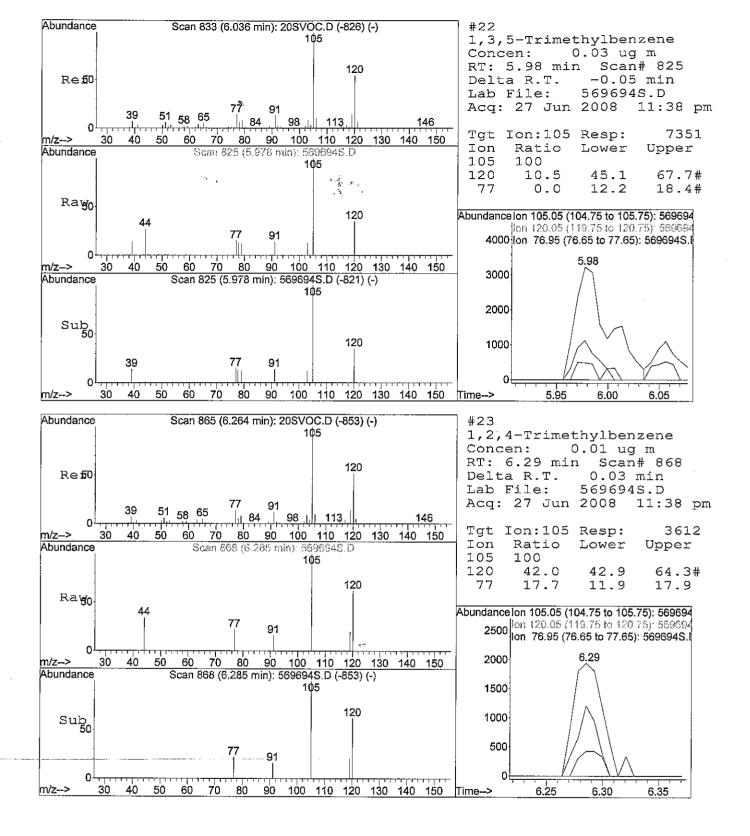


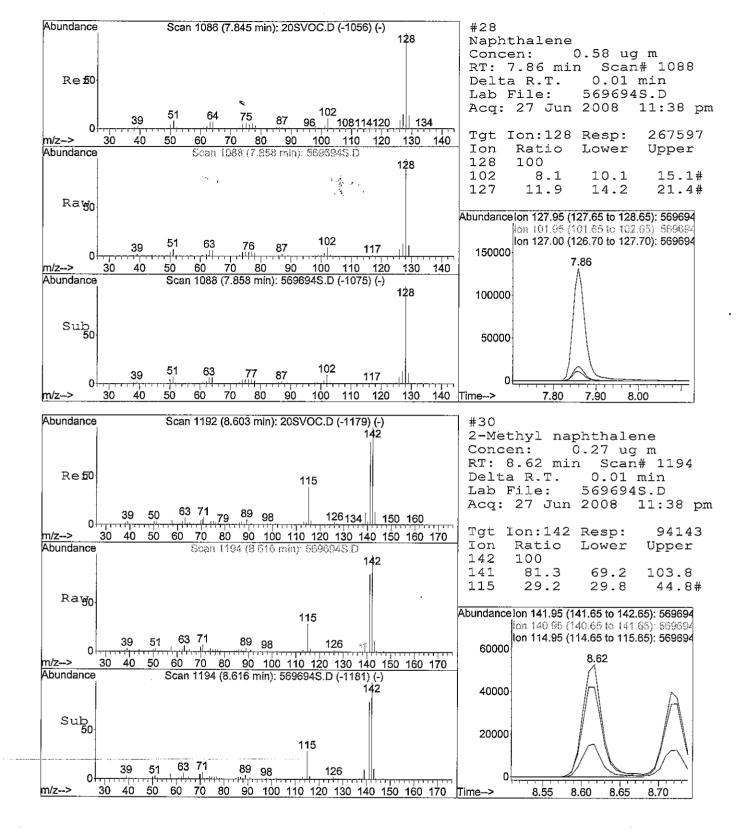


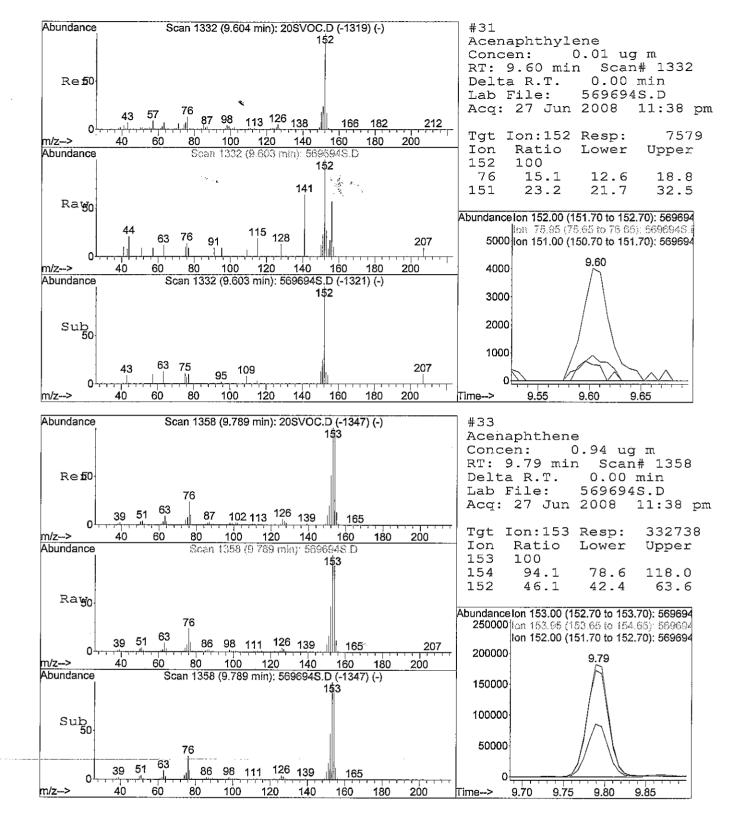




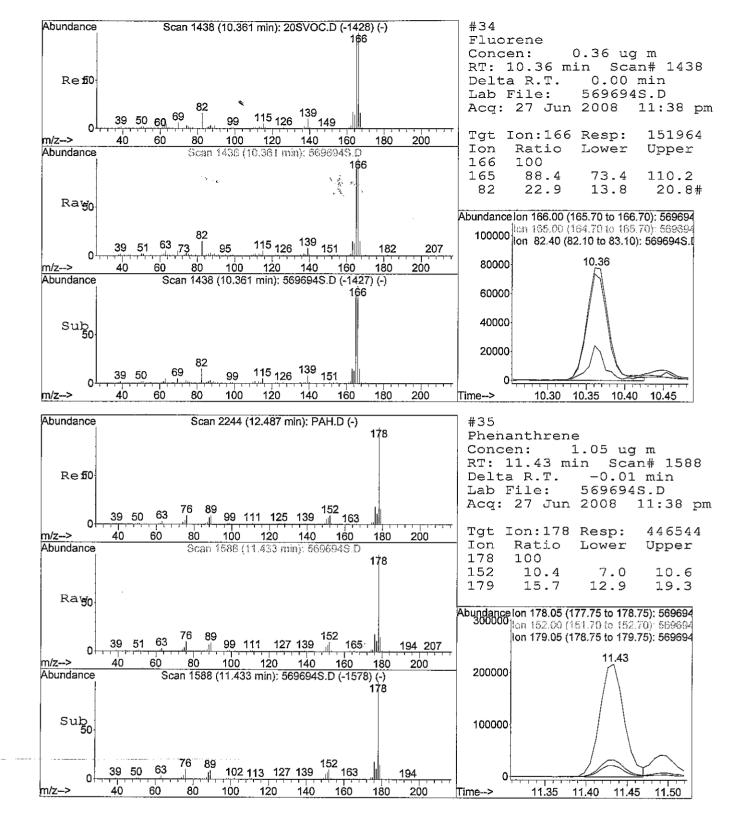
RPT1



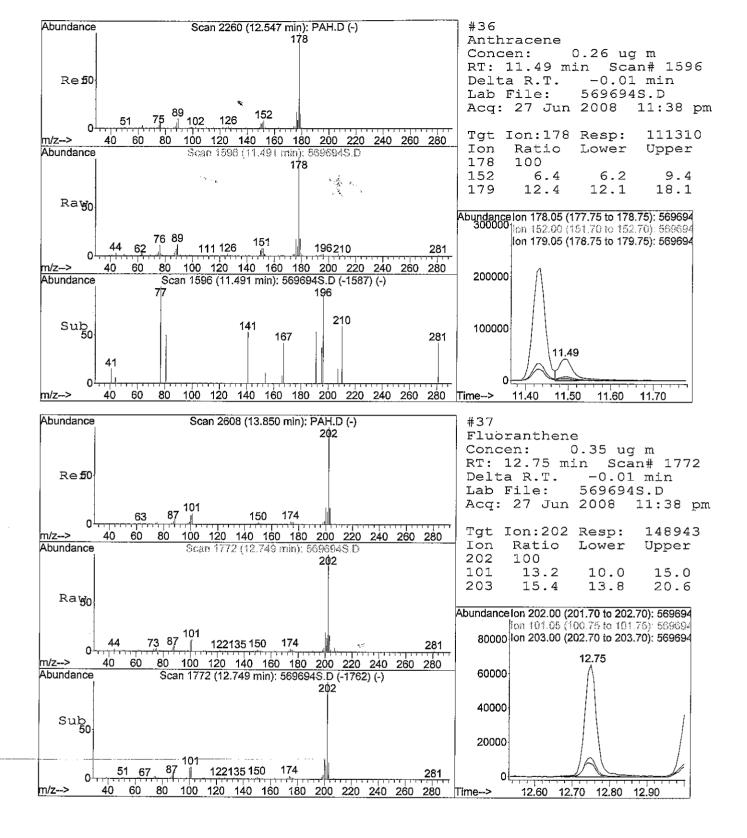


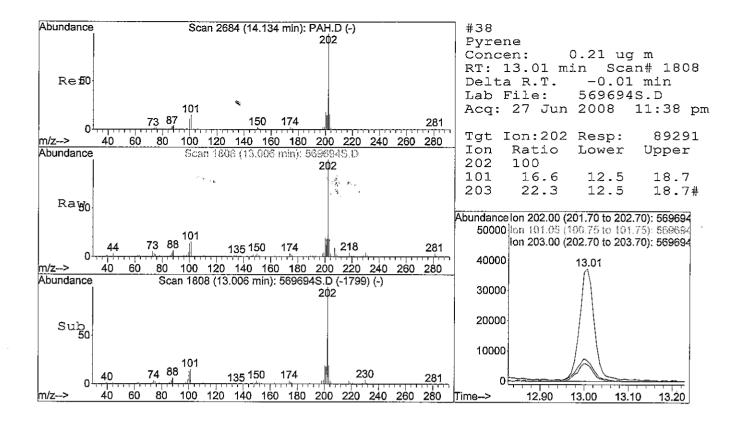


RPT1



RPT1



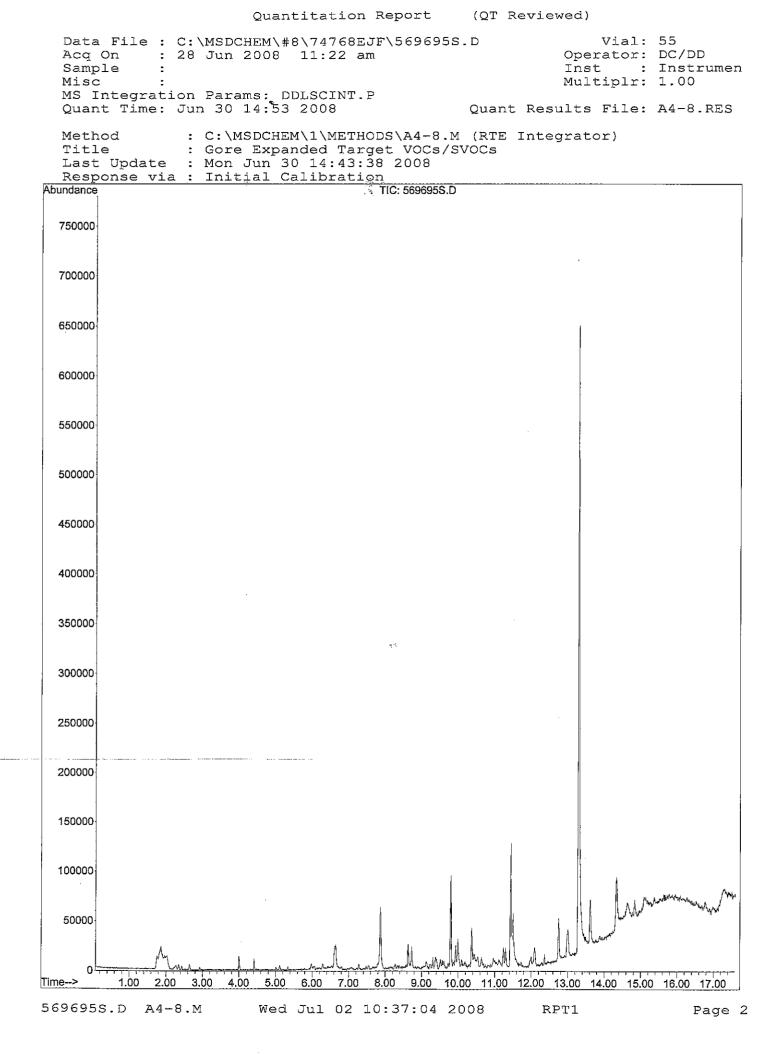


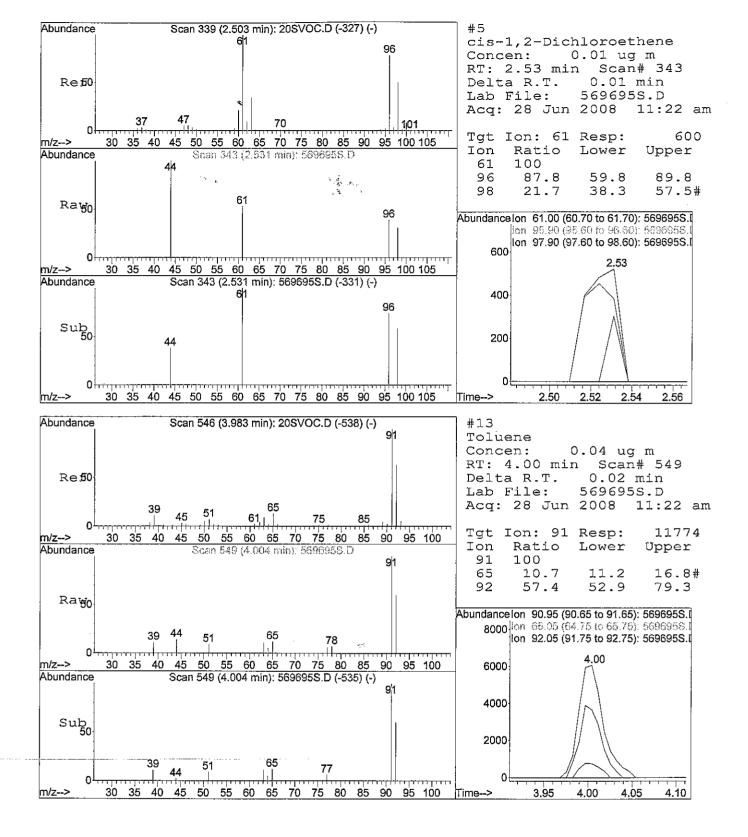
Wed Jul 02 10:43:01 2008

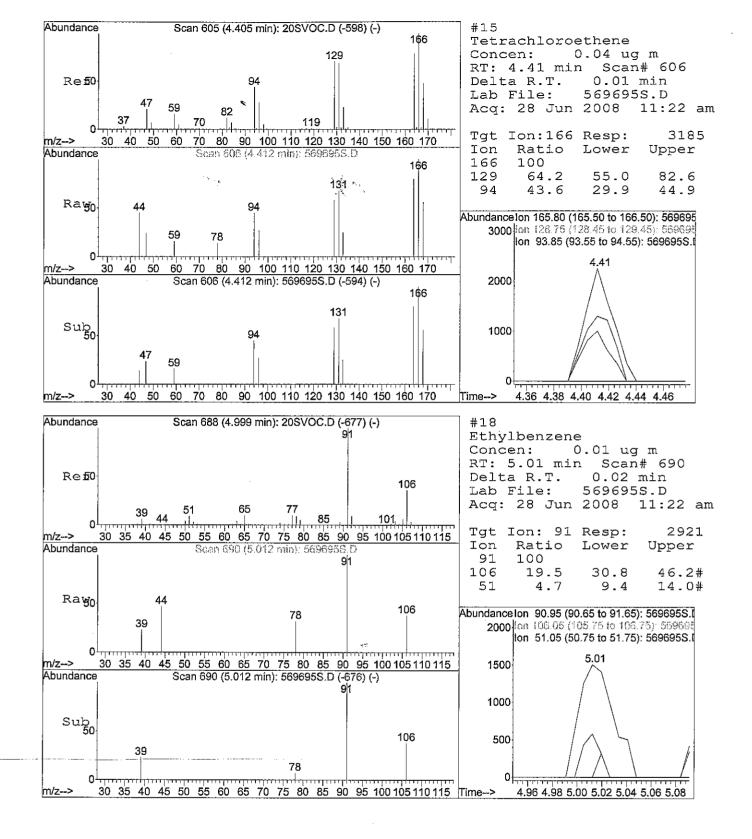
RPT1

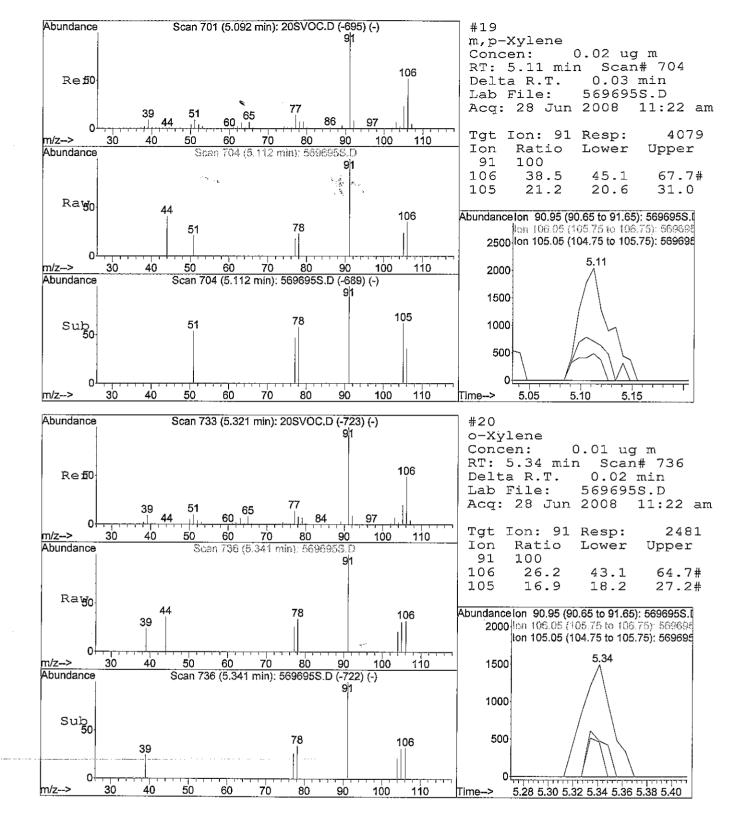
	Quantitati	on Repo	ort	(QT Revie	wed)				
Acq On Sample Misc	le : C:\MSDCHEM\#8\74768EJ : 28 Jun 2008 11:22 am :		95S.D	In	Vial: erator: st : ltiplr:	DC/I Inst	rumen		
	gration Params: DDLSCINT.P ime: Jun 30 14:53:58 2008		Qu	ant Result	s File:	A4-8	B.RES		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8									
Intern	al Standards	R.T.	QIon	Response	Conc Ur	nits 	Dev(Min)		
	Compounds						Qvalue		
2) 1 3) t	ethyl t-butyl ether ,1-Dichloroethene rans-1,2-Dichloroethene ,1-Dichloroethane	2.30 2.10 2.30	61 61	0 0 0 0	N.D. N.D. N.D. N.D.				
5) c 6) C 7) 1	is-1,2-Dichloroethene hloroform	2.37 2.53 2.64 2.79	61 83 97	-		ug	#		
8) 1 9) B 10) C	,2-Dichloroethane enzene arbon tetrachloride	2.87 2.92 2.92	62 78 117	0 0 0	N.D. N.D. N.D.				
12) 1	richloroethene ,1,2- Trichloroethane oluene	3.28 4.13 4.00	95 97 91	0 0 11774m	N.D. N.D. 0.04		#		
14) O	ctane ctrachloroethene	4.29 4.41	43 166	0	N.D. 0.04	. –	π #		
16) C 17) 1	hlorobenzene ,1,1,2- Tetrachloroethane	4.86 4.93	112 131	0 0	N.D. N.D.	_			
	thylbenzene ,p-Xylene	$5.01 \\ 5.11$	91 91	2921m 4079m	0.01 0.02		# #		
20) o	-Xylene ,1,2,2-Tetrachloroethane	5.34	91	2481m		ug	#		
22) 1	,3,5-Trimethylbenzene	6.06	105	2786m 3428m		ug	#		
	,2,4-Trimethylbenzene ,3-Dichlorobenzene	6.29 6.39	$\begin{array}{c}105\\146\end{array}$	3428m 0	0.01 N.D.		#		
	,4-Dichlorobenzene ,2-Dichlorobenzene	6.47		0	N.D.				
	ndecane	6.63 7.08	146 57	2072m	N.D. 0.01		#		
	aphthalene	7.87	128	95568m	0.21		# #		
	ridecane -Methyl naphthalene	8.44 8.63	57 142	1571m 16677m	0.01 0.05		# #		
	cenaphthylene	9.61	152	4898m	0.01		#		
	entadecane	9.57	57	2863m	0.01	ug	# #		
	cenaphthene	9.80	153	45952m	0.13		#		
	luorene henanthrene	10.37 11.44	166 178	28041m 128842m	0.07 0.30		# #		
36) <u>A</u> :	nthracene	11.50	178	84906m	0.20		#		
	luoranthene	12.75	202	44522m	0.10	ug	#		
38) Pj	yrene	13.01	202	29408m	0.07	ug	#		

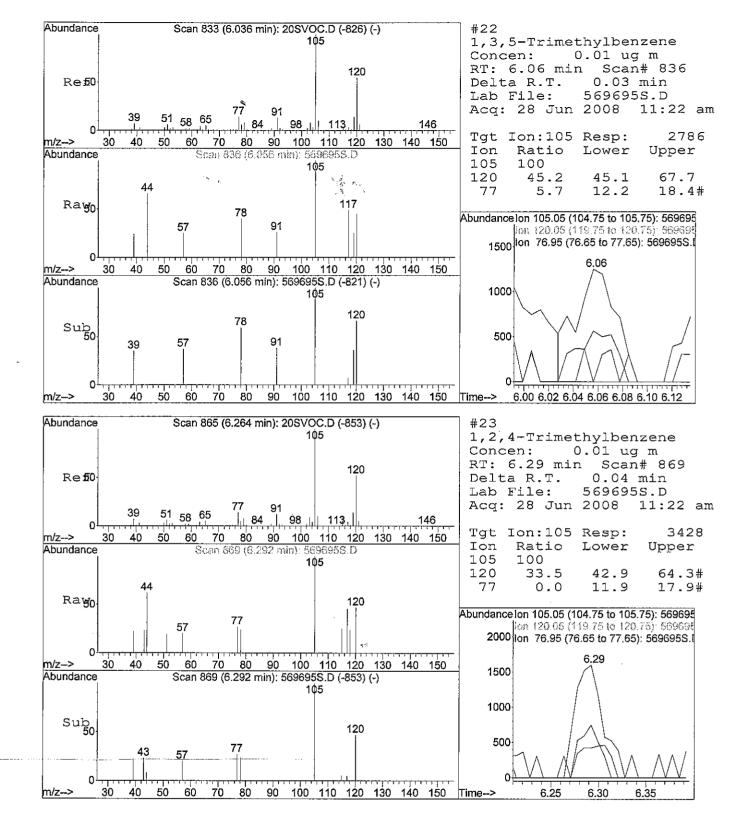
(#) = qualifier out of range (m) = manual integration (+) = signals summed 569695S.D A4-8.M Wed Jul 02 10:37:04 2008 RPT1 Page 1

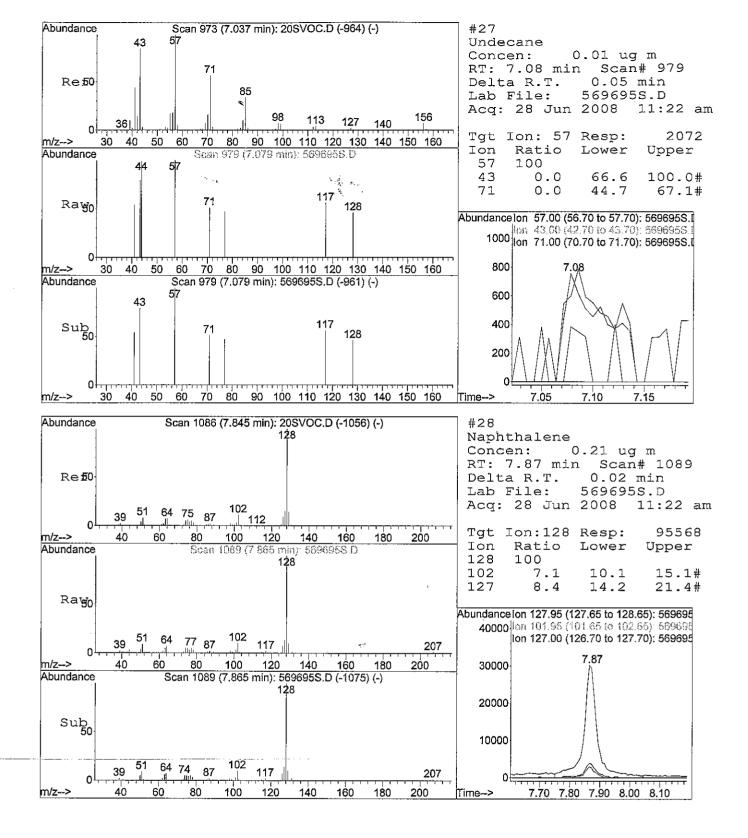


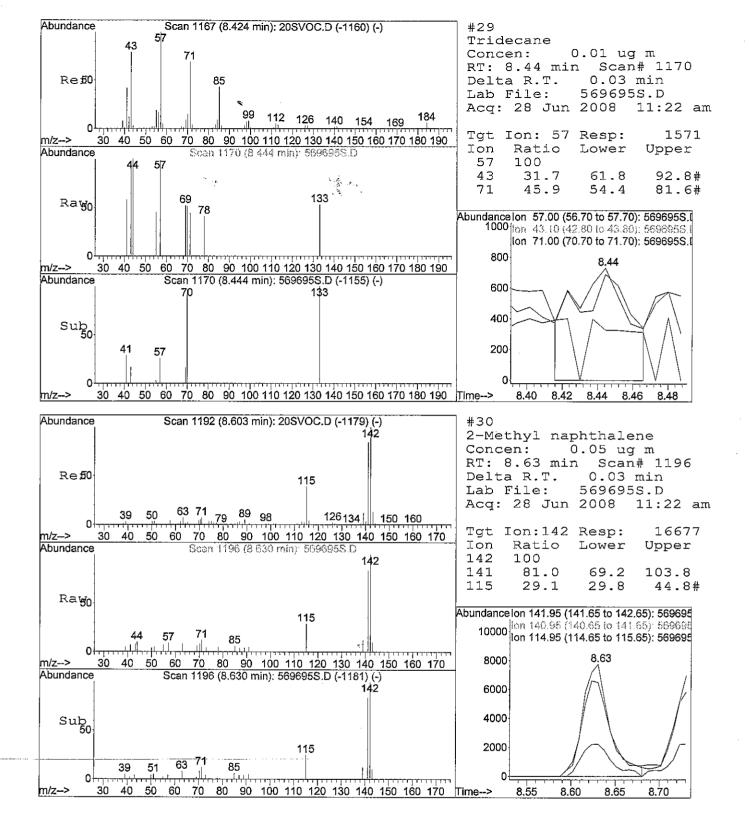


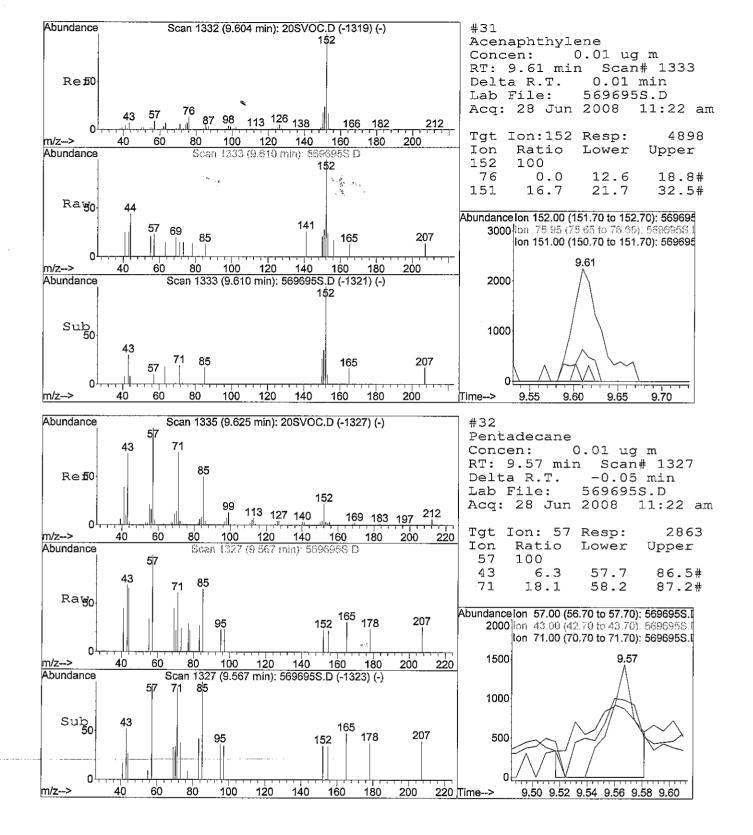


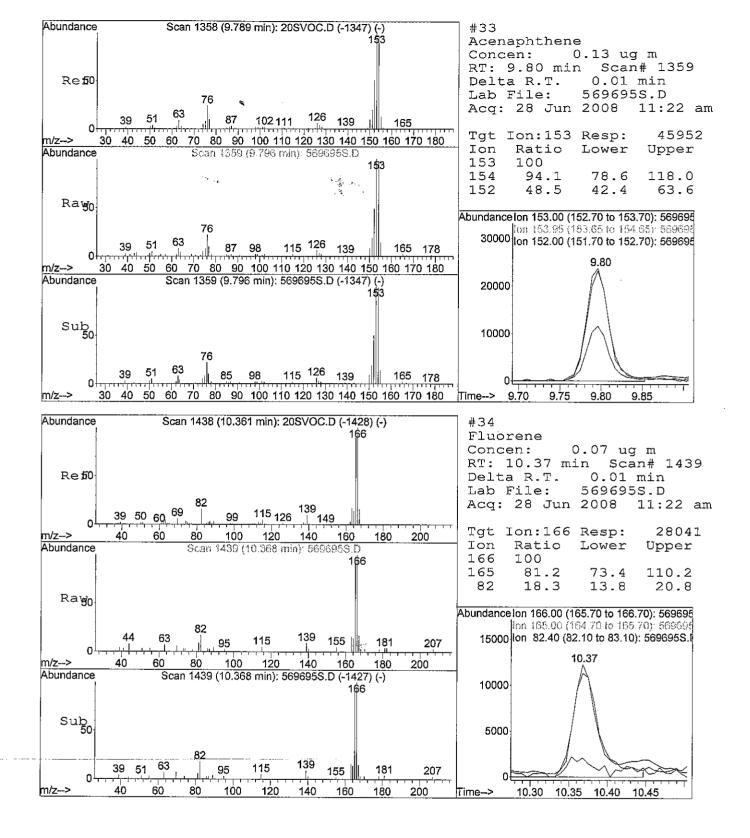


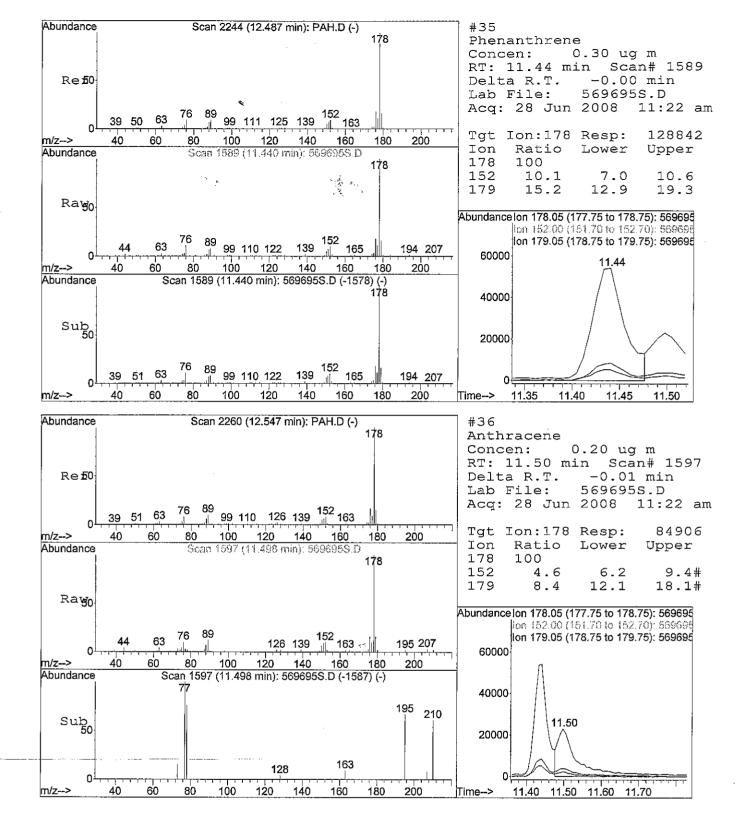


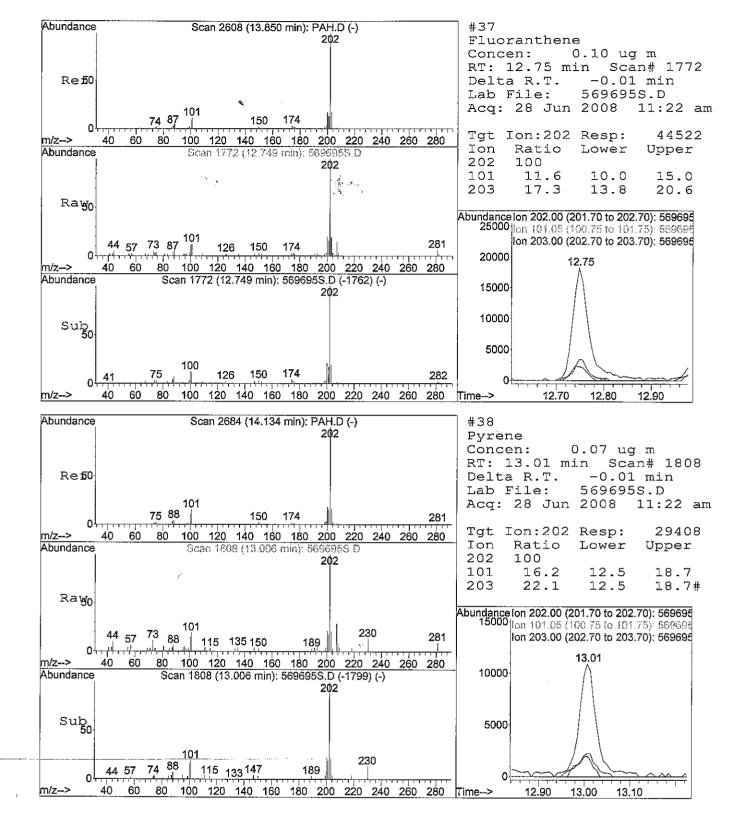












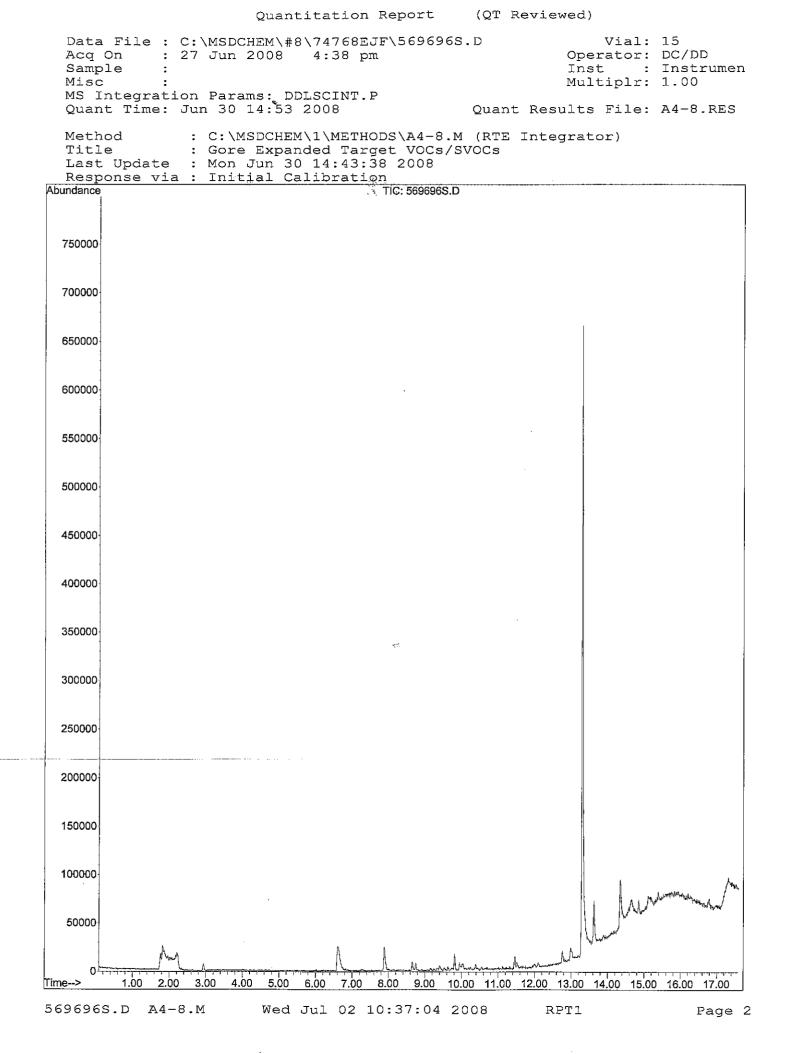
RPT1

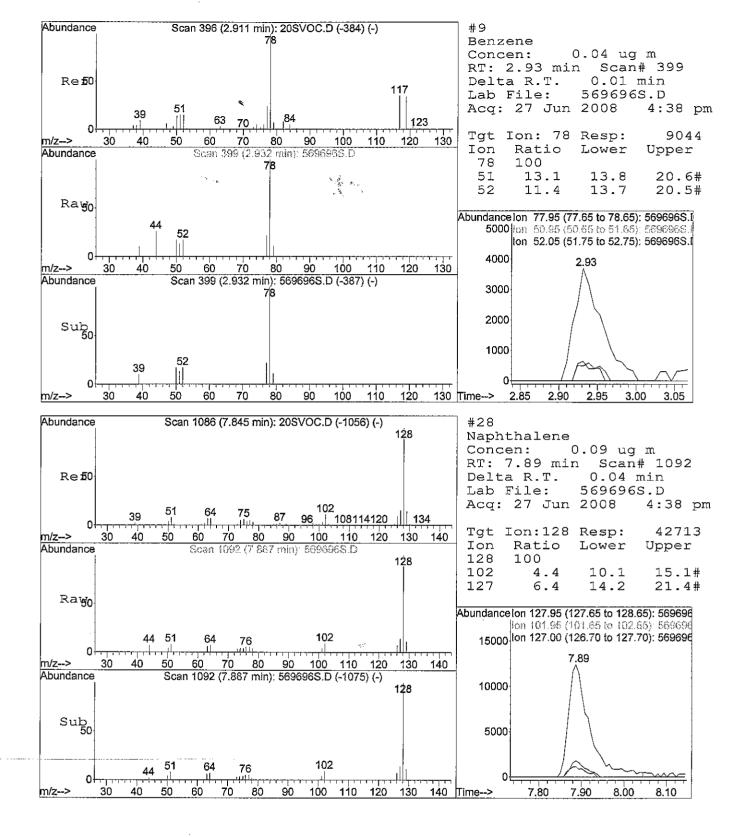
Quantitati	Quantitation Report (QT Reviewed)								
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 4:38 pm Sample : Misc :	F\56969	96S.D	Op In	Vial: 15 erator: DC/ st : Ins ltiplr: 1.0	trumen				
MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:53:58 2008		Qu	ant Result	s File: A4-	8.RES				
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8									
Internal Standards	R.T.		Response	Conc Units	Dev(Min)				
Target Compounds					Qvalue				
 Methyl t-butyl ether 1,1-Dichloroethene trans-1,2-Dichloroethene 1,1-Dichloroethane cis-1,2-Dichloroethene Chloroform 1,1,1-Trichloroethane 1,2-Dichloroethane Benzene Carbon tetrachloride Trichloroethene 1,1,2- Trichloroethane 1,1,2- Trichloroethane 1,1,2- Trichloroethane Toluene 	2.37 2.564 2.777 2.992 2.992 2.1992 2.292 2.1992 2.48998 2.1992 2.48998 2.48998 2.036 2.556036 2.556036	61 61 63 97 68 97 97 19 91 46 113 91 13 91 83	0 0 0 0 0 0 9044m 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.	#				
<pre>25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene</pre>	6.63 7.03 7.89	146 146 57 128	0 0 0 42713m	N.D. N.D. N.D. 0.09 ug	#				
29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane	8.42 8.65 9.60 9.62	57 142 152 57	9017m 0 0	N.D. 0.03 ug N.D. N.D.	#				
 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene 	9.81 10.39 11.45 11.52 12.76 13.01	153 166 178 178 202 202	8825m 4996m 14868m 11092m 16365m 11241m	0.03 ug 0.01 ug 0.03 ug 0.03 ug 0.04 ug 0.04 ug	# # # # #				

(#) = qualifier out of range (m) = manual integration (+) = signals summed 569696S.D A4-8.M Wed Jul 02 10:37:04 2008 RPT1 Page 1

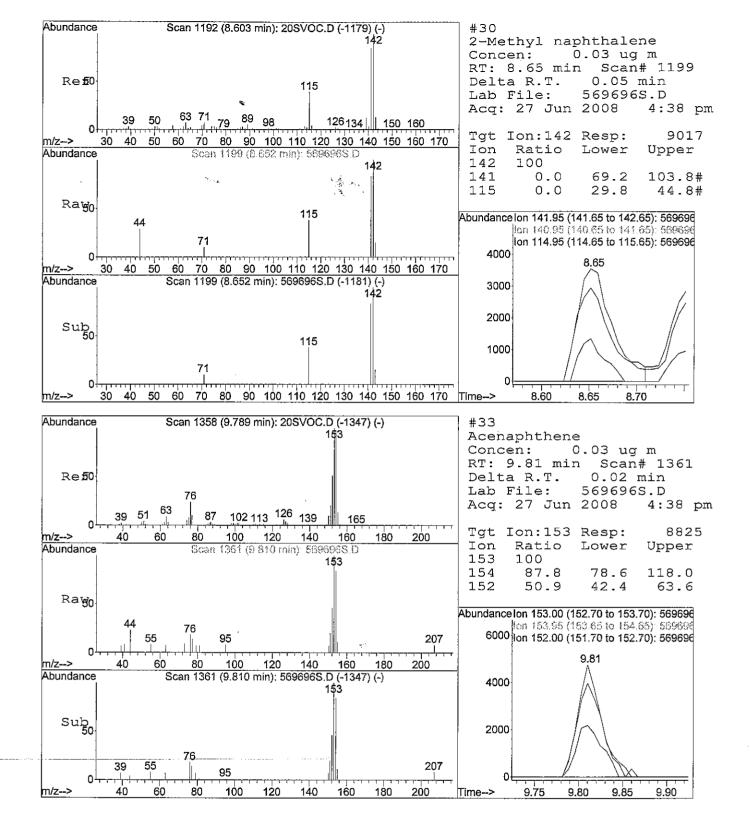
-

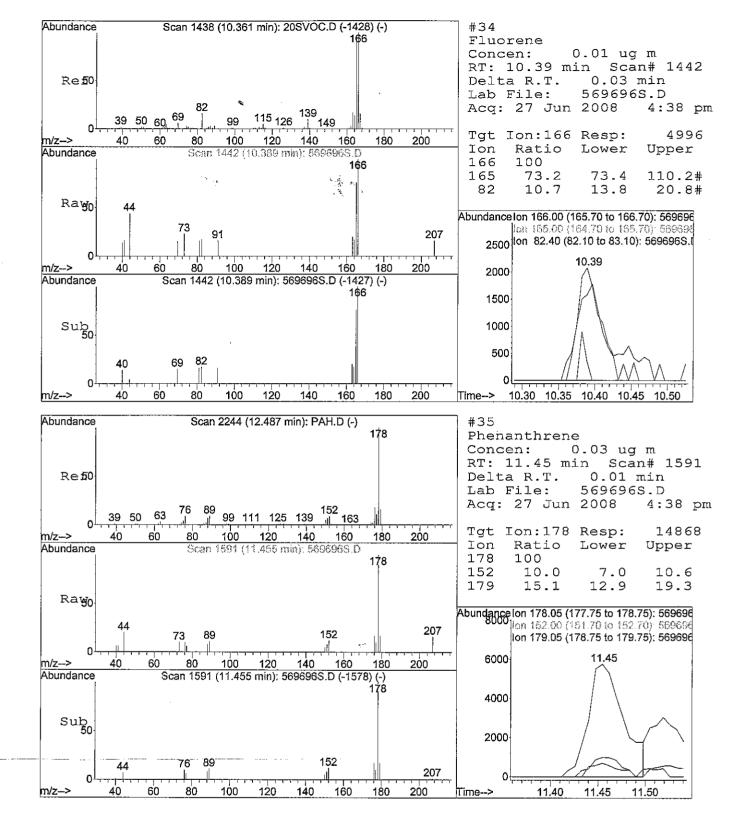
·

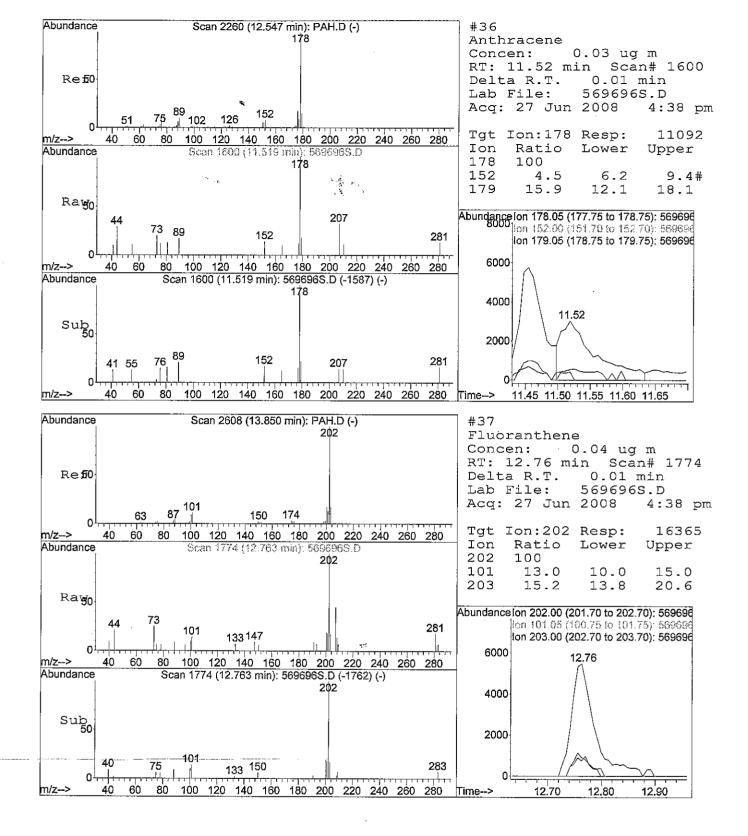


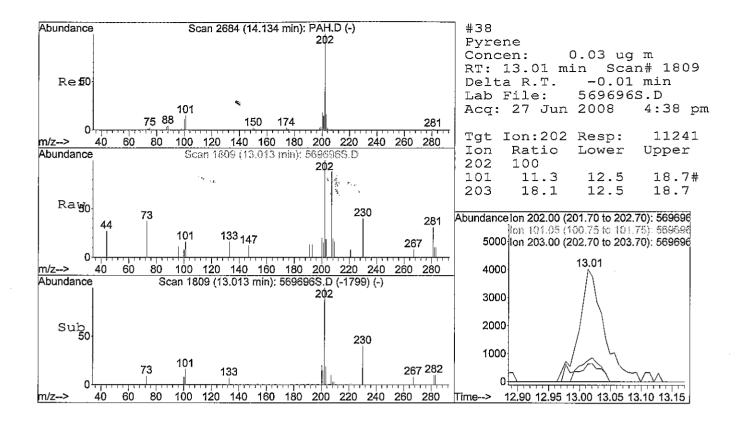


Wed Jul 02 10:43:03 2008









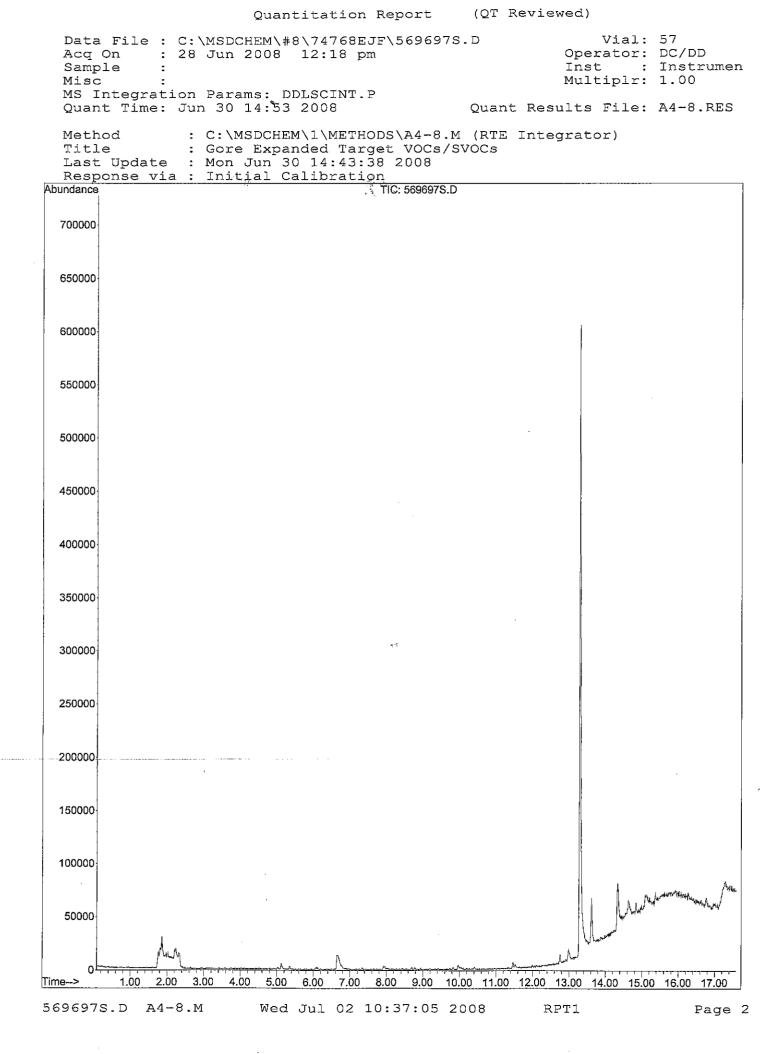
Wed Jul 02 10:43:03 2008

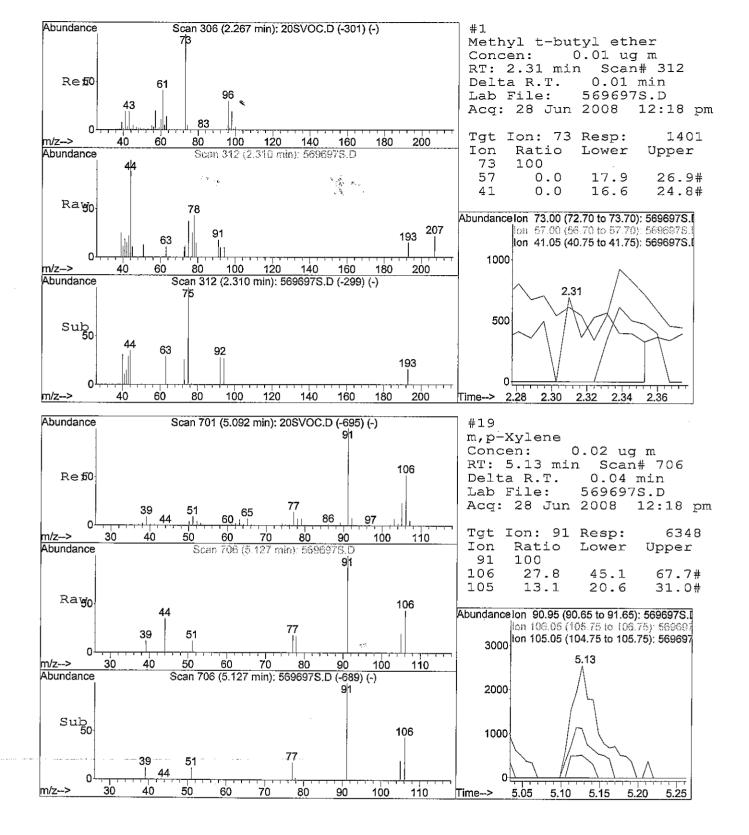
RPT1

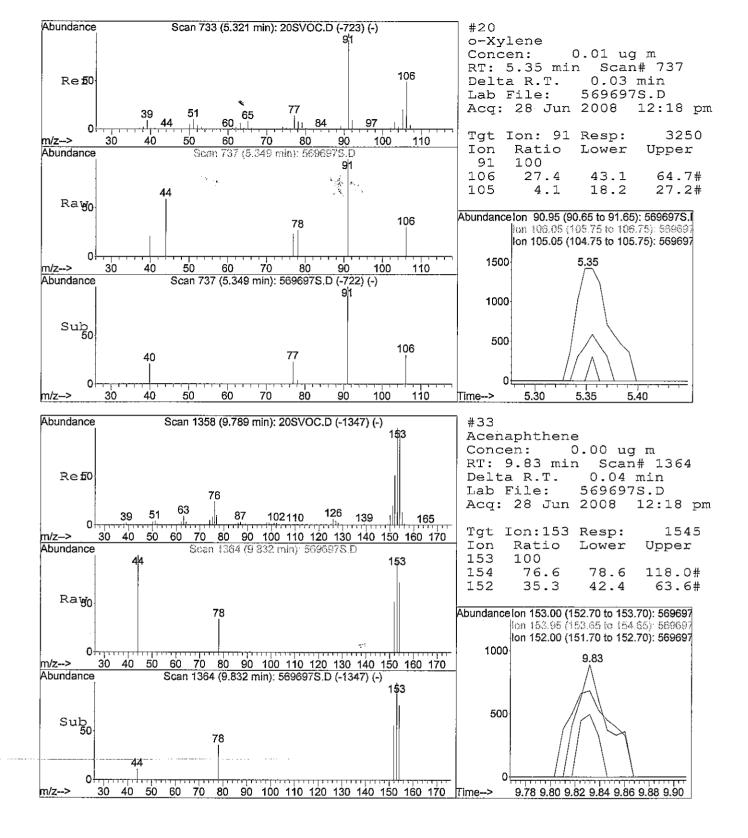
Quantitat:	ion Repo	ort	(QT Revie	wed)					
Data File : C:\MSDCHEM\#8\74768E Acq On : 28 Jun 2008 12:18 pr Sample : Misc :	n	97S.D	In	Vial: erator: st : ltiplr:	DC/DD Instrumen				
MS Integration Params: DDLSCINT. Quant Time: Jun 30 14:53:59 2008		Qu	ant Result	s File:	A4-8.RES				
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8									
Internal Standards	R.T.	QIon	Response	Conc Un	hits Dev(Min)				
 2) 1,1-Dichloroethene 3) trans-1,2-Dichloroethene 4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene 6) Chloroform 	2.31 2.10 2.30 2.37 2.52 2.64 2.79	61 61 63 61 83	1401m 0 0 0 0 0 0 0	0.01 N.D. N.D. N.D. N.D. N.D. N.D. N.D.	-				
8) 1,2-Dichloroethane 9) Benzene	2.87 2.92 3.28 4.13 3.98 4.29 4.40 4.86	62 78 117 95 97 91 43 166	000000000000000000000000000000000000000	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.					
<pre>19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane</pre>	5.13 5.35 5.60 6.03 6.26 6.39	91 91 83 105 105 146	6348m 3250m	0.02	ug # ug #				
33) Acenaphthene 34) Fluorene	9.82 9.83 10.36	153 166	1545m 0	N.D. 0.00 N.D.	ug #				
35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene	11.46 11.52 12.76 13.01	178 178 202 202	8275m 8546m 8615m 7098m	0.02 0.02 0.02 0.02	ug # ug # ug #				

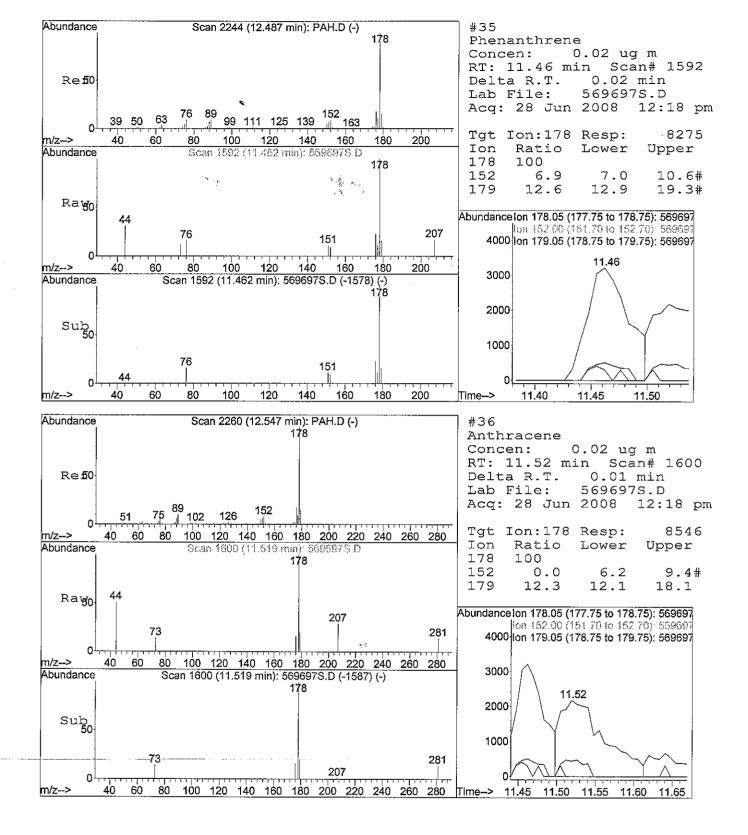
÷.,

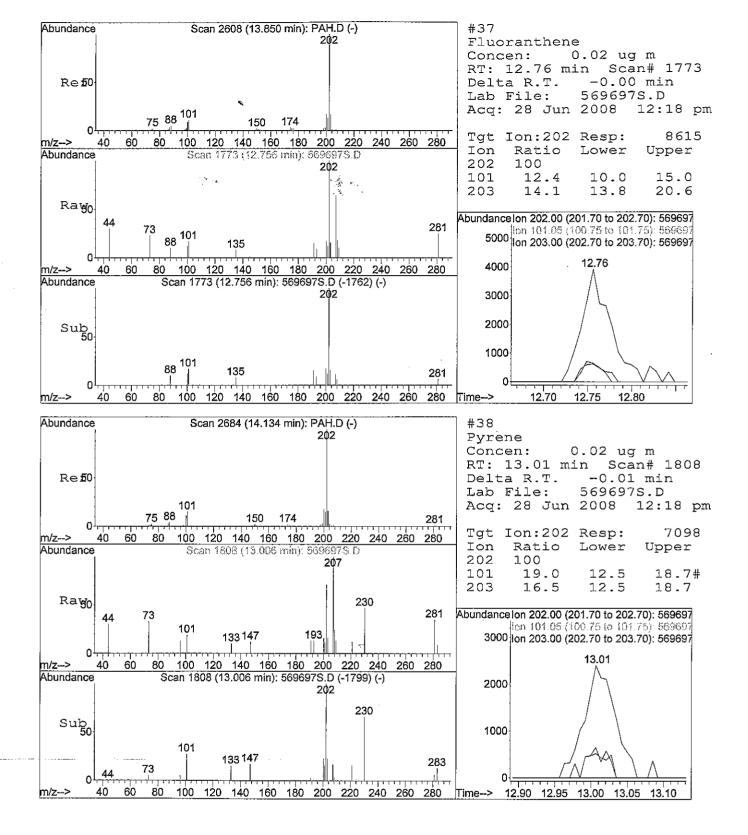
ī











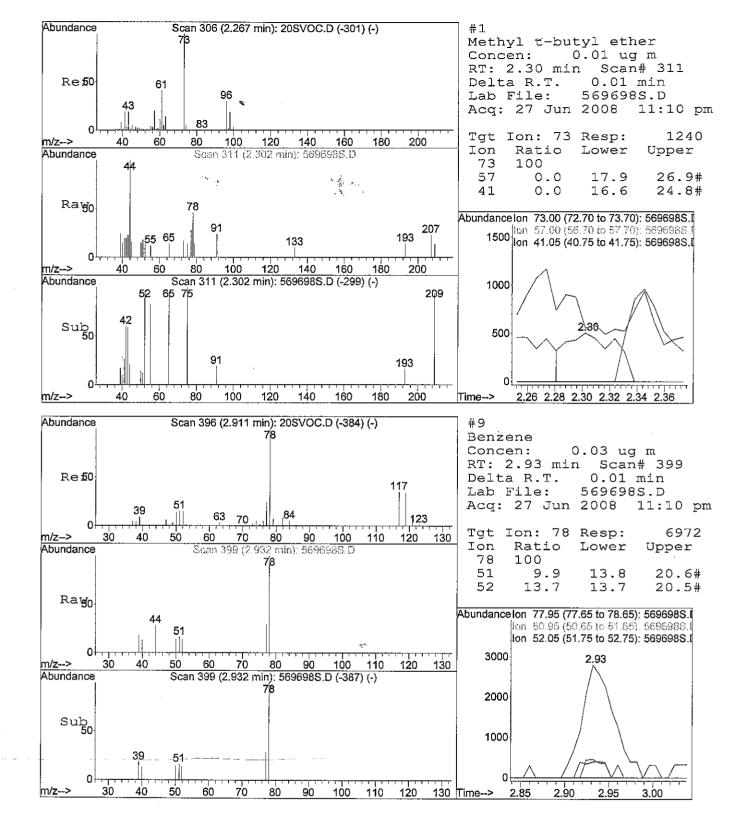
Quantita	tion Repo	rt	(QT Revie	wed)					
Data File : C:\MSDCHEM\#8\74768 Acq On : 27 Jun 2008 11:10 Sample : Misc :	pm	85.D	In	Vial: erator: st : ltiplr:	DC/I Inst	rumen			
MS Integration Params: DDLSCINT Quant Time: Jun 30 14:53:59 200		Qu	ant Result	s File:	A4-8	.RES			
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8									
Internal Standards	R.T.		Response						
Target Compounds						Qvalue			
 Methyl t-butyl ether 1,1-Dichloroethene trans-1,2-Dichloroethene 1,1-Dichloroethane cis-1,2-Dichloroethene Chloroform 1,1-Trichloroethane 	2.37 2.52 2.64 2.79	61 63 61 83 97	1240m 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D.	-	Qva⊥ue #			
 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 	2.87 2.93 2.92 3.28 4.13	78	0 6972m 0 0 0	N.D. 0.03 N.D. N.D. N.D. N.D.	ug	#			
 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethan 	4.00 4.29 4.40 4.86 4.93	91 43 166 112			ug	#			
18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene	5.01 5.11 5.33	91 91 91	5918m 17886m 10172m	0.02 0.07 0.04	ug ug ug	# # #			
24) 1,3-Dichlorobenzene	5.60 6.04 6.26 6.39 6.47 6.63	105 146	24543m 0	N.D. 0.03 0.08 N.D. N.D. N.D. N.D.	ug ug				
 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 	7.04 7.84 8.42 8.59 9.60 9.62 9.78 10.35 11.43	57 128 57 142 152 57 153 166 178	4723m 320710m 1889m 59357m 32206m 3600m 2343966m 201403m 101976m	0.03 0.70 0.01 0.17 0.05 0.02 6.66 0.47 0.24	ug ug ug ug ug ug ug ug	# # # # # #			
36) Anthracene 37) Fluoranthene 38) Pyrene	11.48 12.74 13.00	178 202 202	217773m 241573m 168924m	0.51 0.57 0.40	uġ	# # #			

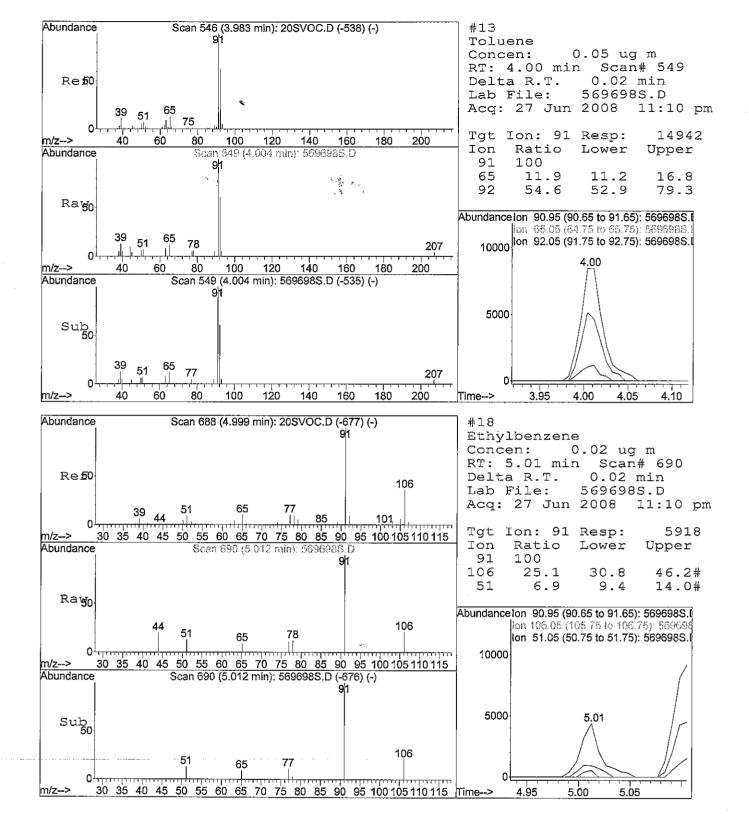
(#) = qualifier out of range (m) = manual integration (+) = signals summed 569698S.D A4-8.M Wed Jul 02 10:37:05 2008 RPT1 Page 1

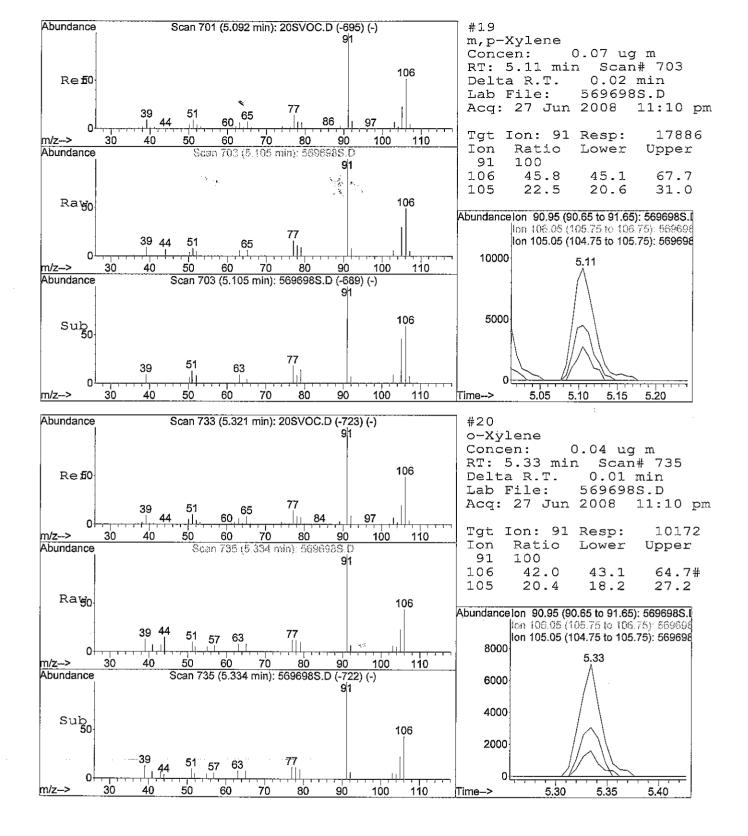
4

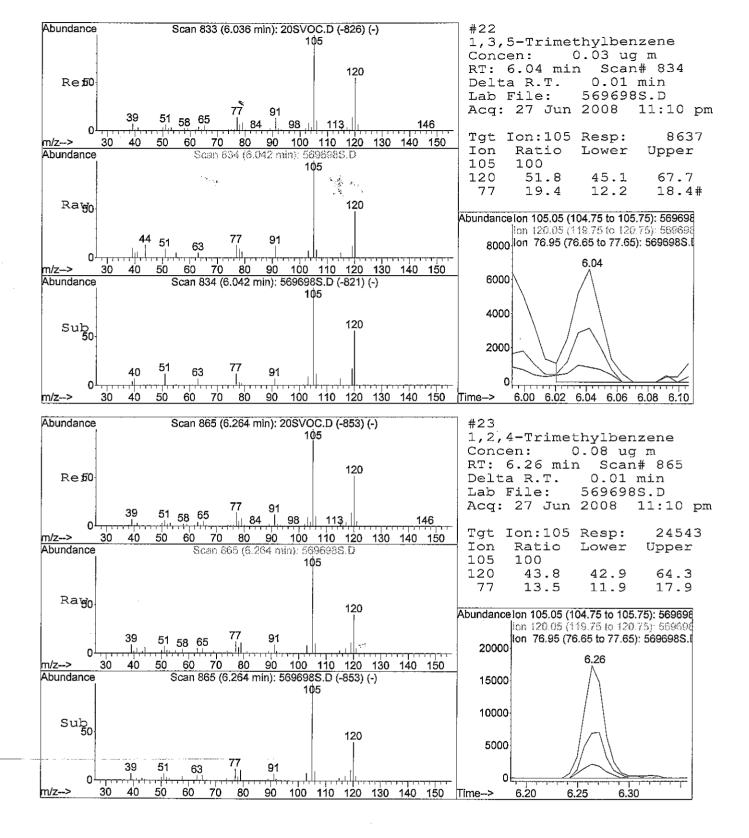
		¢	uanti	tatior	Repor	t	(QT R	eview	red)		
Acq O Sampl Misc	:	' Jun 20	08 1	1:10 p	m	698s.	D		Opera	:	DC/DD Instrumen
MS In Quant	tegration Time: Ju	n Params n 30 15	: DDL :09 2	SCINT. 008	P		Quant	Resu	lts F	ile:	A4-8.RES
Metho Title Last	: Update	C:\MSI Gore H Mon Ju	xpand n 30	ed Tar 14:43:	get VO 38 200	Cs/SV		Integ	rator)	
Respo Abundance	nse via :	Initia	I Cal	ibrati	<u>on</u> TI C: 56 9	698S.D					
6000000											
5800000											
5600000											
5400000											
5200000											
5000000											
4800000											
4600000											
4400000											
4200000								•			
4000000											
3800000											
3600000											
3400000											
3200000						İ		-			
3000000											
2800000											
2600000					* 1						
2400000											
2200000											
2000000											
1800000											
1600000	ana bahan ana ana ana ini ata ana da ana da ana ana										
1400000											
1200000											
1000000											
800000					l						
600000							.d				
400000								1			
200000					a la la la la la la la la la la la la la		WUMAN				_
0 []] , Time>	1.00 2.00			ممدر 1.00 .00 7.00	1.00 9.0	00_10.0	0 11.00	الیب المب 12.00 1	<u></u> 3.00 14.0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	16.00 17.00
5696985					10:37:			RP			Page 2

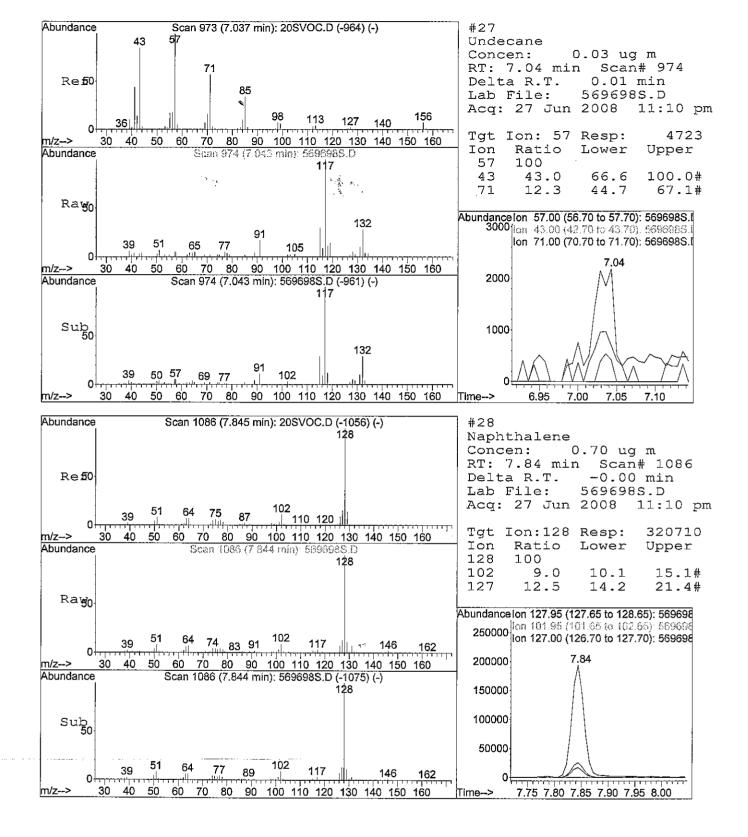
-2

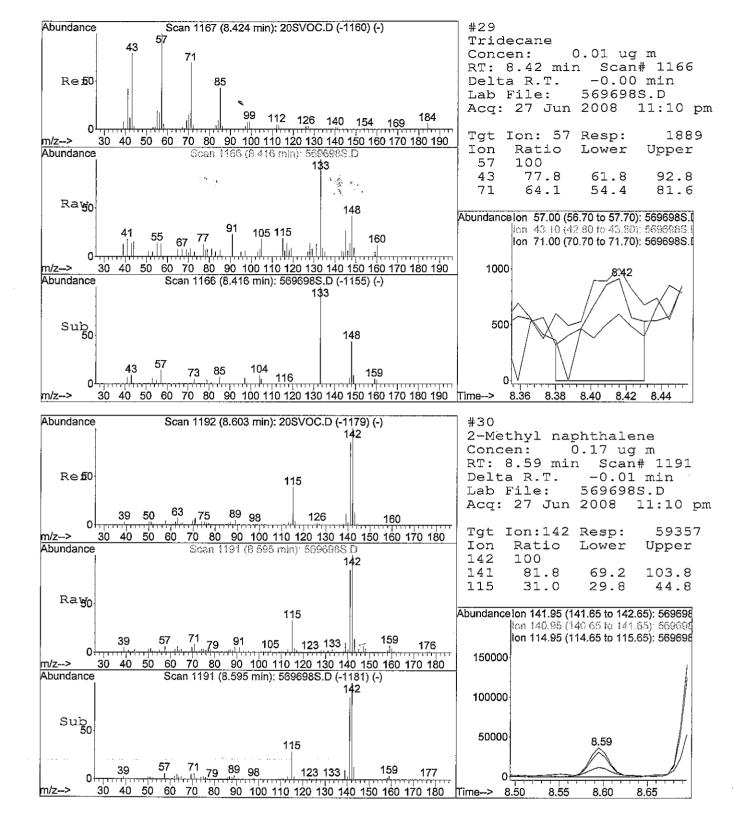


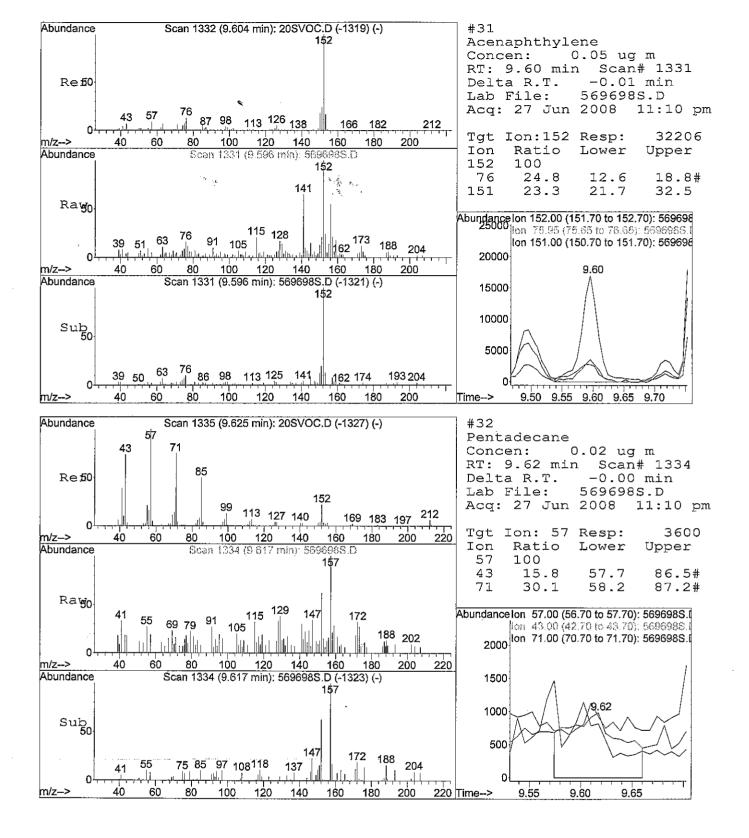






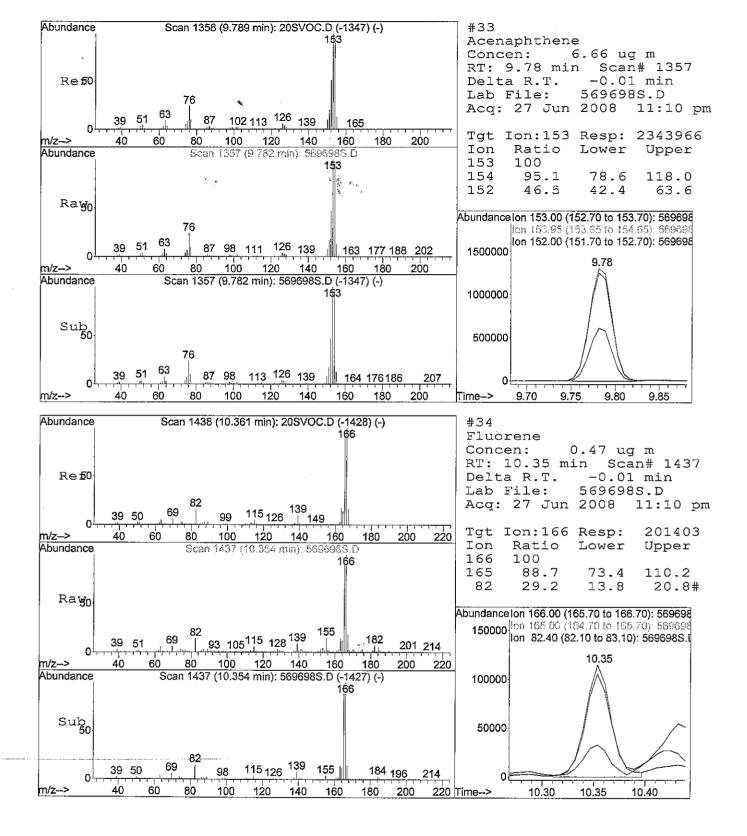




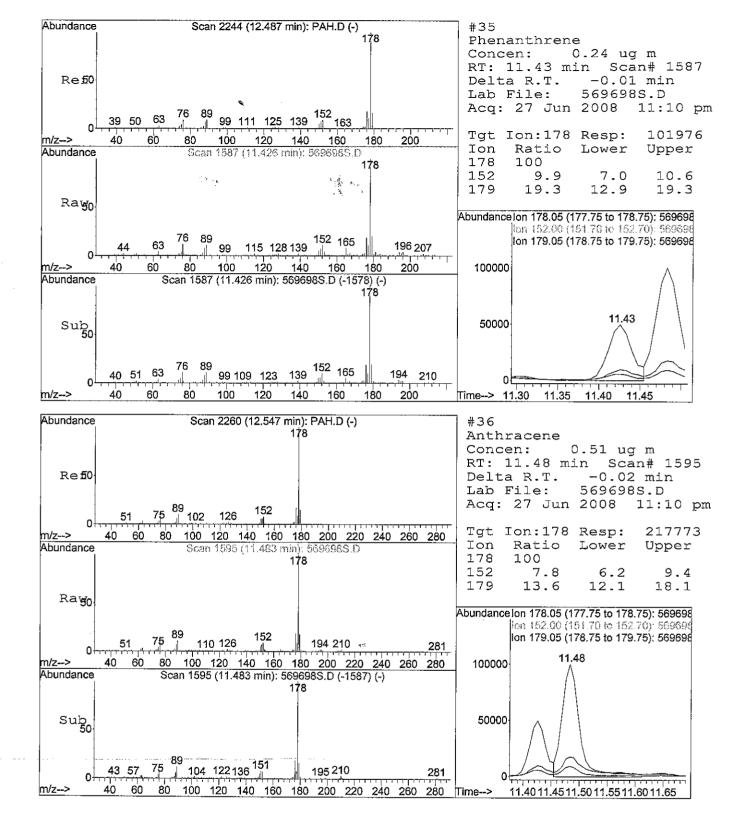


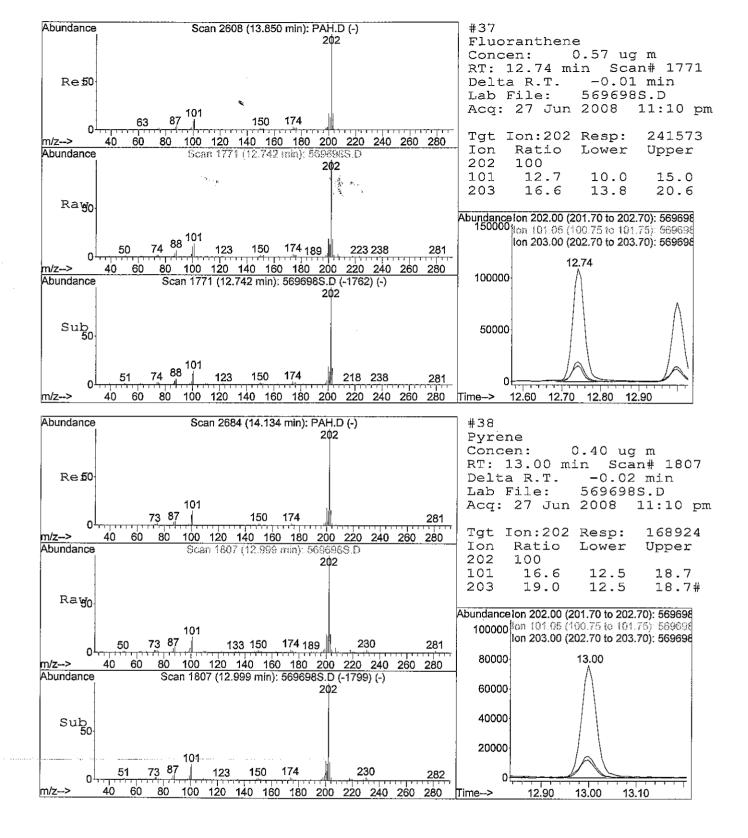
RPT1

Page 9



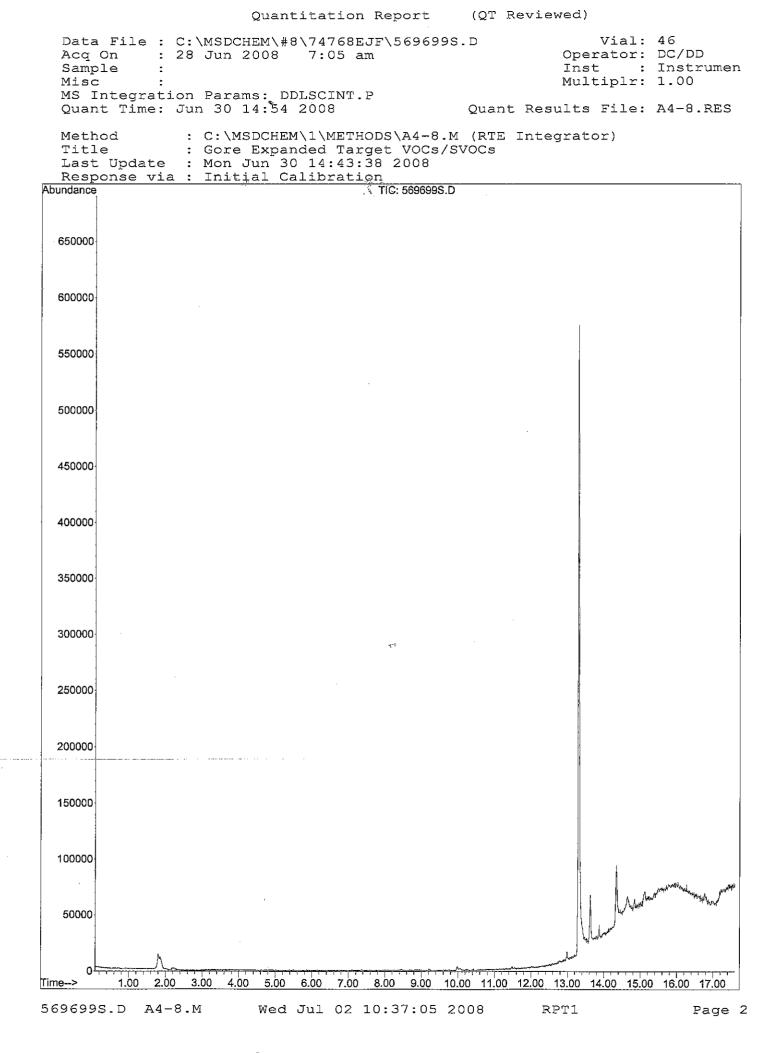
Page 10





Quantitation Report (QT Reviewed)							
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 28 Jun 2008 7:05 am Sample : Misc :		995.D	Op In	Vial: erator: st : ltiplr:	DC/DD Instrumen		
MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:54:00 2008		Qu	ant Result	s File:	A4-8.RES		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards	R.T.		Response		nits Dev(Min)		
<pre>5) cis-1,2-Dichloroethene 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 14) Octane 15) Tetrachloroethene 16) Chlorobenzene 17) 1,1,1,2- Tetrachloroethane 18) Ethylbenzene 19) m,p-Xylene 20) o-Xylene 21) 1,1,2,2-Tetrachloroethane</pre>	2.37 2.54 2.69 2.89 2.99 2.99 2.19 2.99 2.199 4.48 3.99 4.48 3.99 4.99 5.60 5.60	63 61 83 97 62 78 117 97 43 166 112 131 91 91 83	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.			
<pre>22) 1,3,5-Trimethylbenzene 23) 1,2,4-Trimethylbenzene 24) 1,3-Dichlorobenzene 25) 1,4-Dichlorobenzene 26) 1,2-Dichlorobenzene 27) Undecane 28) Naphthalene 29) Tridecane 30) 2-Methyl naphthalene 31) Acenaphthylene 32) Pentadecane 33) Acenaphthene 34) Fluorene 35) Phenanthrene 36) Anthracene 37) Fluoranthene 38) Pyrene</pre>	6.03 6.26 6.39 6.47 6.63 7.03 7.84 8.42 8.60 9.62 9.62 9.62 9.79 10.36 11.44 11.50 12.76 13.02	146		N.D. N.D. N.D. N.D. N.D. N.D. N.D. N.D.			

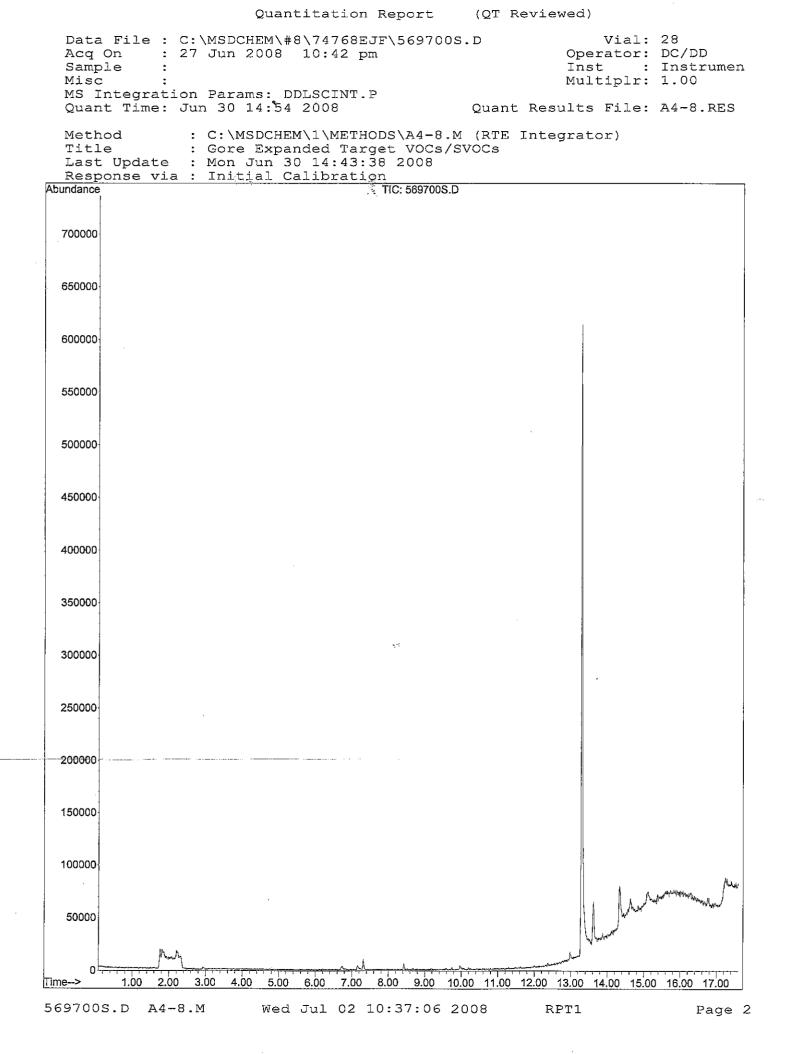
- 2-

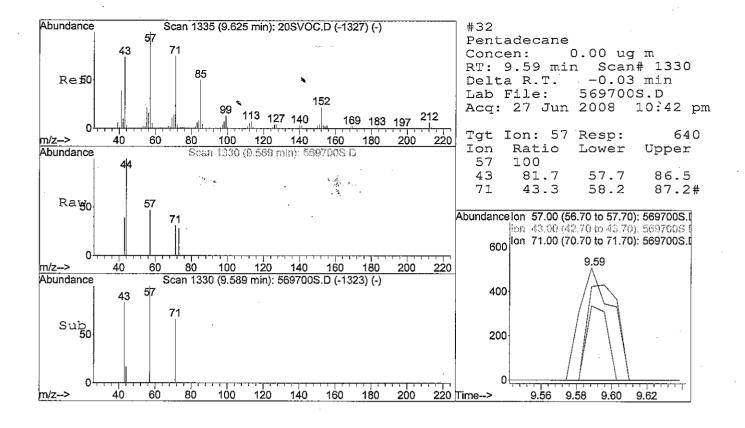


Quantitat	ion Repo	ort	(QT Revie	wed)			
Data File : C:\MSDCHEM\#8\74768E Acq On : 27 Jun 2008 10:42 p Sample : Misc :	m)0S.D	In	Vial: perator: st : utiplr:	DC/DD Instrumen		
MS Integration Params: DDLSCINT. Quant Time: Jun 30 14:54:00 2008		Qu	ant Result	s File:	A4-8.RES		
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards	R.T.	QIon	Response	Conc Un	its Dev(Min)		
Target Compounds				1	Qvalue		
 Methyl t-butyl ether 1,1-Dichloroethene 	2.30	73		N.D.			
2) 1,1-Dichloroethene	2.10		0	N.D.			
3) trans-1,2-Dichloroethene	2.30	61	0	N.D.			
4) 1,1-Dichloroethane 5) cis-1,2-Dichloroethene	2.37 2.52	63		N.D.			
				N.D.			
6) Chloroform	2.64	83		N.D.			
7) 1,1,1-Trichloroethane	2.79	97		N.D.			
8) 1,2-Dichloroethane	2.87			N.D.			
9) Benzene	2.92	78		N.D.			
10) Carbon tetrachloride	2.92	117	0	N.D.			
11) Trichloroethene	3.28	95	0	N.D.			
12) 1,1,2- Trichloroethane	4.13		0	N.D.			
13) Toluene		91	Ò	N.D.			
14) Octane	4.29		0	N.D.			
15) Tetrachloroethene 16) Chlorobenzene	4.40 4.86			N.D.			
•			0 0	N.D.			
17) 1,1,1,2- Tetrachloroethane18) Ethylbenzene	4.93		0	N.D. N.D.			
19) m,p-Xylene	4.99 5.08		0	N.D.			
20) o-Xylene	5.32		ŏ	N.D.			
20) 0 Ayrene 21) 1 1 2 2-Tetrachloroethane	5 60	83	õ	N.D.			
21) 1,1,2,2-Tetrachloroethane 22) 1,3,5-Trimethylbenzene	6 03	105	õ	N.D.			
23) 1,2,4-Trimethylbenzene				N.D.			
24) 1,3-Dichlorobenzene	6.39	146	ŏ	N.D.			
25) 1,4-Dichlorobenzene			õ	N.D.			
26) 1,2-Dichlorobenzene	6.63	146	õ	N.D.			
27) Undecane	7.03	57	Ō	N.D.			
28) Naphthalene	7.84	128	Ő	N.D.			
29) Tridecane	8.42	57	0	N.D.			
30) 2-Methyl naphthalene	8.60	142	0	N.D.			
31) Acenaphthylene	9.60	152	Ō	N.D.			
32) Pentadecane	9.59	57	640m	0.00	ug #		
33) Acenaphthene	9.79	153	0	N.D.	-		
34) Fluorene	10.36	166	0	N.D.			
35) Phenanthrene	11.44	178	0	N.D.			
36) Anthracene	11.50	178	0	Ń.D.			
37) Fluoranthene	12.76	202	0	N.D.			
38) Pyrene	13.02	202	0	N.D.			

(#) ≈ qualifier out of range (m) = manual integration (+) = signals summed 569700S.D A4-8.M Wed Jul 02 10:37:06 2008 RPT1 Page 1

٤.





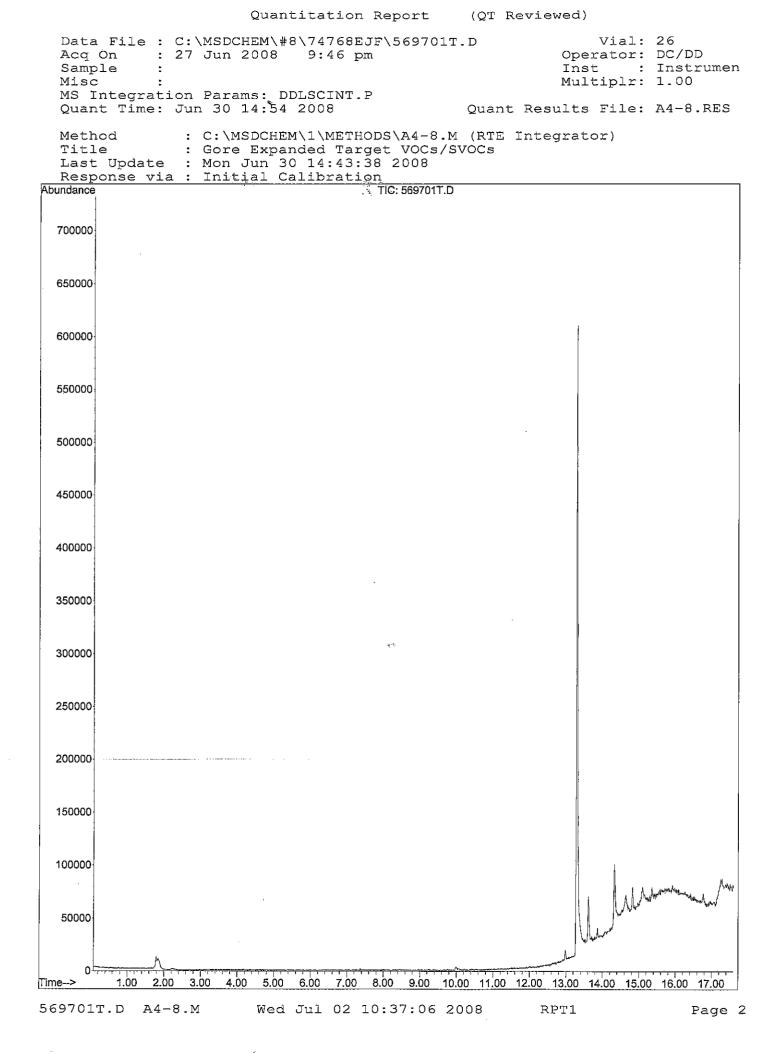
Wed Jul 02 10:43:07 2008

RPT1

Page 3

Trip Blanks Quantification Reports and Mass Spectra Production Order #13674768

Quantitati	on Repo	rt	(QT Revie	ewed)			
Data File : C:\MSDCHEM\#8\74768EJ Acq On : 27 Jun 2008 9:46 pm Sample : Misc :		1 T. D	Op In	Vial: perator: ist : iltiplr:	DC/I Inst	trumen	
MS Integration Params: DDLSCINT.P Quant Time: Jun 30 14:54:00 2008		Qu	ant Result	s File:	A4-1	8.RES	
Quant Method : C:\MSDCHEM\1\METHODS\A4-8.M (RTE Integrator) Title : Gore Expanded Target VOCs/SVOCs Last Update : Mon Jun 30 14:43:38 2008 Response via : Initial Calibration DataAcq Meth : VCGS3-8							
Internal Standards			Response				
 6) Chloroform 7) 1,1,1-Trichloroethane 8) 1,2-Dichloroethane 9) Benzene 10) Carbon tetrachloride 11) Trichloroethene 12) 1,1,2- Trichloroethane 13) Toluene 	2.30 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52 2.52	61 63 97 19 97 136 131 91 135 105 146 134 105 146 105 105 105 105 105 105 105 105		N.D N.D N.D N.D N.D N.D N.D N.D N.D N.D		Qvalue	



Appendix D

Vapor Concentration Calculations

GORE™ SURVEYS ENVIRONMENTAL SITE ASSESSMENT

FOCUSING YOUR REMEDIATION EFFORTS.

Vapor Concentration Calculations

Vapor concentration data from the GORE[™] Module, are derived from existing ASTM¹, MDHS² and other accepted and approved methods, developed for passive, sorbent-based, diffusion samplers.

<u>Air</u>: $\mu g/m^3 = Mass/System Factor/[(Sampling Rate)(Exposure Time))$

Soil Gas: µg/m³ = Air/Soil Effectiveness Factor

Mass = GC/MS measured mass from the Module

System Factor = correction factor for the efficiency of adsorption-desorption specific to the adsorbent, the compound of interest, and the analytical method

Sampling Rate = liters per hour (L/hr) of contaminated air collected by the Module

Soil Effectiveness Factor (E) = corrects for soil porosity and moisture content

Volume of air determinations were made by measuring the uptake rate of the GORETM Module over time. Modules were placed in a sample chamber equipped with a microbalance. Vapor containing toluene concentrations of 10, 30 and 50 ppm were introduced into the chamber. The mass uptake was recorded through time, and for each concentration was linear with time. The slopes from each linear concentration curve were plotted and modeled. The <u>sampling rate</u> was determined for toluene. In a similar fashion, sampling rates were measured for a number of other petroleum and chlorinated compounds. Using these measured sampling rates and physical properties of these compounds, a model was generated to predict the sampling rates of similar compounds in our analyte list.

The masses of the target compounds are derived by desorbing the Module and analyzing the sample via gas chromatography and mass spectroscopy (GC/MS) following modified EPA methods 8260/8270. The mass is reported in units of micrograms.

System factors account for the efficiency of adsorption and desorption specific to the adsorbent, the compound of interest and the GC/MS method. The system factor is calculated for each target compound.

Soil effectiveness factors (E) is applied to the sampling rate to correct for lower potential flow through the pores of the soil, accounting for physical limitations that can retard the vapor migration process, e.g., low porosity soils and moisture in the vadose zone pore space. The factor is equal to the ratio of the effective diffusion of the compounds to the molecular diffusivity of the compound in air.

REFERENCES

- 1. ASTM Methods 6306-98, 4597-03, 6246-02, and 5314-93
- 2. MDHS Methods, 27, 70, and 80
- 3. Millington, R.J. and J.M. Quirk. 1961. "Permeability of Porous Solids." Trans. Faraday Soc. 57:1200-1207.
- 4. User's Guide for the Johnson and Ettinger (1991) Model for Subsurface Vapor Intrusion into Buildings. 2000.
- PN 050240.004. www.epa.gov/sperfund/programs/risk.airmold/johson_ettinger.htm



www.gore.com/surveys

W. L. Gore & Associates, Inc. 100 Chesapeake Blvd. P.O. Box 10 Elkton, MD 21922-0010 Tel. 1-410-392-7600 Fax. 1-410-506-4870

Sale Offices: Europe: +49-89-4612-2198 Houston: 1-281-405-5540 San Francisco: 1-415-648-0438

Email: environmental@wlgore.com

The optimal performance of any Gore product is dependent upon how it is incorporated in the final device. Please contact one of our technical sales associates for application assistance.

GORE and designs are trademarks of W. L. Gore & Associates Copyright 2006 W. L. Gore & Associates, Inc.