William J. Ryan
Project Manager
Site Investigation and Remediation

March 21, 2014

Ms. Elizabeth B. Lukowski
Engineering Geologist I
New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau C, Section A
625 Broadway, 11th Floor
Albany, NY 12233-7014

Subject: Second Half 2013 Groundwater Monitoring Report
Patchogue Former MGP Site
Patchogue, Suffolk County, New York
Site No. 1-52-182

Dear Ms. Lukowski:

This letter serves to transmit one hard copy and one CD containing an electronic copy of the Second Half 2013, Groundwater Monitoring Report for the Patchogue Former Manufactured Gas Plant (MGP) located in Patchogue, Suffolk County, New York (Site No. 1-52-182).

If you should have any questions, comments or require any additional information, please do not hesitate to contact me (516-545-2586).

Sincerely,

for

William J. Ryan
Project Manager, Site Investigation and Remediation

cc: Jacquelyn Nealon, NYSDOH (1 hard copy)
Amy Juchatz, SCDEE (1 hard copy)
Ronald Paulsen, SCDHS (1 hard copy)
Ralph Milito, SCDHS (electronic copy via email)
Walter Dawydiak, SCDHS (electronic copy via email)

Second Half 2013
Semi-Annual Groundwater Monitoring Report
Patchogue Former MGP Site
NYSDEC Site No. 1-52-182
Village of Patchogue, Suffolk County, New York

Prepared for

National Grid USA

Hicksville, New York

March 2014

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NYSDEC Site No. 1-52-182
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March 2014

Project Number: 142128.610.004

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Section 1

Introduction

Brown and Caldwell Associates (BC) is pleased to submit this Semi-Annual Groundwater Monitoring Report to document the implementation and results of the groundwater monitoring activities conducted during the second half of 2013 at the Patchogue Former Manufactured Gas Plant (MGP) Site (hereinafter referred to as the "Site"). The report documents the performance of the water level measurement, non-aqueous phase liquid (NAPL) gauging and groundwater sampling activities conducted in the fourth quarter of 2013. Access was not granted to the adjacent off-site property to the east during the third quarter for the scheduled measurement of water levels in monitoring wells and piezometers on that property. The New York State Department of Environmental Conservation (NYSDEC) was notified of this access situation in an August 22, 2013 email and a subsequent letter dated October 8, 2013. The issue with access to the monitoring wells and piezometers on the adjacent off-site property was resolved prior to the performance of the fourth quarter 2013 groundwater monitoring event described herein.

In addition, as discussed in Section 1.1 of this report and detailed in the October 8, 2013 letter, National Grid proposed that the frequency of all components the groundwater monitoring program (i.e., water level measurements, gauging for NAPL and groundwater sampling) be returned to the original semi-annual schedule. The NYSDEC concurred with this proposal in a December 9, 2013 email.

This report summarizes the groundwater monitoring activities that were conducted during the second half of 2013. The groundwater monitoring event and the preparation of this deliverable are part of the routine groundwater monitoring program being conducted at the Site. This report has been prepared for submittal to the NYSDEC and includes the following:

- Description of the scope of the field activities, methods and procedures;
- Table summarizing results of the water level measurements and the gauging of the monitoring wells and piezometers for the presence of NAPLs (see Table 1);
- Table summarizing the analytical results for groundwater samples obtained during the monitoring event in the second half of 2013, including a comparison to the applicable groundwater quality criteria (see Table 2);
- Comparison of data from this monitoring period to data from previous periods (Tables 3 and 4);
- Discussion of the results and findings from the groundwater monitoring data;
- Water table elevation contour map depicting generalized direction of groundwater flow based on groundwater elevation data from wells and piezometers, and surface water elevation data from staff gauges installed in the Patchogue River (Figure 1);
- Field Sampling Data Sheets (Appendix A);
- Laboratory Data Report (Appendix B);
- Data Usability Summary Report (Appendix C); and
- Electronic Data Deliverable (Appendix D).

1.1 Background

Groundwater monitoring events have been conducted at the Site since March 2008, including the two monitoring events conducted as part of the Remedial Investigation (RI) in March 2008 and July 2008. The groundwater monitoring event conducted in December 2013 is the subject of this report. Up until the March 2010 monitoring event, the concentrations and areal distribution of constituents in groundwater had been fairly consistent. Site-related dissolved phase constituents [e.g., benzene, toluene, ethylbenzene, xylenes (BTEX), and polycyclic aromatic hydrocarbons (PAH)] were detected at concentrations above the Class GA groundwater quality criteria (i.e., standards from the 6 NYCRR Part 703 Standards and guidance values from the Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1) in a limited area near the center of the Site. These elevated concentrations did not extend downgradient to the wells closer to the Patchogue River. However, during the March 2010 and September 2010 monitoring events, detections of BTEX and PAH compounds were more widely distributed than during previous events. It was surmised that this change was the result of a temporary dewatering operation at a construction project at the wastewater treatment facility (WWTF) across the river from the Site. Based on the understanding of Site conditions, it was anticipated that when the dewatering operations had ceased, concentrations in groundwater would re-equilibrate with steady-state (i.e., pre-dewatering) groundwater flow conditions, and eventually return to levels similar to those prior to dewatering. To confirm this, National Grid increased the frequency of the groundwater monitoring from semi-annually to quarterly. The subsequent six quarterly monitoring events documented the return of groundwater flow and groundwater quality to conditions consistent with those prior to the dewatering operations.

Based on this finding, in a May 24, 2012 email, National Grid proposed to NYSDEC that the frequency of groundwater sampling and analysis return to a semi-annual schedule with the schedule for water level monitoring and NAPL gauging remaining on a quarterly basis. NYSDEC agreed with this proposal in a May 24, 2012 email and the water level data collection remained on a quarterly schedule to provide additional water level data from the piezometers that had been installed in the first half of 2012 in support of the Pre-Remedial Design Investigation. As mentioned above, in an October 8, 2013 letter to the NYSDEC, National Grid proposed that that the frequency of all components of the groundwater monitoring program (i.e., water level measurements, NAPL gauging and groundwater sampling) be returned to the semi-annual schedule. This proposal was made because the data from the water level measurements and NAPL gauging, including data from the newer piezometers, continued to indicate very consistent findings from quarter to quarter and confirmed the understanding of groundwater flow conditions and NAPL occurrence at the Site.

This report presents the results of the water level and NAPL gauging, as well as the analytical results for the groundwater samples collected during the December 2013 groundwater monitoring event.

Section 2

Scope of Work

Field activities for the second half 2013 groundwater monitoring were conducted by BC on December 9 and 10, 2013. The activities conducted during this monitoring event are described below. Locations of the monitoring wells, piezometers and staff gauges referenced below are depicted on Figure 1.

The field activities began on December 9, 2013 with the performance of water level measurements and NAPL gauging in the piezometers and monitoring wells associated with the Site; these water level measurements and NAPL gauging were conducted prior to groundwater sampling activities. Monitoring wells MW-9S, MW-9D, and MW-3, located on the adjacent off-site property to the east, were not accessible during this monitoring event. MW-9S and MW-9D was blocked by a large shipping container and MW-3 was under a pile of construction materials (bricks, scaffolding etc.), both placed by the property owner. The level of the Patchogue River was also measured at the two staff gauges. Water level measurements were made using an electronic oil/water interface probe, and measured to the nearest 0.01 foot. At the locations where NAPL was detected using the oil/water interface probe, a two-foot long threaded rod attached to a nylon mason line was lowered into the monitoring well or piezometer to confirm the presence of the NAPL. The threaded rod was lowered to the bottom of the monitoring well to measure the approximate thickness of the NAPL accumulation (MGP-related NAPL typically adheres to grooves in the threaded rod).

After the water level and NAPL gauging activities were conducted, groundwater samples were collected from seven monitoring wells on December 9 and 10, 2013. As mentioned above, wells MW-9S, MW-9D, and MW-3 were not accessible during this event; therefore, groundwater samples were not collected from these monitoring wells. Monitoring wells MW-5 and MW-6 were not sampled during this monitoring period due to the presence of NAPL in these wells. The presence of NAPL in these wells is consistent with observations during previous gauging activities. The standard protocol is that if NAPL is observed in a well during gauging or sampling, groundwater samples are not submitted for laboratory analyses. Groundwater sampling was conducted using low flow purging and sampling techniques in accordance with the United States Environmental Protection Agency (USEPA) protocol (USEPA, July 1996, Revised January 2010). Samples were submitted to Eurofins Lancaster Laboratories, Inc. (Lancaster) located in Lancaster, Pennsylvania. Lancaster is certified (Certification No. 10670) through the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP).

The groundwater samples were analyzed for: BTEX compounds and methyl tertiary butyl ether (MTBE) using USEPA SW-846 Method 8260B; and PAHs using USEPA SW-846 Method 8270C. The groundwater samples were also analyzed in the field for pH, specific conductivity, temperature, turbidity, oxidation-reduction potential (ORP), and dissolved oxygen (see Appendix A for field data sheets).

The laboratory report from Lancaster is provided in Appendix B. The laboratory analytical data were provided to BC in electronic form by Lancaster and have been incorporated into the environmental database for the Site.

In addition to the samples described above, quality assurance/quality control (QA/QC) samples were also collected. The QA/QC samples included: trip blanks (one per cooler containing samples for BTEX and MTBE analysis), a field duplicate, and an equipment blank. Also, extra sample volume was collected from one location to provide for matrix spike/matrix spike duplicate (MS/MSD) analysis. The trip blanks were analyzed for BTEX and MTBE only. The other QA/QC samples were analyzed for BTEX, MTBE, and PAHs.

Laboratory results for the groundwater sample analyses were forwarded to a data validator, Environmental Data Services, Inc. of Williamsburg, Virginia, for review and preparation of a Data Usability Summary Report (DUSR). The DUSR presents a summary of data usability including a discussion of qualified data. The DUSR is provided as Appendix C. As described in the DUSR, the data were considered by the validator to be valid and usable. An Electronic Data Deliverable (EDD) of the validated analytical data is provided in Appendix D.

Section 3

Results and Findings

3.1 Water Level Data

Table 1 provides the water level data and calculated water elevations from the December 9, 2013 measurements. Figure 1 illustrates the elevation contours of the water table based on these data. The contours were developed using water level data from the shallow monitoring wells and shallow piezometers at the Site (i.e., those with screens that straddle, or are just below, the water table), and the surface water staff gauges in the Patchogue River. These values are representative of water table elevations. However, the groundwater elevation (hydraulic head) values for the wells and piezometers screened in deeper intervals are also posted for reference on Figure 1. The water table is relatively shallow and is typically positioned in the fill that overlies the native alluvial deposits and outwash deposits. The water table contours indicate that lateral groundwater flow is from northwest to southeast across the Site toward the Patchogue River. Comparisons of the groundwater elevations in the monitoring wells to the river elevations, as measured at the staff gauge locations, demonstrate that groundwater elevations are higher than the river level indicating that groundwater is discharging to the Patchogue River. The upward vertical hydraulic gradient measured at a well cluster adjacent to the river (MW-4S and MW-4D) is indicative of a discharge area and provides further support to the conclusion that groundwater is discharging to the Patchogue River. The general configuration of the water table contours, developed using the December 9, 2013 data, and the interpreted groundwater flow patterns, are consistent with those from previous rounds of water level measurements with one exception. The exception occurred during the March 2010 sampling event when the large-scale dewatering activities were being conducted on the WWTF site located east of the Site on the opposite side of the river (see discussion in Section 1.1). Operation of this dewatering system temporarily altered groundwater flow patterns and levels at the Site (see "Groundwater Monitoring Report, Second Semiannual 2010 Sampling Event" [GEI, November 2010]).

3.2 NAPL Gauging

Table 1 presents the results of the NAPL gauging conducted in the monitoring wells and piezometers associated with the Site during the December 2013 groundwater monitoring event. NAPL was identified in the following wells during the gauging activities:

- **MW-5:** Brown-black tacky DNAPL blebs on lower 0.55 feet of threaded rod, strong tar-like odor.
- **MW-6:** Black NAPL blebs on lower ¼ inch of threaded rod, strong tar-like odor.

NAPL had been observed in these two wells during previous gauging events.

3.3 Groundwater Quality Data

Table 2 provides the results of the laboratory analyses of the groundwater samples collected during the December 2013 monitoring event and a comparison of the data to the New York State Class GA groundwater quality criteria, i.e., standards from the 6 NYCRR Part 703 Standards and guidance values from the Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. Comparisons of total BTEX and total PAH concentrations from this sampling event to previous sampling events are provided as Tables 3 and 4, respectively.

As previously stated, NAPL was identified in two of the 12 monitoring wells associated with the Site, MW-5 and MW-6. These two wells are located in the central part of the Site in the area of former MGP operations (refer to Figure 1). As discussed in Section 2, because they contained NAPL, groundwater samples were not collected from these two wells. Also, no groundwater samples were collected from wells MW-3, MW-9S, and MW-9D (located on an adjacent property) as access to these wells was impeded by the presence of a large shipping box container and construction materials. Groundwater samples were collected from the remaining seven monitoring wells and submitted to the laboratory for analysis.

In general, the constituent concentrations in groundwater samples collected during the December 2013 monitoring event were consistent with those measured during previous monitoring events. In samples from most wells, no BTEX compounds were detected. However, benzene was detected in groundwater sample collected at MW-7S, although this concentration was below the Class GA groundwater quality criterion for benzene of 1 µg/L. This is consistent with the results from the previous sampling round (June 2013). No MGP-related structures or NAPL have been identified in the area hydraulically upgradient of monitoring well MW-7S. Additionally, none of the low molecular weight PAHs that have usually been associated with MGP-related dissolved phase impacts at this Site (e.g., naphthalene, acenaphthene, acenaphthylene, and fluorene) were detected. Thus, the benzene detected in the groundwater samples from this monitoring well is not likely associated with MGP-related impacts.

At most locations, PAH compounds were either not detected or were detected at concentrations below the Class GA groundwater quality criteria. However, in the sample collected from monitoring well MW-7D, one PAH compound, chrysene, was detected at low concentration (i.e., slightly above the laboratory method detection limit) but above the Class GA groundwater quality criterion. This constituent has very low aqueous solubility and is not readily mobile in groundwater. This low potential for mobility, combined with the fact that no MGP-related structures or NAPL have been identified in the area hydraulically upgradient of MW-7D indicate that the chrysene detected in the sample from MW-7D is unlikely to have migrated from the on-site source area and is considered unrelated to the former MGP. The criterion that was exceeded for chrysene is an unpromulgated guidance value rather than Part 703 standards.

Section 4

Summary and Conclusions

As in previous monitoring events, NAPL was identified in two of the monitoring wells, MW-5 and MW-6 during the December 2013 event. Both MW-5 and MW-6 are located in the center of the Site in the area of former MGP operations.

BTEX compounds were not detected in groundwater samples from most of the monitoring wells associated with the Site, consistent with previous monitoring periods. However, benzene was detected in the groundwater sample from monitoring well MW-7S at concentrations below the Class GA groundwater quality criterion. The benzene detected in the groundwater sample from MW-7S is not likely associated with MGP-related impacts as no MGP-related structures or NAPL have been identified in the area hydraulically upgradient of monitoring well MW-7S.

At six of the seven monitoring wells that were sampled during the December 2013 monitoring event, PAH compounds were either not detected or were detected at concentrations below the Class GA groundwater quality criteria. However, in the sample collected from monitoring well, MW-7D one PAH compound, chrysene, was detected at a low concentration (i.e., slightly above the method detection limit) but above the Class GA groundwater quality criterion, which for chrysene is an unpromulgated guidance value. The very low aqueous solubility of chrysene, and the lack of MGP-related structures or NAPL hydraulically upgradient of MW-7D, indicate that the chrysene detected in the sample from MW-7D is unlikely to have migrated from the on-site source area and is considered unrelated to the former MGP.

In the monitoring events since the September 2010 event, the concentrations of BTEX and PAHs in the shallow groundwater and the areal distribution of these concentrations are generally similar to those from monitoring events which occurred prior to March 2010. This indicates that constituent concentrations in groundwater have decreased and have generally re-equilibrated with the steady-state groundwater flow conditions that existed prior to the operation of the large scale temporary construction dewatering system (see Section 1.1) that affected the results of the March and September 2010 monitoring events, as anticipated. No dissolved phase impacts are identified in groundwater downgradient of the MGP-impacts identified in the soil in the area of former MGP operations. Monitoring will continue in order to confirm these conditions.

Section 5

References

Brown and Caldwell Associates, December 2012, Construction Completion Report Utility Corridor Work Plan Implementation, Patchogue Former MGP Site, Village of Patchogue, Suffolk County, New York, Site ID No. 1-52-182.

Brown and Caldwell Associates, February 2012. Remedial Design Work Plan, Patchogue Former MGP Site, Village of Patchogue, Suffolk County, New York, Site ID No. 1-52-182.

GEI, November 2010. Groundwater Monitoring Report, Second Semiannual 2010 Sampling Event, Patchogue Former MGP Site, Town of Brookhaven, Suffolk County, Long Island, New York, Site ID No. 1-52-182.

NYSDEC, November 2009. CP-43: Groundwater Monitoring Wells Decommissioning Policy.

USEPA, July 1996; Revised January 2010. Low-Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells.

Tables

TABLE 1
WATER ELEVATIONS AND NAPL MONITORING DATA
FIRST HALF 2013
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

		3/25/2013				
Well ID	Top of Casing Elevation [(a)] (ft., NAVD)	Depth to Water (ft., BTOC)	Water Elevation (ft., NAVD)	Depth to NAPL (ft., BTOC)	Total Depth of Well (ft., BGS)	Remarks
MW-1	11.47	6.07	5.40	ND	15.29	
MW-3	5.56	--	--	--	--	No access to monitoring well
MW-4S	7.97	5.22	2.75	ND	12.24	
MW-4D	7.79	5.01	2.78	ND	26.79	
MW-5	8.13	1.19[(b)]	3.71	16.25	16.65	0.4' of NAPL on bottom of threaded rod.
MW-6	5.01	0.75	4.26	21.78	21.8	NAPL blebs on bottom 0.1' of threaded rod.
MW-7S	8.45	4.66	3.79	ND	12.52	
MW-7D	8.31	4.51	3.80	ND	28.28	
MW-8S	5.08	1.05	4.03	ND	10.08	
MW-8D	4.98	0.95	4.03	ND	25.26	
MW-9S	4.47	--	--	--	--	No access to monitoring well
MW-9D	4.66	--	--	--	--	No access to monitoring well
SG-1	5.23	4.08	1.15	--	NA	
SG-2	5.17	3.83	1.34	--	NA	
PZ-1A	8.05		4.21			
		3.84		ND	10.01	
PZ-1B	8.91	4.75	4.16	ND	22.57	
PZ-2A	8.77	4.63	4.14	ND	5.14	
PZ-2B	8.29	4.11	4.18	ND	18.12	
PZ-3A	8.78	5.12	3.66	ND	8.96	
PZ-3B	8.90	5.37	3.53	ND	21.33	
PZ-4A	4.79	1.83	2.96	ND	4.97	

Notes:
NAVD - North American Vertical Datum
BGS - Below Ground Surface
BTOC - Below Top of Casing
NAPL - Non-aqueous phase liquid
NA - Not applicable
ND - Not Detected
(a) - Monitoring wells resurveyed on 7/3/12 following utility corridor construction activities. See "Construction Completion Report, Utility Corridor Work Plan Implementation (Brown and Caldwell, December 2012)".
(b) - Depth to water measured from ground surface.

TABLE 1
WATER ELEVATIONS AND NAPL MONITORING DATA
FIRST HALF 2013
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Well ID	Top of Casing Elevation [(a)] (ft., NAVD)	6/26/2013 Depth to Water (ft., BTOC)	Water Elevation (ft., NAVD)	Depth to NAPL (ft., BTOC)	Total Depth of Well (ft., BGS)	Remarks
MW-1	11.47	5.77	5.70	ND	15.3	
MW-3	5.56	--	--	--	--	No access to monitoring well
MW-4S	7.97	4.90	3.07	ND	12.32	
MW-4D	7.79	4.70	3.09	ND	26.68	
MW-5	8.13	1.00[(b)]	7.13	8.9	13.25	Black tacky NAPL coating 0.55' of threaded rod. Protective casing is destroyed. Measurements taken from ground surface.
MW-6	5.01	0.40	4.61	8.2	18.5	Black NAPL blebs on bottom 1/4" of threaded rod – tacky
MW-7S	8.45	4.38	4.07	ND	12.46	
MW-7D	8.31	4.18	4.13	ND	28.2	
MW-8S	5.08	0.80	4.28	ND	10	
MW-8D	4.98	0.64	4.34	ND	25.1	
MW-9S	4.47	1.64	2.83	ND	4.95	
MW-9D	4.66	--	--	--	--	No access to monitoring well
SG-1	5.23	3.81	1.42	--	NA	
SG-2	5.17	3.66	1.51	--	NA	
PZ-1A	8.05	5.17	--	--	--	Water level taken from top of stickup which was not surveyed. Therefore, the water elevation at this piezometer was not calculated .
PZ-1B	8.91	4.47	4.44	ND	22.53	
PZ-2A	8.77	4.64	4.13	ND	8.15	
PZ-2B	8.29	3.8	4.49	ND	18	
PZ-3A	8.78	5.06	3.72	ND	8.92	
PZ-3B	8.90	5.1	3.80	ND	21.28	
PZ-4A	4.79	--	--	--	--	

Notes:
NAVD - North American Vertical Datum
BGS - Below Ground Surface
BTOC - Below Top of Casing
NAPL - Non-aqueous phase liquid
NA - Not applicable
ND - Not Detected
(a) - Monitoring wells resurveyed on 7/3/12 following utility corridor construction activities. See "Construction Completion Report, Utility Corridor Work Plan Implementation (Brown and Caldwell, December 2012)".
(b) - Depth to water measured from ground surface.

TABLE 2
GROUNDWATER ANALYSIS RESULTS
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703 Standard	Units	Loc ID Date	MW-1 12/10/2013	MW-3 12/10/2013	MW-4S 12/10/2013	MW-4D 12/10/2013	MW-7S 12/9/2013	MW-7S DUP 12/9/2013
Volatile Organic Compounds										
BTEX										
Benzene	NE	1	µg/L		0.5 U	NS	0.5 U	0.5 U	0.8 J	0.8 J
Toluene	NE	5	µg/L		0.7 U	NS	0.7 U	0.7 U	0.7 U	0.7 U
Ethylbenzene	NE	5	µg/L		0.8 U	NS	0.8 U	0.8 U	0.8 U	0.8 U
m&p-Xylenes	NE	5	µg/L		0.8 U	NS	0.8 U	0.8 U	0.8 U	0.8 U
o-Xylene	NE	5	µg/L		0.8 U	NS	0.8 U	0.8 U	0.8 U	0.8 U
Xylenes, Total	NE	NE	µg/L		0.8 U	NS	0.8 U	0.8 U	0.8 U	0.8 U
Total BTEX	NE	NE	µg/L		ND	NS	ND	ND	0.8	0.8
Other VOCs										
Methyl Tertiary Butyl Ether	10	NE	µg/L		0.5 U	NS	0.5 U	0.5 U	0.5 U	0.5 U
Semi-Volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L		0.1 U	NS	0.1 U	0.2 J	0.1 J	0.1 U
Acenaphthylene	NE	NE	µg/L		0.1 U	NS	0.1 U	1	0.1 U	0.1 U
Anthracene	50	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(a)anthracene	0.002	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(a)pyrene	NE	0	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	0.002	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U
Dibenzo(a,h)anthracene	NE	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U
Fluorene	50	NE	µg/L		0.1 U	NS	0.1 U	0.8	0.1 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.002	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U

TABLE 2
GROUNDWATER ANALYSIS RESULTS
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

	Class GA Groundwater Criteria									
	TOGS 1.1.1	NYS Part 703		Loc ID	MW-1	MW-3	MW-4S	MW-4D	MW-7S	MW-7S DUP
Constituent	Guidance	Standard	Units	Date	12/10/2013	12/10/2013	12/10/2013	12/10/2013	12/9/2013	12/9/2013
Naphthalene	10	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.6	0.5 J
Phenanthrene	50	NE	µg/L		0.1 U	NS	0.1 U	0.5	0.1 J	0.1 J
Pyrene	50	NE	µg/L		0.1 U	NS	0.1 U	0.1 U	0.1 U	0.1 U
Total PAHs	NE	NE	µg/L		ND	NS	ND	2.5	0.8	0.6

TABLE 2
GROUNDWATER ANALYSIS RESULTS
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703 Standard	Units	Loc ID Date	MW-7D 12/9/2013	MW-8S 12/10/2013	MW-8D 12/10/2013	MW-9S 12/10/2013	MW-9D 12/10/2013
Volatile Organic Compounds									
BTEX									
Benzene	NE	1	µg/L		0.5 U	0.5 U	0.5 U	NS	NS
Toluene	NE	5	µg/L		0.7 U	0.7 U	0.7 U	NS	NS
Ethylbenzene	NE	5	µg/L		0.8 U	0.8 U	0.8 U	NS	NS
m&p-Xylenes	NE	5	µg/L		0.8 U	0.8 U	0.8 U	NS	NS
o-Xylene	NE	5	µg/L		0.8 U	0.8 U	0.8 U	NS	NS
Xylenes, Total	NE	NE	µg/L		0.8 U	0.8 U	0.8 U	NS	NS
Total BTEX	NE	NE	µg/L		ND	ND	ND	NS	NS
Other VOCs									
Methyl Tertiary Butyl Ether	10	NE	µg/L		0.5 U	0.5 U	0.5 U	NS	NS
Semi-Volatile Organic Compounds (SVOCs)									
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	20	NE	µg/L		0.1 U	0.3 J	0.1 U	NS	NS
Acenaphthylene	NE	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Anthracene	50	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Benzo(a)anthracene	0.002	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Benzo(a)pyrene	NE	0	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Benzo(b)fluoranthene	0.002	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Benzo(g,h,i)perylene	NE	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Benzo(k)fluoranthene	0.002	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Chrysene	0.002	NE	µg/L		**0.1 J**	0.1 U	0.1 U	NS	NS
Dibenzo(a,h)anthracene	NE	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Fluoranthene	50	NE	µg/L		0.1 J	0.1 U	0.1 U	NS	NS
Fluorene	50	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Indeno(1,2,3-cd)pyrene	0.002	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS

TABLE 2
GROUNDWATER ANALYSIS RESULTS
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Constituent	Class GA Groundwater Criteria TOGS 1.1.1 Guidance	NYS Part 703 Standard	Units	Loc ID Date	MW-7D 12/9/2013	MW-8S 12/10/2013	MW-8D 12/10/2013	MW-9S 12/10/2013	MW-9D 12/10/2013
Naphthalene	10	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Phenanthrene	50	NE	µg/L		0.1 U	0.1 U	0.1 U	NS	NS
Pyrene	50	NE	µg/L		0.2 J	0.1 U	0.1 U	NS	NS
Total PAHs	NE	NE	µg/L		0.4	0.3	ND	NS	NS

Notes:
J - Estimated concentration. The result is below the practical quantitation limit but above the method detection limit.
U - The analyte was analyzed for, but was not detected.
µg/L - micrograms per liter
ND - Not detected.
NE - Not established.
NS- Not sampled
Boxed concentrations are above New York State Class GA Groundwater Quality Standards or Guidance values.

TABLE 3
SUMMARY OF HISTORICAL BTEX CONCENTRATIONS
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Sampling Date	Total BTEX Concentrations (µg/L)													
	Monitoring Well													
	MW-1	MW-2S	MW-2D	MW-3	MW-4S	MW-4D	MW-5	MW-6	MW-7S	MW-7D	MW-8S	MW-8D	MW-9S	MW-9D
Mar-08	0	0	0	0	3.4	0	1016	57	NS	NS	NS	NS	NS	NS
Jul-08	NS	0	0	0	0	0	678	0	0	0	0	0	0	0
Mar-09	0	0	0	0	0	0	975	0	0	1	0	0	0	0
Sep-09	0	0	0	0	0	0	1257	1	0	0	0	0	0	0
Mar-10	0	0	0	0	0	0	637	2	0	9	0	0	0	0
Sep-10	0	0	0	0	0	0	NS	0	0	0	0	0	27	0
Jan-11	1.7	0	0	0	0	0	NS	NS	0	0	0	0	1	0
Apr-11	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0
Aug-11	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0
Nov-11	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0
Feb-12	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0
May-12	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0
Nov-12	0	-- [(a)]	-- [(a)]	0	12	0	NS	NS	1	0	0	0	NS	NS
Jun-13	0	-- [(a)]	-- [(a)]	0	0.8	0	NS	NS	0.7	0	0	0	0	NS
Dec-13	0	-- [(a)]	-- [(a)]	NS	0	0	NS	NS	0.8	0	0	0	NS	NS
Minimum	0	0	0	0	0	0	637	0	0	0	0	0	0	0
Maximum	1.7	0	0	0	12	0	1257	57	1	9	0	0	27	0
Mean	0.1	0	0	0	1.1	0	913	10	0	0.7	0	0	2.3	0

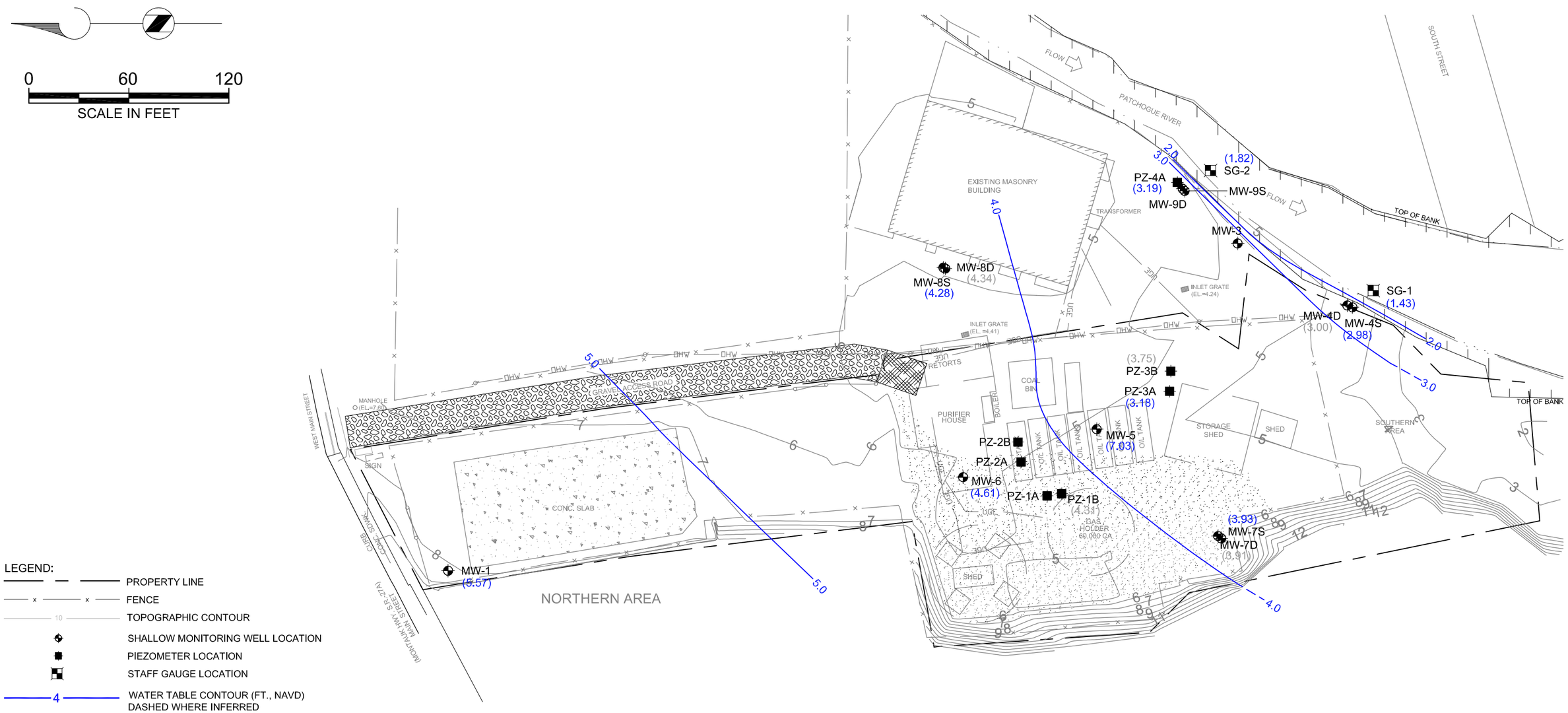
Notes:
BTEX - Benzene, toluene, ethylbenzene and xylene isomers
µg/L - micrograms per liter
NS - Not sampled.
(a) - Monitoring well was decommissioned on 6/4/12 as part of the Utility Corridor Construction activities.
To calculate Total BTEX concentration, a value of zero is used for non-detect values.

TABLE 4
SUMMARY OF HISTORICAL PAH CONCENTRATIONS
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Sampling Date	Total PAH Concentrations (µg/L)													
	Monitoring Well													
	MW-1	MW-2S	MW-2D	MW-3	MW-4S	MW-4D	MW-5	MW-6	MW-7S	MW-7D	MW-8S	MW-8D	MW-9S	MW-9D
Mar-08	0	0	0	0.76	0.6	4.3	1774	214	NS	NS	NS	NS	NS	NS
Jul-08	NS	0.7	0	0	8.0	0	1799	154	0	0.47	0	0	12.0	0
Mar-09	0	0	0	0	0	0	2730	0	0	0	0	0	0	0
Sep-09	0	0	0	0	0	0	3373	1	0	0	0	0	0	0
Mar-10	0	0	0	0	0	39	2390	17	0	0	22	0	2	0
Sep-10	0	0	0	128	0	6	NS	14	0	0	11	0	396	0
Jan-11	22	0	0	17	0	12	NS	NS	0	0	6	0	42	5
Apr-11	0	0	0	6	0	20	NS	NS	0	0	0	0	9	0
Aug-11	0	0	0.1	14	0.1	0	NS	NS	0	0	0.4	0	16	1.2
Nov-11	0	0	0.2	10	0.4	0	NS	NS	0	0	0.8	0.2	8	3.4
Feb-12	0.2	0	0	6	0.6	4	NS	NS	0.1	0	0.6	0	5	2.9
May-12	0.4	0.1	0.6	5	0	5.8	NS	NS	0.1	0.3	1	0	6	2.8
Nov-12	0.1	-- [(a)]	-- [(a)]	5.6	0.4	11.7	NS	NS	2.5	2.6	0.8	1.2	NS	NS
Jun-13	0.8	-- [(a)]	-- [(a)]	NS	0.3	3.7	NS	NS	1.3	0.4	0.4	0.6	2	NS
Dec-13	0	-- [(a)]	-- [(a)]	NS	0	2.5	NS	NS	0.8	0.4	0.3	0	NS	NS
Min	0	0	0	0	0	0.0	1774	0	0	0	0	0	0	0
Max	22	0.7	0.6	128	8.0	39.0	3373	214	2.5	2.6	22	1.2	396	5
Mean	1.7	0.1	0	15	0.7	7.3	2413	67	0	0	3.1	0	42	1.4

Notes:
PAH - Polycyclic aromatic hydrocarbons
µg/L - micrograms per liter
NS - Not sampled.
(a) - Monitoring well was decommissioned on 6/4/12 as part of the Utility Corridor Construction activities.
To calculate Total PAH concentration, a value of zero is used for non-detect values.

Figures



LEGEND:

- PROPERTY LINE
- FENCE
- TOPOGRAPHIC CONTOUR
- SHALLOW MONITORING WELL LOCATION
- PIEZOMETER LOCATION
- STAFF GAUGE LOCATION
- 4 — WATER TABLE CONTOUR (FT., NAVD) DASHED WHERE INFERRED
- (4.28) — WATER ELEVATION (FT., NAVD) FOR SHALLOW MONITORING WELL, PIEZOMETER OR STAFF GAUGE
- (4.34) — GROUNDWATER HEAD ELEVATION (FT., NAVD) FOR WELLS OR PIEZOMETERS SCREENED BELOW WATER TABLE (FROM DEEP MONITORING WELL OR PIEZOMETER)

NOTES:

1. BASE MAP INFORMATION OBTAINED FROM TETRA TECH EC, INC. DRAWING ENTITLED "CONCEPTUAL SITE MODEL", DATED DECEMBER 17, 2008.

Brown AND Caldwell

SCALE: 1" = 60'

142128

DATE: February 28, 2014

NATIONAL GRID
PATCHOGUE FORMER MGP SITE
VILLAGE OF PATCHOGUE, NEW YORK

WATER TABLE ELEVATION CONTOUR MAP
DECEMBER 9, 2013

FIGURE

1

Path: P:\DRAFTING\NATIONAL_GRID\Patchogue\Quarterly-GW-Contour-Map File Name: FIG-1-(Dec-9-2013) Plot Date: February 28, 2014 11:24 AM Cadd User: James, Richard

Appendix A: Field Sampling Data Sheets

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-7D
Sample I.D.: (If different from well no.)

Project: PATCHOGUE
Personnel: TWB + RB

Date: 12/9/13 Time: 1440
Weather: OVERCAST Air Temp.: 40's

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 4.40 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☐ Yes ☐ No N/A
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☑ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____ Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 300 ml/min Elapsed Time: 40 min Volume Pumped: 3.5 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel Tubing/Rope: ☐ Teflon® ☑ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: pH: 6.59 Meter Model: Horiba U52 Meter S/N: ____
Temperature: 13.84 Spec. Cond.: 0.308 Meter Model: ____ Meter S/N: ____
ORP: 60 DO: 9.43 Turbidity: 197 - Turbidity not dropping
DUP : ☑ No ☐ Yes Name: ____
MS/MSD : ☐ No ☑ Yes Name: MW-7D-MS/MSD
Field Lab Results: ☑ N/A pH: ____ DO: ____ Temperature: ____
I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.
Signature: [signature] Date: 12/9/13

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BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: PATCHOGUE
Personnel: TWB + RB
Purge/Sample Depth:

Project Number: 142148
Well ID: MW-7D
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1441	6.61	12.95	133	0.295	12.21	923 ~~1000~~	4.40		
1444	6.58	12.95	95	0.295	12.32	800			
1447	6.55	13.39	66	0.296	12.04	—			
1450	6.55	13.48	56	0.298	11.61	952			
1453	6.55	13.51	51	0.301	11.42	725			
1456	6.58	13.67	47	0.302	10.90	603	4.41		
1459	6.59	13.67	46	0.303	10.55	502			
1502	6.58	13.74	46	0.305	10.23	443			
1505	6.59	13.77	46	0.307	9.91	392			
1508	6.60	13.74	48	0.306	9.68	355			
1511	6.60	13.76	50	0.308	9.39	314	4.43		
1514	6.61	13.82	52	0.307	9.07	254			
1517	6.62	13.85	55	0.308	8.83	223			
1520	6.63	13.83	58	0.307	8.53	201			
1523	6.59	13.84	60	0.308	9.43	197			
1525	SAMPLE	MW-7D	TAKEN,	MS/	MSD	SAMPLE	TAKEN		

12/9/17

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: ~~MW-7D~~ MW-7S
Sample I.D.: (If different from well no.)

Project: PATCHOGUE
Personnel: TAB + RB

Date: 12/9/13 Time: 1545
Weather: OVERCAST Air Temp.: 40's

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 4.52 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 350 ml/min Elapsed Time: 30 min Volume Pumped: 1.5 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: pH: 7.19 Meter Model: Horiba U52 Meter S/N: ____
Temperature: 12.20 Spec. Cond.: 0.794 Meter Model: ____ Meter S/N: ____
ORP: -150 DO: 5.60 Turbidity: 0.0
DUP : ☐ No ☑ Yes Name: Dup-20131209
MS/MSD : ☑ No ☐ Yes Name: ____
Field Lab Results: ☑ N/A pH: ____ DO: ____ Temperature: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.
Signature: [signature] Date: 12/9/13

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BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Dafeloque
Personnel: JMB RB
Purge/Sample Depth:

Project Number: 148128
Well ID: MW-75
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1545	6.65	11.70	0.860	0.739	8.63	77.7	4.52		
1548	6.84	11.73	-118	0.781	8.00	50.0			
1551	6.95	11.87	-135	0.790	7.53	38.6			
1554	7.06	11.94	-141	0.793	7.79	26.8			
1557	7.08	11.99	-144	0.794	6.78	17.3	4.54		
1600	7.11	12.08	-146	0.793	6.49	11.4			
1603	7.14	12.11	-147	0.794	6.19	8.1			
1606	7.16	12.17	-150	0.795	5.80	4.2			
1609	7.17	12.19	-150	0.795	5.78	2.1	4.57		
1612	7.19	12.20	-150	0.795	5.82	1.1			
1615	7.19	12.20	-150	0.792	5.60	0.0			
1618	Sample MW-75 and Dup-20131209 collected								

JMB

12/9/13

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-85
Sample I.D.: (If different from well no.)

Project: Parkchester
Personnel: MB RB

Date: 12/10/13 Time: 0733
Weather: Overcast Air Temp.: 35°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 0.80 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 300 ml/min Elapsed Time: 30 min Volume Pumped: 3 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: ____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: pH: 6.89 Meter Model: ____ Meter S/N: ____
Temperature: 13.96 Spec. Cond.: 0.639 Meter Model: Horiba U52 Meter S/N: ____
ORP: -34 DO: 0.94 Turbidity: 18.3
DUP : ☑ No ☐ Yes Name: ____
MS/MSD : ☑ No ☐ Yes Name: ____
Field Lab Results: ☑ N/A pH: ____ DO: ____ Temperature: ____
I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.
Signature: [signature] Date: 12/10/13

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BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: JMB JRB
Purge/Sample Depth:

Project Number: 148128
Well ID: MW-8S
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
0733	7.12	10.36	8	0.675	5.52	0.0	0.80		
0736	6.89	12.62	-11	0.625	2.90	0.0			
0739	6.86	12.91	-13	0.626	2.10	946			
0742	6.83	13.07	-15	0.628	1.98	542			
0745	6.83	13.30	-18	0.633	1.35	296	0.83		
0748	6.81	13.52	-22	0.635	1.28	154			
0751	6.81	13.68	-25	0.636	1.15	11			
0754	6.82	13.81	-28	0.637	1.04	69.0	0.83		
0757	6.84	13.96	-33	0.638	0.95	30.7			
0800	6.88	13.96	-34	0.637	0.94	26.0			
0803	6.89	13.96	-34	0.639	0.94	15.3			
0806	Sample MW-8S collected								

JMB
12/10/13

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-8D
Sample I.D.: (If different from well no.)

Project: Parkingue
Personnel: TMB RB

Date: 12/10/13 Time: 0810
Weather: overcast Air Temp.: 35°

WELL DATA:

Casing Diameter: 8" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 0.69 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 400 ml/min Elapsed Time: 30 min Volume Pumped: 4 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☑ Yes ☐ No Method: ____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: pH: 6.79 Meter Model: Horiba U52 Meter S/N: ____
Temperature: 14.53 Spec. Cond.: 0.230 Meter Model: Horiba U52 Meter S/N: ____
ORP: 131 DO: 1.59 Turbidity: 75.8
DUP : ☑ No ☐ Yes Name: ____
MS/MSD : ☑ No ☐ Yes Name: ____
Field Lab Results: ☑ N/A pH: ____ DO: ____ Temperature: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.
Signature: [signature] Date: 12/10/13

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BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: TMB CRB
Purge/Sample Depth:

Project Number: 148728
Well ID: MW-8D
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
0810	7.30	13.75	-35	0.221	2.13	151	0.64		
0813	7.20	14.21	12	0.223	1.62	149			
0816	7.12	14.37	45	0.224	1.73	143			
0819	7.06	14.34	59	0.227	1.53	171			
0822	7.00	14.46	74	0.229	1.48	180			
0825	6.96	14.54	86	0.230	1.55	190	0.64		
0828	6.97	14.37	125	0.230	3.33	190			Emptied Hose
0831	6.89	14.48	121	0.231	2.58	188			
0834	6.79	14.47	122	0.230	2.39	140			
0837	6.84	14.50	125	0.231	1.72	120	0.64		
0840	6.84	14.50	127	0.230	1.75	106			
0843	6.81	14.53	130	0.231	1.67	82.8			
0846	6.79	14.53	131	0.230	1.59	75.8			
0849	Sample MW-8D collected								

CRB
12/10/13

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-4D
Sample I.D.: (If different from well no.)

Project: Pentelogue
Personnel: TMB RB

Date: 12/10/13 Time: 0923
Weather: Snow Air Temp.: 32

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 4.79 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____ Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 300ml/min Elapsed Time: 30min Volume Pumped: 3gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: pH: 6.31 Meter Model: Horiba U52 Meter S/N: ____
Temperature: 11.12 Spec. Cond.: 0.575 Meter Model: ____ Meter S/N: ____
ORP: 269 DO: 1.19 Turbidity: 0.0
DUP : ☑ No ☐ Yes Name: ____
MS/MSD : ☑ No ☐ Yes Name: ____
Field Lab Results: ☑ N/A pH: ____ DO: ____ Temperature: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.
Signature: [signature] Date: 12/10/13

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BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: TMB RB
Purge/Sample Depth:

Project Number: 148128
Well ID: MW-4D
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
0923	6.49	10.59	311	0.508	9.87	10.0	4.79		
0926	6.41	10.70	310	0.515	8.36	8.3			
0929	6.38	11.00	299	0.539	3.27	8.0			
0932	6.37	11.01	296	0.546	2.52	6.5			
0935	6.36	11.01	289	0.550	1.88	3.3	4.80		
0938	6.35	11.03	284	0.551	1.58	0.2			
0941	6.33	11.06	280	0.554	1.54	0.0			
0944	6.32	11.08	276	0.562	1.40	0.0			
0947	6.30	11.13	270	0.570	1.32	0.0	4.80		
0950	6.30	11.17	269	0.571	1.25	0.0			
0953	6.31	11.12	269	0.575	1.19	0.0			
0956	Sample MW-4D collected								

TMB

12/10/13

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-4S
Sample I.D.: (if different from well no.)

Project: Pitatuque
Personnel: MB RB

Date: 12/10/13 Time: 1002
Weather: Snow Air Temp.: 32°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 4.99 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____ Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 750 ml/min Elapsed Time: 30 min Volume Pumped: 2.5 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☑ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: pH: 6.96 Meter Model: Horiba U52 Meter S/N: ____
Temperature: 11.37 Spec. Cond.: 0.480 Meter Model: Horiba U52 Meter S/N: ____
ORP: -4 DO: 0.99 Turbidity: 13.6
DUP : ☑ No ☐ Yes Name: ____
MS/MSD : ☑ No ☐ Yes Name: ____
Field Lab Results: ☑ N/A pH: ____ DO: ____ Temperature: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.
Signature: [signature] Date: 12/10/13

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Brown AND Caldwell

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: TMB & RB
Purge/Sample Depth:

Project Number: 148728
Well ID: MW-45
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1002	6.73	9.78	33	0.477	8.31	481	4.99		
1005	6.81	9.76	-22	0.474	2.61	522			
1008	6.84	10.05	-24	0.471	1.94	301			
1011	6.86	10.18	-21	0.472	1.49	179			
1014	6.90	10.66	-15	0.474	1.22	71.8			
1017	6.90	10.81	-12	0.473	1.16	56.8	5.00		
1020	6.92	10.86	-10	0.476	1.14	46.2			
1023	6.94	11.04	-8	0.477	1.08	30.8			
1026	6.93	11.20	-7	0.479	1.01	25.7			
1029	6.94	11.40	-5	0.478	1.00	13.4			
1032	6.96	11.37	-4	0.480	0.99	13.6			
1035	sample		MW-45		collected				

TMB

12/10/13

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-1
Sample I.D.: (if different from well no.)

Project: Pathfinder
Personnel: MB RB

Date: 12/10/13 Time: 1119
Weather: Snow Air Temp.: 32

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 5.90 ft Bottom of Well: ____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

PURGE DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: ____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: ____

Pumping Rate: 300 ml/min Elapsed Time: 30 min Volume Pumped: 3 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: ____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☑ No Method: ____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: ____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: pH: 7.13 Meter Model: Horiba U52 Meter S/N: ____
Temperature: 13.93 Spec. Cond.: 0.0656 Meter Model: Horiba U52 Meter S/N: ____
ORP: -65 DO: 0.75 Turbidity: 1.0
DUP : ☑ No ☐ Yes Name: ____
MS/MSD : ☑ No ☐ Yes Name: ____
Field Lab Results: ☑ N/A pH: ____ DO: ____ Temperature: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.
Signature: [signature] Date: 12/10/13

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Brown AND Caldwell

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: MB RB
Purge/Sample Depth:

Project Number: 148728
Well ID: MW-1
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1119	7.08	11.13	-28	0.679	7.85	449	5.90		
1122	7.07	12.43	-50	0.688	4.52	521			
1125	7.08	13.25	-58	0.692	1.99	281			
1128	7.10	13.45	-59	0.691	1.40	180			
1131	7.09	13.51	-60	0.692	1.35	125	5.93		
1134	7.11	13.60	-61	0.681	1.23	42.4			
1137	7.12	13.69	-62	0.675	1.07	24.2			
1140	7.12	13.76	-63	0.663	0.98	15.3			
1143	7.12	13.83	-64	0.656	0.82	6.7			
1146	7.13	13.85	-64	0.662	0.77	3.2			
1149	7.13	13.93	-65	0.656	0.75	1.0			
1152	MW-1 SAMPLES TAKEN								

12/10/13

Appendix B: Laboratory Reports (CD-ROM)

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2425 New Holland Pike, Lancaster, PA 17601 · 717-656-2300 · Fax: 717-656-2681 · www.LancasterLabs.com

NYSDEC ASP Category B Data Package

Prepared for:

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

Project: Patchogue, NY
Groundwater and Water Samples
Collected on 12/09/13-12/10/13

SDG# PCH14

GROUP	SAMPLE NUMBERS
1440505	7311249-7311260

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date: 01/13/2014**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Barbara Weyandt at (717) 556-7264.

2425 New Holland Pike, Lancaster, PA 17601 · 717-656-2300 · Fax: 717-656-2681 · www.LancasterLabs.com

Table of Contents for SDG# PCH14

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Sample Reference List for SDG Number PCH14
with a Data Package Type of NYSDEC B

09286 - Brown & Caldwell

Project: Patchogue, NY

Lab Sample Number	Lab Sample Code	Client Sample Description
7311249	PNY7D	MW-7D Grab Groundwater COC: 341296
7311250	PNY7D	MW-7D MS Grab Groundwater COC: 341296
7311251	PNY7D	MW-7D MSD Grab Groundwater COC: 341296
7311252	PNY7S	MW-7S Grab Groundwater COC: 341296
7311253	PNYFD	DUP_20131209 Grab Groundwater COC: 341296
7311254	PNY8S	MW-8S Grab Groundwater COC: 341296
7311255	PNY8D	MW-8D Grab Groundwater COC: 341296
7311256	PNYFB	FB_20131210 Water COC: 341296
7311257	PNY4D	MW-4D Grab Groundwater COC: 341296
7311258	PNY4S	MW-4S Grab Groundwater COC: 341296
7311259	PNYM1	MW-1 Grab Groundwater COC: 341295
7311260	PNYTB	Trip Blank Water COC: 341295

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Sample pH Log

SDG: PCH14

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #
7311249	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311250	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311251	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311252	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311253	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311254	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311255	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311256	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311257	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311258	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311259	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA
7311260	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA

Check Code Key

PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030C, May 2003.

11997 8260C Water Master

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS), SW-846 Method 8260C, August 2006.

11010 8270D BNA Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at both a pH of 11 and 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, December 1996

10461 SVOAs by 8270D in Water

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270D, February 2007.

Analysis Reports / Field Chain of Custody

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

January 02, 2014

Project: Patchogue, NY

Submittal Date: 12/12/2013
Group Number: 1440505
SDG: PCH14
PO Number: 142148
State of Sample Origin: NY

Client Sample Description	Lancaster Labs (LL) #
MW-7D Grab Groundwater	7311249
MW-7D MS Grab Groundwater	7311250
MW-7D MSD Grab Groundwater	7311251
MW-7S Grab Groundwater	7311252
DUP_20131209 Grab Groundwater	7311253
MW-8S Grab Groundwater	7311254
MW-8D Grab Groundwater	7311255
FB_20131210 Water	7311256
MW-4D Grab Groundwater	7311257
MW-4S Grab Groundwater	7311258
MW-1 Grab Groundwater	7311259
Trip Blank Water	7311260

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO Brown & Caldwell Attn: Thakur Chaturgan

Respectfully Submitted,

Barbara Weyandt

Barbara A. Weyandt
Specialist

(717) 556-7264

eurofins | Lancaster Laboratories Environmental

Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-7D Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311249
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/09/2013 15:25 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY7D SDG#: PCH14-01BKG

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	
11997	Benzene	71-43-2	N.D.		0.5	1
11997	Ethylbenzene	100-41-4	N.D.		0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
11997	Toluene	108-88-3	N.D.		0.7	1
11997	m+p-Xylene	179601-23-1	N.D.		0.8	1
11997	o-Xylene	95-47-6	N.D.		0.8	1
11997	Xylene (Total)	1330-20-7	N.D.		0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l		ug/l	
10461	Acenaphthene	83-32-9	N.D.		0.1	1
10461	Acenaphthylene	208-96-8	N.D.		0.1	1
10461	Anthracene	120-12-7	N.D.		0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.		0.1	1
10461	**Chrysene**	218-01-9	**0.1**	**J**	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.		0.1	1
10461	**Fluoranthene**	206-44-0	**0.1**	**J**	0.1	1
10461	Fluorene	86-73-7	N.D.		0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.1	1
10461	Naphthalene	91-20-3	N.D.		0.1	1
10461	Phenanthrene	85-01-8	N.D.		0.1	1
10461	**Pyrene**	129-00-0	**0.2**	**J**	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 02:57	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 02:57	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/23/2013 18:26	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

Sample Description: MW-7D MS Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311250
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/09/2013 15:25 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY7D SDG#: PCH14-01MS

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	
11997	Benzene	71-43-2	22	0.5	1
11997	Ethylbenzene	100-41-4	22	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	20	0.5	1
11997	Toluene	108-88-3	22	0.7	1
11997	m+p-Xylene	179601-23-1	43	0.8	1
11997	o-Xylene	95-47-6	22	0.8	1
11997	Xylene (Total)	1330-20-7	65	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	
10461	Acenaphthene	83-32-9	47	0.1	1
10461	Acenaphthylene	208-96-8	53	0.1	1
10461	Anthracene	120-12-7	49	0.1	1
10461	Benzo(a)anthracene	56-55-3	50	0.1	1
10461	Benzo(a)pyrene	50-32-8	53	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	51	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	51	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	50	0.1	1
10461	Chrysene	218-01-9	47	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	52	0.1	1
10461	Fluoranthene	206-44-0	51	0.1	1
10461	Fluorene	86-73-7	49	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	53	0.1	1
10461	Naphthalene	91-20-3	49	0.1	1
10461	Phenanthrene	85-01-8	51	0.1	1
10461	Pyrene	129-00-0	48	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 03:19	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 03:19	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/23/2013 18:55	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

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Sample Description: MW-7D MSD Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311251
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/09/2013 15:25 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY7D SDG#: PCH14-01MSD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	
11997	Benzene	71-43-2	22	0.5	1
11997	Ethylbenzene	100-41-4	22	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	20	0.5	1
11997	Toluene	108-88-3	22	0.7	1
11997	m+p-Xylene	179601-23-1	44	0.8	1
11997	o-Xylene	95-47-6	22	0.8	1
11997	Xylene (Total)	1330-20-7	65	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	
10461	Acenaphthene	83-32-9	47	0.1	1
10461	Acenaphthylene	208-96-8	54	0.1	1
10461	Anthracene	120-12-7	47	0.1	1
10461	Benzo(a)anthracene	56-55-3	50	0.1	1
10461	Benzo(a)pyrene	50-32-8	52	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	51	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	50	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	48	0.1	1
10461	Chrysene	218-01-9	47	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	52	0.1	1
10461	Fluoranthene	206-44-0	49	0.1	1
10461	Fluorene	86-73-7	49	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	53	0.1	1
10461	Naphthalene	91-20-3	48	0.1	1
10461	Phenanthrene	85-01-8	49	0.1	1
10461	Pyrene	129-00-0	48	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 03:41	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 03:41	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/23/2013 19:24	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

Sample Description: MW-7S Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311252
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/09/2013 16:18 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

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2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY7S SDG#: PCH14-02

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	
11997	**Benzene**	71-43-2	**0.8**	**J**	0.5	1
11997	Ethylbenzene	100-41-4	N.D.		0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
11997	Toluene	108-88-3	N.D.		0.7	1
11997	m+p-Xylene	179601-23-1	N.D.		0.8	1
11997	o-Xylene	95-47-6	N.D.		0.8	1
11997	Xylene (Total)	1330-20-7	N.D.		0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l		ug/l	
10461	**Acenaphthene**	83-32-9	**0.1**	**J**	0.1	1
10461	Acenaphthylene	208-96-8	N.D.		0.1	1
10461	Anthracene	120-12-7	N.D.		0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.		0.1	1
10461	Chrysene	218-01-9	N.D.		0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.		0.1	1
10461	Fluoranthene	206-44-0	N.D.		0.1	1
10461	Fluorene	86-73-7	N.D.		0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.1	1
10461	**Naphthalene**	91-20-3	**0.6**		0.1	1
10461	**Phenanthrene**	85-01-8	**0.1**	**J**	0.1	1
10461	Pyrene	129-00-0	N.D.		0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 04:03	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 04:03	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/23/2013 23:16	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

Sample Description: DUP_20131209 Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311253
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/09/2013 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

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Upper Saddle River NJ 07458

PNYFD SDG#: PCH14-03FD

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	
11997	**Benzene**	71-43-2	**0.8**	**J**	0.5	1
11997	Ethylbenzene	100-41-4	N.D.		0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
11997	Toluene	108-88-3	N.D.		0.7	1
11997	m+p-Xylene	179601-23-1	N.D.		0.8	1
11997	o-Xylene	95-47-6	N.D.		0.8	1
11997	Xylene (Total)	1330-20-7	N.D.		0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l		ug/l	
10461	Acenaphthene	83-32-9	N.D.		0.1	1
10461	Acenaphthylene	208-96-8	N.D.		0.1	1
10461	Anthracene	120-12-7	N.D.		0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.		0.1	1
10461	Chrysene	218-01-9	N.D.		0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.		0.1	1
10461	Fluoranthene	206-44-0	N.D.		0.1	1
10461	Fluorene	86-73-7	N.D.		0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.1	1
10461	**Naphthalene**	91-20-3	**0.5**	**J**	0.1	1
10461	**Phenanthrene**	85-01-8	**0.1**	**J**	0.1	1
10461	Pyrene	129-00-0	N.D.		0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 04:26	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 04:26	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/23/2013 23:45	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

Sample Description: MW-8S Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311254
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 08:06 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY8S SDG#: PCH14-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	
10461	**Acenaphthene**	83-32-9	**0.3 J**	0.1	1
10461	Acenaphthylene	208-96-8	N.D.	0.1	1
10461	Anthracene	120-12-7	N.D.	0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
10461	Chrysene	218-01-9	N.D.	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
10461	Fluoranthene	206-44-0	N.D.	0.1	1
10461	Fluorene	86-73-7	N.D.	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
10461	Naphthalene	91-20-3	N.D.	0.1	1
10461	Phenanthrene	85-01-8	N.D.	0.1	1
10461	Pyrene	129-00-0	N.D.	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 04:48	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 04:48	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/24/2013 00:14	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

Sample Description: MW-8D Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311255
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 08:49 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY8D SDG#: PCH14-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	
10461	Acenaphthene	83-32-9	N.D.	0.1	1
10461	Acenaphthylene	208-96-8	N.D.	0.1	1
10461	Anthracene	120-12-7	N.D.	0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
10461	Chrysene	218-01-9	N.D.	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
10461	Fluoranthene	206-44-0	N.D.	0.1	1
10461	Fluorene	86-73-7	N.D.	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
10461	Naphthalene	91-20-3	N.D.	0.1	1
10461	Phenanthrene	85-01-8	N.D.	0.1	1
10461	Pyrene	129-00-0	N.D.	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 05:10	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 05:10	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/24/2013 00:43	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

Sample Description: FB_20131210 Water
COC: 341296
Patchogue, NY

LL Sample # WW 7311256
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 09:46 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNYFB SDG#: PCH14-06FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	
10461	Acenaphthene	83-32-9	N.D.	0.1	1
10461	Acenaphthylene	208-96-8	N.D.	0.1	1
10461	Anthracene	120-12-7	N.D.	0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
10461	Chrysene	218-01-9	N.D.	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
10461	Fluoranthene	206-44-0	N.D.	0.1	1
10461	Fluorene	86-73-7	N.D.	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
10461	Naphthalene	91-20-3	N.D.	0.1	1
10461	Phenanthrene	85-01-8	N.D.	0.1	1
10461	Pyrene	129-00-0	N.D.	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 05:32	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 05:32	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/24/2013 01:12	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

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Sample Description: MW-4D Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311257
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 09:56 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY4D SDG#: PCH14-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	
10461	**Acenaphthene**	83-32-9	**0.2 J**	0.1	1
10461	**Acenaphthylene**	208-96-8	**1**	0.1	1
10461	Anthracene	120-12-7	N.D.	0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
10461	Chrysene	218-01-9	N.D.	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
10461	Fluoranthene	206-44-0	N.D.	0.1	1
10461	**Fluorene**	86-73-7	**0.8**	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
10461	Naphthalene	91-20-3	N.D.	0.1	1
10461	**Phenanthrene**	85-01-8	**0.5**	0.1	1
10461	Pyrene	129-00-0	N.D.	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 05:55	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 05:55	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/24/2013 01:41	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

Sample Description: MW-4S Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311258
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 10:35 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY4S SDG#: PCH14-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	
10461	Acenaphthene	83-32-9	N.D.	0.1	1
10461	Acenaphthylene	208-96-8	N.D.	0.1	1
10461	Anthracene	120-12-7	N.D.	0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
10461	Chrysene	218-01-9	N.D.	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
10461	Fluoranthene	206-44-0	N.D.	0.1	1
10461	Fluorene	86-73-7	N.D.	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
10461	Naphthalene	91-20-3	N.D.	0.1	1
10461	Phenanthrene	85-01-8	N.D.	0.1	1
10461	Pyrene	129-00-0	N.D.	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 06:17	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 06:17	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/24/2013 02:10	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

Sample Description: MW-1 Grab Groundwater
COC: 341295
Patchogue, NY

LL Sample # WW 7311259
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 11:52 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
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Suite 2A
Upper Saddle River NJ 07458

PNYM1 SDG#: PCH14-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	
10461	Acenaphthene	83-32-9	N.D.	0.1	1
10461	Acenaphthylene	208-96-8	N.D.	0.1	1
10461	Anthracene	120-12-7	N.D.	0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
10461	Chrysene	218-01-9	N.D.	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
10461	Fluoranthene	206-44-0	N.D.	0.1	1
10461	Fluorene	86-73-7	N.D.	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
10461	Naphthalene	91-20-3	N.D.	0.1	1
10461	Phenanthrene	85-01-8	N.D.	0.1	1
10461	Pyrene	129-00-0	N.D.	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 06:39	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 06:39	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/27/2013 03:45	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

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Analysis Report

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Sample Description: Trip Blank Water
COC: 341295
Patchogue, NY

LL Sample # WW 7311260
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNYTB SDG#: PCH14-10TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/18/2013 22:52	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/18/2013 22:52	Sara E Johnson	1

Quality Control Summary

Client Name: Brown & Caldwell Group Number: 1440505
Reported: 01/02/14 at 12:09 PM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: L133522AA	Sample number(s): 7311249-7311260							
Benzene	N.D.	0.5	ug/l	102		78-120		
Ethylbenzene	N.D.	0.8	ug/l	104		79-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	99		75-120		
Toluene	N.D.	0.7	ug/l	104		80-120		
m+p-Xylene	N.D.	0.8	ug/l	104		80-120		
o-Xylene	N.D.	0.8	ug/l	104		80-120		
Xylene (Total)	N.D.	0.8	ug/l	104		80-120		
Batch number: 13348WAJ026	Sample number(s): 7311249-7311259							
Acenaphthene	N.D.	0.1	ug/l	87		69-122		
Acenaphthylene	N.D.	0.1	ug/l	100		84-125		
Anthracene	N.D.	0.1	ug/l	91		82-116		
Benzo(a)anthracene	N.D.	0.1	ug/l	94		84-121		
Benzo(a)pyrene	N.D.	0.1	ug/l	95		82-116		
Benzo(b)fluoranthene	N.D.	0.1	ug/l	94		82-121		
Benzo(g,h,i)perylene	N.D.	0.1	ug/l	94		81-121		
Benzo(k)fluoranthene	N.D.	0.1	ug/l	91		81-122		
Chrysene	N.D.	0.1	ug/l	87		81-120		
Dibenz(a,h)anthracene	N.D.	0.1	ug/l	96		83-124		
Fluoranthene	N.D.	0.1	ug/l	94		71-129		
Fluorene	N.D.	0.1	ug/l	93		71-126		
Indeno(1,2,3-cd)pyrene	N.D.	0.1	ug/l	98		83-121		
Naphthalene	N.D.	0.1	ug/l	89		75-108		
Phenanthrene	N.D.	0.1	ug/l	97		68-127		
Pyrene	N.D.	0.1	ug/l	90		81-112		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: L133522AA	Sample number(s): 7311249-7311260 UNSPK: 7311249								
Benzene	108	109	72-134	1	30				
Ethylbenzene	110	110	71-134	0	30				
Methyl Tertiary Butyl Ether	99	98	72-126	0	30				
Toluene	108	109	80-125	1	30				
m+p-Xylene	109	109	79-125	0	30				
o-Xylene	108	108	79-125	0	30				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Brown & Caldwell Group Number: 1440505
Reported: 01/02/14 at 12:09 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Xylene (Total)	108	109	79-125	0	30				
Batch number: 13348WAJ026	Sample number(s): 7311249-7311259 UNSPK: 7311249								
Acenaphthene	93	93	71-115	0	30				
Acenaphthylene	105	107	75-124	2	30				
Anthracene	97	93	78-114	4	30				
Benzo(a)anthracene	99	98	77-122	1	30				
Benzo(a)pyrene	105	103	82-119	1	30				
Benzo(b)fluoranthene	101	101	78-120	0	30				
Benzo(g,h,i)perylene	101	100	81-120	1	30				
Benzo(k)fluoranthene	99	96	77-120	3	30				
Chrysene	92	92	70-116	0	30				
Dibenz(a,h)anthracene	103	103	82-124	1	30				
Fluoranthene	101	97	78-122	4	30				
Fluorene	96	98	71-123	2	30				
Indeno(1,2,3-cd)pyrene	106	104	82-121	1	30				
Naphthalene	96	96	53-131	0	30				
Phenanthrene	102	96	76-112	5	30				
Pyrene	95	95	77-117	0	30				

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C Water Master
Batch number: L133522AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7311249	100	102	102	103
7311250	100	100	102	102
7311251	101	102	102	101
7311252	100	101	101	102
7311253	100	101	102	102
7311254	100	83	101	102
7311255	100	101	101	102
7311256	100	103	101	102
7311257	101	102	100	101
7311258	101	102	101	101
7311259	102	103	101	101
7311260	100	80	101	103
Blank	101	102	101	103
LCS	100	100	102	103
MS	100	100	102	102
MSD	101	102	102	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: SVOAs by 8270D in Water

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: Brown & Caldwell
Reported: 01/02/14 at 12:09 PM

Group Number: 1440505

Surrogate Quality Control

Batch number: 13348WAJ026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7311249	39	58	102	81	83	62
7311250	52	68	93	93	90	97
7311251	47	64	94	94	92	95
7311252				87	89	93
7311253				83	86	96
7311254				82	83	86
7311255				88	89	85
7311256				86	87	97
7311257				84	86	89
7311258				83	83	84
7311259				83	85	94
Blank	47	62	104	87	90	97
LCS	56	71	95	89	87	94
MS	52	68	93	93	90	97
MSD	47	64	94	94	92	95
Limits:	10-83	10-107	22-150	60-123	63-121	47-146

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Environmental Analysis Request/Chain of Custody

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Acct. # 9286 For Eurofins Lancaster Laboratories Environmental use only Group # 1440505 Sample # 7311249-60
Instructions on reverse side correspond with circled numbers.

COC # 341296 1 of 2

For Lab Use Only
FSC:
SCR#: 149374

1 Client Information

Client: Brown + Caldwell
Acct. #:
Project Name/#: Patchogue
PWSID #:
Project Manager: Thakur Chaturgun
P.O. #: 142148 ~~148128~~
Sampler: TMB RB
Quote #:
Name of state where samples were collected: NY

4 Matrix: Sediment ☐ Soil ☐ Ground ☒ Potable ☐ Water Surface ☐ NPDES ☐ Other: ____

5 Analysis Requested — Preservation Codes

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

6 Remarks

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	BTEX/MTBE 8260	PAHs 8270
MW-7D	12/9/13	1525	X		5	X	X
MW-7D-MS	12/9/13	1525	X		5	X	X
MW-7D-MSD	12/9/13	1525	X		5	X	X
MW-7S	12/9/13	1618	X		5	X	X
Dup-20131209	12/9/13	9999	X		5	X	X
MW-8S	12/10/13	0806	X		5	X	X
MW-8D	12/10/13	0849	X		5	X	X
FB-20131210	12/10/13	0946			5	X	X
MW-4D	12/10/13	0956	X		5	X	X
MW-4S	12/10/13	1035	X		5	X	X

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: ____

8 Data Package Options (circle if required)
Type I (Validation/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
Type IV (CLP SOW) MA MCP CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
L. Megadike	12/5/13	13:38			
[signature]	12/11/13	1030			
			[signature]	12/12/13	945

EDD Required? Yes No
If yes, format: ____

Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS ____ FedEx X Other ____

Temperature upon receipt 1.4 °C

Environmental Analysis Request/Chain of Custody

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Acct. # 9286 For Eurofins Lancaster Laboratories Environmental use only Group # 1440505 Sample # 7311249-60
Instructions on reverse side correspond with circled numbers.

COC # 341295
2 of 2

For Lab Use Only
FSC:
SCR#: 149374

1 Client Information

Client: Brown + Caldwell
Acct. #:
Project Name/#: Patchogue
PWSID #: 142148
Project Manager: Thakur Chatungan
P.O. #: ~~148728~~
Sampler: TMB RB
Quote #:
Name of state where samples were collected: NY

2 Sample Identification | **3 Collected** (Date, Time) | Grab | Composite | **4 Matrix** (Soil, Sediment, Water: Ground, Surface, Potable, NPDES, Other) | Total # of Containers | **5 Analysis Requested** (Preservation Codes) | **6 Remarks**

Sample Identification	Date	Time	Grab	Composite	Soil	Sediment	Ground	Surface	Potable	NPDES	Other	Total # of Containers	BTEX/MTBE 8260	PAHs 8270	Remarks
MW-1	12/10/13	1152	X				X					5	X	X	
Trip Blank	12/10/13						TB						X	X	

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address:

8 Data Package Options (circle if required)
Type I (Validation/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
Type IV (CLP SOW) MA MCP CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
L. Megashko	12/5/13	13:38			
[signature]	12/11/13	1030			
			Received by [signature]	12/12/13	945

EDD Required? Yes No
If yes, format:
Site-Specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:
UPS FedEx X Other
Temperature upon receipt 1.4 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300
The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 0713

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Data Qualifiers:

C – result confirmed by reanalysis.

J - estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quantitated on a diluted sample	**N**	Spike sample not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
N	Presumptive evidence of a compound (TICs only)	**U**	Compound was not detected
P	Concentration difference between primary and confirmation columns >25%	**W**	Post digestion spike out of control limits
U	Compound was not detected	*****	Duplicate analysis not within control limits
X,Y,Z	Defined in case narrative	**+**	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Grp #1440505

Environmental Sample Administration Receipt Documentation Log

Client/Project: Brown and caldwell

Date of Receipt: 12/12/13

Time of Receipt: 9:45

Source Code: SO-1

Shipping Container Sealed: (YES) NO

Custody Seal Present * : (YES) NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: (Chilled) Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	DT121	1.4	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0 (2)

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: [signature] 2308 **Date/Time:** 12/12/13 1545

Issued by Dept. 6042 Management

2174.06

Volatiles by GC/MS Data

Case Narrative/Conformance Summary

Volatiles by GC/MS

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Case Narrative/Conformance Summary

CLIENT: Brown & Caldwell
SDG: PCH14

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
7311249	MW-7D	X		1	Unspiked
7311250	MW-7D MS	X		1	Matrix Spike
7311251	MW-7D MSD	X		1	Matrix Spike Duplicate
7311252	MW-7S	X		1	
7311253	DUP_20131209	X		1	Field Duplicate Sample
7311254	MW-8S	X		1	
7311255	MW-8D	X		1	
7311256	FB_20131210	X		1	Field Blank
7311257	MW-4D	X		1	
7311258	MW-4S	X		1	
7311259	MW-1	X		1	
7311260	Trip Blank	X		1	Trip Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

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Case Narrative/Conformance Summary

CLIENT: Brown & Caldwell
SDG: PCH14

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

GC/MS VOLATILES CALCULATIONS:

1. Relative response factor (RRF)

$$RRF = \frac{Ax}{Ais} \times \frac{Cis}{Cx}$$

Where :
Ax = Area of the characteristic ion for the compound to be measured.
Ais = Area of the characteristic ion for the specific internal standard to be measured.
Cis = Concentration of the internal standard.
Cx = Concentration of the compound to be measured.

2. % Relative Standard Deviation (%RSD)

$$\%RSD = \frac{\text{Standard deviation}}{\text{mean}} \times 100$$

3. % Difference (%D)

$$\%D = \frac{RRFc - RRFi}{RRFi} \times 100$$

Where:
RRFc=Relative response factor from continuing calibration standard.
RRFi = Mean relative response factor from the initial calibration.

4. Concentration

$$\text{Concentration (ug/l)} = \frac{(Ax)\ (Is)\ (Df)}{(Ais)\ (RRF)}$$

Where:
Ax , Ais, RRF are as given in 1..above.
Is = Concentration of internal standard added in parts per billion (ug/l)
Df = Dilution factor

5. % Recovery (%Rec)

$$\%Rec = \frac{SSR - SR}{SA} \times 100$$

Where:
SSR = Spiked sample result
SR = Sample result
SA = Spike added

6. Relative Percent Difference (RPD)

$$RPD = \frac{|\ MSR - MSDR\ |}{(1/2)\ \ (MSR+MSDR)} \times 100$$

Where:
MSR = Matrix spike recovery
MSDR = Matrix spike duplicate recovery

Quality Control and Calibration Summary Forms

Volatiles by GC/MS

Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Volatiles

CLIENT: Brown & Caldwell
SDG: PCH14

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
8260C Water Master	L133522AA	VBLKL76	12/18/2013 21:54:00
		LCSL76	12/18/2013 22:16:00
		7311249 UNSPK	12/19/2013 02:57:00
		7311250 MS	12/19/2013 03:19:00
		7311251 MSD	12/19/2013 03:41:00
		7311252	12/19/2013 04:03:00
		7311253	12/19/2013 04:26:00
		7311254	12/19/2013 04:48:00
		7311255	12/19/2013 05:10:00
		7311256	12/19/2013 05:32:00
		7311257	12/19/2013 05:55:00
		7311258	12/19/2013 06:17:00
		7311259	12/19/2013 06:39:00
		7311260	12/18/2013 22:52:00

Lancaster Laboratories Environmental

Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: PCH14
Matrix: LIQUID

Fraction: Volatiles by GC/MS

L133522AA / VBLKL76 **Analyte**	**Analysis Date**	**Blank Results**	**Units**	**MDL**	**LOQ**
Methyl Tertiary Butyl Ether	12/18/13	N.D.	ug/l	0.5	5
Benzene	12/18/13	N.D.	ug/l	0.5	5
Toluene	12/18/13	N.D.	ug/l	0.7	5
Ethylbenzene	12/18/13	N.D.	ug/l	0.8	5
m+p-Xylene	12/18/13	N.D.	ug/l	0.8	5
o-Xylene	12/18/13	N.D.	ug/l	0.8	5
Xylene (Total)	12/18/13	N.D.	ug/l	0.8	5

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Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: PCH14
Matrix: LIQUID

Fraction: Volatiles by GC/MS

L133522AA	Dibromofluoromethane		1,2-Dichloroethane-d4		Toluene-d8		4-Bromofluorobenzene	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKL76	101	80 - 116	102	77 - 113	101	80 - 113	103	78 - 113
LCSL76	100	80 - 116	100	77 - 113	102	80 - 113	103	78 - 113
7311249	100	80 - 116	102	77 - 113	102	80 - 113	103	78 - 113
7311250 MS	100	80 - 116	100	77 - 113	102	80 - 113	102	78 - 113
7311251 MSD	101	80 - 116	102	77 - 113	102	80 - 113	101	78 - 113
7311252	100	80 - 116	101	77 - 113	101	80 - 113	102	78 - 113
7311253	100	80 - 116	101	77 - 113	102	80 - 113	102	78 - 113
7311254	100	80 - 116	83	77 - 113	101	80 - 113	102	78 - 113
7311255	100	80 - 116	101	77 - 113	101	80 - 113	102	78 - 113
7311256	100	80 - 116	103	77 - 113	101	80 - 113	102	78 - 113
7311257	101	80 - 116	102	77 - 113	100	80 - 113	101	78 - 113
7311258	101	80 - 116	102	77 - 113	101	80 - 113	101	78 - 113
7311259	102	80 - 116	103	77 - 113	101	80 - 113	101	78 - 113
7311260	100	80 - 116	80	77 - 113	101	80 - 113	103	78 - 113

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Quality Control Summary
Matrix Spike/Matrix Spike Duplicate

SDG: PCH14
Matrix: LIQUID

GC/MS Volatiles
Fraction: Volatiles by GC/MS

UNSPK: 7311249 MS: 7311250 MSD: 7311251 **Analyte**	Batch: **L133522AA** (Sample number(s): 7311249-7311260)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Methyl Tertiary Butyl Ether	20	N.D.	19.72	19.67	99	98	72-126	0	30
Benzene	20	N.D.	21.52	21.75	108	109	72-134	1	30
Toluene	20	N.D.	21.62	21.74	108	109	80-125	1	30
Ethylbenzene	20	N.D.	21.9	22.	110	110	71-134	0	30
m+p-Xylene	40	N.D.	43.43	43.51	109	109	79-125	0	30
o-Xylene	20	N.D.	21.54	21.63	108	108	79-125	0	30
Xylene (Total)	60	N.D.	64.96	65.14	108	109	79-125	0	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

Lancaster Laboratories Environmental

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: PCH14
Matrix: LIQUID

GC/MS Volatiles

Fraction: Volatiles by GC/MS

LCS: LCSL76	Batch: **L133522AA** (Sample number(s): 7311249-7311260)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Methyl Tertiary Butyl Ether	20	19.89	NA	99	NA	75-120	NA	NA
Benzene	20	20.46	NA	102	NA	78-120	NA	NA
Toluene	20	20.83	NA	104	NA	80-120	NA	NA
Ethylbenzene	20	20.84	NA	104	NA	79-120	NA	NA
m+p-Xylene	40	41.6	NA	104	NA	80-120	NA	NA
o-Xylene	20	20.79	NA	104	NA	80-120	NA	NA
Xylene (Total)	60	62.39	NA	104	NA	80-120	NA	NA

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:

Lab Code: LANCAS Case No.: SAS No.: SDG No.: PCH14

Lab File ID: ld10t01.d BFB Injection Date: 12/10/13

Instrument ID: HP09915 BFB Injection Time: 13:34

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.09
75	30.0 - 60.0% of mass 95	47.50
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.99
173	Less than 2.0% of mass 174	0.49 (0.59)1
174	Greater than 50.0% of mass 95	82.61
175	5.0 - 9.0% of mass 174	5.93 (7.17)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.35 (96.05)1
177	5.0 - 9.0% of mass 176	5.43 (6.84)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	ld10i01.d	12/10/13	14:39
02	VSTD100	ld10i02.d	12/10/13	15:02
03	VSTD50	ld10i03.d	12/10/13	15:24
04	VSTD20	ld10i04.d	12/10/13	15:46
05	VSTD10	ld10i05.d	12/10/13	16:08
06	VSTD4	ld10i06.d	12/10/13	16:31
07	VSTD1	ld10i07.d	12/10/13	16:53
08	MDL0.5 - VSTD0.5	ld10m01.d	12/10/13	17:15
09	LGLICV	ld10v02.d	12/10/13	19:06

FORM V VOA

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:

Lab Code: LANCAS Case No.: SAS No.: SDG No.: PCH14

Lab File ID: ld18t05.d BFB Injection Date: 12/18/13

Instrument ID: HP09915 BFB Injection Time: 21:12

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.98
75	30.0 - 60.0% of mass 95	46.25
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.79
173	Less than 2.0% of mass 174	0.62 (0.80)1
174	Greater than 50.0% of mass 95	77.75
175	5.0 - 9.0% of mass 174	5.80 (7.46)1
176	Greater than 95.0%, but less than 101.0% of mass 174	75.15 (96.65)1
177	5.0 - 9.0% of mass 176	5.15 (6.85)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	ld18c41.d	12/18/13	21:32
02	VBLKL76	ld18b41.d	12/18/13	21:54
03	LCSL76	ld18s41.d	12/18/13	22:16
04	7311260	ld18s42.d	12/18/13	22:52
05	7312421	ld18s43.d	12/18/13	23:14
06	7312423	ld18s44.d	12/18/13	23:37
07	7312427	ld18s45.d	12/18/13	23:59
08	7312879	ld18s46.d	12/19/13	00:21
09	7312420	ld18s47.d	12/19/13	00:43
10	7312422	ld18s48.d	12/19/13	01:05
11	7312424	ld18s49.d	12/19/13	01:28
12	7312425	ld18s50.d	12/19/13	01:50
13	7312877	ld18s51.d	12/19/13	02:12
14	7312878	ld18s52.d	12/19/13	02:34
15	7311249	ld18s53.d	12/19/13	02:57
16	7311250MS	ld18s54.d	12/19/13	03:19
17	7311251MSD	ld18s55.d	12/19/13	03:41
18	7311252	ld18s56.d	12/19/13	04:03
19	7311253	ld18s57.d	12/19/13	04:26
20	7311254	ld18s58.d	12/19/13	04:48
21	7311255	ld18s59.d	12/19/13	05:10
22	7311256	ld18s60.d	12/19/13	05:32

FORM V VOA

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:

Lab Code: LANCAS Case No.: SAS No.: SDG No.: PCH14

Lab File ID: ld18t05.d BFB Injection Date: 12/18/13

Instrument ID: HP09915 BFB Injection Time: 21:12

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.98
75	30.0 - 60.0% of mass 95	46.25
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.79
173	Less than 2.0% of mass 174	0.62 (0.80)1
174	Greater than 50.0% of mass 95	77.75
175	5.0 - 9.0% of mass 174	5.80 (7.46)1
176	Greater than 95.0%, but less than 101.0% of mass 174	75.15 (96.65)1
177	5.0 - 9.0% of mass 176	5.15 (6.85)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	7311257	ld18s61.d	12/19/13	05:55
24	7311258	ld18s62.d	12/19/13	06:17
25	7311259	ld18s63.d	12/19/13	06:39

FORM V VOA

6A
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date(s): 12/10/13 12/10/13

Heated Purge: (Y/N) Y Calibration Times: 14:39 16:53

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

LAB FILE ID: RRF 1 = ld10i07.d RRF 4 = ld10i06.d RRF 10= ld10i05.d
RRF 20= ld10i04.d RRF 50= ld10i03.d RRF100= ld10i02.d RRF300= ld10i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	$\overline{RRF}$	% RSD	CAL. METHOD
Dichlorodifluoromethane	#0.4186	0.5023	0.4922	0.4624	0.4640	0.4544	0.4238	0.4597	7	AVG #
Chloromethane	#0.4587	0.5217	0.5157	0.4927	0.4620	0.4837	0.4589	0.4848	5	AVG #
Vinyl Chloride	#0.3738	0.4755	0.4718	0.4437	0.4278	0.4283	0.4014	0.4317	8	AVG #
1,3-Butadiene		0.6886	0.4576	0.4574	0.3886	0.3812	0.3496	0.4538	27	2NDDEG
Bromomethane	#0.3021	0.3083	0.2939	0.2887	0.2706	0.2650	0.2404	0.2813	8	AVG #
Chloroethane	#0.2648	0.2785	0.2661	0.2495	0.2400	0.2354	0.2120	0.2495	9	AVG #
Dichlorofluoromethane	0.6317	0.6030	0.5626	0.5593	0.5336	0.5529	0.5021	0.5636	8	AVG
Trichlorofluoromethane	#0.3646	0.4769	0.4812	0.4678	0.4657	0.4504	0.4313	0.4483	9	AVG #
n-Pentane		0.6728	0.5857	0.5953	0.5762	0.5222	0.5222	0.5791	10	AVG
Ethyl Ether		0.3573	0.3367	0.3391	0.3427	0.3427	0.3183	0.3395	4	AVG
Freon 123a		0.4115	0.3923	0.3789	0.3610	0.3793	0.3542	0.3795	5	AVG
Acrolein		3.1130	3.2946	2.8953	3.7672	3.5716	2.8041	3.2410	12	AVG
1,1-Dichloroethene	#0.2175	0.2629	0.2688	0.2668	0.2794	0.2741	0.2555	0.2607	8	AVG #
Freon 113	#	0.2511	0.2784	0.2795	0.2933	0.2845	0.2589	0.2743	6	AVG #
Acetone	#	1.3547	1.2879	1.2235	1.4136	1.3957	1.2864	1.3270	6	AVG #
Methyl Iodide	0.4284	0.4748	0.4945	0.4971	0.5042	0.5100	0.4704	0.4828	6	AVG
2-Propanol		0.9064	0.9024	0.9863	1.0353	0.9787	0.8339	0.9405	8	AVG
Carbon Disulfide	#	0.8903	0.9836	0.9866	1.0357	1.0540	0.9913	0.9902	6	AVG #
Allyl Chloride		0.5936	0.5571	0.5789	0.5590	0.5699	0.5303	0.5648	4	AVG
Methyl Acetate	#	0.3700	0.3363	0.3420	0.3296	0.3344	0.3250	0.3395	5	AVG #
Methylene Chloride	#0.3158	0.3277	0.3223	0.3201	0.3265	0.3306	0.3098	0.3218	2	AVG #
t-Butyl Alcohol	1.5024	1.4302	1.4141	1.6430	1.7025	1.6354	1.3610	1.5269	9	AVG
Acrylonitrile		0.1917	0.1756	0.1714	0.2039	0.2041	0.1835	0.1884	7	AVG
trans-1,2-Dichloroethene	#0.2709	0.3051	0.3166	0.3035	0.3083	0.3162	0.2943	0.3021	5	AVG #
Methyl Tertiary Butyl Ether	#1.0759	1.1058	1.0622	1.0786	1.1043	1.1096	1.0301	1.0809	3	AVG #
n-Hexane		0.4799	0.5156	0.5140	0.5300	0.5248	0.5048	0.5115	3	AVG
1,1-Dichloroethane	#0.4967	0.5818	0.6019	0.6009	0.6129	0.6195	0.5810	0.5850	7	AVG #
di-Isopropyl Ether	1.1156	1.2119	1.2197	1.2398	1.2640	1.2574	1.1728	1.2116	4	AVG
2-Chloro-1,3-Butadiene		0.4764	0.5083	0.5103	0.5208	0.5316	0.4940	0.5069	4	AVG
Ethyl t-Butyl Ether	1.0305	1.1220	1.1164	1.1516	1.1818	1.1679	1.0815	1.1216	5	AVG
cis-1,2-Dichloroethene	#0.3075	0.3469	0.3445	0.3466	0.3559	0.3573	0.3335	0.3417	5	AVG #
2-Butanone	#	7.6493	7.3246	6.7467	8.6483	8.6488	7.4133	7.7385	10	AVG #
2,2-Dichloropropane	0.3542	0.4148	0.4400	0.4458	0.4589	0.4646	0.4315	0.4300	9	AVG
Propionitrile		1.9794	2.0136	2.1847	2.2980	2.2686	2.1390	2.1472	6	AVG
Methacrylonitrile		0.1833	0.1823	0.1964	0.2015	0.1948	0.1803	0.1898	5	AVG
Bromochloromethane		0.1775	0.1687	0.1723	0.1665	0.1720	0.1613	0.1697	3	AVG
Tetrahydrofuran		1.8802	1.7719	1.7007	2.0985	2.1093	1.8693	1.9050	9	AVG
Chloroform	#0.4574	0.5064	0.5311	0.5358	0.5556	0.5566	0.5184	0.5230	7	AVG #
1,1,1-Trichloroethane	#0.4385	0.5298	0.4916	0.4945	0.4824	0.4929	0.4619	0.4845	6	AVG #
Cyclohexane	#	0.5832	0.6447	0.6380	0.6694	0.6605	0.6163	0.6353	5	AVG #
Cyclohexane(mz 84)		0.4519	0.4905	0.4898	0.5109	0.5063	0.4734	0.4871	4	AVG
Cyclohexane(mz 69)		0.1706	0.1876	0.1821	0.1933	0.1915	0.1793	0.1841	5	AVG
1,1-Dichloropropene		0.4111	0.4293	0.4318	0.4451	0.4541	0.4314	0.4338	3	AVG
Carbon Tetrachloride	#	0.3205	0.3468	0.3555	0.3778	0.3858	0.3697	0.3593	7	AVG #
Isobutyl Alcohol		0.5045	0.5073	0.5947	0.6195	0.5858	0.5115	0.5539	9	AVG
Benzene	#1.1529	1.2950	1.3551	1.3561	1.3927	1.4153	1.3144	1.3260	7	AVG #
1,2-Dichloroethane	#0.4144	0.4253	0.4161	0.4321	0.4477	0.4444	0.4184	0.4283	3	AVG #
1,2-Dichloroethane(mz 98)		0.0429	0.0414	0.0433	0.0441	0.0435	0.0418	0.0428	2	AVG
t-Amyl Methyl Ether	0.9942	1.0422	1.0411	1.1059	1.1373	1.1136	1.0388	1.0676	5	AVG
n-Heptane		0.5383	0.5303	0.5351	0.5441	0.5320	0.5385	0.5364	1	AVG
n-Butanol		0.4144	0.4352	0.5021	0.5353	0.5052	0.4430	0.4725	10	AVG
Trichloroethene	#0.2724	0.3104	0.3279	0.3292	0.3388	0.3421	0.3228	0.3205	7	AVG #

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date(s): 12/10/13 12/10/13

Heated Purge: (Y/N) Y Calibration Times: 14:39 16:53

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

LAB FILE ID: RRF 1 = ld10i07.d RRF 4 = ld10i06.d RRF 10= ld10i05.d
RRF 20= ld10i04.d RRF 50= ld10i03.d RRF100= ld10i02.d RRF300= ld10i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	$\overline{RRF}$	% RSD	CAL. METHOD	
1,2-Dichloropropane	#0.3149	0.3551	0.3603	0.3709	0.3854	0.3846	0.3615	0.3618	7	AVG	#
Methylcyclohexane(mz98)		0.2680	0.2407	0.2553	0.2479	0.2537	0.2437	0.2516	4	AVG	
Methylcyclohexane	#	0.6214	0.5665	0.5968	0.5764	0.5851	0.5631	0.5849	4	AVG	#
Methyl Methacrylate		0.3019	0.2931	0.3419	0.3446	0.3407	0.3143	0.3228	7	AVG	
Dibromomethane	0.2117	0.2186	0.2140	0.2251	0.2371	0.2322	0.2177	0.2224	4	AVG	
1,4-Dioxane		0.1049	0.1054	0.1226	0.1290	0.1239	0.1114	0.1162	9	AVG	
Bromodichloromethane	#0.3289	0.3706	0.3865	0.4253	0.4516	0.4561	0.4342	0.4076	12	AVG	#
2-Nitropropane		0.1096	0.1090	0.1015	0.1414	0.1428	0.1200	0.1207	15	AVG	
2-Chloroethyl Vinyl Ether		0.2617	0.3046	0.2893	0.2909	0.3038	0.2698	0.2867	6	AVG	
cis-1,3-Dichloropropene	#0.4389	0.5024	0.5243	0.5593	0.5949	0.5935	0.5596	0.5390	10	AVG	#
4-Methyl-2-Pentanone	#	16.262	17.447	14.822	21.224	20.561	16.589	17.817	14	AVG	#
Toluene	#1.0018	1.1058	1.1825	1.1955	1.2299	1.2114	1.0988	1.1465	7	AVG	#
trans-1,3-Dichloropropene	#0.5920	0.6506	0.6822	0.7685	0.8065	0.8012	0.7482	0.7213	11	AVG	#
Ethyl Methacrylate		0.7547	0.7708	0.8762	0.8803	0.8559	0.7792	0.8195	7	AVG	
1,1,2-Trichloroethane	#0.4178	0.4348	0.4222	0.4633	0.4730	0.4602	0.4209	0.4417	5	AVG	#
Tetrachloroethene	#0.3591	0.4301	0.4676	0.4773	0.5017	0.4960	0.4640	0.4565	11	AVG	#
1,3-Dichloropropane	0.7087	0.7760	0.7647	0.8257	0.8438	0.8273	0.7637	0.7871	6	AVG	
2-Hexanone	#	11.931	13.308	10.762	15.686	15.150	11.986	13.137	15	AVG	#
Dibromochloromethane	#0.3243	0.3761	0.4061	0.4674	0.5075	0.5077	0.4824	0.4388	16	AVG	#
1,2-Dibromoethane	#0.4414	0.4577	0.4526	0.5012	0.5122	0.5014	0.4697	0.4766	6	AVG	#
Chlorobenzene	#1.0685	1.2119	1.2517	1.2972	1.3387	1.3076	1.1933	1.2384	7	AVG	#
1,1,1,2-Tetrachloroethane	0.3418	0.3803	0.3988	0.4401	0.4647	0.4537	0.4132	0.4132	11	AVG	
Ethylbenzene	#1.7821	2.0995	2.2430	2.3217	2.4197	2.3660	2.0826	2.1878	10	AVG	#
m+p-Xylene	#0.7058	0.8149	0.8720	0.8940	0.9324	0.9021	0.7859	0.8439	9	AVG	#
o-Xylene	#0.6975	0.7905	0.8501	0.8823	0.9121	0.8759	0.7703	0.8255	9	AVG	#
Styrene	#	1.3651	1.4348	1.5168	1.5594	1.5132	1.3268	1.4527	6	AVG	#
Bromoform	#	0.2378	0.2558	0.3205	0.3506	0.3583	0.3462	0.3115	17	AVG	#
Isopropylbenzene	#1.7061	2.0560	2.2216	2.2697	2.3810	2.2802	2.0422	2.1367	11	AVG	#
Cyclohexanone	0.4490	0.4070	0.3779	0.3958	0.4224	0.4312	0.4121	0.4136	6	AVG	
1,1,2,2-Tetrachloroethane	#1.2748	1.2965	1.2643	1.4331	1.4278	1.3819	1.2624	1.3344	6	AVG	#
trans-1,4-Dichloro-2-Butene		0.2758	0.2995	0.3771	0.3909	0.3905	0.3556	0.3483	14	AVG	
Bromobenzene		0.9999	1.0310	1.0949	1.1427	1.1184	1.0334	1.0700	5	AVG	
1,2,3-Trichloropropane		0.3663	0.3496	0.3969	0.3978	0.3843	0.3555	0.3751	6	AVG	
n-Propylbenzene		4.6654	4.9779	5.1484	5.3605	5.1513	4.4579	4.9602	7	AVG	
2-Chlorotoluene		0.9143	0.9417	0.9830	1.0361	1.0019	0.9451	0.9704	5	AVG	
1,3,5-Trimethylbenzene	2.7916	3.2762	3.4703	3.6082	3.7805	3.6525	3.3256	3.4150	10	AVG	
4-Chlorotoluene		0.9303	0.9871	1.0296	1.0741	1.0382	0.9790	1.0064	5	AVG	
tert-Butylbenzene		0.6373	0.6924	0.7140	0.7626	0.7243	0.6973	0.7046	6	AVG	
Pentachloroethane		0.5699	0.5669	0.6347	0.6322	0.6786	0.6306	0.6188	7	AVG	
1,2,4-Trimethylbenzene	3.0831	3.3330	3.5186	3.7104	3.8660	3.7466	3.3165	3.5106	8	AVG	
sec-Butylbenzene		4.0552	4.3434	4.4970	4.7016	4.4722	3.9944	4.3440	6	AVG	
p-Isopropyltoluene		3.5412	3.7893	3.9478	4.1141	3.9344	3.3920	3.7865	7	AVG	
1,3-Dichlorobenzene	#	1.8423	1.9026	2.0238	2.0775	2.0002	1.7332	1.9299	7	AVG	#
1,4-Dichlorobenzene	#	1.9438	1.9751	2.1031	2.1464	2.0693	1.7931	2.0051	6	AVG	#
1,2,3-Trimethylbenzene		3.9664	3.6883	3.8763	3.6803	3.8422	3.3127	3.7277	6	AVG	
Benzyl Chloride		2.2671	2.3816	2.8395	2.9413	2.9158	2.7070	2.6754	11	AVG	
1,3-Diethylbenzene		2.4673	2.2901	2.4126	2.2563	2.3431	2.1215	2.3152	5	AVG	
1,4-Diethylbenzene		2.4907	2.3261	2.4330	2.2639	2.3382	2.0971	2.3248	6	AVG	
n-Butylbenzene		1.8163	1.8794	1.9364	1.9721	1.8976	1.7243	1.8710	5	AVG	
1,2-Dichlorobenzene	#	1.8623	1.8690	1.9797	2.0262	1.9547	1.7502	1.9070	5	AVG	#
1,2-Diethylbenzene		2.0833	1.8935	1.9958	1.8646	1.9478	1.7312	1.9194	6	AVG	
1,2-Dibromo-3-Chloropropane	#	0.2309	0.2367	0.2788	0.2820	0.2779	0.2546	0.2602	9	AVG	#

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date(s): 12/10/13 12/10/13

Heated Purge: (Y/N) Y Calibration Times: 14:39 16:53

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

LAB FILE ID: RRF 1 = ld10i07.d RRF 4 = ld10i06.d RRF 10= ld10i05.d
RRF 20= ld10i04.d RRF 50= ld10i03.d RRF100= ld10i02.d RRF300= ld10i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	$\overline{RRF}$	% RSD	CAL. METHOD
1,3,5-Trichlorobenzene		1.4462	1.4402	1.5436	1.5777	1.5185	1.3331	1.4765	6	AVG
1,2,4-Trichlorobenzene #		1.4072	1.4003	1.4984	1.5007	1.4562	1.2192	1.4137	7	AVG #
Hexachlorobutadiene		0.6468	0.6647	0.7124	0.7189	0.6868	0.5925	0.6703	7	AVG
Naphthalene	5.0064	4.3211	4.1388	4.5826	4.5576	4.3475	3.4812	4.3479	11	AVG
1,2,3-Trichlorobenzene		1.3288	1.3149	1.4216	1.4281	1.3854	1.0978	1.3294	9	AVG
2-Methylnaphthalene		2.5550	2.3474	2.5699	2.4067	2.5210		2.4800	4	AVG
Dibromofluoromethane	0.2283	0.2276	0.2292	0.2285	0.2291	0.2291	0.2284	0.2286	0	AVG
Dibromofluoromethane(mz111)	0.2328	0.2344	0.2336	0.2344	0.2357	0.2354	0.2350	0.2344	0	AVG
1,2-Dichloroethane-d4	0.0596	0.0597	0.0597	0.0588	0.0590	0.0596	0.0591	0.0593	1	AVG
1,2-Dichloroethane-d4(mz104)	0.0379	0.0381	0.0384	0.0380	0.0381	0.0379	0.0379	0.0380	0	AVG
1,2-Dichloroethane-d4(mz65)	0.2827	0.2808	0.2819	0.2796	0.2805	0.2787	0.2803	0.2806	0	AVG
Toluene-d8(mz100)	0.8756	0.8737	0.8839	0.8773	0.8801	0.8771	0.8858	0.8791	1	AVG
4-Bromofluorobenzene(mz174)	0.4161	0.4161	0.4146	0.4168	0.4122	0.4110	0.4131	0.4143	1	AVG
Toluene-d8	1.3408	1.3514	1.3537	1.3477	1.3449	1.3427	1.3246	1.3437	1	AVG
4-Bromofluorobenzene	0.5048	0.5062	0.5041	0.5036	0.5016	0.5021	0.5041	0.5038	0	AVG

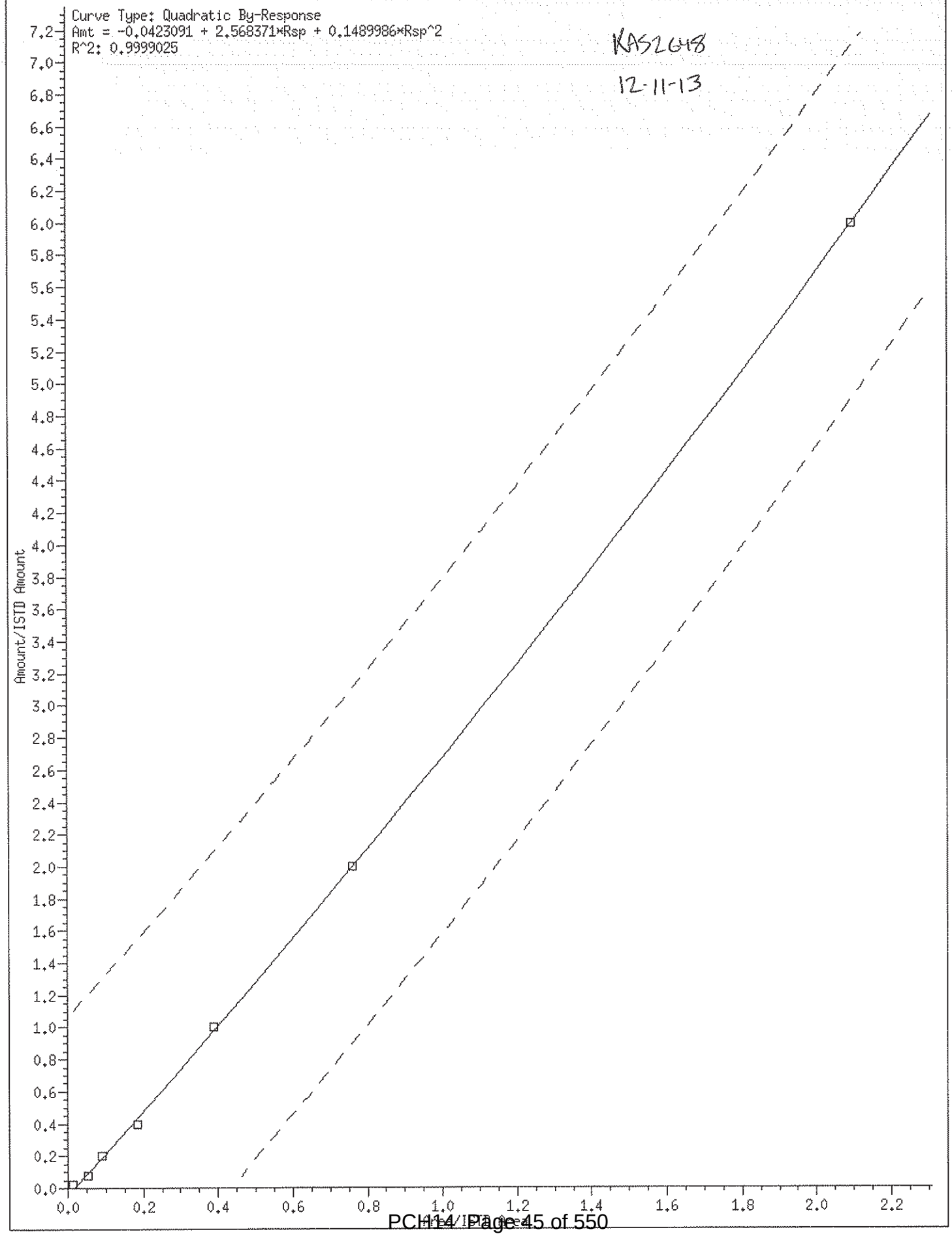
Average %RSD 7

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

4 1,3-Butadiene

Curve Type: Quadratic By-Response
Amt = -0.0423091 + 2.568371*Rsp + 0.1489986*Rsp^2
R^2: 0.9999025

KAS2648
12-11-13



Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP09915.i/13dec10i.b/ld10i01.d	VSTD300
/chem/HP09915.i/13dec10i.b/ld10i02.d	VSTD100
/chem/HP09915.i/13dec10i.b/ld10i03.d	VSTD050
/chem/HP09915.i/13dec10i.b/ld10i04.d	VSTD020
/chem/HP09915.i/13dec10i.b/ld10i05.d	VSTD010
/chem/HP09915.i/13dec10i.b/ld10i06.d	VSTD004
/chem/HP09915.i/13dec10i.b/ld10i07.d	VSTD001

Area Summary

File ID:

Internal Standard Name	ld10i01.d	ld10i02.d	ld10i03.d	ld10i04.d	ld10i05.d	ld10i06.d	ld10i07.d	Avg. Area	%RS
t-Butyl Alcohol-d10	203279	204606	204066	207127	204884	210911	199137	204859	2
Fluorobenzene	1314212	1319515	1307687	1305284	1296960	1288420	1292372	1303493	1
Chlorobenzene-d5	953800	948011	934803	927301	921938	916823	919033	931673	2
1,4-Dichlorobenzene-d4	499311	501156	496066	490280	491869	486626	486740	493150	1

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	ld10i01.d	ld10i02.d	ld10i03.d	ld10i04.d	ld10i05.d	ld10i06.d	ld10i07.d	Avg. RT
t-Butyl Alcohol-d10	4.237	4.234	4.240	4.244	4.240	4.240	4.244	4.240
Fluorobenzene	7.752	7.748	7.751	7.748	7.748	7.748	7.748	7.749
Chlorobenzene-d5	11.215	11.214	11.214	11.215	11.214	11.211	11.215	11.214
1,4-Dichlorobenzene-d4	13.095	13.095	13.092	13.092	13.092	13.092	13.092	13.093

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 12/10/2013 at 18:56.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 ICV Date: 12/10/13 Time: 19:06

Lab File ID: ld10v02.d Init. Calib. Date(s): 12/10/13 12/10/13

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
# Dichlorodifluoromethane	0.4597	0.4000	17.41	20	-13 #
# Chloromethane	0.4848	0.4207	17.36	20	-13 #
# Vinyl Chloride	0.4317	0.4039	18.71	20	-6 #
1,3-Butadiene	0.4538	0.4804	22.83	20	14
# Bromomethane	0.2813	0.2276	16.19	20	-19 #
# Chloroethane	0.2495	0.1956	15.68	20	-22 #
Dichlorofluoromethane	0.5636	0.4646	16.49	20	-18
# Trichlorofluoromethane	0.4483	0.4189	18.69	20	-7 #
n-Pentane	0.5791	0.5204	17.97	20	-10
Ethyl Ether	0.3395	0.3041	17.92	20	-10
Freon 123a	0.3795	0.3629	19.12	20	-4
Acrolein	3.2410	2.7863	128.96	150	-14
# 1,1-Dichloroethene	0.2607	0.2790	21.41	20	7 #
# Freon 113	0.2743	0.2941	21.45	20	7 #
# Acetone	1.3270	1.1142	125.95	150	-16 #
Methyl Iodide	0.4828	0.5119	21.21	20	6
2-Propanol	0.9405	0.7938	126.60	150	-16
# Carbon Disulfide	0.9902	0.9450	19.09	20	-5 #
Allyl Chloride	0.5648	0.5344	18.92	20	-5
# Methyl Acetate	0.3395	0.3583	21.10	20	6 #
# Methylene Chloride	0.3218	0.3355	20.85	20	4 #
t-Butyl Alcohol	1.5269	1.2886	168.78	200	-16
Acrylonitrile	0.1884	0.1761	93.51	100	-6
# trans-1,2-Dichloroethene	0.3021	0.3191	21.13	20	6 #
# Methyl Tertiary Butyl Ether	1.0809	1.0621	19.65	20	-2 #
n-Hexane	0.5115	0.5629	22.01	20	10
# 1,1-Dichloroethane	0.5850	0.6010	20.55	20	3 #
di-Isopropyl Ether	1.2116	1.2446	20.54	20	3
2-Chloro-1,3-Butadiene	0.5069	0.5195	20.50	20	2
Ethyl t-Butyl Ether	1.1216	1.1273	20.10	20	1
# cis-1,2-Dichloroethene	0.3417	0.3507	20.52	20	3 #
# 2-Butanone	7.7385	6.4633	125.28	150	-16 #
2,2-Dichloropropane	0.4300	0.4439	20.65	20	3
Propionitrile	2.1472	1.9647	137.25	150	-9
Methacrylonitrile	0.1898	0.1867	147.55	150	-2
Bromochloromethane	0.1697	0.1683	19.83	20	-1

Compounds with required minimum RRF.
Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 ICV Date: 12/10/13 Time: 19:06

Lab File ID: ld10v02.d Init. Calib. Date(s): 12/10/13 12/10/13

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT	
Tetrahydrofuran	1.9050	1.6012	84.06	100	-16	
Chloroform	0.5230	0.5405	20.67	20	3	#
1,1,1-Trichloroethane	0.4845	0.4992	20.61	20	3	#
Cyclohexane	0.6353	0.6671	21.00	20	5	#
1,1-Dichloropropene	0.4338	0.4596	21.19	20	6	
Carbon Tetrachloride	0.3593	0.3719	20.70	20	3	#
Isobutyl Alcohol	0.5539	0.4743	428.20	500	-14	
Benzene	1.3260	1.3682	20.64	20	3	#
1,2-Dichloroethane	0.4283	0.4256	19.87	20	-1	#
t-Amyl Methyl Ether	1.0676	1.0576	19.81	20	-1	
n-Heptane	0.5364	0.5710	21.29	20	6	
n-Butanol	0.4725	0.4131	874.11	1000	-13	
Trichloroethene	0.3205	0.3349	20.90	20	4	#
1,2-Dichloropropane	0.3618	0.3762	20.79	20	4	#
Methylcyclohexane	0.5849	0.6410	21.92	20	10	#
Methyl Methacrylate	0.3228	0.3105	19.24	20	-4	
Dibromomethane	0.2224	0.2131	19.17	20	-4	
1,4-Dioxane	0.1162	0.1121	482.38	500	-4	
Bromodichloromethane	0.4076	0.3972	19.49	20	-3	#
2-Nitropropane	0.1207	0.0988	16.37	20	-18	
2-Chloroethyl Vinyl Ether	0.2867	0.2707	18.89	20	-6	
cis-1,3-Dichloropropene	0.5390	0.5532	20.53	20	3	#
4-Methyl-2-Pentanone	17.8170	14.1822	79.60	100	-20	#
Toluene	1.1465	1.1960	20.86	20	4	#
trans-1,3-Dichloropropene	0.7213	0.6996	19.40	20	-3	#
Ethyl Methacrylate	0.8195	0.7891	19.26	20	-4	
1,1,2-Trichloroethane	0.4417	0.4287	19.41	20	-3	#
Tetrachloroethene	0.4565	0.4897	21.45	20	7	#
1,3-Dichloropropane	0.7871	0.7603	19.32	20	-3	
2-Hexanone	13.1370	10.0424	76.44	100	-24	#
Dibromochloromethane	0.4388	0.4209	19.18	20	-4	#
1,2-Dibromoethane	0.4766	0.4681	19.64	20	-2	#
Chlorobenzene	1.2384	1.2701	20.51	20	3	#
1,1,1,2-Tetrachloroethane	0.4132	0.4093	19.81	20	-1	
Ethylbenzene	2.1878	2.2471	20.54	20	3	#
m+p-Xylene	0.8439	0.8734	41.40	40	3	#

Compounds with required minimum RRF.
Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 ICV Date: 12/10/13 Time: 19:06

Lab File ID: ld10v02.d Init. Calib. Date(s): 12/10/13 12/10/13

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

COMPOUND	RRF	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
# o-Xylene	0.8255	0.8581	20.79	20	4 #
# Styrene	1.4527	1.4678	20.21	20	1 #
# Bromoform	0.3115	0.2825	18.13	20	-9 #
# Isopropylbenzene	2.1367	2.2369	20.94	20	5 #
Cyclohexanone	0.4136	0.4057	490.46	500	-2
# 1,1,2,2-Tetrachloroethane	1.3344	1.3126	19.67	20	-2 #
trans-1,4-Dichloro-2-Butene	0.3483	0.3330	95.61	100	-4
Bromobenzene	1.0700	1.0551	19.72	20	-1
1,2,3-Trichloropropane	0.3751	0.3588	19.13	20	-4
n-Propylbenzene	4.9602	5.0572	20.39	20	2
2-Chlorotoluene	0.9704	0.9573	19.73	20	-1
1,3,5-Trimethylbenzene	3.4150	3.5367	20.71	20	4
4-Chlorotoluene	1.0064	0.9937	19.75	20	-1
tert-Butylbenzene	0.7046	0.7171	20.35	20	2
Pentachloroethane	0.6188	0.6071	19.62	20	-2
1,2,4-Trimethylbenzene	3.5106	3.6005	20.51	20	3
sec-Butylbenzene	4.3440	4.4712	20.59	20	3
p-Isopropyltoluene	3.7865	3.7940	20.04	20	0
# 1,3-Dichlorobenzene	1.9299	1.9723	20.44	20	2 #
# 1,4-Dichlorobenzene	2.0051	2.0292	20.24	20	1 #
1,2,3-Trimethylbenzene	3.7277	3.6739	19.71	20	-1
Benzyl Chloride	2.6754	2.5108	18.77	20	-6
1,3-Diethylbenzene	2.3152	2.2597	19.52	20	-2
1,4-Diethylbenzene	2.3248	2.3757	20.44	20	2
n-Butylbenzene	1.8710	1.8862	20.16	20	1
# 1,2-Dichlorobenzene	1.9070	1.9218	20.16	20	1 #
1,2-Diethylbenzene	1.9194	1.9050	19.85	20	-1
# 1,2-Dibromo-3-Chloropropane	0.2602	0.2368	18.21	20	-9 #
1,3,5-Trichlorobenzene	1.4765	1.4411	19.52	20	-2
# 1,2,4-Trichlorobenzene	1.4137	1.3524	19.13	20	-4 #
Hexachlorobutadiene	0.6703	0.6066	18.10	20	-10
Naphthalene	4.3479	3.9762	18.29	20	-9
1,2,3-Trichlorobenzene	1.3294	1.2372	18.61	20	-7
2-Methylnaphthalene	2.4800	1.9961	16.10	20	-20

Average %Drift 6

Compounds with required minimum RRF.
Maximum % Drift = 30 %

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem/HP09915.i/13dec10i.b/ld10i07.d
/chem/HP09915.i/13dec10i.b/ld10i06.d
/chem/HP09915.i/13dec10i.b/ld10i05.d
/chem/HP09915.i/13dec10i.b/ld10i04.d
/chem/HP09915.i/13dec10i.b/ld10i03.d
/chem/HP09915.i/13dec10i.b/ld10i02.d
/chem/HP09915.i/13dec10i.b/ld10i01.d

File /chem/HP09915.i/13dec10i.b/ld10i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem/HP09915.i/13dec18b.b/ld18c41.d

RT Summary

Internal Standard Name	File ID: ld18c41.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	4.247	4.240	Yes
Fluorobenzene	7.748	7.751	Yes
Chlorobenzene-d5	11.214	11.214	Yes
1,4-Dichlorobenzene-d4	13.092	13.092	Yes

A "No" indicates the retention time is greater than 30 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: ld18c41.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	229507	204066	102033	408132	Yes
Fluorobenzene	1251775	1307687	653844	2615374	Yes
Chlorobenzene-d5	885619	934803	467402	1869606	Yes
1,4-Dichlorobenzene-d4	470096	496066	248033	992132	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments:

report generated on 12/18/2013 at 22:05

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date: 12/18/13 Time: 21:32

Lab File ID: ld18c41.d Init. Calib. Date(s): 12/10/13 12/10/13

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
# Dichlorodifluoromethane	0.4597	0.3241	35.26	50	-29	#<-
# Chloromethane	0.4848	0.4251	43.85	50	-12	#
# Vinyl Chloride	0.4317	0.3877	44.89	50	-10	#
# Bromomethane	0.2813	0.2391	42.50	50	-15	#
# Chloroethane	0.2495	0.2244	44.97	50	-10	#
# Trichlorofluoromethane	0.4483	0.4114	45.88	50	-8	#
Ethyl Ether	0.3395	0.3224	47.48	50	-5	
Acrolein	3.2410	2.9673	457.78	500	-8	
# 1,1-Dichloroethene	0.2607	0.2549	48.90	50	-2	#
# Freon 113	0.2743	0.2622	47.81	50	-4	#
# Acetone	1.3270	1.3097	98.70	100	-1	#
Methyl Iodide	0.4828	0.4701	48.69	50	-3	
2-Propanol	0.9405	0.9890	262.89	250	5	
# Carbon Disulfide	0.9902	0.9985	50.41	50	1	#
Allyl Chloride	0.5648	0.5494	48.64	50	-3	
# Methyl Acetate	0.3395	0.3652	53.77	50	8	#
# Methylene Chloride	0.3218	0.3162	49.13	50	-2	#
t-Butyl Alcohol	1.5269	1.5144	247.95	250	-1	
Acrylonitrile	0.1884	0.2068	54.90	50	10	
# trans-1,2-Dichloroethene	0.3021	0.2950	48.81	50	-2	#
# Methyl Tertiary Butyl Ether	1.0809	1.0655	49.29	50	-1	#
n-Hexane	0.5115	0.5039	49.26	50	-1	
# 1,1-Dichloroethane	0.5850	0.5920	50.60	50	1	#
di-Isopropyl Ether	1.2116	1.2372	51.06	50	2	
2-Chloro-1,3-Butadiene	0.5069	0.5102	50.32	50	1	
Ethyl t-Butyl Ether	1.1216	1.1186	49.86	50	0	
# cis-1,2-Dichloroethene	0.3417	0.3861	56.50	50	13	#
# 2-Butanone	7.7385	7.5073	97.01	100	-3	#
2,2-Dichloropropane	0.4300	0.3964	46.10	50	-8	
Propionitrile	2.1472	2.0060	233.56	250	-7	
Methacrylonitrile	0.1898	0.1875	123.48	125	-1	
Bromochloromethane	0.1697	0.1673	49.30	50	-1	
Tetrahydrofuran	1.9050	1.7604	92.41	100	-8	
# Chloroform	0.5230	0.5313	50.79	50	2	#
# 1,1,1-Trichloroethane	0.4845	0.4238	43.74	50	-13	#
# Cyclohexane	0.6353	0.6135	48.28	50	-3	#

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date: 12/18/13 Time: 21:32

Lab File ID: ld18c41.d Init. Calib. Date(s): 12/10/13 12/10/13

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
# Cyclohexane(mz 84)	0.4871	0.4603	47.25	50	-6	#
# Cyclohexane(mz 69)	0.1841	0.1718	46.66	50	-7	#
1,1-Dichloropropene	0.4338	0.4245	48.93	50	-2	
# Carbon Tetrachloride	0.3593	0.3425	47.66	50	-5	#
Isobutyl Alcohol	0.5539	0.5517	622.52	625	0	
# Benzene	1.3260	1.3302	50.16	50	0	#
# 1,2-Dichloroethane	0.4283	0.4346	50.73	50	1	#
# 1,2-Dichloroethane(mz 98)	0.0428	0.0410	47.81	50	-4	#<-
t-Amyl Methyl Ether	1.0676	1.0323	48.35	50	-3	
n-Heptane	0.5364	0.5447	50.78	50	2	
n-Butanol	0.4725	0.4671	1235.65	1250	-1	
# Trichloroethene	0.3205	0.3636	56.72	50	13	#
# 1,2-Dichloropropane	0.3618	0.3649	50.43	50	1	#
# Methylcyclohexane(mz98)	0.2516	0.2406	47.82	50	-4	#
# Methylcyclohexane	0.5849	0.5551	47.45	50	-5	#
Methyl Methacrylate	0.3228	0.3135	48.57	50	-3	
Dibromomethane	0.2224	0.2178	48.97	50	-2	
1,4-Dioxane	0.1162	0.1333	716.70	625	15	
# Bromodichloromethane	0.4076	0.4126	50.62	50	1	#
2-Nitropropane	0.1207	0.1391	115.18	100	15	
2-Chloroethyl Vinyl Ether	0.2867	0.2876	50.15	50	0	
# cis-1,3-Dichloropropene	0.5390	0.5181	48.06	50	-4	#
# 4-Methyl-2-Pentanone	17.817	17.6316	98.96	100	-1	#
# Toluene	1.1465	1.1414	49.78	50	0	#
# trans-1,3-Dichloropropene	0.7213	0.6847	47.46	50	-5	#
Ethyl Methacrylate	0.8195	0.8086	49.33	50	-1	
# 1,1,2-Trichloroethane	0.4417	0.4290	48.56	50	-3	#
# Tetrachloroethene	0.4565	0.4454	48.78	50	-2	#
1,3-Dichloropropane	0.7871	0.7862	49.94	50	0	
# 2-Hexanone	13.137	13.0917	99.66	100	0	#
# Dibromochloromethane	0.4388	0.4517	51.48	50	3	#
# 1,2-Dibromoethane	0.4766	0.4650	48.78	50	-2	#
# Chlorobenzene	1.2384	1.2175	49.15	50	-2	#
1,1,1,2-Tetrachloroethane	0.4132	0.4105	49.67	50	-1	
# Ethylbenzene	2.1878	2.2296	50.96	50	2	#
# m+p-Xylene	0.8439	0.8493	100.64	100	1	#

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date: 12/18/13 Time: 21:32

Lab File ID: ld18c41.d Init. Calib. Date(s): 12/10/13 12/10/13

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

	COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
#	o-Xylene	0.8255	0.8281	50.15	50	0	#
#	Styrene	1.4527	1.4235	49.00	50	-2	#
#	Bromoform	0.3115	0.2951	47.36	50	-5	#
#	Isopropylbenzene	2.1367	2.1694	50.77	50	2	#
	Cyclohexanone	0.4136	0.5209	787.01	625	26	<-
#	1,1,2,2-Tetrachloroethane	1.3344	1.3081	49.02	50	-2	#
	trans-1,4-Dichloro-2-Butene	0.3483	0.1773	63.63	125	-49	<-
	Bromobenzene	1.0700	1.0128	47.33	50	-5	
	1,2,3-Trichloropropane	0.3751	0.3621	48.27	50	-3	
	n-Propylbenzene	4.9602	4.9522	49.92	50	0	
	2-Chlorotoluene	0.9704	0.9285	47.84	50	-4	
	1,3,5-Trimethylbenzene	3.4150	3.4853	51.03	50	2	
	4-Chlorotoluene	1.0064	0.9727	48.32	50	-3	
	tert-Butylbenzene	0.7046	0.6931	49.18	50	-2	
	Pentachloroethane	0.6188	0.6194	50.05	50	0	
	1,2,4-Trimethylbenzene	3.5106	3.5968	51.23	50	2	
	sec-Butylbenzene	4.3440	4.3793	50.41	50	1	
	p-Isopropyltoluene	3.7865	3.8239	50.49	50	1	
#	1,3-Dichlorobenzene	1.9299	1.8961	49.12	50	-2	#
#	1,4-Dichlorobenzene	2.0051	1.9697	49.12	50	-2	#
	1,2,3-Trimethylbenzene	3.7277	3.9052	52.38	50	5	
	Benzyl Chloride	2.6754	2.3342	43.62	50	-13	
	1,3-Diethylbenzene	2.3152	2.3577	50.92	50	2	
	1,4-Diethylbenzene	2.3248	2.3704	50.98	50	2	
	n-Butylbenzene	1.8710	1.8972	50.70	50	1	
#	1,2-Dichlorobenzene	1.9070	1.8413	48.28	50	-3	#
	1,2-Diethylbenzene	1.9194	1.9591	51.04	50	2	
#	1,2-Dibromo-3-Chloropropane	0.2602	0.2682	51.54	50	3	#
	1,3,5-Trichlorobenzene	1.4765	1.4540	49.24	50	-2	
#	1,2,4-Trichlorobenzene	1.4137	1.3967	49.40	50	-1	#
	Hexachlorobutadiene	0.6703	0.5960	44.46	50	-11	
	Naphthalene	4.3479	4.2174	48.50	50	-3	
	1,2,3-Trichlorobenzene	1.3294	1.3320	50.09	50	0	
	2-Methylnaphthalene	2.4800	2.4863	50.13	50	0	
	Dibromofluoromethane	0.2286	0.2321	50.76	50	2	

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date: 12/18/13 Time: 21:32

Lab File ID: ld18c41.d Init. Calib. Date(s): 12/10/13 12/10/13

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Dibromofluoromethane(mz111)	0.2344	0.2381	50.77	50	2
1,2-Dichloroethane-d4	0.0593	0.0601	50.60	50	1
1,2-Dichloroethane-d4(mz104)	0.0380	0.0387	50.84	50	2
Toluene-d8(mz100)	0.8791	0.8861	50.40	50	1
1,2-Dichloroethane-d4(mz65)	0.2806	0.2957	52.68	50	5
4-Bromofluorobenzene(mz174)	0.4143	0.4081	49.25	50	-1
Toluene-d8	1.3437	1.3654	50.81	50	2
4-Bromofluorobenzene	0.5038	0.5093	50.55	50	1

Average %Drift 4

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: LANCAS Case No.: SAS No.: SDG No.: PCH14

Lab File ID (Standard): ld18c41.d Date Analyzed: 12/18/13

Instrument ID: HP09915 Time Analyzed: 21:32

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

		IS1(FBZ) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #	IS4(TBA) AREA #	RT #
	12 HOUR STD	1251775	7.748	885619	11.214	470096	13.092	229507	4.247
	UPPER LIMIT	2503550	8.248	1771238	11.714	940192	13.592	459014	4.747
	LOWER LIMIT	625888	7.248	442810	10.714	235048	12.592	114754	3.747
	LAB SAMPLE ID								
01	VBLKL76	1243453	7.748	879375	11.211	473526	13.092	216550	4.247
02	LCSL76	1240266	7.745	872832	11.211	466663	13.092	228366	4.256
03	7311260	1255343	7.751	886551	11.214	472122	13.092	215883	4.244
04	7312421	1264659	7.745	888829	11.211	477248	13.092		
05	7312423	1241337	7.748	873006	11.211	466566	13.092		
06	7312427	1237061	7.752	870569	11.214	466336	13.092		
07	7312879	1220099	7.751	858779	11.211	457560	13.092		
08	7312420	1228273	7.755	860970	11.211	460817	13.092		
09	7312422	1235671	7.751	872368	11.214	468860	13.092		
10	7312424	1229627	7.748	880402	11.211	461580	13.092		
11	7312425	1229826	7.748	866635	11.211	460509	13.092		
12	7312877	1233742	7.745	866039	11.211	463310	13.092		
13	7312878	1235960	7.748	869635	11.211	468146	13.092		
14	7311249	1223231	7.752	856981	11.211	461771	13.092	195432	4.256
15	7311250MS	1211218	7.742	855106	11.211	460805	13.092	205460	4.234
16	7311251MSD	1207490	7.742	853662	11.211	455176	13.092	202075	4.240
17	7311252	1210676	7.751	856357	11.211	459427	13.092	209851	4.250
18	7311253	1215584	7.748	851368	11.211	458367	13.092	198053	4.250
19	7311254	1208667	7.748	847996	11.211	451773	13.092	185383	4.244
20	7311255	1210474	7.748	852321	11.211	454249	13.092	183108	4.240
21	7311256	1193026	7.752	837174	11.214	448083	13.092	184653	4.250
22	7311257	1195542	7.745	843112	11.211	451767	13.092	184872	4.234

IS1 (FBZ)=Fluorobenzene
IS2 (CBZ)=Chlorobenzene-d5
IS3 (DCB)=1,4-Dichlorobenzene-d4
IS4 (TBA)=t-Butyl Alcohol-d10

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

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

FORM VIII VOA

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:

Lab Code: LANCAS Case No.: SAS No.: SDG No.: PCH14

Lab File ID (Standard): ld18c41.d Date Analyzed: 12/18/13

Instrument ID: HP09915 Time Analyzed: 21:32

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

		IS1(FBZ) AREA #	RT #	IS2(CBZ) AREA #	RT #	IS3(DCB) AREA #	RT #	IS4(TBA) AREA #	RT #
	12 HOUR STD	1251775	7.748	885619	11.214	470096	13.092	229507	4.247
	UPPER LIMIT	2503550	8.248	1771238	11.714	940192	13.592	459014	4.747
	LOWER LIMIT	625888	7.248	442810	10.714	235048	12.592	114754	3.747
	LAB SAMPLE ID								
23	7311258	1180500	7.748	833810	11.211	445550	13.092	175286	4.247
24	7311259	1190121	7.748	835066	11.211	447691	13.092	164513	4.240

IS1 (FBZ)=Fluorobenzene
IS2 (CBZ)=Chlorobenzene-d5
IS3 (DCB)=1,4-Dichlorobenzene-d4
IS4 (TBA)=t-Butyl Alcohol-d10

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

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

page 2 of 2

FORM VIII VOA

Sample Data

Volatiles by GC/MS

Lancaster Laboratories Environmental

LOQ/MDL Summary
GC/MS Volatiles

SDG: PCH14

Fraction: Volatiles by GC/MS

11997: 8260C Water Master Analyte Name	Default MDL	Default LOQ	Units
Methyl Tertiary Butyl Ether	0.5	5	ug/l
Benzene	0.5	5	ug/l
Toluene	0.7	5	ug/l
Ethylbenzene	0.8	5	ug/l
m+p-Xylene	0.8	5	ug/l
o-Xylene	0.8	5	ug/l
Xylene (Total)	0.8	5	ug/l

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY7D

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311249

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s53.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	5	U
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
179601-23-1	m+p-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
95-47-6	o-Xylene	5	U

page 1 of 1

FORM I VOA

PNY7D

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311249

Data file: /chem/HP09915.i/13dec18b.b/ld18s53.d
Injection date and time: **19-DEC-2013 02:57**
Data file Sample Info. Line: PNY7D;7311249;1;0;;PCH14;;;ld18b41;
Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 19-Dec-2013 03:16 Automation

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.257	(-0.010)	832	65	195432	(-15)	250.00	
71) Fluorobenzene	7.752	(-0.003)	1919	96	1223231	(-2)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	856981	(-3)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	461771	(-2)	50.00	

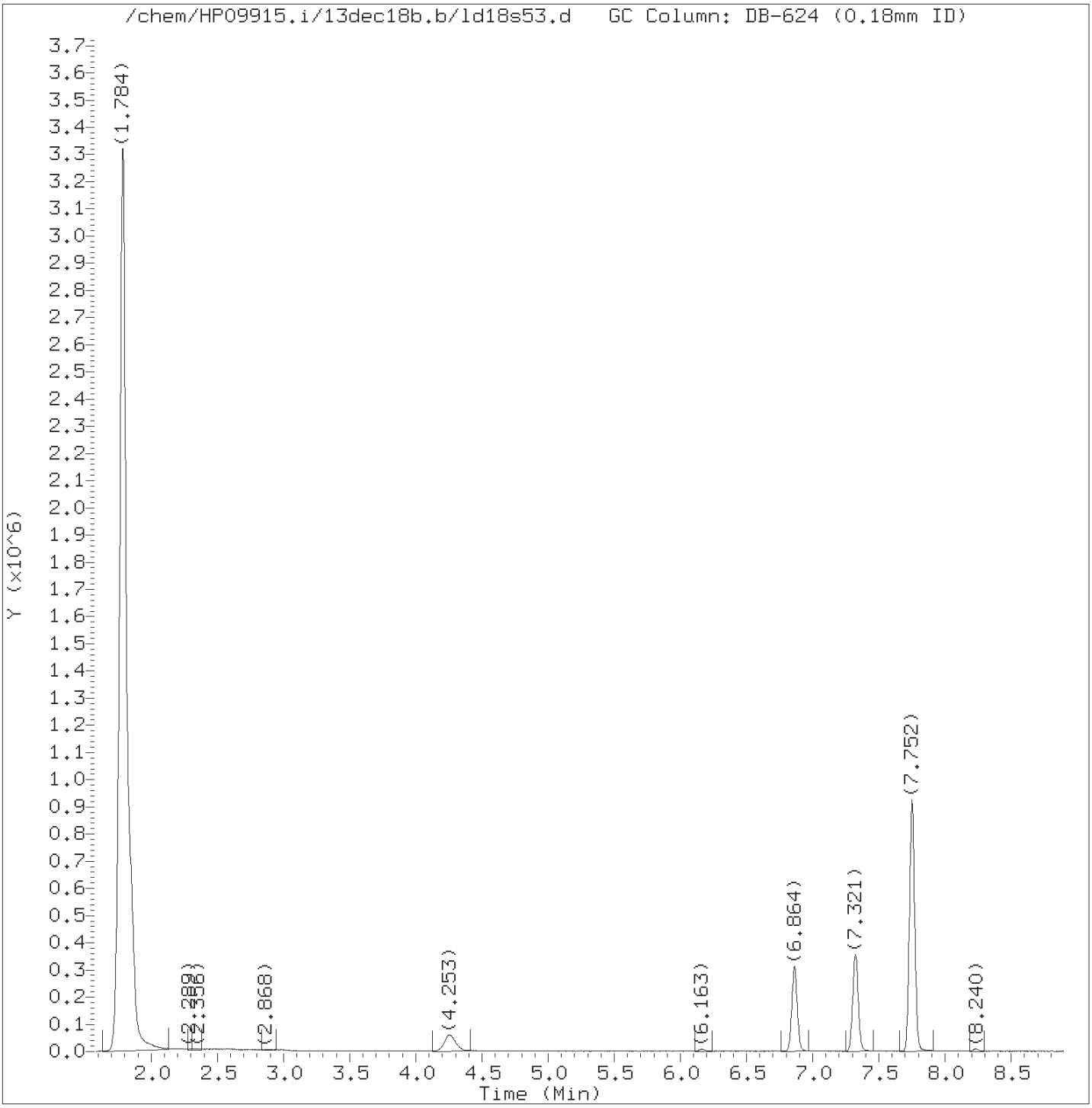
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.864	(0.000)	113	278587	49.814	100%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.324	(0.000)	102	73916	50.903	102%		77 - 113
93) Toluene-d8	(2)	9.758	(0.000)	98	1173263	50.944	102%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	443455	51.358	103%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)				Not Detected					0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Stephanie A. Selis on 12/19/2013 at 05:24. Target 3.5 esignature user ID: sas00403

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

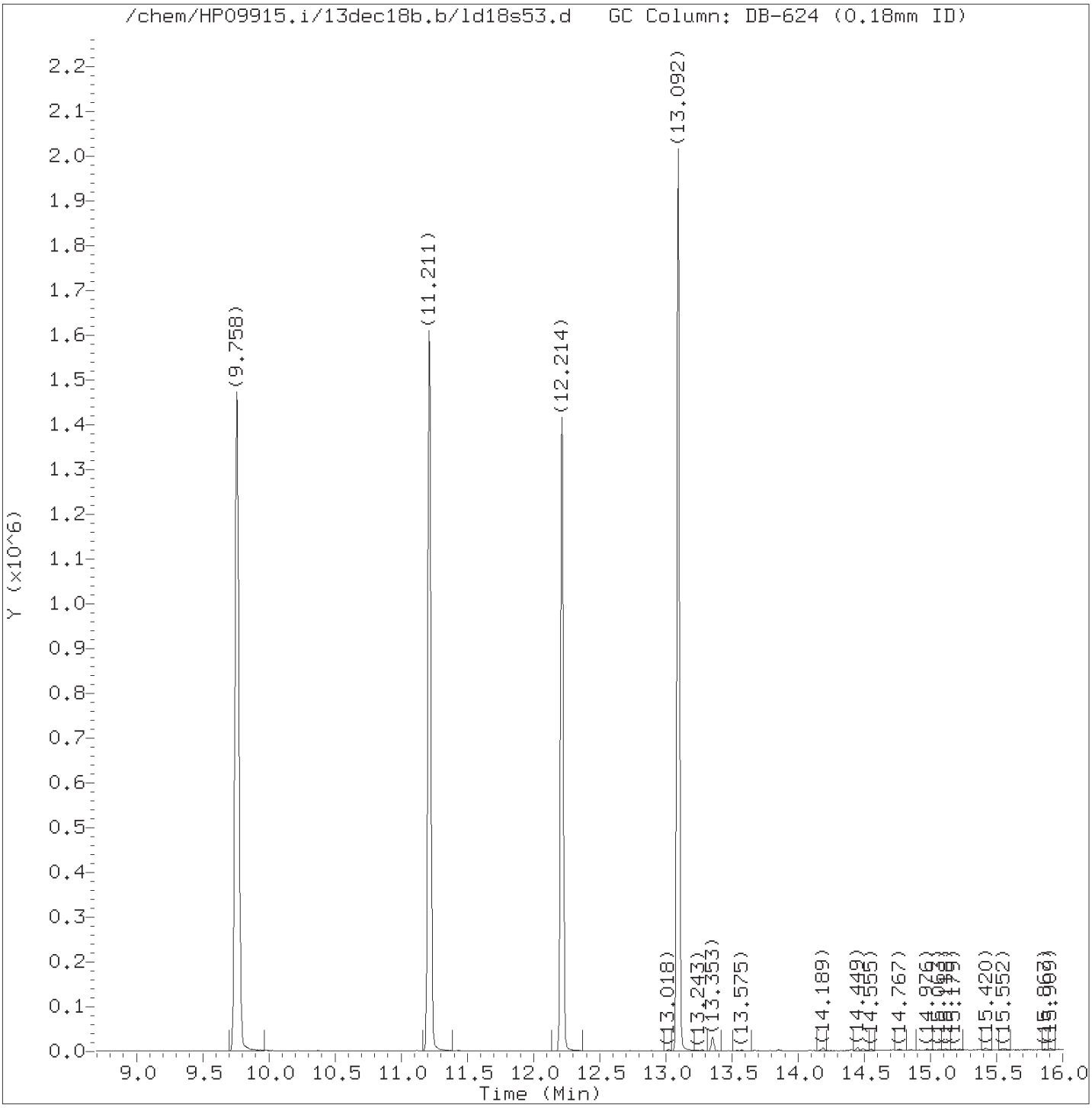
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s53.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 02:57 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 03:16 Automation

Sample Name: PNY7D Lab Sample ID: 7311249

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s53.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 02:57 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 03:16 Automation

Sample Name: PNY7D Lab Sample ID: 7311249

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s53.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 02:57 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 03:16 Automation

Sample Name: PNY7D Lab Sample ID: 7311249

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.257	65	195432	250.000
52)$Dibromofluoromethane	(1)	6.864	113	278587	49.814
62)$1,2-Dichloroethane-d4	(1)	7.324	102	73916	50.903
71)*Fluorobenzene	(1)	7.752	96	1223231	50.000
93)$Toluene-d8	(2)	9.758	98	1173263	50.944
106)*Chlorobenzene-d5	(2)	11.211	117	856981	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	443455	51.358
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	461771	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY7S

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311252

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s56.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	5	U
71-43-2	Benzene	0.8	J
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
179601-23-1	m+p-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
95-47-6	o-Xylene	5	U

page 1 of 1

FORM I VOA

PNY7S

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311252

Data file: /chem/HP09915.i/13dec18b.b/ld18s56.d
Injection date and time: **19-DEC-2013 04:03**
Data file Sample Info. Line: PNY7S;7311252;1;0;;PCH14;;;ld18b41;
Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 19-Dec-2013 04:23 Automation

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.250	(-0.003)	830	65	209851	(-9)	250.00	
71) Fluorobenzene	7.751	(-0.003)	1919	96	1210676	(-3)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	856357	(-3)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	459427	(-2)	50.00	

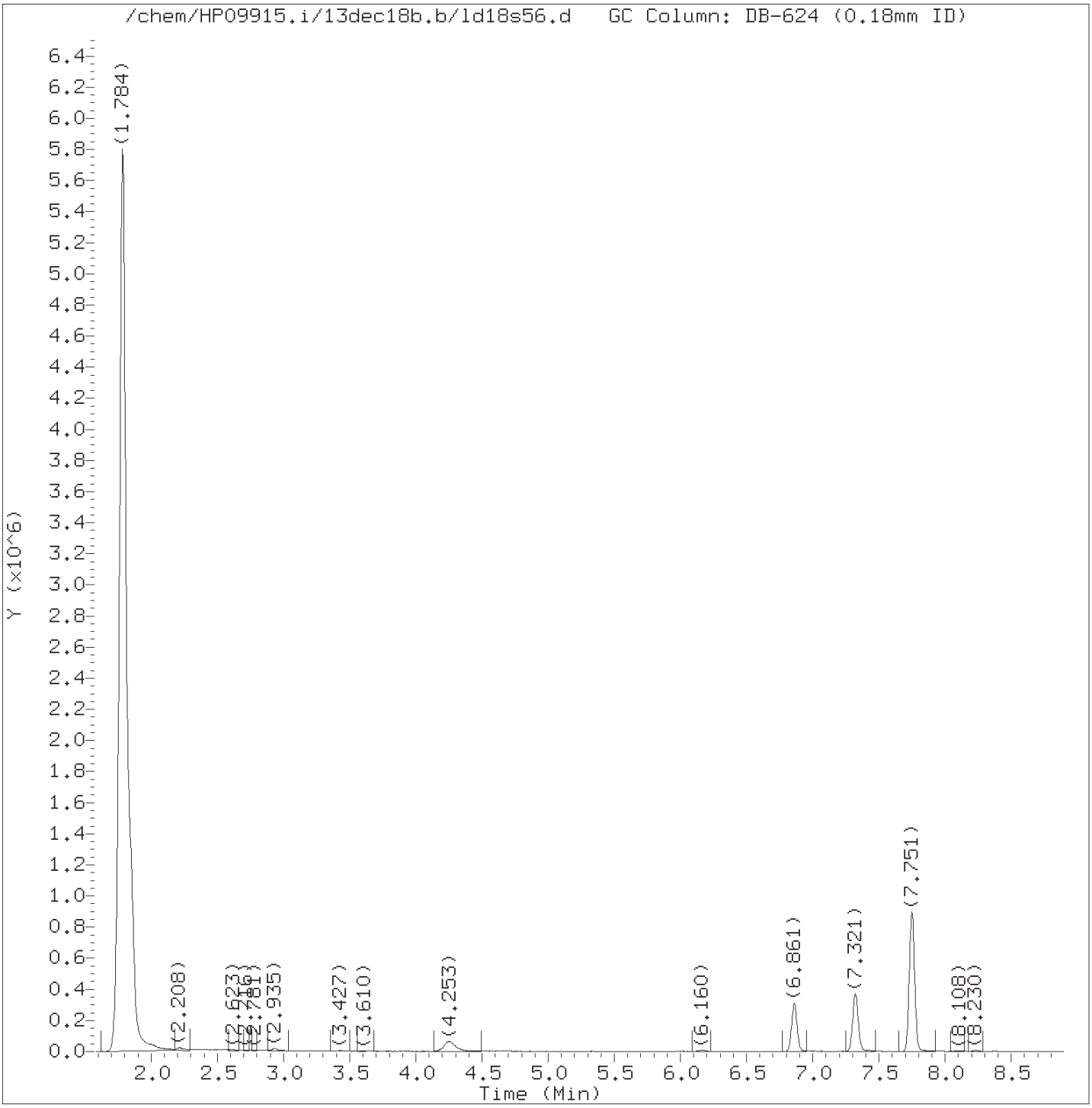
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.861	(0.000)	113	277531	50.140	100%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.324	(0.000)	102	72719	50.598	101%		77 - 113
93) Toluene-d8	(2)	9.758	(0.000)	98	1160396	50.422	101%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	439764	50.968	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)	7.346	(-0.000)	78	25890	0.806	0.81		J	0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Stephanie A. Selis on 12/19/2013 at 05:24. Target 3.5 esignature user ID: sas00403

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

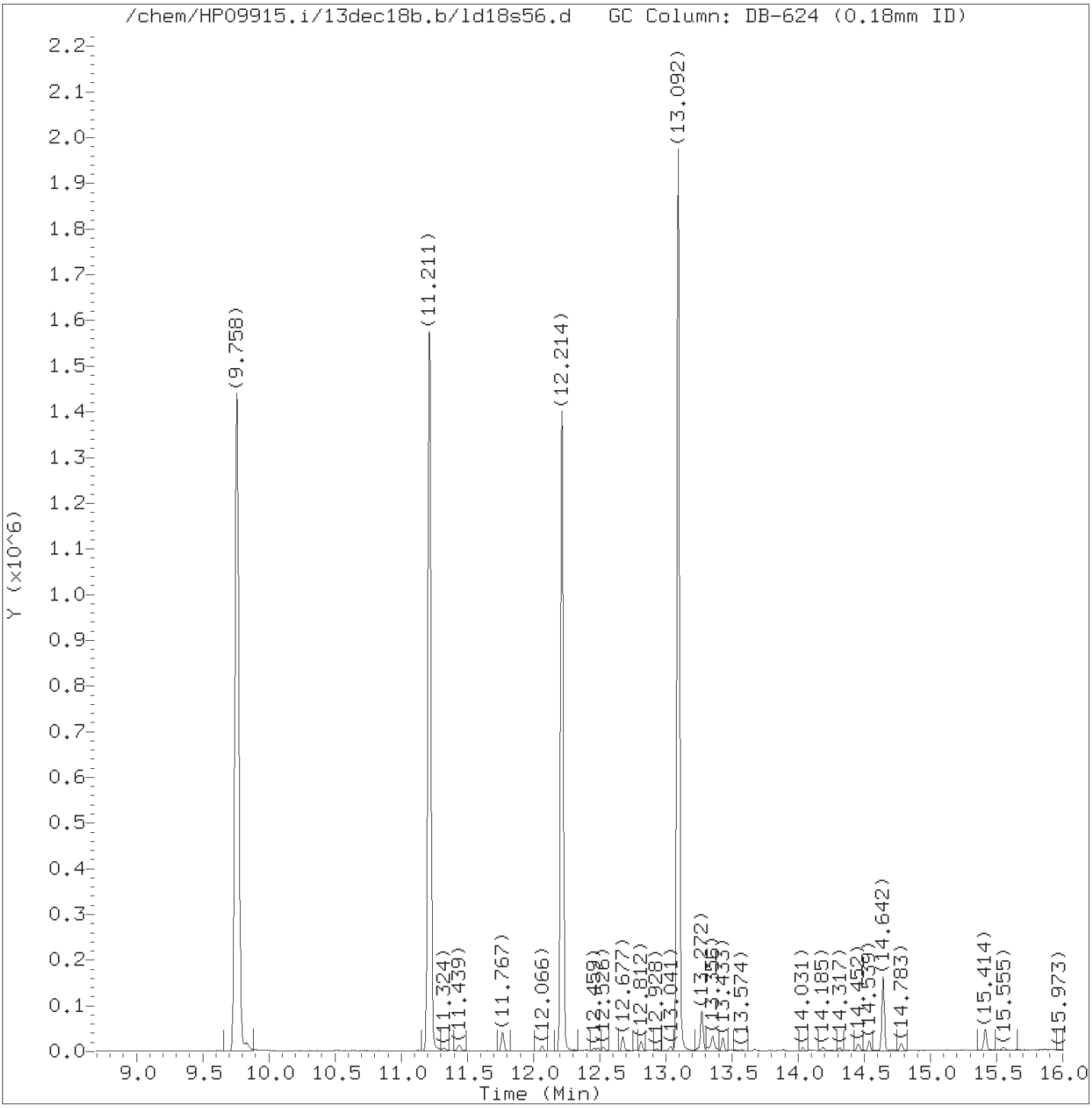
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s56.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:03 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:23 Automation

Sample Name: PNY7S Lab Sample ID: 7311252

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas90403



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s56.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:03 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:23 Automation

Sample Name: PNY7S Lab Sample ID: 7311252

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s56.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:03 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:23 Automation

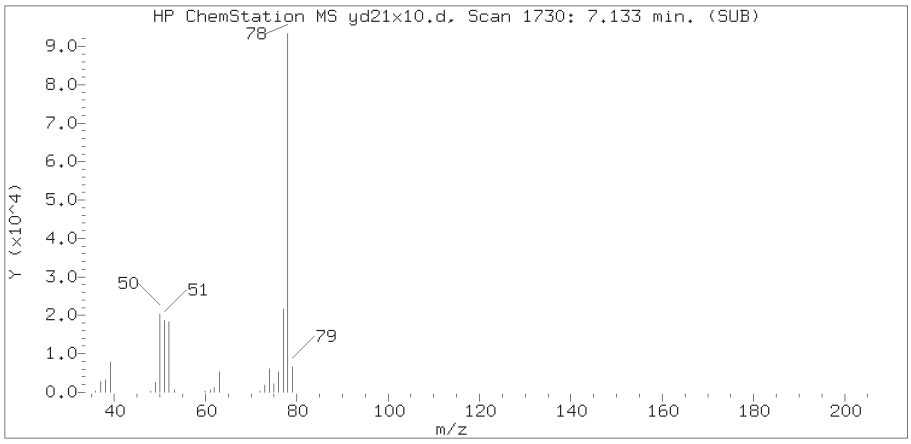
Sample Name: PNY7S Lab Sample ID: 7311252

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.250	65	209851	250.000
52)$Dibromofluoromethane	(1)	6.861	113	277531	50.140
62)$1,2-Dichloroethane-d4	(1)	7.324	102	72719	50.598
63) Benzene	(1)	7.346	78	25890	0.806
71)*Fluorobenzene	(1)	7.751	96	1210676	50.000
93)$Toluene-d8	(2)	9.758	98	1160396	50.422
106)*Chlorobenzene-d5	(2)	11.211	117	856357	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	439764	50.968
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	459427	50.000

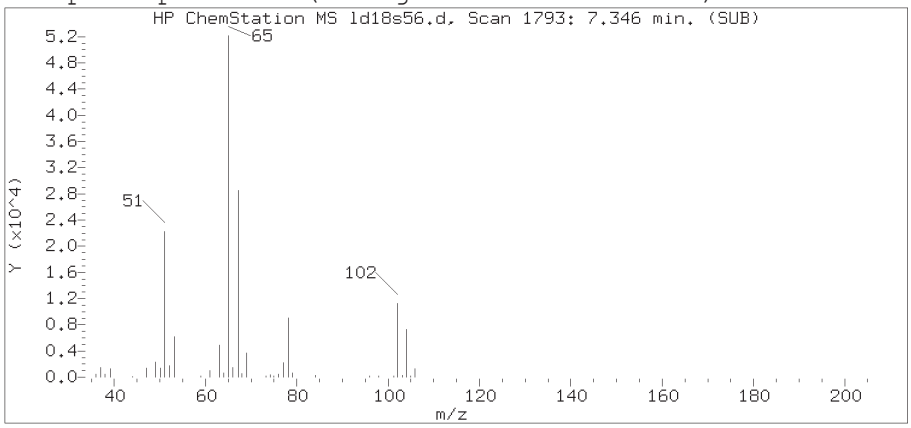
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

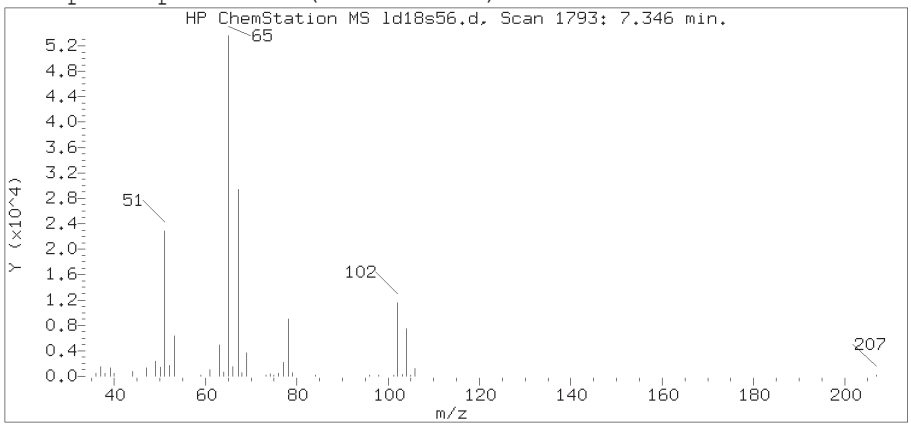
Reference Standard Spectrum for Benzene

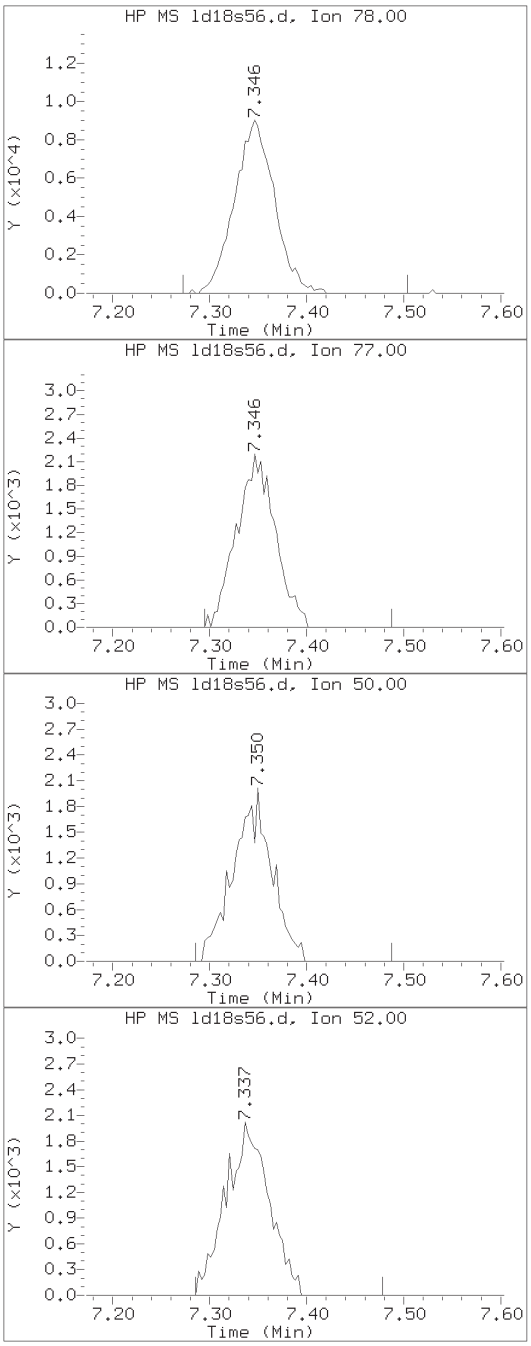


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem/HP09915.i/13dec18b.b/ld18s56.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:03 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:23 Automation

Sample Name: PNY7S Lab Sample ID: 7311252

Compound Number : 63
Compound Name : Benzene
Scan Number : 1793
Retention Time (minutes): 7.346
Relative Retention Time :-0.00002
Quant Ion : 78.00
Area (flag) : 25890
On-Column Amount (ng) : 0.8064

Digitally signed by Stephanie A. Selis on 12/19/2013 at 05:24.
Target 3.5 esignature [illegible]

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNYFD

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311253

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s57.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	5	U
71-43-2	Benzene	0.8	J
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
179601-23-1	m+p-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
95-47-6	o-Xylene	5	U

page 1 of 1

FORM I VOA

PNYFD

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311253

Data file: /chem/HP09915.i/13dec18b.b/ld18s57.d
Injection date and time: **19-DEC-2013 04:26**
Data file Sample Info. Line: PNYFD;7311253;1;0;;PCH14;;;ld18b41;
Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 19-Dec-2013 04:45 Automation

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.250	(-0.003)	830	65	198053	(-14)	250.00	
71) Fluorobenzene	7.748	(0.000)	1918	96	1215584	(-3)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	851368	(-4)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	458367	(-2)	50.00	

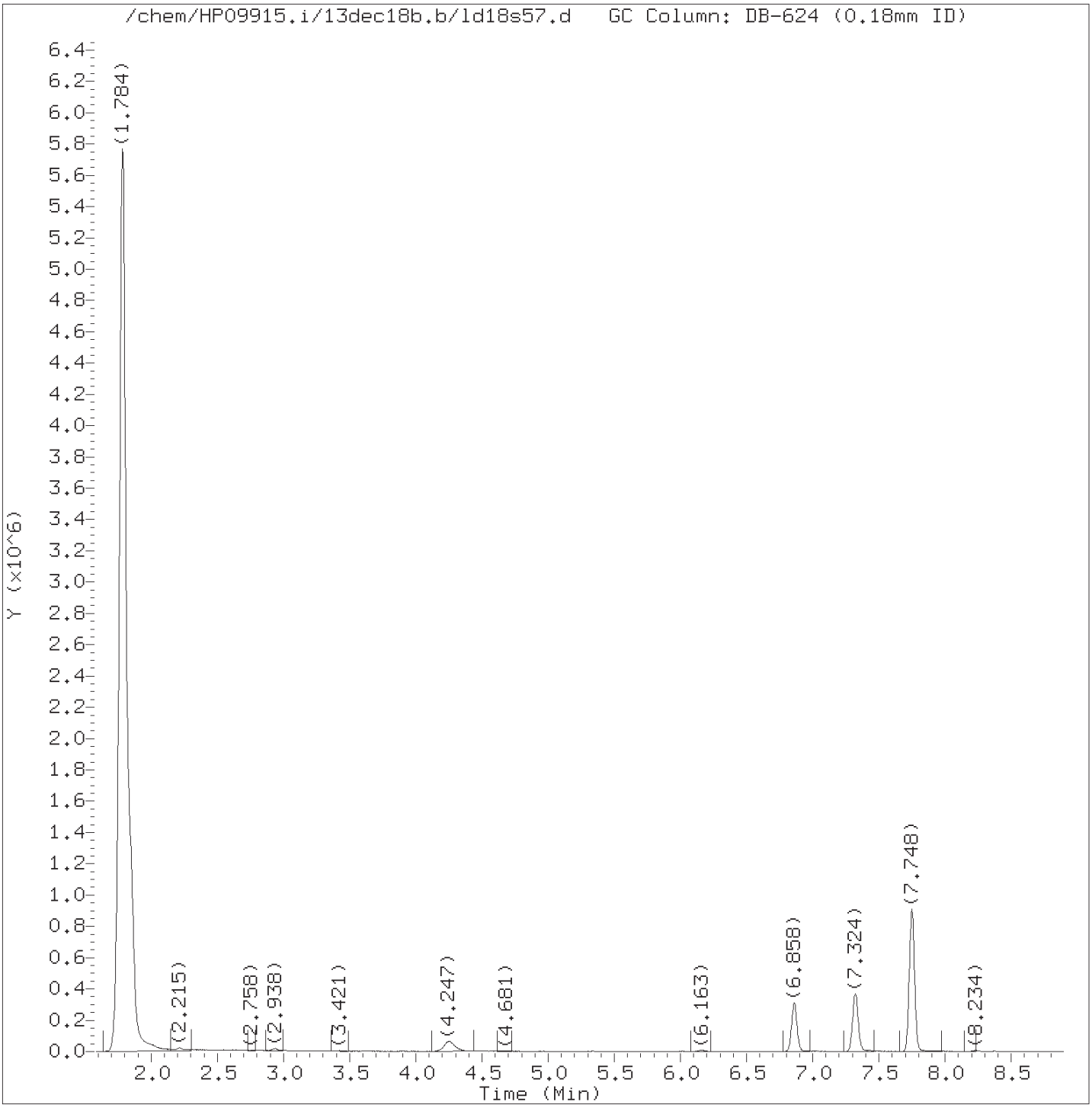
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.858	(0.000)	113	278738	50.154	100%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.321	(0.000)	102	72917	50.531	101%		77 - 113
93) Toluene-d8	(2)	9.758	(0.000)	98	1161755	50.777	102%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	437103	50.956	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)	7.343	(-0.000)	78	25938	0.805	0.80		J	0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Stephanie A. Selis on 12/19/2013 at 05:24. Target 3.5 esignature user ID: sas00403

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

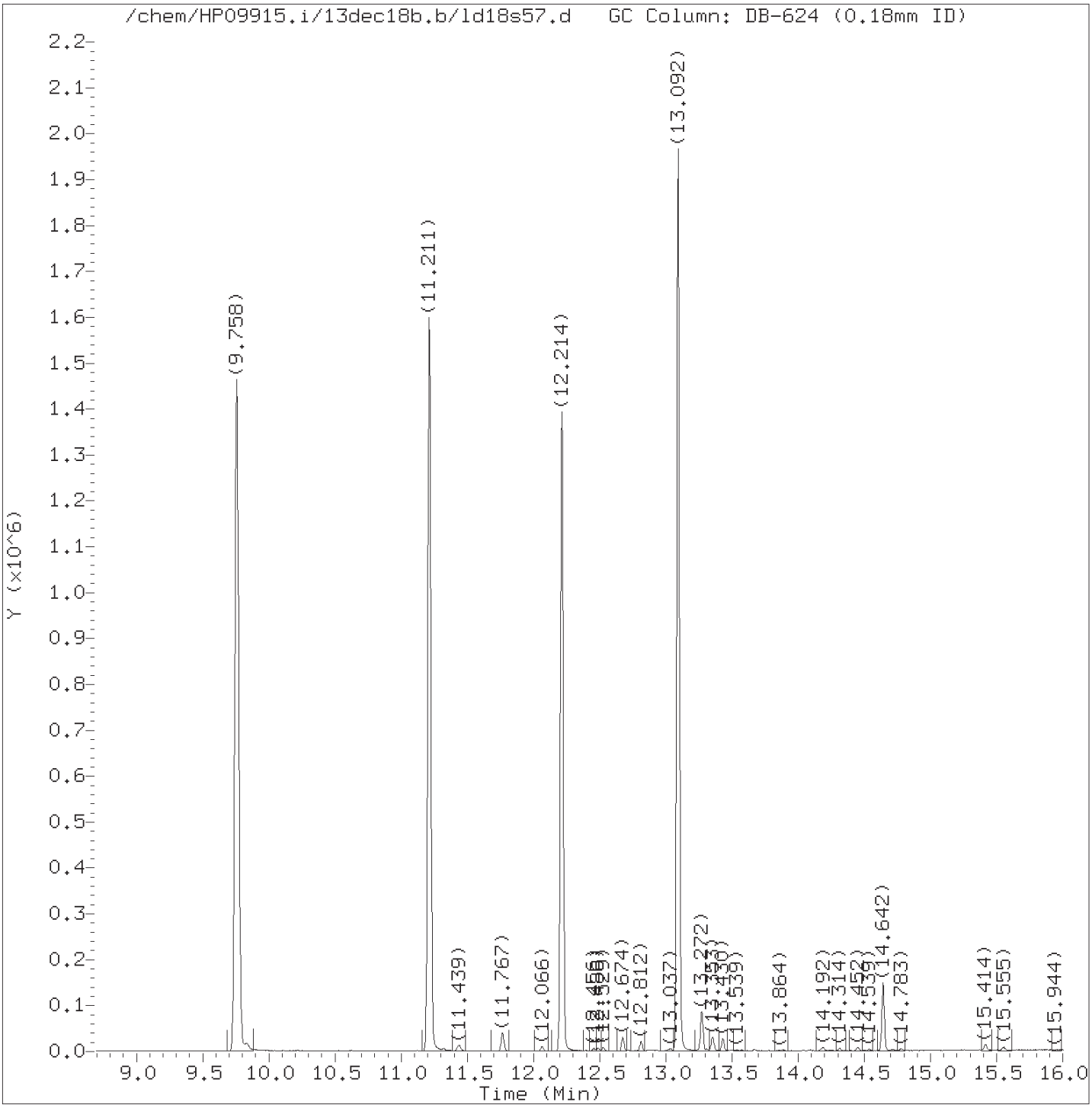
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s57.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:26 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:45 Automation

Sample Name: PNYFD Lab Sample ID: 7311253

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s57.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:26 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:45 Automation

Sample Name: PNYFD Lab Sample ID: 7311253

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s57.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:26 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:45 Automation

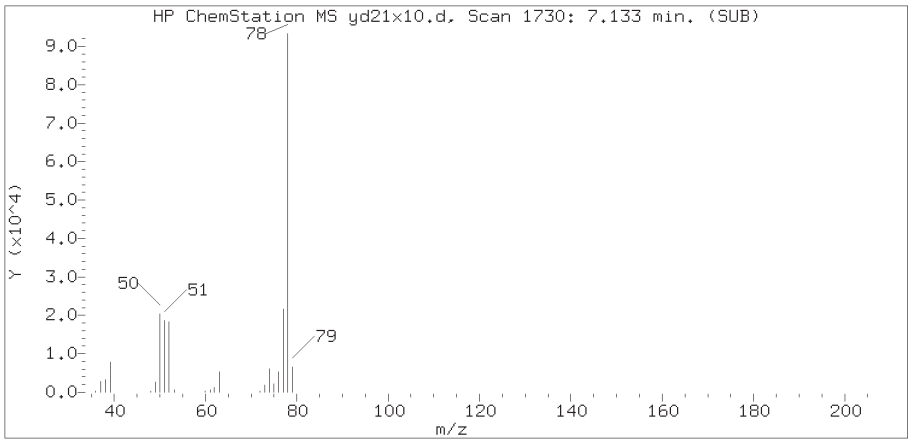
Sample Name: PNYFD Lab Sample ID: 7311253

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.250	65	198053	250.000
52)$Dibromofluoromethane	(1)	6.858	113	278738	50.154
62)$1,2-Dichloroethane-d4	(1)	7.321	102	72917	50.531
63) Benzene	(1)	7.343	78	25938	0.805
71)*Fluorobenzene	(1)	7.748	96	1215584	50.000
93)$Toluene-d8	(2)	9.758	98	1161755	50.777
106)*Chlorobenzene-d5	(2)	11.211	117	851368	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	437103	50.956
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	458367	50.000

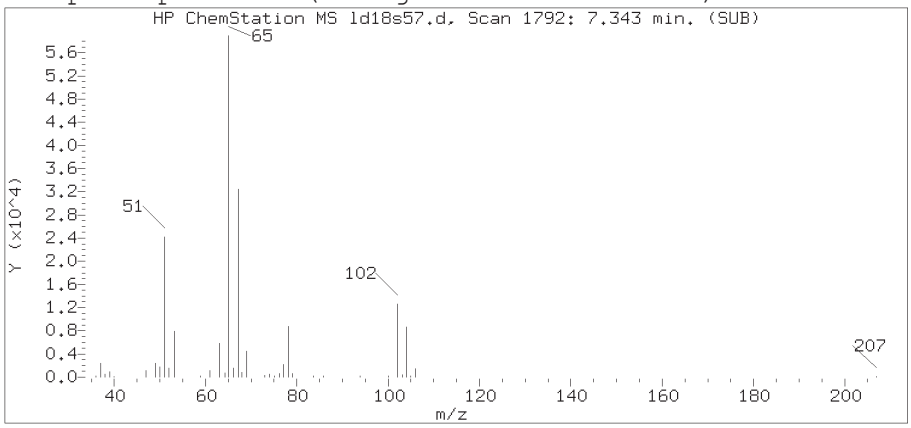
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

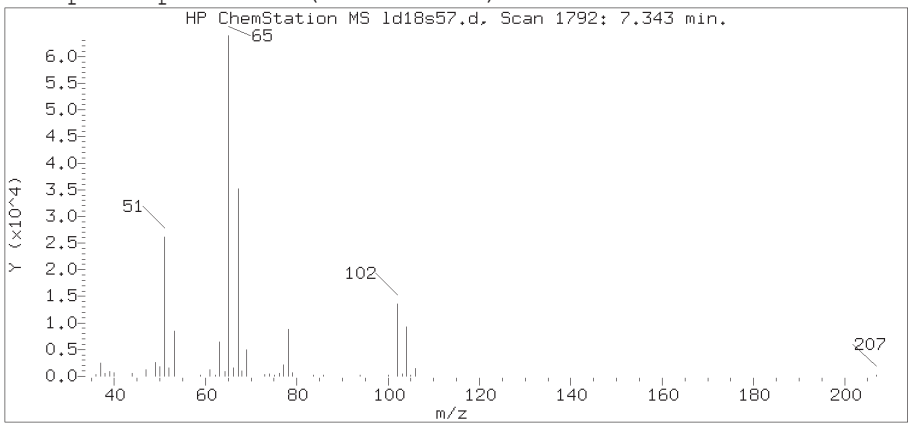
Reference Standard Spectrum for Benzene

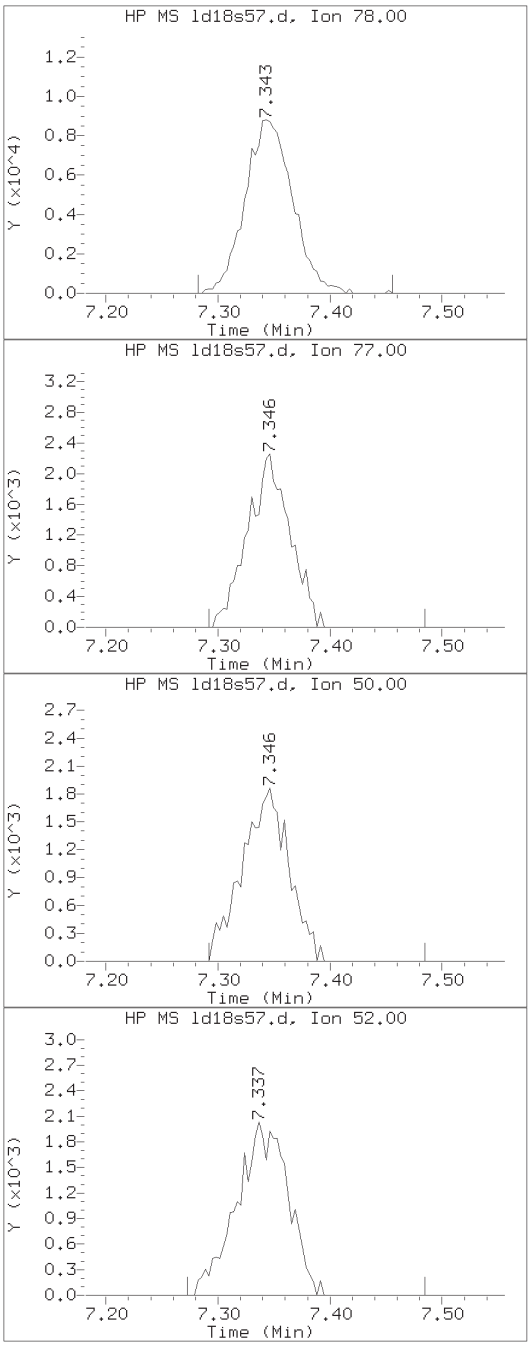


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem/HP09915.i/13dec18b.b/ld18s57.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:26 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:45 Automation

Sample Name: PNYFD Lab Sample ID: 7311253

Compound Number : 63
Compound Name : Benzene
Scan Number : 1792
Retention Time (minutes): 7.343
Relative Retention Time :-0.00000
Quant Ion : 78.00
Area (flag) : 25938
On-Column Amount (ng) : 0.8046

Digitally signed by Stephanie A. Selis on 12/19/2013 at 05:24.
Target 3.5 esignature [illegible]

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY8S

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311254

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s58.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	5	U
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
179601-23-1	m+p-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
95-47-6	o-Xylene	5	U

page 1 of 1

FORM I VOA

PNY8S

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311254

Data file: /chem/HP09915.i/13dec18b.b/ld18s58.d
Injection date and time: **19-DEC-2013 04:48**
Data file Sample Info. Line: PNY8S;7311254;1;0;;PCH14;;;ld18b41;
Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 19-Dec-2013 05:08 Automation

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.244	(0.003)	828	65	185383	(-19)	250.00	
71) Fluorobenzene	7.748	(0.000)	1918	96	1208667	(-3)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	847996	(-4)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	451773	(-4)	50.00	

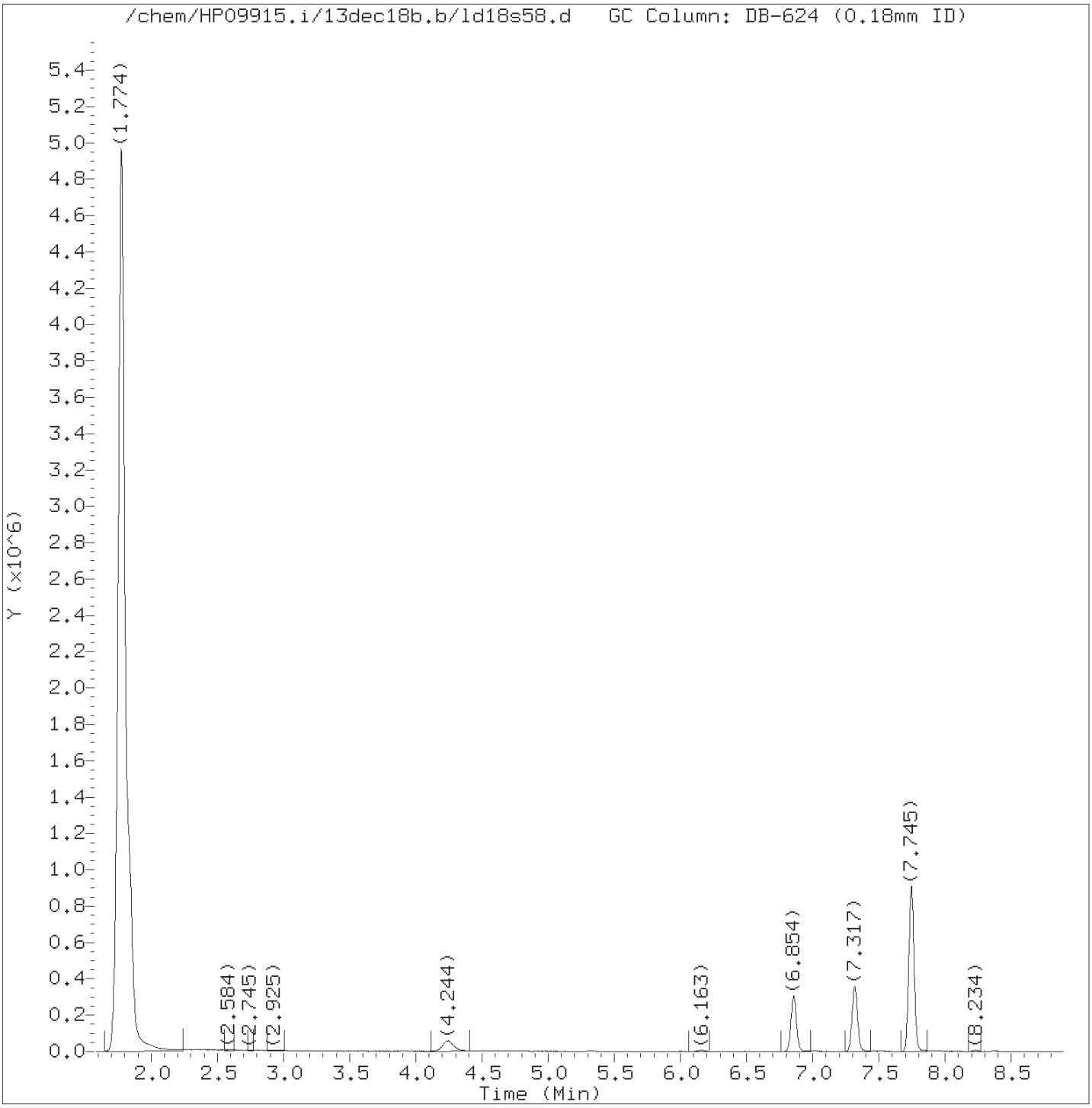
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.854	(0.000)	113	276426	50.023	100%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.314	(0.001)	102	59318	41.343	83%		77 - 113
93) Toluene-d8	(2)	9.755	(0.000)	98	1156213	50.736	101%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	434868	50.897	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)				Not Detected					0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Stephanie A. Selis on 12/19/2013 at 05:23. Target 3.5 esignature user ID: sas00403

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

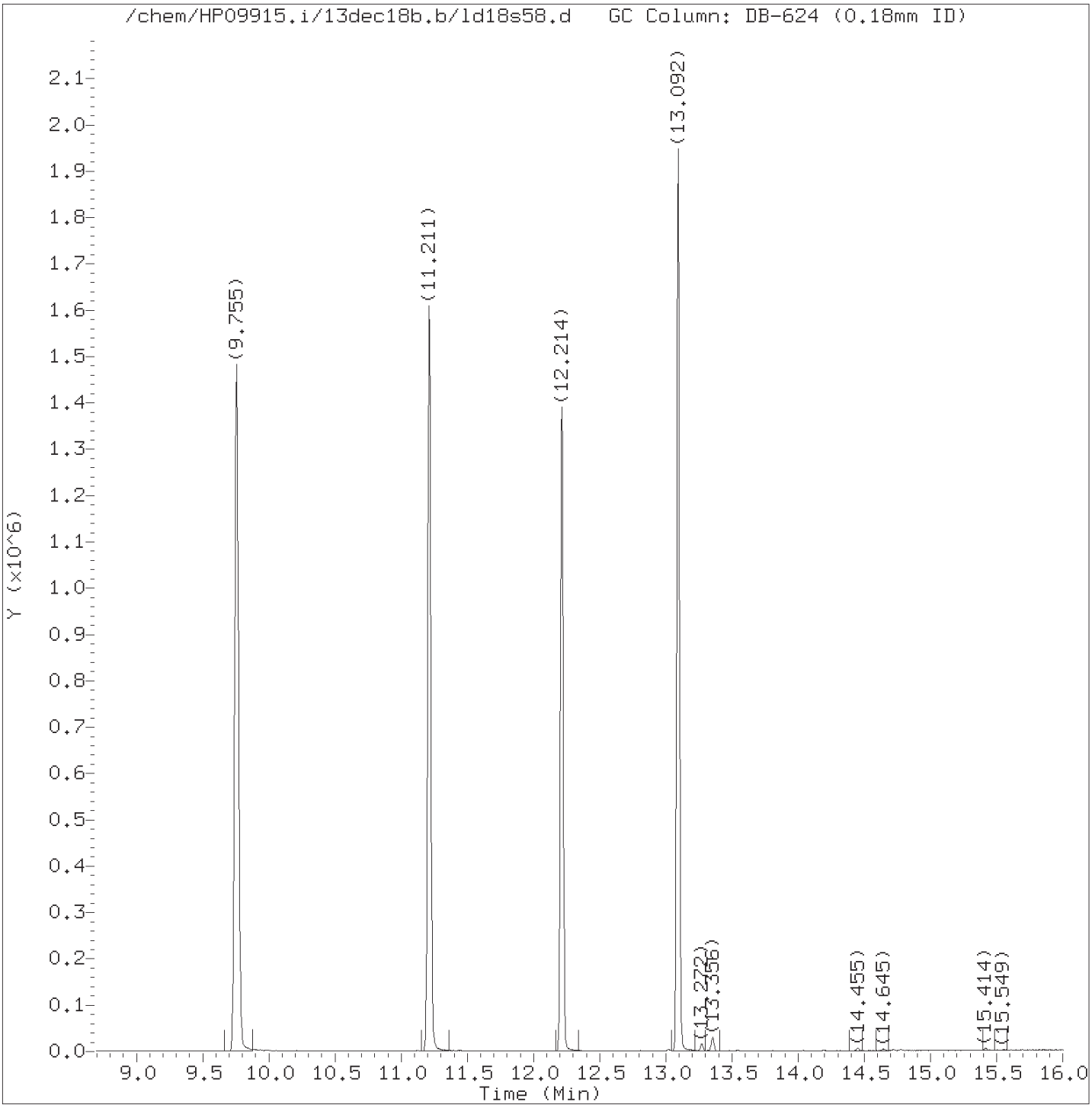
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s58.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:48 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 05:08 Automation

Sample Name: PNY8S Lab Sample ID: 7311254

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:23.
Target 3.5 esignature user ID: sas00403



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s58.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:48 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 05:08 Automation

Sample Name: PNY8S Lab Sample ID: 7311254

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:23.
Target 3.5 esignature user ID: sas00403

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s58.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 04:48 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 05:08 Automation

Sample Name: PNY8S Lab Sample ID: 7311254

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.244	65	185383	250.000
52)$Dibromofluoromethane	(1)	6.854	113	276426	50.023
62)$1,2-Dichloroethane-d4	(1)	7.314	102	59318	41.343
71)*Fluorobenzene	(1)	7.748	96	1208667	50.000
93)$Toluene-d8	(2)	9.755	98	1156213	50.736
106)*Chlorobenzene-d5	(2)	11.211	117	847996	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	434868	50.897
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	451773	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:23.
Target 3.5 esignature user ID: sas00403

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY8D

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311255

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s59.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	5	U
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
179601-23-1	m+p-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
95-47-6	o-Xylene	5	U

page 1 of 1

FORM I VOA

PNY8D

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311255

Data file: /chem/HP09915.i/13dec18b.b/ld18s59.d
Injection date and time: **19-DEC-2013 05:10**
Data file Sample Info. Line: PNY8D;7311255;1;0;;PCH14;;;ld18b41;
Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 19-Dec-2013 12:12 ads01731

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.241	(0.006)	827	65	183108	(-20)	250.00	
71) Fluorobenzene	7.748	(0.000)	1918	96	1210474	(-3)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	852321	(-4)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	454249	(-3)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.858	(0.000)	113	275424	49.767	100%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.314	(0.001)	102	72430M	50.406	101%		77 - 113
93) Toluene-d8	(2)	9.758	(0.000)	98	1153251	50.349	101%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	437342	50.927	102%		78 - 113

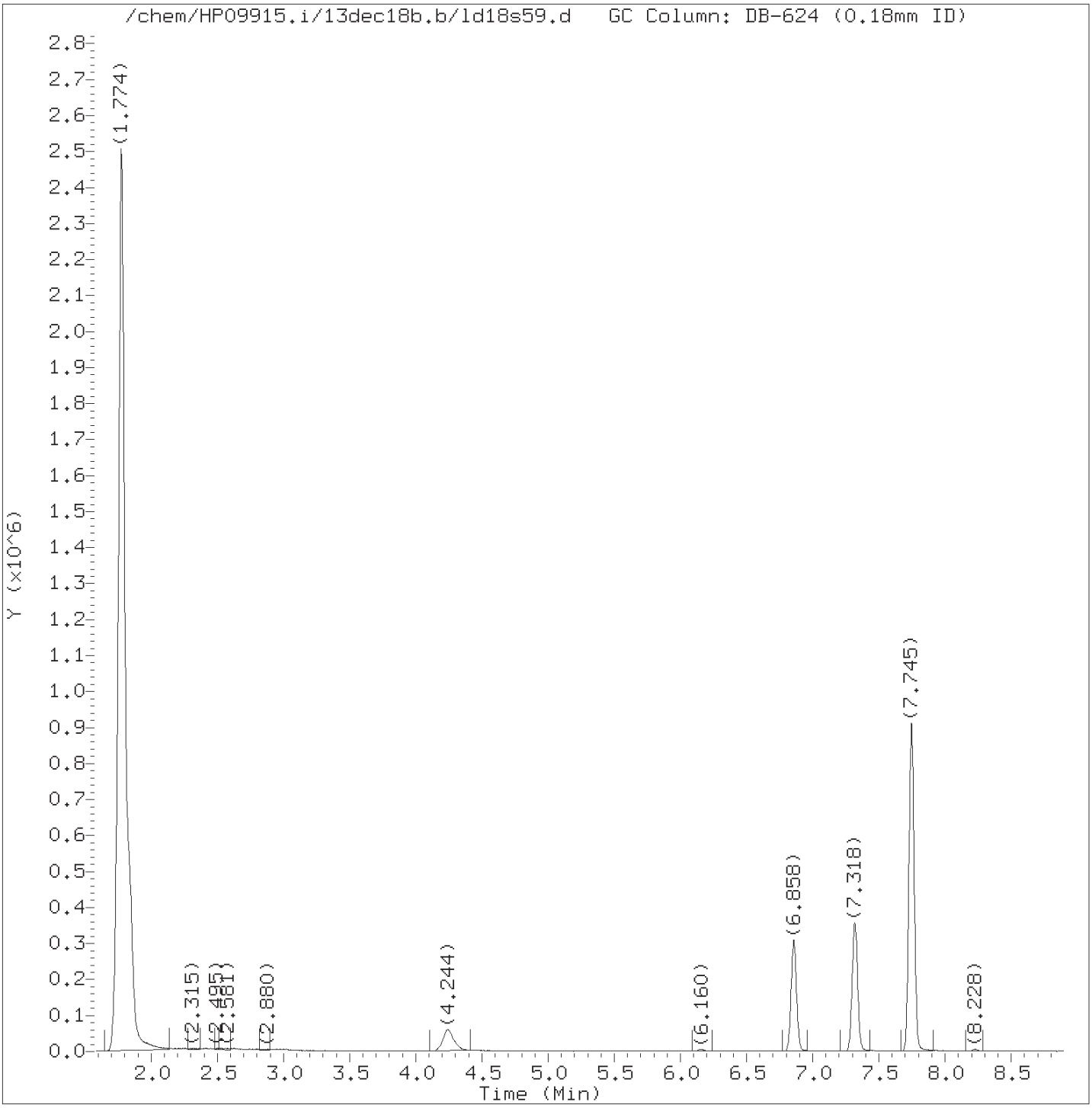
M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)				Not Detected					0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12. Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

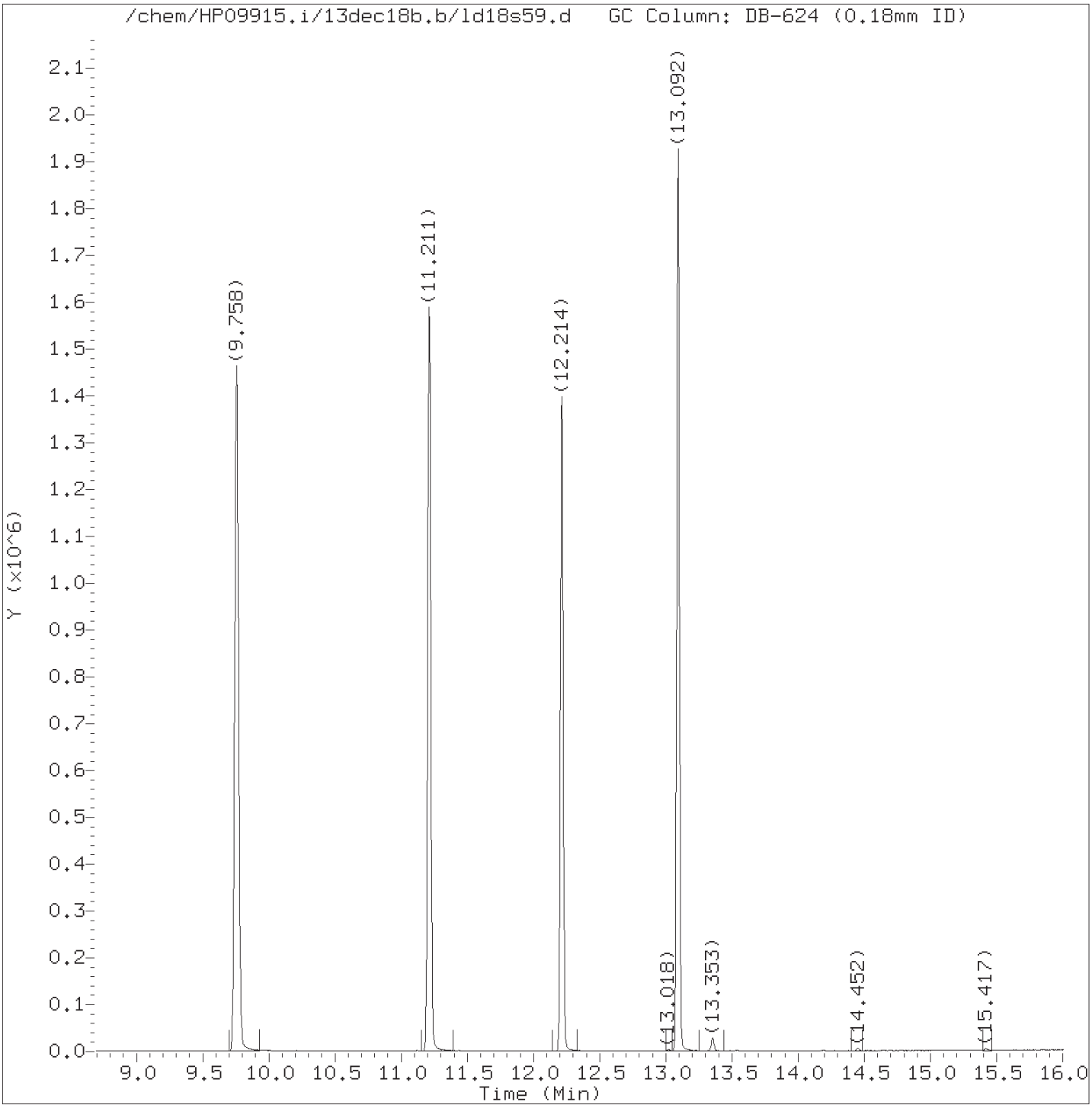
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s59.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:10 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:12 ads01731

Sample Name: PNY8D Lab Sample ID: 7311255

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s59.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:10 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:12 ads01731

Sample Name: PNY8D Lab Sample ID: 7311255

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s59.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:10 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:12 ads01731

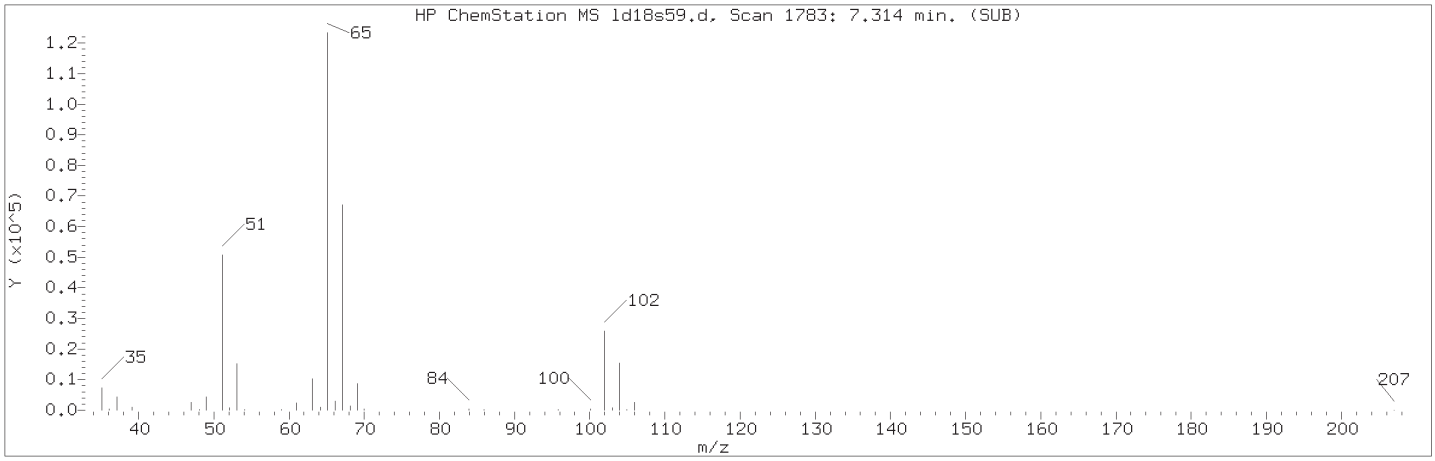
Sample Name: PNY8D Lab Sample ID: 7311255

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.241	65	183108	250.000
52)$Dibromofluoromethane	(1)	6.858	113	275424	49.767
62)$1,2-Dichloroethane-d4	(1)	7.314	102	72430M	50.406
71)*Fluorobenzene	(1)	7.748	96	1210474	50.000
93)$Toluene-d8	(2)	9.758	98	1153251	50.349
106)*Chlorobenzene-d5	(2)	11.211	117	852321	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	437342	50.927
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	454249	50.000

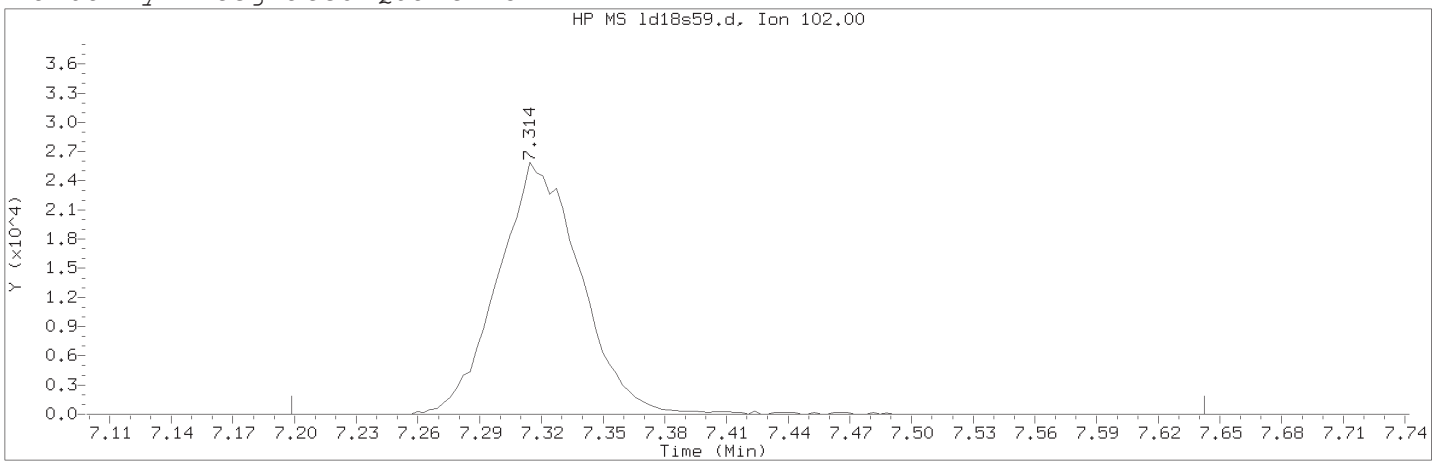
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s59.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:10 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:12 ads01731

Sample Name: PNY8D Lab Sample ID: 7311255

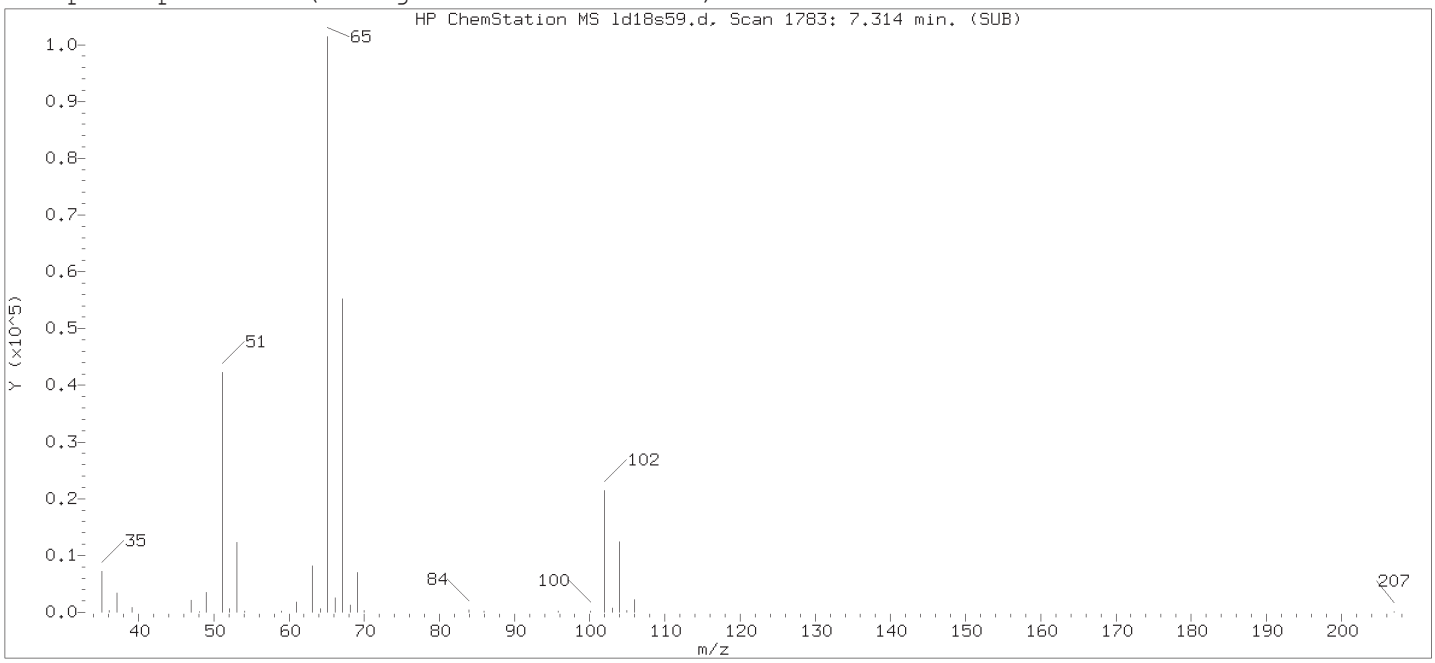
Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1783
Retention Time (minutes): 7.314
Quant Ion : 102.00
Area (flag) : 72430M
On-Column Amount (ng) : 50.4057
Integration start scan : 1746 Integration stop scan: 1884
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

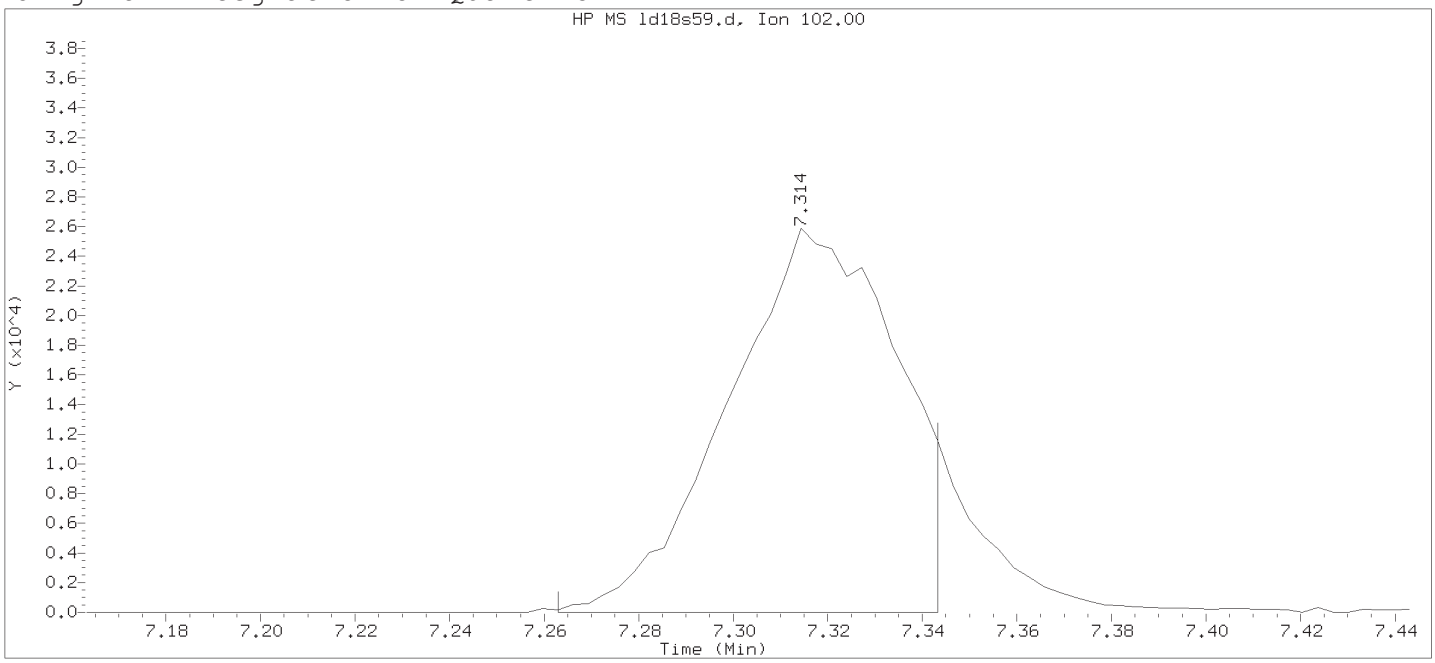
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49.
Parallax ID: rrm00219

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s59.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:10 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 05:30 Automation

Sample Name: PNY8D Lab Sample ID: 7311255

Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1783
Retention Time (minutes): 7.314
Quant Ion : 102.00
Area : 63487
On-column Amount (ng) : 44.1818
Integration start scan : 1766 Integration stop scan: 1791
Y at integration start : 0 Y at integration end: 0

Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12.
Target 3.5 esignature used ID: gas01731

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNYFB

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311256

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s60.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	5	U
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
179601-23-1	m+p-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
95-47-6	o-Xylene	5	U

page 1 of 1

FORM I VOA

PNYFB

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311256

Data file: /chem/HP09915.i/13dec18b.b/ld18s60.d
Injection date and time: **19-DEC-2013 05:32**
Data file Sample Info. Line: PNYFB;7311256;1;0;;PCH14;;;ld18b41;
Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.250	(-0.003)	830	65	184653	(-20)	250.00	
71) Fluorobenzene	7.752	(-0.003)	1919	96	1193026	(-5)	50.00	
106) Chlorobenzene-d5	11.214	(0.000)	2996	117	837174	(-5)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	448083	(-5)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.861	(0.000)	113	274033	50.240	100%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.321	(0.000)	102	72969M	51.523	103%		77 - 113
93) Toluene-d8	(2)	9.758	(0.000)	98	1136549	50.518	101%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	430030	50.982	102%		78 - 113

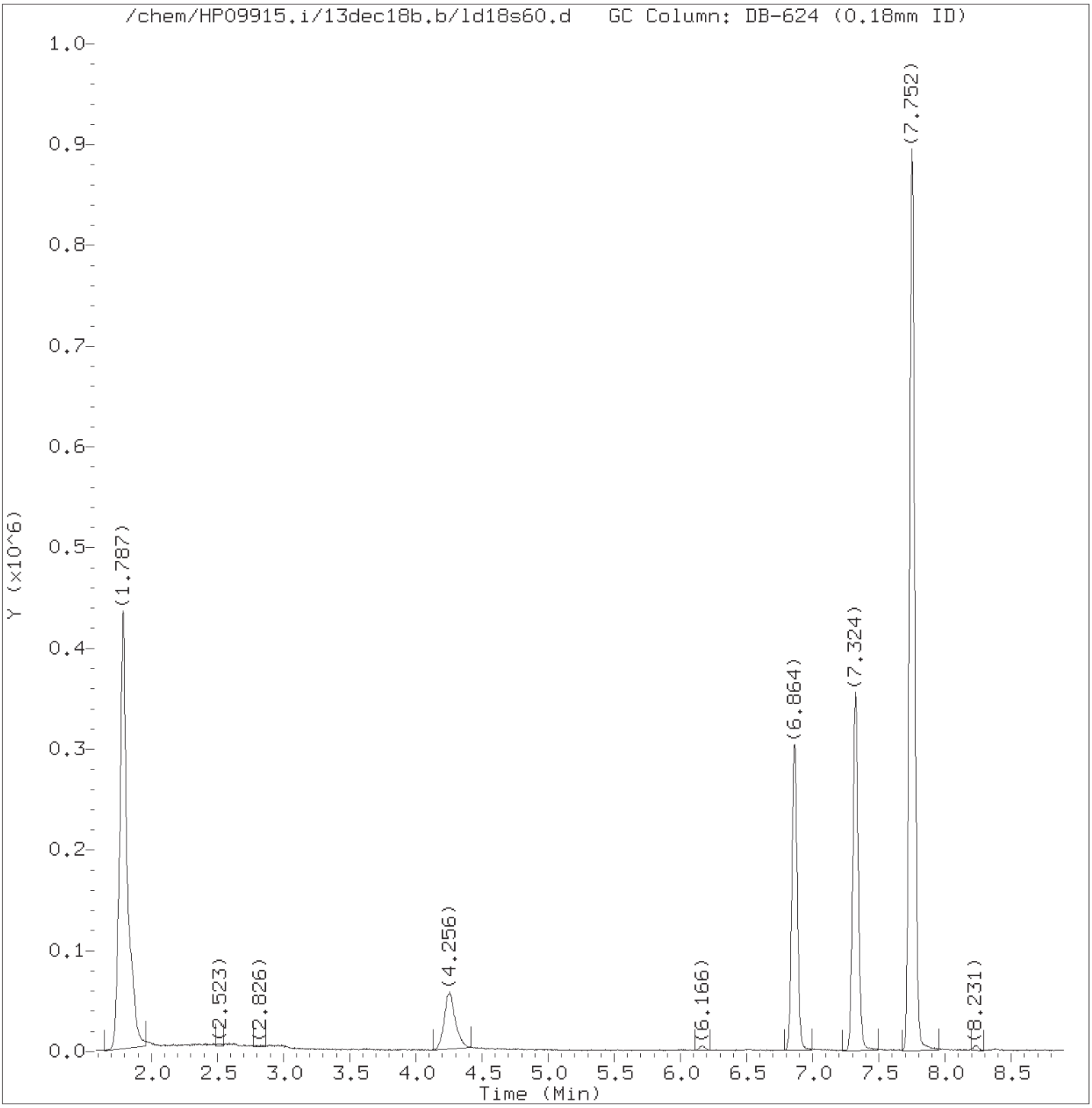
M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)				Not Detected					0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12. Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

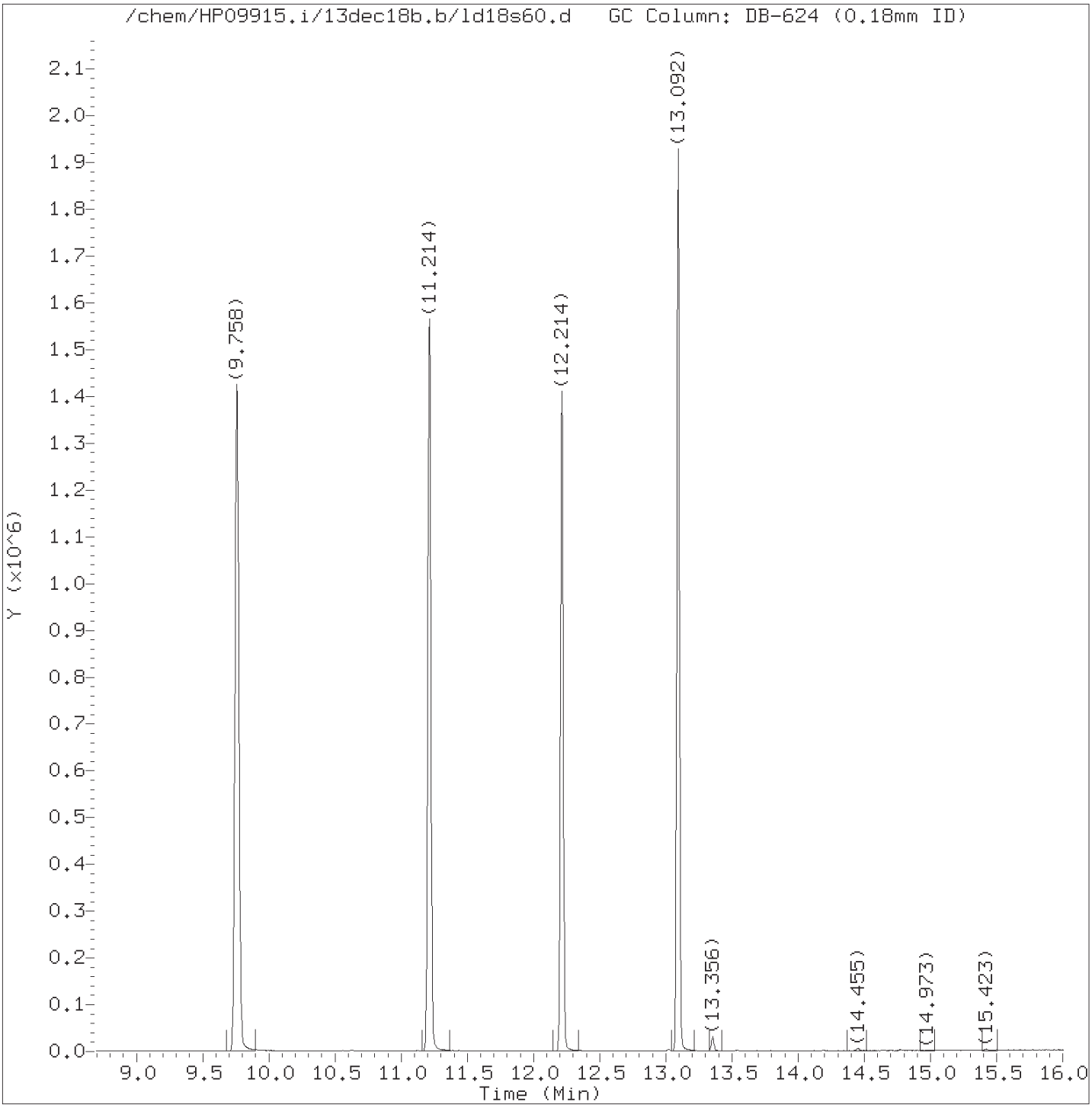
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s60.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNYFB Lab Sample ID: 7311256

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s60.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNYFB Lab Sample ID: 7311256

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s60.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

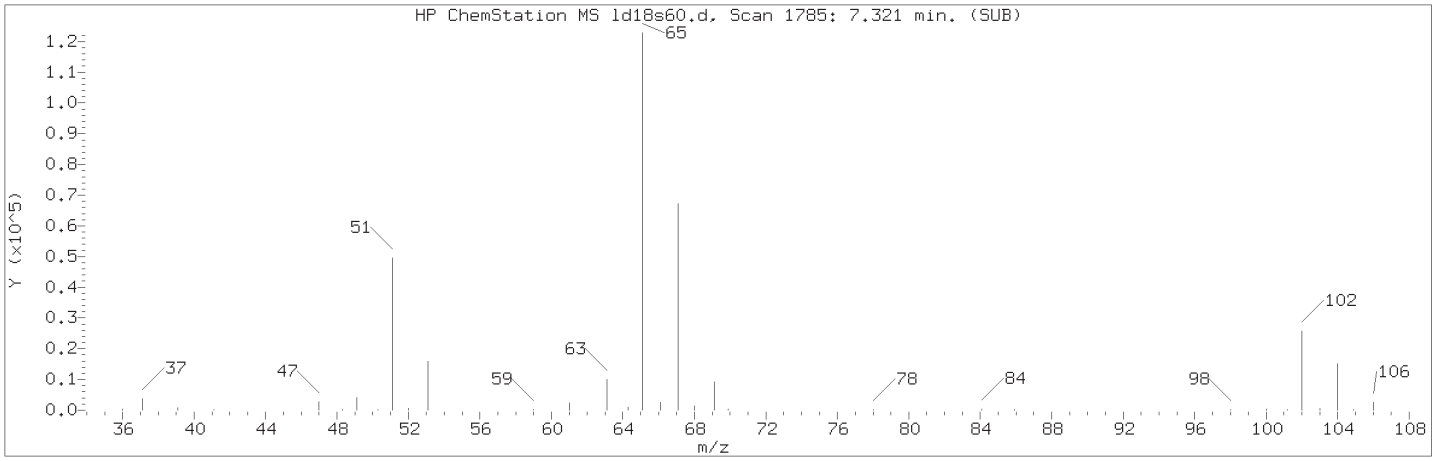
Sample Name: PNYFB Lab Sample ID: 7311256

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.250	65	184653	250.000
52)$Dibromofluoromethane	(1)	6.861	113	274033	50.240
62)$1,2-Dichloroethane-d4	(1)	7.321	102	72969M	51.523
71)*Fluorobenzene	(1)	7.752	96	1193026	50.000
93)$Toluene-d8	(2)	9.758	98	1136549	50.518
106)*Chlorobenzene-d5	(2)	11.214	117	837174	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	430030	50.982
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	448083	50.000

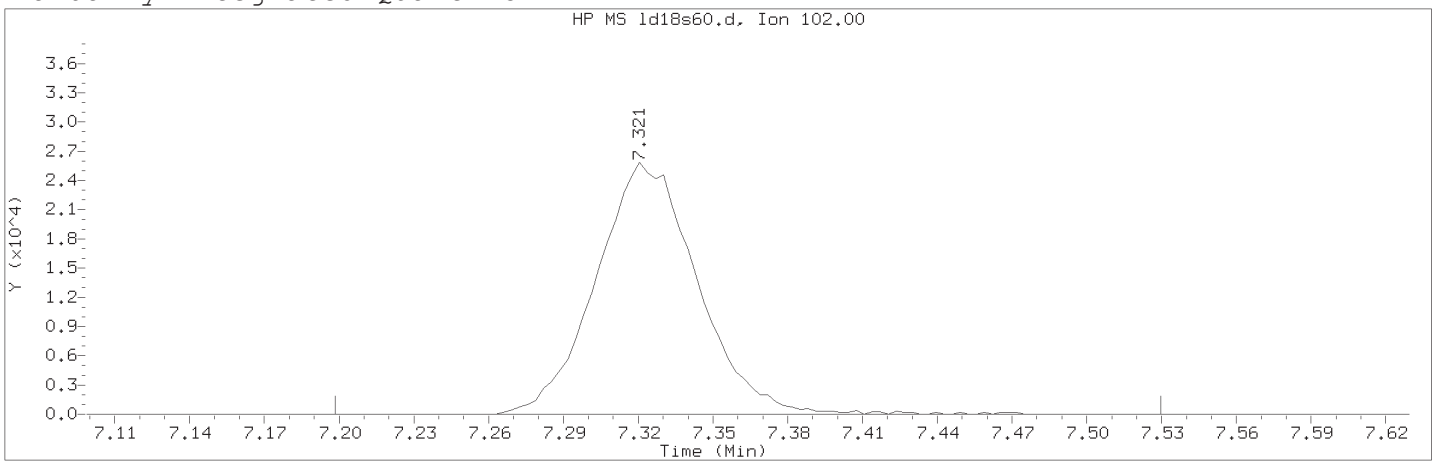
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s60.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNYFB Lab Sample ID: 7311256

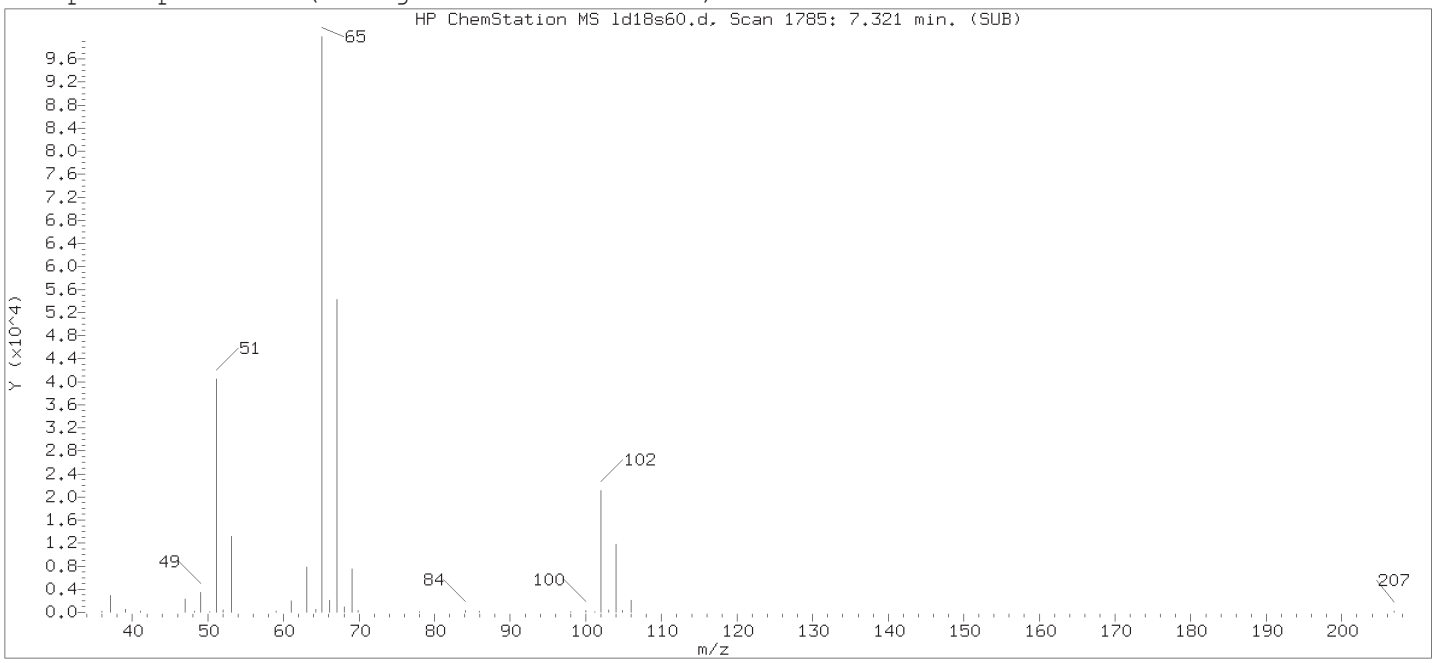
Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1785
Retention Time (minutes): 7.321
Quant Ion : 102.00
Area (flag) : 72969M
On-Column Amount (ng) : 51.5235
Integration start scan : 1746 Integration stop scan: 1849
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

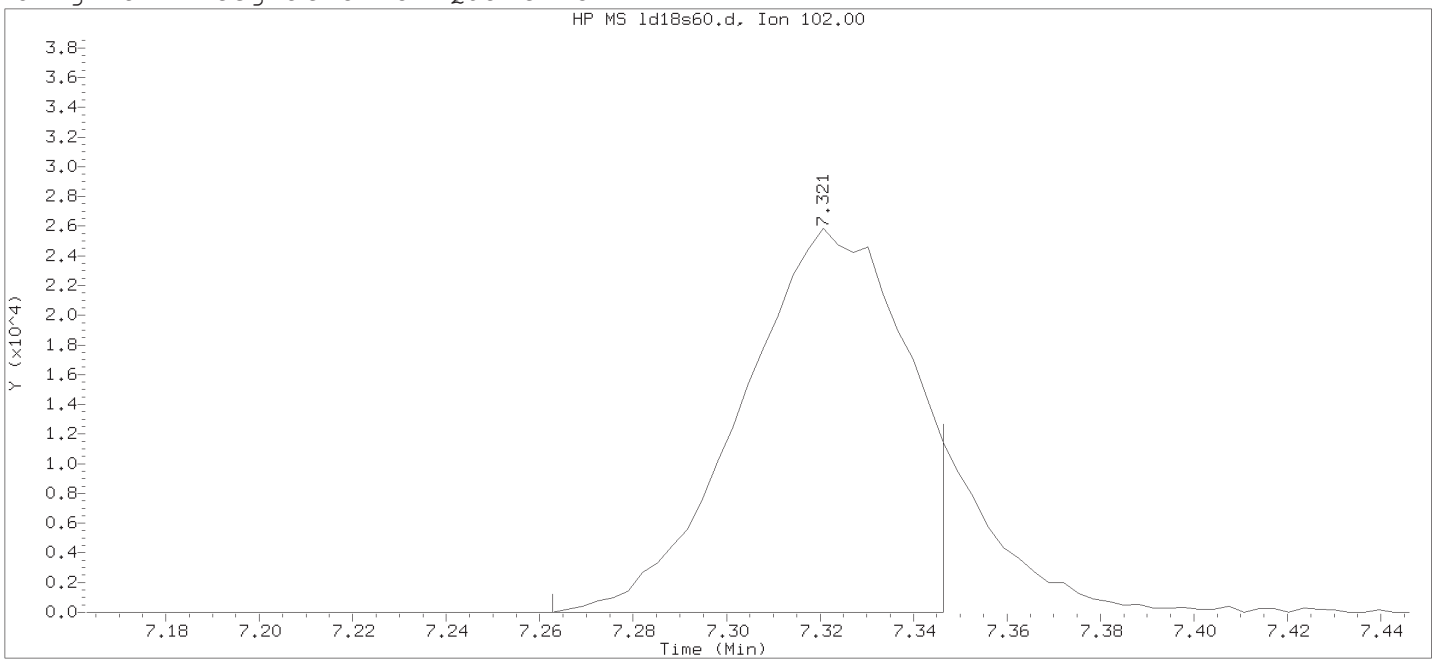
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49.
Parallax ID: rrm00219

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s60.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 05:52 Automation

Sample Name: PNYFB Lab Sample ID: 7311256

Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1785
Retention Time (minutes): 7.321
Quant Ion : 102.00
Area : 63099
On-column Amount (ng) : 44.5544
Integration start scan : 1766 Integration stop scan: 1792
Y at integration start : 0 Y at integration end: 0

Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12.
Target 3.5 esignature used ID: gas01731

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY4D

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311257

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s61.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	5	U
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
179601-23-1	m+p-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
95-47-6	o-Xylene	5	U

page 1 of 1

FORM I VOA

PNY4D

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311257

Data file: /chem/HP09915.i/13dec18b.b/ld18s61.d
Injection date and time: **19-DEC-2013 05:55**
Data file Sample Info. Line: PNY4D;7311257;1;0;;PCH14;;;ld18b41;
Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.234	(0.013)	825	65	184872	(-19)	250.00	
71) Fluorobenzene	7.745	(0.003)	1917	96	1195542	(-4)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	843112	(-5)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	451767	(-4)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.854	(0.000)	113	274843	50.283	101%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.321	(0.000)	102	72596M	51.152	102%		77 - 113
93) Toluene-d8	(2)	9.755	(0.000)	98	1135534	50.117	100%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	430784	50.711	101%		78 - 113

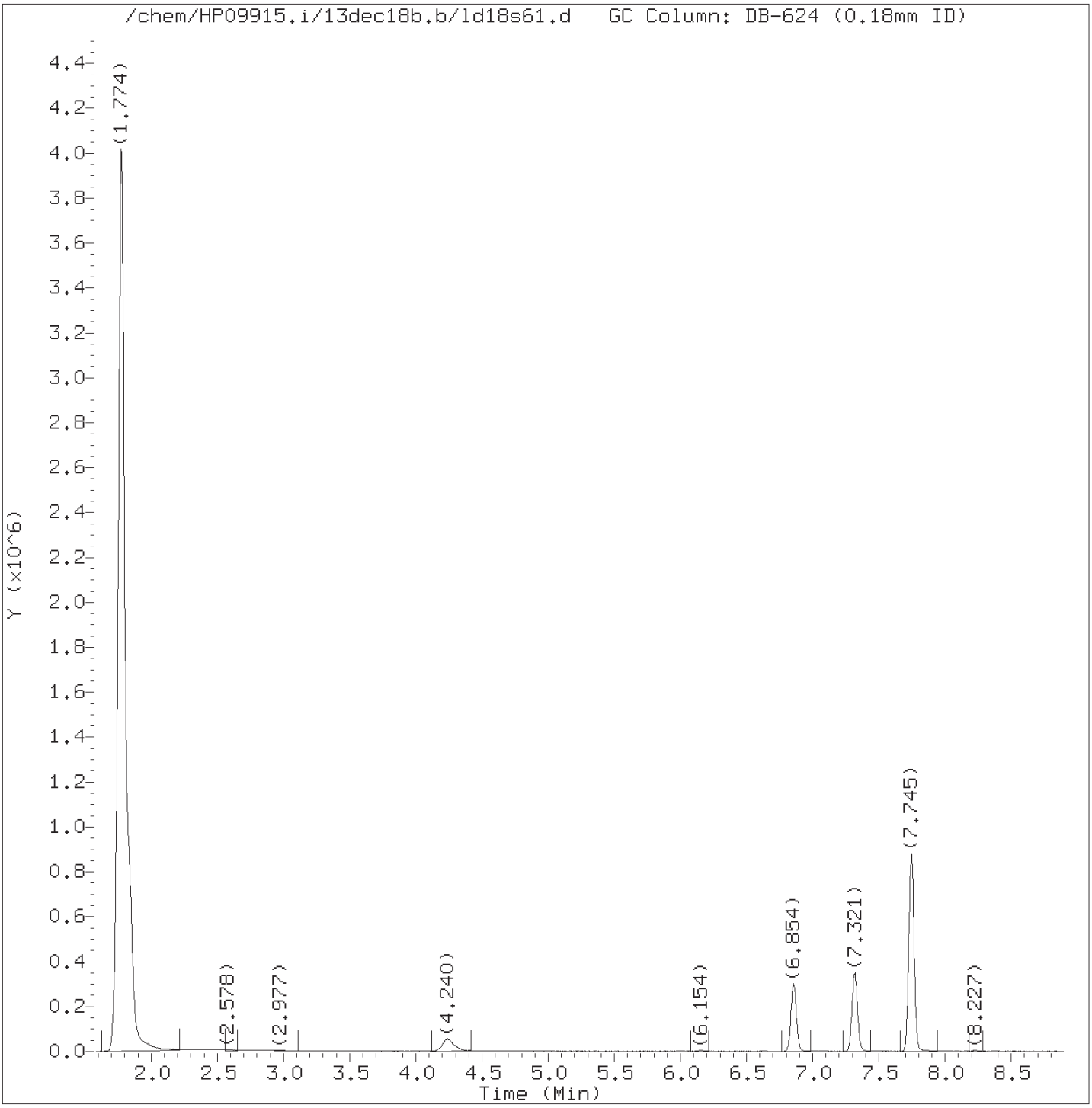
M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)				Not Detected					0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12. Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

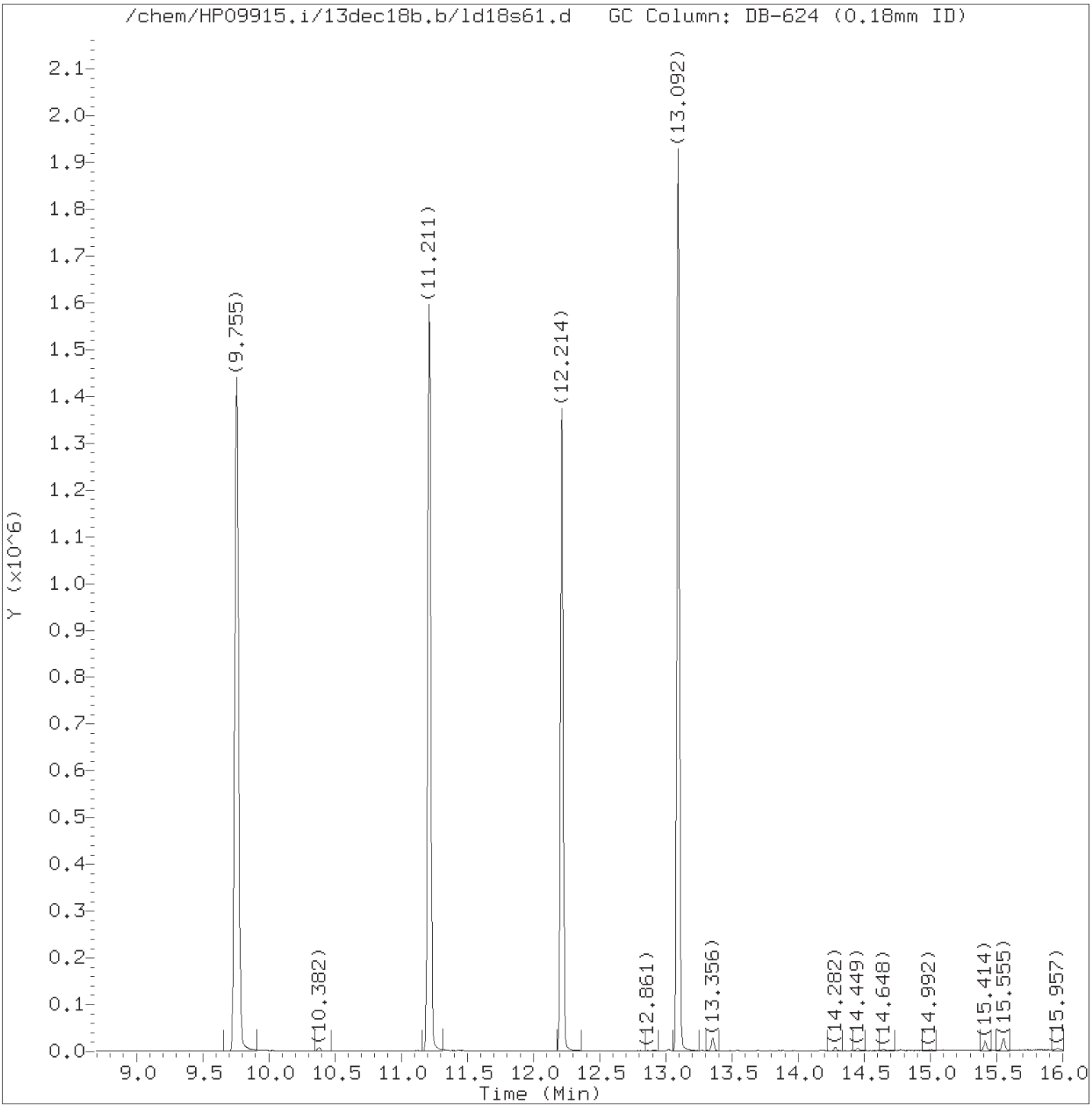
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s61.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:55 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNY4D Lab Sample ID: 7311257

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s61.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:55 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNY4D Lab Sample ID: 7311257

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s61.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:55 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

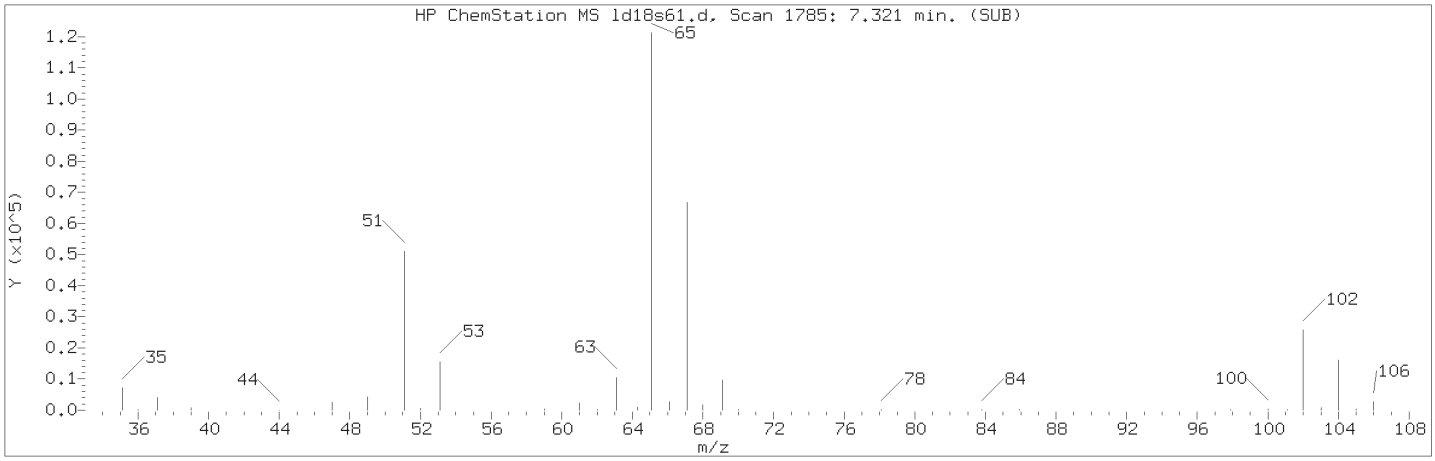
Sample Name: PNY4D Lab Sample ID: 7311257

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.234	65	184872	250.000
52)$Dibromofluoromethane	(1)	6.854	113	274843	50.283
62)$1,2-Dichloroethane-d4	(1)	7.321	102	72596M	51.152
71)*Fluorobenzene	(1)	7.745	96	1195542	50.000
93)$Toluene-d8	(2)	9.755	98	1135534	50.117
106)*Chlorobenzene-d5	(2)	11.211	117	843112	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	430784	50.711
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	451767	50.000

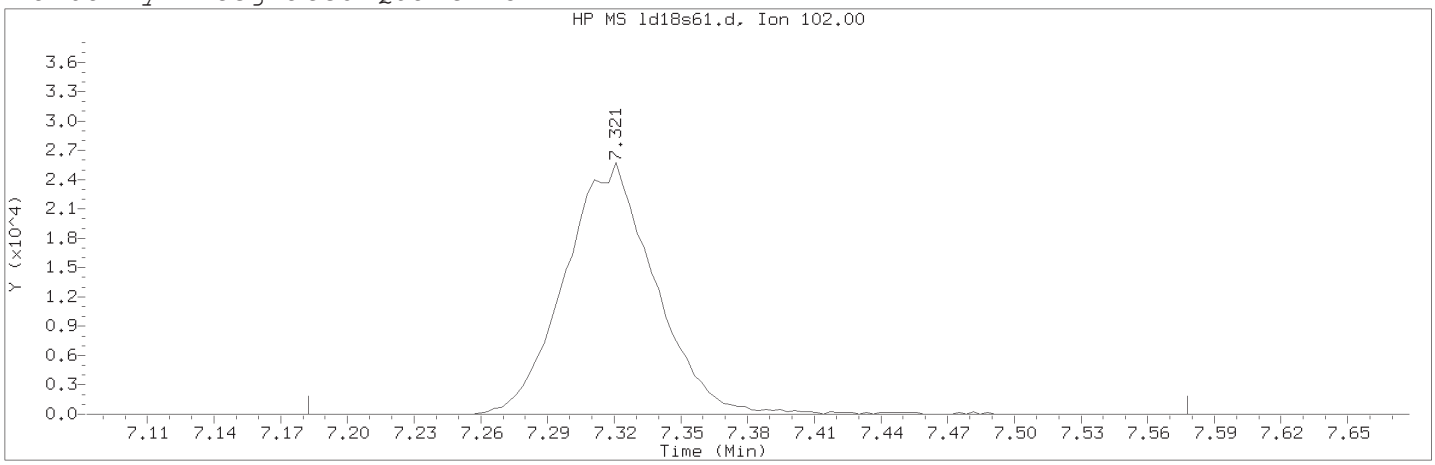
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s61.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:55 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNY4D Lab Sample ID: 7311257

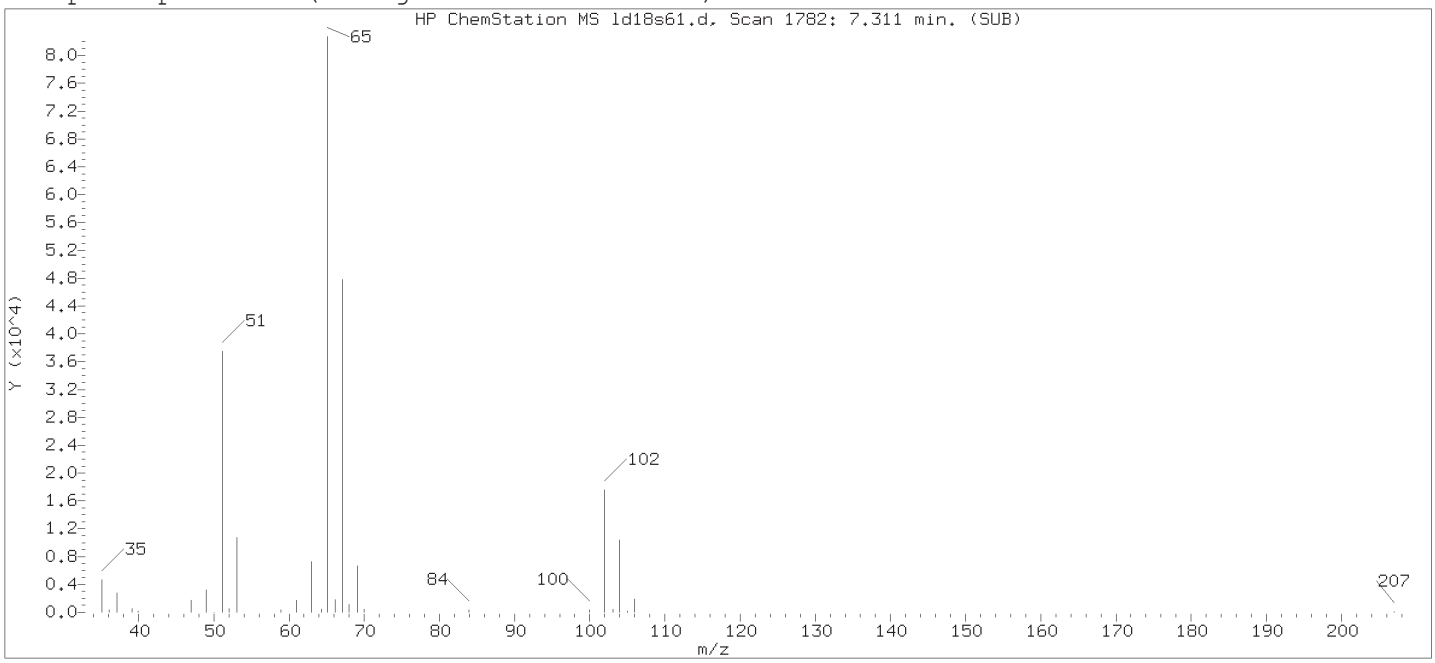
Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1785
Retention Time (minutes): 7.321
Quant Ion : 102.00
Area (flag) : 72596M
On-Column Amount (ng) : 51.1518
Integration start scan : 1741 Integration stop scan: 1864
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

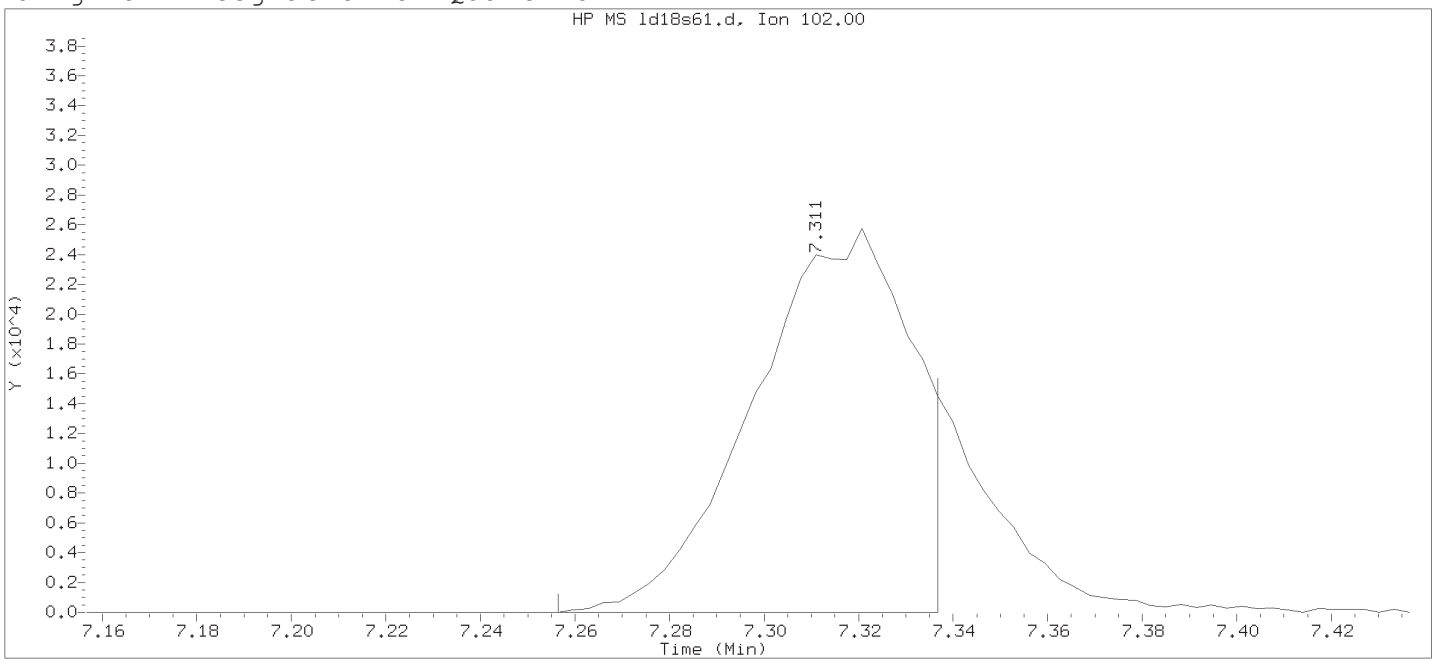
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49.
Parallax ID: rrm00219

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s61.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 05:55 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 06:14 Automation

Sample Name: PNY4D Lab Sample ID: 7311257

Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1782
Retention Time (minutes): 7.311
Quant Ion : 102.00
Area : 58777
On-column Amount (ng) : 41.4151
Integration start scan : 1764 Integration stop scan: 1789
Y at integration start : 0 Y at integration end: 0

Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12.
Target 3.5 esignature used ID: ads0131

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY4S

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311258

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s62.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	5	U
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
179601-23-1	m+p-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
95-47-6	o-Xylene	5	U

page 1 of 1

FORM I VOA

PNY4S

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311258

Data file: /chem/HP09915.i/13dec18b.b/ld18s62.d
Injection date and time: **19-DEC-2013 06:17**
Data file Sample Info. Line: PNY4S;7311258;1;0;;PCH14;;;ld18b41;
Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.247	(0.000)	829	65	175286	(-24)	250.00	
71) Fluorobenzene	7.748	(0.000)	1918	96	1180500	(-6)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	833810	(-6)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	445550	(-5)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.854	(0.000)	113	271271	50.261	101%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.317	(0.000)	102	71121M	50.752	102%		77 - 113
93) Toluene-d8	(2)	9.755	(0.000)	98	1129283	50.397	101%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	424638	50.545	101%		78 - 113

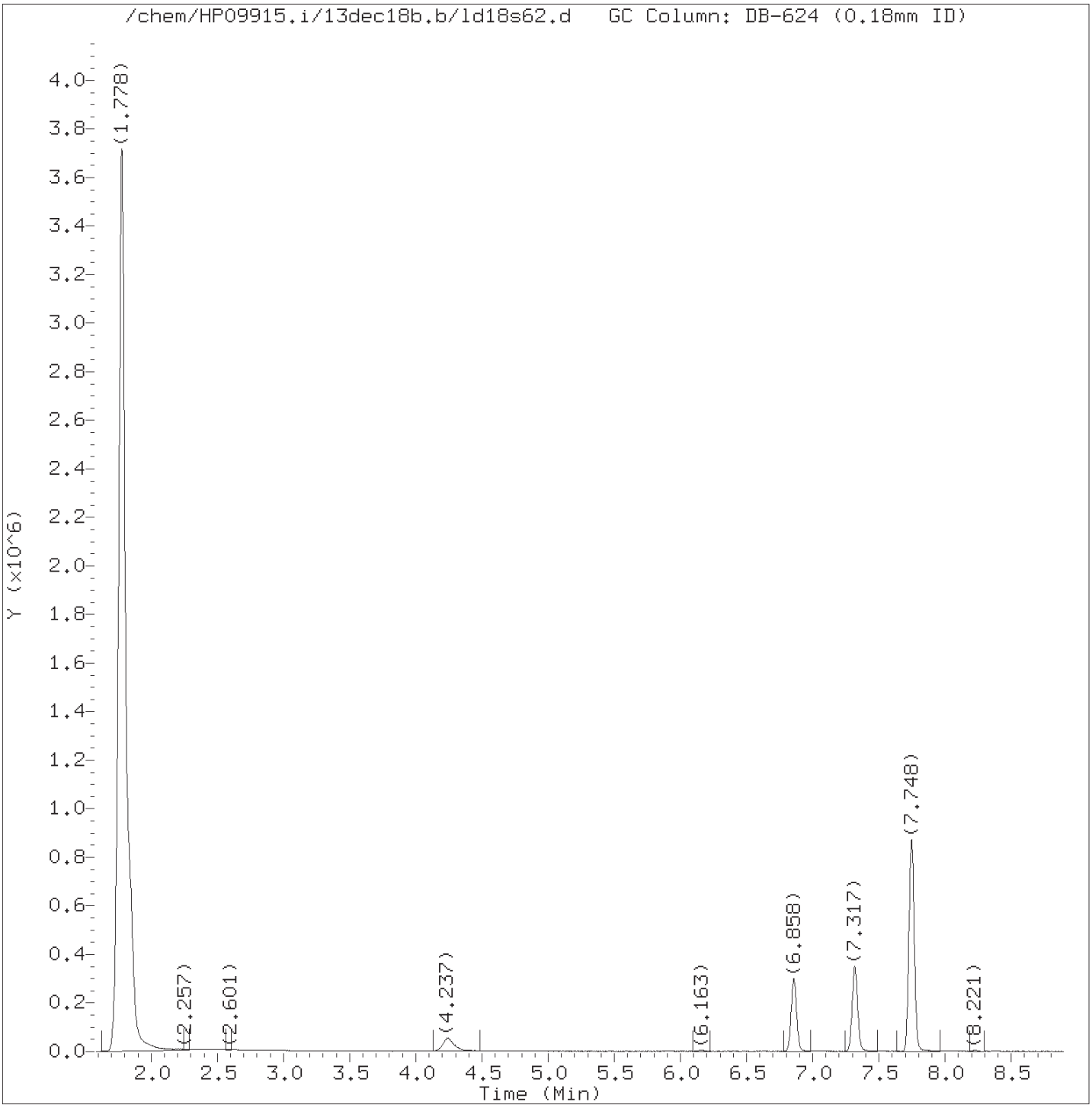
M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)				Not Detected					0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12. Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

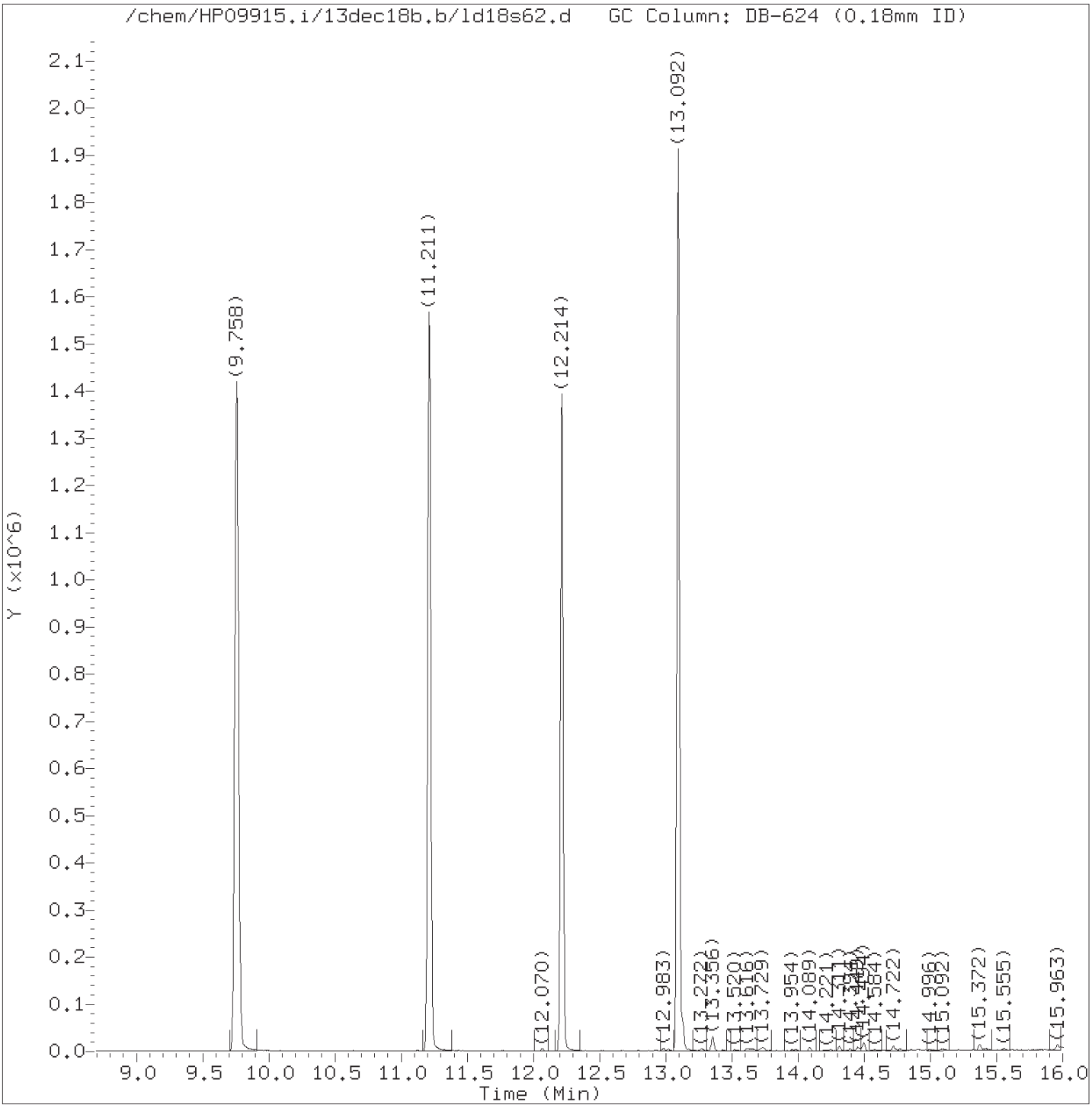
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s62.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 06:17 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNY4S Lab Sample ID: 7311258

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s62.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 06:17 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNY4S Lab Sample ID: 7311258

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s62.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 06:17 Analyst ID: SEJ02002

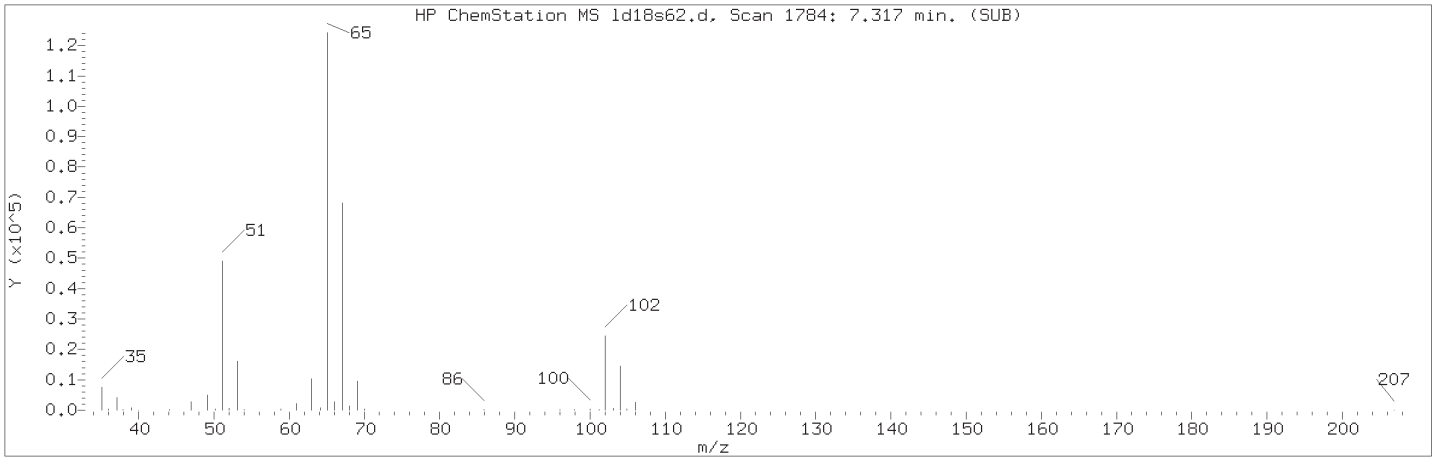
Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNY4S Lab Sample ID: 7311258

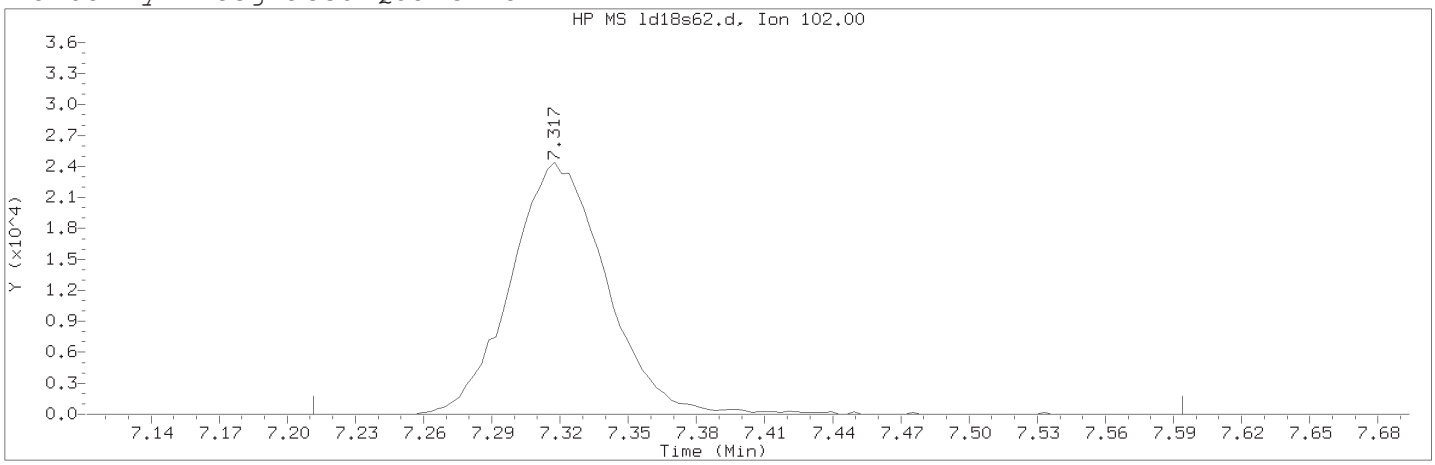
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.247	65	175286	250.000
52)$Dibromofluoromethane	(1)	6.854	113	271271	50.261
62)$1,2-Dichloroethane-d4	(1)	7.317	102	71121M	50.752
71)*Fluorobenzene	(1)	7.748	96	1180500	50.000
93)$Toluene-d8	(2)	9.755	98	1129283	50.397
106)*Chlorobenzene-d5	(2)	11.211	117	833810	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	424638	50.545
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	445550	50.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s62.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 06:17 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNY4S Lab Sample ID: 7311258

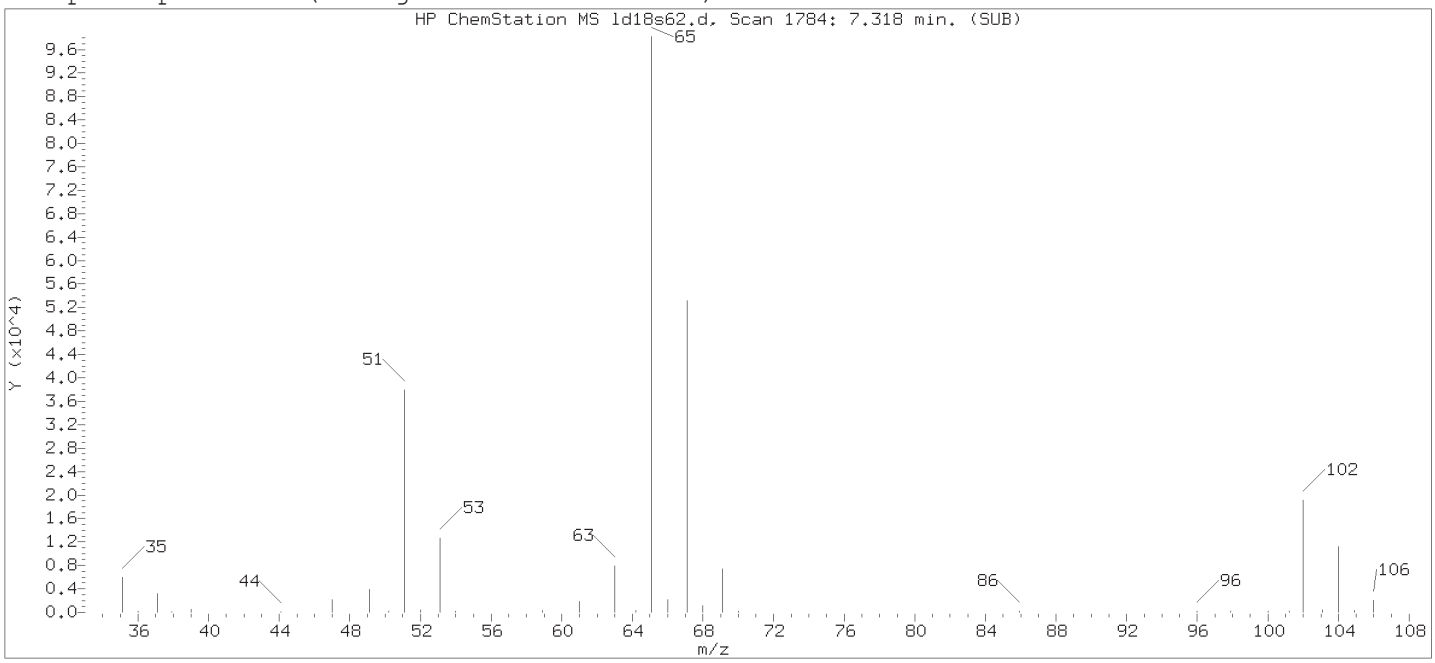
Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1784
Retention Time (minutes): 7.317
Quant Ion : 102.00
Area (flag) : 71121M
On-Column Amount (ng) : 50.7517
Integration start scan : 1750 Integration stop scan: 1869
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

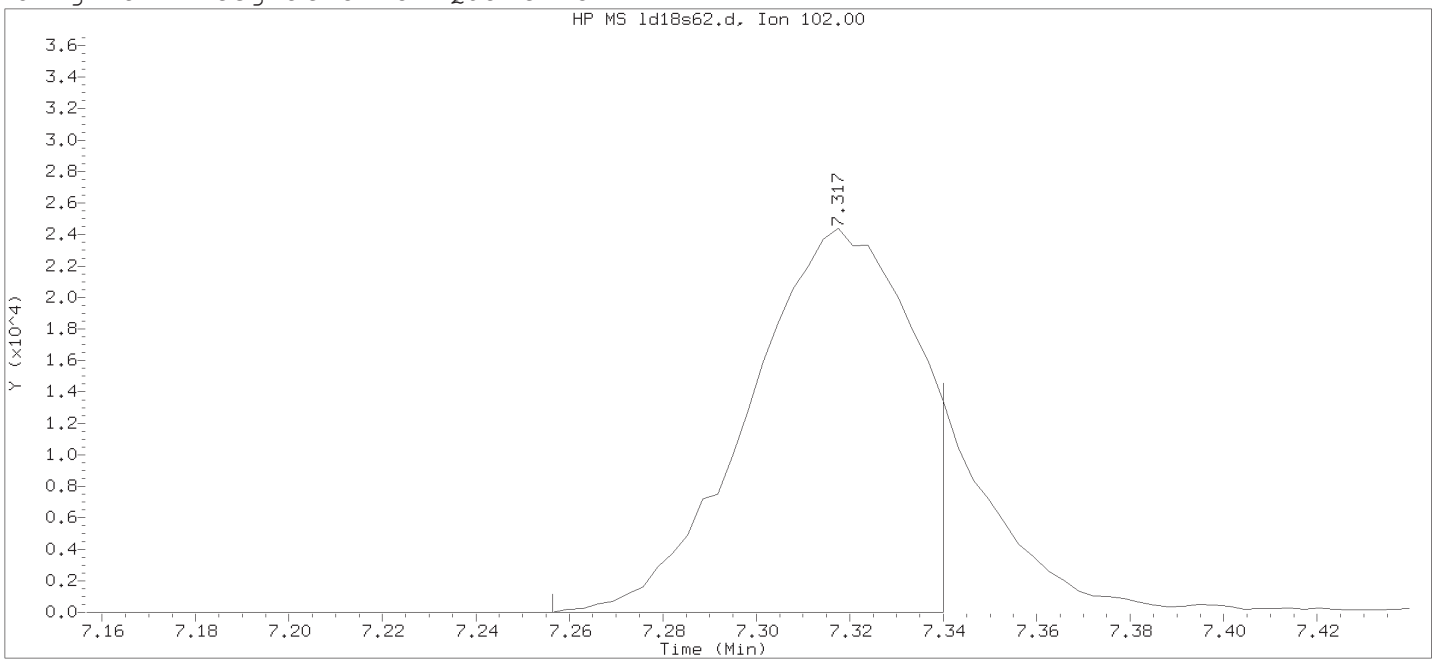
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49.
Parallax ID: rrm00219

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s62.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 06:17 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 06:37 Automation

Sample Name: PNY4S Lab Sample ID: 7311258

Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1784
Retention Time (minutes): 7.317
Quant Ion : 102.00
Area : 59265
On-column Amount (ng) : 42.2911
Integration start scan : 1764 Integration stop scan: 1790
Y at integration start : 0 Y at integration end: 0

Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12.
Target 3.5 esignature used ID: adsn1731

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNYM1

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311259

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s63.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	5	U
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
179601-23-1	m+p-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
95-47-6	o-Xylene	5	U

page 1 of 1

FORM I VOA

PNYM1

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311259

Data file: /chem/HP09915.i/13dec18b.b/ld18s63.d
Data file Sample Info. Line: PNYM1;7311259;1;0;;PCH14;;;ld18b41;
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Injection date and time: **19-DEC-2013 06:39**
Instrument ID: **HP09915.i** Batch: **L133522AA**

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.240	(0.006)	827	65	164513	(-28)	250.00	
71) Fluorobenzene	7.748	(0.000)	1918	96	1190121	(-5)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	835066	(-6)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	447691	(-5)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.861	(0.000)	113	276184	50.758	102%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.324	(0.000)	102	72549M	51.352	103%		77 - 113
93) Toluene-d8	(2)	9.758	(0.000)	98	1137488	50.687	101%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	425570	50.580	101%		78 - 113

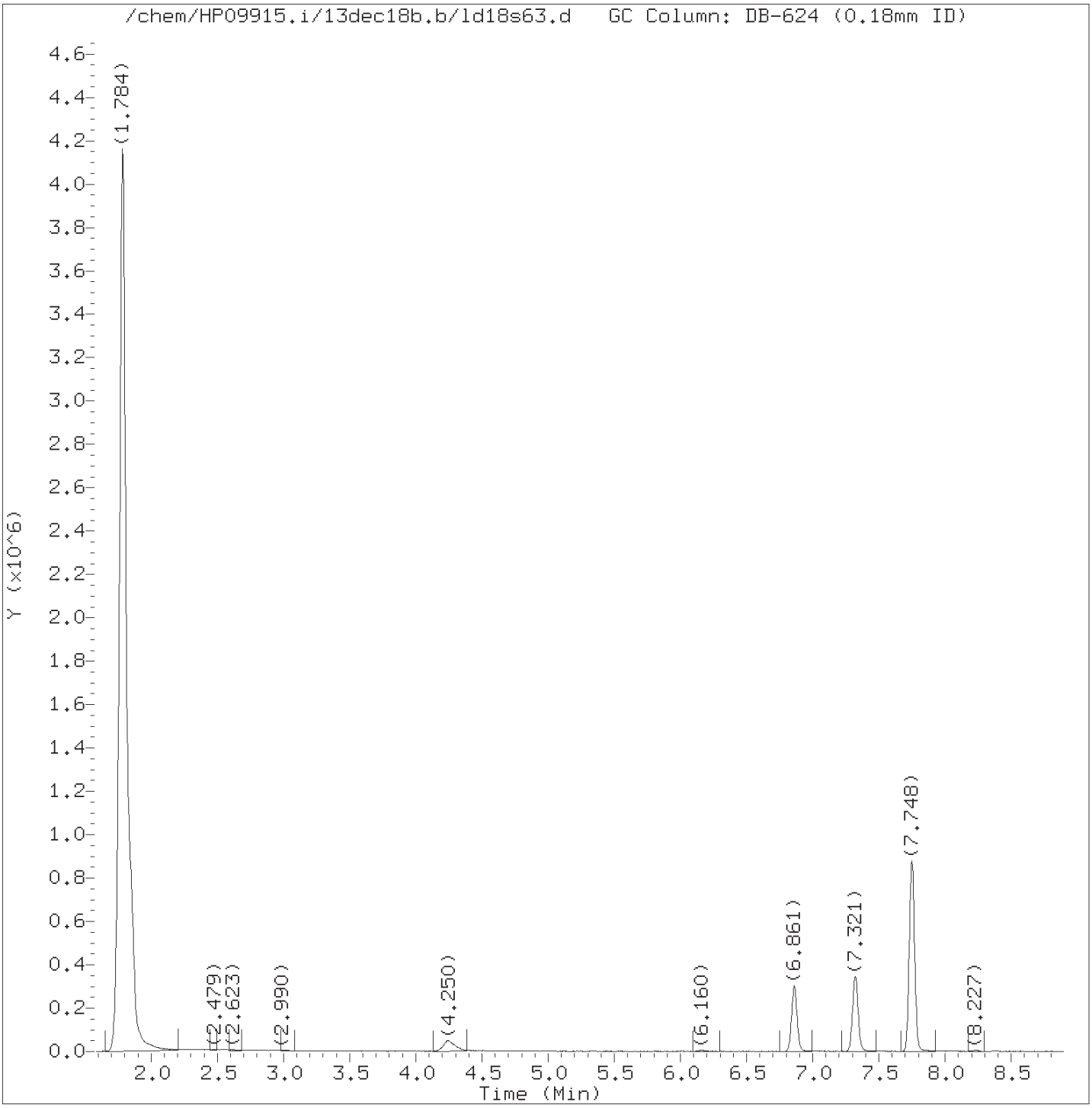
M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)				Not Detected					0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12. Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

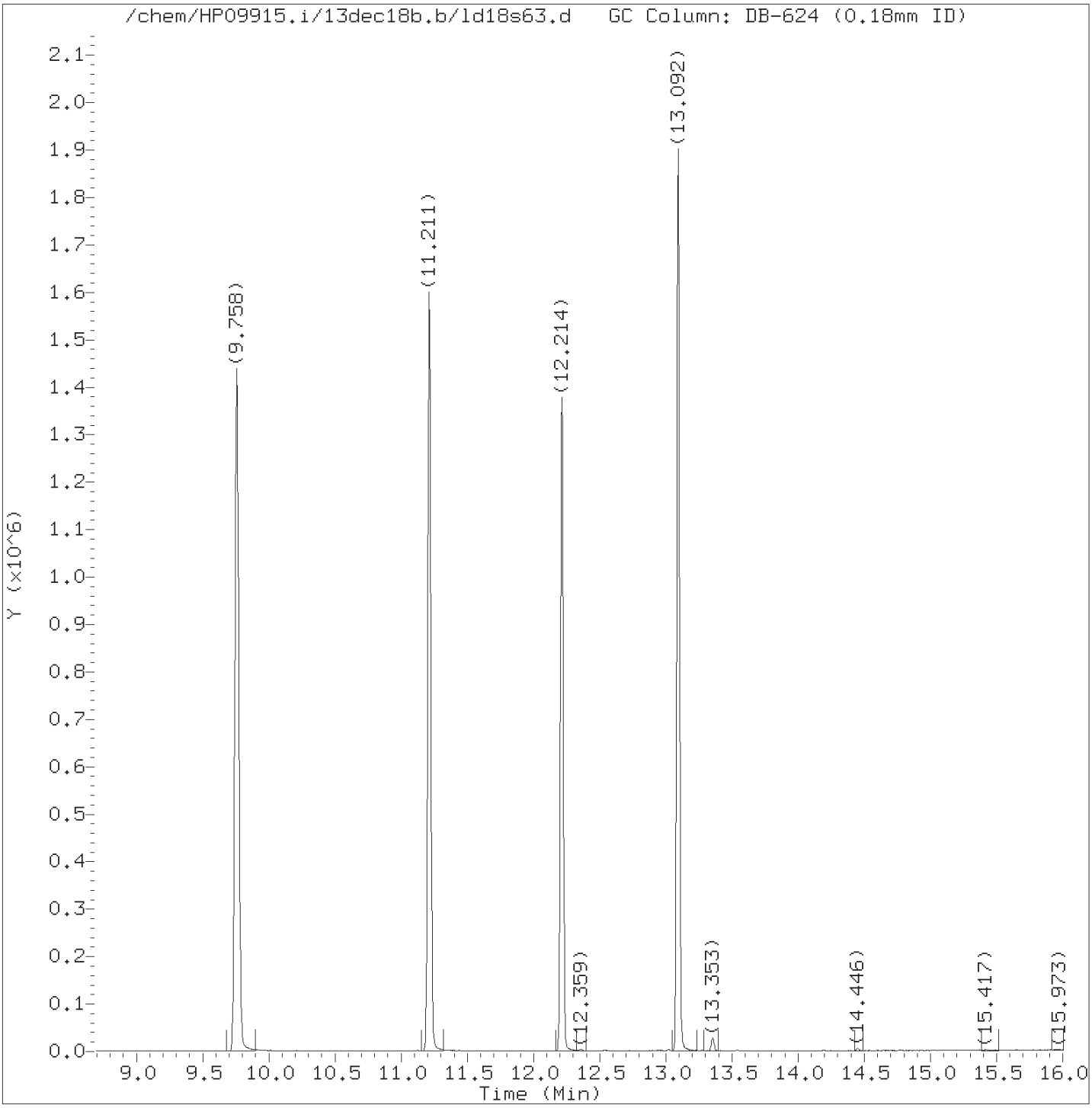
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s63.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 06:39 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNYM1 Lab Sample ID: 7311259

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s63.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 06:39 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNYM1 Lab Sample ID: 7311259

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s63.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 06:39 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

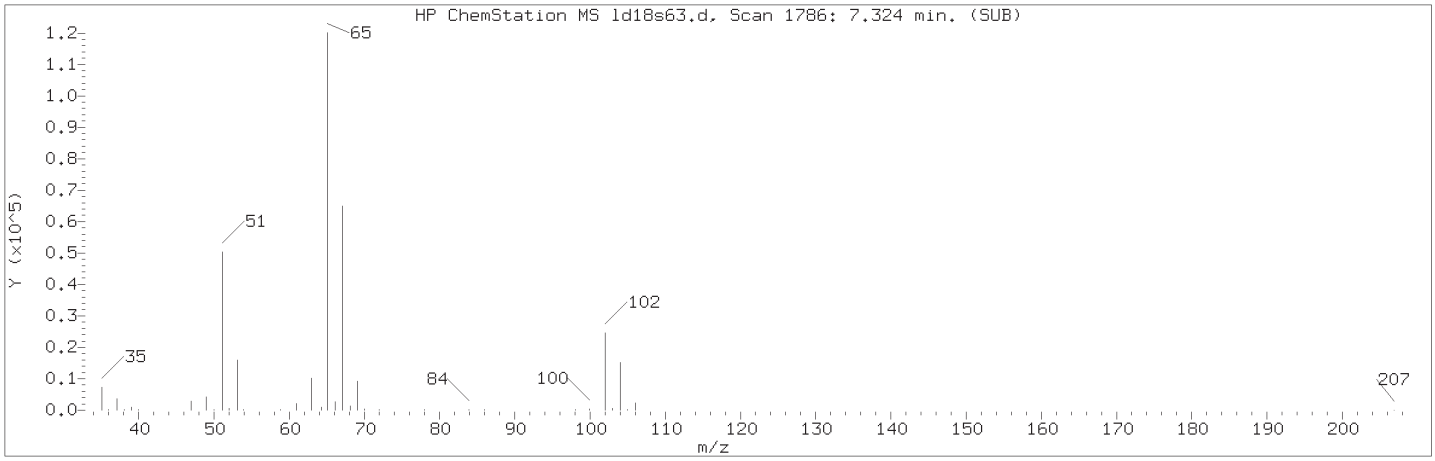
Sample Name: PNYM1 Lab Sample ID: 7311259

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.240	65	164513	250.000
52)$Dibromofluoromethane	(1)	6.861	113	276184	50.758
62)$1,2-Dichloroethane-d4	(1)	7.324	102	72549M	51.352
71)*Fluorobenzene	(1)	7.748	96	1190121	50.000
93)$Toluene-d8	(2)	9.758	98	1137488	50.687
106)*Chlorobenzene-d5	(2)	11.211	117	835066	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	425570	50.580
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	447691	50.000

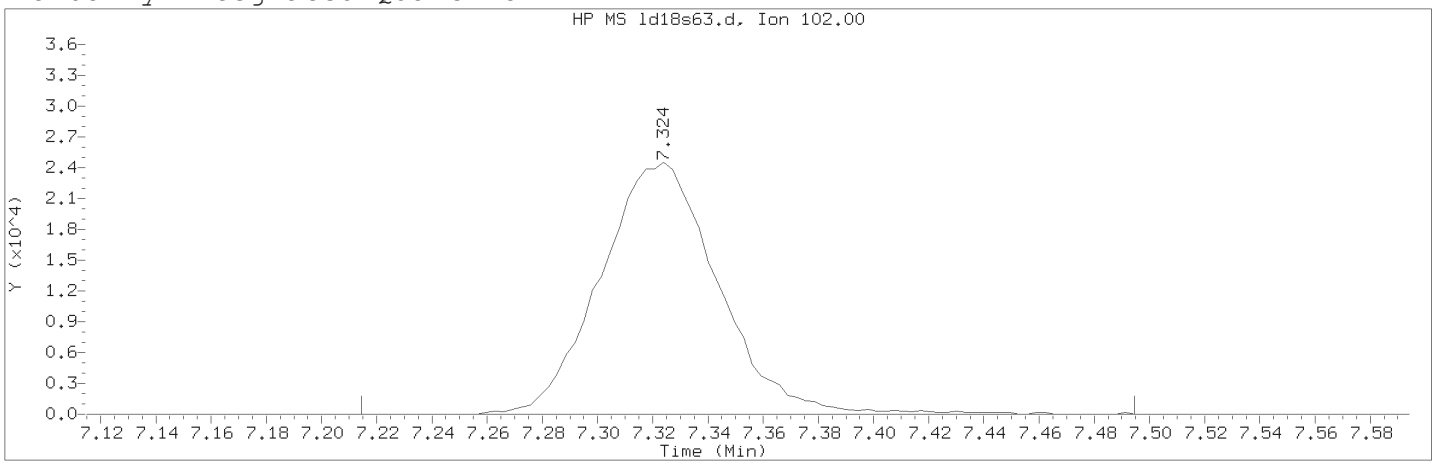
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Angela D. Sneeringer
on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s63.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 06:39 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 12:11 ads01731

Sample Name: PNYM1 Lab Sample ID: 7311259

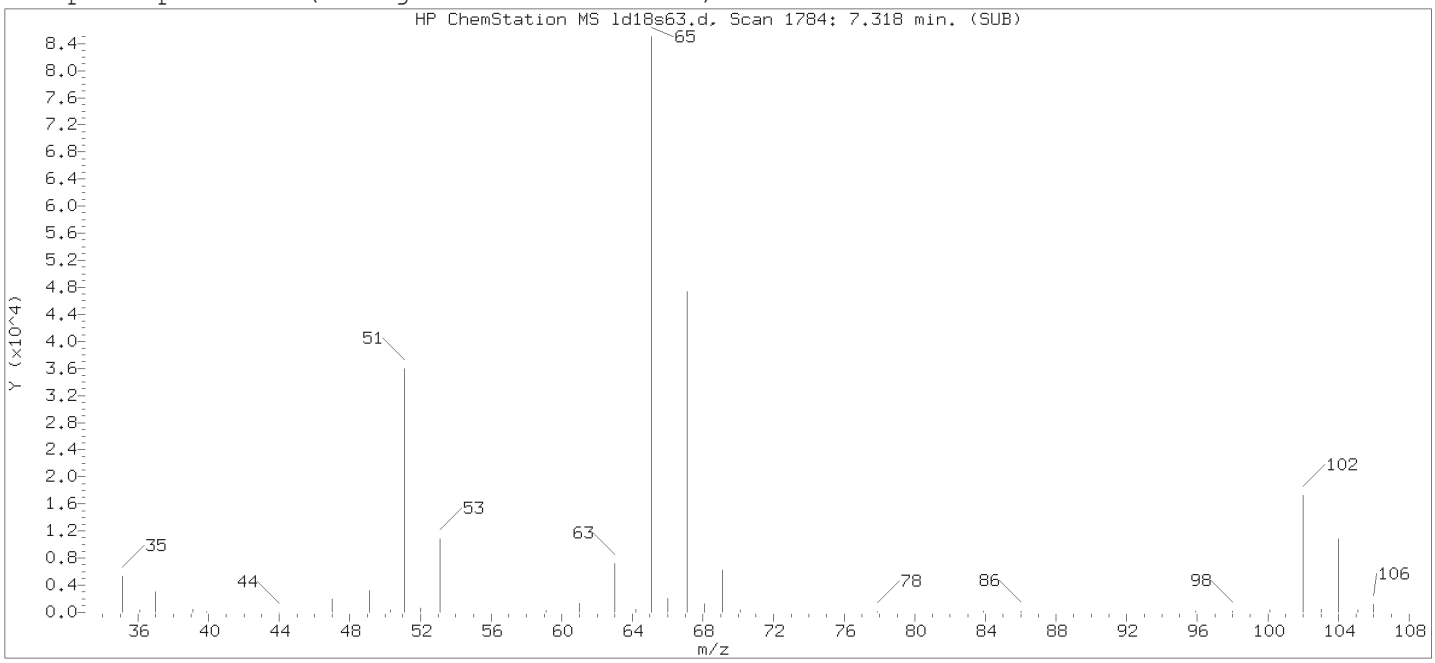
Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1786
Retention Time (minutes): 7.324
Quant Ion : 102.00
Area (flag) : 72549M
On-Column Amount (ng) : 51.3520
Integration start scan : 1751 Integration stop scan: 1838
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

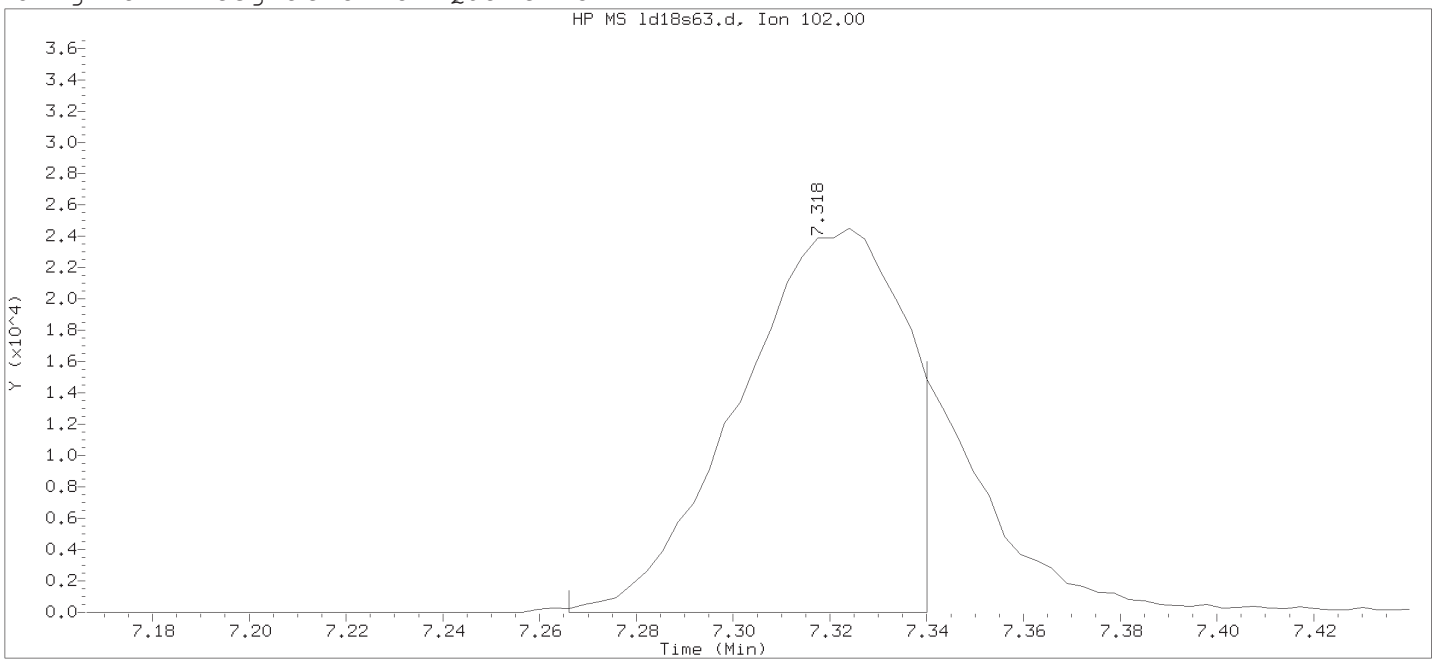
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49.
Parallax ID: rrm00219

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s63.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 06:39 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 06:59 Automation

Sample Name: PNYM1 Lab Sample ID: 7311259

Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1784
Retention Time (minutes): 7.318
Quant Ion : 102.00
Area : 57730
On-column Amount (ng) : 40.8625
Integration start scan : 1767 Integration stop scan: 1790
Y at integration start : 0 Y at integration end: 0

Digitally signed by Angela D. Sneeringer on 12/19/2013 at 12:12.
Target 3.5 esignature used ID: adsneeri

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNYTB

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311260

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s42.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/18/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	5	U
71-43-2	Benzene	5	U
108-88-3	Toluene	5	U
100-41-4	Ethylbenzene	5	U
179601-23-1	m+p-Xylene	5	U
1330-20-7	Xylene (Total)	5	U
95-47-6	o-Xylene	5	U

page 1 of 1

FORM I VOA

PNYTB

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311260

Data file: /chem/HP09915.i/13dec18b.b/ld18s42.d
Injection date and time: **18-DEC-2013 22:52**
Data file Sample Info. Line: PNYTB;7311260;1;0;;PCH14;;;ld18b41;
Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 18-Dec-2013 23:12 Automation

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.244	(0.003)	828	65	215883	(-6)	250.00	
71) Fluorobenzene	7.751	(-0.003)	1919	96	1255343	(0)	50.00	
106) Chlorobenzene-d5	11.214	(0.000)	2996	117	886551	(0)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	472122	(0)	50.00	

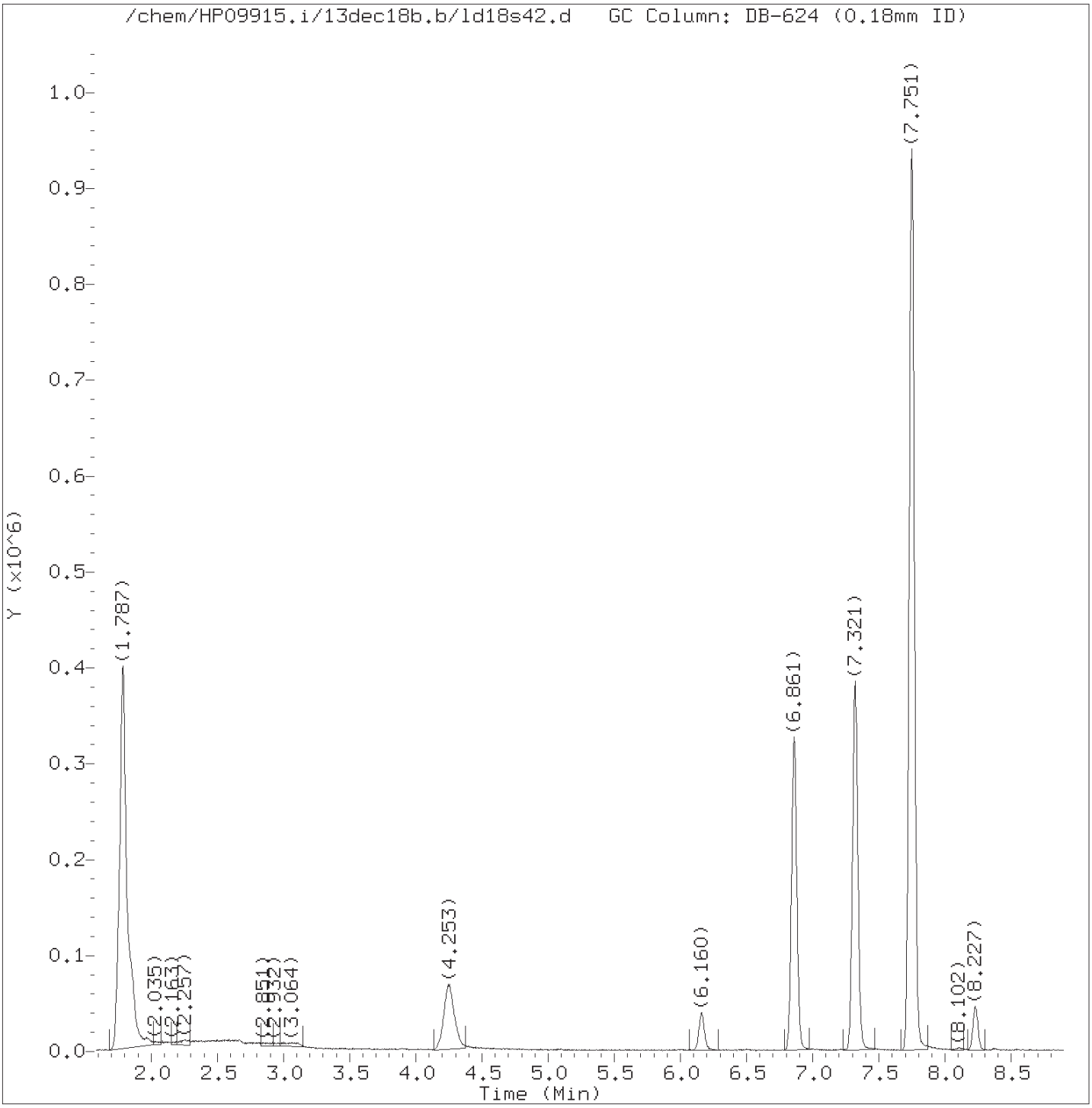
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.858	(0.000)	113	287385	50.073	100%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.314	(0.001)	102	59352	39.828	80%		77 - 113
93) Toluene-d8	(2)	9.758	(0.000)	98	1200994	50.409	101%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	458546	51.335	103%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)				Not Detected					0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Stephanie A. Selis on 12/19/2013 at 00:47. Target 3.5 esignature user ID: sas00403

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

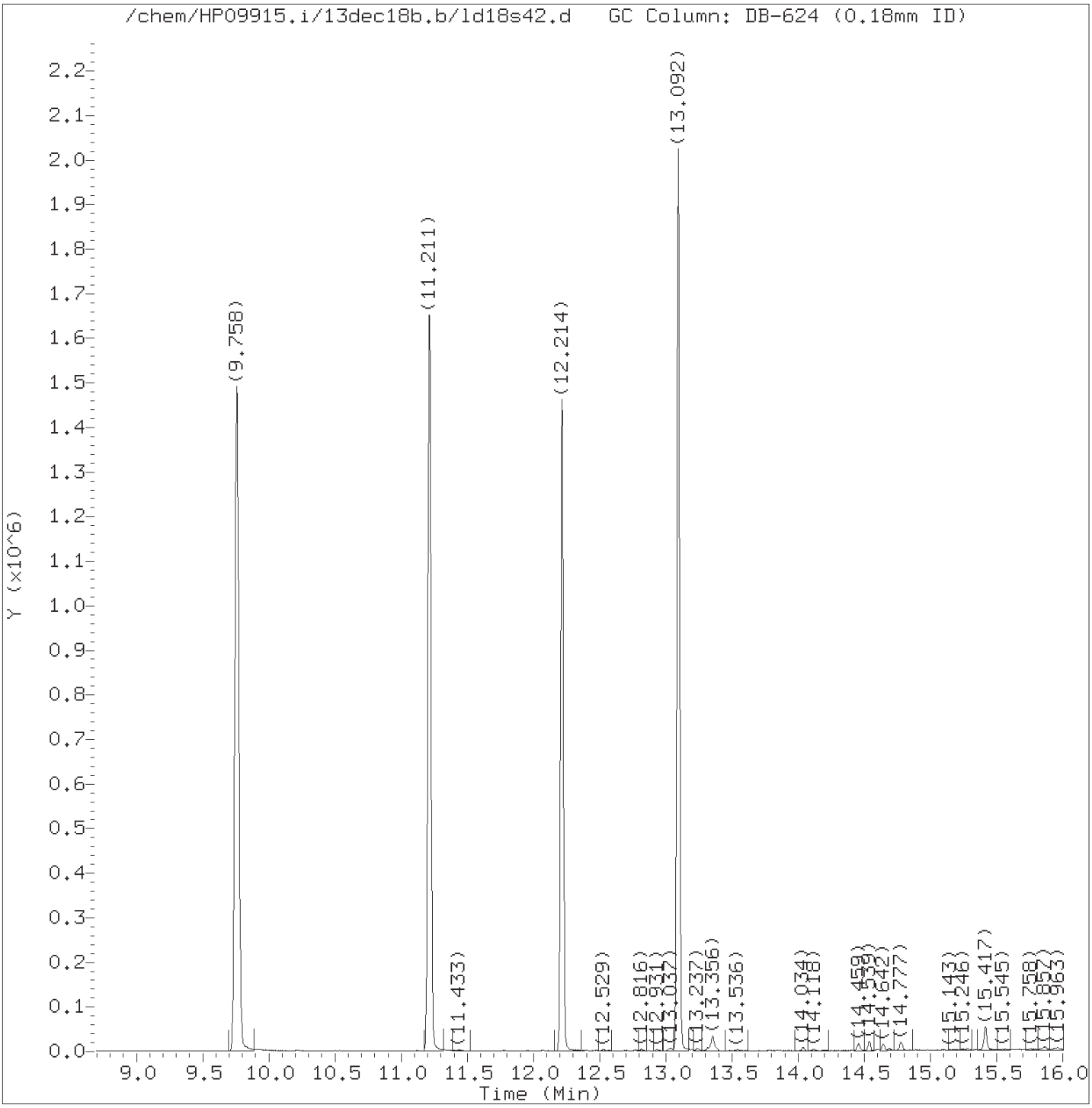
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s42.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 22:52 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 18-Dec-2013 23:12 Automation

Sample Name: PNYTB Lab Sample ID: 7311260

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 00:47.
Target 3.5 esignature user ID: sas00403



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s42.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 22:52 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 18-Dec-2013 23:12 Automation

Sample Name: PNYTB Lab Sample ID: 7311260

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 00:47.
Target 3.5 esignature user ID: sas00403

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s42.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 22:52 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 18-Dec-2013 23:12 Automation

Sample Name: PNYTB Lab Sample ID: 7311260

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.244	65	215883	250.000
52)$Dibromofluoromethane	(1)	6.858	113	287385	50.073
62)$1,2-Dichloroethane-d4	(1)	7.314	102	59352	39.828
71)*Fluorobenzene	(1)	7.751	96	1255343	50.000
93)$Toluene-d8	(2)	9.758	98	1200994	50.409
106)*Chlorobenzene-d5	(2)	11.214	117	886551	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	458546	51.335
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	472122	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 00:47.
Target 3.5 esignature user ID: sas00403

Standards Data

Volatiles by GC/MS

Lancaster Laboratories
Runlog for Hewelet Packard GC/MS System HP09915 **HP #23**

** Shift #1 Analyst:_____ ** Shift #2 Analyst:_____ ** Shift #3 Analyst:_____ *

Comment Code:

R =	Reinjection necessary	X	= Sample sent to be reextracted
S =	Surrogate problem	I	= Internal Standard problem
NU =	Not used	F	= Further dilution required
MR =	Meets requirements	IUO	= Internal use only
Cz =	Confirms z, (z = S, I or X)	T	= Injected outside valid tune period

Other problems or comments are as follows:

_____

_____

_____

_____

Data Directory Path is - D:\DATA\13DEC10I\

FILE	SAMPLE	LLI#	DATE	TIME	BATCH	D.F.	NOTES
LD10T01.D	BFB SEP18-13	50ng BFB	10 Dec 13	13:34			
LD10X01.D	BLANK	BLANK	10 Dec 13	13:55			
LD10X02.D	BLANK	BLANK	10 Dec 13	14:17			
LD10I01.D	VSTD300	VSTD300	10 Dec 13	14:39			
LD10I02.D	VSTD100	VSTD100	10 Dec 13	15:02			
LD10I03.D	VSTD050	VSTD050	10 Dec 13	15:24			
LD10I04.D	VSTD020	VSTD020	10 Dec 13	15:46			
LD10I05.D	VSTD010	VSTD010	10 Dec 13	16:08			
LD10I06.D	VSTD004	VSTD004	10 Dec 13	16:31			
LD10I07.D	VSTD001	VSTD001	10 Dec 13	16:53			
LD10M01.D	VSTD0.5	MDL 0.5	10 Dec 13	17:15			
LD10V01.D	LGLICV	LGLICV	10 Dec 13	17:37			
LD10X03.D	BLANK	BLANK	10 Dec 13	18:43			
LD10V02.D	LGLICV	LGLICV	10 Dec 13	19:06			

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP09915 **HP #23**

Data Directory Path is - d:\data\13DEC18B\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
SEJ02002	LD18T05.D	50NGBFB	12/18/2013	21:12	L133522AA	
SEJ02002	LD18C41.D	VSTD050	12/18/2013	21:32	L133522AA	
SEJ02002	LD18B41.D	VBLKL76	12/18/2013	21:54	L133522AA	
SEJ02002	LD18S41.D	LCSL76	12/18/2013	22:16	L133522AA	
SEJ02002	LD18S42.D	7311260	12/18/2013	22:52	L133522AA	
SEJ02002	LD18S43.D	7312421	12/18/2013	23:14	L133522AA	
SEJ02002	LD18S44.D	7312423	12/18/2013	23:37	L133522AA	
SEJ02002	LD18S45.D	7312427	12/18/2013	23:59	L133522AA	
SEJ02002	LD18S46.D	7312879	12/19/2013	00:21	L133522AA	
SEJ02002	LD18S47.D	7312420	12/19/2013	00:43	L133522AA	
SEJ02002	LD18S48.D	7312422	12/19/2013	01:05	L133522AA	
SEJ02002	LD18S49.D	7312424	12/19/2013	01:28	L133522AA	
SEJ02002	LD18S50.D	7312425	12/19/2013	01:50	L133522AA	
SEJ02002	LD18S51.D	7312877	12/19/2013	02:12	L133522AA	
SEJ02002	LD18S52.D	7312878	12/19/2013	02:34	L133522AA	
SEJ02002	LD18S53.D	7311249	12/19/2013	02:57	L133522AA	
SEJ02002	LD18S54.D	7311250MS	12/19/2013	03:19	L133522AA	
SEJ02002	LD18S55.D	7311251MSD	12/19/2013	03:41	L133522AA	
SEJ02002	LD18S56.D	7311252	12/19/2013	04:03	L133522AA	
SEJ02002	LD18S57.D	7311253	12/19/2013	04:26	L133522AA	
SEJ02002	LD18S58.D	7311254	12/19/2013	04:48	L133522AA	
SEJ02002	LD18S59.D	7311255	12/19/2013	05:10	L133522AA	
SEJ02002	LD18S60.D	7311256	12/19/2013	05:32	L133522AA	
SEJ02002	LD18S61.D	7311257	12/19/2013	05:55	L133522AA	
SEJ02002	LD18S62.D	7311258	12/19/2013	06:17	L133522AA	
SEJ02002	LD18S63.D	7311259	12/19/2013	06:39	L133522AA	

Data File: /chem/HP09915.i/13dec10i.b/ld10t01.d

Date : 10-DEC-2013 13:34

Client ID: BFB SEP18-13

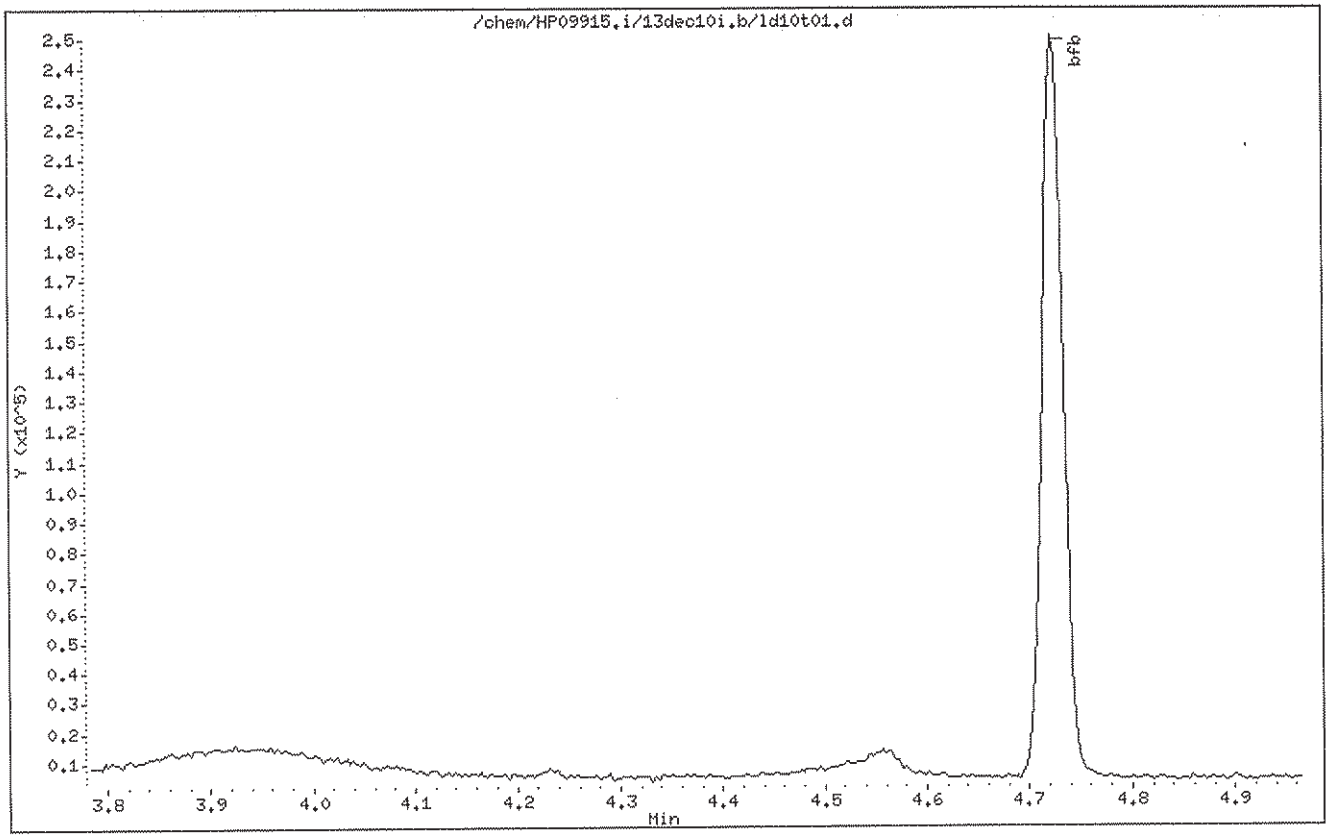
Instrument: HP09915.i

Sample Info: BFB SEP18-13;50ng BFB;1;3;;;

Operator: ADS01731

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Kevin A. Sposito on 12/10/2013 at 18:55.
Target 3.5 esignature user ID: kas02648

Data File: /chem/HP09915.i/13dec10i.b/ld10t01.d

Date : 10-DEC-2013 13:34

Client ID: BFB SEP18-13

Instrument: HP09915.i

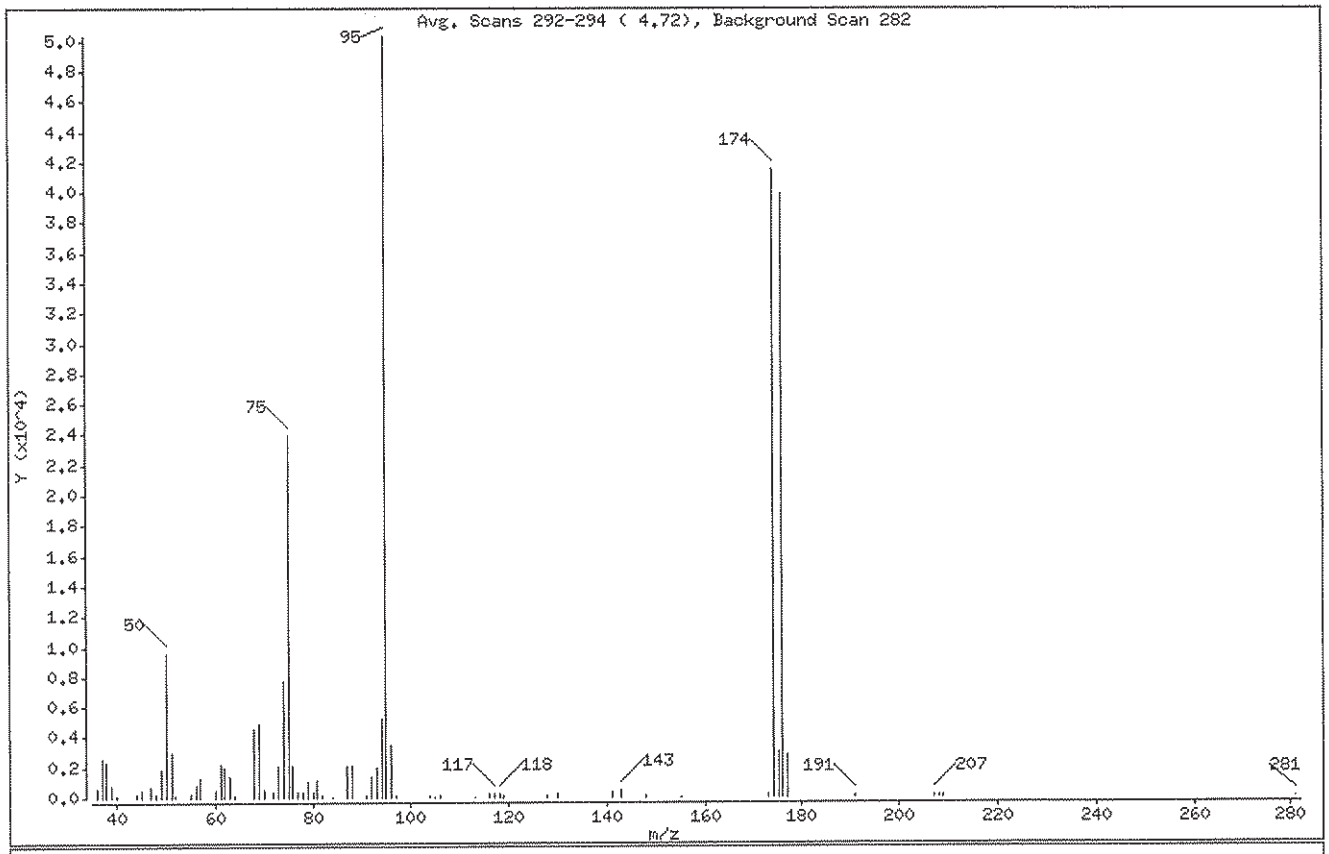
Sample Info: BFB SEP18-13;50ng BFB;1;3;;;

Operator: ADS01731

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.09
75	30.00 - 60.00% of mass 95	47.50
96	5.00 - 9.00% of mass 95	6.99
173	Less than 2.00% of mass 174	0.49 (0.59)
174	50.00 - 100.00% of mass 95	82.61
175	5.00 - 9.00% of mass 174	5.93 (7.17)
176	95.00 - 101.00% of mass 174	79.35 (96.05)
177	5.00 - 9.00% of mass 176	5.43 (6.84)

Digitally signed by Kevin A. Sposito on 12/10/2013 at 18:55.
Target 3.5 esignature user ID: kas02648

Data File: /chem/HP09915.i/13dec10i.b/ld10t01.d

Date : 10-DEC-2013 13:34

Client ID: BFB SEP18-13

Instrument: HP09915.i

Sample Info: BFB SEP18-13;50ng BFB;1;3;;;

Operator: ADS01731

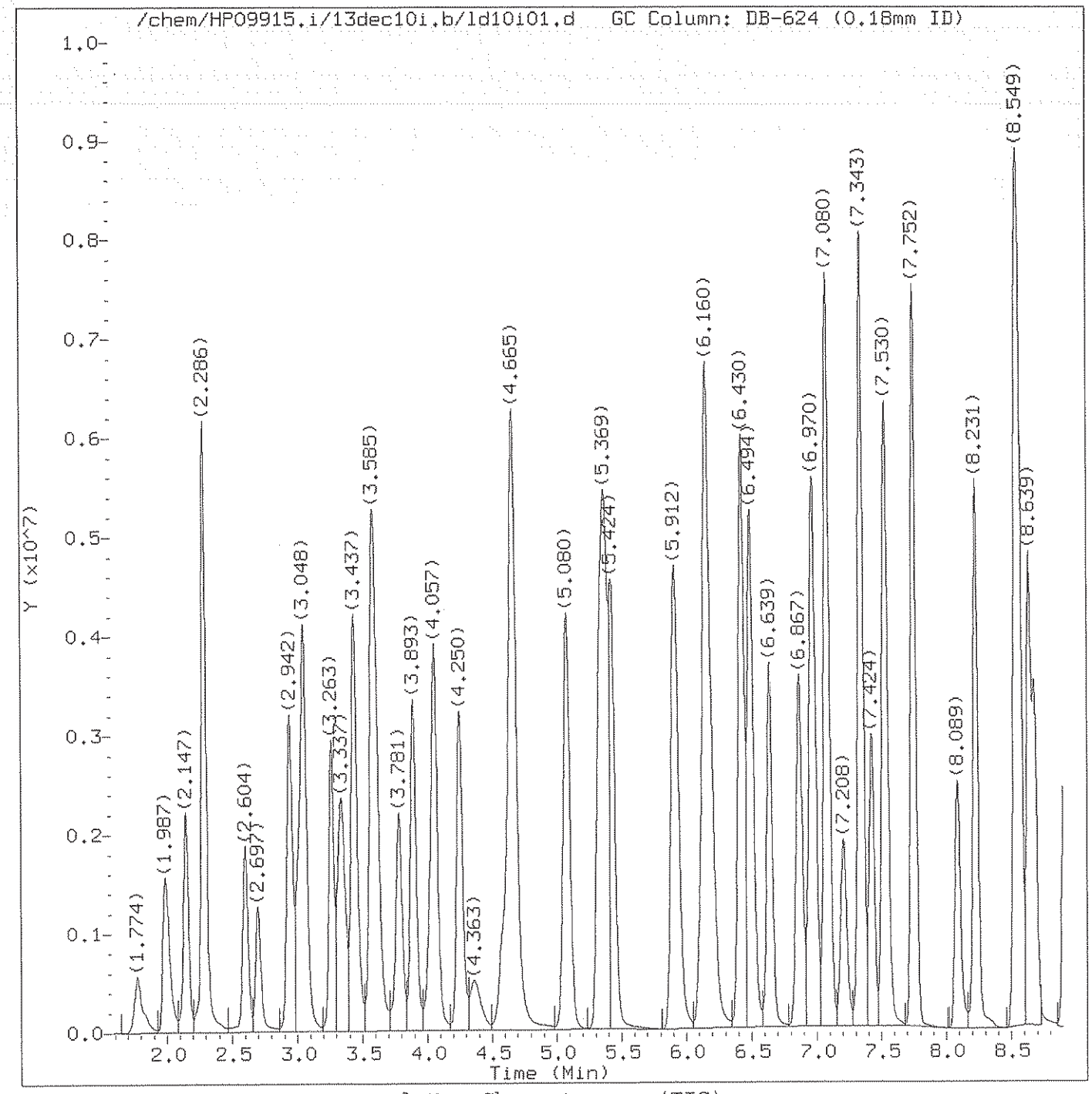
Column phase: Rxi-624Sil MS

Column diameter: 0.25

Data File: ld10t01.d
Spectrum: Avg. Scans 292-294 (4.72), Background Scan 282
Location of Maximum: 95.00
Number of points: 69

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	579	62.00	1970	87.00	2115	130.00	179
37.00	2539	63.00	1374	88.00	2102	141.00	358
38.00	2264	64.00	60	91.00	158	143.00	453
39.00	810	68.00	4519	92.00	1361	148.00	107
40.00	139	69.00	4848	93.00	1943	155.00	52
44.00	227	70.00	502	94.00	5251	173.00	246
45.00	438	72.00	375	95.00	50304	174.00	41560
47.00	716	73.00	2116	96.00	3516	175.00	2982
48.00	280	74.00	7734	97.00	155	176.00	39920
49.00	1827	75.00	23896	104.00	114	177.00	2732
50.00	9604	76.00	2120	105.00	54	191.00	113
51.00	3026	77.00	338	106.00	105	207.00	159
52.00	122	78.00	291	113.00	51	208.00	97
55.00	229	79.00	1094	116.00	185	209.00	65
56.00	813	80.00	365	117.00	251	281.00	30
57.00	1254	81.00	1099	118.00	206		
60.00	457	82.00	106	119.00	160		
61.00	2237	84.00	50	128.00	122		

Digitally signed by Kevin A. Sposito on 12/10/2013 at 18:55.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

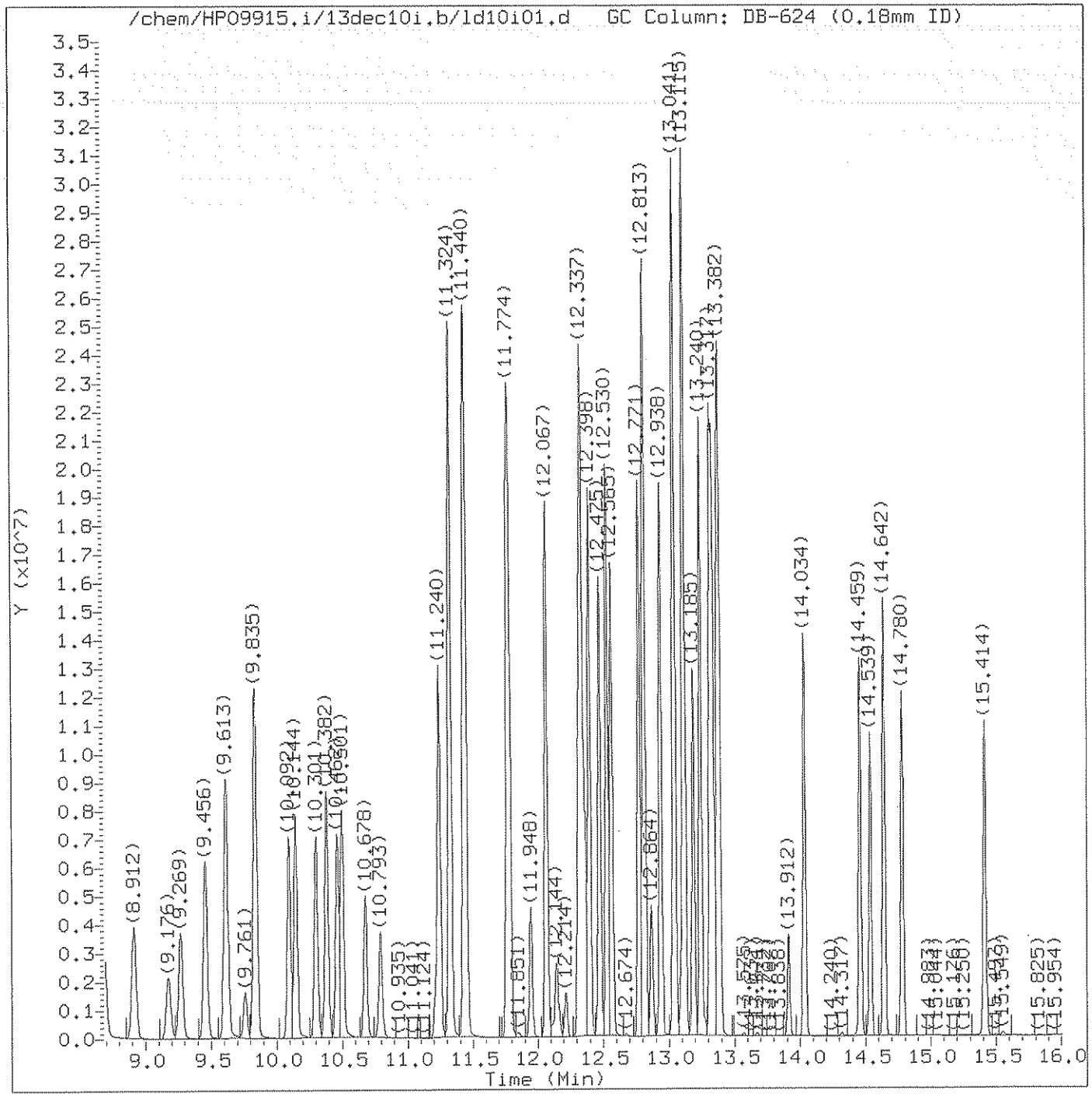
Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2) Dichlorodifluoromethane	(1)	1.990	85	3341431	276.567
3) Chloromethane	(1)	2.147	50	3618448	283.980
5) Vinyl Chloride	(1)	2.279	62	3165209	278.913
4) 1,3-Butadiene	(1)	2.289	39	2756467M	300.044
7) Bromomethane	(1)	2.604	94	1895770	261.816
8) Chloroethane	(1)	2.697	64	1671738	254.943
9) Dichlorofluoromethane	(1)	2.938	67	3959135	267.262
10) Trichlorofluoromethane	(1)	3.012	101	3400845	286.732
11) n-Pentane	(1)	3.051	43	4117368	270.523
13) Ethyl Ether	(1)	3.260	59	2509815	281.285
14) Freon 123a	(1)	3.337	67	2793132	279.981
15) Acrolein	(4)	3.440	56	6840102	2595.590
16) 1,1-Dichloroethene	(1)	3.578	96	2014503	293.990
17) Acetone	(4)	3.601	58	627595	581.652
18) Freon 113	(1)	3.604	101	2041187	283.153
45) 1,2-Dichloroethene (total)	(1)		96	4950286	585.008
21) 2-Propanol	(4)	3.761	45	1017070	1329.974
20) Methyl Iodide	(1)	3.784	142	3709017	292.301
22) Carbon Disulfide	(1)	3.893	76	7816937	300.327
25) Methyl Acetate	(1)	4.022	43	2562893	287.164
24) Allyl Chloride	(1)	4.060	41	4181164	281.648
28)*t-Butyl Alcohol-d10	(4)	4.237	65	203279M	250.000
26) Methylene Chloride	(1)	4.250	84	2442601	288.744
29) t-Butyl Alcohol	(4)	4.363	59	1659979	1337.002
30) Acrylonitrile	(1)	4.578	53	1446600	292.187
32) Methyl Tertiary Butyl Ether	(1)	4.652	73	8122998	285.903
31) trans-1,2-Dichloroethene	(1)	4.668	96	2320937	292.265
33) n-Hexane	(1)	5.080	57	3980374	296.048
34) 1,1-Dichloroethane	(1)	5.327	63	4581467	297.970
36) di-Isopropyl Ether	(1)	5.376	45	9247718	290.390
37) 2-Chloro-1,3-Butadiene	(1)	5.430	53	3895409	292.374
39) Ethyl t-Butyl Ether	(1)	5.909	59	8527590	289.249
41) 2-Butanone	(4)	6.121	43	3616717	574.785
40) cis-1,2-Dichloroethene	(1)	6.154	96	2629349	292.743
42) 2,2-Dichloropropane	(1)	6.173	77	3402445	301.064
43) Propionitrile	(4)	6.208	54	2608883	1494.259
46) Methacrylonitrile	(1)	6.430	67	3554606	712.685
47) Bromochloromethane	(1)	6.494	128	1271933	285.128

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
48) Tetrahydrofuran	(4)	6.504	71	911996	588.771
50) Chloroform	(1)	6.639	83	4087761	297.345
52)$Dibromofluoromethane	(1)	6.855	113	300180	49.959
51)$Dibromofluoromethane(mz111)	(1)	6.858	111	308779	50.106
53) 1,1,1-Trichloroethane	(1)	6.867	97	3642094	285.998
55) Cyclohexane (mz 69)	(1)	6.970	69	1414139	292.299
56) Cyclohexane	(1)	6.974	56	4859357	290.982
54) Cyclohexane (mz 84)	(1)	6.974	84	3732606	291.514
57) 1,1-Dichloropropene	(1)	7.080	75	3402064	298.355
58) Carbon Tetrachloride	(1)	7.083	117	2915108	308.647
59) Isobutyl Alcohol	(4)	7.208	41	1559628	3462.949
61)$1,2-Dichloroethane-d4(mz65)	(1)	7.324	65	368357	49.937
62)$1,2-Dichloroethane-d4	(1)	7.324	102	77732	49.825
60)$1,2-Dichloroethane-d4(mz104)	(1)	7.324	104	49780	49.772
63) Benzene	(1)	7.343	78	10364603	297.391
64) 1,2-Dichloroethane (mz 98)	(1)	7.427	98	329585	292.698
65) 1,2-Dichloroethane	(1)	7.427	62	3299001	293.016
69) t-Amyl Methyl Ether	(1)	7.530	73	8190943	291.905
72) n-Heptane	(1)	7.752	43	4246087	301.182
71)*Fluorobenzene	(1)	7.752	96	1314212	50.000
73) n-Butanol	(4)	8.089	56	2701391M	7030.550
112) Xylene (Total)	(2)		106	13403506	838.726
74) Trichloroethene	(1)	8.231	95	2545387	302.144
76) Methylcyclohexane	(1)	8.543	83	4439997	288.813
75) Methylcyclohexane (mz98)	(1)	8.543	98	1921760	290.644
77) 1,2-Dichloropropane	(1)	8.572	63	2850405	299.730
80) Methyl Methacrylate	(1)	8.639	69	2478453	292.155
79) 1,4-Dioxane	(4)	8.655	88	339622	3594.120
78) Dibromomethane	(1)	8.681	93	1716375	293.669
83) Bromodichloromethane	(1)	8.912	83	3423577	319.564
85) 2-Nitropropane	(1)	9.176	41	1892931	596.541
86) 2-Chloroethyl Vinyl Ether	(1)	9.269	63	2127745	282.372
87) cis-1,3-Dichloropropene	(1)	9.456	75	4412615	311.466
89) 4-Methyl-2-Pentanone	(4)	9.613	43	8093347	558.634
93)$Toluene-d8	(2)	9.761	98	1263440	49.291
92)$Toluene-d8(mz100)	(2)	9.761	100	844865	50.382
94) Toluene	(2)	9.835	92	6288202	287.515
95) trans-1,3-Dichloropropene	(2)	10.092	75	4281714	311.171

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d
Injection date and time: 10-DEC-2013 14:39

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sublist used: 8260WI

Sample Name: VSTD300

Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
96) Ethyl Methacrylate	(2)	10.144	69	4459428	285.250
97) 1,1,2-Trichloroethane	(2)	10.301	97	2408727	285.845
98) Tetrachloroethene	(2)	10.382	166	2655383	304.902
99) 1,3-Dichloropropane	(2)	10.462	76	4370367	291.060
101) 2-Hexanone	(4)	10.501	43	5847588	547.427
102) Dibromochloromethane	(2)	10.678	129	2760516	329.810
104) 1,2-Dibromoethane	(2)	10.793	107	2688001	295.647
106)*Chlorobenzene-d5	(2)	11.215	117	953800	50.000
107) Chlorobenzene	(2)	11.240	112	6829166	289.074
108) 1,1,1,2-Tetrachloroethane	(2)	11.324	131	2364566	299.977
109) Ethylbenzene	(2)	11.324	91	11918071	285.569
110) m+p-Xylene	(2)	11.440	106	8995180	558.791
113) o-Xylene	(2)	11.768	106	4408326	279.935
114) Styrene	(2)	11.784	104	7592887	274.001
115) Bromoform	(2)	11.948	173	1981083	333.344
116) Isopropylbenzene	(2)	12.067	105	11687091	286.734
118) Cyclohexanone	(4)	12.144	55	1256560	3736.034
119)$4-Bromofluorobenzene	(2)	12.214	95	480765	50.027
120)$4-Bromofluorobenzene(mz174)	(2)	12.214	174	394015	49.859
122) 1,1,2,2-Tetrachloroethane	(3)	12.314	83	3781867M	282.184
121) Bromobenzene	(3)	12.330	156	3095841	289.721
124) trans-1,4-Dichloro-2-Butene	(3)	12.340	53	2663264	765.811
123) 1,2,3-Trichloropropane	(3)	12.362	110	1064996	284.333
125) n-Propylbenzene	(3)	12.401	91	13355134	269.616
126) 2-Chlorotoluene	(3)	12.475	126	2831424	292.194
127) 1,3,5-Trimethylbenzene	(3)	12.530	105	9963133	292.150
128) 4-Chlorotoluene	(3)	12.565	126	2933083	291.849
130) tert-Butylbenzene	(3)	12.774	134	2088973M	296.868
131) Pentachloroethane	(3)	12.809	167	1889143	305.713
132) 1,2,4-Trimethylbenzene	(3)	12.816	105	9935802	283.414
133) sec-Butylbenzene	(3)	12.938	105	11966671	275.858
134) 1,3-Dichlorobenzene	(3)	13.038	146	5192376	269.418
135) p-Isopropyltoluene	(3)	13.044	119	10162010	268.747
136)*1,4-Dichlorobenzene-d4	(3)	13.095	152	499311	50.000
138) 1,4-Dichlorobenzene	(3)	13.112	146	5371807	268.274
139) 1,2,3-Trimethylbenzene	(3)	13.118	105	9924407	266.600
141) Benzyl Chloride	(3)	13.185	91	8109747	303.543
142) 1,3-Diethylbenzene	(3)	13.240	119	6355839	274.911

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Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
143) 1,4-Diethylbenzene	(3)	13.317	119	6282627	270.612
145) n-Butylbenzene	(3)	13.337	92	5165692	276.473
144) 1,2-Dichlorobenzene	(3)	13.369	146	5243253	275.323
146) 1,2-Diethylbenzene	(3)	13.385	119	5186457	270.589
148) 1,2-Dibromo-3-Chloropropane	(3)	13.912	75	762747	293.590
149) 1,3,5-Trichlorobenzene	(3)	14.038	180	3993822	270.856
150) 1,2,4-Trichlorobenzene	(3)	14.459	180	3652656	258.737
151) Hexachlorobutadiene	(3)	14.539	225	1774916	265.142
152) Naphthalene	(3)	14.642	128	10429301	240.202
153) 1,2,3-Trichlorobenzene	(3)	14.784	180	3288865	247.728
154) 2-Methylnaphthalene	(3)	15.414	142	5200409	209.984

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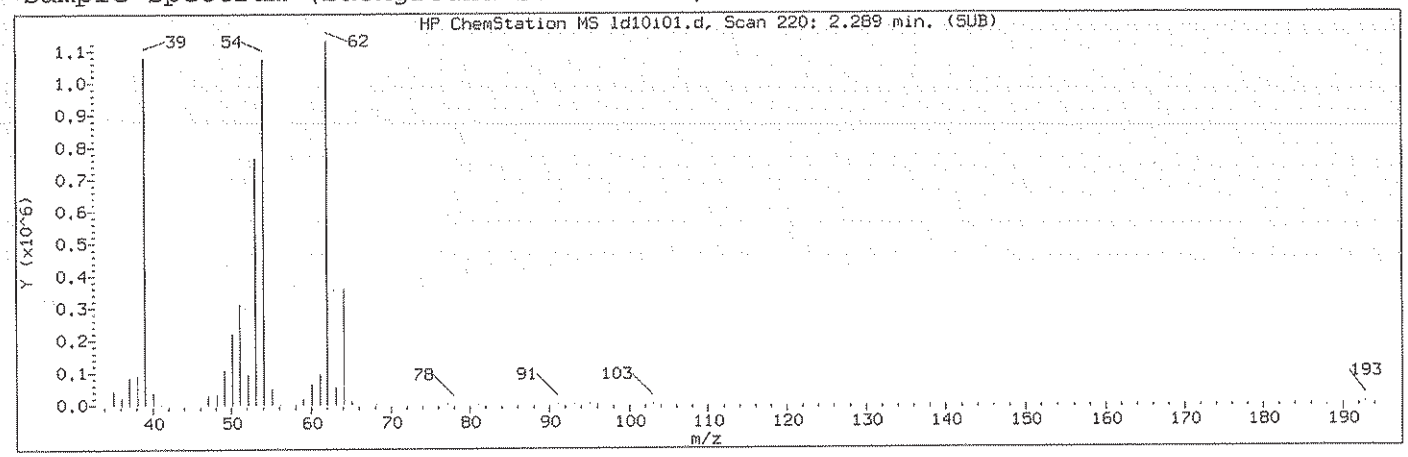
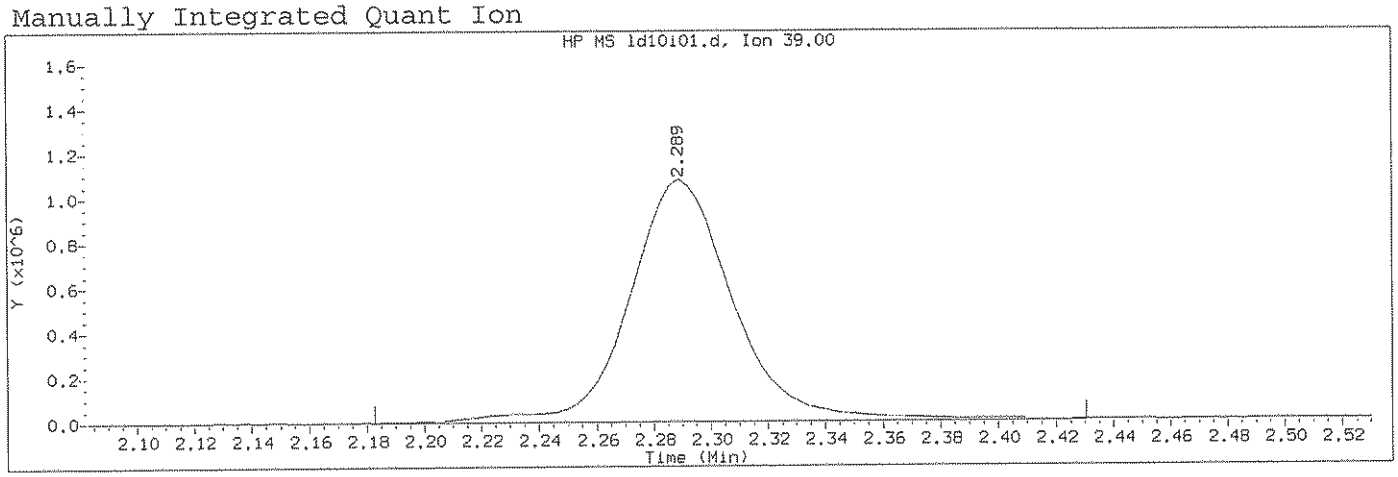
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

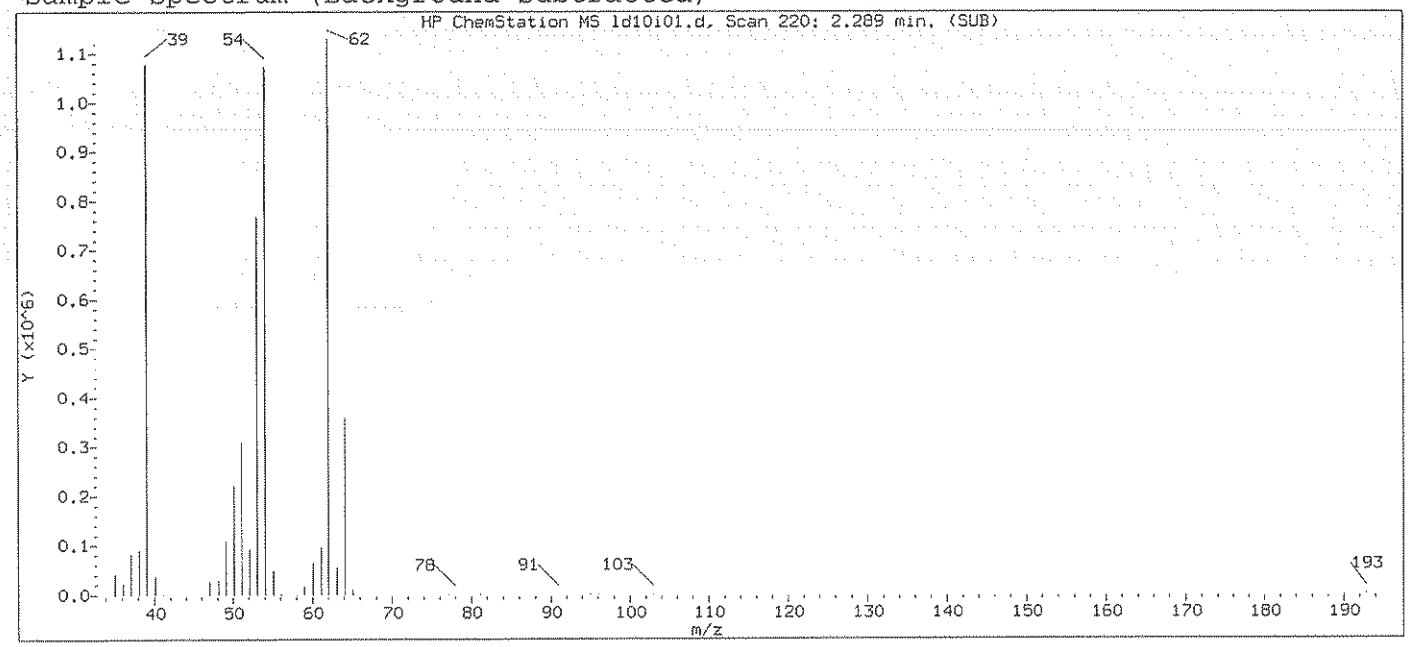
Compound Number : 4
Compound Name : 1,3-Butadiene
Scan Number : 220
Retention Time (minutes): 2.289
Quant Ion : 39.00
Area (flag) : 2756467M
On-Column Amount (ng) : 300.0440
Integration start scan : 186 Integration stop scan: 263
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

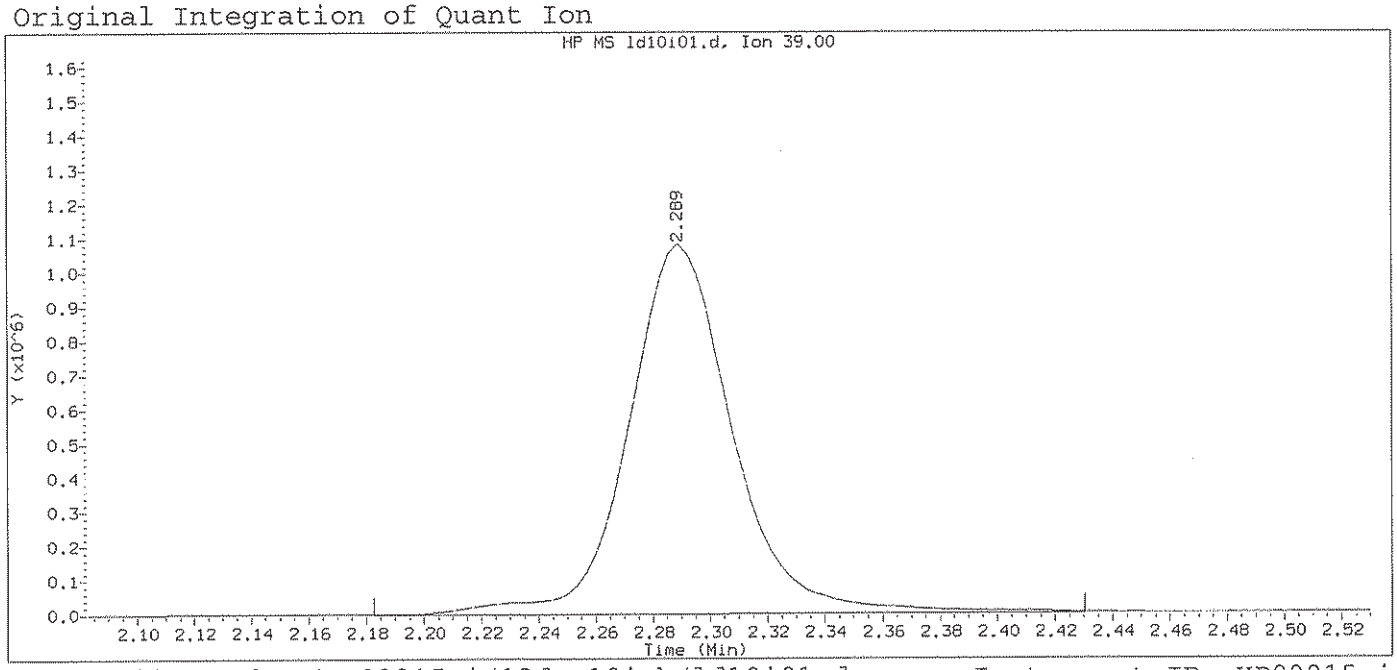
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:12
Date, time and analyst ID of latest file update: 10-Dec-2013 17:12 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compound Number : 4
Compound Name : 1,3-Butadiene
Scan Number : 220
Retention Time (minutes): 2.289
Quant Ion : 39.00
Area : 2744230
On-column Amount (ng) : 322.3381
Integration start scan : 186 Integration stop scan: 263
Y at integration start : 654 Y at integration end: 910

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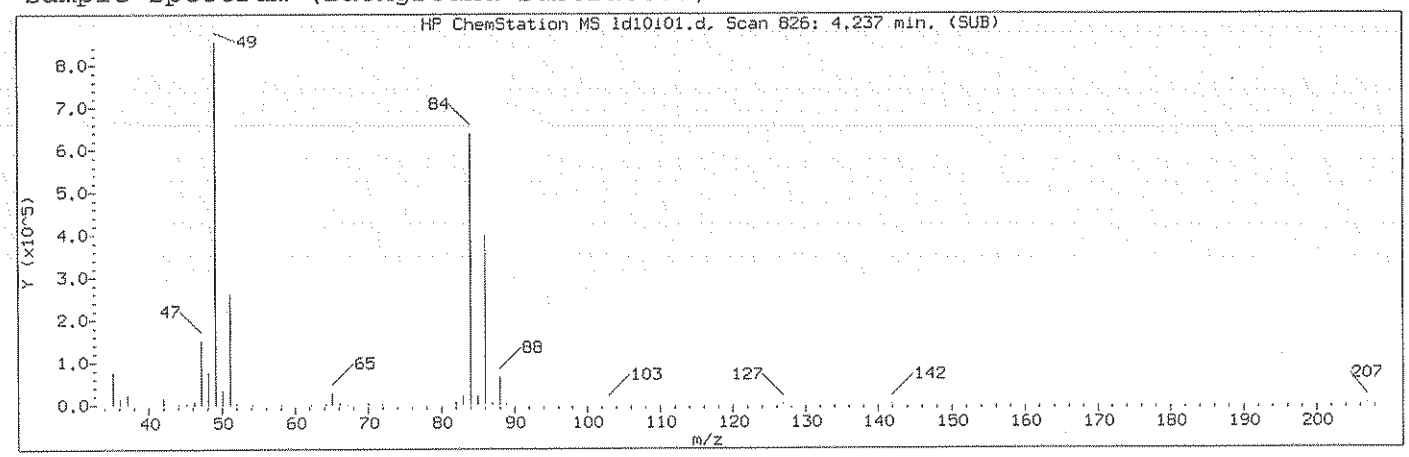
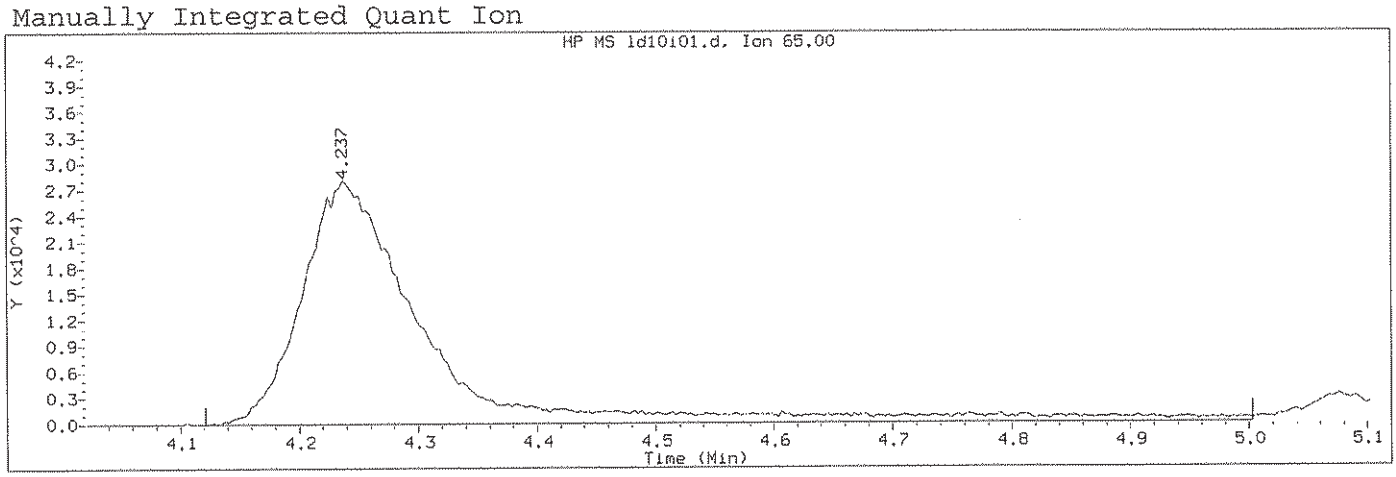
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

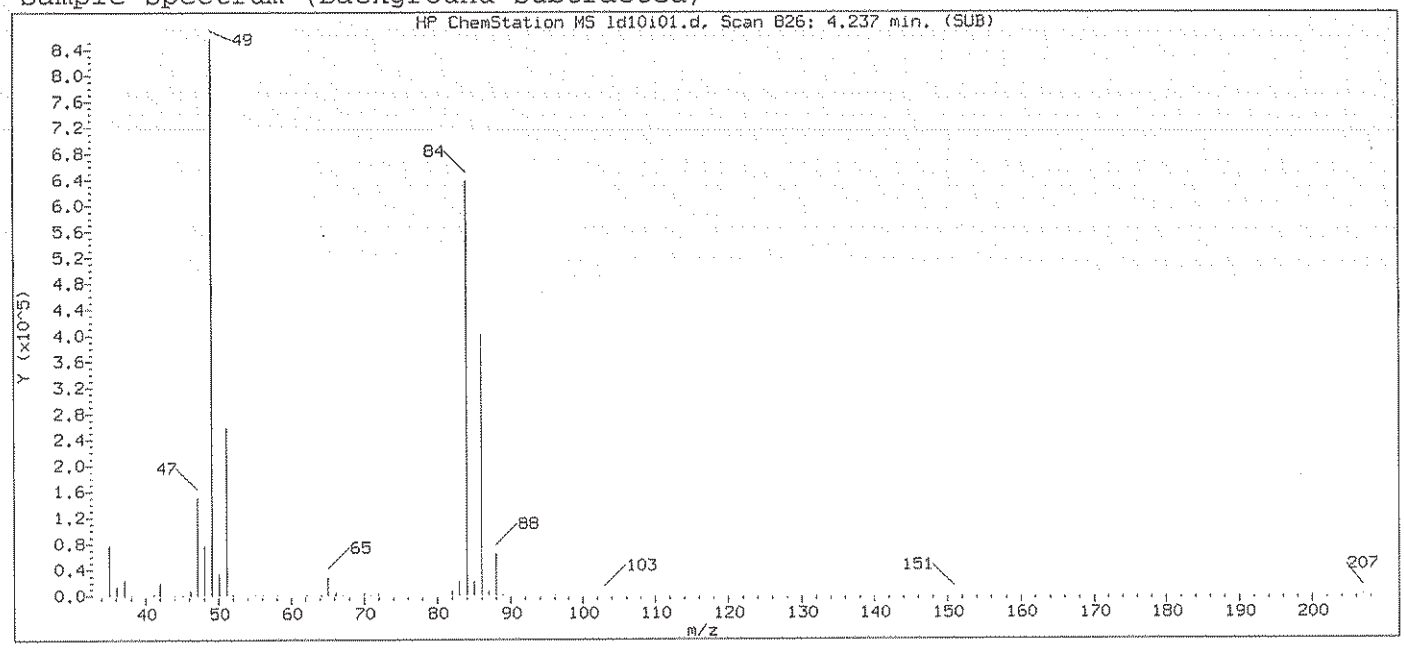
Compound Number	:	28
Compound Name	:	t-Butyl Alcohol-d10
Scan Number	:	826
Retention Time (minutes)	:	4.237
Quant Ion	:	65.00
Area (flag)	:	203279M
On-Column Amount (ng)	:	250.0000
Integration start scan	:	789
Integration stop scan	:	1063
Y at integration start	:	0
Y at integration end	:	0

Reason for manual integration: improper integration

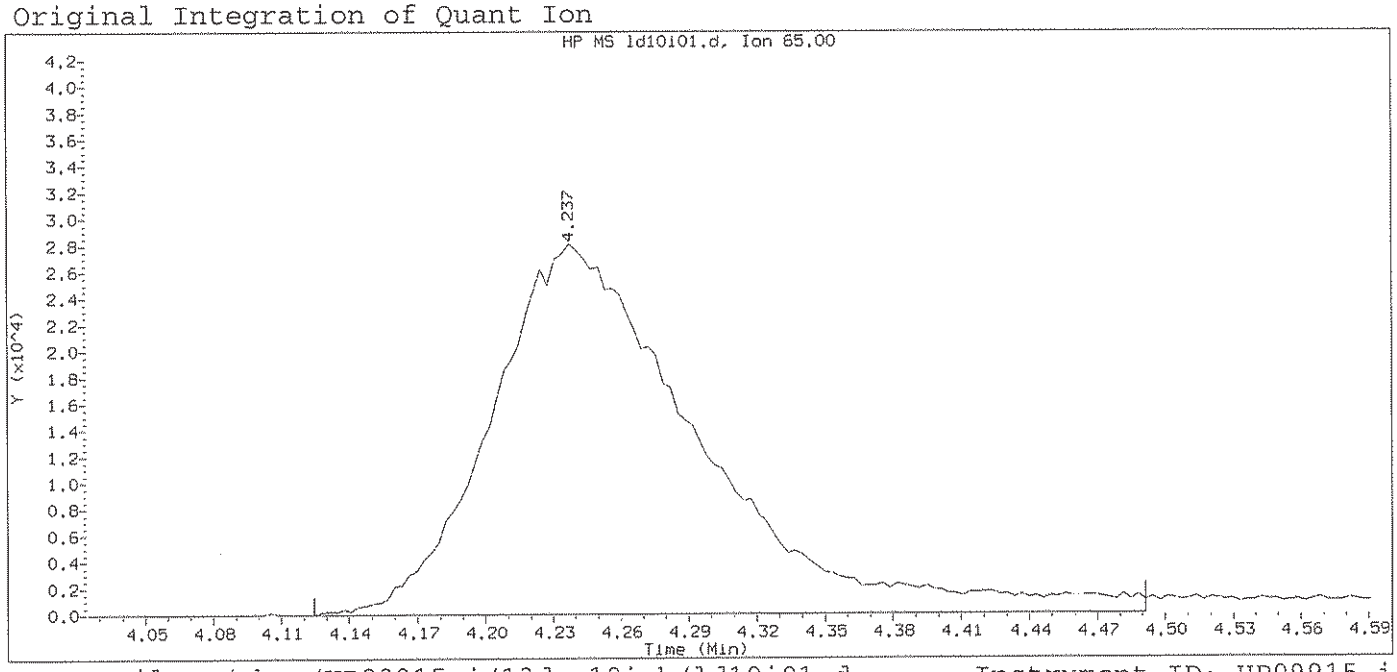
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:12
Date, time and analyst ID of latest file update: 10-Dec-2013 17:12 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compound Number	: 28		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 826		
Retention Time (minutes)	: 4.237		
Quant Ion	: 65.00		
Area	: 179441		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 790	Integration stop scan:	904
Y at integration start	: 0	Y at integration end:	0

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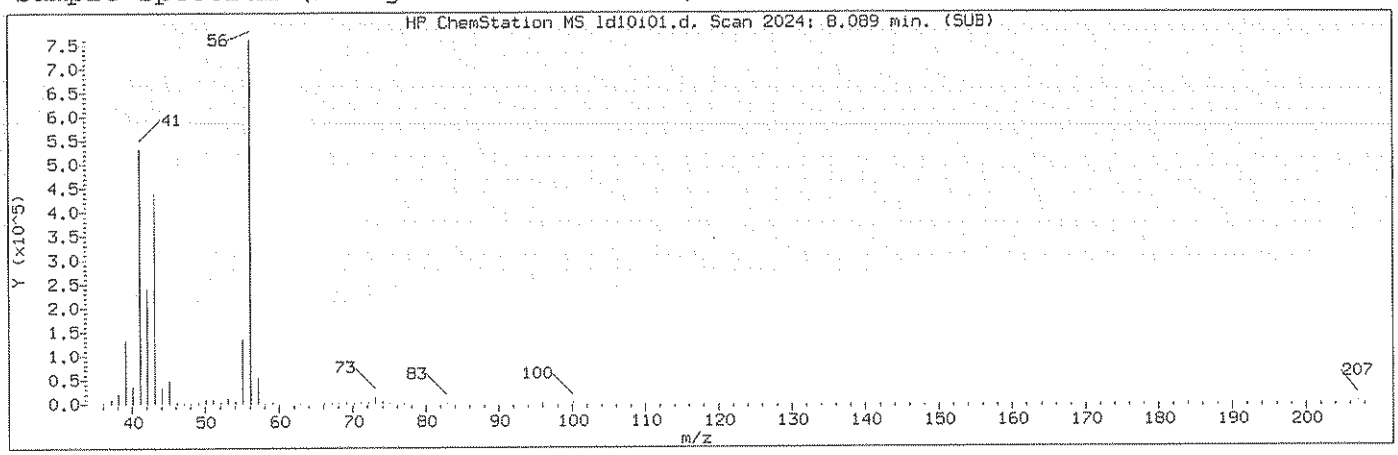
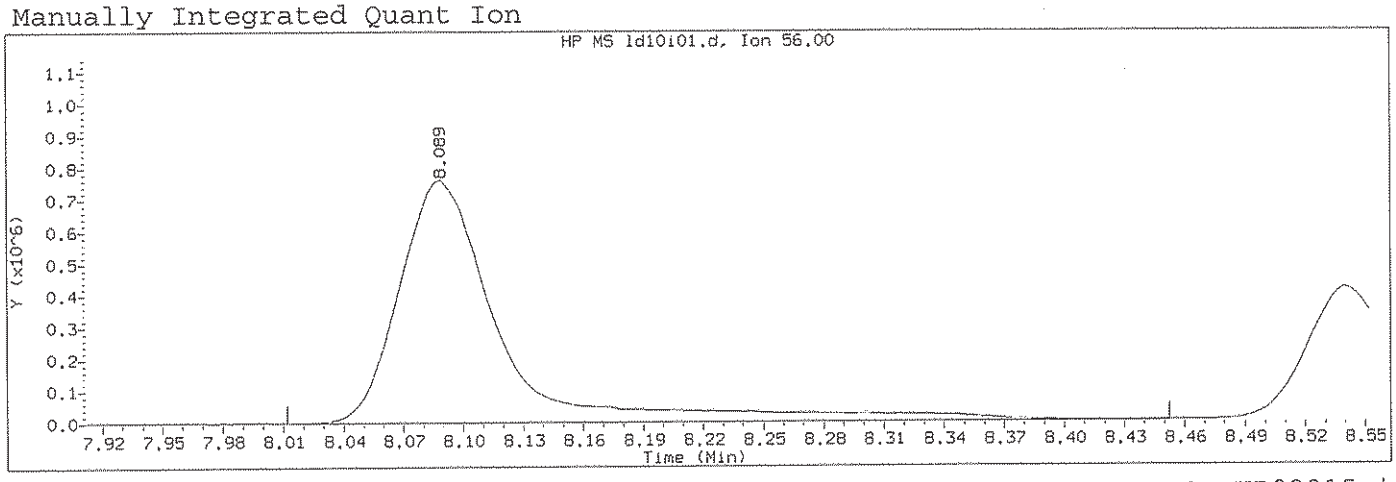
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



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Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

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Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

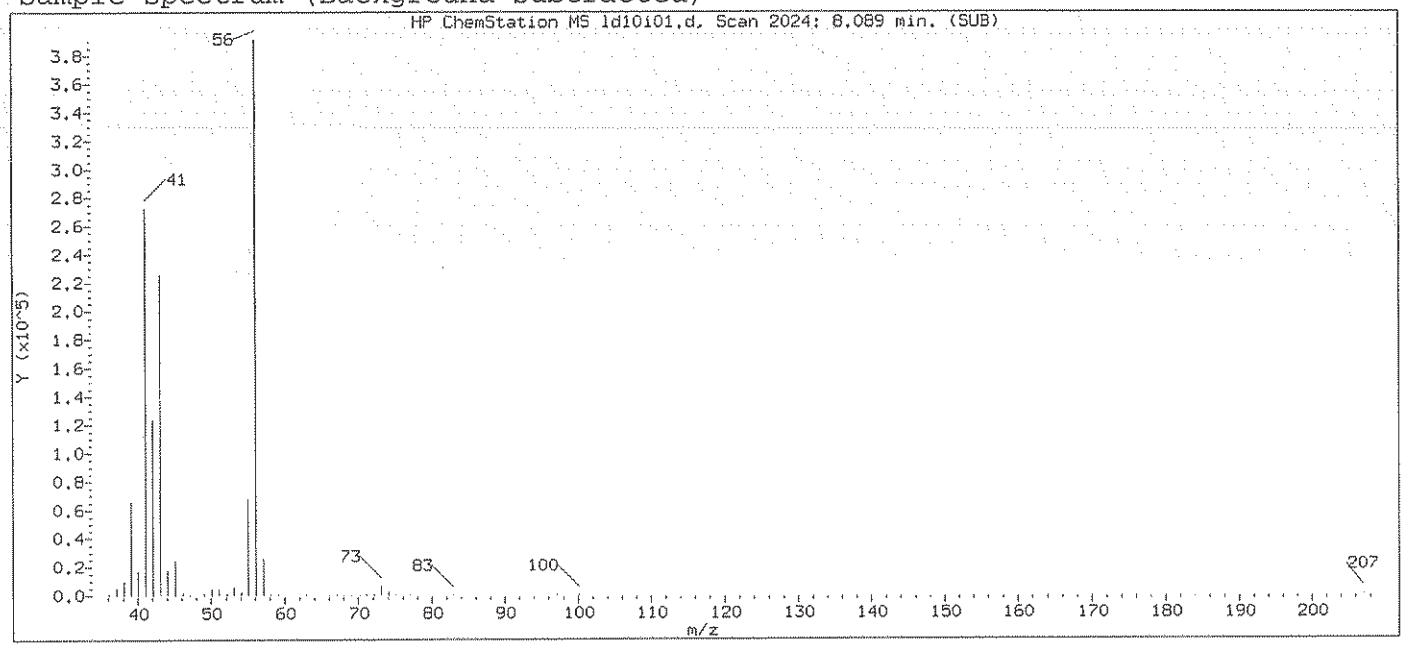
Compound Number : 73
Compound Name : n-Butanol
Scan Number : 2024
Retention Time (minutes): 8.089
Quant Ion : 56.00
Area (flag) : 2701391M
On-Column Amount (ng) : 7030.5496
Integration start scan : 1999 Integration stop scan: 2136
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

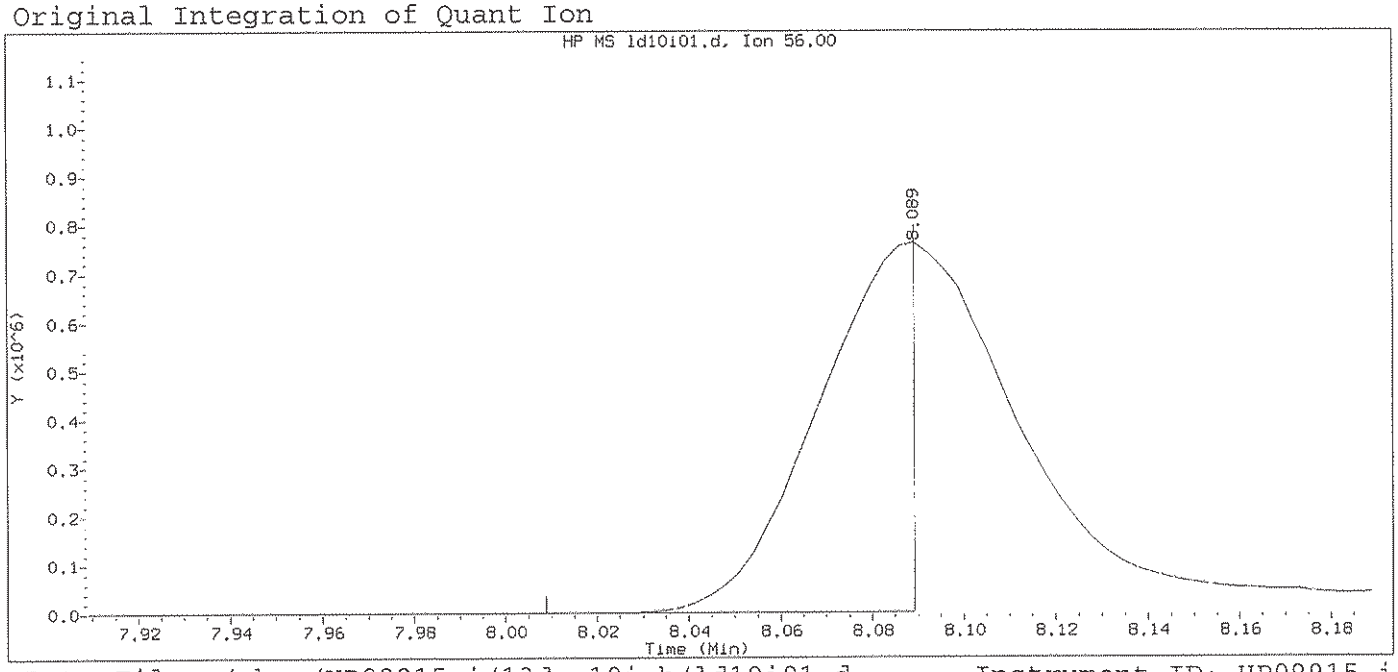
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:12
Date, time and analyst ID of latest file update: 10-Dec-2013 17:12 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compound Number : 73
Compound Name : n-Butanol
Scan Number : 2024
Retention Time (minutes): 8.089
Quant Ion : 56.00
Area : 1078101
On-column Amount (ng) : 3818.2104
Integration start scan : 1998 Integration stop scan: 2023
Y at integration start : 782 Y at integration end: 782

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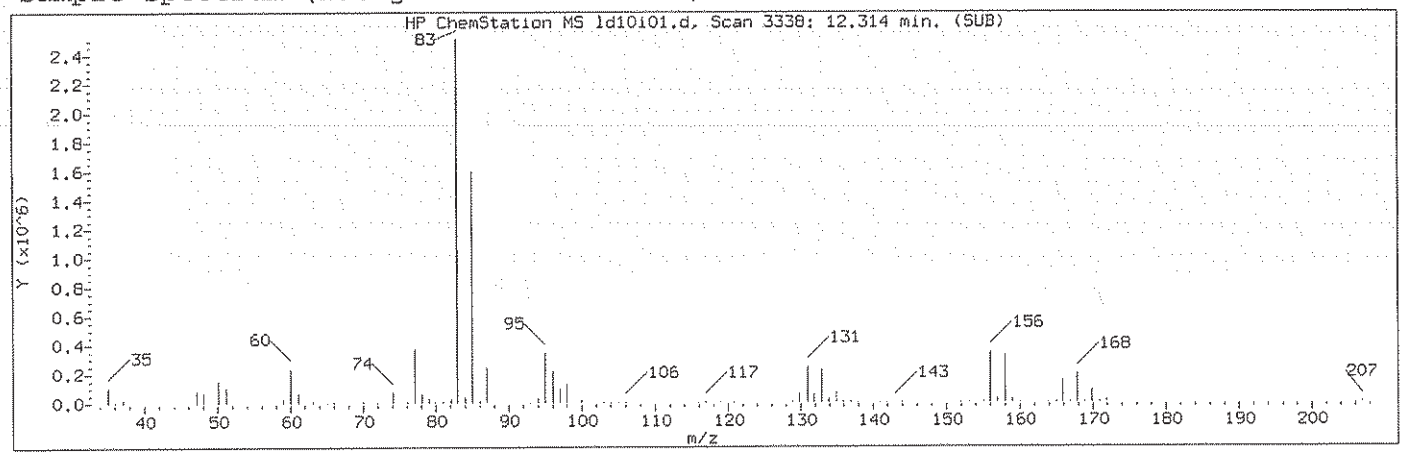
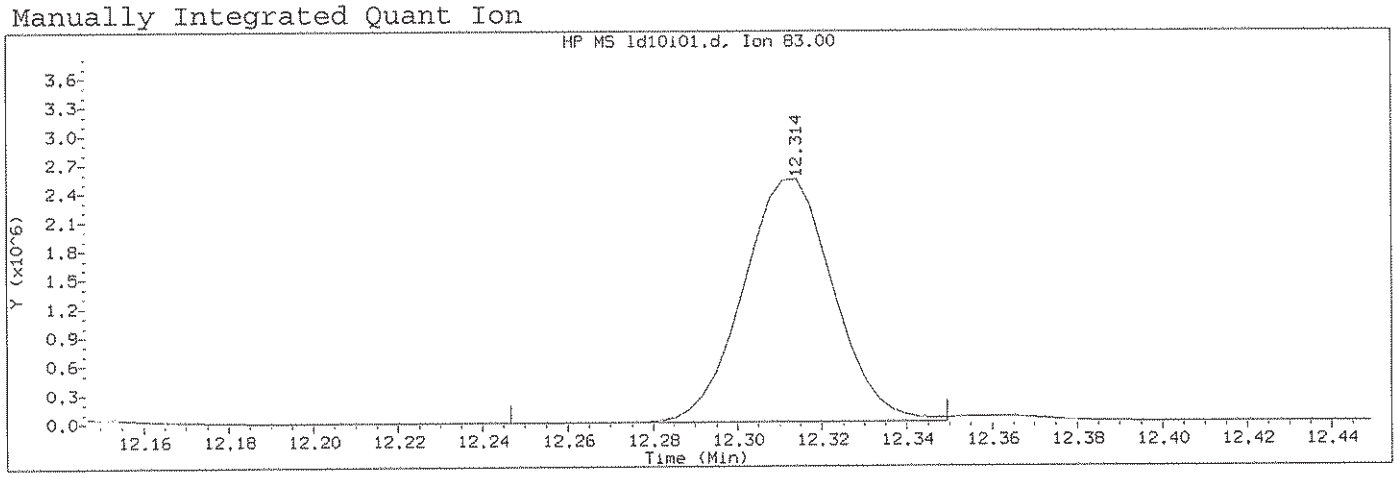
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

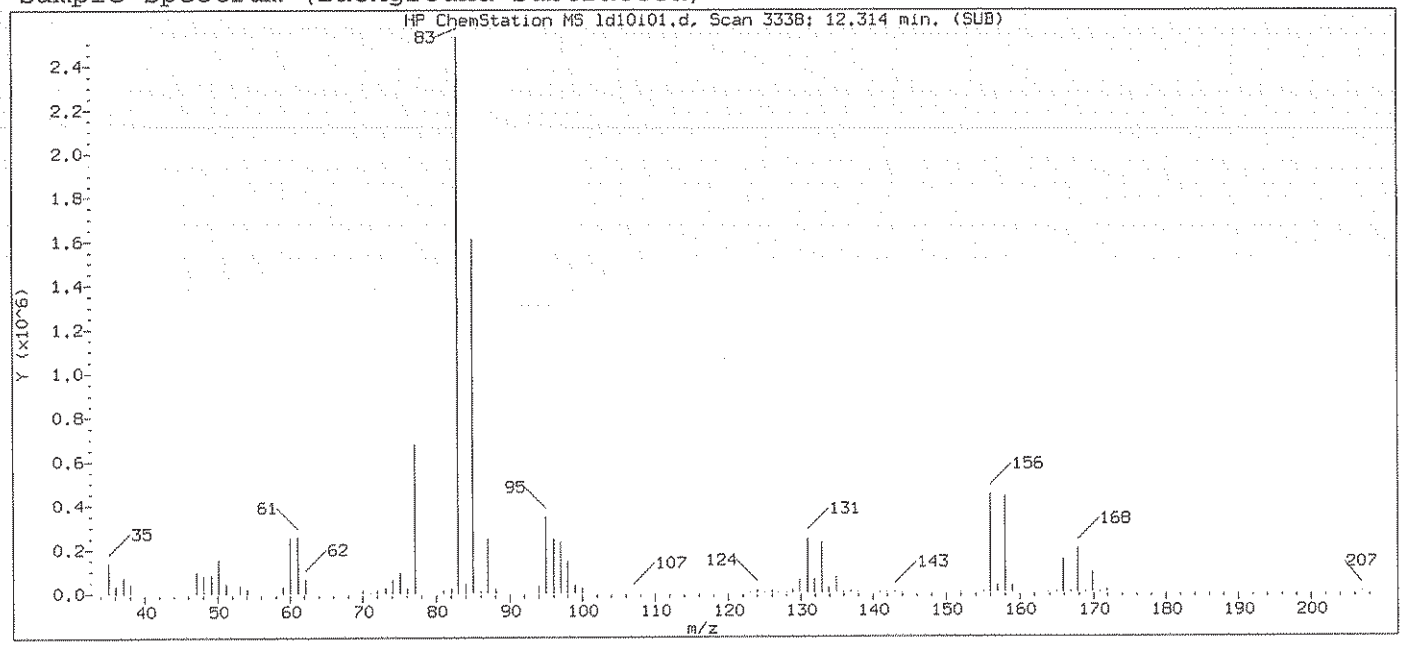
Compound Number : 122
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 3338
Retention Time (minutes): 12.314
Quant Ion : 83.00
Area (flag) : 3781867M
On-Column Amount (ng) : 282.1844
Integration start scan : 3316 Integration stop scan: 3348
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

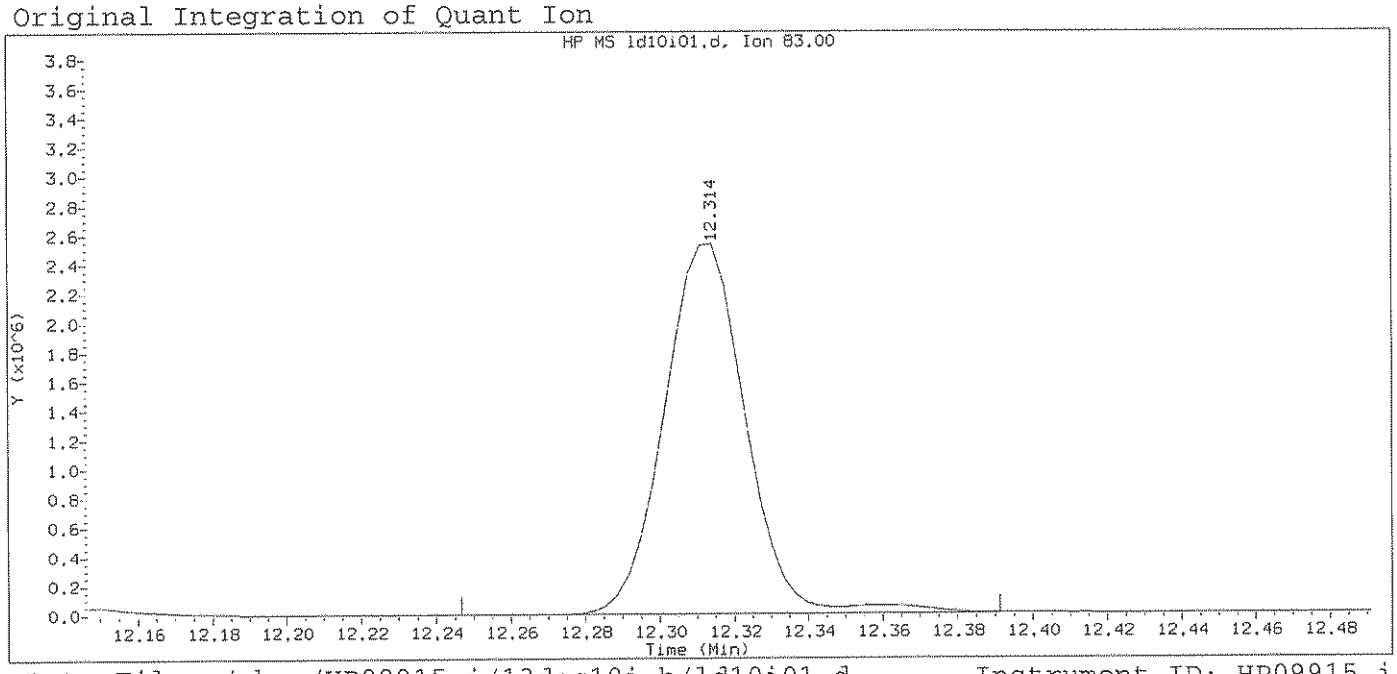
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

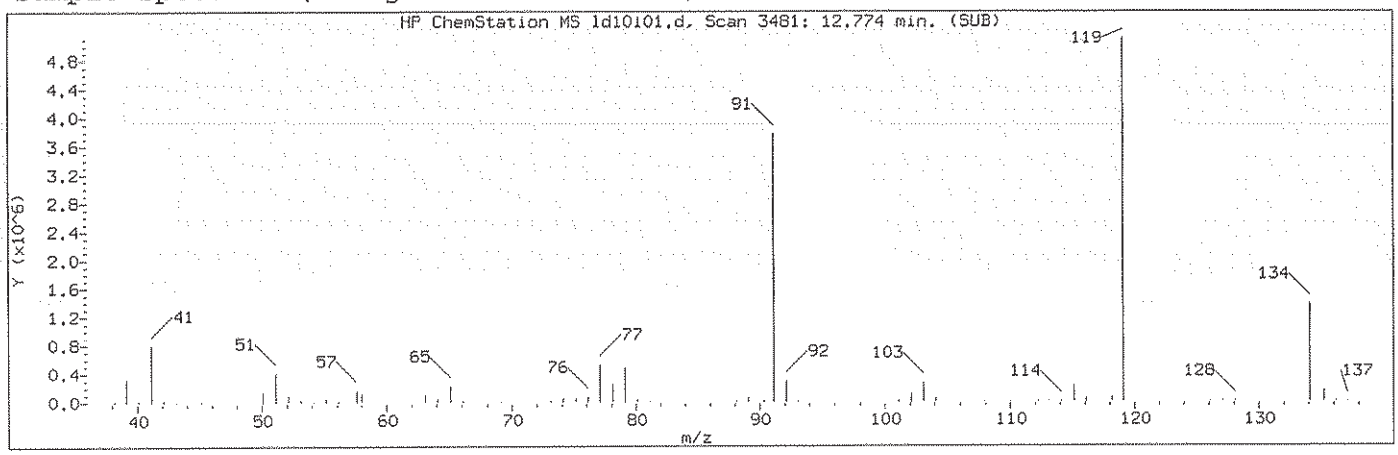
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:12
Date, time and analyst ID of latest file update: 10-Dec-2013 17:12 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

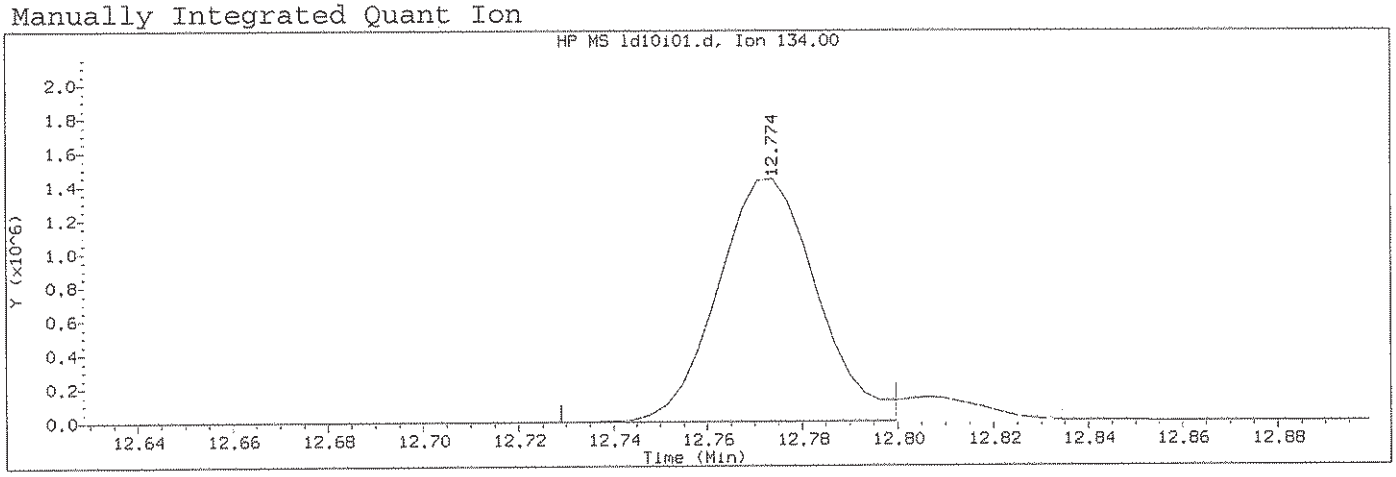
Compound Number	: 122
Compound Name	: 1,1,2,2-Tetrachloroethane
Scan Number	: 3338
Retention Time (minutes)	: 12.314
Quant Ion	: 83.00
Area	: 3860749
On-column Amount (ng)	: 326.6942
Integration start scan	: 3316 Integration stop scan: 3361
Y at integration start	: 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:22
Date, time and analyst ID of latest file update: 11-Dec-2013 15:21 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

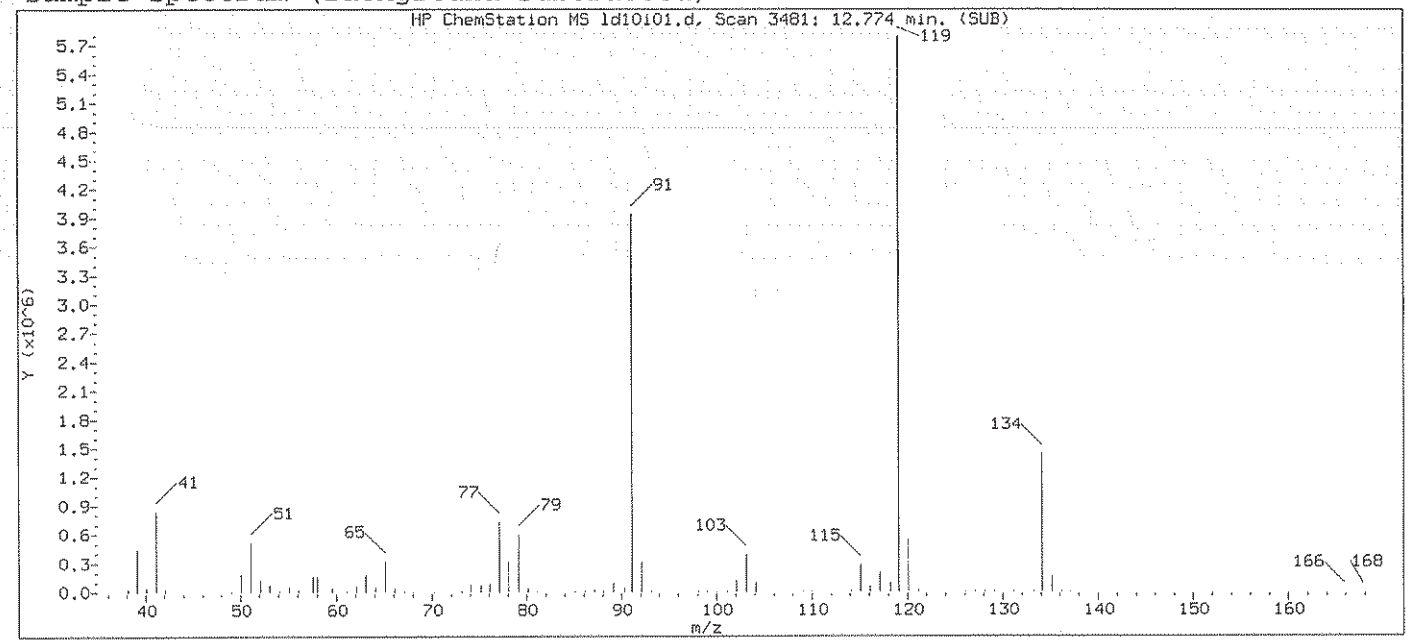
Compound Number : 130
Compound Name : tert-Butylbenzene
Scan Number : 3481
Retention Time (minutes): 12.774
Quant Ion : 134.00
Area (flag) : 2088973M
On-Column Amount (ng) : 296.8677
Integration start scan : 3466 Integration stop scan: 3488
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

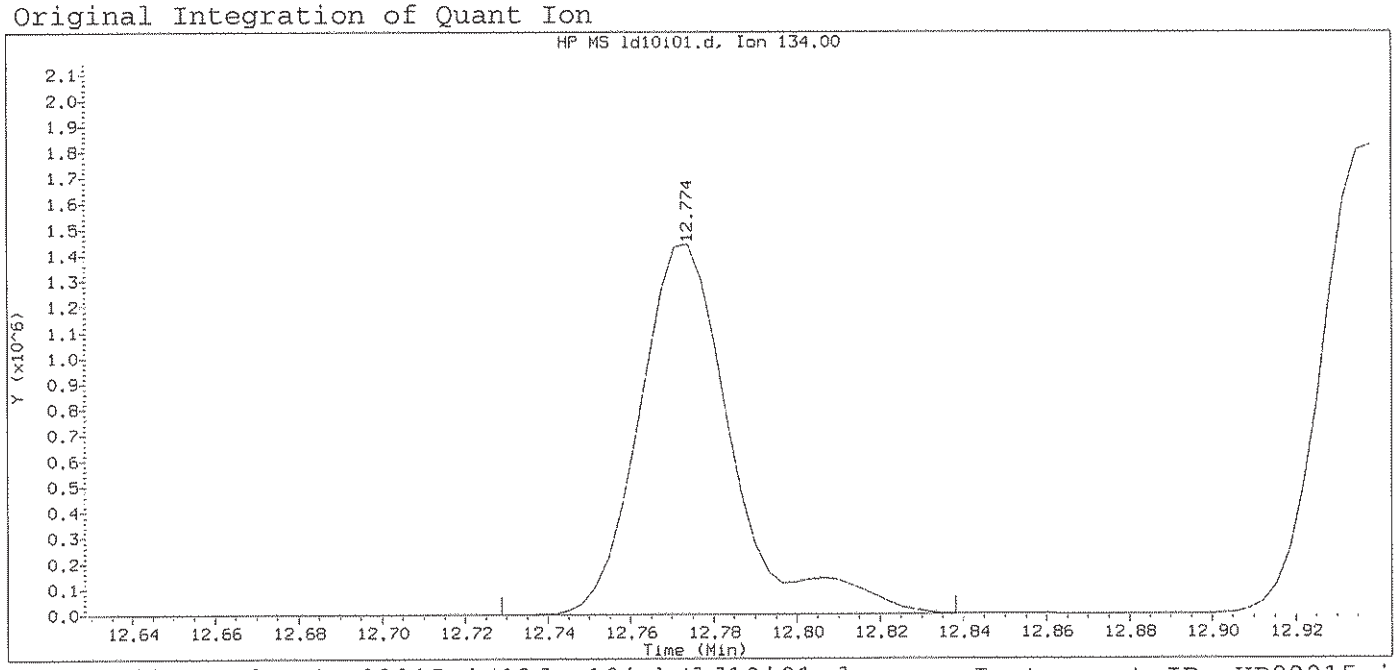
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



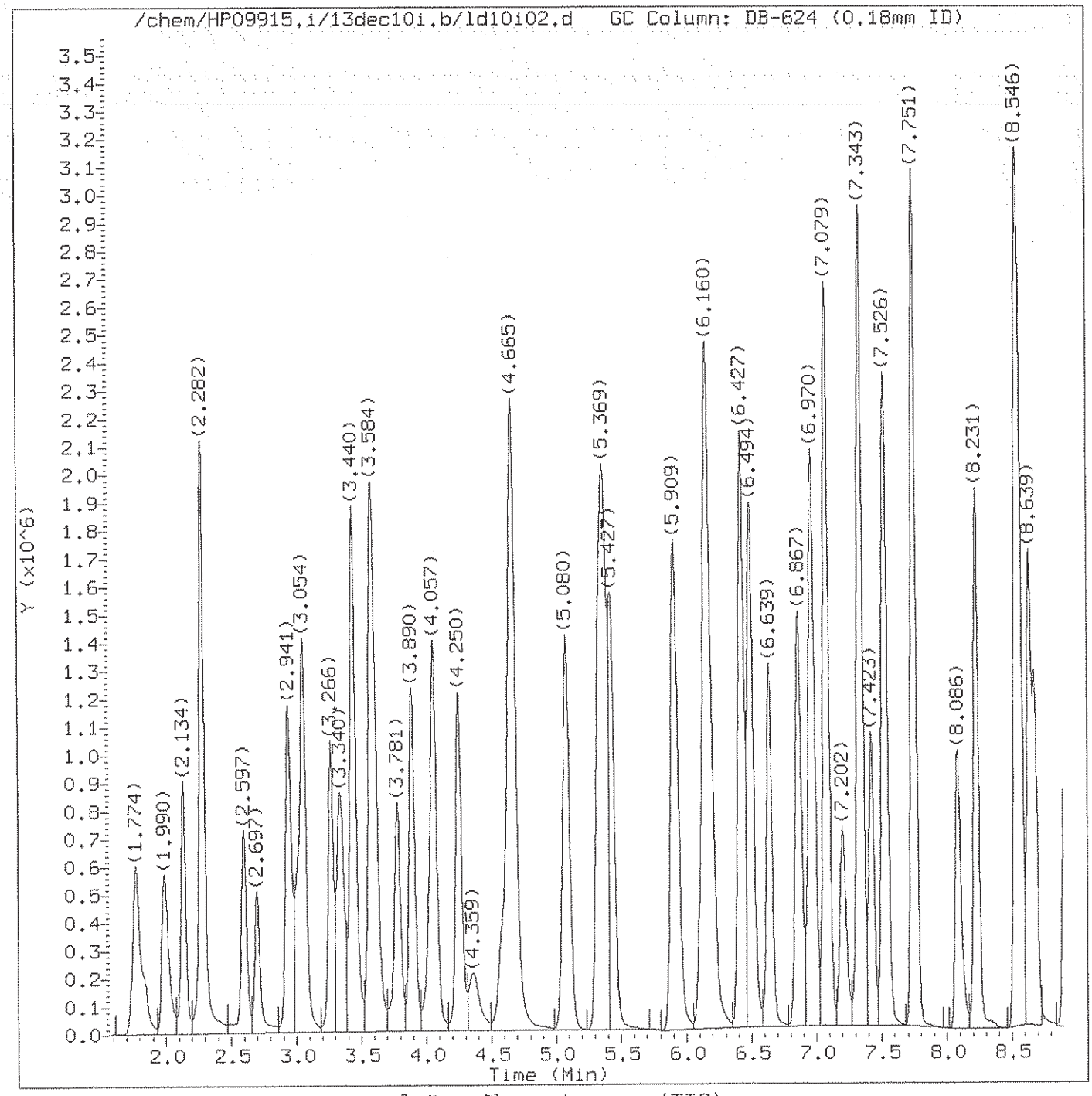
Data File: /chem/HP09915.i/13dec10i.b/ld10i01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 14:39 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:12
Date, time and analyst ID of latest file update: 10-Dec-2013 17:12 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compound Number : 130
Compound Name : tert-Butylbenzene
Scan Number : 3481
Retention Time (minutes): 12.774
Quant Ion : 134.00
Area : 2246328
On-column Amount (ng) : 350.4963
Integration start scan : 3466 Integration stop scan: 3500
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

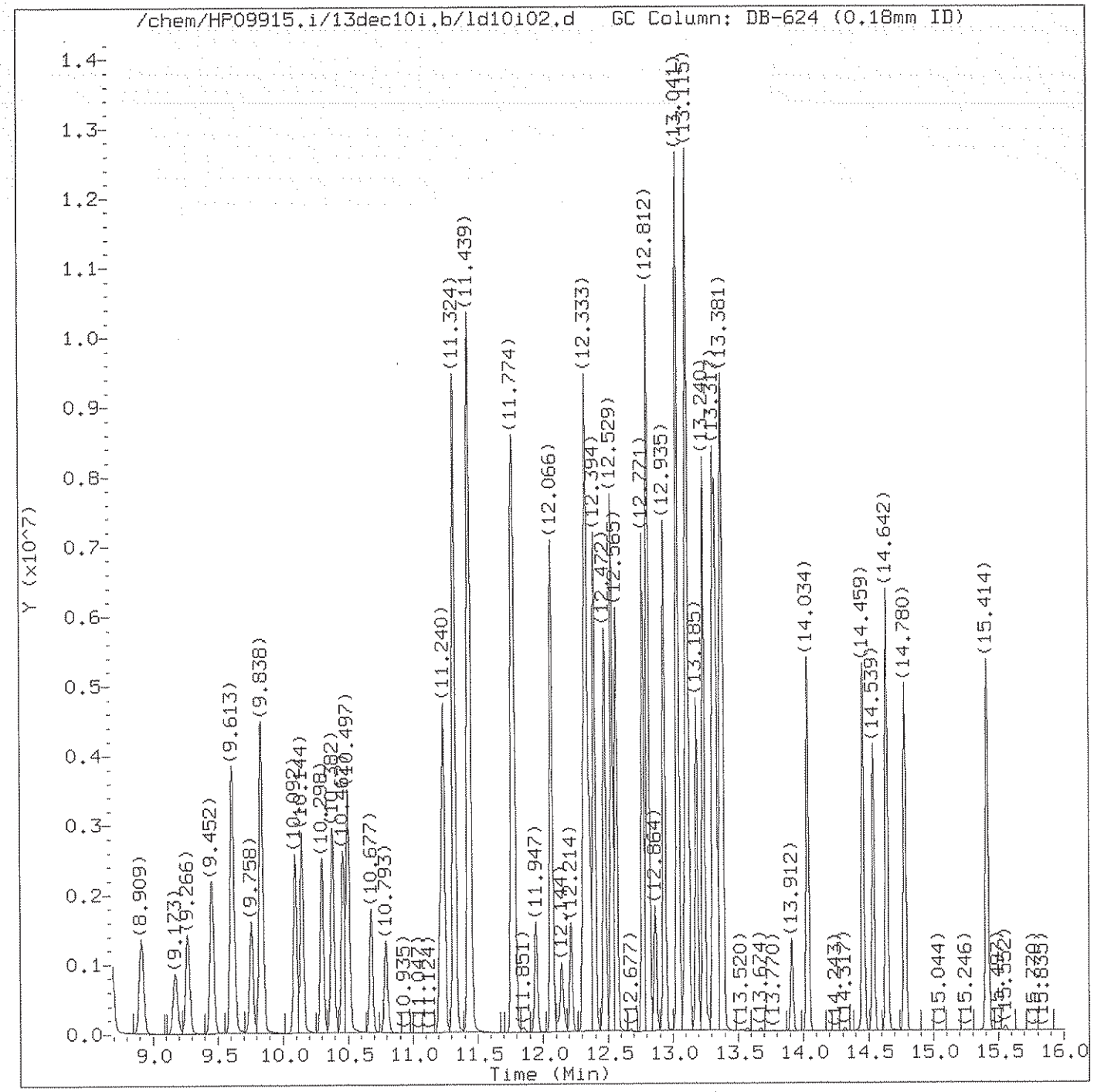
Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d
Injection date and time: 10-DEC-2013 15:02

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 10-DEC-2013 17:23

Sublist used: 8260WI

Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100

Lab Sample ID: VSTD100

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2) Dichlorodifluoromethane	(1)	1.990	85	1199198	98.857
3) Chloromethane	(1)	2.134	50	1276476	99.777
5) Vinyl Chloride	(1)	2.273	62	1130212	99.192
4) 1,3-Butadiene	(1)	2.285	39	1006126M	100.135
7) Bromomethane	(1)	2.597	94	699398	96.203
8) Chloroethane	(1)	2.700	64	621313	94.371
9) Dichlorofluoromethane	(1)	2.938	67	1459176	98.106
10) Trichlorofluoromethane	(1)	3.009	101	1188507M	100.140
11) n-Pentane	(1)	3.057	43	1378132	90.183
13) Ethyl Ether	(1)	3.266	59	904502	100.964
14) Freon 123a	(1)	3.337	67	1000970	99.933
15) Acrolein	(4)	3.440	56	2923086	1102.020
16) 1,1-Dichloroethene	(1)	3.578	96	723430	105.151
18) Freon 113	(1)	3.604	101	750923	103.749
17) Acetone	(4)	3.604	58	228461	210.363
45) 1,2-Dichloroethene (total)	(1)		96	1777253	209.202
21) 2-Propanol	(4)	3.761	45	400496	520.313
20) Methyl Iodide	(1)	3.781	142	1345855	105.638
22) Carbon Disulfide	(1)	3.890	76	2781460	106.434
25) Methyl Acetate	(1)	4.025	43	882541	98.488
24) Allyl Chloride	(1)	4.060	41	1504114	100.912
28)*t-Butyl Alcohol-d10	(4)	4.234	65	204606M	250.000
26) Methylene Chloride	(1)	4.247	84	872564	102.733
29) t-Butyl Alcohol	(4)	4.363	59	669218	535.514
30) Acrylonitrile	(1)	4.578	53	538572	108.344
32) Methyl Tertiary Butyl Ether	(1)	4.652	73	2928379	102.655
31) trans-1,2-Dichloroethene	(1)	4.671	96	834388	104.648
33) n-Hexane	(1)	5.083	57	1384908	102.591
34) 1,1-Dichloroethane	(1)	5.330	63	1635005	105.910
36) di-Isopropyl Ether	(1)	5.372	45	3318317	103.781
37) 2-Chloro-1,3-Butadiene	(1)	5.430	53	1402854	104.870
39) Ethyl t-Butyl Ether	(1)	5.909	59	3082169	104.125
41) 2-Butanone	(4)	6.121	43	1415678	223.527
40) cis-1,2-Dichloroethene	(1)	6.153	96	942865	104.554
42) 2,2-Dichloropropane	(1)	6.170	77	1226217	108.065
43) Propionitrile	(4)	6.205	54	928327	528.258
46) Methacrylonitrile	(1)	6.424	67	1285069	256.616
47) Bromochloromethane	(1)	6.494	128	454022	101.368

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
48) Tetrahydrofuran	(4)	6.497	71	345265	221.452
50) Chloroform	(1)	6.639	83	1468970	106.424
51)$Dibromofluoromethane(mz111)	(1)	6.854	111	310575	50.195
52)$Dibromofluoromethane	(1)	6.858	113	302321	50.113
53) 1,1,1-Trichloroethane	(1)	6.867	97	1300809	101.737
54) Cyclohexane (mz 84)	(1)	6.970	84	1336132	103.932
55) Cyclohexane (mz 69)	(1)	6.970	69	505286	104.022
56) Cyclohexane	(1)	6.970	56	1743050	103.956
58) Carbon Tetrachloride	(1)	7.079	117	1018032	107.354
57) 1,1-Dichloropropene	(1)	7.079	75	1198412	104.676
59) Isobutyl Alcohol	(4)	7.202	41	599258	1321.944
60)$1,2-Dichloroethane-d4(mz104)	(1)	7.317	104	50070	49.860
61)$1,2-Dichloroethane-d4(mz65)	(1)	7.324	65	367790M	49.659
62)$1,2-Dichloroethane-d4	(1)	7.324	102	78686M	50.234
63) Benzene	(1)	7.343	78	3735087	106.740
64) 1,2-Dichloroethane (mz 98)	(1)	7.423	98	114876	101.609
65) 1,2-Dichloroethane	(1)	7.423	62	1172859	103.754
69) t-Amyl Methyl Ether	(1)	7.526	73	2938915	104.315
71)*Fluorobenzene	(1)	7.748	96	1319515	50.000
72) n-Heptane	(1)	7.751	43	1403903	99.181
73) n-Butanol	(4)	8.086	56	1033747	2672.946
112) Xylene (Total)	(2)		106	5081606	319.909
74) Trichloroethene	(1)	8.231	95	902757	106.729
76) Methylcyclohexane	(1)	8.542	83	1544037	100.033
75) Methylcyclohexane (mz98)	(1)	8.542	98	669597	100.862
77) 1,2-Dichloropropane	(1)	8.571	63	1015065	106.309
80) Methyl Methacrylate	(1)	8.639	69	899032	105.550
79) 1,4-Dioxane	(4)	8.655	88	126788	1333.058
78) Dibromomethane	(1)	8.681	93	612779	104.424
83) Bromodichloromethane	(1)	8.909	83	1203541	111.890
85) 2-Nitropropane	(1)	9.173	41	753534	236.515
86) 2-Chloroethyl Vinyl Ether	(1)	9.266	63	801777	105.976
87) cis-1,3-Dichloropropene	(1)	9.456	75	1566326	110.115
89) 4-Methyl-2-Pentanone	(4)	9.613	43	3365593	230.799
93)$Toluene-d8	(2)	9.758	98	1272942	49.965
92)$Toluene-d8(mz100)	(2)	9.761	100	831514	49.889
94) Toluene	(2)	9.838	92	2296755	105.656
95) trans-1,3-Dichloropropene	(2)	10.092	75	1519022	111.068

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
96) Ethyl Methacrylate	(2)	10.144	69	1622858	104.441
97) 1,1,2-Trichloroethane	(2)	10.298	97	872605	104.185
98) Tetrachloroethene	(2)	10.382	166	940396	108.640
99) 1,3-Dichloropropane	(2)	10.462	76	1568628	105.106
101) 2-Hexanone	(4)	10.501	43	2479834	230.646
102) Dibromochloromethane	(2)	10.677	129	962539	115.701
104) 1,2-Dibromoethane	(2)	10.793	107	950744	105.209
106)*Chlorobenzene-d5	(2)	11.214	117	948011	50.000
107) Chlorobenzene	(2)	11.240	112	2479192	105.584
108) 1,1,1,2-Tetrachloroethane	(2)	11.324	131	860212	109.796
109) Ethylbenzene	(2)	11.324	91	4486022	108.146
110) m+p-Xylene	(2)	11.439	106	3420790	213.801
113) o-Xylene	(2)	11.767	106	1660816	106.108
114) Styrene	(2)	11.783	104	2869035	104.166
115) Bromoform	(2)	11.947	173	679432	115.022
116) Isopropylbenzene	(2)	12.066	105	4323286	106.716
118) Cyclohexanone	(4)	12.144	55	441148	1303.125
119)$4-Bromofluorobenzene	(2)	12.214	95	476022	49.836
120)$4-Bromofluorobenzene(mz174)	(2)	12.214	174	389632	49.605
122) 1,1,2,2-Tetrachloroethane	(3)	12.311	83	1385135	102.971
121) Bromobenzene	(3)	12.330	156	1120938	104.516
124) trans-1,4-Dichloro-2-Butene	(3)	12.336	53	978609	280.359
123) 1,2,3-Trichloropropane	(3)	12.359	110	385214	102.466
125) n-Propylbenzene	(3)	12.394	91	5163205	103.852
126) 2-Chlorotoluene	(3)	12.475	126	1004195	103.248
127) 1,3,5-Trimethylbenzene	(3)	12.529	105	3660912	106.954
128) 4-Chlorotoluene	(3)	12.565	126	1040584	103.159
130) tert-Butylbenzene	(3)	12.771	134	725984	102.791
131) Pentachloroethane	(3)	12.806	167	680132	109.658
132) 1,2,4-Trimethylbenzene	(3)	12.812	105	3755275	106.723
133) sec-Butylbenzene	(3)	12.935	105	4482561	102.952
134) 1,3-Dichlorobenzene	(3)	13.037	146	2004834	103.642
135) p-Isopropyltoluene	(3)	13.044	119	3943475	103.906
136)*1,4-Dichlorobenzene-d4	(3)	13.095	152	501156	50.000
138) 1,4-Dichlorobenzene	(3)	13.111	146	2074036	103.199
139) 1,2,3-Trimethylbenzene	(3)	13.118	105	3851113	103.072
141) Benzyl Chloride	(3)	13.185	91	2922582	108.988
142) 1,3-Diethylbenzene	(3)	13.240	119	2348476	101.205

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

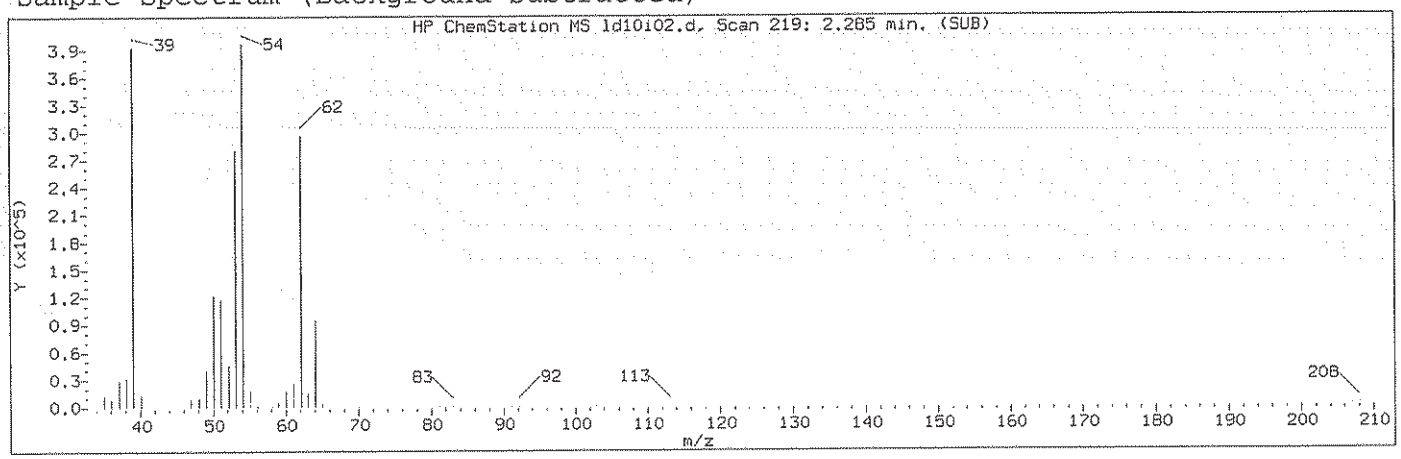
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

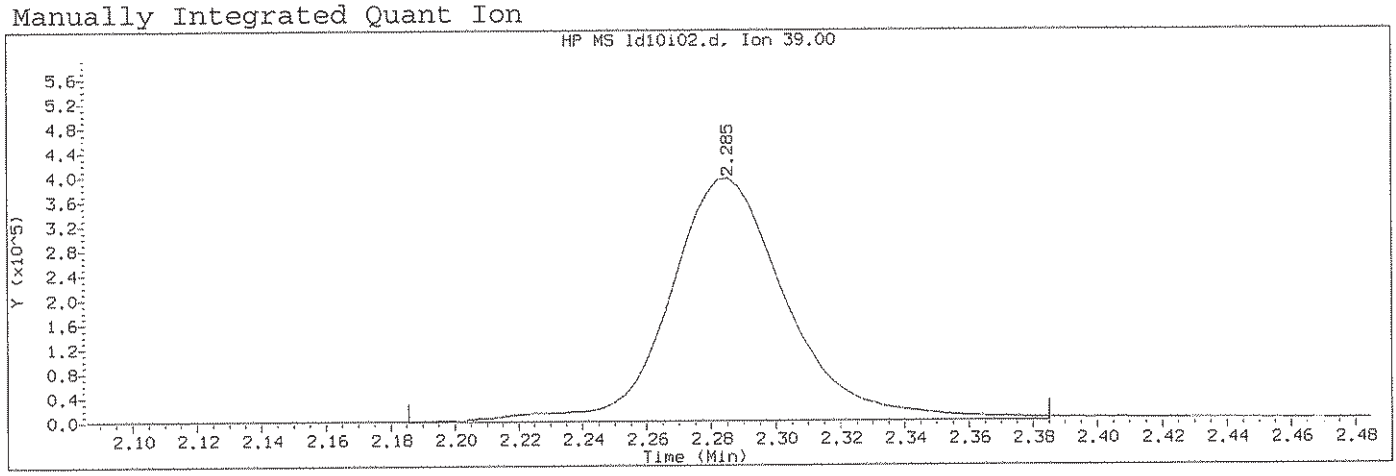
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
143) 1,4-Diethylbenzene	(3)	13.314	119	2343640	100.576
145) n-Butylbenzene	(3)	13.333	92	1901951	101.420
144) 1,2-Dichlorobenzene	(3)	13.369	146	1959242	102.501
146) 1,2-Diethylbenzene	(3)	13.385	119	1952287	101.480
148) 1,2-Dibromo-3-Chloropropane	(3)	13.912	75	278581	106.834
149) 1,3,5-Trichlorobenzene	(3)	14.037	180	1522014	102.841
150) 1,2,4-Trichlorobenzene	(3)	14.459	180	1459598	103.010
151) Hexachlorobutadiene	(3)	14.539	225	688417	102.459
152) Naphthalene	(3)	14.642	128	4357502	99.990
153) 1,2,3-Trichlorobenzene	(3)	14.780	180	1388645	104.212
154) 2-Methylnaphthalene	(3)	15.414	142	2526850	101.654

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

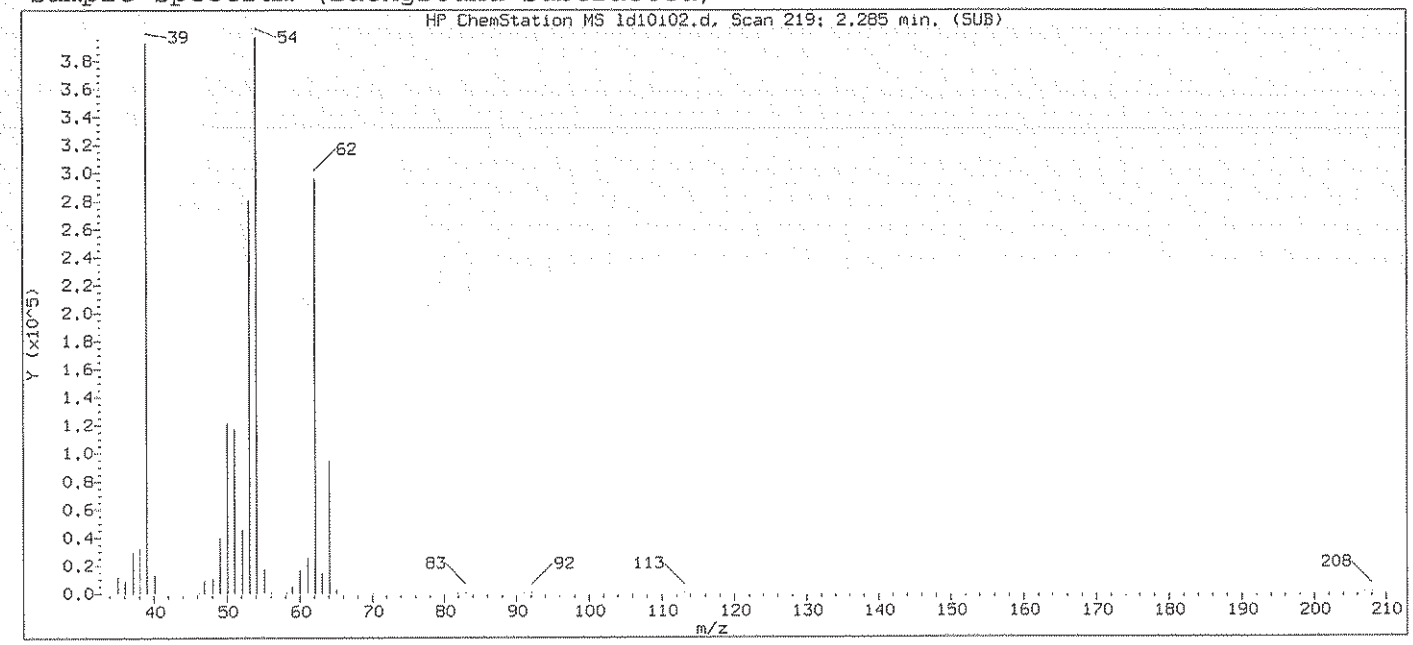
Compound Number	: 4		
Compound Name	: 1,3-Butadiene		
Scan Number	: 219		
Retention Time (minutes)	: 2.285		
Quant Ion	: 39.00		
Area (flag)	: 1006126M		
On-Column Amount (ng)	: 100.1347		
Integration start scan	: 187	Integration stop scan:	249
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

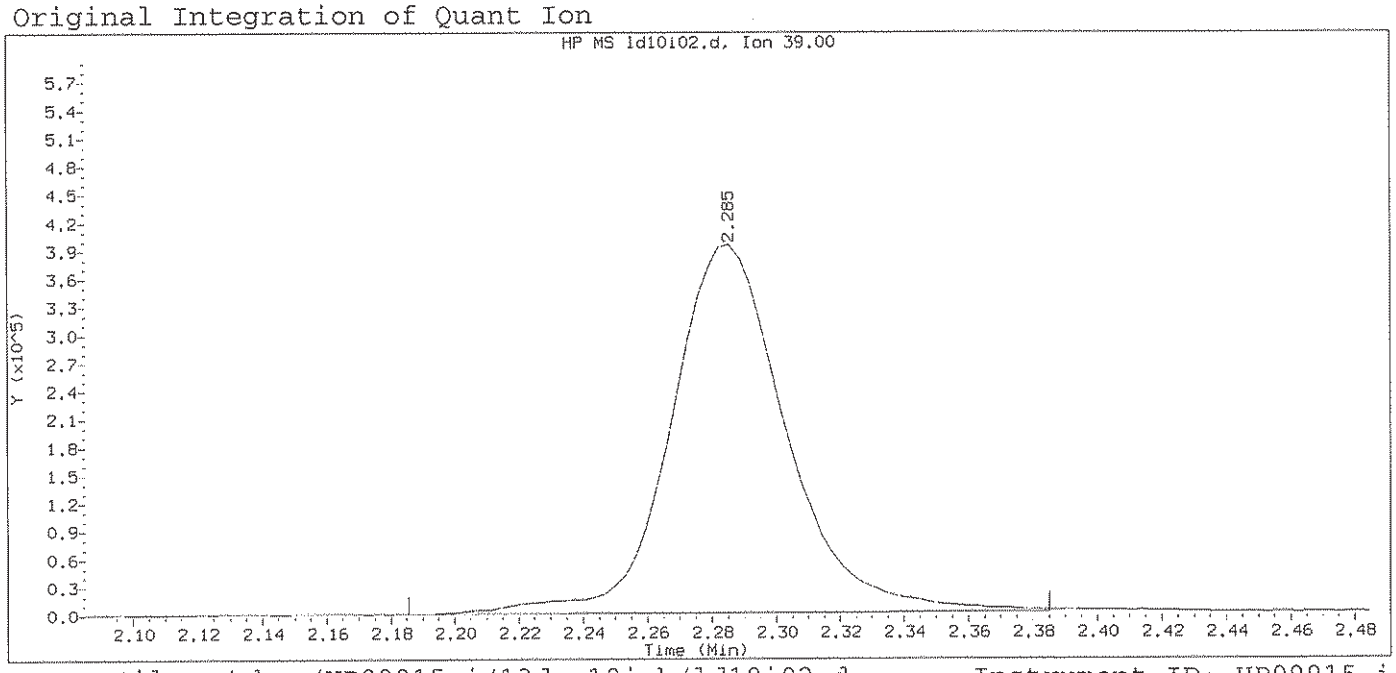
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

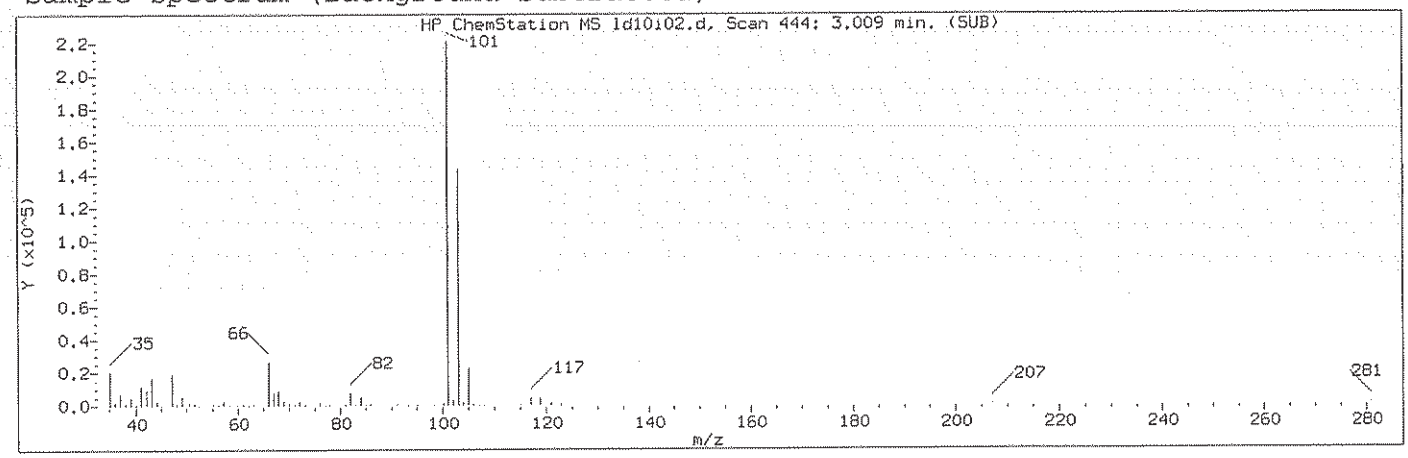
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

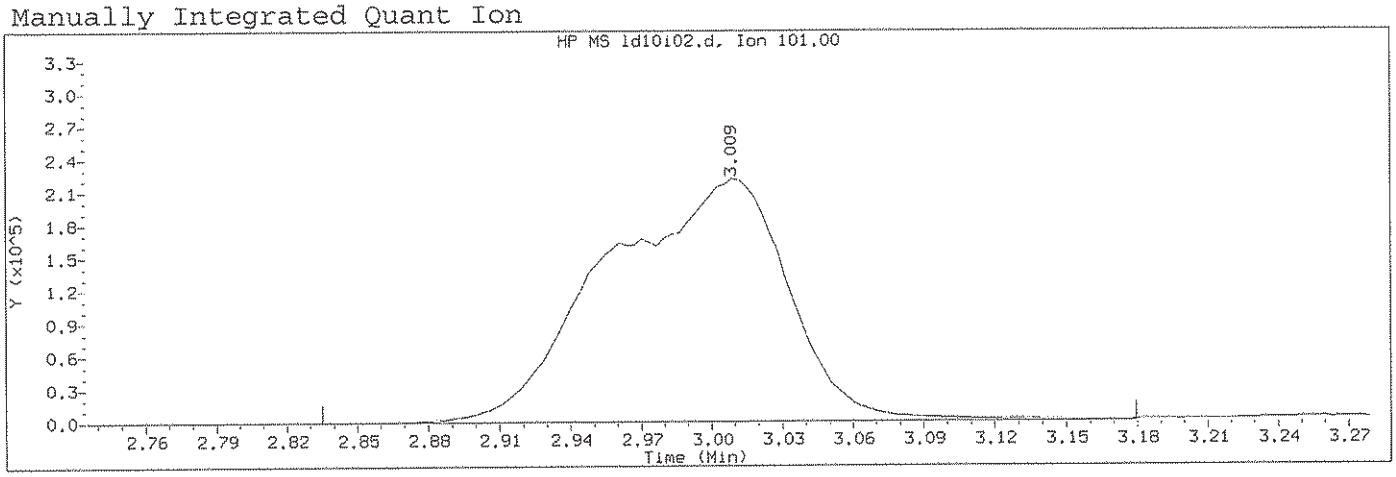
Compound Number : 4
Compound Name : 1,3-Butadiene
Scan Number : 219
Retention Time (minutes): 2.285
Quant Ion : 39.00
Area : 985225
On-column Amount (ng) : 111.2946
Integration start scan : 187 Integration stop scan: 249
Y at integration start : 1066 Y at integration end: 2343

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

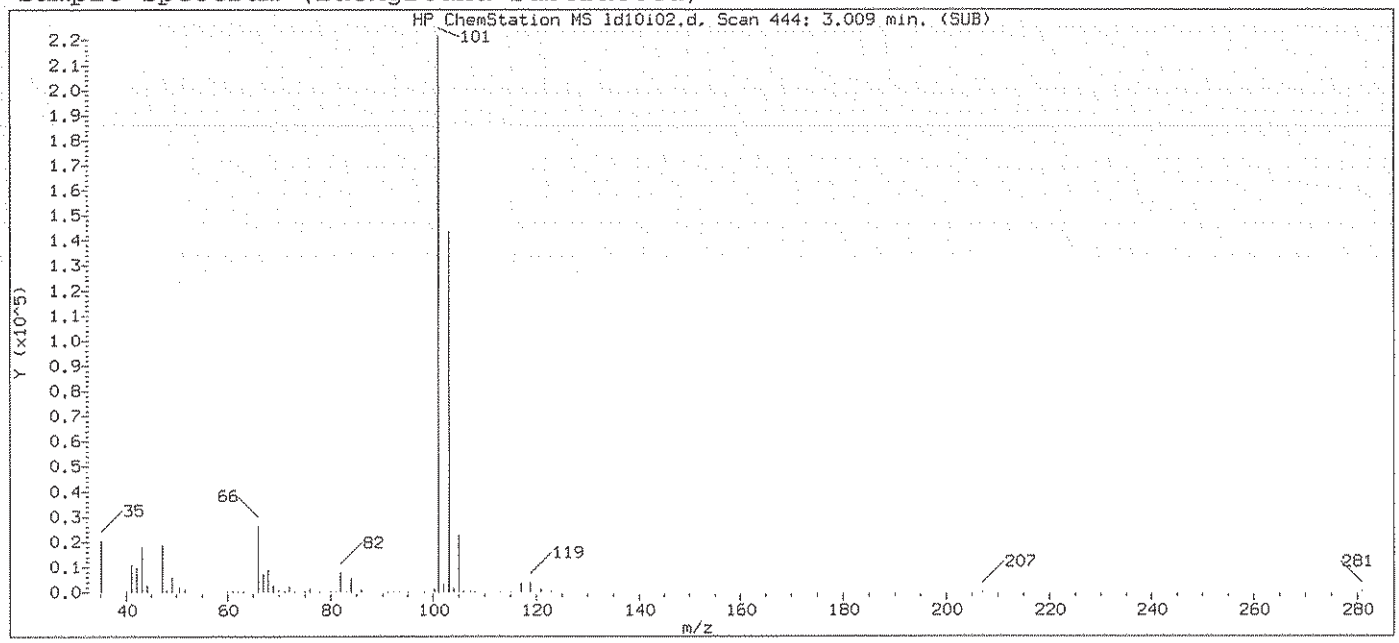
Compound Number	: 10		
Compound Name	: Trichlorofluoromethane		
Scan Number	: 444		
Retention Time (minutes)	: 3.009		
Quant Ion	: 101.00		
Area (flag)	: 1188507M		
On-Column Amount (ng)	: 100.1402		
Integration start scan	: 389	Integration stop scan:	496
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

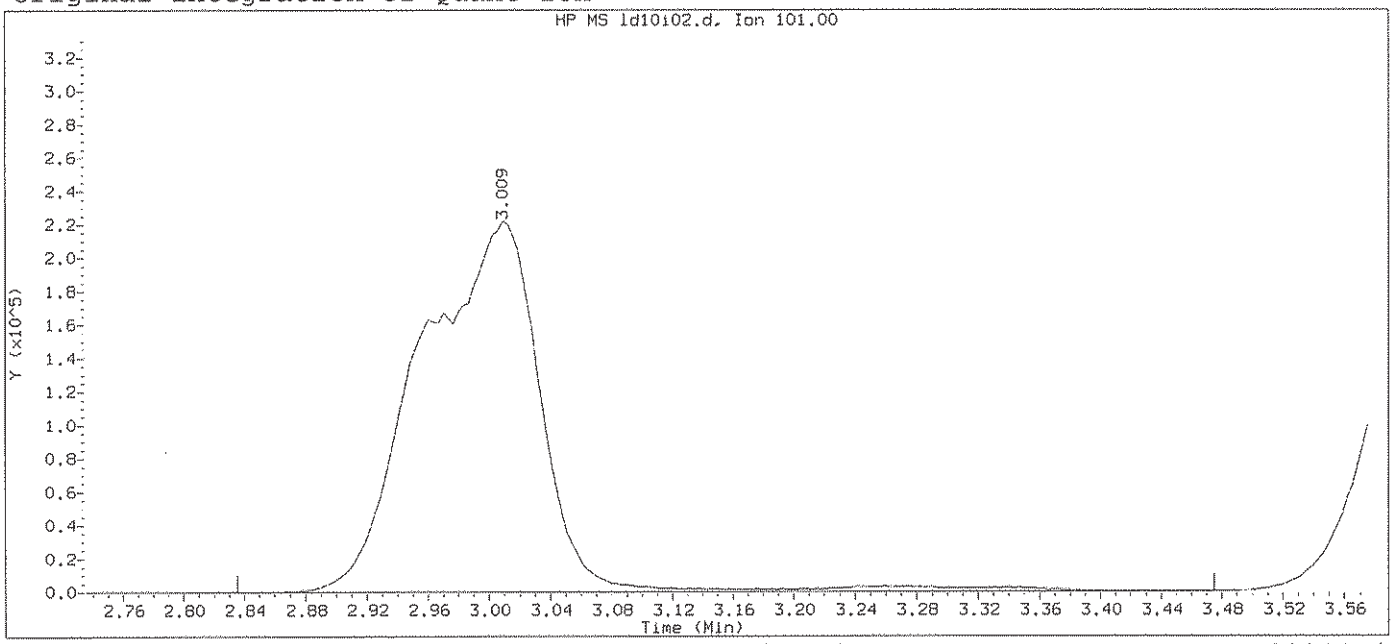
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/1d10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

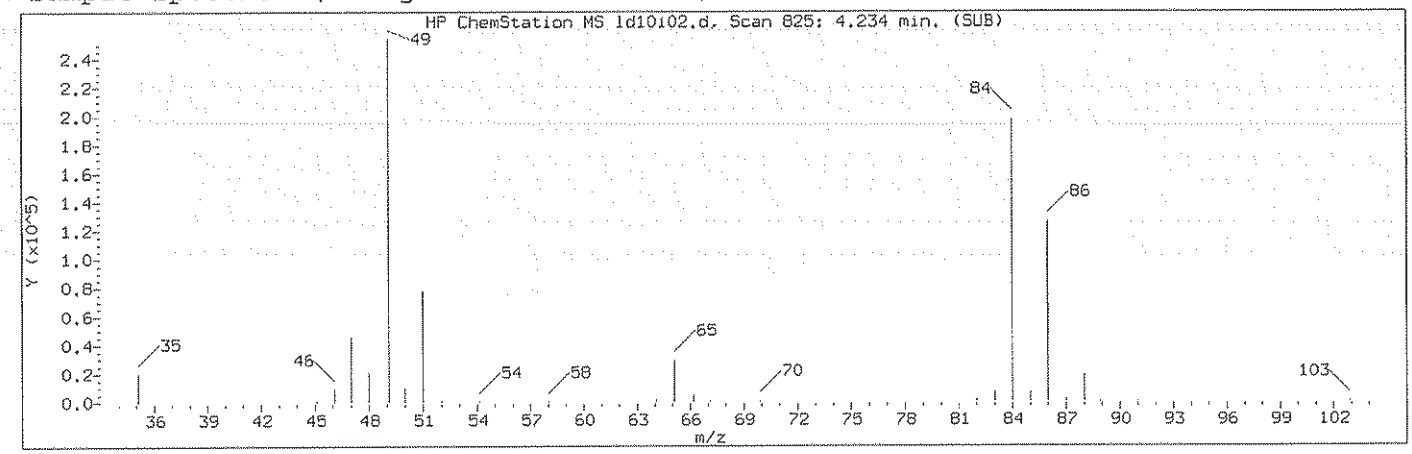
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

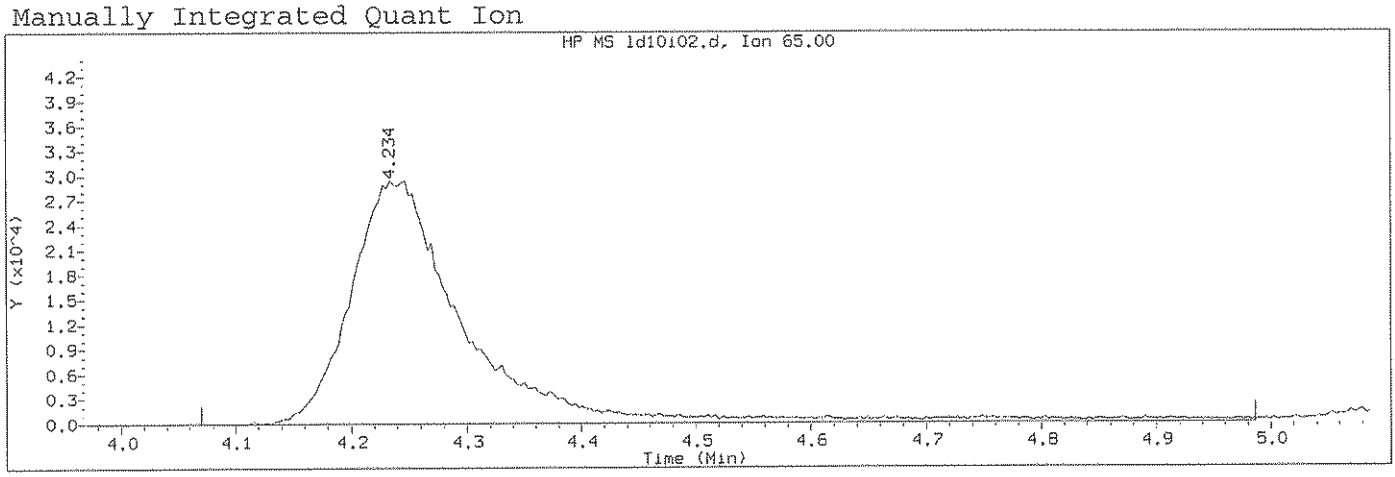
Compound Number	: 10
Compound Name	: Trichlorofluoromethane
Scan Number	: 444
Retention Time (minutes)	: 3.009
Quant Ion	: 101.00
Area	: 1216613
On-column Amount (ng)	: 92.4651
Integration start scan	: 389
Integration stop scan	: 588
Y at integration start	: 0
Y at integration end	: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

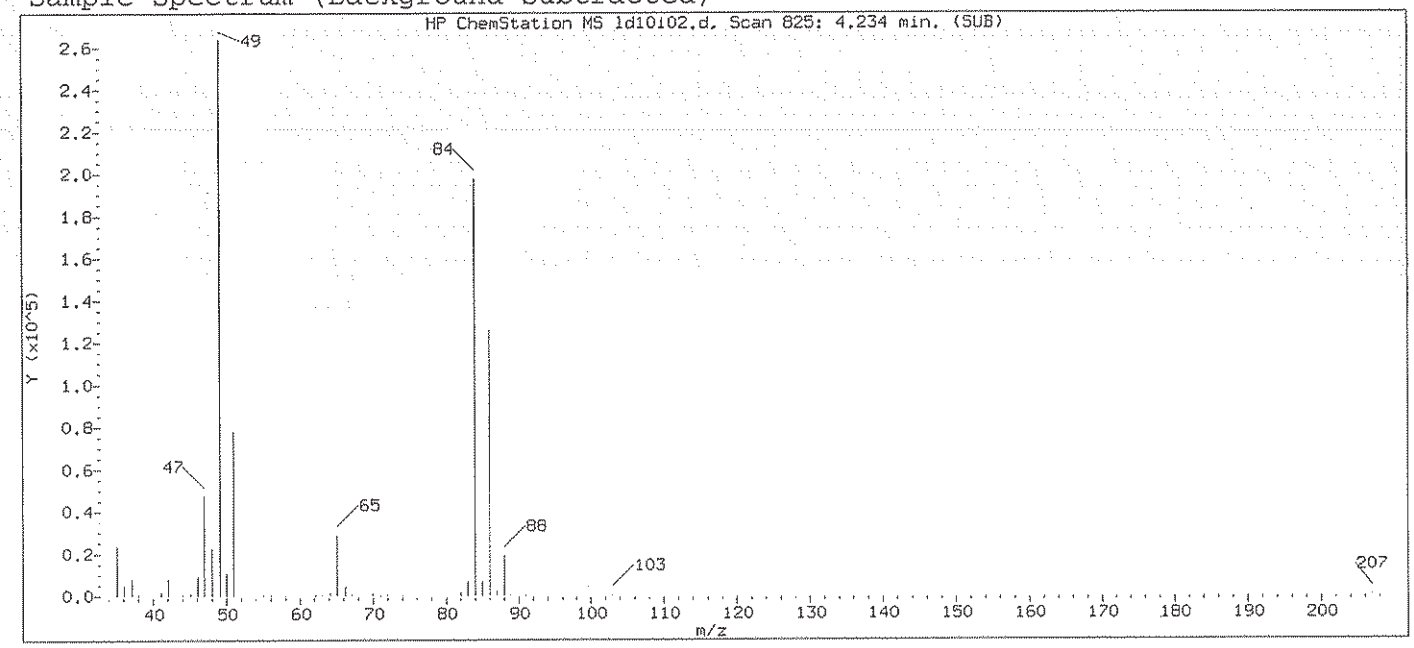
Compound Number : 28
Compound Name : t-Butyl Alcohol-d10
Scan Number : 825
Retention Time (minutes): 4.234
Quant Ion : 65.00
Area (flag) : 204606M
On-Column Amount (ng) : 250.0000
Integration start scan : 773 Integration stop scan: 1058
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

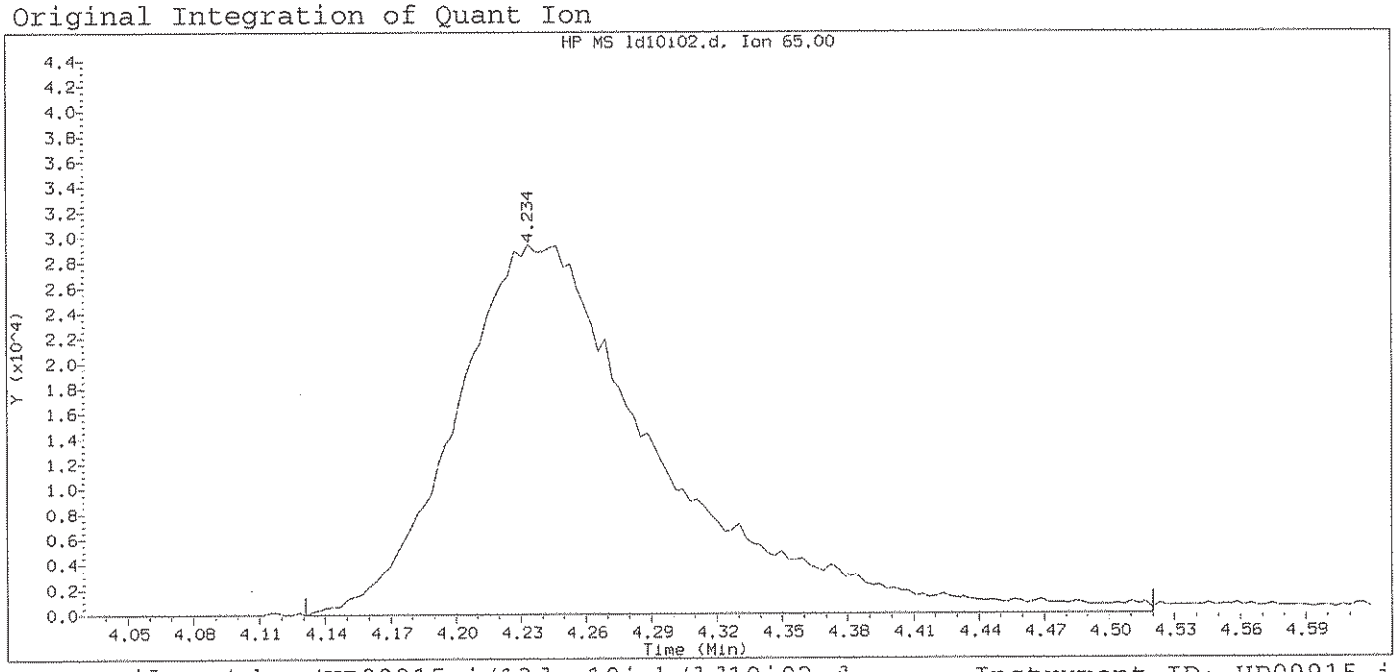
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

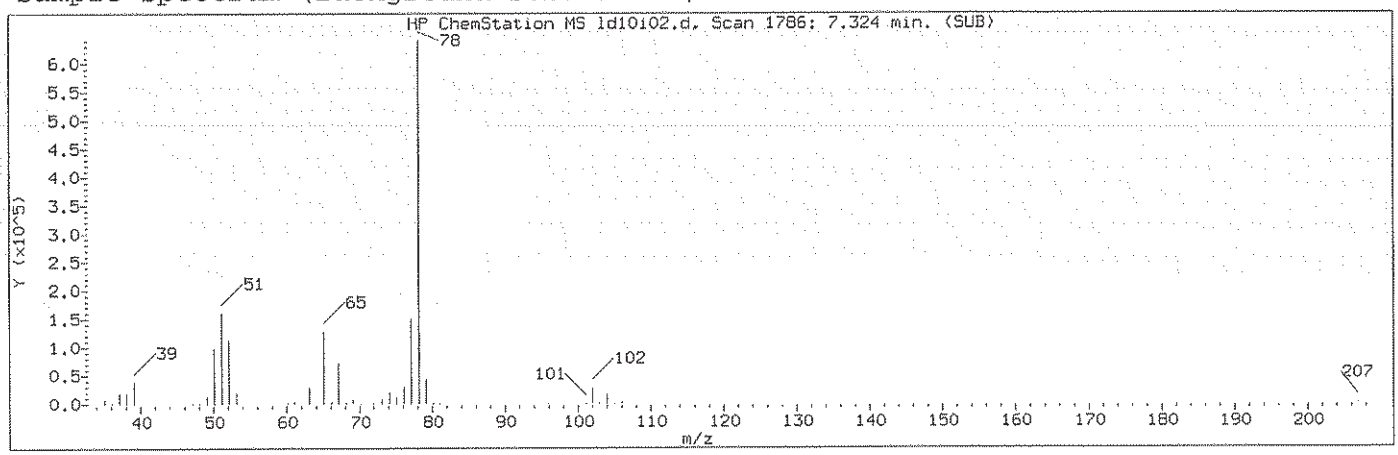
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

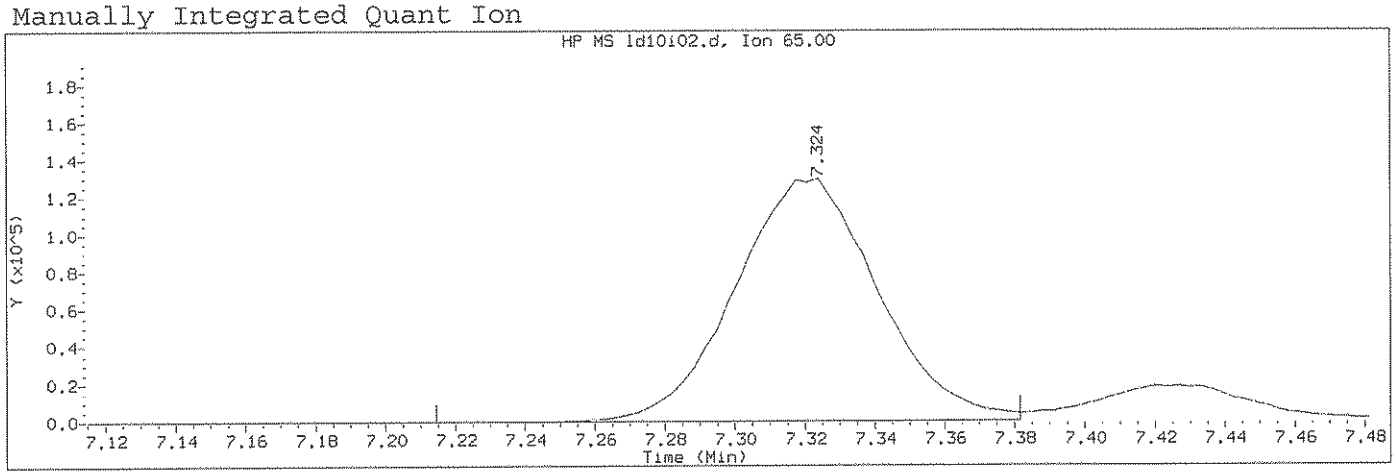
Compound Number	: 28		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 825		
Retention Time (minutes)	: 4.234		
Quant Ion	: 65.00		
Area	: 191377		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 792	Integration stop scan:	913
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

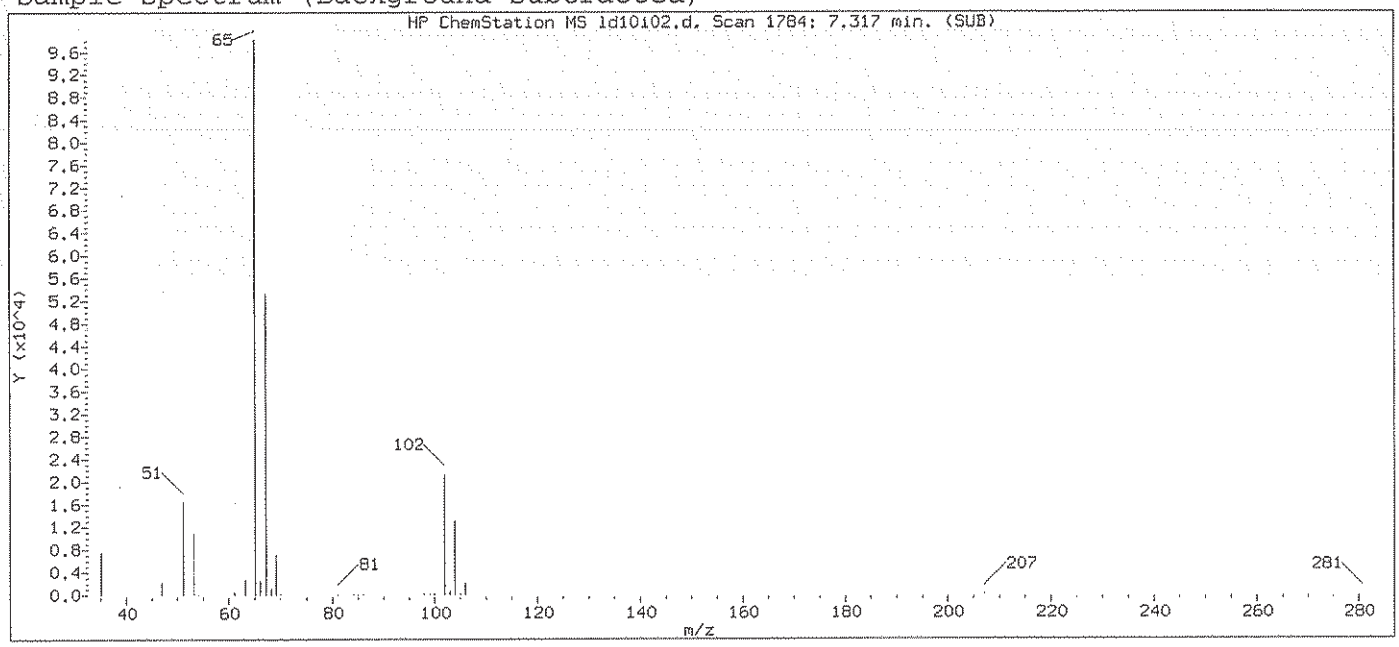
Compound Number : 61
Compound Name : 1,2-Dichloroethane-d4(mz65)
Scan Number : 1786
Retention Time (minutes): 7.324
Quant Ion : 65.00
Area (flag) : 367790M
On-Column Amount (ng) : 49.6593
Integration start scan : 1751 Integration stop scan: 1803
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

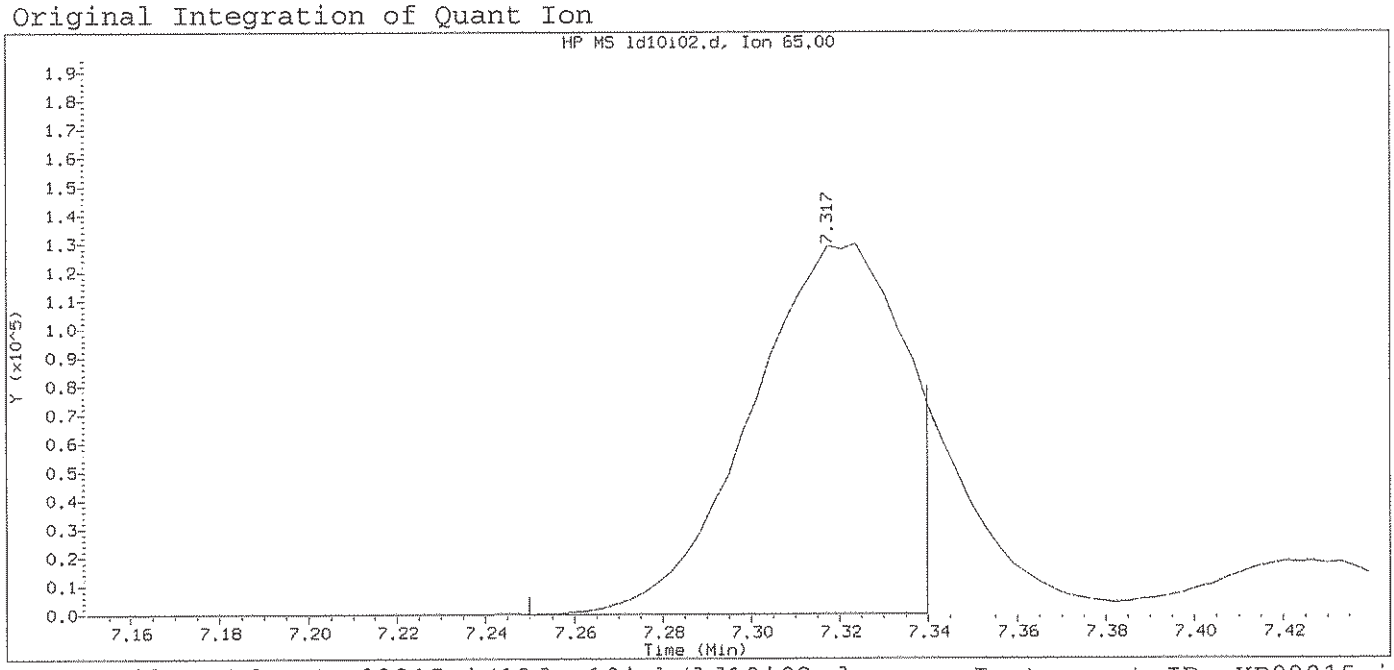
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compound Number	: 61
Compound Name	: 1,2-Dichloroethane-d4(mz65)
Scan Number	: 1784
Retention Time (minutes)	: 7.317
Quant Ion	: 65.00
Area	: 307412
On-column Amount (ng)	: 36.3712
Integration start scan	: 1762 Integration stop scan: 1790
Y at integration start	: 0 Y at integration end: 0

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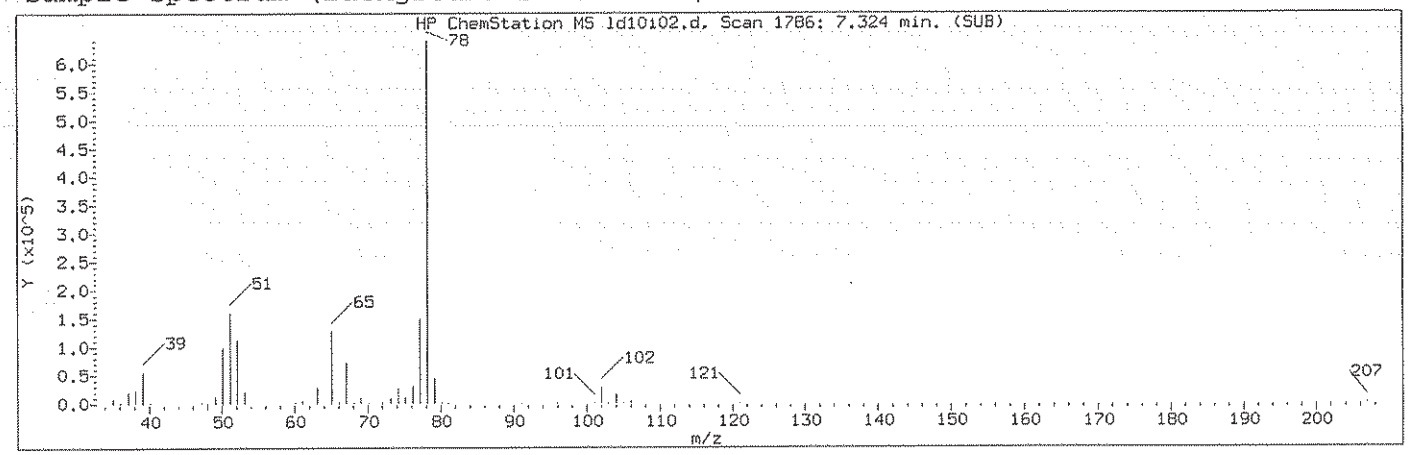
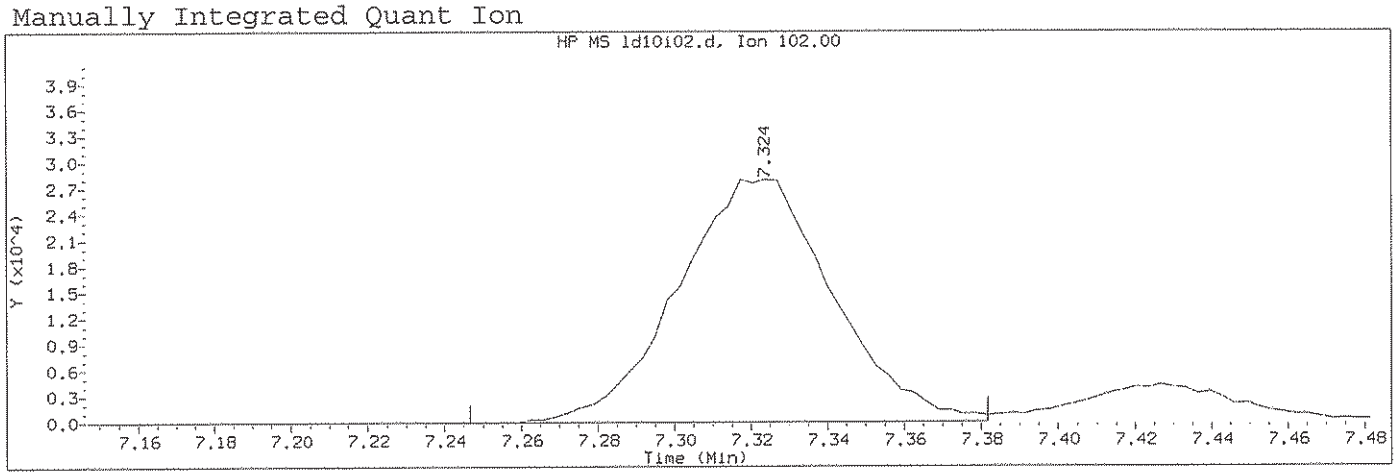
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:27 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

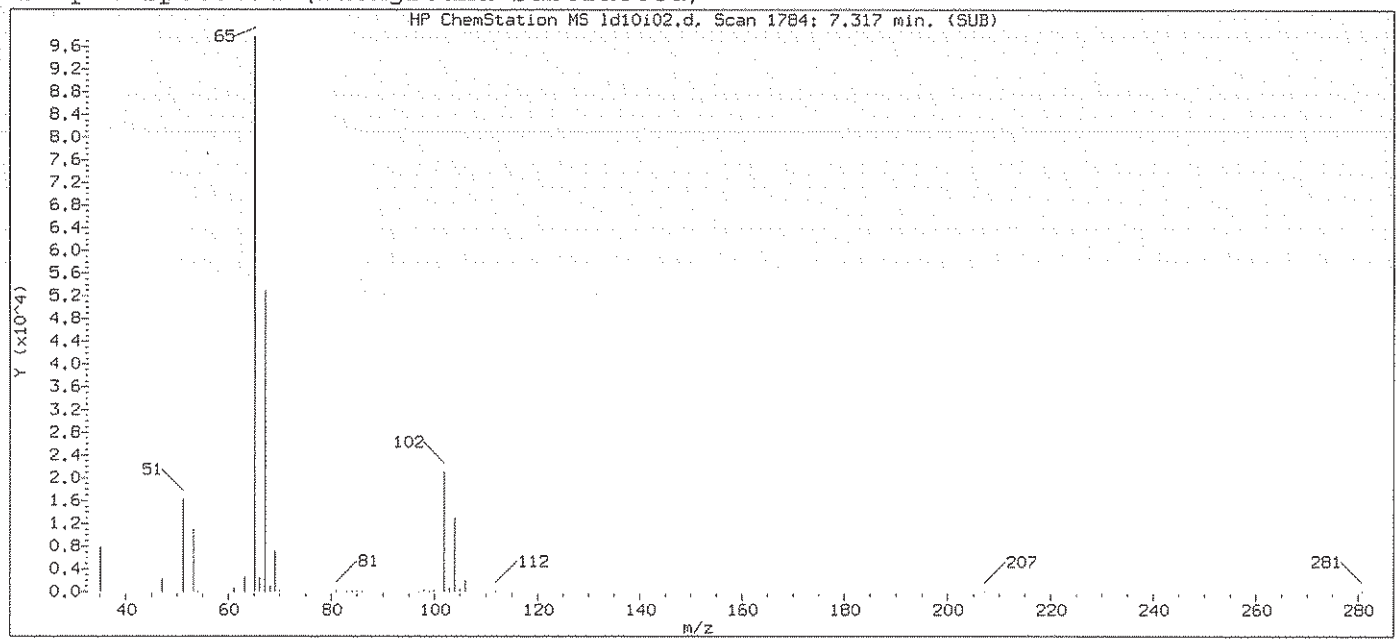
Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1786
Retention Time (minutes): 7.324
Quant Ion : 102.00
Area (flag) : 78686M
On-Column Amount (ng) : 50.2338
Integration start scan : 1761 Integration stop scan: 1803
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

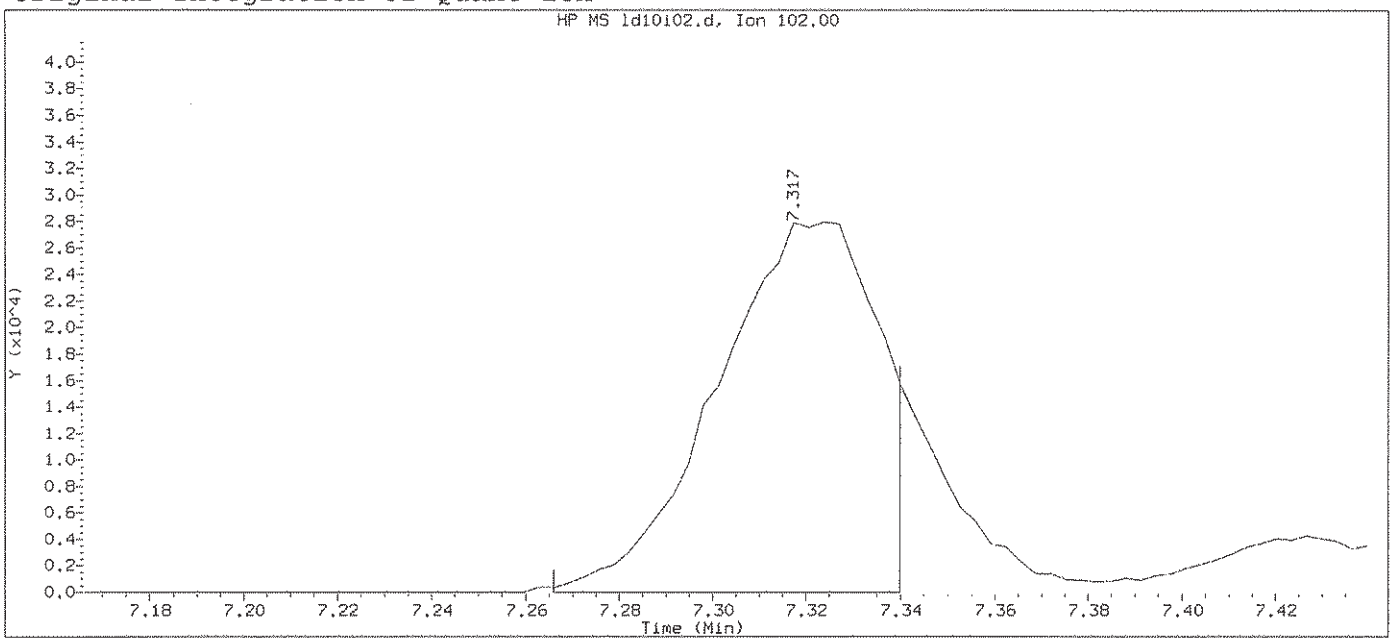
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



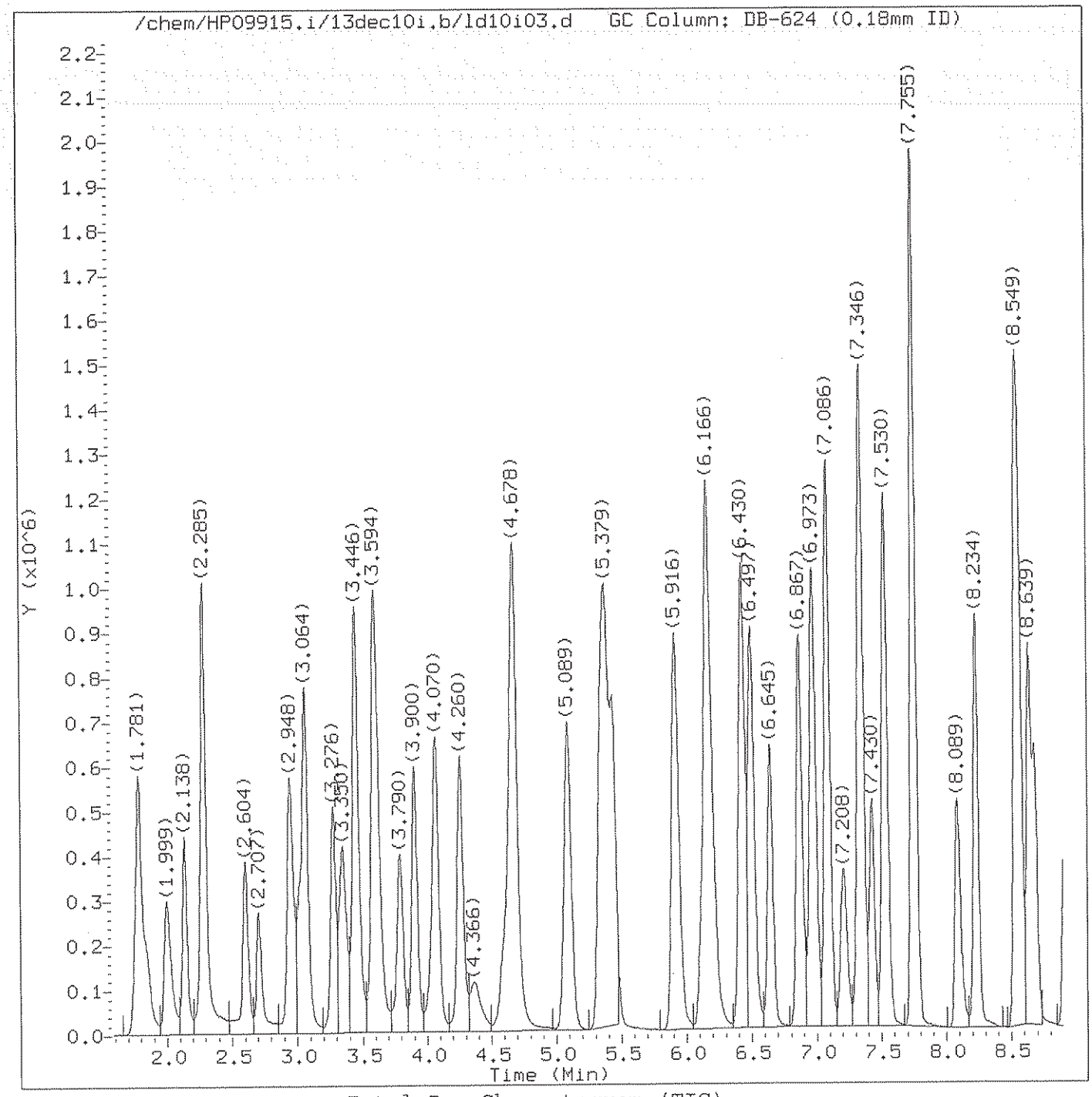
Data File: /chem/HP09915.i/13dec10i.b/ld10i02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:02 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compound Number	: 62
Compound Name	: 1,2-Dichloroethane-d4
Scan Number	: 1784
Retention Time (minutes)	: 7.317
Quant Ion	: 102.00
Area	: 65553
On-column Amount (ng)	: 42.4653
Integration start scan	: 1767 Integration stop scan: 1790
Y at integration start	: 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d
Injection date and time: 10-DEC-2013 15:24

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 10-DEC-2013 17:23

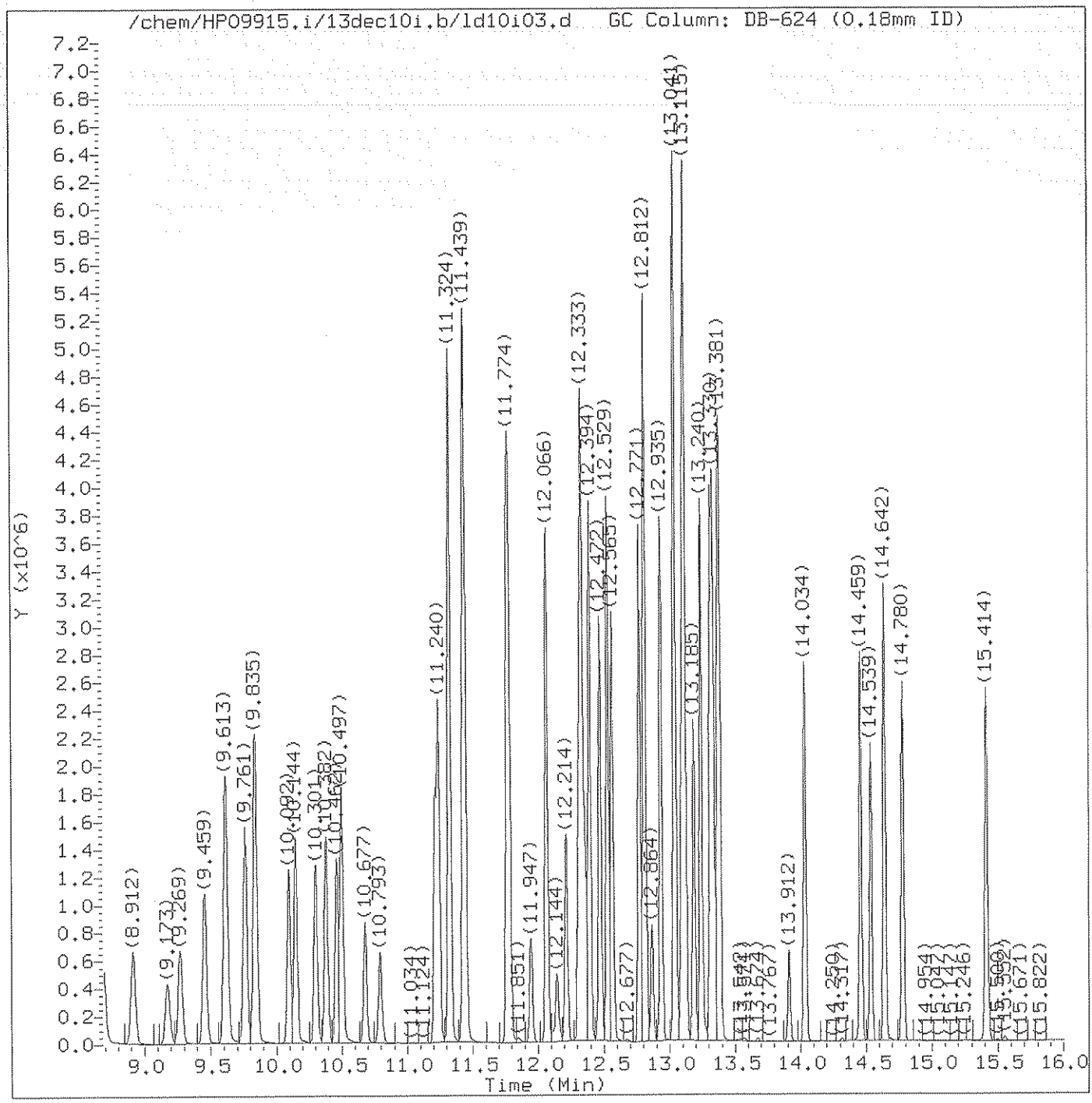
Sublist used: 8260WI

Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050

Lab Sample ID: VSTD050

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d
Injection date and time: 10-DEC-2013 15:24

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 10-DEC-2013 17:23

Sublist used: 8260WI

Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050

Lab Sample ID: VSTD050

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2) Dichlorodifluoromethane	(1)	1.999	85	606707	50.467
3) Chloromethane	(1)	2.138	50	604194	47.654
5) Vinyl Chloride	(1)	2.273	62	559411	49.540
4) 1,3-Butadiene	(1)	2.289	39	508133M	49.017
7) Bromomethane	(1)	2.601	94	353836	49.111
8) Chloroethane	(1)	2.707	64	313784	48.091
9) Dichlorofluoromethane	(1)	2.945	67	697731	47.336
10) Trichlorofluoromethane	(1)	3.015	101	608982	51.601
11) n-Pentane	(1)	3.064	43	753424	49.749
13) Ethyl Ether	(1)	3.273	59	448120	50.473
14) Freon 123a	(1)	3.350	67	472137	47.563
15) Acrolein	(4)	3.449	56	1537505	581.182
16) 1,1-Dichloroethene	(1)	3.588	96	365333M	53.581
18) Freon 113	(1)	3.613	101	383487	53.463
17) Acetone	(4)	3.613	58	115387	106.528
45) 1,2-Dichloroethene (total)	(1)		96	868528	103.093
21) 2-Propanol	(4)	3.771	45	211262	275.192
20) Methyl Iodide	(1)	3.793	142	659300	52.217
22) Carbon Disulfide	(1)	3.903	76	1354426	52.297
25) Methyl Acetate	(1)	4.038	43	431032	48.537
24) Allyl Chloride	(1)	4.070	41	731006M	49.487
28)*t-Butyl Alcohol-d10	(4)	4.240	65	204066M	250.000
26) Methylene Chloride	(1)	4.260	84	427017	50.730
29) t-Butyl Alcohol	(4)	4.369	59	347417	278.742
30) Acrylonitrile	(1)	4.588	53	266622	54.121
32) Methyl Tertiary Butyl Ether	(1)	4.658	73	1444097	51.081
31) trans-1,2-Dichloroethene	(1)	4.681	96	403170	51.023
33) n-Hexane	(1)	5.089	57	693136	51.811
34) 1,1-Dichloroethane	(1)	5.337	63	801495	52.388
36) di-Isopropyl Ether	(1)	5.379	45	1652856	52.161
37) 2-Chloro-1,3-Butadiene	(1)	5.440	53	681080	51.374
39) Ethyl t-Butyl Ether	(1)	5.916	59	1545384	52.680
41) 2-Butanone	(4)	6.128	43	705927	111.756
40) cis-1,2-Dichloroethene	(1)	6.163	96	465358	52.070
42) 2,2-Dichloropropane	(1)	6.176	77	600049	53.360
43) Propionitrile	(4)	6.211	54	468935	267.550
46) Methacrylonitrile	(1)	6.430	67	658619	132.710
47) Bromochloromethane	(1)	6.504	128	217680	49.041

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
48) Tetrahydrofuran	(4)	6.504	71	171293	110.158
50) Chloroform	(1)	6.645	83	726545	53.113
51)$Dibromofluoromethane(mz111)	(1)	6.864	111	308160	50.255
52)$Dibromofluoromethane	(1)	6.864	113	299553	50.103
53) 1,1,1-Trichloroethane	(1)	6.874	97	630891	49.788
54) Cyclohexane (mz 84)	(1)	6.973	84	668142	52.442
55) Cyclohexane (mz 69)	(1)	6.973	69	252741	52.502
56) Cyclohexane	(1)	6.973	56	875430	52.683
57) 1,1-Dichloropropene	(1)	7.083	75	582089	51.303
58) Carbon Tetrachloride	(1)	7.086	117	494032	52.568
59) Isobutyl Alcohol	(4)	7.208	41	316045	699.030
60)$1,2-Dichloroethane-d4(mz104)	(1)	7.321	104	49820	50.060
61)$1,2-Dichloroethane-d4(mz65)	(1)	7.324	65	366812	49.975
62)$1,2-Dichloroethane-d4	(1)	7.327	102	77102	49.668
63) Benzene	(1)	7.346	78	1821239	52.518
64) 1,2-Dichloroethane (mz 98)	(1)	7.430	98	57679	51.479
65) 1,2-Dichloroethane	(1)	7.430	62	585453	52.259
69) t-Amyl Methyl Ether	(1)	7.530	73	1487204	53.265
71)*Fluorobenzene	(1)	7.751	96	1307687	50.000
72) n-Heptane	(1)	7.755	43	711535	50.722
73) n-Butanol	(4)	8.089	56	546185	1416.001
112) Xylene (Total)	(2)		106	2595909	165.739
74) Trichloroethene	(1)	8.234	95	443025	52.851
76) Methylcyclohexane	(1)	8.542	83	753814	49.279
75) Methylcyclohexane (mz98)	(1)	8.542	98	324206	49.277
77) 1,2-Dichloropropane	(1)	8.571	63	503980	53.260
80) Methyl Methacrylate	(1)	8.639	69	450639	53.386
79) 1,4-Dioxane	(4)	8.658	88	65799	693.646
78) Dibromomethane	(1)	8.681	93	310112	53.324
83) Bromodichloromethane	(1)	8.912	83	590593	55.402
85) 2-Nitropropane	(1)	9.173	41	369793	117.119
86) 2-Chloroethyl Vinyl Ether	(1)	9.269	63	380376	50.731
87) cis-1,3-Dichloropropene	(1)	9.459	75	777945	55.186
89) 4-Methyl-2-Pentanone	(4)	9.616	43	1732419	119.117
93)$Toluene-d8	(2)	9.758	98	1257207	50.045
92)$Toluene-d8(mz100)	(2)	9.761	100	822747	50.060
94) Toluene	(2)	9.838	92	1149686	53.635
95) trans-1,3-Dichloropropene	(2)	10.092	75	753964	55.907

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
96) Ethyl Methacrylate	(2)	10.147	69	822943	53.710
97) 1,1,2-Trichloroethane	(2)	10.298	97	442115	53.532
98) Tetrachloroethene	(2)	10.382	166	468958	54.942
99) 1,3-Dichloropropane	(2)	10.462	76	788740	53.597
101) 2-Hexanone	(4)	10.501	43	1280384	119.402
102) Dibromochloromethane	(2)	10.677	129	474420	57.833
104) 1,2-Dibromoethane	(2)	10.793	107	478822	53.735
106)*Chlorobenzene-d5	(2)	11.214	117	934803	50.000
107) Chlorobenzene	(2)	11.240	112	1251467	54.050
108) 1,1,1,2-Tetrachloroethane	(2)	11.324	131	434377	56.226
109) Ethylbenzene	(2)	11.324	91	2261923	55.299
110) m+p-Xylene	(2)	11.439	106	1743283	110.495
113) o-Xylene	(2)	11.767	106	852626	55.243
114) Styrene	(2)	11.783	104	1457691	53.672
115) Bromoform	(2)	11.947	173	327768	56.272
116) Isopropylbenzene	(2)	12.066	105	2225727	55.716
118) Cyclohexanone	(4)	12.144	55	215503	638.268
119)$4-Bromofluorobenzene	(2)	12.214	95	468854	49.779
120)$4-Bromofluorobenzene(mz174)	(2)	12.214	174	385358	49.754
122) 1,1,2,2-Tetrachloroethane	(3)	12.311	83	708299M	53.196
121) Bromobenzene	(3)	12.330	156	566838	53.394
124) trans-1,4-Dichloro-2-Butene	(3)	12.336	53	484742	140.297
123) 1,2,3-Trichloropropane	(3)	12.359	110	197318	53.025
125) n-Propylbenzene	(3)	12.394	91	2659176	54.035
126) 2-Chlorotoluene	(3)	12.472	126	513981	53.388
127) 1,3,5-Trimethylbenzene	(3)	12.529	105	1875375	55.352
128) 4-Chlorotoluene	(3)	12.565	126	532809	53.363
130) tert-Butylbenzene	(3)	12.771	134	378279M	54.110
131) Pentachloroethane	(3)	12.806	167	313605	51.082
132) 1,2,4-Trimethylbenzene	(3)	12.812	105	1917813	55.062
133) sec-Butylbenzene	(3)	12.935	105	2332304	54.116
134) 1,3-Dichlorobenzene	(3)	13.037	146	1030556	53.822
135) p-Isopropyltoluene	(3)	13.041	119	2040866	54.326
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	496066	50.000
138) 1,4-Dichlorobenzene	(3)	13.111	146	1064775	53.524
139) 1,2,3-Trimethylbenzene	(3)	13.118	105	1825690	49.364
141) Benzyl Chloride	(3)	13.185	91	1459100	54.970
142) 1,3-Diethylbenzene	(3)	13.240	119	1119264	48.728

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/1d10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
143) 1,4-Diethylbenzene	(3)	13.314	119	1123033	48.689
145) n-Butylbenzene	(3)	13.333	92	978296	52.702
144) 1,2-Dichlorobenzene	(3)	13.369	146	1005143	53.125
146) 1,2-Diethylbenzene	(3)	13.385	119	924946	48.572
148) 1,2-Dibromo-3-Chloropropane	(3)	13.912	75	139902	54.202
149) 1,3,5-Trichlorobenzene	(3)	14.034	180	782661	53.426
150) 1,2,4-Trichlorobenzene	(3)	14.459	180	744458	53.079
151) Hexachlorobutadiene	(3)	14.539	225	356617	53.621
152) Naphthalene	(3)	14.642	128	2260887	52.412
153) 1,2,3-Trichlorobenzene	(3)	14.780	180	708425	53.710
154) 2-Methylnaphthalene	(3)	15.414	142	1193893	48.523

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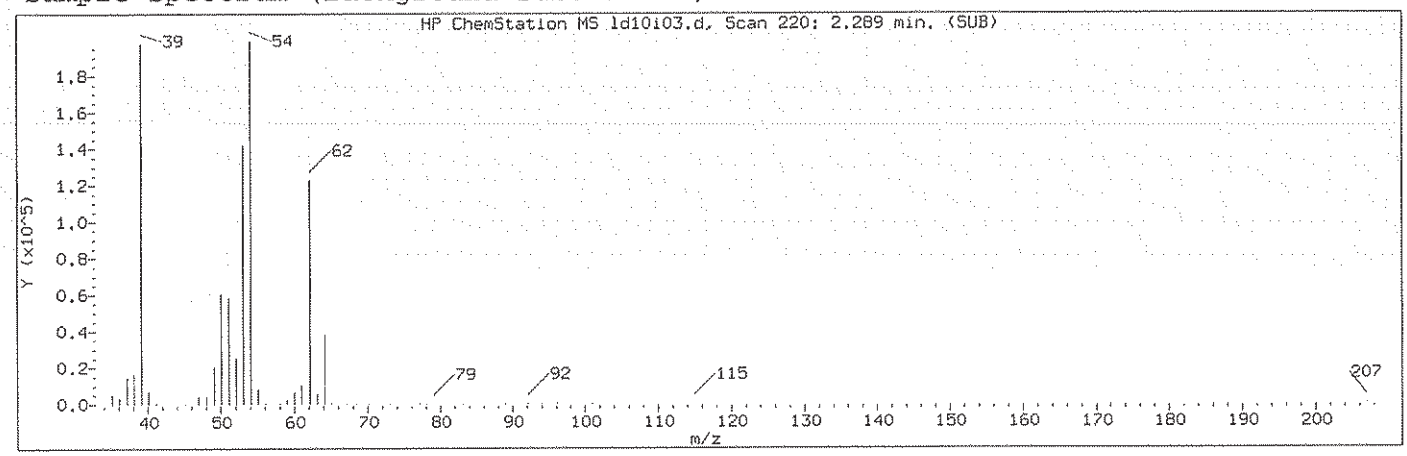
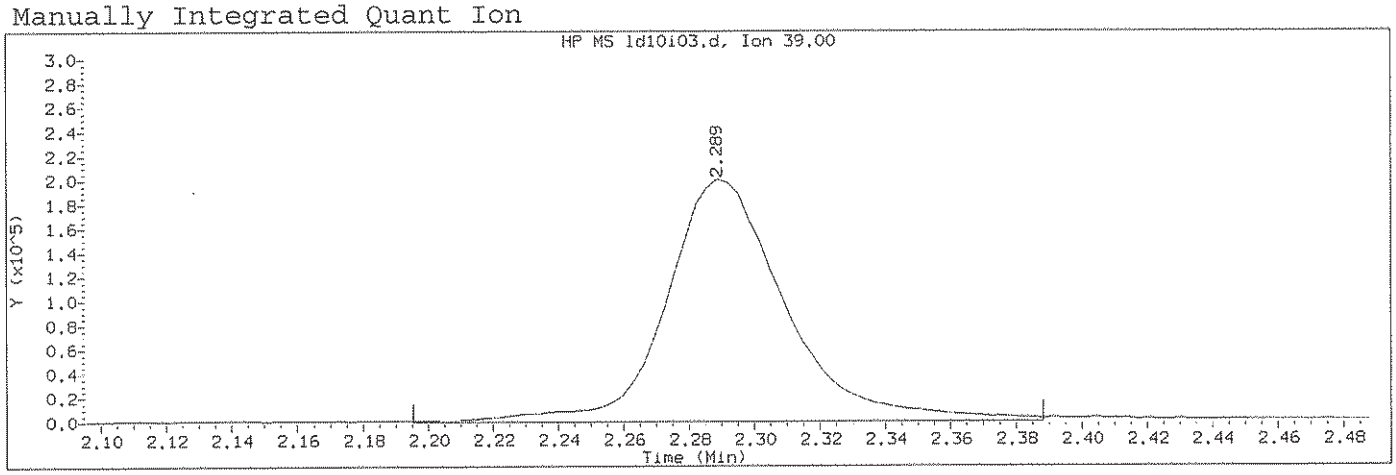
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

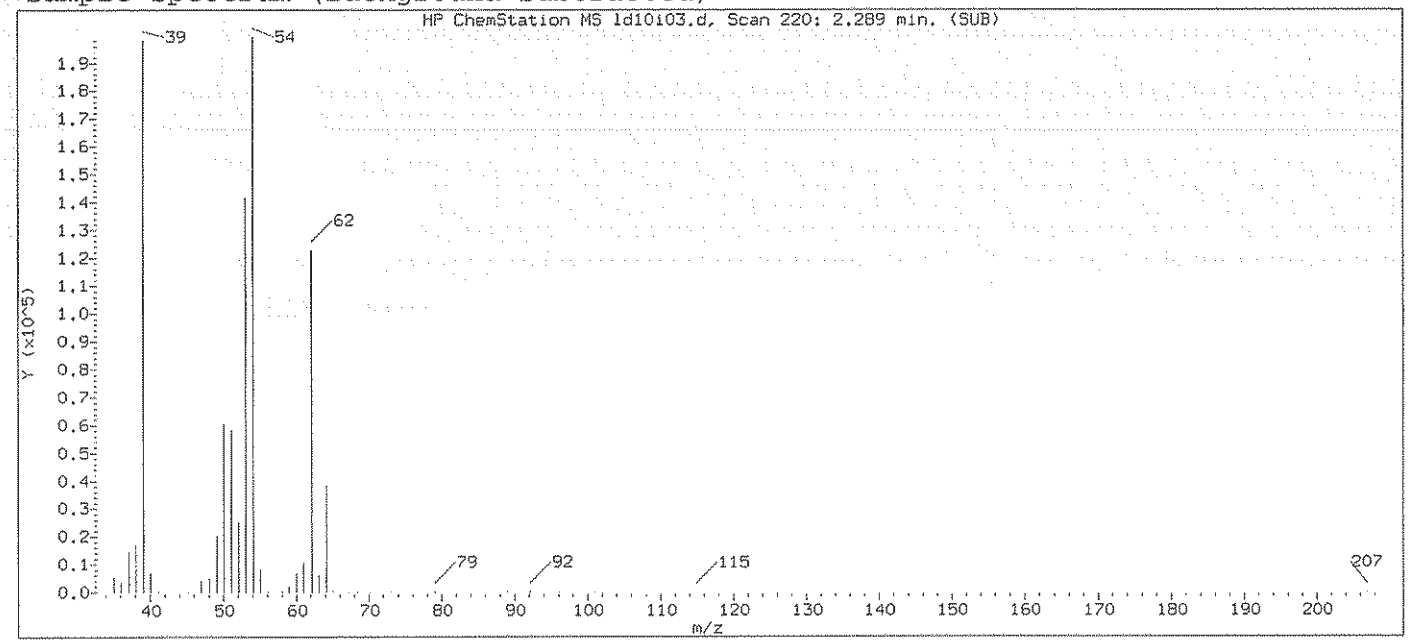
Compound Number : 4
Compound Name : 1,3-Butadiene
Scan Number : 220
Retention Time (minutes): 2.289
Quant Ion : 39.00
Area (flag) : 508133M
On-Column Amount (ng) : 49.0167
Integration start scan : 190 Integration stop scan: 250
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

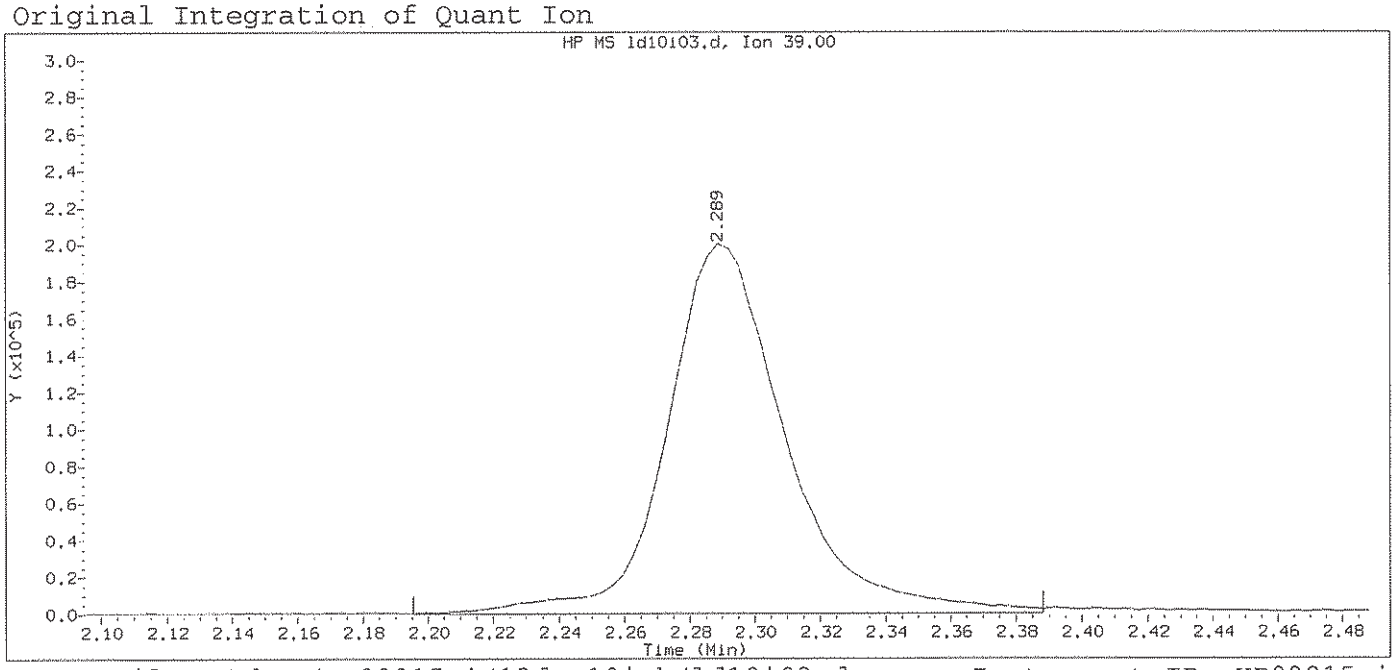
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number	: 4
Compound Name	: 1,3-Butadiene
Scan Number	: 220
Retention Time (minutes)	: 2.289
Quant Ion	: 39.00
Area	: 503638
On-column Amount (ng)	: 55.3798
Integration start scan	: 190
Integration stop scan	: 250
Y at integration start	: 265
Y at integration end	: 450

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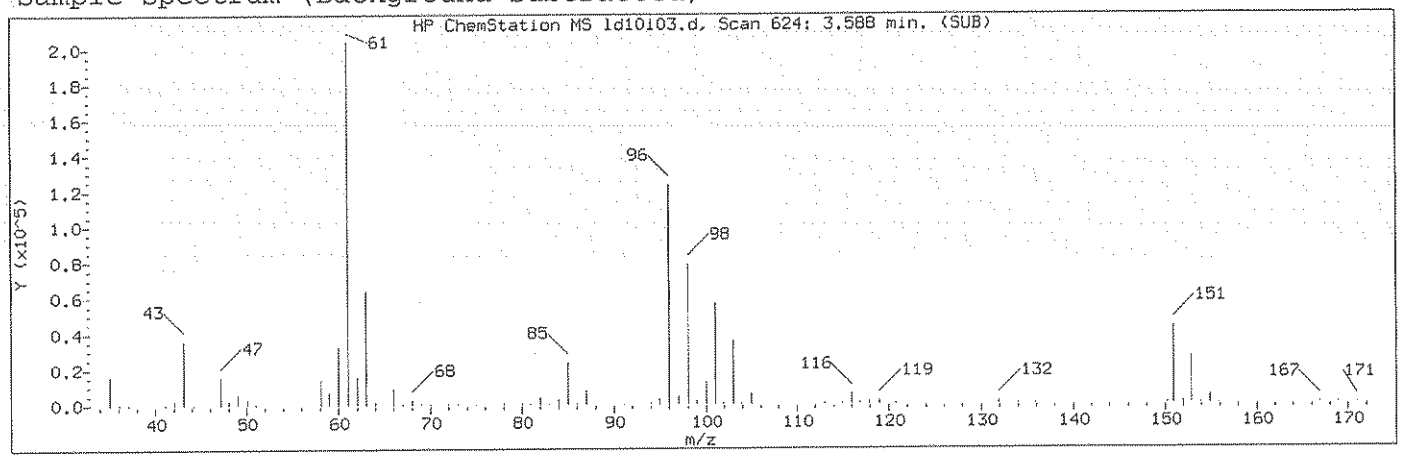
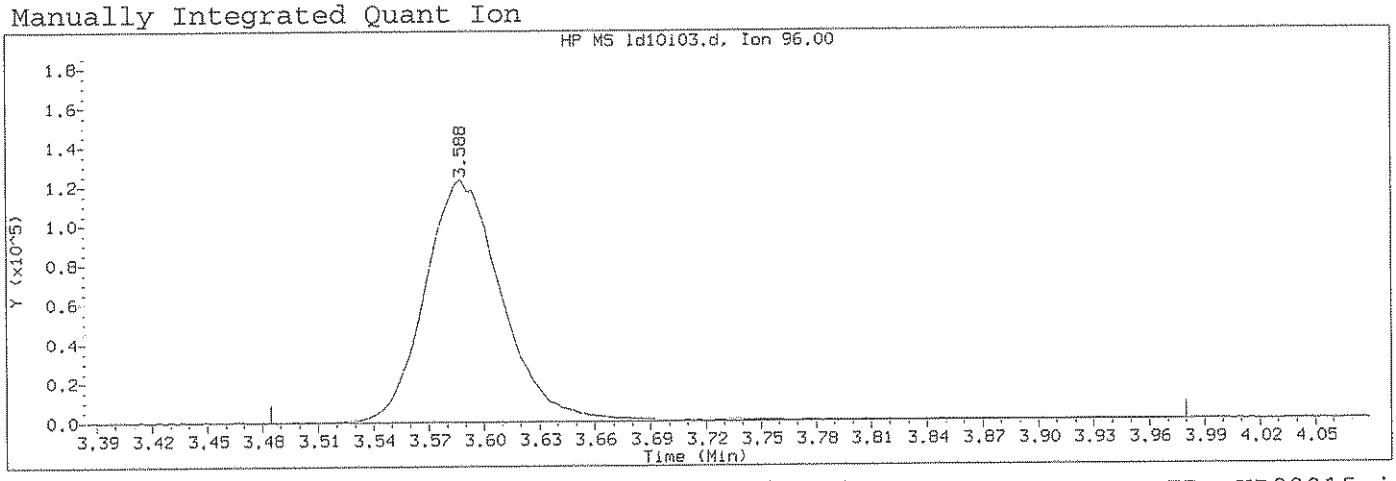
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

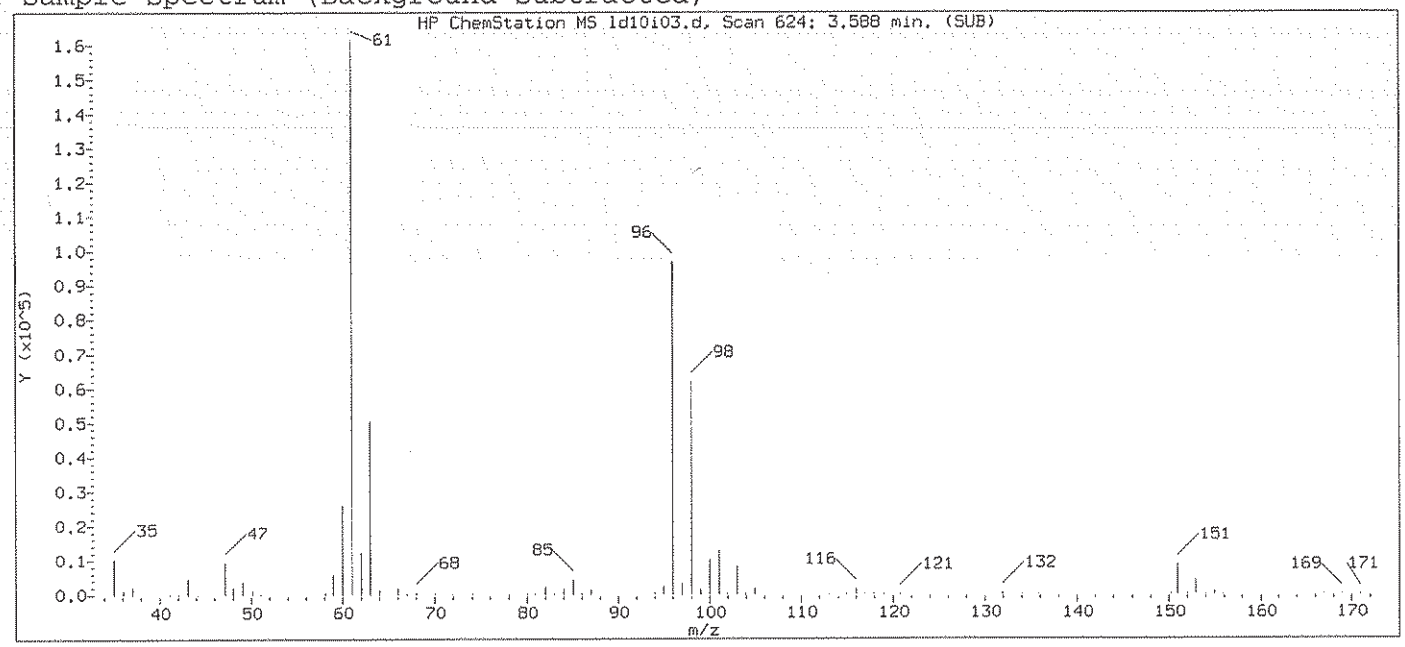
Compound Number : 16
Compound Name : 1,1-Dichloroethene
Scan Number : 624
Retention Time (minutes): 3.588
Quant Ion : 96.00
Area (flag) : 365333M
On-Column Amount (ng) : 53.5815
Integration start scan : 591 Integration stop scan: 745
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

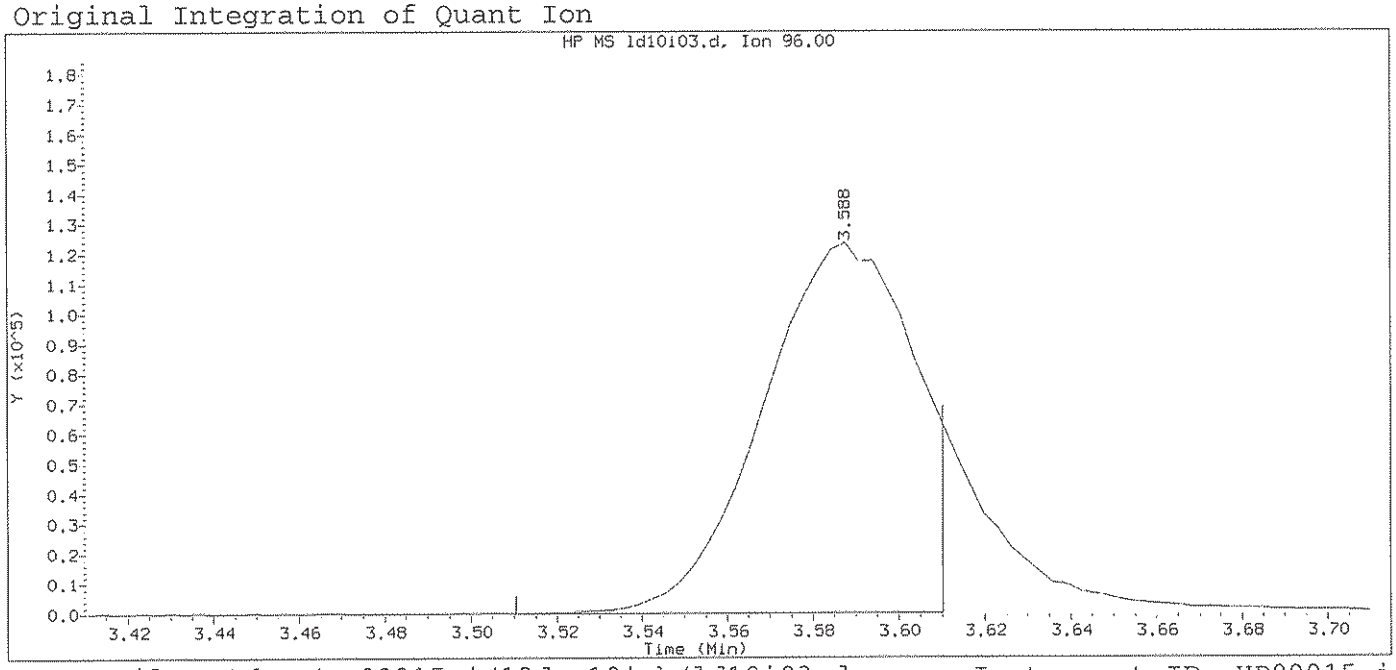
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 16
Compound Name : 1,1-Dichloroethene
Scan Number : 624
Retention Time (minutes): 3.588
Quant Ion : 96.00
Area : 298054
On-column Amount (ng) : 44.2392
Integration start scan : 599 Integration stop scan: 630
Y at integration start : 0 Y at integration end: 0

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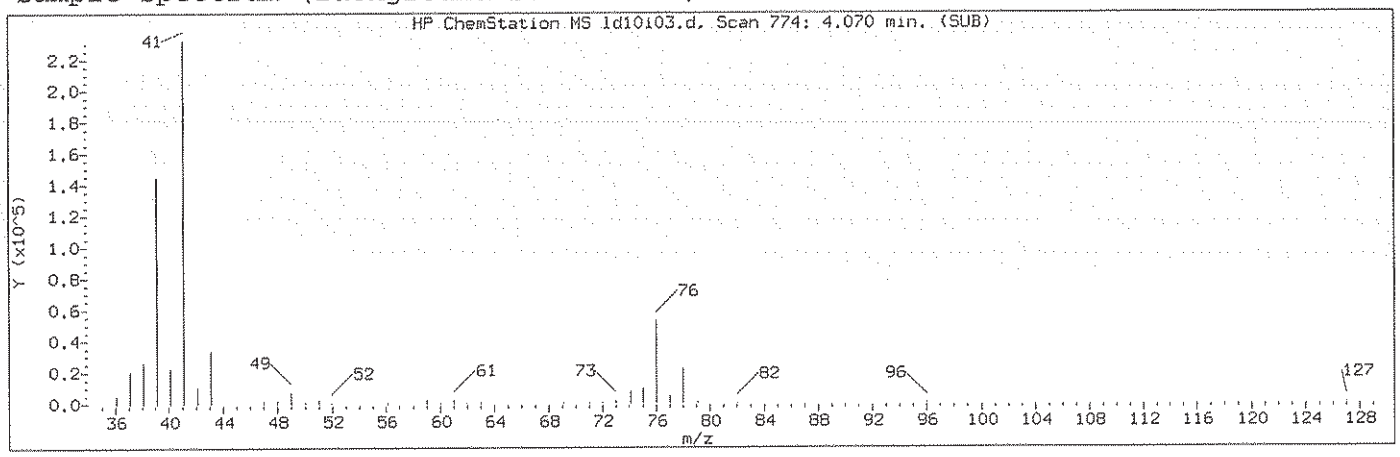
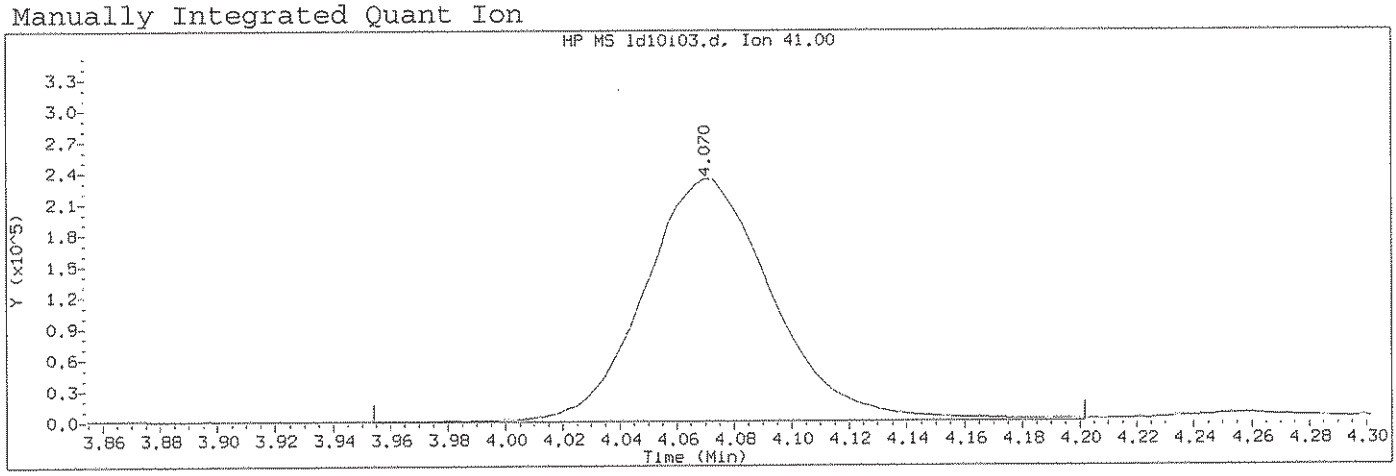
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

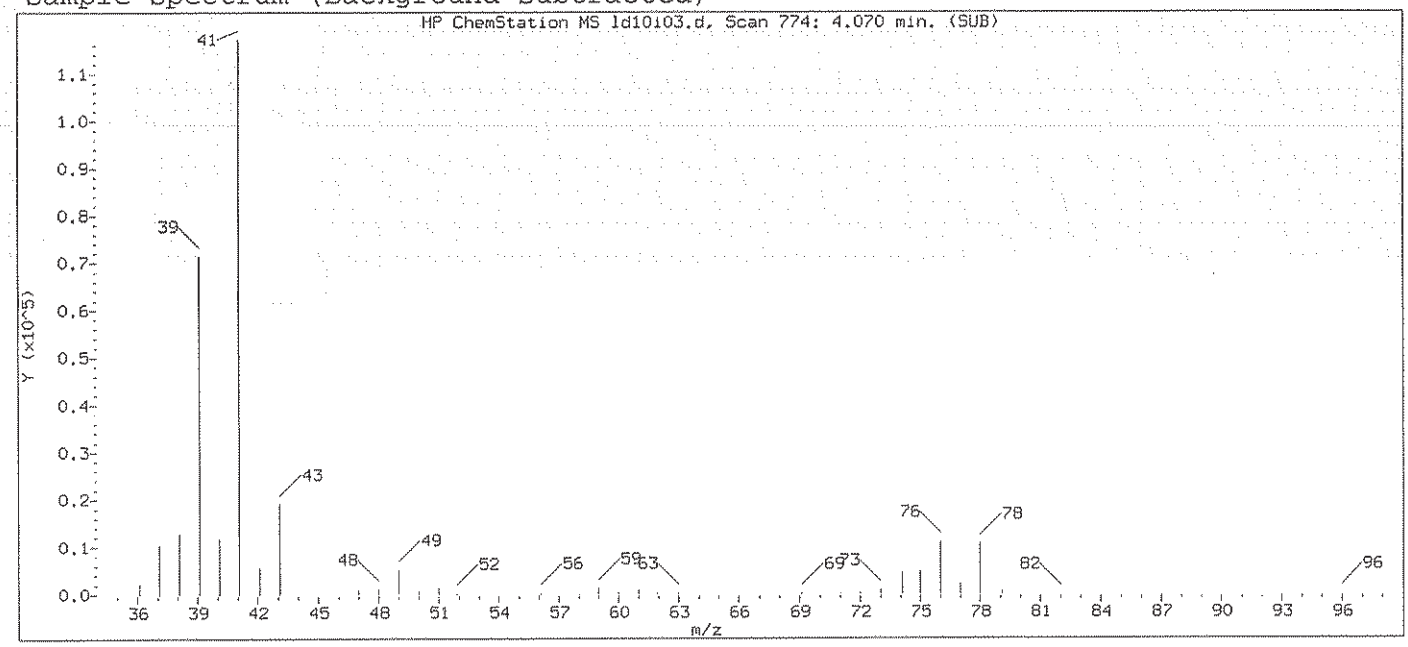
Compound Number : 24
Compound Name : Allyl Chloride
Scan Number : 774
Retention Time (minutes): 4.070
Quant Ion : 41.00
Area (flag) : 731006M
On-Column Amount (ng) : 49.4870
Integration start scan : 737 Integration stop scan: 814
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

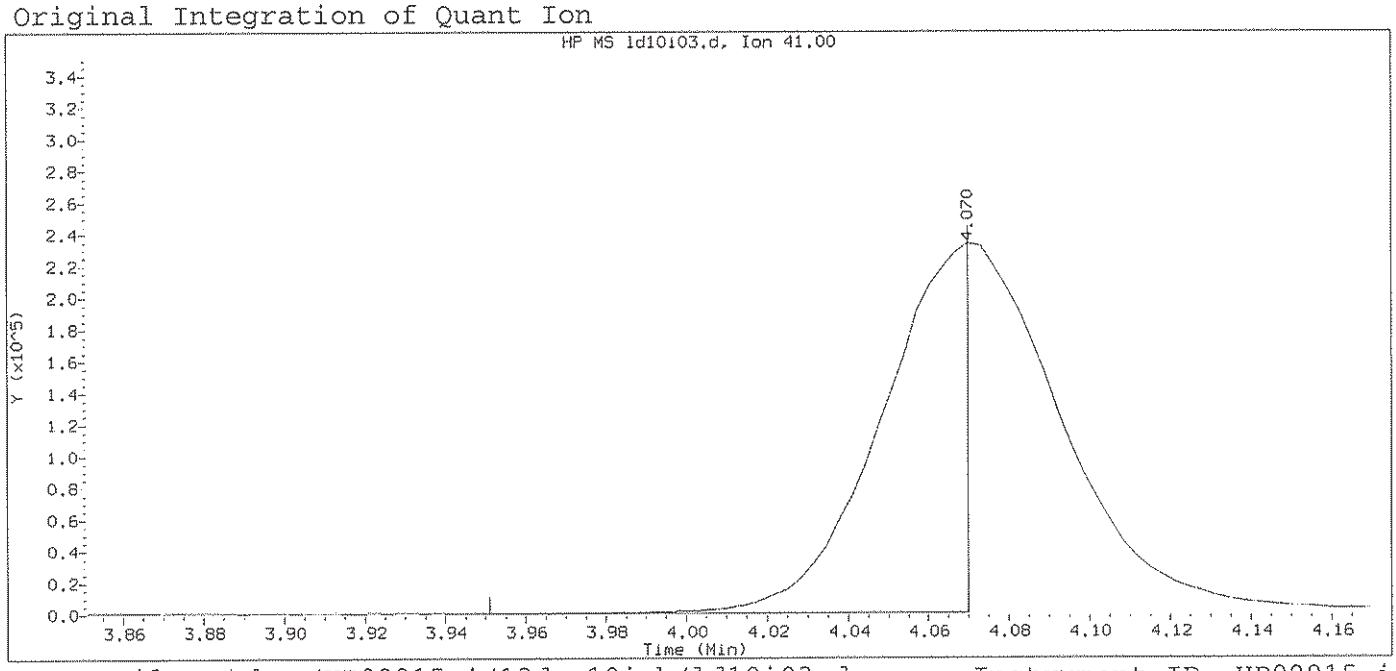
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/17/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 24
Compound Name : Allyl Chloride
Scan Number : 774
Retention Time (minutes): 4.070
Quant Ion : 41.00
Area : 338468
On-column Amount (ng) : 25.5537
Integration start scan : 736 Integration stop scan: 773
Y at integration start : 462 Y at integration end: 462

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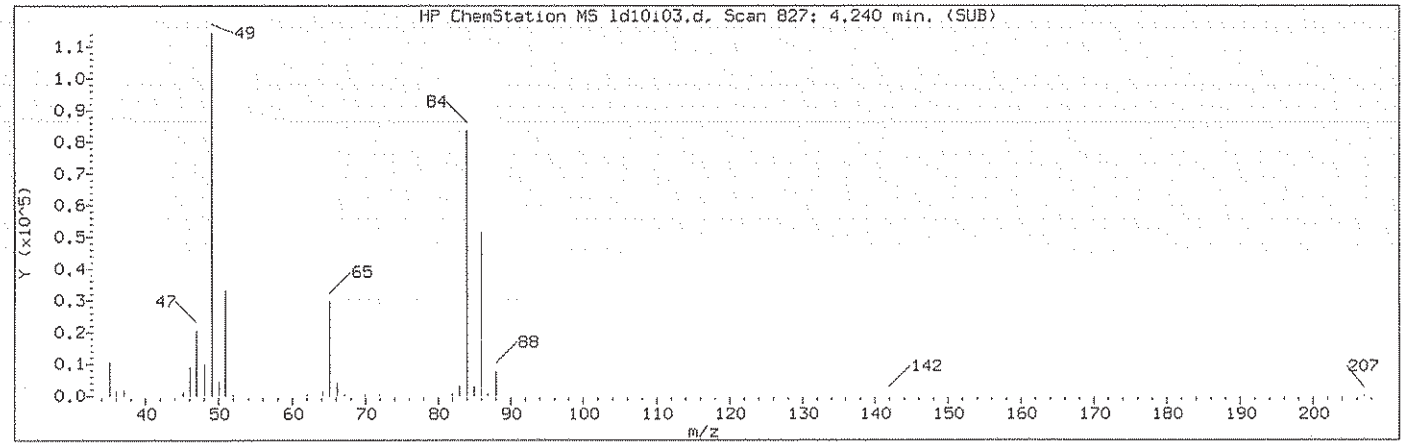
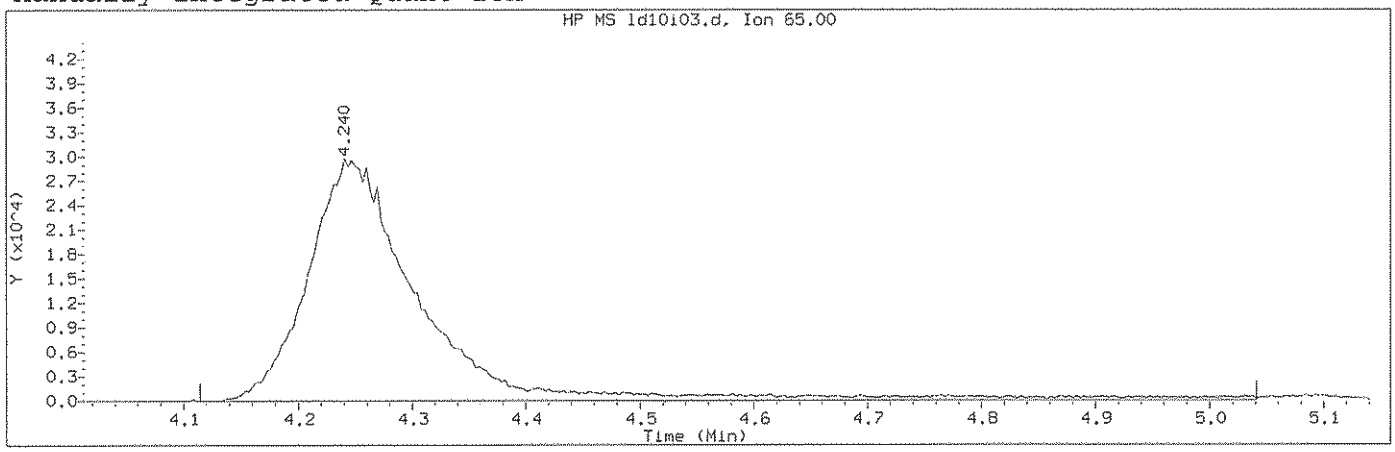
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

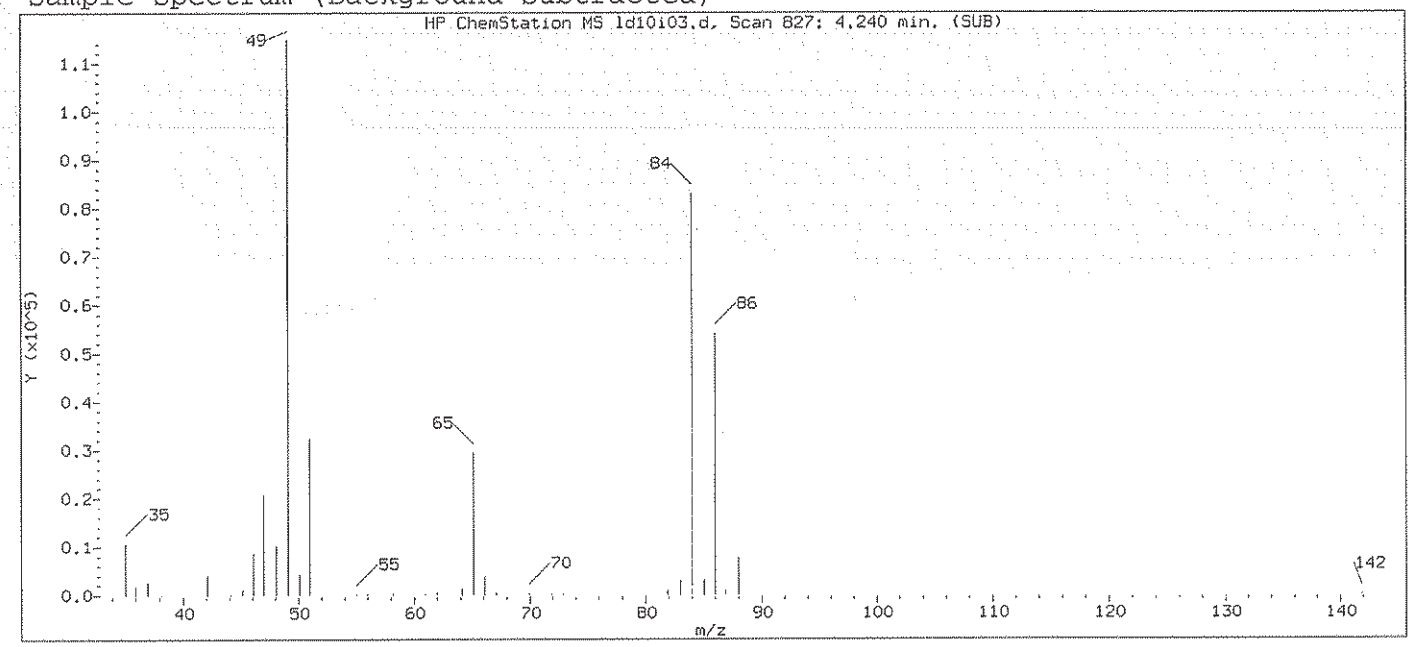
Compound Number : 28
Compound Name : t-Butyl Alcohol-d10
Scan Number : 827
Retention Time (minutes): 4.240
Quant Ion : 65.00
Area (flag) : 204066M
On-Column Amount (ng) : 250.0000
Integration start scan : 787 Integration stop scan: 1075
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

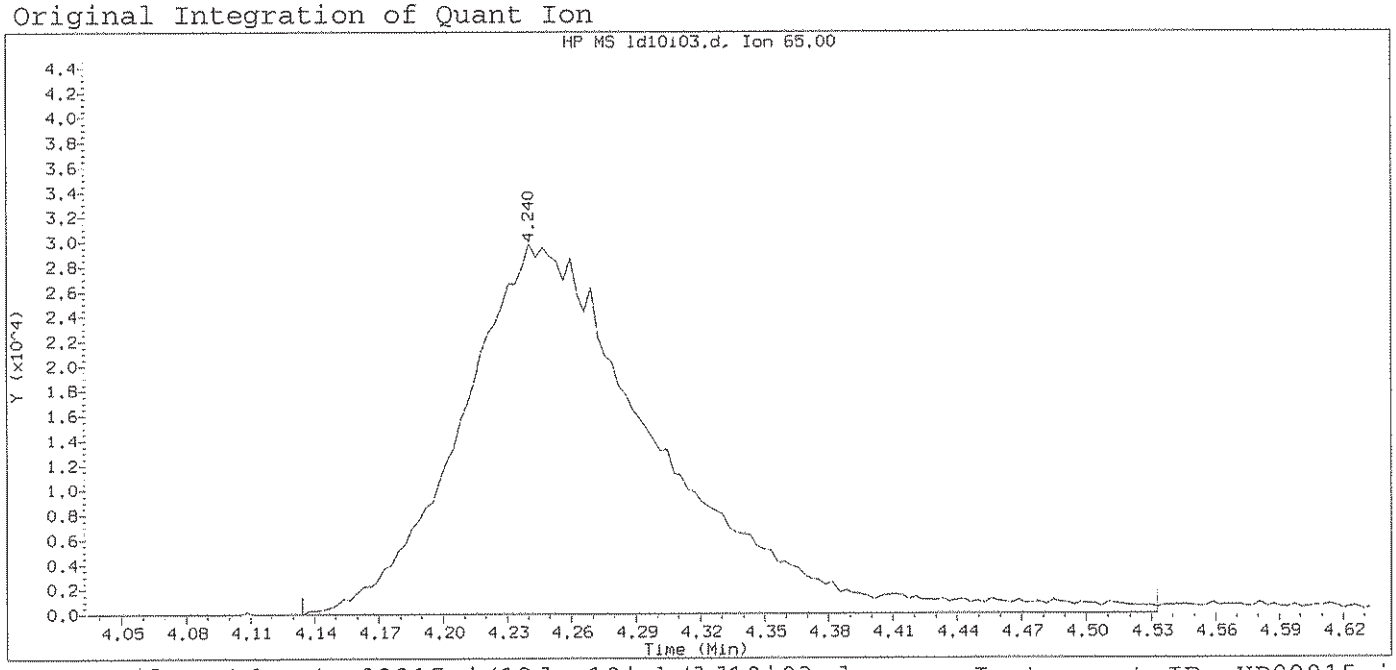
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: CMM 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

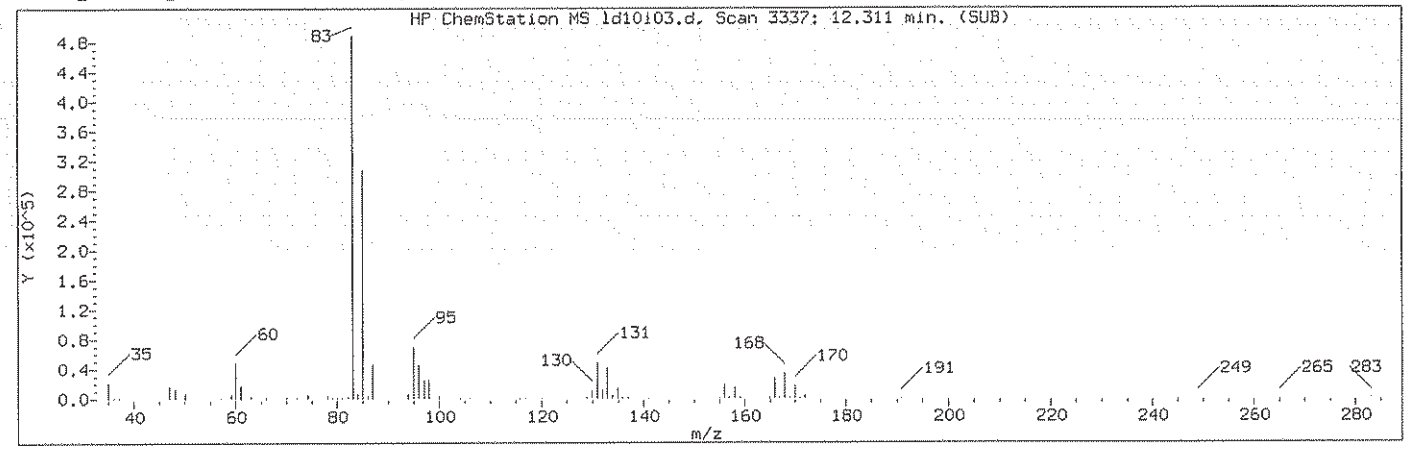
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

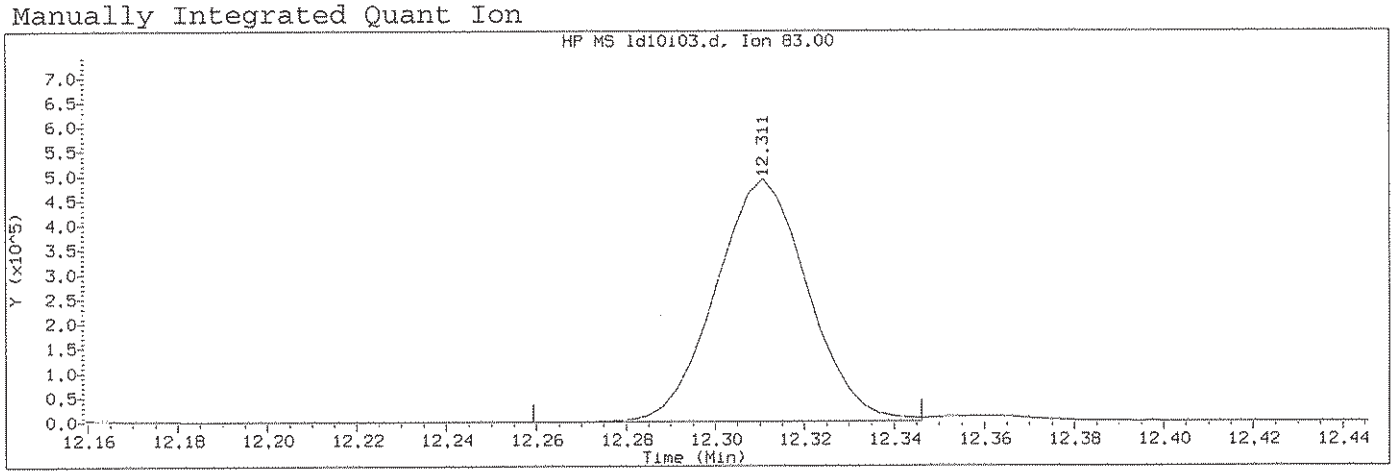
Compound Number	: 28		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 827		
Retention Time (minutes)	: 4.240		
Quant Ion	: 65.00		
Area	: 189925		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 793	Integration stop scan:	917
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

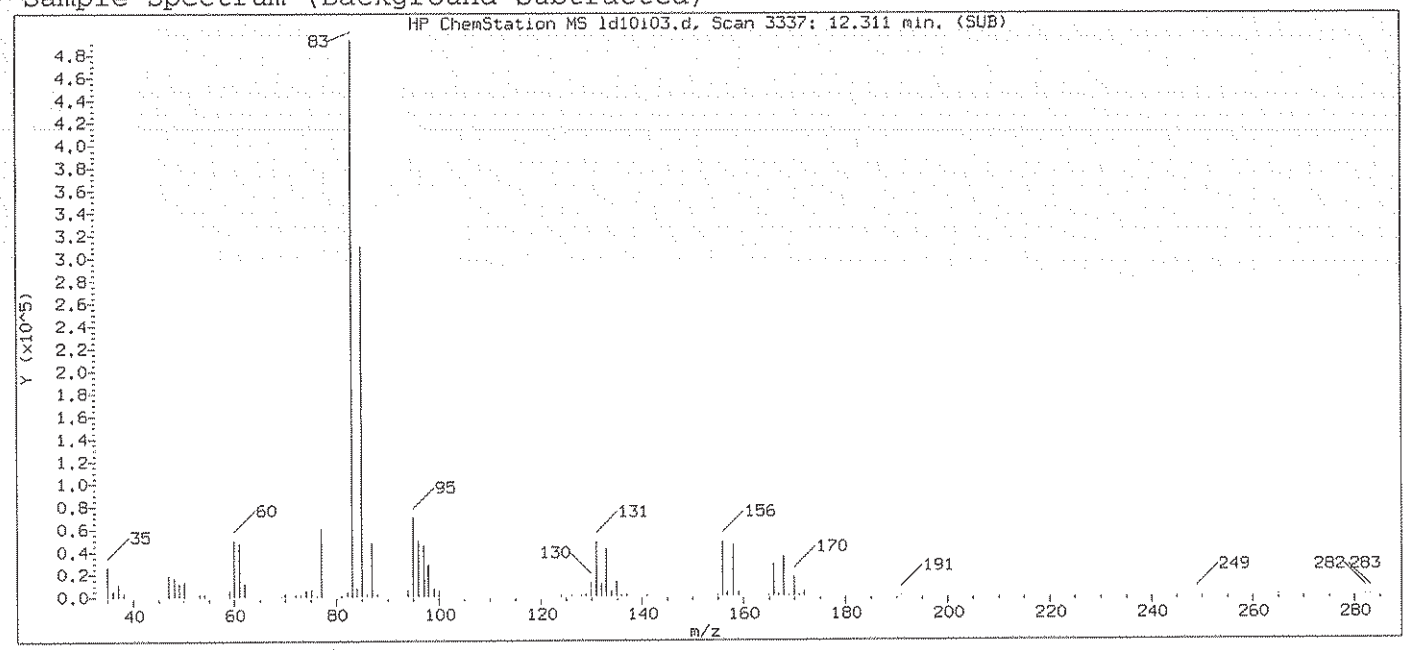
Compound Number : 122
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 3337
Retention Time (minutes): 12.311
Quant Ion : 83.00
Area (flag) : 708299M
On-Column Amount (ng) : 53.1955
Integration start scan : 3320 Integration stop scan: 3347
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

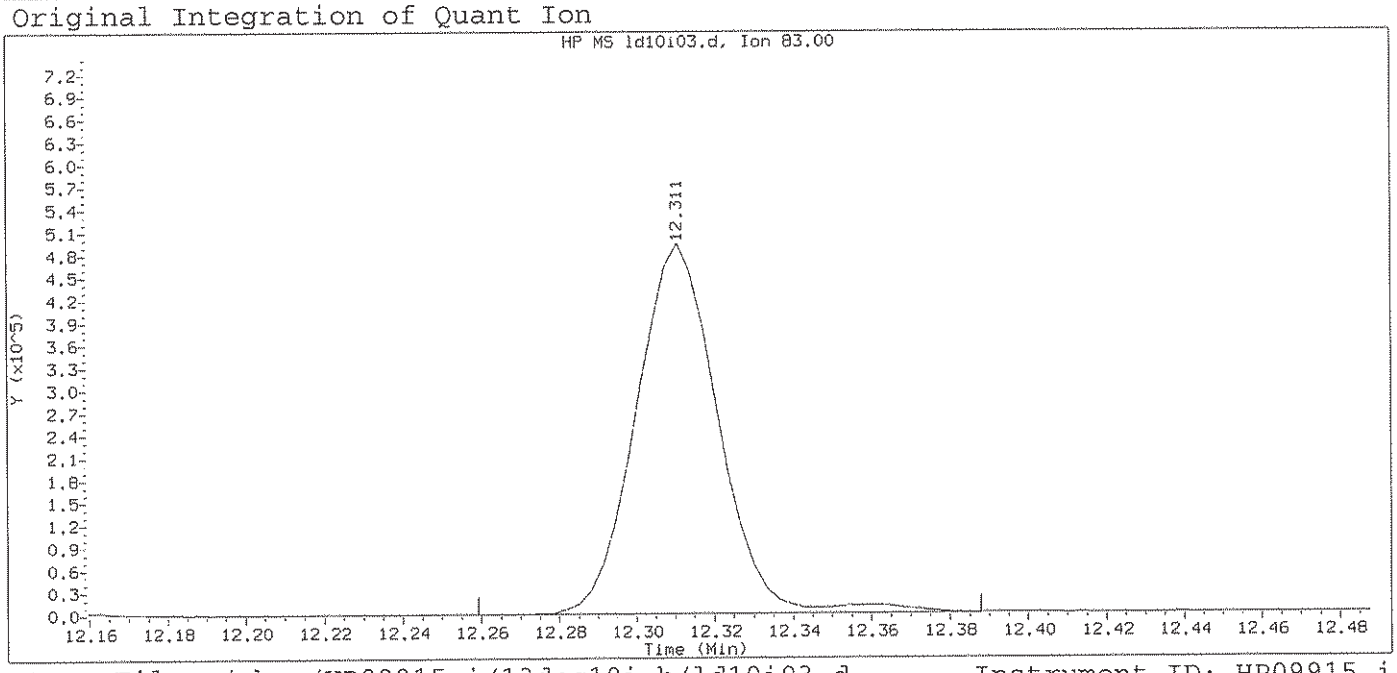
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

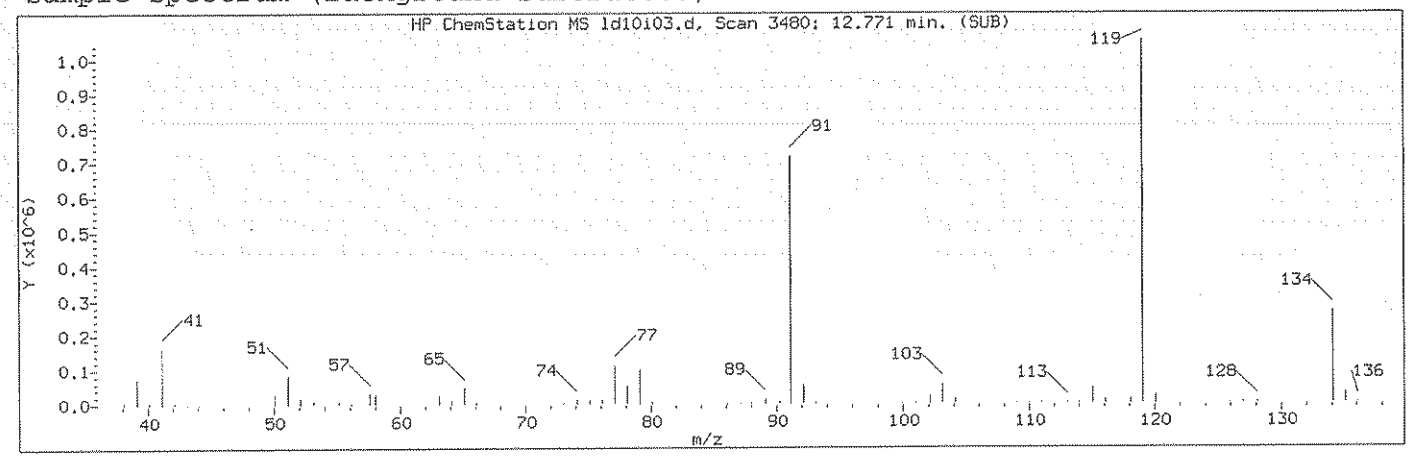
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

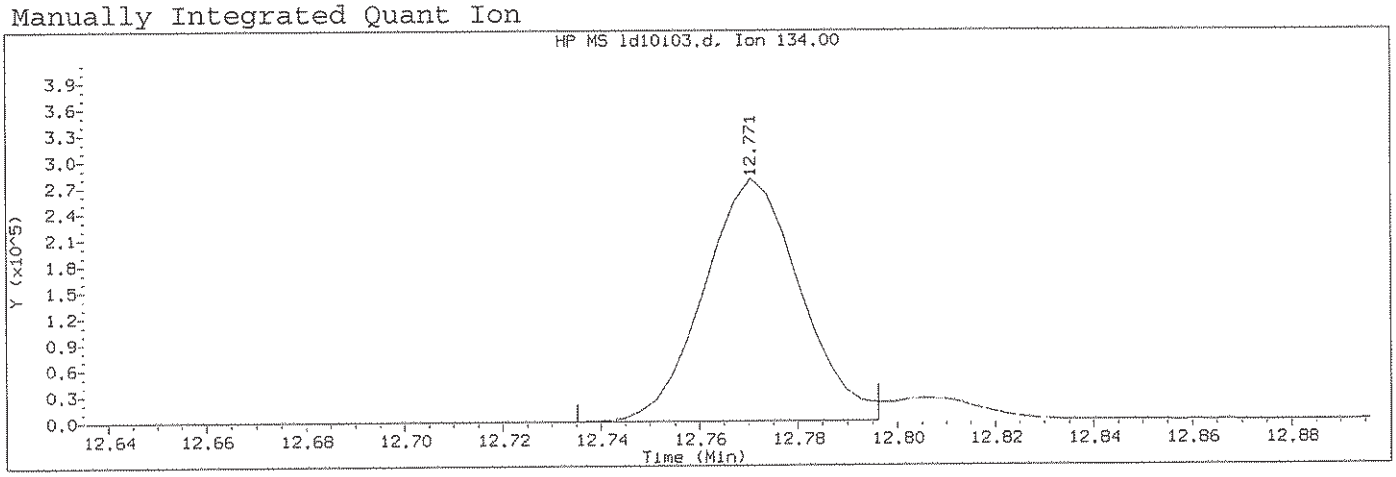
Compound Number : 122
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 3337
Retention Time (minutes): 12.311
Quant Ion : 83.00
Area : 724024
On-column Amount (ng) : 58.3869
Integration start scan : 3320 Integration stop scan: 3360
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:23 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

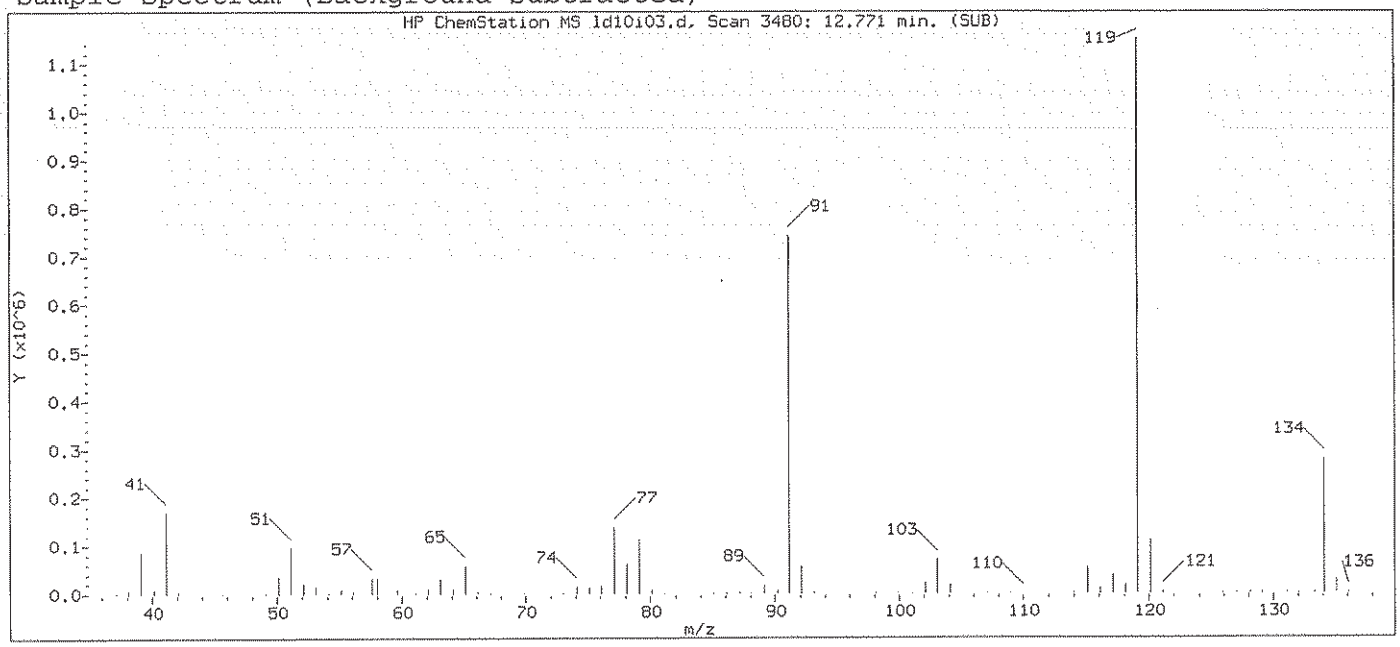
Compound Number : 130
Compound Name : tert-Butylbenzene
Scan Number : 3480
Retention Time (minutes): 12.771
Quant Ion : 134.00
Area (flag) : 378279M
On-Column Amount (ng) : 54.1096
Integration start scan : 3468 Integration stop scan: 3487
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

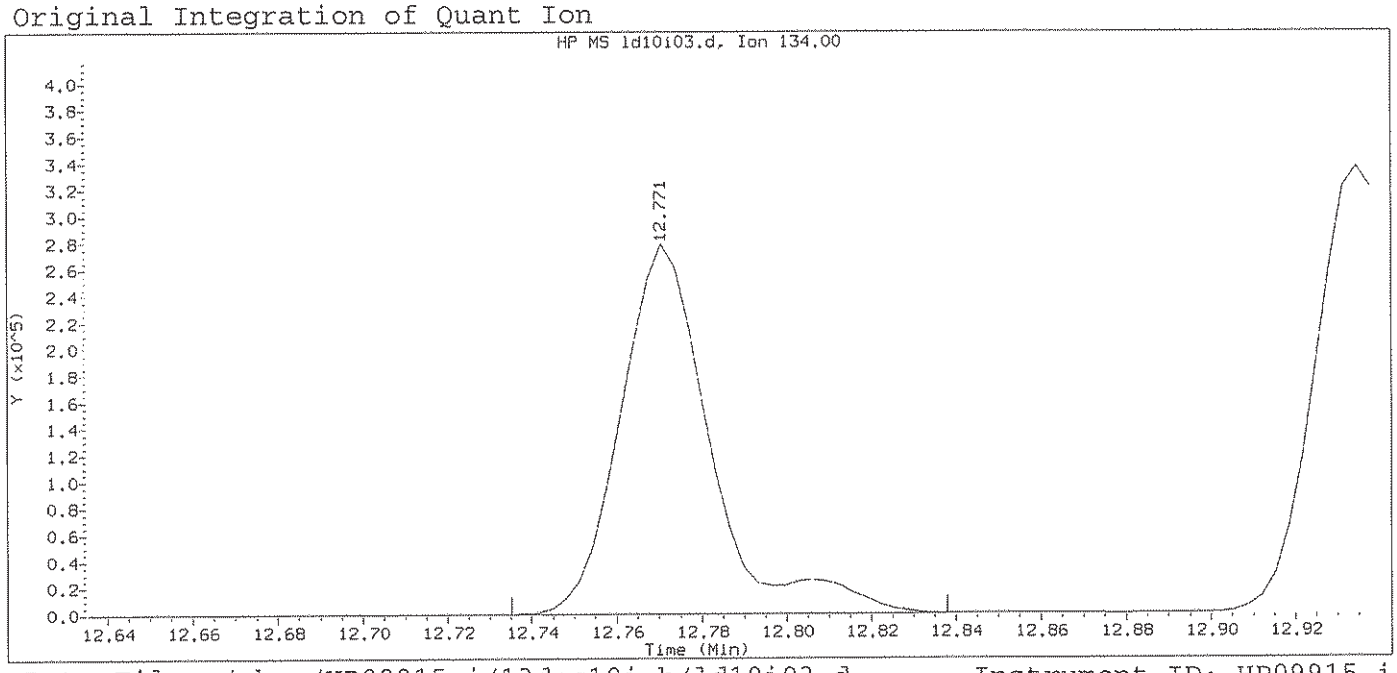
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



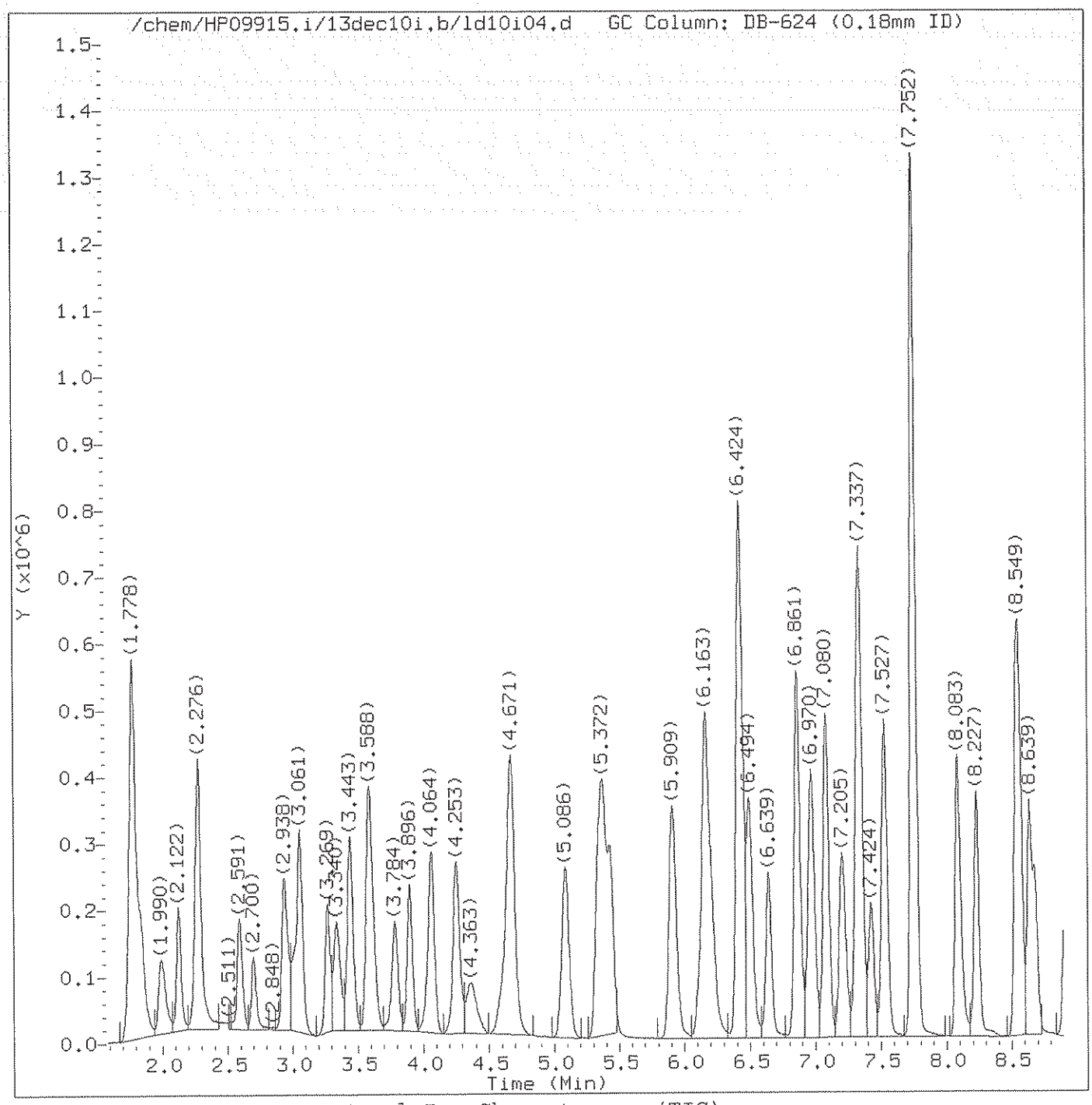
Data File: /chem/HP09915.i/13dec10i.b/ld10i03.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:24 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 130
Compound Name : tert-Butylbenzene
Scan Number : 3480
Retention Time (minutes): 12.771
Quant Ion : 134.00
Area : 409888
On-column Amount (ng) : 61.3956
Integration start scan : 3468 Integration stop scan: 3500
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:30.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d
Injection date and time: 10-DEC-2013 15:46

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 10-DEC-2013 17:23

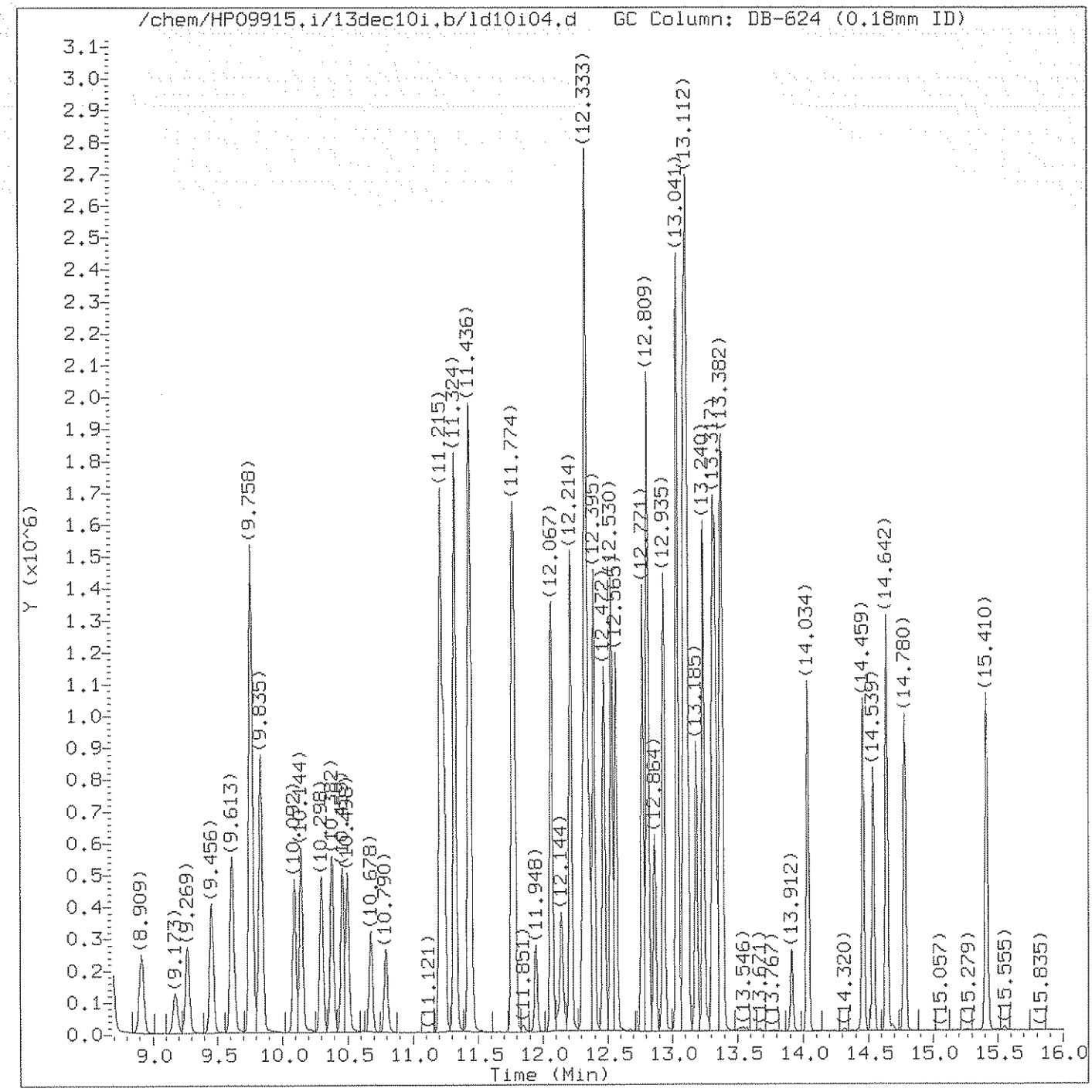
Sublist used: 8260WI

Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020

Lab Sample ID: VSTD020

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

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on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/1d10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2) Dichlorodifluoromethane	(1)	1.993	85	241419	20.119
3) Chloromethane	(1)	2.122	50	257262	20.328
5) Vinyl Chloride	(1)	2.257	62	231670	20.554
4) 1,3-Butadiene	(1)	2.279	39	238802M	21.628
7) Bromomethane	(1)	2.591	94	150725M	20.958
8) Chloroethane	(1)	2.700	64	130271	20.002
9) Dichlorofluoromethane	(1)	2.935	67	292006	19.847
10) Trichlorofluoromethane	(1)	3.009	101	244256M	20.873
11) n-Pentane	(1)	3.061	43	310820	20.561
13) Ethyl Ether	(1)	3.269	59	177055	19.979
14) Freon 123a	(1)	3.343	67	197818	19.965
15) Acrolein	(4)	3.446	56	479757	178.670
16) 1,1-Dichloroethene	(1)	3.581	96	139274	20.464
18) Freon 113	(1)	3.610	101	145926	20.381
17) Acetone	(4)	3.610	58	40548	36.882
45) 1,2-Dichloroethene (total)	(1)		96	339445	40.379
21) 2-Propanol	(4)	3.768	45	163430	209.739
20) Methyl Iodide	(1)	3.787	142	259549	20.594
22) Carbon Disulfide	(1)	3.896	76	515092	19.925
25) Methyl Acetate	(1)	4.032	43	178544	20.142
24) Allyl Chloride	(1)	4.067	41	302243	20.499
28)*t-Butyl Alcohol-d10	(4)	4.244	65	207127M	250.000
26) Methylene Chloride	(1)	4.253	84	167147	19.894
29) t-Butyl Alcohol	(4)	4.363	59	272244	215.201
30) Acrylonitrile	(1)	4.581	53	89495	18.200
32) Methyl Tertiary Butyl Ether	(1)	4.655	73	563136	19.956
31) trans-1,2-Dichloroethene	(1)	4.671	96	158461	20.091
33) n-Hexane	(1)	5.083	57	268378	20.098
34) 1,1-Dichloroethane	(1)	5.334	63	313748	20.545
36) di-Isopropyl Ether	(1)	5.376	45	647305	20.465
37) 2-Chloro-1,3-Butadiene	(1)	5.437	53	266424	20.134
39) Ethyl t-Butyl Ether	(1)	5.912	59	601241	20.533
41) 2-Butanone	(4)	6.115	43	223589	34.874
40) cis-1,2-Dichloroethene	(1)	6.157	96	180984	20.288
42) 2,2-Dichloropropane	(1)	6.170	77	232767	20.737
43) Propionitrile	(4)	6.208	54	362012	203.493
46) Methacrylonitrile	(1)	6.424	67	512598	103.477
47) Bromochloromethane	(1)	6.498	128	89968	20.306

M = Compound was manually integrated.
* = Compound is an internal standard.

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on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/1d10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
48) Tetrahydrofuran	(4)	6.504	71	56362	35.710
50) Chloroform	(1)	6.639	83	279738	20.487
51)$Dibromofluoromethane(mz111)	(1)	6.861	111	305944	49.986
52)$Dibromofluoromethane	(1)	6.861	113	298251	49.978
53) 1,1,1-Trichloroethane	(1)	6.871	97	258171	20.412
54) Cyclohexane (mz 84)	(1)	6.970	84	255744	20.110
55) Cyclohexane (mz 69)	(1)	6.970	69	95065	19.784
56) Cyclohexane	(1)	6.970	56	333110	20.083
58) Carbon Tetrachloride	(1)	7.080	117	185626	19.788
57) 1,1-Dichloropropene	(1)	7.080	75	225450	19.907
59) Isobutyl Alcohol	(4)	7.205	41	246364	536.856
62)$1,2-Dichloroethane-d4	(1)	7.318	102	76789	49.557
61)$1,2-Dichloroethane-d4(mz65)	(1)	7.321	65	365004	49.820
60)$1,2-Dichloroethane-d4(mz104)	(1)	7.324	104	49593	49.924
63) Benzene	(1)	7.346	78	708059	20.455
65) 1,2-Dichloroethane	(1)	7.424	62	225591	20.174
64) 1,2-Dichloroethane (mz 98)	(1)	7.433	98	22600	20.208
69) t-Amyl Methyl Ether	(1)	7.527	73	577387	20.717
71)*Fluorobenzene	(1)	7.748	96	1305284	50.000
72) n-Heptane	(1)	7.755	43	279390	19.953
73) n-Butanol	(4)	8.083	56	415993	1062.536
112) Xylene (Total)	(2)		106	990454	63.751
74) Trichloroethene	(1)	8.227	95	171888	20.543
76) Methylcyclohexane	(1)	8.539	83	311599	20.408
75) Methylcyclohexane (mz98)	(1)	8.539	98	133273	20.294
77) 1,2-Dichloropropane	(1)	8.572	63	193632	20.500
80) Methyl Methacrylate	(1)	8.636	69	178534	21.189
79) 1,4-Dioxane	(4)	8.655	88	50799	527.604
78) Dibromomethane	(1)	8.681	93	117547	20.250
83) Bromodichloromethane	(1)	8.909	83	222051	20.868
85) 2-Nitropropane	(1)	9.173	41	106038	33.646
86) 2-Chloroethyl Vinyl Ether	(1)	9.269	63	151040	20.182
87) cis-1,3-Dichloropropene	(1)	9.456	75	292024	20.754
89) 4-Methyl-2-Pentanone	(4)	9.613	43	491216	33.276
93)$Toluene-d8	(2)	9.758	98	1249691	50.148
92)$Toluene-d8(mz100)	(2)	9.758	100	813531	49.900
94) Toluene	(2)	9.835	92	443436	20.855
95) trans-1,3-Dichloropropene	(2)	10.092	75	285069	21.309

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
96) Ethyl Methacrylate	(2)	10.147	69	324988	21.382
97) 1,1,2-Trichloroethane	(2)	10.298	97	171850	20.976
98) Tetrachloroethene	(2)	10.382	166	177051	20.911
99) 1,3-Dichloropropane	(2)	10.459	76	306265	20.980
101) 2-Hexanone	(4)	10.498	43	356654	32.768
102) Dibromochloromethane	(2)	10.678	129	173355	21.303
104) 1,2-Dibromoethane	(2)	10.790	107	185917	21.033
106)*Chlorobenzene-d5	(2)	11.215	117	927301	50.000
107) Chlorobenzene	(2)	11.240	112	481169	20.950
108) 1,1,1,2-Tetrachloroethane	(2)	11.321	131	163249	21.302
109) Ethylbenzene	(2)	11.324	91	861171	21.224
110) m+p-Xylene	(2)	11.436	106	663209	42.377
113) o-Xylene	(2)	11.768	106	327245	21.374
114) Styrene	(2)	11.784	104	562612	20.883
115) Bromoform	(2)	11.948	173	118893	20.577
116) Isopropylbenzene	(2)	12.067	105	841880	21.245
118) Cyclohexanone	(4)	12.144	55	163962	478.439
119)$4-Bromofluorobenzene	(2)	12.214	95	466962	49.979
120)$4-Bromofluorobenzene(mz174)	(2)	12.214	174	386496	50.305
122) 1,1,2,2-Tetrachloroethane	(3)	12.311	83	281050M	21.424
121) Bromobenzene	(3)	12.330	156	214729	20.465
124) trans-1,4-Dichloro-2-Butene	(3)	12.337	53	369804	108.294
123) 1,2,3-Trichloropropane	(3)	12.359	110	77844	21.166
125) n-Propylbenzene	(3)	12.395	91	1009656	20.759
126) 2-Chlorotoluene	(3)	12.472	126	192787	20.262
127) 1,3,5-Trimethylbenzene	(3)	12.530	105	707619	21.132
128) 4-Chlorotoluene	(3)	12.565	126	201917	20.461
130) tert-Butylbenzene	(3)	12.771	134	140029	20.266
131) Pentachloroethane	(3)	12.806	167	124464	20.513
132) 1,2,4-Trimethylbenzene	(3)	12.813	105	727648	21.138
133) sec-Butylbenzene	(3)	12.935	105	881907	20.704
134) 1,3-Dichlorobenzene	(3)	13.038	146	396889	20.973
135) p-Isopropyltoluene	(3)	13.044	119	774211	20.852
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	490280	50.000
138) 1,4-Dichlorobenzene	(3)	13.112	146	412436	20.977
139) 1,2,3-Trimethylbenzene	(3)	13.118	105	760190	20.797
141) Benzyl Chloride	(3)	13.185	91	556851	21.226
142) 1,3-Diethylbenzene	(3)	13.240	119	473146	20.842

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/1d10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
143) 1,4-Diethylbenzene	(3)	13.314	119	477136	20.930
145) n-Butylbenzene	(3)	13.333	92	379747	20.699
144) 1,2-Dichlorobenzene	(3)	13.369	146	388249	20.762
146) 1,2-Diethylbenzene	(3)	13.385	119	391402	20.796
148) 1,2-Dibromo-3-Chloropropane	(3)	13.912	75	54671	21.431
149) 1,3,5-Trichlorobenzene	(3)	14.034	180	302709	20.907
150) 1,2,4-Trichlorobenzene	(3)	14.459	180	293846	21.198
151) Hexachlorobutadiene	(3)	14.539	225	139717	21.256
152) Naphthalene	(3)	14.642	128	898711	21.080
153) 1,2,3-Trichlorobenzene	(3)	14.780	180	278795	21.387
154) 2-Methylnaphthalene	(3)	15.414	142	503981	20.725

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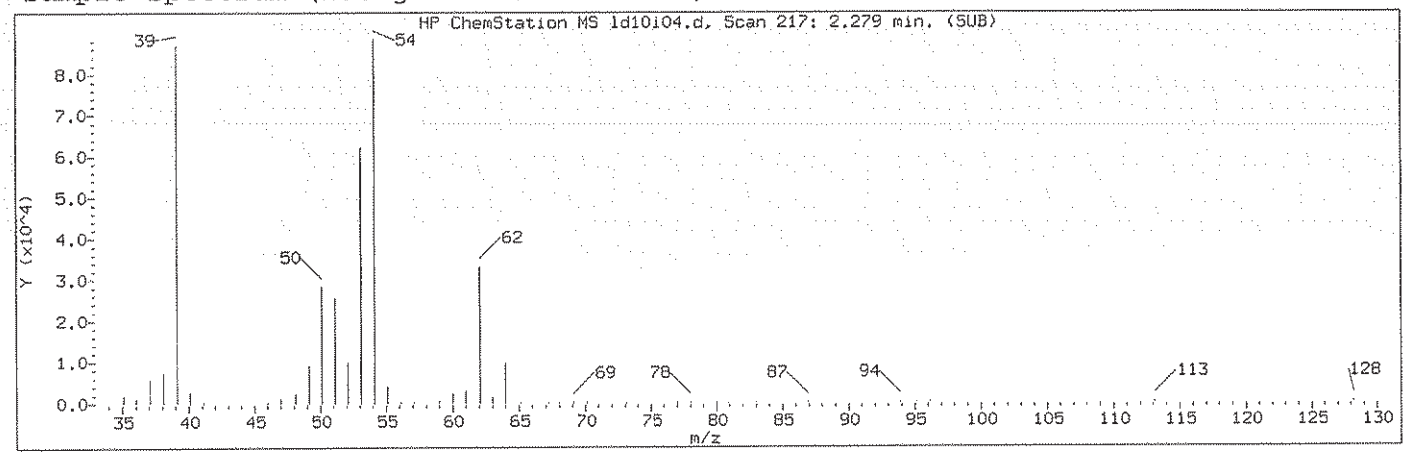
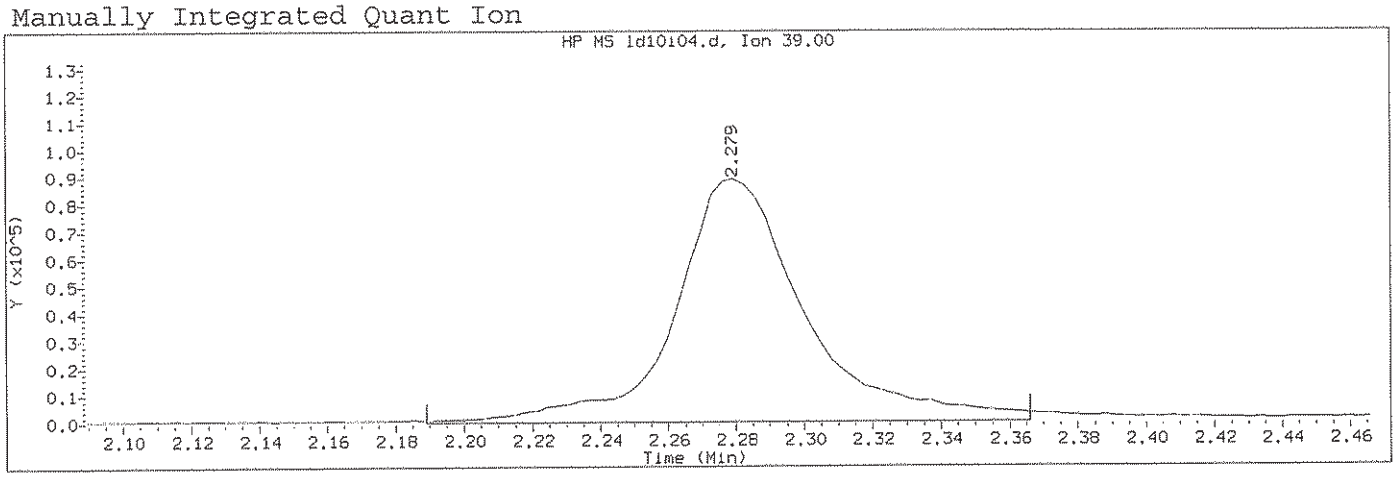
on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

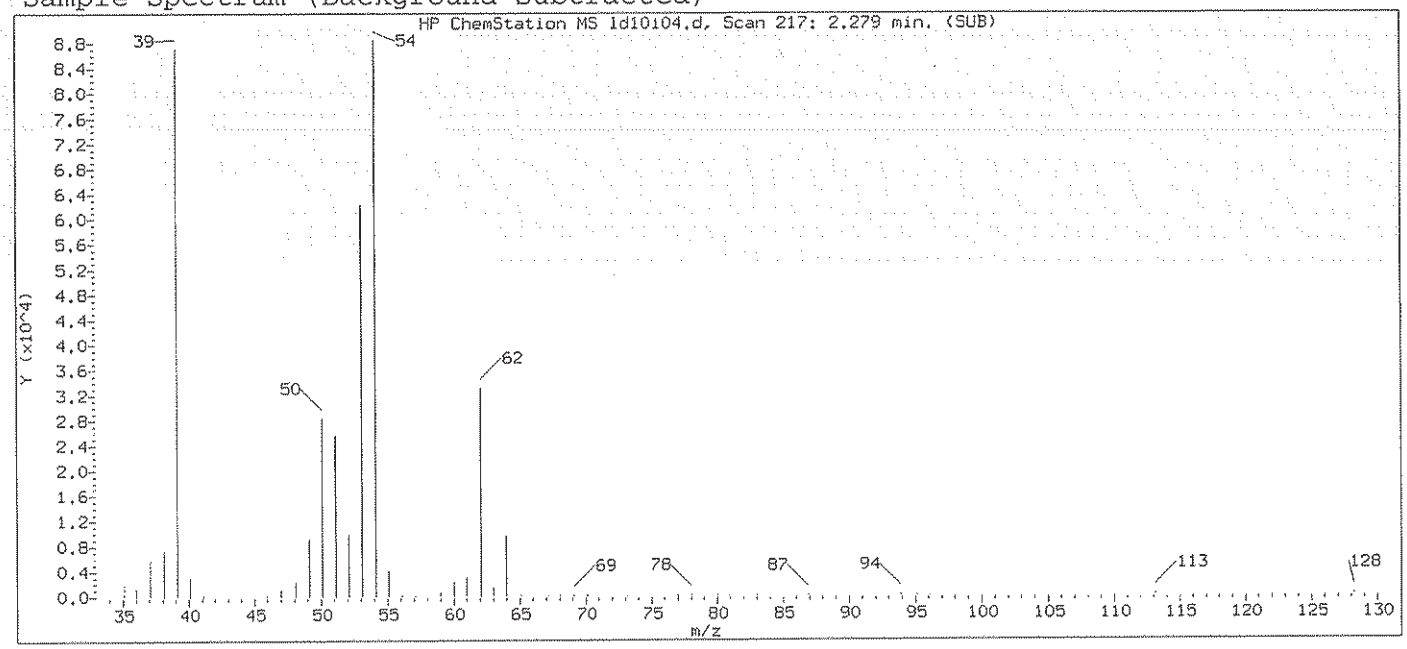
Compound Number	: 4		
Compound Name	: 1,3-Butadiene		
Scan Number	: 217		
Retention Time (minutes)	: 2.279		
Quant Ion	: 39.00		
Area (flag)	: 238802M		
On-Column Amount (ng)	: 21.6281		
Integration start scan	: 188	Integration stop scan:	243
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

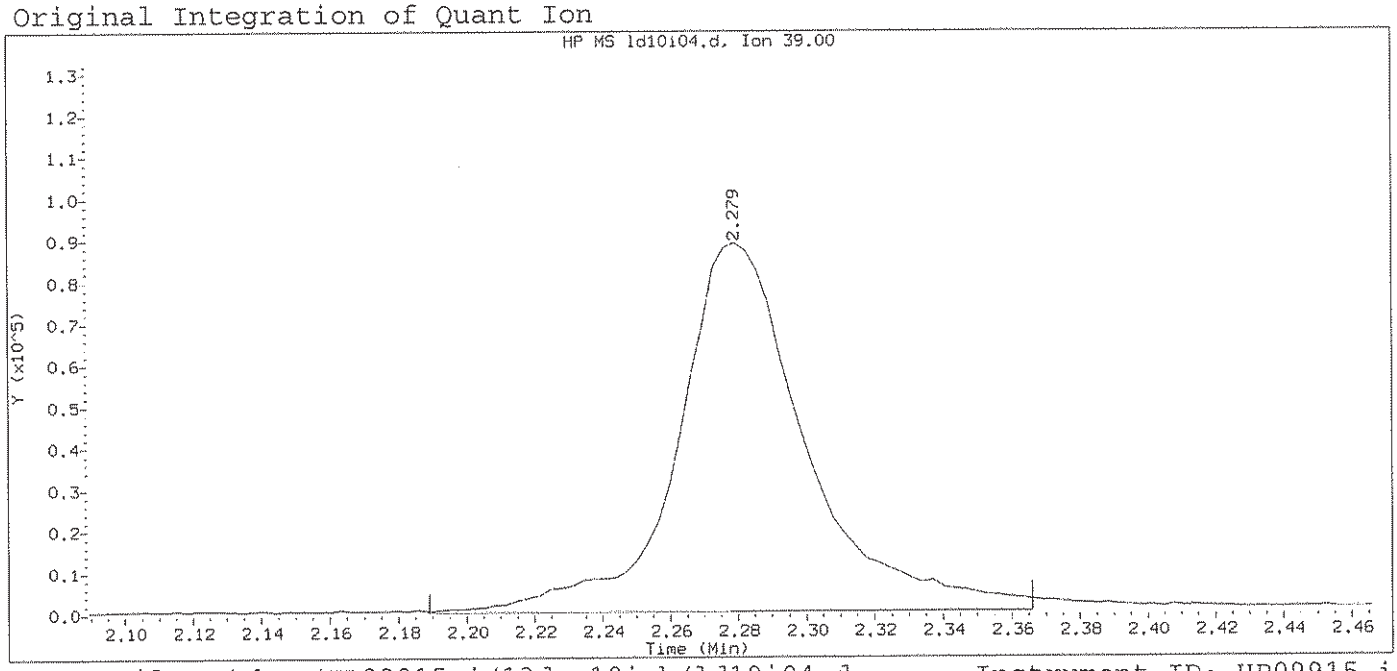
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number	: 4		
Compound Name	: 1,3-Butadiene		
Scan Number	: 217		
Retention Time (minutes)	: 2.279		
Quant Ion	: 39.00		
Area	: 234845		
On-column Amount (ng)	: 24.2459		
Integration start scan	: 188	Integration stop scan:	243
Y at integration start	: 262	Y at integration end:	411

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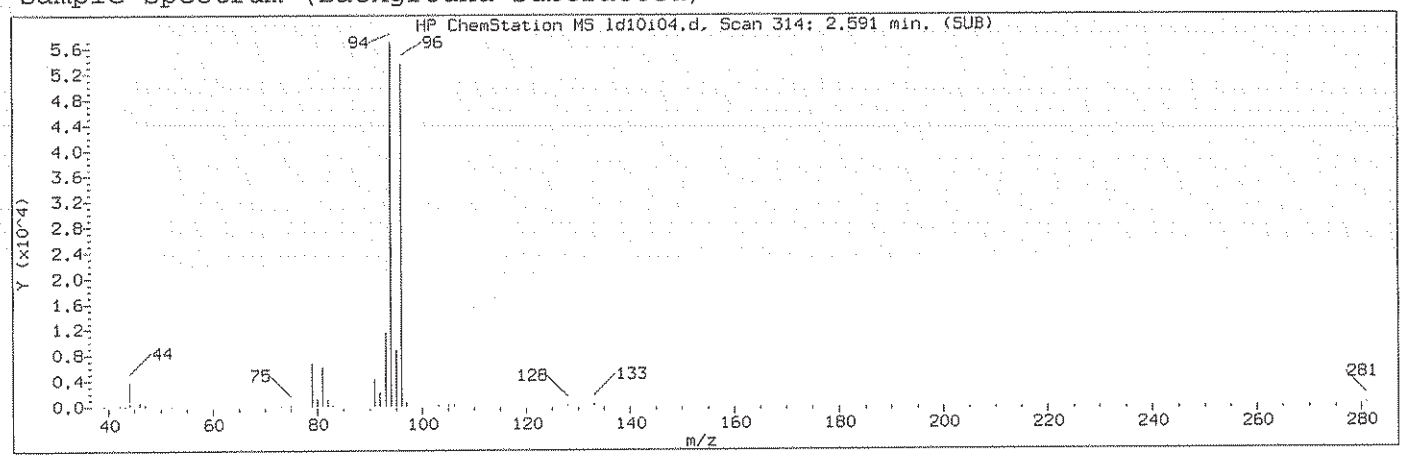
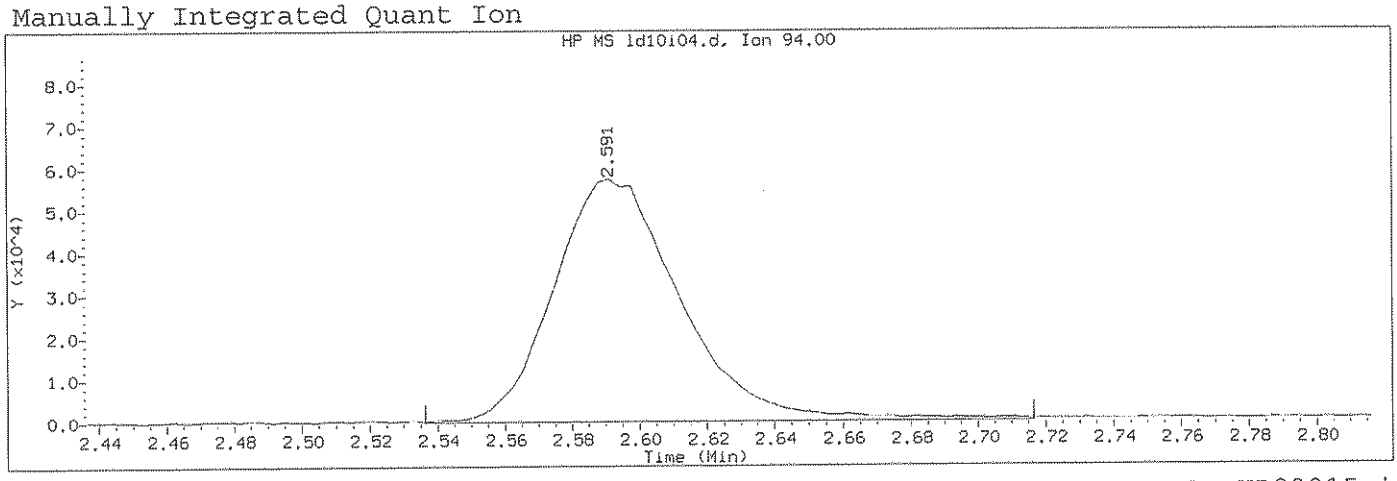
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

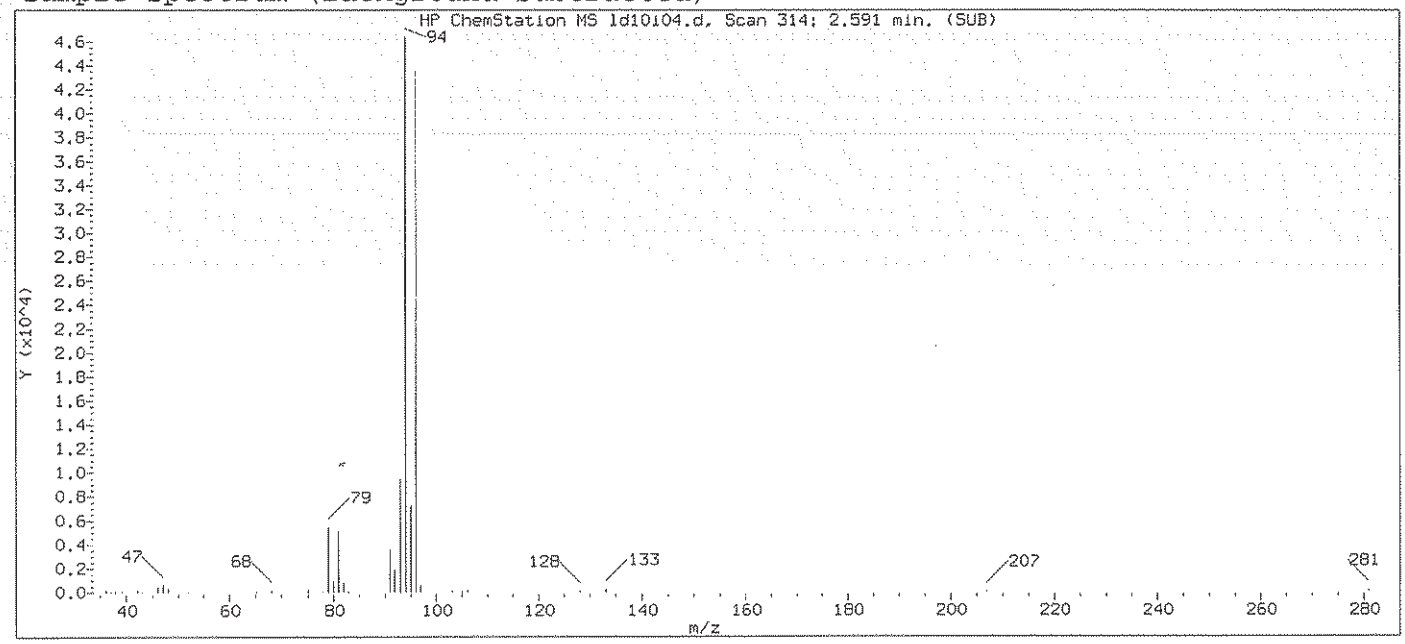
Compound Number	: 7		
Compound Name	: Bromomethane		
Scan Number	: 314		
Retention Time (minutes)	: 2.591		
Quant Ion	: 94.00		
Area (flag)	: 150725M		
On-Column Amount (ng)	: 20.9583		
Integration start scan	: 296	Integration stop scan:	352
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

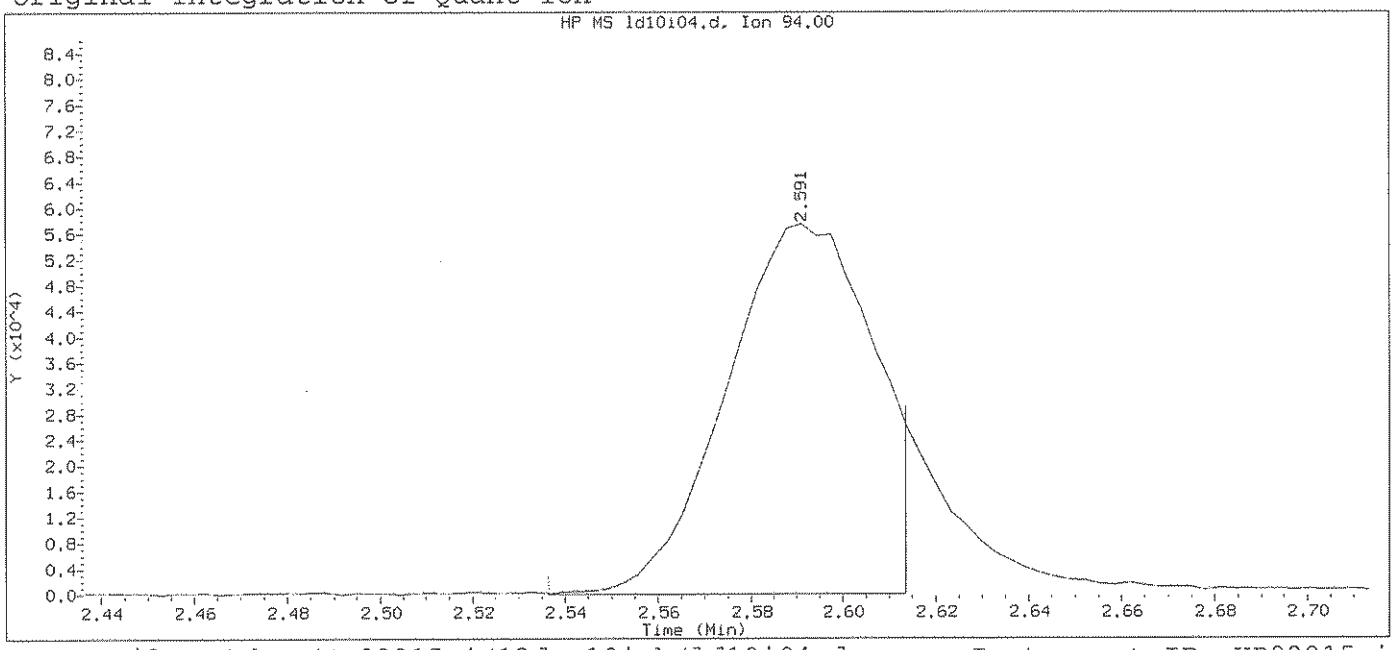
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/1d10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number	:	7
Compound Name	:	Bromomethane
Scan Number	:	314
Retention Time (minutes)	:	2.591
Quant Ion	:	94.00
Area	:	126064
On-column Amount (ng)	:	17.7696
Integration start scan	:	296
Integration stop scan	:	320
Y at integration start	:	0
Y at integration end	:	0

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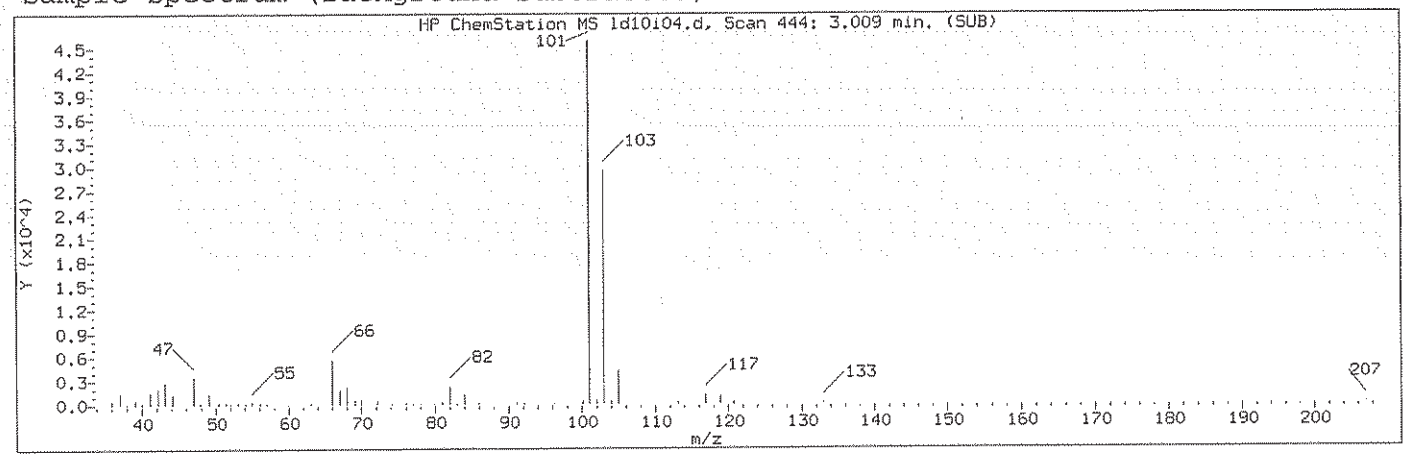
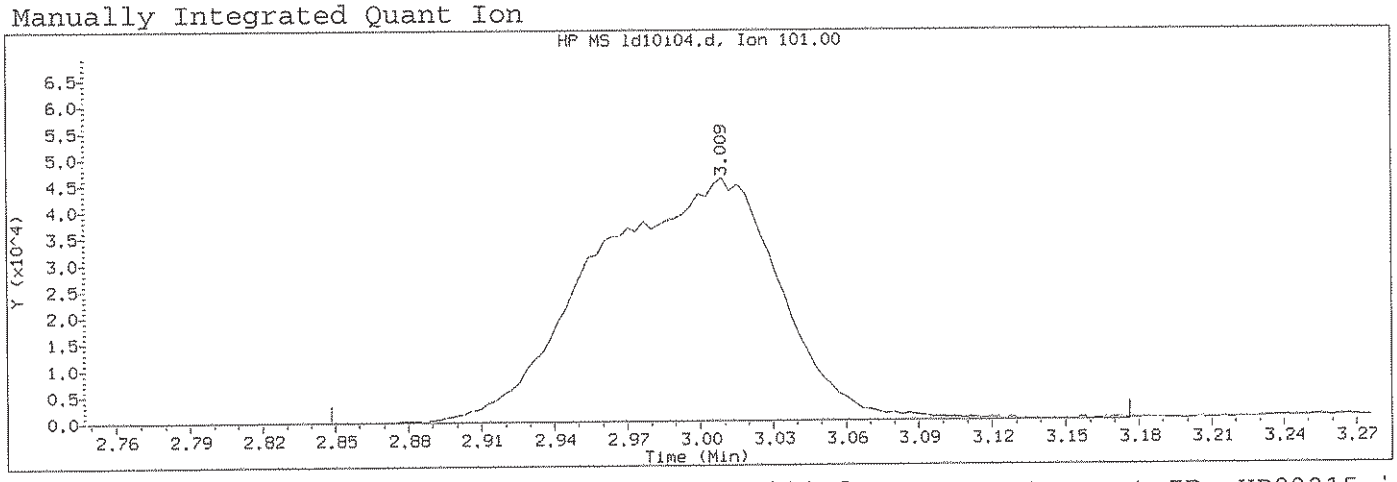
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

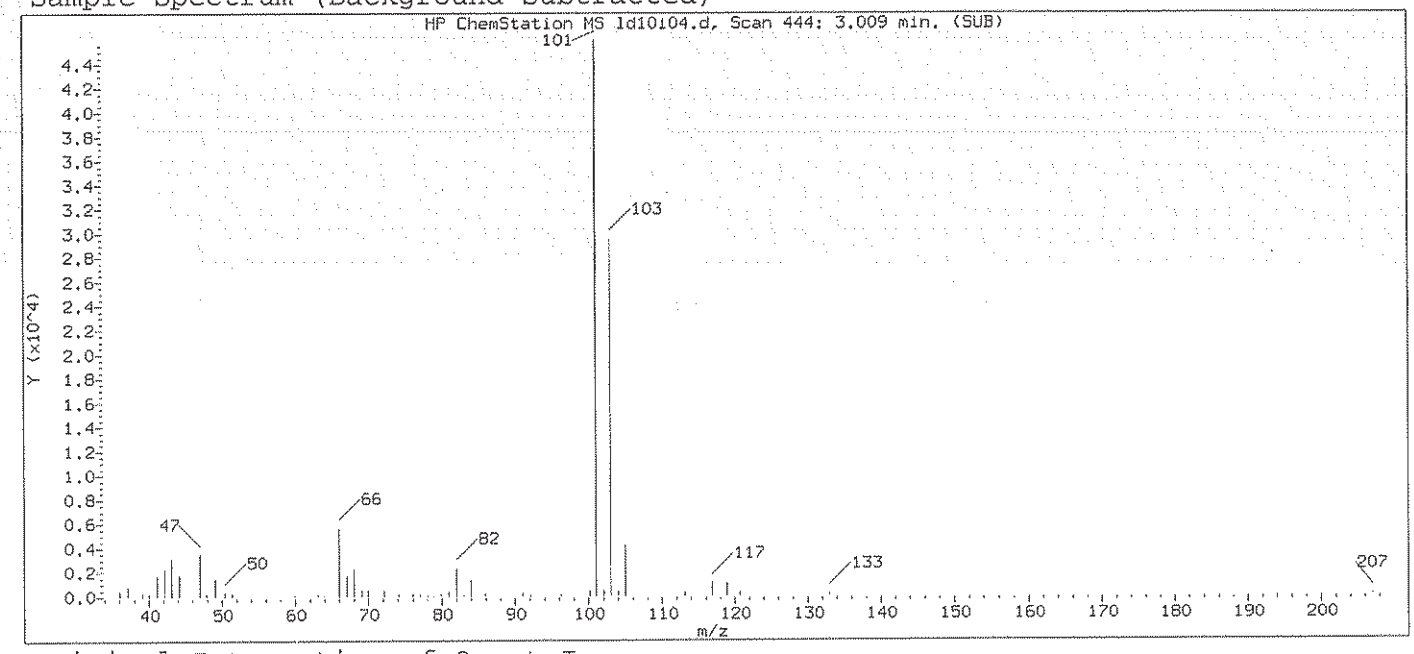
Compound Number	: 10		
Compound Name	: Trichlorofluoromethane		
Scan Number	: 444		
Retention Time (minutes)	: 3.009		
Quant Ion	: 101.00		
Area (flag)	: 244256M		
On-Column Amount (ng)	: 20.8728		
Integration start scan	: 393	Integration stop scan:	495
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

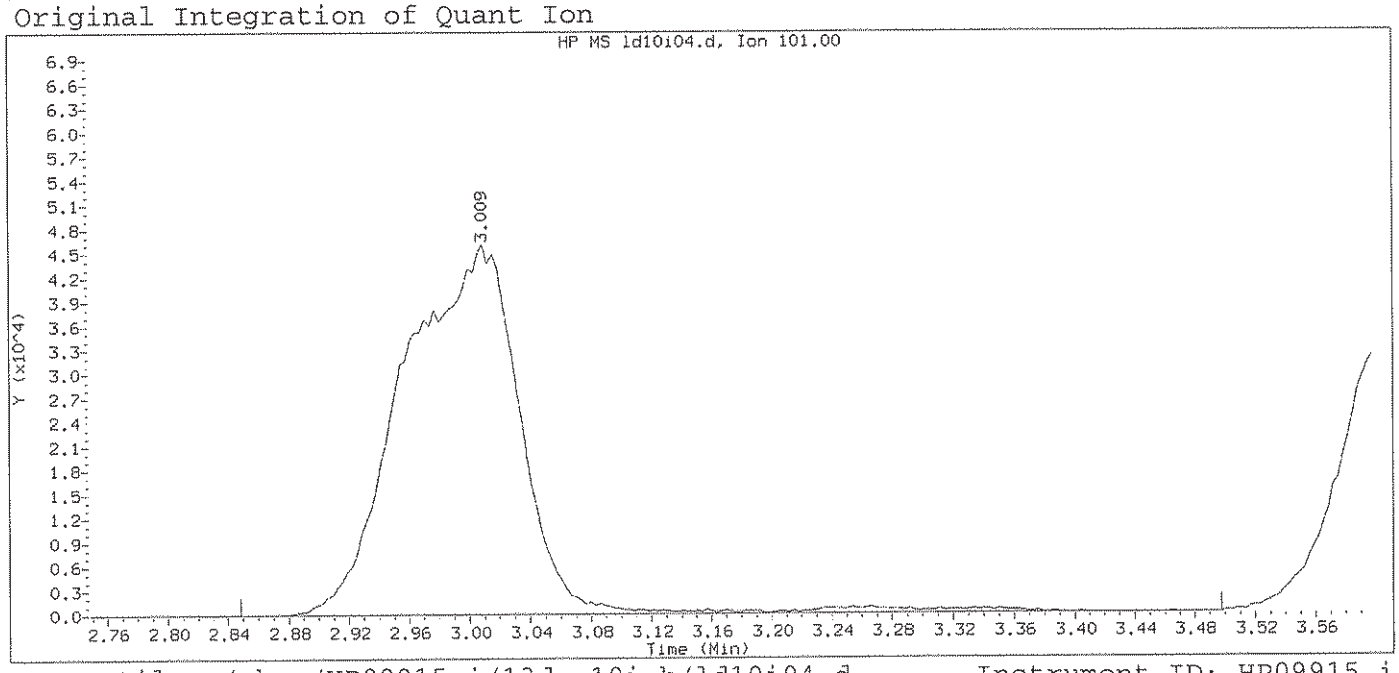
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number	: 10		
Compound Name	: Trichlorofluoromethane		
Scan Number	: 444		
Retention Time (minutes)	: 3.009		
Quant Ion	: 101.00		
Area	: 249611		
On-column Amount (ng)	: 19.9926		
Integration start scan	: 393	Integration stop scan:	595
Y at integration start	: 0	Y at integration end:	0

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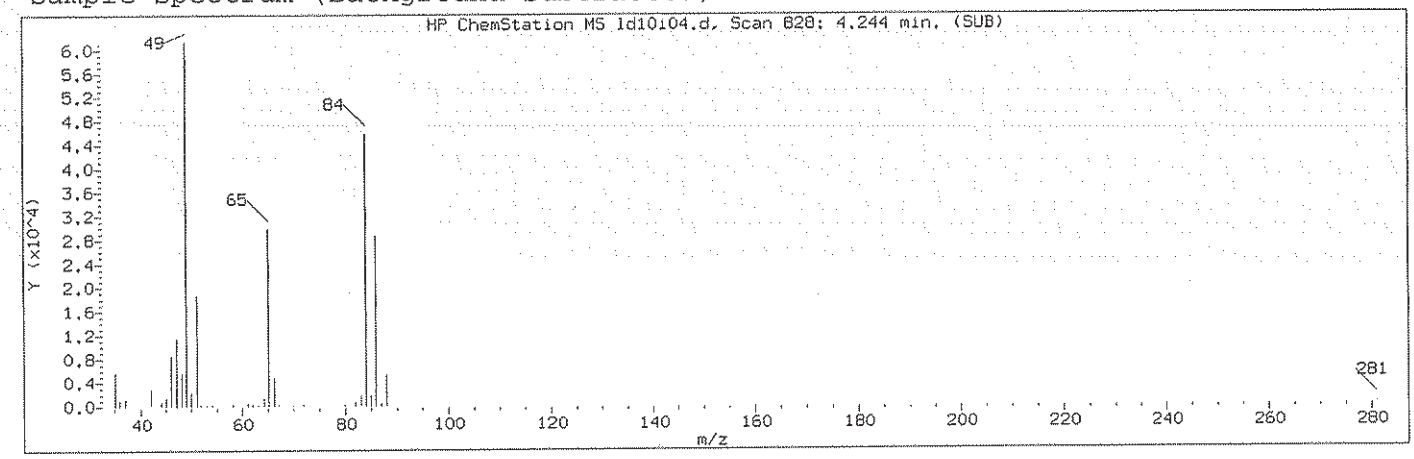
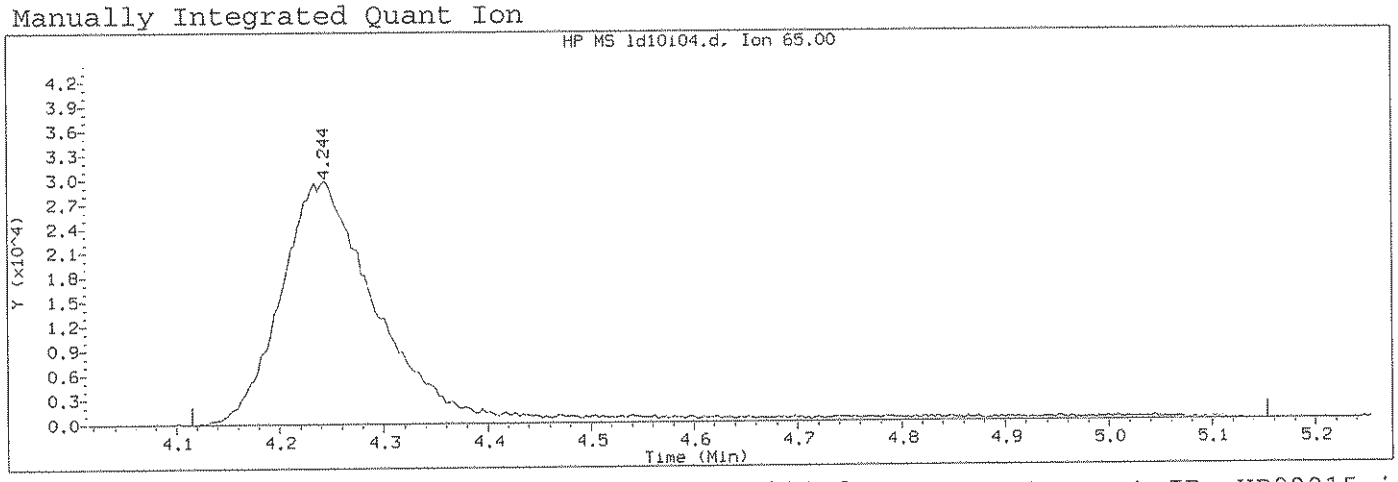
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

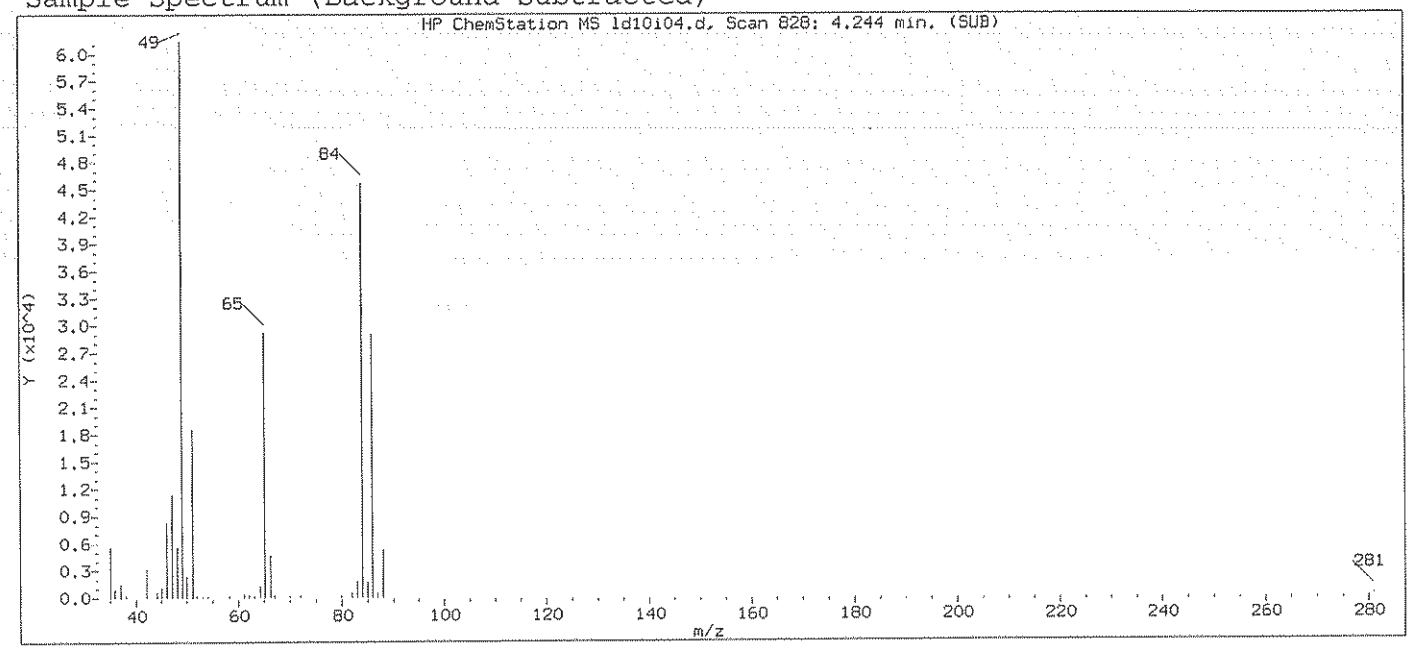
Compound Number : 28
Compound Name : t-Butyl Alcohol-d10
Scan Number : 828
Retention Time (minutes): 4.244
Quant Ion : 65.00
Area (flag) : 207127M
On-Column Amount (ng) : 250.0000
Integration start scan : 787 Integration stop scan: 1110
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

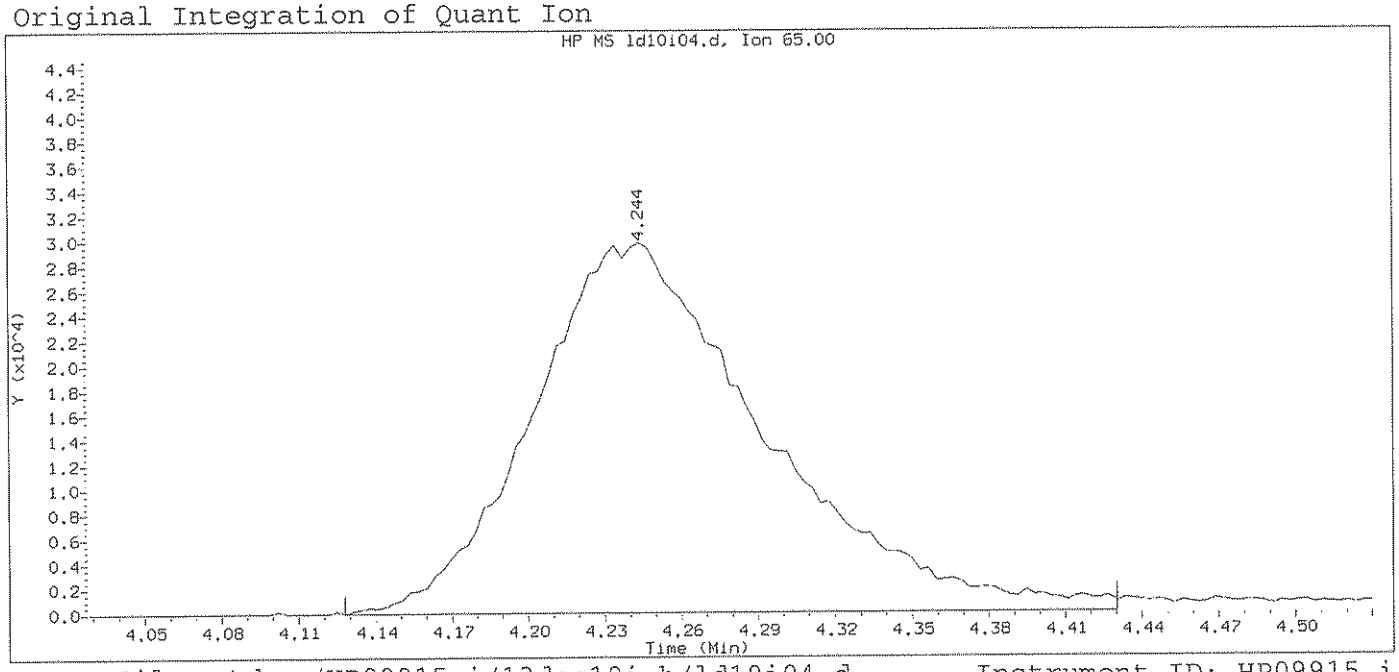
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number	: 28		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 828		
Retention Time (minutes)	: 4.244		
Quant Ion	: 65.00		
Area	: 187304		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 791	Integration stop scan:	885
Y at integration start	: 0	Y at integration end:	0

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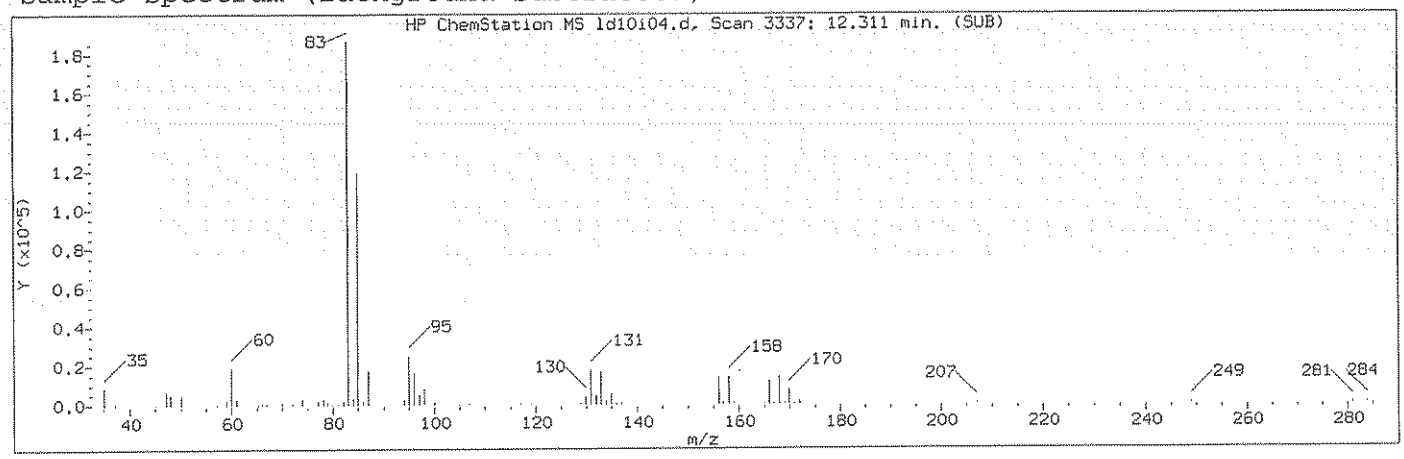
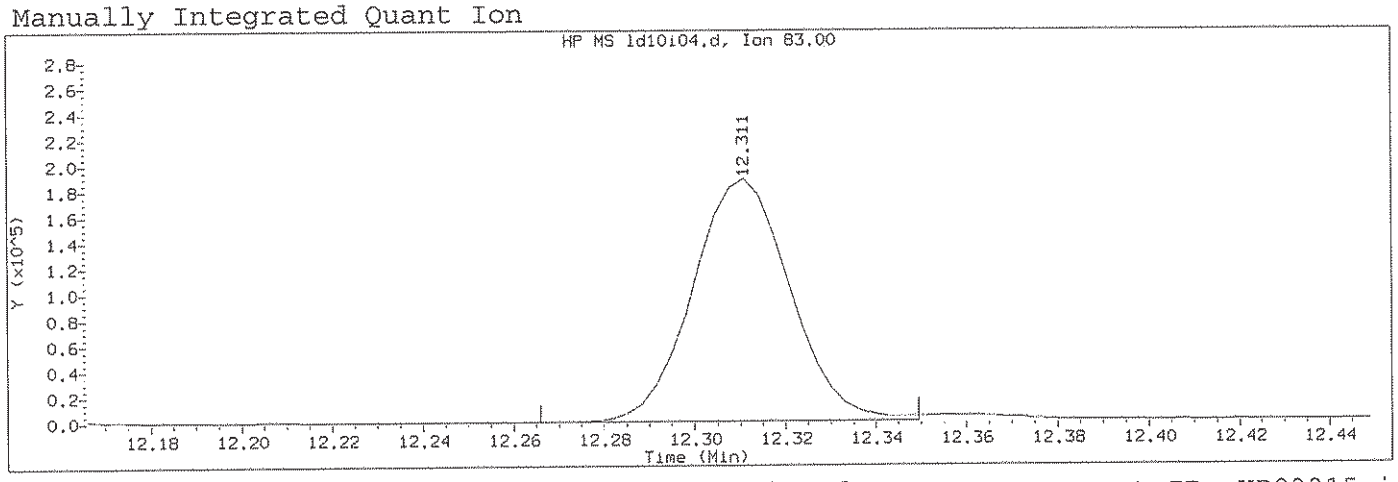
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

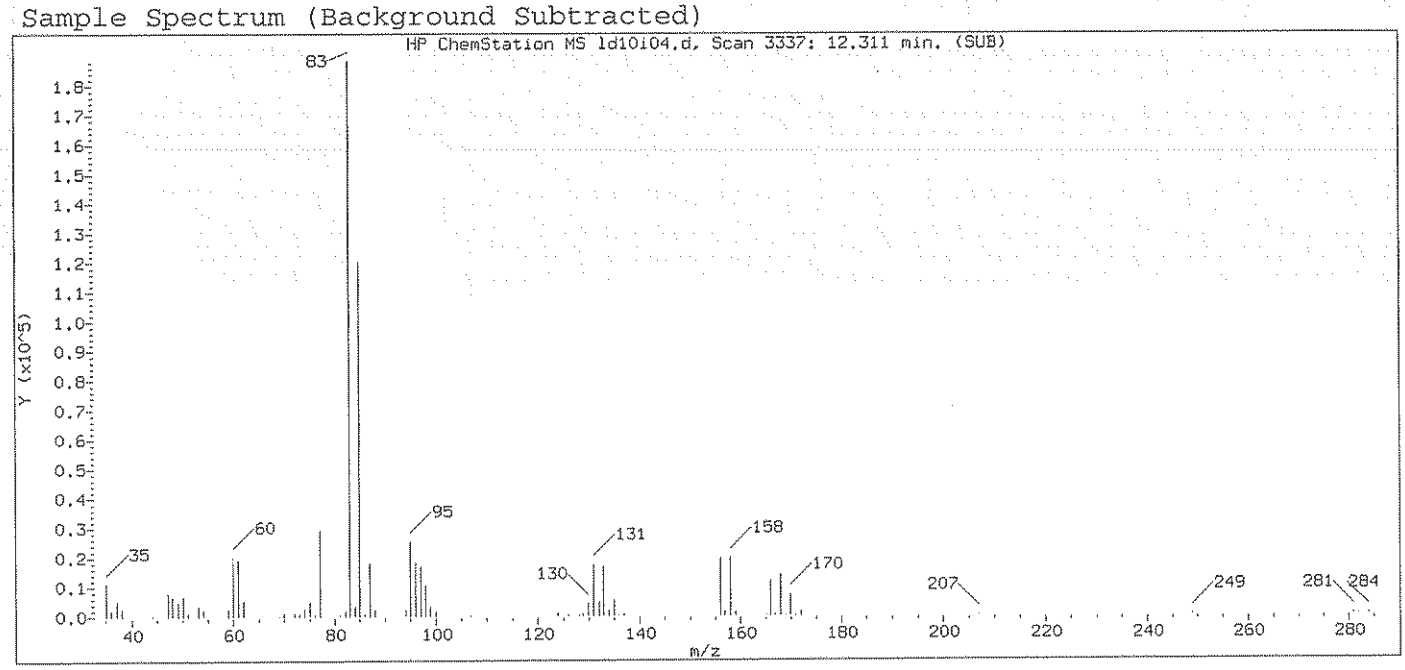
Compound Number : 122
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 3337
Retention Time (minutes): 12.311
Quant Ion : 83.00
Area (flag) : 281050M
On-Column Amount (ng) : 21.4237
Integration start scan : 3322 Integration stop scan: 3348
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

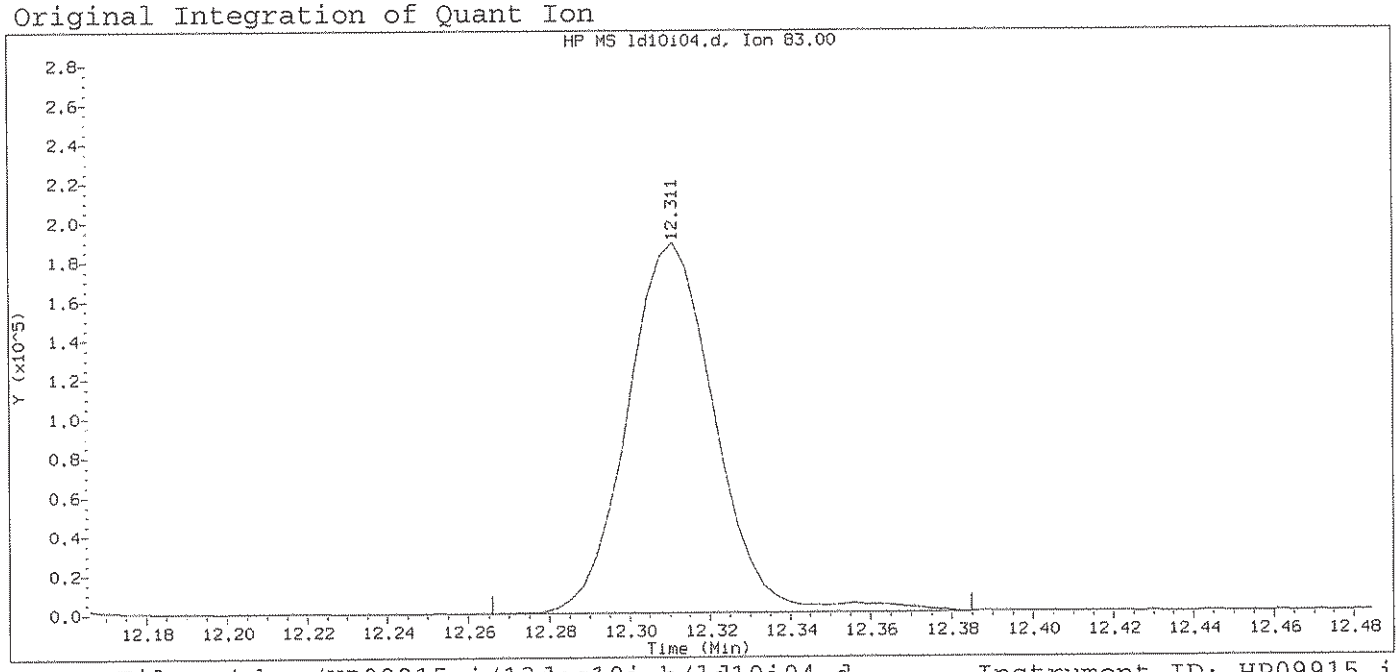
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i04.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 15:46 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number	: 122
Compound Name	: 1,1,2,2-Tetrachloroethane
Scan Number	: 3337
Retention Time (minutes)	: 12.311
Quant Ion	: 83.00
Area	: 286796
On-column Amount (ng)	: 22.6580
Integration start scan	: 3322 Integration stop scan: 3359
Y at integration start	: 0 Y at integration end: 0

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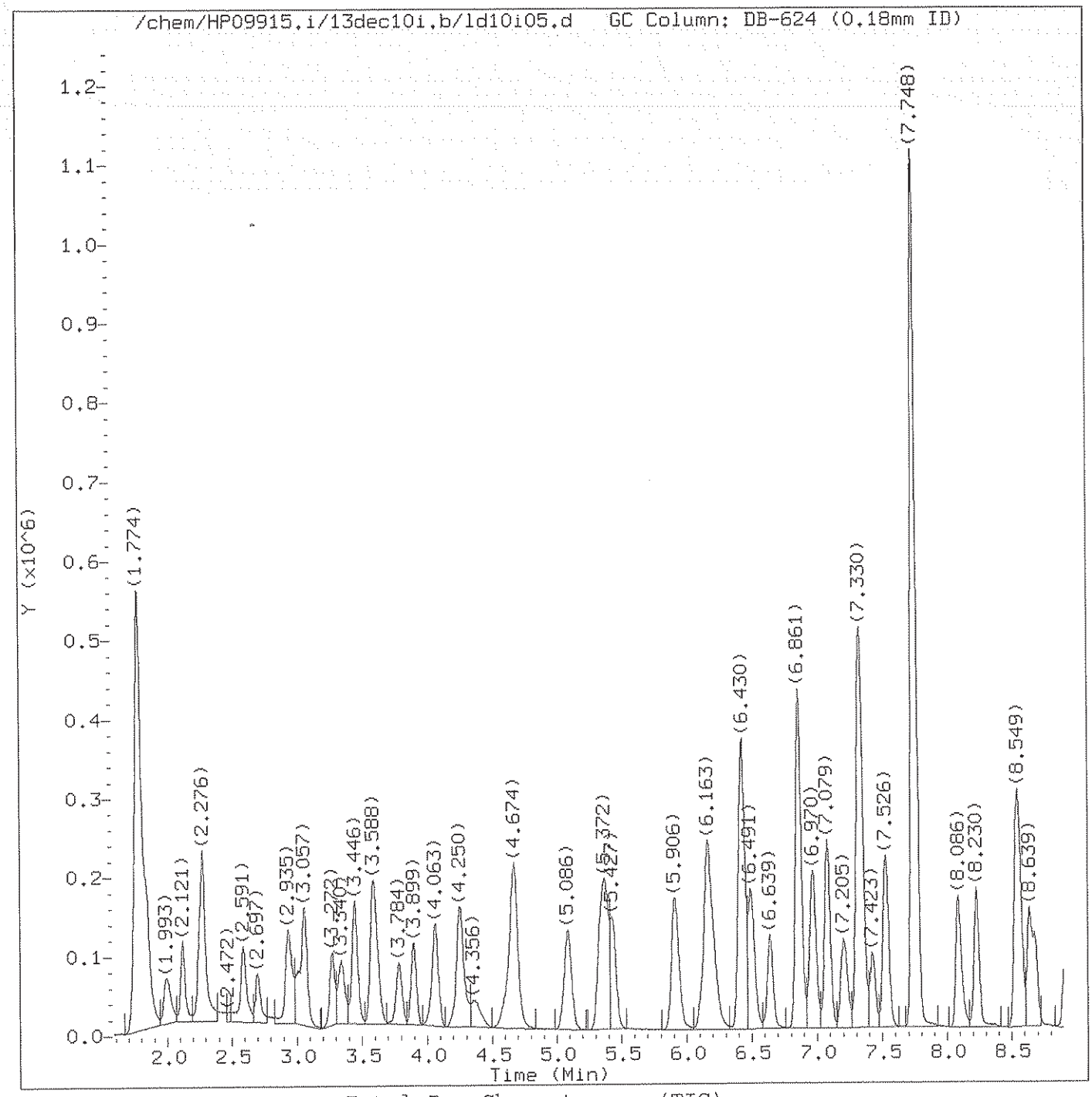
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d
Injection date and time: 10-DEC-2013 16:08

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 10-DEC-2013 17:23

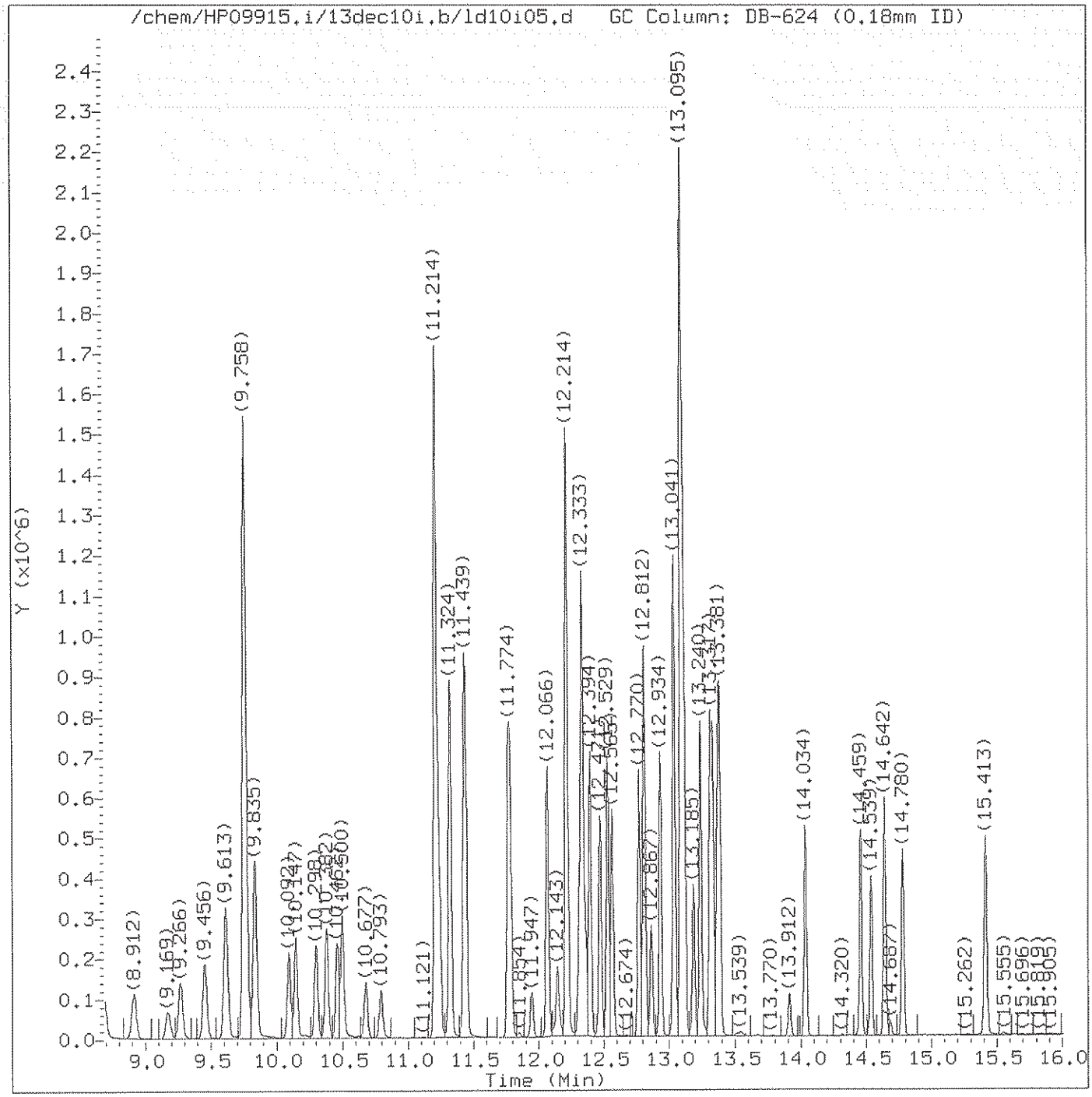
Sublist used: 8260WI

Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010

Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2) Dichlorodifluoromethane	(1)	1.990	85	127674	10.708
3) Chloromethane	(1)	2.121	50	133767	10.638
5) Vinyl Chloride	(1)	2.250	62	122382	10.928
4) 1,3-Butadiene	(1)	2.279	39	118706M	10.054
7) Bromomethane	(1)	2.588	94	76228	10.668
8) Chloroethane	(1)	2.700	64	69037	10.668
9) Dichlorofluoromethane	(1)	2.935	67	145934	10.070
10) Trichlorofluoromethane	(1)	3.006	101	124821	10.664
11) n-Pentane	(1)	3.057	43	151923	10.115
13) Ethyl Ether	(1)	3.272	59	87344	9.919
14) Freon 123a	(1)	3.343	67	101767	10.337
15) Acrolein	(4)	3.446	56	270007M	100.906
16) 1,1-Dichloroethene	(1)	3.581	96	69735	10.312
18) Freon 113	(1)	3.604	101	72204	10.149
17) Acetone	(4)	3.607	58	21110	19.259
45) 1,2-Dichloroethene (total)	(1)		96	171476	20.560
21) 2-Propanol	(4)	3.768	45	73955	95.240
20) Methyl Iodide	(1)	3.784	142	128260	10.242
22) Carbon Disulfide	(1)	3.899	76	255132	9.933
25) Methyl Acetate	(1)	4.028	43	87239	9.905
24) Allyl Chloride	(1)	4.063	41	144508	9.864
28)*t-Butyl Alcohol-d10	(4)	4.240	65	204884M	250.000
26) Methylene Chloride	(1)	4.256	84	83600	10.014
29) t-Butyl Alcohol	(4)	4.369	59	115888	92.037
30) Acrylonitrile	(1)	4.581	53	45552	9.323
32) Methyl Tertiary Butyl Ether	(1)	4.652	73	275532	9.827
31) trans-1,2-Dichloroethene	(1)	4.678	96	82128M	10.480
33) n-Hexane	(1)	5.083	57	133750	10.080
34) 1,1-Dichloroethane	(1)	5.333	63	156141	10.290
36) di-Isopropyl Ether	(1)	5.372	45	316393	10.067
37) 2-Chloro-1,3-Butadiene	(1)	5.440	53	131851	10.028
39) Ethyl t-Butyl Ether	(1)	5.915	59	289593	9.953
41) 2-Butanone	(4)	6.124	43	120056	18.787
40) cis-1,2-Dichloroethene	(1)	6.160	96	89348	10.080
42) 2,2-Dichloropropane	(1)	6.173	77	114135	10.234
43) Propionitrile	(4)	6.208	54	165024	93.114
46) Methacrylonitrile	(1)	6.430	67	236432	48.034
47) Bromochloromethane	(1)	6.497	128	43753	9.939

M = Compound was manually integrated.
* = Compound is an internal standard.

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on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/1d10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
48) Tetrahydrofuran	(4)	6.497	71	29042	18.461
50) Chloroform	(1)	6.642	83	137756	10.154
51)$Dibromofluoromethane(mz111)	(1)	6.858	111	302965	49.759
52)$Dibromofluoromethane	(1)	6.861	113	297236	50.127
53) 1,1,1-Trichloroethane	(1)	6.874	97	127505	10.146
56) Cyclohexane	(1)	6.967	56	167229	10.147
54) Cyclohexane (mz 84)	(1)	6.967	84	127238	10.069
55) Cyclohexane (mz 69)	(1)	6.970	69	48673	10.194
57) 1,1-Dichloropropene	(1)	7.079	75	111368	9.897
58) Carbon Tetrachloride	(1)	7.079	117	89945	9.650
59) Isobutyl Alcohol	(4)	7.202	41	103946	227.388
61)$1,2-Dichloroethane-d4(mz65)	(1)	7.317	65	365560	50.278
60)$1,2-Dichloroethane-d4(mz104)	(1)	7.321	104	49823	50.446
62)$1,2-Dichloroethane-d4	(1)	7.321	102	77387M	50.264
63) Benzene	(1)	7.346	78	351510	10.220
65) 1,2-Dichloroethane	(1)	7.420	62	107938	9.715
64) 1,2-Dichloroethane (mz 98)	(1)	7.433	98	10739	9.664
69) t-Amyl Methyl Ether	(1)	7.530	73	270048	9.752
72) n-Heptane	(1)	7.748	43	137544	9.886
71)*Fluorobenzene	(1)	7.748	96	1296960	50.000
73) n-Butanol	(4)	8.089	56	178344	457.412
112) Xylene (Total)	(2)		106	478306	30.964
74) Trichloroethene	(1)	8.230	95	85053	10.230
75) Methylcyclohexane (mz98)	(1)	8.536	98	62440	9.569
76) Methylcyclohexane	(1)	8.539	83	146950	9.686
77) 1,2-Dichloropropane	(1)	8.575	63	93469	9.959
80) Methyl Methacrylate	(1)	8.636	69	76017	9.080
79) 1,4-Dioxane	(4)	8.652	88	21604	225.264
78) Dibromomethane	(1)	8.681	93	55519	9.626
83) Bromodichloromethane	(1)	8.912	83	100257	9.483
85) 2-Nitropropane	(1)	9.173	41	56566	18.063
86) 2-Chloroethyl Vinyl Ether	(1)	9.266	63	78998	10.623
87) cis-1,3-Dichloropropene	(1)	9.452	75	136000	9.727
89) 4-Methyl-2-Pentanone	(4)	9.613	43	285965	19.446
93)$Toluene-d8	(2)	9.758	98	1247988	50.371
92)$Toluene-d8(mz100)	(2)	9.758	100	814933	50.243
94) Toluene	(2)	9.835	92	218033	10.314
95) trans-1,3-Dichloropropene	(2)	10.092	75	125786	9.457

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on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
96) Ethyl Methacrylate	(2)	10.147	69	142134	9.406
97) 1,1,2-Trichloroethane	(2)	10.298	97	77848	9.558
98) Tetrachloroethene	(2)	10.382	166	86223	10.243
99) 1,3-Dichloropropane	(2)	10.462	76	141003	9.715
101) 2-Hexanone	(4)	10.497	43	218124	20.119
102) Dibromochloromethane	(2)	10.677	129	74886	9.256
104) 1,2-Dibromoethane	(2)	10.793	107	83458	9.497
106)*Chlorobenzene-d5	(2)	11.214	117	921938	50.000
107) Chlorobenzene	(2)	11.240	112	230802	10.107
108) 1,1,1,2-Tetrachloroethane	(2)	11.324	131	73531	9.651
109) Ethylbenzene	(2)	11.324	91	413588	10.252
110) m+p-Xylene	(2)	11.439	106	321566	20.666
113) o-Xylene	(2)	11.764	106	156740	10.297
114) Styrene	(2)	11.783	104	264562	9.877
115) Bromoform	(2)	11.947	173	47167	8.211
116) Isopropylbenzene	(2)	12.066	105	409643	10.398
118) Cyclohexanone	(4)	12.143	55	77425	226.918
119)$4-Bromofluorobenzene	(2)	12.214	95	464755	50.033
120)$4-Bromofluorobenzene(mz174)	(2)	12.214	174	382228	50.075
122) 1,1,2,2-Tetrachloroethane	(3)	12.311	83	124371	9.420
121) Bromobenzene	(3)	12.330	156	101424	9.635
124) trans-1,4-Dichloro-2-Butene	(3)	12.336	53	147338	43.007
123) 1,2,3-Trichloropropane	(3)	12.359	110	34391	9.321
125) n-Propylbenzene	(3)	12.394	91	489699	10.036
126) 2-Chlorotoluene	(3)	12.471	126	92643	9.705
127) 1,3,5-Trimethylbenzene	(3)	12.529	105	341384	10.162
128) 4-Chlorotoluene	(3)	12.568	126	97109	9.809
130) tert-Butylbenzene	(3)	12.770	134	68112	9.826
131) Pentachloroethane	(3)	12.809	167	55769	9.161
132) 1,2,4-Trimethylbenzene	(3)	12.812	105	346137	10.023
133) sec-Butylbenzene	(3)	12.934	105	427279	9.999
134) 1,3-Dichlorobenzene	(3)	13.037	146	187169	9.859
135) p-Isopropyltoluene	(3)	13.041	119	372767	10.007
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	491869	50.000
138) 1,4-Dichlorobenzene	(3)	13.111	146	194297	9.850
139) 1,2,3-Trimethylbenzene	(3)	13.118	105	362835	9.894
141) Benzyl Chloride	(3)	13.185	91	234283	8.902
142) 1,3-Diethylbenzene	(3)	13.240	119	225286	9.892

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on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
143) 1,4-Diethylbenzene	(3)	13.314	119	228829	10.006
145) n-Butylbenzene	(3)	13.333	92	184884	10.045
144) 1,2-Dichlorobenzene	(3)	13.369	146	183864	9.801
146) 1,2-Diethylbenzene	(3)	13.385	119	186274	9.865
148) 1,2-Dibromo-3-Chloropropane	(3)	13.915	75	23289	9.100
149) 1,3,5-Trichlorobenzene	(3)	14.034	180	141677	9.754
150) 1,2,4-Trichlorobenzene	(3)	14.459	180	137748	9.905
151) Hexachlorobutadiene	(3)	14.539	225	65388	9.916
152) Naphthalene	(3)	14.642	128	407146	9.519
153) 1,2,3-Trichlorobenzene	(3)	14.783	180	129353	9.891
154) 2-Methylnaphthalene	(3)	15.413	142	230919	9.465

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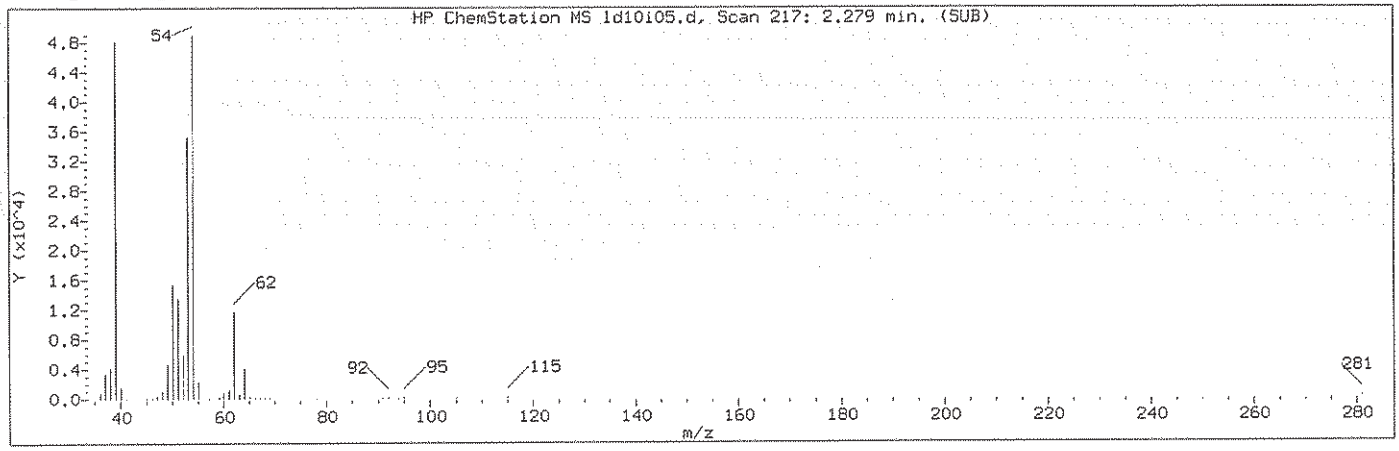
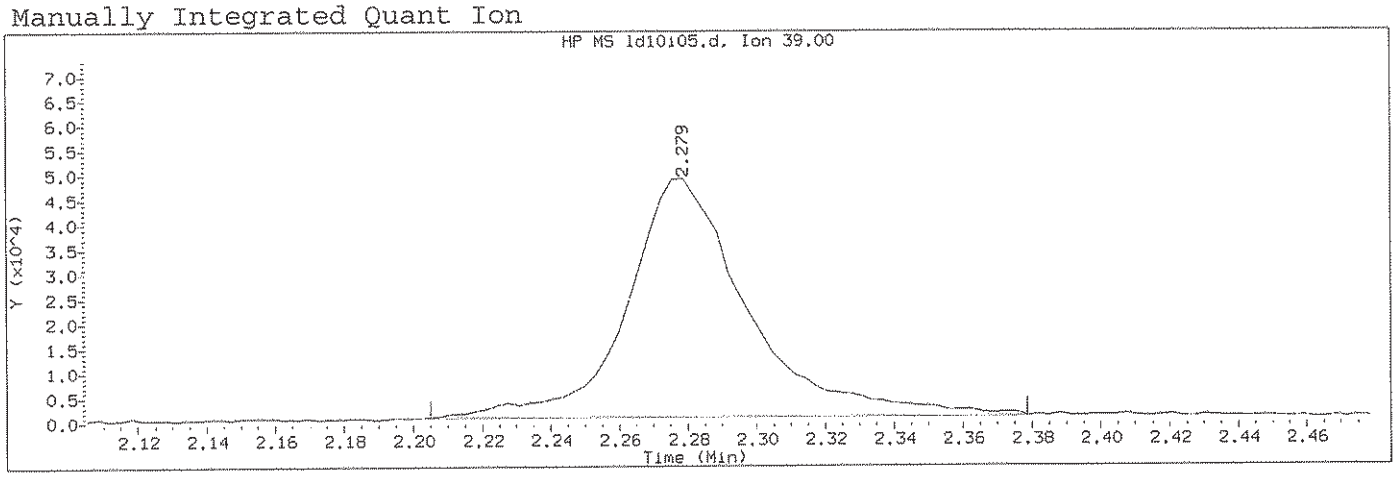
on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

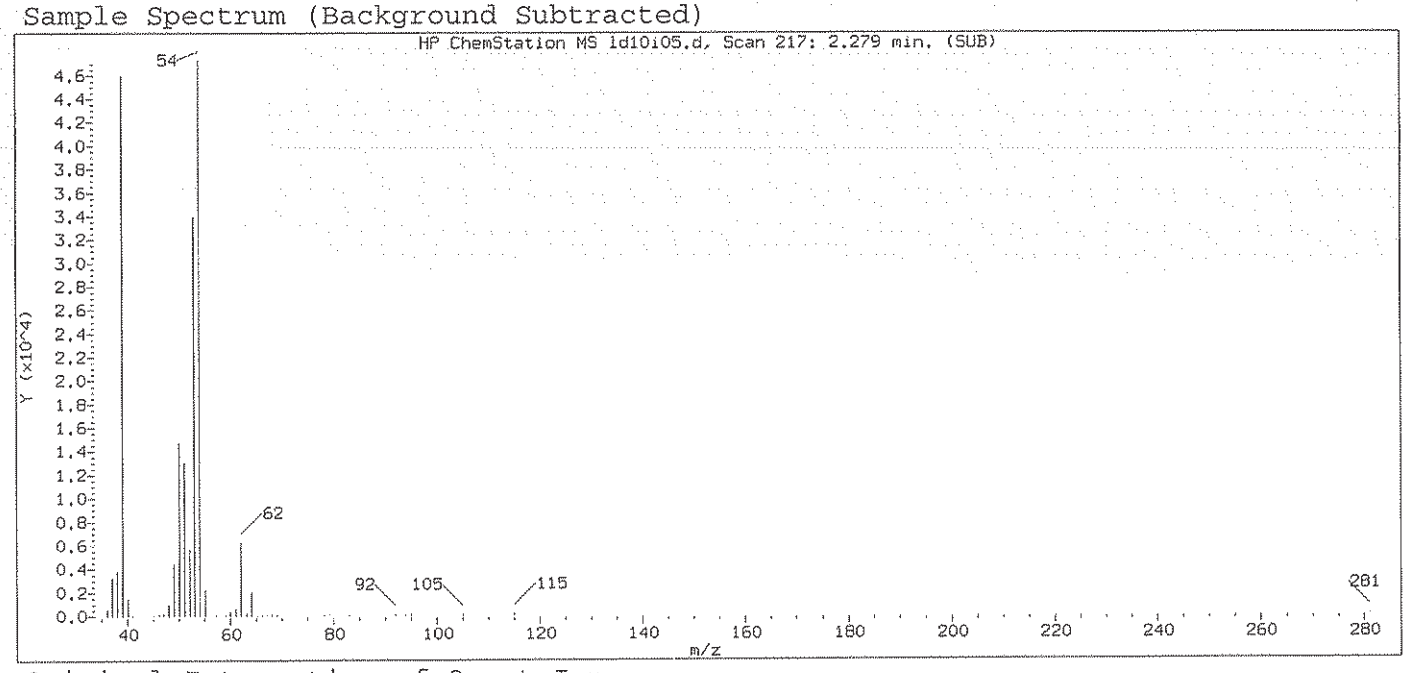
Compound Number : 4
Compound Name : 1,3-Butadiene
Scan Number : 217
Retention Time (minutes): 2.279
Quant Ion : 39.00
Area (flag) : 118706M
On-Column Amount (ng) : 10.0536
Integration start scan : 193 Integration stop scan: 247
Y at integration start : 981 Y at integration end: 981

Reason for manual integration: improper integration

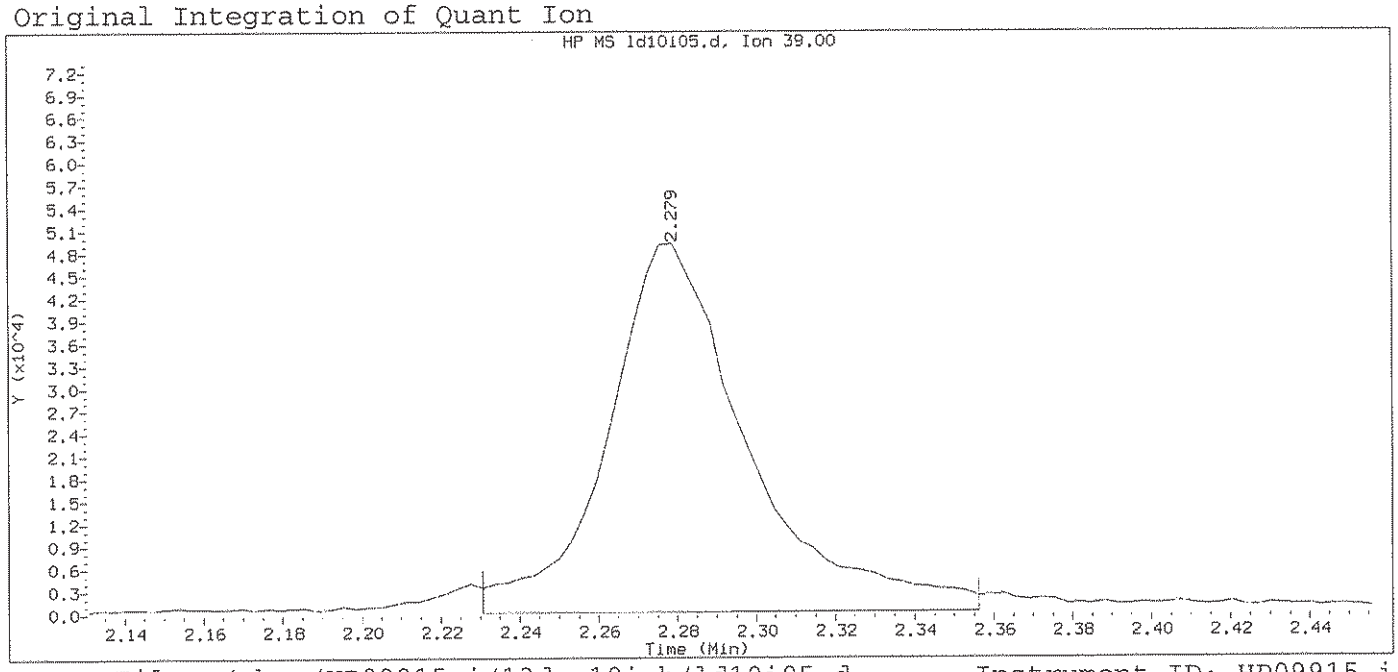
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number	: 4		
Compound Name	: 1,3-Butadiene		
Scan Number	: 217		
Retention Time (minutes)	: 2.279		
Quant Ion	: 39.00		
Area	: 121046		
On-column Amount (ng)	: 12.0073		
Integration start scan	: 201	Integration stop scan:	240
Y at integration start	: 158	Y at integration end:	211

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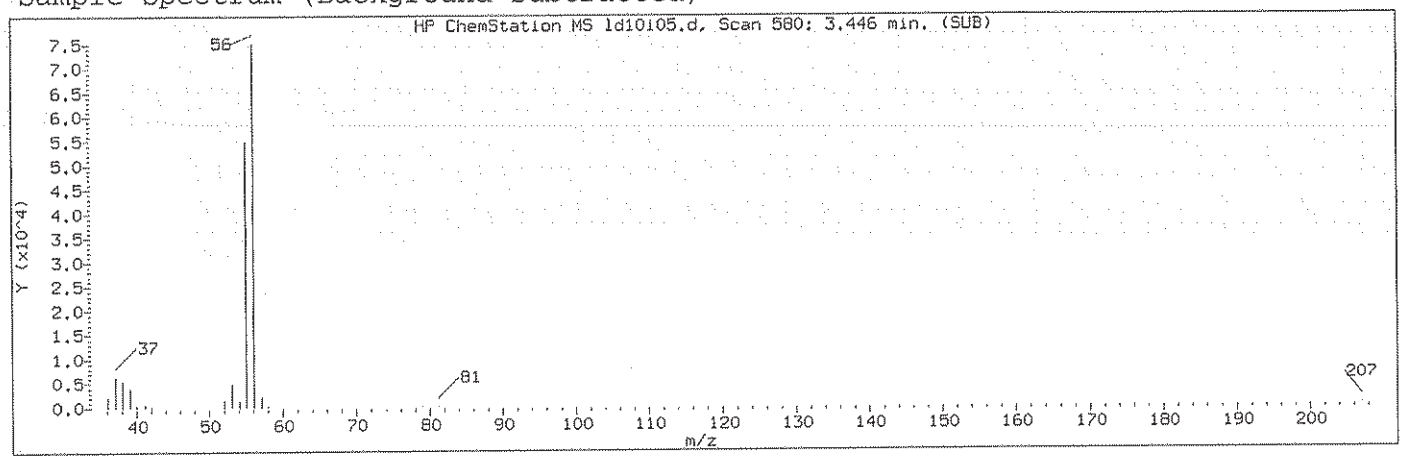
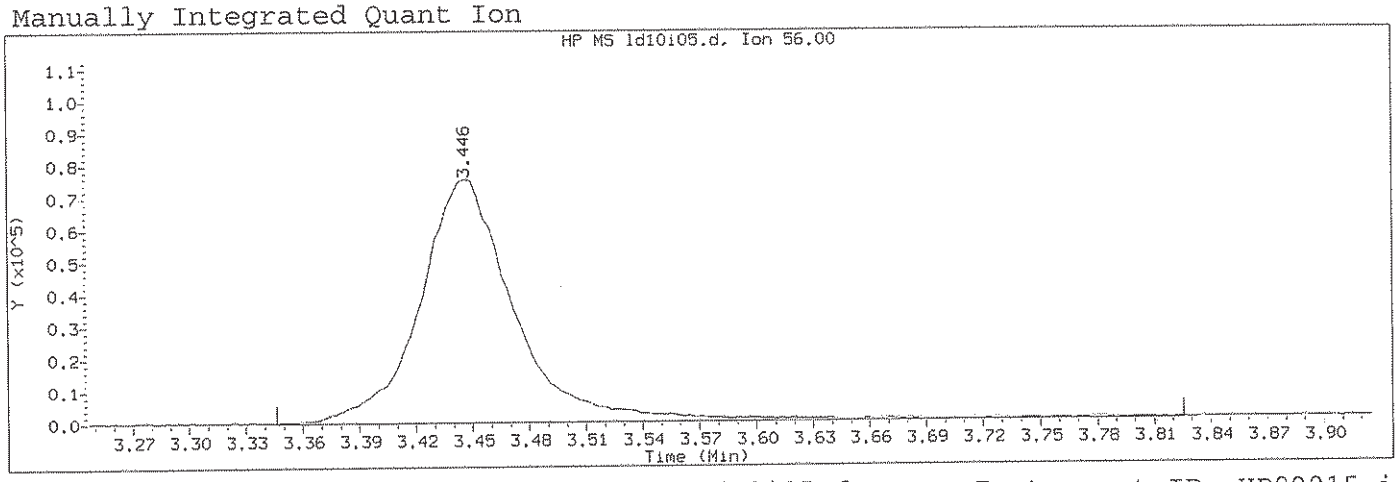
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

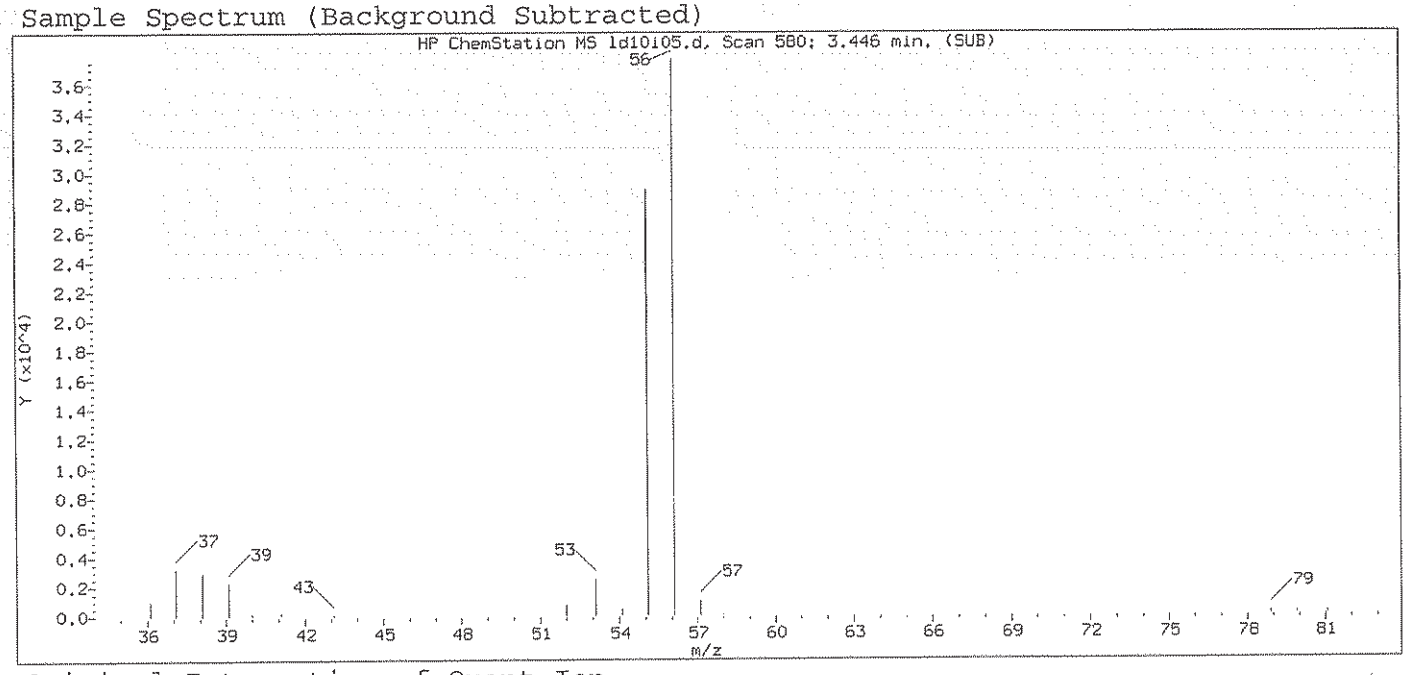
Compound Number	: 15		
Compound Name	: Acrolein		
Scan Number	: 580		
Retention Time (minutes)	: 3.446		
Quant Ion	: 56.00		
Area (flag)	: 270007M		
On-Column Amount (ng)	: 100.9061		
Integration start scan	: 548	Integration stop scan:	697
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

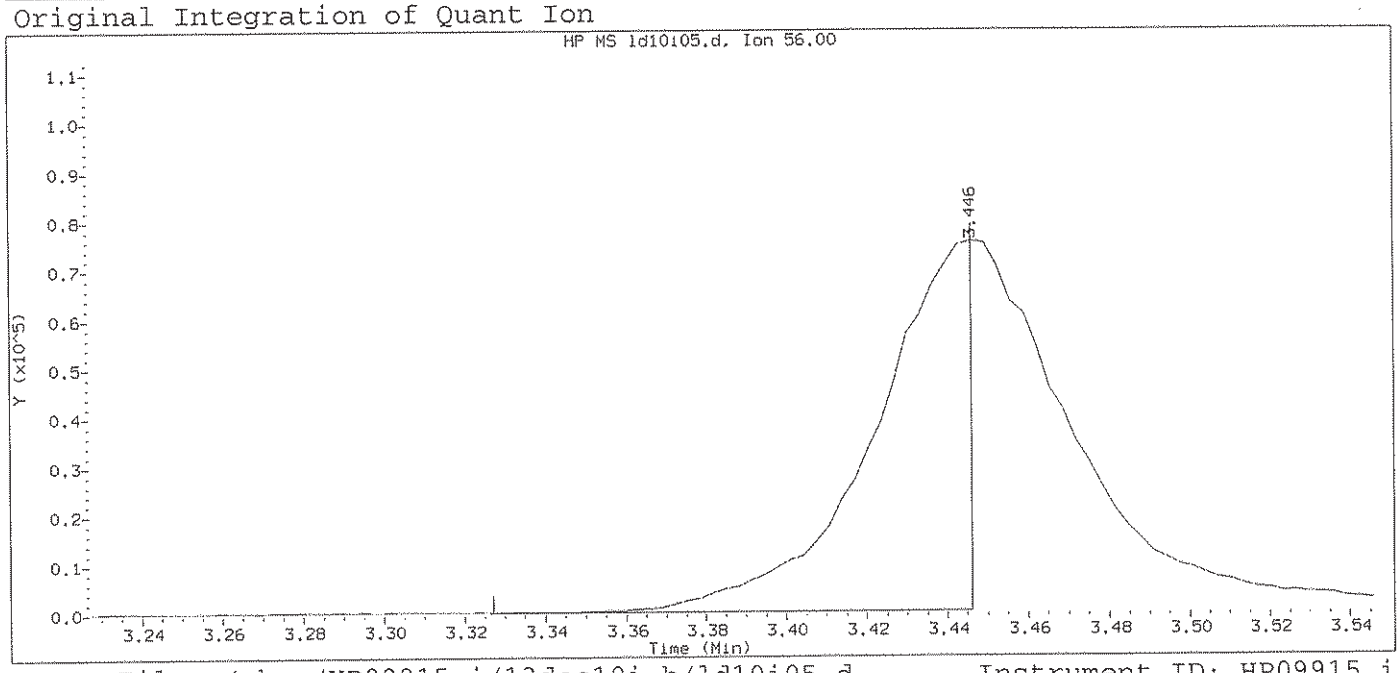
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number	: 15		
Compound Name	: Acrolein		
Scan Number	: 580		
Retention Time (minutes)	: 3.446		
Quant Ion	: 56.00		
Area	: 122496		
On-column Amount (ng)	: 50.3847		
Integration start scan	: 542	Integration stop scan:	579
Y at integration start	: 164	Y at integration end:	164

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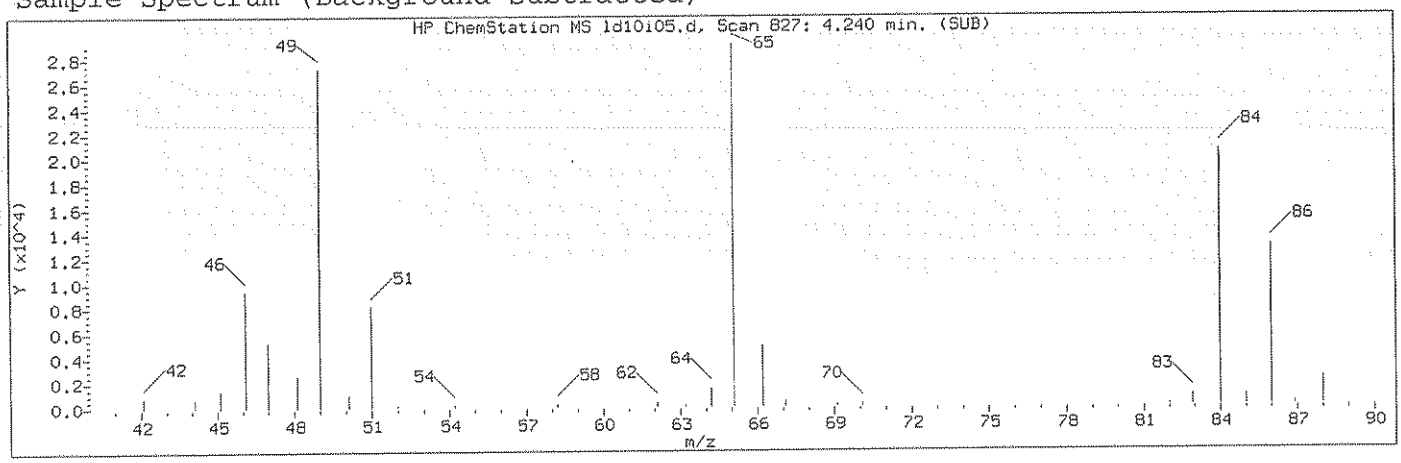
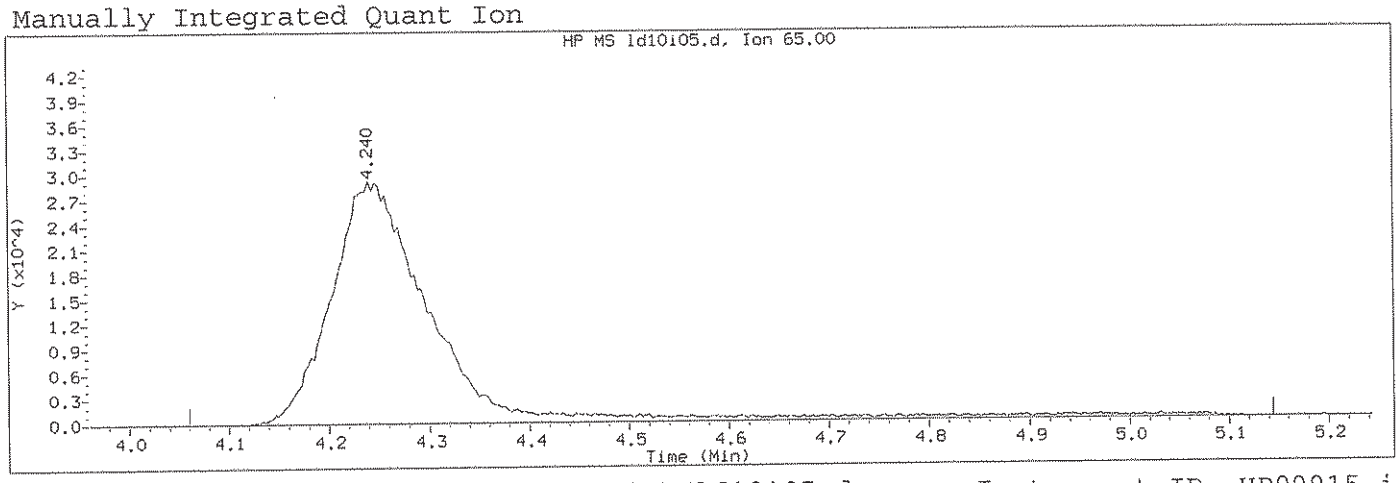
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number	:	28
Compound Name	:	t-Butyl Alcohol-d10
Scan Number	:	827
Retention Time (minutes)	:	4.240
Quant Ion	:	65.00
Area (flag)	:	204884M
On-Column Amount (ng)	:	250.0000
Integration start scan	:	770
Y at integration start	:	0

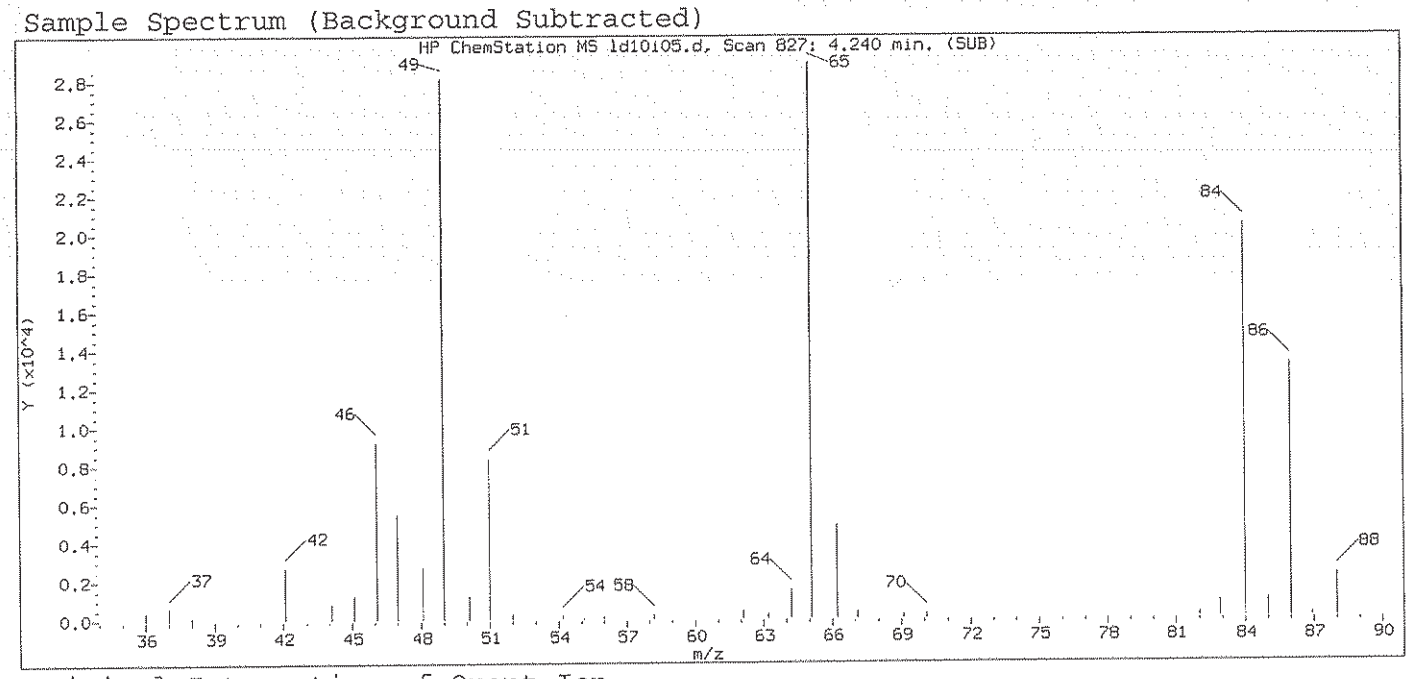
Integration stop scan: 1107
Y at integration end: 0

Reason for manual integration: improper integration

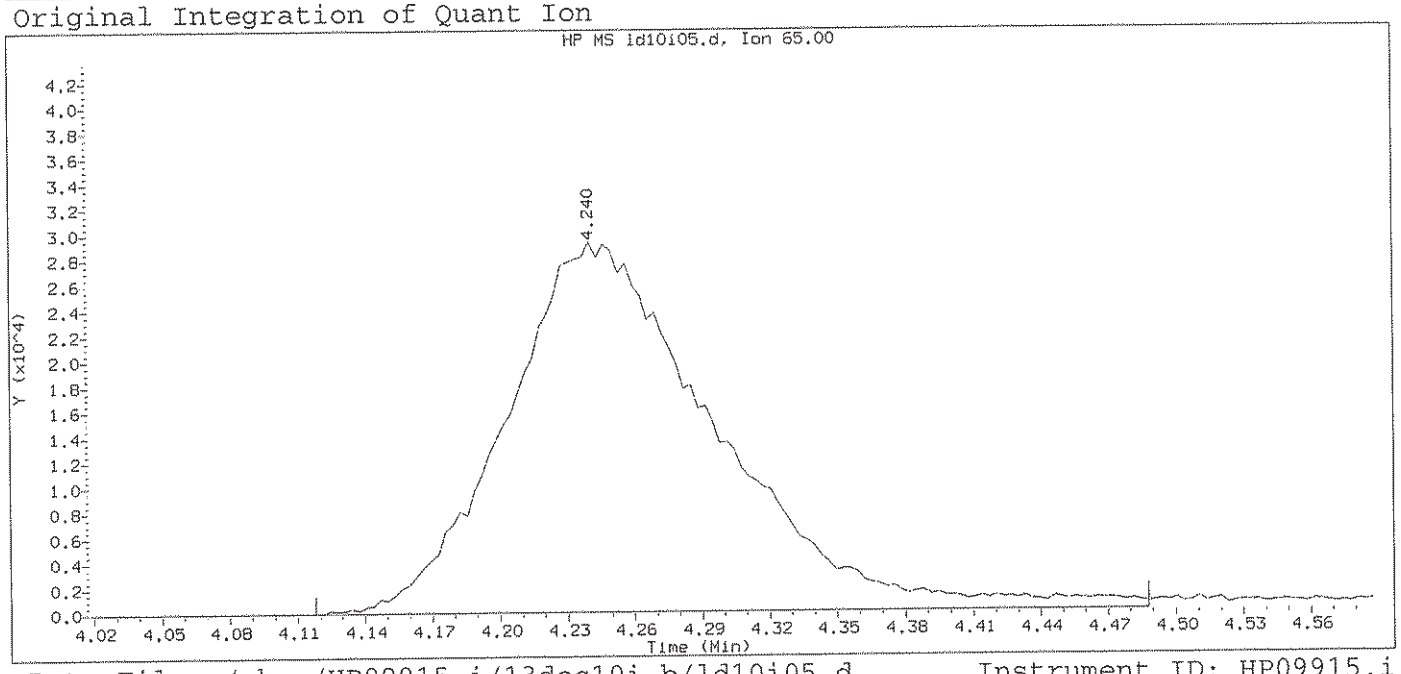
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number	: 28		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 827		
Retention Time (minutes)	: 4.240		
Quant Ion	: 65.00		
Area	: 189434		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 788	Integration stop scan:	903
Y at integration start	: 0	Y at integration end:	0

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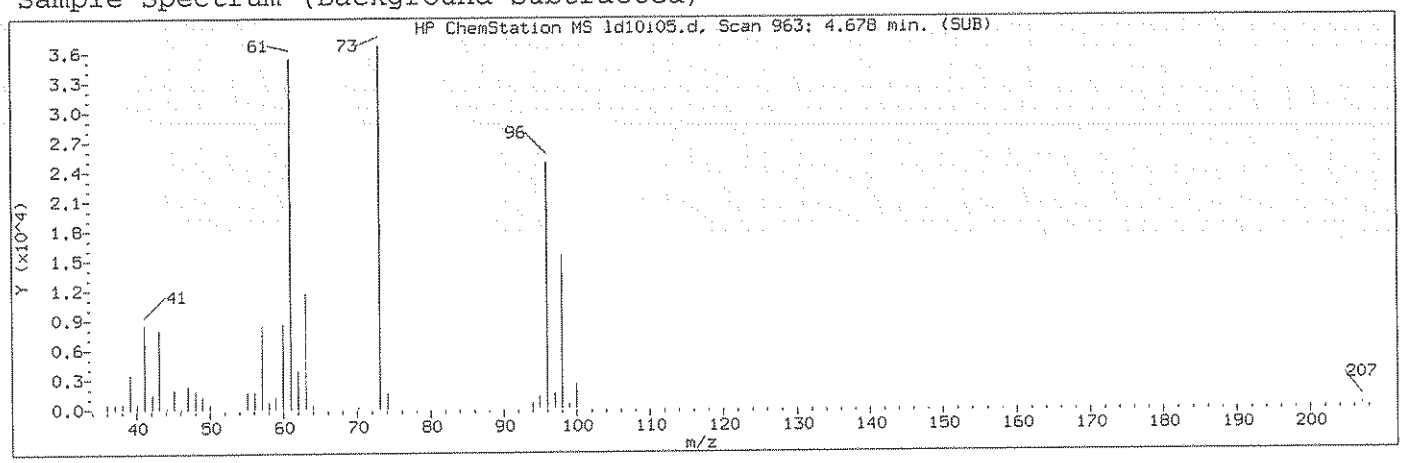
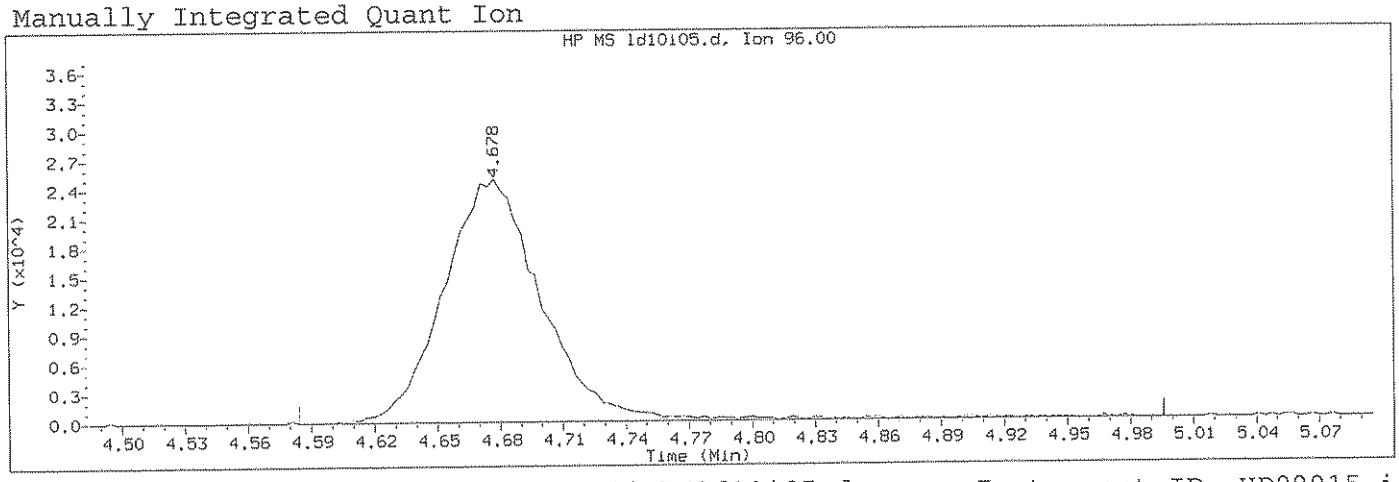
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/1d10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

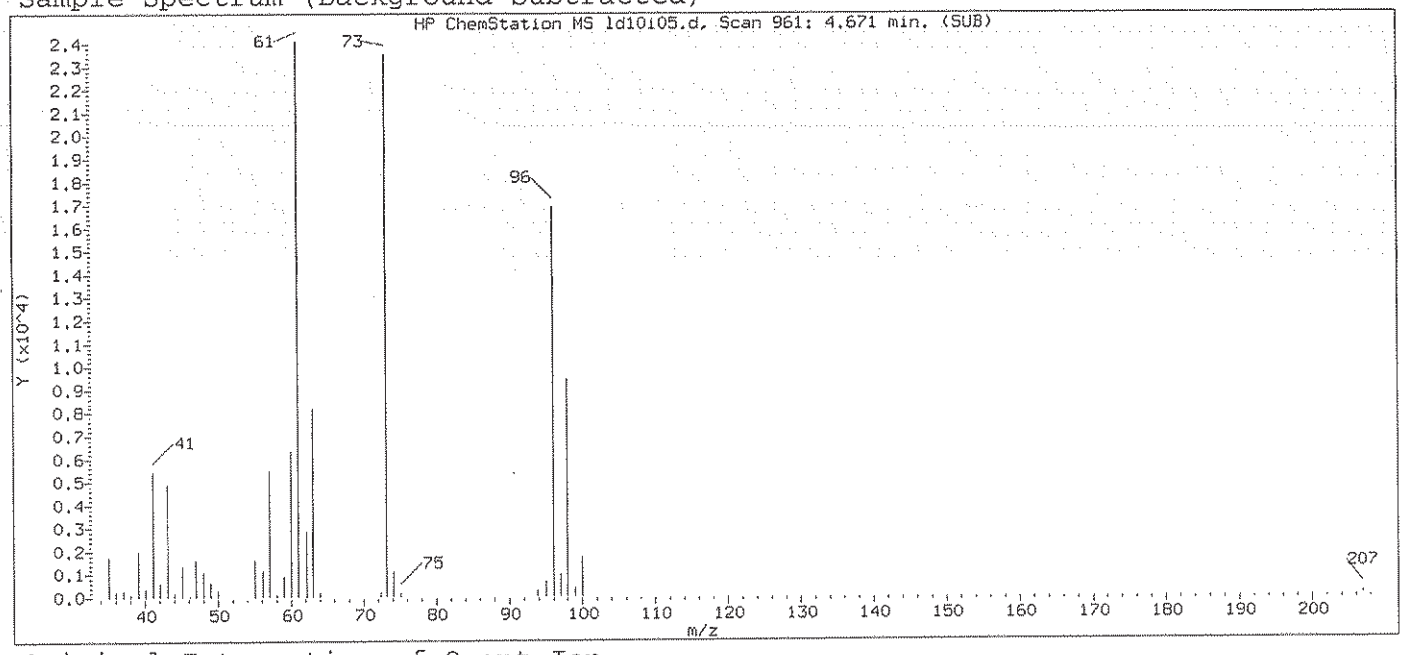
Compound Number	:	31
Compound Name	:	trans-1,2-Dichloroethene
Scan Number	:	963
Retention Time (minutes)	:	4.678
Quant Ion	:	96.00
Area (flag)	:	82128M
On-Column Amount (ng)	:	10.4798
Integration start scan	:	933
Integration stop scan	:	1061
Y at integration start	:	0
Y at integration end	:	0

Reason for manual integration: improper integration

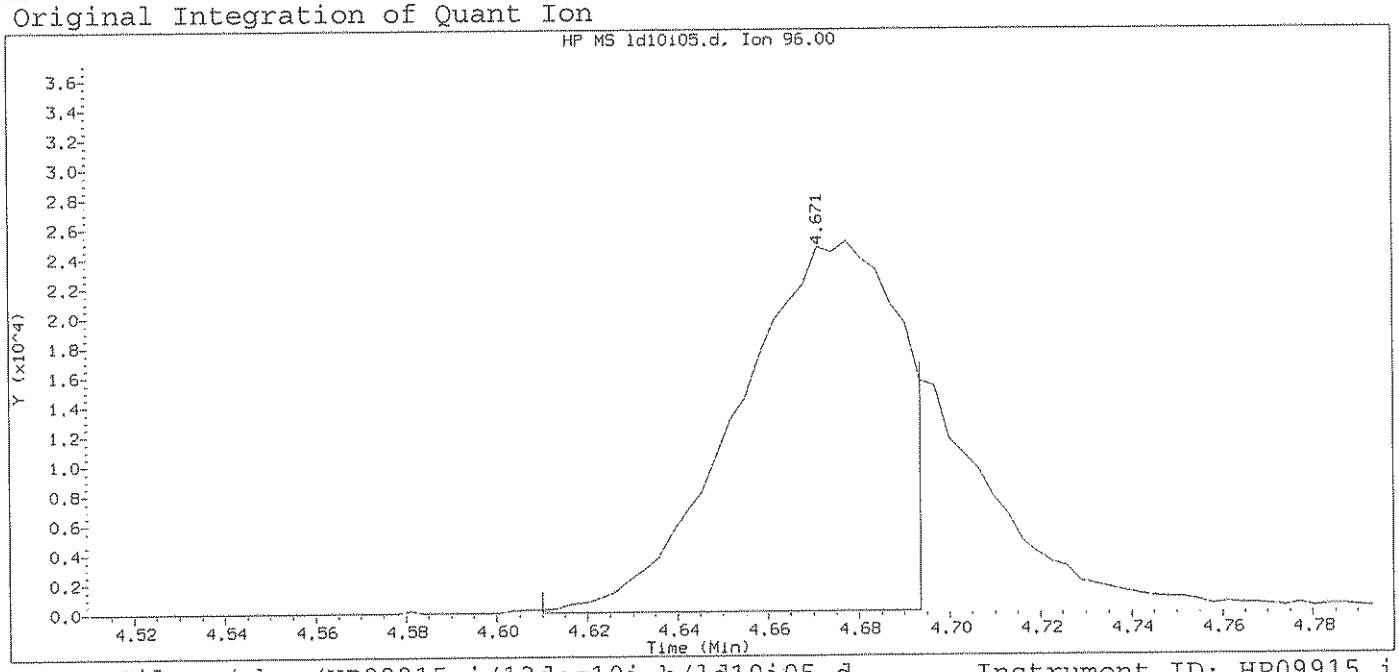
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number	: 31		
Compound Name	: trans-1,2-Dichloroethene		
Scan Number	: 961		
Retention Time (minutes)	: 4.671		
Quant Ion	: 96.00		
Area	: 61597		
On-column Amount (ng)	: 8.0817		
Integration start scan	: 941	Integration stop scan:	967
Y at integration start	: 0	Y at integration end:	0

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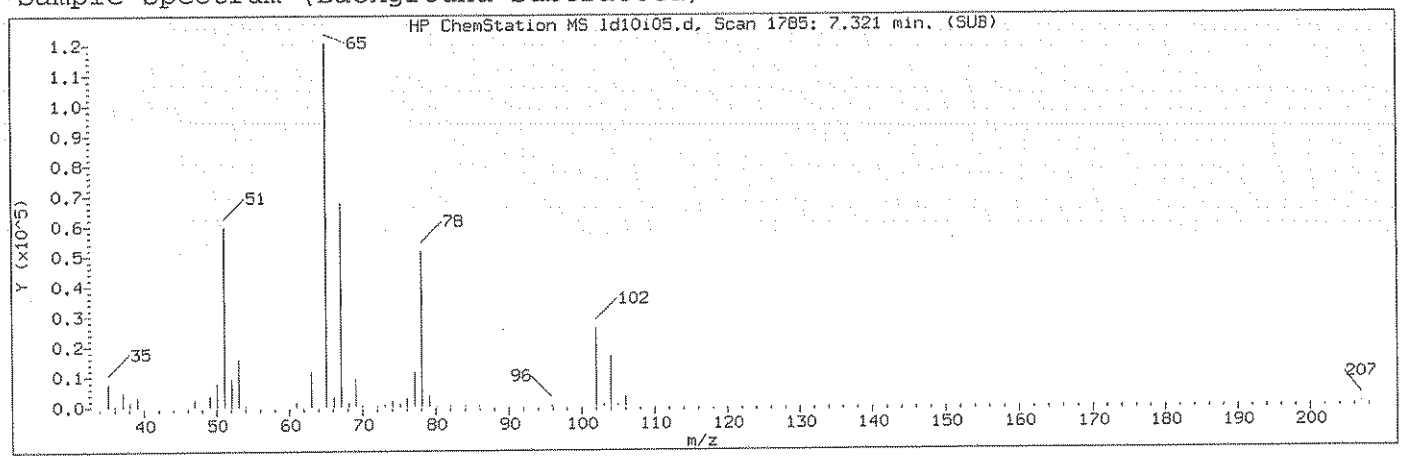
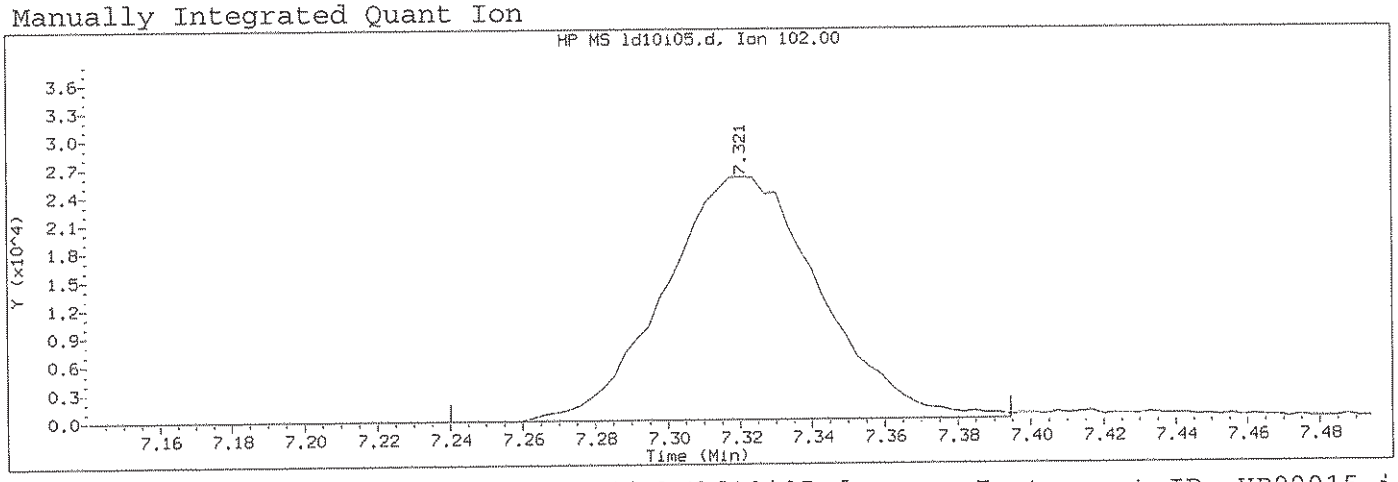
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 10-Dec-2013 18:07 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

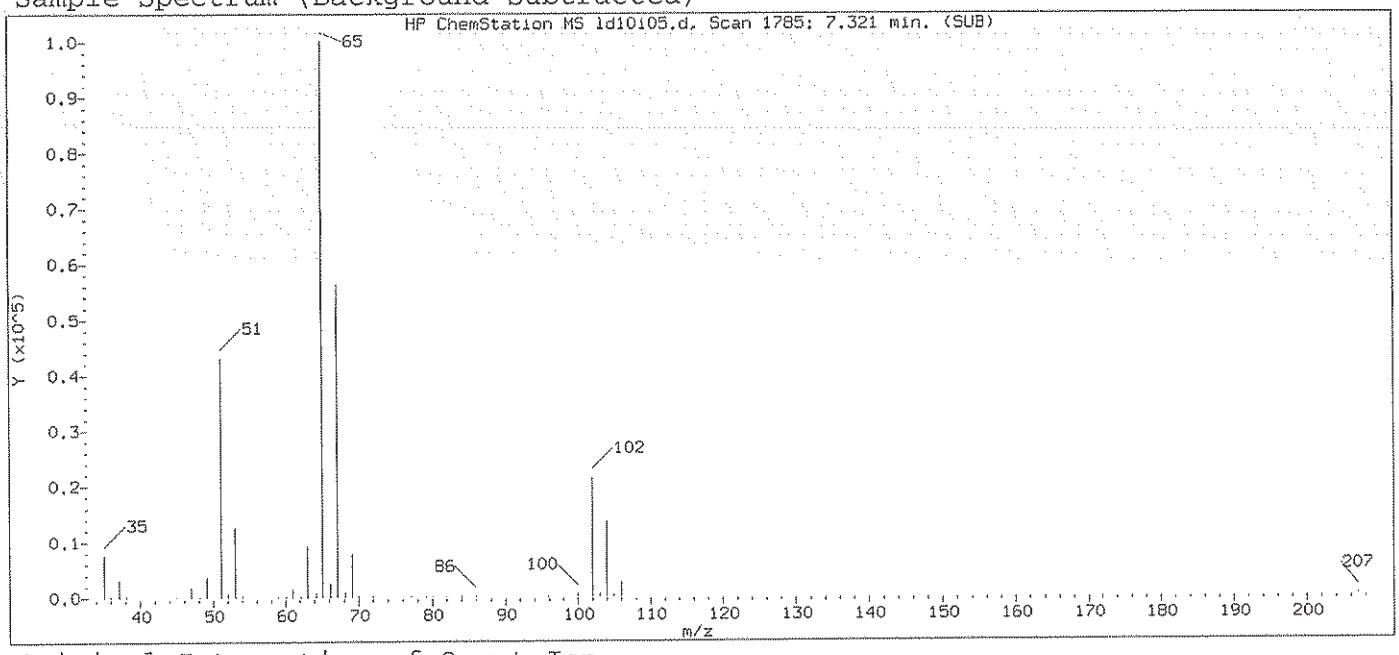
Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1785
Retention Time (minutes): 7.321
Quant Ion : 102.00
Area (flag) : 77387M
On-Column Amount (ng) : 50.2637
Integration start scan : 1759 Integration stop scan: 1807
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

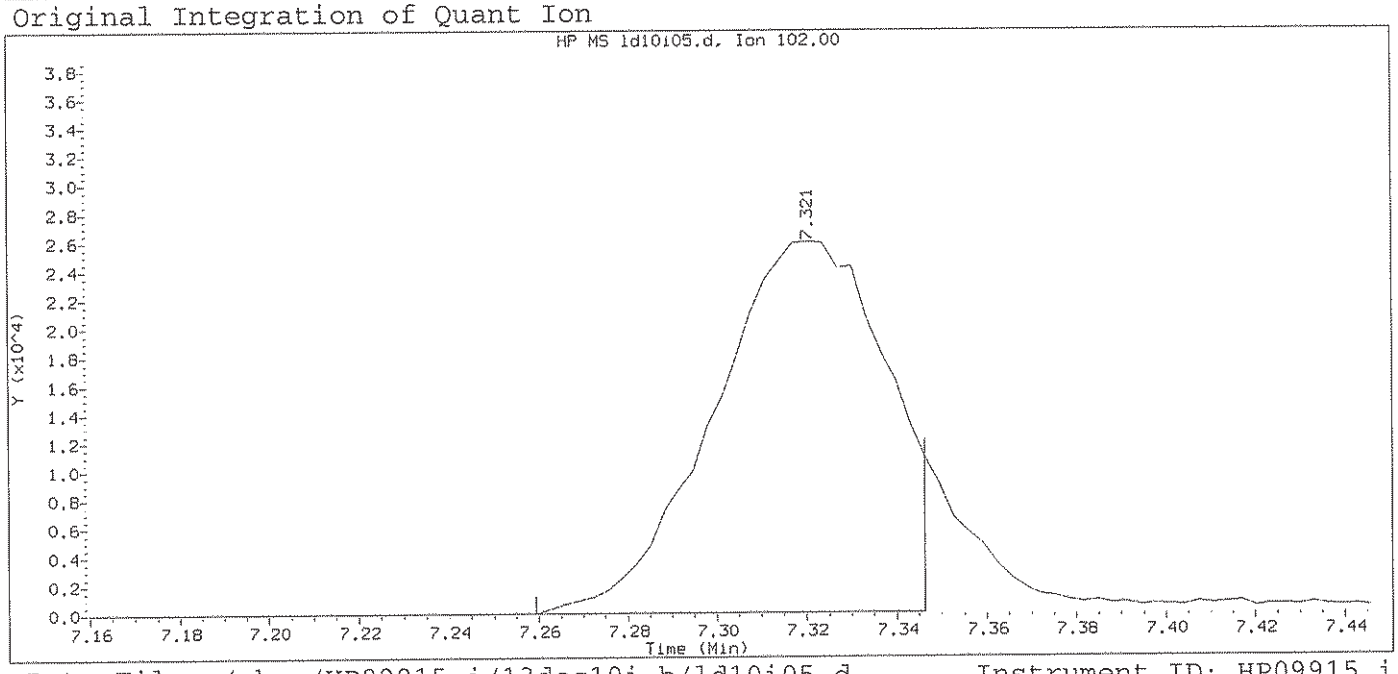
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



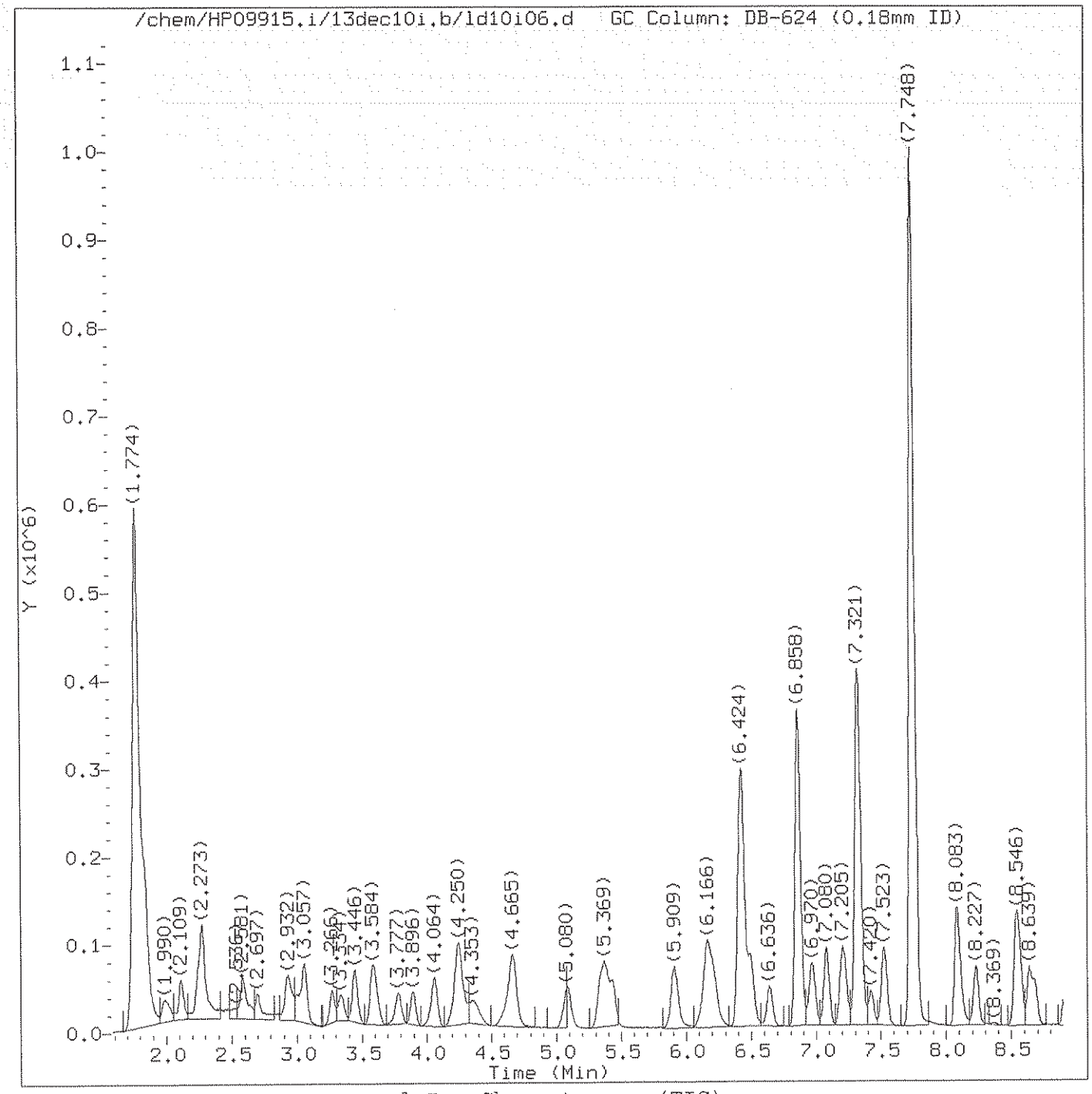
Data File: /chem/HP09915.i/13dec10i.b/ld10i05.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:08 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number	: 62		
Compound Name	: 1,2-Dichloroethane-d4		
Scan Number	: 1785		
Retention Time (minutes)	: 7.321		
Quant Ion	: 102.00		
Area	: 68605		
On-column Amount (ng)	: 46.0999		
Integration start scan	: 1765	Integration stop scan:	1792
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d
Injection date and time: 10-DEC-2013 16:31

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 10-DEC-2013 17:23

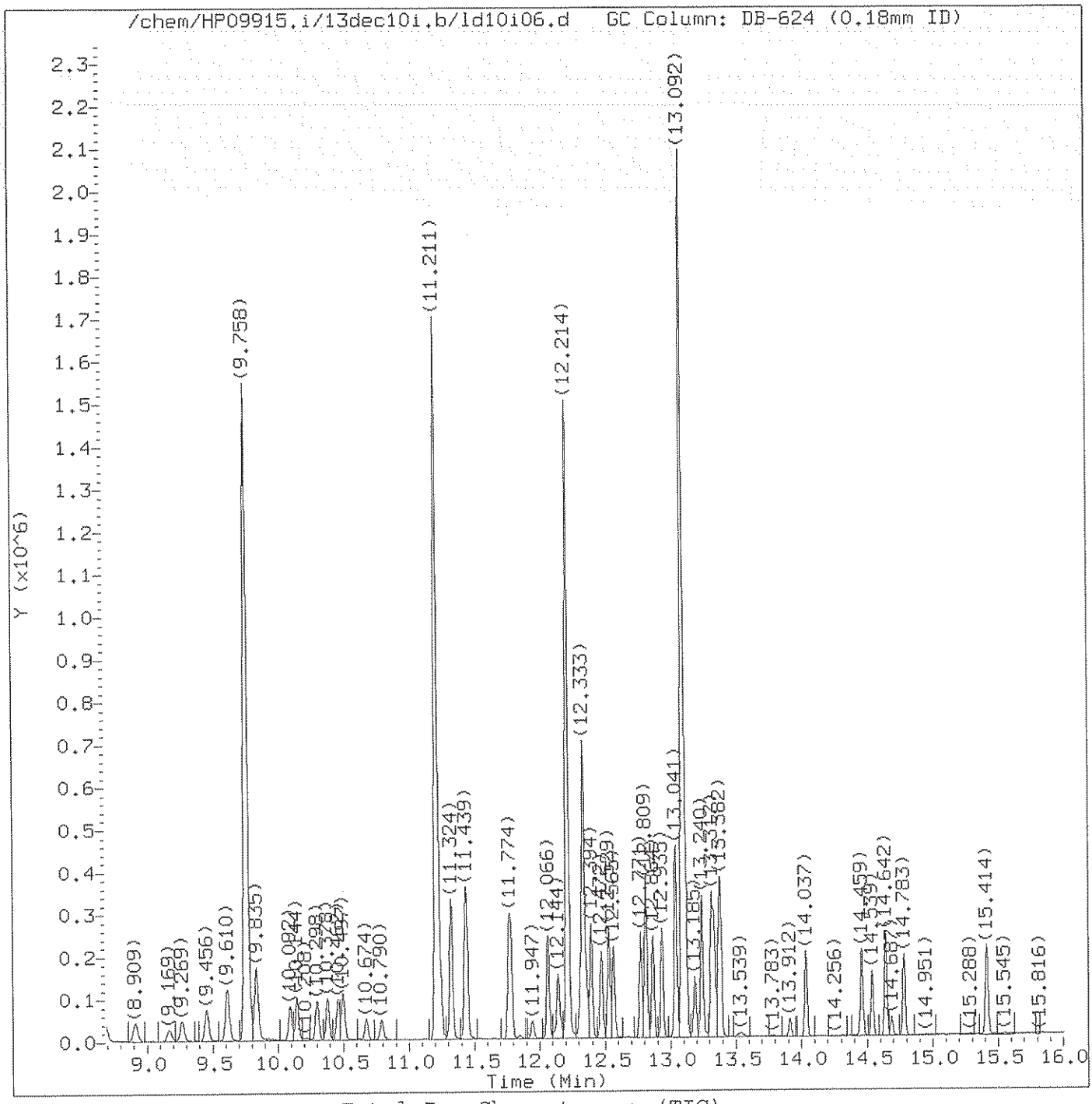
Sublist used: 8260WI

Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004

Lab Sample ID: VSTD004

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2) Dichlorodifluoromethane	(1)	1.990	85	51774	4.371
3) Chloromethane	(1)	2.112	50	53776	4.305
5) Vinyl Chloride	(1)	2.247	62	49012	4.405
4) 1,3-Butadiene	(1)	2.273	39	70979M	4.982
7) Bromomethane	(1)	2.585	94	31778	4.477
8) Chloroethane	(1)	2.697	64	28706	4.465
9) Dichlorofluoromethane	(1)	2.929	67	62154	4.280
10) Trichlorofluoromethane	(1)	2.996	101	49152	4.255
11) n-Pentane	(1)	3.057	43	69349	4.648
13) Ethyl Ether	(1)	3.269	59	36824	4.210
14) Freon 123a	(1)	3.337	67	42417	4.337
15) Acrolein	(4)	3.443	56	105050	38.420
16) 1,1-Dichloroethene	(1)	3.578	96	27094M	4.033
18) Freon 113	(1)	3.604	101	25878	3.662
17) Acetone	(4)	3.607	58	9143	8.167
45) 1,2-Dichloroethene (total)	(1)		96	67202	8.100
21) 2-Propanol	(4)	3.768	45	61175	77.101
20) Methyl Iodide	(1)	3.787	142	48939	3.934
22) Carbon Disulfide	(1)	3.896	76	91771	3.596
25) Methyl Acetate	(1)	4.025	43	38134	4.358
24) Allyl Chloride	(1)	4.064	41	61186	4.204
28)*t-Butyl Alcohol-d10	(4)	4.240	65	210911M	250.000
26) Methylene Chloride	(1)	4.250	84	33778	4.073
29) t-Butyl Alcohol	(4)	4.366	59	96528M	74.933
30) Acrylonitrile	(1)	4.581	53	19762	4.071
32) Methyl Tertiary Butyl Ether	(1)	4.649	73	113980	4.092
31) trans-1,2-Dichloroethene	(1)	4.668	96	31448M	4.039
33) n-Hexane	(1)	5.080	57	49463	3.753
34) 1,1-Dichloroethane	(1)	5.334	63	59967	3.978
36) di-Isopropyl Ether	(1)	5.369	45	124917	4.001
37) 2-Chloro-1,3-Butadiene	(1)	5.436	53	49101	3.759
39) Ethyl t-Butyl Ether	(1)	5.909	59	115646	4.001
41) 2-Butanone	(4)	6.121	43	51626	7.908
40) cis-1,2-Dichloroethene	(1)	6.154	96	35754M	4.060
42) 2,2-Dichloropropane	(1)	6.166	77	42755	3.859
43) Propionitrile	(4)	6.211	54	133595	73.749
46) Methacrylonitrile	(1)	6.427	67	188970	38.646
47) Bromochloromethane	(1)	6.494	128	18297	4.184

M = Compound was manually integrated.
* = Compound is an internal standard.

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Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
48) Tetrahydrofuran	(4)	6.498	71	12690	7.896
50) Chloroform	(1)	6.636	83	52194	3.873
51)$Dibromofluoromethane(mz111)	(1)	6.854	111	302015	49.989
52)$Dibromofluoromethane	(1)	6.858	113	293279	49.788
53) 1,1,1-Trichloroethane	(1)	6.864	97	54604	4.374
55) Cyclohexane (mz 69)	(1)	6.961	69	17583M	3.707
56) Cyclohexane	(1)	6.967	56	60117	3.672
54) Cyclohexane (mz 84)	(1)	6.967	84	46581	3.711
57) 1,1-Dichloropropene	(1)	7.080	75	42375	3.791
58) Carbon Tetrachloride	(1)	7.083	117	33033	3.567
59) Isobutyl Alcohol	(4)	7.198	41	85127	182.174
61)$1,2-Dichloroethane-d4(mz65)	(1)	7.317	65	361755	50.023
60)$1,2-Dichloroethane-d4(mz104)	(1)	7.321	104	49120	50.095
62)$1,2-Dichloroethane-d4	(1)	7.321	102	76903	50.280
63) Benzene	(1)	7.343	78	133483	3.907
65) 1,2-Dichloroethane	(1)	7.417	62	43841	3.972
64) 1,2-Dichloroethane (mz 98)	(1)	7.420	98	4424	4.008
69) t-Amyl Methyl Ether	(1)	7.526	73	107419	3.905
71)*Fluorobenzene	(1)	7.748	96	1288420	50.000
72) n-Heptane	(1)	7.752	43	55482	4.014
73) n-Butanol	(4)	8.083	56	139858	350.818
112) Xylene (Total)	(2)		106	177516	11.556
74) Trichloroethene	(1)	8.227	95	31990	3.873
76) Methylcyclohexane	(1)	8.536	83	64049	4.250
75) Methylcyclohexane (mz98)	(1)	8.536	98	27626	4.262
77) 1,2-Dichloropropane	(1)	8.568	63	36598	3.925
80) Methyl Methacrylate	(1)	8.639	69	31121M	3.742
79) 1,4-Dioxane	(4)	8.645	88	17701	180.546
78) Dibromomethane	(1)	8.678	93	22536	3.933
83) Bromodichloromethane	(1)	8.912	83	38199	3.637
85) 2-Nitropropane	(1)	9.169	41	22590	7.262
86) 2-Chloroethyl Vinyl Ether	(1)	9.266	63	26978	3.652
87) cis-1,3-Dichloropropene	(1)	9.452	75	51789	3.729
89) 4-Methyl-2-Pentanone	(4)	9.616	43	109755	7.302
93)$Toluene-d8	(2)	9.758	98	1239038	50.289
92)$Toluene-d8(mz100)	(2)	9.758	100	801011	49.693
94) Toluene	(2)	9.835	92	81108	3.858
95) trans-1,3-Dichloropropene	(2)	10.092	75	47720	3.608

M = Compound was manually integrated.
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Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d
Injection date and time: 10-DEC-2013 16:31

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 10-DEC-2013 17:23

Sublist used: 8260WI

Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004

Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
96) Ethyl Methacrylate	(2)	10.144	69	55353	3.683
97) 1,1,2-Trichloroethane	(2)	10.301	97	31890	3.937
98) Tetrachloroethene	(2)	10.378	166	31543	3.768
99) 1,3-Dichloropropane	(2)	10.462	76	56919	3.944
101) 2-Hexanone	(4)	10.497	43	80522	7.265
102) Dibromochloromethane	(2)	10.677	129	27582	3.428
104) 1,2-Dibromoethane	(2)	10.790	107	33567	3.841
106)*Chlorobenzene-d5	(2)	11.211	117	916823	50.000
107) Chlorobenzene	(2)	11.240	112	88890	3.914
108) 1,1,1,2-Tetrachloroethane	(2)	11.324	131	27892	3.681
109) Ethylbenzene	(2)	11.324	91	153989	3.839
110) m+p-Xylene	(2)	11.436	106	119534	7.725
113) o-Xylene	(2)	11.767	106	57982	3.830
114) Styrene	(2)	11.784	104	100125	3.759
115) Bromoform	(2)	11.951	173	17441	3.053
116) Isopropylbenzene	(2)	12.066	105	150796	3.849
118) Cyclohexanone	(4)	12.144	55	68676	196.800
119)$4-Bromofluorobenzene	(2)	12.214	95	464090	50.240
120)$4-Bromofluorobenzene(mz174)	(2)	12.214	174	381473	50.219
122) 1,1,2,2-Tetrachloroethane	(3)	12.311	83	50472M	3.886
121) Bromobenzene	(3)	12.330	156	38925	3.738
124) trans-1,4-Dichloro-2-Butene	(3)	12.333	53	107376	31.680
123) 1,2,3-Trichloropropane	(3)	12.359	110	14262	3.907
125) n-Propylbenzene	(3)	12.394	91	181624	3.762
126) 2-Chlorotoluene	(3)	12.472	126	35592	3.769
127) 1,3,5-Trimethylbenzene	(3)	12.529	105	127542	3.837
128) 4-Chlorotoluene	(3)	12.565	126	36216	3.698
130) tert-Butylbenzene	(3)	12.771	134	24810M	3.618
131) Pentachloroethane	(3)	12.806	167	22186	3.684
132) 1,2,4-Trimethylbenzene	(3)	12.812	105	129754	3.798
133) sec-Butylbenzene	(3)	12.935	105	157871	3.734
134) 1,3-Dichlorobenzene	(3)	13.037	146	71719	3.818
135) p-Isopropyltoluene	(3)	13.041	119	137860	3.741
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	486626	50.000
138) 1,4-Dichlorobenzene	(3)	13.111	146	75672	3.878
139) 1,2,3-Trimethylbenzene	(3)	13.118	105	154414	4.256
141) Benzyl Chloride	(3)	13.189	91	88260	3.390
142) 1,3-Diethylbenzene	(3)	13.240	119	96053	4.263

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Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d
Injection date and time: 10-DEC-2013 16:31

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 10-DEC-2013 17:23

Sublist used: 8260WI

Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004

Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
143) 1,4-Diethylbenzene	(3)	13.314	119	96964	4.285
145) n-Butylbenzene	(3)	13.333	92	70708	3.883
144) 1,2-Dichlorobenzene	(3)	13.369	146	72499	3.906
146) 1,2-Diethylbenzene	(3)	13.385	119	81105	4.342
148) 1,2-Dibromo-3-Chloropropane	(3)	13.912	75	8988	3.550
149) 1,3,5-Trichlorobenzene	(3)	14.037	180	56302	3.918
150) 1,2,4-Trichlorobenzene	(3)	14.459	180	54784	3.982
151) Hexachlorobutadiene	(3)	14.539	225	25179	3.859
152) Naphthalene	(3)	14.642	128	168220	3.975
153) 1,2,3-Trichlorobenzene	(3)	14.783	180	51730	3.998
154) 2-Methylnaphthalene	(3)	15.414	142	99467	4.121

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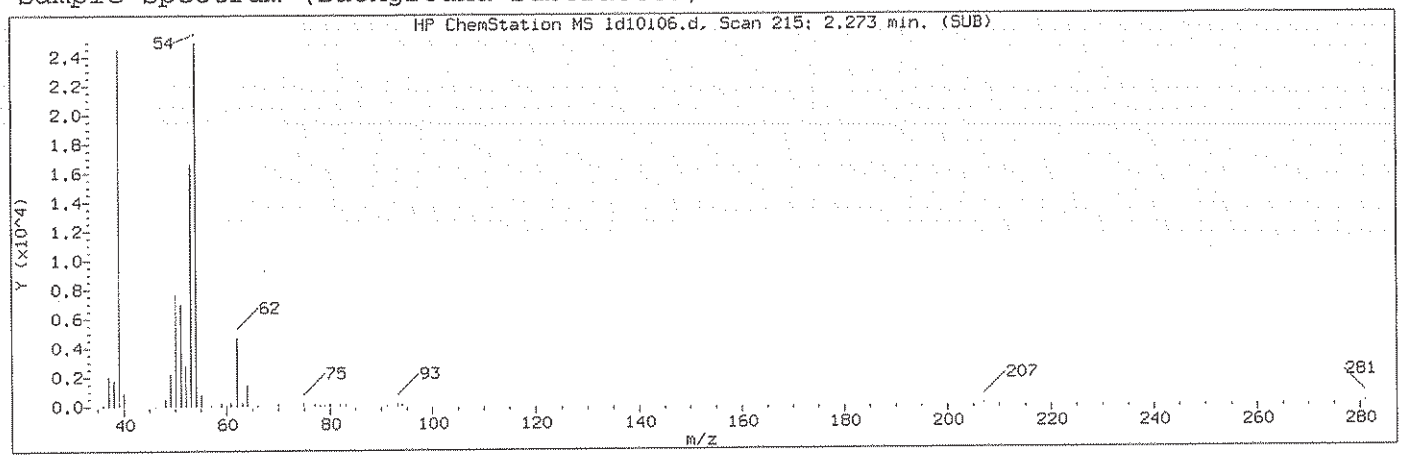
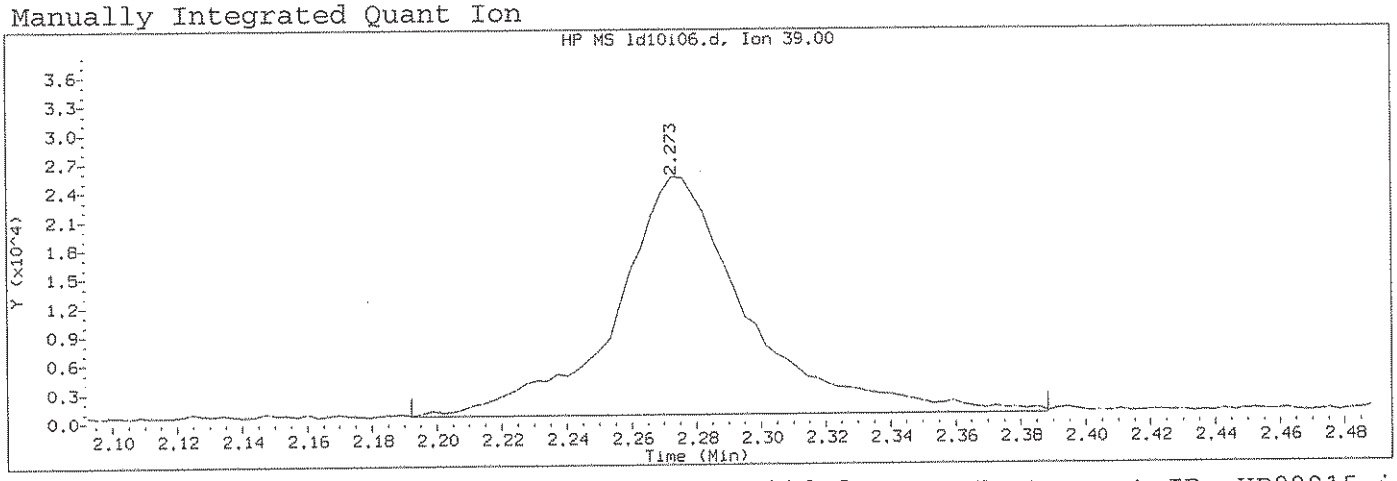
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

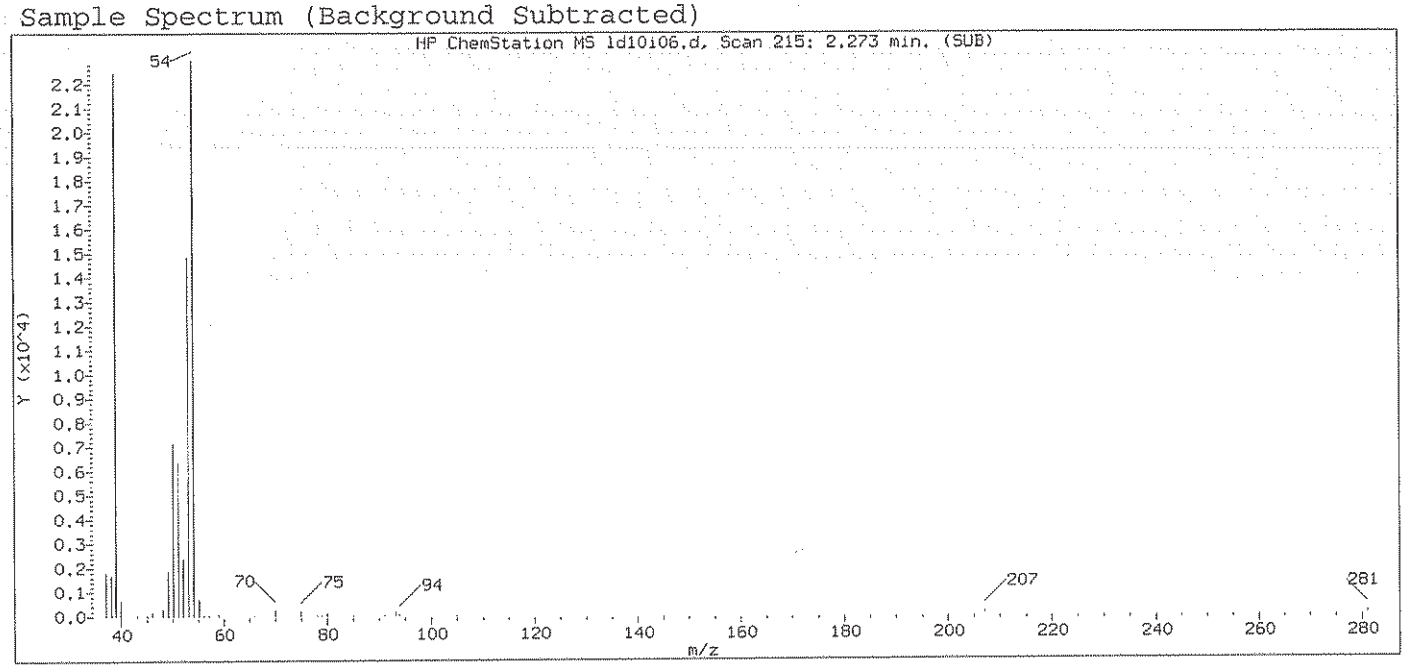
Compound Number	: 4		
Compound Name	: 1,3-Butadiene		
Scan Number	: 215		
Retention Time (minutes)	: 2.273		
Quant Ion	: 39.00		
Area (flag)	: 70979M		
On-Column Amount (ng)	: 4.9817		
Integration start scan	: 189	Integration stop scan:	250
Y at integration start	: 586	Y at integration end:	586

Reason for manual integration: improper integration

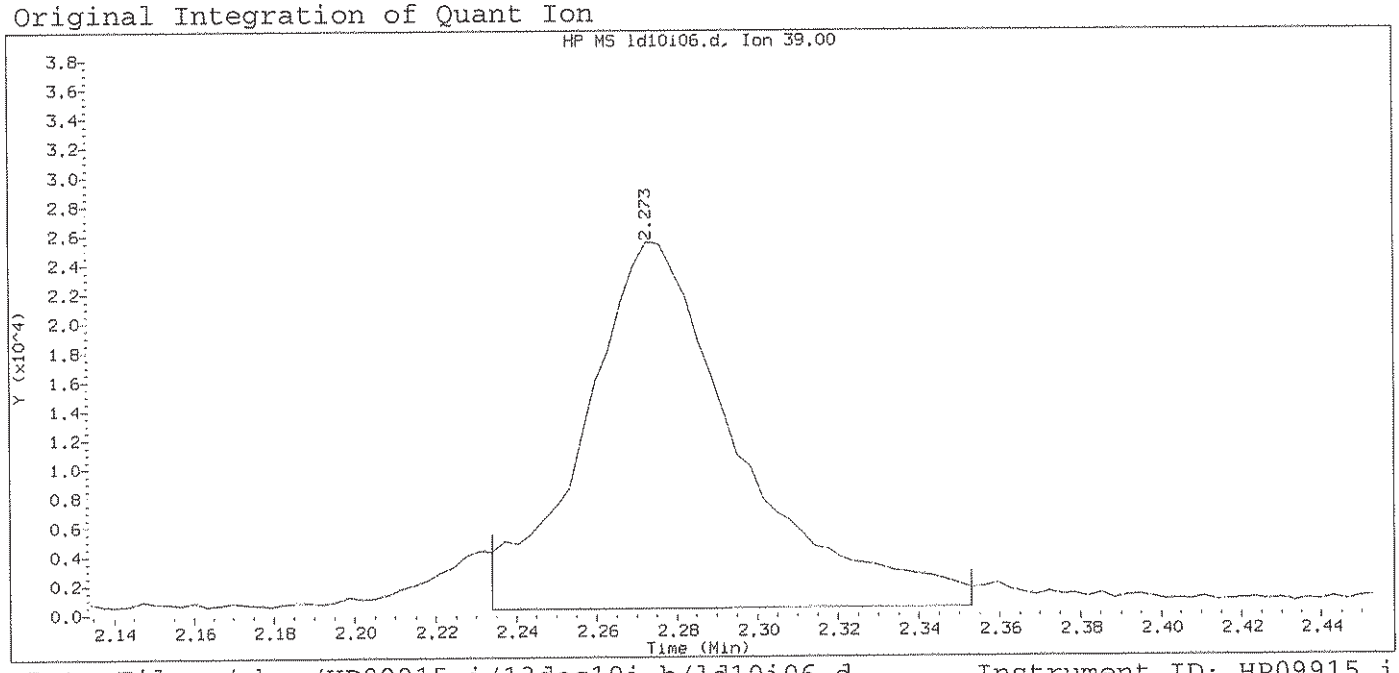
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compound Number	: 4		
Compound Name	: 1,3-Butadiene		
Scan Number	: 215		
Retention Time (minutes)	: 2.273		
Quant Ion	: 39.00		
Area	: 67373		
On-column Amount (ng)	: 6.0431		
Integration start scan	: 202	Integration stop scan:	239
Y at integration start	: 288	Y at integration end:	330

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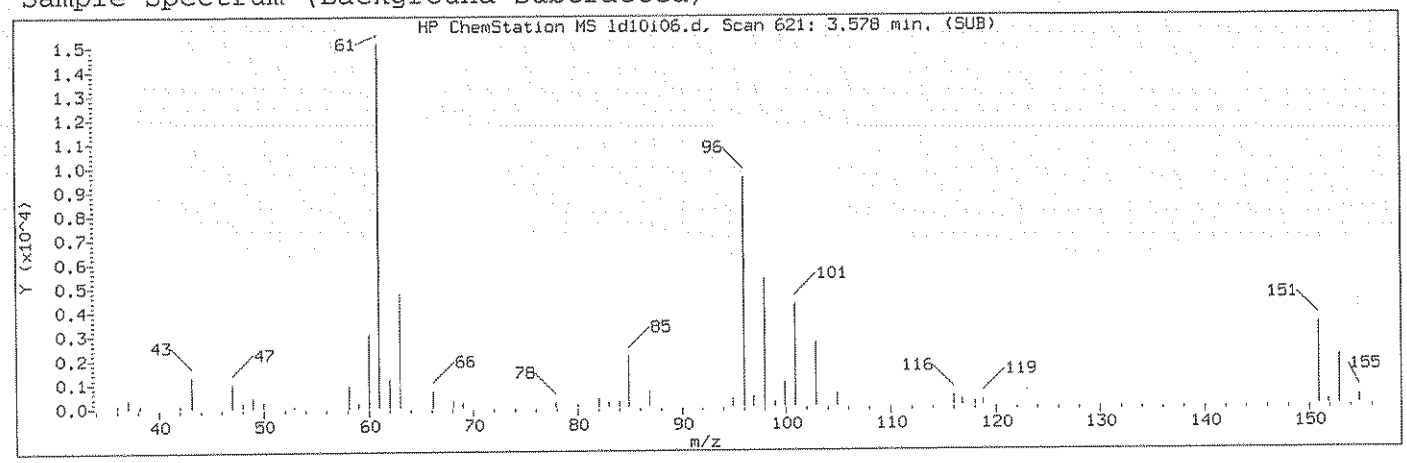
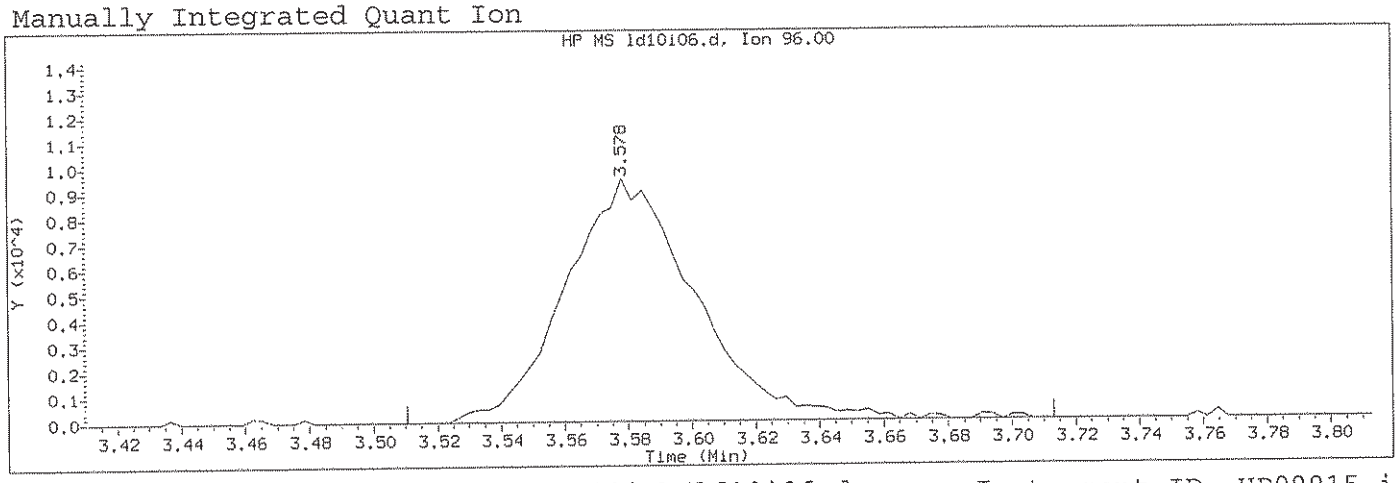
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

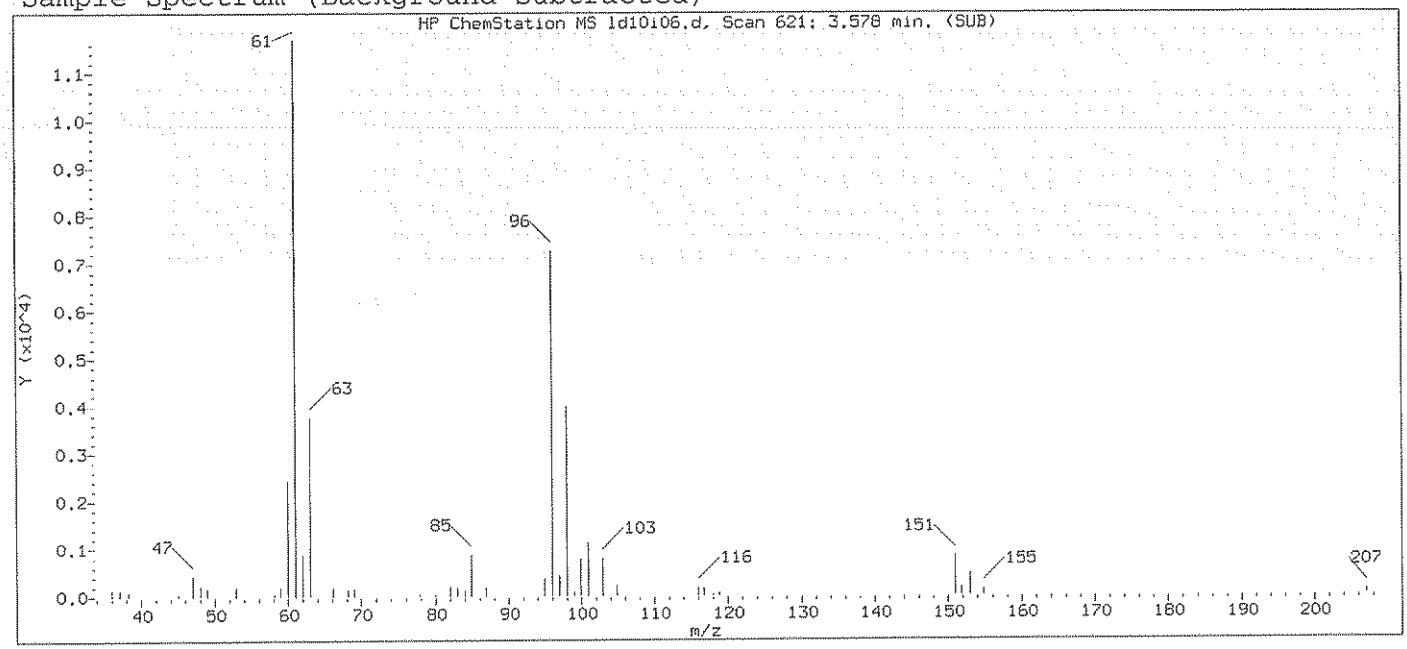
Compound Number : 16
Compound Name : 1,1-Dichloroethene
Scan Number : 621
Retention Time (minutes): 3.578
Quant Ion : 96.00
Area (flag) : 27094M
On-Column Amount (ng) : 4.0332
Integration start scan : 599 Integration stop scan: 662
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

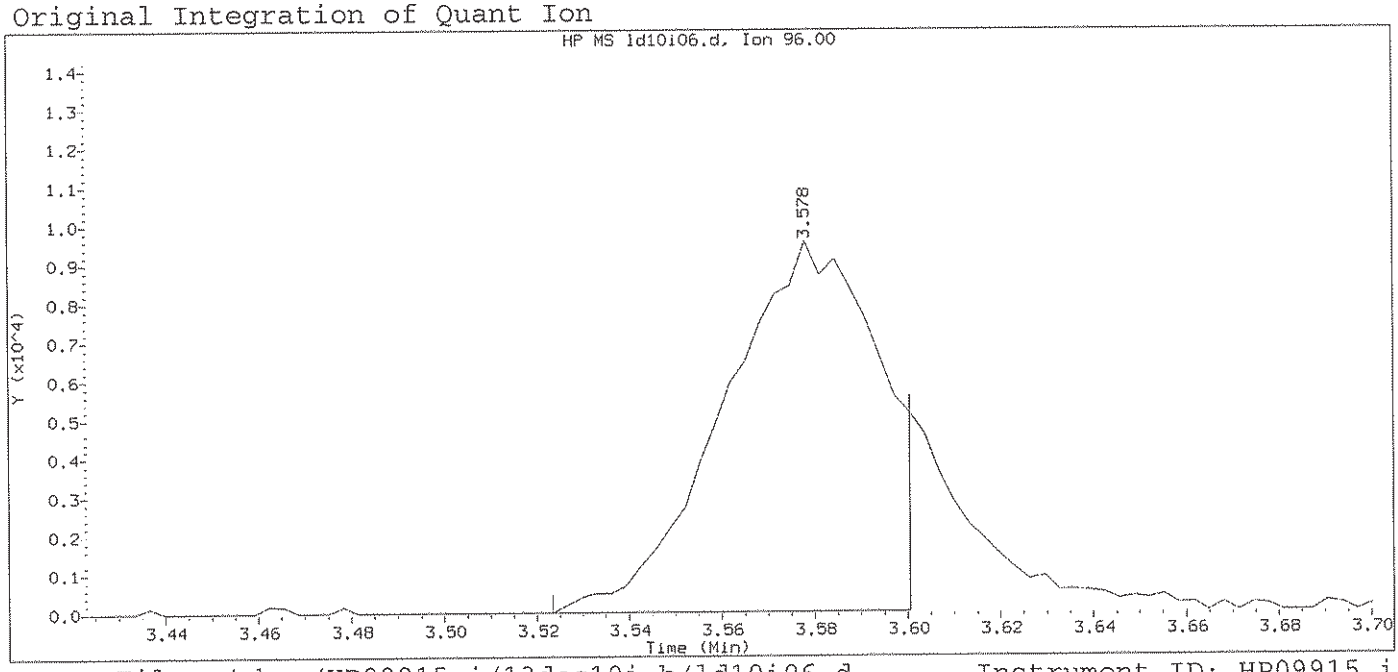
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compound Number	: 16		
Compound Name	: 1,1-Dichloroethene		
Scan Number	: 621		
Retention Time (minutes)	: 3.578		
Quant Ion	: 96.00		
Area	: 21852		
On-column Amount (ng)	: 3.3955		
Integration start scan	: 603	Integration stop scan:	627
Y at integration start	: 0	Y at integration end:	0

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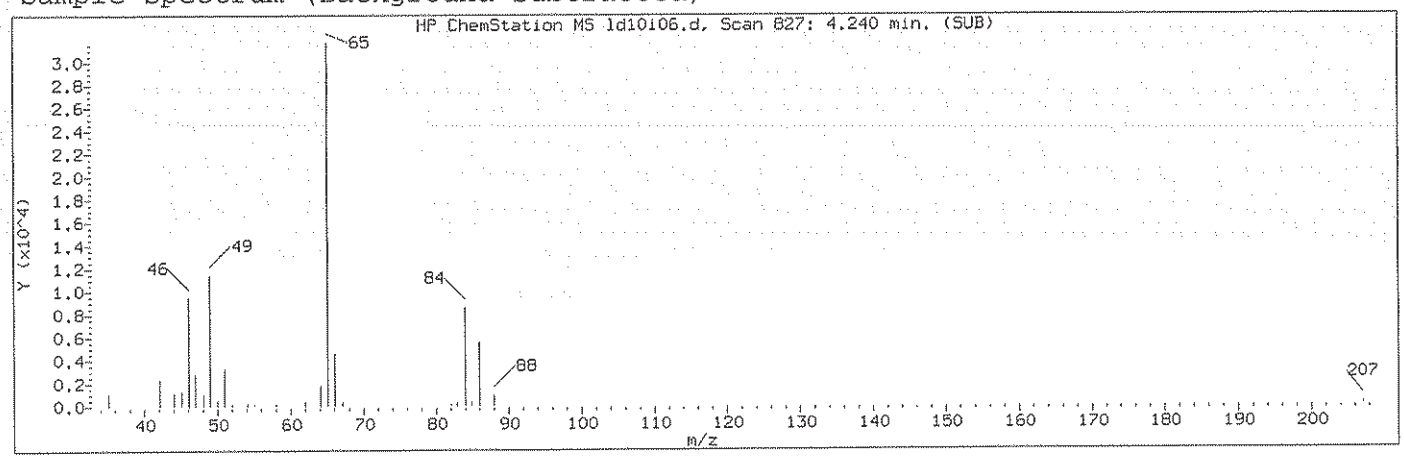
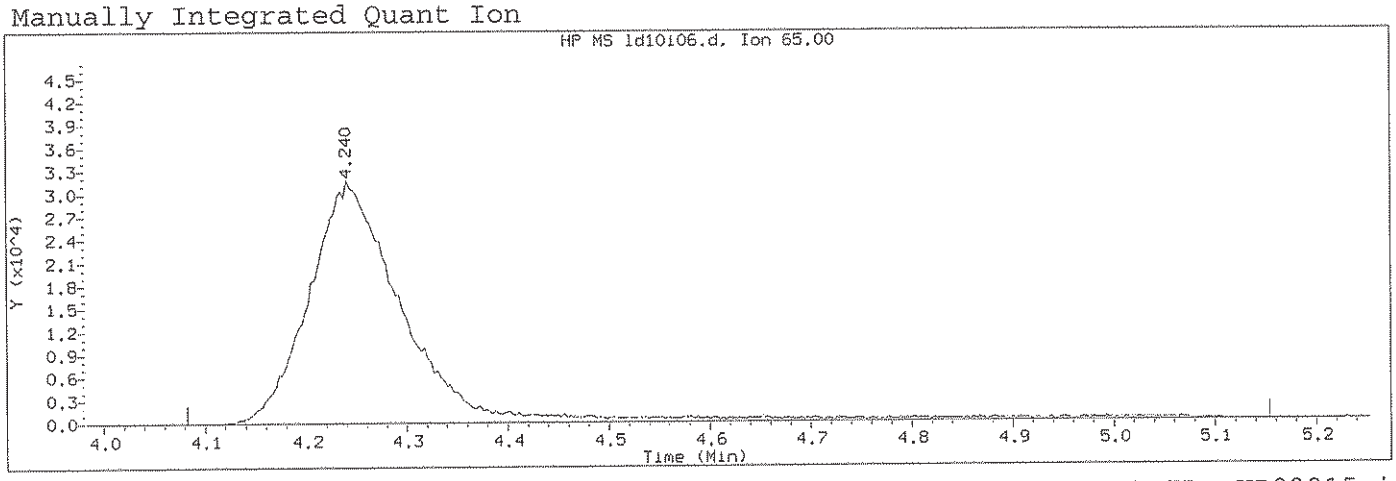
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

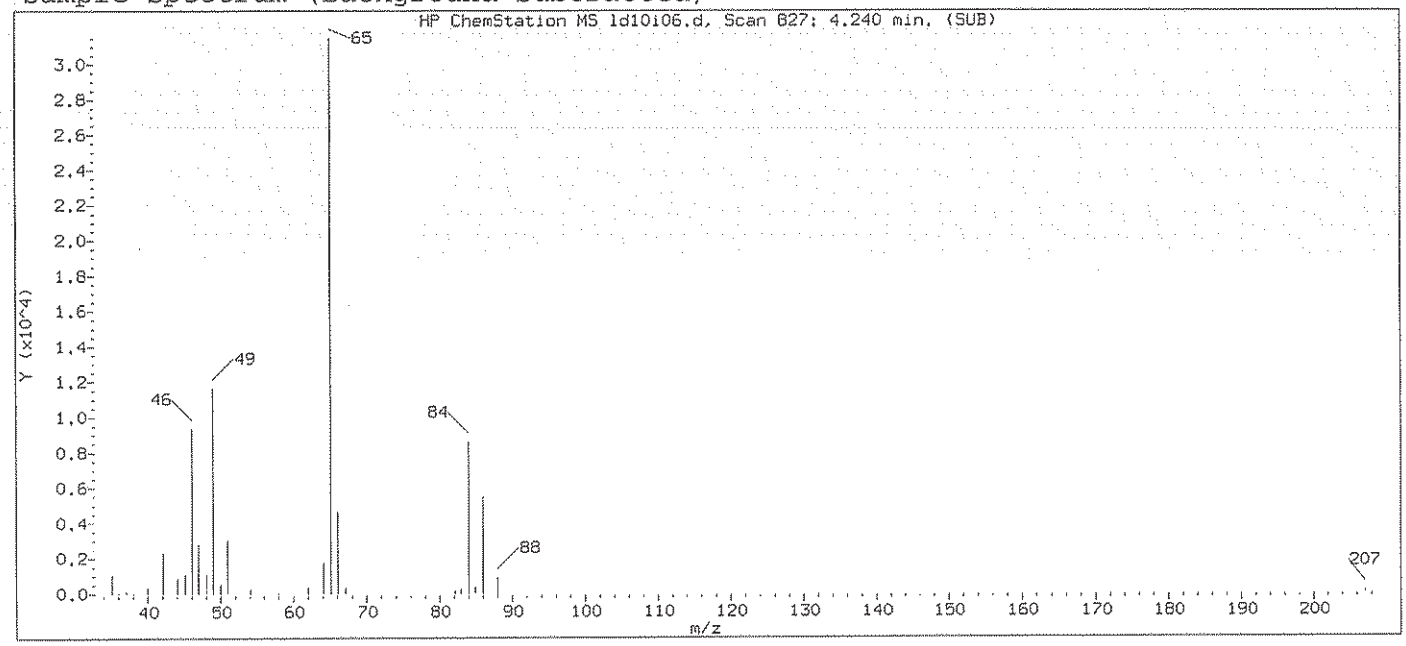
Compound Number : 28
Compound Name : t-Butyl Alcohol-d10
Scan Number : 827
Retention Time (minutes): 4.240
Quant Ion : 65.00
Area (flag) : 210911M
On-Column Amount (ng) : 250.0000
Integration start scan : 777 Integration stop scan: 1110
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

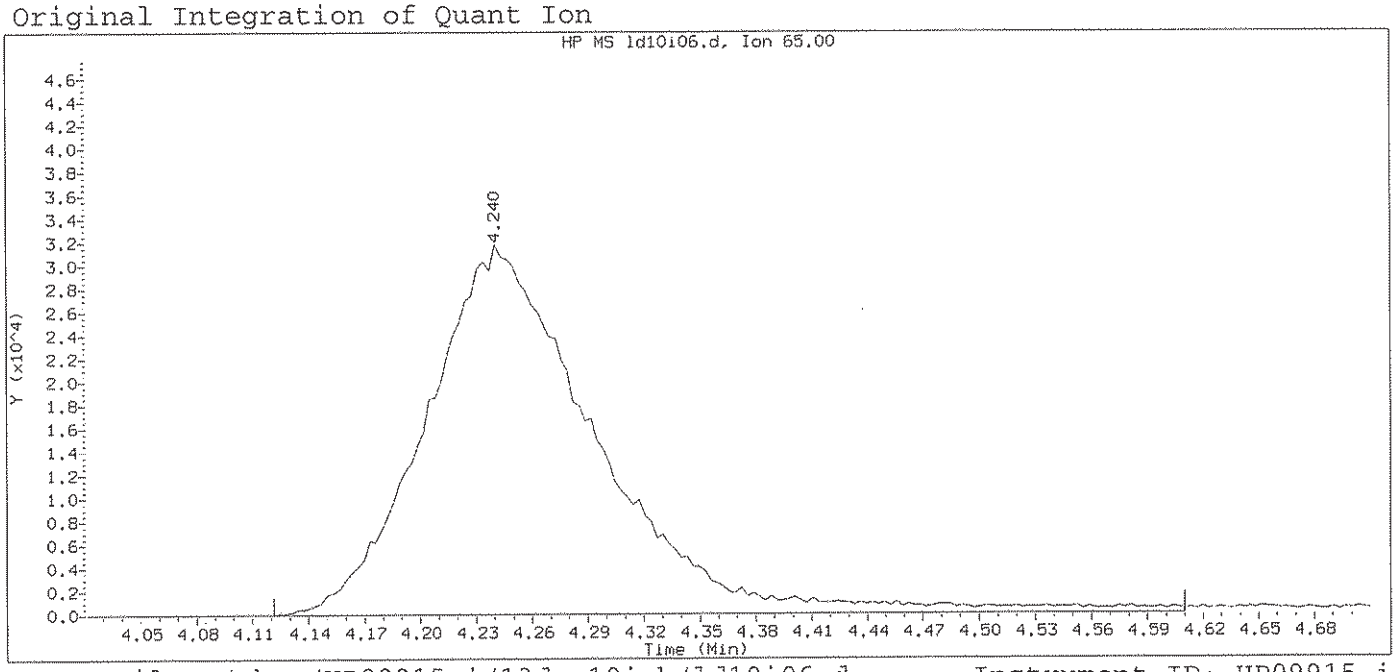
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compound Number	: 28		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 827		
Retention Time (minutes)	: 4.240		
Quant Ion	: 65.00		
Area	: 201556		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 789	Integration stop scan:	941
Y at integration start	: 0	Y at integration end:	0

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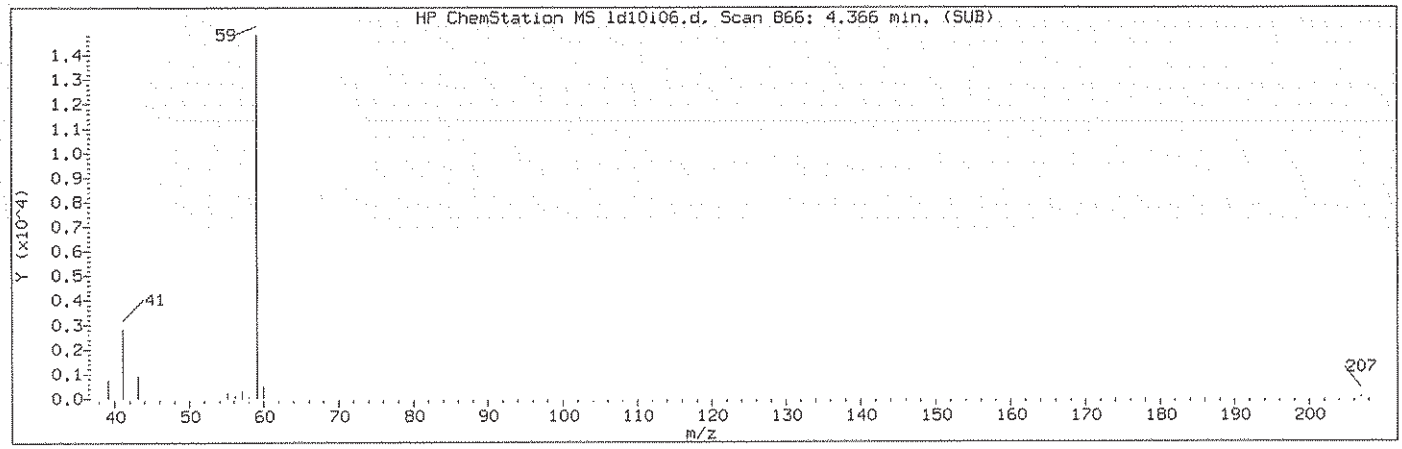
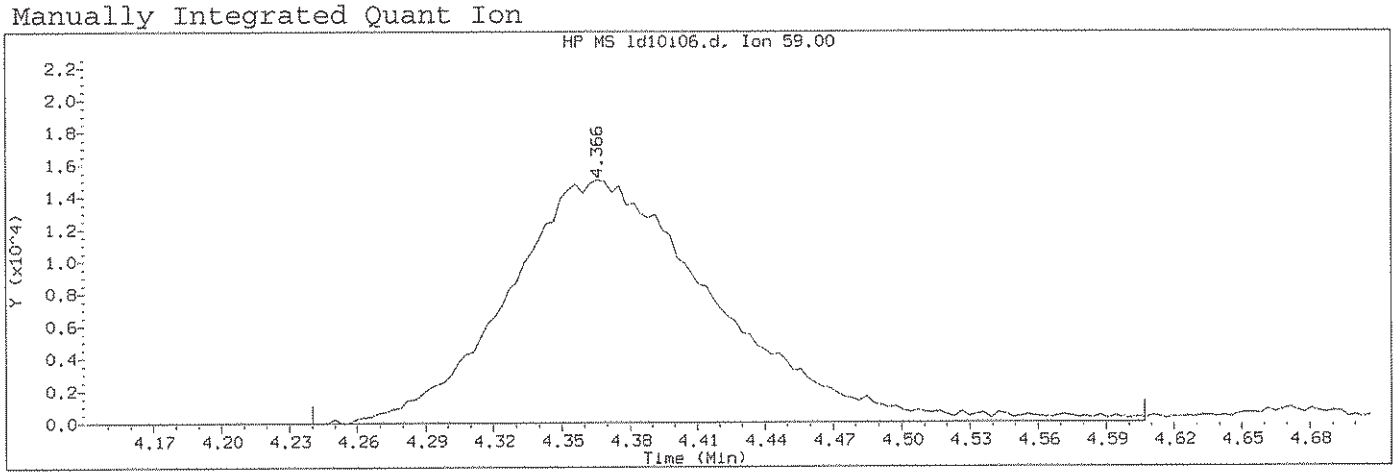
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

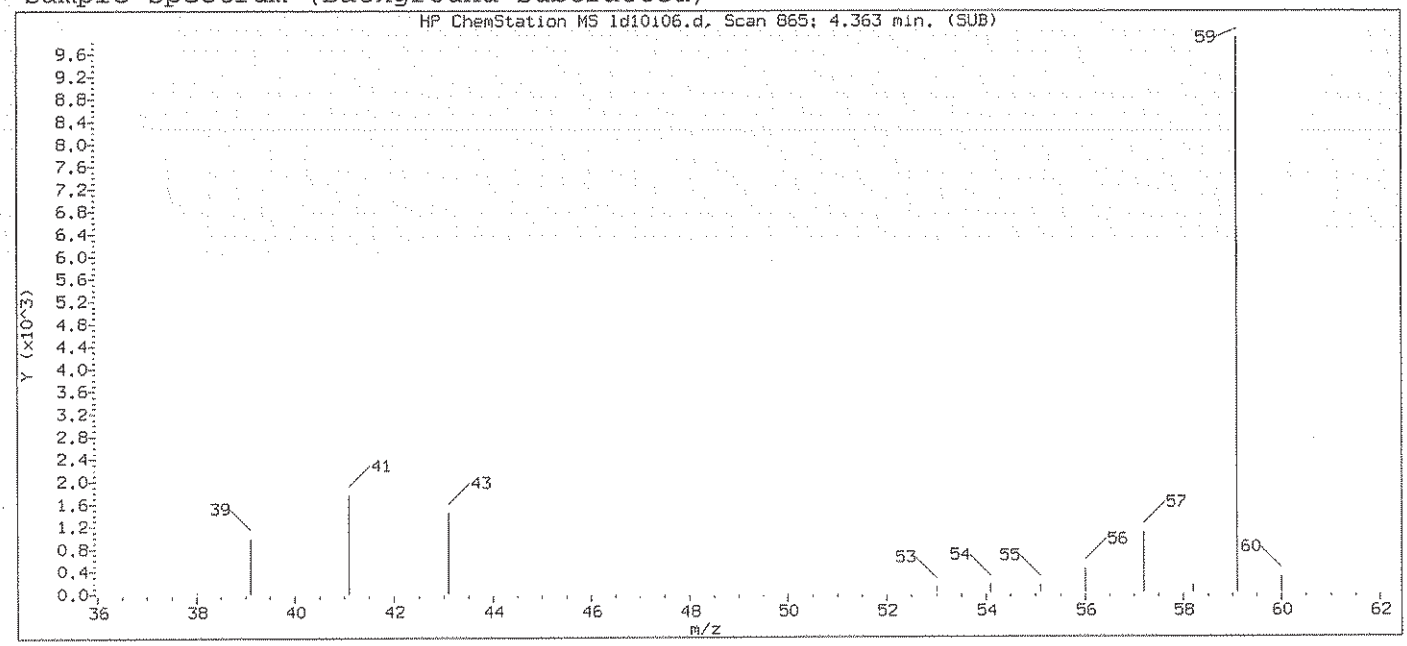
Compound Number : 29
Compound Name : t-Butyl Alcohol
Scan Number : 866
Retention Time (minutes): 4.366
Quant Ion : 59.00
Area (flag) : 96528M
On-Column Amount (ng) : 74.9335
Integration start scan : 826 Integration stop scan: 940
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

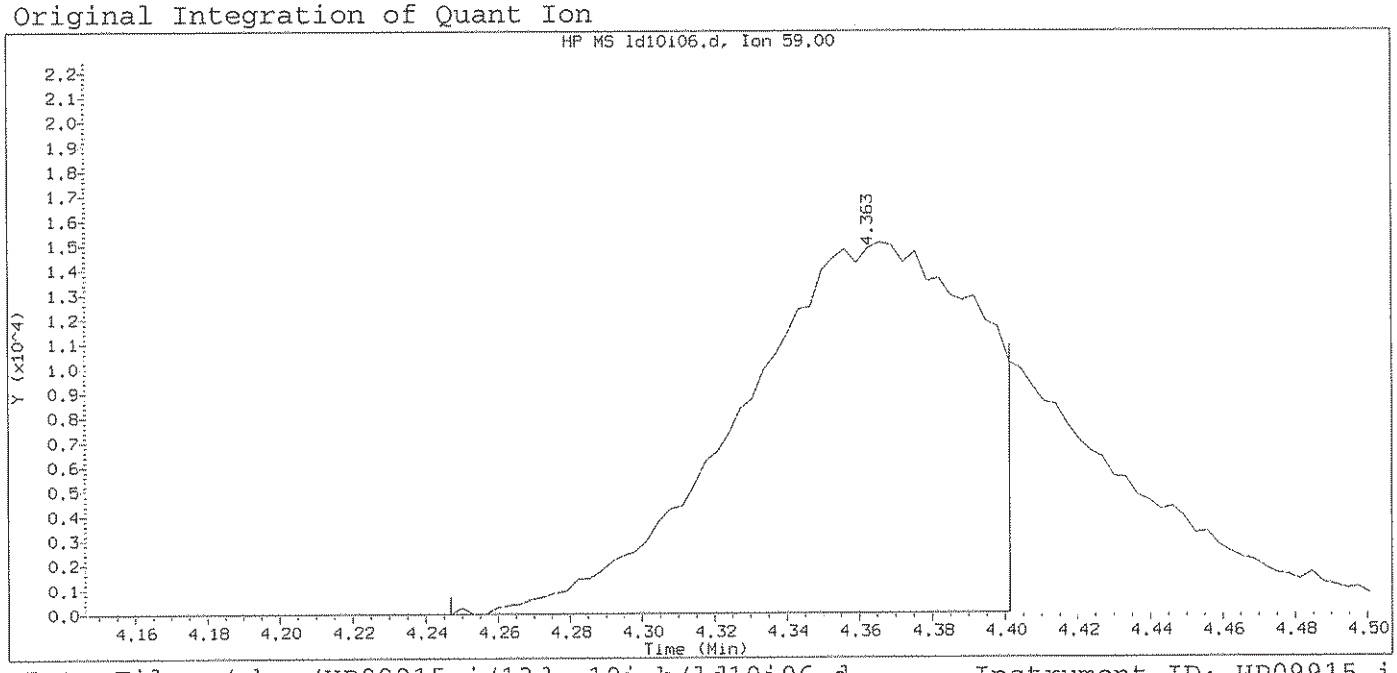
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compound Number	: 29
Compound Name	: t-Butyl Alcohol
Scan Number	: 865
Retention Time (minutes)	: 4.363
Quant Ion	: 59.00
Area	: 68593
On-column Amount (ng)	: 53.8143
Integration start scan	: 828 Integration stop scan: 876
Y at integration start	: 0 Y at integration end: 0

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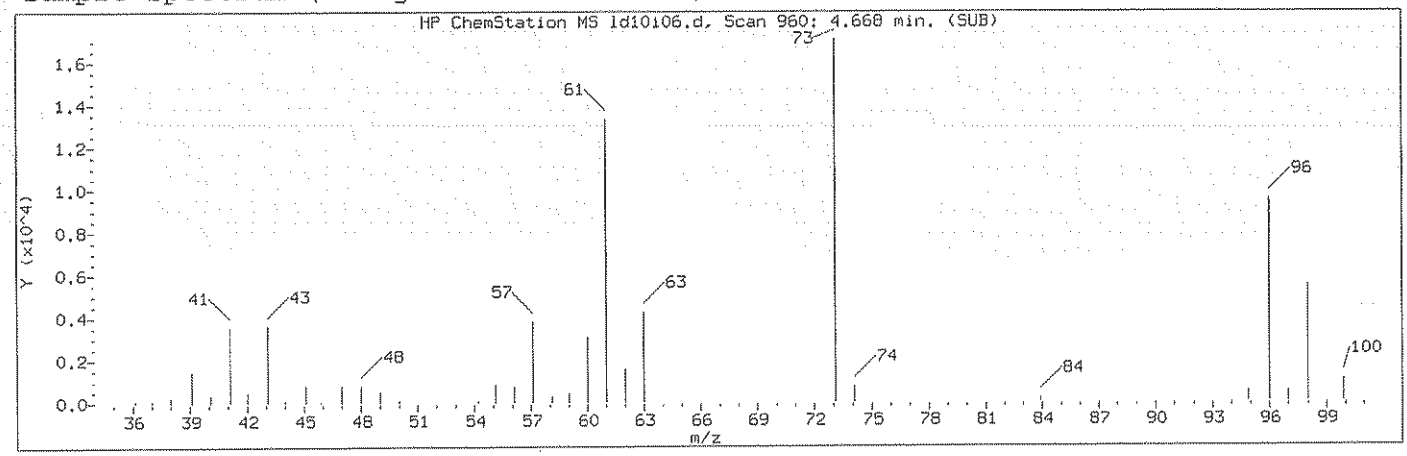
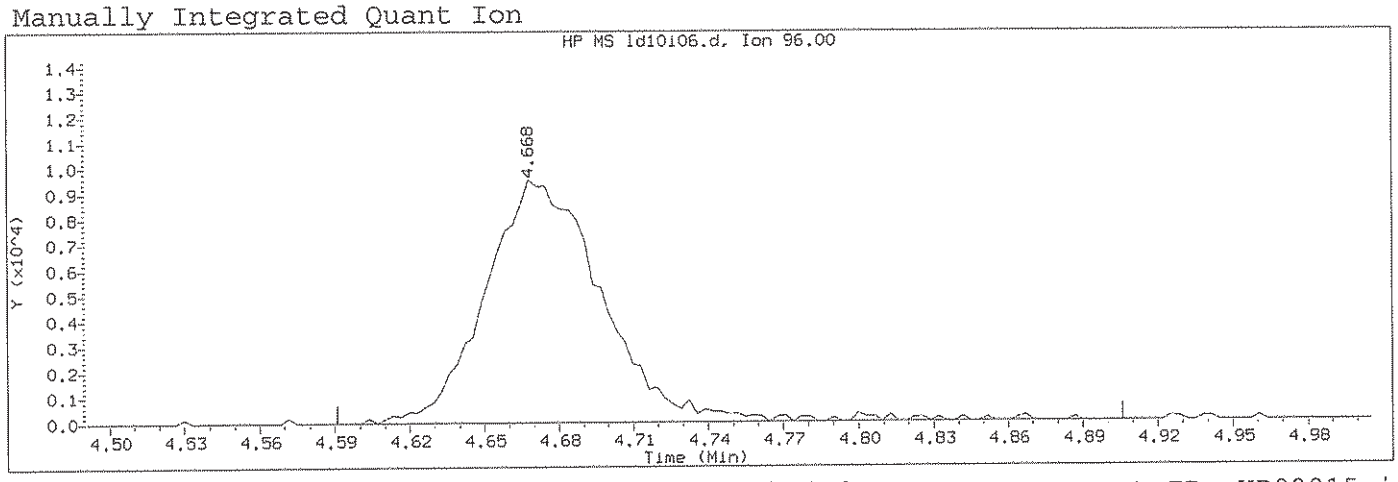
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

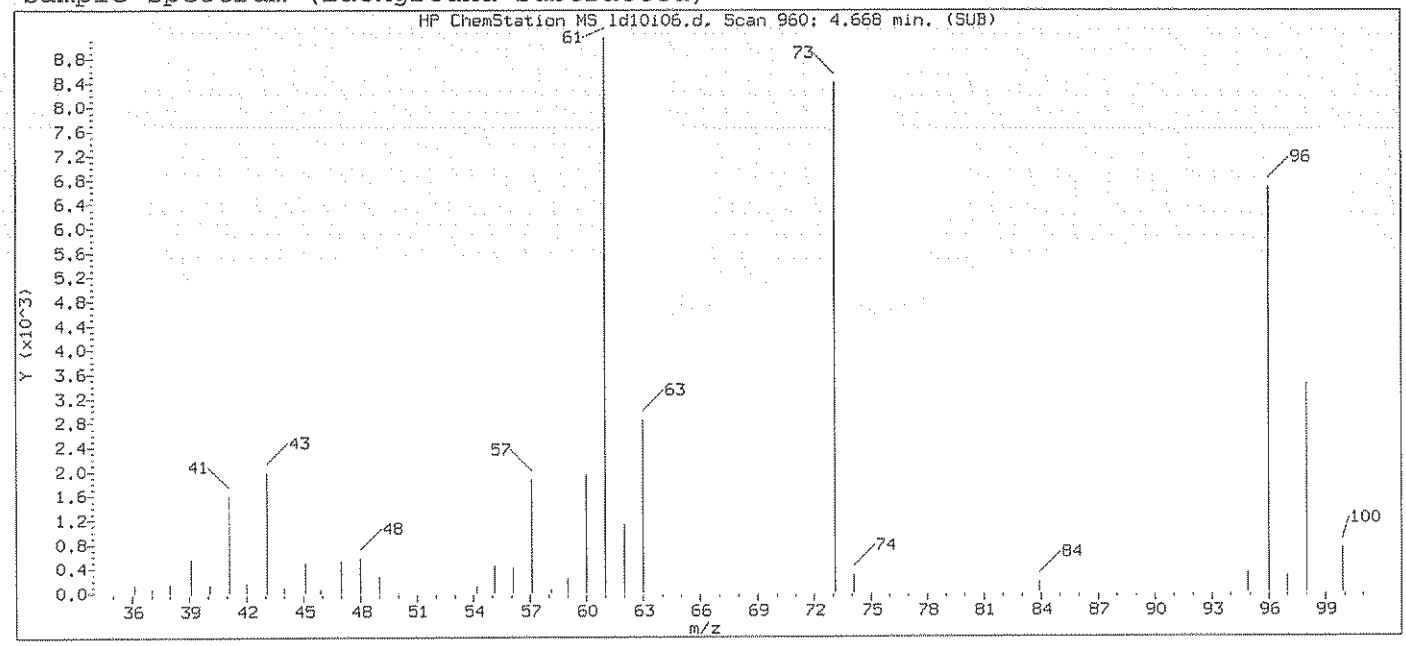
Compound Number : 31
Compound Name : trans-1,2-Dichloroethene
Scan Number : 960
Retention Time (minutes): 4.668
Quant Ion : 96.00
Area (flag) : 31448M
On-Column Amount (ng) : 4.0394
Integration start scan : 935 Integration stop scan: 1033
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

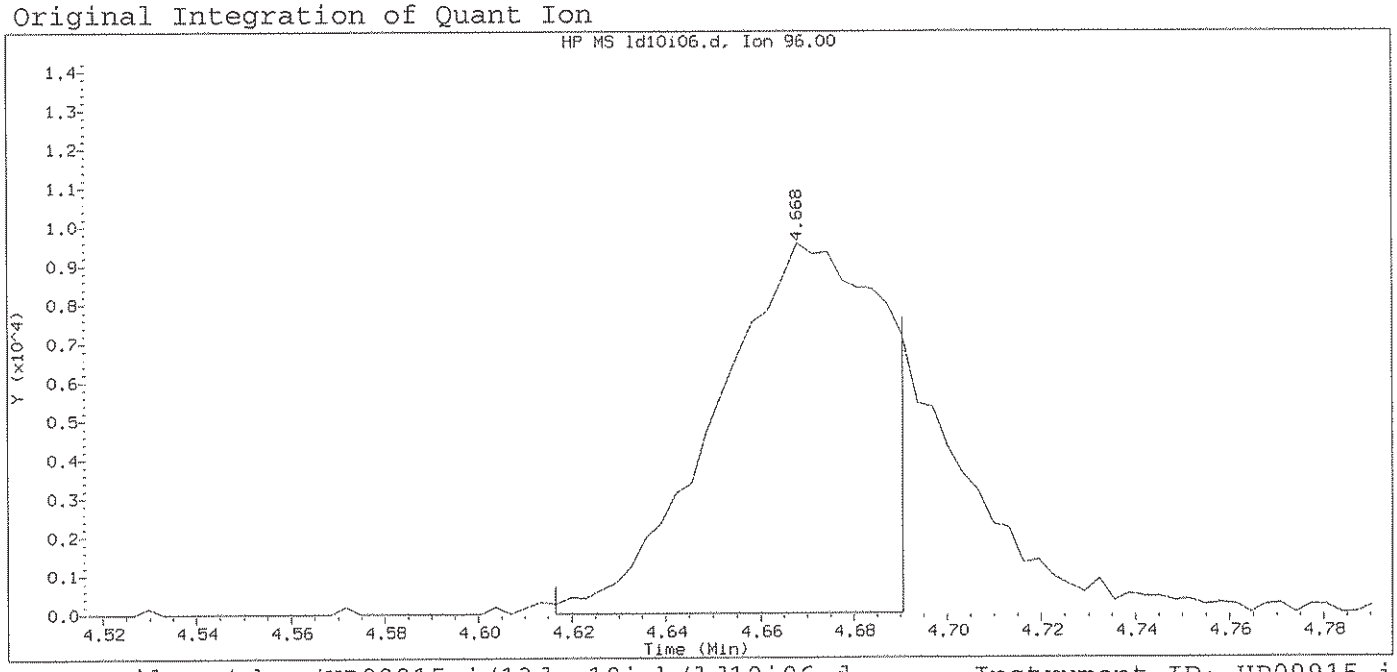
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

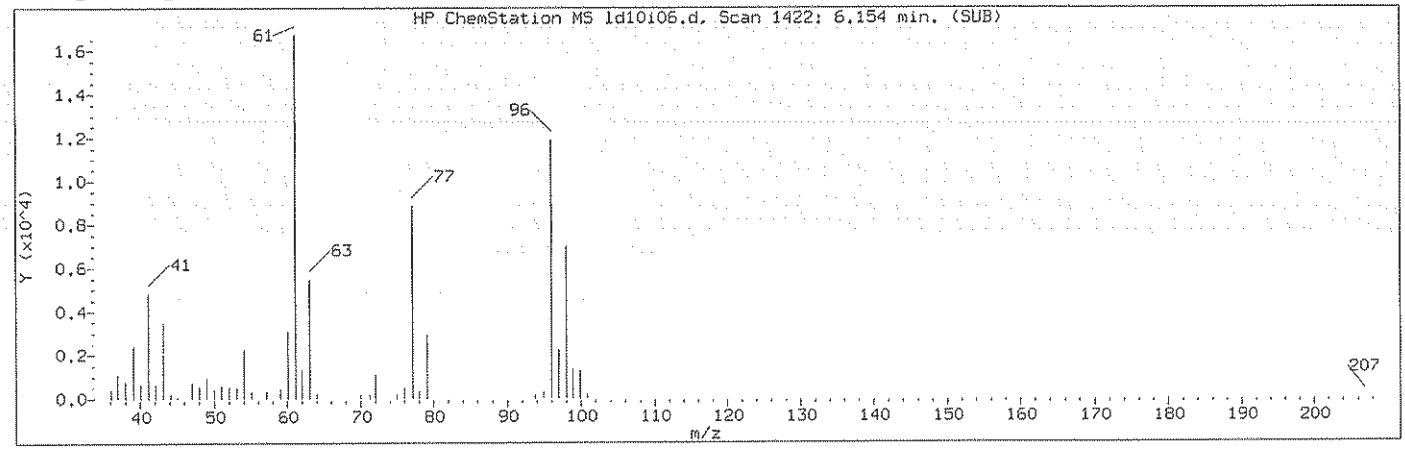
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

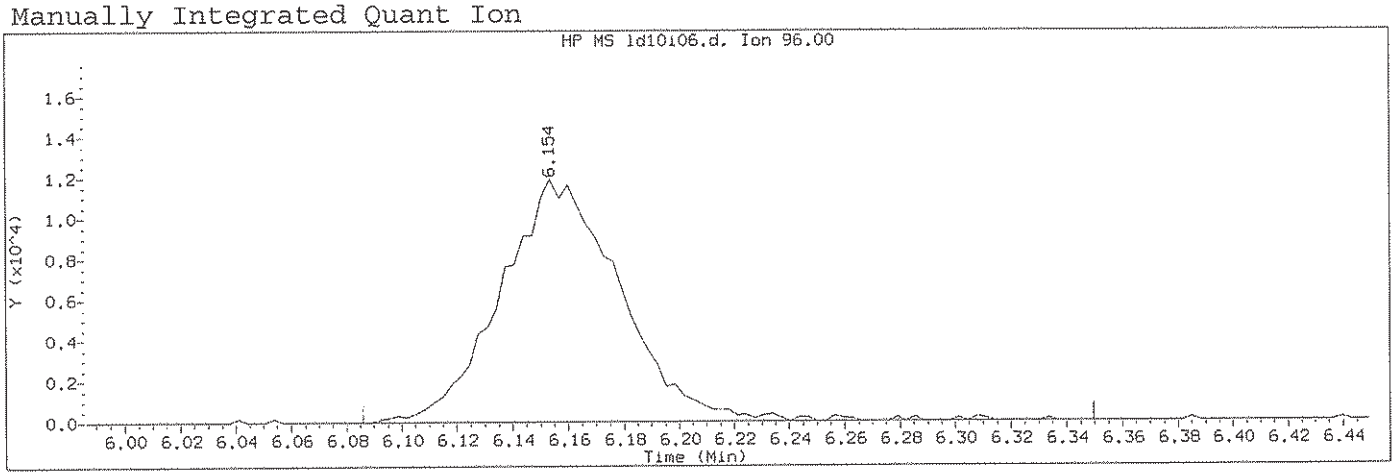
Compound Number	: 31
Compound Name	: trans-1,2-Dichloroethene
Scan Number	: 960
Retention Time (minutes)	: 4.668
Quant Ion	: 96.00
Area	: 23195
On-column Amount (ng)	: 3.2146
Integration start scan	: 943
Integration stop scan	: 966
Y at integration start	: 0
Y at integration end	: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

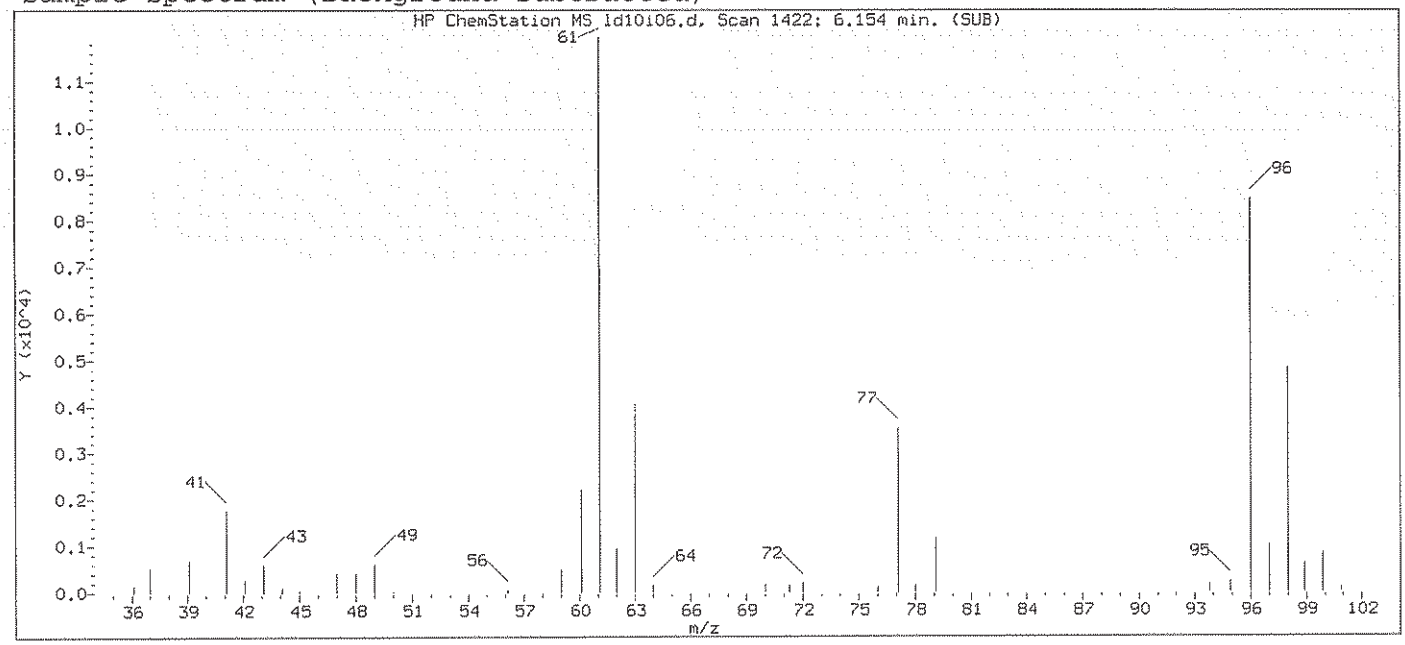
Compound Number	: 40
Compound Name	: cis-1,2-Dichloroethene
Scan Number	: 1422
Retention Time (minutes)	: 6.154
Quant Ion	: 96.00
Area (flag)	: 35754M
On-Column Amount (ng)	: 4.0604
Integration start scan	: 1400 Integration stop scan: 1482
Y at integration start	: 0 Y at integration end: 0

Reason for manual integration: improper integration

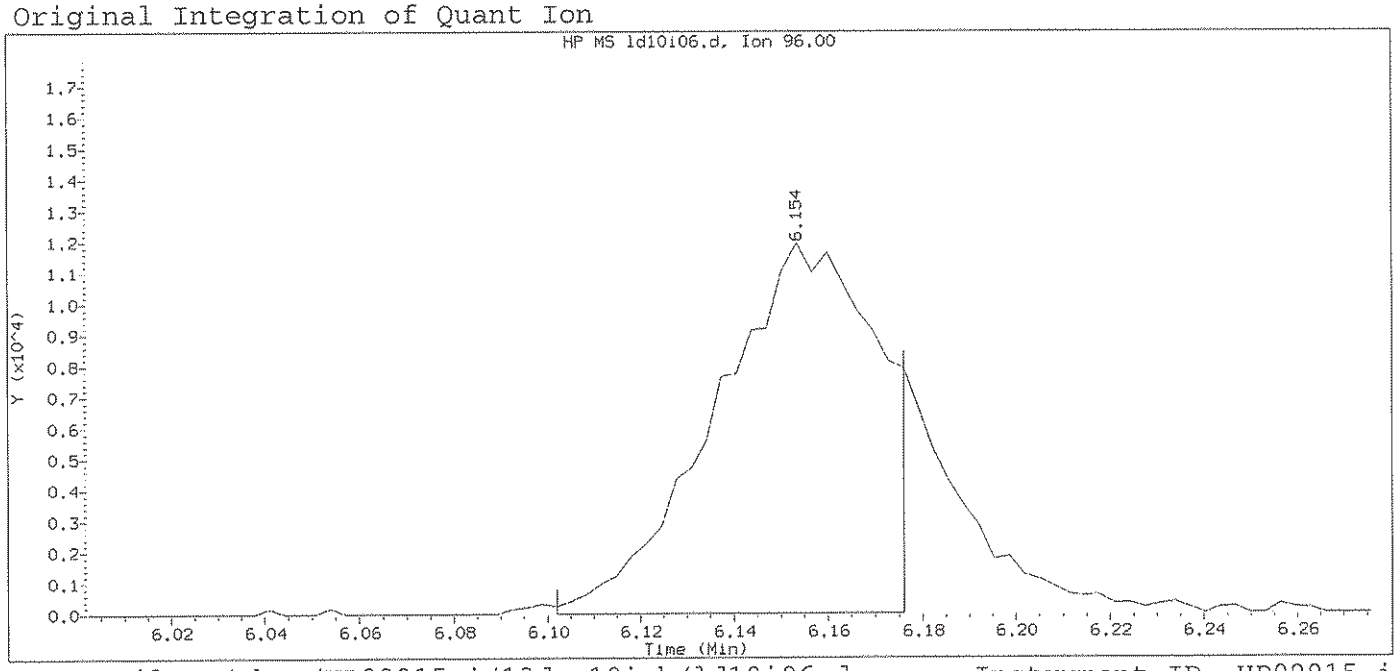
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

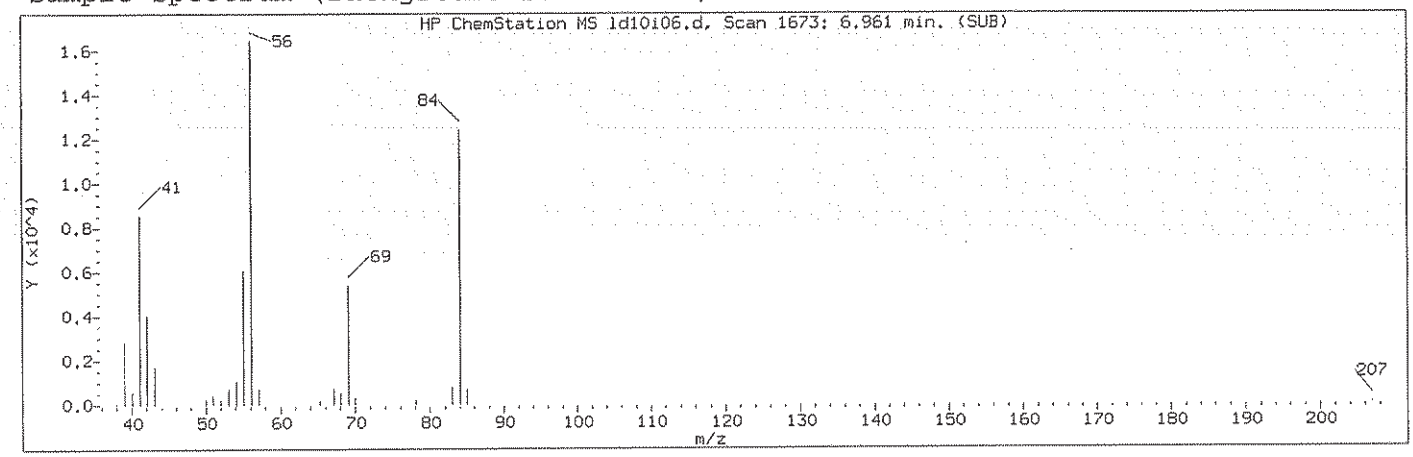
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

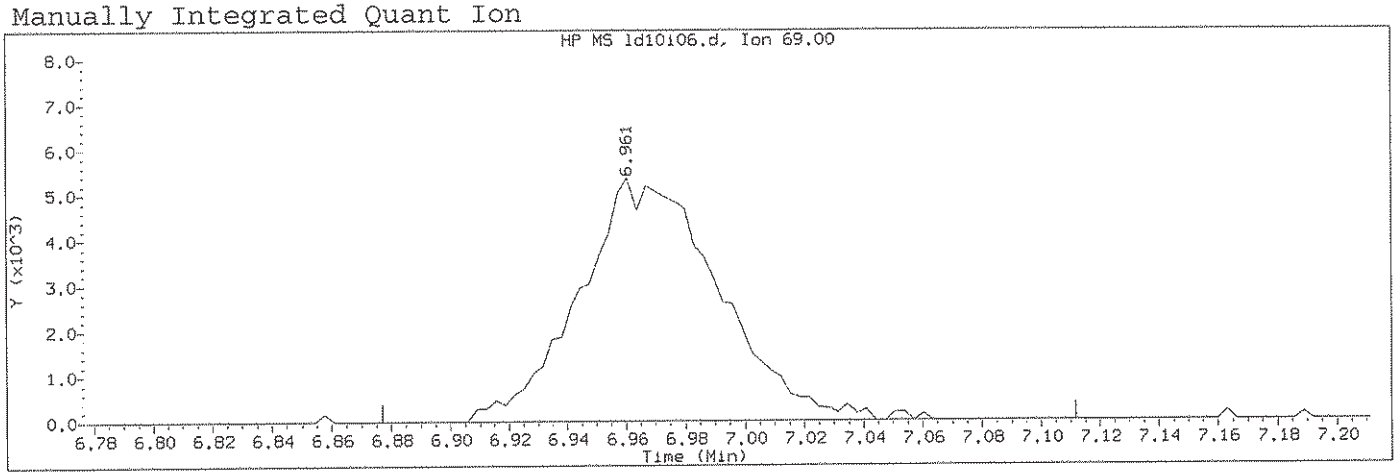
Compound Number	: 40
Compound Name	: cis-1,2-Dichloroethene
Scan Number	: 1422
Retention Time (minutes)	: 6.154
Quant Ion	: 96.00
Area	: 28113
On-column Amount (ng)	: 3.3146
Integration start scan	: 1405 Integration stop scan: 1428
Y at integration start	: 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

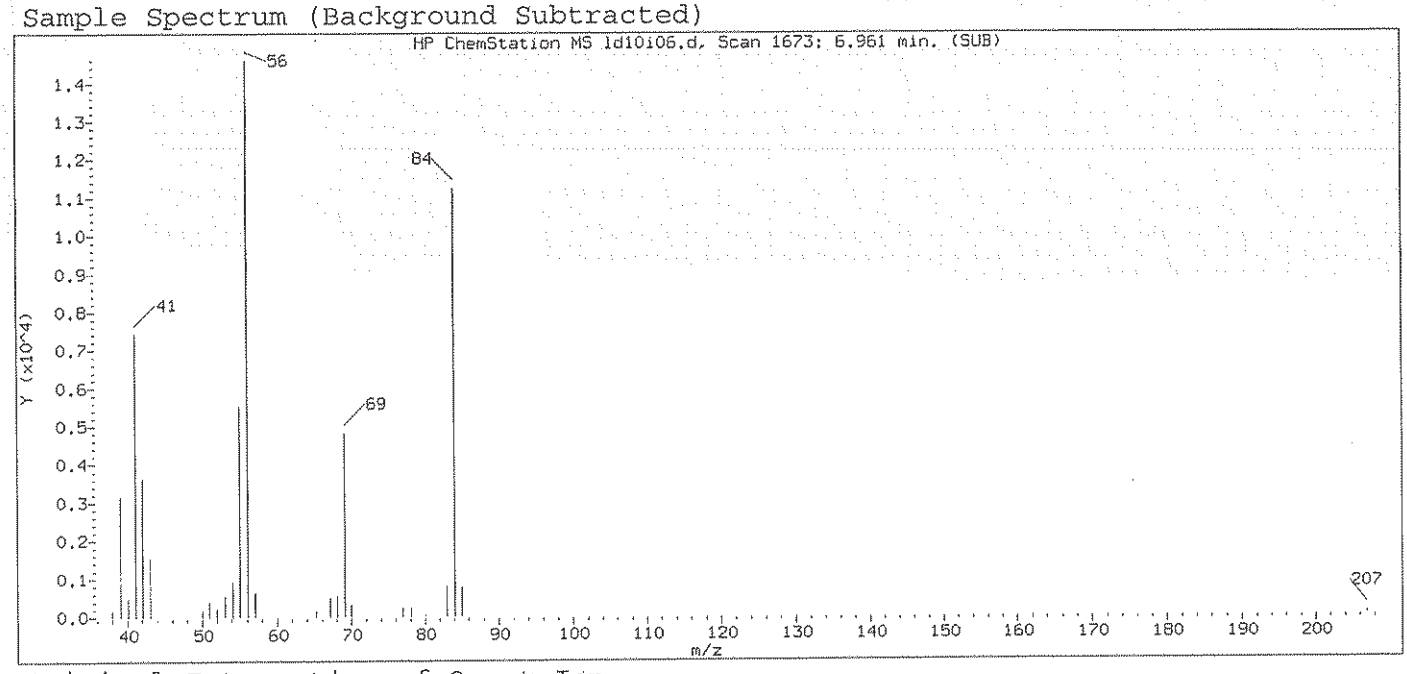
Compound Number	: 55
Compound Name	: Cyclohexane (mz 69)
Scan Number	: 1673
Retention Time (minutes)	: 6.961
Quant Ion	: 69.00
Area (flag)	: 17583M
On-Column Amount (ng)	: 3.7071
Integration start scan	: 1646 Integration stop scan: 1719
Y at integration start	: 0 Y at integration end: 0

Reason for manual integration: improper integration

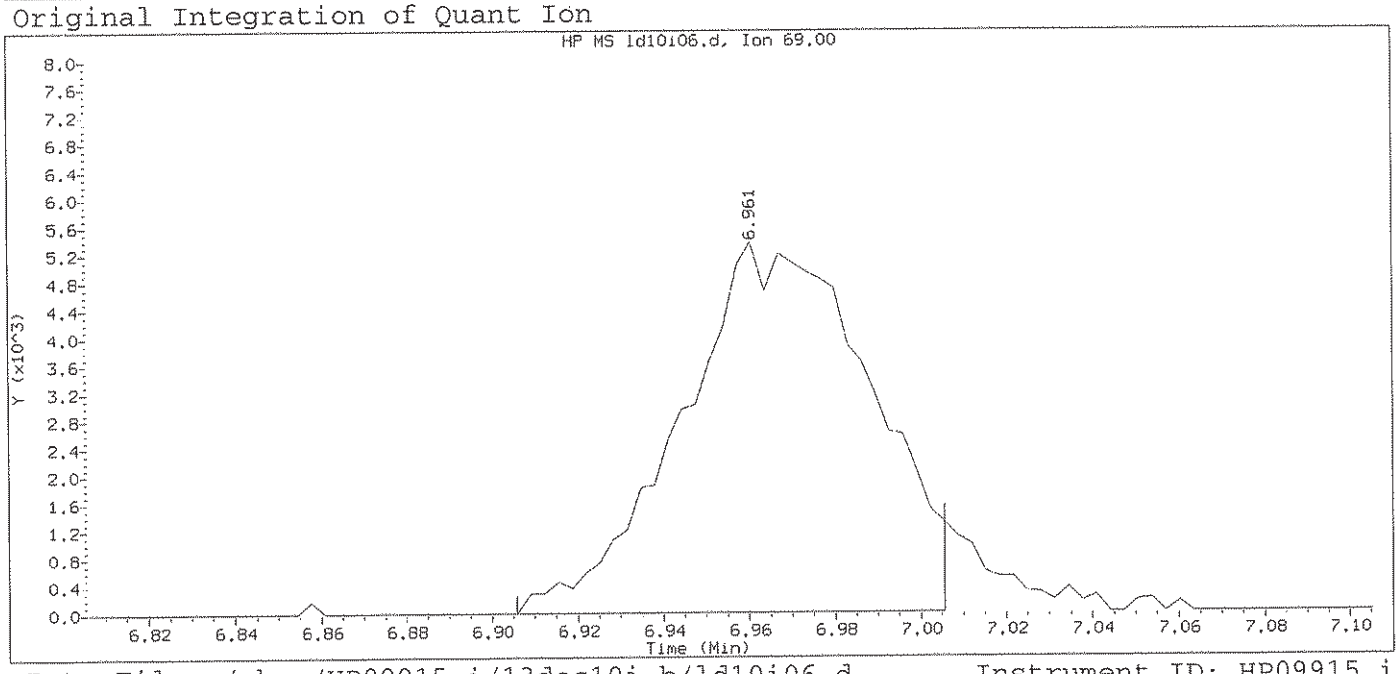
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

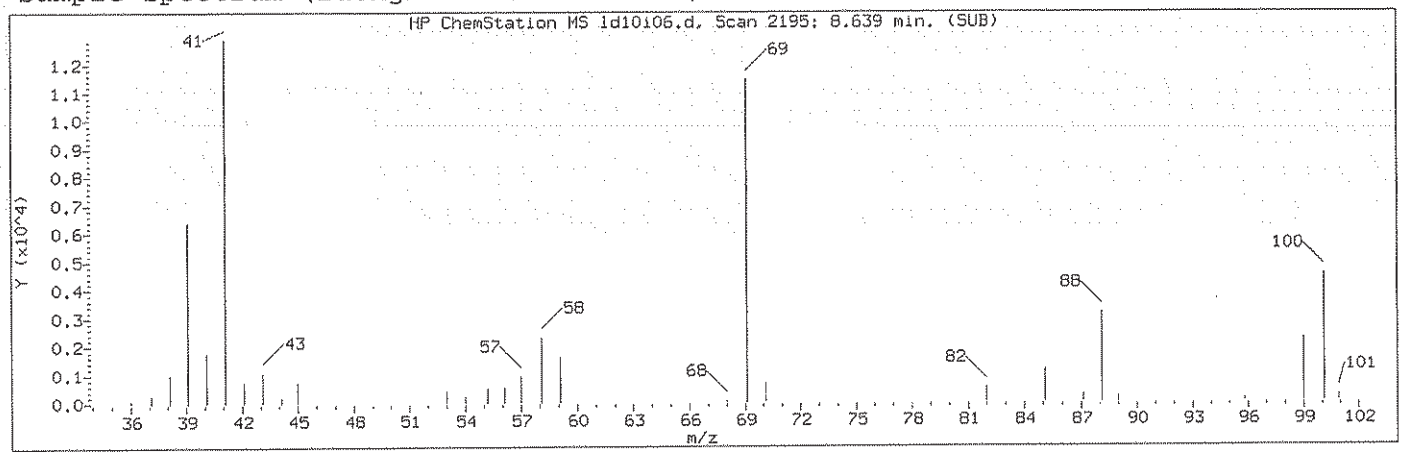
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

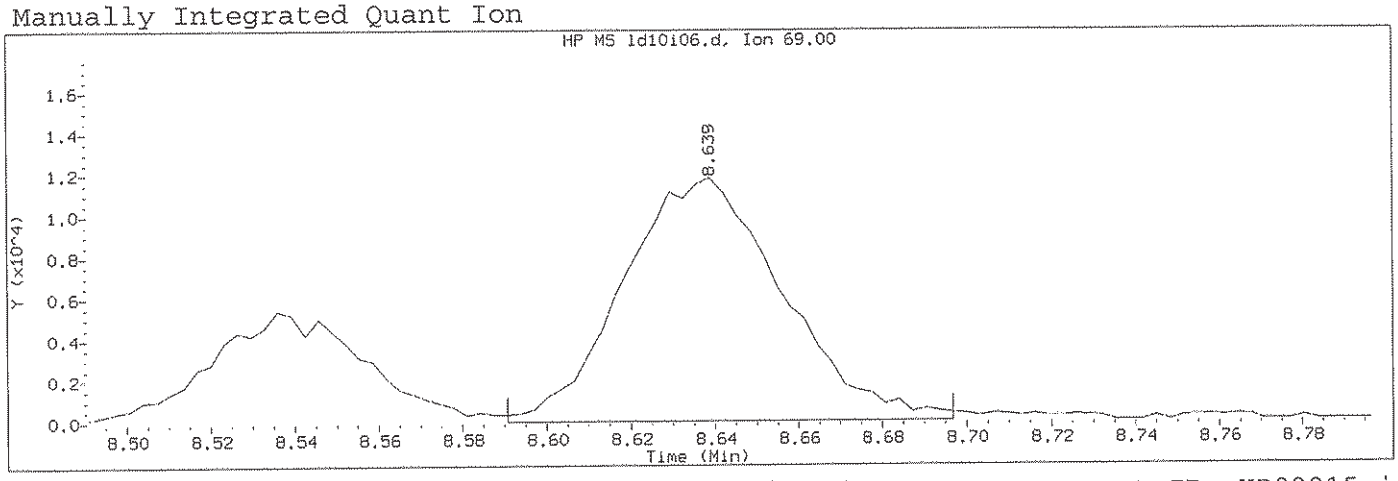
Compound Number : 55
Compound Name : Cyclohexane (mz 69)
Scan Number : 1673
Retention Time (minutes): 6.961
Quant Ion : 69.00
Area : 16349
On-column Amount (ng) : 3.4848
Integration start scan : 1655 Integration stop scan: 1686
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

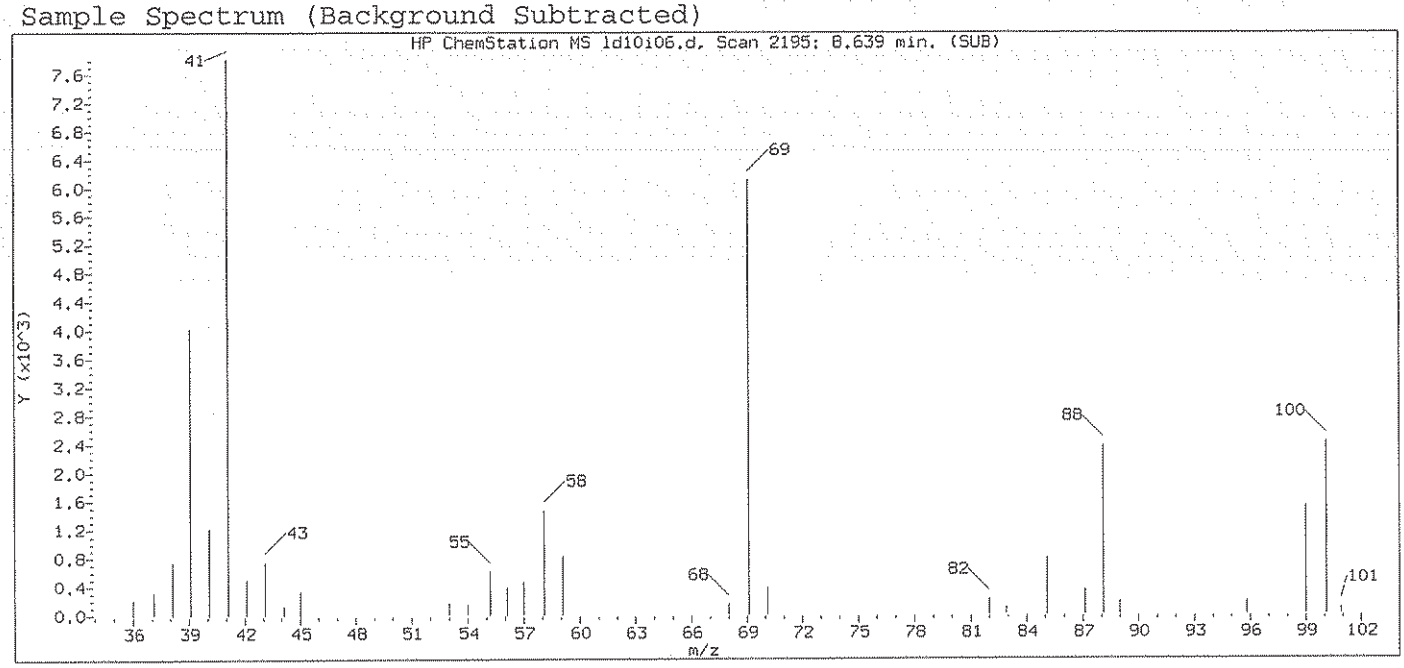
Compound Number : 80
Compound Name : Methyl Methacrylate
Scan Number : 2195
Retention Time (minutes): 8.639
Quant Ion : 69.00
Area (flag) : 31121M
On-Column Amount (ng) : 3.7419
Integration start scan : 2179 Integration stop scan: 2212
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

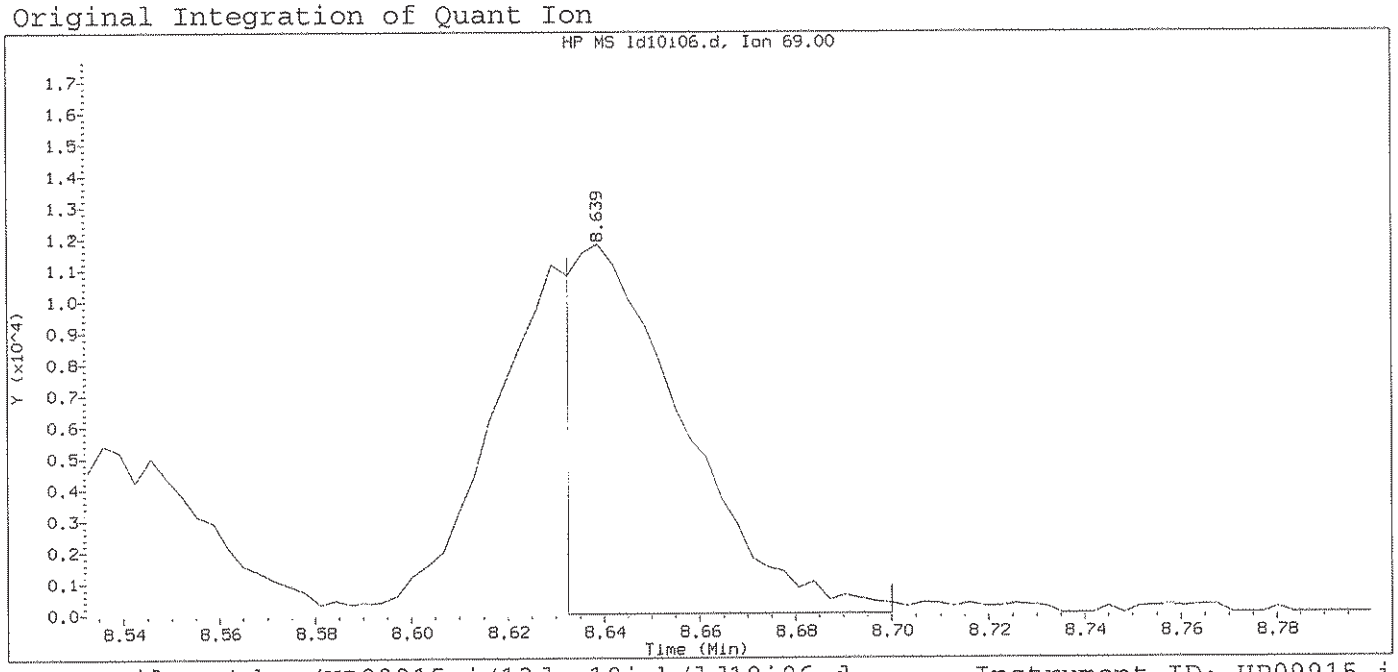
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

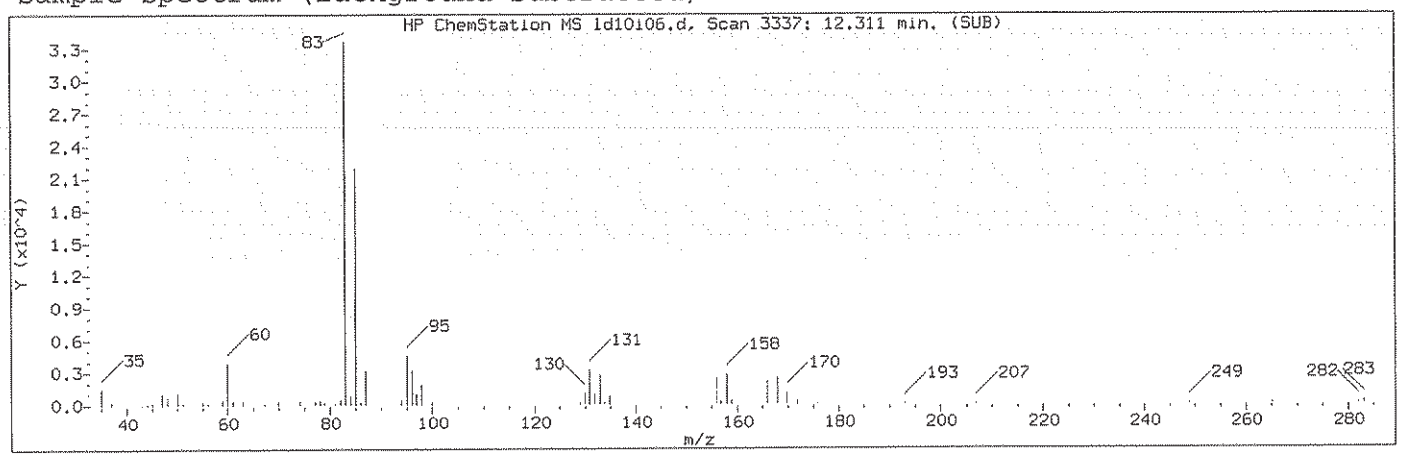
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

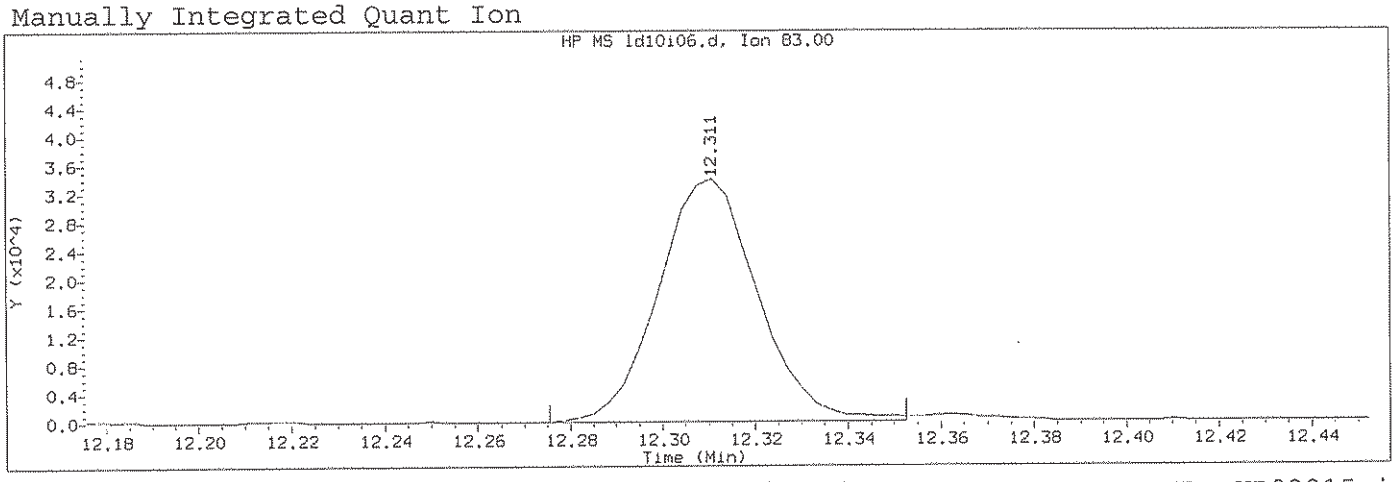
Compound Number	: 80
Compound Name	: Methyl Methacrylate
Scan Number	: 2195
Retention Time (minutes)	: 8.639
Quant Ion	: 69.00
Area	: 19125
On-column Amount (ng)	: 2.4467
Integration start scan	: 2192 Integration stop scan: 2213
Y at integration start	: 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

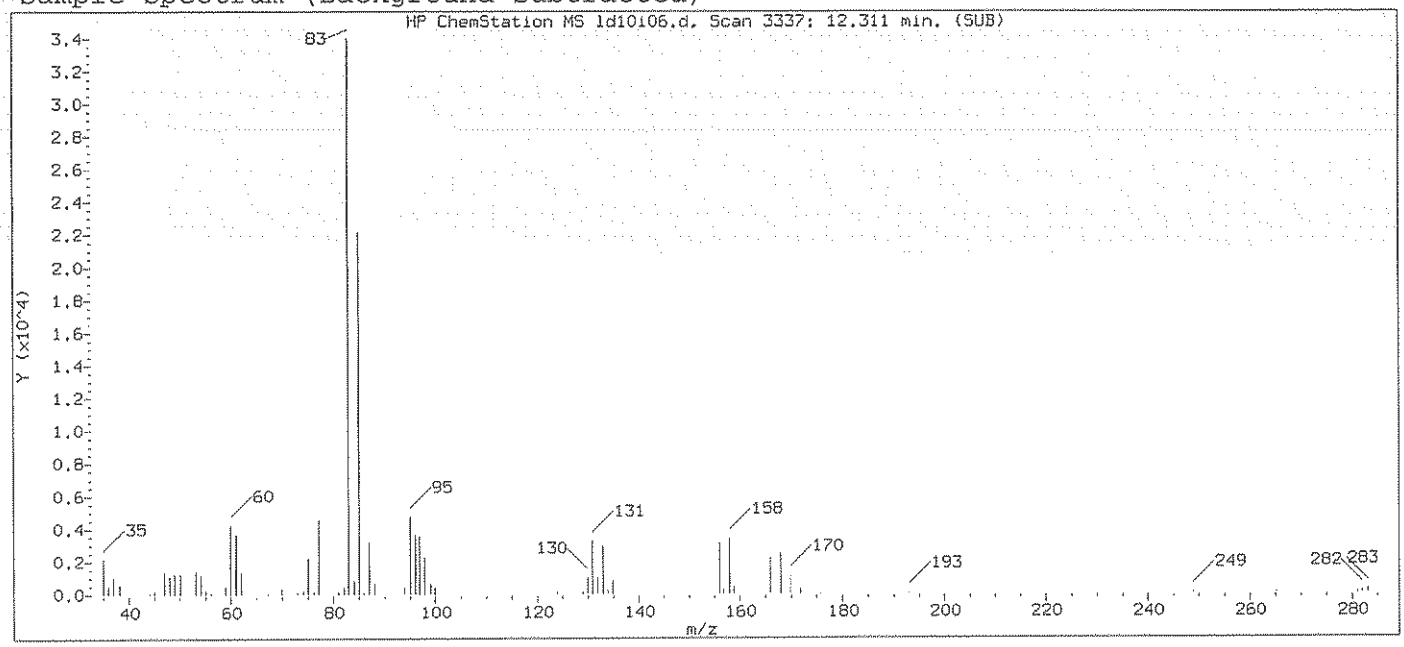
Compound Number	: 122
Compound Name	: 1,1,2,2-Tetrachloroethane
Scan Number	: 3337
Retention Time (minutes)	: 12.311
Quant Ion	: 83.00
Area (flag)	: 50472M
On-Column Amount (ng)	: 3.8864
Integration start scan	: 3325 Integration stop scan: 3349
Y at integration start	: 0 Y at integration end: 0

Reason for manual integration: improper integration

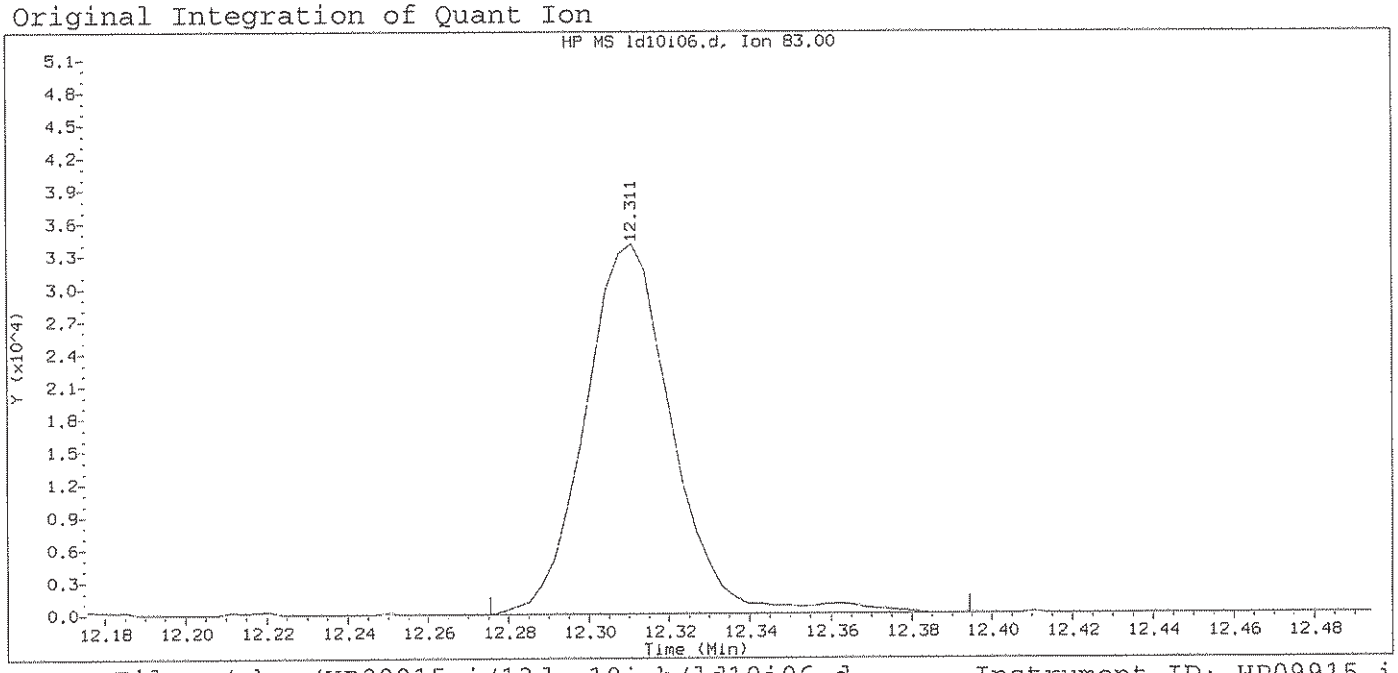
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

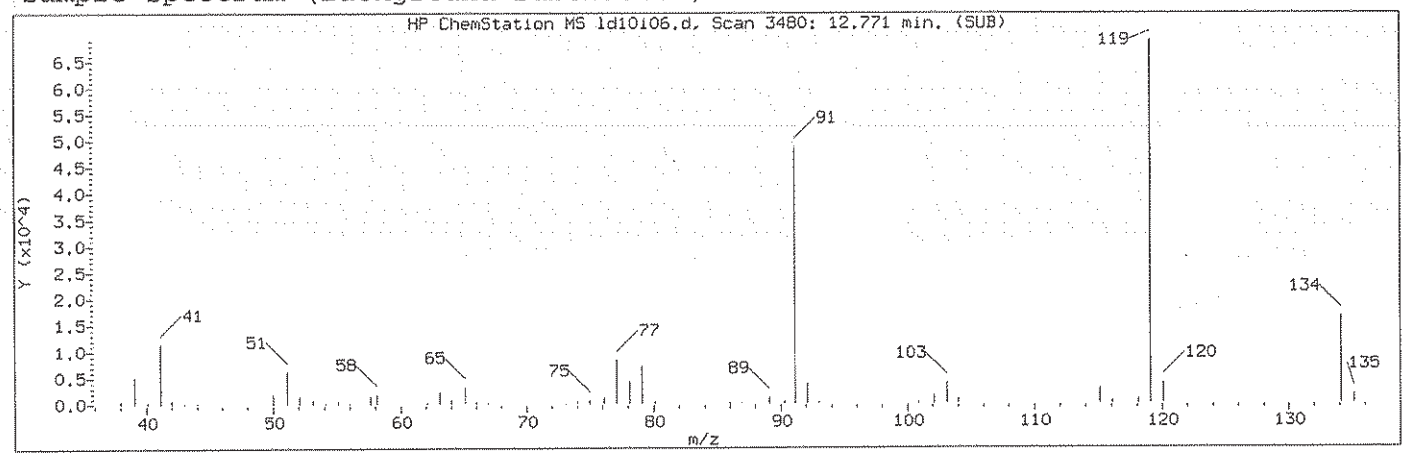
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

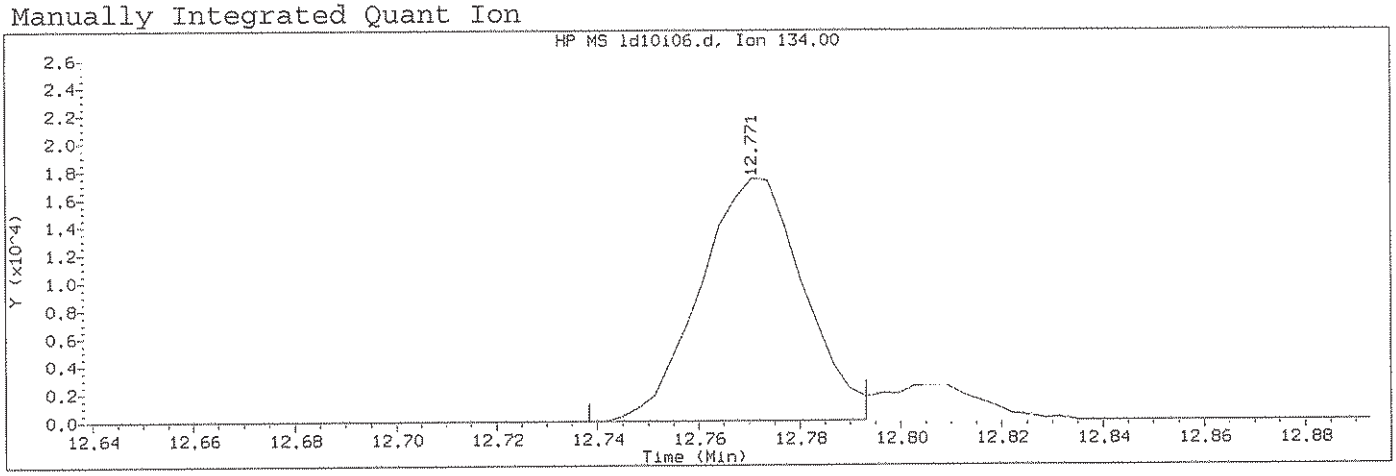
Compound Number	: 122
Compound Name	: 1,1,2,2-Tetrachloroethane
Scan Number	: 3337
Retention Time (minutes)	: 12.311
Quant Ion	: 83.00
Area	: 51419
On-column Amount (ng)	: 3.9847
Integration start scan	: 3325 Integration stop scan: 3362
Y at integration start	: 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:23
Date, time and analyst ID of latest file update: 11-Dec-2013 15:28 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

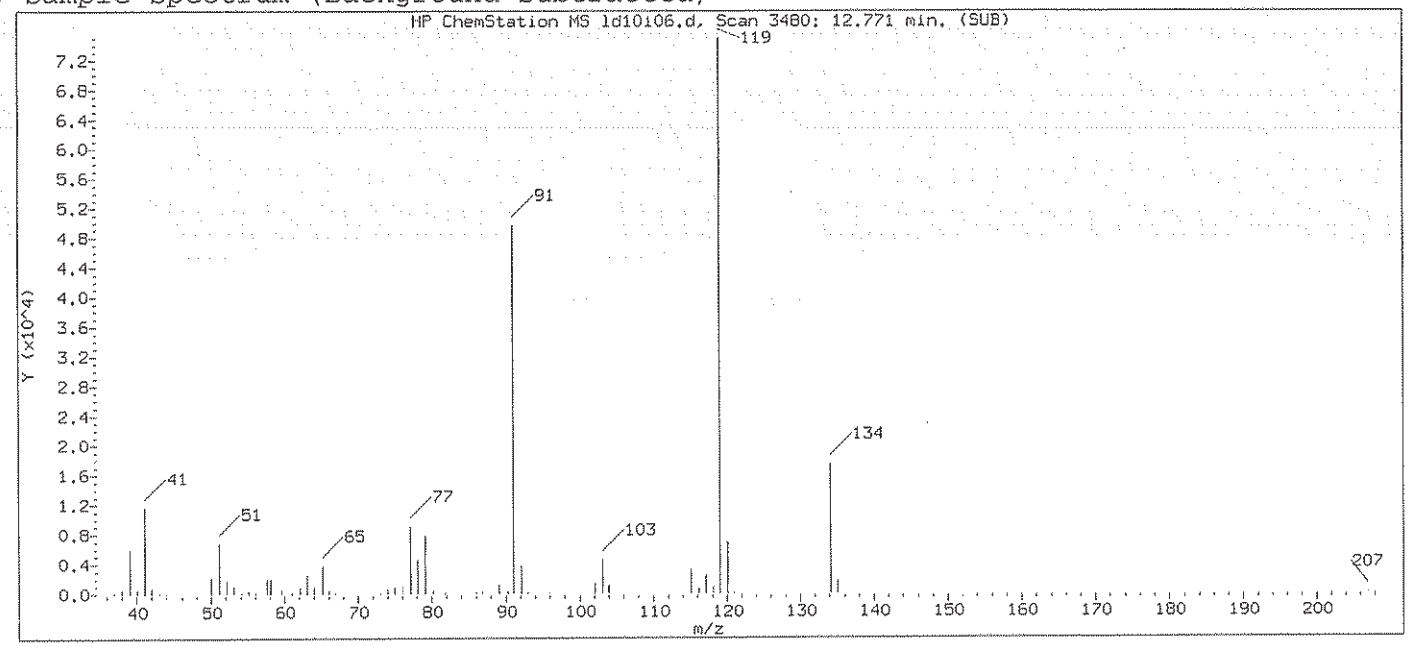
Compound Number	: 130		
Compound Name	: tert-Butylbenzene		
Scan Number	: 3480		
Retention Time (minutes)	: 12.771		
Quant Ion	: 134.00		
Area (flag)	: 24810M		
On-Column Amount (ng)	: 3.6177		
Integration start scan	: 3469	Integration stop scan:	3486
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

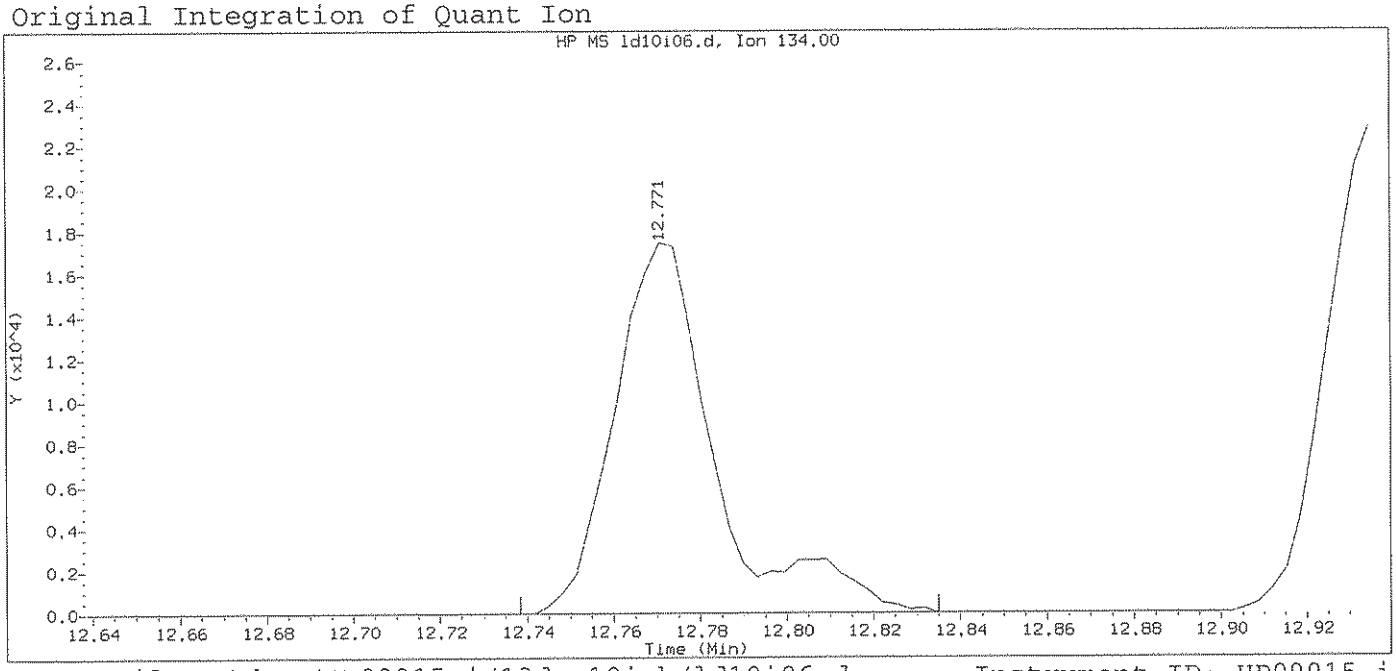
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



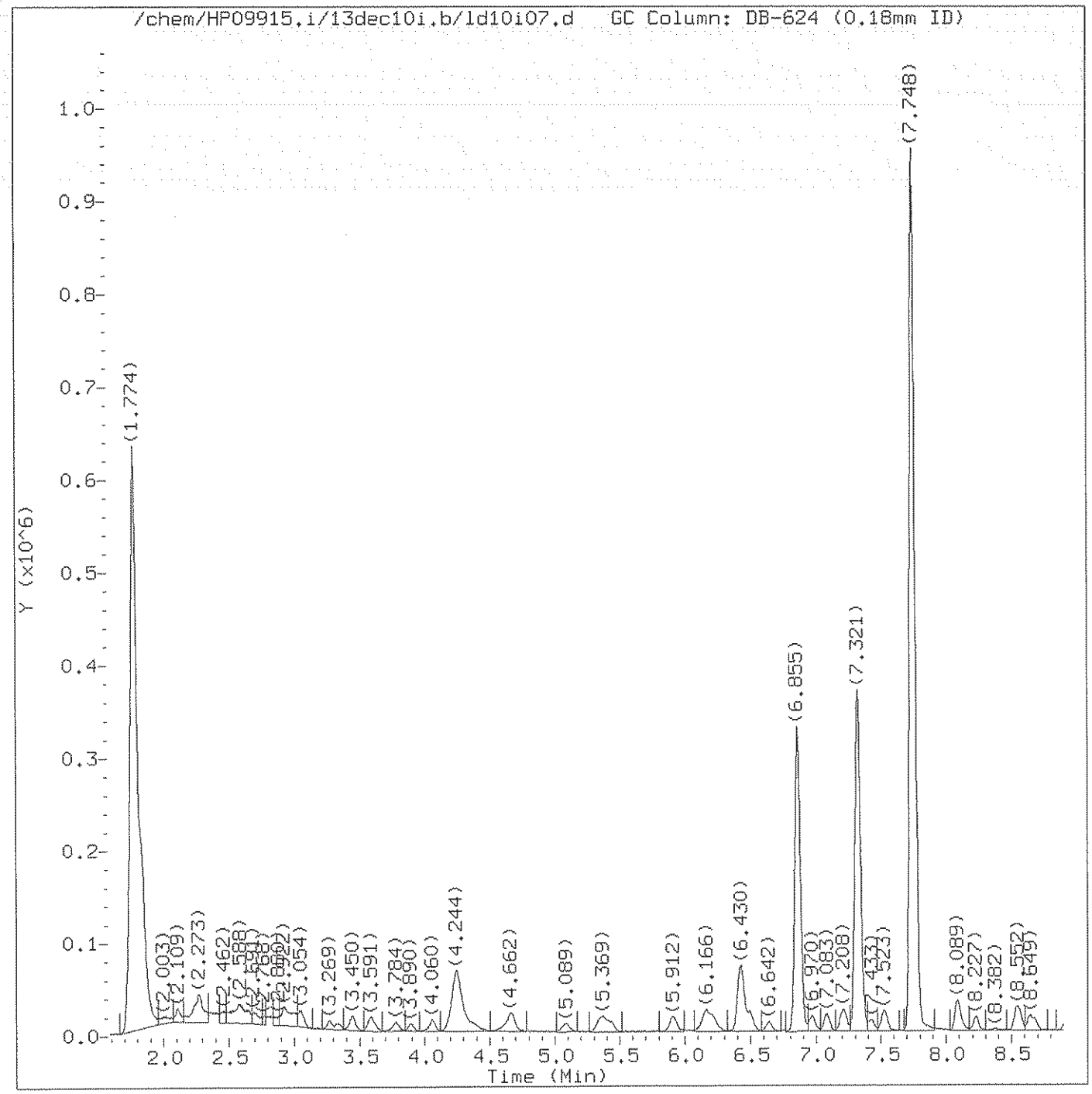
Data File: /chem/HP09915.i/13dec10i.b/ld10i06.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:31 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 17:13
Date, time and analyst ID of latest file update: 10-Dec-2013 17:13 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compound Number : 130
Compound Name : tert-Butylbenzene
Scan Number : 3480
Retention Time (minutes): 12.771
Quant Ion : 134.00
Area : 28097
On-column Amount (ng) : 3.9114
Integration start scan : 3469 Integration stop scan: 3499
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

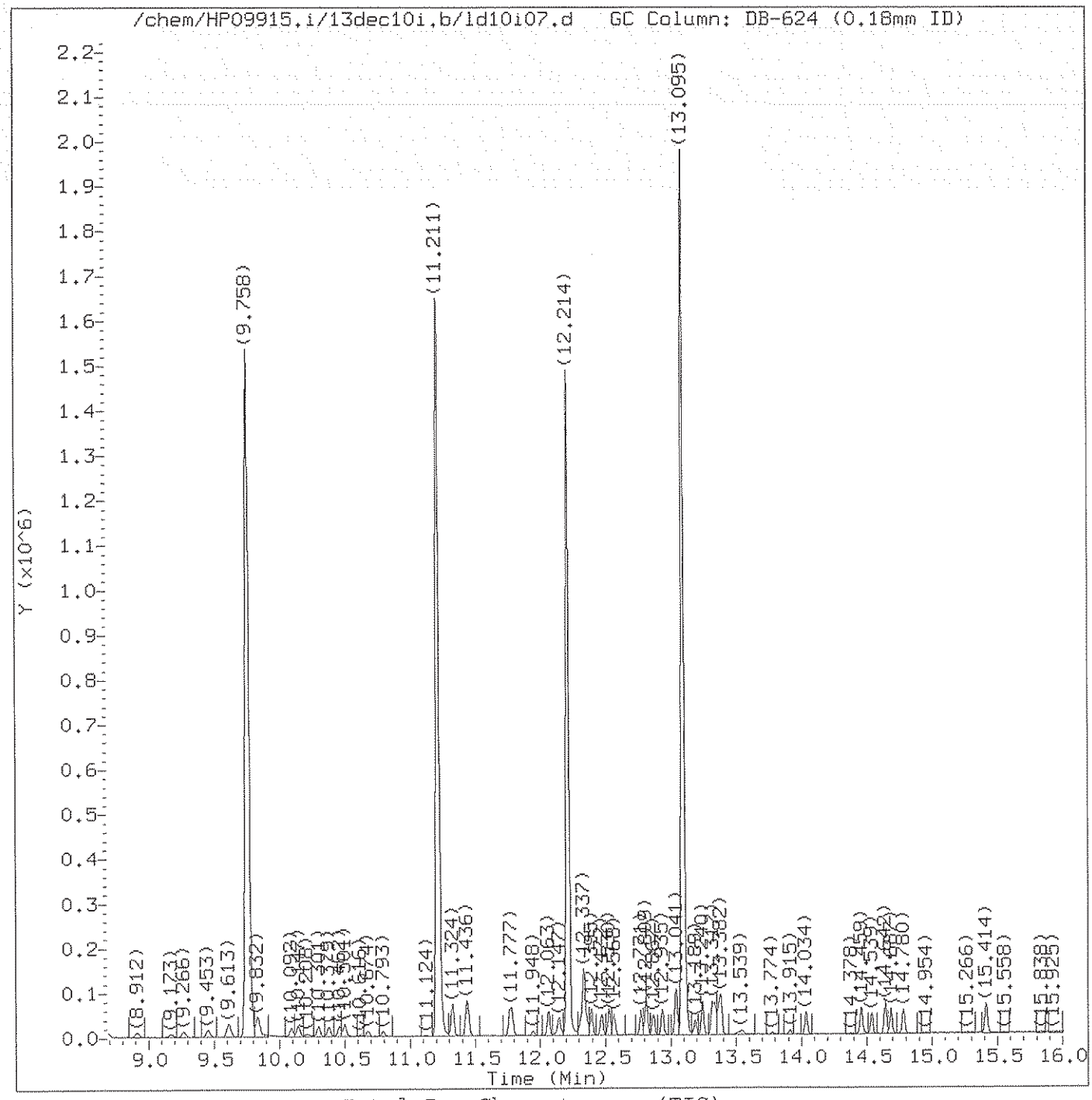
Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d
Injection date and time: 10-DEC-2013 16:53

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sublist used: 8260WI

Sample Name: VSTD001

Lab Sample ID: VSTD001

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2) Dichlorodifluoromethane	(1)	1.993	85	10820	0.911
3) Chloromethane	(1)	2.106	50	11855	0.946
5) Vinyl Chloride	(1)	2.237	62	9662	0.866
4) 1,3-Butadiene	(1)	2.273	39	17634M	0.000
7) Bromomethane	(1)	2.588	94	7808MA	1.074
8) Chloroethane	(1)	2.704	64	6844M	1.061
9) Dichlorofluoromethane	(1)	2.922	67	16328	1.121
10) Trichlorofluoromethane	(1)	2.996	101	9424	0.813
11) n-Pentane	(1)	3.057	43	18793	1.256
13) Ethyl Ether	(1)	3.273	59	8798	1.003
14) Freon 123a	(1)	3.334	67	9234	0.941
15) Acrolein	(4)	3.450	56	28057	10.868
16) 1,1-Dichloroethene	(1)	3.572	96	5621M	0.834
18) Freon 113	(1)	3.604	101	4796	0.677
17) Acetone	(4)	3.614	58	3221M	3.047
45) 1,2-Dichloroethene (total)	(1)		96	14948	1.796
21) 2-Propanol	(4)	3.765	45	17544	23.419
20) Methyl Iodide	(1)	3.784	142	11074	0.887
22) Carbon Disulfide	(1)	3.890	76	19237	0.752
25) Methyl Acetate	(1)	4.025	43	10717	1.221
24) Allyl Chloride	(1)	4.060	41	16412	1.124
28)*t-Butyl Alcohol-d10	(4)	4.244	65	199137	250.000
26) Methylene Chloride	(1)	4.247	84	8163	0.981
29) t-Butyl Alcohol	(4)	4.369	59	23934	19.678
30) Acrylonitrile	(1)	4.601	53	5412	1.112
32) Methyl Tertiary Butyl Ether	(1)	4.652	73	27809	0.995
31) trans-1,2-Dichloroethene	(1)	4.678	96	7001M	0.897
33) n-Hexane	(1)	5.086	57	9702	0.734
34) 1,1-Dichloroethane	(1)	5.330	63	12838	0.849
36) di-Isopropyl Ether	(1)	5.372	45	28835	0.921
37) 2-Chloro-1,3-Butadiene	(1)	5.433	53	9973	0.761
39) Ethyl t-Butyl Ether	(1)	5.906	59	26635	0.919
41) 2-Butanone	(4)	6.125	43	15427	2.503
40) cis-1,2-Dichloroethene	(1)	6.157	96	7947M	0.900
42) 2,2-Dichloropropane	(1)	6.166	77	9154	0.824
43) Propionitrile	(4)	6.215	54	33900	19.820
46) Methacrylonitrile	(1)	6.430	67	45979	9.374
47) Bromochloromethane	(1)	6.501	128	4384	0.999

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.

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on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
48) Tetrahydrofuran	(4)	6.501	71	3300	2.175
50) Chloroform	(1)	6.642	83	11822	0.874
52)$Dibromofluoromethane	(1)	6.855	113	295032	49.932
51)$Dibromofluoromethane(mz111)	(1)	6.855	111	300898	49.652
53) 1,1,1-Trichloroethane	(1)	6.864	97	11333	0.905
55) Cyclohexane (mz 69)	(1)	6.957	69	3553	0.747
56) Cyclohexane	(1)	6.967	56	13810	0.841
54) Cyclohexane (mz 84)	(1)	6.970	84	9515	0.756
57) 1,1-Dichloropropene	(1)	7.080	75	8868	0.791
58) Carbon Tetrachloride	(1)	7.080	117	6343	0.683
59) Isobutyl Alcohol	(4)	7.208	41	26088	59.130
61)$1,2-Dichloroethane-d4(mz65)	(1)	7.318	65	365369	50.369
62)$1,2-Dichloroethane-d4	(1)	7.318	102	76973	50.172
60)$1,2-Dichloroethane-d4(mz104)	(1)	7.324	104	48992	49.812
63) Benzene	(1)	7.346	78	29800	0.870
65) 1,2-Dichloroethane	(1)	7.430	62	10711	0.967
64) 1,2-Dichloroethane (mz 98)	(1)	7.433	98	1019	0.920
69) t-Amyl Methyl Ether	(1)	7.527	73	25698	0.931
71)*Fluorobenzene	(1)	7.748	96	1292372	50.000
72) n-Heptane	(1)	7.758	43	13278	0.958
73) n-Butanol	(4)	8.096	56	34481	91.606
112) Xylene (Total)	(2)		106	38765	2.518
74) Trichloroethene	(1)	8.227	95	7042M	0.850
76) Methylcyclohexane	(1)	8.533	83	12263	0.811
75) Methylcyclohexane (mz98)	(1)	8.539	98	5423	0.834
77) 1,2-Dichloropropane	(1)	8.565	63	8139	0.870
80) Methyl Methacrylate	(1)	8.639	69	8101M	0.971
79) 1,4-Dioxane	(4)	8.671	88	3945	42.617
78) Dibromomethane	(1)	8.681	93	5472	0.952
83) Bromodichloromethane	(1)	8.909	83	8501	0.807
85) 2-Nitropropane	(1)	9.170	41	7367	2.361
86) 2-Chloroethyl Vinyl Ether	(1)	9.266	63	6444	0.870
87) cis-1,3-Dichloropropene	(1)	9.453	75	11345	0.814
89) 4-Methyl-2-Pentanone	(4)	9.613	43	27686	1.951
93)$Toluene-d8	(2)	9.758	98	1232238	49.892
92)$Toluene-d8(mz100)	(2)	9.758	100	804663	49.800
94) Toluene	(2)	9.838	92	18413	0.874
95) trans-1,3-Dichloropropene	(2)	10.096	75	10882	0.821

M = Compound was manually integrated.
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on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/1d10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
96) Ethyl Methacrylate	(2)	10.144	69	13378	0.888
97) 1,1,2-Trichloroethane	(2)	10.298	97	7680	0.946
98) Tetrachloroethene	(2)	10.379	166	6601	0.787
99) 1,3-Dichloropropane	(2)	10.462	76	13027	0.900
101) 2-Hexanone	(4)	10.501	43	20887	1.996
102) Dibromochloromethane	(2)	10.674	129	5961	0.739
104) 1,2-Dibromoethane	(2)	10.790	107	8114	0.926
106)*Chlorobenzene-d5	(2)	11.215	117	919033	50.000
107) Chlorobenzene	(2)	11.240	112	19639	0.863
108) 1,1,1,2-Tetrachloroethane	(2)	11.327	131	6282	0.827
109) Ethylbenzene	(2)	11.327	91	32756	0.815
110) m+p-Xylene	(2)	11.436	106	25945	1.673
113) o-Xylene	(2)	11.764	106	12820	0.845
114) Styrene	(2)	11.784	104	21590	0.809
115) Bromoform	(2)	11.948	173	3799	0.663
116) Isopropylbenzene	(2)	12.067	105	31360	0.798
118) Cyclohexanone	(4)	12.141	55	17883	54.276
119)$4-Bromofluorobenzene	(2)	12.214	95	463968	50.106
120)$4-Bromofluorobenzene(mz174)	(2)	12.214	174	382388	50.218
122) 1,1,2,2-Tetrachloroethane	(3)	12.311	83	12410	0.955
121) Bromobenzene	(3)	12.330	156	9064	0.870
124) trans-1,4-Dichloro-2-Butene	(3)	12.337	53	22587	6.663
123) 1,2,3-Trichloropropane	(3)	12.359	110	3350	0.917
125) n-Propylbenzene	(3)	12.395	91	38434	0.796
126) 2-Chlorotoluene	(3)	12.475	126	7533	0.797
127) 1,3,5-Trimethylbenzene	(3)	12.530	105	27176	0.817
128) 4-Chlorotoluene	(3)	12.568	126	8345	0.852
130) tert-Butylbenzene	(3)	12.774	134	5402	0.788
131) Pentachloroethane	(3)	12.809	167	4776	0.793
132) 1,2,4-Trimethylbenzene	(3)	12.813	105	30013	0.878
133) sec-Butylbenzene	(3)	12.935	105	33456	0.791
134) 1,3-Dichlorobenzene	(3)	13.038	146	17178	0.914
135) p-Isopropyltoluene	(3)	13.041	119	30458	0.826
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	486740	50.000
138) 1,4-Dichlorobenzene	(3)	13.115	146	18215	0.933
139) 1,2,3-Trimethylbenzene	(3)	13.118	105	35472	0.977
141) Benzyl Chloride	(3)	13.189	91	18827	0.723
142) 1,3-Diethylbenzene	(3)	13.240	119	21171	0.939

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
143) 1,4-Diethylbenzene	(3)	13.314	119	21373	0.944
145) n-Butylbenzene	(3)	13.333	92	16073	0.882
144) 1,2-Dichlorobenzene	(3)	13.372	146	17288	0.931
146) 1,2-Diethylbenzene	(3)	13.385	119	18157	0.972
148) 1,2-Dibromo-3-Chloropropane	(3)	13.915	75	2248	0.888
149) 1,3,5-Trichlorobenzene	(3)	14.038	180	14518	1.010
150) 1,2,4-Trichlorobenzene	(3)	14.462	180	15215	1.106
151) Hexachlorobutadiene	(3)	14.539	225	7743	1.187
152) Naphthalene	(3)	14.642	128	48736	1.151
153) 1,2,3-Trichlorobenzene	(3)	14.784	180	14908	1.152
154) 2-Methylnaphthalene	(3)	15.414	142	29965	1.241

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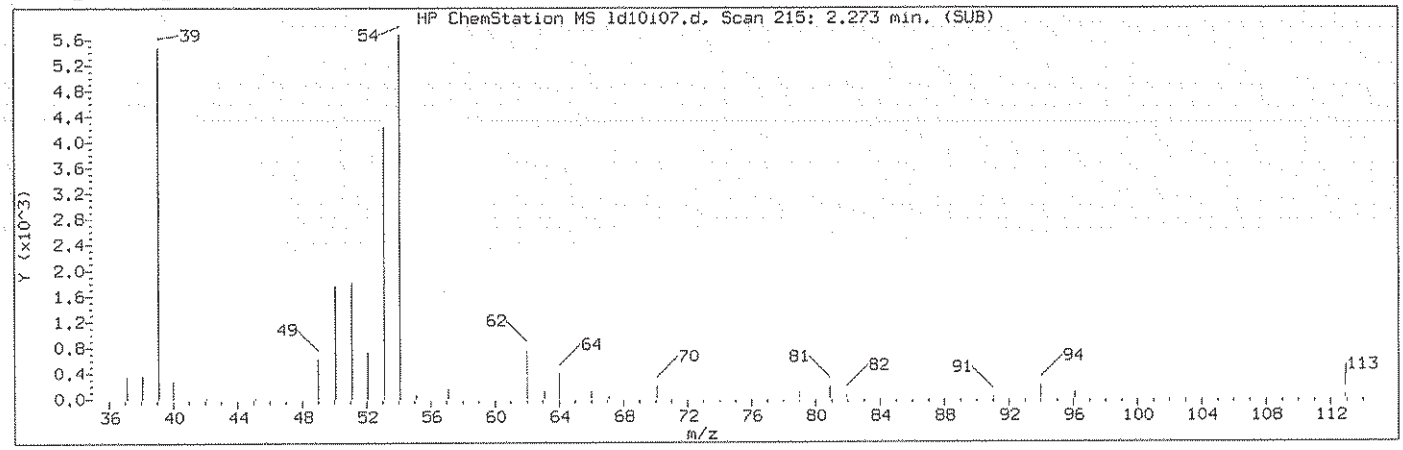
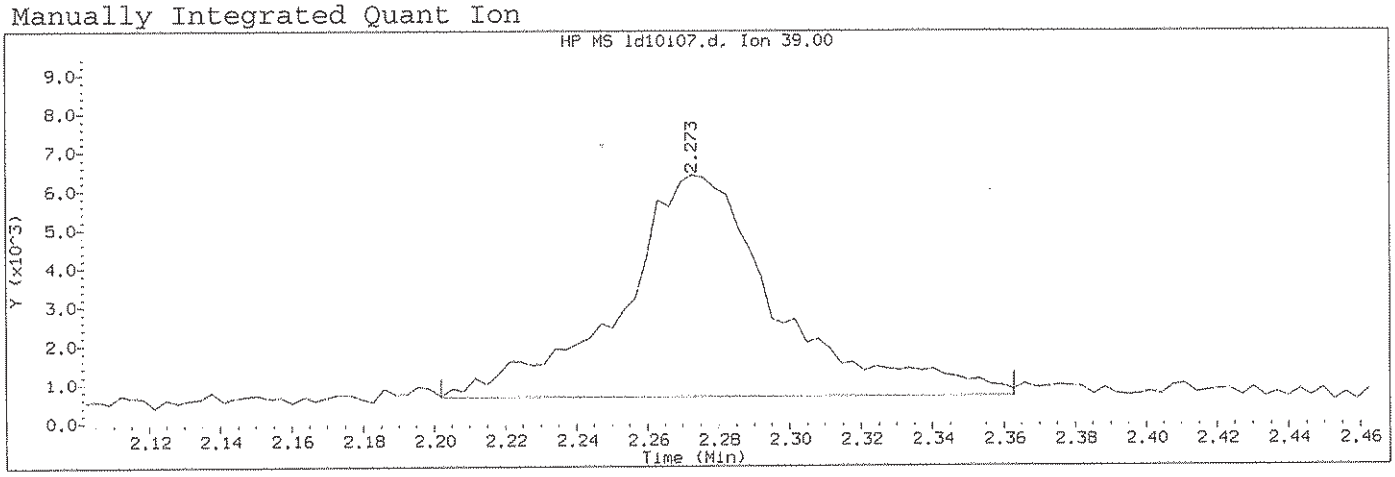
on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

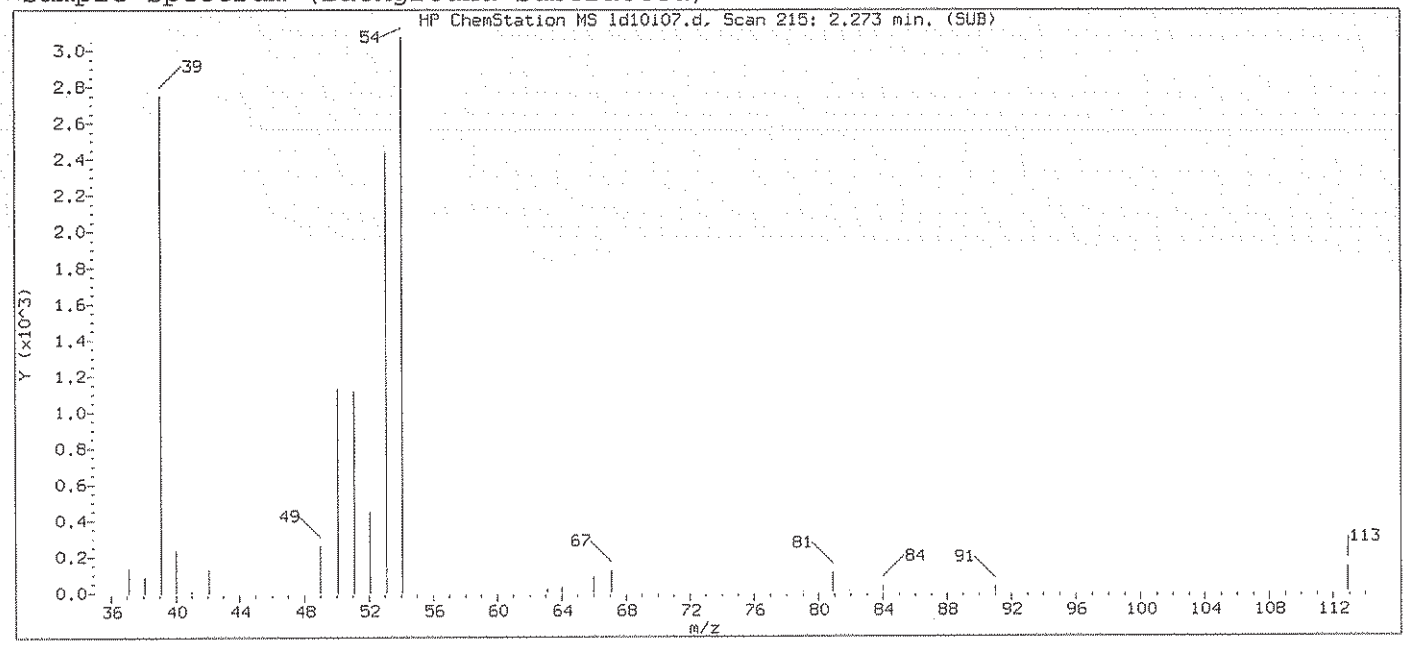
Compound Number : 4
Compound Name : 1,3-Butadiene
Scan Number : 215
Retention Time (minutes): 2.273
Quant Ion : 39.00
Area (flag) : 17634M
On-Column Amount (ng) : 0.0000
Integration start scan : 192 Integration stop scan: 242
Y at integration start : 651 Y at integration end: 651

Reason for manual integration: improper integration

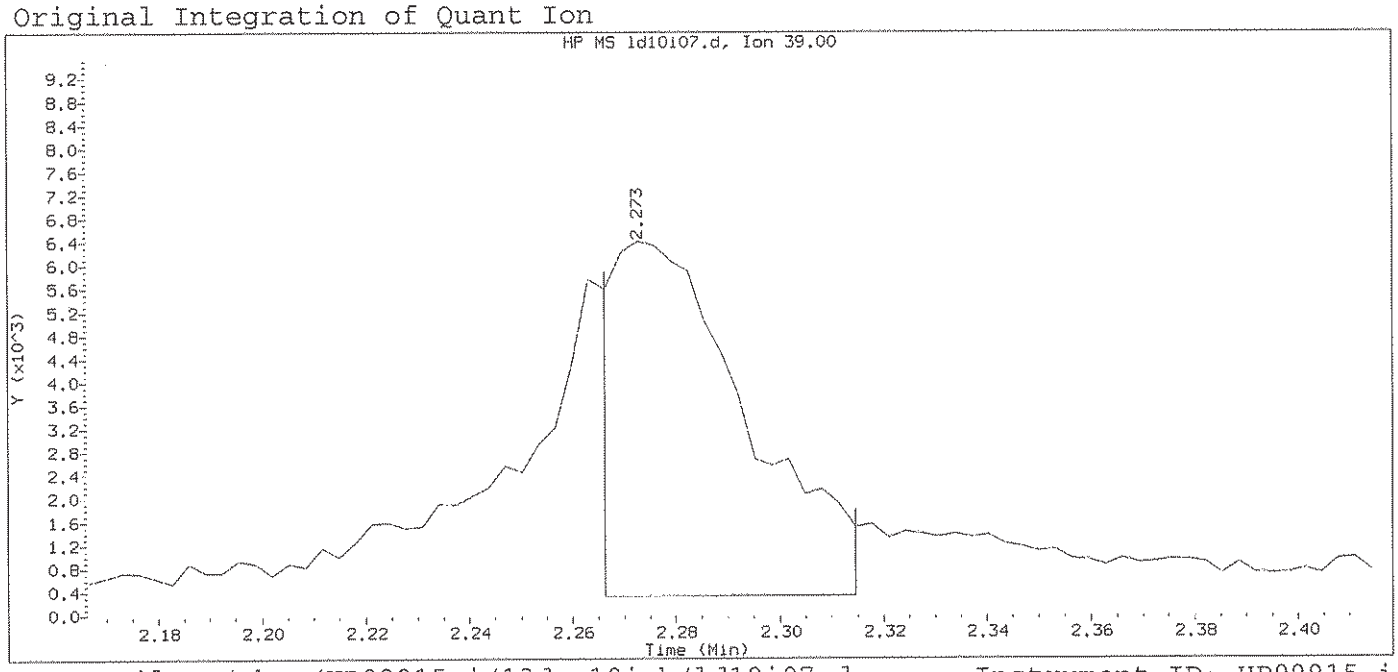
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 10-Dec-2013 18:27 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number	: 4		
Compound Name	: 1,3-Butadiene		
Scan Number	: 215		
Retention Time (minutes)	: 2.273		
Quant Ion	: 39.00		
Area	: 10993		
On-column Amount (ng)	: 0.0000		
Integration start scan	: 212	Integration stop scan:	227
Y at integration start	: 313	Y at integration end:	321

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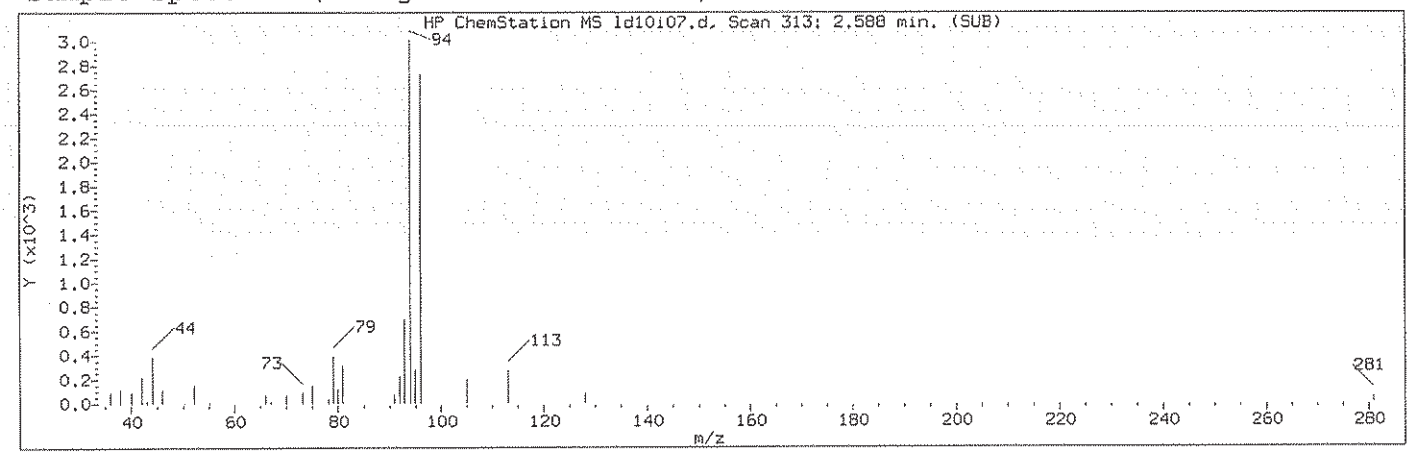
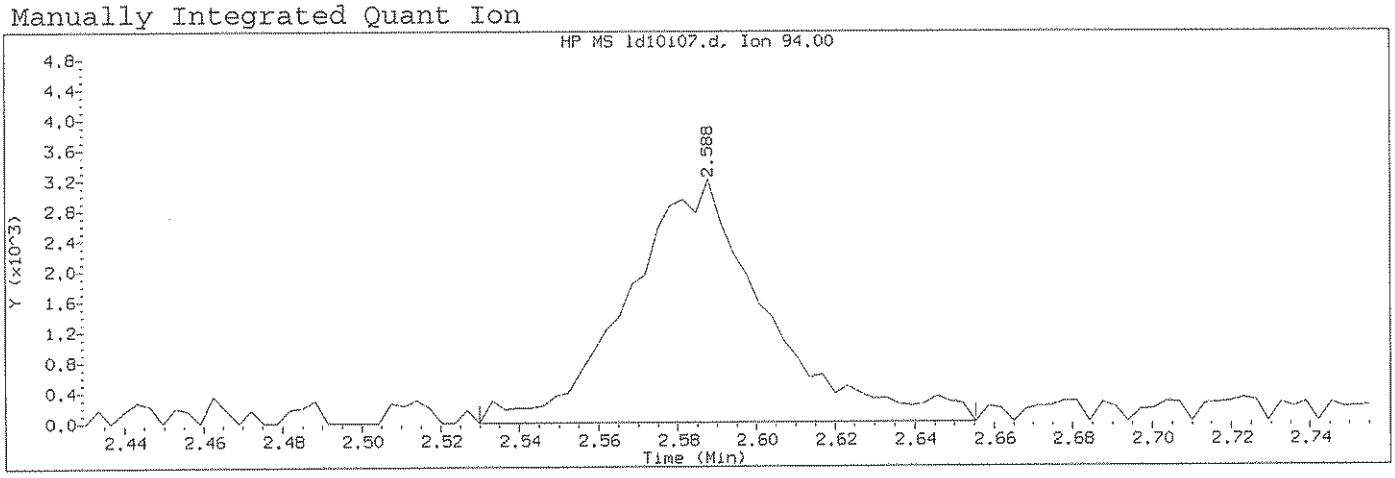
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

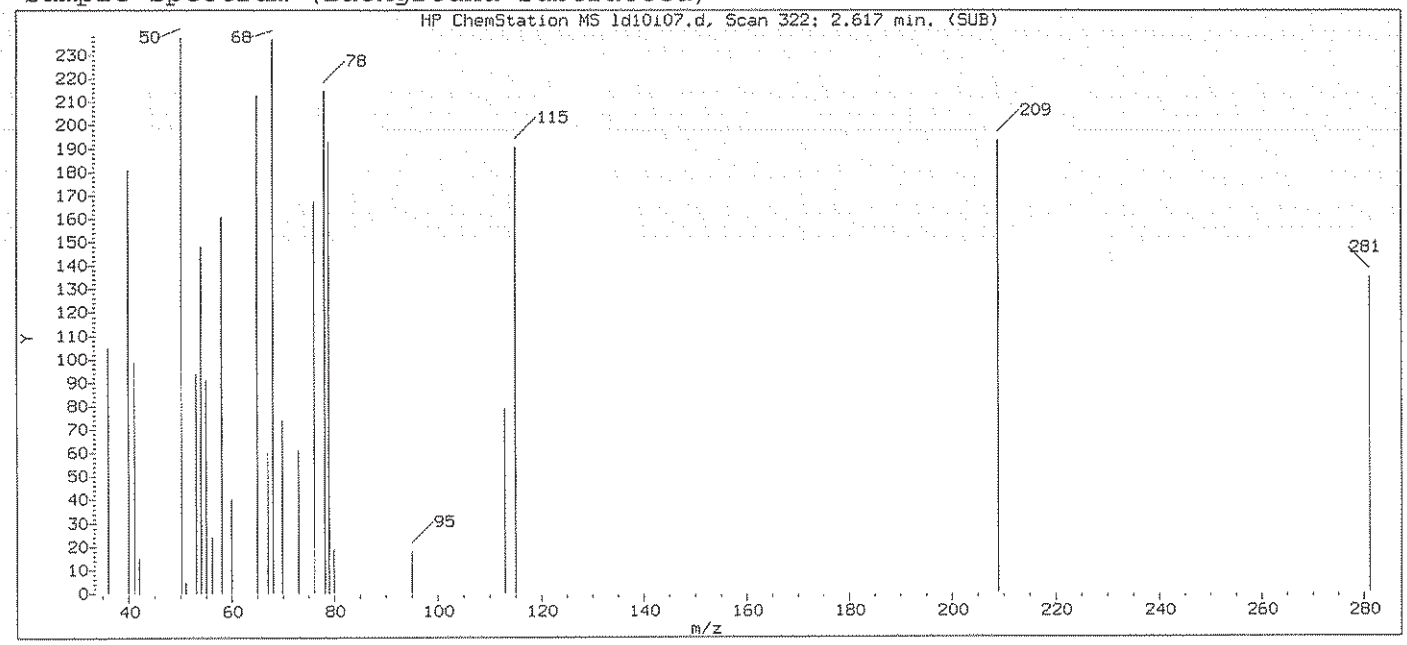
Compound Number : 7
Compound Name : Bromomethane
Scan Number : 313
Retention Time (minutes): 2.588
Quant Ion : 94.00
Area (flag) : 7808MA
On-Column Amount (ng) : 1.0741
Integration start scan : 294 Integration stop scan: 333
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

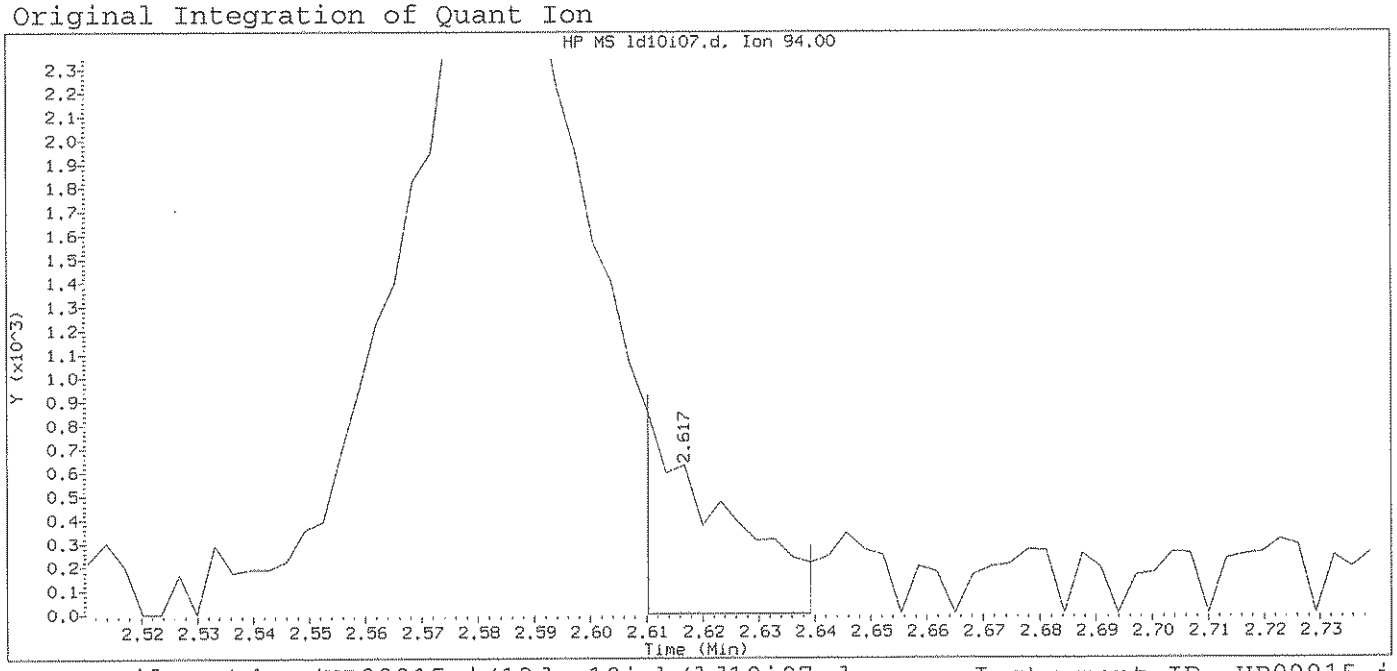
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 10-Dec-2013 18:27 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number	: 7		
Compound Name	: Bromomethane		
Scan Number	: 322		
Retention Time (minutes)	: 2.617		
Quant Ion	: 94.00		
Area	: 742		
On-column Amount (ng)	: 0.1186		
Integration start scan	: 319	Integration stop scan:	328
Y at integration start	: 0	Y at integration end:	0

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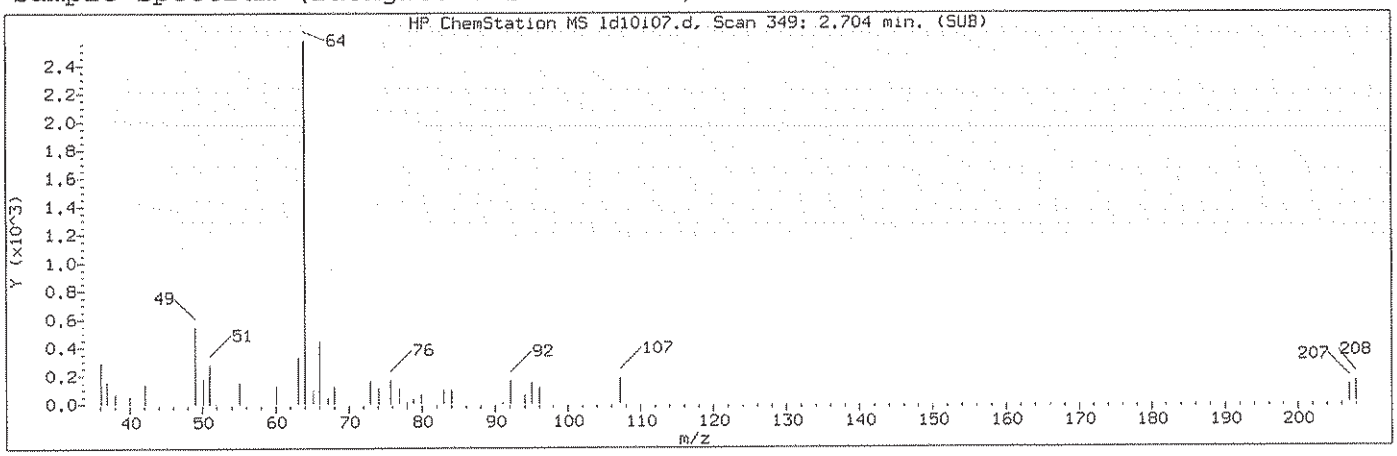
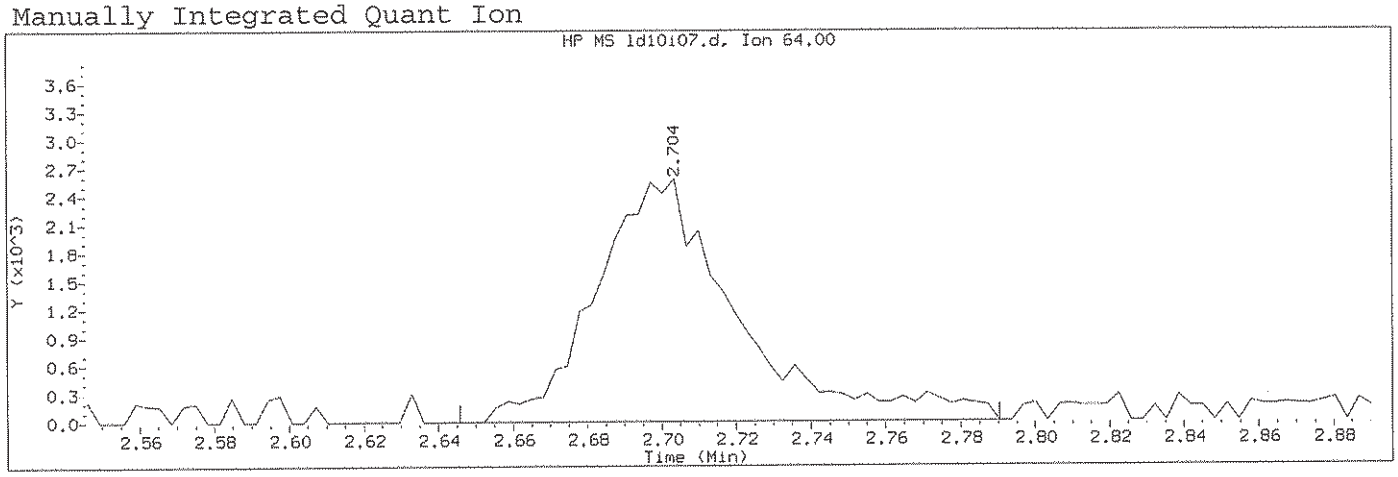
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

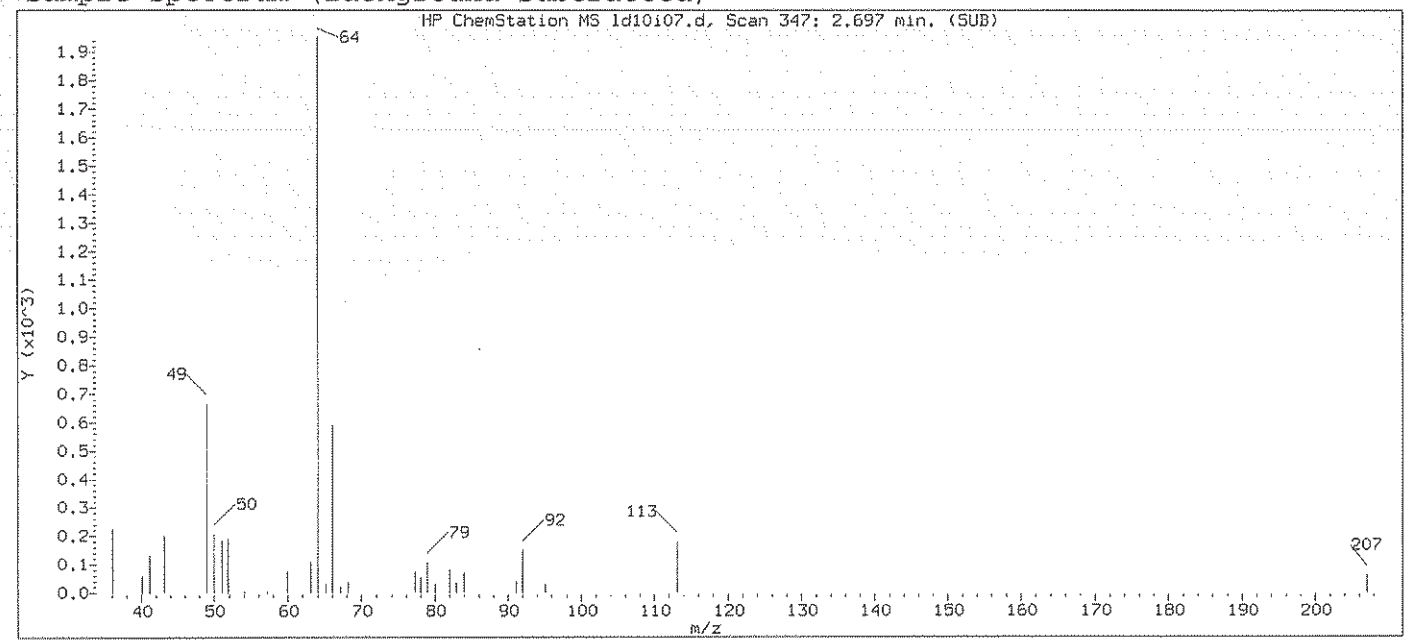
Compound Number	: 8		
Compound Name	: Chloroethane		
Scan Number	: 349		
Retention Time (minutes)	: 2.704		
Quant Ion	: 64.00		
Area (flag)	: 6844M		
On-Column Amount (ng)	: 1.0614		
Integration start scan	: 330	Integration stop scan:	375
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

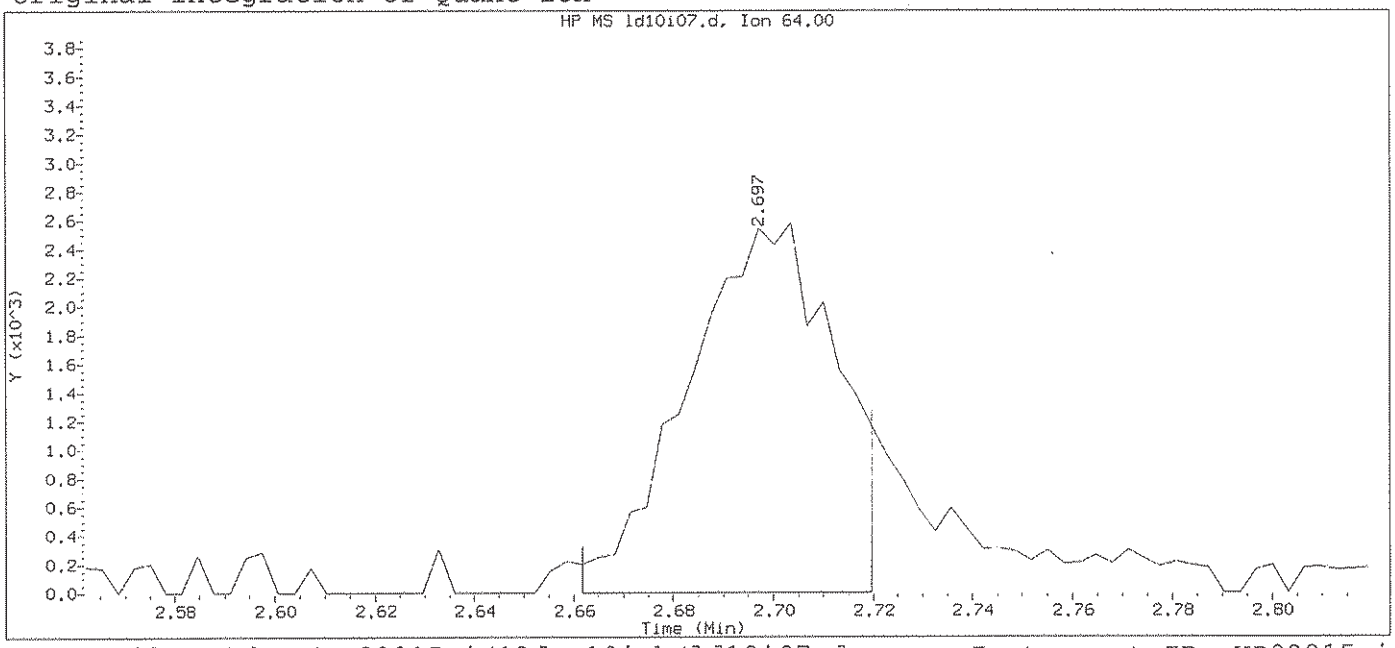
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 10-Dec-2013 18:27 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number	: 8		
Compound Name	: Chloroethane		
Scan Number	: 347		
Retention Time (minutes)	: 2.697		
Quant Ion	: 64.00		
Area	: 5217		
On-column Amount (ng)	: 0.8393		
Integration start scan	: 335	Integration stop scan:	353
Y at integration start	: 0	Y at integration end:	0

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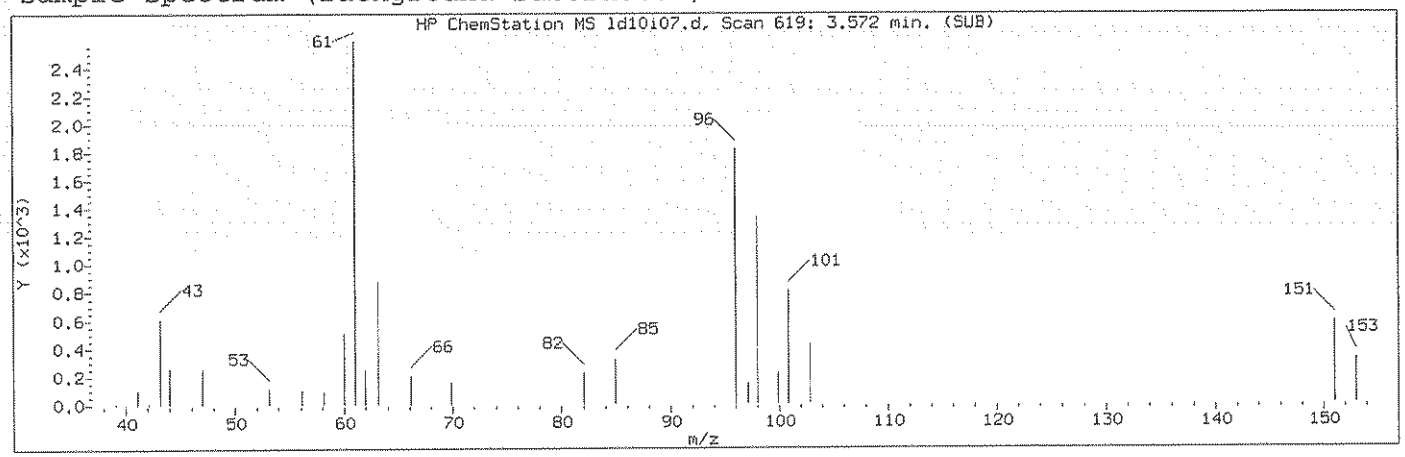
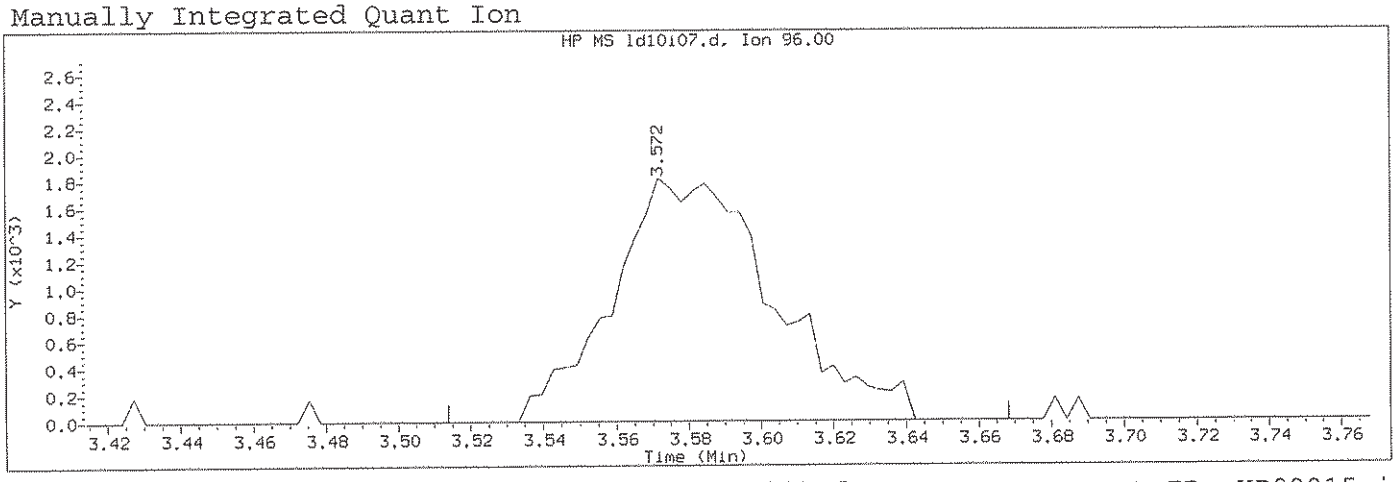
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

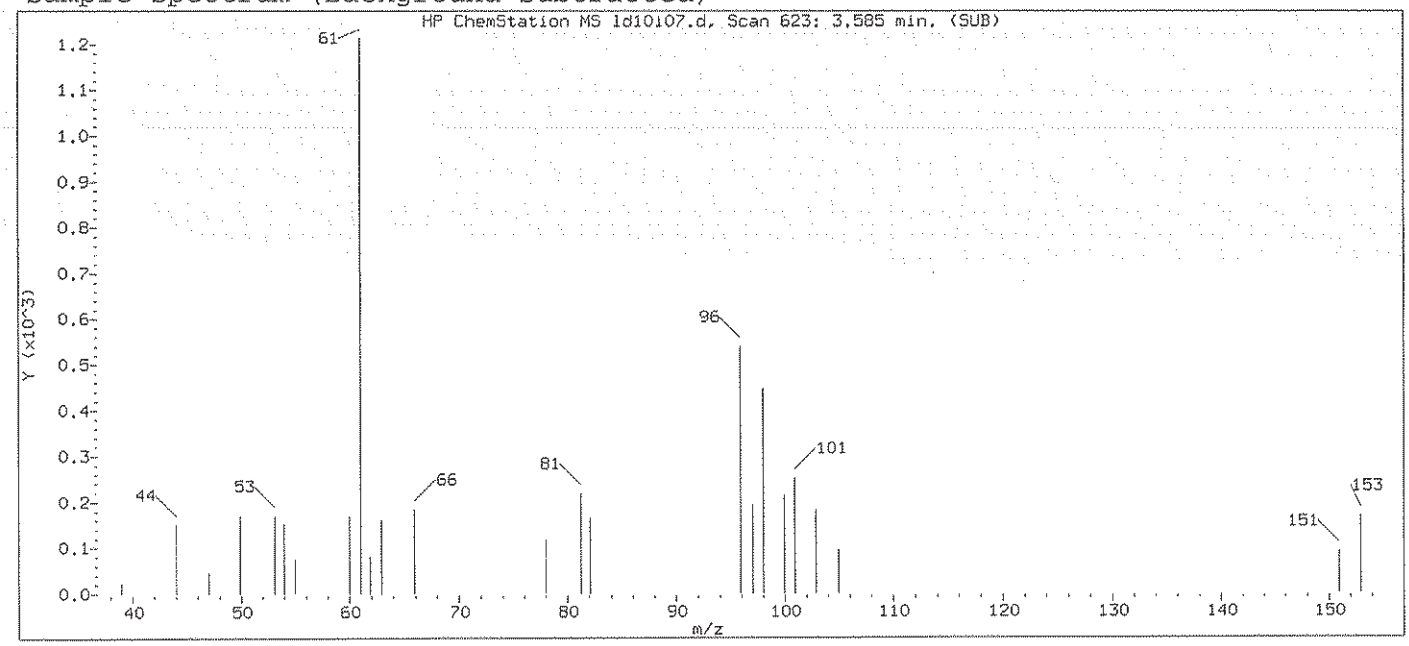
Compound Number	: 16		
Compound Name	: 1,1-Dichloroethene		
Scan Number	: 619		
Retention Time (minutes)	: 3.572		
Quant Ion	: 96.00		
Area (flag)	: 5621M		
On-Column Amount (ng)	: 0.8342		
Integration start scan	: 600	Integration stop scan:	648
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

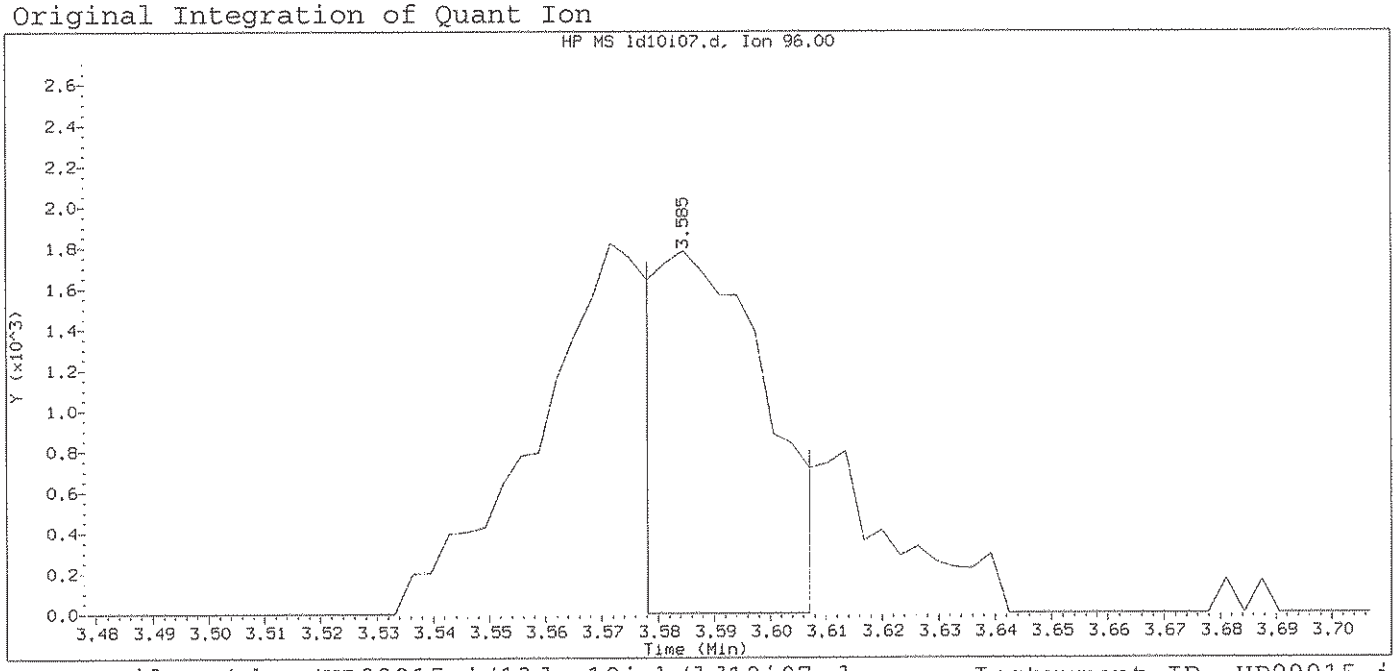
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

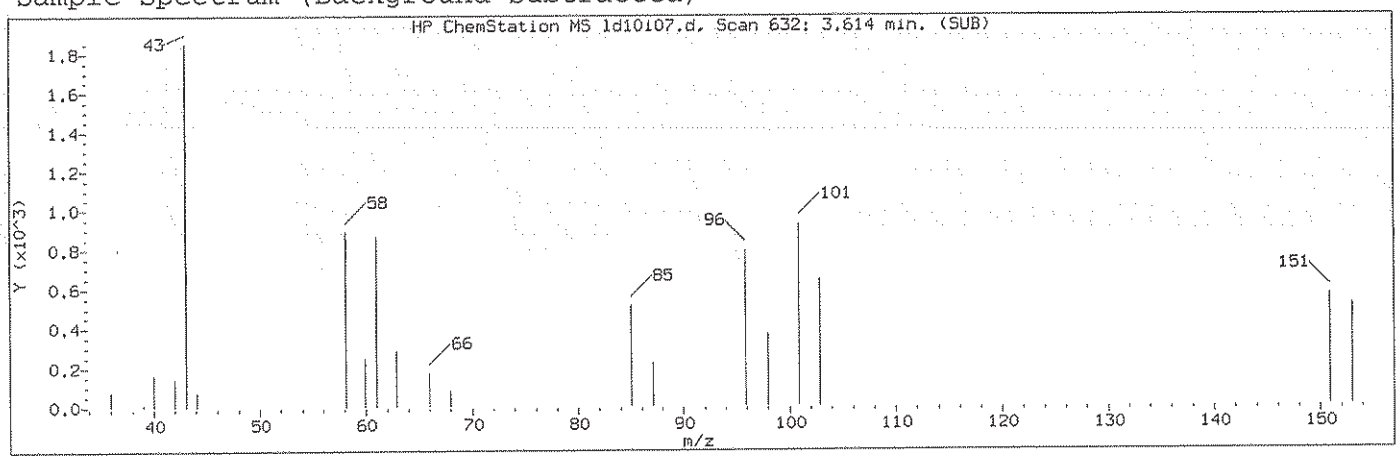
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 10-Dec-2013 18:27 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

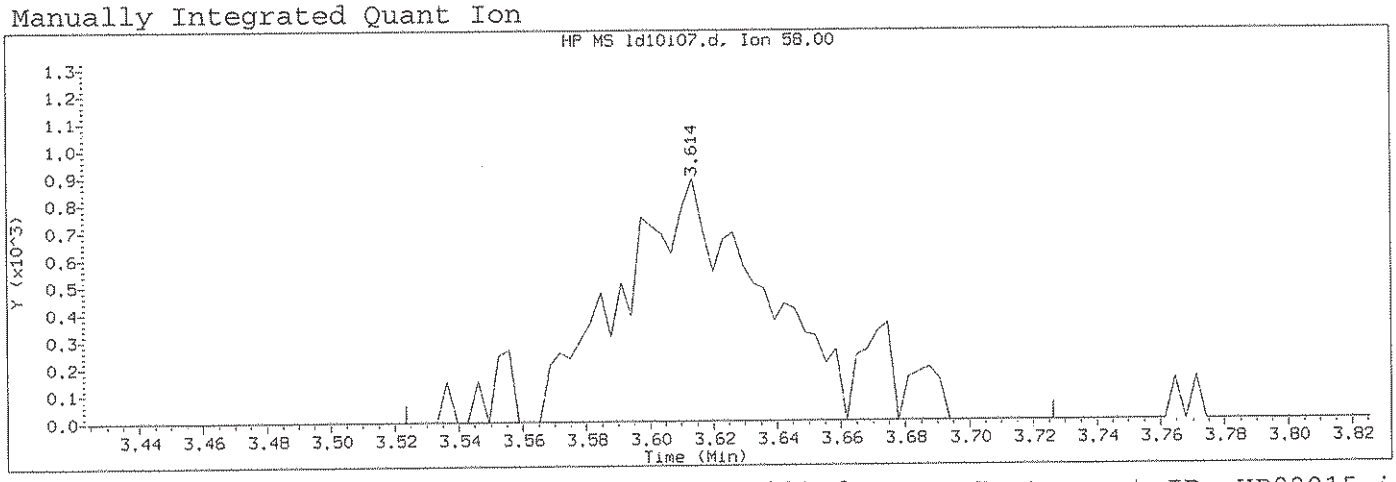
Compound Number : 16
Compound Name : 1,1-Dichloroethene
Scan Number : 623
Retention Time (minutes): 3.585
Quant Ion : 96.00
Area : 2427
On-column Amount (ng) : 0.3865
Integration start scan : 620 Integration stop scan: 629
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

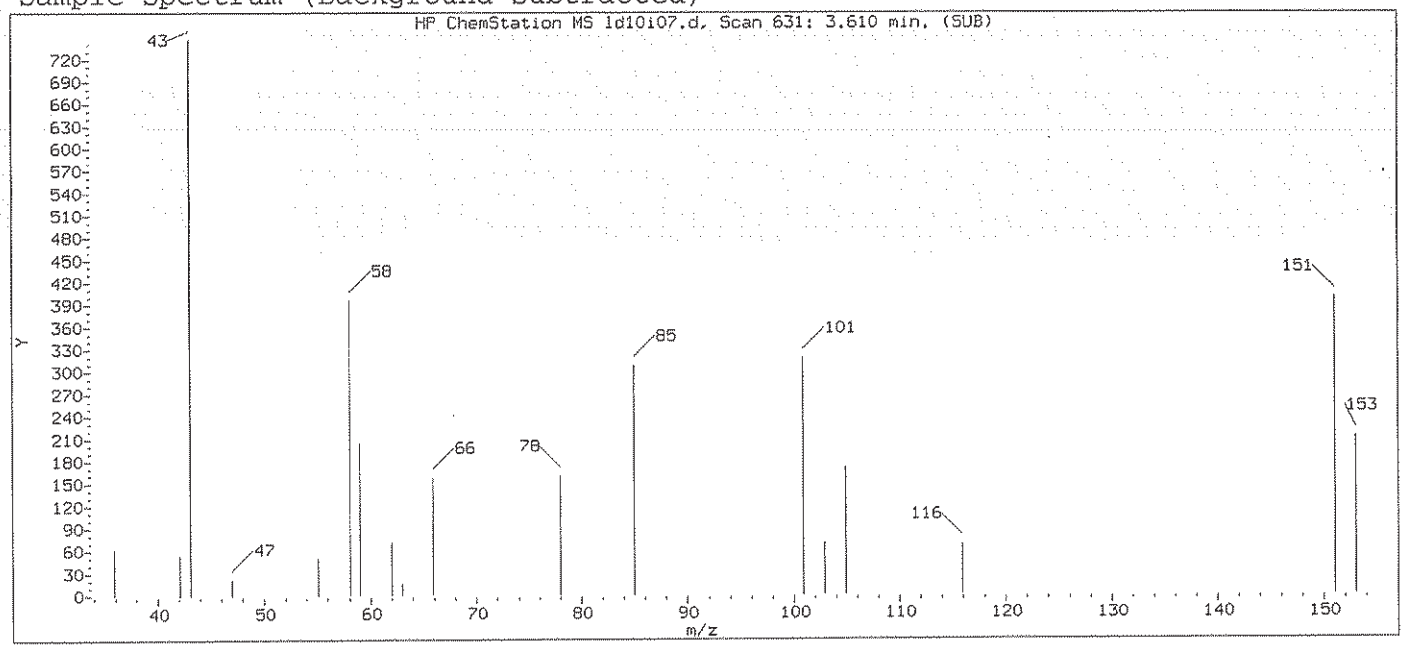
Compound Number	: 17		
Compound Name	: Acetone		
Scan Number	: 632		
Retention Time (minutes)	: 3.614		
Quant Ion	: 58.00		
Area (flag)	: 3221M		
On-Column Amount (ng)	: 3.0473		
Integration start scan	: 603	Integration stop scan:	666
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

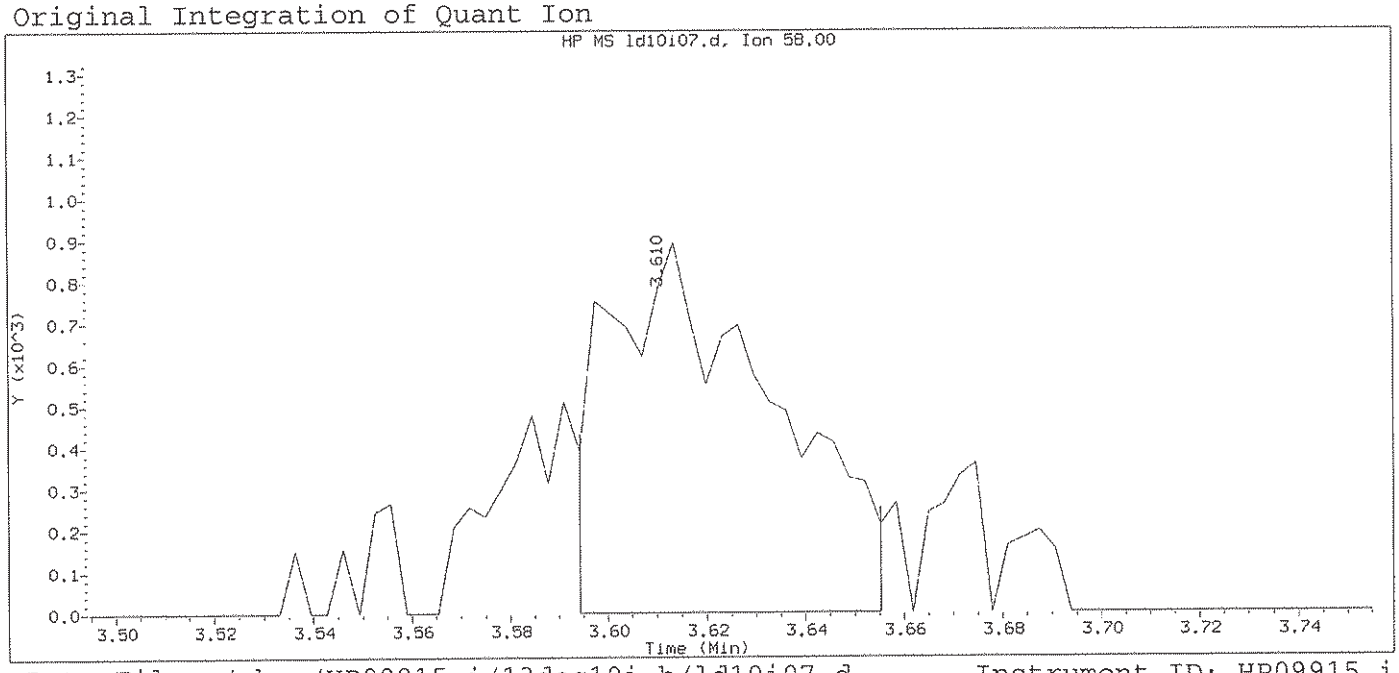
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

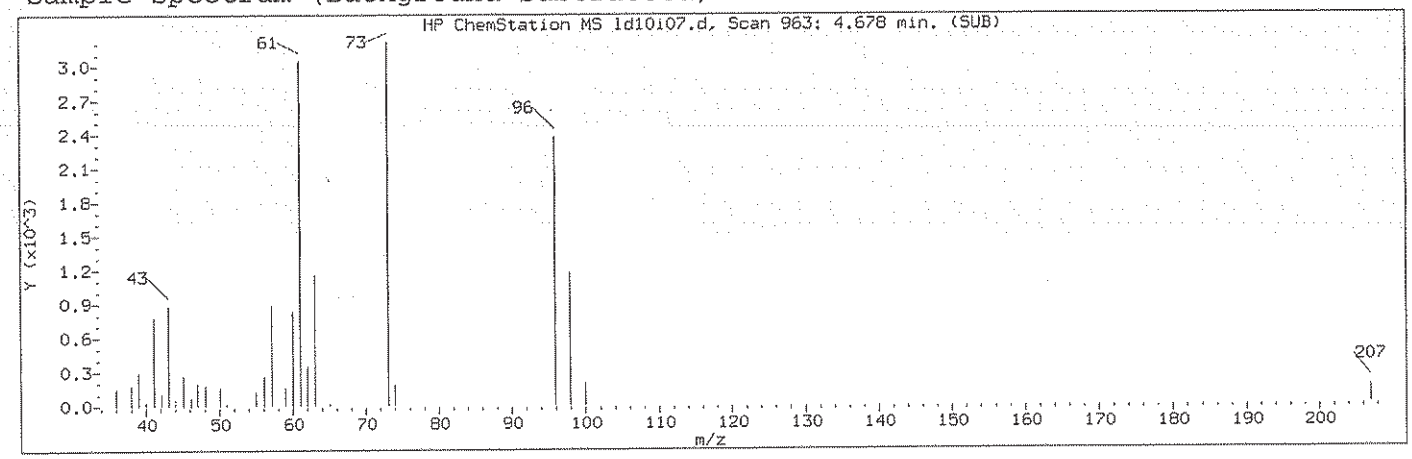
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 10-Dec-2013 18:27 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

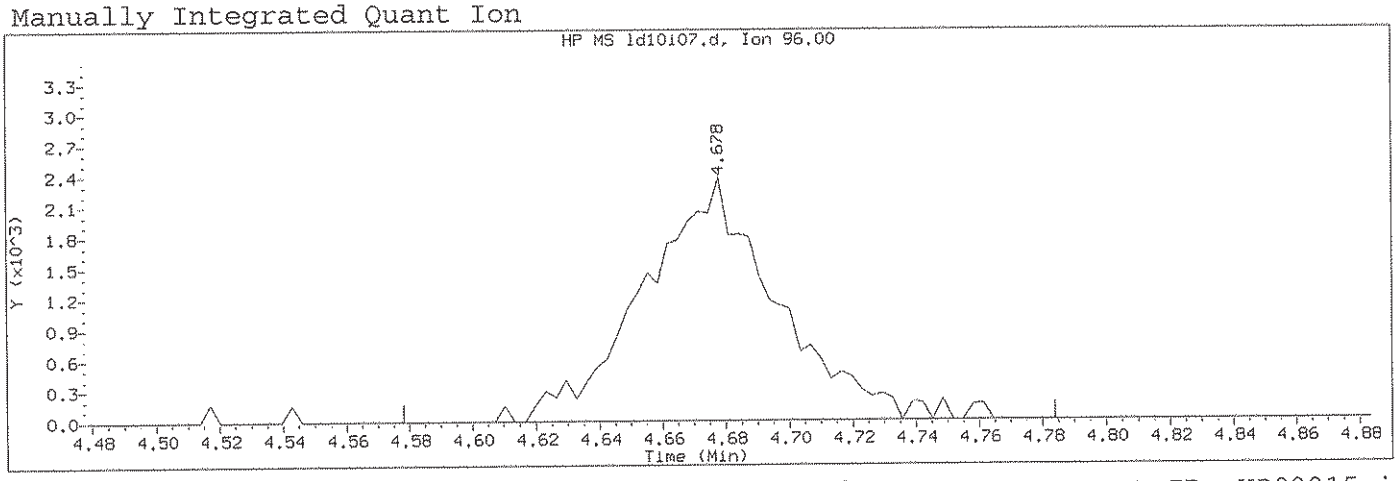
Compound Number	: 17		
Compound Name	: Acetone		
Scan Number	: 631		
Retention Time (minutes)	: 3.610		
Quant Ion	: 58.00		
Area	: 2082		
On-column Amount (ng)	: 1.9699		
Integration start scan	: 625	Integration stop scan:	644
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

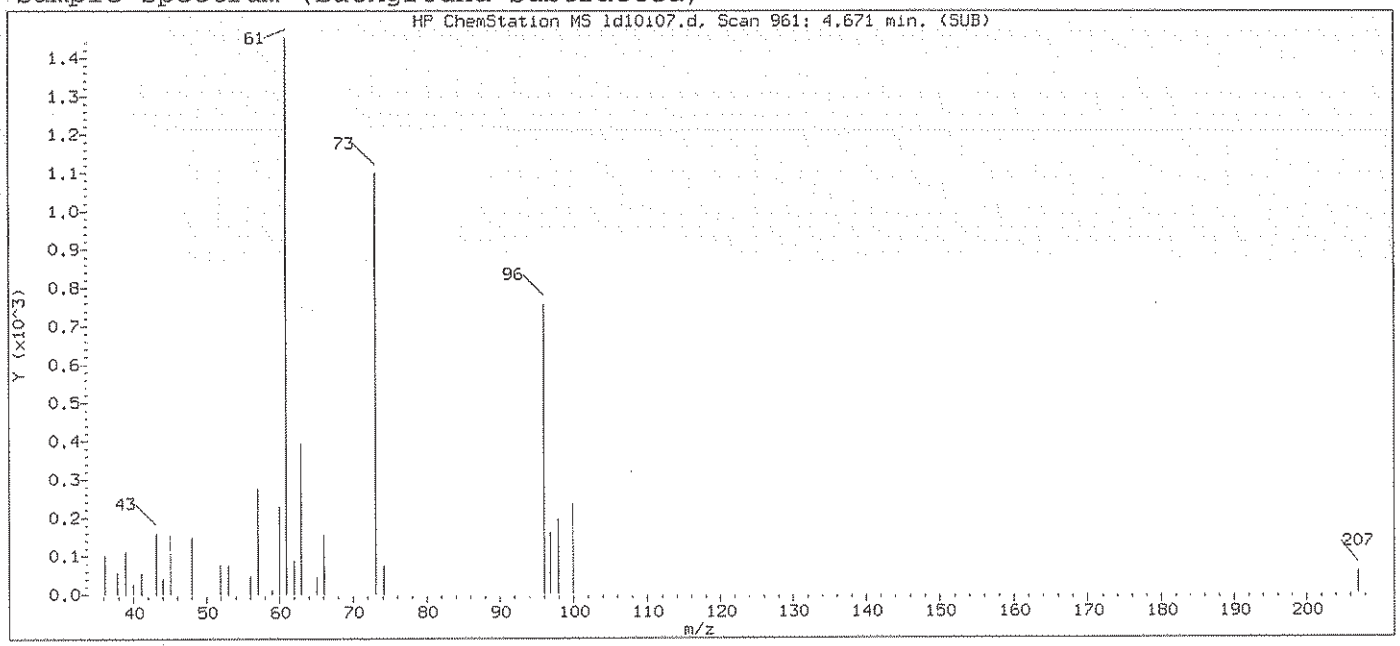
Compound Number	: 31		
Compound Name	: trans-1,2-Dichloroethene		
Scan Number	: 963		
Retention Time (minutes)	: 4.678		
Quant Ion	: 96.00		
Area (flag)	: 7001M		
On-Column Amount (ng)	: 0.8965		
Integration start scan	: 931	Integration stop scan:	995
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

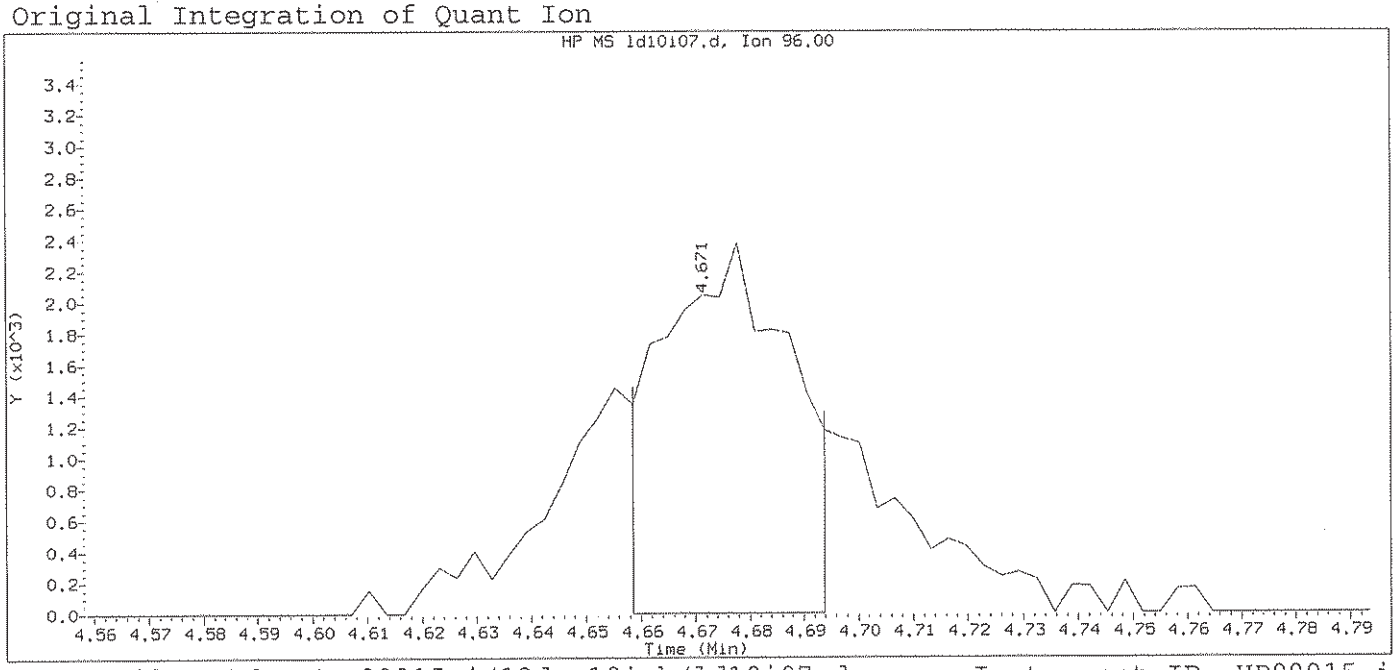
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

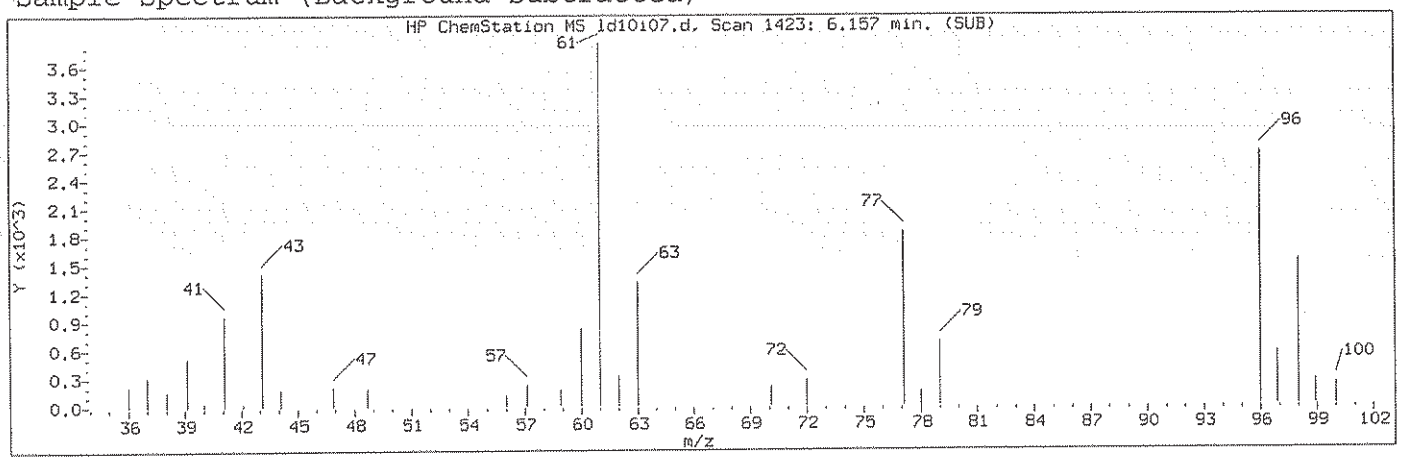
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 10-Dec-2013 18:27 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

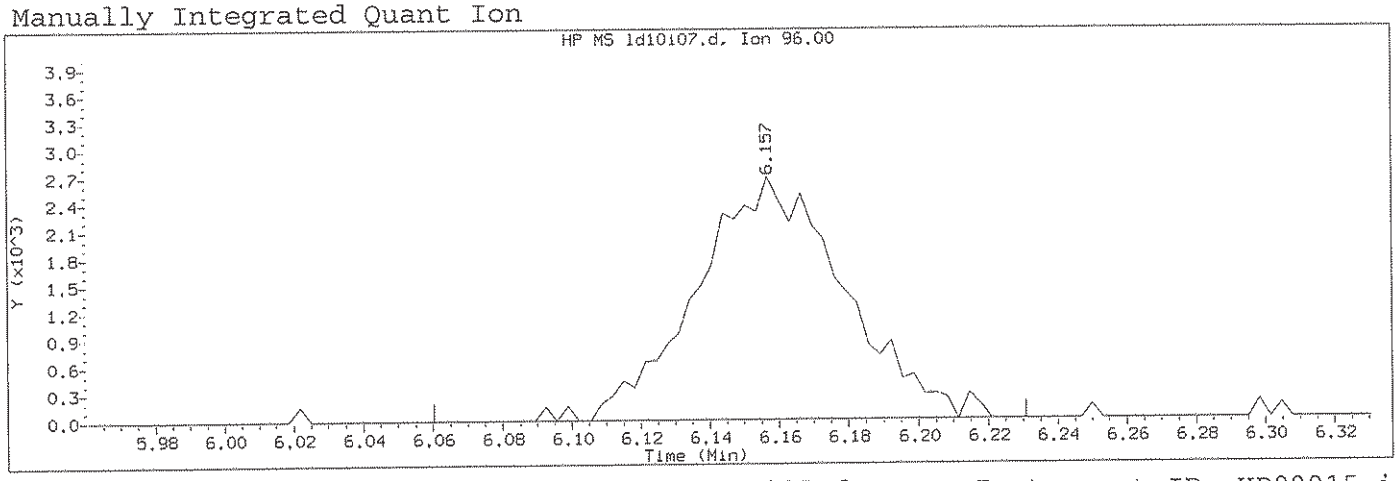
Compound Number	:	31
Compound Name	:	trans-1,2-Dichloroethene
Scan Number	:	961
Retention Time (minutes)	:	4.671
Quant Ion	:	96.00
Area	:	3857
On-column Amount (ng)	:	0.5241
Integration start scan	:	956
Integration stop scan	:	967
Y at integration start	:	0
Y at integration end	:	0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

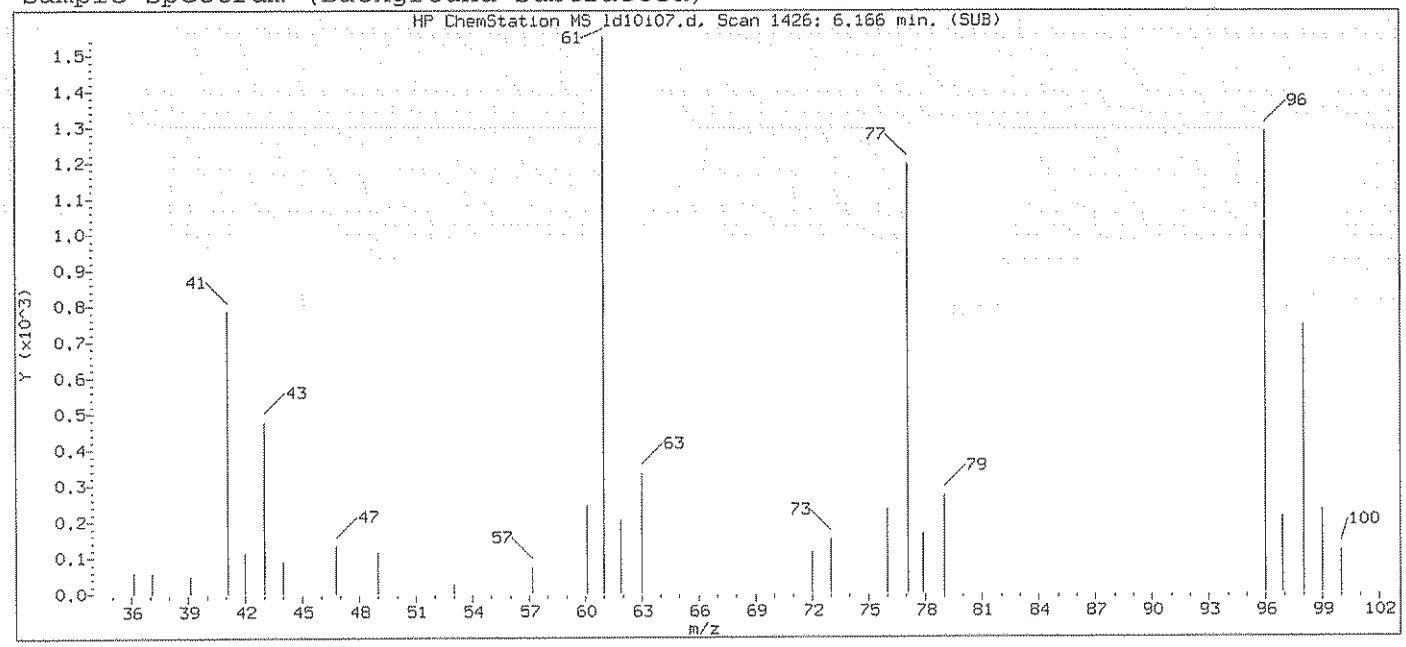
Compound Number : 40
Compound Name : cis-1,2-Dichloroethene
Scan Number : 1423
Retention Time (minutes): 6.157
Quant Ion : 96.00
Area (flag) : 7947M
On-Column Amount (ng) : 0.8997
Integration start scan : 1392 Integration stop scan: 1445
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

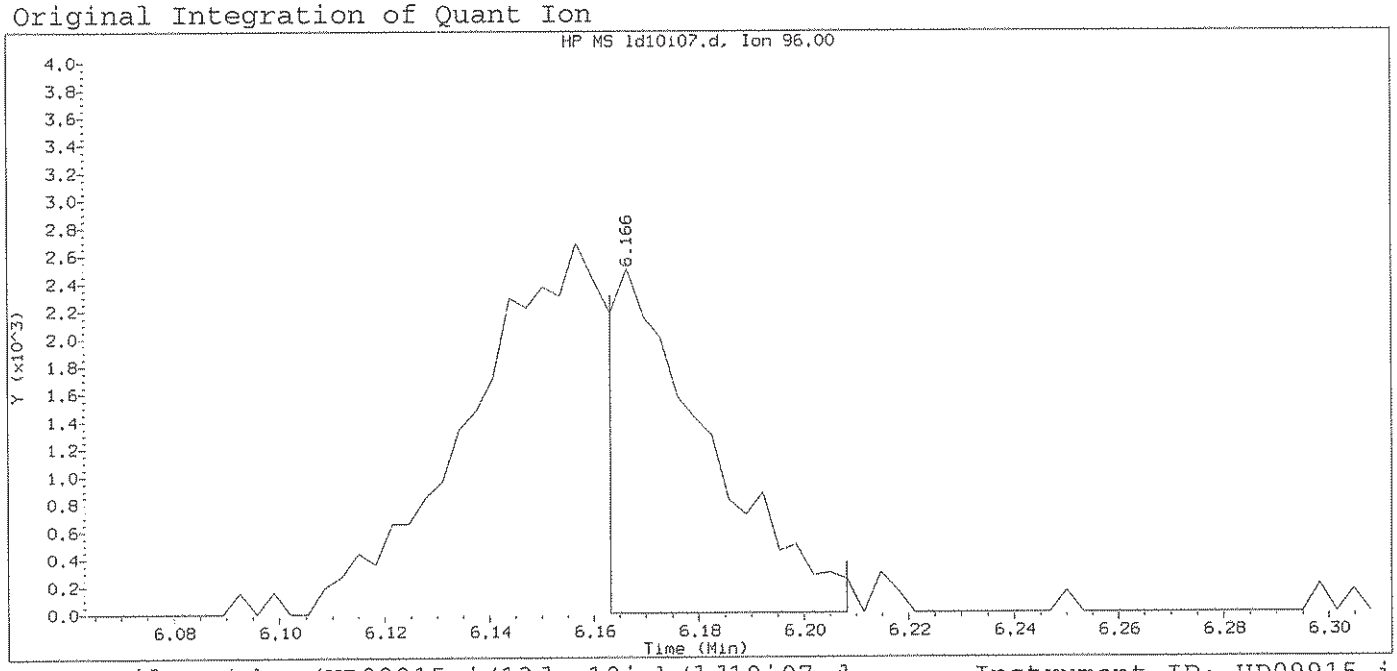
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

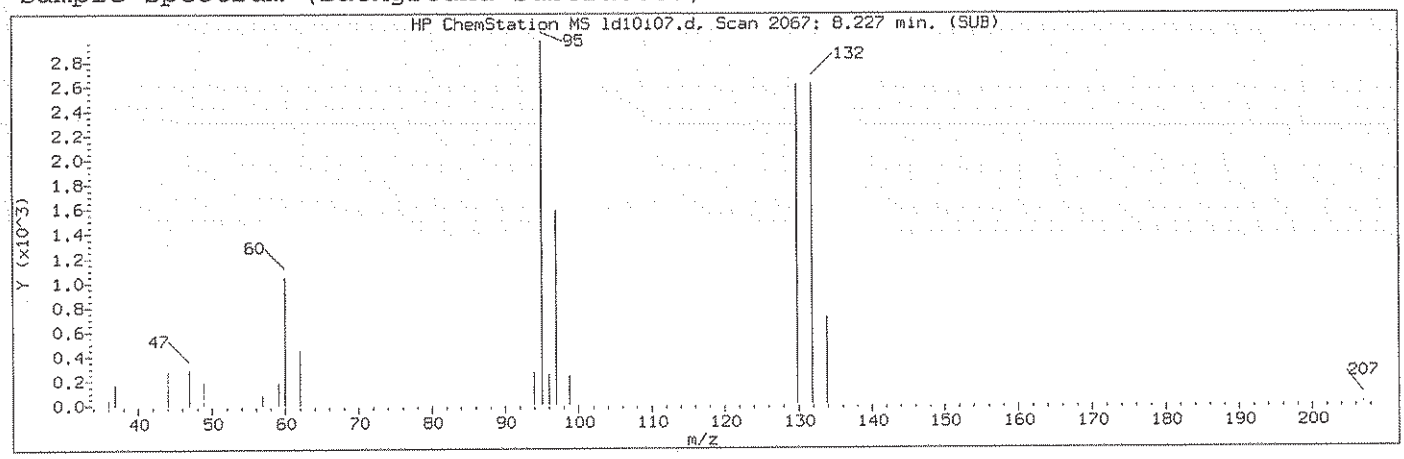
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 10-Dec-2013 18:27 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

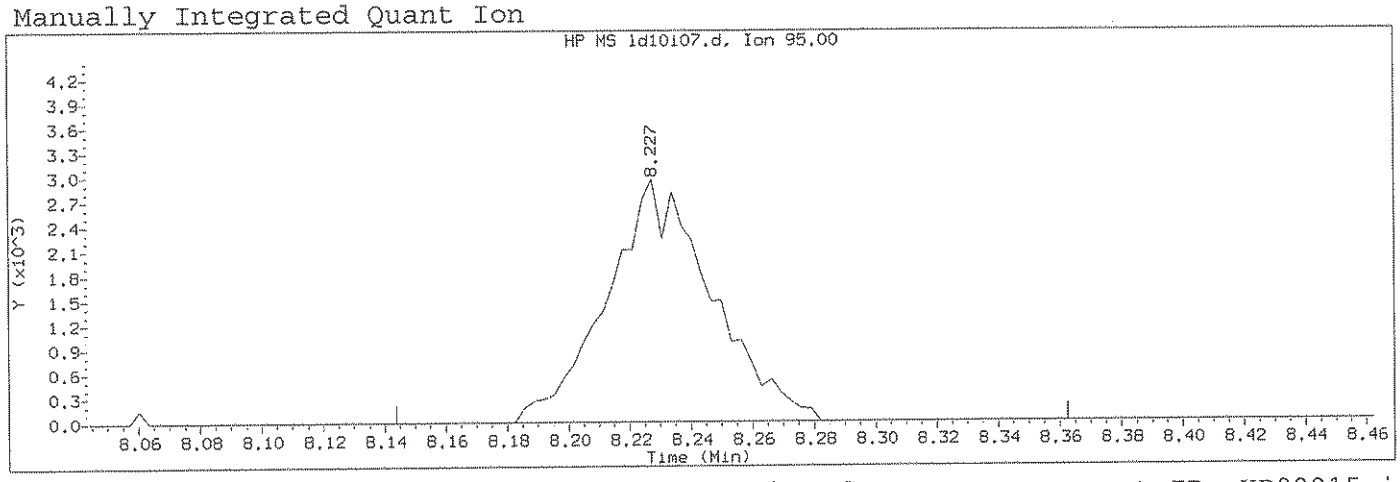
Compound Number	: 40
Compound Name	: cis-1,2-Dichloroethene
Scan Number	: 1426
Retention Time (minutes)	: 6.166
Quant Ion	: 96.00
Area	: 3095
On-column Amount (ng)	: 0.3804
Integration start scan	: 1424 Integration stop scan: 1438
Y at integration start	: 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

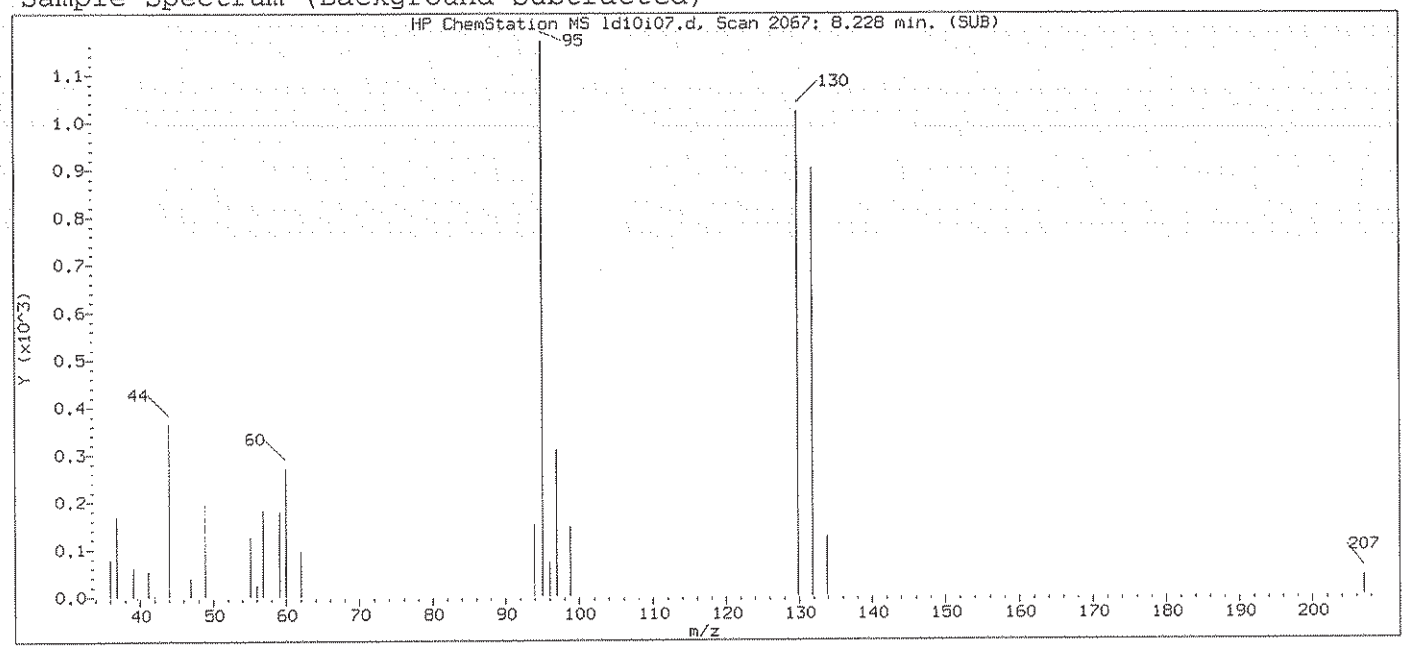
Compound Number : 74
Compound Name : Trichloroethene
Scan Number : 2067
Retention Time (minutes): 8.227
Quant Ion : 95.00
Area (flag) : 7042M
On-Column Amount (ng) : 0.8500
Integration start scan : 2040 Integration stop scan: 2108
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

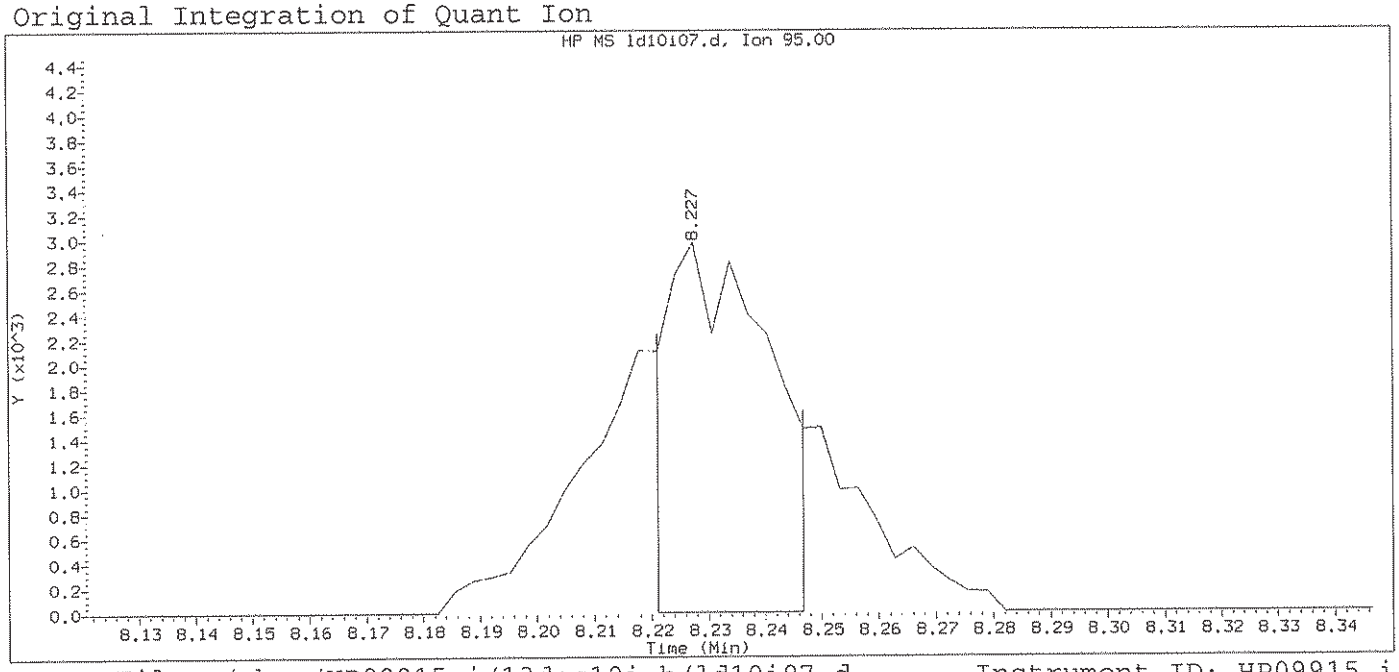
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

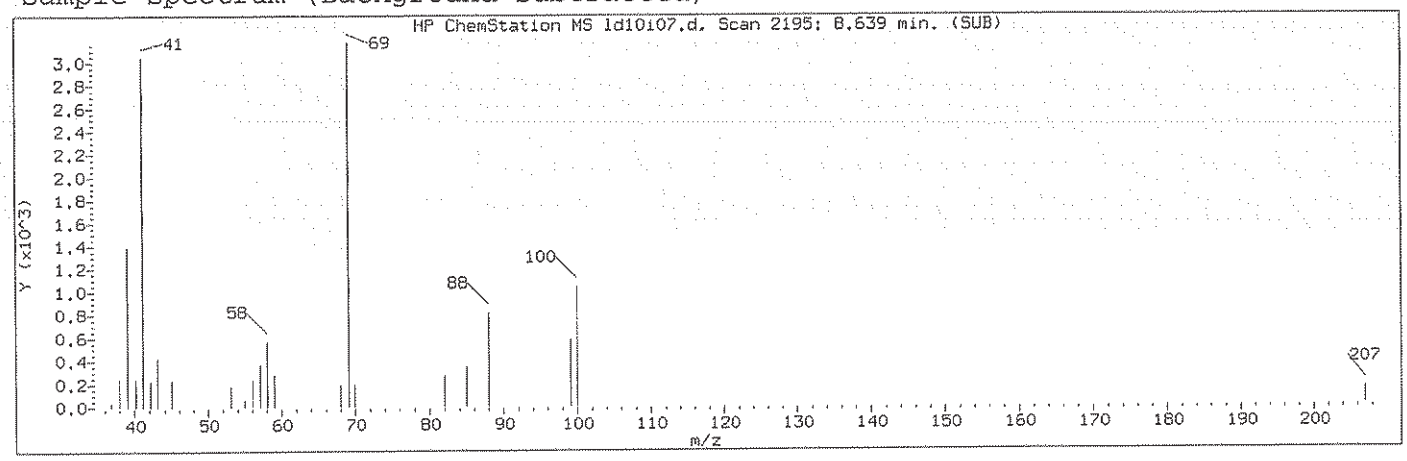
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 10-Dec-2013 18:27 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

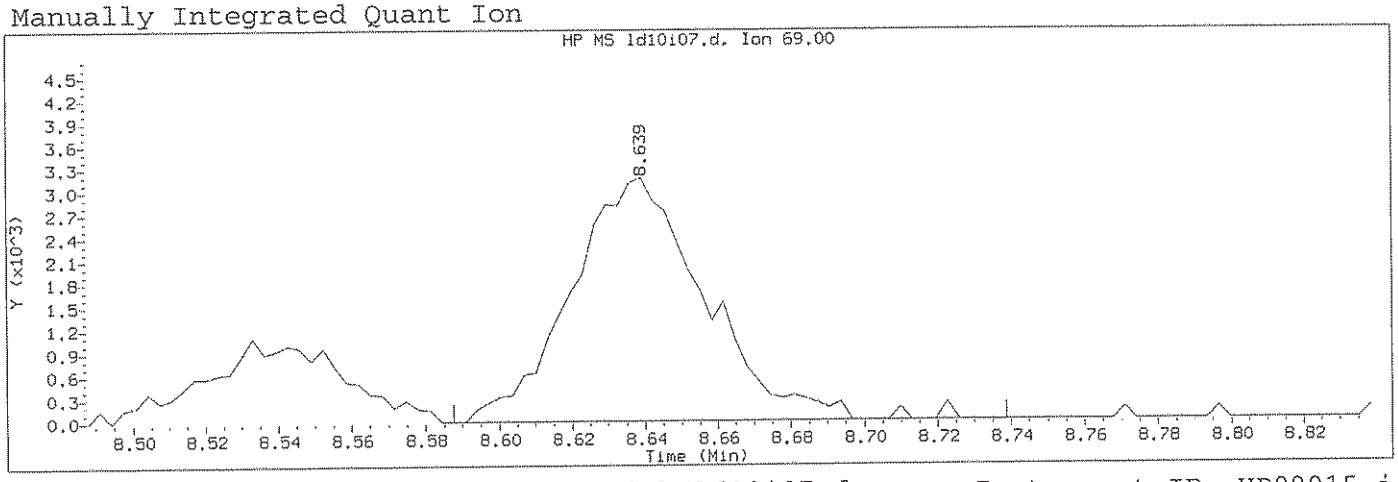
Compound Number	: 74		
Compound Name	: Trichloroethene		
Scan Number	: 2067		
Retention Time (minutes)	: 8.227		
Quant Ion	: 95.00		
Area	: 3661		
On-column Amount (ng)	: 0.4694		
Integration start scan	: 2064	Integration stop scan:	2072
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 11-Dec-2013 15:29 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

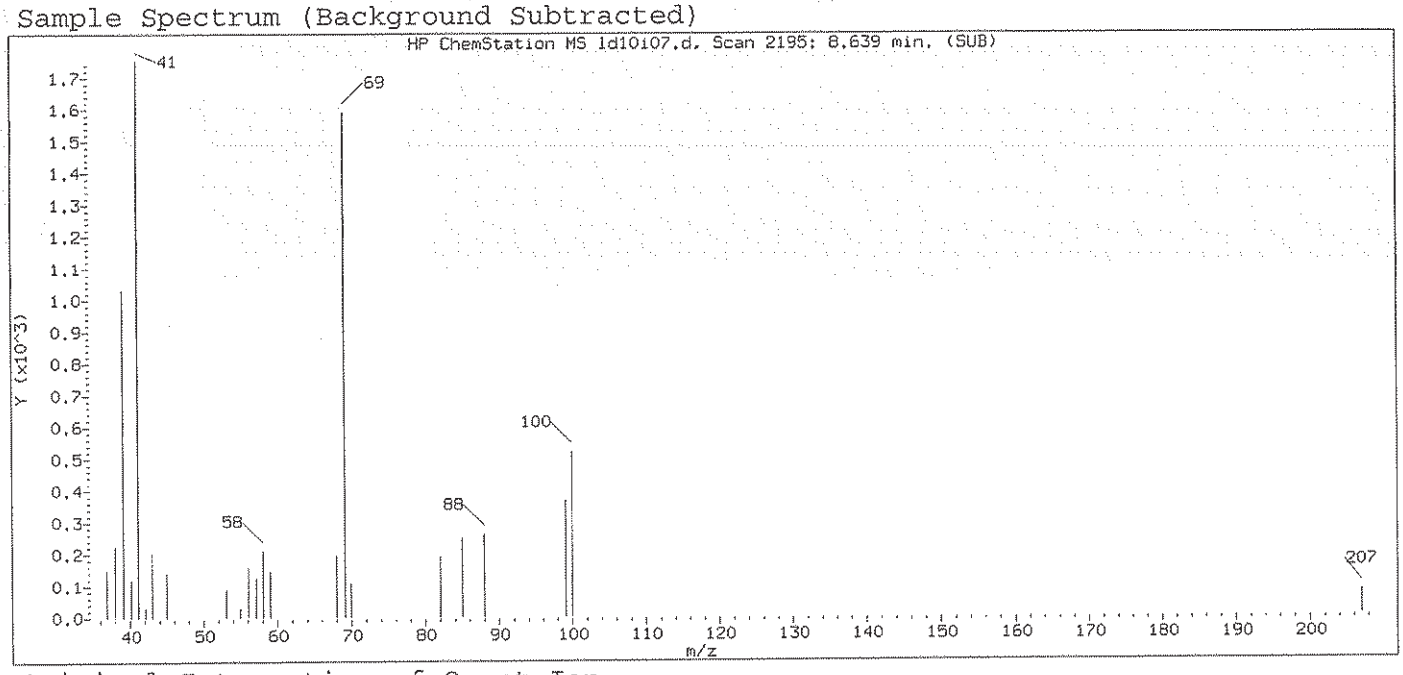
Compound Number	: 80		
Compound Name	: Methyl Methacrylate		
Scan Number	: 2195		
Retention Time (minutes)	: 8.639		
Quant Ion	: 69.00		
Area (flag)	: 8101M		
On-Column Amount (ng)	: 0.9711		
Integration start scan	: 2178	Integration stop scan:	2225
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

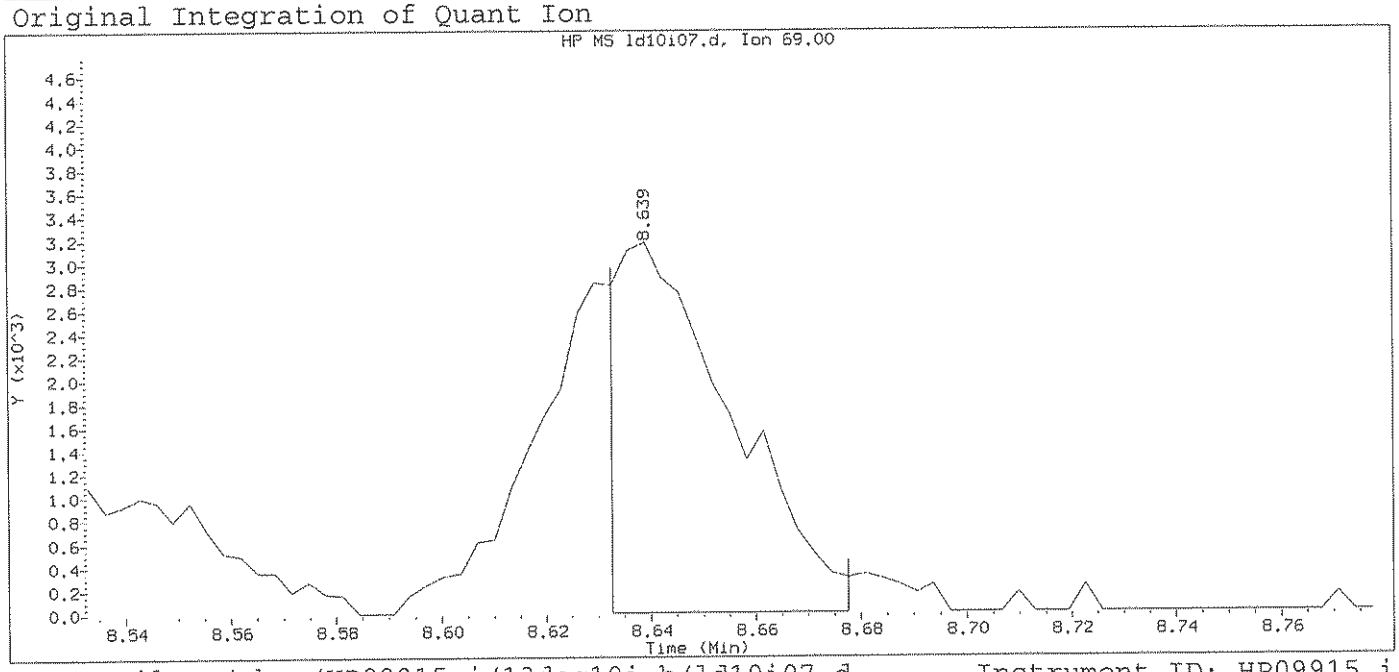
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



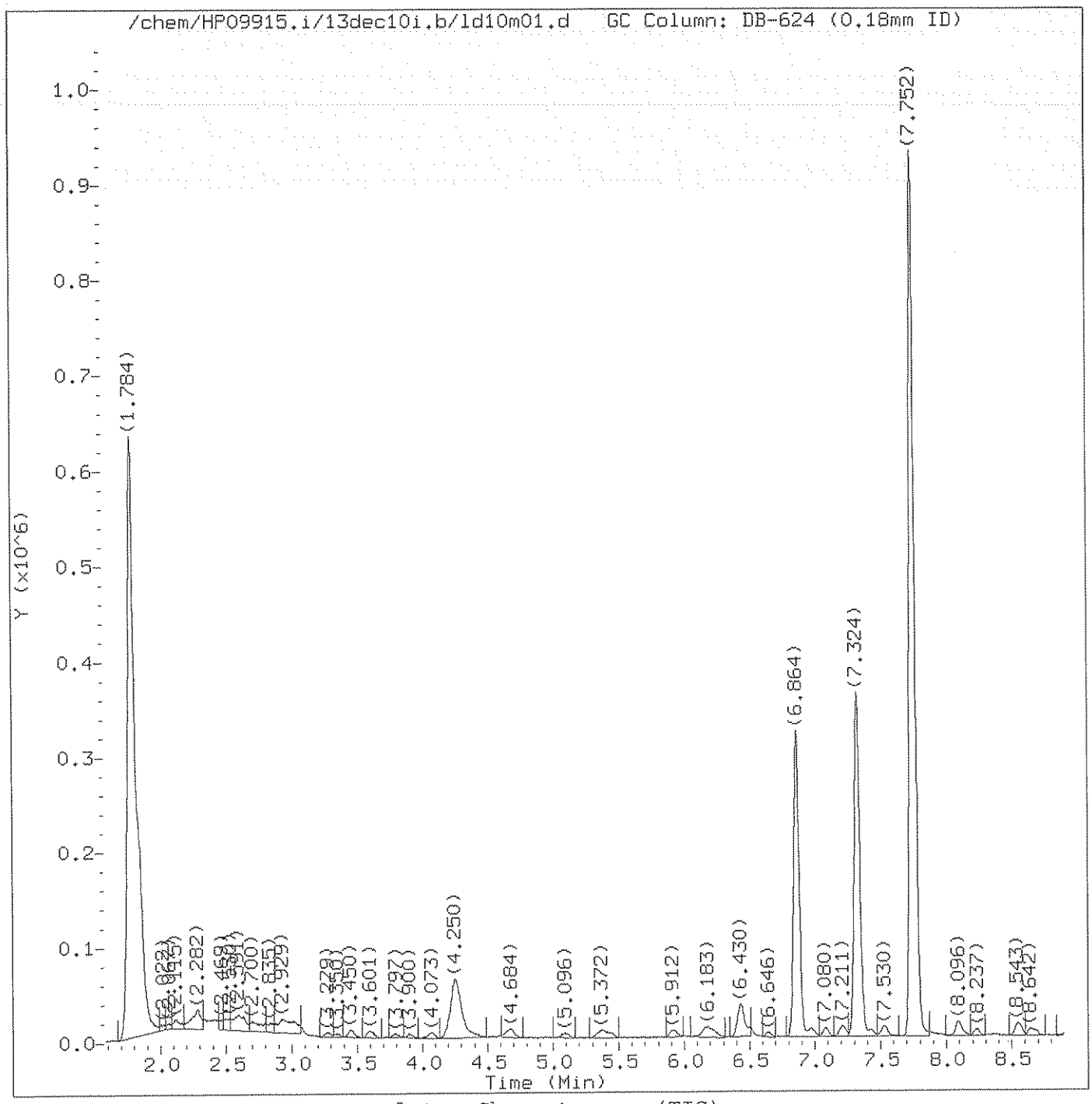
Data File: /chem/HP09915.i/13dec10i.b/ld10i07.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 16:53 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260WI
Calibration date and time: 10-DEC-2013 18:27
Date, time and analyst ID of latest file update: 10-Dec-2013 18:27 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number : 80
Compound Name : Methyl Methacrylate
Scan Number : 2195
Retention Time (minutes): 8.639
Quant Ion : 69.00
Area : 4817
On-column Amount (ng) : 0.5775
Integration start scan : 2192 Integration stop scan: 2206
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:31.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d
Injection date and time: 10-DEC-2013 17:15

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 11-DEC-2013 15:30

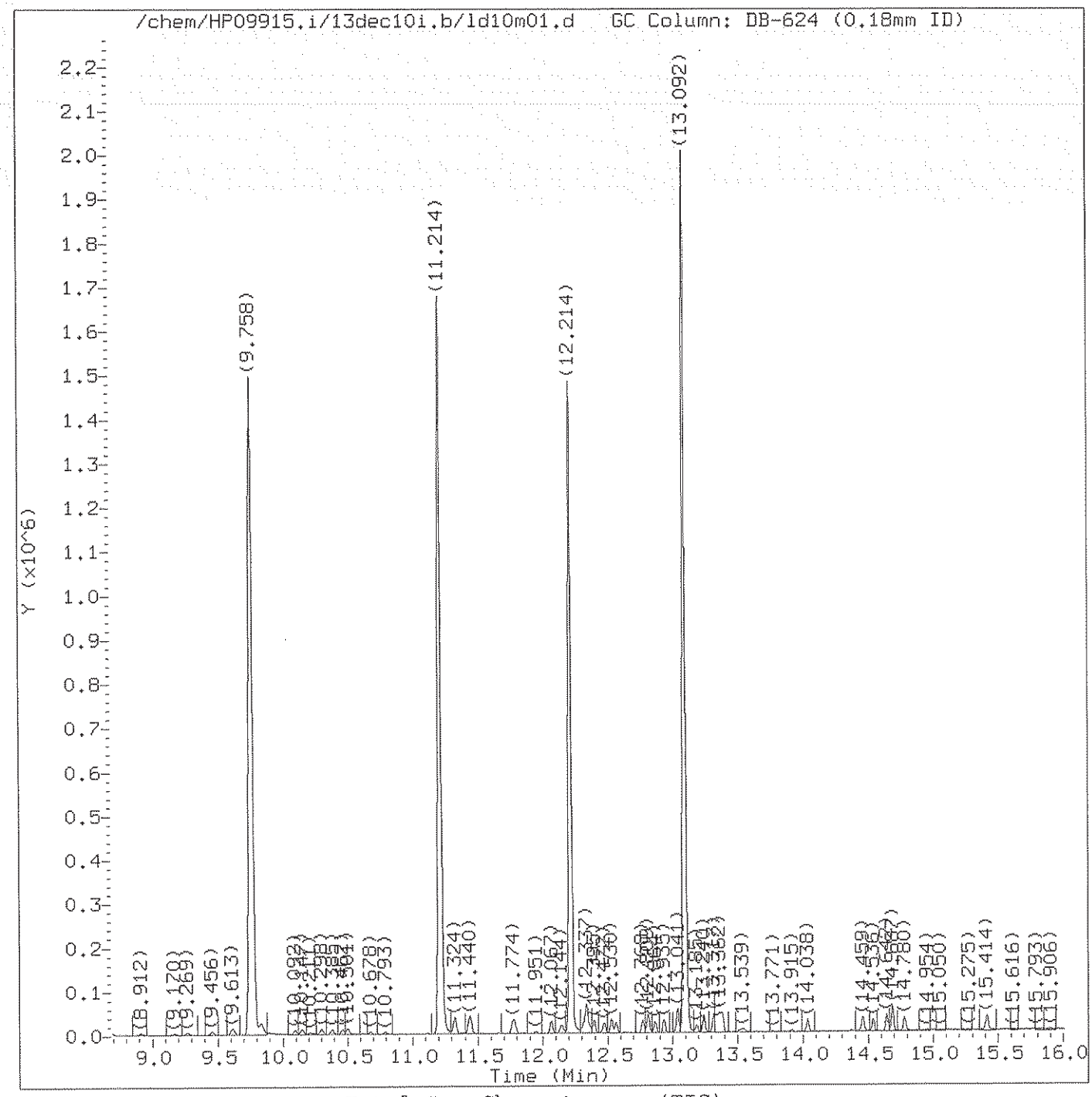
Sublist used: 8260W

Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5

Lab Sample ID: MDL 0.5

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:35.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d
Injection date and time: 10-DEC-2013 17:15

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 11-DEC-2013 15:30

Sublist used: 8260W

Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5

Lab Sample ID: MDL 0.5

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:35.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2) Dichlorodifluoromethane	(1)	1.999	85	5413	0.460
3) Chloromethane	(1)	2.125	50	6640	0.535
5) Vinyl Chloride	(1)	2.247	62	4908	0.444
7) Bromomethane	(1)	2.591	94	2868	0.398
8) Chloroethane	(1)	2.707	64	2442	0.382
9) Dichlorofluoromethane	(1)	2.935	67	8451	0.586
10) Trichlorofluoromethane	(1)	2.999	101	4685	0.408
11) n-Pentane	(1)	3.067	43	8756	0.590
13) Ethyl Ether	(1)	3.282	59	4158	0.478
14) Freon 123a	(1)	3.350	67	4904M	0.505
15) Acrolein	(4)	3.456	56	13906	5.517
16) 1,1-Dichloroethene	(1)	3.594	96	2820M	0.422
17) Acetone	(4)	3.610	58	1032	1.000
18) Freon 113	(1)	3.620	101	2306	0.328
45) 1,2-Dichloroethene (total)	(1)		96	7657	0.929
21) 2-Propanol	(4)	3.774	45	8235	11.258
20) Methyl Iodide	(1)	3.790	142	5191	0.420
22) Carbon Disulfide	(1)	3.900	76	9209	0.363
25) Methyl Acetate	(1)	4.038	43	5747	0.661
24) Allyl Chloride	(1)	4.067	41	7340	0.507
28)*t-Butyl Alcohol-d10	(4)	4.250	65	194434	250.000
26) Methylene Chloride	(1)	4.263	84	4270	0.518
29) t-Butyl Alcohol	(4)	4.356	59	12022M	10.123
30) Acrylonitrile	(1)	4.604	53	2458	0.510
32) Methyl Tertiary Butyl Ether	(1)	4.659	73	13297	0.480
31) trans-1,2-Dichloroethene	(1)	4.681	96	3583M	0.463
33) n-Hexane	(1)	5.096	57	4975M	0.380
34) 1,1-Dichloroethane	(1)	5.330	63	6222	0.415
36) di-Isopropyl Ether	(1)	5.385	45	14038	0.452
37) 2-Chloro-1,3-Butadiene	(1)	5.433	53	4915	0.379
39) Ethyl t-Butyl Ether	(1)	5.925	59	13149	0.458
41) 2-Butanone	(4)	6.128	43	7843	1.303
40) cis-1,2-Dichloroethene	(1)	6.166	96	4074M	0.466
42) 2,2-Dichloropropane	(1)	6.173	77	4357	0.396
43) Propionitrile	(4)	6.221	54	16937	10.142
46) Methacrylonitrile	(1)	6.437	67	22456	4.621
47) Bromochloromethane	(1)	6.504	128	2083	0.479
48) Tetrahydrofuran	(4)	6.514	71	1510	1.019

M = Compound was manually integrated.
* = Compound is an internal standard.

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Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Chloroform	(1)	6.646	83	5612	0.419
52)$Dibromofluoromethane	(1)	6.861	113	292986	50.046
53) 1,1,1-Trichloroethane	(1)	6.871	97	5240	0.422
56) Cyclohexane	(1)	6.974	56	7445	0.458
57) 1,1-Dichloropropene	(1)	7.083	75	4308	0.388
58) Carbon Tetrachloride	(1)	7.083	117	3193	0.347
59) Isobutyl Alcohol	(4)	7.215	41	13315	30.909
62)$1,2-Dichloroethane-d4	(1)	7.324	102	76551	50.360
63) Benzene	(1)	7.346	78	13993	0.412
65) 1,2-Dichloroethane	(1)	7.430	62	4904	0.447
69) t-Amyl Methyl Ether	(1)	7.539	73	12814	0.469
71)*Fluorobenzene	(1)	7.752	96	1280494	50.000
72) n-Heptane	(1)	7.758	43	8101	0.590
73) n-Butanol	(4)	8.086	56	17658	48.047
112) Xylene (Total)	(2)		106	18590	1.216
74) Trichloroethene	(1)	8.240	95	3487M	0.425
76) Methylcyclohexane	(1)	8.543	83	6314	0.422
77) 1,2-Dichloropropane	(1)	8.578	63	4051	0.437
80) Methyl Methacrylate	(1)	8.636	69	3844M	0.465
79) 1,4-Dioxane	(4)	8.655	88	1691	18.709
78) Dibromomethane	(1)	8.694	93	2611	0.459
83) Bromodichloromethane	(1)	8.912	83	4172	0.400
85) 2-Nitropropane	(1)	9.170	41	3784	1.224
86) 2-Chloroethyl Vinyl Ether	(1)	9.272	63	2828	0.385
87) cis-1,3-Dichloropropene	(1)	9.459	75	5534	0.401
89) 4-Methyl-2-Pentanone	(4)	9.617	43	13726	0.991
93)$Toluene-d8	(2)	9.758	98	1227423	50.046
94) Toluene	(2)	9.835	92	8597	0.411
95) trans-1,3-Dichloropropene	(2)	10.099	75	5121	0.389
96) Ethyl Methacrylate	(2)	10.147	69	6422	0.429
97) 1,1,2-Trichloroethane	(2)	10.298	97	3688	0.457
98) Tetrachloroethene	(2)	10.379	166	3216	0.386
99) 1,3-Dichloropropane	(2)	10.465	76	6537	0.455
101) 2-Hexanone	(4)	10.501	43	10474	1.025
102) Dibromochloromethane	(2)	10.678	129	3012	0.376
104) 1,2-Dibromoethane	(2)	10.790	107	3831	0.440
106)*Chlorobenzene-d5	(2)	11.214	117	912634	50.000
107) Chlorobenzene	(2)	11.240	112	9708	0.429

M = Compound was manually integrated.
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Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
109) Ethylbenzene	(2)	11.321	91	16426	0.411
108) 1,1,1,2-Tetrachloroethane	(2)	11.321	131	2777	0.368
110) m+p-Xylene	(2)	11.440	106	12637	0.820
113) o-Xylene	(2)	11.764	106	5953	0.395
114) Styrene	(2)	11.784	104	10423	0.393
115) Bromoform	(2)	11.944	173	1783	0.314
116) Isopropylbenzene	(2)	12.067	105	16008	0.410
118) Cyclohexanone	(4)	12.150	55	8838	27.473
119)$4-Bromofluorobenzene	(2)	12.214	95	460303	50.058
122) 1,1,2,2-Tetrachloroethane	(3)	12.308	83	5917	0.459
121) Bromobenzene	(3)	12.327	156	4506	0.436
124) trans-1,4-Dichloro-2-Butene	(3)	12.337	53	9921	2.949
123) 1,2,3-Trichloropropane	(3)	12.359	110	1667	0.460
125) n-Propylbenzene	(3)	12.395	91	19934	0.416
126) 2-Chlorotoluene	(3)	12.468	126	4020	0.429
127) 1,3,5-Trimethylbenzene	(3)	12.526	105	14152	0.429
128) 4-Chlorotoluene	(3)	12.562	126	3978	0.409
130) tert-Butylbenzene	(3)	12.771	134	2918	0.429
131) Pentachloroethane	(3)	12.809	167	2324	0.389
132) 1,2,4-Trimethylbenzene	(3)	12.812	105	14455	0.426
133) sec-Butylbenzene	(3)	12.935	105	18369	0.438
134) 1,3-Dichlorobenzene	(3)	13.038	146	8515	0.457
135) p-Isopropyltoluene	(3)	13.044	119	15749	0.430
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	483080	50.000
138) 1,4-Dichlorobenzene	(3)	13.115	146	9422	0.486
139) 1,2,3-Trimethylbenzene	(3)	13.118	105	17556	0.487
141) Benzyl Chloride	(3)	13.185	91	9093	0.352
142) 1,3-Diethylbenzene	(3)	13.240	119	10764	0.481
143) 1,4-Diethylbenzene	(3)	13.314	119	11311	0.504
145) n-Butylbenzene	(3)	13.333	92	9391	0.520
144) 1,2-Dichlorobenzene	(3)	13.369	146	8632	0.468
146) 1,2-Diethylbenzene	(3)	13.382	119	9387	0.506
148) 1,2-Dibromo-3-Chloropropane	(3)	13.919	75	1117	0.444
149) 1,3,5-Trichlorobenzene	(3)	14.034	180	7836	0.549
150) 1,2,4-Trichlorobenzene	(3)	14.462	180	8720	0.638
151) Hexachlorobutadiene	(3)	14.536	225	4830	0.746
152) Naphthalene	(3)	14.642	128	26781	0.638
153) 1,2,3-Trichlorobenzene	(3)	14.783	180	8176	0.637

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Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
154) 2-Methylnaphthalene	(3)	15.414	142	16093	0.672

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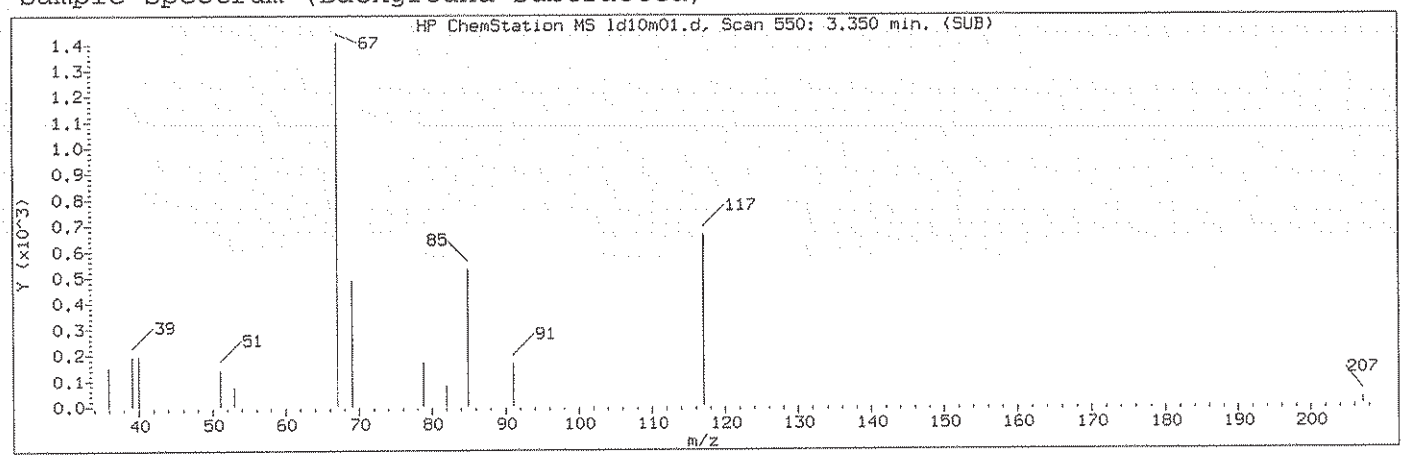
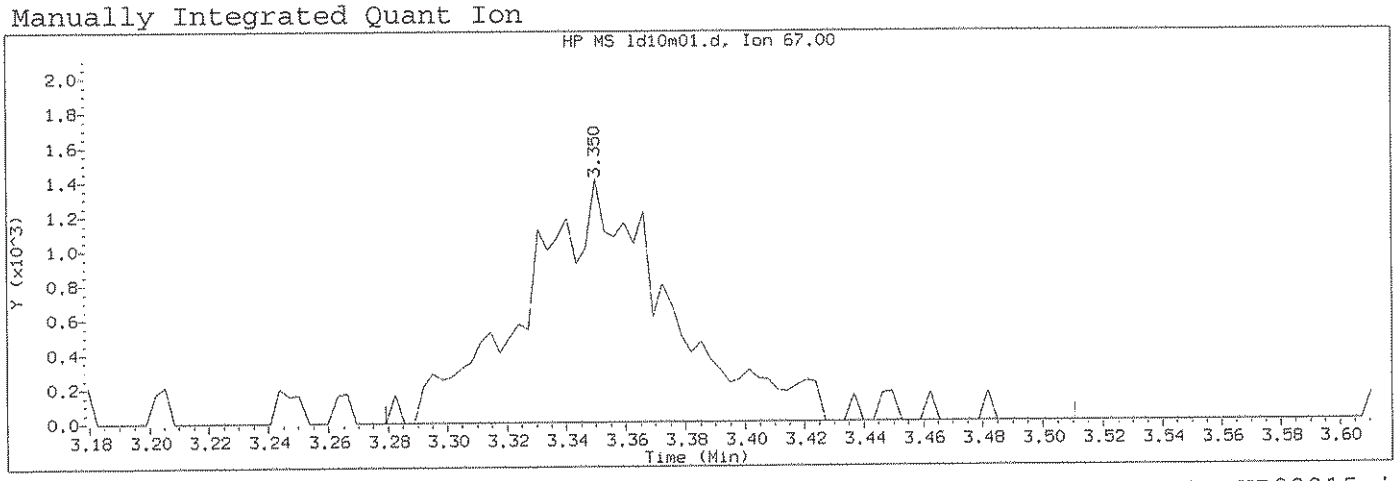
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

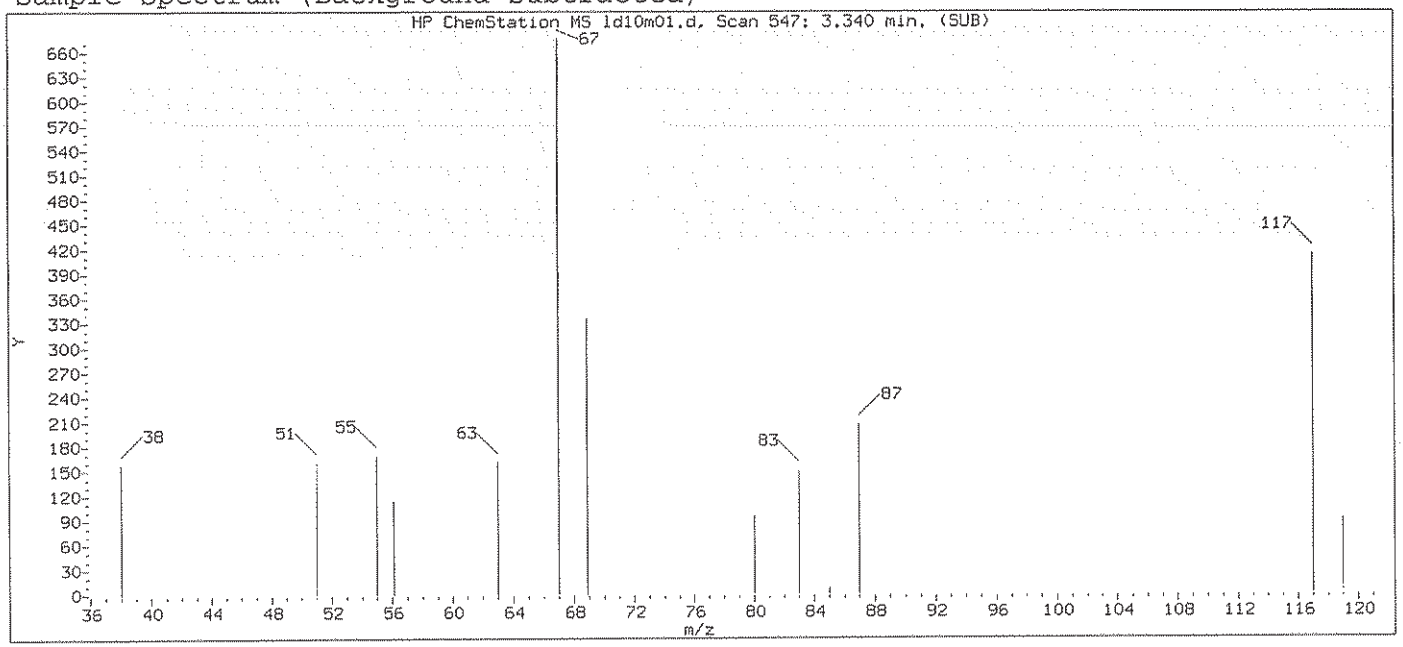
Compound Number	: 14		
Compound Name	: Freon 123a		
Scan Number	: 550		
Retention Time (minutes)	: 3.350		
Quant Ion	: 67.00		
Area (flag)	: 4904M		
On-Column Amount (ng)	: 0.5045		
Integration start scan	: 527	Integration stop scan:	599
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

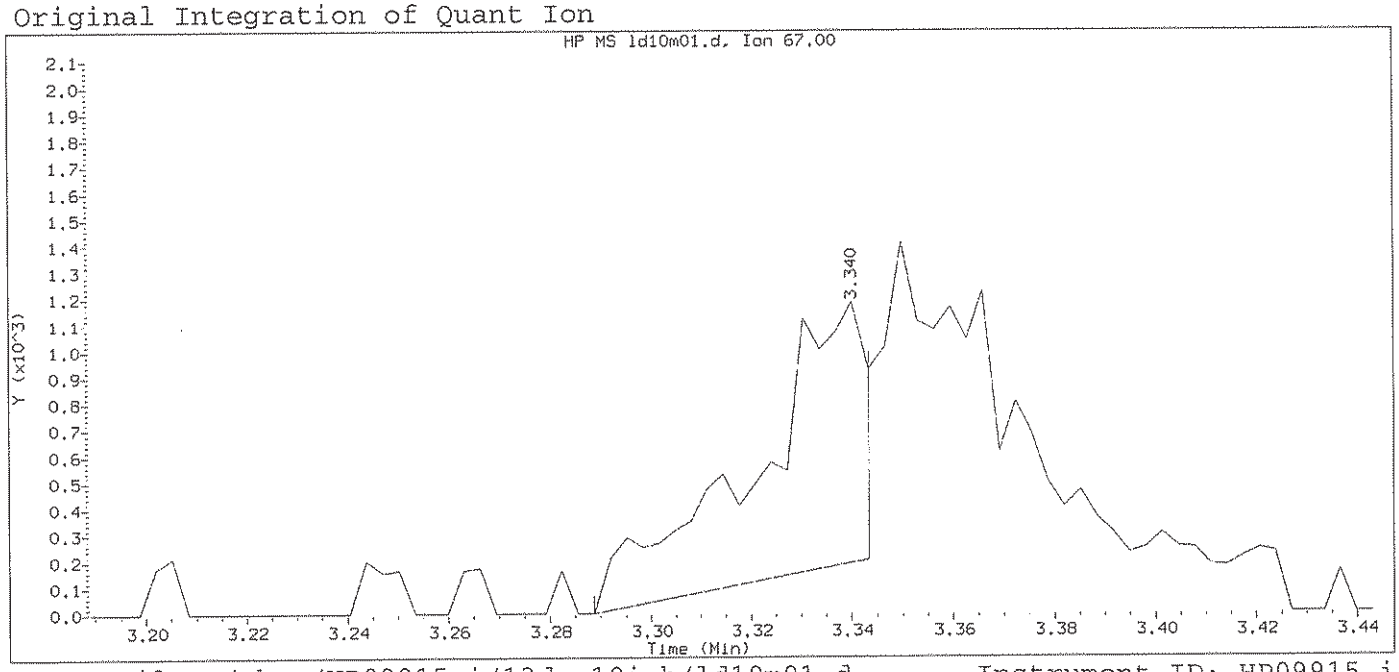
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:35. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:08
Date, time and analyst ID of latest file update: 10-Dec-2013 18:09 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

Compound Number : 14
Compound Name : Freon 123a
Scan Number : 547
Retention Time (minutes): 3.340
Quant Ion : 67.00
Area : 1503
On-column Amount (ng) : 0.1546
Integration start scan : 530 Integration stop scan: 547
Y at integration start : 0 Y at integration end: 202

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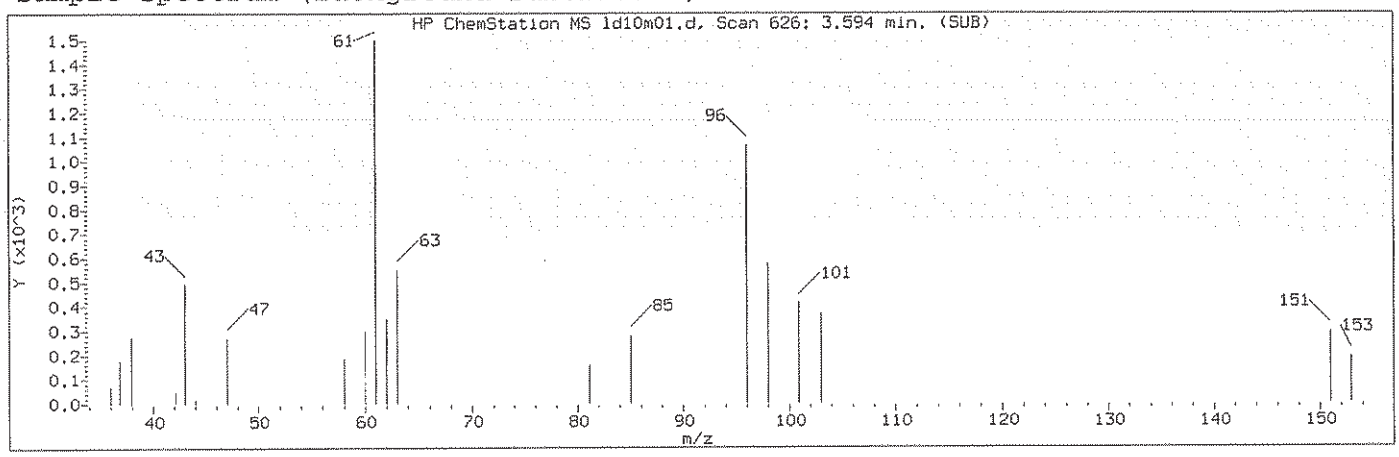
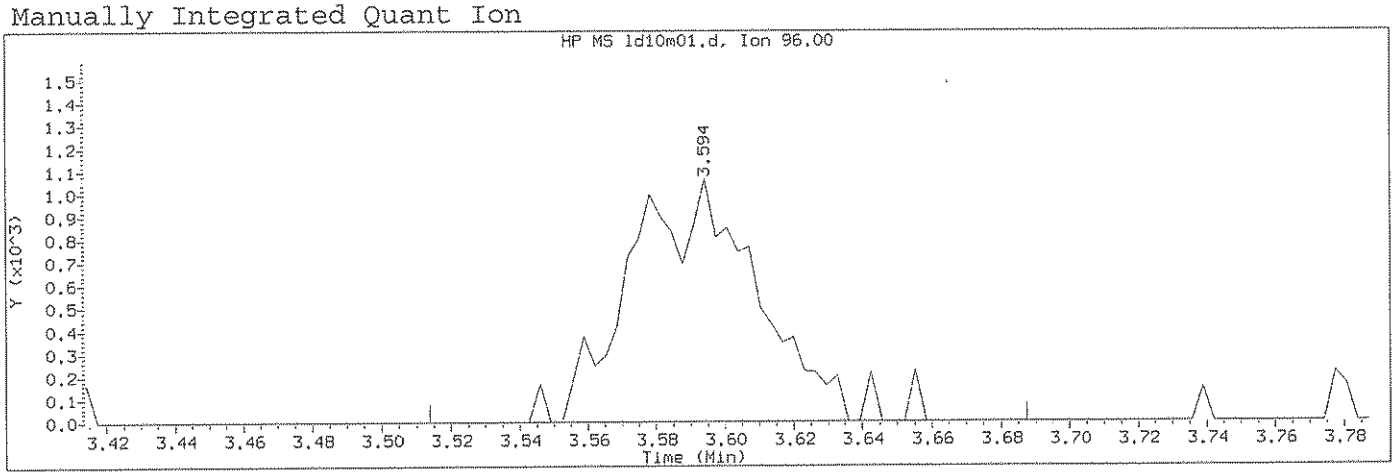
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

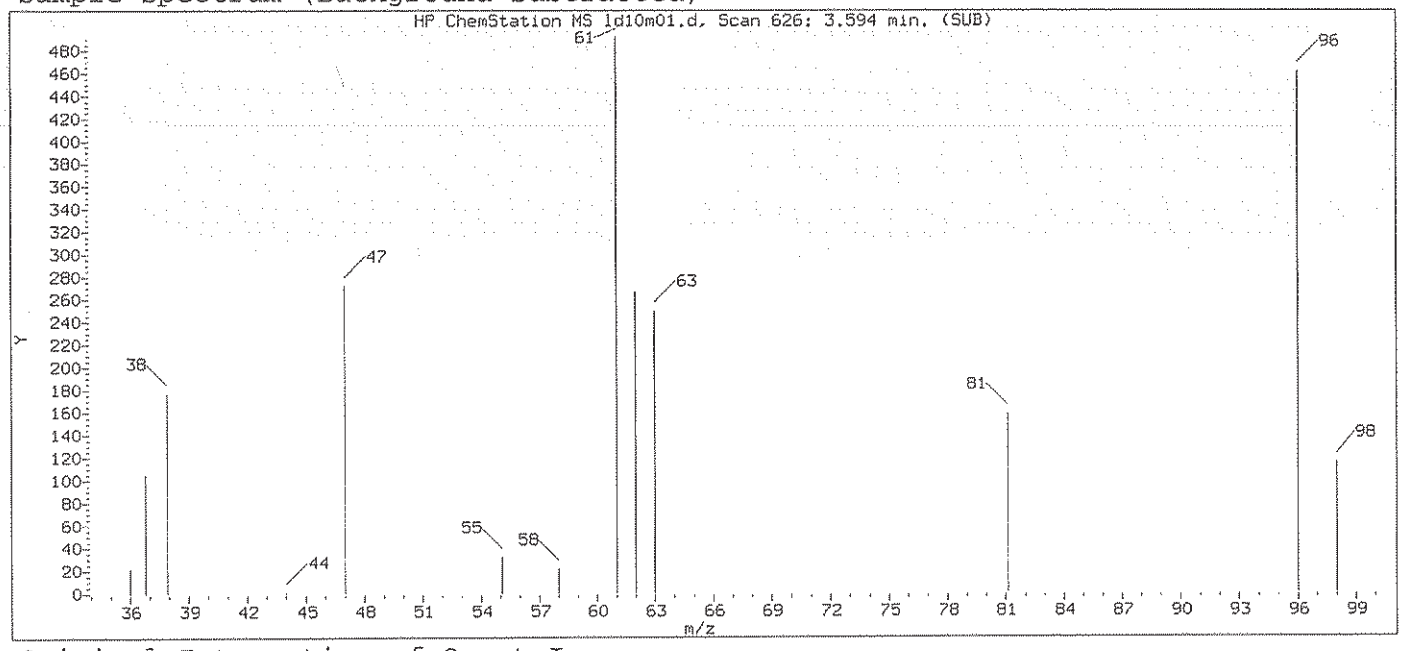
Compound Number : 16
Compound Name : 1,1-Dichloroethene
Scan Number : 626
Retention Time (minutes): 3.594
Quant Ion : 96.00
Area (flag) : 2820M
On-Column Amount (ng) : 0.4224
Integration start scan : 600 Integration stop scan: 654
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

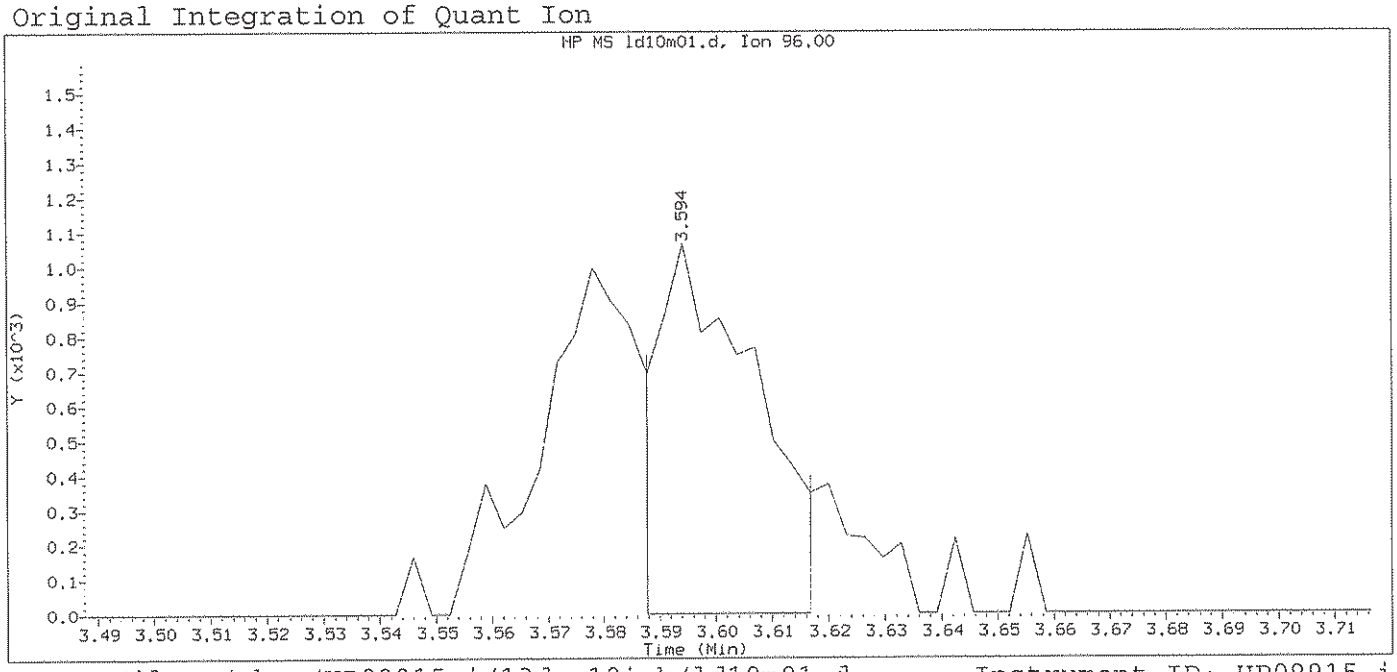
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:35. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:08
Date, time and analyst ID of latest file update: 10-Dec-2013 18:09 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

Compound Number : 16
Compound Name : 1,1-Dichloroethene
Scan Number : 626
Retention Time (minutes): 3.594
Quant Ion : 96.00
Area : 1263
On-column Amount (ng) : 0.1892
Integration start scan : 623 Integration stop scan: 632
Y at integration start : 0 Y at integration end: 0

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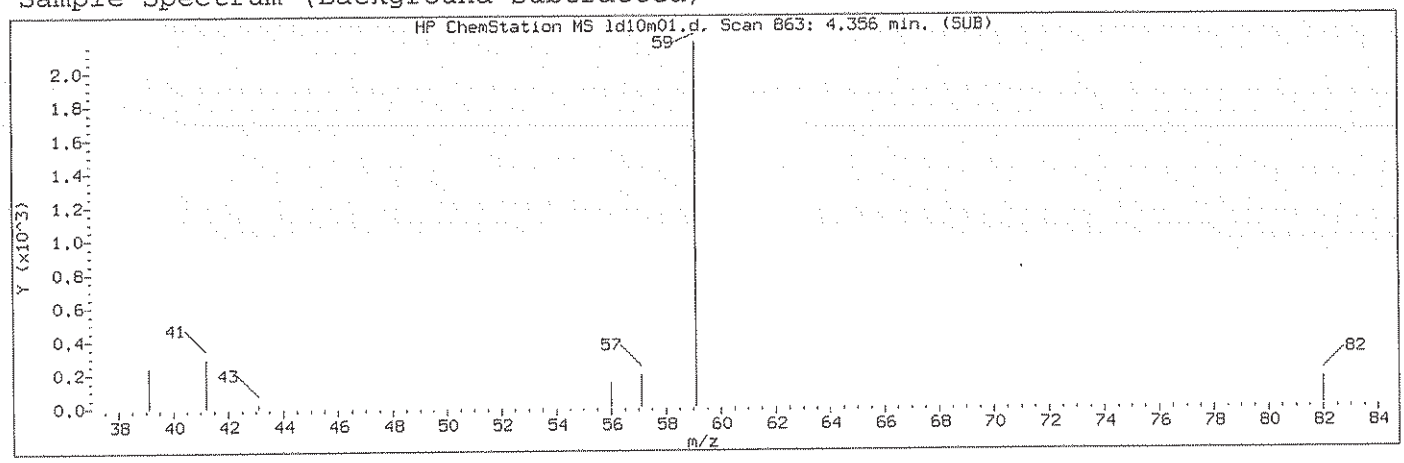
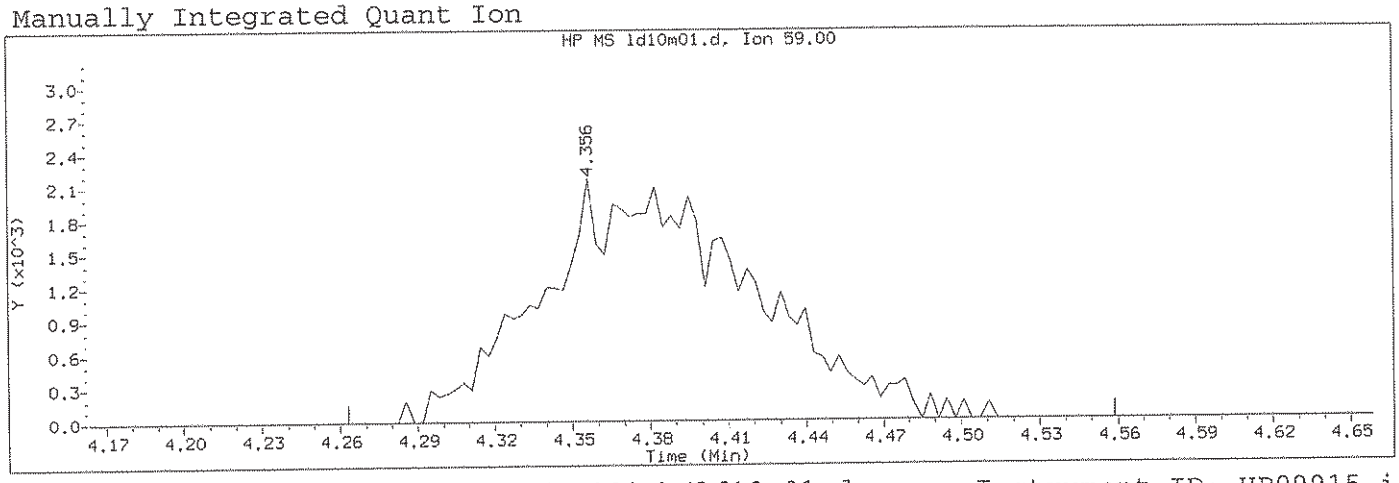
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

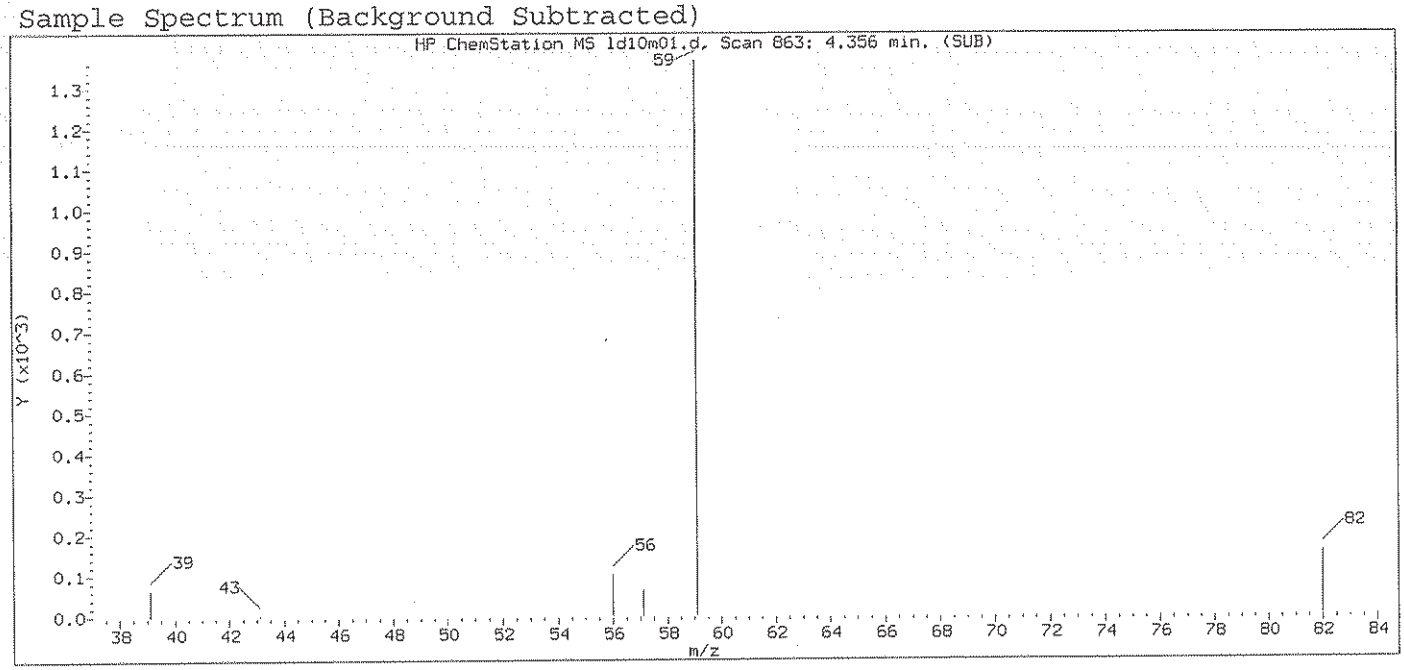
Compound Number : 29
Compound Name : t-Butyl Alcohol
Scan Number : 863
Retention Time (minutes): 4.356
Quant Ion : 59.00
Area (flag) : 12022M
On-Column Amount (ng) : 10.1234
Integration start scan : 833 Integration stop scan: 925
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

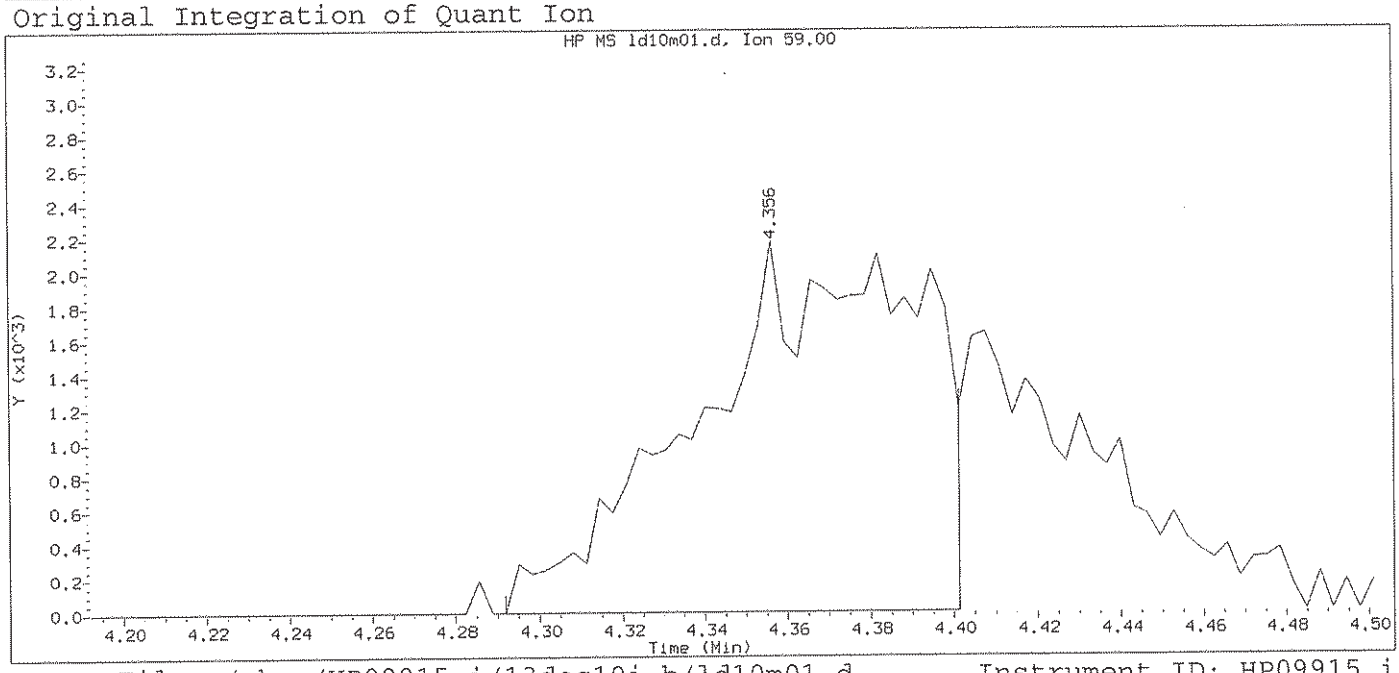
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:35. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:08
Date, time and analyst ID of latest file update: 10-Dec-2013 18:09 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

Compound Number	: 29		
Compound Name	: t-Butyl Alcohol		
Scan Number	: 863		
Retention Time (minutes)	: 4.356		
Quant Ion	: 59.00		
Area	: 8039		
On-column Amount (ng)	: 6.8275		
Integration start scan	: 842	Integration stop scan:	876
Y at integration start	: 0	Y at integration end:	0

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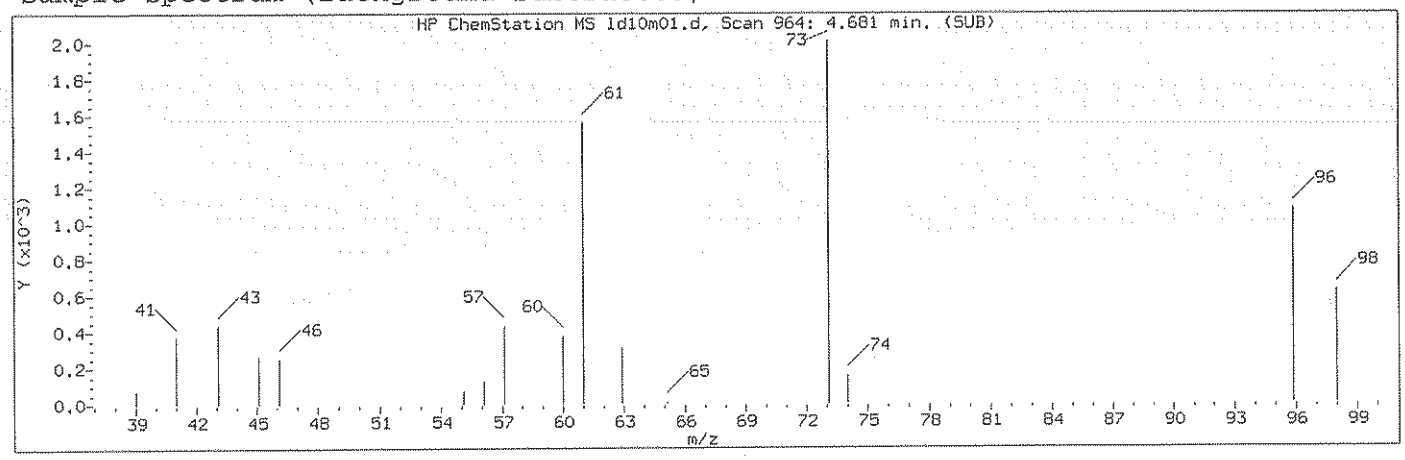
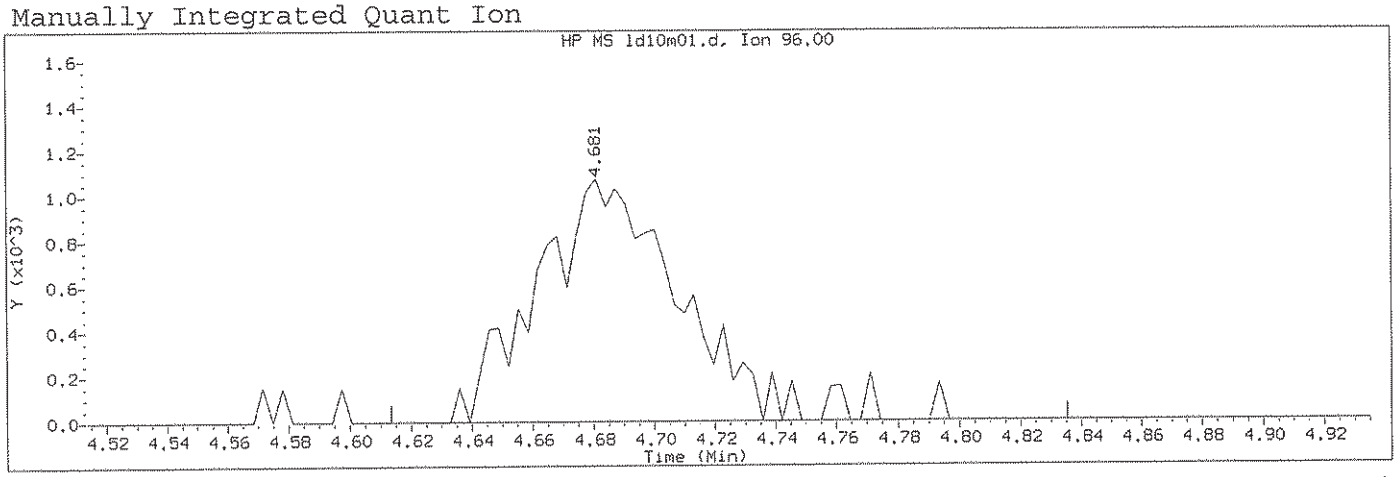
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

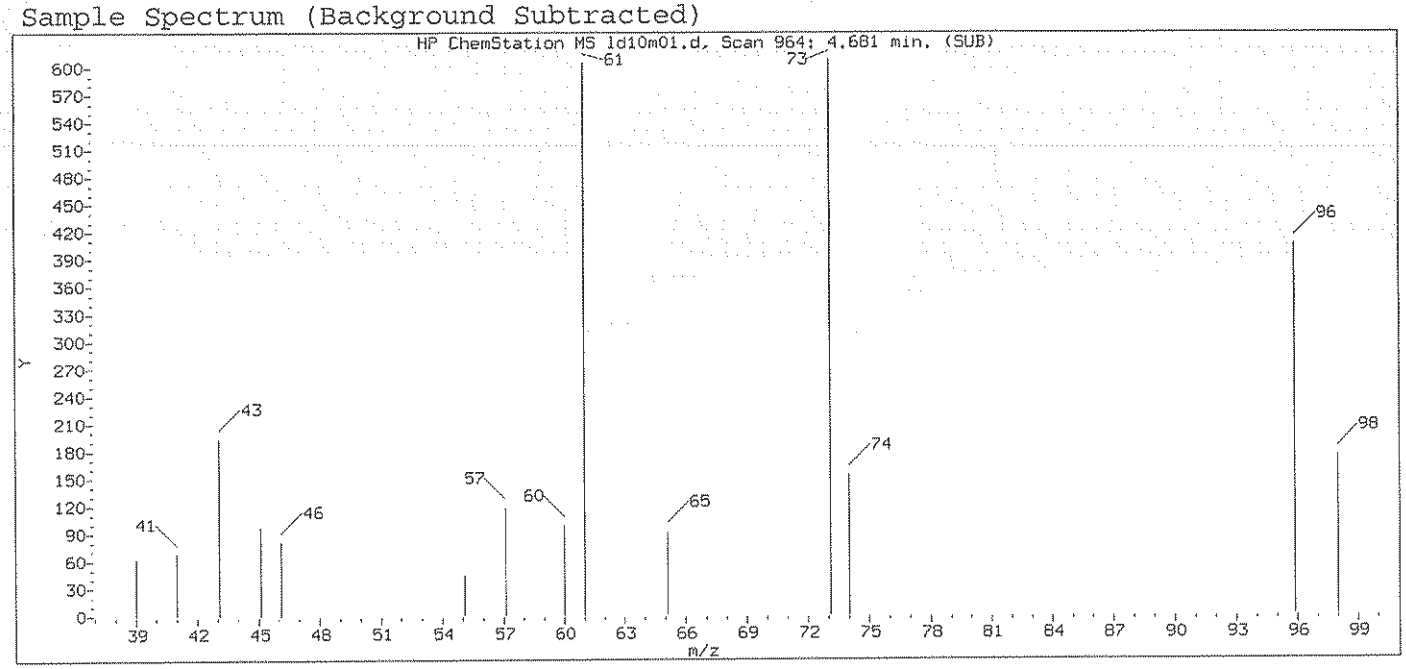
Compound Number : 31
Compound Name : trans-1,2-Dichloroethene
Scan Number : 964
Retention Time (minutes): 4.681
Quant Ion : 96.00
Area (flag) : 3583M
On-Column Amount (ng) : 0.4631
Integration start scan : 942 Integration stop scan: 1011
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

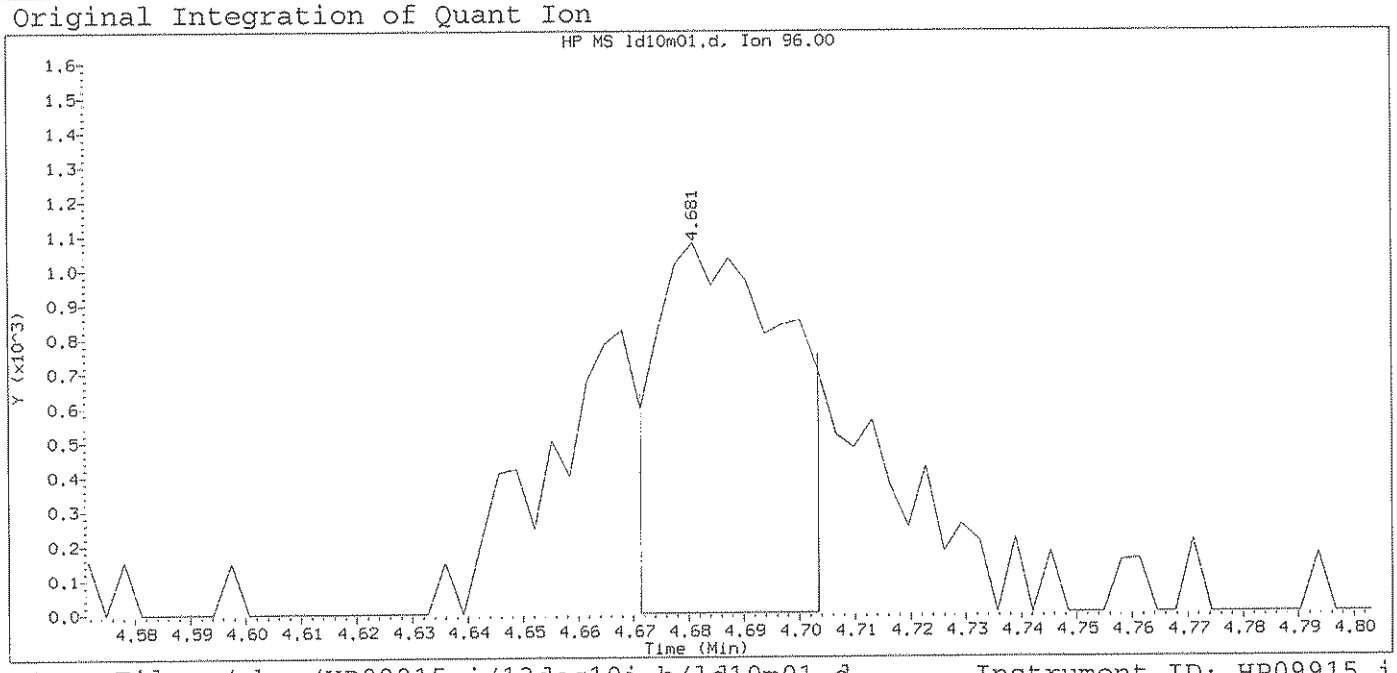
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:35. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

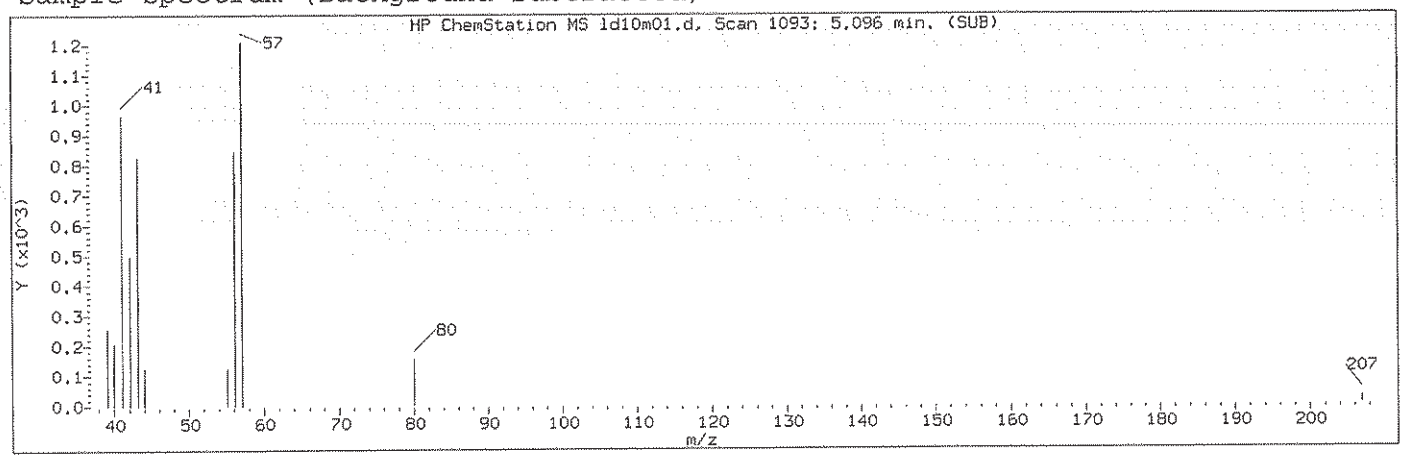
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:08
Date, time and analyst ID of latest file update: 10-Dec-2013 18:09 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

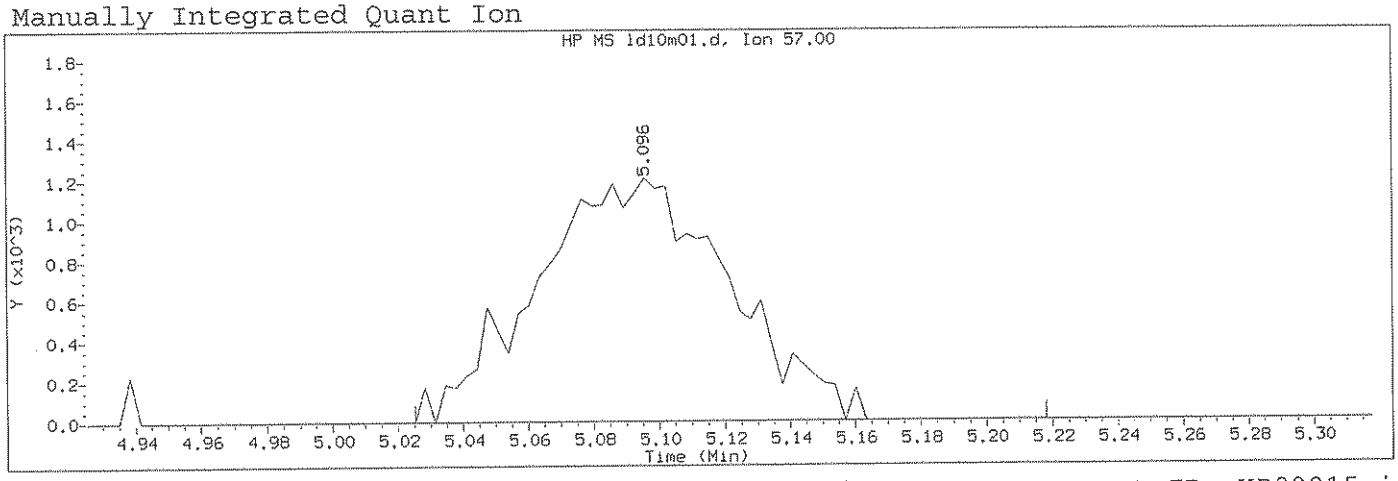
Compound Number : 31
Compound Name : trans-1,2-Dichloroethene
Scan Number : 964
Retention Time (minutes): 4.681
Quant Ion : 96.00
Area : 1735
On-column Amount (ng) : 0.2244
Integration start scan : 960 Integration stop scan: 970
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:35.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

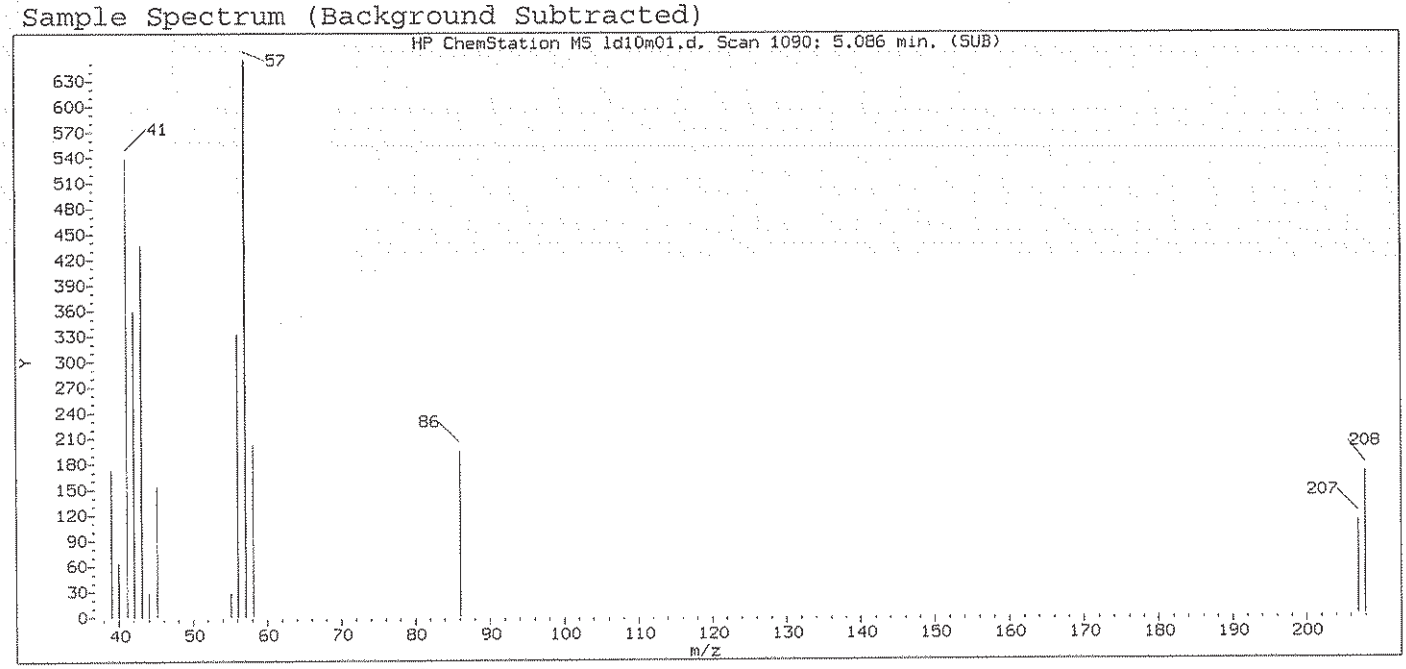
Compound Number	: 33		
Compound Name	: n-Hexane		
Scan Number	: 1093		
Retention Time (minutes)	: 5.096		
Quant Ion	: 57.00		
Area (flag)	: 4975M		
On-Column Amount (ng)	: 0.3798		
Integration start scan	: 1070	Integration stop scan:	1130
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

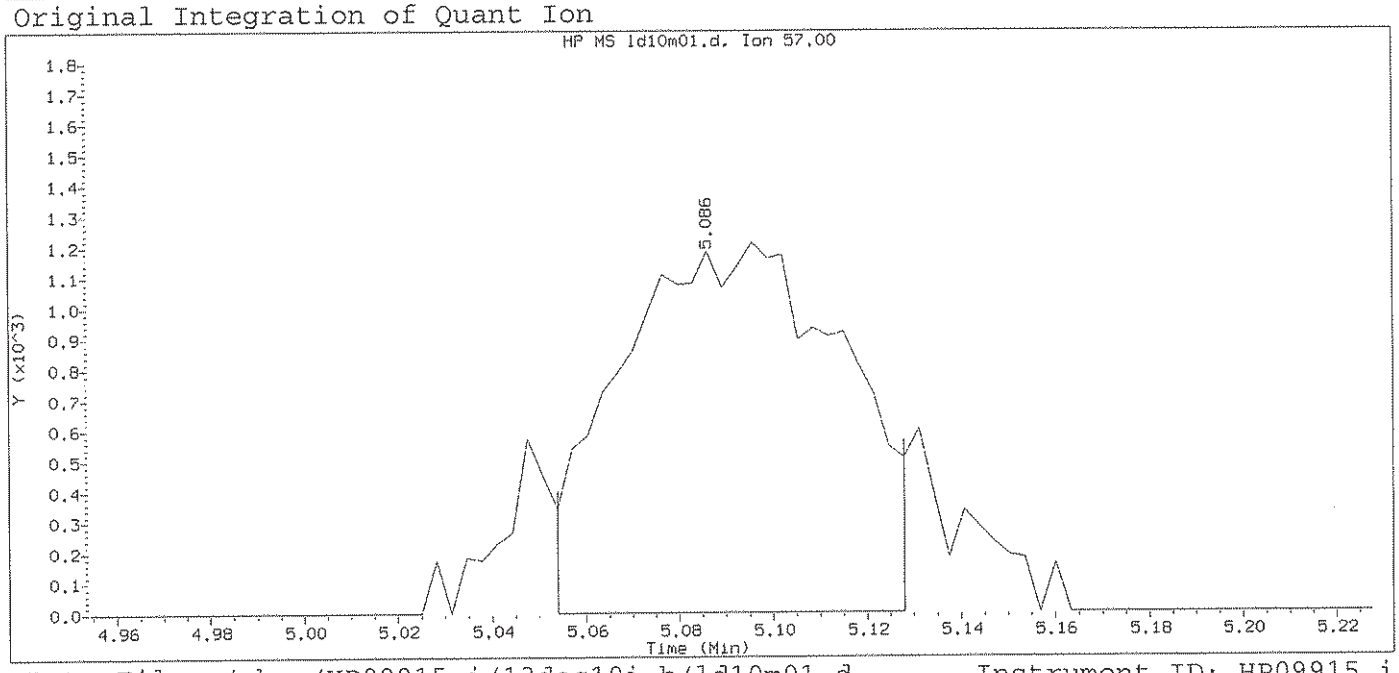
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:35. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

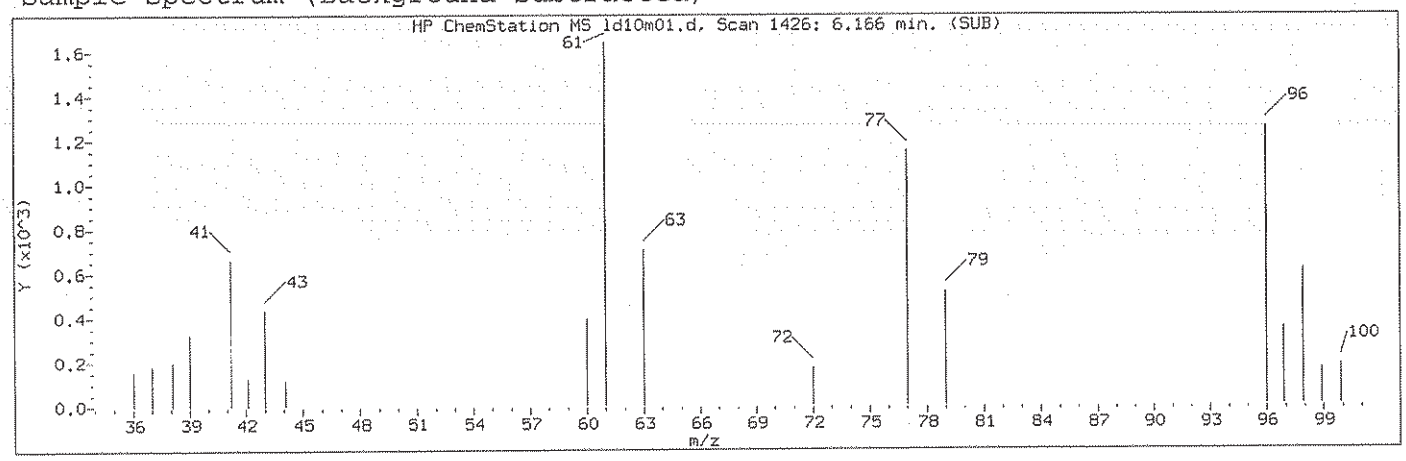
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:08
Date, time and analyst ID of latest file update: 10-Dec-2013 18:09 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

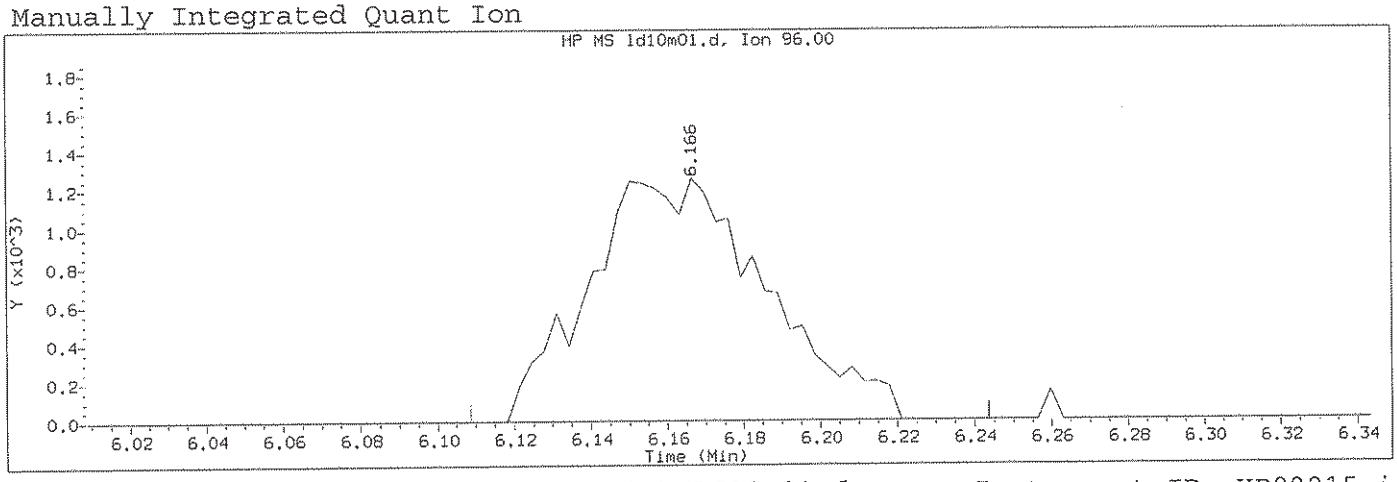
Compound Number	: 33		
Compound Name	: n-Hexane		
Scan Number	: 1090		
Retention Time (minutes)	: 5.086		
Quant Ion	: 57.00		
Area	: 4010		
On-column Amount (ng)	: 0.3061		
Integration start scan	: 1079	Integration stop scan:	1102
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:35.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

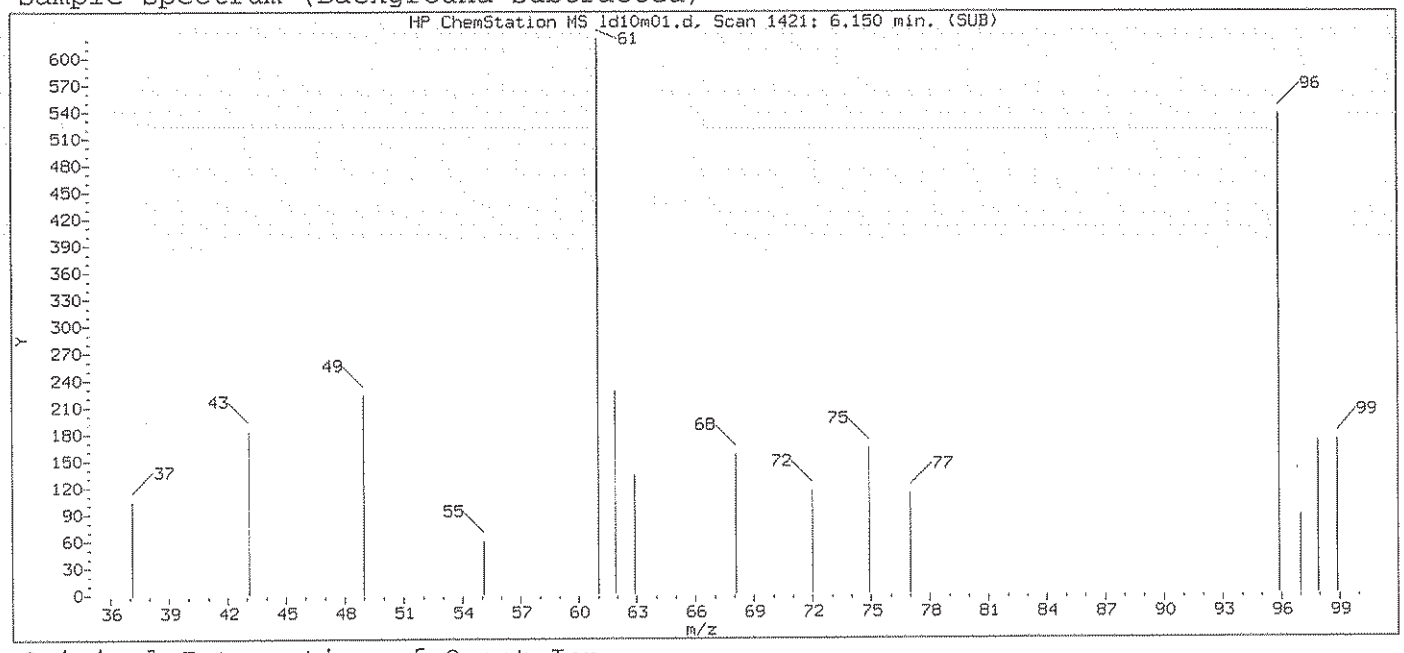
Compound Number : 40
Compound Name : cis-1,2-Dichloroethene
Scan Number : 1426
Retention Time (minutes): 6.166
Quant Ion : 96.00
Area (flag) : 4074M
On-Column Amount (ng) : 0.4655
Integration start scan : 1407 Integration stop scan: 1449
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

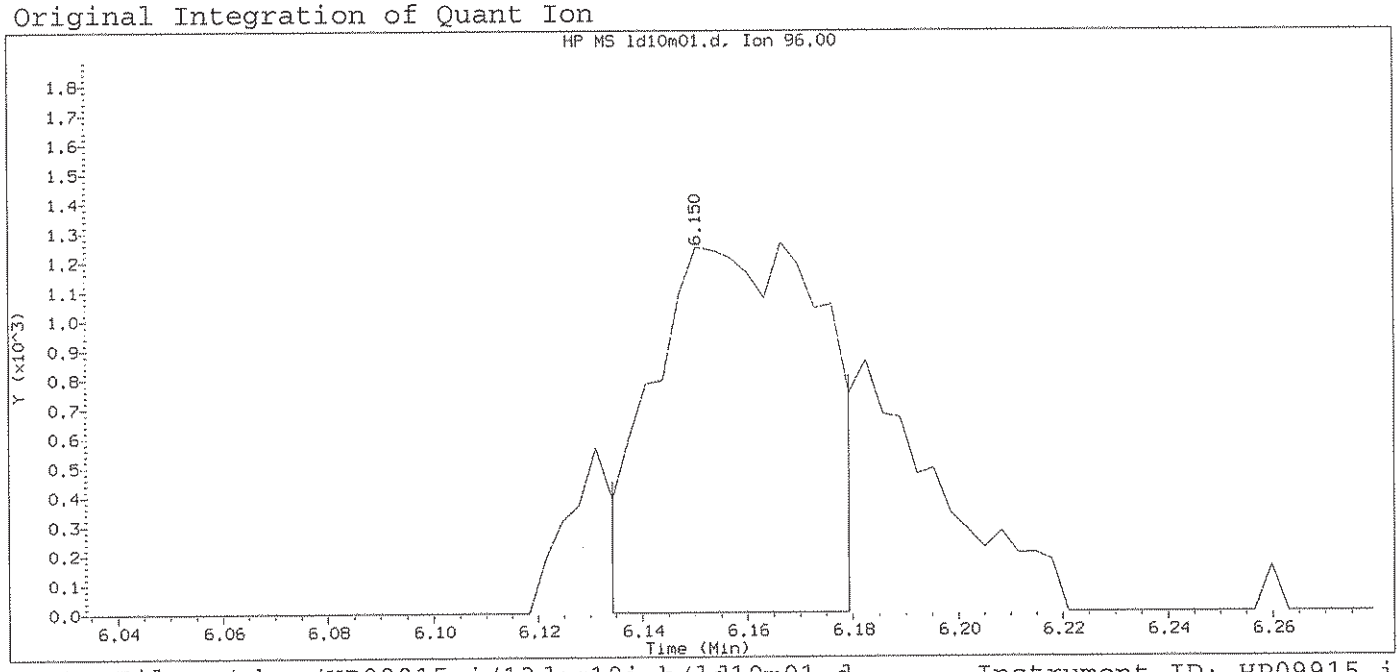
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:35. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:08
Date, time and analyst ID of latest file update: 10-Dec-2013 18:09 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

Compound Number : 40
Compound Name : cis-1,2-Dichloroethene
Scan Number : 1421
Retention Time (minutes): 6.150
Quant Ion : 96.00
Area : 2753
On-column Amount (ng) : 0.3147
Integration start scan : 1415 Integration stop scan: 1429
Y at integration start : 0 Y at integration end: 0

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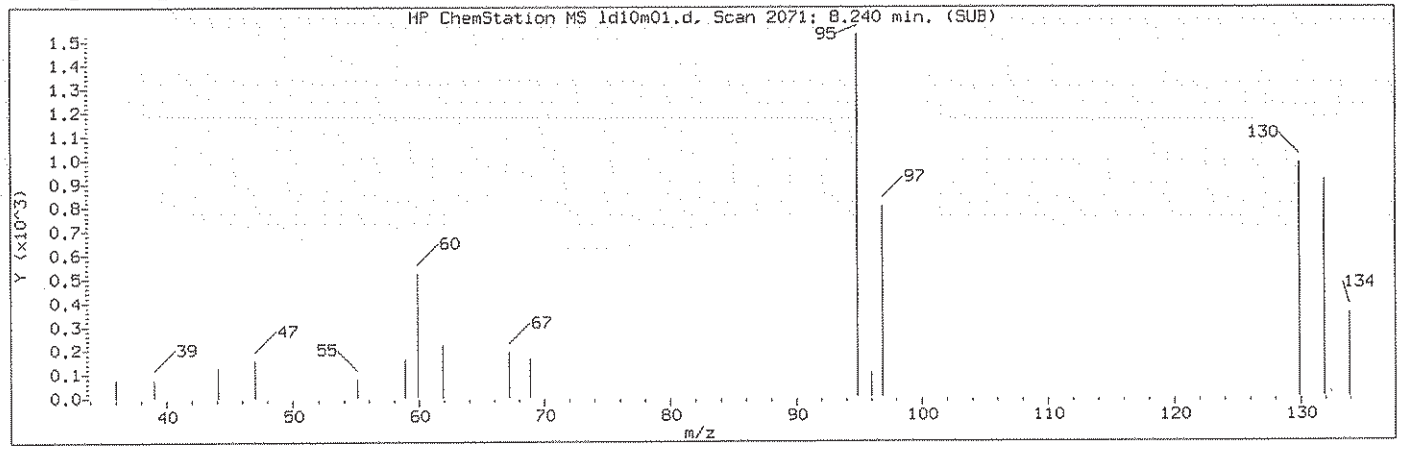
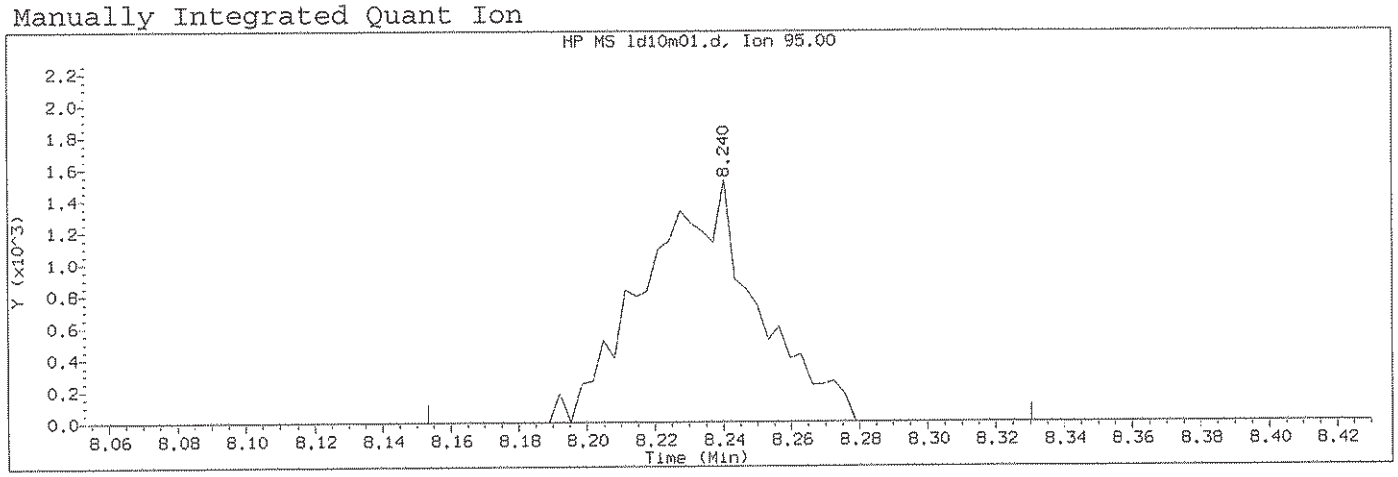
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

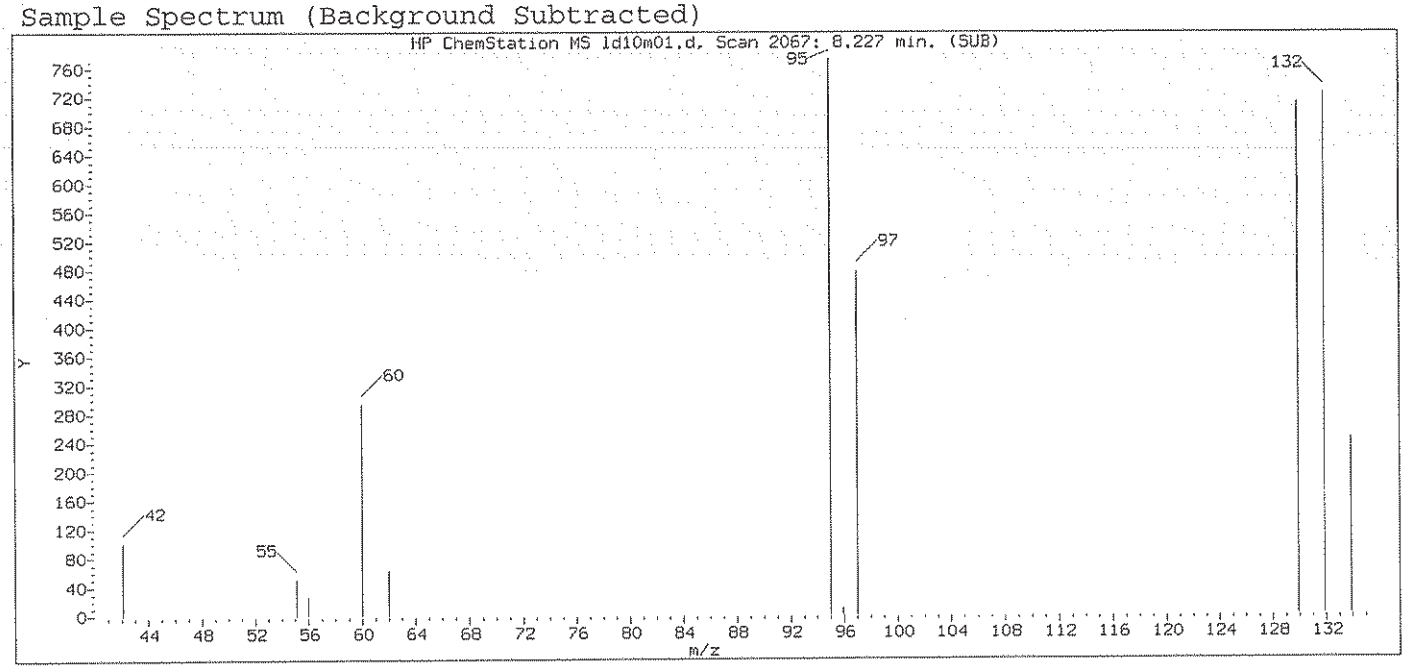
Compound Number	: 74		
Compound Name	: Trichloroethene		
Scan Number	: 2071		
Retention Time (minutes)	: 8.240		
Quant Ion	: 95.00		
Area (flag)	: 3487M		
On-Column Amount (ng)	: 0.4248		
Integration start scan	: 2043	Integration stop scan:	2098
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

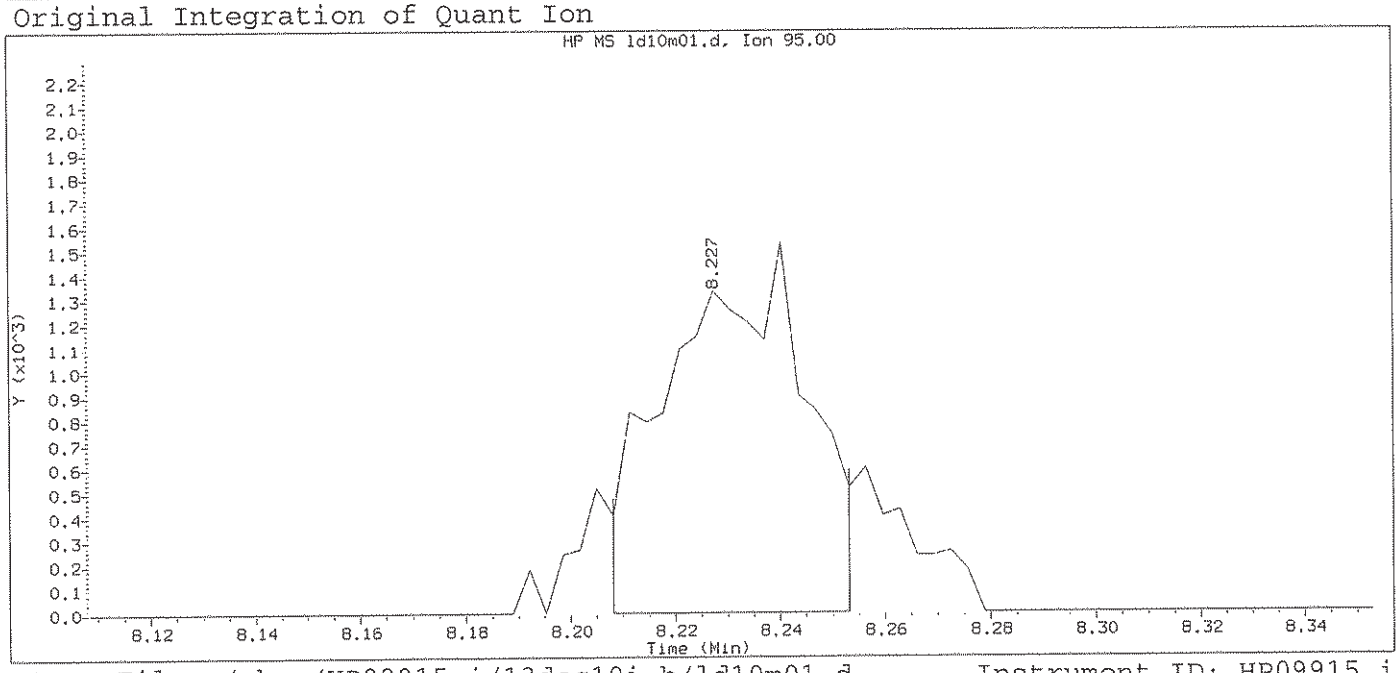
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:35. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:08
Date, time and analyst ID of latest file update: 10-Dec-2013 18:09 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

Compound Number	: 74		
Compound Name	: Trichloroethene		
Scan Number	: 2067		
Retention Time (minutes)	: 8.227		
Quant Ion	: 95.00		
Area	: 2716		
On-column Amount (ng)	: 0.3309		
Integration start scan	: 2060	Integration stop scan:	2074
Y at integration start	: 0	Y at integration end:	0

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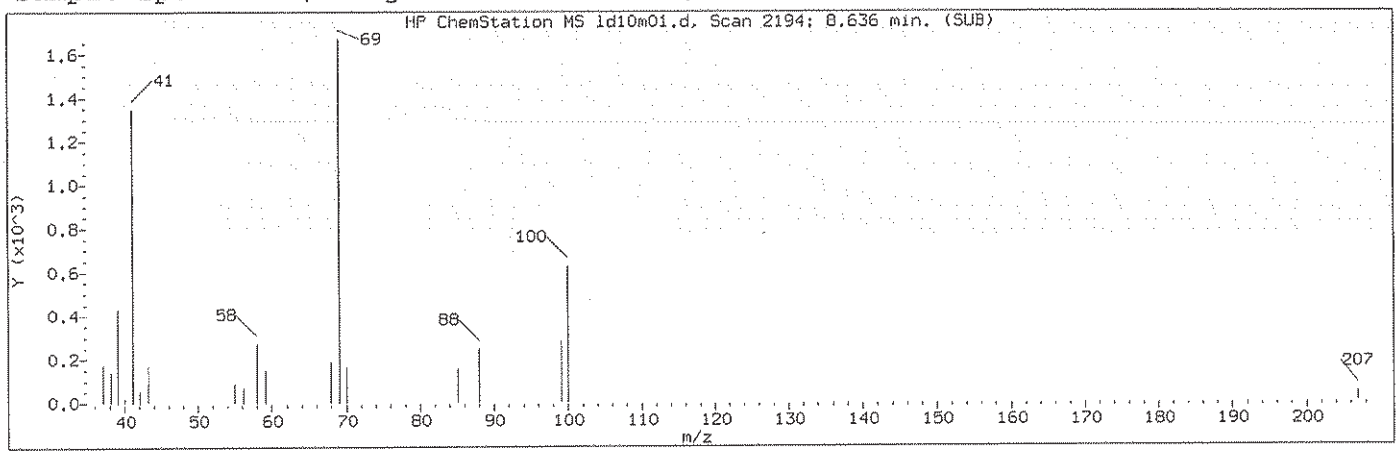
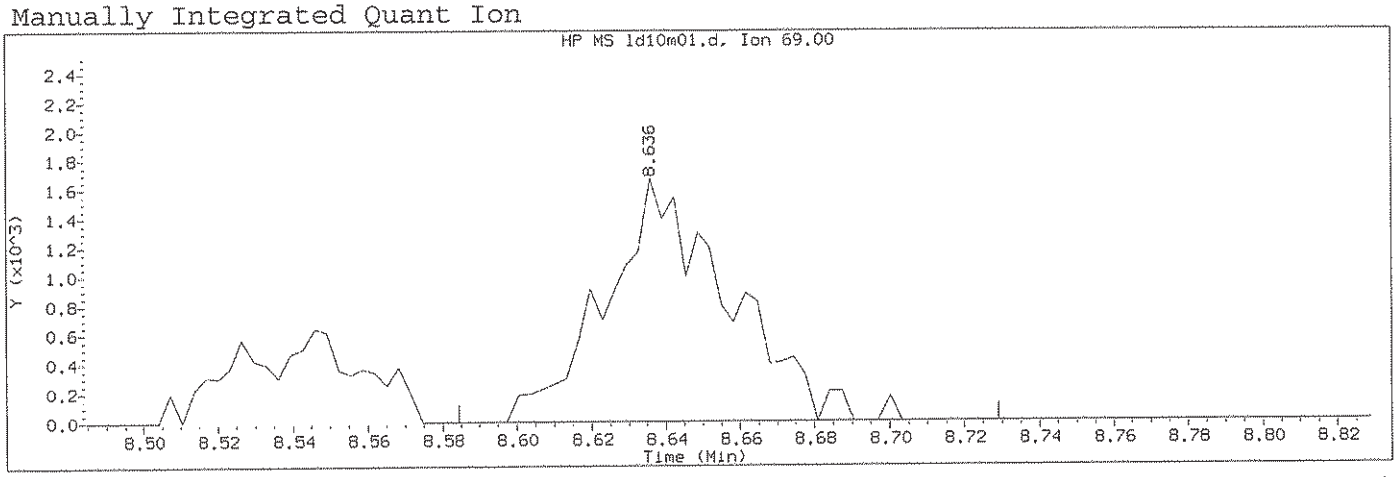
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:34 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

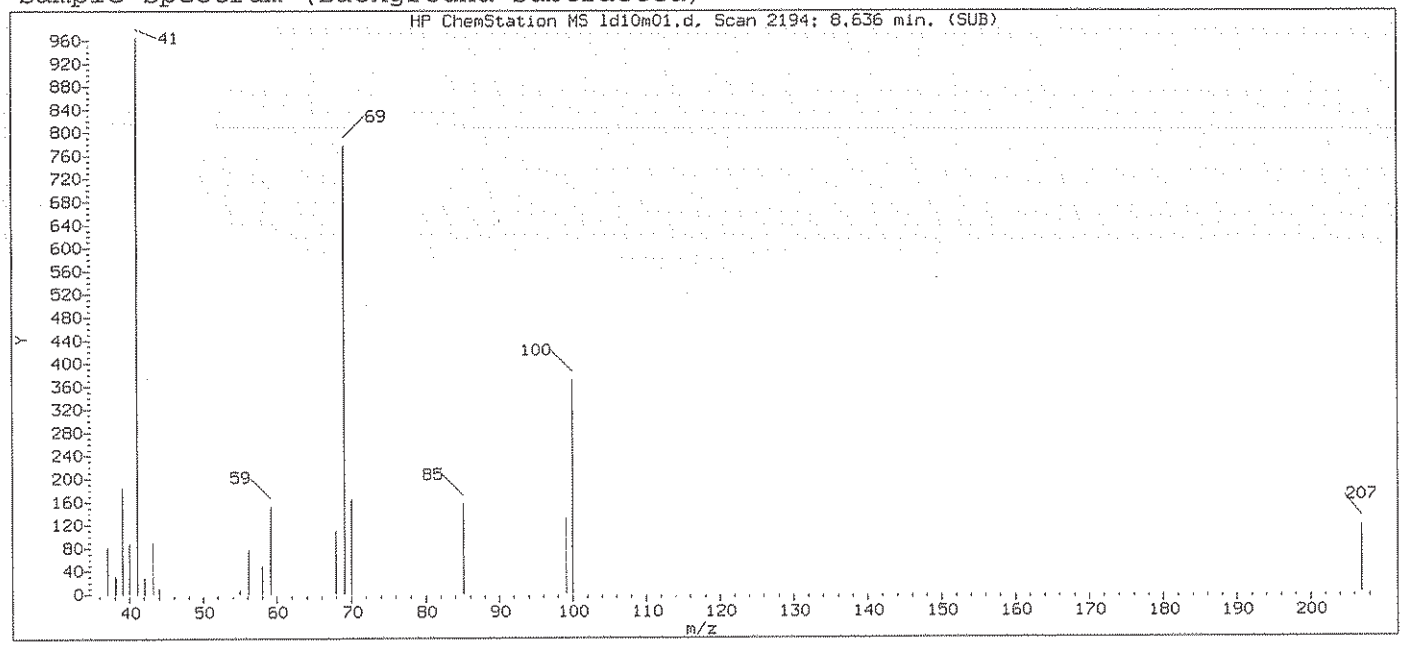
Compound Number : 80
Compound Name : Methyl Methacrylate
Scan Number : 2194
Retention Time (minutes): 8.636
Quant Ion : 69.00
Area (flag) : 3844M
On-Column Amount (ng) : 0.4651
Integration start scan : 2177 Integration stop scan: 2222
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

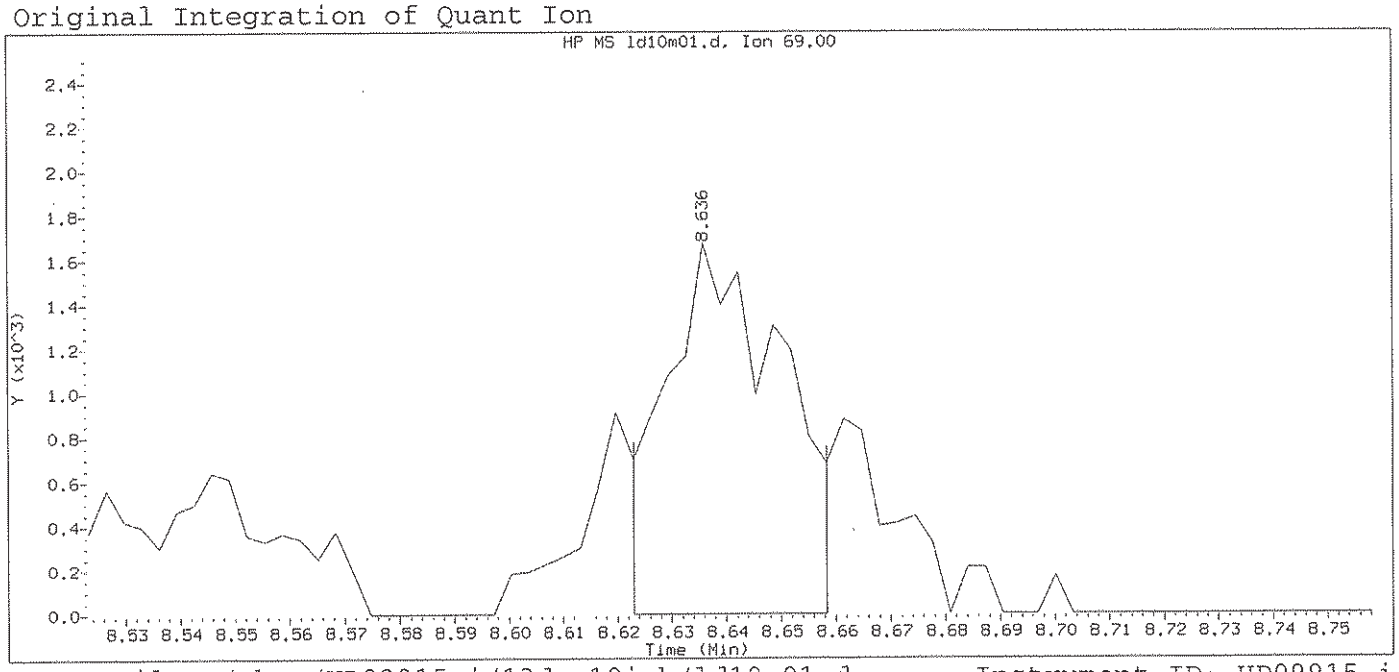
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:35. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10m01.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 17:15 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:08
Date, time and analyst ID of latest file update: 10-Dec-2013 18:09 kas02648

Sample Name: VSTD0.5 Lab Sample ID: MDL 0.5

Compound Number	: 80		
Compound Name	: Methyl Methacrylate		
Scan Number	: 2194		
Retention Time (minutes)	: 8.636		
Quant Ion	: 69.00		
Area	: 2456		
On-column Amount (ng)	: 0.2972		
Integration start scan	: 2189	Integration stop scan:	2200
Y at integration start	: 0	Y at integration end:	0

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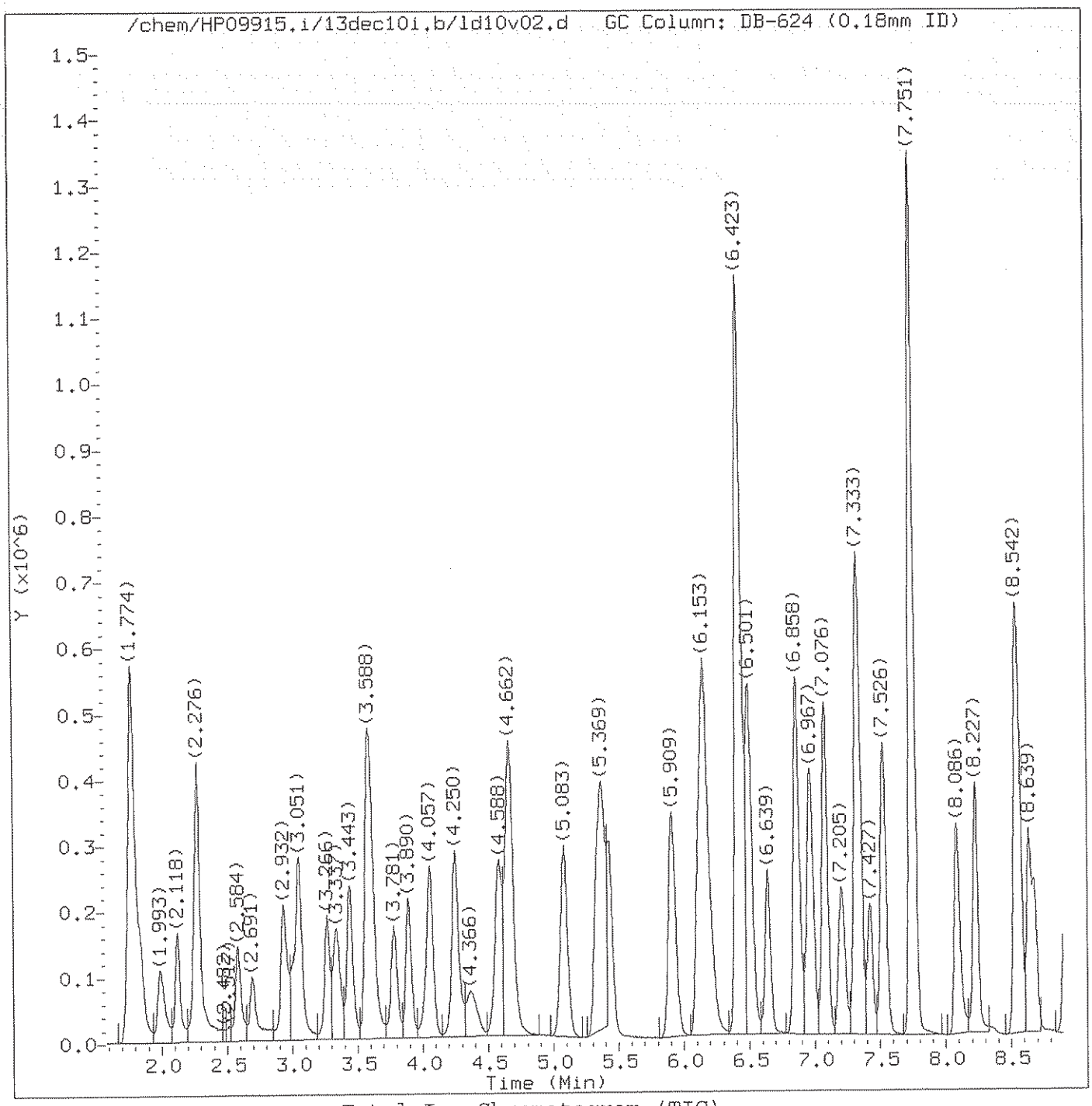
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d
Injection date and time: 10-DEC-2013 19:06

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 11-DEC-2013 15:30

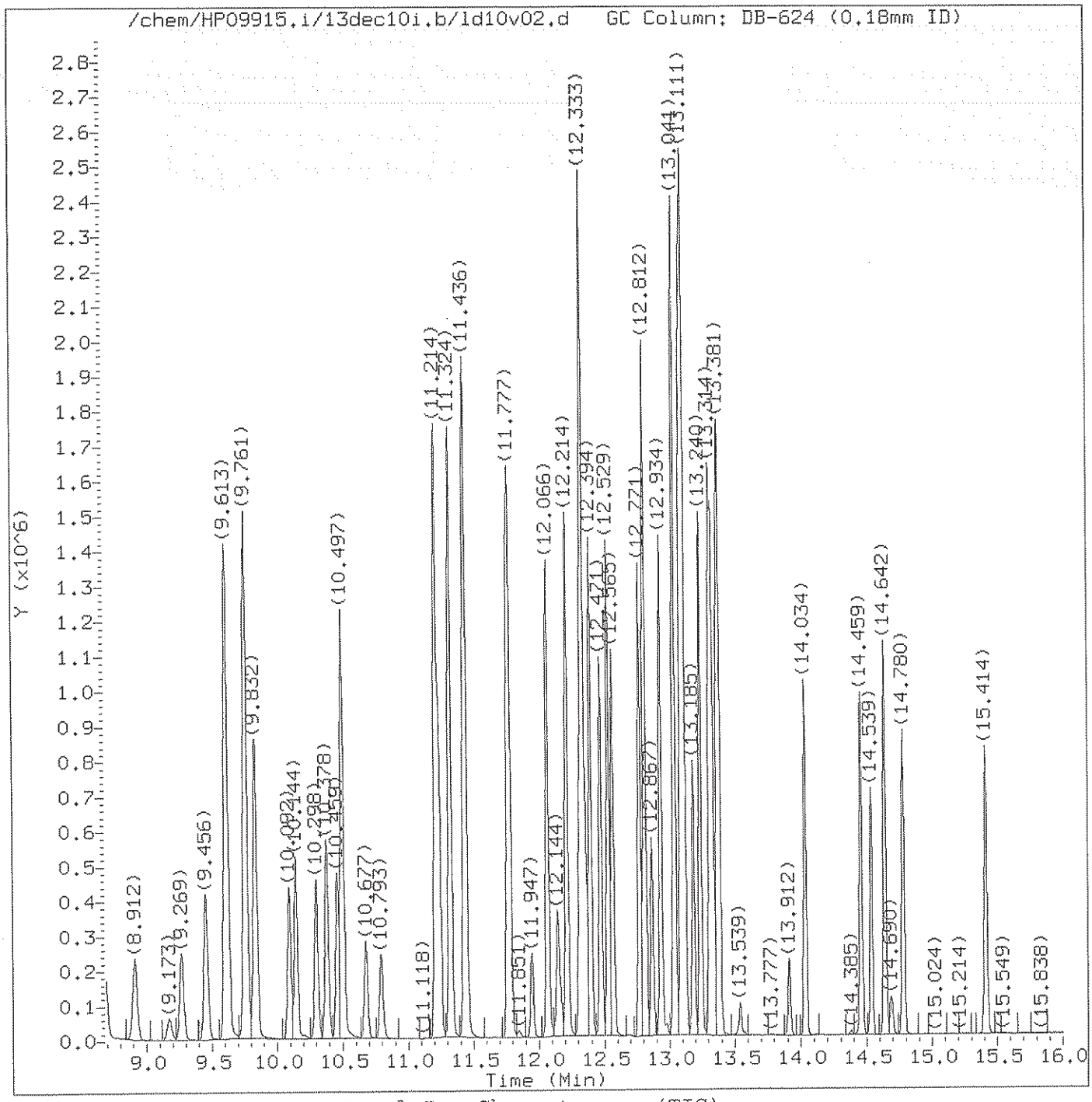
Sublist used: 8260W

Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV

Lab Sample ID: LGLICV

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d
Injection date and time: 10-DEC-2013 19:06

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 11-DEC-2013 15:30

Sublist used: 8260W

Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV

Lab Sample ID: LGLICV

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d
Injection date and time: 10-DEC-2013 19:06

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 11-DEC-2013 15:30

Sublist used: 8260W

Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV

Lab Sample ID: LGLICV

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2) Dichlorodifluoromethane	(1)	1.990	85	205778	17.406
3) Chloromethane	(1)	2.121	50	216393	17.356
5) Vinyl Chloride	(1)	2.253	62	207784	18.712
4) 1,3-Butadiene	(1)	2.276	39	247093M	22.835
7) Bromomethane	(1)	2.584	94	117097	16.186
8) Chloroethane	(1)	2.694	64	100596M	15.678
9) Dichlorofluoromethane	(1)	2.928	67	238982	16.487
10) Trichlorofluoromethane	(1)	2.999	101	215464	18.689
11) n-Pentane	(1)	3.051	43	267670	17.973
13) Ethyl Ether	(1)	3.266	59	156416	17.915
14) Freon 123a	(1)	3.337	67	186661	19.122
15) Acrolein	(4)	3.440	56	368674	128.956
16) 1,1-Dichloroethene	(1)	3.578	96	143536	21.407
18) Freon 113	(1)	3.604	101	151275	21.446
17) Acetone	(4)	3.604	58	147431	125.950
45) 1,2-Dichloroethene (total)	(1)		96	344536	41.650
21) 2-Propanol	(4)	3.764	45	105028	126.597
20) Methyl Iodide	(1)	3.781	142	263303	21.206
22) Carbon Disulfide	(1)	3.893	76	486094	19.086
25) Methyl Acetate	(1)	4.025	43	184298	21.104
24) Allyl Chloride	(1)	4.057	41	274890	18.924
26) Methylene Chloride	(1)	4.250	84	172563	20.847
28)*t-Butyl Alcohol-d10	(4)	4.250	65	220530M	250.000
29) t-Butyl Alcohol	(4)	4.362	59	227336	168.781
30) Acrylonitrile	(1)	4.588	53	452992	93.506
32) Methyl Tertiary Butyl Ether	(1)	4.652	73	546313	19.651
31) trans-1,2-Dichloroethene	(1)	4.671	96	164156	21.126
33) n-Hexane	(1)	5.080	57	289541	22.008
34) 1,1-Dichloroethane	(1)	5.330	63	309121	20.546
36) di-Isopropyl Ether	(1)	5.372	45	640198	20.545
37) 2-Chloro-1,3-Butadiene	(1)	5.430	53	267206	20.496
39) Ethyl t-Butyl Ether	(1)	5.912	59	579860	20.101
41) 2-Butanone	(4)	6.124	43	855215	125.283
40) cis-1,2-Dichloroethene	(1)	6.153	96	180380	20.524
42) 2,2-Dichloropropane	(1)	6.176	77	228354	20.650
43) Propionitrile	(4)	6.208	54	259962	137.248
46) Methacrylonitrile	(1)	6.427	67	720079	147.545
47) Bromochloromethane	(1)	6.491	128	86549	19.828

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/1d10v02.d
Injection date and time: 10-DEC-2013 19:06

Instrument ID: HP09915.i
Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m
Calibration date and time: 11-DEC-2013 15:30

Sublist used: 8260W

Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV

Lab Sample ID: LGLICV

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
48) Tetrahydrofuran	(4)	6.501	71	141249	84.055
50) Chloroform	(1)	6.639	83	278036	20.669
52)$Dibromofluoromethane	(1)	6.858	113	291681	49.611
53) 1,1,1-Trichloroethane	(1)	6.867	97	256798	20.608
56) Cyclohexane	(1)	6.964	56	343142	20.999
57) 1,1-Dichloropropene	(1)	7.076	75	236406	21.188
58) Carbon Tetrachloride	(1)	7.079	117	191304	20.700
59) Isobutyl Alcohol	(4)	7.205	41	209215	428.196
62)$1,2-Dichloroethane-d4	(1)	7.317	102	76575	50.162
63) Benzene	(1)	7.343	78	703798	20.638
65) 1,2-Dichloroethane	(1)	7.427	62	218944	19.874
69) t-Amyl Methyl Ether	(1)	7.526	73	544013	19.813
71)*Fluorobenzene	(1)	7.751	96	1285956	50.000
72) n-Heptane	(1)	7.751	43	293710	21.291
73) n-Butanol	(4)	8.086	56	364366M	874.109
112) Xylene (Total)	(2)		106	958710	62.189
74) Trichloroethene	(1)	8.227	95	172283	20.900
76) Methylcyclohexane	(1)	8.539	83	329737	21.920
77) 1,2-Dichloropropane	(1)	8.571	63	193494	20.794
80) Methyl Methacrylate	(1)	8.636	69	159713M	19.240
79) 1,4-Dioxane	(4)	8.658	88	49450	482.378
78) Dibromomethane	(1)	8.681	93	109636	19.171
83) Bromodichloromethane	(1)	8.912	83	204306	19.489
85) 2-Nitropropane	(1)	9.173	41	50829	16.370
86) 2-Chloroethyl Vinyl Ether	(1)	9.269	63	139253	18.886
87) cis-1,3-Dichloropropene	(1)	9.456	75	284582	20.529
89) 4-Methyl-2-Pentanone	(4)	9.613	43	1251043	79.597
93)$Toluene-d8	(2)	9.761	98	1237507	50.047
94) Toluene	(2)	9.835	92	440178	20.863
95) trans-1,3-Dichloropropene	(2)	10.092	75	257468	19.397
96) Ethyl Methacrylate	(2)	10.144	69	290432	19.258
97) 1,1,2-Trichloroethane	(2)	10.301	97	157781	19.410
98) Tetrachloroethene	(2)	10.378	166	180226	21.452
99) 1,3-Dichloropropane	(2)	10.459	76	279824	19.318
101) 2-Hexanone	(4)	10.501	43	885860	76.443
102) Dibromochloromethane	(2)	10.677	129	154896	19.184
104) 1,2-Dibromoethane	(2)	10.793	107	172272	19.642
106)*Chlorobenzene-d5	(2)	11.214	117	920104	50.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
107) Chlorobenzene	(2)	11.240	112	467462	20.512
109) Ethylbenzene	(2)	11.324	91	827027	20.542
108) 1,1,1,2-Tetrachloroethane	(2)	11.324	131	150627	19.809
110) m+p-Xylene	(2)	11.436	106	642892	41.400
113) o-Xylene	(2)	11.767	106	315818	20.789
114) Styrene	(2)	11.783	104	540217	20.208
115) Bromoform	(2)	11.947	173	103959	18.133
116) Isopropylbenzene	(2)	12.066	105	823275	20.938
118) Cyclohexanone	(4)	12.147	55	178958	490.460
119)$4-Bromofluorobenzene	(2)	12.214	95	457187	49.316
122) 1,1,2,2-Tetrachloroethane	(3)	12.311	83	255264	19.673
121) Bromobenzene	(3)	12.330	156	205181	19.720
124) trans-1,4-Dichloro-2-Butene	(3)	12.336	53	323749	95.607
123) 1,2,3-Trichloropropane	(3)	12.362	110	69784	19.134
125) n-Propylbenzene	(3)	12.394	91	983496	20.391
126) 2-Chlorotoluene	(3)	12.471	126	186166	19.731
127) 1,3,5-Trimethylbenzene	(3)	12.529	105	687796	20.713
128) 4-Chlorotoluene	(3)	12.565	126	193245	19.748
130) tert-Butylbenzene	(3)	12.771	134	139454M	20.353
131) Pentachloroethane	(3)	12.806	167	118068	19.622
132) 1,2,4-Trimethylbenzene	(3)	12.812	105	700193	20.512
133) sec-Butylbenzene	(3)	12.934	105	869526	20.586
134) 1,3-Dichlorobenzene	(3)	13.037	146	383553	20.439
135) p-Isopropyltoluene	(3)	13.044	119	737834	20.040
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	486182	50.000
138) 1,4-Dichlorobenzene	(3)	13.111	146	394622	20.240
139) 1,2,3-Trimethylbenzene	(3)	13.118	105	714470	19.711
141) Benzyl Chloride	(3)	13.185	91	488283	18.770
142) 1,3-Diethylbenzene	(3)	13.240	119	439451	19.521
143) 1,4-Diethylbenzene	(3)	13.314	119	462008	20.438
145) n-Butylbenzene	(3)	13.333	92	366805	20.162
144) 1,2-Dichlorobenzene	(3)	13.369	146	373747	20.155
146) 1,2-Diethylbenzene	(3)	13.385	119	370480	19.851
148) 1,2-Dibromo-3-Chloropropane	(3)	13.912	75	46057	18.207
149) 1,3,5-Trichlorobenzene	(3)	14.034	180	280262	19.520
150) 1,2,4-Trichlorobenzene	(3)	14.459	180	263004	19.133
151) Hexachlorobutadiene	(3)	14.539	225	117971	18.099
152) Naphthalene	(3)	14.642	128	773259	18.290

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec10i.b/1d10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
153) 1,2,3-Trichlorobenzene	(3)	14.780	180	240594	18.612
154) 2-Methylnaphthalene	(3)	15.414	142	388181	16.097

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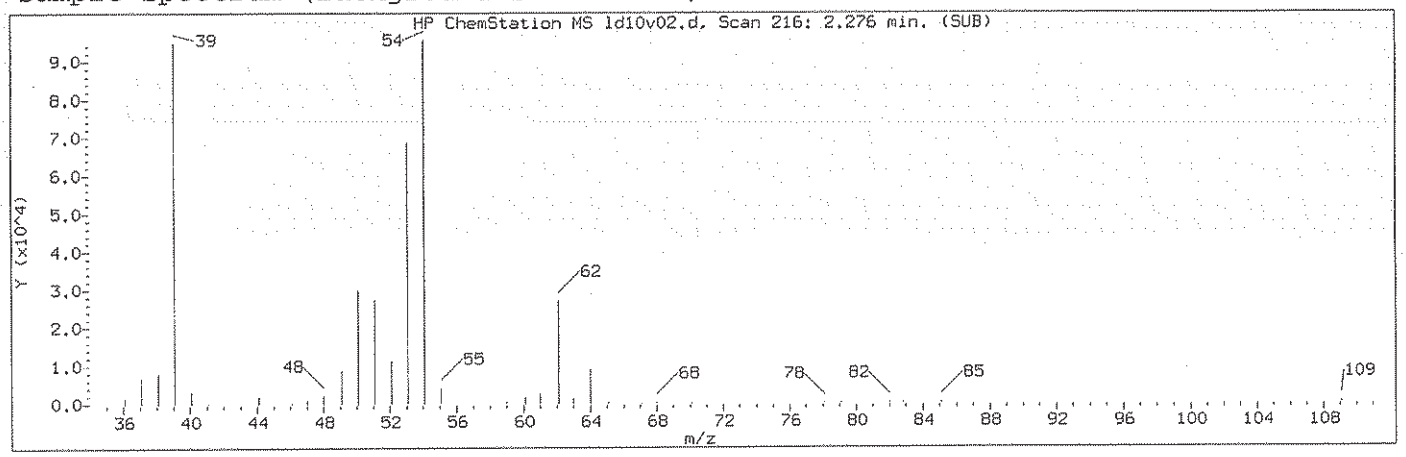
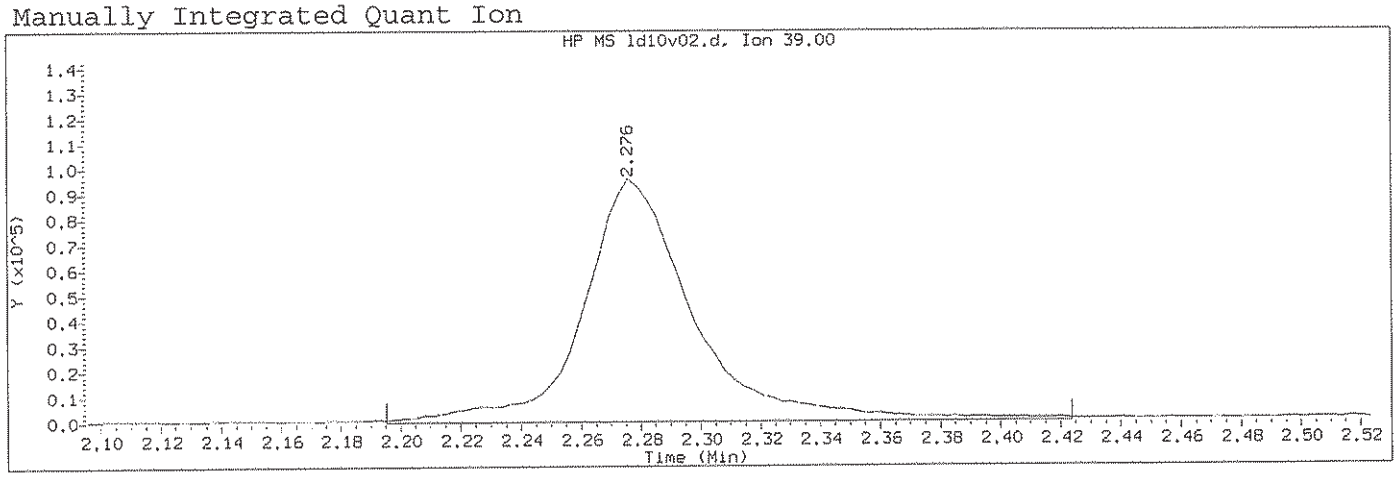
on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

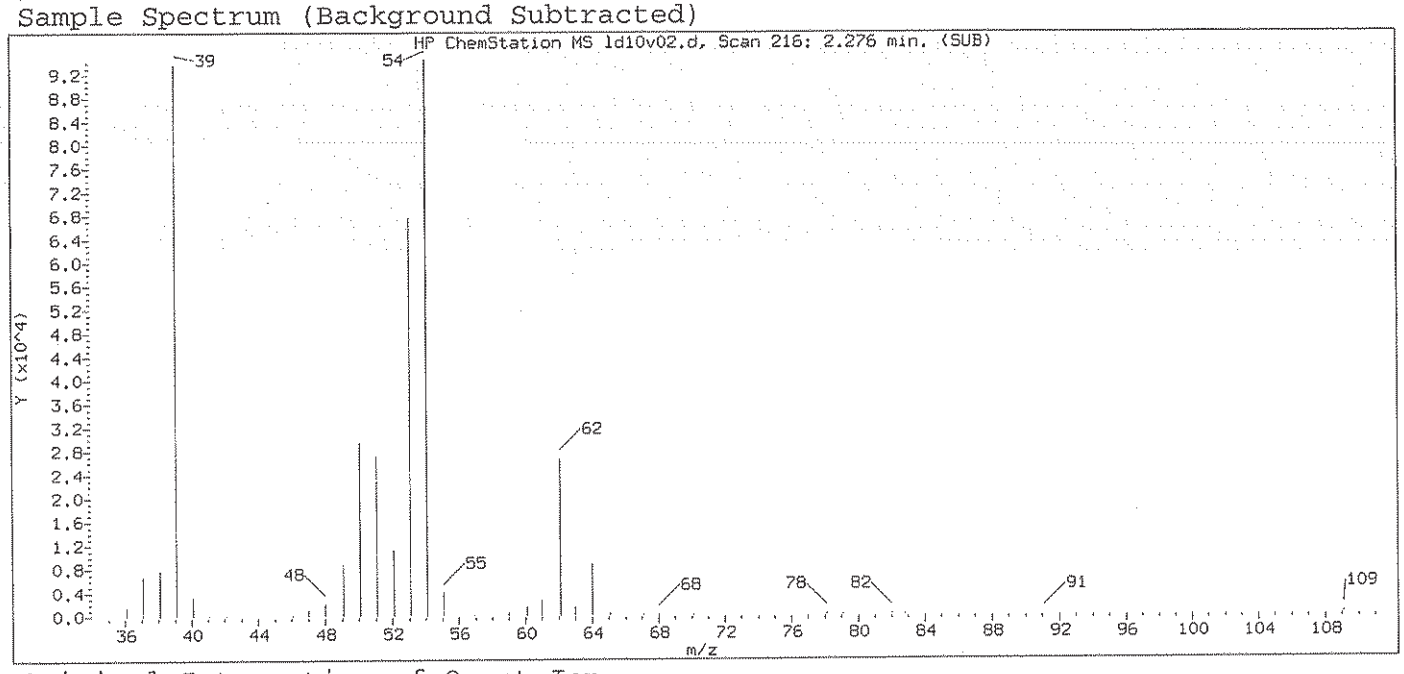
Compound Number : 4
Compound Name : 1,3-Butadiene
Scan Number : 216
Retention Time (minutes): 2.276
Quant Ion : 39.00
Area (flag) : 247093M
On-Column Amount (ng) : 22.8349
Integration start scan : 190 Integration stop scan: 261
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

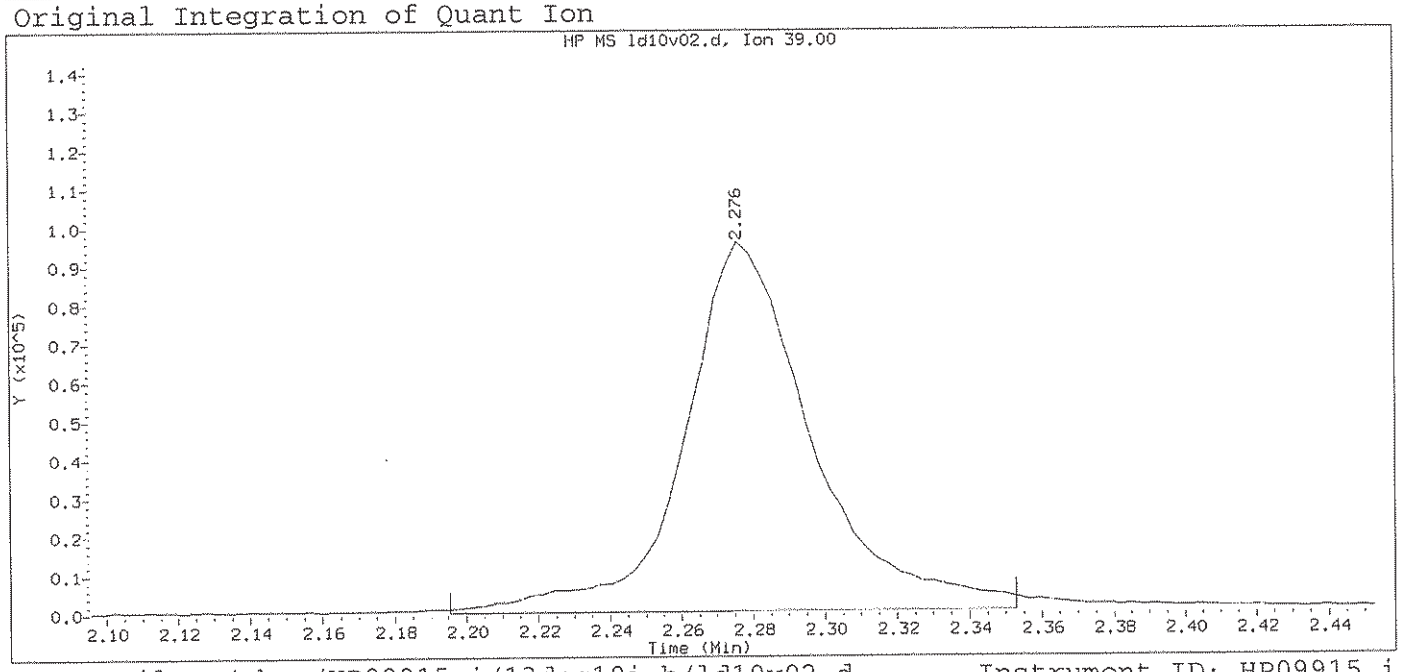
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:56
Date, time and analyst ID of latest file update: 10-Dec-2013 19:34 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

Compound Number	: 4		
Compound Name	: 1,3-Butadiene		
Scan Number	: 216		
Retention Time (minutes)	: 2.276		
Quant Ion	: 39.00		
Area	: 236779		
On-column Amount (ng)	: 22.3161		
Integration start scan	: 190	Integration stop scan:	239
Y at integration start	: 184	Y at integration end:	332

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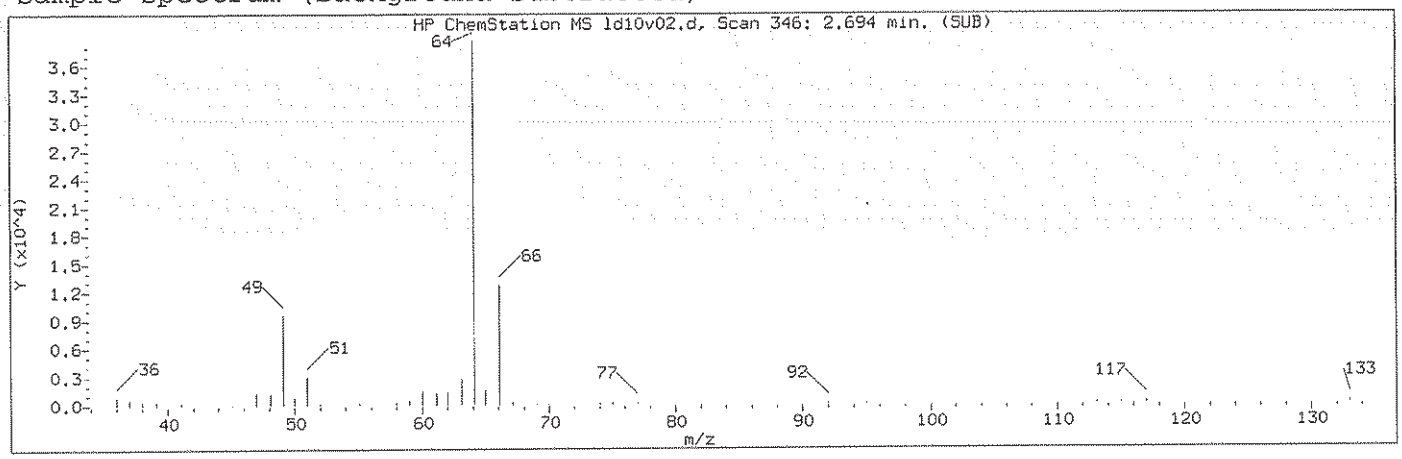
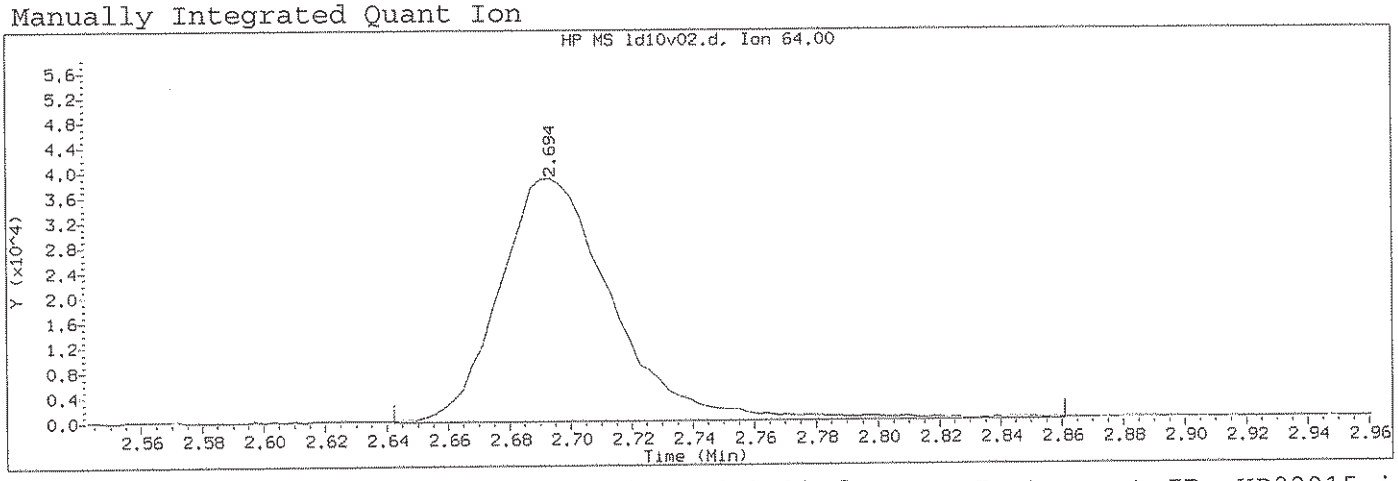
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

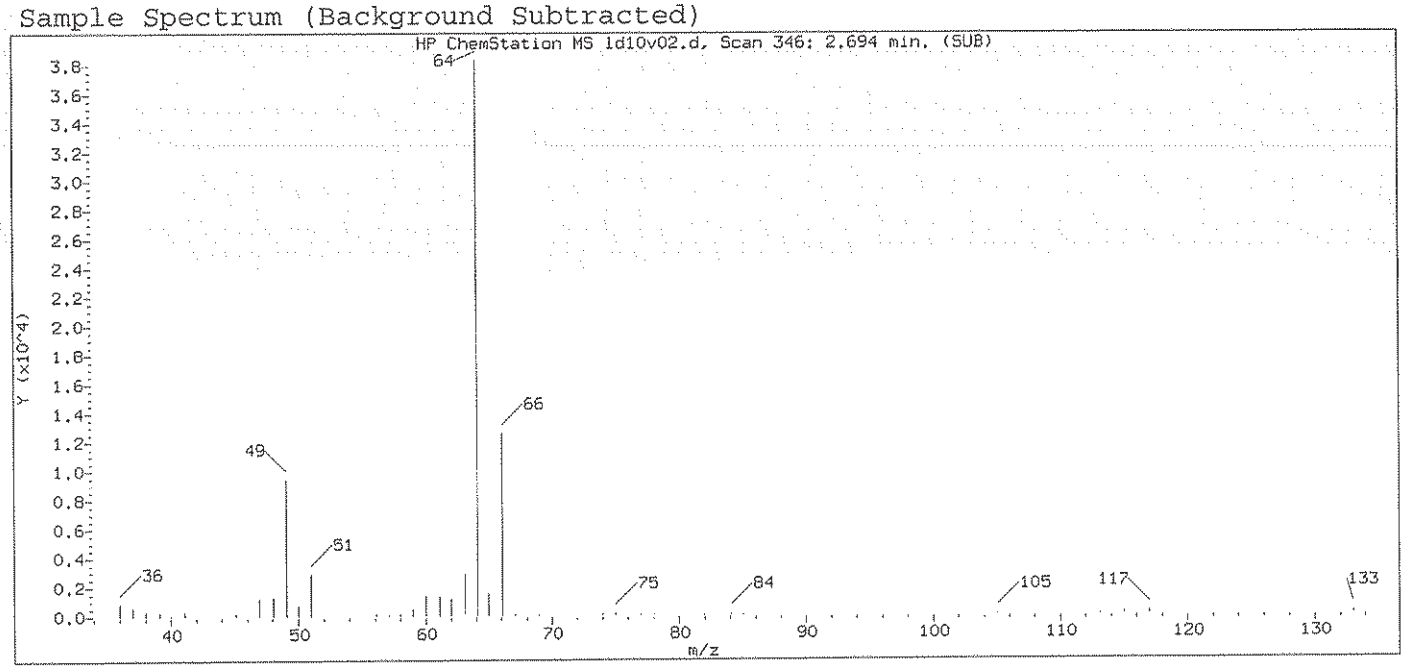
Compound Number : 8
Compound Name : Chloroethane
Scan Number : 346
Retention Time (minutes): 2.694
Quant Ion : 64.00
Area (flag) : 100596M
On-Column Amount (ng) : 15.6783
Integration start scan : 329 Integration stop scan: 397
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

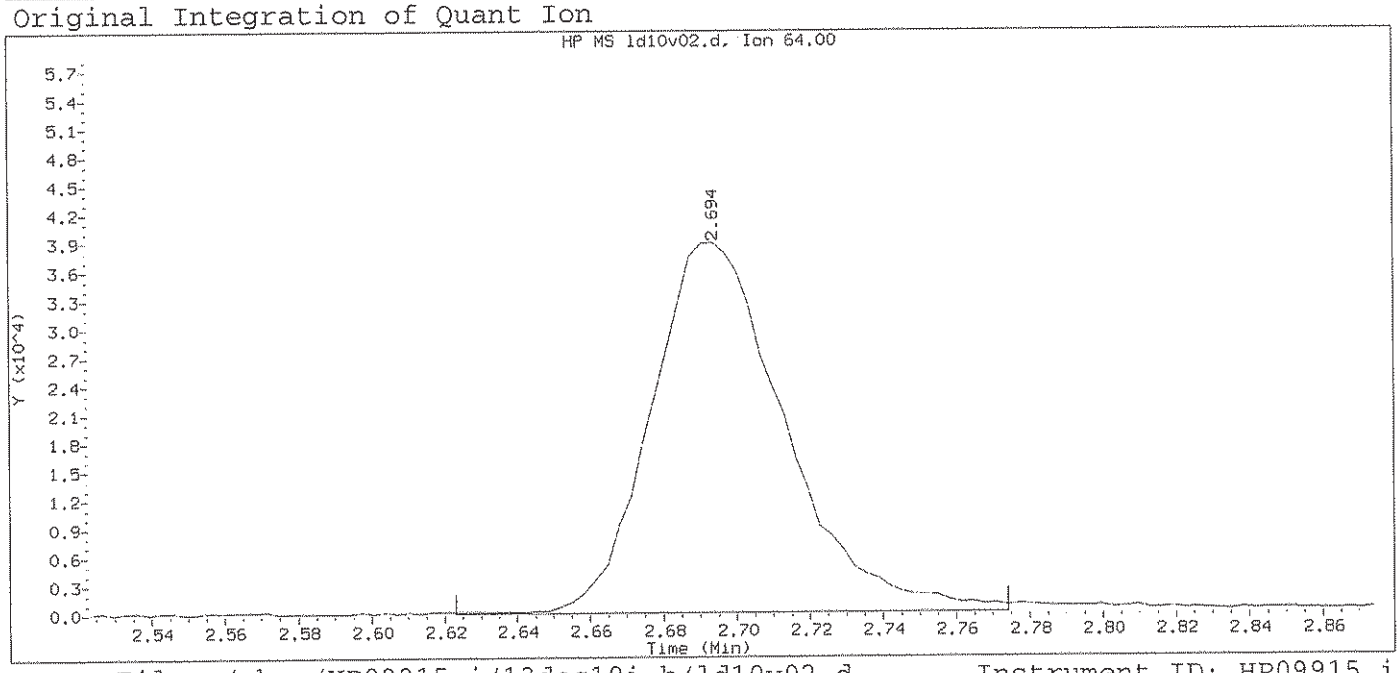
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

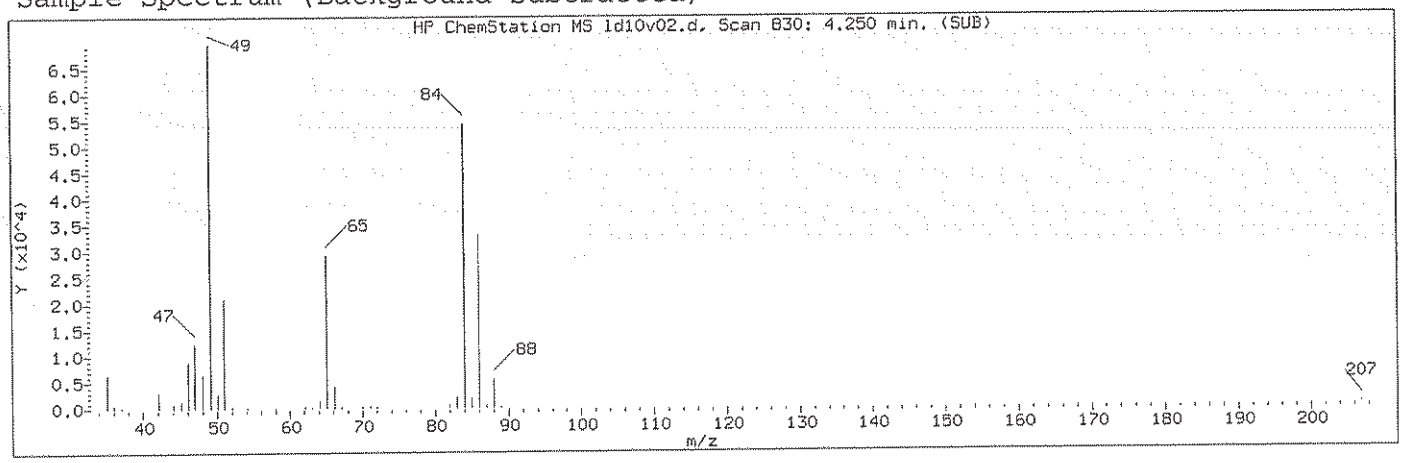
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:56
Date, time and analyst ID of latest file update: 10-Dec-2013 19:34 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

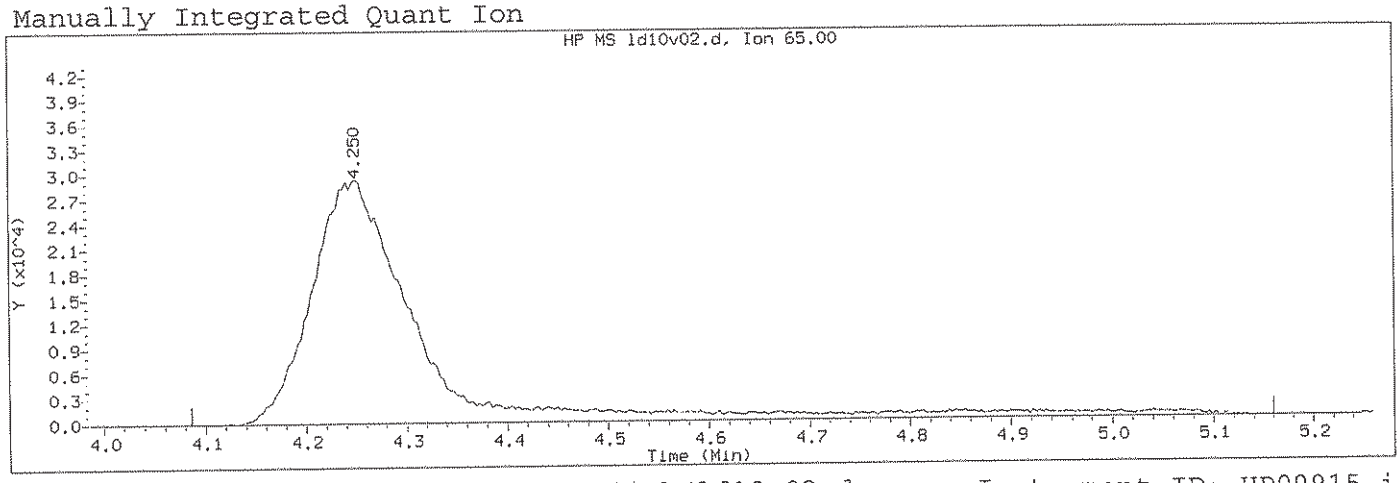
Compound Number : 8
Compound Name : Chloroethane
Scan Number : 346
Retention Time (minutes): 2.694
Quant Ion : 64.00
Area : 98438
On-column Amount (ng) : 15.3417
Integration start scan : 323 Integration stop scan: 370
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

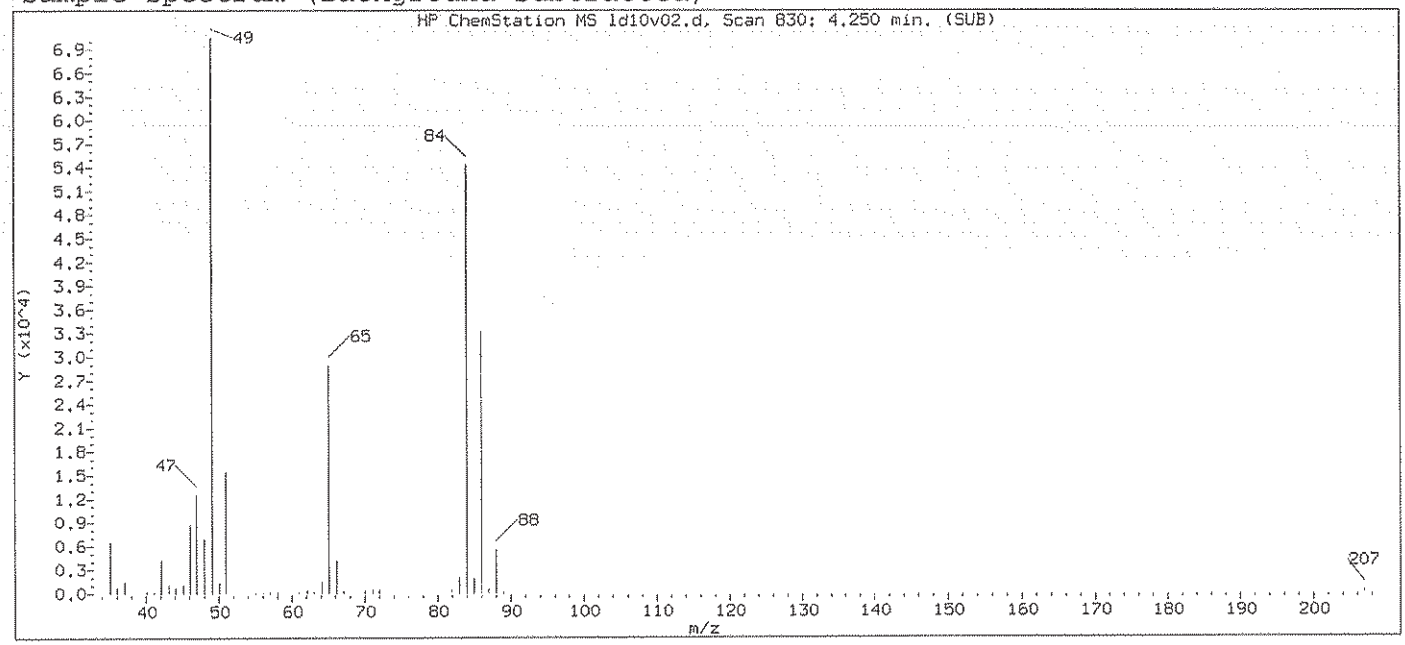
Compound Number	: 28	
Compound Name	: t-Butyl Alcohol-d10	
Scan Number	: 830	
Retention Time (minutes)	: 4.250	
Quant Ion	: 65.00	
Area (flag)	: 220530M	
On-Column Amount (ng)	: 250.0000	
Integration start scan	: 778	Integration stop scan: 1112
Y at integration start	: 0	Y at integration end: 0

Reason for manual integration: improper integration

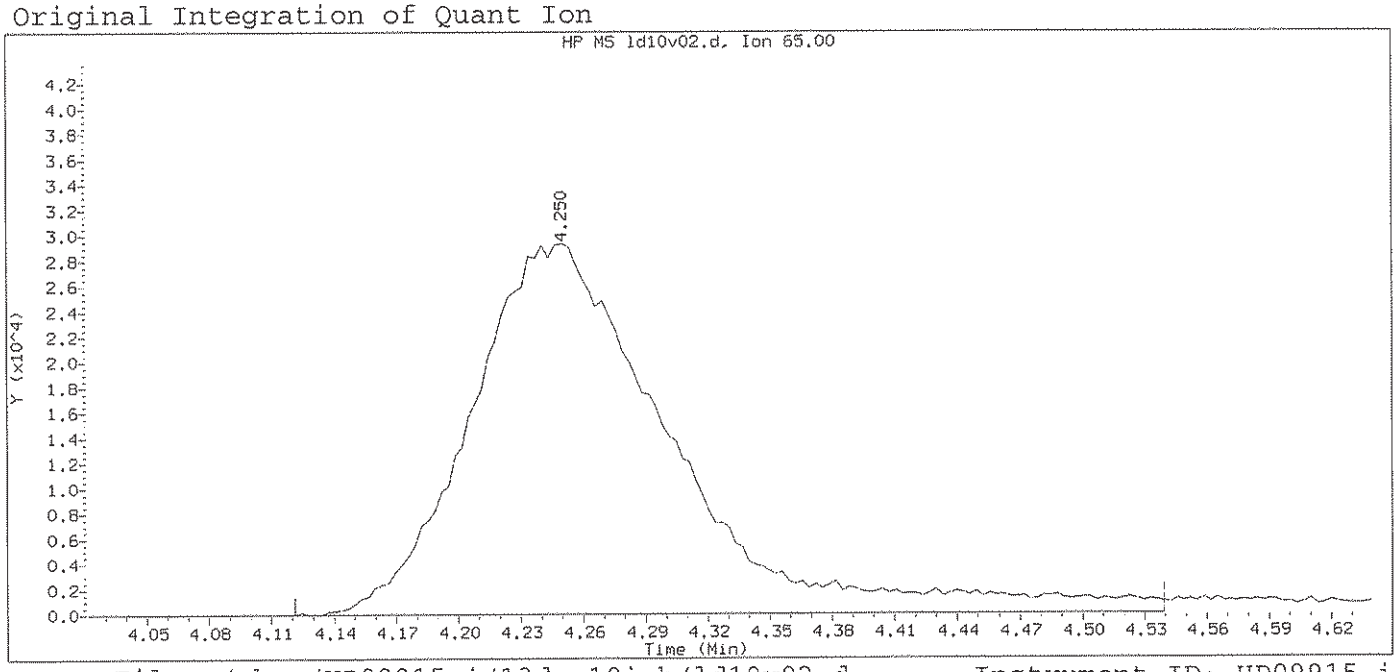
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

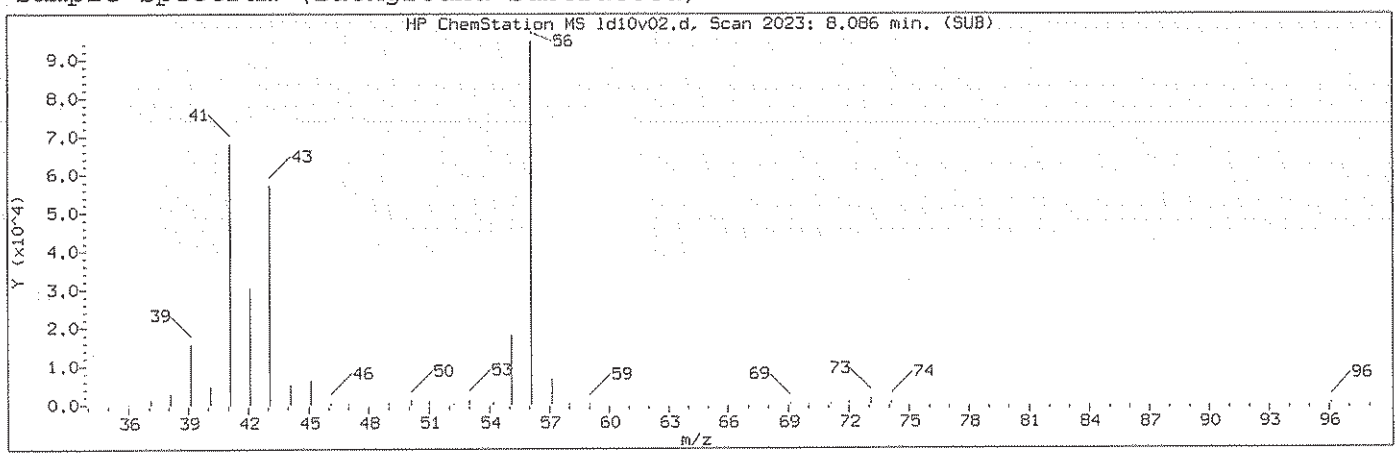
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:56
Date, time and analyst ID of latest file update: 10-Dec-2013 19:34 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

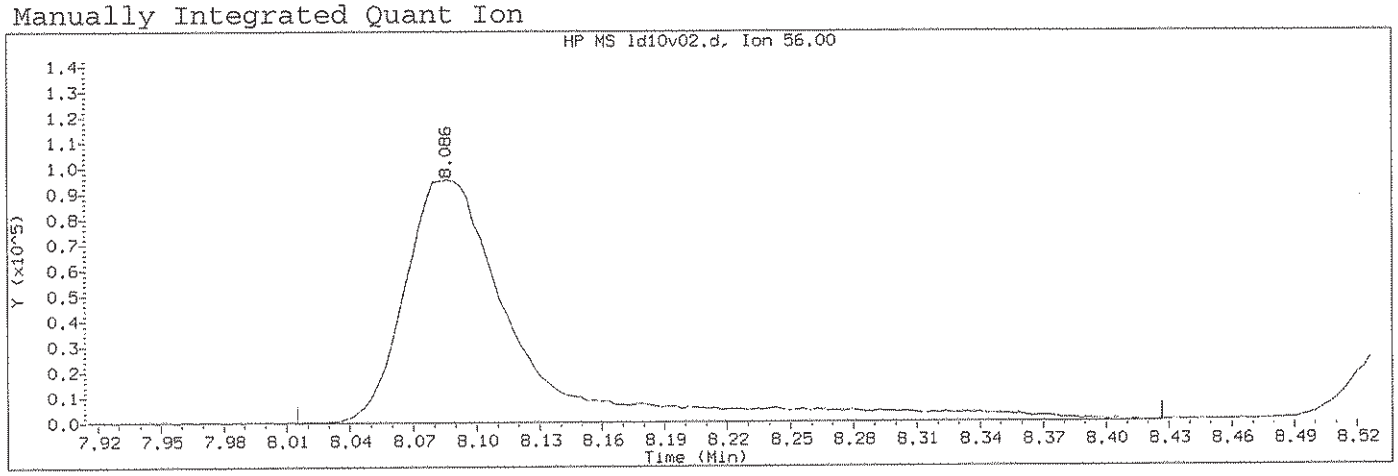
Compound Number	: 28		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 830		
Retention Time (minutes)	: 4.250		
Quant Ion	: 65.00		
Area	: 196078		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 789	Integration stop scan:	919
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

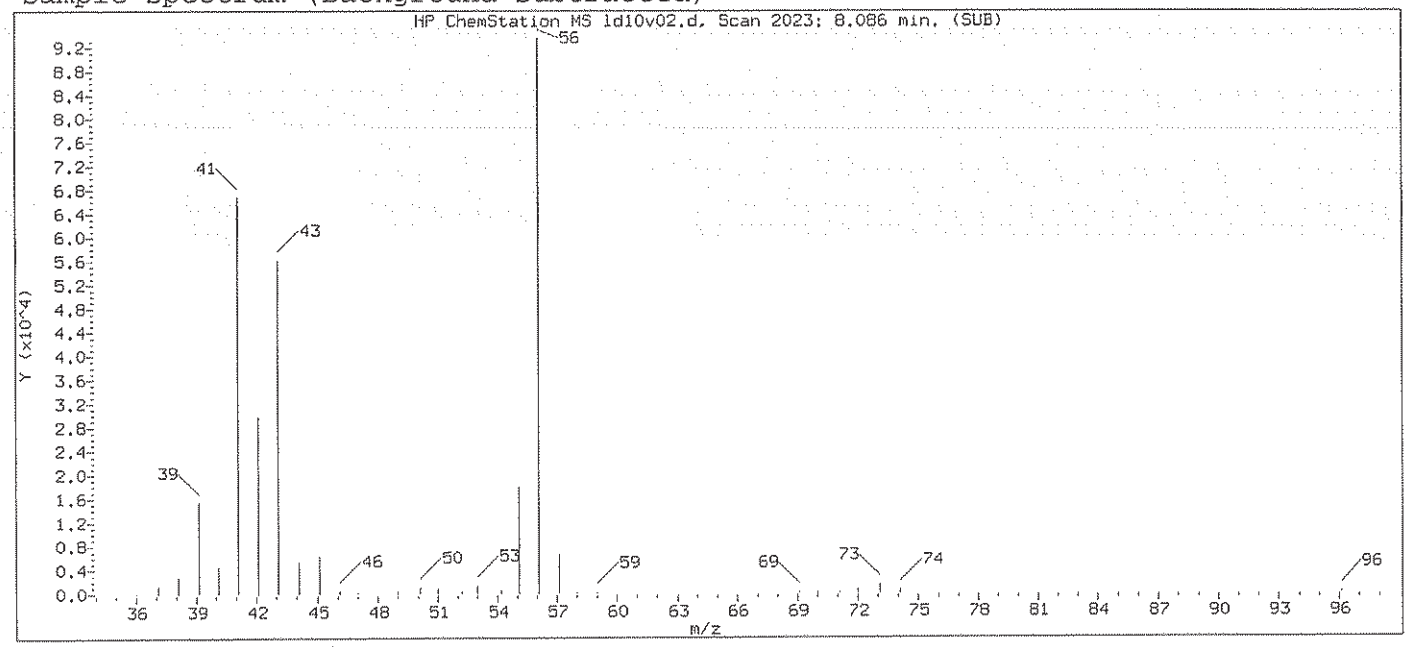
Compound Number : 73
Compound Name : n-Butanol
Scan Number : 2023
Retention Time (minutes): 8.086
Quant Ion : 56.00
Area (flag) : 364366M
On-Column Amount (ng) : 874.1088
Integration start scan : 2000 Integration stop scan: 2128
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

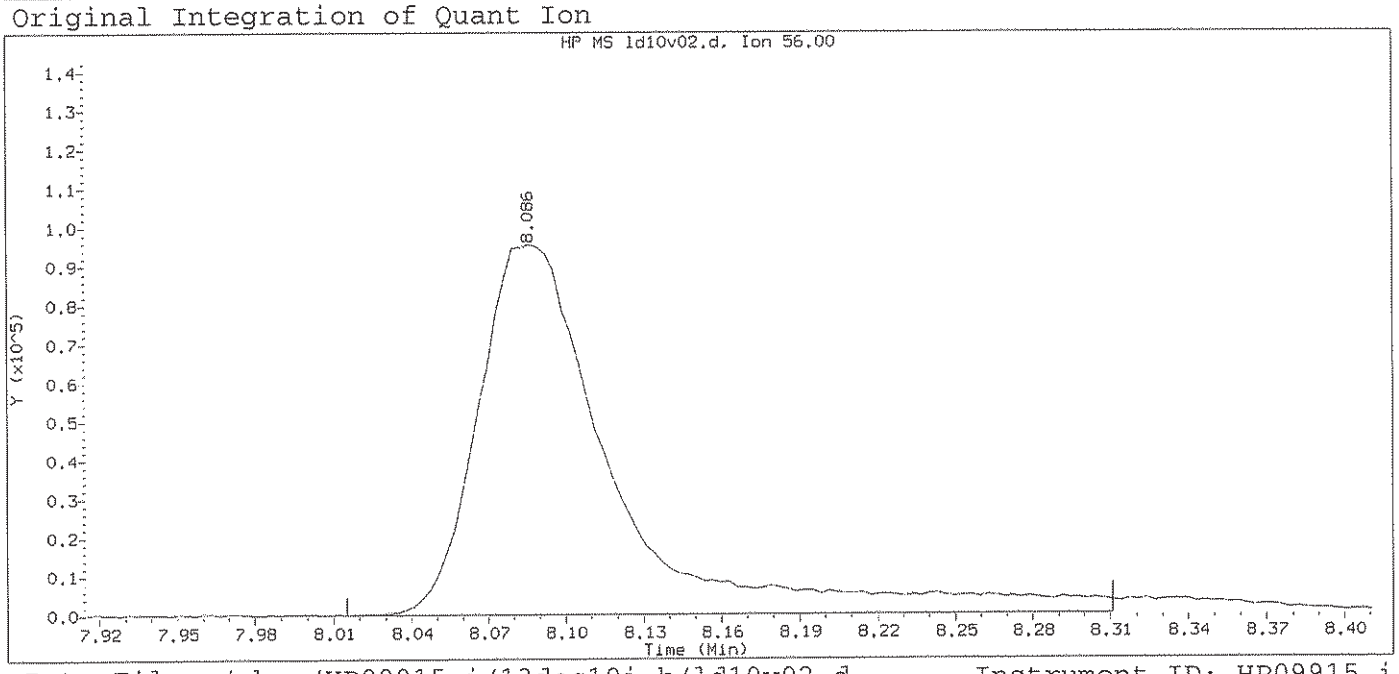
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

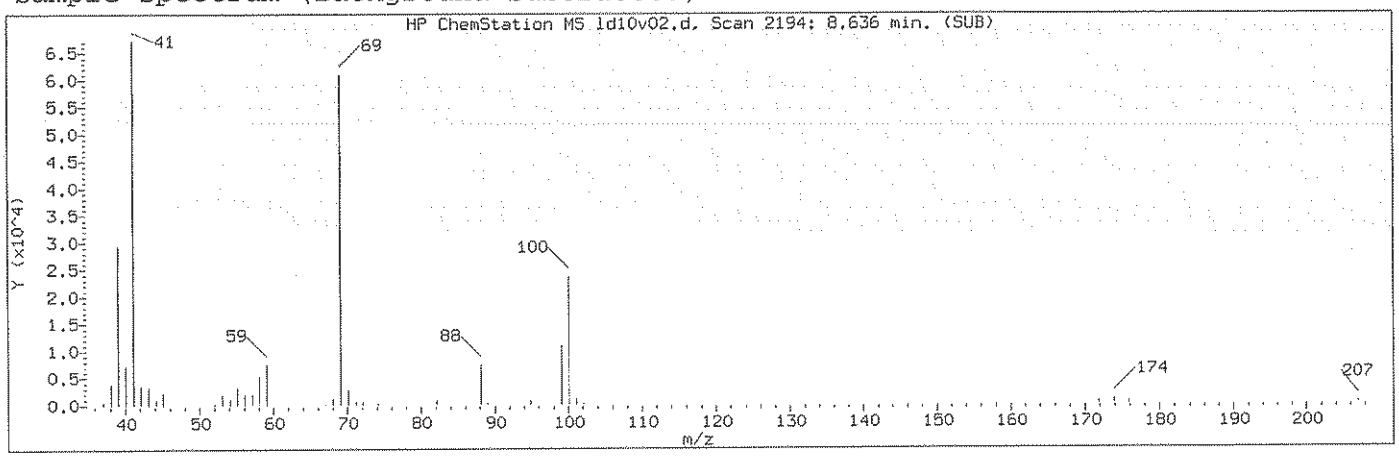
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:56
Date, time and analyst ID of latest file update: 10-Dec-2013 19:34 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

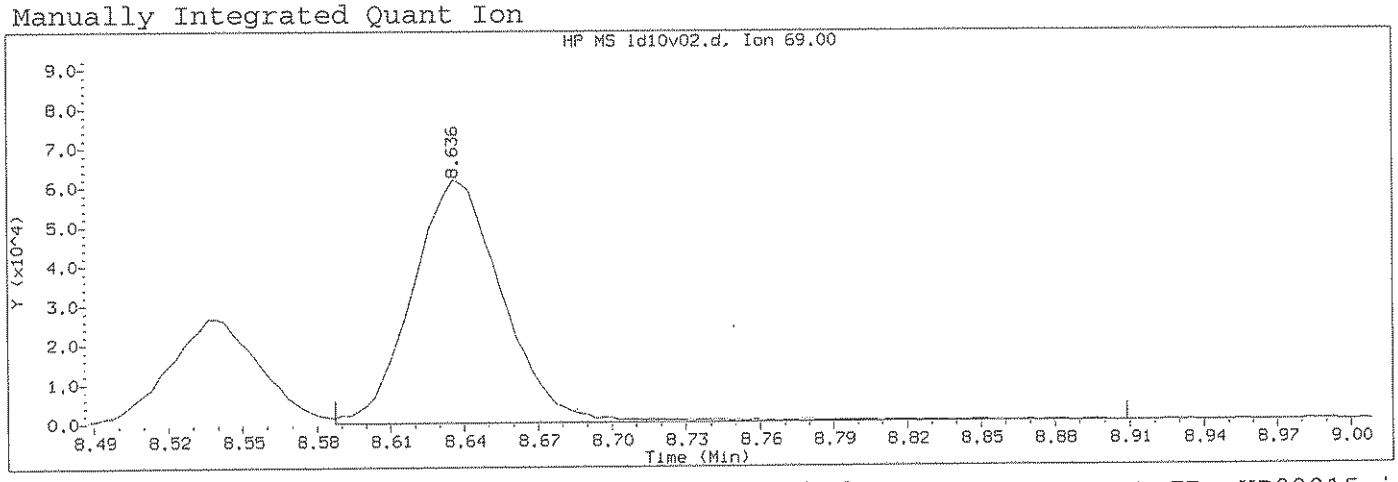
Compound Number	: 73
Compound Name	: n-Butanol
Scan Number	: 2023
Retention Time (minutes)	: 8.086
Quant Ion	: 56.00
Area	: 349825
On-column Amount (ng)	: 943.8765
Integration start scan	: 2000 Integration stop scan: 2092
Y at integration start	: 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

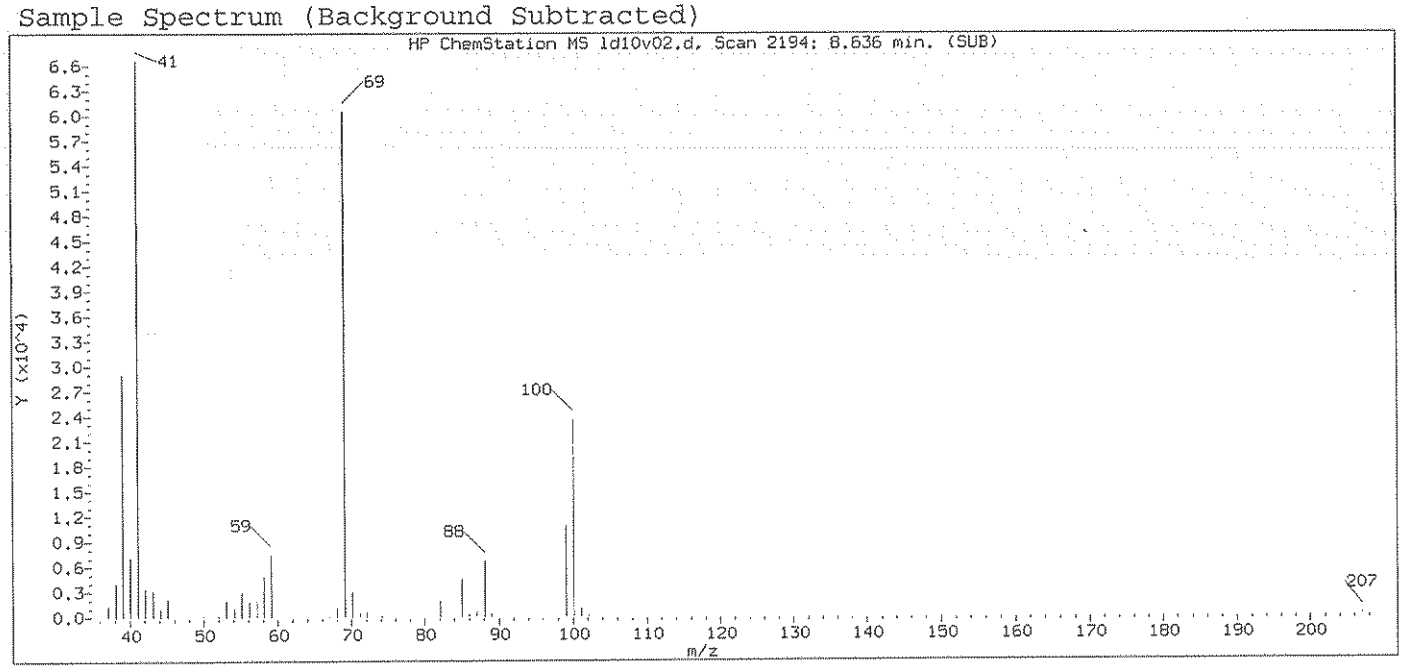
Compound Number : 80
Compound Name : Methyl Methacrylate
Scan Number : 2194
Retention Time (minutes): 8.636
Quant Ion : 69.00
Area (flag) : 159713M
On-Column Amount (ng) : 19.2404
Integration start scan : 2178 Integration stop scan: 2278
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

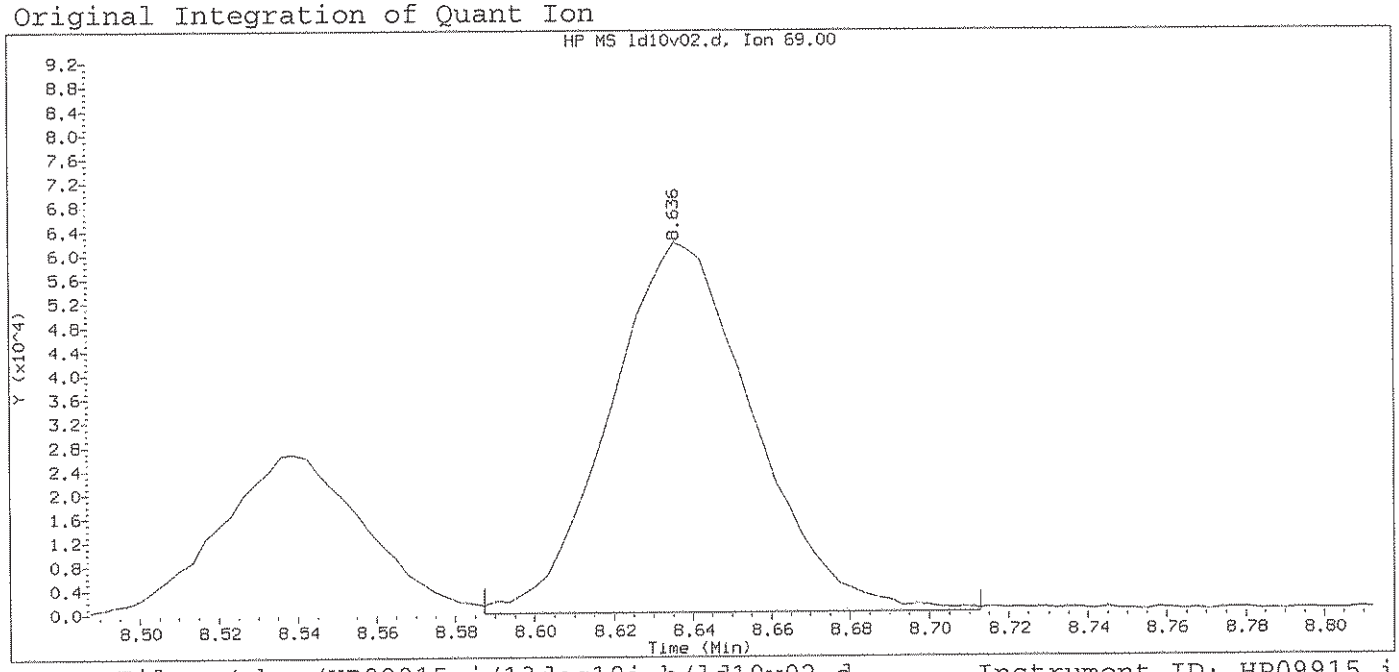
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

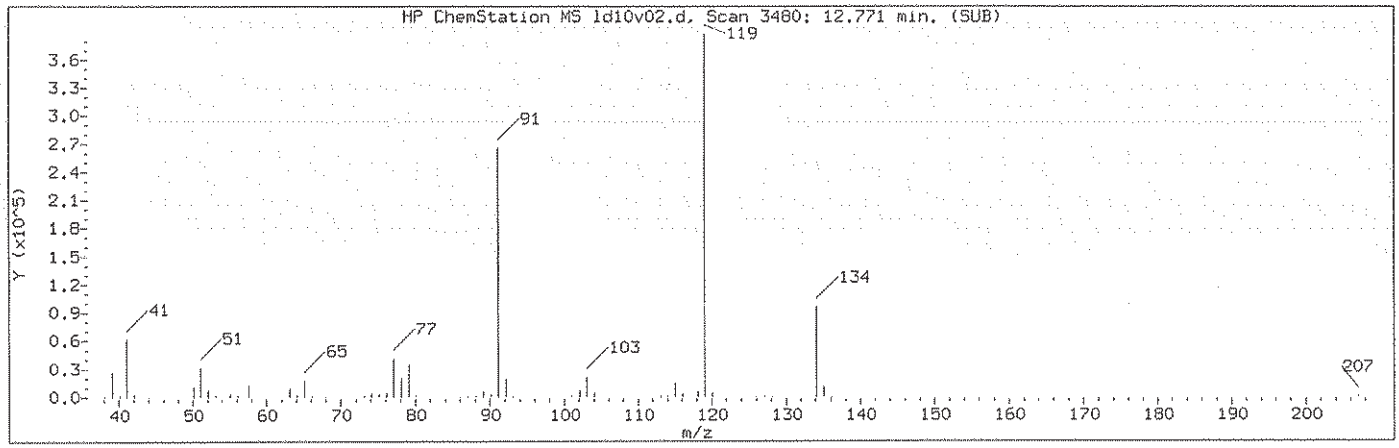
Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:56
Date, time and analyst ID of latest file update: 10-Dec-2013 19:34 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

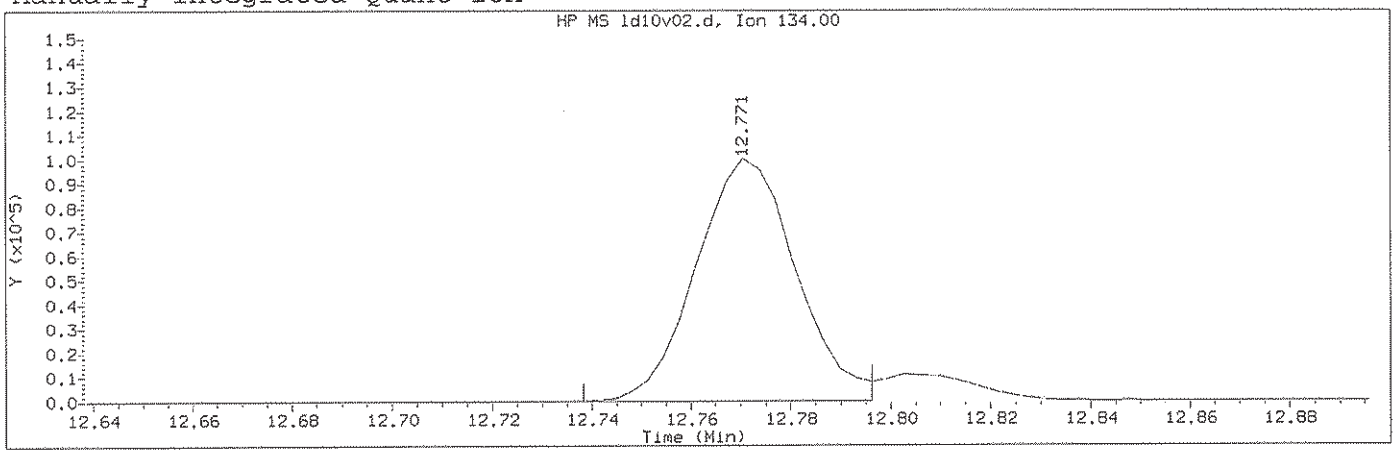
Compound Number : 80
Compound Name : Methyl Methacrylate
Scan Number : 2194
Retention Time (minutes): 8.636
Quant Ion : 69.00
Area : 155952
On-column Amount (ng) : 18.7873
Integration start scan : 2178 Integration stop scan: 2217
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 11-DEC-2013 15:30
Date, time and analyst ID of latest file update: 11-Dec-2013 15:44 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

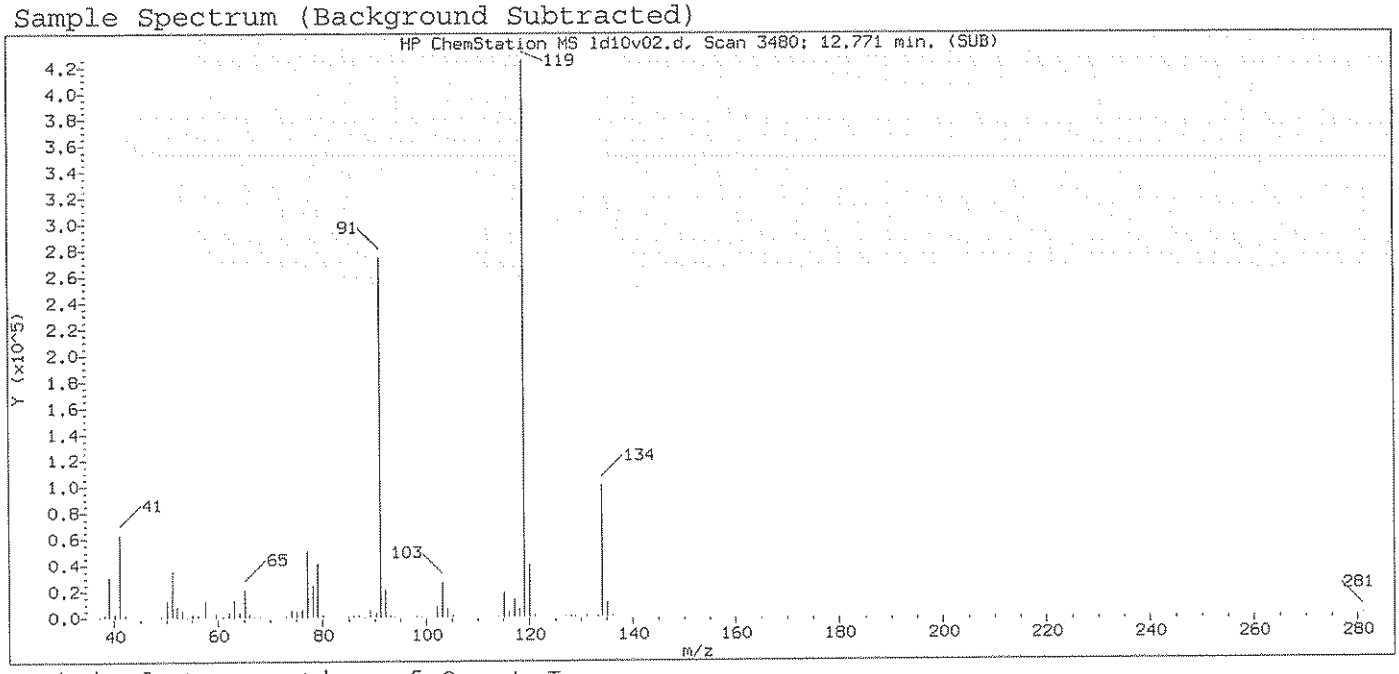
Compound Number : 130
Compound Name : tert-Butylbenzene
Scan Number : 3480
Retention Time (minutes): 12.771
Quant Ion : 134.00
Area (flag) : 139454M
On-Column Amount (ng) : 20.3532
Integration start scan : 3469 Integration stop scan: 3487
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

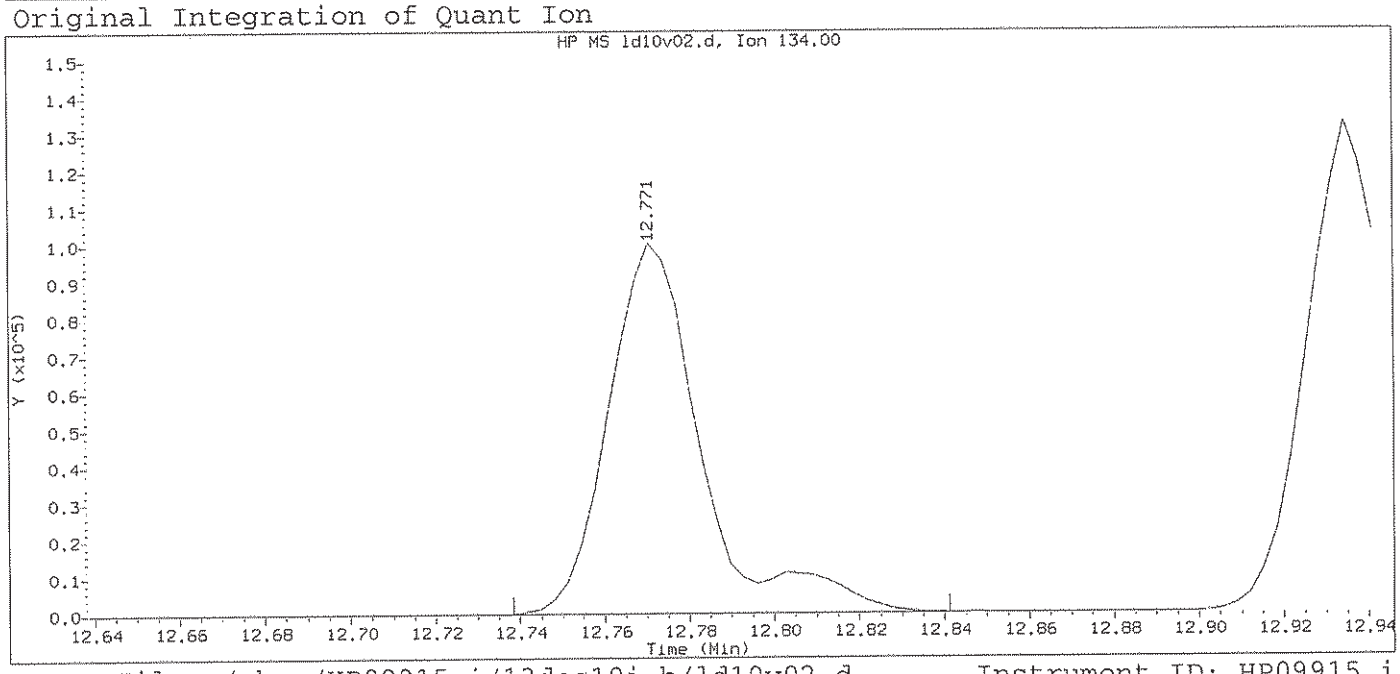
Analyst responsible for change: Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45. Target 3.5 esignature user ID: kas02648

GC/MS audit/management approval: 12/11/13

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec10i.b/ld10v02.d Instrument ID: HP09915.i
Injection date and time: 10-DEC-2013 19:06 Analyst ID: ADS01731

Method used: /chem/HP09915.i/13dec10i.b/L8260CW.m Sublist used: 8260W
Calibration date and time: 10-DEC-2013 18:56
Date, time and analyst ID of latest file update: 10-Dec-2013 19:34 kas02648

Sample Name: LGLICV Lab Sample ID: LGLICV

Compound Number	: 130
Compound Name	: tert-Butylbenzene
Scan Number	: 3480
Retention Time (minutes)	: 12.771
Quant Ion	: 134.00
Area	: 153127
On-column Amount (ng)	: 22.3488
Integration start scan	: 3469 Integration stop scan: 3501
Y at integration start	: 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 12/11/2013 at 15:45.
Target 3.5 esignature user ID: kas02648

Data File: /chem/HP09915.i/13dec18b.b/ld18t05.d

Date : 18-DEC-2013 21:12

Client ID: BFB

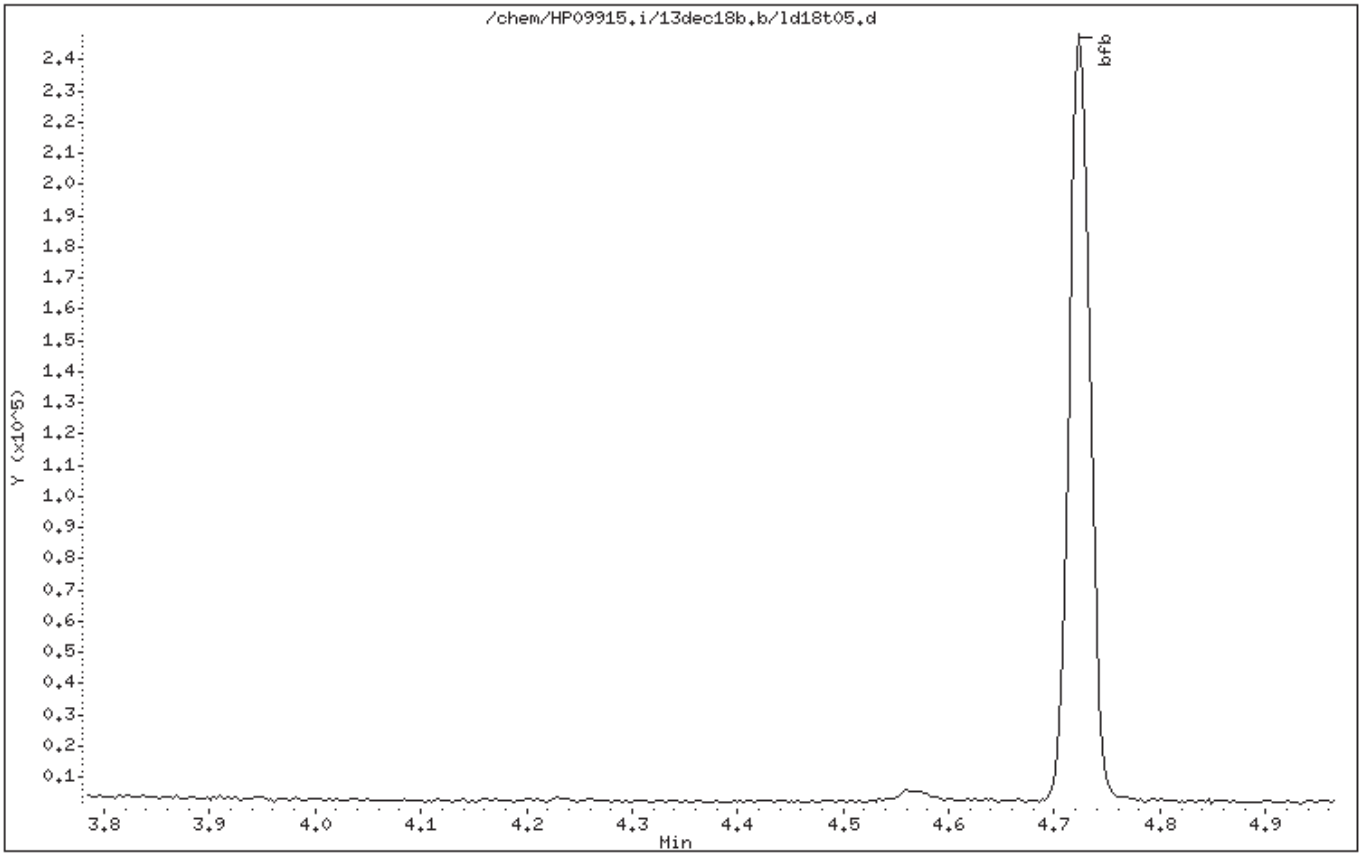
Instrument: HP09915.i

Sample Info: BFB;50NGBFB;1;3;;;;;;

Operator: SEJ02002

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Sara E. Johnson on 12/18/2013 at 22:05.
Target 3.5 esignature user ID: sej02002

Data File: /chem/HP09915.i/13dec18b.b/ld18t05.d

Date : 18-DEC-2013 21:12

Client ID: BFB

Instrument: HP09915.i

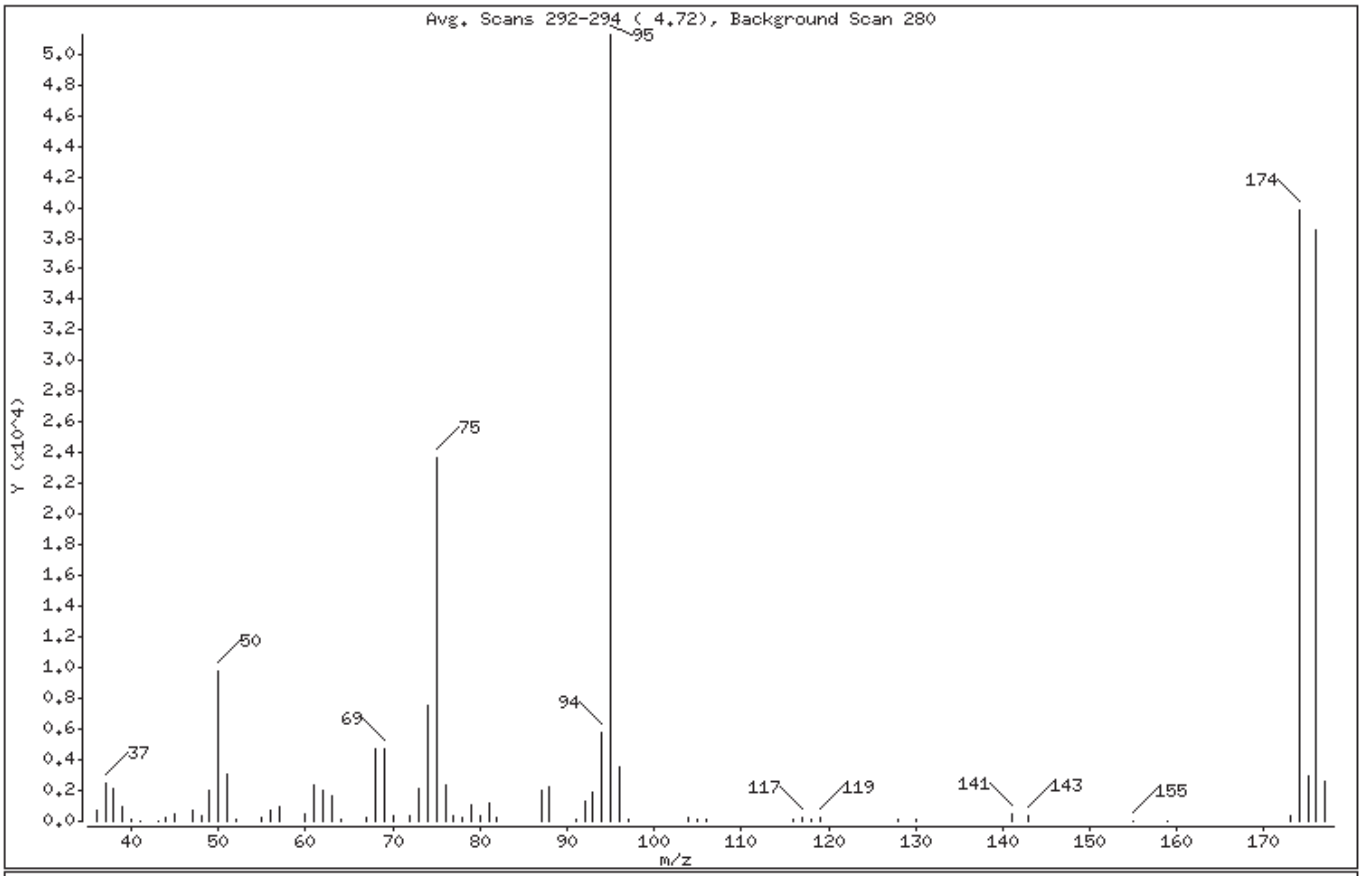
Sample Info: BFB;50NGBFB;1;3;;;;;;

Operator: SEJ02002

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.98
75	30.00 - 60.00% of mass 95	46.25
96	5.00 - 9.00% of mass 95	6.79
173	Less than 2.00% of mass 174	0.62 (0.80)
174	50.00 - 100.00% of mass 95	77.75
175	5.00 - 9.00% of mass 174	5.80 (7.46)
176	95.00 - 101.00% of mass 174	75.15 (96.65)
177	5.00 - 9.00% of mass 176	5.15 (6.85)

Digitally signed by Sara E. Johnson on 12/18/2013 at 22:05.
Target 3.5 esignature user ID: sej02002

Data File: /chem/HP09915.i/13dec18b.b/ld18t05.d

Date : 18-DEC-2013 21:12

Client ID: BFB

Instrument: HP09915.i

Sample Info: BFB;50NGBFB;1;3;;;;;;

Operator: SEJ02002

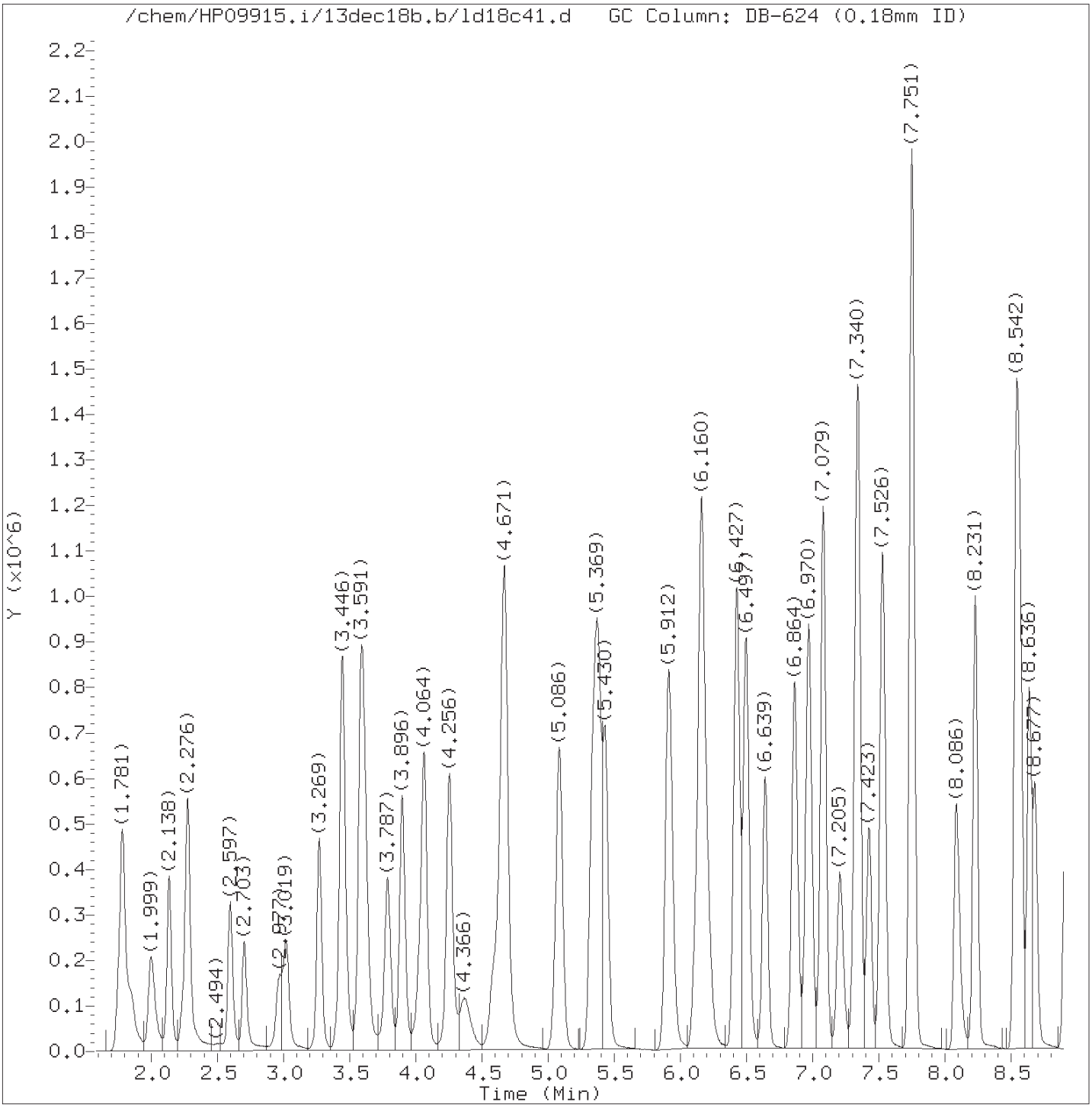
Column phase: Rxi-624Sil MS

Column diameter: 0.25

Data File: ld18t05.d
Spectrum: Avg. Scans 292-294 (4.72), Background Scan 280
Location of Maximum: 95.00
Number of points: 65

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	692	57.00	988	79.00	1097	117.00	252
37.00	2462	60.00	491	80.00	319	118.00	90
38.00	2140	61.00	2333	81.00	1129	119.00	244
39.00	957	62.00	2039	82.00	232	128.00	105
40.00	153	63.00	1694	87.00	2041	130.00	109
41.00	52	64.00	119	88.00	2280	141.00	417
43.00	54	67.00	202	91.00	136	143.00	373
44.00	221	68.00	4709	92.00	1312	155.00	58
45.00	498	69.00	4731	93.00	1873	159.00	50
47.00	728	70.00	382	94.00	5754	173.00	318
48.00	376	72.00	305	95.00	51256	174.00	39848
49.00	1966	73.00	2067	96.00	3481	175.00	2975
50.00	9726	74.00	7584	97.00	59	176.00	38512
51.00	3087	75.00	23704	104.00	230	177.00	2638
52.00	142	76.00	2301	105.00	63		
55.00	257	77.00	295	106.00	135		
56.00	745	78.00	221	116.00	152		

Digitally signed by Sara E. Johnson on 12/18/2013 at 22:05.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

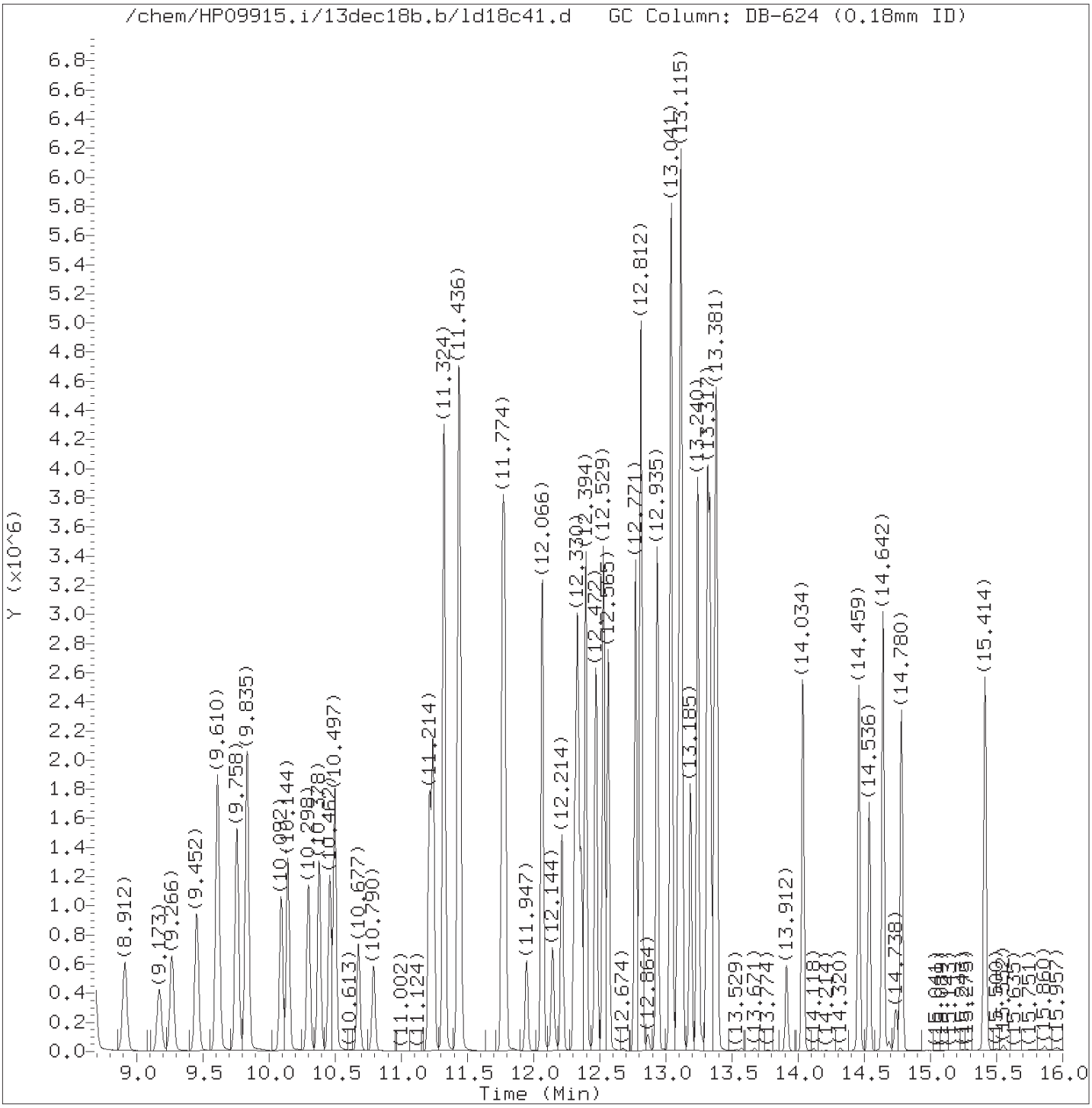
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18c41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 8260WI-FRBN
Calibration date and time: 18-DEC-2013 21:55
Date, time and analyst ID of latest file update: 18-Dec-2013 22:05 sej02002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:05.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18c41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 8260WI-FRBN
Calibration date and time: 18-DEC-2013 21:55
Date, time and analyst ID of latest file update: 18-Dec-2013 22:05 sej02002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:05.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18c41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 8260WI-FRBN
Calibration date and time: 18-DEC-2013 21:55
Date, time and analyst ID of latest file update: 18-Dec-2013 22:05 sej02002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
2) Dichlorodifluoromethane	(1)	1.999	85	405715	35.256
3) Chloromethane	(1)	2.134	50	532133	43.846
5) Vinyl Chloride	(1)	2.273	62	485271	44.894
7) Bromomethane	(1)	2.597	94	299266	42.497
8) Chloroethane	(1)	2.703	64	280877	44.971
10) Trichlorofluoromethane	(1)	3.019	101	514940	45.885
13) Ethyl Ether	(1)	3.273	59	403529	47.481
15) Acrolein	(4)	3.446	56	1362033	457.781
16) 1,1-Dichloroethene	(1)	3.584	96	319135	48.897
18) Freon 113	(1)	3.607	101	328258	47.807
17) Acetone	(4)	3.610	58	120235	98.699
45) 1,2-Dichloroethene (total)	(1)		96	852564	105.311
21) 2-Propanol	(4)	3.768	45	226980	262.891
20) Methyl Iodide	(1)	3.787	142	588444	48.687
22) Carbon Disulfide	(1)	3.896	76	1249851	50.415
25) Methyl Acetate	(1)	4.028	43	457098	53.771
24) Allyl Chloride	(1)	4.067	41	687769	48.640
28)*t-Butyl Alcohol-d10	(4)	4.247	65	229507	250.000
26) Methylene Chloride	(1)	4.256	84	395825	49.125
29) t-Butyl Alcohol	(4)	4.375	59	347566	247.949
30) Acrylonitrile	(1)	4.581	53	258887	54.899
32) Methyl Tertiary Butyl Ether	(1)	4.652	73	1333762	49.286
31) trans-1,2-Dichloroethene	(1)	4.674	96	369220	48.813
33) n-Hexane	(1)	5.086	57	630780	49.256
34) 1,1-Dichloroethane	(1)	5.327	63	741004	50.597
36) di-Isopropyl Ether	(1)	5.375	45	1548708	51.057
37) 2-Chloro-1,3-Butadiene	(1)	5.433	53	638639	50.325
39) Ethyl t-Butyl Ether	(1)	5.912	59	1400225	49.864
41) 2-Butanone	(4)	6.121	43	689191	97.012
40) cis-1,2-Dichloroethene	(1)	6.160	96	483344	56.498
42) 2,2-Dichloropropane	(1)	6.176	77	496265	46.102
43) Propionitrile	(4)	6.208	54	460399	233.562
46) Methacrylonitrile	(1)	6.424	67	586625	123.483
47) Bromochloromethane	(1)	6.497	128	209474	49.300
48) Tetrahydrofuran	(4)	6.501	71	161614	92.412
50) Chloroform	(1)	6.639	83	665095	50.792
51)$Dibromofluoromethane(mz111)	(1)	6.858	111	298016	50.772
52)$Dibromofluoromethane	(1)	6.858	113	290495	50.759

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:05.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18c41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 8260WI-FRBN
Calibration date and time: 18-DEC-2013 21:55
Date, time and analyst ID of latest file update: 18-Dec-2013 22:05 sej02002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
53) 1,1,1-Trichloroethane	(1)	6.864	97	530560	43.741
56) Cyclohexane	(1)	6.970	56	767946	48.279
55) Cyclohexane (mz 69)	(1)	6.970	69	215035	46.664
54) Cyclohexane (mz 84)	(1)	6.973	84	576247	47.249
57) 1,1-Dichloropropene	(1)	7.079	75	531423	48.929
58) Carbon Tetrachloride	(1)	7.079	117	428757	47.660
59) Isobutyl Alcohol	(4)	7.205	41	316541	622.518
61)$1,2-Dichloroethane-d4(mz65)	(1)	7.321	65	370163	52.684
62)$1,2-Dichloroethane-d4	(1)	7.321	102	75195M	50.603
60)$1,2-Dichloroethane-d4(mz104)	(1)	7.321	104	48431	50.838
63) Benzene	(1)	7.343	78	1665083	50.159
64) 1,2-Dichloroethane (mz 98)	(1)	7.427	98	51276	47.809
65) 1,2-Dichloroethane	(1)	7.427	62	543970	50.725
69) t-Amyl Methyl Ether	(1)	7.526	73	1292261	48.350
71)*Fluorobenzene	(1)	7.748	96	1251775	50.000
72) n-Heptane	(1)	7.751	43	681824	50.775
73) n-Butanol	(4)	8.083	56	536039	1235.648
112) Xylene (Total)	(2)		106	2237660	150.798
74) Trichloroethene	(1)	8.227	95	455126	56.719
75) Methylcyclohexane (mz98)	(1)	8.539	98	301181	47.822
76) Methylcyclohexane	(1)	8.539	83	694808	47.450
77) 1,2-Dichloropropane	(1)	8.568	63	456813	50.431
80) Methyl Methacrylate	(1)	8.636	69	392457	48.570
79) 1,4-Dioxane	(4)	8.655	88	76462	716.703
78) Dibromomethane	(1)	8.681	93	272632	48.974
83) Bromodichloromethane	(1)	8.912	83	516492	50.615
85) 2-Nitropropane	(1)	9.173	41	348133	115.183
86) 2-Chloroethyl Vinyl Ether	(1)	9.266	63	359955	50.152
87) cis-1,3-Dichloropropene	(1)	9.456	75	648582	48.064
89) 4-Methyl-2-Pentanone	(4)	9.610	43	1618632	98.956
93)$Toluene-d8	(2)	9.758	98	1209194	50.806
92)$Toluene-d8(mz100)	(2)	9.761	100	784771	50.401
94) Toluene	(2)	9.835	92	1010819	49.776
95) trans-1,3-Dichloropropene	(2)	10.092	75	606383	47.461
96) Ethyl Methacrylate	(2)	10.144	69	716120	49.334
97) 1,1,2-Trichloroethane	(2)	10.298	97	379935	48.558
98) Tetrachloroethene	(2)	10.378	166	394418	48.775
99) 1,3-Dichloropropane	(2)	10.462	76	696269	49.940

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:05.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18c41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 8260WI-FRBN
Calibration date and time: 18-DEC-2013 21:55
Date, time and analyst ID of latest file update: 18-Dec-2013 22:05 sej02002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
101) 2-Hexanone	(4)	10.497	43	1201859	99.655
102) Dibromochloromethane	(2)	10.677	129	400064	51.477
104) 1,2-Dibromoethane	(2)	10.793	107	411828	48.783
106)*Chlorobenzene-d5	(2)	11.214	117	885619	50.000
107) Chlorobenzene	(2)	11.240	112	1078206	49.153
109) Ethylbenzene	(2)	11.324	91	1974605	50.956
108) 1,1,1,2-Tetrachloroethane	(2)	11.324	131	363502	49.665
110) m+p-Xylene	(2)	11.436	106	1504313	100.644
113) o-Xylene	(2)	11.767	106	733347	50.154
114) Styrene	(2)	11.783	104	1260689	48.996
115) Bromoform	(2)	11.947	173	261366	47.364
116) Isopropylbenzene	(2)	12.066	105	1921270	50.766
118) Cyclohexanone	(4)	12.144	55	298852	787.010
120)$4-Bromofluorobenzene(mz174)	(2)	12.214	174	361417	49.255
119)$4-Bromofluorobenzene	(2)	12.214	95	451051	50.549
122) 1,1,2,2-Tetrachloroethane	(3)	12.311	83	614948	49.016
121) Bromobenzene	(3)	12.330	156	476107	47.325
124) trans-1,4-Dichloro-2-Butene	(3)	12.336	53	208331	63.628
123) 1,2,3-Trichloropropane	(3)	12.362	110	170215	48.268
125) n-Propylbenzene	(3)	12.394	91	2328019	49.919
126) 2-Chlorotoluene	(3)	12.472	126	436473	47.842
127) 1,3,5-Trimethylbenzene	(3)	12.529	105	1638439	51.030
128) 4-Chlorotoluene	(3)	12.565	126	457244	48.324
130) tert-Butylbenzene	(3)	12.771	134	325842	49.184
131) Pentachloroethane	(3)	12.809	167	291185	50.050
132) 1,2,4-Trimethylbenzene	(3)	12.812	105	1690826	51.227
133) sec-Butylbenzene	(3)	12.935	105	2058710	50.407
134) 1,3-Dichlorobenzene	(3)	13.037	146	891354	49.124
135) p-Isopropyltoluene	(3)	13.041	119	1797585	50.494
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	470096	50.000
138) 1,4-Dichlorobenzene	(3)	13.111	146	925925	49.116
139) 1,2,3-Trimethylbenzene	(3)	13.118	105	1835803	52.380
141) Benzyl Chloride	(3)	13.185	91	1097309	43.624
142) 1,3-Diethylbenzene	(3)	13.240	119	1108369	50.920
143) 1,4-Diethylbenzene	(3)	13.314	119	1114327	50.980
145) n-Butylbenzene	(3)	13.333	92	891854	50.699
144) 1,2-Dichlorobenzene	(3)	13.369	146	865606	48.278
146) 1,2-Diethylbenzene	(3)	13.385	119	920975	51.035

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:05.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18c41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:32 Analyst ID: SEJ02002

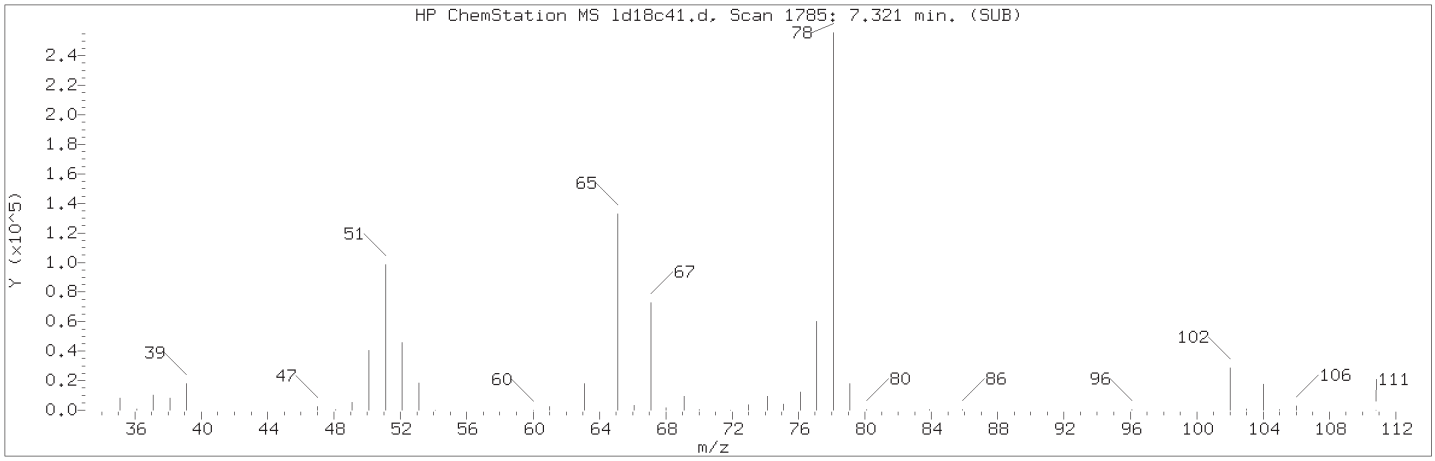
Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 8260WI-FRBN
Calibration date and time: 18-DEC-2013 21:55
Date, time and analyst ID of latest file update: 18-Dec-2013 22:05 sej02002

Sample Name: VSTD050 Lab Sample ID: VSTD050

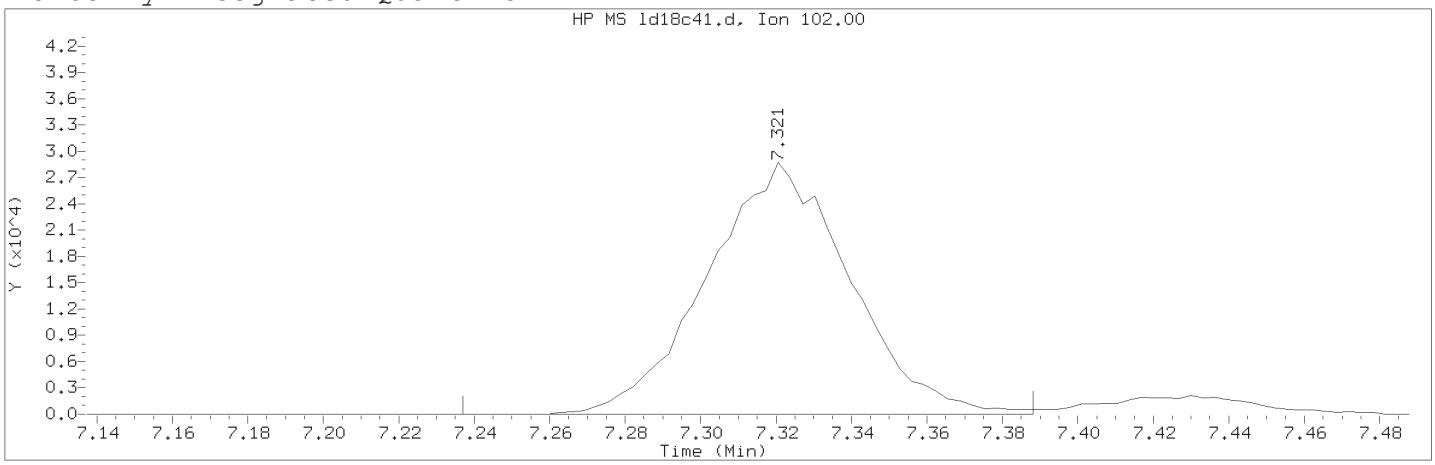
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2-Dibromo-3-Chloropropane	(3)	13.912	75	126077	51.544
149) 1,3,5-Trichlorobenzene	(3)	14.034	180	683515	49.236
150) 1,2,4-Trichlorobenzene	(3)	14.459	180	656578	49.399
151) Hexachlorobutadiene	(3)	14.536	225	280186	44.456
152) Naphthalene	(3)	14.642	128	1982601	48.500
153) 1,2,3-Trichlorobenzene	(3)	14.780	180	626146	50.094
154) 2-Methylnaphthalene	(3)	15.414	142	1168782	50.126

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:05.
Target 3.5 esignature user ID: sej02002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18c41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 8260WI-FRBN
Calibration date and time: 18-DEC-2013 21:55
Date, time and analyst ID of latest file update: 18-Dec-2013 22:05 sej02002

Sample Name: VSTD050 Lab Sample ID: VSTD050

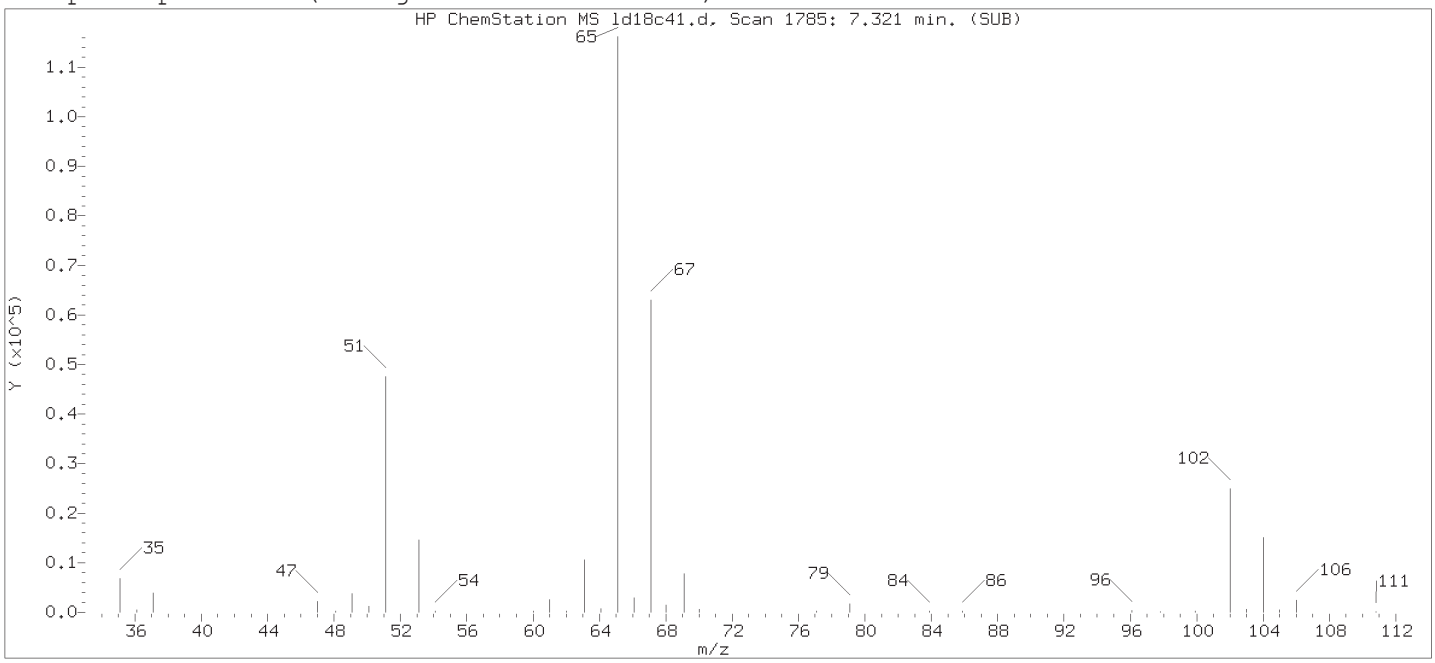
Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1785
Retention Time (minutes): 7.321
Quant Ion : 102.00
Area (flag) : 75195M
On-Column Amount (ng) : 50.6030
Integration start scan : 1758 Integration stop scan: 1805
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

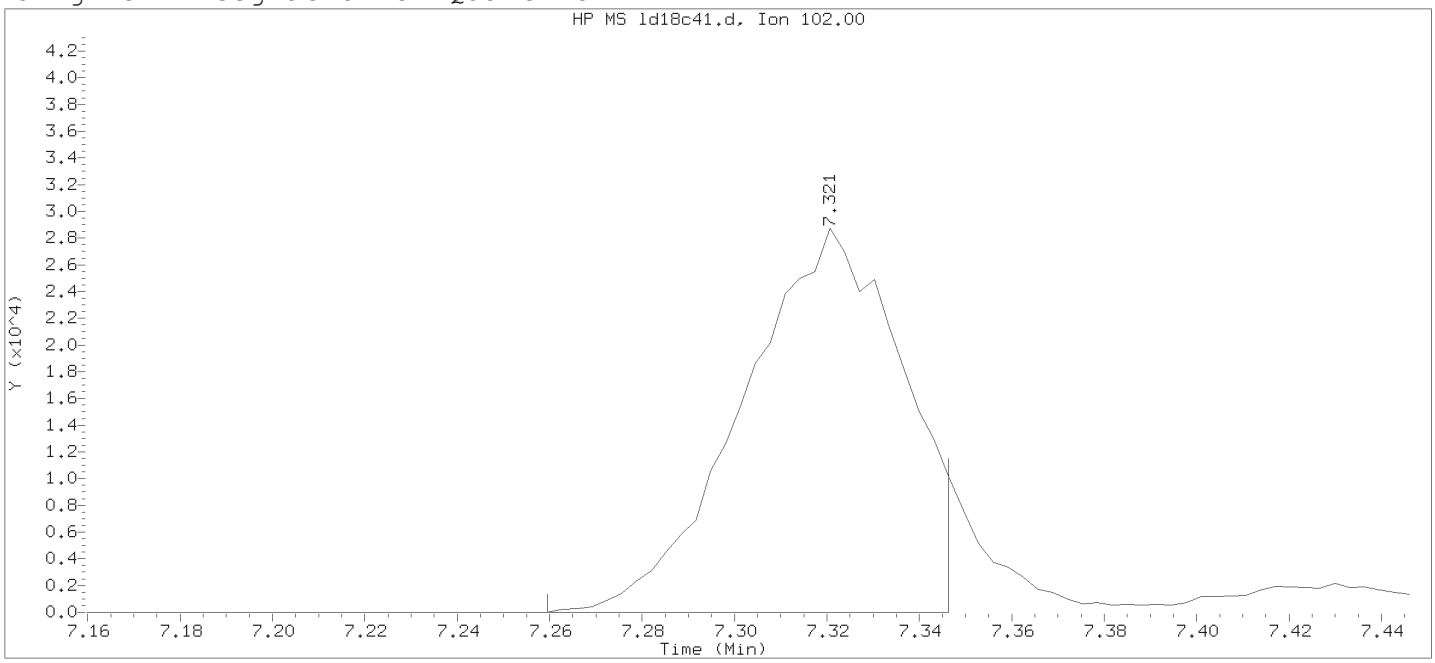
Analyst responsible for change: Digitally signed by Sara E. Johnson on 12/18/2013 at 22:05. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49.
Parallax ID: rrm00219

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18c41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:32 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 8260WI-FRBN
Calibration date and time: 18-DEC-2013 21:55
Date, time and analyst ID of latest file update: 18-Dec-2013 21:55 sej02002

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1785
Retention Time (minutes): 7.321
Quant Ion : 102.00
Area : 68468
On-column Amount (ng) : 46.0761
Integration start scan : 1765 Integration stop scan: 1792
Y at integration start : 0 Y at integration end: 0

Digitally signed by Sara E. Johnson on 12/18/2013 at 22:05.
Target 3.5 esignature used ID: sej02002

Raw QC Data

Volatiles by GC/MS

VBLKL76 Lancaster Laboratories VBLKL76

Analysis Summary for GC/MS Volatiles

Data file: /chem/HP09915.i/13dec18b.b/ld18b41.d Injection date and time: **18-DEC-2013 21:54**
Data file Sample Info. Line: VBLKL76;VBLKL76;1;3;;;;;; Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 18-Dec-2013 22:14 Automation

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.247	(0.000)	829	65	216550	(-6)	250.00	
71) Fluorobenzene	7.748	(0.000)	1918	96	1243453	(-1)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	879375	(-1)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	473526	(1)	50.00	

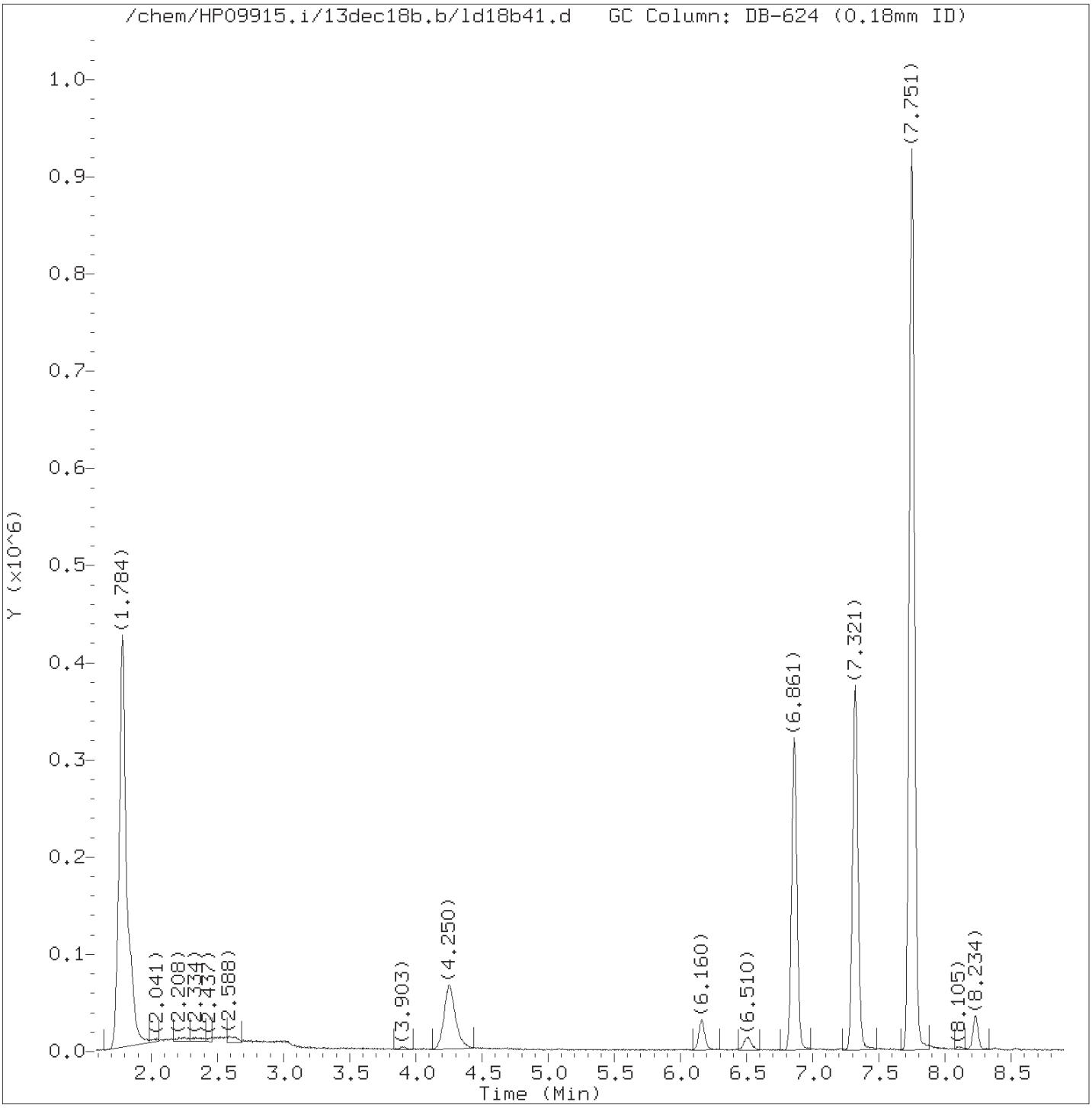
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.861	(0.000)	113	286804	50.449	101%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.321	(0.000)	102	75385	51.070	102%		77 - 113
93) Toluene-d8	(2)	9.758	(0.000)	98	1192535	50.462	101%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	456847	51.562	103%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)				Not Detected					0.5	5
63) Benzene	(1)				Not Detected					0.5	5
94) Toluene	(2)				Not Detected					0.7	5
109) Ethylbenzene	(2)				Not Detected					0.8	5
110) m+p-Xylene	(2)				Not Detected					0.8	5
112) Xylene (Total)	(2)				Not Detected					0.8	5
113) o-Xylene	(2)				Not Detected					0.8	5

Total number of targets = 7

Digitally signed by Sara E. Johnson on 12/18/2013 at 22:15. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

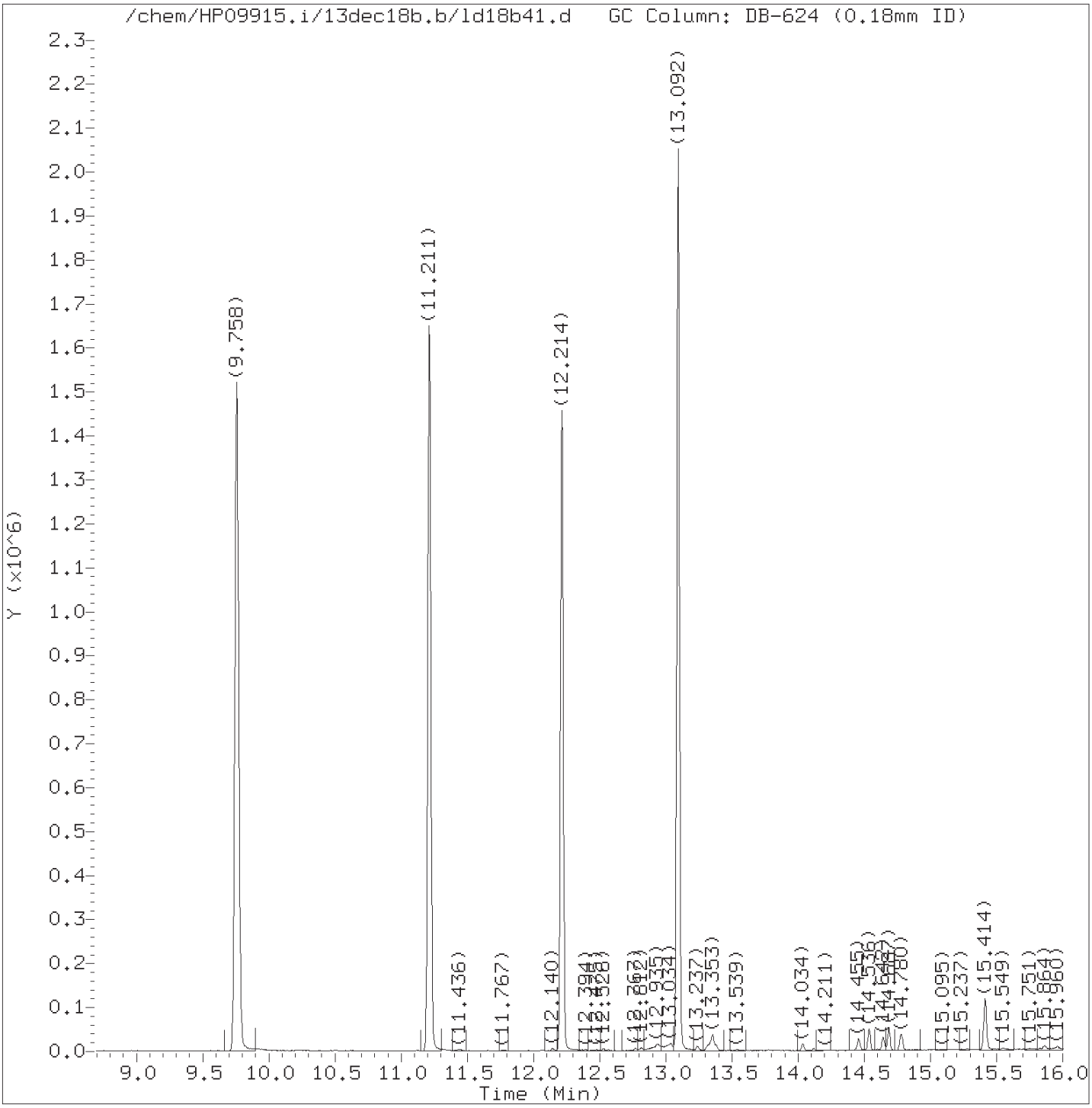
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18b41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:54 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 18-Dec-2013 22:14 Automation

Sample Name: VBLKL76 Lab Sample ID: VBLKL76

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:15.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18b41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:54 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 18-Dec-2013 22:14 Automation

Sample Name: VBLKL76 Lab Sample ID: VBLKL76

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:15.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18b41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 21:54 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 18-Dec-2013 22:14 Automation

Sample Name: VBLKL76 Lab Sample ID: VBLKL76

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.247	65	216550	250.000
52)$Dibromofluoromethane	(1)	6.861	113	286804	50.449
62)$1,2-Dichloroethane-d4	(1)	7.321	102	75385	51.070
71)*Fluorobenzene	(1)	7.748	96	1243453	50.000
93)$Toluene-d8	(2)	9.758	98	1192535	50.462
106)*Chlorobenzene-d5	(2)	11.211	117	879375	50.000
119)$4-Bromofluorobenzene	(2)	12.214	95	456847	51.562
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	473526	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:15.
Target 3.5 esignature user ID: sej02002

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY7DMS

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311250

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s54.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	20	
71-43-2	Benzene	22	
108-88-3	Toluene	22	
100-41-4	Ethylbenzene	22	
179601-23-1	m+p-Xylene	43	
1330-20-7	Xylene (Total)	65	
95-47-6	o-Xylene	22	

page 1 of 1

FORM I VOA

PNY7DMS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311250MS

Data file: /chem/HP09915.i/13dec18b.b/ld18s54.d Injection date and time: **19-DEC-2013 03:19**
Data file Sample Info. Line: PNY7DMS;7311250MS;1;3;MS;PCH14;;;ld18b41; Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 19-Dec-2013 05:22 sas00403

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.234	(0.013)	825	65	205460	(-10)	250.00	
71) Fluorobenzene	7.742	(0.006)	1916	96	1211218	(-3)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	855106	(-3)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	460805	(-2)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.854	(0.000)	113	277351	50.085	100%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.317	(0.000)	102	71899M	50.005	100%		77 - 113
93) Toluene-d8	(2)	9.758	(0.000)	98	1167416	50.801	102%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	437715	50.804	102%		78 - 113

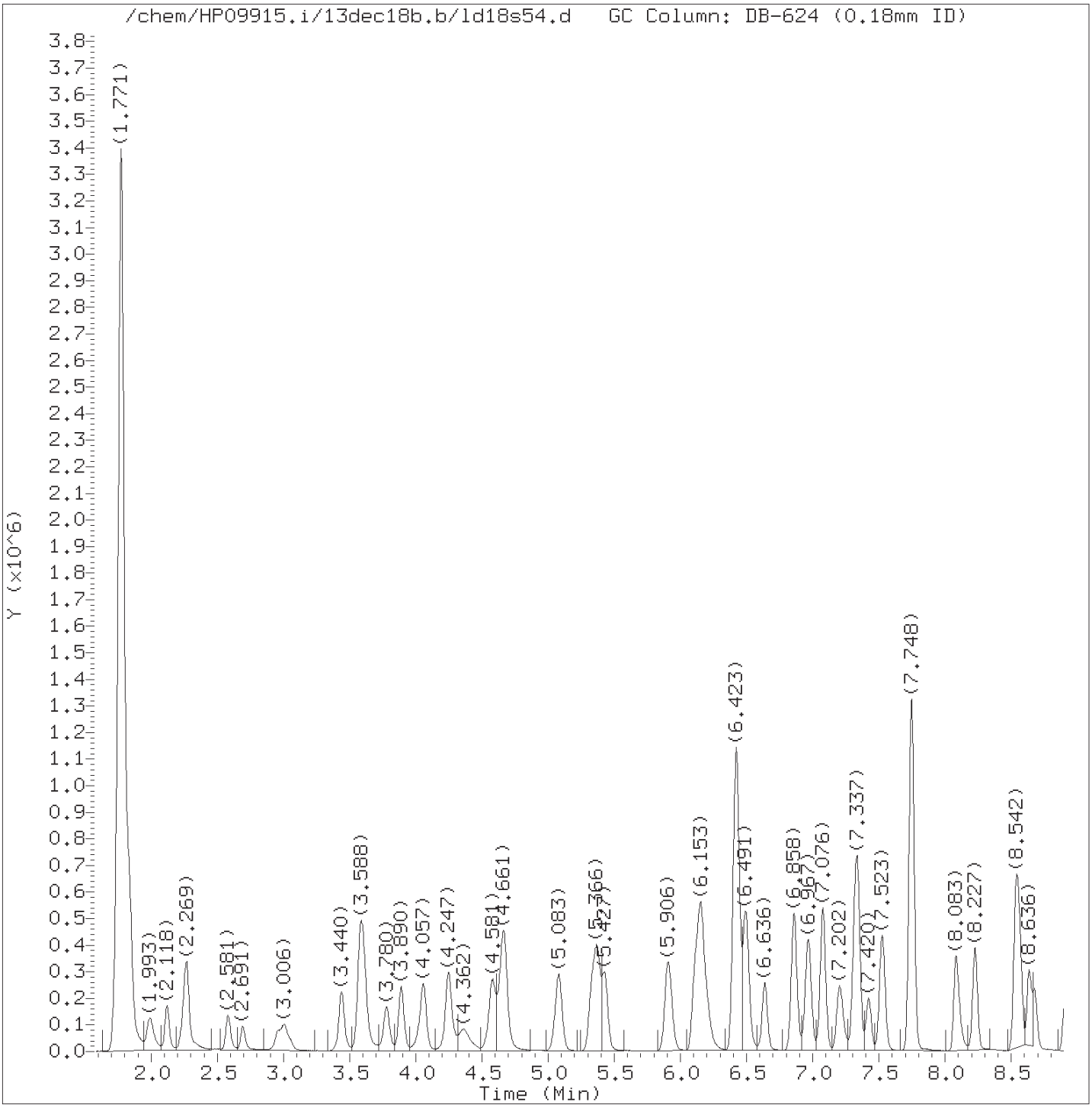
M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)	4.645	(0.000)	73	516459	19.723	19.72			0.5	5
63) Benzene	(1)	7.340	(-0.000)	78	691108	21.516	21.52			0.5	5
94) Toluene	(2)	9.835	(-0.000)	92	423975	21.623	21.62			0.7	5
109) Ethylbenzene	(2)	11.320	(-0.000)	91	819518	21.903	21.90			0.8	5
110) m+p-Xylene	(2)	11.436	(-0.000)	106	626737	43.427	43.43			0.8	5
112) Xylene (Total)	(2)			106	930815	64.965	64.97			0.8	5
113) o-Xylene	(2)	11.767	(-0.000)	106	304078	21.538	21.54			0.8	5

Total number of targets = 7

Digitally signed by Stephanie A. Selis on 12/19/2013 at 05:24. Target 3.5 esignature user ID: sas00403

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

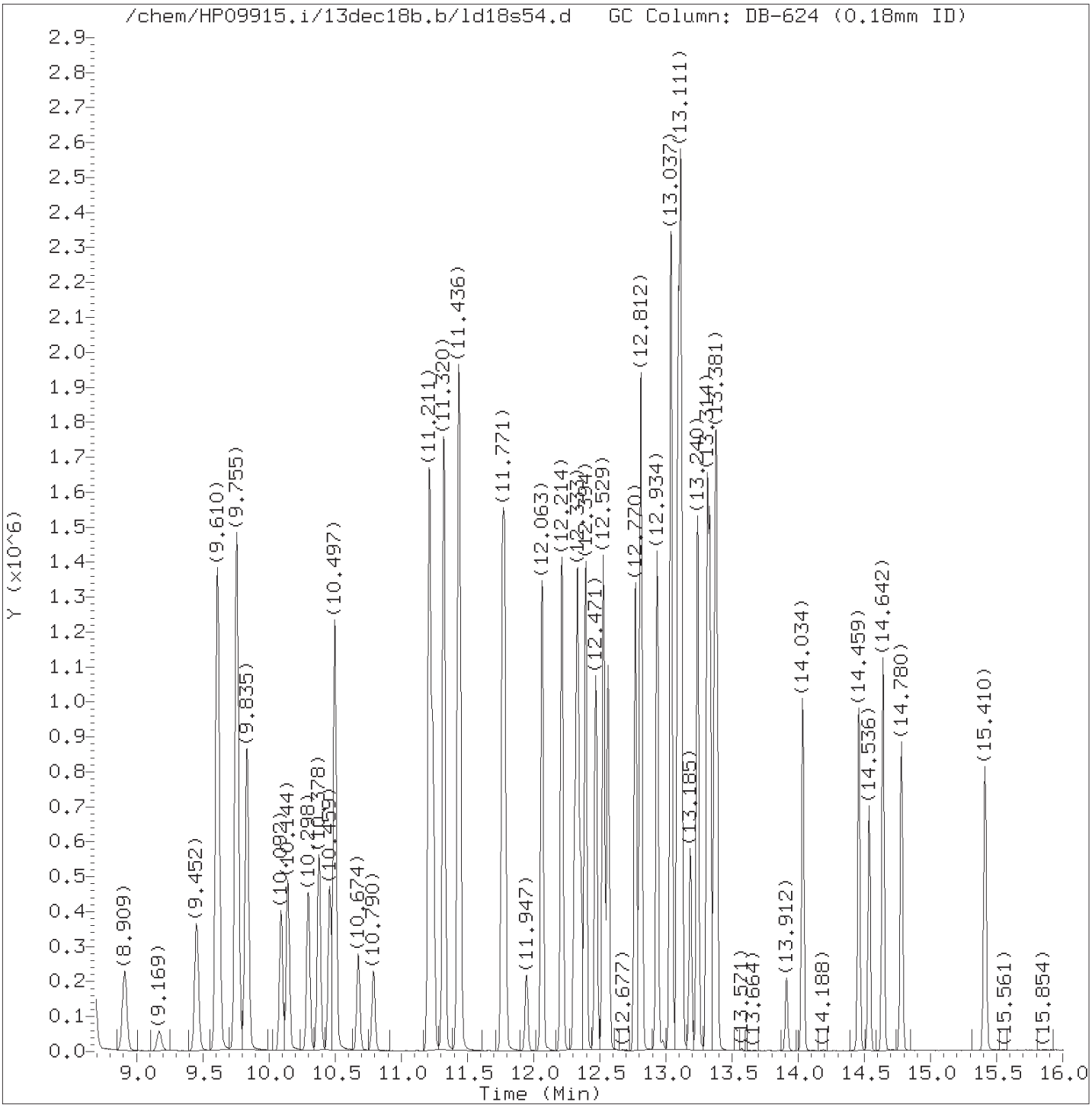
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s54.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 03:19 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 05:22 sas00403

Sample Name: PNY7DMS Lab Sample ID: 7311250MS

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s54.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 03:19 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 05:22 sas00403

Sample Name: PNY7DMS Lab Sample ID: 7311250MS

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s54.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 03:19 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 05:22 sas00403

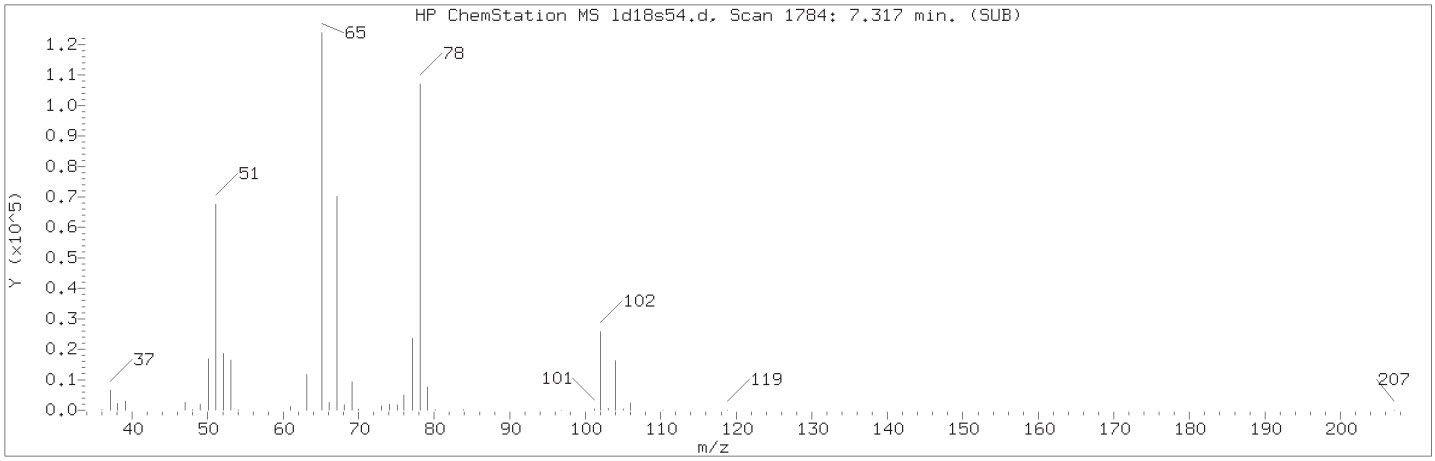
Sample Name: PNY7DMS Lab Sample ID: 7311250MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.234	65	205460	250.000
32) Methyl Tertiary Butyl Ether	(1)	4.645	73	516459	19.723
52)$Dibromofluoromethane	(1)	6.854	113	277351	50.085
62)$1,2-Dichloroethane-d4	(1)	7.317	102	71899M	50.005
63) Benzene	(1)	7.340	78	691108	21.516
71)*Fluorobenzene	(1)	7.742	96	1211218	50.000
112) Xylene (Total)	(2)		106	930815	64.965
93)$Toluene-d8	(2)	9.758	98	1167416	50.801
94) Toluene	(2)	9.835	92	423975	21.623
106)*Chlorobenzene-d5	(2)	11.211	117	855106	50.000
109) Ethylbenzene	(2)	11.320	91	819518	21.903
110) m+p-Xylene	(2)	11.436	106	626737	43.427
113) o-Xylene	(2)	11.767	106	304078	21.538
119)$4-Bromofluorobenzene	(2)	12.214	95	437715	50.804
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	460805	50.000

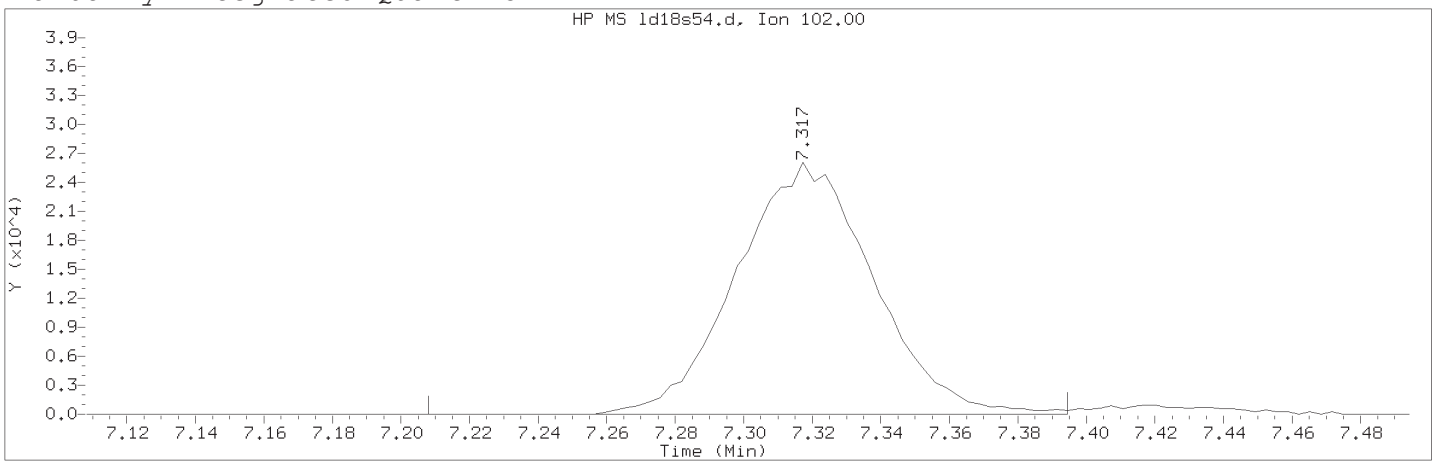
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s54.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 03:19 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 05:22 sas00403

Sample Name: PNY7DMS Lab Sample ID: 7311250MS

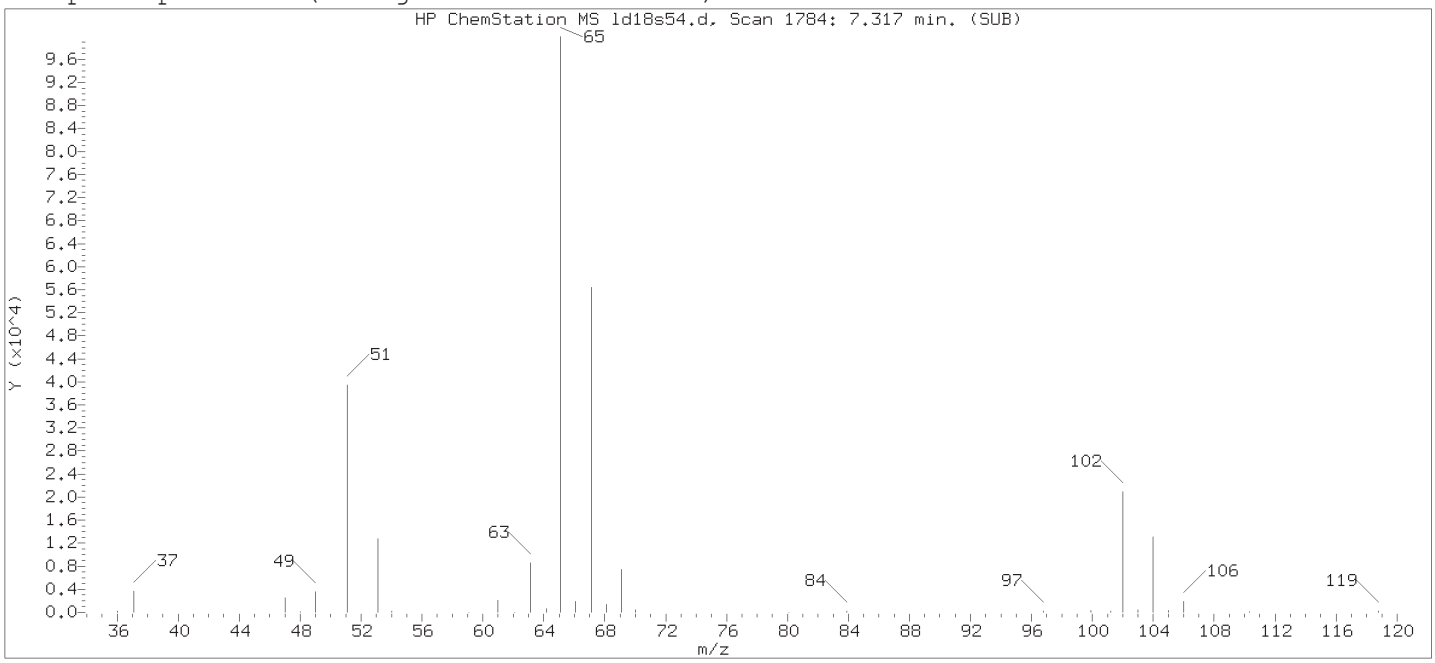
Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1784
Retention Time (minutes): 7.317
Quant Ion : 102.00
Area (flag) : 71899M
On-Column Amount (ng) : 50.0051
Integration start scan : 1749 Integration stop scan: 1807
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

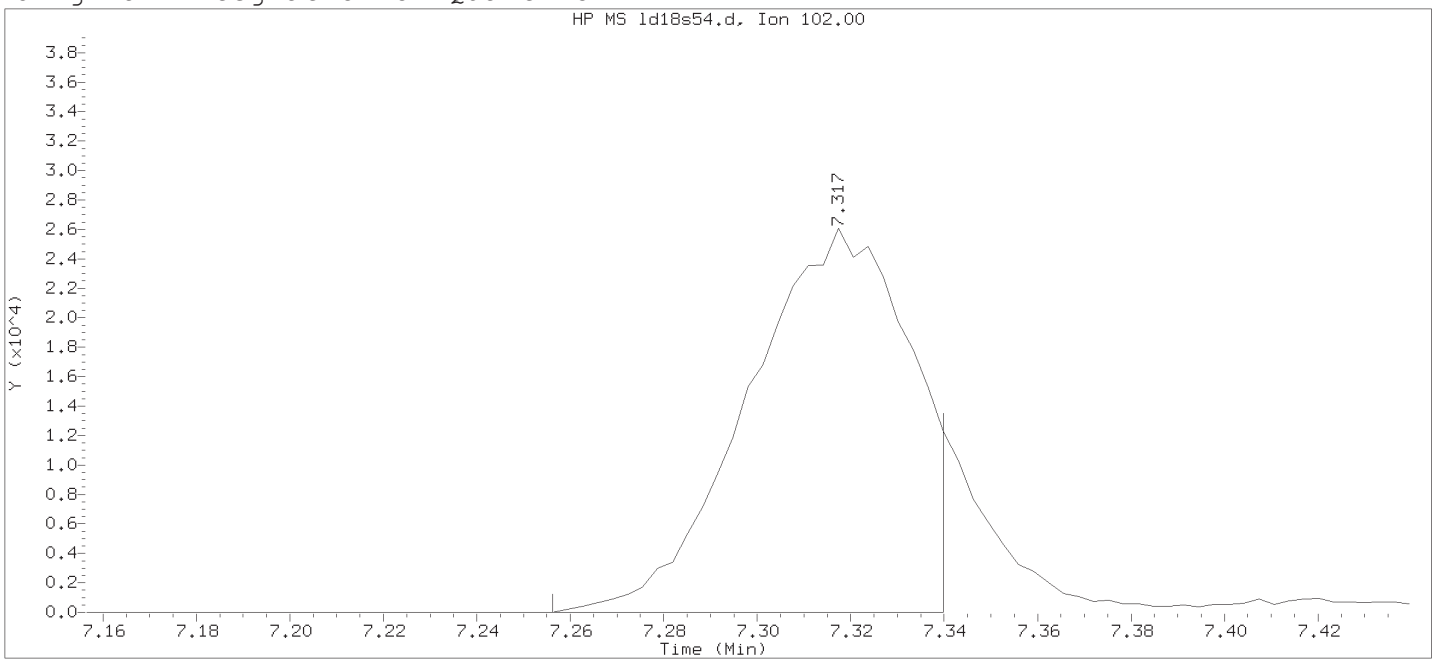
Analyst responsible for change: Digitally signed by Stephanie A. Selis on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49.
Parallax ID: rrm00219

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/13dec18b.b/ld18s54.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 03:19 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 03:39 Automation

Sample Name: PNY7DMS Lab Sample ID: 7311250MS

Compound Number : 62
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 1784
Retention Time (minutes): 7.317
Quant Ion : 102.00
Area : 62360
On-column Amount (ng) : 43.3709
Integration start scan : 1764 Integration stop scan: 1790
Y at integration start : 0 Y at integration end: 0

Digitally signed by Stephanie A. Selis on 12/19/2013 at 05:24.
Target 3.5 esignature used ID: Selis0405

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY7DMSD

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311251

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s55.d

Level: (low/med) LOW Date Received: 12/12/13

Moisture: not dec. _____ Date Analyzed: 12/19/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	20	
71-43-2	Benzene	22	
108-88-3	Toluene	22	
100-41-4	Ethylbenzene	22	
179601-23-1	m+p-Xylene	44	
1330-20-7	Xylene (Total)	65	
95-47-6	o-Xylene	22	

page 1 of 1

FORM I VOA

PNY7DMSD

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

7311251MSD

Data file: /chem/HP09915.i/13dec18b.b/ld18s55.d Injection date and time: **19-DEC-2013 03:41**
Data file Sample Info. Line: PNY7DMSD;7311251MSD;1;3;MSD;PCH14;;;ld18b41; Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 19-Dec-2013 04:01 Automation

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.240	(0.006)	827	65	202075	(-12)	250.00	
71) Fluorobenzene	7.742	(0.006)	1916	96	1207490	(-4)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	853662	(-4)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	455176	(-3)	50.00	

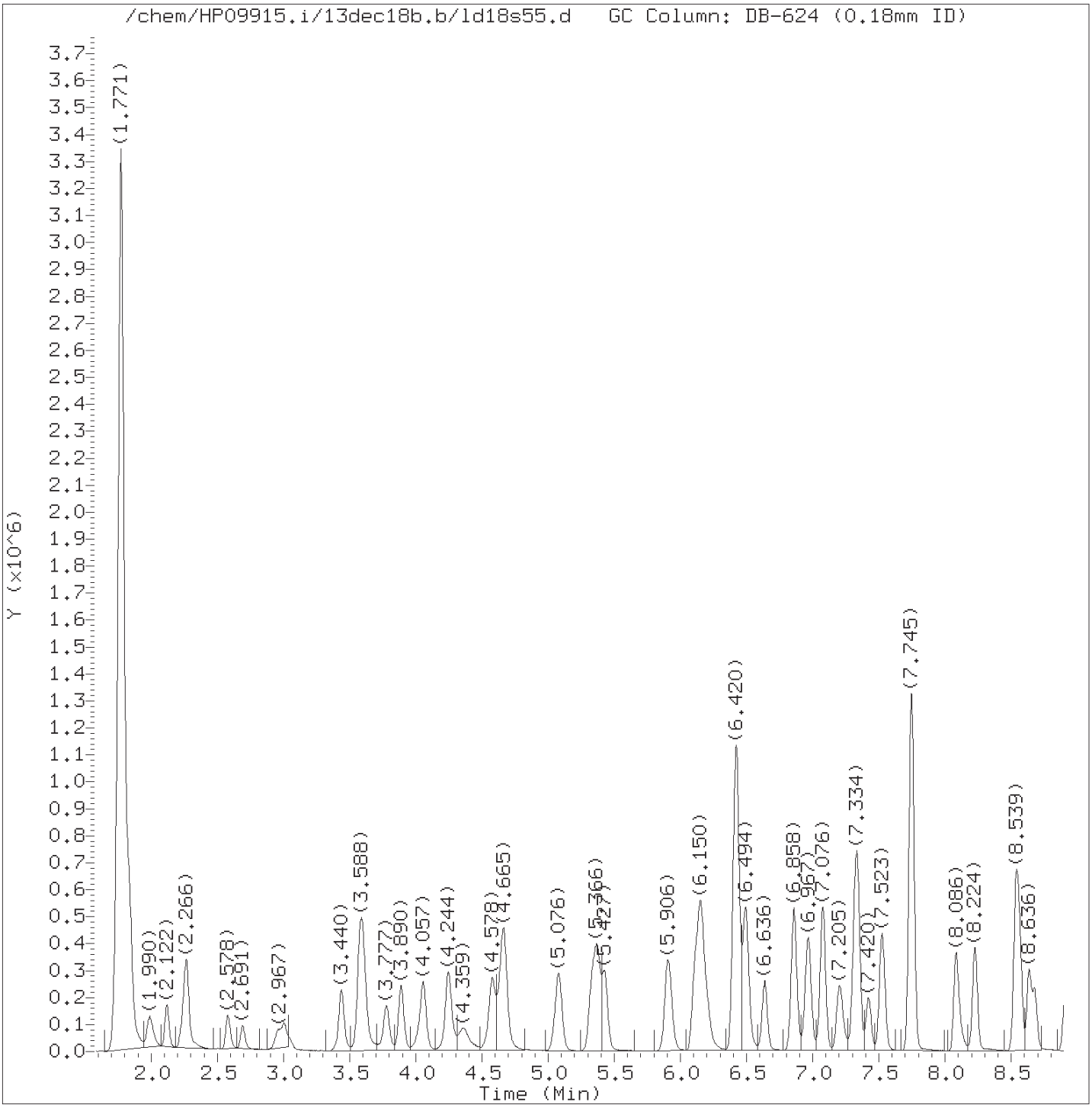
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.858	(-0.001)	113	278619	50.469	101%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.321	(-0.001)	102	72975	50.911	102%		77 - 113
93) Toluene-d8	(2)	9.755	(0.000)	98	1166472	50.846	102%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	436358	50.733	101%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)	4.649	(-0.000)	73	513540	19.672	19.67			0.5	5
63) Benzene	(1)	7.340	(-0.000)	78	696399	21.748	21.75			0.5	5
94) Toluene	(2)	9.832	(0.000)	92	425625	21.744	21.74			0.7	5
109) Ethylbenzene	(2)	11.320	(-0.000)	91	821593	21.995	22.00			0.8	5
110) m+p-Xylene	(2)	11.436	(-0.000)	106	626928	43.514	43.51			0.8	5
112) Xylene (Total)	(2)			106	931770	65.143	65.14			0.8	5
113) o-Xylene	(2)	11.764	(-0.000)	106	304842	21.629	21.63			0.8	5

Total number of targets = 7

Digitally signed by Stephanie A. Selis on 12/19/2013 at 05:24. Target 3.5 esignature user ID: sas00403

Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

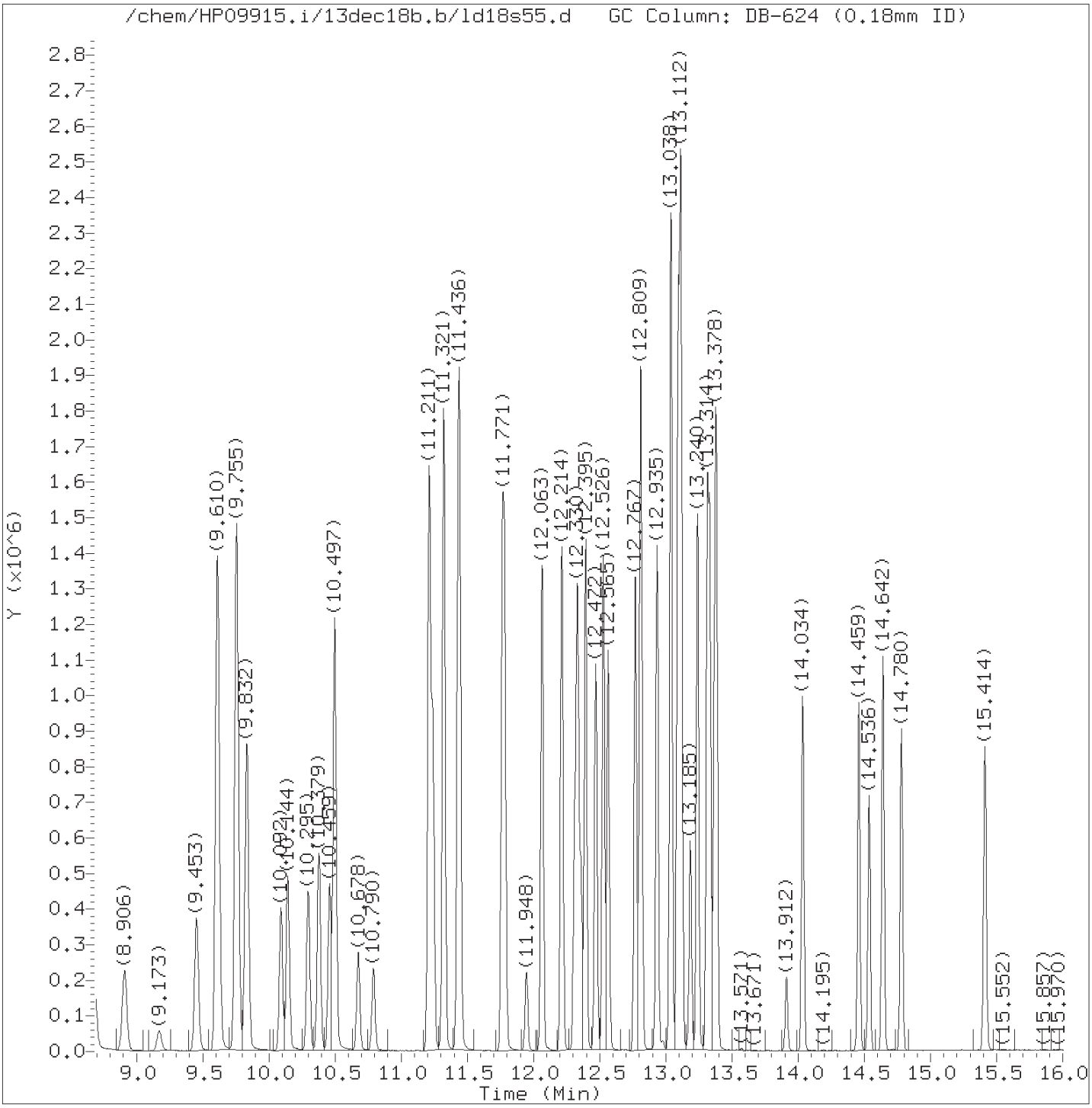
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s55.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 03:41 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:01 Automation

Sample Name: PNY7DMSD Lab Sample ID: 7311251MSD

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s55.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 03:41 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:01 Automation

Sample Name: PNY7DMSD Lab Sample ID: 7311251MSD

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s55.d Instrument ID: HP09915.i
Injection date and time: 19-DEC-2013 03:41 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 19-Dec-2013 04:01 Automation

Sample Name: PNY7DMSD Lab Sample ID: 7311251MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.240	65	202075	250.000
32) Methyl Tertiary Butyl Ether	(1)	4.649	73	513540	19.672
52)$Dibromofluoromethane	(1)	6.858	113	278619	50.469
62)$1,2-Dichloroethane-d4	(1)	7.321	102	72975	50.911
63) Benzene	(1)	7.340	78	696399	21.748
71)*Fluorobenzene	(1)	7.742	96	1207490	50.000
112) Xylene (Total)	(2)		106	931770	65.143
93)$Toluene-d8	(2)	9.755	98	1166472	50.846
94) Toluene	(2)	9.832	92	425625	21.744
106)*Chlorobenzene-d5	(2)	11.211	117	853662	50.000
109) Ethylbenzene	(2)	11.321	91	821593	21.995
110) m+p-Xylene	(2)	11.436	106	626928	43.514
113) o-Xylene	(2)	11.764	106	304842	21.629
119)$4-Bromofluorobenzene	(2)	12.214	95	436358	50.733
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	455176	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Stephanie A. Selis
on 12/19/2013 at 05:24.
Target 3.5 esignature user ID: sas00403

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCSL76

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: LCSL76

Sample wt/vol: 5.00 (g/mL) mL Lab File ID: HP09915.i/13dec18b.b/ld18s41.d

Level: (low/med) LOW Date Received:

Moisture: not dec. _____ Date Analyzed: 12/18/13

Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
1634-04-4	Methyl Tertiary Butyl Ether	20	
71-43-2	Benzene	20	
108-88-3	Toluene	21	
100-41-4	Ethylbenzene	21	
179601-23-1	m+p-Xylene	42	
1330-20-7	Xylene (Total)	62	
95-47-6	o-Xylene	21	

page 1 of 1

FORM I VOA

LCSL76 Lancaster Laboratories LCSL76

Analysis Summary for GC/MS Volatiles

Data file: /chem/HP09915.i/13dec18b.b/ld18s41.d Injection date and time: **18-DEC-2013 22:16**
Data file Sample Info. Line: LCSL76;LCSL76;1;3;LCS;;;;ld18b41; Instrument ID: **HP09915.i** Batch: **L133522AA**
Date, time and analyst ID of latest file update: 18-Dec-2013 22:36 Automation

Blank Data file reference: **/chem/HP09915.i/13dec18b.b/ld18b41.d**

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: **13038**
Calibration date and time (Last Method Edit): 18-DEC-2013 22:10
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/13dec18b.b/ld18c41.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
28) t-Butyl Alcohol-d10	4.257	(-0.010)	832	65	228366	(0)	250.00	
71) Fluorobenzene	7.745	(0.003)	1917	96	1240266	(-1)	50.00	
106) Chlorobenzene-d5	11.211	(0.003)	2995	117	872832	(-1)	50.00	
136) 1,4-Dichlorobenzene-d4	13.092	(0.000)	3580	152	466663	(-1)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(1)	6.858	(0.000)	113	284411	50.157	100%		80 - 116
62) 1,2-Dichloroethane-d4	(1)	7.318	(0.000)	102	73637	50.015	100%		77 - 113
93) Toluene-d8	(2)	9.755	(0.000)	98	1194554	50.927	102%		80 - 113
119) 4-Bromofluorobenzene	(2)	12.214	(0.000)	95	451170	51.303	103%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
32) Methyl Tertiary Butyl Ether	(1)	4.649	(0.000)	73	533346	19.891	19.89			0.5	5
63) Benzene	(1)	7.340	(0.000)	78	672859	20.457	20.46			0.5	5
94) Toluene	(2)	9.835	(-0.000)	92	416822	20.826	20.83			0.7	5
109) Ethylbenzene	(2)	11.324	(-0.000)	91	795904	20.840	20.84			0.8	5
110) m+p-Xylene	(2)	11.436	(-0.000)	106	612878	41.604	41.60			0.8	5
112) Xylene (Total)	(2)			106	912432	62.391	62.39			0.8	5
113) o-Xylene	(2)	11.764	(-0.000)	106	299554	20.787	20.79			0.8	5

Total number of targets = 7

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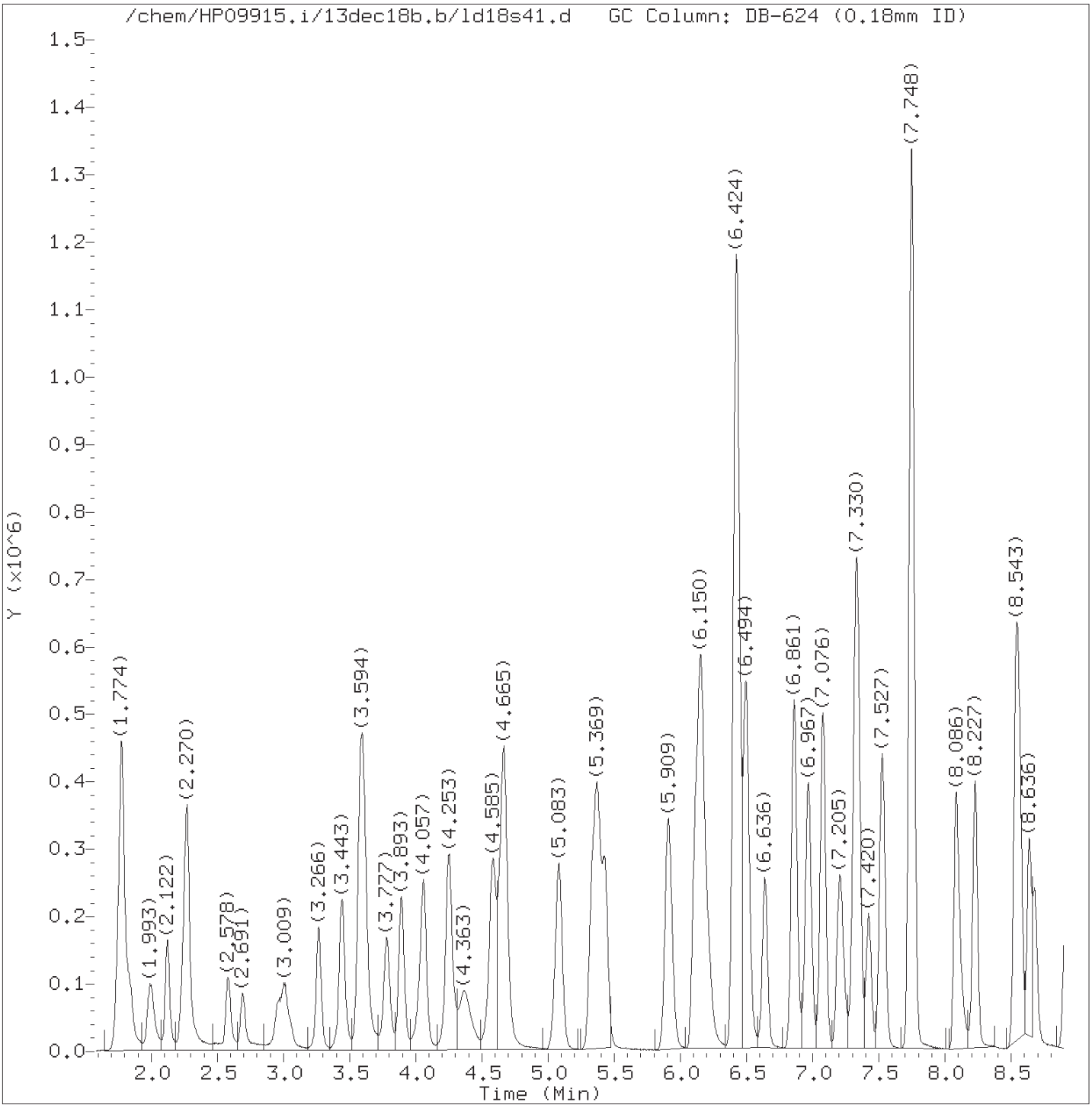
Secondary review performed and digitally signed by Roy R. Mellott on 12/20/2013 at 14:49. Parallax ID: rrm00219



Total Ion Chromatogram (TIC)

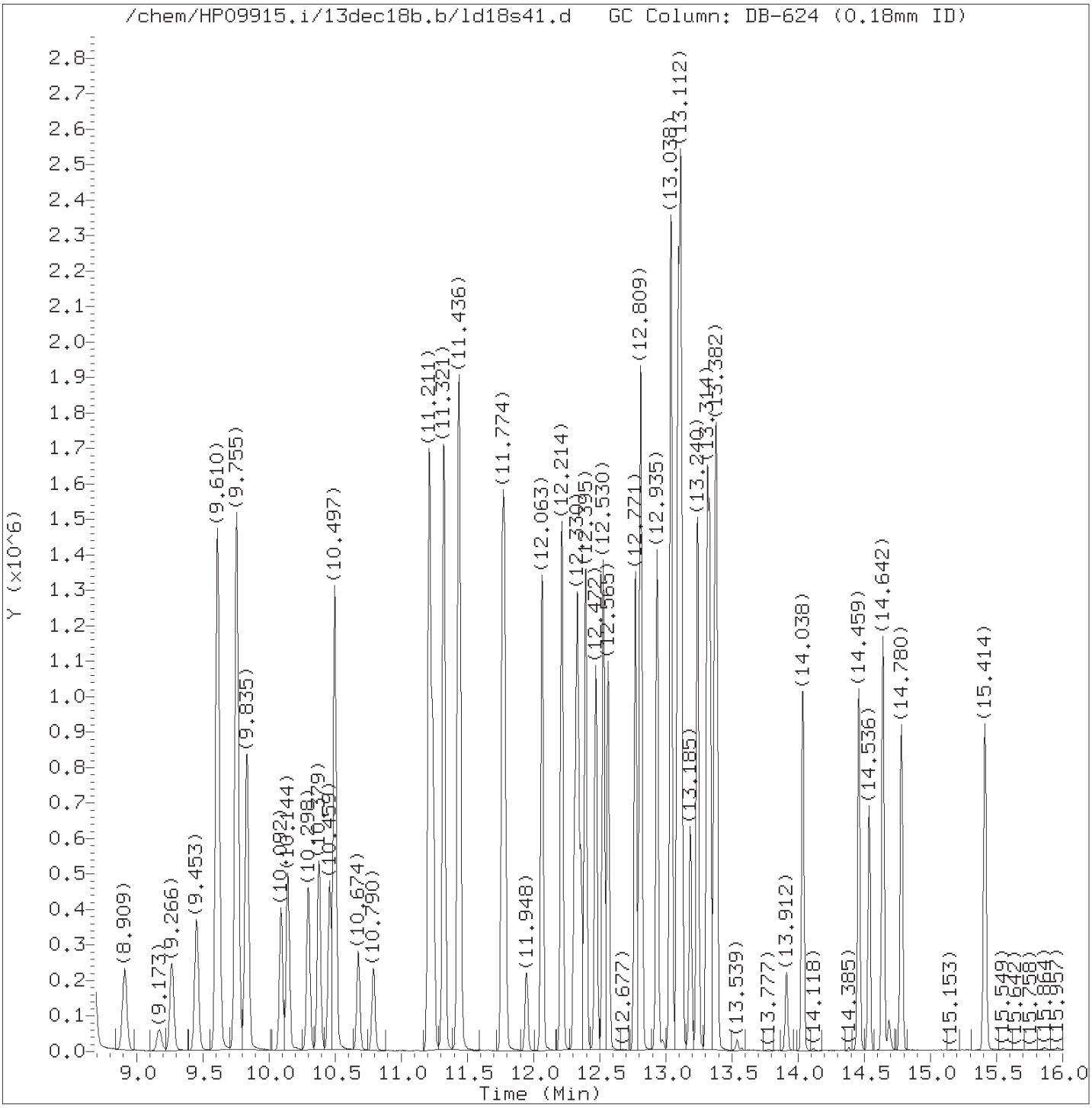
Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 22:16 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 18-Dec-2013 22:36 Automation

Sample Name: LCSL76 Lab Sample ID: LCSL76

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:37.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 22:16 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 18-Dec-2013 22:36 Automation

Sample Name: LCSL76 Lab Sample ID: LCSL76

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:37.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/13dec18b.b/ld18s41.d Instrument ID: HP09915.i
Injection date and time: 18-DEC-2013 22:16 Analyst ID: SEJ02002

Method used: /chem/HP09915.i/13dec18b.b/L8260CW.m Sublist used: 13038
Calibration date and time: 18-DEC-2013 22:10
Date, time and analyst ID of latest file update: 18-Dec-2013 22:36 Automation

Sample Name: LCSL76 Lab Sample ID: LCSL76

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
28)*t-Butyl Alcohol-d10	(4)	4.257	65	228366	250.000
32) Methyl Tertiary Butyl Ether	(1)	4.649	73	533346	19.891
52)$Dibromofluoromethane	(1)	6.858	113	284411	50.157
62)$1,2-Dichloroethane-d4	(1)	7.318	102	73637	50.015
63) Benzene	(1)	7.340	78	672859	20.457
71)*Fluorobenzene	(1)	7.745	96	1240266	50.000
112) Xylene (Total)	(2)		106	912432	62.391
93)$Toluene-d8	(2)	9.755	98	1194554	50.927
94) Toluene	(2)	9.835	92	416822	20.826
106)*Chlorobenzene-d5	(2)	11.211	117	872832	50.000
109) Ethylbenzene	(2)	11.324	91	795904	20.840
110) m+p-Xylene	(2)	11.436	106	612878	41.604
113) o-Xylene	(2)	11.764	106	299554	20.787
119)$4-Bromofluorobenzene	(2)	12.214	95	451170	51.303
136)*1,4-Dichlorobenzene-d4	(3)	13.092	152	466663	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 12/18/2013 at 22:37.
Target 3.5 esignature user ID: sej02002

Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

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Case Narrative/Conformance Summary

CLIENT: Brown & Caldwell
SDG: PCH14

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
7311249	MW-7D	X		1	Unspiked
7311250	MW-7D MS	X		1	Matrix Spike
7311251	MW-7D MSD	X		1	Matrix Spike Duplicate
7311252	MW-7S	X		1	
7311253	DUP_20131209	X		1	Field Duplicate Sample
7311254	MW-8S	X		1	
7311255	MW-8D	X		1	
7311256	FB_20131210	X		1	Field Blank
7311257	MW-4D	X		1	
7311258	MW-4S	X		1	
7311259	MW-1	X		1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

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Case Narrative/Conformance Summary

CLIENT: Brown & Caldwell
SDG: PCH14

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

GC/MS Semivolatiles CALCULATIONS:

1. Relative response factor (RRF)

$$RRF = \frac{AX}{Ais} \times \frac{Cis}{Cx}$$

Where:
Ax = Area of the characteristic ion for the compound to be measured
Ais = Area of the characteristic ion for the specific internal standard to be measured
Cis = Concentration of the internal standard
Cx = Concentration of the compound to be measured

2. % Relative Standard Deviation (%RPD)

$$\%RSD = \frac{\text{standard deviation}}{\text{mean}} \times 100$$

3. % Difference (%D)

$$\%D = \frac{RRFc - RRFi}{RRFi} \times 100$$

Where:
RRFc = Relative response factor from continuing calibration standard
RRFi = Mean relative response factor form the initial calibration

4. Concentration

$$\text{Concentration (ug/l)} = \frac{(Ax)\ (Is)\ (Df)\ (Vt)}{(Ais)\ (RRF)\ (Vo)\ (Vi)}$$

Where:
Ax, Ais, and RRF are as given in 1. above
Is = Amount of internal standard added in parts per billion (ng)
Df = Dilution factor
Vt = volume of the concentrated extract (ul)
Vo = volume of water extracted (ml)
Vi = volume of extract injected (ul)

5. % Recovery

$$\%Rec = \frac{SSR - SR}{SA} \times 100$$

Where:
SSR = Spiked sample result
SR = Sample result
SA = Spike added

GC/MS Semivolatiles CALCULATIONS (continued):

6. Relative Percent Difference (RPD)

$$RPD = \frac{|MSR - MSDR|}{(1/2)\ (MSR + MSDR)}$$

Where:
MSR = Matrix spike recovery
MSDR = Matrix spike duplicate recovery

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

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Quality Control Reference List
GC/MS Semivolatiles

CLIENT: Brown & Caldwell
SDG: PCH14

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
SVOAs by 8270D in Water	13348WAJ026	SBLKWJ348	12/23/2013 17:28:00
		348WJLCS	12/23/2013 17:57:00
		7311249 UNSPK	12/23/2013 18:26:00
		7311250 MS	12/23/2013 18:55:00
		7311251 MSD	12/23/2013 19:24:00
		7311252	12/23/2013 23:16:00
		7311253	12/23/2013 23:45:00
		7311254	12/24/2013 00:14:00
		7311255	12/24/2013 00:43:00
		7311256	12/24/2013 01:12:00
		7311257	12/24/2013 01:41:00
		7311258	12/24/2013 02:10:00
		7311259	12/27/2013 03:45:00

Lancaster Laboratories Environmental

Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: PCH14
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

13348WAJ026 / SBLKWJ348 **Analyte**	**Analysis Date**	**Blank Results**	**Units**	**MDL**	**LOQ**
Naphthalene	12/23/13	N.D.	ug/l	0.1	0.5
Acenaphthylene	12/23/13	N.D.	ug/l	0.1	0.5
Acenaphthene	12/23/13	N.D.	ug/l	0.1	0.5
Fluorene	12/23/13	N.D.	ug/l	0.1	0.5
Phenanthrene	12/23/13	N.D.	ug/l	0.1	0.5
Anthracene	12/23/13	N.D.	ug/l	0.1	0.5
Fluoranthene	12/23/13	N.D.	ug/l	0.1	0.5
Pyrene	12/23/13	N.D.	ug/l	0.1	0.5
Benzo(a)anthracene	12/23/13	N.D.	ug/l	0.1	0.5
Chrysene	12/23/13	N.D.	ug/l	0.1	0.5
Benzo(b)fluoranthene	12/23/13	N.D.	ug/l	0.1	0.5
Benzo(k)fluoranthene	12/23/13	N.D.	ug/l	0.1	0.5
Benzo(a)pyrene	12/23/13	N.D.	ug/l	0.1	0.5
Indeno(1,2,3-cd)pyrene	12/23/13	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	12/23/13	N.D.	ug/l	0.1	0.5
Benzo(g,h,i)perylene	12/23/13	N.D.	ug/l	0.1	0.5

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Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: PCH14
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

13348WAJ026	Phenol-d6		2-Fluorophenol		2,4,6-Tribromophenol		Nitrobenzene-d5		2-Fluorobiphenyl		Terphenyl-d14	
	Spike Added	200 ug/l	Spike Added	200 ug/l	Spike Added	200 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWJ348	47	10 - 83	62	10 - 107	104	22 - 150	87	60 - 123	90	63 - 121	97	47 - 146
348WJLCS	56	10 - 83	71	10 - 107	95	22 - 150	89	60 - 123	87	63 - 121	94	47 - 146
7311249	39	10 - 83	58	10 - 107	102	22 - 150	81	60 - 123	83	63 - 121	62	47 - 146
7311250 MS	52	10 - 83	68	10 - 107	93	22 - 150	93	60 - 123	90	63 - 121	97	47 - 146
7311251 MSD	47	10 - 83	64	10 - 107	94	22 - 150	94	60 - 123	92	63 - 121	95	47 - 146
7311252							87	60 - 123	89	63 - 121	93	47 - 146
7311253							83	60 - 123	86	63 - 121	96	47 - 146
7311254							82	60 - 123	83	63 - 121	86	47 - 146
7311255							88	60 - 123	89	63 - 121	85	47 - 146
7311256							86	60 - 123	87	63 - 121	97	47 - 146
7311257							84	60 - 123	86	63 - 121	89	47 - 146
7311258							83	60 - 123	83	63 - 121	84	47 - 146
7311259							83	60 - 123	85	63 - 121	94	47 - 146

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Quality Control Summary
Matrix Spike/Matrix Spike Duplicate

SDG: PCH14
Matrix: LIQUID

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 7311249 MS: 7311250 MSD: 7311251 **Analyte**	Batch: **13348WAJ026** (Sample number(s): 7311249-7311259)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	50.4	N.D.	48.54	48.42	96	96	53-131	0	30
Acenaphthylene	50.4	N.D.	53.17	54.17	105	107	75-124	2	30
Acenaphthene	50.4	N.D.	46.72	46.8	93	93	71-115	0	30
Fluorene	50.4	N.D.	48.53	49.43	96	98	71-123	2	30
Phenanthrene	50.4	N.D.	51.33	48.59	102	96	76-112	5	30
Anthracene	50.4	N.D.	48.92	46.85	97	93	78-114	4	30
Fluoranthene	50.4	0.12	50.84	48.78	101	97	78-122	4	30
Pyrene	50.4	0.18	47.85	47.99	95	95	77-117	0	30
Benzo(a)anthracene	50.4	N.D.	49.98	49.62	99	98	77-122	1	30
Chrysene	50.4	0.14	46.7	46.54	92	92	70-116	0	30
Benzo(b)fluoranthene	50.4	N.D.	50.88	51.	101	101	78-120	0	30
Benzo(k)fluoranthene	50.4	N.D.	49.68	48.33	99	96	77-120	3	30
Benzo(a)pyrene	50.4	N.D.	52.72	51.98	105	103	82-119	1	30
Indeno(1,2,3-cd)pyrene	50.4	N.D.	53.39	52.67	106	104	82-121	1	30
Dibenz(a,h)anthracene	50.4	N.D.	52.06	51.72	103	103	82-124	1	30
Benzo(g,h,i)perylene	50.4	N.D.	51.08	50.48	101	100	81-120	1	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

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Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)

SDG: PCH14
Matrix: LIQUID

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 348WJLCS	Batch: **13348WAJ026** (Sample number(s): 7311249-7311259)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Naphthalene	50	44.58	NA	89	NA	75-108	NA	NA
Acenaphthylene	50	49.78	NA	100	NA	84-125	NA	NA
Acenaphthene	50	43.73	NA	87	NA	69-122	NA	NA
Fluorene	50	46.38	NA	93	NA	71-126	NA	NA
Phenanthrene	50	48.48	NA	97	NA	68-127	NA	NA
Anthracene	50	45.26	NA	91	NA	82-116	NA	NA
Fluoranthene	50	46.87	NA	94	NA	71-129	NA	NA
Pyrene	50	44.81	NA	90	NA	81-112	NA	NA
Benzo(a)anthracene	50	46.81	NA	94	NA	84-121	NA	NA
Chrysene	50	43.65	NA	87	NA	81-120	NA	NA
Benzo(b)fluoranthene	50	47.22	NA	94	NA	82-121	NA	NA
Benzo(k)fluoranthene	50	45.51	NA	91	NA	81-122	NA	NA
Benzo(a)pyrene	50	47.52	NA	95	NA	82-116	NA	NA
Indeno(1,2,3-cd)pyrene	50	48.91	NA	98	NA	83-121	NA	NA
Dibenz(a,h)anthracene	50	48.2	NA	96	NA	83-124	NA	NA
Benzo(g,h,i)perylene	50	46.88	NA	94	NA	81-121	NA	NA

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: hk0620.d DFTPP Injection Date: 11/16/13

Instrument ID: HP18831 DFTPP Injection Time: 14:39

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.0
68	Less than 2.0% of mass 69	0.49 (1.19)1
69	Mass 69 relative abundance	41.0
70	Less than 2.0% of mass 69	0.18 (0.44)1
127	40.0 - 60.0% of mass 198	50.3
197	Less than 1.0% of mass 198	0.36
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.36
275	10.0 - 30.0% of mass 198	17.9
365	Greater than 1.00% of mass 198	1.48
441	Present, and less than mass 443	9.06
442	Greater than 40.0 % of mass 198	61.2
443	17.0 - 23.0% of mass 442	12.6 (20.7)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD3173 - SSTD7.5	hk0621.d	11/16/13	14:53
02	STD3173 - SSTD.125	hk0622.d	11/16/13	15:22
03	STD3173 - SSTD30	hk0623.d	11/16/13	15:51
04	STD3173 - SSTD.25	hk0624.d	11/16/13	16:20
05	STD3173 - SSTD1.25	hk0625.d	11/16/13	16:50
06	STD3173 - SSTD3.75	hk0626.d	11/16/13	17:19
07	STD3173 - SSTD12.5	hk0627.d	11/16/13	17:48
08	STD3173 - SSTD20	hk0628.d	11/16/13	18:17
09	STD3173 - SSTD0.125	hk0629.d	11/16/13	18:46
10	STD3173 - SSTD0.025	hk0630.d	11/16/13	19:15
11	ICV2463 - SSTD12.5	hk0631.d	11/16/13	19:44
12	BASICV2463 - SSTD12.5	hk0632.d	11/16/13	20:13
13	PDA2843 - SSTD3.75	hk0633.d	11/16/13	20:42
14	PDA2843 - SSTD7.5	hk0634.d	11/16/13	21:11
15	PDA2843 - SSTD12.5	hk0635.d	11/16/13	21:40
16	PDA2843 - SSTD20	hk0636.d	11/16/13	22:10
17	PDA2843 - SSTD30	hk0637.d	11/16/13	22:39

page 1 of 1

FORM V SV

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: hl0780.d DFTPP Injection Date: 12/23/13

Instrument ID: HP18831 DFTPP Injection Time: 14:24

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	45.0
68	Less than 2.0% of mass 69	0.5 (1.29)1
69	Mass 69 relative abundance	38.5
70	Less than 2.0% of mass 69	0.18 (0.46)1
127	40.0 - 60.0% of mass 198	53.0
197	Less than 1.0% of mass 198	0.5
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.57
275	10.0 - 30.0% of mass 198	18.5
365	Greater than 1.00% of mass 198	1.71
441	Present, and less than mass 443	7.63
442	Greater than 40.0 % of mass 198	53.8
443	17.0 - 23.0% of mass 442	10.8 (20.2)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD3173 - SSTD125	hl0781z.d	12/23/13	15:17
02	PDA2843 - SSTD125	hl0782.d	12/23/13	15:54
03	FAD3543 - SSTD125	hl0783.d	12/23/13	16:28
04	KEP2053 - SSTD60	hl0784.d	12/23/13	16:57
05	SBLKWJ348	hl0785.d	12/23/13	17:28
06	348WJLCS	hl0786.d	12/23/13	17:57
07	7311249	hl0787.d	12/23/13	18:26
08	7311250MS	hl0788.d	12/23/13	18:55
09	7311251MSD	hl0789.d	12/23/13	19:24
10	SBLKWK354	hl0790.d	12/23/13	19:53
11	354WKLCS	hl0791.d	12/23/13	20:22
12	7319021	hl0792.d	12/23/13	20:51
13	7319022MS	hl0793.d	12/23/13	21:19
14	7319023MSD	hl0794.d	12/23/13	21:48
15	7310405	hl0795.d	12/23/13	22:18
16	7311247	hl0796.d	12/23/13	22:47
17	7311252	hl0797.d	12/23/13	23:16
18	7311253	hl0798.d	12/23/13	23:45

FORM V SV

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: hl0780.d DFTPP Injection Date: 12/23/13

Instrument ID: HP18831 DFTPP Injection Time: 14:24

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	45.0
68	Less than 2.0% of mass 69	0.5 (1.29)1
69	Mass 69 relative abundance	38.5
70	Less than 2.0% of mass 69	0.18 (0.46)1
127	40.0 - 60.0% of mass 198	53.0
197	Less than 1.0% of mass 198	0.5
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.57
275	10.0 - 30.0% of mass 198	18.5
365	Greater than 1.00% of mass 198	1.71
441	Present, and less than mass 443	7.63
442	Greater than 40.0 % of mass 198	53.8
443	17.0 - 23.0% of mass 442	10.8 (20.2)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	7311254	hl0799.d	12/24/13	00:14
20	7311255	hl0800.d	12/24/13	00:43
21	7311256	hl0801.d	12/24/13	01:12
22	7311257	hl0802.d	12/24/13	01:41
23	7311258	hl0803.d	12/24/13	02:10

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: hl0830.d DFTPP Injection Date: 12/26/13

Instrument ID: HP18831 DFTPP Injection Time: 17:32

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.2
68	Less than 2.0% of mass 69	0.49 (1.26)1
69	Mass 69 relative abundance	38.5
70	Less than 2.0% of mass 69	0.14 (0.36)1
127	40.0 - 60.0% of mass 198	53.8
197	Less than 1.0% of mass 198	0.55
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.39
275	10.0 - 30.0% of mass 198	18.6
365	Greater than 1.00% of mass 198	1.85
441	Present, and less than mass 443	7.65
442	Greater than 40.0 % of mass 198	56.1
443	17.0 - 23.0% of mass 442	11.2 (20.0)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	STD3173 - SSTD125	hl0831.d	12/26/13	17:48
02	PDA2843 - SSTD125	hl0832.d	12/26/13	18:19
03	FAD3543 - SSTD125	hl0833.d	12/26/13	18:48
04	KEP2053 - SSTD60	hl0834.d	12/26/13	19:17
05	SBLKWP354	hl0835.d	12/26/13	19:55
06	354WPLCS	hl0836.d	12/26/13	20:30
07	7320601	hl0837.d	12/26/13	20:59
08	7320602MS	hl0838.d	12/26/13	21:28
09	7320603MSD	hl0839.d	12/26/13	21:57
10	7319019	hl0840.d	12/26/13	22:27
11	7319020	hl0841.d	12/26/13	22:55
12	7319024	hl0842.d	12/26/13	23:25
13	7320599	hl0843.d	12/26/13	23:54
14	7320600	hl0844.d	12/27/13	00:22
15	7320604	hl0845.d	12/27/13	00:51
16	7320605	hl0846.d	12/27/13	01:20
17	7320606	hl0847.d	12/27/13	01:49
18	7320616	hl0848.d	12/27/13	02:18

5B
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: hl0830.d DFTPP Injection Date: 12/26/13

Instrument ID: HP18831 DFTPP Injection Time: 17:32

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.2
68	Less than 2.0% of mass 69	0.49 (1.26)1
69	Mass 69 relative abundance	38.5
70	Less than 2.0% of mass 69	0.14 (0.36)1
127	40.0 - 60.0% of mass 198	53.8
197	Less than 1.0% of mass 198	0.55
198	Base peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.39
275	10.0 - 30.0% of mass 198	18.6
365	Greater than 1.00% of mass 198	1.85
441	Present, and less than mass 443	7.65
442	Greater than 40.0 % of mass 198	56.1
443	17.0 - 23.0% of mass 442	11.2 (20.0)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	7314157DL	hl0849.d	12/27/13	02:48
20	7310405DL	hl0850.d	12/27/13	03:17
21	7311259	hl0851.d	12/27/13	03:45
22	7320471	hl0852.d	12/27/13	04:14

FORM V SV

6B
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date(s): 11/16/13 11/16/13

Calibration Times: 14:53 18:17

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = hk0622.d RRF0.25 = hk0624.d RRF1.25 = hk0625.d RRF3.75 = hk0626.d
RRF7.5 = hk0621.d RRF12.5 = hk0627.d RRF20 = hk0628.d RRF30 = hk0623.d

COMPOUND	RRF0.125	RF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane			0.637	0.648	0.705	0.681	0.661	0.676	0.668	4	AVG
N-Nitrosodimethylamine		0.902	1.024	1.031	1.137	1.125	1.113	1.114	1.064	8	AVG
Pyridine		1.903	1.744	1.795	1.907	1.786	1.818	1.779	1.819	3	AVG
2-Picoline		1.809	1.764	1.735	1.861	1.806	1.788	1.774	1.791	2	AVG
N-Nitrosomethylethylamine		0.734	0.735	0.757	0.801	0.779	0.787	0.769	0.766	3	AVG
Methyl methanesulfonate		0.668	0.727	0.712	0.759	0.752	0.742	0.727	0.727	4	AVG
N-Nitrosodiethylamine		0.662	0.686	0.714	0.767	0.764	0.762	0.753	0.730	6	AVG
Ethyl methanesulfonate		0.764	0.786	0.758	0.810	0.787	0.782	0.784	0.781	2	AVG
Benzaldehyde		1.204	1.284	1.254	1.392	1.299	1.223	1.157	1.259	6	AVG
Aniline		2.626	2.594	2.566	2.782	2.685	2.641	2.576	2.639	3	AVG
Phenol		2.220	2.274	2.254	2.422	2.342	2.297	2.213	2.289	3	AVG
bis(2-Chloroethyl)ether		1.691	1.779	1.728	1.863	1.795	1.761	1.721	1.763	3	AVG
2-Chlorophenol		1.367	1.494	1.528	1.639	1.594	1.575	1.549	1.535	6	AVG
1,3-Dichlorobenzene		1.649	1.615	1.618	1.705	1.666	1.648	1.597	1.642	2	AVG
1,4-Dichlorobenzene		1.716	1.635	1.631	1.721	1.688	1.666	1.623	1.669	2	AVG
Benzyl alcohol			0.947	1.017	1.102	1.064	1.053	1.038	1.037	5	AVG
1,2-Dichlorobenzene		1.567	1.571	1.553	1.620	1.583	1.566	1.520	1.569	2	AVG
2-Methylphenol		1.324	1.417	1.409	1.534	1.484	1.454	1.410	1.433	5	AVG
2,2'-oxybis(1-Chloropropane)		3.137	3.203	3.184	3.336	3.236	3.164	3.099	3.194	2	AVG
bis(2-Chloroisopropyl)ether		3.137	3.203	3.184	3.336	3.236	3.164	3.099	3.194	2	AVG
N-Nitrosopyrrolidine		0.616	0.657	0.717	0.775	0.787	0.773	0.761	0.726	9	AVG
Acetophenone		1.915	2.034	1.928	2.111	2.033	1.965	1.935	1.989	4	AVG
N-Nitroso-di-n-propylamine		1.104	1.092	1.137	1.178	1.148	1.121	1.065	1.121	3	AVG
N-Nitrosomorpholine		0.902	0.931	0.931	0.980	0.969	0.940	0.905	0.937	3	AVG
4-Methylphenol		1.541	1.608	1.610	1.588	1.677	1.650	1.463	1.591	4	AVG
o-Toluidine		2.252	2.236	2.304	2.440	2.378	2.336	2.234	2.312	3	AVG
Hexachloroethane		0.577	0.592	0.612	0.645	0.639	0.637	0.614	0.616	4	AVG
Nitrobenzene		0.353	0.366	0.377	0.394	0.389	0.381	0.371	0.376	4	AVG
N-Nitrosopiperidine		0.166	0.174	0.182	0.194	0.193	0.191	0.185	0.184	6	AVG
Isophorone		0.617	0.646	0.674	0.715	0.713	0.700	0.678	0.678	5	AVG
2-Nitrophenol		0.143	0.156	0.174	0.194	0.193	0.195	0.190	0.178	12	AVG
2,4-Dimethylphenol		0.268	0.307	0.315	0.335	0.330	0.322	0.313	0.313	7	AVG
O,O,O-triethylphosphorothioate		0.136	0.133	0.139	0.144	0.143	0.139	0.135	0.138	3	AVG
bis(2-Chloroethoxy)methane		0.461	0.485	0.477	0.506	0.494	0.474	0.479	0.482	3	AVG
Benzoic acid			0.044	0.084	0.155	0.168	0.192		0.129	48	1STDEG
2,4-Dichlorophenol		0.241	0.250	0.264	0.281	0.276	0.271	0.266	0.264	5	AVG
1,2,4-Trichlorobenzene		0.275	0.286	0.285	0.294	0.289	0.283	0.275	0.284	2	AVG
Naphthalene	1.071	1.073	1.040	1.055	1.090	1.071	1.046	1.017	1.058	2	AVG
4-Chloroaniline		0.408	0.432	0.445	0.473	0.459	0.450	0.439	0.444	5	AVG
2,6-Dichlorophenol		0.239	0.255	0.261	0.275	0.269	0.263	0.256	0.259	4	AVG
Hexachloropropene		0.097	0.111	0.119	0.131	0.135	0.138	0.134	0.123	12	AVG
Hexachlorobutadiene		0.128	0.132	0.126	0.132	0.132	0.131	0.126	0.130	2	AVG
Caprolactam			0.099	0.106	0.123	0.120	0.117	0.111	0.113	8	AVG
N-Nitrosodi-n-butylamine			0.218	0.234	0.246	0.246	0.315	0.304	0.261	15	AVG
4-Chloro-3-methylphenol		0.235	0.247	0.270	0.288	0.287	0.284	0.276	0.270	8	AVG
Safrole		0.214	0.225	0.241	0.254	0.248	0.243	0.240	0.238	6	AVG
2-Methylnaphthalene	0.631	0.648	0.660	0.682	0.702	0.699	0.680	0.662	0.671	4	AVG
1-Methylnaphthalene	0.589	0.585	0.586	0.605	0.628	0.622	0.607	0.588	0.601	3	AVG
Hexachlorocyclopentadiene			0.170	0.201	0.235	0.233	0.235	0.235	0.218	12	AVG
1,2,4,5-Tetrachlorobenzene		0.456	0.477	0.470	0.501	0.480	0.465	0.452	0.472	3	AVG
cis-Isosafrole		0.070	0.079	0.081	0.092	0.089	0.088	0.088	0.084	9	AVG
2,4,6-Trichlorophenol		0.290	0.309	0.338	0.380	0.367	0.358	0.360	0.343	10	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

11/17/13

FORM VI SV-1

6C
SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date(s): 11/16/13 11/16/13

Calibration Times: 14:53 18:17

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = hk0622.d RRF0.25 = hk0624.d RRF1.25 = hk0625.d RRF3.75 = hk0626.d
RRF7.5 = hk0621.d RRF12.5 = hk0627.d RRF20 = hk0628.d RRF30 = hk0623.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
2,4,5-Trichlorophenol		0.295	0.327	0.341	0.381	0.377	0.367	0.359	0.350	9	AVG
trans-Isosafrole		0.464	0.459	0.480	0.528	0.514	0.500	0.507	0.493	5	AVG
Isosafrole		0.464	0.459	0.480	0.528	0.514	0.500	0.507	0.493	5	AVG
1,1'-Biphenyl		1.573	1.584	1.491	1.651	1.558	1.472	1.480	1.544	4	AVG
2-Chloronaphthalene		1.230	1.226	1.177	1.215	1.239	1.153	1.214	1.208	3	AVG
1-Chloronaphthalene		1.131	1.116	1.138	1.223	1.130	1.117	1.049	1.129	5	AVG
Diphenyl ether		0.758	0.770	0.760	0.806	0.784	0.752	0.747	0.768	3	AVG
2-Nitroaniline		0.302	0.352	0.404	0.461	0.451	0.437	0.430	0.405	14	AVG
1,4-Naphthoquinone			0.367	0.452	0.516	0.515	0.497	0.485	0.472	12	AVG
1,4-Dinitrobenzene			0.137	0.169	0.206	0.206	0.207	0.204	0.188	15	AVG
Dimethylphthalate			1.208	1.199	1.263	1.226	1.181	1.156	1.206	3	AVG
1,3-Dinitrobenzene			0.187	0.218	0.241	0.239	0.234	0.231	0.225	9	AVG
2,6-Dinitrotoluene		0.197	0.267	0.273	0.301	0.299	0.288	0.283	0.272	13	AVG
Acenaphthylene	1.445	1.560	1.680	1.699	1.844	1.814	1.746	1.737	1.691	8	AVG
3-Nitroaniline		0.261	0.335	0.369	0.402	0.392	0.389	0.391	0.363	14	AVG
Acenaphthene	1.139	1.138	1.159	1.156	1.221	1.192	1.148	1.134	1.161	3	AVG
2,4-Dinitrophenol				0.119	0.157	0.157	0.170	0.169	0.154	13	AVG
Pentachlorobenzene		0.390	0.389	0.374	0.387	0.384	0.376	0.363	0.380	3	AVG
4-Nitrophenol			0.098	0.128	0.124	0.149	0.149	0.147	0.133	15	AVG
Dibenzofuran		1.645	1.587	1.571	1.648	1.600	1.530	1.493	1.582	4	AVG
2,4-Dinitrotoluene		0.225	0.328	0.356	0.383	0.378	0.371	0.372	0.345	16	AVG
1-Naphthylamine		1.160	1.231	1.229	1.312	1.278	1.267	1.256	1.248	4	AVG
2,3,4,6-Tetrachlorophenol		0.183	0.229	0.246	0.262	0.268	0.257	0.259	0.243	12	AVG
2-Naphthylamine		1.174	1.230	1.223	1.296	1.284	1.262	1.266	1.248	3	AVG
Diethylphthalate			1.075	1.104	1.201	1.178	1.175	1.154	1.148	4	AVG
Thionazin		0.208	0.228	0.255	0.264	0.258	0.250	0.235	0.243	8	AVG
Fluorene	1.169	1.233	1.242	1.245	1.334	1.281	1.232	1.212	1.243	4	AVG
4-Chlorophenyl-phenylether		0.547	0.529	0.511	0.535	0.516	0.498	0.476	0.516	5	AVG
5-Nitro-o-toluidine		0.299	0.350	0.366	0.396	0.375	0.368	0.364	0.360	8	AVG
4-Nitroaniline		0.314	0.357	0.369	0.404	0.395	0.361	0.359	0.366	8	AVG
4,6-Dinitro-2-methylphenol			0.085	0.101	0.134	0.137	0.144	0.141	0.124	20	AVG
N-Nitrosodiphenylamine (1)		0.661	0.669	0.666	0.717	0.704	0.697	0.661	0.682	3	AVG
1,2-Diphenylhydrazine		0.860	0.932	0.954	1.034	1.012	0.970	0.919	0.955	6	AVG
Tetraethyldithiopyrophosphate		0.116	0.125	0.126	0.140	0.138	0.138	0.131	0.131	7	AVG
1,3,5-Trinitrobenzene				0.064	0.083	0.086	0.095	0.091	0.084	14	AVG
Diallate (peak 1)			0.515	0.539	0.584	0.562	0.547	0.524	0.545	5	AVG
Phorate		0.508	0.616	0.646	0.696	0.671	0.649		0.631	10	AVG
Phenacetin		0.315	0.360	0.409	0.460	0.456	0.457	0.436	0.413	14	AVG
4-Bromophenyl-phenylether		0.186	0.184	0.185	0.194	0.190	0.189	0.181	0.187	2	AVG
Diallate (peak 2)			0.214	0.214	0.243	0.243	0.240	0.235	0.231	6	AVG
Hexachlorobenzene	0.186	0.198	0.185	0.184	0.189	0.185	0.186	0.177	0.186	3	AVG
Dimethoate		0.296	0.384	0.431	0.488	0.479	0.472	0.443	0.428	16	AVG
Diallate TRANS/CIS		0.392	0.440	0.458	0.498	0.483	0.470	0.452	0.456	8	AVG
Atrazine		0.154	0.178	0.180	0.192	0.186	0.175	0.162	0.175	8	AVG
Pentachlorophenol			0.085	0.111	0.136	0.139	0.144	0.142	0.126	19	AVG
Pentachloronitrobenzene		0.042	0.061	0.067	0.071	0.073	0.075	0.073	0.066	18	AVG
4-Aminobiphenyl		0.667	0.736	0.786	0.876	0.867	0.841	0.784	0.794	9	AVG
Pronamide		0.227	0.280	0.316	0.350	0.359	0.359	0.338	0.318	15	AVG
Dinoseb			0.079	0.121	0.170	0.175	0.185	0.179	0.152	28	1STDEG
Phenanthrene	1.126	1.183	1.163	1.158	1.216	1.185	1.161	1.112	1.163	3	AVG
Anthracene	0.985	1.031	1.122	1.148	1.237	1.207	1.185	1.129	1.131	8	AVG
Carbazole		1.054	1.095	1.123	1.241	1.219	1.187	1.127	1.149	6	AVG

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date(s): 11/16/13 11/16/13

Calibration Times: 14:53 18:17

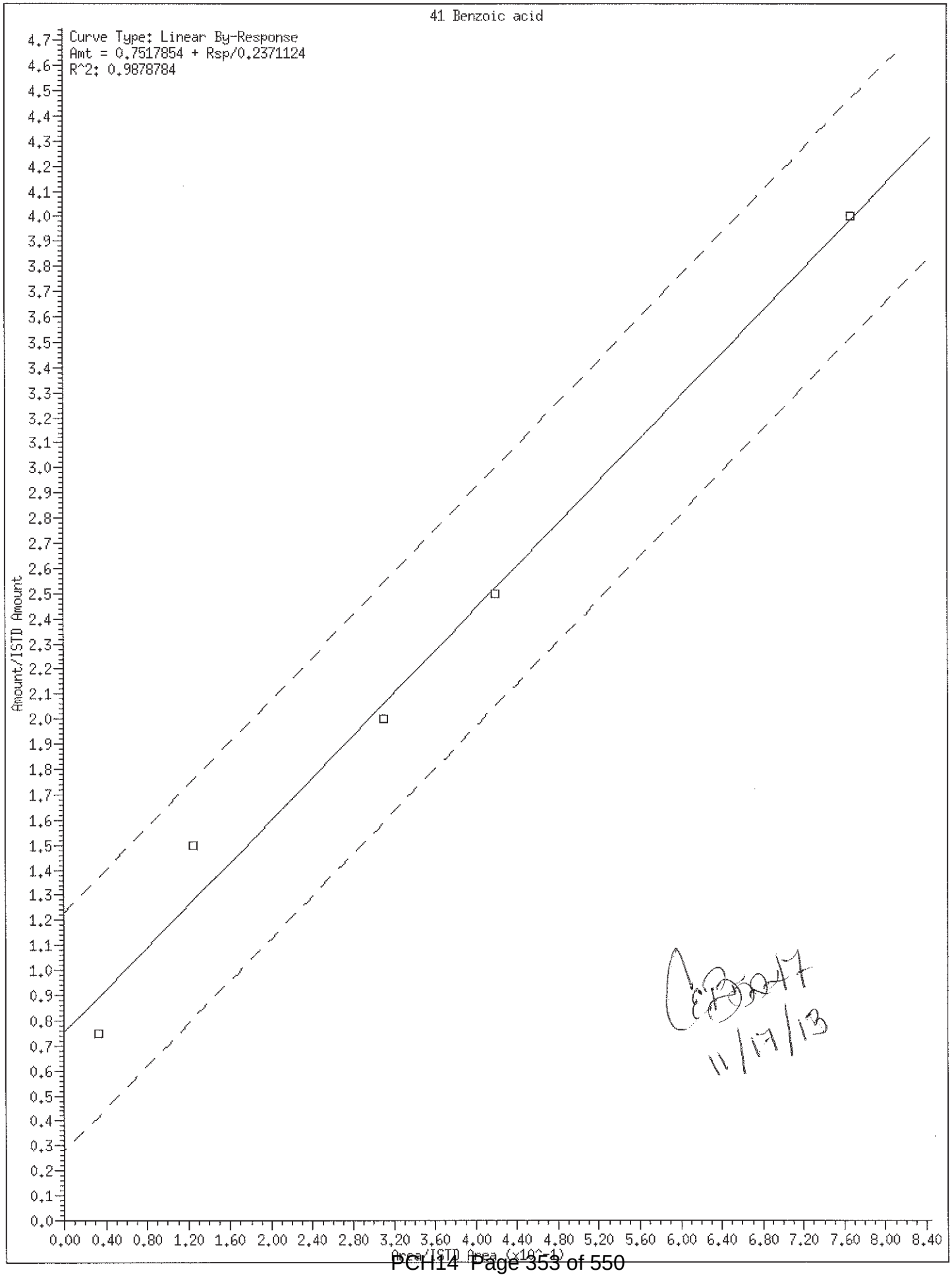
Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = hk0622.d RRF0.25 = hk0624.d RRF1.25 = hk0625.d RRF3.75 = hk0626.d
RRF7.5 = hk0621.d RRF12.5 = hk0627.d RRF20 = hk0628.d RRF30 = hk0623.d

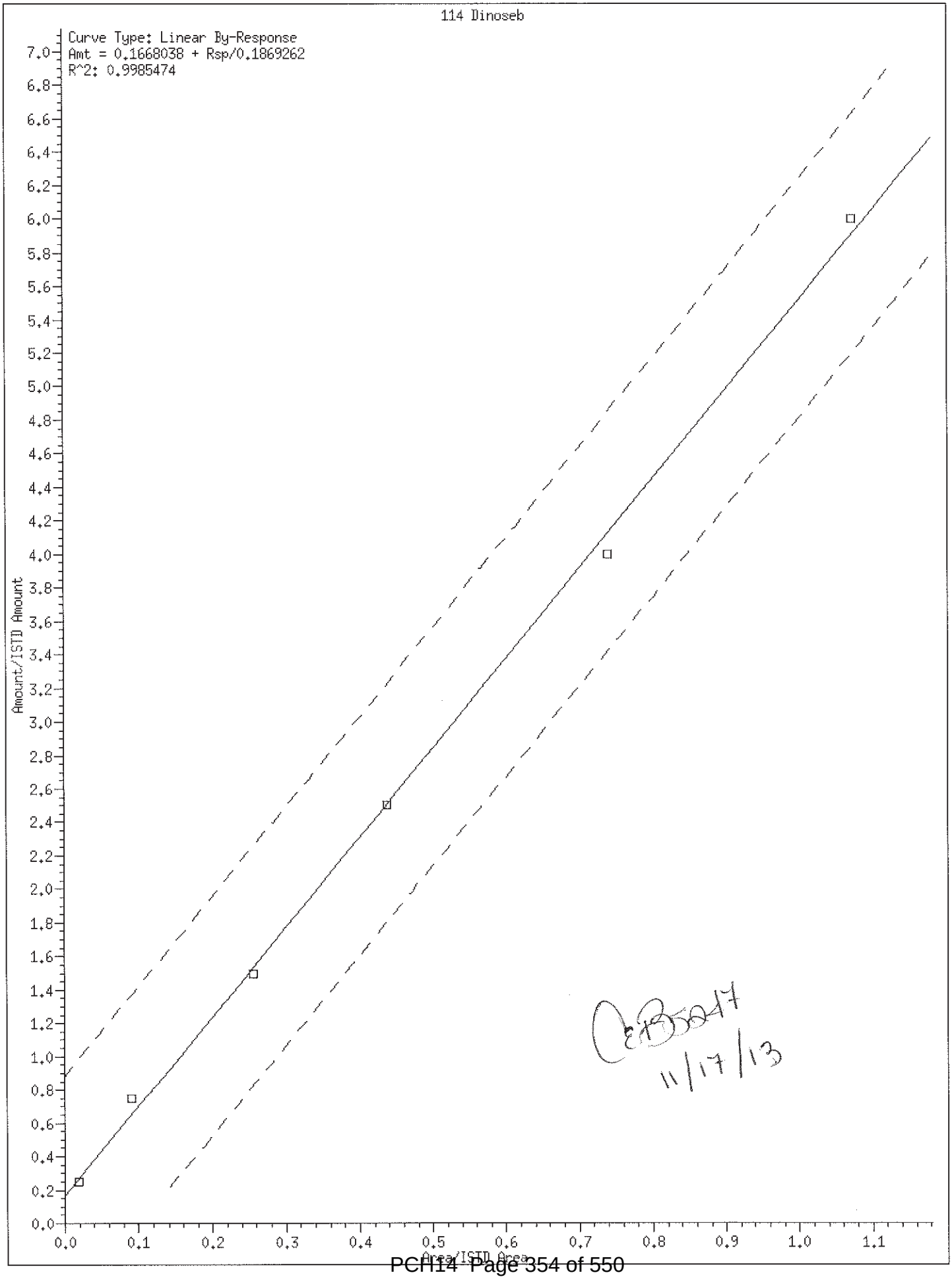
COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
Methyl parathion			0.203	0.270	0.321	0.322	0.324	0.302	0.290	16	AVG
Di-n-butylphthalate			1.229	1.340	1.533	1.491	1.497	1.404	1.415	8	AVG
Parathion			0.118	0.155	0.190	0.192	0.193	0.184	0.172	18	AVG
4-Nitroquinoline-1-oxide			0.032	0.064	0.099	0.113	0.125	0.125	0.093	40	1STDEG
Isodrin		0.125	0.121	0.123	0.133	0.131	0.133	0.126	0.127	4	AVG
Fluoranthene	0.977	1.023	1.082	1.155	1.242	1.223	1.235	1.167	1.138	9	AVG
Benzidine			0.667	0.774	0.858	0.847	0.836	0.795	0.796	9	AVG
Pyrene	1.121	1.139	1.132	1.135	1.164	1.132	1.131	1.090	1.130	2	AVG
p-Dimethylaminoazobenzene		0.110	0.160	0.194	0.224	0.217	0.221	0.216	0.192	22	1STDEG
Chlorobenzilate			0.291	0.324	0.358	0.353	0.359	0.353	0.340	8	AVG
3,3'-Dimethylbenzidine			0.474	0.584	0.691	0.700	0.709	0.694	0.642	15	AVG
Butylbenzylphthalate			0.493	0.552	0.612	0.588	0.592	0.581	0.570	7	AVG
2-Acetylaminofluorene			0.270	0.351	0.434	0.432	0.441	0.445	0.396	18	AVG
3,3'-Dichlorobenzidine			0.308	0.333	0.373	0.364	0.362	0.352	0.349	7	AVG
4,4'-Methylenebis(2-Chloroanil			0.134	0.149	0.174	0.172	0.169	0.168	0.161	10	AVG
Benzo(a)anthracene	0.783	0.868	0.925	0.974	1.056	1.007	0.999	0.964	0.947	9	AVG
Chrysene	0.843	0.862	0.922	0.929	0.996	0.943	0.929	0.910	0.917	5	AVG
bis(2-Ethylhexyl)phthalate			0.659	0.730	0.819	0.787	0.788	0.788	0.762	8	AVG
6-Methylchrysene		0.555	0.594	0.629	0.688	0.664	0.659	0.652	0.635	7	AVG
Di-n-octylphthalate			1.302	1.621	1.934	1.930	1.924	1.903	1.769	15	AVG
Dibenz(a,h)acridine			0.692	0.751	0.875	0.878	0.858	0.863	0.820	10	AVG
Dibenz(a,j)acridine			0.786	0.866	0.934	0.952	0.915	0.907	0.893	7	AVG
7,12-Dimethylbenz[a]anthracene		0.472	0.504	0.536	0.596	0.578	0.569	0.562	0.545	8	AVG
Benzo(b)fluoranthene	1.052	1.112	1.147	1.204	1.307	1.291	1.251	1.223	1.198	7	AVG
Quinoline		0.625	0.629	0.655	0.695	0.685	0.669	0.658	0.659	4	AVG
Benzo(k)fluoranthene	1.063	1.065	1.200	1.246	1.309	1.262	1.207	1.197	1.194	7	AVG
Benzo(a)pyrene	0.975	0.979	1.091	1.100	1.232	1.217	1.170	1.154	1.115	9	AVG
3-Methylcholanthrene		0.460	0.484	0.519	0.584	0.580	0.565	0.568	0.537	9	AVG
NDPA as diphenylamine		0.661	0.669	0.666	0.717	0.704	0.697	0.661	0.682	3	AVG
Indeno(1,2,3-cd)pyrene	0.971	1.018	1.106	1.139	1.259	1.246	1.179	1.171	1.136	9	AVG
Dibenz(a,h)anthracene	0.768	0.811	0.949	0.976	1.051	1.020	0.994	0.989	0.945	11	AVG
Benzo(g,h,i)perylene	0.962	0.976	1.002	1.019	1.097	1.084	1.033	1.006	1.023	5	AVG
Indene			2.453	2.269	2.583	2.484	2.469	2.429	2.448	4	AVG
2-Fluorophenol		1.431	1.482	1.491	1.596	1.551	1.521	1.504	1.511	3	AVG
Phenol-d5		3.776	3.917	3.977	4.246	4.130	4.067		4.019	4	AVG
Phenol-d6		1.888	1.959	1.988	2.123	2.065	2.034	1.956	2.002	4	AVG
Nitrobenzene-d5		0.331	0.351	0.368	0.385	0.382	0.376	0.365	0.366	5	AVG
2-Fluorobiphenyl		1.252	1.265	1.247	1.324	1.291	1.240	1.219	1.263	3	AVG
2,4,6-Tribromophenol		0.096	0.111	0.119	0.126	0.129	0.121	0.122	0.118	10	AVG
Terphenyl-d14		0.627	0.661	0.688	0.711	0.690	0.676	0.639	0.670	4	AVG

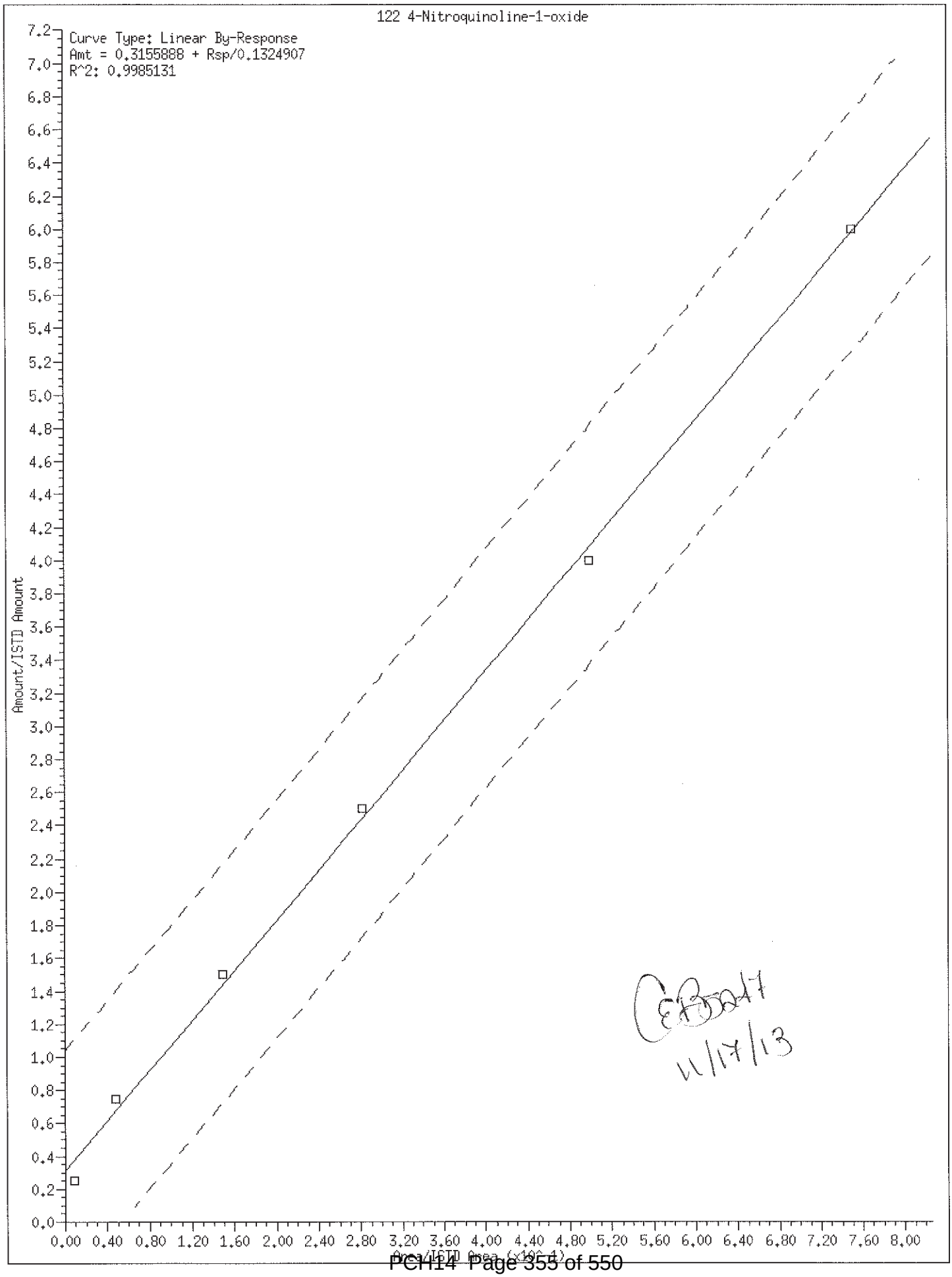
Average %RSD 8

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid, Pentachlorophenol and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.


41 Benzoic acid
Curve Type: Linear By-Response
Amt = 0.7517854 + Rsp/0.2371124
R^2: 0.9878784
Amount/ISTD Amount
Area/ISTD Area (x10^-1)
0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4.0 4.1 4.2 4.3 4.4 4.5 4.6 4.7
0.00 0.40 0.80 1.20 1.60 2.00 2.40 2.80 3.20 3.60 4.00 4.40 4.80 5.20 5.60 6.00 6.40 6.80 7.20 7.60 8.00 8.40

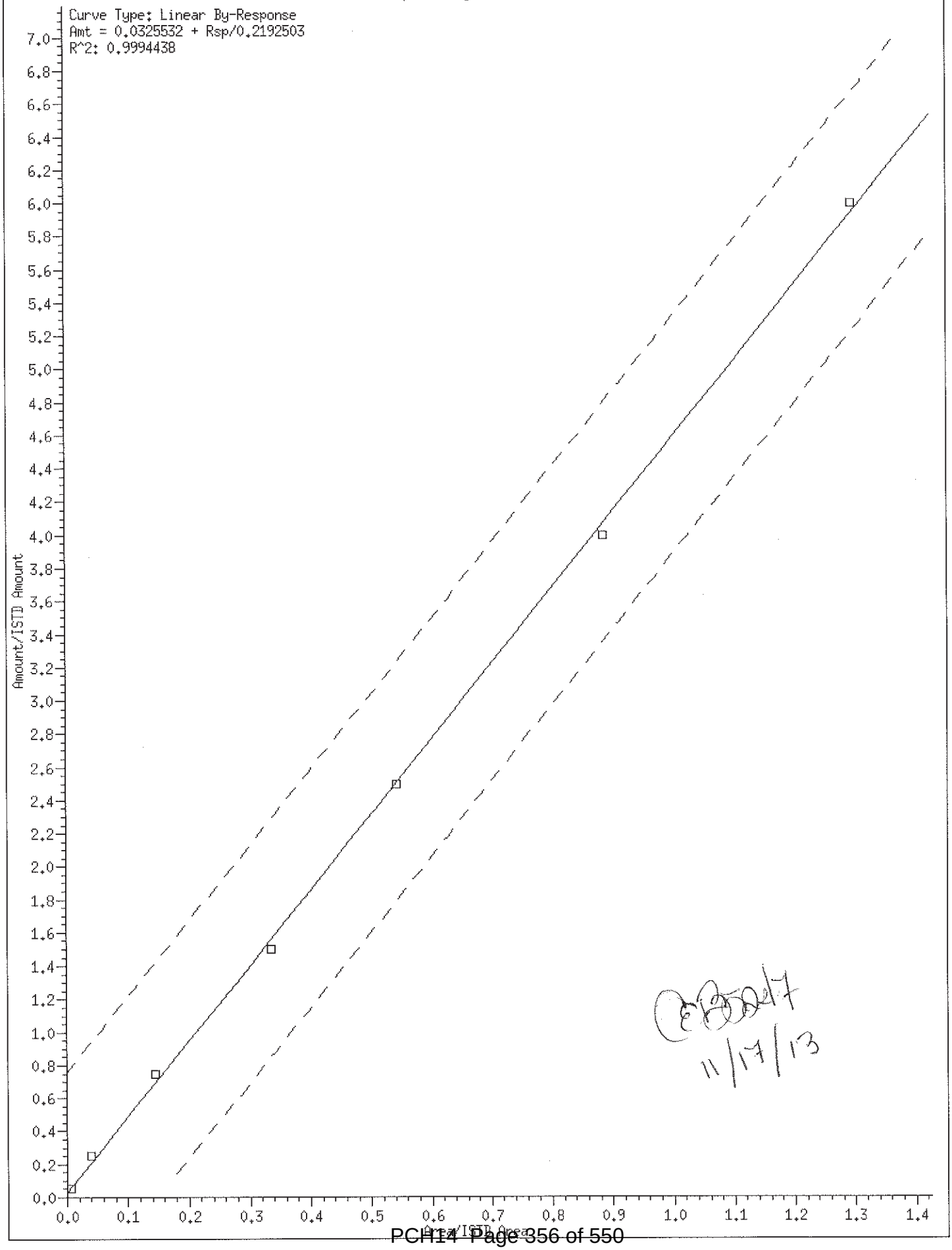
11/17/13


114 Dinoseb
Curve Type: Linear By-Response
Amt = 0.1668038 + Rsp/0.1869262
R^2: 0.9985474
Amount/ISTD Amount
Area/ISTD Area
11/17/13


122 4-Nitroquinoline-1-oxide
Curve Type: Linear By-Response
Amt = 0.3155888 + Rsp/0.1324907
R^2: 0.9985131
Amount/ISTD Amount
Area/ISTD Area (x10E-1)
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2
0.00 0.40 0.80 1.20 1.60 2.00 2.40 2.80 3.20 3.60 4.00 4.40 4.80 5.20 5.60 6.00 6.40 6.80 7.20 7.60 8.00

11/17/13

130 p-Dimethylaminoazobenzene



11/17/13

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP18831.i/13nov16a.b/hk0621.d SSTD7.5
/chem/HP18831.i/13nov16a.b/hk0622.d SSTD0.125
/chem/HP18831.i/13nov16a.b/hk0623.d SSTD30
/chem/HP18831.i/13nov16a.b/hk0624.d SSTD0.25
/chem/HP18831.i/13nov16a.b/hk0625.d SSTD1.25
/chem/HP18831.i/13nov16a.b/hk0626.d SSTD3.75
/chem/HP18831.i/13nov16a.b/hk0627.d SSTD12.5
/chem/HP18831.i/13nov16a.b/hk0628.d SSTD20

Area Summary

File ID:

Internal Standard Name	hk0621.d	hk0622.d	hk0623.d	hk0624.d	hk0625.d	hk0626.d	hk0627.d	hk0628.d	Avg. Area	%RSD
1,4-Dichlorobenzene-d4	112604	118252	114223	112135	110930	112555	111836	113001	113192	2
Naphthalene-d8	462800	484557	465233	464556	453421	456439	458479	466375	463982	2
Acenaphthene-d10	224498	239720	226248	228675	222831	228042	225719	231528	228408	2
Phenanthrene-d10	318577	350726	327268	331531	322557	331764	321842	327133	328925	3
Pyrene-d10	343081	364335	345611	352032	338817	343712	348808	350171	348321	2
Perylene-d12	248861	275499	255384	257682	252314	250827	246922	254994	255310	3

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	hk0621.d	hk0622.d	hk0623.d	hk0624.d	hk0625.d	hk0626.d	hk0627.d	hk0628.d
1,4-Dichlorobenzene-d4	6.939	6.934	6.939	6.934	6.933	6.933	6.939	6.934
Naphthalene-d8	8.869	8.869	8.874	8.869	8.869	8.869	8.874	8.874
Acenaphthene-d10	11.655	11.649	11.655	11.649	11.649	11.649	11.655	11.655
Phenanthrene-d10	13.532	13.532	13.537	13.526	13.526	13.531	13.531	13.532
Pyrene-d10	15.519	15.519	15.525	15.513	15.513	15.513	15.519	15.525
Perylene-d12	20.019	20.019	20.025	20.019	20.019	20.019	20.019	20.025

Comments: _____

Page 1 of 1

Report generated on 11/17/2013 at 16:14

11/17/13

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270D MINI File ID: hk0632.d

ICV SAMPLE ID: BASICV2463 BATCH: 13NOV16A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	12.19	-3	30	YES
N-Nitrosodimethylamine	12.50	12.64	1	30	YES
Pyridine	12.50	11.59	-7	30	YES
2-Picoline	12.50	12.22	-2	30	YES
N-Nitrosomethylethylamine	12.50	12.71	2	30	YES
Methyl methanesulfonate	12.50	13.51	8	30	YES
2-Fluorophenol	12.50	.00	0	30	YES
N-Nitrosodiethylamine	12.50	12.91	3	30	YES
Ethyl methanesulfonate	12.50	12.79	2	30	YES
Phenol-d6	12.50	.00	0	30	YES
Phenol	12.50	12.44	0	30	YES
Aniline	12.50	12.84	3	30	YES
bis(2-Chloroethyl)ether	12.50	12.41	-1	30	YES
2-Chlorophenol	12.50	12.68	1	30	YES
1,3-Dichlorobenzene	12.50	12.35	-1	30	YES
1,4-Dichlorobenzene	12.50	12.45	0	30	YES
Benzyl alcohol	12.50	13.12	5	30	YES
1,2-Dichlorobenzene	12.50	12.25	-2	30	YES
2-Methylphenol	12.50	12.52	0	30	YES
Indene	12.50	11.57	-7	30	YES
2,2'-oxybis(1-Chloropropane	12.50	12.35	-1	30	YES
bis(2-Chloroisopropyl)ether	12.50	12.35	-1	30	YES
N-Nitrosopyrrolidine	12.50	13.45	8	30	YES
Acetophenone	12.50	12.40	-1	30	YES
4-Methylphenol	12.50	11.90	-5	30	YES
N-Nitroso-di-n-propylamine	12.50	12.60	1	30	YES
N-Nitrosomorpholine	12.50	13.00	4	30	YES
o-Toluidine	12.50	12.47	0	30	YES
Hexachloroethane	12.50	12.56	0	30	YES
Nitrobenzene-d5	12.50	.00	0	30	YES
Nitrobenzene	12.50	12.58	1	30	YES
N-Nitrosopiperidine	12.50	13.57	9	30	YES
Isophorone	12.50	13.49	8	30	YES
2-Nitrophenol	12.50	13.38	7	30	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270D MINI File ID: hk0632.d

ICV SAMPLE ID: BASICV2463 BATCH: 13NOV16A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4-Dimethylphenol	12.50	13.23	6	30	YES
O,O,O-triethylphosphorothio	12.50	12.52	0	30	YES
bis(2-Chloroethoxy)methane	12.50	12.85	3	30	YES
Benzoic acid	25.00	20.25	-19	30	YES
2,4-Dichlorophenol	12.50	13.19	6	30	YES
1,2,4-Trichlorobenzene	12.50	13.01	4	30	YES
Naphthalene	12.50	12.31	-2	30	YES
4-Chloroaniline	12.50	13.37	7	30	YES
2,6-Dichlorophenol	12.50	13.03	4	30	YES
Hexachloropropene	12.50	14.07	13	30	YES
Hexachlorobutadiene	12.50	12.33	-1	30	YES
Quinoline	12.50	13.13	5	30	YES
N-Nitrosodi-n-butylamine	12.50	12.18	-3	30	YES
4-Chloro-3-methylphenol	12.50	13.59	9	30	YES
Safrole	12.50	13.41	7	30	YES
2-Methylnaphthalene	12.50	12.69	2	30	YES
1-Methylnaphthalene	12.50	13.38	7	30	YES
Hexachlorocyclopentadiene	25.00	31.32	25	30	NO
1,2,4,5-Tetrachlorobenzene	12.50	12.21	-2	30	YES
2,4,6-Trichlorophenol	12.50	13.05	4	30	YES
2,4,5-Trichlorophenol	12.50	13.04	4	30	YES
2-Fluorobiphenyl	12.50	.00	0	30	YES
trans-Isosafrole	11.13	13.37	20	30	YES
Isosafrole	12.50	13.37	7	30	YES
1,1'-Biphenyl	12.50	12.31	-1	30	YES
2-Chloronaphthalene	12.50	12.68	1	30	YES
Diphenyl ether	12.50	12.57	1	30	YES
2-Nitroaniline	12.50	13.50	8	30	YES
1,4-Naphthoquinone	15.63	15.92	2	30	YES
1,4-Dinitrobenzene	12.50	13.46	8	30	YES
Dimethylphthalate	12.50	12.30	-2	30	YES
1,3-Dinitrobenzene	12.50	13.09	5	30	YES
2,6-Dinitrotoluene	12.50	13.32	7	30	YES
Acenaphthylene	12.50	14.04	12	30	YES
3-Nitroaniline	12.50	13.72	10	30	YES
Acenaphthene	12.50	12.47	0	30	YES
2,4-Dinitrophenol	25.00	26.70	7	30	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270D MINI File ID: hk0632.d

ICV SAMPLE ID: BASICV2463 BATCH: 13NOV16A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
4-Nitrophenol	12.50	14.00	12	30	YES
Pentachlorobenzene	12.50	12.50	0	30	YES
Dibenzofuran	12.50	12.28	-2	30	YES
2,4-Dinitrotoluene	12.50	13.82	11	30	YES
1-Naphthylamine	25.00	25.40	2	30	YES
2,3,4,6-Tetrachlorophenol	12.50	13.82	11	30	YES
2-Naphthylamine	25.00	25.94	4	30	YES
Diethylphthalate	12.50	12.62	1	30	YES
Fluorene	12.50	12.76	2	30	YES
Thionazin	12.50	12.65	1	30	YES
4-Chlorophenyl-phenylether	12.50	12.16	-3	30	YES
5-Nitro-o-toluidine	12.50	13.41	7	30	YES
4-Nitroaniline	12.50	12.69	2	30	YES
4,6-Dinitro-2-methylphenol	12.50	13.26	6	30	YES
N-Nitrosodiphenylamine	12.50	12.98	4	30	YES
1,2-Diphenylhydrazine	12.50	12.61	1	30	YES
2,4,6-Tribromophenol	12.50	.00	0	30	YES
Tetraethyldithiopyrophospha	12.50	12.39	-1	30	YES
1,3,5-Trinitrobenzene	12.50	13.29	6	30	YES
Diallate (peak 1)	9.38	9.07	-3	30	YES
Phorate	12.50	12.44	-1	30	YES
Phenacetin	12.50	13.52	8	30	YES
4-Bromophenyl-phenylether	12.50	12.33	-1	30	YES
Diallate (peak 2)	3.13	3.03	-3	30	YES
Hexachlorobenzene	12.50	11.93	-5	30	YES
Dimethoate	12.50	13.61	9	30	YES
Pentachlorophenol	12.50	13.80	10	30	YES
Pentachloronitrobenzene	12.50	13.71	10	30	YES
4-Aminobiphenyl	12.50	15.35	23	30	YES
Pronamide	12.50	12.99	4	30	YES
Dinoseb	12.50	12.60	1	30	YES
Phenanthrene	12.50	12.30	-2	30	YES
Anthracene	12.50	12.97	4	30	YES
Carbazole	12.50	12.80	2	30	YES
Methyl parathion	12.50	14.16	13	30	YES
Di-n-butylphthalate	12.50	12.88	3	30	YES
Parathion	12.50	13.80	10	30	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270D MINI File ID: hk0632.d

ICV SAMPLE ID: BASICV2463 BATCH: 13NOV16A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
4-Nitroquinoline-1-oxide	150.00	165.22	10	30	YES
Isodrin	12.50	12.20	-2	30	YES
Fluoranthene	12.50	12.81	3	30	YES
Benzidine	62.50	59.02	-6	30	YES
Pyrene	12.50	12.43	-1	30	YES
Terphenyl-d14	12.50	.00	0	30	YES
p-Dimethylaminoazobenzene	12.50	13.37	7	30	YES
Chlorobenzilate	12.50	12.66	1	30	YES
3,3'-Dimethylbenzidine	25.00	25.27	1	30	YES
Butylbenzylphthalate	12.50	13.06	5	30	YES
2-Acetylaminofluorene	12.50	14.01	12	30	YES
3,3'-Dichlorobenzidine	12.50	12.67	1	30	YES
Benzo(a)anthracene	12.50	13.18	5	30	YES
4,4'-Methylenebis(2-Chloroa	12.50	12.29	-2	30	YES
Chrysene	12.50	12.76	2	30	YES
bis(2-Ethylhexyl)phthalate	12.50	13.20	6	30	YES
6-Methylchrysene	12.50	12.65	1	30	YES
Di-n-octylphthalate	12.50	13.92	11	30	YES
Benzo(b)fluoranthene	12.50	12.85	3	30	YES
7,12-Dimethylbenz[a]anthrac	12.50	12.31	-2	30	YES
Benzo(k)fluoranthene	12.50	12.92	3	30	YES
Benzo(a)pyrene	12.50	13.19	6	30	YES
3-Methylcholanthrene	12.50	13.26	6	30	YES
Dibenz(a,h)acridine	12.50	12.91	3	30	YES
Dibenz(a,j)acridine	12.50	12.52	0	30	YES
Indeno(1,2,3-cd)pyrene	12.50	12.82	3	30	YES
Dibenz(a,h)anthracene	12.50	13.24	6	30	YES
Benzo(g,h,i)perylene	12.50	12.54	0	30	YES
Diallate TRANS/CIS	12.50	12.38	-1	30	YES

NC = Could not calculate

Comments:

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP18831

Method: SW-846 8270D MINI File ID: hk0632.d

ICV SAMPLE ID: BASICV2463 BATCH: 13NOV16A026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	12.49	0	30	YES
Caprolactam	12.50	12.76	2	30	YES
Atrazine	12.50	13.30	6	30	YES

NC = Could not calculate

Comments:

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 12/23/13 Time: 15:17

Lab File ID: hl0781z.d Init. Calib. Date(s): 11/16/13 11/16/13

Init. Calib. Times(s): 14:53 18:17

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.668	0.561	10.500	12.5	-16
N-Nitrosodimethylamine	1.064	0.869	10.220	12.5	-18
Pyridine	1.819	1.407	9.670	12.5	-23
2-Picoline	1.791	1.645	11.480	12.5	-8
N-Nitrosomethylethylamine	0.766	0.718	11.720	12.5	-6
Methyl methanesulfonate	0.727	0.748	12.870	12.5	3
N-Nitrosodiethylamine	0.730	0.724	12.410	12.5	-1
Ethyl methanesulfonate	0.781	0.740	11.830	12.5	-5
Benzaldehyde	1.259	1.016	10.090	12.5	-19
Aniline	2.639	2.526	11.960	12.5	-4
Phenol	2.289	2.022	11.040	12.5	-12
bis(2-Chloroethyl)ether	1.763	1.637	11.610	12.5	-7
2-Chlorophenol	1.535	1.544	12.570	12.5	1
1,3-Dichlorobenzene	1.642	1.697	12.910	12.5	3
1,4-Dichlorobenzene	1.669	1.718	12.870	12.5	3
Benzyl alcohol	1.037	1.013	12.220	12.5	-2
1,2-Dichlorobenzene	1.569	1.607	12.810	12.5	2
2-Methylphenol	1.433	1.437	12.540	12.5	0
2,2'-oxybis(1-Chloropropane)	3.194	2.626	10.270	12.5	-18
bis(2-Chloroisopropyl)ether	3.194	2.626	10.270	12.5	-18
N-Nitrosopyrrolidine	0.726	0.751	12.920	12.5	3
Acetophenone	1.989	1.952	12.270	12.5	-2
N-Nitroso-di-n-propylamine	1.121	0.985	10.990	12.5	-12
N-Nitrosomorpholine	0.937	0.891	11.890	12.5	-5
4-Methylphenol	1.591	1.593	12.510	12.5	0
o-Toluidine	2.312	2.115	11.440	12.5	-8
Hexachloroethane	0.616	0.620	12.580	12.5	1
Nitrobenzene	0.376	0.364	12.110	12.5	-3
N-Nitrosopiperidine	0.184	0.186	12.680	12.5	1
Isophorone	0.678	0.673	12.420	12.5	-1
2-Nitrophenol	0.178	0.196	13.780	12.5	10
2,4-Dimethylphenol	0.313	0.339	13.530	12.5	8
O,O,O-triethylphosphorothioate	0.138	0.155	13.990	12.5	12
bis(2-Chloroethoxy)methane	0.482	0.467	12.110	12.5	-3
Benzoic acid	0.129	0.164	12.390	12.5	-1
2,4-Dichlorophenol	0.264	0.295	13.980	12.5	12

12/23/13

FORM VII SV-1

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 12/23/13 Time: 15:17

Lab File ID: hl0781z.d Init. Calib. Date(s): 11/16/13 11/16/13

Init. Calib. Times(s): 14:53 18:17

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,2,4-Trichlorobenzene	0.284	0.305	13.420	12.5	7
Naphthalene	1.058	1.057	12.490	12.5	0
4-Chloroaniline	0.444	0.452	12.720	12.5	2
2,6-Dichlorophenol	0.259	0.278	13.400	12.5	7
Hexachloropropene	0.123	0.163	16.550	12.5	32
Hexachlorobutadiene	0.130	0.153	14.730	12.5	18
Caprolactam	0.113	0.113	12.470	12.5	0
N-Nitrosodi-n-butylamine	0.261	0.225	10.800	12.5	-14
4-Chloro-3-methylphenol	0.270	0.300	13.930	12.5	11
Safrole	0.238	0.263	13.840	12.5	11
2-Methylnaphthalene	0.671	0.697	12.990	12.5	4
1-Methylnaphthalene	0.601	0.621	12.910	12.5	3
Hexachlorocyclopentadiene	0.218	0.230	13.170	12.5	5
1,2,4,5-Tetrachlorobenzene	0.472	0.479	12.700	12.5	2
cis-Isosafrole	0.084	0.089	13.310	12.5	6
2,4,6-Trichlorophenol	0.343	0.369	13.440	12.5	8
2,4,5-Trichlorophenol	0.350	0.385	13.770	12.5	10
trans-Isosafrole	0.493	0.608	15.420	12.5	23
Isosafrole	0.493	0.608	15.420	12.5	23
1,1'-Biphenyl	1.544	1.403	11.360	12.5	-9
2-Chloronaphthalene	1.208	1.142	11.820	12.5	-5
1-Chloronaphthalene	1.129	0.951	10.530	12.5	-16
Diphenyl ether	0.768	0.747	12.160	12.5	-3
2-Nitroaniline	0.405	0.427	13.150	12.5	5
1,4-Naphthoquinone	0.472	0.492	13.020	12.5	4
1,4-Dinitrobenzene	0.188	0.205	13.660	12.5	9
Dimethylphthalate	1.206	1.144	11.860	12.5	-5
1,3-Dinitrobenzene	0.225	0.234	12.990	12.5	4
2,6-Dinitrotoluene	0.272	0.298	13.670	12.5	9
Acenaphthylene	1.691	1.749	12.930	12.5	3
3-Nitroaniline	0.363	0.396	13.640	12.5	9
Acenaphthene	1.161	1.117	12.030	12.5	-4
2,4-Dinitrophenol	0.154	0.142	11.480	12.5	-8
Pentachlorobenzene	0.380	0.413	13.570	12.5	9
4-Nitrophenol	0.133	0.156	14.680	12.5	17
Dibenzofuran	1.582	1.592	12.580	12.5	1

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 12/23/13 Time: 15:17

Lab File ID: hl0781z.d Init. Calib. Date(s): 11/16/13 11/16/13

Init. Calib. Times(s): 14:53 18:17

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
2,4-Dinitrotoluene	0.345	0.358	13.000	12.5	4
1-Naphthylamine	1.247	1.238	12.410	12.5	-1
2,3,4,6-Tetrachlorophenol	0.243	0.251	12.920	12.5	3
2-Naphthylamine	1.248	1.145	11.470	12.5	-8
Diethylphthalate	1.148	1.065	11.600	12.5	-7
Thionazin	0.243	0.217	11.190	12.5	-10
Fluorene	1.243	1.256	12.630	12.5	1
4-Chlorophenyl-phenylether	0.516	0.519	12.580	12.5	1
5-Nitro-o-toluidine	0.360	0.334	11.600	12.5	-7
4-Nitroaniline	0.366	0.334	11.430	12.5	-9
4,6-Dinitro-2-methylphenol	0.124	0.133	13.410	12.5	7
N-Nitrosodiphenylamine (1)	0.682	0.653	11.960	12.5	-4
1,2-Diphenylhydrazine	0.955	0.900	11.780	12.5	-6
Tetraethyldithiopyrophosphate	0.131	0.127	12.130	12.5	-3
1,3,5-Trinitrobenzene	0.084	0.088	13.130	12.5	5
Diallate (peak 1)	0.545	0.469	8.060	9.4	-14
Phorate	0.631	0.812	16.090	12.5	29
Phenacetin	0.413	0.417	12.630	12.5	1
4-Bromophenyl-phenylether	0.187	0.195	13.050	12.5	4
Diallate (peak 2)	0.231	0.202	2.720	3.1	-13
Hexachlorobenzene	0.186	0.212	14.220	12.5	14
Dimethoate	0.428	0.402	11.750	12.5	-6
Diallate TRANS/CIS	0.456	0.402	11.010	12.5	-12
Atrazine	0.175	0.182	13.010	12.5	4
Pentachlorophenol	0.126	0.127	12.560	12.5	0
Pentachloronitrobenzene	0.066	0.087	16.450	12.5	32
4-Aminobiphenyl	0.794	0.880	13.850	12.5	11
Pronamide	0.318	0.348	13.680	12.5	9
Dinoseb	0.152	0.174	12.460	12.5	0
Phenanthrene	1.163	1.143	12.290	12.5	-2
Anthracene	1.131	1.127	12.460	12.5	0
Carbazole	1.149	1.149	12.500	12.5	0
Methyl parathion	0.290	0.300	12.910	12.5	3
Di-n-butylphthalate	1.416	1.436	12.680	12.5	1
Parathion	0.172	0.188	13.680	12.5	9
4-Nitroquinoline-1-oxide	0.093	0.121	13.010	12.5	4

(1) Cannot be Separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 12/23/13 Time: 15:17

Lab File ID: hl0781z.d Init. Calib. Date(s): 11/16/13 11/16/13

Init. Calib. Times(s): 14:53 18:17

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
Isodrin	0.127	0.139	13.640	12.5	9
Fluoranthene	1.138	1.251	13.740	12.5	10
Benzidine	0.796	0.780	36.740	37.5	-2
Pyrene	1.130	1.071	11.840	12.5	-5
p-Dimethylaminoazobenzene	0.192	0.216	12.470	12.5	0
Chlorobenzilate	0.340	0.347	12.760	12.5	2
3,3'-Dimethylbenzidine	0.642	0.667	12.990	12.5	4
Butylbenzylphthalate	0.570	0.554	12.170	12.5	-3
2-Acetylaminofluorene	0.396	0.432	13.640	12.5	9
3,3'-Dichlorobenzidine	0.349	0.372	13.340	12.5	7
4,4'-Methylenebis(2-Chloroanil	0.161	0.164	12.750	12.5	2
Benzo(a)anthracene	0.947	0.985	13.000	12.5	4
Chrysene	0.917	0.879	11.990	12.5	-4
bis(2-Ethylhexyl)phthalate	0.762	0.728	11.950	12.5	-4
6-Methylchrysene	0.635	0.680	13.400	12.5	7
Dibenz(a,h)acridine	0.820	0.856	13.060	12.5	4
Di-n-octylphthalate	1.769	1.802	12.740	12.5	2
Dibenz(a,j)acridine	0.893	0.922	12.900	12.5	3
7,12-Dimethylbenz[a]anthracene	0.545	0.551	12.620	12.5	1
Quinoline	0.659	0.700	13.280	12.5	6
Benzo(b)fluoranthene	1.198	1.252	13.060	12.5	4
Benzo(k)fluoranthene	1.194	1.215	12.730	12.5	2
Benzo(a)pyrene	1.115	1.196	13.410	12.5	7
3-Methylcholanthrene	0.537	0.590	13.730	12.5	10
NDPA as diphenylamine	0.682	0.653	11.960	12.5	-4
Indeno(1,2,3-cd)pyrene	1.136	1.160	12.760	12.5	2
Dibenz(a,h)anthracene	0.945	0.928	12.280	12.5	-2
Benzo(g,h,i)perylene	1.023	1.036	12.670	12.5	1
Indene	2.448	2.411	14.770	15.0	-2
2-Fluorophenol	1.511	1.495	24.740	25.0	-1
Phenol-d5	4.019	3.750	11.670	12.5	-7
Phenol-d6	2.002	1.875	23.420	25.0	-6
Nitrobenzene-d5	0.366	0.353	24.110	25.0	-4
2-Fluorobiphenyl	1.263	1.210	23.970	25.0	-4
2,4,6-Tribromophenol	0.118	0.128	27.140	25.0	9

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 12/23/13 Time: 15:17

Lab File ID: hl0781z.d Init. Calib. Date(s): 11/16/13 11/16/13

Init. Calib. Times(s): 14:53 18:17

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
Terphenyl-d14	0.670	0.646	24.080	25.0	-4

Average %Drift: 7

Continuing Calibration
Internal Standard Area and Retention Time
Summary

Initial Calibration Standards:

/chem/HP18831.i/13nov16a.b/hk0621.d **
/chem/HP18831.i/13nov16a.b/hk0622.d
/chem/HP18831.i/13nov16a.b/hk0623.d
/chem/HP18831.i/13nov16a.b/hk0624.d
/chem/HP18831.i/13nov16a.b/hk0625.d
/chem/HP18831.i/13nov16a.b/hk0626.d
/chem/HP18831.i/13nov16a.b/hk0627.d
/chem/HP18831.i/13nov16a.b/hk0628.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP18831.i/13dec23.b/hl0781z.d

Area Summary

File ID:

Internal Standard Name	hl0781z.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	134940	112604	56302	225208	Yes
Naphthalene-d8	543170	462800	231400	925600	Yes
Acenaphthene-d10	292834	224498	112249	448996	Yes
Phenanthrene-d10	404043	318577	159288	637154	Yes
Pyrene-d10	447356	343081	171540	686162	Yes
Perylene-d12	327194	248861	124430	497722	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	hl0781z.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	5.953	6.939	No
Naphthalene-d8	7.888	8.869	No
Acenaphthene-d10	10.662	11.655	No
Phenanthrene-d10	12.673	13.532	No
Pyrene-d10	14.457	15.519	No
Perylene-d12	18.747	20.019	No

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: _____

12/23/13

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 12/26/13 Time: 17:48

Lab File ID: hl0831.d Init. Calib. Date(s): 11/16/13 11/16/13

Init. Calib. Times(s): 14:53 18:17

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.668	0.593	11.090	12.5	-11
N-Nitrosodimethylamine	1.064	0.875	10.290	12.5	-18
Pyridine	1.819	1.398	9.610	12.5	-23
2-Picoline	1.791	1.583	11.050	12.5	-12
N-Nitrosomethylethylamine	0.766	0.620	10.110	12.5	-19
Methyl methanesulfonate	0.727	0.724	12.450	12.5	0
N-Nitrosodiethylamine	0.730	0.704	12.070	12.5	-3
Ethyl methanesulfonate	0.781	0.722	11.550	12.5	-8
Benzaldehyde	1.259	0.976	9.690	12.5	-22
Aniline	2.639	2.436	11.540	12.5	-8
Phenol	2.289	1.995	10.890	12.5	-13
bis(2-Chloroethyl)ether	1.763	1.593	11.290	12.5	-10
2-Chlorophenol	1.535	1.505	12.260	12.5	-2
1,3-Dichlorobenzene	1.642	1.656	12.600	12.5	1
1,4-Dichlorobenzene	1.669	1.677	12.560	12.5	0
Benzyl alcohol	1.037	0.962	11.600	12.5	-7
1,2-Dichlorobenzene	1.569	1.559	12.430	12.5	-1
2-Methylphenol	1.433	1.401	12.220	12.5	-2
2,2'-oxybis(1-Chloropropane)	3.194	2.530	9.900	12.5	-21
bis(2-Chloroisopropyl)ether	3.194	2.530	9.900	12.5	-21
N-Nitrosopyrrolidine	0.726	0.726	12.490	12.5	0
Acetophenone	1.989	1.866	11.730	12.5	-6
N-Nitroso-di-n-propylamine	1.121	0.944	10.530	12.5	-16
N-Nitrosomorpholine	0.937	0.848	11.310	12.5	-10
4-Methylphenol	1.591	1.543	12.120	12.5	-3
o-Toluidine	2.312	2.062	11.150	12.5	-11
Hexachloroethane	0.616	0.603	12.230	12.5	-2
Nitrobenzene	0.376	0.357	11.870	12.5	-5
N-Nitrosopiperidine	0.184	0.185	12.580	12.5	1
Isophorone	0.678	0.657	12.130	12.5	-3
2-Nitrophenol	0.178	0.194	13.660	12.5	9
2,4-Dimethylphenol	0.313	0.330	13.180	12.5	5
O,O,O-triethylphosphorothioate	0.138	0.153	13.850	12.5	11
bis(2-Chloroethoxy)methane	0.482	0.431	11.180	12.5	-11
Benzoic acid	0.129	0.174	12.950	12.5	4
2,4-Dichlorophenol	0.264	0.290	13.710	12.5	10

CEB 12/26/13

FORM VII SV-1

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 12/26/13 Time: 17:48

Lab File ID: hl0831.d Init. Calib. Date(s): 11/16/13 11/16/13

Init. Calib. Times(s): 14:53 18:17

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,2,4-Trichlorobenzene	0.284	0.303	13.350	12.5	7
Naphthalene	1.058	1.051	12.420	12.5	-1
4-Chloroaniline	0.444	0.446	12.550	12.5	0
2,6-Dichlorophenol	0.259	0.273	13.140	12.5	5
Hexachloropropene	0.123	0.161	16.280	12.5	30
Hexachlorobutadiene	0.130	0.149	14.350	12.5	15
Caprolactam	0.113	0.110	12.140	12.5	-3
N-Nitrosodi-n-butylamine	0.261	0.215	10.320	12.5	-17
4-Chloro-3-methylphenol	0.270	0.291	13.470	12.5	8
Safrole	0.238	0.256	13.450	12.5	8
2-Methylnaphthalene	0.671	0.679	12.650	12.5	1
1-Methylnaphthalene	0.601	0.611	12.710	12.5	2
Hexachlorocyclopentadiene	0.218	0.228	13.050	12.5	4
1,2,4,5-Tetrachlorobenzene	0.472	0.481	12.750	12.5	2
cis-Isosafrole	0.084	0.088	13.130	12.5	5
2,4,6-Trichlorophenol	0.343	0.370	13.470	12.5	8
2,4,5-Trichlorophenol	0.350	0.371	13.260	12.5	6
trans-Isosafrole	0.493	0.613	15.540	12.5	24
Isosafrole	0.493	0.613	15.540	12.5	24
1,1'-Biphenyl	1.544	1.402	11.350	12.5	-9
2-Chloronaphthalene	1.208	1.140	11.800	12.5	-6
1-Chloronaphthalene	1.129	0.932	10.320	12.5	-17
Diphenyl ether	0.768	0.748	12.170	12.5	-3
2-Nitroaniline	0.405	0.419	12.910	12.5	3
1,4-Naphthoquinone	0.472	0.491	13.010	12.5	4
1,4-Dinitrobenzene	0.188	0.202	13.440	12.5	8
Dimethylphthalate	1.206	1.127	11.680	12.5	-7
1,3-Dinitrobenzene	0.225	0.234	13.000	12.5	4
2,6-Dinitrotoluene	0.272	0.296	13.610	12.5	9
Acenaphthylene	1.691	1.737	12.850	12.5	3
3-Nitroaniline	0.363	0.393	13.560	12.5	8
Acenaphthene	1.161	1.119	12.050	12.5	-4
2,4-Dinitrophenol	0.154	0.149	12.080	12.5	-3
Pentachlorobenzene	0.380	0.415	13.620	12.5	9
4-Nitrophenol	0.133	0.148	13.960	12.5	12
Dibenzofuran	1.582	1.578	12.470	12.5	0

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 12/26/13 Time: 17:48

Lab File ID: hl0831.d Init. Calib. Date(s): 11/16/13 11/16/13

Init. Calib. Times(s): 14:53 18:17

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
2,4-Dinitrotoluene	0.345	0.356	12.900	12.5	3
1-Naphthylamine	1.247	1.244	12.470	12.5	0
2,3,4,6-Tetrachlorophenol	0.243	0.263	13.540	12.5	8
2-Naphthylamine	1.248	1.217	12.190	12.5	-2
Diethylphthalate	1.148	1.059	11.530	12.5	-8
Thionazin	0.243	0.219	11.260	12.5	-10
Fluorene	1.243	1.249	12.560	12.5	0
4-Chlorophenyl-phenylether	0.516	0.511	12.380	12.5	-1
5-Nitro-o-toluidine	0.360	0.341	11.850	12.5	-5
4-Nitroaniline	0.366	0.329	11.260	12.5	-10
4,6-Dinitro-2-methylphenol	0.124	0.129	13.020	12.5	4
N-Nitrosodiphenylamine (1)	0.682	0.605	11.090	12.5	-11
1,2-Diphenylhydrazine	0.955	0.827	10.830	12.5	-13
Tetraethyldithiopyrophosphate	0.131	0.119	11.370	12.5	-9
1,3,5-Trinitrobenzene	0.084	0.084	12.600	12.5	1
Diallate (peak 1)	0.545	0.436	7.500	9.4	-20
Phorate	0.631	0.741	14.680	12.5	17
Phenacetin	0.413	0.382	11.550	12.5	-8
4-Bromophenyl-phenylether	0.187	0.193	12.900	12.5	3
Diallate (peak 2)	0.231	0.187	2.530	3.1	-19
Hexachlorobenzene	0.186	0.197	13.200	12.5	6
Dimethoate	0.428	0.380	11.120	12.5	-11
Diallate TRANS/CIS	0.456	0.374	10.240	12.5	-18
Atrazine	0.175	0.170	12.150	12.5	-3
Pentachlorophenol	0.126	0.131	12.980	12.5	4
Pentachloronitrobenzene	0.066	0.081	15.320	12.5	23
4-Aminobiphenyl	0.794	0.791	12.460	12.5	0
Pronamide	0.318	0.326	12.820	12.5	3
Dinoseb	0.152	0.167	12.030	12.5	-4
Phenanthrene	1.163	1.065	11.440	12.5	-8
Anthracene	1.131	1.112	12.290	12.5	-2
Carbazole	1.149	1.065	11.580	12.5	-7
Methyl parathion	0.290	0.273	11.790	12.5	-6
Di-n-butylphthalate	1.416	1.337	11.800	12.5	-6
Parathion	0.172	0.175	12.730	12.5	2
4-Nitroquinoline-1-oxide	0.093	0.111	12.080	12.5	-3

(1) Cannot be Separated from Diphenylamine

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 12/26/13 Time: 17:48

Lab File ID: hl0831.d Init. Calib. Date(s): 11/16/13 11/16/13

Init. Calib. Times(s): 14:53 18:17

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
Isodrin	0.127	0.133	13.100	12.5	5
Fluoranthene	1.138	1.149	12.620	12.5	1
Benzidine	0.796	0.802	37.770	37.5	1
Pyrene	1.130	1.077	11.910	12.5	-5
p-Dimethylaminoazobenzene	0.192	0.217	12.560	12.5	0
Chlorobenzilate	0.340	0.348	12.800	12.5	2
3,3'-Dimethylbenzidine	0.642	0.678	13.200	12.5	6
Butylbenzylphthalate	0.570	0.554	12.160	12.5	-3
2-Acetylaminofluorene	0.396	0.437	13.800	12.5	10
3,3'-Dichlorobenzidine	0.349	0.376	13.490	12.5	8
4,4'-Methylenebis(2-Chloroanil	0.161	0.164	12.750	12.5	2
Benzo(a)anthracene	0.947	1.001	13.220	12.5	6
Chrysene	0.917	0.891	12.150	12.5	-3
bis(2-Ethylhexyl)phthalate	0.762	0.740	12.140	12.5	-3
6-Methylchrysene	0.635	0.684	13.480	12.5	8
Dibenz(a,h)acridine	0.820	0.872	13.300	12.5	6
Di-n-octylphthalate	1.769	1.748	12.350	12.5	-1
Dibenz(a,j)acridine	0.893	0.926	12.950	12.5	4
7,12-Dimethylbenz[a]anthracene	0.545	0.559	12.800	12.5	2
Quinoline	0.659	0.685	12.980	12.5	4
Benzo(b)fluoranthene	1.198	1.251	13.050	12.5	4
Benzo(k)fluoranthene	1.194	1.192	12.480	12.5	0
Benzo(a)pyrene	1.115	1.179	13.220	12.5	6
3-Methylcholanthrene	0.537	0.594	13.820	12.5	11
NDPA as diphenylamine	0.682	0.605	11.090	12.5	-11
Indeno(1,2,3-cd)pyrene	1.136	1.219	13.420	12.5	7
Dibenz(a,h)anthracene	0.945	0.965	12.770	12.5	2
Benzo(g,h,i)perylene	1.023	1.067	13.040	12.5	4
Indene	2.448	2.350	14.400	15.0	-4
2-Fluorophenol	1.511	1.490	24.660	25.0	-1
Phenol-d5	4.019	3.658	11.380	12.5	-9
Phenol-d6	2.002	1.829	22.840	25.0	-9
Nitrobenzene-d5	0.366	0.347	23.730	25.0	-5
2-Fluorobiphenyl	1.263	1.215	24.050	25.0	-4
2,4,6-Tribromophenol	0.118	0.136	28.960	25.0	16

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP18831 Calibration Date: 12/26/13 Time: 17:48

Lab File ID: hl0831.d Init. Calib. Date(s): 11/16/13 11/16/13

Init. Calib. Times(s): 14:53 18:17

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
Terphenyl-d14	0.670	0.662	24.690	25.0	-1

Average %Drift: 7

Continuing Calibration
Internal Standard Area and Retention Time
Summary

Initial Calibration Standards:

/chem/HP18831.i/13nov16a.b/hk0621.d **
/chem/HP18831.i/13nov16a.b/hk0622.d
/chem/HP18831.i/13nov16a.b/hk0623.d
/chem/HP18831.i/13nov16a.b/hk0624.d
/chem/HP18831.i/13nov16a.b/hk0625.d
/chem/HP18831.i/13nov16a.b/hk0626.d
/chem/HP18831.i/13nov16a.b/hk0627.d
/chem/HP18831.i/13nov16a.b/hk0628.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP18831.i/13dec26b.b/hl0831.d

Area Summary

File ID:

Internal Standard Name	hl0831.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	137775	112604	56302	225208	Yes
Naphthalene-d8	545708	462800	231400	925600	Yes
Acenaphthene-d10	290316	224498	112249	448996	Yes
Phenanthrene-d10	432885	318577	159288	637154	Yes
Pyrene-d10	441415	343081	171540	686162	Yes
Perylene-d12	334167	248861	124430	497722	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	hl0831.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	5.941	6.939	No
Naphthalene-d8	7.870	8.869	No
Acenaphthene-d10	10.639	11.655	No
Phenanthrene-d10	12.656	13.532	No
Pyrene-d10	14.439	15.519	No
Perylene-d12	18.718	20.019	No

A "No" indicates the retention time is greater than 30 seconds from the RT of the referenced standard.

Comments: _____

CB 12/26/13

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hl0781z.d Date Analyzed: 12/23/13

Instrument ID: HP18831 Time Analyzed: 15:17

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	134940	5.953	543170	7.888	292834	10.662
	UPPER LIMIT	269880	6.453	1086340	8.388	585668	11.162
	LOWER LIMIT	67470	5.453	271585	7.388	146417	10.162
	LLI SAMPLE NO.						
01	SBLKWJ348	131642	5.953	541394	7.888	286877	10.657
02	348WJLCS	133822	5.959	501888	7.888	273830	10.657
03	7311249	135736	5.953	558326	7.888	292381	10.657
04	7311250MS	130413	5.959	494215	7.888	274896	10.656
05	7311251MSD	125593	5.959	488908	7.888	267430	10.656
06	SBLKWK354	119805	5.953	492053	7.888	261604	10.657
07	354WKLCS	131373	5.959	498740	7.888	277465	10.657
08	7319021	136005	5.953	554507	7.888	290697	10.657
09	7319022MS	128886	5.959	485316	7.888	265875	10.662
10	7319023MSD	126099	5.959	485049	7.888	268767	10.662
11	7310405	126819	5.953	502607	7.888	266890	10.657
12	7311247	130636	5.953	532684	7.888	281640	10.656
13	7311252	126677	5.953	512648	7.888	267123	10.656
14	7311253	129690	5.953	531573	7.888	273604	10.656
15	7311254	121218	5.953	493973	7.888	260448	10.656
16	7311255	137328	5.953	556215	7.888	297498	10.656
17	7311256	131128	5.953	537462	7.888	285818	10.657

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hl0781z.d Date Analyzed: 12/23/13

Instrument ID: HP18831 Time Analyzed: 15:17

		IS4(PHN) AREA #	RT #	IS5(PYR) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	404043	12.673	447356	14.457	327194	18.747
	UPPER LIMIT	808086	13.173	894712	14.957	654388	19.247
	LOWER LIMIT	202022	12.173	223678	13.957	163597	18.247
	LLI SAMPLE NO.						
01	SBLKWJ348	450032	12.667	478058	14.457	354680	18.747
02	348WJLCS	372279	12.667	406393	14.457	312712	18.747
03	7311249	454607	12.667	490313	14.457	366605	18.741
04	7311250MS	366355	12.667	402828	14.457	300412	18.747
05	7311251MSD	381861	12.667	401837	14.457	300161	18.747
06	SBLKWK354	403026	12.668	430169	14.457	324840	18.741
07	354WKLCS	381504	12.668	412790	14.463	308771	18.747
08	7319021	443377	12.668	487849	14.457	365459	18.747
09	7319022MS	353011	12.667	392460	14.457	298775	18.747
10	7319023MSD	361359	12.668	395797	14.457	298408	18.747
11	7310405	414338	12.667	434552	14.457	318225	18.747
12	7311247	430141	12.667	466258	14.457	344225	18.741
13	7311252	402206	12.667	433187	14.457	331245	18.741
14	7311253	414665	12.667	451137	14.457	349244	18.747
15	7311254	400169	12.667	421621	14.457	320673	18.741
16	7311255	448665	12.667	486973	14.457	364753	18.747
17	7311256	441859	12.668	468171	14.457	348223	18.747

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hl0781z.d Date Analyzed: 12/23/13

Instrument ID: HP18831 Time Analyzed: 15:17

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	134940	5.953	543170	7.888	292834	10.662
	UPPER LIMIT	269880	6.453	1086340	8.388	585668	11.162
	LOWER LIMIT	67470	5.453	271585	7.388	146417	10.162
	LLI SAMPLE NO.						
18	7311257	135914	5.953	547929	7.888	286643	10.657
19	7311258	132826	5.953	531257	7.888	279804	10.657

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hl0781z.d Date Analyzed: 12/23/13

Instrument ID: HP18831 Time Analyzed: 15:17

		IS4(PHN) AREA #	RT #	IS5(PYR) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	404043	12.673	447356	14.457	327194	18.747
	UPPER LIMIT	808086	13.173	894712	14.957	654388	19.247
	LOWER LIMIT	202022	12.173	223678	13.957	163597	18.247
	LLI SAMPLE NO.						
18	7311257	438307	12.668	475760	14.457	359586	18.747
19	7311258	425078	12.668	458490	14.457	347078	18.741

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

8B
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hl0831.d Date Analyzed: 12/26/13

Instrument ID: HP18831 Time Analyzed: 17:48

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	137775	5.941	545708	7.871	290316	10.639
	UPPER LIMIT	275550	6.441	1091416	8.371	580632	11.139
	LOWER LIMIT	68888	5.441	272854	7.371	145158	10.139
	LLI SAMPLE NO.						
01	SBLKWP354	137014	5.935	560194	7.870	300071	10.639
02	354WPLCS	140544	5.941	534077	7.870	294400	10.639
03	7320601	130786	5.935	521173	7.871	271954	10.639
04	7320602MS	134275	5.941	501730	7.870	217193	10.639
05	7320603MSD	127279	5.941	505040	7.870	214569	10.639
06	7319019	140555	5.935	584727	7.871	311069	10.639
07	7319020	150557	5.935	614075	7.870	322673	10.639
08	7319024	153154	5.935	621769	7.871	331389	10.639
09	7320599	137714	5.935	564762	7.870	295720	10.639
10	7320600	131725	5.935	517828	7.870	273988	10.639
11	7320604	122789	5.935	478467	7.871	247783	10.639
12	7320605	132707	5.935	541350	7.871	287294	10.639
13	7320606	133482	5.935	548499	7.870	288087	10.639
14	7320616	125037	5.935	479796	7.870	252172	10.639
15	7314157DL	125055	5.935	518259	7.870	274016	10.639
16	7310405DL	129737	5.935	528486	7.870	284467	10.639
17	7311259	147242	5.935	609581	7.871	322419	10.639

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hl0831.d Date Analyzed: 12/26/13

Instrument ID: HP18831 Time Analyzed: 17:48

		IS4(PHN) AREA #	RT #	IS5(PYR) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	432885	12.656	441415	14.439	334167	18.718
	UPPER LIMIT	865770	13.156	882830	14.939	668334	19.218
	LOWER LIMIT	216443	12.156	220708	13.939	167084	18.218
	LLI SAMPLE NO.						
01	SBLKWP354	461528	12.650	494170	14.433	376536	18.718
02	354WPLCS	378299	12.656	418280	14.439	336884	18.718
03	7320601	401739	12.650	393506	14.434	329901	18.718
04	7320602MS	307255	12.656	384181	14.439	317381	18.723
05	7320603MSD	301512	12.656	370476	14.439	310190	18.723
06	7319019	485930	12.650	526979	14.434	395397	18.718
07	7319020	500964	12.650	534448	14.433	418411	18.717
08	7319024	510659	12.650	556639	14.434	429876	18.718
09	7320599	461965	12.650	500280	14.433	371509	18.718
10	7320600	429988	12.650	476465	14.433	364724	18.717
11	7320604	366612	12.650	348266	14.439	284053	18.723
12	7320605	451841	12.650	493667	14.434	370443	18.718
13	7320606	435393	12.650	477276	14.433	357769	18.718
14	7320616	271291	12.656	357016	14.439	296240	18.723
15	7314157DL	369506	12.656	442160	14.439	355710	18.718
16	7310405DL	440049	12.650	471898	14.434	359510	18.718
17	7311259	487975	12.650	536801	14.439	407983	18.718

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hl0831.d Date Analyzed: 12/26/13

Instrument ID: HP18831 Time Analyzed: 17:48

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	137775	5.941	545708	7.871	290316	10.639
	UPPER LIMIT	275550	6.441	1091416	8.371	580632	11.139
	LOWER LIMIT	68888	5.441	272854	7.371	145158	10.139
	LLI SAMPLE NO.						
18	7320471	138447	5.935	563312	7.870	294339	10.639

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): hl0831.d Date Analyzed: 12/26/13

Instrument ID: HP18831 Time Analyzed: 17:48

		IS4(PHN) AREA #	RT #	IS5(PYR) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	432885	12.656	441415	14.439	334167	18.718
	UPPER LIMIT	865770	13.156	882830	14.939	668334	19.218
	LOWER LIMIT	216443	12.156	220708	13.939	167084	18.218
	LLI SAMPLE NO.						
18	7320471	463304	12.656	490801	14.434	377255	18.718

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

Sample Data

Semivolatiles by GC/MS

Lancaster Laboratories Environmental

LOQ/MDL Summary
GC/MS Semivolatiles

SDG: PCH14

Fraction: Semivolatiles by GC/MS

10461: SVOAs by 8270D in Water **Analyte Name**	**Default MDL**	**Default LOQ**	**Units**
Naphthalene	0.1	0.5	ug/l
Acenaphthylene	0.1	0.5	ug/l
Acenaphthene	0.1	0.5	ug/l
Fluorene	0.1	0.5	ug/l
Phenanthrene	0.1	0.5	ug/l
Anthracene	0.1	0.5	ug/l
Fluoranthene	0.1	0.5	ug/l
Pyrene	0.1	0.5	ug/l
Benzo(a)anthracene	0.1	0.5	ug/l
Chrysene	0.1	0.5	ug/l
Benzo(b)fluoranthene	0.1	0.5	ug/l
Benzo(k)fluoranthene	0.1	0.5	ug/l
Benzo(a)pyrene	0.1	0.5	ug/l
Indeno(1,2,3-cd)pyrene	0.1	0.5	ug/l
Dibenz(a,h)anthracene	0.1	0.5	ug/l
Benzo(g,h,i)perylene	0.1	0.5	ug/l

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY7D

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311249

Sample wt/vol: 246 (g/mL)ML Lab File ID: hl0787.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/23/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	0.5	U
208-96-8-------	Acenaphthylene	0.5	U
83-32-9--------	Acenaphthene	0.5	U
86-73-7--------	Fluorene	0.5	U
85-01-8--------	Phenanthrene	0.5	U
120-12-7-------	Anthracene	0.5	U
206-44-0-------	Fluoranthene	0.1	J
129-00-0-------	Pyrene	0.2	J
56-55-3--------	Benzo(a)anthracene	0.5	U
218-01-9-------	Chrysene	0.1	J
205-99-2-------	Benzo(b)fluoranthene	0.5	U
207-08-9-------	Benzo(k)fluoranthene	0.5	U
50-32-8--------	Benzo(a)pyrene	0.5	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	0.5	U
53-70-3--------	Dibenz(a,h)anthracene	0.5	U
191-24-2-------	Benzo(g,h,i)perylene	0.5	U

FORM I SV-1

PNY7D

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311249

Data file: /chem/HP18831.i/13dec23.b/hl0787.d
Data file Sample Info. Line: PNY7D;7311249;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Injection date and time: **23-DEC-2013 18:26**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 11:00
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.953(0.000)	852	152	135736 (1)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	558326 (3)	5.00	
78) Acenaphthene-d10	10.657(0.006)	1659	164	292381 (0)	5.00	
113) Phenanthrene-d10	12.667(0.006)	2004	188	454607 (13)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	490313 (10)	5.00	
148) Perylene-d12	18.741(0.006)	3046	264	366605 (12)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	826580	20.247	81%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1536357	20.810	83%		63 - 121
129) Terphenyl-d14	(5)	14.777(0.000)	244	1014475	15.429	62%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)			Not Detected					0.03
76) Acenaphthylene	(3)			Not Detected					0.03
79) Acenaphthene	(3)			Not Detected					0.03
89) Fluorene	(3)			Not Detected					0.03
115) Phenanthrene	(4)			Not Detected					0.03
117) Anthracene	(4)			Not Detected					0.03
125) Fluoranthene	(4)	14.171(-0.000)	202	3104	0.030	0.12			0.03
128) Pyrene	(5)	14.480(0.000)	202	5045	0.046	0.18			0.03
138) Benzo(a)anthracene	(5)			Not Detected					0.03
140) Chrysene	(5)	16.421(0.000)	228	3111	0.035	0.14			0.03
144) Benzo(b)fluoranthene	(6)			Not Detected					0.03
146) Benzo(k)fluoranthene	(6)			Not Detected					0.03
147) Benzo(a)pyrene	(6)			Not Detected					0.03
152) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
153) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
154) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05. Target 3.5 esignature user ID: jmg00346

Data file: /chem/HP18831.i/13dec23.b/hl0787.d Injection date and time: **23-DEC-2013 18:26**
Data file Sample Info. Line: PNY7D;7311249;1;0;SAMPLE;;; Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 11:00
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

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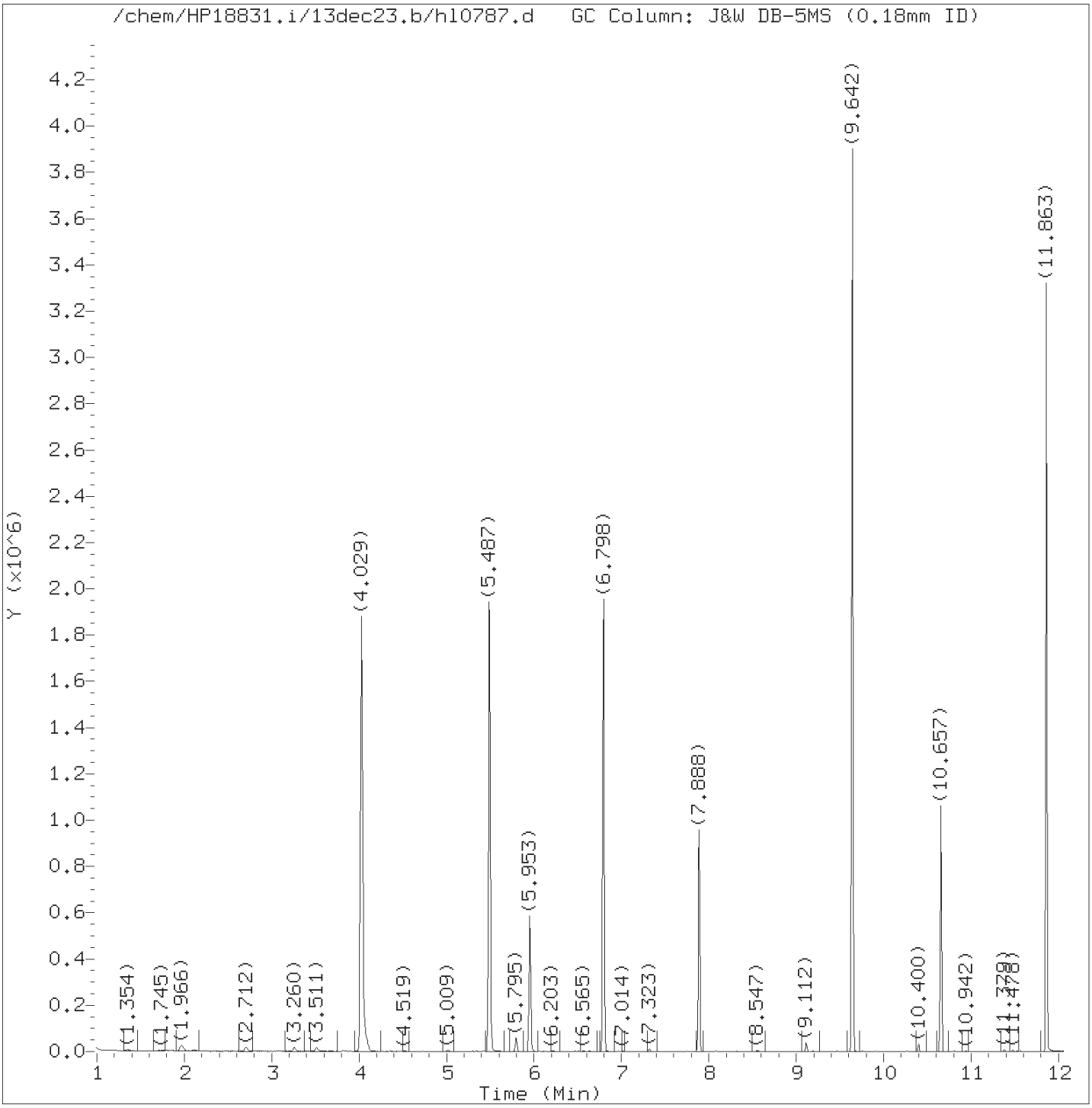
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05. Target 3.5 esignature user ID: jmg00346

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 11:30. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

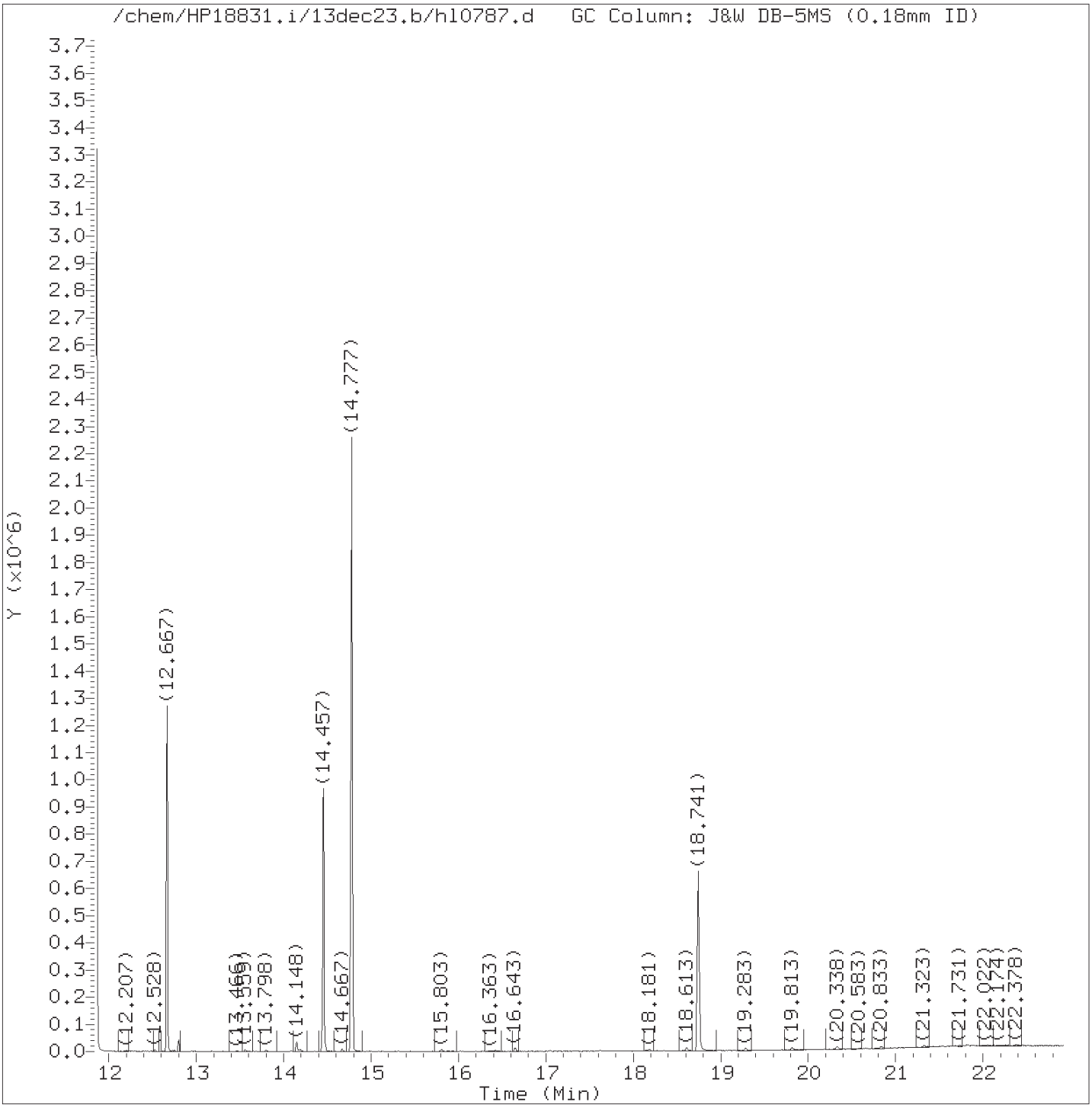
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0787.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:26 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNY7D Lab Sample ID: 7311249

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:05.
Target 3.5 esignature user ID: jmg00346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0787.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:26 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNY7D Lab Sample ID: 7311249

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:05.
Target 3.5 esignature user ID: jmg00346

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0787.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:26 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

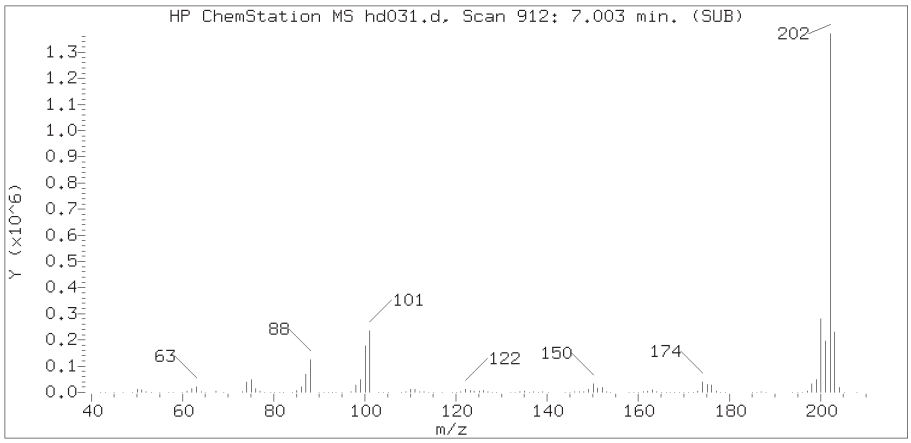
Sample Name: PNY7D Lab Sample ID: 7311249

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.953	152	135736	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	826580	20.247
44)*Naphthalene-d8	(2)	7.888	136	558326	5.000
63)$2-Fluorobiphenyl	(3)	9.642	172	1536357	20.810
78)*Acenaphthene-d10	(3)	10.657	164	292381	5.000
113)*Phenanthrene-d10	(4)	12.667	188	454607	5.000
125) Fluoranthene	(4)	14.171	202	3104	0.030
127)*Pyrene-d10	(5)	14.457	212	490313	5.000
128) Pyrene	(5)	14.480	202	5045	0.046
129)$Terphenyl-d14	(5)	14.777	244	1014475	15.429
140) Chrysene	(5)	16.421	228	3111	0.035
148)*Perylene-d12	(6)	18.741	264	366605	5.000

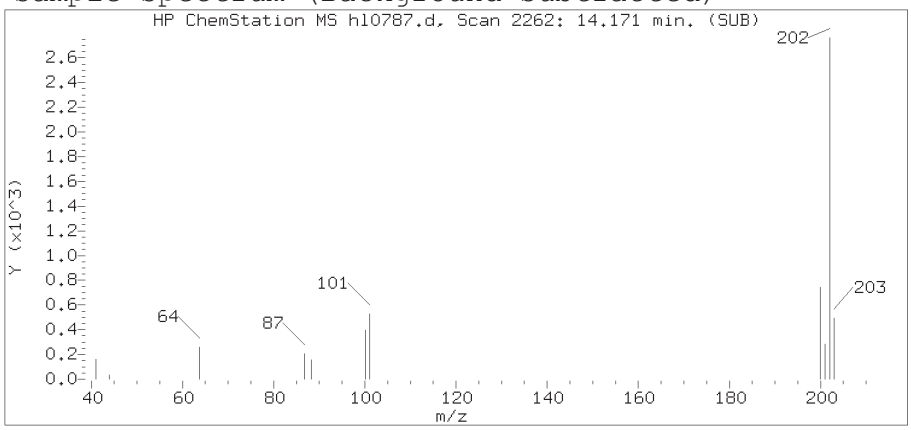
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:05.
Target 3.5 esignature user ID: jmg00346

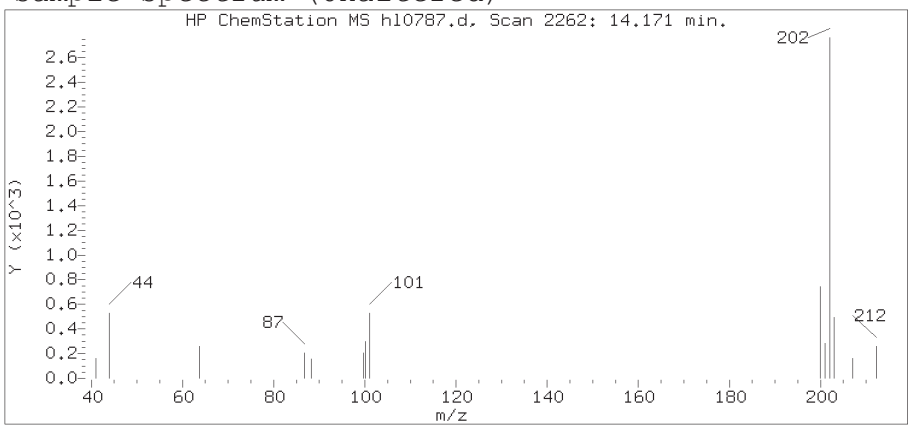
Reference Standard Spectrum for Fluoranthene

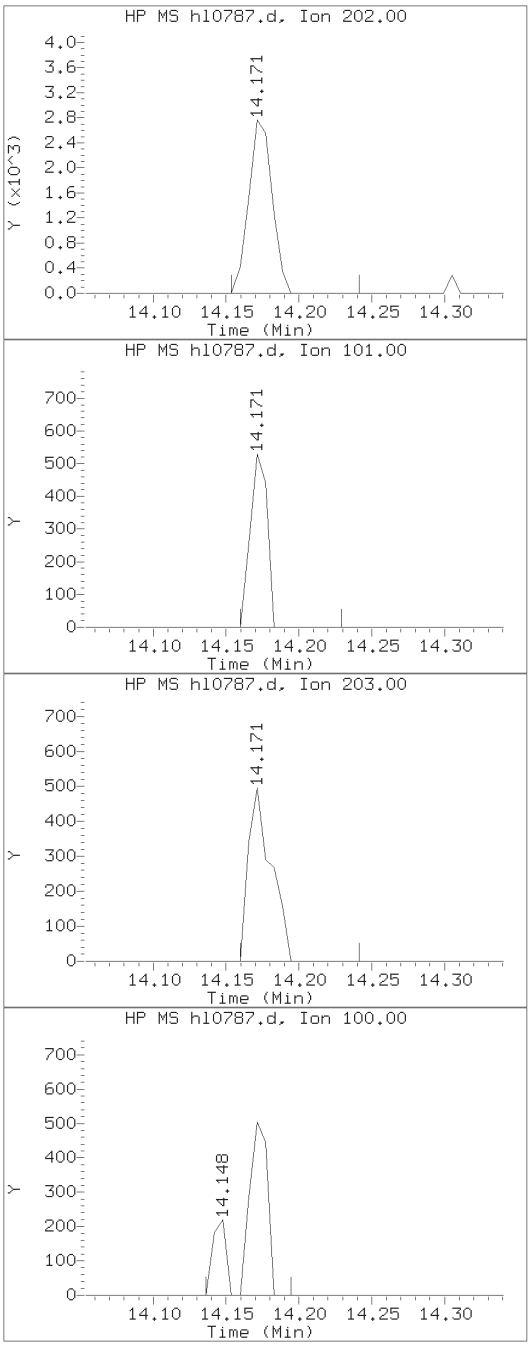


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0787.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:26 Analyst ID: ceb05247

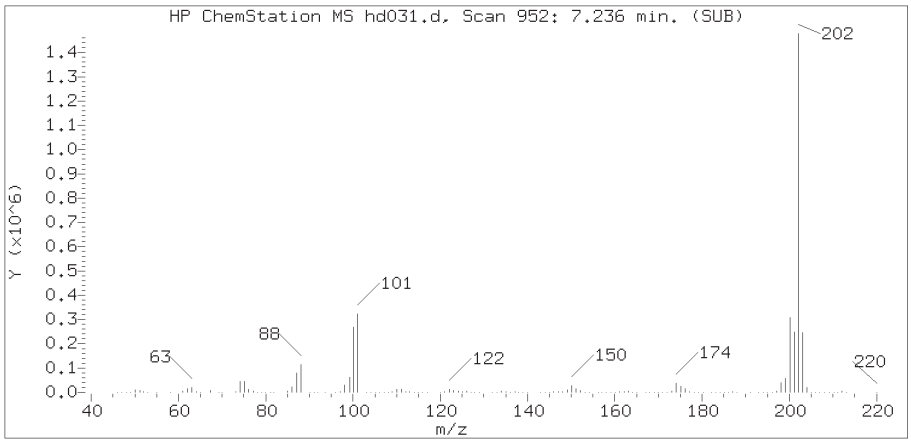
Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNY7D Lab Sample ID: 7311249

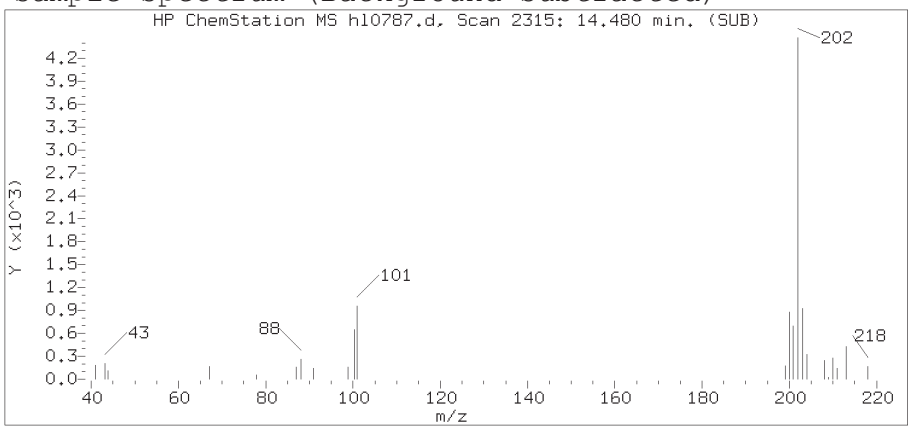
Compound Number : 125
Compound Name : Fluoranthene
Scan Number : 2262
Retention Time (minutes) : 14.171
Relative Retention Time :-0.00005
Quant Ion : 202.00
Area (flag) : 3104
On-column Amount (ng/ul) : 0.0300

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05.
Target 3.5 esignature [illegible]

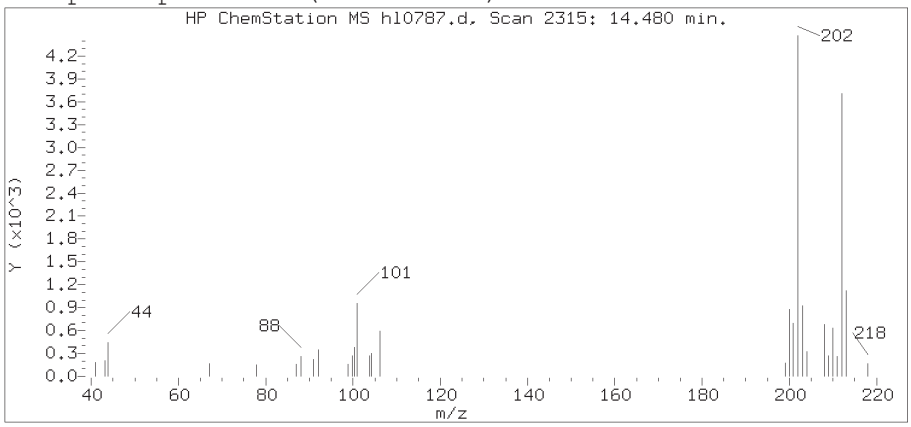
Reference Standard Spectrum for Pyrene

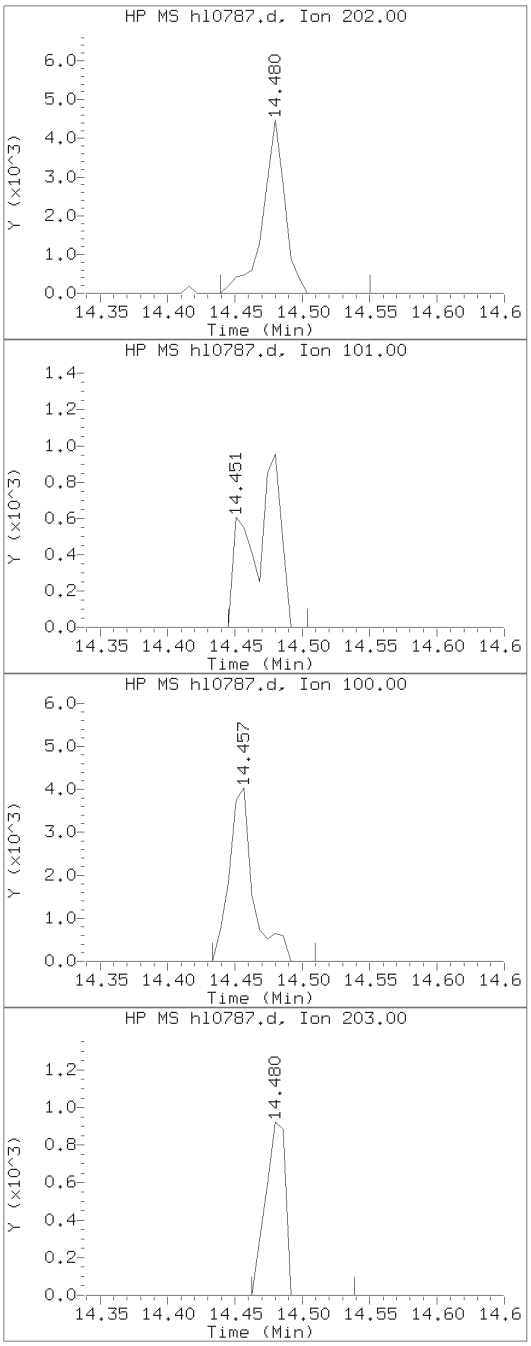


Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0787.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:26 Analyst ID: ceb05247

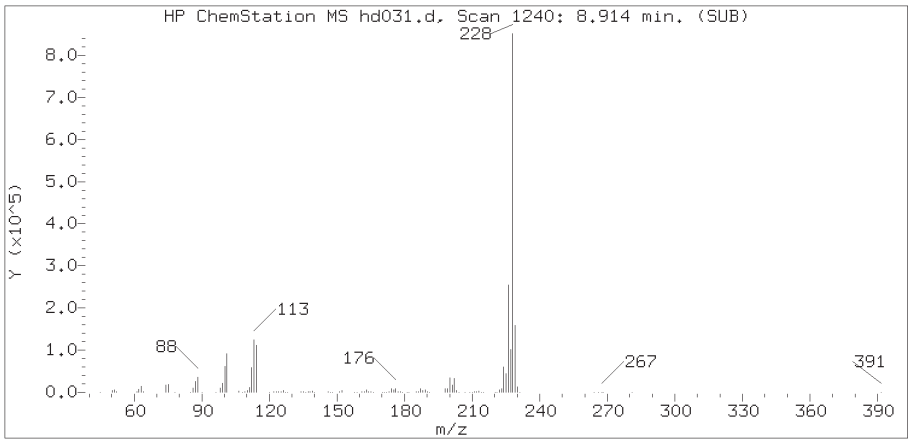
Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

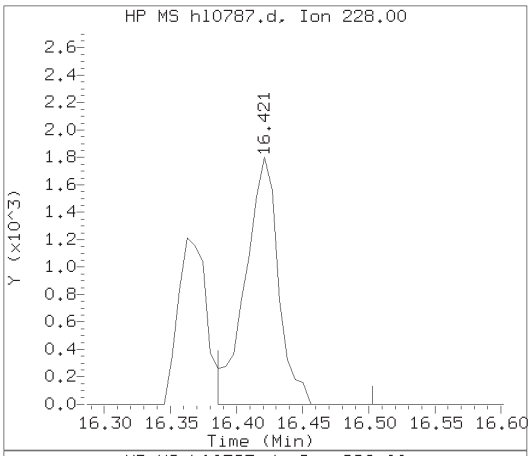
Sample Name: PNY7D Lab Sample ID: 7311249

Compound Number	: 128
Compound Name	: Pyrene
Scan Number	: 2315
Retention Time (minutes)	: 14.480
Relative Retention Time	: 0.00040
Quant Ion	: 202.00
Area (flag)	: 5045
On-column Amount (ng/ul)	: 0.0455

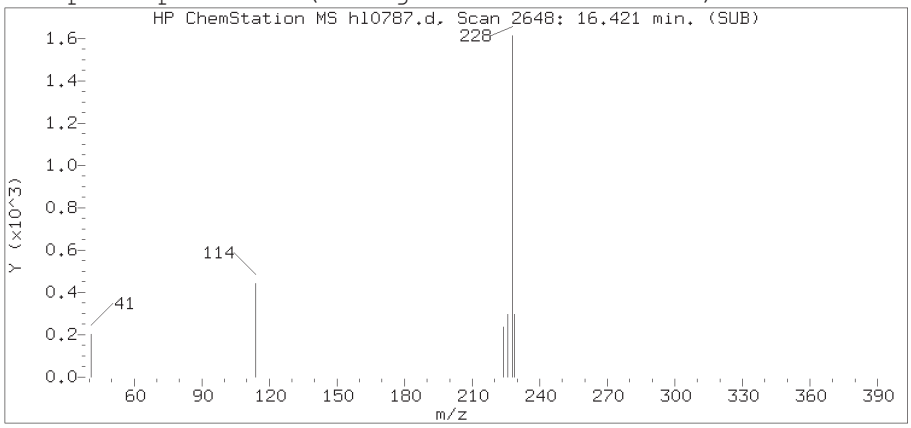
Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05.
Target 3.5 esignature [illegible]

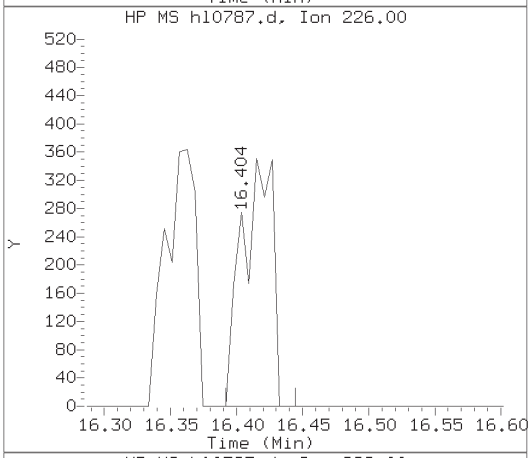
Reference Standard Spectrum for Chrysene



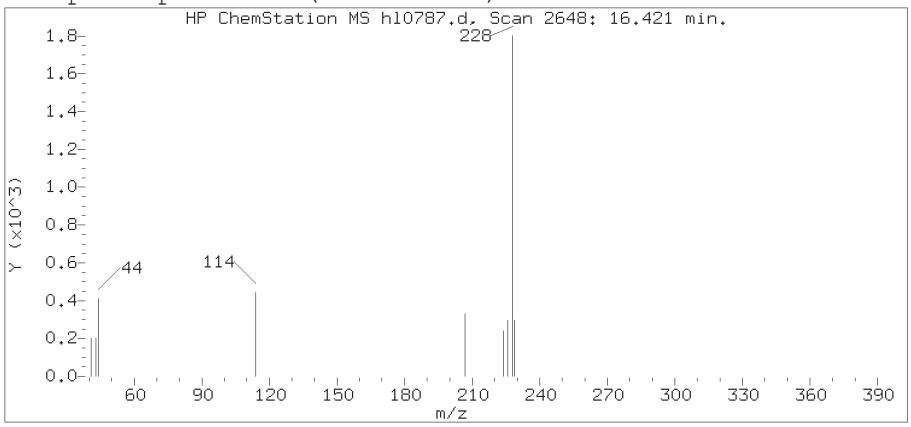


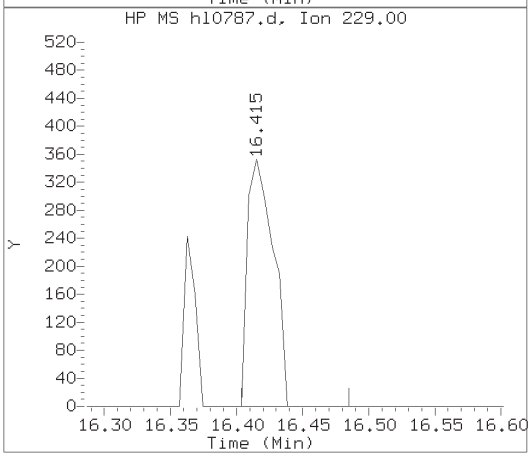
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0787.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:26 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNY7D Lab Sample ID: 7311249

Compound Number : 140
Compound Name : Chrysene
Scan Number : 2648
Retention Time (minutes) : 16.421
Relative Retention Time : 0.00081
Quant Ion : 228.00
Area (flag) : 3111
On-column Amount (ng/ul) : 0.0346

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05.
Target 3.5 esignature [illegible]

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY7S

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311252

Sample wt/vol: 244 (g/mL)ML Lab File ID: hl0797.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/23/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	0.6	
208-96-8-------	Acenaphthylene	0.5	U
83-32-9--------	Acenaphthene	0.1	J
86-73-7--------	Fluorene	0.5	U
85-01-8--------	Phenanthrene	0.1	J
120-12-7-------	Anthracene	0.5	U
206-44-0-------	Fluoranthene	0.5	U
129-00-0-------	Pyrene	0.5	U
56-55-3--------	Benzo(a)anthracene	0.5	U
218-01-9-------	Chrysene	0.5	U
205-99-2-------	Benzo(b)fluoranthene	0.5	U
207-08-9-------	Benzo(k)fluoranthene	0.5	U
50-32-8--------	Benzo(a)pyrene	0.5	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	0.5	U
53-70-3--------	Dibenz(a,h)anthracene	0.5	U
191-24-2-------	Benzo(g,h,i)perylene	0.5	U

FORM I SV-1

PNY7S

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311252

Data file: /chem/HP18831.i/13dec23.b/hl0797.d
Data file Sample Info. Line: PNY7S;7311252;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Injection date and time: **23-DEC-2013 23:16**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 11:00
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 244 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.953(0.000)	852	152	126677 (-6)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	512648 (-6)	5.00	
78) Acenaphthene-d10	10.656(0.006)	1659	164	267123 (-9)	5.00	
113) Phenanthrene-d10	12.667(0.006)	2004	188	402206 (0)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	433187 (-3)	5.00	
148) Perylene-d12	18.741(0.006)	3046	264	331245 (1)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	814993	21.742	87%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1499413	22.230	89%		63 - 121
129) Terphenyl-d14	(5)	14.783(0.000)	244	1352959	23.291	93%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)	7.917(0.000)	128	15923	0.147	0.60			0.03
76) Acenaphthylene	(3)			Not Detected					0.03
79) Acenaphthene	(3)	10.703(-0.000)	153	1681	0.027	0.11			0.03
89) Fluorene	(3)			Not Detected					0.03
115) Phenanthrene	(4)	12.691(-0.000)	178	3271	0.035	0.14			0.03
117) Anthracene	(4)			Not Detected					0.03
125) Fluoranthene	(4)			Not Detected					0.03
128) Pyrene	(5)			Not Detected					0.03
138) Benzo(a)anthracene	(5)			Not Detected					0.03
140) Chrysene	(5)			Not Detected					0.03
144) Benzo(b)fluoranthene	(6)			Not Detected					0.03
146) Benzo(k)fluoranthene	(6)			Not Detected					0.03
147) Benzo(a)pyrene	(6)			Not Detected					0.03
152) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
153) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
154) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

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Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/13dec23.b/hl0797.d
Injection date and time: **23-DEC-2013 23:16**
Data file Sample Info. Line: PNY7S;7311252;1;0;SAMPLE;;;
Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 11:00
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 244 ml Volume Injected (Vi): 0.5 ul

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Total number of targets = 16

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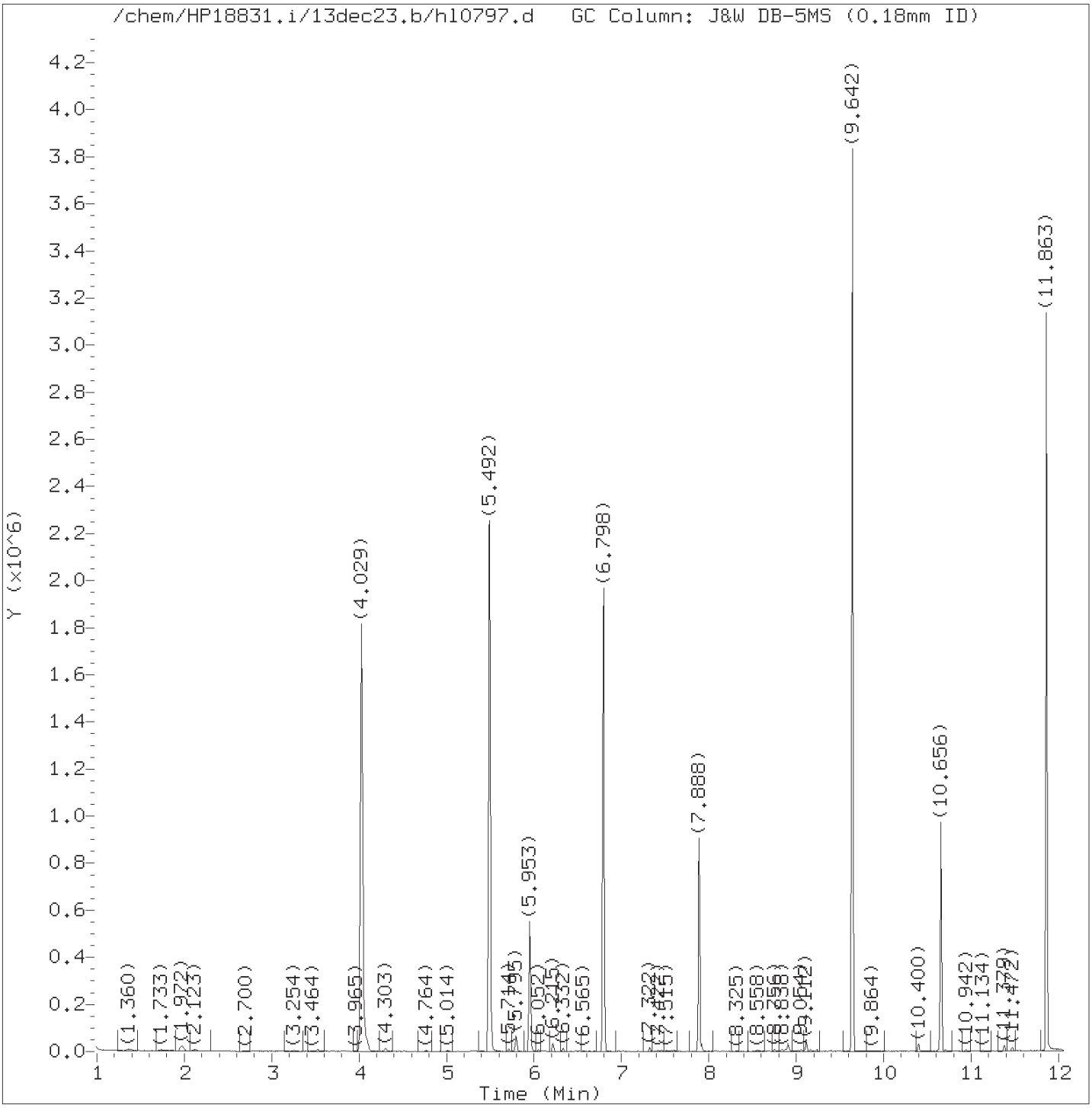
Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 11:30. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

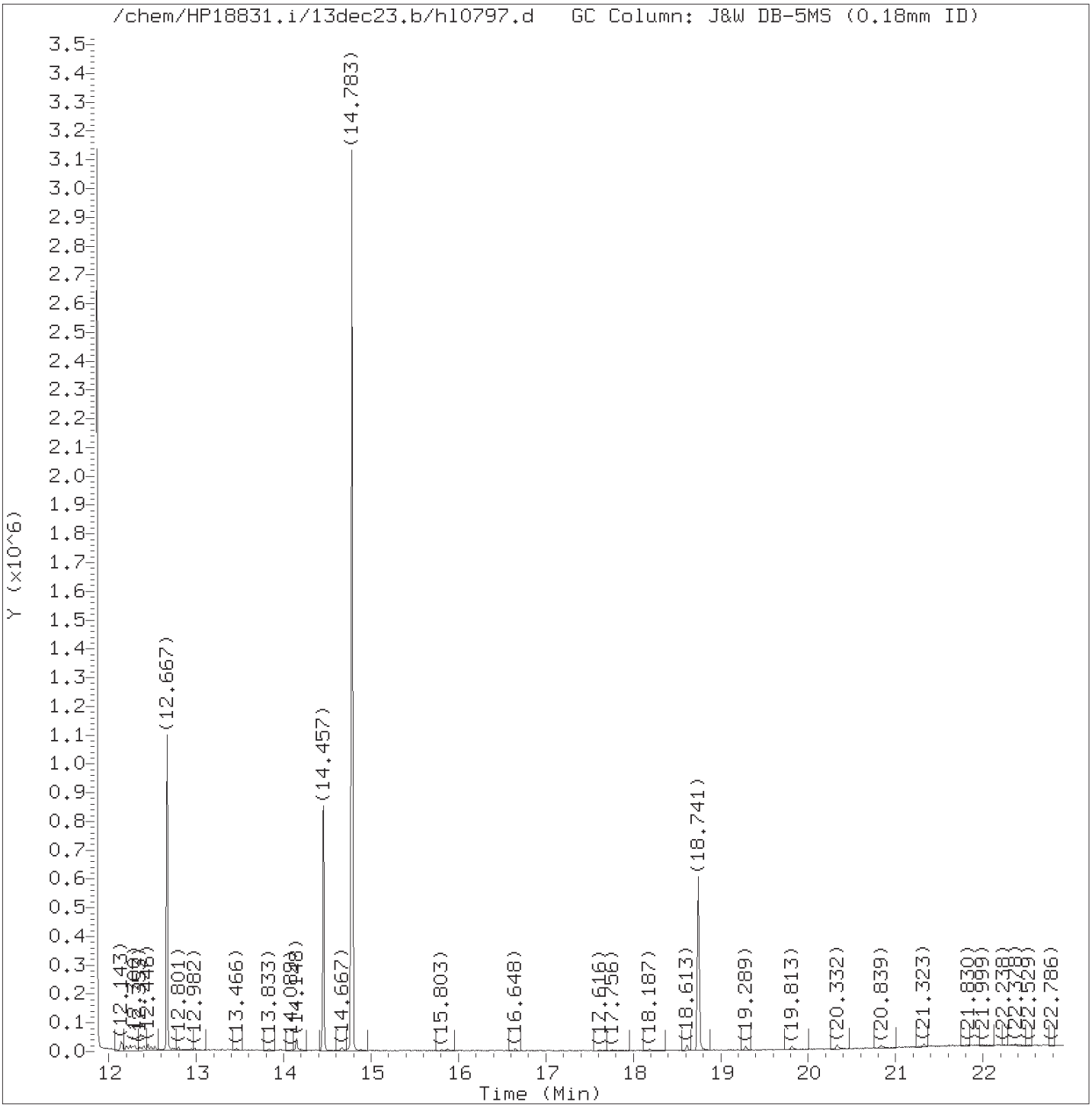
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0797.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:16 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNY7S Lab Sample ID: 7311252

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:05.
Target 3.5 esignature user ID: jmg00346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0797.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:16 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNY7S Lab Sample ID: 7311252

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:05.
Target 3.5 esignature user ID: jmg00346

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0797.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:16 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNY7S Lab Sample ID: 7311252

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.953	152	126677	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	814993	21.742
44)*Naphthalene-d8	(2)	7.888	136	512648	5.000
45) Naphthalene	(2)	7.917	128	15923	0.147
63)$2-Fluorobiphenyl	(3)	9.642	172	1499413	22.230
78)*Acenaphthene-d10	(3)	10.656	164	267123	5.000
79) Acenaphthene	(3)	10.703	153	1681	0.027
113)*Phenanthrene-d10	(4)	12.667	188	402206	5.000
115) Phenanthrene	(4)	12.691	178	3271	0.035
127)*Pyrene-d10	(5)	14.457	212	433187	5.000
129)$Terphenyl-d14	(5)	14.783	244	1352959	23.291
148)*Perylene-d12	(6)	18.741	264	331245	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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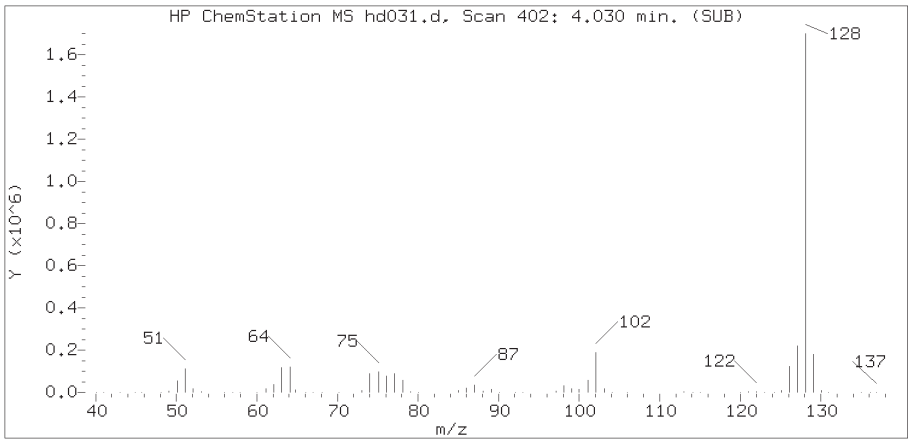
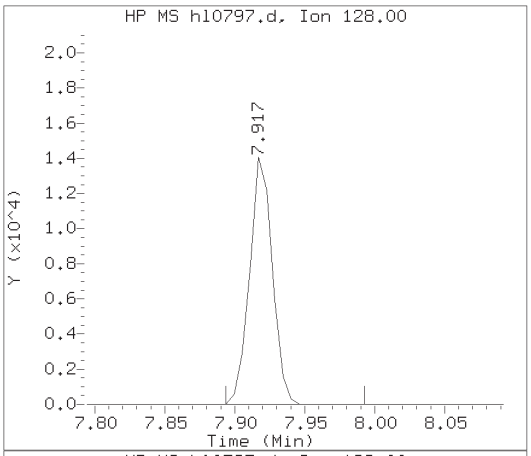
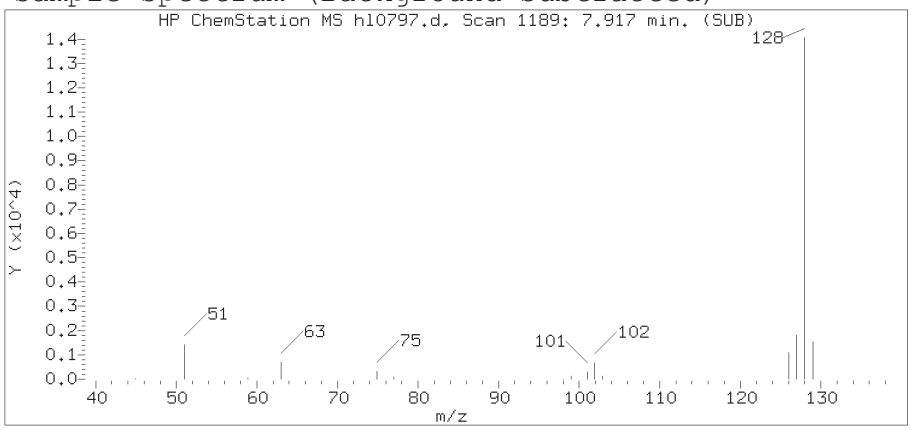
on 01/02/2014 at 11:05.
Target 3.5 esignature user ID: jmg00346

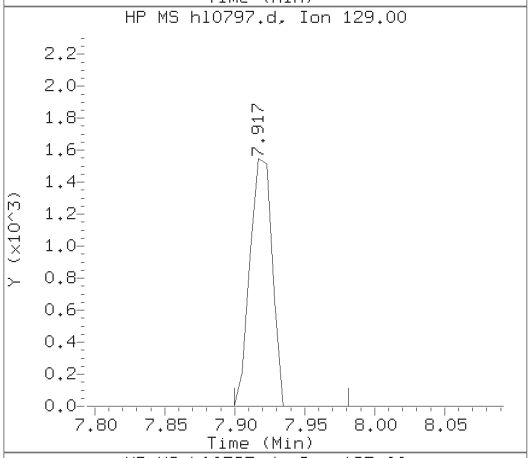
Reference Standard Spectrum for Naphthalene



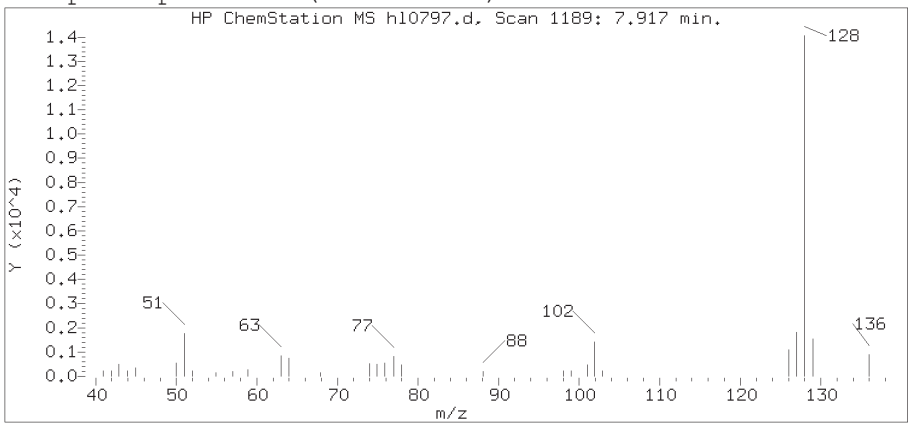


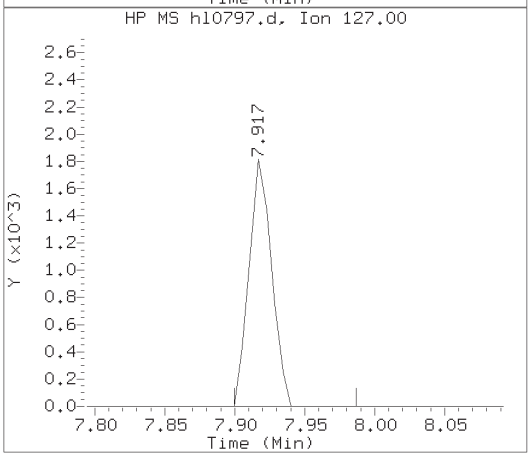
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0797.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:16 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNY7S Lab Sample ID: 7311252

Compound Number	: 45
Compound Name	: Naphthalene
Scan Number	: 1189
Retention Time (minutes)	: 7.917
Relative Retention Time	: 0.00074
Quant Ion	: 128.00
Area (flag)	: 15923
On-column Amount (ng/ul)	: 0.1468

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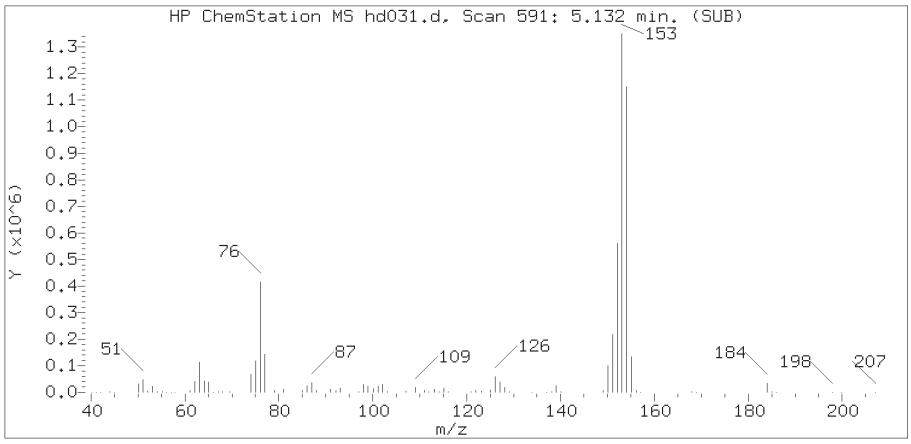
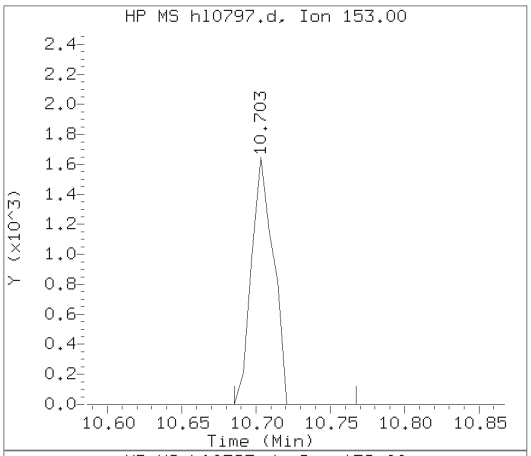
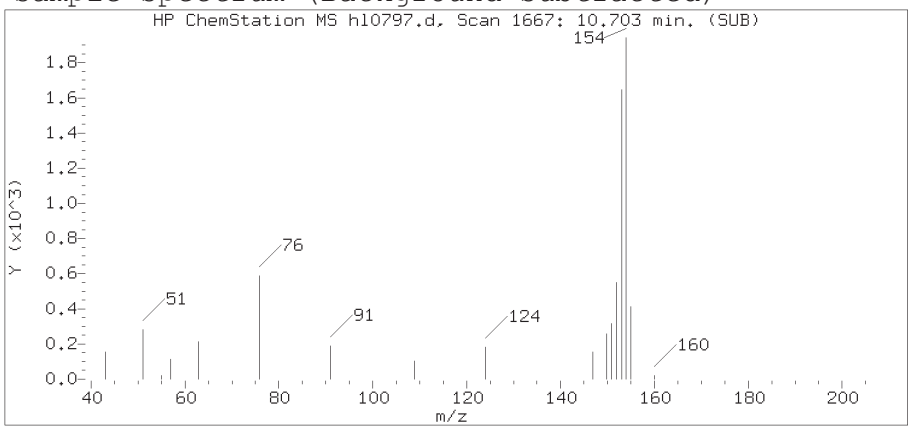
Target 3.5 esignature [illegible]

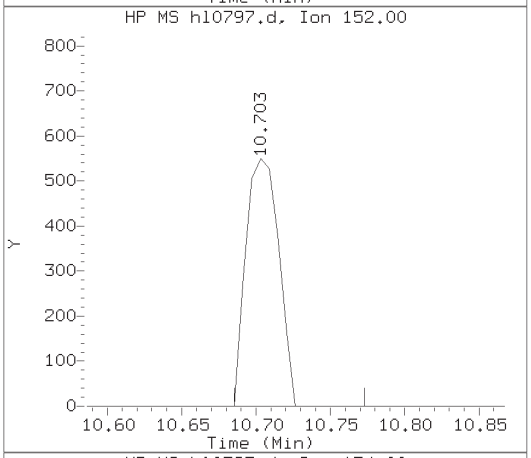
Reference Standard Spectrum for Acenaphthene



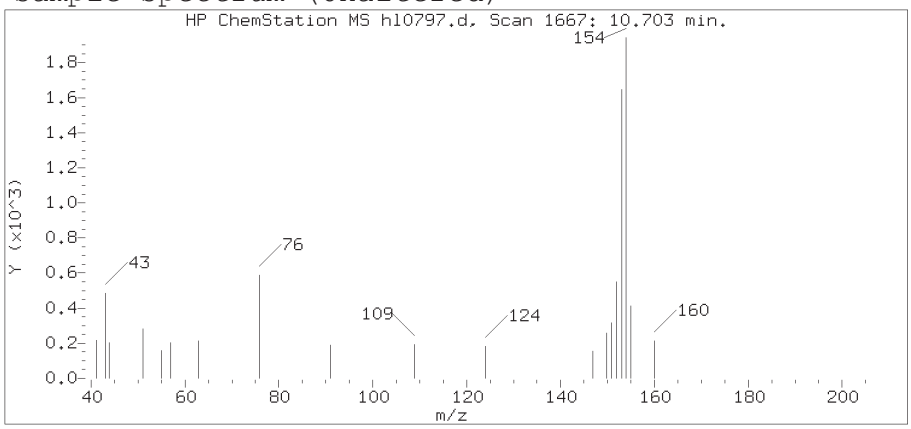


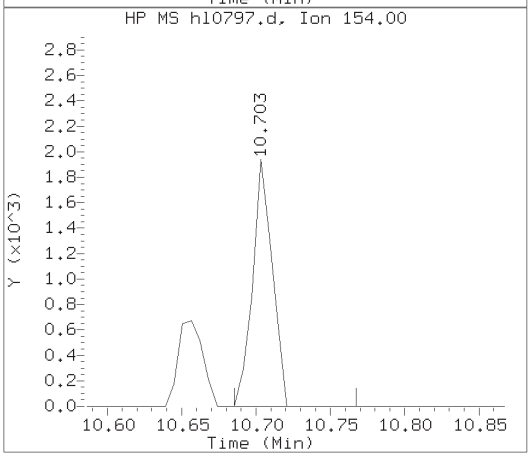
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0797.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:16 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNY7S Lab Sample ID: 7311252

Compound Number : 79
Compound Name : Acenaphthene
Scan Number : 1667
Retention Time (minutes) : 10.703
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 1681
On-column Amount (ng/ul) : 0.0271

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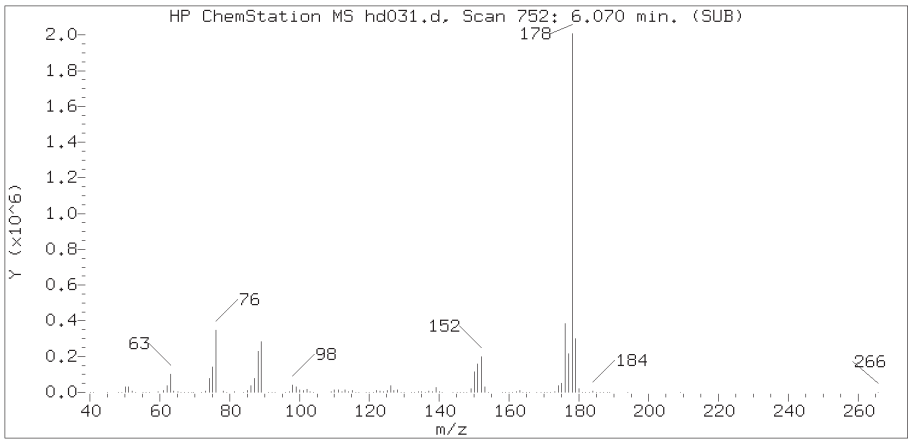
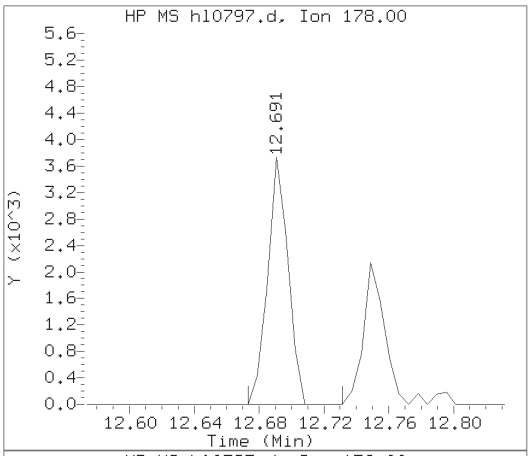
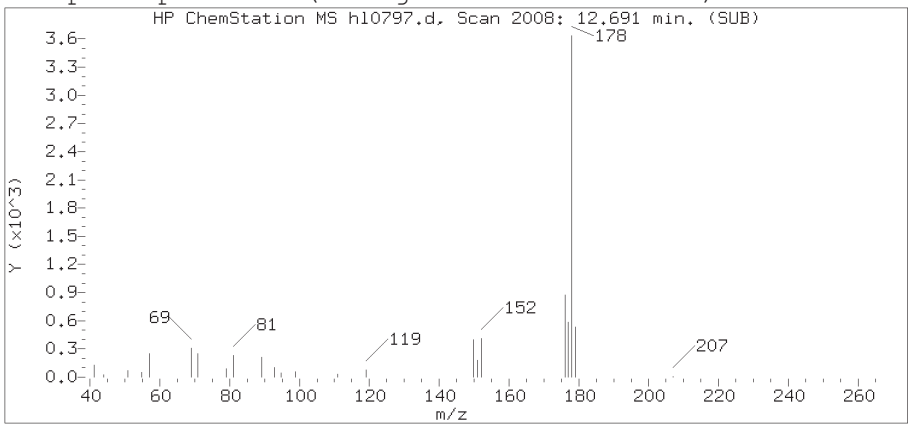
Target 3.5 esignature [illegible]

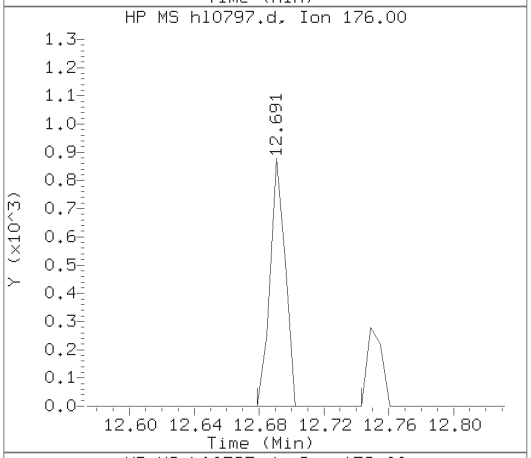
Reference Standard Spectrum for Phenanthrene



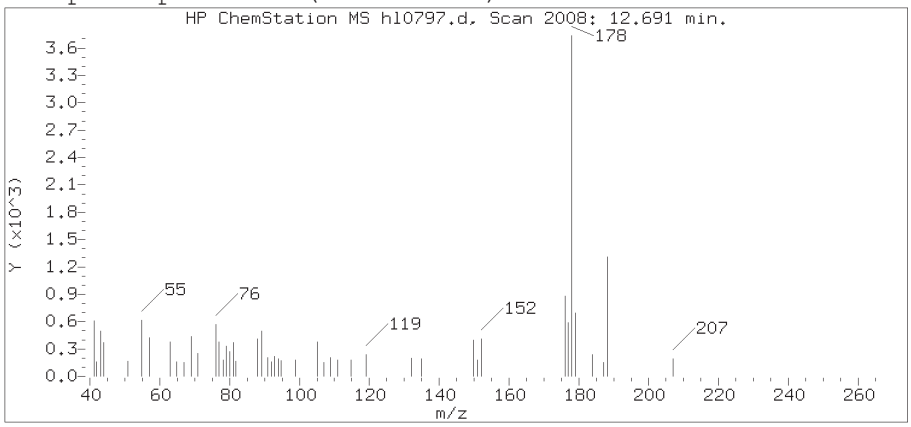


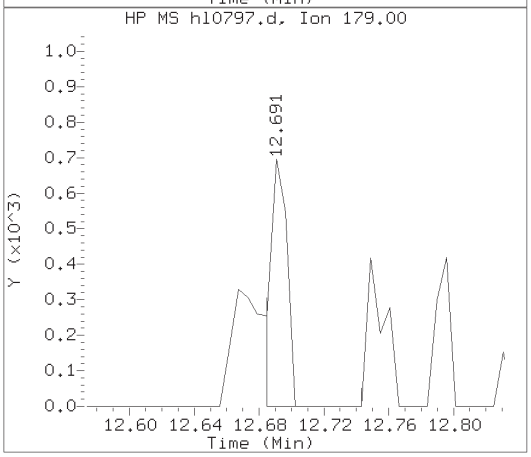
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0797.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:16 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNY7S Lab Sample ID: 7311252

Compound Number : 115
Compound Name : Phenanthrene
Scan Number : 2008
Retention Time (minutes) : 12.691
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 3271
On-column Amount (ng/ul) : 0.0350

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNYFD

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311253

Sample wt/vol: 246 (g/mL)ML Lab File ID: hl0798.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/23/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	0.5	J
208-96-8-------	Acenaphthylene	0.5	U
83-32-9--------	Acenaphthene	0.5	U
86-73-7--------	Fluorene	0.5	U
85-01-8--------	Phenanthrene	0.1	J
120-12-7-------	Anthracene	0.5	U
206-44-0-------	Fluoranthene	0.5	U
129-00-0-------	Pyrene	0.5	U
56-55-3--------	Benzo(a)anthracene	0.5	U
218-01-9-------	Chrysene	0.5	U
205-99-2-------	Benzo(b)fluoranthene	0.5	U
207-08-9-------	Benzo(k)fluoranthene	0.5	U
50-32-8--------	Benzo(a)pyrene	0.5	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	0.5	U
53-70-3--------	Dibenz(a,h)anthracene	0.5	U
191-24-2-------	Benzo(g,h,i)perylene	0.5	U

FORM I SV-1

PNYFD

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311253

Data file: /chem/HP18831.i/13dec23.b/hl0798.d
Data file Sample Info. Line: PNYFD;7311253;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Injection date and time: **23-DEC-2013 23:45**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 11:00
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.953(0.000)	852	152	129690 (-4)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	531573 (-2)	5.00	
78) Acenaphthene-d10	10.656(0.006)	1659	164	273604 (-7)	5.00	
113) Phenanthrene-d10	12.667(0.006)	2004	188	414665 (3)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	451137 (1)	5.00	
148) Perylene-d12	18.747(0.000)	3047	264	349244 (7)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	802636	20.650	83%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1481227	21.440	86%		63 - 121
129) Terphenyl-d14	(5)	14.783(0.000)	244	1446240	23.906	96%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)	7.917(0.000)	128	12757M	0.113	0.46			0.03
76) Acenaphthylene	(3)			Not Detected					0.03
79) Acenaphthene	(3)			Not Detected					0.03
89) Fluorene	(3)			Not Detected					0.03
115) Phenanthrene	(4)	12.691(-0.000)	178	2913	0.030	0.12			0.03
117) Anthracene	(4)			Not Detected					0.03
125) Fluoranthene	(4)			Not Detected					0.03
128) Pyrene	(5)			Not Detected					0.03
138) Benzo(a)anthracene	(5)			Not Detected					0.03
140) Chrysene	(5)			Not Detected					0.03
144) Benzo(b)fluoranthene	(6)			Not Detected					0.03
146) Benzo(k)fluoranthene	(6)			Not Detected					0.03
147) Benzo(a)pyrene	(6)			Not Detected					0.03
152) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
153) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
154) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

M = Compound was manually integrated.

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05. Target 3.5 esignature user ID: jmg00346

PNYFD

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311253

Data file: /chem/HP18831.i/13dec23.b/hl0798.d
Injection date and time: **23-DEC-2013 23:45**
Data file Sample Info. Line: PNYFD;7311253;1;0;SAMPLE;;;
Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 11:00
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

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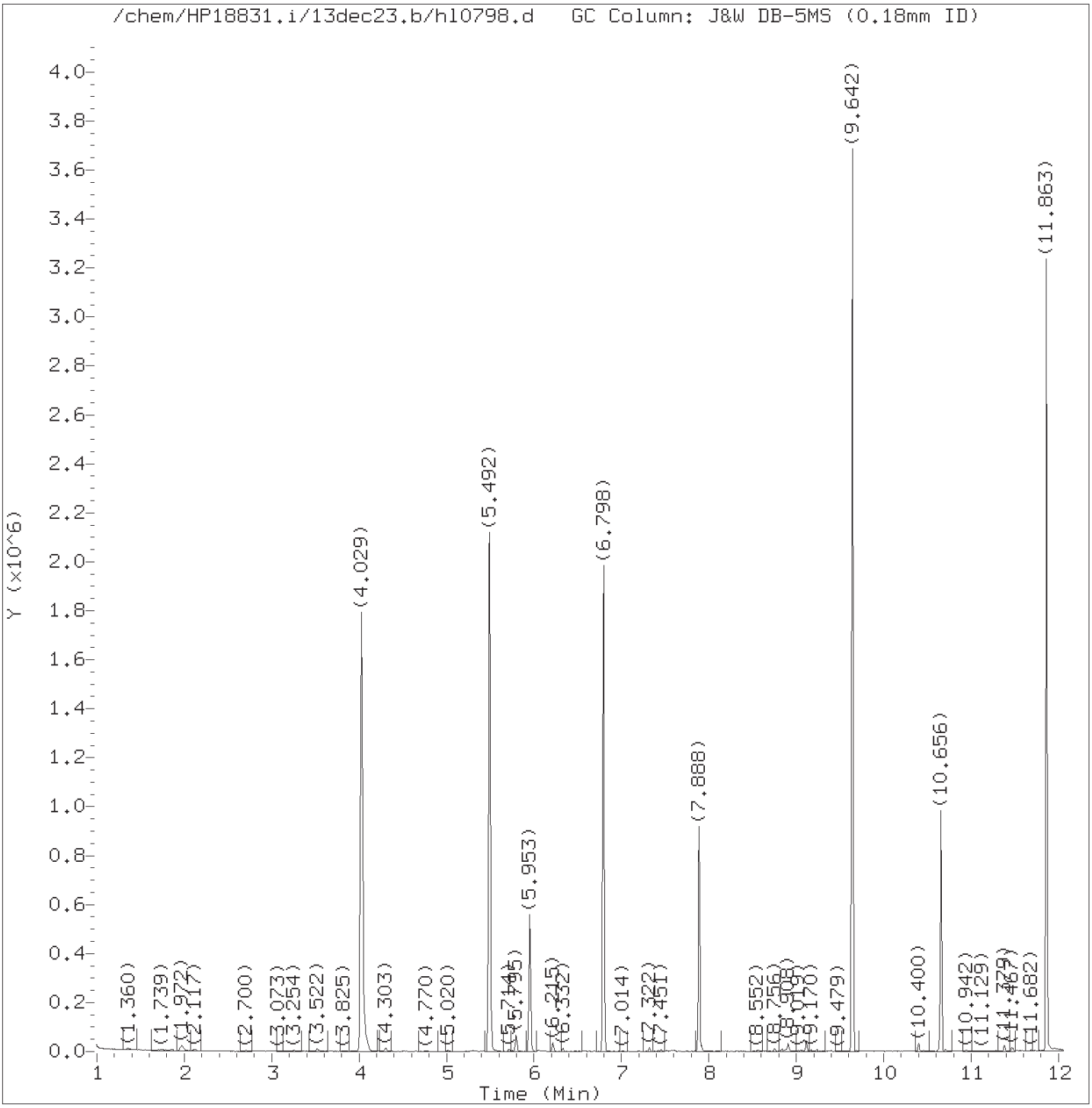
WAS LEFT

BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05. Target 3.5 esignature user ID: jmg00346

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 11:30. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

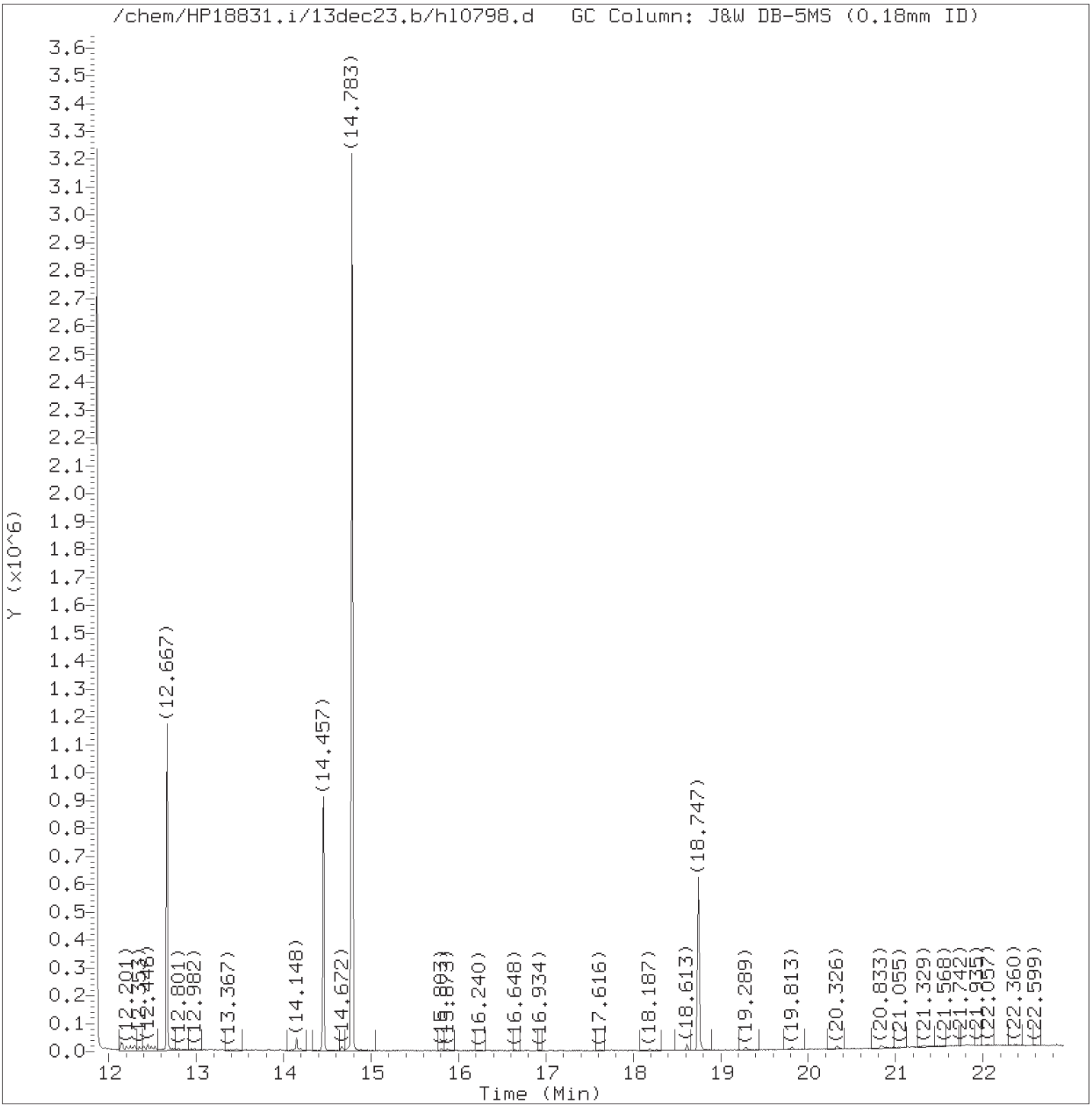
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0798.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:45 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNYFD Lab Sample ID: 7311253

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:05.
Target 3.5 esignature user ID: jmg00346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0798.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:45 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNYFD Lab Sample ID: 7311253

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:05.
Target 3.5 esignature user ID: jmg00346

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0798.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:45 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

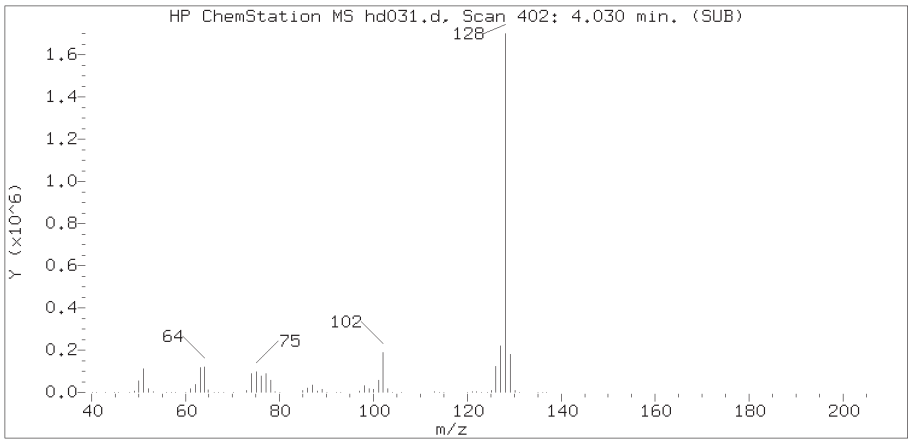
Sample Name: PNYFD Lab Sample ID: 7311253

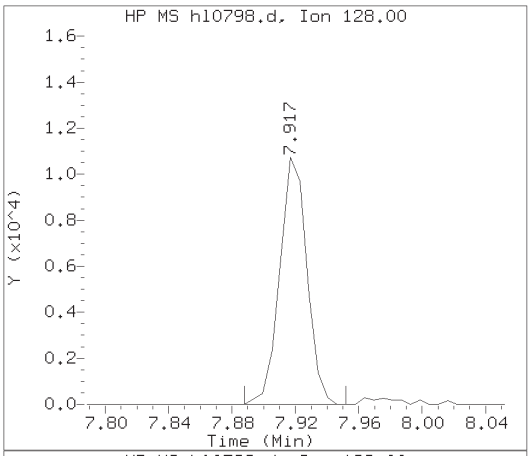
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.953	152	129690	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	802636	20.650
44)*Naphthalene-d8	(2)	7.888	136	531573	5.000
45) Naphthalene	(2)	7.917	128	12757M	0.113
63)$2-Fluorobiphenyl	(3)	9.642	172	1481227	21.440
78)*Acenaphthene-d10	(3)	10.656	164	273604	5.000
113)*Phenanthrene-d10	(4)	12.667	188	414665	5.000
115) Phenanthrene	(4)	12.691	178	2913	0.030
127)*Pyrene-d10	(5)	14.457	212	451137	5.000
129)$Terphenyl-d14	(5)	14.783	244	1446240	23.906
148)*Perylene-d12	(6)	18.747	264	349244	5.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

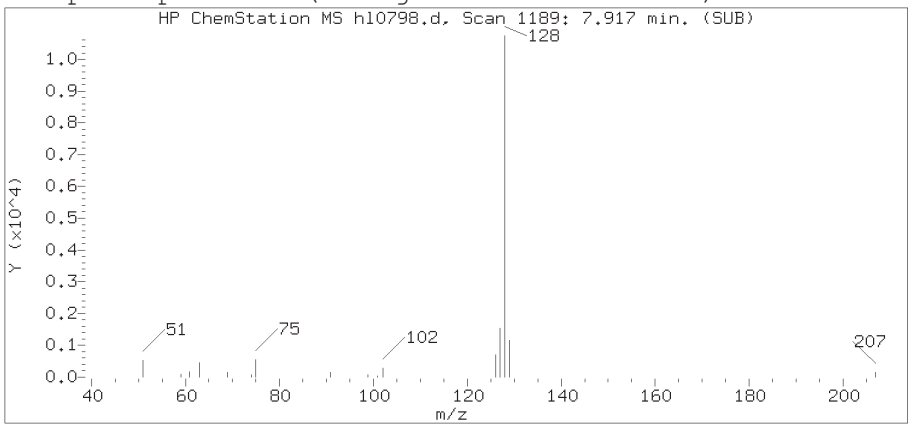
Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:05.
Target 3.5 esignature user ID: jmg00346

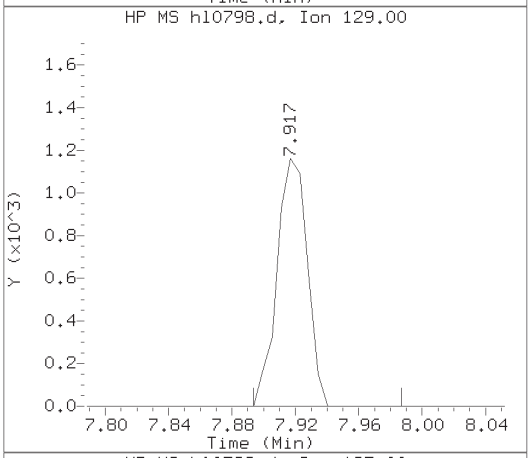
Reference Standard Spectrum for Naphthalene



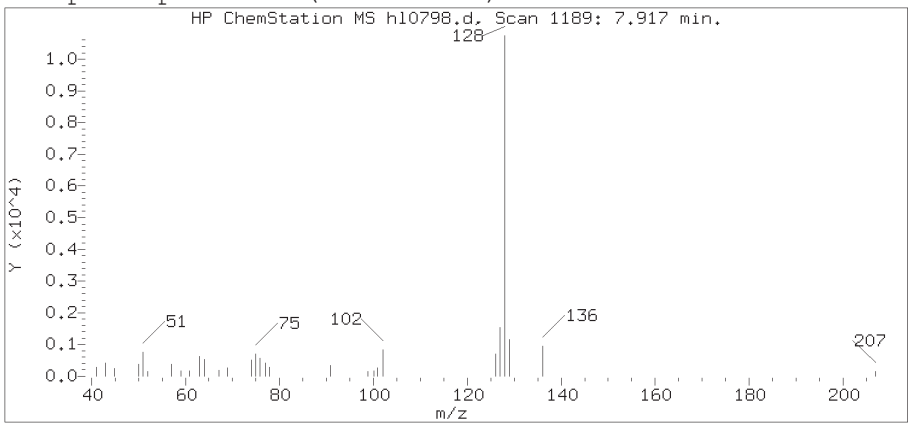


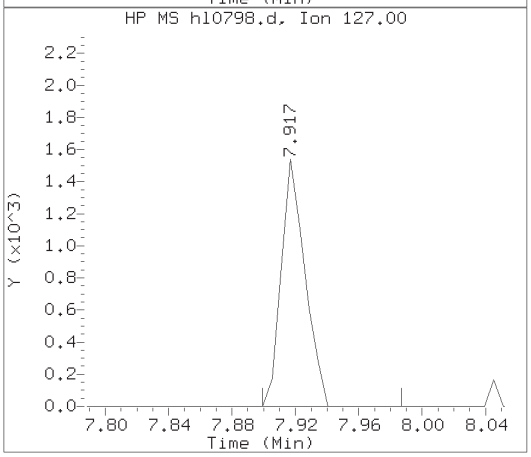
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0798.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:45 Analyst ID: ceb05247

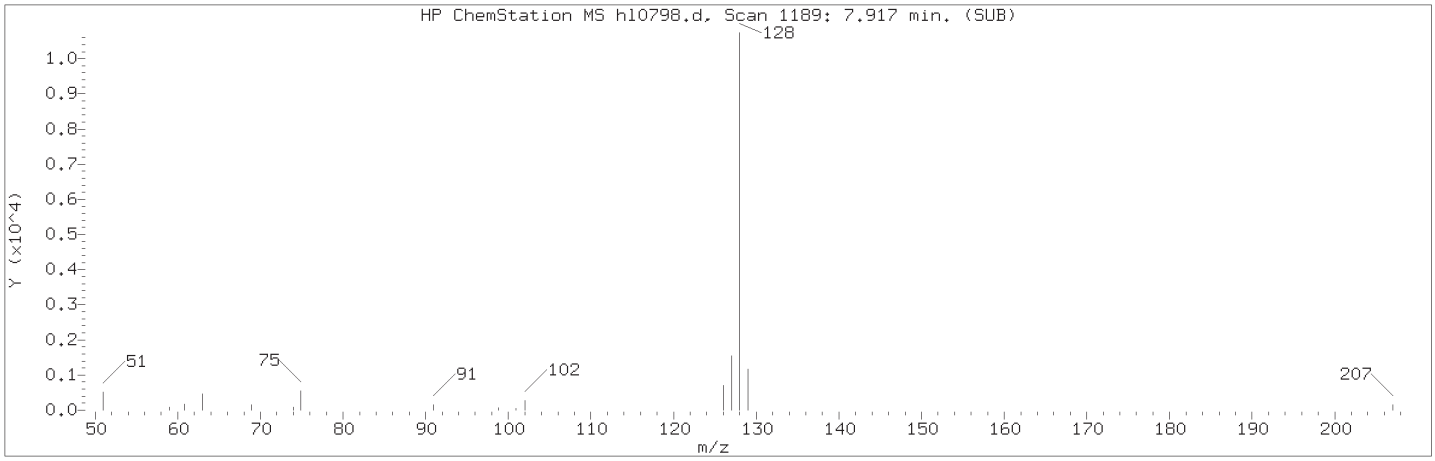
Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNYFD Lab Sample ID: 7311253

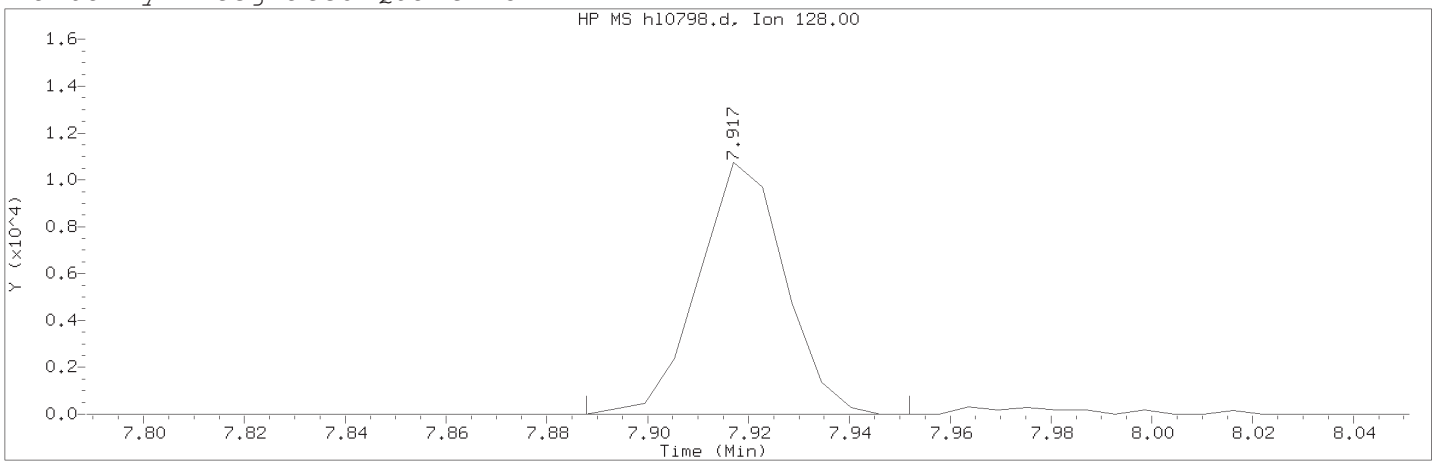
Compound Number : 45
Compound Name : Naphthalene
Scan Number : 1189
Retention Time (minutes) : 7.917
Relative Retention Time : 0.00074
Quant Ion : 128.00
Area (flag) : 12757M
On-column Amount (ng/ul) : 0.1134

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05.
Target 3.5 esignature [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0798.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:45 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNYFD Lab Sample ID: 7311253

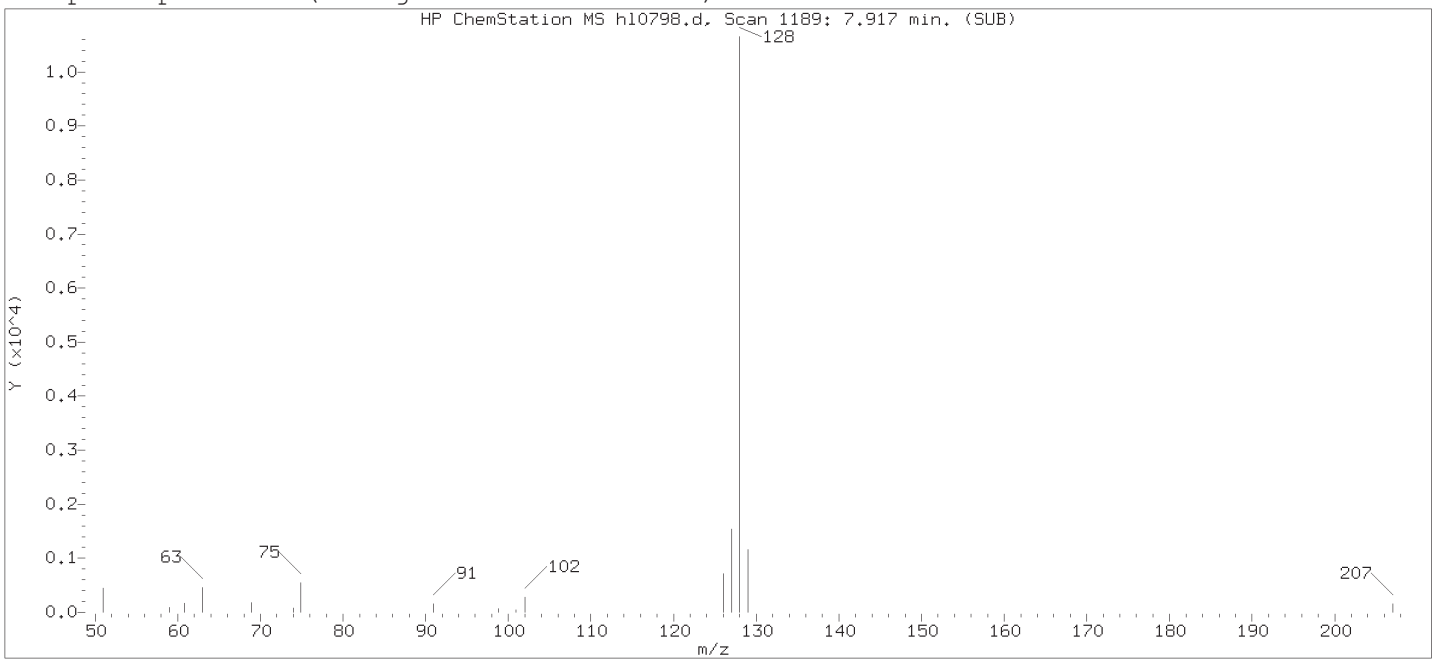
Compound Number	: 45
Compound Name	: Naphthalene
Scan Number	: 1189
Retention Time (minutes)	: 7.917
Quant Ion	: 128.00
Area (flag)	: 12757M
On-column Amount (ng/ul)	: 0.1134
Integration start scan	: 1183 Integration stop scan: 1194
Y at integration start	: 0 Y at integration end: 0

Reason for manual integration: improper integration

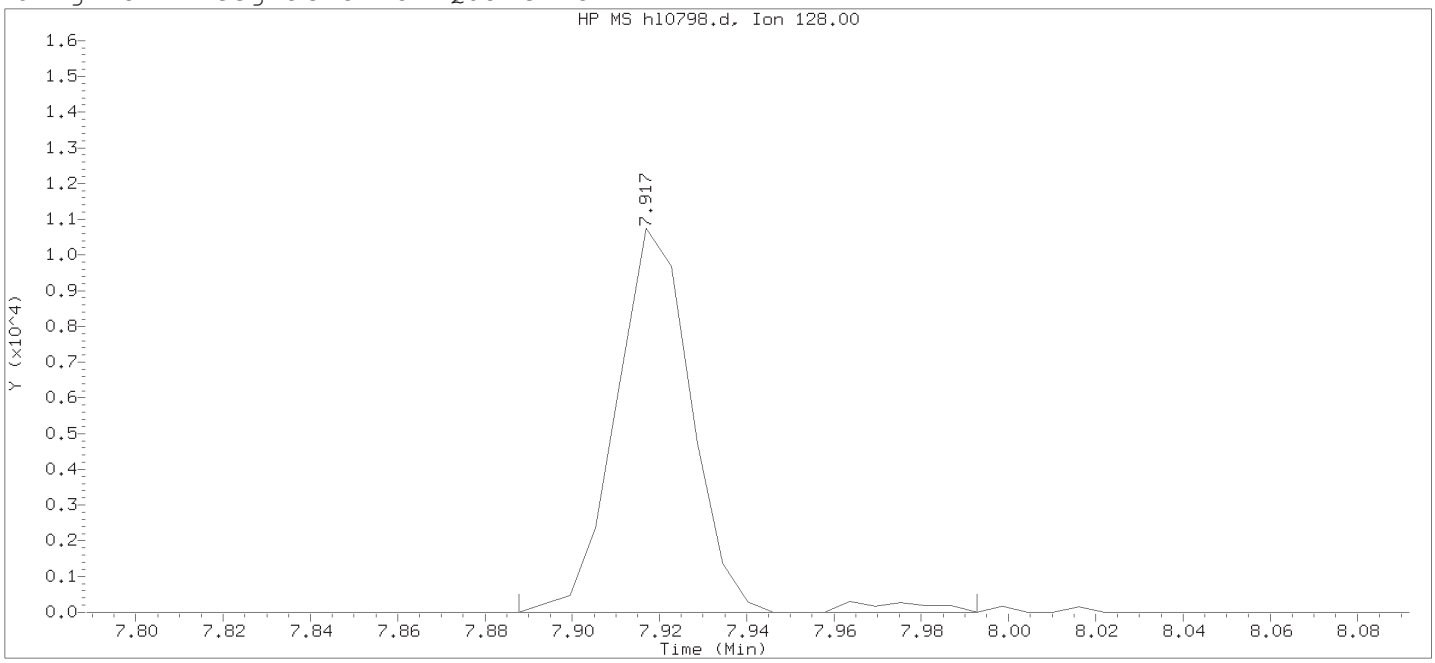
Analyst responsible for change: Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05. Target 3.5 esignature user ID: jmg00346

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 11:30.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0798.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:45 Analyst ID: ceb05247

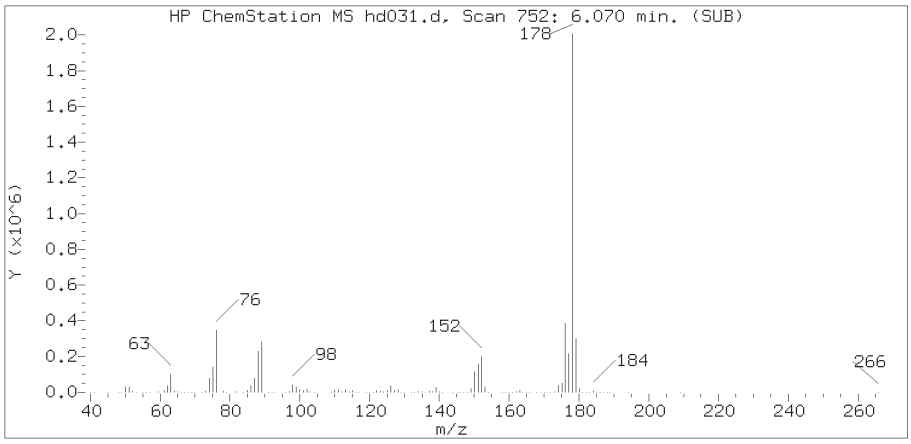
Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 24-Dec-2013 00:18 Automation

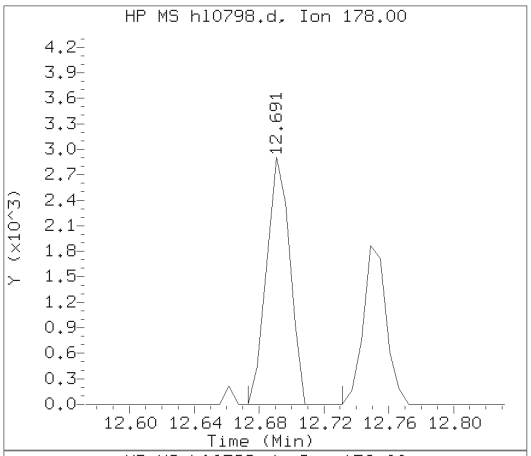
Sample Name: PNYFD Lab Sample ID: 7311253

Compound Number : 45
Compound Name : Naphthalene
Scan Number : 1189
Retention Time (minutes) : 7.917
Quant Ion : 128.00
Area : 13145
On-column Amount (ng/ul) : 0.1169
Integration start scan : 1183 Integration stop scan: 1201
Y at integration start : 0 Y at integration end: 0

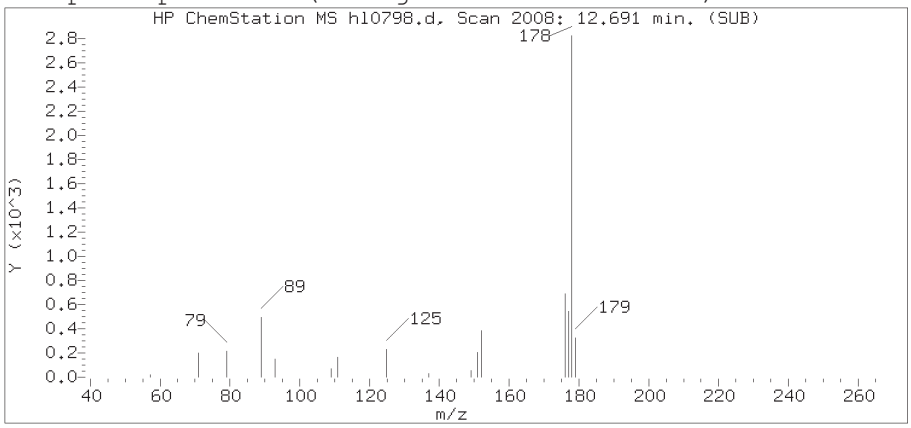
Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05.
Target 3.5 esignature used ID: jmgambler

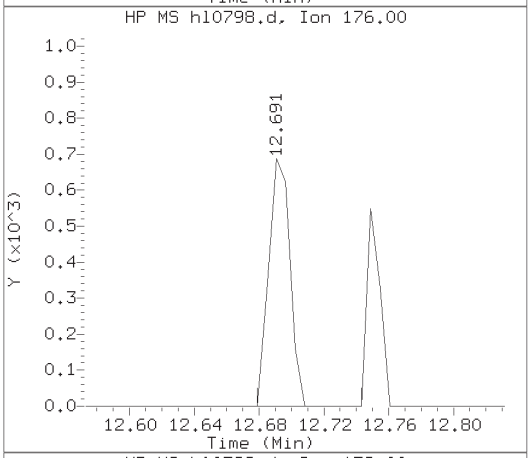
Reference Standard Spectrum for Phenanthrene



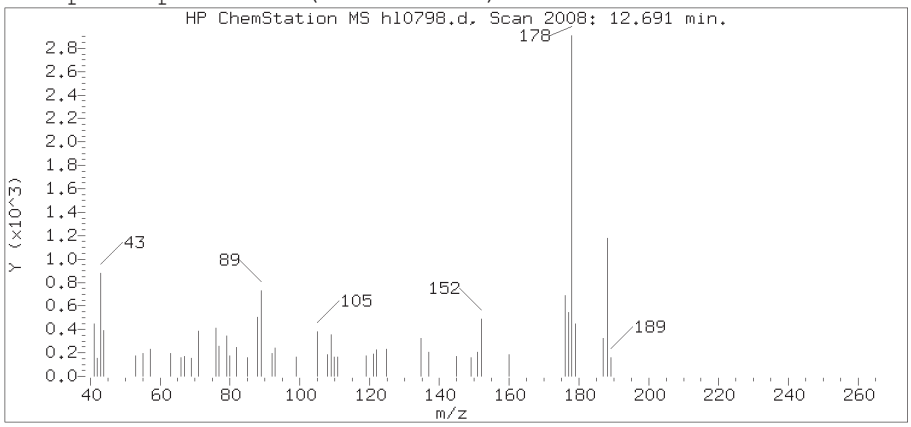


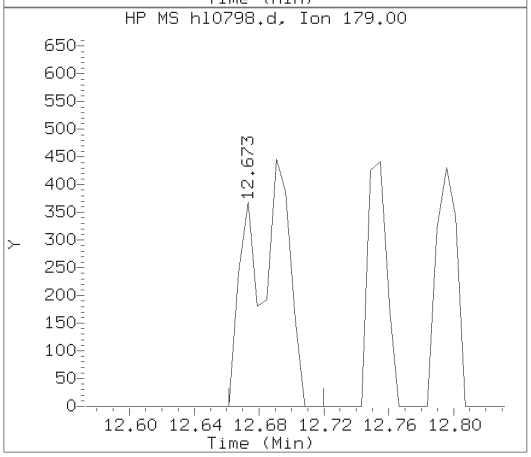
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0798.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 23:45 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:01 jmg00346

Sample Name: PNYFD Lab Sample ID: 7311253

Compound Number : 115
Compound Name : Phenanthrene
Scan Number : 2008
Retention Time (minutes) : 12.691
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 2913
On-column Amount (ng/ul) : 0.0302

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:05.
Target 3.5 esignature [illegible]

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY8S

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311254

Sample wt/vol: 241 (g/mL)ML Lab File ID: hl0799.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/24/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	0.5	U
208-96-8-------	Acenaphthylene	0.5	U
83-32-9--------	Acenaphthene	0.3	J
86-73-7--------	Fluorene	0.5	U
85-01-8--------	Phenanthrene	0.5	U
120-12-7-------	Anthracene	0.5	U
206-44-0-------	Fluoranthene	0.5	U
129-00-0-------	Pyrene	0.5	U
56-55-3--------	Benzo(a)anthracene	0.5	U
218-01-9-------	Chrysene	0.5	U
205-99-2-------	Benzo(b)fluoranthene	0.5	U
207-08-9-------	Benzo(k)fluoranthene	0.5	U
50-32-8--------	Benzo(a)pyrene	0.5	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	0.5	U
53-70-3--------	Dibenz(a,h)anthracene	0.5	U
191-24-2-------	Benzo(g,h,i)perylene	0.5	U

FORM I SV-1

PNY8S

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311254

Data file: /chem/HP18831.i/13dec23.b/hl0799.d
Data file Sample Info. Line: PNY8S;7311254;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 02-Jan-2014 11:04 jmg00346

Injection date and time: **24-DEC-2013 00:14**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 11:00
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 241 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.953(0.000)	852	152	121218 (-10)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	493973 (-9)	5.00	
78) Acenaphthene-d10	10.656(0.006)	1659	164	260448 (-11)	5.00	
113) Phenanthrene-d10	12.667(0.006)	2004	188	400169 (-1)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	421621 (-6)	5.00	
148) Perylene-d12	18.741(0.006)	3046	264	320673 (-2)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	737922	20.431	82%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1357142	20.636	83%		63 - 121
129) Terphenyl-d14	(5)	14.783(0.000)	244	1214284	21.477	86%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)			Not Detected					0.03
76) Acenaphthylene	(3)			Not Detected					0.03
79) Acenaphthene	(3)	10.703(-0.000)	153	4647	0.077	0.32			0.03
89) Fluorene	(3)			Not Detected					0.03
115) Phenanthrene	(4)			Not Detected					0.03
117) Anthracene	(4)			Not Detected					0.03
125) Fluoranthene	(4)			Not Detected					0.03
128) Pyrene	(5)			Not Detected					0.03
138) Benzo(a)anthracene	(5)			Not Detected					0.03
140) Chrysene	(5)			Not Detected					0.03
144) Benzo(b)fluoranthene	(6)			Not Detected					0.03
146) Benzo(k)fluoranthene	(6)			Not Detected					0.03
147) Benzo(a)pyrene	(6)			Not Detected					0.03
152) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
153) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
154) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:06. Target 3.5 esignature user ID: jmg00346

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/13dec23.b/hl0799.d
Injection date and time: **24-DEC-2013 00:14**
Data file Sample Info. Line: PNY8S;7311254;1;0;SAMPLE;;;
Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 02-Jan-2014 11:04 jmg00346

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 11:00
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 241 ml Volume Injected (Vi): 0.5 ul

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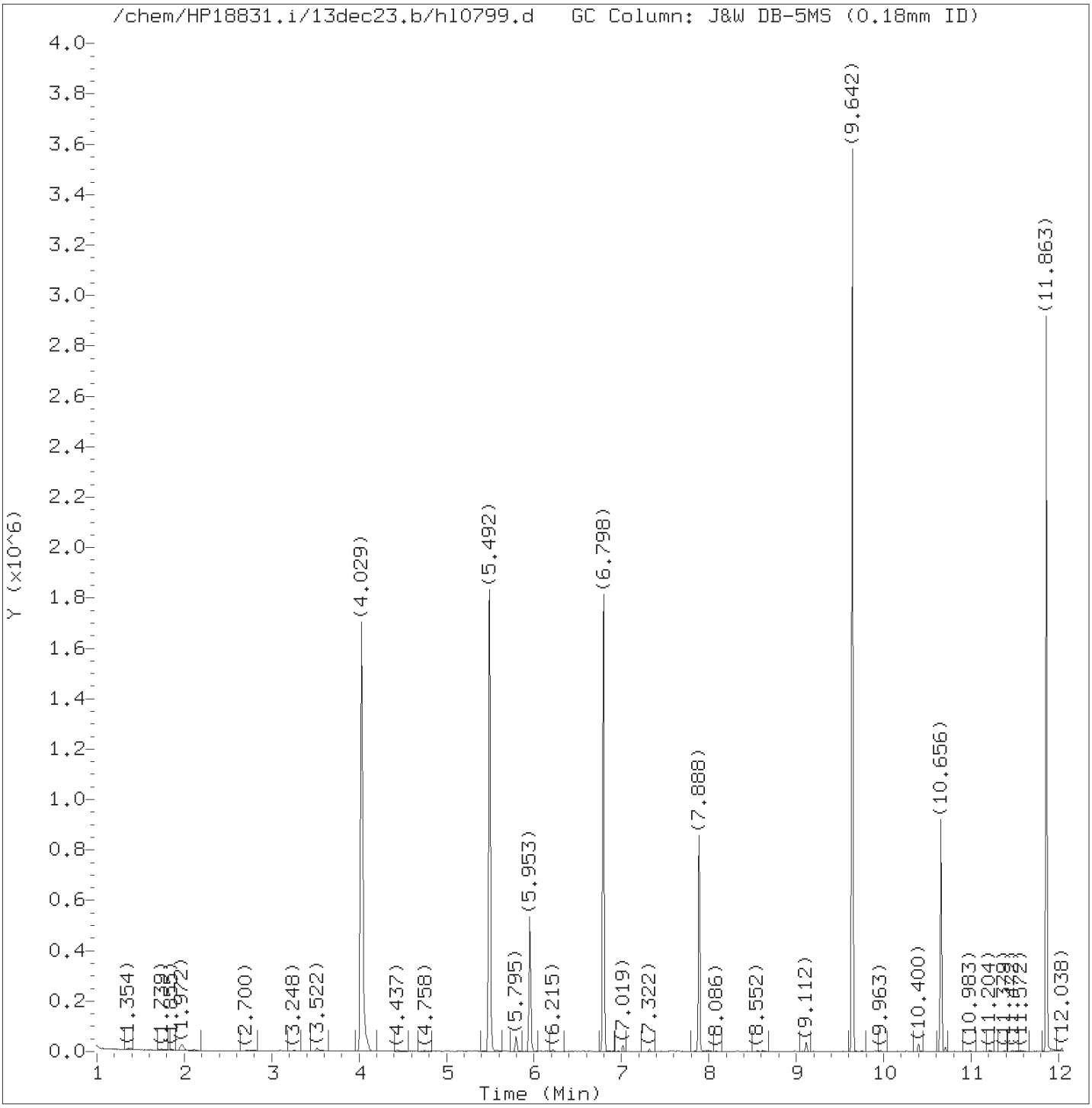
Total number of targets = 16

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:06. Target 3.5 esignature user ID: jmg00346

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 11:30. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

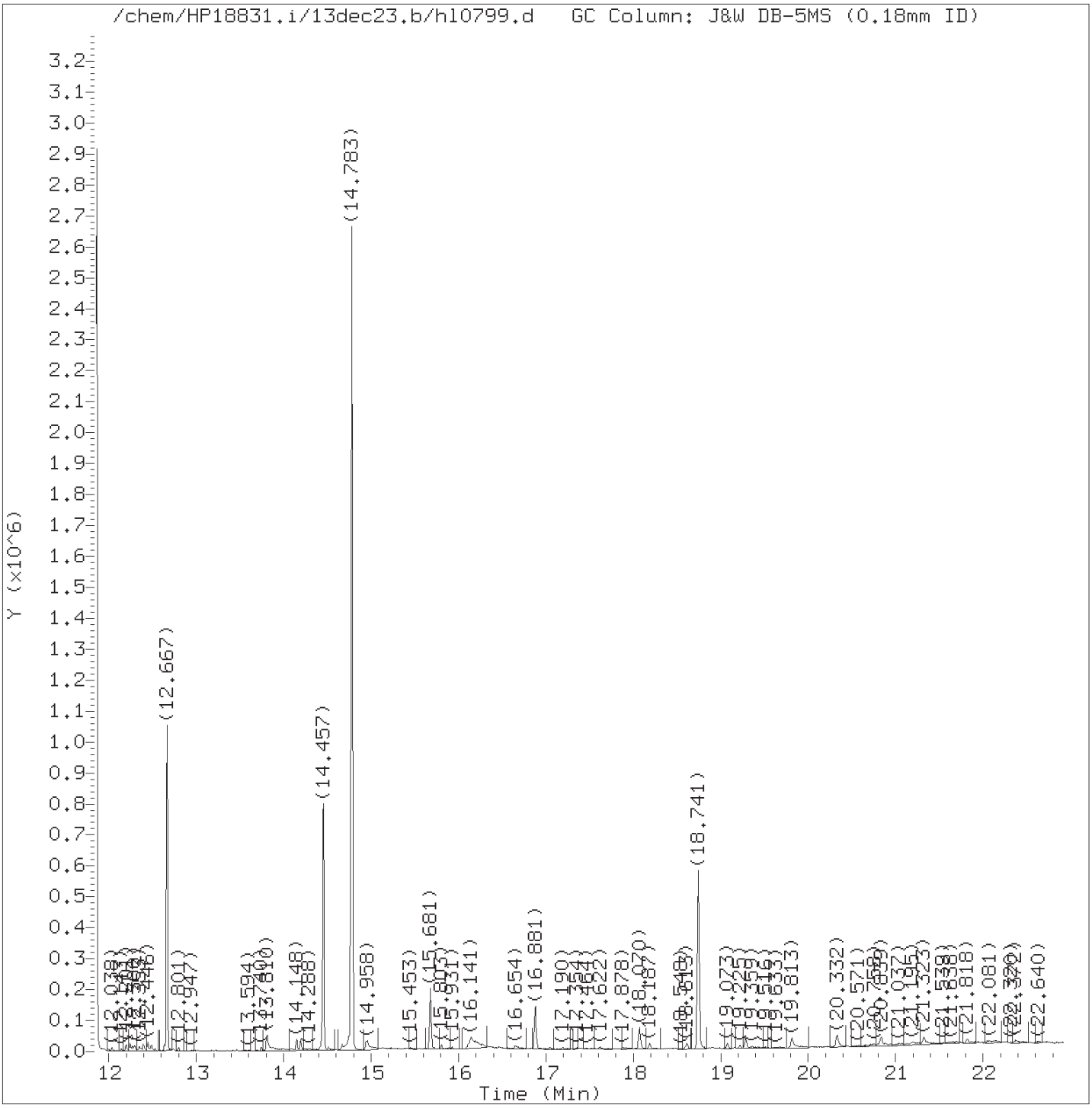
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0799.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 00:14 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:04 jmg00346

Sample Name: PNY8S Lab Sample ID: 7311254

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:06.
Target 3.5 esignature user ID: jmg00346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0799.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 00:14 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:04 jmg00346

Sample Name: PNY8S Lab Sample ID: 7311254

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:06.
Target 3.5 esignature user ID: jmg00346

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0799.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 00:14 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:04 jmg00346

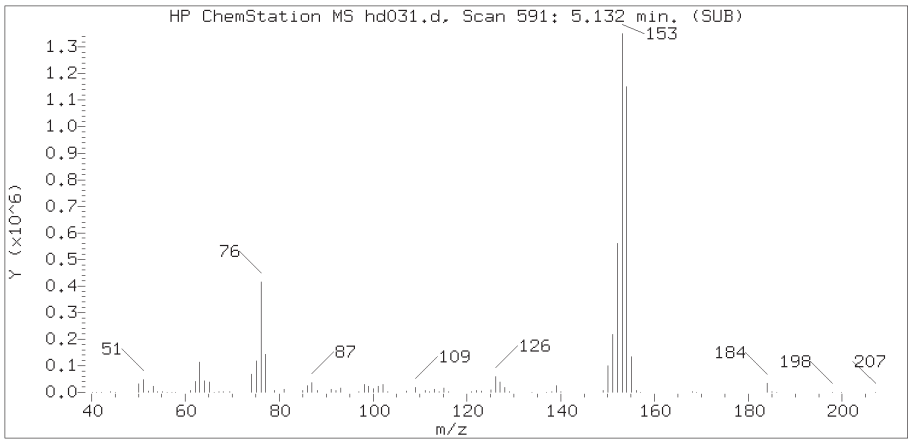
Sample Name: PNY8S Lab Sample ID: 7311254

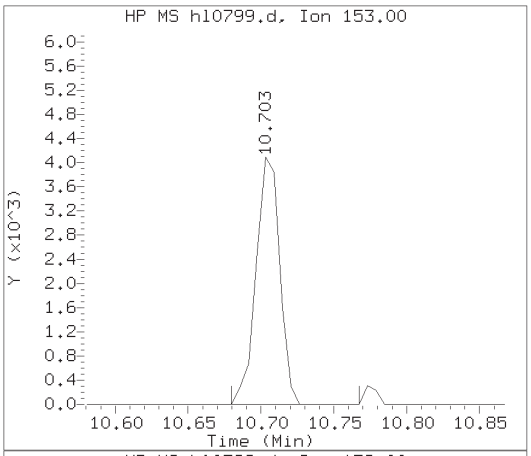
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.953	152	121218	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	737922	20.431
44)*Naphthalene-d8	(2)	7.888	136	493973	5.000
63)$2-Fluorobiphenyl	(3)	9.642	172	1357142	20.636
78)*Acenaphthene-d10	(3)	10.656	164	260448	5.000
79) Acenaphthene	(3)	10.703	153	4647	0.077
113)*Phenanthrene-d10	(4)	12.667	188	400169	5.000
127)*Pyrene-d10	(5)	14.457	212	421621	5.000
129)$Terphenyl-d14	(5)	14.783	244	1214284	21.477
148)*Perylene-d12	(6)	18.741	264	320673	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

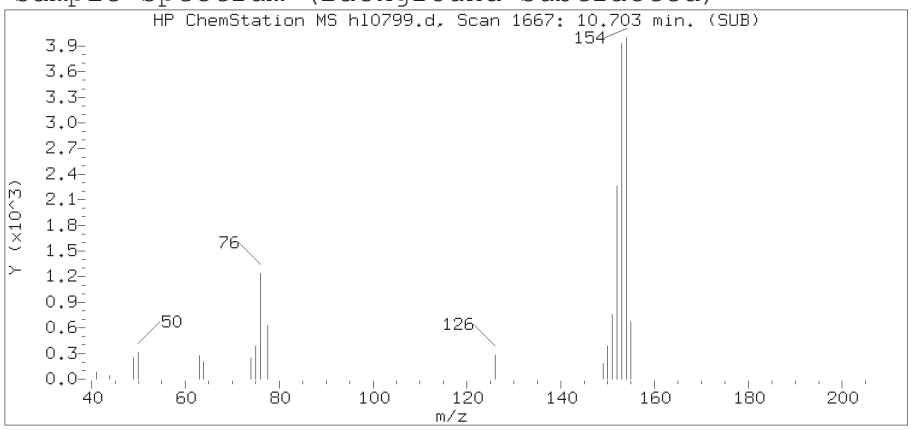
Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:06.
Target 3.5 esignature user ID: jmg00346

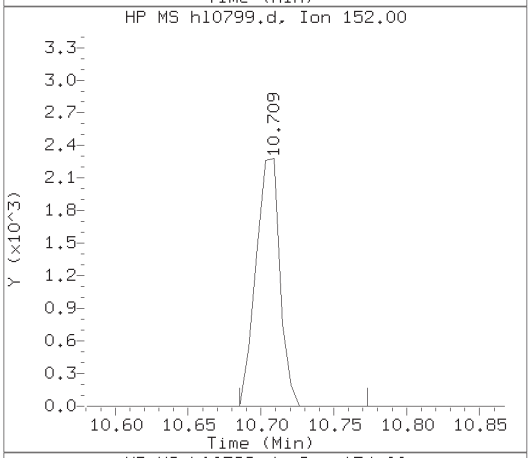
Reference Standard Spectrum for Acenaphthene



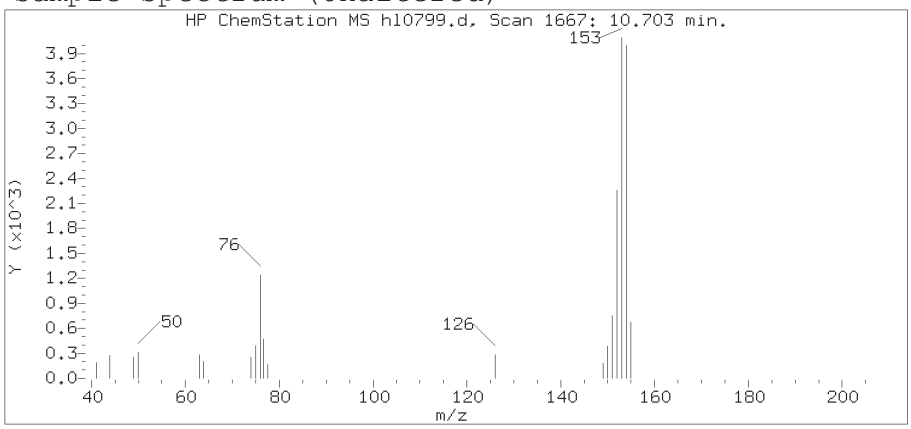


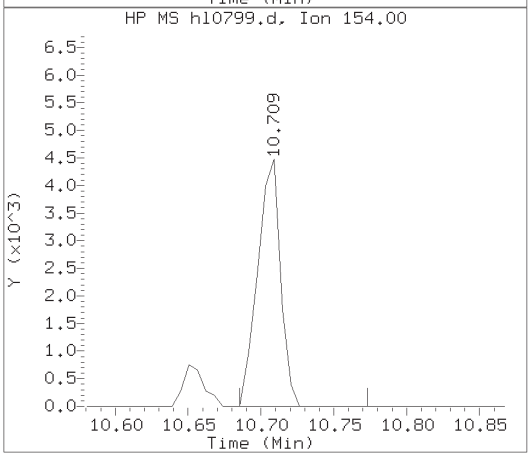
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0799.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 00:14 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:04 jmg00346

Sample Name: PNY8S Lab Sample ID: 7311254

Compound Number : 79
Compound Name : Acenaphthene
Scan Number : 1667
Retention Time (minutes) : 10.703
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 4647
On-column Amount (ng/ul) : 0.0769

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:06.
Target 3.5 esignature [illegible]

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY8D

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311255

Sample wt/vol: 239 (g/mL)ML Lab File ID: h10800.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/24/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	0.5	U
208-96-8-------	Acenaphthylene	0.5	U
83-32-9--------	Acenaphthene	0.5	U
86-73-7--------	Fluorene	0.5	U
85-01-8--------	Phenanthrene	0.5	U
120-12-7-------	Anthracene	0.5	U
206-44-0-------	Fluoranthene	0.5	U
129-00-0-------	Pyrene	0.5	U
56-55-3--------	Benzo(a)anthracene	0.5	U
218-01-9-------	Chrysene	0.5	U
205-99-2-------	Benzo(b)fluoranthene	0.5	U
207-08-9-------	Benzo(k)fluoranthene	0.5	U
50-32-8--------	Benzo(a)pyrene	0.5	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	0.5	U
53-70-3--------	Dibenz(a,h)anthracene	0.5	U
191-24-2-------	Benzo(g,h,i)perylene	0.5	U

FORM I SV-1

PNY8D

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311255

Data file: /chem/HP18831.i/13dec23.b/hl0800.d
Data file Sample Info. Line: PNY8D;7311255;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 30-Dec-2013 21:04 ceb05247

Injection date and time: **24-DEC-2013 00:43**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 30-DEC-2013 21:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 239 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.953(0.000)	852	152	137328 (2)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	556215 (2)	5.00	
78) Acenaphthene-d10	10.656(0.006)	1659	164	297498 (2)	5.00	
113) Phenanthrene-d10	12.667(0.006)	2004	188	448665 (11)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	486973 (9)	5.00	
148) Perylene-d12	18.747(0.000)	3047	264	364753 (11)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	889675	21.876	88%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1663333	22.142	89%		63 - 121
129) Terphenyl-d14	(5)	14.783(0.000)	244	1392435	21.323	85%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)			Not Detected					0.03
76) Acenaphthylene	(3)			Not Detected					0.3
79) Acenaphthene	(3)			Not Detected					0.3
89) Fluorene	(3)			Not Detected					0.3
115) Phenanthrene	(4)			Not Detected					0.3
117) Anthracene	(4)			Not Detected					0.3
125) Fluoranthene	(4)			Not Detected					0.3
128) Pyrene	(5)			Not Detected					0.3
138) Benzo(a)anthracene	(5)			Not Detected					0.3
140) Chrysene	(5)			Not Detected					0.3
144) Benzo(b)fluoranthene	(6)			Not Detected					0.3
146) Benzo(k)fluoranthene	(6)			Not Detected					0.3
147) Benzo(a)pyrene	(6)			Not Detected					0.03
152) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.3
153) Dibenz(a,h)anthracene	(6)			Not Detected					0.3
154) Benzo(g,h,i)perylene	(6)			Not Detected					0.3

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/13dec23.b/hl0800.d
Injection date and time: **24-DEC-2013 00:43**
Data file Sample Info. Line: PNY8D;7311255;1;0;SAMPLE;;;
Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 30-Dec-2013 21:04 ceb05247

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 30-DEC-2013 21:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 239 ml Volume Injected (Vi): 0.5 ul

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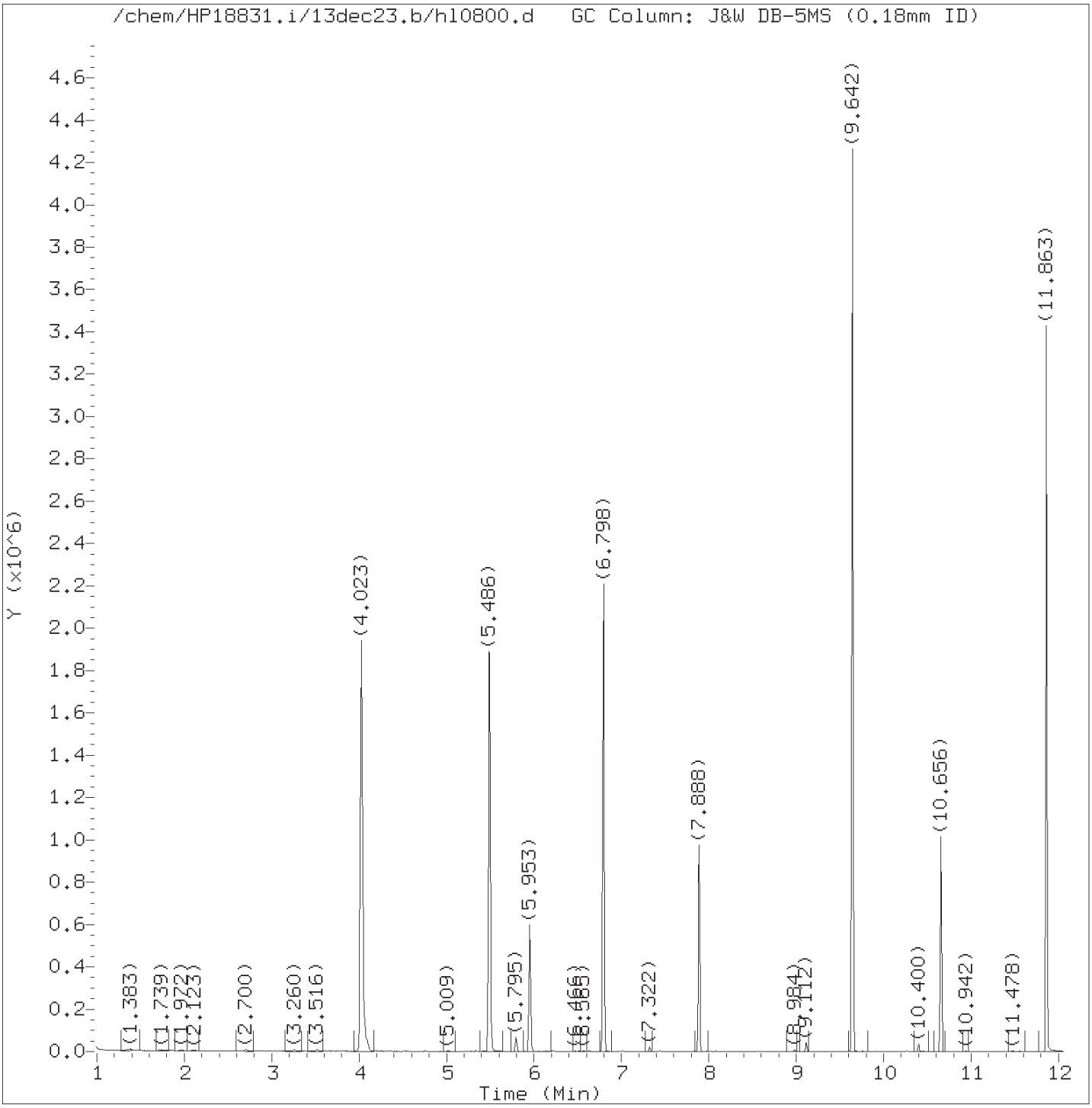
Total number of targets = 16

Digitally signed by Catherine E. Bachman on 12/30/2013 at 21:17. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

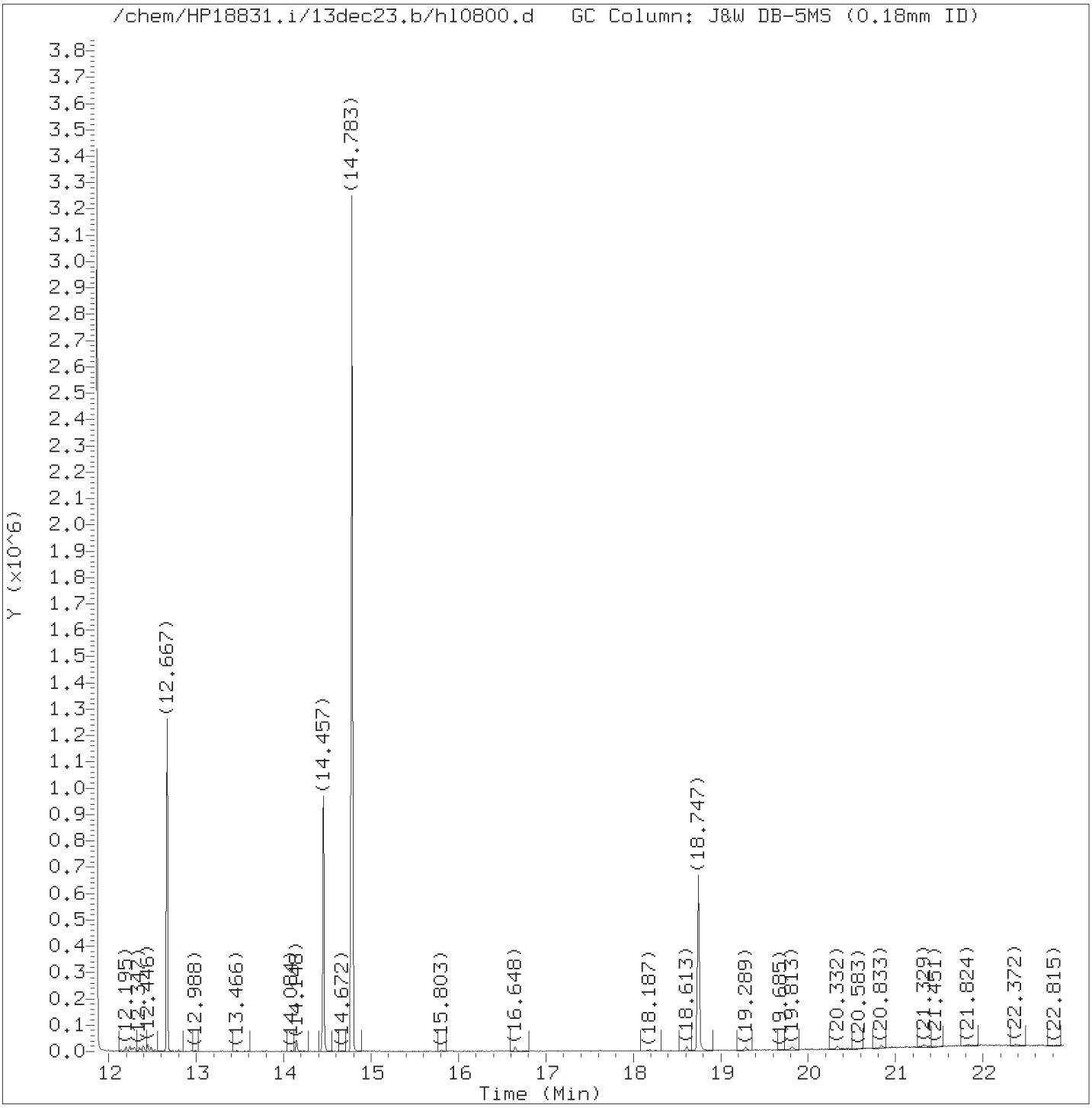
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0800.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 00:43 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:01
Date, time and analyst ID of latest file update: 30-Dec-2013 21:04 ceb05247

Sample Name: PNY8D Lab Sample ID: 7311255

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:17.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0800.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 00:43 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:01
Date, time and analyst ID of latest file update: 30-Dec-2013 21:04 ceb05247

Sample Name: PNY8D Lab Sample ID: 7311255

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:17.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0800.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 00:43 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:01
Date, time and analyst ID of latest file update: 30-Dec-2013 21:04 ceb05247

Sample Name: PNY8D Lab Sample ID: 7311255

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.953	152	137328	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	889675	21.876
44)*Naphthalene-d8	(2)	7.888	136	556215	5.000
63)$2-Fluorobiphenyl	(3)	9.642	172	1663333	22.142
78)*Acenaphthene-d10	(3)	10.656	164	297498	5.000
113)*Phenanthrene-d10	(4)	12.667	188	448665	5.000
127)*Pyrene-d10	(5)	14.457	212	486973	5.000
129)$Terphenyl-d14	(5)	14.783	244	1392435	21.323
148)*Perylene-d12	(6)	18.747	264	364753	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:17.
Target 3.5 esignature user ID: ceb05247

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNYFB

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311256

Sample wt/vol: 236 (g/mL)ML Lab File ID: hl0801.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/24/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	0.5	U
208-96-8-------	Acenaphthylene	0.5	U
83-32-9--------	Acenaphthene	0.5	U
86-73-7--------	Fluorene	0.5	U
85-01-8--------	Phenanthrene	0.5	U
120-12-7-------	Anthracene	0.5	U
206-44-0-------	Fluoranthene	0.5	U
129-00-0-------	Pyrene	0.5	U
56-55-3--------	Benzo(a)anthracene	0.5	U
218-01-9-------	Chrysene	0.5	U
205-99-2-------	Benzo(b)fluoranthene	0.5	U
207-08-9-------	Benzo(k)fluoranthene	0.5	U
50-32-8--------	Benzo(a)pyrene	0.5	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	0.5	U
53-70-3--------	Dibenz(a,h)anthracene	0.5	U
191-24-2-------	Benzo(g,h,i)perylene	0.5	U

FORM I SV-1

PNYFB

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311256

Data file: /chem/HP18831.i/13dec23.b/hl0801.d
Data file Sample Info. Line: PNYFB;7311256;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 30-Dec-2013 21:04 ceb05247

Injection date and time: **24-DEC-2013 01:12**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 30-DEC-2013 21:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 236 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.953(0.000)	852	152	131128 (-3)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	537462 (-1)	5.00	
78) Acenaphthene-d10	10.657(0.006)	1659	164	285818 (-2)	5.00	
113) Phenanthrene-d10	12.668(0.006)	2004	188	441859 (9)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	468171 (5)	5.00	
148) Perylene-d12	18.747(0.000)	3047	264	348223 (6)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	842102	21.428	86%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.643(0.000)	172	1573356	21.800	87%		63 - 121
129) Terphenyl-d14	(5)	14.783(0.000)	244	1524174	24.278	97%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)			Not Detected					0.03
76) Acenaphthylene	(3)			Not Detected					0.3
79) Acenaphthene	(3)			Not Detected					0.3
89) Fluorene	(3)			Not Detected					0.3
115) Phenanthrene	(4)			Not Detected					0.3
117) Anthracene	(4)			Not Detected					0.3
125) Fluoranthene	(4)			Not Detected					0.3
128) Pyrene	(5)			Not Detected					0.3
138) Benzo(a)anthracene	(5)			Not Detected					0.3
140) Chrysene	(5)			Not Detected					0.3
144) Benzo(b)fluoranthene	(6)			Not Detected					0.3
146) Benzo(k)fluoranthene	(6)			Not Detected					0.3
147) Benzo(a)pyrene	(6)			Not Detected					0.03
152) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.3
153) Dibenz(a,h)anthracene	(6)			Not Detected					0.3
154) Benzo(g,h,i)perylene	(6)			Not Detected					0.3

Digitally signed by Catherine E. Bachman on 12/30/2013 at 21:17. Target 3.5 esignature user ID: ceb05247

Data file: /chem/HP18831.i/13dec23.b/hl0801.d Injection date and time: **24-DEC-2013 01:12**
Data file Sample Info. Line: PNYFB;7311256;1;0;SAMPLE;;; Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 30-Dec-2013 21:04 ceb05247

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 30-DEC-2013 21:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 236 ml Volume Injected (Vi): 0.5 ul

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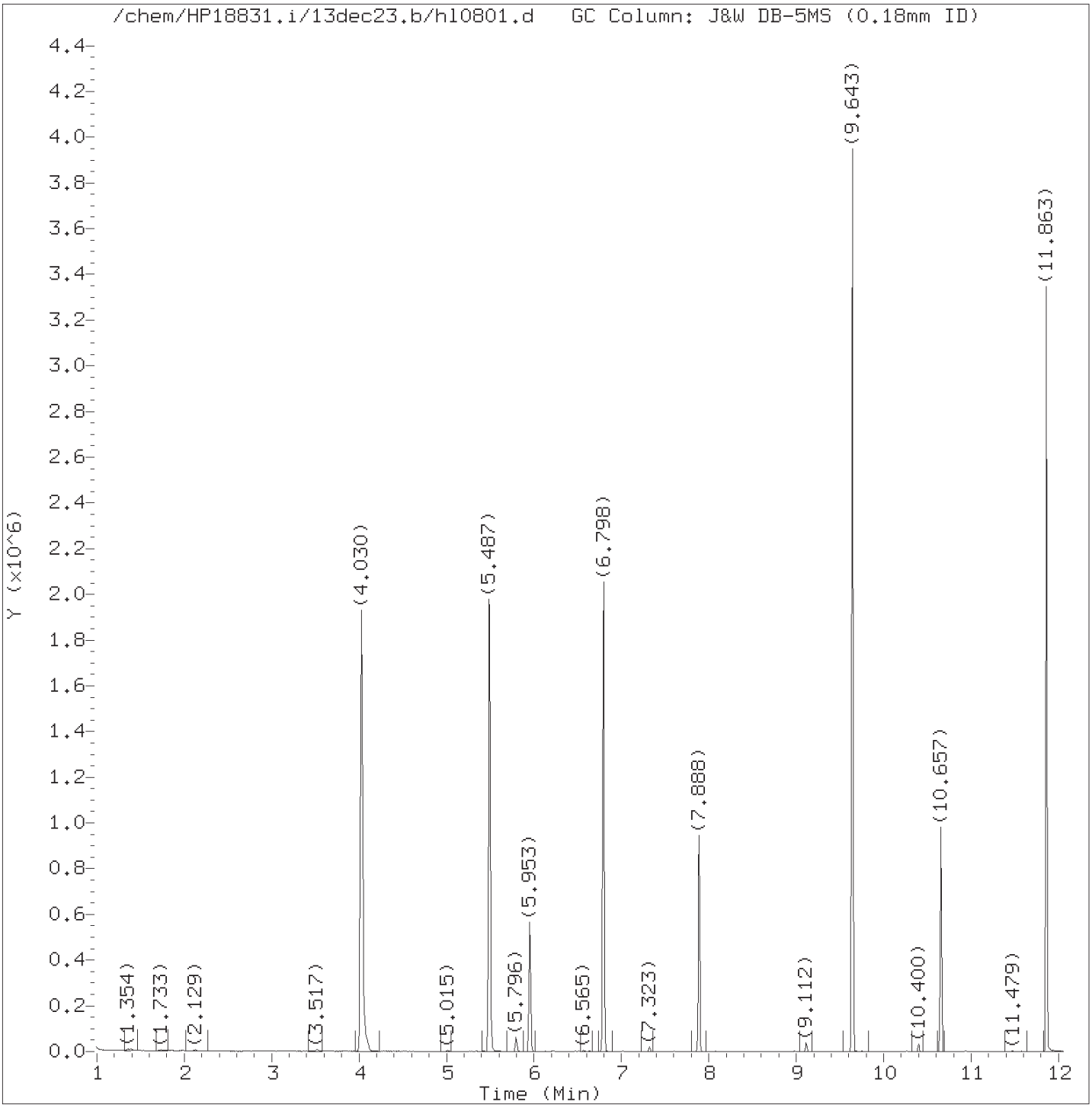
Total number of targets = 16

Digitally signed by Catherine E. Bachman on 12/30/2013 at 21:17. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

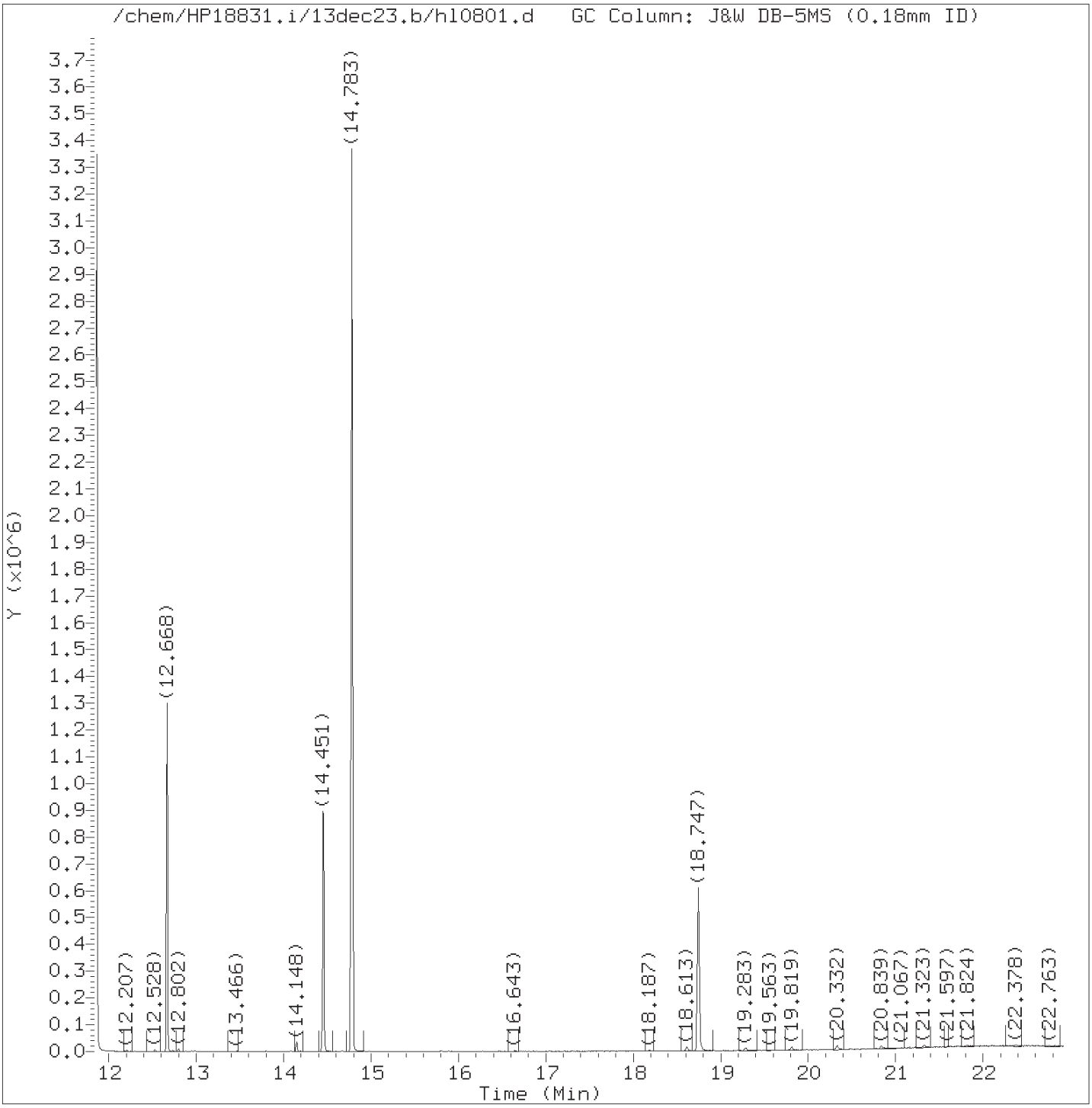
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0801.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 01:12 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:01
Date, time and analyst ID of latest file update: 30-Dec-2013 21:04 ceb05247

Sample Name: PNYFB Lab Sample ID: 7311256

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:17.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0801.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 01:12 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:01
Date, time and analyst ID of latest file update: 30-Dec-2013 21:04 ceb05247

Sample Name: PNYFB Lab Sample ID: 7311256

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:17.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0801.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 01:12 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:01
Date, time and analyst ID of latest file update: 30-Dec-2013 21:04 ceb05247

Sample Name: PNYFB Lab Sample ID: 7311256

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.953	152	131128	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	842102	21.428
44)*Naphthalene-d8	(2)	7.888	136	537462	5.000
63)$2-Fluorobiphenyl	(3)	9.643	172	1573356	21.800
78)*Acenaphthene-d10	(3)	10.657	164	285818	5.000
113)*Phenanthrene-d10	(4)	12.668	188	441859	5.000
127)*Pyrene-d10	(5)	14.457	212	468171	5.000
129)$Terphenyl-d14	(5)	14.783	244	1524174	24.278
148)*Perylene-d12	(6)	18.747	264	348223	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:17.
Target 3.5 esignature user ID: ceb05247

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY4D

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311257

Sample wt/vol: 244 (g/mL)ML Lab File ID: hl0802.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/24/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	0.5	U
208-96-8-------	Acenaphthylene	1	
83-32-9--------	Acenaphthene	0.2	J
86-73-7--------	Fluorene	0.8	
85-01-8--------	Phenanthrene	0.5	
120-12-7-------	Anthracene	0.5	U
206-44-0-------	Fluoranthene	0.5	U
129-00-0-------	Pyrene	0.5	U
56-55-3--------	Benzo(a)anthracene	0.5	U
218-01-9-------	Chrysene	0.5	U
205-99-2-------	Benzo(b)fluoranthene	0.5	U
207-08-9-------	Benzo(k)fluoranthene	0.5	U
50-32-8--------	Benzo(a)pyrene	0.5	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	0.5	U
53-70-3--------	Dibenz(a,h)anthracene	0.5	U
191-24-2-------	Benzo(g,h,i)perylene	0.5	U

FORM I SV-1

PNY4D

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311257

Data file: /chem/HP18831.i/13dec23.b/hl0802.d
Injection date and time: **24-DEC-2013 01:41**
Data file Sample Info. Line: PNY4D;7311257;1;0;SAMPLE;;;
Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 02-Jan-2014 11:02 jmg00346

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 11:00
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 244 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.953(0.000)	852	152	135914 (1)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	547929 (1)	5.00	
78) Acenaphthene-d10	10.657(0.006)	1659	164	286643 (-2)	5.00	
113) Phenanthrene-d10	12.668(0.006)	2004	188	438307 (8)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	475760 (6)	5.00	
148) Perylene-d12	18.747(0.000)	3047	264	359586 (10)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	846277	21.123	84%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1552863	21.454	86%		63 - 121
129) Terphenyl-d14	(5)	14.783(0.000)	244	1423138	22.307	89%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)			Not Detected					0.03
76) Acenaphthylene	(3)	10.423(0.000)	152	35176	0.363	1.49			0.03
79) Acenaphthene	(3)	10.703(-0.000)	153	3609	0.054	0.22			0.03
89) Fluorene	(3)	11.525(-0.000)	166	14569	0.204	0.84		J	0.03
115) Phenanthrene	(4)	12.691(-0.000)	178	12859	0.126	0.52			0.03
117) Anthracene	(4)			Not Detected					0.03
125) Fluoranthene	(4)			Not Detected					0.03
128) Pyrene	(5)			Not Detected					0.03
138) Benzo(a)anthracene	(5)			Not Detected					0.03
140) Chrysene	(5)			Not Detected					0.03
144) Benzo(b)fluoranthene	(6)			Not Detected					0.03
146) Benzo(k)fluoranthene	(6)			Not Detected					0.03
147) Benzo(a)pyrene	(6)			Not Detected					0.03
152) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
153) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
154) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:06. Target 3.5 esignature user ID: jmg00346

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/13dec23.b/hl0802.d
Injection date and time: **24-DEC-2013 01:41**
Data file Sample Info. Line: PNY4D;7311257;1;0;SAMPLE;;;
Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 02-Jan-2014 11:02 jmg00346

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 11:00
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 244 ml Volume Injected (Vi): 0.5 ul

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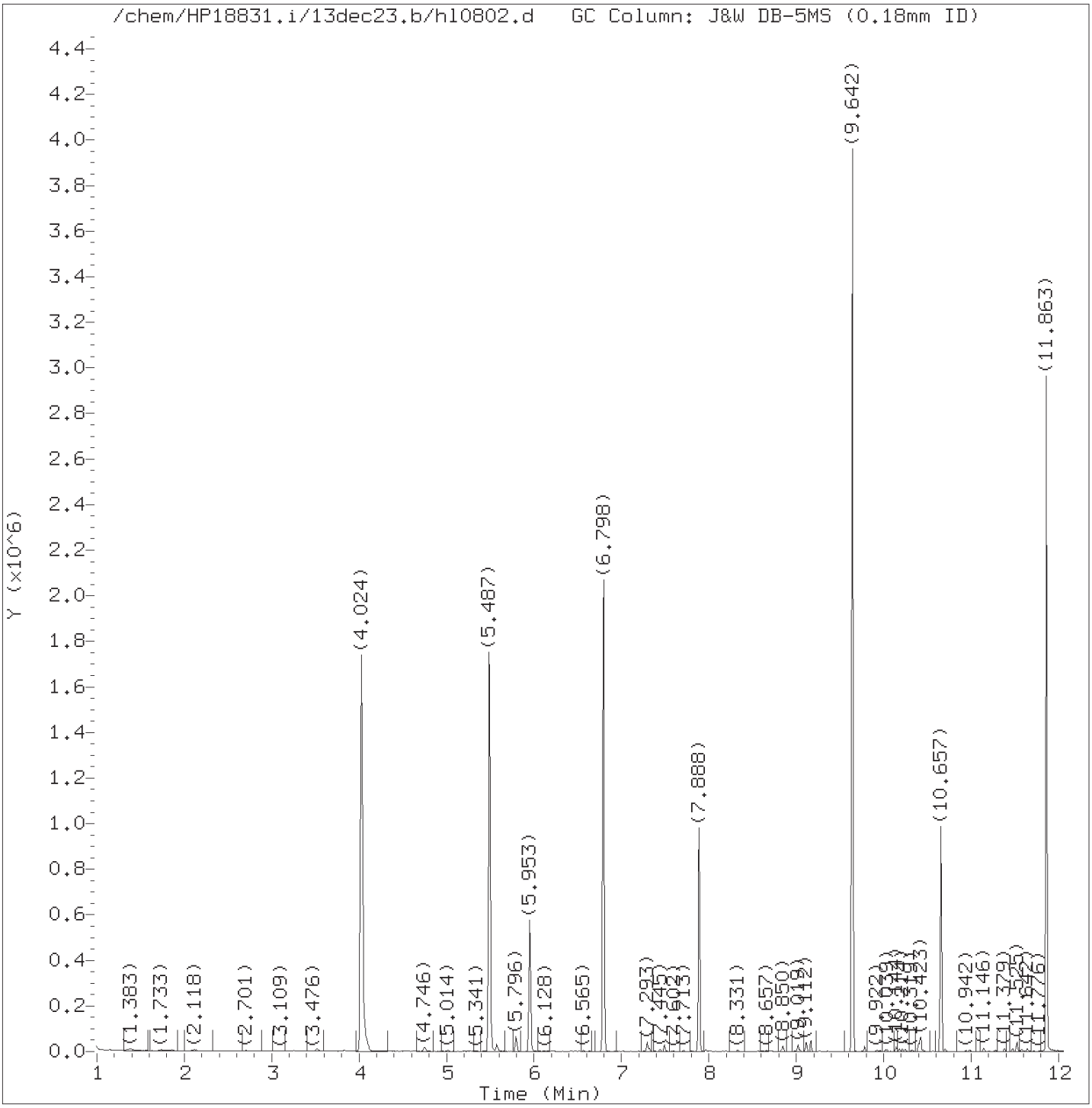
Total number of targets = 16

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:06. Target 3.5 esignature user ID: jmg00346

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 11:30. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

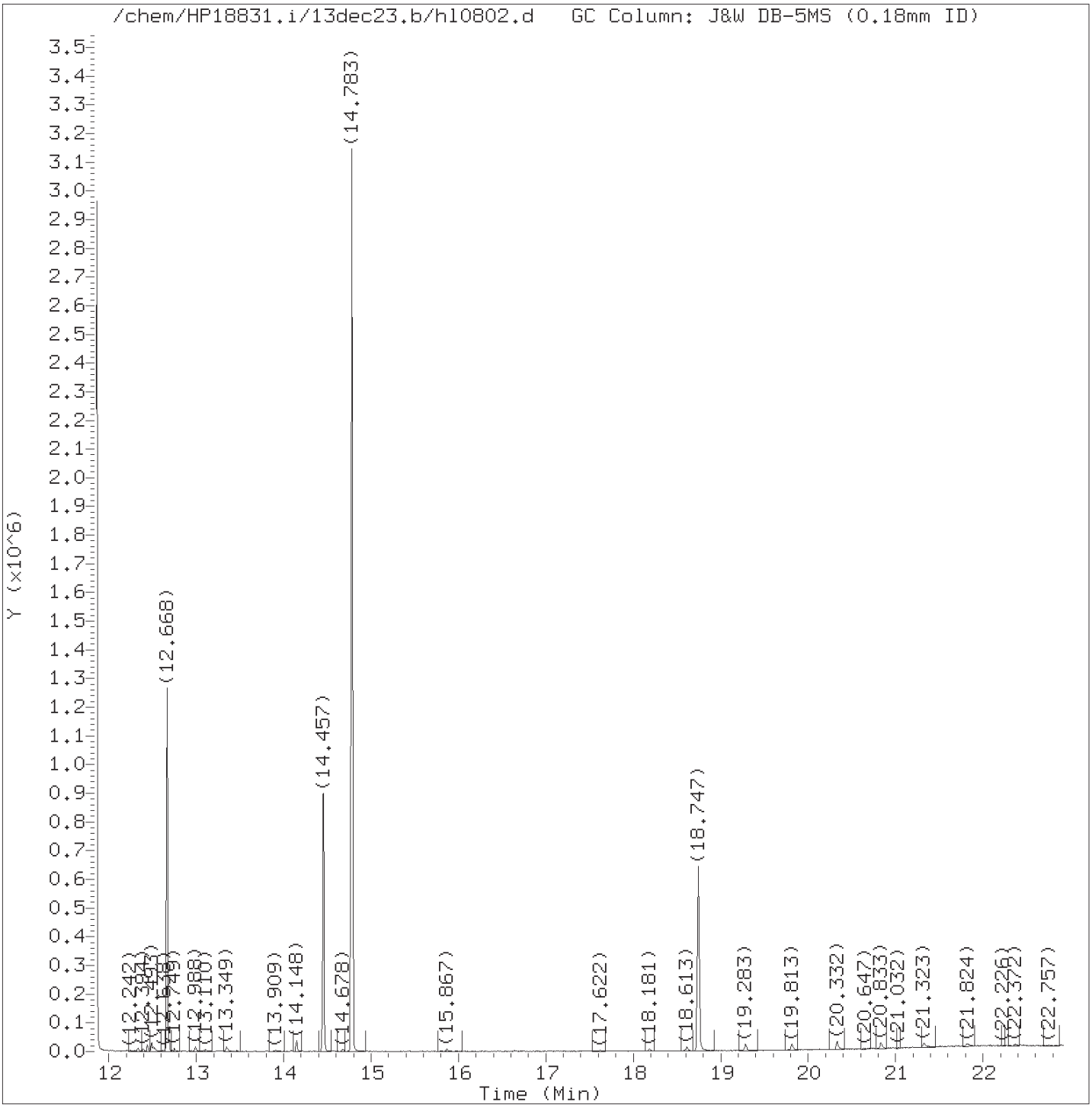
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0802.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 01:41 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:02 jmg00346

Sample Name: PNY4D Lab Sample ID: 7311257

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:06.
Target 3.5 esignature user ID: jmg00346



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0802.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 01:41 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:02 jmg00346

Sample Name: PNY4D Lab Sample ID: 7311257

Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:06.
Target 3.5 esignature user ID: jmg00346

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0802.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 01:41 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:02 jmg00346

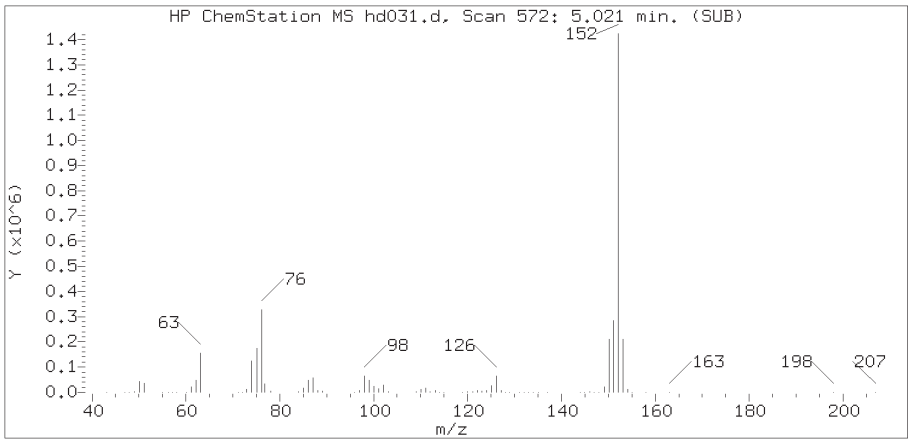
Sample Name: PNY4D Lab Sample ID: 7311257

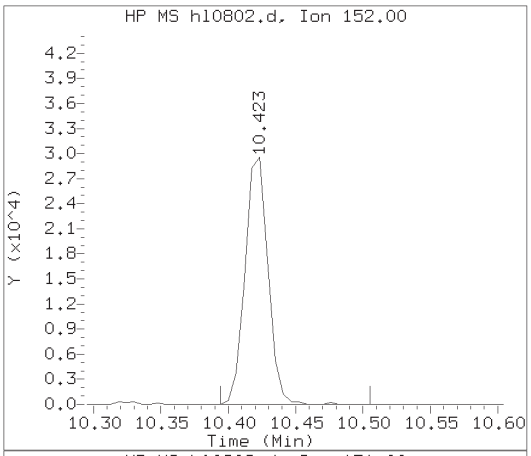
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.953	152	135914	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	846277	21.123
44)*Naphthalene-d8	(2)	7.888	136	547929	5.000
63)$2-Fluorobiphenyl	(3)	9.642	172	1552863	21.454
76) Acenaphthylene	(3)	10.423	152	35176	0.363
78)*Acenaphthene-d10	(3)	10.657	164	286643	5.000
79) Acenaphthene	(3)	10.703	153	3609	0.054
89) Fluorene	(3)	11.525	166	14569	0.204
113)*Phenanthrene-d10	(4)	12.668	188	438307	5.000
115) Phenanthrene	(4)	12.691	178	12859	0.126
127)*Pyrene-d10	(5)	14.457	212	475760	5.000
129)$Terphenyl-d14	(5)	14.783	244	1423138	22.307
148)*Perylene-d12	(6)	18.747	264	359586	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

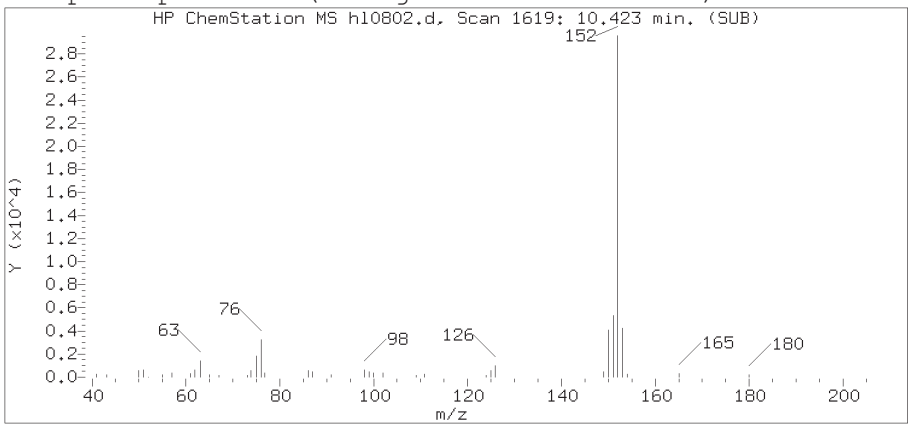
Digitally signed by Joseph M. Gambler
on 01/02/2014 at 11:06.
Target 3.5 esignature user ID: jmg00346

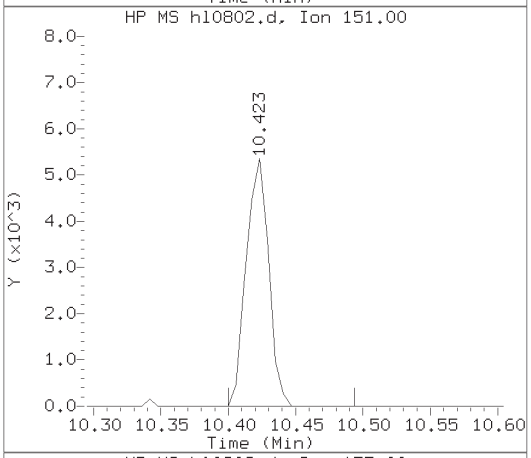
Reference Standard Spectrum for Acenaphthylene



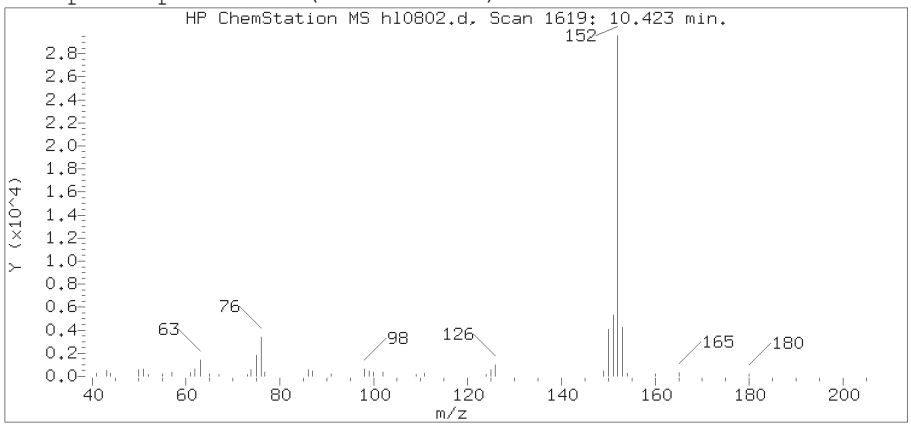


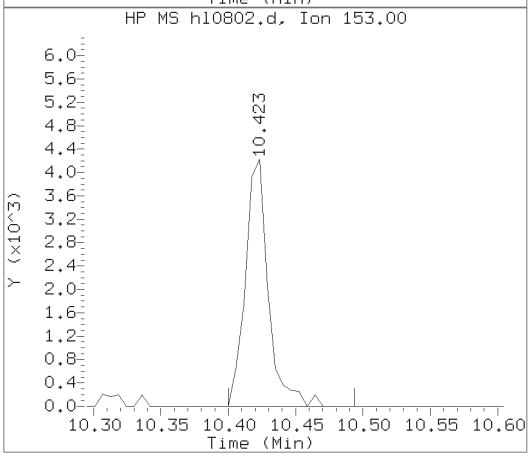
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0802.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 01:41 Analyst ID: ceb05247

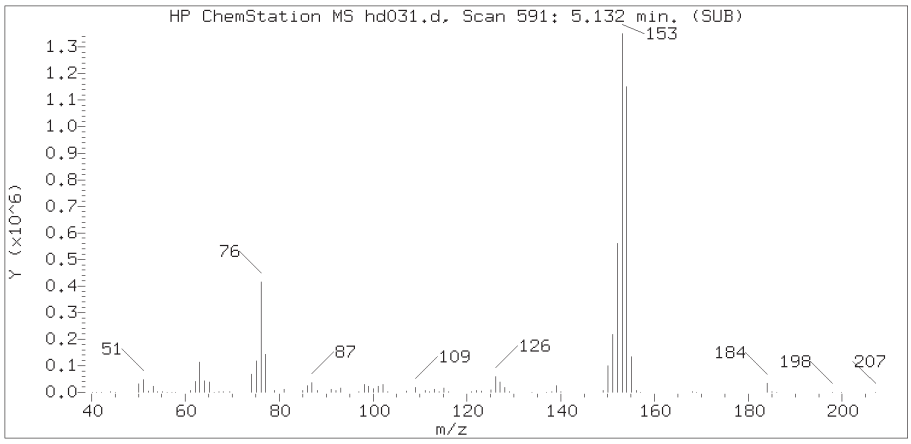
Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:02 jmg00346

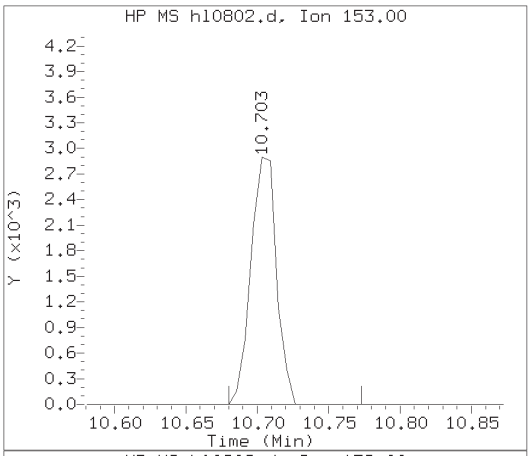
Sample Name: PNY4D Lab Sample ID: 7311257

Compound Number	: 76
Compound Name	: Acenaphthylene
Scan Number	: 1619
Retention Time (minutes)	: 10.423
Relative Retention Time	: 0.00001
Quant Ion	: 152.00
Area (flag)	: 35176
On-column Amount (ng/ul)	: 0.3629

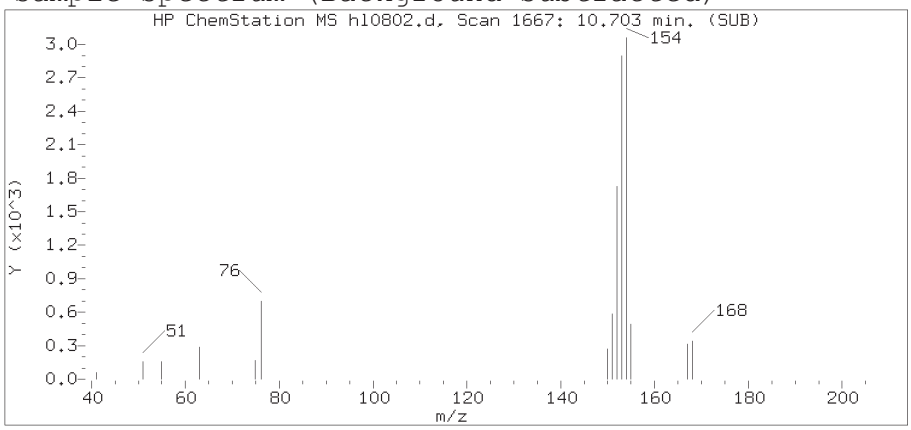
Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:06.
Target 3.5 esignature [illegible]

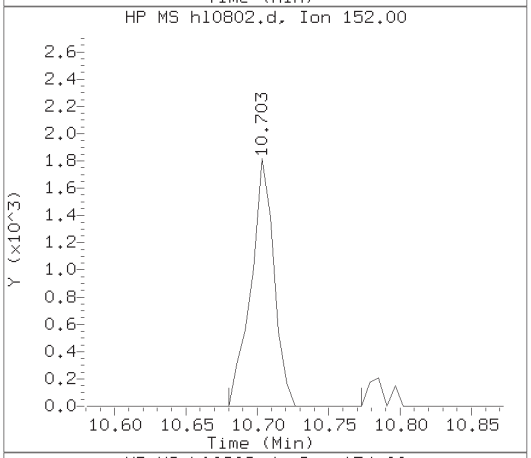
Reference Standard Spectrum for Acenaphthene



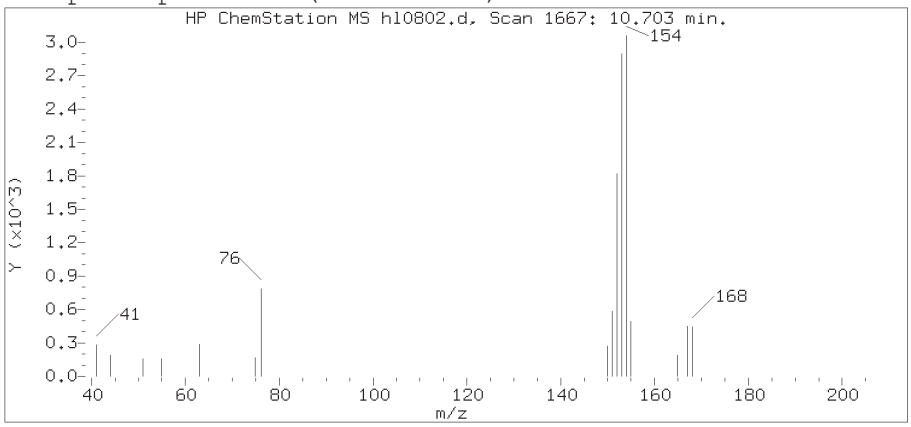


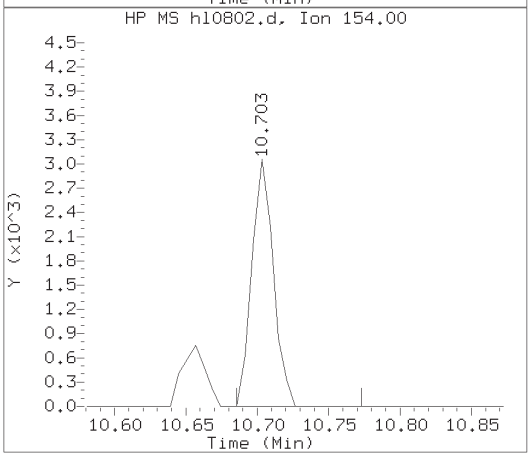
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0802.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 01:41 Analyst ID: ceb05247

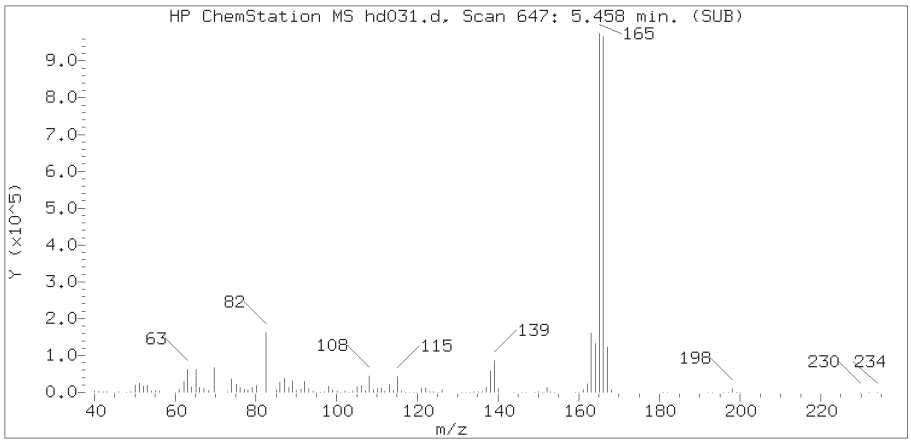
Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:02 jmg00346

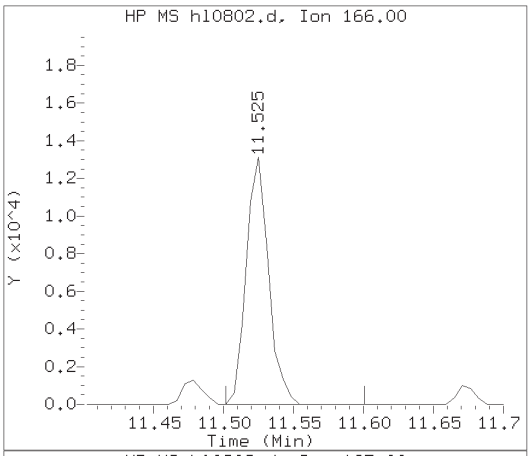
Sample Name: PNY4D Lab Sample ID: 7311257

Compound Number : 79
Compound Name : Acenaphthene
Scan Number : 1667
Retention Time (minutes) : 10.703
Relative Retention Time :-0.00000
Quant Ion : 153.00
Area (flag) : 3609
On-column Amount (ng/ul) : 0.0542

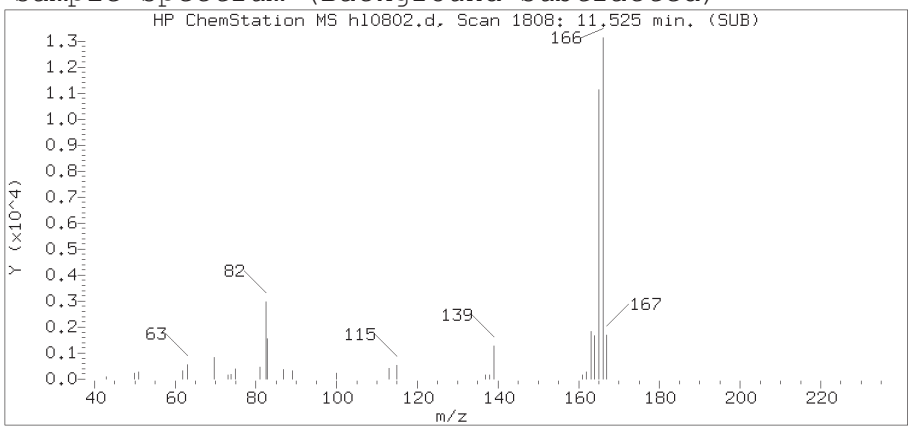
Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:06.
Target 3.5 esignature [illegible]

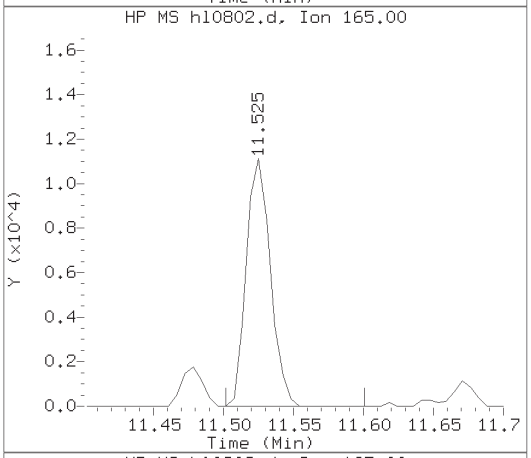
Reference Standard Spectrum for Fluorene



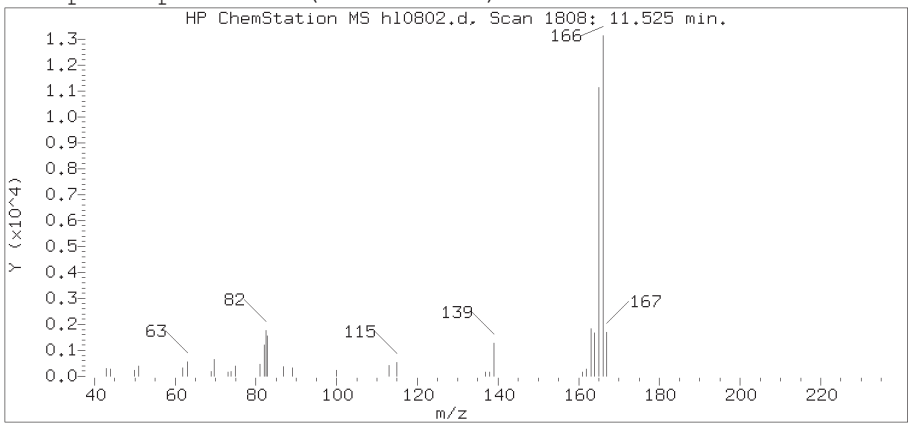


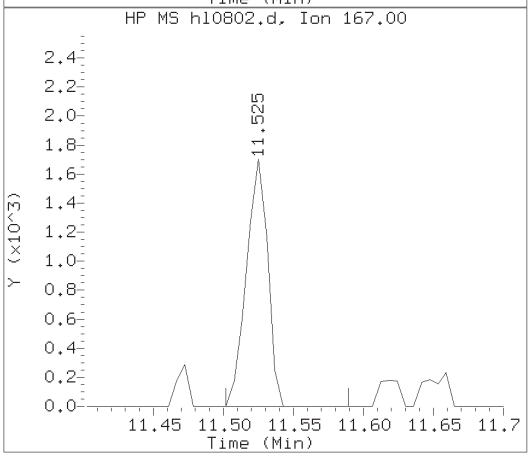
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0802.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 01:41 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:02 jmg00346

Sample Name: PNY4D Lab Sample ID: 7311257

Compound Number : 89
Compound Name : Fluorene
Scan Number : 1808
Retention Time (minutes) : 11.525
Relative Retention Time :-0.00004
Quant Ion : 166.00
Area (flag) : 14569
On-column Amount (ng/ul) : 0.2044

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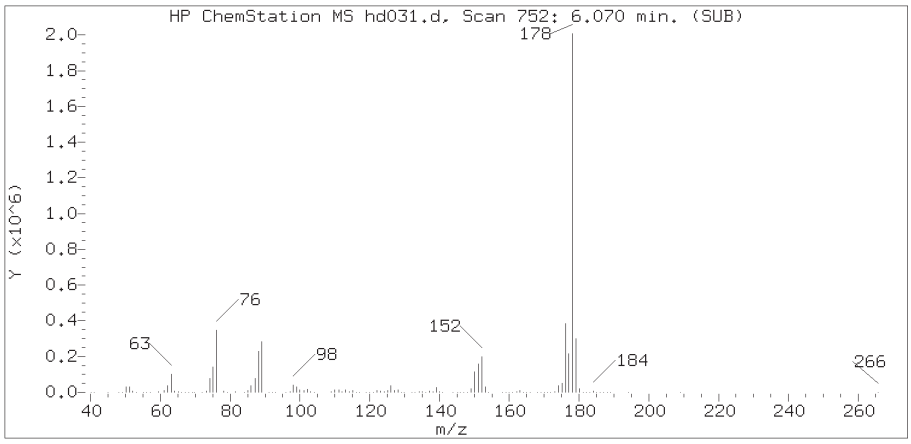
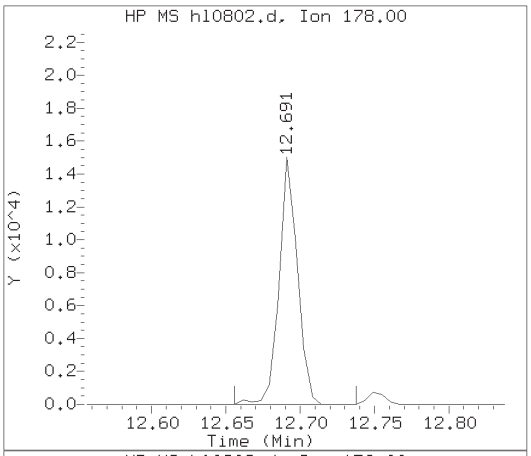
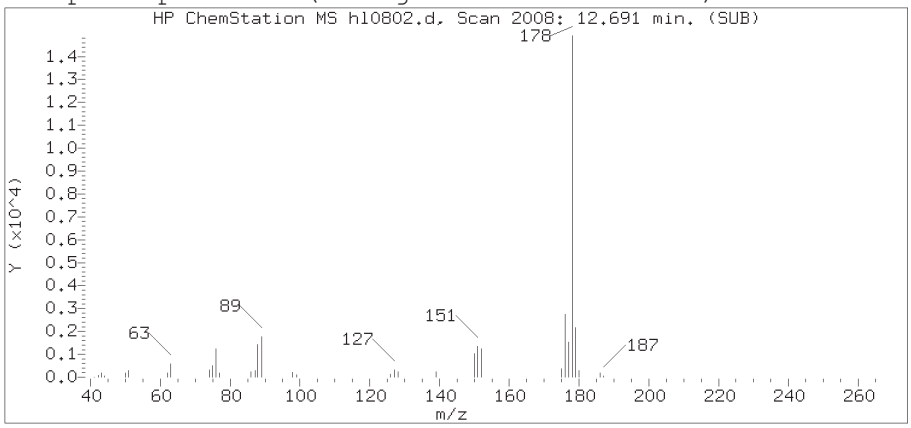
Target 3.5 esignature [illegible]

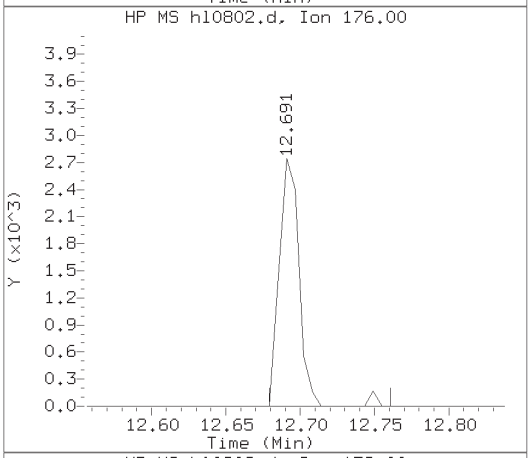
Reference Standard Spectrum for Phenanthrene



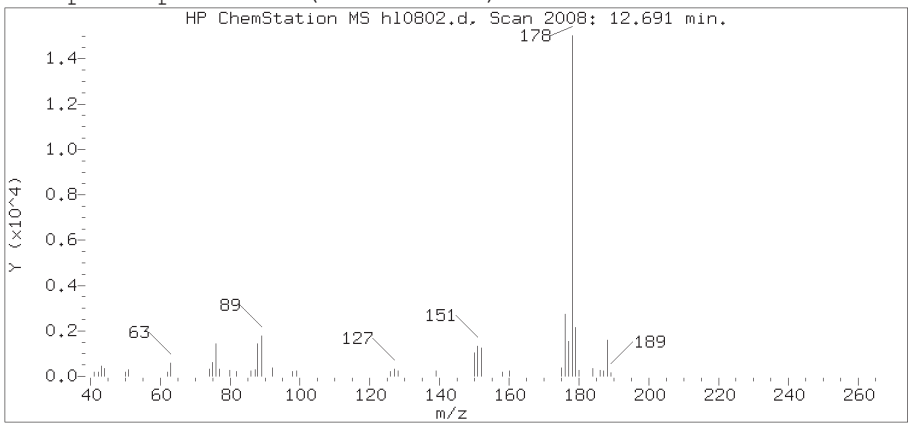


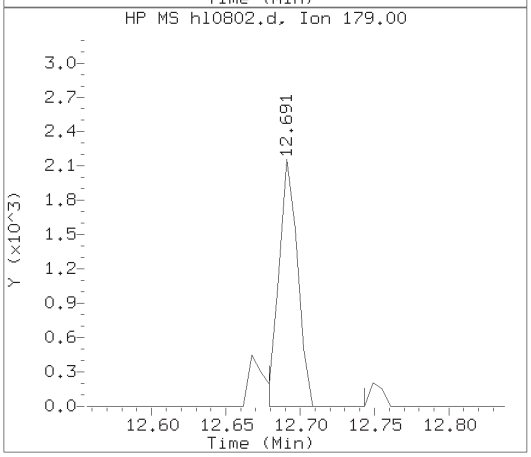
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP18831.i/13dec23.b/hl0802.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 01:41 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 11:00
Date, time and analyst ID of latest file update: 02-Jan-2014 11:02 jmg00346

Sample Name: PNY4D Lab Sample ID: 7311257

Compound Number : 115
Compound Name : Phenanthrene
Scan Number : 2008
Retention Time (minutes) : 12.691
Relative Retention Time :-0.00000
Quant Ion : 178.00
Area (flag) : 12859
On-column Amount (ng/ul) : 0.1261

Digitally signed by Joseph M. Gambler on 01/02/2014 at 11:06.
Target 3.5 esignature [illegible]

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY4S

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311258

Sample wt/vol: 248 (g/mL)ML Lab File ID: h10803.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/24/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	0.5	U
208-96-8-------	Acenaphthylene	0.5	U
83-32-9--------	Acenaphthene	0.5	U
86-73-7--------	Fluorene	0.5	U
85-01-8--------	Phenanthrene	0.5	U
120-12-7-------	Anthracene	0.5	U
206-44-0-------	Fluoranthene	0.5	U
129-00-0-------	Pyrene	0.5	U
56-55-3--------	Benzo(a)anthracene	0.5	U
218-01-9-------	Chrysene	0.5	U
205-99-2-------	Benzo(b)fluoranthene	0.5	U
207-08-9-------	Benzo(k)fluoranthene	0.5	U
50-32-8--------	Benzo(a)pyrene	0.5	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	0.5	U
53-70-3--------	Dibenz(a,h)anthracene	0.5	U
191-24-2-------	Benzo(g,h,i)perylene	0.5	U

FORM I SV-1

PNY4S

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311258

Data file: /chem/HP18831.i/13dec23.b/hl0803.d
Data file Sample Info. Line: PNY4S;7311258;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 30-Dec-2013 21:05 ceb05247

Injection date and time: **24-DEC-2013 02:10**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 30-DEC-2013 21:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.953(0.000)	852	152	132826 (-2)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	531257 (-2)	5.00	
78) Acenaphthene-d10	10.657(0.006)	1659	164	279804 (-4)	5.00	
113) Phenanthrene-d10	12.668(0.006)	2004	188	425078 (5)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	458490 (2)	5.00	
148) Perylene-d12	18.741(0.006)	3046	264	347078 (6)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	804777	20.718	83%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1474133	20.864	83%		63 - 121
129) Terphenyl-d14	(5)	14.783(0.000)	244	1286038	20.917	84%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)			Not Detected					0.03
76) Acenaphthylene	(3)			Not Detected					0.3
79) Acenaphthene	(3)			Not Detected					0.3
89) Fluorene	(3)			Not Detected					0.3
115) Phenanthrene	(4)			Not Detected					0.3
117) Anthracene	(4)			Not Detected					0.3
125) Fluoranthene	(4)			Not Detected					0.3
128) Pyrene	(5)			Not Detected					0.3
138) Benzo(a)anthracene	(5)			Not Detected					0.3
140) Chrysene	(5)			Not Detected					0.3
144) Benzo(b)fluoranthene	(6)			Not Detected					0.3
146) Benzo(k)fluoranthene	(6)			Not Detected					0.3
147) Benzo(a)pyrene	(6)			Not Detected					0.03
152) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.3
153) Dibenz(a,h)anthracene	(6)			Not Detected					0.3
154) Benzo(g,h,i)perylene	(6)			Not Detected					0.3

Digitally signed by Catherine E. Bachman on 12/30/2013 at 21:18. Target 3.5 esignature user ID: ceb05247

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/13dec23.b/hl0803.d
Injection date and time: **24-DEC-2013 02:10**
Data file Sample Info. Line: PNY4S;7311258;1;0;SAMPLE;;;
Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 30-Dec-2013 21:05 ceb05247

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 30-DEC-2013 21:01
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

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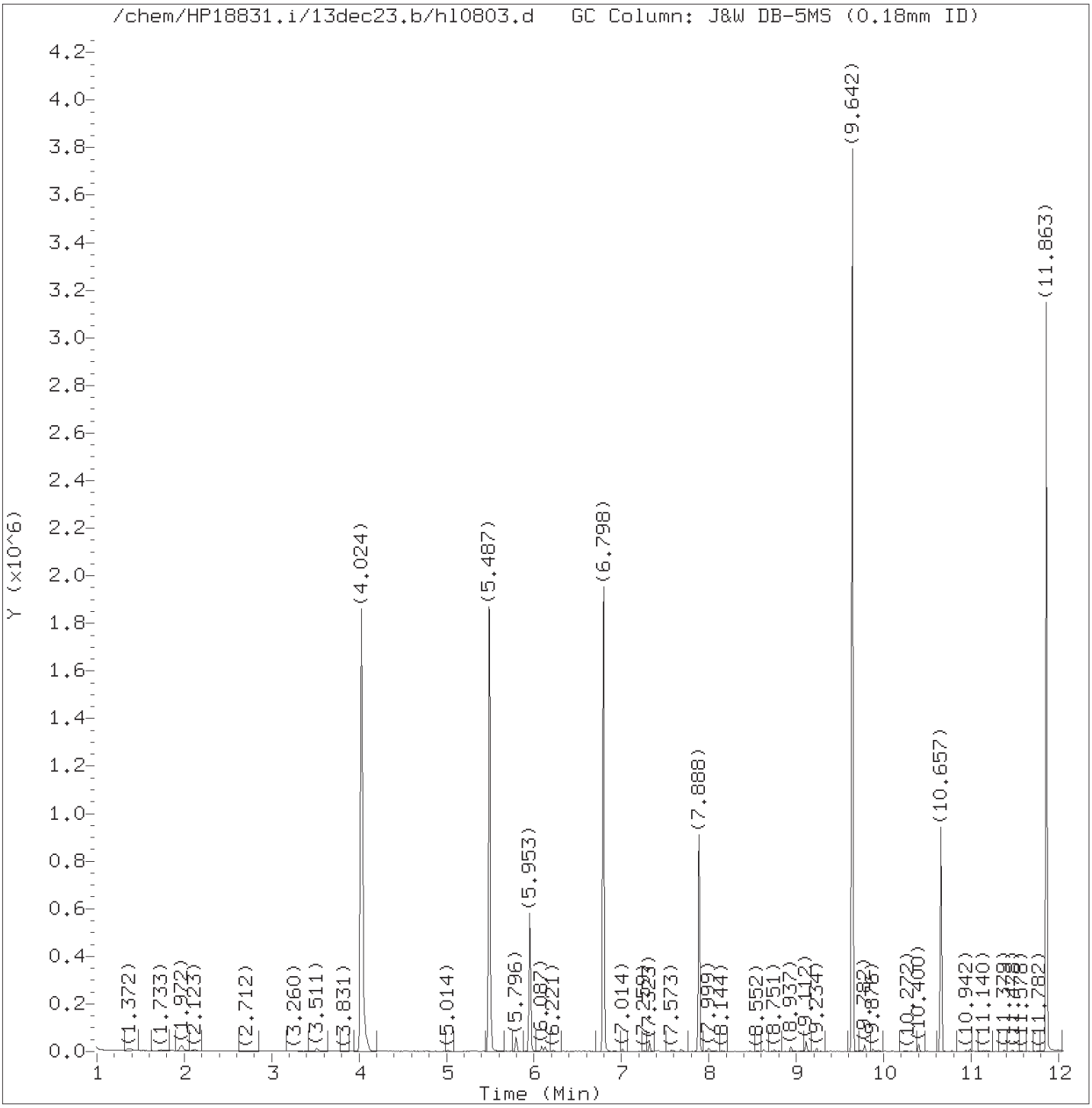
Total number of targets = 16

Digitally signed by Catherine E. Bachman on 12/30/2013 at 21:18. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

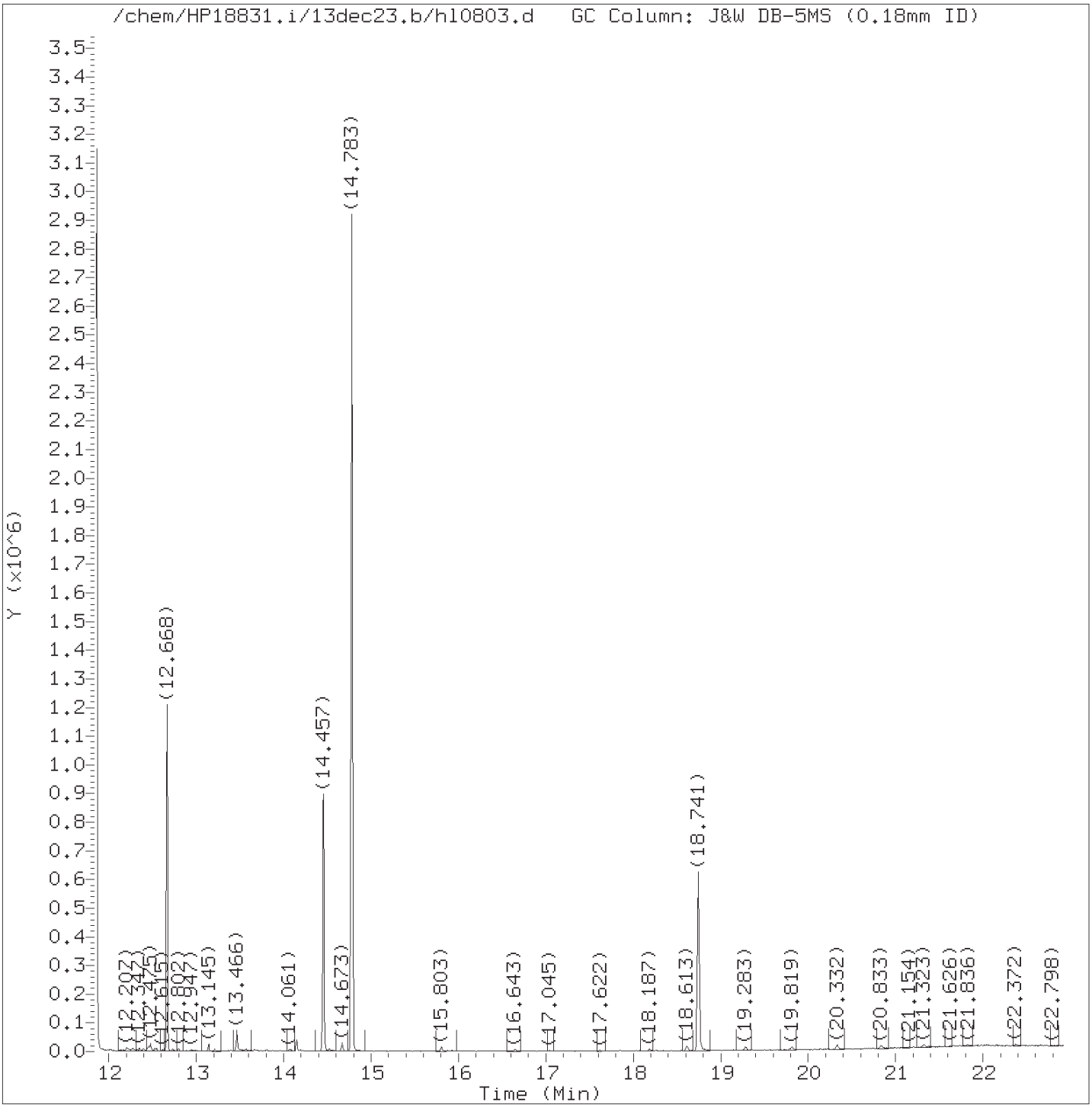
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0803.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 02:10 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:01
Date, time and analyst ID of latest file update: 30-Dec-2013 21:05 ceb05247

Sample Name: PNY4S Lab Sample ID: 7311258

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:18.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0803.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 02:10 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:01
Date, time and analyst ID of latest file update: 30-Dec-2013 21:05 ceb05247

Sample Name: PNY4S Lab Sample ID: 7311258

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:18.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0803.d Instrument ID: HP18831.i
Injection date and time: 24-DEC-2013 02:10 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:01
Date, time and analyst ID of latest file update: 30-Dec-2013 21:05 ceb05247

Sample Name: PNY4S Lab Sample ID: 7311258

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.953	152	132826	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	804777	20.718
44)*Naphthalene-d8	(2)	7.888	136	531257	5.000
63)$2-Fluorobiphenyl	(3)	9.642	172	1474133	20.864
78)*Acenaphthene-d10	(3)	10.657	164	279804	5.000
113)*Phenanthrene-d10	(4)	12.668	188	425078	5.000
127)*Pyrene-d10	(5)	14.457	212	458490	5.000
129)$Terphenyl-d14	(5)	14.783	244	1286038	20.917
148)*Perylene-d12	(6)	18.741	264	347078	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:18.
Target 3.5 esignature user ID: ceb05247

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNYM1

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311259

Sample wt/vol: 243 (g/mL)ML Lab File ID: hl0851.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/27/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	0.5	U
208-96-8-------	Acenaphthylene	0.5	U
83-32-9--------	Acenaphthene	0.5	U
86-73-7--------	Fluorene	0.5	U
85-01-8--------	Phenanthrene	0.5	U
120-12-7-------	Anthracene	0.5	U
206-44-0-------	Fluoranthene	0.5	U
129-00-0-------	Pyrene	0.5	U
56-55-3--------	Benzo(a)anthracene	0.5	U
218-01-9-------	Chrysene	0.5	U
205-99-2-------	Benzo(b)fluoranthene	0.5	U
207-08-9-------	Benzo(k)fluoranthene	0.5	U
50-32-8--------	Benzo(a)pyrene	0.5	U
193-39-5-------	Indeno(1,2,3-cd)pyrene	0.5	U
53-70-3--------	Dibenz(a,h)anthracene	0.5	U
191-24-2-------	Benzo(g,h,i)perylene	0.5	U

FORM I SV-1

PNYM1

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311259

Data file: /chem/HP18831.i/13dec26b.b/hl0851.d
Data file Sample Info. Line: PNYM1;7311259;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 30-Dec-2013 21:12 ceb05247

Injection date and time: **27-DEC-2013 03:45**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 30-DEC-2013 21:04
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec26b.b/hl0831.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 243 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.935(0.006)	849	152	147242 (7)	5.00	
44) Naphthalene-d8	7.871(0.000)	1181	136	609581 (12)	5.00	
78) Acenaphthene-d10	10.639(0.000)	1656	164	322419 (11)	5.00	
113) Phenanthrene-d10	12.650(0.006)	2001	188	487975 (13)	5.00	
127) Pyrene-d10	14.439(0.000)	2308	212	536801 (22)	5.00	
148) Perylene-d12	18.718(0.000)	3042	264	407983 (22)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.781(0.001)	82	927343	20.806	83%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.625(0.001)	172	1731997	21.274	85%		63 - 121
129) Terphenyl-d14	(5)	14.766(0.000)	244	1699211	23.605	94%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)			Not Detected					0.03
76) Acenaphthylene	(3)			Not Detected					0.3
79) Acenaphthene	(3)			Not Detected					0.3
89) Fluorene	(3)			Not Detected					0.3
115) Phenanthrene	(4)			Not Detected					0.3
117) Anthracene	(4)			Not Detected					0.3
125) Fluoranthene	(4)			Not Detected					0.3
128) Pyrene	(5)			Not Detected					0.3
138) Benzo(a)anthracene	(5)			Not Detected					0.3
140) Chrysene	(5)			Not Detected					0.3
144) Benzo(b)fluoranthene	(6)			Not Detected					0.3
146) Benzo(k)fluoranthene	(6)			Not Detected					0.3
147) Benzo(a)pyrene	(6)			Not Detected					0.03
152) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.3
153) Dibenz(a,h)anthracene	(6)			Not Detected					0.3
154) Benzo(g,h,i)perylene	(6)			Not Detected					0.3

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/13dec26b.b/hl0851.d
Injection date and time: **27-DEC-2013 03:45**
Data file Sample Info. Line: PNYM1;7311259;1;0;SAMPLE;;;
Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 30-Dec-2013 21:12 ceb05247

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 30-DEC-2013 21:04
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec26b.b/hl0831.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 243 ml Volume Injected (Vi): 0.5 ul

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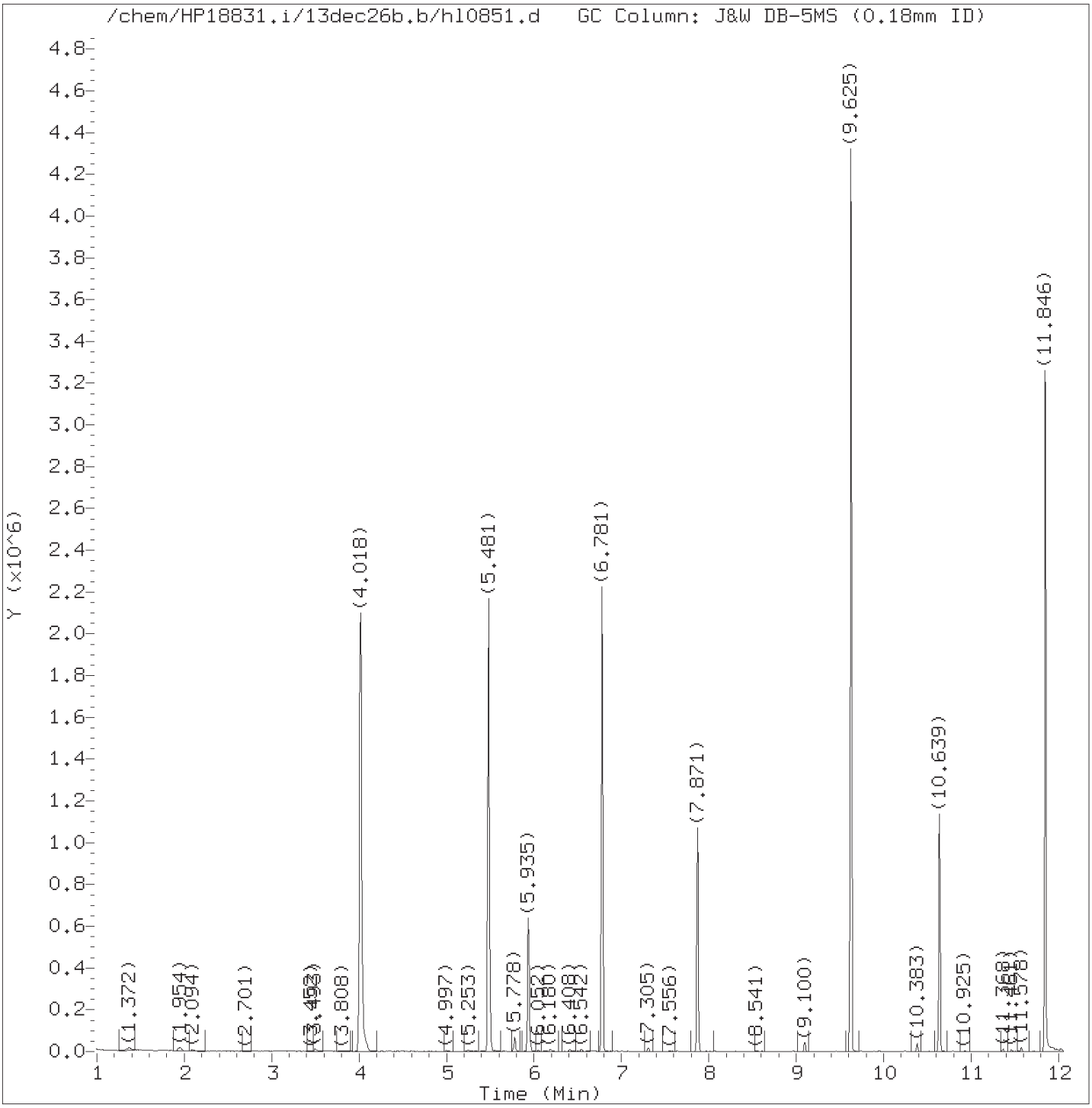
Total number of targets = 16

Digitally signed by Catherine E. Bachman on 12/30/2013 at 21:13. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

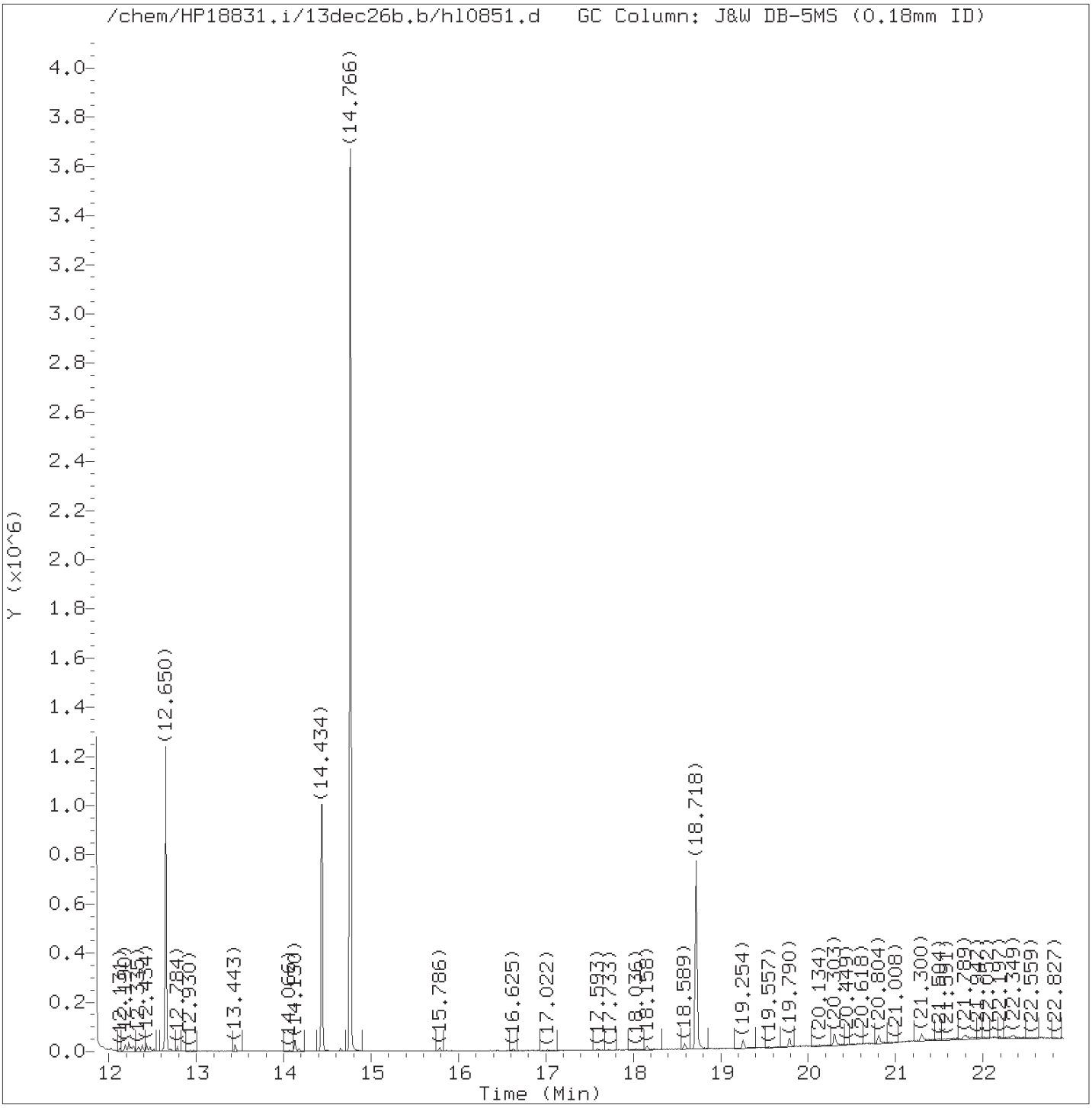
Target Revision 3.5

Data File: /chem/HP18831.i/13dec26b.b/hl0851.d Instrument ID: HP18831.i
Injection date and time: 27-DEC-2013 03:45 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:04
Date, time and analyst ID of latest file update: 30-Dec-2013 21:12 ceb05247

Sample Name: PNYM1 Lab Sample ID: 7311259

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:13.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec26b.b/hl0851.d Instrument ID: HP18831.i
Injection date and time: 27-DEC-2013 03:45 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:04
Date, time and analyst ID of latest file update: 30-Dec-2013 21:12 ceb05247

Sample Name: PNYM1 Lab Sample ID: 7311259

Digitally signed by Catherine E. Bachman
on 12/30/2013 at 21:13.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec26b.b/hl0851.d Instrument ID: HP18831.i
Injection date and time: 27-DEC-2013 03:45 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 30-DEC-2013 21:04
Date, time and analyst ID of latest file update: 30-Dec-2013 21:12 ceb05247

Sample Name: PNYM1 Lab Sample ID: 7311259

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.935	152	147242	5.000
33)$Nitrobenzene-d5	(2)	6.781	82	927343	20.806
44)*Naphthalene-d8	(2)	7.871	136	609581	5.000
63)$2-Fluorobiphenyl	(3)	9.625	172	1731997	21.274
78)*Acenaphthene-d10	(3)	10.639	164	322419	5.000
113)*Phenanthrene-d10	(4)	12.650	188	487975	5.000
127)*Pyrene-d10	(5)	14.439	212	536801	5.000
129)$Terphenyl-d14	(5)	14.766	244	1699211	23.605
148)*Perylene-d12	(6)	18.718	264	407983	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 12/30/2013 at 21:13.
Target 3.5 esignature user ID: ceb05247

Standards Data

Semivolatiles by GC/MS

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP18831 **HP #08**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: CEB 11/16/13

Comment Code:

R	=	Reinjection necessary	X	=	Sample sent to be reextracted
S	=	Surrogate problem	I	=	Internal Standard problem
NU	=	Not used	F	=	Further dilution required
MR	=	Meets requirements	IUO	=	Internal use only
Cz	=	Confirms z, (z = I or X)	T	=	Injected outside valid tune period

Other problems or comments are as follows:

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Data Directory Path is - C:\msdchem\1\data\13nov16a\

ALS Btl #	Laboratory File ID	Client ID	Lab Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	HK0620.D	DFTPP50	DFTPP2843	16 Nov 2013	14:39			mr
2	HK0621.D	SSTD7.5	STD3173	16 Nov 2013	14:53			mr
3	HK0622.D	SSTD0.125	STD3173	16 Nov 2013	15:22			mr
4	HK0623.D	SSTD30	STD3173	16 Nov 2013	15:51			mr
5	HK0624.D	SSTD0.25	STD3173	16 Nov 2013	16:20			mr
6	HK0625.D	SSTD1.25	STD3173	16 Nov 2013	16:50			mr
7	HK0626.D	SSTD3.75	STD3173	16 Nov 2013	17:19			mr
8	HK0627.D	SSTD12.5	STD3173	16 Nov 2013	17:48			mr
9	HK0628.D	SSTD20	STD3173	16 Nov 2013	18:17			mr
3	HK0629.D	SSTD0.125	STD3173	16 Nov 2013	18:46			mr
10	HK0630.D	SSTD0.025	STD3173	16 Nov 2013	19:15			mr
11	HK0631.D	SSTD0.025	ICV2463	16 Nov 2013	19:44			mr
12	HK0632.D	SSTD0.025	BASICV2463	16 Nov 2013	20:13			mr
13	HK0633.D	SSTD3.75	PDA2843	16 Nov 2013	20:42			mr
14	HK0634.D	SSTD7.5	PDA2843	16 Nov 2013	21:11			mr
15	HK0635.D	SSTD12.5	PDA2843	16 Nov 2013	21:40			mr
16	HK0636.D	SSTD20	PDA2843	16 Nov 2013	22:10			mr
17	HK0637.D	SSTD30	PDA2843	16 Nov 2013	22:39			mr

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP18831 **HP #08**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: CEB 5247 *

Comment Code:

R	=	Reinjection necessary	X	=	Sample sent to be reextracted
S	=	Surrogate problem	I	=	Internal Standard problem
NU	=	Not used	F	=	Further dilution required
MR	=	Meets requirements	IUO	=	Internal use only
Cz	=	Confirms z, (z = I or X)	T	=	Injected outside valid tune period

Other problems or comments are as follows:

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Data Directory Path is - C:\msdchem\1\data\13dec23\

ALS Btl #	Laboratory File ID	Client ID	Lab Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	HL0780.D	DFTPP	DFTPP3433	23 Dec 2013	14:24			mr
2	HL0781.D	SSTD12.5	STD3173	23 Dec 2013	14:42			nu
2	HL0781z.D	SSTD12.5	STD3173	23 Dec 2013	15:17			mr
3	HL0782.D	SSTD12.5	PDA2843	23 Dec 2013	15:54			mr
4	HL0783.D	SSTD12.5	FAD3543	23 Dec 2013	16:28			mr
5	HL0784.D	SSTD60	KEP2053	23 Dec 2013	16:57			mr
3	HL0785.D	SBLKWJ3488	SBLKWJ348	23 Dec 2013	17:28	13348WAJ		mr
4	HL0786.D	348WJLCS8	348WJLCS	23 Dec 2013	17:57	13348WAJ		mr
5	HL0787.D	PNY7D	7311249	23 Dec 2013	18:26	13348WAJ		mr
6	HL0788.D	PNY7DMS	7311250	23 Dec 2013	18:55	13348WAJ		mr
7	HL0789.D	PNY7DMSD	7311251	23 Dec 2013	19:24	13348WAJ		mr
8	HL0790.D	SBLKWK3548	SBLKWK354	23 Dec 2013	19:53	13354WAK		mr
9	HL0791.D	354WKLCS8	354WKLCS	23 Dec 2013	20:22	13354WAK		mr
10	HL0792.D	LIV03	7319021	23 Dec 2013	20:51	13354WAK		mr
11	HL0793.D	LIV03MS	7319022	23 Dec 2013	21:19	13354WAK		mr
12	HL0794.D	LIV03MSD	7319023	23 Dec 2013	21:48	13354WAK		mr
13	HL0795.D	CCWM2	7310405	23 Dec 2013	22:18	13348WAJ		mr,f10
14	HL0796.D	WBMDT	7311247	23 Dec 2013	22:47	13348WAJ		mr
15	HL0797.D	PNY7S	7311252	23 Dec 2013	23:16	13348WAJ		mr
16	HL0798.D	PNYFD	7311253	23 Dec 2013	23:45	13348WAJ		mr
17	HL0799.D	PNY8S	7311254	24 Dec 2013	00:14	13348WAJ		mr
18	HL0800.D	PNY8D	7311255	24 Dec 2013	00:43	13348WAJ		mr
19	HL0801.D	PNYFB	7311256	24 Dec 2013	01:12	13348WAJ		mr
20	HL0802.D	PNY4D	7311257	24 Dec 2013	01:41	13348WAJ		mr
21	HL0803.D	PNY4S	7311258	24 Dec 2013	02:10	13348WAJ		mr
22	HL0804.D	PNYM1	7311259	24 Dec 2013	02:40	13348WAJ		t
23	HL0805.D	GMLLCDL	7314157DL	24 Dec 2013	03:09	13353WAA	20	t
24	HL0806.D	LIV01	7319019	24 Dec 2013	03:38	13354WAK		t
25	HL0807.D	LIV02	7319020	24 Dec 2013	04:07	13354WAK		t
26	HL0808.D	LIV04	7319024	24 Dec 2013	04:36	13354WAK		t

Lancaster Laboratories
Semi-Volatiles

Runlog for Hewlett Packard GC/MS System HP18831 **HP #08**

*** Shift #1 Analyst:_____ *** Shift #2 Analyst: CEB5247 *

Comment Code:

R	=	Reinjection necessary	X	=	Sample sent to be reextracted
S	=	Surrogate problem	I	=	Internal Standard problem
NU	=	Not used	F	=	Further dilution required
MR	=	Meets requirements	IUO	=	Internal use only
Cz	=	Confirms z, (z = I or X)	T	=	Injected outside valid tune period

Other problems or comments are as follows:

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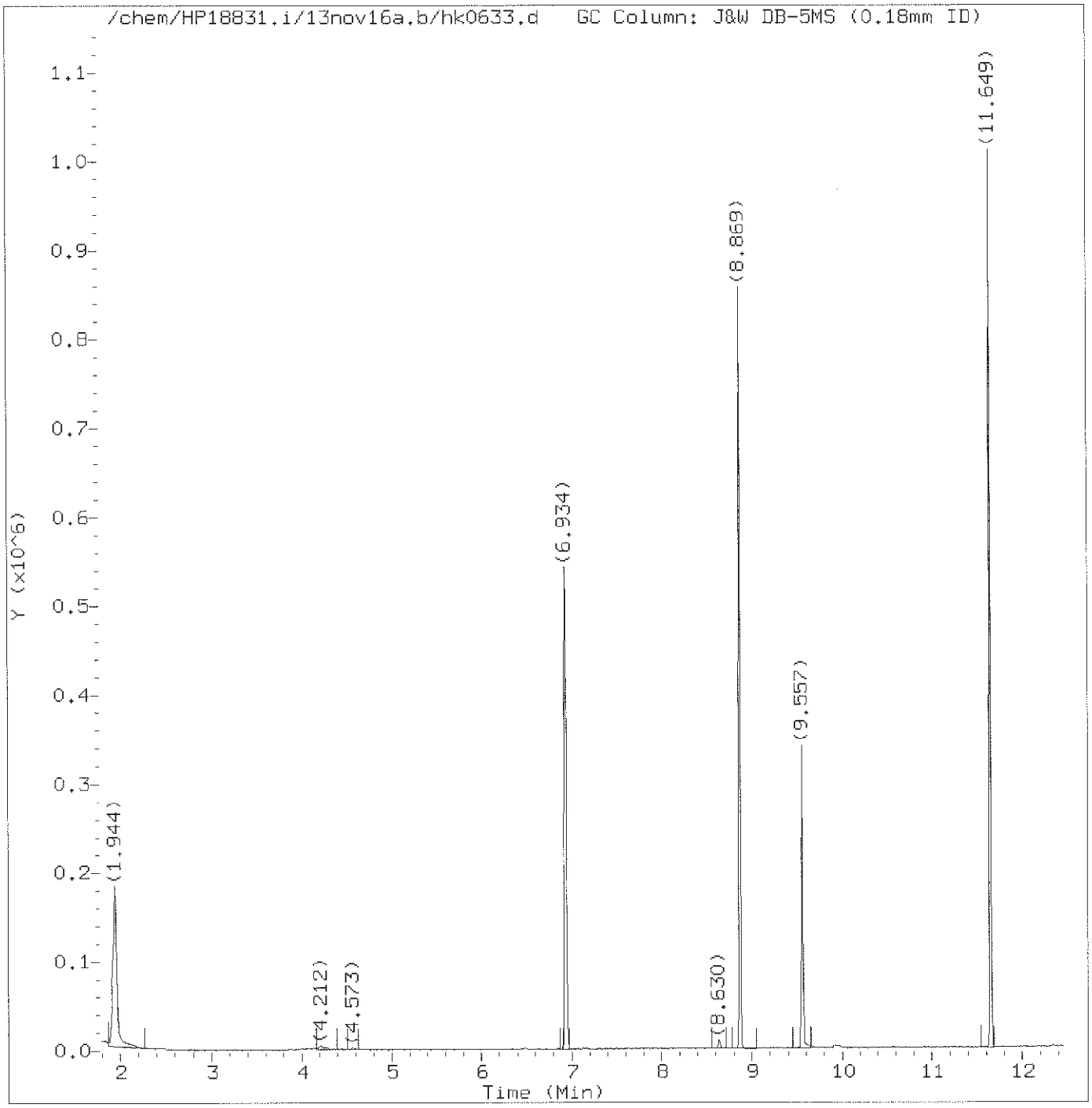
*
*
*

Data Directory Path is - C:\msdchem\1\data\13dec26b\

ALS Btl #	Laboratory File ID	Client ID	Lab Sample ID	Date injected	Time injected	Case and SDG Number or Extraction Batch Number	Dilution Factor	Comments
1	HL0830.D	DFTPP50	DFTPP3433	26 Dec 2013	17:32			mr
2	HL0831.D	SSTD12.5	STD3173	26 Dec 2013	17:48			mr
3	HL0832.D	SSTD12.5	PDA2843	26 Dec 2013	18:19			mr
4	HL0833.D	SSTD12.5	FAD3543	26 Dec 2013	18:48			mr
5	HL0834.D	SSTD60	KEP2053	26 Dec 2013	19:17			mr
3	HL0835.D	SBLKWP3548	SBLKWP354	26 Dec 2013	19:55	13354WAP		mr
4	HL0836.D	354WPLCS8	354WPLCS	26 Dec 2013	20:30	13354WAP		mr
5	HL0837.D	ROA04	7320601	26 Dec 2013	20:59	13354WAP		mr
6	HL0838.D	ROA04MS	7320602	26 Dec 2013	21:28	13354WAP		mr
7	HL0839.D	ROA04MSD	7320603	26 Dec 2013	21:57	13354WAP		mr
8	HL0840.D	LIV01	7319019	26 Dec 2013	22:27	13354WAK		mr
9	HL0841.D	LIV02	7319020	26 Dec 2013	22:55	13354WAK		mr
10	HL0842.D	LIV04	7319024	26 Dec 2013	23:25	13354WAK		mr
11	HL0843.D	ROA01	7320599	26 Dec 2013	23:54	13354WAP		mr
12	HL0844.D	ROA03	7320600	27 Dec 2013	00:22	13354WAP		s,x
13	HL0845.D	ROA06	7320604	27 Dec 2013	00:51	13354WAP		mr
14	HL0846.D	ROA07	7320605	27 Dec 2013	01:20	13354WAP		mr
15	HL0847.D	ROA09	7320606	27 Dec 2013	01:49	13354WAP		mr
16	HL0848.D	ROA19	7320616	27 Dec 2013	02:18	13354WAP		mr
17	HL0849.D	GMLLCDL	7314157DL	27 Dec 2013	02:48	13353WAA	20	mr
18	HL0850.D	CCWM2DL	7310405DL	27 Dec 2013	03:17	13348WAJ	10	mr
19	HL0851.D	PNYM1	7311259	27 Dec 2013	03:45	13348WAJ		mr
20	HL0852.D	27-01	7320471	27 Dec 2013	04:14	13354WAP		mr



Total Ion Chromatogram (TIC)

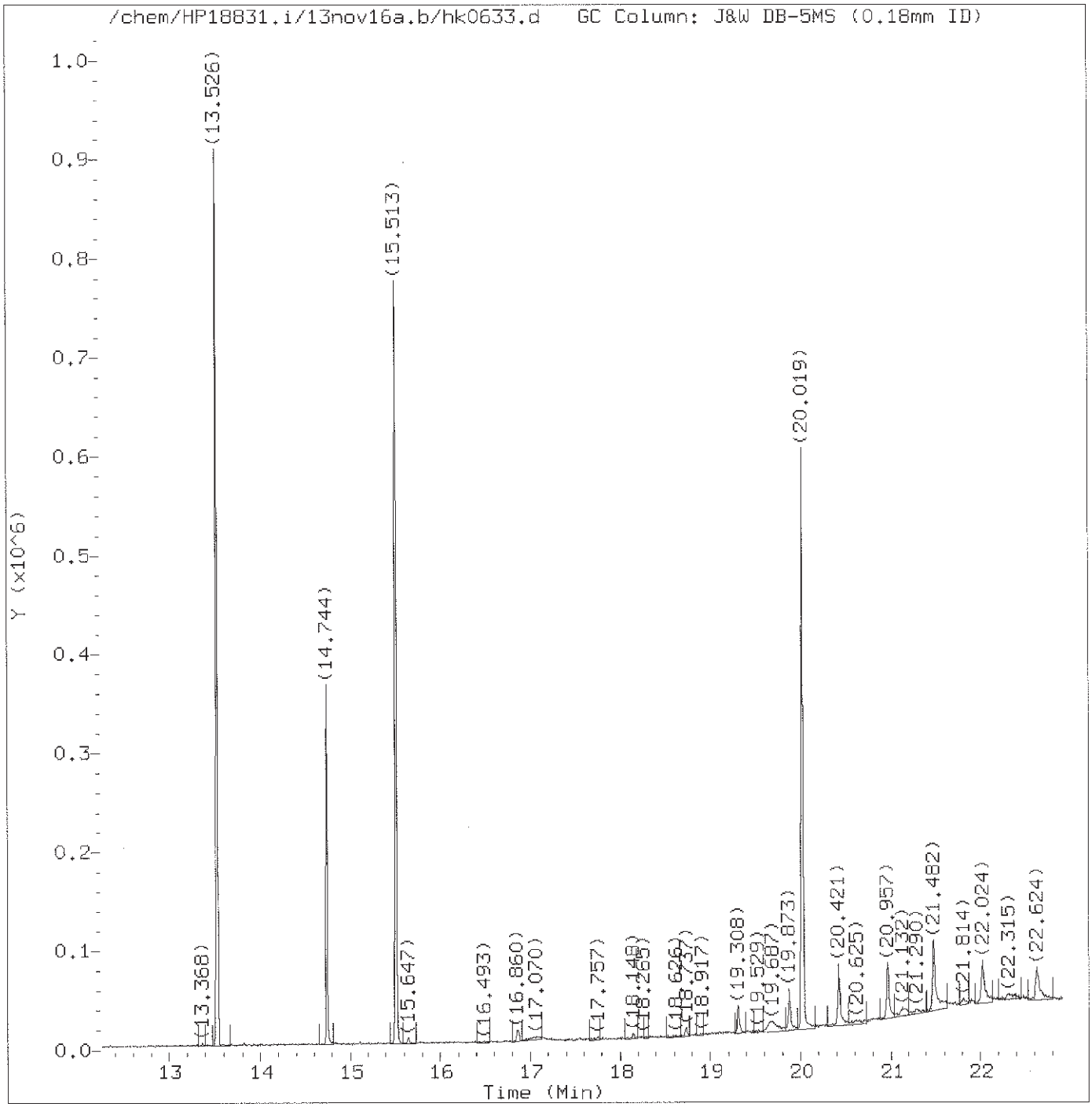
Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0633.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 20:42 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 21:14
Date, time and analyst ID of latest file update: 16-Nov-2013 21:14 Automation

Sample Name: SSTD3.75 Lab Sample ID: PDA2843

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:35.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0633.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 20:42 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 21:14
Date, time and analyst ID of latest file update: 16-Nov-2013 21:14 Automation

Sample Name: SSTD3.75 Lab Sample ID: PDA2843

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:35.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0633.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 20:42 Analyst ID: ceb05247

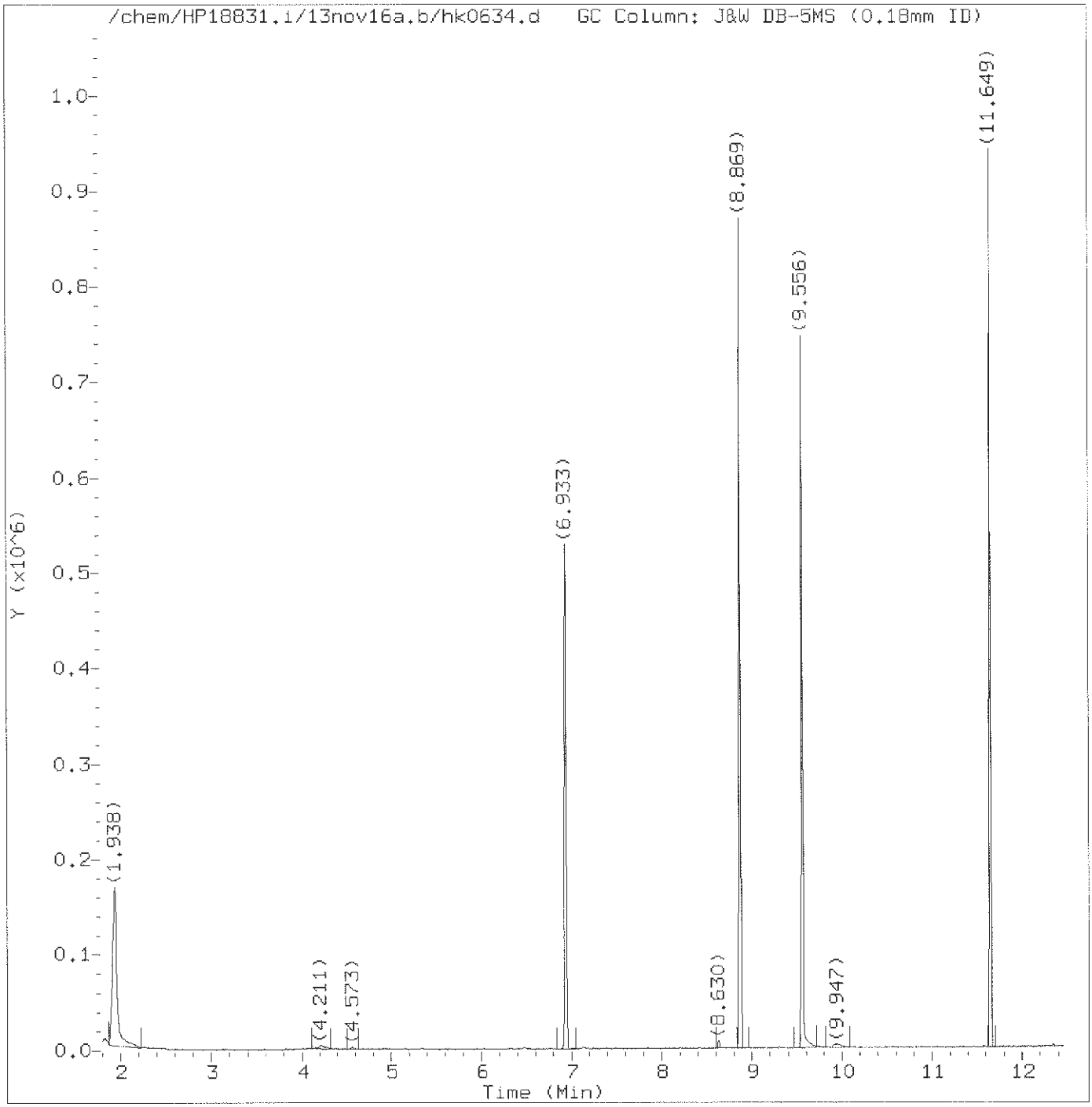
Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 21:14
Date, time and analyst ID of latest file update: 16-Nov-2013 21:14 Automation

Sample Name: SSTD3.75 Lab Sample ID: PDA2843

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	6.934	152	122577	5.000
44)*Naphthalene-d8	(2)	8.869	136	499233	5.000
52) 1,4-Phenylenediamine	(2)	9.557	108	144953	3.750
78)*Acenaphthene-d10	(3)	11.649	164	245231	5.000
113)*Phenanthrene-d10	(4)	13.526	188	361568	5.000
123) Methapyrilene	(4)	14.744	97	78957	3.750
127)*Pyrene-d10	(5)	15.513	212	387354	5.000
148)*Perylene-d12	(6)	20.019	264	284666	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:35.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

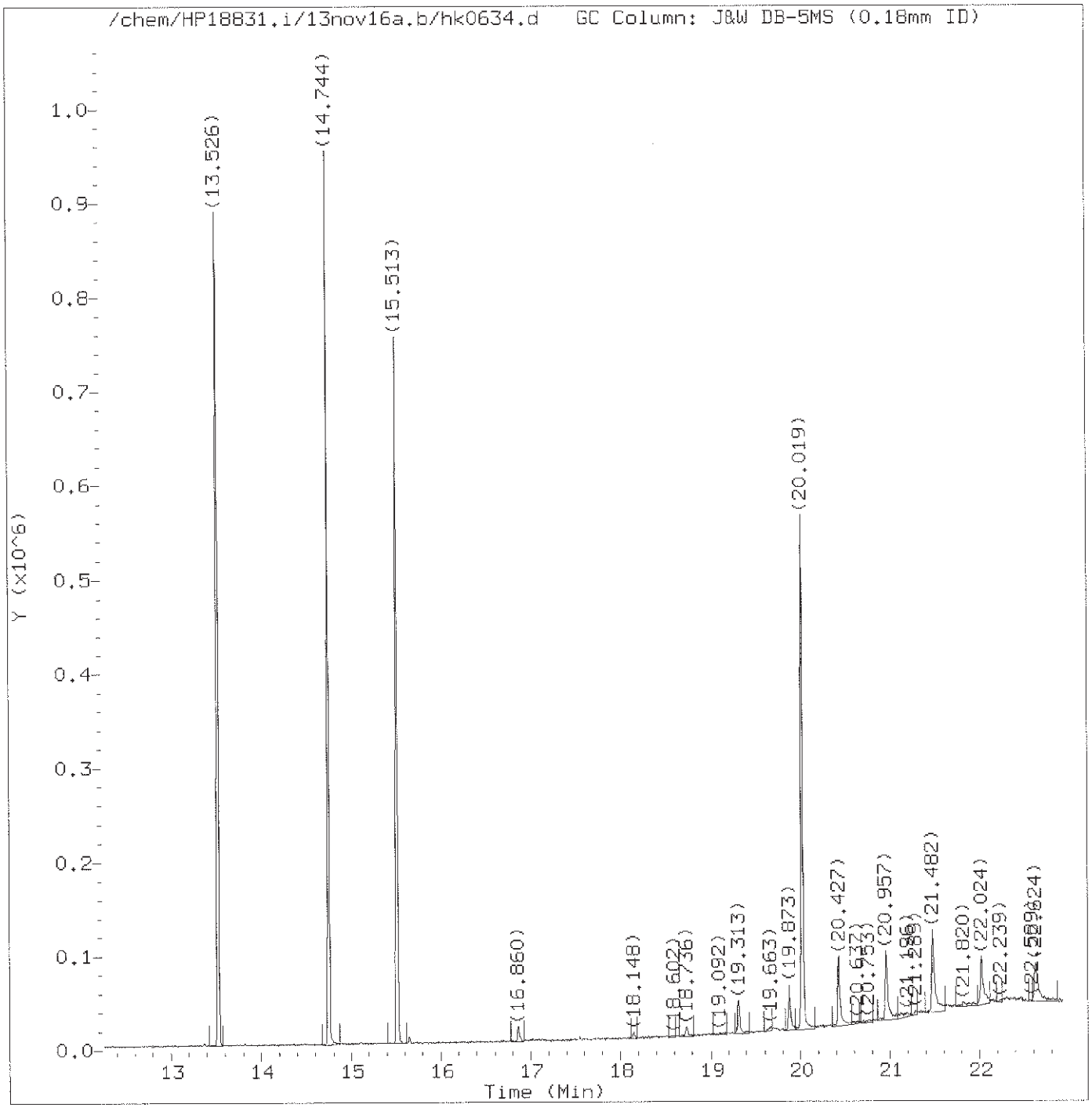
Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0634.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 21:11 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 21:43
Date, time and analyst ID of latest file update: 16-Nov-2013 21:43 Automation

Sample Name: SSTD7.5 Lab Sample ID: PDA2843

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:35.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0634.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 21:11 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 21:43
Date, time and analyst ID of latest file update: 16-Nov-2013 21:43 Automation

Sample Name: SSTD7.5 Lab Sample ID: PDA2843

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:35.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0634.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 21:11 Analyst ID: ceb05247

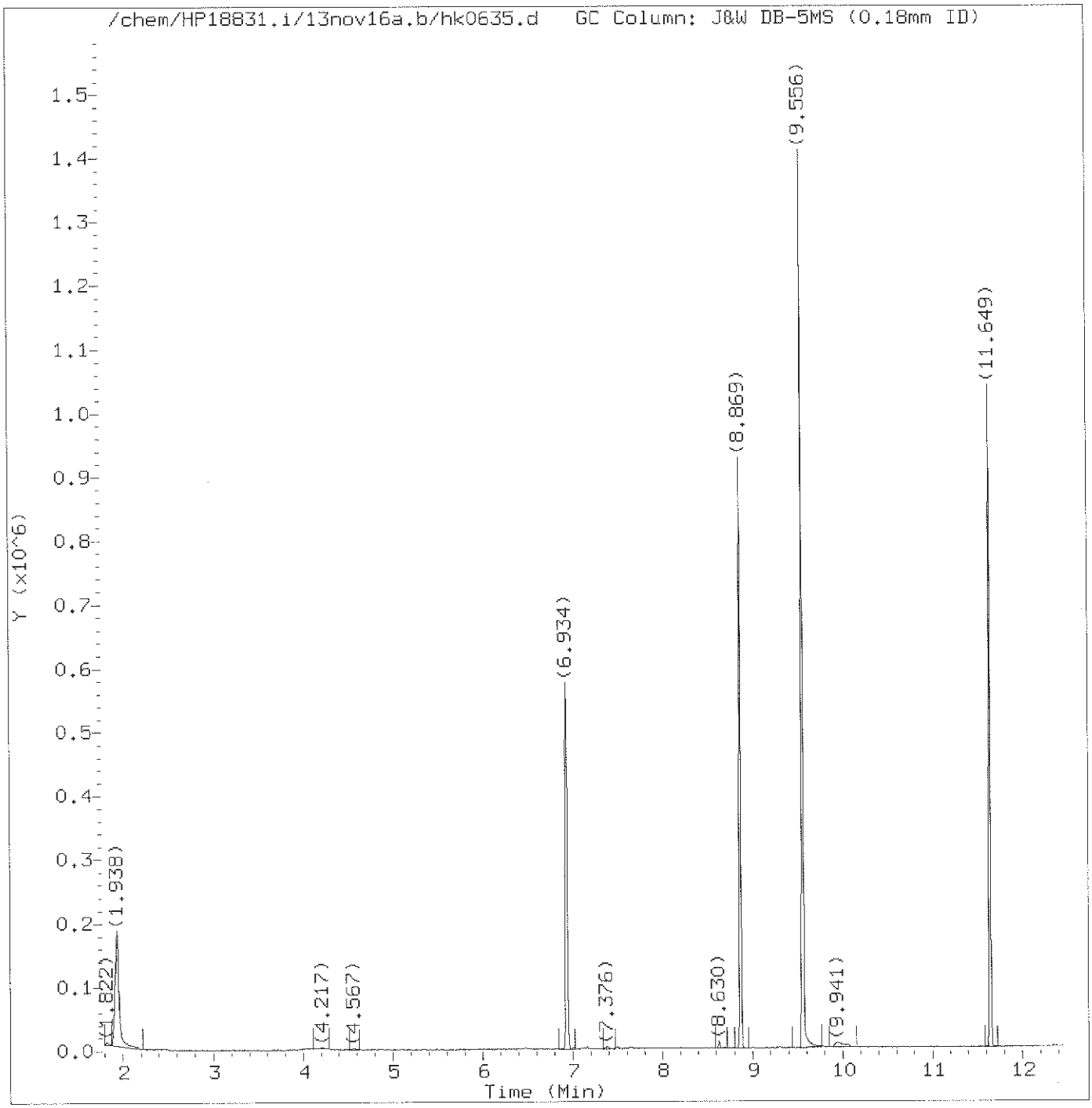
Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 21:43
Date, time and analyst ID of latest file update: 16-Nov-2013 21:43 Automation

Sample Name: SSTD7.5 Lab Sample ID: PDA2843

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	6.933	152	119729	5.000
44)*Naphthalene-d8	(2)	8.869	136	495216	5.000
52) 1,4-Phenylenediamine	(2)	9.556	108	313343	7.822
78)*Acenaphthene-d10	(3)	11.649	164	241846	5.000
113)*Phenanthrene-d10	(4)	13.526	188	355621	5.000
123) Methapyrilene	(4)	14.744	97	196355	8.375
127)*Pyrene-d10	(5)	15.519	212	381049	5.000
148)*Perylene-d12	(6)	20.019	264	276770	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:35.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

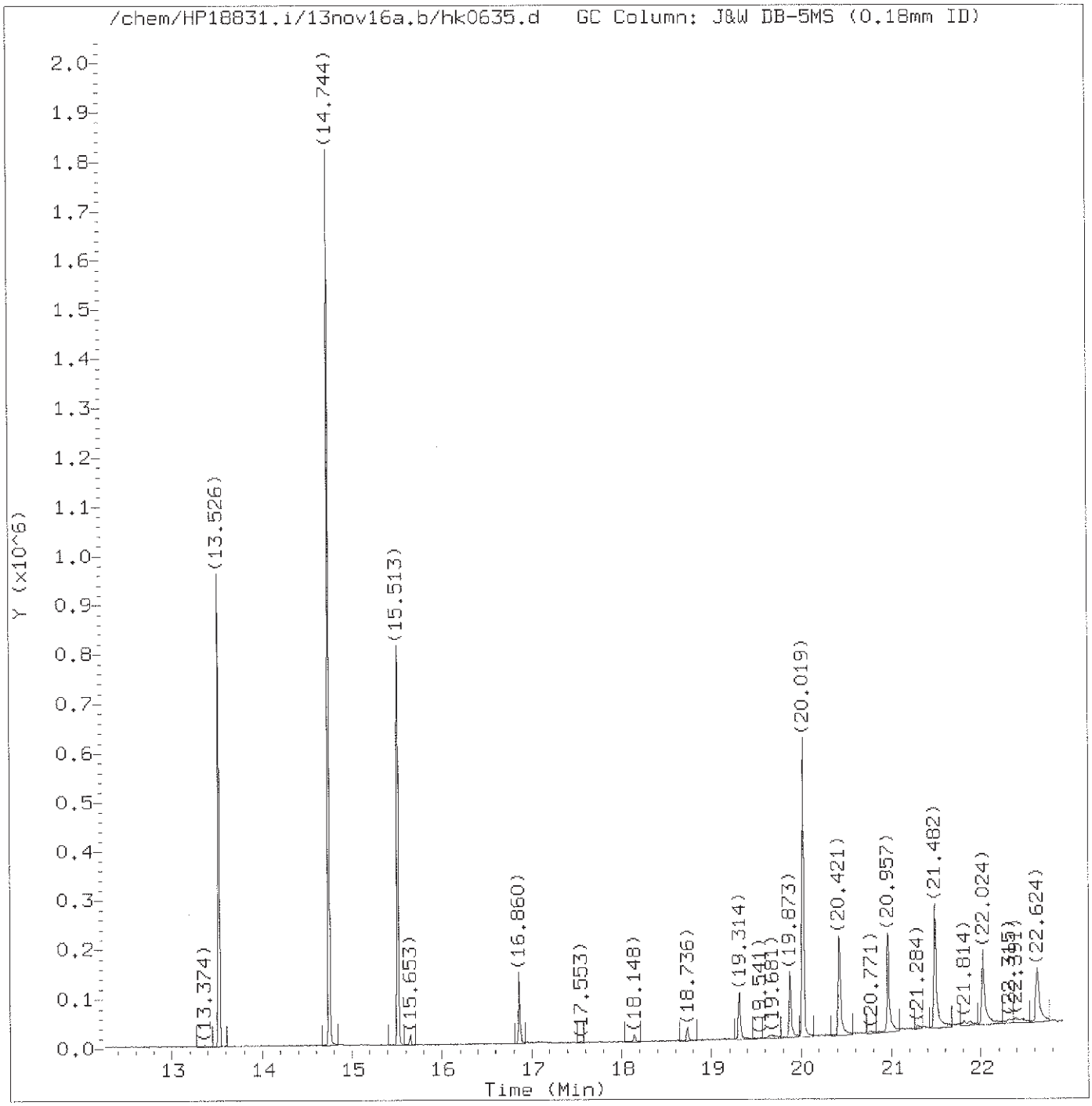
Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0635.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 21:40 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 22:12
Date, time and analyst ID of latest file update: 16-Nov-2013 22:12 Automation

Sample Name: SSTD12.5 Lab Sample ID: PDA2843

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:36.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0635.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 21:40 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 22:12
Date, time and analyst ID of latest file update: 16-Nov-2013 22:12 Automation

Sample Name: SSTD12.5 Lab Sample ID: PDA2843

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:36.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0635.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 21:40 Analyst ID: ceb05247

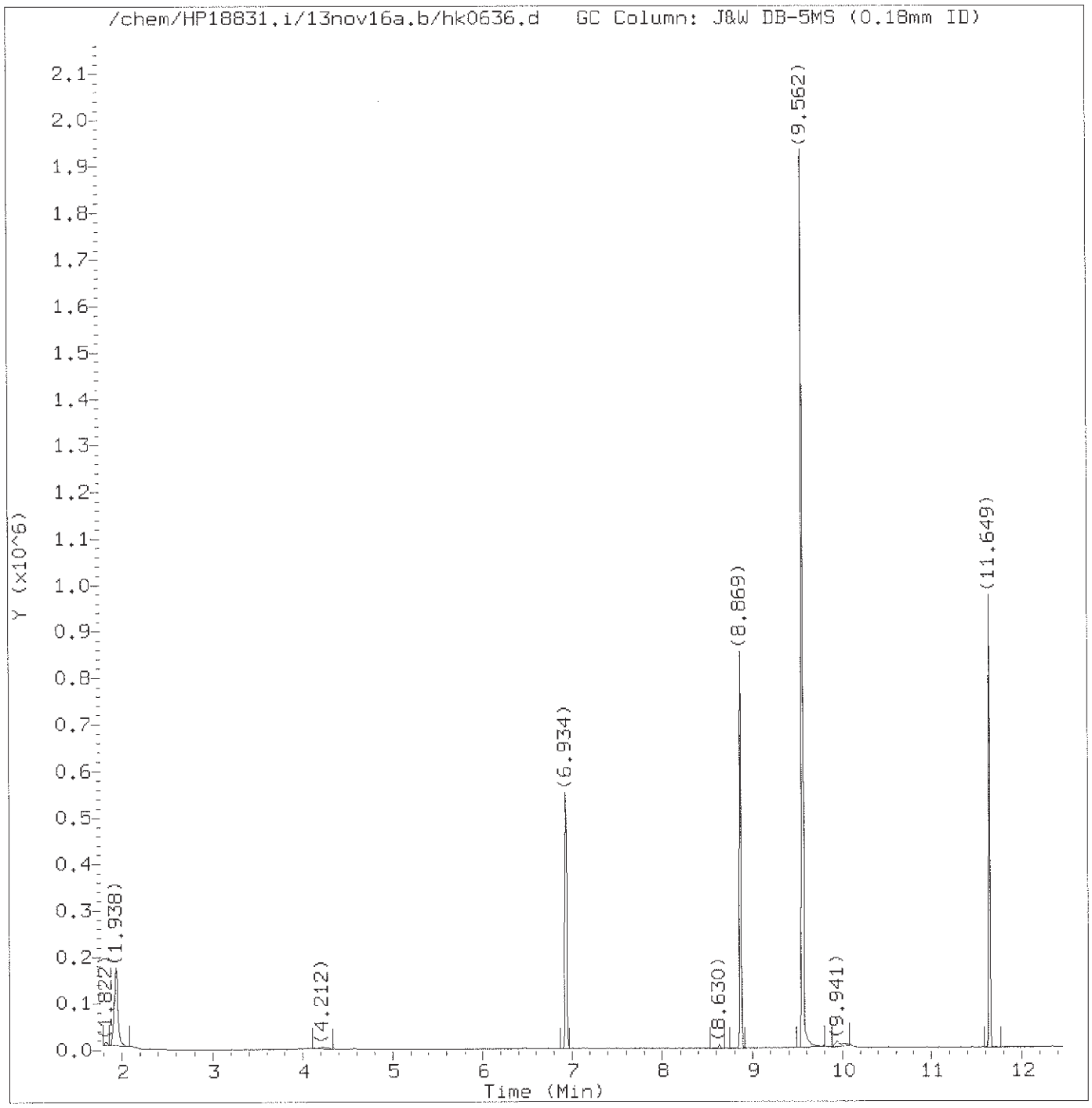
Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 22:12
Date, time and analyst ID of latest file update: 16-Nov-2013 22:12 Automation

Sample Name: SSTD12.5 Lab Sample ID: PDA2843

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	6.934	152	128610	5.000
44)*Naphthalene-d8	(2)	8.869	136	529378	5.000
52) 1,4-Phenylenediamine	(2)	9.556	108	581654	13.201
78)*Acenaphthene-d10	(3)	11.649	164	261036	5.000
113)*Phenanthrene-d10	(4)	13.526	188	384539	5.000
123) Methapyrilene	(4)	14.744	97	383025	14.126
127)*Pyrene-d10	(5)	15.519	212	412549	5.000
148)*Perylene-d12	(6)	20.019	264	304372	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:36.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

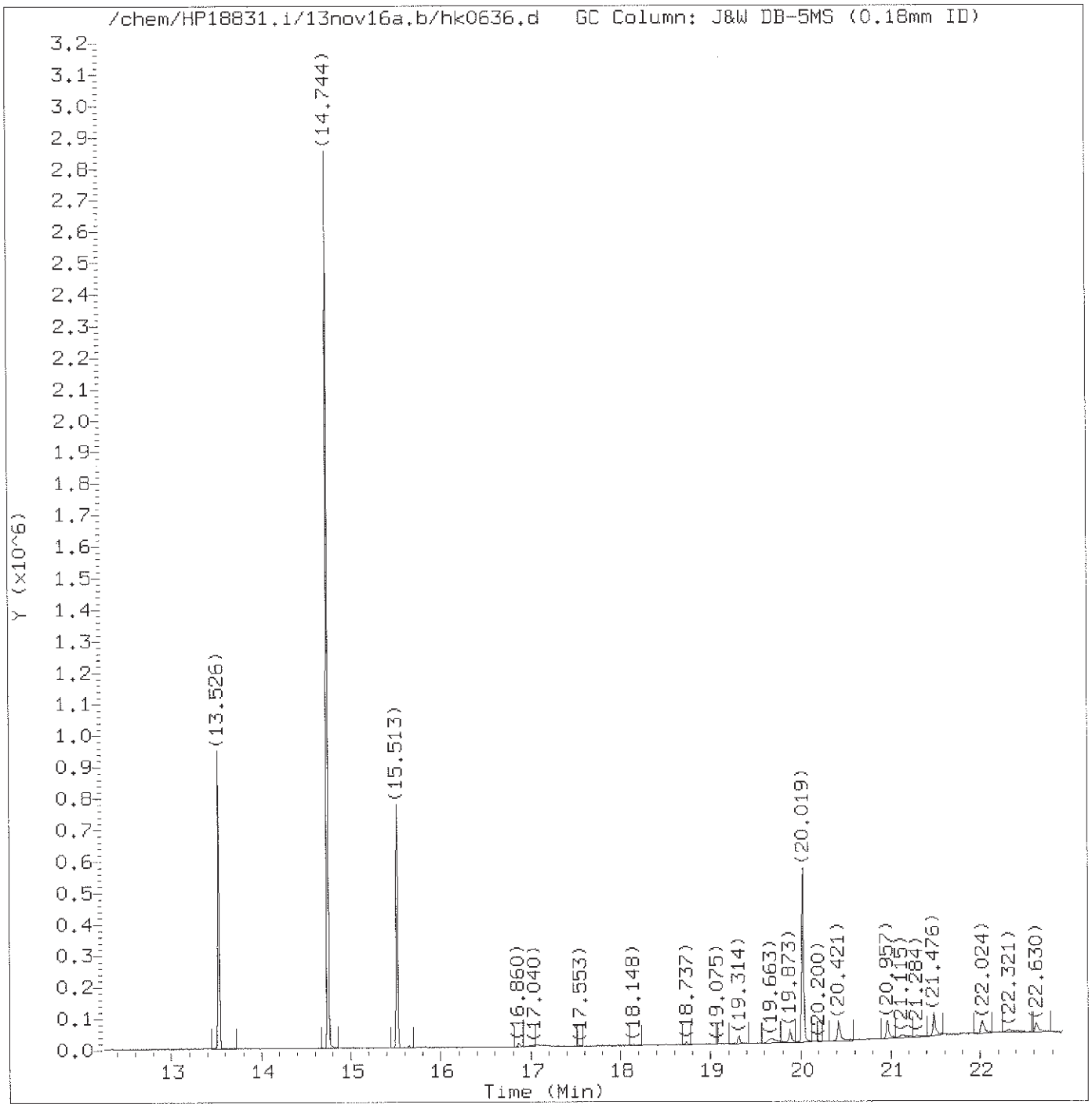
Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0636.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 22:10 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 22:42
Date, time and analyst ID of latest file update: 16-Nov-2013 22:42 Automation

Sample Name: SSTD20 Lab Sample ID: PDA2843

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:36.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0636.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 22:10 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 22:42
Date, time and analyst ID of latest file update: 16-Nov-2013 22:42 Automation

Sample Name: SSTD20 Lab Sample ID: PDA2843

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:36.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0636.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 22:10 Analyst ID: ceb05247

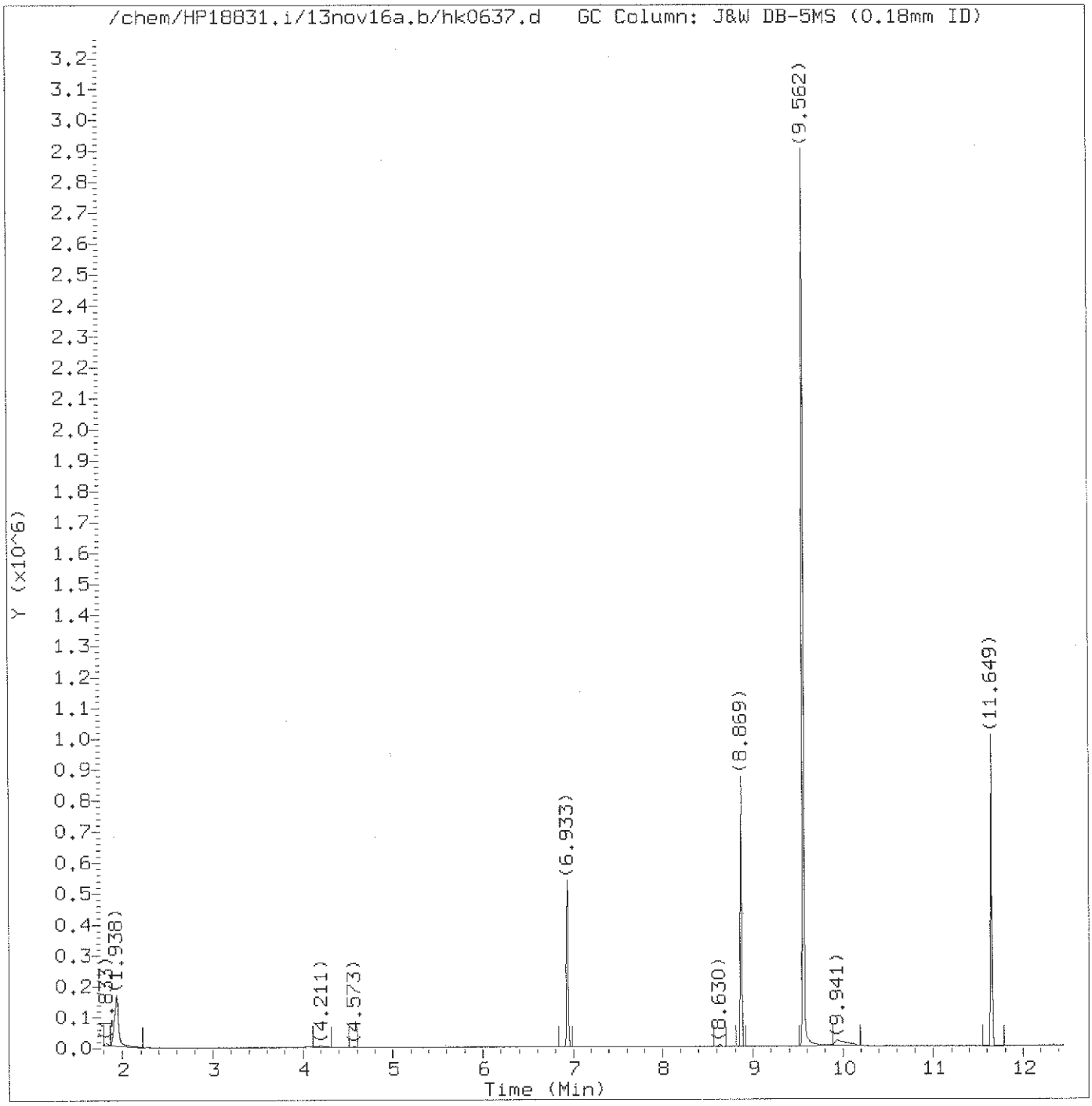
Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 22:42
Date, time and analyst ID of latest file update: 16-Nov-2013 22:42 Automation

Sample Name: SSTD20 Lab Sample ID: PDA2843

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	6.934	152	119771	5.000
44)*Naphthalene-d8	(2)	8.869	136	494751	5.000
52) 1,4-Phenylenediamine	(2)	9.562	108	912232	21.572
78)*Acenaphthene-d10	(3)	11.649	164	247905	5.000
113)*Phenanthrene-d10	(4)	13.526	188	364669	5.000
123) Methapyrilene	(4)	14.744	97	603879	22.504
127)*Pyrene-d10	(5)	15.513	212	388098	5.000
148)*Perylene-d12	(6)	20.019	264	283175	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:36.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

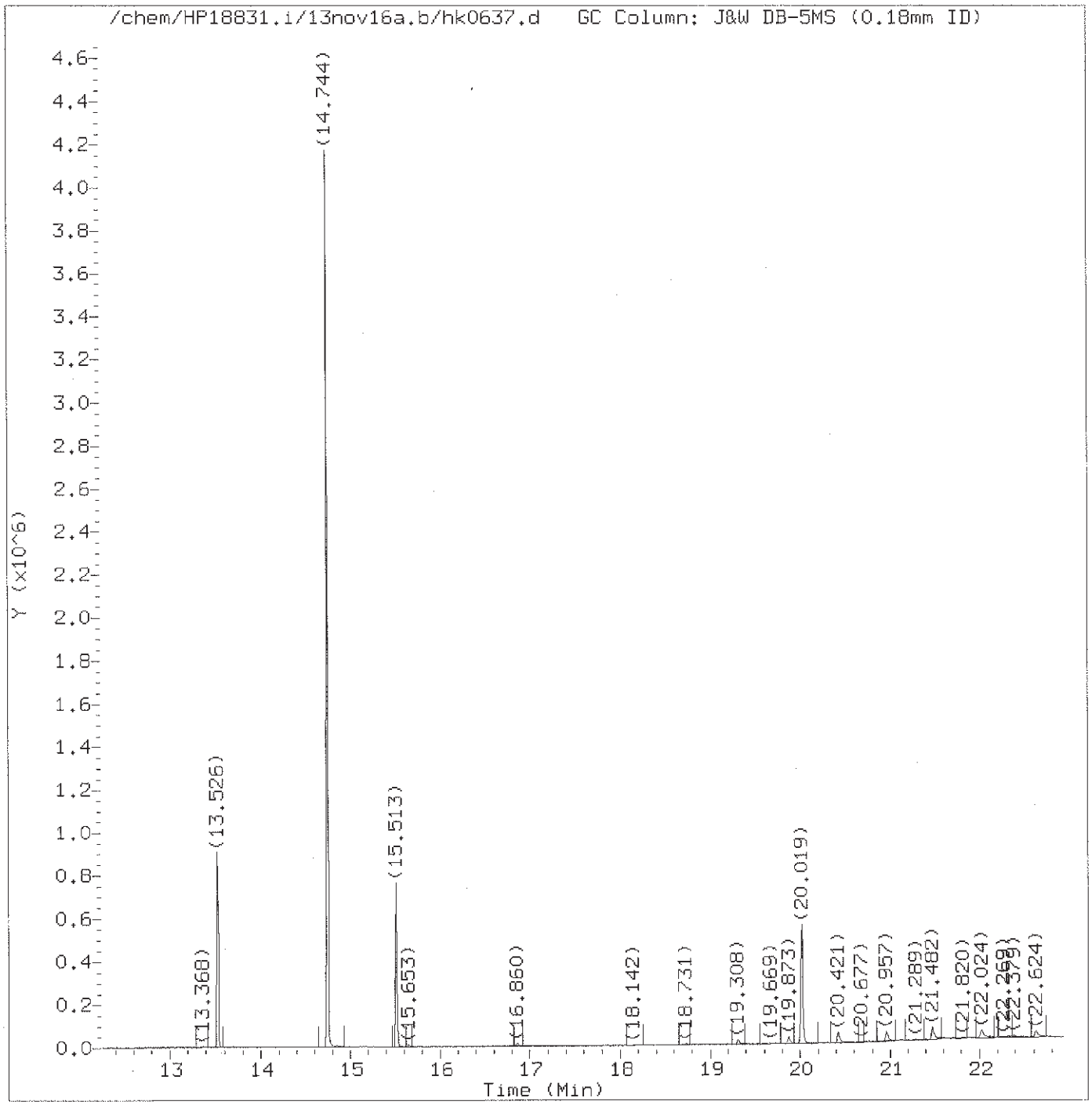
Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0637.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 22:39 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 23:11
Date, time and analyst ID of latest file update: 16-Nov-2013 23:11 Automation

Sample Name: SSTD30 Lab Sample ID: PDA2843

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:36.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0637.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 22:39 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 23:11
Date, time and analyst ID of latest file update: 16-Nov-2013 23:11 Automation

Sample Name: SSTD30 Lab Sample ID: PDA2843

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:36.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13nov16a.b/hk0637.d Instrument ID: HP18831.i
Injection date and time: 16-NOV-2013 22:39 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13nov16a.b/8270D_LVI.m Sublist used: pda
Calibration date and time: 16-NOV-2013 23:11
Date, time and analyst ID of latest file update: 16-Nov-2013 23:11 Automation

Sample Name: SSTD30 Lab Sample ID: PDA2843

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	6.933	152	119734	5.000
44)*Naphthalene-d8	(2)	8.869	136	495695	5.000
52) 1,4-Phenylenediamine	(2)	9.562	108	1277505	30.122
78)*Acenaphthene-d10	(3)	11.649	164	244933	5.000
113)*Phenanthrene-d10	(4)	13.526	188	357513	5.000
123) Methapyrilene	(4)	14.744	97	931806	34.185
127)*Pyrene-d10	(5)	15.513	212	380056	5.000
148)*Perylene-d12	(6)	20.019	264	280013	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 11/17/2013 at 16:36.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP18831.i/13dec23.b/hl0780.d

Date : 23-DEC-2013 14:24

Client ID: DFTPP

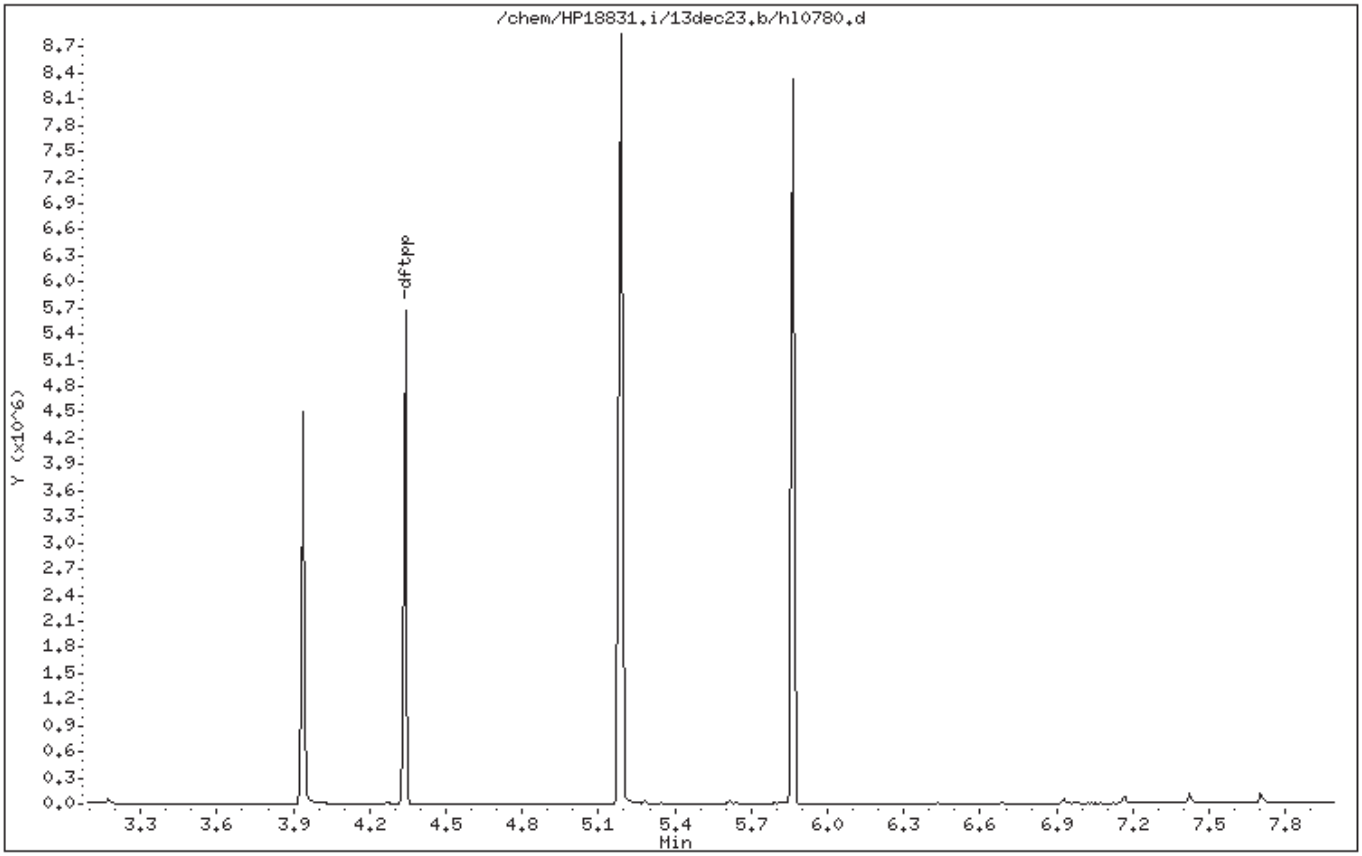
Instrument: HP18831.i

Sample Info: DFTPP;DFTPP3433;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP18831.i/13dec23.b/hl0780.d

Date : 23-DEC-2013 14:24

Client ID: DFTPP

Instrument: HP18831.i

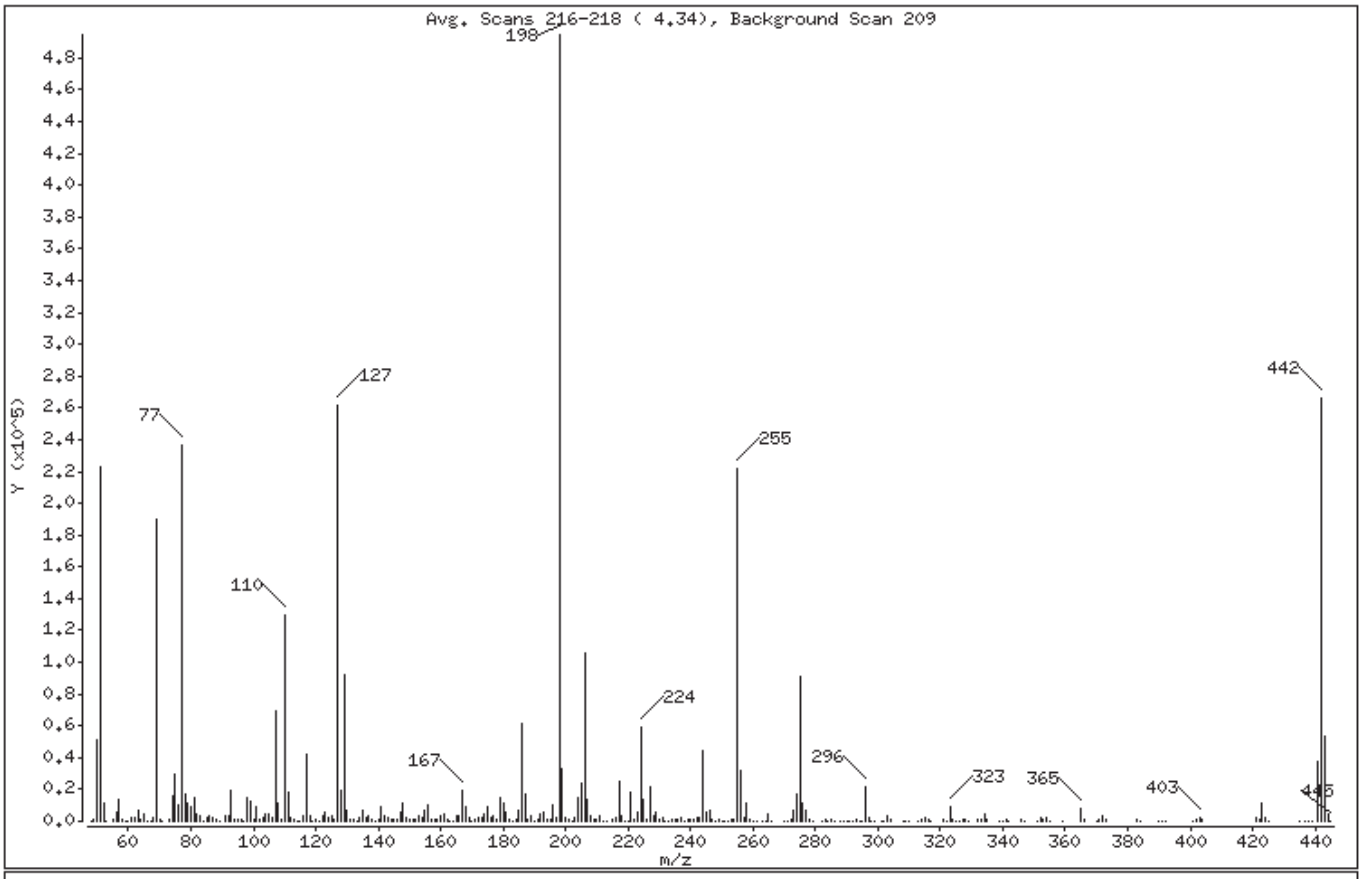
Sample Info: DFTPP;DFTPP3433;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	45.05
68	Less than 2.00% of mass 69	0.50 (1.29)
69	Mass 69 relative abundance	38.46
70	Less than 2.00% of mass 69	0.18 (0.46)
127	10.00 - 80.00% of mass 198	52.95
197	Less than 2.00% of mass 198	0.50
199	5.00 - 9.00% of mass 198	6.57
275	10.00 - 60.00% of mass 198	18.50
365	Greater than 1.00% of mass 198	1.71
441	0.01 - 24.00% of mass 442	7.63 (14.19)
442	50.00 - 99.99% of mass 198	53.78
443	15.00 - 24.00% of mass 442	10.84 (20.16)

Digitally signed by Catherine E. Bachman on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP18831.i/13dec23.b/hl0780.d

Date : 23-DEC-2013 14:24

Client ID: DFTPP

Instrument: HP18831.i

Sample Info: DFTPP;DFTPP3433;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

Data File: hl0780.d
Spectrum: Avg. Scans 216-218 (4.34), Background Scan 209
Location of Maximum: 198.00
Number of points: 307

m/z	Y	m/z	Y	m/z	Y	m/z	Y
48.00	50	128.00	19064	205.00	23904	290.00	248
49.00	985	129.00	92152	206.00	105640	291.00	83
50.00	51704	130.00	7171	207.00	13897	292.00	367
51.00	222784	131.00	1399	208.00	3103	293.00	1454
52.00	11004	132.00	727	209.00	989	294.00	376
53.00	467	133.00	208	210.00	1111	295.00	524
55.00	784	134.00	1918	211.00	3686	296.00	21776
56.00	5818	135.00	7097	212.00	231	297.00	2826
57.00	14200	136.00	2656	213.00	302	298.00	154
58.00	675	137.00	3556	215.00	826	299.00	73
59.00	220	138.00	756	216.00	1878	301.00	361
60.00	181	139.00	294	217.00	24736	302.00	392
61.00	2163	140.00	952	218.00	3424	303.00	2843
62.00	2704	141.00	9310	219.00	303	304.00	773
63.00	7349	142.00	3695	220.00	214	308.00	292
64.00	1004	143.00	2107	221.00	18096	309.00	196
65.00	4286	144.00	629	222.00	1634	310.00	267
66.00	297	145.00	591	223.00	6033	313.00	52
67.00	215	146.00	1682	224.00	59512	314.00	1043
68.00	2459	147.00	5228	225.00	13664	315.00	2311
69.00	190208	148.00	11349	226.00	1519	316.00	1690
70.00	876	149.00	2386	227.00	21936	317.00	444
71.00	111	150.00	760	228.00	2923	321.00	692
73.00	903	151.00	1143	229.00	5150	322.00	400
74.00	15955	152.00	764	230.00	699	323.00	8715
75.00	29440	153.00	3052	231.00	2317	324.00	1467
76.00	10533	154.00	2266	232.00	248	325.00	109
77.00	236736	155.00	6343	233.00	281	326.00	73
78.00	16736	156.00	9984	234.00	1304	327.00	1305
79.00	11403	157.00	1529	235.00	1522	328.00	860
80.00	9051	158.00	1595	236.00	805	329.00	59
81.00	14802	159.00	1301	237.00	2070	332.00	570
82.00	4087	160.00	2904	238.00	266	333.00	776
83.00	3833	161.00	4784	239.00	602	334.00	5051
84.00	365	162.00	1280	240.00	612	335.00	1247

Digitally signed by Catherine E. Bachman on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP18831.i/13dec23.b/hl0780.d

Date : 23-DEC-2013 14:24

Client ID: DFTPP

Instrument: HP18831.i

Sample Info: DFTPP;DFTPP3433;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

Data File: hl0780.d
Spectrum: Avg. Scans 216-218 (4.34), Background Scan 209
Location of Maximum: 198.00
Number of points: 307

m/z	Y	m/z	Y	m/z	Y	m/z	Y
85.00	2840	163.00	310	241.00	1246	339.00	75
86.00	3279	164.00	518	242.00	2746	340.00	53
87.00	1760	165.00	3246	243.00	2662	341.00	960
88.00	768	166.00	3036	244.00	44016	342.00	112
89.00	408	167.00	19216	245.00	5711	346.00	1371
91.00	3090	168.00	8579	246.00	7365	347.00	295
92.00	3163	169.00	1798	247.00	1650	351.00	137
93.00	19792	170.00	550	248.00	334	352.00	2429
94.00	1696	171.00	797	249.00	1577	353.00	1547
95.00	579	172.00	1736	250.00	356	354.00	2199
96.00	1119	173.00	2356	251.00	314	355.00	374
97.00	369	174.00	4321	252.00	464	359.00	84
98.00	14507	175.00	8564	253.00	1143	365.00	8454
99.00	12938	176.00	2113	254.00	1699	366.00	1573
100.00	1228	177.00	3380	255.00	222016	370.00	259
101.00	8612	178.00	1236	256.00	32096	371.00	644
102.00	580	179.00	14560	257.00	2540	372.00	3850
103.00	2325	180.00	10906	258.00	11451	373.00	788
104.00	4315	181.00	5216	259.00	1621	383.00	726
105.00	4194	182.00	899	260.00	397	384.00	179
106.00	1769	183.00	455	261.00	445	390.00	483
107.00	69640	184.00	1097	263.00	139	391.00	399
108.00	11157	185.00	6906	264.00	78	392.00	223
109.00	1653	186.00	61000	265.00	4183	401.00	175
110.00	130176	187.00	16968	266.00	348	402.00	1465
111.00	18640	188.00	1564	270.00	273	403.00	1907
112.00	2084	189.00	2935	271.00	428	404.00	651
113.00	689	190.00	537	272.00	696	421.00	1772
114.00	235	191.00	1518	273.00	6405	422.00	1560
115.00	179	192.00	4234	274.00	16520	423.00	11699
116.00	3251	193.00	5212	275.00	91480	424.00	2818
117.00	41512	194.00	1051	276.00	11735	425.00	319
118.00	3013	195.00	618	277.00	7102	435.00	171
119.00	409	196.00	10146	278.00	1085	437.00	111
120.00	686	197.00	2467	279.00	165	438.00	130

Digitally signed by Catherine E. Bachman on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP18831.i/13dec23.b/hl0780.d

Date : 23-DEC-2013 14:24

Client ID: DFTPP

Instrument: HP18831.i

Sample Info: DFTPP;DFTPP3433;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

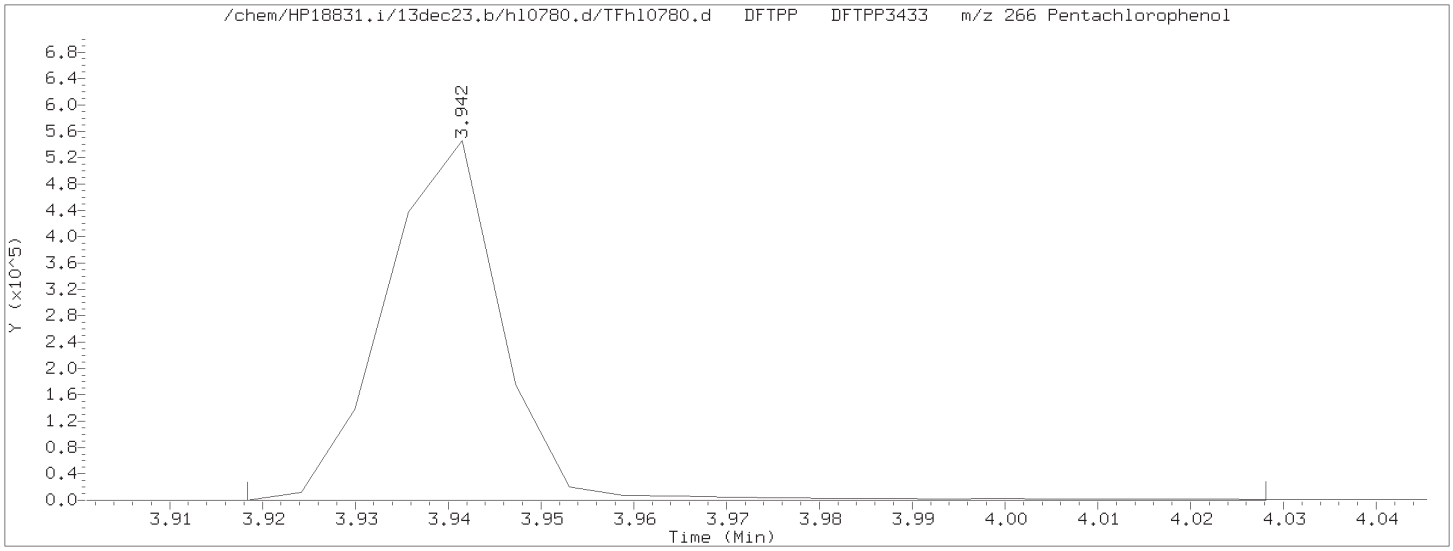
Column diameter: 0.18

Data File: hl0780.d
Spectrum: Avg. Scans 216-218 (4.34), Background Scan 209
Location of Maximum: 198.00
Number of points: 307

m/z	Y	m/z	Y	m/z	Y	m/z	Y
121.00	178	198.00	494592	282.00	189	439.00	56
122.00	3561	199.00	32480	283.00	652	441.00	37736
123.00	5834	200.00	2672	284.00	398	442.00	265984
124.00	2571	201.00	1520	285.00	1404	443.00	53624
125.00	2862	202.00	144	286.00	395	444.00	4942
126.00	907	203.00	2480	288.00	69	445.00	213
127.00	261888	204.00	14992	289.00	250		

Assessment of GC Column Performance and Injection Port Inertness for

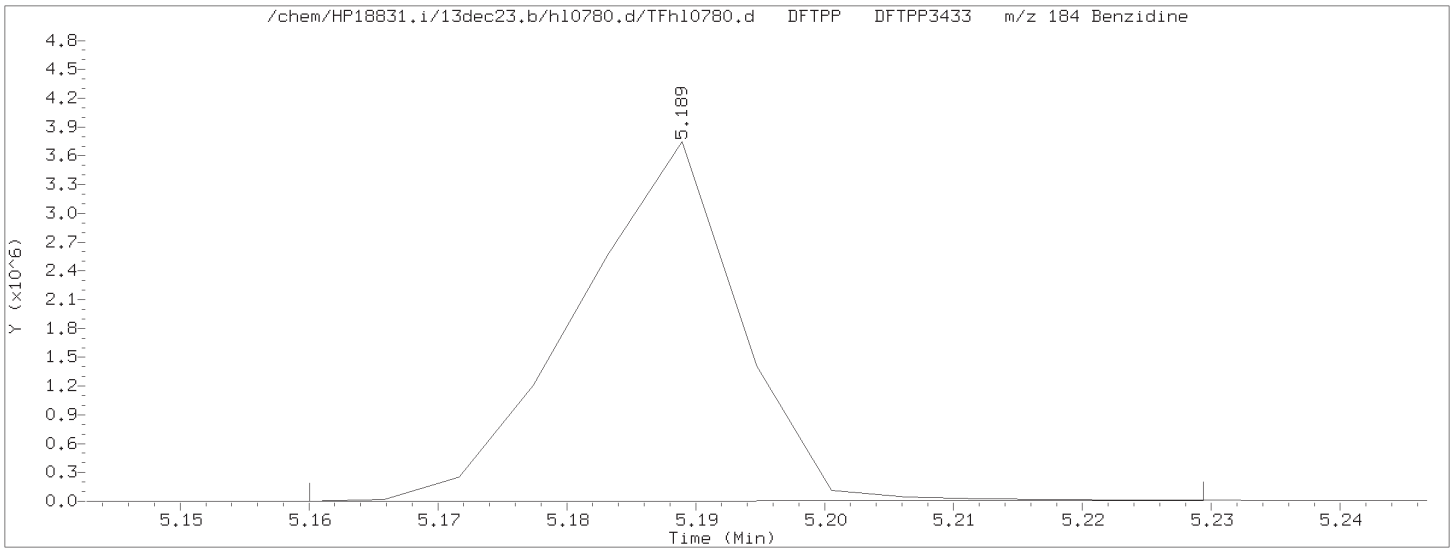
Instrument ID: HP18831.i Injection Date: 23-DEC-2013 14:24 Operator: ceb05247



Pentachlorophenol EICP peak height = 545984 EICP peak height at 10% = 54598 Pentachlorophenol EICP area = 474408

Pentachlorophenol EICP peak apex (min.) = 3.942
RT at 10% of front half of EICP (min.) = 3.926 'Front' peak width (min.) = 0.0153500000
RT at 10% of back half of EICP (min.) = 3.952 'Tailing' peak width (min.) = 0.0102500000

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0102500000}{0.0153500000} = 0.668$$



Benzidine EICP peak height = 3748388 EICP peak height at 10% = 374839 Benzidine EICP area = 3255826

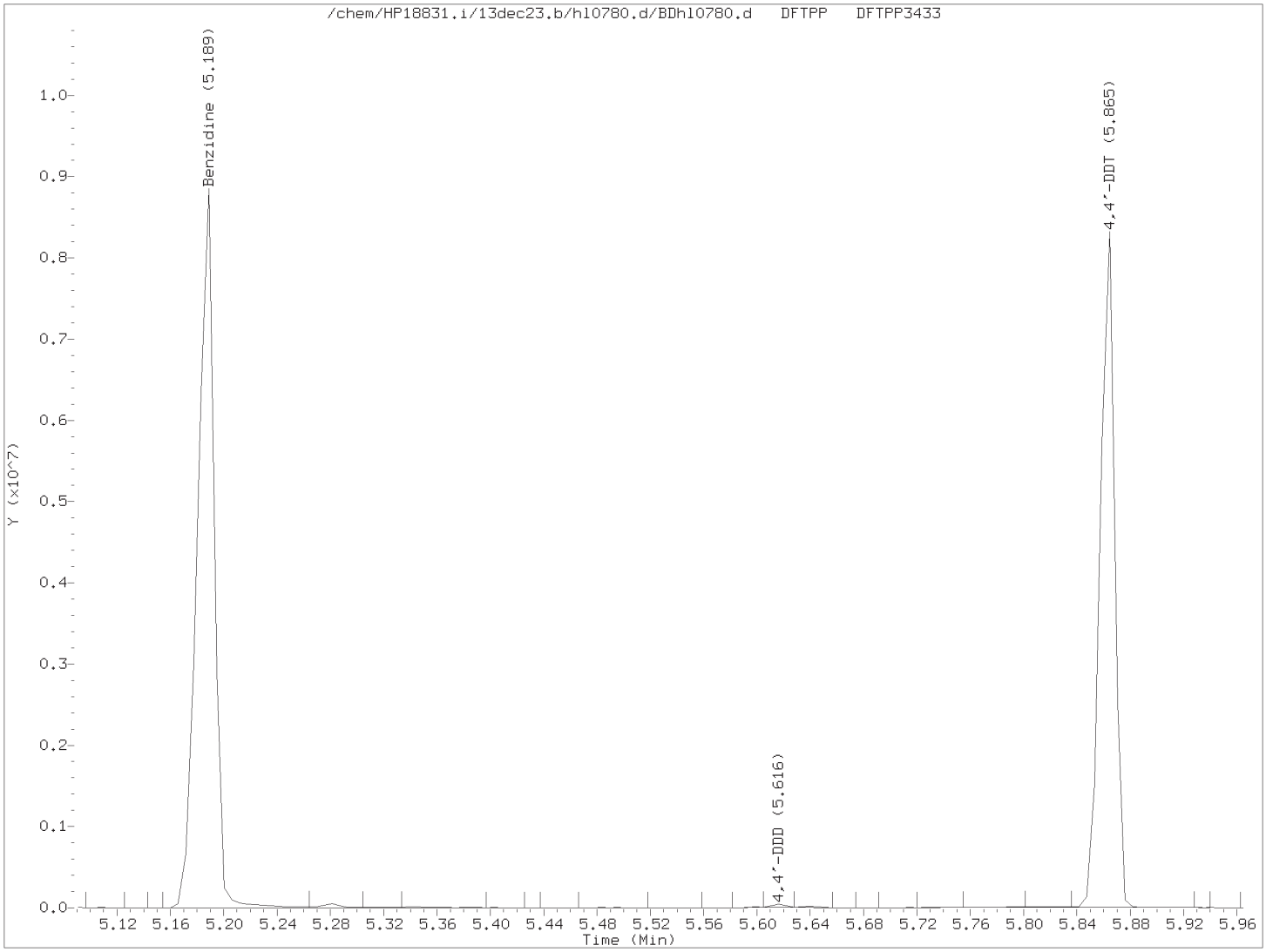
Benzidine EICP peak apex (min.) = 5.189
RT at 10% of front half of EICP (min.) = 5.172 'Front' peak width (min.) = 0.0165500000
RT at 10% of back half of EICP (min.) = 5.199 'Tailing' peak width (min.) = 0.0103500000

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0103500000}{0.0165500000} = 0.625$$

Digitally signed by Catherine E. Bachman on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

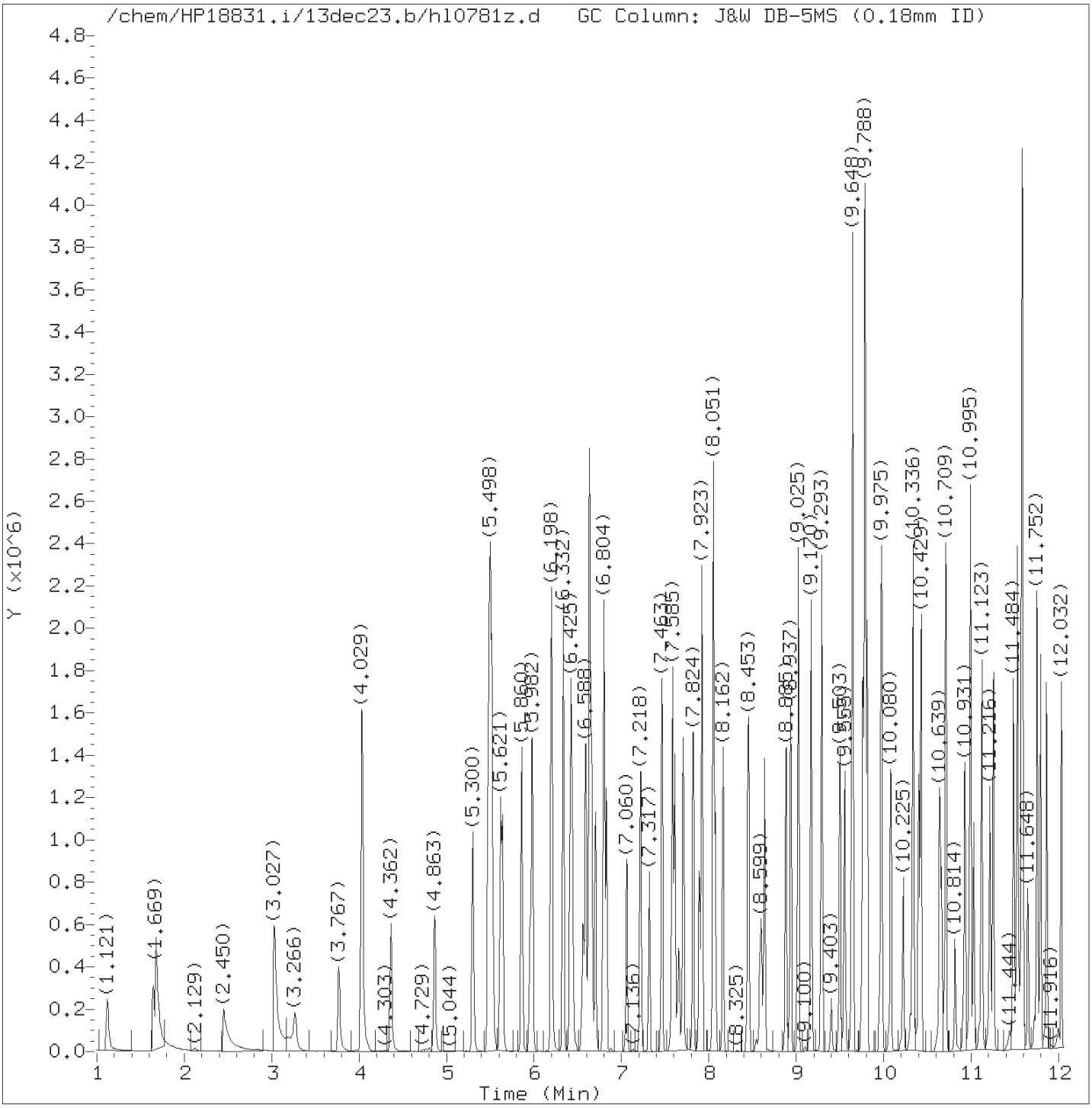
Instrument ID: HP18831.i Injection Date: 23-DEC-2013 14:24 Operator: ceb05247



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{0 + 31102}{0 + 31102 + 6355510} \times 100 = 0.5$$

Digitally signed by Catherine E. Bachman on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

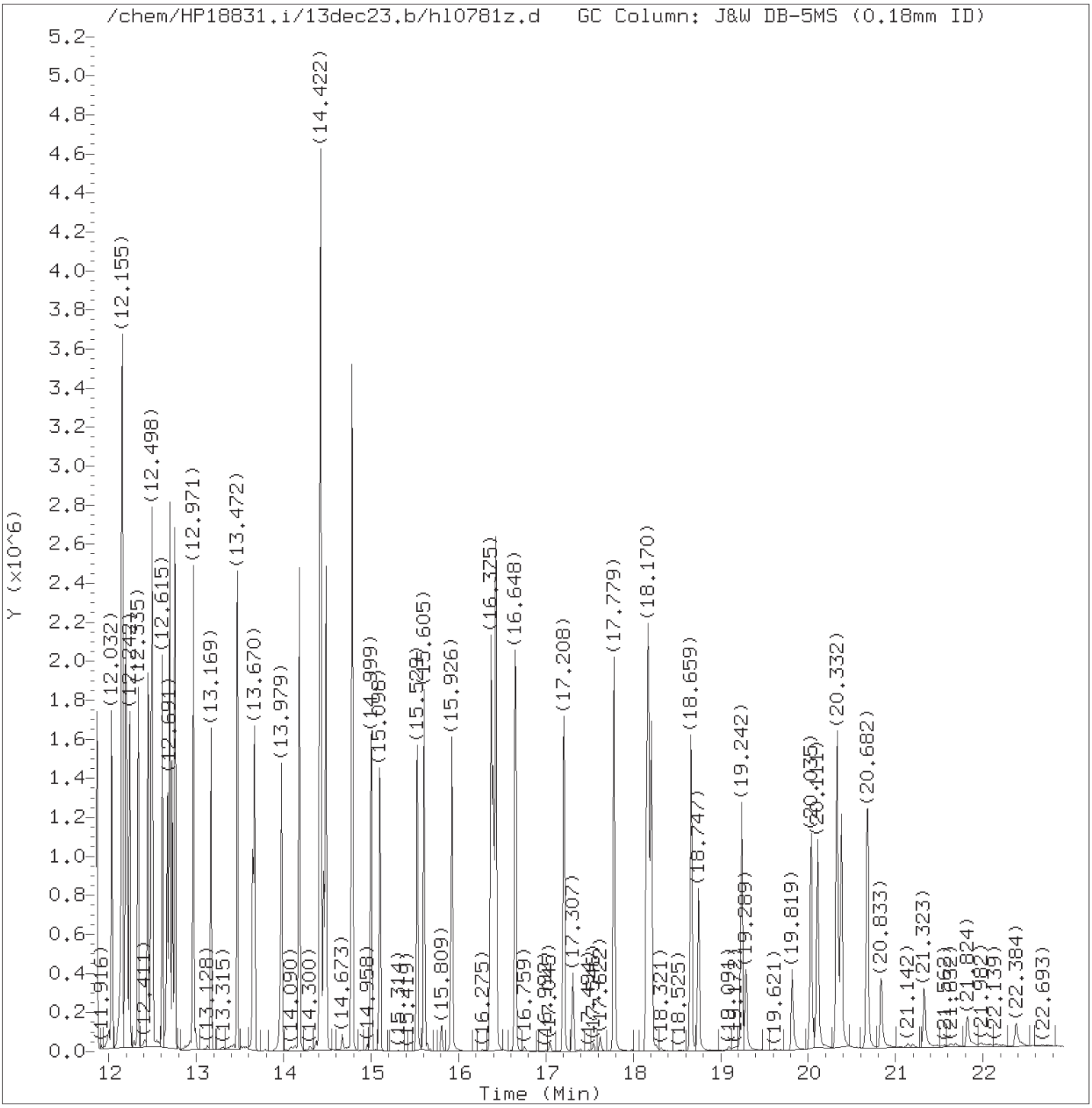
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0781z.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 15:17 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 15:58
Date, time and analyst ID of latest file update: 23-Dec-2013 15:58 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0781z.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 15:17 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 15:58
Date, time and analyst ID of latest file update: 23-Dec-2013 15:58 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0781z.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 15:17 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 15:58
Date, time and analyst ID of latest file update: 23-Dec-2013 15:58 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.121	88	189246	10.497
2) N-Nitrosodimethylamine	(1)	1.646	74	293286	10.215
3) Pyridine	(1)	1.675	79	474808	9.673
4) 2-Picoline	(1)	3.027	93	554883	11.479
5) N-Nitrosomethylethylamine	(1)	3.266	88	242175	11.715
6) Methyl methanesulfonate	(1)	3.767	80	252467	12.873
7)$2-Fluorophenol	(1)	4.035	112	1008760	24.741
8) N-Nitrosodiethylamine	(1)	4.368	102	244397	12.411
9) Ethyl methanesulfonate	(1)	4.863	109	249596	11.834
10) Benzaldehyde	(1)	5.300	77	342791	10.090
14) Aniline	(1)	5.475	93	851997	11.964
12)$Phenol-d6	(1)	5.498	99	1265223	23.419
11)$Phenol-d5	(1)	5.498	99	1265223	11.665
13) Phenol	(1)	5.516	94	682051	11.042
15) bis(2-Chloroethyl)ether	(1)	5.615	93	552269	11.609
16) 2-Chlorophenol	(1)	5.638	128	520781	12.570
17) 1,3-Dichlorobenzene	(1)	5.860	146	572384	12.913
18)*1,4-Dichlorobenzene-d4	(1)	5.953	152	134940	5.000
19) 1,4-Dichlorobenzene	(1)	5.982	146	579606	12.870
21) 1,2-Dichlorobenzene	(1)	6.198	146	542159	12.806
20) Benzyl alcohol	(1)	6.209	108	341899	12.219
23) Indene	(1)	6.338	115	976030	14.775
22) 2-Methylphenol	(1)	6.419	108	484887	12.536
25) bis(2-Chloroisopropyl)ether	(1)	6.437	45	885776	10.275
24) 2,2'-oxybis(1-Chloropropane)	(1)	6.437	45	885776	10.275
26) N-Nitrosopyrrolidine	(1)	6.559	100	253190	12.916
27) Acetophenone	(1)	6.594	105	658347	12.266
29) N-Nitroso-di-n-propylamine	(1)	6.629	70	332391	10.990
30) N-Nitrosomorpholine	(1)	6.635	56	300715	11.894
31) o-Toluidine	(1)	6.641	106	713643	11.440
28) 4-Methylphenol	(1)	6.658	108	537236	12.512
32) Hexachloroethane	(1)	6.705	117	209313	12.583
33)$Nitrobenzene-d5	(2)	6.804	82	957571	24.111
34) Nitrobenzene	(2)	6.827	77	494752	12.112
35) N-Nitrosopiperidine	(2)	7.066	114	252985	12.683
36) Isophorone	(2)	7.224	82	914363	12.423
37) 2-Nitrophenol	(2)	7.323	139	266350	13.782
38) 2,4-Dimethylphenol	(2)	7.463	107	459974	13.534
39) O,O,O-triethylphosphorothioate	(2)	7.585	198	210004	13.988
40) bis(2-Chloroethoxy)methane	(2)	7.608	93	634385M	12.109

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0781z.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 15:17 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 15:58
Date, time and analyst ID of latest file update: 23-Dec-2013 15:58 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
41) Benzoic acid	(2)	7.649	105	222375	12.392
42) 2,4-Dichlorophenol	(2)	7.707	162	401129	13.977
43) 1,2,4-Trichlorobenzene	(2)	7.824	180	413895	13.422
44)*Naphthalene-d8	(2)	7.888	136	543170	5.000
45) Naphthalene	(2)	7.923	128	1434774	12.486
46) 4-Chloroaniline	(2)	8.051	127	613376	12.721
47) 2,6-Dichlorophenol	(2)	8.057	162	377594	13.397
48) Hexachloropropene	(2)	8.075	213	221699	16.553
49) Hexachlorobutadiene	(2)	8.162	225	207497	14.729
50) Quinoline	(2)	8.453	129	951203	13.278
51) Caprolactam	(2)	8.599	113	152805	12.469
53) N-Nitrosodi-n-butylamine	(2)	8.640	84	305702	10.804
54) 4-Chloro-3-methylphenol	(2)	8.885	107	408024	13.928
55) Safrole	(2)	8.937	162	357756	13.839
56) 2-Methylnaphthalene	(2)	9.025	142	946434	12.989
57) 1-Methylnaphthalene	(2)	9.170	142	843201	12.910
58) Hexachlorocyclopentadiene	(3)	9.293	237	168143	13.168
59) 1,2,4,5-Tetrachlorobenzene	(3)	9.293	216	350820	12.701
60) cis-Isosafrole	(3)	9.403	162	65407	13.306
61) 2,4,6-Trichlorophenol	(3)	9.503	196	270049	13.438
62) 2,4,5-Trichlorophenol	(3)	9.555	196	281950	13.767
63)$2-Fluorobiphenyl	(3)	9.648	172	1772186	23.967
65) Isosafrole	(3)	9.765	162	445337	15.421
64) trans-Isosafrole	(3)	9.765	162	445337	15.421
67) 2-Chloronaphthalene	(3)	9.782	162	836178	11.822
66) 1,1'-Biphenyl	(3)	9.788	154	1027315	11.359
68) 1-Chloronaphthalene	(3)	9.812	162	696218	10.530
69) Diphenyl ether	(3)	9.969	170	547120	12.162
70) 2-Nitroaniline	(3)	9.981	138	312293	13.153
71) 1,4-Naphthoquinone	(3)	10.085	158	359909	13.017
72) 1,4-Dinitrobenzene	(3)	10.225	168	150343	13.659
73) Dimethylphthalate	(3)	10.336	163	837148	11.856
74) 1,3-Dinitrobenzene	(3)	10.336	168	171271	12.992
75) 2,6-Dinitrotoluene	(3)	10.400	165	218104	13.672
76) Acenaphthylene	(3)	10.429	152	1280642	12.933
77) 3-Nitroaniline	(3)	10.639	138	289692	13.640
78)*Acenaphthene-d10	(3)	10.662	164	292834	5.000
79) Acenaphthene	(3)	10.709	153	817928	12.032
80) 2,4-Dinitrophenol	(3)	10.814	184	103682	11.484
82) Pentachlorobenzene	(3)	10.931	250	302368	13.570

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0781z.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 15:17 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 15:58
Date, time and analyst ID of latest file update: 23-Dec-2013 15:58 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
83) Dibenzofuran	(3)	10.995	168	1165263	12.576
81) 4-Nitrophenol	(3)	10.995	109	114079	14.680
84) 2,4-Dinitrotoluene	(3)	11.030	165	262294	12.996
85) 1-Naphthylamine	(3)	11.123	143	906428	12.406
86) 2,3,4,6-Tetrachlorophenol	(3)	11.216	232	184081	12.925
87) 2-Naphthylamine	(3)	11.257	143	838148	11.467
88) Diethylphthalate	(3)	11.484	149	779725	11.599
89) Fluorene	(3)	11.531	166	919588	12.627
92) 5-Nitro-o-toluidine	(3)	11.583	152	244350	11.599
91) 4-Chlorophenyl-phenylether	(3)	11.583	204	380052	12.578
90) Thionazin	(3)	11.589	107	158930	11.191
93) 4-Nitroaniline	(3)	11.595	138	244703	11.426
94) 4,6-Dinitro-2-methylphenol	(4)	11.648	198	134043	13.411
95) N-Nitrosodiphenylamine	(4)	11.752	169	659466	11.964
96) NDPA as diphenylamine	(4)	11.752	169	659466	11.964
97) 1,2-Diphenylhydrazine	(4)	11.793	77	908819	11.782
98)$2,4,6-Tribromophenol	(3)	11.869	330	187047	27.140
99) Tetraethyldithiopyrophosphate	(4)	12.032	97	128018	12.127
100) 1,3,5-Trinitrobenzene	(4)	12.143	213	88759	13.134
101) Diallate (peak 1)	(4)	12.149	86	354928	8.055
102) Phorate	(4)	12.155	75	820368	16.087
103) Phenacetin	(4)	12.195	108	421689	12.626
104) 4-Bromophenyl-phenylether	(4)	12.207	248	197299	13.053
106) Hexachlorobenzene	(4)	12.242	284	213844	14.218
105) Diallate (peak 2)	(4)	12.248	86	50906	2.721
107) Dimethoate	(4)	12.335	87	405910	11.750
108) Atrazine	(4)	12.452	200	184233	13.015
109) Pentachlorophenol	(4)	12.481	266	128078	12.557
110) Pentachloronitrobenzene	(4)	12.493	237	87698	16.452
111) 4-Aminobiphenyl	(4)	12.498	169	888576	13.853
112) Pronamide	(4)	12.615	173	351863	13.678
113)*Phenanthrene-d10	(4)	12.673	188	404043	5.000
115) Phenanthrene	(4)	12.697	178	1154847	12.289
114) Dinoseb	(4)	12.726	211	175639	12.462
117) Anthracene	(4)	12.755	178	1138372	12.460
118) Carbazole	(4)	12.971	167	1160867	12.498
119) Methyl parathion	(4)	13.169	109	302665	12.914
120) Di-n-butylphthalate	(4)	13.472	149	1450690	12.683
122) 4-Nitroquinoline-1-oxide	(4)	13.647	190	122371	13.008
121) Parathion	(4)	13.670	109	190168	13.683

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0781z.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 15:17 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 15:58
Date, time and analyst ID of latest file update: 23-Dec-2013 15:58 ceb05247

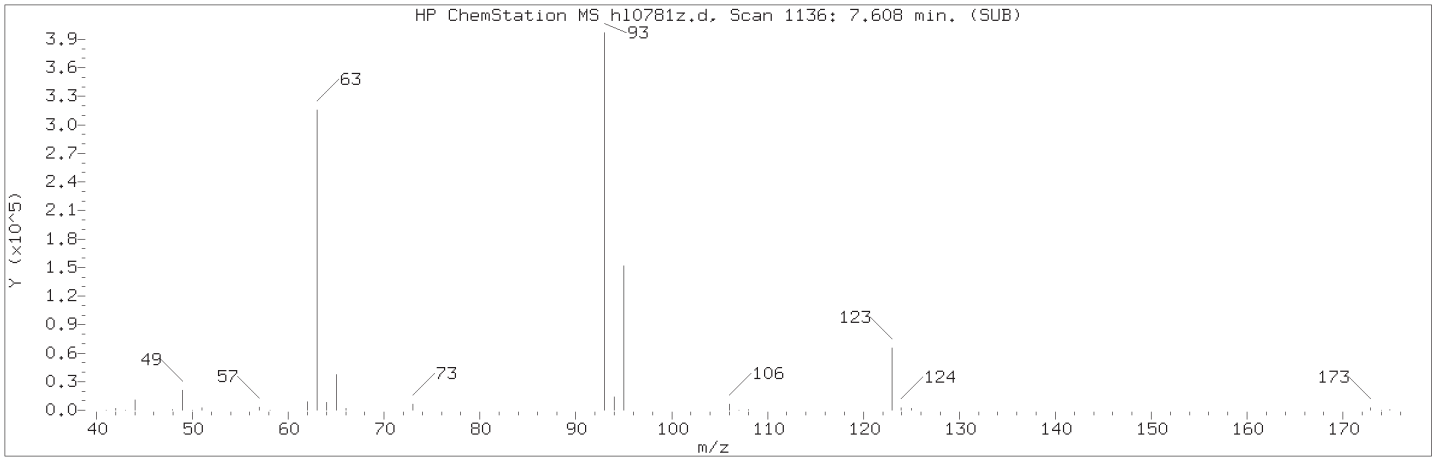
Sample Name: SSTD12.5 Lab Sample ID: STD3173

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
124) Isodrin	(4)	13.979	193	140254	13.639
125) Fluoranthene	(4)	14.177	202	1263146	13.737
126) Benzidine	(5)	14.422	184	2616634	36.739
127)*Pyrene-d10	(5)	14.457	212	447356	5.000
128) Pyrene	(5)	14.486	202	1197237	11.837
129)$Terphenyl-d14	(5)	14.783	244	1444409	24.078
130) p-Dimethylaminoazobenzene	(5)	15.005	225	241356	12.466
131) Chlorobenzilate	(5)	15.098	139	387574	12.760
133) 3,3'-Dimethylbenzidine	(5)	15.529	212	746082	12.987
135) Butylbenzylphthalate	(5)	15.605	149	620015	12.166
136) 2-Acetylaminofluorene	(5)	15.926	181	482596	13.637
138) Benzo(a)anthracene	(5)	16.375	228	1101550	13.001
137) 3,3'-Dichlorobenzidine	(5)	16.398	252	416160	13.337
139) 4,4'-Methylenebis(2-Chloroanil	(5)	16.421	231	183775	12.747
140) Chrysene	(5)	16.433	228	983349	11.988
141) bis(2-Ethylhexyl)phthalate	(5)	16.648	149	814249	11.945
142) 6-Methylchrysene	(5)	17.208	242	760536	13.396
143) Di-n-octylphthalate	(6)	17.779	149	1474316	12.735
144) Benzo(b)fluoranthene	(6)	18.158	252	1024323	13.062
145) 7,12-Dimethylbenz[a]anthracene	(6)	18.176	256	450557	12.624
146) Benzo(k)fluoranthene	(6)	18.211	252	994163	12.728
147) Benzo(a)pyrene	(6)	18.659	252	978647	13.414
148)*Perylene-d12	(6)	18.747	264	327194	5.000
149) 3-Methylcholanthrene	(6)	19.242	268	482899	13.734
150) Dibenz(a,h)acridine	(6)	20.035	279	700460	13.059
151) Dibenz(a,j)acridine	(6)	20.111	279	754273	12.902
152) Indeno(1,2,3-cd)pyrene	(6)	20.332	276	949098M	12.765
153) Dibenz(a,h)anthracene	(6)	20.379	278	759068	12.279
154) Benzo(g,h,i)perylene	(6)	20.682	276	847742	12.669
155) Diallate TRANS/CIS	(4)			405834	11.012

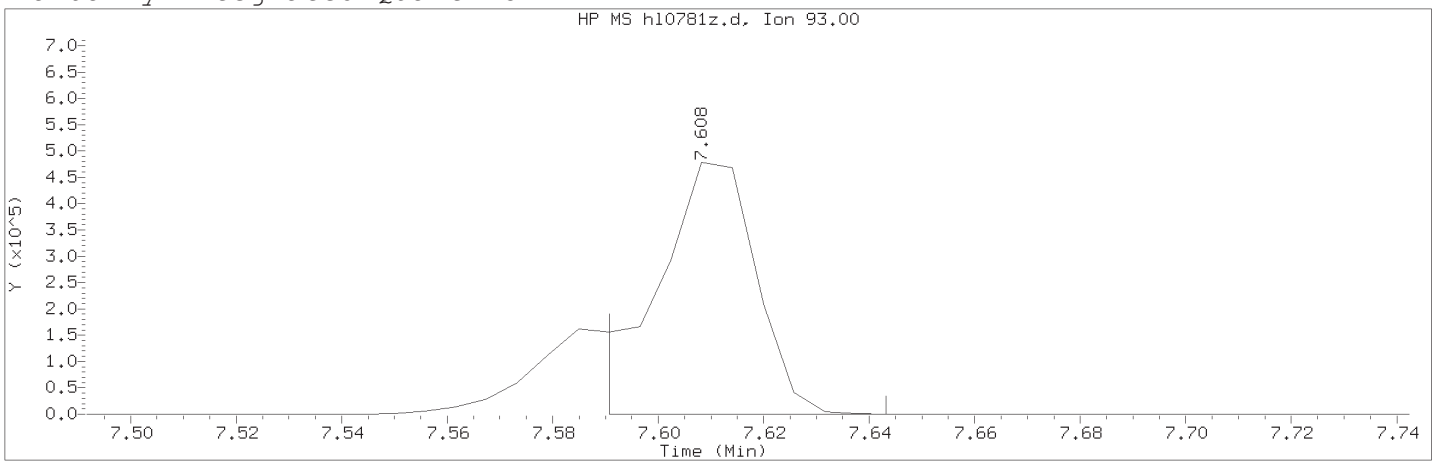
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0781z.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 15:17 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 15:58
Date, time and analyst ID of latest file update: 23-Dec-2013 15:58 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

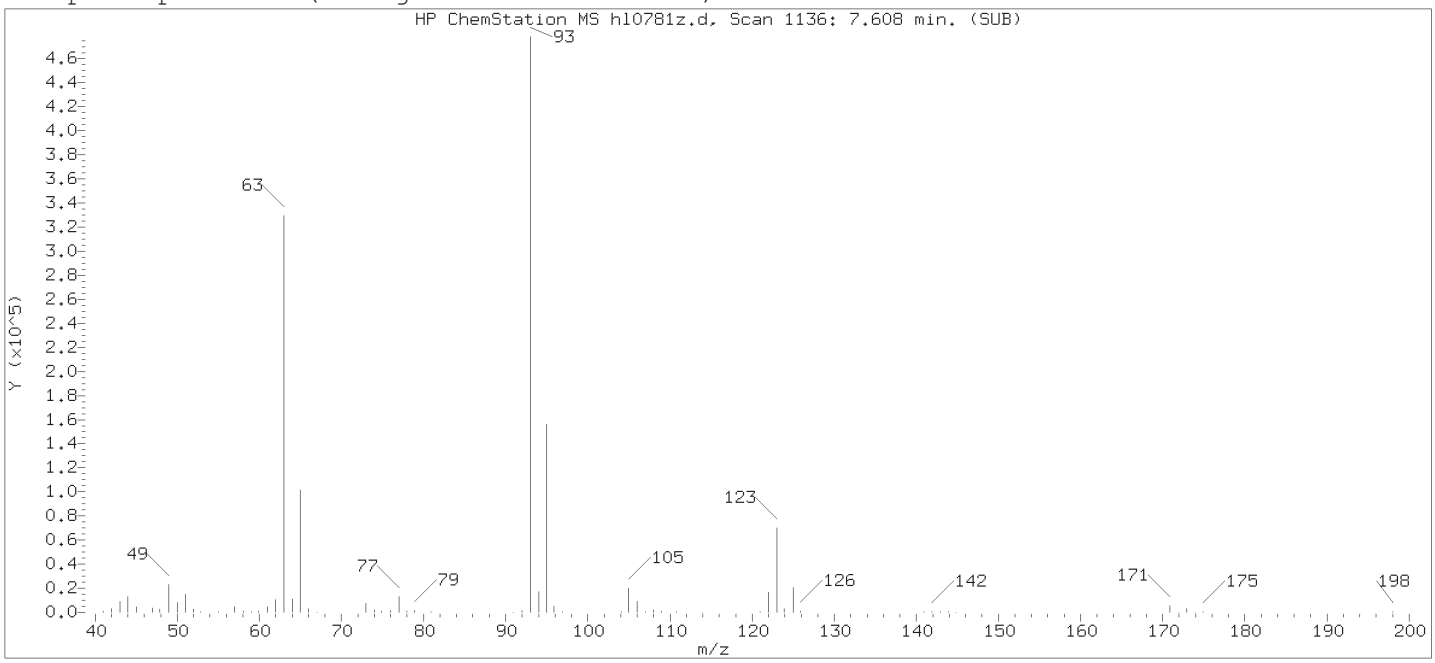
Compound Number : 40
Compound Name : bis(2-Chloroethoxy)methane
Scan Number : 1136
Retention Time (minutes) : 7.608
Quant Ion : 93.00
Area (flag) : 634385M
On-Column Amount (ng/ul) : 12.1094
Integration start scan : 1132 Integration stop scan: 1141
Y at integration start : 315 Y at integration end: 315

Reason for manual integration: improper integration

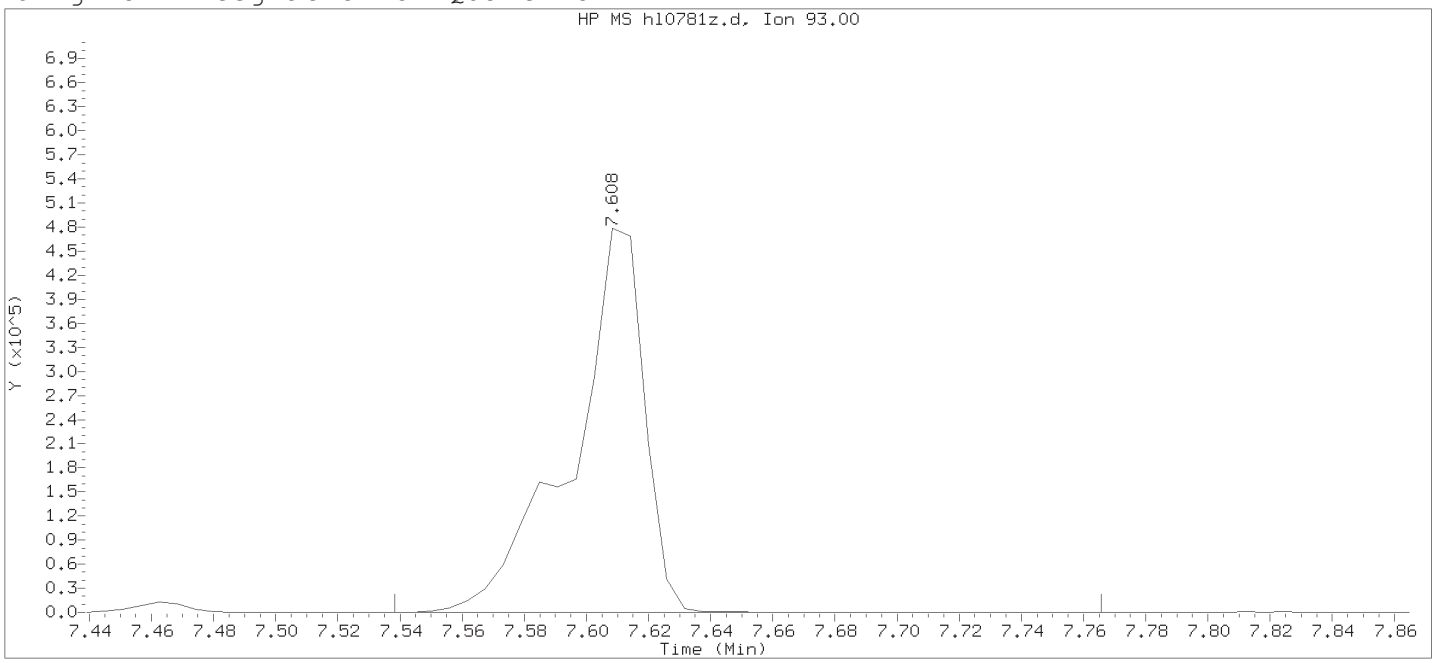
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0781z.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 15:17 Analyst ID: ceb05247

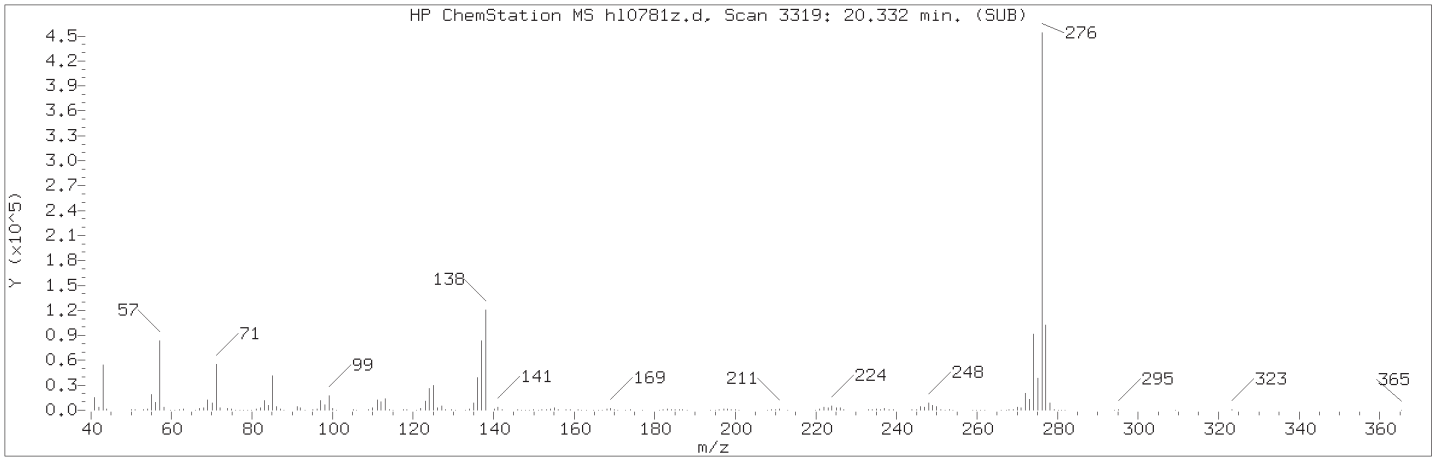
Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 15:50
Date, time and analyst ID of latest file update: 23-Dec-2013 15:50 Automation

Sample Name: SSTD12.5 Lab Sample ID: STD3173

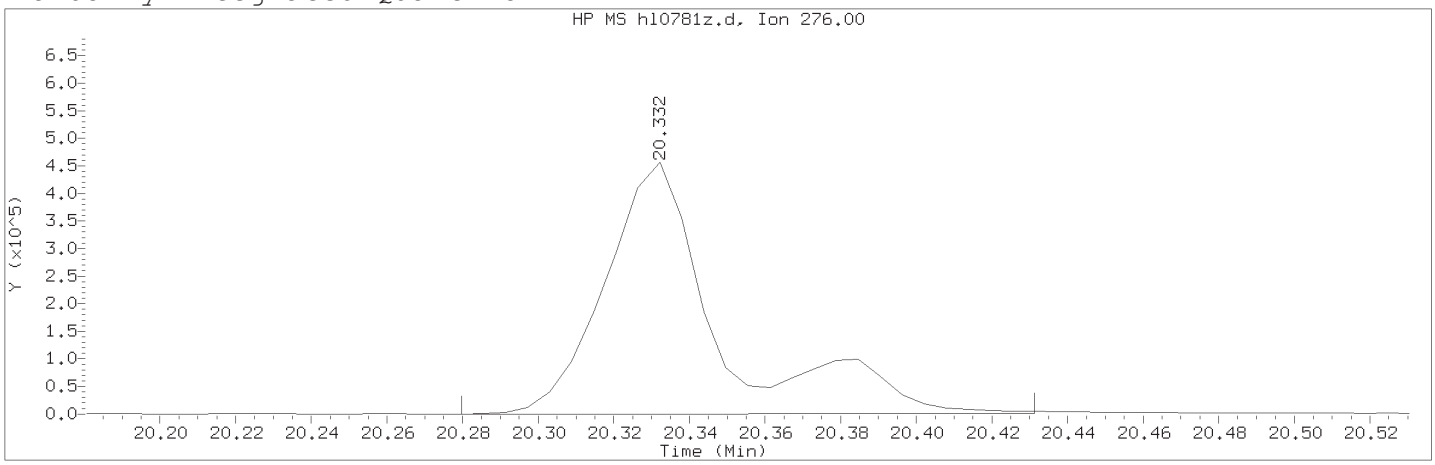
Compound Number : 40
Compound Name : bis(2-Chloroethoxy)methane
Scan Number : 1136
Retention Time (minutes) : 7.608
Quant Ion : 93.00
Area : 770452
On-column Amount (ng/ul) : 14.7068
Integration start scan : 1123 Integration stop scan: 1162
Y at integration start : 0 Y at integration end: 0

Digitally signed by Catherine E. Bachman on 12/23/2013 at 16:00.
Target 3.5 esignature used ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0781z.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 15:17 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 15:58
Date, time and analyst ID of latest file update: 23-Dec-2013 15:58 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

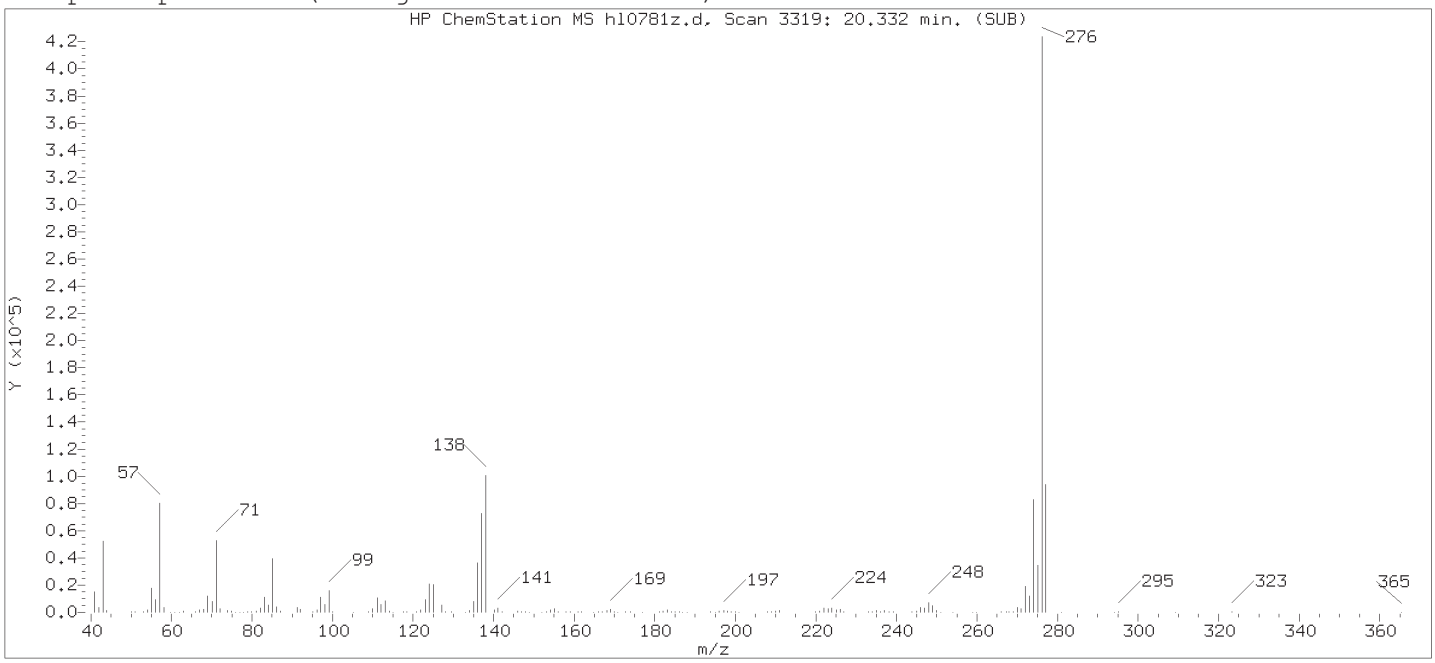
Compound Number	: 152
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 3319
Retention Time (minutes)	: 20.332
Quant Ion	: 276.00
Area (flag)	: 949098M
On-Column Amount (ng/ul)	: 12.7649
Integration start scan	: 3309 Integration stop scan: 3335
Y at integration start	: -387 Y at integration end: 774

Reason for manual integration: improper integration

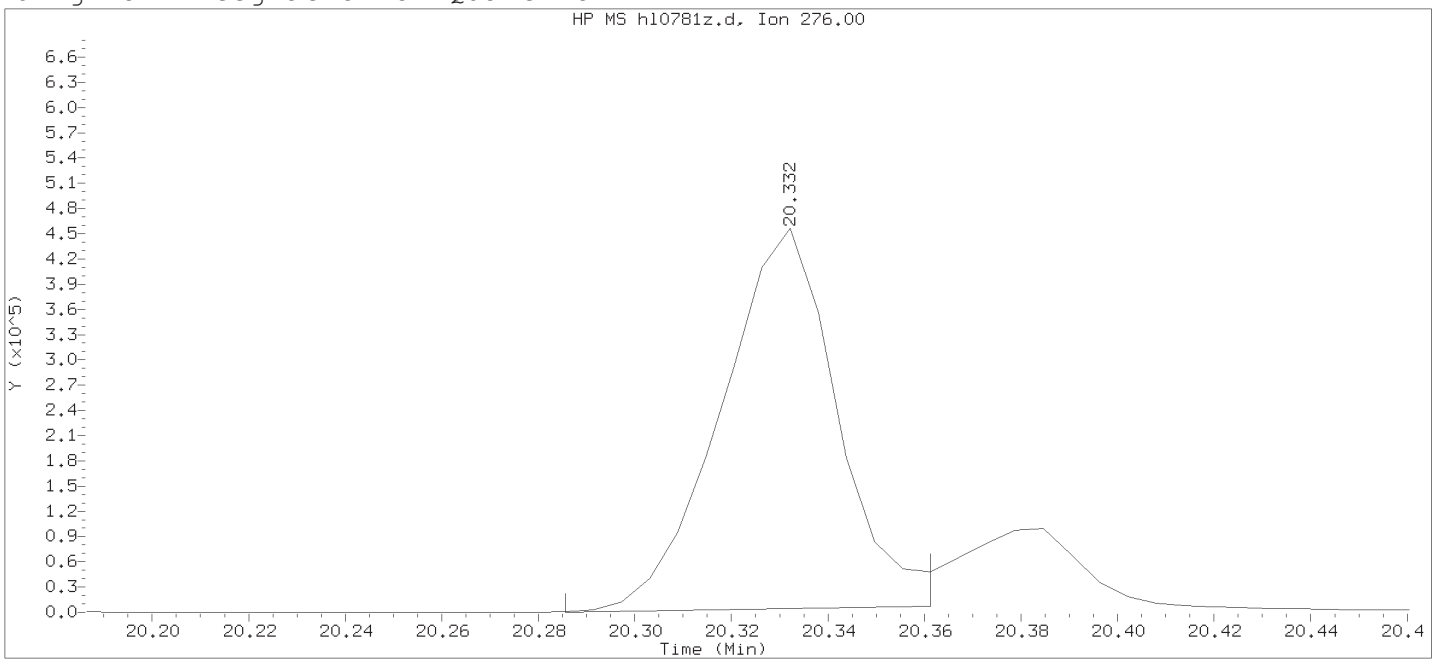
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 12/23/2013 at 16:00.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0781z.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 15:17 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 15:50
Date, time and analyst ID of latest file update: 23-Dec-2013 15:50 Automation

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Compound Number : 152
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3319
Retention Time (minutes) : 20.332
Quant Ion : 276.00
Area : 750154
On-column Amount (ng/ul) : 10.0892
Integration start scan : 3310 Integration stop scan: 3323
Y at integration start : 0 Y at integration end: 7474

Digitally signed by Catherine E. Bachman on 12/23/2013 at 16:00.
Target 3.5 esignature used ID: ceb05247

Data File: /chem/HP18831.i/13dec26b.b/h10830.d

Date : 26-DEC-2013 17:32

Client ID: DFTPP50

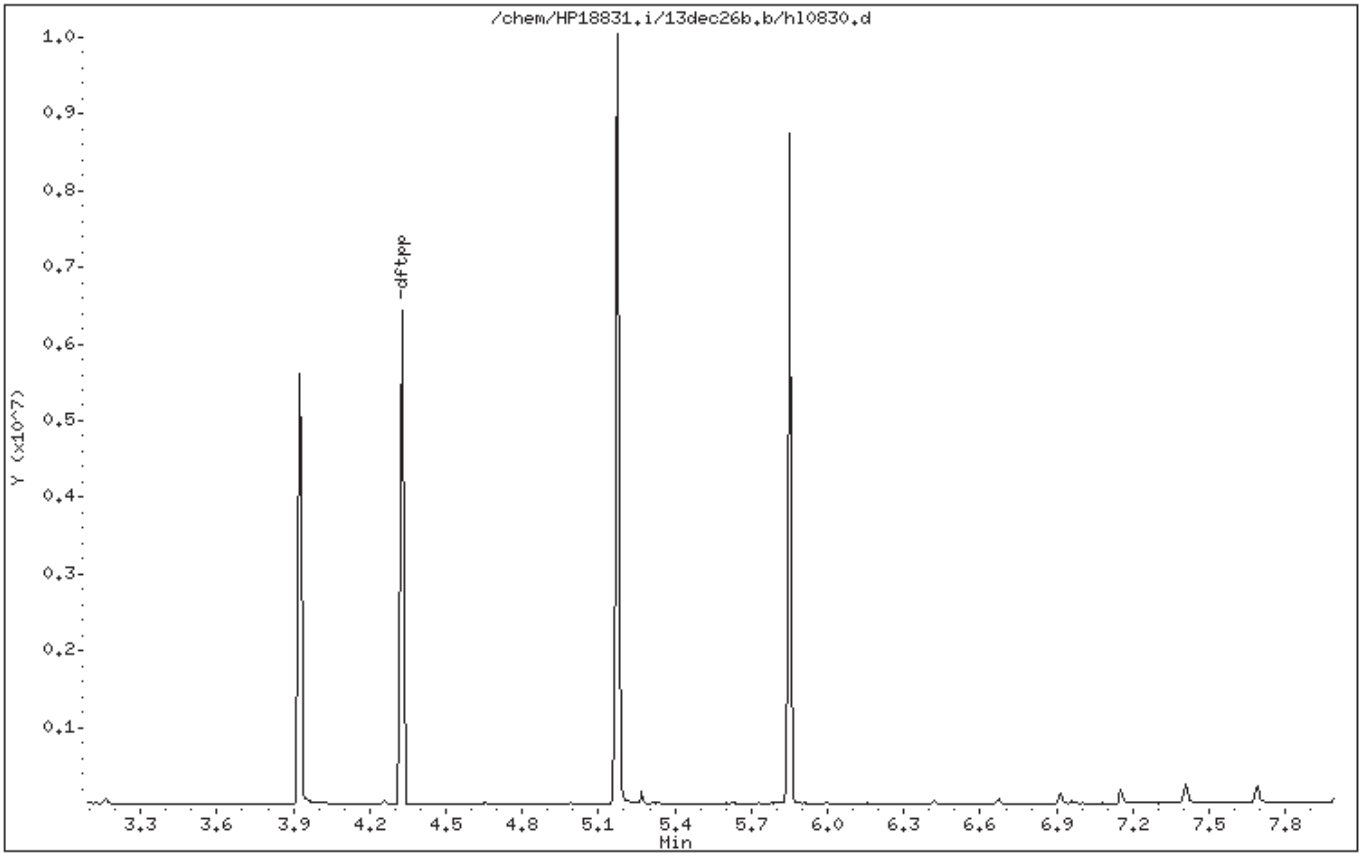
Instrument: HP18831.i

Sample Info: DFTPP50;DFTPP3433;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 12/26/2013 at 18:25.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP18831.i/13dec26b.b/hl0830.d

Date : 26-DEC-2013 17:32

Client ID: DFTPP50

Instrument: HP18831.i

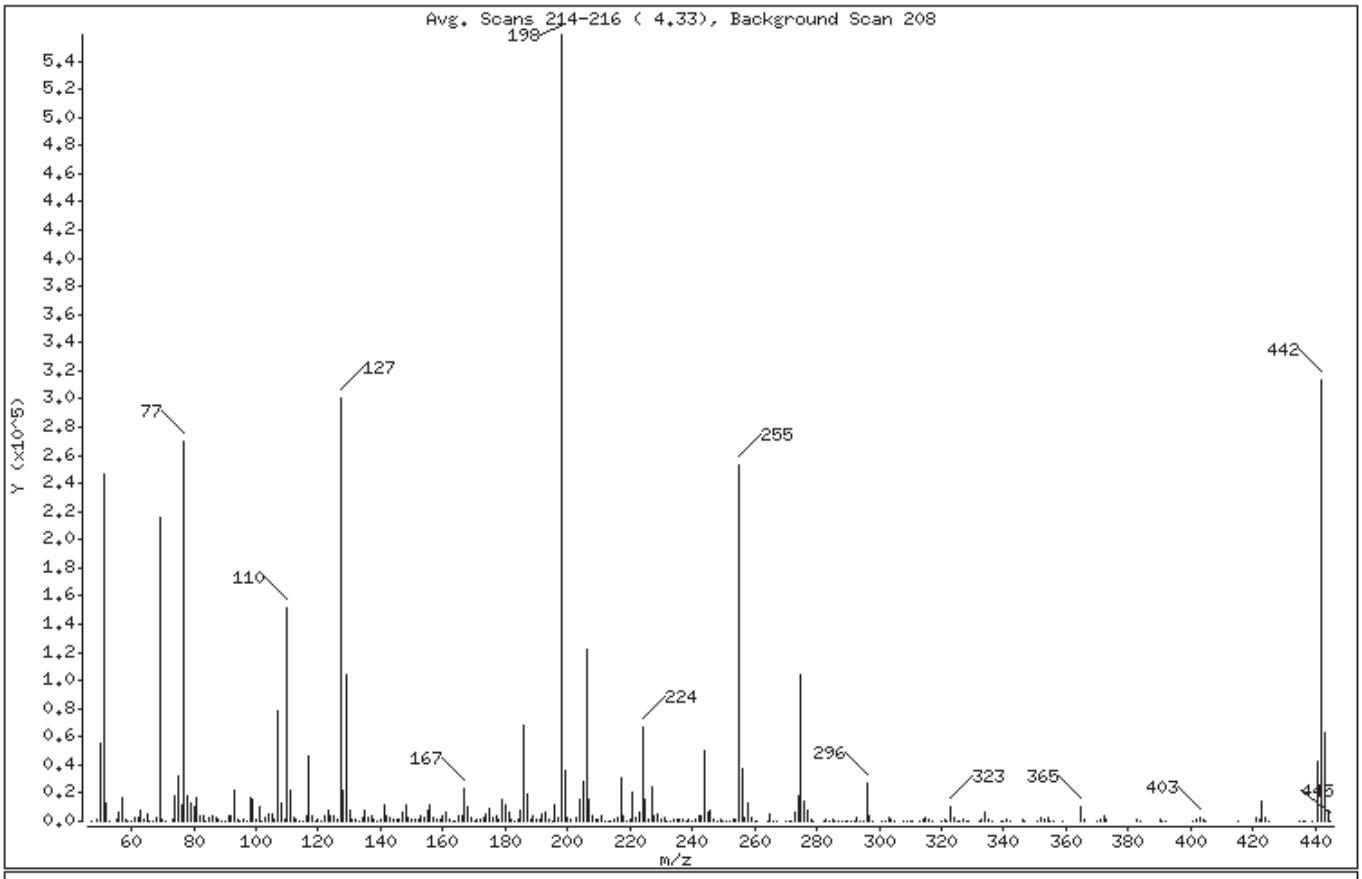
Sample Info: DFTPP50;DFTPP3433;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	44.16
68	Less than 2.00% of mass 69	0.49 (1.26)
69	Mass 69 relative abundance	38.55
70	Less than 2.00% of mass 69	0.14 (0.36)
127	10.00 - 80.00% of mass 198	53.76
197	Less than 2.00% of mass 198	0.55
199	5.00 - 9.00% of mass 198	6.39
275	10.00 - 60.00% of mass 198	18.63
365	Greater than 1.00% of mass 198	1.85
441	0.01 - 24.00% of mass 442	7.65 (13.64)
442	50.00 - 99.99% of mass 198	56.09
443	15.00 - 24.00% of mass 442	11.24 (20.04)

Digitally signed by Catherine E. Bachman on 12/26/2013 at 18:25.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP18831.i/13dec26b.b/hl0830.d

Date : 26-DEC-2013 17:32

Client ID: DFTPP50 Instrument: HP18831.i

Sample Info: DFTPP50;DFTPP3433;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: hl0830.d
Spectrum: Avg. Scans 214-216 (4.33), Background Scan 208
Location of Maximum: 198.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
47.00	65	129.00	104488	209.00	1030	294.00	521
49.00	925	130.00	8217	210.00	1621	295.00	509
50.00	55536	131.00	1680	211.00	4064	296.00	26400
51.00	246720	132.00	852	212.00	531	297.00	3366
52.00	12282	133.00	383	213.00	266	298.00	169
53.00	580	134.00	2630	214.00	149	301.00	366
55.00	1014	135.00	7963	215.00	1046	302.00	499
56.00	6058	136.00	2881	216.00	2396	303.00	3054
57.00	16280	137.00	3926	217.00	30464	304.00	919
58.00	712	138.00	929	218.00	3713	305.00	81
59.00	237	139.00	400	219.00	466	308.00	421
60.00	139	140.00	1164	220.00	667	309.00	295
61.00	2341	141.00	11249	221.00	20824	310.00	454
62.00	2881	142.00	3742	222.00	2537	311.00	81
63.00	8198	143.00	2598	223.00	6978	313.00	293
64.00	1276	144.00	775	224.00	66504	314.00	1250
65.00	4756	145.00	785	225.00	15337	315.00	2806
66.00	338	146.00	1900	226.00	1507	316.00	1850
67.00	51	147.00	6292	227.00	24224	317.00	238
68.00	2714	148.00	12186	228.00	3380	320.00	84
69.00	215360	149.00	2648	229.00	5315	321.00	800
70.00	774	150.00	695	230.00	705	322.00	389
71.00	196	151.00	1646	231.00	2218	323.00	9916
73.00	1346	152.00	873	232.00	396	324.00	1950
74.00	18520	153.00	3647	233.00	453	325.00	111
75.00	32376	154.00	2615	234.00	1423	326.00	66
76.00	11739	155.00	7385	235.00	1459	327.00	1591
77.00	269760	156.00	10991	236.00	965	328.00	608
78.00	18080	157.00	2144	237.00	1848	329.00	64
79.00	12940	158.00	1904	238.00	218	332.00	519
80.00	10344	159.00	1480	239.00	875	333.00	756
81.00	16472	160.00	3768	240.00	615	334.00	5884
82.00	4316	161.00	5843	241.00	1314	335.00	1281
83.00	3978	162.00	1766	242.00	3307	336.00	172
84.00	330	163.00	384	243.00	3453	339.00	173

Data File: /chem/HP18831.i/13dec26b.b/hl0830.d

Date : 26-DEC-2013 17:32

Client ID: DFTPP50 Instrument: HP18831.i

Sample Info: DFTPP50;DFTPP3433;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: hl0830.d
Spectrum: Avg. Scans 214-216 (4.33), Background Scan 208
Location of Maximum: 198.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
85.00	3203	164.00	546	244.00	49600	340.00	55
86.00	3845	165.00	3778	245.00	6558	341.00	910
87.00	2248	166.00	3372	246.00	8176	342.00	334
88.00	798	167.00	22768	247.00	1797	346.00	1707
89.00	383	168.00	9800	248.00	389	347.00	286
90.00	114	169.00	2049	249.00	1681	351.00	100
91.00	3491	170.00	561	250.00	423	352.00	2952
92.00	3784	171.00	1150	251.00	413	353.00	1724
93.00	22424	172.00	1797	252.00	438	354.00	2493
94.00	1789	173.00	2879	253.00	1231	355.00	506
95.00	529	174.00	5200	254.00	1543	356.00	51
96.00	1341	175.00	9414	255.00	253312	359.00	114
97.00	428	176.00	2540	256.00	37872	365.00	10334
98.00	16183	177.00	3818	257.00	2828	366.00	1347
99.00	15071	178.00	1299	258.00	12692	370.00	215
100.00	1367	179.00	15633	259.00	2241	371.00	887
101.00	9698	180.00	12171	260.00	456	372.00	4448
102.00	599	181.00	6139	261.00	479	373.00	1122
103.00	2668	182.00	913	264.00	529	383.00	1072
104.00	5332	183.00	609	265.00	5066	384.00	290
105.00	5360	184.00	1397	266.00	617	390.00	673
106.00	1687	185.00	7554	267.00	116	391.00	432
107.00	78816	186.00	68216	270.00	349	392.00	244
108.00	12221	187.00	19704	271.00	443	401.00	156
109.00	1734	188.00	1858	272.00	604	402.00	1532
110.00	151296	189.00	3306	273.00	6857	403.00	2206
111.00	21696	190.00	674	274.00	18248	404.00	751
112.00	2581	191.00	1801	275.00	104128	405.00	122
113.00	863	192.00	5230	276.00	13703	415.00	98
114.00	153	193.00	5912	277.00	7768	421.00	2280
115.00	319	194.00	1111	278.00	1177	422.00	1908
116.00	3461	195.00	622	279.00	278	423.00	13932
117.00	46184	196.00	11336	282.00	149	424.00	3014
118.00	3699	197.00	3089	283.00	1019	425.00	156
119.00	520	198.00	558784	284.00	608	435.00	111

Date : 26-DEC-2013 17:32

Client ID: DFTPP50 Instrument: HP18831.i

Sample Info: DFTPP50;DFTPP3433;1;3;DFTPP;

Operator: ceb05247

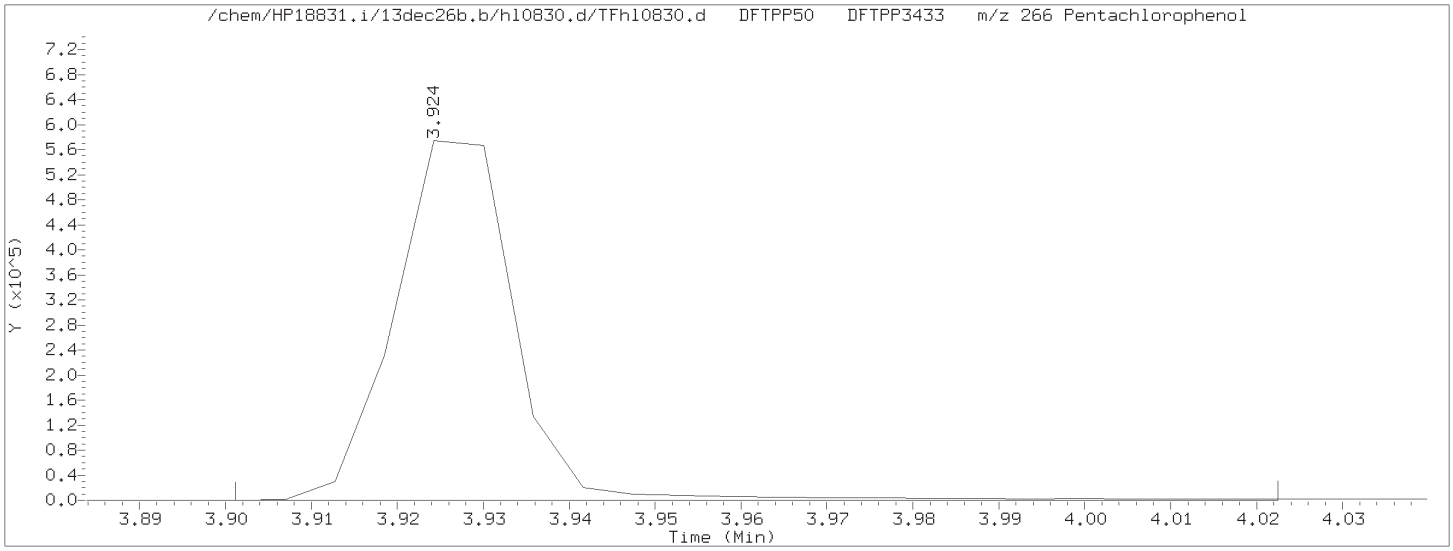
Column phase: DB-5MS Column diameter: 0.18

Data File: hl0830.d
Spectrum: Avg. Scans 214-216 (4.33), Background Scan 208
Location of Maximum: 198.00
Number of points: 315

m/z	Y	m/z	Y	m/z	Y	m/z	Y
120.00	865	199.00	35704	285.00	1491	436.00	164
121.00	203	200.00	2899	286.00	290	437.00	195
122.00	4010	201.00	1635	287.00	58	439.00	177
123.00	7082	203.00	2803	288.00	55	441.00	42752
124.00	3539	204.00	15757	289.00	388	442.00	313408
125.00	3354	205.00	27824	290.00	136	443.00	62800
126.00	830	206.00	121632	291.00	125	444.00	6100
127.00	300352	207.00	15657	292.00	360	445.00	328
128.00	21552	208.00	3217	293.00	2068		

Assessment of GC Column Performance and Injection Port Inertness for

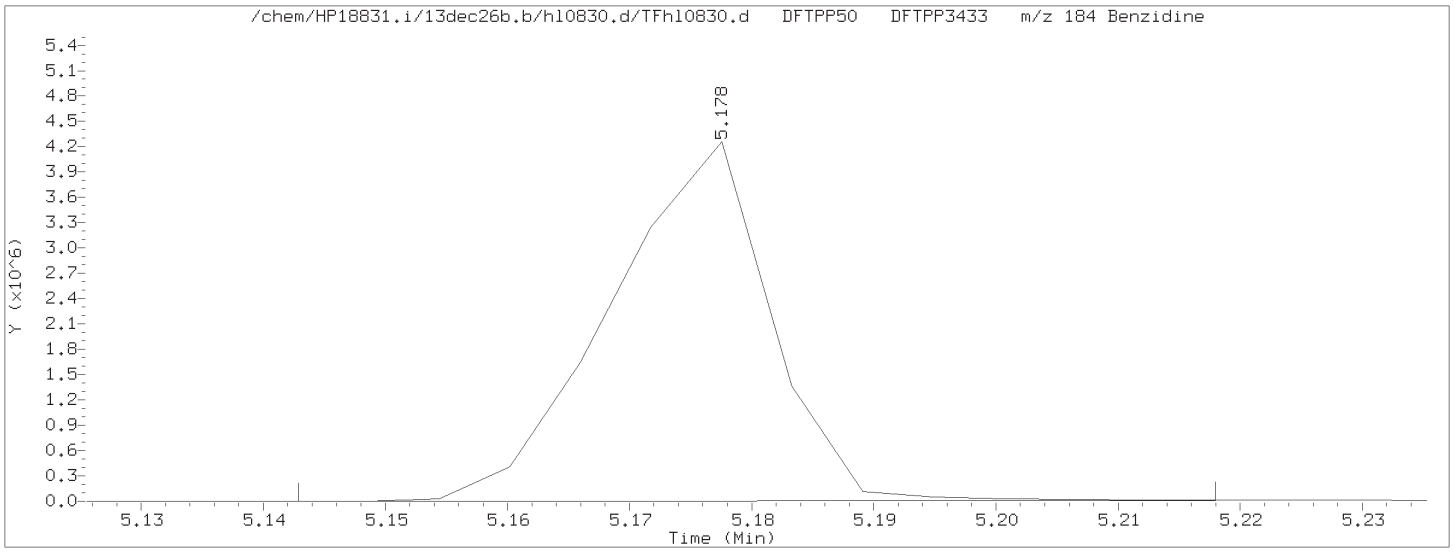
Instrument ID: HP18831.i Injection Date: 26-DEC-2013 17:32 Operator: ceb05247



Pentachlorophenol EICP peak height = 574656 EICP peak height at 10% = 57466 Pentachlorophenol EICP area = 557959

Pentachlorophenol EICP peak apex (min.) = 3.924
RT at 10% of front half of EICP (min.) = 3.914 'Front' peak width (min.) = 0.0107333333
RT at 10% of back half of EICP (min.) = 3.940 'Tailing' peak width (min.) = 0.0154333333

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0154333333}{0.0107333333} = 1.438$$



Benzidine EICP peak height = 4261253 EICP peak height at 10% = 426125 Benzidine EICP area = 3866633

Benzidine EICP peak apex (min.) = 5.178
RT at 10% of front half of EICP (min.) = 5.160 'Front' peak width (min.) = 0.0172000000
RT at 10% of back half of EICP (min.) = 5.188 'Tailing' peak width (min.) = 0.0100666667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0100666667}{0.0172000000} = 0.585$$

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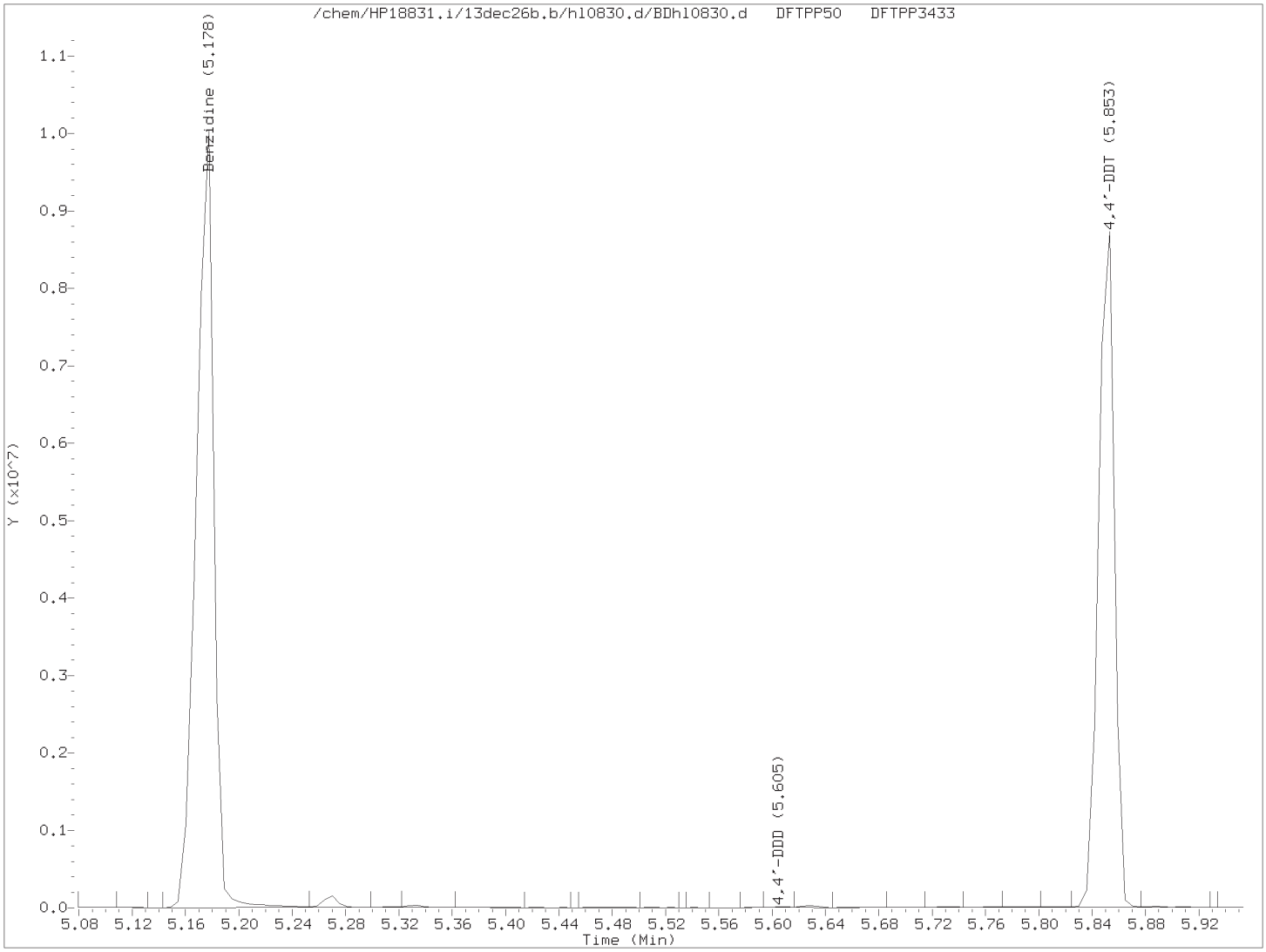
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP18831.i Injection Date: 26-DEC-2013 17:32 Operator: ceb05247



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{0 + 7314}{0 + 7314 + 7305216} \times 100 = 0.1$$

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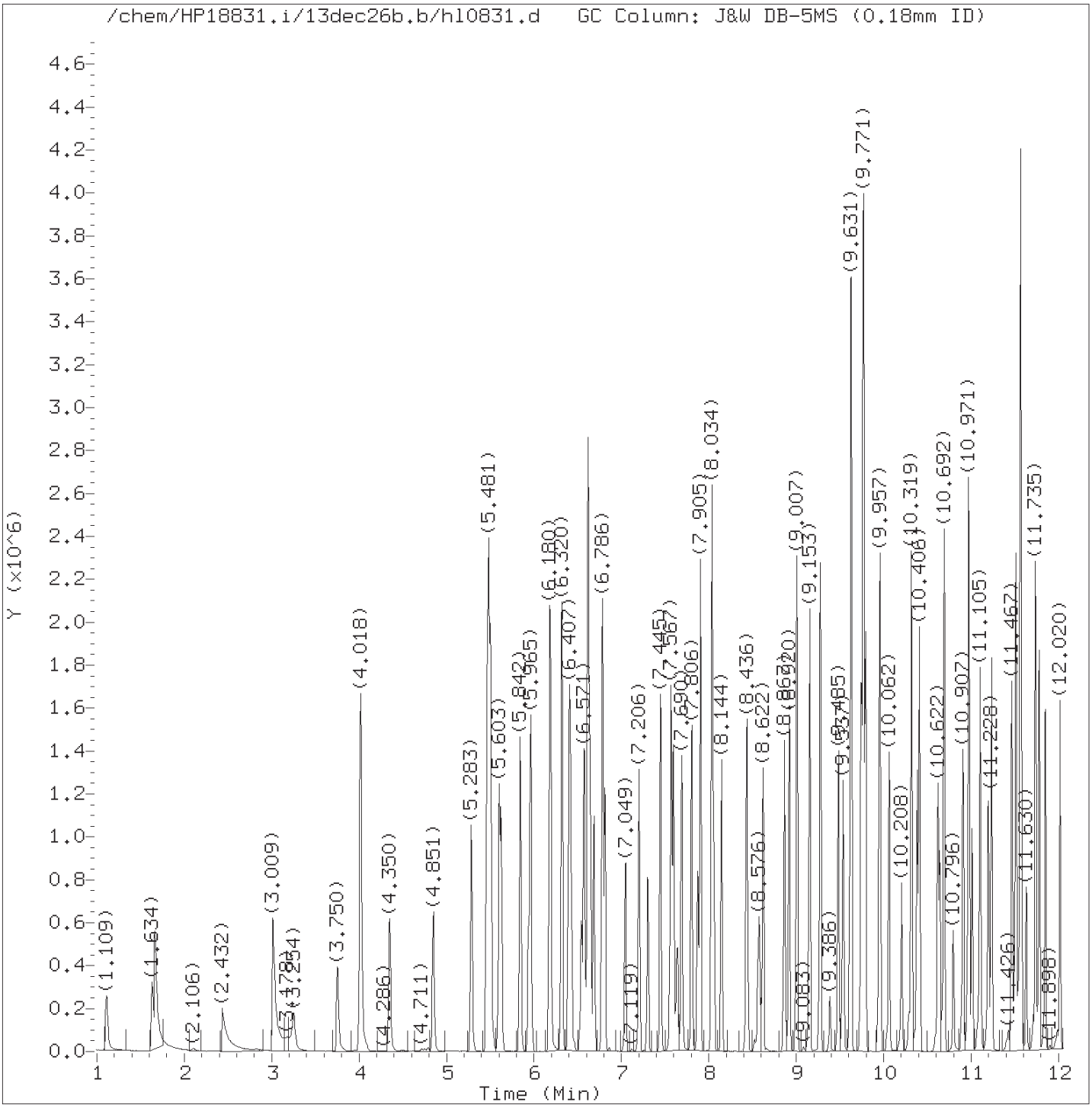
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec26b.b/hl0831.d Instrument ID: HP18831.i
Injection date and time: 26-DEC-2013 17:48 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 26-DEC-2013 18:23
Date, time and analyst ID of latest file update: 26-Dec-2013 18:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

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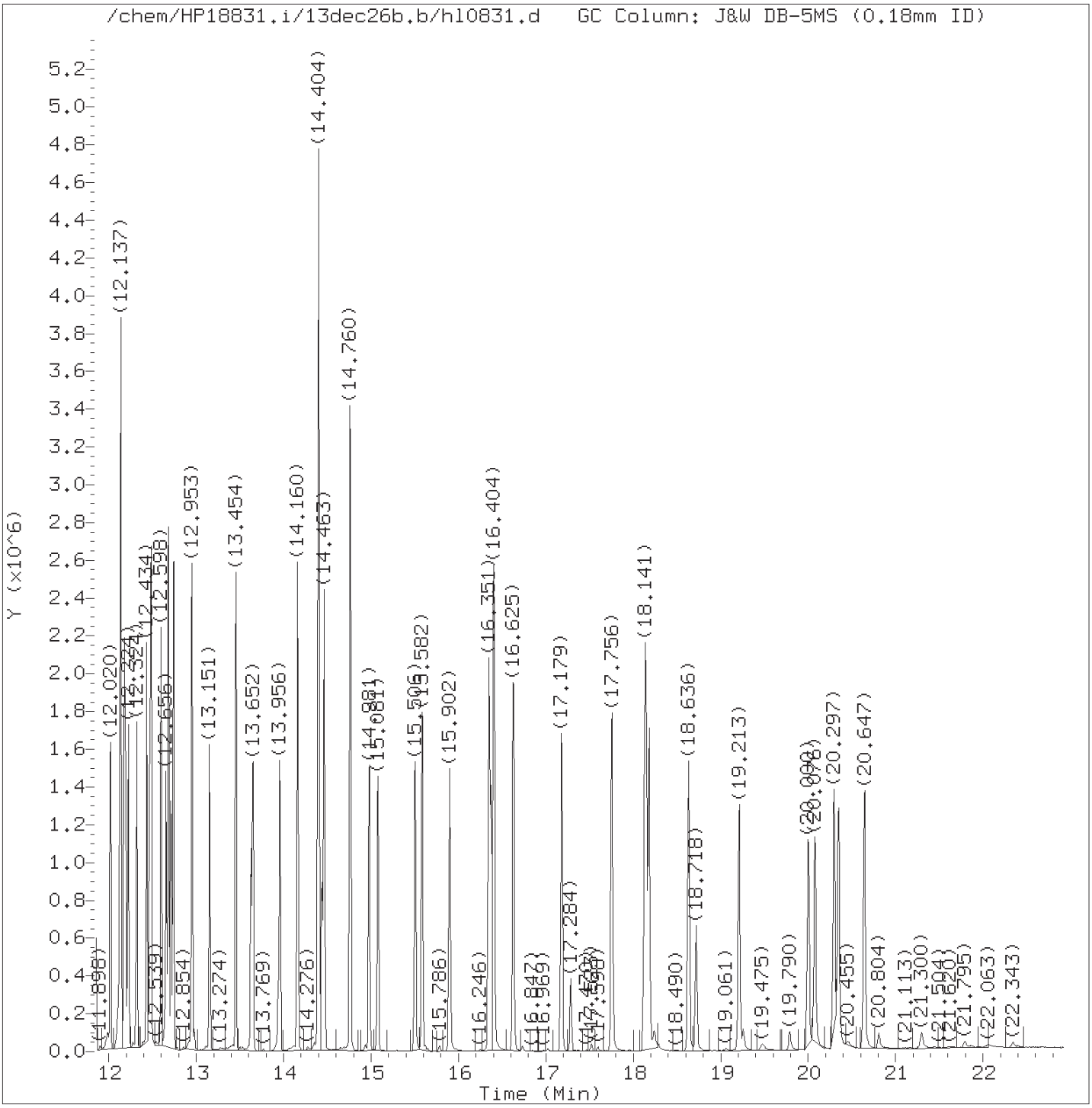
on 12/26/2013 at 18:25.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec26b.b/hl0831.d Instrument ID: HP18831.i
Injection date and time: 26-DEC-2013 17:48 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 26-DEC-2013 18:23
Date, time and analyst ID of latest file update: 26-Dec-2013 18:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Digitally signed by Catherine E. Bachman
on 12/26/2013 at 18:25.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec26b.b/hl0831.d Instrument ID: HP18831.i
Injection date and time: 26-DEC-2013 17:48 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 26-DEC-2013 18:23
Date, time and analyst ID of latest file update: 26-Dec-2013 18:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.109	88	204089	11.087
2) N-Nitrosodimethylamine	(1)	1.634	74	301537	10.286
3) Pyridine	(1)	1.663	79	481434	9.606
4) 2-Picoline	(1)	3.015	93	545261	11.048
5) N-Nitrosomethylethylamine	(1)	3.254	88	213476	10.115
6) Methyl methanesulfonate	(1)	3.750	80	249278	12.449
7)$2-Fluorophenol	(1)	4.018	112	1026400	24.655
8) N-Nitrosodiethylamine	(1)	4.350	102	242619	12.067
9) Ethyl methanesulfonate	(1)	4.851	109	248695	11.548
10) Benzaldehyde	(1)	5.283	77	336181	9.692
14) Aniline	(1)	5.457	93	839056	11.540
12)$Phenol-d6	(1)	5.481	99	1259961	22.842
11)$Phenol-d5	(1)	5.481	99	1259961	11.378
13) Phenol	(1)	5.498	94	687059	10.894
15) bis(2-Chloroethyl)ether	(1)	5.603	93	548537	11.293
16) 2-Chlorophenol	(1)	5.621	128	518480	12.257
17) 1,3-Dichlorobenzene	(1)	5.842	146	570270	12.601
18)*1,4-Dichlorobenzene-d4	(1)	5.941	152	137775	5.000
19) 1,4-Dichlorobenzene	(1)	5.965	146	577602	12.562
21) 1,2-Dichlorobenzene	(1)	6.180	146	537122	12.426
20) Benzyl alcohol	(1)	6.192	108	331434	11.601
23) Indene	(1)	6.320	115	971344	14.401
22) 2-Methylphenol	(1)	6.402	108	482544	12.218
25) bis(2-Chloroisopropyl)ether	(1)	6.419	45	871536	9.902
24) 2,2'-oxybis(1-Chloropropane)	(1)	6.419	45	871536	9.902
26) N-Nitrosopyrrolidine	(1)	6.542	100	249930	12.488
27) Acetophenone	(1)	6.577	105	642729	11.729
30) N-Nitrosomorpholine	(1)	6.617	56	291975	11.311
29) N-Nitroso-di-n-propylamine	(1)	6.617	70	325185	10.530
31) o-Toluidine	(1)	6.623	106	710300	11.152
28) 4-Methylphenol	(1)	6.646	108	531530	12.124
32) Hexachloroethane	(1)	6.687	117	207769	12.233
33)$Nitrobenzene-d5	(2)	6.786	82	946788	23.728
34) Nitrobenzene	(2)	6.810	77	487014	11.867
35) N-Nitrosopiperidine	(2)	7.049	114	252179	12.584
36) Isophorone	(2)	7.206	82	897003	12.130
37) 2-Nitrophenol	(2)	7.305	139	265188	13.658
38) 2,4-Dimethylphenol	(2)	7.445	107	450102	13.181
39) O,O,O-triethylphosphorothioate	(2)	7.567	198	208859	13.847
40) bis(2-Chloroethoxy)methane	(2)	7.597	93	588242M	11.176

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 12/26/2013 at 18:25.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec26b.b/hl0831.d Instrument ID: HP18831.i
Injection date and time: 26-DEC-2013 17:48 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 26-DEC-2013 18:23
Date, time and analyst ID of latest file update: 26-Dec-2013 18:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
41) Benzoic acid	(2)	7.632	105	237974	12.955
42) 2,4-Dichlorophenol	(2)	7.690	162	395219	13.707
43) 1,2,4-Trichlorobenzene	(2)	7.806	180	413631	13.351
44)*Naphthalene-d8	(2)	7.870	136	545708	5.000
45) Naphthalene	(2)	7.905	128	1434286	12.424
46) 4-Chloroaniline	(2)	8.034	127	608094	12.553
47) 2,6-Dichlorophenol	(2)	8.040	162	372153	13.143
48) Hexachloropropene	(2)	8.057	213	219009	16.276
49) Hexachlorobutadiene	(2)	8.144	225	203061	14.347
50) Quinoline	(2)	8.436	129	933980	12.977
51) Caprolactam	(2)	8.576	113	149491	12.142
53) N-Nitrosodi-n-butylamine	(2)	8.622	84	293288	10.317
54) 4-Chloro-3-methylphenol	(2)	8.867	107	396484	13.471
55) Safrole	(2)	8.920	162	349242	13.446
56) 2-Methylnaphthalene	(2)	9.007	142	926365	12.654
57) 1-Methylnaphthalene	(2)	9.153	142	833863	12.708
58) Hexachlorocyclopentadiene	(3)	9.275	237	165217	13.051
59) 1,2,4,5-Tetrachlorobenzene	(3)	9.275	216	349072	12.747
60) cis-Isosafrole	(3)	9.386	162	63974	13.127
61) 2,4,6-Trichlorophenol	(3)	9.485	196	268287	13.466
62) 2,4,5-Trichlorophenol	(3)	9.537	196	269326	13.265
63)$2-Fluorobiphenyl	(3)	9.631	172	1763215	24.052
65) Isosafrole	(3)	9.747	162	444964	15.541
64) trans-Isosafrole	(3)	9.747	162	444964	15.541
67) 2-Chloronaphthalene	(3)	9.765	162	827562	11.802
66) 1,1'-Biphenyl	(3)	9.771	154	1017371	11.346
68) 1-Chloronaphthalene	(3)	9.794	162	676600	10.322
69) Diphenyl ether	(3)	9.951	170	542971	12.175
70) 2-Nitroaniline	(3)	9.963	138	303818	12.907
71) 1,4-Naphthoquinone	(3)	10.062	158	356638	13.011
72) 1,4-Dinitrobenzene	(3)	10.208	168	146633	13.438
73) Dimethylphthalate	(3)	10.319	163	817657	11.681
74) 1,3-Dinitrobenzene	(3)	10.319	168	169912	13.000
75) 2,6-Dinitrotoluene	(3)	10.383	165	215180	13.606
76) Acenaphthylene	(3)	10.406	152	1261010	12.846
77) 3-Nitroaniline	(3)	10.622	138	285538	13.561
78)*Acenaphthene-d10	(3)	10.639	164	290316	5.000
79) Acenaphthene	(3)	10.692	153	811928	12.047
80) 2,4-Dinitrophenol	(3)	10.796	184	108116	12.079
82) Pentachlorobenzene	(3)	10.907	250	300972	13.624

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$ = Compound is a surrogate standard.

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on 12/26/2013 at 18:25.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec26b.b/hl0831.d Instrument ID: HP18831.i
Injection date and time: 26-DEC-2013 17:48 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 26-DEC-2013 18:23
Date, time and analyst ID of latest file update: 26-Dec-2013 18:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
83) Dibenzofuran	(3)	10.971	168	1145041	12.465
81) 4-Nitrophenol	(3)	10.971	109	107541	13.958
84) 2,4-Dinitrotoluene	(3)	11.012	165	258047	12.896
85) 1-Naphthylamine	(3)	11.105	143	903113	12.468
86) 2,3,4,6-Tetrachlorophenol	(3)	11.199	232	191159	13.538
87) 2-Naphthylamine	(3)	11.234	143	883211	12.188
88) Diethylphthalate	(3)	11.467	149	768691	11.534
89) Fluorene	(3)	11.513	166	906651	12.558
92) 5-Nitro-o-toluidine	(3)	11.566	152	247408	11.846
91) 4-Chlorophenyl-phenylether	(3)	11.566	204	370796	12.378
90) Thionazin	(3)	11.572	107	158589	11.263
93) 4-Nitroaniline	(3)	11.578	138	239035	11.258
94) 4,6-Dinitro-2-methylphenol	(4)	11.636	198	139458	13.023
95) N-Nitrosodiphenylamine	(4)	11.735	169	654939	11.090
96) NDPA as diphenylamine	(4)	11.735	169	654939	11.090
97) 1,2-Diphenylhydrazine	(4)	11.782	77	895002	10.830
98)$2,4,6-Tribromophenol	(3)	11.851	330	197897	28.964
99) Tetraethyldithiopyrophosphate	(4)	12.015	97	128651	11.375
100) 1,3,5-Trinitrobenzene	(4)	12.125	213	91231	12.601
102) Phorate	(4)	12.137	75	802250	14.684
101) Diallate (peak 1)	(4)	12.137	86	353832	7.495
103) Phenacetin	(4)	12.178	108	413279	11.550
104) 4-Bromophenyl-phenylether	(4)	12.195	248	208902	12.900
106) Hexachlorobenzene	(4)	12.224	284	212776	13.205
105) Diallate (peak 2)	(4)	12.230	86	50656	2.527
107) Dimethoate	(4)	12.324	87	411448	11.116
108) Atrazine	(4)	12.434	200	184304	12.152
109) Pentachlorophenol	(4)	12.469	266	141867	12.982
110) Pentachloronitrobenzene	(4)	12.475	237	87481	15.318
111) 4-Aminobiphenyl	(4)	12.487	169	856142	12.458
112) Pronamide	(4)	12.598	173	353329	12.820
113)*Phenanthrene-d10	(4)	12.656	188	432885	5.000
115) Phenanthrene	(4)	12.685	178	1152126	11.443
114) Dinoseb	(4)	12.714	211	181221	12.032
117) Anthracene	(4)	12.743	178	1203381	12.294
118) Carbazole	(4)	12.953	167	1152506	11.581
119) Methyl parathion	(4)	13.151	109	295959	11.787
120) Di-n-butylphthalate	(4)	13.454	149	1446470	11.803
122) 4-Nitroquinoline-1-oxide	(4)	13.629	190	120505	12.083
121) Parathion	(4)	13.647	109	189489	12.726

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$ = Compound is a surrogate standard.

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on 12/26/2013 at 18:25.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec26b.b/hl0831.d Instrument ID: HP18831.i
Injection date and time: 26-DEC-2013 17:48 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 26-DEC-2013 18:23
Date, time and analyst ID of latest file update: 26-Dec-2013 18:23 ceb05247

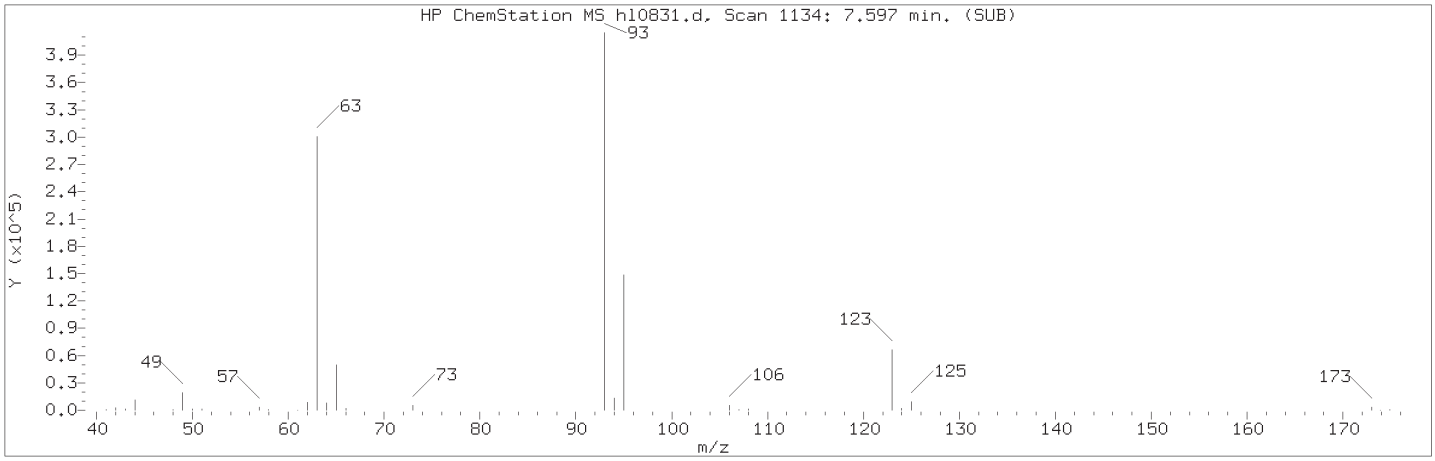
Sample Name: SSTD12.5 Lab Sample ID: STD3173

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
124) Isodrin	(4)	13.956	193	144383	13.105
125) Fluoranthene	(4)	14.160	202	1243711	12.624
126) Benzidine	(5)	14.404	184	2653989	37.765
127)*Pyrene-d10	(5)	14.439	212	441415	5.000
128) Pyrene	(5)	14.463	202	1188419	11.908
129)$Terphenyl-d14	(5)	14.760	244	1461214	24.686
130) p-Dimethylaminoazobenzene	(5)	14.981	225	239879	12.556
131) Chlorobenzilate	(5)	15.081	139	383536	12.797
133) 3,3'-Dimethylbenzidine	(5)	15.506	212	748009	13.196
135) Butylbenzylphthalate	(5)	15.582	149	611640	12.163
136) 2-Acetylaminofluorene	(5)	15.902	181	481908	13.801
138) Benzo(a)anthracene	(5)	16.351	228	1104977	13.217
137) 3,3'-Dichlorobenzidine	(5)	16.374	252	415306	13.489
139) 4,4'-Methylenebis(2-Chloroanil	(5)	16.398	231	181440	12.755
140) Chrysene	(5)	16.409	228	983402	12.150
141) bis(2-Ethylhexyl)phthalate	(5)	16.631	149	816387	12.138
142) 6-Methylchrysene	(5)	17.179	242	754922	13.476
143) Di-n-octylphthalate	(6)	17.756	149	1460237	12.350
144) Benzo(b)fluoranthene	(6)	18.135	252	1045060	13.048
145) 7,12-Dimethylbenz[a]anthracene	(6)	18.146	256	466720	12.804
146) Benzo(k)fluoranthene	(6)	18.181	252	995526	12.479
147) Benzo(a)pyrene	(6)	18.636	252	984919	13.218
148)*Perylene-d12	(6)	18.718	264	334167	5.000
149) 3-Methylcholanthrene	(6)	19.213	268	496234	13.819
150) Dibenz(a,h)acridine	(6)	20.006	279	728651	13.301
151) Dibenz(a,j)acridine	(6)	20.081	279	773478	12.954
152) Indeno(1,2,3-cd)pyrene	(6)	20.297	276	1018779M	13.416
153) Dibenz(a,h)anthracene	(6)	20.350	278	806252	12.770
154) Benzo(g,h,i)perylene	(6)	20.647	276	891460	13.044
155) Diallate TRANS/CIS	(4)			404488	10.244

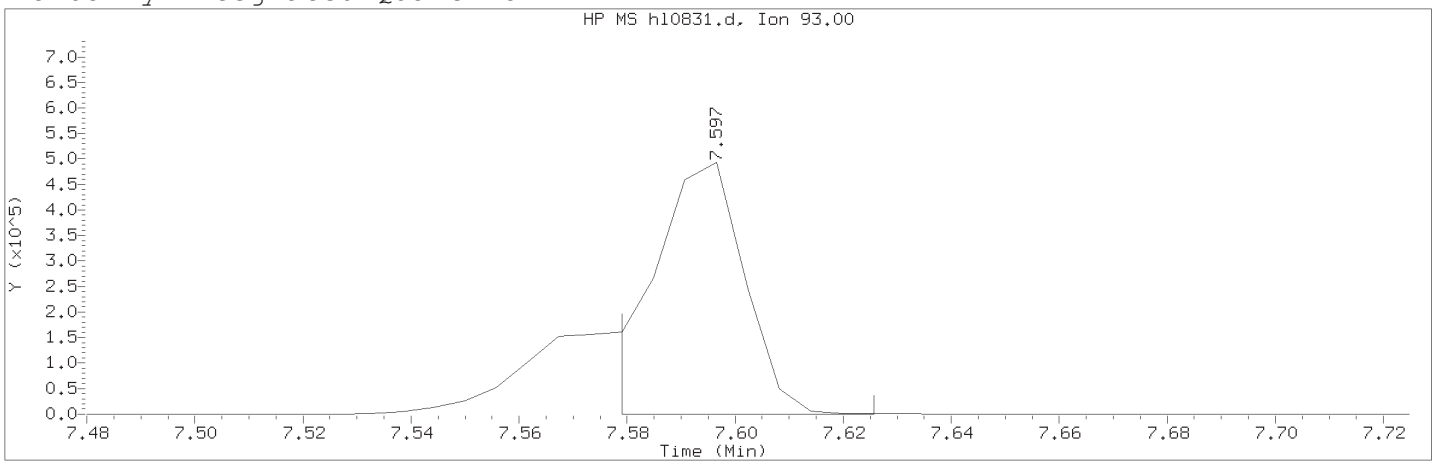
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 12/26/2013 at 18:25.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/13dec26b.b/hl0831.d Instrument ID: HP18831.i
Injection date and time: 26-DEC-2013 17:48 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 26-DEC-2013 18:23
Date, time and analyst ID of latest file update: 26-Dec-2013 18:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

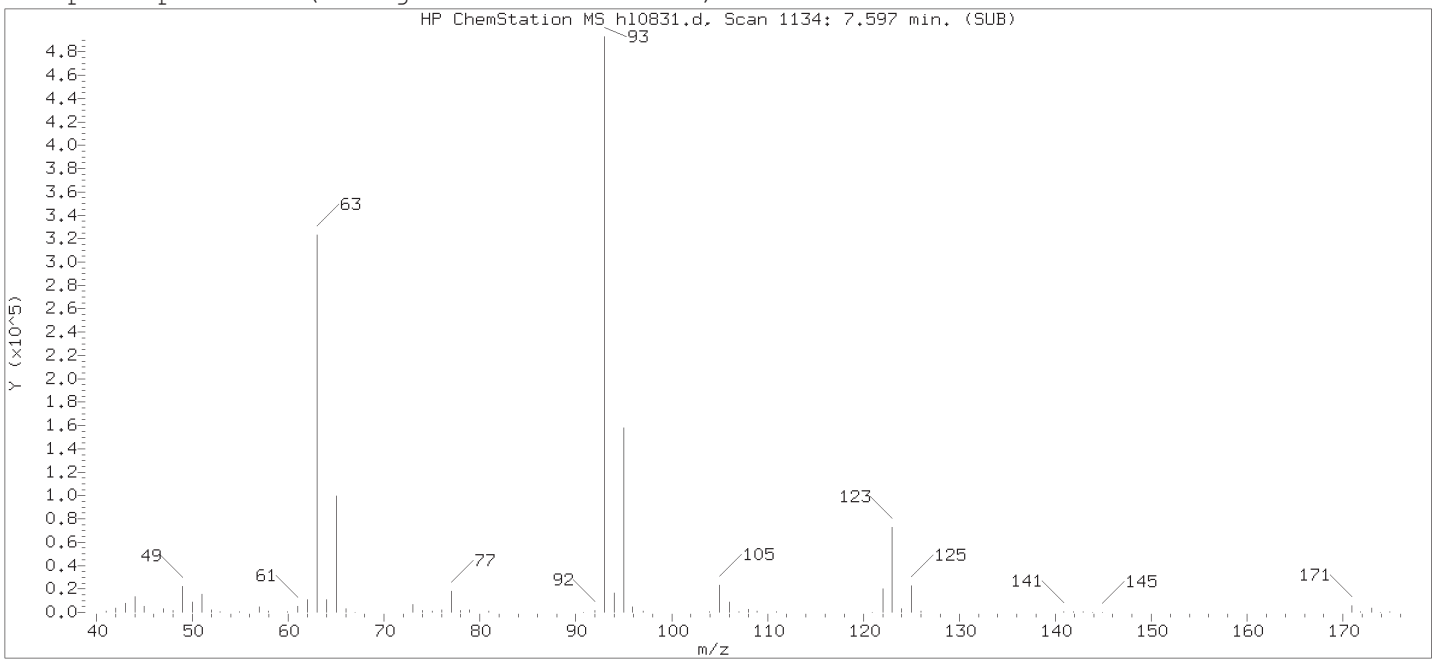
Compound Number : 40
Compound Name : bis(2-Chloroethoxy)methane
Scan Number : 1134
Retention Time (minutes) : 7.597
Quant Ion : 93.00
Area (flag) : 588242M
On-Column Amount (ng/ul) : 11.1764
Integration start scan : 1130 Integration stop scan: 1138
Y at integration start : -185 Y at integration end: -185

Reason for manual integration: improper integration

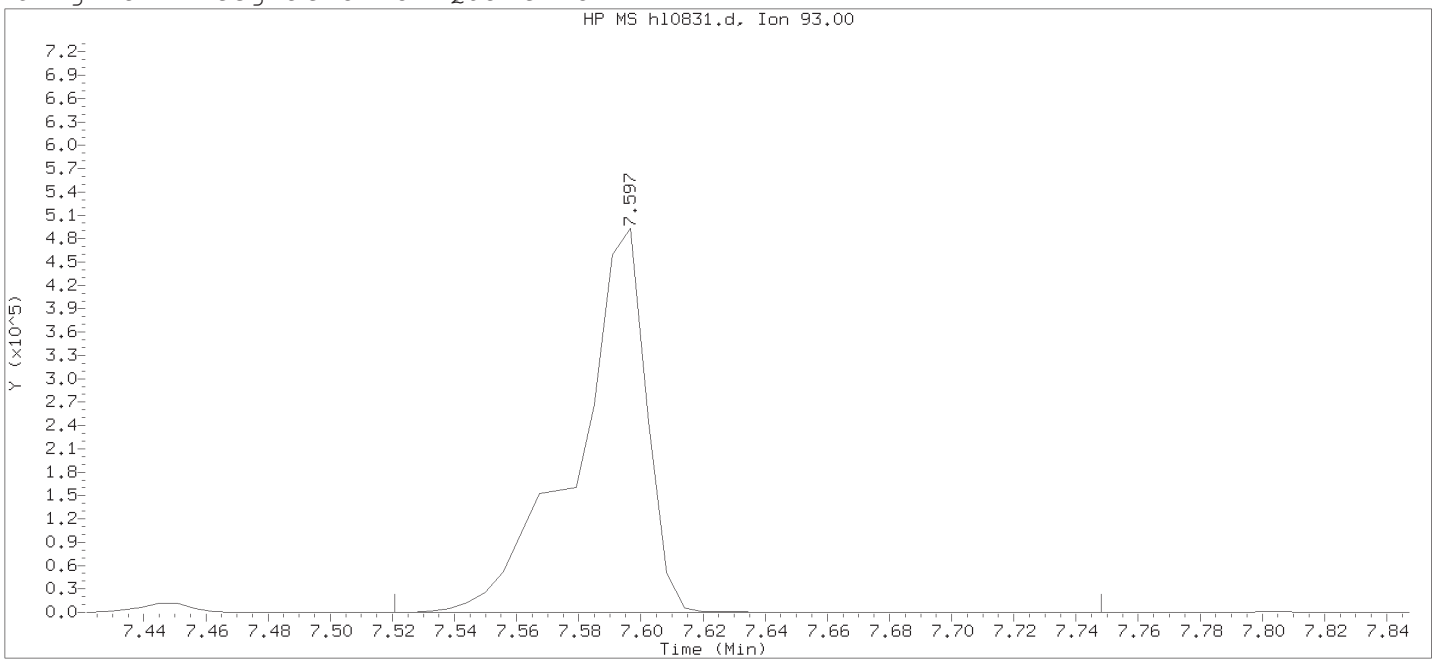
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 12/26/2013 at 18:25.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 12/30/2013 at 13:29.
Parallax ID: mar00486

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/13dec26b.b/hl0831.d Instrument ID: HP18831.i
Injection date and time: 26-DEC-2013 17:48 Analyst ID: ceb05247

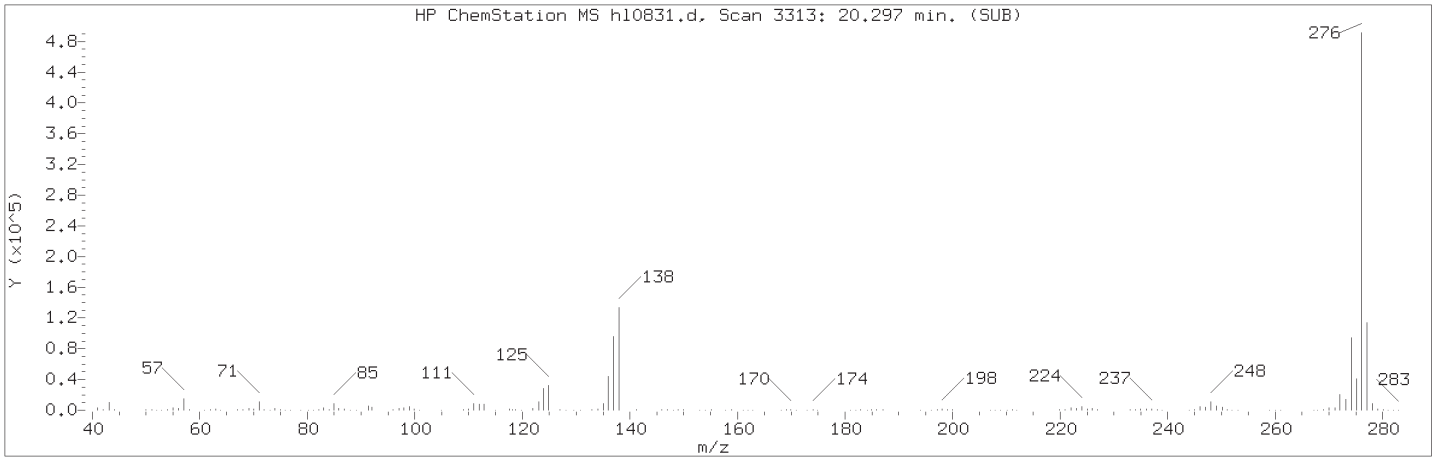
Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 26-DEC-2013 18:21
Date, time and analyst ID of latest file update: 26-Dec-2013 18:21 Automation

Sample Name: SSTD12.5 Lab Sample ID: STD3173

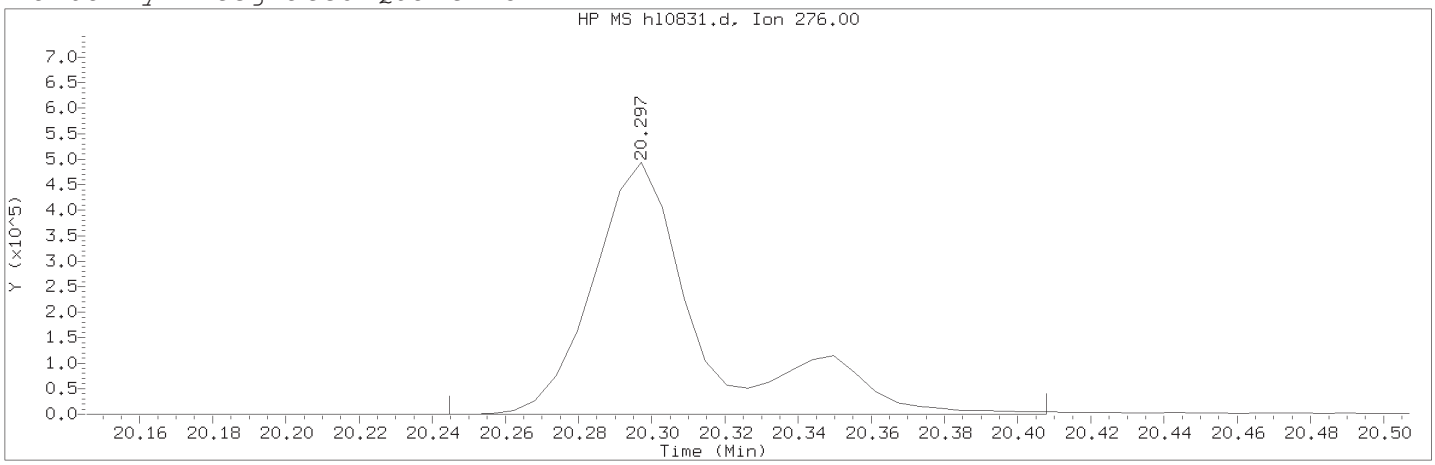
Compound Number : 40
Compound Name : bis(2-Chloroethoxy)methane
Scan Number : 1134
Retention Time (minutes) : 7.597
Quant Ion : 93.00
Area : 766190
On-column Amount (ng/ul) : 14.5574
Integration start scan : 1120 Integration stop scan: 1159
Y at integration start : 0 Y at integration end: 0

Digitally signed by Catherine E. Bachman on 12/26/2013 at 18:25.
Target 3.5 esignature used ID: ceb05247.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/13dec26b.b/hl0831.d Instrument ID: HP18831.i
Injection date and time: 26-DEC-2013 17:48 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 26-DEC-2013 18:23
Date, time and analyst ID of latest file update: 26-Dec-2013 18:23 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: STD3173

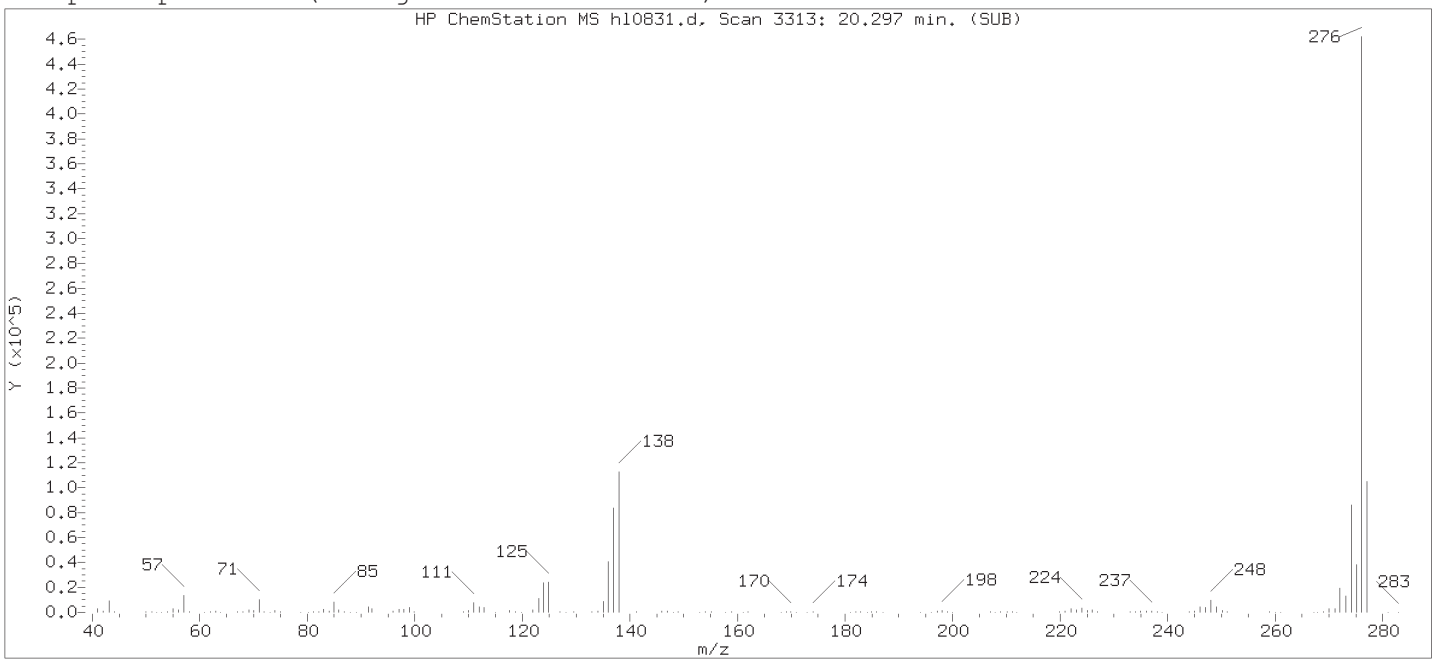
Compound Number : 152
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3313
Retention Time (minutes) : 20.297
Quant Ion : 276.00
Area (flag) : 1018779M
On-Column Amount (ng/ul) : 13.4162
Integration start scan : 3303 Integration stop scan: 3331
Y at integration start : 279 Y at integration end: 279

Reason for manual integration: improper integration

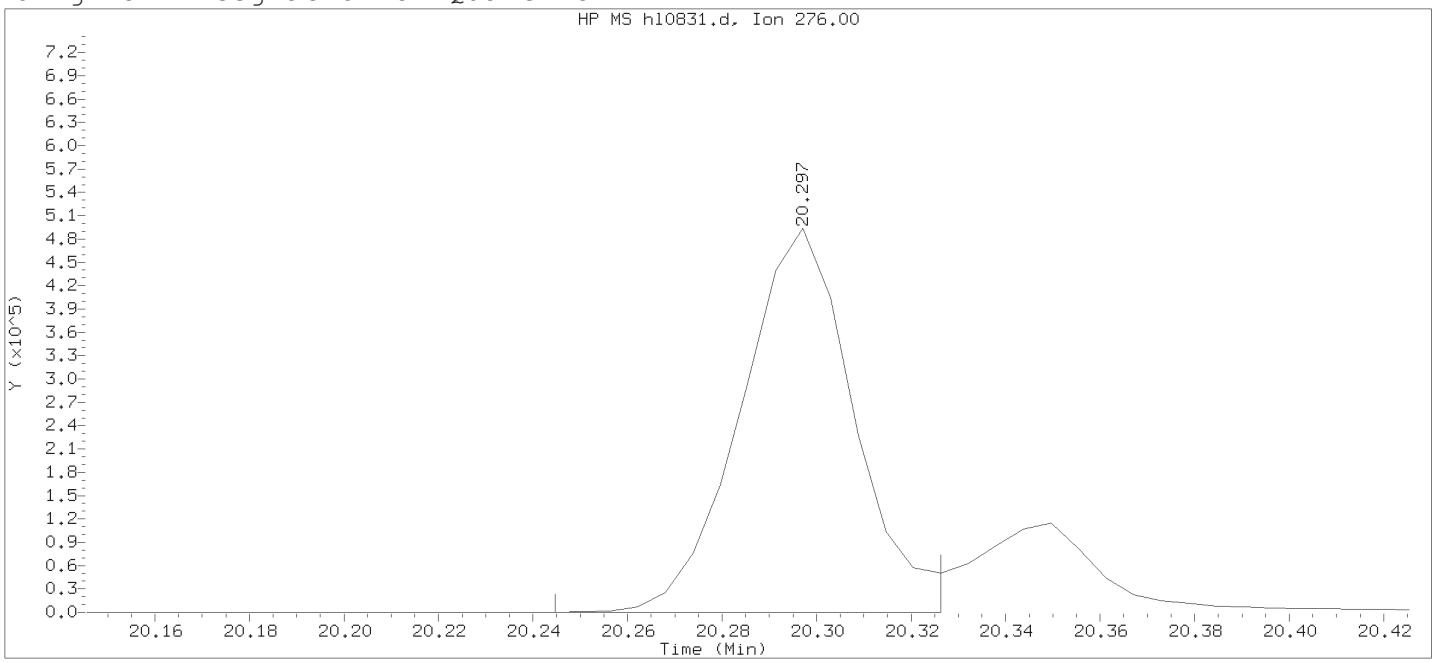
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 12/26/2013 at 18:25.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 12/30/2013 at 13:29.
Parallax ID: mar00486

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/13dec26b.b/hl0831.d Instrument ID: HP18831.i
Injection date and time: 26-DEC-2013 17:48 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec26b.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 26-DEC-2013 18:21
Date, time and analyst ID of latest file update: 26-Dec-2013 18:21 Automation

Sample Name: SSTD12.5 Lab Sample ID: STD3173

Compound Number : 152
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3313
Retention Time (minutes) : 20.297
Quant Ion : 276.00
Area : 811827
On-column Amount (ng/ul) : 10.6908
Integration start scan : 3303 Integration stop scan: 3317
Y at integration start : 0 Y at integration end: 51

Digitally signed by Catherine E. Bachman on 12/26/2013 at 18:25.
Target 3.5 esignature User ID: ceb05247

Raw QC Data

Semivolatiles by GC/MS

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/13dec23.b/hl0785.d
Injection date and time: **23-DEC-2013 17:28**
Data file Sample Info. Line: SBLKWJ3488;SBLKWJ348;1;3;BLANK;;;
Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 23-Dec-2013 19:24 ceb05247

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **348WAJ**
Calibration date and time (Last Method Edit): 23-DEC-2013 19:22
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.953(0.000)	852	152	131642 (-2)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	541394 (0)	5.00	
78) Acenaphthene-d10	10.657(0.006)	1659	164	286877 (-2)	5.00	
113) Phenanthrene-d10	12.667(0.006)	2004	188	450032 (11)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	478058 (7)	5.00	
148) Perylene-d12	18.747(0.000)	3047	264	354680 (8)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) 2-Fluorophenol	(1)	4.024(0.002)	112	1229912	30.920	62%		10 - 107
12) Phenol-d6	(1)	5.487(0.002)	99	1231099	23.359	47%		10 - 83
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	859409	21.710	87%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1633674	22.552	90%		63 - 121
98) 2,4,6-Tribromophenol	(3)	11.863(0.000)	330	352058	52.144	104%		22 - 150
129) Terphenyl-d14	(5)	14.783(0.000)	244	1553916	24.240	97%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
2) N-Nitrosodimethylamine	(1)			Not Detected					0.5
10) Benzaldehyde	(1)			Not Detected					0.3
13) Phenol	(1)			Not Detected					0.1
15) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
16) 2-Chlorophenol	(1)			Not Detected					0.1
17) 1,3-Dichlorobenzene	(1)			Not Detected					0.1
19) 1,4-Dichlorobenzene	(1)			Not Detected					0.1
21) 1,2-Dichlorobenzene	(1)			Not Detected					0.1
22) 2-Methylphenol	(1)			Not Detected					0.1
24) 2,2'-oxybis(1-Chloropropane)	(1)			Not Detected					0.1
25) bis(2-Chloroisopropyl)ether	(1)			Not Detected					0.1
27) Acetophenone	(1)			Not Detected					0.1
29) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
28) 4-Methylphenol	(1)			Not Detected					0.1
32) Hexachloroethane	(1)			Not Detected					0.3
34) Nitrobenzene	(2)			Not Detected					0.1
36) Isophorone	(2)			Not Detected					0.1
37) 2-Nitrophenol	(2)			Not Detected					0.1
38) 2,4-Dimethylphenol	(2)			Not Detected					0.1
40) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
42) 2,4-Dichlorophenol	(2)			Not Detected					0.1
43) 1,2,4-Trichlorobenzene	(2)			Not Detected					0.1
45) Naphthalene	(2)			Not Detected					0.03
46) 4-Chloroaniline	(2)			Not Detected					0.1
49) Hexachlorobutadiene	(2)			Not Detected					0.1
51) Caprolactam	(2)			Not Detected					1
54) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1

Data file: /chem/HP18831.i/13dec23.b/hl0785.d Injection date and time: **23-DEC-2013 17:28**
Data file Sample Info. Line: SBLKWJ3488;SBLKWJ348;1;3;BLANK;;; Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 23-Dec-2013 19:24 ceb05247

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **348WAJ**
Calibration date and time (Last Method Edit): 23-DEC-2013 19:22
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
56) 2-Methylnaphthalene	(2)			Not Detected					0.03
58) Hexachlorocyclopentadiene	(3)			Not Detected					1
61) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
62) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
66) 1,1'-Biphenyl	(3)			Not Detected					0.1
67) 2-Chloronaphthalene	(3)			Not Detected					0.1
70) 2-Nitroaniline	(3)			Not Detected					0.1
73) Dimethylphthalate	(3)			Not Detected					0.5
75) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
76) Acenaphthylene	(3)			Not Detected					0.03
77) 3-Nitroaniline	(3)			Not Detected					0.1
79) Acenaphthene	(3)			Not Detected					0.03
80) 2,4-Dinitrophenol	(3)			Not Detected					3
81) 4-Nitrophenol	(3)			Not Detected					3
83) Dibenzofuran	(3)			Not Detected					0.1
84) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
88) Diethylphthalate	(3)			Not Detected					0.5
89) Fluorene	(3)			Not Detected					0.03
91) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
93) 4-Nitroaniline	(3)			Not Detected					0.1
94) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
95) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
97) 1,2-Diphenylhydrazine	(4)			Not Detected					0.1
104) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
106) Hexachlorobenzene	(4)			Not Detected					0.03
108) Atrazine	(4)			Not Detected					0.5
109) Pentachlorophenol	(4)			Not Detected					0.3
115) Phenanthrene	(4)			Not Detected					0.03
117) Anthracene	(4)			Not Detected					0.03
118) Carbazole	(4)			Not Detected					0.1
120) Di-n-butylphthalate	(4)			Not Detected					0.5
125) Fluoranthene	(4)			Not Detected					0.03
126) Benzidine	(5)			Not Detected					5
128) Pyrene	(5)			Not Detected					0.03
135) Butylbenzylphthalate	(5)			Not Detected					0.5
137) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
138) Benzo(a)anthracene	(5)			Not Detected					0.03
140) Chrysene	(5)			Not Detected					0.03
141) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
143) Di-n-octylphthalate	(6)			Not Detected					0.5
144) Benzo(b)fluoranthene	(6)			Not Detected					0.03
146) Benzo(k)fluoranthene	(6)			Not Detected					0.03
147) Benzo(a)pyrene	(6)			Not Detected					0.03
152) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
153) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
154) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Data file: /chem/HP18831.i/13dec23.b/hl0785.d Injection date and time: **23-DEC-2013 17:28**
Data file Sample Info. Line: SBLKWJ3488;SBLKWJ348;1;3;BLANK;;; Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 23-Dec-2013 19:24 ceb05247

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **348WAJ**
Calibration date and time (Last Method Edit): 23-DEC-2013 19:22
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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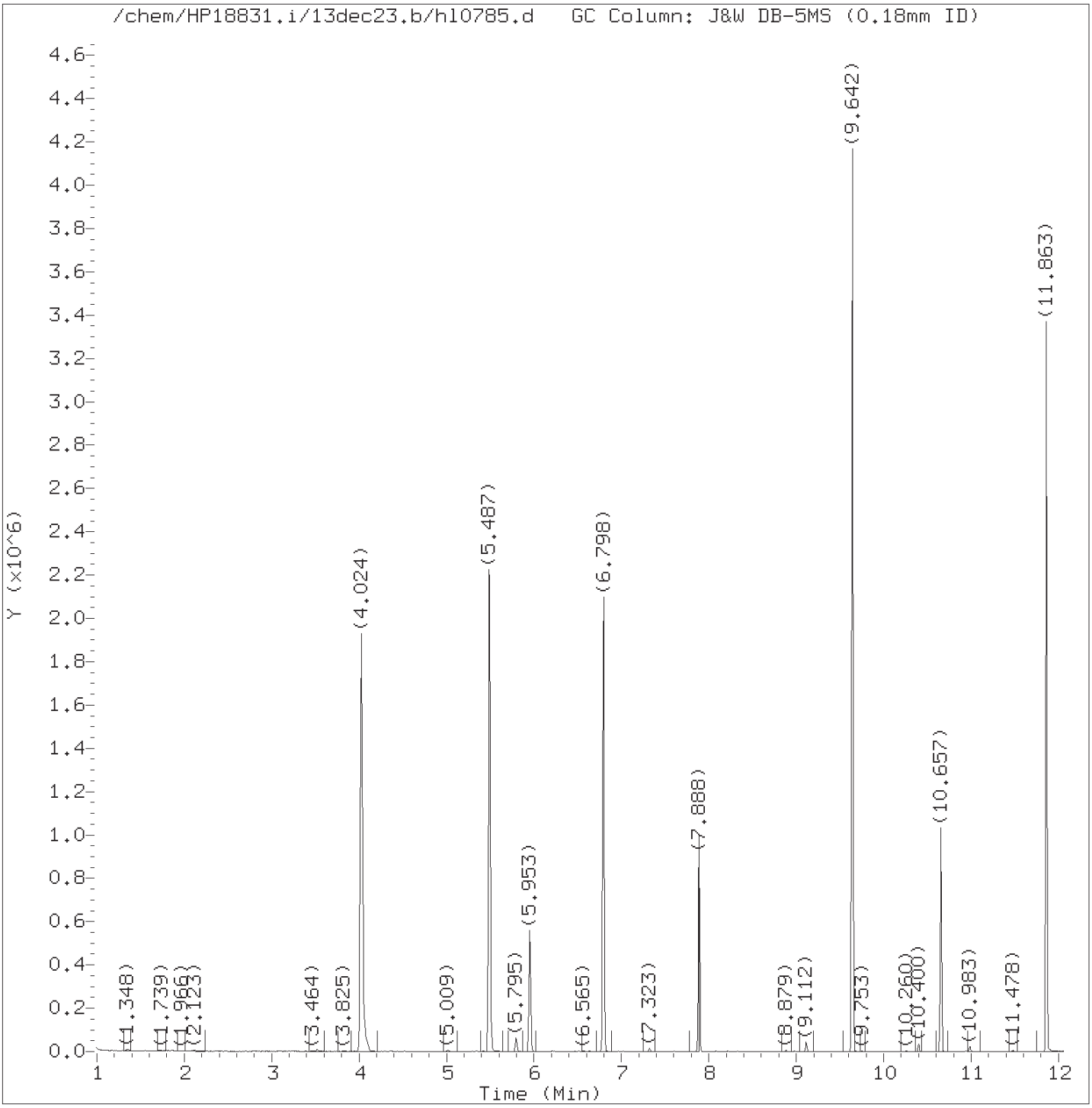
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 73

Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:27. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

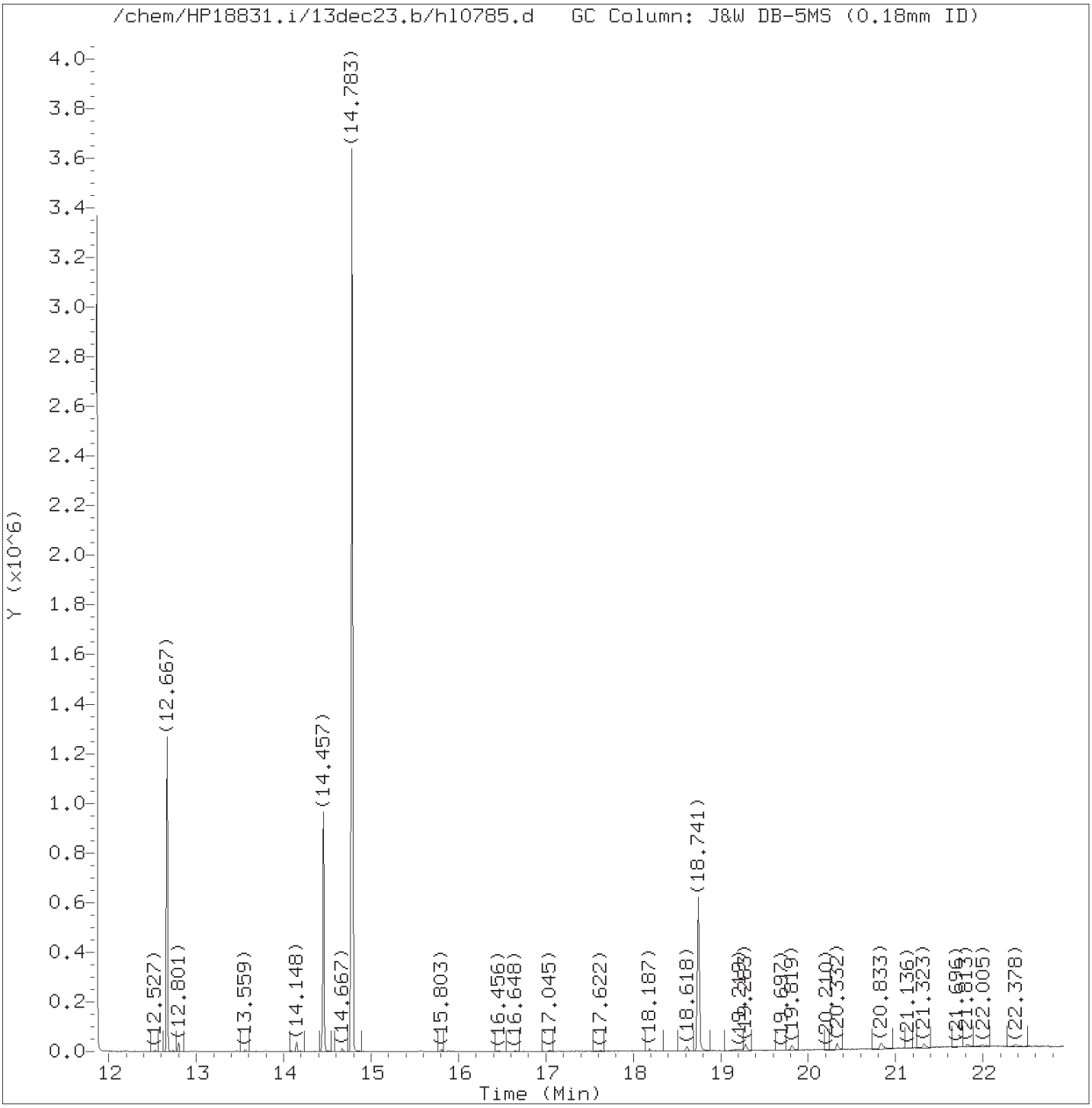
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0785.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:28 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:24 ceb05247

Sample Name: SBLKWJ3488 Lab Sample ID: SBLKWJ348

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 19:27.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0785.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:28 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:24 ceb05247

Sample Name: SBLKWJ3488 Lab Sample ID: SBLKWJ348

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 19:27.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0785.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:28 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:24 ceb05247

Sample Name: SBLKWJ3488 Lab Sample ID: SBLKWJ348

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
7)$2-Fluorophenol	(1)	4.024	112	1229912	30.920
12)$Phenol-d6	(1)	5.487	99	1231099	23.359
18)*1,4-Dichlorobenzene-d4	(1)	5.953	152	131642	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	859409	21.710
44)*Naphthalene-d8	(2)	7.888	136	541394	5.000
63)$2-Fluorobiphenyl	(3)	9.642	172	1633674	22.552
78)*Acenaphthene-d10	(3)	10.657	164	286877	5.000
98)$2,4,6-Tribromophenol	(3)	11.863	330	352058	52.144
113)*Phenanthrene-d10	(4)	12.667	188	450032	5.000
127)*Pyrene-d10	(5)	14.457	212	478058	5.000
129)$Terphenyl-d14	(5)	14.783	244	1553916	24.240
148)*Perylene-d12	(6)	18.747	264	354680	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 19:27.
Target 3.5 esignature user ID: ceb05247

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY7DMS

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311250

Sample wt/vol: 248 (g/mL)ML Lab File ID: hl0788.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/23/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	49	
208-96-8-------	Acenaphthylene	53	
83-32-9--------	Acenaphthene	47	
86-73-7--------	Fluorene	49	
85-01-8--------	Phenanthrene	51	
120-12-7-------	Anthracene	49	
206-44-0-------	Fluoranthene	51	
129-00-0-------	Pyrene	48	
56-55-3--------	Benzo(a)anthracene	50	
218-01-9-------	Chrysene	47	
205-99-2-------	Benzo(b)fluoranthene	51	
207-08-9-------	Benzo(k)fluoranthene	50	
50-32-8--------	Benzo(a)pyrene	53	
193-39-5-------	Indeno(1,2,3-cd)pyrene	53	
53-70-3--------	Dibenz(a,h)anthracene	52	
191-24-2-------	Benzo(g,h,i)perylene	51	

FORM I SV-1

PNY7DMS

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311250

Data file: /chem/HP18831.i/13dec23.b/hl0788.d
Data file Sample Info. Line: PNY7DMS;7311250;1;3;MS;;;
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

Injection date and time: **23-DEC-2013 18:55**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 17:38
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.959(-0.006)	853	152	130413 (-3)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	494215 (-9)	5.00	
78) Acenaphthene-d10	10.656(0.006)	1659	164	274896 (-6)	5.00	
113) Phenanthrene-d10	12.667(0.006)	2004	188	366355 (-9)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	402828 (-10)	5.00	
148) Perylene-d12	18.747(0.000)	3047	264	300412 (-8)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	838812	23.213	93%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1562403	22.508	90%		63 - 121
129) Terphenyl-d14	(5)	14.783(0.000)	244	1305446	24.167	97%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)	7.923(-0.000)	128	1258521	12.037	48.54			0.03
76) Acenaphthylene	(3)	10.423(0.000)	152	1225672	13.186	53.17			0.03
79) Acenaphthene	(3)	10.709(-0.000)	153	739463	11.587	46.72			0.03
89) Fluorene	(3)	11.531(-0.000)	166	822771	12.035	48.53			0.03
115) Phenanthrene	(4)	12.696(-0.000)	178	1084779	12.731	51.33			0.03
117) Anthracene	(4)	12.755(-0.000)	178	1005021	12.132	48.92			0.03
125) Fluoranthene	(4)	14.183(-0.000)	202	1051221	12.608	50.84			0.03
128) Pyrene	(5)	14.486(-0.000)	202	1080719	11.866	47.85			0.03
138) Benzo(a)anthracene	(5)	16.374(-0.000)	228	945657	12.394	49.98			0.03
140) Chrysene	(5)	16.433(-0.000)	228	855442	11.582	46.70			0.03
144) Benzo(b)fluoranthene	(6)	18.158(0.000)	252	908538	12.618	50.88			0.03
146) Benzo(k)fluoranthene	(6)	18.204(0.000)	252	883505	12.320	49.68			0.03
147) Benzo(a)pyrene	(6)	18.659(0.000)	252	875845	13.075	52.72			0.03
152) Indeno(1,2,3-cd)pyrene	(6)	20.332(-0.000)	276	903865M	13.240	53.39			0.03
153) Dibenz(a,h)anthracene	(6)	20.379(-0.000)	278	732807	12.911	52.06			0.03
154) Benzo(g,h,i)perylene	(6)	20.676(0.000)	276	778292	12.668	51.08			0.03

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 01/02/2014 at 17:38. Target 3.5 esignature user ID: ceb05247

PNY7DMS Lancaster Labs Analysis Summary for GC/MS Semivolatiles 7311250

Data file: /chem/HP18831.i/13dec23.b/hl0788.d Injection date and time: **23-DEC-2013 18:55**
Data file Sample Info. Line: PNY7DMS;7311250;1;3;MS;;; Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 17:38
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

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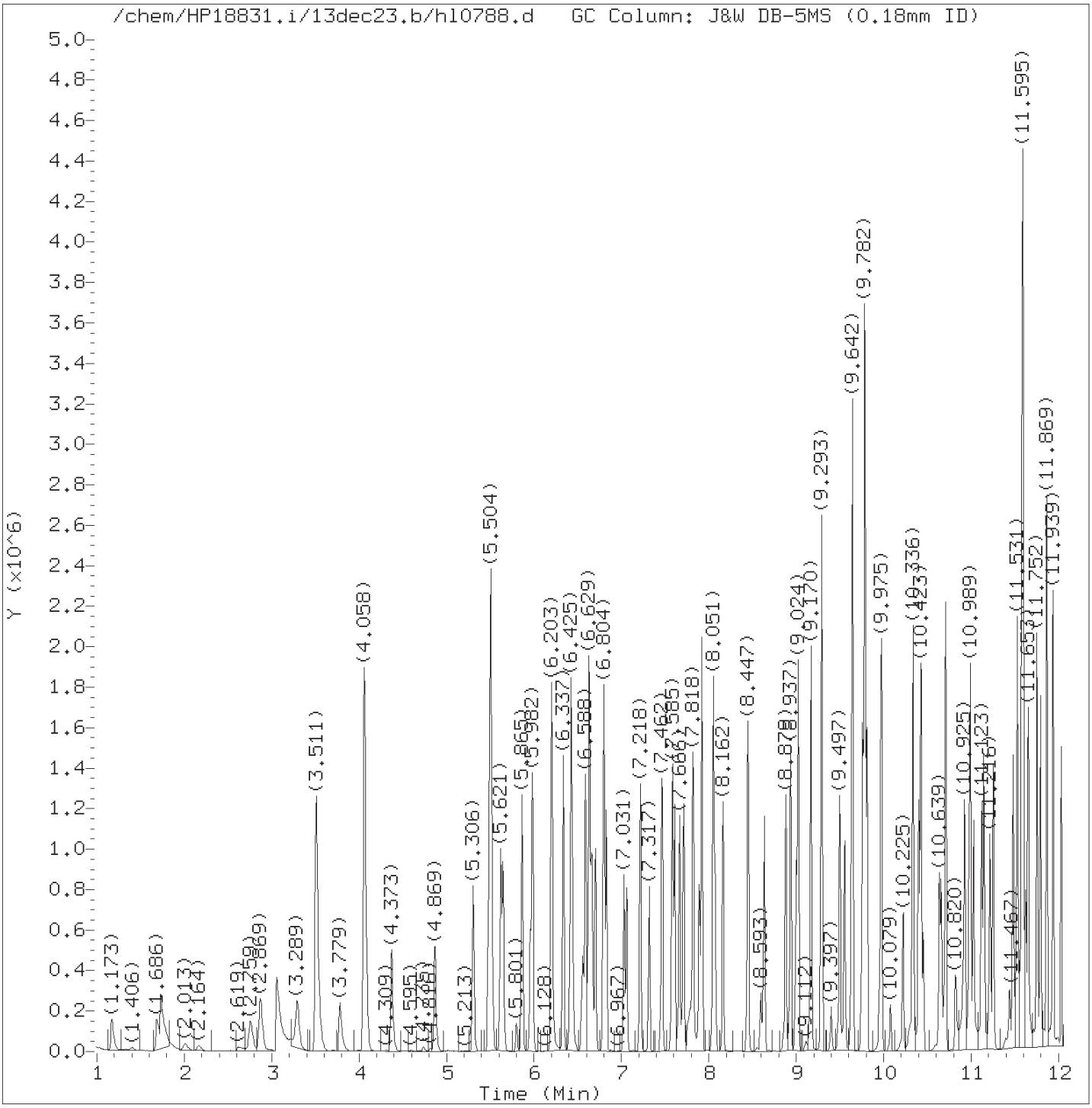
Total number of targets = 16

Digitally signed by Catherine E. Bachman on 01/02/2014 at 17:38. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/03/2014 at 10:13. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

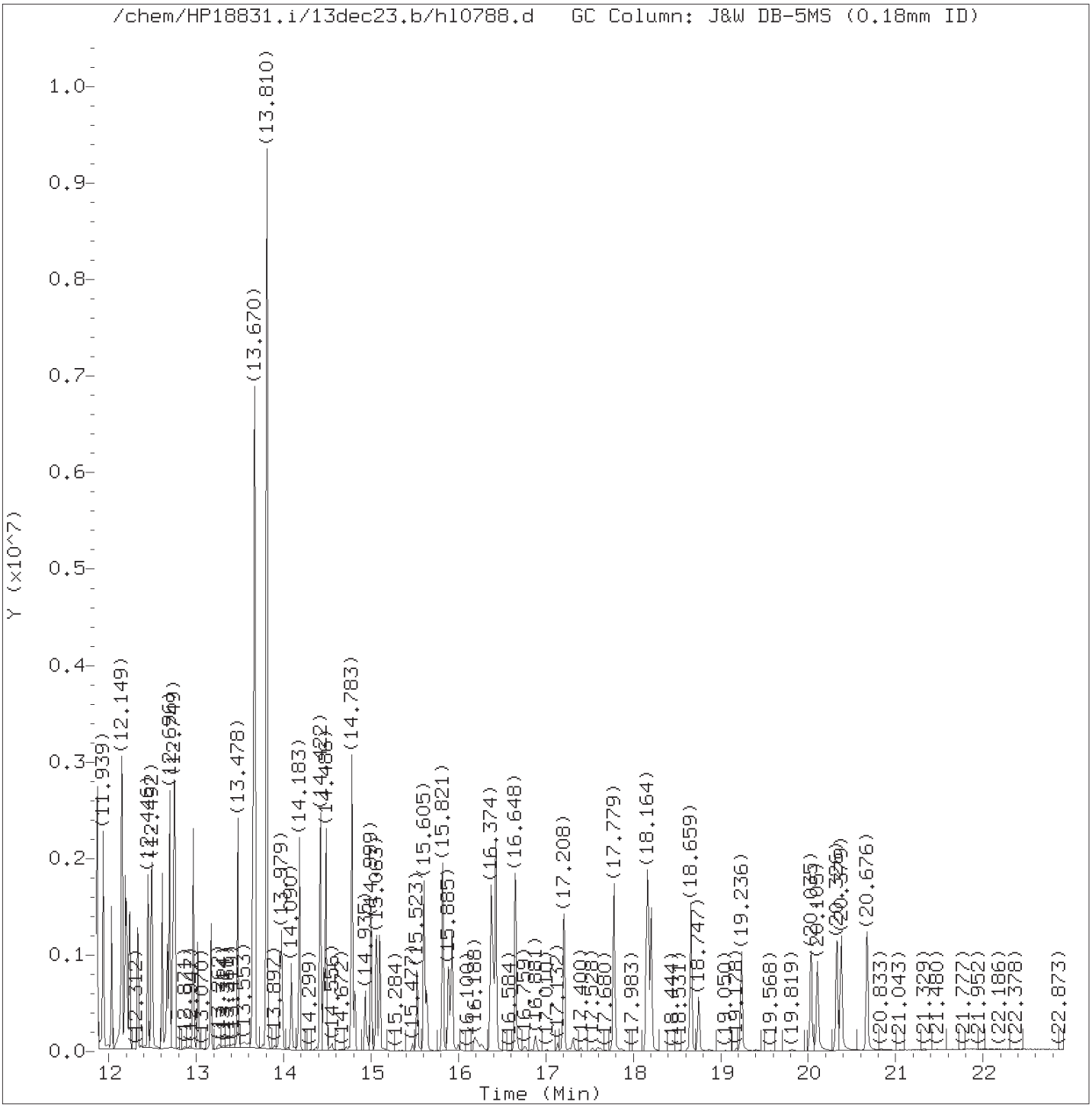
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0788.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:55 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 17:38
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

Sample Name: PNY7DMS Lab Sample ID: 7311250

Digitally signed by Catherine E. Bachman
on 01/02/2014 at 17:38.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0788.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:55 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 17:38
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

Sample Name: PNY7DMS Lab Sample ID: 7311250

Digitally signed by Catherine E. Bachman
on 01/02/2014 at 17:38.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0788.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:55 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 17:38
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

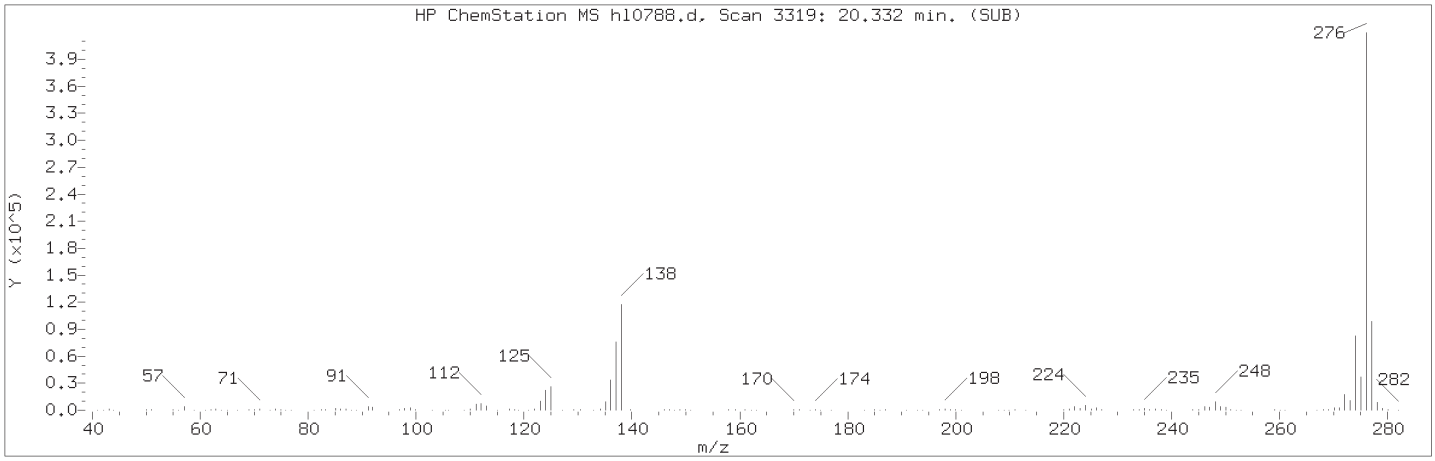
Sample Name: PNY7DMS Lab Sample ID: 7311250

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.959	152	130413	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	838812	23.213
44)*Naphthalene-d8	(2)	7.888	136	494215	5.000
45) Naphthalene	(2)	7.923	128	1258521	12.037
63)$2-Fluorobiphenyl	(3)	9.642	172	1562403	22.508
76) Acenaphthylene	(3)	10.423	152	1225672	13.186
78)*Acenaphthene-d10	(3)	10.656	164	274896	5.000
79) Acenaphthene	(3)	10.709	153	739463	11.587
89) Fluorene	(3)	11.531	166	822771	12.035
113)*Phenanthrene-d10	(4)	12.667	188	366355	5.000
115) Phenanthrene	(4)	12.696	178	1084779	12.731
117) Anthracene	(4)	12.755	178	1005021	12.132
125) Fluoranthene	(4)	14.183	202	1051221	12.608
127)*Pyrene-d10	(5)	14.457	212	402828	5.000
128) Pyrene	(5)	14.486	202	1080719	11.866
129)$Terphenyl-d14	(5)	14.783	244	1305446	24.167
138) Benzo(a)anthracene	(5)	16.374	228	945657	12.394
140) Chrysene	(5)	16.433	228	855442	11.582
144) Benzo(b)fluoranthene	(6)	18.158	252	908538	12.618
146) Benzo(k)fluoranthene	(6)	18.205	252	883505	12.320
147) Benzo(a)pyrene	(6)	18.659	252	875845	13.075
148)*Perylene-d12	(6)	18.747	264	300412	5.000
152) Indeno(1,2,3-cd)pyrene	(6)	20.332	276	903865M	13.240
153) Dibenz(a,h)anthracene	(6)	20.379	278	732807	12.911
154) Benzo(g,h,i)perylene	(6)	20.676	276	778292	12.668

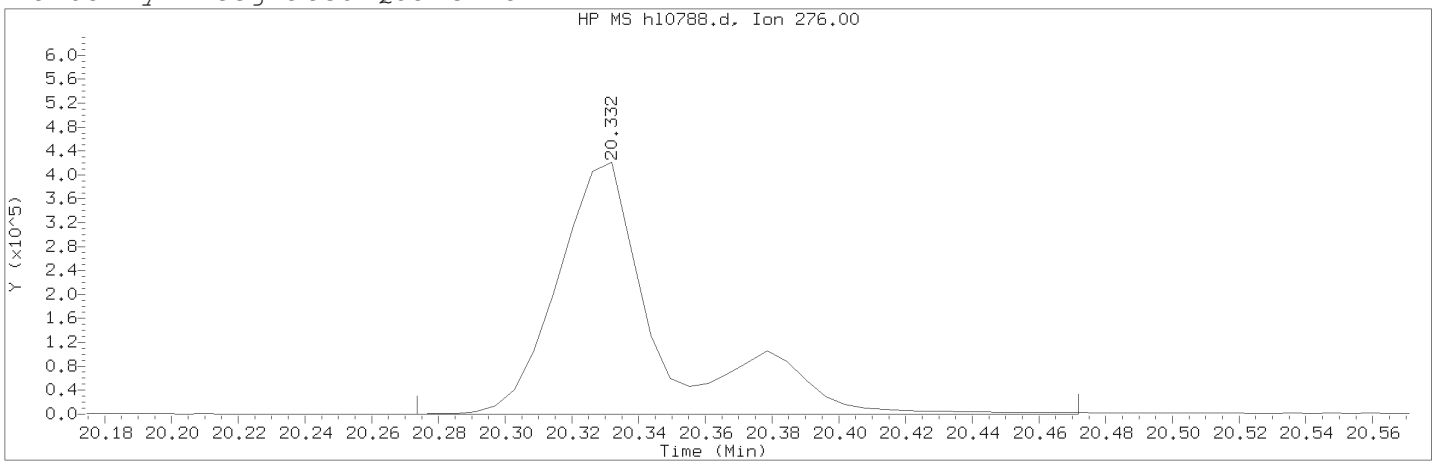
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 01/02/2014 at 17:38.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0788.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:55 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 17:38
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

Sample Name: PNY7DMS Lab Sample ID: 7311250

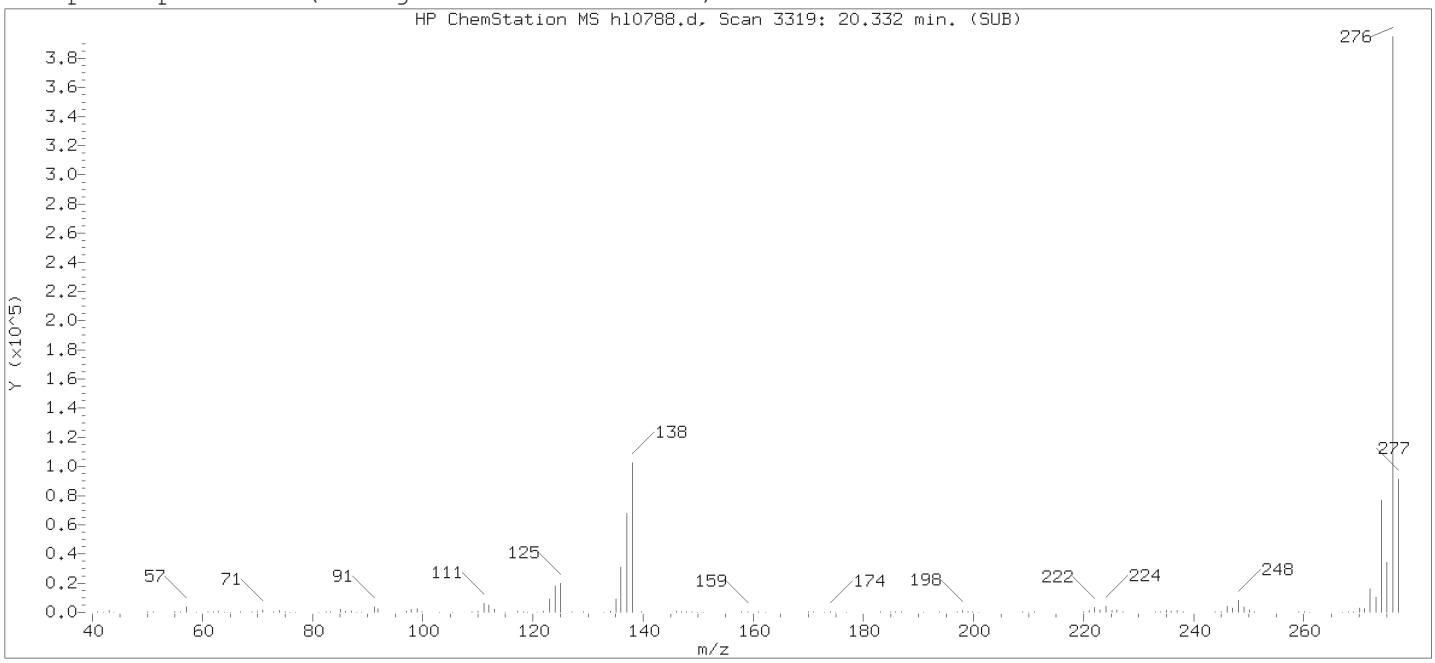
Compound Number : 152
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3319
Retention Time (minutes) : 20.332
Quant Ion : 276.00
Area (flag) : 903865M
On-Column Amount (ng/ul) : 13.2403
Integration start scan : 3308 Integration stop scan: 3342
Y at integration start : -277 Y at integration end: -277

Reason for manual integration: improper integration

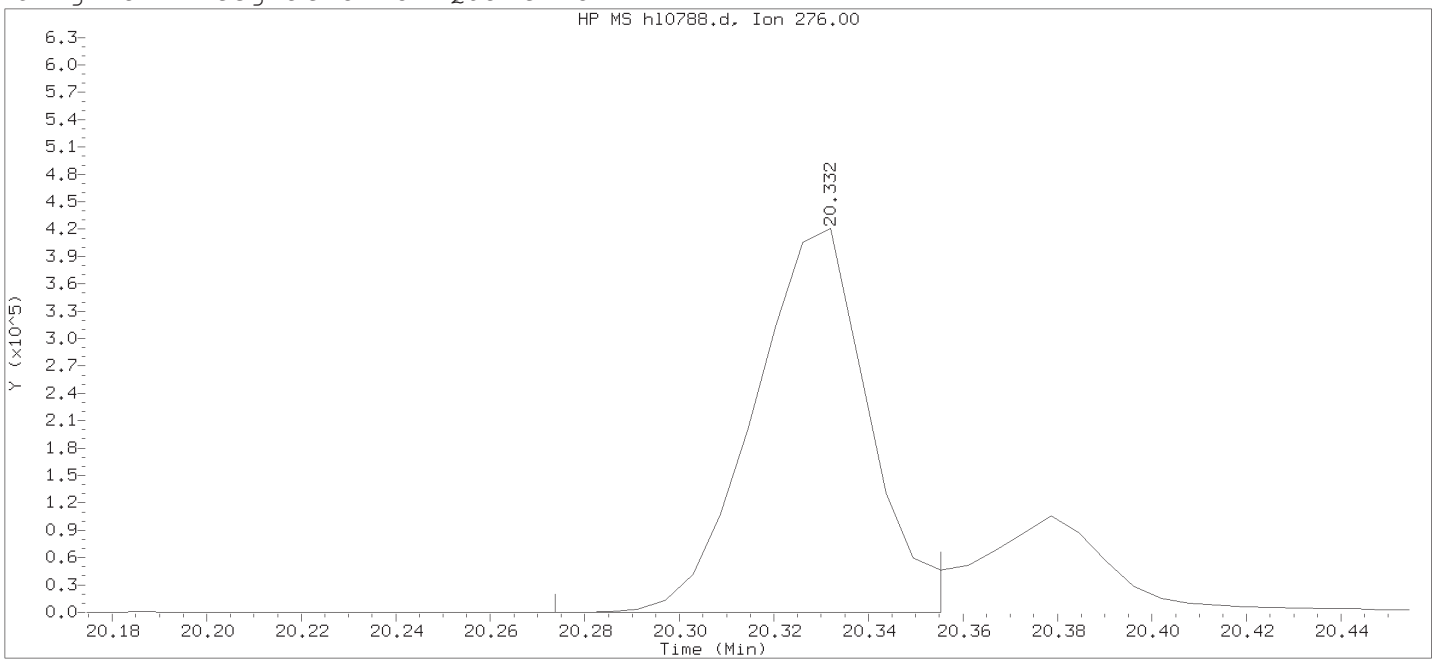
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 01/02/2014 at 17:38.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/03/2014 at 10:13.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0788.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 18:55 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:28 Automation

Sample Name: PNY7DMS Lab Sample ID: 7311250

Compound Number : 152
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3319
Retention Time (minutes) : 20.332
Quant Ion : 276.00
Area : 697886
On-column Amount (ng/ul) : 10.2230
Integration start scan : 3308 Integration stop scan: 3322
Y at integration start : 0 Y at integration end: 227

Digitally signed by Catherine E. Bachman on 01/02/2014 at 17:38.
Target 3.5 esignature user ID: ceb05247.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PNY7DMSD

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 7311251

Sample wt/vol: 248 (g/mL)ML Lab File ID: hl0789.d

Level: (low/med) LOW Date Received: 12/12/13

% Moisture: not dec: dec: Date Extracted: 12/16/13

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/23/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
91-20-3--------	Naphthalene	48	
208-96-8-------	Acenaphthylene	54	
83-32-9--------	Acenaphthene	47	
86-73-7--------	Fluorene	49	
85-01-8--------	Phenanthrene	49	
120-12-7-------	Anthracene	47	
206-44-0-------	Fluoranthene	49	
129-00-0-------	Pyrene	48	
56-55-3--------	Benzo(a)anthracene	50	
218-01-9-------	Chrysene	47	
205-99-2-------	Benzo(b)fluoranthene	51	
207-08-9-------	Benzo(k)fluoranthene	48	
50-32-8--------	Benzo(a)pyrene	52	
193-39-5-------	Indeno(1,2,3-cd)pyrene	53	
53-70-3--------	Dibenz(a,h)anthracene	52	
191-24-2-------	Benzo(g,h,i)perylene	50	

FORM I SV-1

PNY7DMSD

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

7311251

Data file: /chem/HP18831.i/13dec23.b/hl0789.d
Data file Sample Info. Line: PNY7DMSD;7311251;1;3;MSD;;;
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

Injection date and time: **23-DEC-2013 19:24**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 17:38
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.959(-0.006)	853	152	125593 (-7)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	488908 (-10)	5.00	
78) Acenaphthene-d10	10.656(0.006)	1659	164	267430 (-9)	5.00	
113) Phenanthrene-d10	12.667(0.006)	2004	188	381861 (-5)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	401837 (-10)	5.00	
148) Perylene-d12	18.747(0.000)	3047	264	300161 (-8)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	837517	23.428	94%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1556816	23.054	92%		63 - 121
129) Terphenyl-d14	(5)	14.783(0.000)	244	1276834	23.695	95%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Naphthalene	(2)	7.923(-0.000)	128	1242059	12.008	48.42			0.03
76) Acenaphthylene	(3)	10.423(0.000)	152	1214816	13.434	54.17			0.03
79) Acenaphthene	(3)	10.709(-0.000)	153	720582	11.607	46.80			0.03
89) Fluorene	(3)	11.525(-0.000)	166	815216	12.258	49.43			0.03
115) Phenanthrene	(4)	12.696(-0.000)	178	1070257	12.050	48.59			0.03
117) Anthracene	(4)	12.755(-0.000)	178	1003200	11.619	46.85			0.03
125) Fluoranthene	(4)	14.183(-0.000)	202	1051233	12.097	48.78			0.03
128) Pyrene	(5)	14.486(-0.000)	202	1081211	11.901	47.99			0.03
138) Benzo(a)anthracene	(5)	16.374(-0.000)	228	936664	12.307	49.62			0.03
140) Chrysene	(5)	16.433(-0.000)	228	850463	11.543	46.54			0.03
144) Benzo(b)fluoranthene	(6)	18.152(0.000)	252	909940	12.648	51.00			0.03
146) Benzo(k)fluoranthene	(6)	18.204(0.000)	252	858771	11.985	48.33			0.03
147) Benzo(a)pyrene	(6)	18.659(0.000)	252	862726	12.890	51.98			0.03
152) Indeno(1,2,3-cd)pyrene	(6)	20.326(0.000)	276	890928M	13.062	52.67			0.03
153) Dibenz(a,h)anthracene	(6)	20.379(-0.000)	278	727408	12.827	51.72			0.03
154) Benzo(g,h,i)perylene	(6)	20.676(0.000)	276	768468	12.519	50.48			0.03

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 01/02/2014 at 17:39. Target 3.5 esignature user ID: ceb05247

Data file: /chem/HP18831.i/13dec23.b/hl0789.d Injection date and time: **23-DEC-2013 19:24**
Data file Sample Info. Line: PNY7DMSD;7311251;1;3;MSD;;; Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **WL1856**
Calibration date and time (Last Method Edit): 02-JAN-2014 17:38
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

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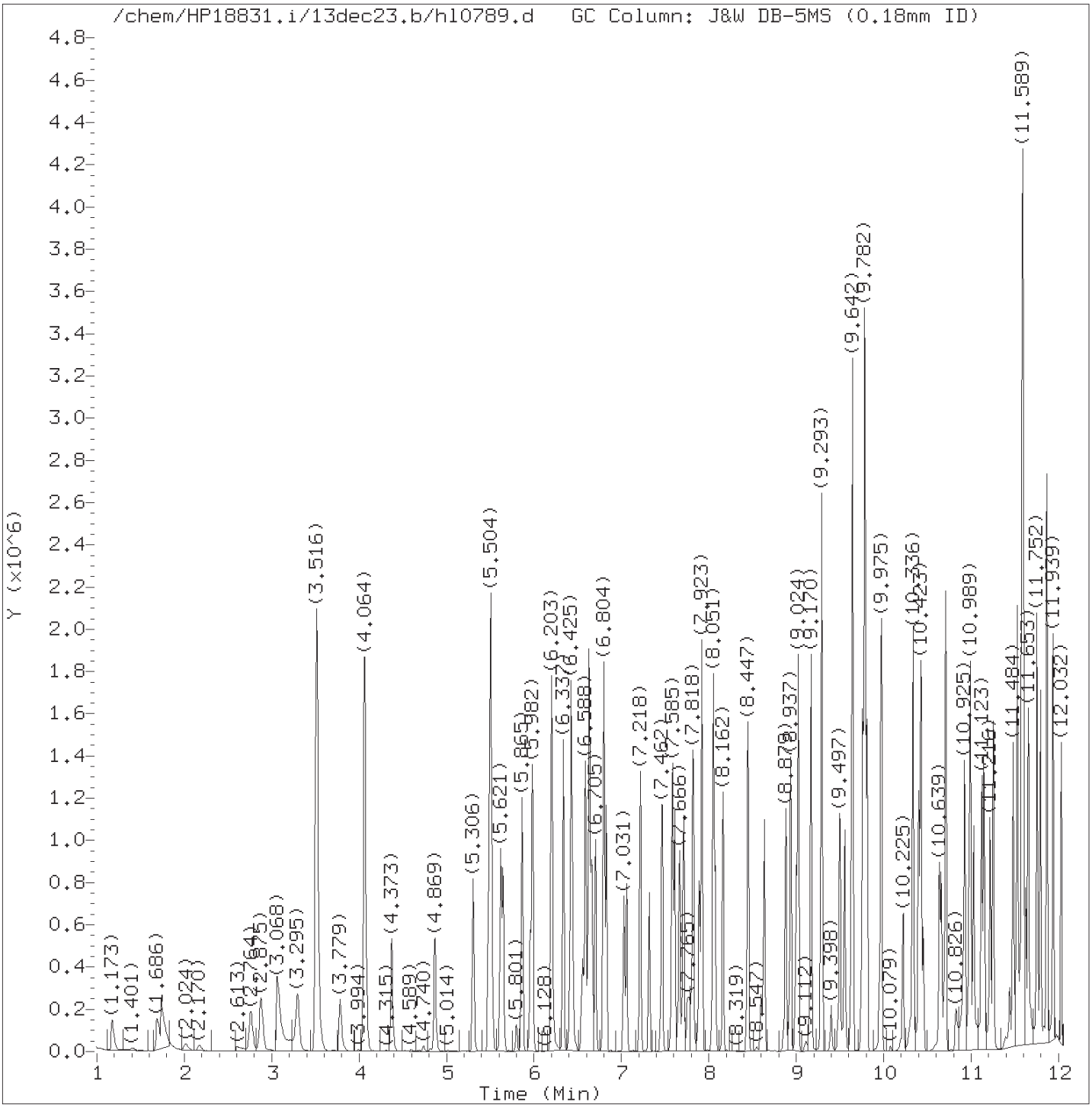
Total number of targets = 16

Digitally signed by Catherine E. Bachman on 01/02/2014 at 17:39. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/03/2014 at 10:13. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

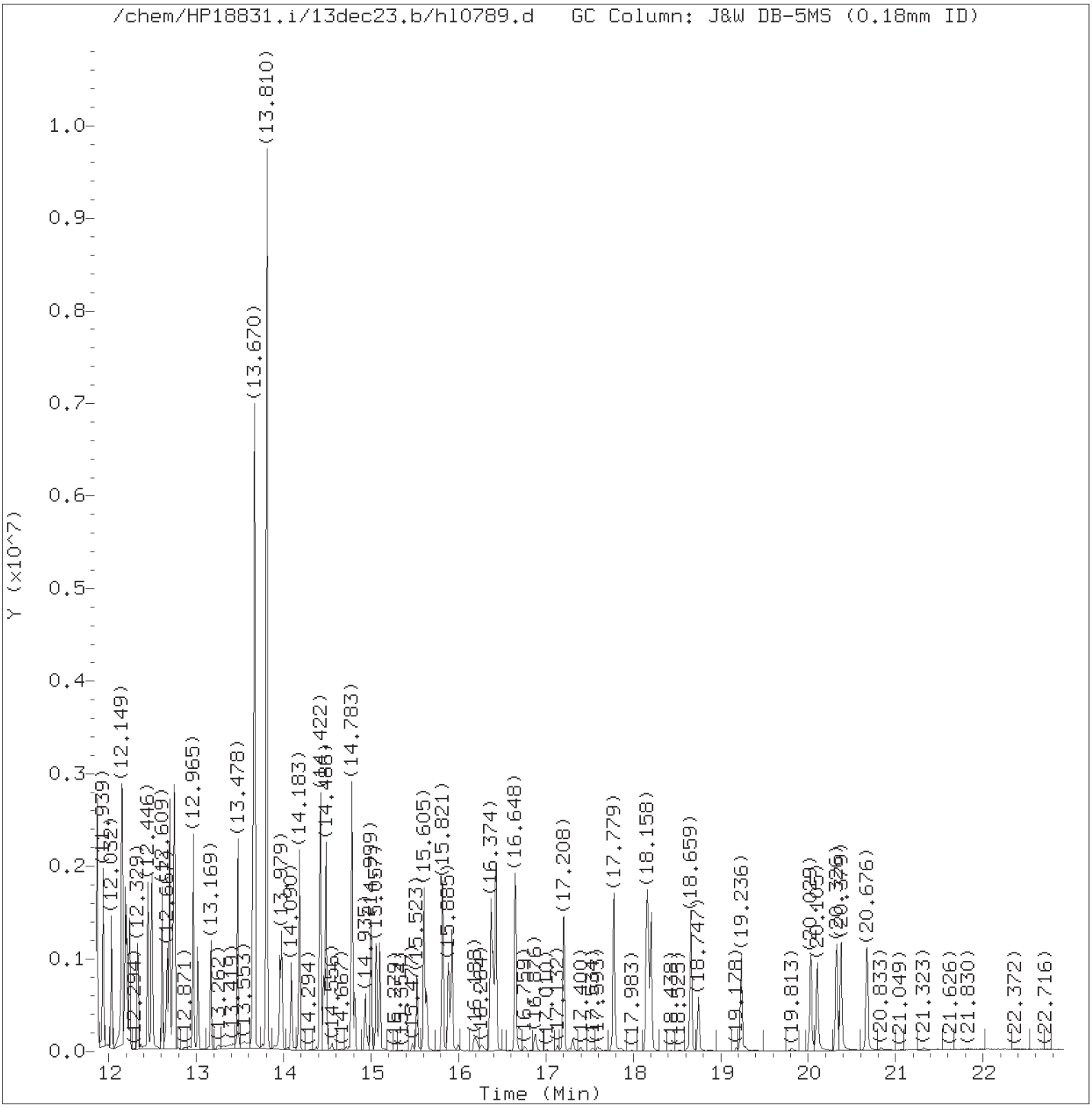
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0789.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 19:24 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 17:38
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

Sample Name: PNY7DMSD Lab Sample ID: 7311251

Digitally signed by Catherine E. Bachman
on 01/02/2014 at 17:39.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0789.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 19:24 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 17:38
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

Sample Name: PNY7DMSD Lab Sample ID: 7311251

Digitally signed by Catherine E. Bachman
on 01/02/2014 at 17:39.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0789.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 19:24 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 17:38
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

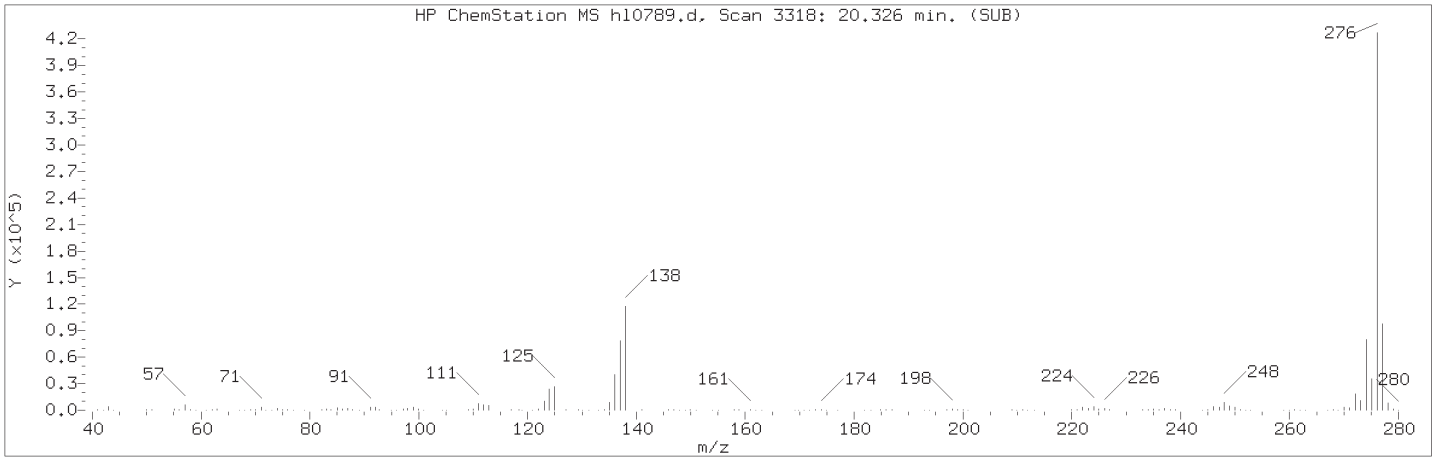
Sample Name: PNY7DMSD Lab Sample ID: 7311251

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
18)*1,4-Dichlorobenzene-d4	(1)	5.959	152	125593	5.000
33)$Nitrobenzene-d5	(2)	6.798	82	837517	23.428
44)*Naphthalene-d8	(2)	7.888	136	488908	5.000
45) Naphthalene	(2)	7.923	128	1242059	12.008
63)$2-Fluorobiphenyl	(3)	9.642	172	1556816	23.054
76) Acenaphthylene	(3)	10.423	152	1214816	13.434
78)*Acenaphthene-d10	(3)	10.656	164	267430	5.000
79) Acenaphthene	(3)	10.709	153	720582	11.607
89) Fluorene	(3)	11.525	166	815216	12.258
113)*Phenanthrene-d10	(4)	12.667	188	381861	5.000
115) Phenanthrene	(4)	12.697	178	1070257	12.050
117) Anthracene	(4)	12.755	178	1003200	11.619
125) Fluoranthene	(4)	14.183	202	1051233	12.097
127)*Pyrene-d10	(5)	14.457	212	401837	5.000
128) Pyrene	(5)	14.486	202	1081211	11.901
129)$Terphenyl-d14	(5)	14.783	244	1276834	23.695
138) Benzo(a)anthracene	(5)	16.374	228	936664	12.307
140) Chrysene	(5)	16.433	228	850463	11.543
144) Benzo(b)fluoranthene	(6)	18.152	252	909940	12.648
146) Benzo(k)fluoranthene	(6)	18.205	252	858771	11.985
147) Benzo(a)pyrene	(6)	18.659	252	862726	12.890
148)*Perylene-d12	(6)	18.747	264	300161	5.000
152) Indeno(1,2,3-cd)pyrene	(6)	20.326	276	890928M	13.062
153) Dibenz(a,h)anthracene	(6)	20.379	278	727408	12.827
154) Benzo(g,h,i)perylene	(6)	20.676	276	768468	12.519

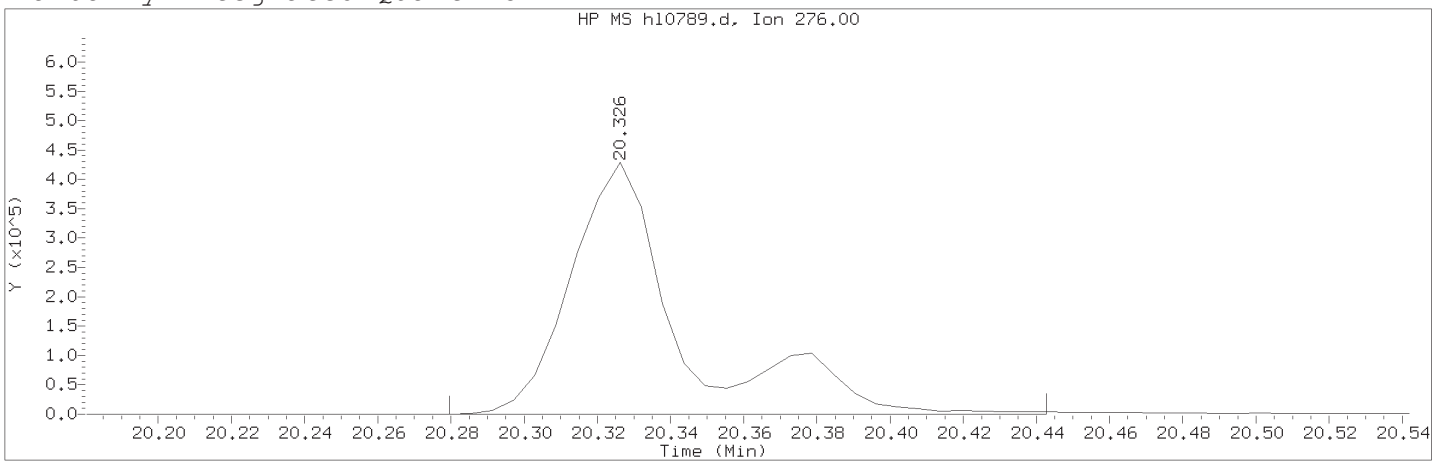
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 01/02/2014 at 17:39.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0789.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 19:24 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: WL1856
Calibration date and time: 02-JAN-2014 17:38
Date, time and analyst ID of latest file update: 02-Jan-2014 17:38 ceb05247

Sample Name: PNY7DMSD Lab Sample ID: 7311251

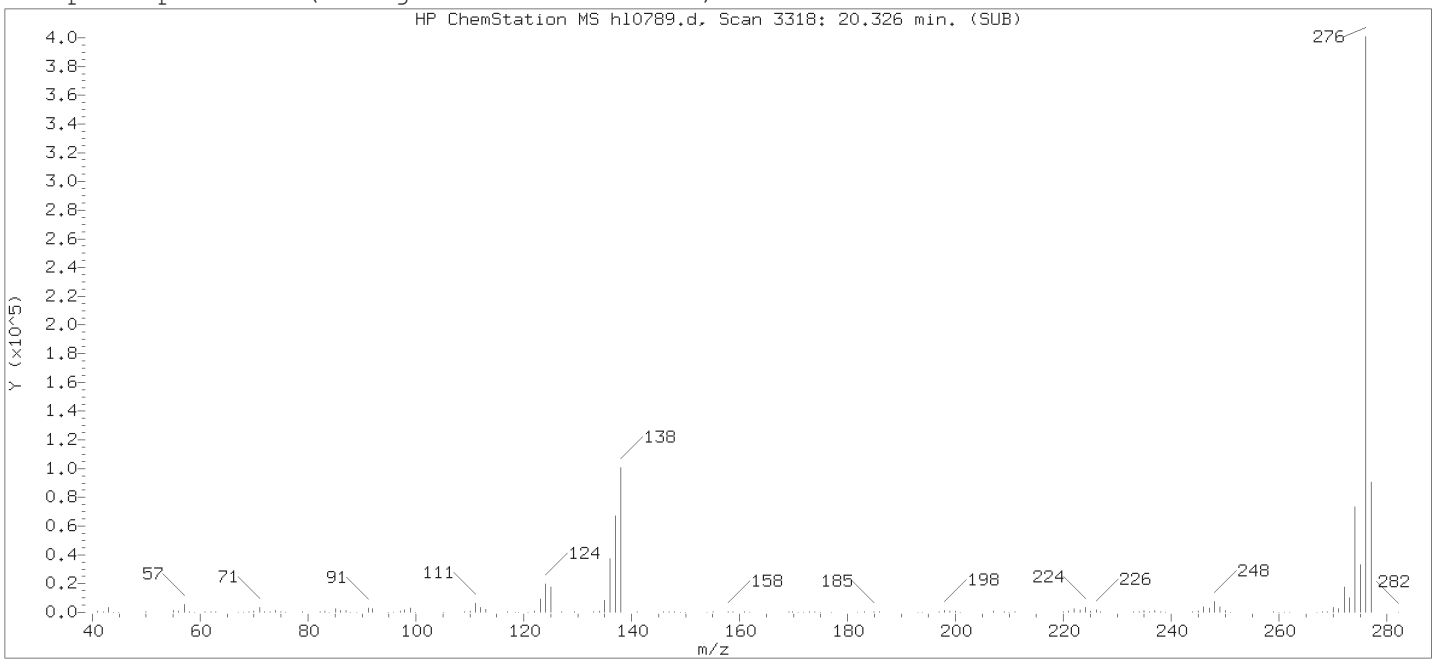
Compound Number : 152
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3318
Retention Time (minutes) : 20.326
Quant Ion : 276.00
Area (flag) : 890928M
On-Column Amount (ng/ul) : 13.0617
Integration start scan : 3309 Integration stop scan: 3337
Y at integration start : 40 Y at integration end: 40

Reason for manual integration: improper integration

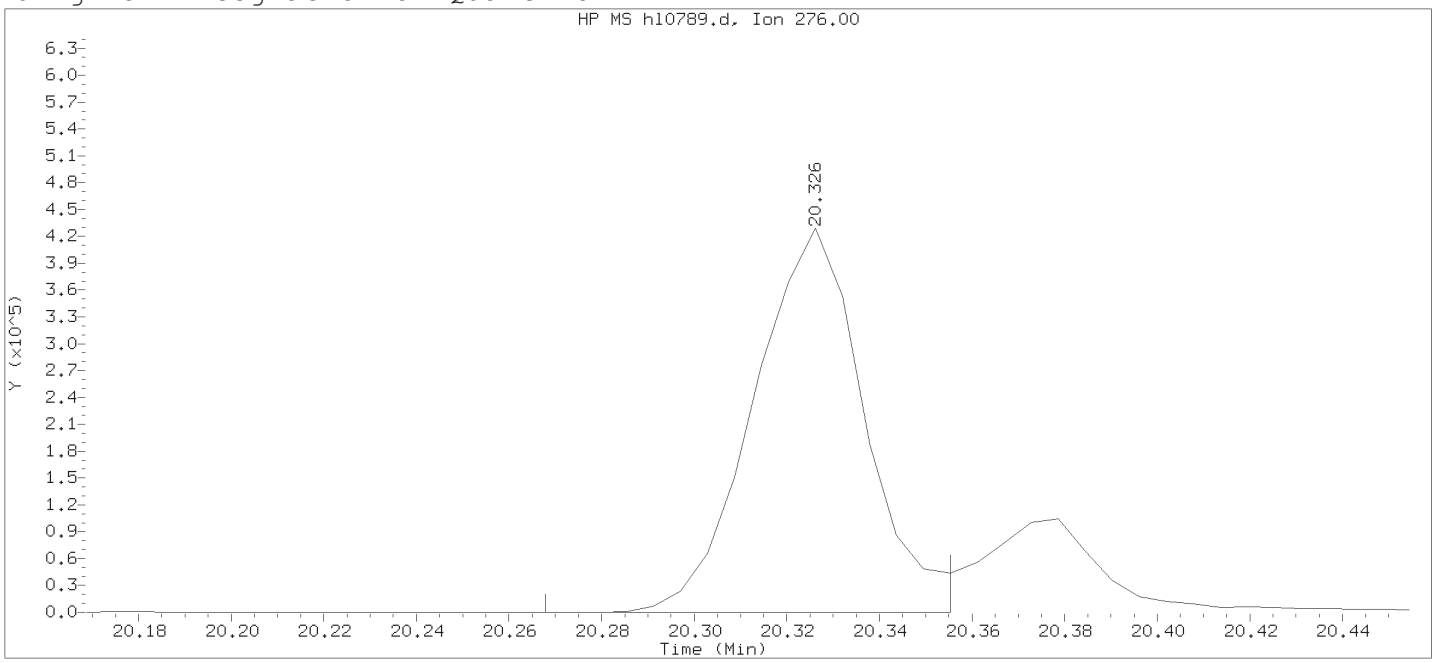
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 01/02/2014 at 17:39.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/03/2014 at 10:13.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0789.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 19:24 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:57 Automation

Sample Name: PNY7DMSD Lab Sample ID: 7311251

Compound Number : 152
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3318
Retention Time (minutes) : 20.326
Quant Ion : 276.00
Area : 705769
On-column Amount (ng/ul) : 10.3471
Integration start scan : 3307 Integration stop scan: 3322
Y at integration start : 0 Y at integration end: 127

Digitally signed by Catherine E. Bachman on 01/02/2014 at 17:39.
Target 3.5 esignature used ID: ceb05247.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

348WJLCS8

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 348WJLCS

Sample wt/vol: 250 (g/mL)ML Lab File ID: hl0786.d

Level: (low/med) LOW Date Received:

% Moisture: not dec: dec: Date Extracted: 01/01/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/23/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
62-75-9--------	N-Nitrosodimethylamine	32	
100-52-7-------	Benzaldehyde	32	
108-95-2-------	Phenol	28	
111-44-4-------	bis(2-Chloroethyl)ether	42	
95-57-8--------	2-Chlorophenol	46	
541-73-1-------	1,3-Dichlorobenzene	42	
106-46-7-------	1,4-Dichlorobenzene	43	
95-50-1--------	1,2-Dichlorobenzene	43	
95-48-7--------	2-Methylphenol	43	
108-60-1-------	2,2'-oxybis(1-Chloropropane)	35	
39638-32-9-----	bis(2-Chloroisopropyl)ether	35	
98-86-2--------	Acetophenone	42	
106-44-5-------	4-Methylphenol	42	
621-64-7-------	N-Nitroso-di-n-propylamine	39	
67-72-1--------	Hexachloroethane	41	
98-95-3--------	Nitrobenzene	47	
78-59-1--------	Isophorone	48	
88-75-5--------	2-Nitrophenol	53	
105-67-9-------	2,4-Dimethylphenol	48	
111-91-1-------	bis(2-Chloroethoxy)methane	44	
120-83-2-------	2,4-Dichlorophenol	53	
120-82-1-------	1,2,4-Trichlorobenzene	46	
91-20-3--------	Naphthalene	45	
106-47-8-------	4-Chloroaniline	35	
87-68-3--------	Hexachlorobutadiene	51	
105-60-2-------	Caprolactam	16	
59-50-7--------	4-Chloro-3-methylphenol	52	
91-57-6--------	2-Methylnaphthalene	44	
77-47-4--------	Hexachlorocyclopentadiene	59	
88-06-2--------	2,4,6-Trichlorophenol	54	

FORM I SV-1

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

348WJLCS8

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 348WJLCS

Sample wt/vol: 250 (g/mL)ML Lab File ID: hl0786.d

Level: (low/med) LOW Date Received:

% Moisture: not dec: dec: Date Extracted: 01/01/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/23/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
95-95-4	2,4,5-Trichlorophenol	46	
92-52-4	1,1'-Biphenyl	41	
91-58-7	2-Chloronaphthalene	37	
88-74-4	2-Nitroaniline	49	
131-11-3	Dimethylphthalate	43	
606-20-2	2,6-Dinitrotoluene	45	
208-96-8	Acenaphthylene	50	
99-09-2	3-Nitroaniline	42	
83-32-9	Acenaphthene	44	
51-28-5	2,4-Dinitrophenol	77	
100-02-7	4-Nitrophenol	38	
132-64-9	Dibenzofuran	47	
121-14-2	2,4-Dinitrotoluene	47	
84-66-2	Diethylphthalate	41	
86-73-7	Fluorene	46	
7005-72-3	4-Chlorophenyl-phenylether	45	
100-01-6	4-Nitroaniline	36	
534-52-1	4,6-Dinitro-2-methylphenol	49	
86-30-6	N-Nitrosodiphenylamine	44	
122-66-7	1,2-Diphenylhydrazine	43	
101-55-3	4-Bromophenyl-phenylether	47	
118-74-1	Hexachlorobenzene	51	
1912-24-9	Atrazine	47	
87-86-5	Pentachlorophenol	43	
85-01-8	Phenanthrene	48	
120-12-7	Anthracene	45	
86-74-8	Carbazole	47	
84-74-2	Di-n-butylphthalate	46	
206-44-0	Fluoranthene	47	
92-87-5	Benzidine	120	

FORM I SV-2

1C cont

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

348WJLCS8

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Matrix: (soil/water) WATER Lab Sample ID: 348WJLCS

Sample wt/vol: 250 (g/mL)ML Lab File ID: hl0786.d

Level: (low/med) LOW Date Received:

% Moisture: not dec: dec: Date Extracted: 01/01/00

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/23/13

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Extraction: Sepf

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) LOQ UG/L	Q
129-00-0--------	Pyrene	45	
85-68-7--------	Butylbenzylphthalate	46	
91-94-1--------	3,3'-Dichlorobenzidine	36	
56-55-3--------	Benzo(a)anthracene	47	
218-01-9-------	Chrysene	44	
117-81-7-------	bis(2-Ethylhexyl)phthalate	44	
117-84-0-------	Di-n-octylphthalate	45	
205-99-2--------	Benzo(b)fluoranthene	47	
207-08-9-------	Benzo(k)fluoranthene	46	
50-32-8--------	Benzo(a)pyrene	48	
193-39-5-------	Indeno(1,2,3-cd)pyrene	49	
53-70-3--------	Dibenz(a,h)anthracene	48	
191-24-2-------	Benzo(g,h,i)perylene	47	

FORM I SV-3

348WJLCS8 Lancaster Labs Analysis Summary for GC/MS Semivolatiles 348WJLCS

Data file: /chem/HP18831.i/13dec23.b/hl0786.d
Data file Sample Info. Line: 348WJLCS8;348WJLCS;1;3;LCS;;;
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Injection date and time: **23-DEC-2013 17:57**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **348WAJ**
Calibration date and time (Last Method Edit): 23-DEC-2013 19:22
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
18) 1,4-Dichlorobenzene-d4	5.959(-0.006)	853	152	133822 (-1)	5.00	
44) Naphthalene-d8	7.888(0.000)	1184	136	501888 (-8)	5.00	
78) Acenaphthene-d10	10.657(0.006)	1659	164	273830 (-6)	5.00	
113) Phenanthrene-d10	12.667(0.006)	2004	188	372279 (-8)	5.00	
127) Pyrene-d10	14.457(0.000)	2311	212	406393 (-9)	5.00	
148) Perylene-d12	18.747(0.000)	3047	264	312712 (-4)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
7) 2-Fluorophenol	(1)	4.064(-0.004)	112	1442757	35.680	71%		10 - 107
12) Phenol-d6	(1)	5.504(0.000)	99	1500498	28.006	56%		10 - 83
33) Nitrobenzene-d5	(2)	6.798(0.001)	82	812231	22.133	89%		60 - 123
63) 2-Fluorobiphenyl	(3)	9.642(0.000)	172	1499033	21.680	87%		63 - 121
98) 2,4,6-Tribromophenol	(3)	11.869(-0.001)	330	306619	47.578	95%		22 - 150
129) Terphenyl-d14	(5)	14.783(0.000)	244	1283949	23.560	94%		47 - 146

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
2) N-Nitrosodimethylamine	(1)	1.692(-0.007)	74	229816	8.071	32.29			0.5
10) Benzaldehyde	(1)	5.306(-0.000)	77	267369	7.936	31.74			0.3
13) Phenol	(1)	5.522(-0.000)	94	428793	7.000	28.00			0.1
15) bis(2-Chloroethyl)ether	(1)	5.621(-0.000)	93	494684	10.485	41.94			0.1
16) 2-Chlorophenol	(1)	5.644(-0.000)	128	474957	11.559	46.24			0.1
17) 1,3-Dichlorobenzene	(1)	5.865(-0.000)	146	458413	10.428	41.71			0.1
19) 1,4-Dichlorobenzene	(1)	5.982(0.000)	146	475758	10.653	42.61			0.1
21) 1,2-Dichlorobenzene	(1)	6.198(0.001)	146	452424	10.776	43.10			0.1
22) 2-Methylphenol	(1)	6.425(0.000)	108	413023	10.767	43.07			0.1
24) 2,2'-oxybis(1-Chloropropane)	(1)	6.437(0.001)	45	751579	8.791	35.16			0.1
25) bis(2-Chloroisopropyl)ether	(1)	6.437(0.001)	45	751579	8.791	35.16			0.1
27) Acetophenone	(1)	6.588(0.002)	105	563748	10.591	42.37			0.1
29) N-Nitroso-di-n-propylamine	(1)	6.629(0.001)	70	294885	9.831	39.33			0.1
28) 4-Methylphenol	(1)	6.664(0.000)	108	444677	10.443	41.77			0.1
32) Hexachloroethane	(1)	6.705(0.001)	117	169735	10.289	41.15			0.3
34) Nitrobenzene	(2)	6.827(0.000)	77	439144	11.635	46.54			0.1
36) Isophorone	(2)	7.218(0.000)	82	814690	11.979	47.92			0.1
37) 2-Nitrophenol	(2)	7.317(0.000)	139	238235	13.341	53.36			0.1
38) 2,4-Dimethylphenol	(2)	7.462(0.000)	107	380108	12.104	48.41			0.1
40) bis(2-Chloroethoxy)methane	(2)	7.608(0.000)	93	526723M	10.881	43.53			0.1
42) 2,4-Dichlorophenol	(2)	7.713(-0.000)	162	351529	13.257	53.03			0.1
43) 1,2,4-Trichlorobenzene	(2)	7.818(0.000)	180	328792	11.539	46.16			0.1
45) Naphthalene	(2)	7.923(-0.000)	128	1183362	11.145	44.58			0.03
46) 4-Chloroaniline	(2)	8.051(-0.000)	127	393580	8.834	35.34			0.1
49) Hexachlorobutadiene	(2)	8.162(-0.000)	225	165151	12.687	50.75			0.1
51) Caprolactam	(2)	8.599(-0.000)	113	46652	4.120	16.48			1
54) 4-Chloro-3-methylphenol	(2)	8.879(0.000)	107	354357	13.091	52.37			0.1

M = Compound was manually integrated.

Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:28. Target 3.5 esignature user ID: ceb05247

Lancaster Labs
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP18831.i/13dec23.b/hl0786.d
Data file Sample Info. Line: 348WJLCS8;348WJLCS;1;3;LCS;;;
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Injection date and time: **23-DEC-2013 17:57**
Instrument ID: **HP18831.i** Batch: **13348WAJ**

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **348WAJ**
Calibration date and time (Last Method Edit): 23-DEC-2013 19:22
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
56) 2-Methylnaphthalene	(2)	9.024(-0.000)	142	743307	11.040	44.16			0.03
58) Hexachlorocyclopentadiene	(3)	9.293(-0.000)	237	175890	14.730	58.92			1
61) 2,4,6-Trichlorophenol	(3)	9.502(-0.000)	196	255281	13.585	54.34			0.1
62) 2,4,5-Trichlorophenol	(3)	9.555(-0.000)	196	221404	11.561	46.24			0.1
66) 1,1'-Biphenyl	(3)	9.788(-0.000)	154	865405	10.233	40.93			0.1
67) 2-Chloronaphthalene	(3)	9.782(-0.000)	162	612660	9.263	37.05			0.1
70) 2-Nitroaniline	(3)	9.980(-0.000)	138	270050	12.163	48.65			0.1
73) Dimethylphthalate	(3)	10.336(-0.000)	163	703379	10.653	42.61			0.5
75) 2,6-Dinitrotoluene	(3)	10.400(-0.000)	165	167130	11.204	44.82			0.1
76) Acenaphthylene	(3)	10.423(0.000)	152	1152321	12.445	49.78			0.03
77) 3-Nitroaniline	(3)	10.639(-0.000)	138	207534	10.450	41.80			0.1
79) Acenaphthene	(3)	10.709(-0.000)	153	694990	10.933	43.73			0.03
80) 2,4-Dinitrophenol	(3)	10.930(-0.011)	184	162709M	19.273	77.09			3
81) 4-Nitrophenol	(3)	11.024(-0.003)	109	68362M	9.407	37.63			3
83) Dibenzofuran	(3)	10.989(-0.000)	168	1015310	11.718	46.87			0.1
84) 2,4-Dinitrotoluene	(3)	11.030(-0.000)	165	221114	11.716	46.86			0.3
88) Diethylphthalate	(3)	11.478(-0.000)	149	648351	10.314	41.26			0.5
89) Fluorene	(3)	11.531(-0.000)	166	789646	11.596	46.38			0.03
91) 4-Chlorophenyl-phenylether	(3)	11.583(-0.000)	204	316629	11.206	44.82			0.1
93) 4-Nitroaniline	(3)	11.595(-0.000)	138	182161	9.096	36.38			0.1
94) 4,6-Dinitro-2-methylphenol	(4)	11.682(-0.003)	198	113942	12.372	49.49			1
95) N-Nitrosodiphenylamine	(4)	11.752(-0.000)	169	552855	10.885	43.54			0.1
97) 1,2-Diphenylhydrazine	(4)	11.793(-0.000)	77	771191	10.851	43.40			0.1
104) 4-Bromophenyl-phenylether	(4)	12.207(-0.000)	248	161924	11.626	46.51			0.1
106) Hexachlorobenzene	(4)	12.236(0.000)	284	178097	12.852	51.41			0.03
108) Atrazine	(4)	12.446(0.000)	200	154652	11.857	47.43			0.5
109) Pentachlorophenol	(4)	12.493(-0.001)	266	101623	10.813	43.25			0.3
115) Phenanthrene	(4)	12.697(-0.000)	178	1049491	12.121	48.48			0.03
117) Anthracene	(4)	12.755(-0.000)	178	952373	11.314	45.26			0.03
118) Carbazole	(4)	12.970(-0.000)	167	1012033	11.825	47.30			0.1
120) Di-n-butylphthalate	(4)	13.478(-0.000)	149	1202996	11.415	45.66			0.5
125) Fluoranthene	(4)	14.183(-0.000)	202	992647	11.716	46.87			0.03
126) Benzidine	(5)	14.422(0.000)	184	1946253	30.081	120.32			5
128) Pyrene	(5)	14.486(-0.000)	202	1029202	11.201	44.81			0.03
135) Butylbenzylphthalate	(5)	15.605(-0.000)	149	533469	11.523	46.09			0.5
137) 3,3'-Dichlorobenzidine	(5)	16.398(-0.000)	252	255005	8.996	35.98			0.5
138) Benzo(a)anthracene	(5)	16.374(-0.000)	228	900715	11.702	46.81			0.03
140) Chrysene	(5)	16.433(-0.000)	228	813148	10.912	43.65			0.03
141) bis(2-Ethylhexyl)phthalate	(5)	16.648(-0.000)	149	686859	11.092	44.37			0.5
143) Di-n-octylphthalate	(6)	17.779(-0.000)	149	1255500	11.347	45.39			0.5
144) Benzo(b)fluoranthene	(6)	18.152(0.000)	252	884747	11.804	47.22			0.03
146) Benzo(k)fluoranthene	(6)	18.205(0.000)	252	849361	11.378	45.51			0.03
147) Benzo(a)pyrene	(6)	18.659(0.000)	252	828458	11.881	47.52			0.03
152) Indeno(1,2,3-cd)pyrene	(6)	20.326(0.000)	276	868841M	12.227	48.91			0.03
153) Dibenz(a,h)anthracene	(6)	20.379(-0.000)	278	711964	12.051	48.20			0.03
154) Benzo(g,h,i)perylene	(6)	20.676(0.000)	276	749496	11.720	46.88			0.03

M = Compound was manually integrated.

Data file: /chem/HP18831.i/13dec23.b/hl0786.d Injection date and time: **23-DEC-2013 17:57**
Data file Sample Info. Line: 348WJLCS8;348WJLCS;1;3;LCS;;; Instrument ID: **HP18831.i** Batch: **13348WAJ**
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Blank Data file reference: **/chem/HP18831.i/13dec23.b/hl0785.d**

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: **348WAJ**
Calibration date and time (Last Method Edit): 23-DEC-2013 19:22
Mid Level Daily Calibration Standard Reference: **/chem/HP18831.i/13dec23.b/hl0781z.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

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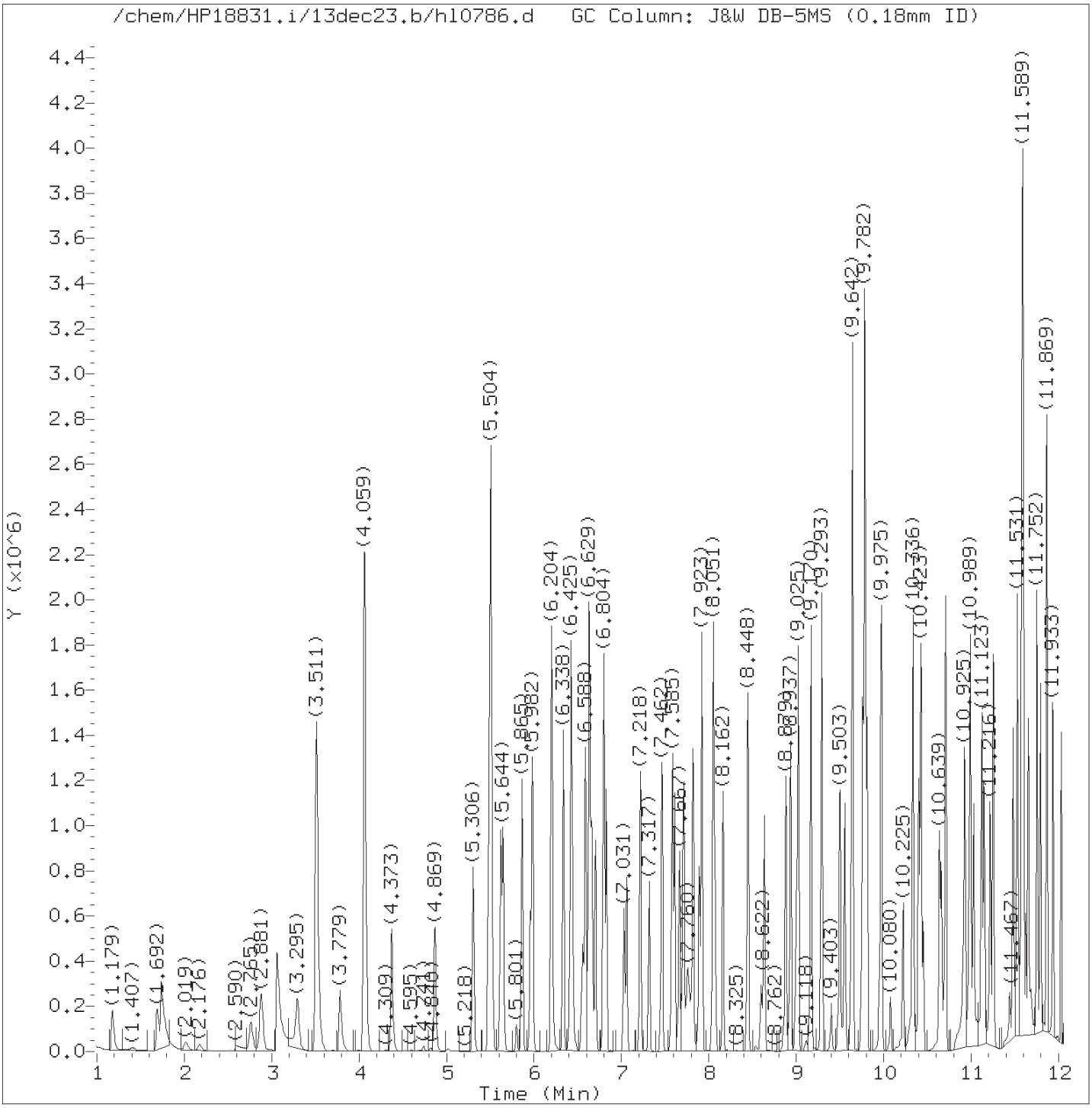
Total number of targets = 73

Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:28. Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06. Parallax ID: reb00745



Total Ion Chromatogram (TIC)

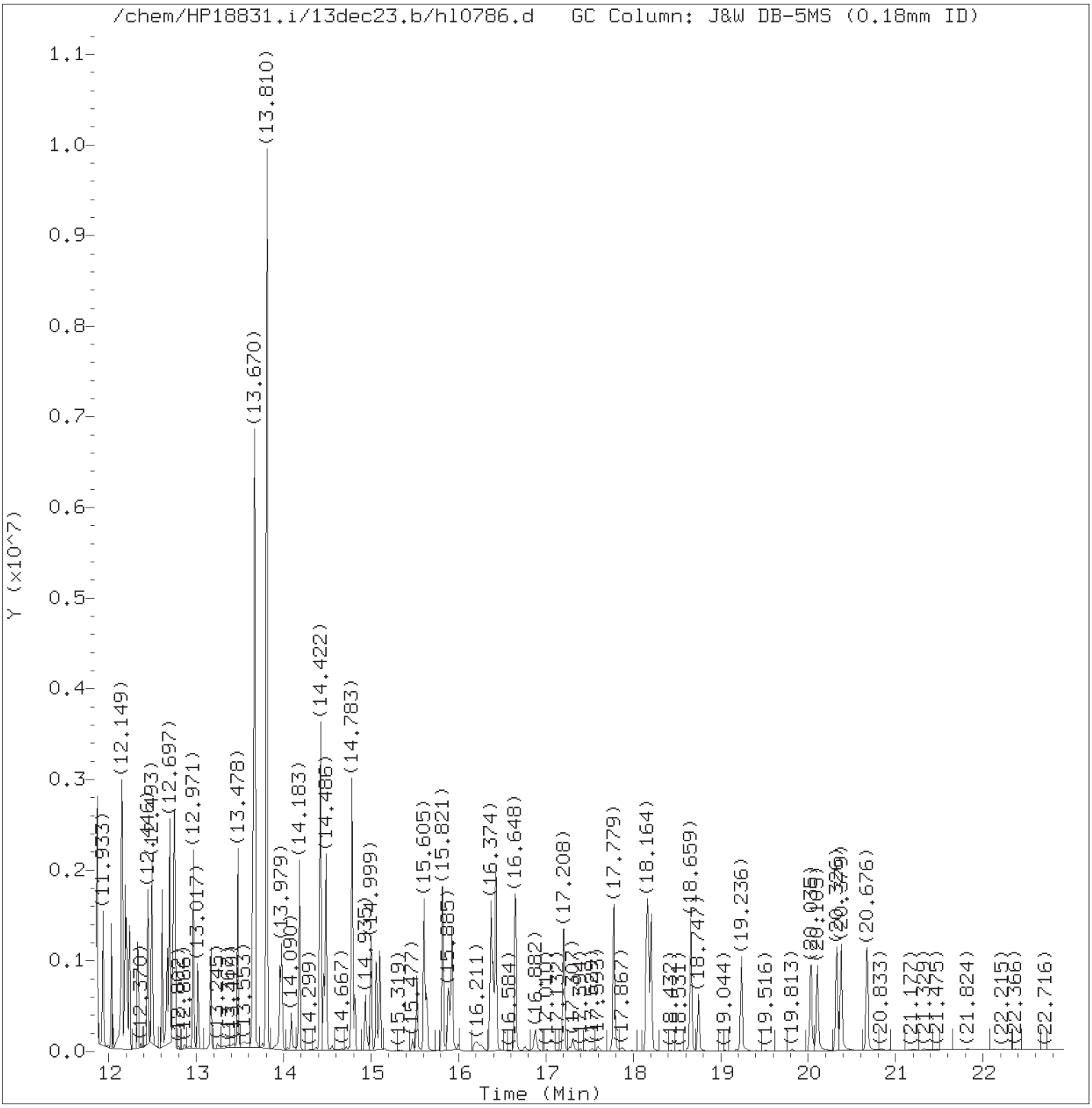
Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0786.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 19:28.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0786.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

Digitally signed by Catherine E. Bachman
on 12/23/2013 at 19:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0786.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
2) N-Nitrosodimethylamine	(1)	1.692	74	229816	8.071
7)$2-Fluorophenol	(1)	4.064	112	1442757	35.680
10) Benzaldehyde	(1)	5.306	77	267369	7.936
12)$Phenol-d6	(1)	5.504	99	1500498	28.006
13) Phenol	(1)	5.522	94	428793	7.000
15) bis(2-Chloroethyl)ether	(1)	5.621	93	494684	10.485
16) 2-Chlorophenol	(1)	5.644	128	474957	11.559
17) 1,3-Dichlorobenzene	(1)	5.865	146	458413	10.428
18)*1,4-Dichlorobenzene-d4	(1)	5.959	152	133822	5.000
19) 1,4-Dichlorobenzene	(1)	5.982	146	475758	10.653
21) 1,2-Dichlorobenzene	(1)	6.198	146	452424	10.776
22) 2-Methylphenol	(1)	6.425	108	413023	10.767
24) 2,2'-oxybis(1-Chloropropane)	(1)	6.437	45	751579	8.791
25) bis(2-Chloroisopropyl)ether	(1)	6.437	45	751579	8.791
27) Acetophenone	(1)	6.588	105	563748	10.591
29) N-Nitroso-di-n-propylamine	(1)	6.629	70	294885	9.831
28) 4-Methylphenol	(1)	6.664	108	444677	10.443
32) Hexachloroethane	(1)	6.705	117	169735	10.289
33)$Nitrobenzene-d5	(2)	6.798	82	812231	22.133
34) Nitrobenzene	(2)	6.827	77	439144	11.635
36) Isophorone	(2)	7.218	82	814690	11.979
37) 2-Nitrophenol	(2)	7.317	139	238235	13.341
38) 2,4-Dimethylphenol	(2)	7.462	107	380108	12.104
40) bis(2-Chloroethoxy)methane	(2)	7.608	93	526723M	10.881
42) 2,4-Dichlorophenol	(2)	7.713	162	351529	13.257
43) 1,2,4-Trichlorobenzene	(2)	7.818	180	328792	11.539
44)*Naphthalene-d8	(2)	7.888	136	501888	5.000
45) Naphthalene	(2)	7.923	128	1183362	11.145
46) 4-Chloroaniline	(2)	8.051	127	393580	8.834
49) Hexachlorobutadiene	(2)	8.162	225	165151	12.687
51) Caprolactam	(2)	8.599	113	46652	4.120
54) 4-Chloro-3-methylphenol	(2)	8.879	107	354357	13.091
56) 2-Methylnaphthalene	(2)	9.025	142	743307	11.040
58) Hexachlorocyclopentadiene	(3)	9.293	237	175890	14.730
61) 2,4,6-Trichlorophenol	(3)	9.503	196	255281	13.585
62) 2,4,5-Trichlorophenol	(3)	9.555	196	221404	11.561
63)$2-Fluorobiphenyl	(3)	9.642	172	1499033	21.680
67) 2-Chloronaphthalene	(3)	9.782	162	612660	9.263
66) 1,1'-Biphenyl	(3)	9.788	154	865405	10.233
70) 2-Nitroaniline	(3)	9.980	138	270050	12.163

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 12/23/2013 at 19:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0786.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
73) Dimethylphthalate	(3)	10.336	163	703379	10.653
75) 2,6-Dinitrotoluene	(3)	10.400	165	167130	11.204
76) Acenaphthylene	(3)	10.423	152	1152321	12.445
77) 3-Nitroaniline	(3)	10.639	138	207534	10.450
78)*Acenaphthene-d10	(3)	10.657	164	273830	5.000
79) Acenaphthene	(3)	10.709	153	694990	10.933
80) 2,4-Dinitrophenol	(3)	10.931	184	162709M	19.273
83) Dibenzofuran	(3)	10.989	168	1015310	11.718
81) 4-Nitrophenol	(3)	11.024	109	68362M	9.407
84) 2,4-Dinitrotoluene	(3)	11.030	165	221114	11.716
88) Diethylphthalate	(3)	11.478	149	648351	10.314
89) Fluorene	(3)	11.531	166	789646	11.596
91) 4-Chlorophenyl-phenylether	(3)	11.583	204	316629	11.206
93) 4-Nitroaniline	(3)	11.595	138	182161	9.096
94) 4,6-Dinitro-2-methylphenol	(4)	11.682	198	113942	12.372
95) N-Nitrosodiphenylamine	(4)	11.752	169	552855	10.885
97) 1,2-Diphenylhydrazine	(4)	11.793	77	771191	10.851
98)$2,4,6-Tribromophenol	(3)	11.869	330	306619	47.578
104) 4-Bromophenyl-phenylether	(4)	12.207	248	161924	11.626
106) Hexachlorobenzene	(4)	12.236	284	178097	12.852
108) Atrazine	(4)	12.446	200	154652	11.857
109) Pentachlorophenol	(4)	12.493	266	101623	10.813
113)*Phenanthrene-d10	(4)	12.667	188	372279	5.000
115) Phenanthrene	(4)	12.697	178	1049491	12.121
117) Anthracene	(4)	12.755	178	952373	11.314
118) Carbazole	(4)	12.971	167	1012033	11.825
120) Di-n-butylphthalate	(4)	13.478	149	1202996	11.415
125) Fluoranthene	(4)	14.183	202	992647	11.716
126) Benzidine	(5)	14.422	184	1946253	30.081
127)*Pyrene-d10	(5)	14.457	212	406393	5.000
128) Pyrene	(5)	14.486	202	1029202	11.201
129)$Terphenyl-d14	(5)	14.783	244	1283949	23.560
135) Butylbenzylphthalate	(5)	15.605	149	533469	11.523
138) Benzo(a)anthracene	(5)	16.374	228	900715	11.702
137) 3,3'-Dichlorobenzidine	(5)	16.398	252	255005	8.996
140) Chrysene	(5)	16.433	228	813148	10.912
141) bis(2-Ethylhexyl)phthalate	(5)	16.648	149	686859	11.092
143) Di-n-octylphthalate	(6)	17.779	149	1255500	11.347
144) Benzo(b)fluoranthene	(6)	18.152	252	884747	11.804
146) Benzo(k)fluoranthene	(6)	18.205	252	849361	11.378

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

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on 12/23/2013 at 19:28.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP18831.i/13dec23.b/hl0786.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
147) Benzo(a)pyrene	(6)	18.659	252	828458	11.881
148)*Perylene-d12	(6)	18.747	264	312712	5.000
152) Indeno(1,2,3-cd)pyrene	(6)	20.326	276	868841M	12.227
153) Dibenz(a,h)anthracene	(6)	20.379	278	711964	12.051
154) Benzo(g,h,i)perylene	(6)	20.676	276	749496	11.720

M = Compound was manually integrated.
* = Compound is an internal standard.

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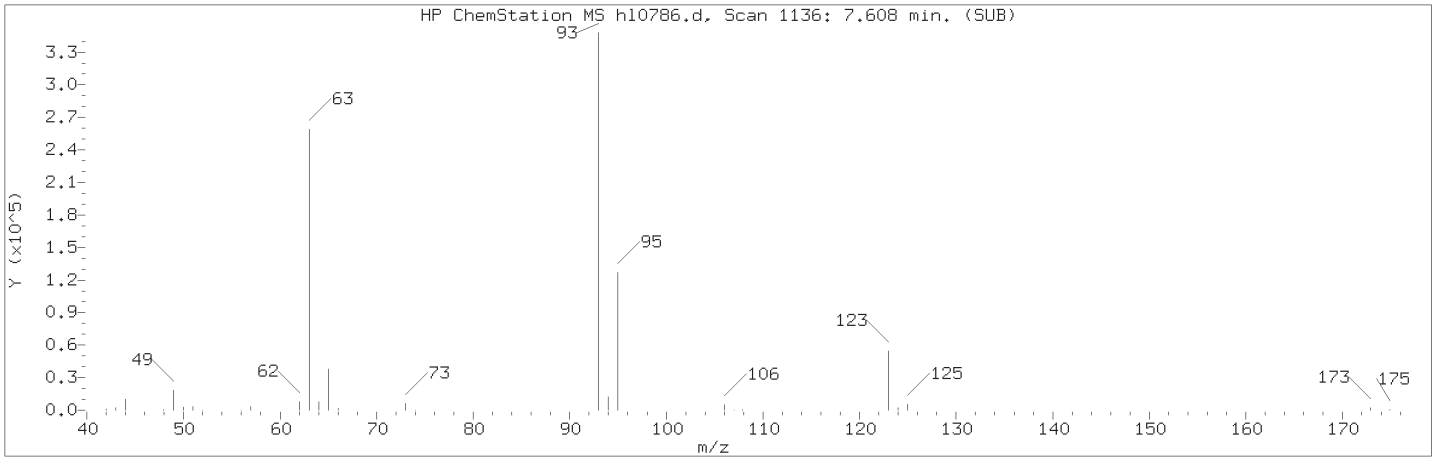
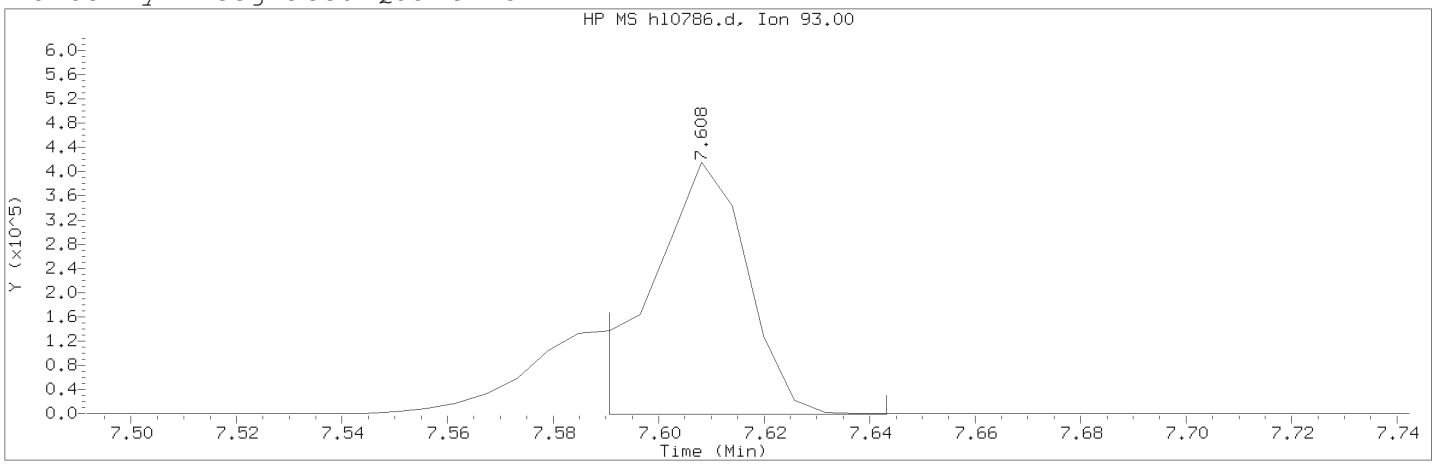
on 12/23/2013 at 19:28.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



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Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

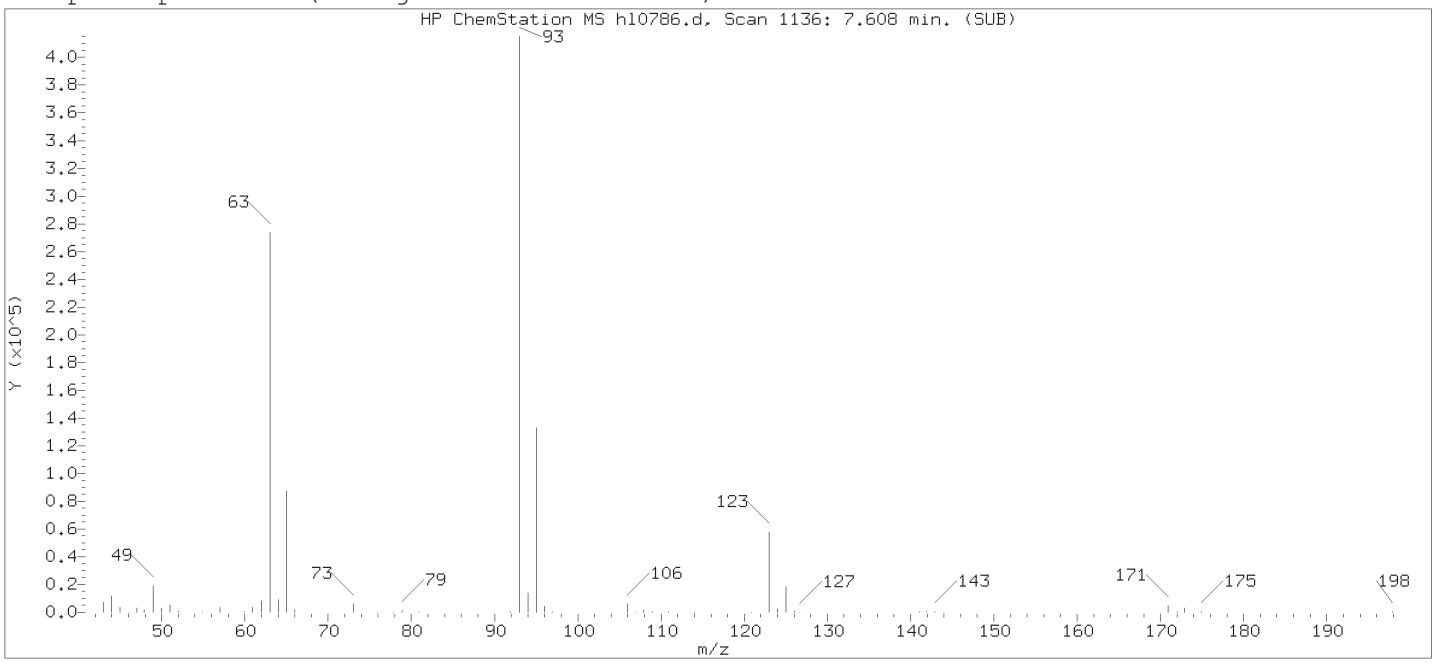
Compound Number : 40
Compound Name : bis(2-Chloroethoxy)methane
Scan Number : 1136
Retention Time (minutes) : 7.608
Quant Ion : 93.00
Area (flag) : 526723M
On-Column Amount (ng/ul) : 10.8814
Integration start scan : 1132 Integration stop scan: 1141
Y at integration start : -508 Y at integration end: -508

Reason for manual integration: improper integration

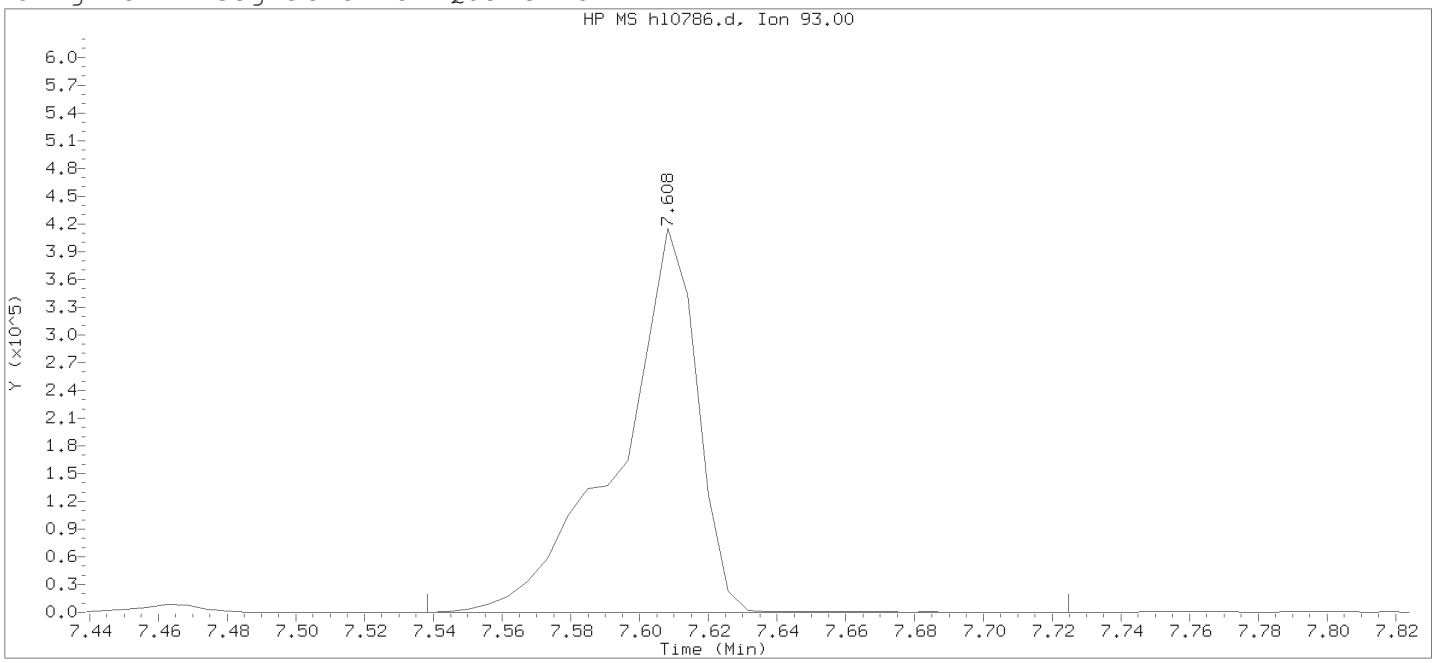
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:28.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



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Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

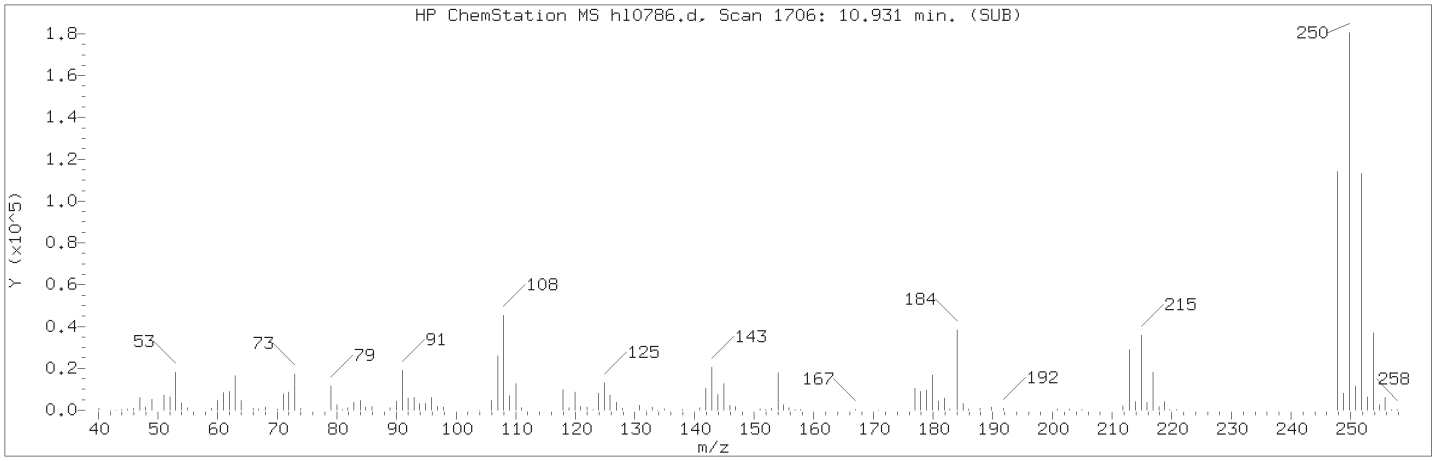
Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 17:30
Date, time and analyst ID of latest file update: 23-Dec-2013 18:30 Automation

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

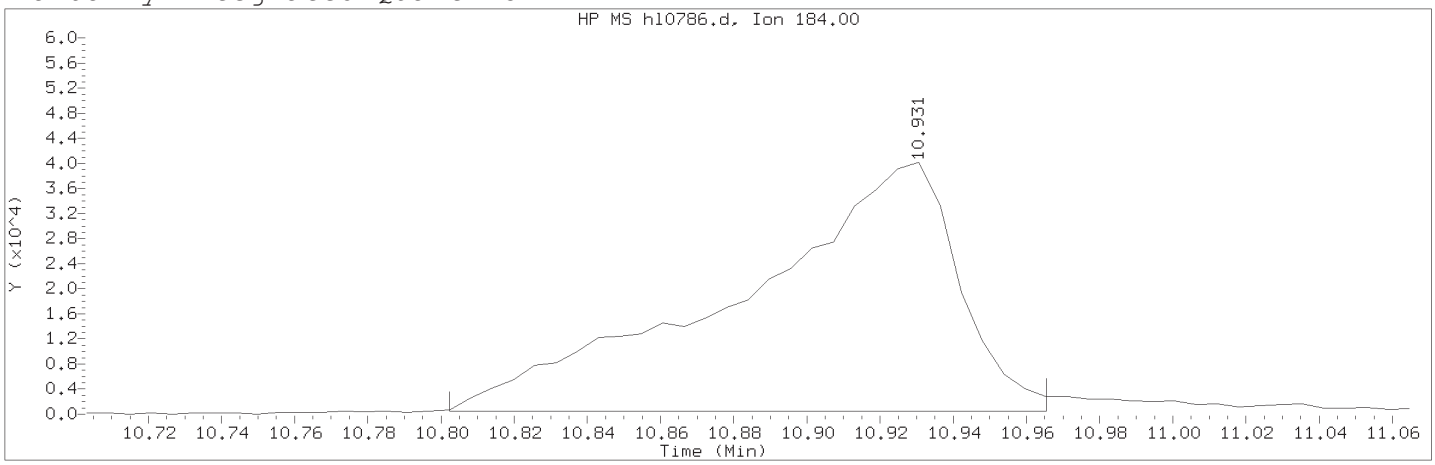
Compound Number : 40
Compound Name : bis(2-Chloroethoxy)methane
Scan Number : 1136
Retention Time (minutes) : 7.608
Quant Ion : 93.00
Area : 651696
On-column Amount (ng/ul) : 13.4631
Integration start scan : 1123 Integration stop scan: 1155
Y at integration start : 0 Y at integration end: 0

Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:28.
Target 3.5 esignature used ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



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Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

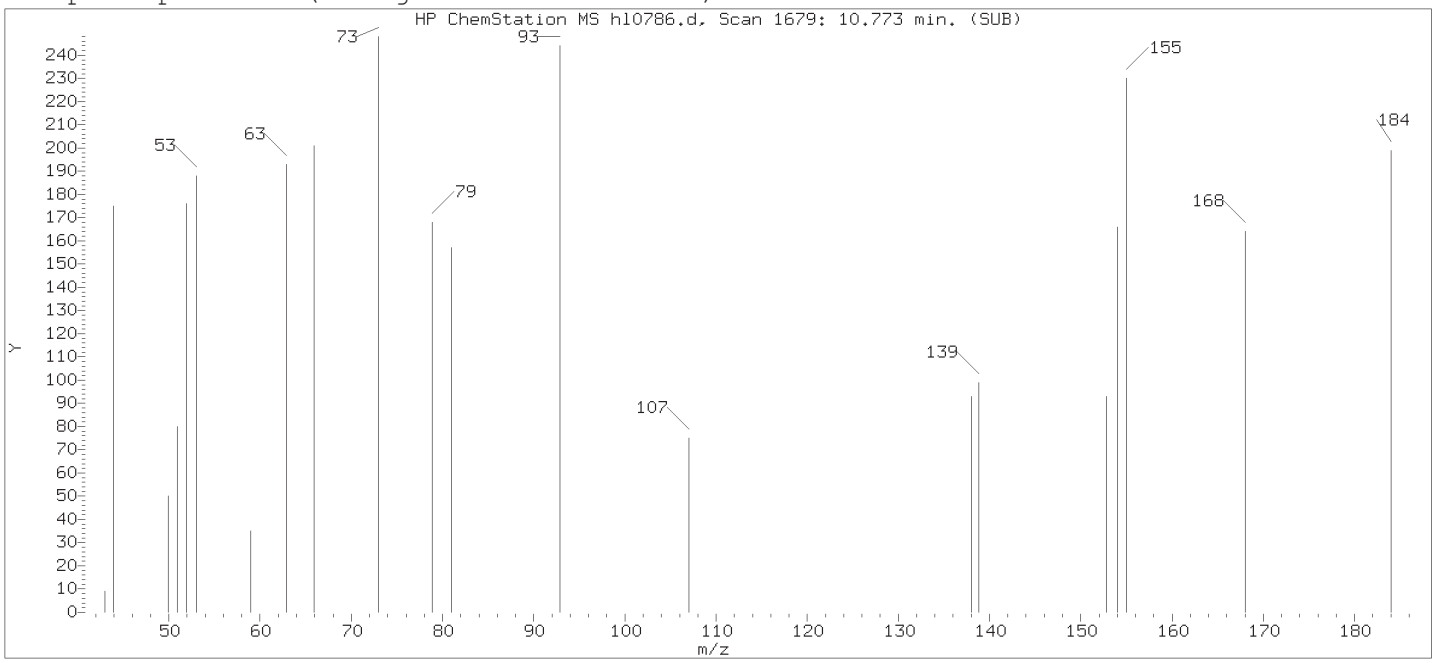
Compound Number : 80
Compound Name : 2,4-Dinitrophenol
Scan Number : 1706
Retention Time (minutes) : 10.931
Quant Ion : 184.00
Area (flag) : 162709M
On-Column Amount (ng/ul) : 19.2727
Integration start scan : 1683 Integration stop scan: 1711
Y at integration start : 511 Y at integration end: 511

Reason for manual integration: improper integration

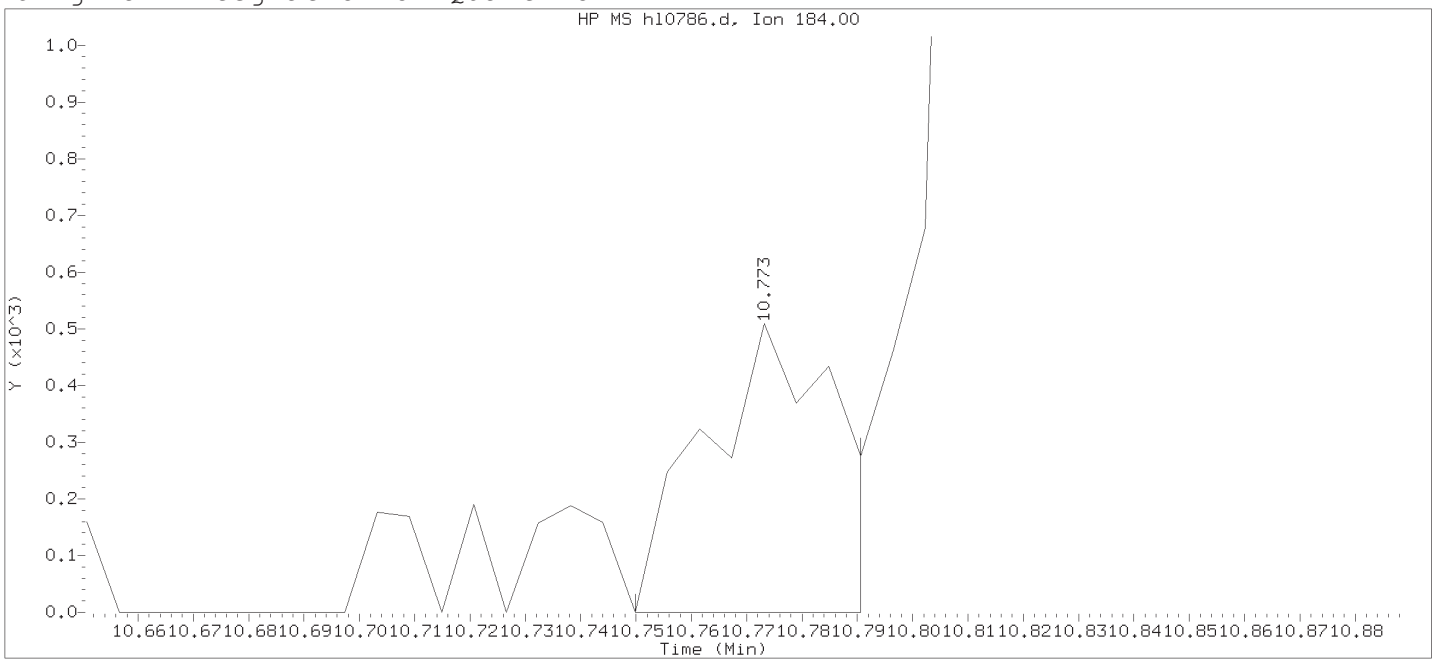
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:28.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0786.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

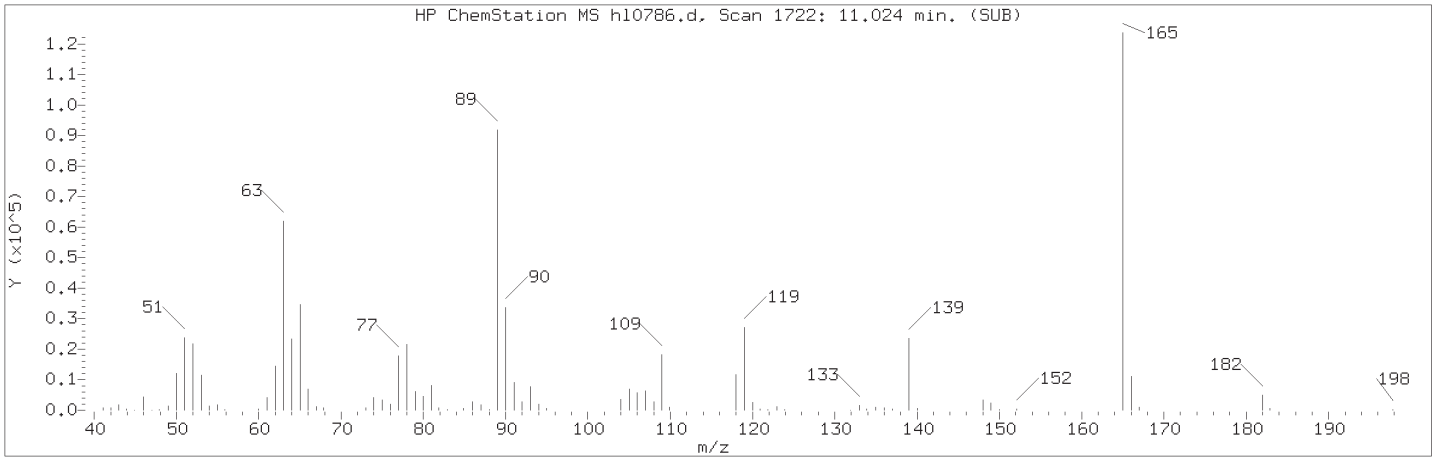
Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 17:30
Date, time and analyst ID of latest file update: 23-Dec-2013 18:30 Automation

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

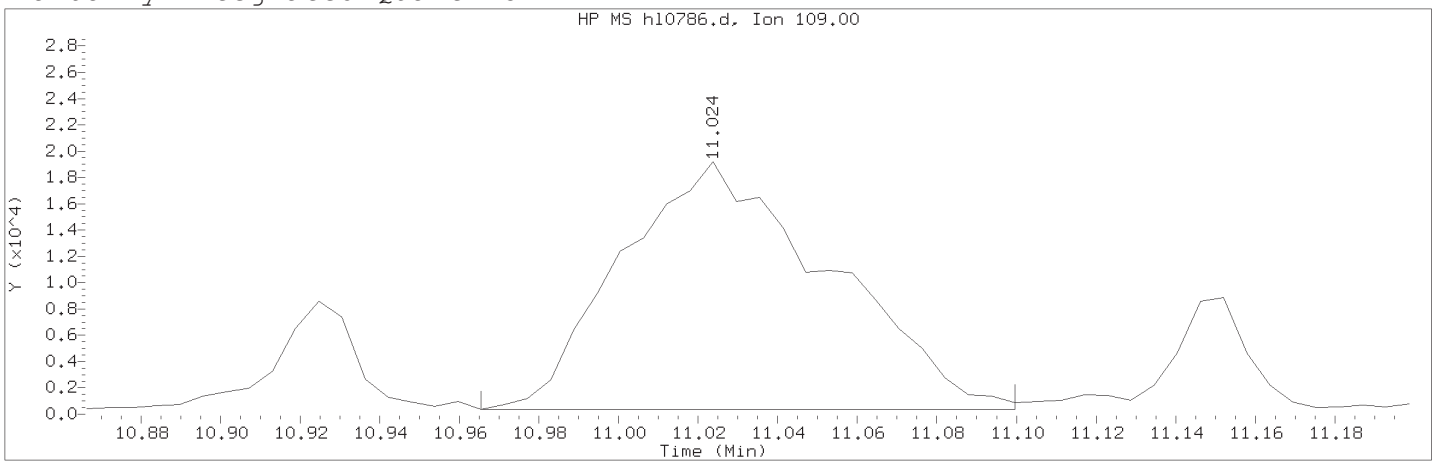
Compound Number : 80
Compound Name : 2,4-Dinitrophenol
Scan Number : 1679
Retention Time (minutes) : 10.773
Quant Ion : 184.00
Area : 801
On-column Amount (ng/ul) : 0.0950
Integration start scan : 1674 Integration stop scan: 1681
Y at integration start : 0 Y at integration end: 0

Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:28.
Target 3.5 esignature used ID: ceb05247.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0786.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

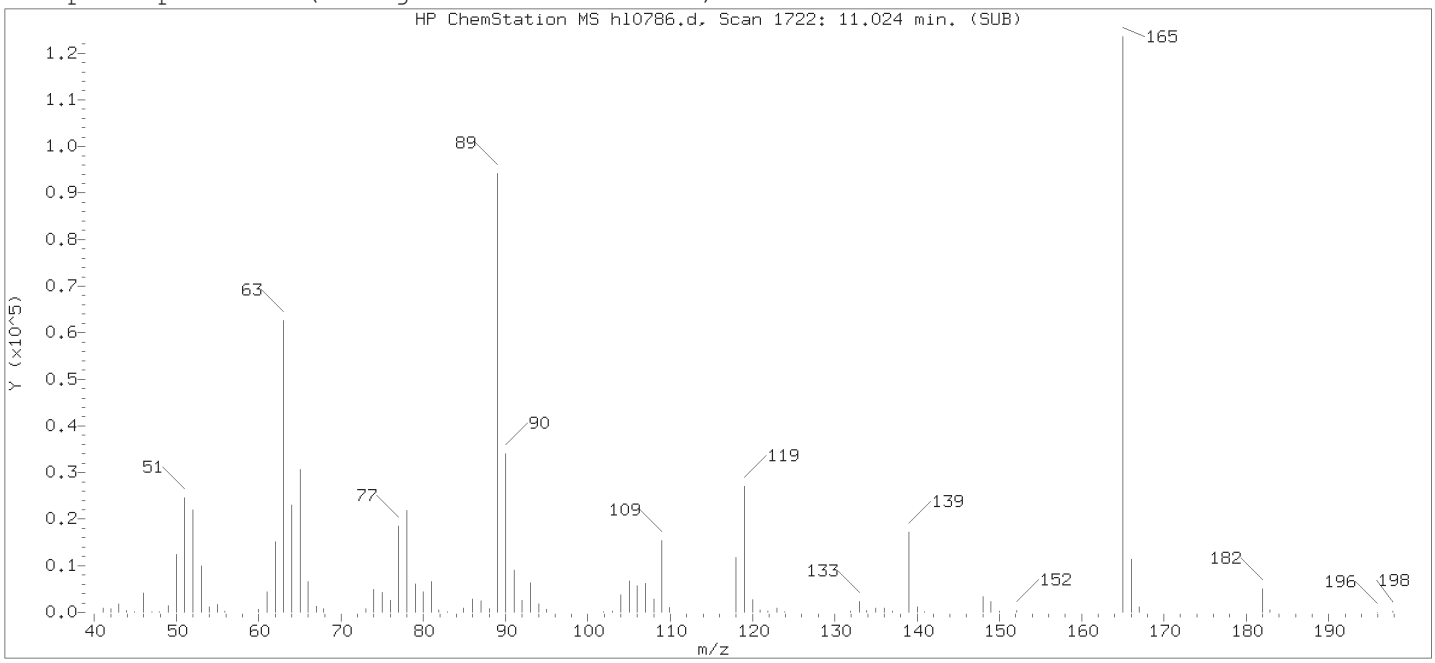
Compound Number	: 81
Compound Name	: 4-Nitrophenol
Scan Number	: 1722
Retention Time (minutes)	: 11.024
Quant Ion	: 109.00
Area (flag)	: 68362M
On-Column Amount (ng/ul)	: 9.4074
Integration start scan	: 1711 Integration stop scan: 1734
Y at integration start	: 383 Y at integration end: 383

Reason for manual integration: improper integration

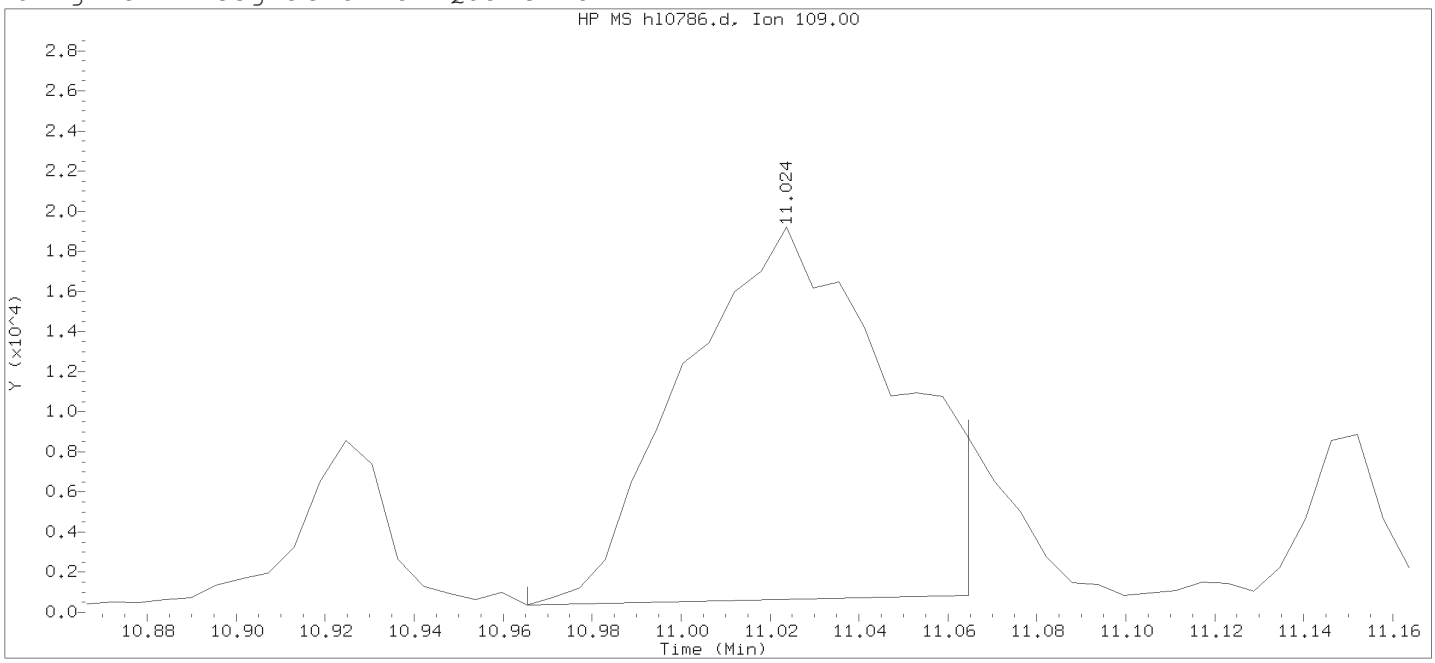
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:28.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0786.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

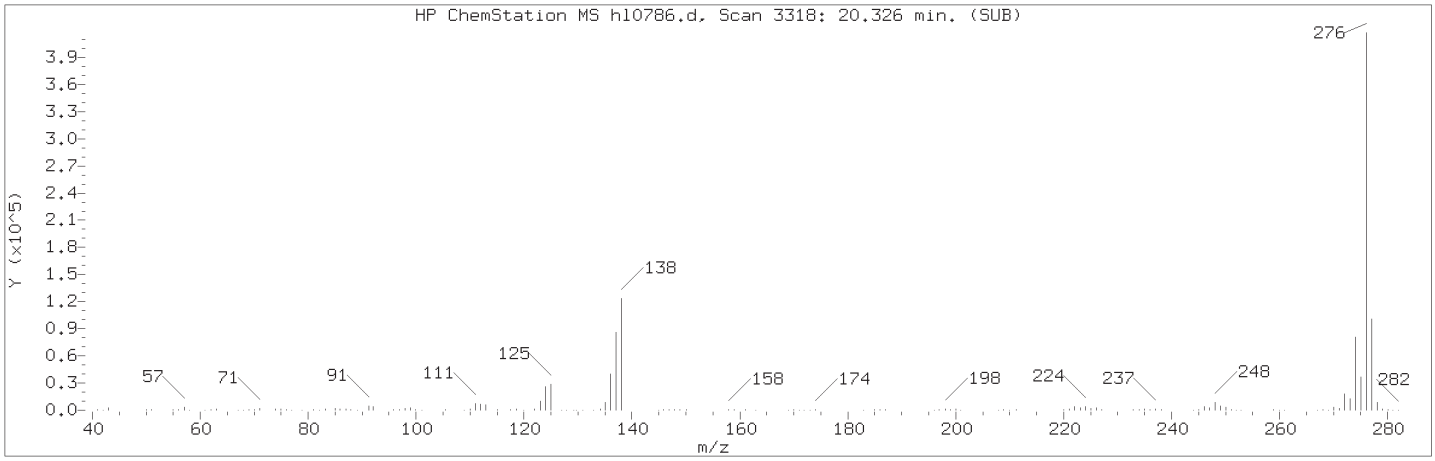
Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 17:30
Date, time and analyst ID of latest file update: 23-Dec-2013 18:30 Automation

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

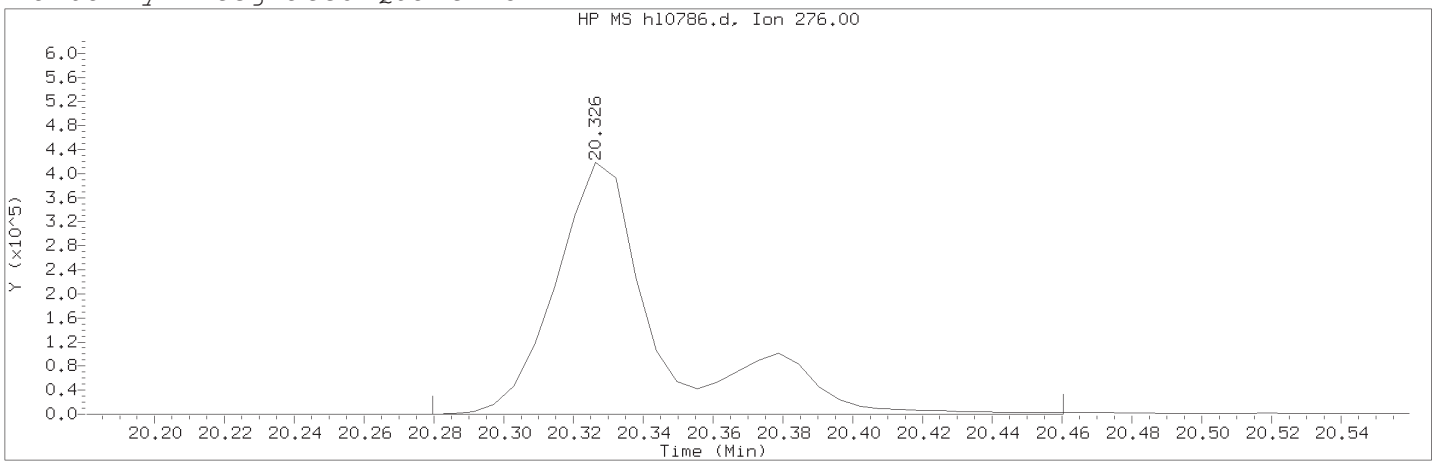
Compound Number : 81
Compound Name : 4-Nitrophenol
Scan Number : 1722
Retention Time (minutes) : 11.024
Quant Ion : 109.00
Area : 60084
On-column Amount (ng/ul) : 8.2682
Integration start scan : 1711 Integration stop scan: 1728
Y at integration start : 367 Y at integration end: 848

Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:28.
Target 3.5 esignature used ID: ceb05247.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0786.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: 348WAJ
Calibration date and time: 23-DEC-2013 19:22
Date, time and analyst ID of latest file update: 23-Dec-2013 19:27 ceb05247

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

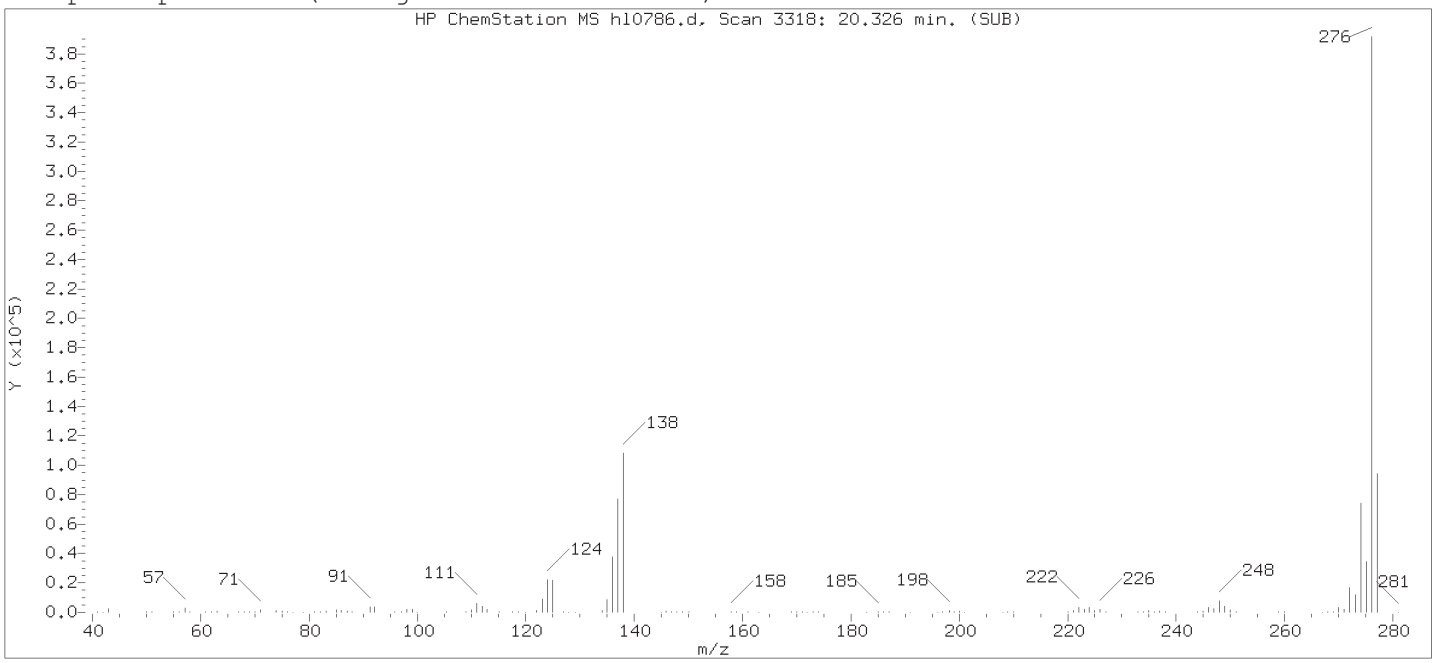
Compound Number	: 152
Compound Name	: Indeno(1,2,3-cd)pyrene
Scan Number	: 3318
Retention Time (minutes)	: 20.326
Quant Ion	: 276.00
Area (flag)	: 868841M
On-Column Amount (ng/ul)	: 12.2267
Integration start scan	: 3309 Integration stop scan: 3340
Y at integration start	: 355 Y at integration end: 355

Reason for manual integration: improper integration

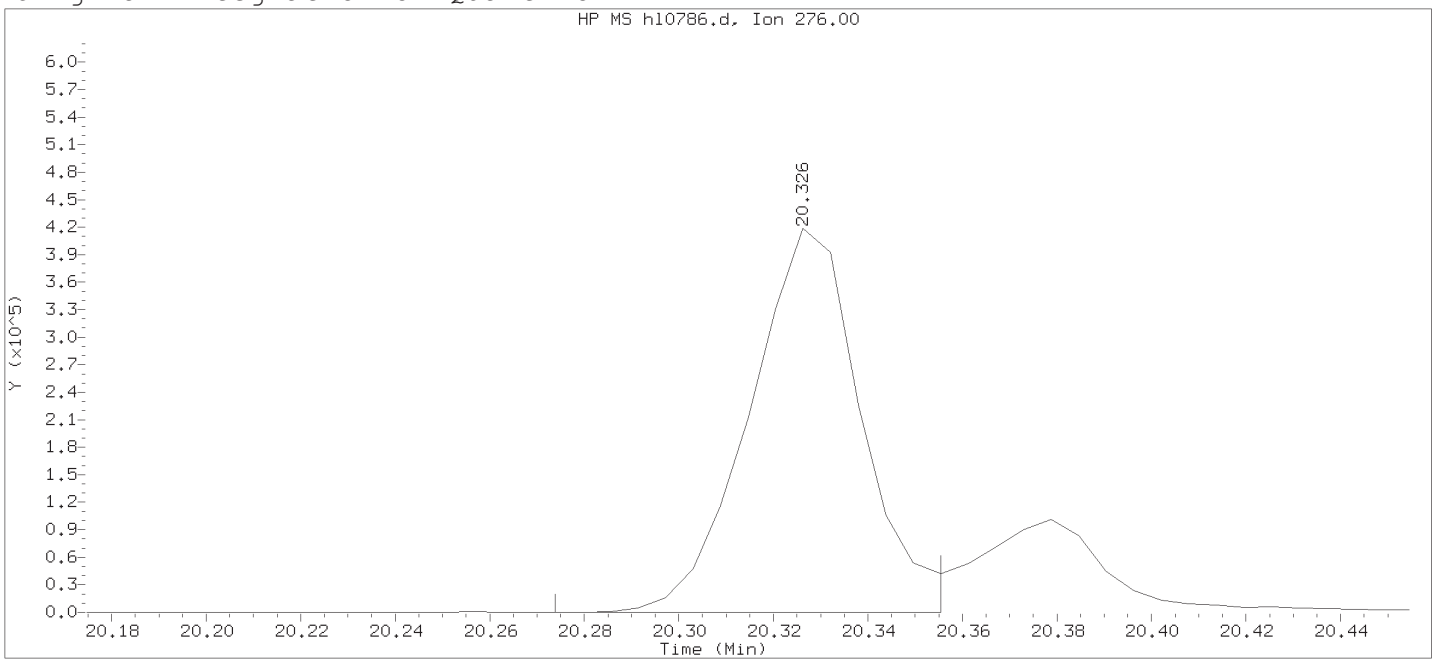
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:28.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 01/02/2014 at 10:06.
Parallax ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP18831.i/13dec23.b/hl0786.d Instrument ID: HP18831.i
Injection date and time: 23-DEC-2013 17:57 Analyst ID: ceb05247

Method used: /chem/HP18831.i/13dec23.b/8270D_LVI.m Sublist used: newall1
Calibration date and time: 23-DEC-2013 17:30
Date, time and analyst ID of latest file update: 23-Dec-2013 18:30 Automation

Sample Name: 348WJLCS8 Lab Sample ID: 348WJLCS

Compound Number : 152
Compound Name : Indeno(1,2,3-cd)pyrene
Scan Number : 3318
Retention Time (minutes) : 20.326
Quant Ion : 276.00
Area : 679860
On-column Amount (ng/ul) : 9.5673
Integration start scan : 3308 Integration stop scan: 3322
Y at integration start : 0 Y at integration end: 198

Digitally signed by Catherine E. Bachman on 12/23/2013 at 19:28.
Target 3.5 esignature used ID: ceb05247

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

12/23/13

Organic Extraction Batchlog Assigned to: 5079 Anna Stager Reviewed by: CEB5947 Start Date: 12/16/13 Start time: 10:20

13348WAJ026 Tech 1: AES5079 Tech 2:

Dept: 26 Prep Analysis: 11010 8270D BNA Extraction SVOAs by 8270D in Water

QC	Sample Code	Amt (mg)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments
7311250MS	PNY7D	248	SS1332326B	1	MS1332926C MS1333926A	1 1	1	✓	✓	153A	cloudy yellow tint
7311251MSD	PNY7D	248	SS1332326B	1	MS1332926C MS1333926A	1 1	1	✓	✓	153A	↓
BLANKA	SBLKWJ348	250	SS1332326B	1	—	—	1	✓	✓	—	tap H_2O
LCSA	348WJLCS	250	SS1332326B	1	MS1332926C MS1333926A	1 1	1	✓	✓	—	↓

Solvent Used	Lot No.
10N NaOH	121122
Methylene Chloride	64647
Sodium Sulfate	13345A
Sulfuric Acid	13 1996

Spike Solutions: Witness: N/A
MS1333926A APPIX #1 MINI SPIKE
MS1332926C MINI SEP. LCS SPIKE
SS1332326B MINI SEP. BNA SURROGATE

Sample #	Sample Code	Amt (mg)	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
1 7310405	CCWM2	239	SS1332326B	1	1	✓	✓	153A	bright yellow tint	10461	9299	12/26/2013	N
2 7311247	WBMDT	245	SS1332326B	1	1	✓	✓	153A	cloudy yellow color	10461	1625	12/26/2013	P
3 7311249BKG	PNY7D	246	SS1332326B	1	1	✓	✓	153A	cloudy yellow tint	10461	1856	12/26/2013	P
4 7311252	PNY7S	249	SS1332326B	1	1	✓	✓	153A	clear yellow color	10461	1856	12/26/2013	P
5 7311253	PNYFD	246	SS1332326B	1	1	✓	✓	153A	↓	10461	1856	12/26/2013	P
6 7311254	PNY8S	241	SS1332326B	1	1	✓	✓	153A	↓	10461	1856	12/26/2013	P
7 7311255	PNY8D	239	SS1332326B	1	1	✓	✓	153A	cloudy yellow tint	10461	1856	12/26/2013	P
8 7311256	PNYFB	236	SS1332326B	1	1	✓	✓	153A	clear	10461	1856	12/26/2013	P
9 7311257	PNY4D	244	SS1332326B	1	1	✓	✓	153A	↓	10461	1856	12/26/2013	P
10 7311258	PNY4S	248	SS1332326B	1	1	✓	✓	153A	clear yellow tint	10461	1856	12/26/2013	P
11 7311259	PNYM1	243	SS1332326B	1	1	✓	✓	153A	↓	10461	1856	12/26/2013	P

AES 5079 12/16/13

Rack ID:		Work Station	H_2O 4
Internal Standard	1STD3333	Balance #	7

S-bath ID 10	88° C	S-bath ID — C	N-Evap — C	M-vap — C	13348WAJ026

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

Appendix C: Data Usability Summary Report (DUSR)

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
PATCHOGUE, NEW YORK

Client: Brown and Caldwell, Upper Saddle River, New Jersey
SDG: PCH14
Laboratory: Lancaster Laboratories, Lancaster, Pennsylvania
Site: Patchogue, New York
Date: February 21, 2014

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	MW-7D GRAB GROUNDWATER	7311249	Water
1MS	MW-7D GRAB GROUNDWATERMS	7311250MS	Water
1MSD	MW-7D GRAB GROUNDWATERMSD	7311251MSD	Water
2	MW-7S GRAB GROUNDWATER	7311252	Water
3	DUP_20131209 GRAB GROUNDWATER	7311253	Water
4	MW-8S GRAB WATER	7311254	Water
5	MW-8D GRAB GROUNDWATER	7311255	Water
6	FB_20131210 GRAB GROUNDWATER	7311256	Water
7	MW-4D GRAB GROUNDWATER	7311257	Water
8	MW-4S GRAB GROUNDWATER	7311258	Water
9	MW-1 GRAB GROUNDWATER	7311259	Water
10*	TRIP BLANK WATER	7311260	Water

* - VOC only

A Data Usability Summary Review was performed on the analytical data for eight water samples, one aqueous field blank sample, and one aqueous trip blank sample December 09-10, 2013 by Brown and Caldwell at the Patchogue, New York Site. The samples were analyzed under Environmental Protection Agency (USEPA) *"Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions"*.

Specific method references are as follows:

Analysis	*Method References*
VOC (BTEX and MTBE)	USEPA SW-846 Method 8260C
SVOC (PAH)	USEPA SW-846 Method 8270D

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-24, Revision 2, August 2008: Validating Volatile Organic Compounds by SW-846 Method 8260B;
- SOP Number HW-22, Revision 4, August 2008: Validating Semivolatile Organic Compounds by SW-846 Method 8270D;
- and the reviewer's professional judgment.

The following items/criteria were reviewed:

Organics

- Data Completeness
- Holding times and sample preservation
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Method blank and field blank contamination
- Gas Chromatography (GC)/Mass Spectroscopy (MS) tuning
- Initial and continuing calibration summaries
- Compound Quantitation
- Internal standard area and retention time summary forms
- Field Duplicate sample precision

Overall Usability Issues:

There were no rejections of data.

Overall the data is acceptable for the intended purposes. There were no qualifications.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Volatile Organic Compounds (BTEX and MTBE)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD sample exhibited acceptable percent recoveries (%R) and/or relative percent differences (RPD).

Laboratory Control Samples

- The LCS sample exhibited acceptable %R values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- The following table summarizes field blank contamination.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
FB_20131210 GRAB GROUNDWATER	None - ND	-	-	-	-
TRIP BLANK WATER	None - ND	-	-	-	-

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and average RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Compound Quantitation

- All criteria were met.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

VOC				
Compound	MW-7S GRAB GROUNDWATER ug/L	DUP_20131209 GRAB GROUNDWATER ug/L	RPD	Qualifier
Benzene	0.8	0.8	0%	None

Semivolatile Organics Compounds (PAH)

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD sample exhibited acceptable percent recoveries (%R) and/or relative percent differences (RPD).

Laboratory Control Samples

- The LCS sample exhibited acceptable %R values.

Method Blank

- The method blanks were free of contamination.

Field Blanks

- The following table summarizes field blank contamination.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
FB_20131210 GRAB WATER	ND	-	-	-	-

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and average RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Compound Quantitation

- All criteria were met.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

PAH				
Compound	MW-7S GRAB GROUNDWATER ug/L	DUP_20131209 GRAB GROUNDWATER ug/L	RPD	Qualifier
Acenaphthene	0.1	0.1U	NC	None
Naphthalene	0.6	0.5	18%	
Phenanthrene	0.1	0.1	0%	

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/24/14

Nancy Weaver
Senior Chemist

Data Qualifiers

J	=	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	=	The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.
U	=	The analyte was analyzed for, but was not detected above the sample reporting limit.
R	=	The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-7D Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311249
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/09/2013 15:25 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY7D SDG#: PCH14-01BKG

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11997	Benzene	71-43-2	N.D.		0.5	1
11997	Ethylbenzene	100-41-4	N.D.		0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
11997	Toluene	108-88-3	N.D.		0.7	1
11997	m+p-Xylene	179601-23-1	N.D.		0.8	1
11997	o-Xylene	95-47-6	N.D.		0.8	1
11997	Xylene (Total)	1330-20-7	N.D.		0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	
10461	Acenaphthene	83-32-9	N.D.		0.1	1
10461	Acenaphthylene	208-96-8	N.D.		0.1	1
10461	Anthracene	120-12-7	N.D.		0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.		0.1	1
10461	**Chrysene**	218-01-9	**0.1**	**J**	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.		0.1	1
10461	**Fluoranthene**	206-44-0	**0.1**	**J**	0.1	1
10461	Fluorene	86-73-7	N.D.		0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.1	1
10461	Naphthalene	91-20-3	N.D.		0.1	1
10461	Phenanthrene	85-01-8	N.D.		0.1	1
10461	**Pyrene**	129-00-0	**0.2**	**J**	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 02:57	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 02:57	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/23/2013 18:26	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

NW 2/21/14

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Analysis Report

2

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-7S Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311252
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/09/2013 16:18 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY7S SDG#: PCH14-02

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	
11997	**Benzene**	71-43-2	**0.8**	J	0.5	1
11997	Ethylbenzene	100-41-4	N.D.		0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
11997	Toluene	108-88-3	N.D.		0.7	1
11997	m+p-Xylene	179601-23-1	N.D.		0.8	1
11997	o-Xylene	95-47-6	N.D.		0.8	1
11997	Xylene (Total)	1330-20-7	N.D.		0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l		ug/l	
10461	**Acenaphthene**	83-32-9	**0.1**	J	0.1	1
10461	Acenaphthylene	208-96-8	N.D.		0.1	1
10461	Anthracene	120-12-7	N.D.		0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.		0.1	1
10461	Chrysene	218-01-9	N.D.		0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.		0.1	1
10461	Fluoranthene	206-44-0	N.D.		0.1	1
10461	Fluorene	86-73-7	N.D.		0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.1	1
10461	**Naphthalene**	91-20-3	**0.6**		0.1	1
10461	**Phenanthrene**	85-01-8	**0.1**	J	0.1	1
10461	Pyrene	129-00-0	N.D.		0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 04:03	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 04:03	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/23/2013 23:16	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

MW 2/21/14

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: DUP_20131209 Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311253
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/09/2013 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNYFD SDG#: PCH14-03FD

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	
11997	**Benzene**	71-43-2	**0.8**	**J**	0.5	1
11997	Ethylbenzene	100-41-4	N.D.		0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
11997	Toluene	108-88-3	N.D.		0.7	1
11997	m+p-Xylene	179601-23-1	N.D.		0.8	1
11997	o-Xylene	95-47-6	N.D.		0.8	1
11997	Xylene (Total)	1330-20-7	N.D.		0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l		ug/l	
10461	Acenaphthene	83-32-9	N.D.		0.1	1
10461	Acenaphthylene	208-96-8	N.D.		0.1	1
10461	Anthracene	120-12-7	N.D.		0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.		0.1	1
10461	Chrysene	218-01-9	N.D.		0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.		0.1	1
10461	Fluoranthene	206-44-0	N.D.		0.1	1
10461	Fluorene	86-73-7	N.D.		0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.1	1
10461	**Naphthalene**	91-20-3	**0.5**	**J**	0.1	1
10461	**Phenanthrene**	85-01-8	**0.1**	**J**	0.1	1
10461	Pyrene	129-00-0	N.D.		0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 04:26	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 04:26	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/23/2013 23:45	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

MW 2/21/14

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-8S Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311254
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 08:06 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY8S SDG#: PCH14-04

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11997	Benzene	71-43-2	N.D.		0.5	1
11997	Ethylbenzene	100-41-4	N.D.		0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
11997	Toluene	108-88-3	N.D.		0.7	1
11997	m+p-Xylene	179601-23-1	N.D.		0.8	1
11997	o-Xylene	95-47-6	N.D.		0.8	1
11997	Xylene (Total)	1330-20-7	N.D.		0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	
10461	**Acenaphthene**	83-32-9	**0.3**	J	0.1	1
10461	Acenaphthylene	208-96-8	N.D.		0.1	1
10461	Anthracene	120-12-7	N.D.		0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.		0.1	1
10461	Chrysene	218-01-9	N.D.		0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.		0.1	1
10461	Fluoranthene	206-44-0	N.D.		0.1	1
10461	Fluorene	86-73-7	N.D.		0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.1	1
10461	Naphthalene	91-20-3	N.D.		0.1	1
10461	Phenanthrene	85-01-8	N.D.		0.1	1
10461	Pyrene	129-00-0	N.D.		0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013	04:48	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013	04:48	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/24/2013	00:14	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013	00:00	Anna E Stager	1

MW 2/21/14

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-8D Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311255
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 08:49 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY8D SDG#: PCH14-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	
10461	Acenaphthene	83-32-9	N.D.	0.1	1
10461	Acenaphthylene	208-96-8	N.D.	0.1	1
10461	Anthracene	120-12-7	N.D.	0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
10461	Chrysene	218-01-9	N.D.	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
10461	Fluoranthene	206-44-0	N.D.	0.1	1
10461	Fluorene	86-73-7	N.D.	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
10461	Naphthalene	91-20-3	N.D.	0.1	1
10461	Phenanthrene	85-01-8	N.D.	0.1	1
10461	Pyrene	129-00-0	N.D.	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 05:10	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 05:10	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/24/2013 00:43	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

NW 2/21/14

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: FB_20131210 Water
COC: 341296
Patchogue, NY

LL Sample # WW 7311256
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 09:46 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNYFB SDG#: PCH14-06FB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	
10461	Acenaphthene	83-32-9	N.D.	0.1	1
10461	Acenaphthylene	208-96-8	N.D.	0.1	1
10461	Anthracene	120-12-7	N.D.	0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
10461	Chrysene	218-01-9	N.D.	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
10461	Fluoranthene	206-44-0	N.D.	0.1	1
10461	Fluorene	86-73-7	N.D.	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
10461	Naphthalene	91-20-3	N.D.	0.1	1
10461	Phenanthrene	85-01-8	N.D.	0.1	1
10461	Pyrene	129-00-0	N.D.	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 05:32	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 05:32	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/24/2013 01:12	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

MW 2/21/14

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Analysis Report

Sample Description: MW-4D Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311257
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 09:56 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY4D SDG#: PCH14-07

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	
11997	Benzene	71-43-2	N.D.		0.5	1
11997	Ethylbenzene	100-41-4	N.D.		0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
11997	Toluene	108-88-3	N.D.		0.7	1
11997	m+p-Xylene	179601-23-1	N.D.		0.8	1
11997	o-Xylene	95-47-6	N.D.		0.8	1
11997	Xylene (Total)	1330-20-7	N.D.		0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	
10461	**Acenaphthene**	83-32-9	**0.2**	J	0.1	1
10461	**Acenaphthylene**	208-96-8	**1**		0.1	1
10461	Anthracene	120-12-7	N.D.		0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.		0.1	1
10461	Chrysene	218-01-9	N.D.		0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.		0.1	1
10461	Fluoranthene	206-44-0	N.D.		0.1	1
10461	**Fluorene**	86-73-7	**0.8**		0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.1	1
10461	Naphthalene	91-20-3	N.D.		0.1	1
10461	**Phenanthrene**	85-01-8	**0.5**		0.1	1
10461	Pyrene	129-00-0	N.D.		0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 05:55	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 05:55	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/24/2013 01:41	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

MW 2/21/14

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-4S Grab Groundwater
COC: 341296
Patchogue, NY

LL Sample # WW 7311258
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 10:35 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNY4S SDG#: PCH14-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	
10461	Acenaphthene	83-32-9	N.D.	0.1	1
10461	Acenaphthylene	208-96-8	N.D.	0.1	1
10461	Anthracene	120-12-7	N.D.	0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
10461	Chrysene	218-01-9	N.D.	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
10461	Fluoranthene	206-44-0	N.D.	0.1	1
10461	Fluorene	86-73-7	N.D.	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
10461	Naphthalene	91-20-3	N.D.	0.1	1
10461	Phenanthrene	85-01-8	N.D.	0.1	1
10461	Pyrene	129-00-0	N.D.	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 06:17	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 06:17	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/24/2013 02:10	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

MW 2/21/14

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: MW-1 Grab Groundwater
COC: 341295
Patchogue, NY

LL Sample # WW 7311259
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013 11:52 by TMB

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNYM1 SDG#: PCH14-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	
10461	Acenaphthene	83-32-9	N.D.	0.1	1
10461	Acenaphthylene	208-96-8	N.D.	0.1	1
10461	Anthracene	120-12-7	N.D.	0.1	1
10461	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
10461	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
10461	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
10461	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
10461	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
10461	Chrysene	218-01-9	N.D.	0.1	1
10461	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
10461	Fluoranthene	206-44-0	N.D.	0.1	1
10461	Fluorene	86-73-7	N.D.	0.1	1
10461	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
10461	Naphthalene	91-20-3	N.D.	0.1	1
10461	Phenanthrene	85-01-8	N.D.	0.1	1
10461	Pyrene	129-00-0	N.D.	0.1	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/19/2013 06:39	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/19/2013 06:39	Sara E Johnson	1
10461	SVOAs by 8270D in Water	SW-846 8270D	1	13348WAJ026	12/27/2013 03:45	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	13348WAJ026	12/16/2013 00:00	Anna E Stager	1

MW 2/21/14

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Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: Trip Blank Water
COC: 341295
Patchogue, NY

LL Sample # WW 7311260
LL Group # 1440505
Account # 09286

Project Name: Patchogue, NY

Collected: 12/10/2013

Submitted: 12/12/2013 09:45
Reported: 01/02/2014 12:09

Brown & Caldwell
2 Park Way
Suite 2A
Upper Saddle River NJ 07458

PNYTB SDG#: PCH14-10TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	
11997	Benzene	71-43-2	N.D.	0.5	1
11997	Ethylbenzene	100-41-4	N.D.	0.8	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
11997	Toluene	108-88-3	N.D.	0.7	1
11997	m+p-Xylene	179601-23-1	N.D.	0.8	1
11997	o-Xylene	95-47-6	N.D.	0.8	1
11997	Xylene (Total)	1330-20-7	N.D.	0.8	1

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	8260C Water Master	SW-846 8260C	1	L133522AA	12/18/2013 22:52	Sara E Johnson	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L133522AA	12/18/2013 22:52	Sara E Johnson	1

NW 2/21/14

Appendix D: Electronic Data Deliverable (CD-ROM)