May 7, 2013

Mr. Dwight Leisle
Port of Portland
7200 NE Airport Way
Portland, Oregon 97218

Re: Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon
1053-02

Dear Mr. Leisle:

This letter represents the results of the storm water sampling to support a Source Control Decision (SCD) for the Terminal 2 Upland Facility (the Facility) located in Portland, Oregon (Figures 1 and 2). This letter presents the methods, procedures, and results of the chemical analyses for the storm water sampling activities.

BACKGROUND

The Port of Portland (Port) prepared a *Preliminary Assessment* (PA) of Terminal 2 in August 2000. The Oregon Department of Environmental Quality (DEQ) provided comments on the PA in an email in March 2004. The DEQ comments primarily identified corrections needed to data presented in the PA and data that had not been included in the PA. The Port provided responses in an email communication on March 30, 2004. DEQ again followed up with additional questions and comments related to operations at Terminal 2. The Port provided responses to these questions in an email communication on March 9, 2005. After resolution of the PA questions, the DEQ requested that the Port conduct a storm water evaluation on the Terminal 2 upland facility according to DEQ's Joint Source Control Strategy (JSCS; DEQ/EPA, 2005). Ash Creek Associates (Ash Creek) prepared a *Storm Water Evaluation Work Plan* (dated August 21, 2007). A storm water sampling program and conveyance line cleanout were conducted and documented in the *Storm Water Evaluation Data Summary Report* (dated April 2009). To assist in the DEQ's preparation of an SCD, the Port prepared a Source Control Evaluation (SCE; dated December 1, 2011). DEQ indicated that additional data would be necessary to support a No Further Action (NFA)/SCD for the Facility and indicated that a "conditional" SCD could be provided that would be dependent upon additional 2012 National Pollutant Discharge Elimination System (NPDES) 1200-Z General Industrial Storm Water Discharge Permit data. As indicated in the SCE, the Port had an NPDES monitoring waiver for the period of July 1, 2009 through June 30, 2012. In order to support the NFA/SCD, the Port agreed to provide four rounds of additional storm water monitoring data. These activities were presented in the *Proposed Storm Water Sampling* letter (dated March 7, 2012).

SAMPLING ACTIVITIES

Preparatory Activities

The following activities were completed in preparation for the field work.

- Health and Safety Plan (HASP). Apex Companies (formerly Ash Creek Associates) prepared a HASP for its personnel involved with the project.
- Work in Tenant Areas. The work activities were conducted in coordination with tenant schedules.

Storm Water Sampling

The sampling activities were completed consistent with the methods and procedures presented in the Proposed Storm Water Sampling letter.

Sampling Event Criteria

The following storm event criteria were consistent with the JSCS guidance document (DEQ/EPA, 2005). The storm event criteria are as follows:

1) Each sampling event is preceded by an antecedent dry period of at least 24 hours (as defined by less than 0.1 inch of precipitation over the previous 24 hours);
2) Minimum predicted rainfall volume of greater than 0.2 inch per event; and
3) Expected storm event duration of at least 3 hours.

A rain gauge at the 3395 NW Yeon Street (approximately 1,500 feet from the Facility; maintained by the City of Portland Hydra Network) was used to confirm that the sampling criteria were met. The rain gauge lists the rainfall depth per hour (reported on a one- to three-hour time delay). The rain gauge data are found at the following internet address: http://or.water.usgs.gov/non-usgs/bes/yeon.rain

Storm Water Sampling Procedures

The sampling activities were completed consistent with the methods and procedures in the historical NPDES monitoring program. Storm water samples were obtained from manholes immediately before the discharge to Outfalls A and B, at the locations shown on Figure 3. These locations are the same compliance monitoring points used by the Port for the NPDES monitoring and for the historical storm water samples collected as part of the SCE process. The NPDES permit issued in the fall of 2012 added an additional sampling point referred to as the "scupper". Samples from the scupper location (Berth 206) were only collected as part of stand-alone NPDES or combined JSCS/NPDES sampling events.

The unfiltered grab samples were obtained in accordance with Standard Operating Procedure (SOP) 2.12 (Attachment A). A telescoping swing sampler with a pre-cleaned stainless steel cup was used to collect the water samples, with the exception of oil and grease, which was collected directly into the sample container. The water samples were transferred into 1-gallon laboratory-decontaminated bulk sample containers for transport to the laboratory. The laboratory transferred the composited samples into the respective sample containers for each analysis.

Storm Events

The JSCS storm water sampling events are described below.

April 19, 2012 Storm Event. Apex Companies personnel mobilized in the morning of April 19, 2012. A storm of greater than 0.2 inch was predicted. The samples were collected at 9:50 and 10:10, respectively, for Basin A and Basin B. The storm had a duration of 8 hours and measured 0.6 inch of rainfall. A hyetograph is presented in Attachment B. The 24-hour period prior to the sampling event met the criteria for the "antecedent dry period".

November 23, 2012 Storm Event. Apex Companies personnel mobilized in the morning of November 23, 2012. A storm of greater than 0.2 inch was predicted. The samples were collected at 10:10 and 10:25, respectively, for Basin A and Basin B. The storm had a duration of greater than 12 hours and measured over one inch of rainfall in a 12-hour period. A hyetograph is presented in Attachment B. The 24-hour period prior to the sampling event met the criteria for the "antecedent dry period".

February 22, 2013 Storm Event. Apex Companies personnel mobilized in the morning of February 22, 2013. A storm of greater than 0.2 inch was predicted. The samples were collected at 10:50 and 11:15, respectively, for Basin A and Basin B. In addition an NPDES sample was collected from the scupper location at 12:30. The storm had a duration of 7 hours and measured over 0.8 inches of rainfall. A hyetograph is presented in Attachment B. The 24-hour period prior to the sampling event met the criteria for the "antecedent dry period".

March 19, 2013 Storm Event. Apex Companies personnel mobilized in the afternoon of March 19, 2013. A storm of greater than 0.2 inch was predicted. The samples were collected at 16:50 and 17:30, respectively, for Basin A and Basin B. The storm had a duration of greater than 9 hours and measured over 0.55 inch of rainfall in a 9-hour period. A hyetograph is presented in Attachment B. The 24-hour period prior to the sampling event met the criteria for the "antecedent dry period".

In addition, two stand-alone NPDES sampling events were completed on November 19 and December 17, 2012.

LABORATORY ANALYSIS AND DATA QUALITY REVIEW

The samples collected from the above activities were submitted to ALS Environmental in Kelso, Washington for chemical analysis. The only exceptions were the December 17, 2012 and April 4, 2013 NPDES samples which were submitted to Specialty Analytical of Clackamas, Oregon for chemical analysis. Copies of the laboratory reports are included in Attachment C (in CD-Rom format due to the length of the Level III deliverable report). The samples were analyzed on a standard turnaround time.

The storm water samples were analyzed for some or all of the following analyses:

JSCS analytes:

Total arsenic by EPA Method 1632;

Total cadmium, chromium, copper, lead, and zinc by EPA 6000/7000 or EPA 200.8 series;

Total polychlorinated biphenyls (PCBs) as Aroclors by EPA Method 8082;

Total polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270-SIM;

Total phthalates by EPA Method 525.2; and

Total suspended solids (TSS) by method SM2540 D.

Additional NPDES analytes:

pH (field and laboratory measured);

Oil and grease by EPA Method 1664A; and

Aluminum, iron, and nickel by EPA 200.8 series;

Aldrin, DDE, DDT, and dieldrin by EPA Method 608 (only for impairment events); and

Pentachlorophenol (PCP) by EPA Method 625 (only for impairment events).

Method reporting limits (MRLs) consistent with those presented in the *Proposed Storm Water Sampling* letter were requested from the analytical laboratory.

A quality assurance review of the data was completed. No other qualifiers with the exception of the rejected phthalates concentration noted below were attached to the data as a result of our review.

ANALYTICAL RESULTS AND EVALUATION

Table 1 presents the analytical data from the four storm water sampling events together with historical sample results. A summary of the analytical data is below. Average concentrations of constituents (pre- and post-cleanout Source Control Measure [SCM]) that exceed the JSCS SLVs were plotted with the other Portland Harbor Heavy Industrial (HI) Sites (Attachment D).

Metals. Several metals were detected in the storm water samples above the JSCS SLVs (by factors between 2 [cadmium] and 37 times [lead]). The average arsenic, cadmium, copper, lead, and zinc concentrations plot on the flatter portion of the curve indicating that the detected concentrations are not elevated relative to other Portland Harbor HI sites (Attachment D).

Phthalates. Phthalates were also detected in the storm water samples; however, bis(2-ethylhexyl)phthalate was the only compound that exceeded a JSCS SLV. This SLV was exceeded in one out of four samples in Basin A, by a factor of less than 2. The scupper sample from February 22, 2013 was inadvertently analyzed for phthalates. This sample was collected using plastic sampling equipment and consequently the data were rejected due to the high bias. Although there were several exceedances to JSCS SLVs, the exceedances were minor and not elevated relative to other PH sites (Attachment D).

PAHs. PAHs were detected in the storm water discharge samples. The JSCS Screening Levels Values (SLVs) were slightly exceeded for a few PAHs in storm water samples (i.e., generally by a factor of 5 or less). The average total PAH concentrations plot on the flatter portion of the curve indicating that the detected concentrations are not elevated relative to other Portland Harbor HI sites (Attachment D).

TSS. The average TSS concentrations plot on the flatter portion of the curve indicating that the detected concentrations are not elevated relative to other Portland Harbor HI sites (Attachment D).

PCBs. A single PCB Aroclor (Aroclor 1254) was detected in one sample at an estimated concentration (0.0027 micrograms per liter [µg/L]) an order of magnitude below the JSCS SLV.

CONCLUSIONS

Based on the data evaluation the storm water pathway to the river at the Facility is not of concern. No implementation of source control measures is recommended. An NFA determination and SCD are appropriate for this property.

If you have any questions regarding these activities, please contact the undersigned at (503) 924-4704.

Sincerely,

Michael J. Pickering, R.G.
Senior Associate Hydrogeologist

REFERENCES

Ash Creek Associates, 2007. Storm Water Evaluation Work Plan, Terminal 2 Upland Facility. August 21, 2007.

Ash Creek, 2009. Storm Water Evaluation Data Summary Report, Terminal 2, Upland Facility. April 28, 2009.

Ash Creek, 2011. Source Control Evaluation, Terminal 2 Upland Facility, Swan Island Upland Facility. December 1, 2011.

DEQ/EPA, 2005. Portland Harbor Joint Source Control Strategy – Final (Table 3-1 Updated July 16, 2007). December 2005.

ATTACHMENTS

Table 1 – Storm Water Analytical Results

Figure 1 – Facility Location Map
Figure 2 – Facility Layout
Figure 3 – Storm Water Plan

Attachment A – Standard Operating Procedure 2.12
Attachment B – Storm Water Hyetographs
Attachment C – Laboratory Analytical Report (CD-Rom)
Attachment D – DEQ Storm Water Data Plots

Table 1 - Storm Water Analytical Results
Terminal 2, Portland, Oregon

	SLV for Portland Harbor[2]	Basin A																				Basin B													
		3/13/2008		3/20/2008		3/28/2008		4/30/2008 NPDES	10/3/2008		11/12/2008 NPDES	12/12/2008 NPDES	3/31/2009 NPDES	4/28/2009 NPDES	4/19/2012	11/19/2012 NPDES	11/23/2012	12/17/2012 NPDES	2/22/2013	3/19/2013	4/4/2013 NPDES	3/13/2008		3/20/2008		3/28/2008		4/30/2008 NPDES	10/3/2008		11/12/2008 NPDES	12/12/2008 NPDES	3/31/2009 NPDES	4/28/2009 NPDES
		Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Total	Dissolved	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total	Total	Dissolved	Total	Total	Total	Total
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Total Suspended Solids	--	<1,000	--	5,000	--	19,000	--	5,000	12,000	--	<5,000	<5,000	<5,000	6,000	25,200	1,100	7,100	10,000	58,300	8,700	<5,000	<1,000	--	11,000	--	3,000	--	5,050	50,000	--	<5,000	12,000	<5,000	<5,000
Metals/Inorganics																																			
Aluminum (pH 6.5 - 9.0)	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	27.5	--	56.8	943	--	297	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	0.045	--	--	--	--	--	--	--	--	--	--	--	--	--	0.047	--	0.330	--	0.274	0.476	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic III	190	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	0.094	--	--	--	--	--	--	--	--	--	--	--	--	--	0.049	0.029	0.092	<1	0.176	0.213	<1	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, total	100	--	--	--	--	--	--	--	--	--	--	--	--	--	0.88	0.39	1.35	<5	3.17	1.45	<5	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium, hexavalent	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	2.7	5.2	--	--	--	--	--	18.8	--	--	<10	<10	12.2	17.2	4.38	5.69	7.39	<10	13	28.1	<10	2.62	--	--	--	--	--	5.57	--	--	<10	14	11.1	<10
Lead	0.54	2.42	--	--	--	--	--	1.44	--	--	<20	<20	<20	<20	1.05	0.336	0.996	<20	10.6	1.33	<20	<1	--	--	--	--	--	1.43	--	--	<20	<20	<20	<20
Manganese	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	0.77	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.02	--	<0.02	--	<0.0075	<0.02	--		--	--	--	--	--	--	--	--	--	--	--	--
Methyl Mercury	0.0028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.29	--	<5	2.28	--	<5	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	0.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	36	31.3	--	--	--	--	--	147	--	--	33.3	45.4	54.9	83.2	30.1	24.6	70.8	27.7	96.6	178	65	53.6	--	--	--	--	--	116	--	--	40.7	142	84.2	121
Perchlorate	<24.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide	5.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	32.5	--	62	3,260	--	703	--	--	--	--	--	--	--	--	--	--	--	--	--
PCB Aroclors																																			
Aroclor 1016	0.96	<0.0049 i	<0.0050 i	<0.0053 i	<0.0050	<0.0050 i	<0.0050 i	--	<0.0022 i	<0.0033 i	--	--	--	--	<0.0051 i	<0.0021	<0.0021	--	<0.0075	<0.0076	--	<0.0050 i	<0.0050 i	<0.0050 i	<0.0050	<0.0050 i	<0.0050 i	--	<0.0036 i	<0.0016 i	--	--	--	--
Aroclor 1221	0.034	<0.054 i	<0.041 i	<0.011 i	<0.018 i	<0.015 i	<0.045 i	--	<0.017 i	<0.016 i	--	--	--	--	<0.037 i	<0.0021	<0.0021	--	<0.03	<0.048	--	<0.11 i	<0.024 i	<0.010 i	<0.017 i	<0.010 i	<0.053 i	--	<0.057 i	<0.014 i	--	--	--	--
Aroclor 1232	0.034	<0.0066 i	<0.0050 i	<0.0053 i	<0.0050 i	<0.0053 i	<0.011 i	--	<0.0092 i	<0.0065 i	--	--	--	--	<0.011 i	<0.0021	<0.0021	--	<0.061	<0.021	--	<0.0078 i	<0.011 i	<0.0050 i	<0.0050 i	<0.0078 i	<0.0063 i	--	<0.019 i	<0.0097 i	--	--	--	--
Aroclor 1242	0.034	<0.0049 i	<0.0050 i	<0.0053 i	<0.0050 i	<0.0050 i	<0.0050 i	--	<0.0038 i	<0.0036 i	--	--	--	--	<0.0046 i	<0.0021	<0.0021	--	<0.011	<0.0098	--	<0.0050 i	<0.0050 i	<0.0050 i	<0.0050	<0.0050 i	<0.0050 i	--	<0.005 i	<0.0049 i	--	--	--	--
Aroclor 1248	0.034	<0.0049 i	<0.0050 i	<0.0053 i	<0.0050	<0.0050 i	<0.0074 i	--	<0.0019 i	<0.0039 i	--	--	--	--	<0.0051 i	<0.0021	<0.0021	--	<0.0064	<0.011	--	<0.0050 i	<0.0050 i	<0.0050 i	<0.0050	<0.0050 i	<0.0050 i	--	<0.0054 i	<0.0013 i	--	--	--	--
Aroclor 1254	0.033	<0.0061 i	<0.0050 i	<0.0053 i	<0.0050	<0.0050 i	<0.0050	--	<0.0049 i	<0.0049	--	--	--	--	<0.0017 i	<0.0021	<0.0021	--	<0.014	<0.011	--	<0.0059 i	<0.0050 i	<0.0050 i	<0.0050	<0.0050	<0.0050 i	--	<0.0049 i	<0.0065 i	--	--	--	--
Aroclor 1260	0.034	<0.0049 i	<0.0050 i	<0.0053 i	<0.0050	<0.0050 i	<0.0050	--	<0.0026 i	<0.001	--	--	--	--	<0.00097	<0.0021	<0.0021	--	<0.0073	<0.0040	--	<0.0050	<0.0050	<0.0050 i	<0.0050	<0.0050	<0.0050	--	<0.0072 i	<0.001	--	--	--	--
Aroclor 1262	--	< 0.0049 i	< 0.0050	< 0.0053 i	< 0.0050	<0.0050 i	<0.0050	--	<0.0032 i	<0.001	--	--	--	--	<0.00097	<0.0021	<0.0021	--	<0.0066	<0.0022	--	< 0.0050	< 0.0050	< 0.0050 i	< 0.0050	<0.0050	<0.0050	--	<0.0053 i	<0.001	--	--	--	--
Aroclor 1268	--	< 0.0049	< 0.0050	< 0.0053 i	< 0.0050	<0.0050	<0.0050	--	<0.0049	<0.001	--	--	--	--	<0.00097	<0.0021	<0.0021	--	<0.0067	<0.0022	--	< 0.0050	< 0.0050	< 0.0050 i	< 0.0050	<0.0050	<0.0050	--	<0.0067 i	<0.001	--	--	--	--
Organochlorine Pesticides																																			
Aldrin	0.00005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0022	--	--	<0.0086	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DDE	0.00022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0011	--	--	<0.0056	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DDT	0.00022	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0018	--	--	<0.0091	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
DDT - total (sum DDE+DDE+DDT)	0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.0018	--	--	<0.0091	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dieldrin	0.000054	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.00085	--	--	<0.0043	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenols and Substituted Phenols																																			
Pentachlorophenol	0.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.39	--	--	<0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phthalate Esters																																			
Di-n-octylphthalate	3	<0.20	--	0.035 J	--	<0.20	--	--	<0.031*	--	--	--	--	--	<0.0080	--	<0.080	--	<0.082	<0.044	--	<0.20	--	0.068 J	--	<0.20	--	--	<0.031*	--	--	--	--	--
Dimethylphthalate	3	0.089 J	--	<0.20	--	0.028 J	--	--	0.042 JD	--	--	--	--	--	0.95	--	0.070	--	<0.041	1.1 J	--	0.076 J	--	0.046 J	--	0.030 J	--	--	0.051 JD	--	--	--	--	--
Diethylphthalate	3	<0.20	--	0.13 J	--	0.14 J	--	--	0.20 JD*	--	--	--	--	--	0.18 J	--	0.12	--	<0.092	<0.049	--	0.14 J	--	0.11 J	--	0.15 J	--	--	0.14 JD*	--	--	--	--	--
Di-n-butylphthalate	3	0.34	--	0.19 J J3	--	0.44	--	--	0.45 JD	--	--	--	--	--	0.20 J	--	<0.40	--	0.51 J	0.36 J	--	0.24 J3	--	0.20 J3	--	0.11 J	--	--	0.33 JD	--	--	--	--	--
Butylbenzylphthalate	3	0.12 J	--	0.13 J	--	0.090 J	--	--	0.19 JD	--	--	--	--	--	<0.0080	--	<0.80	--	<0.82	<0.44	--	0.090 J	--	0.067 J	--	0.037 J	--	--	0.21 JD	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	2.2	6.3	--	1.1	--	1.5	--	--	2.7 D	--	--	--	--	--	3.7	--	1.2 J	--	1.9	1.0 J	--	2.7	--	4.3	--	1.1	--	--	6.0 D	--	--	--	--	--
PAHs																																			
2-Methylnaphthalene	0.2	0.0080 J	--	0.0059 J	--	0.012 J	--	--	0.011 J	--	--	--	--	--	0.0061	0.0051	0.016	--	0.022	0.02	--	0.0076 J	--	0.02	--	0.011 J	--	--	0.019 J	--	--	--	--	--
Acenaphthene	0.2	<0.019	--	<0.019	--	<0.019	--	--	0.0071 J	--	--	--	--	--	0.0042	<0.00036	0.0076	--	0.0098	<0.027	--	<0.019	--	0.0047 J	--	<0.020	--	--	0.0077 J	--	--	--	--	--
Acenaphthylene	0.2	0.0038 J	--	<0.019	--	0.0083 J	--	--	<0.0034	--	--	--	--	--	0.0027 J	0.0021 J	0.0054	--	0.013	<0.51	--	0.0038 J	--	0.0050 J	--	0.0089 J	--	--	<0.0034	--	--	--	--	--
Anthracene	0.2	<0.019	--	0.0049 J	--	<0.019	--	--	0.0062 J	--	--	--	--	--	0.0018 J	0.0022 J	0.0036	--	0.019	0.015	--	< 0.019	--	0.013 J	--	0.0046 J	--	--	0.011 J	--	--	--	--	--
Benzo(a)anthracene	0.018	0.0036 J	--	0.012 J	--	0.021	--	--	0.013 J	--	--	--	--	--	0.0029 J	0.0017 J	0.0034 J	--	0.025	--	--	0.0042 J	--	0.030	--	0.0083 J	--	--	0.027	--	--	--	--	--
Benzo(a)pyrene	0.018	<0.019	--	0.010 J	--	0.019 J	--	--	0.012 J	--	--	--	--	--	0.0029 J	<0.00041	0.0021 J	--	0.045	0.011	--	< 0.019	--	0.036	--	<0.020	--	--	0.026	--	--	--	--	--
Benzo(b)fluoranthene	0.018	0.0057 J	--	0.024	--	0.043	--	--	0.024	--	--	--	--	--	0.0062	0.0019 J	0.0061	--	--	<0.015	--	0.0059 J	--	0.052	--	<0.020	--	--	0.058	--	--	--	--	--
Benzo(g,h,i)perylene	0.2	<0.019	--	0.016 J	--	0.032	--	--	0.018 J	--	--	--	--	--	0.0057	0.0013 J	0.0064	--	0.1	<0.00040	--	< 0.019	--	0.044	--	0.0080 J	--	--	0.038	--	--	--	--	--
Benzo(k)fluoranthene	0.018	<0.019	--	< 0.019	--	0.011 J	--	--	0.0097 J	--	--	--	--	--	0.0017 J	<0.00041	0.0014 J	--	<0.00043	<0.00045	--	< 0.019	--	0.016 J	--	<0.020	--	--	0.018 J	--	--	--	--	--
Benzo(b+k)fluoranthene	0.018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.097	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	0.018	<0.019	--	0.014 J	--	0.044	--	--	0.034	--	--	--	--	--	0.0023 J	0.0019 J	0.0069	--	0.2	--	--	0.0041 J	--	0.037	--	0.015 J	--	--	0.069	--	--	--	--	--
Benzo(a)anthracene + Chrysene	0.018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.046	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	0.018	<0.019	--	< 0.019	--	<0.019	--	--	0.0048 J	--	--	--	--	--	0.0019 J	<0.00045	0.00097 J	--	0.019	<0.00049	--	< 0.019	--	0.0077 J	--	< 0.020	--	--	<.0025	--	--	--	--	--
Fluoranthene	0.2	0.018 J	--	0.032	--	0.089	--	--	0.055	--	--	--	--	--	0.0075	0.0042	0.013	--	0.12	0.019	--	0.015 J	--	0.073	--	0.025	--	--	0.11	--	--	--	--	--
Fluorene	0.2	0.0051 J	--	<0.019	--	0.0082 J	--	--	.0083 J	--	--	--	--	--	0.0044	0.0027	0.0091	--	0.017	<0.00046	--	0.0047 J	--	0.0083 J	--	0.0064 J	--	--	0.013 J	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	0.018	0.0030 J	--	0.015 J	--	0.022	--	--	0.017 J	--	--	--	--	--	0.0051	0.00082 J	0.0033 J	--	0.056	<0.00048	--	< 0.019	--	0.03	--	0.0078 J	--	--	0.0078 J	--	--	--	--	--
Naphthalene	0.2	0.016 J J3	--	0.011 J J3	--	0.028	--	--	0.023	--	--	--	--	--	0.095	0.018	0.051	--	0.045	0.019	--	0.021	--	0.032	--	0.028	--	--	0.034	--	--	--	--	--
Phenanthrene	0.2	0.04	--	0.036	--	0.085	--	--	0.069	--	--	--	--	--	0.019	0.0096	0.029	--	0.13	0.05	--	0.028	--	0.072	--	0.031	--	--	0.1	--	--	--	--	--
Pyrene	0.2	0.014 J	--	0.033	--	0.11	--	--	0.041	--	--	--	--	--	0.0079	0.0062	0.015	--	0.17	0.028	--	0.0095 J	--	0.086	--	0.026	--	--	0.087	--	--	--	--	--
Other Analytes																																			
TPH Diesel	--	19 J	--	54 J J1	--	250 H	--	--	210 J	--	--	--	--	--	--	--	--	--	--	--	--	14 J	--	170 J J1	--	65 J	--	--	320 H	--	--	--	--	--
TPH Heavy Oil	--	87 J	--	200 J J1 J3	--	670 O	--	--	310 J	--	--	--	--	--	--	--	--	--	--	--	--	59 J	--	860 J1 O	--	110 J J3	--	--	590 O	--	--	--	--	--
TPH-Gx	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon	--	2.2	--	1	--	2.3	--	--	3.4	--	--	--	--	--	--	--	--	--	--	--	--	1.8	--	1.6	--	1.2	--	--	5.9	--	--	--	--	--
Oil & Grease	--	--	--	--	--	--	--	<4,810	--	--	<5,000	<5,000	<5,000	<5,000	--	<800	--	<4,750	1,400 J	--	<4,750	--	--	--	--	--	--	<4,760	--	--	<5,000	<5,000	<5,000	<5,000

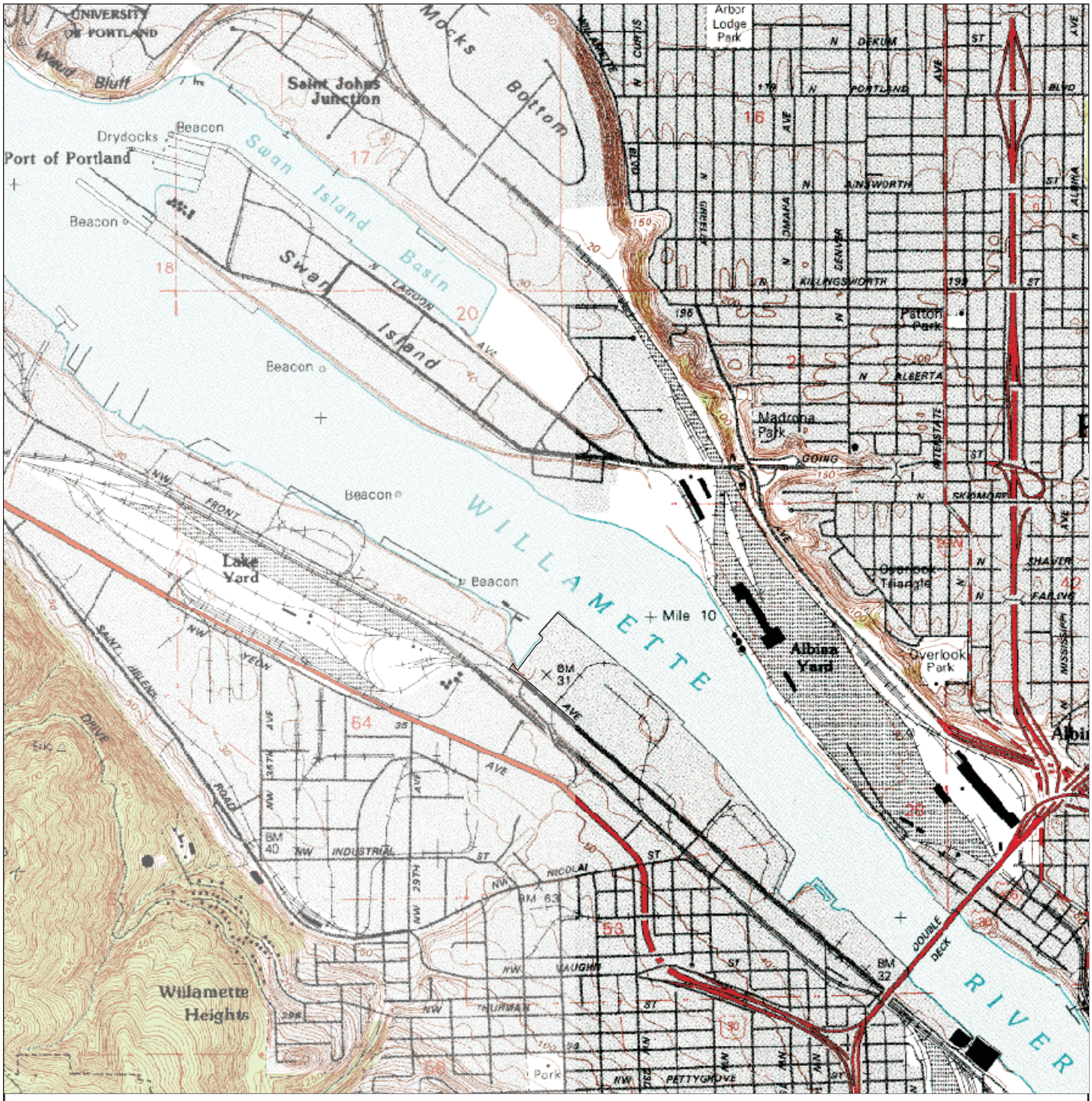
Please see notes on last page.

Table 1 - Storm Water Analytical Results
Terminal 2, Portland, Oregon

	SLV for Portland Harbor[2]	Basin B							Scupper			
		4/19/2012	11/19/2012 NPDES	11/23/2012	12/17/2012 NPDES	2/22/2013	3/19/2013	4/4/2013 NPDES	11/19/2012 NPDES	12/17/2012 NPDES	2/22/2013	4/4/2013 NPDES
		Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Total Suspended Solids	--	1,700	3,900	4,900	62,000	50,700	22,200	<5,000	6,700	13,000	23,000	6,000
Metals/Inorganics												
Aluminum (pH 6.5 - 9.0)	50	--	70.7	--	717	730	--	267	92.3	55.8	405	233
Antimony	6	--	--	--	--	--	--	--	--	--	--	--
Arsenic	0.045	0.064	--	0.134	--	0.391	0.177	--	--	--	0.284	--
Arsenic III	190	--	--	--	--		--	--	--	--	--	--
Cadmium	0.094	0.064	0.17	0.072	<1	0.191	0.136	<1	0.049	<1	0.071	<1
Chromium, total	100	0.32	0.42	0.54	<5	1.98	1.94	<5	1.13	<5	2.57	17.4
Chromium, hexavalent	11	--	--	--	--	--	--	--	--	--	--	--
Copper	2.7	3.99	5.22	4.89	<10	15.5	14.1	10.7	5.88	<10	12	25.3
Lead	0.54	0.431	1.34	0.915	<20	19.7	3.62	<20	3.57	<20	9.71	<20
Manganese	50	--	--	--	--	--	--	--	--	--	--	--
Mercury	0.77	<0.02	--	<0.02	--	0.09 J	<0.02	--	--	--	0.03 J	--
Methyl Mercury	0.0028	--	--	--	--	--	--	--	--	--	--	--
Nickel	16	--	0.66	--	<5	2.13	--	<5	0.4	<5	1.97	<5
Selenium	5	--	--	--	--	--	--	--	--	--	--	--
Silver	0.12	--	--	--	--	--	--	--	--	--	--	--
Zinc	36	59.3	71.6	86.1	89.5	121	143	121	15	10.5	27.4	21.4
Perchlorate	<24.5	--	--	--	--	--	--	--	--	--	--	--
Cyanide	5.2	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	122	--	758	1,660	--	478	293	318	1,200	2,280
PCB Aroclors												
Aroclor 1016	0.96	<0.0050 i	<0.0021	<0.0022	--	<0.015	<0.0089	--	<0.0021	--	<0.0035	--
Aroclor 1221	0.034	<0.028 i	<0.0021	<0.0022	--	<0.03	<0.022	--	<0.0021	--	<0.025	--
Aroclor 1232	0.034	<0.081 i	<0.0021	<0.0022	--	<0.058	<0.021	--	<0.0021	--	<0.029	--
Aroclor 1242	0.034	<0.0050 i	<0.0021	<0.0022	--	<0.051	<0.024	--	<0.0021	--	<0.012	--
Aroclor 1248	0.034	<0.0029 i	<0.0021	<0.0022	--	<0.011	<0.0085	--	<0.0021	--	<0.0058	--
Aroclor 1254	0.033	0.0027 J	<0.0021	<0.0022	--	<0.014	<0.0095	--	<0.0021	--	<0.0065	--
Aroclor 1260	0.034	<0.00096	<0.0021	<0.0022	--	<0.0055	<0.0049	--	<0.0021	--	<0.0041	--
Aroclor 1262	--	<0.00096	<0.0021	<0.0022	--	<0.0063	<0.0029	--	<0.0021	--	<0.0057	--
Aroclor 1268	--	<0.00096	<0.0021	<0.0022	--	<0.0041	<0.0027	--	<0.0021	--	<0.0033	--
Organochlorine Pesticides												
Aldrin	0.00005	--	<0.0028	--	--	<0.0086	--	--	<0.0017	--	<0.0017	--
DDE	0.00022	--	<0.0011	--	--	<0.0056	--	--	<0.0011	--	<0.0011	--
DDT	0.00022	--	<0.0018	--	--	<0.0091	--	--	<0.0018	--	<0.0018	--
DDT - total (sum DDE+DDE+DDT)	0.2	--	<0.0018	--	--	<0.0091	--	--	<0.0018	--	<0.0018	--
Dieldrin	0.000054	--	0.002 J	--	--	<0.0043	--	--	<0.00085	--	<0.00085	--
Phenols and Substituted Phenols												
Pentachlorophenol	0.56	--	<0.38	--	--	<0.38	--	--	9.6 J	--	<0.38	--
Phthalate Esters												
Di-n-octylphthalate	3	<0.0080	--	<0.080	--	1.1 J	<0.043	--	--	--	<0.04	--
Dimethylphthalate	3	0.79	--	<0.040	--	<0.04	0.38 J	--	--	--	0.026 J	--
Diethylphthalate	3	0.18 J	--	<0.090	--	<0.09	0.094 J	--	--	--	0.092 J	--
Di-n-butylphthalate	3	0.24	--	<0.40	--	<0.4	0.39 J	--	--	--	0.25 J	--
Butylbenzylphthalate	3	<0.080	--	<0.80	--	<0.8	0.52 J	--	--	--	<0.4	--
bis(2-Ethylhexyl)phthalate	2.2	0.70	--	1.1 J	--	1.7 J	1.1 J	--	--	--	2.7 R	--
PAHs												
2-Methylnaphthalene	0.2	0.006	0.0042	0.011	--	0.032	0.019	--	0.0075	--	0.013	--
Acenaphthene	0.2	0.009	<0.00037	0.007	--	0.0071	0.0072	--	0.0012 J	--	0.0027 J	--
Acenaphthylene	0.2	0.003 J	0.0027 J	0.006	--	0.0082	0.0045	--	0.0027 J	--	0.0045	--
Anthracene	0.2	0.0028 J	0.0032 J	0.0033 J	--	0.012	0.011	--	0.0023 J	--	0.011	--
Benzo(a)anthracene	0.018	0.0047	0.0012 J	0.0021 J	--	0.016	0.013	--	0.0021 J	--	0.0081	--
Benzo(a)pyrene	0.018	0.003 J	<0.00042	0.0027 J	--	0.022	0.012	--	0.0024 J	--	0.01	--
Benzo(b)fluoranthene	0.018	0.0075	0.0023 J	0.004	--	0.04	--	--	0.0038	--	0.023	--
Benzo(g,h,i)perylene	0.2	0.0042	0.0016 J	0.0048	--	0.043	0.034	--	0.0037	--	0.018	--
Benzo(k)fluoranthene	0.018	0.0012 J	0.00042	0.0012 J	--	0.012	<0.00042	--	0.0011 J	--	0.0069	--
Benzo(b+k)fluoranthene	0.018	--	--	--	--	--	0.034	--	--	--	--	--
Chrysene	0.018	0.0052	0.0024 J	0.0036	--	0.074	0.057	--	0.003 J	--	0.033	--
Benzo(a)anthracene + Chrysene	0.018	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	0.018	0.00071 J	<0.00046	0.00056 J	--	0.0078	0.0039	--	0.00082 J	--	0.0044	--
Fluoranthene	0.2	0.029	0.0055	0.014	--	0.064	0.038	--	0.015	--	0.047	--
Fluorene	0.2	0.013	0.0021 J	0.01	--	0.015	0.014	--	0.0031 J	--	0.0067	--
Indeno(1,2,3-cd)pyrene	0.018	0.0042	0.001 J	0.0022 J	--	0.029	0.022	--	0.0027 J	--	0.015	--
Naphthalene	0.2	0.024	0.019	0.03	--	0.045	0.025	--	0.016	--	0.021	--
Phenanthrene	0.2	0.056	0.0098	0.032	--	0.093	0.063	--	0.021	--	0.052	--
Pyrene	0.2	0.025	0.0068	0.013	--	0.066	0.046	--	0.009	--	0.038	--
Other Analytes												
TPH Diesel	--	--	--	--	--	--	--	--	--	--	--	--
TPH Heavy Oil	--	--	--	--	--	--	--	--	--	--	--	--
TPH-Gx	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon	--	--	--	--	--	--	--	--	--	--	--	--
Oil & Grease	--	--	<800	--	<4,700	<800	--	<4,750	<800	<4,750	<800	<4,750

Notes:

1. At Portland Harbor sites, drinking water MCLs and PRGs are also used as screening levels, per the JSCS. These values are applied when they are lower than all other screening values.
2. The source of each SLV is documented in Table 3.1 of the Portland Harbor Joint Source Control Strategy, which can be viewed at http://www.deq.state.or.us/wq/cwmp/portlandharbor/docs/JSCS/FinalTable03_1.pdf
3. Bold indicates a detection that exceeds the screening criteria
4. < = Not detected above the method detection limit (MDL) or MRL
5. -- = Not analyzed or not available.
6. Shading highlights the samples collected since the Source Control Evaluation (SCE) completed.
7. µg/L = Micrograms per liter.
8. PCBs = Polychlorinated biphenyls.
9. PAHs = Polycyclic aromatic hydrocarbons.
10. TPH = Total petroleum hydrocarbons.
11. J = The result is an estimated concentration that is below the Method Reporting Limit (MRL) and above the Method Detection Limit (MDL)
12. O = The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard
13. J1 = Hold time was exceeded for this analysis, the resulting value is estimated.
14. J3 = The detected concentration of this analyte is equal to or less than 5 times the concentration detected in the method blank
15. H = The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier-molecular-weight constituents than the calibration standard.
16. D = The reported result is from a dilution.
17. i = The Method Reporting Limit (MRL) / Method Detection Limit (MDL) has been increased due to chromatographic interference
18. NPDES = Sampling completed to comply with the National Pollution Discharge Elimination System 1200-Z General Industrial Stormwater Discharge Permit
19. R = Sample inadvertently anayzed for phthalates. Phthalate sample was collected using plastic sampling equipment. Data are rejected due to high bias



Note: Base map prepared from USGS 7.5-minute quadrangle of Portland, OR, dated 1990 as provided by Topozone.

0 2,000 4,000

Approximate Scale in Feet

N

Facility Location Map

Storm Water Sampling Report
Terminal 2 Upland Facility
Portland, Oregon

APEX Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	1053-02	Figure
	April 2013		1

WILLAMETTE RIVER

APPROXIMATE FACILITY BOUNDARY

CRANE TRACKS (TYPICAL)

BERTH 204

BERTH 205

BERTH 206

RIP-RAP BANK

BERTH 203

BERTH DOCK OFFICES

ARMY CORPS LEASEHOLD

DESIGNATED MOBILE FUELING AREA

WAREHOUSE NO. 205

DESIGNATED MOBILE FUELING AREA

BALCH CREEK COVE

TRUCK SCALE

WAREHOUSE NO. 204

WAREHOUSE NO. 206

RIP-RAP BANK

WAREHOUSE NO. 203

SSA LEASE AREA

SSA FUELING AREA (DRAINS TO STORM SYSTEM)

ABOVE GROUND FUEL TANKS

OIL/WATER SEPARATOR WITH ISOLATION VALVE

NW FRONT AVENUE

TERMINAL 2 ADMINISTRATION BUILDING

SSA STEAM CLEANING AREA (DRAINS TO CITY SANITARY)

SSA GEARLOCKER

ELECTRIC SHOP

SSA GEARLOCKER STORAGE

0 200 400

Scale in Feet

Legend:

Pervious Area

N

Facility Layout

Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon

APEX	Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number 1053-02 April 2013	Figure 2

Note: Base map prepared from a Terminal 2 base map provided by the Port of Portland.

WILLAMETTE RIVER

BASIN A

BASIN B

APPROXIMATE FACILITY BOUNDARY

CRANE TRACKS (TYPICAL)

BERTH 204

BERTH 205

BERTH 206

RIP-RAP BANK

OUTFALL B

BERTH 203

BERTH DOCK OFFICES

BASIN A SAMPLING LOCATION

OUTFALL A

DESIGNATED MOBILE FUELING AREA

WAREHOUSE NO. 205

FORMER TRENCH DRAINS (FILLED WITH CONCRETE)

STORM SEWER FOR ROOF DRAIN CONVEYANCE (WITH CLEANOUTS)

BASIN B SAMPLING LOCATION

WAREHOUSE NO. 204

WAREHOUSE NO. 206

TRUCK SCALE

PORTION OF DRAIN TRENCH ISOLATED 2007

BALCH CREEK COVE

FLOOR DRAINS ISOLATED 2007

DRAINAGE DIVIDE

RIP-RAP BANK

WAREHOUSE NO. 203

SSA PERMIT AREA

SSA FUELING AREA (DRAINS TO STORM SYSTEM)

ABOVE GROUND FUEL TANKS

OIL/WATER SEPARATOR WITH ISOLATION VALVE

SSA1200-Z SAMPLE LOCATION

TRUCK SCALE

NW FRONT AVE.

TERMINAL 2 ADMINISTRATION BUILDING

SSA STEAM CLEANING AREA (DRAINS TO CITY SANITARY)

SSA GEARLOCKER

ELECTRIC SHOP

SSA GEARLOCKER STORAGE

0 200 400

Scale in Feet

Legend:

- Outfall Location
- Catch Basin
- Inlet
- Inlet with Sump
- Scupper Drain
- Manhole
- Downspout to Surface from Roof Drain
- Cleanout
- STS Location and Flow Direction (Port of Portland)
- Trench Drain
- Spill Kit
- Pervious Area
- Stormwater Sampling Point

Notes:

1) Base map prepared from a Terminal 2 base map provided by the Port of Portland.
2) Symbols changed based on observations made during stormwater cleanout.

Storm Water Plan

Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon

APEX
Apex Companies, LLC
3015 SW First Avenue
Portland, Oregon 97201

Project Number	1053-02	Figure
April 2013		3

Attachment A

Standard Operating Procedure 2.12

1. PURPOSE AND SCOPE

This Standard Operating Procedure (SOP) describes the methods used for obtaining grab-type water samples from storm drains, outfalls, flumes or surface waters for physical and/or chemical analysis. For a grab sample a discrete aliquot is collected representing a specific location at a given time. This SOP does not include collection of samples with an automated sampler. Various types of methods are used to collect grab water samples including peristaltic pumps, telescoping samplers, or directly filling laboratory-supplied sample containers. This procedure is applicable during all Ash Creek Associates (ACA) outfall water sampling activities.

2. EQUIPMENT AND MATERIALS

The following materials are necessary for this procedure:

- Telescoping swing sampler; and/or peristaltic pump and tubing.
- Laboratory-supplied sample containers
- Field documentation materials
- Decontamination materials
- Personal protective equipment (as required by Health and Safety Plan)

3. METHODOLOGY

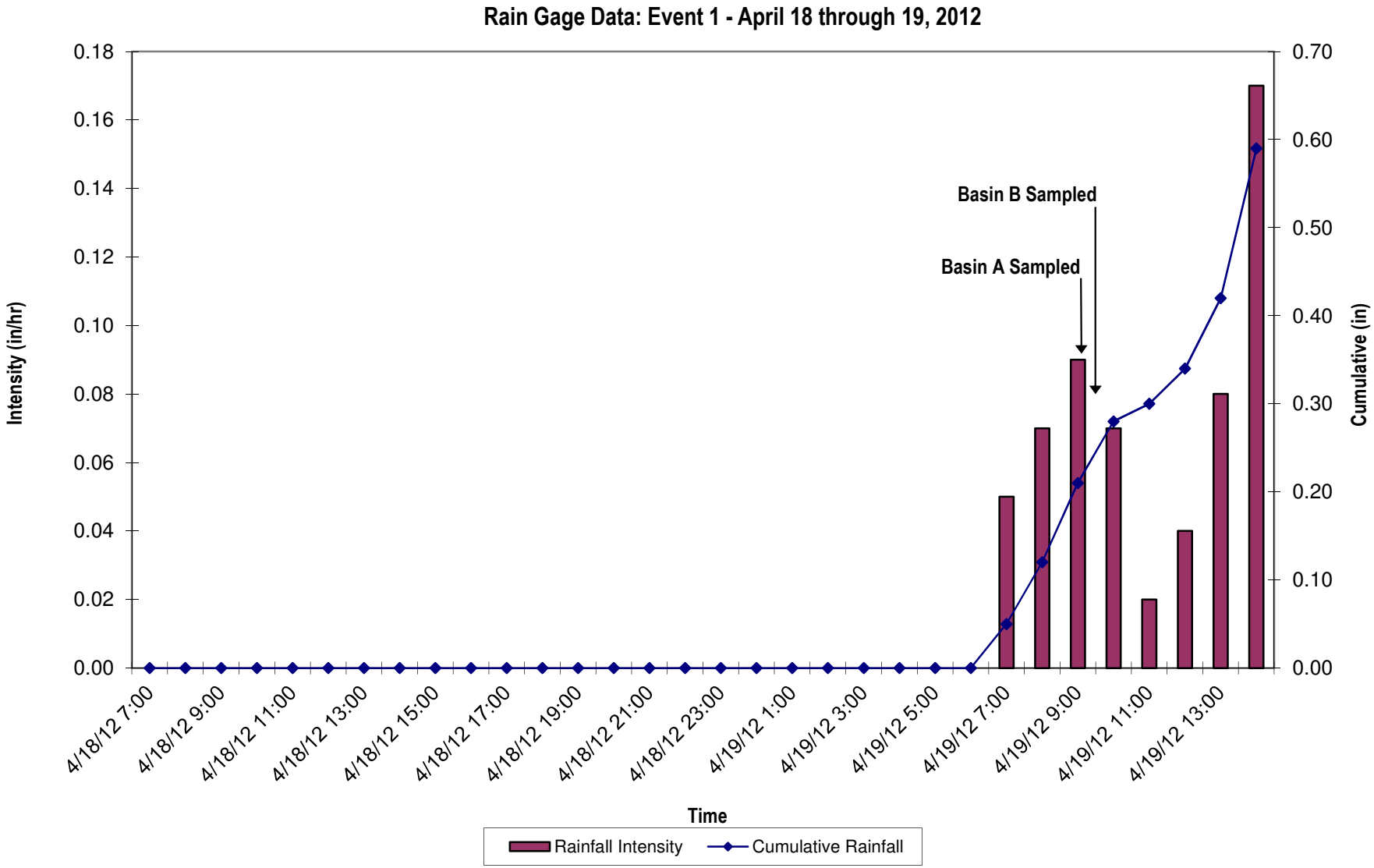
Project-specific requirements will generally dictate the preferred type of sampling equipment used at a particular site. The following parameters should be considered: accessibility of sampling point, sampling depth, and flow rate. Analytical testing requirements will indicate sample volume requirements that also will influence the selection of the appropriate type of sampling method. The project sampling plan should define the specific requirements for collection of outfall water samples at a particular site.

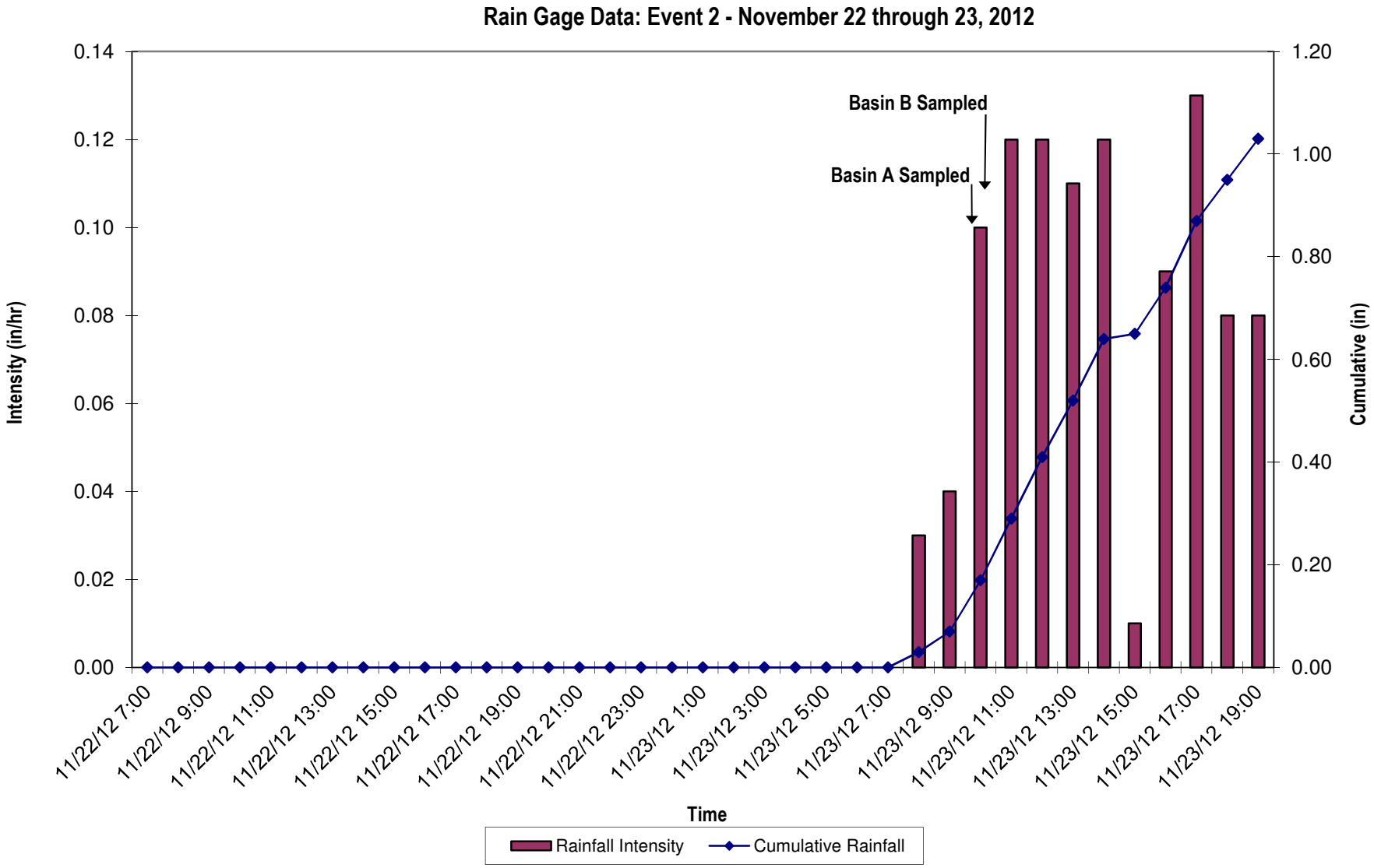
<u>Collection of Samples</u>

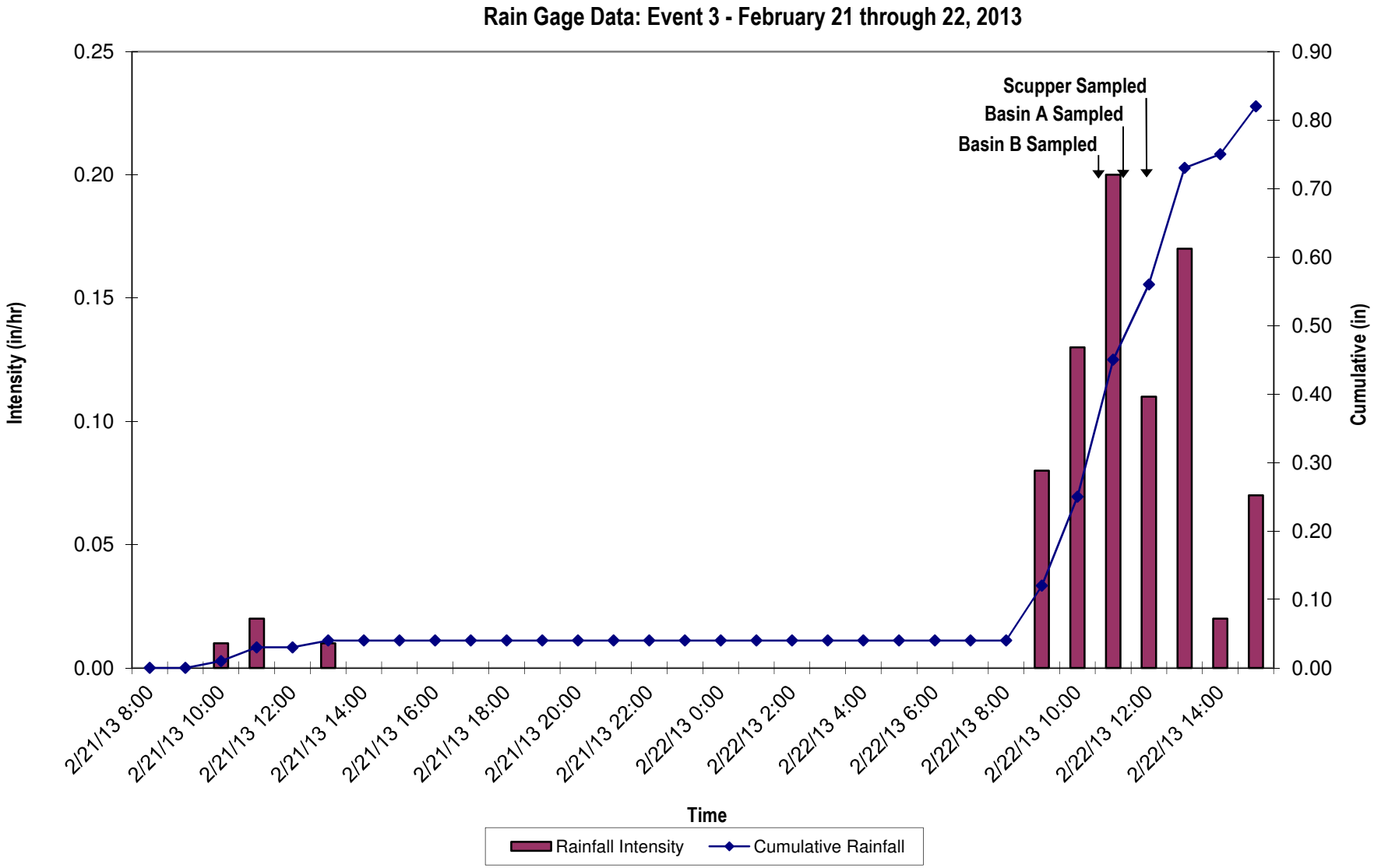
- Record weather conditions at the time of sampling and last known rain fall event(s). Record and describe site conditions upon arrival and during sampling..
- Collect samples using the “Clean Hands/Dirty Hands” sampling technique. Operations involving direct contact with the sample bottle, sample bottle lid, sample suction tubing, and the transfer of the sample from the sample collection device to the sample bottle are handled by “clean hands”. “Dirty hands” is responsible for preparation of the sampler (except the sample container itself), operation of any machinery, and for all activities that do not involve handling items that have direct contact with the sample.
- The water sample can be collected directly by dipping a new laboratory supplied container (i.e. polyethylene, Teflon, or glass) into the water (just beneath the water surface) or under the flow path and filling. The liquid is then transferred to a laboratory supplied sample container. Be careful not to touch the sides of the vault, manhole, or outfall pipe.
- A telescoping swing sampler can be used if an extension is necessary to access the sample point. Attach a new laboratory supplied container (i.e. polyethylene, Teflon, or glass) to the sampler. This transfer device is used to transfer liquid from the sampling point to a sample bottle. Avoid using metal transfer devices for trace-metal analysis or plastic devices for sampling trace organics.
- A peristaltic pump with disposable tubing can be used to collect a water sample from a manhole. The downhole tubing can be attached to a telescoping sampling pole to provide better control. Lower the tubing downstream of any standing water and take care to avoid stirring up the sediment.

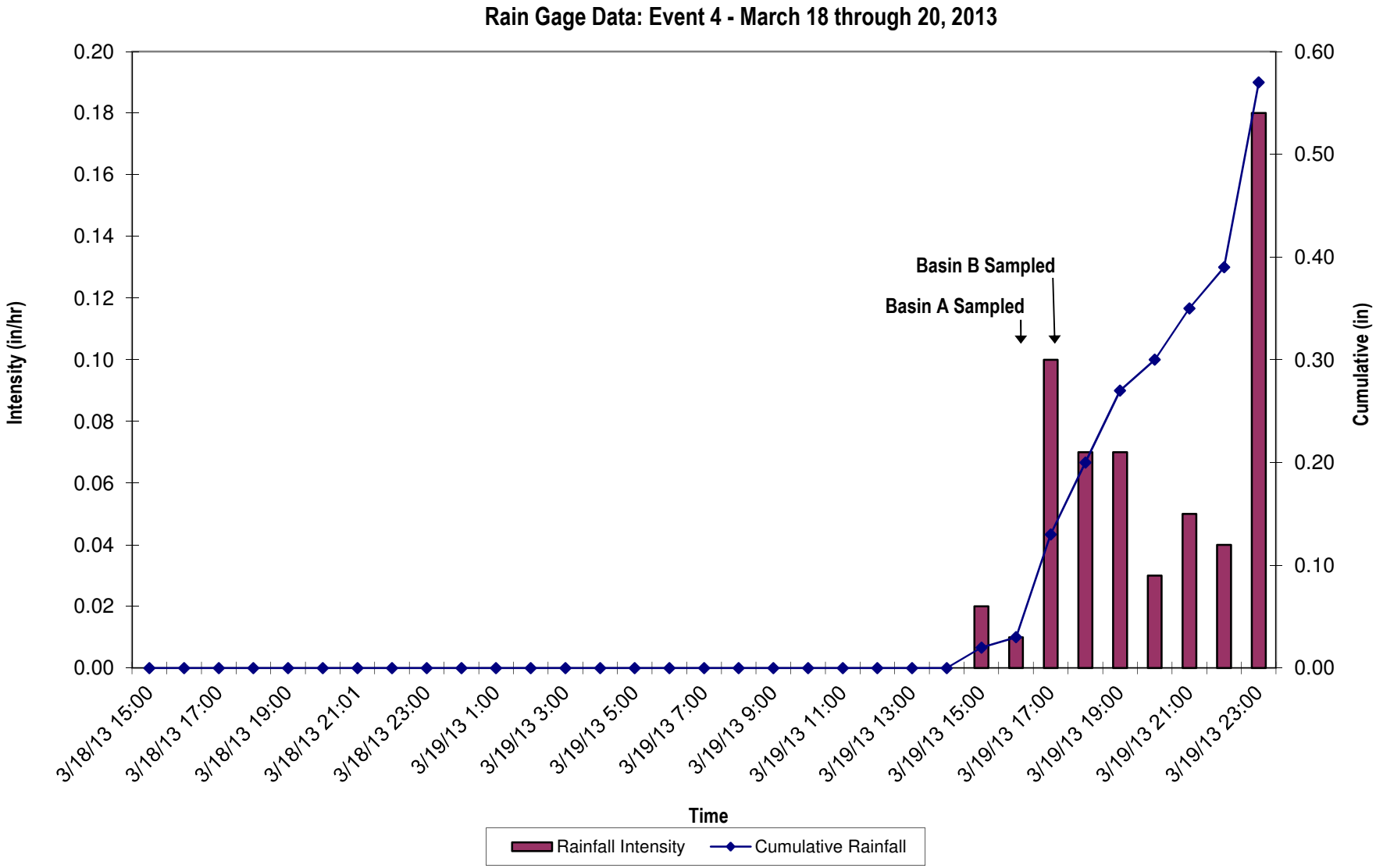
Attachment B

Storm Water Hyetographs


Rain Gage Data: Event 1 - April 18 through 19, 2012
Intensity (in/hr)
Cumulative (in)
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Basin B Sampled
Basin A Sampled
4/18/12 7:00
4/18/12 9:00
4/18/12 11:00
4/18/12 13:00
4/18/12 15:00
4/18/12 17:00
4/18/12 19:00
4/18/12 21:00
4/18/12 23:00
4/19/12 1:00
4/19/12 3:00
4/19/12 5:00
4/19/12 7:00
4/19/12 9:00
4/19/12 11:00
4/19/12 13:00
Time
Rainfall Intensity
Cumulative Rainfall


Rain Gage Data: Event 2 - November 22 through 23, 2012
Basin B Sampled
Basin A Sampled
Intensity (in/hr)
Cumulative (in)
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
1.20
1.00
0.80
0.60
0.40
0.20
0.00
11/22/12 7:00
11/22/12 9:00
11/22/12 11:00
11/22/12 13:00
11/22/12 15:00
11/22/12 17:00
11/22/12 19:00
11/22/12 21:00
11/22/12 23:00
11/23/12 1:00
11/23/12 3:00
11/23/12 5:00
11/23/12 7:00
11/23/12 9:00
11/23/12 11:00
11/23/12 13:00
11/23/12 15:00
11/23/12 17:00
11/23/12 19:00
Time
Rainfall Intensity
Cumulative Rainfall


Rain Gage Data: Event 3 - February 21 through 22, 2013
Intensity (in/hr)
Cumulative (in)
0.25
0.20
0.15
0.10
0.05
0.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Scupper Sampled
Basin A Sampled
Basin B Sampled
2/21/13 8:00
2/21/13 10:00
2/21/13 12:00
2/21/13 14:00
2/21/13 16:00
2/21/13 18:00
2/21/13 20:00
2/21/13 22:00
2/22/13 0:00
2/22/13 2:00
2/22/13 4:00
2/22/13 6:00
2/22/13 8:00
2/22/13 10:00
2/22/13 12:00
2/22/13 14:00
Time
Rainfall Intensity
Cumulative Rainfall


Rain Gage Data: Event 4 - March 18 through 20, 2013
Intensity (in/hr)
Cumulative (in)
0.20
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Basin B Sampled
Basin A Sampled
3/18/13 15:00
3/18/13 17:00
3/18/13 19:00
3/18/13 21:01
3/18/13 23:00
3/19/13 1:00
3/19/13 3:00
3/19/13 5:00
3/19/13 7:00
3/19/13 9:00
3/19/13 11:00
3/19/13 13:00
3/19/13 15:00
3/19/13 17:00
3/19/13 19:00
3/19/13 21:00
3/19/13 23:00
Time
Rainfall Intensity
Cumulative Rainfall

Attachment C

Analytical Laboratory Reports
(Contained on CD-ROM)

Columbia Analytical Services™ 1317 S. 13th Avenue, Kelso, WA 98626 360.577.7222 360.636.1068 (fax) www.caslab.com

May 08, 2012 Analytical Report for Service Request No: K1203695

Michael Pickering
Ash Creek Associates
3015 SW First Avenue
Portland, OR 97201

RE: T2 Storm water Project/1053-02

Dear Michael:

Enclosed are the results of the samples submitted to our laboratory on April 20, 2012. For your reference, these analyses have been assigned our service request number K1203695.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3363. You may also contact me via Email at Lisa.Domenighini@alsglobal.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Lisa A Domenighini

Lisa Domenighini
Project Chemist

LD/jw

Now part of the ALS Group

100% Recycled Paper

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc. - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Louisiana DHH	Not available	LA110003
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
New Mexico ED	http://www.nmenv.state.nm.us/dwb/Index.htm	-
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.caslab.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Ash Creek Associates	**Service Request No.:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Received:**	04/20/12
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at Columbia Analytical Services on 04/20/12. As instructed, the discreet samples were sub-sampled into appropriately preserved lab containers for each of the requested analysis. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Phthalates by EPA Method 525.2

Surrogate Exceptions:
The upper control criterion was exceeded for Triphenyl Phosphate in samples Outfall A and Outfall B due to suspected matrix interference. Sample Outfall B had a hit for Di-n-butyl Phthalate above the MRL. The error associated with an elevated recovery equated to a high bias. The quality of the sample data was not significantly affected. No further corrective action was appropriate.

The control criteria were exceeded for Triphenyl Phosphate in Batch QC MS. The associated matrix spike recoveries of target compounds were in control, indicating the analysis was in control. The surrogate outlier was flagged accordingly. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082

Elevated Detection Limits:
The detection limit was elevated for Aroclors 1016, 1221, 1232, 1242, 1248, and 1254 in samples Outfall A and Outfall B. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference.

Approved by Lisa A Domenghine **Date** 5/8/12

Matrix Spike Recovery Exceptions:
The control criteria for the matrix spike recovery of Aroclor 1260 for sample Batch QC was not applicable. The chromatogram indicated non-target matrix background components contributed to the reported matrix spike concentrations. Thus, the reported recoveries contained a high bias. Based on the magnitude of background contribution, the interference appeared to be minimal.

No other anomalies associated with the analysis of these samples were observed.

Polynuclear Aromatic Hydrocarbons by EPA Method 8270

Sample Notes and Discussion:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

The results reported for Acenaphthylene, Anthracene, Benz(a)anthracene, and Chrysene in samples Outfall A and Outfall B samples may contain a slight bias. The chromatogram indicated the presence of non-target background components. The matrix interference may have resulted in a slight high bias in the affected samples. The results were flagged with "X" to indicate the issue.

No other anomalies associated with the analysis of these samples were observed.

Approved by Lisa A Dimenghin **Date** 5/8/12

Chain of Custody

Columbia Analytical Services

CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST FORM

K1203645

1317 South 13th Ave., Kelso, WA 98626 (360) 577-7222 FAX (360) 636-1068

Project Name: T2 Storm water Project
Project Number: 1053-02
Project Manager: Michael Pickering
Company/Address: Ash Creek Associates
3015 SW First Avenue
Portland, OR 97201
Phone: 503-924-4704
Fax: 503-924-4707

Sampler's Signature:

Analysis Requested

Sample I.D.	Date	Time	LAB I.D.	Sample Matrix	Number of Containers	Total Suspended Solids (SM2540 D)	Total Copper, Lead, Zinc, Cadmium, and Chromium (EPA 6000/7000)	Total PAHs (EPA 8270-SIM)	Total Phthlalates (EPA 525.2)	Total PCB Aroclors (EPA 8082)	Total Arsenic (EPA 1632)											REMARKS
																						Preservations
OUTFALL A	04/19/12	950		water	2	X	X	X	X	X	X											
OUTFALL B	04/19/12	1010		water	2	X	X	X	X	X	X											

Relinquished By	Received By
Matt Thoenes	
Signature	Signature
Printed Name: Ash Creek	Printed Name: ALS
Firm	Firm
4/19/2012 0318	4/19/12 0318
Date/Time	Date/Time

Relinquished By	Received By
	Paula Smith
Signature	Signature: Paula Smith
Printed Name	Printed Name: ALS
Firm	Firm: 4/19/12 1615
Date/Time	Date/Time

TURNAROUND REQUIREMENTS

24 hr ____ 48 hr ____ 5 day
X Standard (10 working days)
____ Provide Verbal Preliminary Results
____ Provide FAX Preliminary Results

Requested Report Date ____

REPORT REQUIREMENTS

____ I. Routine Report
____ II. Report (includes DUP, MS MSD, as required, may be charged as samples)
X III. Data Validation Report (includes All Raw Data)
____ RWQCB (MDLs/PQLs/TRACE#)

INVOICE INFORMATION

P.O. # ____
Bill to: Same as above

SAMPLE RECEIPT

Shipping VIA: ____
Shipping #: ____
Condition: ____
Lab No: ____

Special Instructions/Comments:

Combine all of the volume (for each sample) together for compositing. Perform compositing as soon as possible. Contact Michael Pickering if there are any questions (971-227-2566)

Columbia Analytical Services, Inc.
Cooler Receipt and Preservation Form

PC Lisa

Client / Project: Ash Creek Service Request *K12* 31695

Received: 4/19/12 Opened: 4/19/12 By: KB Unloaded: 4/19/12 By: KB

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Cooler Temp °C	Temp Blank °C	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
.8		295			
3.4		290			

7. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? * NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

SHORT HOLD TIME

Notes, Discrepancies, & Resolutions: * to be composited and aliquot to the correct bottles.

Page ____ ***of*** ____

General Chemistry Parameters

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/12
Sample Matrix:	Water	**Date Received:**	04/20/12
Analysis Method:	SM 2540 D	**Units:**	mg/L
		Basis:	NA

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
Outfall A	K1203695-001	**25.2**	1.0	-	1	04/26/12 13:10	
Outfall B	K1203695-002	**1.7**	1.0	-	1	04/26/12 13:10	
Method Blank	K1203695-MB	ND U	1.0	-	1	04/26/12 13:10	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project	T2 Storm water Project/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	04/26/12

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1203743-002	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1203743-002DUP Result	Average	RPD	RPD Limit
Solids, Total Suspended (TSS)	SM 2540 D	2.5	-	23.0	23.5	23.3	2	10

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Analyzed: 04/26/12

Lab Control Sample Summary
Solids, Total Suspended (TSS)

Analysis Method: SM 2540 D

Units: mg/L
Basis: NA
Analysis Lot: 289140

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1203695-LCS	30.7	30.5	101	80-115

Work Request # Original (2941) 3698, 3729, 3747, 3780, 3721, 3823, 3827, 3828, 3829, 3695, 3743

Tier: I, II, II, V, I, II, I, I, I, I, V, V

Date Analyzed: 4/26/12

Analyst: JM/SR

Analysis: SM2540D TSS

289140

DATA QUALITY REPORT
INORGANICS

Explain any "no" responses to questions below, and any corrective actions in the comments section below.

1.	Is the method name and number correct and appropriate?	yes/no/NA
2.	Holding times met for all analyses and for all samples?	yes/no/NA
3.	Are calculations correct?	yes/no/NA
4.	Is the reporting basis correct? (Dry Weight)	yes/no/NA
5.	All quality control criteria met?	yes/no
6.	Is the calibration curve correlation coefficient ≥ 0.995?	yes/no/NA
7.	MBs, CCVs, CCBs, LCSs, Dups, and Spikes, analyzed at proper frequency?	yes/no/NA
8.	Are ICVs, CCVs, and CCBs all within acceptance limits?	yes/no/NA
9.	Are results for methods blanks all ND?	yes/no/NA
10.	Are all QC samples within acceptance criteria? (LCS % rec, MS/DMS % rec, DUP or MS/DMS RPDs, etc.)	yes/no/NA
11.	Are all exceptions explained?	yes/no/NA
12.	Have all applicable service requests been reviewed?	yes/no/NA
13.	Are all samples labeled correctly?	yes/no/NA
14.	Have all instructions on the service request been followed? (e.g. Special MRLs, QC on a specific sample, Form V)	yes/no/NA
15.	Are detection limits and units reported correctly?	yes/no/NA
16.	Is the unused space on the benchsheet crossed out?	yes/no/NA
17.	Was analysis turned in by the due date? (n-2) (If not record SR#)	yes/no/NA

COMMENTS:

K1203721 Rush K1203823 - Rush K1203827 - Rush

Final Approved by: BDK Date: 4/30/12

DQREPORT

Analytical Results Summary

Instrument Name: K-Balance-31 **Analyst:** JMASCHMANN **Analysis Lot:** 289140 **Method/Testcode:** SM 2540 D/TSS

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
1202941-028	Solids, Total Suspended (TSS)	N/A		Water	14.40 mg/L	125 ml	14.4 mg/L	1		8.0			4/26/12 13:10	N	I
1202941-029	Solids, Total Suspended (TSS)	N/A		Water	30.70 mg/L	75 ml	31 mg/L	1		13			4/26/12 13:10	N	I
1203695-001	Solids, Total Suspended (TSS)	N/A		Water	25.20 mg/L	1000 ml	25.2 mg/L	1		1.0			4/26/12 13:10	N	V
1203695-002	Solids, Total Suspended (TSS)	N/A		Water	1.70 mg/L	1000 ml	1.7 mg/L	1		1.0			4/26/12 13:10	N	V
1203698-001	Solids, Total Suspended (TSS)	N/A		Water	586.70 mg/L	15 ml	587 mg/L	1		67			4/26/12 13:10	N	II
1203721-001	Solids, Total Suspended (TSS)	N/A		Water	39.00 mg/L	100 ml	39 mg/L	1		10			4/26/12 13:10	N	II
1203721-002	Solids, Total Suspended (TSS)	N/A		Water	17.00 mg/L	200 ml	17.0 mg/L	1		5.0			4/26/12 13:10	N	II
1203721-003	Solids, Total Suspended (TSS)	N/A		Water	28.00 mg/L	100 ml	28 mg/L	1		10			4/26/12 13:10	N	II
1203729-001	Solids, Total Suspended (TSS)	N/A		Water	30.00 mg/L	100 ml	30 mg/L	1		10			4/26/12 13:10	N	II
1203729-002	Solids, Total Suspended (TSS)	N/A		Water	30.00 mg/L	100 ml	30 mg/L	1		10			4/26/12 13:10	N	II
1203729-003	Solids, Total Suspended (TSS)	N/A		Water	28.00 mg/L	100 ml	28 mg/L	1		10			4/26/12 13:10	N	II
1203729-004	Solids, Total Suspended (TSS)	N/A		Water	94.00 mg/L	50 ml	94 mg/L	1		20			4/26/12 13:10	N	II
1203729-005	Solids, Total Suspended (TSS)	N/A		Water	13.00 mg/L	200 ml	13.0 mg/L	1		5.0			4/26/12 13:10	N	II
1203729-006	Solids, Total Suspended (TSS)	N/A		Water	28.00 mg/L	100 ml	28 mg/L	1		10			4/26/12 13:10	N	II
1203743-001	Solids, Total Suspended (TSS)	N/A		Water	106.70 mg/L	300 ml	107 mg/L	1		3.3			4/26/12 13:10	N	V
1203743-002	Solids, Total Suspended (TSS)	N/A		Water	23.00 mg/L	400 ml	23.0 mg/L	1		2.5			4/26/12 13:10	N	V
1203743-003	Solids, Total Suspended (TSS)	N/A		Water	21.50 mg/L	400 ml	21.5 mg/L	1		2.5			4/26/12 13:10	N	V
1203747-001	Solids, Total Suspended (TSS)	N/A		Water	0.00 mg/L	200 ml	5.0 mg/L U	1		5.0			4/26/12 13:10	N	V
1203780-001	Solids, Total Suspended (TSS)	N/A		Water	200.50 mg/L	200 ml	201 mg/L	1		5.0			4/26/12 13:10	N	I
1203823-001	Solids, Total Suspended (TSS)	N/A		Water	0.50 mg/L	200 ml	5.0 mg/L U	1		5.0			4/26/12 13:10	N	I
1203823-002	Solids, Total Suspended (TSS)	N/A		Water	4.00 mg/L	200 ml	5.0 mg/L U	1		5.0			4/26/12 13:10	N	I
1203823-003	Solids, Total Suspended (TSS)	N/A		Water	0.50 mg/L	200 ml	5.0 mg/L U	1		5.0			4/26/12 13:10	N	I
1203827-001	Solids, Total Suspended (TSS)	N/A		Water	0.50 mg/L	200 ml	5.0 mg/L U	1		5.0			4/26/12 13:10	N	I
1203828-001	Solids, Total Suspended (TSS)	N/A		Water	172.00 mg/L	50 ml	172 mg/L	1		20			4/26/12 13:10	N	I

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: K-Balance-31 **Analyst:** JMASCHMANN **Analysis Lot:** 289140 **Method/Testcode:** SM 2540 D/TSS

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	MDL	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
1203829-001	Solids, Total Suspended (TSS)	N/A		Water	33.30 mg/L	75 ml	33 mg/L	1		13			4/26/12 13:10	N	I
Q1204520-01	Solids, Total Suspended (TSS)	MB		Water	-0.50 mg/L	200 ml	5.0 mg/L U	1		5.0			4/26/12 13:10	N	I
Q1204520-02	Solids, Total Suspended (TSS)	MB		Water	-1.00 mg/L	200 ml	5.0 mg/L U	1		5.0			4/26/12 13:10	N	I
Q1204520-03	Solids, Total Suspended (TSS)	LCS		Water	308.00 mg/L	50 ml	308 mg/L	1		20	101		4/26/12 13:10	N	I
Q1204520-04	Solids, Total Suspended (TSS)	DUP	K1203747-001	Water	0.50 mg/L	200 ml	5.0 mg/L U	1		5.0		NC	4/26/12 13:10	N	V
Q1204520-05	Solids, Total Suspended (TSS)	DUP	K1203823-001	Water	0.00 mg/L	200 ml	5.0 mg/L U	1		5.0		NC	4/26/12 13:10	N	I
Q1204520-06	Solids, Total Suspended (TSS)	MB		Water	-0.20 mg/L	1000 ml	1.0 mg/L U	1		1.0			4/26/12 13:10	N	V
Q1204520-07	Solids, Total Suspended (TSS)	LCS		Water	30.70 mg/L	1000 ml	30.7 mg/L	1		1.0	101		4/26/12 13:10	N	V
Q1204520-08	Solids, Total Suspended (TSS)	DUP	K1203743-002	Water	23.50 mg/L	400 ml	23.5 mg/L	1		2.5		2	4/26/12 13:10	N	V

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BDK
4/30/12

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.: # 289140 Method: EPA SM 2540 D

Analysis: Total Suspended Solids

Sample #	Pan Number	Comments	Sample Volume (ml)	Wt. Filter + Dry sample (1) (g)	Wt. Filter + Dry sample (2) (g)	Wt. Filter + Dry sample (3) (g)	Wt. Filter (g)	Wt. Dry Sample (g)	TSS (mg/L)	TSS (mg/L) reported
MB	1		200	0.0766	0.0766		0.0767	-0.0001	-0.50	<5
MB	2		200	0.0762	0.0765		0.0764	-0.0002	-1.00	<5
LCS	3		50	0.0915	0.0915		0.0761	0.0154	308.00	308.0
K1202941-028	4		125	0.0784	0.0786		0.0766	0.0018	14.40	14.4
K1202941-029	5		75	0.0771	0.0772		0.0748	0.0023	30.70	30.7
K1203698-001	6		15	0.0835	0.0835		0.0747	0.0088	586.70	586.7
K1203729-001	7		100	0.0796	0.0797		0.0766	0.0030	30.00	30.0
K1203729-002	8		100	0.0785	0.0787		0.0755	0.0030	30.00	30.0
K1203729-003	9		100	0.0775	0.0777		0.0747	0.0028	28.00	28.0
K1203729-004	10		50	0.0813	0.0815		0.0766	0.0047	94.00	94.0
K1203729-005	11		200	0.0775	0.0776		0.0749	0.0026	13.00	13.0
K1203729-006	12		100	0.0798	0.0799		0.0770	0.0028	28.00	28.0
K1203747-001	13		200	0.0756	0.0757		0.0756	0.0000	0.00	<5
K1203780-001	14		200	0.1144	0.1147		0.0743	0.0401	200.50	200.5
K1203721-001	15		100	0.0804	0.0805		0.0765	0.0039	39.00	39.0
K1203721-002	16		200	0.0793	0.0796		0.0759	0.0034	17.00	17.0
K1203721-003	17		100	0.0765	0.0767		0.0737	0.0028	28.00	28.0
K1203823-001	18		200	0.0760	0.0760		0.0759	0.0001	0.50	<5
K1203823-002	19		200	0.0767	0.0767		0.0759	0.0008	4.00	4.0
K1203823-003	20		200	0.0743	0.0743		0.0742	0.0001	0.50	<5
K1203827-001	21		200	0.0754	0.0756		0.0753	0.0001	0.50	<5
K1203828-001	22		50	0.0839	0.0841		0.0753	0.0086	172.00	172.0
K1203829-001	23		75	0.0767	0.0768		0.0742	0.0025	33.30	33.3
K1203747-001D	24		200	0.0743	0.0743		0.0742	0.0001	0.50	<5
K1203823-001D	25		200	0.0757	0.0758		0.0757	0.0000	0.00	<5

Calculation: Suspended Solids (mg/L) = Wt. Dry Sample (g) x 1000 x 1000 / Volume (ml) Balance#38 Thermometer ID#

ERA #:4033 Lot# 111111 ID# TDS/1-34-I T.V. = 305 % Rec = 105 oven: K - OVEN 06

Wt (1)	Start	18:00	Wt (2)	S	12:05	Wt (3)	Start	
	Stop	8:30		S	8:15		Stop	
Wt (1)	Start	105	Wt (2)	Start 105		Wt (3)	Start	
Temp	Stop	105	Temp	Stop 105		Temp	Stop	

CCV Verification SN: 6549

Tare	1.0000 g	≤(+/- 0.1%)	1 weigh	1.0000 g	≤(+/- 0.1%)	2 weigh	1.0000 g	≤(+/- 0.1%)
CCV1	0.9998	99.98%	CCV3	0.9999	99.99%	CCV5	0.9999	99.99%
CCV2	0.9999	99.99%	CCV4	0.9999	99.99%	CCV6	0.9999	99.99%

			date	time
Analyzed By:	JM/SR	Date Analyzed:	4/26/2012	13:10
Reviewed By:	BNK	Date Reviewed:	4/30/12	

COLUMBIA ANALYTICAL SERVICES, INC.

Work Order #.:

Method: EPA SM 2540 D

Analysis: Total Suspended Solids

Sample #	Pan Number	Comments	Sample Volume (ml)	Wt. Filter + Dry sample (1) (g)	Wt. Filter + Dry sample (2) (g)	Wt. Filter + Dry sample (3) (g)	Wt. Filter (g)	Wt. Dry Sample (g)	TSS (mg/L)	TSS (mg/L) reported
MB	26		1000	0.0749	0.0750		0.0751	-0.0002	-0.20	<1
LCS	27		1000	0.1041	0.1040		0.0734	0.0307	30.70	30.7
K1203695-001	28		1000	0.0990	0.0992		0.0738	0.0252	25.20	25.2
K1203695-002	29		1000	0.0772	0.0773		0.0755	0.0017	1.70	1.7
K1203743-001	30		300	0.1078	0.1081		0.0758	0.0320	106.70	106.7
K1203743-002	31		400	0.0843	0.0844		0.0751	0.0092	23.00	23.0
K1203743-003	32		400	0.0826	0.0828		0.0740	0.0086	21.50	21.5
K1203743-002D	33		400	0.0837	0.0837		0.0743	0.0094	23.50	23.5
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!
								0.0000	#DIV/0!	#DIV/0!

Calculation: Suspended Solids (mg/L) = Wt. Dry Sample (g) x 1000 x 1000 / Volume (ml)

CCV Verification SN: 6549

Tare	1.0000 g	≤(+/- 0.1%)	1 weigh	1.0000 g	≤(+/- 0.1%)	2 weigh	1.0000 g	≤(+/- 0.1%)
CCV1	0.9998	99.98%	CCV3	0.9999	99.99%	CCV5	0.9999	99.99%
CCV2	0.9999	99.99%	CCV4	0.9999	99.99%	CCV6	0.9999	99.99%

		date	time

Analyzed By:

Date Analyzed:

Reviewed By: BDK

Date Reviewed: 4/30/12

Metals

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/12
Sample Matrix:	Water	**Date Received:**	04/20/12

Total Inorganic Arsenic

Prep Method:	None	Units:	ug/L
Analysis Method:	1632 Rev. A	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
Outfall A	K1203695-001	0.02	0.003	1	NA	04/30/12	0.047	
Outfall B	K1203695-002	0.02	0.003	1	NA	04/30/12	0.064	
Method Blank 1	K1203695-MB1	0.02	0.003	1	NA	04/30/12	0.005	J
Method Blank 2	K1203695-MB2	0.02	0.003	1	NA	04/30/12	ND	
Method Blank 3	K1203695-MB3	0.02	0.003	1	NA	04/30/12	ND	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/12
Sample Matrix:	Water	**Date Received:**	04/20/12
		Date Extracted:	NA
		Date Analyzed:	04/30/12

Total Metals

Matrix Spike/Duplicate Matrix Spike Summary

Sample Name:	Outfall A	Units:	ug/L
Lab Code:	K1203695-001SD	Basis:	NA
Test Notes:			

									Percent Recovery				
				Spike Level			Spike Result						
Analyte	**Prep Method**	**Analysis Method**	**MRL**	**MS**	**DMS**	**Sample Result**	**MS**	**DMS**	**MS**	**DMS**	**Method Acceptance Limits**	**Relative Percent Difference**	**Result Notes**
Inorganic Arsenic	None	1632 Rev. A	0.02	0.2	0.2	0.047	0.259	0.278	106	116	50-150	7	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	04/30/12

Calibration Verification (CALVER) Sample Summary

Total Metals

Sample Name: CALVER 1

Units: ug/L

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.20	0.175	87	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	04/30/12

Calibration Verification (CALVER) Sample Summary
Total Metals

Sample Name: CALVER 2 Units: ug/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.20	0.187	94	80-120	

HG-CGC-AAS Arsenic Speciation Data Review Form

Element: Total Inorganic Arsenic

Starlims Run #: 289548

CALSTD Source: AA1-21-G
CALVER Source: AA1-21-E

Service Request Numbers:

K1203695

	Yes	No	NA
1) Three or more non-zero calibration points analyzed	X		
2) Mean calibration factor RSD <20%	X		
3) CALVER's within 20% of true value	X		
4) CALBLK's below MRL	X		
5) CALVER's, CALBLK's ran every 10 samples	X		
6) A minimum of three method blanks analyzed	X		
7) All reported samples within calibration range	X		
8) MS/MSD every 10 samples	X		
9) MS/MSD within 50-150%; RPD <35%	X		
10) Samples analyzed within hold time	X		
11) QCS analyzed quarterly with the mean from 3 analyses within 10% of the true value	X		

Comments:

Primary Reviewed By: [signature] Date: 4/30/12

Secondary Reviewed By: RRM Date: 5/2/12

COLUMBIA ANALYTICAL SERVICES, INC.
ANALYTICAL WORKSHEET

Method 1632: (circle species) TIAs AsIII MMA DMA **Analysis For: As**	**Service Request # :** K1203695, K1203781

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g)	Digest Volume (mL)	Aliquot Volume (mL)	Dilution Factor	peak area	net ng	net ng/L	Comments
1	CALBLK 0	~	~	50	~	37.8370	0.00	0.0	
2	0.5 ng wk std A	~	~	50	~	88.2335	0.62	12.4	
3	10 ng wk std A	~	~	50	~	803.9055	9.45	189.0	
4	20 ng wk std A	~	~	50	~	1590.4670	19.15	383.1	
5	30 ng wk std A	~	~	50	~	2114.7600	25.62	512.4	
6	CALBLK 1	~	~	50	~	60.0770	0.27	5.5	
7	CALVER 1	~	~	50	~	747.3080	8.75	175.0	CALVER : 88%
8	CALBLK 2	~	~	50	~	47.8265	0.12	2.5	
9	K1203695-001	~	~	50	~	229.3650	2.36	47.3	
10	K1203695-001MS	~	~	50	~	1086.6480	12.94	258.8	106%
11	K1203695-001DMS	~	~	50	~	1162.9260	13.88	277.6	115%
12	K1203695-002	~	~	50	~	298.8030	3.22	64.4	
13	K1203781-002	~	~	5.0	10	1132.3100	13.50	2700.2	
14	K1203781-002MS	~	~	5.0	10	1692.7700	20.41	4083.0	69%
15	K1203781-002DMS	~	~	5.0	10	1834.9010	22.17	4433.6	87%
16	K1203781-001	~	~	5.0	10	651.2560	7.57	1513.4	
17	K1203781-003	~	~	5.0	10	1954.5745	23.64	4728.9	
18	~~K1203781-004~~	~	~	~~5.0~~	~~10~~		~~-0.47~~	~~-93.3~~	Rerun
19	CALVER 2	~	~	50	~	795.3060	9.34	186.9	CALVER : 93%
20	CALBLK 3	~	~	50	~	40.8720	0.04	0.7	
21	~~K1203781-006~~	~	~	5.0	10	29.5530	-0.10	-20.4	
22	K1203781-004	~		1.0	50	506.7080	5.78	5783.9	
23	K1203781-005	~	~	1.0	50	~~115.3785~~	0.96	956.5	
24	CALVER 2	~	~	50	~	598.0835	6.91	~~138.2~~	CALVER : 69%
25	CALBLK 3	~	~	50	~	39.5790	0.02	0.4	

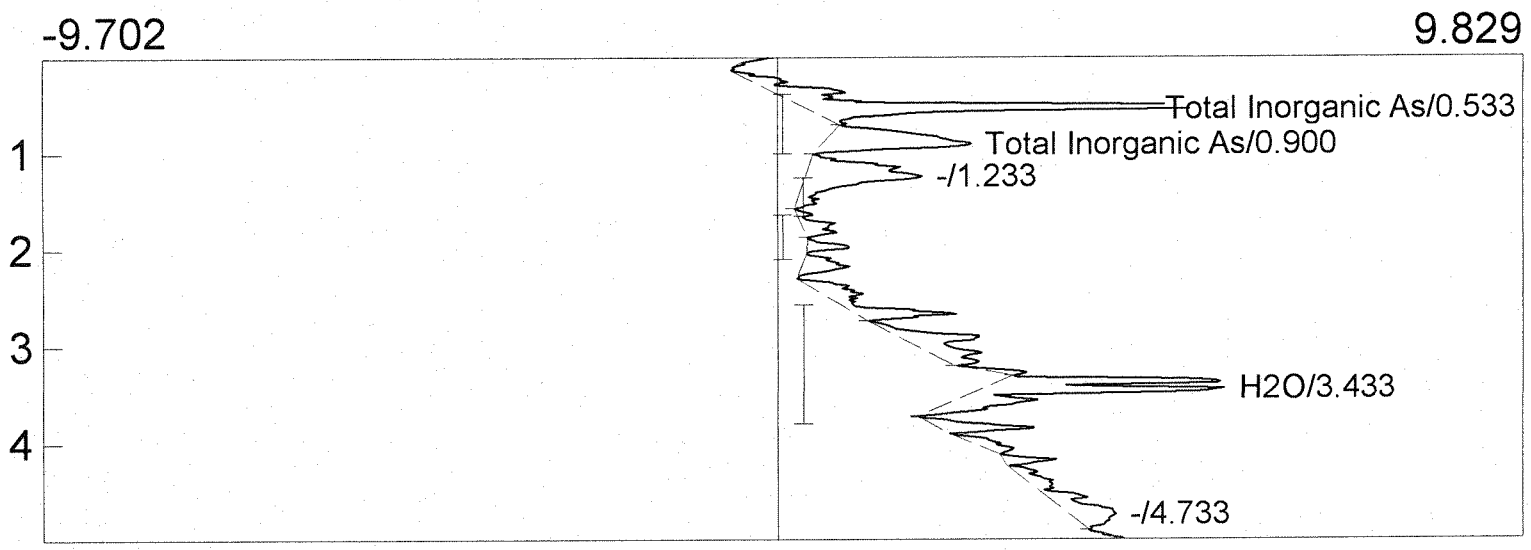
Data not reported 5/2/12

Comments:	wk std A : AA1-21-G	Calibration:	net	Calibration	
	wk std B : AA1-21-E	ng	peak area	Factor	
	KBH4 : HG-AAS-1-N	30	2076.9230	69.2308	
	6M HCl : HG-AAS1-1-R	20	1552.6300	77.6315	
	Tris-Buffer : HG-AAS1-1-I	10	766.0685	76.6069	
		0.5	50.3965	100.7930	
				81.0655	CF mean
				13.67	CF Stdev
	CALVER : 10ng wk std B			16.87	RSD

Analyst:	Date:	Page Number:
	4/30/12	1

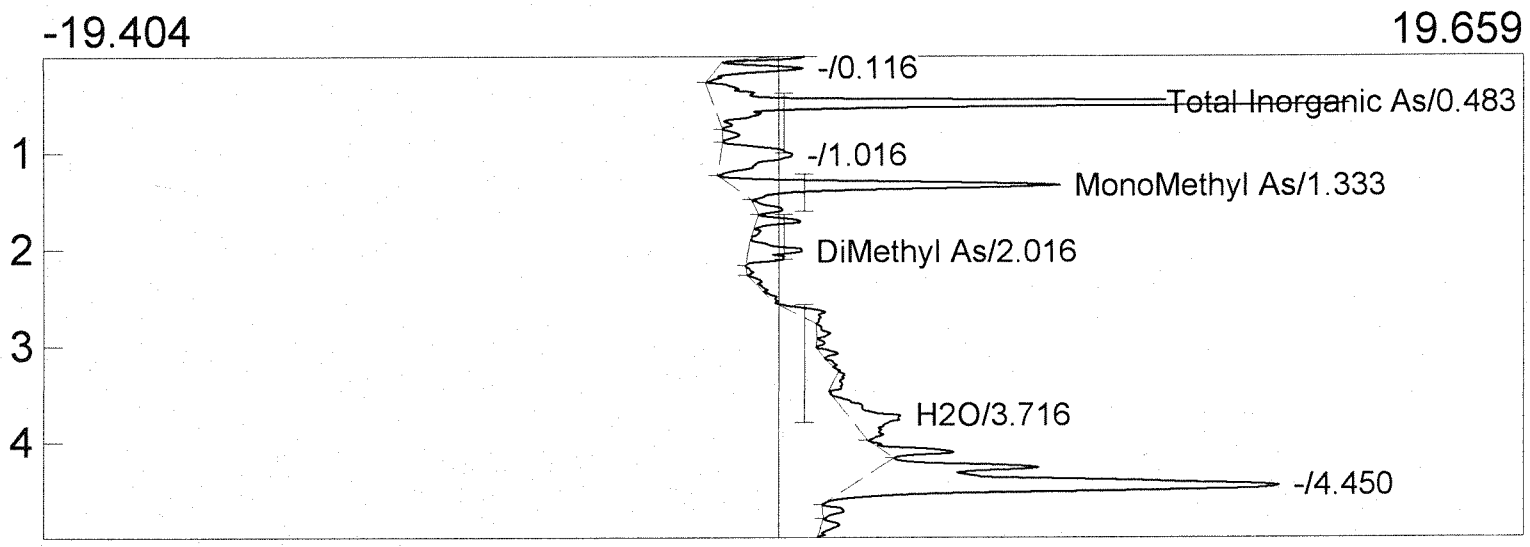
[1632 Water Runlog.xls] Total Inorganic As

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 09:06:29
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: CALBLK 0.CHR ()
Operator: DJ



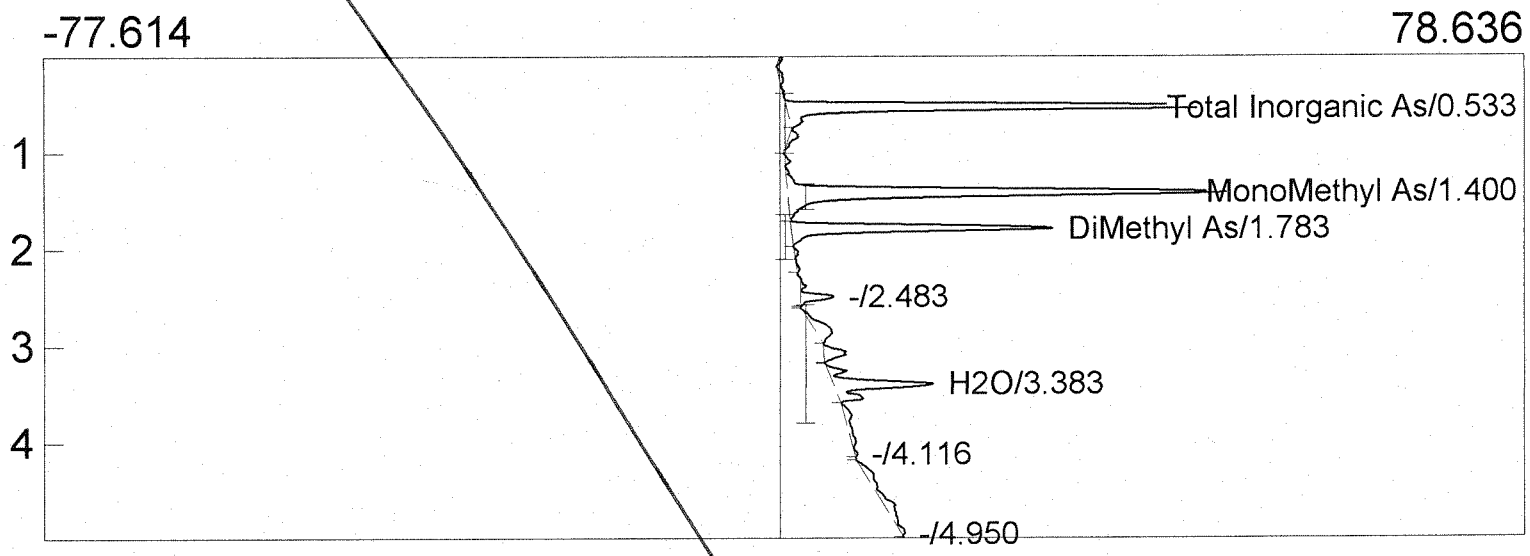
Component	Retention	Area	Height
Total Inorganic As	0.533	37.8370	5.683
Total Inorganic As	0.900	19.6390	1.977
MonoMethyl As	0.000	0.0000	0.000
DiMethyl As	0.000	0.0000	0.000
H2O	3.433	33.7830	3.201
		91.2590	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 09:18:15
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: 0.5 ng.CHR ()
Operator: DJ



Component	Retention	Area	Height
Total Inorganic As	0.483	88.2335	16.777
MonoMethyl As	1.333	44.8150	8.696
DiMethyl As	2.016	11.7110	1.425
H2O	3.716	17.5310	1.440
		162.2905	

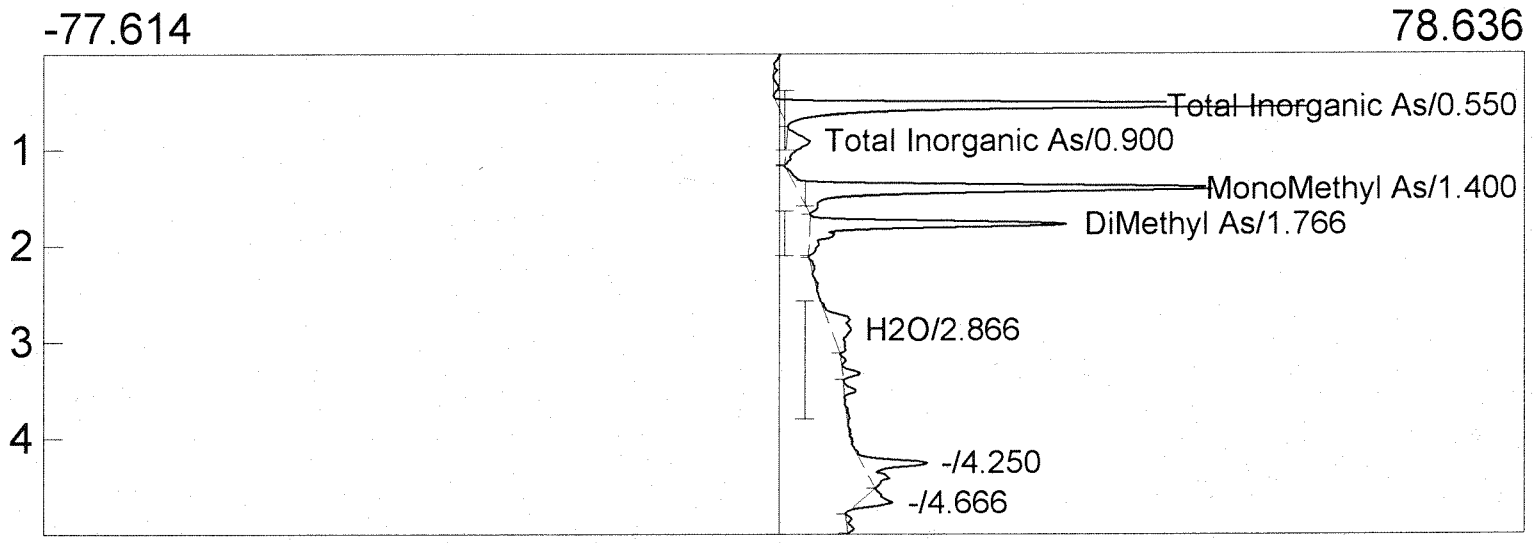
Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 09:33:18
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: 2.5 ng.CHR ()
Operator: DJ



Component	Retention	Area	Height
Total Inorganic As	0.533	214.8010	48.870
MonoMethyl As	1.400	251.3540	47.618
DiMethyl As	1.783	125.7900	27.766
H2O	3.383	70.3090	10.715
		662.2540	

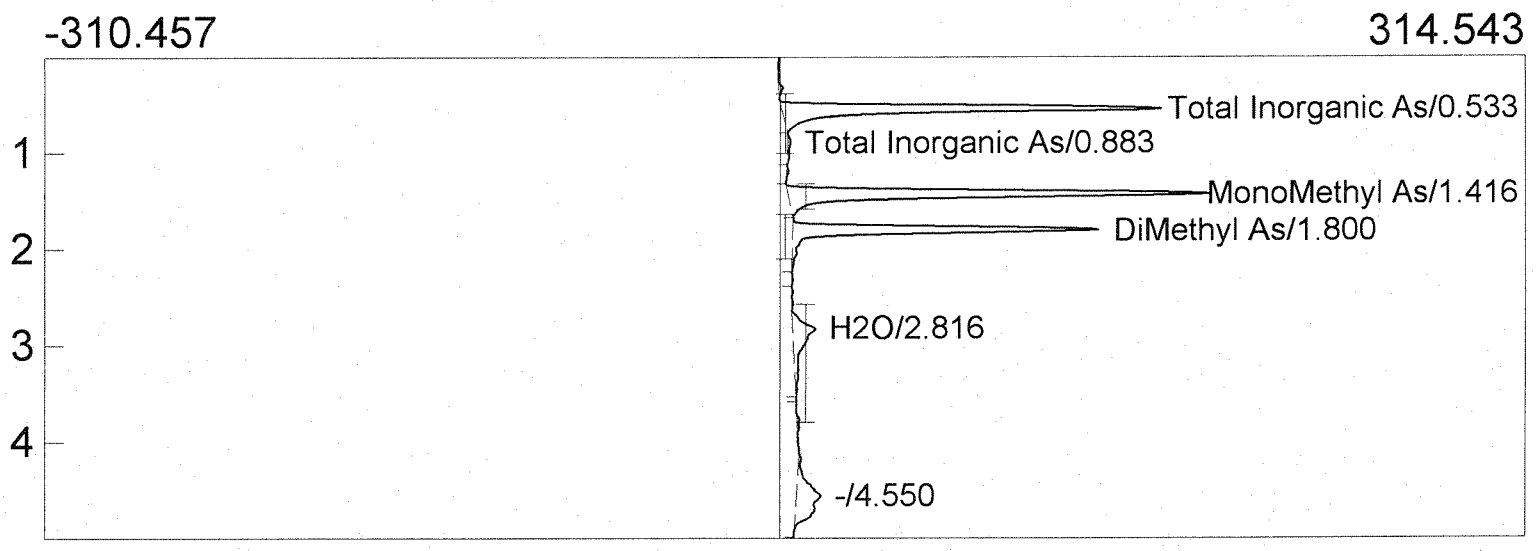
4/30/12

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 10:22:20
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: 2.5 ng Rerun.CHR ()
Operator: DJ



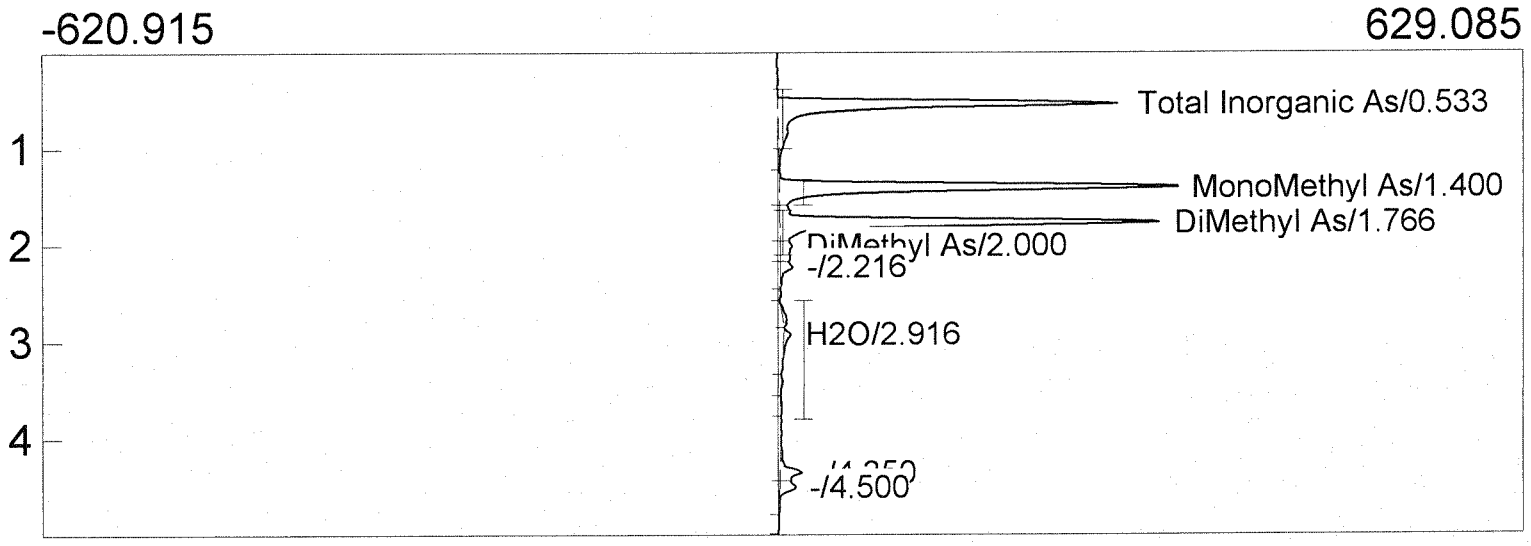
Component	Retention	Area	Height
Total Inorganic As	0.550	270.3230	56.273
Total Inorganic As	0.900	25.6300	2.498
MonoMethyl As	1.400	251.3480	47.528
DiMethyl As	1.766	142.5140	27.532
H2O	2.866	38.1300	2.083
		727.9450	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 09:43:37
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: 10 ng.CHR ()
Operator: DJ



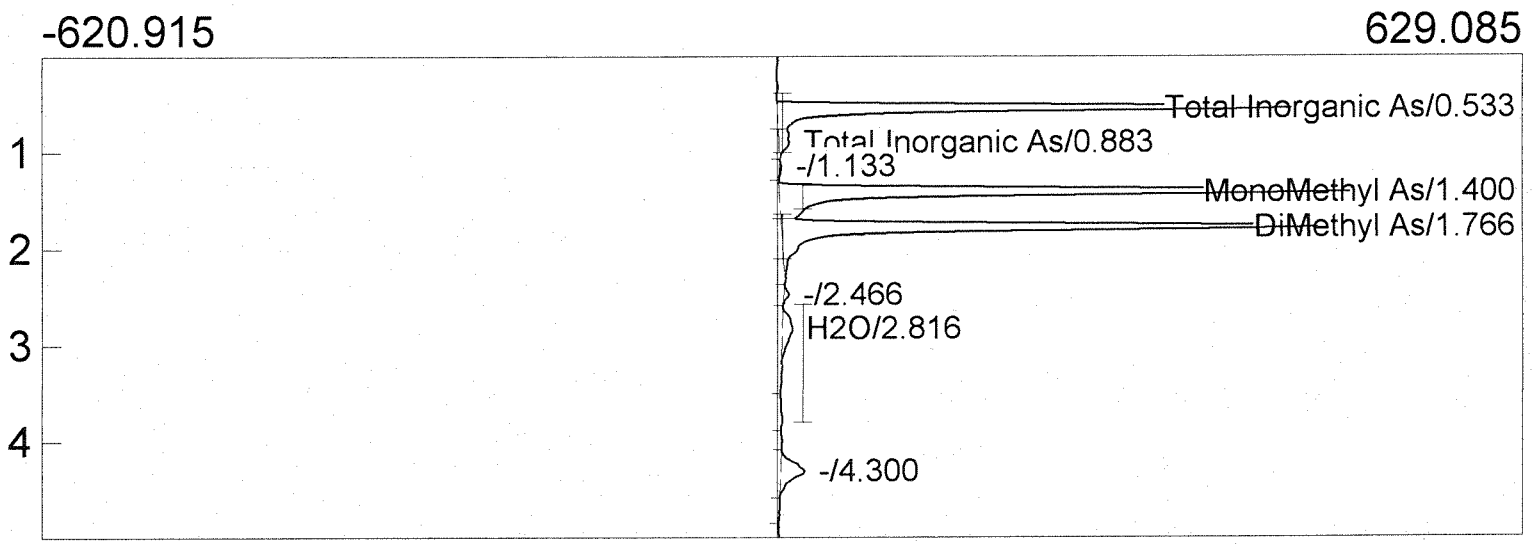
Component	Retention	Area	Height
Total Inorganic As	0.533	803.9055	163.430
Total Inorganic As	0.883	14.2140	1.294
MonoMethyl As	1.416	900.3920	181.625
DiMethyl As	1.800	619.8010	129.674
H2O	2.816	153.7810	9.399
		2492.0935	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 09:57:40
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: 20 ng.CHR ()
Operator: DJ



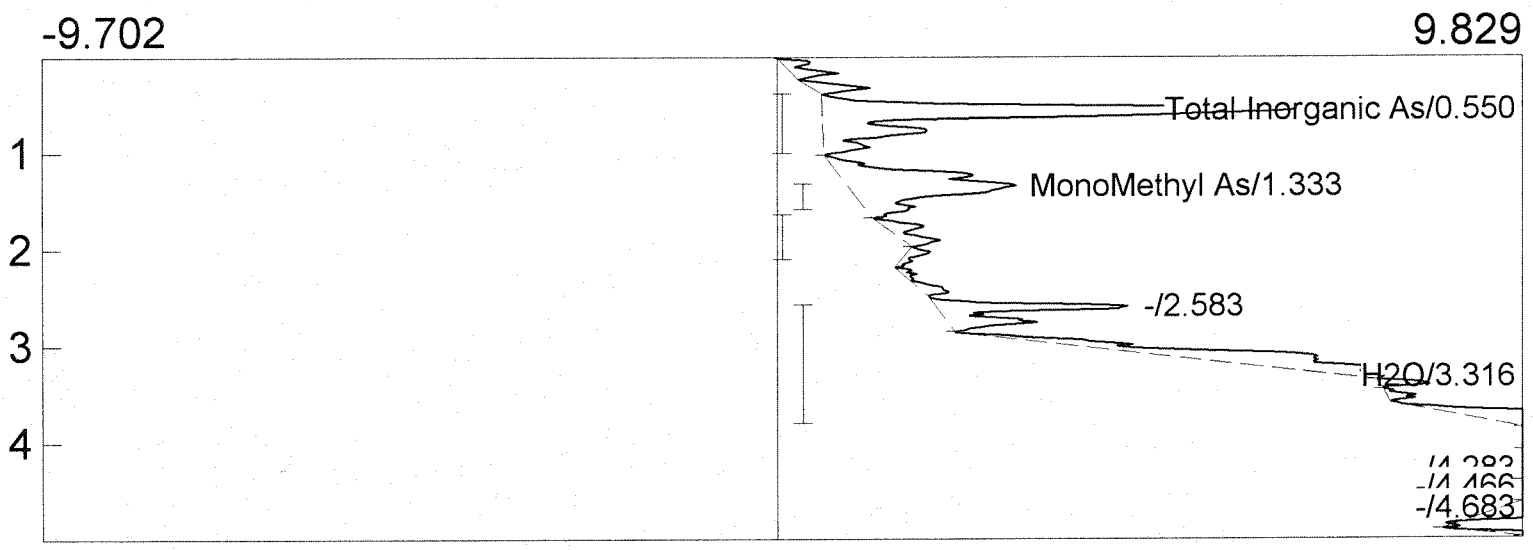
Component	Retention	Area	Height
Total Inorganic As	0.533	1590.4670	292.437
MonoMethyl As	1.400	1747.6190	336.487
DiMethyl As	1.766	1644.8730	321.195
DiMethyl As	2.000	110.5495	9.874
H2O	2.916	51.8720	6.171
		5145.3805	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 10:08:21
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: 30 ng.CHR ()
Operator: DJ



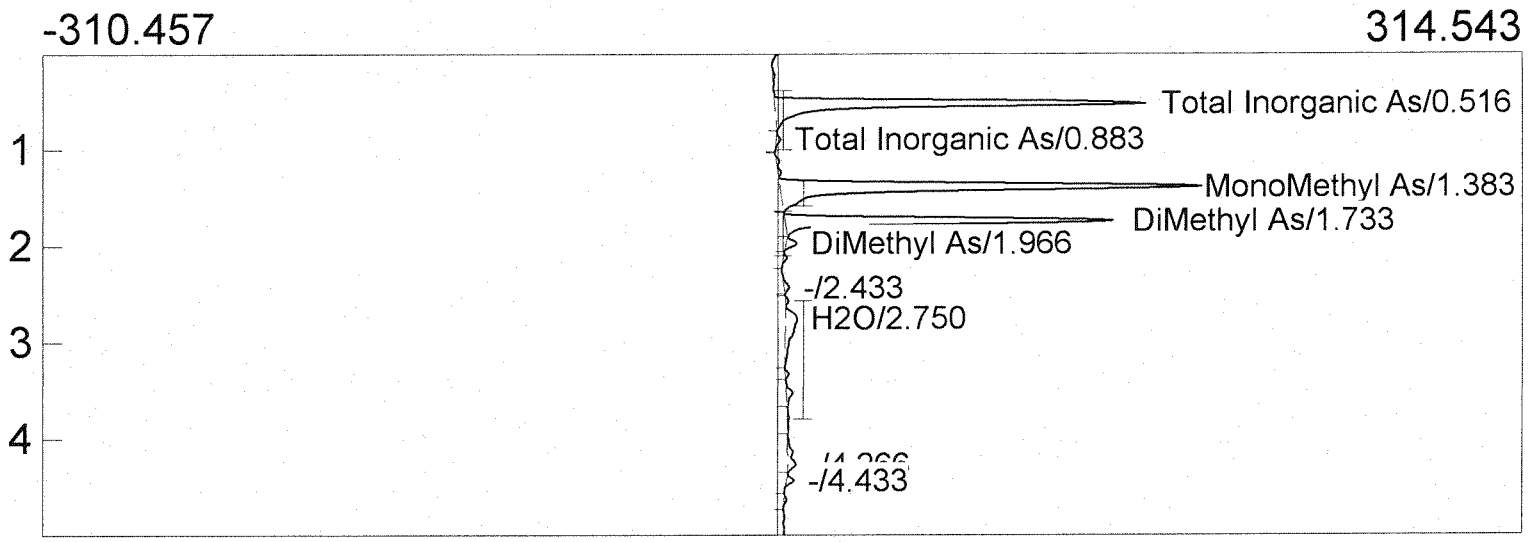
Component	Retention	Area	Height
Total Inorganic As	0.533	2114.7600	449.336
Total Inorganic As	0.883	111.0215	8.555
MonoMethyl As	1.400	2760.5670	514.374
DiMethyl As	1.766	2500.7745	469.295
H2O	2.816	160.2450	8.611
		7647.3680	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 10:41:38
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM *4/30/12
Data file: CALBLK 1 ~~Rerun~~.CHR ()
Operator: DJ



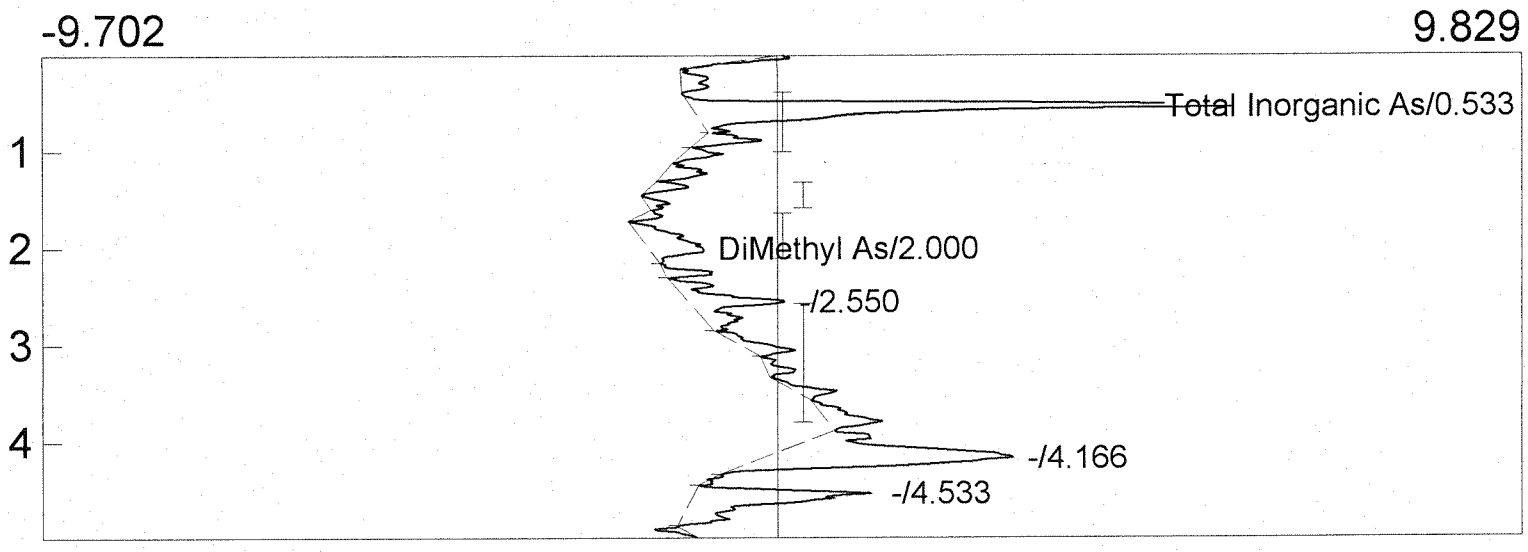
Component	Retention	Area	Height
Total Inorganic As	0.550	60.0770	6.247
MonoMethyl As	1.333	37.6315	2.229
DiMethyl As	0.000	0.0000	0.000
H2O	3.316	25.9450	0.487
		123.6535	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 10:52:46
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: CALVER 1.CHR ()
Operator: DJ



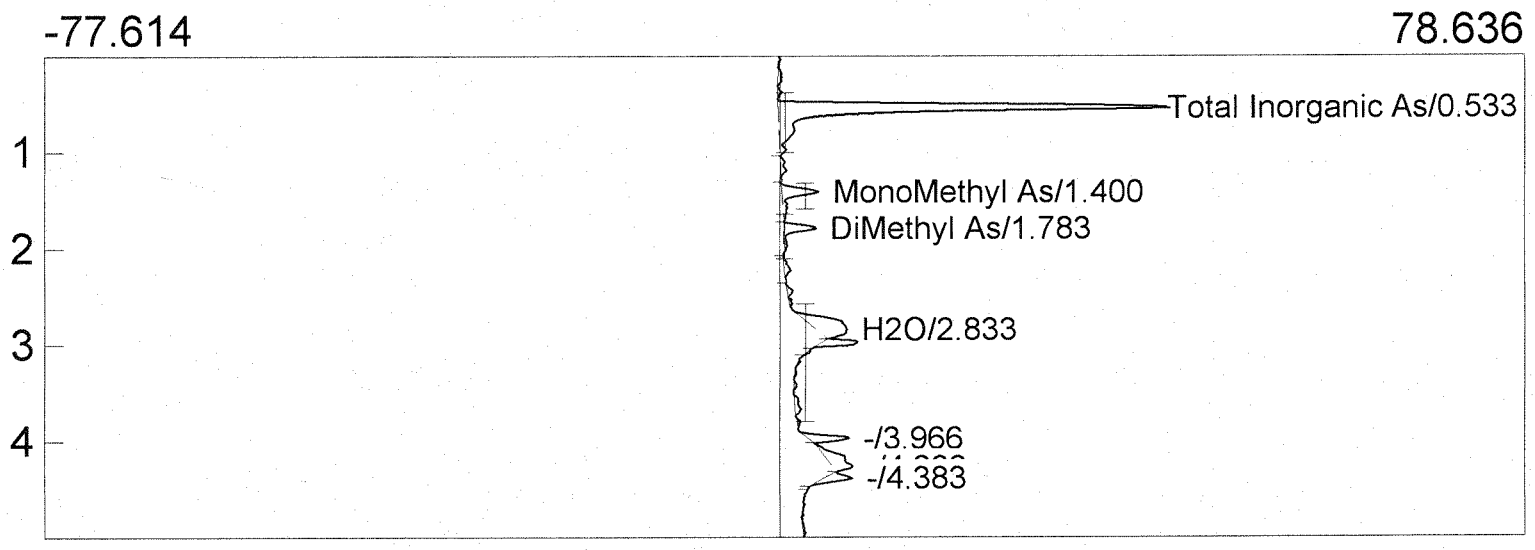
Component	Retention	Area	Height
Total Inorganic As	0.516	747.3080	157.784
Total Inorganic As	0.883	10.5265	1.966
MonoMethyl As	1.383	940.9570	180.794
DiMethyl As	1.733	608.7350	140.874
DiMethyl As	1.966	21.0195	4.564
H2O	2.750	93.2965	4.932
		2421.8425	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 11:03:25
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: CALBLK 2.CHR ()
Operator: DJ



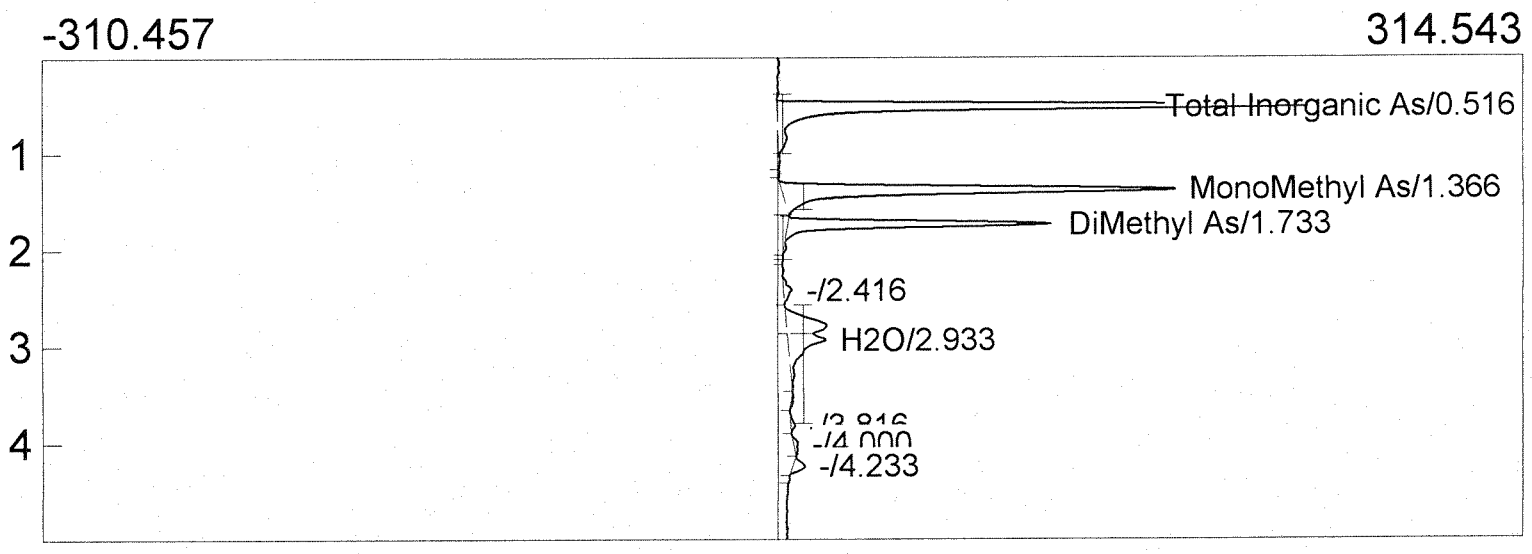
Component	Retention	Area	Height
Total Inorganic As	0.533	47.8265	7.845
MonoMethyl As	0.000	0.0000	0.000
DiMethyl As	2.000	10.4990	0.733
H2O	0.000	0.0000	0.000
		58.3255	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 11:14:55
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203695-001 50mL.CHR ()
Operator: DJ



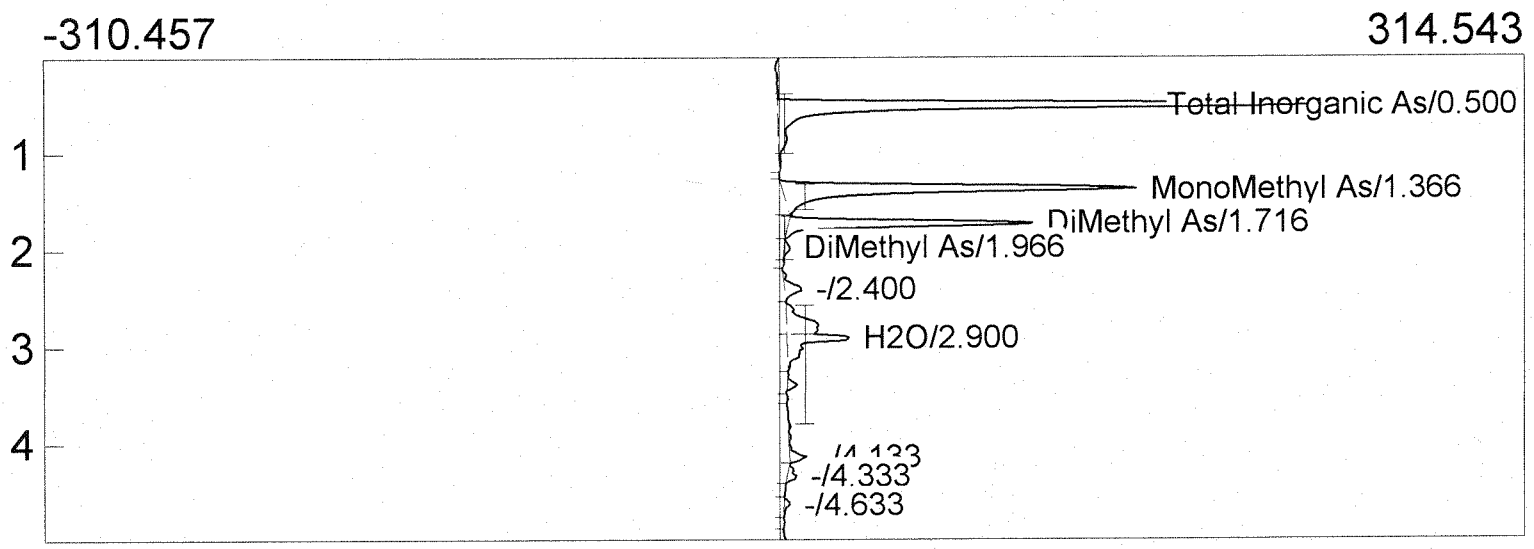
Component	Retention	Area	Height
Total Inorganic As	0.533	229.3650	43.642
MonoMethyl As	1.400	22.6445	3.946
DiMethyl As	1.783	18.2060	3.419
H2O	2.833	40.7560	3.310
		310.9715	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 11:25:52
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203695-001S 50mL.CHR ()
Operator: DJ



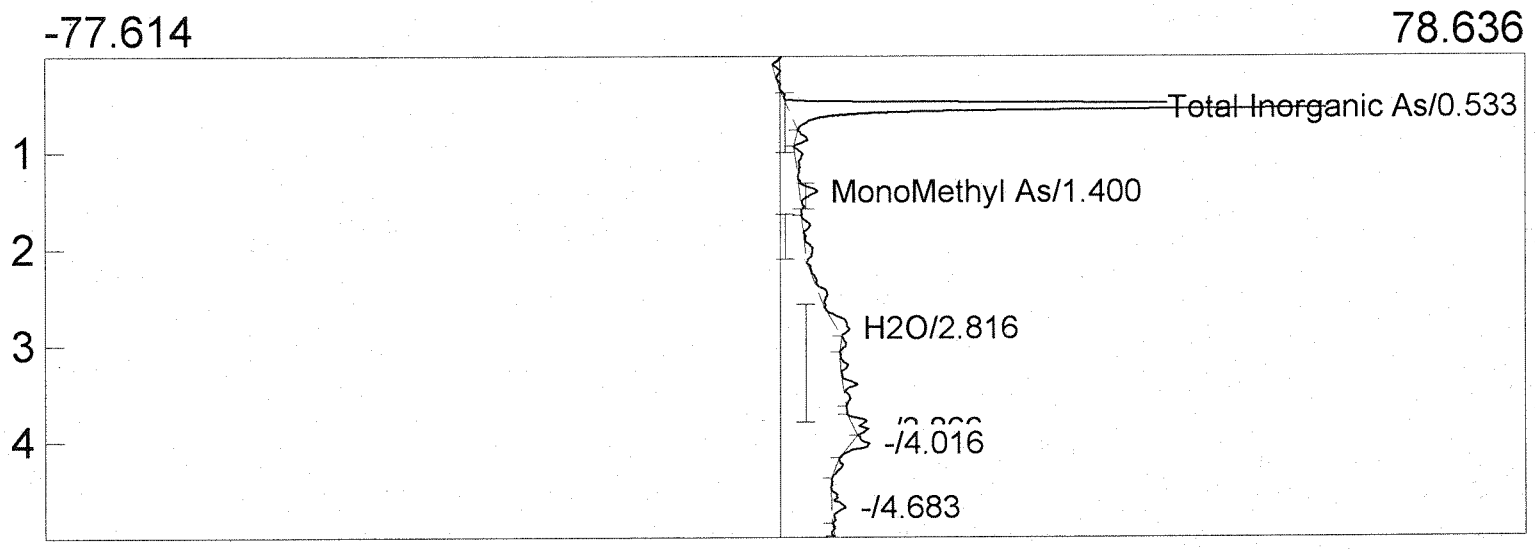
Component	Retention	Area	Height
Total Inorganic As	0.516	1086.6480	225.913
MonoMethyl As	1.366	894.7640	166.576
DiMethyl As	1.733	499.6800	112.736
H2O	2.933	178.5240	16.376
		2659.6160	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 11:36:26
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203695-001SD 50mL.CHR ()
Operator: DJ



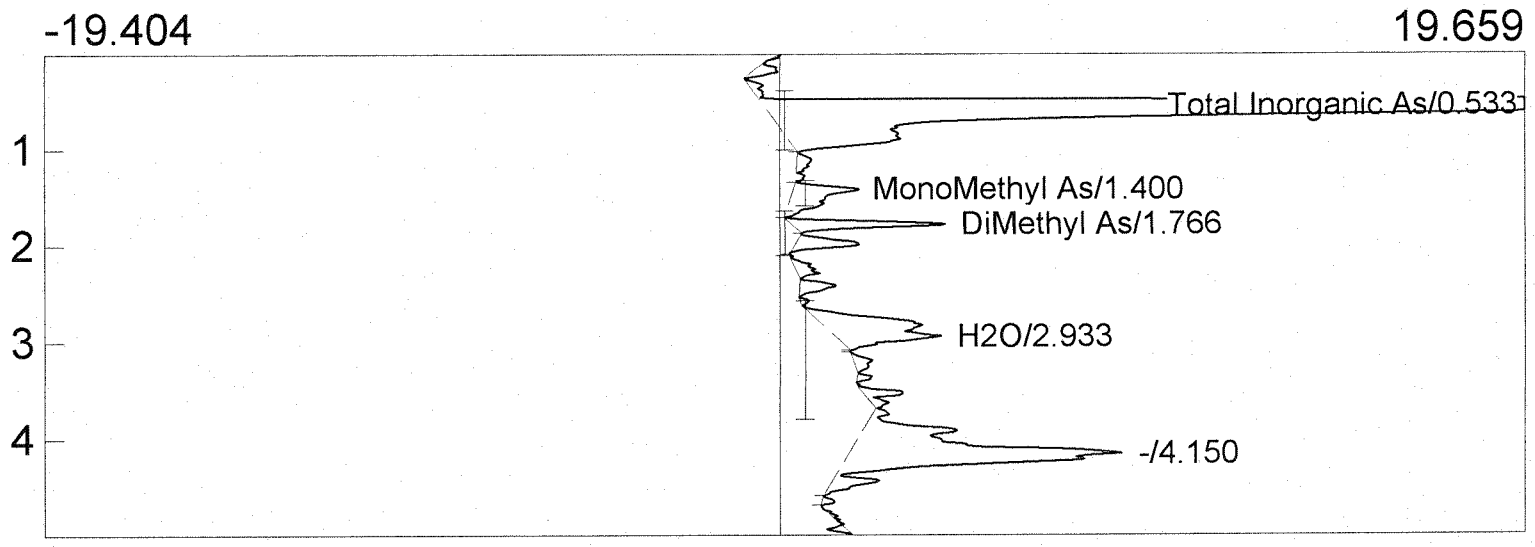
Component	Retention	Area	Height
Total Inorganic As	0.500	1162.9260	230.300
MonoMethyl As	1.366	814.1805	149.677
DiMethyl As	1.716	457.7400	103.041
DiMethyl As	1.966	20.7560	2.485
H2O	2.900	180.9840	26.415
		2636.5865	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 11:46:44
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203695-002 50mL.CHR ()
Operator: DJ



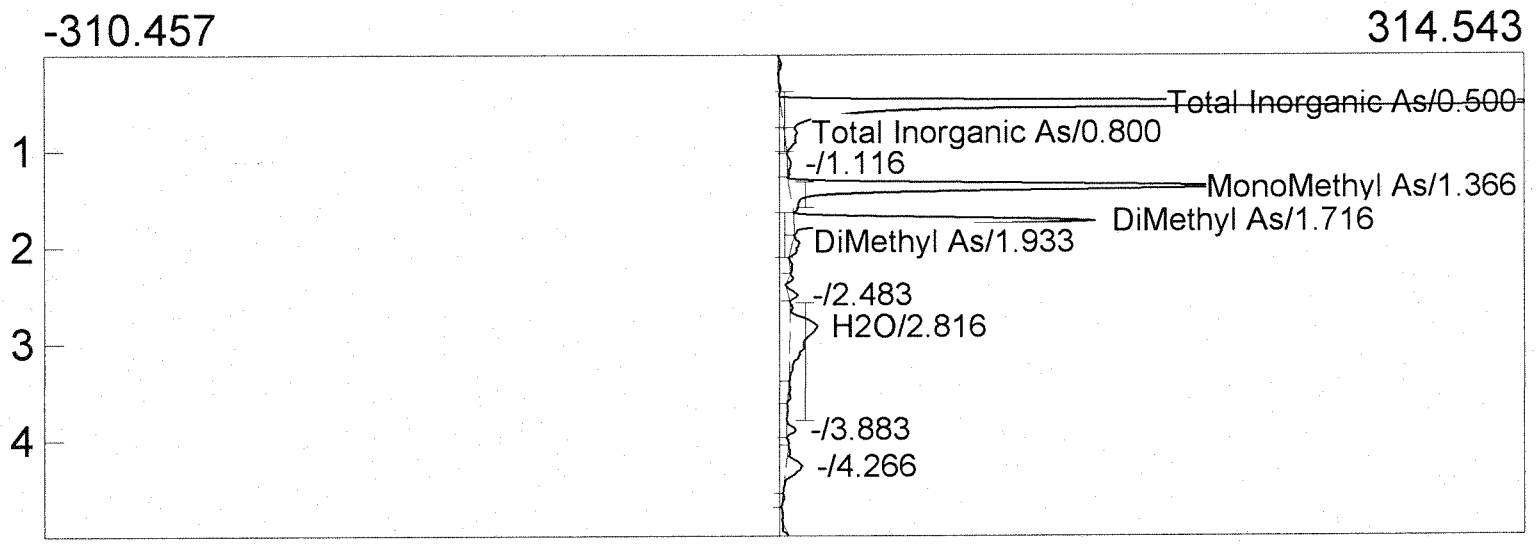
Component	Retention	Area	Height
Total Inorganic As	0.533	298.8030	63.849
MonoMethyl As	1.400	12.4415	1.909
DiMethyl As	0.000	0.0000	0.000
H2O	2.816	13.6180	1.337
		324.8625	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 11:57:07
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203781-002 5mL.CHR ()
Operator: DJ



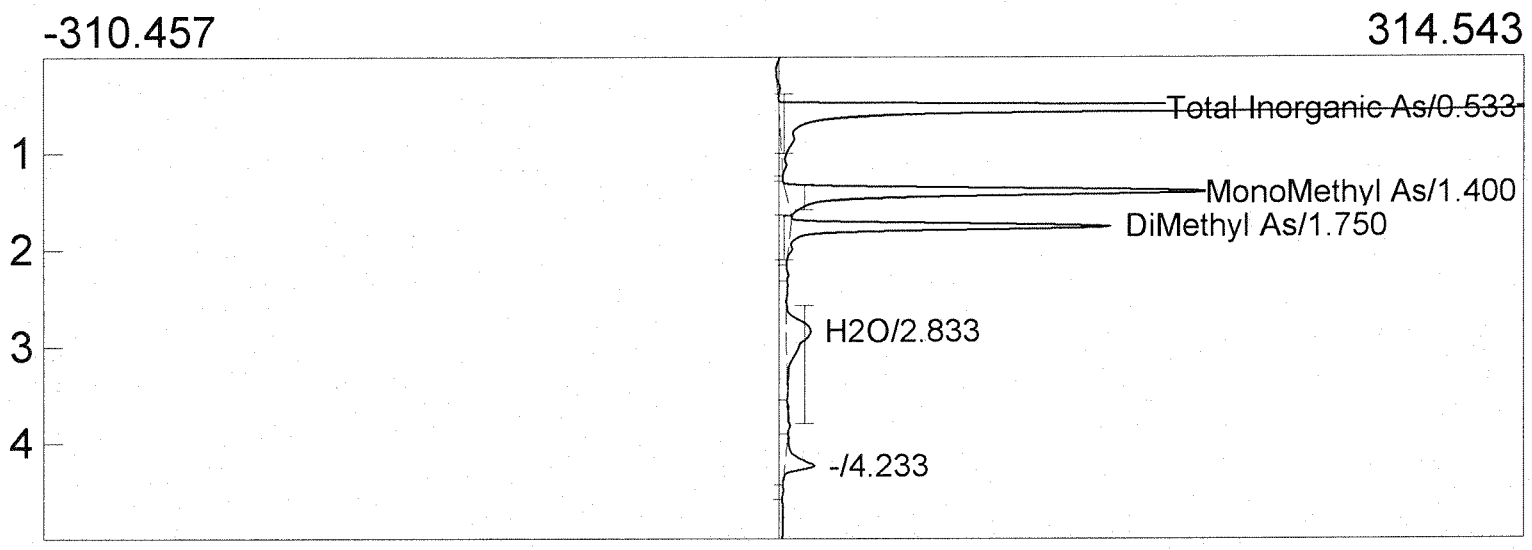
Component	Retention	Area	Height
Total Inorganic As	0.533	1132.3100	239.883
MonoMethyl As	1.400	17.8390	1.732
DiMethyl As	1.766	17.5220	4.121
H2O	2.933	41.5640	2.868
		1209.2350	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 13:19:05
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203781-002S 5mL.CHR ()
Operator: DJ



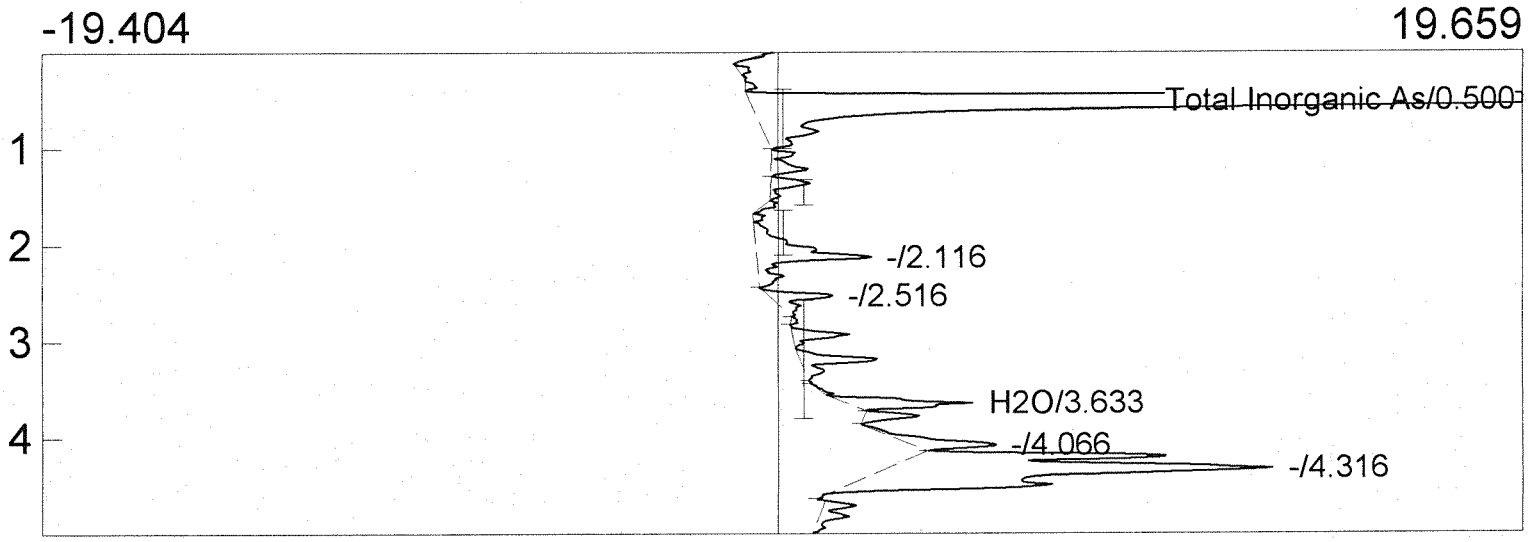
Component	Retention	Area	Height
Total Inorganic As	0.500	1692.7700	348.580
Total Inorganic As	0.800	54.3210	5.239
MonoMethyl As	1.366	951.2660	191.411
DiMethyl As	1.716	579.1020	128.523
DiMethyl As	1.933	27.8540	2.974
H2O	2.816	223.1870	11.757
		3528.5000	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 13:30:18
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203781-002SD 5mL.CHR ()
Operator: DJ



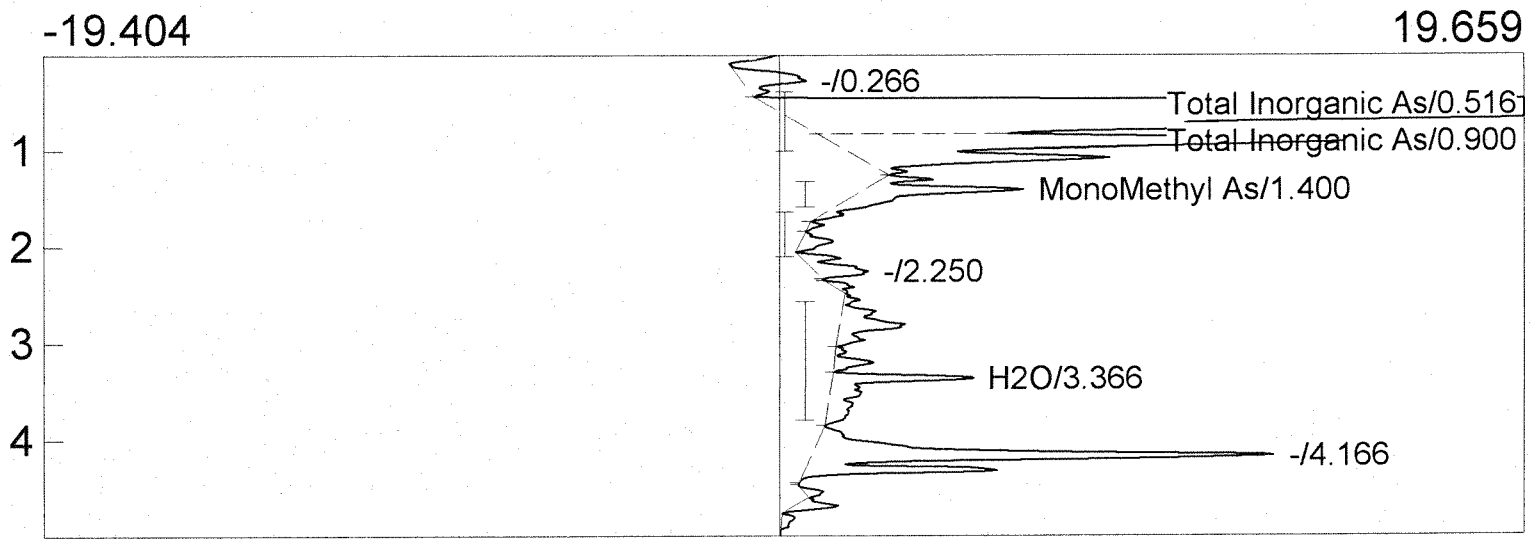
Component	Retention	Area	Height
Total Inorganic As	0.533	1834.9010	373.962
MonoMethyl As	1.400	967.7400	180.527
DiMethyl As	1.750	628.9180	135.351
H2O	2.833	201.0535	10.280
		3632.6125	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 13:47:12
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203781-001 5mL.CHR ()
Operator: DJ



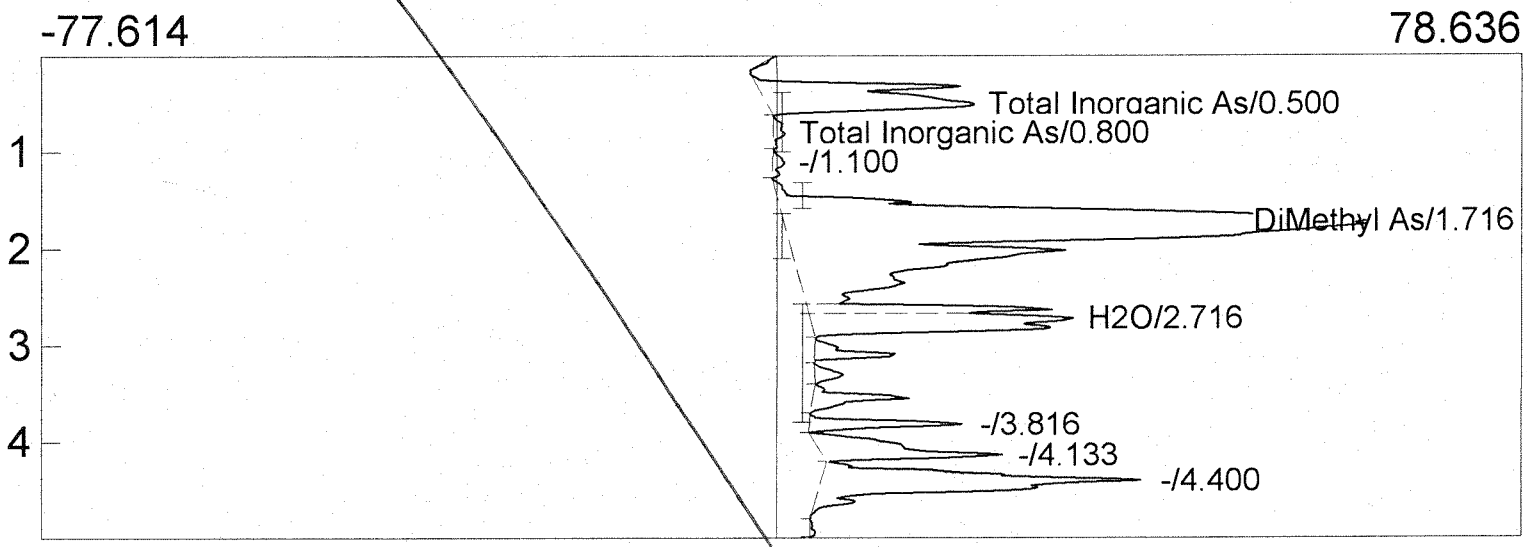
Component	Retention	Area	Height
Total Inorganic As	0.500	651.2560	134.560
MonoMethyl As	0.000	0.0000	0.000
DiMethyl As	0.000	0.0000	0.000
H2O	3.633	14.9970	3.395
		666.2530	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 13:58:06
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203781-003 5mL.CHR ()
Operator: DJ



Component	Retention	Area	Height
Total Inorganic As	0.516	1954.5745	397.385
Total Inorganic As	0.900	143.3660	13.660
MonoMethyl As	1.400	35.6005	4.228
DiMethyl As	0.000	0.0000	0.000
H2O	3.366	30.0740	3.731
		2163.6150	

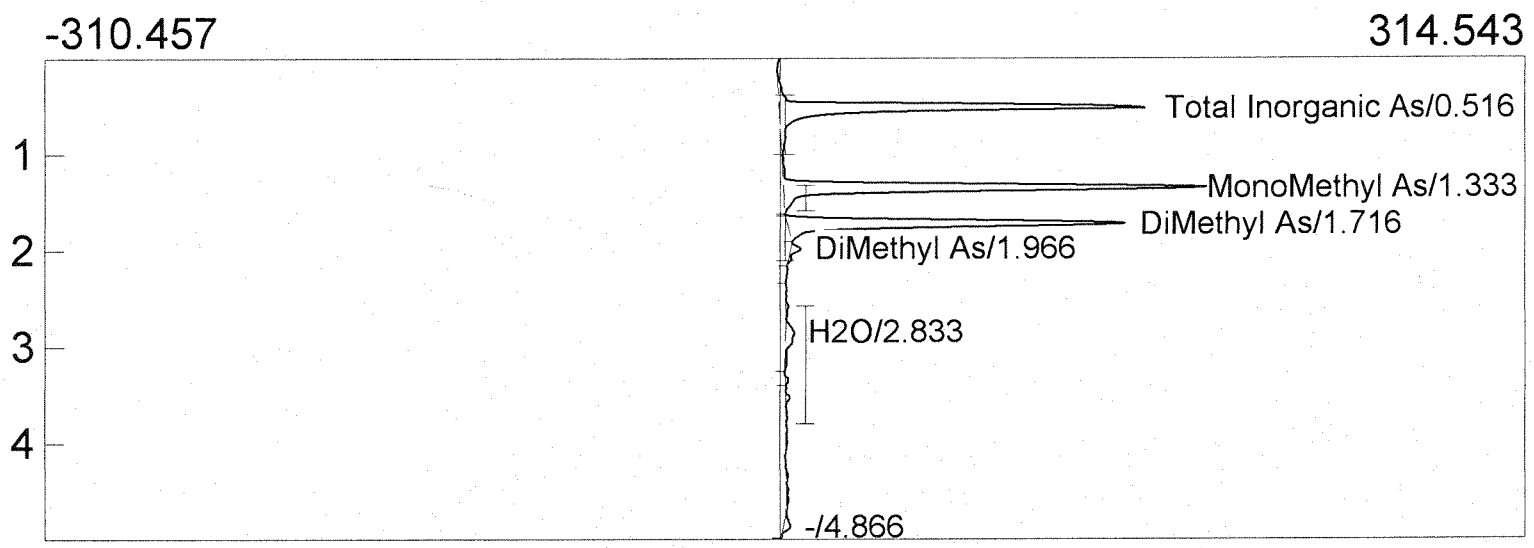
Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 14:08:28
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203781-004 5mL.CHR ()
Operator: DJ



Component	Retention	Area	Height
Total Inorganic As	0.500	320.8790	21.937
Total Inorganic As	0.800	12.8820	1.294
MonoMethyl As	0.000	0.0000	0.000
DiMethyl As	1.716	1646.9620	61.425
H2O	2.716	293.9120	27.879
		2274.6350	

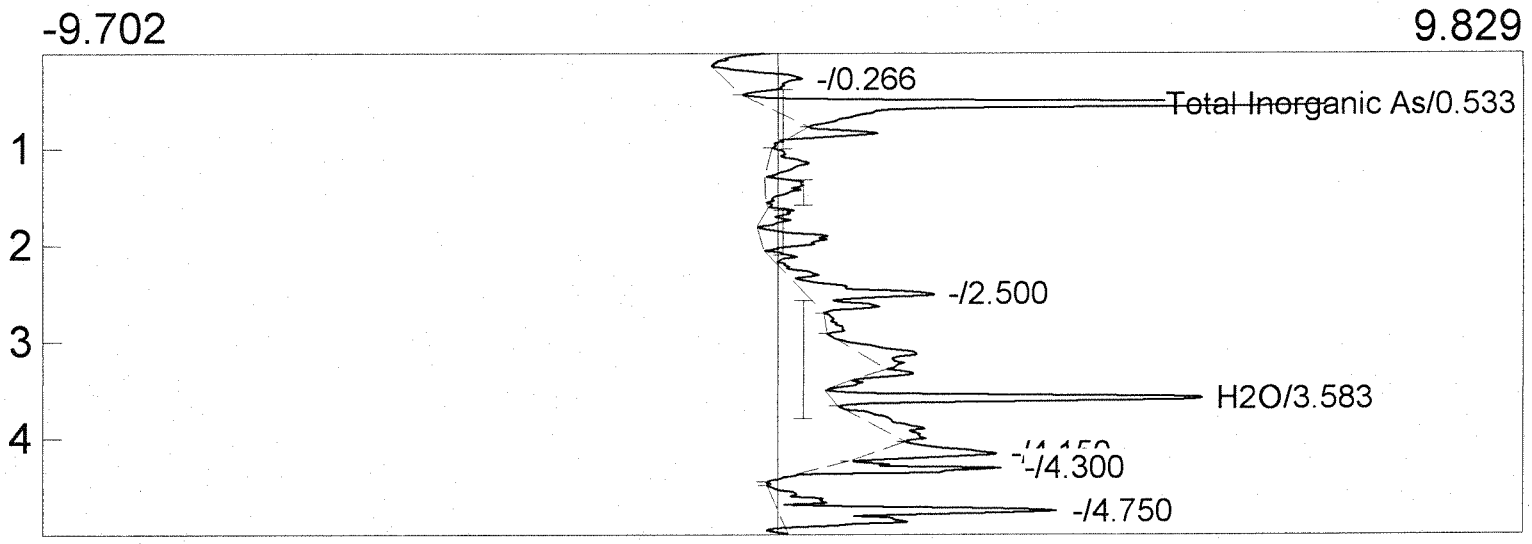
4/30/12

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 14:18:53
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: CALVER 2.CHR ()
Operator: DJ



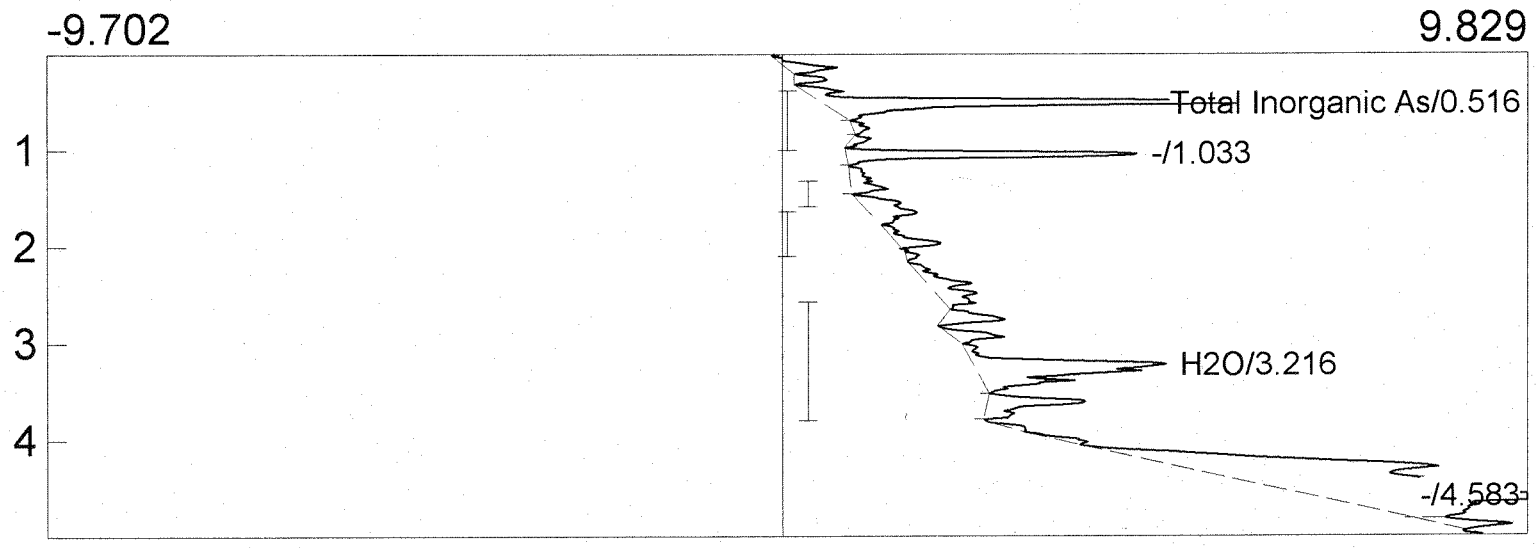
Component	Retention	Area	Height
Total Inorganic As	0.516	795.3060	156.986
MonoMethyl As	1.333	863.7785	180.580
DiMethyl As	1.716	696.0355	143.128
DiMethyl As	1.966	25.5005	4.408
H2O	2.833	51.9265	3.540
		2432.5470	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 14:31:08
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: CALBLK 3.CHR ()
Operator: DJ



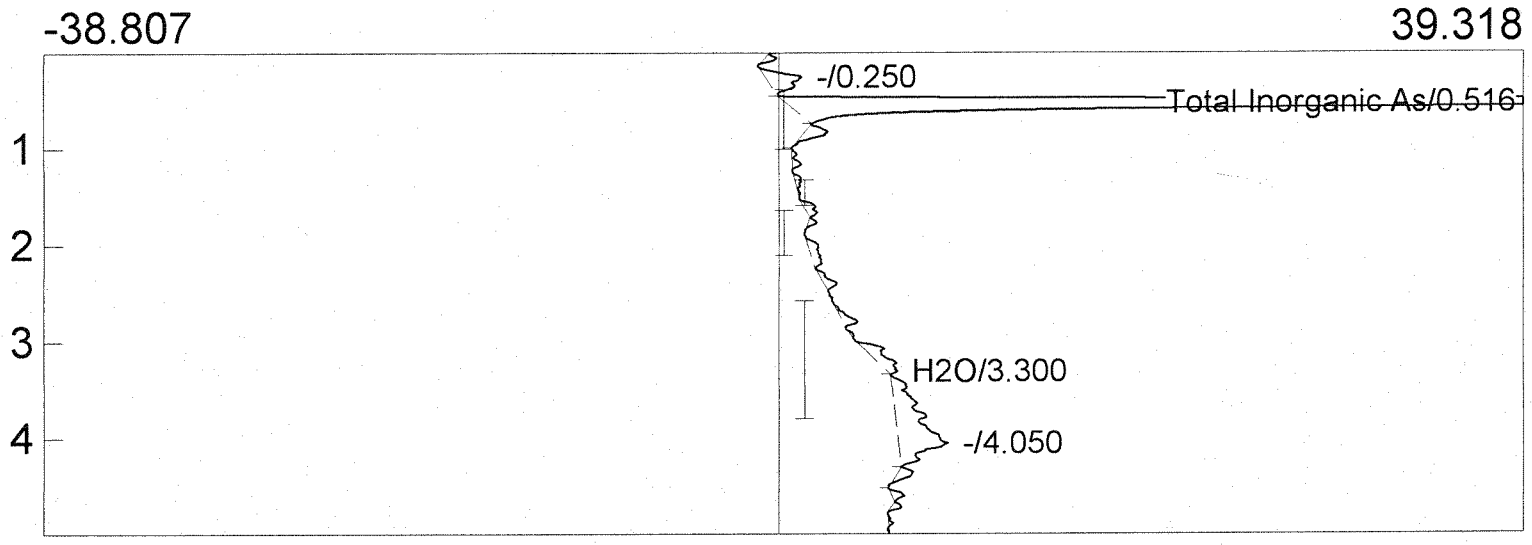
Component	Retention	Area	Height
Total Inorganic As	0.533	40.8720	7.689
MonoMethyl As	0.000	0.0000	0.000
DiMethyl As	0.000	0.0000	0.000
H2O	3.583	21.1420	4.900
		62.0140	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 14:57:12
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203781-006 5mL.CHR ()
Operator: DJ



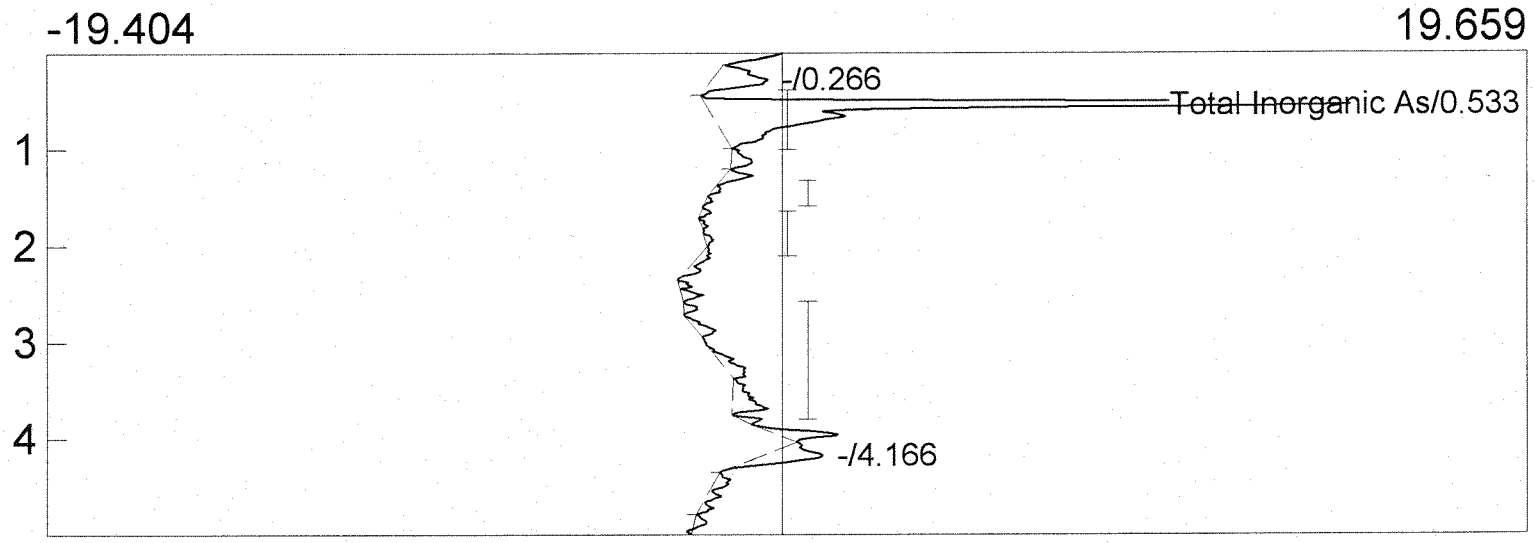
Component	Retention	Area	Height
Total Inorganic As	0.516	29.5530	5.538
MonoMethyl As	0.000	0.0000	0.000
DiMethyl As	0.000	0.0000	0.000
H2O	3.216	26.5120	2.546
		56.0650	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 15:14:21
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203781-004 1mL.CHR ()
Operator: DJ



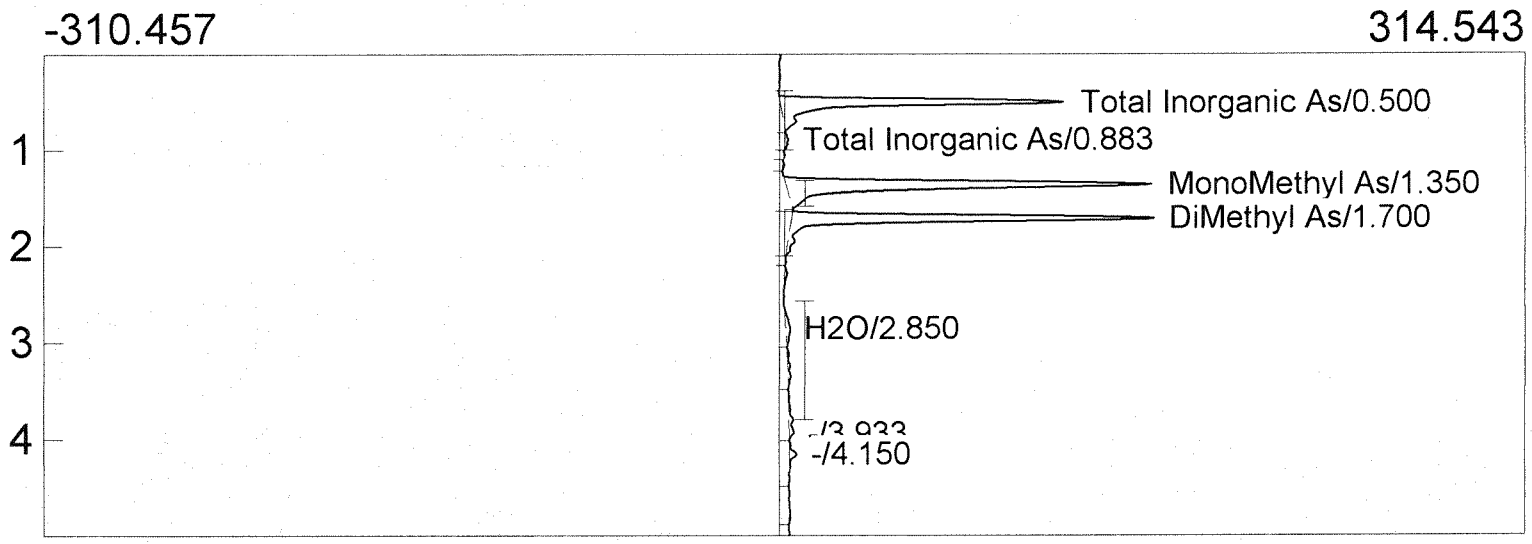
Component	Retention	Area	Height
Total Inorganic As	0.516	506.7080	110.350
MonoMethyl As	0.000	0.0000	0.000
DiMethyl As	0.000	0.0000	0.000
H2O	3.300	13.2000	0.572
		519.9080	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 16:00:41
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: K1203781-005 1mL.CHR ()
Operator: DJ



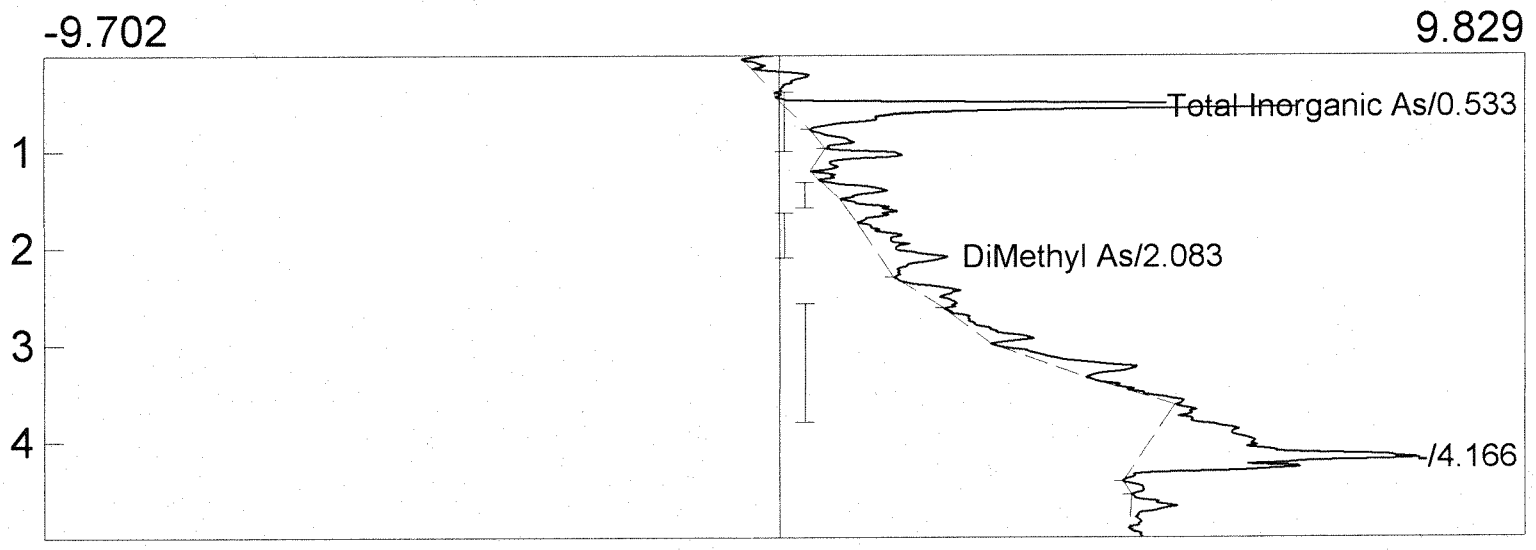
Component	Retention	Area	Height
Total Inorganic As	0.533	115.3785	17.722
MonoMethyl As	0.000	0.0000	0.000
DiMethyl As	0.000	0.0000	0.000
H2O	0.000	0.0000	0.000
		115.3785	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 16:11:35
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: CALVER 3.CHR ()
Operator: DJ



Component	Retention	Area	Height
Total Inorganic As	0.500	598.0835	120.989
Total Inorganic As	0.883	12.7335	1.586
MonoMethyl As	1.350	834.6550	155.904
DiMethyl As	1.700	720.6070	153.330
H2O	2.850	26.1280	1.947
		2192.2070	

Lab name: Columbia Analytical
Client: Arsenic Speciation
Analysis date: 04/30/2012 16:22:15
Method: 1632
Description: FID-CHANNEL 1
Column: 15% OV-3 Chromosorb
Carrier: HELIUM
Data file: CALBLK 4.CHR ()
Operator: DJ



Component	Retention	Area	Height
Total Inorganic As	0.533	39.5790	7.230
MonoMethyl As	0.000	0.0000	0.000
DiMethyl As	2.083	11.3120	0.906
H2O	0.000	0.0000	0.000
		50.8910	

Metals

COLUMBIA ANALYTICAL SERVICES, INC.

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- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Ash Creek Associates, Inc.
Project Name: T2 Storm water Project
Project No.: 1053-02

Service Request: K1203695

Sample Name:	Lab Code:
Batch QCD1	K1203489-001D
Batch QCS1	K1203489-001S
Batch QCD2	K1203532-018D
Batch QCS2	K1203532-018S
Outfall A	K1203695-001
Outfall B	K1203695-002
Method Blank	K1203695-MB

Comments:

Approved By: 3C

Date: 5/8/12

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project No.:	1053-02	**Date Collected:**	4/19/2012
Project Name:	T2 Storm water Project	**Date Received:**	4/20/2012
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: Outfall A **Lab Code:** K1203695-001

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Cadmium	6020A	0.020	0.005	1.0	04/23/12	04/26/12	0.049		
Chromium	6020A	0.20	0.02	1.0	04/23/12	04/26/12	0.88		
Copper	6020A	0.10	0.02	1.0	04/23/12	04/27/12	4.38		
Lead	6020A	0.020	0.005	1.0	04/23/12	04/26/12	1.050		
Mercury	7470A	0.20	0.02	1.0	04/27/12	04/30/12	0.02	U	
Zinc	6020A	0.5	0.2	1.0	04/23/12	04/26/12	30.1		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project No.:	1053-02	**Date Collected:**	4/19/2012
Project Name:	T2 Storm water Project	**Date Received:**	4/20/2012
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: Outfall B **Lab Code:** K1203695-002

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Cadmium	6020A	0.020	0.005	1.0	04/23/12	04/26/12	0.064		
Chromium	6020A	0.20	0.02	1.0	04/23/12	04/26/12	0.32		
Copper	6020A	0.10	0.02	1.0	04/23/12	04/27/12	3.99		
Lead	6020A	0.020	0.005	1.0	04/23/12	04/26/12	0.431		
Mercury	7470A	0.20	0.02	1.0	04/27/12	04/30/12	0.02	U	
Zinc	6020A	0.5	0.2	1.0	04/23/12	04/26/12	59.3		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project No.:	1053-02	**Date Collected:**	
Project Name:	T2 Storm water Project	**Date Received:**	
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: Method Blank **Lab Code:** K1203695-MB

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Cadmium	6020A	0.020	0.005	1.0	04/23/12	04/26/12	0.005	U	
Chromium	6020A	0.20	0.02	1.0	04/23/12	04/26/12	0.02	U	
Copper	6020A	0.10	0.02	1.0	04/23/12	04/27/12	0.02	U	
Lead	6020A	0.020	0.005	1.0	04/23/12	04/26/12	0.005	U	
Mercury	7470A	0.20	0.02	1.0	04/27/12	04/30/12	0.02	U	
Zinc	6020A	0.5	0.2	1.0	04/23/12	04/26/12	0.2	U	

Comments:

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

ICV Source: Inorganic Ventures CCV Source: CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Cadmium	12.5	13.0	104	25.0	24.9	100	24.5	98	6020A
Chromium	10.0	10.0	100	25.0	24.2	97	24.0	96	6020A
Copper	12.5	13.0	104	25.0	25.1	100	24.5	98	6020A
Lead	25.0	25.2	101	25.0	24.5	98	24.3	97	6020A
Mercury	5.00	4.97	99	5.00	4.98	100	4.98	100	7470A
Zinc	25.0	25.4	102	25.0	24.2	97	24.0	96	6020A

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

ICV Source: Inorganic Ventures CCV Source: CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Cadmium				25.0	24.7	99	24.9	100	6020A
Chromium				25.0	24.1	96	23.8	95	6020A
Copper				25.0	24.5	98	24.2	97	6020A
Lead				25.0	24.3	97	24.1	96	6020A
Mercury				5.00	5.09	102			7470A
Zinc				25.0	23.8	95	24.0	96	6020A

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

ICV Source: Inorganic Ventures CCV Source: CAS MIXED

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					Method
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Cadmium				25.0	25.1	100	25.4	102	6020A
Chromium				25.0	23.7	95	24.1	96	6020A
Copper				25.0	23.9	96	23.4	94	6020A
Lead				25.0	24.2	97	24.6	98	6020A
Zinc				25.0	23.6	94	24.0	96	6020A

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

ICV Source: Inorganic Ventures CCV Source: CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Copper				25.0	24.3	97			6020A

Metals

- 2a -

LOW LEVEL INITIAL CALIBRATION AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **SDG No.:** K1203695

Contract: 1053-02 **Lab Code:** CASK **Case No.:** **SAS No.:**

Initial Calibration Source: Inorganic Ventures

Continuing Calibration Source: CAS MIXED

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV1									
	Cadmium	0.020	0.02	100	70.0 - 130.0	MS	4/26/2012	15:28	042612BMS
	Chromium	0.20	0.20	100	70.0 - 130.0	MS	4/26/2012	15:28	042612BMS
	Lead	0.019	0.02	95	70.0 - 130.0	MS	4/26/2012	15:28	042612BMS
	Zinc	0.48	0.50	96	70.0 - 130.0	MS	4/26/2012	15:28	042612BMS
LLCCV1									
	Cadmium	0.017	0.02	85	70.0 - 130.0	MS	4/26/2012	23:47	042612BMS
	Chromium	0.17	0.20	85	70.0 - 130.0	MS	4/26/2012	23:47	042612BMS
	Lead	0.022	0.02	110	70.0 - 130.0	MS	4/26/2012	23:47	042612BMS
	Zinc	0.47	0.50	94	70.0 - 130.0	MS	4/26/2012	23:47	042612BMS
LLICV1									
	Copper	0.11	0.10	110	70.0 - 130.0	MS	4/27/2012	09:04	042712AMS
LLCCV1									
	Copper	0.12	0.10	120	70.0 - 130.0	MS	4/27/2012	10:02	042712AMS
LLCCV2									
	Copper	0.11	0.10	110	70.0 - 130.0	MS	4/27/2012	11:32	042712AMS
LLCCV3									
	Copper	0.12	0.10	120	70.0 - 130.0	MS	4/27/2012	12:13	042712AMS

Metals

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Mercury	0.20	0.21	105					

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Cadmium	0.005	U	0.005	U	0.005	U	0.005	U	6020A
Chromium	0.02	U	0.02	U	0.02	U	0.02	U	6020A
Copper	0.02	U	0.02	U	0.02	U	0.02	U	6020A
Lead	0.005	U	0.005	U	0.005	U	0.005	U	6020A
Mercury	0.02	U	0.02	U	0.02	U	0.02	U	7470A
Zinc	0.20	U	0.20	U	0.20	U	0.20	U	6020A

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Cadmium			0.005	U	0.005	U	0.005	U	6020A
Chromium			0.02	U	-0.03	J	-0.03	J	6020A
Copper			0.02	U	0.02	U	0.02	U	6020A
Lead			0.005	U	0.005	U	0.005	U	6020A
Zinc			0.20	U	0.20	U	0.20	U	6020A

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Copper			0.02	U					6020A

Metals

ICP INTERFERENCE CHECK SAMPLE

Client: Ash Creek Associates, Inc. Service Request: K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

ICP ID Number: K-ICP-MS-03 ICS Source: Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Cadmium		25.00		24.80	99			
Chromium		50.00		48.15	96			
Copper		50	0.44	48.1	96			
Lead				0.07				
Zinc		25		23.7	95			

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm water Project **Basis:** NA

Matrix: WATER

Sample Name: Batch QCS1 **Lab Code:** K1203489-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	76 - 126	0.95		0.02	U	1.00	95.0		7470A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm water Project **Basis:** NA

Matrix: WATER

Sample Name: Batch QCS2 **Lab Code:** K1203532-018S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Cadmium	87 - 113	25.4		0.005	U	25.00	101.6		6020A
Chromium	76 - 115	9.53		0.51		10.00	90.2		6020A
Copper	74 - 114	12.1		0.17		12.50	95.4		6020A
Lead	76 - 117	47.8		0.012	J	50.00	95.6		6020A
Zinc	65 - 126	24.0		0.8		25.00	92.8		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5B -
POST SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm water Project **Basis:** NA

Matrix: WATER

Sample Name: Batch QCA1 **Lab Code:** K1203489-001A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	85 - 115	0.95		0.02		1.00	95		7470A

Metals

- 5B -
POST SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm water Project **Basis:** NA

Matrix: WATER

Sample Name: Batch QCA3 **Lab Code:** K1203627-001A

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Cadmium	80 - 120	19.773		0.005		20.0	99		6020A
Chromium	80 - 120	17.70		0.30		20.0	87		6020A
Copper	80 - 120	19.13		0.30		20.0	94		6020A
Lead	80 - 120	18.751		0.082		20.0	93		6020A
Zinc	80 - 120	18.74		0.61		20.0	91		6020A

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm water Project **Basis:** NA

Matrix: WATER

Sample Name: Batch QCD1 **Lab Code:** K1203489-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.02	U	0.02	U			7470A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. Service Request: K1203695

Project No.: 1053-02 Units: UG/L

Project Name: T2 Storm water Project Basis: NA

Matrix: WATER

Sample Name: Batch QCD2 Lab Code: K1203532-018D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Cadmium		0.005	U	0.005	U			6020A
Chromium		0.51		0.51		0.0		6020A
Copper		0.17		0.16		6.1		6020A
Lead		0.012	J	0.010	J	18.2		6020A
Zinc		0.8		0.8		0.0		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

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LABORATORY CONTROL SAMPLE

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	C	Limits	%R
Cadmium	25.0	25.6	102.4					
Chromium	10.0	9.60	96.0					
Copper	12.5	13.2	105.6					
Lead	50.0	49.2	98.4					
Mercury	5.0	4.86	97.2					
Zinc	25.0	24.1	96.4					

Metals

- 9 -

ICP SERIAL DILUTIONS

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm water Project

Sample Name: Batch QCL3 **Lab Code:** K1203627-001L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Cadmium	0.005	U	0.025	U			MS
Chromium	0.30		0.23	J	23		MS
Copper	0.30		0.36	J	20		MS
Lead	0.082		0.089	J	9		MS
Zinc	0.61		1.34	J	120		MS

Metals

- 10 -

DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

ICP/ICP-MS ID #:

GFAA ID #: **AA ID #:** **K-CVAA-01**

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Mercury	253.70		0.2	0.02	CV

Comments:

Metals

- 10 -

DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

ICP/ICP-MS ID #: K-ICP-MS-03

GFAA ID #: **AA ID #:**

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Cadmium	111		0.020	0.005	MS
Chromium	52		0.20	0.020	MS
Copper	65		0.10	0.02	MS
Lead	208		0.020	0.005	MS
Zinc	66		0.5	0.2	MS

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

ICP ID Number: K-ICP-MS-03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Cadmium	15.000	2000	6020A
Chromium	15.000	2000	6020A
Copper	15.000	2000	6020A
Lead	15.000	2000	6020A
Zinc	15.000	2000	6020A

Comments:

Metals
-13-
PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

Method: CV

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
K1203489-001D	4/27/2012	20.0	20.0
K1203489-001S	4/27/2012	20.0	20.0
K1203695-001	4/27/2012	20.0	20.0
K1203695-002	4/27/2012	20.0	20.0
K1203695-MB	4/27/2012	20.0	20.0
LCSW	4/27/2012	20.0	20.0

Metals
-13-
PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02

Project Name: T2 Storm water Project

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume (mL)
K1203532-018D	4/23/2012	50.0	50.0
K1203532-018S	4/23/2012	50.0	50.0
K1203695-001	4/23/2012	50.0	50.0
K1203695-002	4/23/2012	50.0	50.0
K1203695-MB	4/23/2012	50.0	50.0
LCSW	4/23/2012	50.0	50.0

COLUMBIA ANALYTICAL SERV
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Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. Service Request: K1203695

Project No.: 1053-02 Run Number: 042612BMS03

Project Name: T2 Storm water Project

Instrument ID Number: K-ICP-MS-03 Method: MS

Start Date: 4/26/2012 End Date: 4/26/2012

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal. Blk	1.00	14:37							X		X				X											X	
Cal. Stn	1.00	14:41							X		X				X											X	
ICV1	1.00	14:45							X		X				X											X	
CCV1	1.00	14:51							X		X				X											X	
ICB1	1.00	15:03							X		X				X											X	
CCB1	1.00	15:08							X		X				X											X	
LLICV1	1.00	15:28							X		X				X											X	
ICS-A1	1.00	15:32																									
ICS-AB1	1.00	15:37							X		X				X											X	
ZZZZZZ	1.00	15:53																									
ZZZZZZ	1.00	16:00																									
ZZZZZZ	1.00	16:06																									
ZZZZZZ	5.00	16:12																									
ZZZZZZ	1.00	16:17																									
ZZZZZZ	1.00	16:27																									
ZZZZZZ	1.00	16:38																									
ZZZZZZ	1.00	16:47																									
ZZZZZZ	1.00	16:52																									
CCV2	1.00	17:03							X		X				X											X	
CCB2	1.00	17:15							X		X				X											X	
ZZZZZZ	1.00	17:20																									
ZZZZZZ	1.00	17:25																									
ZZZZZZ	5.00	17:30																									
ZZZZZZ	1.00	17:34																									
ZZZZZZ	1.00	17:44																									
ZZZZZZ	1.00	17:54																									
ZZZZZZ	1.00	17:59																									
ZZZZZZ	1.00	18:04																									
ZZZZZZ	1.00	18:14																									
ZZZZZZ	1.00	18:19																									
CCV3	1.00	18:24							X		X				X											X	
CCB3	1.00	18:35							X		X				X											X	

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

COLUMBIA ANALYTICAL SERV
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Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Run Number:** 042612BMS03

Project Name: T2 Storm water Project

Instrument ID Number: K-ICP-MS-03 **Method:** MS

Start Date: 4/26/2012 **End Date:** 4/26/2012

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	5.00	19:03																									
ZZZZZZ	1.00	19:08																									
ZZZZZZ	1.00	19:18																									
ZZZZZZ	1.00	19:29																									
K1203695-MB	1.00	19:34							X		X				X											X	
LCSW	1.00	19:39							X		X				X											X	
ZZZZZZ	1.00	19:50																									
K1203532-018D	1.00	19:56							X		X				X											X	
K1203532-018S	1.00	20:02							X		X				X											X	
CCV4	1.00	20:11							X		X				X											X	
CCB4	1.00	20:23							X		X				X											X	
ZZZZZZ	1.00	20:28																									
K1203627-001L	5.00	20:34							X		X				X											X	
K1203627-001A	1.00	20:39							X		X				X											X	
ZZZZZZ	1.00	20:49																									
ZZZZZZ	1.00	20:54																									
ZZZZZZ	1.00	21:00																									
ZZZZZZ	1.00	21:06																									
ZZZZZZ	1.00	21:11																									
ZZZZZZ	1.00	21:16																									
ZZZZZZ	1.00	21:21																									
CCV5	1.00	21:26							X		X				X											X	
ZZZZZZ	1.00	21:36																									
CCB5	1.00	22:06							X		X				X											X	
ZZZZZZ	1.00	22:16																									
ZZZZZZ	1.00	22:22																									
K1203695-001	1.00	22:27							X		X				X											X	
K1203695-002	1.00	22:32							X		X				X											X	
CCV6	1.00	22:37							X		X				X											X	
ZZZZZZ	1.00	22:48																									
CCB6	1.00	23:19							X		X				X											X	
ZZZZZZ	1.00	23:43																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Run Number:** 042612BMS03

Project Name: T2 Storm water Project

Instrument ID Number: K-ICP-MS-03 **Method:** MS

Start Date: 4/26/2012 **End Date:** 4/26/2012

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
LLCCV1	1.00	23:47							X		X				X											X	

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COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. Service Request: K1203695

Project No.: 1053-02 Run Number: 042712AMS03

Project Name: T2 Storm water Project

Instrument ID Number: K-ICP-MS-03 Method: MS

Start Date: 4/27/2012 End Date: 4/27/2012

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal. Blk	1.00	08:49											X														
Cal. Stn	1.00	08:52											X														
ICV1	1.00	08:54											X														
CCV1	1.00	08:57											X														
ICB1	1.00	08:59											X														
CCB1	1.00	09:01											X														
LLICV1	1.00	09:04											X														
ICS-A1	1.00	09:06											X														
ICS-AB1	1.00	09:09											X														
ZZZZZZ	1.00	09:11																									
ZZZZZZ	1.00	09:14																									
ZZZZZZ	1.00	09:16																									
ZZZZZZ	1.00	09:18																									
ZZZZZZ	5.00	09:21																									
ZZZZZZ	1.00	09:23																									
ZZZZZZ	1.00	09:26																									
ZZZZZZ	1.00	09:28																									
ZZZZZZ	1.00	09:31																									
CCV2	1.00	09:33											X														
CCB2	1.00	09:35											X														
ZZZZZZ	1.00	09:38																									
ZZZZZZ	1.00	09:40																									
ZZZZZZ	5.00	09:43																									
ZZZZZZ	1.00	09:45																									
ZZZZZZ	1.00	09:48																									
ZZZZZZ	1.00	09:50																									
K1203695-MB	1.00	09:52											X														
LCSW	1.00	09:55											X														
CCV3	1.00	09:57											X														
CCB3	1.00	10:00											X														
LLCCV1	1.00	10:02											X														
ZZZZZZ	1.00	10:05																									

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COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Run Number:** 042712AMS03

Project Name: T2 Storm water Project

Instrument ID Number: K-ICP-MS-03 **Method:** MS

Start Date: 4/27/2012 **End Date:** 4/27/2012

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
K1203532-018D	1.00	10:07											X														
K1203532-018S	1.00	10:09											X														
ZZZZZZ	00.00	10:12																									
ZZZZZZ	00.00	10:14																									
ZZZZZZ	00.00	10:17																									
ZZZZZZ	1.00	10:19																									
K1203627-001L	5.00	10:22											X														
K1203627-001A	1.00	10:24											X														
CCV4	1.00	10:27											X														
CCB4	1.00	10:37											X														
ZZZZZZ	1.00	10:40																									
ZZZZZZ	5.00	10:42																									
ZZZZZZ	1.00	10:45																									
ZZZZZZ	1.00	10:47																									
ZZZZZZ	1.00	10:50																									
ZZZZZZ	1.00	10:52																									
ZZZZZZ	1.00	10:55																									
ZZZZZZ	1.00	10:57																									
ZZZZZZ	1.00	11:00																									
ZZZZZZ	1.00	11:02																									
CCV5	1.00	11:05											X														
CCB5	1.00	11:24											X														
LLCCV2	1.00	11:32											X														
ZZZZZZ	1.00	11:34																									
ZZZZZZ	1.00	11:36																									
ZZZZZZ	00.00	11:39																									
ZZZZZZ	00.00	11:41																									
ZZZZZZ	00.00	11:44																									
ZZZZZZ	00.00	11:46																									
ZZZZZZ	00.00	11:48																									
ZZZZZZ	00.00	11:51																									
ZZZZZZ	00.00	11:53																									

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Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Run Number:** 042712AMS03

Project Name: T2 Storm water Project

Instrument ID Number: K-ICP-MS-03 **Method:** MS

Start Date: 4/27/2012 **End Date:** 4/27/2012

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	00.00	11:56																									
CCV6	1.00	11:58											X														
CCB6	1.00	12:01											X														
K1203695-001	1.00	12:03											X														
K1203695-002	1.00	12:06											X														
CCV7	1.00	12:08											X														
CCB7	1.00	12:10											X														
LLCCV3	1.00	12:13											X														
ZZZZZZ	1.00	12:15																									

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COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1203695

Project No.: 1053-02 **Run Number:** 043012B

Project Name: T2 Storm water Project

Instrument ID Number: K-CVAA-01 **Method:** CV

Start Date: 4/30/2012 **End Date:** 4/30/2012

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Standard #1	1.00	13:13																X									
Standard #2	1.00	13:15																X									
Standard #3	1.00	13:16																X									
Standard #4	1.00	13:18																X									
Standard #5	1.00	13:20																X									
ICV1	1.00	13:22																X									
ICB1	1.00	13:24																X									
CRDL1	1.00	13:25																X									
CCV1	1.00	13:27																X									
CCB1	1.00	13:29																X									
K1203695-MB	1.00	13:31																X									
LCSW	1.00	13:32																X									
ZZZZZZ	1.00	13:34																									
K1203489-001A	1.00	13:36																X									
K1203489-001D	1.00	13:38																X									
K1203489-001S	1.00	13:40																X									
ZZZZZZ	1.00	13:41																									
ZZZZZZ	1.00	13:43																									
ZZZZZZ	1.00	13:45																									
K1203695-001	1.00	13:47																X									
CCV2	1.00	13:48																X									
CCB2	1.00	13:50																X									
K1203695-002	1.00	13:52																X									
ZZZZZZ	1.00	13:54																									
ZZZZZZ	1.00	13:56																									
ZZZZZZ	1.00	13:57																									
ZZZZZZ	1.00	13:59																									
ZZZZZZ	1.00	14:01																									
ZZZZZZ	1.00	14:03																									
ZZZZZZ	1.00	14:05																									
ZZZZZZ	1.00	14:14																									
ZZZZZZ	1.00	14:22																									

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Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. Service Request: K1203695

Project No.: 1053-02 Run Number: 043012B

Project Name: T2 Storm water Project

Instrument ID Number: K-CVAA-01 Method: CV

Start Date: 4/30/2012 End Date: 4/30/2012

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCV3	1.00	14:31																X									
CCB3	1.00	14:33																X									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: _____ NRAS No. _____ SDG NO.: K1203695

ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 04/26/2012 End Date: 04/26/2012

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Li_6	Q	Element Sc_45	Q	Element Ga_71	Q	Element Rh_103	Q	Element In_115	Q	Element Lu_175	Q
Cal. Blk	Cal. Blk	1437			100		100		100		100		100	
Cal. Stn	Cal. Stn	1441			102		101		101		101		100	
ICV1	ICV1	1445			101		101		101		101		102	
CCV1	CCV1	1451			100		99		100		101		103	
ICB1	ICB1	1503			98		98		98		98		99	
CCB1	CCB1	1508			98		98		99		100		101	
LLICV1	LLICV1	1528			98		99		100		100		101	
ICS-A1	ICSA	1532												
ICS-AB1	ICSAB	1537			97		94		92		97		101	
ZZZZZZ	ZZZZZZ	1553												
ZZZZZZ	ZZZZZZ	1600												
ZZZZZZ	ZZZZZZ	1606												
ZZZZZZ	ZZZZZZ	1612												
ZZZZZZ	ZZZZZZ	1617												
ZZZZZZ	ZZZZZZ	1627												
ZZZZZZ	ZZZZZZ	1638												
ZZZZZZ	ZZZZZZ	1647												
ZZZZZZ	ZZZZZZ	1652												
CCV2	CCV2	1703			103		102		103		105		106	
CCB2	CCB2	1715			100		100		101		102		103	
ZZZZZZ	ZZZZZZ	1720												
ZZZZZZ	ZZZZZZ	1725												
ZZZZZZ	ZZZZZZ	1730												
ZZZZZZ	ZZZZZZ	1734												
ZZZZZZ	ZZZZZZ	1744												
ZZZZZZ	ZZZZZZ	1754												
ZZZZZZ	ZZZZZZ	1759												
ZZZZZZ	ZZZZZZ	1804												
ZZZZZZ	ZZZZZZ	1814												
ZZZZZZ	ZZZZZZ	1819												
CCV3	CCV3	1824			102		102		103		106		107	
CCB3	CCB3	1835			98		99		99		101		103	
ZZZZZZ	ZZZZZZ	1903												
ZZZZZZ	ZZZZZZ	1908												
ZZZZZZ	ZZZZZZ	1918												
ZZZZZZ	ZZZZZZ	1929												
K1203695-MB	Method Blank	1934			93		99		101		104		108	
LCSW	LCSW	1939			97		100		101		105		110	
ZZZZZZ	ZZZZZZ	1950												
K1203532-018D	Batch QCD2	1956			99		89		88		93		98	
K1203532-018S	Batch QCS2	2002			97		88		87		92		99	
CCV4	CCV4	2011			86		89		92		95		102	
CCB4	CCB4	2023			86		88		90		93			
ZZZZZZ	ZZZZZZ	2028												

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: _____ NRAS No. _____ SDG NO.: K1203695

ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 04/26/2012 End Date: 04/26/2012

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Li_6	Q	Element Sc_45	Q	Element Ga_71	Q	Element Rh_103	Q	Element In_115	Q	Element Lu_175	Q
K1203627-001L	Batch QCL3	2034			84		86		87		92		100	
K1203627-001A	Batch QCA3	2039			87		83		84		90		99	
ZZZZZZ	ZZZZZZ	2049												
ZZZZZZ	ZZZZZZ	2054												
ZZZZZZ	ZZZZZZ	2100												
ZZZZZZ	ZZZZZZ	2106												
ZZZZZZ	ZZZZZZ	2111												
ZZZZZZ	ZZZZZZ	2116												
ZZZZZZ	ZZZZZZ	2121												
CCV5	CCV5	2126			78		84		86		90		99	
ZZZZZZ	ZZZZZZ	2136												
CCB5	CCB5	2206			77		83		84		89		99	
ZZZZZZ	ZZZZZZ	2216												
ZZZZZZ	ZZZZZZ	2222												
K1203695-001	Outfall A	2227			77		83		84		90		99	
K1203695-002	Outfall B	2232			77		82		84		89		99	
CCV6	CCV6	2237			76		82		84		90		99	
ZZZZZZ	ZZZZZZ	2248												
CCB6	CCB6	2319			77		81		83		87			
ZZZZZZ	ZZZZZZ	2343												
LLCCV1	LLCCV1	2347			77		82		84		89		97	

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: _____ NRAS No. _____ SDG NO.: K1203695

ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 04/27/2012 End Date: 04/27/2012

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Li_6	Q	Element Sc_45	Q	Element Ga_71	Q	Element	Q	Element	Q	Element	Q
Cal. Blk	Cal. Blk	0849	100		100		100							
Cal. Stn	Cal. Stn	0852	100		100		98							
ICV1	ICV1	0854												
CCV1	CCV1	0857	103		102		98							
ICB1	ICB1	0859												
CCB1	CCB1	0901												
LLICV1	LLICV1	0904												
ICS-A1	ICSA	0906												
ICS-AB1	ICSAB	0909												
ZZZZZZ	ZZZZZZ	0911												
ZZZZZZ	ZZZZZZ	0914												
ZZZZZZ	ZZZZZZ	0916												
ZZZZZZ	ZZZZZZ	0918												
ZZZZZZ	ZZZZZZ	0921												
ZZZZZZ	ZZZZZZ	0923												
ZZZZZZ	ZZZZZZ	0926												
ZZZZZZ	ZZZZZZ	0928												
ZZZZZZ	ZZZZZZ	0931												
CCV2	CCV2	0933	112		107		103							
CCB2	CCB2	0935												
ZZZZZZ	ZZZZZZ	0938												
ZZZZZZ	ZZZZZZ	0940												
ZZZZZZ	ZZZZZZ	0943												
ZZZZZZ	ZZZZZZ	0945												
ZZZZZZ	ZZZZZZ	0948												
ZZZZZZ	ZZZZZZ	0950												
K1203695-MB	Method Blank	0952	106		100		100							
LCSW	LCSW	0955	105		103		99							
CCV3	CCV3	0957	107		103		101							
CCB3	CCB3	1000												
LLCCV1	LLCCV1	1002												
ZZZZZZ	ZZZZZZ	1005												
K1203532-018D	Batch QCD2	1007	88		103		89							
K1203532-018S	Batch QCS2	1009	90		99		87							
ZZZZZZ	ZZZZZZ	1012												
ZZZZZZ	ZZZZZZ	1014												
ZZZZZZ	ZZZZZZ	1017												
ZZZZZZ	ZZZZZZ	1019												
K1203627-001L	Batch QCL3	1022	93		91		88							
K1203627-001A	Batch QCA3	1024	89		96		84							
CCV4	CCV4	1027	95		89		88							
CCB4	CCB4	1037												
ZZZZZZ	ZZZZZZ	1040												
ZZZZZZ	ZZZZZZ	1042												

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: _____ NRAS No. _____ SDG NO.: K1203695

ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 04/27/2012 End Date: 04/27/2012

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Li_6	Q	Element Sc_45	Q	Element Ga_71	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	ZZZZZZ	1045												
ZZZZZZ	ZZZZZZ	1047												
ZZZZZZ	ZZZZZZ	1050												
ZZZZZZ	ZZZZZZ	1052												
ZZZZZZ	ZZZZZZ	1055												
ZZZZZZ	ZZZZZZ	1057												
ZZZZZZ	ZZZZZZ	1100												
ZZZZZZ	ZZZZZZ	1102												
CCV5	CCV5	1105	85		85		85							
CCB5	CCB5	1124												
LLCCV2	LLCCV2	1132												
ZZZZZZ	ZZZZZZ	1134												
ZZZZZZ	ZZZZZZ	1136												
ZZZZZZ	ZZZZZZ	1139												
ZZZZZZ	ZZZZZZ	1141												
ZZZZZZ	ZZZZZZ	1144												
ZZZZZZ	ZZZZZZ	1146												
ZZZZZZ	ZZZZZZ	1148												
ZZZZZZ	ZZZZZZ	1151												
ZZZZZZ	ZZZZZZ	1153												
ZZZZZZ	ZZZZZZ	1156												
CCV6	CCV6	1158	87		81		83							
CCB6	CCB6	1201												
K1203695-001	Outfall A	1203	85		80		82							
K1203695-002	Outfall B	1206	88		82		83							
CCV7	CCV7	1208	83		78		81							
CCB7	CCB7	1210												
LLCCV3	LLCCV3	1213												
ZZZZZZ	ZZZZZZ	1215												

Columbia Analytical Services™ **Preparation Information Benchsheet**

Prep Run:	156260	**Prep Workflow**:	MetDigAqMS	**Status**:	Prepped	**Prep Date**:	04/23/2012 14:30
Team:	Metals	**Prep Method**:	EPA CLP-METALS ILM04.0	**Current Step**:	Digestion	**Due Date**:	05/04/2012
Analyst:	E. McAllister	**Rush/NPDES**:	NPDES			**Hold Date**:	10/15/2012

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1204331-02	Method Blank		50 mL	50 mL			Metals T	1% HNO3 ULTREX
KQ1204331-01	Lab Control Sample		50 mL	50 mL	0.1 mL 0.5 mL 0.5 mL 0.5 mL 0.1 mL	38538 41363 41366 41367 43384	Metals T	1% HNO3 ULTREX
K1203532-018	MW-129-I-0412	.41	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203532-018: KQ1204331-03	Duplicate	.41	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203532-018: KQ1204331-04	Matrix Spike	.41	50 mL	50 mL	0.1 mL 0.5 mL 0.5 mL 0.5 mL 0.1 mL	38538 41363 41366 41367 43384	Metals T	1% HNO3 ULTREX
K1203532-019	MW-114-I-1-0412	.41	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203532-020	MW-130-I-0412	.41	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203532-021	MW-128-I-0412	.41	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203532-022	Field Blank#2-0412	.41	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203627-001	MW-08	.21	50 mL	50 mL			Metals D	1% HNO3 ULTREX
K1203627-001	MW-08	.16	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203627-002	MW-24	.22	50 mL	50 mL			Metals D	1% HNO3 ULTREX
K1203627-002	MW-24	.16	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203627-003	MW-23	.23	50 mL	50 mL			Metals D	1% HNO3 ULTREX
K1203627-003	MW-23	.16	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203627-004	MW-09	.24	50 mL	50 mL			Metals D	1% HNO3 ULTREX
K1203627-004	MW-09	.16	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203627-005	MW-12	.26	50 mL	50 mL			Metals D	1% HNO3 ULTREX
K1203627-005	MW-12	.16	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203695-001	Outfall A	.07	50 mL	50 mL			Metals T	1% HNO3 ULTREX
K1203695-002	Outfall B	.07	50 mL	50 mL			Metals T	1% HNO3 ULTREX

16 Total Samples consisting of 12 Client Samples, 2 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires
K-met Mo 10ppm	Spike	38538	6/18/2012
K-met U 10ppm	Spike	43384	10/12/2012
k-met 1/100 QCP CICV-1	Spike	41363	8/27/2012
k-met 1/100 QCP-CICV-2	Spike	41366	8/27/2012
k-met 1/100 QCP-CICV-3	Spike	41367	8/27/2012

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET 50ml Centrifuge Tube	36024	Digestion	K-MET HNO3 ULTREX	43387

Preparation Hardware / Equipment

Step	Name	Property	Value	
Digestion	K-BlockDigester-05	Temperature Thermometer 104427	98	deg C

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	23-APR-12 14:30	23-APR-12 19:00	E. McAllister		N	

Comments

Review

Reviewed by: _____ Date: 4/24/12

ICPMS LCSW AND SPIKING SOLUTIONS

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-1

k-met 1/100 QCP-CCV-1

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Al	10000	100
Ba	10000	100
Co	2500	25
Mn	2500	25
Ni	2500	25
V	2500	25
Zn	2500	25
Cu	1250	12.5
Ag	1250	12.5
Cr	1000	10
Be	250	2.5

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-2

k-met 1/100 QCP-CICV-2

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Sb	5000	50

5.00mL to 500mL Dilution of Inorganics Ventures QCP-CICV-3

k-met 1/100 QCP-CICV-3

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
As	5000	50
Pb	5000	50
Se	5000	50
Tl	5000	50
Cd	2500	25

1.00mL to 100mL Dilution of Inorganic Ventures 1,000 ppm Mo

k-met Mo 10ppm

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
Mo	10000	20

5.00mL to 500mL Dilution of High Purity 1,000 ppm U

k-met U 10ppm

Analyte	Concentration in solution (ppb)	Concentration in digest (ppb)
U	10000	20

CVAA Mercury Data Review Form

K-CVAA-02

Element: Hg

Analysis Lot #: 043012B HG1

Starlims # 289719

Cal. STD/CCV Source: HG2-13-S

Service Request Numbers:

K1203489, K1203559, K1203676, K1203695, K1203724, K1203808, K1203634
T1200605

	Yes	No	NA
1) Appropriate standardization completed	X		
2) ICV within 10% of true value	X		
3) CCVs in control	X		
4) CCBs and or ICBs below MRL	X		
5) CCV/CCB check run every 10 samples	X		
6) All reported samples within calibration range	X		
7) Calculations correct	X		

Comments:

Data reviewed against service request(s) to ensure no samples were omitted: AEM (Initials)

Primary Reviewed By: AEM Date: 5/1/12

Secondary Reviewed By: JDB Date: 5/2/12

COLUMBIA ANALYTICAL SERVICES, INC. PRINTOUT WITH:_____
ANALYTICAL WORKSHEET

Method: (Circle One) 7470A 7471B 245.1	Service Request # :
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
1	Cal. Blk.	0.00	50	~	0.00		0.00
2	Std 0.2	*0.1	50	~	0.20		0.20
3	Std 0.5	*0.25	50	~	0.50		0.50
4	Std 1.0	*0.5	50	~	1.00		1.00
5	Std 5.0	*2.5	50	~	5.00		5.00
6	Std 10.0	*5.0	50	~	10.00		10.00
7	ICV1	~	~	~	4.970		99%
8	ICB1	~	~	~	0.000		< 0.2
9	CRA1	~	~	~	0.210		105%
10	CCV1	~	~	~	4.980		100%
11	CCB1	~	~	~	-0.010		< 0.2
12	K1203489-MB	20	20	~	0.000		0.000
13	LCSW K1203489	20	20	~	4.860		97%
14	K1203489-001	20	20	~	-0.010		-0.010
15	K1203489-001A	20	20	~	0.950		95%
16	K1203489-001D	20	20	~	0.000		0.000
17	K1203489-001S	20	20	~	0.950		95%
18	K1203559-001	20	20	~	0.010		0.010
19	K1203676-001	7.005	20	~	2.630	0.008	7.509
20	K1203676-002	6.977	20	~	5.200	0.015	14.906
21	K1203695-001	20	20	~	-0.010		-0.010
22	CCV2	~	~	~	4.980		100%
23	CCB2	~	~	~	-0.010		< 0.2
24	K1203695-002	20	20	~	0.000		0.000
25	K1203724-001	20	20	~	0.000		0.000

Comments: Reporting Levels: Cal. Inter. Std* (100ppb)_HG2-13-S___
Soil/Tissue Spike Level: 2nd Source Inter Std** (1ppm)_HG2-12-V_
Post Spike Level: 1.0 ppb

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	80-120%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-130%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	3.73 mg/kg	0.02 mg/kg	72-128%	80-120%	30%
7471A Tissue Tort	0.27 mg/kg	0.02 mg/kg	63-130%	80-120%	30%

Analyst:	Date: 4/30/12	Page Number: 1

[043012B Waters] HG1.XLS

COLUMBIA ANALYTICAL SERVICES, INC.
ANALYTICAL WORKSHEET

PRINTOUT WITH:_____

Method: (Circle One) 7470A 7471B 245.1	Service Request # :
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)	
26	K1203724-002	20	20	~	0.000		0.000	
27	K1203808-001	20	20	~	0.000		0.000	
28	K1203808-002	20	20	~	0.000		0.000	
29	K1203634-MB	20	20	~	1.930		1.930	
30	LCSW K1203634	20	20	~	4.930		99%	
31	~~K1203634-022~~	~~20~~	~~20~~	~~-~~	~~10.600~~		~~10.600~~	AEM 4/30/12
32	~~K1203634-022A~~	~~20~~	~~20~~	~~-~~	~~10.500~~		~~10.500~~	
33	~~K1203634-022D~~	~~20~~	~~20~~	~~-~~	~~10.400~~		~~10.400~~	
34	CCV3	~	~	~	5.090		102%	
35	CCB3	~	~	~	-0.010		< 0.2	
36	~~K1203634-022S~~	~~20~~	~~20~~	~~-~~	~~10.500~~		~~10.500~~	AEM 4/30/12
37	T1200605-MB	20	20	~	0.200		0.200	
38	LCSW T1200605	20	20	~	4.890		98%	
39	T1200605-001	20	20	~	0.010		0.010	
40	T1200605-001A	20	20	~	4.360		87%	
41	T1202605-001D	20	20	~	0.000		0.000	
42	T1200605-001S	20	20	~	5.010		100%	
43	CCV4	~	~	~	5.000		100%	
44	CCB4	~	~	~	0.010		< 0.2	
45	~~K1203634-022 1/100~~	~~20~~	~~20~~	~~100~~	~~10.600~~		~~1060.000~~	AEM 4/30/12
46	K1203634-022 1/500	20	20	500	4.050		2025.000	
47	K1203634-022D 1/500	20	20	500	3.830		5%	
48	K1203634-022S 1/500	20	20	500	3.650		4X	
49	~~K1203634-022 1/500A~~	~~20~~	~~20~~		~~7.820~~		~~7.820~~	AEM 4/30/12
50	~~CCV5~~	~~20~~	~~20~~	~~-~~	~~4.460~~		~~89%~~	

Comments: Reporting Levels:

Soil/Tissue Spike Level:

Post Spike Level: 5ppb

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	80-120%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-130%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	3.73 mg/kg	0.02 mg/kg	72-128%	80-120%	30%
7471A Tissue Tort	0.27 mg/kg	0.02 mg/kg	63-130%	80-120%	30%

Analyst:	Date: 4/30/12	Page Number: 2

[043012B Waters] HG2.XLS

COLUMBIA ANALYTICAL SERVICES, INC.
ANALYTICAL WORKSHEET

PRINTOUT WITH:_____

Method: (Circle One) 7470A 7471B 245.1	Service Request # :
Analysis For: Hg	

DATA

Pos.	SAMPLE NUMBER	Initial Sample (g) or (mL)	Initial Dilution (mL)	Dilution Factor	Measured (µg/L)	Sample Actual (mg/kg)	Sample Actual (µg/L)
51	CCV5	~	~	~	4.890		98%
52	CCB5	~	~	~	-0.200		< 0.2
53	K1203634-022 1/500A	20	20	500	8.570		90%
54	CCV6	~	~	~	4.910		98%
55	CCB6	~	~	~	-0.120		< 0.2
56							
57							
58							
59							
60							
61							
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71							
72							
73							
74							
75							

Comments: Reporting Levels:

Soil/Tissue Spike Level:

Post Spike Level:

Method	Spike Level	MRL	LCS Limit	MS Limit	RPD
7470A Water	1.0 µg/L	0.2 µg/L	83-117%	80-120%	20%
245.1 Water	1.0 µg/L	0.2 µg/L	85-115%	70-130%	20%
7470A TCLP	5.0 µg/L	1.0 µg/L	85-115%	75-125%	20%
7471A Soil LCSS	3.73 mg/kg	0.02 mg/kg	72-128%	80-120%	30%
7471A Tissue Tort	0.27 mg/kg	0.02 mg/kg	63-130%	80-120%	30%

Analyst:	Date: 4/30/12	Page Number: 3

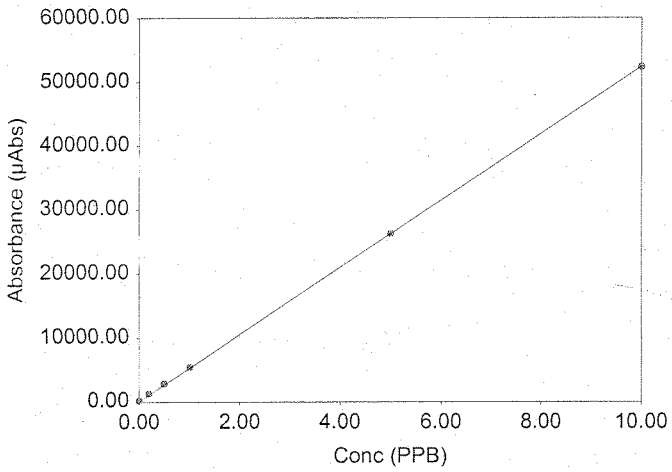
[043012B Waters] HG3.XLS

CETAC Hg Analysis Report - 12043001.DB - Monday, April 30, 2012, 3:48:43 PM

Analyst AMCKORNEY
Date Started Monday, April 30, 2012, 13:11:38
Worksheet 043012B HG1
Comment K-CVAA-01
* All concentrations are dilution corrected.

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
Calibration Zero	30-Apr-2012, 13:11	0.00	0.66	171.00	173	171	170	172	
Standard #1	30-Apr-2012, 13:13	0.20	0.94	1260.00	1240	1255	1266	1265	
Standard #2	30-Apr-2012, 13:15	0.50	0.16	2840.00	2837	2845	2846	2845	
Standard #3	30-Apr-2012, 13:16	1.00	1.16	5450.00	5377	5437	5479	5526	
Standard #4	30-Apr-2012, 13:18	5.00	0.18	26200.00	26187	26238	26272	26296	
Standard #5	30-Apr-2012, 13:20	10.00	0.16	52300.00	52221	52304	52369	52414	

Calibration Data



Int.	0.000
Slope	5239.049
Correlation	0.99996

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICV1	30-Apr-2012, 13:22	4.97	0.15	26100.00	26001	26058	26078	26088	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
ICB1	30-Apr-2012, 13:24	-0.00	8.78	-15.10	-14	-15	-16	-16	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CRA1	30-Apr-2012, 13:25	0.21	0.31	1090.00	1090	1097	1094	1090	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV1	30-Apr-2012, 13:27	4.98	0.10	26100.00	26028	26067	26078	26091	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB1	30-Apr-2012, 13:29	-0.01	1.70	-28.30	-29	-28	-28	-28	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K1203489-MB	30-Apr-2012, 13:31	-0.00	44.50	-2.83	-4	-2	-1	-4	
LCSW K1203489	30-Apr-2012, 13:32	4.86	0.23	25500.00	25389	25448	25487	25528	
K1203489-001	30-Apr-2012, 13:34	-0.01	15.00	-27.60	-30	-32	-25	-24	
K1203489-001A	30-Apr-2012, 13:36	0.95	0.09	4950.00	4948	4953	4956	4958	
K1203489-001D	30-Apr-2012, 13:38	-0.00	28.80	-23.80	-34	-21	-18	-23	
K1203489-001S	30-Apr-2012, 13:40	0.95	0.75	4980.00	4945	4956	4982	5029	
K1203559-001	30-Apr-2012, 13:41	0.01	10.30	64.50	55	68	68	68	
K1203676-001	30-Apr-2012, 13:43	2.63	0.19	13800.00	13747	13775	13790	13810	
K1203676-002	30-Apr-2012, 13:45	5.20	0.21	27200.00	27167	27223	27263	27299	
K1203695-001	30-Apr-2012, 13:47	-0.01	12.30	-27.80	-31	-30	-27	-23	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV2	30-Apr-2012, 13:48	4.98	0.24	26100.00	25986	26073	26122	26121	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB2	30-Apr-2012, 13:50	-0.01	4.83	-41.80	-40	-44	-42	-41	

CETAC Hg Analysis Report - 12043001.DB - Monday, April 30, 2012, 3:48:44 PM

Analyst AMCKORNEY
Date Started Monday, April 30, 2012, 13:52:31
Worksheet 043012B HG1
Comment K-CVAA-01
* All concentrations are dilution corrected.

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K1203695-002	30-Apr-2012, 13:52	-0.00	7.37	-21.70	-23	-19	-22	-22	
K1203724-001	30-Apr-2012, 13:54	-0.00	6.37	-24.10	-26	-25	-24	-22	
K1203724-002	30-Apr-2012, 13:56	-0.00	22.50	-26.00	-35	-23	-22	-24	
K1203808-001	30-Apr-2012, 13:57	-0.00	12.80	-12.30	-14	-11	-11	-13	
K1203808-002	30-Apr-2012, 13:59	-0.00	25.90	-24.20	-33	-22	-22	-19	
K1203634-MB	30-Apr-2012, 14:01	1.93	0.07	10100.00	10093	10100	10108	10107	
LCSW K1203634	30-Apr-2012, 14:03	4.93	0.16	25800.00	25755	25802	25832	25852	
~~K1203634-022~~	~~30-Apr-2012, 14:05~~	~~Sat'd.~~	~~0.00~~	~~55300.00~~	~~55313~~	~~55313~~	~~55313~~	~~55313~~	~~SO~~ See rerun AEM 4/30/12
~~K1203634-022A~~	~~30-Apr-2012, 14:14~~	~~Sat'd.~~	~~0.00~~	~~54900.00~~	~~54907~~	~~54907~~	~~54907~~	~~54907~~	~~SO~~
~~K1203634-022D~~	~~30-Apr-2012, 14:22~~	~~Sat'd.~~	~~0.00~~	~~54700.00~~	~~54701~~	~~54701~~	~~54701~~	~~54701~~	~~SO~~

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV3	30-Apr-2012, 14:31	5.09	0.32	26700.00	26776	26690	26618	26584	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB3	30-Apr-2012, 14:33	-0.01	11.40	-60.60	-53	-57	-65	-68	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
~~K1203634-022S~~	~~30-Apr-2012, 14:35~~	~~Sat'd.~~	~~0.00~~	~~54900.00~~	~~54907~~	~~54907~~	~~54907~~	~~54907~~	~~SO~~ AEM 4/30/12
T1200605-MB	30-Apr-2012, 14:45	0.20	14.50	1040.00	1224	1080	962	879	
LCSW T1200605	30-Apr-2012, 14:47	4.89	0.16	25600.00	25574	25617	25634	25671	
T1200605-001	30-Apr-2012, 14:49	0.01	14.80	55.70	44	59	58	63	
T1200605-001A	30-Apr-2012, 14:51	4.36	0.20	22800.00	22771	22819	22845	22878	
T1202605-001D	30-Apr-2012, 14:52	-0.00	98.70	-17.60	-43	-13	-11	-4	
T1200605-001S	30-Apr-2012, 14:54	5.01	0.27	26300.00	26182	26250	26311	26343	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV4	30-Apr-2012, 14:56	5.00	0.11	26200.00	26142	26155	26175	26209	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB4	30-Apr-2012, 14:58	0.01	17.20	31.90	36	36	30	25	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
~~K1203634-022 1/100~~	~~30-Apr-2012, 15:07~~	~~Sat'd.~~	~~0.00~~	~~55300.00~~	~~55303~~	~~55303~~	~~55303~~	~~55303~~	~~SO~~ AEM 4/30/12
K1203634-022 1/500	30-Apr-2012, 15:13	4.05	0.16	21200.00	21179	21197	21229	21254	
K1203634-022D 1/500	30-Apr-2012, 15:18	3.83	0.11	20100.00	20035	20064	20079	20084	
K1203634-022S 1/500	30-Apr-2012, 15:19	3.65	0.01	19100.00	19100	19104	19101	19103	
K1203634-022 1/500A	30-Apr-2012, 15:21	7.82	0.11	41000.00	40934	40981	41014	41033	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
~~CCV5~~	~~30-Apr-2012, 15:24~~	~~4.46~~	~~0.01~~	~~23400.00~~	~~23381~~	~~23385~~	~~23380~~	~~23379~~	~~Q~~ AEM 4/30/12
CCV5	30-Apr-2012, 15:37	4.89	0.08	25600.00	25648	25616	25596	25611	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB5	30-Apr-2012, 15:39	-0.20	2.85	-1030.00	-993	-1026	-1050	-1058	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
K1203634-022 1/500A	30-Apr-2012, 15:43	8.57	0.16	44900.00	44781	44861	44902	44948	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCV6	30-Apr-2012, 15:45	4.91	0.03	25700.00	25727	25717	25711	25714	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Readings				Flags
CCB6	30-Apr-2012, 15:47	-0.12	4.96	-642.00	-605	-627	-658	-677	

Columbia Analytical Services™ **Preparation Information Benchsheet**

Prep Run: 156642 **Prep Workflow**: HgDigAq **Status**: Prepped **Prep Date**: 04/27/2012 13:30
Team: Metals **Prep Method**: Method **Current Step**: Digestion **Due Date**: 05/04/2012
Analyst: AMCKORNEY **Rush/NPDES**: NPDES **Hold Date**: 03/23/2012

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1204557-01	Method Blank		20 mL	20 mL			Hg T	
KQ1204557-02	Lab Control Sample		20 mL	20 mL	0.1 mL	42766	Hg T	
K1203489-001	R.O./D.I. source water	.10	20 mL	20 mL			Hg T	
K1203489-001: KQ1204557-03	Duplicate	.10	20 mL	20 mL			Hg T	
K1203489-001: KQ1204557-04	Matrix Spike	.10	20 mL	20 mL	0.2 mL	44138	Hg T	
K1203559-001	NPDES discharge renewal	.05	20 mL	20 mL			Hg T	
K1203676-001	Sulf. Acid 50% 2/24	.01	7.005 g	20 mL			Hg T	5mL=7.005g
K1203676-002	Sulf. Acid 50% 4/5	.01	6.977 g	20 mL			Hg T	5mL=6.977g
K1203695-001	Outfall A	.07	20 mL	20 mL			Hg T	
K1203695-002	Outfall B	.07	20 mL	20 mL			Hg T	
K1203724-001	Inffluent	.05	20 mL	20 mL			Hg T	
K1203724-002	Effluent	.05	20 mL	20 mL			Hg T	
K1203808-001	Drumwater042312	.05	20 mL	20 mL			Hg T	
K1203808-002	Drumwater 042012	.05	20 mL	20 mL			Hg T	

14 Total Samples consisting of 10 Client Samples, 2 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET Hg Source Standard 100 ug/L	Spike	44138	4/28/2012	K-MET Hg Source Standard 1000 ug/L	Spike	42766	5/1/2012

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET H2SO4 Hg	30190	Digestion	K-MET K2S2O8 Hg	36040
Digestion	K-MET NACl Hg	32790	Digestion	K-MET KMnO4 Hg	36042
Digestion	K-MET 50ml Centrifuge Tube	36024	Digestion	K-MET NH2OH-HCl Hg	36043
Digestion	K-MET HNO3 Hg	36039	Digestion	K-MET SnCl Hg	36045

Preparation Hardware / Equipment

Step	Name	Property	Value	
Digestion	K-BlockDigester-08	Temperature Thermometer 593173	95	deg C

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	27-APR-12 13:30	27-APR-12 15:30	AMCKORNEY		N	

Comments

CAL. STD/CCV SOURCE: HG2-13-S

Review

Reviewed by: JDB Date: 5/2/12

Columbia Analytical Services™ **Preparation Information Benchsheet**

Prep Run: 156642 **Prep Workflow**: HgDigAq **Status**: Draft **Prep Date**: 04/27/2012 12:53
Team: Metals **Prep Method**: Method **Current Step**: Digestion **Due Date**: 04/25/2012
Analyst: AMCKORNEY **Rush/NPDES**: NPDES **Hold Date**: 03/23/2012

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1204557-01	Method Blank						Hg T	
KQ1204557-02	Lab Control Sample				0.1 mL	42766	Hg T	
K1203489-001	R.O./D.I. source water	.10					Hg T	
K1203489-001: KQ1204557-03	Duplicate	.10					Hg T	
K1203489-001: KQ1204557-04	Matrix Spike	.10			0.2 mL	44138	Hg T	
K1203559-001	NPDES discharge renewal	.05					Hg T	
K1203676-001	Sulf. Acid 50% 2/24	.01					Hg T	5ml = 7.005 g
K1203676-002	Sulf. Acid 50% 4/5	.01					Hg T	5ml = 6.977 g
K1203695-001	Outfall A	.07					Hg T	
K1203695-002	Outfall B	.07					Hg T	
K1203724-001	Inffluent	.05					Hg T	
K1203724-002	Effluent	.05					Hg T	
K1203808-001	Drumwater042312	.05					Hg T	
K1203808-002	Drumwater 042012	.05					Hg T	

14 Total Samples consisting of 10 Client Samples, 2 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

13:30 4/27/12
HG 2-13-S

Spiking Solutions

Name	Type	ID	Expires	Name	Type	ID	Expires
K-MET Hg Source Standard 100 ug/L	Spike	44138	4/28/2012	K-MET Hg Source Standard 1000 ug/L	Spike	42766	5/1/2012

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET H2SO4 Hg	30190	Digestion	K-MET K2S2O8 Hg	36040
Digestion	K-MET NACl Hg	32790	Digestion	K-MET KMnO4 Hg	36042
Digestion	K-MET 50ml Centrifuge Tube	36024	Digestion	K-MET NH2OH-HCl Hg	36043
Digestion	K-MET HNO3 Hg	36039	Digestion	K-MET SnCl Hg	36045

Preparation Hardware / Equipment

Step	Name	Property	Value
Digestion	K-BlockDigester-08	Temperature Thermometer 593173	_____ deg C

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion						

Comments

Columbia Analytical Services™ **Preparation Information Benchsheet**

Prep Run: 156675
Team: Metals
Analyst: AMCKORNEY
Prep Workflow: HgDigLP
Prep Method: Method,
Rush/NPDES: N/A
Status: Prepped
Current Step: Digestion
Prep Date: 04/27/2012 16:00
Due Date: 04/25/2012
Hold Date: 05/24/2012

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1204584-01	Method Blank		20 mL	20 mL			Hg SPLP, Hg TCLP	
KQ1204584-02	Lab Control Sample		20 mL	20 mL	0.1 mL	42765	Hg SPLP, Hg TCLP	
K1203634-022	TCLP-Metals	.03	20 mL	20 mL			Hg TCLP	
K1203634-022: KQ1204584-03	Duplicate	.03	20 mL	20 mL			Hg TCLP	
K1203634-022: KQ1204584-04	Matrix Spike	.03	20 mL	20 mL	0.1 mL	42765	Hg TCLP	
T1200605-001	S-6	.02	20 mL	20 mL			Hg SPLP	
T1200605-001: KQ1204584-05	Duplicate	.02	20 mL	20 mL			Hg SPLP	
T1200605-001: KQ1204584-06	Matrix Spike	.02	20 mL	20 mL	0.1 mL	42765	Hg SPLP	

8 Total Samples consisting of 2 Client Samples, 4 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions

Name	Type	ID	Expires
K-MET Hg Source Soil/TCLP 1000 ug/L	Spike	42765	5/1/2012

Preparation Materials

Step	Name	ID
Digestion	K-MET H2SO4 Hg	30190
Digestion	K-MET NACl Hg	32790
Digestion	K-MET 50ml Centrifuge Tube	36024
Digestion	K-MET HNO3 Hg	36039
Digestion	K-MET K2S2O8 Hg	36040
Digestion	K-MET KMnO4 Hg	36042
Digestion	K-MET NH2OH-HCl Hg	36043
Digestion	K-MET SnCl Hg	36045

Preparation Hardware / Equipment

Step	Name	Property	Value	
Digestion	K-BlockDigester-08	Temperature Thermometer 593173	95	deg C

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion	27-APR-12 16:00	27-APR-12 18:00	AMCKORNEY		N	

Comments

CAL. STD/CCV SOURCE: HG2-13-S

Review

Reviewed by: JDB Date: 5/2/12

Columbia Analytical Services™ **Preparation Information Benchsheet**

Prep Run: 156675 **Prep Workflow**: HgDigLP **Status**: Draft **Prep Date**: 04/27/2012 17:06
Team: Metals **Prep Method**: Method, **Current Step**: Digestion **Due Date**: 04/25/2012
Analyst: AMCKORNEY **Rush/NPDES**: N/A **Hold Date**: 05/24/2012

Lab Code	Client ID	Bottle #	Initial Amt	Final Volume	Spike Amt	Spike ID	TestNo List	Comments
KQ1204584-01	Method Blank						Hg SPLP, Hg TCLP	70/20
KQ1204584-02	Lab Control Sample				0.1 mL	42765	Hg SPLP, Hg TCLP	
K1203634-022	TCLP-Metals	.03					Hg TCLP	
K1203634-022: KQ1204584-03	Duplicate	.03					Hg TCLP	
K1203634-022: KQ1204584-04	Matrix Spike	.03			0.1 mL	42765	Hg TCLP	
T1200605-001	S-6	.02					Hg SPLP	
T1200605-001: KQ1204584-05	Duplicate	.02					Hg SPLP	
T1200605-001: KQ1204584-06	Matrix Spike	.02			0.1 mL	42765	Hg SPLP	

8 Total Samples consisting of 2 Client Samples, 4 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

16:00 4/27/12
HG2-13-S

Spiking Solutions

Name	Type	ID	Expires
K-MET Hg Source Soil/TCLP 1000 ug/L	Spike	42765	5/1/2012

Preparation Materials

Step	Name	ID	Step	Name	ID
Digestion	K-MET H2SO4 Hg	30190	Digestion	K-MET K2S2O8 Hg	36040
Digestion	K-MET NACl Hg	32790	Digestion	K-MET KMnO4 Hg	36042
Digestion	K-MET 50ml Centrifuge Tube	36024	Digestion	K-MET NH2OH-HCl Hg	36043
Digestion	K-MET HNO3 Hg	36039	Digestion	K-MET SnCl Hg	36045

Preparation Hardware / Equipment

Step	Name	Property	Value
Digestion	K-BlockDigester-08	Temperature Thermometer 593173	_____ deg C

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Digestion						

Comments

Service Request K1203695_____
Calibration _____042612BMS03_____
QC in calibration 042612BMS03_____
QC Service Request # K1203627_____
STARLIMS Batch # 289031_____

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV within 10 % of true value	X		
3. CCV's in control	X	X	
4. CCB's and/or ICB's below MRL	X		
5. Method blank below MRL	X		
6. LCS in control	X		
7. Spike and duplicate in control	X		
8. All analytes within instrument linear range	X		
9. Adequate rinse out time allowed	X		
10. Internal standards in control	X		
11. Interferences checked	X		
12. Se over MRL			X
13. CRA run	X		
14. ICSA and ICSAB in control			X
15. Serial dilution run			X
16. Post spike in control			X
17. Was the run terminated? If so, why.		X	

Comments: CCV-5,6: Cu out of control see reruns.
CCV-4 Be out see R.R.

Primary Review by _____ Date 4/27/12
Secondary Review by JDB Date 4/27/12
R:\icp\misc\data review forms\PQ ExCell review form

Sample List

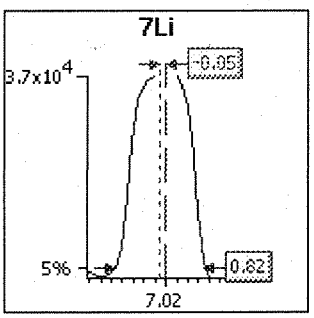
No	Label	Type	Weight	Rack	Row	Col	Height
1	Cal. Blk	Blank	1.000	0	1	1	145
2	Cal. Stn	Fully Quant Standard	1.000	0	1	2	145
3	ICV1	Unknown	1.000	0	1	3	145
4	CCV1	Unknown	1.000	0	1	2	145
5	ICB1	Unknown	1.000	0	1	1	145
6	CCB1	Unknown	1.000	0	1	1	145
7	LLICV	Unknown	1.000	0	1	4	145
8	ICSA	Unknown	1.000	0	1	5	145
9	ICSAB	Unknown	1.000	0	1	6	145
10	K1203338-MB	Unknown	1.000	1	1	1	145
11	K1203338-003	Unknown	1.000	1	1	3	145
12	K1203338-003D	Unknown	1.000	1	1	4	145
13	K1203338-003L 1/5	Unknown	1.000	1	1	5	145
14	K1203338-003A +20 ppb	Unknown	1.000	1	1	6	145
15	K1203338-003S	Unknown	1.000	1	1	7	145
16	LCSW	Unknown	1.000	1	1	2	145
17	K1203487-MB	Unknown	1.000	1	1	8	145
18	LCSW	Unknown	1.000	1	1	9	145
19	CCV2	Unknown	1.000	0	1	2	145
20	CCB2	Unknown	1.000	0	1	1	145
21	K1203487-001	Unknown	1.000	1	1	10	145
22	K1203487-001D	Unknown	1.000	1	1	11	145
23	K1203487-001L 1/5	Unknown	1.000	1	1	12	145
24	K1203487-001A +20 ppb	Unknown	1.000	1	2	1	145
25	K1203487-001S	Unknown	1.000	1	2	2	145
26	K1203489-001	Unknown	1.000	1	2	3	145
27	K1203581-MB	Unknown	1.000	1	2	4	145
28	LCSW	Unknown	1.000	1	2	5	145
29	K1203581-001	Unknown	1.000	1	2	6	145
30	K1203581-001D	Unknown	1.000	1	2	7	145
31	CCV3	Unknown	1.000	0	1	2	145
32	CCB3	Unknown	1.000	0	1	1	145
33	K1203581-001L 1/5	Unknown	1.000	1	2	8	145
34	K1203581-001A +20 ppb	Unknown	1.000	1	2	9	145
35	K1203581-001S	Unknown	1.000	1	2	10	145
36	K1203626-001	Unknown	1.000	1	2	11	145
37	K1203627-MB	Unknown	1.000	1	2	12	145
38	LCSW	Unknown	1.000	1	3	1	145
39	K1203532-018 BQC	Unknown	1.000	1	3	2	145
40	K1203532-018D	Unknown	1.000	1	3	3	145
41	K1203532-018S	Unknown	1.000	1	3	4	145
42	CCV4	Unknown	1.000	0	1	2	145
43	CCB4	Unknown	1.000	0	1	1	145
44	K1203627-001	Unknown	1.000	1	3	5	145
45	K1203627-001L	Unknown	1.000	1	3	6	145
46	K1203627-001A	Unknown	1.000	1	3	7	145
47	K1203627-002	Unknown	1.000	1	3	8	145
48	K1203627-003	Unknown	1.000	1	3	9	145
49	K1203627-004	Unknown	1.000	1	3	10	145
50	K1203627-005	Unknown	1.000	1	3	11	145
51	K1203627-001 DISS	Unknown	1.000	1	3	12	145
52	K1203627-002 DISS	Unknown	1.000	1	4	1	145
53	K1203627-003 DISS	Unknown	1.000	1	4	2	145
54	CCV5	Unknown	1.000	0	1	2	145
55	>CCV5	Unknown	1.000	0	1	2	145
56	CCB5	Unknown	1.000	0	1	1	145
57	K1203627-004 DISS	Unknown	1.000	1	4	3	145
58	K1203627-005 DISS	Unknown	1.000	1	4	4	145
59	K1203695-001	Unknown	1.000	1	4	5	145
60	K1203695-002	Unknown	1.000	1	4	6	145
61	CCV6	Unknown	1.000	0	1	2	145
62	>CCV6	Unknown	1.000	0	1	2	145
63	CCB6	Unknown	1.000	0	1	1	145
64	LLCCV	Unknown	1.000	0	1	4	145
65	>LLCCV	Unknown	1.000	0	1	4	145

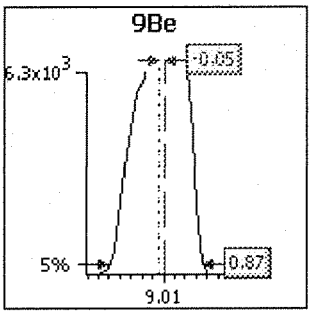
Performance Report

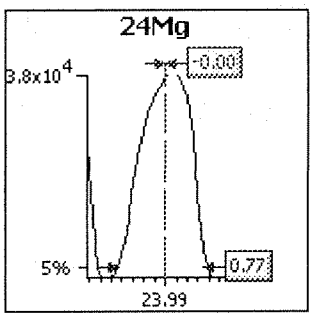
Sample details
Acquired at : 4/26/2012 9:40:21 AM
Report name : Kelso Performance Report 3 [8/24/2011 10:10:34 AM]

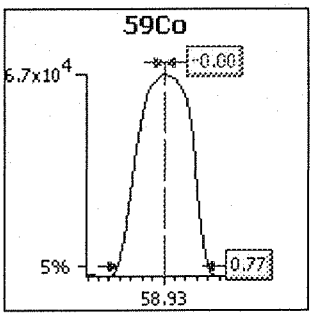
Mass Calibration verification

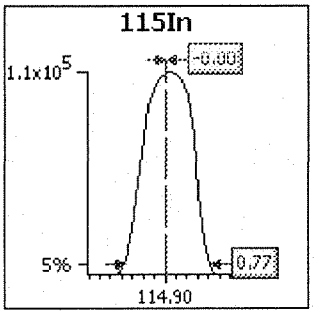
Acquisition parameters
Sweeps : 100
Dwell : 1.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum

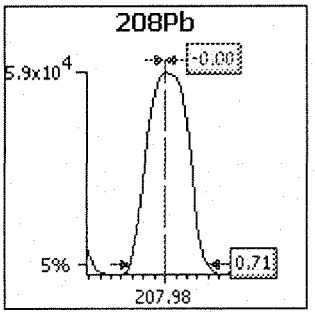


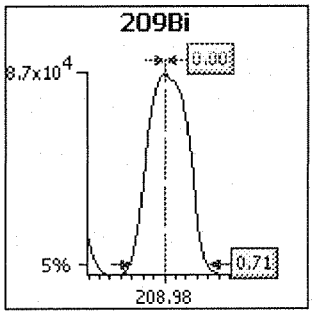


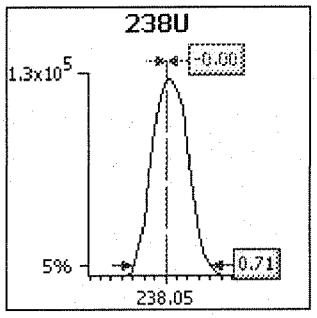












Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
7Li	0.90	0.60	0.10	0.82	-0.05
9Be	0.90	0.60	0.10	0.87	-0.05
24Mg	0.90	0.60	0.10	0.77	-0.00
59Co	0.90	0.60	0.10	0.77	-0.00
115In	0.90	0.60	0.10	0.77	-0.00
208Pb	0.90	0.60	0.10	0.71	-0.00
209Bi	0.90	0.60	0.10	0.71	0.00
238U	0.90	0.60	0.10	0.71	-0.00

Sample details
Acquired at : 4/26/2012 9:40:21 AM
Report name : Kelso Performance Report 3 [8/24/2011 10:10:34 AM]

Tune conditions

Major	
Extraction	-122
Lens 1	4.7
Focus	15.7
D1	-36.9
Pole Bias	0.4
Hexapole Bias	0.6
Nebuliser	0.79
Sampling Depth	100

Minor	
Lens 2	-11.0
Lens 3	-200.0
Forward power	1247
Horizontal	117
Vertical	326
D2	-144
DA	-22.7
Cool	13.0
Auxiliary	0.80

Global	
Standard resolution	100
High resolution	90
Analogue Detector	1951
PC Detector	3451

Add. Gases

Sensitivity and stability results

Acquisition parameters
Sweeps : 400

Run	Time	5Bkg	7Li	9Be	24Mg	59Co	115In	140Ce	156Ce O	208Pb
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	5.0%	-	-	5.0%
	Countrate	-	>1000	>1000	>1000	>1000	>1000	-	-	>1000
1	9:40:53 AM	0.000	36550.078	7061.241	38262.853	65395.368	112649.40	108673.94	1502.374	61207.609
2	9:42:07 AM	0.250	35906.772	6952.658	37394.250	64517.881	112764.31	108785.51	1566.885	61457.788
3	9:43:20 AM	0.250	35737.356	6968.670	37376.929	64538.527	112431.47	108654.46	1542.131	61683.560
4	9:44:33 AM	0.250	36023.984	7058.739	37943.017	65029.004	112622.06	108529.99	1529.129	61772.158
5	9:45:47 AM	0.000	35545.857	6913.628	37220.791	64175.219	112501.58	108437.90	1543.131	61813.186
x		0.150	35952.809	6990.987	37639.568	64731.200	112593.76	108616.36	1536.730	61586.860
σ		0.14	379.46	66.10	443.03	479.99	130.21	134.80	23.55	252.69
%RSD		91.287	1.055	0.946	1.177	0.742	0.116	0.124	1.532	0.410

Run	Time	209Bi	220Bkg	238U
Dwell (mSecs)		10.0	10.0	10.0
Limits	%RSD	5.0%	-	5.0%
	Countrate	>1000	-	>1000
1	9:40:53 AM	90010.660	0.000	129179.33
2	9:42:07 AM	90723.191	0.000	129923.57
3	9:43:20 AM	90942.869	0.000	129591.63
4	9:44:33 AM	90826.969	0.000	129537.87
5	9:45:47 AM	91228.964	0.000	130239.80
x		90746.531	0.000	129694.44
σ		452.72	0.00	403.22
%RSD		0.499	0.000	0.311

Ratio results

Run	Time	156Ce O/140Ce
Ratio limits		<0.0300
1	9:40:53 AM	0.014
2	9:42:07 AM	0.014
3	9:43:20 AM	0.014
4	9:44:33 AM	0.014
5	9:45:47 AM	0.014
x		0.0141
σ		0.00
%RSD		1.5081

Result : The performance report passed.

Dilution Corrected Concentrations

Cal. Blk 4/26/2012 2:37:07 PM

User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:07	0.0000	0.0048	98.4%	-0.0058	-0.0059	0.0063	0.0085	-0.0007
2	14:38:05	0.0013	-0.0200	101.5%	0.0023	-0.0008	-0.0033	-0.0070	0.0000
3	14:39:03	-0.0014	0.0151	100.1%	0.0035	0.0068	-0.0031	-0.0016	0.0007
x		0.0000	0.0000	100.0%	0.0000	-0.0000	0.0000	0.0000	0.0000
σ		0.0013	0.0181	1.5%	0.0051	0.0064	0.0055	0.0078	0.0007
%RSD		0.0000	0.0000	1.5	0.0000	0.0000	0.0000	0.0000	0.0000

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:07	0.0085	0.0033	-0.0006	-0.0061	-0.0270	-0.0944	-0.0332	98.4%
2	14:38:05	-0.0064	-0.0110	-0.0023	0.0034	-0.0277	0.0167	-0.0079	100.5%
3	14:39:03	-0.0021	0.0077	0.0028	0.0027	0.0548	0.0777	0.0411	101.1%
x		0.0000	0.0000	-0.0000	0.0000	0.0000	0.0000	0.0000	100.0%
σ		0.0077	0.0098	0.0026	0.0053	0.0474	0.0873	0.0378	1.4%
%RSD		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.4

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:07	-0.0034	0.0751	0.0704	0.0646	-0.0016	-0.0007	-0.0010	98.7%
2	14:38:05	-0.0539	-0.0078	0.0926	-0.2018	0.0019	0.0003	-0.0002	100.9%
3	14:39:03	0.0572	-0.0673	-0.1629	0.1372	-0.0003	0.0004	0.0012	100.5%
x		0.0000	-0.0000	-0.0000	0.0000	0.0000	0.0000	-0.0000	100.0%
σ		0.0556	0.0715	0.1415	0.1785	0.0017	0.0006	0.0011	1.2%
%RSD		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.2

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:07	-0.0007	0.0008	0.0004	0.0005	98.2%	-0.0002	0.0026	-0.0008
2	14:38:05	-0.0003	-0.0009	-0.0007	-0.0009	100.2%	0.0013	-0.0010	0.0128
3	14:39:03	0.0011	0.0001	0.0004	0.0004	101.6%	-0.0011	-0.0016	-0.0120
x		0.0000	-0.0000	-0.0000	-0.0000	100.0%	0.0000	-0.0000	0.0000
σ		0.0009	0.0008	0.0006	0.0008	1.7%	0.0012	0.0023	0.0124
%RSD		0.0000	0.0000	0.0000	0.0000	1.7	0.0000	0.0000	0.0000

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:07	0.0027	0.0016	98.0%	-0.0002	0.0007	-0.0021	0.0009	-0.0004
2	14:38:05	-0.0018	0.0007	100.8%	0.0004	-0.0006	-0.0002	-0.0011	-0.0006
3	14:39:03	-0.0009	-0.0023	101.2%	-0.0002	-0.0001	0.0023	0.0002	0.0010
x		-0.0000	-0.0000	100.0%	-0.0000	-0.0000	-0.0000	0.0000	-0.0000
σ		0.0024	0.0020	1.8%	0.0004	0.0006	0.0022	0.0010	0.0009
%RSD		0.0000	0.0000	1.8	0.0000	0.0000	0.0000	0.0000	0.0000

Cal. Stn 4/26/2012 2:41:32 PM

User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:32	25.5373	25.2546	101.9%	25.2539	25.0806	24.6756	24.8047	24.8250
2	14:42:30	24.7993	25.0029	102.1%	24.9697	25.0885	25.0685	25.2330	25.5473
3	14:43:28	24.6635	24.7425	100.9%	24.7764	24.8308	25.2560	24.9623	24.6277
x		25.0000	25.0000	101.6%	25.0000	25.0000	25.0000	25.0000	25.0000
σ		0.4702	0.2561	0.6%	0.2402	0.1466	0.2962	0.2166	0.4842
%RSD		1.8809	1.0242	0.6	0.9609	0.5862	1.1848	0.8664	1.9367

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:32	24.8184	25.1887	25.2016	25.3749	25.1505	24.7993	25.1309	100.6%
2	14:42:30	25.5013	24.9563	24.9452	24.6888	24.8760	25.5551	25.3126	100.4%
3	14:43:28	24.6803	24.8550	24.8532	24.9363	24.9735	24.6455	24.5565	100.5%
x		25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	100.5%
σ		0.4396	0.1711	0.1806	0.3475	0.1391	0.4869	0.3947	0.1%
%RSD		1.7583	0.6843	0.7222	1.3898	0.5565	1.9475	1.5788	0.1

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:32	24.9609	24.3879	24.5738	25.1165	25.0035	24.8839	25.0309	100.3%
2	14:42:30	25.1448	25.2643	25.0825	25.1949	25.2384	25.0033	25.1106	100.9%
3	14:43:28	24.8943	25.3478	25.3437	24.6886	24.7581	25.1128	24.8586	101.7%
x		25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	25.0000	101.0%
σ		0.1298	0.5317	0.3915	0.2725	0.2402	0.1145	0.1288	0.7%
%RSD		0.5191	2.1269	1.5660	1.0901	0.9607	0.4579	0.5153	0.7

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:32	25.0107	24.9449	25.0884	25.1867	98.8%	24.9721	25.0610	25.5538
2	14:42:30	24.9922	25.1153	24.9261	24.9598	101.1%	25.0726	24.9292	24.5699
3	14:43:28	24.9970	24.9399	24.9855	24.8535	101.4%	24.9554	25.0098	24.8763
x		25.0000	25.0000	25.0000	25.0000	100.5%	25.0000	25.0000	25.0000
σ		0.0096	0.0998	0.0821	0.1702	1.4%	0.0634	0.0664	0.5035
%RSD		0.0384	0.3994	0.3285	0.6809	1.4	0.2535	0.2658	2.0138

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:41:32	25.0270	25.0979	97.4%	25.1884	25.1710	25.2101	25.2955	25.2414
2	14:42:30	25.1485	25.0394	101.1%	25.0538	25.0988	24.9803	25.1204	24.9849
3	14:43:28	24.8244	24.8626	101.9%	24.7578	24.7302	24.8096	24.5841	24.7737
x		25.0000	25.0000	100.1%	25.0000	25.0000	25.0000	25.0000	25.0000
σ		0.1637	0.1225	2.4%	0.2203	0.2364	0.2010	0.3707	0.2342
%RSD		0.6549	0.4900	2.4	0.8811	0.9458	0.8038	1.4827	0.9370

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:54	2.5642	98.3432	100.4%	25.6172	10.0005	9.9175	24.9370	25.2193
2	14:46:52	2.5422	98.1883	101.6%	25.1400	9.7772	9.6402	24.5778	24.8265
3	14:47:49	2.5809	99.5580	100.7%	25.6930	10.1943	9.9772	25.1184	25.2244
x		2.5624	98.6965	100.9%	25.4834	9.9906	9.8450	24.8777	25.0901
σ		0.0194	0.7501	0.7%	0.2998	0.2087	0.1798	0.2752	0.2283
%RSD		0.7572	0.7600	0.7	1.1764	2.0892	1.8265	1.1061	0.9100

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:54	25.2029	25.1135	12.3005	12.3039	25.4676	28.4503	27.8365	100.4%
2	14:46:52	25.0338	25.0460	12.3734	12.5641	25.1852	28.2282	27.2252	101.7%
3	14:47:49	25.1839	25.0127	12.3960	12.3687	25.4288	28.5336	27.6016	100.2%
x		25.1402	25.0574	12.3566	12.4122	25.3605	28.4040	27.5544	100.8%
σ		0.0926	0.0514	0.0499	0.1355	0.1531	0.1579	0.3084	0.8%
%RSD		0.3685	0.2051	0.4042	1.0915	0.6037	0.5559	1.1191	0.8

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:54	25.1194	25.5697	26.0631	25.6188	25.5112	25.2241	25.3039	99.7%
2	14:46:52	25.8769	23.7936	24.7340	26.1361	25.7940	25.4752	25.6245	101.3%
3	14:47:49	26.3867	23.8139	25.2507	26.4747	26.1062	26.1212	25.6885	101.3%
x		25.7943	24.3924	25.3493	26.0765	25.8038	25.6068	25.5390	100.8%
σ		0.6377	1.0196	0.6700	0.4311	0.2976	0.4628	0.2061	0.9%
%RSD		2.4723	4.1800	2.6431	1.6531	1.1534	1.8073	0.8070	0.9

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:54	12.5279	12.5060	12.8971	12.8141	100.4%	24.9256	25.1355	100.4299
2	14:46:52	12.4951	12.4592	12.9404	12.7702	102.1%	24.6205	25.0980	98.7288
3	14:47:49	12.6011	12.7040	13.0727	12.9162	101.6%	25.3542	25.6436	100.5036
x		12.5413	12.5564	12.9701	12.8335	101.4%	24.9668	25.2923	99.8874
σ		0.0543	0.1299	0.0915	0.0749	0.9%	0.3685	0.3048	1.0041
%RSD		0.4327	1.0347	0.7055	0.5835	0.9	1.4761	1.2050	1.0052

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:54	100.1403	101.7630	100.0%	25.1554	25.3002	26.1394	24.5482	25.0799
2	14:46:52	100.2517	101.7389	102.6%	25.2098	25.3290	25.9529	24.6367	25.0627
3	14:47:49	101.0371	102.9617	102.2%	25.4957	25.4403	26.2591	25.0331	25.3710
x		100.4764	102.1546	101.6%	25.2870	25.3565	26.1172	24.7393	25.1712
σ		0.4888	0.6991	1.4%	0.1828	0.0740	0.1543	0.2582	0.1733
%RSD		0.4865	0.6844	1.3	0.7228	0.2918	0.5909	1.0438	0.6884

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:51:35	24.0345	24.6048	98.0%	24.3232	24.2896	24.4340	24.7559	24.4516
2	14:52:33	23.9991	25.1228	100.9%	24.2141	24.1922	24.0480	24.5500	23.9002
3	14:53:31	23.4272	24.4015	99.8%	24.2041	24.2033	24.1745	24.5275	24.3795
x		23.8202	24.7097	99.5%	24.2471	24.2284	24.2188	24.6111	24.2438
σ		0.3408	0.3719	1.4%	0.0661	0.0533	0.1968	0.1259	0.2997
%RSD		1.4309	1.5052	1.4	0.2725	0.2201	0.8127	0.5114	1.2364

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:51:35	24.6686	24.4858	23.9608	24.2760	24.1996	25.2090	24.7657	98.8%
2	14:52:33	24.2871	24.0097	23.7322	23.6698	23.9970	24.1070	24.7034	99.2%
3	14:53:31	24.4917	23.8940	24.2205	24.1650	24.4159	23.7821	24.4220	99.6%
x		24.4825	24.1298	23.9712	24.0369	24.2042	24.3660	24.6304	99.2%
σ		0.1909	0.3137	0.2443	0.3227	0.2095	0.7479	0.1831	0.4%
%RSD		0.7799	1.2999	1.0192	1.3426	0.8655	3.0695	0.7434	0.4

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:51:35	24.7223	24.5887	24.3601	24.1476	24.9704	25.1604	25.0398	98.1%
2	14:52:33	25.0360	23.1959	24.3429	24.3817	24.8233	24.8117	24.5959	100.7%
3	14:53:31	24.0202	22.7239	23.3378	22.8115	24.6044	24.7121	24.6453	101.5%
x		24.5929	23.5028	24.0136	23.7802	24.7993	24.8947	24.7603	100.1%
σ		0.5201	0.9695	0.5853	0.8471	0.1842	0.2354	0.2433	1.8%
%RSD		2.1149	4.1252	2.4374	3.5622	0.7426	0.9457	0.9825	1.8

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:51:35	24.8966	24.7987	24.7434	24.7966	99.1%	24.6199	24.8158	24.5830
2	14:52:33	24.7056	24.6292	24.8519	24.8229	101.6%	25.0785	24.8842	24.6076
3	14:53:31	24.4428	24.5958	25.1154	24.5087	102.7%	24.6327	24.5118	24.4044
x		24.6817	24.6746	24.9036	24.7094	101.2%	24.7770	24.7373	24.5317
σ		0.2278	0.1088	0.1913	0.1743	1.8%	0.2611	0.1982	0.1109
%RSD		0.9231	0.4410	0.7682	0.7055	1.8	1.0539	0.8013	0.4519

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:51:35	24.3879	24.6878	100.2%	24.5588	24.5845	24.7714	24.6718	24.6226
2	14:52:33	24.8298	24.6330	103.7%	24.5614	24.4790	24.5208	24.5482	24.4494
3	14:53:31	24.1243	24.1360	104.2%	24.1082	24.1971	24.3608	24.2519	24.3731
x		24.4473	24.4856	102.7%	24.4094	24.4202	24.5510	24.4906	24.4817
σ		0.3565	0.3040	2.2%	0.2609	0.2003	0.2070	0.2157	0.1279
%RSD		1.4582	1.2416	2.1	1.0690	0.8202	0.8430	0.8809	0.5222

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:59	0.0015	-0.0244	97.4%	0.0097	0.0067	-0.0111	-0.0116	0.0013
2	15:04:56	0.0014	-0.0374	99.3%	0.0027	-0.0038	-0.0062	-0.0067	-0.0001
3	15:05:54	0.0029	-0.0482	97.1%	0.0031	0.0019	0.0013	-0.0087	0.0007
x		0.0019	-0.0367	97.9%	0.0052	0.0016	-0.0053	-0.0090	0.0006
σ		0.0008	0.0119	1.2%	0.0039	0.0053	0.0062	0.0025	0.0007
%RSD		43.7737	32.5066	1.2	75.7460	335.9666	117.2084	27.2303	105.4656

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:59	-0.0051	0.0097	0.0028	-0.0028	-0.0915	-0.1603	-0.0946	96.1%
2	15:04:56	-0.0116	-0.0091	0.0007	0.0018	-0.1238	-0.0812	-0.0915	98.6%
3	15:05:54	-0.0118	0.0011	0.0040	0.0085	-0.0562	-0.1014	-0.0208	98.6%
x		-0.0095	0.0006	0.0025	0.0025	-0.0905	-0.1143	-0.0690	97.8%
σ		0.0038	0.0094	0.0017	0.0057	0.0338	0.0411	0.0418	1.5%
%RSD		39.8495	1703.2955	67.0689	226.6235	37.3346	35.9502	60.5327	1.5

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:59	-0.0377	-0.0031	0.2940	-0.1659	0.0257	0.0494	0.0324	96.0%
2	15:04:56	0.0061	-0.0663	-0.1036	-0.0410	0.0523	0.0494	0.0450	97.9%
3	15:05:54	0.0379	0.0342	-0.0086	0.1695	0.0603	0.0510	0.0575	99.5%
x		0.0021	-0.0117	0.0606	-0.0125	0.0461	0.0500	0.0449	97.8%
σ		0.0379	0.0508	0.2077	0.1695	0.0181	0.0009	0.0126	1.8%
%RSD		1831.8280	433.0041	342.5226	1358.5272	39.2544	1.8726	27.9435	1.8

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:59	0.0103	0.0129	-0.0007	-0.0004	95.1%	0.0089	0.0055	-0.0112
2	15:04:56	0.0109	0.0113	0.0015	0.0000	98.5%	0.0061	0.0123	0.0080
3	15:05:54	0.0097	0.0096	0.0015	0.0009	100.3%	0.0055	0.0095	0.0022
x		0.0103	0.0113	0.0008	0.0002	98.0%	0.0069	0.0091	-0.0004
σ		0.0006	0.0016	0.0013	0.0007	2.7%	0.0018	0.0034	0.0099
%RSD		5.9291	14.6470	172.1710	391.3680	2.7	26.8167	37.3743	2779.4151

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:03:59	0.0054	0.0014	95.6%	0.0002	0.0002	0.0010	-0.0024	0.0003
2	15:04:56	0.0159	0.0003	99.6%	0.0024	0.0009	-0.0026	-0.0020	-0.0013
3	15:05:54	0.0154	0.0029	101.3%	0.0040	0.0019	0.0006	0.0034	0.0010
x		0.0122	0.0015	98.9%	0.0022	0.0010	-0.0003	-0.0003	-0.0000
σ		0.0059	0.0013	2.9%	0.0019	0.0009	0.0020	0.0032	0.0012
%RSD		48.1598	85.8059	2.9	86.2488	88.7882	640.2784	1024.0083	44382.2450

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:08:48	0.0001	-0.0313	98.4%	0.0028	-0.0020	-0.0041	-0.0084	0.0007
2	15:09:46	0.0010	-0.0557	97.5%	0.0054	0.0082	-0.0005	-0.0092	0.0015
3	15:10:44	0.0056	-0.0525	98.7%	-0.0023	-0.0052	0.0133	-0.0064	0.0018
x		0.0022	-0.0465	98.2%	0.0020	0.0003	0.0029	-0.0080	0.0013
σ		0.0029	0.0132	0.6%	0.0039	0.0070	0.0092	0.0015	0.0006
%RSD		133.3921	28.4711	0.6	196.2385	2207.8920	319.7780	18.2101	43.0846

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:08:48	-0.0207	-0.0065	-0.0027	0.0052	-0.0759	-0.1621	-0.1188	96.8%
2	15:09:46	-0.0019	0.0114	-0.0046	0.0042	-0.1126	-0.1787	-0.1152	98.3%
3	15:10:44	-0.0116	0.0016	-0.0024	0.0003	-0.1363	-0.1524	-0.0955	99.1%
x		-0.0114	0.0022	-0.0033	0.0032	-0.1082	-0.1644	-0.1098	98.1%
σ		0.0094	0.0090	0.0012	0.0026	0.0304	0.0133	0.0126	1.1%
%RSD		82.6712	415.6188	36.6688	80.2125	28.1203	8.1045	11.4375	1.2

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:08:48	0.0474	0.0986	-0.1510	0.2493	0.0269	0.0308	0.0259	96.9%
2	15:09:46	0.0400	0.0550	-0.3684	0.1551	0.0314	0.0289	0.0358	98.9%
3	15:10:44	0.0304	-0.0465	-0.0381	0.0644	0.0383	0.0297	0.0386	99.8%
x		0.0393	0.0357	-0.1859	0.1563	0.0322	0.0298	0.0334	98.5%
σ		0.0085	0.0745	0.1678	0.0925	0.0057	0.0010	0.0067	1.5%
%RSD		21.6593	208.6076	90.3120	59.1690	17.8045	3.1922	19.9631	1.5

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:08:48	0.0064	0.0044	0.0027	0.0010	97.7%	0.0034	0.0032	-0.0044
2	15:09:46	0.0071	0.0079	0.0015	0.0009	100.0%	0.0094	0.0035	-0.0085
3	15:10:44	0.0067	0.0040	0.0004	-0.0014	101.5%	0.0031	0.0029	0.0001
x		0.0068	0.0054	0.0015	0.0002	99.7%	0.0053	0.0032	-0.0042
σ		0.0004	0.0021	0.0012	0.0014	1.9%	0.0035	0.0003	0.0043
%RSD		5.2564	39.1147	76.9581	786.1287	2.0	66.8258	9.3931	101.7213

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:08:48	0.0017	0.0043	98.5%	0.0011	0.0018	-0.0021	0.0032	0.0005
2	15:09:46	0.0001	0.0041	103.1%	0.0029	0.0017	0.0005	0.0015	0.0011
3	15:10:44	0.0120	0.0037	102.1%	0.0014	0.0011	-0.0010	0.0011	0.0009
x		0.0046	0.0040	101.2%	0.0018	0.0015	-0.0009	0.0019	0.0008
σ		0.0065	0.0003	2.4%	0.0010	0.0004	0.0013	0.0011	0.0003
%RSD		139.9210	8.0894	2.4	53.7750	24.0745	148.1964	56.8543	39.7541

LLICV 4/26/2012 3:28:02 PM

User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:28:02	0.0198	1.9214	96.8%	0.2061	0.2051	0.2030	0.0444	0.0209
2	15:29:00	0.0251	1.7154	99.7%	0.1942	0.2084	0.2156	0.0374	0.0185
3	15:29:58	0.0211	1.7643	97.4%	0.1920	0.1734	0.1941	0.0400	0.0159
x		0.0220	1.8004	98.0%	0.1975	0.1956	0.2042	0.0406	0.0184
σ		0.0028	0.1076	1.5%	0.0076	0.0194	0.0108	0.0035	0.0025
%RSD		12.5283	5.9786	1.6	3.8242	9.8918	5.2989	8.6908	13.3822
Run	**Time**	**60Ni**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**	**71Ga**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:28:02	0.2110	0.2194	0.0922	0.0899	0.5153	0.4317	0.5589	97.3%
2	15:29:00	0.1871	0.1950	0.0907	0.1077	0.4678	0.4869	0.4861	99.9%
3	15:29:58	0.1564	0.1982	0.0918	0.0874	0.4526	0.2959	0.5137	100.8%
x		0.1848	0.2042	0.0916	0.0950	0.4786	0.4048	0.5196	99.3%
σ		0.0274	0.0133	0.0008	0.0111	0.0327	0.0983	0.0367	1.8%
%RSD		14.8112	6.4911	0.8663	11.6397	6.8342	24.2883	7.0724	1.8
Run	**Time**	**75As**	**77Se**	**78Se**	**82Se**	**95Mo**	**97Mo**	**98Mo**	**103Rh**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:28:02	0.5541	1.0365	1.2181	1.1159	0.0459	0.0473	0.0480	97.6%
2	15:29:00	0.5246	1.2043	1.1907	1.3816	0.0579	0.0723	0.0656	100.8%
3	15:29:58	0.4975	0.5628	0.5380	0.7092	0.0589	0.0591	0.0579	101.6%
x		0.5254	0.9345	0.9823	1.0689	0.0542	0.0596	0.0572	100.0%
σ		0.0283	0.3327	0.3850	0.3386	0.0072	0.0125	0.0088	2.1%
%RSD		5.3844	35.6003	39.1962	31.6812	13.3138	21.0438	15.4800	2.1
Run	**Time**	**107Ag**	**109Ag**	**111Cd**	**114Cd**	**115In**	**121Sb**	**123Sb**	**135Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:28:02	0.0163	0.0167	0.0165	0.0251	97.6%	0.0503	0.0523	0.0590
2	15:29:00	0.0194	0.0177	0.0193	0.0210	100.9%	0.0534	0.0449	0.0334
3	15:29:58	0.0180	0.0153	0.0245	0.0208	102.0%	0.0464	0.0572	0.0588
x		0.0179	0.0166	0.0201	0.0223	100.2%	0.0500	0.0514	0.0504
σ		0.0015	0.0012	0.0041	0.0025	2.3%	0.0036	0.0062	0.0147
%RSD		8.6231	7.2671	20.4431	10.9924	2.3	7.0989	12.0537	29.2382
Run	**Time**	**137Ba**	**138Ba**	**175Lu**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:28:02	0.0495	0.0496	98.4%	0.0222	0.0213	0.0176	0.0214	0.0207
2	15:29:00	0.0582	0.0464	102.6%	0.0193	0.0198	0.0162	0.0163	0.0175
3	15:29:58	0.0496	0.0511	103.0%	0.0202	0.0180	0.0165	0.0176	0.0182
x		0.0525	0.0490	101.3%	0.0206	0.0197	0.0168	0.0184	0.0188
σ		0.0050	0.0024	2.6%	0.0015	0.0016	0.0007	0.0027	0.0017
%RSD		9.5181	4.8194	2.5	7.2781	8.2877	4.3368	14.3913	9.1107

ICSA 4/26/2012 3:32:38 PM

User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:38	0.0059	19817.4230	100.6%	0.1144	0.3523	1.5593	1.4806	0.7609
2	15:33:36	0.0042	19900.9050	98.0%	0.0714	0.3542	1.6638	1.4827	0.7578
3	15:34:34	0.0052	19201.4740	98.0%	0.0953	0.3627	1.5577	1.4497	0.7494
x		0.0051	19639.9340	98.9%	0.0937	0.3564	1.5936	1.4710	0.7560
σ		0.0008	382.0047	1.5%	0.0215	0.0056	0.0608	0.0185	0.0059
%RSD		16.0490	1.9450	1.5	22.9668	1.5587	3.8149	1.2549	0.7855

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:38	1.4103	1.9851	0.4937	0.4769	1.1671	1.2511	0.9010	91.5%
2	15:33:36	1.4229	1.9212	0.4864	0.4343	1.0526	1.1222	0.9464	93.1%
3	15:34:34	1.4716	1.8329	0.5234	0.4445	0.9678	1.4650	0.8949	93.0%
x		1.4349	1.9131	0.5011	0.4519	1.0625	1.2794	0.9141	92.5%
σ		0.0324	0.0764	0.0196	0.0222	0.1000	0.1731	0.0281	0.9%
%RSD		2.2573	3.9933	3.9167	4.9196	9.4128	13.5329	3.0771	1.0

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:38	-0.0932	1.0725	0.2758	-0.2426	51.7006	52.3095	52.0702	89.1%
2	15:33:36	-0.0353	0.9210	0.1005	-0.2208	51.1581	51.6167	51.0250	91.9%
3	15:34:34	0.0396	1.1124	0.0397	0.1792	51.7209	51.6281	51.4831	92.7%
x		-0.0296	1.0353	0.1386	-0.0947	51.5265	51.8514	51.5261	91.2%
σ		0.0666	0.1010	0.1226	0.2375	0.3192	0.3968	0.5239	1.9%
%RSD		224.8829	9.7515	88.4095	250.7547	0.6196	0.7652	1.0168	2.1

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:38	0.4179	0.4302	0.3044	0.2977	92.7%	0.1927	0.1955	0.1306
2	15:33:36	0.3950	0.3833	0.2900	0.2638	97.0%	0.1721	0.1525	0.1636
3	15:34:34	0.3841	0.3833	0.3389	0.2664	97.2%	0.1613	0.1831	0.1343
x		0.3990	0.3989	0.3111	0.2760	95.6%	0.1754	0.1770	0.1428
σ		0.0173	0.0271	0.0251	0.0189	2.6%	0.0160	0.0221	0.0181
%RSD		4.3250	6.7874	8.0813	6.8390	2.7	9.1180	12.5059	12.6715

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:38	0.1650	0.1564	96.2%	0.0413	0.0420	0.0823	0.0707	0.0832
2	15:33:36	0.1706	0.1526	100.4%	0.0313	0.0364	0.0729	0.0772	0.0749
3	15:34:34	0.1628	0.1572	100.7%	0.0335	0.0399	0.0849	0.0787	0.0798
x		0.1661	0.1554	99.1%	0.0353	0.0394	0.0800	0.0755	0.0793
σ		0.0040	0.0025	2.5%	0.0053	0.0028	0.0063	0.0043	0.0042
%RSD		2.4104	1.5908	2.5	14.8710	7.1536	7.9038	5.6620	5.2795

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:37:23	0.0051	19572.1240	98.6%	49.7074	48.4126	48.6671	48.7716	48.0853
2	15:38:21	0.0053	19395.2780	96.4%	49.2074	47.3195	49.0261	49.1169	48.1074
3	15:39:19	0.0067	19146.9950	96.2%	49.8988	48.7182	49.5157	48.9980	47.8432
x		0.0057	19371.4660	97.1%	49.6045	48.1501	49.0696	48.9622	48.0119
σ		0.0009	213.5625	1.3%	0.3570	0.7354	0.4260	0.1754	0.1466
%RSD		15.4587	1.1025	1.4	0.7197	1.5273	0.8682	0.3583	0.3053

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:37:23	47.1764	47.3674	44.6008	44.7984	23.5418	24.2683	23.5371	92.7%
2	15:38:21	47.4820	47.3118	45.2695	45.2776	23.9539	23.9312	23.6420	94.4%
3	15:39:19	47.2131	47.2560	44.7438	44.8816	23.6934	23.9364	23.3725	93.9%
x		47.2905	47.3117	44.8714	44.9859	23.7297	24.0453	23.5172	93.7%
σ		0.1668	0.0557	0.3521	0.2561	0.2085	0.1932	0.1359	0.9%
%RSD		0.3528	0.1177	0.7847	0.5693	0.8785	0.8033	0.5778	0.9

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:37:23	26.0294	24.2420	24.1847	25.8542	49.9197	49.8126	50.0134	91.2%
2	15:38:21	25.2158	25.2241	25.0696	25.1312	49.4061	50.0403	49.8959	92.5%
3	15:39:19	25.1709	25.1556	25.2114	24.5425	49.7833	50.1620	50.2715	93.4%
x		25.4721	24.8739	24.8219	25.1760	49.7030	50.0050	50.0603	92.3%
σ		0.4832	0.5483	0.5564	0.6570	0.2660	0.1774	0.1922	1.1%
%RSD		1.8971	2.2044	2.2415	2.6096	0.5352	0.3547	0.3839	1.2

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:37:23	12.2059	12.2595	24.6687	24.5318	96.0%	0.1754	0.1665	0.1143
2	15:38:21	12.2213	12.2328	25.1191	24.7338	97.4%	0.1636	0.1897	0.1066
3	15:39:19	12.2266	12.2166	24.6238	24.1431	98.4%	0.1746	0.1650	0.1377
x		12.2179	12.2363	24.8038	24.4696	97.3%	0.1712	0.1737	0.1195
σ		0.0108	0.0217	0.2739	0.3002	1.2%	0.0066	0.0139	0.0162
%RSD		0.0881	0.1770	1.1044	1.2269	1.2	3.8506	7.9744	13.5301

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:37:23	0.0981	0.1124	99.5%	0.0325	0.0341	0.0649	0.0732	0.0699
2	15:38:21	0.1455	0.1225	101.7%	0.0308	0.0370	0.0564	0.0752	0.0634
3	15:39:19	0.1270	0.1106	102.0%	0.0317	0.0372	0.0611	0.0574	0.0638
x		0.1235	0.1152	101.1%	0.0317	0.0361	0.0608	0.0686	0.0657
σ		0.0239	0.0064	1.4%	0.0009	0.0017	0.0042	0.0097	0.0036
%RSD		19.3579	5.5712	1.3	2.7053	4.7461	6.9362	14.2121	5.5035

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:53:55	0.0045	1.6311	100.2%	0.0125	0.0029	0.0231	-0.0248	0.0011
2	15:54:53	0.0005	2.2713	98.9%	0.0021	-0.0028	0.0356	-0.0212	0.0061
3	15:55:51	-0.0005	1.3893	102.4%	-0.0076	-0.0074	0.0438	-0.0288	0.0027
x		0.0015	1.7639	100.5%	0.0023	-0.0024	0.0342	-0.0249	0.0033
σ		0.0027	0.4558	1.8%	0.0100	0.0051	0.0105	0.0038	0.0026
%RSD		176.5724	25.8381	1.8	429.2595	210.8227	30.5694	15.3169	78.1668

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:53:55	-0.0164	0.0571	0.0033	0.0086	-0.1046	-0.1900	-0.1245	100.3%
2	15:54:53	-0.0035	0.0355	0.0029	0.0063	-0.1179	-0.1984	-0.1143	101.4%
3	15:55:51	-0.0085	0.0329	-0.0012	0.0035	-0.1136	-0.1351	-0.1132	103.5%
x		-0.0095	0.0418	0.0017	0.0061	-0.1120	-0.1745	-0.1173	101.7%
σ		0.0065	0.0133	0.0025	0.0025	0.0068	0.0344	0.0062	1.6%
%RSD		68.6890	31.8100	149.0890	41.7756	6.0567	19.7057	5.3260	1.6

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:53:55	-0.0279	0.0324	-0.3467	-0.0844	0.0310	0.0145	0.0204	99.4%
2	15:54:53	0.0345	-0.0480	-0.2511	0.1068	0.0186	0.0241	0.0208	103.1%
3	15:55:51	-0.0071	-0.0107	-0.0489	-0.0521	0.0168	0.0113	0.0095	104.4%
x		-0.0002	-0.0088	-0.2156	-0.0099	0.0221	0.0166	0.0169	102.3%
σ		0.0318	0.0402	0.1520	0.1024	0.0077	0.0066	0.0064	2.6%
%RSD		19635.0610	457.3599	70.5276	1036.1532	34.9697	39.9268	37.8280	2.5

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:53:55	0.0011	0.0019	0.0037	0.0033	100.0%	-0.0026	-0.0031	-0.0066
2	15:54:53	0.0027	0.0030	0.0046	0.0022	104.2%	-0.0027	-0.0022	-0.0056
3	15:55:51	0.0024	0.0025	0.0014	0.0031	104.9%	-0.0009	-0.0027	-0.0006
x		0.0021	0.0025	0.0033	0.0029	103.1%	-0.0020	-0.0026	-0.0043
σ		0.0008	0.0006	0.0017	0.0006	2.7%	0.0010	0.0004	0.0032
%RSD		40.4873	22.9351	51.5641	20.2038	2.6	50.5465	16.8417	74.4599

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:53:55	0.0053	0.0004	101.1%	0.0040	0.0039	0.0002	0.0012	0.0005
2	15:54:53	0.0131	0.0010	105.8%	0.0037	0.0047	-0.0016	0.0022	-0.0004
3	15:55:51	0.0033	0.0000	105.4%	0.0056	0.0028	0.0004	0.0005	0.0004
x		0.0073	0.0005	104.1%	0.0045	0.0038	-0.0003	0.0013	0.0002
σ		0.0052	0.0005	2.6%	0.0010	0.0010	0.0011	0.0009	0.0005
%RSD		71.2045	99.9866	2.5	23.0797	24.9720	316.9062	67.1456	314.0040

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:48	0.0040	44.5163	101.8%	0.0494	0.1113	0.1783	0.0057	0.0612
2	16:01:46	0.0025	44.6715	103.5%	0.0488	0.1197	0.1783	0.0094	0.0533
3	16:02:44	0.0043	43.0680	103.3%	0.0382	0.1293	0.2033	0.0087	0.0505
x		0.0036	44.0853	102.9%	0.0455	0.1201	0.1866	0.0079	0.0550
σ		0.0009	0.8844	0.9%	0.0063	0.0090	0.0144	0.0020	0.0056
%RSD		25.9470	2.0061	0.9	13.8079	7.4881	7.7353	24.6830	10.1160

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:48	2.2161	2.0147	8.3155	8.2490	30.3987	31.3403	31.0308	98.7%
2	16:01:46	2.1988	1.9705	8.2404	8.1923	30.1353	30.6040	31.3538	100.6%
3	16:02:44	2.1184	1.8515	8.0834	8.0867	29.8253	30.6892	31.3428	101.6%
x		2.1778	1.9456	8.2131	8.1760	30.1197	30.8778	31.2425	100.3%
σ		0.0522	0.0844	0.1184	0.0823	0.2870	0.4027	0.1834	1.4%
%RSD		2.3957	4.3382	1.4416	1.0070	0.9528	1.3043	0.5869	1.4

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:48	0.1618	0.1754	0.2882	0.1546	1.1338	1.1623	1.1519	98.6%
2	16:01:46	0.1655	0.2290	-0.2037	0.3875	1.2121	1.1401	1.1813	101.1%
3	16:02:44	0.2153	0.2652	-0.4195	0.4284	1.1804	1.1368	1.1361	101.6%
x		0.1809	0.2232	-0.1117	0.3235	1.1754	1.1464	1.1564	100.4%
σ		0.0299	0.0452	0.3627	0.1477	0.0394	0.0139	0.0230	1.6%
%RSD		16.5363	20.2549	324.7735	45.6464	3.3543	1.2126	1.9856	1.6

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:48	0.0675	0.0658	0.0060	0.0061	100.2%	0.0352	0.0356	41.6137
2	16:01:46	0.0881	0.0826	0.0058	0.0058	104.1%	0.0337	0.0408	40.8587
3	16:02:44	0.1010	0.0950	0.0025	0.0058	104.9%	0.0360	0.0285	41.9342
x		0.0855	0.0811	0.0048	0.0059	103.1%	0.0350	0.0350	41.4689
σ		0.0169	0.0146	0.0020	0.0002	2.5%	0.0012	0.0062	0.5522
%RSD		19.7152	18.0514	41.2882	2.9271	2.4	3.3156	17.7094	1.3315

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:48	41.9658	42.2664	103.1%	0.0093	0.0117	0.8973	0.8621	0.8714
2	16:01:46	41.4669	41.6968	107.0%	0.0111	0.0079	0.9006	0.8721	0.8850
3	16:02:44	41.6699	41.7624	108.0%	0.0137	0.0085	0.8884	0.8462	0.8682
x		41.7009	41.9085	106.1%	0.0114	0.0094	0.8955	0.8601	0.8748
σ		0.2509	0.3117	2.6%	0.0022	0.0020	0.0063	0.0131	0.0089
%RSD		0.6016	0.7437	2.4	19.3863	21.7896	0.7018	1.5185	1.0207

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:06:12	0.0025	43.7413	104.7%	0.0479	0.1190	0.1736	0.0121	0.0540
2	16:07:10	0.0035	43.8204	102.3%	0.0346	0.1074	0.2219	0.0102	0.0580
3	16:08:08	0.0038	43.1618	104.3%	0.0557	0.0893	0.1489	0.0094	0.0523
x		0.0033	43.5745	103.8%	0.0460	0.1052	0.1815	0.0105	0.0548
σ		0.0007	0.3596	1.3%	0.0107	0.0150	0.0371	0.0014	0.0029
%RSD		21.1704	0.8253	1.2	23.1753	14.2365	20.4438	12.9286	5.3397

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:06:12	2.1257	2.0412	8.8787	8.9451	30.3600	30.9525	31.6960	100.0%
2	16:07:10	2.2856	2.0831	8.7466	8.9246	30.4931	31.1722	31.6170	101.7%
3	16:08:08	2.1031	1.8934	8.8961	8.7885	30.2436	30.4749	31.2905	102.6%
x		2.1715	2.0059	8.8405	8.8861	30.3655	30.8665	31.5345	101.4%
σ		0.0994	0.0997	0.0817	0.0851	0.1249	0.3565	0.2150	1.3%
%RSD		4.5798	4.9691	0.9245	0.9577	0.4112	1.1549	0.6817	1.3

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:06:12	0.2638	0.1119	0.1649	0.4938	1.1505	1.1569	1.1551	100.3%
2	16:07:10	0.2206	0.1471	0.0910	0.3980	1.1639	1.1598	1.1585	102.3%
3	16:08:08	0.1414	0.3394	0.0403	0.3091	1.1626	1.1913	1.1286	102.2%
x		0.2086	0.1995	0.0987	0.4003	1.1590	1.1693	1.1474	101.6%
σ		0.0621	0.1224	0.0627	0.0923	0.0074	0.0191	0.0164	1.1%
%RSD		29.7652	61.3775	63.4603	23.0658	0.6416	1.6294	1.4294	1.1

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:06:12	0.0637	0.0707	0.0091	0.0027	103.2%	0.0315	0.0305	41.2047
2	16:07:10	0.0911	0.0772	0.0078	0.0040	105.5%	0.0299	0.0254	41.0128
3	16:08:08	0.0836	0.0956	0.0035	0.0080	105.5%	0.0375	0.0354	40.8955
x		0.0795	0.0812	0.0068	0.0049	104.7%	0.0330	0.0304	41.0377
σ		0.0142	0.0129	0.0029	0.0028	1.3%	0.0040	0.0050	0.1561
%RSD		17.8601	15.8932	42.7092	56.5366	1.3	12.2612	16.3466	0.3804

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:06:12	41.8724	41.4904	105.7%	0.0078	0.0092	0.8889	0.8526	0.8604
2	16:07:10	41.5516	41.5810	109.2%	0.0078	0.0096	0.9252	0.8719	0.8871
3	16:08:08	41.1012	41.6087	110.2%	0.0038	0.0095	0.8646	0.8630	0.8666
x		41.5084	41.5601	108.4%	0.0065	0.0094	0.8929	0.8625	0.8714
σ		0.3874	0.0619	2.4%	0.0023	0.0002	0.0305	0.0096	0.0140
%RSD		0.9333	0.1490	2.2	35.5453	2.1621	3.4107	1.1176	1.6021

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:12:24	0.0009	9.3703	101.5%	0.0140	0.0136	0.0393	-0.0249	0.0096
2	16:13:22	0.0022	8.9506	101.5%	0.0123	0.0289	0.0666	-0.0166	0.0088
3	16:14:20	0.0018	9.2154	100.6%	0.0064	0.0334	0.0792	-0.0066	0.0109
x		0.0016	9.1788	101.2%	0.0109	0.0253	0.0617	-0.0160	0.0098
σ		0.0007	0.2122	0.5%	0.0040	0.0104	0.0204	0.0092	0.0011
%RSD		42.5743	2.3124	0.5	36.6040	40.9544	33.0019	57.1437	11.1753

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:12:24	0.4610	0.3790	1.6566	1.6527	6.6066	6.4906	6.6211	102.5%
2	16:13:22	0.4411	0.3827	1.6915	1.6533	6.5360	6.5769	6.7159	103.2%
3	16:14:20	0.4750	0.3797	1.7237	1.7071	6.5543	6.3309	6.7401	103.4%
x		0.4590	0.3805	1.6906	1.6711	6.5656	6.4661	6.6924	103.0%
σ		0.0170	0.0020	0.0336	0.0313	0.0366	0.1248	0.0629	0.4%
%RSD		3.7137	0.5155	1.9852	1.8706	0.5581	1.9305	0.9401	0.4

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:12:24	-0.0002	0.1067	-0.4832	0.0052	0.2283	0.2125	0.2363	102.4%
2	16:13:22	0.2112	0.0471	-0.4197	0.6635	0.2446	0.2585	0.2304	104.8%
3	16:14:20	0.0557	0.0466	-0.2704	0.1194	0.2551	0.2281	0.2209	105.5%
x		0.0889	0.0668	-0.3911	0.2627	0.2427	0.2330	0.2292	104.2%
σ		0.1095	0.0346	0.1092	0.3518	0.0135	0.0234	0.0078	1.6%
%RSD		123.1911	51.7427	27.9342	133.9099	5.5551	10.0302	3.3856	1.5

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:12:24	0.0124	0.0073	0.0014	0.0004	104.8%	0.0080	0.0060	8.3141
2	16:13:22	0.0203	0.0190	0.0014	0.0004	106.5%	0.0049	0.0096	8.1944
3	16:14:20	0.0166	0.0181	0.0055	0.0025	107.6%	0.0063	0.0024	8.0889
x		0.0164	0.0148	0.0028	0.0011	106.3%	0.0064	0.0060	8.1991
σ		0.0040	0.0065	0.0024	0.0012	1.4%	0.0016	0.0036	0.1127
%RSD		24.1880	43.7914	86.5789	114.2890	1.3	24.6077	59.4735	1.3741

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:12:24	8.3546	8.2614	105.5%	0.0028	0.0024	0.1647	0.1786	0.1836
2	16:13:22	8.3990	8.2479	109.1%	0.0036	0.0035	0.1669	0.1763	0.1723
3	16:14:20	8.3346	8.1870	107.7%	0.0015	0.0026	0.1956	0.1552	0.1792
x		8.3627	8.2321	107.4%	0.0026	0.0028	0.1758	0.1701	0.1784
σ		0.0330	0.0396	1.8%	0.0010	0.0006	0.0172	0.0129	0.0057
%RSD		0.3941	0.4811	1.7	39.8536	20.8504	9.8023	7.5801	3.1937

K1203338-003A +20 ppb 4/26/2012 4:17:27 PM

User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:17:27	18.7972	61.7273	106.7%	19.4220	18.9233	18.8092	19.1075	18.5486
2	16:18:25	18.3037	59.8317	106.5%	19.3375	19.0139	18.8771	18.8665	18.5192
3	16:19:23	18.7640	61.0139	104.6%	19.7963	19.1639	19.1038	19.3206	18.9030
x		18.6217	60.8576	105.9%	19.5186	19.0337	18.9300	19.0982	18.6569
σ		0.2758	0.9574	1.1%	0.2442	0.1215	0.1543	0.2272	0.2136
%RSD		1.4812	1.5732	1.1	1.2511	0.6384	0.8149	1.1896	1.1450

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:17:27	20.5060	20.0198	26.0527	25.7309	47.5221	48.5906	48.1262	102.2%
2	16:18:25	20.4855	19.9599	25.6979	25.7048	47.3026	47.4551	48.2658	102.6%
3	16:19:23	20.7292	20.1412	25.9135	25.9087	47.1344	48.2466	48.5105	102.5%
x		20.5736	20.0403	25.8880	25.7815	47.3197	48.0974	48.3008	102.4%
σ		0.1352	0.0924	0.1787	0.1110	0.1944	0.5822	0.1945	0.2%
%RSD		0.6569	0.4609	0.6904	0.4305	0.4108	1.2105	0.4027	0.2

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:17:27	19.6180	19.5908	19.7069	18.3258	21.1446	21.2275	21.2977	100.4%
2	16:18:25	19.9212	18.3458	18.9633	18.6833	21.1415	20.9914	21.0048	102.9%
3	16:19:23	19.7190	18.3080	19.3282	18.2945	21.3043	21.3363	21.1741	103.3%
x		19.7527	18.7482	19.3328	18.4346	21.1968	21.1850	21.1588	102.2%
σ		0.1544	0.7300	0.3718	0.2160	0.0931	0.1763	0.1470	1.6%
%RSD		0.7816	3.8935	1.9231	1.1718	0.4393	0.8322	0.6950	1.5

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:17:27	19.3038	19.3737	19.3485	19.1716	103.3%	19.6656	19.5412	59.8075
2	16:18:25	19.4311	19.4141	19.6763	19.2931	105.9%	19.6938	19.7617	58.8190
3	16:19:23	19.3742	19.3680	19.6857	19.1812	106.2%	19.7967	19.9712	59.2807
x		19.3697	19.3852	19.5702	19.2153	105.2%	19.7187	19.7581	59.3024
σ		0.0638	0.0251	0.1920	0.0675	1.6%	0.0690	0.2150	0.4946
%RSD		0.3293	0.1296	0.9812	0.3515	1.5	0.3501	1.0882	0.8341

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:17:27	59.4473	60.1648	105.3%	19.1364	18.8493	19.7614	19.4852	19.5943
2	16:18:25	58.9666	59.6333	109.4%	18.7891	18.6463	19.3620	19.3166	19.2882
3	16:19:23	59.0426	60.0167	108.9%	18.9934	18.9059	19.6015	19.4855	19.4268
x		59.1522	59.9383	107.9%	18.9730	18.8005	19.5750	19.4291	19.4364
σ		0.2584	0.2743	2.2%	0.1746	0.1365	0.2010	0.0974	0.1533
%RSD		0.4368	0.4576	2.1	0.9201	0.7260	1.0268	0.5015	0.7885

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:30	2.5120	143.0401	102.4%	23.7890	9.8463	10.1317	24.5176	24.2937
2	16:28:28	2.3602	141.1203	104.7%	23.8338	9.7680	9.6713	24.7233	24.1091
3	16:29:26	2.4087	140.0120	102.8%	23.9316	9.9217	9.8082	25.0435	24.7958
x		2.4270	141.3908	103.3%	23.8515	9.8453	9.8704	24.7614	24.3995
σ		0.0775	1.5320	1.3%	0.0729	0.0769	0.2364	0.2650	0.3554
%RSD		3.1940	1.0836	1.2	0.3057	0.7807	2.3951	1.0703	1.4566

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:30	26.1630	25.8625	20.5833	20.6544	54.3560	58.1658	57.7823	100.8%
2	16:28:28	25.5413	25.3826	20.4111	20.5661	54.5797	57.8724	57.7194	102.7%
3	16:29:26	26.3321	25.7817	20.5591	20.3657	54.1616	57.9826	58.0503	102.2%
x		26.0121	25.6756	20.5178	20.5287	54.3657	58.0069	57.8507	101.9%
σ		0.4164	0.2569	0.0932	0.1479	0.2092	0.1482	0.1757	1.0%
%RSD		1.6010	1.0007	0.4544	0.7206	0.3849	0.2555	0.3037	0.9

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:30	51.2487	46.1858	49.2307	48.3953	20.4572	20.7996	20.7683	100.2%
2	16:28:28	51.2186	49.4639	49.7154	50.1286	20.3577	20.5567	20.5040	102.7%
3	16:29:26	52.0129	48.9670	50.1660	50.3074	21.0879	20.8745	20.6404	102.8%
x		51.4934	48.2056	49.7040	49.6104	20.6343	20.7436	20.6376	101.9%
σ		0.4501	1.7667	0.4678	1.0561	0.3960	0.1661	0.1321	1.5%
%RSD		0.8742	3.6650	0.9411	2.1288	1.9191	0.8009	0.6403	1.4

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:30	12.3775	12.2771	25.2061	25.3178	103.3%	50.0457	50.4329	142.0108
2	16:28:28	12.3187	12.3310	25.1477	25.4121	106.7%	49.8303	50.4240	142.1650
3	16:29:26	12.3761	12.1909	25.3364	25.5250	107.1%	50.0758	50.7012	141.7721
x		12.3574	12.2663	25.2301	25.4183	105.7%	49.9840	50.5194	141.9826
σ		0.0336	0.0707	0.0966	0.1037	2.1%	0.1339	0.1576	0.1980
%RSD		0.2717	0.5763	0.3829	0.4080	2.0	0.2678	0.3119	0.1394

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:27:30	143.4104	147.5571	106.0%	49.3656	49.4593	50.5637	48.2463	49.0723
2	16:28:28	142.7882	147.2663	110.6%	49.3659	48.9629	50.5593	48.3392	48.8182
3	16:29:26	143.9323	146.6143	110.0%	49.6501	49.4245	50.8965	48.1438	49.2161
x		143.3770	147.1459	108.9%	49.4605	49.2823	50.6731	48.2431	49.0355
σ		0.5728	0.4828	2.5%	0.1642	0.2771	0.1934	0.0977	0.2015
%RSD		0.3995	0.3281	2.3	0.3320	0.5623	0.3817	0.2026	0.4109

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:09	2.3658	98.1472	104.3%	23.6234	9.7335	9.6189	24.2501	23.9919
2	16:39:08	2.4817	98.5735	103.3%	23.0723	9.7794	9.8859	24.6926	24.1752
3	16:40:06	2.5358	98.4199	102.1%	23.7932	9.9196	9.6071	24.8325	24.3729
x		2.4611	98.3802	103.2%	23.4963	9.8108	9.7040	24.5917	24.1800
σ		0.0868	0.2159	1.1%	0.3769	0.0969	0.1576	0.3041	0.1905
%RSD		3.5287	0.2194	1.0	1.6040	0.9882	1.6246	1.2364	0.7880

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:09	24.0329	24.5753	12.2229	12.1810	24.8936	27.8087	27.3849	102.5%
2	16:39:08	24.2166	24.0457	12.1968	12.0239	23.9654	27.5077	27.1877	105.1%
3	16:40:06	24.3485	24.0906	12.1965	12.0127	24.6425	27.7353	27.0116	105.5%
x		24.1993	24.2372	12.2054	12.0725	24.5005	27.6839	27.1947	104.4%
σ		0.1585	0.2937	0.0152	0.0941	0.4801	0.1569	0.1867	1.7%
%RSD		0.6551	1.2116	0.1242	0.7798	1.9596	0.5669	0.6866	1.6

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:09	50.6175	47.7288	49.4850	49.4643	18.3319	18.1143	18.0247	102.8%
2	16:39:08	50.0704	48.5296	50.2093	49.5088	18.2394	18.0195	17.9245	104.7%
3	16:40:06	49.5171	49.2319	50.7732	49.5016	17.9239	18.1580	17.8563	105.5%
x		50.0683	48.4968	50.1558	49.4916	18.1651	18.0973	17.9352	104.3%
σ		0.5502	0.7521	0.6458	0.0239	0.2139	0.0708	0.0847	1.4%
%RSD		1.0989	1.5508	1.2875	0.0482	1.1775	0.3912	0.4725	1.3

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:09	12.4272	12.4735	25.6500	25.8596	103.9%	49.7831	50.3869	99.6801
2	16:39:08	12.4529	12.4089	25.5855	25.7918	107.1%	50.1149	50.3031	100.4547
3	16:40:06	12.2667	12.4475	25.3661	25.7827	107.9%	49.6127	50.5086	99.5058
x		12.3822	12.4433	25.5339	25.8114	106.3%	49.8369	50.3995	99.8802
σ		0.1009	0.0325	0.1488	0.0420	2.1%	0.2554	0.1033	0.5051
%RSD		0.8150	0.2612	0.5829	0.1629	2.0	0.5125	0.2050	0.5057

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:38:09	99.8171	102.3125	106.3%	50.7487	50.4758	51.7445	48.8228	49.9444
2	16:39:08	100.2576	102.2274	108.5%	50.5545	50.6390	52.1545	49.1758	50.1385
3	16:40:06	99.7659	101.5760	109.5%	50.5418	50.4305	51.6218	49.1335	49.7432
x		99.9469	102.0386	108.1%	50.6150	50.5151	51.8403	49.0440	49.9420
σ		0.2703	0.4029	1.6%	0.1160	0.1096	0.2790	0.1928	0.1977
%RSD		0.2704	0.3948	1.5	0.2292	0.2171	0.5382	0.3930	0.3958

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:34	0.0005	-0.1342	99.6%	-0.0000	-0.0026	0.0164	-0.0223	-0.0011
2	16:48:32	0.0014	-0.1387	99.8%	0.0076	0.0124	0.0091	-0.0173	0.0012
3	16:49:30	0.0028	-0.1399	99.2%	0.0009	-0.0046	0.0094	-0.0216	0.0014
x		0.0015	-0.1376	99.5%	0.0028	0.0017	0.0116	-0.0204	0.0005
σ		0.0012	0.0030	0.3%	0.0042	0.0093	0.0042	0.0027	0.0014
%RSD		75.2025	2.1820	0.3	146.3927	532.6704	35.9043	13.4094	280.0910

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:34	-0.0193	-0.0353	-0.0060	0.0016	-0.1287	-0.1185	-0.1398	99.5%
2	16:48:32	-0.0024	-0.0540	-0.0007	-0.0031	-0.1531	-0.2269	-0.1216	102.0%
3	16:49:30	-0.0043	-0.0301	0.0012	-0.0015	-0.1130	-0.1355	-0.1074	101.0%
x		-0.0087	-0.0398	-0.0018	-0.0010	-0.1316	-0.1603	-0.1229	100.8%
σ		0.0093	0.0126	0.0038	0.0024	0.0202	0.0583	0.0163	1.3%
%RSD		106.9754	31.6927	206.1585	239.1248	15.3867	36.3504	13.2214	1.3

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:34	-0.0126	-0.0068	-0.0076	-0.0996	0.0106	0.0098	0.0162	100.1%
2	16:48:32	0.0180	0.1859	0.0132	0.2089	0.0316	0.0255	0.0314	101.8%
3	16:49:30	0.0726	-0.0083	-0.2957	0.2396	0.0125	0.0187	0.0149	101.7%
x		0.0260	0.0569	-0.0967	0.1163	0.0182	0.0180	0.0208	101.2%
σ		0.0432	0.1117	0.1727	0.1876	0.0116	0.0079	0.0091	1.0%
%RSD		165.9893	196.2248	178.5431	161.3089	63.6269	43.9600	43.9032	0.9

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:34	0.0105	0.0080	-0.0007	0.0023	101.1%	0.0223	0.0184	0.0002
2	16:48:32	0.0086	0.0156	0.0036	0.0054	103.8%	0.0227	0.0255	0.0132
3	16:49:30	0.0074	0.0062	0.0003	0.0027	104.1%	0.0193	0.0177	0.0012
x		0.0088	0.0099	0.0011	0.0035	103.0%	0.0214	0.0205	0.0049
σ		0.0016	0.0050	0.0023	0.0017	1.7%	0.0019	0.0043	0.0072
%RSD		17.6279	50.1680	213.0926	48.8338	1.6	8.7335	21.1187	147.8847

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:34	0.0071	0.0002	101.9%	0.0036	0.0019	0.0014	0.0034	0.0012
2	16:48:32	0.0172	0.0081	104.9%	0.0088	0.0085	0.0090	0.0036	0.0052
3	16:49:30	0.0045	0.0068	104.8%	0.0019	0.0031	0.0008	0.0001	0.0017
x		0.0096	0.0050	103.8%	0.0048	0.0045	0.0037	0.0023	0.0027
σ		0.0067	0.0042	1.7%	0.0036	0.0035	0.0046	0.0020	0.0022
%RSD		70.0533	84.0169	1.6	75.1339	78.0665	123.0808	83.4315	82.4899

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:52	2.3726	96.1650	101.9%	22.9162	9.6752	9.7807	24.3842	23.9413
2	16:53:49	2.2852	94.6675	104.6%	23.0380	9.6047	9.2910	24.1641	23.8388
3	16:54:47	2.2847	95.3404	101.5%	22.8507	9.6613	9.7755	24.1590	23.9871
x		2.3142	95.3910	102.7%	22.9350	9.6471	9.6157	24.2358	23.9224
σ		0.0506	0.7500	1.7%	0.0950	0.0374	0.2813	0.1286	0.0759
%RSD		2.1878	0.7863	1.6	0.4143	0.3874	2.9250	0.5306	0.3173

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:52	23.8275	23.8125	12.1687	11.8227	24.0387	26.6019	26.3684	101.8%
2	16:53:49	23.8391	23.5692	11.8389	11.8787	24.0406	27.4061	26.1235	102.7%
3	16:54:47	23.6920	22.9234	11.5497	11.6775	23.4483	26.2692	26.1352	103.8%
x		23.7862	23.4350	11.8524	11.7929	23.8425	26.7591	26.2090	102.8%
σ		0.0818	0.4595	0.3097	0.1038	0.3414	0.5845	0.1381	1.0%
%RSD		0.3439	1.9606	2.6132	0.8806	1.4321	2.1843	0.5270	1.0

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:52	49.1170	47.0366	48.6255	48.6664	18.4499	18.5984	18.4571	102.8%
2	16:53:49	49.1365	47.8364	49.1019	48.3830	18.6593	18.7058	18.3479	104.8%
3	16:54:47	48.7422	46.9260	48.0791	48.2539	18.3638	18.3298	18.5016	105.1%
x		48.9986	47.2663	48.6022	48.4344	18.4910	18.5447	18.4355	104.2%
σ		0.2222	0.4968	0.5118	0.2110	0.1520	0.1937	0.0791	1.3%
%RSD		0.4535	1.0510	1.0531	0.4357	0.8220	1.0443	0.4291	1.2

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:52	12.1707	12.0454	24.8041	25.0482	104.9%	48.7296	49.0132	97.0140
2	16:53:49	12.2238	12.1515	24.7147	25.1894	106.6%	49.2644	49.8018	98.2266
3	16:54:47	12.1015	12.0329	24.5936	25.1017	107.6%	49.2973	49.2085	96.6597
x		12.1654	12.0766	24.7041	25.1131	106.4%	49.0971	49.3412	97.3001
σ		0.0613	0.0652	0.1056	0.0713	1.4%	0.3187	0.4107	0.8217
%RSD		0.5041	0.5397	0.4275	0.2839	1.3	0.6491	0.8324	0.8445

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:52	97.5421	98.7479	105.2%	49.7845	49.5470	50.6415	48.0599	48.9539
2	16:53:49	97.7393	99.3351	108.7%	49.2945	49.3618	50.4208	47.8160	48.6702
3	16:54:47	96.9043	98.5495	108.9%	49.4811	49.4060	50.0719	47.5980	48.6487
x		97.3953	98.8775	107.6%	49.5200	49.4383	50.3781	47.8246	48.7576
σ		0.4364	0.4085	2.1%	0.2473	0.0967	0.2872	0.2311	0.1703
%RSD		0.4481	0.4132	1.9	0.4994	0.1956	0.5701	0.4832	0.3493

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:22	22.9208	24.0832	102.7%	24.4915	24.2377	23.7064	24.5770	23.7456
2	17:04:20	22.8470	24.2123	102.7%	24.1479	23.9317	23.6828	24.0306	23.6989
3	17:05:18	23.5594	24.0635	102.2%	24.2401	23.7332	23.2438	24.3514	23.7287
x		23.1091	24.1197	102.6%	24.2932	23.9675	23.5443	24.3197	23.7244
σ		0.3917	0.0808	0.3%	0.1778	0.2542	0.2605	0.2746	0.0236
%RSD		1.6951	0.3352	0.3	0.7320	1.0604	1.1066	1.1291	0.0997

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:22	23.7052	23.5244	23.3821	23.2587	23.9536	24.1935	24.1222	101.2%
2	17:04:20	23.8482	23.5620	23.3880	23.4986	23.7298	24.0333	24.2685	101.9%
3	17:05:18	23.4230	23.3857	23.7756	23.5209	24.3501	24.1844	23.9853	103.3%
x		23.6588	23.4907	23.5152	23.4261	24.0112	24.1371	24.1253	102.1%
σ		0.2164	0.0929	0.2255	0.1454	0.3141	0.0900	0.1416	1.1%
%RSD		0.9146	0.3954	0.9590	0.6205	1.3083	0.3728	0.5870	1.1

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:22	23.7803	23.3247	23.8488	22.6521	24.3627	24.1979	24.0041	102.3%
2	17:04:20	24.3853	23.4503	24.0984	23.4991	24.4435	24.6198	24.2088	103.8%
3	17:05:18	24.5404	23.6857	24.5659	24.6998	24.6840	24.2985	24.4421	103.9%
x		24.2353	23.4869	24.1710	23.6170	24.4967	24.3720	24.2184	103.3%
σ		0.4016	0.1833	0.3640	1.0289	0.1672	0.2203	0.2191	0.9%
%RSD		1.6570	0.7804	1.5059	4.3566	0.6823	0.9040	0.9049	0.9

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:22	24.3702	24.2862	24.4013	24.3205	102.7%	24.3890	24.7604	24.2916
2	17:04:20	24.4700	24.3271	24.5281	24.4104	105.2%	24.4574	24.5750	23.9753
3	17:05:18	24.6384	24.4869	24.5407	24.4100	105.6%	24.4174	24.6479	23.9847
x		24.4929	24.3667	24.4901	24.3803	104.5%	24.4213	24.6611	24.0839
σ		0.1355	0.1061	0.0771	0.0518	1.6%	0.0343	0.0934	0.1799
%RSD		0.5533	0.4354	0.3148	0.2123	1.5	0.1405	0.3786	0.7471

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:03:22	24.0438	24.4164	103.8%	24.2429	24.1045	24.4808	24.2848	24.3387
2	17:04:20	24.5444	24.4254	106.6%	24.3707	24.2802	24.2284	24.4398	24.2991
3	17:05:18	24.4083	24.3770	106.6%	24.2501	24.2069	24.4903	24.1982	24.1454
x		24.3322	24.4062	105.7%	24.2879	24.1972	24.3998	24.3076	24.2611
σ		0.2589	0.0257	1.6%	0.0718	0.0883	0.1485	0.1224	0.1021
%RSD		1.0638	0.1055	1.5	0.2956	0.3647	0.6088	0.5035	0.4209

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:52	0.0027	-0.1430	101.1%	-0.0025	-0.0041	0.0160	-0.0131	-0.0008
2	17:16:50	0.0019	-0.1371	98.9%	0.0007	0.0011	0.0130	-0.0150	0.0011
3	17:17:47	0.0023	-0.1147	99.1%	-0.0020	-0.0055	0.0060	-0.0250	0.0006
x		0.0023	-0.1316	99.7%	-0.0013	-0.0028	0.0116	-0.0177	0.0003
σ		0.0004	0.0149	1.2%	0.0017	0.0035	0.0051	0.0064	0.0010
%RSD		17.5584	11.3379	1.2	137.3164	121.8966	44.2585	36.1691	332.0629

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:52	-0.0090	-0.0396	-0.0013	-0.0013	-0.1850	-0.2165	-0.1675	99.2%
2	17:16:50	-0.0106	-0.0306	0.0003	0.0028	-0.2035	-0.2182	-0.2061	100.8%
3	17:17:47	-0.0170	-0.0364	0.0014	0.0151	-0.1794	-0.2593	-0.1688	100.3%
x		-0.0122	-0.0355	0.0001	0.0055	-0.1893	-0.2314	-0.1808	100.1%
σ		0.0042	0.0045	0.0013	0.0085	0.0126	0.0242	0.0219	0.8%
%RSD		34.6605	12.7795	1158.7308	154.2207	6.6607	10.4685	12.1227	0.8

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:52	0.0122	-0.0064	-0.2546	0.0645	0.0291	0.0383	0.0325	98.9%
2	17:16:50	0.0116	-0.0475	-0.1317	0.0195	0.0504	0.0349	0.0432	101.4%
3	17:17:47	0.1026	-0.0473	-0.2241	0.2997	0.0441	0.0523	0.0424	101.3%
x		0.0421	-0.0338	-0.2035	0.1279	0.0412	0.0418	0.0394	100.5%
σ		0.0524	0.0237	0.0640	0.1505	0.0109	0.0092	0.0059	1.4%
%RSD		124.3039	70.1435	31.4449	117.6415	26.5589	22.0967	15.1120	1.4

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:52	0.0052	0.0042	0.0004	0.0000	99.9%	0.0106	0.0141	0.0094
2	17:16:50	0.0084	0.0087	0.0014	0.0018	103.1%	0.0135	0.0081	-0.0054
3	17:17:47	0.0063	0.0075	0.0036	0.0027	103.6%	0.0115	0.0153	0.0013
x		0.0066	0.0068	0.0018	0.0015	102.2%	0.0119	0.0125	0.0017
σ		0.0016	0.0024	0.0016	0.0014	2.0%	0.0015	0.0039	0.0074
%RSD		24.4430	34.6125	91.1696	91.5914	2.0	12.4076	30.8210	423.8598

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:52	0.0074	0.0005	100.4%	0.0008	0.0013	-0.0006	0.0012	0.0004
2	17:16:50	0.0047	0.0005	104.0%	0.0042	0.0024	0.0024	0.0006	0.0012
3	17:17:47	0.0035	0.0029	105.4%	0.0047	0.0042	0.0031	0.0053	0.0031
x		0.0052	0.0013	103.3%	0.0032	0.0026	0.0017	0.0023	0.0016
σ		0.0020	0.0014	2.6%	0.0021	0.0015	0.0019	0.0026	0.0014
%RSD		38.6821	106.1030	2.5	66.6400	56.7380	117.3129	109.3647	89.4585

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:36	0.0009	0.7512	99.1%	0.0378	0.1310	0.1007	-0.0091	-0.0006
2	17:21:34	0.0009	0.7705	100.2%	0.0372	0.0989	0.0904	-0.0099	0.0002
3	17:22:31	0.0024	0.7631	98.3%	0.0239	0.0959	0.1094	-0.0124	0.0027
x		0.0014	0.7616	99.2%	0.0330	0.1086	0.1002	-0.0105	0.0008
σ		0.0008	0.0098	0.9%	0.0079	0.0195	0.0095	0.0017	0.0017
%RSD		58.8998	1.2822	0.9	23.8946	17.9400	9.5238	16.5617	225.7386

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:36	0.0206	0.0319	0.0847	0.1034	0.3927	0.4033	0.4183	100.0%
2	17:21:34	0.0288	0.0038	0.0973	0.0957	0.3992	0.2801	0.3491	101.9%
3	17:22:31	0.0610	0.0434	0.0895	0.0883	0.3927	0.2676	0.3816	102.0%
x		0.0368	0.0264	0.0905	0.0958	0.3949	0.3170	0.3830	101.3%
σ		0.0214	0.0204	0.0064	0.0076	0.0038	0.0750	0.0346	1.1%
%RSD		58.1275	77.4377	7.0383	7.9036	0.9579	23.6599	9.0392	1.1

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:36	-0.0144	-0.0868	-0.3547	-0.1434	0.0141	0.0213	0.0224	100.6%
2	17:21:34	0.0073	-0.0285	-0.3204	0.0049	0.0274	0.0233	0.0319	101.4%
3	17:22:31	-0.1237	-0.0091	-0.5329	-0.4757	0.0337	0.0359	0.0300	101.7%
x		-0.0436	-0.0415	-0.4027	-0.2048	0.0251	0.0268	0.0281	101.2%
σ		0.0702	0.0404	0.1141	0.2461	0.0100	0.0079	0.0050	0.6%
%RSD		161.0939	97.3993	28.3416	120.1955	39.8604	29.4373	17.9517	0.6

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:36	0.0085	0.0081	0.0026	0.0014	102.0%	0.0072	0.0048	0.0120
2	17:21:34	0.0102	0.0081	0.0003	0.0049	104.9%	0.0058	0.0074	0.0093
3	17:22:31	0.0125	0.0170	0.0025	0.0018	104.2%	0.0059	0.0094	0.0112
x		0.0104	0.0111	0.0018	0.0027	103.7%	0.0063	0.0072	0.0108
σ		0.0020	0.0051	0.0013	0.0019	1.5%	0.0008	0.0023	0.0014
%RSD		19.1303	46.3401	70.6464	72.4995	1.4	12.9486	32.1120	13.0912

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:36	0.0177	0.0104	103.6%	0.0010	0.0000	0.0188	0.0197	0.0190
2	17:21:34	0.0186	0.0138	107.5%	0.0021	0.0015	0.0182	0.0184	0.0192
3	17:22:31	0.0237	0.0132	106.9%	0.0018	0.0030	0.0214	0.0176	0.0185
x		0.0200	0.0125	106.0%	0.0016	0.0015	0.0195	0.0185	0.0189
σ		0.0032	0.0018	2.1%	0.0006	0.0015	0.0017	0.0010	0.0004
%RSD		16.0325	14.8312	2.0	35.2937	99.4556	8.8742	5.5606	1.9100

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:30	0.0027	0.8688	100.0%	0.0417	0.1156	0.1018	-0.0105	-0.0009
2	17:26:28	-0.0004	0.8194	98.7%	0.0456	0.1045	0.0726	-0.0053	-0.0008
3	17:27:26	0.0000	0.8430	99.0%	0.0409	0.1099	0.0878	-0.0051	0.0007
x		0.0008	0.8437	99.3%	0.0427	0.1100	0.0874	-0.0069	-0.0003
σ		0.0017	0.0247	0.7%	0.0025	0.0055	0.0146	0.0031	0.0009
%RSD		217.8564	2.9304	0.7	5.8705	5.0444	16.6900	44.4004	267.1175

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:30	0.0481	0.0231	0.0980	0.1051	0.4200	0.3353	0.3760	99.5%
2	17:26:28	0.0340	0.0301	0.1054	0.0941	0.3971	0.3005	0.3741	101.0%
3	17:27:26	0.0421	-0.0071	0.1040	0.0994	0.3821	0.3696	0.4216	102.0%
x		0.0414	0.0154	0.1025	0.0995	0.3997	0.3351	0.3906	100.9%
σ		0.0071	0.0198	0.0039	0.0055	0.0191	0.0346	0.0269	1.3%
%RSD		17.0921	128.4937	3.8410	5.5258	4.7761	10.3129	6.8930	1.2

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:30	0.0238	-0.0069	-0.3578	0.0939	0.0128	0.0191	0.0107	100.2%
2	17:26:28	-0.0239	-0.0281	-0.4605	-0.1121	0.0173	0.0197	0.0170	102.5%
3	17:27:26	-0.0621	-0.0289	-0.2505	-0.2994	0.0143	0.0229	0.0234	103.1%
x		-0.0207	-0.0213	-0.3563	-0.1059	0.0148	0.0206	0.0170	102.0%
σ		0.0430	0.0125	0.1050	0.1967	0.0023	0.0021	0.0064	1.5%
%RSD		207.4699	58.5132	29.4707	185.8040	15.5831	10.0345	37.2630	1.5

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:30	0.0153	0.0140	0.0015	0.0046	102.5%	0.0015	0.0053	0.0102
2	17:26:28	0.0170	0.0110	0.0025	0.0018	104.2%	0.0055	0.0055	0.0195
3	17:27:26	0.0180	0.0175	0.0014	0.0017	104.8%	0.0080	0.0055	0.0177
x		0.0168	0.0142	0.0018	0.0027	103.8%	0.0050	0.0054	0.0158
σ		0.0013	0.0033	0.0006	0.0016	1.2%	0.0033	0.0002	0.0050
%RSD		8.0142	23.1858	34.5886	60.7161	1.1	65.5482	2.8624	31.3177

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:30	0.0265	0.0216	103.6%	-0.0009	-0.0005	0.0187	0.0130	0.0190
2	17:26:28	0.0333	0.0227	107.2%	0.0009	0.0001	0.0129	0.0206	0.0180
3	17:27:26	0.0245	0.0169	107.0%	0.0003	-0.0002	0.0195	0.0176	0.0207
x		0.0281	0.0204	105.9%	0.0001	-0.0002	0.0171	0.0171	0.0192
σ		0.0046	0.0031	2.0%	0.0009	0.0003	0.0036	0.0038	0.0014
%RSD		16.4132	15.0335	1.9	990.3170	157.4299	21.1494	22.3362	7.1280

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:22	0.0024	0.6655	98.2%	0.0126	0.0312	0.0203	-0.0102	-0.0013
2	17:31:20	-0.0009	0.7024	99.7%	0.0132	0.0177	0.0109	-0.0167	-0.0008
3	17:32:18	0.0014	0.6873	99.5%	0.0185	0.0286	0.0109	-0.0106	-0.0005
x		0.0010	0.6850	99.1%	0.0148	0.0258	0.0140	-0.0125	-0.0008
σ		0.0017	0.0185	0.8%	0.0033	0.0071	0.0055	0.0036	0.0004
%RSD		175.6937	2.7055	0.8	22.1279	27.6458	38.9231	29.0545	46.5087

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:22	-0.0036	-0.0165	0.0278	0.0224	0.2112	0.2083	0.2909	100.1%
2	17:31:20	-0.0023	-0.0236	0.0262	0.0407	0.2031	0.1711	0.1912	101.8%
3	17:32:18	0.0179	-0.0145	0.0327	0.0203	0.1912	0.1788	0.2011	101.7%
x		0.0040	-0.0182	0.0289	0.0278	0.2018	0.1861	0.2277	101.2%
σ		0.0121	0.0048	0.0034	0.0112	0.0101	0.0197	0.0549	0.9%
%RSD		303.5321	26.2257	11.6677	40.4118	4.9903	10.5687	24.1075	0.9

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:22	-0.0362	0.0324	-0.0530	-0.1140	0.0056	-0.0031	0.0026	99.9%
2	17:31:20	0.0223	-0.0481	-0.4099	0.0632	0.0124	0.0175	0.0122	101.8%
3	17:32:18	-0.0219	0.0104	-0.1075	-0.0531	0.0144	0.0105	0.0147	102.9%
x		-0.0119	-0.0018	-0.1901	-0.0346	0.0108	0.0083	0.0098	101.6%
σ		0.0305	0.0416	0.1923	0.0900	0.0046	0.0105	0.0064	1.5%
%RSD		255.2415	2355.1251	101.1202	259.9884	42.8956	126.5056	65.0168	1.5

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:22	0.0086	0.0074	0.0037	0.0018	102.0%	0.0012	0.0053	0.0157
2	17:31:20	0.0079	0.0082	-0.0007	0.0009	104.0%	-0.0008	0.0027	0.0182
3	17:32:18	0.0069	0.0042	0.0025	0.0008	104.4%	0.0044	0.0022	-0.0023
x		0.0078	0.0066	0.0018	0.0012	103.4%	0.0016	0.0034	0.0105
σ		0.0009	0.0021	0.0023	0.0006	1.3%	0.0026	0.0017	0.0112
%RSD		11.2786	31.5562	126.8823	47.9112	1.2	166.3757	49.8229	106.0925

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:30:22	0.0139	0.0082	102.4%	0.0007	-0.0002	0.0054	0.0065	0.0053
2	17:31:20	0.0142	0.0101	105.3%	0.0031	0.0010	0.0047	0.0044	0.0050
3	17:32:18	0.0141	0.0101	105.9%	-0.0009	0.0010	0.0011	0.0039	0.0048
x		0.0141	0.0095	104.5%	0.0010	0.0006	0.0037	0.0049	0.0050
σ		0.0001	0.0011	1.8%	0.0020	0.0007	0.0023	0.0013	0.0003
%RSD		1.0573	11.6359	1.7	210.7560	118.5228	61.6652	26.9889	5.3182

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:34:56	19.2560	20.2158	100.8%	19.7181	19.5128	18.8819	19.4756	18.9730
2	17:35:54	18.3210	19.7175	102.7%	18.9114	18.9806	18.9595	18.9426	18.6839
3	17:36:51	18.5350	19.8642	99.8%	19.3558	19.1666	18.9269	19.4417	18.8236
x		18.7040	19.9325	101.1%	19.3285	19.2200	18.9227	19.2866	18.8268
σ		0.4899	0.2561	1.5%	0.4040	0.2701	0.0390	0.2984	0.1446
%RSD		2.6191	1.2849	1.5	2.0903	1.4053	0.2059	1.5472	0.7680

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:34:56	19.1254	19.2639	19.3359	19.0114	19.3543	20.4236	20.1055	100.5%
2	17:35:54	18.4280	18.7505	19.0414	18.9522	19.2716	20.1978	19.7314	102.9%
3	17:36:51	18.9937	18.6166	19.0087	18.5721	19.3705	19.5517	19.5472	102.1%
x		18.8490	18.8770	19.1287	18.8452	19.3322	20.0577	19.7947	101.8%
σ		0.3705	0.3417	0.1802	0.2384	0.0530	0.4525	0.2845	1.3%
%RSD		1.9656	1.8100	0.9421	1.2649	0.2744	2.2561	1.4372	1.2

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:34:56	19.9801	18.2748	19.3465	19.9670	19.8817	19.9032	19.9275	101.6%
2	17:35:54	19.1353	19.2342	18.5288	18.4924	19.3521	19.4396	19.2317	102.1%
3	17:36:51	18.8843	18.6990	18.5039	18.4446	19.3572	19.3873	19.2713	102.9%
x		19.3332	18.7360	18.7930	18.9680	19.5303	19.5767	19.4768	102.2%
σ		0.5741	0.4808	0.4794	0.8655	0.3043	0.2840	0.3908	0.7%
%RSD		2.9696	2.5659	2.5511	4.5631	1.5581	1.4507	2.0065	0.6

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:34:56	19.8747	19.9326	19.6730	19.8765	102.5%	19.6086	19.8872	19.3872
2	17:35:54	19.7979	19.7195	19.5516	19.5039	104.7%	19.6757	19.7954	19.7445
3	17:36:51	19.5509	19.7030	19.6433	19.3821	105.3%	19.4824	19.6125	19.3462
x		19.7412	19.7851	19.6226	19.5875	104.1%	19.5889	19.7650	19.4926
σ		0.1692	0.1281	0.0633	0.2576	1.5%	0.0981	0.1398	0.2191
%RSD		0.8572	0.6474	0.3224	1.3151	1.4	0.5010	0.7074	1.1239

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:34:56	20.0055	19.8415	103.1%	19.5370	19.4841	19.6086	19.6755	19.5814
2	17:35:54	19.5906	19.5348	106.0%	19.4123	19.3105	19.5484	19.8613	19.5305
3	17:36:51	19.5887	19.4842	106.4%	19.5923	19.3298	19.5049	19.3667	19.4230
x		19.7283	19.6202	105.2%	19.5138	19.3748	19.5539	19.6345	19.5116
σ		0.2401	0.1933	1.8%	0.0922	0.0951	0.0521	0.2498	0.0809
%RSD		1.2169	0.9854	1.7	0.4725	0.4911	0.2663	1.2724	0.4146

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:45	2.3561	99.1645	102.0%	23.8858	9.6659	9.5962	24.1165	23.8977
2	17:45:43	2.2716	95.6165	100.5%	23.9920	9.8538	9.7791	24.6442	24.1699
3	17:46:41	2.3376	95.8207	99.6%	24.1035	9.8160	9.9741	24.3479	23.9938
x		2.3218	96.8672	100.7%	23.9938	9.7785	9.7831	24.3695	24.0205
σ		0.0444	1.9921	1.2%	0.1088	0.0994	0.1890	0.2645	0.1380
%RSD		1.9124	2.0565	1.2	0.4536	1.0164	1.9322	1.0855	0.5746

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:45	23.9142	23.7999	12.1619	12.1001	24.7584	27.5908	27.2949	101.0%
2	17:45:43	23.9610	23.6361	11.9794	12.1563	24.7966	28.6459	27.2397	101.6%
3	17:46:41	23.8505	23.6334	11.8169	11.6246	24.7293	27.2825	26.6777	101.4%
x		23.9085	23.6898	11.9861	11.9603	24.7614	27.8397	27.0708	101.3%
σ		0.0555	0.0954	0.1726	0.2921	0.0337	0.7150	0.3415	0.3%
%RSD		0.2320	0.4026	1.4396	2.4422	0.1362	2.5683	1.2616	0.3

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:45	48.5316	47.2439	47.6539	48.2351	18.3138	18.7212	18.4523	101.0%
2	17:45:43	48.7560	47.0634	47.9551	48.9021	18.2157	18.5538	18.3369	102.5%
3	17:46:41	49.6417	45.9058	48.2595	48.4291	18.4277	18.4159	18.4989	103.2%
x		48.9764	46.7377	47.9562	48.5221	18.3191	18.5637	18.4294	102.2%
σ		0.5870	0.7261	0.3028	0.3431	0.1061	0.1529	0.0834	1.1%
%RSD		1.1985	1.5535	0.6314	0.7071	0.5792	0.8235	0.4524	1.1

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:45	12.3601	12.2733	25.3210	25.5972	102.8%	49.5923	49.8114	100.2436
2	17:45:43	12.2423	12.1800	24.7959	25.0954	106.0%	49.6704	50.2720	98.8291
3	17:46:41	12.4617	12.2228	25.0220	25.4053	106.1%	49.8202	49.8860	98.3028
x		12.3547	12.2254	25.0463	25.3660	105.0%	49.6943	49.9898	99.1252
σ		0.1098	0.0467	0.2634	0.2532	1.9%	0.1158	0.2473	1.0037
%RSD		0.8886	0.3820	1.0515	0.9982	1.8	0.2331	0.4946	1.0125

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:44:45	99.4178	100.8428	105.1%	49.9567	49.8422	50.7541	48.5130	49.2136
2	17:45:43	98.9779	100.5425	108.3%	49.7890	49.5281	50.6796	48.3099	49.1809
3	17:46:41	98.3953	100.0337	108.4%	49.9069	49.8584	51.2068	48.4149	49.3874
x		98.9303	100.4730	107.3%	49.8842	49.7429	50.8802	48.4126	49.2606
σ		0.5129	0.4090	1.9%	0.0861	0.1862	0.2853	0.1016	0.1110
%RSD		0.5184	0.4071	1.7	0.1726	0.3744	0.5608	0.2098	0.2254

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:25	0.0009	1.0739	99.5%	0.0557	0.0879	0.0923	0.0016	-0.0006
2	17:55:23	0.0032	1.0038	99.8%	0.0484	0.0688	0.1054	0.0067	0.0002
3	17:56:21	0.0047	1.0366	98.1%	0.0643	0.0854	0.0876	0.0096	-0.0012
x		0.0029	1.0381	99.1%	0.0561	0.0807	0.0951	0.0060	-0.0005
σ		0.0019	0.0351	0.9%	0.0080	0.0104	0.0092	0.0040	0.0007
%RSD		64.3571	3.3786	0.9	14.2276	12.9039	9.6952	67.7832	141.8466

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:25	0.0320	0.0165	0.0955	0.0599	1.6265	1.4879	1.6257	98.4%
2	17:55:23	0.0407	0.0479	0.0856	0.0640	1.6017	1.4994	1.7157	99.8%
3	17:56:21	0.0408	0.0492	0.0924	0.0564	1.6358	1.7430	1.6156	99.7%
x		0.0378	0.0379	0.0912	0.0601	1.6213	1.5767	1.6523	99.3%
σ		0.0051	0.0185	0.0051	0.0038	0.0177	0.1441	0.0551	0.8%
%RSD		13.4145	48.8046	5.5390	6.2860	1.0886	9.1369	3.3338	0.8

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:25	0.0703	0.0956	-0.0513	0.3065	0.0360	0.0351	0.0384	98.0%
2	17:55:23	0.1350	-0.0269	-0.0895	0.3768	0.0586	0.0685	0.0678	99.5%
3	17:56:21	0.0730	-0.0070	-0.2968	0.2128	0.0483	0.0589	0.0535	99.9%
x		0.0928	0.0206	-0.1459	0.2987	0.0476	0.0542	0.0532	99.2%
σ		0.0366	0.0657	0.1321	0.0822	0.0113	0.0172	0.0147	1.0%
%RSD		39.4143	319.6353	90.5328	27.5339	23.7030	31.7479	27.5834	1.0

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:25	0.0125	0.0130	0.0094	0.0109	99.4%	0.0270	0.0359	0.0323
2	17:55:23	0.0100	0.0089	0.0037	0.0101	102.1%	0.0296	0.0334	0.0377
3	17:56:21	0.0111	0.0079	0.0059	0.0142	102.7%	0.0312	0.0322	0.0391
x		0.0112	0.0099	0.0063	0.0118	101.4%	0.0293	0.0338	0.0364
σ		0.0012	0.0027	0.0029	0.0022	1.8%	0.0021	0.0019	0.0036
%RSD		10.9644	27.2035	46.0320	18.3656	1.8	7.3190	5.6670	9.9290

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:54:25	0.0398	0.0312	102.1%	0.0010	0.0027	0.0030	0.0047	0.0051
2	17:55:23	0.0344	0.0357	104.5%	0.0041	0.0049	0.0008	0.0076	0.0057
3	17:56:21	0.0479	0.0355	104.9%	0.0028	0.0059	0.0090	0.0110	0.0093
x		0.0407	0.0341	103.8%	0.0027	0.0045	0.0043	0.0078	0.0067
σ		0.0068	0.0025	1.5%	0.0016	0.0017	0.0043	0.0032	0.0023
%RSD		16.6783	7.4337	1.5	58.1001	36.6397	99.6493	40.7665	33.8343

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:59:30	-0.0005	0.3719	101.7%	0.0032	0.0098	0.0105	-0.0159	-0.0016
2	18:00:28	-0.0018	0.2789	100.4%	0.0039	0.0037	0.0003	-0.0219	-0.0013
3	18:01:26	0.0018	0.3061	100.6%	0.0010	0.0017	0.0055	-0.0144	0.0000
x		-0.0002	0.3190	100.9%	0.0027	0.0051	0.0054	-0.0174	-0.0010
σ		0.0018	0.0478	0.7%	0.0015	0.0042	0.0051	0.0040	0.0009
%RSD		1083.5707	14.9923	0.7	55.0677	82.2394	93.5396	22.9719	89.8540

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:59:30	-0.0103	0.0044	0.0072	0.0063	-0.1181	-0.1973	-0.1371	100.2%
2	18:00:28	-0.0152	-0.0395	0.0031	-0.0016	-0.1004	-0.2056	-0.1175	101.3%
3	18:01:26	0.0065	0.0133	0.0014	0.0026	-0.0555	-0.0883	-0.0688	101.2%
x		-0.0063	-0.0073	0.0039	0.0024	-0.0913	-0.1637	-0.1078	100.9%
σ		0.0114	0.0283	0.0030	0.0040	0.0322	0.0654	0.0352	0.6%
%RSD		179.4038	389.1295	76.9278	162.8783	35.3072	39.9564	32.6462	0.6

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:59:30	-0.0237	-0.0472	-0.0012	-0.1578	0.0277	0.0096	0.0232	100.9%
2	18:00:28	0.0659	-0.0085	-0.4424	0.2099	0.0361	0.0303	0.0239	101.3%
3	18:01:26	0.0040	-0.0674	-0.3279	-0.0535	0.0307	0.0185	0.0290	102.5%
x		0.0154	-0.0411	-0.2572	-0.0005	0.0315	0.0195	0.0254	101.6%
σ		0.0459	0.0299	0.2289	0.1895	0.0042	0.0104	0.0031	0.8%
%RSD		297.8038	72.8647	89.0256	39970.3390	13.4215	53.2331	12.3304	0.8

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:59:30	0.0046	0.0030	0.0004	0.0023	100.9%	0.0154	0.0084	0.0003
2	18:00:28	0.0054	0.0015	-0.0007	0.0004	103.8%	0.0175	0.0138	-0.0022
3	18:01:26	0.0062	0.0031	0.0069	0.0027	103.3%	0.0161	0.0174	-0.0055
x		0.0054	0.0025	0.0022	0.0018	102.7%	0.0163	0.0132	-0.0025
σ		0.0008	0.0009	0.0041	0.0012	1.6%	0.0010	0.0045	0.0029
%RSD		15.4287	36.9591	190.4520	68.0355	1.5	6.2931	34.0923	116.4324

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:59:30	0.0041	0.0043	101.9%	0.0014	0.0012	0.0046	0.0092	0.0068
2	18:00:28	0.0093	0.0060	105.7%	0.0022	0.0029	0.0046	0.0092	0.0064
3	18:01:26	0.0232	0.0060	105.1%	0.0044	0.0027	0.0090	0.0075	0.0082
x		0.0122	0.0054	104.2%	0.0027	0.0023	0.0061	0.0086	0.0072
σ		0.0098	0.0010	2.0%	0.0016	0.0009	0.0025	0.0010	0.0009
%RSD		80.7046	18.6418	1.9	59.2442	39.9288	41.5637	11.3320	13.1682

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:06	2.4721	100.7228	102.0%	23.6786	10.0082	9.7489	24.9740	24.7611
2	18:05:03	2.4504	98.6152	100.8%	23.5545	9.9834	9.7007	25.0979	24.7215
3	18:06:01	2.3742	98.6777	100.8%	23.4895	9.7131	9.5316	24.6991	24.5623
x		2.4322	99.3386	101.2%	23.5742	9.9016	9.6604	24.9236	24.6816
σ		0.0514	1.1992	0.7%	0.0961	0.1637	0.1141	0.2041	0.1052
%RSD		2.1133	1.2072	0.7	0.4075	1.6529	1.1810	0.8188	0.4264

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:06	24.3021	24.0809	12.0330	12.0989	24.8312	28.5685	26.7384	101.2%
2	18:05:03	24.6861	23.9150	12.1297	12.4244	24.8966	28.4429	27.0484	102.5%
3	18:06:01	24.8634	24.4288	11.9245	12.2534	24.4874	28.3557	27.1368	102.2%
x		24.6172	24.1416	12.0291	12.2589	24.7384	28.4557	26.9746	102.0%
σ		0.2869	0.2622	0.1027	0.1628	0.2198	0.1070	0.2093	0.7%
%RSD		1.1655	1.0860	0.8535	1.3284	0.8887	0.3760	0.7758	0.6

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:06	50.4597	50.5335	50.9110	49.8943	18.5089	18.6588	18.6895	101.6%
2	18:05:03	51.1136	48.0910	50.5996	50.5930	18.4152	18.5883	18.6154	102.5%
3	18:06:01	50.2282	47.9191	49.4851	49.6187	18.6115	18.6652	18.4362	104.5%
x		50.6005	48.8479	50.3319	50.0353	18.5119	18.6374	18.5804	102.8%
σ		0.4591	1.4623	0.7497	0.5023	0.0982	0.0427	0.1302	1.5%
%RSD		0.9074	2.9937	1.4896	1.0038	0.5305	0.2291	0.7008	1.5

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:06	12.5405	12.5700	25.8960	25.6412	103.6%	50.4593	50.8237	100.9597
2	18:05:03	12.4469	12.3327	25.2763	25.4790	105.9%	50.5521	51.1328	100.6606
3	18:06:01	12.5380	12.5257	25.5524	25.4228	106.0%	51.1689	50.8512	99.9688
x		12.5085	12.4761	25.5749	25.5143	105.2%	50.7268	50.9359	100.5297
σ		0.0533	0.1262	0.3105	0.1134	1.4%	0.3857	0.1711	0.5082
%RSD		0.4261	1.0112	1.2139	0.4445	1.3	0.7603	0.3359	0.5055

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:04:06	101.2599	102.7360	104.3%	50.8178	50.7239	52.0536	49.4207	50.2937
2	18:05:03	100.6887	103.0424	106.9%	51.1280	50.6979	52.2097	49.4964	50.4073
3	18:06:01	101.0345	102.3843	106.6%	50.9011	51.0671	52.4841	49.7014	50.5518
x		100.9944	102.7209	105.9%	50.9490	50.8296	52.2491	49.5395	50.4176
σ		0.2877	0.3293	1.4%	0.1605	0.2061	0.2179	0.1452	0.1294
%RSD		0.2849	0.3206	1.3	0.3151	0.4054	0.4171	0.2932	0.2566

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:34	0.0314	1578.6444	94.5%	4.8769	4.7612	5.4570	47.5468	0.9609
2	18:15:32	0.0352	1546.1393	96.0%	4.7313	4.6625	5.6039	46.1859	0.9410
3	18:16:30	0.0314	1511.8252	97.1%	4.7181	4.5605	5.4966	46.0201	0.9419
x		0.0327	1545.5363	95.9%	4.7754	4.6614	5.5192	46.5842	0.9479
σ		0.0022	33.4137	1.3%	0.0881	0.1004	0.0760	0.8377	0.0112
%RSD		6.5821	2.1619	1.4	1.8449	2.1528	1.3768	1.7982	1.1832

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:34	4.6344	7.0914	4.2290	3.4761	7.5084	7.6772	7.4938	90.1%
2	18:15:32	4.5775	7.6936	4.2250	3.4785	7.2919	7.2426	7.7605	92.8%
3	18:16:30	4.5800	8.0816	4.3006	3.4592	7.5414	6.8949	7.5856	93.1%
x		4.5973	7.6222	4.2516	3.4713	7.4472	7.2715	7.6133	92.0%
σ		0.0321	0.4989	0.0425	0.0105	0.1355	0.3919	0.1355	1.7%
%RSD		0.6990	6.5457	1.0006	0.3034	1.8199	5.3902	1.7796	1.8

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:34	0.8821	0.6692	-0.0515	0.6838	0.2339	0.2370	0.2248	87.9%
2	18:15:32	1.0730	0.6034	-0.3965	0.8739	0.2648	0.2721	0.2852	90.6%
3	18:16:30	0.8353	0.9427	-0.0496	0.3717	0.2687	0.2416	0.2429	91.5%
x		0.9301	0.7384	-0.1659	0.6431	0.2558	0.2502	0.2509	90.0%
σ		0.1259	0.1799	0.1997	0.2535	0.0191	0.0191	0.0310	1.9%
%RSD		13.5352	24.3650	120.4094	39.4202	7.4524	7.6235	12.3506	2.1

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:34	0.0717	0.0578	0.0227	0.0211	92.6%	0.0633	0.0419	6.9940
2	18:15:32	0.0716	0.0652	0.0219	0.0218	96.0%	0.0665	0.0601	7.0797
3	18:16:30	0.0745	0.0649	0.0274	0.0205	97.5%	0.0615	0.0555	6.9787
x		0.0726	0.0626	0.0240	0.0211	95.4%	0.0638	0.0525	7.0175
σ		0.0016	0.0042	0.0030	0.0007	2.5%	0.0026	0.0094	0.0544
%RSD		2.2458	6.7066	12.5536	3.1220	2.6	4.0169	17.9865	0.7752

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:34	7.1613	7.0948	99.2%	0.0131	0.0108	1.4937	1.3879	1.4421
2	18:15:32	7.2509	7.1592	102.4%	0.0097	0.0126	1.4873	1.3944	1.4508
3	18:16:30	7.0855	7.0172	104.2%	0.0143	0.0105	1.4425	1.3852	1.4268
x		7.1659	7.0904	102.0%	0.0123	0.0113	1.4745	1.3892	1.4399
σ		0.0828	0.0711	2.5%	0.0024	0.0011	0.0279	0.0047	0.0122
%RSD		1.1555	1.0027	2.5	19.0800	9.7678	1.8932	0.3406	0.8443

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:19	0.0314	1450.3603	98.6%	4.4957	4.5239	5.5245	45.3019	0.9390
2	18:20:17	0.0336	1456.6744	96.3%	4.5470	4.5138	5.5387	45.9657	0.9263
3	18:21:15	0.0401	1458.6089	98.8%	4.5320	4.4879	5.5076	44.8920	0.9080
x		0.0350	1455.2146	97.9%	4.5249	4.5085	5.5236	45.3866	0.9244
σ		0.0045	4.3137	1.4%	0.0264	0.0186	0.0155	0.5418	0.0156
%RSD		12.8765	0.2964	1.4	0.5829	0.4118	0.2815	1.1938	1.6840

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:19	4.6808	8.1463	4.1579	3.2115	7.0641	7.2747	6.9900	93.4%
2	18:20:17	4.5221	8.3038	4.1680	3.2395	7.2445	7.3118	7.4617	94.6%
3	18:21:15	4.5111	8.1485	4.1511	3.2429	6.9360	7.4558	7.2922	95.5%
x		4.5713	8.1995	4.1590	3.2313	7.0815	7.3474	7.2480	94.5%
σ		0.0950	0.0903	0.0085	0.0172	0.1550	0.0957	0.2389	1.1%
%RSD		2.0771	1.1015	0.2047	0.5331	2.1888	1.3024	3.2965	1.1

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:19	1.0452	0.9409	-0.1175	1.2205	0.2448	0.1937	0.2048	91.2%
2	18:20:17	1.1764	0.5043	-0.1687	1.1543	0.2346	0.2773	0.2176	93.2%
3	18:21:15	0.9717	0.9370	-0.0901	0.7220	0.2146	0.2275	0.2236	94.1%
x		1.0644	0.7941	-0.1254	1.0323	0.2313	0.2328	0.2154	92.8%
σ		0.1037	0.2510	0.0399	0.2707	0.0153	0.0421	0.0096	1.5%
%RSD		9.7416	31.6037	31.8055	26.2264	6.6318	18.0711	4.4563	1.6

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:19	0.0625	0.0559	0.0194	0.0173	96.4%	0.0431	0.0438	6.8873
2	18:20:17	0.0608	0.0679	0.0097	0.0212	98.6%	0.0475	0.0432	6.7550
3	18:21:15	0.0605	0.0652	0.0108	0.0173	98.9%	0.0427	0.0496	6.8932
x		0.0612	0.0630	0.0133	0.0186	98.0%	0.0444	0.0455	6.8452
σ		0.0011	0.0063	0.0053	0.0023	1.4%	0.0027	0.0036	0.0781
%RSD		1.7357	10.0199	40.0540	12.1371	1.4	6.0007	7.8356	1.1413

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:19	7.0093	6.9206	102.1%	0.0101	0.0096	1.4676	1.3630	1.4066
2	18:20:17	6.8802	6.9266	104.3%	0.0101	0.0105	1.4534	1.3739	1.4133
3	18:21:15	6.7796	6.9186	104.6%	0.0079	0.0098	1.4487	1.4177	1.4272
x		6.8897	6.9219	103.7%	0.0094	0.0100	1.4566	1.3849	1.4157
σ		0.1152	0.0042	1.4%	0.0013	0.0005	0.0098	0.0290	0.0105
%RSD		1.6714	0.0606	1.4	13.6276	4.7985	0.6737	2.0906	0.7414

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:24:10	22.8958	24.5198	103.3%	24.3358	24.0287	24.0433	24.1048	23.8357
2	18:25:08	22.9292	24.1811	102.1%	24.2098	24.1922	23.9428	24.0028	23.4041
3	18:26:06	22.4557	23.4224	101.3%	24.4766	24.0436	24.0993	24.0999	23.6966
x		22.7602	24.0411	102.2%	24.3407	24.0882	24.0284	24.0692	23.6455
σ		0.2643	0.5619	1.0%	0.1335	0.0904	0.0793	0.0575	0.2203
%RSD		1.1612	2.3372	1.0	0.5483	0.3753	0.3300	0.2390	0.9316

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:24:10	23.7095	23.6841	23.3270	23.3552	23.8686	24.4093	24.1298	102.1%
2	18:25:08	23.6052	23.8002	23.1160	23.3761	23.7163	24.4552	24.4311	102.6%
3	18:26:06	23.5164	23.6386	23.6256	23.8121	23.7933	23.6037	24.2080	102.0%
x		23.6104	23.7076	23.3562	23.5145	23.7927	24.1561	24.2563	102.2%
σ		0.0966	0.0834	0.2560	0.2580	0.0761	0.4789	0.1563	0.4%
%RSD		0.4093	0.3516	1.0962	1.0971	0.3201	1.9827	0.6445	0.4

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:24:10	25.1131	23.3504	24.2626	23.4886	24.3314	24.2363	24.0177	103.3%
2	18:25:08	24.3495	23.6472	24.3696	24.4877	24.4206	24.2972	24.0769	103.8%
3	18:26:06	24.7309	23.3263	24.0764	25.3088	24.5086	24.4624	24.5674	102.8%
x		24.7312	23.4413	24.2362	24.4284	24.4202	24.3320	24.2207	103.3%
σ		0.3818	0.1787	0.1484	0.9116	0.0886	0.1170	0.3018	0.5%
%RSD		1.5437	0.7623	0.6123	3.7315	0.3628	0.4809	1.2459	0.5

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:24:10	24.0310	24.2987	24.7104	24.4254	104.4%	24.5339	24.5252	24.6088
2	18:25:08	24.4294	24.4966	24.5433	24.3262	105.9%	24.5870	24.8532	24.9901
3	18:26:06	24.4066	24.4318	24.8658	24.2385	106.6%	24.6358	24.6386	24.3244
x		24.2890	24.4091	24.7065	24.3301	105.6%	24.5856	24.6723	24.6411
σ		0.2237	0.1009	0.1613	0.0935	1.1%	0.0510	0.1666	0.3340
%RSD		0.9212	0.4134	0.6529	0.3844	1.1	0.2074	0.6752	1.3555

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:24:10	24.7181	24.5429	105.8%	24.0332	24.0998	24.1816	24.0724	24.0708
2	18:25:08	24.6352	24.4238	107.5%	24.3871	24.2568	24.5097	24.4488	24.4466
3	18:26:06	24.3280	24.3662	107.8%	24.4573	24.2930	24.5426	24.3769	24.2913
x		24.5604	24.4443	107.0%	24.2925	24.2165	24.4113	24.2994	24.2696
σ		0.2055	0.0901	1.1%	0.2273	0.1027	0.1996	0.1999	0.1888
%RSD		0.8368	0.3687	1.0	0.9357	0.4243	0.8177	0.8225	0.7781

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:34	0.0038	-0.1188	97.0%	0.0071	0.0041	0.0517	-0.0242	-0.0003
2	18:36:32	0.0033	-0.1217	98.3%	0.0051	-0.0007	0.0382	-0.0188	0.0008
3	18:37:30	0.0057	-0.0908	97.3%	-0.0108	-0.0028	0.0759	-0.0175	-0.0002
x		0.0043	-0.1104	97.5%	0.0005	0.0002	0.0553	-0.0202	0.0001
σ		0.0013	0.0171	0.6%	0.0098	0.0035	0.0191	0.0035	0.0006
%RSD		29.3516	15.4675	0.7	2008.8587	1712.3240	34.6036	17.5421	690.9861

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:34	-0.0098	0.1109	0.0092	0.0051	-0.2047	-0.2130	-0.1922	97.5%
2	18:36:32	-0.0025	0.1375	0.0107	-0.0055	-0.1862	-0.2649	-0.1543	99.1%
3	18:37:30	-0.0097	0.1202	0.0138	0.0176	-0.1886	-0.2440	-0.1548	99.5%
x		-0.0073	0.1228	0.0112	0.0058	-0.1931	-0.2406	-0.1671	98.7%
σ		0.0042	0.0135	0.0023	0.0116	0.0101	0.0261	0.0218	1.1%
%RSD		57.6115	10.9902	20.9635	201.3682	5.2072	10.8543	13.0169	1.1

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:34	0.0257	-0.0250	-0.2923	0.0958	0.0260	0.0222	0.0304	97.1%
2	18:36:32	0.0184	0.0136	-0.1166	0.0642	0.0622	0.0426	0.0513	99.8%
3	18:37:30	0.0422	-0.0469	-0.3631	0.1235	0.0522	0.0561	0.0435	101.0%
x		0.0288	-0.0195	-0.2573	0.0945	0.0468	0.0403	0.0418	99.3%
σ		0.0122	0.0306	0.1269	0.0297	0.0187	0.0170	0.0105	2.0%
%RSD		42.2649	157.2914	49.3259	31.3904	39.9197	42.2363	25.2683	2.0

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:34	0.0061	0.0074	0.0004	-0.0005	98.3%	0.0089	0.0087	-0.0135
2	18:36:32	0.0102	0.0057	0.0059	0.0023	102.3%	0.0129	0.0097	0.0051
3	18:37:30	0.0113	0.0117	0.0003	0.0027	102.6%	0.0121	0.0092	-0.0020
x		0.0092	0.0083	0.0022	0.0015	101.1%	0.0113	0.0092	-0.0035
σ		0.0027	0.0031	0.0032	0.0017	2.4%	0.0021	0.0005	0.0094
%RSD		29.6200	37.3499	144.0114	113.6086	2.3	18.8621	5.2169	270.0026

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:34	-0.0016	-0.0006	100.3%	0.0031	0.0026	-0.0010	0.0030	0.0013
2	18:36:32	0.0028	0.0025	103.9%	0.0042	0.0034	-0.0011	0.0023	0.0021
3	18:37:30	0.0066	0.0075	104.8%	0.0057	0.0055	0.0047	0.0032	0.0027
x		0.0026	0.0031	103.0%	0.0043	0.0039	0.0009	0.0028	0.0020
σ		0.0041	0.0041	2.3%	0.0013	0.0015	0.0033	0.0004	0.0007
%RSD		156.7672	129.7284	2.3	30.6124	39.1097	381.1414	15.5050	36.0731

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:47	0.0116	311.1172	95.3%	0.9256	0.9174	1.2044	9.3883	0.2033
2	19:04:45	0.0093	303.2871	94.6%	0.9331	0.9375	1.1963	9.4626	0.1856
3	19:05:43	0.0088	305.9509	94.8%	0.9693	0.9417	1.1950	9.3313	0.1836
x		0.0099	306.7850	94.9%	0.9427	0.9322	1.1986	9.3941	0.1908
σ		0.0015	3.9811	0.4%	0.0233	0.0130	0.0051	0.0658	0.0108
%RSD		15.0299	1.2977	0.4	2.4766	1.3940	0.4238	0.7008	5.6775

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:47	0.9552	1.2156	0.8690	0.6779	1.6635	1.4430	1.8111	96.6%
2	19:04:45	0.9707	1.3094	0.9112	0.6770	1.6646	1.5517	1.6722	96.7%
3	19:05:43	0.8569	1.3676	0.8475	0.6680	1.7311	1.7968	1.6047	97.1%
x		0.9276	1.2975	0.8759	0.6743	1.6864	1.5972	1.6960	96.8%
σ		0.0617	0.0767	0.0324	0.0055	0.0387	0.1812	0.1052	0.3%
%RSD		6.6537	5.9104	3.7037	0.8140	2.2948	11.3465	6.2045	0.3

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:47	0.0374	0.0583	-0.1267	-0.4123	0.0400	0.0348	0.0404	95.9%
2	19:04:45	0.1832	0.2221	-0.4315	0.1422	0.0455	0.0356	0.0371	97.0%
3	19:05:43	0.0835	0.1185	-0.2224	-0.1640	0.0460	0.0462	0.0406	97.5%
x		0.1014	0.1329	-0.2602	-0.1447	0.0439	0.0388	0.0394	96.8%
σ		0.0745	0.0829	0.1559	0.2778	0.0033	0.0064	0.0020	0.8%
%RSD		73.5487	62.3264	59.9052	191.9785	7.6174	16.3860	5.0143	0.9

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:47	0.0072	0.0062	0.0050	0.0024	98.9%	0.0084	0.0081	1.5013
2	19:04:45	0.0058	0.0025	0.0037	0.0042	101.1%	0.0107	0.0063	1.2927
3	19:05:43	0.0090	0.0036	0.0059	0.0050	102.8%	0.0052	0.0086	1.2549
x		0.0073	0.0041	0.0049	0.0039	100.9%	0.0081	0.0077	1.3496
σ		0.0016	0.0019	0.0011	0.0013	1.9%	0.0028	0.0012	0.1327
%RSD		22.2363	46.3558	22.2609	34.5986	1.9	34.0128	15.6164	9.8336

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:47	1.3718	1.4077	103.7%	0.0042	0.0052	0.2960	0.2997	0.3019
2	19:04:45	1.4320	1.3738	107.1%	0.0031	0.0035	0.3240	0.3067	0.3021
3	19:05:43	1.4309	1.3974	107.4%	0.0040	0.0065	0.3042	0.3104	0.3049
x		1.4116	1.3929	106.1%	0.0037	0.0051	0.3081	0.3056	0.3030
σ		0.0344	0.0174	2.1%	0.0006	0.0015	0.0144	0.0054	0.0017
%RSD		2.4397	1.2489	2.0	15.9006	29.6751	4.6687	1.7749	0.5542

K1203581-001A +20 ppb 4/26/2012 7:08:29 PM

User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:29	17.0286	1502.7777	96.7%	23.8010	23.0925	23.8043	63.6380	19.0693
2	19:09:27	16.5086	1421.6519	95.7%	23.4250	22.9866	24.0648	63.1177	18.6945
3	19:10:25	16.6941	1436.4115	96.5%	23.7272	22.9519	23.6444	62.9086	18.4023
x		16.7437	1453.6137	96.3%	23.6511	23.0103	23.8378	63.2215	18.7221
σ		0.2635	43.2121	0.5%	0.1992	0.0732	0.2122	0.3756	0.3344
%RSD		1.5740	2.9727	0.5	0.8424	0.3183	0.8900	0.5941	1.7860

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:29	21.9686	25.1249	21.0528	20.3254	25.0452	25.6288	25.9291	92.1%
2	19:09:27	21.6370	25.5464	21.8195	20.8228	25.5773	26.2145	25.0843	93.8%
3	19:10:25	21.5607	26.1914	20.8866	20.0303	24.7539	24.5460	25.3925	94.4%
x		21.7221	25.6209	21.2530	20.3928	25.1255	25.4631	25.4686	93.4%
σ		0.2168	0.5371	0.4977	0.4006	0.4175	0.8465	0.4275	1.2%
%RSD		0.9982	2.0965	2.3416	1.9643	1.6618	3.3243	1.6785	1.3

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:29	21.0239	19.5923	19.2534	20.6491	21.0967	20.9861	20.8944	91.1%
2	19:09:27	20.8192	19.0317	19.4539	20.4510	20.6237	20.9210	20.8261	93.3%
3	19:10:25	21.0124	18.4237	19.7964	19.3406	21.1947	20.9797	21.1150	93.2%
x		20.9518	19.0159	19.5012	20.1469	20.9717	20.9623	20.9452	92.5%
σ		0.1150	0.5845	0.2746	0.7053	0.3054	0.0359	0.1510	1.2%
%RSD		0.5489	3.0736	1.4082	3.5007	1.4561	0.1711	0.7209	1.3

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:29	18.8141	18.8193	19.7008	19.0097	96.1%	20.1740	20.1032	26.1162
2	19:09:27	18.7353	18.5519	19.0026	18.9045	99.4%	20.2043	20.1542	26.4285
3	19:10:25	18.9762	18.6718	19.4459	19.1834	99.6%	19.9512	20.2809	26.2463
x		18.8419	18.6810	19.3831	19.0325	98.4%	20.1098	20.1794	26.2636
σ		0.1229	0.1340	0.3533	0.1408	2.0%	0.1382	0.0915	0.1569
%RSD		0.6521	0.7171	1.8227	0.7400	2.0	0.6872	0.4533	0.5973

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:29	26.4240	26.3205	103.3%	18.3850	18.2664	19.8617	19.3860	19.5386
2	19:09:27	26.3154	26.3135	106.9%	18.3349	18.1349	19.6489	19.4889	19.5487
3	19:10:25	26.4410	26.3361	107.2%	18.3479	18.1634	19.5834	19.3360	19.5002
x		26.3935	26.3234	105.8%	18.3559	18.1883	19.6980	19.4036	19.5292
σ		0.0682	0.0116	2.2%	0.0260	0.0692	0.1455	0.0780	0.0256
%RSD		0.2582	0.0440	2.1	0.1418	0.3804	0.7387	0.4018	0.1310

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:18:43	2.2935	1483.1136	97.5%	29.3042	13.7666	15.1640	70.2166	24.0826
2	19:19:41	2.2379	1450.5167	97.7%	29.3361	13.7735	15.0326	70.2410	24.1622
3	19:20:39	2.2127	1456.1051	98.1%	29.2671	13.7607	14.8235	70.0265	24.4697
x		2.2480	1463.2451	97.8%	29.3025	13.7669	15.0067	70.1614	24.2382
σ		0.0413	17.4320	0.3%	0.0345	0.0064	0.1717	0.1174	0.2044
%RSD		1.8386	1.1913	0.3	0.1178	0.0466	1.1445	0.1674	0.8433

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:18:43	26.9494	30.5349	15.2024	14.4931	30.3120	32.3143	32.9197	93.4%
2	19:19:41	27.1553	31.2161	14.9357	14.1373	30.1830	33.6226	32.6436	94.6%
3	19:20:39	27.0254	31.5542	15.1328	14.3973	30.3239	33.1405	32.7540	94.9%
x		27.0434	31.1017	15.0903	14.3426	30.2730	33.0258	32.7724	94.3%
σ		0.1041	0.5192	0.1383	0.1841	0.0781	0.6616	0.1390	0.8%
%RSD		0.3849	1.6693	0.9167	1.2838	0.2581	2.0033	0.4241	0.8

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:18:43	51.6650	47.6410	49.1207	51.3627	20.0235	20.1523	19.9735	90.8%
2	19:19:41	51.5059	47.9975	49.2912	50.7923	19.5292	20.0689	19.8434	93.5%
3	19:20:39	50.9452	48.7131	50.0193	49.0852	20.1142	20.3112	20.0293	93.1%
x		51.3721	48.1172	49.4770	50.4134	19.8890	20.1775	19.9487	92.5%
σ		0.3781	0.5460	0.4773	1.1851	0.3148	0.1231	0.0954	1.5%
%RSD		0.7360	1.1348	0.9646	2.3507	1.5829	0.6101	0.4781	1.6

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:18:43	11.9333	11.7926	24.8023	24.3529	95.4%	41.6031	41.3610	107.5421
2	19:19:41	11.7963	11.8297	25.0255	24.1414	99.0%	41.6313	41.7381	109.1462
3	19:20:39	11.9610	11.8377	24.8433	24.5093	99.2%	41.5692	42.0826	108.1878
x		11.8969	11.8200	24.8904	24.3345	97.8%	41.6012	41.7273	108.2920
σ		0.0882	0.0241	0.1188	0.1846	2.1%	0.0311	0.3609	0.8071
%RSD		0.7414	0.2036	0.4774	0.7587	2.2	0.0747	0.8650	0.7453

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:18:43	108.4407	110.0278	101.9%	46.3410	46.1070	49.1874	46.6660	47.5577
2	19:19:41	107.9914	109.8686	105.3%	46.4833	46.2653	49.5860	46.7295	47.7953
3	19:20:39	108.4223	110.5556	105.2%	46.8117	46.7535	49.4883	46.7936	47.9395
x		108.2848	110.1507	104.2%	46.5453	46.3753	49.4205	46.7297	47.7641
σ		0.2542	0.3596	1.9%	0.2414	0.3370	0.2078	0.0638	0.1928
%RSD		0.2348	0.3265	1.9	0.5187	0.7267	0.4204	0.1365	0.4037

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:50	0.0044	186.5612	95.5%	0.7013	0.6162	1.5176	5.3404	0.1185
2	19:30:48	0.0078	181.3977	95.0%	0.6918	0.5908	1.5295	5.2983	0.1267
3	19:31:46	0.0065	181.1117	93.3%	0.6987	0.5923	1.5294	5.3100	0.1099
x		0.0063	183.0235	94.6%	0.6973	0.5998	1.5255	5.3162	0.1184
σ		0.0017	3.0670	1.2%	0.0049	0.0142	0.0068	0.0218	0.0084
%RSD		27.3944	1.6758	1.3	0.6993	2.3725	0.4486	0.4094	7.0868

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:50	0.5991	2.7727	1.0545	0.4689	0.7945	0.7460	0.7683	92.5%
2	19:30:48	0.6645	3.0695	1.0942	0.4508	0.7720	0.7402	0.7638	93.2%
3	19:31:46	0.6855	3.0428	1.0654	0.4473	0.7993	0.8515	0.7392	94.2%
x		0.6497	2.9616	1.0714	0.4557	0.7886	0.7792	0.7571	93.3%
σ		0.0451	0.1642	0.0205	0.0116	0.0146	0.0627	0.0157	0.8%
%RSD		6.9352	5.5440	1.9176	2.5419	1.8496	8.0410	2.0678	0.9

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:50	0.4783	0.3026	0.1389	0.9538	0.2011	0.1530	0.1842	91.3%
2	19:30:48	0.3881	0.4690	-0.0488	0.8308	0.2134	0.2024	0.2026	93.4%
3	19:31:46	0.3461	0.6952	-0.1368	0.8227	0.1938	0.2342	0.2052	94.2%
x		0.4042	0.4889	-0.0156	0.8691	0.2027	0.1966	0.1974	92.9%
σ		0.0676	0.1971	0.1408	0.0735	0.0099	0.0409	0.0115	1.5%
%RSD		16.7197	40.3110	903.9810	8.4525	4.8804	20.8033	5.8041	1.6

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:50	0.0319	0.0257	0.0099	0.0035	95.9%	0.0148	0.0174	1.4005
2	19:30:48	0.0321	0.0324	0.0016	0.0020	98.1%	0.0210	0.0174	1.4135
3	19:31:46	0.0369	0.0307	0.0038	0.0029	99.5%	0.0149	0.0191	1.3241
x		0.0337	0.0296	0.0051	0.0028	97.8%	0.0169	0.0180	1.3793
σ		0.0028	0.0035	0.0043	0.0008	1.8%	0.0036	0.0010	0.0483
%RSD		8.3935	11.8904	84.5779	28.1444	1.9	21.1288	5.4808	3.5008

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:50	1.4211	1.3805	101.4%	0.0628	0.0630	0.1530	0.1602	0.1534
2	19:30:48	1.3425	1.4048	105.0%	0.0718	0.0640	0.1438	0.1348	0.1452
3	19:31:46	1.4790	1.4075	105.6%	0.0580	0.0626	0.1497	0.1458	0.1563
x		1.4142	1.3976	104.0%	0.0642	0.0632	0.1489	0.1469	0.1516
σ		0.0685	0.0149	2.3%	0.0070	0.0008	0.0046	0.0128	0.0058
%RSD		4.8434	1.0656	2.2	10.8934	1.2034	3.1101	8.6893	3.7963

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:34:37	-0.0008	-0.1203	93.9%	0.0119	0.0022	0.1541	-0.0324	-0.0022
2	19:35:35	0.0016	-0.1173	93.6%	-0.0046	-0.0111	0.1538	-0.0272	-0.0012
3	19:36:33	-0.0007	-0.0655	92.2%	0.0031	-0.0065	0.1359	-0.0271	-0.0009
x		0.0000	-0.1010	93.2%	0.0035	-0.0051	0.1479	-0.0289	-0.0014
σ		0.0014	0.0308	0.9%	0.0083	0.0068	0.0104	0.0030	0.0007
%RSD		3617.0758	30.4569	1.0	237.1487	132.1785	7.0484	10.4850	46.2004

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:34:37	-0.0134	0.3426	0.0160	-0.0023	-0.1541	-0.1849	-0.1365	98.4%
2	19:35:35	-0.0146	0.2944	0.0153	0.0070	-0.1832	-0.2786	-0.1868	99.7%
3	19:36:33	-0.0114	0.1694	0.0119	0.0000	-0.1583	-0.1635	-0.1710	98.7%
x		-0.0131	0.2688	0.0144	0.0016	-0.1652	-0.2090	-0.1648	99.0%
σ		0.0016	0.0894	0.0022	0.0048	0.0157	0.0612	0.0257	0.7%
%RSD		12.4118	33.2464	15.1020	303.3773	9.5160	29.2969	15.6106	0.7

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:34:37	0.0550	0.0142	-0.3350	0.1546	0.0035	0.0086	0.0044	99.8%
2	19:35:35	0.0140	0.0920	-0.3733	0.1081	0.0133	0.0130	0.0123	101.6%
3	19:36:33	0.0296	-0.0265	-0.4774	0.0045	0.0105	0.0154	0.0106	101.2%
x		0.0329	0.0266	-0.3953	0.0891	0.0091	0.0124	0.0091	100.9%
σ		0.0207	0.0602	0.0737	0.0768	0.0051	0.0034	0.0041	1.0%
%RSD		62.9619	226.4294	18.6481	86.2264	55.7801	27.7787	45.2859	1.0

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:34:37	0.0065	0.0042	-0.0007	0.0013	102.7%	0.0026	-0.0012	-0.0055
2	19:35:35	0.0044	-0.0003	0.0003	-0.0001	105.2%	0.0050	0.0007	-0.0076
3	19:36:33	0.0023	0.0031	0.0025	-0.0001	105.0%	0.0010	-0.0008	-0.0092
x		0.0044	0.0024	0.0007	0.0004	104.3%	0.0029	-0.0004	-0.0074
σ		0.0021	0.0023	0.0017	0.0008	1.4%	0.0020	0.0010	0.0019
%RSD		46.7839	99.6772	238.9672	201.6391	1.3	70.8477	227.4299	25.3128

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:34:37	0.0006	0.0010	106.1%	0.0168	0.0160	0.0011	0.0026	0.0009
2	19:35:35	0.0069	0.0014	108.5%	0.0218	0.0176	0.0021	0.0025	0.0021
3	19:36:33	0.0041	0.0035	108.6%	0.0209	0.0210	0.0024	0.0050	0.0025
x		0.0039	0.0020	107.7%	0.0198	0.0182	0.0019	0.0034	0.0018
σ		0.0032	0.0013	1.4%	0.0027	0.0025	0.0007	0.0014	0.0008
%RSD		81.1741	67.3469	1.3	13.5989	13.8827	37.6198	42.1332	45.7148

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:37	2.3030	96.0508	97.6%	23.3121	9.6342	9.7535	24.4195	23.7691
2	19:40:35	2.3882	94.7116	95.9%	22.9580	9.6086	9.6841	24.5836	24.1209
3	19:41:33	2.3060	94.2678	97.3%	22.8883	9.5662	9.8902	24.7240	23.9611
x		2.3324	95.0101	96.9%	23.0528	9.6030	9.7759	24.5757	23.9504
σ		0.0483	0.9282	0.9%	0.2273	0.0343	0.1049	0.1524	0.1762
%RSD		2.0729	0.9770	0.9	0.9858	0.3573	1.0727	0.6203	0.7355

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:37	23.2588	23.3671	11.7001	11.8182	24.2172	27.0645	26.8916	98.9%
2	19:40:35	23.6395	23.3198	11.9588	11.8412	23.8942	26.5924	26.4870	100.4%
3	19:41:33	23.7406	22.8707	11.7363	12.0202	24.3122	27.8596	27.0569	99.7%
x		23.5463	23.1859	11.7984	11.8932	24.1412	27.1722	26.8118	99.7%
σ		0.2541	0.2740	0.1401	0.1106	0.2191	0.6404	0.2932	0.8%
%RSD		1.0791	1.1817	1.1873	0.9296	0.9077	2.3569	1.0936	0.8

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:37	48.8450	46.0253	49.3033	48.4572	18.1333	18.3963	18.4280	100.8%
2	19:40:35	48.8093	47.4821	47.0099	47.1673	18.3909	18.4266	18.3223	101.5%
3	19:41:33	49.1801	48.6841	48.2797	49.5609	18.6402	18.6486	18.5344	102.0%
x		48.9448	47.3972	48.1976	48.3951	18.3881	18.4905	18.4282	101.4%
σ		0.2045	1.3314	1.1489	1.1980	0.2534	0.1378	0.1061	0.6%
%RSD		0.4179	2.8091	2.3837	2.4755	1.3783	0.7451	0.5755	0.6

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:37	12.2797	12.2269	25.5722	25.2621	103.2%	50.8494	50.7624	99.4026
2	19:40:35	12.2728	12.3024	25.3899	25.1966	105.7%	50.5986	50.9388	99.0786
3	19:41:33	12.3725	12.3915	25.7228	25.1990	106.2%	50.6836	50.6668	98.1827
x		12.3084	12.3069	25.5616	25.2193	105.1%	50.7105	50.7894	98.8880
σ		0.0557	0.0824	0.1667	0.0371	1.6%	0.1275	0.1380	0.6319
%RSD		0.4525	0.6697	0.6521	0.1471	1.5	0.2515	0.2717	0.6390

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:39:37	99.5994	101.8293	108.2%	50.1187	49.7940	50.7868	48.4631	49.1219
2	19:40:35	98.8260	101.0967	111.0%	49.6531	49.5232	50.6437	48.0661	48.9854
3	19:41:33	99.6731	101.1229	109.8%	49.8486	49.8445	51.3320	48.2976	49.5173
x		99.3661	101.3496	109.7%	49.8734	49.7206	50.9208	48.2756	49.2082
σ		0.4693	0.4156	1.4%	0.2338	0.1728	0.3632	0.1994	0.2762
%RSD		0.4723	0.4101	1.3	0.4688	0.3476	0.7132	0.4131	0.5614

Dilute

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:20	0.0048	21.3827	108.1%	1.5814	0.4955	1.4938	2183.4129	1.2687
2	19:51:18	0.0081	21.5870	105.3%	1.5862	0.5222	1.5251	2206.0686	1.2541
3	19:52:16	0.0126	21.3961	103.8%	1.6204	0.5132	1.6093	2191.4726	1.2706
x		0.0085	21.4553	105.7%	1.5960	0.5103	1.5427	2193.6514	1.2645
σ		0.0039	0.1143	2.2%	0.0213	0.0135	0.0598	11.4839	0.0091
%RSD		45.8042	0.5328	2.1	1.3327	2.6534	3.8740	0.5235	0.7172

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:20	0.8845	0.8312	0.2241	0.1328	0.7865	1.1697	1.3749	90.9%
2	19:51:18	0.8894	0.7693	0.1988	0.1735	0.7777	1.5139	1.3140	91.2%
3	19:52:16	0.9416	0.7929	0.2072	0.1797	0.7649	1.3481	1.3192	91.1%
x		0.9052	0.7978	0.2100	0.1620	0.7764	1.3439	1.3360	91.1%
σ		0.0316	0.0312	0.0129	0.0255	0.0109	0.1721	0.0338	0.2%
%RSD		3.4921	3.9128	6.1408	15.7314	1.4021	12.8097	2.5267	0.2

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:20	8.6430	0.4640	0.0993	-0.0627	0.1217	0.1305	0.1185	89.2%
2	19:51:18	9.0753	0.4165	-0.3233	0.4754	0.1554	0.1654	0.1557	91.0%
3	19:52:16	8.7318	0.4834	-0.0887	0.1826	0.1506	0.1456	0.1365	90.5%
x		8.8167	0.4547	-0.1042	0.1984	0.1426	0.1472	0.1369	90.2%
σ		0.2283	0.0344	0.2117	0.2694	0.0182	0.0175	0.0186	0.9%
%RSD		2.5893	7.5684	203.1020	135.7520	12.7684	11.8957	13.5794	1.0

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:20	0.3760	0.3851	0.0005	0.0031	93.6%	0.0624	0.0679	17.4658
2	19:51:18	0.3711	0.3496	0.0052	0.0016	95.5%	0.0605	0.0673	17.5031
3	19:52:16	0.3521	0.3486	0.0016	0.0026	95.5%	0.0488	0.0627	17.1972
x		0.3664	0.3611	0.0024	0.0024	94.9%	0.0572	0.0660	17.3887
σ		0.0127	0.0208	0.0025	0.0008	1.1%	0.0073	0.0029	0.1669
%RSD		3.4549	5.7597	101.2448	33.0753	1.2	12.8111	4.3400	0.9596

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:50:20	17.6017	17.7187	97.7%	0.0201	0.0166	0.0064	0.0089	0.0079
2	19:51:18	17.8381	17.6005	101.0%	0.0223	0.0252	0.0116	0.0157	0.0106
3	19:52:16	17.4538	17.5779	100.4%	0.0237	0.0224	0.0171	0.0218	0.0167
x		17.6312	17.6324	99.7%	0.0220	0.0214	0.0117	0.0155	0.0117
σ		0.1939	0.0756	1.8%	0.0018	0.0044	0.0054	0.0065	0.0045
%RSD		1.0995	0.4289	1.8	8.3582	20.5454	45.8285	41.7510	38.5991

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User Pre-dilution: 1.000

B 4/27/12

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:28	0.0182	18.5047	100.1%	1.6022	0.5199	1.6178	2234.6788	1.2554
2	19:57:26	0.0085	18.5500	97.6%	1.5885	0.5089	1.5139	2239.6688	1.2993
3	19:58:24	0.0140	18.3273	97.8%	1.5517	0.5033	1.7933	2209.1573	1.2426
x		0.0135	18.4607	98.5%	1.5808	0.5107	1.6417	2227.8349	1.2658
σ		0.0049	0.1177	1.4%	0.0261	0.0084	0.1412	16.3666	0.0297
%RSD		35.9404	0.6375	1.4	1.6515	1.6505	8.6019	0.7346	2.3489

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:28	0.9312	0.6837	0.1882	0.1424	0.7715	1.3736	1.3609	89.1%
2	19:57:26	0.8644	0.7362	0.1668	0.1595	0.8166	1.0697	1.3164	89.8%
3	19:58:24	0.8560	0.6800	0.1950	0.1418	0.7721	1.2957	1.1940	89.1%
x		0.8839	0.7000	0.1833	0.1479	0.7867	1.2464	1.2904	89.4%
σ		0.0412	0.0315	0.0147	0.0101	0.0259	0.1578	0.0864	0.4%
%RSD		4.6616	4.4965	8.0197	6.8091	3.2858	12.6646	6.6973	0.5

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:28	8.6803	0.4749	-0.0169	0.3041	0.1117	0.1023	0.0975	87.7%
2	19:57:26	8.7848	0.7359	-0.2015	0.5999	0.1177	0.1379	0.1213	88.8%
3	19:58:24	8.6878	0.5194	0.1103	0.3205	0.1374	0.1059	0.1135	88.2%
x		8.7177	0.5767	-0.0360	0.4082	0.1223	0.1153	0.1107	88.2%
σ		0.0583	0.1397	0.1568	0.1663	0.0135	0.0196	0.0121	0.5%
%RSD		0.6688	24.2192	435.0080	40.7359	11.0256	16.9845	10.9636	0.6

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:28	0.3183	0.3045	0.0030	0.0006	91.7%	0.0502	0.0447	17.3693
2	19:57:26	0.3183	0.2906	0.0017	0.0026	93.5%	0.0483	0.0458	16.9266
3	19:58:24	0.3061	0.2866	0.0041	0.0026	93.3%	0.0438	0.0561	17.3722
x		0.3142	0.2939	0.0029	0.0020	92.8%	0.0474	0.0489	17.2227
σ		0.0070	0.0094	0.0012	0.0011	1.0%	0.0033	0.0063	0.2564
%RSD		2.2369	3.2025	41.8501	58.1452	1.1	6.8828	12.9101	1.4888

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:28	17.4484	17.4504	97.0%	0.0097	0.0125	0.0081	0.0085	0.0099
2	19:57:26	17.4151	17.2648	99.4%	0.0140	0.0156	0.0107	0.0073	0.0096
3	19:58:24	17.1140	17.3130	98.9%	0.0168	0.0139	0.0137	0.0106	0.0111
x		17.3258	17.3427	98.4%	0.0135	0.0140	0.0108	0.0088	0.0102
σ		0.1842	0.0963	1.3%	0.0036	0.0015	0.0028	0.0017	0.0008
%RSD		1.0634	0.5552	1.3	26.5475	10.9123	25.6451	19.0951	7.9510

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:32	2.1134	104.8521	98.7%	24.8177	9.4823	10.6556	2258.8952	23.7177
2	20:03:30	1.9816	105.4623	97.7%	24.7290	9.5359	10.6590	2256.0020	23.8103
3	20:04:28	2.0471	104.3156	95.5%	25.1120	9.5813	11.0011	2266.6888	23.9365
x		2.0474	104.8767	97.3%	24.8863	9.5332	10.7719	2260.5287	23.8215
σ		0.0659	0.5738	1.6%	0.2005	0.0496	0.1985	5.5275	0.1098
%RSD		3.2192	0.5471	1.7	0.8057	0.5198	1.8426	0.2445	0.4611

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:32	22.7386	22.7221	11.4142	11.3179	24.0768	27.8863	26.6876	87.1%
2	20:03:30	22.8620	22.6106	11.0621	11.0186	23.9075	26.8870	26.6085	87.6%
3	20:04:28	23.1610	22.7148	11.3814	11.3045	24.0849	27.6294	26.6080	87.9%
x		22.9205	22.6825	11.2859	11.2137	24.0230	27.4676	26.6347	87.6%
σ		0.2172	0.0624	0.1945	0.1690	0.1002	0.5189	0.0458	0.4%
%RSD		0.9475	0.2751	1.7235	1.5075	0.4170	1.8893	0.1720	0.5

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:32	57.4234	49.6656	48.0892	49.5898	20.3643	20.6573	20.5800	86.4%
2	20:03:30	58.9496	46.9370	49.0024	48.9923	20.0930	20.3051	20.5640	87.0%
3	20:04:28	58.4883	47.5748	47.6906	48.4805	20.2479	20.5461	20.2746	87.1%
x		58.2871	48.0591	48.2607	49.0209	20.2351	20.5028	20.4729	86.8%
σ		0.7827	1.4274	0.6725	0.5552	0.1361	0.1801	0.1719	0.4%
%RSD		1.3429	2.9700	1.3935	1.1325	0.6728	0.8782	0.8396	0.5

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:32	12.1257	12.1270	25.2292	24.7648	90.9%	51.1517	51.6178	117.1221
2	20:03:30	12.2842	12.2651	25.4560	24.8840	91.9%	51.4606	51.8145	117.2238
3	20:04:28	12.0442	12.0251	25.4215	24.9108	92.3%	51.2109	51.5168	115.9121
x		12.1514	12.1391	25.3689	24.8532	91.7%	51.2744	51.6497	116.7527
σ		0.1221	0.1205	0.1222	0.0777	0.7%	0.1639	0.1514	0.7298
%RSD		1.0044	0.9925	0.4816	0.3127	0.8	0.3197	0.2932	0.6250

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:02:32	118.4141	119.5399	96.9%	49.0887	49.2065	50.0261	47.2954	48.1760
2	20:03:30	117.7662	119.7510	99.8%	48.4281	48.4845	49.4133	46.8172	47.5791
3	20:04:28	115.9582	118.8796	99.1%	48.6948	48.4456	49.4909	46.9209	47.6728
x		117.3795	119.3902	98.6%	48.7372	48.7122	49.6435	47.0112	47.8093
σ		1.2728	0.4546	1.5%	0.3323	0.4285	0.3337	0.2515	0.3210
%RSD		1.0844	0.3808	1.6	0.6818	0.8797	0.6721	0.5350	0.6715

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:11:52	22.4043	23.9402	86.1%	23.9334	24.0198	24.0186	24.4487	23.2546
2	20:12:50	22.2297	23.5927	85.1%	24.0315	23.8859	23.9635	24.5503	23.0131
3	20:13:47	22.1873	23.2992	86.2%	23.9784	23.6185	23.9284	24.5336	23.0772
x		22.2738	23.6107	85.8%	23.9811	23.8414	23.9702	24.5109	23.1150
σ		0.1150	0.3209	0.6%	0.0491	0.2043	0.0454	0.0545	0.1251
%RSD		0.5163	1.3590	0.7	0.2047	0.8571	0.1896	0.2222	0.5411

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:11:52	23.5446	23.3467	22.4842	22.6222	24.3669	23.2983	24.4438	88.6%
2	20:12:50	22.9686	22.6271	23.0114	22.4922	23.6644	22.9018	24.2839	90.0%
3	20:13:47	23.0595	22.8521	22.7687	22.7979	23.9141	23.5729	24.1192	89.4%
x		23.1909	22.9420	22.7548	22.6374	23.9818	23.2577	24.2823	89.3%
σ		0.3097	0.3681	0.2639	0.1534	0.3561	0.3374	0.1623	0.7%
%RSD		1.3353	1.6047	1.1596	0.6777	1.4850	1.4505	0.6683	0.8

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:11:52	23.7567	23.3979	24.3372	23.4488	24.1311	24.3399	24.0575	90.7%
2	20:12:50	24.4956	21.6032	23.9698	24.5491	24.4515	24.2614	24.2176	91.1%
3	20:13:47	24.1672	22.8831	23.9925	23.7449	24.4448	24.3532	24.1211	92.6%
x		24.1398	22.6281	24.0998	23.9143	24.3425	24.3182	24.1320	91.5%
σ		0.3702	0.9241	0.2059	0.5694	0.1831	0.0496	0.0806	1.0%
%RSD		1.5335	4.0840	0.8543	2.3809	0.7521	0.2040	0.3342	1.1

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:11:52	24.1637	23.9982	25.0672	24.5621	92.8%	24.6423	24.7743	23.9076
2	20:12:50	24.1406	24.2176	24.9606	24.7286	95.6%	24.6563	24.8946	23.9767
3	20:13:47	24.1116	23.8803	24.8087	24.5515	96.5%	24.5601	24.9094	23.8113
x		24.1387	24.0320	24.9455	24.6141	95.0%	24.6196	24.8594	23.8985
σ		0.0261	0.1712	0.1299	0.0993	1.9%	0.0519	0.0741	0.0831
%RSD		0.1083	0.7124	0.5208	0.4035	2.0	0.2110	0.2980	0.3476

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:11:52	23.9257	23.9804	99.6%	23.9821	23.8727	24.2270	24.1437	24.1086
2	20:12:50	23.9681	23.9353	103.2%	24.2236	24.0087	23.9797	24.2344	24.0808
3	20:13:47	24.1646	24.0190	103.4%	24.2291	23.9670	24.1763	24.2632	24.2539
x		24.0194	23.9783	102.1%	24.1449	23.9495	24.1277	24.2137	24.1478
σ		0.1274	0.0419	2.2%	0.1410	0.0697	0.1306	0.0624	0.0930
%RSD		0.5306	0.1747	2.1	0.5840	0.2909	0.5414	0.2575	0.3850

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:54	0.0048	-0.1362	84.9%	-0.0028	-0.0177	0.0384	0.0107	0.0016
2	20:24:52	0.0010	-0.1319	86.3%	0.0008	-0.0195	0.0353	0.0354	0.0013
3	20:25:50	0.0037	-0.1321	85.3%	0.0125	-0.0173	0.0298	0.0809	0.0006
x		0.0031	-0.1334	85.5%	0.0035	-0.0182	0.0345	0.0423	0.0012
σ		0.0020	0.0025	0.7%	0.0080	0.0012	0.0044	0.0356	0.0005
%RSD		62.4110	1.8383	0.8	227.8716	6.5429	12.6488	84.1665	45.8623

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:54	-0.0009	0.0774	0.0060	0.0028	-0.1419	-0.2002	-0.1618	87.3%
2	20:24:52	-0.0085	0.0729	0.0016	0.0041	-0.1643	-0.1870	-0.1504	88.5%
3	20:25:50	0.0048	0.0516	0.0002	-0.0032	-0.1739	-0.1395	-0.1661	88.7%
x		-0.0015	0.0673	0.0026	0.0012	-0.1600	-0.1756	-0.1594	88.2%
σ		0.0067	0.0137	0.0030	0.0039	0.0164	0.0319	0.0081	0.7%
%RSD		437.1334	20.4118	116.5255	314.8497	10.2504	18.1760	5.0774	0.9

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:54	0.0182	0.1206	-0.7228	0.1719	0.0394	0.0292	0.0344	88.3%
2	20:24:52	0.0256	0.0501	-0.8281	0.1030	0.0734	0.0651	0.0428	89.8%
3	20:25:50	-0.1237	0.0943	-0.6518	-0.3960	0.0480	0.0685	0.0570	90.6%
x		-0.0266	0.0884	-0.7342	-0.0404	0.0536	0.0543	0.0448	89.6%
σ		0.0841	0.0356	0.0887	0.3099	0.0177	0.0218	0.0114	1.2%
%RSD		315.8466	40.2938	12.0824	767.6530	32.9650	40.1460	25.5273	1.3

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:54	0.0072	0.0047	0.0030	-0.0009	91.0%	0.0095	0.0103	0.0024
2	20:24:52	0.0126	0.0104	0.0029	0.0016	93.6%	0.0074	0.0094	0.0127
3	20:25:50	0.0151	0.0116	0.0029	0.0031	94.1%	0.0147	0.0104	0.0218
x		0.0116	0.0089	0.0029	0.0013	92.9%	0.0106	0.0100	0.0123
σ		0.0041	0.0037	0.0001	0.0020	1.7%	0.0038	0.0006	0.0097
%RSD		34.8559	41.4421	2.0624	158.5566	1.8	35.7262	5.6905	78.6439

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:54	0.0103	-0.0003	97.1%	0.0070	0.0065	0.0026	0.0061	0.0038
2	20:24:52	0.0021	0.0025	100.6%	0.0096	0.0107	0.0043	0.0048	0.0041
3	20:25:50	0.0179	0.0090	100.3%	0.0113	0.0104	0.0048	0.0044	0.0061
x		0.0101	0.0037	99.3%	0.0093	0.0092	0.0039	0.0051	0.0047
σ		0.0079	0.0047	2.0%	0.0022	0.0023	0.0011	0.0009	0.0013
%RSD		78.2179	126.6714	2.0	23.4354	25.2226	29.3166	17.3975	27.3416

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:32	0.0091	6.3444	92.6%	0.4094	0.3135	0.4969	2298.9603	0.0566
2	20:29:30	0.0084	6.2351	90.2%	0.4165	0.3058	0.5295	2290.8967	0.0609
3	20:30:28	0.0060	6.3428	89.1%	0.3635	0.2942	0.5889	2296.3494	0.0574
x		0.0078	6.3074	90.6%	0.3965	0.3045	0.5384	2295.4021	0.0583
σ		0.0016	0.0627	1.8%	0.0288	0.0097	0.0466	4.1144	0.0023
%RSD		20.9580	0.9933	2.0	7.2533	3.1879	8.6606	0.1792	3.9274

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:32	0.3471	0.2950	0.2629	0.3200	0.6171	2.0746	1.9634	84.3%
2	20:29:30	0.3837	0.3520	0.2593	0.3402	0.6499	2.5544	1.9418	83.6%
3	20:30:28	0.3872	0.2582	0.2655	0.2975	0.5614	2.2824	1.8097	84.1%
x		0.3727	0.3018	0.2626	0.3192	0.6094	2.3038	1.9050	84.0%
σ		0.0222	0.0473	0.0031	0.0214	0.0447	0.2406	0.0832	0.4%
%RSD		5.9669	15.6652	1.1853	6.6934	7.3411	10.4451	4.3669	0.4

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:32	4.3863	0.1291	-0.1203	0.3717	0.1556	0.1278	0.1214	84.3%
2	20:29:30	4.1194	0.0830	-0.7786	-0.0688	0.1285	0.1272	0.1454	85.0%
3	20:30:28	4.0954	0.0114	-0.3660	0.0196	0.1561	0.1302	0.1403	84.7%
x		4.2004	0.0745	-0.4217	0.1075	0.1467	0.1284	0.1357	84.7%
σ		0.1615	0.0593	0.3327	0.2330	0.0158	0.0016	0.0126	0.3%
%RSD		3.8448	79.6121	78.8940	216.7618	10.7533	1.2462	9.3126	0.4

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:32	0.1929	0.1914	0.0018	0.0012	89.0%	0.0145	0.0191	52.2634
2	20:29:30	0.2082	0.2042	0.0005	0.0028	90.2%	0.0198	0.0154	52.9037
3	20:30:28	0.1891	0.1887	0.0005	0.0022	90.9%	0.0150	0.0119	52.3882
x		0.1968	0.1948	0.0009	0.0021	90.0%	0.0164	0.0155	52.5184
σ		0.0101	0.0083	0.0008	0.0008	1.0%	0.0029	0.0036	0.3394
%RSD		5.1329	4.2700	79.0203	37.3573	1.1	17.7403	23.0162	0.6463

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:32	52.9949	53.1204	96.7%	0.0039	0.0059	0.0818	0.0826	0.0817
2	20:29:30	52.7086	53.4052	99.2%	0.0127	0.0080	0.0871	0.0805	0.0840
3	20:30:28	52.6281	53.4070	99.3%	0.0078	0.0088	0.0845	0.0720	0.0791
x		52.7772	53.3109	98.4%	0.0081	0.0076	0.0845	0.0784	0.0816
σ		0.1928	0.1650	1.5%	0.0044	0.0015	0.0026	0.0056	0.0024
%RSD		0.3653	0.3095	1.5	54.3296	20.0561	3.1227	7.1319	3.0008

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:43	0.0042	1.4172	85.7%	0.0743	0.0413	0.1586	476.7028	0.0096
2	20:35:41	0.0022	1.4706	83.7%	0.0862	0.0578	0.1717	475.7466	0.0117
3	20:36:39	0.0043	1.4410	83.7%	0.0864	0.0408	0.1306	476.0976	0.0116
x		0.0036	1.4429	84.4%	0.0823	0.0467	0.1536	476.1823	0.0110
σ		0.0012	0.0267	1.1%	0.0069	0.0097	0.0210	0.4837	0.0012
%RSD		33.9976	1.8519	1.3	8.4131	20.7019	13.6734	0.1016	10.6007

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:43	0.0565	0.0523	0.0549	0.0610	0.2632	0.6574	0.5267	85.5%
2	20:35:41	0.0929	0.1017	0.0657	0.0461	0.2966	0.5435	0.4792	85.9%
3	20:36:39	0.0664	0.0554	0.0599	0.0884	0.2419	0.5549	0.5038	85.5%
x		0.0719	0.0698	0.0602	0.0651	0.2672	0.5853	0.5032	85.6%
σ		0.0188	0.0277	0.0054	0.0215	0.0276	0.0627	0.0237	0.2%
%RSD		26.0949	39.6179	8.9321	32.9412	10.3156	10.7201	4.7176	0.2

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:43	0.8057	-0.0370	-0.4939	-0.1710	0.0322	0.0301	0.0286	86.2%
2	20:35:41	0.8309	-0.0144	-0.7695	0.0367	0.0408	0.0510	0.0400	87.6%
3	20:36:39	0.8753	-0.0373	-0.6823	0.1396	0.0365	0.0521	0.0357	88.1%
x		0.8373	-0.0295	-0.6486	0.0018	0.0365	0.0444	0.0348	87.3%
σ		0.0352	0.0132	0.1409	0.1582	0.0043	0.0124	0.0058	1.0%
%RSD		4.2093	44.5181	21.7248	9012.3935	11.8017	27.9607	16.6045	1.2

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:43	0.0374	0.0335	0.0005	0.0023	90.3%	0.0057	0.0065	10.6030
2	20:35:41	0.0427	0.0373	0.0005	0.0006	92.6%	0.0063	0.0063	10.4868
3	20:36:39	0.0520	0.0413	0.0017	0.0022	92.5%	0.0051	0.0030	10.2861
x		0.0441	0.0374	0.0009	0.0017	91.8%	0.0057	0.0053	10.4587
σ		0.0074	0.0039	0.0007	0.0009	1.3%	0.0006	0.0020	0.1603
%RSD		16.7750	10.4775	77.6253	54.2130	1.5	10.9495	37.0854	1.5330

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:43	10.4479	10.4928	98.4%	0.0035	0.0033	0.0171	0.0125	0.0168
2	20:35:41	10.2344	10.3567	100.2%	0.0090	0.0053	0.0179	0.0205	0.0182
3	20:36:39	10.4139	10.3897	100.5%	0.0031	0.0038	0.0183	0.0190	0.0185
x		10.3654	10.4131	99.7%	0.0052	0.0041	0.0178	0.0173	0.0178
σ		0.1147	0.0710	1.1%	0.0033	0.0011	0.0006	0.0042	0.0009
%RSD		1.1070	0.6819	1.1	63.8431	25.7330	3.3288	24.4344	5.2510

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User Pre-dilution: 1.000

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Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:31	15.4746	22.6755	89.7%	18.0292	17.5583	17.7932	2227.3626	17.0571
2	20:40:29	15.2463	22.4546	87.5%	18.0488	17.7601	17.5446	2256.4010	17.2683
3	20:41:27	15.6184	22.1436	84.8%	17.9873	17.7870	18.0035	2274.4986	17.4517
x		15.4465	22.4246	87.3%	18.0218	17.7018	17.7805	2252.4207	17.2590
σ		0.1877	0.2673	2.4%	0.0314	0.1250	0.2297	23.7089	0.1975
%RSD		1.2149	1.1918	2.8	0.1744	0.7063	1.2919	1.0526	1.1441

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:31	17.3260	17.3937	16.8108	16.9522	18.9297	20.2476	20.3150	82.5%
2	20:40:29	17.2752	16.7830	16.7967	16.8197	18.3920	20.0329	19.8848	82.9%
3	20:41:27	17.3297	17.0905	16.8988	17.1278	18.8842	20.9217	20.3210	82.5%
x		17.3103	17.0890	16.8354	16.9666	18.7353	20.4008	20.1736	82.6%
σ		0.0305	0.3054	0.0554	0.1545	0.2982	0.4638	0.2501	0.2%
%RSD		0.1760	1.7869	0.3288	0.9108	1.5918	2.2733	1.2399	0.3

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:31	23.1365	19.2301	18.3564	19.8571	20.2104	19.8429	19.9867	83.8%
2	20:40:29	23.2525	18.2101	18.7625	19.3590	19.8171	20.0903	19.9259	84.1%
3	20:41:27	23.1910	18.1902	18.6030	19.7039	20.1620	20.2753	19.9482	83.5%
x		23.1933	18.5435	18.5740	19.6400	20.0632	20.0695	19.9536	83.8%
σ		0.0580	0.5947	0.2046	0.2551	0.2145	0.2169	0.0308	0.3%
%RSD		0.2502	3.2073	1.1016	1.2988	1.0690	1.0810	0.1542	0.4

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:31	18.9926	19.0033	19.4214	19.4546	88.8%	19.8078	19.9835	70.1502
2	20:40:29	19.0419	19.0438	19.9964	19.2165	90.5%	19.7157	19.6831	69.5130
3	20:41:27	19.3083	19.0506	19.9001	19.3114	90.7%	19.5274	19.8109	69.5042
x		19.1143	19.0326	19.7726	19.3275	90.0%	19.6836	19.8258	69.7225
σ		0.1698	0.0256	0.3080	0.1199	1.0%	0.1429	0.1508	0.3705
%RSD		0.8884	0.1343	1.5576	0.6202	1.2	0.7259	0.7604	0.5314

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:31	70.3341	70.4315	97.7%	18.7616	18.5212	18.9101	18.9426	18.7636
2	20:40:29	69.7771	70.2415	100.0%	18.6858	18.5584	18.7774	18.5938	18.6315
3	20:41:27	69.7051	70.1607	99.3%	18.9847	18.7402	18.8943	18.9501	18.8569
x		69.9388	70.2779	99.0%	18.8107	18.6066	18.8606	18.8288	18.7507
σ		0.3443	0.1390	1.2%	0.1554	0.1172	0.0725	0.2035	0.1132
%RSD		0.4922	0.1978	1.2	0.8260	0.6297	0.3844	1.0810	0.6038

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:49:40	0.0026	6.0053	85.8%	0.8377	0.2357	0.2817	0.3871	0.0234
2	20:50:38	0.0053	5.5787	85.1%	0.8382	0.2610	0.3389	0.6459	0.0259
3	20:51:36	0.0087	5.2641	83.7%	0.8477	0.2539	0.2829	0.7214	0.0212
x		0.0055	5.6160	84.9%	0.8412	0.2502	0.3012	0.5848	0.0235
σ		0.0031	0.3720	1.1%	0.0056	0.0131	0.0327	0.1753	0.0023
%RSD		55.4861	6.6234	1.3	0.6716	5.2276	10.8465	29.9833	9.8791

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:49:40	1.3223	1.2512	0.1350	0.1559	0.6425	0.9301	0.9612	82.7%
2	20:50:38	1.3354	1.2020	0.1554	0.1465	0.5658	0.7113	0.9373	82.9%
3	20:51:36	1.2801	1.1251	0.1645	0.1498	0.6455	1.1096	0.9514	84.5%
x		1.3126	1.1928	0.1516	0.1507	0.6180	0.9170	0.9500	83.3%
σ		0.0289	0.0636	0.0151	0.0048	0.0452	0.1994	0.0120	1.0%
%RSD		2.2000	5.3310	9.9732	3.1934	7.3124	21.7490	1.2670	1.2

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:49:40	0.1332	0.0373	-0.5155	0.1804	0.0975	0.1068	0.1080	83.7%
2	20:50:38	0.1125	0.1320	-0.5889	0.0905	0.1329	0.1203	0.1293	85.1%
3	20:51:36	0.1214	0.0577	-0.4561	0.1243	0.1163	0.1246	0.1206	85.7%
x		0.1224	0.0757	-0.5202	0.1317	0.1156	0.1172	0.1193	84.9%
σ		0.0103	0.0499	0.0665	0.0454	0.0177	0.0093	0.0107	1.0%
%RSD		8.4492	65.8958	12.7921	34.4571	15.3127	7.9536	8.9926	1.2

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:49:40	0.0461	0.0406	0.0031	0.0045	88.0%	0.0226	0.0227	11.5640
2	20:50:38	0.0601	0.0607	0.0068	0.0054	90.5%	0.0252	0.0329	11.4058
3	20:51:36	0.0732	0.0598	0.0068	0.0054	90.8%	0.0302	0.0196	11.3326
x		0.0598	0.0537	0.0056	0.0051	89.8%	0.0260	0.0251	11.4341
σ		0.0136	0.0113	0.0021	0.0005	1.5%	0.0039	0.0069	0.1182
%RSD		22.6663	21.1327	38.0151	9.9432	1.7	14.9067	27.6839	1.0340

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:49:40	11.6111	11.5062	97.1%	0.0073	0.0046	0.0107	0.0033	0.0082
2	20:50:38	11.6072	11.4162	100.2%	0.0100	0.0094	0.0122	0.0099	0.0125
3	20:51:36	11.7944	11.5171	100.1%	0.0090	0.0095	0.0085	0.0104	0.0100
x		11.6709	11.4798	99.1%	0.0088	0.0078	0.0105	0.0079	0.0102
σ		0.1070	0.0554	1.8%	0.0014	0.0028	0.0018	0.0040	0.0022
%RSD		0.9166	0.4825	1.8	15.4213	35.8651	17.6297	50.5893	21.2403

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:53	0.0076	8.1402	88.5%	0.3863	0.0972	0.2027	3374.5406	4.3472
2	20:55:51	0.0119	7.9674	87.2%	0.3680	0.0746	0.2288	3345.5376	4.2060
3	20:56:49	0.0066	8.0786	88.1%	0.3820	0.1014	0.2509	3292.4183	4.1271
x		0.0087	8.0621	87.9%	0.3787	0.0911	0.2275	3337.4988	4.2268
σ		0.0028	0.0875	0.7%	0.0096	0.0144	0.0241	41.6471	0.1115
%RSD		32.5985	1.0859	0.8	2.5246	15.8407	10.6073	1.2479	2.6382

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:53	2.4853	2.3197	0.4068	0.4589	0.9245	2.4459	2.1774	80.5%
2	20:55:51	2.5530	2.2229	0.4492	0.4760	0.8894	2.4290	2.0947	81.3%
3	20:56:49	2.4835	2.2920	0.4195	0.4995	0.8570	2.1761	2.2925	81.7%
x		2.5073	2.2782	0.4251	0.4781	0.8903	2.3503	2.1882	81.2%
σ		0.0396	0.0499	0.0218	0.0204	0.0338	0.1511	0.0994	0.6%
%RSD		1.5804	2.1888	5.1173	4.2583	3.7921	6.4302	4.5414	0.7

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:53	26.0444	-0.0079	-0.8264	-0.0175	0.1792	0.1571	0.1469	80.7%
2	20:55:51	25.9702	0.1375	-0.6105	-0.1080	0.1994	0.1817	0.1650	82.1%
3	20:56:49	26.5954	-0.0095	-0.9161	0.1102	0.1942	0.1781	0.1688	82.4%
x		26.2034	0.0400	-0.7843	-0.0051	0.1909	0.1723	0.1603	81.7%
σ		0.3416	0.0844	0.1571	0.1096	0.0105	0.0133	0.0117	0.9%
%RSD		1.3036	210.9244	20.0263	2146.3377	5.4950	7.7237	7.2945	1.1

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:53	0.1537	0.1376	0.0045	0.0051	87.0%	0.0181	0.0259	50.6078
2	20:55:51	0.1404	0.1255	0.0070	0.0050	89.1%	0.0231	0.0235	50.0873
3	20:56:49	0.1386	0.1389	0.0070	0.0050	88.6%	0.0285	0.0259	49.9259
x		0.1442	0.1340	0.0062	0.0050	88.2%	0.0232	0.0251	50.2070
σ		0.0083	0.0074	0.0014	0.0001	1.1%	0.0052	0.0014	0.3563
%RSD		5.7405	5.5244	23.1575	1.5882	1.3	22.4300	5.5467	0.7097

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:54:53	50.6733	50.9055	95.9%	0.0026	0.0028	0.3070	0.2830	0.3007
2	20:55:51	50.6853	50.4616	98.3%	0.0025	0.0030	0.3057	0.2830	0.2978
3	20:56:49	50.3140	51.0028	98.1%	0.0015	0.0031	0.3020	0.2876	0.2959
x		50.5575	50.7900	97.4%	0.0022	0.0030	0.3049	0.2845	0.2981
σ		0.2110	0.2885	1.3%	0.0006	0.0002	0.0026	0.0026	0.0024
%RSD		0.4174	0.5680	1.3	27.7381	5.2793	0.8653	0.9247	0.8185

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	0.0151	38.1854	86.9%	1.2854	0.2417	0.3897	2299.4504	6.2007
2	21:01:24	0.0158	37.1863	86.0%	1.3364	0.2586	0.3584	2250.1659	5.9244
3	21:02:22	0.0121	37.8058	86.1%	1.3438	0.2560	0.3451	2234.9960	5.9726
x		0.0143	37.7258	86.3%	1.3219	0.2521	0.3644	2261.5374	6.0326
σ		0.0020	0.5043	0.5%	0.0318	0.0091	0.0229	33.6988	0.1476
%RSD		13.8215	1.3367	0.6	2.4033	3.6159	6.2910	1.4901	2.4466

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	2.3304	2.1885	2.4274	2.5348	1.7479	3.3180	2.8843	80.9%
2	21:01:24	2.3611	2.1683	2.4353	2.5453	1.6858	3.1337	2.8625	81.9%
3	21:02:22	2.3180	2.2101	2.4847	2.4800	1.7568	3.1384	2.7028	82.2%
x		2.3365	2.1889	2.4492	2.5200	1.7302	3.1967	2.8165	81.7%
σ		0.0222	0.0209	0.0310	0.0351	0.0386	0.1051	0.0991	0.7%
%RSD		0.9481	0.9550	1.2671	1.3929	2.2334	3.2876	3.5187	0.8

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	26.3663	0.1139	-0.1563	-0.1814	0.1856	0.2192	0.1881	82.0%
2	21:01:24	26.5224	0.1596	-0.6162	0.2179	0.1998	0.1796	0.2190	83.0%
3	21:02:22	25.7801	0.2789	-0.7553	-0.1421	0.1958	0.1840	0.1783	83.7%
x		26.2229	0.1842	-0.5093	-0.0352	0.1938	0.1943	0.1951	82.9%
σ		0.3914	0.0852	0.3135	0.2201	0.0073	0.0217	0.0212	0.8%
%RSD		1.4924	46.2673	61.5531	625.4575	3.7673	11.1635	10.8858	1.0

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	0.1484	0.1298	0.0123	0.0088	88.0%	0.0243	0.0233	47.1606
2	21:01:24	0.1438	0.1417	0.0211	0.0071	89.4%	0.0226	0.0267	46.7132
3	21:02:22	0.1254	0.1441	0.0044	0.0112	89.9%	0.0293	0.0254	46.5705
x		0.1392	0.1385	0.0126	0.0090	89.1%	0.0254	0.0251	46.8148
σ		0.0122	0.0076	0.0084	0.0021	1.0%	0.0035	0.0017	0.3079
%RSD		8.7568	5.5131	66.5354	23.1443	1.1	13.6800	6.8691	0.6576

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:26	46.8760	47.2638	96.6%	0.0036	0.0027	1.5228	1.5008	1.5020
2	21:01:24	46.8673	47.2138	99.3%	0.0038	0.0025	1.5268	1.4648	1.4988
3	21:02:22	46.8183	47.1544	98.8%	0.0051	0.0056	1.5275	1.5022	1.5008
x		46.8539	47.2107	98.3%	0.0042	0.0036	1.5257	1.4893	1.5005
σ		0.0311	0.0547	1.4%	0.0008	0.0017	0.0025	0.0212	0.0016
%RSD		0.0663	0.1159	1.5	20.2597	47.7495	0.1670	1.4220	0.1080

K1203627-005 4/26/2012 9:06:15 PM

User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:15	0.0068	18.3484	86.1%	0.6874	0.1704	0.3569	3047.9238	1.7626
2	21:07:13	0.0047	17.8648	86.3%	0.6476	0.1644	0.3607	2958.5302	1.6734
3	21:08:11	0.0140	18.1115	84.5%	0.7016	0.1771	0.3818	3000.6075	1.7502
x		0.0085	18.1082	85.6%	0.6789	0.1706	0.3665	3002.3538	1.7287
σ		0.0049	0.2418	1.0%	0.0280	0.0063	0.0134	44.7224	0.0483
%RSD		57.6195	1.3354	1.2	4.1230	3.7174	3.6609	1.4896	2.7961

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:15	1.0440	0.8251	0.4392	0.4672	0.3328	1.9431	1.8500	81.2%
2	21:07:13	1.1210	0.8386	0.4100	0.5160	0.3367	1.8568	1.7823	82.3%
3	21:08:11	1.0523	0.8381	0.4577	0.4809	0.4116	1.8066	1.6203	81.9%
x		1.0724	0.8339	0.4357	0.4880	0.3604	1.8689	1.7509	81.8%
σ		0.0423	0.0077	0.0240	0.0252	0.0444	0.0690	0.1180	0.6%
%RSD		3.9421	0.9181	5.5202	5.1576	12.3185	3.6944	6.7409	0.7

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:15	20.1401	0.1870	-0.5379	0.3668	0.1200	0.1157	0.1207	81.2%
2	21:07:13	19.3412	0.0140	-0.8962	0.0735	0.1313	0.1423	0.1056	82.5%
3	21:08:11	19.9505	0.0871	-0.5286	0.1638	0.1362	0.0966	0.1255	82.9%
x		19.8106	0.0961	-0.6543	0.2013	0.1292	0.1182	0.1173	82.2%
σ		0.4174	0.0868	0.2096	0.1502	0.0083	0.0230	0.0104	0.9%
%RSD		2.1071	90.4007	32.0362	74.6115	6.4329	19.4224	8.8524	1.0

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:15	0.0649	0.0717	0.0045	0.0013	87.4%	0.0100	0.0200	55.3238
2	21:07:13	0.0693	0.0708	0.0018	0.0050	89.3%	0.0110	0.0161	54.6197
3	21:08:11	0.0624	0.0704	0.0031	0.0012	89.2%	0.0145	0.0139	54.9955
x		0.0656	0.0710	0.0032	0.0025	88.7%	0.0118	0.0167	54.9797
σ		0.0035	0.0006	0.0013	0.0021	1.1%	0.0023	0.0031	0.3523
%RSD		5.3374	0.8876	42.5089	85.2070	1.2	19.8163	18.4144	0.6408

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:15	55.2557	56.1596	96.9%	0.0022	0.0018	0.7555	0.6768	0.7180
2	21:07:13	55.2974	55.6068	99.3%	0.0021	0.0019	0.7147	0.6907	0.6952
3	21:08:11	54.6591	55.8497	98.3%	0.0035	0.0019	0.7298	0.7116	0.7156
x		55.0707	55.8720	98.2%	0.0026	0.0019	0.7333	0.6931	0.7096
σ		0.3571	0.2771	1.2%	0.0008	0.0000	0.0207	0.0175	0.0126
%RSD		0.6484	0.4960	1.2	29.5248	2.3980	2.8176	2.5301	1.7703

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:24	-0.0006	5.8293	84.4%	0.0120	0.0502	0.2422	2225.8480	0.0517
2	21:12:22	0.0016	5.6657	84.2%	0.0185	0.0416	0.2109	2187.3812	0.0503
3	21:13:20	-0.0005	5.6904	82.4%	0.0195	0.0528	0.2661	2275.5878	0.0546
x		0.0002	5.7285	83.7%	0.0167	0.0482	0.2397	2229.6056	0.0522
σ		0.0012	0.0882	1.1%	0.0041	0.0058	0.0277	44.2232	0.0022
%RSD		721.2931	1.5389	1.3	24.3640	12.1273	11.5444	1.9835	4.2844

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:24	0.2745	0.1510	0.1407	0.1496	1.4540	1.8317	1.8198	80.1%
2	21:12:22	0.3033	0.1335	0.1382	0.1681	1.4396	1.6922	1.9359	80.2%
3	21:13:20	0.2805	0.2042	0.1360	0.1429	1.4088	1.7238	1.7490	79.8%
x		0.2861	0.1629	0.1383	0.1535	1.4341	1.7493	1.8349	80.0%
σ		0.0152	0.0368	0.0024	0.0130	0.0231	0.0732	0.0944	0.2%
%RSD		5.3060	22.6035	1.7279	8.4841	1.6095	4.1820	5.1426	0.2

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:24	0.3276	-0.0076	-0.6083	0.2595	0.0957	0.1018	0.0978	81.0%
2	21:12:22	0.3207	0.1159	-0.6454	0.2407	0.1017	0.0943	0.0958	81.2%
3	21:13:20	0.2945	-0.0570	-0.4628	0.0379	0.1236	0.1285	0.0798	81.7%
x		0.3143	0.0171	-0.5722	0.1794	0.1070	0.1082	0.0911	81.3%
σ		0.0175	0.0891	0.0965	0.1229	0.0147	0.0179	0.0099	0.3%
%RSD		5.5528	520.8389	16.8669	68.5169	13.7514	16.5835	10.8157	0.4

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:24	0.0578	0.0509	0.0019	0.0041	86.6%	0.0080	0.0168	13.4774
2	21:12:22	0.0640	0.0522	0.0006	0.0002	87.8%	0.0121	0.0142	13.3150
3	21:13:20	0.0589	0.0651	0.0032	0.0013	87.9%	0.0152	0.0102	13.3948
x		0.0602	0.0561	0.0019	0.0018	87.4%	0.0118	0.0137	13.3957
σ		0.0033	0.0079	0.0013	0.0020	0.7%	0.0036	0.0033	0.0812
%RSD		5.4424	14.0432	69.5374	107.5142	0.8	30.8827	24.0804	0.6062

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:24	13.4621	13.4657	95.5%	0.0033	0.0019	0.0679	0.0563	0.0587
2	21:12:22	13.2718	13.4352	97.8%	0.0042	0.0015	0.0632	0.0681	0.0614
3	21:13:20	13.5432	13.4241	97.5%	0.0035	0.0015	0.0524	0.0532	0.0563
x		13.4257	13.4417	96.9%	0.0037	0.0016	0.0612	0.0592	0.0588
σ		0.1393	0.0215	1.2%	0.0005	0.0002	0.0079	0.0078	0.0025
%RSD		1.0375	0.1601	1.3	12.5345	12.5627	12.9595	13.2435	4.2651

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:31	0.0062	0.5744	81.9%	0.8346	0.0907	0.0845	0.1859	0.0196
2	21:17:29	0.0055	0.5195	82.6%	0.7893	0.0648	0.1045	0.1836	0.0220
3	21:18:27	0.0057	0.5622	80.8%	0.8121	0.0673	0.1499	0.2440	0.0156
x		0.0058	0.5520	81.8%	0.8120	0.0743	0.1130	0.2045	0.0191
σ		0.0003	0.0289	0.9%	0.0226	0.0143	0.0335	0.0343	0.0033
%RSD		5.5279	5.2264	1.1	2.7892	19.2567	29.6623	16.7469	17.0634

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:31	1.3298	1.2675	0.1807	0.1714	0.2668	0.5167	0.6462	81.0%
2	21:17:29	1.1672	1.1592	0.1654	0.1385	0.2986	0.6411	0.6338	82.0%
3	21:18:27	1.1485	1.1328	0.1731	0.1657	0.3101	0.6589	0.6703	81.5%
x		1.2152	1.1865	0.1731	0.1585	0.2918	0.6056	0.6501	81.5%
σ		0.0997	0.0714	0.0076	0.0176	0.0224	0.0775	0.0185	0.5%
%RSD		8.2022	6.0159	4.4102	11.0774	7.6729	12.7941	2.8522	0.7

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:31	0.0253	0.0890	-0.0949	-0.1442	0.0595	0.0544	0.0754	82.7%
2	21:17:29	0.1268	0.2310	-0.5683	0.1630	0.0722	0.0813	0.0702	84.2%
3	21:18:27	0.2770	0.0632	-0.5873	0.5785	0.0682	0.0718	0.0802	83.9%
x		0.1430	0.1277	-0.4168	0.1991	0.0666	0.0692	0.0753	83.6%
σ		0.1266	0.0903	0.2790	0.3627	0.0065	0.0136	0.0050	0.8%
%RSD		88.5136	70.7487	66.9299	182.1728	9.7663	19.7285	6.6569	0.9

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:31	0.0054	0.0073	0.0019	0.0024	87.3%	0.0118	0.0115	11.4115
2	21:17:29	0.0077	0.0077	0.0031	0.0023	88.9%	0.0184	0.0229	11.3729
3	21:18:27	0.0071	0.0014	-0.0007	0.0044	89.2%	0.0145	0.0161	11.2168
x		0.0067	0.0054	0.0014	0.0030	88.5%	0.0149	0.0169	11.3337
σ		0.0012	0.0035	0.0020	0.0012	1.0%	0.0033	0.0057	0.1031
%RSD		17.9302	64.9202	139.7831	39.4560	1.2	22.2567	34.1066	0.9095

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:31	11.2698	11.2891	96.3%	0.0043	0.0039	-0.0012	0.0033	0.0015
2	21:17:29	11.0551	11.2209	99.5%	0.0064	0.0024	0.0003	0.0022	0.0011
3	21:18:27	11.3352	11.3636	98.9%	0.0055	0.0027	0.0012	0.0013	0.0006
x		11.2201	11.2912	98.2%	0.0054	0.0030	0.0001	0.0023	0.0011
σ		0.1465	0.0714	1.7%	0.0011	0.0008	0.0012	0.0010	0.0005
%RSD		1.3060	0.6319	1.8	19.6774	27.1124	959.9958	45.7087	40.8184

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User Pre-dilution: 1.000

04/27/12

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:21:09	0.0005	4.7035	85.8%	0.0433	0.0158	0.1540	3268.3335	4.6866
2	21:22:07	0.0053	4.5709	85.2%	0.0343	0.0167	0.1673	3237.9889	4.7897
3	21:23:05	0.0006	4.6823	82.9%	0.0314	0.0279	0.1864	3256.9545	4.8292
x		0.0021	4.6522	84.6%	0.0363	0.0201	0.1693	3252.6256	4.7685
σ		0.0028	0.0713	1.5%	0.0063	0.0067	0.0163	13.1212	0.0736
%RSD		130.9569	1.5317	1.8	17.2113	33.5164	9.6108	0.4034	1.5443

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:21:09	2.8781	2.4725	0.0709	0.1183	0.2888	0.8040	0.8459	80.0%
2	21:22:07	2.7795	2.5618	0.0769	0.1007	0.3288	0.8126	0.8665	80.1%
3	21:23:05	2.8346	2.6317	0.0693	0.1127	0.3433	0.7362	0.7975	79.7%
x		2.8307	2.5553	0.0724	0.1106	0.3203	0.7843	0.8366	79.9%
σ		0.0494	0.0798	0.0040	0.0090	0.0282	0.0418	0.0354	0.2%
%RSD		1.7444	3.1241	5.5117	8.1106	8.8106	5.3329	4.2346	0.3

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:21:09	21.4027	0.0924	-0.7669	-0.1665	0.1335	0.1079	0.1280	79.5%
2	21:22:07	21.3508	0.0422	-0.4023	0.0197	0.1162	0.1142	0.1195	80.3%
3	21:23:05	21.5005	-0.0319	-0.6428	-0.0735	0.1236	0.1188	0.1038	80.3%
x		21.4180	0.0342	-0.6040	-0.0734	0.1244	0.1136	0.1171	80.0%
σ		0.0760	0.0625	0.1854	0.0931	0.0087	0.0055	0.0123	0.5%
%RSD		0.3550	182.5398	30.6895	126.7514	6.9860	4.8002	10.4957	0.6

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:21:09	0.0432	0.0358	0.0006	-0.0003	85.8%	0.0273	0.0164	17.5890
2	21:22:07	0.0436	0.0358	-0.0007	0.0035	87.7%	0.0170	0.0171	17.5610
3	21:23:05	0.0380	0.0365	0.0045	0.0029	87.3%	0.0241	0.0166	17.5438
x		0.0416	0.0360	0.0015	0.0020	86.9%	0.0228	0.0167	17.5646
σ		0.0031	0.0004	0.0027	0.0020	1.0%	0.0053	0.0003	0.0228
%RSD		7.5344	1.0602	188.1993	100.6361	1.2	23.2326	2.0338	0.1298

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:21:09	18.0168	17.7010	94.6%	0.0030	0.0023	0.2353	0.2278	0.2383
2	21:22:07	17.6951	17.6915	96.8%	0.0019	0.0020	0.2405	0.2245	0.2379
3	21:23:05	17.7212	17.7240	97.1%	0.0042	0.0012	0.2457	0.2333	0.2420
x		17.8110	17.7055	96.1%	0.0030	0.0018	0.2405	0.2285	0.2394
σ		0.1787	0.0167	1.3%	0.0012	0.0005	0.0052	0.0044	0.0023
%RSD		1.0031	0.0944	1.4	38.8377	29.6449	2.1627	1.9338	0.9563

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:26:16	22.4261	23.5567	79.3%	23.8025	23.4813	23.3649	24.1071	22.7713
2	21:27:14	22.3067	23.1189	75.8%	23.9731	23.9685	24.0998	25.0098	23.1779
3	21:28:12	22.1349	22.5568	77.5%	24.0879	23.7758	23.6124	24.7373	22.8983
x		22.2893	23.0774	77.5%	23.9545	23.7419	23.6923	24.6181	22.9492
σ		0.1464	0.5012	1.8%	0.1436	0.2454	0.3739	0.4630	0.2080
%RSD		0.6568	2.1720	2.3	0.5994	1.0336	1.5782	1.8808	0.9063

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:26:16	22.4699	22.2279	22.6639	22.3187	23.4062	23.8492	23.6333	83.3%
2	21:27:14	22.7293	22.6472	22.7344	22.7469	23.7158	23.8839	24.0554	84.5%
3	21:28:12	22.9743	22.5992	22.6112	22.3279	23.7043	24.3135	23.5608	83.7%
x		22.7245	22.4914	22.6698	22.4645	23.6088	24.0155	23.7498	83.8%
σ		0.2522	0.2295	0.0618	0.2446	0.1756	0.2586	0.2671	0.6%
%RSD		1.1099	1.0205	0.2727	1.0890	0.7436	1.0768	1.1247	0.7

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:26:16	23.8754	23.1098	23.2231	23.9779	24.0665	24.2484	23.8838	85.4%
2	21:27:14	24.2651	22.1806	23.5890	24.4305	23.8616	24.0390	23.8449	86.3%
3	21:28:12	24.0072	22.1919	22.7667	23.4235	23.9916	23.9511	23.9549	86.4%
x		24.0492	22.4941	23.1929	23.9440	23.9732	24.0795	23.8945	86.0%
σ		0.1982	0.5332	0.4119	0.5044	0.1037	0.1527	0.0558	0.5%
%RSD		0.8242	2.3705	1.7762	2.1064	0.4325	0.6343	0.2336	0.6

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:26:16	23.8222	23.7336	25.2146	24.7478	88.9%	24.5005	24.8980	23.7549
2	21:27:14	24.2576	23.8250	25.1586	24.4315	90.7%	24.6346	24.9586	23.4191
3	21:28:12	24.1237	24.1263	24.9720	24.6279	91.4%	24.8164	24.8587	23.6198
x		24.0679	23.8950	25.1151	24.6024	90.3%	24.6505	24.9051	23.5979
σ		0.2230	0.2055	0.1270	0.1597	1.2%	0.1586	0.0503	0.1689
%RSD		0.9266	0.8598	0.5057	0.6490	1.4	0.6433	0.2020	0.7159

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:26:16	23.7571	23.7876	97.1%	23.9846	24.1762	24.4050	24.2793	24.2613
2	21:27:14	23.5852	23.8799	99.7%	24.3353	24.2037	24.1799	24.2705	24.2371
3	21:28:12	23.6231	23.5964	100.1%	24.1926	24.0608	24.0438	24.1521	24.1319
x		23.6551	23.7546	99.0%	24.1708	24.1469	24.2096	24.2340	24.2101
σ		0.0903	0.1446	1.7%	0.1764	0.0758	0.1824	0.0710	0.0688
%RSD		0.3819	0.6088	1.7	0.7296	0.3141	0.7533	0.2932	0.2841

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:36:57	22.0153	23.5608	77.7%	23.8852	23.5465	23.7635	24.3377	22.6844
2	21:37:54	21.6193	23.0484	78.0%	23.6632	23.6124	22.8841	24.4785	22.8250
3	21:38:52	21.5472	22.6994	76.3%	23.8724	23.4926	23.1825	24.3849	22.7835
x		21.7272	23.1029	77.3%	23.8069	23.5505	23.2767	24.4004	22.7643
σ		0.2520	0.4333	0.9%	0.1247	0.0600	0.4472	0.0717	0.0722
%RSD		1.1599	1.8755	1.1	0.5236	0.2546	1.9211	0.2938	0.3173

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:36:57	22.3667	22.3420	22.3316	22.5721	24.0231	24.0108	24.2487	81.5%
2	21:37:54	22.8047	22.1803	21.8884	22.1355	23.3767	23.1398	23.3210	83.2%
3	21:38:52	23.0392	22.8017	21.9159	22.2758	23.5830	23.9392	23.6411	81.9%
x		22.7369	22.4413	22.0453	22.3278	23.6610	23.6966	23.7369	82.2%
σ		0.3413	0.3224	0.2483	0.2229	0.3302	0.4835	0.4712	0.9%
%RSD		1.5012	1.4364	1.1263	0.9982	1.3954	2.0404	1.9851	1.1

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:36:57	23.5328	23.6489	23.6319	23.4057	24.2384	24.4299	24.2534	83.5%
2	21:37:54	23.4865	23.3389	23.3592	22.8400	23.9842	24.4189	24.0182	83.7%
3	21:38:52	23.2915	22.8658	23.0088	23.3079	24.3581	24.4195	24.1431	84.7%
x		23.4369	23.2845	23.3333	23.1845	24.1936	24.4228	24.1382	84.0%
σ		0.1281	0.3943	0.3124	0.3024	0.1910	0.0062	0.1177	0.6%
%RSD		0.5465	1.6936	1.3388	1.3043	0.7894	0.0254	0.4876	0.8

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:36:57	24.1414	24.0834	24.9036	24.9435	87.3%	24.9427	25.1390	23.5530
2	21:37:54	23.9544	24.1863	25.2023	24.7933	90.0%	24.8684	24.9416	23.6692
3	21:38:52	23.7889	23.9396	24.5460	24.4176	90.2%	24.6828	24.9700	23.6108
x		23.9616	24.0698	24.8840	24.7181	89.2%	24.8313	25.0169	23.6110
σ		0.1763	0.1239	0.3286	0.2709	1.6%	0.1339	0.1067	0.0581
%RSD		0.7360	0.5148	1.3206	1.0959	1.8	0.5391	0.4266	0.2462

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:36:57	23.8498	24.0332	96.4%	24.3864	24.2800	24.4192	24.2823	24.3992
2	21:37:54	23.5393	23.7627	100.4%	23.9805	23.9647	24.0597	24.0709	24.1152
3	21:38:52	23.4970	23.7151	100.5%	24.1897	23.9459	24.0865	24.2080	24.1422
x		23.6287	23.8370	99.1%	24.1855	24.0635	24.1885	24.1870	24.2189
σ		0.1926	0.1715	2.3%	0.2030	0.1877	0.2003	0.1073	0.1567
%RSD		0.8152	0.7196	2.3	0.8392	0.7800	0.8281	0.4434	0.6472

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not used

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:06:53	0.0014	-0.1538	76.8%	-0.0061	-0.0310	0.0135	0.0240	-0.0002
2	22:07:51	0.0032	-0.1351	76.9%	-0.0032	-0.0335	0.0114	0.0216	0.0008
3	22:08:49	0.0015	-0.1399	75.9%	-0.0054	-0.0272	0.0229	0.0218	0.0034
x		0.0020	-0.1429	76.6%	-0.0049	-0.0306	0.0159	0.0225	0.0013
σ		0.0010	0.0097	0.5%	0.0015	0.0032	0.0061	0.0013	0.0019
%RSD		49.6791	6.8020	0.7	31.2262	10.3375	38.3730	5.9579	139.1599

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:06:53	-0.0026	-0.0040	0.0017	-0.0024	-0.1788	-0.1800	-0.1599	82.7%
2	22:07:51	-0.0196	-0.0150	0.0031	0.0092	-0.1342	-0.1960	-0.1739	82.1%
3	22:08:49	-0.0205	-0.0026	-0.0024	0.0056	-0.1651	-0.2222	-0.1483	82.6%
x		-0.0143	-0.0072	0.0008	0.0041	-0.1594	-0.1994	-0.1607	82.5%
σ		0.0101	0.0068	0.0029	0.0059	0.0228	0.0213	0.0128	0.3%
%RSD		70.9705	94.0997	338.4334	144.4691	14.3314	10.6917	7.9726	0.4

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:06:53	0.0186	-0.0346	-0.7099	0.0375	0.0188	0.0131	0.0201	83.0%
2	22:07:51	0.0254	0.0379	-0.8043	0.1270	0.0445	0.0449	0.0522	84.3%
3	22:08:49	0.0013	-0.0348	-0.7903	-0.0518	0.0486	0.0448	0.0462	84.4%
x		0.0151	-0.0105	-0.7682	0.0376	0.0373	0.0343	0.0395	83.9%
σ		0.0124	0.0419	0.0509	0.0894	0.0161	0.0183	0.0170	0.8%
%RSD		82.4237	399.8925	6.6296	237.9636	43.2314	53.4855	43.1492	0.9

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:06:53	0.0022	0.0081	0.0045	0.0024	87.8%	0.0025	0.0040	-0.0086
2	22:07:51	0.0054	0.0030	0.0018	0.0039	89.6%	0.0088	0.0066	0.0044
3	22:08:49	0.0068	0.0033	0.0044	0.0012	89.6%	0.0071	0.0083	-0.0147
x		0.0048	0.0048	0.0035	0.0025	89.0%	0.0061	0.0063	-0.0063
σ		0.0023	0.0029	0.0015	0.0013	1.0%	0.0032	0.0021	0.0098
%RSD		48.4793	59.1371	42.4674	53.3175	1.2	52.8378	34.0241	154.5835

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:06:53	0.0143	0.0018	97.0%	0.0029	0.0033	-0.0003	0.0042	0.0012
2	22:07:51	0.0049	0.0031	99.9%	0.0093	0.0059	-0.0001	0.0072	0.0041
3	22:08:49	0.0016	-0.0028	100.4%	0.0047	0.0056	0.0040	0.0026	0.0029
x		0.0069	0.0007	99.1%	0.0056	0.0049	0.0012	0.0047	0.0027
σ		0.0066	0.0031	1.9%	0.0033	0.0014	0.0024	0.0023	0.0015
%RSD		95.7879	461.8260	1.9	59.0207	28.2428	207.2006	50.3193	54.3132

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:16:05	0.0038	2.9868	83.1%	0.1870	0.0906	0.1773	2114.4928	5.4055
2	22:17:03	0.0021	2.9976	84.3%	0.1728	0.1017	0.2150	2108.1442	5.4754
3	22:18:01	-0.0005	2.9579	81.4%	0.1840	0.1024	0.1825	2124.3094	5.6376
x		0.0018	2.9808	82.9%	0.1812	0.0982	0.1916	2115.6488	5.5062
σ		0.0022	0.0205	1.5%	0.0075	0.0066	0.0204	8.1444	0.1191
%RSD		119.3387	0.6877	1.8	4.1199	6.7411	10.6711	0.3850	2.1632

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:16:05	2.1323	1.9991	0.1332	0.1760	0.3307	0.7653	0.7364	80.1%
2	22:17:03	2.2498	2.0080	0.1332	0.1584	0.3591	0.6675	0.7267	80.1%
3	22:18:01	2.1467	1.9982	0.1379	0.1408	0.2840	0.7372	0.6653	79.8%
x		2.1763	2.0018	0.1347	0.1584	0.3246	0.7233	0.7095	80.0%
σ		0.0641	0.0054	0.0027	0.0176	0.0379	0.0503	0.0386	0.2%
%RSD		2.9457	0.2706	2.0136	11.1175	11.6814	6.9593	5.4364	0.2

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:16:05	17.6012	0.0920	-0.2396	0.1124	0.1048	0.1146	0.1057	80.0%
2	22:17:03	17.5964	0.0914	-0.9356	0.0749	0.1171	0.1133	0.1274	81.1%
3	22:18:01	17.8760	0.0920	-0.3923	0.0936	0.1360	0.1076	0.1135	81.1%
x		17.6912	0.0918	-0.5225	0.0936	0.1193	0.1119	0.1155	80.7%
σ		0.1600	0.0003	0.3658	0.0187	0.0157	0.0037	0.0110	0.6%
%RSD		0.9045	0.3595	70.0100	19.9981	13.1864	3.3260	9.5172	0.8

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:16:05	0.1028	0.1150	0.0019	0.0002	87.3%	0.0232	0.0263	14.3489
2	22:17:03	0.1328	0.1199	0.0018	0.0039	89.1%	0.0278	0.0189	14.6399
3	22:18:01	0.1362	0.1361	0.0006	0.0023	88.6%	0.0154	0.0179	14.1114
x		0.1239	0.1236	0.0014	0.0022	88.3%	0.0222	0.0211	14.3667
σ		0.0184	0.0110	0.0008	0.0019	0.9%	0.0063	0.0045	0.2647
%RSD		14.8454	8.9230	53.0795	86.0846	1.0	28.2541	21.6002	1.8425

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:16:05	14.3097	14.1151	97.8%	0.0012	0.0010	0.7395	0.6868	0.7053
2	22:17:03	14.0151	14.1383	99.7%	0.0008	0.0023	0.7545	0.6844	0.7236
3	22:18:01	14.0905	14.2354	99.8%	0.0044	0.0032	0.7299	0.7410	0.7144
x		14.1384	14.1629	99.1%	0.0021	0.0021	0.7413	0.7041	0.7144
σ		0.1531	0.0638	1.1%	0.0020	0.0011	0.0124	0.0320	0.0091
%RSD		1.0825	0.4507	1.1	94.1085	52.8831	1.6735	4.5427	1.2803

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:22:00	0.0043	5.1443	83.8%	0.0246	0.0441	0.2049	2951.2136	1.6190
2	22:22:57	0.0026	5.1390	84.8%	0.0636	0.0713	0.1494	2901.3703	1.6348
3	22:23:55	0.0000	5.2863	83.1%	0.0334	0.0479	0.1902	2959.3205	1.6550
x		0.0023	5.1899	83.9%	0.0405	0.0544	0.1815	2937.3014	1.6363
σ		0.0022	0.0836	0.9%	0.0205	0.0147	0.0288	31.3802	0.0180
%RSD		93.3868	1.6101	1.0	50.4429	27.0626	15.8465	1.0683	1.1029

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:22:00	0.9652	0.6802	0.1451	0.1839	0.4635	0.7038	0.9217	80.8%
2	22:22:57	1.0087	0.6891	0.1525	0.1630	0.4904	0.9109	0.9804	79.9%
3	22:23:55	0.9192	0.7839	0.1415	0.2004	0.4579	1.1323	0.9651	79.8%
x		0.9644	0.7177	0.1463	0.1825	0.4706	0.9157	0.9557	80.2%
σ		0.0447	0.0575	0.0056	0.0187	0.0173	0.2143	0.0304	0.5%
%RSD		4.6390	8.0080	3.8414	10.2715	3.6864	23.4012	3.1814	0.7

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:22:00	15.8306	0.1154	-0.6746	0.1119	0.0759	0.1002	0.0798	79.7%
2	22:22:57	15.5249	-0.0320	-0.8736	0.0381	0.1137	0.0911	0.0891	80.2%
3	22:23:55	15.9881	0.0424	-0.2639	0.2785	0.0994	0.1049	0.0827	80.9%
x		15.7812	0.0419	-0.6040	0.1428	0.0964	0.0987	0.0839	80.3%
σ		0.2355	0.0737	0.3109	0.1231	0.0191	0.0070	0.0048	0.6%
%RSD		1.4924	175.8831	51.4774	86.1921	19.7959	7.0812	5.6880	0.8

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:22:00	0.1640	0.1312	0.0006	0.0002	86.1%	0.0116	0.0157	15.5594
2	22:22:57	0.1553	0.1594	-0.0007	0.0008	87.0%	0.0162	0.0121	15.4879
3	22:23:55	0.1501	0.1501	-0.0007	0.0007	88.0%	0.0117	0.0130	15.6100
x		0.1565	0.1469	-0.0003	0.0006	87.1%	0.0131	0.0136	15.5524
σ		0.0071	0.0144	0.0008	0.0003	0.9%	0.0027	0.0019	0.0614
%RSD		4.5136	9.7829	254.1644	51.3716	1.1	20.2332	13.9844	0.3946

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:22:00	15.6526	15.5059	96.4%	0.0016	0.0007	0.5205	0.4738	0.5045
2	22:22:57	15.7500	15.6376	98.7%	0.0015	0.0017	0.4932	0.4798	0.4955
3	22:23:55	15.4697	15.4771	98.2%	0.0018	0.0016	0.5240	0.4989	0.5047
x		15.6241	15.5402	97.8%	0.0016	0.0014	0.5126	0.4841	0.5016
σ		0.1423	0.0855	1.2%	0.0002	0.0006	0.0169	0.0131	0.0053
%RSD		0.9107	0.5505	1.3	11.3779	41.7015	3.2955	2.7087	1.0548

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:27:41	0.0026	36.0289	77.3%	0.6713	0.9040	0.8208	54.1034	0.0499
2	22:28:39	0.0014	35.6686	77.1%	0.6001	0.8885	0.9678	53.2178	0.0468
3	22:29:37	0.0049	35.9127	77.1%	0.5722	0.8462	0.9502	53.6143	0.0480
x		0.0030	35.8701	77.2%	0.6145	0.8796	0.9129	53.6451	0.0483
σ		0.0018	0.1839	0.1%	0.0511	0.0299	0.0802	0.4436	0.0016
%RSD		60.7153	0.5128	0.2	8.3192	3.3962	8.7902	0.8269	3.2621

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:27:41	0.4009	0.3655	3.9647	3.8525	29.9326	29.6437	30.4361	82.5%
2	22:28:39	0.3939	0.3862	3.8194	3.8293	29.9712	28.6701	29.5894	83.3%
3	22:29:37	0.3814	0.3997	3.8392	3.9246	30.4694	30.5695	30.3948	82.8%
x		0.3921	0.3838	3.8744	3.8688	30.1244	29.6278	30.1401	82.9%
σ		0.0099	0.0172	0.0788	0.0497	0.2994	0.9498	0.4774	0.4%
%RSD		2.5258	4.4861	2.0342	1.2850	0.9940	3.2057	1.5839	0.5

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:27:41	0.2160	-0.0826	-0.6743	-0.0344	0.5761	0.5838	0.6460	83.1%
2	22:28:39	0.1693	0.0363	-0.8605	-0.1759	0.5987	0.6325	0.6171	84.1%
3	22:29:37	0.2186	0.0128	-0.9295	0.1617	0.6007	0.7103	0.6120	84.8%
x		0.2013	-0.0111	-0.8214	-0.0162	0.5918	0.6422	0.6250	84.0%
σ		0.0278	0.0630	0.1320	0.1695	0.0136	0.0638	0.0183	0.9%
%RSD		13.7881	565.5756	16.0705	1045.4569	2.3036	9.9396	2.9324	1.1

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:27:41	0.0316	0.0353	0.0590	0.0562	88.1%	0.2175	0.2365	6.7985
2	22:28:39	0.0352	0.0423	0.0452	0.0450	89.8%	0.2311	0.2223	7.0747
3	22:29:37	0.0430	0.0393	0.0435	0.0487	90.7%	0.2239	0.2379	6.9412
x		0.0366	0.0390	0.0492	0.0500	89.5%	0.2242	0.2323	6.9381
σ		0.0058	0.0035	0.0085	0.0057	1.4%	0.0068	0.0086	0.1381
%RSD		15.9506	9.0619	17.2483	11.3104	1.5	3.0374	3.7161	1.9905

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:27:41	7.0971	7.0340	97.6%	0.0032	0.0012	1.0841	1.0223	1.0436
2	22:28:39	6.9353	6.9021	99.9%	0.0001	0.0031	1.1284	0.9681	1.0599
3	22:29:37	6.9534	6.9705	99.5%	0.0014	0.0016	1.1098	0.9928	1.0494
x		6.9953	6.9688	99.0%	0.0016	0.0020	1.1074	0.9944	1.0510
σ		0.0886	0.0660	1.2%	0.0015	0.0010	0.0222	0.0272	0.0082
%RSD		1.2673	0.9466	1.3	97.6111	49.4225	2.0079	2.7312	0.7830

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:32:43	0.0020	28.5089	76.6%	0.4720	0.3394	0.3397	44.1146	0.0384
2	22:33:41	0.0033	27.8273	76.1%	0.4403	0.3109	0.3829	44.5317	0.0373
3	22:34:39	-0.0009	27.4105	76.7%	0.5004	0.3159	0.3272	44.0145	0.0350
x		0.0014	27.9156	76.5%	0.4709	0.3220	0.3499	44.2203	0.0369
σ		0.0022	0.5545	0.3%	0.0301	0.0152	0.0292	0.2744	0.0017
%RSD		149.2323	1.9863	0.4	6.3933	4.7330	8.3405	0.6204	4.6983

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:32:43	0.4748	0.4442	3.6774	3.4875	59.4263	57.3863	60.2565	81.7%
2	22:33:41	0.4335	0.4450	3.5545	3.5666	58.9832	57.6073	59.5887	82.6%
3	22:34:39	0.4337	0.4535	3.5920	3.6333	59.3784	57.8461	59.8002	82.6%
x		0.4473	0.4476	3.6079	3.5625	59.2626	57.6132	59.8818	82.3%
σ		0.0238	0.0051	0.0630	0.0730	0.2432	0.2300	0.3413	0.5%
%RSD		5.3131	1.1473	1.7456	2.0491	0.4103	0.3992	0.5699	0.6

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:32:43	0.0612	-0.0097	-0.8307	-0.2692	1.0636	1.0577	1.0762	83.3%
2	22:33:41	0.0575	0.1331	-0.7426	-0.0518	1.0622	1.1192	1.0639	84.5%
3	22:34:39	0.1941	0.1813	-0.9157	0.3415	1.0791	1.0651	1.1327	83.8%
x		0.1043	0.1016	-0.8296	0.0068	1.0683	1.0807	1.0909	83.8%
σ		0.0778	0.0993	0.0866	0.3095	0.0093	0.0336	0.0367	0.6%
%RSD		74.6545	97.7985	10.4342	4525.2386	0.8749	3.1109	3.3598	0.7

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:32:43	0.0201	0.0251	0.0667	0.0605	88.0%	0.6529	0.6530	10.8028
2	22:33:41	0.0200	0.0195	0.0644	0.0679	89.5%	0.6472	0.6661	10.7144
3	22:34:39	0.0286	0.0238	0.0617	0.0549	90.1%	0.6447	0.6440	10.8773
x		0.0229	0.0228	0.0643	0.0611	89.2%	0.6483	0.6544	10.7982
σ		0.0050	0.0029	0.0025	0.0065	1.1%	0.0042	0.0111	0.0815
%RSD		21.6966	12.7883	3.8523	10.6836	1.2	0.6523	1.6954	0.7551

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:32:43	10.9042	10.8457	97.0%	0.0012	0.0007	0.4605	0.4151	0.4397
2	22:33:41	10.7930	10.7834	99.6%	0.0021	0.0009	0.4512	0.4351	0.4357
3	22:34:39	10.8619	10.8883	99.5%	0.0008	0.0017	0.4406	0.4204	0.4181
x		10.8530	10.8392	98.7%	0.0014	0.0011	0.4508	0.4235	0.4312
σ		0.0562	0.0528	1.5%	0.0007	0.0005	0.0099	0.0103	0.0115
%RSD		0.5175	0.4870	1.5	49.7199	49.0701	2.2057	2.4395	2.6617

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:37:44	22.4923	23.7802	76.6%	24.6672	24.3000	23.6319	24.5884	22.5315
2	22:38:42	22.4709	23.3837	75.5%	24.0821	23.7109	23.4458	24.5277	22.7989
3	22:39:40	22.0810	23.0534	75.8%	24.6460	24.1438	24.0830	24.8358	22.9541
x		22.3481	23.4058	75.9%	24.4651	24.0516	23.7202	24.6506	22.7615
σ		0.2315	0.3639	0.6%	0.3319	0.3052	0.3276	0.1632	0.2138
%RSD		1.0361	1.5546	0.7	1.3566	1.2688	1.3812	0.6620	0.9392

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:37:44	22.1715	22.2419	22.2730	22.2207	24.0637	22.8907	24.4317	82.2%
2	22:38:42	22.5140	22.3235	22.5248	22.1961	23.8562	23.9712	24.3320	83.0%
3	22:39:40	23.0435	22.6427	22.1755	22.2694	24.2219	24.2214	24.5007	81.6%
x		22.5763	22.4027	22.3244	22.2287	24.0473	23.6944	24.4215	82.2%
σ		0.4393	0.2118	0.1802	0.0373	0.1834	0.7072	0.0848	0.7%
%RSD		1.9460	0.9454	0.8074	0.1680	0.7628	2.9847	0.3472	0.9

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:37:44	24.1487	21.4723	23.6240	23.8626	24.1763	23.7803	24.2393	84.1%
2	22:38:42	23.8348	24.8658	23.3790	24.5935	24.2258	24.3776	24.5008	84.5%
3	22:39:40	24.9064	21.1271	24.3185	24.9636	24.8665	24.9160	24.5581	84.0%
x		24.2966	22.4884	23.7738	24.4732	24.4229	24.3580	24.4327	84.2%
σ		0.5509	2.0661	0.4874	0.5603	0.3850	0.5681	0.1700	0.3%
%RSD		2.2675	9.1875	2.0500	2.2893	1.5764	2.3323	0.6957	0.3

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:37:44	24.2758	24.1530	25.1833	25.1191	88.6%	25.0558	25.2716	24.0212
2	22:38:42	24.3214	24.3875	25.4736	24.9136	89.9%	25.2771	25.3358	23.7509
3	22:39:40	24.4049	24.3354	25.5195	24.7966	90.5%	25.2773	25.3687	24.2231
x		24.3340	24.2920	25.3921	24.9431	89.7%	25.2034	25.3253	23.9984
σ		0.0655	0.1231	0.1823	0.1632	1.0%	0.1278	0.0494	0.2369
%RSD		0.2690	0.5069	0.7179	0.6544	1.1	0.5071	0.1950	0.9871

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:37:44	24.1991	24.0617	97.4%	24.5740	24.4360	24.6277	24.6715	24.5499
2	22:38:42	23.8885	23.8026	99.9%	24.3511	24.4471	24.6436	24.7487	24.5628
3	22:39:40	24.3186	24.0461	99.6%	24.4777	24.4552	24.9422	24.5943	24.7467
x		24.1354	23.9701	99.0%	24.4676	24.4461	24.7378	24.6715	24.6198
σ		0.2220	0.1453	1.3%	0.1117	0.0096	0.1772	0.0772	0.1101
%RSD		0.9200	0.6062	1.4	0.4567	0.0394	0.7162	0.3127	0.4472

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:48:44	22.5186	24.3590	75.9%	24.4958	24.3722	24.0620	25.1928	23.3212
2	22:49:42	22.5204	24.1597	76.7%	24.4887	23.9492	23.6938	24.8562	23.1439
3	22:50:39	22.5923	23.4628	76.6%	24.4152	24.0384	23.9019	24.3921	22.8304
x		22.5438	23.9938	76.4%	24.4666	24.1200	23.8859	24.8137	23.0985
σ		0.0420	0.4706	0.4%	0.0447	0.2230	0.1846	0.4021	0.2485
%RSD		0.1864	1.9613	0.5	0.1825	0.9244	0.7730	1.6204	1.0759

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:48:44	23.0241	22.6481	22.7754	22.9142	24.4257	24.7226	24.2439	80.5%
2	22:49:42	23.0319	22.4894	22.5370	22.6998	24.2354	23.6095	24.0869	81.2%
3	22:50:39	22.9559	22.5669	22.6428	22.4065	23.9501	24.2632	24.4030	82.2%
x		23.0040	22.5681	22.6517	22.6735	24.2037	24.1984	24.2446	81.3%
σ		0.0418	0.0793	0.1195	0.2549	0.2394	0.5594	0.1581	0.9%
%RSD		0.1817	0.3515	0.5275	1.1242	0.9891	2.3117	0.6521	1.1

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:48:44	24.2238	23.2658	24.4825	25.2815	24.1942	24.5951	24.7249	82.1%
2	22:49:42	23.8459	24.1343	22.7749	24.0798	24.6884	24.4953	24.4736	83.8%
3	22:50:39	23.7492	23.8679	24.0464	23.8674	24.7616	25.0455	24.9362	83.2%
x		23.9396	23.7560	23.7679	24.4096	24.5481	24.7120	24.7116	83.0%
σ		0.2508	0.4449	0.8872	0.7625	0.3087	0.2931	0.2316	0.8%
%RSD		1.0475	1.8729	3.7329	3.1239	1.2574	1.1861	0.9373	1.0

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:48:44	24.6057	24.4684	25.4921	24.8744	86.5%	25.3604	25.5085	24.6058
2	22:49:42	24.6079	24.3591	25.8482	25.4705	87.9%	25.7197	25.6911	23.7486
3	22:50:39	24.6820	24.7639	25.7825	25.1812	88.7%	25.6258	25.2930	24.1876
x		24.6319	24.5305	25.7076	25.1754	87.7%	25.5686	25.4975	24.1807
σ		0.0434	0.2094	0.1895	0.2981	1.1%	0.1863	0.1993	0.4286
%RSD		0.1763	0.8538	0.7371	1.1841	1.3	0.7288	0.7817	1.7726

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:48:44	24.2063	24.3439	95.1%	24.9377	24.8350	25.1168	25.0764	24.9642
2	22:49:42	24.2930	24.3510	98.5%	24.7068	24.5390	24.8722	24.8313	24.6719
3	22:50:39	24.0642	24.0922	99.3%	24.6314	24.5135	24.5690	24.6466	24.5063
x		24.1878	24.2624	97.7%	24.7586	24.6292	24.8526	24.8514	24.7141
σ		0.1155	0.1474	2.2%	0.1596	0.1787	0.2744	0.2156	0.2318
%RSD		0.4775	0.6074	2.3	0.6445	0.7256	1.1042	0.8676	0.9380

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not used

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User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:19:41	0.0021	-0.1324	75.9%	-0.0009	-0.0231	0.0098	0.0110	0.0014
2	23:20:39	0.0044	-0.1454	76.8%	-0.0006	-0.0320	-0.0040	0.0055	0.0005
3	23:21:37	0.0044	-0.1259	77.0%	-0.0040	-0.0271	0.0137	0.0074	0.0017
x		0.0036	-0.1346	76.6%	-0.0018	-0.0274	0.0065	0.0080	0.0012
σ		0.0013	0.0100	0.6%	0.0019	0.0044	0.0093	0.0028	0.0006
%RSD		36.8084	7.4087	0.8	101.7411	16.1311	143.6500	34.9922	54.6194

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:19:41	-0.0042	0.0156	0.0033	0.0008	-0.1584	-0.2184	-0.1455	80.4%
2	23:20:39	-0.0315	0.0088	0.0056	0.0105	-0.1610	-0.1587	-0.1753	80.8%
3	23:21:37	-0.0255	0.0089	-0.0009	0.0050	-0.1645	-0.2202	-0.1381	81.2%
x		-0.0204	0.0111	0.0027	0.0054	-0.1613	-0.1991	-0.1529	80.8%
σ		0.0143	0.0039	0.0033	0.0049	0.0030	0.0350	0.0197	0.4%
%RSD		70.2472	34.9368	123.0098	89.6366	1.8822	17.5910	12.8824	0.5

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:19:41	-0.0380	-0.0327	-0.7595	-0.1641	0.0363	0.0307	0.0329	81.7%
2	23:20:39	-0.0076	-0.0821	-0.7276	-0.0714	0.0471	0.0515	0.0516	82.9%
3	23:21:37	0.0526	-0.0335	-0.7790	0.1101	0.0462	0.0543	0.0428	82.8%
x		0.0023	-0.0494	-0.7554	-0.0418	0.0432	0.0455	0.0424	82.5%
σ		0.0461	0.0283	0.0260	0.1395	0.0060	0.0129	0.0094	0.7%
%RSD		2001.0763	57.3178	3.4395	333.8150	13.9672	28.3393	22.0393	0.8

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:19:41	0.0058	0.0049	0.0059	0.0019	85.5%	0.0041	0.0031	-0.0002
2	23:20:39	0.0087	0.0012	0.0019	0.0029	87.8%	0.0056	0.0108	0.0089
3	23:21:37	0.0104	0.0053	0.0045	0.0024	87.3%	0.0061	0.0080	0.0071
x		0.0083	0.0038	0.0041	0.0024	86.9%	0.0052	0.0073	0.0053
σ		0.0023	0.0023	0.0021	0.0005	1.2%	0.0010	0.0039	0.0048
%RSD		28.0484	59.6913	50.3584	20.8379	1.4	19.9463	53.5172	90.6866

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:19:41	0.0164	0.0037	94.2%	0.0027	0.0021	0.0011	0.0016	0.0022
2	23:20:39	0.0132	0.0047	97.4%	0.0056	0.0046	0.0000	0.0051	0.0032
3	23:21:37	0.0077	0.0072	97.1%	0.0046	0.0061	0.0009	0.0052	0.0028
x		0.0124	0.0052	96.2%	0.0043	0.0042	0.0007	0.0040	0.0028
σ		0.0044	0.0018	1.8%	0.0015	0.0020	0.0006	0.0021	0.0005
%RSD		35.2557	35.3070	1.9	34.3318	48.2220	82.2391	52.4512	18.1304

LLCCV 4/26/2012 11:43:02 PM

User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:43:02	0.0248	1.7109	77.6%	0.1622	0.1695	0.2280	0.0416	0.0208
2	23:43:59	0.0122	1.6915	76.3%	0.1873	0.1630	0.1998	0.0465	0.0140
3	23:44:57	0.0203	1.6799	75.0%	0.1836	0.1631	0.2029	0.0482	0.0174
x		0.0191	1.6941	76.3%	0.1777	0.1652	0.2102	0.0454	0.0174
σ		0.0064	0.0157	1.3%	0.0136	0.0037	0.0155	0.0034	0.0034
%RSD		33.5447	0.9255	1.7	7.6310	2.2462	7.3504	7.5356	19.4610

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:43:02	0.2271	0.2049	0.1208	0.1344	0.5297	0.5008	0.4770	81.6%
2	23:43:59	0.2264	0.1921	0.1098	0.1031	0.4613	0.3659	0.4965	81.6%
3	23:44:57	0.2406	0.2058	0.1100	0.1263	0.4711	0.2483	0.4505	81.4%
x		0.2314	0.2009	0.1135	0.1213	0.4874	0.3716	0.4747	81.5%
σ		0.0080	0.0077	0.0063	0.0163	0.0370	0.1264	0.0230	0.1%
%RSD		3.4433	3.8350	5.5581	13.4166	7.5918	33.9980	4.8552	0.2

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:43:02	0.5284	0.7928	-0.0542	1.0524	0.0569	0.0659	0.0618	82.3%
2	23:43:59	0.5605	0.8135	0.2459	1.3858	0.0687	0.0603	0.0609	84.5%
3	23:44:57	0.5324	1.1324	0.1751	1.1930	0.0779	0.0607	0.0717	83.8%
x		0.5404	0.9129	0.1222	1.2104	0.0678	0.0623	0.0648	83.5%
σ		0.0175	0.1904	0.1569	0.1674	0.0105	0.0031	0.0060	1.1%
%RSD		3.2376	20.8555	128.3042	13.8270	15.4718	5.0325	9.2604	1.3

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:43:02	0.0184	0.0214	0.0137	0.0237	86.8%	0.0460	0.0495	0.0431
2	23:43:59	0.0217	0.0222	0.0211	0.0194	88.7%	0.0596	0.0523	0.0416
3	23:44:57	0.0196	0.0177	0.0185	0.0220	89.2%	0.0502	0.0587	0.0355
x		0.0199	0.0204	0.0178	0.0217	88.2%	0.0520	0.0535	0.0401
σ		0.0017	0.0024	0.0037	0.0022	1.3%	0.0070	0.0047	0.0040
%RSD		8.3977	11.8757	21.0623	9.9528	1.5	13.4126	8.7559	10.0496

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:43:02	0.0704	0.0528	95.1%	0.0234	0.0208	0.0180	0.0247	0.0186
2	23:43:59	0.0363	0.0471	97.4%	0.0174	0.0220	0.0216	0.0264	0.0206
3	23:44:57	0.0460	0.0609	97.6%	0.0224	0.0205	0.0241	0.0239	0.0220
x		0.0509	0.0536	96.7%	0.0211	0.0211	0.0212	0.0250	0.0204
σ		0.0176	0.0069	1.4%	0.0032	0.0008	0.0031	0.0012	0.0017
%RSD		34.5822	12.9445	1.5	15.2983	3.9449	14.4987	4.9435	8.4421

CJ 4/27/12

see R.R.

>LLCCV 4/26/2012 11:47:40 PM

User Pre-dilution: 1.000

Run	Time	9Be	27Al	45Sc	51V	52Cr	53Cr	55Mn	59Co
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:47:40	0.0165	1.7085	78.0%	0.1866	0.1647	0.1866	0.0452	0.0153
2	23:48:38	0.0175	1.6558	76.6%	0.1853	0.1735	0.2296	0.0437	0.0172
3	23:49:36	0.0173	1.6950	77.1%	0.2165	0.1649	0.1644	0.0513	0.0155
x		0.0171	1.6864	77.3%	0.1961	0.1677	0.1935	0.0467	0.0160
σ		0.0005	0.0274	0.7%	0.0177	0.0050	0.0331	0.0040	0.0010
%RSD		3.0031	1.6219	0.9	9.0136	2.9894	17.1279	8.5460	6.4367

Run	Time	60Ni	62Ni	63Cu	65Cu	66Zn	67Zn	68Zn	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:47:40	0.2034	0.1544	0.1098	0.1091	0.4723	0.3216	0.4609	82.6%
2	23:48:38	0.1976	0.1741	0.1010	0.1160	0.5341	0.3840	0.4596	82.5%
3	23:49:36	0.1762	0.1282	0.1222	0.1207	0.4008	0.3174	0.6069	82.1%
x		0.1924	0.1523	0.1110	0.1153	0.4691	0.3410	0.5091	82.4%
σ		0.0143	0.0230	0.0107	0.0058	0.0667	0.0373	0.0846	0.2%
%RSD		7.4534	15.1170	9.6048	5.0267	14.2203	10.9307	16.6249	0.3

Run	Time	75As	77Se	78Se	82Se	95Mo	97Mo	98Mo	103Rh
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:47:40	0.5625	0.8790	0.5894	0.9517	0.0476	0.0483	0.0567	83.2%
2	23:48:38	0.4364	0.9484	0.1281	0.6610	0.0803	0.0405	0.0632	84.7%
3	23:49:36	0.4592	0.7374	0.2304	0.6477	0.0578	0.0719	0.0640	83.7%
x		0.4860	0.8549	0.3160	0.7535	0.0619	0.0536	0.0613	83.9%
σ		0.0672	0.1075	0.2423	0.1718	0.0168	0.0163	0.0040	0.8%
%RSD		13.8311	12.5777	76.6690	22.8042	27.0973	30.4895	6.5786	0.9

Run	Time	107Ag	109Ag	111Cd	114Cd	115In	121Sb	123Sb	135Ba
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:47:40	0.0198	0.0150	0.0174	0.0158	88.1%	0.0576	0.0573	0.0502
2	23:48:38	0.0194	0.0175	0.0197	0.0240	89.3%	0.0532	0.0447	0.0490
3	23:49:36	0.0232	0.0177	0.0147	0.0225	89.2%	0.0593	0.0564	0.0585
x		0.0208	0.0167	0.0173	0.0208	88.8%	0.0567	0.0528	0.0526
σ		0.0021	0.0015	0.0025	0.0044	0.7%	0.0031	0.0071	0.0052
%RSD		10.0677	8.9599	14.5974	21.1042	0.7	5.5131	13.3608	9.8640

Run	Time	137Ba	138Ba	175Lu	203Tl	205Tl	206Pb	207Pb	208Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	23:47:40	0.0447	0.0491	95.5%	0.0237	0.0183	0.0178	0.0250	0.0215
2	23:48:38	0.0614	0.0554	97.5%	0.0187	0.0233	0.0241	0.0193	0.0229
3	23:49:36	0.0425	0.0486	98.3%	0.0223	0.0207	0.0163	0.0205	0.0204
x		0.0496	0.0510	97.1%	0.0216	0.0207	0.0194	0.0216	0.0216
σ		0.0103	0.0038	1.4%	0.0025	0.0025	0.0041	0.0030	0.0013
%RSD		20.8385	7.4453	1.5	11.7332	12.0505	21.2597	14.1121	5.8285

Service Request # K1203695 (Cu reruns)
Calibration _____042712AMS03_____
QC in calibration__042712AMS03_____
QC Service Request K1203532_____
STARLIMS Batch # 289031_____

ICP-MS Data Review Form

	Yes	No	NA
1. Appropriate standardization completed	X		
2. ICV within 10 % of true value	X		
3. CCV's in control	X		
4. CCB's and/or ICB's below MRL	X		
5. Method blank below MRL	X		
6. LCS in control	X		
7. Spike and duplicate in control	X		
8. All analytes within instrument linear range	X		
9. Adequate rinse out time allowed	X		
10. Internal standards in control	X		
11. Interferences checked	X		
12. Se over MRL		X	
13. CRA run	X		
14. ICSA and ICSAB in control	X		
15. Serial dilution run	X		
16. Post spike in control	X		
17. Was the run terminated? If so, why.	X		

Comments:

Primary Review by _____ Date 4/27/12
Secondary Review by JDB Date 4/27/12
R:\icp\misc\data review forms\PQ ExCell review form

Sample List

No	Label	Type	Weight	Rack	Row	Col	Height
1	Cal. Blk	Blank	1.000	0	1	1	145
2	Cal. Stn	Fully Quant Standard	1.000	0	1	2	145
3	ICV1	Unknown	1.000	0	1	3	145
4	CCV1	Unknown	1.000	0	1	2	145
5	ICB1	Unknown	1.000	0	1	1	145
6	CCB1	Unknown	1.000	0	1	1	145
7	LLICV	Unknown	1.000	0	1	4	145
8	ICSA	Unknown	1.000	0	1	5	145
9	ICSAB	Unknown	1.000	0	1	6	145
10	K1203338-MB	Unknown	1.000	1	1	1	145
11	LCSW	Unknown	1.000	1	1	2	145
12	K1203338-003	Unknown	1.000	1	1	3	145
13	K1203338-003D	Unknown	1.000	1	1	4	145
14	K1203338-003L 1/5	Unknown	1.000	1	1	5	145
15	K1203338-003A +20 ppb	Unknown	1.000	1	1	6	145
16	K1203338-003S	Unknown	1.000	1	1	7	145
17	K1203487-MB	Unknown	1.000	1	1	8	145
18	LCSW	Unknown	1.000	1	1	9	145
19	CCV2	Unknown	1.000	0	1	2	145
20	CCB2	Unknown	1.000	0	1	1	145
21	K1203487-001	Unknown	1.000	1	1	10	145
22	K1203487-001D	Unknown	1.000	1	1	11	145
23	K1203487-001L 1/5	Unknown	1.000	1	1	12	145
24	K1203487-001A +20 ppb	Unknown	1.000	1	2	1	145
25	K1203487-001S	Unknown	1.000	1	2	2	145
26	K1203489-001	Unknown	1.000	1	2	3	145
27	K1203627-MB	Unknown	1.000	1	2	4	145
28	LCSW	Unknown	1.000	1	2	5	145
29	CCV3	Unknown	1.000	0	1	2	145
30	CCB3	Unknown	1.000	0	1	1	145
31	LLCCV1	Unknown	1.000	0	1	4	145
32	K1203532-018 BQC	Unknown	1.000	1	2	6	145
33	K1203532-018D	Unknown	1.000	1	2	7	145
34	K1203532-018S	Unknown	1.000	1	2	8	145
35	K1203532-018 1/100	Unknown	1.000	1	2	9	145
36	K1203532-018D 1/100	Unknown	1.000	1	2	10	145
37	K1203532-018S 1/100	Unknown	1.000	1	2	11	145
38	K1203627-001	Unknown	1.000	1	2	12	145
39	K1203627-001L	Unknown	1.000	1	3	1	145
40	K1203627-001A	Unknown	1.000	1	3	2	145
41	CCV4	Unknown	1.000	0	1	2	145
42	CCB4	Unknown	1.000	0	1	1	145
43	K1203627-002	Unknown	1.000	1	3	3	145
44	K1203627-002L 1/5	Unknown	1.000	1	3	4	145
45	K1203627-002A +20 ppb	Unknown	1.000	1	3	5	145
46	K1203627-003	Unknown	1.000	1	3	6	145
47	K1203627-004	Unknown	1.000	1	3	7	145
48	K1203627-005	Unknown	1.000	1	3	8	145
49	K1203627-001 DISS	Unknown	1.000	1	3	9	145
50	K1203627-002 DISS	Unknown	1.000	1	3	10	145
51	K1203627-003 DISS	Unknown	1.000	1	3	11	145
52	K1203627-004 DISS	Unknown	1.000	1	3	12	145
53	CCV5	Unknown	1.000	0	1	2	145
54	CCB5	Unknown	1.000	0	1	1	145
55	LLCCV2	Unknown	1.000	0	1	4	145
56	LLCCV Mn @ 0.2 ppb	Unknown	1.000	0	1	6	145
57	K1203627-005 DISS	Unknown	1.000	1	4	1	145
58	K1203627-001 1/100	Unknown	1.000	1	4	2	145
59	K1203627-003 1/100	Unknown	1.000	1	4	3	145
60	K1203627-004 1/100	Unknown	1.000	1	4	4	145
61	K1203627-005 1/100	Unknown	1.000	1	4	5	145
62	K1203627-001 DISS 1/100	Unknown	1.000	1	4	6	145
63	K1203627-003 DISS 1/100	Unknown	1.000	1	4	7	145
64	K1203627-004 DISS 1/100	Unknown	1.000	1	4	8	145
65	K1203627-005 DISS 1/100	Unknown	1.000	1	4	9	145
66	CCV6	Unknown	1.000	0	1	2	145
67	CCB6	Unknown	1.000	0	1	1	145

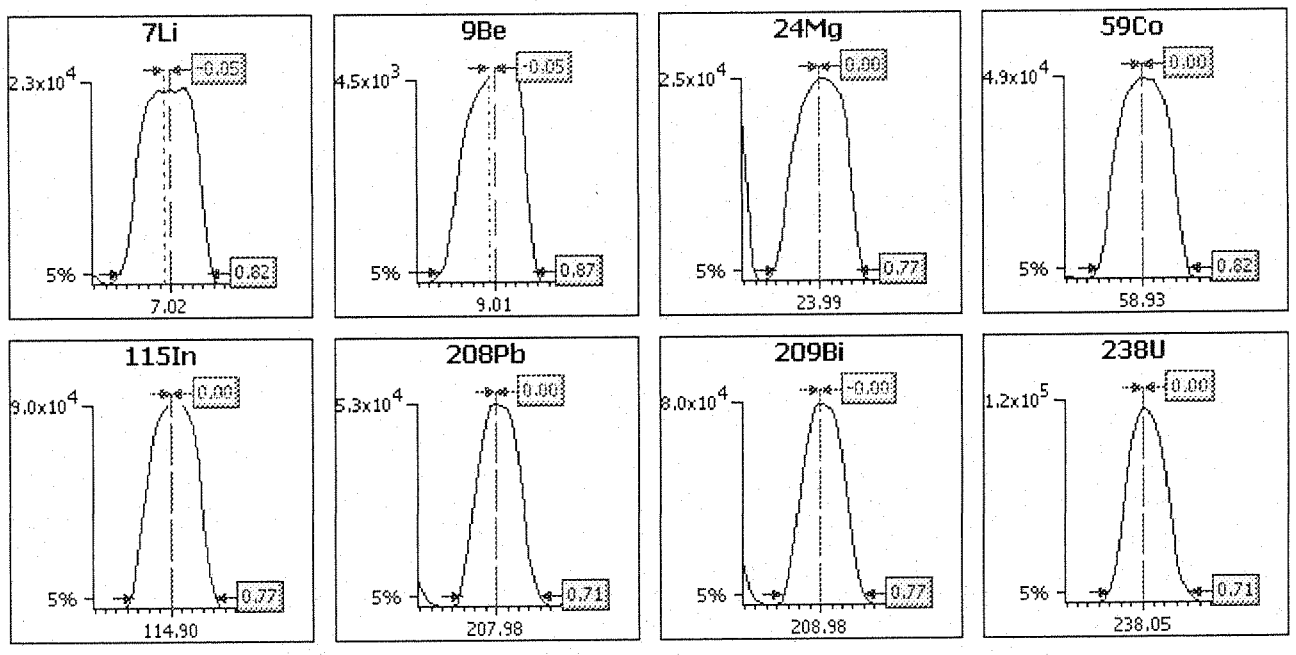
68	K1203695-001	Unknown	1.000	1	4	10	145
69	K1203695-002	Unknown	1.000	1	4	11	145
70	CCV7	Unknown	1.000	0	1	2	145
71	CCB7	Unknown	1.000	0	1	1	145
72	LLCCV3	Unknown	1.000	0	1	4	145
73	LLCCV Mn @ 0.2 ppb	Unknown	1.000	0	1	6	145

Performance Report

Sample details
Acquired at : 4/27/2012 8:23:47 AM
Report name : Kelso Performance Report 3 [8/24/2011 10:10:34 AM]

Mass Calibration verification

Acquisition parameters
Sweeps : 100
Dwell : 1.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
7Li	0.90	0.60	0.10	0.82	-0.05
9Be	0.90	0.60	0.10	0.87	-0.05
24Mg	0.90	0.60	0.10	0.77	0.00
59Co	0.90	0.60	0.10	0.82	0.00
115In	0.90	0.60	0.10	0.77	0.00
208Pb	0.90	0.60	0.10	0.71	0.00
209Bi	0.90	0.60	0.10	0.77	-0.00
238U	0.90	0.60	0.10	0.71	0.00

Sample details
Acquired at : 4/27/2012 8:23:47 AM
Report name : Kelso Performance Report 3 [8/24/2011 10:10:34 AM]

Tune conditions

Major	
Extraction	-122
Lens 1	4.7
Focus	15.7
D1	-36.9
Pole Bias	0.4
Hexapole Bias	0.6
Nebuliser	0.79
Sampling Depth	100

Minor	
Lens 2	-11.0
Lens 3	-200.0
Forward power	1247
Horizontal	117
Vertical	326
D2	-144
DA	-22.7
Cool	13.0
Auxiliary	0.80

Global	
Standard resolution	100
High resolution	90
Analogue Detector	1951
PC Detector	3451

Add. Gases

Sensitivity and stability results

Acquisition parameters
Sweeps : 400

Run	Time	5Bkg	7Li	9Be	24Mg	59Co	115In	140Ce	156Ce O	208Pb
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	5.0%	-	-	5.0%
	Countrate	-	>1000	>1000	>1000	>1000	>1000	-	-	>1000
1	8:24:20 AM	0.000	21923.654	4975.611	26233.797	47681.467	93603.420	91727.695	1121.319	55098.718
2	8:25:33 AM	0.250	22547.928	5023.388	26055.786	48193.406	93946.936	91864.820	1093.316	55775.829
3	8:26:46 AM	0.250	22657.199	5124.194	26615.404	47986.566	93994.676	92036.291	1095.066	55737.092
4	8:27:59 AM	0.250	23053.193	5164.717	26830.786	48429.153	94366.751	92138.064	1090.315	55716.969
5	8:29:13 AM	0.000	23465.496	5347.322	26899.739	48632.485	93974.216	91759.767	1122.319	55834.185
x		0.150	22729.494	5127.046	26527.102	48184.615	93977.200	91905.327	1104.467	55632.559
σ		0.14	577.51	144.59	369.81	371.77	270.50	177.27	15.94	301.75
%RSD		91.287	2.541	2.820	1.394	0.772	0.288	0.193	1.443	0.542

Run	Time	209Bi	220Bkg	238U
Dwell (mSecs)		10.0	10.0	10.0
Limits	%RSD	5.0%	-	5.0%
	Countrate	>1000	-	>1000
1	8:24:20 AM	81700.733	0.000	117360.43
2	8:25:33 AM	82130.580	0.000	118044.96
3	8:26:46 AM	82263.272	0.000	118080.67
4	8:27:59 AM	82364.180	0.250	118416.50
5	8:29:13 AM	82124.526	0.250	118208.06
x		82116.658	0.100	118022.12
σ		252.99	0.14	397.46
%RSD		0.308	136.931	0.337

Ratio results

Run	Time	156Ce O/140Ce
Ratio limits		<0.0300
1	8:24:20 AM	0.012
2	8:25:33 AM	0.012
3	8:26:46 AM	0.012
4	8:27:59 AM	0.012
5	8:29:13 AM	0.012
x		0.0120
σ		0.00
%RSD		1.6114

Result : The performance report passed.

Dilution Corrected Concentrations

Cal. Blk 4/27/2012 8:49:47 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:49:47	103.5%	0.0001	102.1%	0.0040	-0.0010	-0.0022	100.8%
2	08:50:04	97.5%	-0.0004	98.3%	-0.0022	-0.0003	-0.0028	97.6%
3	08:50:20	99.0%	0.0002	99.5%	-0.0018	0.0013	0.0051	101.6%
x		100.0%	-0.0000	100.0%	-0.0000	0.0000	0.0000	100.0%
σ		3.1%	0.0003	2.0%	0.0035	0.0012	0.0044	2.1%
%RSD		3.1	0.0000	2.0	0.0000	0.0000	0.0000	2.1

Cal. Stn 4/27/2012 8:52:12 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:52:12	97.1%	25.4713	98.0%	25.3701	25.1805	25.1447	95.6%
2	08:52:29	101.6%	24.8835	100.2%	24.9924	25.2960	25.2015	99.5%
3	08:52:45	101.6%	24.6452	101.0%	24.6375	24.5235	24.6538	99.3%
x		100.1%	25.0000	99.7%	25.0000	25.0000	25.0000	98.1%
σ		2.6%	0.4252	1.5%	0.3664	0.4167	0.3011	2.2%
%RSD		2.6	1.7007	1.5	1.4655	1.6666	1.2046	2.2

ICV1 4/27/2012 8:54:38 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:54:38	101.7%	2.5213	100.5%	25.2538	13.1953	12.9487	96.7%
2	08:54:54	107.2%	2.6201	101.5%	25.1145	13.0018	12.8673	99.1%
3	08:55:11	107.1%	2.4662	102.1%	25.0703	13.1262	13.1628	99.5%
x		105.3%	2.5359	101.4%	25.1462	13.1077	12.9929	98.4%
σ		3.2%	0.0780	0.8%	0.0958	0.0981	0.1526	1.5%
%RSD		3.0	3.0745	0.8	0.3809	0.7482	1.1748	1.5

CCV1 4/27/2012 8:57:04 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:57:04	101.7%	26.4403	98.7%	25.9264	26.5483	25.7824	95.8%
2	08:57:20	103.5%	25.0221	102.6%	24.6268	25.1745	24.6572	98.6%
3	08:57:36	103.2%	24.7536	103.3%	24.5406	24.7539	24.8161	99.5%
x		102.8%	25.4053	101.5%	25.0313	25.4922	25.0852	98.0%
σ		1.0%	0.9063	2.5%	0.7764	0.9385	0.6090	2.0%
%RSD		0.9	3.5675	2.5	3.1019	3.6813	2.4276	2.0

ICB1 4/27/2012 8:59:28 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	08:59:28	108.1%	0.0019	101.5%	0.0005	-0.0015	0.0073	98.5%
2	08:59:45	108.4%	0.0031	103.5%	-0.0055	0.0044	0.0024	99.8%
3	09:00:01	106.5%	0.0001	102.1%	-0.0107	0.0014	0.0025	99.7%
x		107.7%	0.0017	102.4%	-0.0052	0.0014	0.0040	99.3%
σ		1.0%	0.0015	1.1%	0.0056	0.0029	0.0028	0.7%
%RSD		0.9	90.3799	1.0	107.8597	208.1196	69.2836	0.7

CCB1 4/27/2012 9:01:53 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:01:53	95.3%	0.0059	97.5%	0.0057	0.0039	-0.0015	94.3%
2	09:02:09	95.2%	-0.0010	96.5%	0.0001	-0.0009	0.0022	95.5%
3	09:02:25	92.9%	0.0004	96.1%	-0.0047	-0.0028	0.0041	96.4%
x		94.4%	0.0018	96.7%	0.0004	0.0001	0.0016	95.4%
σ		1.3%	0.0037	0.7%	0.0052	0.0034	0.0029	1.0%
%RSD		1.4	207.5225	0.7	1286.3487	6237.4442	180.7859	1.1

LLICV 4/27/2012 9:04:18 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:04:18	100.5%	0.0219	100.5%	0.0341	0.1145	0.0988	97.4%
2	09:04:34	100.1%	0.0220	101.3%	0.0422	0.1235	0.1103	98.8%
3	09:04:50	111.1%	0.0179	106.7%	0.0305	0.1081	0.1168	102.8%
x		103.9%	0.0206	102.8%	0.0356	0.1154	0.1086	99.7%
σ		6.3%	0.0024	3.4%	0.0060	0.0077	0.0091	2.8%
%RSD		6.0	11.4574	3.3	16.7672	6.7097	8.3813	2.8

ICSA 4/27/2012 9:06:45 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:06:45	101.5%	0.0054	103.5%	1.3567	0.4752	0.4319	92.7%
2	09:07:01	91.6%	0.0105	96.0%	1.5272	0.5179	0.4469	86.9%
3	09:07:18	95.6%	0.0038	98.2%	1.4437	0.5013	0.4465	90.8%
x		96.2%	0.0066	99.2%	1.4425	0.4981	0.4417	90.1%
σ		5.0%	0.0035	3.8%	0.0853	0.0215	0.0085	2.9%
%RSD		5.2	53.5958	3.9	5.9103	4.3248	1.9351	3.3

ICSAB 4/27/2012 9:09:12 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:09:12	100.0%	0.0167	100.3%	49.3469	48.2223	48.4104	91.1%
2	09:09:29	95.2%	0.0059	98.5%	49.4930	47.3107	47.6297	89.4%
3	09:09:45	94.6%	0.0039	98.4%	50.7421	48.6765	48.3540	91.0%
x		96.6%	0.0088	99.0%	49.8606	48.0698	48.1314	90.5%
σ		3.0%	0.0069	1.1%	0.7668	0.6955	0.4353	1.0%
%RSD		3.1	78.5007	1.1	1.5379	1.4469	0.9045	1.1

K1203338-MB 4/27/2012 9:11:39 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:11:39	97.7%	0.0016	98.0%	-0.0040	0.0236	0.0405	98.0%
2	09:11:55	97.7%	0.0016	98.4%	0.0038	0.0373	0.0346	98.5%
3	09:12:11	103.3%	0.0014	98.2%	0.0312	0.0764	0.0660	100.8%
x		99.6%	0.0016	98.2%	0.0103	0.0458	0.0470	99.1%
σ		3.3%	0.0001	0.2%	0.0185	0.0274	0.0167	1.5%
%RSD		3.3	7.5517	0.2	179.0812	59.8255	35.5036	1.5

LCSW 4/27/2012 9:14:03 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:14:03	104.5%	2.5849	103.1%	25.6097	13.0892	12.8456	99.0%
2	09:14:19	106.0%	2.6258	103.9%	25.1789	12.9361	12.7505	101.9%
3	09:14:36	105.6%	2.4939	103.9%	25.0851	12.8702	12.7545	100.7%
x		105.4%	2.5682	103.6%	25.2912	12.9652	12.7835	100.6%
σ		0.8%	0.0675	0.5%	0.2798	0.1124	0.0538	1.4%
%RSD		0.8	2.6289	0.5	1.1063	0.8667	0.4208	1.4

K1203338-003 4/27/2012 9:16:28 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:16:28	98.6%	0.0083	101.6%	0.0216	9.3488	9.3457	94.1%
2	09:16:44	111.0%	0.0048	105.6%	0.0154	9.6855	9.3959	98.7%
3	09:17:01	113.1%	0.0040	108.1%	0.0104	9.1992	9.1773	101.5%
x		107.6%	0.0057	105.1%	0.0158	9.4112	9.3063	98.1%
σ		7.8%	0.0023	3.3%	0.0056	0.2491	0.1145	3.7%
%RSD		7.3	39.9823	3.1	35.1947	2.6466	1.2301	3.8

K1203338-003D 4/27/2012 9:18:53 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:18:53	107.6%	0.0037	105.3%	0.0206	9.5964	9.5965	99.4%
2	09:19:09	118.7%	0.0037	108.9%	0.0156	9.6362	9.3844	101.8%
3	09:19:25	114.8%	0.0034	111.1%	0.0077	8.8951	8.7006	106.5%
x		113.7%	0.0036	108.4%	0.0146	9.3759	9.2272	102.6%
σ		5.6%	0.0002	2.9%	0.0065	0.4169	0.4682	3.7%
%RSD		4.9	6.2004	2.7	44.5233	4.4461	5.0739	3.6

K1203338-003L 1/5 4/27/2012 9:21:18 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:21:18	106.6%	0.0013	102.8%	-0.0073	1.7714	1.8112	101.5%
2	09:21:35	100.3%	0.0042	100.3%	-0.0056	1.7513	1.7357	99.7%
3	09:21:51	98.8%	0.0002	102.0%	-0.0072	1.7212	1.7634	102.5%
x		101.9%	0.0019	101.7%	-0.0067	1.7480	1.7701	101.2%
σ		4.1%	0.0020	1.3%	0.0009	0.0253	0.0382	1.4%
%RSD		4.1	106.1198	1.2	14.0332	1.4459	2.1572	1.4

K1203338-003A +20 ppb 4/27/2012 9:23:44 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:23:44	111.1%	20.1042	105.6%	20.3428	28.6461	28.3245	99.0%
2	09:24:01	115.4%	19.0915	110.6%	19.2665	27.7682	26.9097	103.4%
3	09:24:17	103.7%	21.9161	103.3%	21.5266	30.6595	30.3094	97.3%
x		110.1%	20.3706	106.5%	20.3787	29.0246	28.5145	99.9%
σ		5.9%	1.4310	3.7%	1.1305	1.4823	1.7078	3.2%
%RSD		5.4	7.0248	3.5	5.5474	5.1071	5.9893	3.2

K1203338-003S 4/27/2012 9:26:10 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:26:10	115.7%	2.4581	108.0%	24.9265	22.0793	21.7479	102.4%
2	09:26:27	116.6%	2.4809	110.5%	25.0795	22.2130	21.8683	102.5%
3	09:26:43	112.2%	2.5715	108.6%	25.4858	22.5370	21.8459	103.2%
x		114.8%	2.5035	109.1%	25.1640	22.2764	21.8207	102.7%
σ		2.3%	0.0600	1.3%	0.2890	0.2354	0.0640	0.4%
%RSD		2.0	2.3964	1.2	1.1486	1.0566	0.2933	0.4

K1203487-MB 4/27/2012 9:28:36 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:28:36	104.9%	0.0026	103.0%	-0.0177	0.0047	0.0100	103.7%
2	09:28:53	105.8%	0.0038	102.8%	-0.0245	0.0088	0.0116	104.7%
3	09:29:09	106.6%	0.0032	103.7%	-0.0207	0.0126	0.0072	104.4%
x		105.8%	0.0032	103.2%	-0.0210	0.0087	0.0096	104.3%
σ		0.9%	0.0006	0.5%	0.0034	0.0040	0.0022	0.5%
%RSD		0.8	18.9105	0.5	16.2843	45.7686	23.3076	0.5

LCSW 4/27/2012 9:31:02 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:31:02	118.6%	2.4929	108.6%	25.0743	12.8895	12.8530	103.6%
2	09:31:19	112.4%	2.5771	109.2%	24.4635	12.6028	12.3508	105.2%
3	09:31:35	110.6%	2.5427	108.9%	24.4005	12.6297	12.4683	105.4%
x		113.9%	2.5376	108.9%	24.6461	12.7073	12.5574	104.7%
σ		4.2%	0.0423	0.3%	0.3722	0.1584	0.2627	1.0%
%RSD		3.7	1.6689	0.3	1.5100	1.2462	2.0919	0.9

CCV2 4/27/2012 9:33:28 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:33:28	114.6%	24.0992	108.0%	24.2619	24.9069	24.4780	103.3%
2	09:33:45	112.4%	24.4357	108.8%	24.4695	25.0929	24.7583	103.1%
3	09:34:01	108.7%	23.9902	105.5%	23.8783	24.4805	24.3786	102.7%
x		111.9%	24.1750	107.4%	24.2032	24.8268	24.5383	103.1%
σ		3.0%	0.2322	1.7%	0.3000	0.3140	0.1969	0.3%
%RSD		2.7	0.9605	1.6	1.2394	1.2647	0.8022	0.3

CCB2 4/27/2012 9:35:53 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:35:53	112.2%	0.0029	103.5%	-0.0193	0.0002	0.0058	101.6%
2	09:36:09	110.8%	0.0018	106.2%	-0.0140	-0.0002	0.0080	103.8%
3	09:36:25	111.8%	-0.0000	107.1%	-0.0134	0.0023	0.0089	103.8%
x		111.6%	0.0015	105.6%	-0.0155	0.0007	0.0076	103.1%
σ		0.7%	0.0015	1.8%	0.0033	0.0013	0.0016	1.3%
%RSD		0.6	96.6076	1.7	21.0228	182.1235	21.0246	1.2

K1203487-001 4/27/2012 9:38:18 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:38:18	118.2%	0.0004	107.5%	-0.0014	0.1090	0.1085	102.9%
2	09:38:35	113.2%	0.0011	107.5%	-0.0115	0.1089	0.1127	104.9%
3	09:38:51	109.1%	0.0006	105.9%	-0.0127	0.1153	0.1068	102.3%
x		113.5%	0.0007	107.0%	-0.0085	0.1111	0.1093	103.4%
σ		4.6%	0.0004	1.0%	0.0062	0.0036	0.0031	1.4%
%RSD		4.0	50.9386	0.9	72.8793	3.2793	2.8180	1.3

K1203487-001D 4/27/2012 9:40:45 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:40:45	108.1%	0.0025	104.1%	-0.0038	0.0984	0.0979	99.5%
2	09:41:02	111.3%	0.0012	104.6%	-0.0098	0.1019	0.1142	102.4%
3	09:41:18	112.9%	0.0017	106.2%	-0.0127	0.1078	0.1227	102.3%
x		110.8%	0.0018	105.0%	-0.0088	0.1027	0.1116	101.4%
σ		2.4%	0.0007	1.1%	0.0045	0.0048	0.0126	1.7%
%RSD		2.2	37.4227	1.1	51.6547	4.6415	11.2944	1.6

K1203487-001L 1/5 4/27/2012 9:43:13 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:43:13	111.3%	-0.0006	101.8%	-0.0123	0.0322	0.0383	100.1%
2	09:43:29	111.3%	0.0018	101.7%	-0.0112	0.0339	0.0364	102.5%
3	09:43:45	103.8%	0.0033	99.4%	-0.0153	0.0354	0.0360	102.0%
x		108.8%	0.0015	101.0%	-0.0129	0.0338	0.0369	101.5%
σ		4.3%	0.0020	1.4%	0.0021	0.0016	0.0012	1.3%
%RSD		4.0	133.6094	1.3	16.2073	4.7414	3.3016	1.3

K1203487-001A +20 ppb 4/27/2012 9:45:38 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:45:38	104.9%	21.6231	101.1%	21.1466	22.0112	21.2190	96.7%
2	09:45:55	117.1%	19.8122	106.2%	20.7590	21.2541	20.7285	101.0%
3	09:46:11	106.5%	20.9555	104.7%	20.7970	21.0411	21.2574	101.8%
x		109.5%	20.7970	104.0%	20.9009	21.4355	21.0683	99.8%
σ		6.6%	0.9158	2.6%	0.2137	0.5099	0.2949	2.7%
%RSD		6.1	4.4037	2.5	1.0223	2.3786	1.3998	2.7

K1203487-001S 4/27/2012 9:48:03 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:48:03	113.4%	2.4879	105.2%	25.2647	13.0297	12.9097	99.7%
2	09:48:19	118.1%	2.5321	112.7%	23.7990	12.3645	12.2309	105.7%
3	09:48:36	106.0%	2.8308	102.0%	27.7287	14.6809	13.9961	95.8%
x		112.5%	2.6169	106.6%	25.5974	13.3584	13.0456	100.4%
σ		6.1%	0.1865	5.4%	1.9859	1.1927	0.8904	5.0%
%RSD		5.4	7.1275	5.1	7.7581	8.9282	6.8254	5.0

K1203489-001 4/27/2012 9:50:28 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:50:28	116.8%	0.0021	105.4%	0.0227	0.1158	0.0740	99.2%
2	09:50:44	113.4%	0.0029	105.9%	0.0155	0.0957	0.0783	99.4%
3	09:51:01	108.1%	0.0006	104.0%	0.0184	0.0855	0.0867	99.7%
x		112.8%	0.0019	105.1%	0.0189	0.0990	0.0797	99.4%
σ		4.4%	0.0011	1.0%	0.0037	0.0154	0.0065	0.3%
%RSD		3.9	59.9281	0.9	19.3605	15.5716	8.0982	0.3

K1203627-MB 4/27/2012 9:52:54 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:52:54	108.1%	0.0037	99.4%	-0.0143	-0.0012	0.0062	100.3%
2	09:53:10	107.1%	0.0007	101.3%	-0.0080	0.0067	0.0079	100.2%
3	09:53:27	101.4%	0.0002	99.8%	-0.0046	0.0081	0.0089	100.4%
x		105.5%	0.0015	100.2%	-0.0089	0.0045	0.0077	100.3%
σ		3.7%	0.0019	1.0%	0.0049	0.0050	0.0014	0.1%
%RSD		3.5	125.0649	1.0	54.8629	110.4665	18.0613	0.1

LCSW 4/27/2012 9:55:20 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:55:20	108.5%	2.6705	104.4%	25.8051	13.1563	13.2679	98.2%
2	09:55:36	102.9%	2.5725	101.2%	25.7533	12.9538	13.1097	98.9%
3	09:55:53	104.4%	2.6289	102.8%	25.8131	13.2954	13.2109	99.6%
x		105.3%	2.6240	102.8%	25.7905	13.1351	13.1961	98.9%
σ		2.9%	0.0492	1.6%	0.0325	0.1718	0.0801	0.7%
%RSD		2.8	1.8736	1.6	0.1260	1.3079	0.6072	0.7

CCV3 4/27/2012 9:57:46 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	09:57:46	109.4%	24.6239	104.6%	24.9707	25.5282	24.8132	100.2%
2	09:58:02	106.2%	24.3451	102.6%	24.7566	25.2370	24.8138	101.3%
3	09:58:19	106.3%	24.2946	102.4%	24.1748	24.4458	23.8842	100.8%
x		107.3%	24.4212	103.2%	24.6340	25.0703	24.5038	100.8%
σ		1.8%	0.1773	1.2%	0.4119	0.5601	0.5365	0.6%
%RSD		1.7	0.7261	1.2	1.6720	2.2341	2.1895	0.6

CCB3 4/27/2012 10:00:10 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:00:10	113.4%	0.0035	102.3%	-0.0082	0.0051	-0.0002	98.7%
2	10:00:27	104.1%	0.0039	102.2%	-0.0082	0.0053	-0.0010	97.5%
3	10:00:44	107.8%	0.0031	102.8%	-0.0131	0.0039	0.0060	100.5%
x		108.4%	0.0035	102.4%	-0.0098	0.0047	0.0016	98.9%
σ		4.7%	0.0004	0.3%	0.0028	0.0008	0.0038	1.5%
%RSD		4.4	11.8237	0.3	28.9192	16.0547	242.4876	1.5

LLCCV1 4/27/2012 10:02:36 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:02:36	109.1%	0.0256	102.9%	0.0436	0.1158	0.1257	98.7%
2	10:02:52	103.9%	0.0179	102.9%	0.0533	0.1324	0.1009	98.6%
3	10:03:09	107.4%	0.0211	102.0%	0.0428	0.1028	0.1221	99.7%
x		106.8%	0.0215	102.6%	0.0466	0.1170	0.1162	99.0%
σ		2.6%	0.0038	0.5%	0.0059	0.0148	0.0134	0.6%
%RSD		2.4	17.8489	0.5	12.5725	12.6499	11.5580	0.6

K1203532-018 BQC 4/27/2012 10:05:02 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:05:02	92.8%	0.0124	107.1%	2475.4423	0.2393	0.2061	87.0%
2	10:05:19	97.1%	0.0144	112.4%	2246.1338	0.2285	0.1520	94.1%
3	10:05:35	94.6%	0.0114	111.6%	2266.7767	0.2284	0.1469	93.2%
x		94.8%	0.0127	110.4%	2329.4509	0.2321	0.1683	91.4%
σ		2.1%	0.0015	2.9%	126.8529	0.0063	0.0328	3.9%
%RSD		2.2	12.1459	2.6	5.4456	2.7043	19.4946	4.2

K1203532-018D 4/27/2012 10:07:29 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:07:29	85.9%	0.0150	102.7%	2347.8603	0.1905	0.1597	87.7%
2	10:07:45	86.9%	0.0104	102.3%	2362.0561	0.2054	0.1478	89.7%
3	10:08:02	89.9%	0.0172	103.9%	2333.6107	0.2121	0.1647	89.4%
x		87.6%	0.0142	103.0%	2347.8424	0.2026	0.1574	88.9%
σ		2.1%	0.0035	0.8%	14.2227	0.0110	0.0087	1.1%
%RSD		2.4	24.6887	0.8	0.6058	5.4407	5.5229	1.2

K1203532-018S 4/27/2012 10:09:56 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:09:56	89.7%	2.6016	98.6%	2430.3706	12.4419	12.4469	86.0%
2	10:10:13	86.9%	2.5591	96.8%	2431.7629	12.4231	12.1350	84.5%
3	10:10:29	94.1%	2.3626	102.5%	2317.3273	11.8842	11.6620	89.8%
x		90.2%	2.5078	99.3%	2393.1536	12.2497	12.0813	86.8%
σ		3.6%	0.1275	2.9%	65.6712	0.3167	0.3952	2.7%
%RSD		4.0	5.0842	2.9	2.7441	2.5855	3.2708	3.2

K1203532-018 1/100 4/27/2012 10:12:24 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:12:24	90.1%	0.0027	89.4%	23.6297	0.0140	0.0180	88.5%
2	10:12:40	89.7%	0.0005	88.5%	23.6552	0.0152	0.0166	90.1%
3	10:12:56	84.3%	0.0015	85.6%	23.0010	0.0177	0.0170	89.5%
x		88.0%	0.0016	87.8%	23.4286	0.0156	0.0172	89.4%
σ		3.2%	0.0011	2.0%	0.3705	0.0019	0.0007	0.8%
%RSD		3.7	69.3449	2.2	1.5816	12.0769	4.1901	0.9

K1203532-018D 1/100 4/27/2012 10:14:51 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:14:51	102.9%	0.0008	91.4%	23.1561	0.0055	0.0112	90.5%
2	10:15:07	91.9%	-0.0003	88.6%	23.1216	0.0132	0.0105	90.0%
3	10:15:23	91.1%	0.0019	87.3%	22.9200	0.0094	0.0085	89.7%
x		95.3%	0.0008	89.1%	23.0659	0.0094	0.0101	90.1%
σ		6.6%	0.0011	2.1%	0.1275	0.0039	0.0014	0.4%
%RSD		6.9	131.4736	2.3	0.5528	41.3300	13.7285	0.4

K1203532-018S 1/100 4/27/2012 10:17:18 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:17:18	91.5%	0.0301	89.7%	22.3931	0.1218	0.1389	90.6%
2	10:17:35	88.7%	0.0334	87.0%	25.9882	0.1486	0.1439	86.2%
3	10:17:51	84.3%	0.0305	84.3%	24.7627	0.1487	0.1386	87.0%
x		88.2%	0.0313	87.0%	24.3813	0.1397	0.1404	88.0%
σ		3.6%	0.0018	2.7%	1.8276	0.0155	0.0030	2.4%
%RSD		4.1	5.6687	3.1	7.4959	11.1069	2.1138	2.7

K1203627-001 4/27/2012 10:19:47 AM

4/27/12

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:19:47	86.6%	0.0127	95.4%	2471.6542	0.3021	0.3492	82.7%
2	10:20:03	79.3%	0.0099	92.7%	2464.3937	0.2951	0.2787	83.0%
3	10:20:19	85.9%	0.0060	98.5%	2223.2624	0.2424	0.2685	87.9%
x		83.9%	0.0095	95.5%	2386.4368	0.2799	0.2988	84.5%
σ		4.1%	0.0034	2.9%	141.3597	0.0327	0.0439	2.9%
%RSD		4.8	35.6373	3.0	5.9235	11.6725	14.7067	3.4

K1203627-001L 4/27/2012 10:22:14 AM

4/27/12

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:22:14	93.4%	0.0040	92.4%	508.8810	0.0769	0.0808	87.3%
2	10:22:30	92.9%	0.0033	89.5%	506.4126	0.0752	0.0553	88.7%
3	10:22:47	92.9%	0.0069	89.7%	496.4159	0.0795	0.0801	87.5%
x		93.0%	0.0047	90.5%	503.9031	0.0772	0.0721	87.8%
σ		0.3%	0.0019	1.6%	6.6006	0.0022	0.0145	0.8%
%RSD		0.3	40.3281	1.8	1.3099	2.8146	20.1149	0.9

K1203627-001A 4/27/2012 10:24:39 AM

4/27/12

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:24:39	92.0%	19.9689	96.3%	2447.2946	19.5506	19.4355	84.0%
2	10:24:55	91.0%	19.8659	96.5%	2399.8118	19.2442	18.9181	84.2%
3	10:25:12	85.2%	20.1662	94.1%	2383.7830	19.0302	19.0230	83.3%
x		89.4%	20.0004	95.6%	2410.2965	19.2750	19.1255	83.9%
σ		3.7%	0.1526	1.4%	33.0284	0.2616	0.2735	0.5%
%RSD		4.1	0.7630	1.4	1.3703	1.3569	1.4302	0.6

CCV4 4/27/2012 10:27:04 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:27:04	94.4%	24.8771	90.3%	25.1678	24.5202	24.5127	87.9%
2	10:27:20	93.4%	23.8462	88.7%	24.8480	24.4011	23.8501	87.4%
3	10:27:37	96.6%	23.6878	89.0%	25.3403	24.8158	24.1643	89.4%
x		94.8%	24.1370	89.3%	25.1187	24.5790	24.1757	88.2%
σ		1.7%	0.6458	0.9%	0.2498	0.2135	0.3315	1.1%
%RSD		1.7	2.6755	1.0	0.9945	0.8687	1.3711	1.2

CCB4 4/27/2012 10:37:39 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:37:39	81.3%	0.0016	81.1%	0.0472	0.0068	0.0028	80.6%
2	10:37:55	80.3%	0.0033	82.8%	0.0430	0.0049	0.0100	83.7%
3	10:38:12	86.7%	0.0044	86.6%	0.0340	-0.0010	0.0092	86.5%
x		82.8%	0.0031	83.5%	0.0414	0.0035	0.0073	83.6%
σ		3.5%	0.0014	2.8%	0.0067	0.0041	0.0039	2.9%
%RSD		4.2	44.8306	3.3	16.2979	115.3670	53.7881	3.5

K1203627-002 4/27/2012 10:40:31 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:40:31	92.2%	0.0069	90.3%	0.4008	0.1829	0.1641	83.4%
2	10:40:47	89.1%	0.0057	91.6%	0.3849	0.1626	0.1764	85.3%
3	10:41:04	90.7%	0.0092	89.8%	0.3922	0.1751	0.1902	85.8%
x		90.7%	0.0073	90.6%	0.3927	0.1735	0.1769	84.8%
σ		1.5%	0.0018	0.9%	0.0079	0.0102	0.0131	1.3%
%RSD		1.7	24.5723	1.0	2.0191	5.8998	7.3855	1.5

K1203627-002L 1/5 4/27/2012 10:42:58 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:42:58	89.2%	0.0035	86.3%	0.1225	0.0442	0.0580	85.3%
2	10:43:14	88.9%	-0.0002	88.0%	0.0926	0.0435	0.0483	86.8%
3	10:43:31	86.5%	-0.0001	85.8%	0.1083	0.0529	0.0520	86.5%
x		88.2%	0.0011	86.7%	0.1078	0.0469	0.0528	86.2%
σ		1.5%	0.0021	1.1%	0.0149	0.0052	0.0049	0.8%
%RSD		1.7	198.6909	1.3	13.8679	11.1193	9.3444	1.0

K1203627-002A +20 ppb 4/27/2012 10:45:24 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:45:24	91.7%	21.2425	93.9%	19.8443	19.4250	19.4051	85.4%
2	10:45:40	90.1%	20.2372	89.8%	20.5836	20.0719	19.7944	85.2%
3	10:45:57	87.0%	20.9629	90.0%	20.3094	19.8116	19.2495	84.7%
x		89.6%	20.8142	91.2%	20.2458	19.7695	19.4830	85.1%
σ		2.4%	0.5189	2.3%	0.3737	0.3255	0.2807	0.4%
%RSD		2.7	2.4929	2.5	1.8460	1.6465	1.4407	0.4

K1203627-003 4/27/2012 10:47:51 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:47:51	92.1%	0.0062	98.1%	3440.6381	0.4688	0.7155	82.6%
2	10:48:07	91.0%	0.0113	97.1%	3656.3548	0.4901	0.5326	80.6%
3	10:48:24	86.9%	0.0104	95.0%	3652.5960	0.5047	0.5322	82.4%
x		90.0%	0.0093	96.7%	3583.1963	0.4878	0.5934	81.9%
σ		2.7%	0.0028	1.6%	123.4733	0.0181	0.1057	1.1%
%RSD		3.0	29.6649	1.6	3.4459	3.7070	17.8153	1.4

K1203627-004 4/27/2012 10:50:18 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:50:18	82.9%	0.0181	92.9%	2393.4253	2.7675	2.8380	81.7%
2	10:50:34	83.7%	0.0188	90.3%	2411.2608	2.8563	2.7377	82.0%
3	10:50:50	83.5%	0.0274	92.6%	2395.1193	2.8003	2.7474	83.6%
x		83.4%	0.0214	91.9%	2399.9351	2.8080	2.7744	82.4%
σ		0.4%	0.0052	1.4%	9.8448	0.0449	0.0553	1.0%
%RSD		0.5	24.2139	1.5	0.4102	1.5984	1.9936	1.3

K1203627-005 4/27/2012 10:52:44 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:52:44	84.6%	0.0115	95.0%	3154.9191	0.5194	0.4992	81.1%
2	10:53:01	87.0%	0.0104	93.4%	3172.4099	0.5296	0.5352	82.8%
3	10:53:17	78.0%	0.0160	90.9%	3149.9181	0.5470	0.5237	81.8%
x		83.2%	0.0127	93.1%	3159.0824	0.5320	0.5194	81.9%
σ		4.7%	0.0030	2.1%	11.8097	0.0140	0.0184	0.8%
%RSD		5.6	23.4171	2.2	0.3738	2.6278	3.5431	1.0

K1203627-001 DISS 4/27/2012 10:55:12 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:55:12	90.1%	0.0012	95.4%	2325.9635	0.1519	0.1923	82.2%
2	10:55:29	88.4%	0.0006	92.4%	2319.9652	0.1586	0.1646	82.5%
3	10:55:45	80.9%	0.0000	89.6%	2342.0604	0.1554	0.1487	81.5%
x		86.5%	0.0006	92.4%	2329.3297	0.1553	0.1686	82.1%
σ		4.9%	0.0006	2.9%	11.4257	0.0033	0.0221	0.5%
%RSD		5.6	101.3715	3.1	0.4905	2.1452	13.1051	0.6

K1203627-002 DISS 4/27/2012 10:57:40 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	10:57:40	86.5%	0.0060	86.4%	0.3349	0.1757	0.1847	83.3%
2	10:57:56	82.0%	0.0016	86.2%	0.3125	0.1948	0.1941	83.5%
3	10:58:13	84.8%	0.0038	89.2%	0.3133	0.1636	0.1578	86.2%
x		84.4%	0.0038	87.3%	0.3202	0.1780	0.1789	84.3%
σ		2.3%	0.0022	1.6%	0.0127	0.0157	0.0189	1.7%
%RSD		2.7	57.9501	1.9	3.9663	8.8445	10.5404	2.0

K1203627-003 DISS 4/27/2012 11:00:08 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:00:08	83.7%	0.0039	91.9%	3531.3190	0.0859	0.1339	80.4%
2	11:00:25	85.7%	0.0045	89.0%	3411.5392	0.0983	0.1275	81.8%
3	11:00:41	85.8%	0.0022	93.3%	3415.7788	0.0970	0.1103	83.1%
x		85.1%	0.0035	91.4%	3452.8790	0.0937	0.1239	81.8%
σ		1.2%	0.0012	2.2%	67.9641	0.0068	0.0122	1.3%
%RSD		1.4	34.2361	2.4	1.9683	7.2779	9.8669	1.6

K1203627-004 DISS 4/27/2012 11:02:37 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:02:37	85.7%	0.0076	92.6%	2295.7719	0.1651	0.1716	81.6%
2	11:02:53	84.3%	0.0030	90.2%	2278.1001	0.1497	0.1745	83.0%
3	11:03:10	76.0%	0.0070	87.4%	2235.0370	0.1560	0.1724	80.6%
x		82.0%	0.0059	90.1%	2269.6363	0.1569	0.1728	81.7%
σ		5.2%	0.0025	2.6%	31.2396	0.0078	0.0015	1.2%
%RSD		6.4	42.0195	2.9	1.3764	4.9450	0.8677	1.5

CCV5 4/27/2012 11:05:30 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:05:30	81.3%	25.2448	84.9%	24.8388	23.9088	23.8302	83.4%
2	11:05:46	86.3%	25.6151	83.9%	25.8267	24.8133	24.7139	83.8%
3	11:06:04	86.7%	23.3772	85.5%	24.1826	23.8359	23.2203	87.7%
x		84.8%	24.7457	84.7%	24.9494	24.1860	23.9214	85.0%
σ		3.0%	1.1995	0.8%	0.8276	0.5445	0.7510	2.4%
%RSD		3.6	4.8475	1.0	3.3172	2.2513	3.1394	2.8

CCB5 4/27/2012 11:24:31 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:24:31	90.4%	0.0042	79.1%	0.0367	0.0040	0.0005	81.5%
2	11:24:47	90.8%	0.0005	78.8%	0.0370	-0.0004	0.0027	82.0%
3	11:25:04	88.4%	-0.0009	79.0%	0.0266	-0.0048	0.0072	82.4%
x		89.9%	0.0013	79.0%	0.0334	-0.0004	0.0035	82.0%
σ		1.3%	0.0027	0.2%	0.0060	0.0044	0.0034	0.4%
%RSD		1.4	206.9532	0.2	17.8301	1103.8667	98.6091	0.5

LLCCV2 4/27/2012 11:32:05 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:32:05	86.2%	0.0208	75.6%	0.0750	0.1195	0.1105	79.2%
2	11:32:21	85.2%	0.0265	77.6%	0.0777	0.1170	0.1061	80.3%
3	11:32:37	82.7%	0.0209	77.2%	0.0741	0.0974	0.1106	80.6%
x		84.7%	0.0227	76.8%	0.0756	0.1113	0.1091	80.0%
σ		1.8%	0.0033	1.1%	0.0018	0.0121	0.0026	0.7%
%RSD		2.1	14.3270	1.4	2.4203	10.8489	2.3570	0.9

see Mn @ 0.2 ppb

LLCCV Mn @ 0.2 ppb 4/27/2012 11:34:29 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:34:29	87.3%	0.1762	75.2%	0.2352	0.2073	0.1864	80.9%
2	11:34:46	81.6%	0.1938	76.2%	0.2147	0.1959	0.1993	80.0%
3	11:35:02	80.7%	0.1928	74.7%	0.2129	0.1755	0.1522	81.5%
x		83.2%	0.1876	75.4%	0.2210	0.1929	0.1793	80.8%
σ		3.6%	0.0099	0.8%	0.0124	0.0161	0.0243	0.8%
%RSD		4.3	5.2713	1.0	5.5939	8.3486	13.5683	0.9

K1203627-005 DISS 4/27/2012 11:36:46 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:36:46	87.9%	0.0013	93.8%	3004.7004	0.1560	0.2078	78.3%
2	11:37:02	90.2%	0.0020	94.1%	3068.2792	0.1711	0.1910	80.4%
3	11:37:19	89.0%	0.0020	92.6%	3045.1481	0.1869	0.1984	81.4%
x		89.0%	0.0018	93.5%	3039.3759	0.1713	0.1991	80.0%
σ		1.2%	0.0004	0.8%	32.1801	0.0155	0.0084	1.6%
%RSD		1.3	21.9345	0.9	1.0588	9.0207	4.2248	1.9

K1203627-001 1/100 4/27/2012 11:39:12 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:39:12	82.8%	0.0032	78.7%	24.8490	0.0084	0.0176	81.7%
2	11:39:29	84.1%	0.0007	78.2%	24.4090	0.0152	0.0161	83.2%
3	11:39:45	78.1%	0.0027	75.9%	24.7492	0.0005	0.0237	81.4%
x		81.7%	0.0022	77.6%	24.6691	0.0080	0.0191	82.1%
σ		3.2%	0.0013	1.5%	0.2307	0.0074	0.0040	1.0%
%RSD		3.9	58.6219	1.9	0.9351	91.8504	21.1246	1.2

K1203627-003 1/100 4/27/2012 11:41:38 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:41:38	81.4%	-0.0024	76.2%	35.3658	0.0508	0.0586	80.8%
2	11:41:55	81.0%	0.0033	78.1%	34.0183	0.0722	0.0757	83.2%
3	11:42:11	81.5%	0.0008	78.7%	33.7711	0.0652	0.0645	82.9%
x		81.3%	0.0006	77.7%	34.3851	0.0627	0.0663	82.3%
σ		0.3%	0.0029	1.3%	0.8583	0.0109	0.0087	1.3%
%RSD		0.3	500.3235	1.7	2.4960	17.4135	13.1126	1.6

K1203627-004 1/100 4/27/2012 11:44:05 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:44:05	80.3%	0.0034	76.6%	25.0968	0.0449	0.0314	79.2%
2	11:44:21	81.4%	0.0000	76.2%	25.1031	0.0334	0.0593	79.8%
3	11:44:37	83.1%	-0.0000	77.0%	22.6905	0.0301	0.0455	83.3%
x		81.6%	0.0011	76.6%	24.2968	0.0361	0.0454	80.7%
σ		1.4%	0.0019	0.4%	1.3911	0.0078	0.0139	2.2%
%RSD		1.7	172.4324	0.5	5.7254	21.5050	30.6453	2.7

K1203627-005 1/100 4/27/2012 11:46:31 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:46:31	83.0%	-0.0000	80.9%	28.4468	0.0090	0.0148	83.1%
2	11:46:48	81.9%	0.0000	79.2%	30.5014	0.0118	0.0165	81.3%
3	11:47:04	85.5%	0.0007	78.8%	30.4172	0.0042	0.0036	83.5%
x		83.4%	0.0002	79.6%	29.7885	0.0083	0.0116	82.6%
σ		1.8%	0.0004	1.1%	1.1627	0.0038	0.0070	1.2%
%RSD		2.2	179.6529	1.4	3.9032	45.6543	60.1484	1.4

K1203627-001 DISS 1/100 4/27/2012 11:48:59 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:48:59	84.5%	0.0039	76.4%	22.8091	0.0089	0.0088	80.9%
2	11:49:15	81.8%	-0.0008	76.1%	22.6865	0.0062	0.0124	80.5%
3	11:49:31	87.2%	-0.0024	78.4%	21.8532	0.0100	0.0072	82.2%
x		84.5%	0.0002	77.0%	22.4496	0.0083	0.0095	81.2%
σ		2.7%	0.0033	1.2%	0.5202	0.0020	0.0026	0.9%
%RSD		3.2	1457.7595	1.6	2.3170	23.3944	27.7998	1.1

K1203627-003 DISS 1/100 4/27/2012 11:51:26 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:26	79.4%	0.0001	75.8%	32.5654	0.0014	0.0104	79.1%
2	11:51:42	78.9%	0.0009	76.2%	33.0441	0.0085	0.0090	80.0%
3	11:51:58	74.6%	-0.0006	73.5%	33.2826	0.0078	0.0074	77.2%
x		77.6%	0.0001	75.2%	32.9641	0.0059	0.0089	78.8%
σ		2.6%	0.0008	1.4%	0.3652	0.0039	0.0015	1.4%
%RSD		3.4	621.9833	1.9	1.1080	66.2265	17.0020	1.8

K1203627-004 DISS 1/100 4/27/2012 11:53:53 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:53:53	78.1%	0.0010	75.0%	22.2654	0.0108	0.0083	78.1%
2	11:54:10	80.0%	0.0009	76.9%	22.0621	-0.0001	0.0053	80.9%
3	11:54:26	81.7%	-0.0008	77.4%	21.9646	0.0047	0.0108	81.8%
x		79.9%	0.0004	76.4%	22.0974	0.0051	0.0081	80.3%
σ		1.8%	0.0010	1.3%	0.1535	0.0055	0.0028	1.9%
%RSD		2.3	278.5364	1.7	0.6947	106.4491	34.1504	2.4

K1203627-005 DISS 1/100 4/27/2012 11:56:21 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:21	81.5%	0.0000	76.5%	30.6627	0.0064	0.0114	79.4%
2	11:56:38	77.5%	0.0036	75.0%	30.9721	0.0118	0.0077	81.2%
3	11:56:54	83.2%	0.0016	77.6%	29.7690	0.0097	0.0086	81.6%
x		80.7%	0.0017	76.4%	30.4679	0.0093	0.0092	80.7%
σ		2.9%	0.0018	1.3%	0.6247	0.0027	0.0020	1.1%
%RSD		3.6	102.9778	1.7	2.0505	29.3253	21.3334	1.4

CCV6 4/27/2012 11:58:47 AM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:58:47	89.4%	23.7622	81.4%	24.4452	23.9958	23.4524	81.5%
2	11:59:04	85.7%	24.0789	80.7%	25.2050	24.0938	23.5964	82.6%
3	11:59:20	84.8%	23.0620	79.7%	24.4208	23.6332	23.1549	84.4%
x		86.6%	23.6343	80.6%	24.6903	23.9076	23.4012	82.8%
σ		2.4%	0.5203	0.9%	0.4459	0.2426	0.2252	1.5%
%RSD		2.8	2.2017	1.1	1.8059	1.0149	0.9622	1.8

CCB6 4/27/2012 12:01:12 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:12	82.8%	0.0040	79.4%	0.0095	0.0011	0.0113	79.2%
2	12:01:28	78.7%	0.0060	77.0%	0.0202	0.0059	0.0021	79.0%
3	12:01:45	86.9%	0.0045	80.3%	0.0128	-0.0016	-0.0019	81.9%
x		82.8%	0.0048	78.9%	0.0142	0.0018	0.0038	80.0%
σ		4.1%	0.0010	1.7%	0.0055	0.0038	0.0067	1.6%
%RSD		4.9	21.7663	2.2	38.5624	209.5924	176.0758	2.0

K1203695-001 4/27/2012 12:03:38 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:03:38	85.9%	0.0045	80.2%	56.7409	4.4712	4.4128	81.5%
2	12:03:54	84.4%	0.0031	78.8%	54.8185	4.1994	4.4223	81.5%
3	12:04:10	84.0%	0.0015	81.2%	55.4064	4.3540	4.3172	81.9%
x		84.8%	0.0031	80.1%	55.6552	4.3415	4.3841	81.6%
σ		1.0%	0.0015	1.2%	0.9851	0.1363	0.0581	0.2%
%RSD		1.1	49.5087	1.5	1.7699	3.1390	1.3253	0.3

K1203695-002 4/27/2012 12:06:06 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:06:06	88.3%	0.0051	81.0%	45.2393	4.0802	3.9155	81.9%
2	12:06:22	84.9%	0.0023	82.2%	44.6478	4.1970	4.0444	81.9%
3	12:06:39	89.2%	0.0043	81.8%	45.5703	4.1372	4.0123	83.8%
x		87.5%	0.0039	81.7%	45.1525	4.1381	3.9907	82.5%
σ		2.3%	0.0015	0.6%	0.4674	0.0584	0.0671	1.1%
%RSD		2.6	37.7514	0.7	1.0351	1.4120	1.6823	1.3

CCV7 4/27/2012 12:08:33 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:08:33	87.2%	24.7757	79.4%	25.7374	25.3666	24.9936	81.5%
2	12:08:49	79.6%	24.5606	78.9%	24.8781	23.7120	23.6170	81.8%
3	12:09:06	82.5%	23.7027	76.4%	25.9316	24.7941	24.1670	79.9%
x		83.1%	24.3464	78.2%	25.5157	24.6242	24.2592	81.0%
σ		3.8%	0.5677	1.6%	0.5607	0.8403	0.6929	1.0%
%RSD		4.6	2.3316	2.1	2.1974	3.4123	2.8563	1.3

CCB7 4/27/2012 12:10:57 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:10:57	96.7%	0.0066	81.1%	0.0117	0.0031	0.0156	79.8%
2	12:11:13	79.8%	0.0067	76.5%	0.0051	0.0100	0.0042	80.6%
3	12:11:30	83.7%	0.0023	81.1%	0.0135	0.0021	0.0060	82.0%
x		86.7%	0.0052	79.6%	0.0101	0.0051	0.0086	80.8%
σ		8.8%	0.0025	2.6%	0.0044	0.0043	0.0061	1.1%
%RSD		10.2	47.9475	3.3	43.6968	84.6324	71.4390	1.4

LLCCV3 4/27/2012 12:13:22 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:13:22	88.0%	0.0172	81.2%	0.0698	0.1233	0.1133	80.0%
2	12:13:40	86.2%	0.0246	80.3%	0.0774	0.1189	0.1271	79.4%
3	12:13:56	88.0%	0.0187	82.2%	0.0643	0.1042	0.1193	84.0%
x		87.4%	0.0202	81.2%	0.0705	0.1154	0.1199	81.1%
σ		1.0%	0.0039	1.0%	0.0066	0.0100	0.0069	2.5%
%RSD		1.2	19.1937	1.2	9.3013	8.6705	5.7438	3.1

LLCCV Mn @ 0.2 ppb 4/27/2012 12:15:56 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	45Sc	55Mn	63Cu	65Cu	71Ga
		ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:15:56	87.3%	0.1951	75.9%	0.2138	0.1911	0.2096	79.6%
2	12:16:13	83.6%	0.2163	77.2%	0.2104	0.2072	0.2152	80.9%
3	12:16:29	81.4%	0.2021	78.2%	0.2098	0.1867	0.1712	81.4%
x		84.1%	0.2045	77.1%	0.2113	0.1950	0.1987	80.6%
σ		3.0%	0.0108	1.1%	0.0021	0.0108	0.0240	0.9%
%RSD		3.6	5.2785	1.5	1.0073	5.5404	12.0703	1.1

Semi-Volatile Organic Compounds

Organic Analysis:
Semivolatile Organics by EPA Method 525.2

Summary Package

Sample and QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695

Cover Page - Organic Analysis Data Package
Semivolatile Organics by EPA Method 525.2

Sample Name	Lab Code	Date Collected	Date Received
Outfall A	K1203695-001	04/19/2012	04/20/2012
Outfall B	K1203695-002	04/19/2012	04/20/2012

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

Signature: Loren E Portwood

Name: Loren Portwood

Date: 5/7/12

Title: Scientist

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Collected: 04/19/2012
Date Received: 04/20/2012

Semivolatile Organics by EPA Method 525.2

Sample Name: Outfall A
Lab Code: K1203695-001

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 525.2

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	0.20	0.0080	1	04/26/12	05/01/12	KWG1204284	
Dimethyl Phthalate	**0.95**		0.20	0.0040	1	04/26/12	05/01/12	KWG1204284	
Diethyl Phthalate	**0.18**	J	0.20	0.0090	1	04/26/12	05/01/12	KWG1204284	
Di-n-butyl Phthalate	**0.20**	J	0.20	0.040	1	04/26/12	05/01/12	KWG1204284	
Benzyl butyl phthalate	ND	U	0.20	0.080	1	04/26/12	05/01/12	KWG1204284	
Bis(2-ethylhexyl) Phthalate	**3.7**		0.49	0.060	1	04/26/12	05/01/12	KWG1204284	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	111	70-130	05/01/12	Acceptable
Triphenyl Phosphate	138	70-130	05/01/12	Outside Control Limits
Perylene-d12	126	70-130	05/01/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Collected: 04/19/2012
Date Received: 04/20/2012

Semivolatile Organics by EPA Method 525.2

Sample Name: Outfall B
Lab Code: K1203695-002

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 525.2

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	0.20	0.0080	1	04/26/12	05/01/12	KWG1204284	
Dimethyl Phthalate	**0.79**		0.20	0.0040	1	04/26/12	05/01/12	KWG1204284	
Diethyl Phthalate	**0.18**	J	0.20	0.0090	1	04/26/12	05/01/12	KWG1204284	
Di-n-butyl Phthalate	**0.24**		0.20	0.040	1	04/26/12	05/01/12	KWG1204284	
Benzyl butyl phthalate	ND	U	0.20	0.080	1	04/26/12	05/01/12	KWG1204284	
Bis(2-ethylhexyl) Phthalate	**0.70**		0.49	0.060	1	04/26/12	05/01/12	KWG1204284	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	116	70-130	05/01/12	Acceptable
Triphenyl Phosphate	155	70-130	05/01/12	Outside Control Limits
Perylene-d12	130	70-130	05/01/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Drinking water

Service Request: K1203695
Date Collected: NA
Date Received: NA

Semivolatile Organics by EPA Method 525.2

Sample Name: Method Blank
Lab Code: KWG1204284-3

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 525.2

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	0.20	0.0080	1	04/26/12	05/01/12	KWG1204284	
Dimethyl Phthalate	**0.0093**	J	0.20	0.0040	1	04/26/12	05/01/12	KWG1204284	
Diethyl Phthalate	**0.010**	J	0.20	0.0090	1	04/26/12	05/01/12	KWG1204284	
Di-n-butyl Phthalate	**0.063**	J	0.20	0.040	1	04/26/12	05/01/12	KWG1204284	
Benzyl butyl phthalate	ND	U	0.20	0.080	1	04/26/12	05/01/12	KWG1204284	
Bis(2-ethylhexyl) Phthalate	**0.20**	J	0.50	0.060	1	04/26/12	05/01/12	KWG1204284	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	108	70-130	05/01/12	Acceptable
Triphenyl Phosphate	130	70-130	05/01/12	Acceptable
Perylene-d12	116	70-130	05/01/12	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695

Surrogate Recovery Summary
Semivolatile Organics by EPA Method 525.2

Extraction Method: METHOD
Analysis Method: 525.2

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2		Sur3
Outfall A	K1203695-001	111	138	*	126
Outfall B	K1203695-002	116	155	*	130
Batch QC	K1203853-001	122	127		120
Method Blank	KWG1204284-3	108	130		116
Batch QCMS	KWG1204284-2	115	141	*	123
Lab Control Sample	KWG1204284-1	121	125		120

Surrogate Recovery Control Limits (%)

Sur1 =	1,3-Dimethyl-2-nitrobenzene	70-130
Sur2 =	Triphenyl Phosphate	70-130
Sur3 =	Perylene-d12	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 05/01/2012
Time Analyzed: 18:23

Internal Standard Area and RT Summary
Semivolatile Organics by EPA Method 525.2

File ID: J:\MS22\DATA\050112-525\0501SM005.D
Instrument ID: MS22
Analysis Method: 525.2

Lab Code: KWG1204669-2
Analysis Lot: KWG1204669

		Acenaphthene-d10		Phenanthrene-d10		Chrysene-d12	
		Area	RT	Area	RT	Area	RT
	Results ==>	593,606	11.17	1,057,938	14.61	1,165,887	23.03
	Upper Limit ==>	771,688	11.57	1,375,319	15.01	1,515,653	23.43
	Lower Limit ==>	415,524	10.77	740,557	14.21	816,121	22.63
	ICAL Result ==>	617,678	11.17	1,103,889	14.61	1,222,146	23.04
Associated Analyses							
Method Blank	KWG1204284-3	513,036	11.17	931,300	14.61	1,069,291	23.03
Lab Control Sample	KWG1204284-1	494,055	11.17	888,839	14.61	1,052,000	23.03
Outfall A	K1203695-001	479,411	11.17	867,330	14.61	1,042,626	23.04
Outfall B	K1203695-002	454,333	11.17	813,148	14.61	1,021,157	23.04
Batch QC	K1203853-001	443,122	11.17	845,243	14.61	1,028,257	23.04
Batch QCMS	KWG1204284-2	480,498	11.17	815,551	14.62	1,035,256	23.05

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Ocean water

Service Request: K1203695
Date Extracted: 04/26/2012
Date Analyzed: 05/02/2012

Matrix Spike Summary
Semivolatile Organics by EPA Method 525.2

Sample Name: Batch QC
Lab Code: K1203853-001
Extraction Method: METHOD
Analysis Method: 525.2

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1204284

Analyte Name	Sample Result	Batch QCMS KWG1204284-2 Matrix Spike Result	Expected	%Rec	%Rec Limits
Di-n-octyl Phthalate	ND	1.27	0.990	129	70-130
Dimethyl Phthalate	ND	1.05	0.990	106	70-130
Diethyl Phthalate	ND	1.16	0.990	117	70-130
Di-n-butyl Phthalate	ND	1.19	0.990	120	70-130
Benzyl butyl phthalate	ND	1.26	0.990	127	70-130
Bis(2-ethylhexyl) Phthalate	ND	1.28	0.990	129	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Drinking water

Service Request: K1203695
Date Extracted: 04/26/2012
Date Analyzed: 05/01/2012

Lab Control Spike Summary
Semivolatile Organics by EPA Method 525.2

Extraction Method: METHOD
Analysis Method: 525.2

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1204284

	Lab Control Sample KWG1204284-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Di-n-octyl Phthalate	1.14	1.00	114	70-130
Dimethyl Phthalate	1.06	1.00	106	70-130
Diethyl Phthalate	1.12	1.00	112	70-130
Di-n-butyl Phthalate	1.18	1.00	118	70-130
Benzyl butyl phthalate	1.20	1.00	120	70-130
Bis(2-ethylhexyl) Phthalate	1.15	1.00	115	70-130

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Drinking water

Service Request: K1203695
Date Extracted: 04/26/2012
Date Analyzed: 05/01/2012
Time Analyzed: 19:54

Method Blank Summary
Semivolatile Organics by EPA Method 525.2

Sample Name: Method Blank
Lab Code: KWG1204284-3
Extraction Method: METHOD
Analysis Method: 525.2

Instrument ID: MS22
File ID: J:\MS22\DATA\050112-525\0501SM007.D
Level: Low
Extraction Lot: KWG1204284

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1204284-1	J:\MS22\DATA\050112-525\0501SM008.D	05/01/12	20:40
Outfall A	K1203695-001	J:\MS22\DATA\050112-525\0501SM009.D	05/01/12	21:26
Outfall B	K1203695-002	J:\MS22\DATA\050112-525\0501SM010.D	05/01/12	22:12
Batch QC	K1203853-001	J:\MS22\DATA\050112-525\0501SM013.D	05/02/12	00:29
Batch QCMS	KWG1204284-2	J:\MS22\DATA\050112-525\0501SM014.D	05/02/12	01:14

COLUMBIA ANALYTICAL SERVICES, INC.

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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/26/2012
Sample Matrix:	Drinking water	**Date Analyzed:**	05/01/2012
		Time Analyzed:	20:40

Lab Control Sample Summary
Semivolatile Organics by EPA Method 525.2

Sample Name:	Lab Control Sample	**Instrument ID:**	MS22
Lab Code:	KWG1204284-1	**File ID:**	J:\MS22\DATA\050112-525\0501SM008.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1204284

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1204284-3	J:\MS22\DATA\050112-525\0501SM007.D	05/01/12	19:54
Outfall A	K1203695-001	J:\MS22\DATA\050112-525\0501SM009.D	05/01/12	21:26
Outfall B	K1203695-002	J:\MS22\DATA\050112-525\0501SM010.D	05/01/12	22:12
Batch QC	K1203853-001	J:\MS22\DATA\050112-525\0501SM013.D	05/02/12	00:29
Batch QCMS	KWG1204284-2	J:\MS22\DATA\050112-525\0501SM014.D	05/02/12	01:14

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 05/01/2012
Time Analyzed: 17:38

Tune Summary
Semivolatile Organics by EPA Method 525.2

File ID: J:\MS22\DATA\050112-525\0501SM004.D
Instrument ID: MS22
Column:

Analysis Method: 525.2
Analysis Lot: KWG1204669

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	43.5	53855	PASS
68	69	0	2	1.1	201	PASS
69	198	0	100	14.6	18069	PASS
70	69	0	2	0.3	48	PASS
127	198	10	80	37.7	46634	PASS
197	198	0	2	1.5	1802	PASS
198	198	100	100	100.0	123738	PASS
199	198	5	9	5.8	7168	PASS
275	198	10	60	49.6	61346	PASS
365	198	1	100	3.3	4130	PASS
441	443	0	100	96.3	24648	PASS
442	198	50	150	101.4	125424	PASS
443	442	15	24	20.4	25584	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1204669-2	J:\MS22\DATA\050112-525\0501SM005.D	05/01/2012	18:23	
Method Blank	KWG1204284-3	J:\MS22\DATA\050112-525\0501SM007.D	05/01/2012	19:54	
Lab Control Sample	KWG1204284-1	J:\MS22\DATA\050112-525\0501SM008.D	05/01/2012	20:40	
Outfall A	K1203695-001	J:\MS22\DATA\050112-525\0501SM009.D	05/01/2012	21:26	
Outfall B	K1203695-002	J:\MS22\DATA\050112-525\0501SM010.D	05/01/2012	22:12	
Batch QC	K1203853-001	J:\MS22\DATA\050112-525\0501SM013.D	05/02/2012	00:29	
Batch QCMS	KWG1204284-2	J:\MS22\DATA\050112-525\0501SM014.D	05/02/2012	01:14	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/30/2012

Initial Calibration Summary
Semivolatile Organics by EPA Method 525.2

Calibration ID: CAL11476
Instrument ID: MS22

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS22\DATA\043012-525\0430CC002.D	F	J:\MS22\DATA\043012-525\0430CC007.D
B	J:\MS22\DATA\043012-525\0430CC003.D	G	J:\MS22\DATA\043012-525\0430CC008.D
C	J:\MS22\DATA\043012-525\0430CC004.D	H	J:\MS22\DATA\043012-525\0430CC009.D
D	J:\MS22\DATA\043012-525\0430CC005.D	I	J:\MS22\DATA\043012-525\0430CC010.D
E	J:\MS22\DATA\043012-525\0430CC006.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Di-n-octyl Phthalate	A	20	0.302	B	50	0.297	C	100	0.308	D	200	0.316	E	500	0.500
	F	1000	0.626	G	2000	0.930									
1,3-Dimethyl-2-nitrobenzene	A	20	0.198	B	50	0.224	C	100	0.227	D	200	0.228	E	500	0.279
	F	1000	0.282	G	2000	0.346	H	4000	0.341						
Dimethyl Phthalate	A	20	0.993	B	50	1.03	C	100	1.07	D	200	1.13	E	500	1.27
	F	1000	1.19	G	2000	1.37	H	4000	1.43	I	6000	1.48			
Diethyl Phthalate	A	20	0.896	B	50	0.901	C	100	0.937	D	200	1.03	E	500	1.17
	F	1000	1.14	G	2000	1.34	H	4000	1.37	I	6000	1.40			
Di-n-butyl Phthalate	A	20	0.533	B	50	0.565	C	100	0.646	D	200	0.746	E	500	1.02
	F	1000	1.01	G	2000	1.17									
Benzyl butyl phthalate	A	20	0.169	B	50	0.161	C	100	0.169	D	200	0.182	E	500	0.305
	F	1000	0.347	G	2000	0.457									
Triphenyl Phosphate				B	50	0.0577	C	100	0.0602	D	200	0.0744	E	500	0.107
	F	1000	0.114	G	2000	0.135									
Bis(2-ethylhexyl) Phthalate										D	200	0.217	E	500	0.331
	F	1000	0.405	G	2000	0.611	H	4000	0.719	I	6000	0.787			
Perylene-d12	A	20	0.342	B	50	0.342	C	100	0.374	D	200	0.434	E	500	0.645
	F	1000	0.647	G	2000	0.869									

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/30/2012

Initial Calibration Summary
Semivolatile Organics by EPA Method 525.2

Calibration ID: CAL11476
Instrument ID: MS22

Column: MS

		Calibration Evaluation					RRF Evaluation		
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Di-n-octyl Phthalate	MS	Quadratic	COD	1.000		≥ 0.99	0.469		
1,3-Dimethyl-2-nitrobenzene	SURR	Quadratic	COD	0.997		≥ 0.99	0.266		
Dimethyl Phthalate	MS	AverageRF	% RSD	14.7		≤ 30	1.22		
Diethyl Phthalate	MS	AverageRF	% RSD	18.1		≤ 30	1.13		
Di-n-butyl Phthalate	MS	Quadratic	COD	0.999		≥ 0.99	0.813		
Benzyl butyl phthalate	MS	Quadratic	COD	0.999		≥ 0.99	0.256		
Triphenyl Phosphate	SURR	Quadratic	COD	1.000		≥ 0.99	0.0913		
Bis(2-ethylhexyl) Phthalate	MS	Quadratic	COD	0.998		≥ 0.99	0.512		
Perylene-d12	SURR	Quadratic	COD	0.999		≥ 0.99	0.522		

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/30/2012
Date Analyzed: 04/30/2012

Second Source Calibration Verification
Semivolatile Organics by EPA Method 525.2

Calibration Type: Internal Standard
Analysis Method: 525.2

Calibration ID: CAL11476
Units: ug/L

File ID:
J:\MS22\DATA\043012-525\0430CC011.D
J:\MS22\DATA\043012-525\0430CC012.D
J:\MS22\DATA\043012-525\0430CC013.D
J:\MS22\DATA\043012-525\0430CC014.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Di-n-octyl Phthalate	1000	1300	0.469	0.885	NA	26	± 30 %	Quadratic
Dimethyl Phthalate	1000	1100	1.22	1.38	14	NA	± 30 %	AverageRF
Diethyl Phthalate	1000	1200	1.13	1.39	23	NA	± 30 %	AverageRF
Di-n-butyl Phthalate	1000	1100	0.813	1.09	NA	6	± 30 %	Quadratic
Benzyl butyl phthalate	1000	1200	0.256	0.420	NA	16	± 30 %	Quadratic
Bis(2-ethylhexyl) Phthalate	1000	1200	0.512	0.644	NA	25	± 30 %	Quadratic

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 05/01/2012

Continuing Calibration Verification Summary
Semivolatile Organics by EPA Method 525.2

Calibration Type: Internal Standard
Analysis Method: 525.2

Calibration Date: 04/30/2012
Calibration ID: CAL11476
Analysis Lot: KWG1204669
Units: ug/L

File ID: J:\MS22\DATA\050112-525\0501SM005.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Di-n-octyl Phthalate	1000	1100		0.469	0.720	NA	10	± 30 %	Quadratic
1,3-Dimethyl-2-nitrobenzene	1000	890		0.266	0.265	NA	-11	± 30 %	Quadratic
Dimethyl Phthalate	1000	1000		1.22	1.24	2	NA	± 30 %	AverageRF
Diethyl Phthalate	1000	1000		1.13	1.15	2	NA	± 30 %	AverageRF
Di-n-butyl Phthalate	1000	990		0.813	1.00	NA	-1	± 30 %	Quadratic
Benzyl butyl phthalate	1000	1000		0.256	0.358	NA	4	± 30 %	Quadratic
Triphenyl Phosphate	1000	1000		0.0913	0.115	NA	1	± 30 %	Quadratic
Bis(2-ethylhexyl) Phthalate	1000	980		0.512	0.478	NA	-2	± 30 %	Quadratic
Perylene-d12	1000	1000		0.522	0.695	NA	3	± 30 %	Quadratic

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695

Analysis Run Log
Semivolatile Organics by EPA Method 525.2

Analysis Method: 525.2

Analysis Lot: KWG1204669
Instrument ID: MS22

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
501SM004.D	GC/MS Tuning - Decafluorotriphenylp	KWG1204669-1	5/1/2012	17:38		5/1/2012	18:13
501SM005.D	Continuing Calibration Verification	KWG1204669-2	5/1/2012	18:23		5/1/2012	18:58
501SM007.D	Method Blank	KWG1204284-3	5/1/2012	19:54		5/1/2012	20:29
501SM008.D	Lab Control Sample	KWG1204284-1	5/1/2012	20:40		5/1/2012	21:15
501SM009.D	Outfall A	K1203695-001	5/1/2012	21:26		5/1/2012	22:01
501SM010.D	Outfall B	K1203695-002	5/1/2012	22:12		5/1/2012	22:47
501SM011.D	ZZZZZZ	ZZZZZZ	5/1/2012	22:57		5/1/2012	23:32
501SM012.D	ZZZZZZ	ZZZZZZ	5/1/2012	23:43		5/2/2012	00:18
501SM013.D	Batch QC	K1203853-001	5/2/2012	00:29		5/2/2012	01:04
501SM014.D	Batch QCMS	KWG1204284-2	5/2/2012	01:14		5/2/2012	01:49

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Extracted: 04/26/2012

Extraction Prep Log
Semivolatile Organics by EPA Method 525.2

Extraction Method: METHOD
Analysis Method: 525.2

Extraction Lot: KWG1204284
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
Outfall A	K1203695-001	04/19/12	04/20/12	1030ml	1ml	NA	
Outfall B	K1203695-002	04/19/12	04/20/12	1030ml	1ml	NA	
Method Blank	KWG1204284-3	NA	NA	1000ml	1ml	NA	
Batch QC	K1203853-001	NA	NA	1010ml	1ml	NA	
Batch QCMS	KWG1204284-2	NA	NA	1010ml	1ml	NA	
Lab Control Sample	KWG1204284-1	NA	NA	1000ml	1ml	NA	

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

Organic Analysis:
Semivolatile Organics by EPA Method 525.2

Validation Package

Organic Analysis:
Semivolatile Organics by EPA Method 525.2

Validation Package

QC Reports

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695

Surrogate Recovery Summary
Semivolatile Organics by EPA Method 525.2

Extraction Method: METHOD
Analysis Method: 525.2

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1	Sur2		Sur3
Outfall A	K1203695-001	111	138	*	126
Outfall B	K1203695-002	116	155	*	130
Batch QC	K1203853-001	122	127		120
Method Blank	KWG1204284-3	108	130		116
Batch QCMS	KWG1204284-2	115	141	*	123
Lab Control Sample	KWG1204284-1	121	125		120

Surrogate Recovery Control Limits (%)

Sur1 =	1,3-Dimethyl-2-nitrobenzene	70-130
Sur2 =	Triphenyl Phosphate	70-130
Sur3 =	Perylene-d12	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 05/01/2012
Time Analyzed: 18:23

Internal Standard Area and RT Summary
Semivolatile Organics by EPA Method 525.2

File ID: J:\MS22\DATA\050112-525\0501SM005.D
Instrument ID: MS22
Analysis Method: 525.2

Lab Code: KWG1204669-2
Analysis Lot: KWG1204669

		Acenaphthene-d10		Phenanthrene-d10		Chrysene-d12	
		Area	RT	Area	RT	Area	RT
	Results ==>	593,606	11.17	1,057,938	14.61	1,165,887	23.03
	Upper Limit ==>	771,688	11.57	1,375,319	15.01	1,515,653	23.43
	Lower Limit ==>	415,524	10.77	740,557	14.21	816,121	22.63
	ICAL Result ==>	617,678	11.17	1,103,889	14.61	1,222,146	23.04
Associated Analyses							
Method Blank	KWG1204284-3	513,036	11.17	931,300	14.61	1,069,291	23.03
Lab Control Sample	KWG1204284-1	494,055	11.17	888,839	14.61	1,052,000	23.03
Outfall A	K1203695-001	479,411	11.17	867,330	14.61	1,042,626	23.04
Outfall B	K1203695-002	454,333	11.17	813,148	14.61	1,021,157	23.04
Batch QC	K1203853-001	443,122	11.17	845,243	14.61	1,028,257	23.04
Batch QCMS	KWG1204284-2	480,498	11.17	815,551	14.62	1,035,256	23.05

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Ocean water

Service Request: K1203695
Date Extracted: 04/26/2012
Date Analyzed: 05/02/2012

Matrix Spike Summary
Semivolatile Organics by EPA Method 525.2

Sample Name: Batch QC
Lab Code: K1203853-001

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 525.2

Level: Low
Extraction Lot: KWG1204284

Analyte Name	Sample Result	Batch QCMS KWG1204284-2 Matrix Spike Result	Expected	%Rec	%Rec Limits
Di-n-octyl Phthalate	ND	1.27	0.990	129	70-130
Dimethyl Phthalate	ND	1.05	0.990	106	70-130
Diethyl Phthalate	ND	1.16	0.990	117	70-130
Di-n-butyl Phthalate	ND	1.19	0.990	120	70-130
Benzyl butyl phthalate	ND	1.26	0.990	127	70-130
Bis(2-ethylhexyl) Phthalate	ND	1.28	0.990	129	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Drinking water

Service Request: K1203695
Date Extracted: 04/26/2012
Date Analyzed: 05/01/2012

Lab Control Spike Summary
Semivolatile Organics by EPA Method 525.2

Extraction Method: METHOD
Analysis Method: 525.2

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1204284

	Lab Control Sample KWG1204284-1 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Di-n-octyl Phthalate	1.14	1.00	114	70-130
Dimethyl Phthalate	1.06	1.00	106	70-130
Diethyl Phthalate	1.12	1.00	112	70-130
Di-n-butyl Phthalate	1.18	1.00	118	70-130
Benzyl butyl phthalate	1.20	1.00	120	70-130
Bis(2-ethylhexyl) Phthalate	1.15	1.00	115	70-130

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Drinking water

Service Request: K1203695
Date Extracted: 04/26/2012
Date Analyzed: 05/01/2012
Time Analyzed: 19:54

Method Blank Summary
Semivolatile Organics by EPA Method 525.2

Sample Name: Method Blank
Lab Code: KWG1204284-3
Extraction Method: METHOD
Analysis Method: 525.2

Instrument ID: MS22
File ID: J:\MS22\DATA\050112-525\0501SM007.D
Level: Low
Extraction Lot: KWG1204284

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1204284-1	J:\MS22\DATA\050112-525\0501SM008.D	05/01/12	20:40
Outfall A	K1203695-001	J:\MS22\DATA\050112-525\0501SM009.D	05/01/12	21:26
Outfall B	K1203695-002	J:\MS22\DATA\050112-525\0501SM010.D	05/01/12	22:12
Batch QC	K1203853-001	J:\MS22\DATA\050112-525\0501SM013.D	05/02/12	00:29
Batch QCMS	KWG1204284-2	J:\MS22\DATA\050112-525\0501SM014.D	05/02/12	01:14

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Drinking water

Service Request: K1203695
Date Extracted: 04/26/2012
Date Analyzed: 05/01/2012
Time Analyzed: 20:40

Lab Control Sample Summary
Semivolatile Organics by EPA Method 525.2

Sample Name: Lab Control Sample
Lab Code: KWG1204284-1
Extraction Method: METHOD
Analysis Method: 525.2

Instrument ID: MS22
File ID: J:\MS22\DATA\050112-525\0501SM008.D
Level: Low
Extraction Lot: KWG1204284

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1204284-3	J:\MS22\DATA\050112-525\0501SM007.D	05/01/12	19:54
Outfall A	K1203695-001	J:\MS22\DATA\050112-525\0501SM009.D	05/01/12	21:26
Outfall B	K1203695-002	J:\MS22\DATA\050112-525\0501SM010.D	05/01/12	22:12
Batch QC	K1203853-001	J:\MS22\DATA\050112-525\0501SM013.D	05/02/12	00:29
Batch QCMS	KWG1204284-2	J:\MS22\DATA\050112-525\0501SM014.D	05/02/12	01:14

Organic Analysis:
Semivolatile Organics by EPA Method 525.2

Validation Package

Raw Data

COLUMBIA ANALYTICAL SERVICES, INC.

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Analytical Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Collected: 04/19/2012
Date Received: 04/20/2012

Semivolatile Organics by EPA Method 525.2

Sample Name: Outfall A
Lab Code: K1203695-001

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 525.2

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	0.20	0.0080	1	04/26/12	05/01/12	KWG1204284	
Dimethyl Phthalate	**0.95**		0.20	0.0040	1	04/26/12	05/01/12	KWG1204284	
Diethyl Phthalate	**0.18**	J	0.20	0.0090	1	04/26/12	05/01/12	KWG1204284	
Di-n-butyl Phthalate	**0.20**	J	0.20	0.040	1	04/26/12	05/01/12	KWG1204284	
Benzyl butyl phthalate	ND	U	0.20	0.080	1	04/26/12	05/01/12	KWG1204284	
Bis(2-ethylhexyl) Phthalate	**3.7**		0.49	0.060	1	04/26/12	05/01/12	KWG1204284	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	111	70-130	05/01/12	Acceptable
Triphenyl Phosphate	138	70-130	05/01/12	Outside Control Limits
Perylene-d12	126	70-130	05/01/12	Acceptable

Comments:

Exception Report

Data File: J:\MS22\DATA\050112-525\0501SM009.D
Lab ID: K1203695-001
RunType: SMPL
Matrix: WATER

Date Acquired: 05/01/2012 21:26
Date Quantitated: 05/07/2012 13:56
Batch ID: KWG1204669
Analysis Method: 525.2
ListJoinID: LJ8688

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	Triphenyl Phosphate	138	70	130	Nar

Primary Review: 5/7/12

Secondary Review:

Printed: 05/07/2012 14:36:50
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS22\DATA\050112-525\0501SM009.D			**Instrument:**	MS22
Acqu Date:	05/01/2012 21:26	**Quant Date:**	05/07/2012 13:56	**Vial:**	0
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1203695-001			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	525.2 SVO	**Collect Date:**	04/19/2012	**Receive Date:**	04/20/2012

Analysis Lot:	KWG1204669	**Prep Lot:**	KWG1204284	**Report Group:**	K1203695
Analysis Method:	525.2	**Prep Method:**	METHOD		
Prep Ref:	1120550	**Prep Date:**	04/26/2012		

Quant Method:	J:\MS22\METHODS\043012_525.M	**Calibration ID:**	CAL11476
Title:	Semivolatile Organics by EPA Method 525.2	**Report List ID:**	LJ8688
Tune Ref:	J:\MS22\DATA\050112-525\0501SM004.D	**Method ID:**	MJ901
MB Ref:	J:\MS22\DATA\050112-525\0501SM007.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Acenaphthene-d10	11.17	0.00	162	479411	2,500.00	OK
2	Phenanthrene-d10	14.61	0.00	188	867330	2,500.00	OK
3	Chrysene-d12	23.04	0.01	240	1042626	2,500.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	1,3-Dimethyl-2-nitrobenzene	7.18	0.00	0.00	134	64183	1,107	111	70-130	OK	
2	Triphenyl Phosphate	22.23	0.02	0.00	169	58477	1,381	138	70-130	*	
3	Perylene-d12	28.62	0.01	0.00	264	379404	1,260	126	70-130	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dimethyl Phthalate	10.79		0.00	163	229672	983.45	0.95		
1	Diethyl Phthalate	12.49	0.01	0.00	149	39794	183.25	0.18	J	
2	Di-n-butyl Phthalate	16.52	0.01	0.00	149	59959	202.85	0.20	J	
3	Benzyl butyl phthalate				149	0d		0.080	U	
3	Bis(2-ethylhexyl) Phthalate	24.21	0.01	0.00	149	1104501	3,855	3.7		
3	Di-n-octyl Phthalate				149	0d		0.0080	U	

Prep Amount:	1030 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM009.D Vial: 0
Acq On : 01-05-2012 21:26 Operator:
Sample : K1203695-001 Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:08 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	479411	2500.00	ug/L	0.00
14) Phenanthrene-d10	14.61	188	867330	2500.00	ug/L	0.00
35) Chrysene-d12	23.04	240	1042626	2500.00	ug/L	0.00
System Monitoring Compounds						
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	64183	1106.87	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 110.69%			
34) Triphenyl phosphate	22.23	169	58477	1381.35	ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 138.13%#			
49) Perylene-d12	28.62	264	379404	1260.36	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 126.04%			

Target Compounds						Qvalue
2) Isophorone	6.17	82	2497	62.90	ug/L	87
5) Dichlobenil	9.40	171	5564	45.22	ug/L	93
6) EPTC	9.57	128	282	20.08	ug/L #	38
7) Dimethyl phthalate	10.79	163	229672	983.45	ug/L	97
8) Acenaphthylene	10.81	152	882	14.59	ug/L	56
9) Acenaphthene	11.25	153	1247	6.11	ug/L #	75
10) Diethyl phthalate	12.49	149	39794	183.25	ug/L	99
11) Fluorene	12.43	165	1875	9.22	ug/L	83
12) Propachlor	12.75	120	406	13.54	ug/L #	59
16) Atraton	14.05	196	122	16.95	ug/L #	72
17) Prometon	14.18	210	184	17.75	ug/L #	65
18) Simazine	14.16	201	3277	128.62	ug/L #	55
19) Atrazine	14.26	215	110	18.24	ug/L #	1
20) Propazine	14.33	214	114	15.06	ug/L #	1
21) Diazinon	14.82	137	870	30.28	ug/L #	40
22) Phenanthrene	14.67	178	10337	30.32	ug/L	84
23) Anthracene	14.77	178	1056	3.46	ug/L #	1
24) Terbacil	14.98	117	2134	227.49	ug/L	93
25) Acetochlor	15.78	146	2418	100.38	ug/L	79
26) Metribuzin	15.66	198	4382	143.92	ug/L	95
27) Alachlor	16.00	160	1082	23.62	ug/L #	50
28) Bromacil	16.53	207	386	35.37	ug/L #	72
29) Dibutyl phthalate	16.52	149	59959	202.85	ug/L	99
30) Malathion	16.65	173	1584	174.33	ug/L #	68
31) Metolachlor	16.82	162	6865	39.40	ug/L	83
32) Cyanazine	16.91	225	1140	48.74	ug/L #	1
33) Parathion	16.85	291	104	77.07	ug/L #	1
36) Fluoranthene	17.87	202	4604	23.80	ug/L #	38
37) Butachlor	18.75	160	972	27.89	ug/L #	68

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM009.D Vial: 0
Acq On : 01-05-2012 21:26 Operator:
Sample : K1203695-001 Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:08 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

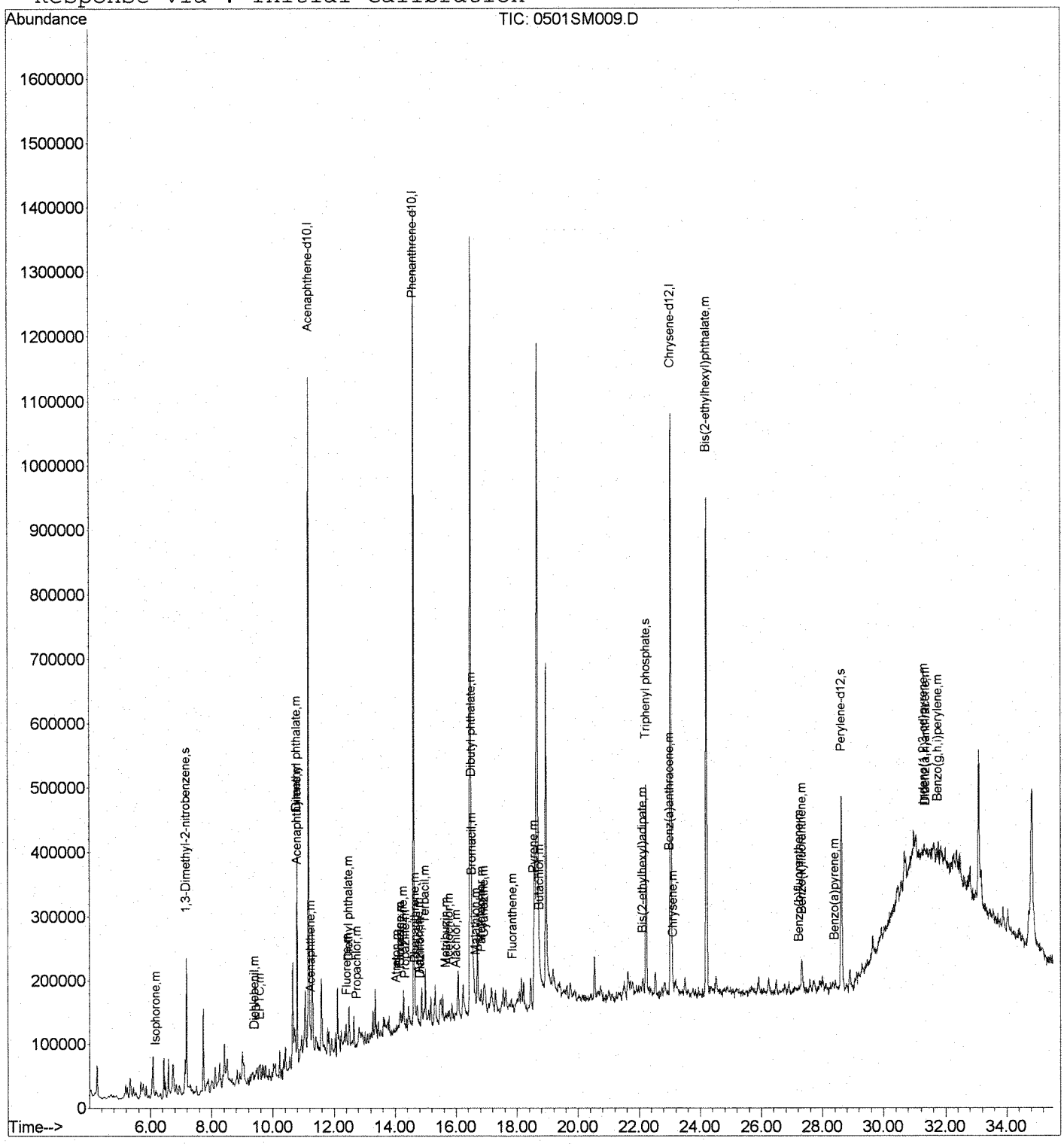
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Pyrene	18.55	202	3185	22.51 ug/L	63
41)	Bis(2-ethylhexyl)adipate	22.13	129	6011	135.33 ug/L #	96
42)	Benz(a)anthracene	23.00	228	556	29.01 ug/L	64
43)	Chrysene	23.12	228	4294	13.02 ug/L	86
44)	Bis(2-ethylhexyl)phthalate	24.21	149	1104501	3854.92 ug/L	98
46)	Benzo(b)fluoranthene	27.24	252	3147	24.47 ug/L	78
47)	Benzo(k)fluoranthene	27.32	252	2675	23.23 ug/L #	58
48)	Benzo(a)pyrene	28.39	252	2886	25.44 ug/L #	21
50)	Indeno(1,2,3-cd)pyrene	31.28	276	3599	29.84 ug/L	72
51)	Dibenz(a,h)anthracene	31.36	278	1979	19.14 ug/L #	1
52)	Benzo(g,h,i)perylene	31.74	276	3865	24.87 ug/L	62

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM009.D Vial: 0
Acq On : 01-05-2012 21:26 Operator:
Sample : K1203695-001 Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 7 13:56 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration



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Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/2012
Sample Matrix:	Water	**Date Received:**	04/20/2012

Semivolatile Organics by EPA Method 525.2

Sample Name:	Outfall B	**Units:**	ug/L
Lab Code:	K1203695-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	0.20	0.0080	1	04/26/12	05/01/12	KWG1204284	
Dimethyl Phthalate	**0.79**		0.20	0.0040	1	04/26/12	05/01/12	KWG1204284	
Diethyl Phthalate	**0.18**	J	0.20	0.0090	1	04/26/12	05/01/12	KWG1204284	
Di-n-butyl Phthalate	**0.24**		0.20	0.040	1	04/26/12	05/01/12	KWG1204284	
Benzyl butyl phthalate	ND	U	0.20	0.080	1	04/26/12	05/01/12	KWG1204284	
Bis(2-ethylhexyl) Phthalate	**0.70**		0.49	0.060	1	04/26/12	05/01/12	KWG1204284	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	116	70-130	05/01/12	Acceptable
Triphenyl Phosphate	155	70-130	05/01/12	Outside Control Limits
Perylene-d12	130	70-130	05/01/12	Acceptable

Comments:

Exception Report

Data File: J:\MS22\DATA\050112-525\0501SM010.D
Lab ID: K1203695-002
RunType: SMPL
Matrix: WATER

Date Acquired: 05/01/2012 22:12
Date Quantitated: 05/07/2012 13:58
Batch ID: KWG1204669
Analysis Method: 525.2
ListJoinID: LJ8688

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	Triphenyl Phosphate	155	70	130	Nor

Primary Review: 5/7/12

Secondary Review: 5/7/12

Quantitation Report

Data File:	J:\MS22\DATA\050112-525\0501SM010.D			**Instrument:**	MS22
Acqu Date:	05/01/2012 22:12	**Quant Date:**	05/07/2012 13:58	**Vial:**	0
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1203695-002			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	525.2 SVO	**Collect Date:**	04/19/2012	**Receive Date:**	04/20/2012

Analysis Lot:	KWG1204669	**Prep Lot:**	KWG1204284	**Report Group:**	K1203695
Analysis Method:	525.2	**Prep Method:**	METHOD		
Prep Ref:	1120551	**Prep Date:**	04/26/2012		

Quant Method:	J:\MS22\METHODS\043012_525.M	**Calibration ID:**	CAL11476
Title:	Semivolatile Organics by EPA Method 525.2	**Report List ID:**	LJ8688
Tune Ref:	J:\MS22\DATA\050112-525\0501SM004.D	**Method ID:**	MJ901
MB Ref:	J:\MS22\DATA\050112-525\0501SM007.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Acenaphthene-d10	11.17	0.00	162	454333	2,500.00	OK
2	Phenanthrene-d10	14.61	0.00	188	813148	2,500.00	OK
3	Chrysene-d12	23.04	0.01	240	1021157	2,500.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	1,3-Dimethyl-2-nitrobenzene	7.18	0.00	0.00	134	64069	1,162	116	70-130	OK	
2	Triphenyl Phosphate	22.23	0.02	0.00	169	63084	1,546	155	70-130	*	
3	Perylene-d12	28.62	0.01	0.00	264	385520	1,295	130	70-130	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Dimethyl Phthalate	10.80	0.01	0.00	163	180463	815.39	0.79		
1	Diethyl Phthalate	12.48		0.00	149	37518	182.30	0.18	J	
2	Di-n-butyl Phthalate	16.52	0.01	0.00	149	70350	248.74	0.24		
3	Benzyl butyl phthalate				149	0d		0.080	U	
3	Bis(2-ethylhexyl) Phthalate	24.21	0.01	0.00	149	130127	718.76	0.70		
3	Di-n-octyl Phthalate				149	0d		0.0080	U	

Prep Amount:	1030 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM010.D Vial: 0
Acq On : 01-05-2012 22:12 Operator:
Sample : K1203695-002 Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:09 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	454333	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.61	188	813148	2500.00 ug/L	0.00
35) Chrysene-d12	23.04	240	1021157	2500.00 ug/L	0.00
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	64069	1162.22 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 116.22%		
34) Triphenyl phosphate	22.23	169	63084	1545.66 ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 154.57%#		
49) Perylene-d12	28.62	264	385520	1295.24 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 129.52%		

Target Compounds					Qvalue
2) Isophorone	6.17	82	2287	61.11 ug/L #	66
5) Dichlobenil	9.40	171	5157	44.22 ug/L	95
6) EPTC	9.50	128	150	16.72 ug/L #	37
7) Dimethyl phthalate	10.80	163	180463	815.39 ug/L	94
8) Acenaphthylene	10.83	152	271	12.10 ug/L #	1
9) Acenaphthene	11.24	153	2866	14.81 ug/L	81
10) Diethyl phthalate	12.48	149	37518	182.30 ug/L	93
11) Fluorene	12.44	165	4691	24.33 ug/L	81
12) Propachlor	12.72	120	246	11.73 ug/L #	14
13) Trifluralin	13.47	264	142	10.35 ug/L	88
15) Hexachlorobenzene	14.02	284	182	1.90 ug/L #	1
16) Atraton	14.09	196	1528	62.77 ug/L #	43
17) Prometon	14.13	210	165	17.61 ug/L #	72
18) Simazine	14.17	201	4718	189.65 ug/L #	73
19) Atrazine	14.24	215	503	37.40 ug/L #	1
20) Propazine	14.33	214	136	15.48 ug/L #	1
21) Diazinon	14.82	137	896	32.04 ug/L #	39
22) Phenanthrene	14.66	178	33436	104.61 ug/L	94
23) Anthracene	14.77	178	1018	3.55 ug/L #	1
24) Terbacil	14.97	117	578	86.47 ug/L	84
25) Acetochlor	15.75	146	631	72.94 ug/L	79
26) Metribuzin	15.66	198	2457	92.49 ug/L	59
27) Alachlor	15.96	160	268	14.12 ug/L #	75
28) Bromacil	16.47	207	1613	69.82 ug/L #	40
29) Dibutyl phthalate	16.52	149	70350	248.74 ug/L	99
30) Malathion	16.68	173	1739	182.01 ug/L #	48
31) Metolachlor	16.83	162	5280	34.60 ug/L	92
32) Cyanazine	16.96	225	394	27.05 ug/L #	3
33) Parathion	17.05	291	105	77.82 ug/L #	1

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM010.D Vial: 0
Acq On : 01-05-2012 22:12 Operator:
Sample : K1203695-002 Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:09 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

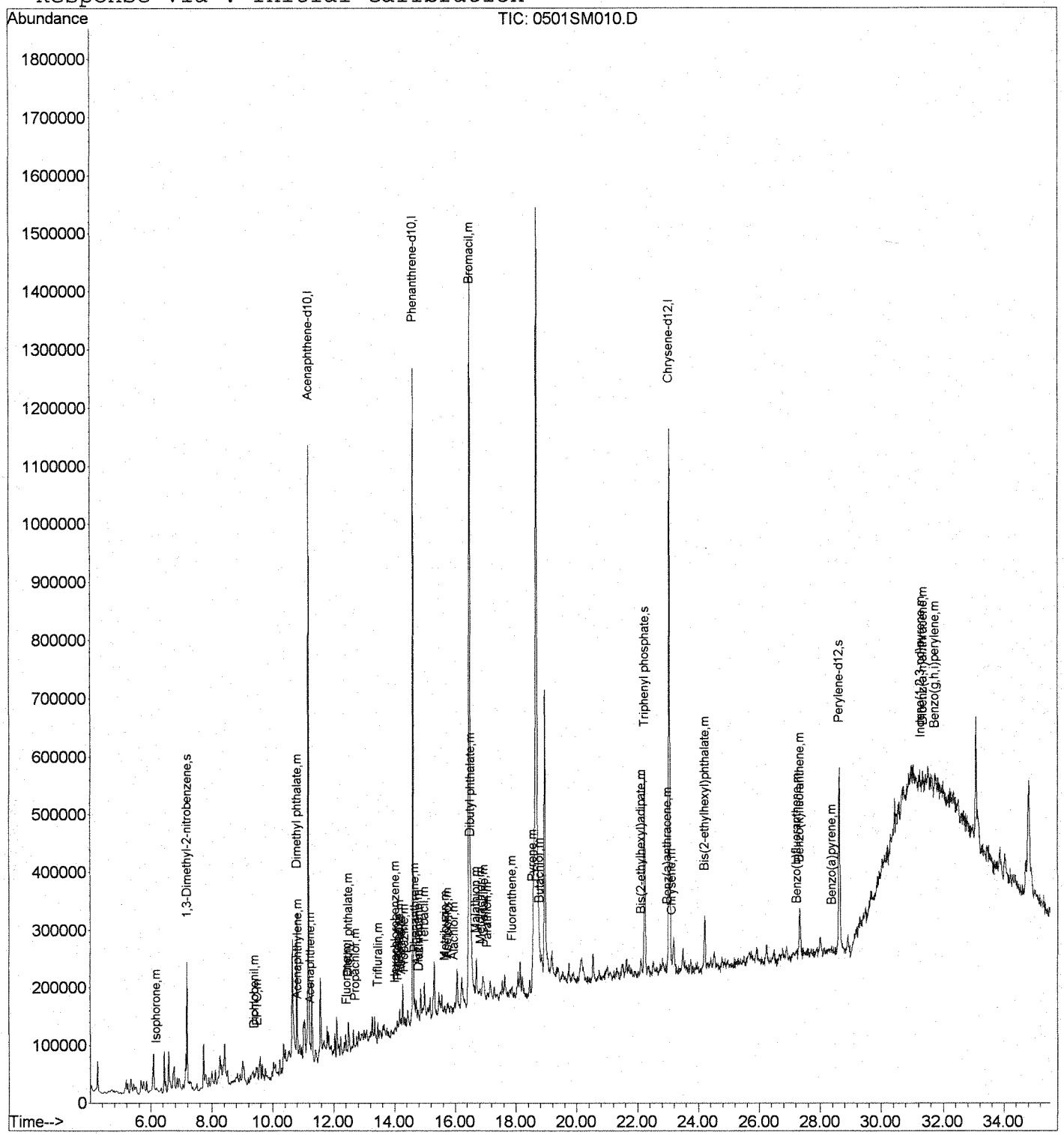
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
36)	Fluoranthene	17.87	202	16552	63.27 ug/L	80
37)	Butachlor	18.78	160	114	15.23 ug/L #	75
39)	Pyrene	18.55	202	10148	47.32 ug/L	93
41)	Bis(2-ethylhexyl)adipate	22.13	129	5319	124.37 ug/L #	98
42)	Benz(a)anthracene	22.99	228	1992	33.58 ug/L #	52
43)	Chrysene	23.12	228	4164	12.89 ug/L #	46
44)	Bis(2-ethylhexyl)phthalate	24.21	149	130127	718.76 ug/L	94
46)	Benzo(b)fluoranthene	27.24	252	5381	34.31 ug/L	66
47)	Benzo(k)fluoranthene	27.33	252	3324	25.65 ug/L #	1
48)	Benzo(a)pyrene	28.39	252	1524	18.57 ug/L #	1
50)	Indeno(1,2,3-cd)pyrene	31.26	276	3317	28.54 ug/L #	45
51)	Dibenz(a,h)anthracene	31.35	278	1797	18.42 ug/L #	1
52)	Benzo(g,h,i)perylene	31.74	276	4309	27.35 ug/L #	1

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM010.D Vial: 0
Acq On : 01-05-2012 22:12 Operator:
Sample : K1203695-002 Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 7 13:58 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration



COLUMBIA ANALYTICAL SERVICES, INC.

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Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Semivolatile Organics by EPA Method 525.2

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1204284-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	0.20	0.0080	1	04/26/12	05/01/12	KWG1204284	
Dimethyl Phthalate	**0.0093**	J	0.20	0.0040	1	04/26/12	05/01/12	KWG1204284	
Diethyl Phthalate	**0.010**	J	0.20	0.0090	1	04/26/12	05/01/12	KWG1204284	
Di-n-butyl Phthalate	**0.063**	J	0.20	0.040	1	04/26/12	05/01/12	KWG1204284	
Benzyl butyl phthalate	ND	U	0.20	0.080	1	04/26/12	05/01/12	KWG1204284	
Bis(2-ethylhexyl) Phthalate	**0.20**	J	0.50	0.060	1	04/26/12	05/01/12	KWG1204284	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	108	70-130	05/01/12	Acceptable
Triphenyl Phosphate	130	70-130	05/01/12	Acceptable
Perylene-d12	116	70-130	05/01/12	Acceptable

Comments:

Exception Report

Data File: J:\MS22\DATA\050112-525\0501SM007.D
Lab ID: KWG1204284-3
RunType: MB
Matrix: DRINKING WATER

Date Acquired: 05/01/2012 19:54
Date Quantitated: 05/07/2012 12:24
Batch ID: KWG1204669
Analysis Method: 525.2
MethodJoinID: MJ901

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 5/7/12

Secondary Review: 05/7/12

Quantitation Report

Data File:	J:\MS22\DATA\050112-525\0501SM007.D			**Instrument:**	MS22
Acqu Date:	05/01/2012 19:54	**Quant Date:**	05/07/2012 12:24	**Vial:**	0
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1204284-3			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	DRINKING WATE
Prod Code:	525.2 SVO	**Collect Date:**		**Receive Date:**	04/26/2012

Analysis Lot:	KWG1204669	**Prep Lot:**	KWG1204284	**Report Group:**	
Analysis Method:	525.2	**Prep Method:**	METHOD		
Prep Ref:	1120556	**Prep Date:**	04/26/2012		

Quant Method:	J:\MS22\METHODS\043012_525.M	**Calibration ID:**	CAL11476
Title:			
Tune Ref:	J:\MS22\DATA\050112-525\0501SM004.D	**Method ID:**	MJ901
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Acenaphthene-d10	11.17	0.00	162	513036	2,500.00	OK
2	Phenanthrene-d10	14.61	0.00	188	931300	2,500.00	OK
3	Chrysene-d12	23.03	0.00	240	1069291	2,500.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	1,3-Dimethyl-2-nitrobenzene	7.18	0.00	0.00	134	67152	1,084	108	70-130	OK	
2	Triphenyl Phosphate	22.22	0.01	0.00	169	58073	1,297	130	70-130	OK	
3	Perylene-d12	28.61	0.00	0.00	264	347795	1,159	116	70-130	OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Isophorone				82	0d		0.0040	U	
1	Hexachlorocyclopentadiene				237	0		0.020	U	
1	Dichlobenil	9.40	0.01	0.00	171	489	3.71	0.0070	U	
1	EPTC				128	0		0.0070	U	
1	Dimethyl Phthalate	10.80	0.01	0.00	163	2330	9.32	0.00932	J	
1	Acenaphthylene				152	0		0.0050	U	
1	Acenaphthene				153	0d		0.016	U	
1	Diethyl Phthalate	12.48		0.00	149	2424	10.43	0.0104	J	
1	Fluorene				165	0		0.0030	U	
1	Propachlor				120	0		0.0070	U	
1	Trifluralin				264	0		0.0060	U	
2	Hexachlorobenzene				284	0		0.0050	U	
2	Atraton				196	0		0.0040	U	
2	Prometon				210	0		0.0045	U	
2	Simazine				201	0		0.0090	U	

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

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

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

Data File:	J:\MS22\DATA\050112-525\0501SM007.D			**Instrument:**	MS22
Acqu Date:	05/01/2012 19:54	**Quant Date:**	05/07/2012 12:24	**Vial:**	0
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1204284-3			**Soln Conc. Units:**	ug/L

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Atrazine				215	0		0.0060	U	
2	Propazine				214	0		0.0030	U	
2	Diazinon				137	0d		0.0070	U	
2	Phenanthrene				178	0d		0.0050	U	
2	Anthracene				178	0d		0.0074	U	
2	Terbacil				117	0		0.011	U	
2	Acetochlor				146	0		0.0060	U	
2	Metribuzin				198	0		0.020	U	
2	Alachlor				160	0d		0.0060	U	
2	Bromacil				207	0d		0.0060	U	
2	Di-n-butyl Phthalate	16.51		0.00	149	16582	63.33	0.0633	J	
2	Malathion				173	0		0.020	U	
2	Metolachlor				162	0		0.0060	U	
2	Cyanazine				225	0		0.050	U	
2	Parathion				291	0		0.060	U	
3	Fluoranthene				202	0d		0.0050	U	
3	Butachlor				160	0		0.020	U	
3	trans-Nonachlor				409	0		0.0080	U	
3	Pyrene				202	0d		0.0060	U	
3	Benzyl butyl phthalate	21.52	0.01	0.00	149	2000	32.52	0.080	U	
3	Bis(2-ethylhexyl) Adipate				129	0d		0.030	U	
3	Benz(a)anthracene				228	0d		0.020	U	
3	Chrysene				228	0d		0.0060	U	
3	Bis(2-ethylhexyl) Phthalate	24.20		0.00	149	11133	201.46	0.201	J	
3	Di-n-octyl Phthalate				149	0d		0.0080	U	
3	Benzo(b)fluoranthene				252	0d		0.020	U	
3	Benzo(k)fluoranthene				252	0d		0.0070	U	
3	Benzo(a)pyrene				252	0d		0.0080	U	
3	Indeno(1,2,3-cd)pyrene				276	0d		0.0060	U	
3	Dibenz(a,h)anthracene				278	0d		0.0060	U	
3	Benzo(g,h,i)perylene				276	0d		0.0050	U	
	PCB 29				0	0		0.10	U	NR
	PCB 5				0	0		0.10	U	NR
	PCB 1				0	0		0.10	U	NR
	PCB 47				0	0		0.10	U	NR
	PCB 201				0	0		0.20	U	NR
	PCB 171				0	0		0.20	U	NR
	PCB 154				0	0		0.10	U	NR
	PCB 98				0	0		0.10	U	NR

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

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

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

Data File:	J:\MS22\DATA\050112-525\0501SM007.D			**Instrument:**	MS22
Acqu Date:	05/01/2012 19:54	**Quant Date:**	05/07/2012 12:24	**Vial:**	0
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1204284-3			**Soln Conc. Units:**	ug/L

Prep Amount:	1000 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM007.D Vial: 0
Acq On : 01-05-2012 19:54 Operator:
Sample : 042612-MB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:06 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

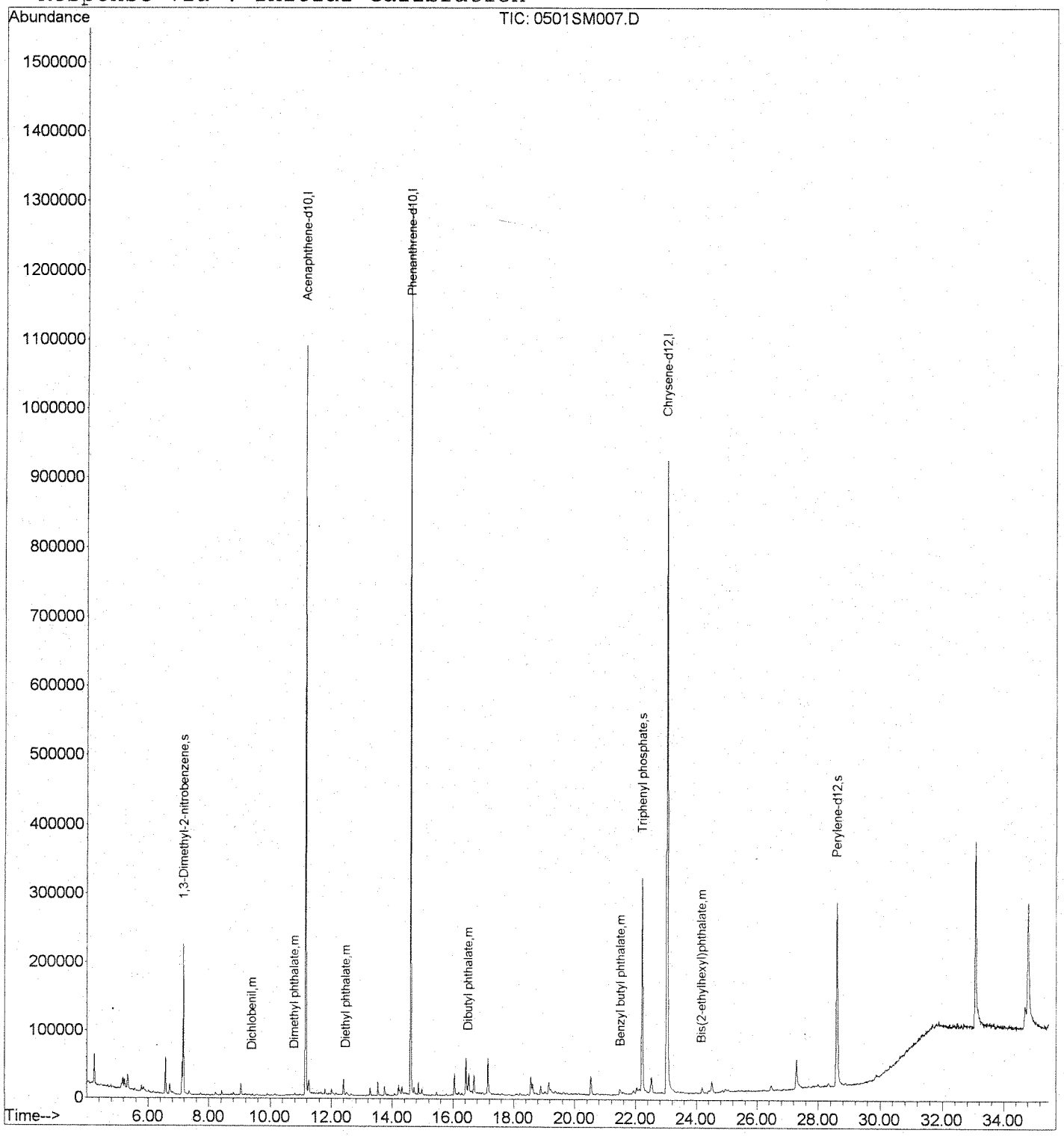
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	513036	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.61	188	931300	2500.00 ug/L	0.00
35) Chrysene-d12	23.03	240	1069291	2500.00 ug/L	-0.01
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	67152	1083.62 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 108.36%		
34) Triphenyl phosphate	22.22	169	58073	1296.73 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 129.67%		
49) Perylene-d12	28.61	264	347795	1158.81 ug/L	-0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 115.88%		
Target Compounds					Qvalue
5) Dichlobenil	9.40	171	489	3.71 ug/L	96
7) Dimethyl phthalate	10.80	163	2330	9.32 ug/L	80
10) Diethyl phthalate	12.48	149	2424	10.43 ug/L	99
29) Dibutyl phthalate	16.51	149	16582	63.33 ug/L	98
40) Benzyl butyl phthalate	21.52	149	2000	32.52 ug/L	97
44) Bis(2-ethylhexyl)phthalate	24.20	149	11133	201.46 ug/L	98

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM007.D Vial: 0
Acq On : 01-05-2012 19:54 Operator:
Sample : 042612-MB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 7 12:24 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration



Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Ocean water

Service Request: K1203695
Date Collected: NA
Date Received: NA

Semivolatile Organics by EPA Method 525.2

Sample Name: Batch QC
Lab Code: K1203853-001

Units: ug/L
Basis: NA

Extraction Method: METHOD
Analysis Method: 525.2

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	0.20	0.0080	1	04/26/12	05/02/12	KWG1204284	
Dimethyl Phthalate	**0.013**	J	0.20	0.0040	1	04/26/12	05/02/12	KWG1204284	
Diethyl Phthalate	**0.015**	J	0.20	0.0090	1	04/26/12	05/02/12	KWG1204284	
Di-n-butyl Phthalate	**0.072**	J	0.20	0.040	1	04/26/12	05/02/12	KWG1204284	
Benzyl butyl phthalate	ND	U	0.20	0.080	1	04/26/12	05/02/12	KWG1204284	
Bis(2-ethylhexyl) Phthalate	**0.33**	J	0.50	0.060	1	04/26/12	05/02/12	KWG1204284	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	122	70-130	05/02/12	Acceptable
Triphenyl Phosphate	127	70-130	05/02/12	Acceptable
Perylene-d12	120	70-130	05/02/12	Acceptable

Comments:

Exception Report

Data File: J:\MS22\DATA\050112-525\0501SM013.D
Lab ID: K1203853-001
RunType: SMPL
Matrix: OCEAN WATER

Date Acquired: 05/02/2012 00:29
Date Quantitated: 05/07/2012 14:12
Batch ID: KWG1204669
Analysis Method: 525.2
ListJoinID: LJ11468

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 5/7/12

Secondary Review: 5/7/12

Quantitation Report

Data File:	J:\MS22\DATA\050112-525\0501SM013.D			**Instrument:**	MS22
Acqu Date:	05/02/2012 00:29	**Quant Date:**	05/07/2012 14:12	**Vial:**	0
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1203853-001			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	V	**Matrix:**	OCEAN WATER
Prod Code:	525.2 SVO	**Collect Date:**	04/24/2012	**Receive Date:**	04/25/2012

Analysis Lot:	KWG1204669	**Prep Lot:**	KWG1204284	**Report Group:**	K1203853
Analysis Method:	525.2	**Prep Method:**	METHOD		
Prep Ref:	1120549	**Prep Date:**	04/26/2012		

Quant Method:	J:\MS22\METHODS\043012_525.M	**Calibration ID:**	CAL11476
Title:	Semivolatile Organics by EPA method 525.2	**Report List ID:**	LJ11468
Tune Ref:	J:\MS22\DATA\050112-525\0501SM004.D	**Method ID:**	MJ901
MB Ref:	J:\MS22\DATA\050112-525\0501SM007.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
2	Phenanthrene-d10	14.61	0.00	188	845243	2,500.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Triphenyl Phosphate	22.22	0.01	0.00	169	51385	1,270	127	70-130	OK

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Simazine				201	0d		0.0090	U	
2	Atrazine				215	0d		0.0060	U	

Prep Amount:	1010 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM013.D Vial: 0
Acq On : 02-05-2012 00:29 Operator:
Sample : K1203853-001 Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:12 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	443122	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.61	188	845243	2500.00 ug/L	0.00
35) Chrysene-d12	23.04	240	1028257	2500.00 ug/L	0.00

System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	65821	1220.24 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 122.02%		
34) Triphenyl phosphate	22.22	169	51385	1270.21 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 127.02%		
49) Perylene-d12	28.62	264	348497	1195.20 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 119.52%		

Target Compounds					Qvalue
2) Isophorone	6.19	82	333	17.16 ug/L #	60
5) Dichlobenil	9.41	171	492	4.33 ug/L	98
6) EPTC	9.54	128	146	16.71 ug/L	95
7) Dimethyl phthalate	10.79	163	2820	13.06 ug/L	80
8) Acenaphthylene	10.80	152	212	11.87 ug/L	88
9) Acenaphthene	11.24	153	309	1.64 ug/L	97
10) Diethyl phthalate	12.49	149	2972	14.81 ug/L	98
11) Fluorene	12.44	165	494	2.63 ug/L #	74
12) Propachlor	12.74	120	172	10.82 ug/L	84
15) Hexachlorobenzene	13.93	284	178	1.78 ug/L	92
16) Atraton	14.07	196	272	21.79 ug/L	90
17) Prometon	14.19	210	125	16.82 ug/L	80
20) Propazine	14.26	214	108	15.02 ug/L #	1
21) Diazinon	14.80	137	285	18.41 ug/L #	53
22) Phenanthrene	14.66	178	852	2.56 ug/L	89
23) Anthracene	14.76	178	604	2.03 ug/L	79
24) Terbacil	14.97	117	233	49.53 ug/L #	32
25) Acetochlor	15.69	146	107	64.07 ug/L	81
27) Alachlor	15.98	160	138	12.39 ug/L #	58
28) Bromacil	16.47	207	634	42.27 ug/L #	29
29) Dibutyl phthalate	16.52	149	17954	72.87 ug/L	100
30) Malathion	16.69	173	289	137.79 ug/L #	56
31) Metolachlor	16.83	162	514	14.59 ug/L	91
32) Cyanazine	16.90	225	211	20.87 ug/L #	43
36) Fluoranthene	17.87	202	785	11.54 ug/L #	49
37) Butachlor	18.77	160	496	20.96 ug/L	97
39) Pyrene	18.55	202	1073	15.25 ug/L	67
40) Benzyl butyl phthalate	21.52	149	2169	35.07 ug/L	93
41) Bis(2-ethylhexyl)adipate	22.12	129	1146	38.32 ug/L #	54

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM013.D Vial: 0
Acq On : 02-05-2012 00:29 Operator:
Sample : K1203853-001 Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:12 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

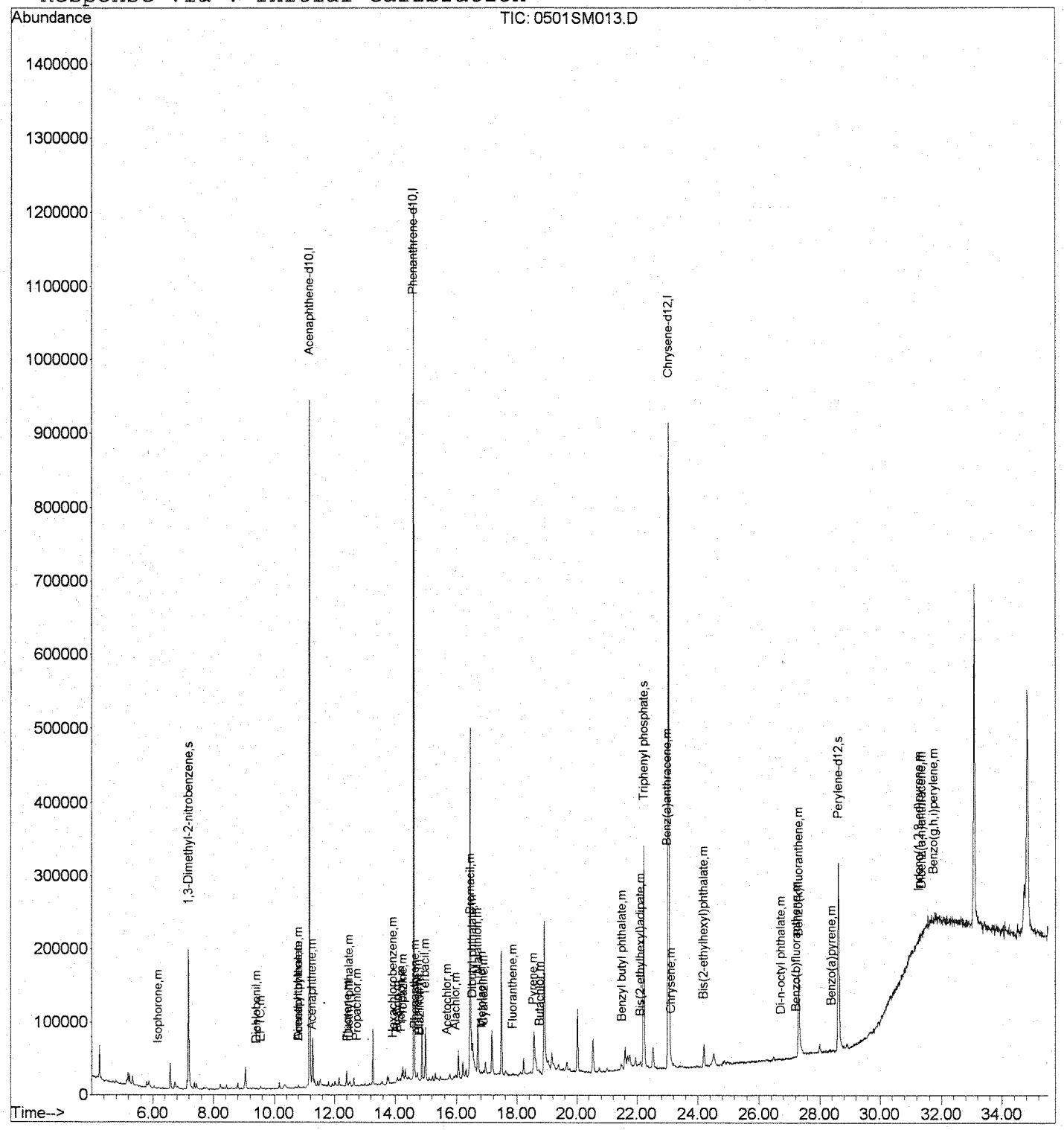
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
42)	Benz(a)anthracene	23.00	228	923	30.19	ug/L		94
43)	Chrysene	23.13	228	496	1.53	ug/L	#	26
44)	Bis(2-ethylhexyl)phthalate	24.20	149	40496	333.91	ug/L		97
45)	Di-n-octyl phthalate	26.74	149	323	7.57	ug/L		93
46)	Benzo(b)fluoranthene	27.23	252	909	15.09	ug/L		72
47)	Benzo(k)fluoranthene	27.29	252	1365	18.88	ug/L		64
48)	Benzo(a)pyrene	28.40	252	1169	16.65	ug/L	#	61
50)	Indeno(1,2,3-cd)pyrene	31.27	276	734	12.17	ug/L	#	1
51)	Dibenz(a,h)anthracene	31.34	278	991	14.32	ug/L	#	1
52)	Benzo(g,h,i)perylene	31.75	276	644	9.89	ug/L	#	42

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM013.D Vial: 0
Acq On : 02-05-2012 00:29 Operator:
Sample : K1203853-001 Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 7 14:12 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration



COLUMBIA ANALYTICAL SERVICES, INC.

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Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	NA
Sample Matrix:	Ocean water	**Date Received:**	NA

Semivolatile Organics by EPA Method 525.2

Sample Name:	Batch QCMS	**Units:**	ug/L
Lab Code:	KWG1204284-2	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	**1.27**		0.20	0.0080	1	04/26/12	05/02/12	KWG1204284	
Dimethyl Phthalate	**1.05**		0.20	0.0040	1	04/26/12	05/02/12	KWG1204284	
Diethyl Phthalate	**1.16**		0.20	0.0090	1	04/26/12	05/02/12	KWG1204284	
Di-n-butyl Phthalate	**1.19**		0.20	0.040	1	04/26/12	05/02/12	KWG1204284	
Benzyl butyl phthalate	**1.26**		0.20	0.080	1	04/26/12	05/02/12	KWG1204284	
Bis(2-ethylhexyl) Phthalate	**1.28**		0.50	0.060	1	04/26/12	05/02/12	KWG1204284	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	115	70-130	05/02/12	Acceptable
Triphenyl Phosphate	141	70-130	05/02/12	Outside Control Limits
Perylene-d12	123	70-130	05/02/12	Acceptable

Comments:

Exception Report

Data File: J:\MS22\DATA\050112-525\0501SM014.D
Lab ID: KWG1204284-2 -- K1203853-001MS
RunType: MS
Matrix: OCEAN WATER

Date Acquired: 05/02/2012 01:14
Date Quantitated: 05/02/2012 16:31
Batch ID: KWG1204669
Analysis Method: 525.2
MethodJoinID: MJ901

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Surrogates	Triphenyl Phosphate	141	70	130	Narr

Primary Review: 5/7/12

Secondary Review: 5/7/12

Quantitation Report

Data File:	J:\MS22\DATA\050112-525\0501SM014.D			**Instrument:**	MS22
Acqu Date:	05/02/2012 01:14	**Quant Date:**	05/02/2012 16:31	**Vial:**	0
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG1204284-2 -- K1203853-001MS			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	OCEAN WATER
Prod Code:	525.2 SVO	**Collect Date:**		**Receive Date:**	04/26/2012

Analysis Lot:	KWG1204669	**Prep Lot:**	KWG1204284	**Report Group:**	
Analysis Method:	525.2	**Prep Method:**	METHOD		
Prep Ref:	1120555	**Prep Date:**	04/26/2012		

Quant Method:	J:\MS22\METHODS\043012_525.M	**Calibration ID:**	CAL11476
Title:			
Tune Ref:	J:\MS22\DATA\050112-525\0501SM004.D	**Method ID:**	MJ901
MB Ref:	J:\MS22\DATA\050112-525\0501SM007.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Acenaphthene-d10	11.17	0.00	162	480498	2,500.00	OK
2	Phenanthrene-d10	14.62	0.01	188	815551	2,500.00	OK
3	Chrysene-d12	23.05	0.02	240	1035256	2,500.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	1,3-Dimethyl-2-nitrobenzene	7.18	0.00	0.00	134	66936	1,149	115	70-130 OK	
2	Triphenyl Phosphate	22.23	0.02	0.00	169	56532	1,413	141	70-130 *	
3	Perylene-d12	28.62	0.01	0.00	264	365021	1,231	123	70-130 OK	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Isophorone	6.17	0.02	0.00	82	50187	1,014	1.00		
1	Hexachlorocyclopentadiene	9.28		0.00	237	35160	1,155	1.14		
1	Dichlobenil	9.40	0.01	0.00	171	129926	1,054	1.04		
1	EPTC	9.54	0.01	0.00	128	40148	1,056	1.05		
1	Dimethyl Phthalate	10.80	0.01	0.00	163	247659	1,058	1.05		
1	Acenaphthylene	10.80	0.01	0.00	152	247126	993.14	0.983		
1	Acenaphthene	11.25	0.01	0.00	153	222145	1,085	1.07		
1	Diethyl Phthalate	12.49	0.01	0.00	149	255152	1,172	1.16		
1	Fluorene	12.44	0.01	0.00	165	217736	1,068	1.06		
1	Propachlor	12.73	0.01	0.00	120	108111	1,091	1.08		
1	Trifluralin	13.47		0.00	264	98905	1,262	1.25		
2	Hexachlorobenzene	13.93	0.01	0.00	284	97339	1,011	1.00		
2	Atraton	14.04	0.01	0.00	196	27795	751.54	0.744		
2	Prometon	14.18	0.02	0.00	210	37666	618.97	0.613		
2	Simazine	14.15	0.01	0.00	201	27059	936.24	0.927		

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

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

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

Data File:	J:\MS22\DATA\050112-525\0501SM014.D			**Instrument:**	MS22
Acqu Date:	05/02/2012 01:14	**Quant Date:**	05/02/2012 16:31	**Vial:**	0
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG1204284-2 -- K1203853-001MS			**Soln Conc. Units:**	ug/L

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Atrazine	14.26		0.00	215	22712	1,046	1.04		
2	Propazine	14.35		0.00	214	72625	999.53	0.990		
2	Diazinon	14.82	0.01	0.00	137	46562	947.99	0.939		
2	Phenanthrene	14.67	0.01	0.00	178	329765	1,029	1.02		
2	Anthracene	14.77	0.01	0.00	178	298548	1,039	1.03		
2	Terbacil	14.99	0.01	0.00	117	15752	1,250	1.24		
2	Acetochlor	15.77	0.01	0.00	146	71336	1,190	1.18		
2	Metribuzin	15.65		0.00	198	56860	1,294	1.28		
2	Alachlor	15.98		0.00	160	115881	1,158	1.15		
2	Bromacil	16.47	-0.04	0.00	207	580	41.39	0.0410	J	
2	Di-n-butyl Phthalate	16.52	0.01	0.00	149	410259	1,200	1.19		
2	Malathion	16.68		0.00	173	27660	942.91	0.934		
2	Metolachlor	16.83	0.01	0.00	162	372863	1,225	1.21		
2	Cyanazine	16.95	0.02	0.00	225	35016	940.22	0.931		
2	Parathion	16.96		0.00	291	19619	1,432	1.42		
3	Fluoranthene	17.87		0.00	202	317914	979.89	0.970		
3	Butachlor	18.78	0.02	0.00	160	101232	1,064	1.05		
3	trans-Nonachlor	18.90	0.01	0.00	409	31837	932.95	0.924		
3	Pyrene	18.54		0.00	202	286669	961.23	0.952		
3	Benzyl butyl phthalate	21.52	0.01	0.00	149	196324	1,270	1.26		
3	Bis(2-ethylhexyl) Adipate	22.12		0.00	129	104627	1,228	1.22		
3	Benz(a)anthracene	22.99	0.01	0.00	228	333987	1,020	1.01		
3	Chrysene	23.13	0.01	0.00	228	324605	991.42	0.982		
3	Bis(2-ethylhexyl) Phthalate	24.20		0.00	149	278179	1,290	1.28		
3	Di-n-octyl Phthalate	26.73		0.00	149	379339	1,285	1.27		
3	Benzo(b)fluoranthene	27.24	0.01	0.00	252	339127	1,105	1.09		
3	Benzo(k)fluoranthene	27.33	0.01	0.00	252	395287	1,096	1.08		
3	Benzo(a)pyrene	28.39	0.01	0.00	252	327977	1,176	1.16		
3	Indeno(1,2,3-cd)pyrene	31.27	0.01	0.00	276	307220	1,269	1.26		
3	Dibenz(a,h)anthracene	31.35	0.01	0.00	278	356842	1,203	1.19		
3	Benzo(g,h,i)perylene	31.74	0.01	0.00	276	315933	1,111	1.10		
	PCB 29				0	0		0.10	U	NR
	PCB 5				0	0		0.10	U	NR
	PCB 1				0	0		0.10	U	NR
	PCB 47				0	0		0.10	U	NR
	PCB 201				0	0		0.20	U	NR
	PCB 171				0	0		0.20	U	NR
	PCB 154				0	0		0.10	U	NR
	PCB 98				0	0		0.10	U	NR

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

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

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

Data File:	J:\MS22\DATA\050112-525\0501SM014.D			**Instrument:**	MS22
Acqu Date:	05/02/2012 01:14	**Quant Date:**	05/02/2012 16:31	**Vial:**	0
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG1204284-2 -- K1203853-001MS			**Soln Conc. Units:**	ug/L

Prep Amount:	1010 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM014.D Vial: 0
Acq On : 02-05-2012 01:14 Operator:
Sample : K1203835-001MS Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:13 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	480498	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	815551	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1035256	2500.00 ug/L	0.00
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	66936	1148.97 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 114.90%		
34) Triphenyl phosphate	22.23	169	56532	1412.54 ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 141.25%#		
49) Perylene-d12	28.62	264	365021	1231.08 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 123.11%		

Target Compounds					Qvalue
2) Isophorone	6.17	82	50187	1014.13 ug/L	99
4) Hexachlorocyclopentadiene	9.28	237	35160	1155.21 ug/L	89
5) Dichlobenil	9.40	171	129926	1053.50 ug/L	100
6) EPTC	9.54	128	40148	1056.33 ug/L	96
7) Dimethyl phthalate	10.80	163	247659	1058.07 ug/L	96
8) Acenaphthylene	10.80	152	247126	993.14 ug/L	99
9) Acenaphthene	11.25	153	222145	1085.36 ug/L	98
10) Diethyl phthalate	12.49	149	255152	1172.28 ug/L	99
11) Fluorene	12.44	165	217736	1067.96 ug/L	98
12) Propachlor	12.73	120	108111	1090.71 ug/L	96
13) Trifluralin	13.47	264	98905	1261.64 ug/L	94
15) Hexachlorobenzene	13.93	284	97339	1010.71 ug/L	94
16) Atraton	14.04	196	27795	751.54 ug/L	93
17) Prometon	14.18	210	37666	618.97 ug/L	97
18) Simazine	14.15	201	27059	936.24 ug/L #	64
19) Atrazine	14.26	215	22712	1046.32 ug/L	92
20) Propazine	14.35	214	72625	999.53 ug/L	90
21) Diazinon	14.82	137	46562	947.99 ug/L	90
22) Phenanthrene	14.67	178	329765	1028.65 ug/L	97
23) Anthracene	14.77	178	298548	1039.37 ug/L	99
24) Terbacil	14.99	117	15752	1249.71 ug/L	97
25) Acetochlor	15.77	146	71336	1189.51 ug/L	92
26) Metribuzin	15.65	198	56860	1294.04 ug/L	97
27) Alachlor	15.98	160	115881	1158.41 ug/L	90
28) Bromacil	16.47	207	580	41.39 ug/L #	23
29) Dibutyl phthalate	16.52	149	410259	1200.08 ug/L	100
30) Malathion	16.68	173	27660	942.91 ug/L #	69
31) Metolachlor	16.83	162	372863	1224.56 ug/L	97
32) Cyanazine	16.95	225	35016	940.22 ug/L	89

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM014.D Vial: 0
Acq On : 02-05-2012 01:14 Operator:
Sample : K1203835-001MS Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:13 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

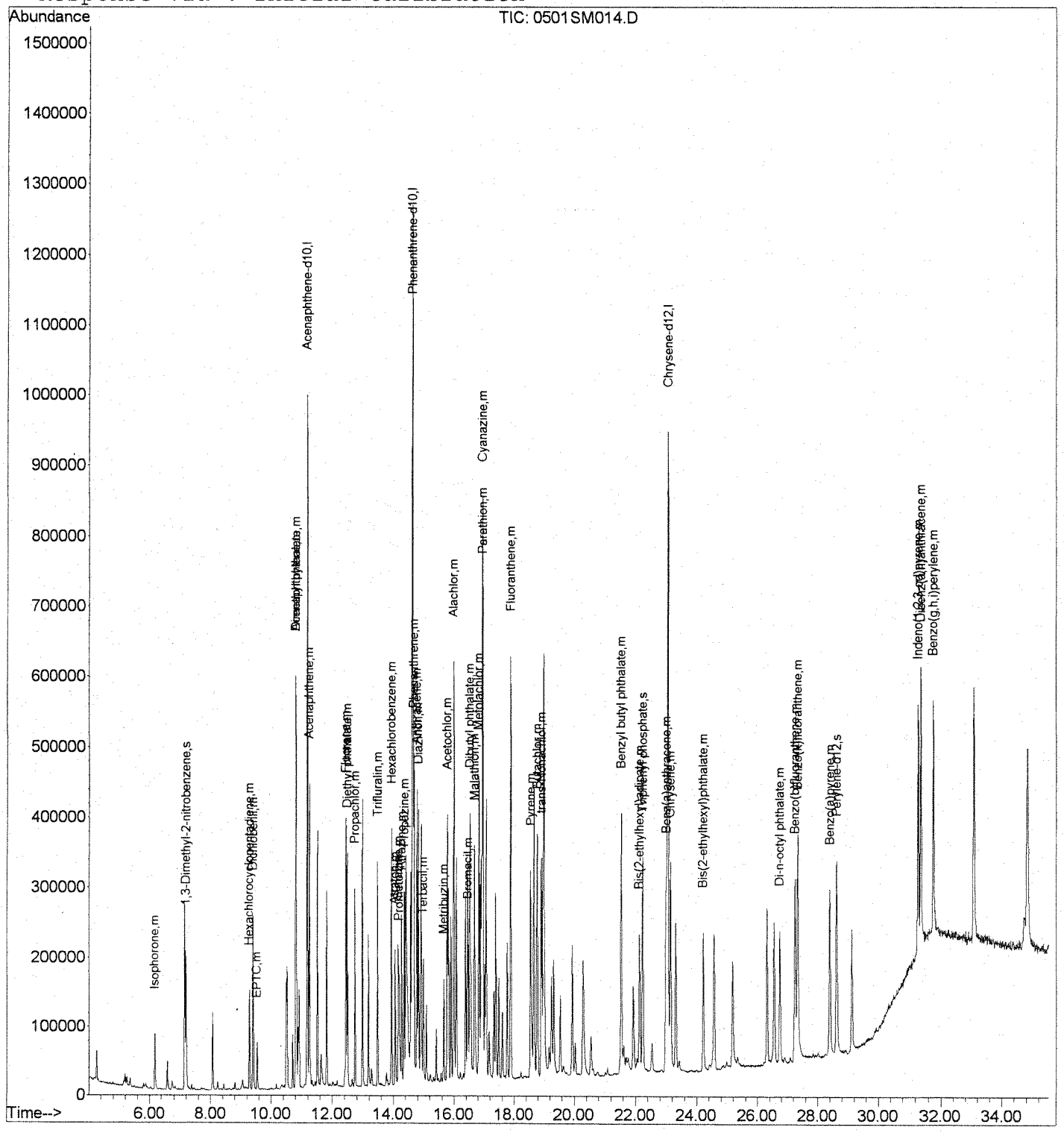
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Parathion	16.96	291	19619	1432.21 ug/L	98
36) Fluoranthene	17.87	202	317914	979.89 ug/L	99
37) Butachlor	18.78	160	101232	1063.88 ug/L	98
38) trans-Nonachlor	18.90	409	31837	932.95 ug/L	94
39) Pyrene	18.54	202	286669	961.23 ug/L	100
40) Benzyl butyl phthalate	21.52	149	196324	1269.72 ug/L	95
41) Bis(2-ethylhexyl)adipate	22.12	129	104627	1227.74 ug/L	97
42) Benz(a)anthracene	22.99	228	333987	1020.34 ug/L	99
43) Chrysene	23.13	228	324605	991.42 ug/L	94
44) Bis(2-ethylhexyl)phthalate	24.20	149	278179	1289.92 ug/L	99
45) Di-n-octyl phthalate	26.73	149	379339	1285.49 ug/L	99
46) Benzo(b)fluoranthene	27.24	252	339127	1105.35 ug/L	95
47) Benzo(k)fluoranthene	27.33	252	395287	1095.55 ug/L	95
48) Benzo(a)pyrene	28.39	252	327977	1175.63 ug/L	92
50) Indeno(1,2,3-cd)pyrene	31.27	276	307220	1269.29 ug/L	96
51) Dibenz(a,h)anthracene	31.35	278	356842	1203.36 ug/L	98
52) Benzo(g,h,i)perylene	31.74	276	315933	1110.85 ug/L	96

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM014.D Vial: 0
Acq On : 02-05-2012 01:14 Operator:
Sample : K1203835-001MS Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 2 16:31 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration



COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	NA
Sample Matrix:	Drinking water	**Date Received:**	NA

Semivolatile Organics by EPA Method 525.2

Sample Name:	Lab Control Sample	**Units:**	ug/L
Lab Code:	KWG1204284-1	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	**1.14**		0.20	0.0080	1	04/26/12	05/01/12	KWG1204284	
Dimethyl Phthalate	**1.06**		0.20	0.0040	1	04/26/12	05/01/12	KWG1204284	
Diethyl Phthalate	**1.12**		0.20	0.0090	1	04/26/12	05/01/12	KWG1204284	
Di-n-butyl Phthalate	**1.18**		0.20	0.040	1	04/26/12	05/01/12	KWG1204284	
Benzyl butyl phthalate	**1.20**		0.20	0.080	1	04/26/12	05/01/12	KWG1204284	
Bis(2-ethylhexyl) Phthalate	**1.15**		0.50	0.060	1	04/26/12	05/01/12	KWG1204284	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	121	70-130	05/01/12	Acceptable
Triphenyl Phosphate	125	70-130	05/01/12	Acceptable
Perylene-d12	120	70-130	05/01/12	Acceptable

Comments:

Exception Report

Data File: J:\MS22\DATA\050112-525\0501SM008.D
Lab ID: KWG1204284-1
RunType: LCS
Matrix: DRINKING WATER

Date Acquired: 05/01/2012 20:40
Date Quantitated: 05/02/2012 16:31
Batch ID: KWG1204669
Analysis Method: 525.2
MethodJoinID: MJ901

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: 5/7/12

Secondary Review: 05/7/12

Quantitation Report

Data File:	J:\MS22\DATA\050112-525\0501SM008.D			**Instrument:**	MS22
Acqu Date:	05/01/2012 20:40	**Quant Date:**	05/02/2012 16:31	**Vial:**	0
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1204284-1			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	DRINKING WATE
Prod Code:	525.2 SVO	**Collect Date:**		**Receive Date:**	04/26/2012

Analysis Lot:	KWG1204669	**Prep Lot:**	KWG1204284	**Report Group:**	
Analysis Method:	525.2	**Prep Method:**	METHOD		
Prep Ref:	1120554	**Prep Date:**	04/26/2012		

Quant Method:	J:\MS22\METHODS\043012_525.M	**Calibration ID:**	CAL11476
Title:			
Tune Ref:	J:\MS22\DATA\050112-525\0501SM004.D	**Method ID:**	MJ901
MB Ref:	J:\MS22\DATA\050112-525\0501SM007.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Acenaphthene-d10	11.17	0.00	162	494055	2,500.00	OK
2	Phenanthrene-d10	14.61	0.00	188	888839	2,500.00	OK
3	Chrysene-d12	23.03	0.00	240	1052000	2,500.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	1,3-Dimethyl-2-nitrobenzene	7.18	0.00	0.00	134	72731	1,210	121	70-130	OK
2	Triphenyl Phosphate	22.22	0.01	0.00	169	53054	1,251	125	70-130	OK
3	Perylene-d12	28.60	-0.01	0.00	264	357952	1,199	120	70-130	OK

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Isophorone	6.16	0.01	0.00	82	53076	1,041	1.04		
1	Hexachlorocyclopentadiene	9.28		0.00	237	32939	1,075	1.07		
1	Dichlobenil	9.39		0.00	171	135391	1,068	1.07		
1	EPTC	9.53		0.00	128	40302	1,033	1.03		
1	Dimethyl Phthalate	10.79		0.00	163	254960	1,059	1.06		
1	Acenaphthylene	10.80	0.01	0.00	152	232655	913.54	0.914		
1	Acenaphthene	11.24		0.00	153	224806	1,068	1.07		
1	Diethyl Phthalate	12.48		0.00	149	250776	1,121	1.12		
1	Fluorene	12.44	0.01	0.00	165	228447	1,090	1.09		
1	Propachlor	12.73	0.01	0.00	120	113672	1,111	1.11		
1	Trifluralin	13.47		0.00	264	83603	1,105	1.11		
2	Hexachlorobenzene	13.92		0.00	284	104227	992.99	0.993		
2	Atraton	14.02	-0.01	0.00	196	21453	563.00	0.563		
2	Prometon	14.16		0.00	210	47525	704.59	0.705		
2	Simazine	14.14		0.00	201	34093	1,064	1.06		

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

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

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

Data File:	J:\MS22\DATA\050112-525\0501SM008.D			**Instrument:**	MS22
Acqu Date:	05/01/2012 20:40	**Quant Date:**	05/02/2012 16:31	**Vial:**	0
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1204284-1			**Soln Conc. Units:**	ug/L

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Atrazine	14.25	-0.01	0.00	215	26474	1,115	1.11		
2	Propazine	14.34	-0.01	0.00	214	90370	1,132	1.13		
2	Diazinon	14.81		0.00	137	56905	1,052	1.05		
2	Phenanthrene	14.66		0.00	178	343307	982.60	0.983		
2	Anthracene	14.77	0.01	0.00	178	328425	1,049	1.05		
2	Terbacil	14.98		0.00	117	16500	1,212	1.21		
2	Acetochlor	15.76		0.00	146	73499	1,131	1.13		
2	Metribuzin	15.64	-0.01	0.00	198	53803	1,164	1.16		
2	Alachlor	15.97	-0.01	0.00	160	123380	1,137	1.14		
2	Bromacil	16.51		0.00	207	66144	1,201	1.20		
2	Di-n-butyl Phthalate	16.51		0.00	149	436313	1,175	1.18		
2	Malathion	16.68		0.00	173	25728	826.43	0.826		
2	Metolachlor	16.82		0.00	162	381429	1,163	1.16		
2	Cyanazine	16.93		0.00	225	44624	1,070	1.07		
2	Parathion	16.95	-0.01	0.00	291	18749	1,301	1.30		
3	Fluoranthene	17.87		0.00	202	326983	991.02	0.991		
3	Butachlor	18.76		0.00	160	111999	1,134	1.13		
3	trans-Nonachlor	18.90	0.01	0.00	409	32692	941.81	0.942		
3	Pyrene	18.54		0.00	202	296538	977.45	0.977		
3	Benzyl butyl phthalate	21.52	0.01	0.00	149	183993	1,198	1.20		
3	Bis(2-ethylhexyl) Adipate	22.11	-0.01	0.00	129	97477	1,158	1.16		
3	Benz(a)anthracene	22.98		0.00	228	330242	994.68	0.995		
3	Chrysene	23.13	0.01	0.00	228	329478	990.29	0.990		
3	Bis(2-ethylhexyl) Phthalate	24.20		0.00	149	244517	1,148	1.15		
3	Di-n-octyl Phthalate	26.73		0.00	149	318445	1,135	1.14		
3	Benzo(b)fluoranthene	27.22	-0.01	0.00	252	332426	1,074	1.07		
3	Benzo(k)fluoranthene	27.32		0.00	252	382241	1,052	1.05		
3	Benzo(a)pyrene	28.38		0.00	252	311686	1,118	1.12		
3	Indeno(1,2,3-cd)pyrene	31.26		0.00	276	263921	1,120	1.12		
3	Dibenz(a,h)anthracene	31.34		0.00	278	330096	1,122	1.12		
3	Benzo(g,h,i)perylene	31.74	0.01	0.00	276	320025	1,108	1.11		
	PCB 29				0	0		0.10	U	NR
	PCB 5				0	0		0.10	U	NR
	PCB 1				0	0		0.10	U	NR
	PCB 47				0	0		0.10	U	NR
	PCB 201				0	0		0.20	U	NR
	PCB 171				0	0		0.20	U	NR
	PCB 154				0	0		0.10	U	NR
	PCB 98				0	0		0.10	U	NR

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

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

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

Data File:	J:\MS22\DATA\050112-525\0501SM008.D			**Instrument:**	MS22
Acqu Date:	05/01/2012 20:40	**Quant Date:**	05/02/2012 16:31	**Vial:**	0
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1204284-1			**Soln Conc. Units:**	ug/L

Prep Amount:	1000 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM008.D Vial: 0
Acq On : 01-05-2012 20:40 Operator:
Sample : 042612-LCS Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:07 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	494055	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.61	188	888839	2500.00 ug/L	0.00
35) Chrysene-d12	23.03	240	1052000	2500.00 ug/L	0.00
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	72731	1210.02 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 121.00%		
34) Triphenyl phosphate	22.22	169	53054	1251.38 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 125.14%		
49) Perylene-d12	28.60	264	357952	1198.74 ug/L	-0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 119.87%		

Target Compounds					Qvalue
2) Isophorone	6.16	82	53076	1040.97 ug/L	96
4) Hexachlorocyclopentadiene	9.28	237	32939	1074.63 ug/L	90
5) Dichlobenil	9.39	171	135391	1067.69 ug/L	94
6) EPTC	9.53	128	40302	1032.50 ug/L	98
7) Dimethyl phthalate	10.79	163	254960	1059.38 ug/L	96
8) Acenaphthylene	10.80	152	232655	913.54 ug/L	96
9) Acenaphthene	11.24	153	224806	1068.22 ug/L	98
10) Diethyl phthalate	12.48	149	250776	1120.56 ug/L	98
11) Fluorene	12.44	165	228447	1089.75 ug/L	94
12) Propachlor	12.73	120	113672	1111.16 ug/L	96
13) Trifluralin	13.47	264	83603	1105.05 ug/L	100
15) Hexachlorobenzene	13.92	284	104227	992.99 ug/L	93
16) Atraton	14.02	196	21453	563.00 ug/L	95
17) Prometon	14.16	210	47525	704.59 ug/L	83
18) Simazine	14.14	201	34093	1064.21 ug/L	75
19) Atrazine	14.25	215	26474	1114.55 ug/L	97
20) Propazine	14.34	214	90370	1132.39 ug/L	90
21) Diazinon	14.81	137	56905	1052.00 ug/L	97
22) Phenanthrene	14.66	178	343307	982.60 ug/L	95
23) Anthracene	14.77	178	328425	1049.11 ug/L	95
24) Terbacil	14.98	117	16500	1212.05 ug/L	94
25) Acetochlor	15.76	146	73499	1131.11 ug/L	98
26) Metribuzin	15.64	198	53803	1163.59 ug/L	97
27) Alachlor	15.97	160	123380	1136.68 ug/L	100
28) Bromacil	16.51	207	66144	1201.30 ug/L	93
29) Dibutyl phthalate	16.51	149	436313	1175.38 ug/L	100
30) Malathion	16.68	173	25728	826.43 ug/L	91
31) Metolachlor	16.82	162	381429	1163.26 ug/L	96
32) Cyanazine	16.93	225	44624	1069.77 ug/L	88

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM008.D Vial: 0
Acq On : 01-05-2012 20:40 Operator:
Sample : 042612-LCS Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 02 16:31:07 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

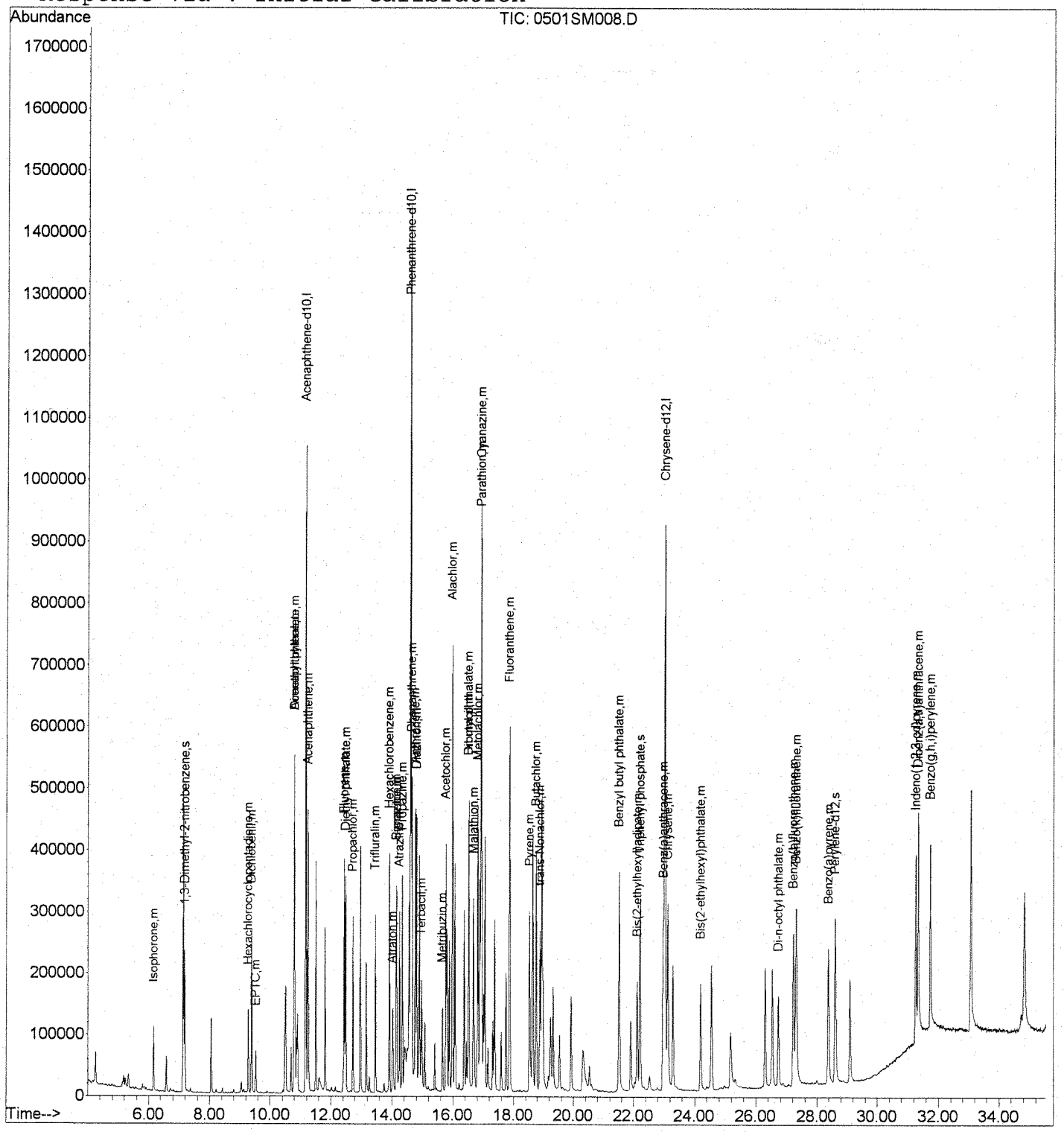
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Parathion	16.95	291	18749	1300.93 ug/L #	62
36) Fluoranthene	17.87	202	326983	991.02 ug/L	100
37) Butachlor	18.76	160	111999	1134.02 ug/L	97
38) trans-Nonachlor	18.90	409	32692	941.81 ug/L	94
39) Pyrene	18.54	202	296538	977.45 ug/L	98
40) Benzyl butyl phthalate	21.52	149	183993	1198.34 ug/L	97
41) Bis(2-ethylhexyl)adipate	22.11	129	97477	1158.30 ug/L	90
42) Benz(a)anthracene	22.98	228	330242	994.68 ug/L	98
43) Chrysene	23.13	228	329478	990.29 ug/L	94
44) Bis(2-ethylhexyl)phthalate	24.20	149	244517	1148.05 ug/L	93
45) Di-n-octyl phthalate	26.73	149	318445	1135.47 ug/L	99
46) Benzo(b)fluoranthene	27.22	252	332426	1074.07 ug/L	99
47) Benzo(k)fluoranthene	27.32	252	382241	1051.51 ug/L	96
48) Benzo(a)pyrene	28.38	252	311686	1117.89 ug/L	92
50) Indeno(1,2,3-cd)pyrene	31.26	276	263921	1120.10 ug/L	93
51) Dibenz(a,h)anthracene	31.34	278	330096	1121.58 ug/L	99
52) Benzo(g,h,i)perylene	31.74	276	320025	1108.07 ug/L	96

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM008.D Vial: 0
Acq On : 01-05-2012 20:40 Operator:
Sample : 042612-LCS Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 2 16:31 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration



Organic Analysis:
Semivolatile Organics by EPA Method 525.2

Validation Package

Standards Data

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 05/01/2012
Time Analyzed: 17:38

Tune Summary
Semivolatile Organics by EPA Method 525.2

File ID: J:\MS22\DATA\050112-525\0501SM004.D
Instrument ID: MS22
Column:

Analysis Method: 525.2
Analysis Lot: KWG1204669

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
69	198	0	100	14.6	18069	PASS
70	69	0	2	0.3	48	PASS
127	198	10	80	37.7	46634	PASS
197	198	0	2	1.5	1802	PASS
198	198	100	100	100.0	123738	PASS
199	198	5	9	5.8	7168	PASS
51	198	10	80	43.5	53855	PASS
68	69	0	2	1.1	201	PASS
275	198	10	60	49.6	61346	PASS
365	198	1	100	3.3	4130	PASS
441	443	0	100	96.3	24648	PASS
442	198	50	150	101.4	125424	PASS
443	442	15	24	20.4	25584	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1204669-2	J:\MS22\DATA\050112-525\0501SM005.D	05/01/2012	18:23	
Method Blank	KWG1204284-3	J:\MS22\DATA\050112-525\0501SM007.D	05/01/2012	19:54	
Lab Control Sample	KWG1204284-1	J:\MS22\DATA\050112-525\0501SM008.D	05/01/2012	20:40	
Outfall A	K1203695-001	J:\MS22\DATA\050112-525\0501SM009.D	05/01/2012	21:26	
Outfall B	K1203695-002	J:\MS22\DATA\050112-525\0501SM010.D	05/01/2012	22:12	
Batch QC	K1203853-001	J:\MS22\DATA\050112-525\0501SM013.D	05/02/2012	00:29	
Batch QCMS	KWG1204284-2	J:\MS22\DATA\050112-525\0501SM014.D	05/02/2012	01:14	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Exception Report

Data File: J:\MS22\DATA\050112-525\0501SM004.D
Lab ID: KWG1204669-1
RunType: DFTPP
Matrix: NOT APPLICABLE

Date Acquired: 05/01/2012 17:38
Date Quantitated:
Batch ID: KWG1204669
Analysis Method: DFTPP
ListJoinID: LJ4247

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: 5/7/12

Secondary Review:

Quantitation Report

Data File:	J:\MS22\DATA\050112-525\0501SM004.D	**Instrument:**	MS22
Acqu Date:	05/01/2012 17:38	**Quant Date:**	
Vial:	0
Run Type:	DFTPP	**Dilution:**	1.0
Lab ID:	KWG1204669-1	**Soln Conc. Units:**	

Bottle ID:		**Tier:**	**Matrix:** NOT APPLICABLE
Prod Code:	525.2 SVO	**Collect Date:**	**Receive Date:** 05/07/2012

Analysis Lot:	KWG1204669	**Prep Lot:**	**Report Group:**
Analysis Method:	DFTPP	**Prep Method:**	
Prep Ref:		**Prep Date:**	

Quant Method:	J:\MS22\METHODS\ENDRIN-DDT_5	**Calibration ID:**	CAL11476
Title:		**Report List ID:**	LJ4247
Tune Ref:		**Method ID:**	MJ542
MB Ref:		**Quant based on Report List**	

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	43.5	53855	Pass
68	69	0	2	1.1	201	Pass
69	198	0	100	14.6	18069	Pass
70	69	0	2	0.3	48	Pass
127	198	10	80	37.7	46634	Pass
197	198	0	2	1.5	1802	Pass
198	198	100	100	100.0	123738	Pass
199	198	5	9	5.8	7168	Pass
275	198	10	60	49.6	61346	Pass
365	198	1	100	3.3	4130	Pass
441	443	0.01	100	96.3	24648	Pass
442	198	50	150	101.4	125424	Pass
443	442	15	24	20.4	25584	Pass

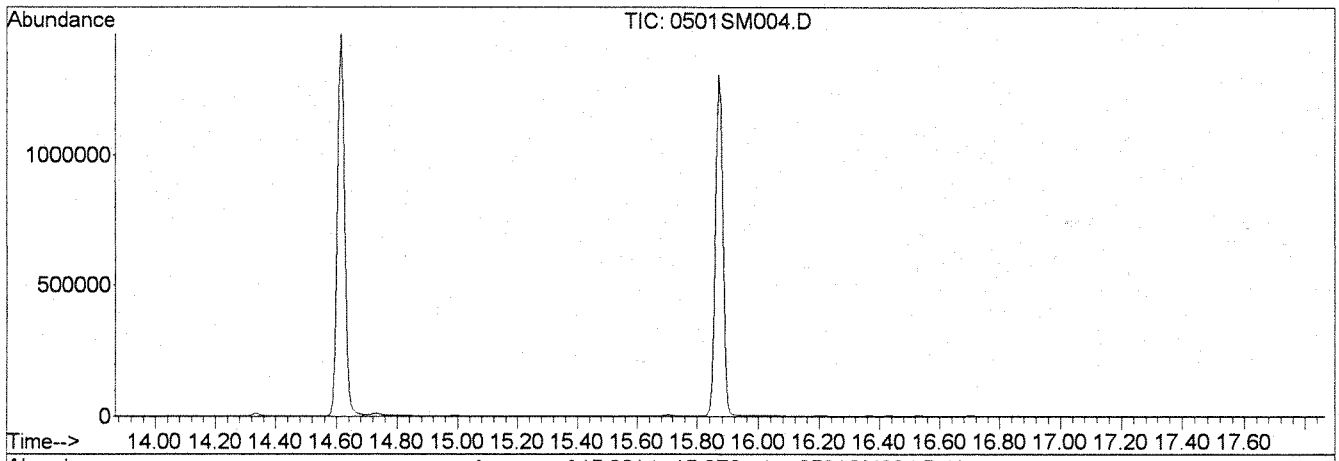
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

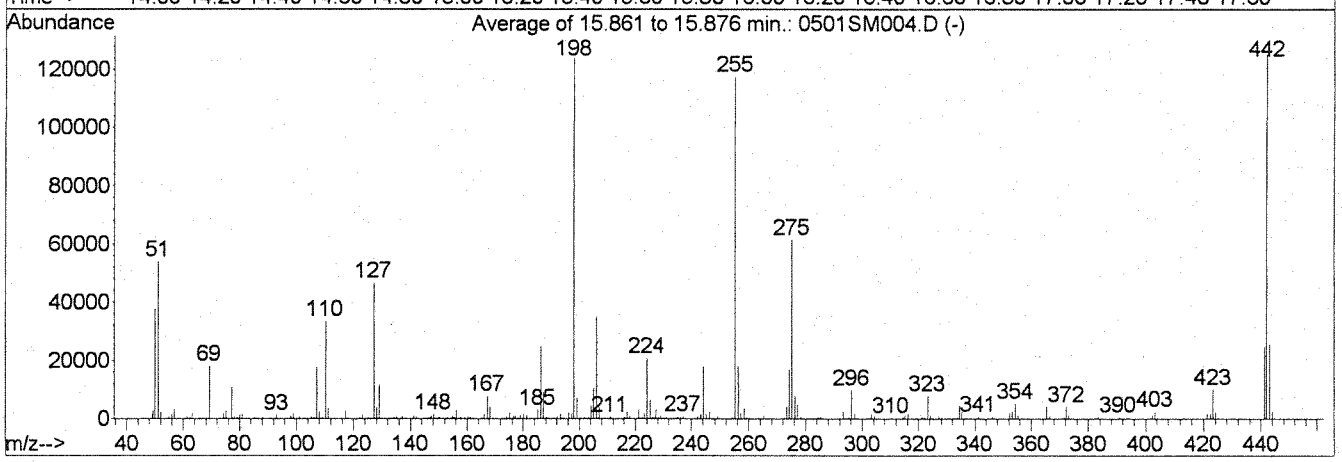
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

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

DFTPP

Data File : J:\MS22\DATA\050112-525\0501SM004.D Vial: 0
Acq On : 01-05-2012 17:38 Operator:
Sample : DWSTD5-52G 525 IPC Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\MS22\METHODS\ENDRIN-DDT_525.M (RTE Integrator)
Title : Endrin, DDT Degradation Checks





AutoFind: Scans 1603, 1604, 1605; Background Corrected with Scan 1596

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	43.5	53855	PASS
68	69	0.00	2	1.1	201	PASS
69	198	0.00	100	14.6	18069	PASS
70	69	0.00	2	0.3	48	PASS
127	198	10	80	37.7	46634	PASS
197	198	0.00	2	1.5	1802	PASS
198	198	100	100	100.0	123738	PASS
199	198	5	9	5.8	7168	PASS
275	198	10	60	49.6	61346	PASS
365	198	1	100	3.3	4130	PASS
441	443	0.01	100	96.3	24648	PASS
442	198	50	150	101.4	125424	PASS
443	442	15	24	20.4	25584	PASS

0501SM004.D ENDRIN-DDT_525.M Mon May 07 11:56:50 2012

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
49.00	1650	61.85	165	72.35	12	82.00	188
49.25	2834	62.10	570	72.90	48	82.10	85
49.95	37704	63.00	1764	74.05	1830	82.25	61
51.00	53855	63.85	137	75.00	2825	83.30	411
52.00	2316	64.15	11	76.10	102	83.70	150
54.90	548	65.10	62	77.00	10956	85.15	599
56.10	1526	67.00	383	78.00	591	85.40	263
57.05	3094	68.05	201	78.95	220	86.10	183
58.00	70	69.10	18069	79.15	468	86.95	137
59.05	26	70.10	48	80.05	1011	87.15	92
61.15	681	71.00	36	81.05	1662	87.95	500

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
89.15	21	101.20	651	111.05	3465	122.15	498
89.70	12	102.15	17	113.05	118	123.15	1314
90.95	168	103.00	282	114.65	38	124.15	251
92.10	163	103.25	173	115.85	169	125.10	387
93.00	1160	104.10	341	116.25	94	126.20	226
94.20	27	105.10	783	117.10	2727	126.45	173
94.90	16	106.05	646	118.10	260	127.05	46634
95.20	27	107.10	17650	119.05	4	128.10	3790
98.05	973	108.00	2493	120.10	34	129.05	11485
98.95	1968	109.10	474	120.30	37	130.10	166
100.00	290	110.10	33370	120.90	17	131.10	335

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
132.30	376	141.15	1146	150.05	356	156.25	2959
134.00	164	142.20	751	150.20	691	157.00	24
134.25	659	143.15	152	151.10	396	157.45	234
135.05	1032	143.40	156	151.40	296	157.85	609
135.95	49	144.15	94	151.85	30	158.30	205
136.40	278	145.10	152	152.25	205	159.10	530
137.05	934	146.45	438	152.95	544	159.90	12
137.80	29	147.00	558	154.35	304	160.15	647
138.15	255	147.30	990	154.85	1020	161.00	279
139.70	17	148.15	1508	155.15	534	161.25	539
140.95	170	149.05	375	155.50	444	161.90	345

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
162.20	80	170.55	84	179.10	1332	188.25	668
162.95	16	171.15	165	180.25	1617	189.20	207
164.25	19	171.90	24	181.20	1297	190.20	55
165.15	336	172.40	27	182.10	5	191.10	439
166.20	1589	173.15	177	182.90	152	192.20	727
167.20	7747	173.45	160	183.80	164	193.30	1447
168.20	3928	174.15	680	184.05	98	194.30	225
169.00	71	175.25	2056	185.15	2990	195.10	29
169.30	324	176.50	902	186.20	24888	195.30	79
169.65	30	177.25	930	187.20	8997	196.30	2067
170.15	29	178.05	268	188.00	439	197.35	1802

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
198.05	123738	205.15	10478	213.30	137	222.20	639
199.10	7168	206.15	34944	214.90	118	223.10	1852
199.80	37	207.20	4131	215.85	374	224.15	20774
200.20	319	208.20	358	216.10	573	225.25	6363
200.55	189	209.15	221	217.10	2474	226.15	619
201.60	533	210.05	30	218.10	1007	226.60	167
202.10	146	210.95	750	219.00	98	227.20	3429
202.50	122	211.15	662	219.25	88	228.25	748
203.30	443	211.80	68	220.45	85	229.15	1222
203.55	305	212.10	298	220.65	15	230.05	258
204.20	4528	212.40	94	221.15	3039	230.35	274

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
231.00	431	238.40	57	247.20	313	253.50	145
231.20	475	239.00	48	247.45	123	254.25	425
232.10	37	239.10	43	248.15	96	255.15	117448
233.05	29	240.20	137	248.40	51	256.25	18059
233.25	70	241.20	193	249.05	840	257.20	1786
234.10	35	242.30	743	250.00	58	258.20	3553
234.55	70	243.35	1619	251.10	22	259.30	548
235.20	762	244.20	18170	251.35	26	260.15	335
236.10	417	245.20	1656	252.35	13	261.20	119
237.10	833	246.20	2576	252.60	34	262.00	38
237.95	62	246.75	7	253.15	148	263.50	262

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
264.45	158	275.15	61346	285.30	717	295.50	450
265.10	1151	276.15	7831	286.30	154	296.20	9862
266.15	167	277.20	4891	287.15	32	297.20	1939
267.20	108	278.15	646	289.30	102	298.20	273
269.05	22	279.30	57	290.35	107	299.05	30
270.20	102	281.15	95	291.05	28	299.35	8
270.90	73	282.20	269	292.15	269	300.70	61
271.35	41	283.15	291	292.65	163	301.40	60
272.25	340	284.15	153	293.25	2525	302.55	358
273.15	3984	284.35	228	294.25	282	303.25	1831
274.10	16773	284.55	168	295.00	280	304.25	942

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
305.10	86	312.45	65	320.65	30	331.10	71
305.45	19	313.25	13	321.30	595	331.50	9
306.05	7	313.90	199	322.20	479	332.30	279
306.45	13	314.40	689	323.30	7810	333.25	160
308.30	174	315.20	1177	324.30	1274	333.75	504
309.05	83	316.35	1568	325.30	45	334.30	4506
309.35	18	317.35	402	326.40	63	335.30	2368
310.25	272	318.40	45	326.65	91	336.25	231
310.50	8	319.00	13	327.25	947	339.20	19
311.15	65	319.50	22	328.25	399	339.45	26
312.20	51	320.30	18	329.50	37	339.70	10

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
340.25	38	352.30	1976	365.20	4130	374.10	66
341.30	741	353.30	2458	366.30	989	374.70	64
342.00	79	354.35	5094	367.45	115	376.05	70
342.25	109	355.25	1049	369.00	2	377.35	31
342.55	98	356.30	127	370.05	9	377.60	25
343.10	127	357.30	36	370.25	147	377.90	6
346.25	706	359.00	1	371.25	236	379.50	28
347.50	155	360.20	70	371.55	342	382.30	4
348.10	32	361.45	30	372.25	4036	383.30	849
351.05	125	362.85	8	373.25	1158	384.20	120
351.65	93	363.45	36	373.85	69	384.55	130

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
385.15	11	394.20	32	407.60	2	423.20	10092
385.65	74	397.15	23	407.95	4	424.20	2099
386.35	14	398.25	26	410.10	18	425.25	245
387.20	12	400.30	6	410.35	13	426.20	71
389.80	14	401.40	364	412.80	5	427.05	5
390.35	95	402.30	1216	413.55	6	427.55	24
390.55	461	403.35	2447	415.40	6	428.35	12
391.30	310	404.20	300	415.65	28	429.25	13
392.40	283	404.45	135	418.95	35	430.10	2
393.10	19	405.55	77	421.25	1701	430.60	2
393.40	28	406.55	4	422.25	1843	437.75	9

Average of 15.861 to 15.876 min.: 0501SM004.D
DWSTD5-52G 525 IPC
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
438.20	10						
439.55	28						
440.05	5						
440.40	8						
441.25	24648						
442.05	125424						
443.05	25584						
444.10	2425						
445.05	184						
446.20	36						
449.30	4						

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/30/2012

Initial Calibration Summary
Semivolatile Organics by EPA Method 525.2

Calibration ID: CAL11476
Instrument ID: MS22

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS22\DATA\043012-525\0430CC002.D	F	J:\MS22\DATA\043012-525\0430CC007.D
B	J:\MS22\DATA\043012-525\0430CC003.D	G	J:\MS22\DATA\043012-525\0430CC008.D
C	J:\MS22\DATA\043012-525\0430CC004.D	H	J:\MS22\DATA\043012-525\0430CC009.D
D	J:\MS22\DATA\043012-525\0430CC005.D	I	J:\MS22\DATA\043012-525\0430CC010.D
E	J:\MS22\DATA\043012-525\0430CC006.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Di-n-octyl Phthalate	A	20	0.302	B	50	0.297	C	100	0.308	D	200	0.316	E	500	0.500
	F	1000	0.626	G	2000	0.930									
1,3-Dimethyl-2-nitrobenzene	A	20	0.198	B	50	0.224	C	100	0.227	D	200	0.228	E	500	0.279
	F	1000	0.282	G	2000	0.346	H	4000	0.341						
Dimethyl Phthalate	A	20	0.993	B	50	1.03	C	100	1.07	D	200	1.13	E	500	1.27
	F	1000	1.19	G	2000	1.37	H	4000	1.43	I	6000	1.48			
Diethyl Phthalate	A	20	0.896	B	50	0.901	C	100	0.937	D	200	1.03	E	500	1.17
	F	1000	1.14	G	2000	1.34	H	4000	1.37	I	6000	1.40			
Di-n-butyl Phthalate	A	20	0.533	B	50	0.565	C	100	0.646	D	200	0.746	E	500	1.02
	F	1000	1.01	G	2000	1.17									
Benzyl butyl phthalate	A	20	0.169	B	50	0.161	C	100	0.169	D	200	0.182	E	500	0.305
	F	1000	0.347	G	2000	0.457									
Triphenyl Phosphate				B	50	0.0577	C	100	0.0602	D	200	0.0744	E	500	0.107
	F	1000	0.114	G	2000	0.135									
Bis(2-ethylhexyl) Phthalate										D	200	0.217	E	500	0.331
	F	1000	0.405	G	2000	0.611	H	4000	0.719	I	6000	0.787			
Perylene-d12	A	20	0.342	B	50	0.342	C	100	0.374	D	200	0.434	E	500	0.645
	F	1000	0.647	G	2000	0.869									

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/30/2012

Initial Calibration Summary
Semivolatile Organics by EPA Method 525.2

Calibration ID: CAL11476
Instrument ID: MS22

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Di-n-octyl Phthalate	MS	Quadratic	COD	1.000		≥ 0.99	0.469		
1,3-Dimethyl-2-nitrobenzene	SURR	Quadratic	COD	0.997		≥ 0.99	0.266		
Dimethyl Phthalate	MS	AverageRF	% RSD	14.7		≤ 30	1.22		
Diethyl Phthalate	MS	AverageRF	% RSD	18.1		≤ 30	1.13		
Di-n-butyl Phthalate	MS	Quadratic	COD	0.999		≥ 0.99	0.813		
Benzyl butyl phthalate	MS	Quadratic	COD	0.999		≥ 0.99	0.256		
Triphenyl Phosphate	SURR	Quadratic	COD	1.000		≥ 0.99	0.0913		
Bis(2-ethylhexyl) Phthalate	MS	Quadratic	COD	0.998		≥ 0.99	0.512		
Perylene-d12	SURR	Quadratic	COD	0.999		≥ 0.99	0.522		

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/30/2012
Date Analyzed: 04/30/2012

Second Source Calibration Verification
Semivolatile Organics by EPA Method 525.2

Calibration Type: Internal Standard
Analysis Method: 525.2

Calibration ID: CAL11476
Units: ug/L

File ID:
J:\MS22\DATA\043012-525\0430CC011.D
J:\MS22\DATA\043012-525\0430CC012.D
J:\MS22\DATA\043012-525\0430CC013.D
J:\MS22\DATA\043012-525\0430CC014.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Di-n-octyl Phthalate	1000	1300	0.469	0.885	NA	26	± 30 %	Quadratic
Dimethyl Phthalate	1000	1100	1.22	1.38	14	NA	± 30 %	AverageRF
Diethyl Phthalate	1000	1200	1.13	1.39	23	NA	± 30 %	AverageRF
Di-n-butyl Phthalate	1000	1100	0.813	1.09	NA	6	± 30 %	Quadratic
Benzyl butyl phthalate	1000	1200	0.256	0.420	NA	16	± 30 %	Quadratic
Bis(2-ethylhexyl) Phthalate	1000	1200	0.512	0.644	NA	25	± 30 %	Quadratic

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

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

Injection Log

ICAL 11476

Directory: J:\MS22\DATA\043012-525

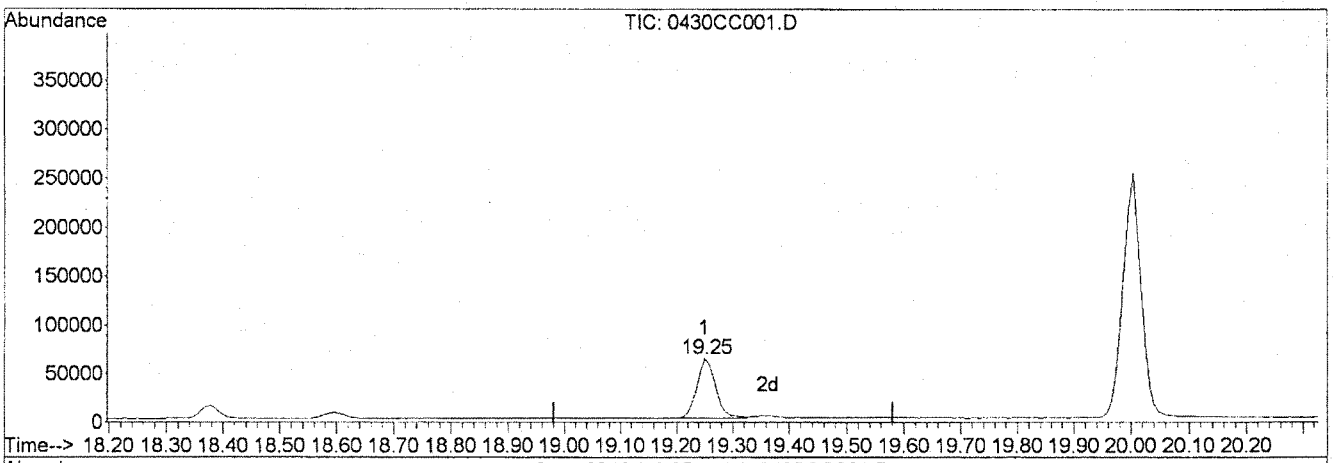
Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1		0430CC001.d	1.	DWSTD5-55A 525.2 IPC		30-04-22012 27:1
2		0430CC002.d	1.	DWSTD05-54G 525 ICAL 20 PPB		30-04-22012 27:5
3		0430CC003.d	1.	DWSTD05-54H 525 ICAL 50 PPB		30-04-22012 28:3
4		0430CC004.d	1.	DWSTD05-54I 525 ICAL 100 PPB		30-04-22012 29:2
5		0430CC005.d	1.	DWSTD05-54J 525 ICAL 200 PPB		30-04-22012 30:0
6		0430CC006.d	1.	DWSTD05-54K 525 ICAL 500 PPB		30-04-22012 30:5
7		0430CC007.d	1.	DWSTD05-54L 525 ICAL 1000 PPB		30-04-22012 31:3
8		0430CC008.d	1.	DWSTD05-54M 525 ICAL 2000 PPB		30-04-22012 32:2
9		0430CC009.d	1.	DWSTD05-54N 525 ICAL 4000 PPB		30-04-22012 33:0
10		0430CC010.d	1.	DWSTD05-54O 525 ICAL 6000 PPB		30-04-22012 33:5
11		0430CC011.d	1.	DWSTD05-41B 525 ICV #1 1000 PPB		30-04-22012 34:3
12		0430CC012.d	1.	DWSTD05-54A 525 ICV #2 1000 PPB		30-04-22012 35:2
13		0430CC013.d	1.	DWSTD05-46A 525 ICV #3 1000 PPB		01-05-22012 12:0
14		0430CC014.d	1.	DWSTD05-46C 525 ICV #4 1000 PPB		01-05-22012 12:5
15		0430CC015.d	1.	DWSTD5-52G 525 IPC		01-05-22012 13:4
16		0430CC016.d	1.	DWSTD05-54L 525 ICAL 1000 PPB		01-05-22012 14:2
17		0430CC017.d	1.	042012-MRL		01-05-22012 15:1
18		0430CC018.d	1.	042012-MB		01-05-22012 15:5
19		0430CC019.d	1.	042012-LCS		01-05-22012 16:4
20		0430CC020.d	1.	K1203449-001		01-05-22012 17:2
21		0430CC021.d	1.	K1203449-001 MS		01-05-22012 18:1

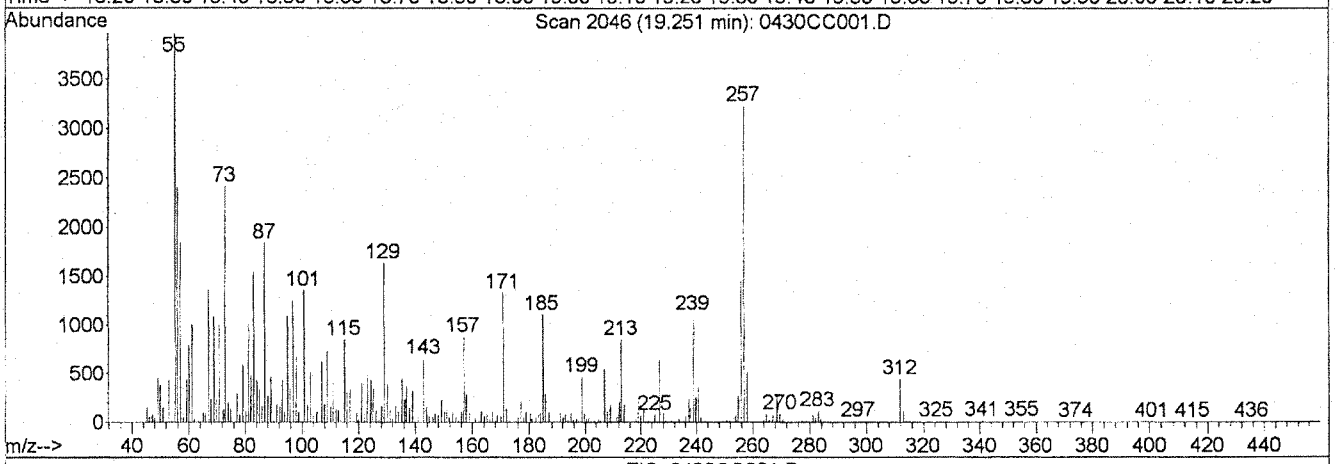
u 5/1/12

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC001.D Vial: 0
Acq On : 30-04-2012 15:14 Operator:
Sample : DWSTD5-55A 525.2 IPC Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 15:23 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\ENDRIN-DDT_525.M (RTE Integrator)
Title : Endrin, DDT Degradation Checks
Last Update : Sat Feb 25 16:29:16 2012
Response via : Single Level Calibration





TIC: 0430CC001.D

(8) DDE (L3)

19.25min 0.00ug/L

response 145638

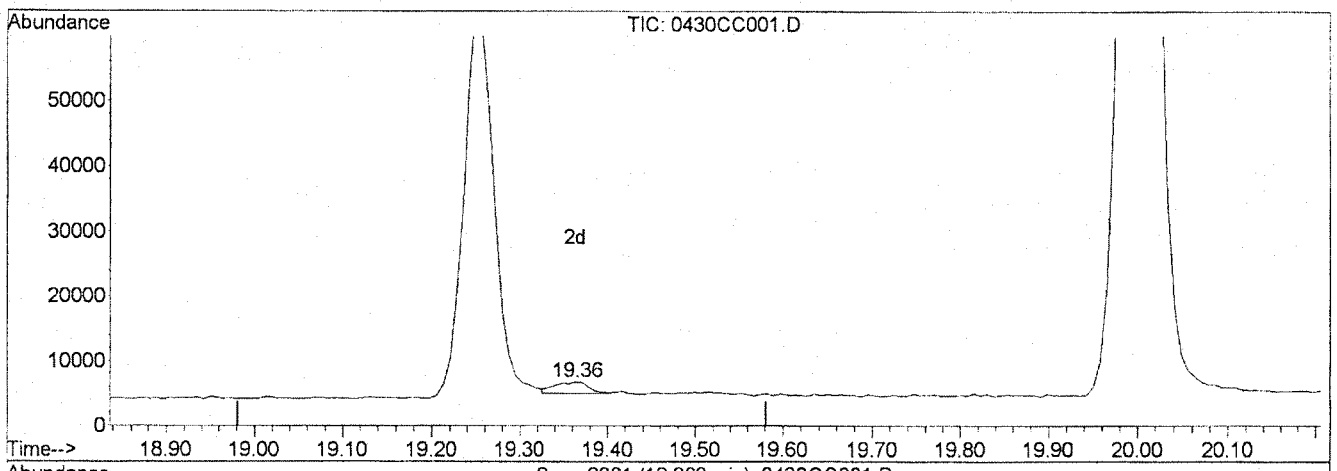
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

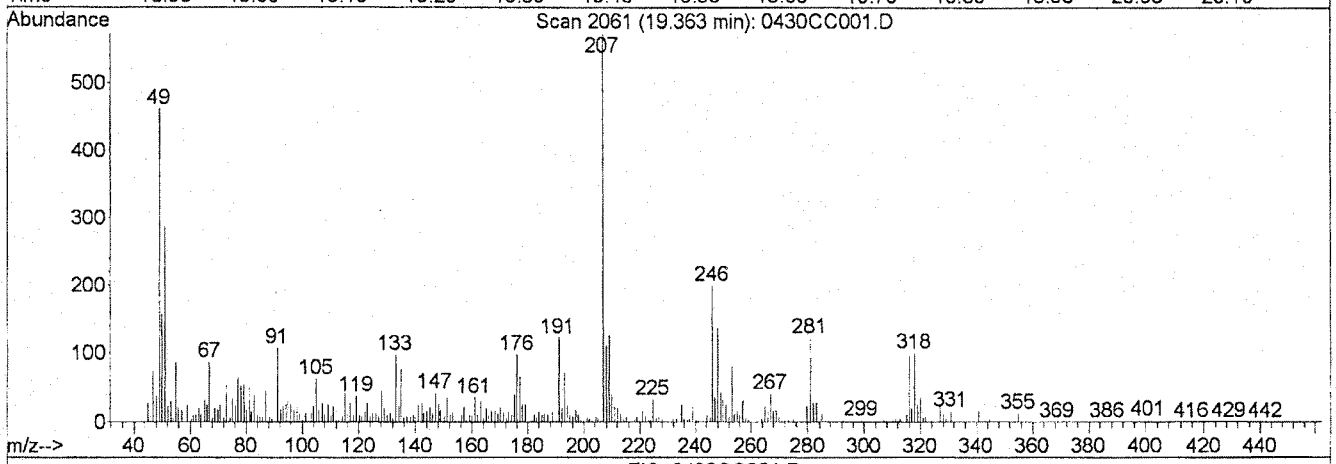
0430CC001.D ENDRIN-DDT_525.M Tue May 01 15:23:43 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC001.D Vial: 0
Acq On : 30-04-2012 15:14 Operator:
Sample : DWSTD5-55A 525.2 IPC Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 15:23 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\ENDRIN-DDT_525.M (RTE Integrator)
Title : Endrin, DDT Degradation Checks
Last Update : Sat Feb 25 16:29:16 2012
Response via : Single Level Calibration





TIC: 0430CC001.D

(8) DDE (L3)

19.36min 0.00ug/L m

response 4635

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

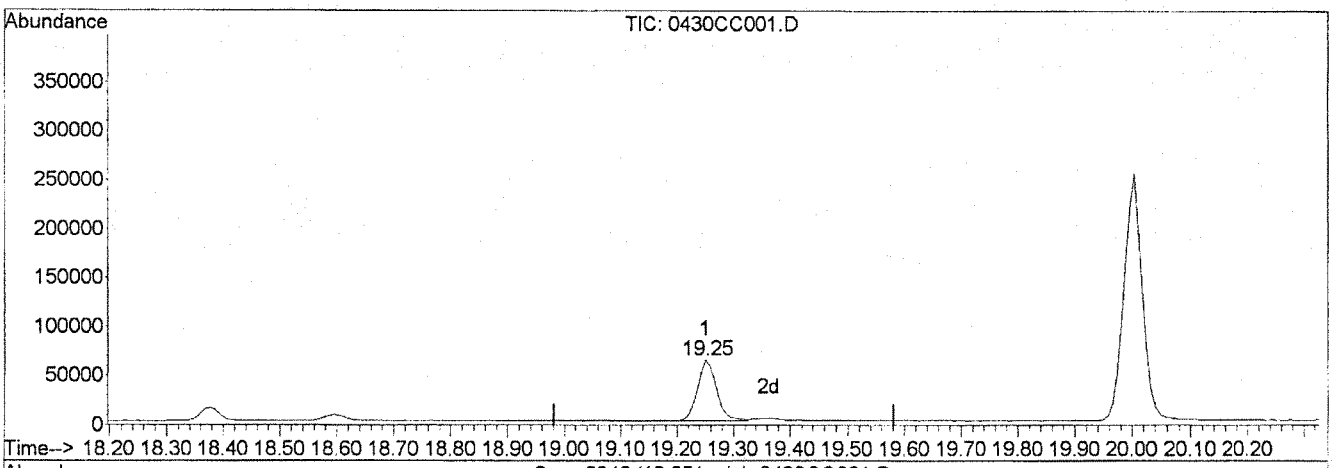
After wrong peak
CS 7/11/12

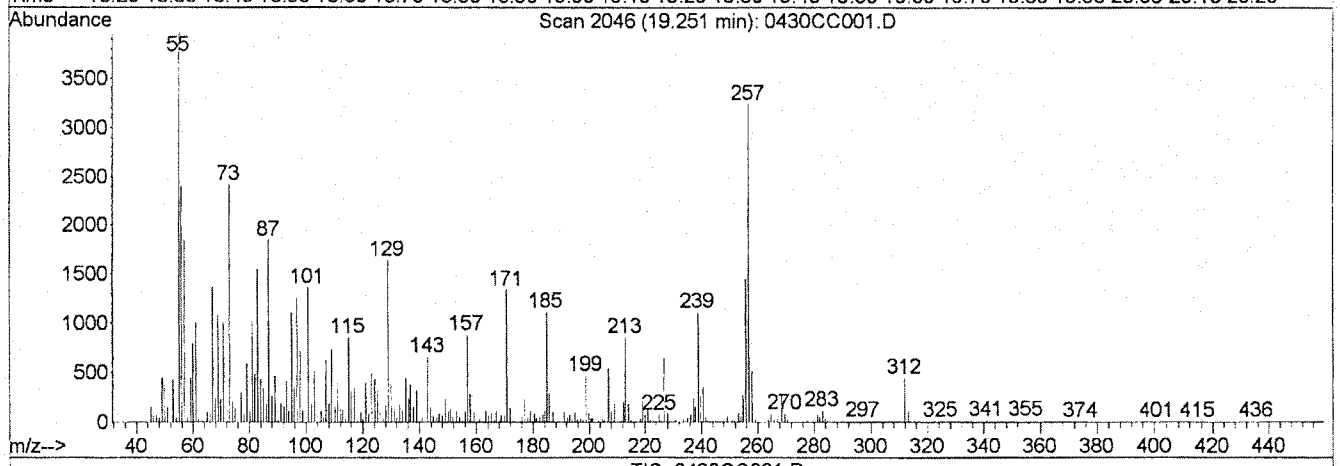
0430CC001.D ENDRIN-DDT_525.M Tue May 01 15:23:56 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC001.D Vial: 0
Acq On : 30-04-2012 15:14 Operator:
Sample : DWSTD5-55A 525.2 IPC Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 15:23 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\ENDRIN-DDT_525.M (RTE Integrator)
Title : Endrin, DDT Degradation Checks
Last Update : Sat Feb 25 16:29:16 2012
Response via : Single Level Calibration





TIC: 0430CC001.D

(11) DDE (L4)

19.25min 0.00ug/L

response 145638

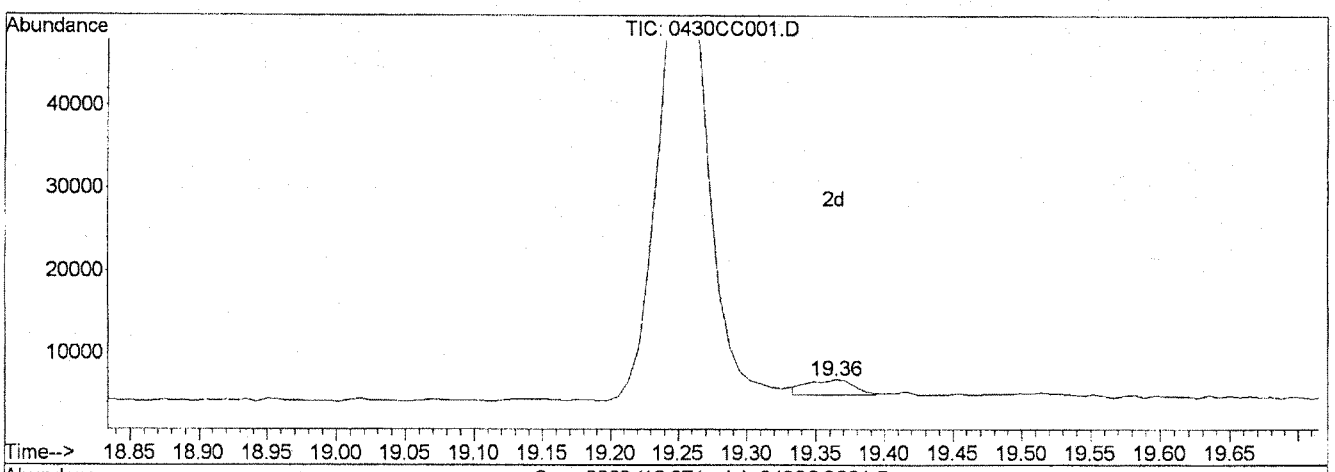
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

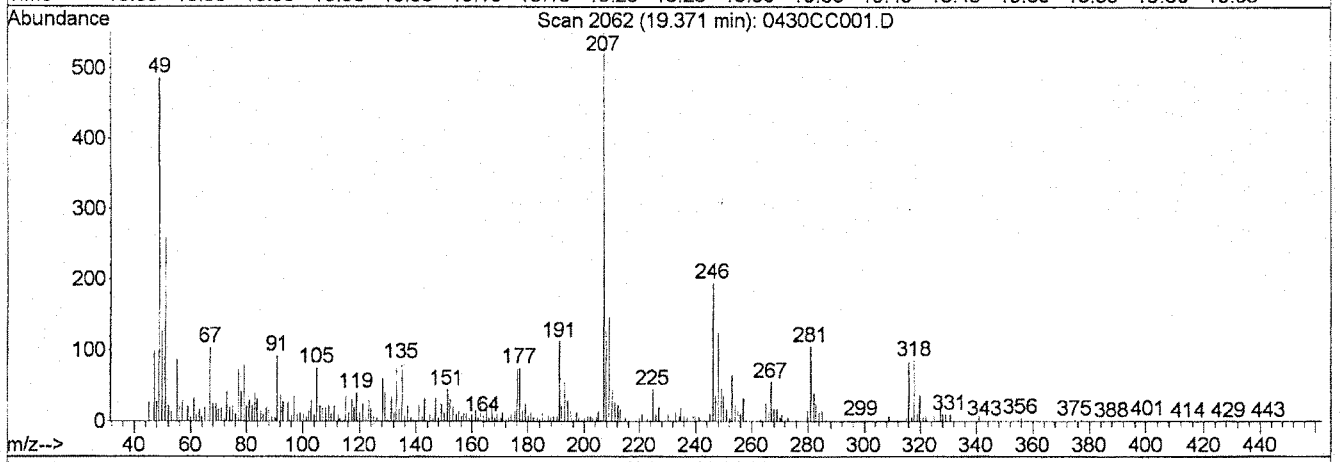
0430CC001.D ENDRIN-DDT_525.M Tue May 01 15:24:01 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC001.D Vial: 0
Acq On : 30-04-2012 15:14 Operator:
Sample : DWSTD5-55A 525.2 IPC Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 15:24 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\ENDRIN-DDT_525.M (RTE Integrator)
Title : Endrin, DDT Degradation Checks
Last Update : Sat Feb 25 16:29:16 2012
Response via : Single Level Calibration





TIC: 0430CC001.D

(11) DDE (L4)

19.36min 0.00ug/L m

response 4433

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

After wrong peak
ce 5/11/12

0430CC001.D ENDRIN-DDT_525.M Tue May 01 15:24:17 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC002.D Vial: 0
Acq On : 30-04-2012 15:55 Operator:
Sample : DWSTD05-54G 525 ICAL 20 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:47 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	713768	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1298952	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1402096	2500.00 ug/L	0.00

System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.19	134	1132	26.97 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 2.70%#		
34) Triphenyl phosphate	22.23	169	486	30.72 ug/L	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 3.07%#		
49) Perylene-d12	28.63	264	3835	32.72 ug/L	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 3.27%#		

Target Compounds					Qvalue
2) Isophorone	6.17	82	1081	26.70 ug/L	94
4) Hexachlorocyclopentadiene	9.29	237	398	30.80 ug/L #	80
5) Dichlobenil	9.41	171	3332	18.19 ug/L	98
6) EPTC	9.53	128	746	26.06 ug/L	87
7) Dimethyl phthalate	10.81	163	5669	16.31 ug/L	90
8) Acenaphthylene	10.81	152	5187	25.44 ug/L	94
9) Acenaphthene	11.25	153	5608	18.46 ug/L	100
10) Diethyl phthalate	12.50	149	5114	25.83 ug/L	98
11) Fluorene	12.45	165	4835	15.97 ug/L	97
12) Propachlor	12.75	120	1782	28.53 ug/L	100
13) Trifluralin	13.48	264	1036	32.72 ug/L	95
15) Hexachlorobenzene	13.93	284	2687	17.52 ug/L	97
16) Atraton	14.03	196	610	31.32 ug/L	94
17) Prometon	14.17	210	913	29.12 ug/L	94
18) Simazine	14.15	201	492	26.36 ug/L #	49
19) Atrazine	14.26	215	387	25.19 ug/L #	78
20) Propazine	14.35	214	1280	25.40 ug/L	97
21) Diazinon	14.82	137	913	26.07 ug/L	88
22) Phenanthrene	14.67	178	9595	18.79 ug/L	99
23) Anthracene	14.77	178	7127	23.68 ug/L	95
25) Acetochlor	15.77	146	1006	61.14 ug/L	88
26) Metribuzin	15.65	198	622	32.90 ug/L	99
27) Alachlor	15.98	160	1527	29.09 ug/L	96
29) Dibutyl phthalate	16.52	149	5543	29.68 ug/L	99
30) Malathion	16.68	173	770	65.62 ug/L #	66
31) Metolachlor	16.83	162	4579	29.41 ug/L	94
32) Cyanazine	16.94	225	540	30.78 ug/L	70
33) Parathion	16.96	291	271	75.84 ug/L	86
36) Fluoranthene	17.88	202	5719	24.33 ug/L	94

(#) = qualifier out of range (m) = manual integration
0430CC002.D 043012_525.M Tue May 01 10:23:39 2012 CC Sullivan Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC002.D Vial: 0
Acq On : 30-04-2012 15:55 Operator:
Sample : DWSTD05-54G 525 ICAL 20 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:47 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

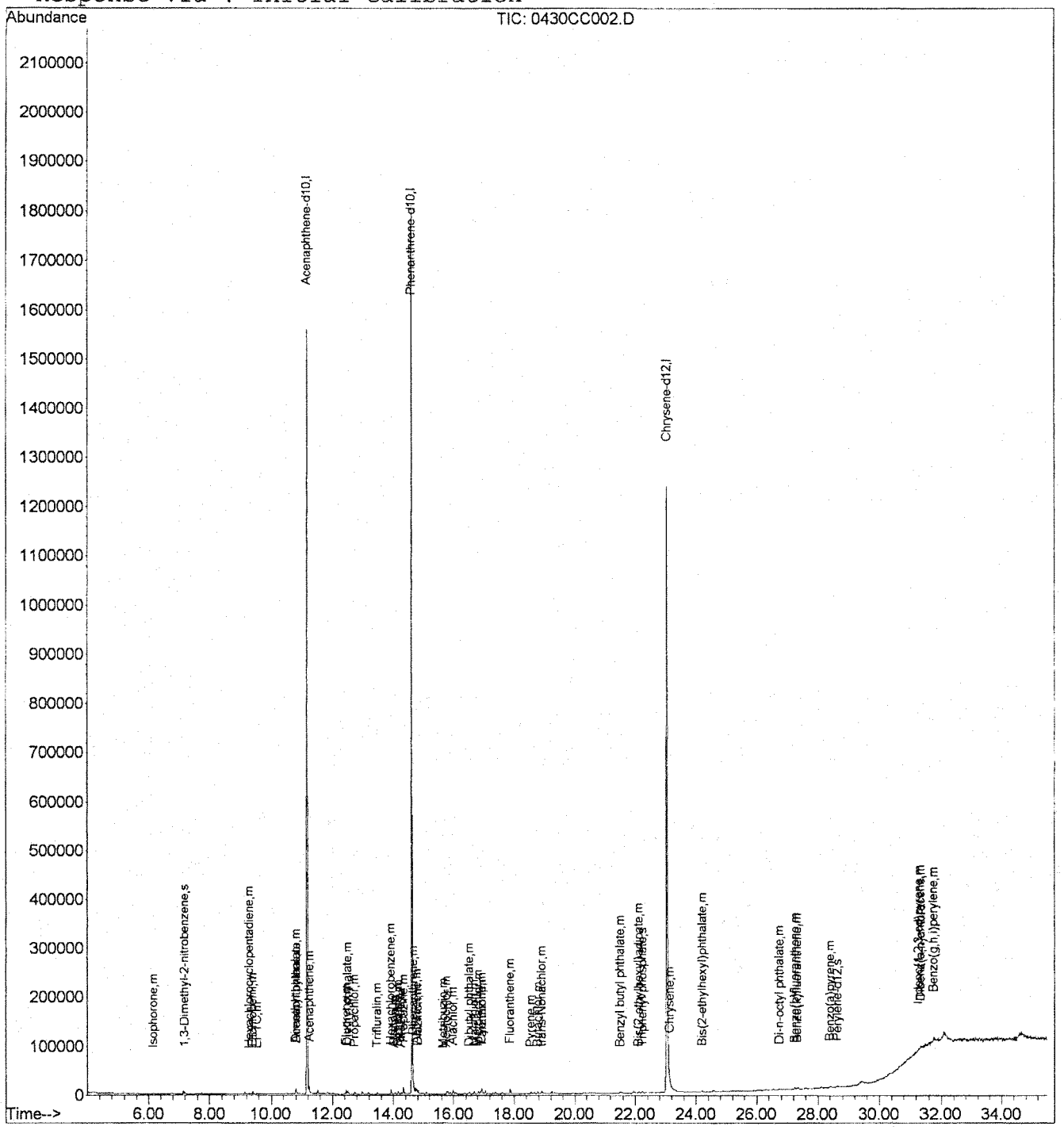
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
37)	Butachlor	18.78	160	1096	32.66 ug/L	95
38)	trans-Nonachlor	18.91	409	542	24.64 ug/L	89
39)	Pyrene	18.55	202	5139	26.84 ug/L	96
40)	Benzyl butyl phthalate	21.52	149	1896	35.89 ug/L	87
41)	Bis(2-ethylhexyl)adipate	22.13	129	799	107.85 ug/L	88
43)	Chrysene	23.14	228	8121	18.30 ug/L	93
44)	Bis(2-ethylhexyl)phthalate	24.20	149	2711	118.56 ug/L	88
45)	Di-n-octyl phthalate	26.75	149	3388	37.18 ug/L	94
46)	Benzo(b)fluoranthene	27.25	252	4342	31.19 ug/L	96
47)	Benzo(k)fluoranthene	27.34	252	4380	30.30 ug/L	87
48)	Benzo(a)pyrene	28.41	252	3805	32.71 ug/L	75
50)	Indeno(1,2,3-cd)pyrene	31.28	276	3259	31.17 ug/L	96
51)	Dibenz(a,h)anthracene	31.36	278	3843	32.43 ug/L	91
52)	Benzo(g,h,i)perylene	31.75	276	4006	28.65 ug/L	97

(#) = qualifier out of range (m) = manual integration
0430CC002.D 043012_525.M Tue May 01 10:23:39 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC002.D Vial: 0
Acq On : 30-04-2012 15:55 Operator:
Sample : DWSTD05-54G 525 ICAL 20 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:03 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC003.D Vial: 0
Acq On : 30-04-2012 16:36 Operator:
Sample : DWSTD05-54H 525 ICAL 50 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:48 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	730903	2500.00	ug/L	0.00
14) Phenanthrene-d10	14.62	188	1271344	2500.00	ug/L	0.00
35) Chrysene-d12	23.05	240	1375106	2500.00	ug/L	0.00

System Monitoring Compounds						
3) 1,3-Dimethyl-2-nitrobenzen	7.19	134	3269	50.64	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 5.06%#			
34) Triphenyl phosphate	22.24	169	1466	47.82	ug/L	0.03
Spiked Amount 1000.000	Range 70 - 130		Recovery = 4.78%#			
49) Perylene-d12	28.63	264	9401	47.42	ug/L	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 4.74%#			

Target Compounds						Qvalue
2) Isophorone	6.17	82	2954	51.29	ug/L	93
4) Hexachlorocyclopentadiene	9.29	237	1203	48.06	ug/L	86
5) Dichlobenil	9.41	171	8622	45.97	ug/L	95
6) EPTC	9.54	128	2123	50.21	ug/L	97
7) Dimethyl phthalate	10.81	163	15050	42.28	ug/L	97
8) Acenaphthylene	10.81	152	12985	46.39	ug/L	100
9) Acenaphthene	11.25	153	14400	46.28	ug/L	95
10) Diethyl phthalate	12.50	149	13168	48.23	ug/L	100
11) Fluorene	12.45	165	12845	41.44	ug/L	97
12) Propachlor	12.74	120	4939	49.00	ug/L	96
13) Trifluralin	13.48	264	2663	49.21	ug/L	93
15) Hexachlorobenzene	13.93	284	7009	46.69	ug/L	96
16) Atraton	14.03	196	1594	47.55	ug/L	97
17) Prometon	14.16	210	2811	47.56	ug/L	100
18) Simazine	14.15	201	1474	48.37	ug/L	82
19) Atrazine	14.26	215	1061	45.90	ug/L	99
20) Propazine	14.35	214	3696	47.34	ug/L	93
21) Diazinon	14.82	137	2486	47.53	ug/L	97
22) Phenanthrene	14.67	178	23511	47.05	ug/L	96
23) Anthracene	14.77	178	18926	49.02	ug/L	92
24) Terbacil	14.96	117	448	50.47	ug/L	91
25) Acetochlor	15.77	146	2599	78.01	ug/L	88
26) Metribuzin	15.66	198	1638	48.38	ug/L	93
27) Alachlor	15.99	160	4390	47.47	ug/L	94
28) Bromacil	16.49	207	1576	48.82	ug/L #	64
29) Dibutyl phthalate	16.53	149	14376	46.21	ug/L	99
30) Malathion	16.69	173	2080	92.33	ug/L #	49
31) Metolachlor	16.83	162	13138	48.12	ug/L	100
32) Cyanazine	16.94	225	1505	44.66	ug/L	96

(#) = qualifier out of range (m) = manual integration
0430CC003.D 043012_525.M Tue May 01 10:23:41 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC003.D Vial: 0
Acq On : 30-04-2012 16:36 Operator:
Sample : DWSTD05-54H 525 ICAL 50 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:48 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.96	291	759	96.09 ug/L #	68
36)	Fluoranthene	17.88	202	15607	47.54 ug/L	97
37)	Butachlor	18.78	160	3132	48.96 ug/L	99
38)	trans-Nonachlor	18.91	409	1575	49.57 ug/L	95
39)	Pyrene	18.56	202	13724	48.06 ug/L	91
40)	Benzyl butyl phthalate	21.53	149	4418	48.59 ug/L	91
41)	Bis(2-ethylhexyl)adipate	22.13	129	2135	117.63 ug/L	94
42)	Benz(a)anthracene	22.99	228	14853	52.29 ug/L	98
43)	Chrysene	23.14	228	20190	46.39 ug/L	93
44)	Bis(2-ethylhexyl)phthalate	24.22	149	6616	131.48 ug/L	94
45)	Di-n-octyl phthalate	26.75	149	8174	50.55 ug/L	99
46)	Benzo(b)fluoranthene	27.24	252	10801	47.10 ug/L	99
47)	Benzo(k)fluoranthene	27.34	252	12289	46.74 ug/L	97
48)	Benzo(a)pyrene	28.41	252	9298	48.23 ug/L	99
50)	Indeno(1,2,3-cd)pyrene	31.28	276	8506	48.68 ug/L	78
51)	Dibenz(a,h)anthracene	31.36	278	9764	47.70 ug/L	99
52)	Benzo(g,h,i)perylene	31.75	276	12095	50.02 ug/L	94

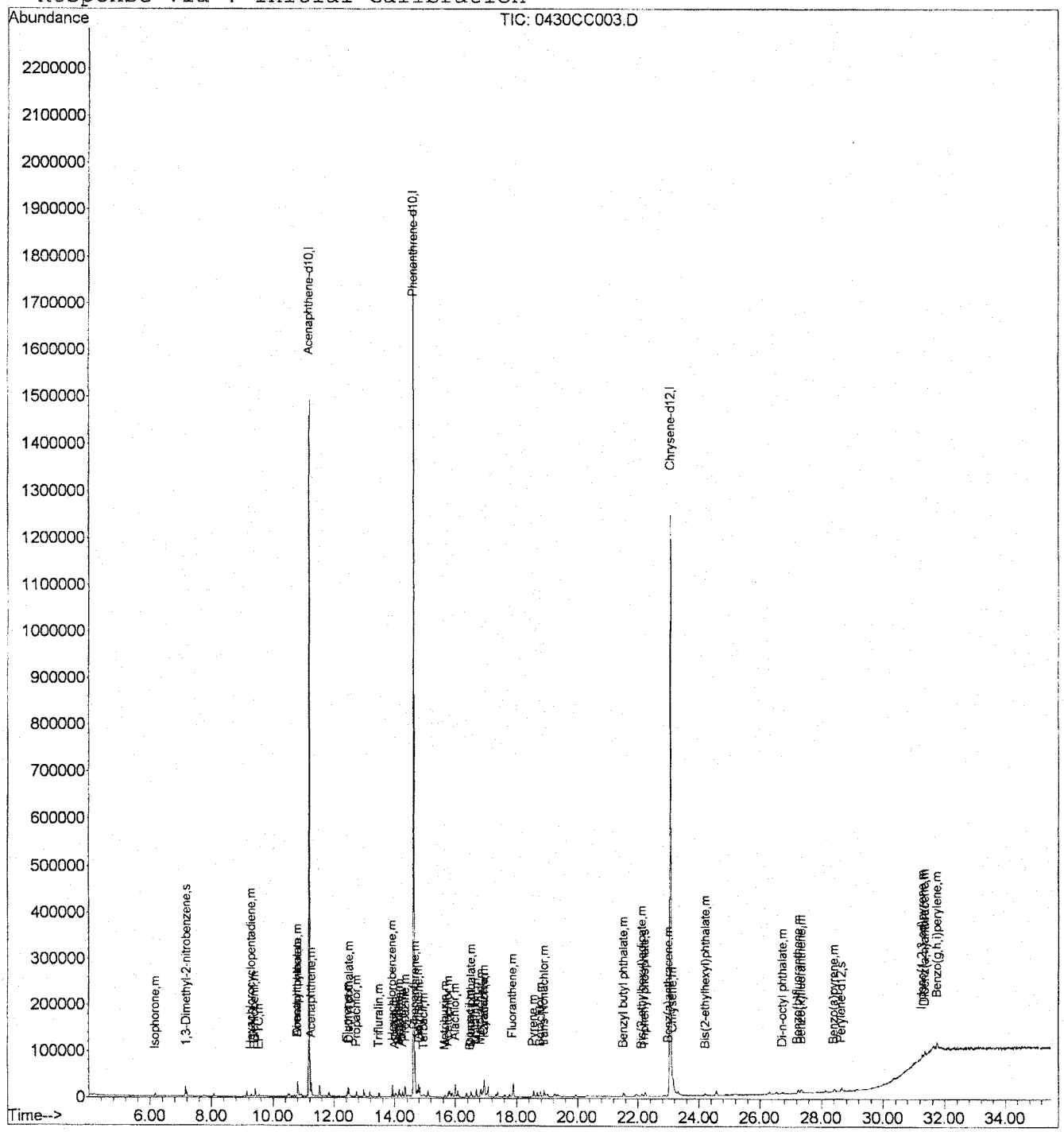
W 5/1/12

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC003.D Vial: 0
Acq On : 30-04-2012 16:36 Operator:
Sample : DWSTD05-54H 525 ICAL 50 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



0430CC003.D 043012_525.M Tue May 01 10:23:42 2012 Page 3

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC004.D Vial: 0
Acq On : 30-04-2012 17:21 Operator:
Sample : DWSTD05-54I 525 ICAL 100 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:49 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	732062	2500.00	ug/L	0.00
14) Phenanthrene-d10	14.62	188	1287861	2500.00	ug/L	0.00
35) Chrysene-d12	23.05	240	1382195	2500.00	ug/L	0.00

System Monitoring Compounds						
3) 1,3-Dimethyl-2-nitrobenzen	7.19	134	6654	88.43	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 8.84%#			
34) Triphenyl phosphate	22.23	169	3099	75.27	ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 7.53%#			
49) Perylene-d12	28.63	264	20652	76.36	ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 7.64%#			

Target Compounds						Qvalue
2) Isophorone	6.17	82	5571	85.92	ug/L	92
4) Hexachlorocyclopentadiene	9.29	237	2860	83.74	ug/L	91
5) Dichlobenil	9.40	171	17359	92.41	ug/L	99
6) EPTC	9.54	128	4233	87.50	ug/L	98
7) Dimethyl phthalate	10.80	163	31311	87.83	ug/L	99
8) Acenaphthylene	10.81	152	29827	92.10	ug/L	98
9) Acenaphthene	11.25	153	29315	94.07	ug/L	100
10) Diethyl phthalate	12.50	149	27444	88.36	ug/L	98
11) Fluorene	12.45	165	26714	86.06	ug/L	98
12) Propachlor	12.74	120	10054	82.42	ug/L	99
13) Trifluralin	13.48	264	5442	77.45	ug/L	91
15) Hexachlorobenzene	13.93	284	14118	92.83	ug/L	91
16) Atraton	14.03	196	3569	78.79	ug/L	96
17) Prometon	14.16	210	6182	79.12	ug/L	91
18) Simazine	14.15	201	3018	81.65	ug/L	94
19) Atrazine	14.26	215	2648	92.91	ug/L	98
20) Propazine	14.35	214	8468	89.11	ug/L	92
21) Diazinon	14.82	137	5419	85.94	ug/L	91
22) Phenanthrene	14.67	178	47787	94.40	ug/L	98
23) Anthracene	14.78	178	39978	92.49	ug/L	97
24) Terbacil	14.96	117	930	65.42	ug/L #	68
25) Acetochlor	15.77	146	5663	109.22	ug/L	96
26) Metribuzin	15.65	198	3630	77.55	ug/L	99
27) Alachlor	15.99	160	9975	82.00	ug/L	95
28) Bromacil	16.49	207	4164	68.46	ug/L #	76
29) Dibutyl phthalate	16.53	149	33257	80.26	ug/L	99
30) Malathion	16.69	173	5068	151.02	ug/L #	69
31) Metolachlor	16.83	162	28292	80.01	ug/L	99
32) Cyanazine	16.93	225	3623	74.32	ug/L	80

(#) = qualifier out of range (m) = manual integration
0430CC004.D 043012_525.M Tue May 01 10:23:43 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC004.D Vial: 0
Acq On : 30-04-2012 17:21 Operator:
Sample : DWSTD05-54I 525 ICAL 100 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:49 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

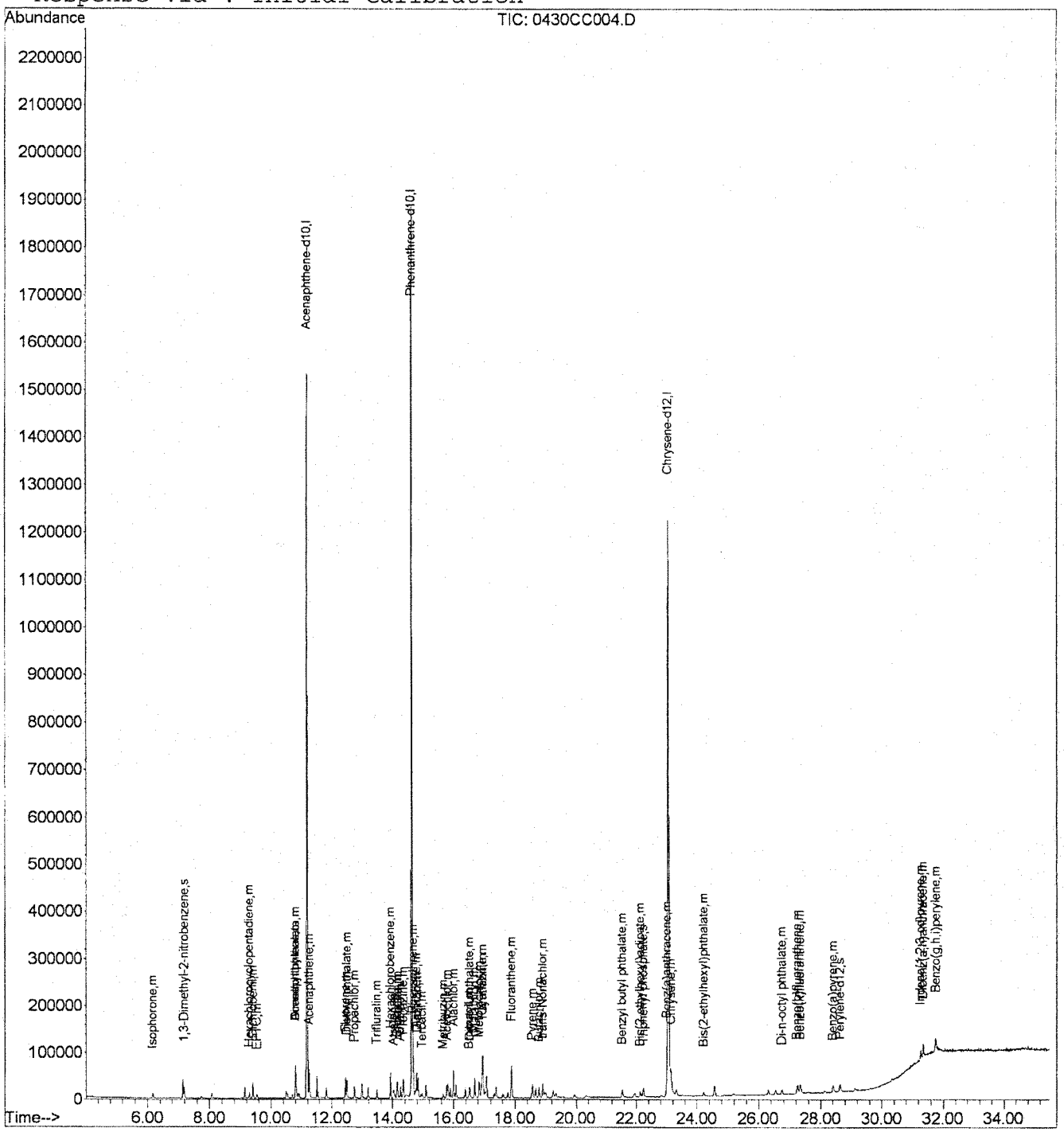
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.96	291	1971	144.44 ug/L #	72
36)	Fluoranthene	17.89	202	35757	93.75 ug/L	97
37)	Butachlor	18.78	160	6187	72.82 ug/L	89
38)	trans-Nonachlor	18.91	409	3343	91.10 ug/L	96
39)	Pyrene	18.56	202	29773	86.84 ug/L	96
40)	Benzyl butyl phthalate	21.53	149	9330	72.65 ug/L	90
41)	Bis(2-ethylhexyl)adipate	22.14	129	4487	134.47 ug/L	95
42)	Benz(a)anthracene	23.00	228	30301	88.74 ug/L	99
43)	Chrysene	23.14	228	40416	92.39 ug/L	95
44)	Bis(2-ethylhexyl)phthalate	24.21	149	12343	149.93 ug/L	96
45)	Di-n-octyl phthalate	26.75	149	17030	74.57 ug/L	100
46)	Benzo(b)fluoranthene	27.24	252	24693	80.46 ug/L	98
47)	Benzo(k)fluoranthene	27.34	252	28209	79.10 ug/L	100
48)	Benzo(a)pyrene	28.40	252	20188	78.16 ug/L	90
50)	Indeno(1,2,3-cd)pyrene	31.28	276	19061	82.97 ug/L	93
51)	Dibenz(a,h)anthracene	31.36	278	22849	80.61 ug/L	83
52)	Benzo(g,h,i)perylene	31.75	276	25970	85.84 ug/L	89

(#) = qualifier out of range (m) = manual integration
0430CC004.D 043012_525.M Tue May 01 10:23:43 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC004.D Vial: 0
Acq On : 30-04-2012 17:21 Operator:
Sample : DWSTD05-54I 525 ICAL 100 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



0430CC004.D 043012_525.M Tue May 01 10:23:44 2012 Page 3

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC005.D Vial: 0
Acq On : 30-04-2012 18:07 Operator:
Sample : DWSTD05-54J 525 ICAL 200 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:50 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	746614	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1344249	2500.00 ug/L	0.00
35) Chrysene-d12	23.04	240	1449460	2500.00 ug/L	0.00

System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	13614	163.08 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 16.31%#		
34) Triphenyl phosphate	22.22	169	8001	152.40 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 15.24%#		
49) Perylene-d12	28.62	264	50334	146.47 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 14.65%#		

Target Compounds					Qvalue
2) Isophorone	6.17	82	11972	167.28 ug/L	98
4) Hexachlorocyclopentadiene	9.28	237	6275	154.12 ug/L	87
5) Dichlobenil	9.40	171	34250	178.77 ug/L	97
6) EPTC	9.53	128	9172	171.36 ug/L	99
7) Dimethyl phthalate	10.79	163	67674	186.14 ug/L	96
8) Acenaphthylene	10.80	152	61339	173.99 ug/L	96
9) Acenaphthene	11.25	153	58728	184.79 ug/L	93
10) Diethyl phthalate	12.49	149	61663	180.93 ug/L	99
11) Fluorene	12.44	165	57159	180.54 ug/L	97
12) Propachlor	12.74	120	22419	160.01 ug/L	91
13) Trifluralin	13.47	264	11802	138.58 ug/L	99
15) Hexachlorobenzene	13.93	284	28668	180.60 ug/L	97
16) Atraton	14.02	196	8060	144.55 ug/L	86
17) Prometon	14.16	210	16049	165.55 ug/L	95
18) Simazine	14.14	201	7635	174.84 ug/L	99
19) Atrazine	14.25	215	5450	169.37 ug/L	85
20) Propazine	14.35	214	18891	173.83 ug/L	91
21) Diazinon	14.82	137	12338	169.94 ug/L	100
22) Phenanthrene	14.67	178	94330	178.53 ug/L	95
23) Anthracene	14.78	178	86006	180.81 ug/L	96
24) Terbacil	14.96	117	2590	114.58 ug/L	96
25) Acetochlor	15.77	146	12940	178.29 ug/L	95
26) Metribuzin	15.65	198	8085	138.09 ug/L	99
27) Alachlor	15.98	160	24658	166.71 ug/L	99
28) Bromacil	16.49	207	9728	108.24 ug/L #	81
29) Dibutyl phthalate	16.52	149	80199	159.38 ug/L	99
30) Malathion	16.68	173	13740	310.32 ug/L	86
31) Metolachlor	16.82	162	66086	154.11 ug/L	99
32) Cyanazine	16.93	225	8565	140.21 ug/L	77

(#) = qualifier out of range (m) = manual integration
0430CC005.D 043012_525.M Tue May 01 10:23:45 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC005.D Vial: 0
Acq On : 30-04-2012 18:07 Operator:
Sample : DWSTD05-54J 525 ICAL 200 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:50 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

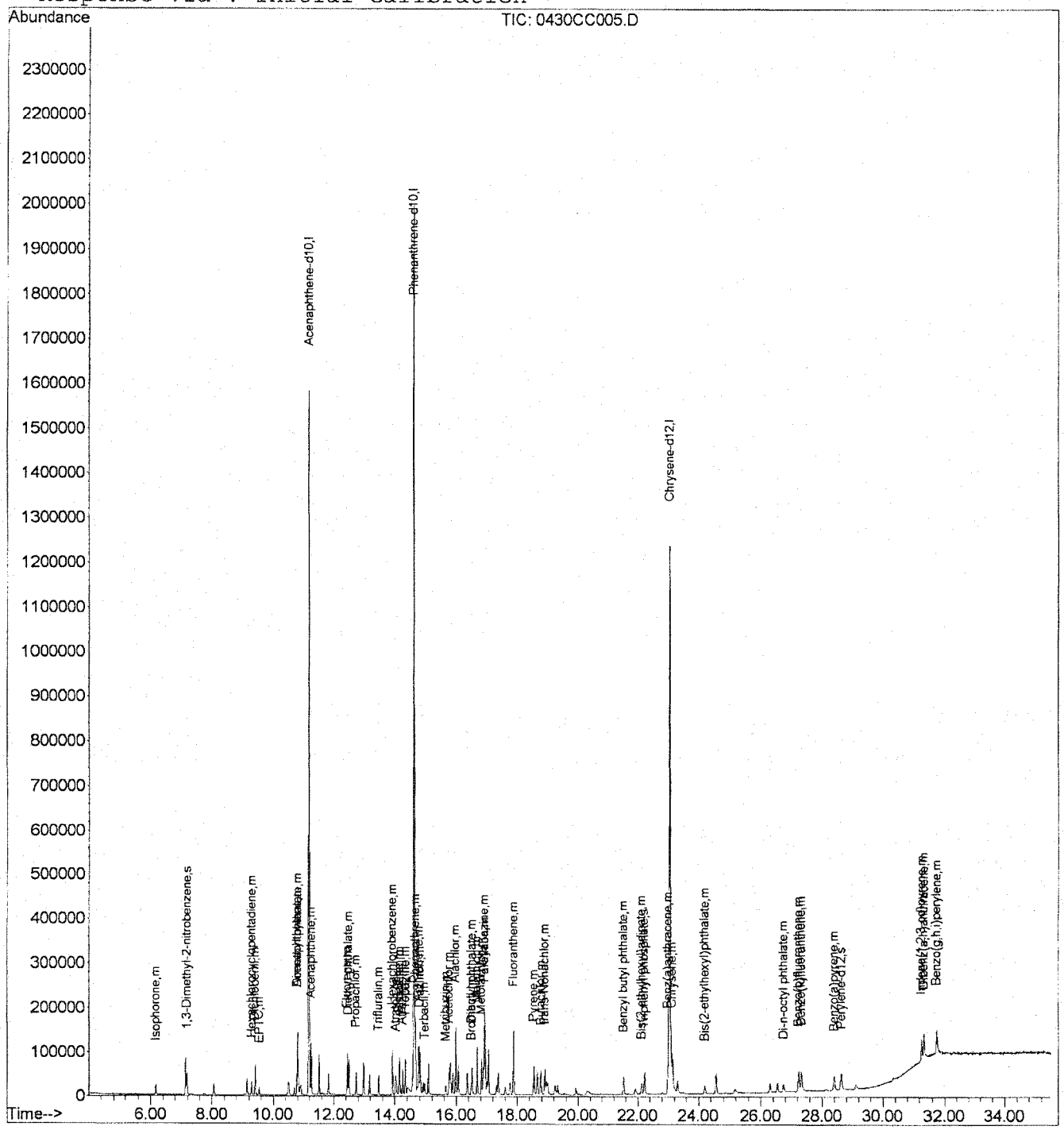
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.95	291	4632	242.27 ug/L #	77
36)	Fluoranthene	17.88	202	78586	183.48 ug/L	95
37)	Butachlor	18.77	160	15569	140.30 ug/L	95
38)	trans-Nonachlor	18.90	409	7165	172.36 ug/L	98
39)	Pyrene	18.55	202	68054	171.86 ug/L	96
40)	Benzyl butyl phthalate	21.52	149	21155	125.70 ug/L	99
41)	Bis(2-ethylhexyl)adipate	22.13	129	10820	176.31 ug/L	95
42)	Benz(a)anthracene	22.99	228	64054	161.31 ug/L	99
43)	Chrysene	23.14	228	80828	176.20 ug/L	100
44)	Bis(2-ethylhexyl)phthalate	24.21	149	25195	187.63 ug/L	98
45)	Di-n-octyl phthalate	26.74	149	36605	122.81 ug/L	96
46)	Benzo(b)fluoranthene	27.23	252	55894	148.95 ug/L	96
47)	Benzo(k)fluoranthene	27.33	252	70629	158.49 ug/L	95
48)	Benzo(a)pyrene	28.39	252	45724	142.18 ug/L	92
50)	Indeno(1,2,3-cd)pyrene	31.27	276	43281	154.67 ug/L	100
51)	Dibenz(a,h)anthracene	31.35	278	53411	150.93 ug/L	90
52)	Benzo(g,h,i)perylene	31.74	276	57681	160.60 ug/L	98

(#) = qualifier out of range (m) = manual integration
0430CC005.D 043012_525.M Tue May 01 10:23:45 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC005.D Vial: 0
Acq On : 30-04-2012 18:07 Operator:
Sample : DWSTD05-54J 525 ICAL 200 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC006.D Vial: 0
Acq On : 30-04-2012 18:52 Operator:
Sample : DWSTD05-54K 525 ICAL 500 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:51 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	665116	2500.00	ug/L	0.00
14) Phenanthrene-d10	14.61	188	1171695	2500.00	ug/L	0.00
35) Chrysene-d12	23.04	240	1272603	2500.00	ug/L	0.00

System Monitoring Compounds						
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	37127	466.80	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 46.68%#			
34) Triphenyl phosphate	22.23	169	25136	481.21	ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 48.12%#			
49) Perylene-d12	28.62	264	164070	470.28	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 47.03%#			

Target Compounds						Qvalue
2) Isophorone	6.16	82	32656	481.18	ug/L	98
4) Hexachlorocyclopentadiene	9.29	237	18812	455.89	ug/L	89
5) Dichlobenil	9.39	171	88943	521.13	ug/L	96
6) EPTC	9.53	128	24630	485.58	ug/L	99
7) Dimethyl phthalate	10.79	163	169391	522.99	ug/L	100
8) Acenaphthylene	10.81	152	171268	513.90	ug/L	98
9) Acenaphthene	11.24	153	147754	521.87	ug/L	100
10) Diethyl phthalate	12.49	149	155380	487.34	ug/L	98
11) Fluorene	12.44	165	147517	523.05	ug/L	99
12) Propachlor	12.73	120	67418	492.43	ug/L	100
13) Trifluralin	13.48	264	42950	466.46	ug/L	96
15) Hexachlorobenzene	13.93	284	71829	519.14	ug/L	93
16) Atraton	14.03	196	27535	487.61	ug/L	99
17) Prometon	14.17	210	46662	495.00	ug/L	92
18) Simazine	14.14	201	21133	512.56	ug/L	81
19) Atrazine	14.26	215	16227	536.76	ug/L	88
20) Propazine	14.35	214	53060	521.41	ug/L	93
21) Diazinon	14.81	137	35928	521.52	ug/L	84
22) Phenanthrene	14.66	178	231649	502.97	ug/L	92
23) Anthracene	14.77	178	220173	509.57	ug/L	98
24) Terbacil	14.97	117	8277	332.59	ug/L	95
25) Acetochlor	15.77	146	38962	485.55	ug/L	94
26) Metribuzin	15.65	198	27360	457.89	ug/L	96
27) Alachlor	15.98	160	69347	486.10	ug/L	93
28) Bromacil	16.50	207	31395	309.73	ug/L	96
29) Dibutyl phthalate	16.52	149	238593	492.43	ug/L	99
30) Malathion	16.68	173	38854	877.89	ug/L #	75
31) Metolachlor	16.83	162	207797	495.60	ug/L	94
32) Cyanazine	16.93	225	26262	458.84	ug/L	72

(#) = qualifier out of range (m) = manual integration
0430CC006.D 043012_525.M Tue May 01 10:23:47 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC006.D Vial: 0
Acq On : 30-04-2012 18:52 Operator:
Sample : DWSTD05-54K 525 ICAL 500 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:51 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

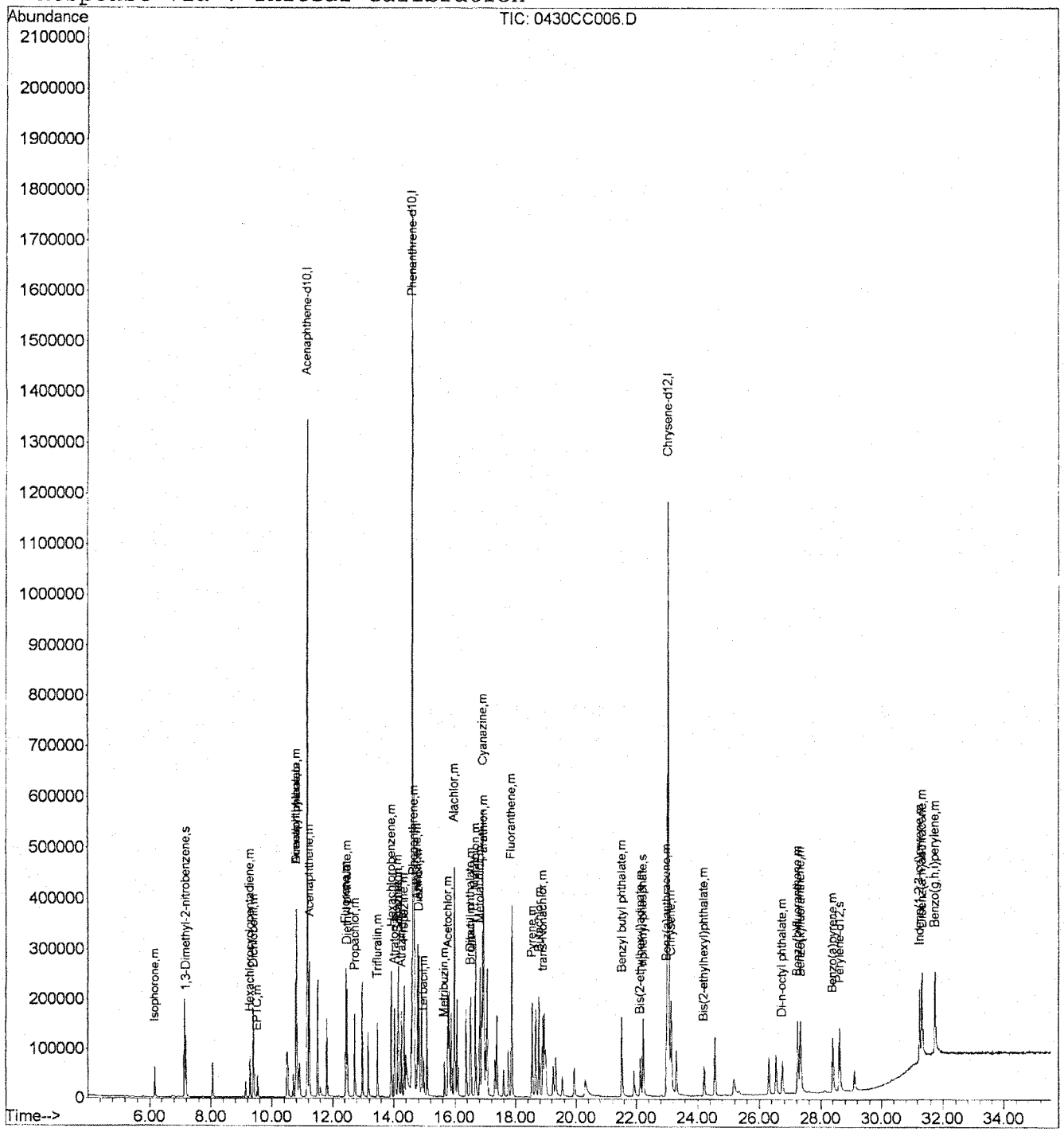
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.96	291	19670	879.12 ug/L	98
36)	Fluoranthene	17.88	202	203321	512.05 ug/L	95
37)	Butachlor	18.77	160	54105	471.44 ug/L	96
38)	trans-Nonachlor	18.90	409	21199	532.35 ug/L	94
39)	Pyrene	18.55	202	185710	499.95 ug/L	99
40)	Benzyl butyl phthalate	21.53	149	77749	431.38 ug/L	97
41)	Bis(2-ethylhexyl)adipate	22.13	129	39328	405.99 ug/L	90
42)	Benz(a)anthracene	22.99	228	185772	486.51 ug/L	99
43)	Chrysene	23.14	228	202441	502.64 ug/L	98
44)	Bis(2-ethylhexyl)phthalate	24.20	149	84180	401.02 ug/L	97
45)	Di-n-octyl phthalate	26.74	149	127345	390.17 ug/L	99
46)	Benzo(b)fluoranthene	27.23	252	183403	488.75 ug/L	96
47)	Benzo(k)fluoranthene	27.33	252	215789	489.98 ug/L	97
48)	Benzo(a)pyrene	28.39	252	150937	458.98 ug/L	89
50)	Indeno(1,2,3-cd)pyrene	31.27	276	122565	440.72 ug/L	94
51)	Dibenz(a,h)anthracene	31.35	278	157655	443.89 ug/L	96
52)	Benzo(g,h,i)perylene	31.74	276	165039	472.59 ug/L	89

(#) = qualifier out of range (m) = manual integration
0430CC006.D 043012_525.M Tue May 01 10:23:47 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC006.D Vial: 0
Acq On : 30-04-2012 18:52 Operator:
Sample : DWSTD05-54K 525 ICAL 500 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



0430CC006.D 043012_525.M Tue May 01 10:23:48 2012 Page 3

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC007.D Vial: 0
Acq On : 30-04-2012 19:37 Operator:
Sample : DWSTD05-54L 525 ICAL 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:52 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	617678	2500.00	ug/L	0.00
14) Phenanthrene-d10	14.61	188	1103889	2500.00	ug/L	0.00
35) Chrysene-d12	23.04	240	1222146	2500.00	ug/L	0.00
System Monitoring Compounds						
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	69629	917.67	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 91.77%			
34) Triphenyl phosphate	22.21	169	50247	967.34	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 96.73%			
49) Perylene-d12	28.62	264	316501	893.32	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 89.33%			

Target Compounds						Qvalue
2) Isophorone	6.16	82	59314	912.97	ug/L	100
4) Hexachlorocyclopentadiene	9.28	237	36966	907.69	ug/L	100
5) Dichlobenil	9.39	171	148107	934.43	ug/L	100
6) EPTC	9.53	128	44854	924.60	ug/L	100
7) Dimethyl phthalate	10.79	163	292901	973.79	ug/L	100
8) Acenaphthylene	10.80	152	301427	945.26	ug/L	100
9) Acenaphthene	11.24	153	254360	967.41	ug/L	100
10) Diethyl phthalate	12.48	149	281412	928.16	ug/L	100
11) Fluorene	12.44	165	258020	985.12	ug/L	91
12) Propachlor	12.73	120	122010	923.39	ug/L	100
13) Trifluralin	13.47	264	87518	914.22	ug/L	100
15) Hexachlorobenzene	13.92	284	130051	997.68	ug/L	100
16) Atraton	14.03	196	53150	936.80	ug/L	100
17) Prometon	14.16	210	87311	939.06	ug/L	100
18) Simazine	14.15	201	38900	964.88	ug/L	100
19) Atrazine	14.25	215	27538	939.16	ug/L	100
20) Propazine	14.35	214	92709	939.13	ug/L	100
21) Diazinon	14.82	137	66830	983.17	ug/L	100
22) Phenanthrene	14.66	178	402207	926.94	ug/L	100
23) Anthracene	14.77	178	389274	938.26	ug/L	100
24) Terbacil	14.98	117	15182	640.60	ug/L	100
25) Acetochlor	15.76	146	75451	928.45	ug/L	100
26) Metribuzin	15.65	198	54678	916.30	ug/L	100
27) Alachlor	15.98	160	124328	888.45	ug/L	100
28) Bromacil	16.51	207	62494	644.20	ug/L	100
29) Dibutyl phthalate	16.52	149	446961	948.69	ug/L	100
30) Malathion	16.68	173	83282	1873.37	ug/L	100
31) Metolachlor	16.82	162	387443	939.43	ug/L	100
32) Cyanazine	16.93	225	50889	1023.86	ug/L	100

(#) = qualifier out of range (m) = manual integration
0430CC007.D 043012_525.M Tue May 01 10:23:49 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC007.D Vial: 0
Acq On : 30-04-2012 19:37 Operator:
Sample : DWSTD05-54L 525 ICAL 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:52 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

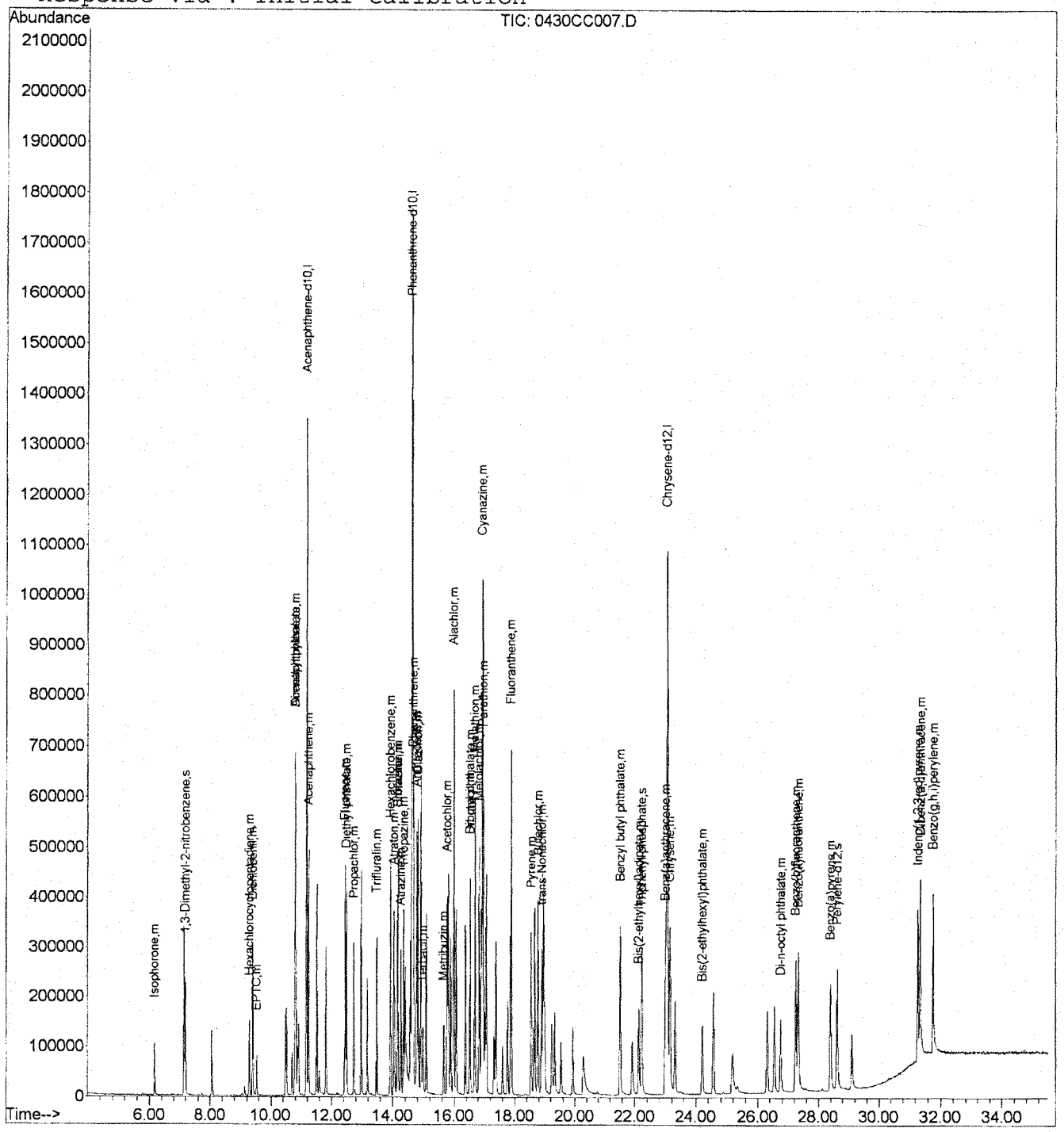
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.96	291	41180	1742.98 ug/L	100
36)	Fluoranthene	17.88	202	360444	920.90 ug/L	100
37)	Butachlor	18.77	160	108749	926.54 ug/L	100
38)	trans-Nonachlor	18.90	409	36111	900.91 ug/L	100
39)	Pyrene	18.54	202	330588	906.16 ug/L	100
40)	Benzyl butyl phthalate	21.52	149	169713	913.28 ug/L	100
41)	Bis(2-ethylhexyl)adipate	22.12	129	92612	833.36 ug/L	100
42)	Benz(a)anthracene	22.99	228	344253	904.62 ug/L	100
43)	Chrysene	23.13	228	357091	923.23 ug/L	100
44)	Bis(2-ethylhexyl)phthalate	24.20	149	197766	801.25 ug/L	100
45)	Di-n-octyl phthalate	26.74	149	305899	878.12 ug/L	99
46)	Benzo(b)fluoranthene	27.23	252	341834	904.27 ug/L	100
47)	Benzo(k)fluoranthene	27.33	252	411077	929.79 ug/L	100
48)	Benzo(a)pyrene	28.38	252	311691	920.45 ug/L	100
50)	Indeno(1,2,3-cd)pyrene	31.27	276	261338	911.63 ug/L	100
51)	Dibenz(a,h)anthracene	31.35	278	321962	888.71 ug/L	92
52)	Benzo(g,h,i)perylene	31.74	276	309344	882.04 ug/L	100

(#) = qualifier out of range (m) = manual integration
0430CC007.D 043012_525.M Tue May 01 10:23:49 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC007.D Vial: 0
Acq On : 30-04-2012 19:37 Operator:
Sample : DWSTD05-54L 525 ICAL 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



0430CC007.D 043012_525.M Tue May 01 10:23:50 2012 Page 3

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC008.D Vial: 0
Acq On : 30-04-2012 20:23 Operator:
Sample : DWSTD05-54M 525 ICAL 2000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:53 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	599702	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1108158	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1200555	2500.00 ug/L	0.00
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	165788	2160.42 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 216.04%#		
34) Triphenyl phosphate	22.23	169	119312	2113.32 ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 211.33%#		
49) Perylene-d12	28.63	264	834318	2158.13 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 215.81%#		

Target Compounds					Qvalue
2) Isophorone	6.16	82	142393	2130.99 ug/L	99
4) Hexachlorocyclopentadiene	9.28	237	92206	2102.94 ug/L	95
5) Dichlobenil	9.40	171	338869	2202.06 ug/L	100
6) EPTC	9.53	128	106721	2147.57 ug/L	98
7) Dimethyl phthalate	10.80	163	657400	2251.12 ug/L	95
8) Acenaphthylene	10.80	152	679526	2073.55 ug/L	98
9) Acenaphthene	11.25	153	541308	2120.48 ug/L	97
10) Diethyl phthalate	12.49	149	643855	2101.75 ug/L	99
11) Fluorene	12.44	165	579830	2280.14 ug/L	94
12) Propachlor	12.73	120	288619	2100.01 ug/L	100
13) Trifluralin	13.47	264	252674	2164.72 ug/L	99
15) Hexachlorobenzene	13.92	284	282929	2162.11 ug/L	97
16) Atraton	14.04	196	134260	2101.06 ug/L	98
17) Prometon	14.17	210	205996	2050.84 ug/L	98
18) Simazine	14.16	201	89214	2072.14 ug/L	88
19) Atrazine	14.27	215	64602	2073.24 ug/L #	71
20) Propazine	14.36	214	218038	2085.74 ug/L	97
21) Diazinon	14.82	137	147360	1999.49 ug/L	97
22) Phenanthrene	14.67	178	885077	2031.93 ug/L	99
23) Anthracene	14.77	178	888405	2063.06 ug/L	96
24) Terbacil	15.00	117	40506	2116.14 ug/L	91
25) Acetochlor	15.77	146	176296	2008.37 ug/L	88
26) Metribuzin	15.66	198	141121	2143.59 ug/L	96
27) Alachlor	15.99	160	319279	2107.57 ug/L	96
28) Bromacil	16.54	207	167963	2192.21 ug/L	95
29) Dibutyl phthalate	16.53	149	1034719	2100.56 ug/L	100
30) Malathion	16.69	173	211858	4334.40 ug/L	95
31) Metolachlor	16.83	162	949709	2132.23 ug/L	97
32) Cyanazine	16.95	225	123269	Below Cal	98

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC008.D Vial: 0
Acq On : 30-04-2012 20:23 Operator:
Sample : DWSTD05-54M 525 ICAL 2000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:53 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

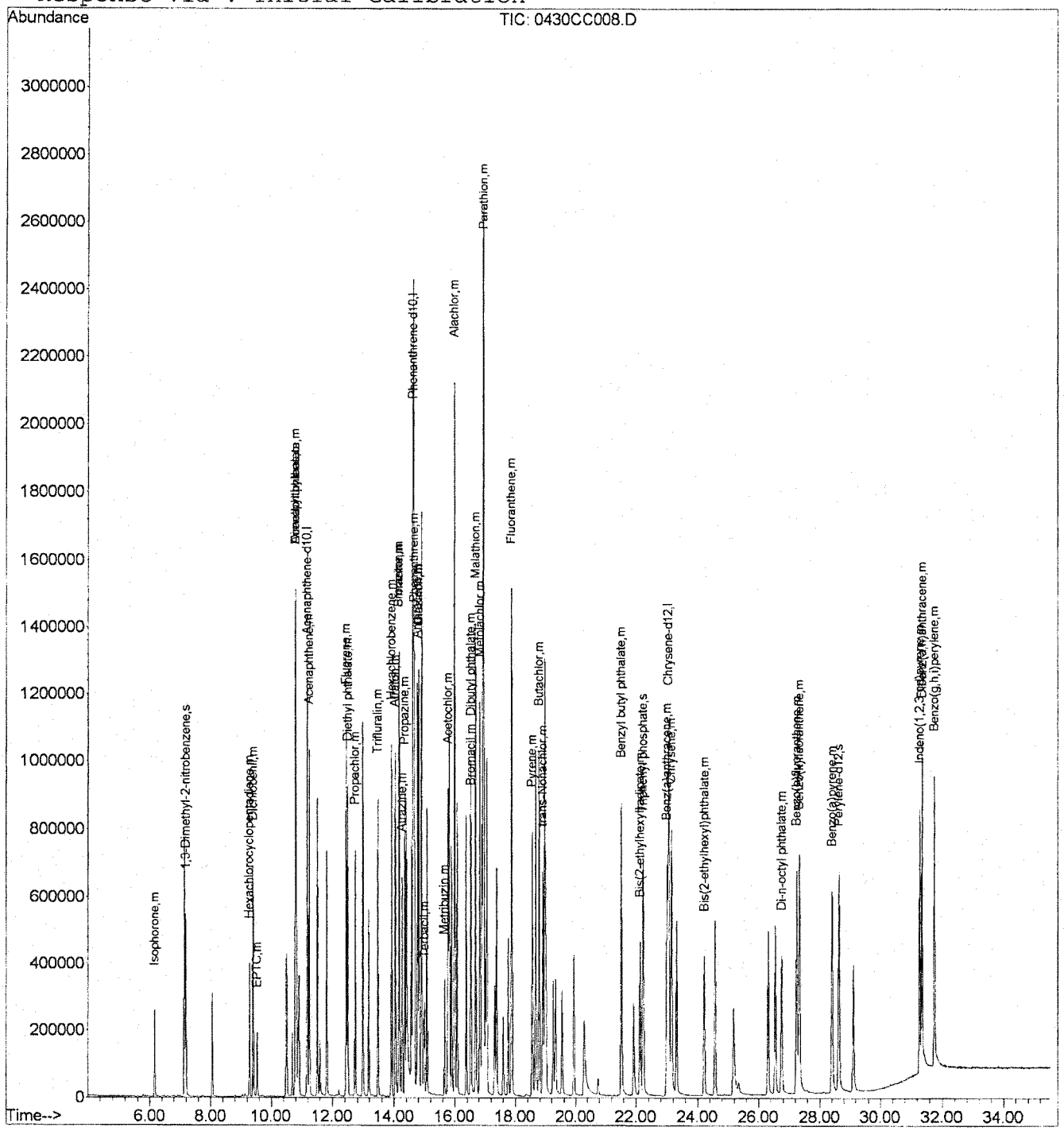
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.96	291	121839	4172.84 ug/L	80
36)	Fluoranthene	17.88	202	829315	2051.55 ug/L	100
37)	Butachlor	18.78	160	282658	2193.87 ug/L	99
38)	trans-Nonachlor	18.90	409	92949	2092.51 ug/L	90
39)	Pyrene	18.55	202	771943	2079.85 ug/L	100
40)	Benzyl butyl phthalate	21.53	149	439344	2162.66 ug/L	96
41)	Bis(2-ethylhexyl)adipate	22.12	129	258298	2072.45 ug/L	85
42)	Benz(a)anthracene	22.99	228	851644	2126.51 ug/L	96
43)	Chrysene	23.15	228	831293	2187.89 ug/L	99
44)	Bis(2-ethylhexyl)phthalate	24.21	149	586552	2025.55 ug/L	98
45)	Di-n-octyl phthalate	26.74	149	893666	2195.80 ug/L	98
46)	Benzo(b)fluoranthene	27.24	252	858761	2114.29 ug/L	96
47)	Benzo(k)fluoranthene	27.34	252	979488	2099.45 ug/L	99
48)	Benzo(a)pyrene	28.39	252	796440	2120.94 ug/L	97
50)	Indeno(1,2,3-cd)pyrene	31.27	276	676355	2125.24 ug/L	97
51)	Dibenz(a,h)anthracene	31.35	278	844036	2137.84 ug/L	98
52)	Benzo(g,h,i)perylene	31.74	276	805335	2139.28 ug/L	94

(#) = qualifier out of range (m) = manual integration
0430CC008.D 043012_525.M Tue May 01 10:23:52 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC008.D Vial: 0
Acq On : 30-04-2012 20:23 Operator:
Sample : DWSTD05-54M 525 ICAL 2000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC009.D Vial: 0
Acq On : 30-04-2012 21:08 Operator:
Sample : DWSTD05-54N 525 ICAL 4000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:54 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	611963	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1146444	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1255466	2500.00 ug/L	0.01
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	334001	4057.24 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 405.72%#		
34) Triphenyl phosphate	22.23	169	259552	3997.62 ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 399.76%#		
49) Perylene-d12	28.63	264	1895678	4117.60 ug/L	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 411.76%#		

Target Compounds					Qvalue
2) Isophorone	6.16	82	300149	4072.85 ug/L	100
4) Hexachlorocyclopentadiene	9.28	237	215190	4168.48 ug/L	87
5) Dichlobenil	9.40	171	712475	4537.08 ug/L	99
6) EPTC	9.53	128	217522	4005.22 ug/L	90
7) Dimethyl phthalate	10.80	163	1400654	4700.13 ug/L	97
8) Acenaphthylene	10.81	152	1463556	4022.95 ug/L	98
9) Acenaphthene	11.25	153	1178205	4522.93 ug/L	94
10) Diethyl phthalate	12.49	149	1343300	4064.38 ug/L	99
11) Fluorene	12.44	165	1260289	4856.70 ug/L	99
12) Propachlor	12.73	120	631741	4091.94 ug/L	95
13) Trifluralin	13.47	264	614228	4001.40 ug/L	97
15) Hexachlorobenzene	13.93	284	551487	4073.66 ug/L	96
16) Atraton	14.06	196	315715	4079.16 ug/L	100
17) Prometon	14.18	210	480239	4136.24 ug/L	98
18) Simazine	14.18	201	194938	4000.46 ug/L	90
19) Atrazine	14.28	215	139667	3995.65 ug/L	87
20) Propazine	14.37	214	466298	4002.76 ug/L	95
21) Diazinon	14.83	137	353593	4064.93 ug/L	97
22) Phenanthrene	14.67	178	1982289	4398.89 ug/L	100
23) Anthracene	14.78	178	1898027	4052.31 ug/L	97
24) Terbacil	15.04	117	86385	Below Cal	100
25) Acetochlor	15.78	146	400064	4033.35 ug/L	99
26) Metribuzin	15.67	198	317731	4130.32 ug/L	91
27) Alachlor	15.99	160	719143	4147.08 ug/L	98
28) Bromacil	16.58	207	347463	Below Cal	90
29) Dibutyl phthalate	16.53	149	2190001	4076.88 ug/L	98
30) Malathion	16.70	173	460350	8139.87 ug/L	87
31) Metolachlor	16.84	162	2033433	4017.05 ug/L	99
32) Cyanazine	16.96	225	293751m	Below Cal	

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC009.D Vial: 0
Acq On : 30-04-2012 21:08 Operator:
Sample : DWSTD05-54N 525 ICAL 4000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:54 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

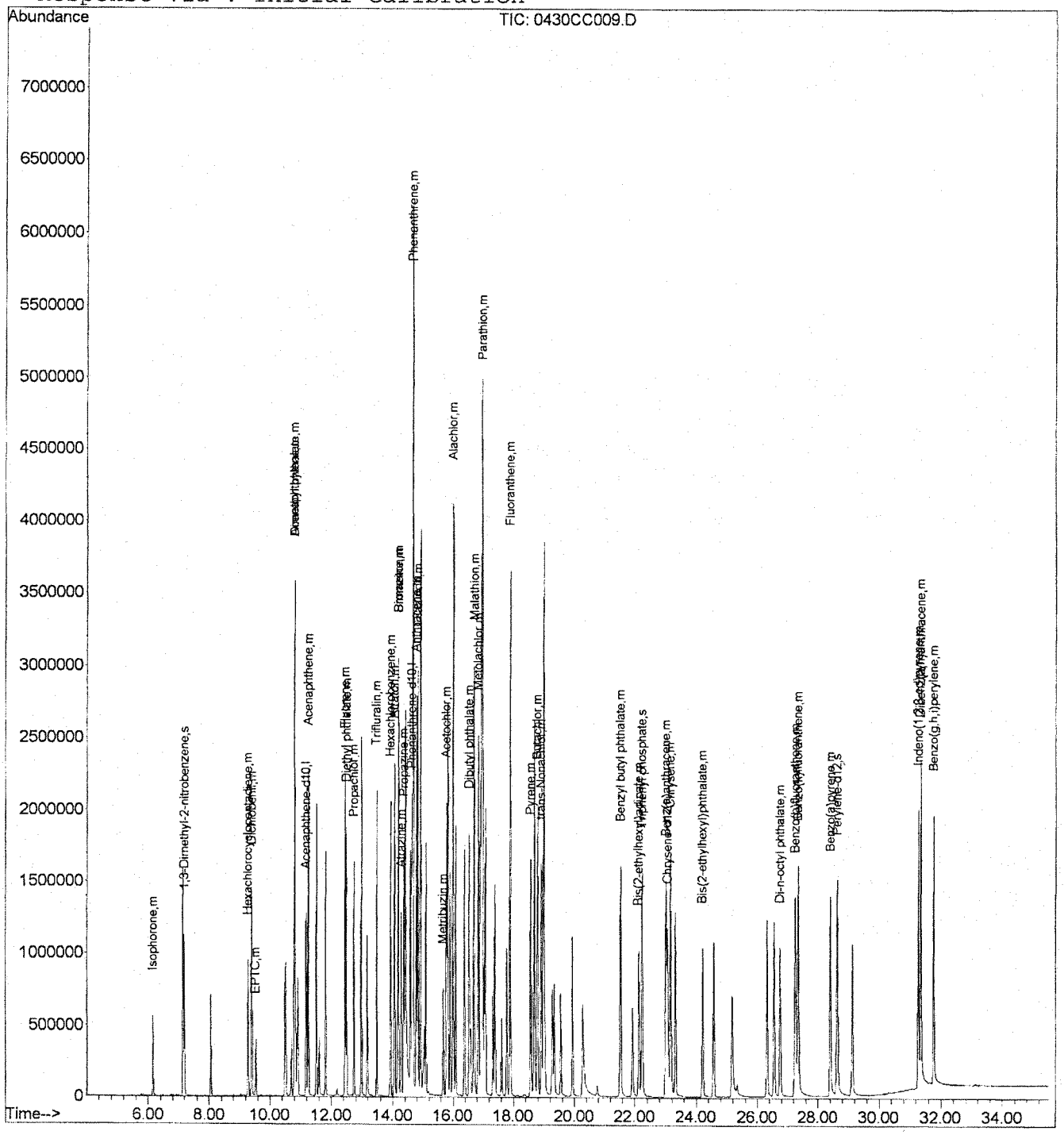
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.98	291	334587	8459.97 ug/L	97
36)	Fluoranthene	17.89	202	1868991	4095.55 ug/L	99
37)	Butachlor	18.79	160	613545	4007.46 ug/L	98
38)	trans-Nonachlor	18.90	409	220106	4027.02 ug/L	92
39)	Pyrene	18.56	202	1683546	4137.23 ug/L	100
40)	Benzyl butyl phthalate	21.53	149	1012315	4164.24 ug/L	97
41)	Bis(2-ethylhexyl)adipate	22.13	129	584813	4047.68 ug/L	88
42)	Benz(a)anthracene	23.00	228	1878576	4095.81 ug/L	96
43)	Chrysene	23.15	228	1806372	4546.28 ug/L	98
44)	Bis(2-ethylhexyl)phthalate	24.21	149	1444265	4074.58 ug/L	95
45)	Di-n-octyl phthalate	26.74	149	2170874	4175.37 ug/L	98
46)	Benzo(b)fluoranthene	27.25	252	1982488	4137.09 ug/L	99
47)	Benzo(k)fluoranthene	27.35	252	2203746	4096.69 ug/L	99
48)	Benzo(a)pyrene	28.40	252	1909266	4132.66 ug/L	96
50)	Indeno(1,2,3-cd)pyrene	31.28	276	1623631	4142.93 ug/L	82
51)	Dibenz(a,h)anthracene	31.35	278	1980942	4189.71 ug/L	100
52)	Benzo(g,h,i)perylene	31.75	276	1824898	4134.64 ug/L	95

(#) = qualifier out of range (m) = manual integration
0430CC009.D 043012_525.M Tue May 01 10:23:54 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC009.D Vial: 0
Acq On : 30-04-2012 21:08 Operator:
Sample : DWSTD05-54N 525 ICAL 4000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:08 2012 Quant Results File: 043012_525.R

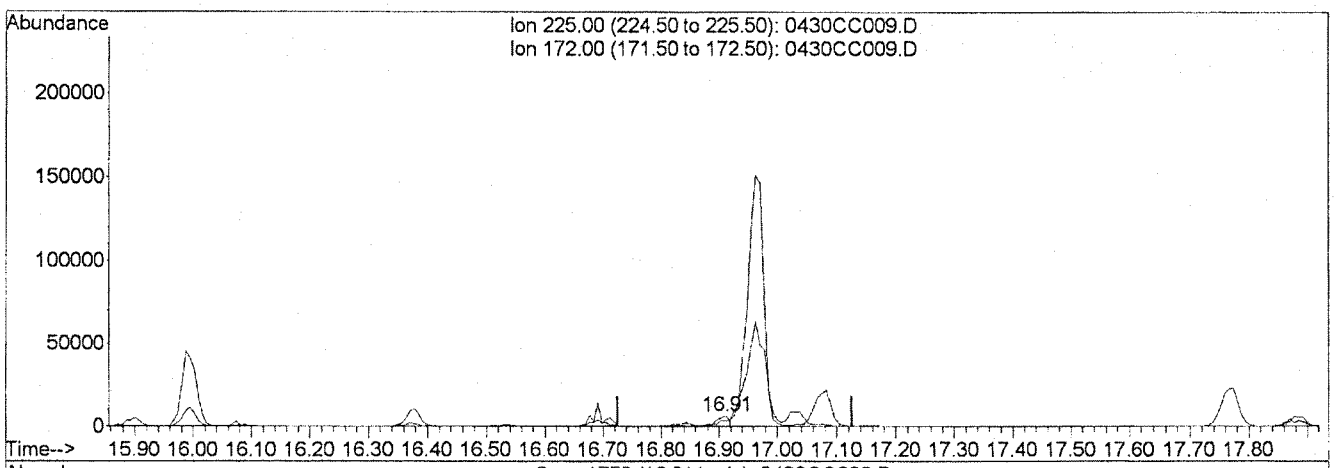
Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration

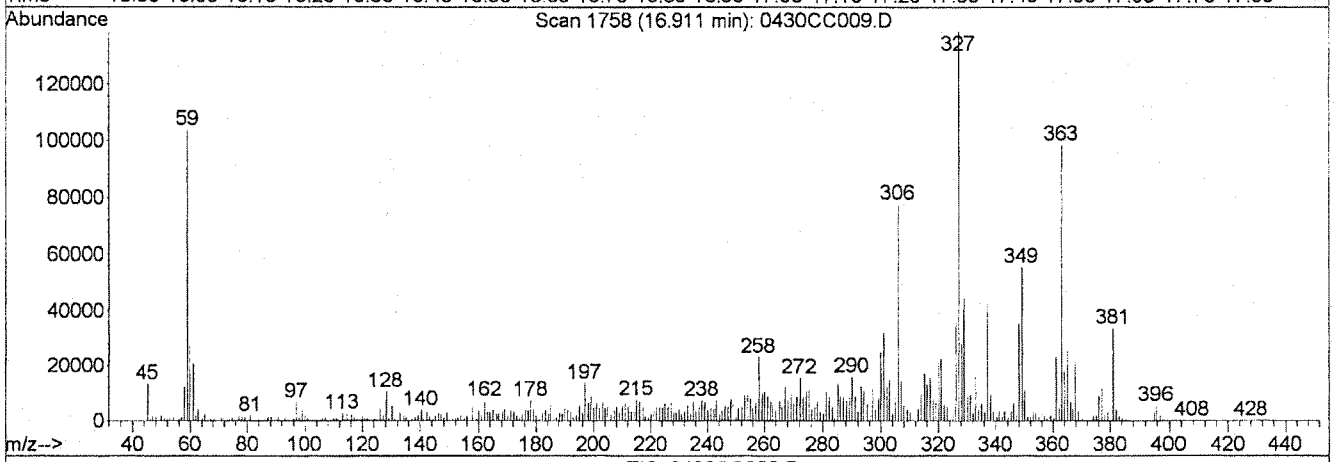


Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC009.D Vial: 0
Acq On : 30-04-2012 21:08 Operator:
Sample : DWSTD05-54N 525 ICAL 4000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





(32) Cyanazine (m)

16.91min 177.98ug/L

response 9601

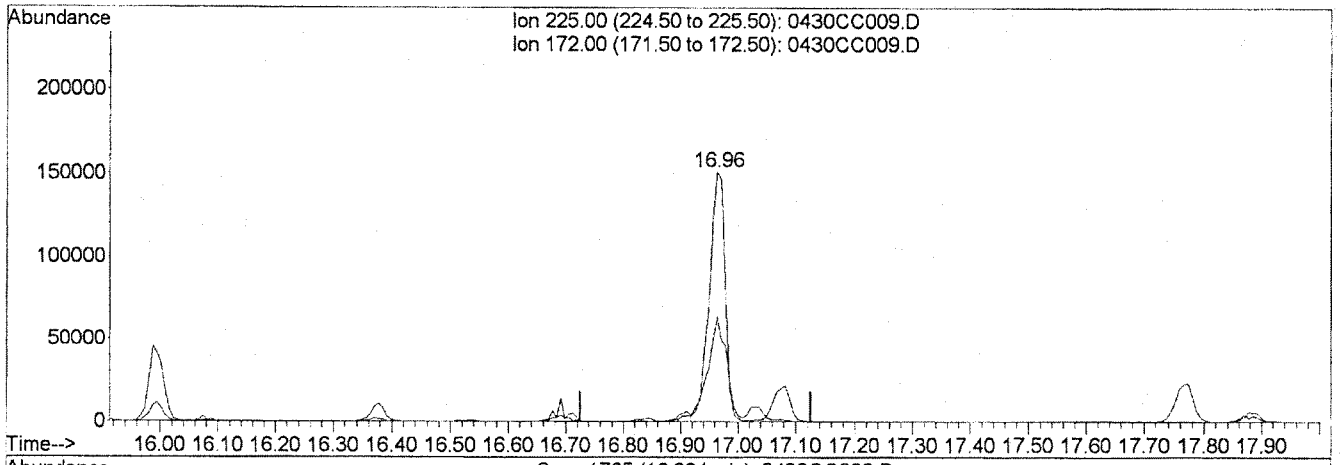
Ion	Exp%	Act%
225.00	100	100
172.00	42.70	52.29
0.00	0.00	0.00
0.00	0.00	0.00

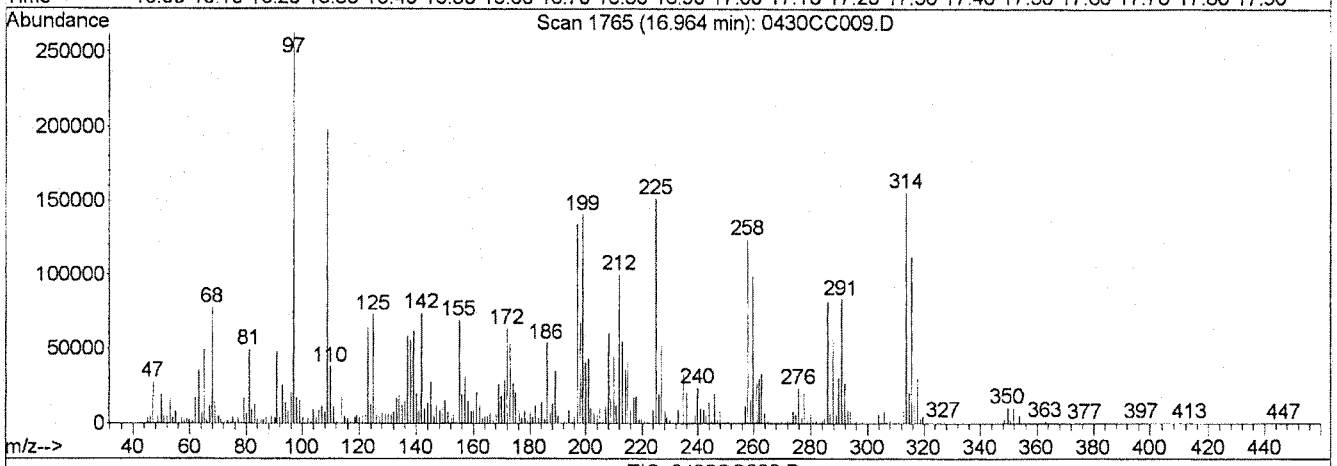
0430CC009.D 043012_525.M Tue May 01 10:08:09 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC009.D Vial: 0
Acq On : 30-04-2012 21:08 Operator:
Sample : DWSTD05-54N 525 ICAL 4000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:08 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC009.D

(32) Cyanazine (m)

16.96min -2500.00ug/L m

response 293751

Ion	Exp%	Act%
225.00	100	100
172.00	42.70	42.00
0.00	0.00	0.00
0.00	0.00	0.00

Mg/2/12 After wrong peak [illegible]

0430CC009.D 043012_525.M Tue May 01 10:08:20 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:55 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	600222	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1097114	2500.00 ug/L	0.00
35) Chrysene-d12	23.06	240	1227480	2500.00 ug/L	0.02
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	501414	5933.93 ug/L	0.00
Spiked Amount 1000.000 Range 70 - 130 Recovery = 593.39%#					
34) Triphenyl phosphate	22.25	169	407630	5955.37 ug/L	0.03
Spiked Amount 1000.000 Range 70 - 130 Recovery = 595.54%#					
49) Perylene-d12	28.65	264	2957170	5919.51 ug/L	0.04
Spiked Amount 1000.000 Range 70 - 130 Recovery = 591.95%#					

Target Compounds					Qvalue
2) Isophorone	6.16	82	459171	5935.31 ug/L	99
4) Hexachlorocyclopentadiene	9.28	237	331048	5894.11 ug/L	93
5) Dichlobenil	9.40	171	1056432	6859.02 ug/L	99
6) EPTC	9.54	128	339727	5968.94 ug/L	96
7) Dimethyl phthalate	10.80	163	2126509	7275.45 ug/L	94
8) Acenaphthylene	10.81	152	2301118	5974.22 ug/L	100
9) Acenaphthene	11.25	153	1672161	6544.71 ug/L	98
10) Diethyl phthalate	12.49	149	2023864	5943.46 ug/L	95
11) Fluorene	12.45	165	1877415	7376.41 ug/L	100
12) Propachlor	12.74	120	972428	5931.36 ug/L	99
13) Trifluralin	13.48	264	1115513	5977.80 ug/L	95
15) Hexachlorobenzene	13.93	284	951347	7343.27 ug/L	95
16) Atraton	14.07	196	499631	5942.23 ug/L	97
17) Prometon	14.20	210	714841	5916.68 ug/L	97
18) Simazine	14.20	201	303256	5985.78 ug/L	87
19) Atrazine	14.30	215	216156	5989.69 ug/L	83
20) Propazine	14.37	214	715074	5982.85 ug/L	95
21) Diazinon	14.83	137	552107	5964.84 ug/L	95
22) Phenanthrene	14.68	178	3194237	7407.04 ug/L	92
23) Anthracene	14.78	178	2792532	5958.42 ug/L	99
24) Terbacil	15.07	117	131632m	Below Cal	
25) Acetochlor	15.78	146	610652	5987.60 ug/L	99
26) Metribuzin	15.68	198	478113	5904.23 ug/L	94
27) Alachlor	16.00	160	1058519	5902.15 ug/L	90
28) Bromacil	16.62	207	534480m	Below Cal	
29) Dibutyl phthalate	16.54	149	3189354	5933.07 ug/L	99
30) Malathion	16.71	173	706805	11862.54 ug/L	85
31) Metolachlor	16.84	162	3150204	5964.41 ug/L	94
32) Cyanazine	16.99	225	451449m	Below Cal	

(#) = qualifier out of range (m) = manual integration
0430CC010.D 043012_525.M Tue May 01 10:23:55 2012 Page 1

5/11/12

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-540 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:55 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

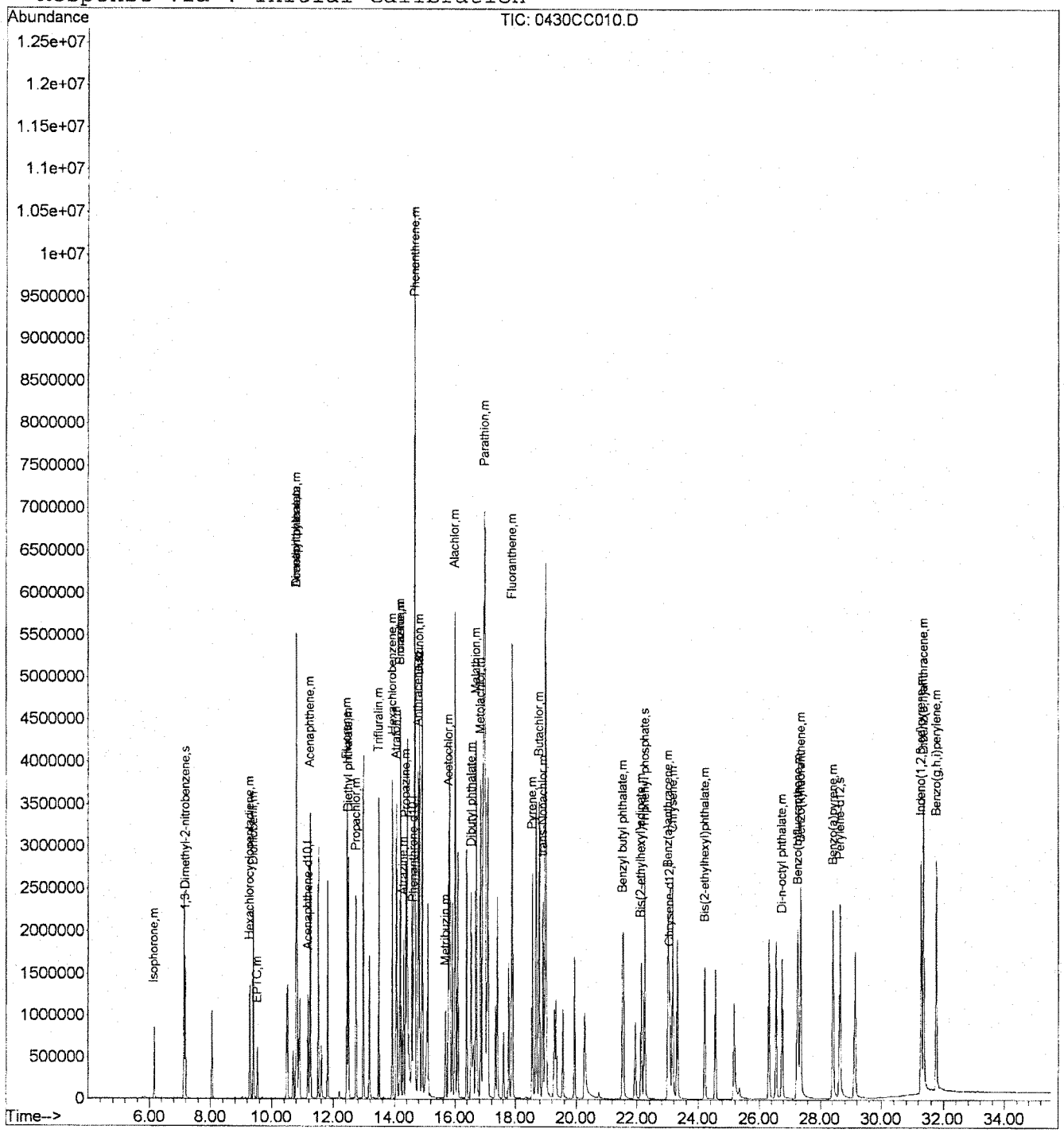
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.99	291	524464	11751.30 ug/L	84
36)	Fluoranthene	17.90	202	2824576	5943.20 ug/L	92
37)	Butachlor	18.79	160	1007300	5969.66 ug/L	97
38)	trans-Nonachlor	18.91	409	367783	5982.10 ug/L	89
39)	Pyrene	18.56	202	2441768	5912.23 ug/L	99
40)	Benzyl butyl phthalate	21.54	149	1546147	5882.59 ug/L	96
41)	Bis(2-ethylhexyl)adipate	22.13	129	915730	5987.23 ug/L	90
42)	Benz(a)anthracene	23.02	228	2871911	5934.17 ug/L	98
43)	Chrysene	23.16	228	2766527	7121.55 ug/L	94
44)	Bis(2-ethylhexyl)phthalate	24.21	149	2317886	5964.35 ug/L	95
45)	Di-n-octyl phthalate	26.75	149	3458004	5889.61 ug/L	100
46)	Benzo(b)fluoranthene	27.27	252	3042478	5915.47 ug/L	96
47)	Benzo(k)fluoranthene	27.37	252	3379032	5931.99 ug/L	99
48)	Benzo(a)pyrene	28.42	252	3014813	5905.63 ug/L	95
50)	Indeno(1,2,3-cd)pyrene	31.28	276	2561899	5914.18 ug/L	99
51)	Dibenz(a,h)anthracene	31.36	278	2999473	5884.51 ug/L	98
52)	Benzo(g,h,i)perylene	31.76	276	2792490	5912.72 ug/L	94

(#) = qualifier out of range (m) = manual integration
0430CC010.D 043012_525.M Tue May 01 10:23:56 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:09 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration

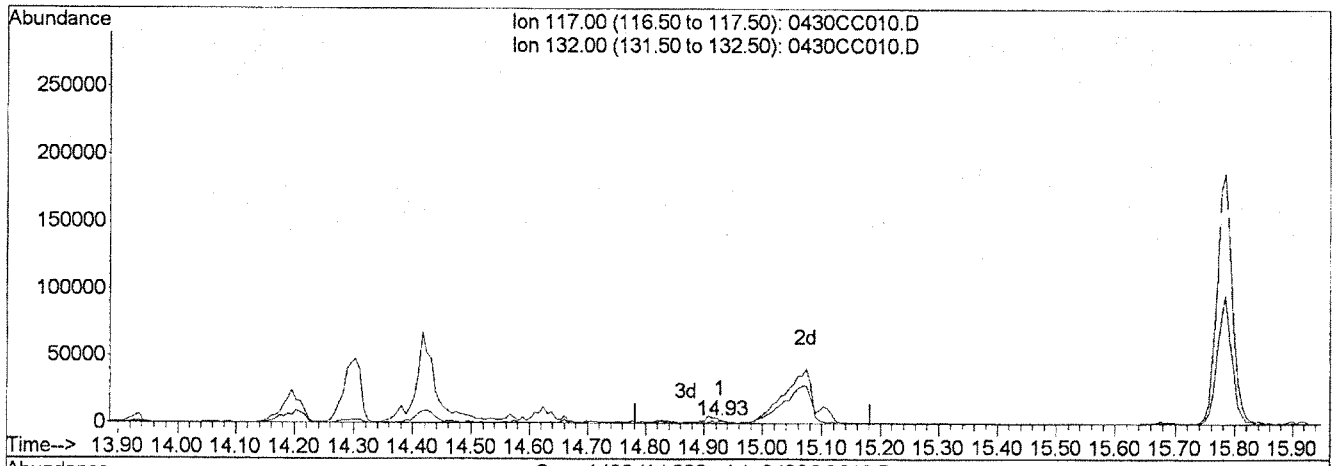


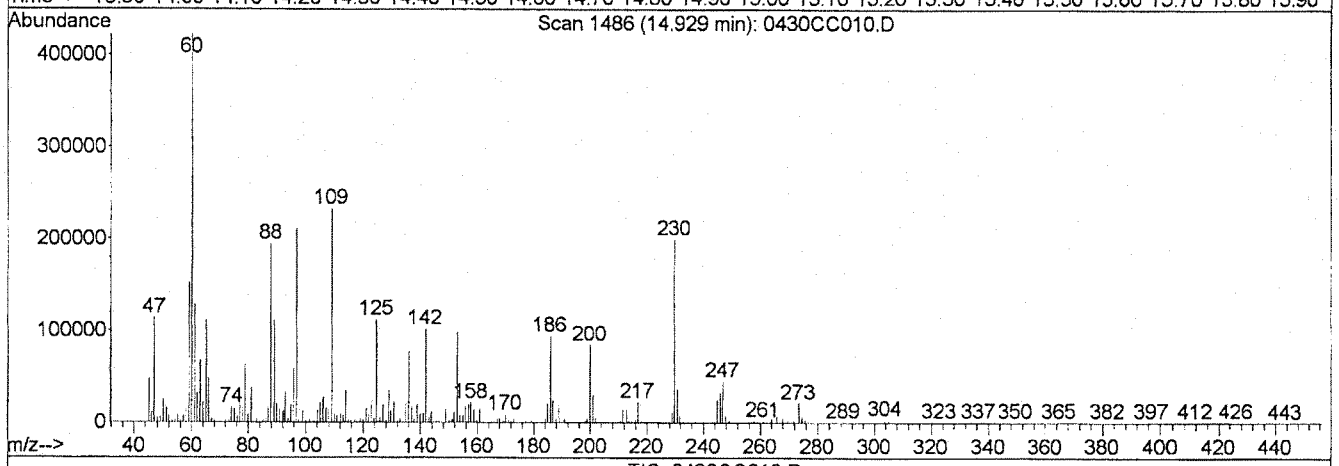
0430CC010.D 043012_525.M Tue May 01 10:23:56 2012 Page 3

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC010.D

(24) Terbacil (m)

14.93min 171.35ug/L

response 3617

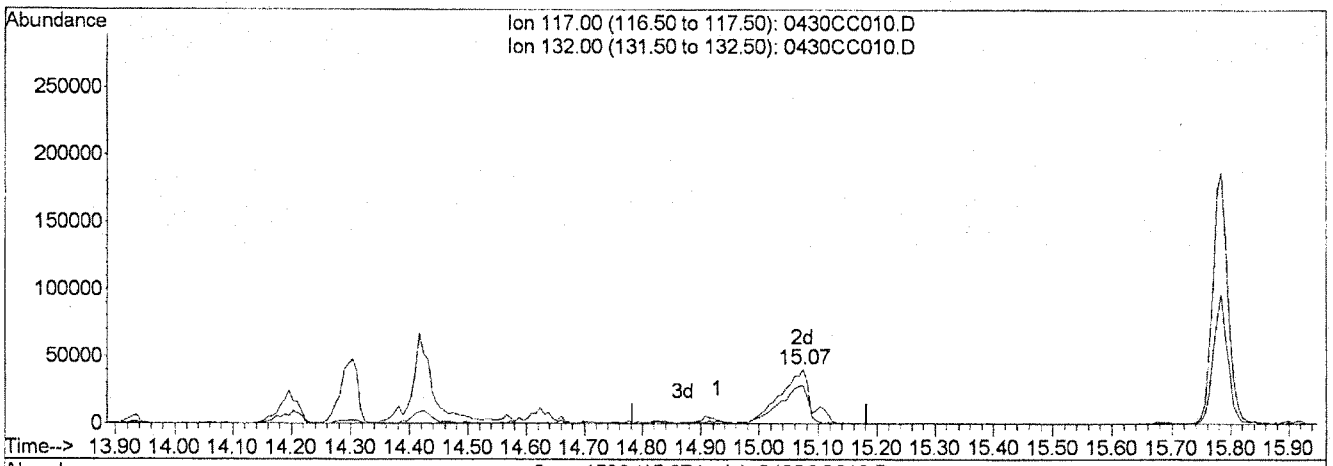
Ion	Exp%	Act%
117.00	100	100
132.00	66.20	76.27
0.00	0.00	0.00
0.00	0.00	0.00

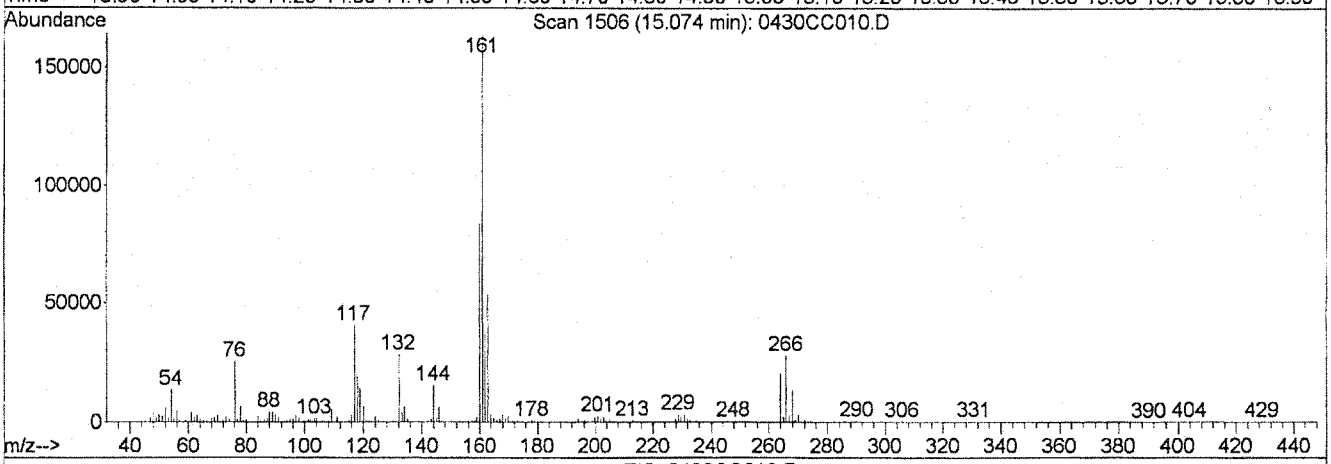
0430CC010.D 043012_525.M Tue May 01 10:08:50 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:08 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC010.D

(24) Terbacil (m)

15.07min -2500.00ug/L m

response 131632

Ion	Exp%	Act%
117.00	100	100
132.00	66.20	69.49
0.00	0.00	0.00
0.00	0.00	0.00

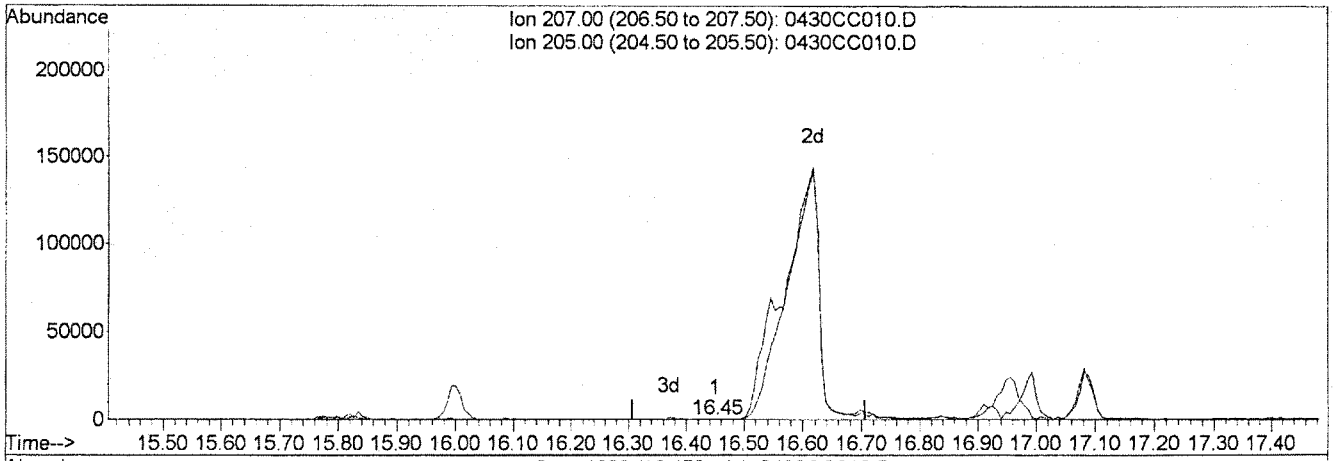
Wrong peak

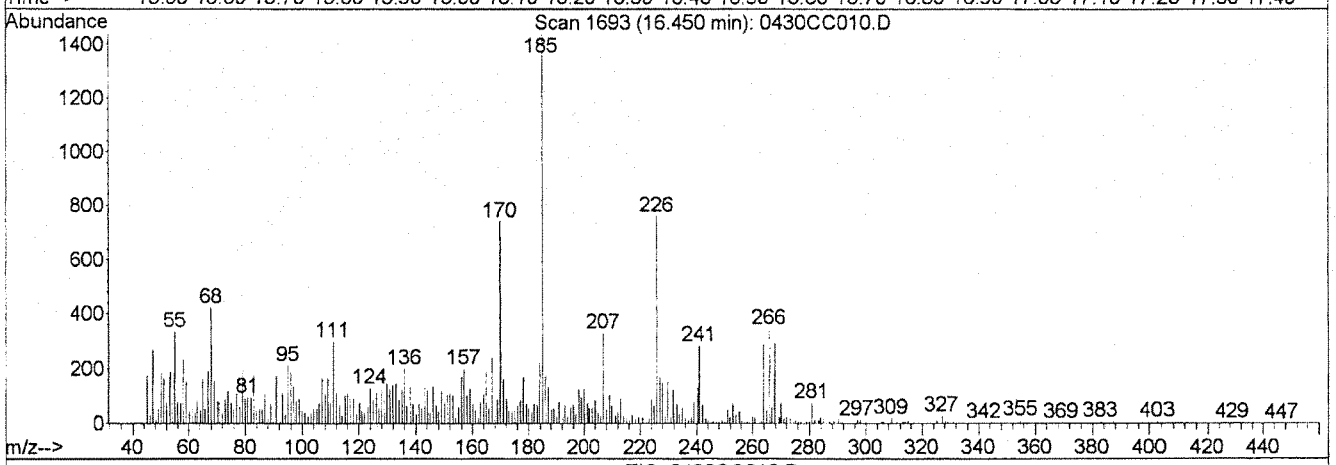
0430CC010.D 043012_525.M Tue May 01 10:08:56 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:08 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





(28) Bromacil (m)

16.45min 45.39ug/L

response 977

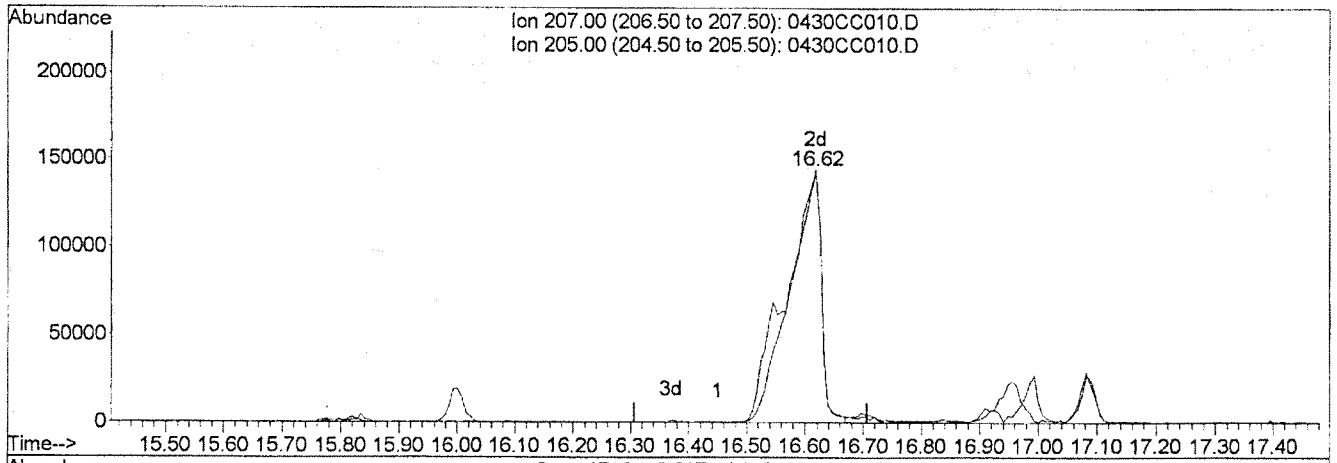
Ion	Exp%	Act%
207.00	100	100
205.00	112.90	10.64#
0.00	0.00	0.00
0.00	0.00	0.00

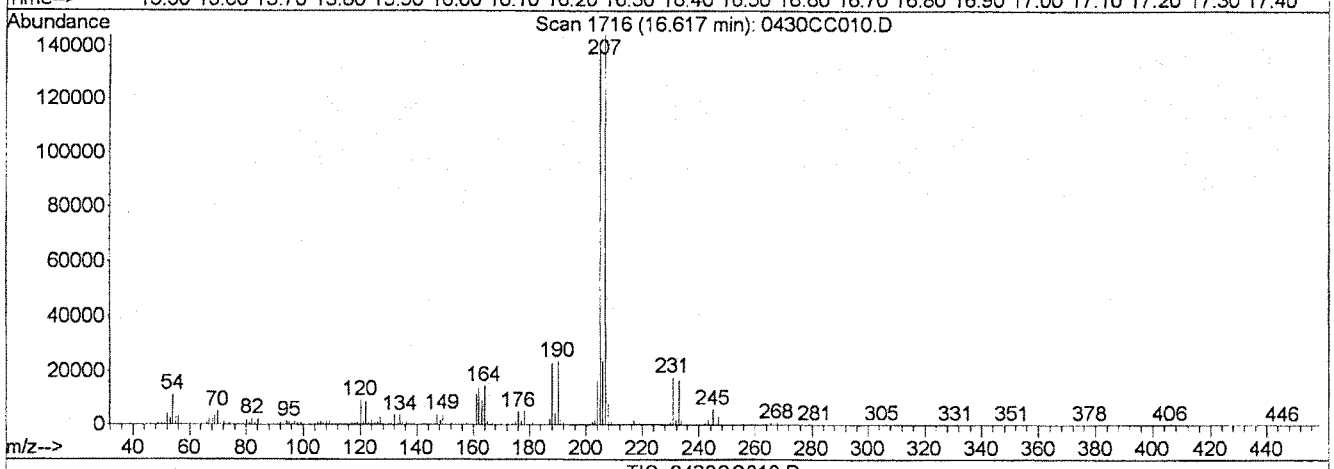
0430CC010.D 043012_525.M Tue May 01 10:09:02 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-540 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:09 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC010.D

(28) Bromacil (m)

16.62min -2500.00ug/L m

response 534480

Ion	Exp%	Act%
207.00	100	100
205.00	112.90	98.27
0.00	0.00	0.00
0.00	0.00	0.00

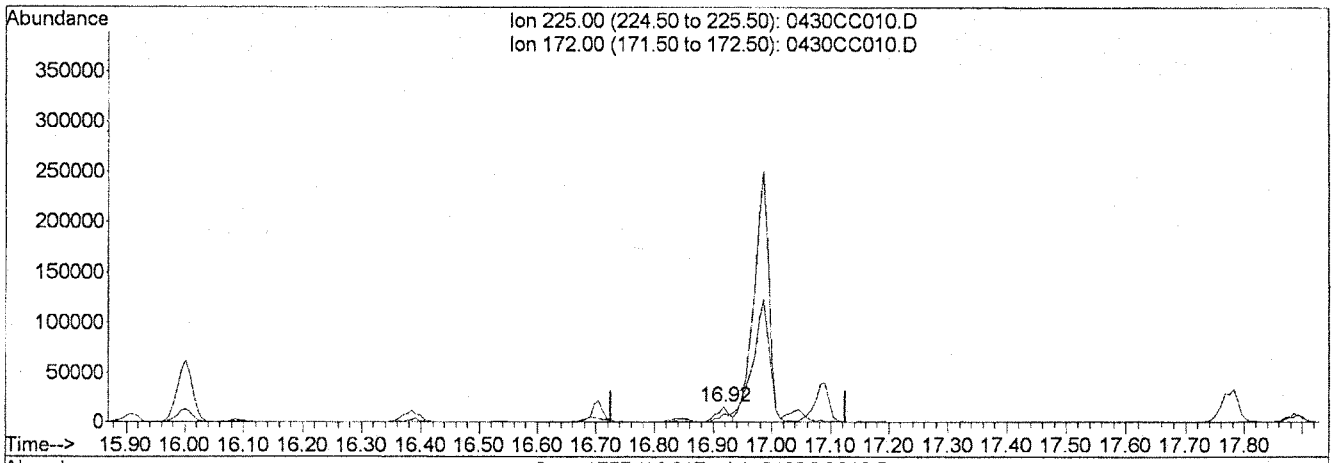
Also wrong peak CA

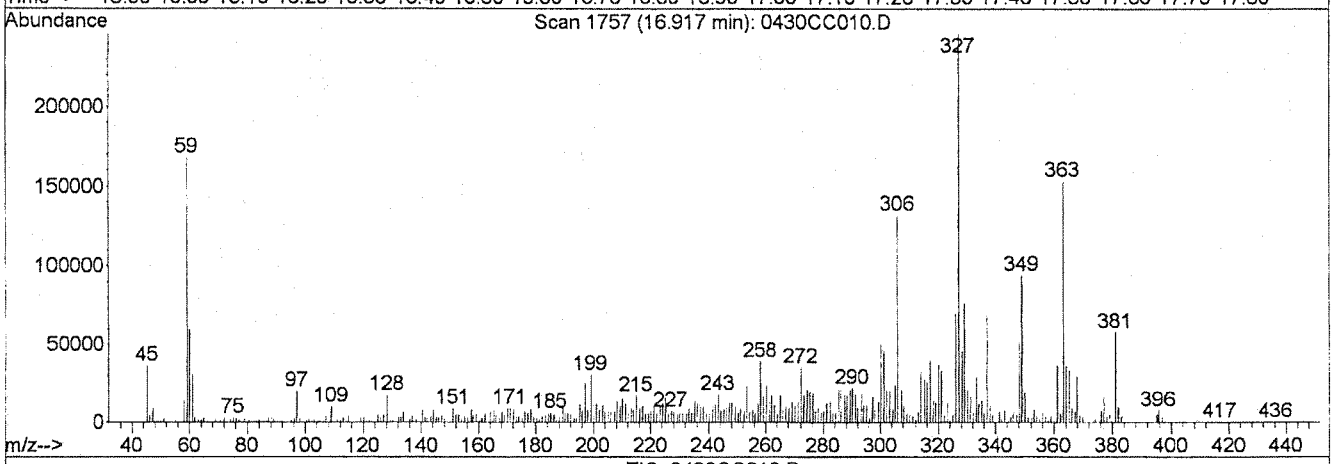
0430CC010.D 043012_525.M Tue May 01 10:09:12 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:09 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC010.D

(32) Cyanazine (m)

16.92min 416.98ug/L

response 22399

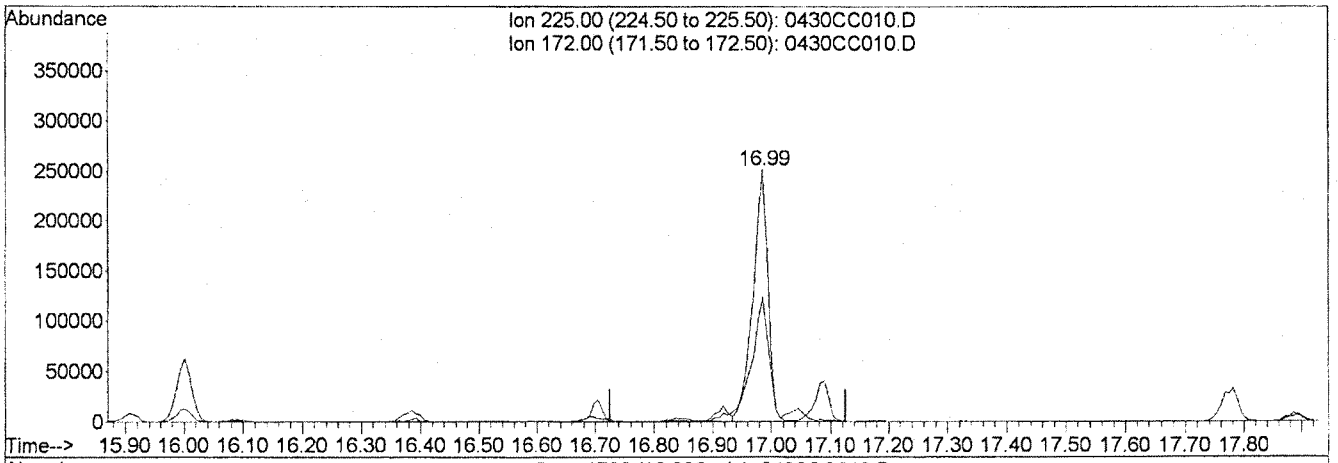
Ion	Exp%	Act%
225.00	100	100
172.00	42.70	54.42
0.00	0.00	0.00
0.00	0.00	0.00

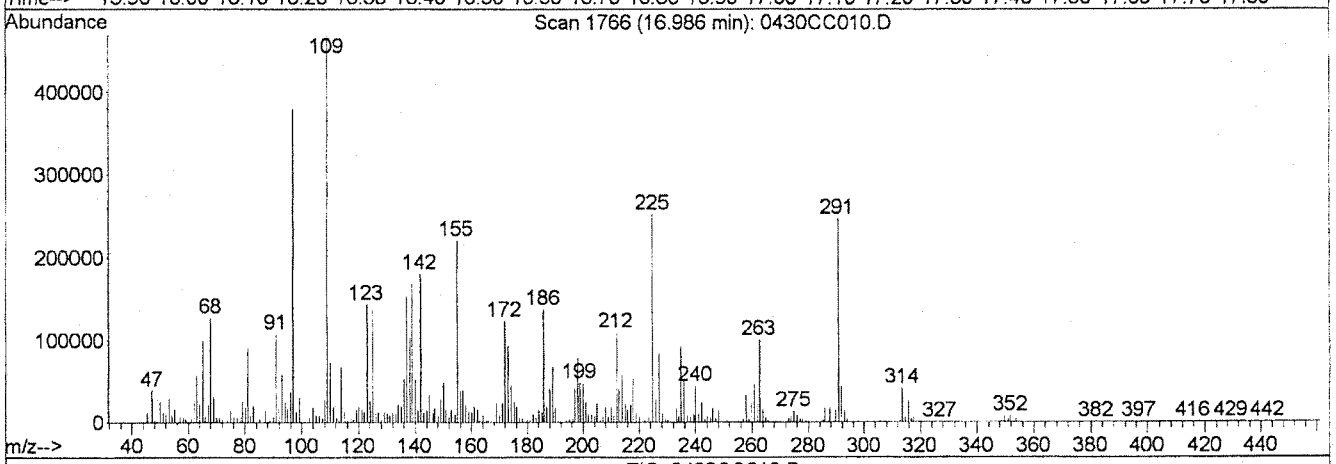
0430CC010.D 043012_525.M Tue May 01 10:09:17 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-540 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:09 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC010.D

(32) Cyanazine (m)

16.99min -2500.00ug/L m

response 451449

Ion	Exp%	Act%
225.00	100	100
172.00	42.70	49.15
0.00	0.00	0.00
0.00	0.00	0.00

After wrong peak [illegible]

0430CC010.D 043012_525.M Tue May 01 10:09:24 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC011.D Vial: 0
Acq On : 30-04-2012 22:39 Operator:
Sample : DWSTD05-41B 525 ICV #1 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 13:41:17 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	584930	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1046998	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1232039	2500.00 ug/L	0.00

System Monitoring Compounds

3) 1,3-Dimethyl-2-nitrobenzen	0.00	134	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	
34) Triphenyl phosphate	0.00	169	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	
49) Perylene-d12	0.00	264	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	

Target Compounds

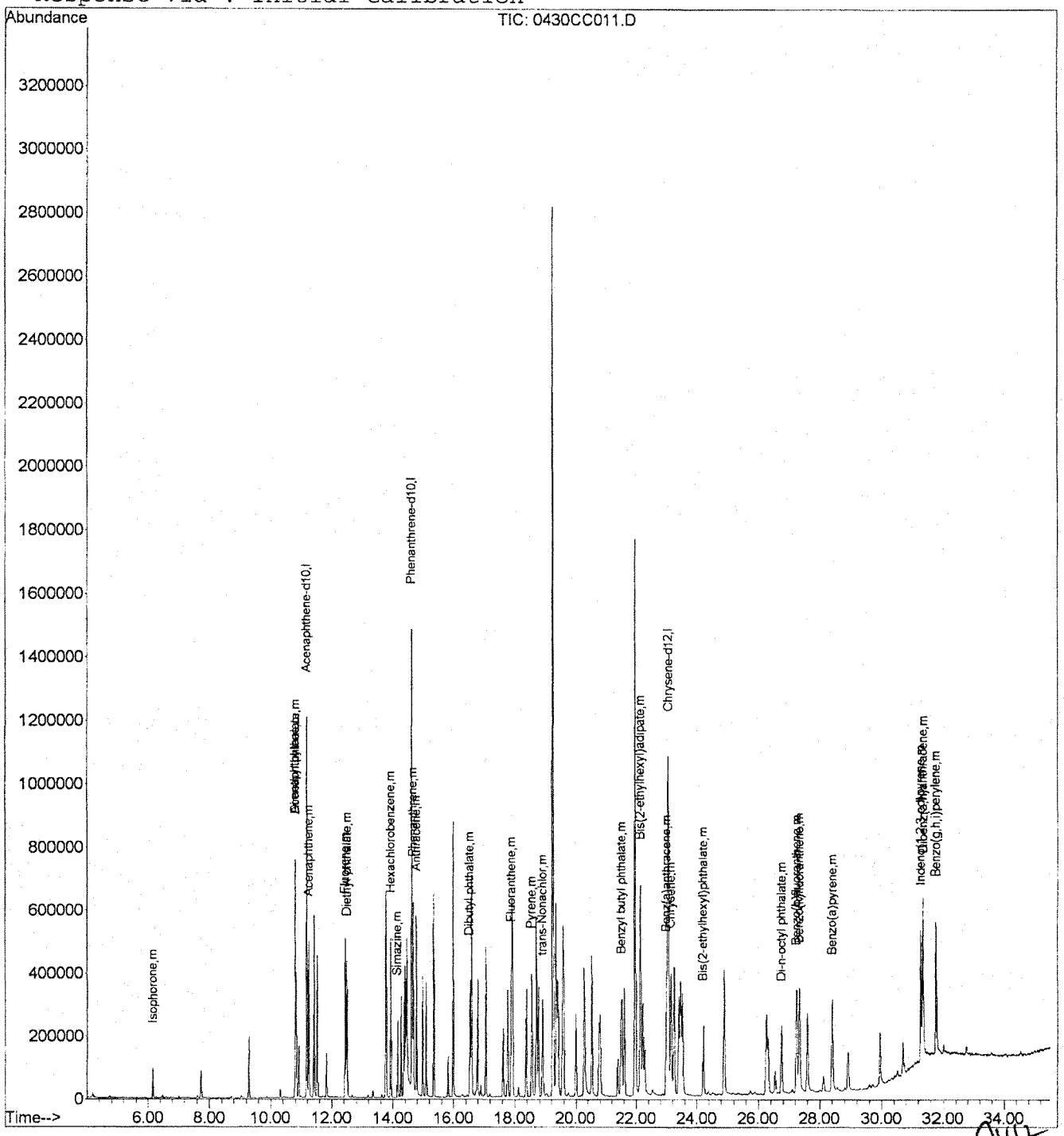
					Qvalue
2) Isophorone	6.16	82	50537	849.68 ug/L	93
7) Dimethyl phthalate	10.80	163	323732	1136.15 ug/L	99
8) Acenaphthylene	10.81	152	329802	1083.29 ug/L	98
9) Acenaphthene	11.24	153	252993	1015.39 ug/L	93
10) Diethyl phthalate	12.49	149	325115	1227.04 ug/L	100
11) Fluorene	12.44	165	274543	1106.17 ug/L	97
15) Hexachlorobenzene	13.93	284	137318	1110.63 ug/L	95
18) Simazine	14.15	201	35947	965.08 ug/L #	73
22) Phenanthrene	14.67	178	437666	1063.44 ug/L	100
23) Anthracene	14.77	178	423868	1149.46 ug/L	99
29) Dibutyl phthalate	16.52	149	457667	1064.46 ug/L	99
36) Fluoranthene	17.88	202	374008	969.38 ug/L	96
38) trans-Nonachlor	18.91	409	40115	982.28 ug/L	88
39) Pyrene	18.55	202	379574	1062.47 ug/L	100
40) Benzyl butyl phthalate	21.53	149	206916	1163.85 ug/L	98
41) Bis(2-ethylhexyl)adipate	22.13	129	135128	1296.33 ug/L	83
42) Benz(a)anthracene	22.99	228	436239	1112.73 ug/L	99
43) Chrysene	23.14	228	407936	1046.93 ug/L	100
44) Bis(2-ethylhexyl)phthalate	24.21	149	317588	1247.49 ug/L	100
45) Di-n-octyl phthalate	26.75	149	435979	1256.94 ug/L	98
46) Benzo(b)fluoranthene	27.24	252	434338	1171.58 ug/L	98
47) Benzo(k)fluoranthene	27.33	252	465254	1085.60 ug/L	96
48) Benzo(a)pyrene	28.40	252	419018	1239.49 ug/L	96
50) Indeno(1,2,3-cd)pyrene	31.28	276	358145	1250.10 ug/L	92
51) Dibenz(a,h)anthracene	31.35	278	442811	1241.35 ug/L	99
52) Benzo(g,h,i)perylene	31.75	276	411054	1191.30 ug/L	94

(#) = qualifier out of range (m) = manual integration
0430CC011.D 043012_525.M Tue May 01 13:49:27 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC011.D Vial: 0
Acq On : 30-04-2012 22:39 Operator:
Sample : DWSTD05-41B 525 ICV #1 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 13:44 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration



0430CC011.D 043012_525.M Tue May 01 13:49:27 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC012.D Vial: 0
Acq On : 30-04-2012 23:24 Operator:
Sample : DWSTD05-54A 525 ICV #2 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 13:41:20 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	657662	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1236444	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1353800	2500.00 ug/L	0.00

System Monitoring Compounds

3) 1,3-Dimethyl-2-nitrobenzen	0.00	134	0	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery =	0.00%#	
34) Triphenyl phosphate	0.00	169	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery =	0.00%#	
49) Perylene-d12	0.00	264	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery =	0.00%#	

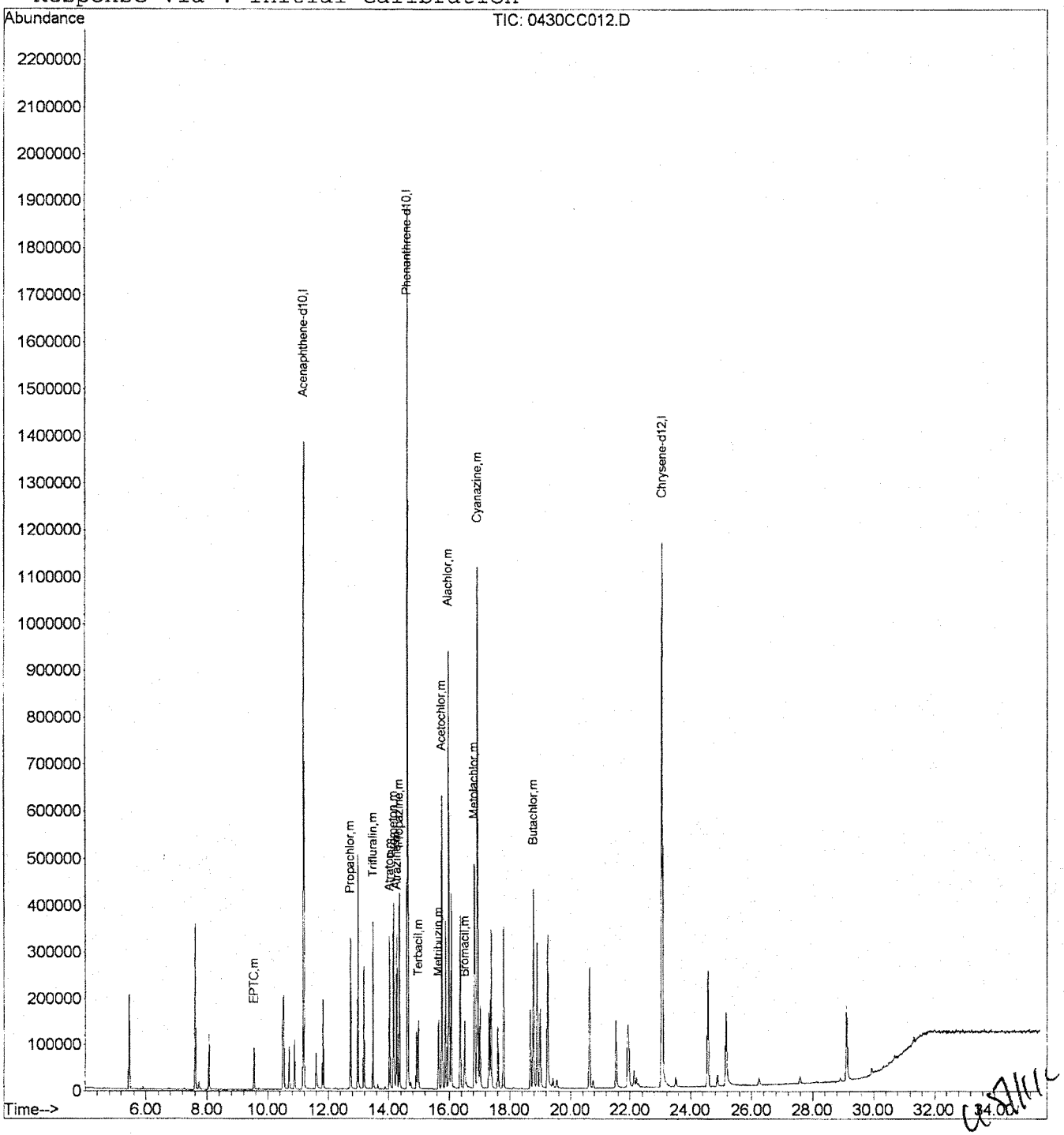
Target Compounds					Qvalue
6) EPTC	9.54	128	53062	1021.77 ug/L	96
12) Propachlor	12.74	120	139519	1038.41 ug/L	98
13) Trifluralin	13.48	264	105712	1066.77 ug/L	92
16) Atraton	14.03	196	59802	997.98 ug/L	98
17) Prometon	14.16	210	91853	938.30 ug/L	93
19) Atrazine	14.26	215	32145	980.70 ug/L	98
20) Propazine	14.35	214	104790	953.92 ug/L	97
24) Terbacil	14.98	117	16971	956.25 ug/L	99
25) Acetochlor	15.77	146	118608	1292.06 ug/L	98
26) Metribuzin	15.66	198	59324	973.30 ug/L	98
27) Alachlor	15.99	160	142526	975.98 ug/L	96
28) Bromacil	16.52	207	72869	1006.73 ug/L	92
31) Metolachlor	16.83	162	422780	964.88 ug/L	95
32) Cyanazine	16.93	225	49717	890.17 ug/L	83
37) Butachlor	18.77	160	123477	1009.21 ug/L	99

(#) = qualifier out of range (m) = manual integration
0430CC012.D 043012_525.M Tue May 01 13:49:28 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC012.D Vial: 0
Acq On : 30-04-2012 23:24 Operator:
Sample : DWSTD05-54A 525 ICV #2 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 13:46 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration



0430CC012.D 043012_525.M Tue May 01 13:49:29 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC013.D Vial: 0
Acq On : 01-05-2012 00:09 Operator:
Sample : DWSTD05-46A 525 ICV #3 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 13:41:22 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	623557	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1128510	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1267564	2500.00 ug/L	0.00

System Monitoring Compounds

3) 1,3-Dimethyl-2-nitrobenzen	0.00	134	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	=	0.00%#
34) Triphenyl phosphate	0.00	169	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	=	0.00%#
49) Perylene-d12	0.00	264	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	=	0.00%#

Target Compounds

					Qvalue
4) Hexachlorocyclopentadiene	9.29	237	44276	1128.62 ug/L	84
5) Dichlobenil	9.40	171	171312	1070.39 ug/L	100
21) Diazinon	14.82	137	74968	1087.76 ug/L	96

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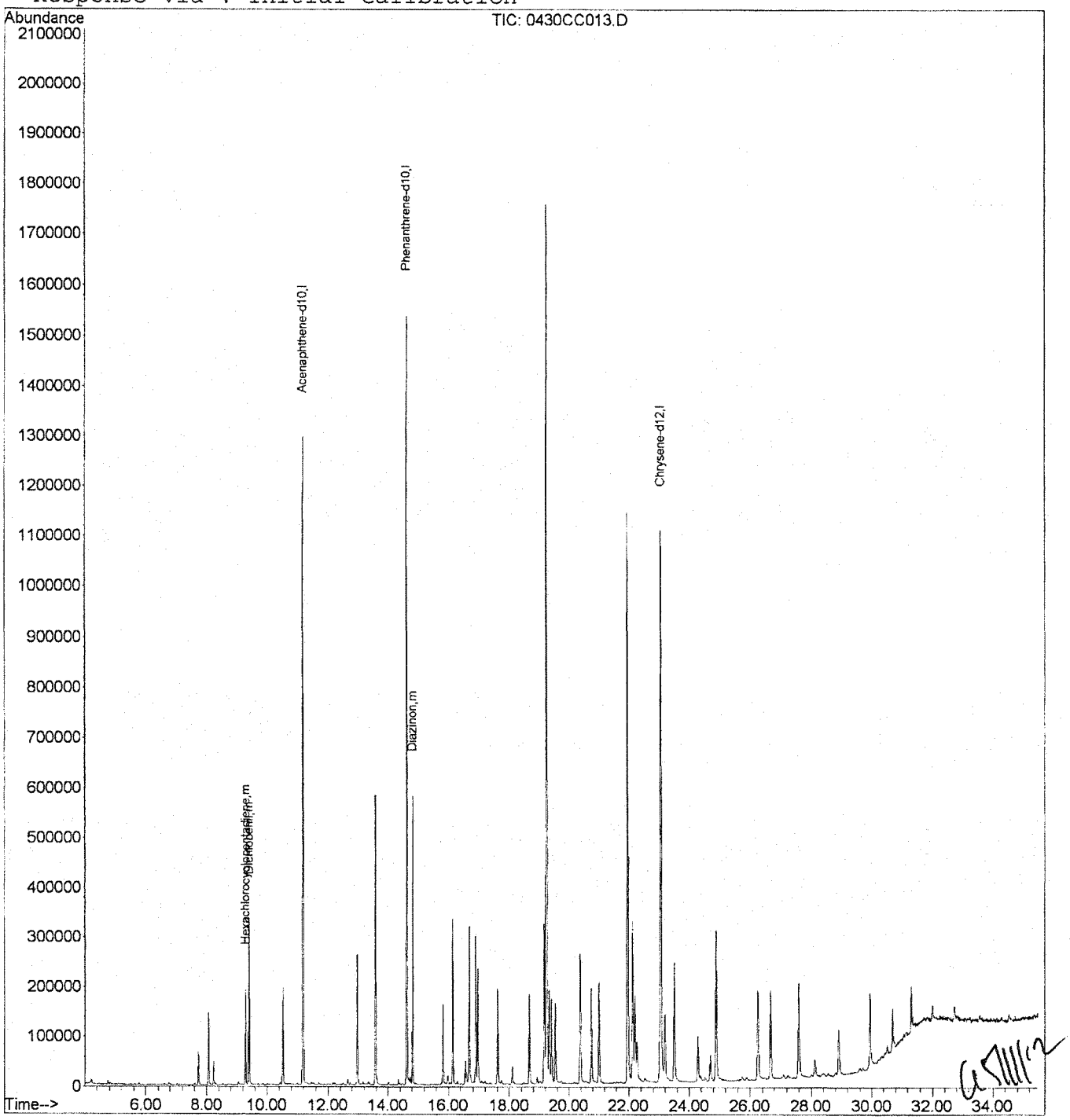
05/1/12

(#) = qualifier out of range (m) = manual integration
0430CC013.D 043012_525.M Tue May 01 13:49:30 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC013.D Vial: 0
Acq On : 01-05-2012 00:09 Operator:
Sample : DWSTD05-46A 525 ICV #3 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 13:48 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC014.D Vial: 0
Acq On : 01-05-2012 00:55 Operator:
Sample : DWSTD05-46C 525 ICV #4 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 13:41:23 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	632546	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1103042	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1288250	2500.00 ug/L	0.00

System Monitoring Compounds

3) 1,3-Dimethyl-2-nitrobenzen	0.00	134	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	
34) Triphenyl phosphate	0.00	169	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	
49) Perylene-d12	0.00	264	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	

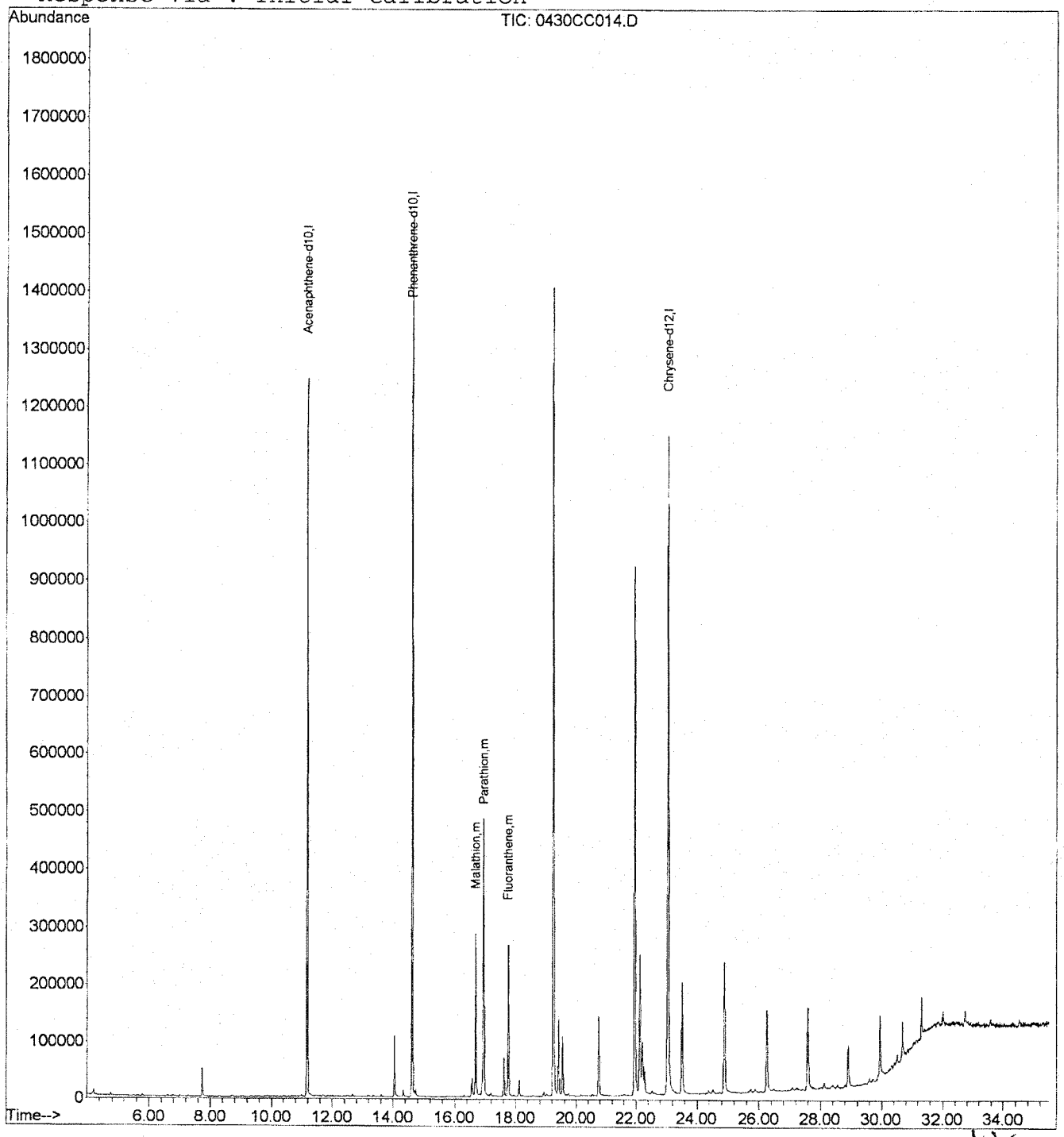
Target Compounds					Qvalue
30) Malathion	16.69	173	50759	1222.84 ug/L	93
33) Parathion	16.96	291	19392	1136.61 ug/L	99
36) Fluoranthene	17.76	202	2301	14.97 ug/L #	1

(#) = qualifier out of range (m) = manual integration
0430CC014.D 043012_525.M Tue May 01 13:49:31 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC014.D Vial: 0
Acq On : 01-05-2012 00:55 Operator:
Sample : DWSTD05-46C 525 ICV #4 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 13:49 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration



Injection Log

ICAL 11476

Directory: J:\MS22\DATA\043012-525

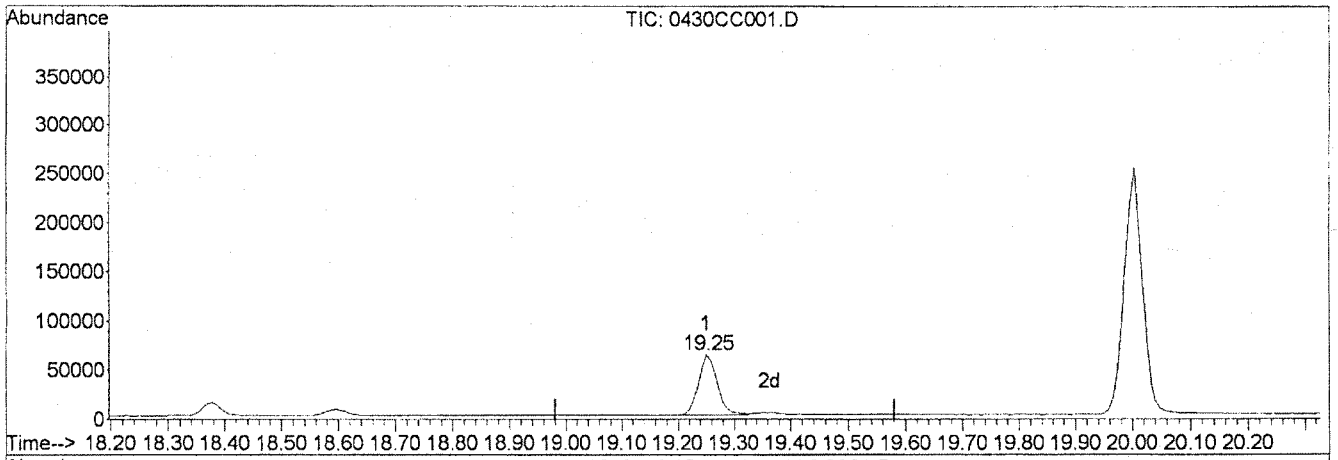
Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1		0430CC001.d	1.	DWSTD5-55A 525.2 IPC		30-04-22012 27:1
2		0430CC002.d	1.	DWSTD05-54G 525 ICAL 20 PPB		30-04-22012 27:5
3		0430CC003.d	1.	DWSTD05-54H 525 ICAL 50 PPB		30-04-22012 28:3
4		0430CC004.d	1.	DWSTD05-54I 525 ICAL 100 PPB		30-04-22012 29:2
5		0430CC005.d	1.	DWSTD05-54J 525 ICAL 200 PPB		30-04-22012 30:0
6		0430CC006.d	1.	DWSTD05-54K 525 ICAL 500 PPB		30-04-22012 30:5
7		0430CC007.d	1.	DWSTD05-54L 525 ICAL 1000 PPB		30-04-22012 31:3
8		0430CC008.d	1.	DWSTD05-54M 525 ICAL 2000 PPB		30-04-22012 32:2
9		0430CC009.d	1.	DWSTD05-54N 525 ICAL 4000 PPB		30-04-22012 33:0
10		0430CC010.d	1.	DWSTD05-54O 525 ICAL 6000 PPB		30-04-22012 33:5
11		0430CC011.d	1.	DWSTD05-41B 525 ICV #1 1000 PPB		30-04-22012 34:3
12		0430CC012.d	1.	DWSTD05-54A 525 ICV #2 1000 PPB		30-04-22012 35:2
13		0430CC013.d	1.	DWSTD05-46A 525 ICV #3 1000 PPB		01-05-22012 12:0
14		0430CC014.d	1.	DWSTD05-46C 525 ICV #4 1000 PPB		01-05-22012 12:5
15		0430CC015.d	1.	DWSTD5-52G 525 IPC		01-05-22012 13:4
16		0430CC016.d	1.	DWSTD05-54L 525 ICAL 1000 PPB		01-05-22012 14:2
17		0430CC017.d	1.	042012-MRL		01-05-22012 15:1
18		0430CC018.d	1.	042012-MB		01-05-22012 15:5
19		0430CC019.d	1.	042012-LCS		01-05-22012 16:4
20		0430CC020.d	1.	K1203449-001		01-05-22012 17:2
21		0430CC021.d	1.	K1203449-001 MS		01-05-22012 18:1

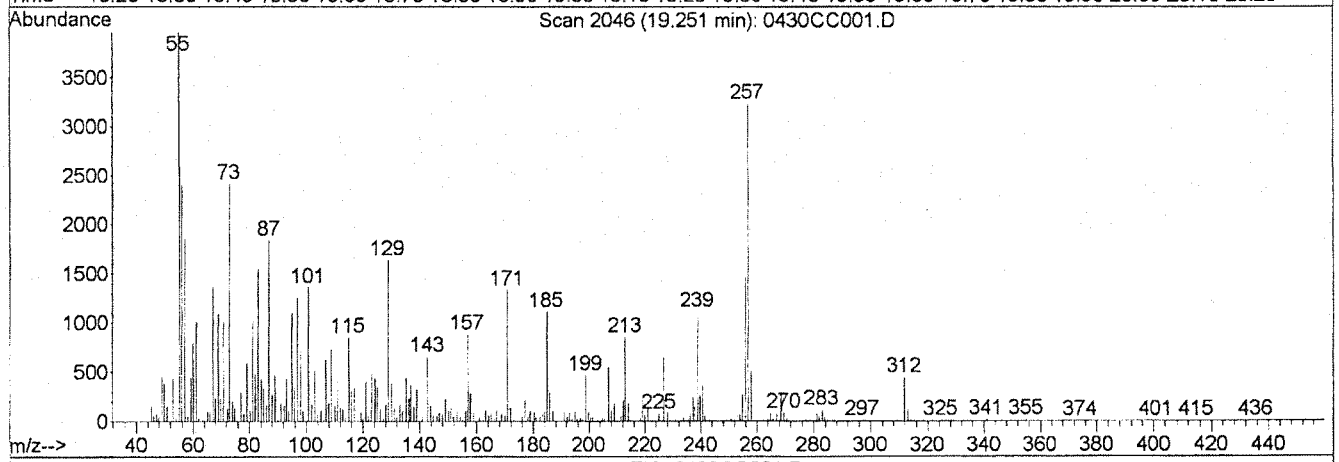
u 5/1/12

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC001.D Vial: 0
Acq On : 30-04-2012 15:14 Operator:
Sample : DWSTD5-55A 525.2 IPC Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 15:23 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\ENDRIN-DDT_525.M (RTE Integrator)
Title : Endrin, DDT Degradation Checks
Last Update : Sat Feb 25 16:29:16 2012
Response via : Single Level Calibration





TIC: 0430CC001.D

(8) DDE (L3)

19.25min 0.00ug/L

response 145638

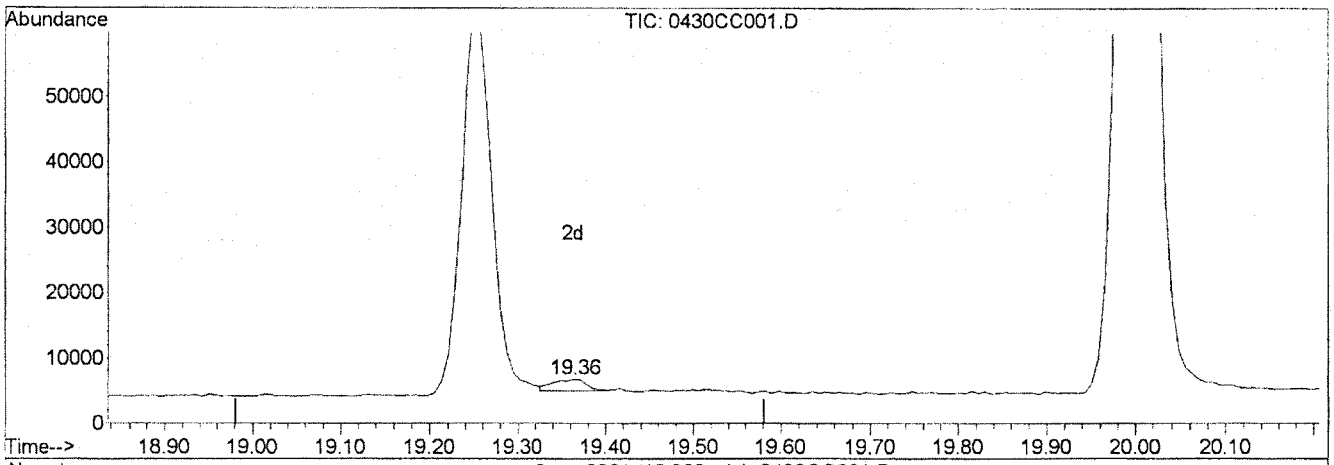
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

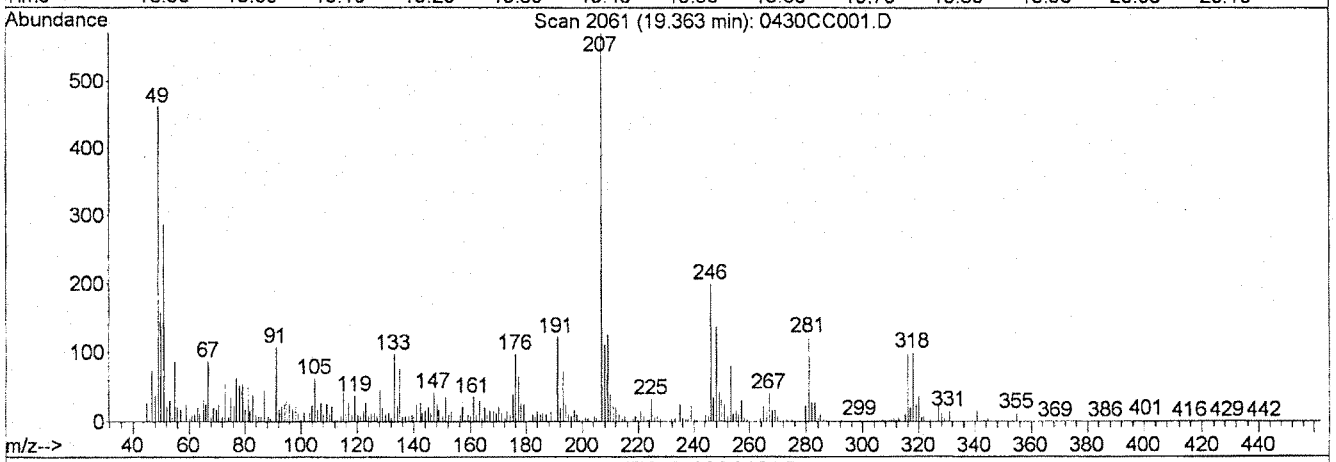
0430CC001.D ENDRIN-DDT_525.M Tue May 01 15:23:43 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC001.D Vial: 0
Acq On : 30-04-2012 15:14 Operator:
Sample : DWSTD5-55A 525.2 IPC Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 15:23 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\ENDRIN-DDT_525.M (RTE Integrator)
Title : Endrin, DDT Degradation Checks
Last Update : Sat Feb 25 16:29:16 2012
Response via : Single Level Calibration





TIC: 0430CC001.D

(8) DDE (L3)

19.36min 0.00ug/L m

response 4635

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

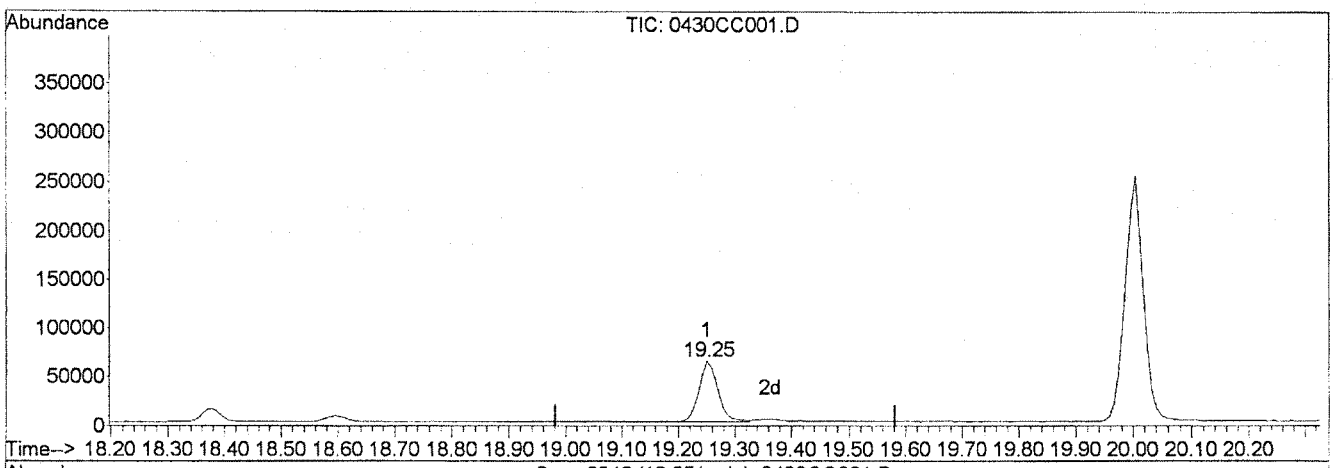
NF After wrong peak Cu 57111c

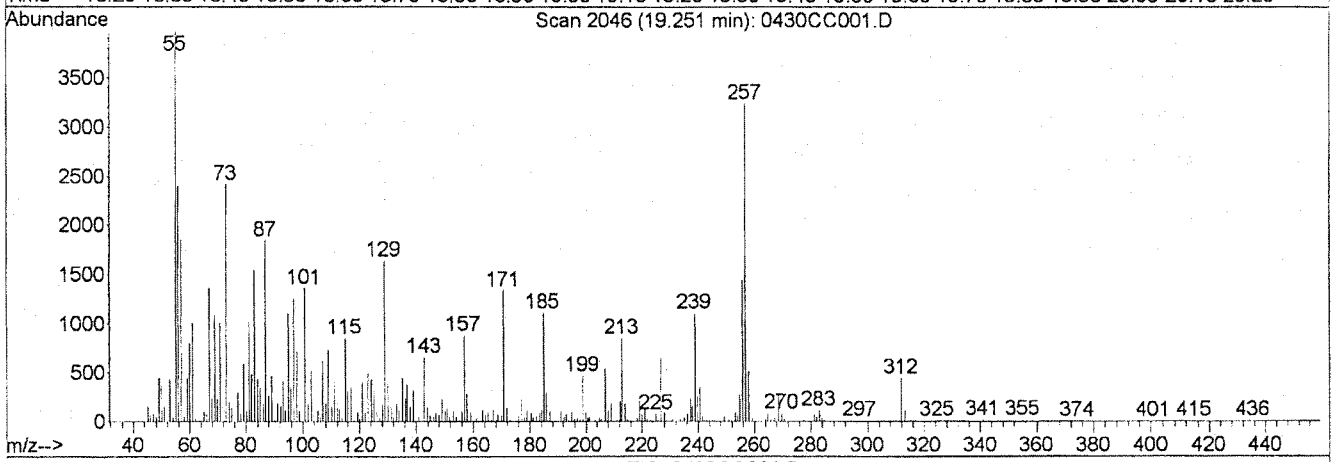
0430CC001.D ENDRIN-DDT_525.M Tue May 01 15:23:56 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC001.D Vial: 0
Acq On : 30-04-2012 15:14 Operator:
Sample : DWSTD5-55A 525.2 IPC Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 15:23 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\ENDRIN-DDT_525.M (RTE Integrator)
Title : Endrin, DDT Degradation Checks
Last Update : Sat Feb 25 16:29:16 2012
Response via : Single Level Calibration





TIC: 0430CC001.D

(11) DDE (L4)

19.25min 0.00ug/L

response 145638

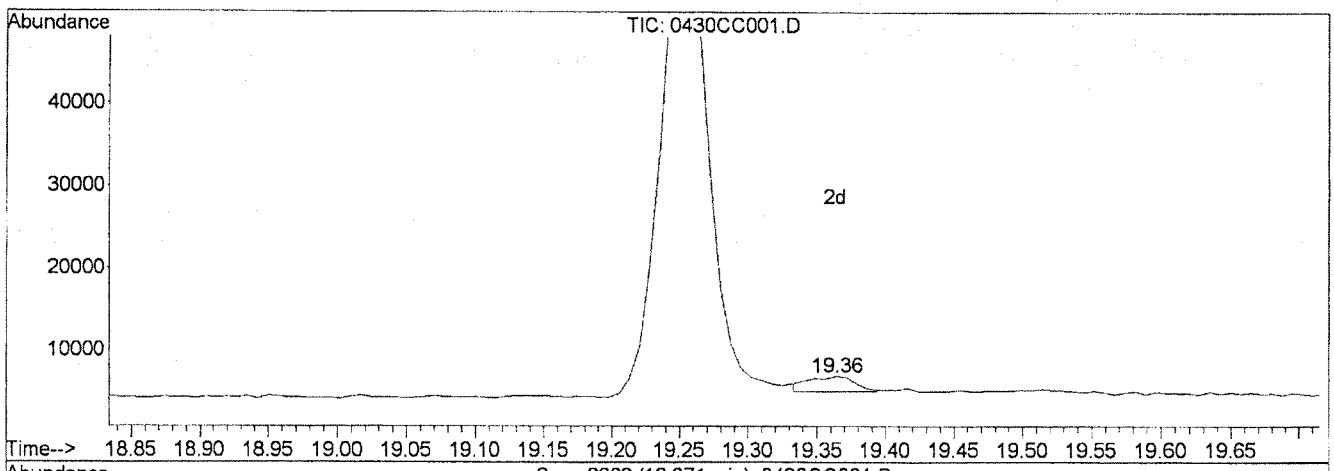
Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

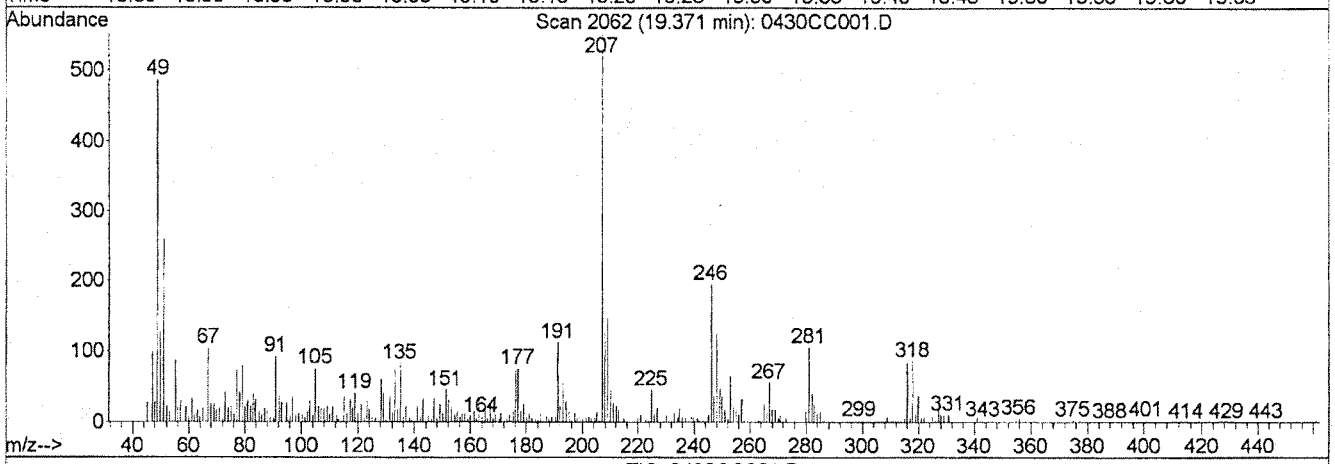
0430CC001.D ENDRIN-DDT_525.M Tue May 01 15:24:01 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC001.D Vial: 0
Acq On : 30-04-2012 15:14 Operator:
Sample : DWSTD5-55A 525.2 IPC Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 15:24 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\ENDRIN-DDT_525.M (RTE Integrator)
Title : Endrin, DDT Degradation Checks
Last Update : Sat Feb 25 16:29:16 2012
Response via : Single Level Calibration





TIC: 0430CC001.D

(11) DDE (L4)

19.36min 0.00ug/L m

response 4433

Signal	Exp%	Act%
TIC	100	100
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

After wrong peak
CES 1111

0430CC001.D ENDRIN-DDT_525.M Tue May 01 15:24:17 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC002.D Vial: 0
Acq On : 30-04-2012 15:55 Operator:
Sample : DWSTD05-54G 525 ICAL 20 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:47 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	713768	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1298952	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1402096	2500.00 ug/L	0.00

System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.19	134	1132	26.97 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery =	2.70%#	
34) Triphenyl phosphate	22.23	169	486	30.72 ug/L	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery =	3.07%#	
49) Perylene-d12	28.63	264	3835	32.72 ug/L	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery =	3.27%#	

Target Compounds					Qvalue
2) Isophorone	6.17	82	1081	26.70 ug/L	94
4) Hexachlorocyclopentadiene	9.29	237	398	30.80 ug/L #	80
5) Dichlobenil	9.41	171	3332	18.19 ug/L	98
6) EPTC	9.53	128	746	26.06 ug/L	87
7) Dimethyl phthalate	10.81	163	5669	16.31 ug/L	90
8) Acenaphthylene	10.81	152	5187	25.44 ug/L	94
9) Acenaphthene	11.25	153	5608	18.46 ug/L	100
10) Diethyl phthalate	12.50	149	5114	25.83 ug/L	98
11) Fluorene	12.45	165	4835	15.97 ug/L	97
12) Propachlor	12.75	120	1782	28.53 ug/L	100
13) Trifluralin	13.48	264	1036	32.72 ug/L	95
15) Hexachlorobenzene	13.93	284	2687	17.52 ug/L	97
16) Atraton	14.03	196	610	31.32 ug/L	94
17) Prometon	14.17	210	913	29.12 ug/L	94
18) Simazine	14.15	201	492	26.36 ug/L #	49
19) Atrazine	14.26	215	387	25.19 ug/L #	78
20) Propazine	14.35	214	1280	25.40 ug/L	97
21) Diazinon	14.82	137	913	26.07 ug/L	88
22) Phenanthrene	14.67	178	9595	18.79 ug/L	99
23) Anthracene	14.77	178	7127	23.68 ug/L	95
25) Acetochlor	15.77	146	1006	61.14 ug/L	88
26) Metribuzin	15.65	198	622	32.90 ug/L	99
27) Alachlor	15.98	160	1527	29.09 ug/L	96
29) Dibutyl phthalate	16.52	149	5543	29.68 ug/L	99
30) Malathion	16.68	173	770	65.62 ug/L #	66
31) Metolachlor	16.83	162	4579	29.41 ug/L	94
32) Cyanazine	16.94	225	540	30.78 ug/L	70
33) Parathion	16.96	291	271	75.84 ug/L	86
36) Fluoranthene	17.88	202	5719	24.33 ug/L	94

(#) = qualifier out of range (m) = manual integration
0430CC002.D 043012_525.M Tue May 01 10:23:39 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC002.D Vial: 0
Acq On : 30-04-2012 15:55 Operator:
Sample : DWSTD05-54G 525 ICAL 20 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:47 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

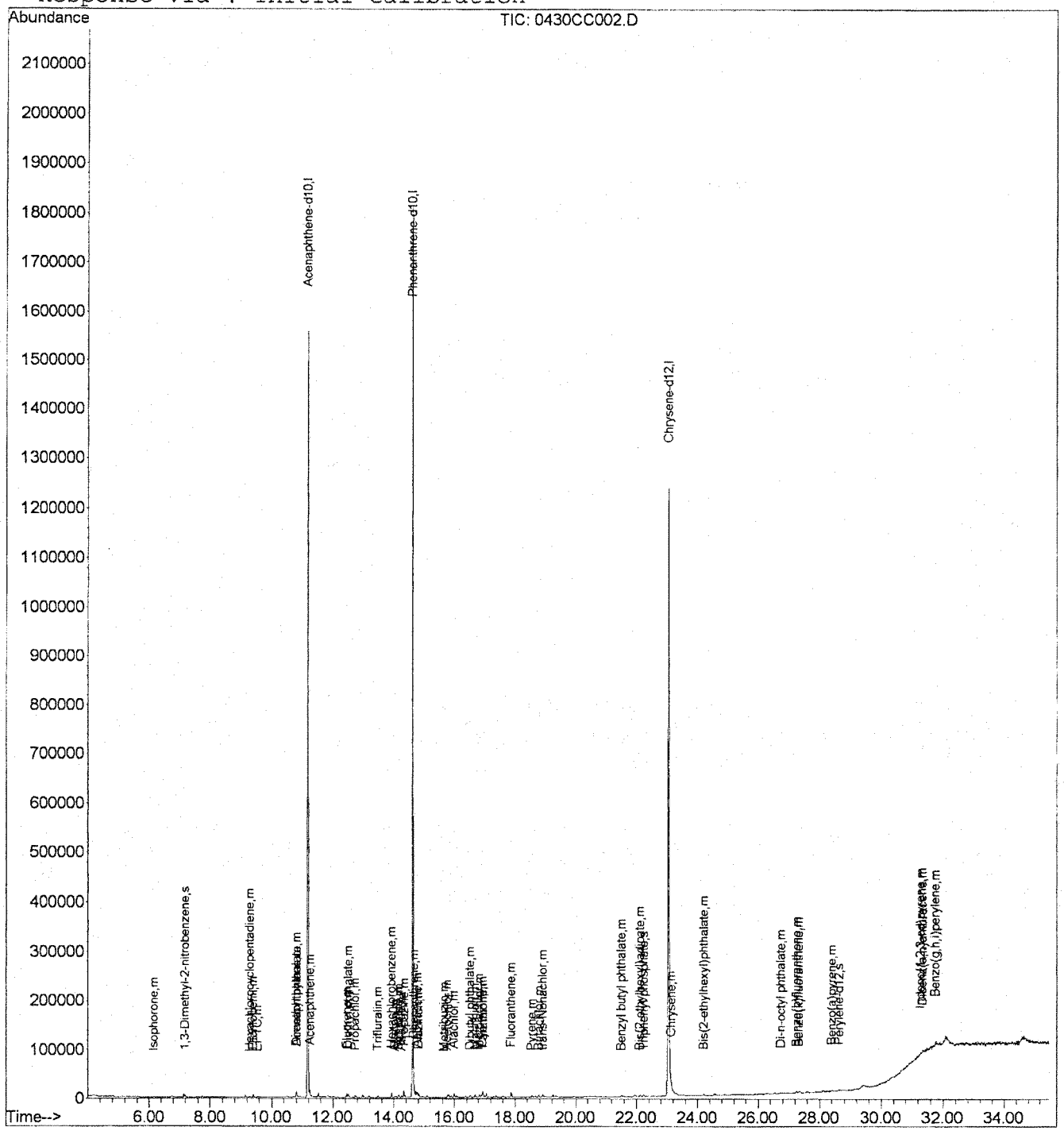
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
37)	Butachlor	18.78	160	1096	32.66 ug/L	95
38)	trans-Nonachlor	18.91	409	542	24.64 ug/L	89
39)	Pyrene	18.55	202	5139	26.84 ug/L	96
40)	Benzyl butyl phthalate	21.52	149	1896	35.89 ug/L	87
41)	Bis(2-ethylhexyl)adipate	22.13	129	799	107.85 ug/L	88
43)	Chrysene	23.14	228	8121	18.30 ug/L	93
44)	Bis(2-ethylhexyl)phthalate	24.20	149	2711	118.56 ug/L	88
45)	Di-n-octyl phthalate	26.75	149	3388	37.18 ug/L	94
46)	Benzo(b)fluoranthene	27.25	252	4342	31.19 ug/L	96
47)	Benzo(k)fluoranthene	27.34	252	4380	30.30 ug/L	87
48)	Benzo(a)pyrene	28.41	252	3805	32.71 ug/L	75
50)	Indeno(1,2,3-cd)pyrene	31.28	276	3259	31.17 ug/L	96
51)	Dibenz(a,h)anthracene	31.36	278	3843	32.43 ug/L	91
52)	Benzo(g,h,i)perylene	31.75	276	4006	28.65 ug/L	97

(#) = qualifier out of range (m) = manual integration
0430CC002.D 043012_525.M Tue May 01 10:23:39 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC002.D Vial: 0
Acq On : 30-04-2012 15:55 Operator:
Sample : DWSTD05-54G 525 ICAL 20 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:03 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC003.D Vial: 0
Acq On : 30-04-2012 16:36 Operator:
Sample : DWSTD05-54H 525 ICAL 50 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:48 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	730903	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1271344	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1375106	2500.00 ug/L	0.00
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.19	134	3269	50.64 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery =	5.06%#	
34) Triphenyl phosphate	22.24	169	1466	47.82 ug/L	0.03
Spiked Amount 1000.000	Range 70 - 130		Recovery =	4.78%#	
49) Perylene-d12	28.63	264	9401	47.42 ug/L	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery =	4.74%#	

Target Compounds					Qvalue
2) Isophorone	6.17	82	2954	51.29 ug/L	93
4) Hexachlorocyclopentadiene	9.29	237	1203	48.06 ug/L	86
5) Dichlobenil	9.41	171	8622	45.97 ug/L	95
6) EPTC	9.54	128	2123	50.21 ug/L	97
7) Dimethyl phthalate	10.81	163	15050	42.28 ug/L	97
8) Acenaphthylene	10.81	152	12985	46.39 ug/L	100
9) Acenaphthene	11.25	153	14400	46.28 ug/L	95
10) Diethyl phthalate	12.50	149	13168	48.23 ug/L	100
11) Fluorene	12.45	165	12845	41.44 ug/L	97
12) Propachlor	12.74	120	4939	49.00 ug/L	96
13) Trifluralin	13.48	264	2663	49.21 ug/L	93
15) Hexachlorobenzene	13.93	284	7009	46.69 ug/L	96
16) Atraton	14.03	196	1594	47.55 ug/L	97
17) Prometon	14.16	210	2811	47.56 ug/L	100
18) Simazine	14.15	201	1474	48.37 ug/L	82
19) Atrazine	14.26	215	1061	45.90 ug/L	99
20) Propazine	14.35	214	3696	47.34 ug/L	93
21) Diazinon	14.82	137	2486	47.53 ug/L	97
22) Phenanthrene	14.67	178	23511	47.05 ug/L	96
23) Anthracene	14.77	178	18926	49.02 ug/L	92
24) Terbacil	14.96	117	448	50.47 ug/L	91
25) Acetochlor	15.77	146	2599	78.01 ug/L	88
26) Metribuzin	15.66	198	1638	48.38 ug/L	93
27) Alachlor	15.99	160	4390	47.47 ug/L	94
28) Bromacil	16.49	207	1576	48.82 ug/L #	64
29) Dibutyl phthalate	16.53	149	14376	46.21 ug/L	99
30) Malathion	16.69	173	2080	92.33 ug/L #	49
31) Metolachlor	16.83	162	13138	48.12 ug/L	100
32) Cyanazine	16.94	225	1505	44.66 ug/L	96

(#) = qualifier out of range (m) = manual integration
0430CC003.D 043012_525.M Tue May 01 10:23:41 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC003.D Vial: 0
Acq On : 30-04-2012 16:36 Operator:
Sample : DWSTD05-54H 525 ICAL 50 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:48 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	Parathion	16.96	291	759	96.09 ug/L	#	68
36)	Fluoranthene	17.88	202	15607	47.54 ug/L		97
37)	Butachlor	18.78	160	3132	48.96 ug/L		99
38)	trans-Nonachlor	18.91	409	1575	49.57 ug/L		95
39)	Pyrene	18.56	202	13724	48.06 ug/L		91
40)	Benzyl butyl phthalate	21.53	149	4418	48.59 ug/L		91
41)	Bis(2-ethylhexyl)adipate	22.13	129	2135	117.63 ug/L		94
42)	Benz(a)anthracene	22.99	228	14853	52.29 ug/L		98
43)	Chrysene	23.14	228	20190	46.39 ug/L		93
44)	Bis(2-ethylhexyl)phthalate	24.22	149	6616	131.48 ug/L		94
45)	Di-n-octyl phthalate	26.75	149	8174	50.55 ug/L		99
46)	Benzo(b)fluoranthene	27.24	252	10801	47.10 ug/L		99
47)	Benzo(k)fluoranthene	27.34	252	12289	46.74 ug/L		97
48)	Benzo(a)pyrene	28.41	252	9298	48.23 ug/L		99
50)	Indeno(1,2,3-cd)pyrene	31.28	276	8506	48.68 ug/L		78
51)	Dibenz(a,h)anthracene	31.36	278	9764	47.70 ug/L		99
52)	Benzo(g,h,i)perylene	31.75	276	12095	50.02 ug/L		94

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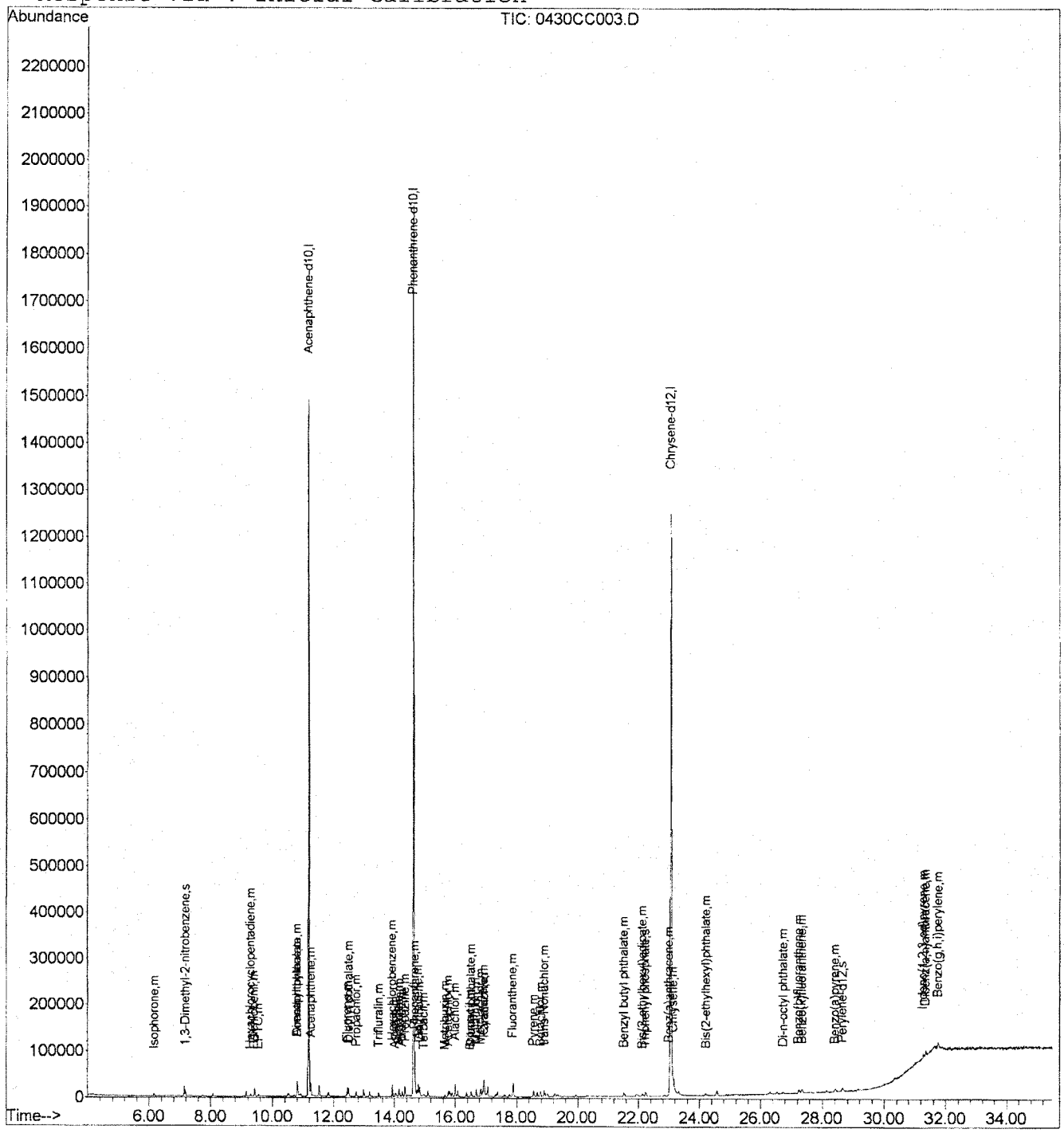
(#) = qualifier out of range (m) = manual integration
0430CC003.D 043012_525.M Tue May 01 10:23:41 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC003.D Vial: 0
Acq On : 30-04-2012 16:36 Operator:
Sample : DWSTD05-54H 525 ICAL 50 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



0430CC003.D 043012_525.M Tue May 01 10:23:42 2012 Page 3

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC004.D Vial: 0
Acq On : 30-04-2012 17:21 Operator:
Sample : DWSTD05-54I 525 ICAL 100 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:49 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	732062	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1287861	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1382195	2500.00 ug/L	0.00

System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.19	134	6654	88.43 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery =	8.84%#	
34) Triphenyl phosphate	22.23	169	3099	75.27 ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery =	7.53%#	
49) Perylene-d12	28.63	264	20652	76.36 ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery =	7.64%#	

Target Compounds					Qvalue
2) Isophorone	6.17	82	5571	85.92 ug/L	92
4) Hexachlorocyclopentadiene	9.29	237	2860	83.74 ug/L	91
5) Dichlobenil	9.40	171	17359	92.41 ug/L	99
6) EPTC	9.54	128	4233	87.50 ug/L	98
7) Dimethyl phthalate	10.80	163	31311	87.83 ug/L	99
8) Acenaphthylene	10.81	152	29827	92.10 ug/L	98
9) Acenaphthene	11.25	153	29315	94.07 ug/L	100
10) Diethyl phthalate	12.50	149	27444	88.36 ug/L	98
11) Fluorene	12.45	165	26714	86.06 ug/L	98
12) Propachlor	12.74	120	10054	82.42 ug/L	99
13) Trifluralin	13.48	264	5442	77.45 ug/L	91
15) Hexachlorobenzene	13.93	284	14118	92.83 ug/L	91
16) Atraton	14.03	196	3569	78.79 ug/L	96
17) Prometon	14.16	210	6182	79.12 ug/L	91
18) Simazine	14.15	201	3018	81.65 ug/L	94
19) Atrazine	14.26	215	2648	92.91 ug/L	98
20) Propazine	14.35	214	8468	89.11 ug/L	92
21) Diazinon	14.82	137	5419	85.94 ug/L	91
22) Phenanthrene	14.67	178	47787	94.40 ug/L	98
23) Anthracene	14.78	178	39978	92.49 ug/L	97
24) Terbacil	14.96	117	930	65.42 ug/L #	68
25) Acetochlor	15.77	146	5663	109.22 ug/L	96
26) Metribuzin	15.65	198	3630	77.55 ug/L	99
27) Alachlor	15.99	160	9975	82.00 ug/L	95
28) Bromacil	16.49	207	4164	68.46 ug/L #	76
29) Dibutyl phthalate	16.53	149	33257	80.26 ug/L	99
30) Malathion	16.69	173	5068	151.02 ug/L #	69
31) Metolachlor	16.83	162	28292	80.01 ug/L	99
32) Cyanazine	16.93	225	3623	74.32 ug/L	80

(#) = qualifier out of range (m) = manual integration
0430CC004.D 043012_525.M Tue May 01 10:23:43 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC004.D Vial: 0
Acq On : 30-04-2012 17:21 Operator:
Sample : DWSTD05-54I 525 ICAL 100 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:49 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

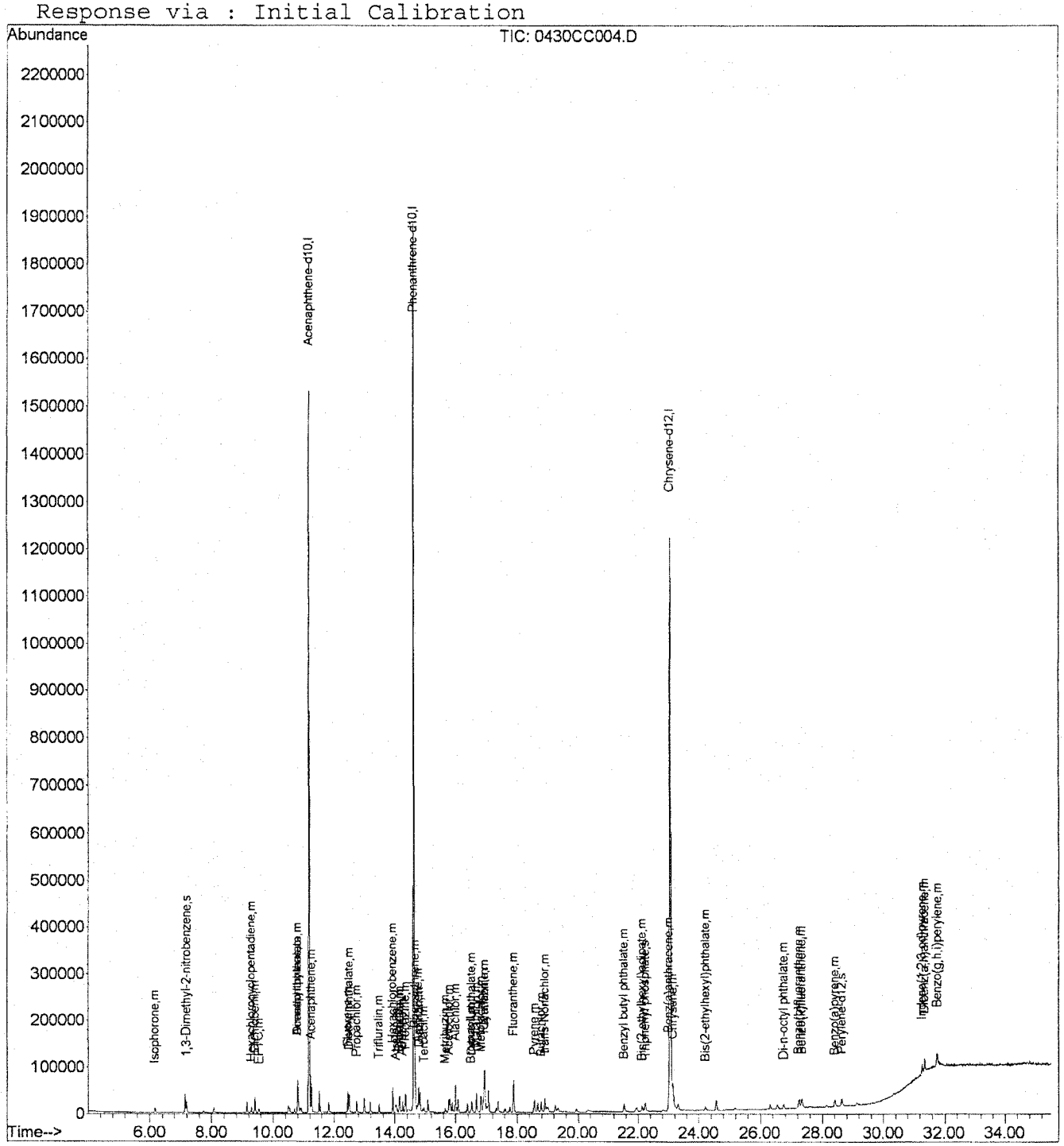
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.96	291	1971	144.44 ug/L #	72
36)	Fluoranthene	17.89	202	35757	93.75 ug/L	97
37)	Butachlor	18.78	160	6187	72.82 ug/L	89
38)	trans-Nonachlor	18.91	409	3343	91.10 ug/L	96
39)	Pyrene	18.56	202	29773	86.84 ug/L	96
40)	Benzyl butyl phthalate	21.53	149	9330	72.65 ug/L	90
41)	Bis(2-ethylhexyl)adipate	22.14	129	4487	134.47 ug/L	95
42)	Benz(a)anthracene	23.00	228	30301	88.74 ug/L	99
43)	Chrysene	23.14	228	40416	92.39 ug/L	95
44)	Bis(2-ethylhexyl)phthalate	24.21	149	12343	149.93 ug/L	96
45)	Di-n-octyl phthalate	26.75	149	17030	74.57 ug/L	100
46)	Benzo(b)fluoranthene	27.24	252	24693	80.46 ug/L	98
47)	Benzo(k)fluoranthene	27.34	252	28209	79.10 ug/L	100
48)	Benzo(a)pyrene	28.40	252	20188	78.16 ug/L	90
50)	Indeno(1,2,3-cd)pyrene	31.28	276	19061	82.97 ug/L	93
51)	Dibenz(a,h)anthracene	31.36	278	22849	80.61 ug/L	83
52)	Benzo(g,h,i)perylene	31.75	276	25970	85.84 ug/L	89

(#) = qualifier out of range (m) = manual integration
0430CC004.D 043012_525.M Tue May 01 10:23:43 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC004.D Vial: 0
Acq On : 30-04-2012 17:21 Operator:
Sample : DWSTD05-54I 525 ICAL 100 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC005.D Vial: 0
Acq On : 30-04-2012 18:07 Operator:
Sample : DWSTD05-54J 525 ICAL 200 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:50 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	746614	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1344249	2500.00 ug/L	0.00
35) Chrysene-d12	23.04	240	1449460	2500.00 ug/L	0.00

System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	13614	163.08 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 16.31%#		
34) Triphenyl phosphate	22.22	169	8001	152.40 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 15.24%#		
49) Perylene-d12	28.62	264	50334	146.47 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 14.65%#		

Target Compounds					Qvalue
2) Isophorone	6.17	82	11972	167.28 ug/L	98
4) Hexachlorocyclopentadiene	9.28	237	6275	154.12 ug/L	87
5) Dichlobenil	9.40	171	34250	178.77 ug/L	97
6) EPTC	9.53	128	9172	171.36 ug/L	99
7) Dimethyl phthalate	10.79	163	67674	186.14 ug/L	96
8) Acenaphthylene	10.80	152	61339	173.99 ug/L	96
9) Acenaphthene	11.25	153	58728	184.79 ug/L	93
10) Diethyl phthalate	12.49	149	61663	180.93 ug/L	99
11) Fluorene	12.44	165	57159	180.54 ug/L	97
12) Propachlor	12.74	120	22419	160.01 ug/L	91
13) Trifluralin	13.47	264	11802	138.58 ug/L	99
15) Hexachlorobenzene	13.93	284	28668	180.60 ug/L	97
16) Atraton	14.02	196	8060	144.55 ug/L	86
17) Prometon	14.16	210	16049	165.55 ug/L	95
18) Simazine	14.14	201	7635	174.84 ug/L	99
19) Atrazine	14.25	215	5450	169.37 ug/L	85
20) Propazine	14.35	214	18891	173.83 ug/L	91
21) Diazinon	14.82	137	12338	169.94 ug/L	100
22) Phenanthrene	14.67	178	94330	178.53 ug/L	95
23) Anthracene	14.78	178	86006	180.81 ug/L	96
24) Terbacil	14.96	117	2590	114.58 ug/L	96
25) Acetochlor	15.77	146	12940	178.29 ug/L	95
26) Metribuzin	15.65	198	8085	138.09 ug/L	99
27) Alachlor	15.98	160	24658	166.71 ug/L	99
28) Bromacil	16.49	207	9728	108.24 ug/L #	81
29) Dibutyl phthalate	16.52	149	80199	159.38 ug/L	99
30) Malathion	16.68	173	13740	310.32 ug/L	86
31) Metolachlor	16.82	162	66086	154.11 ug/L	99
32) Cyanazine	16.93	225	8565	140.21 ug/L	77

(#) = qualifier out of range (m) = manual integration
0430CC005.D 043012_525.M Tue May 01 10:23:45 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC005.D Vial: 0
Acq On : 30-04-2012 18:07 Operator:
Sample : DWSTD05-54J 525 ICAL 200 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:50 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

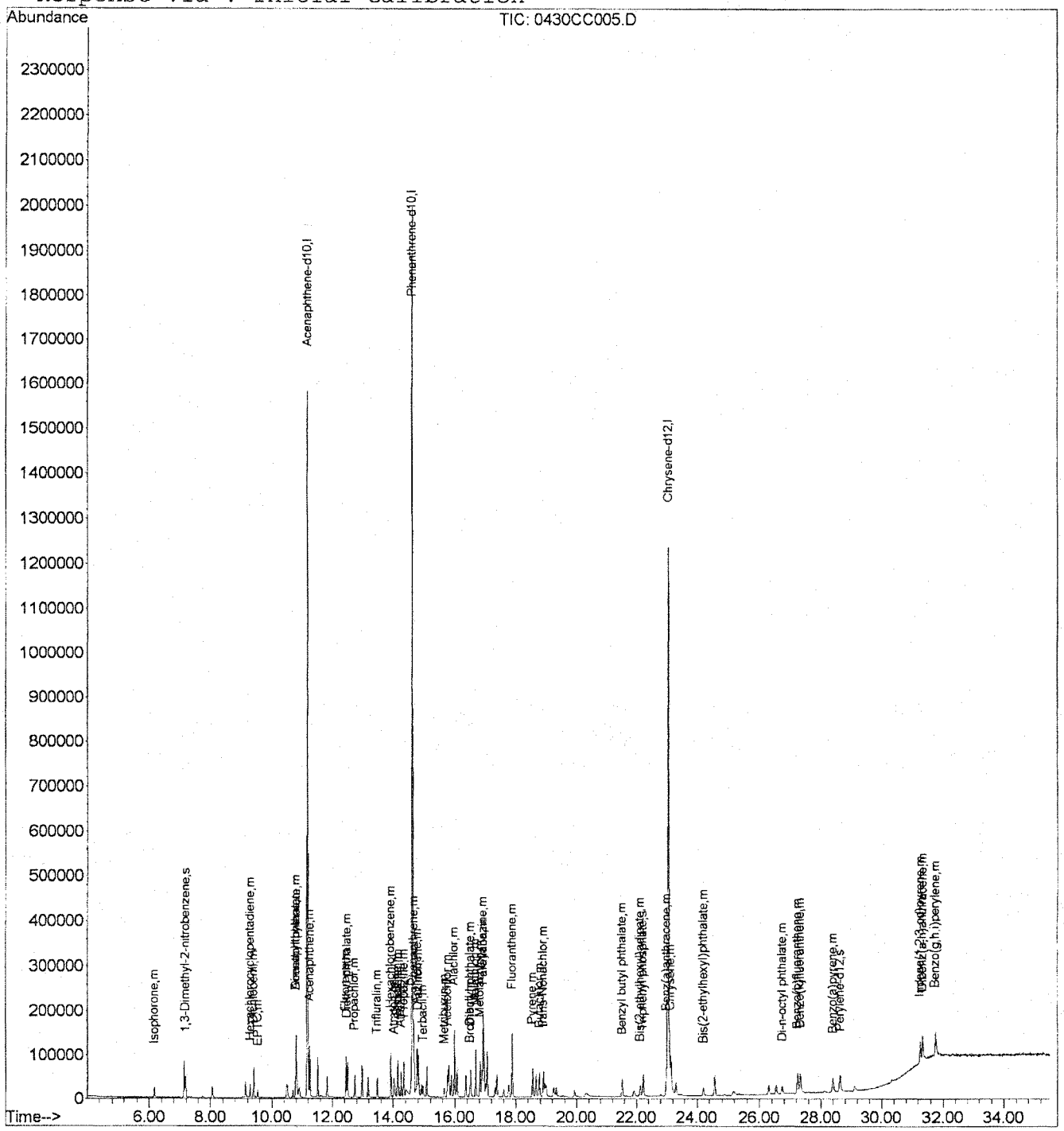
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	Parathion	16.95	291	4632	242.27 ug/L	#	77
36)	Fluoranthene	17.88	202	78586	183.48 ug/L		95
37)	Butachlor	18.77	160	15569	140.30 ug/L		95
38)	trans-Nonachlor	18.90	409	7165	172.36 ug/L		98
39)	Pyrene	18.55	202	68054	171.86 ug/L		96
40)	Benzyl butyl phthalate	21.52	149	21155	125.70 ug/L		99
41)	Bis(2-ethylhexyl)adipate	22.13	129	10820	176.31 ug/L		95
42)	Benz(a)anthracene	22.99	228	64054	161.31 ug/L		99
43)	Chrysene	23.14	228	80828	176.20 ug/L		100
44)	Bis(2-ethylhexyl)phthalate	24.21	149	25195	187.63 ug/L		98
45)	Di-n-octyl phthalate	26.74	149	36605	122.81 ug/L		96
46)	Benzo(b)fluoranthene	27.23	252	55894	148.95 ug/L		96
47)	Benzo(k)fluoranthene	27.33	252	70629	158.49 ug/L		95
48)	Benzo(a)pyrene	28.39	252	45724	142.18 ug/L		92
50)	Indeno(1,2,3-cd)pyrene	31.27	276	43281	154.67 ug/L		100
51)	Dibenz(a,h)anthracene	31.35	278	53411	150.93 ug/L		90
52)	Benzo(g,h,i)perylene	31.74	276	57681	160.60 ug/L		98

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC005.D Vial: 0
Acq On : 30-04-2012 18:07 Operator:
Sample : DWSTD05-54J 525 ICAL 200 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC006.D Vial: 0
Acq On : 30-04-2012 18:52 Operator:
Sample : DWSTD05-54K 525 ICAL 500 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:51 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	665116	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.61	188	1171695	2500.00 ug/L	0.00
35) Chrysene-d12	23.04	240	1272603	2500.00 ug/L	0.00

System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	37127	466.80 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 46.68%#		
34) Triphenyl phosphate	22.23	169	25136	481.21 ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 48.12%#		
49) Perylene-d12	28.62	264	164070	470.28 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 47.03%#		

Target Compounds					Qvalue
2) Isophorone	6.16	82	32656	481.18 ug/L	98
4) Hexachlorocyclopentadiene	9.29	237	18812	455.89 ug/L	89
5) Dichlobenil	9.39	171	88943	521.13 ug/L	96
6) EPTC	9.53	128	24630	485.58 ug/L	99
7) Dimethyl phthalate	10.79	163	169391	522.99 ug/L	100
8) Acenaphthylene	10.81	152	171268	513.90 ug/L	98
9) Acenaphthene	11.24	153	147754	521.87 ug/L	100
10) Diethyl phthalate	12.49	149	155380	487.34 ug/L	98
11) Fluorene	12.44	165	147517	523.05 ug/L	99
12) Propachlor	12.73	120	67418	492.43 ug/L	100
13) Trifluralin	13.48	264	42950	466.46 ug/L	96
15) Hexachlorobenzene	13.93	284	71829	519.14 ug/L	93
16) Atraton	14.03	196	27535	487.61 ug/L	99
17) Prometon	14.17	210	46662	495.00 ug/L	92
18) Simazine	14.14	201	21133	512.56 ug/L	81
19) Atrazine	14.26	215	16227	536.76 ug/L	88
20) Propazine	14.35	214	53060	521.41 ug/L	93
21) Diazinon	14.81	137	35928	521.52 ug/L	84
22) Phenanthrene	14.66	178	231649	502.97 ug/L	92
23) Anthracene	14.77	178	220173	509.57 ug/L	98
24) Terbacil	14.97	117	8277	332.59 ug/L	95
25) Acetochlor	15.77	146	38962	485.55 ug/L	94
26) Metribuzin	15.65	198	27360	457.89 ug/L	96
27) Alachlor	15.98	160	69347	486.10 ug/L	93
28) Bromacil	16.50	207	31395	309.73 ug/L	96
29) Dibutyl phthalate	16.52	149	238593	492.43 ug/L	99
30) Malathion	16.68	173	38854	877.89 ug/L #	75
31) Metolachlor	16.83	162	207797	495.60 ug/L	94
32) Cyanazine	16.93	225	26262	458.84 ug/L	72

(#) = qualifier out of range (m) = manual integration
0430CC006.D 043012_525.M Tue May 01 10:23:47 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC006.D Vial: 0
Acq On : 30-04-2012 18:52 Operator:
Sample : DWSTD05-54K 525 ICAL 500 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:51 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

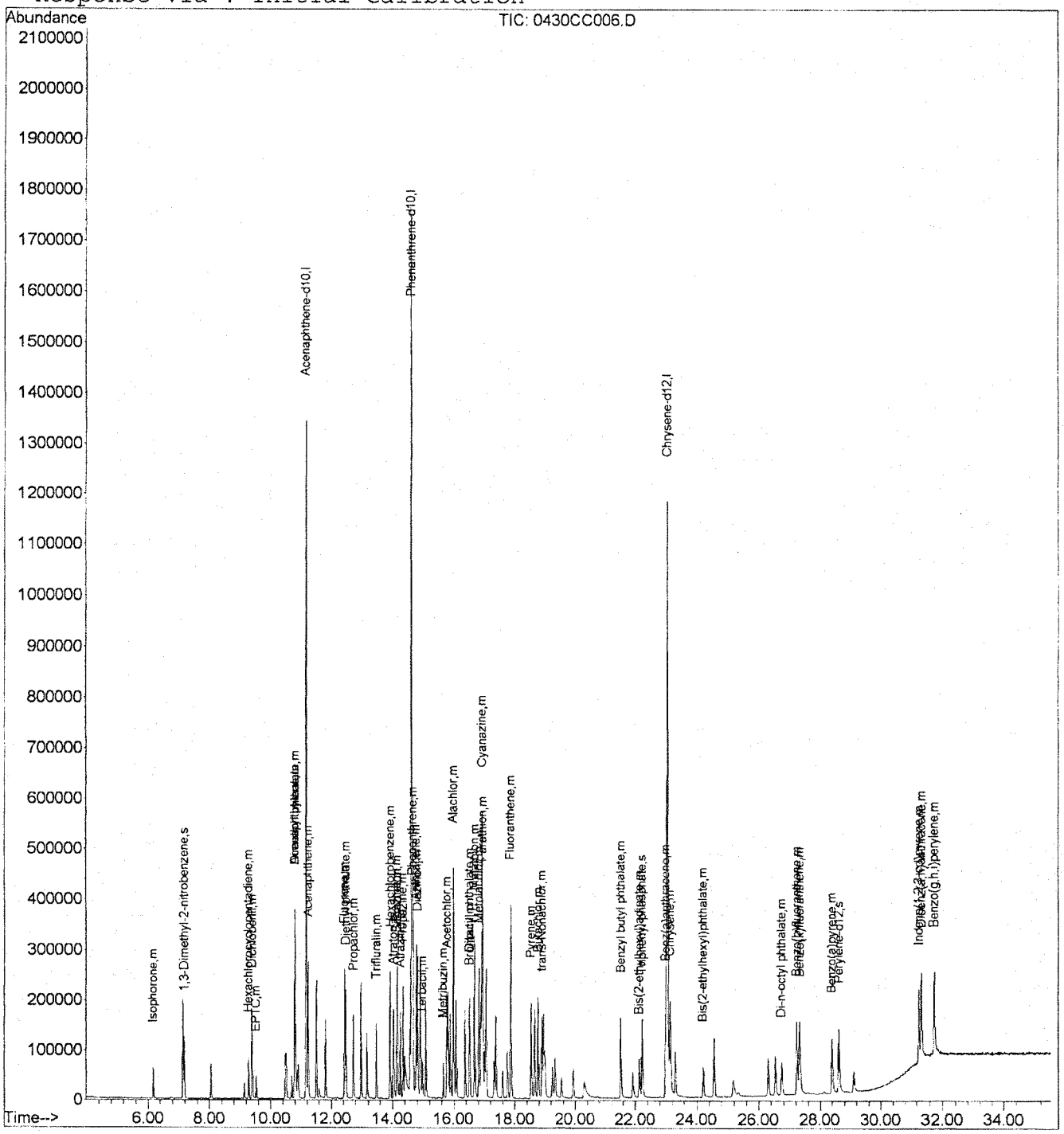
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.96	291	19670	879.12 ug/L	98
36)	Fluoranthene	17.88	202	203321	512.05 ug/L	95
37)	Butachlor	18.77	160	54105	471.44 ug/L	96
38)	trans-Nonachlor	18.90	409	21199	532.35 ug/L	94
39)	Pyrene	18.55	202	185710	499.95 ug/L	99
40)	Benzyl butyl phthalate	21.53	149	77749	431.38 ug/L	97
41)	Bis(2-ethylhexyl)adipate	22.13	129	39328	405.99 ug/L	90
42)	Benz(a)anthracene	22.99	228	185772	486.51 ug/L	99
43)	Chrysene	23.14	228	202441	502.64 ug/L	98
44)	Bis(2-ethylhexyl)phthalate	24.20	149	84180	401.02 ug/L	97
45)	Di-n-octyl phthalate	26.74	149	127345	390.17 ug/L	99
46)	Benzo(b)fluoranthene	27.23	252	183403	488.75 ug/L	96
47)	Benzo(k)fluoranthene	27.33	252	215789	489.98 ug/L	97
48)	Benzo(a)pyrene	28.39	252	150937	458.98 ug/L	89
50)	Indeno(1,2,3-cd)pyrene	31.27	276	122565	440.72 ug/L	94
51)	Dibenz(a,h)anthracene	31.35	278	157655	443.89 ug/L	96
52)	Benzo(g,h,i)perylene	31.74	276	165039	472.59 ug/L	89

(#) = qualifier out of range (m) = manual integration
0430CC006.D 043012_525.M Tue May 01 10:23:47 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC006.D Vial: 0
Acq On : 30-04-2012 18:52 Operator:
Sample : DWSTD05-54K 525 ICAL 500 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



0430CC006.D 043012_525.M Tue May 01 10:23:48 2012 Page 3

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC007.D Vial: 0
Acq On : 30-04-2012 19:37 Operator:
Sample : DWSTD05-54L 525 ICAL 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:52 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	617678	2500.00	ug/L	0.00
14) Phenanthrene-d10	14.61	188	1103889	2500.00	ug/L	0.00
35) Chrysene-d12	23.04	240	1222146	2500.00	ug/L	0.00
System Monitoring Compounds						
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	69629	917.67	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 91.77%			
34) Triphenyl phosphate	22.21	169	50247	967.34	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 96.73%			
49) Perylene-d12	28.62	264	316501	893.32	ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 89.33%			
Target Compounds						Qvalue
2) Isophorone	6.16	82	59314	912.97	ug/L	100
4) Hexachlorocyclopentadiene	9.28	237	36966	907.69	ug/L	100
5) Dichlobenil	9.39	171	148107	934.43	ug/L	100
6) EPTC	9.53	128	44854	924.60	ug/L	100
7) Dimethyl phthalate	10.79	163	292901	973.79	ug/L	100
8) Acenaphthylene	10.80	152	301427	945.26	ug/L	100
9) Acenaphthene	11.24	153	254360	967.41	ug/L	100
10) Diethyl phthalate	12.48	149	281412	928.16	ug/L	100
11) Fluorene	12.44	165	258020	985.12	ug/L	91
12) Propachlor	12.73	120	122010	923.39	ug/L	100
13) Trifluralin	13.47	264	87518	914.22	ug/L	100
15) Hexachlorobenzene	13.92	284	130051	997.68	ug/L	100
16) Atraton	14.03	196	53150	936.80	ug/L	100
17) Prometon	14.16	210	87311	939.06	ug/L	100
18) Simazine	14.15	201	38900	964.88	ug/L	100
19) Atrazine	14.25	215	27538	939.16	ug/L	100
20) Propazine	14.35	214	92709	939.13	ug/L	100
21) Diazinon	14.82	137	66830	983.17	ug/L	100
22) Phenanthrene	14.66	178	402207	926.94	ug/L	100
23) Anthracene	14.77	178	389274	938.26	ug/L	100
24) Terbacil	14.98	117	15182	640.60	ug/L	100
25) Acetochlor	15.76	146	75451	928.45	ug/L	100
26) Metribuzin	15.65	198	54678	916.30	ug/L	100
27) Alachlor	15.98	160	124328	888.45	ug/L	100
28) Bromacil	16.51	207	62494	644.20	ug/L	100
29) Dibutyl phthalate	16.52	149	446961	948.69	ug/L	100
30) Malathion	16.68	173	83282	1873.37	ug/L	100
31) Metolachlor	16.82	162	387443	939.43	ug/L	100
32) Cyanazine	16.93	225	50889	1023.86	ug/L	100

(#) = qualifier out of range (m) = manual integration
0430CC007.D 043012_525.M Tue May 01 10:23:49 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC007.D Vial: 0
Acq On : 30-04-2012 19:37 Operator:
Sample : DWSTD05-54L 525 ICAL 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:52 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

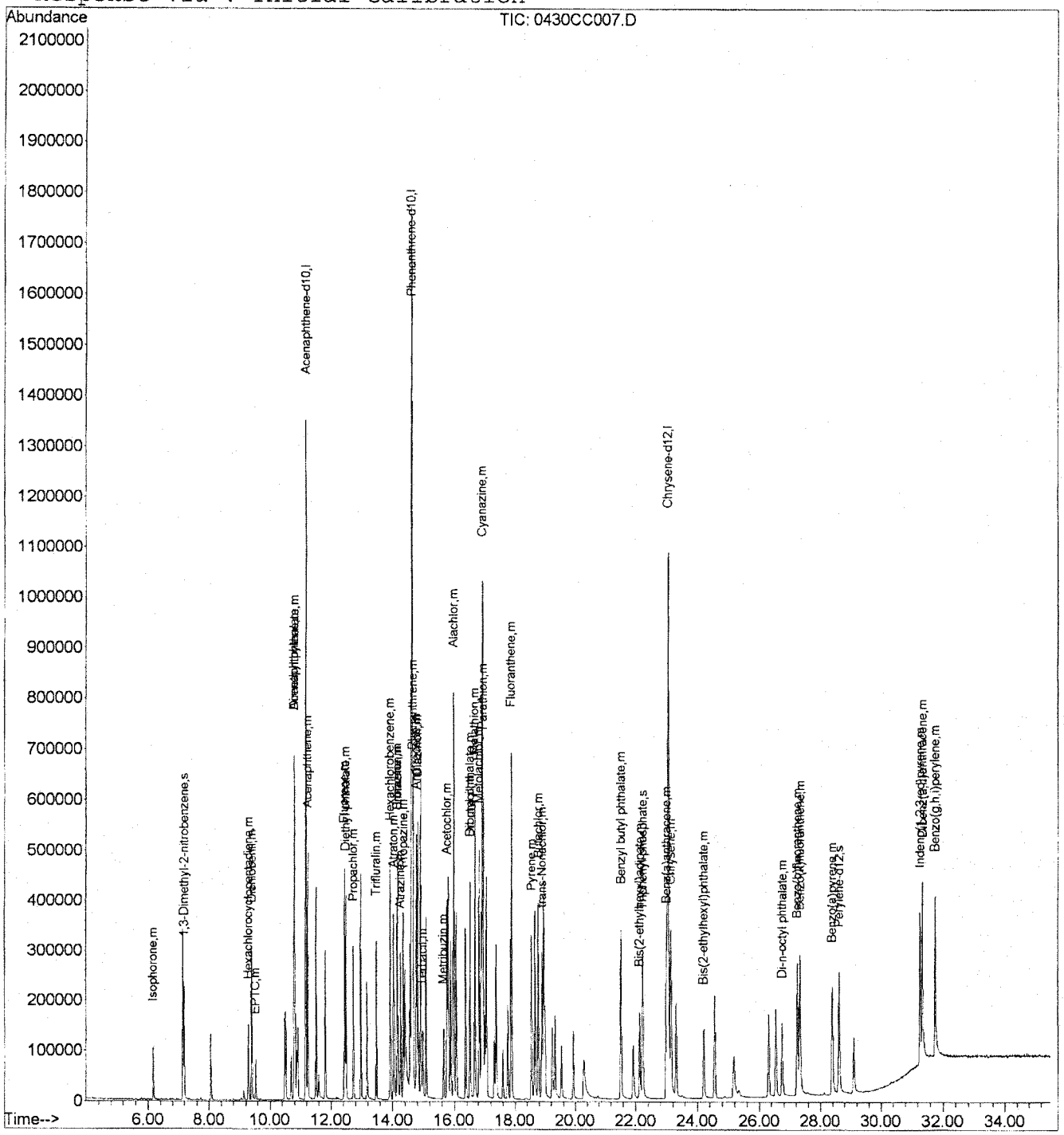
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.96	291	41180	1742.98 ug/L	100
36)	Fluoranthene	17.88	202	360444	920.90 ug/L	100
37)	Butachlor	18.77	160	108749	926.54 ug/L	100
38)	trans-Nonachlor	18.90	409	36111	900.91 ug/L	100
39)	Pyrene	18.54	202	330588	906.16 ug/L	100
40)	Benzyl butyl phthalate	21.52	149	169713	913.28 ug/L	100
41)	Bis(2-ethylhexyl)adipate	22.12	129	92612	833.36 ug/L	100
42)	Benz(a)anthracene	22.99	228	344253	904.62 ug/L	100
43)	Chrysene	23.13	228	357091	923.23 ug/L	100
44)	Bis(2-ethylhexyl)phthalate	24.20	149	197766	801.25 ug/L	100
45)	Di-n-octyl phthalate	26.74	149	305899	878.12 ug/L	99
46)	Benzo(b)fluoranthene	27.23	252	341834	904.27 ug/L	100
47)	Benzo(k)fluoranthene	27.33	252	411077	929.79 ug/L	100
48)	Benzo(a)pyrene	28.38	252	311691	920.45 ug/L	100
50)	Indeno(1,2,3-cd)pyrene	31.27	276	261338	911.63 ug/L	100
51)	Dibenz(a,h)anthracene	31.35	278	321962	888.71 ug/L	92
52)	Benzo(g,h,i)perylene	31.74	276	309344	882.04 ug/L	100

(#) = qualifier out of range (m) = manual integration
0430CC007.D 043012_525.M Tue May 01 10:23:49 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC007.D Vial: 0
Acq On : 30-04-2012 19:37 Operator:
Sample : DWSTD05-54L 525 ICAL 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



0430CC007.D 043012_525.M Tue May 01 10:23:50 2012 Page 3

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC008.D Vial: 0
Acq On : 30-04-2012 20:23 Operator:
Sample : DWSTD05-54M 525 ICAL 2000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:53 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	599702	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1108158	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1200555	2500.00 ug/L	0.00
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	165788	2160.42 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 216.04%#		
34) Triphenyl phosphate	22.23	169	119312	2113.32 ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 211.33%#		
49) Perylene-d12	28.63	264	834318	2158.13 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 215.81%#		

Target Compounds					Qvalue
2) Isophorone	6.16	82	142393	2130.99 ug/L	99
4) Hexachlorocyclopentadiene	9.28	237	92206	2102.94 ug/L	95
5) Dichlobenil	9.40	171	338869	2202.06 ug/L	100
6) EPTC	9.53	128	106721	2147.57 ug/L	98
7) Dimethyl phthalate	10.80	163	657400	2251.12 ug/L	95
8) Acenaphthylene	10.80	152	679526	2073.55 ug/L	98
9) Acenaphthene	11.25	153	541308	2120.48 ug/L	97
10) Diethyl phthalate	12.49	149	643855	2101.75 ug/L	99
11) Fluorene	12.44	165	579830	2280.14 ug/L	94
12) Propachlor	12.73	120	288619	2100.01 ug/L	100
13) Trifluralin	13.47	264	252674	2164.72 ug/L	99
15) Hexachlorobenzene	13.92	284	282929	2162.11 ug/L	97
16) Atraton	14.04	196	134260	2101.06 ug/L	98
17) Prometon	14.17	210	205996	2050.84 ug/L	98
18) Simazine	14.16	201	89214	2072.14 ug/L	88
19) Atrazine	14.27	215	64602	2073.24 ug/L #	71
20) Propazine	14.36	214	218038	2085.74 ug/L	97
21) Diazinon	14.82	137	147360	1999.49 ug/L	97
22) Phenanthrene	14.67	178	885077	2031.93 ug/L	99
23) Anthracene	14.77	178	888405	2063.06 ug/L	96
24) Terbacil	15.00	117	40506	2116.14 ug/L	91
25) Acetochlor	15.77	146	176296	2008.37 ug/L	88
26) Metribuzin	15.66	198	141121	2143.59 ug/L	96
27) Alachlor	15.99	160	319279	2107.57 ug/L	96
28) Bromacil	16.54	207	167963	2192.21 ug/L	95
29) Dibutyl phthalate	16.53	149	1034719	2100.56 ug/L	100
30) Malathion	16.69	173	211858	4334.40 ug/L	95
31) Metolachlor	16.83	162	949709	2132.23 ug/L	97
32) Cyanazine	16.95	225	123269	Below Cal	98

(#) = qualifier out of range (m) = manual integration
0430CC008.D 043012_525.M Tue May 01 10:23:51 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC008.D Vial: 0
Acq On : 30-04-2012 20:23 Operator:
Sample : DWSTD05-54M 525 ICAL 2000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:53 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

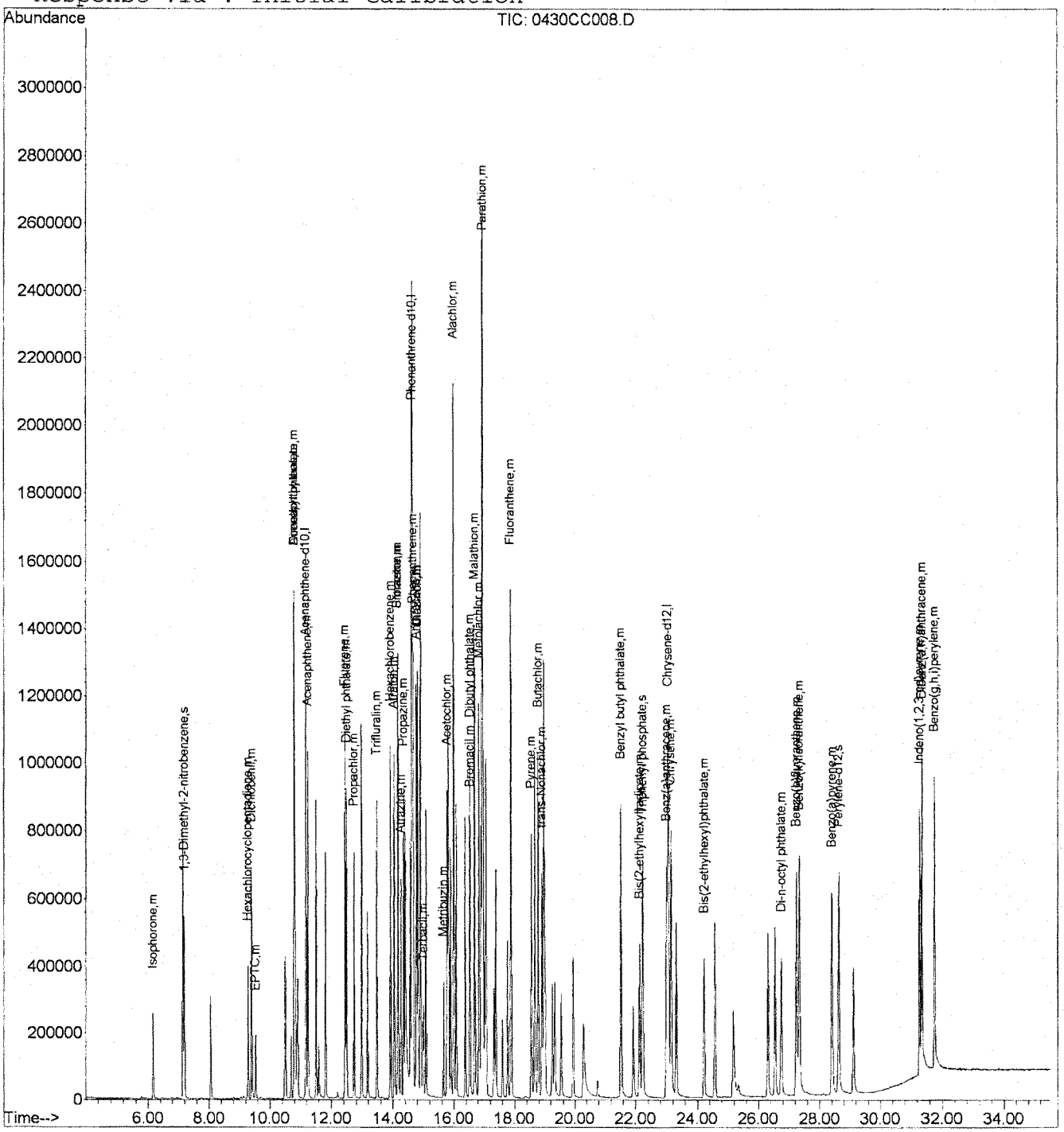
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.96	291	121839	4172.84 ug/L	80
36)	Fluoranthene	17.88	202	829315	2051.55 ug/L	100
37)	Butachlor	18.78	160	282658	2193.87 ug/L	99
38)	trans-Nonachlor	18.90	409	92949	2092.51 ug/L	90
39)	Pyrene	18.55	202	771943	2079.85 ug/L	100
40)	Benzyl butyl phthalate	21.53	149	439344	2162.66 ug/L	96
41)	Bis(2-ethylhexyl)adipate	22.12	129	258298	2072.45 ug/L	85
42)	Benz(a)anthracene	22.99	228	851644	2126.51 ug/L	96
43)	Chrysene	23.15	228	831293	2187.89 ug/L	99
44)	Bis(2-ethylhexyl)phthalate	24.21	149	586552	2025.55 ug/L	98
45)	Di-n-octyl phthalate	26.74	149	893666	2195.80 ug/L	98
46)	Benzo(b)fluoranthene	27.24	252	858761	2114.29 ug/L	96
47)	Benzo(k)fluoranthene	27.34	252	979488	2099.45 ug/L	99
48)	Benzo(a)pyrene	28.39	252	796440	2120.94 ug/L	97
50)	Indeno(1,2,3-cd)pyrene	31.27	276	676355	2125.24 ug/L	97
51)	Dibenz(a,h)anthracene	31.35	278	844036	2137.84 ug/L	98
52)	Benzo(g,h,i)perylene	31.74	276	805335	2139.28 ug/L	94

(#) = qualifier out of range (m) = manual integration
0430CC008.D 043012_525.M Tue May 01 10:23:52 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC008.D Vial: 0
Acq On : 30-04-2012 20:23 Operator:
Sample : DWSTD05-54M 525 ICAL 2000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC009.D Vial: 0
Acq On : 30-04-2012 21:08 Operator:
Sample : DWSTD05-54N 525 ICAL 4000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:54 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	611963	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1146444	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1255466	2500.00 ug/L	0.01
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	334001	4057.24 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 405.72%#		
34) Triphenyl phosphate	22.23	169	259552	3997.62 ug/L	0.02
Spiked Amount 1000.000	Range 70 - 130		Recovery = 399.76%#		
49) Perylene-d12	28.63	264	1895678	4117.60 ug/L	0.01
Spiked Amount 1000.000	Range 70 - 130		Recovery = 411.76%#		

Target Compounds					Qvalue
2) Isophorone	6.16	82	300149	4072.85 ug/L	100
4) Hexachlorocyclopentadiene	9.28	237	215190	4168.48 ug/L	87
5) Dichlobenil	9.40	171	712475	4537.08 ug/L	99
6) EPTC	9.53	128	217522	4005.22 ug/L	90
7) Dimethyl phthalate	10.80	163	1400654	4700.13 ug/L	97
8) Acenaphthylene	10.81	152	1463556	4022.95 ug/L	98
9) Acenaphthene	11.25	153	1178205	4522.93 ug/L	94
10) Diethyl phthalate	12.49	149	1343300	4064.38 ug/L	99
11) Fluorene	12.44	165	1260289	4856.70 ug/L	99
12) Propachlor	12.73	120	631741	4091.94 ug/L	95
13) Trifluralin	13.47	264	614228	4001.40 ug/L	97
15) Hexachlorobenzene	13.93	284	551487	4073.66 ug/L	96
16) Atraton	14.06	196	315715	4079.16 ug/L	100
17) Prometon	14.18	210	480239	4136.24 ug/L	98
18) Simazine	14.18	201	194938	4000.46 ug/L	90
19) Atrazine	14.28	215	139667	3995.65 ug/L	87
20) Propazine	14.37	214	466298	4002.76 ug/L	95
21) Diazinon	14.83	137	353593	4064.93 ug/L	97
22) Phenanthrene	14.67	178	1982289	4398.89 ug/L	100
23) Anthracene	14.78	178	1898027	4052.31 ug/L	97
24) Terbacil	15.04	117	86385	Below Cal	100
25) Acetochlor	15.78	146	400064	4033.35 ug/L	99
26) Metribuzin	15.67	198	317731	4130.32 ug/L	91
27) Alachlor	15.99	160	719143	4147.08 ug/L	98
28) Bromacil	16.58	207	347463	Below Cal	90
29) Dibutyl phthalate	16.53	149	2190001	4076.88 ug/L	98
30) Malathion	16.70	173	460350	8139.87 ug/L	87
31) Metolachlor	16.84	162	2033433	4017.05 ug/L	99
32) Cyanazine	16.96	225	293751m	Below Cal	

(#) = qualifier out of range (m) = manual integration
0430CC009.D 043012_525.M Tue May 01 10:23:53 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC009.D Vial: 0
Acq On : 30-04-2012 21:08 Operator:
Sample : DWSTD05-54N 525 ICAL 4000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:54 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

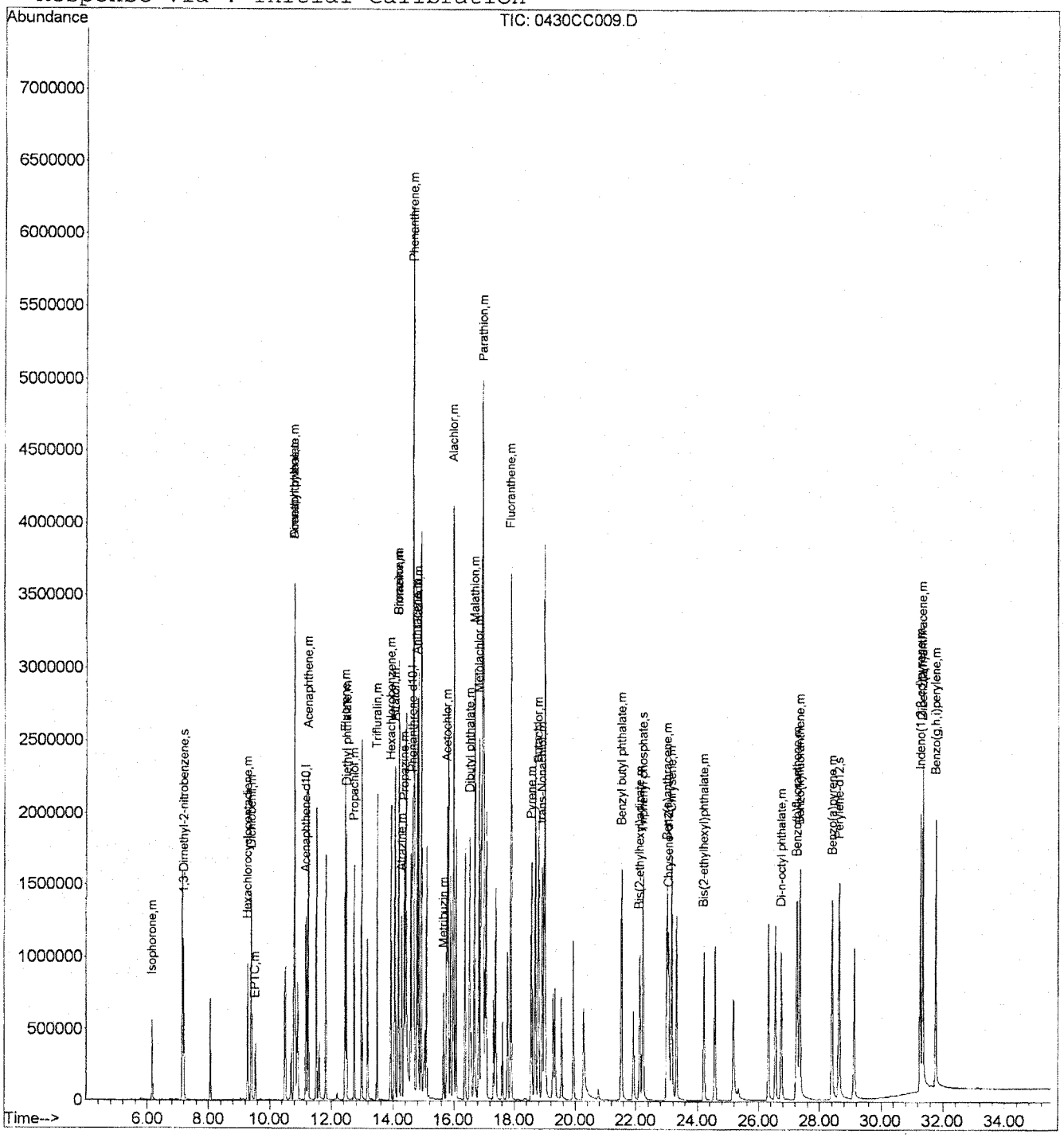
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
33)	Parathion	16.98	291	334587	8459.97	ug/L	97
36)	Fluoranthene	17.89	202	1868991	4095.55	ug/L	99
37)	Butachlor	18.79	160	613545	4007.46	ug/L	98
38)	trans-Nonachlor	18.90	409	220106	4027.02	ug/L	92
39)	Pyrene	18.56	202	1683546	4137.23	ug/L	100
40)	Benzyl butyl phthalate	21.53	149	1012315	4164.24	ug/L	97
41)	Bis(2-ethylhexyl)adipate	22.13	129	584813	4047.68	ug/L	88
42)	Benz(a)anthracene	23.00	228	1878576	4095.81	ug/L	96
43)	Chrysene	23.15	228	1806372	4546.28	ug/L	98
44)	Bis(2-ethylhexyl)phthalate	24.21	149	1444265	4074.58	ug/L	95
45)	Di-n-octyl phthalate	26.74	149	2170874	4175.37	ug/L	98
46)	Benzo(b)fluoranthene	27.25	252	1982488	4137.09	ug/L	99
47)	Benzo(k)fluoranthene	27.35	252	2203746	4096.69	ug/L	99
48)	Benzo(a)pyrene	28.40	252	1909266	4132.66	ug/L	96
50)	Indeno(1,2,3-cd)pyrene	31.28	276	1623631	4142.93	ug/L	82
51)	Dibenz(a,h)anthracene	31.35	278	1980942	4189.71	ug/L	100
52)	Benzo(g,h,i)perylene	31.75	276	1824898	4134.64	ug/L	95

(#) = qualifier out of range (m) = manual integration
0430CC009.D 043012_525.M Tue May 01 10:23:54 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC009.D Vial: 0
Acq On : 30-04-2012 21:08 Operator:
Sample : DWSTD05-54N 525 ICAL 4000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:08 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration

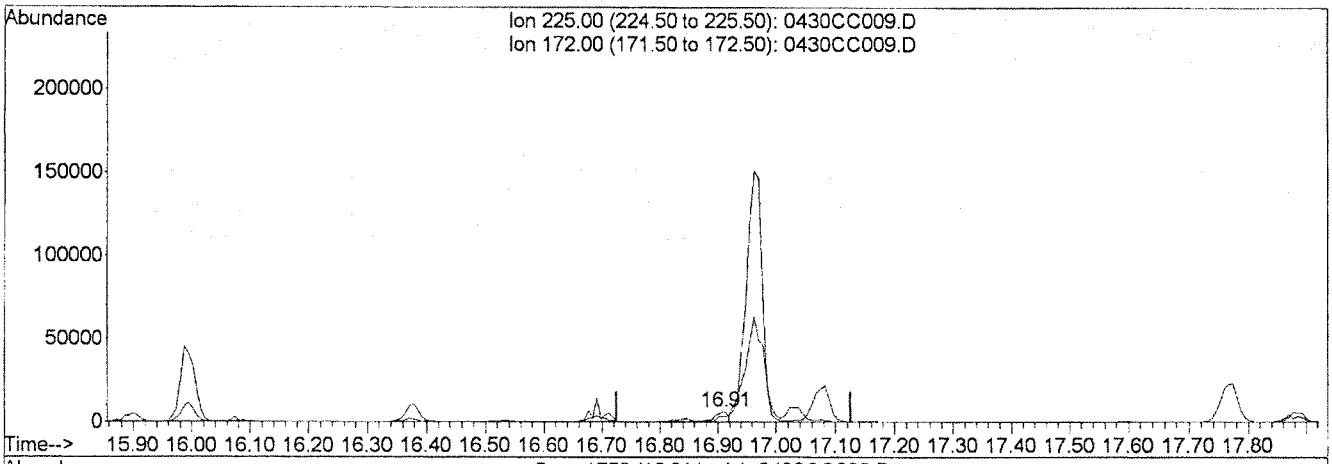


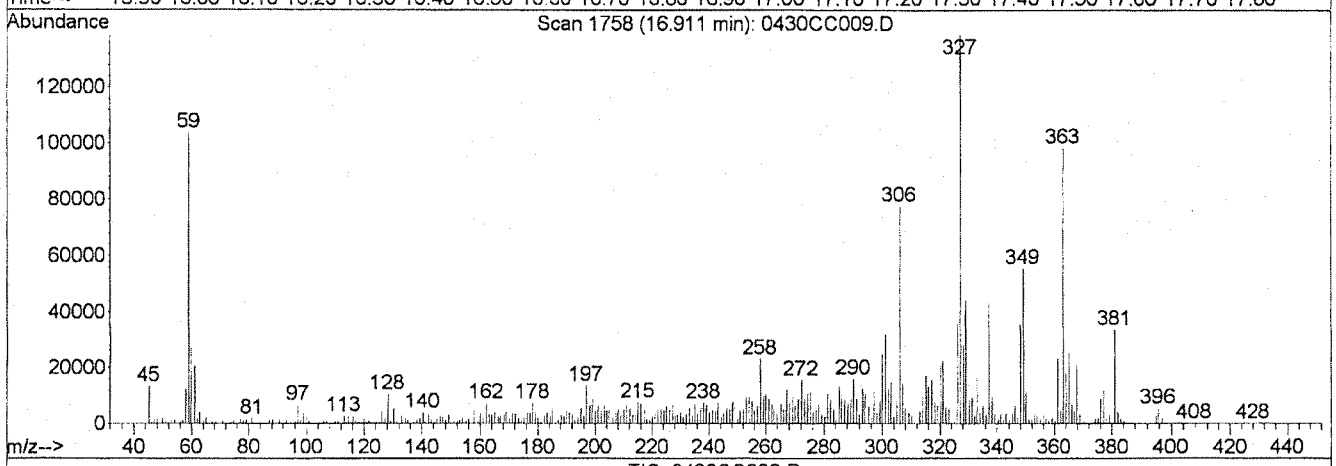
0430CC009.D 043012_525.M Tue May 01 10:23:54 2012 Page 3

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC009.D Vial: 0
Acq On : 30-04-2012 21:08 Operator:
Sample : DWSTD05-54N 525 ICAL 4000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





(32) Cyanazine (m)

16.91min 177.98ug/L

response 9601

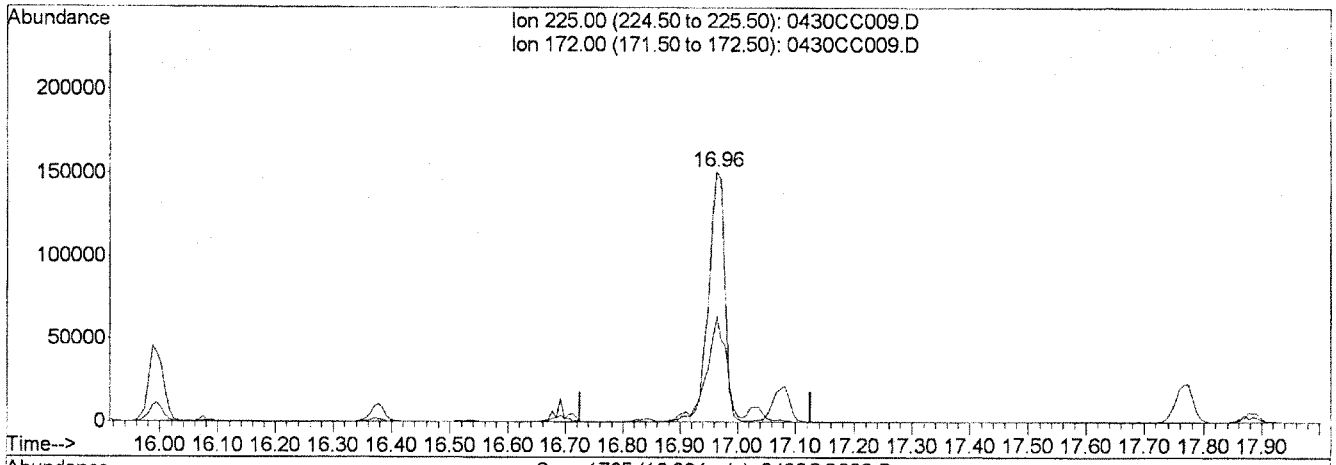
Ion	Exp%	Act%
225.00	100	100
172.00	42.70	52.29
0.00	0.00	0.00
0.00	0.00	0.00

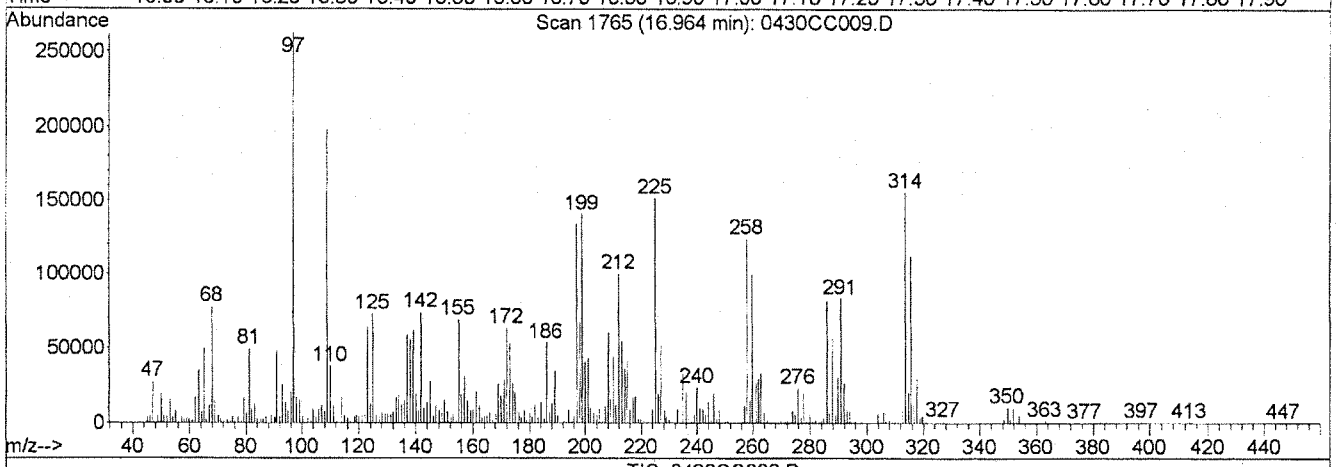
0430CC009.D 043012_525.M Tue May 01 10:08:09 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC009.D Vial: 0
Acq On : 30-04-2012 21:08 Operator:
Sample : DWSTD05-54N 525 ICAL 4000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:08 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC009.D

(32) Cyanazine (m)

16.96min -2500.00ug/L m

response 293751

Ion	Exp%	Act%
225.00	100	100
172.00	42.70	42.00
0.00	0.00	0.00
0.00	0.00	0.00

Mg/2/w After wrong peak [illegible]

0430CC009.D 043012_525.M Tue May 01 10:08:20 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-540 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:55 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	600222	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1097114	2500.00 ug/L	0.00
35) Chrysene-d12	23.06	240	1227480	2500.00 ug/L	0.02
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	501414	5933.93 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 593.39%#		
34) Triphenyl phosphate	22.25	169	407630	5955.37 ug/L	0.03
Spiked Amount 1000.000	Range 70 - 130		Recovery = 595.54%#		
49) Perylene-d12	28.65	264	2957170	5919.51 ug/L	0.04
Spiked Amount 1000.000	Range 70 - 130		Recovery = 591.95%#		
Target Compounds					Qvalue
2) Isophorone	6.16	82	459171	5935.31 ug/L	99
4) Hexachlorocyclopentadiene	9.28	237	331048	5894.11 ug/L	93
5) Dichlobenil	9.40	171	1056432	6859.02 ug/L	99
6) EPTC	9.54	128	339727	5968.94 ug/L	96
7) Dimethyl phthalate	10.80	163	2126509	7275.45 ug/L	94
8) Acenaphthylene	10.81	152	2301118	5974.22 ug/L	100
9) Acenaphthene	11.25	153	1672161	6544.71 ug/L	98
10) Diethyl phthalate	12.49	149	2023864	5943.46 ug/L	95
11) Fluorene	12.45	165	1877415	7376.41 ug/L	100
12) Propachlor	12.74	120	972428	5931.36 ug/L	99
13) Trifluralin	13.48	264	1115513	5977.80 ug/L	95
15) Hexachlorobenzene	13.93	284	951347	7343.27 ug/L	95
16) Atraton	14.07	196	499631	5942.23 ug/L	97
17) Prometon	14.20	210	714841	5916.68 ug/L	97
18) Simazine	14.20	201	303256	5985.78 ug/L	87
19) Atrazine	14.30	215	216156	5989.69 ug/L	83
20) Propazine	14.37	214	715074	5982.85 ug/L	95
21) Diazinon	14.83	137	552107	5964.84 ug/L	95
22) Phenanthrene	14.68	178	3194237	7407.04 ug/L	92
23) Anthracene	14.78	178	2792532	5958.42 ug/L	99
24) Terbacil	15.07	117	131632m	Below Cal	
25) Acetochlor	15.78	146	610652	5987.60 ug/L	99
26) Metribuzin	15.68	198	478113	5904.23 ug/L	94
27) Alachlor	16.00	160	1058519	5902.15 ug/L	90
28) Bromacil	16.62	207	534480m	Below Cal	
29) Dibutyl phthalate	16.54	149	3189354	5933.07 ug/L	99
30) Malathion	16.71	173	706805	11862.54 ug/L	85
31) Metolachlor	16.84	162	3150204	5964.41 ug/L	94
32) Cyanazine	16.99	225	451449m	Below Cal	

(#) = qualifier out of range (m) = manual integration
0430CC010.D 043012_525.M Tue May 01 10:23:55 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-540 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 10:02:55 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Initial Calibration
DataAcq Meth :

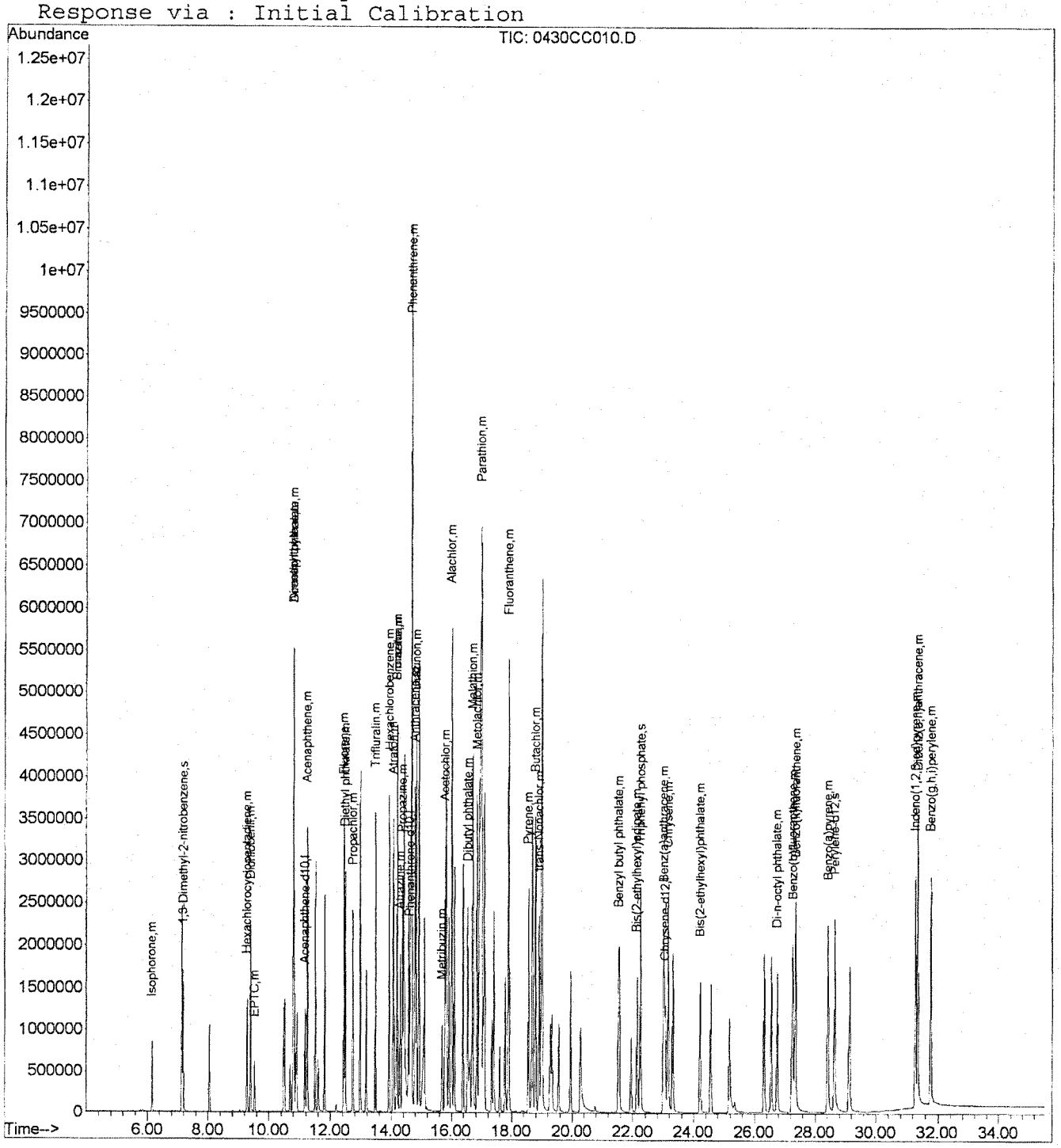
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.99	291	524464	11751.30 ug/L	84
36)	Fluoranthene	17.90	202	2824576	5943.20 ug/L	92
37)	Butachlor	18.79	160	1007300	5969.66 ug/L	97
38)	trans-Nonachlor	18.91	409	367783	5982.10 ug/L	89
39)	Pyrene	18.56	202	2441768	5912.23 ug/L	99
40)	Benzyl butyl phthalate	21.54	149	1546147	5882.59 ug/L	96
41)	Bis(2-ethylhexyl)adipate	22.13	129	915730	5987.23 ug/L	90
42)	Benz(a)anthracene	23.02	228	2871911	5934.17 ug/L	98
43)	Chrysene	23.16	228	2766527	7121.55 ug/L	94
44)	Bis(2-ethylhexyl)phthalate	24.21	149	2317886	5964.35 ug/L	95
45)	Di-n-octyl phthalate	26.75	149	3458004	5889.61 ug/L	100
46)	Benzo(b)fluoranthene	27.27	252	3042478	5915.47 ug/L	96
47)	Benzo(k)fluoranthene	27.37	252	3379032	5931.99 ug/L	99
48)	Benzo(a)pyrene	28.42	252	3014813	5905.63 ug/L	95
50)	Indeno(1,2,3-cd)pyrene	31.28	276	2561899	5914.18 ug/L	99
51)	Dibenz(a,h)anthracene	31.36	278	2999473	5884.51 ug/L	98
52)	Benzo(g,h,i)perylene	31.76	276	2792490	5912.72 ug/L	94

(#) = qualifier out of range (m) = manual integration
0430CC010.D 043012_525.M Tue May 01 10:23:56 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-540 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:09 2012 Quant Results File: 043012_525.R

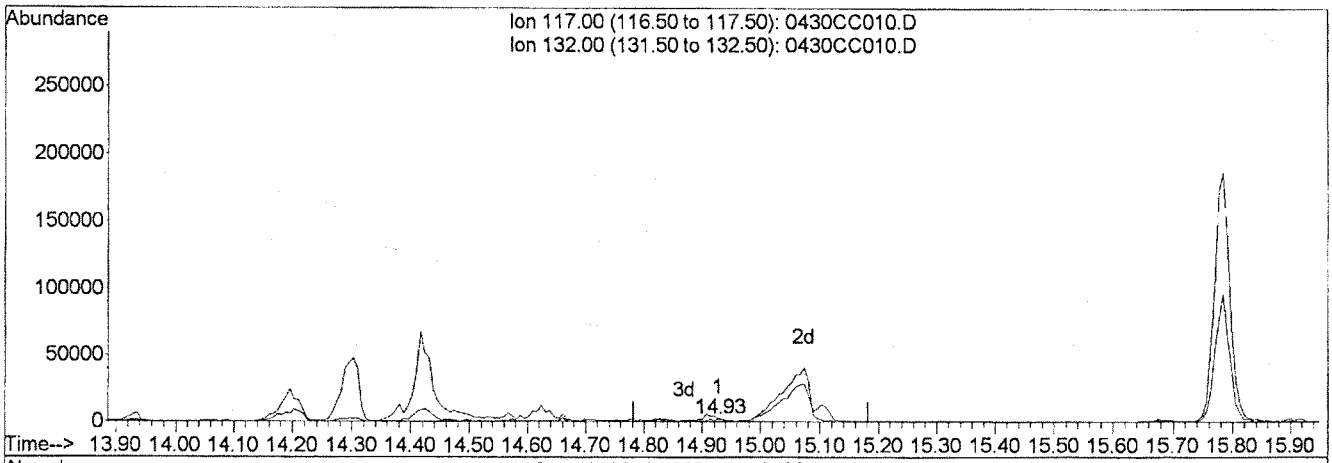
Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:13:36 2012
Response via : Initial Calibration

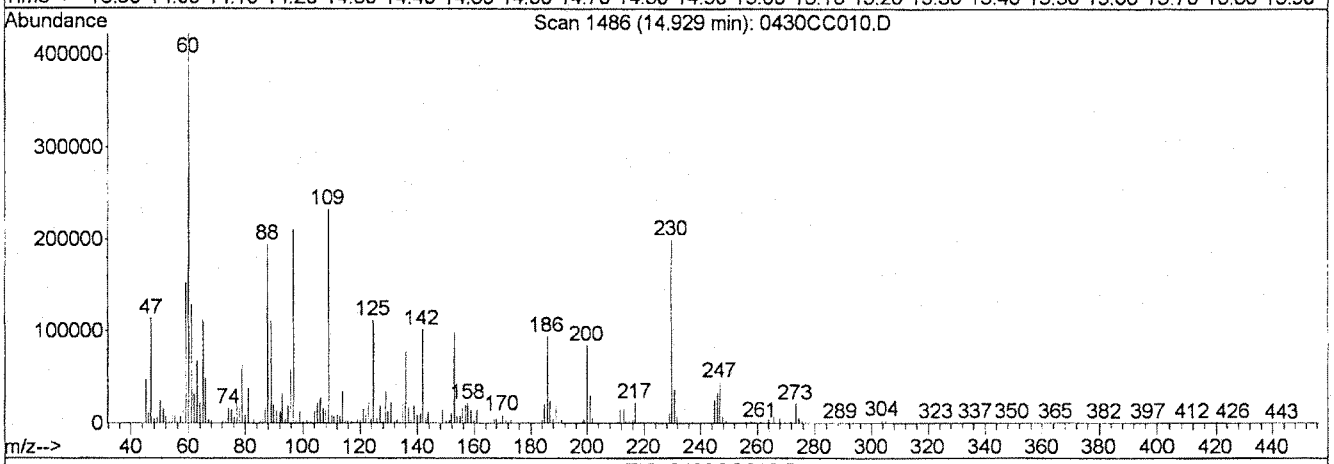


Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:02 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC010.D

(24) Terbacil (m)

14.93min 171.35ug/L

response 3617

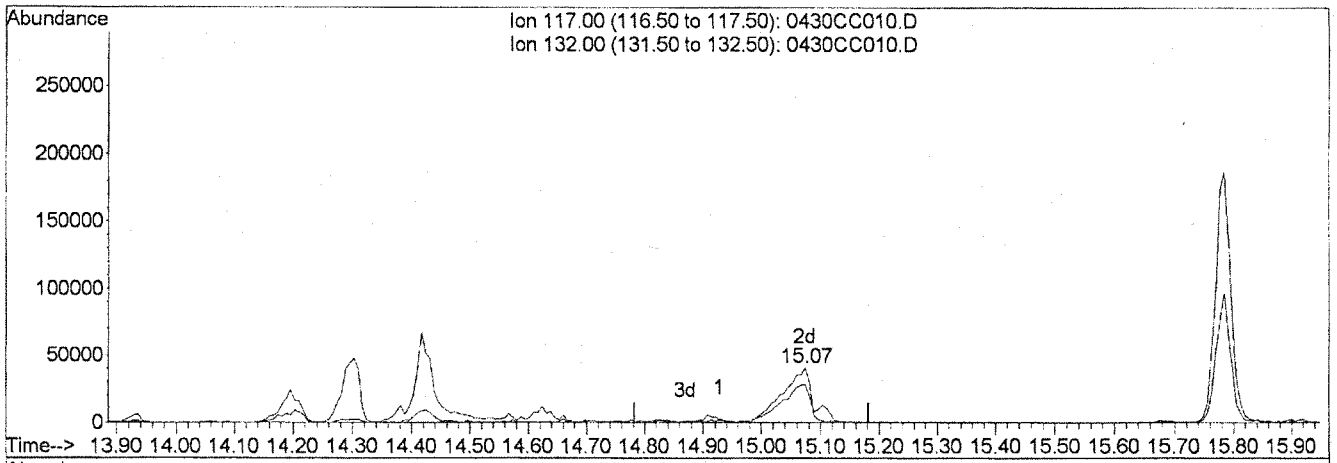
Ion	Exp%	Act%
117.00	100	100
132.00	66.20	76.27
0.00	0.00	0.00
0.00	0.00	0.00

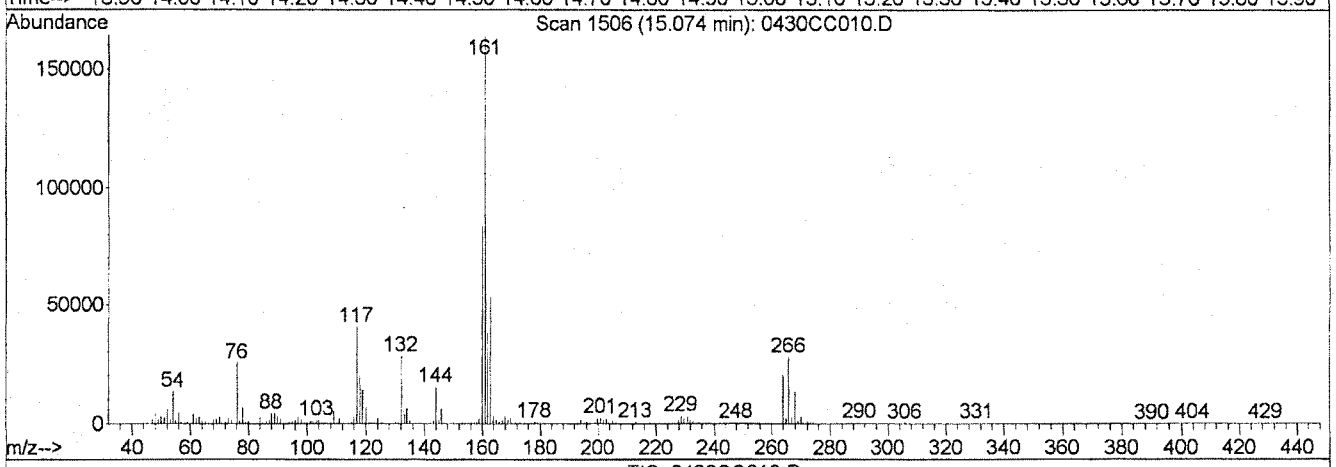
0430CC010.D 043012_525.M Tue May 01 10:08:50 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:08 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC010.D

(24) Terbacil (m)

15.07min -2500.00ug/L m

response 131632

Ion	Exp%	Act%
117.00	100	100
132.00	66.20	69.49
0.00	0.00	0.00
0.00	0.00	0.00

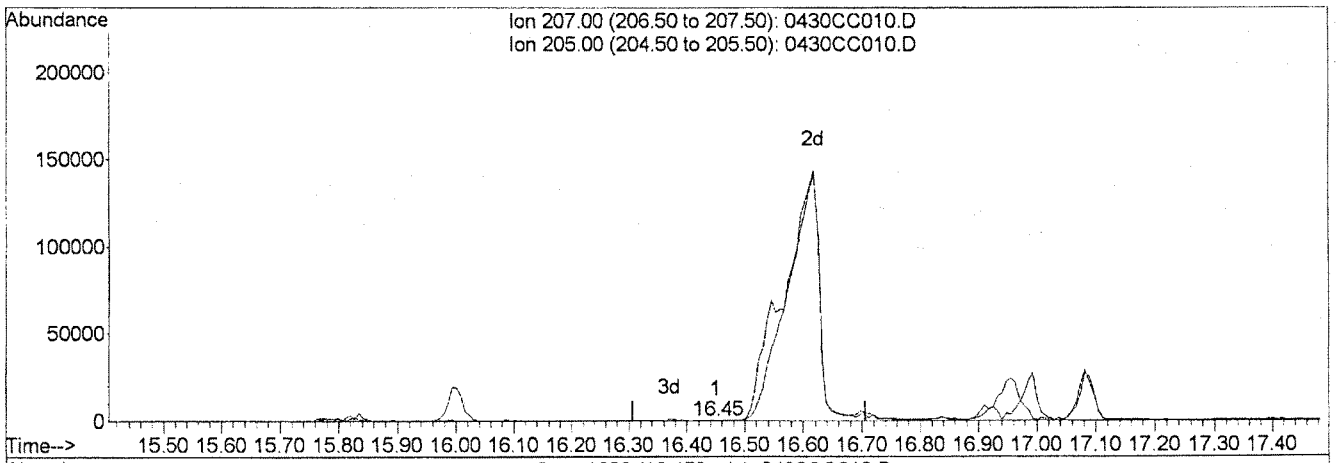
Wrong peak

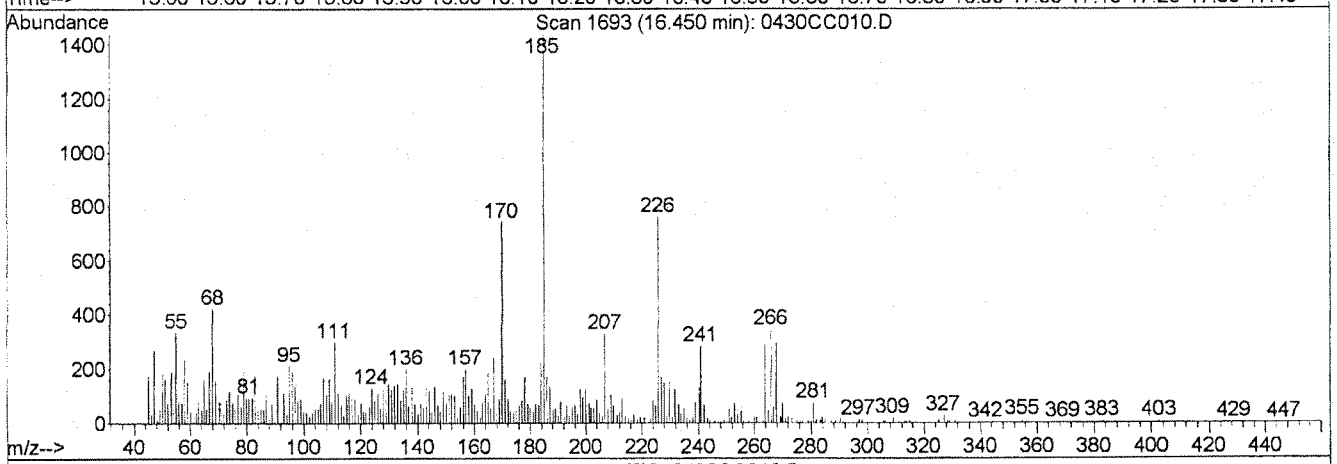
0430CC010.D 043012_525.M Tue May 01 10:08:56 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:08 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





(28) Bromacil (m)

16.45min 45.39ug/L

response 977

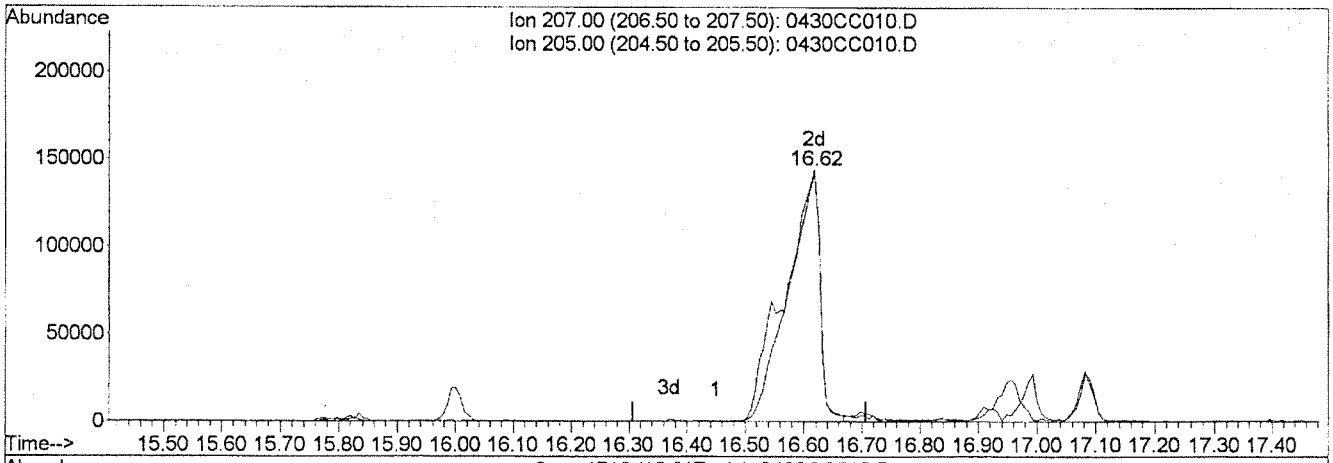
Ion	Exp%	Act%
207.00	100	100
205.00	112.90	10.64#
0.00	0.00	0.00
0.00	0.00	0.00

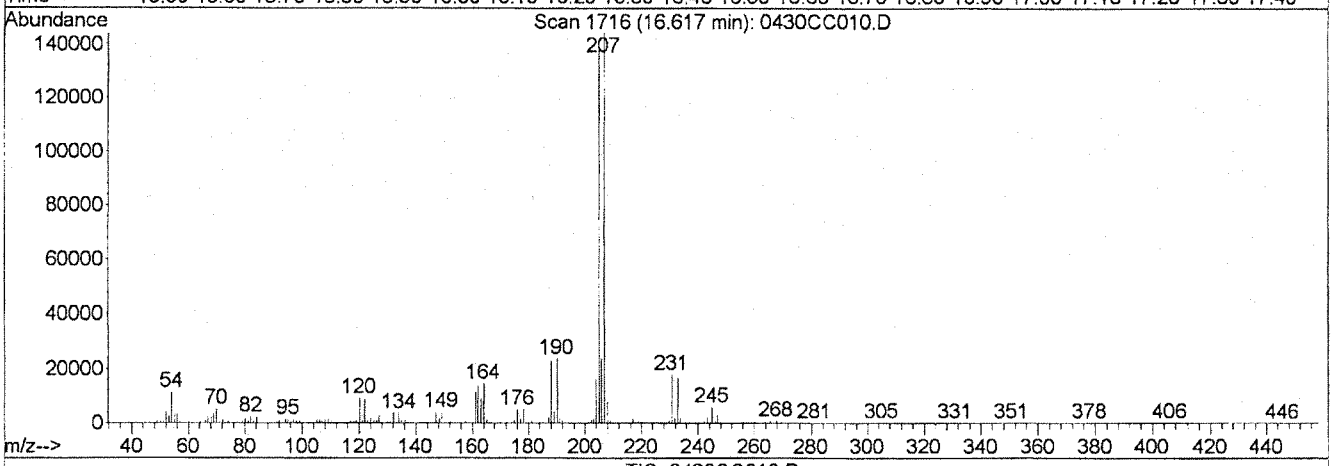
0430CC010.D 043012_525.M Tue May 01 10:09:02 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:09 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC010.D

(28) Bromacil (m)

16.62min -2500.00ug/L m

response 534480

Ion	Exp%	Act%
207.00	100	100
205.00	112.90	98.27
0.00	0.00	0.00
0.00	0.00	0.00

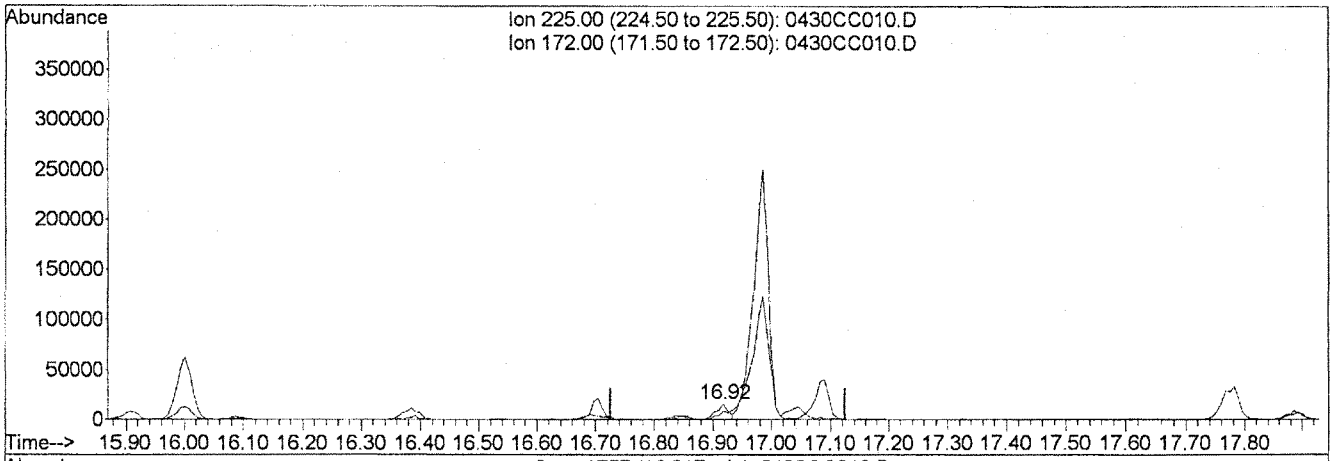
Not the wrong peak CAL11

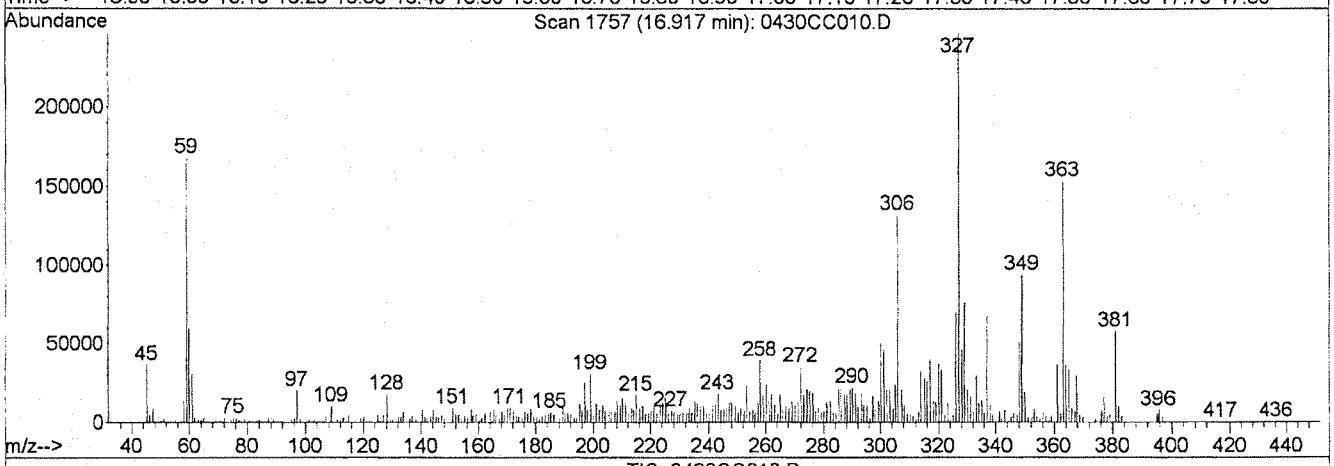
0430CC010.D 043012_525.M Tue May 01 10:09:12 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:09 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC010.D

(32) Cyanazine (m)

16.92min 416.98ug/L

response 22399

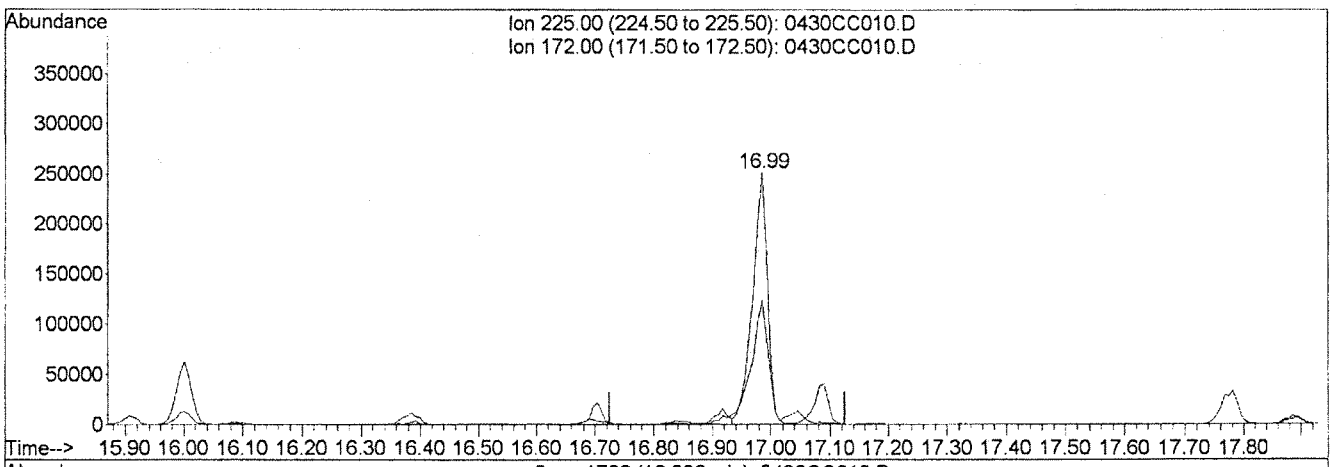
Ion	Exp%	Act%
225.00	100	100
172.00	42.70	54.42
0.00	0.00	0.00
0.00	0.00	0.00

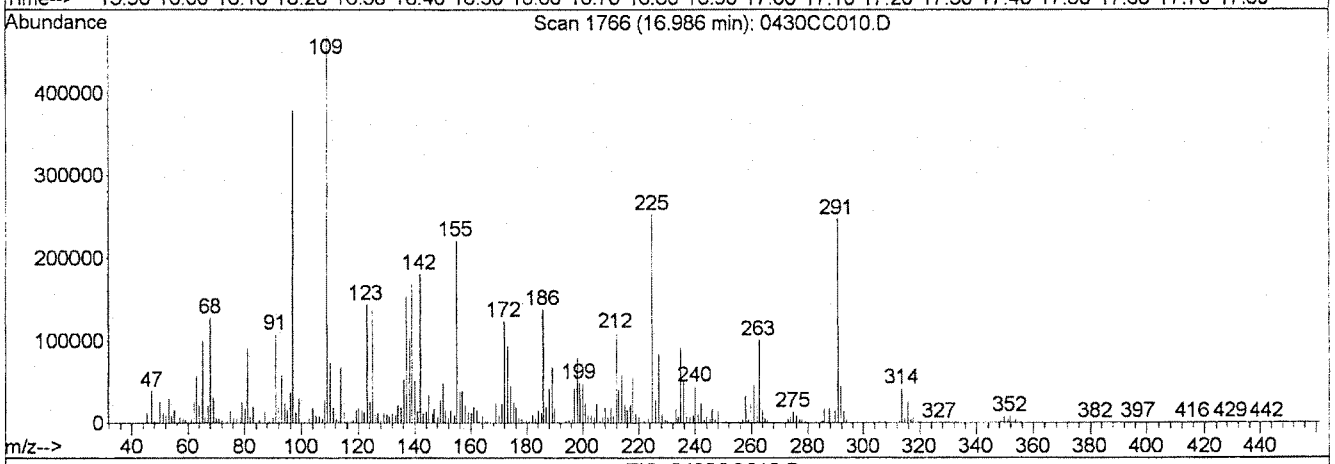
0430CC010.D 043012_525.M Tue May 01 10:09:17 2012

Quantitation Report (Qedit)

Data File : J:\MS22\DATA\043012-525\0430CC010.D Vial: 0
Acq On : 30-04-2012 21:53 Operator:
Sample : DWSTD05-54O 525 ICAL 6000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 10:09 2012 Quant Results File: temp.res

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 10:02:16 2012
Response via : Multiple Level Calibration





TIC: 0430CC010.D

(32) Cyanazine (m)

16.99min -2500.00ug/L m

response 451449

Ion	Exp%	Act%
225.00	100	100
172.00	42.70	49.15
0.00	0.00	0.00
0.00	0.00	0.00

Appr wrong peak CWS

0430CC010.D 043012_525.M Tue May 01 10:09:24 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC011.D Vial: 0
Acq On : 30-04-2012 22:39 Operator:
Sample : DWSTD05-41B 525 ICV #1 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 13:41:17 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	584930	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1046998	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1232039	2500.00 ug/L	0.00

System Monitoring Compounds

3) 1,3-Dimethyl-2-nitrobenzen	0.00	134	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	
34) Triphenyl phosphate	0.00	169	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	
49) Perylene-d12	0.00	264	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	

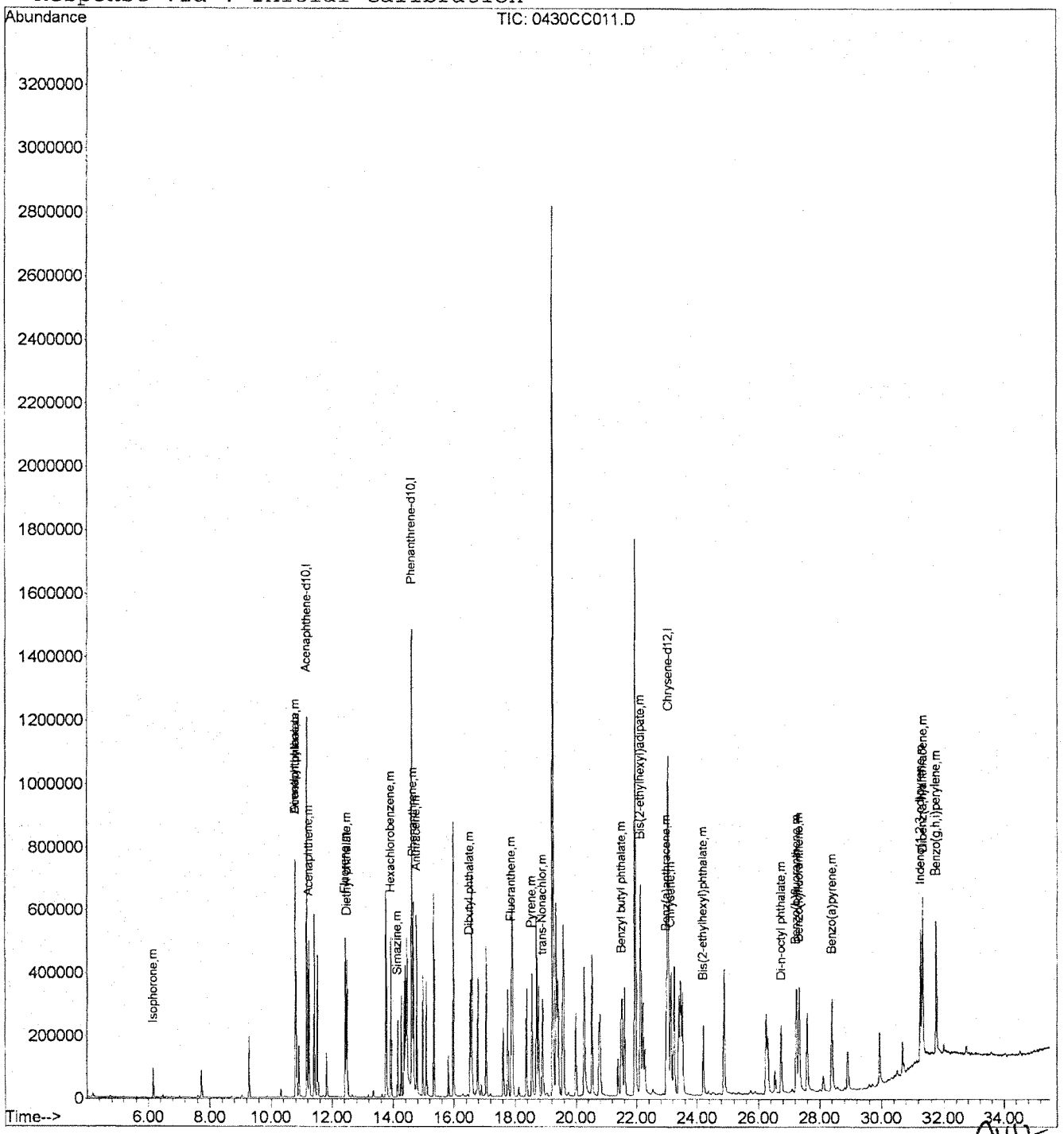
Target Compounds					Qvalue
2) Isophorone	6.16	82	50537	849.68 ug/L	93
7) Dimethyl phthalate	10.80	163	323732	1136.15 ug/L	99
8) Acenaphthylene	10.81	152	329802	1083.29 ug/L	98
9) Acenaphthene	11.24	153	252993	1015.39 ug/L	93
10) Diethyl phthalate	12.49	149	325115	1227.04 ug/L	100
11) Fluorene	12.44	165	274543	1106.17 ug/L	97
15) Hexachlorobenzene	13.93	284	137318	1110.63 ug/L	95
18) Simazine	14.15	201	35947	965.08 ug/L #	73
22) Phenanthrene	14.67	178	437666	1063.44 ug/L	100
23) Anthracene	14.77	178	423868	1149.46 ug/L	99
29) Dibutyl phthalate	16.52	149	457667	1064.46 ug/L	99
36) Fluoranthene	17.88	202	374008	969.38 ug/L	96
38) trans-Nonachlor	18.91	409	40115	982.28 ug/L	88
39) Pyrene	18.55	202	379574	1062.47 ug/L	100
40) Benzyl butyl phthalate	21.53	149	206916	1163.85 ug/L	98
41) Bis(2-ethylhexyl)adipate	22.13	129	135128	1296.33 ug/L	83
42) Benz(a)anthracene	22.99	228	436239	1112.73 ug/L	99
43) Chrysene	23.14	228	407936	1046.93 ug/L	100
44) Bis(2-ethylhexyl)phthalate	24.21	149	317588	1247.49 ug/L	100
45) Di-n-octyl phthalate	26.75	149	435979	1256.94 ug/L	98
46) Benzo(b)fluoranthene	27.24	252	434338	1171.58 ug/L	98
47) Benzo(k)fluoranthene	27.33	252	465254	1085.60 ug/L	96
48) Benzo(a)pyrene	28.40	252	419018	1239.49 ug/L	96
50) Indeno(1,2,3-cd)pyrene	31.28	276	358145	1250.10 ug/L	92
51) Dibenz(a,h)anthracene	31.35	278	442811	1241.35 ug/L	99
52) Benzo(g,h,i)perylene	31.75	276	411054	1191.30 ug/L	94

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

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC011.D Vial: 0
Acq On : 30-04-2012 22:39 Operator:
Sample : DWSTD05-41B 525 ICV #1 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 13:44 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration



0430CC011.D 043012_525.M Tue May 01 13:49:27 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC012.D Vial: 0
Acq On : 30-04-2012 23:24 Operator:
Sample : DWSTD05-54A 525 ICV #2 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 13:41:20 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	657662	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1236444	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1353800	2500.00 ug/L	0.00

System Monitoring Compounds

3) 1,3-Dimethyl-2-nitrobenzen	0.00	134	0	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery =	0.00%#	
34) Triphenyl phosphate	0.00	169	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery =	0.00%#	
49) Perylene-d12	0.00	264	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery =	0.00%#	

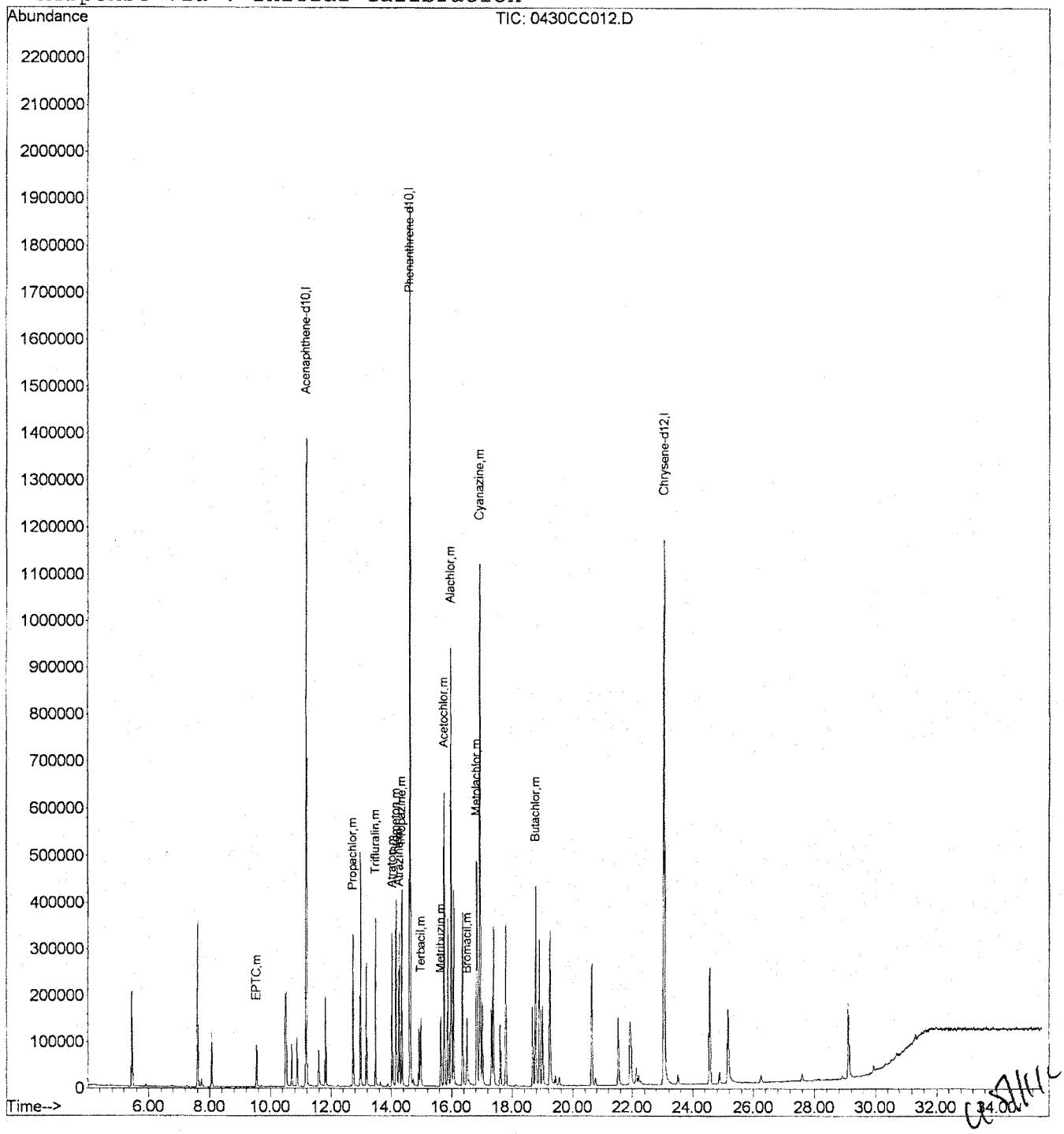
Target Compounds					Qvalue
6) EPTC	9.54	128	53062	1021.77 ug/L	96
12) Propachlor	12.74	120	139519	1038.41 ug/L	98
13) Trifluralin	13.48	264	105712	1066.77 ug/L	92
16) Atraton	14.03	196	59802	997.98 ug/L	98
17) Prometon	14.16	210	91853	938.30 ug/L	93
19) Atrazine	14.26	215	32145	980.70 ug/L	98
20) Propazine	14.35	214	104790	953.92 ug/L	97
24) Terbacil	14.98	117	16971	956.25 ug/L	99
25) Acetochlor	15.77	146	118608	1292.06 ug/L	98
26) Metribuzin	15.66	198	59324	973.30 ug/L	98
27) Alachlor	15.99	160	142526	975.98 ug/L	96
28) Bromacil	16.52	207	72869	1006.73 ug/L	92
31) Metolachlor	16.83	162	422780	964.88 ug/L	95
32) Cyanazine	16.93	225	49717	890.17 ug/L	83
37) Butachlor	18.77	160	123477	1009.21 ug/L	99

(#) = qualifier out of range (m) = manual integration
0430CC012.D 043012_525.M Tue May 01 13:49:28 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC012.D Vial: 0
Acq On : 30-04-2012 23:24 Operator:
Sample : DWSTD05-54A 525 ICV #2 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 13:46 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration



0430CC012.D 043012_525.M Tue May 01 13:49:29 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC013.D Vial: 0
Acq On : 01-05-2012 00:09 Operator:
Sample : DWSTD05-46A 525 ICV #3 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 13:41:22 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	623557	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.62	188	1128510	2500.00 ug/L	0.00
35) Chrysene-d12	23.05	240	1267564	2500.00 ug/L	0.00

System Monitoring Compounds

3) 1,3-Dimethyl-2-nitrobenzen	0.00	134	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	
34) Triphenyl phosphate	0.00	169	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	
49) Perylene-d12	0.00	264	0d	0.00 ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	= 0.00%#	

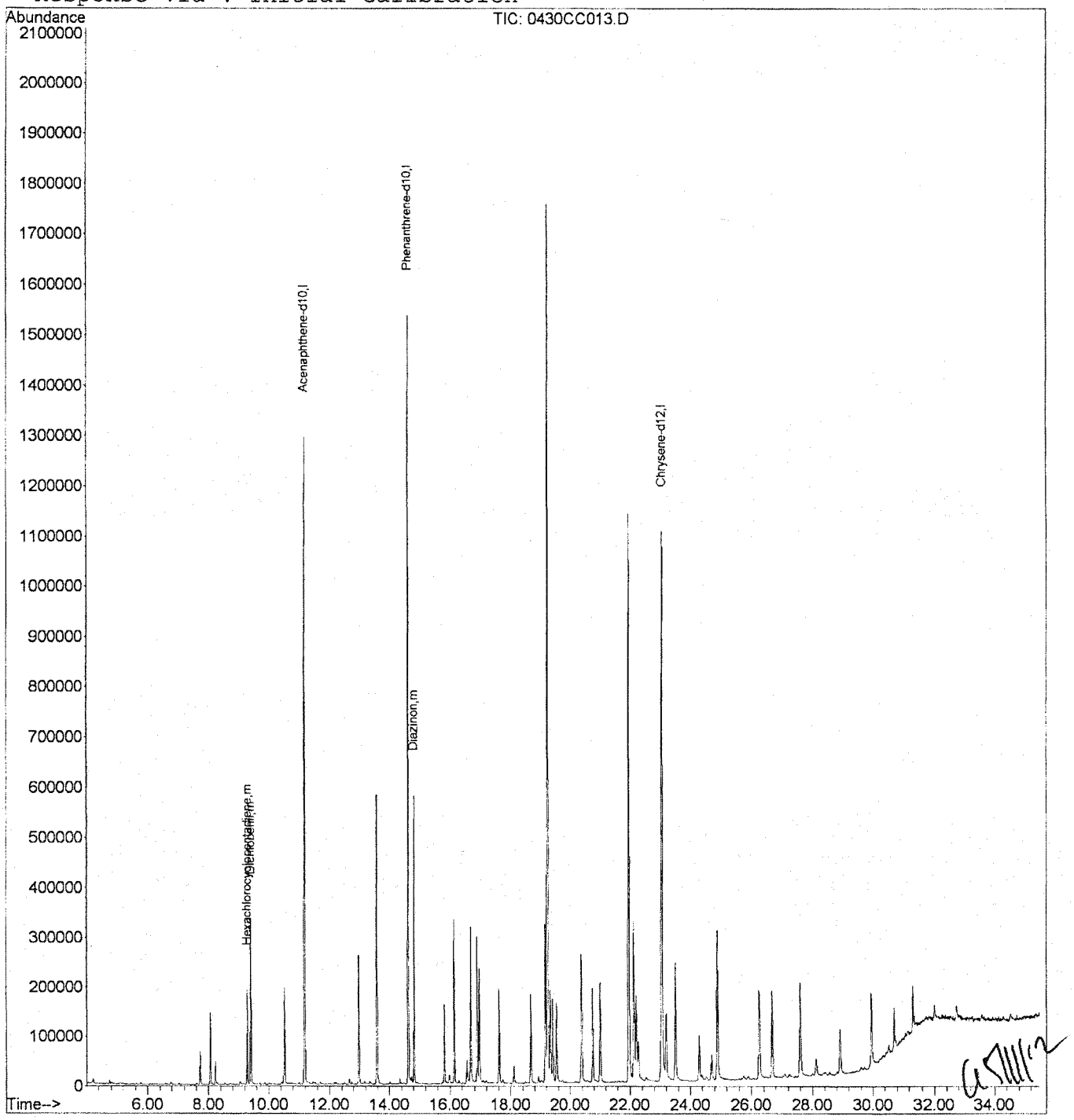
Target Compounds					Qvalue
4) Hexachlorocyclopentadiene	9.29	237	44276	1128.62 ug/L	84
5) Dichlobenil	9.40	171	171312	1070.39 ug/L	100
21) Diazinon	14.82	137	74968	1087.76 ug/L	96

(#) = qualifier out of range (m) = manual integration
0430CC013.D 043012_525.M Tue May 01 13:49:30 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC013.D Vial: 0
Acq On : 01-05-2012 00:09 Operator:
Sample : DWSTD05-46A 525 ICV #3 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 13:48 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC014.D Vial: 0
Acq On : 01-05-2012 00:55 Operator:
Sample : DWSTD05-46C 525 ICV #4 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 01 13:41:23 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Acenaphthene-d10	11.18	162	632546	2500.00	ug/L	0.00
14) Phenanthrene-d10	14.62	188	1103042	2500.00	ug/L	0.00
35) Chrysene-d12	23.05	240	1288250	2500.00	ug/L	0.00

System Monitoring Compounds

3) 1,3-Dimethyl-2-nitrobenzen	0.00	134	0d	0.00	ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	=	0.00%#	
34) Triphenyl phosphate	0.00	169	0d	0.00	ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	=	0.00%#	
49) Perylene-d12	0.00	264	0d	0.00	ug/L	
Spiked Amount 1000.000	Range 70 - 130		Recovery	=	0.00%#	

Target Compounds

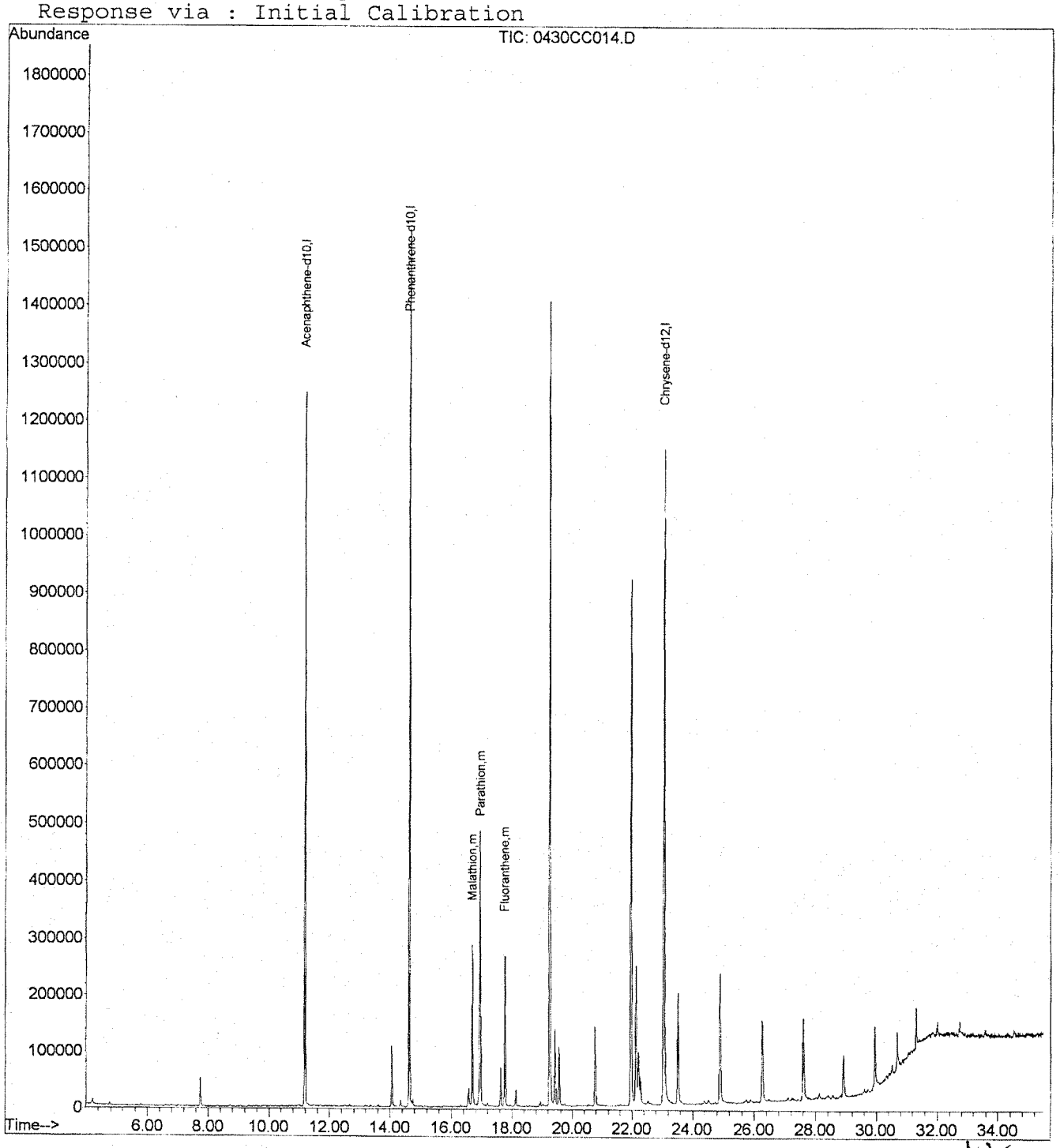
						Qvalue
30) Malathion	16.69	173	50759	1222.84	ug/L	93
33) Parathion	16.96	291	19392	1136.61	ug/L	99
36) Fluoranthene	17.76	202	2301	14.97	ug/L #	1

(#) = qualifier out of range (m) = manual integration
0430CC014.D 043012_525.M Tue May 01 13:49:31 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS22\DATA\043012-525\0430CC014.D Vial: 0
Acq On : 01-05-2012 00:55 Operator:
Sample : DWSTD05-46C 525 ICV #4 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 1 13:49 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:40:53 2012
Response via : Initial Calibration



0430CC014.D 043012_525.M Tue May 01 13:49:31 2012 Page 2

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 05/01/2012

Continuing Calibration Verification Summary
Semivolatile Organics by EPA Method 525.2

Calibration Type: Internal Standard
Analysis Method: 525.2

Calibration Date: 04/30/2012
Calibration ID: CAL11476
Analysis Lot: KWG1204669
Units: ug/L

File ID: J:\MS22\DATA\050112-525\0501SM005.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Di-n-octyl Phthalate	1000	1100		0.469	0.720	NA	10	± 30 %	Quadratic
1,3-Dimethyl-2-nitrobenzene	1000	890		0.266	0.265	NA	-11	± 30 %	Quadratic
Dimethyl Phthalate	1000	1000		1.22	1.24	2	NA	± 30 %	AverageRF
Diethyl Phthalate	1000	1000		1.13	1.15	2	NA	± 30 %	AverageRF
Di-n-butyl Phthalate	1000	990		0.813	1.00	NA	-1	± 30 %	Quadratic
Benzyl butyl phthalate	1000	1000		0.256	0.358	NA	4	± 30 %	Quadratic
Triphenyl Phosphate	1000	1000		0.0913	0.115	NA	1	± 30 %	Quadratic
Bis(2-ethylhexyl) Phthalate	1000	980		0.512	0.478	NA	-2	± 30 %	Quadratic
Perylene-d12	1000	1000		0.522	0.695	NA	3	± 30 %	Quadratic

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

† SPCC Compound ‡ CCC Compound

Exception Report

Data File: J:\MS22\DATA\050112-525\0501SM005.D
Lab ID: KWG1204669-2
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 05/01/2012 18:23
Date Quantitated: 05/07/2012 12:02
Batch ID: KWG1204669
Analysis Method: 525.2
MethodJoinID: MJ901

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: 5/7/12

Secondary Review:

Quantitation Report

Data File:	J:\MS22\DATA\050112-525\0501SM005.D			**Instrument:**	MS22
Acqu Date:	05/01/2012 18:23	**Quant Date:**	05/07/2012 12:02	**Vial:**	0
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1204669-2			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	525.2 SVO	**Collect Date:**		**Receive Date:**	05/07/2012

Analysis Lot:	KWG1204669	**Prep Lot:**		**Report Group:**	
Analysis Method:	525.2	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS22\METHODS\043012_525.M	**Calibration ID:**	CAL11476
Title:			
Tune Ref:	J:\MS22\DATA\050112-525\0501SM004.D	**Method ID:**	MJ901
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Acenaphthene-d10	11.17	0.00	162	593606	2,500.00	OK
2	Phenanthrene-d10	14.61	0.00	188	1057938	2,500.00	OK
3	Chrysene-d12	23.03	-0.01	240	1165887	2,500.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	1,3-Dimethyl-2-nitrobenzene	7.18			134	62814	886.55		70-130 NA	
2	Triphenyl Phosphate	22.21			169	48844	1,012		70-130 NA	
3	Perylene-d12	28.61			264	324111	1,028		70-130 NA	

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Isophorone	6.15			82	55453	914.03			
1	Hexachlorocyclopentadiene	9.28			237	36358	1,005			
1	Dichlobenil	9.39			171	150785	989.67			
1	EPTC	9.53			128	42158	904.87			
1	Dimethyl Phthalate	10.79			163	294257	1,018			
1	Acenaphthylene	10.79			152	296312	965.44			
1	Acenaphthene	11.24			153	241998	957.07			
1	Diethyl Phthalate	12.48			149	273530	1,017			
1	Fluorene	12.43			165	255034	1,013			
1	Propachlor	12.72			120	118390	985.90			
1	Trifluralin	13.47			264	90034	1,025			
2	Hexachlorobenzene	13.92			284	124242	994.48			
2	Atraton	14.03			196	48518	956.52			
2	Prometon	14.16			210	84331	996.79			
2	Simazine	14.14			201	37259	987.07			

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

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

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

Data File:	J:\MS22\DATA\050112-525\0501SM005.D			**Instrument:**	MS22
Acqu Date:	05/01/2012 18:23	**Quant Date:**	05/07/2012 12:02	**Vial:**	0
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1204669-2			**Soln Conc. Units:**	ug/L

Target Compounds

Final Conc. Units: ug/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
2	Atrazine	14.26			215	28669	1,020			
2	Propazine	14.35			214	89870	956.01			
2	Diazinon	14.81			137	60694	952.18			
2	Phenanthrene	14.66			178	385860	927.87			
2	Anthracene	14.76			178	372736	1,000			
2	Terbacil	14.98			117	15154	989.26			
2	Acetochlor	15.76			146	73151	963.75			
2	Metribuzin	15.65			198	54551	1,029			
2	Alachlor	15.98			160	123461	985.98			
2	Bromacil	16.51			207	61388	994.80			
2	Di-n-butyl Phthalate	16.51			149	423241	986.18			
2	Malathion	16.68			173	83061	1,951			
2	Metolachlor	16.82			162	376983	998.53			
2	Cyanazine	16.93			225	45647	944.08			
2	Parathion	16.96			291	45868	2,173			
3	Fluoranthene	17.87			202	351209	962.41			
3	Butachlor	18.76			160	107584	1,018			
3	trans-Nonachlor	18.89			409	36896	957.40			
3	Pyrene	18.54			202	325191	967.81			
3	Benzyl butyl phthalate	21.51			149	166815	1,036			
3	Bis(2-ethylhexyl) Adipate	22.12			129	102318	1,117			
3	Benz(a)anthracene	22.98			228	347743	948.34			
3	Chrysene	23.12			228	337875	916.33			
3	Bis(2-ethylhexyl) Phthalate	24.20			149	223075	983.49			
3	Di-n-octyl Phthalate	26.73			149	335677	1,099			
3	Benzo(b)fluoranthene	27.23			252	340025	1,007			
3	Benzo(k)fluoranthene	27.32			252	394780	991.60			
3	Benzo(a)pyrene	28.38			252	324861	1,067			
3	Indeno(1,2,3-cd)pyrene	31.26			276	272503	1,062			
3	Dibenz(a,h)anthracene	31.34			278	338755	1,058			
3	Benzo(g,h,i)perylene	31.73			276	322070	1,027			

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

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

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

Quantitation Report (Not Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM005.D Vial: 0
Acq On : 01-05-2012 18:23 Operator:
Sample : DWSTD05-54L 525 ICAL 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 07 12:02:34 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Acenaphthene-d10	11.17	162	593606	2500.00 ug/L	0.00
14) Phenanthrene-d10	14.61	188	1057938	2500.00 ug/L	0.00
35) Chrysene-d12	23.03	240	1165887	2500.00 ug/L	-0.01
System Monitoring Compounds					
3) 1,3-Dimethyl-2-nitrobenzen	7.18	134	62814	886.55 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 88.66%		
34) Triphenyl phosphate	22.21	169	48844	1012.46 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 101.25%		
49) Perylene-d12	28.61	264	324111	1028.39 ug/L	0.00
Spiked Amount 1000.000	Range 70 - 130		Recovery = 102.84%		

Target Compounds					Qvalue
2) Isophorone	6.15	82	55453	914.03 ug/L	99
4) Hexachlorocyclopentadiene	9.28	237	36358	1005.44 ug/L	96
5) Dichlobenil	9.39	171	150785	989.67 ug/L	99
6) EPTC	9.53	128	42158	904.87 ug/L	98
7) Dimethyl phthalate	10.79	163	294257	1017.61 ug/L	97
8) Acenaphthylene	10.79	152	296312	965.44 ug/L	99
9) Acenaphthene	11.24	153	241998	957.07 ug/L	90
10) Diethyl phthalate	12.48	149	273530	1017.26 ug/L	98
11) Fluorene	12.43	165	255034	1012.55 ug/L	99
12) Propachlor	12.72	120	118390	985.90 ug/L	99
13) Trifluralin	13.47	264	90034	1024.87 ug/L	97
15) Hexachlorobenzene	13.92	284	124242	994.48 ug/L	98
16) Atraton	14.03	196	48518	956.52 ug/L	81
17) Prometon	14.16	210	84331	996.79 ug/L	93
18) Simazine	14.14	201	37259	987.07 ug/L	78
19) Atrazine	14.26	215	28669	1019.79 ug/L	93
20) Propazine	14.35	214	89870	956.01 ug/L	94
21) Diazinon	14.81	137	60694	952.18 ug/L	94
22) Phenanthrene	14.66	178	385860	927.87 ug/L	98
23) Anthracene	14.76	178	372736	1000.34 ug/L	97
24) Terbacil	14.98	117	15154	989.26 ug/L	88
25) Acetochlor	15.76	146	73151	963.75 ug/L	96
26) Metribuzin	15.65	198	54551	1029.22 ug/L	93
27) Alachlor	15.98	160	123461	985.98 ug/L	99
28) Bromacil	16.51	207	61388	994.80 ug/L	99
29) Dibutyl phthalate	16.51	149	423241	986.18 ug/L	99
30) Malathion	16.68	173	83061	1950.63 ug/L	84
31) Metolachlor	16.82	162	376983	998.53 ug/L	98
32) Cyanazine	16.93	225	45647	944.08 ug/L	91

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

Quantitation Report (Not Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM005.D Vial: 0
Acq On : 01-05-2012 18:23 Operator:
Sample : DWSTD05-54L 525 ICAL 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 07 12:02:34 2012 Quant Results File: 043012_525.RES

Quant Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration
DataAcq Meth :

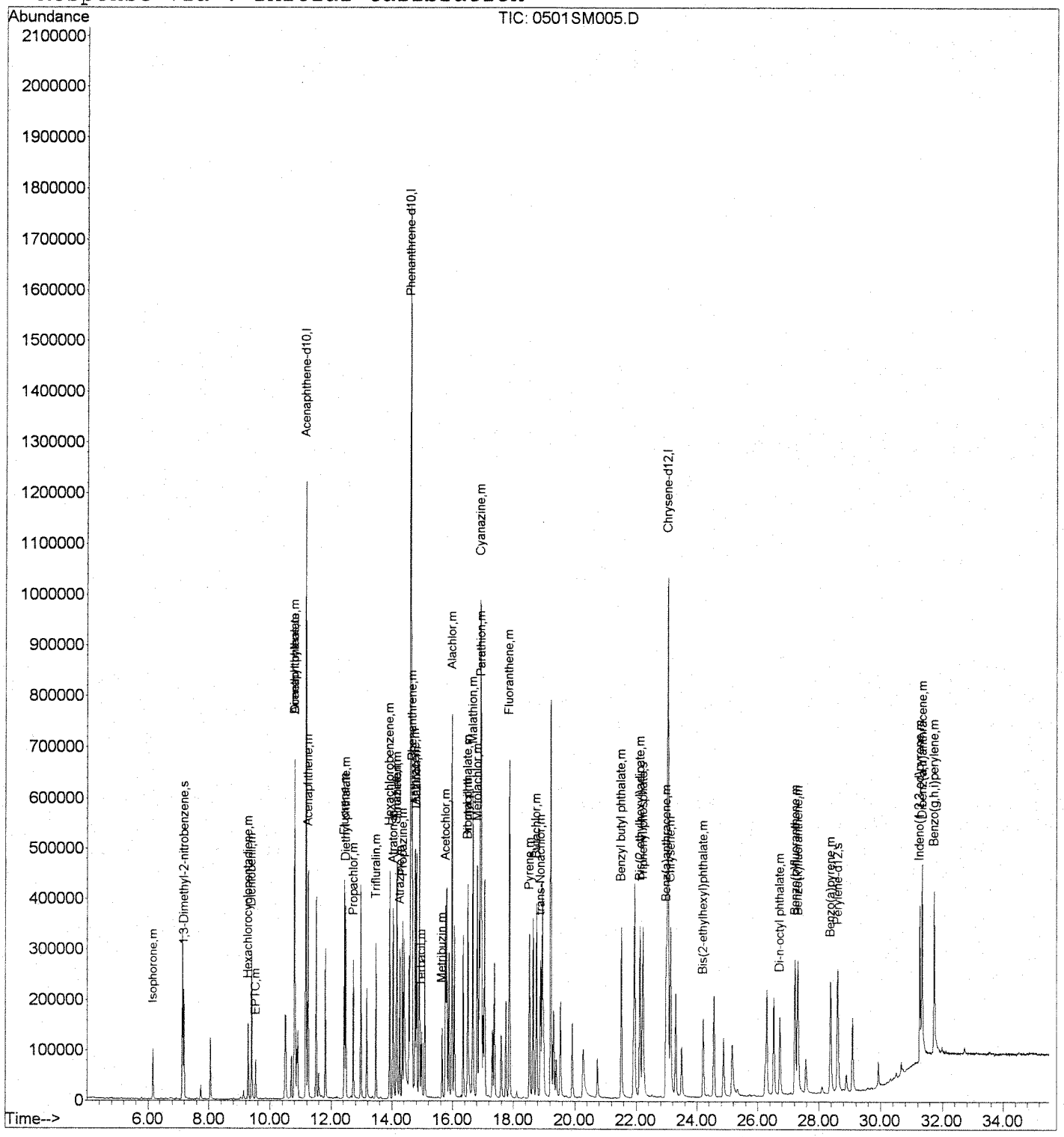
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Parathion	16.96	291	45868	2172.89 ug/L	85
36)	Fluoranthene	17.87	202	351209	962.41 ug/L	92
37)	Butachlor	18.76	160	107584	1018.19 ug/L	98
38)	trans-Nonachlor	18.89	409	36896	957.40 ug/L	86
39)	Pyrene	18.54	202	325191	967.81 ug/L	97
40)	Benzyl butyl phthalate	21.51	149	166815	1035.60 ug/L	96
41)	Bis(2-ethylhexyl)adipate	22.12	129	102318	1116.55 ug/L	92
42)	Benz(a)anthracene	22.98	228	347743	948.34 ug/L	96
43)	Chrysene	23.12	228	337875	916.33 ug/L	97
44)	Bis(2-ethylhexyl)phthalate	24.20	149	223075	983.49 ug/L	99
45)	Di-n-octyl phthalate	26.73	149	335677	1098.67 ug/L	99
46)	Benzo(b)fluoranthene	27.23	252	340025	1007.13 ug/L	98
47)	Benzo(k)fluoranthene	27.32	252	394780	991.60 ug/L	97
48)	Benzo(a)pyrene	28.38	252	324861	1067.10 ug/L	96
50)	Indeno(1,2,3-cd)pyrene	31.26	276	272503	1061.79 ug/L	97
51)	Dibenz(a,h)anthracene	31.34	278	338755	1058.18 ug/L	96
52)	Benzo(g,h,i)perylene	31.73	276	322070	1026.51 ug/L	95

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

Quantitation Report (Not Reviewed)

Data File : J:\MS22\DATA\050112-525\0501SM005.D Vial: 0
Acq On : 01-05-2012 18:23 Operator:
Sample : DWSTD05-54L 525 ICAL 1000 PPB Inst :
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 7 12:02 2012 Quant Results File: 043012_525.R

Method : J:\MS22\METHODS\043012_525.M (RTE Integrator)
Title : 043012_525.m | MJ901 CAL11
Last Update : Tue May 01 13:50:04 2012
Response via : Initial Calibration



Organic Analysis:
Semivolatile Organics by EPA Method 525.2

Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID:	KWG1204284	**Prep Method:**	METHOD	**Prep Date:**	04/26/12 08:00
Department:	Semivoa GC				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.
K1203695-001	Outfall A	525.2 SVO	WATER	1030ml	1ml
K1203695-002	Outfall B	525.2 SVO	WATER	1030ml	1ml
K1203738-001	1201611	525.2 SVO	DRINKING	1030ml	1ml
K1203738-002	1202371	525.2 SVO	DRINKING	1030ml	1ml
K1203853-001	WLQAFS4.12	525.2 SVO	OCEAN	1010ml	1ml
KWG1204284-1	Lab Control Sample	525.2 SVO	DRINKING	1000ml	1ml
KWG1204284-2	Matrix Spike	525.2 SVO	OCEAN	1010ml	1ml
KWG1204284-3	Method Blank	525.2 SVO	DRINKING	1000ml	1ml

Lab Code	Parent Lab Code	Comments
KWG1204284-1		DWSTD05-51 I, 100 uL
KWG1204284-2	K1203853-001	DWSTD05-51 I, 100 uL

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1203695-001	1120550	DWSTD05-54 A	20uL			
K1203695-002	1120551	DWSTD05-54 A	20uL			
K1203738-001	1120552	DWSTD05-54 A	20uL			
K1203738-002	1120553	DWSTD05-54 A	20uL			
K1203853-001	1120549	DWSTD05-54 A	20uL			
KWG1204284-1	1120554	DWSTD05-54 A	20uL	DWSTD05-48 R	100uL	
KWG1204284-2	1120555	DWSTD05-54 A	20uL	DWSTD05-48 R	100uL	
KWG1204284-3	1120556	DWSTD05-54 A	20uL			

Comments:

Started By: RHayes Assisted By: Training

Completed By: RHayes Assisted By: Yes No

Reviewed By: Date: 5/3/12 Storage: 205A-R-05 Yes No

Chain of Custody

Relinquished By: Date: 4/26/12

Received By: Date: 5/1/12 Extracts Examined Yes No

COLUMBIA ANALYTICAL SERVICES, INC.

Service Request No.: As listed **Date Extracted:** 4-26-12

Analyst: Rob Hayes **Method:** 525

Workgroup#:

Semivolatile Compounds in Water

Lab ID	Client ID	Sample Volume (ml)	pH	Surr (uL)	MS (uL)	ISTD (uL)	Res. Cl2	Final Volume (ml)	
K1203695-001	*	1030	2	20		5	<0.1	1	
" -002	*	1030	2	20		5	<0.1	1	
K1203738-001		1030	2	20		5	<0.1	1	
" -002		1030	2	20		5	<0.1	1	
K1203853-001	*	1010	2	20		5	<0.1	1	
MB		1000	2	20		5	<0.1	1	
LCS		1000	2	20	100/100	5	<0.1	1	
K1203853-001	MS *	1010	2	20	100/100	5	<0.1	1	
MRL DWSTD05-44I XP 7/25/12	various conc	1000	2	20	100	5	<0.1	1	

Comments: * Particulate matter noted on extraction disk

DCM Lot # DF597 **Speedisk Lot#** K43N22 **Sulfate Lot #** 2/14/12 - J49603

Ethyl Acetate Lot # K20E11 **Methanol Lot#** ~~K20E11~~ K34E03 4-26-12 EE **N-evap temp** 32°C

Surrogate ID/Conc: DWSTD05-54A 50ppm XP 10/23/12

Spike ID/Conc: DWSTD05-48R 10ppm XP 8/26/12 / DWSTD05-51I 10ppm XP 8/31/12

ISTD ID/Conc: DWSTD05-52E 500ppm XP 5/13

Vial: Amber **Extract Storage:** 215A-R-05 **Extracts Received:** 5/1/12

Reviewed By:	Date:

Preparation Information Benchsheet

Prep Run#: 156512
Team: Semivoa GC
Number of Copies to make: 3

Prep WorkFlow: OrgExtDW(14/30)
Prep Method: Method

Status: Draft
Prep Date/Time: 4/26/12 08:10 AM

#	Lab Code	Client ID	B#	√	Test	Matrix	Amt Ext.	pH	Int Vol	Final Vol	Surr Added	Spike Added
1	K1203738-001	1201611	.02		525.2/SVO	Drinking Water						
2	K1203738-001	1201611	.02		508.1/PEST_CL	Drinking Water						
3	K1203738-002	1202371	.01		508.1/PEST_CL	Drinking Water						
4	K1203738-002	1202371	.01		525.2/SVO	Drinking Water						
5	K1203695-001	Outfall A	.06		525.2/SVO	Water						
6	K1203695-002	Outfall B	.06		525.2/SVO	Water						
7	K1203853-001	WLQAFS4.12	.07		525.2/SVO	Ocean Water						

Comments: used for ID only

Surrogate ID: _____ Spike ID: _____

Witnessed By: _____

Analyst: _____ Assisted By: _____

Polychlorinated Biphenyls

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Summary Package

Sample and QC Results

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695

Cover Page - Organic Analysis Data Package
Polychlorinated Biphenyls (PCBs)

Sample Name	Lab Code	Date Collected	Date Received
Outfall A	K1203695-001	04/19/2012	04/20/2012
Outfall B	K1203695-002	04/19/2012	04/20/2012

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

Signature: Lorin E Pontwood

Name: Loren Pontwood

Date: 5/7/12

Title: Scientist

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/2012
Sample Matrix:	Water	**Date Received:**	04/20/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:	Outfall A	**Units:**	ug/L
Lab Code:	K1203695-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0051	0.0051	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1221	ND	Ui	0.037	0.037	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1232	ND	Ui	0.011	0.011	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1242	ND	Ui	0.0051	0.0046	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1248	ND	Ui	0.0051	0.0051	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1254	ND	Ui	0.0051	0.0017	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1260	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1262	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1268	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	36-113	04/30/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/2012
Sample Matrix:	Water	**Date Received:**	04/20/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:	Outfall B	**Units:**	ug/L
Lab Code:	K1203695-002	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0050	0.0050	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1221	ND	Ui	0.028	0.028	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1232	ND	Ui	0.081	0.081	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1242	ND	Ui	0.0050	0.0050	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1248	ND	Ui	0.0050	0.0029	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1254	**0.0027**	J	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1260	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1262	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1268	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	89	36-113	04/30/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1204291-4	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1221	ND	U	0.010	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1232	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1242	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1248	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1254	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1260	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1262	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1268	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	88	36-113	04/30/12	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A
Analysis Method: 8082A

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
Batch QC	K1203581-001	91
Outfall A	K1203695-001	92
Outfall B	K1203695-002	89
Method Blank	KWG1204291-4	88
Batch QCMS	KWG1204291-1	87
Batch QCDMS	KWG1204291-2	81
Lab Control Sample	KWG1204291-3	86

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 36-113

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/23/2012
Sample Matrix:	Water	**Date Analyzed:**	04/30/2012

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1203581-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1204291

		Batch QCMS KWG1204291-1 Matrix Spike			Batch QCDMS KWG1204291-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	ND	0.162	0.200	81	0.152	0.202	75	25-144	6	30
Aroclor 1260	ND	0.159	0.200	80 #	0.145	0.202	72 #	40-127	9	30

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/23/2012
Sample Matrix:	Water	**Date Analyzed:**	04/30/2012

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3535A	**Units:**	ug/L
Analysis Method:	8082A	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1204291

	Lab Control Sample KWG1204291-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aroclor 1016	0.167	0.200	83	50-103
Aroclor 1260	0.148	0.200	74	56-100

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

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

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/23/2012
Sample Matrix:	Water	**Date Analyzed:**	04/30/2012
		Time Analyzed:	23:26

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Instrument ID:**	GC22.i
Lab Code:	KWG1204291-4	**File ID:**	J:\GC22\DATA\043012.B\0430F024.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1204291

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Batch QC	K1203581-001	J:\GC22\DATA\043012.B\0430F016.D	04/30/12	20:24
Batch QCMS	KWG1204291-1	J:\GC22\DATA\043012.B\0430F017.D	04/30/12	20:47
Batch QCDMS	KWG1204291-2	J:\GC22\DATA\043012.B\0430F018.D	04/30/12	21:10
Outfall A	K1203695-001	J:\GC22\DATA\043012.B\0430F021.D	04/30/12	22:18
Outfall B	K1203695-002	J:\GC22\DATA\043012.B\0430F022.D	04/30/12	22:41
Lab Control Sample	KWG1204291-3	J:\GC22\DATA\043012.B\0430F023.D	04/30/12	23:03

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/23/2012
Sample Matrix:	Water	**Date Analyzed:**	04/30/2012
		Time Analyzed:	23:03

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Lab Control Sample	**Instrument ID:**	GC22.i
Lab Code:	KWG1204291-3	**File ID:**	J:\GC22\DATA\043012.B\0430F023.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1204291

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Batch QC	K1203581-001	J:\GC22\DATA\043012.B\0430F016.D	04/30/12	20:24
Batch QCMS	KWG1204291-1	J:\GC22\DATA\043012.B\0430F017.D	04/30/12	20:47
Batch QCDMS	KWG1204291-2	J:\GC22\DATA\043012.B\0430F018.D	04/30/12	21:10
Outfall A	K1203695-001	J:\GC22\DATA\043012.B\0430F021.D	04/30/12	22:18
Outfall B	K1203695-002	J:\GC22\DATA\043012.B\0430F022.D	04/30/12	22:41
Method Blank	KWG1204291-4	J:\GC22\DATA\043012.B\0430F024.D	04/30/12	23:26

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-35MS

Level ID	File ID
A	\\cash1\acqudata\GC22\data\042812A.b\0428F003.D
B	\\cash1\acqudata\GC22\data\042812A.b\0428F004.D
C	\\cash1\acqudata\GC22\data\042812A.b\0428F005.D
D	\\cash1\acqudata\GC22\data\042812A.b\0428F006.D
E	\\cash1\acqudata\GC22\data\042812A.b\0428F007.D
F	\\cash1\acqudata\GC22\data\042812A.b\0428F008.D
G	\\cash1\acqudata\GC22\data\042812A.b\0428F009.D
H	\\cash1\acqudata\GC22\data\042812A.b\0428F010.D
I	\\cash1\acqudata\GC22\data\042812A.b\0428F011.D
J	\\cash1\acqudata\GC22\data\042812A.b\0428F012.D
K	\\cash1\acqudata\GC22\data\042812A.b\0428F013.D
L	\\cash1\acqudata\GC22\data\042812A.b\0428F014.D
M	\\cash1\acqudata\GC22\data\042812A.b\0428F015.D
N	\\cash1\acqudata\GC22\data\042812A.b\0428F016.D
O	\\cash1\acqudata\GC22\data\042812A.b\0428F017.D
P	\\cash1\acqudata\GC22\data\042812A.b\0428F018.D
Q	\\cash1\acqudata\GC22\data\042812A.b\0428F019.D
R	\\cash1\acqudata\GC22\data\042812A.b\0428F020.D
S	\\cash1\acqudata\GC22\data\042812A.b\0428F027.D
T	\\cash1\acqudata\GC22\data\042812A.b\0428F028.D
U	\\cash1\acqudata\GC22\data\042812A.b\0428F029.D
V	\\cash1\acqudata\GC22\data\042812A.b\0428F030.D
W	\\cash1\acqudata\GC22\data\042812A.b\0428F031.D
X	\\cash1\acqudata\GC22\data\042812A.b\0428F032.D
Y	\\cash1\acqudata\GC22\data\042812A.b\0428F044.D
Z	\\cash1\acqudata\GC22\data\042812A.b\0428F045.D
AA	\\cash1\acqudata\GC22\data\042812A.b\0428F046.D
AB	\\cash1\acqudata\GC22\data\042812A.b\0428F047.D
AC	\\cash1\acqudata\GC22\data\042812A.b\0428F048.D
AD	\\cash1\acqudata\GC22\data\042812A.b\0428F049.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	1.59E+6	B	0.50	1.59E+6	C	5.0	1.55E+6	D	10	1.58E+6	E	20	1.55E+6
	F	50	1.64E+6												
Aroclor 1016 {1}	A	2.5	84100	B	5.0	82900	C	50	70000	D	100	67600	E	200	65900
	F	500	64600												
Aroclor 1016 {2}	A	2.5	85300	B	5.0	83500	C	50	70800	D	100	73700	E	200	71800
	F	500	79000												
Aroclor 1016 {3}	A	2.5	67300	B	5.0	63100	C	50	56000	D	100	56400	E	200	54300
	F	500	55600												
Aroclor 1016 {4}	A	2.5	36700	B	5.0	34900	C	50	33000	D	100	33700	E	200	32700
	F	500	34400												
Aroclor 1016 {5}	A	2.5	54300	B	5.0	52000	C	50	51600	D	100	51100	E	200	49200
	F	500	49000												
Aroclor 1260 {1}	A	2.5	1.15E+5	B	5.0	1.10E+5	C	50	1.03E+5	D	100	1.04E+5	E	200	1.01E+5
	F	500	1.06E+5												
Aroclor 1260 {2}	A	2.5	1.20E+5	B	5.0	1.19E+5	C	50	1.11E+5	D	100	1.12E+5	E	200	1.09E+5
	F	500	1.17E+5												
Aroclor 1260 {3}	A	2.5	1.13E+5	B	5.0	1.11E+5	C	50	1.02E+5	D	100	1.04E+5	E	200	1.02E+5
	F	500	1.08E+5												
Aroclor 1260 {4}	A	2.5	84900	B	5.0	78500	C	50	76500	D	100	77300	E	200	74100
	F	500	78000												

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-35MS

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	1.85E+5	B	5.0	1.76E+5	C	50	1.71E+5	D	100	1.75E+5	E	200	1.73E+5
	F	500	1.86E+5												

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-35MS

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	2.0		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	12.0		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	8.0		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	8.8		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	4.3		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	3.8		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	4.8		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	3.7		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	4.3		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	4.6		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	3.6		≤ 20

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

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012
Date Analyzed: 04/29/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11473
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\042812A.b\0428F033.D
\\cash1\acqudata\GC22\data\042812A.b\0428F034.D
\\cash1\acqudata\GC22\data\042812A.b\0428F035.D
\\cash1\acqudata\GC22\data\042812A.b\0428F036.D
\\cash1\acqudata\GC22\data\042812A.b\0428F037.D
\\cash1\acqudata\GC22\data\042812A.b\0428F038.D
\\cash1\acqudata\GC22\data\042812A.b\0428F039.D
\\cash1\acqudata\GC22\data\042812A.b\0428F040.D
\\cash1\acqudata\GC22\data\042812A.b\0428F041.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	90	NA	NA	NA	-10	± 20 %	NA
Aroclor 1016 {1}	100	92	72500	67000	-8	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	85	77400	65700	-15	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	89	58800	52600	-11	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	90	34200	30900	-10	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	95	51200	48500	-5	NA	± 100 %	AverageRF
Aroclor 1260	100	98	NA	NA	NA	-2	± 20 %	NA
Aroclor 1260 {1}	100	93	106000	98800	-7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	92	115000	106000	-8	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	82	107000	87100	-18	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	78200	88300	13	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	178000	195000	10	NA	± 100 %	AverageRF

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

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

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-XLB

Level ID	File ID
A	\\cash1\acqudata\GC22\data\042812A_r.b\0428F003.D
B	\\cash1\acqudata\GC22\data\042812A_r.b\0428F004.D
C	\\cash1\acqudata\GC22\data\042812A_r.b\0428F005.D
D	\\cash1\acqudata\GC22\data\042812A_r.b\0428F006.D
E	\\cash1\acqudata\GC22\data\042812A_r.b\0428F007.D
F	\\cash1\acqudata\GC22\data\042812A_r.b\0428F008.D
G	\\cash1\acqudata\GC22\data\042812A_r.b\0428F009.D
H	\\cash1\acqudata\GC22\data\042812A_r.b\0428F010.D
I	\\cash1\acqudata\GC22\data\042812A_r.b\0428F011.D
J	\\cash1\acqudata\GC22\data\042812A_r.b\0428F012.D
K	\\cash1\acqudata\GC22\data\042812A_r.b\0428F013.D
L	\\cash1\acqudata\GC22\data\042812A_r.b\0428F014.D
M	\\cash1\acqudata\GC22\data\042812A_r.b\0428F015.D
N	\\cash1\acqudata\GC22\data\042812A_r.b\0428F016.D
O	\\cash1\acqudata\GC22\data\042812A_r.b\0428F017.D
P	\\cash1\acqudata\GC22\data\042812A_r.b\0428F018.D
Q	\\cash1\acqudata\GC22\data\042812A_r.b\0428F019.D
R	\\cash1\acqudata\GC22\data\042812A_r.b\0428F020.D
S	\\cash1\acqudata\GC22\data\042812A_r.b\0428F027.D
T	\\cash1\acqudata\GC22\data\042812A_r.b\0428F028.D
U	\\cash1\acqudata\GC22\data\042812A_r.b\0428F029.D
V	\\cash1\acqudata\GC22\data\042812A_r.b\0428F030.D
W	\\cash1\acqudata\GC22\data\042812A_r.b\0428F031.D
X	\\cash1\acqudata\GC22\data\042812A_r.b\0428F032.D
Y	\\cash1\acqudata\GC22\data\042812A_r.b\0428F044.D
Z	\\cash1\acqudata\GC22\data\042812A_r.b\0428F045.D
AA	\\cash1\acqudata\GC22\data\042812A_r.b\0428F046.D
AB	\\cash1\acqudata\GC22\data\042812A_r.b\0428F047.D
AC	\\cash1\acqudata\GC22\data\042812A_r.b\0428F048.D
AD	\\cash1\acqudata\GC22\data\042812A_r.b\0428F049.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	6.56E+6	B	0.50	6.60E+6	C	5.0	5.76E+6	D	10	5.46E+6	E	20	5.16E+6
	F	50	5.15E+6												
Aroclor 1016 {1}	A	2.5	2.34E+5	B	5.0	2.32E+5	C	50	1.99E+5	D	100	1.85E+5	E	200	1.77E+5
	F	500	1.61E+5												
Aroclor 1016 {2}	A	2.5	1.28E+5	B	5.0	1.25E+5	C	50	1.12E+5	D	100	1.05E+5	E	200	1.01E+5
	F	500	93200												
Aroclor 1016 {3}	A	2.5	3.99E+5	B	5.0	3.76E+5	C	50	3.31E+5	D	100	3.16E+5	E	200	3.05E+5
	F	500	3.00E+5												
Aroclor 1016 {4}	A	2.5	2.21E+5	B	5.0	2.10E+5	C	50	1.93E+5	D	100	1.86E+5	E	200	1.78E+5
	F	500	1.73E+5												
Aroclor 1016 {5}	A	2.5	1.86E+5	B	5.0	1.83E+5	C	50	1.62E+5	D	100	1.54E+5	E	200	1.46E+5
	F	500	1.39E+5												
Aroclor 1260 {1}	A	2.5	4.90E+5	B	5.0	4.51E+5	C	50	4.03E+5	D	100	3.88E+5	E	200	3.72E+5
	F	500	3.72E+5												
Aroclor 1260 {2}	A	2.5	4.80E+5	B	5.0	4.98E+5	C	50	4.53E+5	D	100	4.37E+5	E	200	4.21E+5
	F	500	4.26E+5												
Aroclor 1260 {3}	A	2.5	6.55E+5	B	5.0	6.11E+5	C	50	5.48E+5	D	100	5.31E+5	E	200	5.09E+5
	F	500	5.16E+5												
Aroclor 1260 {4}	A	2.5	3.55E+5	B	5.0	3.38E+5	C	50	3.17E+5	D	100	3.05E+5	E	200	2.89E+5
	F	500	2.89E+5												

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-XLB

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	8.19E+5	B	5.0	7.68E+5	C	50	7.02E+5	D	100	6.80E+5	E	200	6.58E+5
	F	500	6.79E+5												

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-XLB

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	11.4		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	15.0		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	12.5		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	12.0		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	9.7		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	11.9		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	11.6		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	6.8		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	10.4		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	8.5		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	8.7		≤ 20

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012
Date Analyzed: 04/29/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11473
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\042812A_r.b\0428F033.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F034.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F035.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F036.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F037.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F038.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F039.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F040.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F041.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	96	NA	NA	NA	-4	± 20 %	NA
Aroclor 1016 {1}	100	100	198000	197000	0	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	100	111000	111000	0	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	91	338000	307000	-9	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	96	194000	186000	-4	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	94	162000	152000	-6	NA	± 100 %	AverageRF
Aroclor 1260	100	99	NA	NA	NA	-1	± 20 %	NA
Aroclor 1260 {1}	100	93	413000	384000	-7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	94	453000	427000	-6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	86	561000	484000	-14	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	316000	360000	14	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	718000	768000	7	NA	± 100 %	AverageRF

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/30/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 04/28/2012
Calibration ID: CAL11473
Analysis Lot: KWG1204502
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F014.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	1580000	1740000	10	NA	± 20 %	AverageRF
Aroclor 1016	100	100	NA	NA	NA	2	± 20 %	NA
Aroclor 1016 {1}	100	96	72500	69400	-4	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	100	77400	79900	3	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	100	58800	59300	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	34200	36200	6	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	100	51200	53400	4	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	9	± 20 %	NA
Aroclor 1260 {1}	100	110	106000	113000	6	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	110	115000	126000	10	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	107000	116000	9	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	78200	85000	9	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	178000	199000	12	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/30/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 04/28/2012
Calibration ID: CAL11473
Analysis Lot: KWG1204502
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F014.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	10	5780000	5900000	2	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	7	± 20 %	NA
Aroclor 1016 {1}	100	100	198000	204000	3	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	111000	116000	5	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	338000	359000	6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	194000	212000	9	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	162000	179000	11	NA	± 100 %	AverageRF
Aroclor 1260	100	90	NA	NA	NA	-10	± 20 %	NA
Aroclor 1260 {1}	100	110	413000	438000	6	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	95	453000	432000	-5	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	80	561000	450000	-20	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	63	316000	198000	-37	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	718000	763000	6	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/30/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 04/28/2012
Calibration ID: CAL11473
Analysis Lot: KWG1204502
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F025.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	1580000	1800000	14	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	9	± 20 %	NA
Aroclor 1016 {1}	100	98	72500	71400	-2	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	120	77400	90300	17	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	58800	62800	7	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	34200	38700	13	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	51200	55100	8	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	14	± 20 %	NA
Aroclor 1260 {1}	100	110	106000	117000	10	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	120	115000	132000	15	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	107000	122000	14	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	78200	88300	13	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	120	178000	209000	18	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/30/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 04/28/2012
Calibration ID: CAL11473
Analysis Lot: KWG1204502
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F025.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	10	5780000	5930000	3	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	10	± 20 %	NA
Aroclor 1016 {1}	100	110	198000	210000	6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	111000	119000	7	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	338000	379000	12	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	194000	219000	13	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	162000	183000	13	NA	± 100 %	AverageRF
Aroclor 1260	100	88	NA	NA	NA	-12	± 20 %	NA
Aroclor 1260 {1}	100	110	413000	446000	8	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	97	453000	439000	-3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	71	561000	396000	-30	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	57	316000	179000	-43	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	718000	774000	8	NA	± 100 %	AverageRF

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082A

Analysis Lot: KWG1204502
Instrument ID: GC22.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0430F006.D	Continuing Calibration Verification	KWG1204502-1	4/30/2012	16:36		4/30/2012	16:36
0430F007.D	Instrument Blank	KWG1204502-2	4/30/2012	16:59		4/30/2012	16:59
0430F008.D	ZZZZZZ	ZZZZZZ	4/30/2012	17:22		4/30/2012	17:22
0430F009.D	ZZZZZZ	ZZZZZZ	4/30/2012	17:45		4/30/2012	17:45
0430F010.D	ZZZZZZ	ZZZZZZ	4/30/2012	18:08		4/30/2012	18:08
0430F011.D	ZZZZZZ	ZZZZZZ	4/30/2012	18:30		4/30/2012	18:30
0430F012.D	ZZZZZZ	ZZZZZZ	4/30/2012	18:53		4/30/2012	18:53
0430F013.D	ZZZZZZ	ZZZZZZ	4/30/2012	19:16		4/30/2012	19:16
0430F014.D	Continuing Calibration Verification	KWG1204502-3	4/30/2012	19:39		4/30/2012	19:39
0430F015.D	Instrument Blank	KWG1204502-4	4/30/2012	20:01		4/30/2012	20:01
0430F016.D	Batch QC	K1203581-001	4/30/2012	20:24		4/30/2012	20:24
0430F017.D	Batch QCMS	KWG1204291-1	4/30/2012	20:47		4/30/2012	20:47
0430F018.D	Batch QCDMS	KWG1204291-2	4/30/2012	21:10		4/30/2012	21:10
0430F019.D	ZZZZZZ	ZZZZZZ	4/30/2012	21:33		4/30/2012	21:33
0430F020.D	ZZZZZZ	ZZZZZZ	4/30/2012	21:55		4/30/2012	21:55
0430F021.D	Outfall A	K1203695-001	4/30/2012	22:18		4/30/2012	22:18
0430F022.D	Outfall B	K1203695-002	4/30/2012	22:41		4/30/2012	22:41
0430F023.D	Lab Control Sample	KWG1204291-3	4/30/2012	23:03		4/30/2012	23:03
0430F024.D	Method Blank	KWG1204291-4	4/30/2012	23:26		4/30/2012	23:26
0430F025.D	Continuing Calibration Verification	KWG1204502-5	4/30/2012	23:49		4/30/2012	23:49
0430F026.D	Instrument Blank	KWG1204502-6	5/1/2012	00:11		5/1/2012	00:11

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Extracted: 04/23/2012

Extraction Prep Log
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A
Analysis Method: 8082A

Extraction Lot: KWG1204291
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
Outfall A	K1203695-001	04/19/12	04/20/12	990mL	2mL	NA	
Outfall B	K1203695-002	04/19/12	04/20/12	1000mL	2mL	NA	
Method Blank	KWG1204291-4	NA	NA	1000mL	2mL	NA	
Batch QC	K1203581-001	NA	NA	990mL	2mL	NA	
Batch QCMS	KWG1204291-1	NA	NA	1000mL	2mL	NA	
Batch QCDMS	KWG1204291-2	NA	NA	990mL	2mL	NA	
Lab Control Sample	KWG1204291-3	NA	NA	1000mL	2mL	NA	

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Confirmation Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Collected: 04/19/2012
Date Received: 04/20/2012
Date Extracted: 04/23/2012

Polychlorinated Biphenyls (PCBs)

Sample Name: Outfall B
Lab Code: K1203695-002

Extraction Method: EPA 3535A
Analysis Method: 8082A

Units: ug/L
Basis: NA
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	0.0050	0.00096	0.0027	0.0031	13.8	J	1	04/30/12

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

QC Reports

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A
Analysis Method: 8082A

Units: PERCENT
Level: Low

Sample Name	Lab Code	Sur1
Batch QC	K1203581-001	91
Outfall A	K1203695-001	92
Outfall B	K1203695-002	89
Method Blank	KWG1204291-4	88
Batch QCMS	KWG1204291-1	87
Batch QCDMS	KWG1204291-2	81
Lab Control Sample	KWG1204291-3	86

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 36-113

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Extracted: 04/23/2012
Date Analyzed: 04/30/2012

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name: Batch QC
Lab Code: K1203581-001

Units: ug/L
Basis: NA

Extraction Method: EPA 3535A
Analysis Method: 8082A

Level: Low
Extraction Lot: KWG1204291

Analyte Name	Sample Result	Batch QCMS KWG1204291-1 Matrix Spike			Batch QCDMS KWG1204291-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Expected	%Rec	Result	Expected	%Rec			
Aroclor 1016	ND	0.162	0.200	81	0.152	0.202	75	25-144	6	30
Aroclor 1260	ND	0.159	0.200	80 #	0.145	0.202	72 #	40-127	9	30

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/23/2012
Sample Matrix:	Water	**Date Analyzed:**	04/30/2012

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3535A	**Units:**	ug/L
Analysis Method:	8082A	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1204291

	Lab Control Sample KWG1204291-3 Lab Control Spike			
Analyte Name	**Result**	**Expected**	**%Rec**	**%Rec Limits**
Aroclor 1016	0.167	0.200	83	50-103
Aroclor 1260	0.148	0.200	74	56-100

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Extracted: 04/23/2012
Date Analyzed: 04/30/2012
Time Analyzed: 23:26

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: KWG1204291-4

Instrument ID: GC22.i
File ID: J:\GC22\DATA\043012.B\0430F024.D

Extraction Method: EPA 3535A
Analysis Method: 8082A

Level: Low
Extraction Lot: KWG1204291

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Batch QC	K1203581-001	J:\GC22\DATA\043012.B\0430F016.D	04/30/12	20:24
Batch QCMS	KWG1204291-1	J:\GC22\DATA\043012.B\0430F017.D	04/30/12	20:47
Batch QCDMS	KWG1204291-2	J:\GC22\DATA\043012.B\0430F018.D	04/30/12	21:10
Outfall A	K1203695-001	J:\GC22\DATA\043012.B\0430F021.D	04/30/12	22:18
Outfall B	K1203695-002	J:\GC22\DATA\043012.B\0430F022.D	04/30/12	22:41
Lab Control Sample	KWG1204291-3	J:\GC22\DATA\043012.B\0430F023.D	04/30/12	23:03

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/23/2012
Sample Matrix:	Water	**Date Analyzed:**	04/30/2012
		Time Analyzed:	23:03

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Lab Control Sample	**Instrument ID:**	GC22.i
Lab Code:	KWG1204291-3	**File ID:**	J:\GC22\DATA\043012.B\0430F023.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1204291

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Batch QC	K1203581-001	J:\GC22\DATA\043012.B\0430F016.D	04/30/12	20:24
Batch QCMS	KWG1204291-1	J:\GC22\DATA\043012.B\0430F017.D	04/30/12	20:47
Batch QCDMS	KWG1204291-2	J:\GC22\DATA\043012.B\0430F018.D	04/30/12	21:10
Outfall A	K1203695-001	J:\GC22\DATA\043012.B\0430F021.D	04/30/12	22:18
Outfall B	K1203695-002	J:\GC22\DATA\043012.B\0430F022.D	04/30/12	22:41
Method Blank	KWG1204291-4	J:\GC22\DATA\043012.B\0430F024.D	04/30/12	23:26

Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Raw Data

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/2012
Sample Matrix:	Water	**Date Received:**	04/20/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:	Outfall A	**Units:**	ug/L
Lab Code:	K1203695-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0051	0.0051	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1221	ND	Ui	0.037	0.037	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1232	ND	Ui	0.011	0.011	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1242	ND	Ui	0.0051	0.0046	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1248	ND	Ui	0.0051	0.0051	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1254	ND	Ui	0.0051	0.0017	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1260	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1262	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1268	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	36-113	04/30/12	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F021.D
Lab ID: K1203695-001
RunType: SMPL
Matrix: WATER

Date Acquired: 04/30/2012 22:18
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
ListJoinID: LJ7951

Sample Exceptions

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

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	Aroclor 1260 {4}	104	56	100	MWY
	Aroclor 1260 {5}	105	56	100	L

Primary Review: [illegible]

Secondary Review: [illegible]

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F021.D
Lab ID: K1203695-001
RunType: SMPL
Matrix: WATER

Date Acquired: 04/30/2012 22:18
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
ListJoinID: LJ7951

Sample Exceptions

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

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	Aroclor 1260 {4}	104	56	100	MUNY
	Aroclor 1260 {5}	105	56	100	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F021.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F021.D			**Vial:**	14
Acqu Date:	04/30/2012 22:18	**Quant Date:**	05/02/2012 23:35	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1203695-001				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8082 PCB_ULL	**Collect Date:**	04/19/2012	**Receive Date:**	04/20/2012

Analysis Lot:	KWG1204502	**Prep Lot:**	KWG1204291	**Report Group:**	K1203695
Analysis Method:	8082A	**Prep Method:**	EPA 3535A		
Prep Ref:	1120629	**Prep Date:**	04/23/2012		

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ7951
MB Ref:	J:\GC22\DATA\043012.B\0430F024.D	**Method ID:**	MJ702
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	12.99 0.00	14.45	7253006	22914925	4.59	3.96			92OK
				%Recovery =	92OK	79OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	1.94	7.23	0.0039J	0.015	**0.0039**JP RPD
Aroclor 1016 {1}	5.51 -0.05 c	6.24 -0.01 c	0	0	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1016 {2}	6.04 -0.01 c		223211	0	2.89	0.0000	0.0058	0.00097U	
Aroclor 1016 {3}	6.15 -0.01	6.96 0.00	92755	209215	1.58	0.6190	0.0032J	0.0013J	
Aroclor 1016 {4}	6.32 c	7.18 +0.02 c	66150	3767928	1.93	19.47	0.0039J	0.039	RPD
Aroclor 1016 {5}	6.39 +0.01 c	7.33 +0.02	69532	256991	1.36	1.59	0.0027J	0.0032J	
Aroclor 1221			0	0	18.20	17.90	0.037	0.036	**0.037**
Aroclor 1221 {1}	4.45	5.36	0	141648	0.0000	5.74	0.00097U	0.012	
Aroclor 1221 {2}	5.05	5.68	97248	874491	7.10	17.75	0.014	0.036	
Aroclor 1221 {3}	5.16	5.77	356130	2045486	34.70	45.36	0.070	0.092	
Aroclor 1221 {4}	5.20 c	5.86 c	463277	441940	12.80	2.75	0.026	0.0056J	RPD
Aroclor 1232			0	0	10.07	5.29	0.020	0.011	**0.020**P
Aroclor 1232 {1}	5.20 c	5.86 c	463277	441940	14.08	2.87	0.028	0.0058	RPD
Aroclor 1232 {2}	5.51 c	6.24 c	0	0	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1232 {3}	5.86	6.48	133455	459362	8.55	7.17	0.017	0.014	
Aroclor 1232 {4}	6.04 c	6.90	223211	754718	7.59	5.84	0.015	0.012	
Aroclor 1242			0	0	2.27	4.96	0.0046J	0.010	**0.0046**JP
Aroclor 1242 {1}	5.76	5.86 c	0	441940	0.0000	3.84	0.00097U	0.0078	
Aroclor 1242 {2}	6.07	6.24 c	0	0	0.0000	0.0000	0.00097U	0.00097U	

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F021.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F021.D			**Vial:**	14
Acqu Date:	04/30/2012 22:18	**Quant Date:**	05/02/2012 23:35	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1203695-001				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {3}	6.32	c	6.54		66150	444383	2.55	6.16	0.0052	0.012	
Aroclor 1242 {4}	6.39	c	7.18	c	69532	0	1.78	0.0000	0.0036J	0.00097U	
Aroclor 1242 {5}	6.73		7.61	c	103620	776252	2.48	4.88	0.0050J	0.0099	
Aroclor 1248					0	0	1.10	5.48	0.0022J	0.011	**0.0022**JP RPD
Aroclor 1248 {1}	6.43		7.61	c	37608	776252	0.9320	2.94	0.0019J	0.0059	RPD
Aroclor 1248 {2}	6.79		7.88		0	356752	0.0000	1.94	0.00097U	0.0039J	
Aroclor 1248 {3}	6.96		8.25		68526	2245638	1.28	9.58	0.0026J	0.019	RPD
Aroclor 1248 {4}	7.24				80803	0	1.08	0.0000	0.0022J	0.00097U	
Aroclor 1248 {5}	7.45	c	8.38		0	1981466	0.0000	7.47	0.00097U	0.015	
Aroclor 1254					0	0	1.77	0.7993	0.0036J	0.0016J	**0.0036**JP
Aroclor 1254 {1}	7.45	c	8.58		185159	0	1.99	0.0000	0.0040J	0.00097U	
Aroclor 1254 {2}	8.00		9.30		148729	191041	2.03	0.3920	0.0041J	0.00097U	
Aroclor 1254 {3}	8.14		9.80		0	482864	0.0000	1.36	0.00097U	0.0027J	
Aroclor 1254 {4}	8.38		10.22		0	166184	0.0000	0.6480	0.00097U	0.0013J	
Aroclor 1254 {5}	8.68				73750	0	1.28	0.0000	0.0026J	0.00097U	
Aroclor 1260					0	0	0.0000	0.0000	0.00097U	0.00097U	0.00097U
Aroclor 1260 {1}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1260 {2}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1260 {3}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1260 {4}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1260 {5}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1262					0	0	0.0000	0.0000	0.00097U	0.00097U	0.00097U
Aroclor 1262 {1}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1262 {2}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1262 {3}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1262 {4}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1262 {5}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1268					0	0	0.0000	0.0000	0.00097U	0.00097U	0.00097U
Aroclor 1268 {1}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1268 {2}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1268 {3}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1268 {4}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1268 {5}					0d	0d	0.0000	0.0000	0.00097U	0.00097U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	990 mL	**Dilution:**	1.0
Prep Final Vol:	2 mL	**Unit Factor:**	1

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

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

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

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

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F021.D
Report Date: 02-May-2012 23:35

Columbia Analytical Services

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F021.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F021.D
Inj Date : 30-APR-2012 22:18
Sample Info: K1203695-001
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.751	5.474	5463160	28651623	3.54	3.58		100.00(R)
Aroclor 1016	5.508	6.241					80.00- 120.00	0.00(H)
	6.038	0.000	223211		2.88		101.27- 151.90	0.96(H)
	6.148	6.957	92755	209215	1.58	0.619	70.42- 105.63	0.40(H)
	6.315	7.177	66150	3767928	1.93	19.5	43.34- 65.01	0.28(H)
	6.385	7.327	69532	256991	1.36	1.59	61.77- 92.65	0.30(H)
		Average of Peak Amounts =			1.94	7.24		
Aroclor 1221	4.445	5.364		141648		5.74	80.00- 120.00	100.00(H)
	5.051	5.681	97248	874491	7.10	17.7	126.02- 189.04	4.70(H)
	5.161	5.771	356130	2045486	34.7	45.4	97.46- 146.18	17.23(H)
	5.198	5.857	463277	441940	12.8	2.75	338.74- 508.10	22.41(H)
		Average of Peak Amounts =			18.2	17.9		
Aroclor 1232	5.198	5.857	463277	441940	14.1	2.87	80.00- 120.00	100.00(H)
	5.508	6.241					29.38- 44.06	0.00(H)
	5.861	6.481	133455	459362	8.55	7.17	38.59- 57.89	28.81(H)
	6.038	6.904	223211	754718	7.58	5.84	70.38- 105.58	48.18(H)
		Average of Peak Amounts =			10.1	5.29		
Aroclor 1242	5.758	5.857		441940		3.84	80.00- 120.00	100.00(H)
	6.071	6.241					67.79- 101.69	0.00(H)
	6.315	6.541	66150	444383	2.55	6.16	108.55- 162.82	16.03(H)
	6.385	7.177	69532		1.78		174.52- 261.77	16.85(H)
	6.731	7.611	103620	776252	2.48	4.88	179.56- 269.34	25.11(H)
		Average of Peak Amounts =			2.27	4.96		
Aroclor 1248	6.425	7.611	37608	776252	0.932	2.94	80.00- 120.00	100.00(H)
	6.788	7.881		356752		1.94	57.12- 85.69	45.96(H)
	6.958	8.254	68526	2245638	1.28	9.58	110.97- 166.45	182.21(H)
	7.241	0.000	80803		1.08		154.50- 231.75	214.86(H)
	7.451	8.377		1981466		7.47	81.44- 122.16	255.26(H)

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F021.D
Report Date: 02-May-2012 23:35

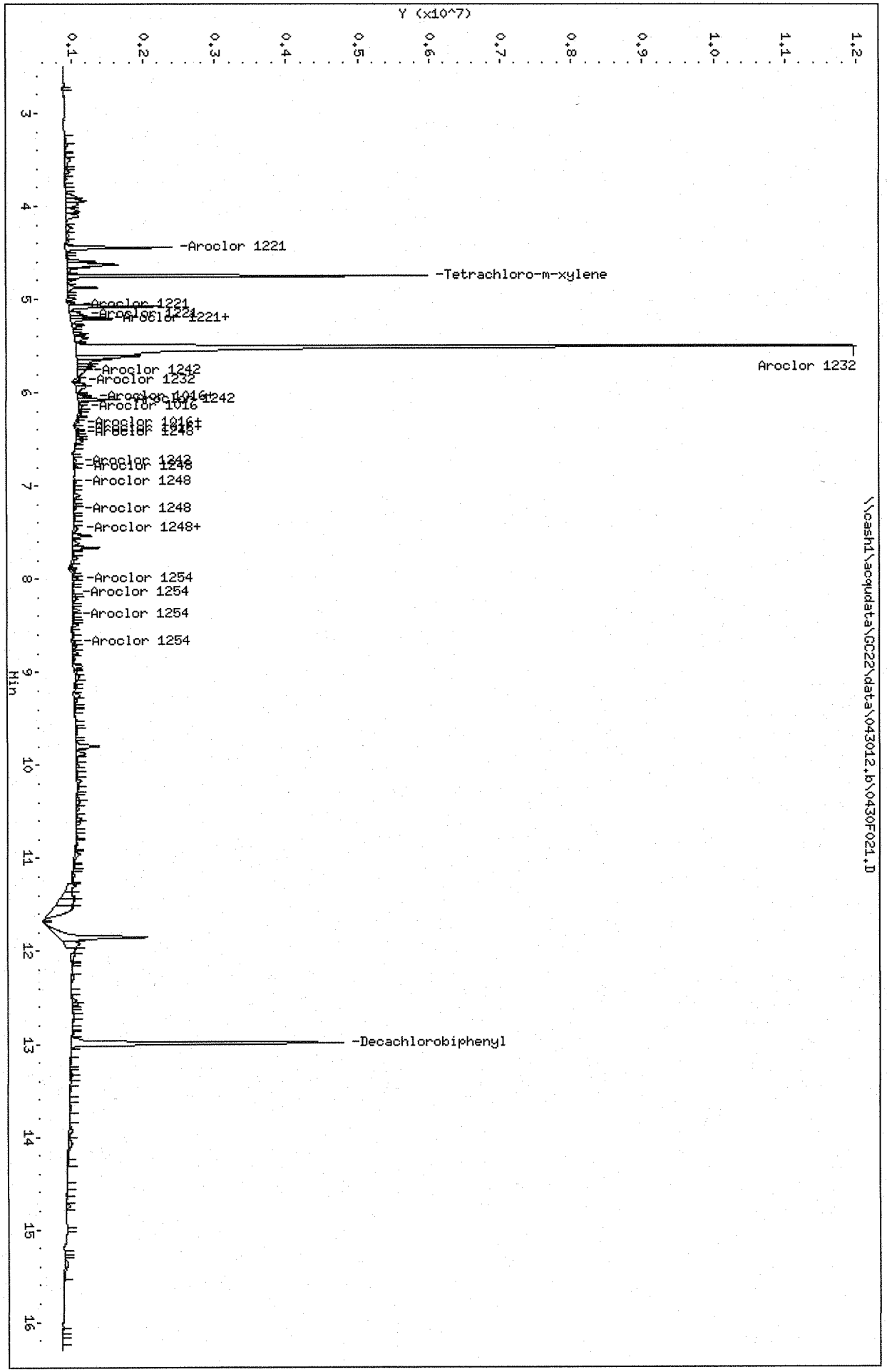
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
		Average of Peak Amounts =			1.10	5.48		
Aroclor 1254	7.451	8.584	185159		1.98		80.00- 120.00	100.00(H)
	7.995	9.301	148729	191041	2.03	0.392	64.48- 96.73	80.33(H)
	8.138	9.797		482864		1.36	56.49- 84.74	22.46(H)
	8.378	10.224		166184		0.648	38.45- 57.67	7.73(H)
	8.678	0.000	73750		1.28		48.68- 73.02	39.83(H)
		Average of Peak Amounts =			1.76	0.800		
Decachlorobiphenyl	12.991	14.451	7253006	22914925	4.58	3.96		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F021.D
Date : 30-APR-2012 22:18
Client ID:
Sample Info: K12036995-001
Column phase: DB-35MS

Instrument: GC22.i
Operator: LHarris
Column diameter: 0.32



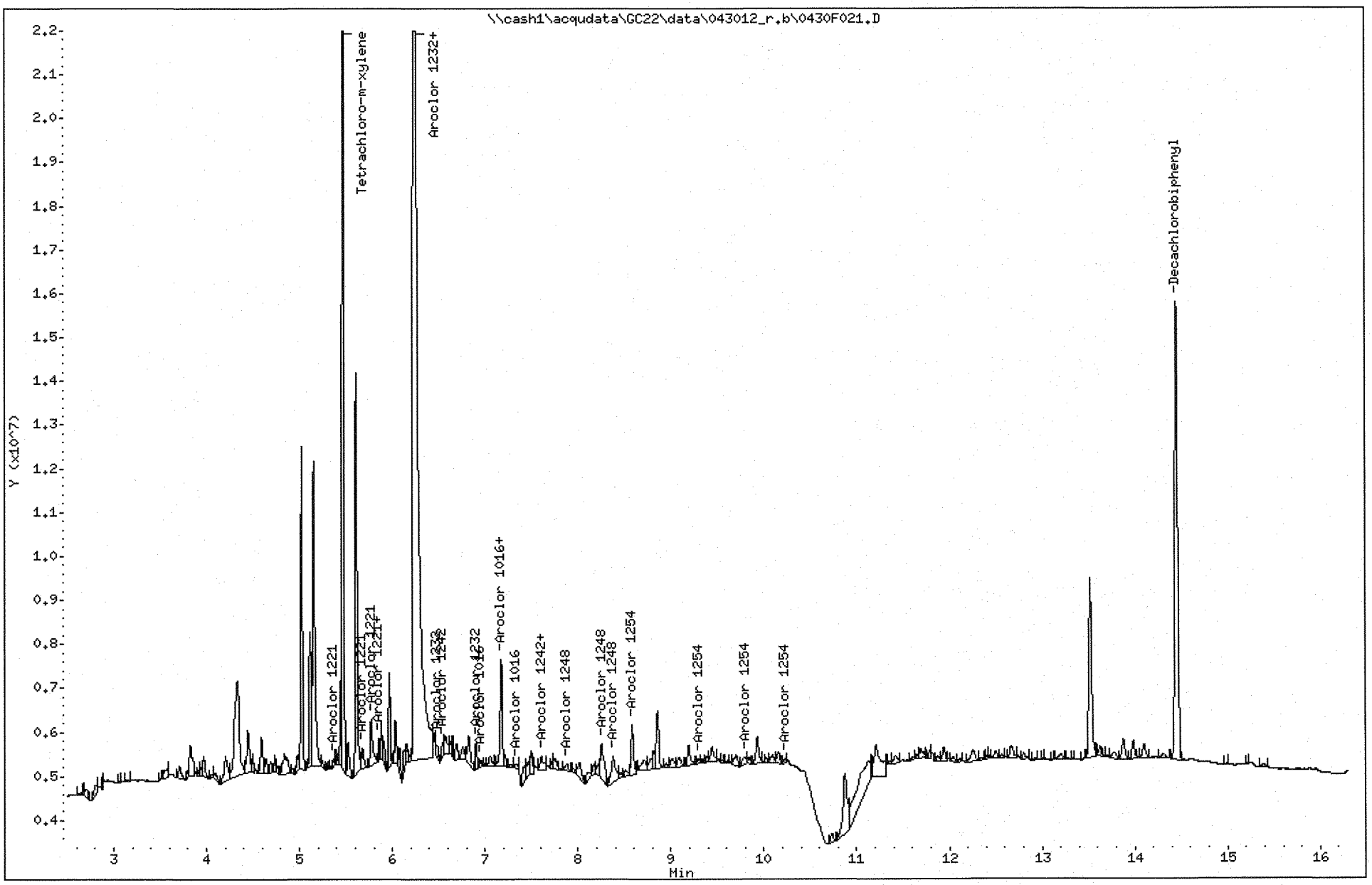
Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F021.D
Date : 30-APR-2012 22:18
Client ID:
Sample Info: K1203695-001

Instrument: GC22.i

Operator: LHarris

Column phase: DB-XLB

Column diameter: 0.32



COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/2012
Sample Matrix:	Water	**Date Received:**	04/20/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:	Outfall B	**Units:**	ug/L
Lab Code:	K1203695-002	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0050	0.0050	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1221	ND	Ui	0.028	0.028	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1232	ND	Ui	0.081	0.081	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1242	ND	Ui	0.0050	0.0050	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1248	ND	Ui	0.0050	0.0029	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1254	**0.0027**	J	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1260	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1262	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1268	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	89	36-113	04/30/12	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F022.D
Lab ID: K1203695-002
RunType: SMPL
Matrix: WATER

Date Acquired: 04/30/2012 22:41
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
ListJoinID: LJ7951

Sample Exceptions

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

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	Aroclor 1260 {4}	104	56	100	mw
	Aroclor 1260 {5}	105	56	100	

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F022.D
Lab ID: K1203695-002
RunType: SMPL
Matrix: WATER

Date Acquired: 04/30/2012 22:41
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
ListJoinID: LJ7951

Sample Exceptions

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

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	Aroclor 1260 {4}	104	56	100	recurrd
	Aroclor 1260 {5}	105	56	100	
Analyte Co-elution	Aroclor 1016 {1}	6.24	NA	NA	Cont
	Aroclor 1016 {4}	7.177	NA	NA	
	Aroclor 1221 {4}	5.857	NA	NA	
	Aroclor 1232 {1}	5.857	NA	NA	
	Aroclor 1232 {2}	6.24	NA	NA	
	Aroclor 1242 {1}	5.857	NA	NA	
	Aroclor 1242 {2}	6.24	NA	NA	
	Aroclor 1242 {4}	7.177	NA	NA	
	Aroclor 1242 {5}	7.61	NA	NA	
	Aroclor 1248 {1}	7.61	NA	NA	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F022.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F022.D			**Vial:**	15
Acqu Date:	04/30/2012 22:41	**Quant Date:**	05/02/2012 23:54	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1203695-002				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8082 PCB_ULL	**Collect Date:**	04/19/2012	**Receive Date:**	04/20/2012

Analysis Lot:	KWG1204502	**Prep Lot:**	KWG1204291	**Report Group:**	K1203695
Analysis Method:	8082A	**Prep Method:**	EPA 3535A		
Prep Ref:	1120630	**Prep Date:**	04/23/2012		

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ7951
MB Ref:	J:\GC22\DATA\043012.B\0430F024.D	**Method ID:**	MJ702
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	12.99	0.00	14.45	+0.00	7042137	22336930	4.45	3.86			89OK
						%Recovery =	89OK	77OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt	
Aroclor 1016					0	0	2.43	15.34	0.0049J	0.031	**0.0049**JP	RPD
Aroclor 1016 {1}	5.51	-0.05	6.24	-0.01 c	0	0	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1016 {2}	6.04	-0.01 c			281359	0	3.64	0.0000	0.0073	0.00096U		
Aroclor 1016 {3}	6.15	0.00	6.96	0.00	0	4409664	0.0000	13.05	0.00096U	0.026		
Aroclor 1016 {4}	6.32	+0.00c	7.18	+0.02c	70344	5410171	2.05	27.96	0.0041J	0.056		RPD
Aroclor 1016 {5}	6.39	+0.01c	7.33	+0.02	81899	810071	1.60	5.01	0.0032J	0.010		RPD
Aroclor 1221					0	0	33.13	13.57	0.066	0.027	**0.066**P	
Aroclor 1221 {1}	4.44		5.37		590053	310426	63.06	12.59	0.13	0.025		RPD
Aroclor 1221 {2}	5.00		5.68		217634	975983	15.88	19.81	0.032	0.040		
Aroclor 1221 {3}	5.12		5.74		65906	0	6.42	0.0000	0.013	0.00096U		
Aroclor 1221 {4}	5.21	c	5.86	c	1705705	1337246	47.14	8.33	0.094	0.017		RPD
Aroclor 1232					0	0	42.25	40.43	0.084	0.081	**0.084**	
Aroclor 1232 {1}	5.21	c	5.86	c	1705705	1337246	51.85	8.69	0.10	0.017		RPD
Aroclor 1232 {2}	5.61		6.24	c	3253791	0	88.31	0.0000	0.18	0.00096U		
Aroclor 1232 {3}	5.81	c	6.48		300867	3635612	19.27	56.78	0.039	0.11		
Aroclor 1232 {4}	6.04	c	6.90		281359	7217322	9.56	55.81	0.019	0.11		RPD
Aroclor 1242					0	0	1.92	21.01	0.0038J	0.042	**0.0038**JP	RPD
Aroclor 1242 {1}	5.81	c	5.86	c	0	1337246	0.0000	11.61	0.00096U	0.023		
Aroclor 1242 {2}	6.07		6.24	c	0	0	0.0000	0.0000	0.00096U	0.00096U		

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F022.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F022.D			**Vial:**	15
Acqu Date:	04/30/2012 22:41	**Quant Date:**	05/02/2012 23:54	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1203695-002				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt	
Aroclor 1242 {3}	6.32	c	6.54		70344	1259198	2.72	17.44	0.0054	0.035		RPD
Aroclor 1242 {4}	6.39	c	7.18	c	81899	5410171	2.09	33.99	0.0042J	0.068		RPD
Aroclor 1242 {5}	6.71		7.61	c	39296	0	0.9400	0.0000	0.0019J	0.00096U		
Aroclor 1248					0	0	1.43	1.94	0.0029J	0.0039J	**0.0029J**	
Aroclor 1248 {1}	6.42		7.61	c	42244m	448026m	1.05	1.70	0.0021J	0.0034J		
Aroclor 1248 {2}	6.76		7.88		36375m	233889m	1.70	1.27	0.0034J	0.0025J		
Aroclor 1248 {3}	6.93		8.26		0m	0m	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1248 {4}	7.24		8.28		114990m	612638m	1.53	2.18	0.0031J	0.0044J		
Aroclor 1248 {5}	7.45	c	8.38		0m	690505m	0.0000	2.60	0.00096U	0.0052		
Aroclor 1254					0	0	1.37	1.54	0.0027J	0.0031J	**0.0027J**	
Aroclor 1254 {1}	7.45	c	8.58		112448m	1179380	1.21	2.37	0.0024J	0.0047J		
Aroclor 1254 {2}	7.99		9.30		194302m	222785	2.66	0.4570	0.0053	0.00096U		
Aroclor 1254 {3}	8.14		9.79		94454m	810969	0.6430	2.28	0.0013J	0.0046J		RPD
Aroclor 1254 {4}	8.38		10.25		52760m	269864	0.7170	1.05	0.0014J	0.0021J		
Aroclor 1254 {5}	8.68				93717m	0	1.63	0.0000	0.0033J	0.00096U		
Aroclor 1260					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U	
Aroclor 1260 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1260 {2}					0d	0d	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1260 {3}					0d	0d	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1260 {4}					0d	0d	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1260 {5}					0d	0d	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1262					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U	
Aroclor 1262 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1262 {2}					0d	0d	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1262 {3}					0d	0d	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1262 {4}					0d	0d	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1262 {5}					0d	0d	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1268					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U	
Aroclor 1268 {1}					0d	0	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1268 {2}					0d	0	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1268 {3}					0d	0	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1268 {4}					0d	0	0.0000	0.0000	0.00096U	0.00096U		
Aroclor 1268 {5}					0d	0	0.0000	0.0000	0.00096U	0.00096U		

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1000 mL	**Dilution:**	1.0
Prep Final Vol:	2 mL	**Unit Factor:**	1

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

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

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

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

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F022.D
Report Date: 02-May-2012 23:54

Columbia Analytical Services

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F022.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F022.D
Inj Date : 30-APR-2012 22:41
Sample Info: K1203695-002
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.754	5.473	4917448	27210451	3.19	3.40		100.00(R)
Aroclor 1016	5.507	6.240					80.00- 120.00	0.00(H)
	6.037	0.000	281359		3.64		101.27- 151.90	0.90(H)
	6.154	6.957		4409664		13.0	144.46- 216.69	2.16(H)
	6.317	7.177	70344	5410171	2.05	28.0	43.34- 65.01	0.23(H)
	6.387	7.333	81899	810071	1.60	5.01	61.77- 92.65	0.26(H)
		Average of Peak Amounts =			2.43	15.3		
Aroclor 1221	4.444	5.370	590053	310426	63.0	12.6	80.00- 120.00	100.00(H)
	5.000	5.683	217634	975983	15.9	19.8	126.02- 189.04	36.88(H)
	5.124	5.737	65906		6.42		97.46- 146.18	11.17(H)
	5.214	5.857	1705705	1337246	47.1	8.33	338.74- 508.10	289.08(H)
		Average of Peak Amounts =			33.1	13.6		
Aroclor 1232	5.214	5.857	1705705	1337246	51.8	8.69	80.00- 120.00	100.00(H)
	5.607	6.240	3253791		88.3		88.50- 132.74	190.76(H)
	5.814	6.477	300867	3635612	19.3	56.8	38.59- 57.89	17.64(H)
	6.037	6.903	281359	7217322	9.56	55.8	70.38- 105.58	16.50(H)
		Average of Peak Amounts =			42.2	40.4		
Aroclor 1242	5.814	5.857		1337246		11.6	80.00- 120.00	100.00(H)
	6.074	6.240					67.79- 101.69	0.00(H)
	6.317	6.540	70344	1259198	2.71	17.4	108.55- 162.82	23.38(H)
	6.387	7.177	81899	5410171	2.09	34.0	174.52- 261.77	27.22(H)
	6.710	7.610	39296		0.940		179.56- 269.34	13.06(H)
		Average of Peak Amounts =			1.91	21.0		
Aroclor 1248	6.424	7.610	42244	448026	1.05	1.70	80.00- 120.00	100.00(MH)
	6.764	7.880	36375	233889	1.70	1.27	43.73- 65.60	86.11(MH)
	6.927	8.257					71.60- 107.41	0.00(MH)
	7.240	8.277	114990	612638	1.53	2.18	154.50- 231.75	272.21(MH)
	7.447	8.377		690505		2.60	81.44- 122.16	154.12(MH)

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F022.D
Report Date: 02-May-2012 23:54

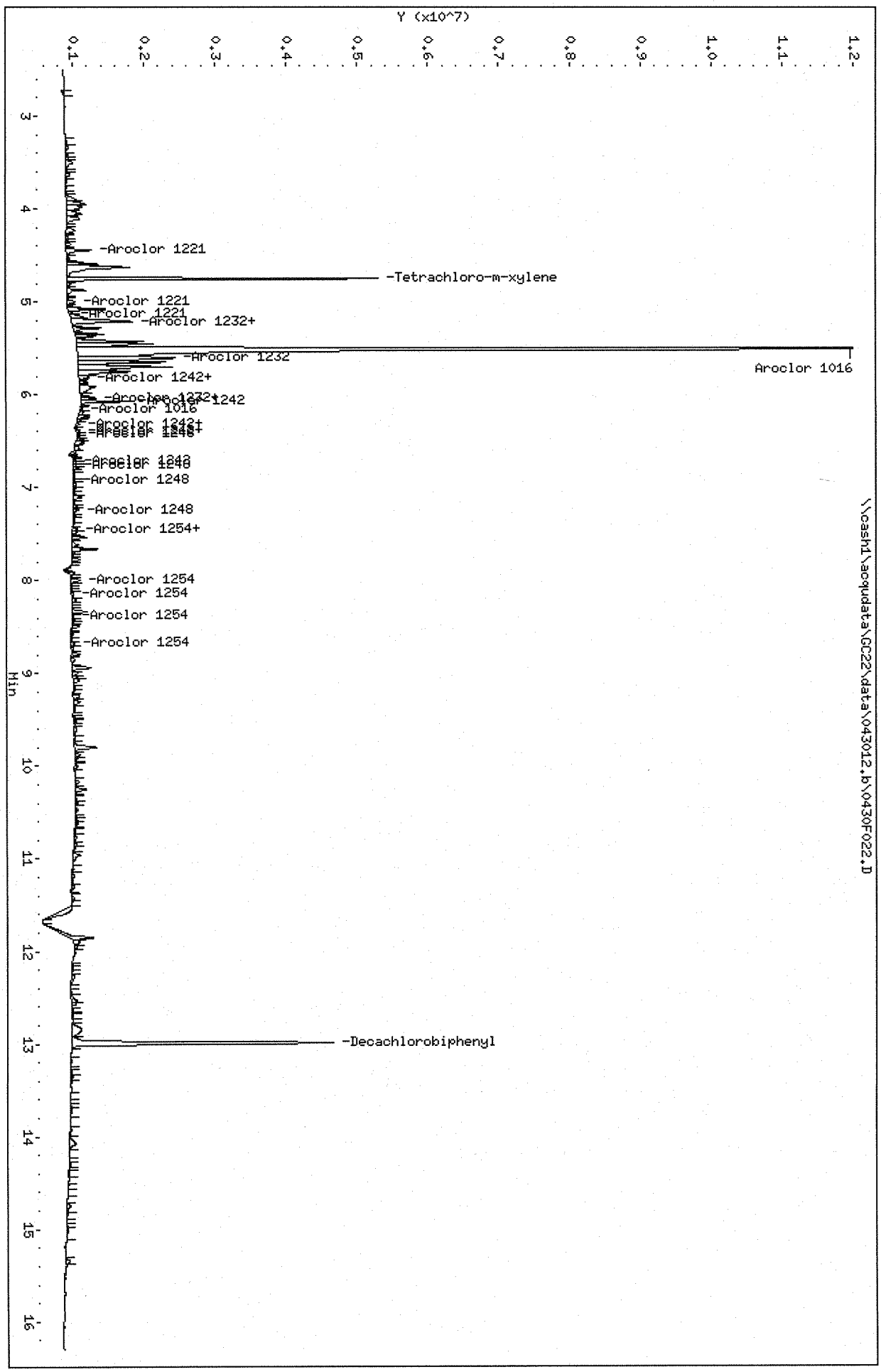
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
			Average of Peak Amounts =		1.43	1.94		
Aroclor 1254	7.447	8.583	112448	1179380	1.20	2.37	80.00- 120.00	100.00(MH)
	7.994	9.300	194302	222785	2.66	0.457	64.48- 96.73	172.79(MH)
	8.140	9.790	94454	810969	0.643	2.28	129.28- 193.92	84.00(MH)
	8.380	10.253	52760	269864	0.717	1.05	64.06- 96.09	46.92(MH)
	8.677	0.000	93717		1.63		48.68- 73.02	83.34(MH)
			Average of Peak Amounts =		1.37	1.54		
Decachlorobiphenyl	12.994	14.453	7042137	22336930	4.45	3.86		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

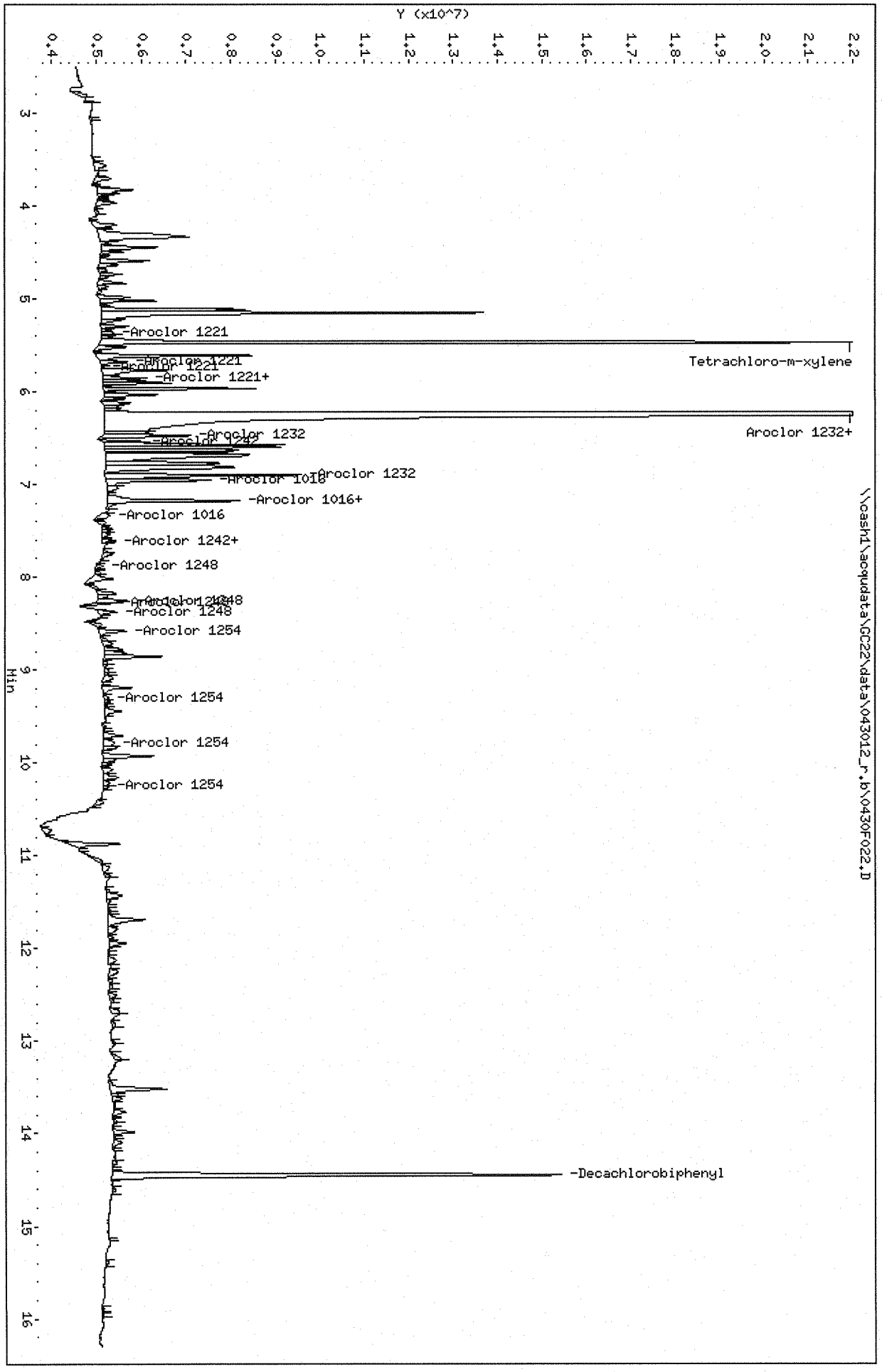
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F022.D
Date : 30-APR-2012 22:41
Client ID:
Sample Info: K1203695-002
Column phase: DB-35MS

Instrument: GC22.i
Operator: LHarris
Column diameter: 0.32

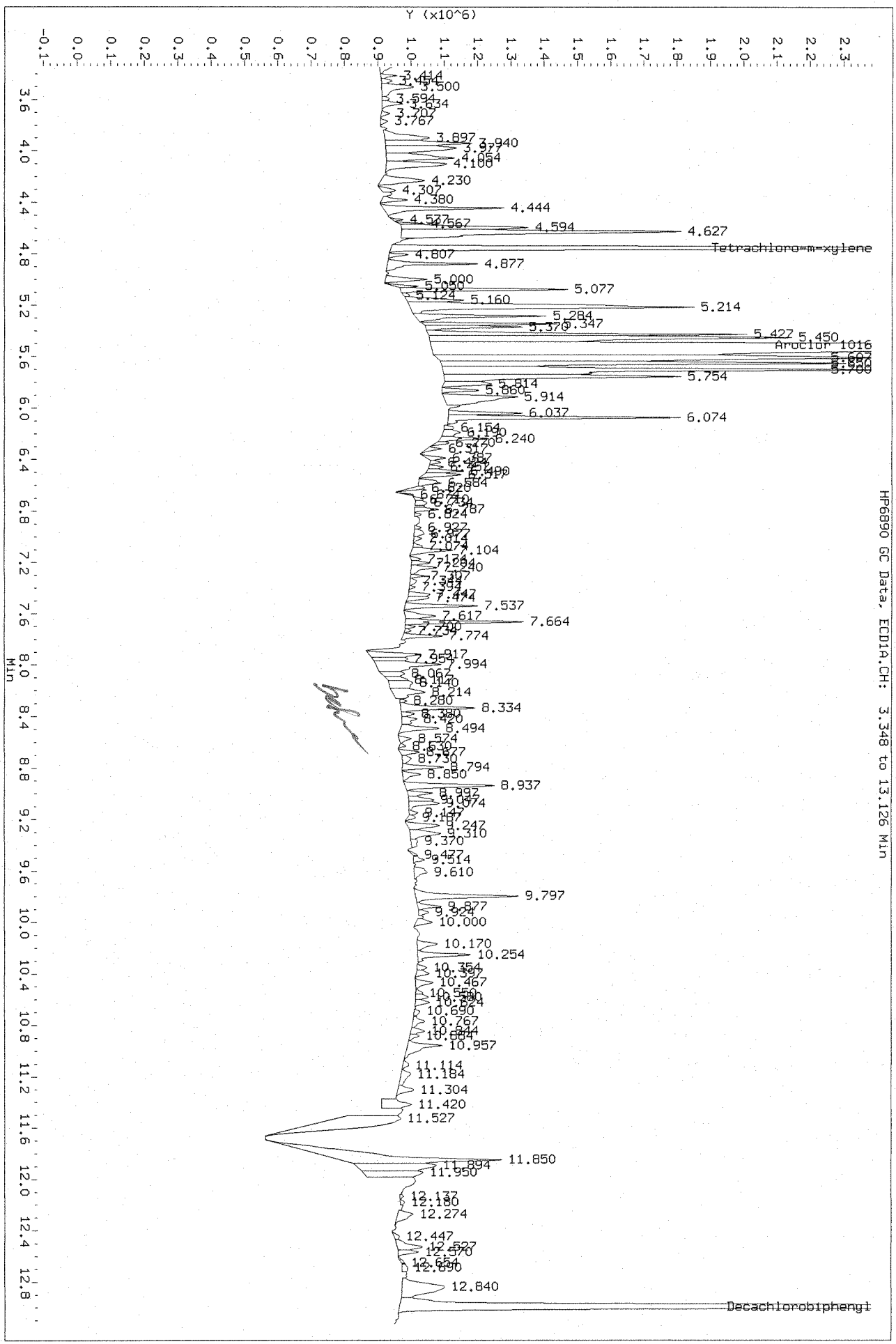


Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F022.D
Date : 30-APR-2012 22:41
Client ID:
Sample Info: K1203695-002
Column phase: DB-XLB

Instrument: GC22.i
Operator: LHarris
Column diameter: 0.32

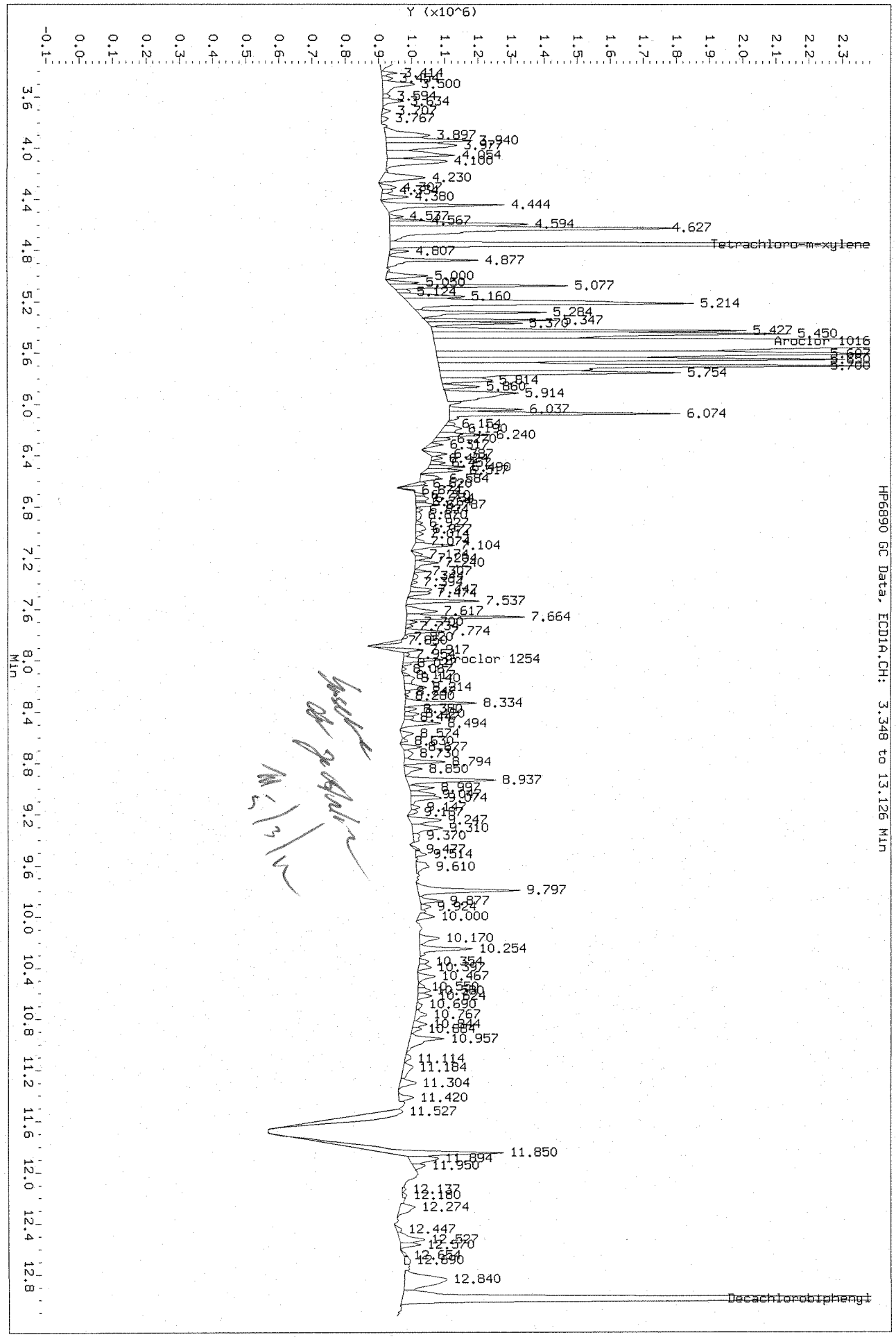


Data File: \\cash1\acqudata\GC22\data\043012.b\0430F022.D
Injection Date: 30-APR-2012 22:41
Instrument: GC22:1
Client Sample ID:



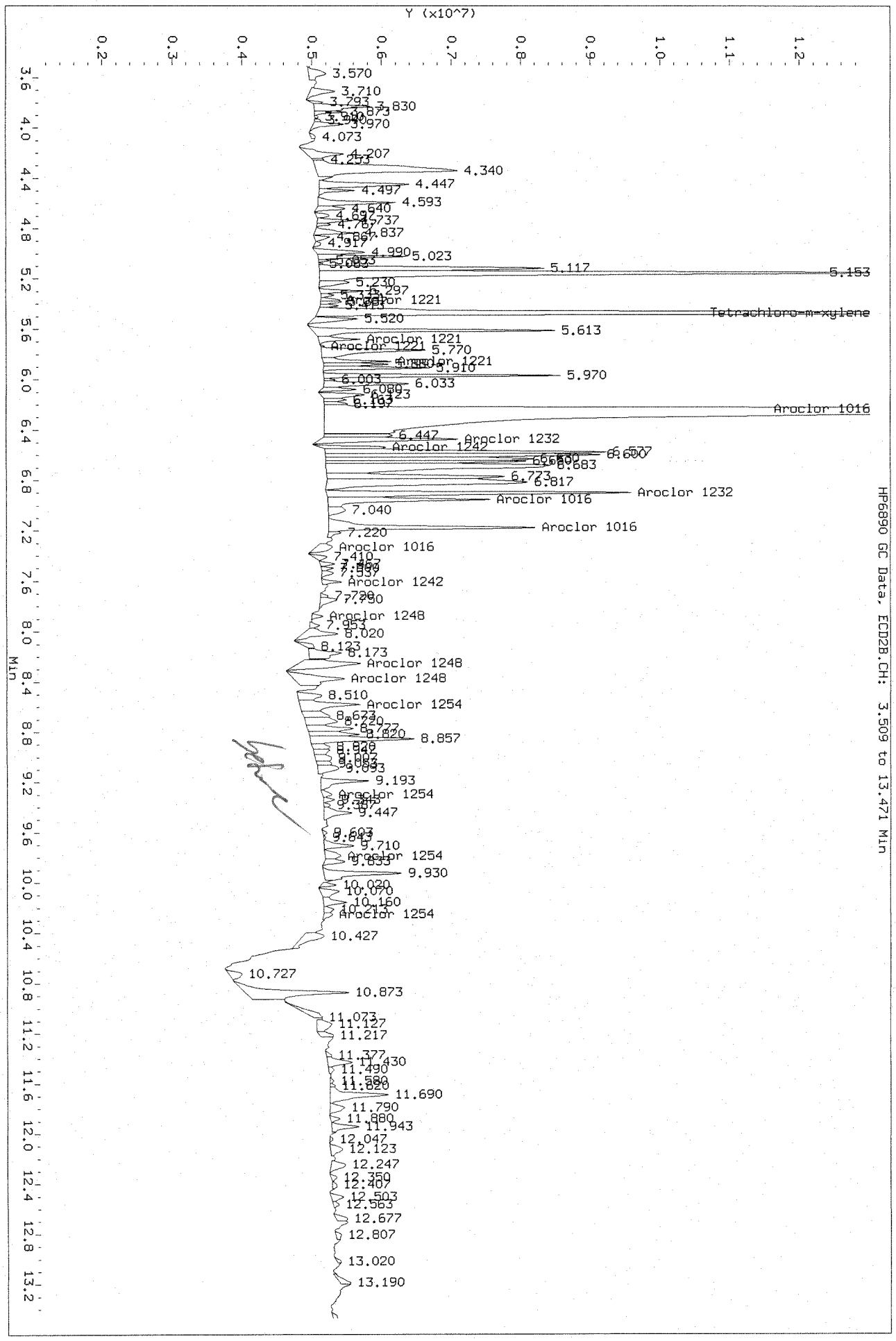
HP6890 GC Data, ECD1A.CH: 3.348 to 13.126 Min

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F022.D
Injection Date: 30-APR-2012 22:41
Instrument: GC22:1
Client Sample ID:



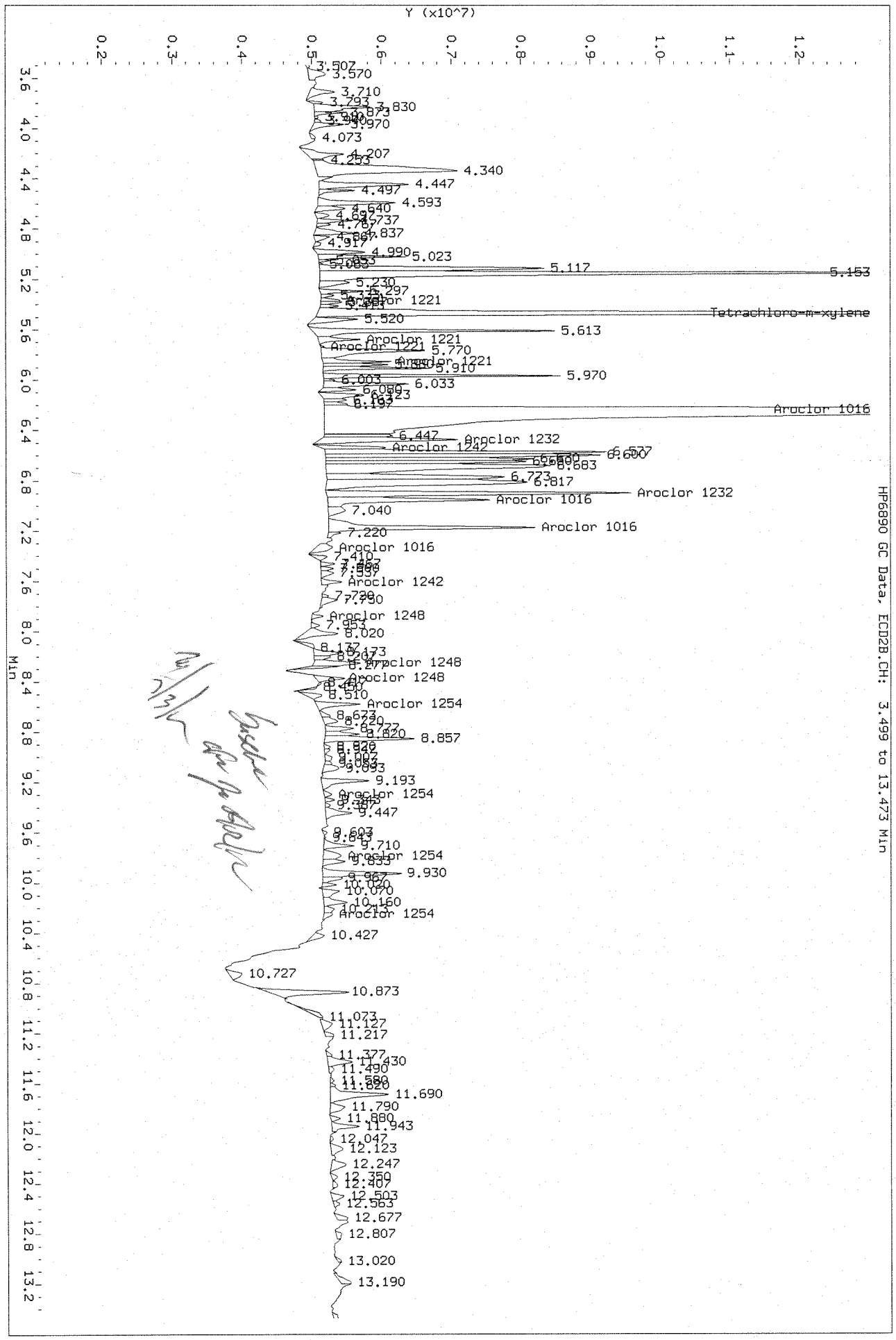
HP6890 GC Data, ECD1A.CH: 3.348 to 13.126 Min

Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F022.D
Injection Date: 30-APR-2012 22:41
Instrument: GC22.i
Client Sample ID:



HP6890 GC Data, ECD2B.CH: 3.509 to 13.471 Min

Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F022.D
Injection Date: 30-APR-2012 22:41
Instrument: GC22:1
Client Sample ID:



HP6890 GC Data, ECD2B.CH: 3.499 to 13.473 Min

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: KWG1204291-4

Units: ug/L
Basis: NA

Extraction Method: EPA 3535A
Analysis Method: 8082A

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1221	ND	U	0.010	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1232	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1242	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1248	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1254	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1260	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1262	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1268	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	88	36-113	04/30/12	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F024.D
Lab ID: KWG1204291-4
RunType: MB
Matrix: WATER

Date Acquired: 04/30/2012 23:26
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F024.D
Lab ID: KWG1204291-4
RunType: MB
Matrix: WATER

Date Acquired: 04/30/2012 23:26
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: [illegible]

Secondary Review: [illegible]

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F024.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F024.D			**Vial:**	17
Acqu Date:	04/30/2012 23:26	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	MB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8082A PCB ULL	**Collect Date:**		**Receive Date:**	04/26/2012

Analysis Lot:	KWG1204502	**Prep Lot:**	KWG1204291	**Report Group:**	
Analysis Method:	8082A	**Prep Method:**	EPA 3535A		
Prep Ref:	1120634	**Prep Date:**	04/23/2012		

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	4.75 0.00	5.47 -0.01	5545177	29376383	3.59	3.67			73OK
				%Recovery =	72OK	73OK	Limits =	21-114	
Decachlorobiphenyl	12.99 0.00	14.45 0.00	6985336	23788944	4.42	4.11			88OK
				%Recovery =	88OK	82OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	0.000960U	0.000960U	0.000960U
Aroclor 1016 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1016 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F024.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F024.D			**Vial:**	17
Acqu Date:	04/30/2012 23:26	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	MB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260			0	0	0.0000	0.0000	0.000960U	0.000960U	0.000960U
Aroclor 1260 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1262 {1}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {2}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {3}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {4}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {5}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1268 {1}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {2}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {3}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {4}			0d	0	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {5}			0d	0	0.0000	0.0000	0.00096U	0.00096U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1000 mL	**Dilution:**	1.0
Prep Final Vol:	2 mL	**Unit Factor:**	1

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
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E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F024.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F024.D			**Vial:**	17
Acqu Date:	04/30/2012 23:26	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	MB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

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

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J: Analyte detected above MDL, but below MRL
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e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F024.D
Report Date: 02-May-2012 14:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F024.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F024.D
Inj Date : 30-APR-2012 23:26
Sample Info: KWG1204291-4 | MB | 8082A PCB ULL | WATER
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.751	5.470	5545177	29376383	3.59	3.67		100.00(R)
Decachlorobiphenyl	12.991	14.450	6985336	23788944	4.42	4.11		100.00(R)

QC Flag Legend

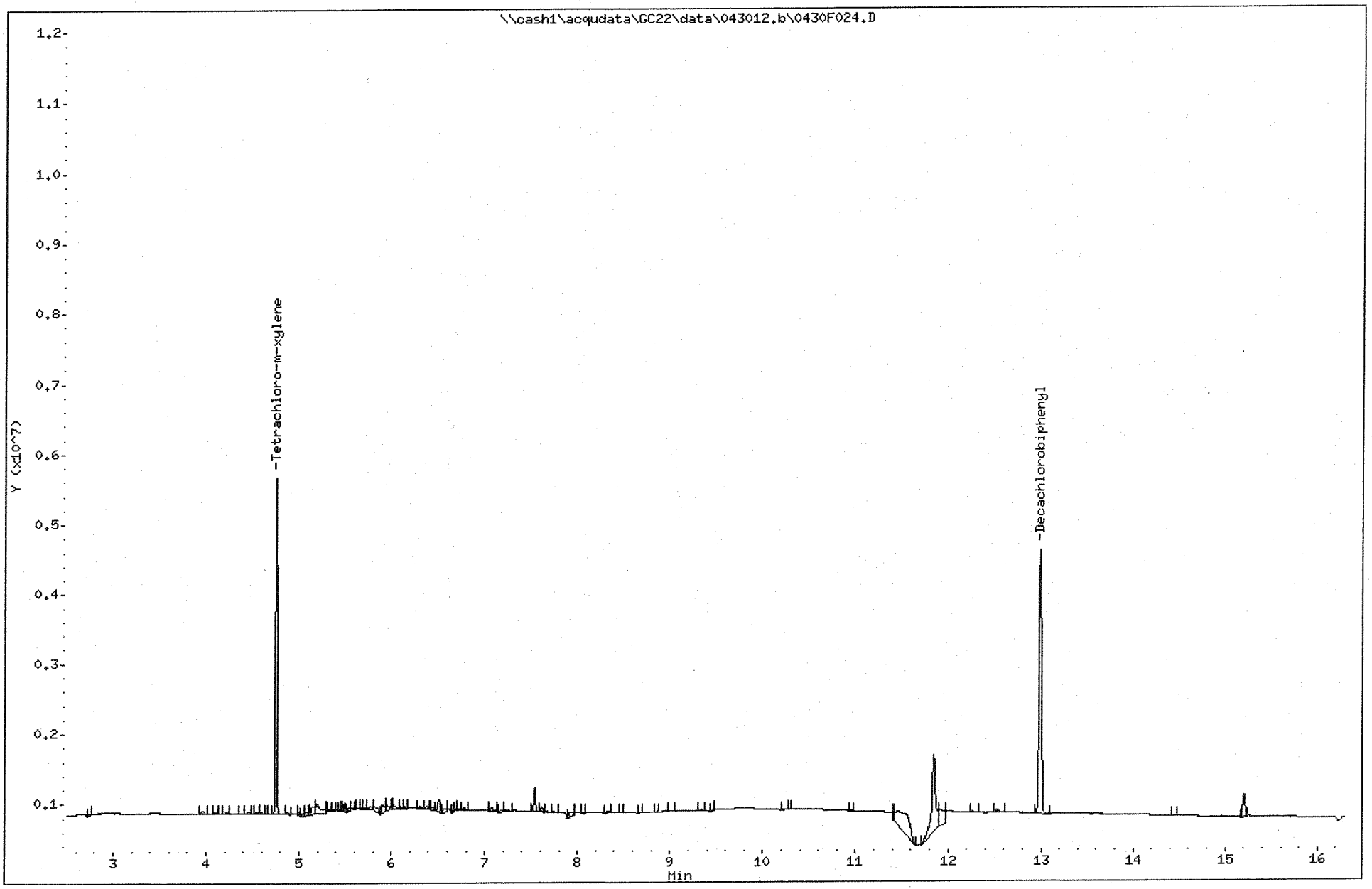
R - Spike/Surrogate failed recovery limits.

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F024.D
Date : 30-APR-2012 23:26
Client ID:
Sample Info: KWG1204291-4 | MB | 8082A PCB ULL | WATER

Instrument: GC22.i

Operator: LHarris
Column diameter: 0.32

Column phase: DB-35MS



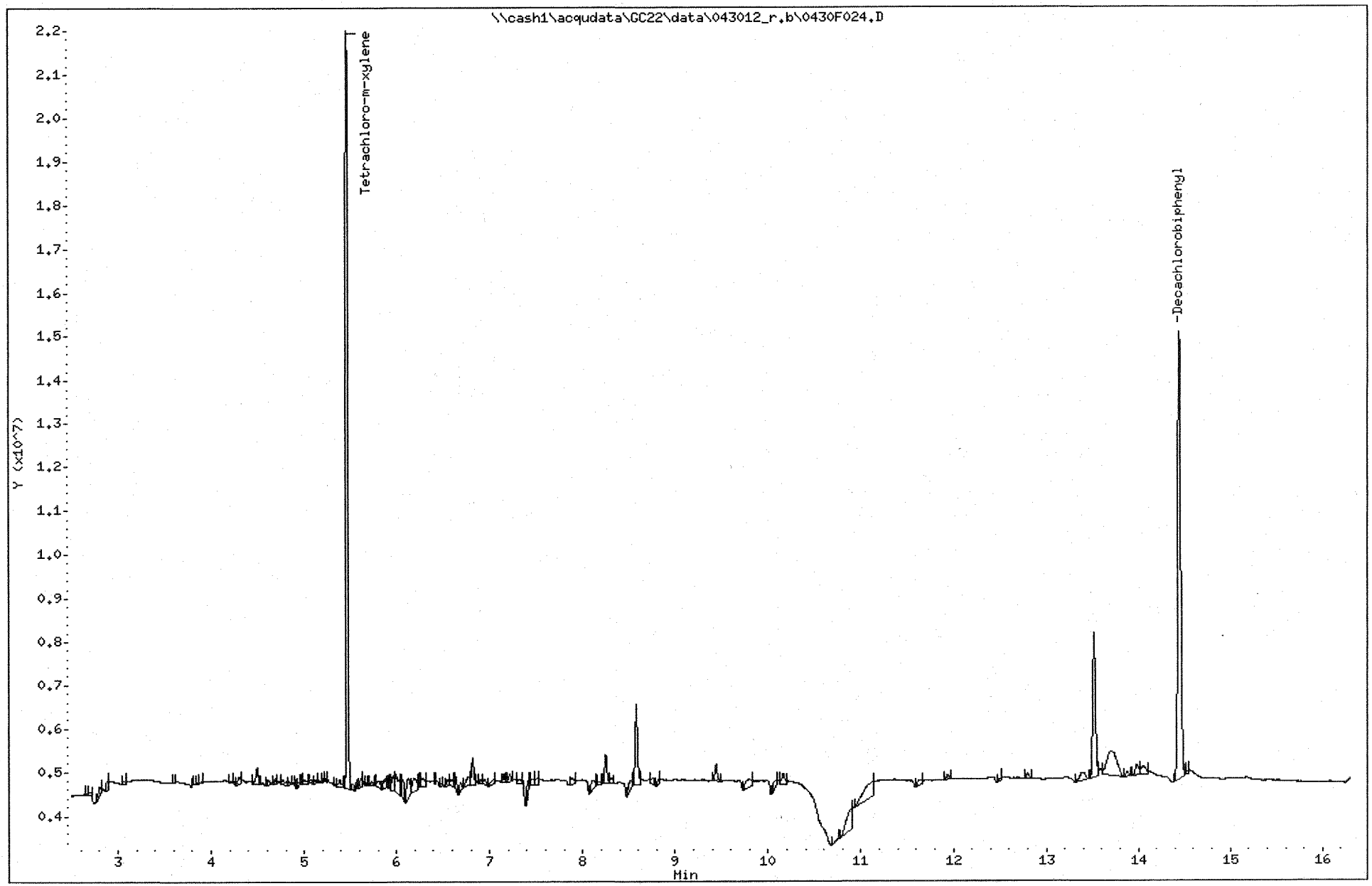
Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F024.D
Date : 30-APR-2012 23:26
Client ID:
Sample Info: KWG1204291-4 | MB | 8082A PCB ULL | WATER

Instrument: GC22.i

Operator: LHarris

Column phase: DB-XLB

Column diameter: 0.32



COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1203581-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0051	0.0050	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1221	ND	Ui	0.030	0.030	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1232	ND	Ui	0.033	0.033	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1242	ND	Ui	0.029	0.029	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1248	ND	Ui	0.0058	0.0058	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1254	ND	Ui	0.015	0.015	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1260	ND	Ui	0.014	0.014	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1262	**0.0080**		0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1268	**0.0037**	JP	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	91	36-113	04/30/12	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F016.D
Lab ID: K1203581-001
RunType: SMPL
Matrix: WATER

Date Acquired: 04/30/2012 20:24
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
ListJoinID: LJ6211

Sample Exceptions

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

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	Aroclor 1260 {4}	104	56	100	MW 8
	Aroclor 1260 {5}	105	56	100	

Primary Review: [signature]

Secondary Review: [signature] 5/2/12

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F016.D
Lab ID: K1203581-001
RunType: SMPL
Matrix: WATER

Date Acquired: 04/30/2012 20:24
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
ListJoinID: LJ6211

Sample Exceptions

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

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Lab Control Spike	Aroclor 1260 {4}	104	56	100	mcw
	Aroclor 1260 {5}	105	56	100	

Primary Review: _____

Secondary Review: _____

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F016.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F016.D			**Vial:**	9
Acqu Date:	04/30/2012 20:24	**Quant Date:**	05/02/2012 22:57	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1203581-001				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8082A PCB ULL	**Collect Date:**	04/17/2012	**Receive Date:**	04/18/2012

Analysis Lot:	KWG1204502	**Prep Lot:**	KWG1204291	**Report Group:**	K1203581
Analysis Method:	8082A	**Prep Method:**	EPA 3535A		
Prep Ref:	1120626	**Prep Date:**	04/23/2012		

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:	Polychlorinated Biphenyls (PCBs)	**Report List ID:**	LJ6211
MB Ref:	J:\GC22\DATA\043012.B\0430F024.D	**Method ID:**	MJ702
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Decachlorobiphenyl	12.99	0.00	14.45	+0.00	7229503	23477211	4.57	4.06			91OK
						%Recovery =	91OK	81OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016					0	0	2.44	6.97	0.0049J	0.014	**0.0049**JP
Aroclor 1016 {1}	5.51	-0.05 c	6.24	-0.01	0	0m	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1016 {2}	6.03	-0.02 c			270514	0m	3.50	0.0000	0.0071	0.00097U	
Aroclor 1016 {3}	6.16	+0.00	6.98	+0.02c	90970	5284035m	1.55	15.64	0.0031J	0.032	RPD
Aroclor 1016 {4}	6.32	+0.01c	7.16	+0.01c	77515	392019m	2.26	2.03	0.0046J	0.0041J	
Aroclor 1016 {5}	6.39	+0.01c	7.32	+0.01	0	524632m	0.0000	3.24	0.00097U	0.0066	
Aroclor 1221					0	0	39.14	14.44	0.079	0.029	**0.079**P
Aroclor 1221 {1}	4.45		5.39		497436	606619	53.16	24.59	0.11	0.050	
Aroclor 1221 {2}	5.02		5.68		332511	611546	24.26	12.41	0.049	0.025	
Aroclor 1221 {3}	5.15		5.72		496390	284278	48.37	6.30	0.098	0.013	RPD
Aroclor 1221 {4}	5.22	c	5.84	c	1113648	0	30.78	0.0000	0.062	0.00097U	
Aroclor 1232					0	0	16.31	51.30	0.033	0.10	**0.033**P RPD
Aroclor 1232 {1}	5.22	c	5.84	c	1113648	0m	33.85	0.0000	0.068	0.00097U	
Aroclor 1232 {2}	5.51	c	6.34	c	0	5132107m	0.0000	88.64	0.00097U	0.18	
Aroclor 1232 {3}	5.82		6.49	c	91725	1562935m	5.87	24.41	0.012	0.049	RPD
Aroclor 1232 {4}	6.03	c	6.98	c	270514	5284035m	9.19	40.86	0.019	0.083	RPD
Aroclor 1242					0	0	14.30	28.94	0.029	0.058	**0.029**P
Aroclor 1242 {1}	5.78		5.84	c	341808	0m	19.25	0.0000	0.039	0.00097U	
Aroclor 1242 {2}	6.03	c	6.34	c	0	5132107m	0.0000	54.06	0.00097U	0.11	

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F016.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F016.D			**Vial:**	9
Acqu Date:	04/30/2012 20:24	**Quant Date:**	05/02/2012 22:57	**Dilution:**	1.0
Run Type:	SMPL			**Soln Conc. Units:**	ng/mL
Lab ID:	K1203581-001				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt	
Aroclor 1242 {3}	6.32	c	6.49	c	0	1562935m	0.0000	21.65	0.00097U	0.044		
Aroclor 1242 {4}	6.39	c	7.16	c	460986	0m	11.77	0.0000	0.024	0.00097U		
Aroclor 1242 {5}	6.71		7.61	c	497452	1770516m	11.89	11.12	0.024	0.022		
Aroclor 1248					0	0	2.83	11.38	0.0057	0.023	**0.0057**P	RPD
Aroclor 1248 {1}	6.43		7.61	c	148349	1770516m	3.68	6.71	0.0074	0.014		
Aroclor 1248 {2}	6.76		7.88		57929	2329393m	2.71	12.68	0.0055	0.026		RPD
Aroclor 1248 {3}	6.91		8.26		112287	5001104m	2.10	21.33	0.0042J	0.043		RPD
Aroclor 1248 {4}	7.25				0	0m	0.0000	0.0000	0.00097U	0.00097U		
Aroclor 1248 {5}	7.45	c	8.36		0	1277720m	0.0000	4.82	0.00097U	0.0097		
Aroclor 1254					0	0	7.31	9.96	0.015	0.020	**0.015**	
Aroclor 1254 {1}	7.45	c	8.59		749655	0m	8.04	0.0000	0.016	0.00097U		
Aroclor 1254 {2}	7.99		9.25		537934	3881021m	7.35	7.96	0.015	0.016		
Aroclor 1254 {3}	8.14		9.79		1201479	2790827m	8.18	7.85	0.017	0.016		
Aroclor 1254 {4}	8.39	c	10.26		416350	2734897m	5.66	10.67	0.011	0.022		
Aroclor 1254 {5}	8.68	c	10.55	c	0	5483397m	0.0000	13.35	0.00097U	0.027		
Aroclor 1260					0	0	7.13	6.83	0.015Ui	0.014Ui	0.014Ui	
Aroclor 1260 {1}	8.39	+0.00c	9.56	+0.00	416350m	2313824	3.91	5.61	0.00097Ui	0.00097Ui		
Aroclor 1260 {2}	8.68	+0.00c	10.04	+0.00	993970m	3412266	8.67	7.54	0.00097Ui	0.00097Ui		
Aroclor 1260 {3}	9.30	+0.01	10.55	+0.00c	1177022m	5483397	11.02	9.77	0.00097Ui	0.00097Ui		
Aroclor 1260 {4}	9.38	+0.00	10.73	0.00	526144m	2259961	6.73	7.16	0.00097Ui	0.00097Ui		
Aroclor 1260 {5}	10.30	+0.00	11.72	0.00	940821m	2908987	5.30	4.05	0.00097Ui	0.00097Ui		

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	990 mL	**Dilution:**	1.0
Prep Final Vol:	2 mL	**Unit Factor:**	1

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

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

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

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

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F016.D
Report Date: 02-May-2012 22:57

Columbia Analytical Services

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F016.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F016.D
Inj Date : 30-APR-2012 20:24
Sample Info: K1203581-001
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.754	5.473	4308859	21647386	2.79	2.70		100.00(R)
Aroclor 1016	5.510	6.243					80.00- 120.00	0.00(H)
	6.034	0.000	270514		3.50		101.27- 151.90	1.06(H)
	6.160	6.980	90970	5284035	1.55	15.6	70.42- 105.63	0.36(H)
	6.320	7.163	77515	392019	2.26	2.02	43.34- 65.01	0.30(H)
	6.387	7.320		524632		3.24	69.81- 104.72	0.36(H)
		Average of Peak Amounts =			2.44	6.95		
Aroclor 1221	4.447	5.390	497436	606619	53.2	24.6	80.00- 120.00	100.00(H)
	5.017	5.683	332511	611546	24.3	12.4	126.02- 189.04	66.84(H)
	5.154	5.723	496390	284278	48.4	6.30	97.46- 146.18	99.79(H)
	5.217	5.840	1113648		30.8		338.74- 508.10	223.88(H)
		Average of Peak Amounts =			39.2	14.4		
Aroclor 1232	5.217	5.840	1113648		33.8		80.00- 120.00	100.00(H)
	5.510	6.340		5132107		88.6	29.38- 44.06	3005.40(H)
	5.820	6.490	91725	1562935	5.87	24.4	38.59- 57.89	8.24(H)
	6.034	6.980	270514	5284035	9.19	40.9	70.38- 105.58	24.29(H)
		Average of Peak Amounts =			16.3	51.3		
Aroclor 1242	5.780	5.840	341808		19.2		80.00- 120.00	100.00(H)
	6.034	6.340		5132107		54.1	67.79- 101.69	3005.40(H)
	6.320	6.490		1562935		21.6	56.02- 84.02	915.27(H)
	6.387	7.163	460986		11.8		174.52- 261.77	134.87(H)
	6.710	7.606	497452	1770516	11.9	11.1	179.56- 269.34	145.54(H)
		Average of Peak Amounts =			14.3	28.9		
Aroclor 1248	6.434	7.606	148349	1770516	3.68	6.71	80.00- 120.00	100.00(H)
	6.764	7.880	57929	2329393	2.71	12.7	43.73- 65.60	39.05(H)
	6.907	8.256	112287	5001104	2.10	21.3	110.97- 166.45	75.69(H)
	7.250	0.000					86.24- 129.36	0.00(H)
	7.454	8.363		1277720		4.82	81.44- 122.16	72.17(H)

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F016.D
Report Date: 02-May-2012 22:57

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
		Average of Peak Amounts =			2.83	11.4		
Aroclor 1254	7.454	8.586	749655		8.04		80.00- 120.00	100.00(H)
	7.990	9.250	537934	3881021	7.35	7.96	64.48- 96.73	71.76(H)
	8.144	9.790	1201479	2790827	8.17	7.85	129.28- 193.92	160.27(H)
	8.387	10.260	416350	2734897	5.66	10.7	64.06- 96.09	55.54(H)
	8.680	10.550		5483397		13.3	65.89- 98.83	28.51(H)
		Average of Peak Amounts =			7.30	9.95		
Aroclor 1260	8.387	9.556	416350	2313824	3.91	5.61	80.00- 120.00	100.00(MH)
	8.680	10.040	993970	3412266	8.67	7.54	90.38- 135.58	238.73(MH)
	9.300	10.550	1177022	5483397	11.0	9.76	83.05- 124.58	282.70(MH)
	9.377	10.726	526144	2259961	6.72	7.16	60.30- 90.45	126.37(MH)
	10.304	11.723	940821	2908987	5.30	4.05	142.83- 214.24	225.97(MH)
		Average of Peak Amounts =			7.12	6.82		
Aroclor 1262	9.377	10.040	526144	3412266	3.59	9.24	80.00- 120.00	100.00(H)
	9.884	10.726	452109	2259961	3.47	3.82	72.35- 108.53	85.93(H)
	10.304	11.723	940821	2908987	3.89	3.06	135.98- 203.98	178.81(H)
	10.884	12.276	440671	3354622	4.01	5.08	60.43- 90.65	83.75(H)
	10.994	12.430	912915	1746245	4.89	3.91	103.29- 154.94	173.51(H)
		Average of Peak Amounts =			3.97	5.02		
Aroclor 1268	10.994	12.430	912915	1746245	3.22	1.54	80.00- 120.00	100.00(H)
	11.424	12.846	299934		1.20		70.35- 105.52	32.85(H)
	11.614	13.026	78836	789598	1.35	3.18	16.87- 25.30	8.64(H)
	11.967	13.410		1612868		4.66	25.17- 37.75	92.36(H)
	12.527	13.990	1028936	5068446	1.65	2.19	170.04- 255.05	112.71(H)
		Average of Peak Amounts =			1.86	2.89		
Decachlorobiphenyl	12.994	14.453	7229503	23477211	4.57	4.06		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

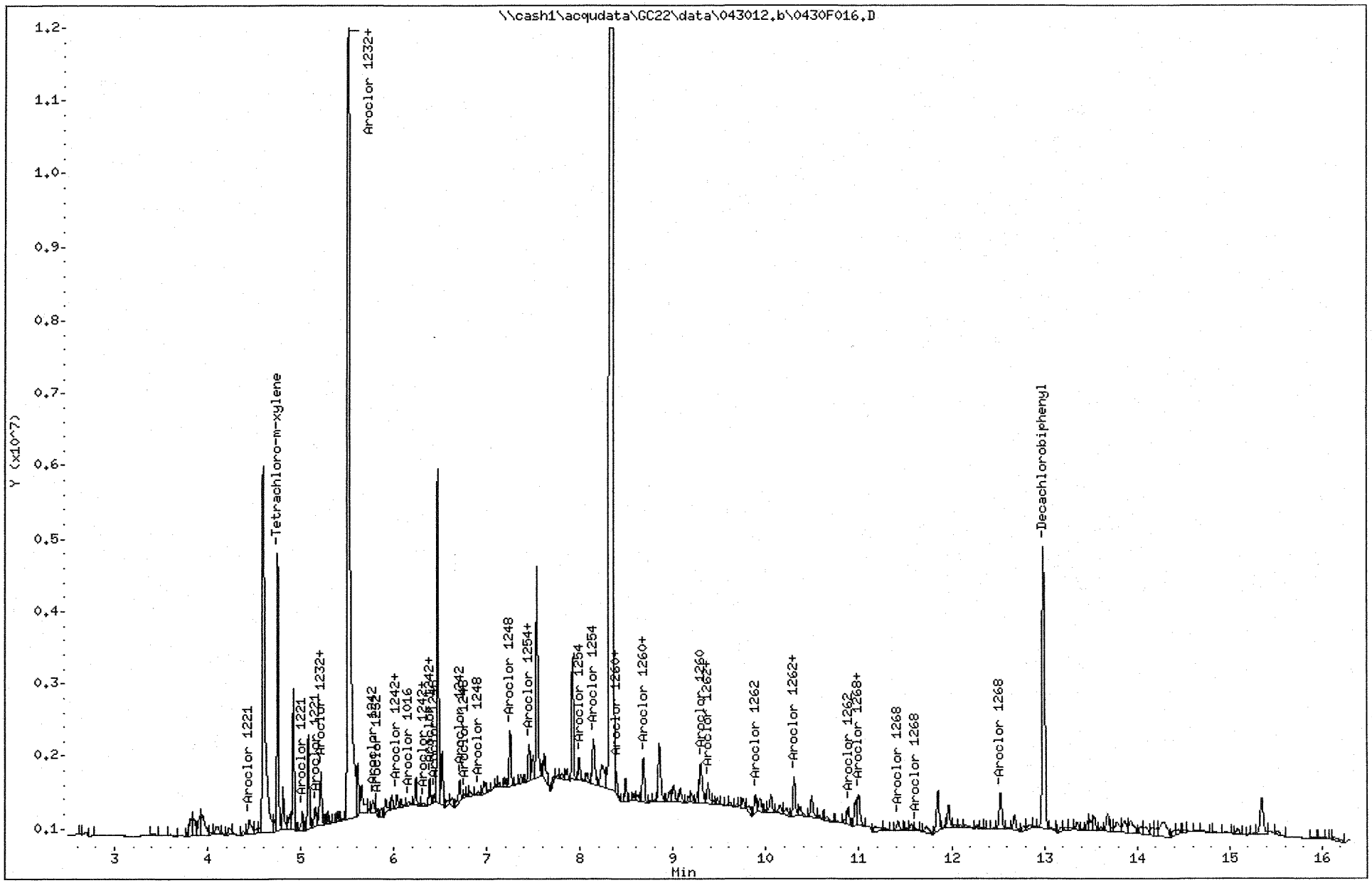
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F016.D
Date : 30-APR-2012 20:24
Client ID:
Sample Info: K1203581-001

Instrument: GC22.i

Operator: LHarris

Column phase: DB-35MS

Column diameter: 0.32

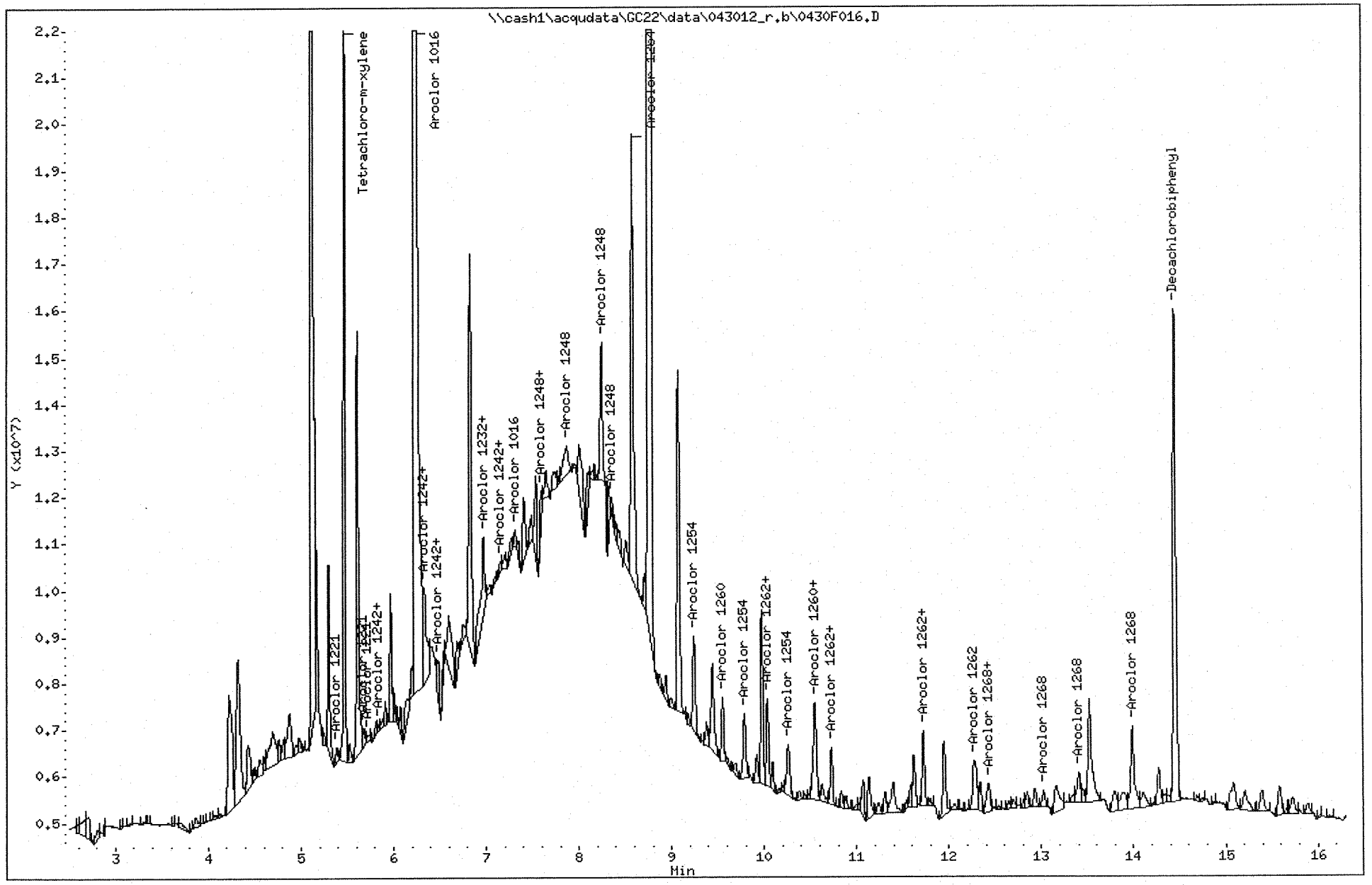


Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F016.D
Date : 30-APR-2012 20:24
Client ID:
Sample Info: K1203581-001

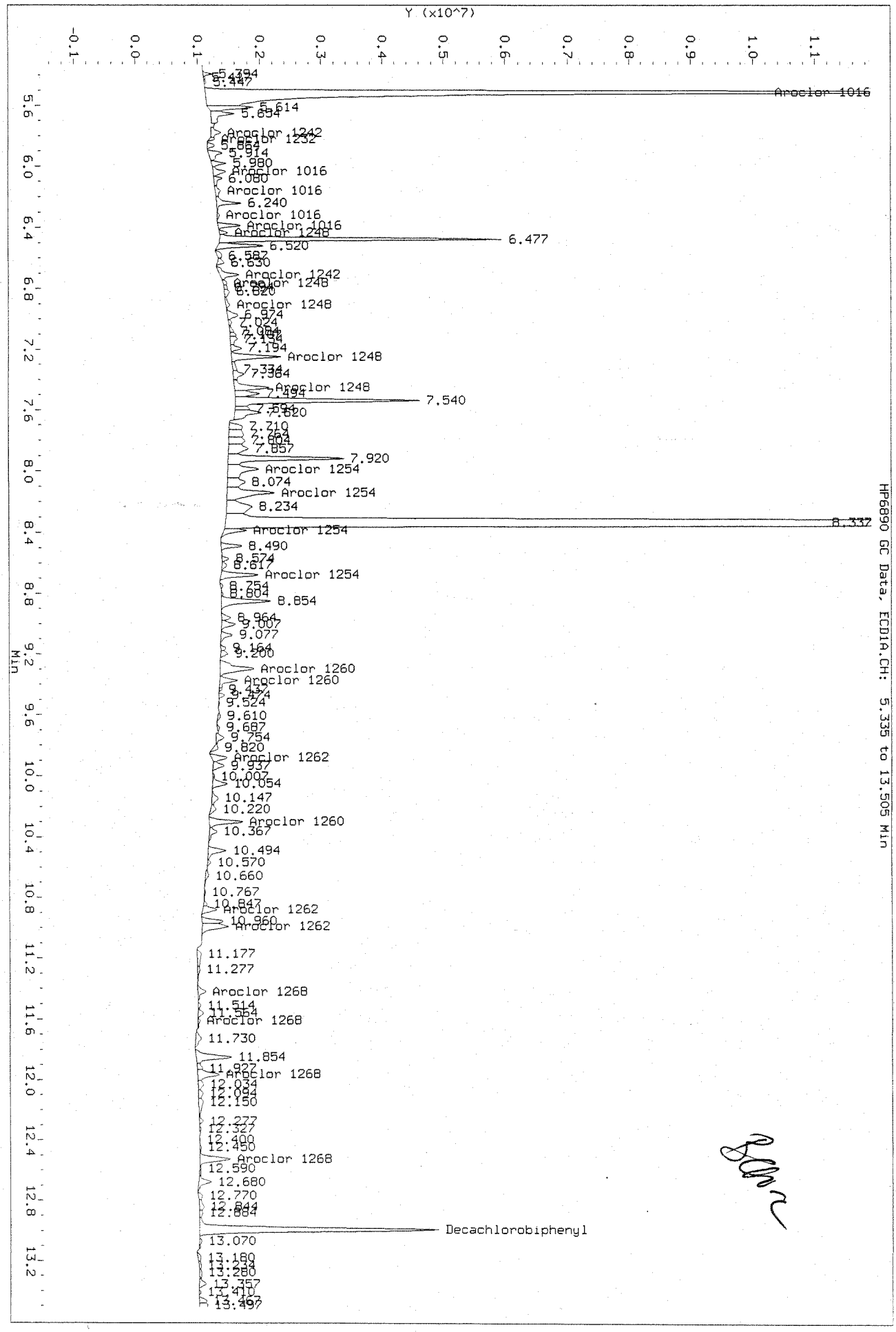
Column phase: DB-XLB

Instrument: GC22.i

Operator: LHarris
Column diameter: 0.32

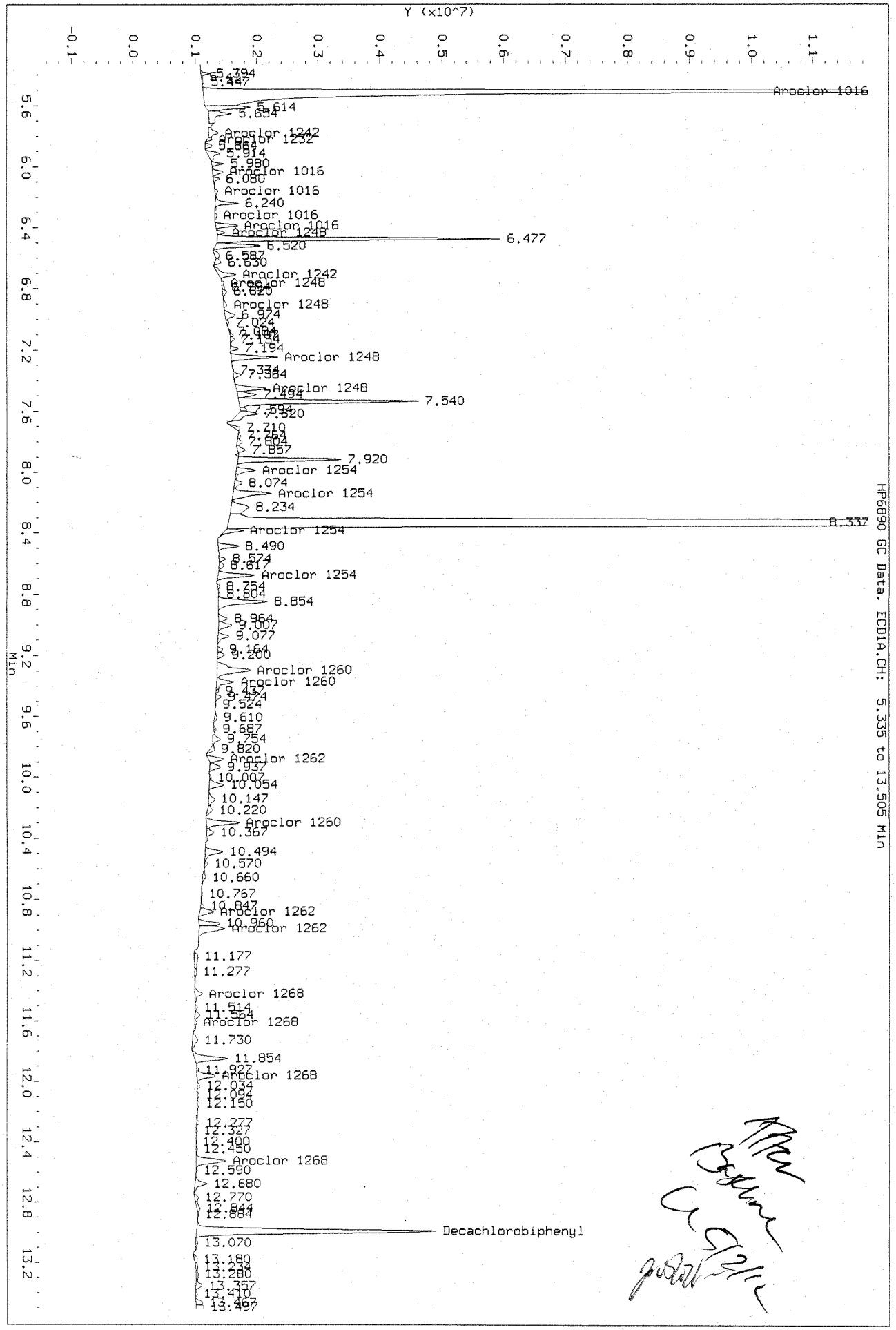


Data File: \\cash1\acqudata\GC22\data\043012.b\0430F016.D
Injection Date: 30-APR-2012 20:24
Instrument: GC22.i
Client Sample ID:



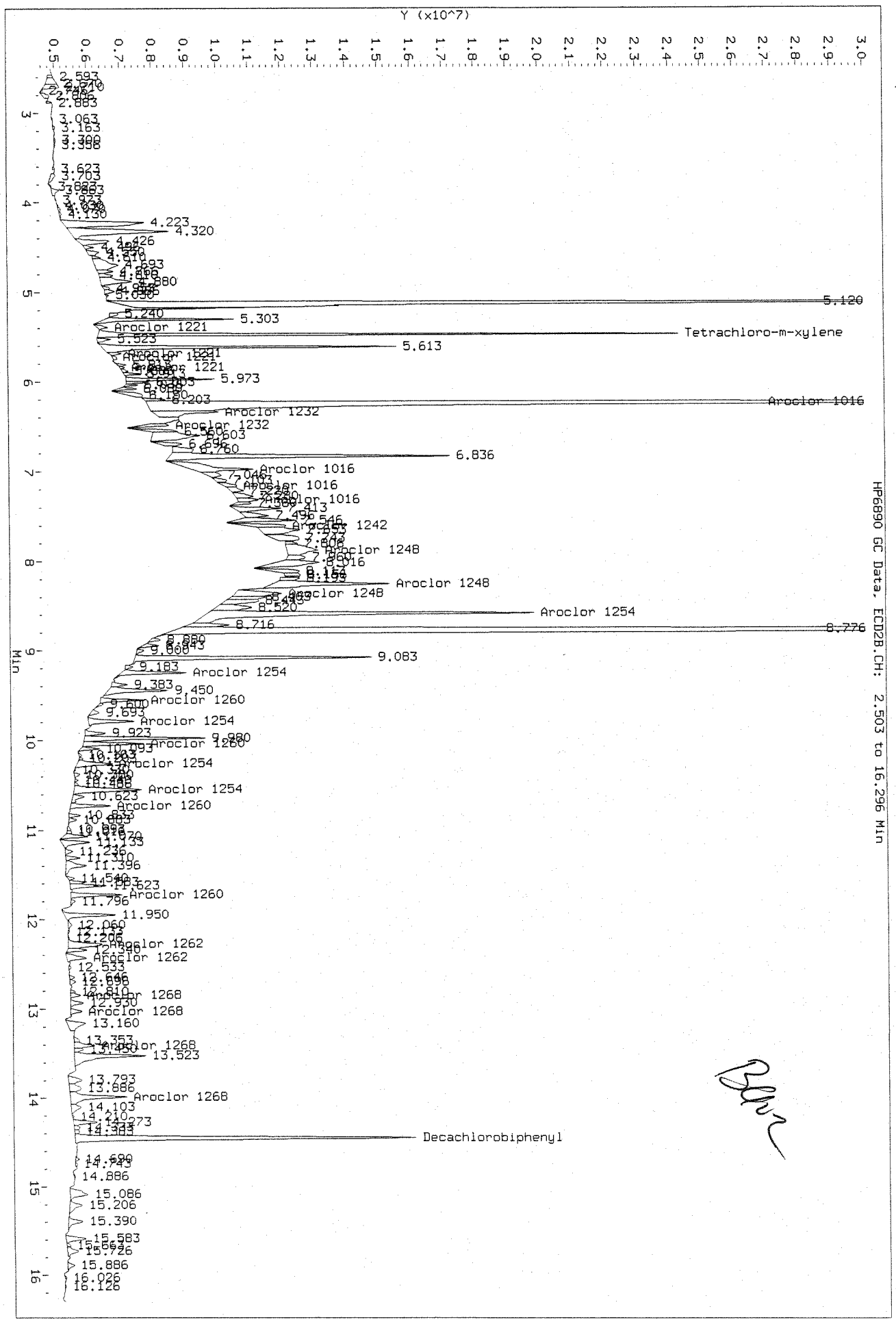
HP6890 GC Data, ECD1A.CH: 5.335 to 13.505 Min

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F016.D
Injection Date: 30-APR-2012 20:24
Instrument: GC22.1
Client Sample ID:



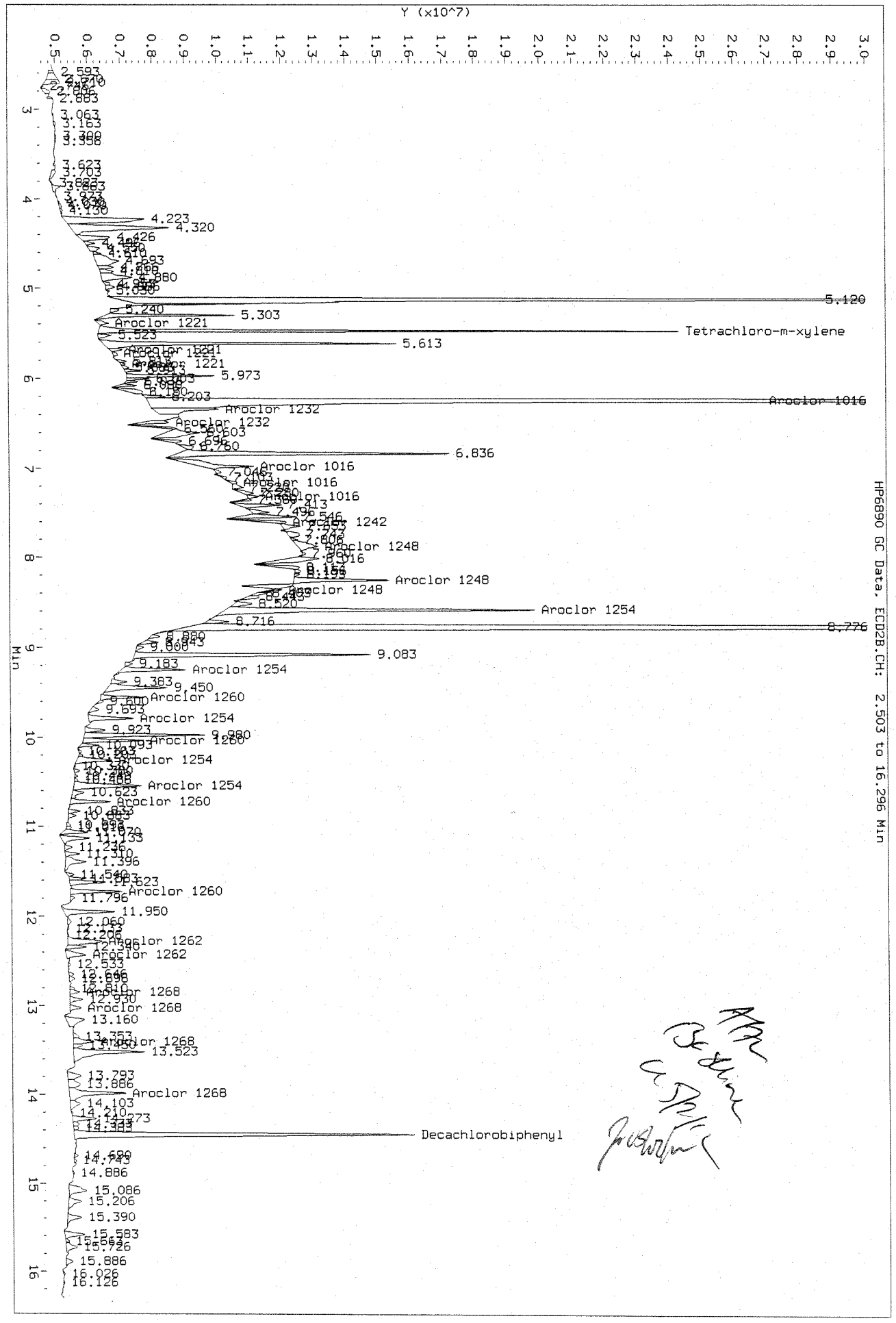
HP6890 GC Data, ECD1A.CH: 5.335 to 13.505 Min

Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F016.D
Injection Date: 30-APR-2012 20:24
Instrument: GC22.i
Client Sample ID:



HP6890 GC Data, ECD2B.CH: 2.503 to 16.296 Min

Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F016.D
Injection Date: 30-APR-2012 20:24
Instrument: GC22.i
Client Sample ID:



HP6890 GC Data, ECD2B.CH: 2.503 to 16.296 Min

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Batch QCMS	**Units:**	ug/L
Lab Code:	KWG1204291-1	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	**0.162**		0.00500	0.000960	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1221	ND	U	0.010	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1232	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1242	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1248	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1254	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1260	**0.159**		0.00500	0.000960	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1262	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1268	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	87	36-113	04/30/12	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F017.D
Lab ID: KWG1204291-1 -- K1203581-001MS
RunType: MS
Matrix: WATER

Date Acquired: 04/30/2012 20:47
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: CS MIL

Secondary Review: JS Stoke

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F017.D
Lab ID: KWG1204291-1 -- K1203581-001MS
RunType: MS
Matrix: WATER

Date Acquired: 04/30/2012 20:47
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: _____

Secondary Review: _____

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F017.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F017.D			**Vial:**	10
Acqu Date:	04/30/2012 20:47	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	MS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-1 -- K1203581-001MS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8082A PCB ULL	**Collect Date:**		**Receive Date:**	04/26/2012

Analysis Lot:	KWG1204502	**Prep Lot:**	KWG1204291	**Report Group:**	
Analysis Method:	8082A	**Prep Method:**	EPA 3535A		
Prep Ref:	1120631	**Prep Date:**	04/23/2012		

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:			
MB Ref:	J:\GC22\DATA\043012.B\0430F024.D	**Method ID:**	MJ702
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	4.76 +0.00	5.48	4079703	20130593	2.64	2.52			53OK
				%Recovery =	53OK	50OK	Limits =	21-114	
Decachlorobiphenyl	13.00 +0.00	14.45 +0.00	6893341	21369585	4.36	3.70			87OK
				%Recovery =	87OK	74OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	83.93	80.86	0.168	0.162	**0.162**
Aroclor 1016 {1}	5.56 +0.00	6.24 -0.01	7561316m	0m	104.29	0.0000	0.209	0.00096U	
Aroclor 1016 {2}	6.05	6.29 +0.00	6774643m	11764799m	87.57	106.38	0.175	0.213	
Aroclor 1016 {3}	6.16 +0.00	6.96	4383899m	26576568m	74.57	78.67	0.149	0.157	
Aroclor 1016 {4}	6.32 +0.00	7.16	2745898m	13982872m	80.19	72.26	0.160	0.145	
Aroclor 1016 {5}	6.38 +0.00	7.32 +0.00	3737094m	10694273m	73.02	66.12	0.146	0.132	
Aroclor 1221			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F017.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F017.D			**Vial:**	10
Acqu Date:	04/30/2012 20:47	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	MS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-1 -- K1203581-001MS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260			0	0	86.02	79.66	0.172	0.159	**0.159**
Aroclor 1260 {1}	8.39 +0.00	9.56	7140205m	28369475	67.09	68.77	0.134	0.138	
Aroclor 1260 {2}	8.68 0.00	10.04	9674087m	34829752	84.41	76.94	0.169	0.154	
Aroclor 1260 {3}	9.30 +0.00	10.55 +0.00	8743187m	42417127	81.85	75.54	0.164	0.151	
Aroclor 1260 {4}	9.38 +0.00	10.73	7498643m	27534329	95.86	87.26	0.192	0.175	
Aroclor 1260 {5}	10.30	11.73	17914668m	64423791	100.90	89.77	0.202	0.180	
Aroclor 1262			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1262 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1000 mL	**Dilution:**	1.0
Prep Final Vol:	2 mL	**Unit Factor:**	1

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F017.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F017.D			**Vial:**	10
Acqu Date:	04/30/2012 20:47	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	MS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-1 -- K1203581-001MS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

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

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

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

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

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F017.D
Report Date: 02-May-2012 14:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F017.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F017.D
Inj Date : 30-APR-2012 20:47
Sample Info: K1203581-001 MS
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.756	5.475	4079703	20130593	2.64	2.52		100.00(R)
Aroclor 1016	5.559	6.242	7561316		104		80.00- 120.00	100.00(M)
	6.052	6.292	6774643	11764799	87.6	106	101.27- 151.90	89.60(M)
	6.159	6.958	4383899	26576568	74.6	78.7	70.42- 105.63	57.98(M)
	6.316	7.158	2745898	13982872	80.2	72.3	43.34- 65.01	36.32(M)
	6.382	7.315	3737094	10694273	73.0	66.1	61.77- 92.65	49.42(M)
			Average of Peak Amounts =		83.9	80.8		
Aroclor 1260	8.386	9.555	7140205	28369475	67.1	68.8	80.00- 120.00	100.00(M)
	8.676	10.038	9674087	34829752	84.4	76.9	90.38- 135.58	135.49(M)
	9.296	10.552	8743187	42417127	81.8	75.5	83.05- 124.58	122.45(M)
	9.376	10.728	7498643	27534329	95.8	87.3	60.30- 90.45	105.02(M)
	10.302	11.725	17914668	64423791	101	89.8	142.83- 214.24	250.90(M)
			Average of Peak Amounts =		86.0	79.7		
Decachlorobiphenyl	12.996	14.452	6893341	21369585	4.36	3.70		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

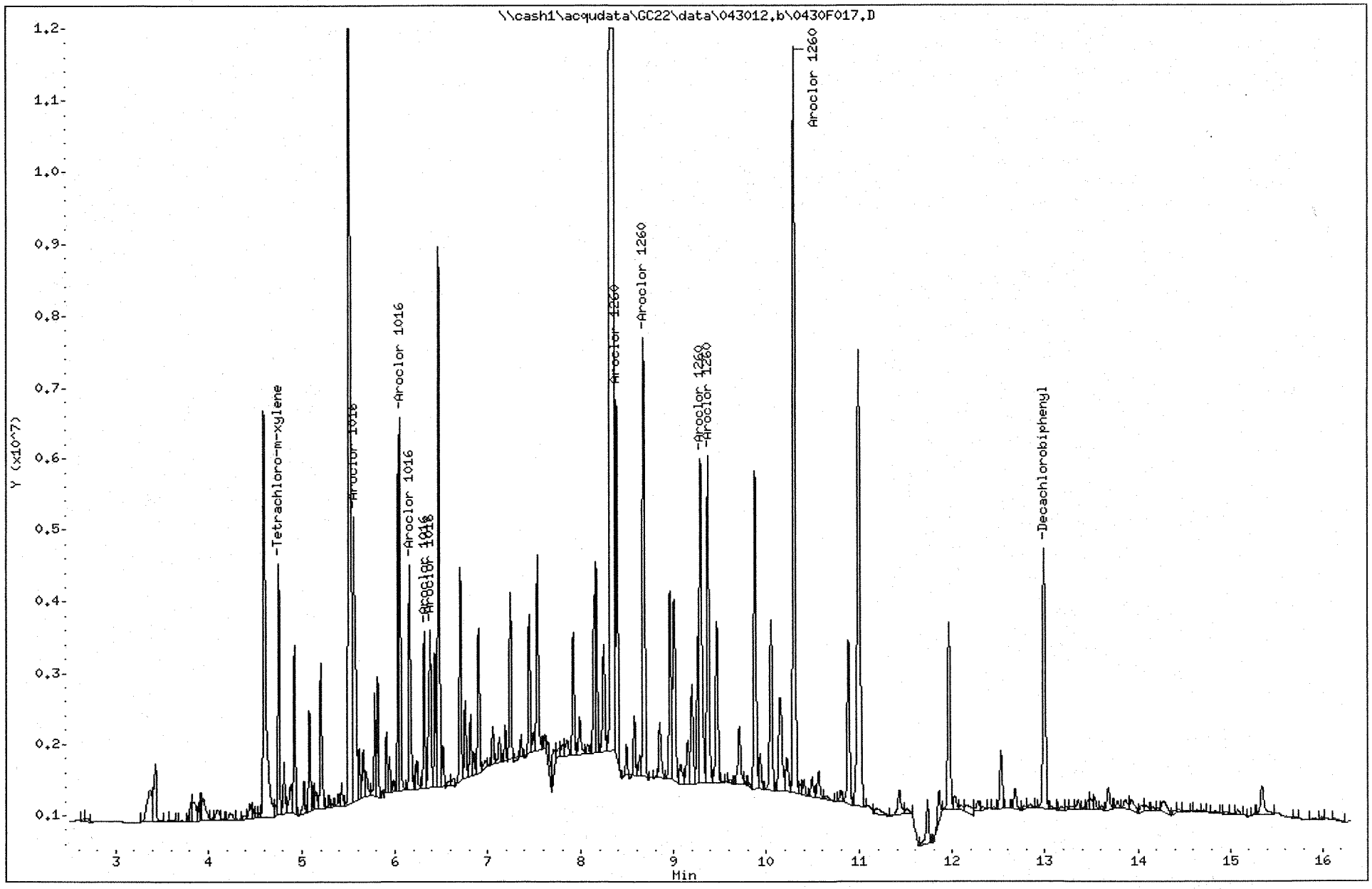
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F017.D
Date : 30-APR-2012 20:47
Client ID:
Sample Info: K1203581-001 MS

Instrument: GC22.i

Operator: LHarris

Column phase: DB-35MS

Column diameter: 0.32



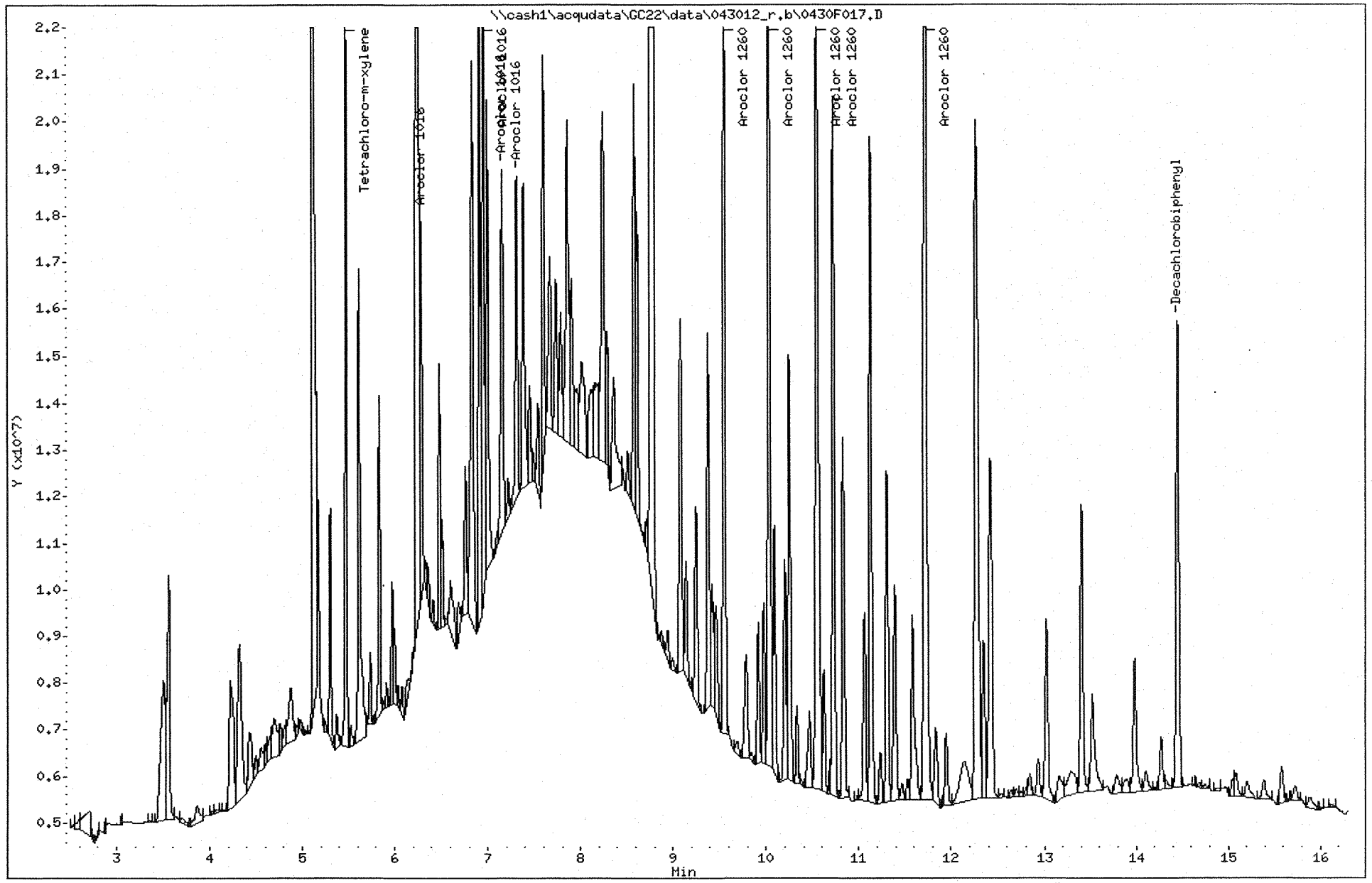
Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F017.D
Date : 30-APR-2012 20:47
Client ID:
Sample Info: K1203581-001 MS

Instrument: GC22.i

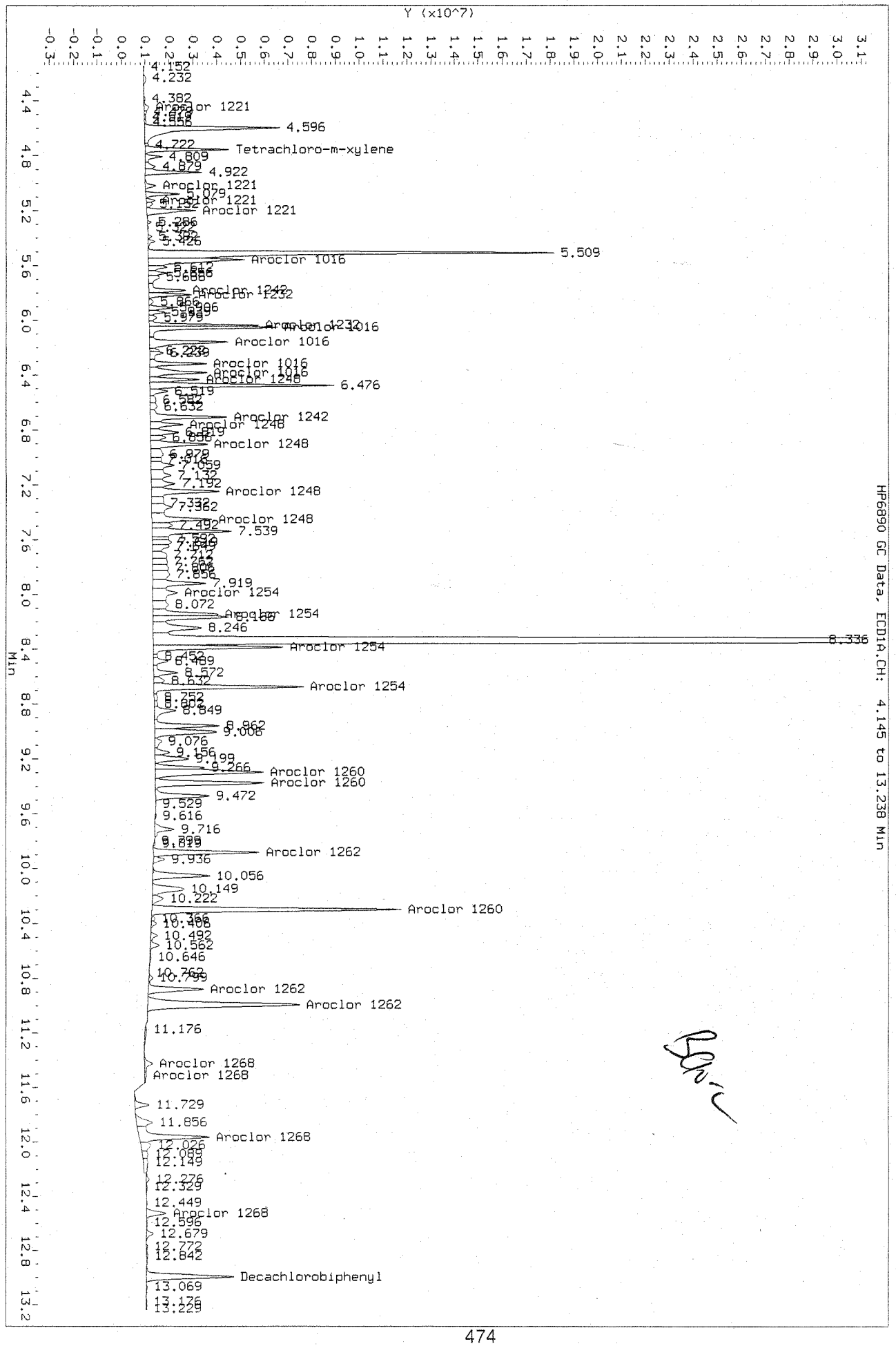
Operator: LHarris

Column phase: DB-XLB

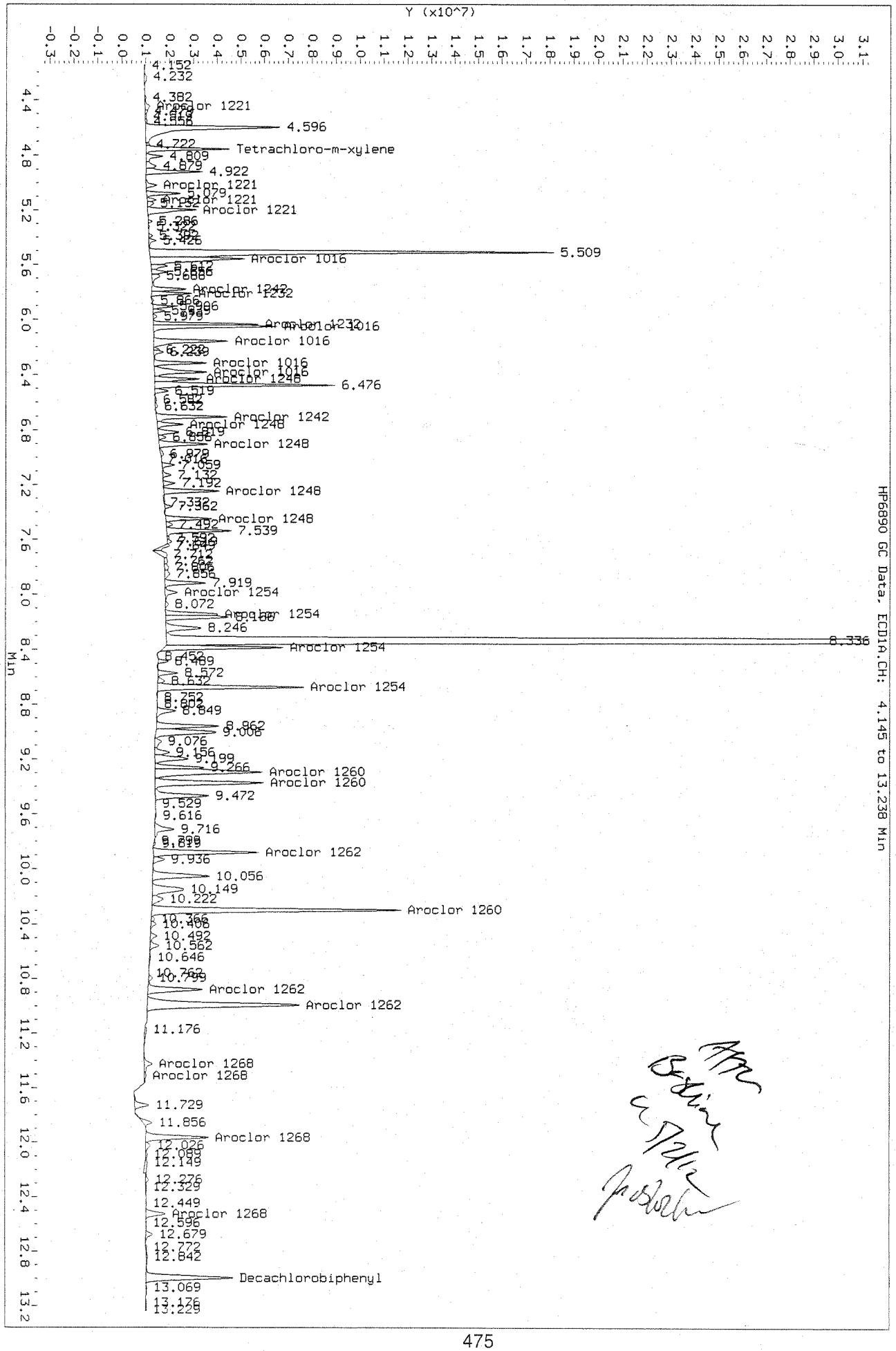
Column diameter: 0.32



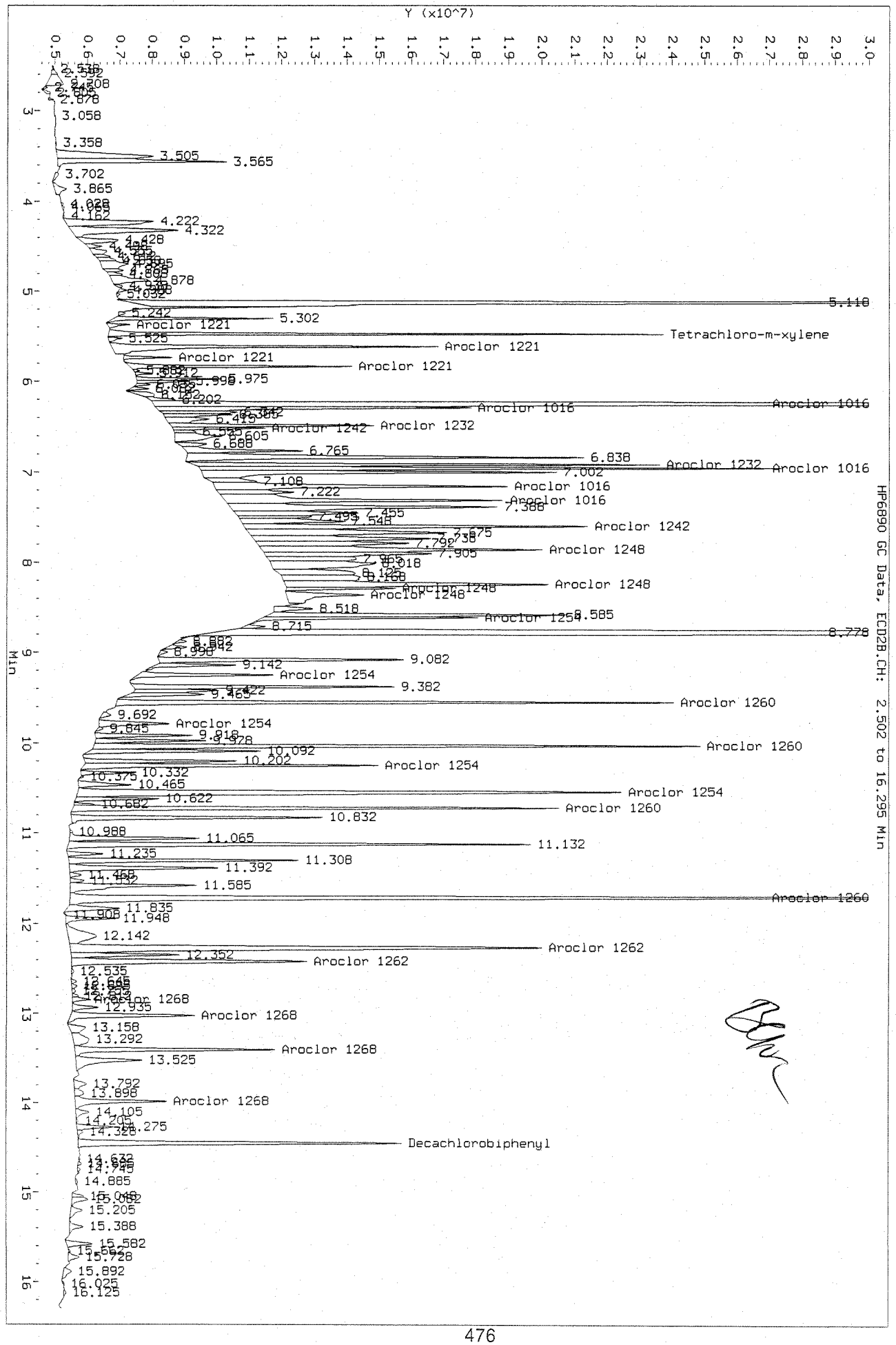
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F017.D
Injection Date: 30-APR-2012 20:47
Instrument: GC22:i
Client Sample ID:



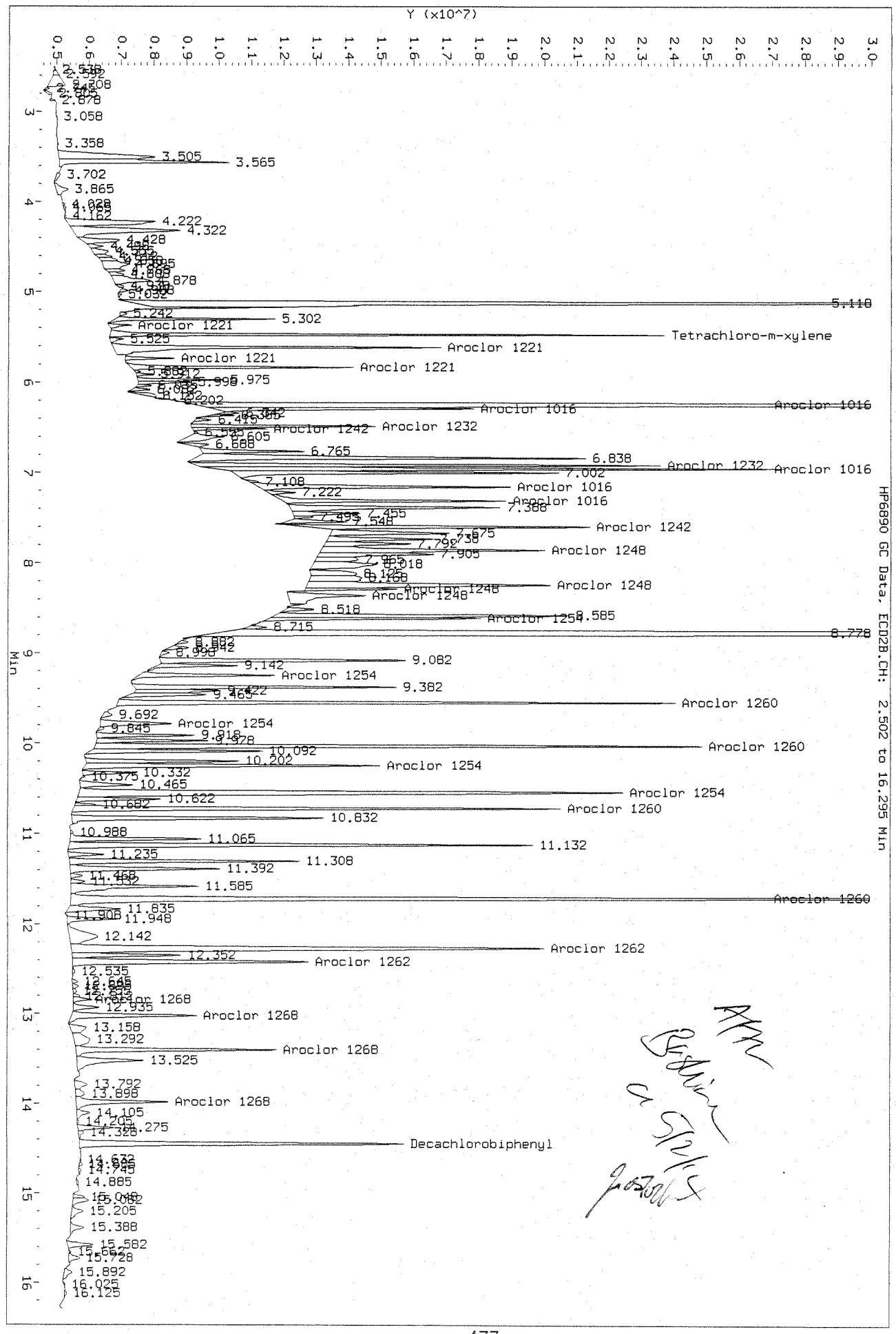
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F017.D
Injection Date: 30-APR-2012 20:47
Instrument: GC22.i
Client Sample ID:



Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F017.D
Injection Date: 30-APR-2012 20:47
Instrument: GC22.i
Client Sample ID:



Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F017.D
Injection Date: 30-APR-2012 20:47
Instrument: GC22.i
Client Sample ID:



Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Batch QCDMS
Lab Code: KWG1204291-2

Units: ug/L
Basis: NA

Extraction Method: EPA 3535A
Analysis Method: 8082A

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	**0.152**		0.00510	0.000970	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1221	ND	U	0.011	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1232	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1242	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1248	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1254	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1260	**0.145**		0.00510	0.000970	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1262	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1268	ND	U	0.0051	0.00097	1	04/23/12	04/30/12	KWG1204291	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	81	36-113	04/30/12	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F018.D
Lab ID: KWG1204291-2 -- K1203581-001DMS
RunType: DMS
Matrix: WATER

Date Acquired: 04/30/2012 21:10
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F018.D
Lab ID: KWG1204291-2 -- K1203581-001DMS
RunType: DMS
Matrix: WATER

Date Acquired: 04/30/2012 21:10
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: _____

Secondary Review: _____

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F018.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F018.D			**Vial:**	11
Acqu Date:	04/30/2012 21:10	**Quant Date:**	05/02/2012 23:08	**Dilution:**	1.0
Run Type:	DMS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-2 -- K1203581-001DMS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8082A PCB ULL	**Collect Date:**		**Receive Date:**	04/26/2012

Analysis Lot:	KWG1204502	**Prep Lot:**	KWG1204291	**Report Group:**	
Analysis Method:	8082A	**Prep Method:**	EPA 3535A		
Prep Ref:	1120632	**Prep Date:**	04/23/2012		

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:			
MB Ref:	J:\GC22\DATA\043012.B\0430F024.D	**Method ID:**	MJ702
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	4.76	5.48	3753413	18235482	2.43	2.28			49OK
				%Recovery =	49OK	46OK	Limits =	21-114	
Decachlorobiphenyl	12.99 0.00	14.45 +0.00	6408170	19767529	4.05	3.42			81OK
				%Recovery =	81OK	68OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	80.06	75.37	0.162	0.152	**0.152**
Aroclor 1016 {1}	5.56 +0.00	6.24 -0.01	7509088m	0m	103.57	0.0000	0.209	0.00097U	
Aroclor 1016 {2}	6.05	6.29 +0.00	6351937m	11948349m	82.11	108.04	0.166	0.218	
Aroclor 1016 {3}	6.16 +0.00	6.96	4105441m	23133726m	69.84	68.48	0.141	0.138	
Aroclor 1016 {4}	6.32 +0.00	7.16 +0.00	2584416m	12980118m	75.47	67.08	0.152	0.136	
Aroclor 1016 {5}	6.38 +0.00	7.32 +0.00	3547752m	9359663m	69.32	57.87	0.140	0.117	
Aroclor 1221			0	0	0.0000	0.0000	0.00097U	0.00097U	0.00097U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1221 {4}			0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1232			0	0	0.0000	0.0000	0.00097U	0.00097U	0.00097U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1242			0	0	0.0000	0.0000	0.00097U	0.00097U	0.00097U

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F018.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F018.D			**Vial:**	11
Acqu Date:	04/30/2012 21:10	**Quant Date:**	05/02/2012 23:08	**Dilution:**	1.0
Run Type:	DMS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-2 -- K1203581-001DMS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {1}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1242 {2}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1242 {3}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1242 {4}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1242 {5}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1248				0	0	0.0000	0.0000	0.00097U	0.00097U	0.00097U
Aroclor 1248 {1}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1248 {2}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1248 {3}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1248 {4}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1248 {5}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1254				0	0	0.0000	0.0000	0.00097U	0.00097U	0.00097U
Aroclor 1254 {1}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1254 {2}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1254 {3}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1254 {4}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1254 {5}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1260				0	0	80.01	72.00	0.162	0.145	**0.145**
Aroclor 1260 {1}	8.39	+0.00	9.56	7068967m	27035089m	66.42	65.54	0.134	0.132	
Aroclor 1260 {2}	8.68	+0.00	10.04	8895956m	31862486m	77.62	70.39	0.157	0.142	
Aroclor 1260 {3}	9.30	+0.00	10.55	8255321m	0m	77.28	0.0000	0.156	0.00097U	
Aroclor 1260 {4}	9.38		10.73	6651586m	0m	85.03	0.0000	0.172	0.00097U	
Aroclor 1260 {5}	10.30		11.73	16633122m	57458715m	93.68	80.07	0.189	0.162	
Aroclor 1262				0	0	0.0000	0.0000	0.00097U	0.00097U	0.00097U
Aroclor 1262 {1}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1262 {2}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1262 {3}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1262 {4}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1262 {5}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1268				0	0	0.0000	0.0000	0.00097U	0.00097U	0.00097U
Aroclor 1268 {1}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1268 {2}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1268 {3}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1268 {4}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	
Aroclor 1268 {5}				0d	0d	0.0000	0.0000	0.00097U	0.00097U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	990 mL	**Dilution:**	1.0
Prep Final Vol:	2 mL	**Unit Factor:**	1

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F018.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F018.D			**Vial:**	11
Acqu Date:	04/30/2012 21:10	**Quant Date:**	05/02/2012 23:08	**Dilution:**	1.0
Run Type:	DMS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-2 -- K1203581-001DMS				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

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

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

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

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

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F018.D
Report Date: 02-May-2012 23:08

Columbia Analytical Services

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F018.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F018.D
Inj Date : 30-APR-2012 21:10
Sample Info: K1203581-001 DMS
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.755	5.475	3753413	18235482	2.43	2.28		100.00(R)
Aroclor 1016	5.559	6.242	7509088		104		80.00- 120.00	100.00(M)
	6.052	6.292	6351937	11948349	82.1	108	101.27- 151.90	84.59(M)
	6.159	6.958	4105441	23133726	69.8	68.5	70.42- 105.63	54.67(M)
	6.319	7.162	2584416	12980118	75.5	67.1	43.34- 65.01	34.42(M)
	6.379	7.315	3547752	9359663	69.3	57.9	61.77- 92.65	47.25(M)
		Average of Peak Amounts =			80.1	75.4		
Aroclor 1260	8.389	9.555	7068967	27035089	66.4	65.5	80.00- 120.00	100.00(M)
	8.679	10.038	8895956	31862486	77.6	70.4	90.38- 135.58	125.85(M)
	9.299	10.548	8255321		77.3		83.05- 124.58	116.78(M)
	9.375	10.728	6651586		85.0		60.30- 90.45	94.10(M)
	10.302	11.725	16633122	57458715	93.7	80.1	142.83- 214.24	235.30(M)
		Average of Peak Amounts =			80.0	72.0		
Decachlorobiphenyl	12.992	14.452	6408170	19767529	4.05	3.42		100.00(R)

QC Flag Legend

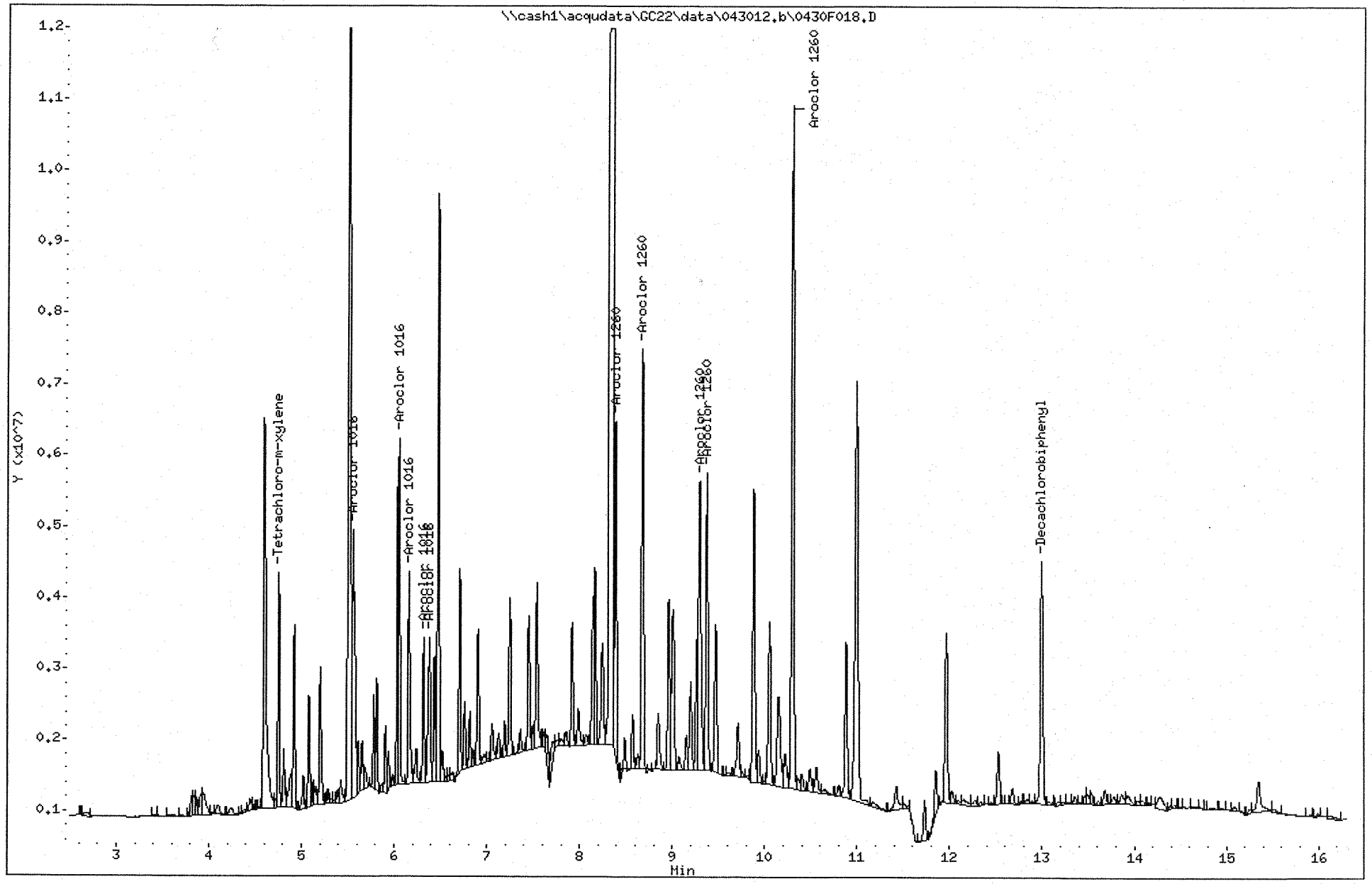
R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F018.D
Date : 30-APR-2012 21:10
Client ID:
Sample Info: K1203581-001 DMS

Instrument: GC22.i

Operator: LHarris
Column diameter: 0.32

Column phase: DB-35MS

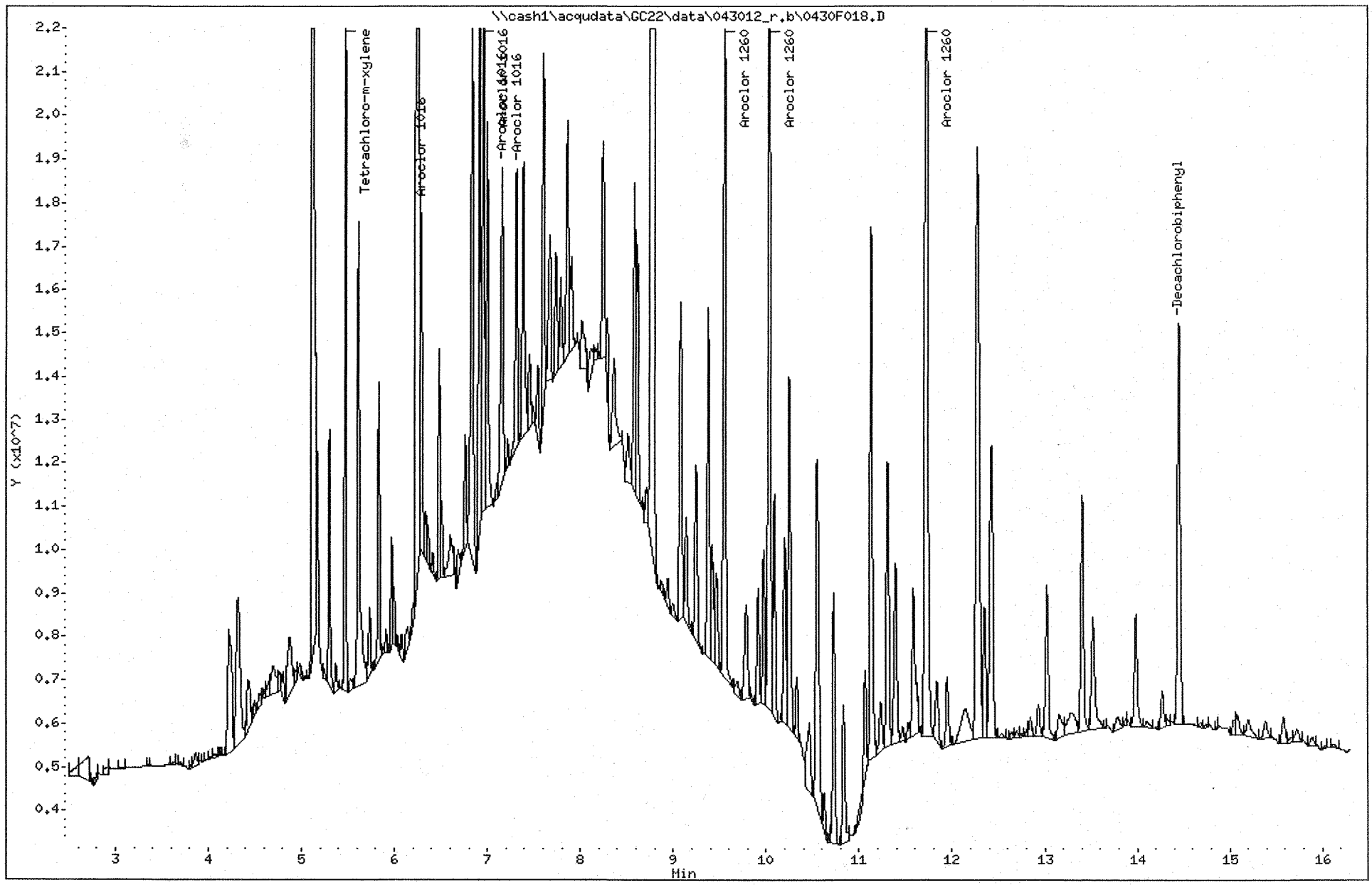


Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F018.D
Date : 30-APR-2012 21:10
Client ID:
Sample Info: K1203581-001 DMS

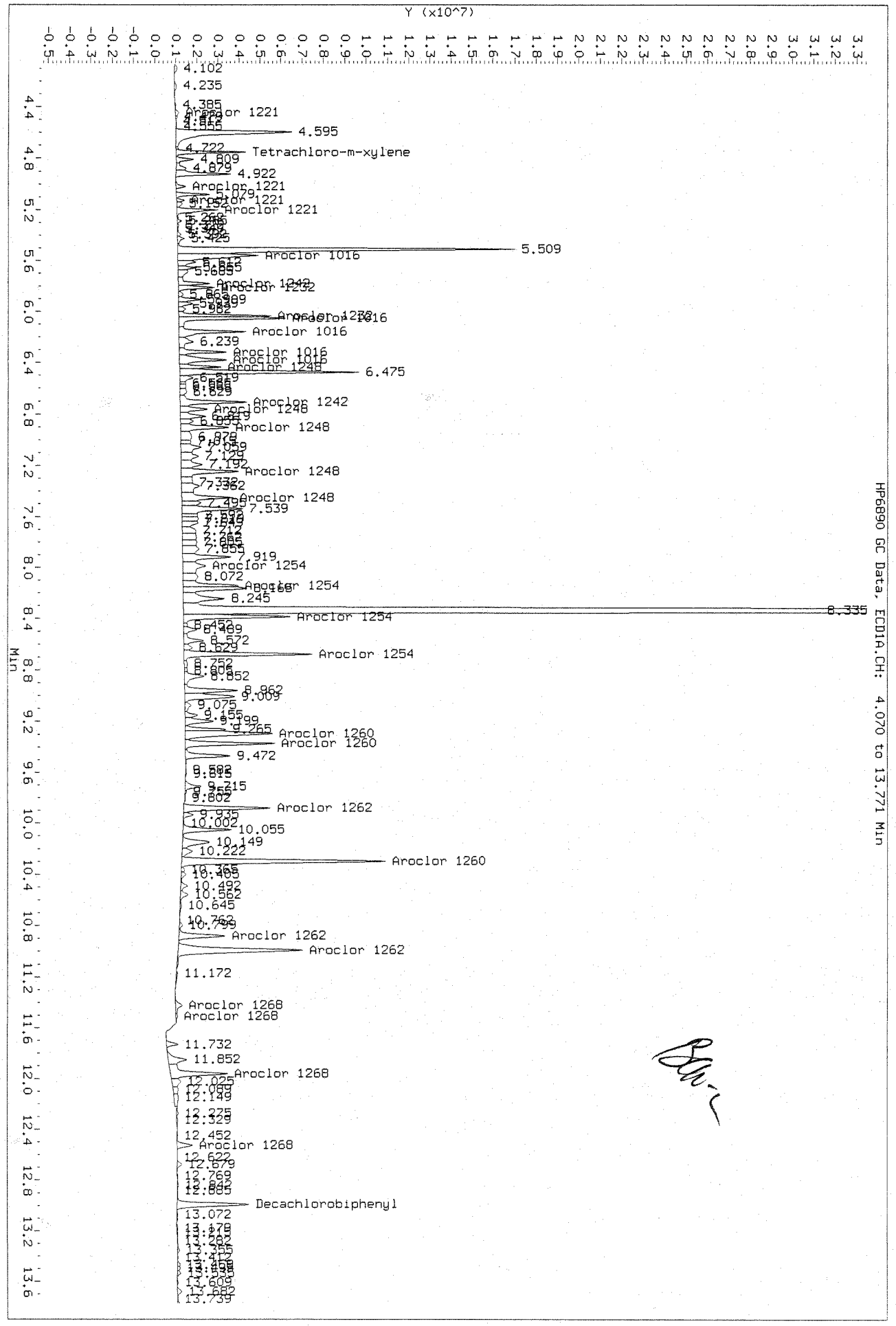
Instrument: GC22.i

Operator: LHarris
Column diameter: 0.32

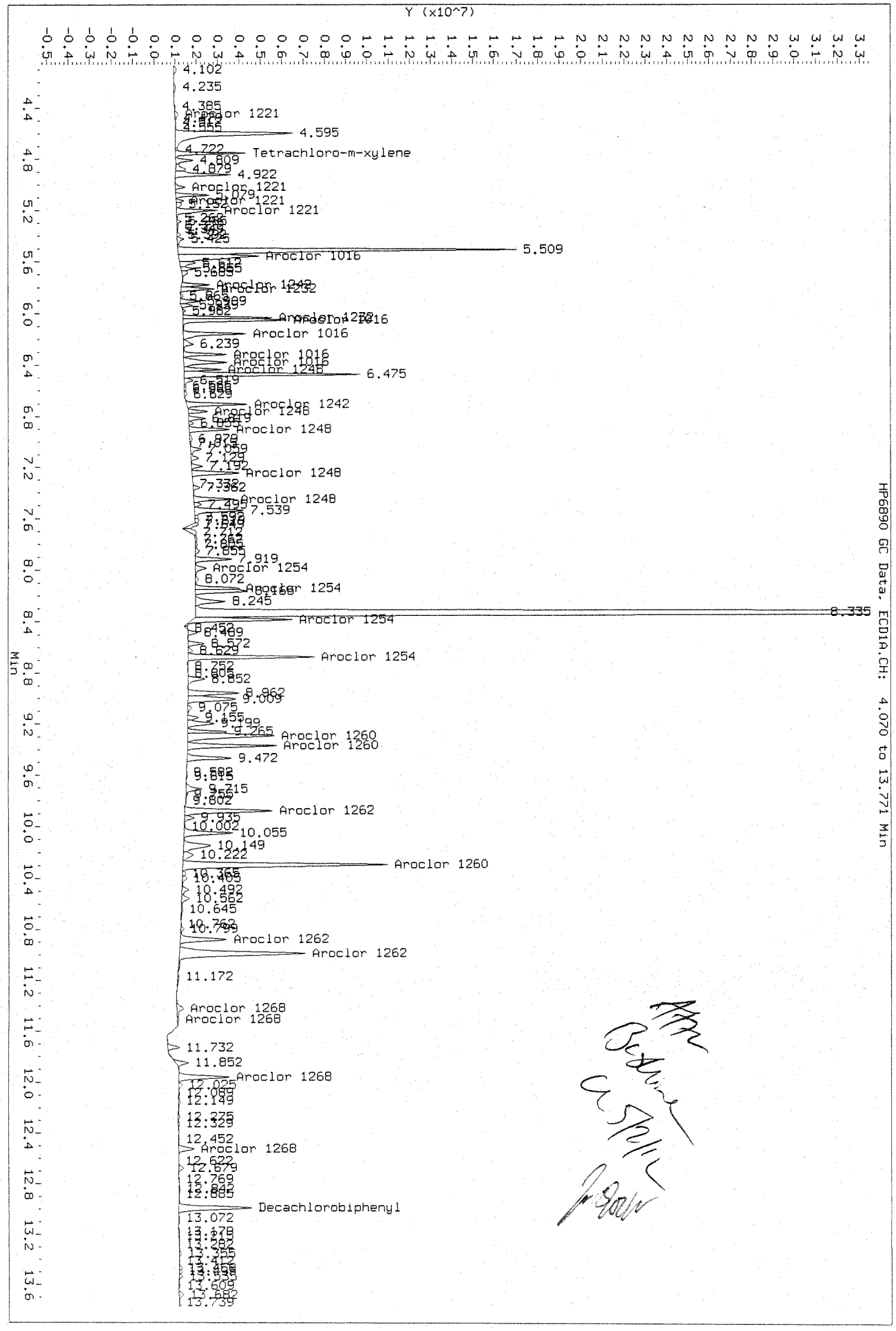
Column phase: DB-XLB



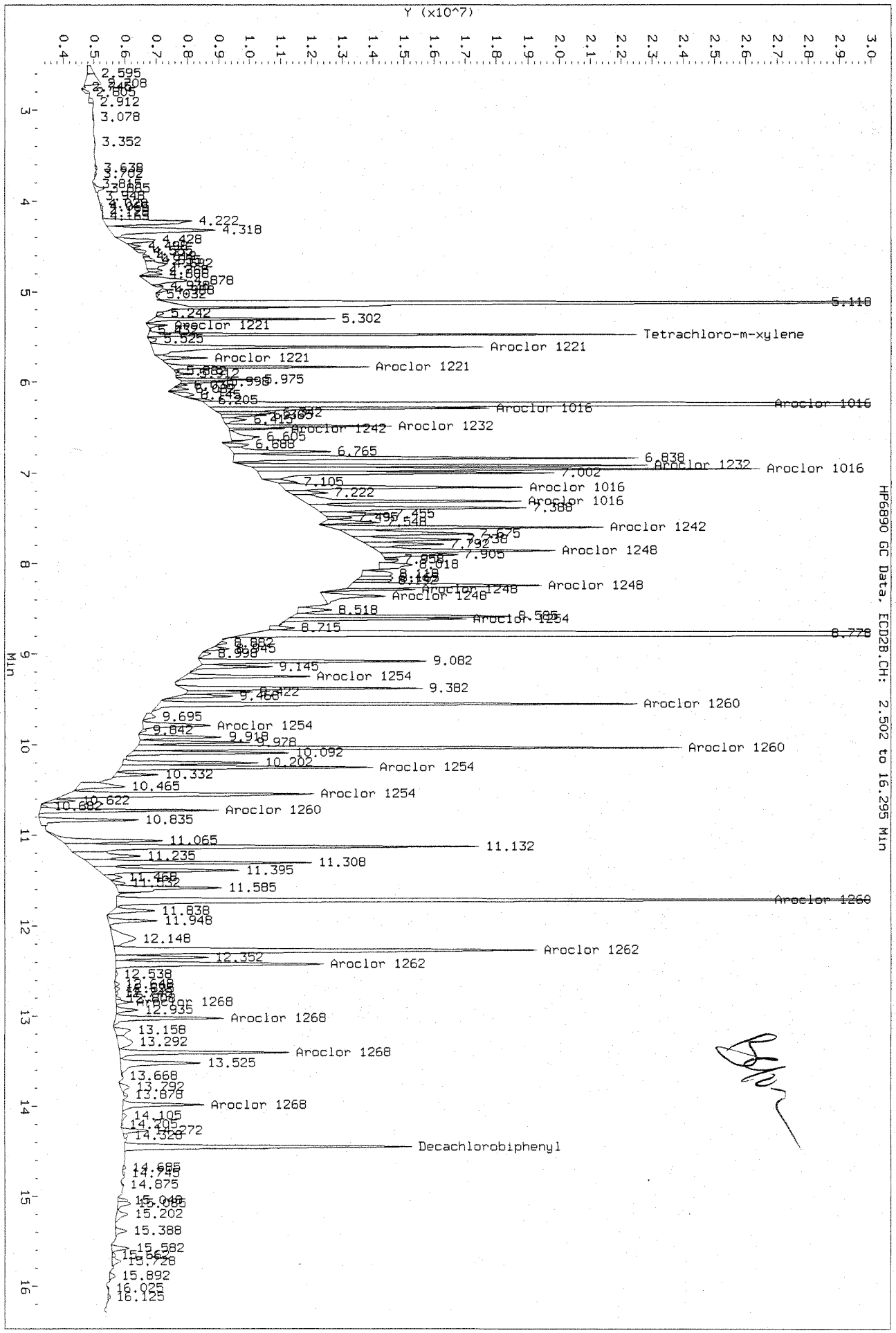
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F018.D
Injection Date: 30-APR-2012 21:10
Instrument: GC22.i
Client Sample ID:



Data File: \\cash1\acqudata\GC22\data\043012.b\0430F018.D
Injection Date: 30-APR-2012 21:10
Instrument: GC22.1
Client Sample ID:

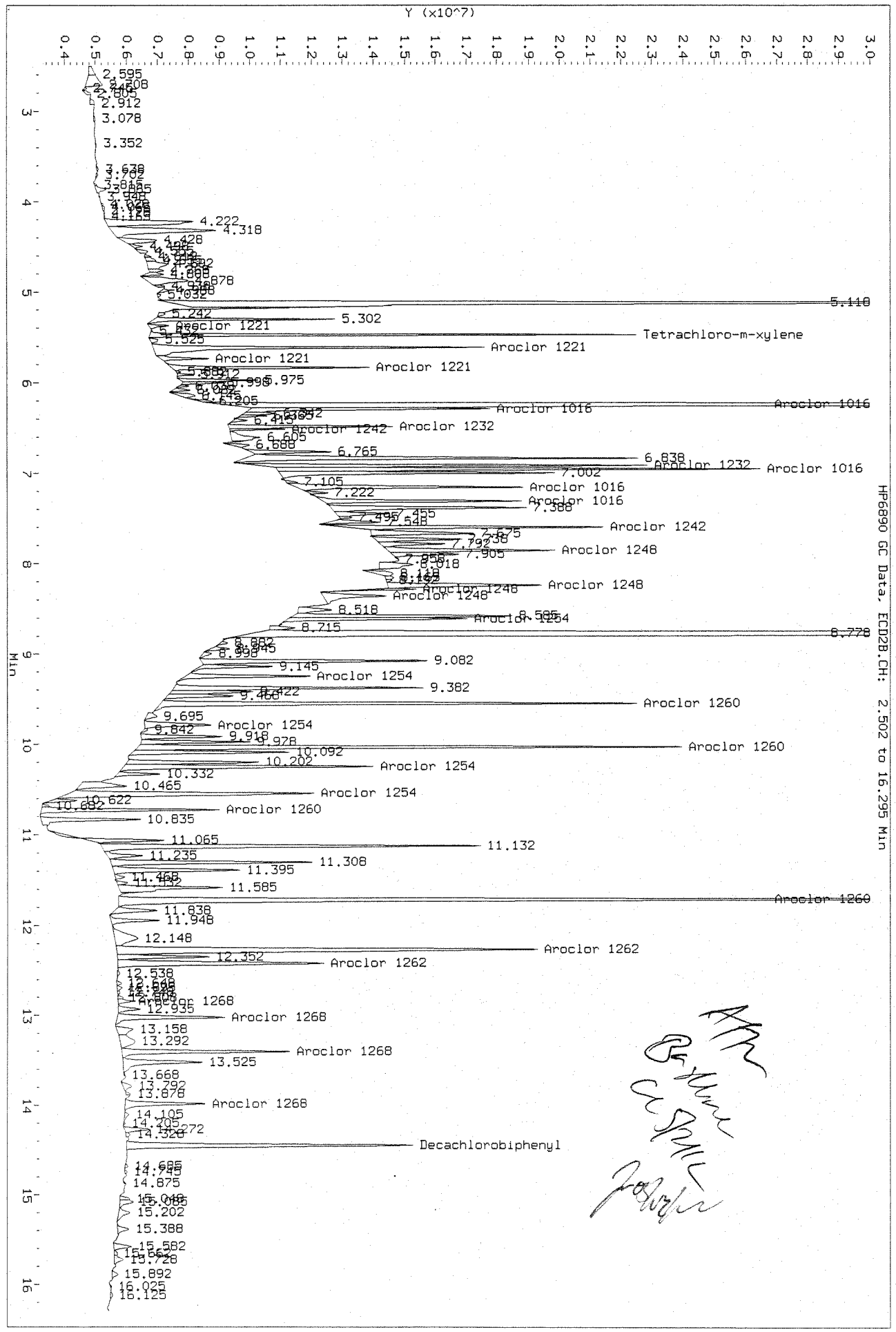


Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F018.D
Injection Date: 30-APR-2012 21:10
Instrument: GC22:1
Client Sample ID:



HP6890 GC Data, ECD2B.CH: 2.502 to 16.295 Min

Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F018.D
Injection Date: 30-APR-2012 21:10
Instrument: GC22.i
Client Sample ID:



COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Lab Control Sample	**Units:**	ug/L
Lab Code:	KWG1204291-3	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	**0.167**		0.00500	0.000960	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1221	ND	U	0.010	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1232	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1242	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1248	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1254	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1260	**0.148**		0.00500	0.000960	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1262	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	
Aroclor 1268	ND	U	0.0050	0.00096	1	04/23/12	04/30/12	KWG1204291	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	86	36-113	04/30/12	Acceptable

Comments:

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F023.D
Lab ID: KWG1204291-3
RunType: LCS
Matrix: WATER

Date Acquired: 04/30/2012 23:03
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F023.D
Lab ID: KWG1204291-3
RunType: LCS
Matrix: WATER

Date Acquired: 04/30/2012 23:03
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: 5/2/12

Secondary Review:

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F023.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F023.D			**Vial:**	16
Acqu Date:	04/30/2012 23:03	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	LCS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-3				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8082A PCB ULL	**Collect Date:**		**Receive Date:**	04/26/2012

Analysis Lot:	KWG1204502	**Prep Lot:**	KWG1204291	**Report Group:**	
Analysis Method:	8082A	**Prep Method:**	EPA 3535A		
Prep Ref:	1120633	**Prep Date:**	04/23/2012		

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:			
MB Ref:	J:\GC22\DATA\043012.B\0430F024.D	**Method ID:**	MJ702
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1		RT #2		Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	4.75	-0.01	5.47	-0.01	4862989	25764279	3.15	3.22			64OK
						%Recovery =	63OK	64OK	Limits =	21-114	
Decachlorobiphenyl	12.99	-0.01	14.45	0.00	6825473	23189283	4.32	4.01			86OK
						%Recovery =	86OK	80OK	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1		RT #2		Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016					0	0	83.96	83.37	0.168	0.167	**0.167**
Aroclor 1016 {1}	5.56	0.00	6.25	0.00	5602842m	16002804	77.28	80.79	0.155	0.162	
Aroclor 1016 {2}	6.05	0.00	6.29	0.00	6848991m	9258326	88.54	83.71	0.177	0.167	
Aroclor 1016 {3}	6.15	0.00	6.95	-0.01	4865375m	28573391	82.76	84.58	0.166	0.169	
Aroclor 1016 {4}	6.31	0.00	7.16	0.00	3066912m	16730766	89.56	86.46	0.179	0.173	
Aroclor 1016 {5}	6.38	0.00	7.31	0.00	4178255m	13153756	81.64	81.33	0.163	0.163	
Aroclor 1221					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1221 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {2}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {3}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1221 {4}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1232 {1}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {2}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {3}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1232 {4}					0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242					0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F023.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F023.D			**Vial:**	16
Acqu Date:	04/30/2012 23:03	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	LCS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-3				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1260			0	0	92.90	74.04	0.186	0.148	**0.148**
Aroclor 1260 {1}	8.38 0.00	9.55 -0.01	8917974	32959628m	83.79	79.90	0.168	0.160	
Aroclor 1260 {2}	8.67 0.00	10.03 -0.01	10324378	37153045m	90.08	82.08	0.180	0.164	
Aroclor 1260 {3}	9.29 0.00	10.55 +0.00	8694335	30859846m	81.39	54.96	0.163	0.110	
Aroclor 1260 {4}	9.37 -0.01	10.73 0.00	8146160	18839371m	104.14	59.71	0.208	0.119	
Aroclor 1260 {5}	10.30 0.00	11.72 0.00	18661173	67152698m	105.10	93.57	0.210	0.187	
Aroclor 1262			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1262 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1262 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268			0	0	0.0000	0.0000	0.00096U	0.00096U	0.00096U
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	
Aroclor 1268 {5}			0d	0d	0.0000	0.0000	0.00096U	0.00096U	

The -/+ after Retention Time symbolize the direction of the RT shift

Prep Amount:	1000 mL	**Dilution:**	1.0
Prep Final Vol:	2 mL	**Unit Factor:**	1

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F023.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F023.D			**Vial:**	16
Acqu Date:	04/30/2012 23:03	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	LCS			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204291-3				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

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

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

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

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

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F023.D
Report Date: 02-May-2012 14:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F023.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F023.D
Inj Date : 30-APR-2012 23:03
Sample Info: KWG1204291-3 | LCS | 8082A PCB ULL | WATER
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.750	5.470	4862989	25764279	3.15	3.22		100.00(R)
Aroclor 1016	5.557	6.246	5602842	16002804	77.3	80.8	80.00- 120.00	100.00(M)
	6.050	6.290	6848991	9258326	88.5	83.7	101.27- 151.90	122.24(M)
	6.154	6.953	4865375	28573391	82.8	84.6	70.42- 105.63	86.84(M)
	6.314	7.156	3066912	16730766	89.6	86.5	43.34- 65.01	54.74(M)
	6.377	7.310	4178255	13153756	81.6	81.3	61.77- 92.65	74.57(M)
		Average of Peak Amounts =			84.0	83.4		
Aroclor 1260	8.384	9.550	8917974	32959628	83.8	79.9	80.00- 120.00	100.00
	8.674	10.033	10324378	37153045	90.1	82.1	90.38- 135.58	115.77
	9.294	10.550	8694335	30859846	81.4	55.0	83.05- 124.58	97.49
	9.370	10.726	8146160	18839371	104	59.7	60.30- 90.45	91.35
	10.300	11.723	18661173	67152698	105	93.6	142.83- 214.24	209.25
		Average of Peak Amounts =			92.9	74.1		
Decachlorobiphenyl	12.990	14.450	6825473	23189283	4.31	4.01		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
M - Compound response manually integrated.

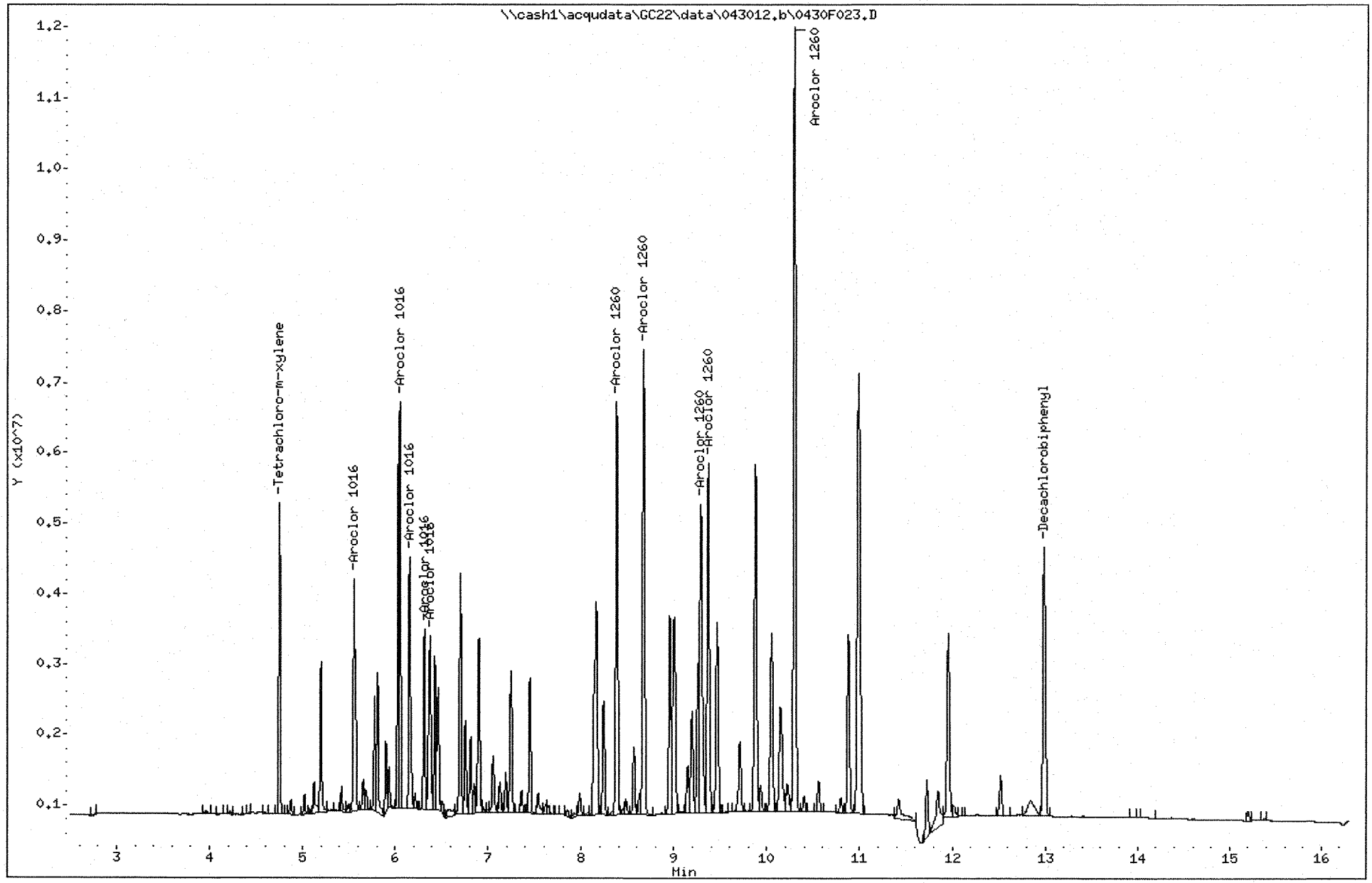
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F023.D
Date : 30-APR-2012 23:03
Client ID:
Sample Info: KWG1204291-3 | LCS | 8082A PCB ULL | WATER

Instrument: GC22.i

Operator: LHarris

Column phase: DB-35MS

Column diameter: 0.32

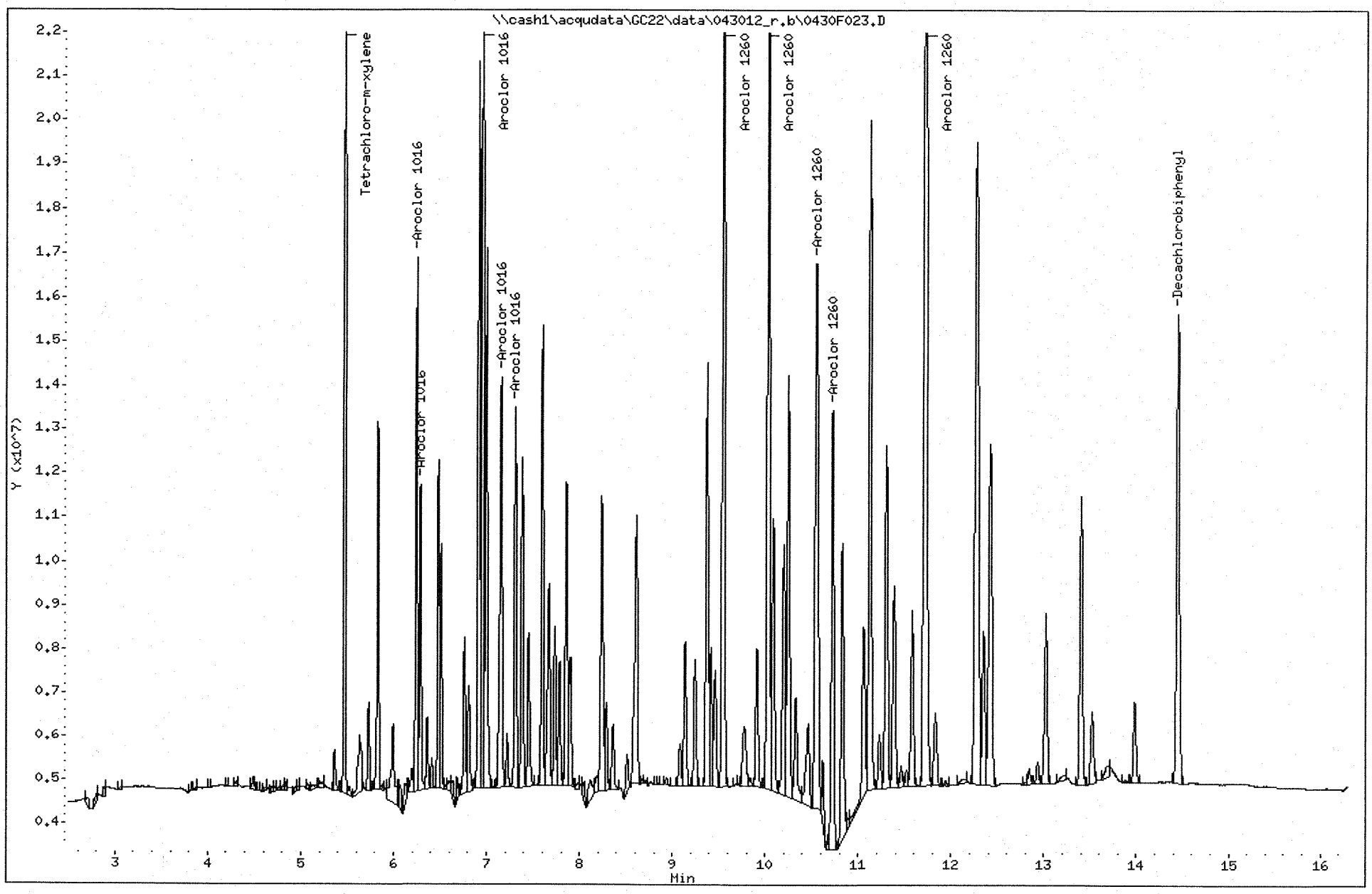


Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F023.D
Date : 30-APR-2012 23:03
Client ID:
Sample Info: KWG1204291-3 | LCS | 8082A PCB ULL | WATER

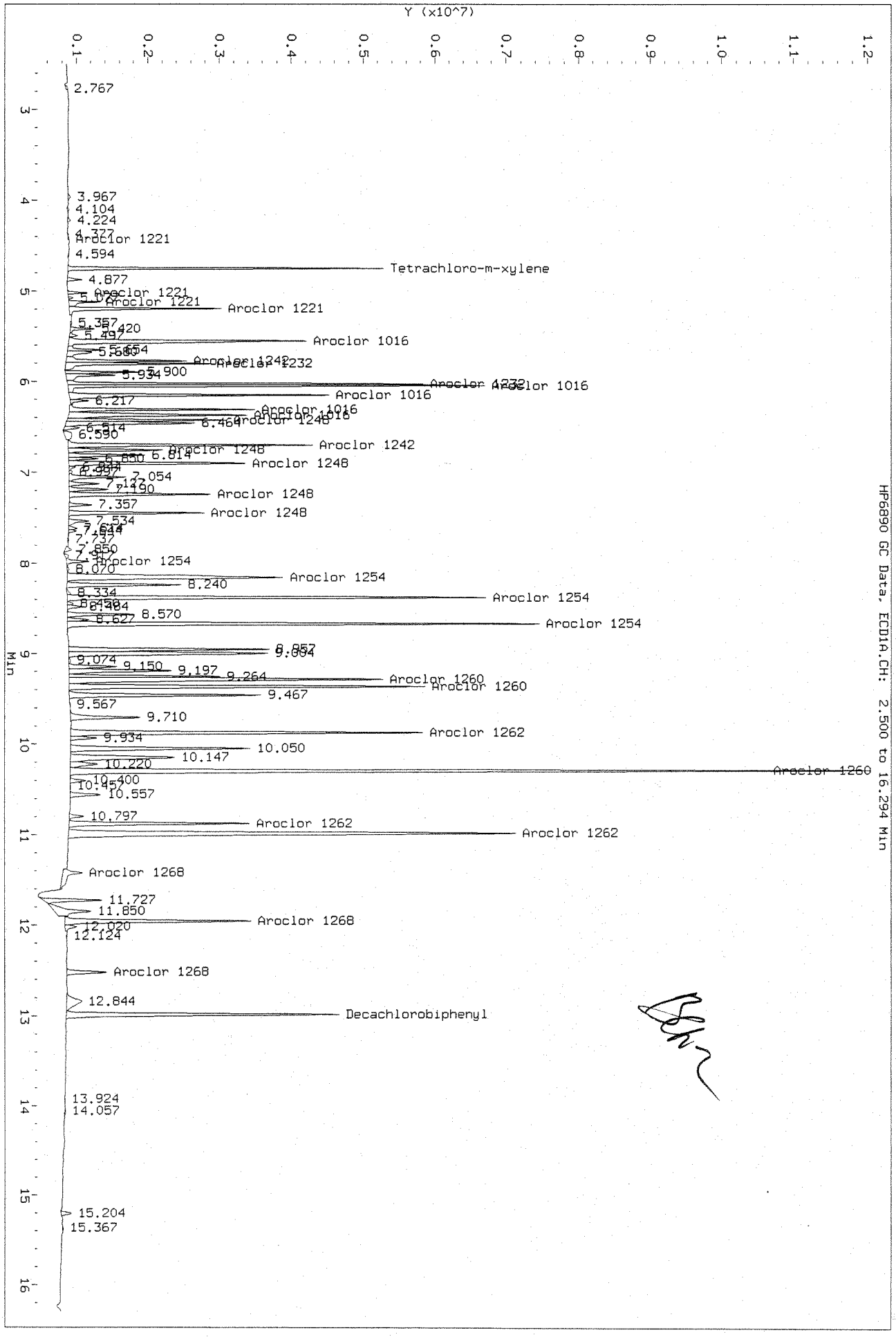
Instrument: GC22.i

Operator: LHarris
Column diameter: 0.32

Column phase: DB-XLB



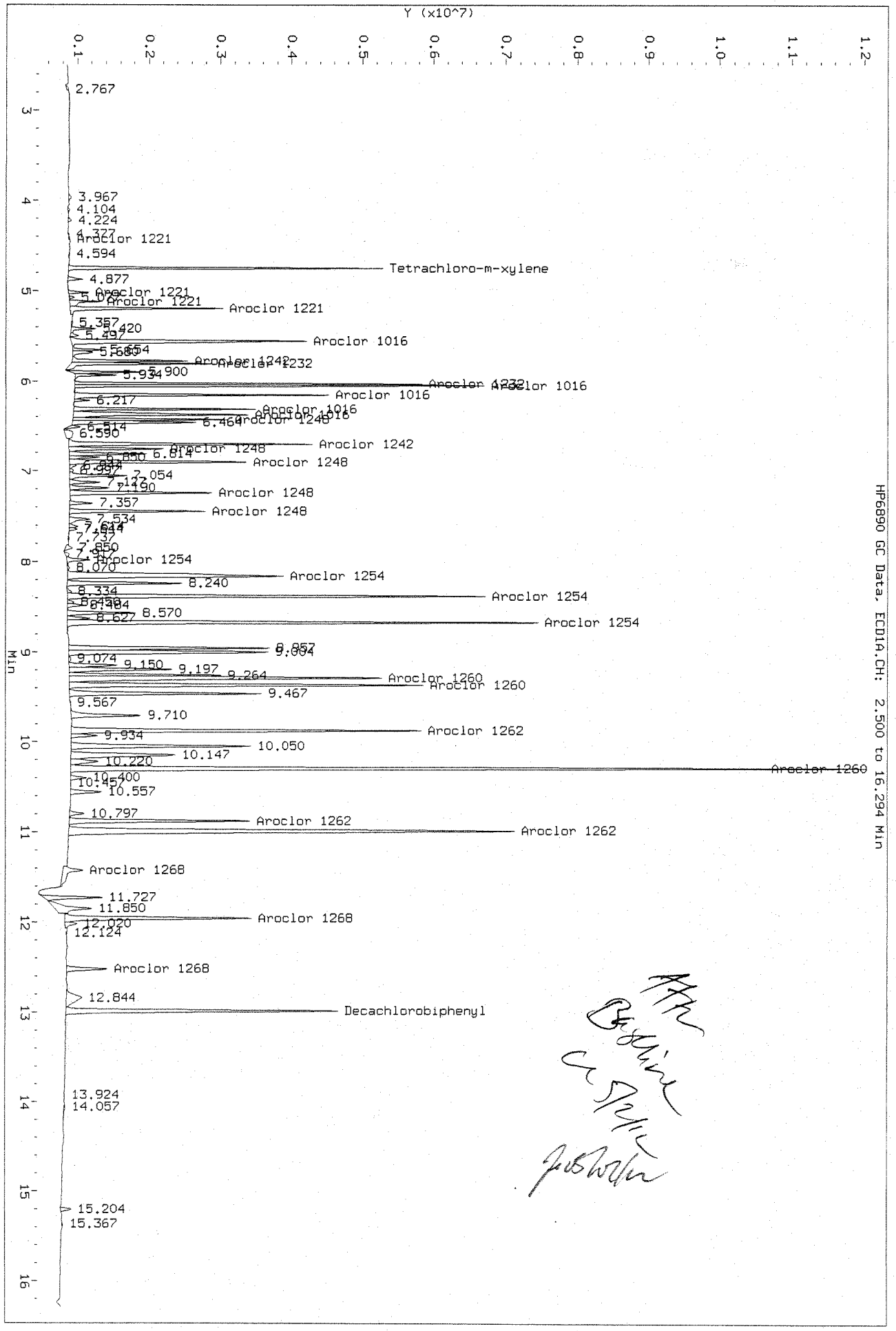
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F023.D
Injection Date: 30-APR-2012 23:03
Instrument: GC22.i
Client Sample ID:



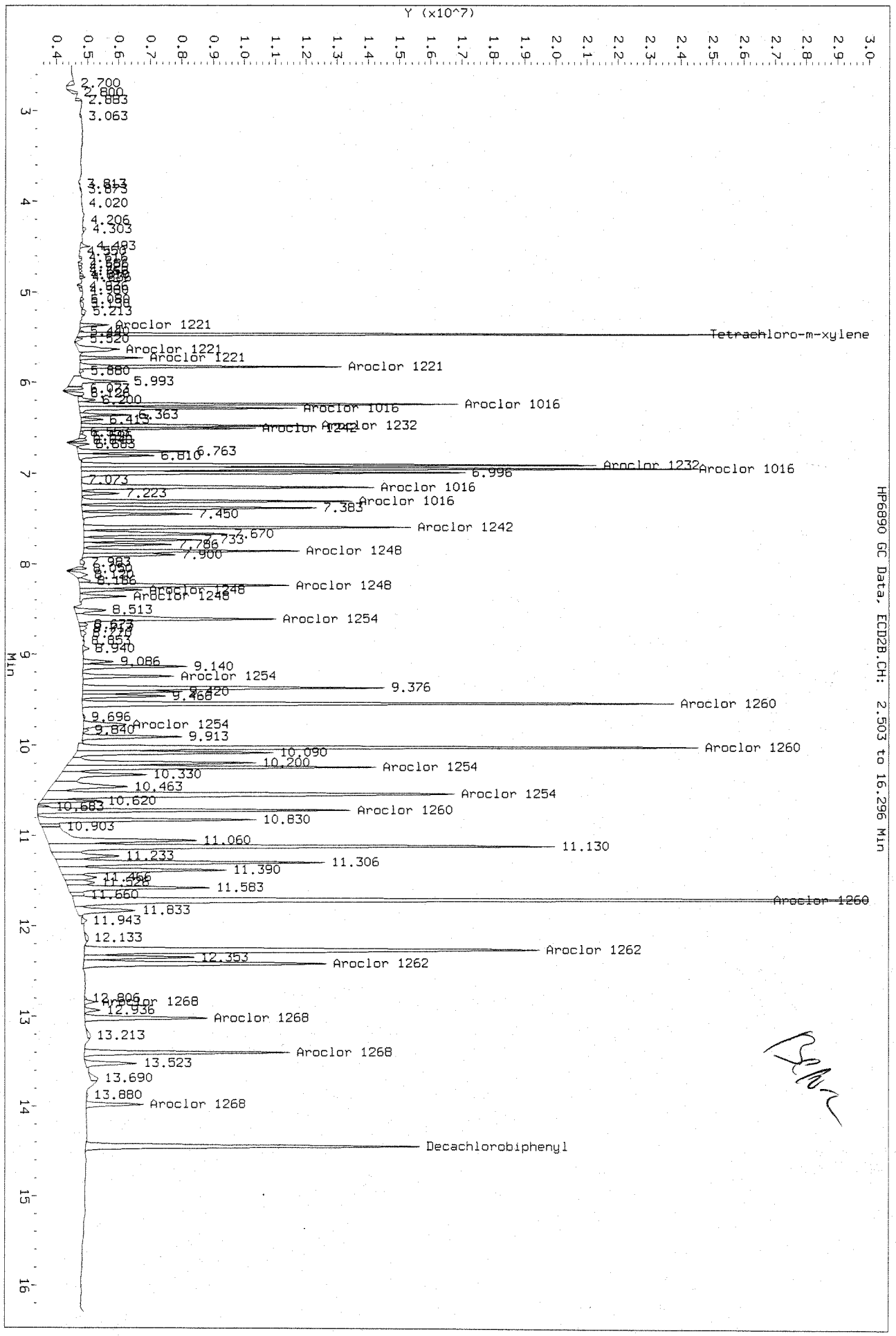
HP6890 GC Data, ECD1A.CH: 2.500 to 16.294 Min

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F023.D
Injection Date: 30-APR-2012 23:03
Instrument: GC22.1
Client Sample ID:

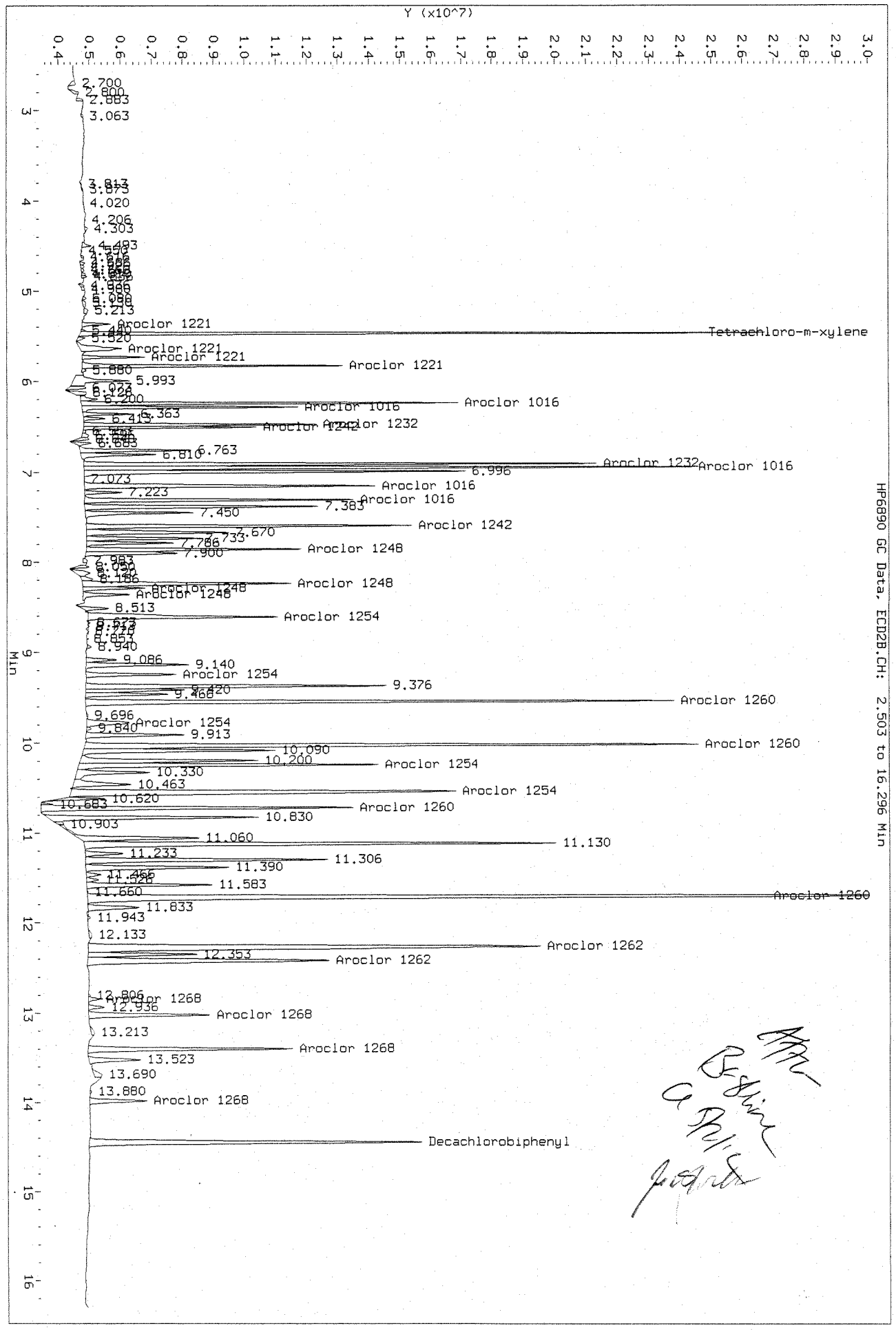
HP6890 GC Data, ECD1A.CH: 2.500 to 16.294 Min



Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F023.D
Injection Date: 30-APR-2012 23:03
Instrument: GC22.i
Client Sample ID:



Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F023.D
Injection Date: 30-APR-2012 23:03
Instrument: GC22.i
Client Sample ID:



Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Standards Data

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-35MS

Level ID	File ID
A	\\cash1\acqudata\GC22\data\042812A.b\0428F003.D
B	\\cash1\acqudata\GC22\data\042812A.b\0428F004.D
C	\\cash1\acqudata\GC22\data\042812A.b\0428F005.D
D	\\cash1\acqudata\GC22\data\042812A.b\0428F006.D
E	\\cash1\acqudata\GC22\data\042812A.b\0428F007.D
F	\\cash1\acqudata\GC22\data\042812A.b\0428F008.D
G	\\cash1\acqudata\GC22\data\042812A.b\0428F009.D
H	\\cash1\acqudata\GC22\data\042812A.b\0428F010.D
I	\\cash1\acqudata\GC22\data\042812A.b\0428F011.D
J	\\cash1\acqudata\GC22\data\042812A.b\0428F012.D
K	\\cash1\acqudata\GC22\data\042812A.b\0428F013.D
L	\\cash1\acqudata\GC22\data\042812A.b\0428F014.D
M	\\cash1\acqudata\GC22\data\042812A.b\0428F015.D
N	\\cash1\acqudata\GC22\data\042812A.b\0428F016.D
O	\\cash1\acqudata\GC22\data\042812A.b\0428F017.D
P	\\cash1\acqudata\GC22\data\042812A.b\0428F018.D
Q	\\cash1\acqudata\GC22\data\042812A.b\0428F019.D
R	\\cash1\acqudata\GC22\data\042812A.b\0428F020.D
S	\\cash1\acqudata\GC22\data\042812A.b\0428F027.D
T	\\cash1\acqudata\GC22\data\042812A.b\0428F028.D
U	\\cash1\acqudata\GC22\data\042812A.b\0428F029.D
V	\\cash1\acqudata\GC22\data\042812A.b\0428F030.D
W	\\cash1\acqudata\GC22\data\042812A.b\0428F031.D
X	\\cash1\acqudata\GC22\data\042812A.b\0428F032.D
Y	\\cash1\acqudata\GC22\data\042812A.b\0428F044.D
Z	\\cash1\acqudata\GC22\data\042812A.b\0428F045.D
AA	\\cash1\acqudata\GC22\data\042812A.b\0428F046.D
AB	\\cash1\acqudata\GC22\data\042812A.b\0428F047.D
AC	\\cash1\acqudata\GC22\data\042812A.b\0428F048.D
AD	\\cash1\acqudata\GC22\data\042812A.b\0428F049.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	1.59E+6	B	0.50	1.59E+6	C	5.0	1.55E+6	D	10	1.58E+6	E	20	1.55E+6
	F	50	1.64E+6												
Aroclor 1016 {1}	A	2.5	84100	B	5.0	82900	C	50	70000	D	100	67600	E	200	65900
	F	500	64600												
Aroclor 1016 {2}	A	2.5	85300	B	5.0	83500	C	50	70800	D	100	73700	E	200	71800
	F	500	79000												
Aroclor 1016 {3}	A	2.5	67300	B	5.0	63100	C	50	56000	D	100	56400	E	200	54300
	F	500	55600												
Aroclor 1016 {4}	A	2.5	36700	B	5.0	34900	C	50	33000	D	100	33700	E	200	32700
	F	500	34400												
Aroclor 1016 {5}	A	2.5	54300	B	5.0	52000	C	50	51600	D	100	51100	E	200	49200
	F	500	49000												
Aroclor 1260 {1}	A	2.5	1.15E+5	B	5.0	1.10E+5	C	50	1.03E+5	D	100	1.04E+5	E	200	1.01E+5
	F	500	1.06E+5												
Aroclor 1260 {2}	A	2.5	1.20E+5	B	5.0	1.19E+5	C	50	1.11E+5	D	100	1.12E+5	E	200	1.09E+5
	F	500	1.17E+5												
Aroclor 1260 {3}	A	2.5	1.13E+5	B	5.0	1.11E+5	C	50	1.02E+5	D	100	1.04E+5	E	200	1.02E+5
	F	500	1.08E+5												
Aroclor 1260 {4}	A	2.5	84900	B	5.0	78500	C	50	76500	D	100	77300	E	200	74100
	F	500	78000												

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-35MS

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	1.85E+5	B	5.0	1.76E+5	C	50	1.71E+5	D	100	1.75E+5	E	200	1.73E+5
	F	500	1.86E+5												

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-35MS

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	2.0		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	12.0		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	8.0		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	8.8		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	4.3		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	3.8		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	4.8		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	3.7		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	4.3		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	4.6		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	3.6		≤ 20

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012
Date Analyzed: 04/29/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11473
Units: ng/mL

File ID:
\\cash1\acqudata\GC22\data\042812A.b\0428F033.D
\\cash1\acqudata\GC22\data\042812A.b\0428F034.D
\\cash1\acqudata\GC22\data\042812A.b\0428F035.D
\\cash1\acqudata\GC22\data\042812A.b\0428F036.D
\\cash1\acqudata\GC22\data\042812A.b\0428F037.D
\\cash1\acqudata\GC22\data\042812A.b\0428F038.D
\\cash1\acqudata\GC22\data\042812A.b\0428F039.D
\\cash1\acqudata\GC22\data\042812A.b\0428F040.D
\\cash1\acqudata\GC22\data\042812A.b\0428F041.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	90	NA	NA	NA	-10	± 20 %	NA
Aroclor 1016 {1}	100	92	72500	67000	-8	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	85	77400	65700	-15	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	89	58800	52600	-11	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	90	34200	30900	-10	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	95	51200	48500	-5	NA	± 100 %	AverageRF
Aroclor 1260	100	98	NA	NA	NA	-2	± 20 %	NA
Aroclor 1260 {1}	100	93	106000	98800	-7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	92	115000	106000	-8	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	82	107000	87100	-18	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	78200	88300	13	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	178000	195000	10	NA	± 100 %	AverageRF

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-XLB

Level ID	File ID
A	\\cash1\acqudata\GC22\data\042812A_r.b\0428F003.D
B	\\cash1\acqudata\GC22\data\042812A_r.b\0428F004.D
C	\\cash1\acqudata\GC22\data\042812A_r.b\0428F005.D
D	\\cash1\acqudata\GC22\data\042812A_r.b\0428F006.D
E	\\cash1\acqudata\GC22\data\042812A_r.b\0428F007.D
F	\\cash1\acqudata\GC22\data\042812A_r.b\0428F008.D
G	\\cash1\acqudata\GC22\data\042812A_r.b\0428F009.D
H	\\cash1\acqudata\GC22\data\042812A_r.b\0428F010.D
I	\\cash1\acqudata\GC22\data\042812A_r.b\0428F011.D
J	\\cash1\acqudata\GC22\data\042812A_r.b\0428F012.D
K	\\cash1\acqudata\GC22\data\042812A_r.b\0428F013.D
L	\\cash1\acqudata\GC22\data\042812A_r.b\0428F014.D
M	\\cash1\acqudata\GC22\data\042812A_r.b\0428F015.D
N	\\cash1\acqudata\GC22\data\042812A_r.b\0428F016.D
O	\\cash1\acqudata\GC22\data\042812A_r.b\0428F017.D
P	\\cash1\acqudata\GC22\data\042812A_r.b\0428F018.D
Q	\\cash1\acqudata\GC22\data\042812A_r.b\0428F019.D
R	\\cash1\acqudata\GC22\data\042812A_r.b\0428F020.D
S	\\cash1\acqudata\GC22\data\042812A_r.b\0428F027.D
T	\\cash1\acqudata\GC22\data\042812A_r.b\0428F028.D
U	\\cash1\acqudata\GC22\data\042812A_r.b\0428F029.D
V	\\cash1\acqudata\GC22\data\042812A_r.b\0428F030.D
W	\\cash1\acqudata\GC22\data\042812A_r.b\0428F031.D
X	\\cash1\acqudata\GC22\data\042812A_r.b\0428F032.D
Y	\\cash1\acqudata\GC22\data\042812A_r.b\0428F044.D
Z	\\cash1\acqudata\GC22\data\042812A_r.b\0428F045.D
AA	\\cash1\acqudata\GC22\data\042812A_r.b\0428F046.D
AB	\\cash1\acqudata\GC22\data\042812A_r.b\0428F047.D
AC	\\cash1\acqudata\GC22\data\042812A_r.b\0428F048.D
AD	\\cash1\acqudata\GC22\data\042812A_r.b\0428F049.D

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	6.56E+6	B	0.50	6.60E+6	C	5.0	5.76E+6	D	10	5.46E+6	E	20	5.16E+6
	F	50	5.15E+6												
Aroclor 1016 {1}	A	2.5	2.34E+5	B	5.0	2.32E+5	C	50	1.99E+5	D	100	1.85E+5	E	200	1.77E+5
	F	500	1.61E+5												
Aroclor 1016 {2}	A	2.5	1.28E+5	B	5.0	1.25E+5	C	50	1.12E+5	D	100	1.05E+5	E	200	1.01E+5
	F	500	93200												
Aroclor 1016 {3}	A	2.5	3.99E+5	B	5.0	3.76E+5	C	50	3.31E+5	D	100	3.16E+5	E	200	3.05E+5
	F	500	3.00E+5												
Aroclor 1016 {4}	A	2.5	2.21E+5	B	5.0	2.10E+5	C	50	1.93E+5	D	100	1.86E+5	E	200	1.78E+5
	F	500	1.73E+5												
Aroclor 1016 {5}	A	2.5	1.86E+5	B	5.0	1.83E+5	C	50	1.62E+5	D	100	1.54E+5	E	200	1.46E+5
	F	500	1.39E+5												
Aroclor 1260 {1}	A	2.5	4.90E+5	B	5.0	4.51E+5	C	50	4.03E+5	D	100	3.88E+5	E	200	3.72E+5
	F	500	3.72E+5												
Aroclor 1260 {2}	A	2.5	4.80E+5	B	5.0	4.98E+5	C	50	4.53E+5	D	100	4.37E+5	E	200	4.21E+5
	F	500	4.26E+5												
Aroclor 1260 {3}	A	2.5	6.55E+5	B	5.0	6.11E+5	C	50	5.48E+5	D	100	5.31E+5	E	200	5.09E+5
	F	500	5.16E+5												
Aroclor 1260 {4}	A	2.5	3.55E+5	B	5.0	3.38E+5	C	50	3.17E+5	D	100	3.05E+5	E	200	2.89E+5
	F	500	2.89E+5												

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-XLB

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	8.19E+5	B	5.0	7.68E+5	C	50	7.02E+5	D	100	6.80E+5	E	200	6.58E+5
	F	500	6.79E+5												

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11473
Instrument ID: GC22.i

Column: DB-XLB

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	11.4		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	15.0		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	12.5		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	12.0		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	9.7		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	11.9		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	11.6		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	6.8		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	10.4		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	8.5		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	8.7		≤ 20

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 04/28/2012
Date Analyzed: 04/29/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11473
Units: ng/mL

File ID:
\\cash1\acqudata\GC22\data\042812A_r.b\0428F033.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F034.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F035.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F036.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F037.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F038.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F039.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F040.D
\\cash1\acqudata\GC22\data\042812A_r.b\0428F041.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	96	NA	NA	NA	-4	± 20 %	NA
Aroclor 1016 {1}	100	100	198000	197000	0	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	100	111000	111000	0	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	91	338000	307000	-9	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	96	194000	186000	-4	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	94	162000	152000	-6	NA	± 100 %	AverageRF
Aroclor 1260	100	99	NA	NA	NA	-1	± 20 %	NA
Aroclor 1260 {1}	100	93	413000	384000	-7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	94	453000	427000	-6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	86	561000	484000	-14	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	316000	360000	14	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	718000	768000	7	NA	± 100 %	AverageRF

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

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

Sequence Name: C:\GC22\SEQUENCE\042812A.S
Comment:
Operator: CCotnam
Data Path: C:\GC22\DATA\042812A\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

JCAZ 11473

Line	Type	Vial	DataFile	Method	Sample Name
1	SOLN	100	0428F001	PCB5H	2,4 & 4,4-DD's @100ppb
2	IB	2	0428F002	PCB5H	IB | 8082 PCB_ULL
3	ICAL	3	0428F003	PCB5H	1660 @ 0.25-2.5ppb | PCB5-91M
4	ICAL	4	0428F004	PCB5H	1660 @ 0.5-5ppb | PCB5-91M @1
5	ICAL	5	0428F005	PCB5H	1660 @ 5.0-50ppb | PCB5-91M
6	ICAL	6	0428F006	PCB5H	1660 @ 10-100ppb | PCB5-91L
7	ICAL	7	0428F007	PCB5H	1660 @ 20-200ppb | PCB5-91K
8	ICAL	8	0428F008	PCB5H	1660 @ 50-500ppb | PCB5-91J
9	ICAL	9	0428F009	PCB5H	1221/1254 @ 5-2.5ppb | PCB5-9
10	ICAL	10	0428F010	PCB5H	1221/1254 @ 10-5ppb | PCB5-93
11	ICAL	11	0428F011	PCB5H	1221/1254 @ 100-50ppb | PCB5-
12	ICAL	12	0428F012	PCB5H	1221/1254 @ 200-100ppb | PCB5
13	ICAL	13	0428F013	PCB5H	1221/1254 @ 400-200ppb | PCB5
14	ICAL	14	0428F014	PCB5H	1221/1254 @ 1000-500ppb | PCB
15	ICAL	15	0428F015	PCB5H	1232/1262 @ 2.5ppb | PCB5-93H
16	ICAL	16	0428F016	PCB5H	1232/1262 @ 5ppb | PCB5-93H @
17	ICAL	17	0428F017	PCB5H	1232/1262 @ 50ppb | PCB5-93H
18	ICAL	18	0428F018	PCB5H	1232/1262 @ 100ppb | PCB5-93G
19	ICAL	19	0428F019	PCB5H	1232/1262 @ 200ppb | PCB5-93F
20	ICAL	20	0428F020	PCB5H	1232/1262 @ 500ppb | PCB5-93E
21	ICAL	21	0428F021	PCB5H	1242/1268 @ 2.5ppb | PCB5-93L
22	ICAL	22	0428F022	PCB5H	1242/1268 @ 5ppb | PCB5-93L @
23	ICAL	23	0428F023	PCB5H	1242/1268 @ 50ppb | PCB5-93L
24	ICAL	24	0428F024	PCB5H	1242/1268 @ 100ppb | PCB5-93K
25	ICAL	25	0428F025	PCB5H	1242/1268 @ 200ppb | PCB5-93J
26	ICAL	26	0428F026	PCB5H	1242/1268 @ 500ppb | PCB5-93I
27	ICAL	27	0428F027	PCB5H	1248 @ 2.5ppb | PCB5-93P @20X
28	ICAL	28	0428F028	PCB5H	1248 @ 5ppb | PCB5-93P @10X
29	ICAL	29	0428F029	PCB5H	1248 @ 50ppb | PCB5-93P
30	ICAL	30	0428F030	PCB5H	1248 @ 100ppb | PCB5-93O
31	ICAL	31	0428F031	PCB5H	1248 @ 200ppb | PCB5-93N
32	ICAL	32	0428F032	PCB5H	1248 @ 500ppb | PCB5-93M
33	ICV	33	0428F033	PCB5H	1016 @ 100ppb | PCB5-94G
34	ICV	34	0428F034	PCB5H	1221 @ 100ppb | PCB5-94H
35	ICV	35	0428F035	PCB5H	1232 @ 100ppb | PCB5-94I
36	ICV	36	0428F036	PCB5H	1242 @ 100ppb | PCB5-94J
37	ICV	37	0428F037	PCB5H	1248 @ 100ppb | PCB5-94K
38	ICV	38	0428F038	PCB5H	1254 @ 100ppb | PCB5-94L
39	ICV	39	0428F039	PCB5H	1260 @ 100ppb | PCB5-94M
40	ICV	40	0428F040	PCB5H	1262 @ 100ppb | PCB5-94N
41	ICV	41	0428F041	PCB5H	1268 @ 100ppb | PCB5-94O
42	IB	2	0428F043	PCB5H	PRIMER BLANK
43	ICAL	42	0428F044	PCB5H	1242/1268 @ 100ppb | PCB5-95E

NR rerun NEW Solutions

CC 4/30/12 5/1/12

DO NOT USE TO REPORT DOD results for 1221

Last Modified: Sun Apr 29 16:18:35 2012 Page: 1

Sequence Name: C:\GC22\SEQUENCE\042812A.S

Line	Type	Vial	DataFile	Method	Sample Name
44	ICAL	43	0428F045	PCB5H	1242/1268 @ 200ppb | PCB5-95F
45	ICAL	44	0428F046	PCB5H	1242/1268 @ 500ppb | PCB5-95G
46	ICAL	45	0428F047	PCB5H	1242/1268 @ 2.5ppb | PCB5-95H
47	ICAL	46	0428F048	PCB5H	1242/1268 @ 5ppb | PCB5-95H @
48	ICAL	47	0428F049	PCB5H	1242/1268 @ 50ppb | PCB5-95H
49	IB	2	0428F050	PCB5H	IB

Initial Calibration - Summary Report

Calibration ID:	CAL11473	**Instrument ID:**	GC22.i
Method ID:	MJ702	**Column Name:**	DB-35MS

Parameter Name	Type	Curve Fit	Min RF	Mean RF	Max %RSD	%RSD	Min COD	COD	MRL Check	Conc ½ Low pt.
Aroclor 1221 {1}	MULTI	AverageRF		9.4E+3	20	0.0			OK	
Aroclor 1221 {2}	MULTI	AverageRF		1.4E+4	20	0.0			OK	
Aroclor 1221 {3}	MULTI	AverageRF		1.0E+4	20	0.0			OK	
Aroclor 1221 {4}	MULTI	AverageRF		3.6E+4	20	0.0			OK	
Aroclor 1232 {1}	MULTI	AverageRF		3.3E+4	20	14.8			OK	
Aroclor 1232 {2}	MULTI	AverageRF		3.7E+4	20	17.9			OK	
Aroclor 1232 {3}	MULTI	AverageRF		1.6E+4	20	17.8			OK	
Aroclor 1232 {4}	MULTI	AverageRF		2.9E+4	20	13.7			OK	
Aroclor 1242 {1}	MULTI	AverageRF		1.8E+4	20	17.7			OK	
Aroclor 1242 {2}	MULTI	AverageRF		5.8E+4	20	19.1			OK	
Aroclor 1242 {3}	MULTI	AverageRF		2.6E+4	20	17.4			OK	
Aroclor 1242 {4}	MULTI	AverageRF		3.9E+4	20	13.6			OK	
Aroclor 1242 {5}	MULTI	AverageRF		4.2E+4	20	15.1			OK	
Aroclor 1248 {1}	MULTI	AverageRF		4.0E+4	20	14.9			OK	
Aroclor 1248 {2}	MULTI	AverageRF		2.1E+4	20	8.0			OK	
Aroclor 1248 {3}	MULTI	AverageRF		5.3E+4	20	12.2			OK	
Aroclor 1248 {4}	MULTI	AverageRF		7.5E+4	20	11.3			OK	
Aroclor 1248 {5}	MULTI	AverageRF		2.8E+4	20	17.3			OK	
Aroclor 1254 {1}	MULTI	AverageRF		9.3E+4	20	9.8			OK	
Aroclor 1254 {2}	MULTI	AverageRF		7.3E+4	20	7.3			OK	
Aroclor 1254 {3}	MULTI	AverageRF		1.5E+5	20	7.2			OK	
Aroclor 1254 {4}	MULTI	AverageRF		7.4E+4	20	5.8			OK	
Aroclor 1254 {5}	MULTI	AverageRF		5.7E+4	20	8.3			OK	
Aroclor 1262 {1}	MULTI	AverageRF		1.5E+5	20	11.2			OK	
Aroclor 1262 {2}	MULTI	AverageRF		1.3E+5	20	9.2			OK	
Aroclor 1262 {3}	MULTI	AverageRF		2.4E+5	20	8.8			OK	
Aroclor 1262 {4}	MULTI	AverageRF		1.1E+5	20	9.8			OK	
Aroclor 1262 {5}	MULTI	AverageRF		1.9E+5	20	9.9			OK	
Aroclor 1268 {1}	MULTI	AverageRF		2.8E+5	20	11.2			OK	
Aroclor 1268 {2}	MULTI	AverageRF		2.5E+5	20	10.7			OK	
Aroclor 1268 {3}	MULTI	AverageRF		5.8E+4	20	12.5			OK	
Aroclor 1268 {4}	MULTI	AverageRF		8.5E+4	20	10.9			OK	
Aroclor 1268 {5}	MULTI	AverageRF		6.3E+5	20	7.6			OK	
Tetrachloro-m-xylene	SURR	AverageRF		1.5E+6	20	4.4			NA	
Decachlorobiphenyl	SURR	AverageRF		1.6E+6	20	2.0			NA	
Aroclor 1016 {1}	MULTI	AverageRF		7.3E+4	20	12.0			OK	
Aroclor 1016 {2}	MULTI	AverageRF		7.7E+4	20	8.0			OK	
Aroclor 1016 {3}	MULTI	AverageRF		5.9E+4	20	8.8			OK	
Aroclor 1016 {4}	MULTI	AverageRF		3.4E+4	20	4.3			OK	
Aroclor 1016 {5}	MULTI	AverageRF		5.1E+4	20	3.8			OK	
Aroclor 1260 {1}	MULTI	AverageRF		1.1E+5	20	4.8			OK	
Aroclor 1260 {2}	MULTI	AverageRF		1.1E+5	20	3.7			OK	
Aroclor 1260 {3}	MULTI	AverageRF		1.1E+5	20	4.3			OK	
Aroclor 1260 {4}	MULTI	AverageRF		7.8E+4	20	4.6			OK	
Aroclor 1260 {5}	MULTI	AverageRF		1.8E+5	20	3.6			OK	

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Initial Calibration - Summary Report

Calibration ID:	CAL11473	**Instrument ID:**	GC22.i
Method ID:	MJ702	**Column Name:**	DB-XLB

Parameter Name	Type	Curve Fit	Min RF	Mean RF	Max %RSD	%RSD	Min COD	COD	MRL Check	Conc ½ Low pt.
Aroclor 1221 {1}	MULTI	AverageRF		2.5E+4	20	0.0			OK	
Aroclor 1221 {2}	MULTI	AverageRF		4.9E+4	20	0.0			OK	
Aroclor 1221 {3}	MULTI	AverageRF		4.5E+4	20	0.0			OK	
Aroclor 1221 {4}	MULTI	AverageRF		1.6E+5	20	0.0			OK	
Aroclor 1232 {1}	MULTI	AverageRF		1.5E+5	20	19.1			OK	
Aroclor 1232 {2}	MULTI	AverageRF		5.8E+4	20	19.9			OK	
Aroclor 1232 {3}	MULTI	AverageRF		6.4E+4	20	9.7			OK	
Aroclor 1232 {4}	MULTI	AverageRF		1.3E+5	20	17.0			OK	
Aroclor 1242 {1}	MULTI	AverageRF		1.2E+5	20	19.6			OK	
Aroclor 1242 {2}	MULTI	AverageRF		9.5E+4	20	19.6			OK	
Aroclor 1242 {3}	MULTI	AverageRF		7.2E+4	20	10.6			OK	
Aroclor 1242 {4}	MULTI	AverageRF		1.6E+5	20	15.2			OK	
Aroclor 1242 {5}	MULTI	AverageRF		1.6E+5	20	16.2			OK	
Aroclor 1248 {1}	MULTI	AverageRF		2.6E+5	20	15.6			OK	
Aroclor 1248 {2}	MULTI	AverageRF		1.8E+5	20	13.5			OK	
Aroclor 1248 {3}	MULTI	AverageRF		2.3E+5	20	14.9			OK	
Aroclor 1248 {4}	MULTI	AverageRF		2.8E+5	20	15.0			OK	
Aroclor 1248 {5}	MULTI	AverageRF		2.7E+5	20	15.2			OK	
Aroclor 1254 {1}	MULTI	AverageRF		5.0E+5	20	12.8			OK	
Aroclor 1254 {2}	MULTI	AverageRF		4.9E+5	20	9.6			OK	
Aroclor 1254 {3}	MULTI	AverageRF		3.6E+5	20	16.7			OK	
Aroclor 1254 {4}	MULTI	AverageRF		2.6E+5	20	7.2			OK	
Aroclor 1254 {5}	MULTI	AverageRF		4.1E+5	20	14.7			OK	
Aroclor 1262 {1}	MULTI	AverageRF		3.7E+5	20	10.4			OK	
Aroclor 1262 {2}	MULTI	AverageRF		5.9E+5	20	14.8			OK	
Aroclor 1262 {3}	MULTI	AverageRF		9.5E+5	20	12.8			OK	
Aroclor 1262 {4}	MULTI	AverageRF		6.6E+5	20	15.7			OK	
Aroclor 1262 {5}	MULTI	AverageRF		4.5E+5	20	16.9			OK	
Aroclor 1268 {1}	MULTI	AverageRF		1.1E+6	20	16.7			OK	
Aroclor 1268 {2}	MULTI	AverageRF		9.4E+5	20	16.4			OK	
Aroclor 1268 {3}	MULTI	AverageRF		2.5E+5	20	17.5			OK	
Aroclor 1268 {4}	MULTI	AverageRF		3.5E+5	20	17.5			OK	
Aroclor 1268 {5}	MULTI	AverageRF		2.3E+6	20	14.8			OK	
Tetrachloro-m-xylene	SURR	AverageRF		8.0E+6	20	11.4			NA	
Decachlorobiphenyl	SURR	AverageRF		5.8E+6	20	11.4			NA	
Aroclor 1016 {1}	MULTI	AverageRF		2.0E+5	20	15.0			OK	
Aroclor 1016 {2}	MULTI	AverageRF		1.1E+5	20	12.5			OK	
Aroclor 1016 {3}	MULTI	AverageRF		3.4E+5	20	12.0			OK	
Aroclor 1016 {4}	MULTI	AverageRF		1.9E+5	20	9.7			OK	
Aroclor 1016 {5}	MULTI	AverageRF		1.6E+5	20	11.9			OK	
Aroclor 1260 {1}	MULTI	AverageRF		4.1E+5	20	11.6			OK	
Aroclor 1260 {2}	MULTI	AverageRF		4.5E+5	20	6.8			OK	
Aroclor 1260 {3}	MULTI	AverageRF		5.6E+5	20	10.4			OK	
Aroclor 1260 {4}	MULTI	AverageRF		3.2E+5	20	8.5			OK	
Aroclor 1260 {5}	MULTI	AverageRF		7.2E+5	20	8.7			OK	

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Initial Calibration - Detailed Report

Calibration ID:	CAL11473	**Instrument ID:**	GC22.i
Method ID:	MJ702	**Column Name:**	DB-35MS
		Calibration Fit:	AverageRF

#	FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
1	217015	\\cash1\acqudata\GC22\data\042812A.b\0428F003.D	04/28/2012 18:11	04/30/2012 17:21	04/30/2012 17:22
2	217017	\\cash1\acqudata\GC22\data\042812A.b\0428F004.D	04/28/2012 18:34	04/30/2012 17:21	04/30/2012 17:22
3	217019	\\cash1\acqudata\GC22\data\042812A.b\0428F005.D	04/28/2012 18:57	04/30/2012 17:21	04/30/2012 17:22
4	217021	\\cash1\acqudata\GC22\data\042812A.b\0428F006.D	04/28/2012 19:19	04/30/2012 17:21	04/30/2012 17:22
5	217023	\\cash1\acqudata\GC22\data\042812A.b\0428F007.D	04/28/2012 19:42	04/30/2012 17:21	04/30/2012 17:22
6	217025	\\cash1\acqudata\GC22\data\042812A.b\0428F008.D	04/28/2012 20:05	04/30/2012 17:21	04/30/2012 17:22
7	217027	\\cash1\acqudata\GC22\data\042812A.b\0428F009.D	04/28/2012 20:28	04/30/2012 17:09	04/30/2012 17:12
8	217029	\\cash1\acqudata\GC22\data\042812A.b\0428F010.D	04/28/2012 20:51	04/30/2012 17:09	04/30/2012 17:12
9	217031	\\cash1\acqudata\GC22\data\042812A.b\0428F011.D	04/28/2012 21:14	04/30/2012 17:09	04/30/2012 17:12
10	217033	\\cash1\acqudata\GC22\data\042812A.b\0428F012.D	04/28/2012 21:37	04/30/2012 17:09	04/30/2012 17:12
11	217035	\\cash1\acqudata\GC22\data\042812A.b\0428F013.D	04/28/2012 21:59	04/30/2012 17:09	04/30/2012 17:12
12	217037	\\cash1\acqudata\GC22\data\042812A.b\0428F014.D	04/28/2012 22:22	04/30/2012 17:09	04/30/2012 17:12
13	217039	\\cash1\acqudata\GC22\data\042812A.b\0428F015.D	04/28/2012 22:45	04/30/2012 17:09	04/30/2012 17:12
14	217041	\\cash1\acqudata\GC22\data\042812A.b\0428F016.D	04/28/2012 23:08	04/30/2012 17:09	04/30/2012 17:12
15	217043	\\cash1\acqudata\GC22\data\042812A.b\0428F017.D	04/28/2012 23:30	04/30/2012 17:09	04/30/2012 17:12
16	217045	\\cash1\acqudata\GC22\data\042812A.b\0428F018.D	04/28/2012 23:53	04/30/2012 17:09	04/30/2012 17:12
17	217047	\\cash1\acqudata\GC22\data\042812A.b\0428F019.D	04/29/2012 00:16	04/30/2012 17:09	04/30/2012 17:12
18	217049	\\cash1\acqudata\GC22\data\042812A.b\0428F020.D	04/29/2012 00:38	04/30/2012 17:09	04/30/2012 17:12
19	217051	\\cash1\acqudata\GC22\data\042812A.b\0428F027.D	04/29/2012 03:17	04/30/2012 17:10	04/30/2012 17:12
20	217053	\\cash1\acqudata\GC22\data\042812A.b\0428F028.D	04/29/2012 03:39	04/30/2012 17:10	04/30/2012 17:12
21	217055	\\cash1\acqudata\GC22\data\042812A.b\0428F029.D	04/29/2012 04:02	04/30/2012 17:10	04/30/2012 17:12
22	217057	\\cash1\acqudata\GC22\data\042812A.b\0428F030.D	04/29/2012 04:25	04/30/2012 17:10	04/30/2012 17:12
23	217059	\\cash1\acqudata\GC22\data\042812A.b\0428F031.D	04/29/2012 04:47	04/30/2012 17:10	04/30/2012 17:12
24	217061	\\cash1\acqudata\GC22\data\042812A.b\0428F032.D	04/29/2012 05:10	04/30/2012 17:10	04/30/2012 17:12
25	217081	\\cash1\acqudata\GC22\data\042812A.b\0428F044.D	04/29/2012 15:14	04/30/2012 17:10	04/30/2012 17:12
26	217083	\\cash1\acqudata\GC22\data\042812A.b\0428F045.D	04/29/2012 15:36	04/30/2012 17:10	04/30/2012 17:12
27	217085	\\cash1\acqudata\GC22\data\042812A.b\0428F046.D	04/29/2012 15:59	04/30/2012 17:10	04/30/2012 17:12
28	217087	\\cash1\acqudata\GC22\data\042812A.b\0428F047.D	04/29/2012 16:22	04/30/2012 17:10	04/30/2012 17:12
29	217089	\\cash1\acqudata\GC22\data\042812A.b\0428F048.D	04/29/2012 16:45	04/30/2012 17:10	04/30/2012 17:12
30	217091	\\cash1\acqudata\GC22\data\042812A.b\0428F049.D	04/29/2012 17:08	04/30/2012 17:10	04/30/2012 17:12

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Tetrachloro-m-xylene	1	1.6E+6	2	1.6E+6	3	1.5E+6	4	1.5E+6	5	1.5E+6	6	1.6E+6	1.5E+6	4.4
Decachlorobiphenyl	1	1.6E+6	2	1.6E+6	3	1.6E+6	4	1.6E+6	5	1.5E+6	6	1.6E+6	1.6E+6	2.0
Aroclor 1016 {1}	1	8.4E+4	2	8.3E+4	3	7.0E+4	4	6.8E+4	5	6.6E+4	6	6.5E+4	7.3E+4	12.0
Aroclor 1016 {2}	1	8.5E+4	2	8.3E+4	3	7.1E+4	4	7.4E+4	5	7.2E+4	6	7.9E+4	7.7E+4	8.0
Aroclor 1016 {3}	1	6.7E+4	2	6.3E+4	3	5.6E+4	4	5.6E+4	5	5.4E+4	6	5.6E+4	5.9E+4	8.8
Aroclor 1016 {4}	1	3.7E+4	2	3.5E+4	3	3.3E+4	4	3.4E+4	5	3.3E+4	6	3.4E+4	3.4E+4	4.3
Aroclor 1016 {5}	1	5.4E+4	2	5.2E+4	3	5.2E+4	4	5.1E+4	5	4.9E+4	6	4.9E+4	5.1E+4	3.8
Aroclor 1221 {1}							10	9.4E+3					9.4E+3	0.0
Aroclor 1221 {2}							10	1.4E+4					1.4E+4	0.0
Aroclor 1221 {3}							10	1.0E+4					1.0E+4	0.0
Aroclor 1221 {4}							10	3.6E+4					3.6E+4	0.0
Aroclor 1232 {1}	13	3.8E+4	14	3.9E+4	15	3.2E+4	16	3.0E+4	17	2.9E+4	18	2.8E+4	3.3E+4	14.8
Aroclor 1232 {2}	13	4.6E+4	14	4.4E+4	15	3.6E+4	16	3.3E+4	17	3.2E+4	18	3.0E+4	3.7E+4	17.9
Aroclor 1232 {3}	13	2.0E+4	14	1.8E+4	15	1.5E+4	16	1.4E+4	17	1.4E+4	18	1.3E+4	1.6E+4	17.8
Aroclor 1232 {4}	13	3.5E+4	14	3.3E+4	15	3.0E+4	16	2.6E+4	17	2.5E+4	18	2.7E+4	2.9E+4	13.7
Aroclor 1242 {1}	25	1.6E+4	26	1.5E+4	27	1.6E+4	28	2.3E+4	29	2.0E+4	30	1.7E+4	1.8E+4	17.7
Aroclor 1242 {2}	25	4.8E+4	26	5.0E+4	27	5.7E+4	28	7.9E+4	29	6.0E+4	30	5.3E+4	5.8E+4	19.1

Initial Calibration - Detailed Report

Calibration ID:	CAL11473	**Instrument ID:**	GC22.i
Method ID:	MJ702	**Column Name:**	DB-35MS
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Aroclor 1242 {3}	25	2.2E+4	26	2.3E+4	27	2.4E+4	28	3.5E+4	29	2.7E+4	30	2.5E+4	2.6E+4	17.4
Aroclor 1242 {4}	25	3.5E+4	26	3.5E+4	27	3.5E+4	28	4.8E+4	29	4.3E+4	30	4.0E+4	3.9E+4	13.6
Aroclor 1242 {5}	25	3.6E+4	26	3.7E+4	27	3.9E+4	28	5.3E+4	29	4.4E+4	30	4.2E+4	4.2E+4	15.1
Aroclor 1248 {1}	19	5.0E+4	20	4.5E+4	21	3.9E+4	22	3.6E+4	23	3.6E+4	24	3.6E+4	4.0E+4	14.9
Aroclor 1248 {2}	19	2.3E+4	20	2.3E+4	21	2.2E+4	22	2.1E+4	23	2.0E+4	24	2.0E+4	2.1E+4	8.0
Aroclor 1248 {3}	19	6.5E+4	20	5.7E+4	21	5.1E+4	22	4.9E+4	23	4.8E+4	24	5.0E+4	5.3E+4	12.2
Aroclor 1248 {4}	19	8.7E+4	20	8.5E+4	21	7.2E+4	22	6.9E+4	23	6.8E+4	24	7.0E+4	7.5E+4	11.3
Aroclor 1248 {5}	19	3.6E+4	20	3.3E+4	21	2.7E+4	22	2.5E+4	23	2.4E+4	24	2.4E+4	2.8E+4	17.3
Aroclor 1254 {1}	7	1.1E+5	8	1.0E+5	9	8.7E+4	10	8.7E+4	11	8.6E+4	12	9.0E+4	9.3E+4	9.8
Aroclor 1254 {2}	7	8.3E+4	8	7.4E+4	9	6.9E+4	10	6.9E+4	11	7.0E+4	12	7.3E+4	7.3E+4	7.3
Aroclor 1254 {3}	7	1.6E+5	8	1.6E+5	9	1.4E+5	10	1.4E+5	11	1.4E+5	12	1.5E+5	1.5E+5	7.2
Aroclor 1254 {4}	7	8.0E+4	8	7.8E+4	9	7.3E+4	10	7.1E+4	11	6.9E+4	12	7.1E+4	7.4E+4	5.8
Aroclor 1254 {5}	7	6.5E+4	8	6.1E+4	9	5.8E+4	10	5.4E+4	11	5.3E+4	12	5.4E+4	5.7E+4	8.3
Aroclor 1260 {1}	1	1.1E+5	2	1.1E+5	3	1.0E+5	4	1.0E+5	5	1.0E+5	6	1.1E+5	1.1E+5	4.8
Aroclor 1260 {2}	1	1.2E+5	2	1.2E+5	3	1.1E+5	4	1.1E+5	5	1.1E+5	6	1.2E+5	1.1E+5	3.7
Aroclor 1260 {3}	1	1.1E+5	2	1.1E+5	3	1.0E+5	4	1.0E+5	5	1.0E+5	6	1.1E+5	1.1E+5	4.3
Aroclor 1260 {4}	1	8.5E+4	2	7.9E+4	3	7.7E+4	4	7.7E+4	5	7.4E+4	6	7.8E+4	7.8E+4	4.6
Aroclor 1260 {5}	1	1.8E+5	2	1.8E+5	3	1.7E+5	4	1.7E+5	5	1.7E+5	6	1.9E+5	1.8E+5	3.6
Aroclor 1262 {1}	13	1.7E+5	14	1.6E+5	15	1.4E+5	16	1.3E+5	17	1.3E+5	18	1.4E+5	1.5E+5	11.2
Aroclor 1262 {2}	13	1.5E+5	14	1.4E+5	15	1.3E+5	16	1.2E+5	17	1.2E+5	18	1.2E+5	1.3E+5	9.2
Aroclor 1262 {3}	13	2.8E+5	14	2.6E+5	15	2.3E+5	16	2.2E+5	17	2.3E+5	18	2.4E+5	2.4E+5	8.8
Aroclor 1262 {4}	13	1.3E+5	14	1.2E+5	15	1.1E+5	16	1.0E+5	17	1.0E+5	18	1.0E+5	1.1E+5	9.8
Aroclor 1262 {5}	13	2.2E+5	14	2.0E+5	15	1.8E+5	16	1.7E+5	17	1.7E+5	18	1.8E+5	1.9E+5	9.9
Aroclor 1268 {1}	25	2.5E+5	26	2.7E+5	27	2.9E+5	28	3.4E+5	29	2.9E+5	30	2.7E+5	2.8E+5	11.2
Aroclor 1268 {2}	25	2.2E+5	26	2.4E+5	27	2.6E+5	28	3.0E+5	29	2.5E+5	30	2.4E+5	2.5E+5	10.7
Aroclor 1268 {3}	25	5.1E+4	26	5.3E+4	27	5.7E+4	28	7.1E+4	29	6.0E+4	30	5.8E+4	5.8E+4	12.5
Aroclor 1268 {4}	25	7.4E+4	26	7.9E+4	27	8.5E+4	28	1.0E+5	29	8.6E+4	30	8.4E+4	8.5E+4	10.9
Aroclor 1268 {5}	25	5.6E+5	26	6.1E+5	27	6.5E+5	28	7.0E+5	29	6.1E+5	30	6.2E+5	6.3E+5	7.6

Initial Calibration - Detailed Report

Calibration ID:	CAL11473	**Instrument ID:**	GC22.i
Method ID:	MJ702	**Column Name:**	DB-35MS

#	FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
1	217015	\\cash1\acqudata\GC22\data\042812A.b\0428F003.D	04/28/2012 18:11	04/30/2012 17:21	04/30/2012 17:22
2	217017	\\cash1\acqudata\GC22\data\042812A.b\0428F004.D	04/28/2012 18:34	04/30/2012 17:21	04/30/2012 17:22
3	217019	\\cash1\acqudata\GC22\data\042812A.b\0428F005.D	04/28/2012 18:57	04/30/2012 17:21	04/30/2012 17:22
4	217021	\\cash1\acqudata\GC22\data\042812A.b\0428F006.D	04/28/2012 19:19	04/30/2012 17:21	04/30/2012 17:22
5	217023	\\cash1\acqudata\GC22\data\042812A.b\0428F007.D	04/28/2012 19:42	04/30/2012 17:21	04/30/2012 17:22
6	217025	\\cash1\acqudata\GC22\data\042812A.b\0428F008.D	04/28/2012 20:05	04/30/2012 17:21	04/30/2012 17:22
7	217027	\\cash1\acqudata\GC22\data\042812A.b\0428F009.D	04/28/2012 20:28	04/30/2012 17:09	04/30/2012 17:12
8	217029	\\cash1\acqudata\GC22\data\042812A.b\0428F010.D	04/28/2012 20:51	04/30/2012 17:09	04/30/2012 17:12
9	217031	\\cash1\acqudata\GC22\data\042812A.b\0428F011.D	04/28/2012 21:14	04/30/2012 17:09	04/30/2012 17:12
10	217033	\\cash1\acqudata\GC22\data\042812A.b\0428F012.D	04/28/2012 21:37	04/30/2012 17:09	04/30/2012 17:12
11	217035	\\cash1\acqudata\GC22\data\042812A.b\0428F013.D	04/28/2012 21:59	04/30/2012 17:09	04/30/2012 17:12
12	217037	\\cash1\acqudata\GC22\data\042812A.b\0428F014.D	04/28/2012 22:22	04/30/2012 17:09	04/30/2012 17:12
13	217039	\\cash1\acqudata\GC22\data\042812A.b\0428F015.D	04/28/2012 22:45	04/30/2012 17:09	04/30/2012 17:12
14	217041	\\cash1\acqudata\GC22\data\042812A.b\0428F016.D	04/28/2012 23:08	04/30/2012 17:09	04/30/2012 17:12
15	217043	\\cash1\acqudata\GC22\data\042812A.b\0428F017.D	04/28/2012 23:30	04/30/2012 17:09	04/30/2012 17:12
16	217045	\\cash1\acqudata\GC22\data\042812A.b\0428F018.D	04/28/2012 23:53	04/30/2012 17:09	04/30/2012 17:12
17	217047	\\cash1\acqudata\GC22\data\042812A.b\0428F019.D	04/29/2012 00:16	04/30/2012 17:09	04/30/2012 17:12
18	217049	\\cash1\acqudata\GC22\data\042812A.b\0428F020.D	04/29/2012 00:38	04/30/2012 17:09	04/30/2012 17:12
19	217051	\\cash1\acqudata\GC22\data\042812A.b\0428F027.D	04/29/2012 03:17	04/30/2012 17:10	04/30/2012 17:12
20	217053	\\cash1\acqudata\GC22\data\042812A.b\0428F028.D	04/29/2012 03:39	04/30/2012 17:10	04/30/2012 17:12
21	217055	\\cash1\acqudata\GC22\data\042812A.b\0428F029.D	04/29/2012 04:02	04/30/2012 17:10	04/30/2012 17:12
22	217057	\\cash1\acqudata\GC22\data\042812A.b\0428F030.D	04/29/2012 04:25	04/30/2012 17:10	04/30/2012 17:12
23	217059	\\cash1\acqudata\GC22\data\042812A.b\0428F031.D	04/29/2012 04:47	04/30/2012 17:10	04/30/2012 17:12
24	217061	\\cash1\acqudata\GC22\data\042812A.b\0428F032.D	04/29/2012 05:10	04/30/2012 17:10	04/30/2012 17:12
25	217081	\\cash1\acqudata\GC22\data\042812A.b\0428F044.D	04/29/2012 15:14	04/30/2012 17:10	04/30/2012 17:12
26	217083	\\cash1\acqudata\GC22\data\042812A.b\0428F045.D	04/29/2012 15:36	04/30/2012 17:10	04/30/2012 17:12
27	217085	\\cash1\acqudata\GC22\data\042812A.b\0428F046.D	04/29/2012 15:59	04/30/2012 17:10	04/30/2012 17:12
28	217087	\\cash1\acqudata\GC22\data\042812A.b\0428F047.D	04/29/2012 16:22	04/30/2012 17:10	04/30/2012 17:12
29	217089	\\cash1\acqudata\GC22\data\042812A.b\0428F048.D	04/29/2012 16:45	04/30/2012 17:10	04/30/2012 17:12
30	217091	\\cash1\acqudata\GC22\data\042812A.b\0428F049.D	04/29/2012 17:08	04/30/2012 17:10	04/30/2012 17:12

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Tetrachloro-m-xylene	1	0.25	0.2639	5.6	2	0.5	0.5181	3.6	3	5	4.750	-5.0
	4	10	9.532	-4.7	5	20	19.78	-1.1	6	50	50.80	1.6
Decachlorobiphenyl	1	0.25	0.2506	0.2	2	0.5	0.5021	0.4	3	5	4.906	-1.9
	4	10	9.987	-0.1	5	20	19.57	-2.2	6	50	51.76	3.5
Aroclor 1016 {1}	1	2.5	2.899	15.9	2	5	5.716	14.3	3	50	48.26	-3.5
	4	100	93.30	-6.7	5	200	181.7	-9.1	6	500	445.3	-10.9
Aroclor 1016 {2}	1	2.5	2.757	10.3	2	5	5.397	7.9	3	50	45.73	-8.5
	4	100	95.32	-4.7	5	200	185.7	-7.2	6	500	510.8	2.2
Aroclor 1016 {3}	1	2.5	2.863	14.5	2	5	5.364	7.3	3	50	47.59	-4.8
	4	100	95.97	-4.0	5	200	184.8	-7.6	6	500	473.1	-5.4
Aroclor 1016 {4}	1	2.5	2.681	7.3	2	5	5.103	2.1	3	50	48.12	-3.8
	4	100	98.55	-1.4	5	200	191.0	-4.5	6	500	502.1	0.4
Aroclor 1016 {5}	1	2.5	2.651	6.1	2	5	5.080	1.6	3	50	50.40	0.8
	4	100	99.75	-0.2	5	200	192.2	-3.9	6	500	478.5	-4.3
Aroclor 1221 {1}												
	10	200	200.0	0.0								

Initial Calibration - Detailed Report

Calibration ID:	CAL11473	**Instrument ID:**	GC22.i
Method ID:	MJ702	**Column Name:**	DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Aroclor 1221 {2}												
	10	200	200.0	0.0								
Aroclor 1221 {3}												
	10	200	200.0	0.0								
Aroclor 1221 {4}												
	10	200	200.0	0.0								
Aroclor 1232 {1}	13	2.5	2.915	16.6	14	5	5.989	19.8	15	50	49.10	-1.8
	16	100	92.09	-7.9	17	200	174.0	-13.0	18	500	431.5	-13.7
Aroclor 1232 {2}	13	2.5	3.116	24.6	14	5	5.947	18.9	15	50	49.36	-1.3
	16	100	90.30	-9.7	17	200	171.9	-14.1	18	500	407.2	-18.6
Aroclor 1232 {3}	13	2.5	3.184	27.4	14	5	5.801	16.0	15	50	48.57	-2.9
	16	100	88.72	-11.3	17	200	176.9	-11.6	18	500	411.5	-17.7
Aroclor 1232 {4}	13	2.5	2.996	19.8	14	5	5.611	12.2	15	50	50.78	1.6
	16	100	88.68	-11.3	17	200	171.2	-14.4	18	500	460.7	-7.9
Aroclor 1242 {1}	25	100	87.34	-12.7	26	200	171.3	-14.4	27	500	438.6	-12.3
	28	2.5	3.265	**30.6**	29	5	5.514	10.3	30	50	49.22	-1.6
Aroclor 1242 {2}	25	100	83.31	-16.7	26	200	174.0	-13.0	27	500	493.8	-1.2
	28	2.5	3.401	**36.0**	29	5	5.172	3.4	30	50	45.74	-8.5
Aroclor 1242 {3}	25	100	86.07	-13.9	26	200	176.0	-12.0	27	500	469.4	-6.1
	28	2.5	3.335	**33.4**	29	5	5.126	2.5	30	50	48.07	-3.9
Aroclor 1242 {4}	25	100	88.59	-11.4	26	200	177.0	-11.5	27	500	451.4	-9.7
	28	2.5	3.046	21.9	29	5	5.453	9.1	30	50	50.88	1.8
Aroclor 1242 {5}	25	100	86.42	-13.6	26	200	177.0	-11.5	27	500	461.8	-7.6
	28	2.5	3.182	27.3	29	5	5.254	5.1	30	50	50.17	0.3
Aroclor 1248 {1}	19	2.5	3.118	24.7	20	5	5.592	11.8	21	50	47.74	-4.5
	22	100	89.83	-10.2	23	200	177.8	-11.1	24	500	446.2	-10.8
Aroclor 1248 {2}	19	2.5	2.733	9.3	20	5	5.477	9.5	21	50	50.42	0.8
	22	100	96.17	-3.8	23	200	184.2	-7.9	24	500	460.1	-8.0
Aroclor 1248 {3}	19	2.5	3.044	21.8	20	5	5.341	6.8	21	50	47.76	-4.5
	22	100	91.84	-8.2	23	200	180.9	-9.5	24	500	467.8	-6.4
Aroclor 1248 {4}	19	2.5	2.885	15.4	20	5	5.664	13.3	21	50	48.15	-3.7
	22	100	92.19	-7.8	23	200	180.2	-9.9	24	500	463.7	-7.3
Aroclor 1248 {5}	19	2.5	3.163	26.5	20	5	5.822	16.4	21	50	47.67	-4.7
	22	100	89.47	-10.5	23	200	172.8	-13.6	24	500	429.1	-14.2
Aroclor 1254 {1}	7	2.5	2.868	14.7	8	5	5.496	9.9	9	50	46.69	-6.6
	10	100	92.96	-7.0	11	200	185.2	-7.4	12	500	482.2	-3.6
Aroclor 1254 {2}	7	2.5	2.843	13.7	8	5	5.054	1.1	9	50	47.41	-5.2
	10	100	94.90	-5.1	11	200	190.3	-4.9	12	500	501.6	0.3
Aroclor 1254 {3}	7	2.5	2.775	11.0	8	5	5.302	6.0	9	50	46.63	-6.7
	10	100	94.21	-5.8	11	200	189.9	-5.0	12	500	502.6	0.5
Aroclor 1254 {4}	7	2.5	2.710	8.4	8	5	5.280	5.6	9	50	49.77	-0.5
	10	100	95.99	-4.0	11	200	187.9	-6.0	12	500	482.5	-3.5
Aroclor 1254 {5}	7	2.5	2.810	12.4	8	5	5.342	6.8	9	50	50.46	0.9
	10	100	94.11	-5.9	11	200	183.0	-8.5	12	500	471.0	-5.8
Aroclor 1260 {1}	1	2.5	2.696	7.8	2	5	5.158	3.2	3	50	48.22	-3.6
	4	100	97.46	-2.5	5	200	190.3	-4.8	6	500	499.8	0.0
Aroclor 1260 {2}	1	2.5	2.607	4.3	2	5	5.188	3.8	3	50	48.44	-3.1
	4	100	97.88	-2.1	5	200	191.0	-4.5	6	500	508.4	1.7

Initial Calibration - Detailed Report

Calibration ID: CAL11473
Method ID: MJ702
Instrument ID: GC22.i
Column Name: DB-35MS

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Aroclor 1260 {3}	1	2.5	2.641	5.6	2	5	5.210	4.2	3	50	47.96	-4.1
	4	100	97.37	-2.6	5	200	191.4	-4.3	6	500	505.8	1.2
Aroclor 1260 {4}	1	2.5	2.714	8.5	2	5	5.019	0.4	3	50	48.93	-2.1
	4	100	98.83	-1.2	5	200	189.4	-5.3	6	500	498.5	-0.3
Aroclor 1260 {5}	1	2.5	2.600	4.0	2	5	4.963	-0.7	3	50	48.07	-3.9
	4	100	98.39	-1.6	5	200	194.7	-2.6	6	500	524.1	4.8
Aroclor 1262 {1}	13	2.5	2.909	16.3	14	5	5.599	12.0	15	50	48.07	-3.9
	16	100	90.81	-9.2	17	200	181.8	-9.1	18	500	469.1	-6.2
Aroclor 1262 {2}	13	2.5	2.846	13.8	14	5	5.450	9.0	15	50	48.56	-2.9
	16	100	92.08	-7.9	17	200	184.5	-7.8	18	500	478.6	-4.3
Aroclor 1262 {3}	13	2.5	2.867	14.7	14	5	5.324	6.5	15	50	47.77	-4.5
	16	100	91.74	-8.3	17	200	187.1	-6.5	18	500	490.1	-2.0
Aroclor 1262 {4}	13	2.5	2.864	14.5	14	5	5.490	9.8	15	50	48.83	-2.3
	16	100	91.84	-8.2	17	200	183.0	-8.5	18	500	473.2	-5.4
Aroclor 1262 {5}	13	2.5	2.887	15.5	14	5	5.448	9.0	15	50	48.16	-3.7
	16	100	91.28	-8.7	17	200	184.0	-8.0	18	500	479.8	-4.0
Aroclor 1268 {1}	25	100	86.60	-13.4	26	200	187.9	-6.1	27	500	512.7	2.5
	28	2.5	2.995	19.8	29	5	5.028	0.6	30	50	48.29	-3.4
Aroclor 1268 {2}	25	100	86.46	-13.5	26	200	188.6	-5.7	27	500	517.0	3.4
	28	2.5	2.958	18.3	29	5	5.024	0.5	30	50	48.53	-2.9
Aroclor 1268 {3}	25	100	86.51	-13.5	26	200	182.3	-8.8	27	500	489.3	-2.1
	28	2.5	3.060	22.4	29	5	5.149	3.0	30	50	49.55	-0.9
Aroclor 1268 {4}	25	100	87.50	-12.5	26	200	185.5	-7.2	27	500	499.1	-0.2
	28	2.5	2.989	19.6	29	5	5.074	1.5	30	50	49.44	-1.1
Aroclor 1268 {5}	25	100	90.04	-10.0	26	200	195.3	-2.3	27	500	521.1	4.2
	28	2.5	2.809	12.4	29	5	4.849	-3.0	30	50	49.36	-1.3

CW 5/3/12

Initial Calibration - Detailed Report

Calibration ID:	CAL11473	**Instrument ID:**	GC22.i
Method ID:	MJ702	**Column Name:**	DB-XLB
		Calibration Fit:	AverageRF

#	FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
1	217016	\\cash1\acqudata\GC22\data\042812A_r.b\0428F003.D	04/28/2012 18:11	04/30/2012 17:21	04/30/2012 17:22
2	217018	\\cash1\acqudata\GC22\data\042812A_r.b\0428F004.D	04/28/2012 18:34	04/30/2012 17:21	04/30/2012 17:22
3	217020	\\cash1\acqudata\GC22\data\042812A_r.b\0428F005.D	04/28/2012 18:57	04/30/2012 17:21	04/30/2012 17:22
4	217022	\\cash1\acqudata\GC22\data\042812A_r.b\0428F006.D	04/28/2012 19:19	04/30/2012 17:21	04/30/2012 17:22
5	217024	\\cash1\acqudata\GC22\data\042812A_r.b\0428F007.D	04/28/2012 19:42	04/30/2012 17:21	04/30/2012 17:22
6	217026	\\cash1\acqudata\GC22\data\042812A_r.b\0428F008.D	04/28/2012 20:05	04/30/2012 17:22	04/30/2012 17:22
7	217028	\\cash1\acqudata\GC22\data\042812A_r.b\0428F009.D	04/28/2012 20:28	04/30/2012 17:10	04/30/2012 17:12
8	217030	\\cash1\acqudata\GC22\data\042812A_r.b\0428F010.D	04/28/2012 20:51	04/30/2012 17:10	04/30/2012 17:12
9	217032	\\cash1\acqudata\GC22\data\042812A_r.b\0428F011.D	04/28/2012 21:14	04/30/2012 17:10	04/30/2012 17:12
10	217034	\\cash1\acqudata\GC22\data\042812A_r.b\0428F012.D	04/28/2012 21:37	04/30/2012 17:10	04/30/2012 17:12
11	217036	\\cash1\acqudata\GC22\data\042812A_r.b\0428F013.D	04/28/2012 21:59	04/30/2012 17:10	04/30/2012 17:12
12	217038	\\cash1\acqudata\GC22\data\042812A_r.b\0428F014.D	04/28/2012 22:22	04/30/2012 17:10	04/30/2012 17:12
13	217040	\\cash1\acqudata\GC22\data\042812A_r.b\0428F015.D	04/28/2012 22:45	04/30/2012 17:10	04/30/2012 17:12
14	217042	\\cash1\acqudata\GC22\data\042812A_r.b\0428F016.D	04/28/2012 23:08	04/30/2012 17:10	04/30/2012 17:12
15	217044	\\cash1\acqudata\GC22\data\042812A_r.b\0428F017.D	04/28/2012 23:30	04/30/2012 17:10	04/30/2012 17:12
16	217046	\\cash1\acqudata\GC22\data\042812A_r.b\0428F018.D	04/28/2012 23:53	04/30/2012 17:10	04/30/2012 17:12
17	217048	\\cash1\acqudata\GC22\data\042812A_r.b\0428F019.D	04/29/2012 00:16	04/30/2012 17:10	04/30/2012 17:12
18	217050	\\cash1\acqudata\GC22\data\042812A_r.b\0428F020.D	04/29/2012 00:38	04/30/2012 17:10	04/30/2012 17:12
19	217052	\\cash1\acqudata\GC22\data\042812A_r.b\0428F027.D	04/29/2012 03:17	04/30/2012 17:10	04/30/2012 17:12
20	217054	\\cash1\acqudata\GC22\data\042812A_r.b\0428F028.D	04/29/2012 03:39	04/30/2012 17:10	04/30/2012 17:12
21	217056	\\cash1\acqudata\GC22\data\042812A_r.b\0428F029.D	04/29/2012 04:02	04/30/2012 17:10	04/30/2012 17:12
22	217058	\\cash1\acqudata\GC22\data\042812A_r.b\0428F030.D	04/29/2012 04:25	04/30/2012 17:10	04/30/2012 17:12
23	217060	\\cash1\acqudata\GC22\data\042812A_r.b\0428F031.D	04/29/2012 04:47	04/30/2012 17:10	04/30/2012 17:12
24	217062	\\cash1\acqudata\GC22\data\042812A_r.b\0428F032.D	04/29/2012 05:10	04/30/2012 17:10	04/30/2012 17:12
25	217082	\\cash1\acqudata\GC22\data\042812A_r.b\0428F044.D	04/29/2012 15:14	04/30/2012 17:10	04/30/2012 17:12
26	217084	\\cash1\acqudata\GC22\data\042812A_r.b\0428F045.D	04/29/2012 15:36	04/30/2012 17:10	04/30/2012 17:12
27	217086	\\cash1\acqudata\GC22\data\042812A_r.b\0428F046.D	04/29/2012 15:59	04/30/2012 17:10	04/30/2012 17:12
28	217088	\\cash1\acqudata\GC22\data\042812A_r.b\0428F047.D	04/29/2012 16:22	04/30/2012 17:10	04/30/2012 17:12
29	217090	\\cash1\acqudata\GC22\data\042812A_r.b\0428F048.D	04/29/2012 16:45	04/30/2012 17:10	04/30/2012 17:12
30	217092	\\cash1\acqudata\GC22\data\042812A_r.b\0428F049.D	04/29/2012 17:08	04/30/2012 17:10	04/30/2012 17:12

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Tetrachloro-m-xylene	1	9.5E+6	2	8.8E+6	3	7.6E+6	4	7.3E+6	5	7.4E+6	6	7.3E+6	8.0E+6	11.4
Decachlorobiphenyl	1	6.6E+6	2	6.6E+6	3	5.8E+6	4	5.5E+6	5	5.2E+6	6	5.2E+6	5.8E+6	11.4
Aroclor 1016 {1}	1	2.3E+5	2	2.3E+5	3	2.0E+5	4	1.9E+5	5	1.8E+5	6	1.6E+5	2.0E+5	15.0
Aroclor 1016 {2}	1	1.3E+5	2	1.3E+5	3	1.1E+5	4	1.0E+5	5	1.0E+5	6	9.3E+4	1.1E+5	12.5
Aroclor 1016 {3}	1	4.0E+5	2	3.8E+5	3	3.3E+5	4	3.2E+5	5	3.1E+5	6	3.0E+5	3.4E+5	12.0
Aroclor 1016 {4}	1	2.2E+5	2	2.1E+5	3	1.9E+5	4	1.9E+5	5	1.8E+5	6	1.7E+5	1.9E+5	9.7
Aroclor 1016 {5}	1	1.9E+5	2	1.8E+5	3	1.6E+5	4	1.5E+5	5	1.5E+5	6	1.4E+5	1.6E+5	11.9
Aroclor 1221 {1}							10	2.5E+4					2.5E+4	0.0
Aroclor 1221 {2}							10	4.9E+4					4.9E+4	0.0
Aroclor 1221 {3}							10	4.5E+4					4.5E+4	0.0
Aroclor 1221 {4}							10	1.6E+5					1.6E+5	0.0
Aroclor 1232 {1}			14	2.0E+5	15	1.6E+5	16	1.5E+5	17	1.4E+5	18	1.3E+5	1.5E+5	19.1
Aroclor 1232 {2}	13	7.0E+4	14	7.4E+4	15	5.7E+4	16	5.2E+4	17	4.9E+4	18	4.5E+4	5.8E+4	19.9
Aroclor 1232 {3}	13	5.6E+4	14	6.9E+4	15	7.1E+4	16	6.6E+4	17	6.4E+4	18	5.8E+4	6.4E+4	9.7
Aroclor 1232 {4}			14	1.7E+5	15	1.3E+5	16	1.2E+5	17	1.2E+5	18	1.1E+5	1.3E+5	17.0
Aroclor 1242 {1}	25	1.0E+5	26	9.4E+4			28	1.5E+5	29	1.2E+5	30	1.1E+5	1.2E+5	19.6
Aroclor 1242 {2}	25	8.6E+4	26	8.1E+4	27	7.8E+4	28	1.3E+5	29	1.1E+5	30	9.0E+4	9.5E+4	19.6

Initial Calibration - Detailed Report

Calibration ID:	CAL11473	**Instrument ID:**	GC22.i
Method ID:	MJ702	**Column Name:**	DB-XLB
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Aroclor 1242 {3}	25	7.0E+4	26	6.9E+4	27	6.2E+4	28	8.5E+4	29	7.3E+4	30	7.5E+4	7.2E+4	10.6
Aroclor 1242 {4}	25	1.5E+5	26	1.4E+5	27	1.4E+5	28	2.0E+5	29	1.7E+5	30	1.5E+5	1.6E+5	15.2
Aroclor 1242 {5}	25	1.4E+5	26	1.4E+5	27	1.4E+5	28	2.0E+5	29	1.7E+5	30	1.5E+5	1.6E+5	16.2
Aroclor 1248 {1}	19	3.3E+5	20	3.0E+5	21	2.5E+5	22	2.4E+5	23	2.3E+5	24	2.3E+5	2.6E+5	15.6
Aroclor 1248 {2}	19	2.2E+5	20	2.1E+5	21	1.8E+5	22	1.7E+5	23	1.7E+5	24	1.6E+5	1.8E+5	13.5
Aroclor 1248 {3}	19	2.8E+5	20	2.8E+5	21	2.3E+5	22	2.1E+5	23	2.1E+5	24	2.0E+5	2.3E+5	14.9
Aroclor 1248 {4}	19	3.4E+5	20	3.2E+5	21	2.7E+5	22	2.6E+5	23	2.5E+5	24	2.4E+5	2.8E+5	15.0
Aroclor 1248 {5}	19	3.3E+5	20	3.1E+5	21	2.5E+5	22	2.4E+5	23	2.3E+5	24	2.3E+5	2.7E+5	15.2
Aroclor 1254 {1}	7	5.9E+5	8	5.6E+5	9	4.8E+5	10	4.6E+5	11	4.5E+5	12	4.5E+5	5.0E+5	12.8
Aroclor 1254 {2}	7	5.6E+5	8	5.4E+5	9	4.6E+5	10	4.5E+5	11	4.5E+5	12	4.6E+5	4.9E+5	9.6
Aroclor 1254 {3}	7	4.6E+5	8	4.0E+5	9	3.3E+5	10	3.2E+5	11	3.1E+5	12	3.1E+5	3.6E+5	16.7
Aroclor 1254 {4}	7	2.9E+5	8	2.7E+5	9	2.5E+5	10	2.4E+5	11	2.4E+5	12	2.4E+5	2.6E+5	7.2
Aroclor 1254 {5}	7	5.1E+5	8	4.6E+5	9	3.9E+5	10	3.7E+5	11	3.6E+5	12	3.7E+5	4.1E+5	14.7
Aroclor 1260 {1}	1	4.9E+5	2	4.5E+5	3	4.0E+5	4	3.9E+5	5	3.7E+5	6	3.7E+5	4.1E+5	11.6
Aroclor 1260 {2}	1	4.8E+5	2	5.0E+5	3	4.5E+5	4	4.4E+5	5	4.2E+5	6	4.3E+5	4.5E+5	6.8
Aroclor 1260 {3}	1	6.6E+5	2	6.1E+5	3	5.5E+5	4	5.3E+5	5	5.1E+5	6	5.2E+5	5.6E+5	10.4
Aroclor 1260 {4}	1	3.6E+5	2	3.4E+5	3	3.2E+5	4	3.0E+5	5	2.9E+5	6	2.9E+5	3.2E+5	8.5
Aroclor 1260 {5}	1	8.2E+5	2	7.7E+5	3	7.0E+5	4	6.8E+5	5	6.6E+5	6	6.8E+5	7.2E+5	8.7
Aroclor 1262 {1}	13	4.2E+5	14	4.1E+5	15	3.7E+5	16	3.5E+5	17	3.3E+5	18	3.3E+5	3.7E+5	10.4
Aroclor 1262 {2}	13	7.2E+5	14	6.9E+5	15	5.7E+5	16	5.4E+5	17	5.1E+5	18	5.2E+5	5.9E+5	14.8
Aroclor 1262 {3}	13	1.1E+6	14	1.1E+6	15	9.1E+5	16	8.6E+5	17	8.6E+5	18	8.7E+5	9.5E+5	12.8
Aroclor 1262 {4}	13	8.1E+5	14	7.7E+5	15	6.4E+5	16	5.9E+5	17	5.8E+5	18	5.8E+5	6.6E+5	15.7
Aroclor 1262 {5}	13	5.6E+5	14	5.2E+5	15	4.3E+5	16	4.0E+5	17	3.9E+5	18	3.8E+5	4.5E+5	16.9
Aroclor 1268 {1}	25	9.9E+5	26	1.0E+6	27	1.0E+6	28	1.5E+6	29	1.2E+6	30	1.0E+6	1.1E+6	16.7
Aroclor 1268 {2}	25	8.3E+5	26	8.4E+5	27	8.7E+5	28	1.2E+6	29	1.0E+6	30	8.7E+5	9.4E+5	16.4
Aroclor 1268 {3}	25	2.2E+5	26	2.2E+5	27	2.1E+5	28	3.2E+5	29	2.7E+5	30	2.4E+5	2.5E+5	17.5
Aroclor 1268 {4}	25	3.1E+5	26	3.0E+5	27	3.0E+5	28	4.5E+5	29	3.8E+5	30	3.3E+5	3.5E+5	17.5
Aroclor 1268 {5}	25	2.0E+6	26	2.1E+6	27	2.2E+6	28	3.0E+6	29	2.4E+6	30	2.1E+6	2.3E+6	14.8

Initial Calibration - Detailed Report

Calibration ID:	CAL11473	**Instrument ID:**	GC22.i
Method ID:	MJ702	**Column Name:**	DB-XLB

#	FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
1	217016	\\cash1\acqudata\GC22\data\042812A_r.b\0428F003.D	04/28/2012 18:11	04/30/2012 17:21	04/30/2012 17:22
2	217018	\\cash1\acqudata\GC22\data\042812A_r.b\0428F004.D	04/28/2012 18:34	04/30/2012 17:21	04/30/2012 17:22
3	217020	\\cash1\acqudata\GC22\data\042812A_r.b\0428F005.D	04/28/2012 18:57	04/30/2012 17:21	04/30/2012 17:22
4	217022	\\cash1\acqudata\GC22\data\042812A_r.b\0428F006.D	04/28/2012 19:19	04/30/2012 17:21	04/30/2012 17:22
5	217024	\\cash1\acqudata\GC22\data\042812A_r.b\0428F007.D	04/28/2012 19:42	04/30/2012 17:21	04/30/2012 17:22
6	217026	\\cash1\acqudata\GC22\data\042812A_r.b\0428F008.D	04/28/2012 20:05	04/30/2012 17:22	04/30/2012 17:22
7	217028	\\cash1\acqudata\GC22\data\042812A_r.b\0428F009.D	04/28/2012 20:28	04/30/2012 17:10	04/30/2012 17:12
8	217030	\\cash1\acqudata\GC22\data\042812A_r.b\0428F010.D	04/28/2012 20:51	04/30/2012 17:10	04/30/2012 17:12
9	217032	\\cash1\acqudata\GC22\data\042812A_r.b\0428F011.D	04/28/2012 21:14	04/30/2012 17:10	04/30/2012 17:12
10	217034	\\cash1\acqudata\GC22\data\042812A_r.b\0428F012.D	04/28/2012 21:37	04/30/2012 17:10	04/30/2012 17:12
11	217036	\\cash1\acqudata\GC22\data\042812A_r.b\0428F013.D	04/28/2012 21:59	04/30/2012 17:10	04/30/2012 17:12
12	217038	\\cash1\acqudata\GC22\data\042812A_r.b\0428F014.D	04/28/2012 22:22	04/30/2012 17:10	04/30/2012 17:12
13	217040	\\cash1\acqudata\GC22\data\042812A_r.b\0428F015.D	04/28/2012 22:45	04/30/2012 17:10	04/30/2012 17:12
14	217042	\\cash1\acqudata\GC22\data\042812A_r.b\0428F016.D	04/28/2012 23:08	04/30/2012 17:10	04/30/2012 17:12
15	217044	\\cash1\acqudata\GC22\data\042812A_r.b\0428F017.D	04/28/2012 23:30	04/30/2012 17:10	04/30/2012 17:12
16	217046	\\cash1\acqudata\GC22\data\042812A_r.b\0428F018.D	04/28/2012 23:53	04/30/2012 17:10	04/30/2012 17:12
17	217048	\\cash1\acqudata\GC22\data\042812A_r.b\0428F019.D	04/29/2012 00:16	04/30/2012 17:10	04/30/2012 17:12
18	217050	\\cash1\acqudata\GC22\data\042812A_r.b\0428F020.D	04/29/2012 00:38	04/30/2012 17:10	04/30/2012 17:12
19	217052	\\cash1\acqudata\GC22\data\042812A_r.b\0428F027.D	04/29/2012 03:17	04/30/2012 17:10	04/30/2012 17:12
20	217054	\\cash1\acqudata\GC22\data\042812A_r.b\0428F028.D	04/29/2012 03:39	04/30/2012 17:10	04/30/2012 17:12
21	217056	\\cash1\acqudata\GC22\data\042812A_r.b\0428F029.D	04/29/2012 04:02	04/30/2012 17:10	04/30/2012 17:12
22	217058	\\cash1\acqudata\GC22\data\042812A_r.b\0428F030.D	04/29/2012 04:25	04/30/2012 17:10	04/30/2012 17:12
23	217060	\\cash1\acqudata\GC22\data\042812A_r.b\0428F031.D	04/29/2012 04:47	04/30/2012 17:10	04/30/2012 17:12
24	217062	\\cash1\acqudata\GC22\data\042812A_r.b\0428F032.D	04/29/2012 05:10	04/30/2012 17:10	04/30/2012 17:12
25	217082	\\cash1\acqudata\GC22\data\042812A_r.b\0428F044.D	04/29/2012 15:14	04/30/2012 17:10	04/30/2012 17:12
26	217084	\\cash1\acqudata\GC22\data\042812A_r.b\0428F045.D	04/29/2012 15:36	04/30/2012 17:10	04/30/2012 17:12
27	217086	\\cash1\acqudata\GC22\data\042812A_r.b\0428F046.D	04/29/2012 15:59	04/30/2012 17:10	04/30/2012 17:12
28	217088	\\cash1\acqudata\GC22\data\042812A_r.b\0428F047.D	04/29/2012 16:22	04/30/2012 17:10	04/30/2012 17:12
29	217090	\\cash1\acqudata\GC22\data\042812A_r.b\0428F048.D	04/29/2012 16:45	04/30/2012 17:10	04/30/2012 17:12
30	217092	\\cash1\acqudata\GC22\data\042812A_r.b\0428F049.D	04/29/2012 17:08	04/30/2012 17:10	04/30/2012 17:12

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Tetrachloro-m-xylene	1	0.25	0.2960	18.4	2	0.5	0.5508	10.2	3	5	4.766	-4.7
	4	10	9.165	-8.3	5	20	18.55	-7.3	6	50	45.86	-8.3
Decachlorobiphenyl	1	0.25	0.2835	13.4	2	0.5	0.5707	14.1	3	5	4.982	-0.4
	4	10	9.442	-5.6	5	20	17.86	-10.7	6	50	44.54	-10.9
Aroclor 1016 {1}	1	2.5	2.947	17.9	2	5	5.857	17.1	3	50	50.35	0.7
	4	100	93.53	-6.5	5	200	179.0	-10.5	6	500	406.3	-18.7
Aroclor 1016 {2}	1	2.5	2.896	15.8	2	5	5.663	13.3	3	50	50.49	1.0
	4	100	94.80	-5.2	5	200	181.8	-9.1	6	500	421.2	-15.8
Aroclor 1016 {3}	1	2.5	2.952	18.1	2	5	5.562	11.2	3	50	48.95	-2.1
	4	100	93.56	-6.4	5	200	180.8	-9.6	6	500	444.3	-11.1
Aroclor 1016 {4}	1	2.5	2.857	14.3	2	5	5.421	8.4	3	50	49.93	-0.1
	4	100	96.08	-3.9	5	200	184.3	-7.9	6	500	446.0	-10.8
Aroclor 1016 {5}	1	2.5	2.876	15.1	2	5	5.655	13.1	3	50	50.17	0.3
	4	100	94.95	-5.0	5	200	180.8	-9.6	6	500	430.6	-13.9
Aroclor 1221 {1}												
	10	200	200.0	0.0								

Initial Calibration - Detailed Report

Calibration ID: CAL11473 **Instrument ID:** GC22.i
Method ID: MJ702 **Column Name:** DB-XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Aroclor 1221 {2}												
	10	200	200.0	0.0								
Aroclor 1221 {3}												
	10	200	200.0	0.0								
Aroclor 1221 {4}												
	10	200	200.0	0.0								
Aroclor 1232 {1}					14	5	6.537	**30.7**	15	50	51.75	3.5
	16	100	95.88	-4.1	17	200	177.2	-11.4	18	500	406.3	-18.7
Aroclor 1232 {2}	13	2.5	3.016	20.6	14	5	6.379	27.6	15	50	49.30	-1.4
	16	100	90.10	-9.9	17	200	169.1	-15.5	18	500	392.8	-21.4
Aroclor 1232 {3}	13	2.5	2.183	-12.7	14	5	5.421	8.4	15	50	55.71	11.4
	16	100	102.4	2.4	17	200	201.0	0.5	18	500	449.5	-10.1
Aroclor 1232 {4}					14	5	6.429	28.6	15	50	50.47	0.9
	16	100	94.28	-5.7	17	200	182.7	-8.7	18	500	424.3	-15.1
Aroclor 1242 {1}	25	100	87.60	-12.4	26	200	163.8	-18.1				
	28	2.5	3.269	**30.8**	29	5	5.353	7.1	30	50	46.34	-7.3
Aroclor 1242 {2}	25	100	90.35	-9.6	26	200	170.7	-14.7	27	500	408.4	-18.3
	28	2.5	3.297	**31.9**	29	5	5.773	15.5	30	50	47.64	-4.7
Aroclor 1242 {3}	25	100	96.44	-3.6	26	200	190.0	-5.0	27	500	430.8	-13.8
	28	2.5	2.945	17.8	29	5	5.056	1.1	30	50	51.75	3.5
Aroclor 1242 {4}	25	100	91.94	-8.1	26	200	177.3	-11.3	27	500	437.6	-12.5
	28	2.5	3.177	27.1	29	5	5.391	7.8	30	50	48.48	-3.0
Aroclor 1242 {5}	25	100	90.97	-9.0	26	200	176.3	-11.8	27	500	433.1	-13.4
	28	2.5	3.214	28.6	29	5	5.467	9.3	30	50	48.18	-3.6
Aroclor 1248 {1}	19	2.5	3.105	24.2	20	5	5.718	14.4	21	50	48.17	-3.7
	22	100	90.46	-9.5	23	200	177.5	-11.3	24	500	429.7	-14.1
Aroclor 1248 {2}	19	2.5	3.017	20.7	20	5	5.625	12.5	21	50	48.71	-2.6
	22	100	91.46	-8.5	23	200	179.7	-10.2	24	500	440.5	-11.9
Aroclor 1248 {3}	19	2.5	2.993	19.7	20	5	5.865	17.3	21	50	48.76	-2.5
	22	100	91.21	-8.8	23	200	175.4	-12.3	24	500	432.6	-13.5
Aroclor 1248 {4}	19	2.5	3.067	22.7	20	5	5.736	14.7	21	50	47.77	-4.5
	22	100	91.19	-8.8	23	200	177.8	-11.1	24	500	434.8	-13.0
Aroclor 1248 {5}	19	2.5	3.071	22.8	20	5	5.760	15.2	21	50	47.90	-4.2
	22	100	90.82	-9.2	23	200	176.8	-11.6	24	500	434.8	-13.0
Aroclor 1254 {1}	7	2.5	2.981	19.3	8	5	5.654	13.1	9	50	47.81	-4.4
	10	100	91.77	-8.2	11	200	180.6	-9.7	12	500	449.8	-10.0
Aroclor 1254 {2}	7	2.5	2.857	14.3	8	5	5.513	10.3	9	50	47.40	-5.2
	10	100	93.24	-6.8	11	200	185.5	-7.3	12	500	473.5	-5.3
Aroclor 1254 {3}	7	2.5	3.223	28.9	8	5	5.595	11.9	9	50	45.90	-8.2
	10	100	90.39	-9.6	11	200	176.9	-11.6	12	500	442.8	-11.4
Aroclor 1254 {4}	7	2.5	2.803	12.1	8	5	5.284	5.7	9	50	48.54	-2.9
	10	100	95.34	-4.7	11	200	188.7	-5.7	12	500	477.1	-4.6
Aroclor 1254 {5}	7	2.5	3.086	23.4	8	5	5.648	13.0	9	50	47.89	-4.2
	10	100	90.31	-9.7	11	200	176.8	-11.6	12	500	445.7	-10.9
Aroclor 1260 {1}	1	2.5	2.967	18.7	2	5	5.472	9.4	3	50	48.80	-2.4
	4	100	94.03	-6.0	5	200	180.1	-9.9	6	500	450.8	-9.8
Aroclor 1260 {2}	1	2.5	2.653	6.1	2	5	5.498	10.0	3	50	50.03	0.1
	4	100	96.64	-3.4	5	200	186.0	-7.0	6	500	471.0	-5.8

Initial Calibration - Detailed Report

Calibration ID: CAL11473
Method ID: MJ702
Instrument ID: GC22.i
Column Name: DB-XLB

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Aroclor 1260 {3}	1	2.5	2.917	16.7	2	5	5.439	8.8	3	50	48.78	-2.4
	4	100	94.50	-5.5	5	200	181.2	-9.4	6	500	459.4	-8.1
Aroclor 1260 {4}	1	2.5	2.814	12.6	2	5	5.361	7.2	3	50	50.18	0.4
	4	100	96.56	-3.4	5	200	183.4	-8.3	6	500	458.0	-8.4
Aroclor 1260 {5}	1	2.5	2.854	14.2	2	5	5.352	7.0	3	50	48.88	-2.2
	4	100	94.69	-5.3	5	200	183.4	-8.3	6	500	473.2	-5.4
Aroclor 1262 {1}	13	2.5	2.855	14.2	14	5	5.530	10.6	15	50	50.33	0.7
	16	100	94.01	-6.0	17	200	181.0	-9.5	18	500	450.2	-10.0
Aroclor 1262 {2}	13	2.5	3.024	21.0	14	5	5.791	15.8	15	50	48.60	-2.8
	16	100	90.89	-9.1	17	200	172.9	-13.5	18	500	443.4	-11.3
Aroclor 1262 {3}	13	2.5	2.996	19.9	14	5	5.602	12.0	15	50	47.95	-4.1
	16	100	90.50	-9.5	17	200	179.8	-10.1	18	500	459.0	-8.2
Aroclor 1262 {4}	13	2.5	3.079	23.2	14	5	5.798	16.0	15	50	48.38	-3.2
	16	100	89.76	-10.2	17	200	174.4	-12.8	18	500	435.9	-12.8
Aroclor 1262 {5}	13	2.5	3.122	24.9	14	5	5.838	16.8	15	50	48.57	-2.9
	16	100	89.52	-10.5	17	200	172.6	-13.7	18	500	427.0	-14.6
Aroclor 1268 {1}	25	100	87.71	-12.3	26	200	177.5	-11.2	27	500	462.7	-7.5
	28	2.5	3.258	**30.3**	29	5	5.435	8.7	30	50	45.98	-8.0
Aroclor 1268 {2}	25	100	87.81	-12.2	26	200	177.4	-11.3	27	500	462.1	-7.6
	28	2.5	3.239	29.6	29	5	5.448	9.0	30	50	46.29	-7.4
Aroclor 1268 {3}	25	100	89.39	-10.6	26	200	174.0	-13.0	27	500	431.8	-13.6
	28	2.5	3.271	**30.8**	29	5	5.508	10.2	30	50	48.14	-3.7
Aroclor 1268 {4}	25	100	89.06	-10.9	26	200	175.4	-12.3	27	500	437.1	-12.6
	28	2.5	3.275	**31.0**	29	5	5.519	10.4	30	50	47.21	-5.6
Aroclor 1268 {5}	25	100	88.51	-11.5	26	200	182.3	-8.9	27	500	479.9	-4.0
	28	2.5	3.189	27.6	29	5	5.290	5.8	30	50	45.50	-9.0

Second Source Calibration Verification Summary

CalibrationID: CAL11473

Method ID: MJ702

DataFile Location: \\CASH1\ACQUDATA\GC22\DATA\042812A.B\0428F033.D

Units: ppb

Column: DB-35MS

Parameter Name	File ID	Curve Fit	Method Criteria	AveRF	SSV RF	% Diff	True Value	Sol'n Conc	% Drift
Aroclor 1016	217063	NA	20				100.00	90.4	-9.6
Aroclor 1016 {1}	217063	AverageRF	100	7.3E+4	6.7E+4	-7.5	100.00	92.5	
Aroclor 1016 {2}	217063	AverageRF	100	7.7E+4	6.6E+4	-15.0	100.00	85.0	
Aroclor 1016 {3}	217063	AverageRF	100	5.9E+4	5.3E+4	-10.6	100.00	89.4	
Aroclor 1016 {4}	217063	AverageRF	100	3.4E+4	3.1E+4	-9.7	100.00	90.3	
Aroclor 1016 {5}	217063	AverageRF	100	5.1E+4	4.9E+4	-5.2	100.00	94.8	
Aroclor 1221	217065	NA	20				100.00	101.9	1.9
Aroclor 1221 {1}	217065	AverageRF	100	9.4E+3	1.0E+4	10.0	100.00	110.0	
Aroclor 1221 {2}	217065	AverageRF	100	1.4E+4	1.3E+4	-3.9	100.00	96.1	
Aroclor 1221 {3}	217065	AverageRF	100	1.0E+4	1.1E+4	8.6	100.00	108.6	
Aroclor 1221 {4}	217065	AverageRF	100	3.6E+4	3.4E+4	-7.3	100.00	92.7	
Aroclor 1232	217067	NA	20				100.00	81.1	-18.9
Aroclor 1232 {1}	217067	AverageRF	100	3.3E+4	2.7E+4	-16.8	100.00	83.2	
Aroclor 1232 {2}	217067	AverageRF	100	3.7E+4	3.1E+4	-15.5	100.00	84.5	
Aroclor 1232 {3}	217067	AverageRF	100	1.6E+4	1.4E+4	-13.5	100.00	86.5	
Aroclor 1232 {4}	217067	AverageRF	100	2.9E+4	2.1E+4	-29.6	100.00	70.4	
Aroclor 1242	217069	NA	20				100.00	92.1	-7.9
Aroclor 1242 {1}	217069	AverageRF	100	1.8E+4	1.7E+4	-2.5	100.00	97.5	
Aroclor 1242 {2}	217069	AverageRF	100	5.8E+4	4.7E+4	-19.1	100.00	80.9	
Aroclor 1242 {3}	217069	AverageRF	100	2.6E+4	2.3E+4	-9.9	100.00	90.1	
Aroclor 1242 {4}	217069	AverageRF	100	3.9E+4	3.9E+4	-1.4	100.00	98.6	
Aroclor 1242 {5}	217069	AverageRF	100	4.2E+4	3.9E+4	-6.8	100.00	93.2	
Aroclor 1248	217071	NA	20				100.00	97.3	-2.7
Aroclor 1248 {1}	217071	AverageRF	100	4.0E+4	3.9E+4	-3.5	100.00	96.5	
Aroclor 1248 {2}	217071	AverageRF	100	2.1E+4	2.2E+4	0.7	100.00	100.7	
Aroclor 1248 {3}	217071	AverageRF	100	5.3E+4	5.2E+4	-2.9	100.00	97.1	
Aroclor 1248 {4}	217071	AverageRF	100	7.5E+4	7.2E+4	-3.7	100.00	96.3	
Aroclor 1248 {5}	217071	AverageRF	100	2.8E+4	2.7E+4	-4.2	100.00	95.8	
Aroclor 1254	217073	NA	20				100.00	87.2	-12.8
Aroclor 1254 {1}	217073	AverageRF	100	9.3E+4	8.0E+4	-14.4	100.00	85.6	
Aroclor 1254 {2}	217073	AverageRF	100	7.3E+4	6.4E+4	-12.2	100.00	87.8	
Aroclor 1254 {3}	217073	AverageRF	100	1.5E+5	1.2E+5	-15.0	100.00	85.0	
Aroclor 1254 {4}	217073	AverageRF	100	7.4E+4	6.6E+4	-10.6	100.00	89.4	
Aroclor 1254 {5}	217073	AverageRF	100	5.7E+4	5.1E+4	-12.0	100.00	88.0	
Aroclor 1260	217075	NA	20				100.00	97.8	-2.2
Aroclor 1260 {1}	217075	AverageRF	100	1.1E+5	9.9E+4	-7.2	100.00	92.8	
Aroclor 1260 {2}	217075	AverageRF	100	1.1E+5	1.1E+5	-7.7	100.00	92.3	
Aroclor 1260 {3}	217075	AverageRF	100	1.1E+5	8.7E+4	-18.5	100.00	81.5	
Aroclor 1260 {4}	217075	AverageRF	100	7.8E+4	8.8E+4	12.8	100.00	112.8	
Aroclor 1260 {5}	217075	AverageRF	100	1.8E+5	1.9E+5	9.5	100.00	109.5	
Aroclor 1262	217077	NA	20				100.00	81.8	-18.2
Aroclor 1262 {1}	217077	AverageRF	100	1.5E+5	1.2E+5	-18.0	100.00	82.0	
Aroclor 1262 {2}	217077	AverageRF	100	1.3E+5	1.1E+5	-19.2	100.00	80.8	
Aroclor 1262 {3}	217077	AverageRF	100	2.4E+5	2.0E+5	-16.0	100.00	84.0	
Aroclor 1262 {4}	217077	AverageRF	100	1.1E+5	8.8E+4	-19.6	100.00	80.4	
Aroclor 1262 {5}	217077	AverageRF	100	1.9E+5	1.5E+5	-18.1	100.00	81.9	
Aroclor 1268	217079	NA	20				100.00	95.3	-4.7

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Second Source Calibration Verification Summary

CalibrationID: CAL11473

Units: ppb

Method ID: MJ702

Column: DB-35MS

DataFile Location: \\CASH1\ACQUDATA\GC22\DATA\042812A.B\0428F041.D

Parameter Name	File ID	Curve Fit	Method Criteria	AveRF	SSV RF	% Diff	True Value	Sol'n Conc	% Drift
Aroclor 1268 {1}	217079	AverageRF	100	2.8E+5	2.4E+5	-14.7	100.00	85.3	
Aroclor 1268 {2}	217079	AverageRF	100	2.5E+5	2.4E+5	-5.7	100.00	94.3	
Aroclor 1268 {3}	217079	AverageRF	100	5.8E+4	5.7E+4	-2.9	100.00	97.1	
Aroclor 1268 {4}	217079	AverageRF	100	8.5E+4	8.1E+4	-5.2	100.00	94.8	
Aroclor 1268 {5}	217079	AverageRF	100	6.3E+5	6.6E+5	4.9	100.00	104.9	

Second Source Calibration Verification Summary

CalibrationID: CAL11473

Method ID: MJ702

DataFile Location: \\CASH1\ACQUDATA\GC22\DATA\042812A_R.B\0428F033.D

Units: ppb

Column: DB-XLB

Parameter Name	File ID	Curve Fit	Method Criteria	AveRF	SSV RF	% Diff	True Value	Sol'n Conc	% Drift
Aroclor 1016	217064	NA	20				100.00	96.1	-3.9
Aroclor 1016 {1}	217064	AverageRF	100	2.0E+5	2.0E+5	-0.4	100.00	99.6	
Aroclor 1016 {2}	217064	AverageRF	100	1.1E+5	1.1E+5	0.1	100.00	100.1	
Aroclor 1016 {3}	217064	AverageRF	100	3.4E+5	3.1E+5	-9.2	100.00	90.8	
Aroclor 1016 {4}	217064	AverageRF	100	1.9E+5	1.9E+5	-3.7	100.00	96.3	
Aroclor 1016 {5}	217064	AverageRF	100	1.6E+5	1.5E+5	-6.2	100.00	93.8	
Aroclor 1221	217066	NA	20				100.00	110.0	10.0
Aroclor 1221 {1}	217066	AverageRF	100	2.5E+4	2.9E+4	18.9	100.00	118.9	
Aroclor 1221 {2}	217066	AverageRF	100	4.9E+4	4.9E+4	-0.2	100.00	99.8	
Aroclor 1221 {3}	217066	AverageRF	100	4.5E+4	5.2E+4	15.8	100.00	115.8	
Aroclor 1221 {4}	217066	AverageRF	100	1.6E+5	1.7E+5	5.6	100.00	105.6	
Aroclor 1232	217068	NA	20				100.00	89.5	-10.5
Aroclor 1232 {1}	217068	AverageRF	100	1.5E+5	1.3E+5	-15.4	100.00	84.6	
Aroclor 1232 {2}	217068	AverageRF	100	5.8E+4	4.8E+4	-16.5	100.00	83.5	
Aroclor 1232 {3}	217068	AverageRF	100	6.4E+4	6.4E+4	0.2	100.00	100.2	
Aroclor 1232 {4}	217068	AverageRF	100	1.3E+5	1.2E+5	-10.4	100.00	89.6	
Aroclor 1242	217070	NA	20				100.00	88.1	-11.9
Aroclor 1242 {1}	217070	AverageRF	100	1.2E+5	9.5E+4	-17.1	100.00	82.9	
Aroclor 1242 {2}	217070	AverageRF	100	9.5E+4	8.4E+4	-11.2	100.00	88.8	
Aroclor 1242 {3}	217070	AverageRF	100	7.2E+4	6.6E+4	-8.8	100.00	91.2	
Aroclor 1242 {4}	217070	AverageRF	100	1.6E+5	1.4E+5	-12.1	100.00	87.9	
Aroclor 1242 {5}	217070	AverageRF	100	1.6E+5	1.4E+5	-10.2	100.00	89.8	
Aroclor 1248	217072	NA	20				100.00	96.1	-3.9
Aroclor 1248 {1}	217072	AverageRF	100	2.6E+5	2.6E+5	-1.8	100.00	98.2	
Aroclor 1248 {2}	217072	AverageRF	100	1.8E+5	1.8E+5	-2.4	100.00	97.6	
Aroclor 1248 {3}	217072	AverageRF	100	2.3E+5	2.3E+5	-2.4	100.00	97.6	
Aroclor 1248 {4}	217072	AverageRF	100	2.8E+5	2.6E+5	-5.9	100.00	94.1	
Aroclor 1248 {5}	217072	AverageRF	100	2.7E+5	2.5E+5	-6.8	100.00	93.2	
Aroclor 1254	217074	NA	20				100.00	89.4	-10.6
Aroclor 1254 {1}	217074	AverageRF	100	5.0E+5	4.5E+5	-10.7	100.00	89.3	
Aroclor 1254 {2}	217074	AverageRF	100	4.9E+5	4.3E+5	-11.4	100.00	88.6	
Aroclor 1254 {3}	217074	AverageRF	100	3.6E+5	3.1E+5	-12.7	100.00	87.3	
Aroclor 1254 {4}	217074	AverageRF	100	2.6E+5	2.4E+5	-8.0	100.00	92.0	
Aroclor 1254 {5}	217074	AverageRF	100	4.1E+5	3.7E+5	-10.1	100.00	89.9	
Aroclor 1260	217076	NA	20				100.00	98.9	-1.1
Aroclor 1260 {1}	217076	AverageRF	100	4.1E+5	3.8E+5	-6.8	100.00	93.2	
Aroclor 1260 {2}	217076	AverageRF	100	4.5E+5	4.3E+5	-5.7	100.00	94.3	
Aroclor 1260 {3}	217076	AverageRF	100	5.6E+5	4.8E+5	-13.7	100.00	86.3	
Aroclor 1260 {4}	217076	AverageRF	100	3.2E+5	3.6E+5	13.9	100.00	113.9	
Aroclor 1260 {5}	217076	AverageRF	100	7.2E+5	7.7E+5	6.9	100.00	106.9	
Aroclor 1262	217078	NA	20				100.00	83.4	-16.6
Aroclor 1262 {1}	217078	AverageRF	100	3.7E+5	3.2E+5	-13.3	100.00	86.7	
Aroclor 1262 {2}	217078	AverageRF	100	5.9E+5	5.0E+5	-16.0	100.00	84.0	
Aroclor 1262 {3}	217078	AverageRF	100	9.5E+5	8.0E+5	-15.6	100.00	84.4	
Aroclor 1262 {4}	217078	AverageRF	100	6.6E+5	5.4E+5	-19.0	100.00	81.0	
Aroclor 1262 {5}	217078	AverageRF	100	4.5E+5	3.6E+5	-19.0	100.00	81.0	
Aroclor 1268	217080	NA	20				100.00	88.1	-11.9

Second Source Calibration Verification Summary

CalibrationID: CAL11473

Units: ppb

Method ID: MJ702

Column: DB-XLB

DataFile Location: \\CASH1\ACQUDATA\GC22\DATA\042812A_R.B\0428F041.D

Parameter Name	File ID	Curve Fit	Method Criteria	AveRF	SSV RF	% Diff	True Value	Sol'n Conc	% Drift
Aroclor 1268 {1}	217080	AverageRF	100	1.1E+6	9.0E+5	-20.4	100.00	79.6	
Aroclor 1268 {2}	217080	AverageRF	100	9.4E+5	8.2E+5	-12.7	100.00	87.3	
Aroclor 1268 {3}	217080	AverageRF	100	2.5E+5	2.3E+5	-8.6	100.00	91.4	
Aroclor 1268 {4}	217080	AverageRF	100	3.5E+5	3.1E+5	-11.8	100.00	88.2	
Aroclor 1268 {5}	217080	AverageRF	100	2.3E+6	2.2E+6	-5.9	100.00	94.1	

Report Date : 30-Apr-2012 17:13

Laboratory Name

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAR-2012 17:47
End Cal Date : 29-APR-2012 17:08
Quant Method : ESTD
Origin : Disabled
Target Version : 4.04
Integrator : Falcon
Method file : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Cal Date : 30-Apr-2012 17:03 tuser
Curve Type : Average

Calibration File Names:
Level 1: \\cash1\acqudata\GC22\data\042812A.b\0428F027.D
Level 2: \\cash1\acqudata\GC22\data\042812A.b\0428F028.D
Level 3: \\cash1\acqudata\GC22\data\042812A.b\0428F029.D
Level 4: \\cash1\acqudata\GC22\data\042812A.b\0428F030.D
Level 5: \\cash1\acqudata\GC22\data\042812A.b\0428F031.D
Level 6: \\cash1\acqudata\GC22\data\042812A.b\0428F032.D

Compound	2.500 Level 1	5.000 Level 2	50.000 Level 3	100.000 Level 4	200.000 Level 5	500.000 Level 6	RRF	% RSD
2 Aroclor 1016(1)	84065	82878	69977	67644	65883	64565	72502	11.995
(2)	85324	83494	70752	73740	71815	79028	77359	7.997
(3)	67326	63067	55957	56418	54326	55629	58787	8.830
(4)	36730	34946	32954	33748	32700	34385	34244	4.328
(5)	54277	52000	51587	51053	49182	48976	51179	3.838
3 Aroclor 1221(1)	+++++	+++++	+++++	9358	+++++	+++++	9358	0.000
(2)	+++++	+++++	+++++	13704	+++++	+++++	13704	0.000
(3)	+++++	+++++	+++++	10263	+++++	+++++	10263	0.000
(4)	+++++	+++++	+++++	36181	+++++	+++++	36181	0.000
4 Aroclor 1232(1)	38363	39404	32306	30296	28625	28394	32898	14.758
(2)	45924	43821	36376	33269	31666	30008	36844	17.908
(3)	19887	18117	15169	13854	13810	12852	15615	17.817
(4)	35264	33026	29884	26096	25184	27114	29428	13.734
5 Aroclor 1242(1)	23194	19582	17480	15509	15206	15576	17758	17.680
(2)	78663	59822	52905	48181	50303	57112	57831	19.138
(3)	34568	26569	24912	22303	22805	24326	25914	17.391
(4)	47731	42717	39859	34701	34660	35361	39171	13.565
(5)	53238	43951	41963	36143	37021	38627	41824	15.136
6 Aroclor 1248(1)	50328	45132	38532	36252	35875	36011	40355	14.925
(2)	23385	23434	21573	20572	19700	19686	21392	7.993
(3)	65010	57026	50991	49030	48295	49951	53384	12.163
(4)	86536	84955	72216	69132	67558	69547	74990	11.307
(5)	35769	32919	26954	25295	24431	24261	28272	17.273
7 Aroclor 1254(1)	107005	102536	87098	86718	86368	89962	93281	9.756
(2)	83208	73961	69381	69433	69617	73407	73168	7.293
(3)	163121	155847	137077	138462	139569	147746	146970	7.235
(4)	79806	77734	73274	70660	69159	71043	73612	5.783
(5)	64546	61358	57958	54045	52557	54096	57427	8.266

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Report Date : 30-Apr-2012 17:13

Laboratory Name

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAR-2012 17:47
End Cal Date : 29-APR-2012 17:08
Quant Method : ESTD
Origin : Disabled
Target Version : 4.04
Integrator : Falcon
Method file : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Cal Date : 30-Apr-2012 17:03 tuser
Curve Type : Average

Compound	2.500 Level 1	5.000 Level 2	50.000 Level 3	100.000 Level 4	200.000 Level 5	500.000 Level 6	___ RRF	% RSD
8 Aroclor 1260(1)	114762	109793	102636	103723	101275	106398	106431	4.773
(2)	119516	118924	111046	112183	109474	116527	114612	3.729
(3)	112836	111311	102459	104008	102230	108063	106818	4.309
(4)	84915	78523	76550	77312	74070	77992	78227	4.637
(5)	184684	176259	170701	174696	172874	186133	177558	3.590
9 Aroclor 1262(1)	170296	163919	140735	132915	133030	137334	146372	11.238
(2)	148474	142167	126674	120103	120315	124858	130432	9.184
(3)	277211	257436	230986	221769	226124	236970	241749	8.844
(4)	125775	120567	107234	100844	100490	103910	109803	9.803
(5)	215639	203484	179873	170451	171759	179196	186734	9.902
10 Aroclor 1268(1)	339662	285176	273867	245584	266348	290771	283568	11.190
(2)	295278	250776	242212	215768	235277	258024	249556	10.697
(3)	71474	60136	57876	50518	53231	57149	58398	12.458
(4)	101614	86240	84035	74363	78825	84827	84984	10.909
(5)	702416	606130	617045	562819	610464	651490	625061	7.569
$ 1 Tetrachloro-m-xylene	1629284	1599128	1465958	1471021	1525870	1567892	1543192	4.359
$ 11 Decachlorobiphenyl	1585368	1588488	1552082	1579801	1547715	1637357	1581802	2.037

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Report Date : 30-Apr-2012 17:20

Laboratory Name

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAR-2012 17:47
End Cal Date : 29-APR-2012 17:08
Quant Method : ESTD
Origin : Disabled
Target Version : 4.04
Integrator : Falcon
Method file : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Cal Date : 30-Apr-2012 17:20 tuser
Curve Type : Average

Calibration File Names:
Level 1: \\cash1\acqudata\GC22\data\042812A_r.b\0428F027.D
Level 2: \\cash1\acqudata\GC22\data\042812A_r.b\0428F028.D
Level 3: \\cash1\acqudata\GC22\data\042812A_r.b\0428F029.D
Level 4: \\cash1\acqudata\GC22\data\042812A_r.b\0428F030.D
Level 5: \\cash1\acqudata\GC22\data\042812A_r.b\0428F031.D
Level 6: \\cash1\acqudata\GC22\data\042812A_r.b\0428F032.D

Compound	2.500 Level 1	5.000 Level 2	50.000 Level 3	100.000 Level 4	200.000 Level 5	500.000 Level 6	RRF	% RSD
2 Aroclor 1016(1)	233506	232052	199458	185273	177249	160970	198085	14.952
(2)	128098	125261	111678	104844	100522	93168	110595	12.534
(3)	398866	375770	330716	316052	305328	300215	337825	11.959
(4)	221154	209784	193238	185919	178306	172622	193504	9.680
(5)	186090	182943	162303	153575	146233	139308	161742	11.903
3 Aroclor 1221(1)	+++++	+++++	+++++	24667	+++++	+++++	24667	0.000
(2)	+++++	+++++	+++++	49280	+++++	+++++	49280	0.000
(3)	+++++	+++++	+++++	45097	+++++	+++++	45097	0.000
(4)	+++++	+++++	+++++	160499	+++++	+++++	160499	0.000
4 Aroclor 1232(1)	+++++	201170	159272	147536	136364	125052	153879	19.067
(2)	69845	73870	57086	52163	48940	45480	57897	19.932
(3)	55913	69422	71352	65598	64350	57573	64035	9.698
(4)	+++++	166277	130531	121915	118102	109721	129309	16.996
5 Aroclor 1242(1)	150604	123300	106721	100877	94297	+++++	115160	19.577
(2)	125198	109601	90439	85770	81017	77537	94927	19.604
(3)	85048	73004	74726	69626	68567	62196	72194	10.585
(4)	202319	171636	154353	146355	141127	139336	159188	15.190
(5)	204693	174064	153408	144821	140342	137888	159203	16.236
6 Aroclor 1248(1)	327518	301584	254056	238570	234010	226662	263733	15.620
(2)	221670	206644	178963	168013	165022	161847	183693	13.474
(3)	280776	275078	228697	213900	205693	202872	234503	14.866
(4)	344687	322323	268451	256219	249860	244335	280979	14.973
(5)	325918	305683	254191	240976	234553	230740	265343	15.225
7 Aroclor 1254(1)	594228	563484	476409	457277	449987	448259	498274	12.835
(2)	557200	537559	462209	454588	452093	461676	487554	9.624
(3)	458347	397914	326434	321424	314452	314919	355582	16.739
(4)	287374	270821	248766	244338	241779	244554	256272	7.248
(5)	507130	464085	393529	371043	363217	366222	410871	14.704

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Report Date : 30-Apr-2012 17:20

Laboratory Name

INITIAL CALIBRATION DATA

Start Cal Date : 19-MAR-2012 17:47
End Cal Date : 29-APR-2012 17:08
Quant Method : ESTD
Origin : Disabled
Target Version : 4.04
Integrator : Falcon
Method file : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Cal Date : 30-Apr-2012 17:20 tuser
Curve Type : Average

Compound	2.500 Level 1	5.000 Level 2	50.000 Level 3	100.000 Level 4	200.000 Level 5	500.000 Level 6	RRF	% RSD
8 Aroclor 1260(1)	489619	451439	402602	387887	371529	371939	412503	11.622
(2)	480407	497732	452980	437474	420990	426451	452672	6.789
(3)	655164	610791	547786	530618	508723	515864	561491	10.449
(4)	355198	338328	316663	304665	289289	289057	315533	8.506
(5)	819373	768179	701640	679538	657951	679206	717648	8.736
9 Aroclor 1262(1)	421894	408599	371879	347337	334364	332701	369462	10.384
(2)	715455	685024	574905	537590	511474	524578	591504	14.772
(3)	1141232	1066828	913183	861705	856001	874189	952190	12.770
(4)	813497	766041	639157	592900	575850	575887	660555	15.718
(5)	558360	521990	434276	400206	385760	381762	447059	16.853
10 Aroclor 1268(1)	1473562	1229105	1039769	991750	1003806	1046466	1130743	16.687
(2)	1220288	1026073	871885	826955	835157	870310	941778	16.396
(3)	324730	273416	238957	221883	215919	214355	248210	17.523
(4)	453854	382406	327112	308528	303750	302847	346416	17.495
(5)	2952349	2448325	2106222	2048483	2109041	2221361	2314297	14.840
$ 1 Tetrachloro-m-xylene	9474988	8815522	7628427	7334290	7420805	7338789	8002137	11.446
$ 11 Decachlorobiphenyl	6558120	6600108	5761989	5459698	5162624	5151012	5782258	11.361

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Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F003.D
Report Date: 30-Apr-2012 17:21

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F003.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F003.D
Inj Date : 28-APR-2012 18:11
Sample Info: 1660 @ 0.25-2.5ppb | PCB5-91M @20X
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.758	5.478	407321	2368747	0.264	0.296		100.00(M)
Aroclor 1016	5.562	6.248	210162	583766	2.90	2.95	80.00- 120.00	100.00(M)
	6.052	6.291	213310	320244	2.76	2.90	80.59- 120.89	101.50(M)
	6.158	6.958	168316	997166	2.86	2.95	60.88- 91.31	80.09(M)
	6.315	7.158	91824	552885	2.68	2.86	33.73- 50.60	43.69(M)
	6.382	7.311	135692	465224	2.65	2.56	50.19- 75.29	64.57(M)
		Average of Peak Amounts =			2.77	2.84		
Aroclor 1260	8.385	9.551	286904	1224047	2.70	2.97	80.00- 120.00	100.00(M)
	8.675	10.035	298791	1201017	2.61	2.65	86.65- 129.98	104.14(M)
	9.292	10.545	282091	1637910	2.64	2.92	81.11- 121.66	98.32(M)
	9.372	10.725	212287	887994	2.71	2.81	57.22- 85.82	73.99(M)
	10.298	11.718	461711	2048433	2.60	2.85	128.43- 192.64	160.93(M)
		Average of Peak Amounts =			2.65	2.84		
Decachlorobiphenyl	12.988	14.448	396342	1639530	0.250	0.284		100.00(M)

QC Flag Legend

M - Compound response manually integrated.

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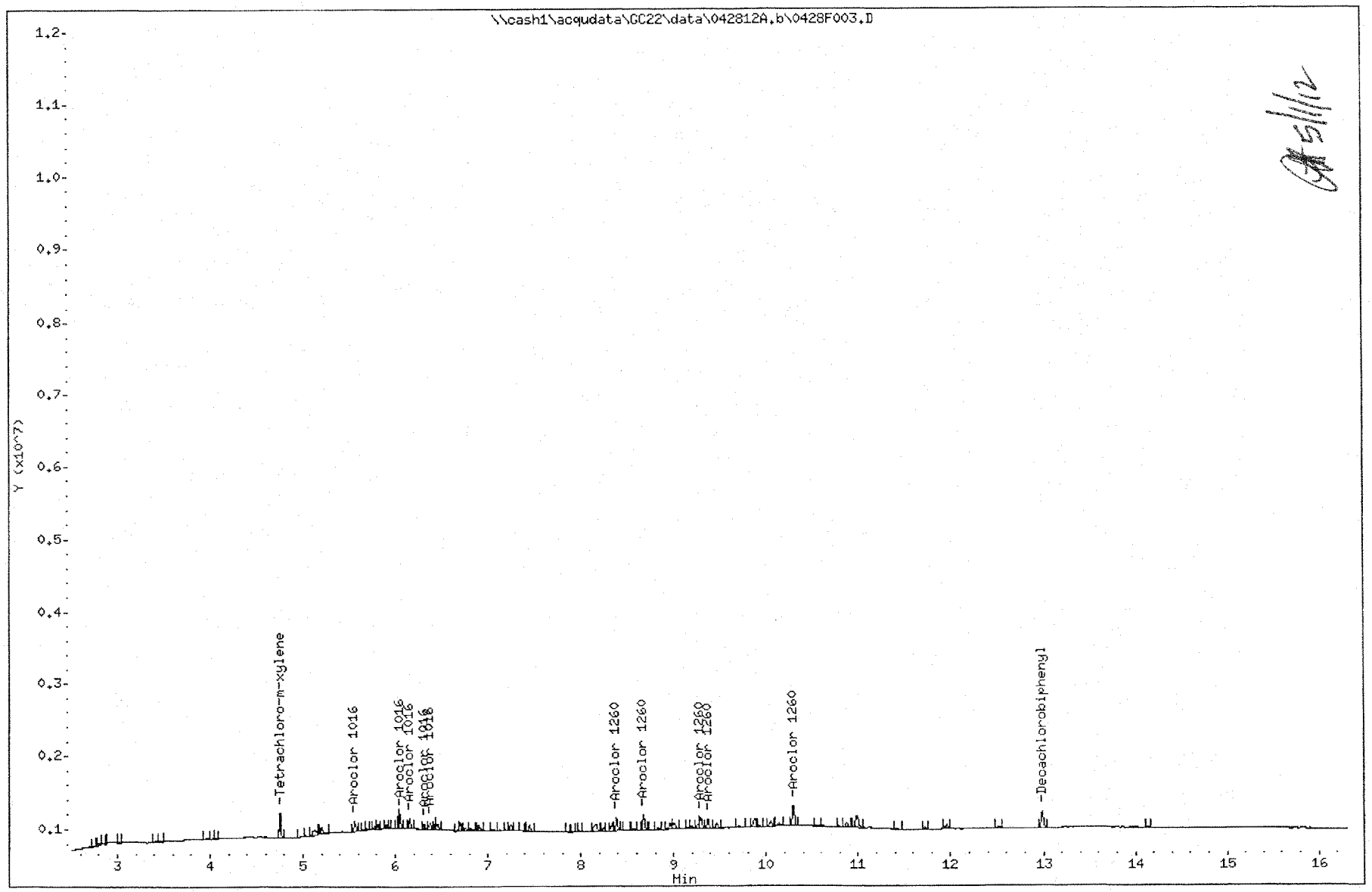
4/30/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F003.D
Date : 28-APR-2012 18:11
Client ID:
Sample Info: 1660 @ 0.25-2.5ppb | PCB5-91M @20X

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



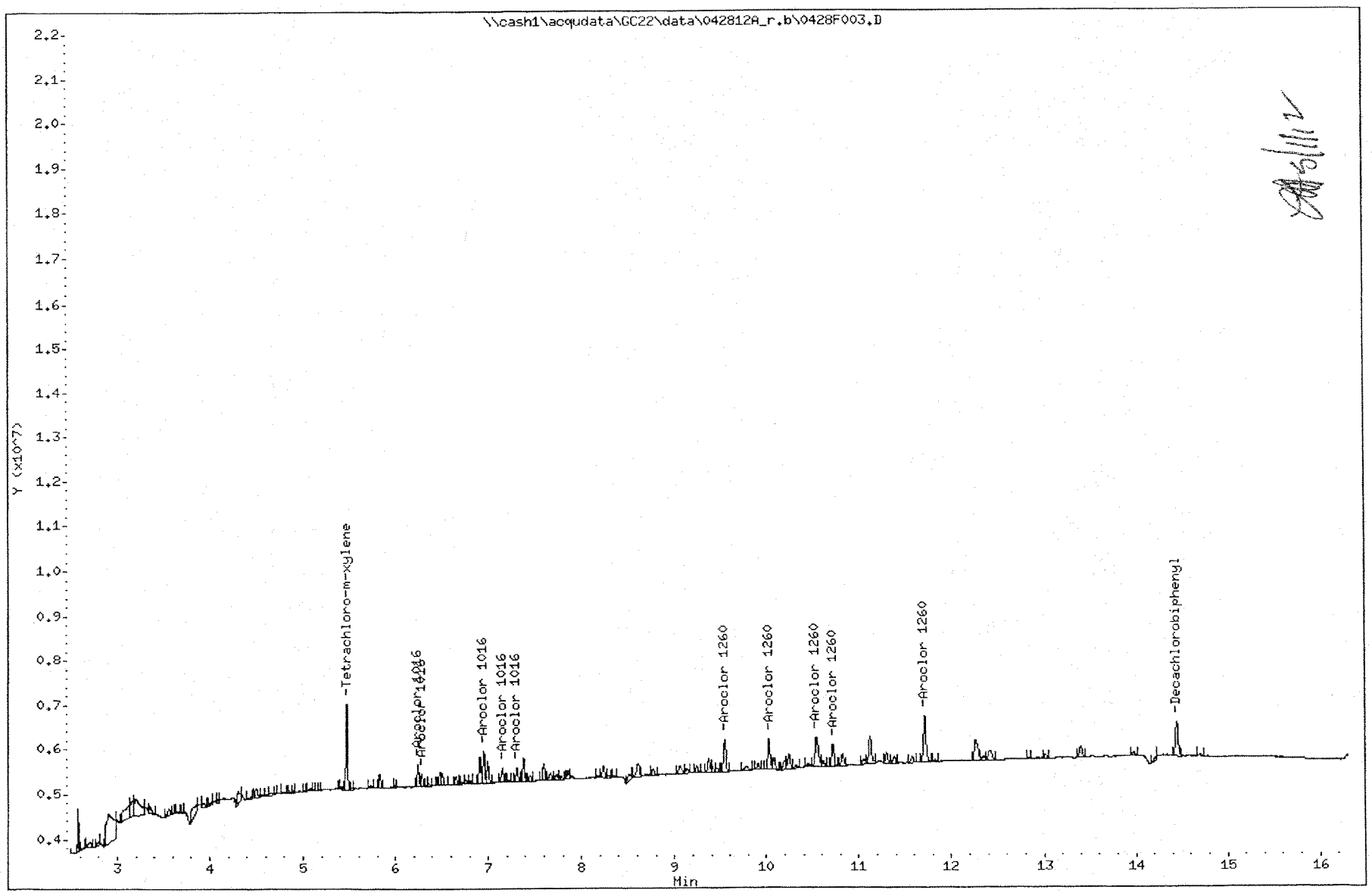
536

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F003.D
Date : 28-APR-2012 18:11
Client ID:
Sample Info: 1660 @ 0.25-2.5ppb | PCB5-91M @20X

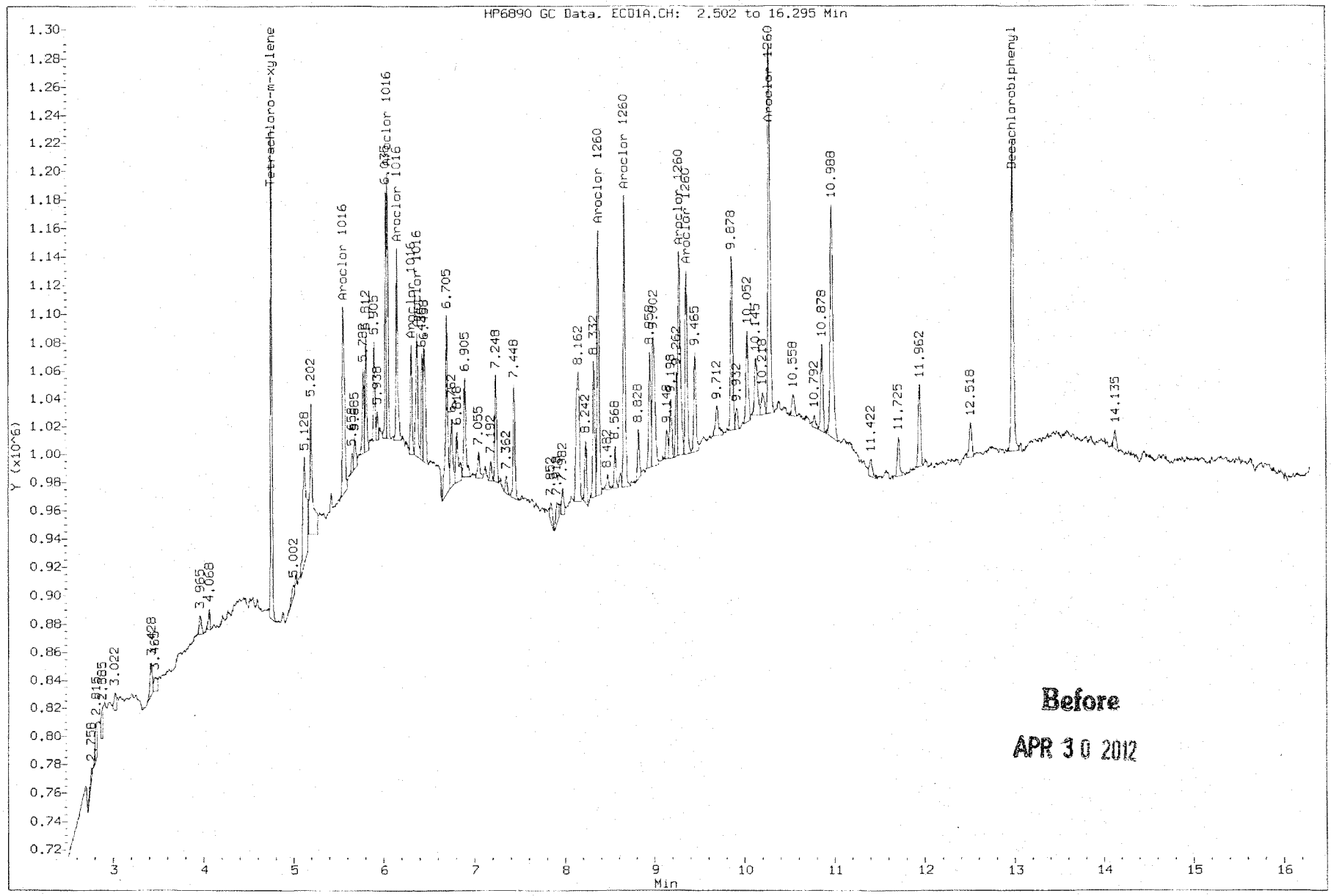
Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

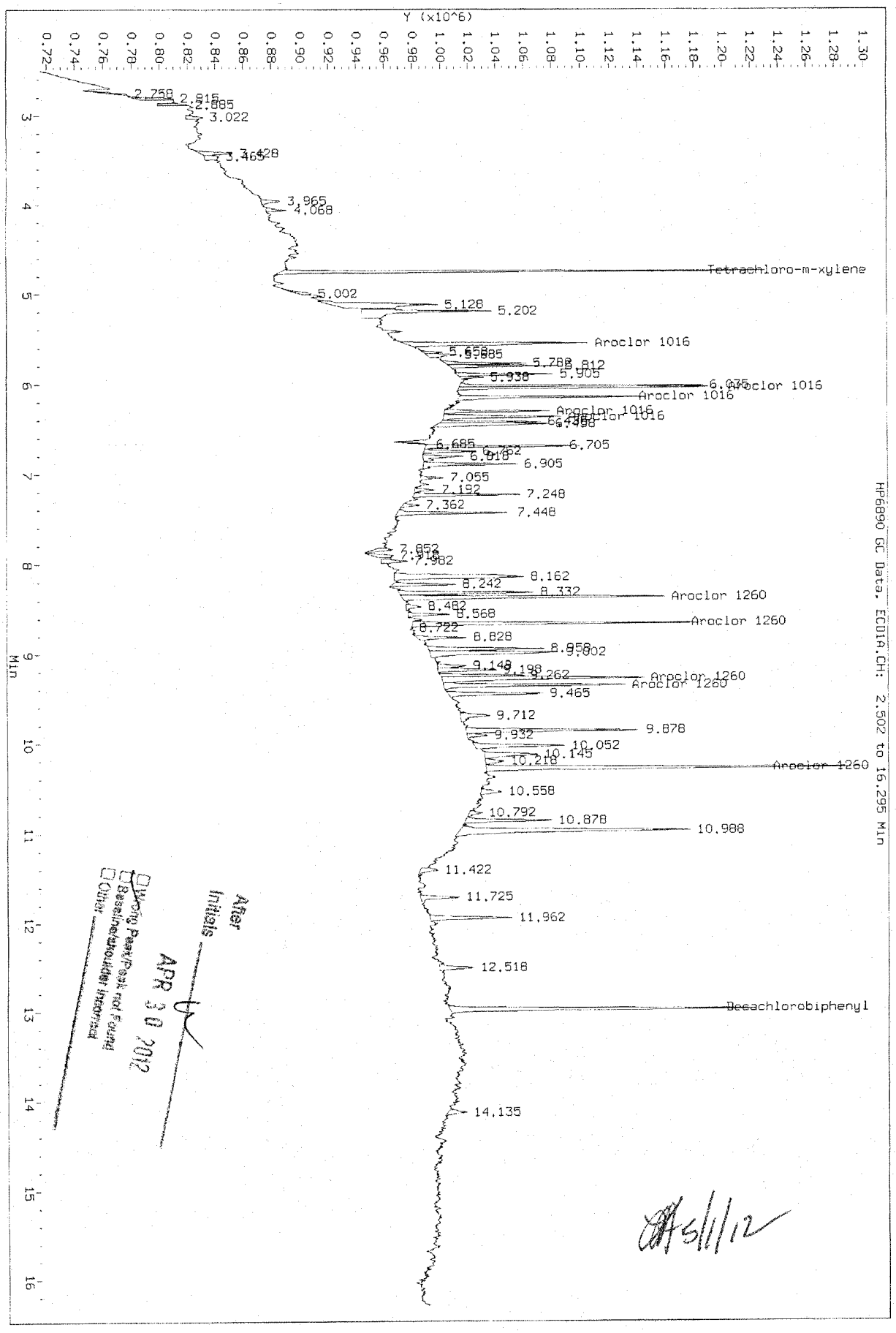


Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F003.D
Injection Date: 28-APR-2012 18:11
Instrument: GC22.i
Client Sample ID:



538

Data File: \\cash1\acqudata\GC22\data\0428124.b\0428F003.D
Injection Date: 28-APR-2012 18:11
Instrument: GC22.i
Client Sample ID:



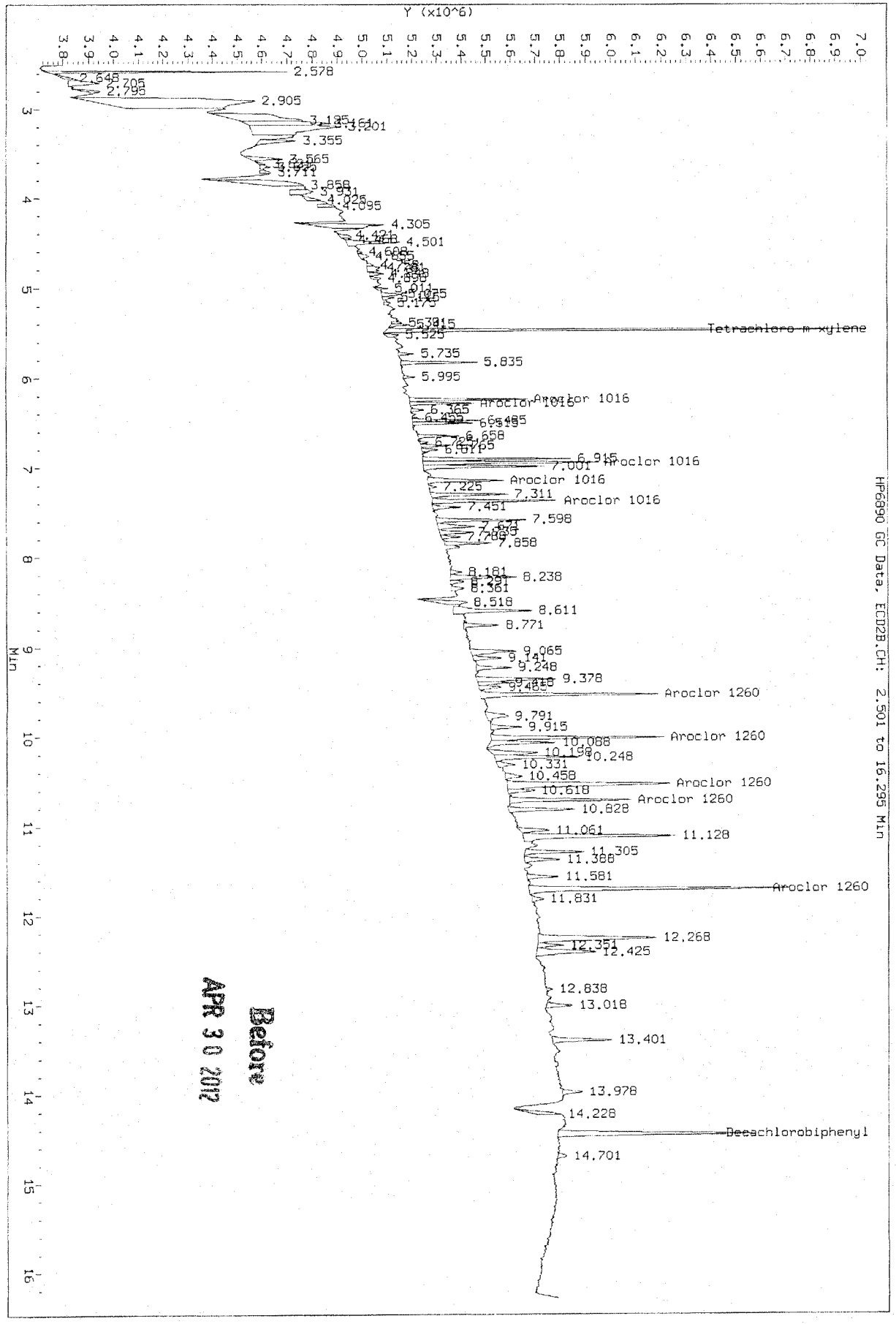
After Initials

APR 30 2012

☐ Wrong Peak/Peak not found
☐ Baseline/shoulder incorrect
☐ Other

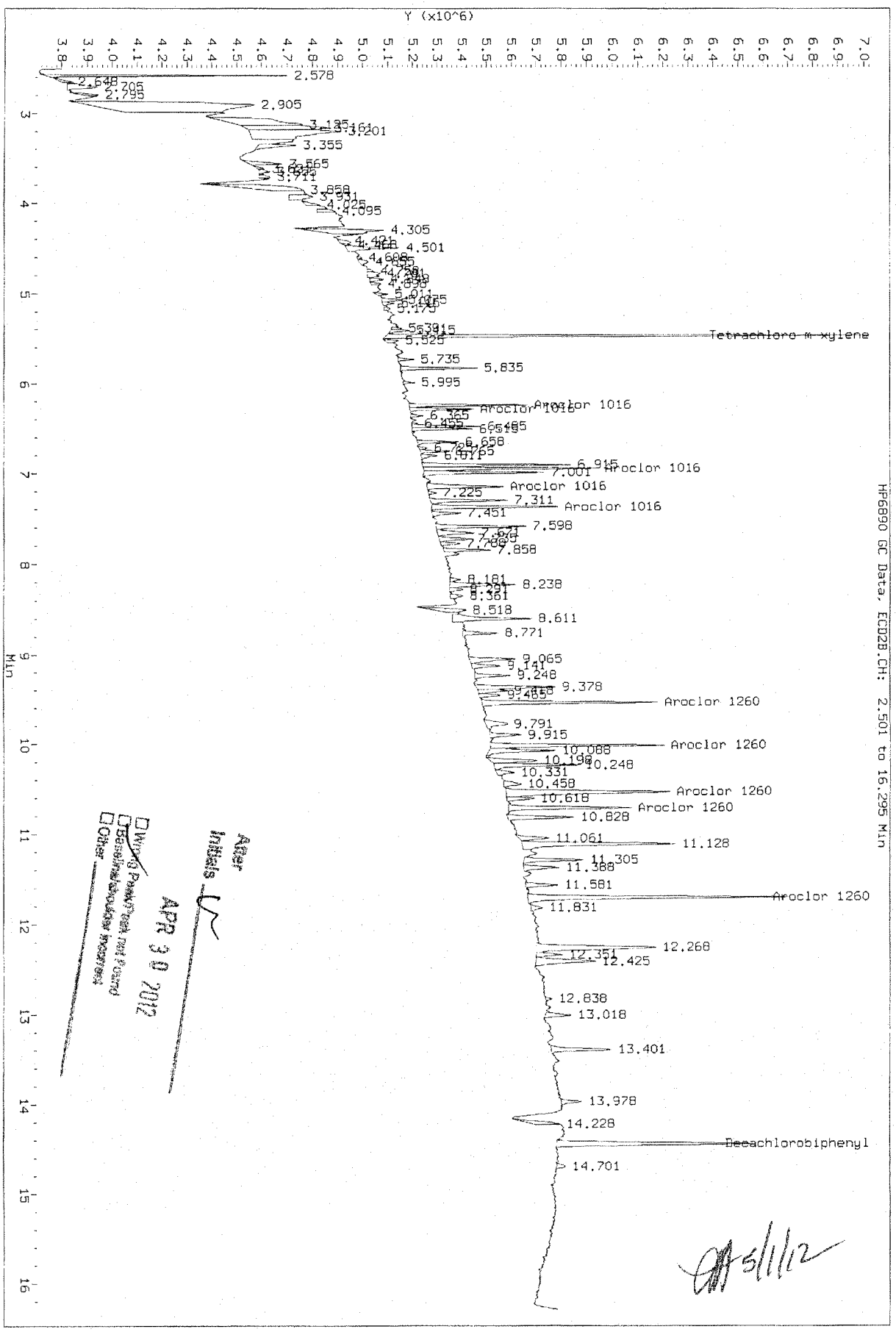
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\042BF003.D
Injection Date: 28-APR-2012 18:11
Instrument: GC22.1
Client Sample ID:



Before
APR 30 2012

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F003.D
Injection Date: 28-APR-2012 18:11
Instrument: GC22.1
Client Sample ID:



Acer
Initials
APR 30 2012
Wrong Peak Took not Found
Baseline Shoulder Incorrect
Other

5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F004.D
Report Date: 30-Apr-2012 17:21

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F004.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F004.D
Inj Date : 28-APR-2012 18:34
Sample Info: 1660 @ 0.5-5ppb | PCB5-91M @10X
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.761	5.480	799564	4407761	0.518	0.551		100.00(M)
Aroclor 1016	5.564	6.254	414392	1160261	5.72	5.86	80.00- 120.00	100.00(M)
	6.058	6.297	417470	626304	5.40	5.66	80.59- 120.89	100.74(M)
	6.161	6.960	315334	1878849	5.36	5.56	60.88- 91.31	76.10(M)
	6.321	7.160	174730	1048920	5.10	5.42	33.73- 50.60	42.17(M)
	6.384	7.317	260000	914716	5.08	5.29	50.19- 75.29	62.74(M)
		Average of Peak Amounts =			5.33	5.56		
Aroclor 1260	8.388	9.557	548966	2257197	5.16	5.47	80.00- 120.00	100.00(M)
	8.681	10.037	594618	2488658	5.19	5.50	86.65- 129.98	108.32(M)
	9.298	10.550	556557	3053953	5.21	5.44	81.11- 121.66	101.38(M)
	9.374	10.727	392617	1691641	5.02	5.36	57.22- 85.82	71.52(M)
	10.301	11.724	881296	3840893	4.96	5.35	128.43- 192.64	160.54(M)
		Average of Peak Amounts =			5.11	5.42		
Decachlorobiphenyl	12.994	14.450	794244	3300054	0.502	0.571		100.00

QC Flag Legend

M - Compound response manually integrated.

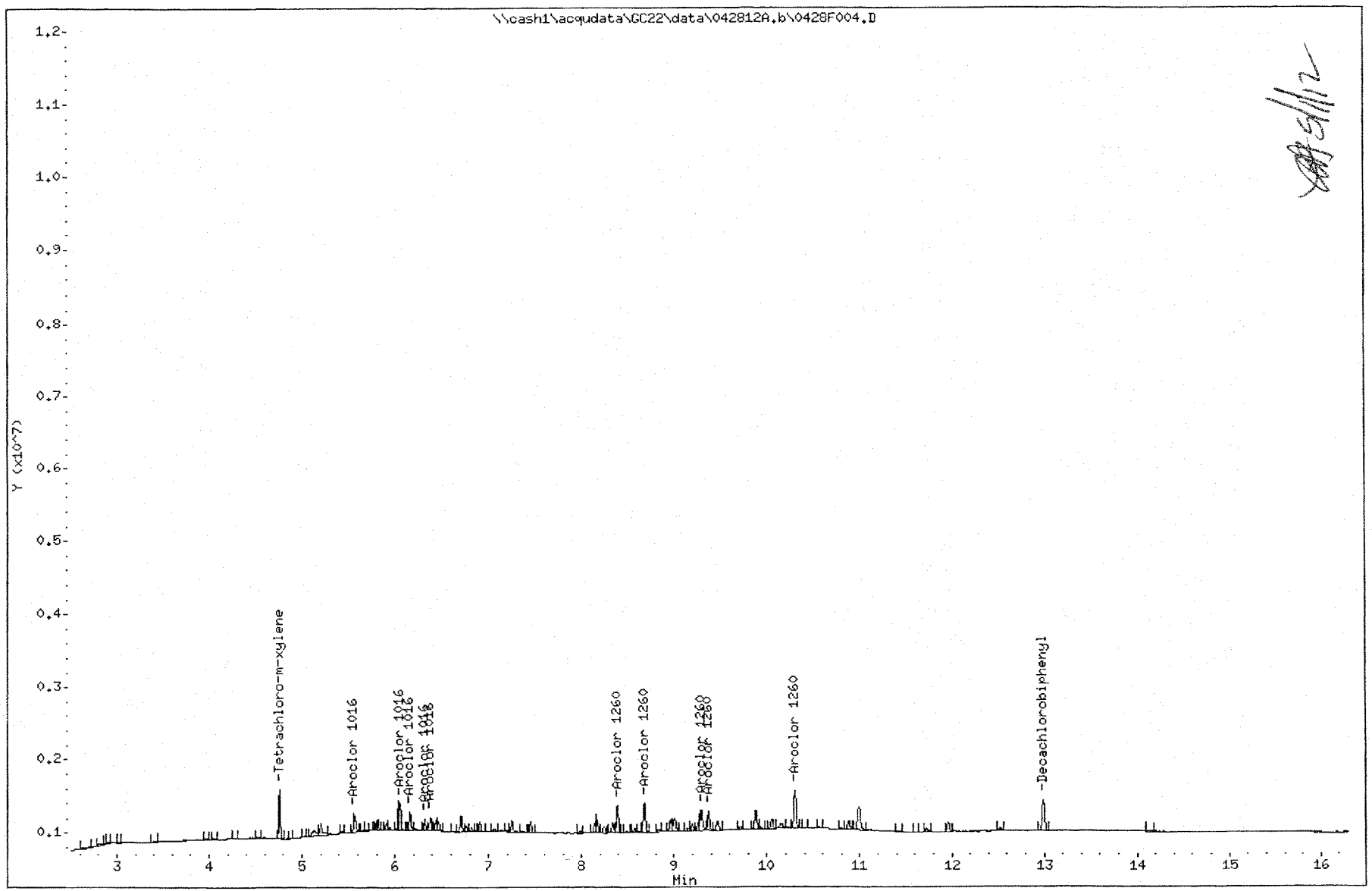
5/1/12 04/30/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F004.D
Date : 28-APR-2012 18:34
Client ID:
Sample Info: 1660 @ 0.5-5ppb | PCB5-91M @10X

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

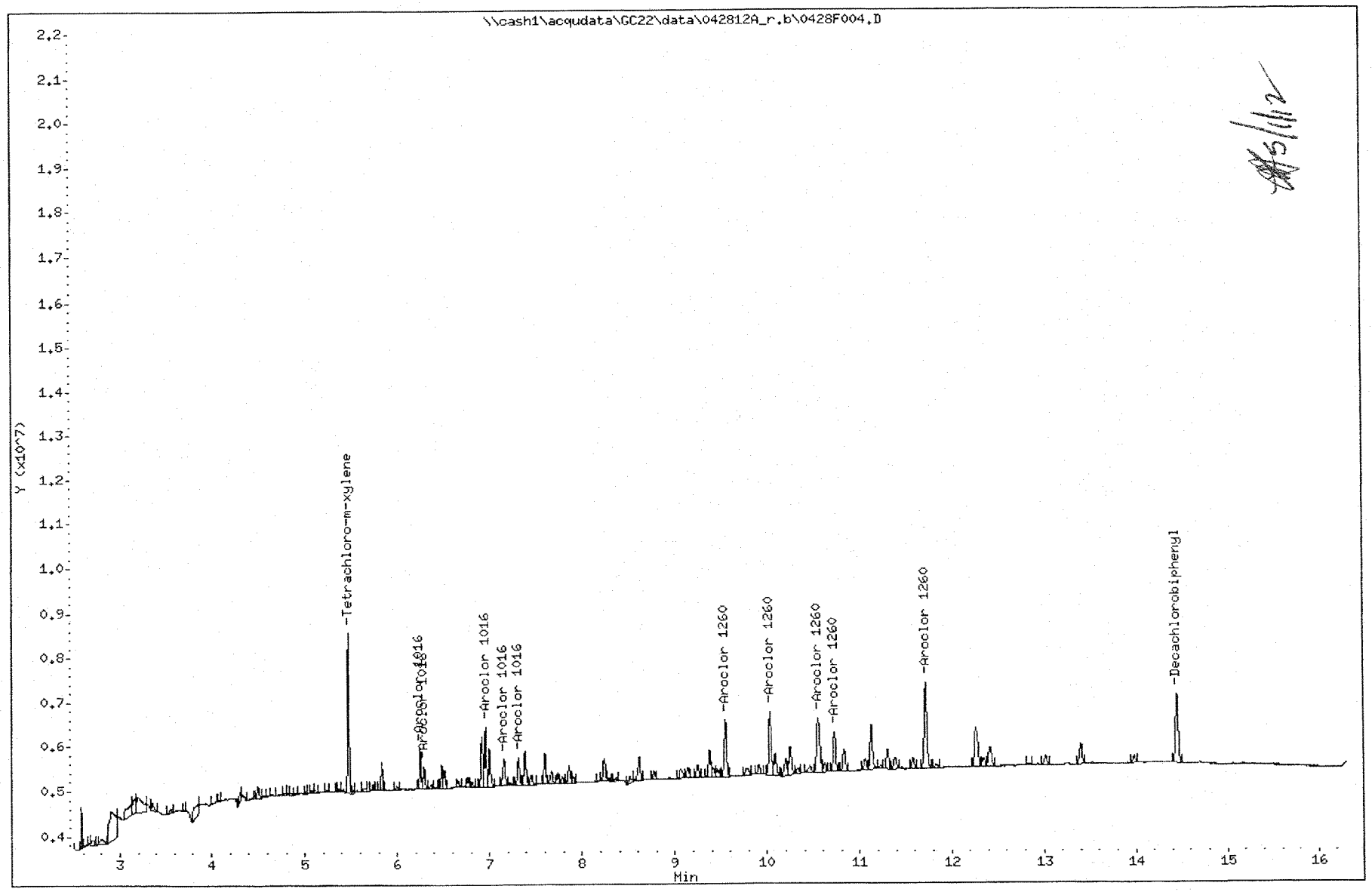


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F004.D
Date : 28-APR-2012 18:34
Client ID:
Sample Info: 1660 @ 0.5-5ppb | PCB5-91M @10X

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



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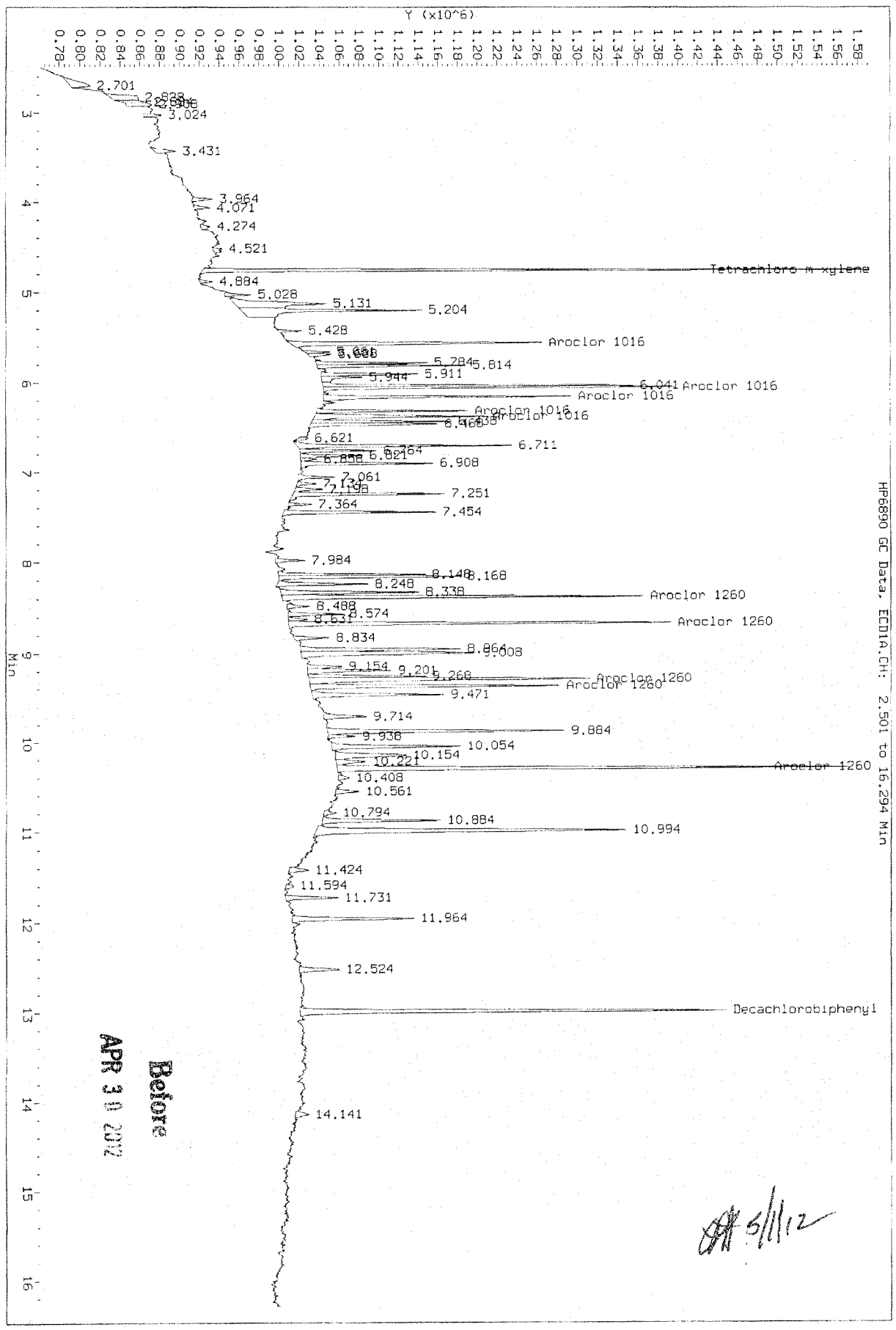
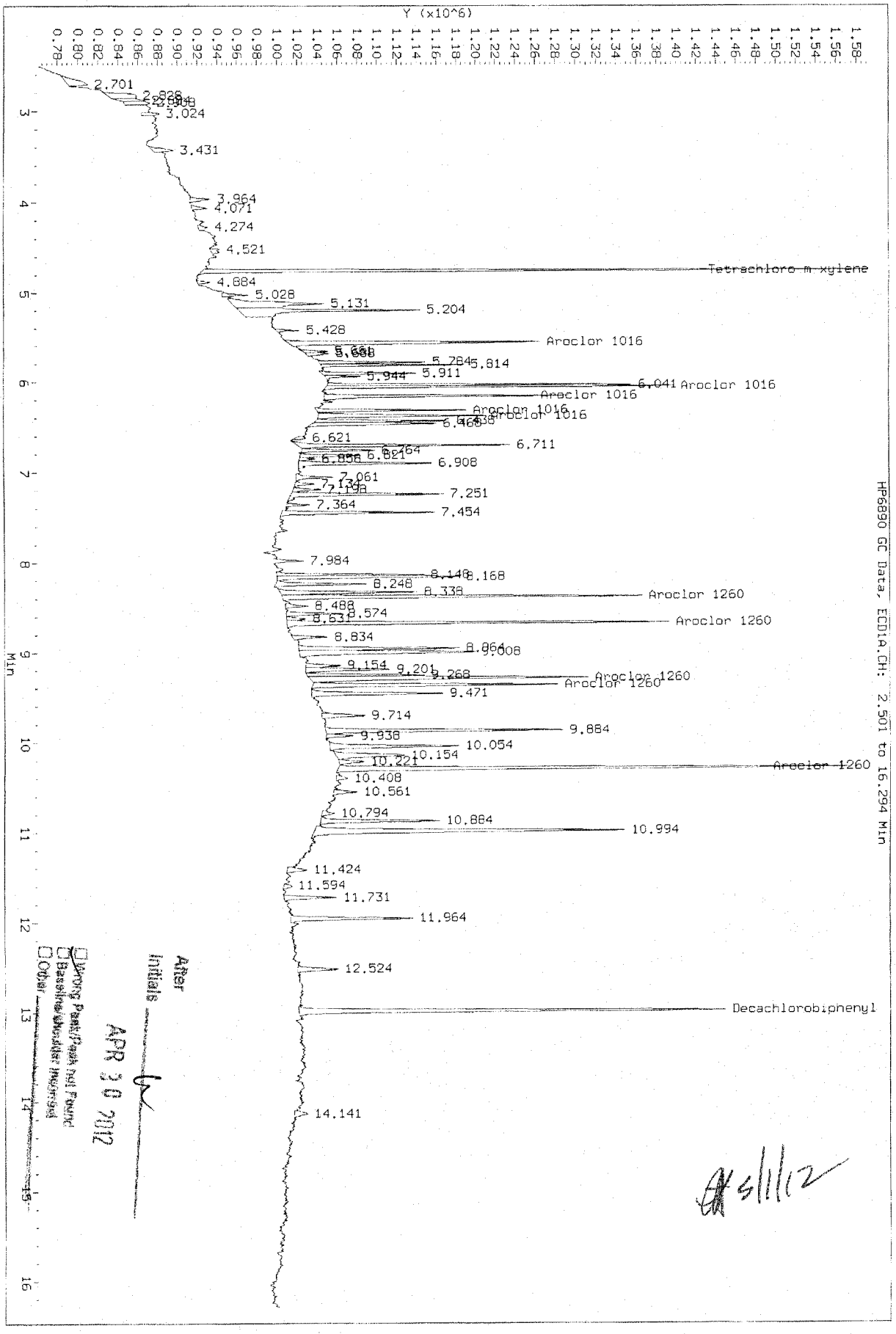
Data File: \\cash1\acqudata\GC22\data\0428I2A.b\0428F004.D
Injection Date: 28-APR-2012 18:34
Instrument: GC22.i
Client Sample ID:



Before
APR 30 2012

5/1/12

Data File: \\cash1\acqudata\GC22\data\0428I2A.b\0428F004.D
Injection Date: 28-APR-2012 18:34
Instrument: GC22.1
Client Sample ID:



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F005.D
Report Date: 30-Apr-2012 17:21

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F005.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F005.D
Inj Date : 28-APR-2012 18:57
Sample Info: 1660 @ 5.0-50ppb | PCB5-91M
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.760	5.480	7329788	38142134	4.75	4.77		100.00
Aroclor 1016	5.564	6.253	3498827	9972902	48.2	50.3	80.00- 120.00	100.00
	6.057	6.297	3537582	5583875	45.7	50.5	80.59- 120.89	101.11
	6.160	6.963	2797838	16535801	47.6	48.9	60.88- 91.31	79.97
	6.320	7.163	1647717	9661921	48.1	49.9	33.73- 50.60	47.09
	6.384	7.317	2579363	8115159	50.4	48.1	50.19- 75.29	73.72
		Average of Peak Amounts =			48.0	49.5		
Aroclor 1260	8.390	9.556	5131812	20130121	48.2	48.8	80.00- 120.00	100.00
	8.680	10.040	5552306	22649015	48.4	50.0	86.65- 129.98	108.19
	9.300	10.553	5122941	27389293	48.0	48.8	81.11- 121.66	99.83
	9.377	10.730	3827483	15833134	48.9	50.2	57.22- 85.82	74.58
	10.304	11.727	8535040	35081980	48.1	48.9	128.43- 192.64	166.32
		Average of Peak Amounts =			48.3	49.3		
Decachlorobiphenyl	12.994	14.453	7760411	28809946	4.91	4.98		100.00

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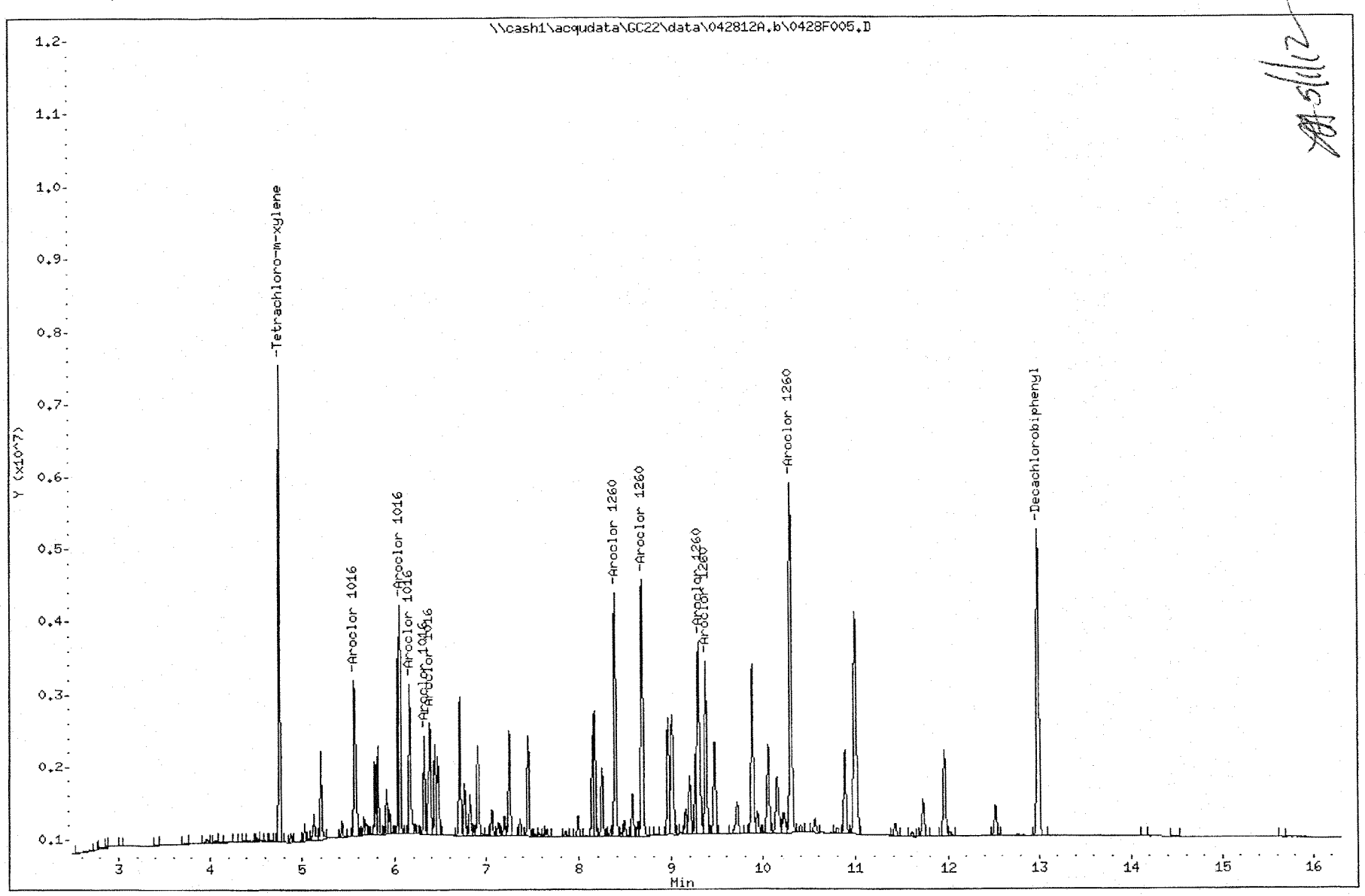
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F005.D
Date : 28-APR-2012 18:57
Client ID:
Sample Info: 1660 @ 5.0-50ppb | PCB5-91M

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



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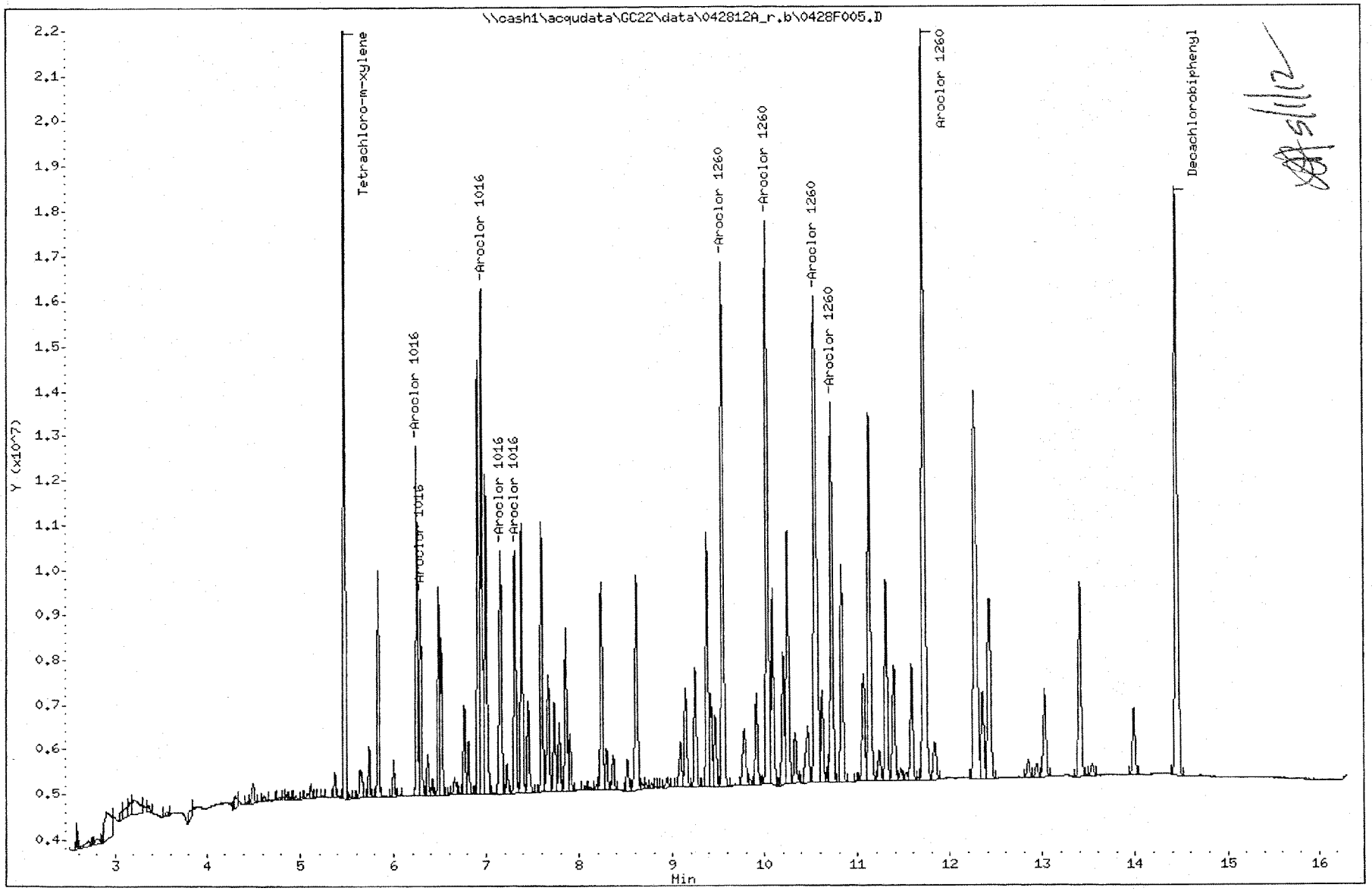
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F005.D
Date : 28-APR-2012 18:57
Client ID:
Sample Info: 1660 @ 5.0-50ppb | PCB5-91M

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F006.D
Report Date: 30-Apr-2012 17:21

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F006.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F006.D
Inj Date : 28-APR-2012 19:19
Sample Info: 1660 @ 10-100ppb | PCB5-91L
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.761	5.481	14710208	73342901	9.53	9.16		100.00
Aroclor 1016	5.565	6.254	6764384	18527268	93.3	93.5	80.00- 120.00	100.00
	6.058	6.298	7373966	10484417	95.3	94.8	80.59- 120.89	109.01
	6.165	6.964	5641785	31605226	96.0	93.6	60.88- 91.31	83.40
	6.321	7.164	3374794	18591868	98.6	96.1	33.73- 50.60	49.89
	6.385	7.318	5105317	15357473	99.8	91.0	50.19- 75.29	75.47
		Average of Peak Amounts =			96.6	93.8		
Aroclor 1260	8.391	9.558	10372330	38788685	97.4	94.0	80.00- 120.00	100.00
	8.681	10.041	11218269	43747409	97.9	96.6	86.65- 129.98	108.16
	9.298	10.554	10400755	53061761	97.4	94.5	81.11- 121.66	100.27
	9.378	10.731	7731180	30466481	98.8	96.6	57.22- 85.82	74.54
	10.305	11.724	17469587	67953832	98.4	94.7	128.43- 192.64	168.42
		Average of Peak Amounts =			98.0	95.3		
Decachlorobiphenyl	12.995	14.454	15798011	54596977	9.99	9.44		100.00

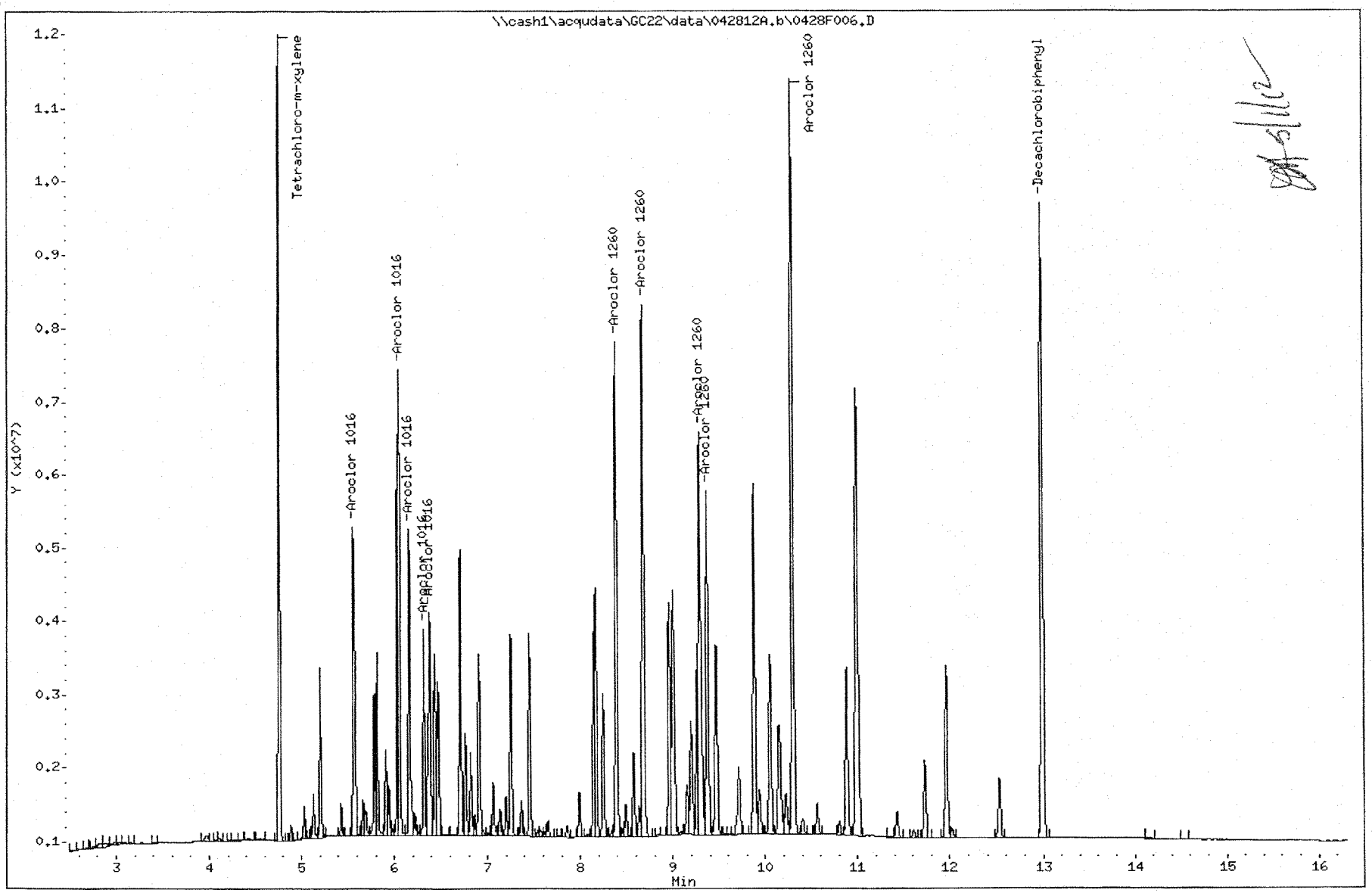
5/1/12 CC 5/30/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F006.D
Date : 28-APR-2012 19:19
Client ID:
Sample Info: 1660 @ 10-100ppb | PCB5-91L

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

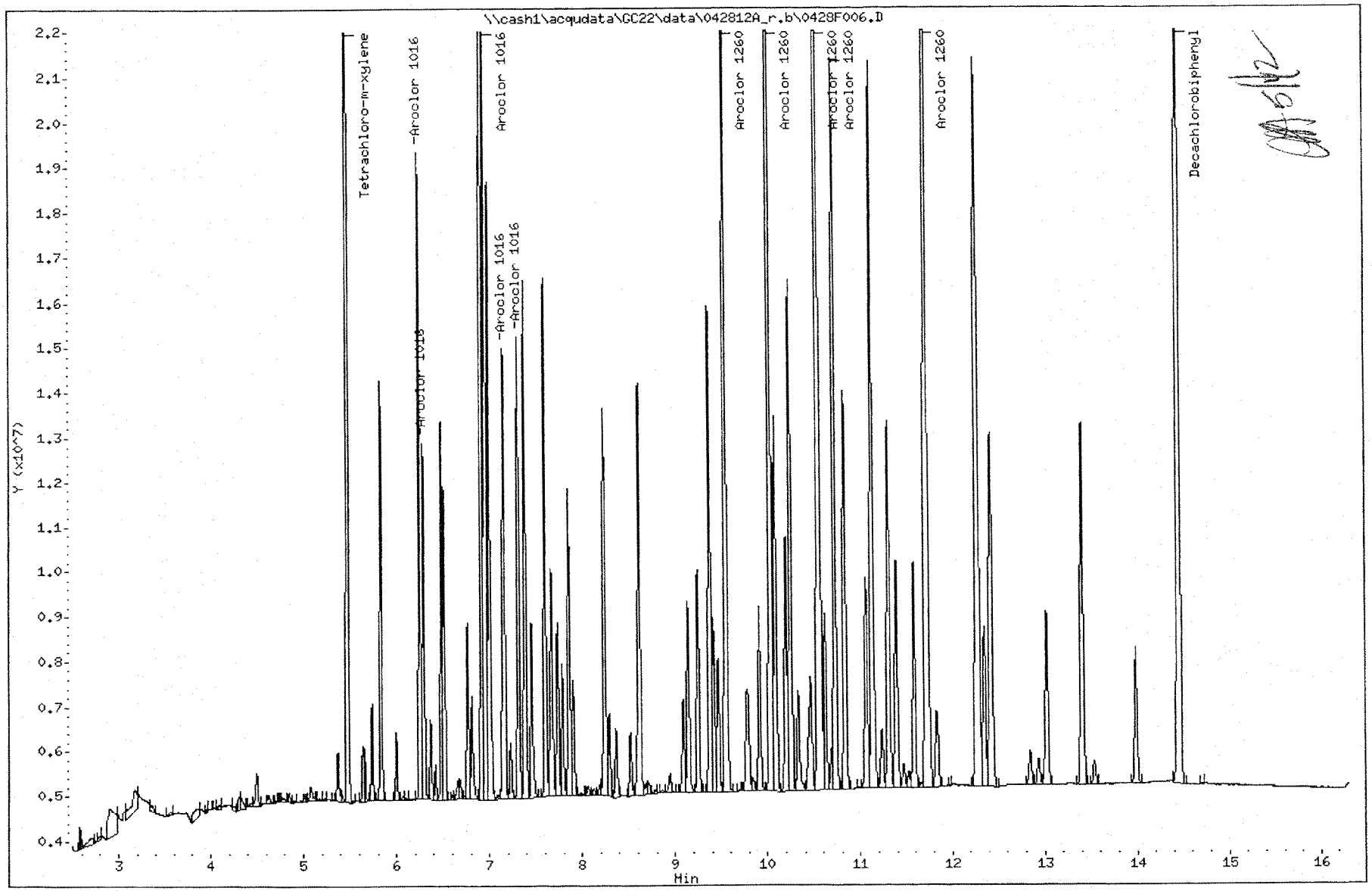


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F006.D
Date : 28-APR-2012 19:19
Client ID:
Sample Info: 1660 @ 10-100ppb | PCB5-91L

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



552

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F007.D
Report Date: 30-Apr-2012 17:21

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F007.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F007.D
Inj Date : 28-APR-2012 19:42
Sample Info: 1660 @ 20-200ppb | PCB5-91K
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.758	5.481	30517393	148416098	19.8	18.5		100.00
Aroclor 1016	5.565	6.255	13176613	35449846	182	179	80.00- 120.00	100.00
	6.058	6.298	14362991	20104358	186	182	80.59- 120.89	109.00
	6.162	6.961	10865207	61065594	185	181	60.88- 91.31	82.46
	6.322	7.165	6540011	35661147	191	184	33.73- 50.60	49.63
	6.385	7.318	9836354	29246557	192	177	50.19- 75.29	74.65
		Average of Peak Amounts =			187	181		
Aroclor 1260	8.392	9.558	20254998	74305732	190	180	80.00- 120.00	100.00
	8.682	10.041	21894825	84197902	191	186	86.65- 129.98	108.10
	9.302	10.555	20446021	101744576	191	181	81.11- 121.66	100.94
	9.378	10.731	14814074	57857837	189	183	57.22- 85.82	73.14
	10.305	11.725	34574721	131590288	195	183	128.43- 192.64	170.70
		Average of Peak Amounts =			191	183		
Decachlorobiphenyl	12.995	14.458	30954296	103252472	19.6	17.8		100.00

5/1/12

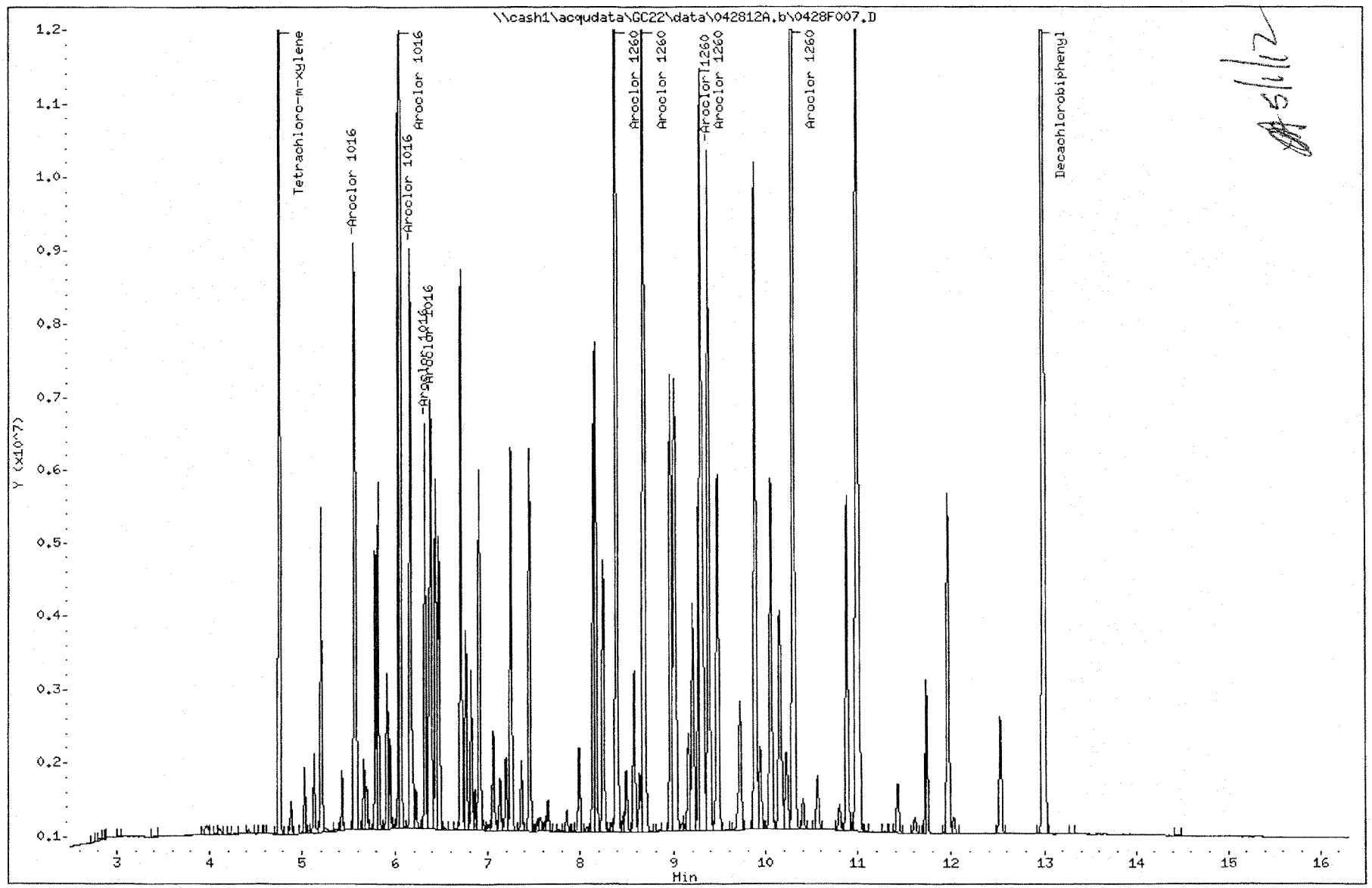
CC 4/30/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F007.D
Date : 28-APR-2012 19:42
Client ID:
Sample Info: 1660 @ 20-200ppb | PCB5-91K

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



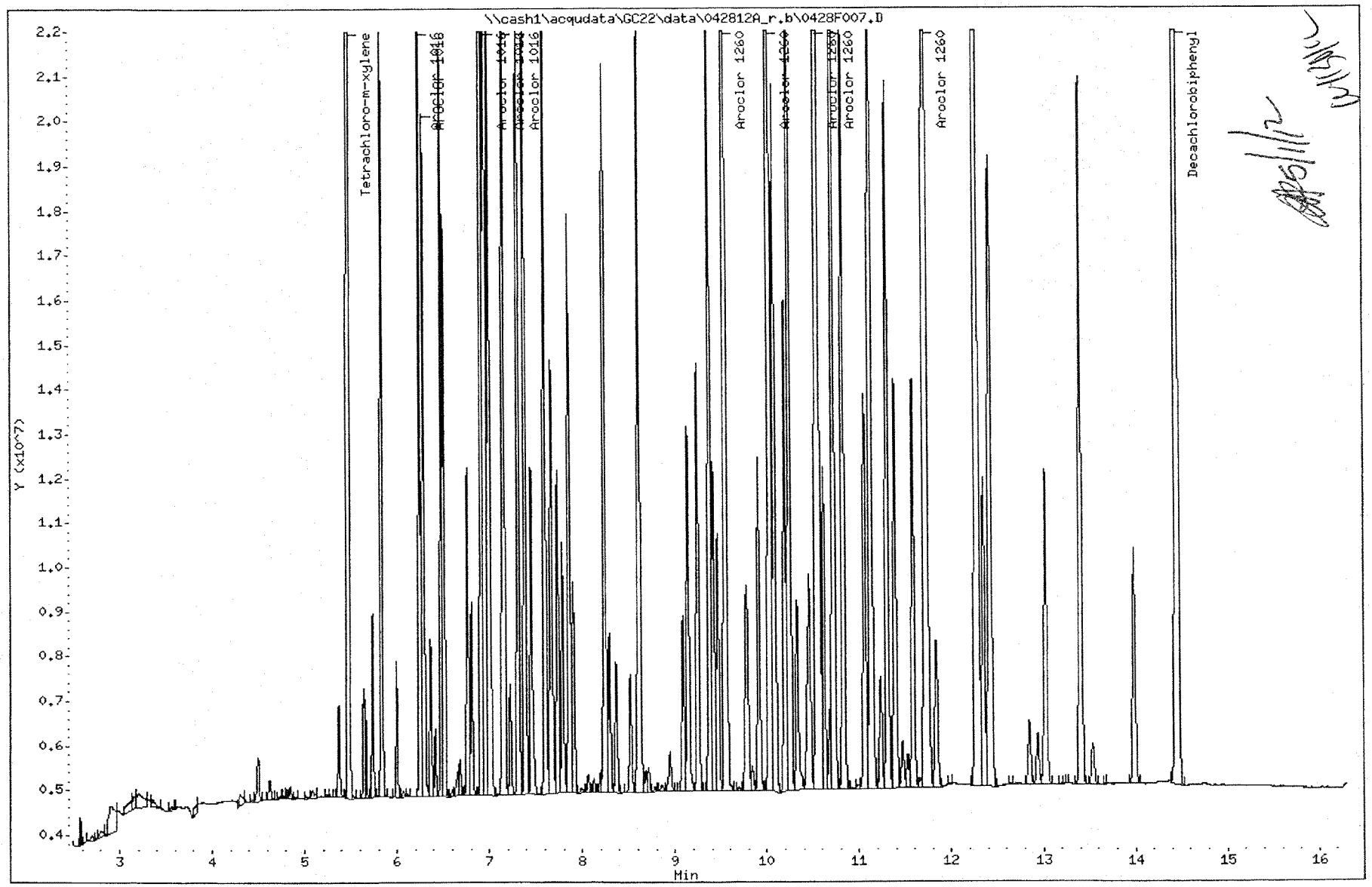
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F007.D
Date : 28-APR-2012 19:42
Client ID:
Sample Info: 1660 @ 20-200ppb | PCB5-91K

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-XLB

Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F008.D
Report Date: 30-Apr-2012 17:21

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F008.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F008.D
Inj Date : 28-APR-2012 20:05
Sample Info: 1660 @ 50-500ppb | PCB5-91J
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.759	5.482	78394605	366939447	50.8	45.8		100.00
Aroclor 1016	5.566	6.255	32282522	80484889	445	406	80.00- 120.00	100.00
	6.059	6.298	39514057	46583919	511	421	80.59- 120.89	122.40
	6.166	6.965	27814583	150107547	473	444	60.88- 91.31	86.16
	6.322	7.165	17192479	86310933	502	446	33.73- 50.60	53.26
	6.386	7.318	24487859	69654140	478	431	50.19- 75.29	75.85
		Average of Peak Amounts =			482	430		
Aroclor 1260	8.392	9.558	53199099	185969729	500	451	80.00- 120.00	100.00
	8.682	10.042	58263586	213225520	508	471	86.65- 129.98	109.52
	9.302	10.555	54031406	257932179	506	459	81.11- 121.66	101.56
	9.379	10.732	38995760	144528337	498	458	57.22- 85.82	73.30
	10.306	11.728	93066680	339602936	524	473	128.43- 192.64	174.94
		Average of Peak Amounts =			507	462		
Decachlorobiphenyl	12.996	14.455	81867864	257550593	51.8	44.5		100.00

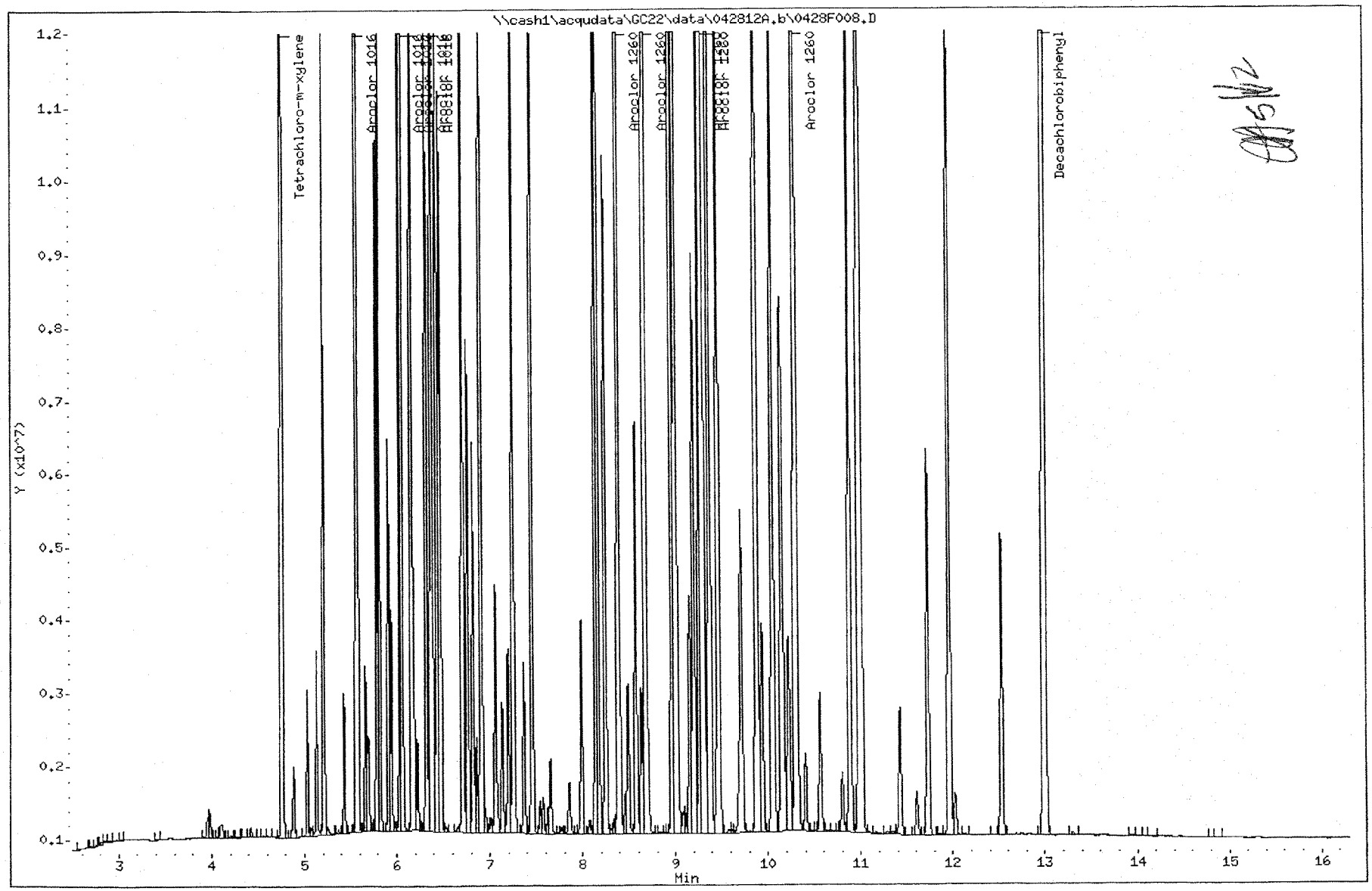
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F008.D
Date : 28-APR-2012 20:05
Client ID:
Sample Info: 1660 @ 50-500ppb | PCB5-91J

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

Column phase: DB-35MS

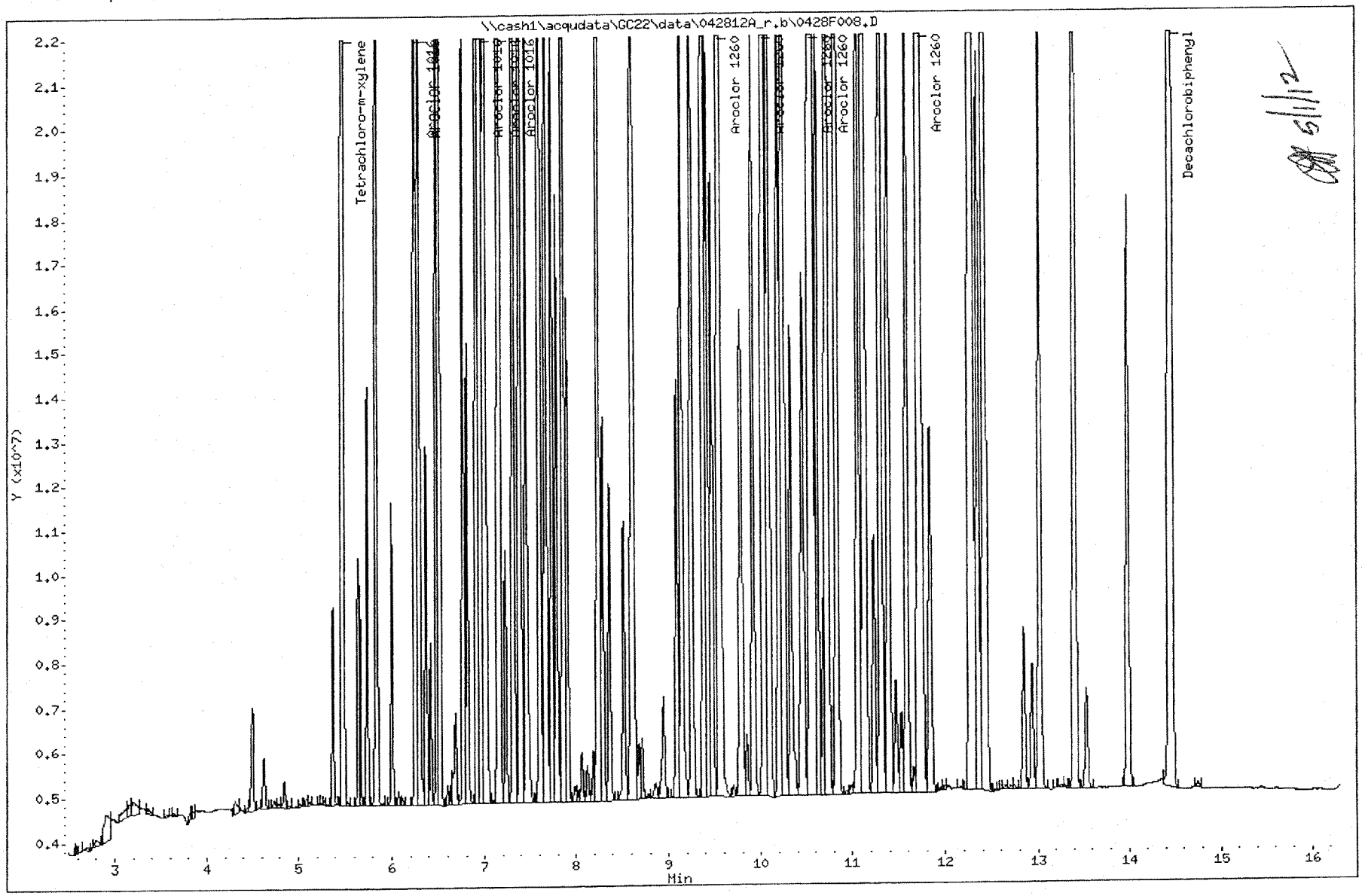


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F008.D
Date : 28-APR-2012 20:05
Client ID:
Sample Info: 1660 @ 50-500ppb I PCB5-91J

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F009.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F009.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F009.D
Inj Date : 28-APR-2012 20:28
Sample Info: 1221/1254 @ 5-2.5ppb | PCB5-93D @20X
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1221+1254.sub
Sub List #2 : 1221+1254.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	4.421	5.374	70462	94757	14.3	23.9	80.00- 120.00	100.00(M)
	5.028	5.660	84312	328469	1.88	3.62	126.02- 189.04	119.66(M)
	5.131	5.737	74030	352025	3.08	6.06	97.46- 146.18	105.06(M)
	5.204	5.837	242674	1172935	1.07	5.85	338.74- 508.10	344.40(M)
		Average of Peak Amounts =			5.08	9.86		
Aroclor 1254	7.454	8.617	267512	1485570	2.87	2.97	80.00- 120.00	100.00(M)
	7.988	9.257	208020	1392999	2.84	2.86	64.48- 96.73	77.76(M)
	8.144	9.794	407803	1145867	2.77	3.22	129.28- 193.92	152.44(M)
	8.391	10.264	199514	718435	2.71	2.77	64.06- 96.09	74.58(M)
	8.681	10.554	161365	1267824	2.81	3.08	48.68- 73.02	60.32(M)
		Average of Peak Amounts =			2.80	2.98		

QC Flag Legend

M - Compound response manually integrated.

5/1/12

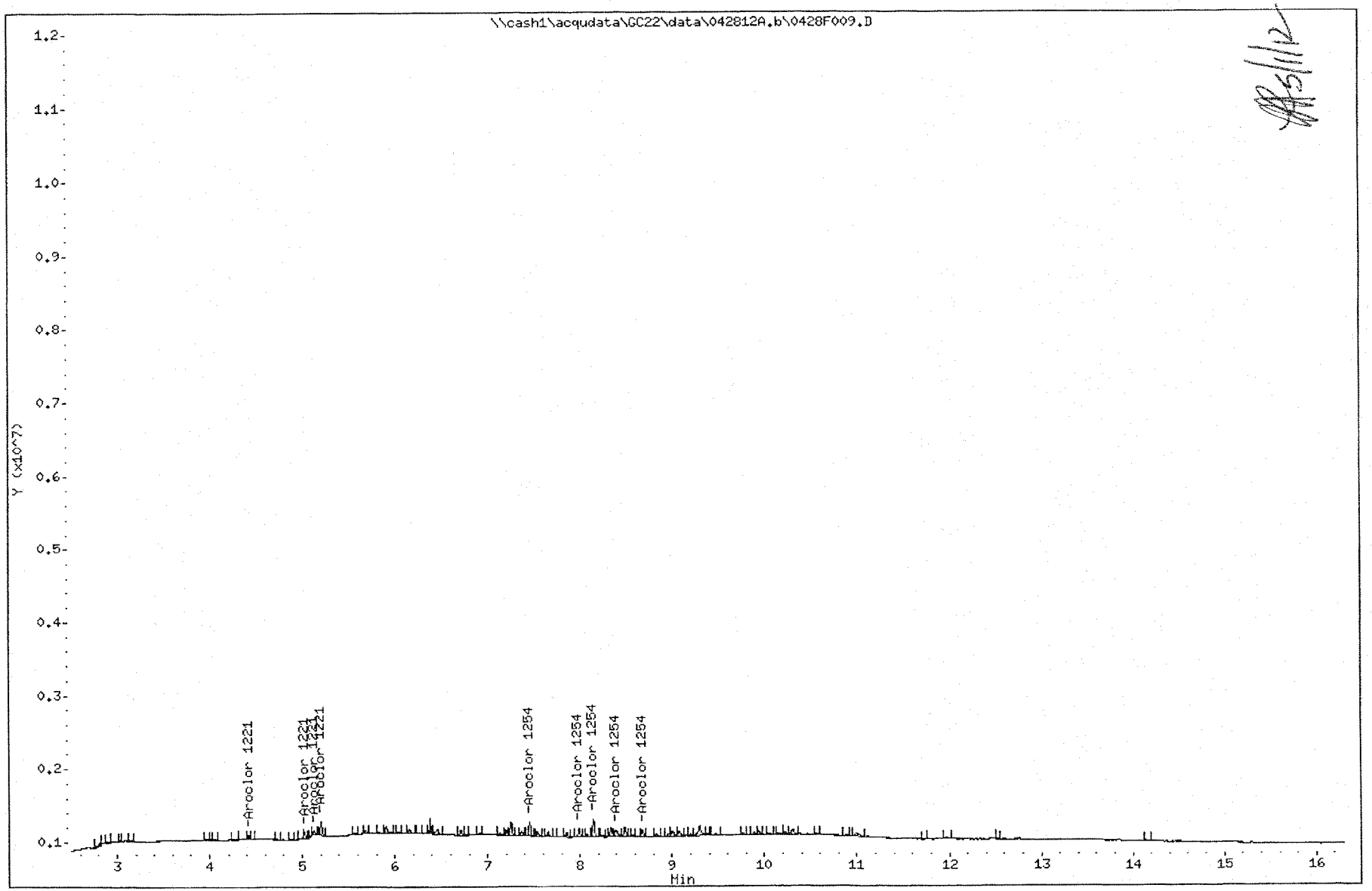
04/30/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F009.D
Date : 28-APR-2012 20:28
Client ID:
Sample Info: 1221/1254 @ 5-2.5ppb | PCB5-93D @20X

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

Column phase: DB-35MS

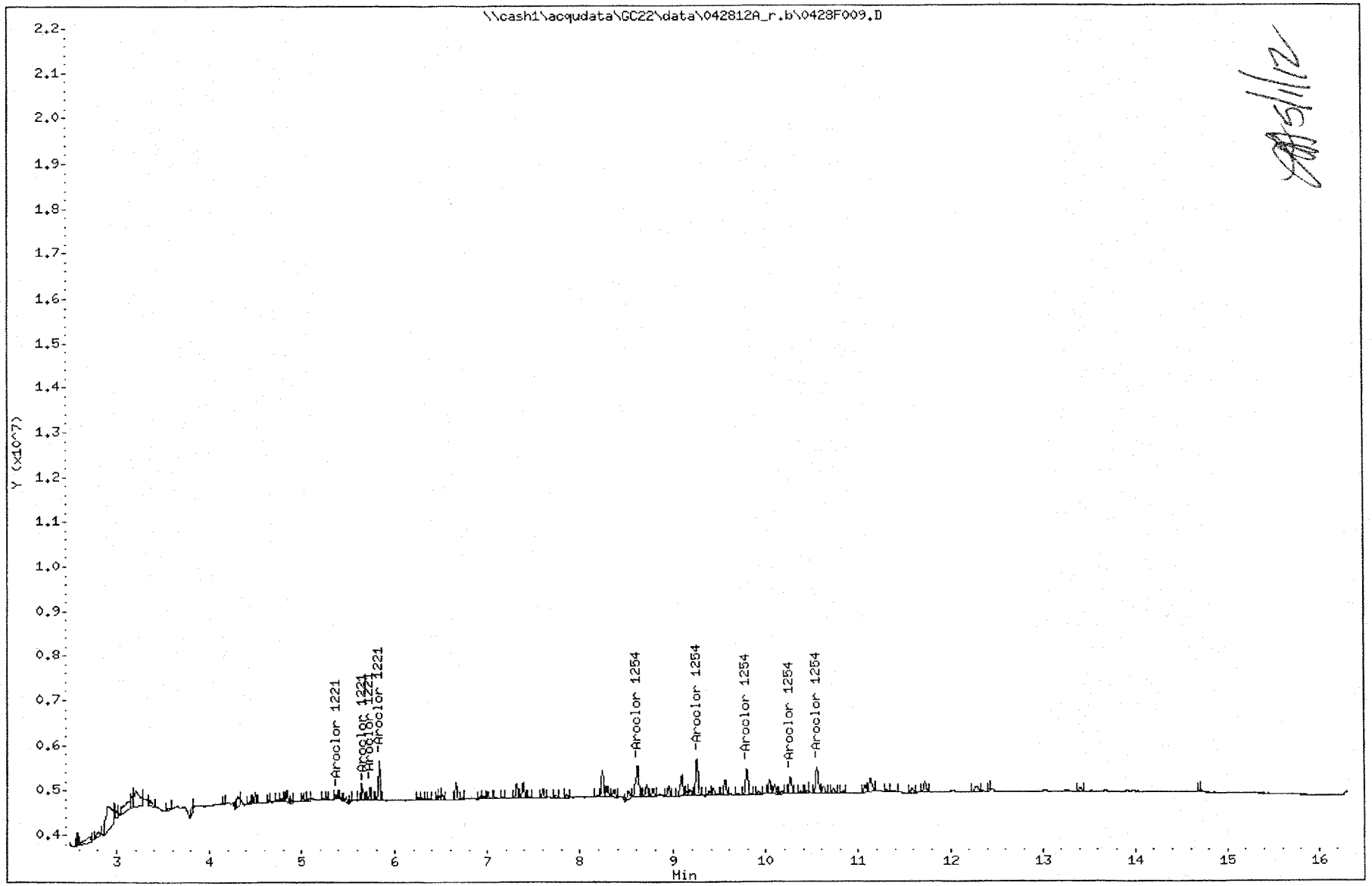


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F009.D
Date : 28-APR-2012 20:28
Client ID:
Sample Info: 1221/1254 @ 5-2.5ppb | PCB5-93D @20X

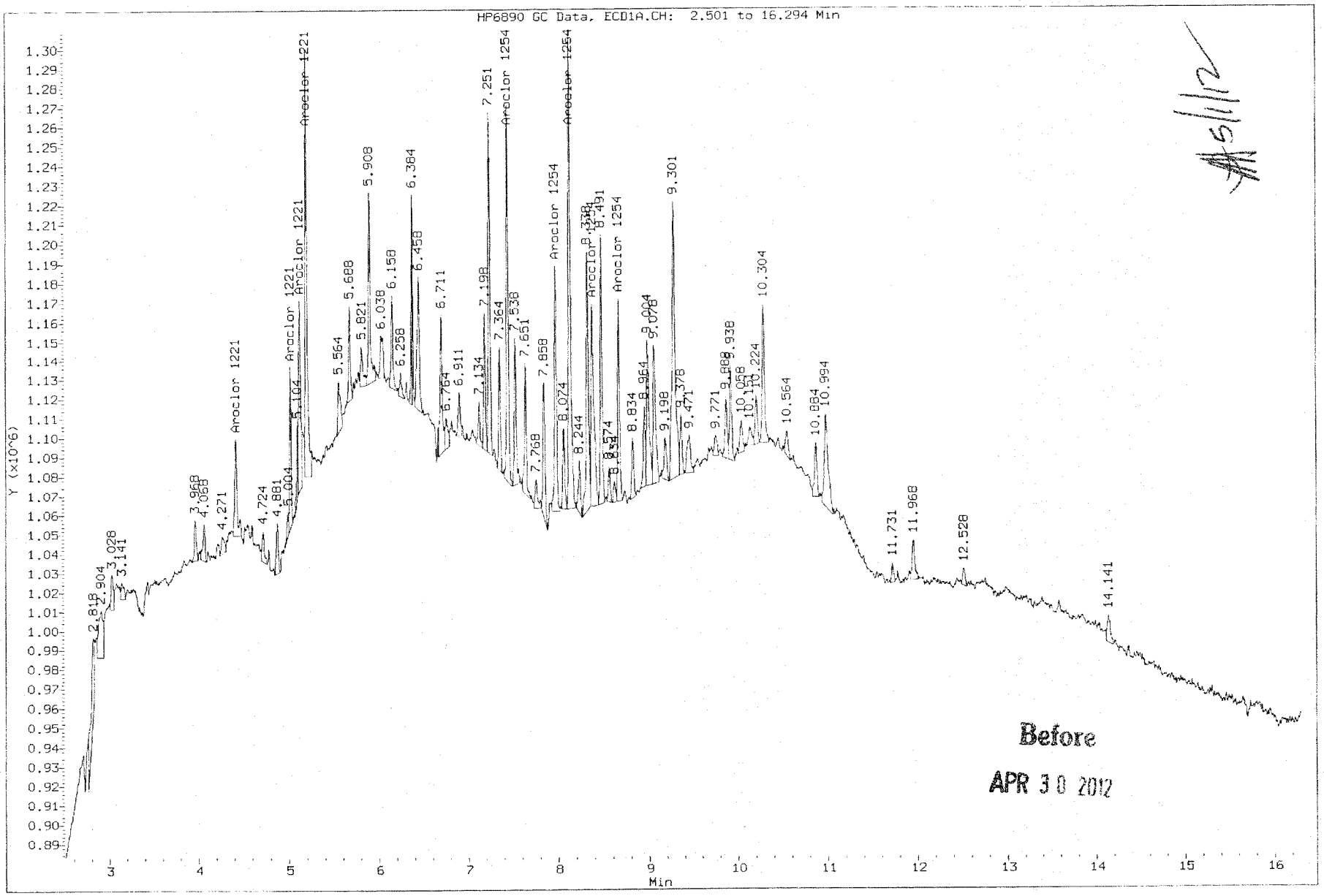
Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

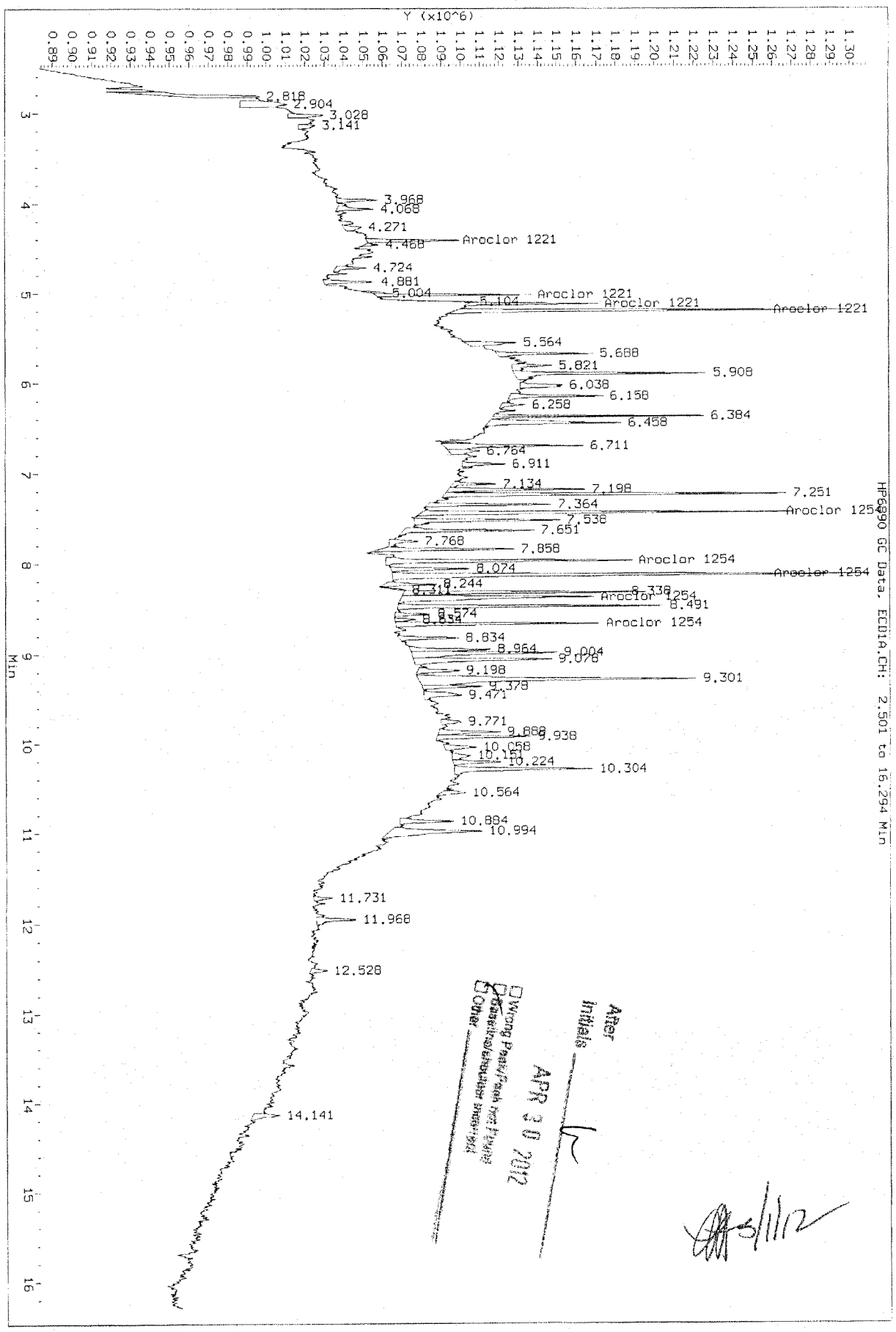


Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F009.D
Injection Date: 28-APR-2012 20:28
Instrument: GC22.i
Client Sample ID:



562

Data File: \\cashl\acqudata\GC22\data\0428124.b\0428F009.D
Injection Date: 28-APR-2012 20:28
Instrument: GC22.i
Client Sample ID:



HP6890 GC Data, ECD1A.CH: 2.501 to 16.294 Min

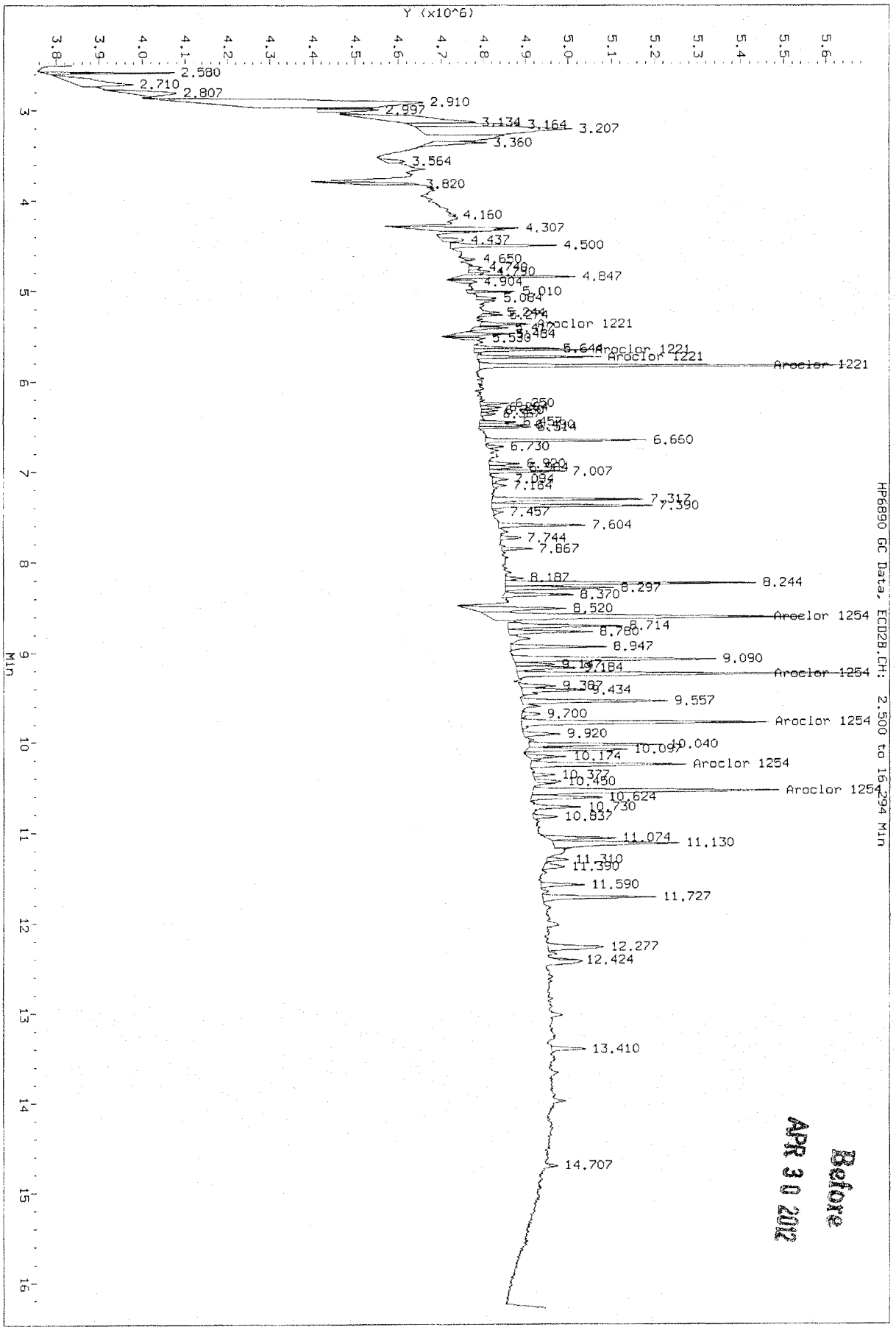
After initials

APR 30 2012

Wrong Peak/Peak not Found
Baseline/Integration Problem
Other

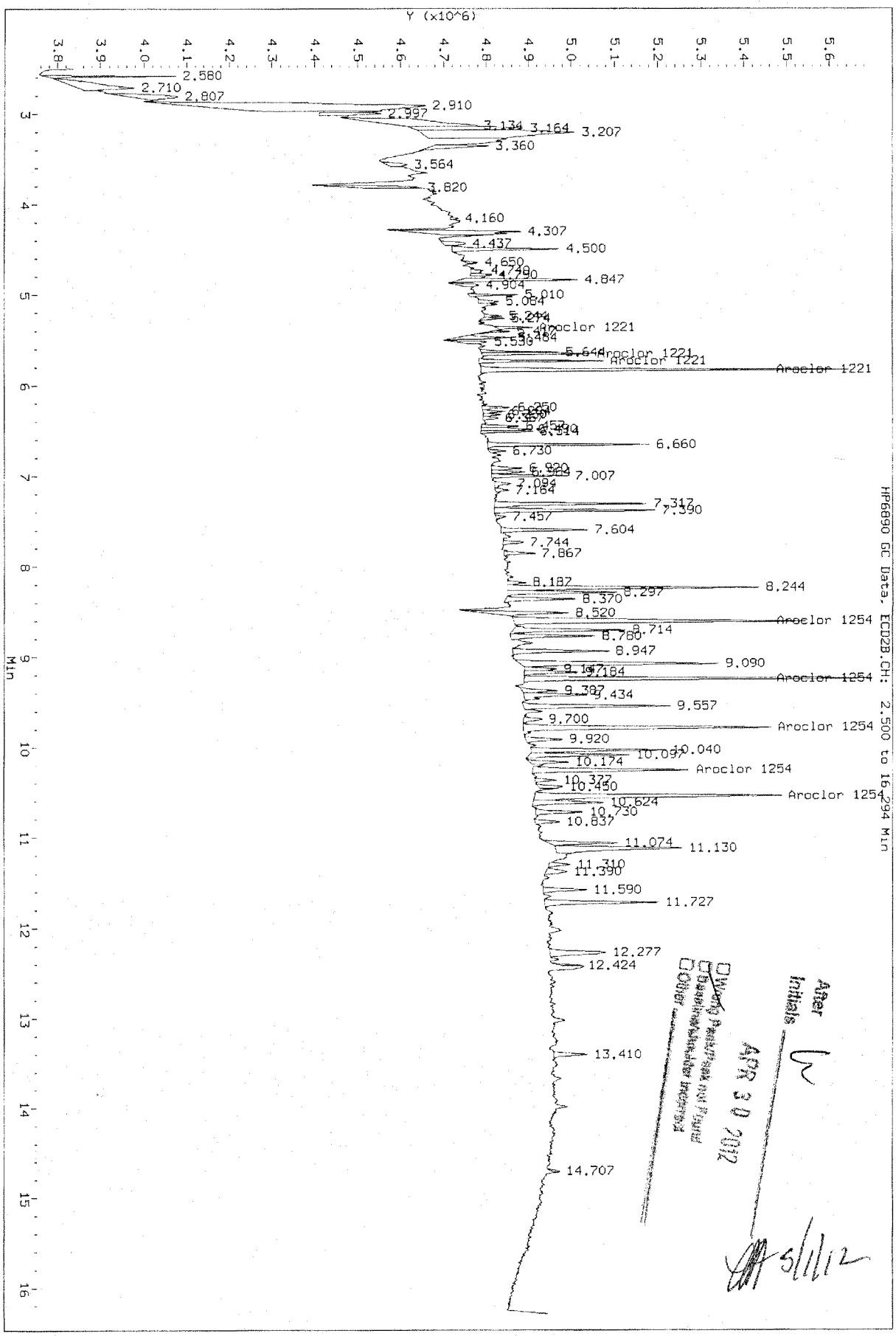
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\042BF009.D
Injection Date: 28-APR-2012 20:28
Instrument: GC22.i
Client Sample ID:



Before
APR 30 2012

Data File: \\cashi\acqudata\GC22\data\0428120_r.b\0428F009.D
Injection Date: 28-APR-2012 20:28
Instrument: GC22.i
Client Sample ID:



After
Initials

APR 30 2012

5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F010.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F010.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F010.D
Inj Date : 28-APR-2012 20:51
Sample Info: 1221/1254 @ 10-5ppb | PCB5-93D @10X
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1221+1254.sub
Sub List #2 : 1221+1254.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	4.420	5.373	136590	328851	5.30	10.2	80.00- 120.00	100.00(M)
	5.027	5.659	158973	660231	4.04	3.93	126.02- 189.04	116.39(M)
	5.130	5.739	133841	641159	3.27	1.15	97.46- 146.18	97.99(M)
	5.203	5.836	461725	2197793	7.46	1.44	338.74- 508.10	338.04(M)
		Average of Peak Amounts =			5.02	4.18		
Aroclor 1254	7.453	8.619	512680	2817419	5.50	5.65	80.00- 120.00	100.00(M)
	7.990	9.256	369805	2687796	5.05	5.51	64.48- 96.73	72.13(M)
	8.147	9.793	779233	1989569	5.30	5.60	129.28- 193.92	151.99(M)
	8.390	10.263	388669	1354107	5.28	5.28	64.06- 96.09	75.81(M)
	8.680	10.553	306789	2320423	5.34	5.65	48.68- 73.02	59.84(M)
		Average of Peak Amounts =			5.29	5.54		

QC Flag Legend

M - Compound response manually integrated.

5/1/12

CC 4/30/12

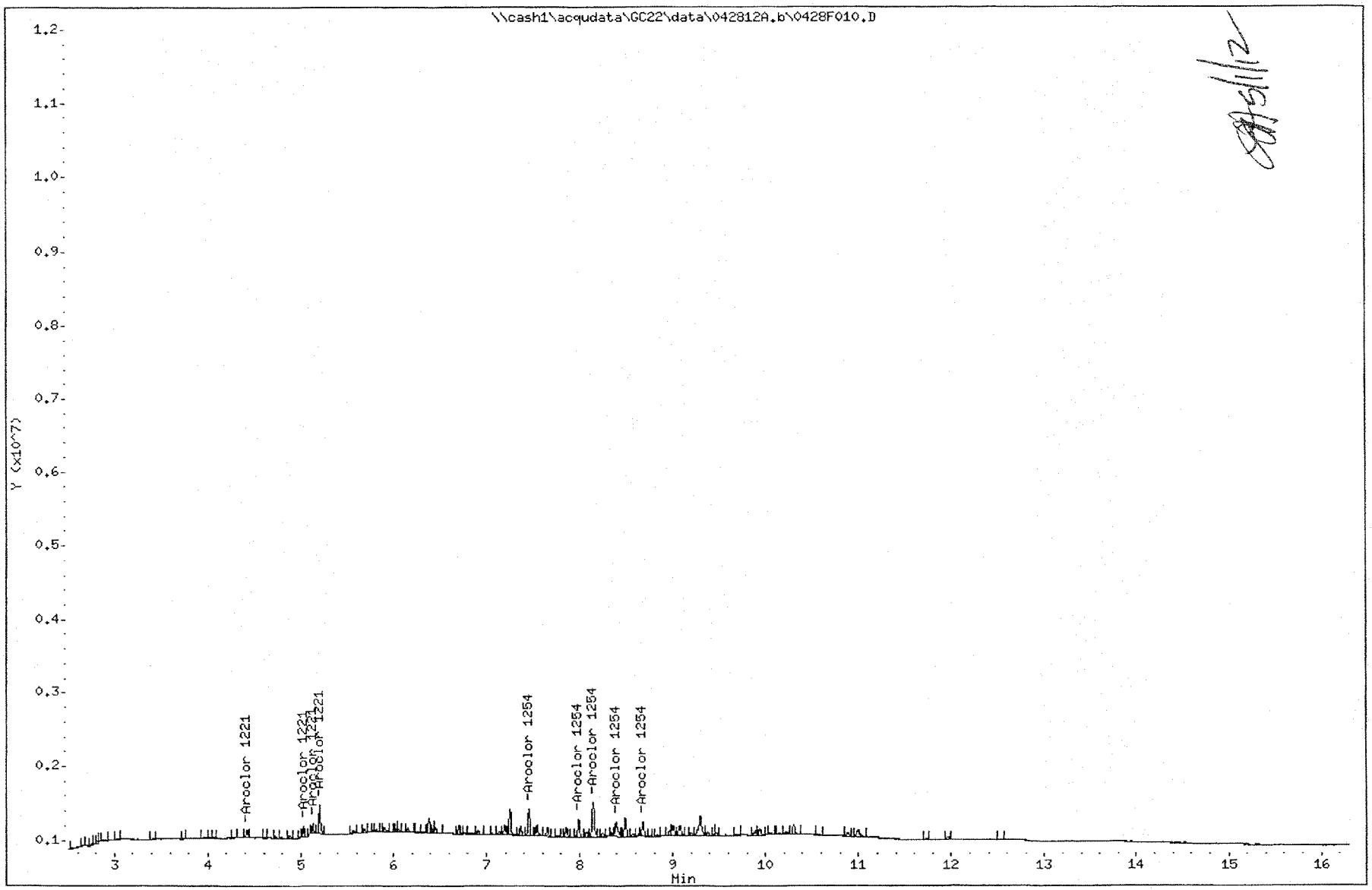
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F010.D
Date : 28-APR-2012 20:51
Client ID:
Sample Info: 1221/1254 @ 10-5ppb | PCB5-93D @10X

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-35MS

Column diameter: 0.32

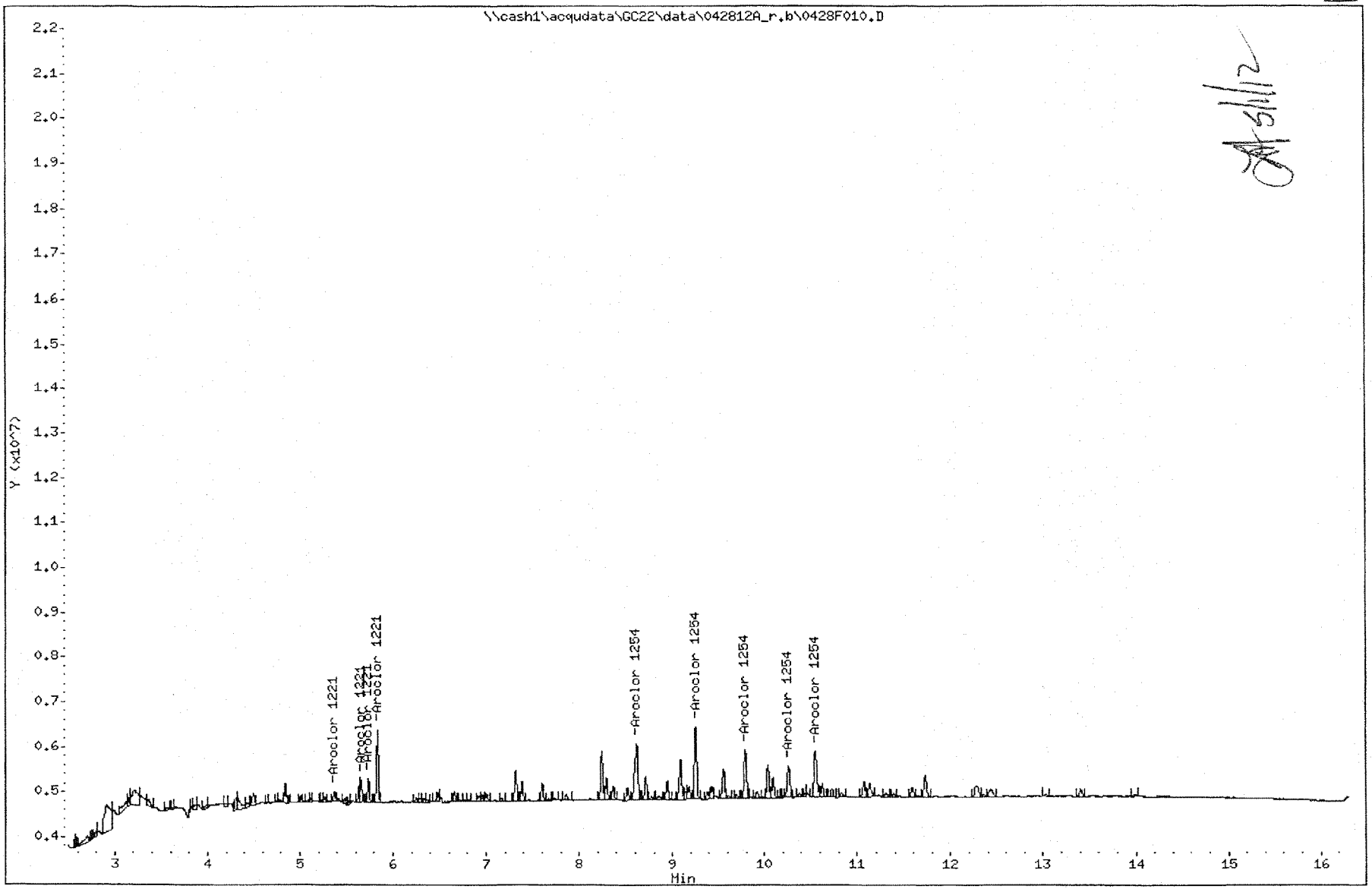


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F010.D
Date : 28-APR-2012 20:51
Client ID:
Sample Info: 1221/1254 @ 10-5ppb | PCB5-93D @10X

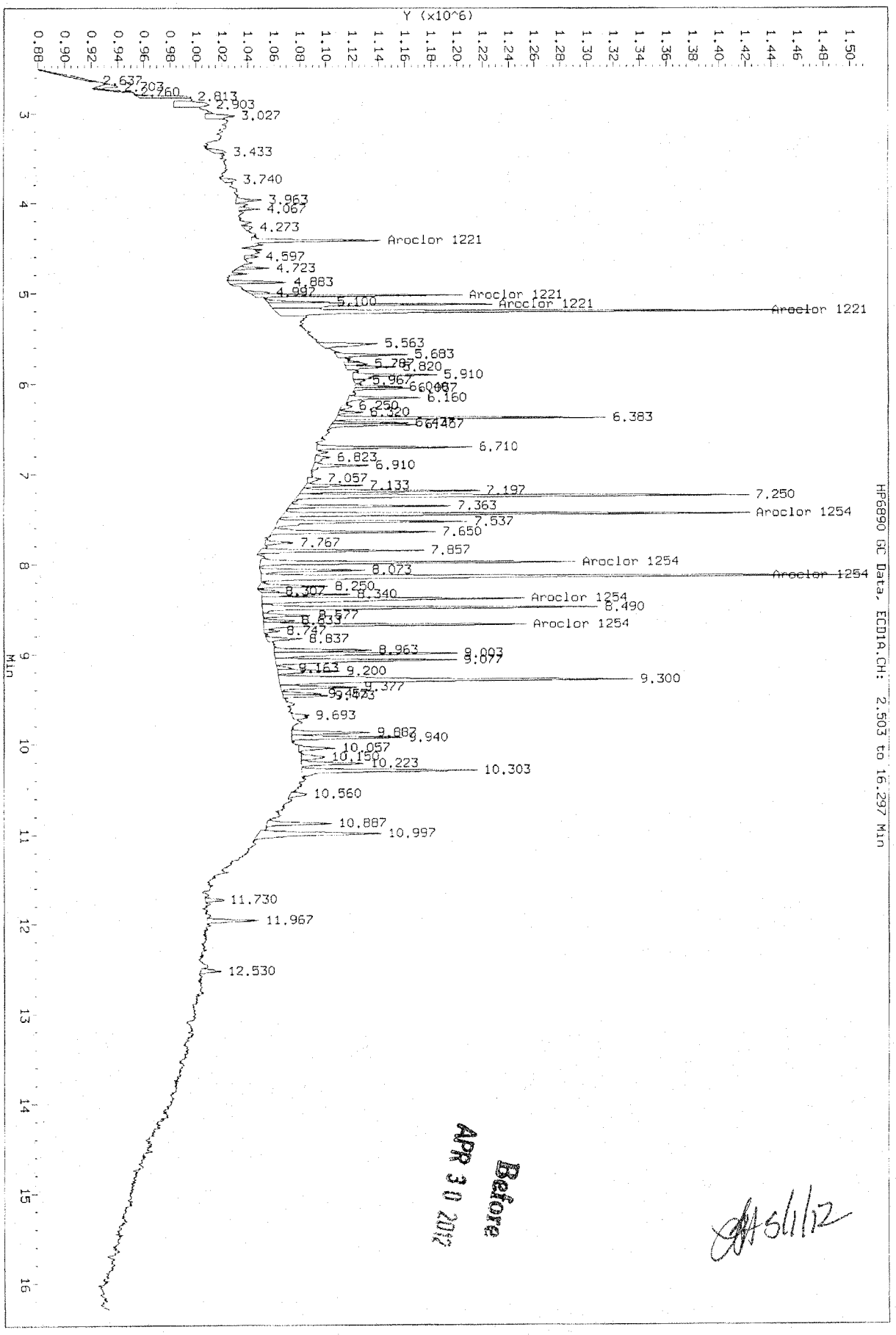
Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



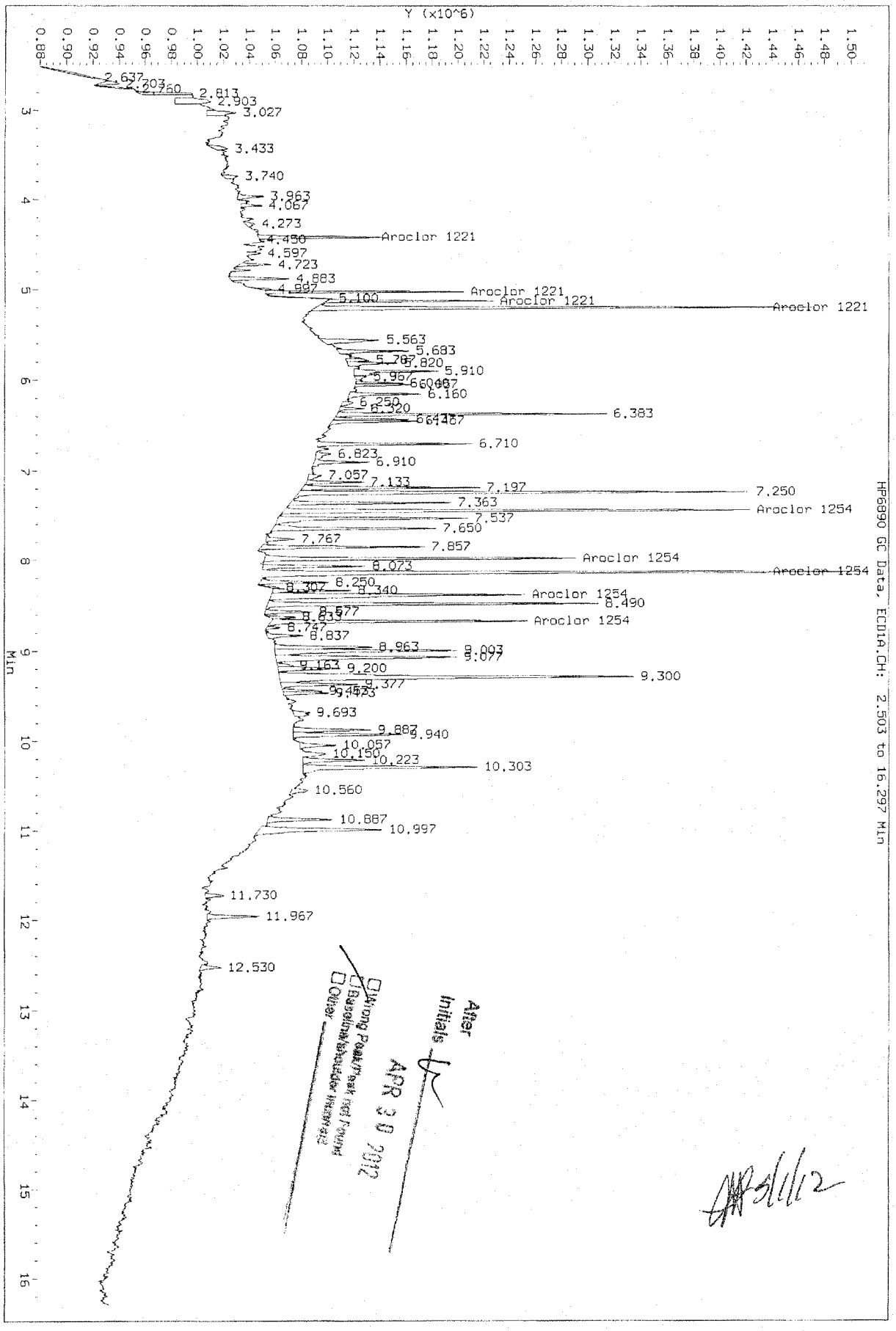
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F010.D
Injection Date: 28-APR-2012 20:51
Instrument: GC22: 1
Client Sample ID:



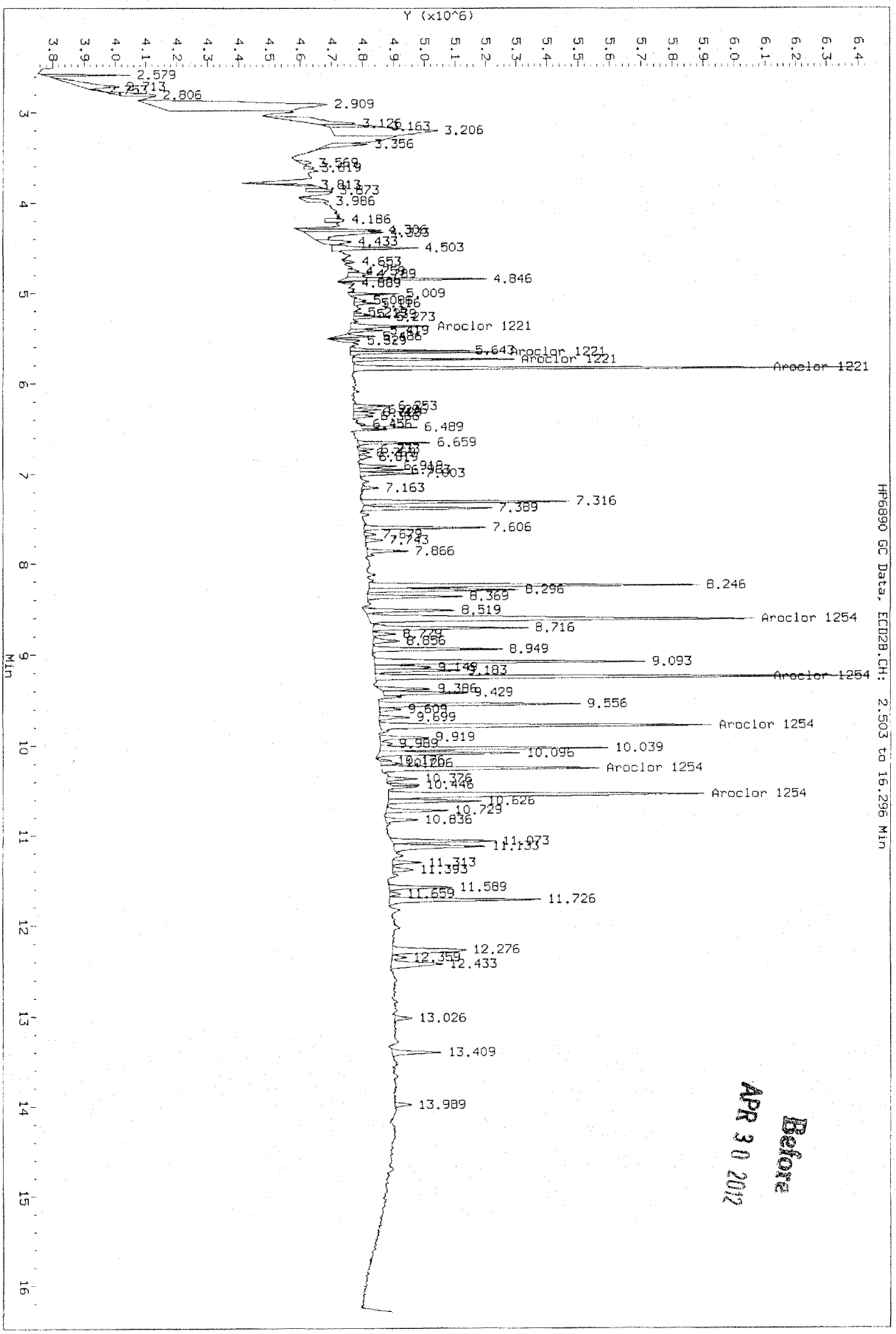
Before
APR 30 2012

5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F010.D
Injection Date: 28-APR-2012 20:51
Instrument: GC22.i
Client Sample ID:

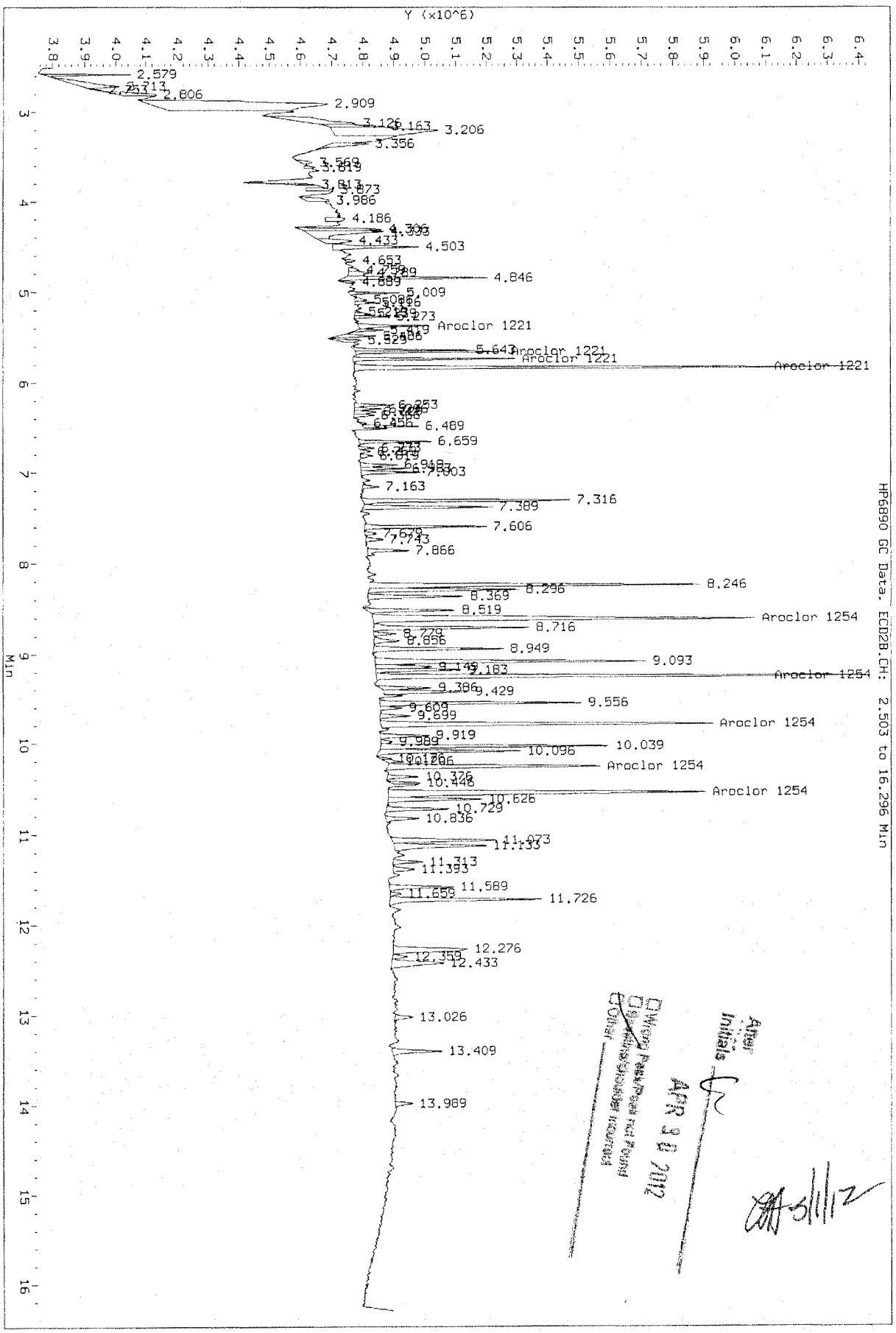


Data File: \\cash1\acqudata\GC22\data\0428120_r.b\0428F010.D
Injection Date: 28-APR-2012 20:51
Instrument: GC22.1
Client Sample ID:



Before
APR 30 2012

Data File: \\cash1\acgudata\GC22\data\042812A_r.b\0428F010.D
Injection Date: 28-APR-2012 20:51
Instrument: GC22.1
Client Sample ID:



HP6890 GC Data, ECD2B.CH: 2.503 to 16.296 Min

Owner Approved
Chemistry Manager Review
Other

APR 30 2012

Analyst Initials

5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F011.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F011.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F011.D
Inj Date : 28-APR-2012 21:14
Sample Info: 1221/1254 @ 100-50ppb | PCB5-93D
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1221+1254.sub
Sub List #2 : 1221+1254.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	4.421	5.373	1050541	2843703	119	123	80.00- 120.00	100.00(M)
	5.027	5.660	1471078	5106782	108	104	126.02- 189.04	140.03(M)
	5.127	5.737	1108684	5083496	107	112	97.46- 146.18	105.53(M)
	5.204	5.837	3725704	17378046	103	109	338.74- 508.10	354.65(M)
		Average of Peak Amounts =			109	112		
Aroclor 1254	7.454	8.617	4354911	23820454	46.7	45.6	80.00- 120.00	100.00
	7.987	9.253	3469071	23110456	47.4	55.0	64.48- 96.73	79.66
	8.144	9.790	6853860	16321697	46.6	40.5	129.28- 193.92	157.38
	8.391	10.260	3663675	12438311	49.8	44.0	64.06- 96.09	84.13
	8.681	10.550	2897902	19676432	50.5	47.9	48.68- 73.02	66.54
		Average of Peak Amounts =			48.2	46.6		

QC Flag Legend

M - Compound response manually integrated.

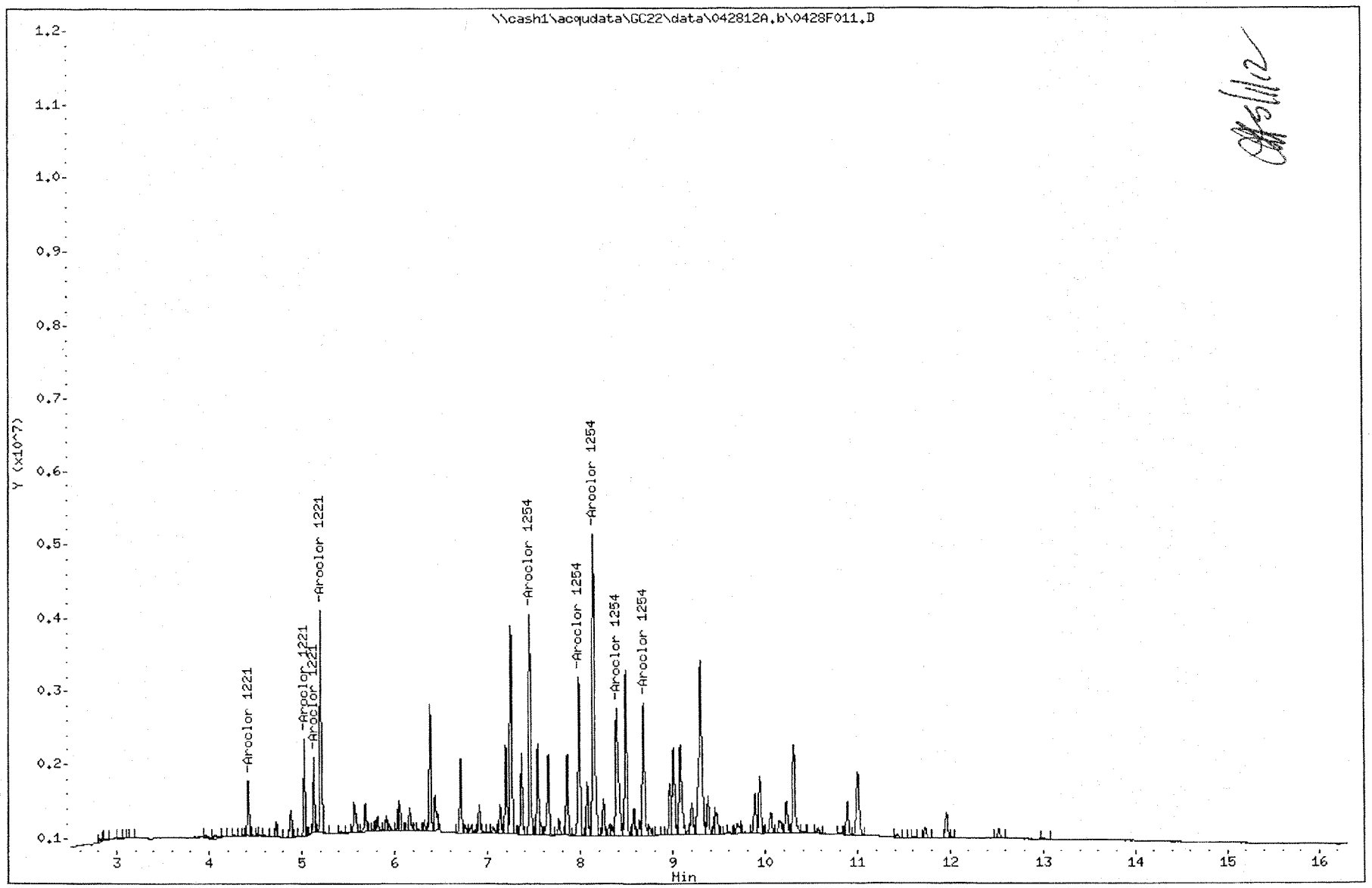
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F011.D
Date : 28-APR-2012 21:14
Client ID:
Sample Info: 1221/1254 @ 100-50ppb | PCB5-93D

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

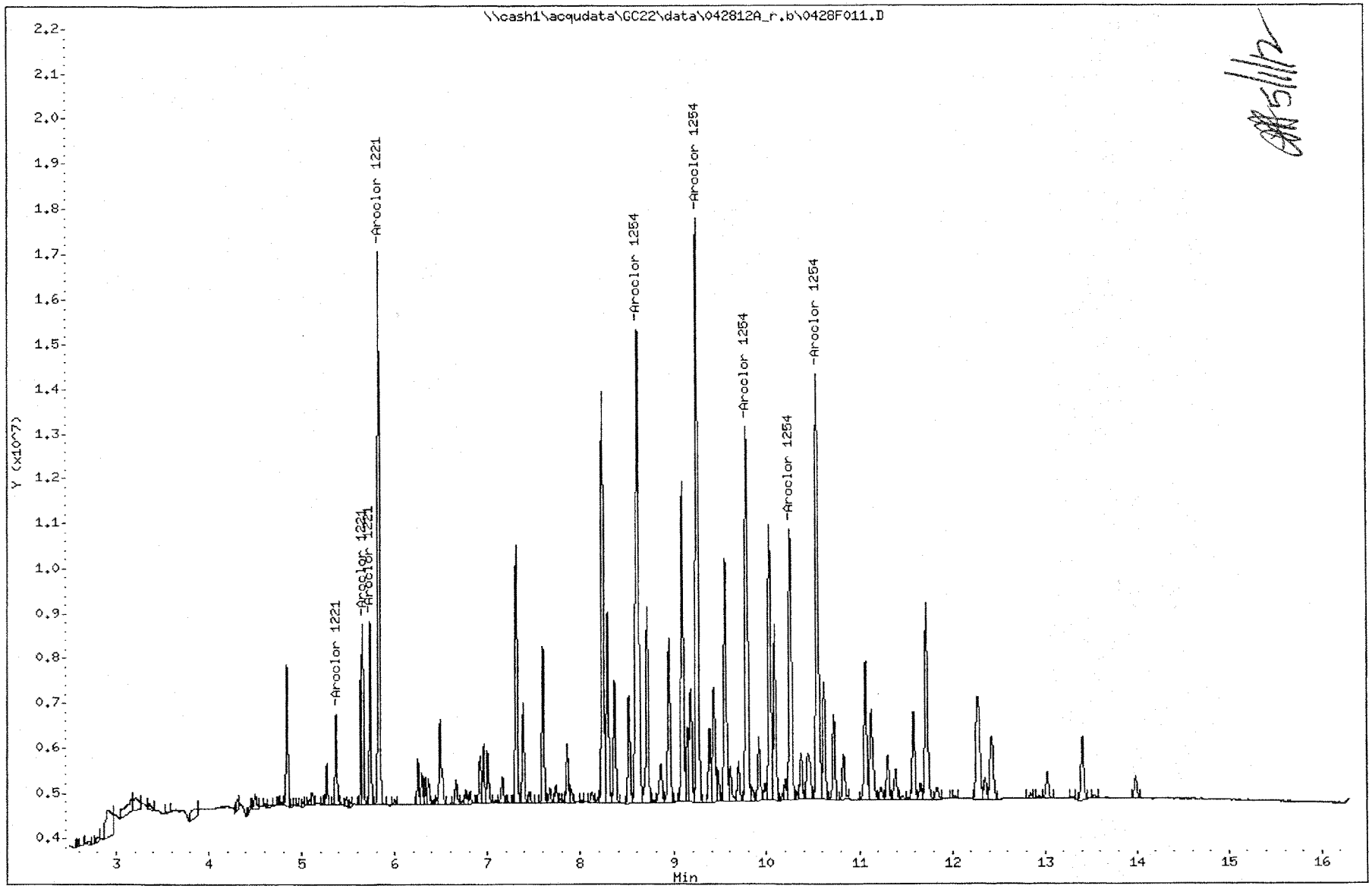


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F011.D
Date : 28-APR-2012 21:14
Client ID:
Sample Info: 1221/1254 @ 100-50ppb | PCB5-93D

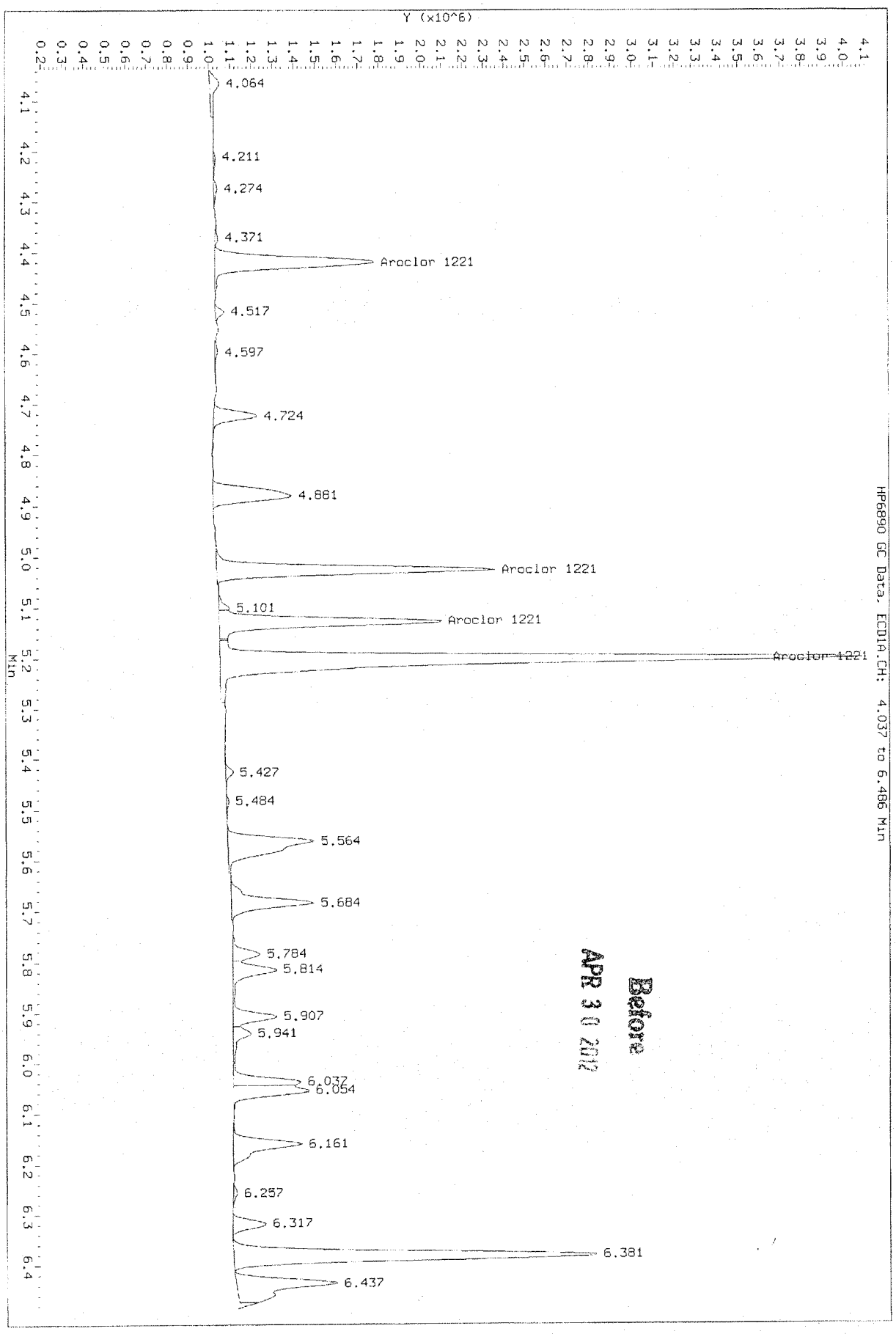
Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

Column phase: DB-XLB



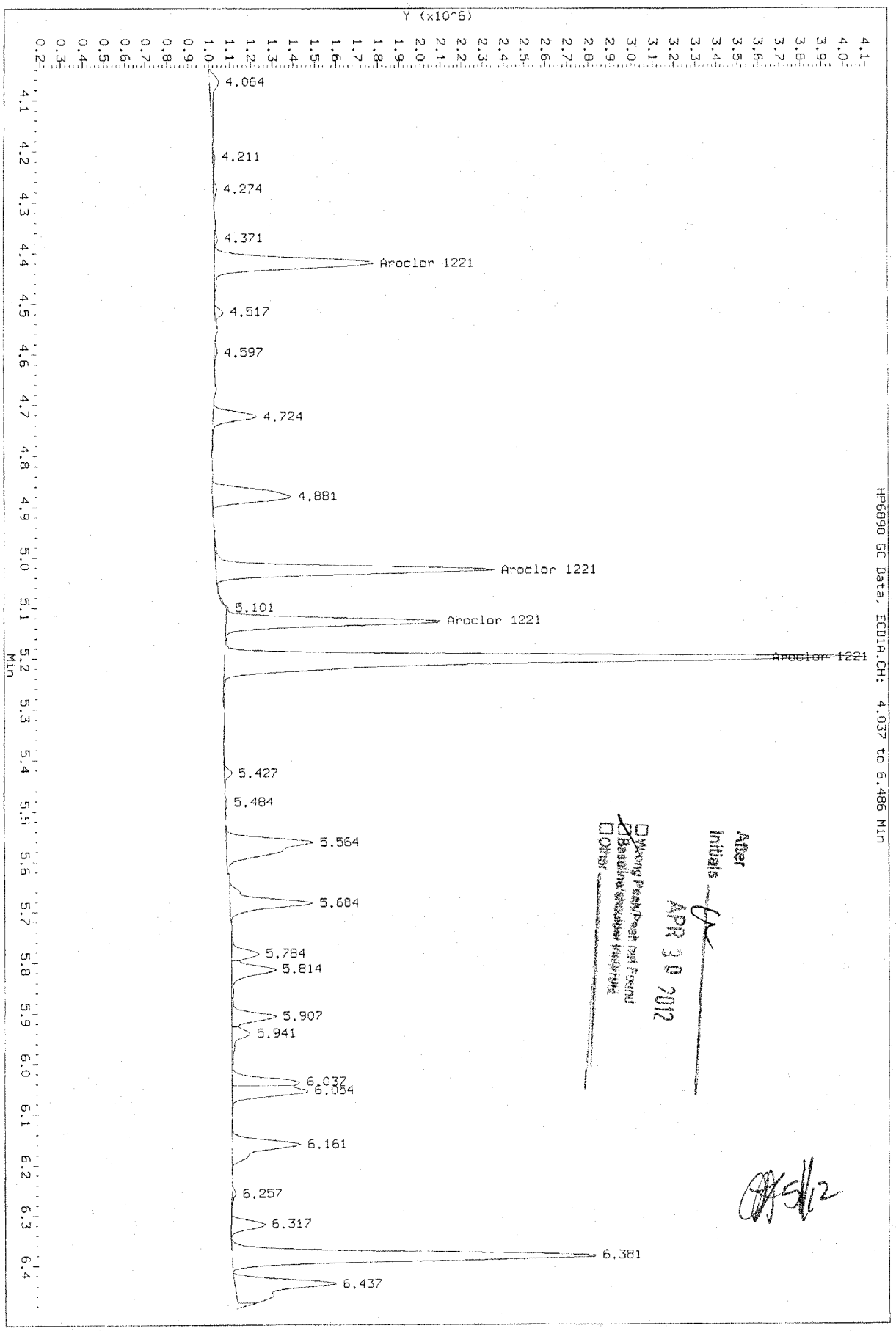
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F011.D
Injection Date: 28-APR-2012 21:14
Instrument: GC22.i
Client Sample ID:



Before
APR 30 2012

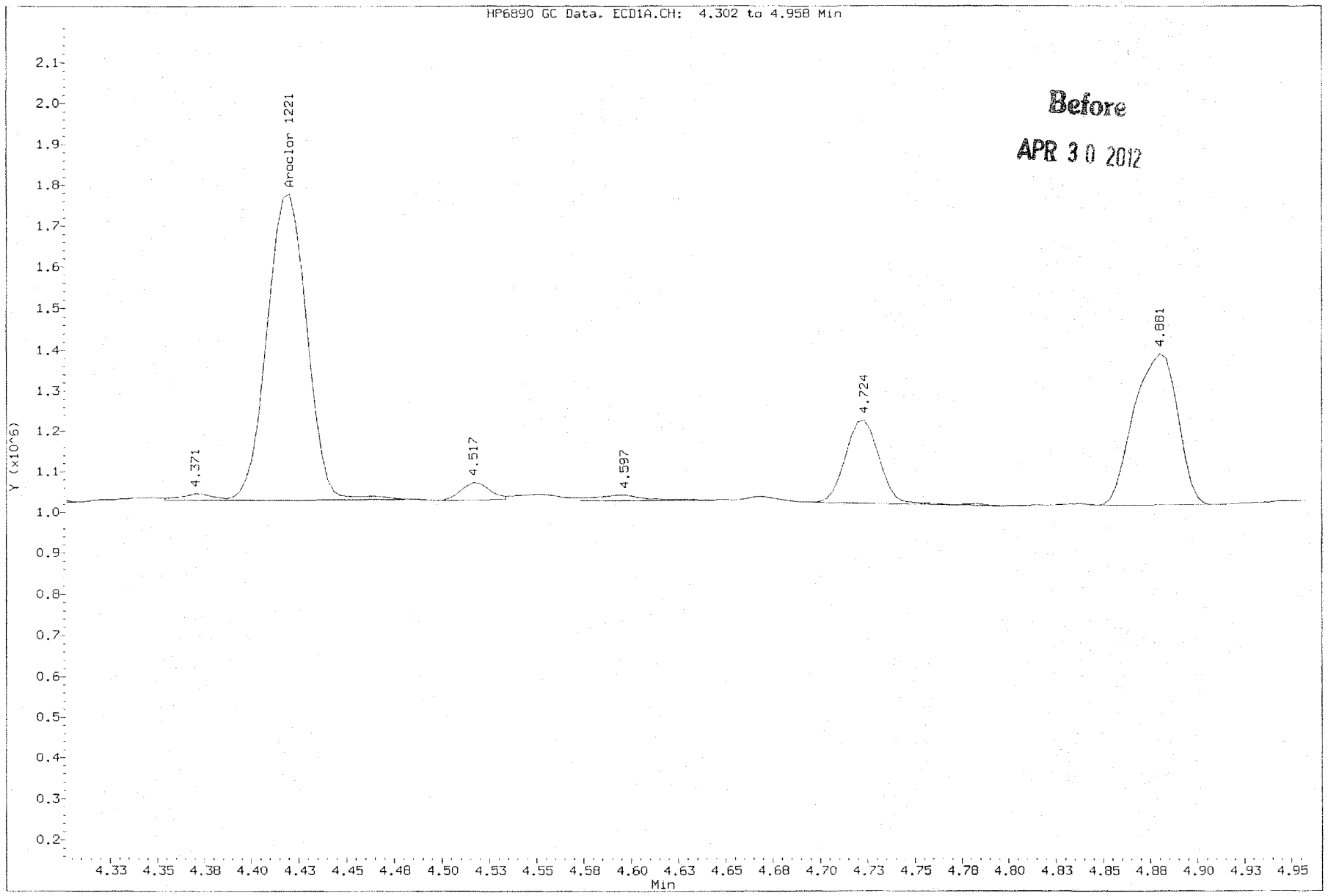
Data File: \\cashl\acqudata\GC22\data\0428120.b\0428F011.D
Injection Date: 28-APR-2012 21:14
Instrument: GC22.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 4.037 to 6.486 Min

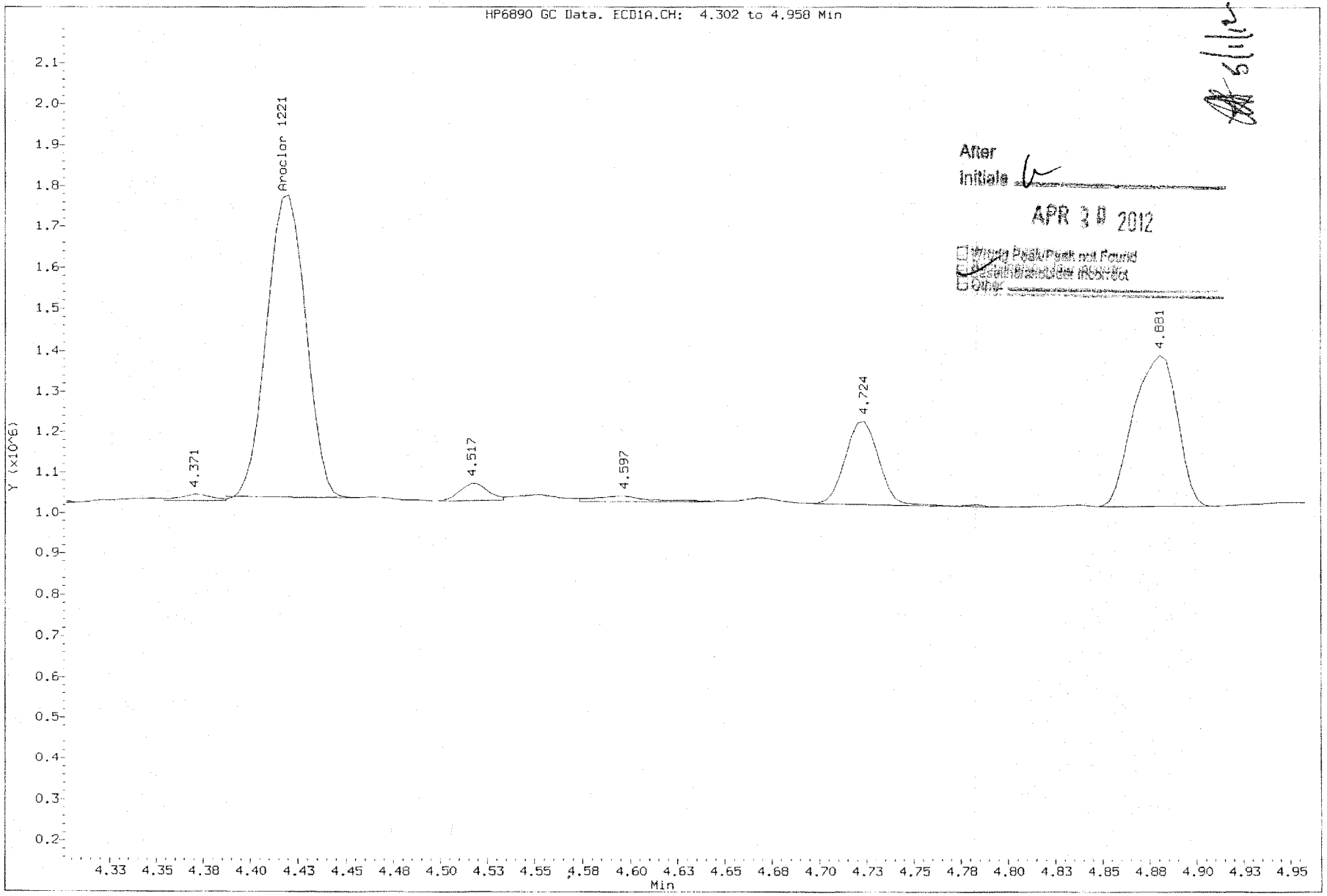


After
Initials
APR 30 2012
☐ Wrong Peak/Peak Not Found
☐ Baseline/Shoulder Integration
☐ Other

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F011.D
Injection Date: 28-APR-2012 21:14
Instrument: GC22.i
Client Sample ID:



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F011.D
Injection Date: 28-APR-2012 21:14
Instrument: GC22.i
Client Sample ID:



After
Initials
APR 30 2012
Wrong Peak/Peak not Found
Peak/Baseline Incorrect
Other

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F012.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F012.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F012.D
Inj Date : 28-APR-2012 21:37
Sample Info: 1221/1254 @ 200-100ppb | PCB5-93C
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1221+1254.sub
Sub List #2 : 1221+1254.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	4.420	5.373	1871503	4933322	231	235	80.00- 120.00	100.00(M)
	5.027	5.660	2740817	9855928	209	212	126.02- 189.04	146.45(M)
	5.130	5.740	2052563	9019446	207	210	97.46- 146.18	109.67(M)
	5.204	5.836	7236297	32099892	205	214	338.74- 508.10	386.66(M)
		Average of Peak Amounts =			213	218		
Aroclor 1254	7.454	8.620	8671795	45727683	93.0	87.5	80.00- 120.00	100.00
	7.987	9.253	6943300	45458794	94.9	108	64.48- 96.73	80.07
	8.143	9.793	13846221	32142416	94.2	79.8	129.28- 193.92	159.67
	8.390	10.263	7065987	24433831	96.0	86.4	64.06- 96.09	81.48
	8.680	10.550	5404546	37104270	94.1	90.3	48.68- 73.02	62.32
		Average of Peak Amounts =			94.4	90.4		

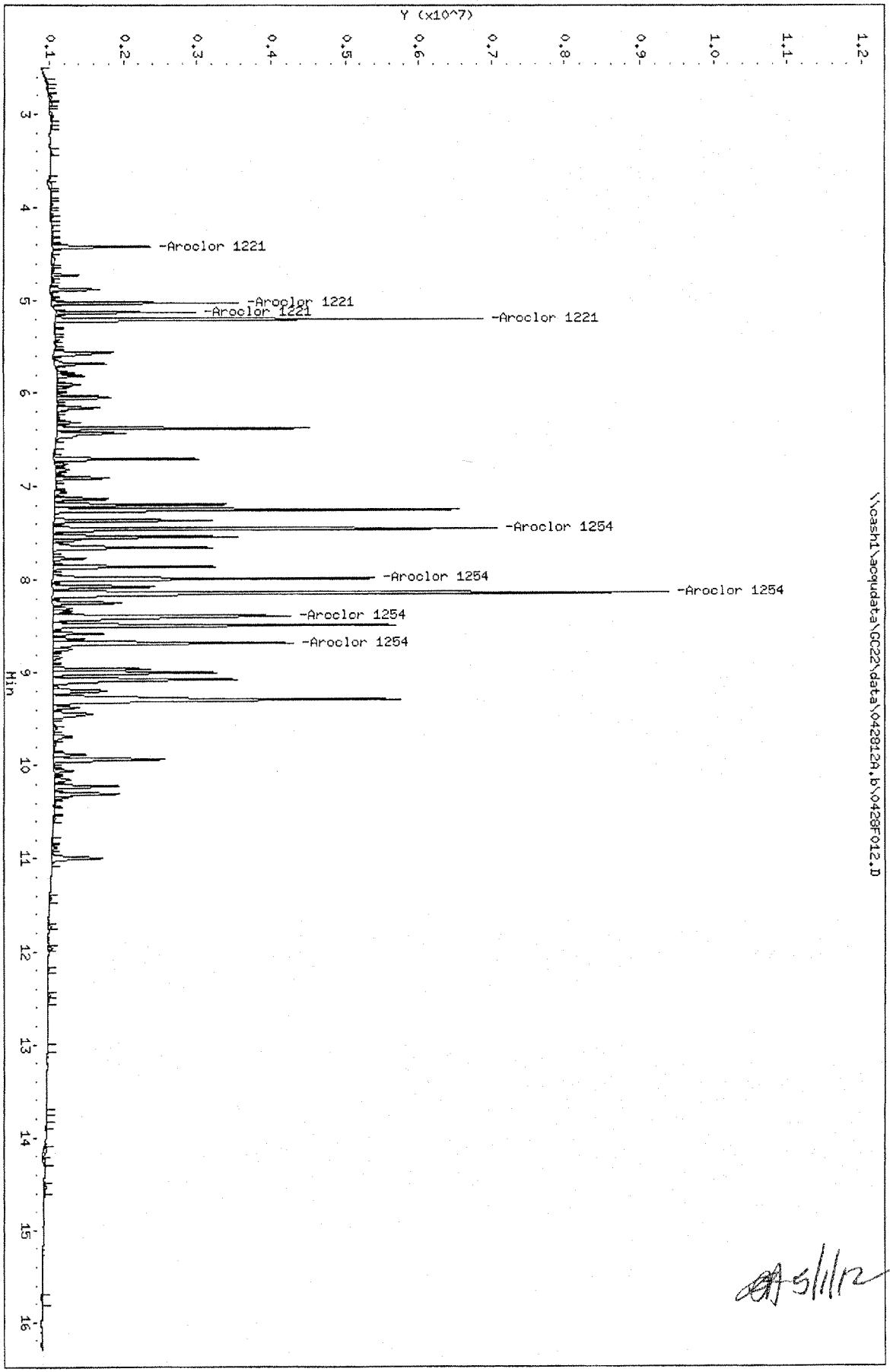
QC Flag Legend

M - Compound response manually integrated.

5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A,b\0428F012.D
Date : 28-APR-2012 21:37
Client ID:
Sample Info: 1221/1254 @ 200-100ppb I PCB5-93C
Column phase: DB-35MS

Instrument: GC22.i
Operator: CCotnam
Column diameter: 0.32



5/1/12

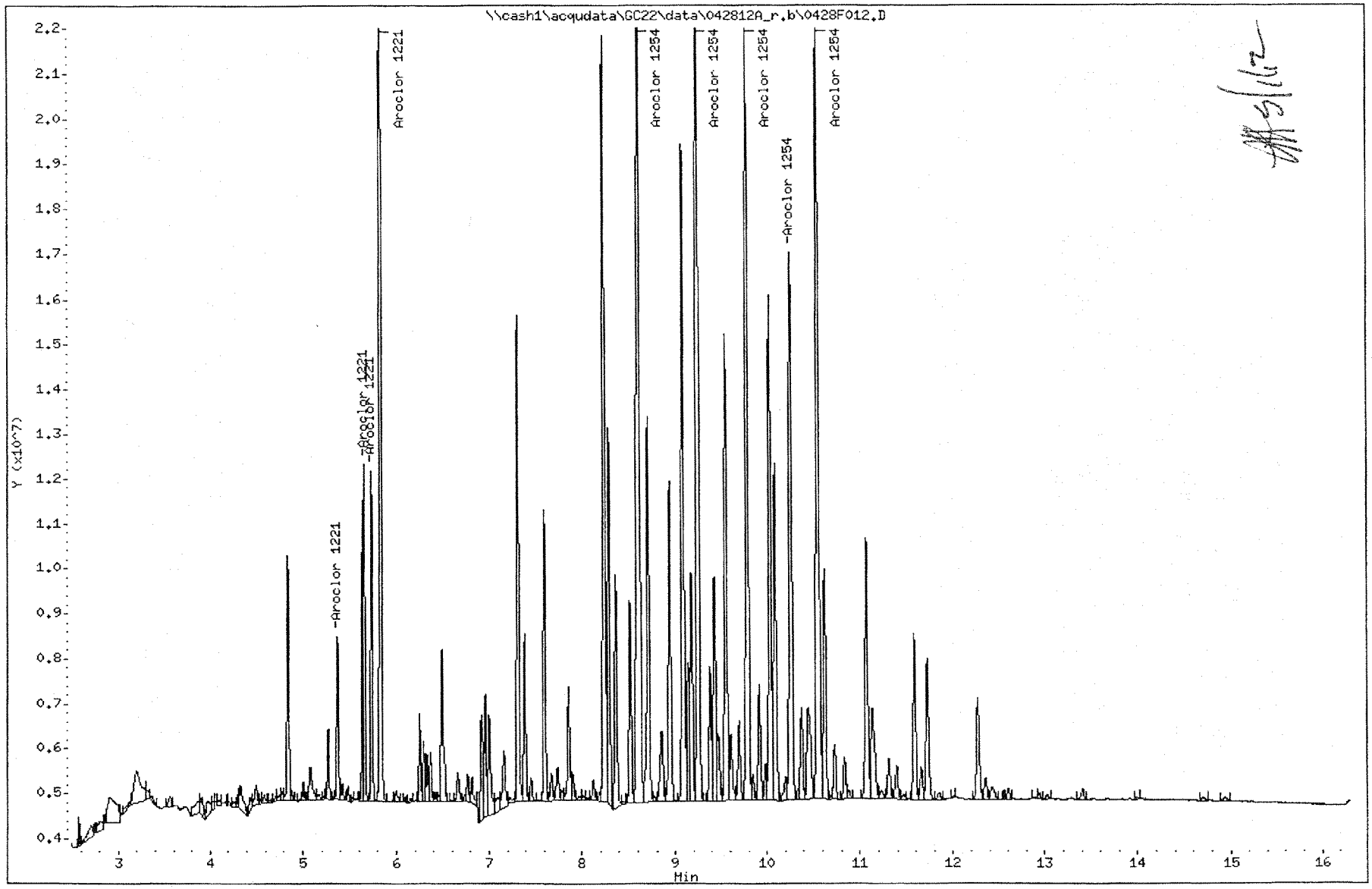
04/30/12

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F012.D
Date : 28-APR-2012 21:37
Client ID:
Sample Info: 1221/1254 @ 200-100ppb | PCB5-93C

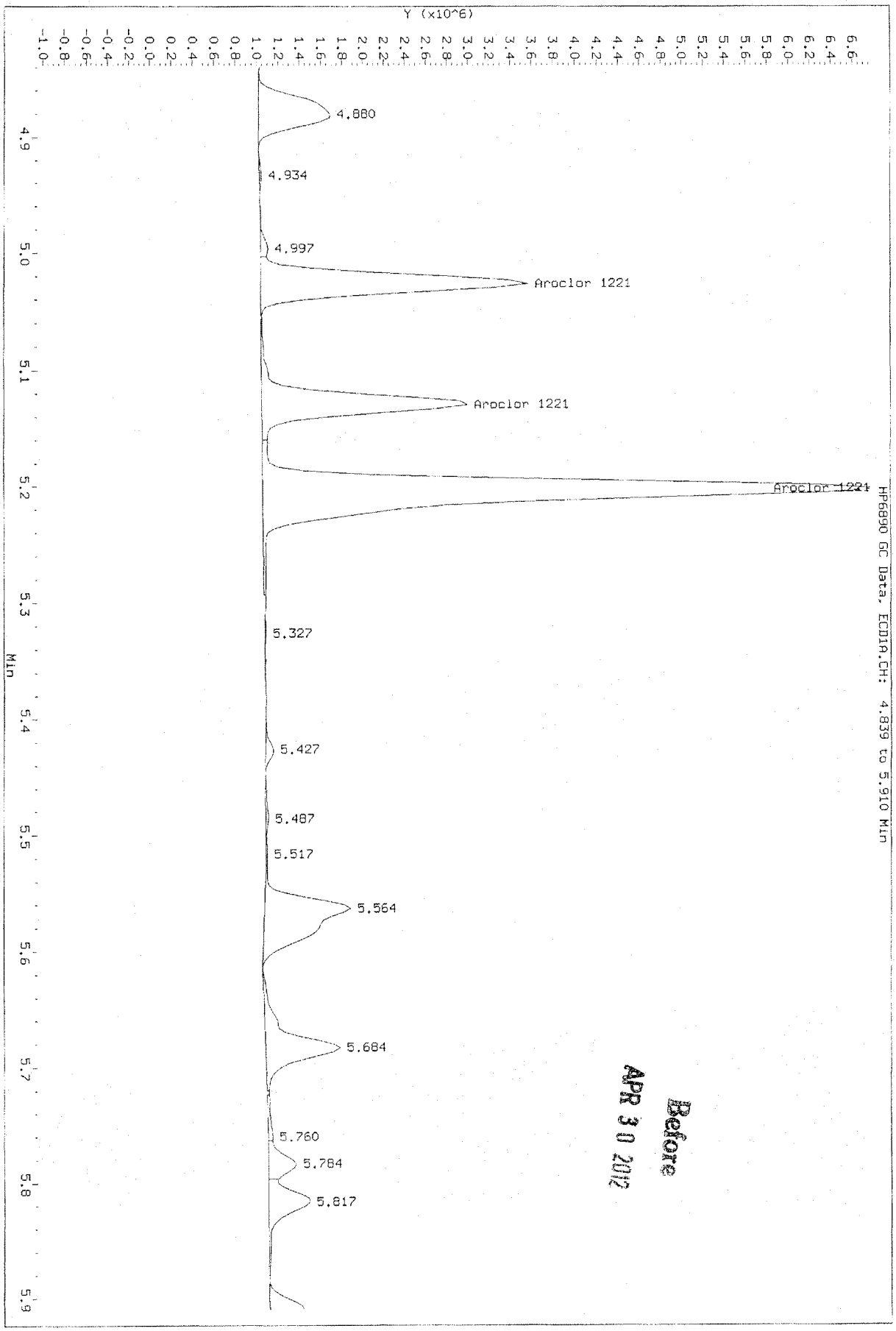
Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



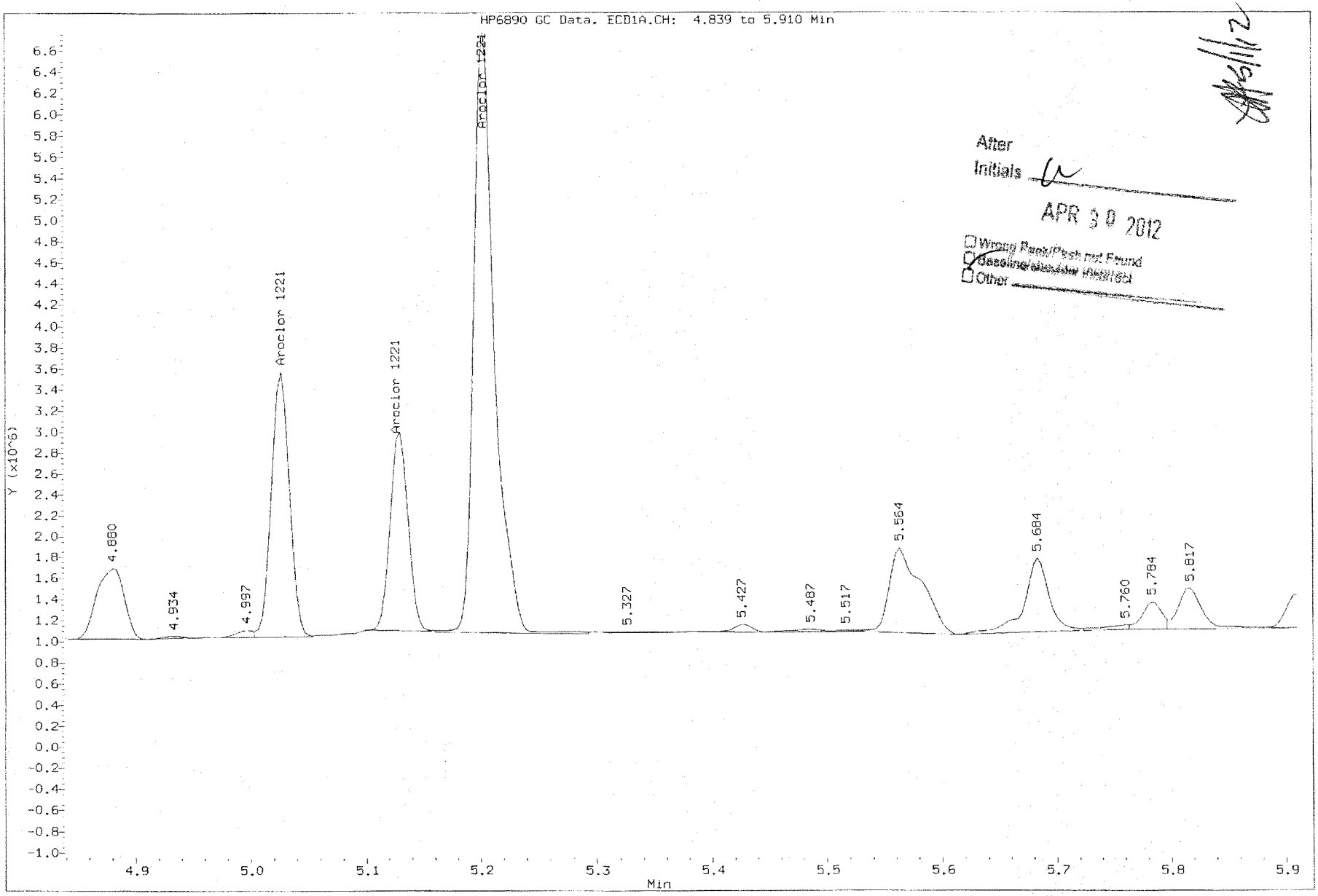
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F012.D
Injection Date: 28-APR-2012 21:37
Instrument: GC22.1
Client Sample ID:



HP6890 GC Data, ECD1A.CH: 4.839 to 5.910 Min

Before
APR 30 2012

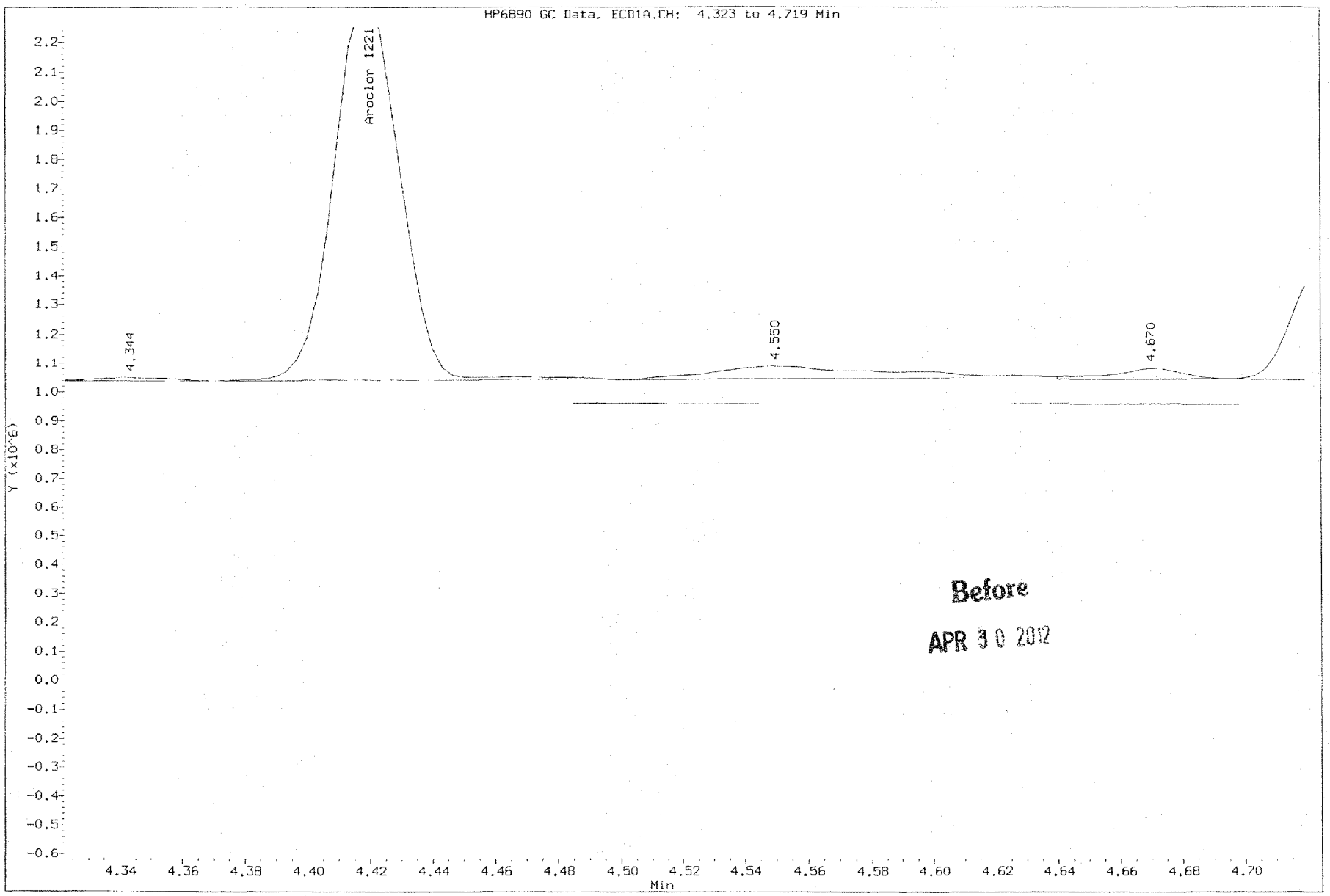
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F012.D
Injection Date: 28-APR-2012 21:37
Instrument: GC22.i
Client Sample ID:



After
Initials
APR 30 2012
☐ Wrong Peak/Peak not Found
☐ Baseline/Integration Incorrect
☐ Other

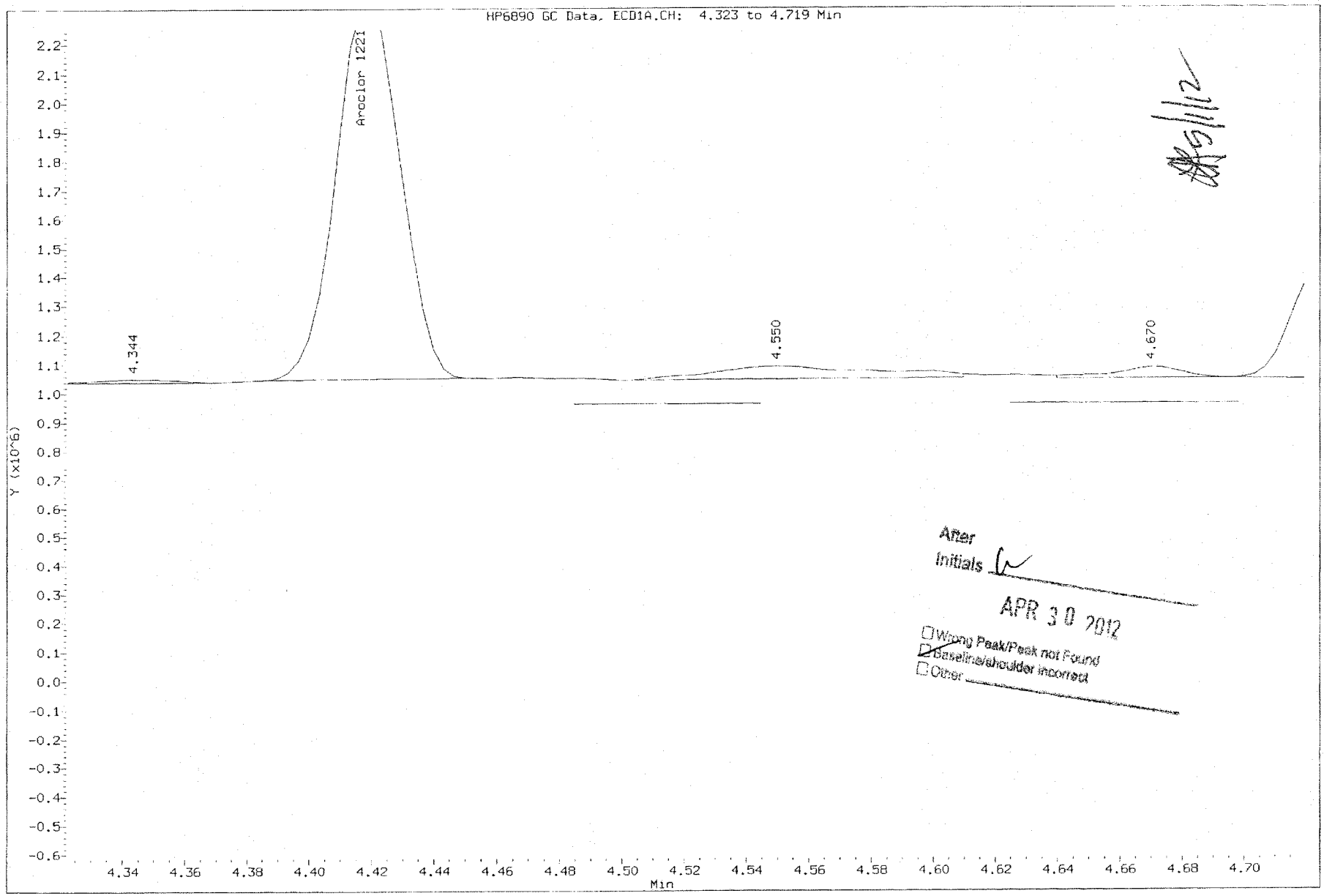
584

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F012.D
Injection Date: 28-APR-2012 21:37
Instrument: GC22.i
Client Sample ID:



585

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F012.D
Injection Date: 28-APR-2012 21:37
Instrument: GC22.i
Client Sample ID:



After
Initials
APR 30 2012
☐ Wrong Peak/Peak not Found
☑ Baseline/shoulder incorrect
☐ Other

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F013.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F013.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F013.D
Inj Date : 28-APR-2012 21:59
Sample Info: 1221/1254 @ 400-200ppb | PCB5-93B
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1221+1254.sub
Sub List #2 : 1221+1254.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	4.418	5.371	3368443	8998828	434	453	80.00- 120.00	100.00(M)
	5.025	5.657	5306195	19051681	412	421	126.02- 189.04	157.53(M)
	5.128	5.734	4103475	17792544	425	429	97.46- 146.18	121.82(M)
	5.201	5.834	14262765	61743945	410	425	338.74- 508.10	423.42(M)
		Average of Peak Amounts =			420	432		
Aroclor 1254	7.451	8.617	17273604	89997440	185	172	80.00- 120.00	100.00
	7.985	9.251	13923476	90418550	190	199	64.48- 96.73	80.61
	8.141	9.791	27913770	62890384	190	165	129.28- 193.92	161.60
	8.388	10.261	13831778	48355720	188	178	64.06- 96.09	80.07
	8.678	10.551	10511398	72643488	183	177	48.68- 73.02	60.85
		Average of Peak Amounts =			187	178		

QC Flag Legend

M - Compound response manually integrated.

5/1/12

5/1/12

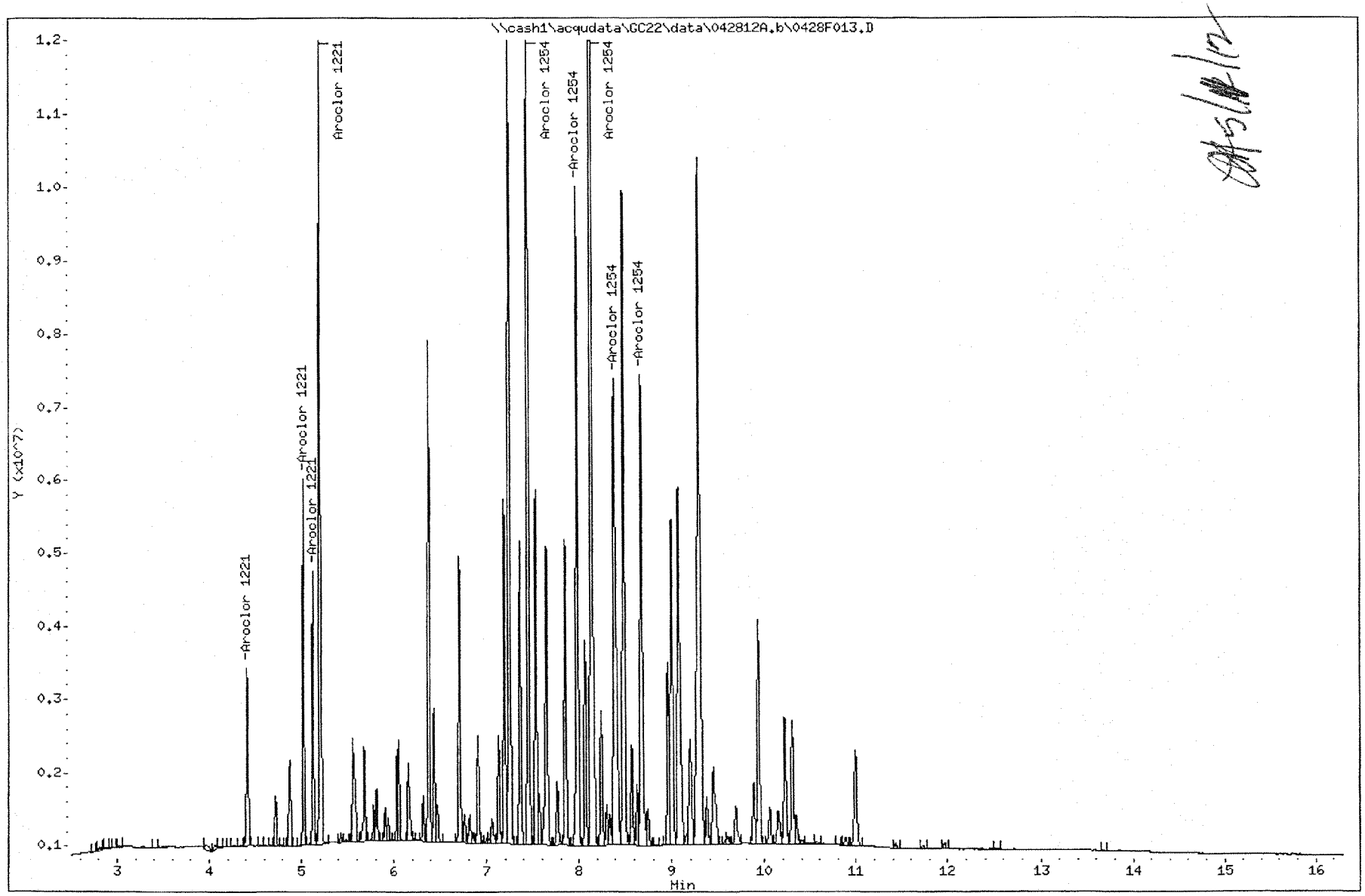
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F013.D
Date : 28-APR-2012 21:59
Client ID:
Sample Info: 1221/1254 @ 400-200ppb | PCB5-93B

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-35MS

Column diameter: 0.32



588

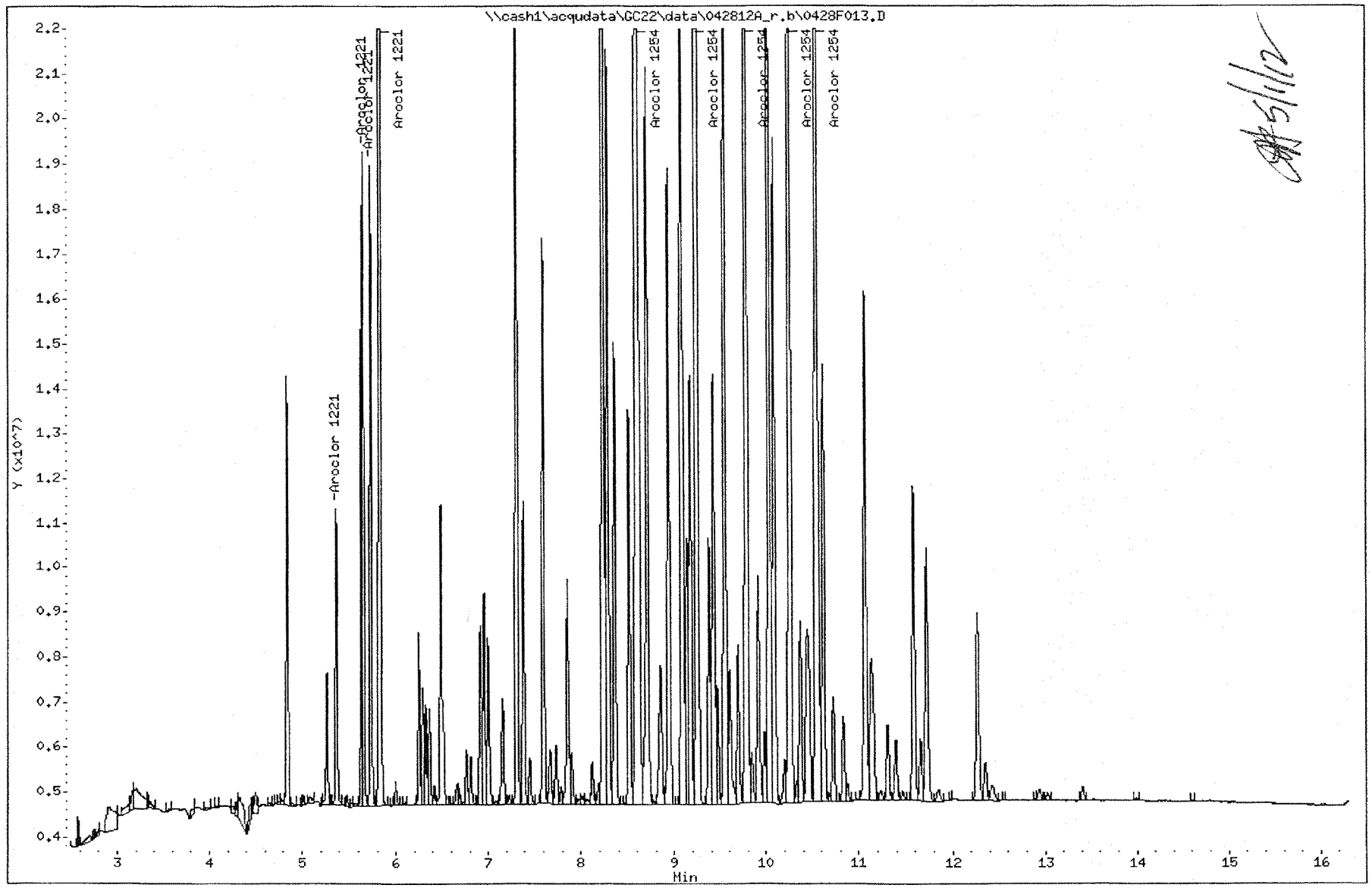
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F013.D
Date : 28-APR-2012 21:59
Client ID:
Sample Info: 1221/1254 @ 400-200ppb | PCB5-93B

Instrument: GC22.i

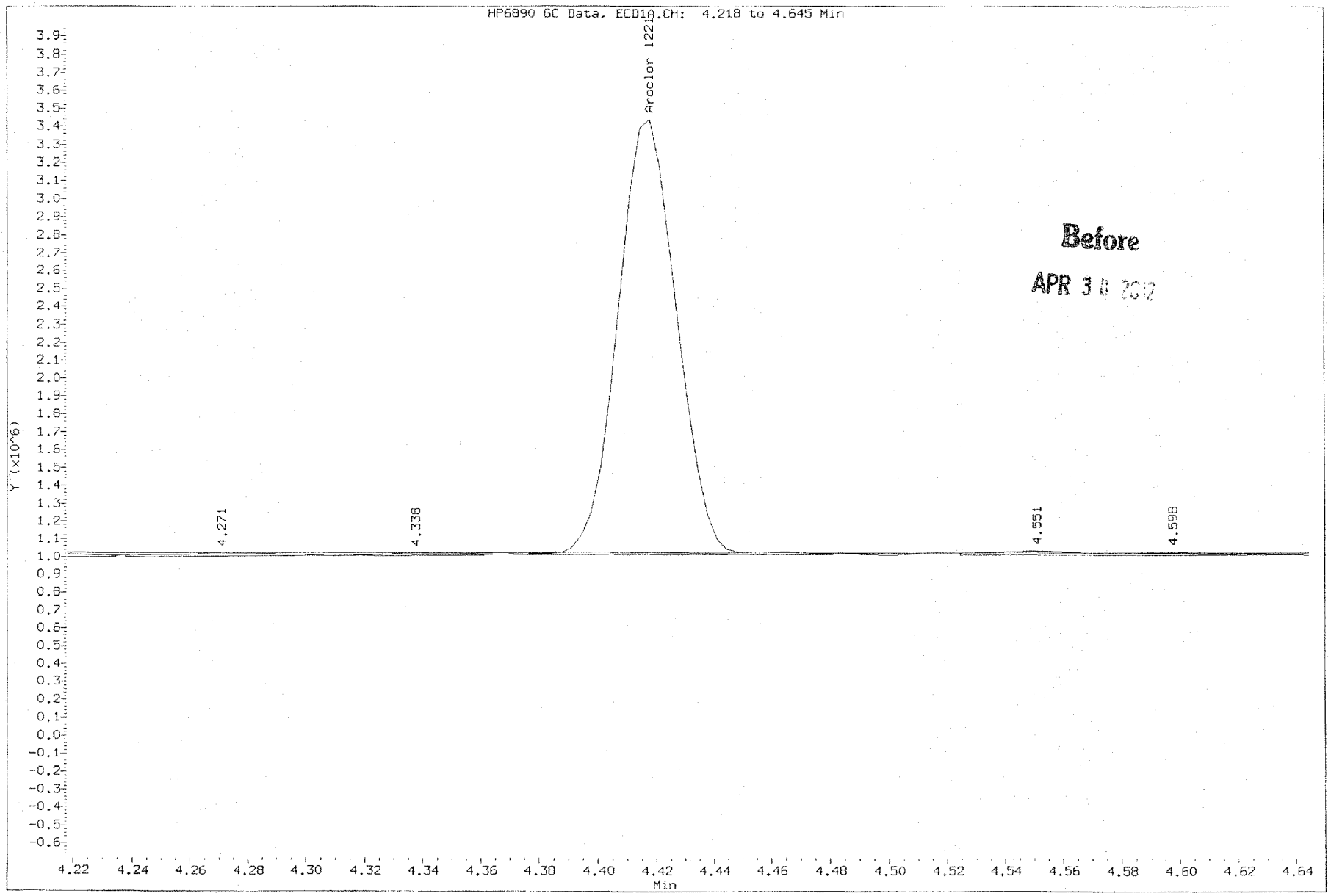
Operator: CCotnam

Column phase: DB-XLB

Column diameter: 0.32



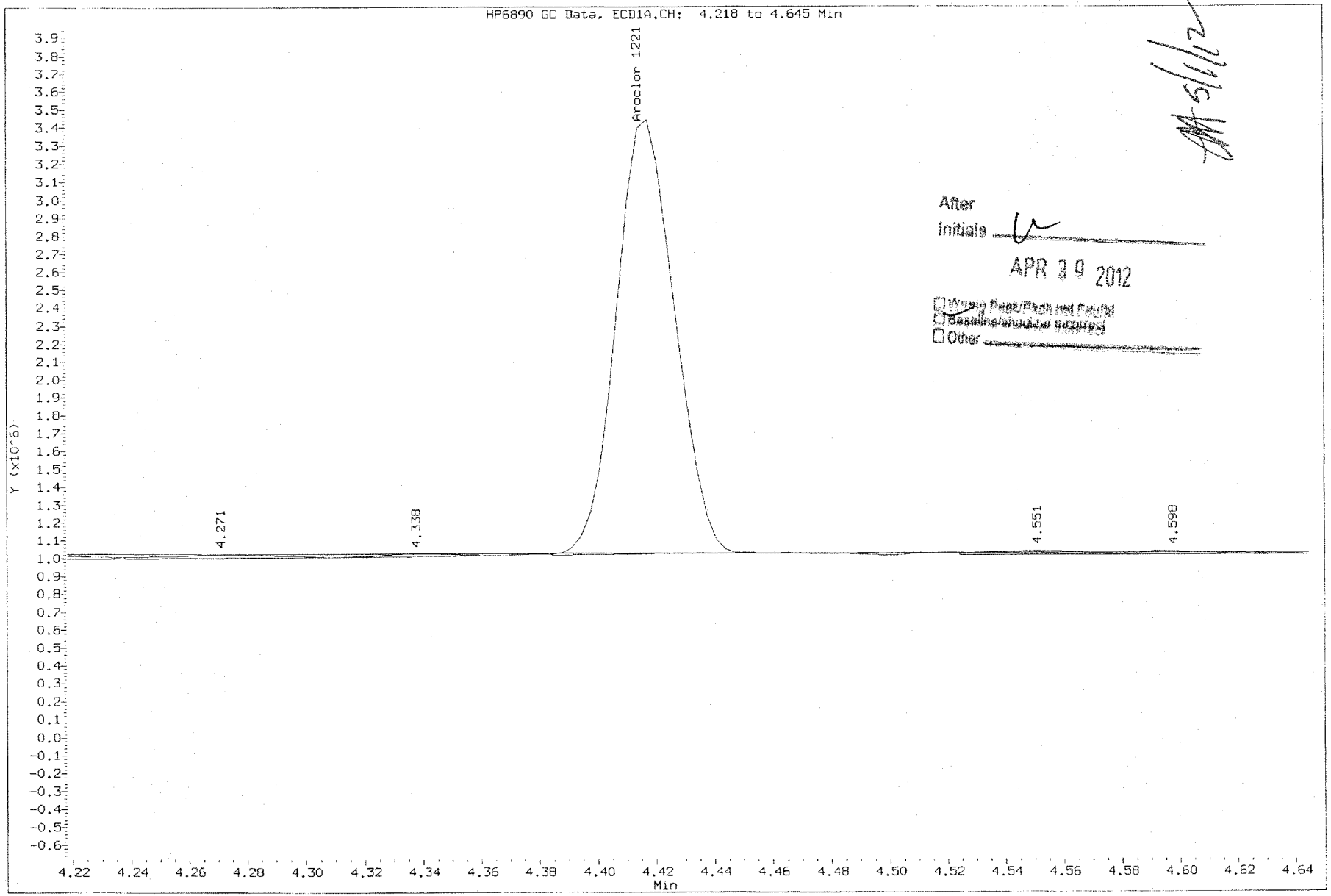
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F013.D
Injection Date: 28-APR-2012 21:59
Instrument: GC22.i
Client Sample ID:



Before

APR 30 2012

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F013.D
Injection Date: 28-APR-2012 21:59
Instrument: GC22.1
Client Sample ID:



After
Initials
APR 30 2012
Wrong Peak(s) Integrated
Baseline/Integration Incorrect
Other

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F014.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F014.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F014.D
Inj Date : 28-APR-2012 22:22
Sample Info: 1221/1254 @ 1000-500ppb | PCB5-93A
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1221+1254.sub
Sub List #2 : 1221+1254.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	4.415	5.371	7331040	18460450	974	962	80.00- 120.00	100.00
	5.025	5.657	12613188	44074499	992	988	126.02- 189.04	172.05
	5.128	5.737	9394381	40011935	987	983	97.46- 146.18	128.15
	5.201	5.834	34286212	140365824	994	985	338.74- 508.10	467.69
		Average of Peak Amounts =			987	980		
Aroclor 1254	7.451	8.617	44980930	224129497	482	429	80.00- 120.00	100.00
	7.988	9.254	36703553	230837946	502	470	64.48- 96.73	81.60
	8.141	9.791	73873132	157459702	503	443	129.28- 193.92	164.23
	8.388	10.261	35521343	122277232	482	472	64.06- 96.09	78.97
	8.678	10.547	27047990	183110998	471	446	48.68- 73.02	60.13
		Average of Peak Amounts =			488	452		

5/1/12
04/30/12

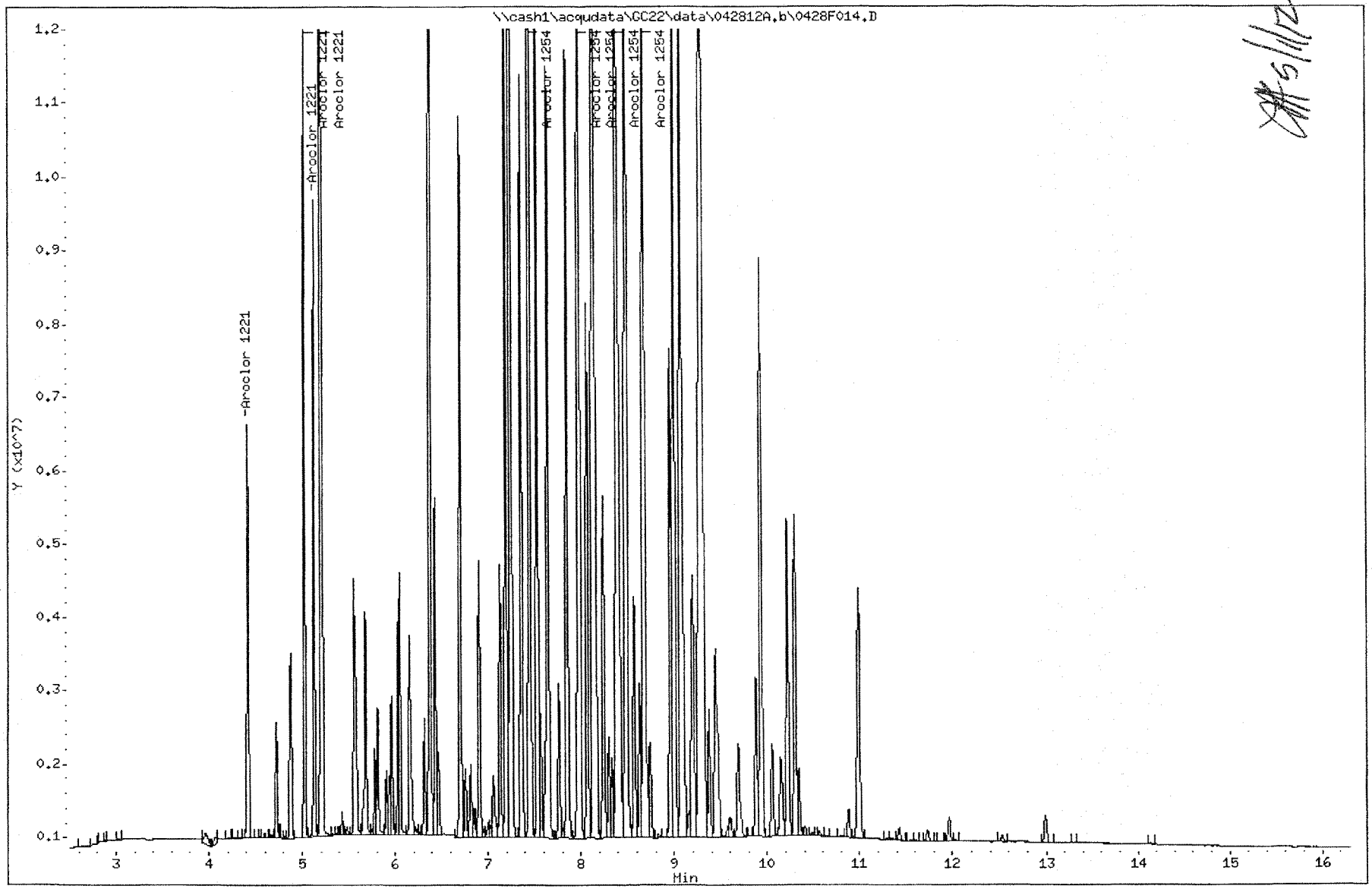
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F014.D
Date : 28-APR-2012 22:22
Client ID:
Sample Info: 1221/1254 @ 1000-500ppb | PCB5-93A

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-35MS

Column diameter: 0.32

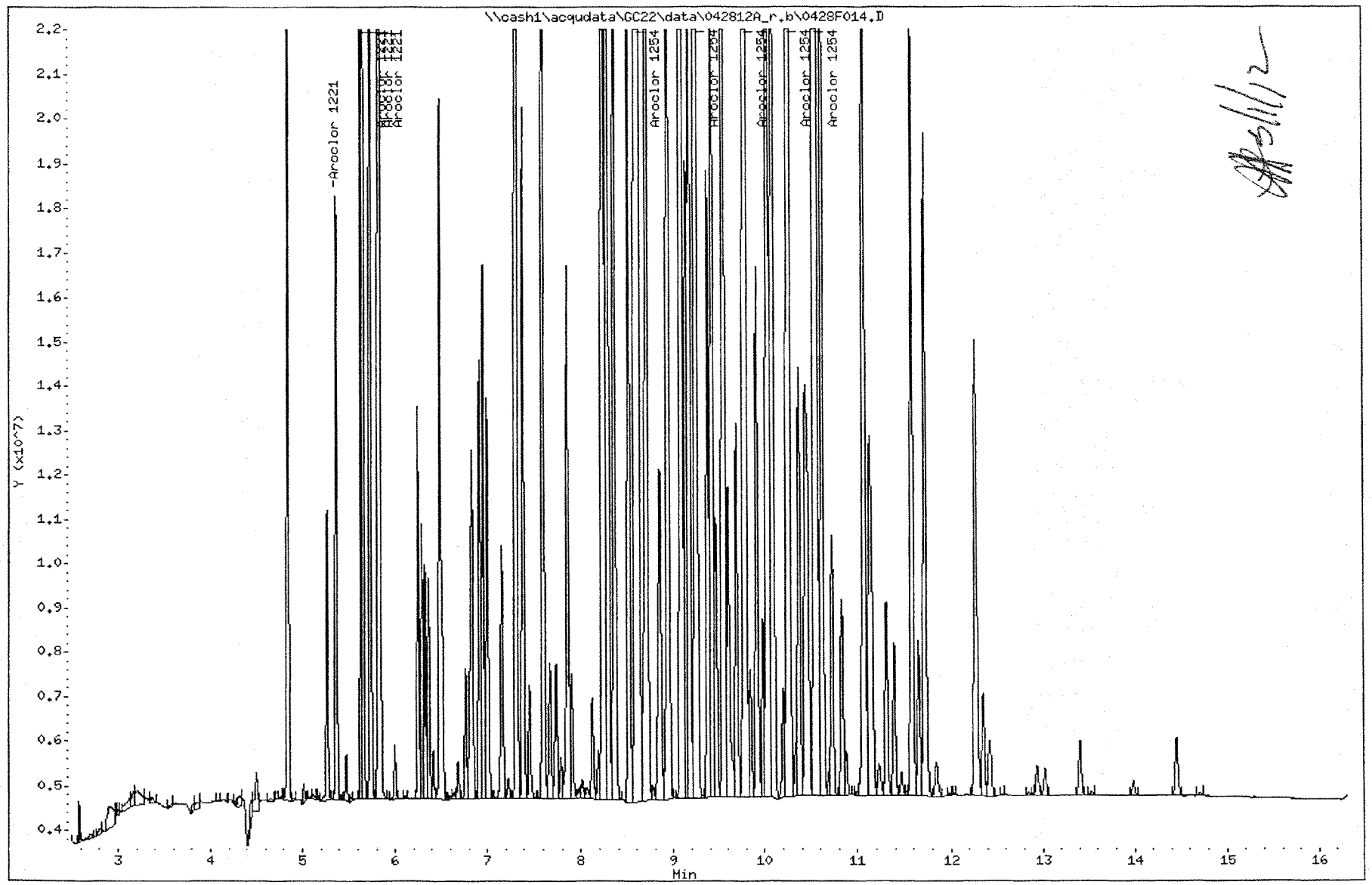


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F014.D
Date : 28-APR-2012 22:22
Client ID:
Sample Info: 1221/1254 @ 1000-500ppb | PCB5-93A

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F015.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F015.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F015.D
Inj Date : 28-APR-2012 22:45
Sample Info: 1232/1262 @ 2.5ppb | PCB5-93H @20X
Misc Info :
Cal Date : 30-APR-2012 13:36
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1232+1262.sub
Sub List #2 : 1232+1262.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	5.202	5.835	95907	547752	2.44	3.56	80.00- 120.00	100.00(M)
	5.559	6.292	114809	174612	3.12	3.14	88.50- 132.74	119.71(M)
	5.812	6.485	49717	139783	3.11	2.08	38.59- 57.89	51.84(M)
	6.035	6.915	88159	455583	3.02	3.52	70.38- 105.58	91.92(M)
		Average of Peak Amounts =			2.92	3.08		
Aroclor 1262	9.375	10.038	425740	1054736	2.91	2.85	80.00- 120.00	100.00
	9.882	10.728	371185	1788638	2.84	3.02	72.35- 108.53	87.19
	10.302	11.725	693027	2853081	2.87	3.00	135.98- 203.98	162.78
	10.882	12.288	314438	2033743	2.86	3.08	60.43- 90.65	73.86
	10.995	12.428	539098	1395900	2.89	3.12	103.29- 154.94	126.63
		Average of Peak Amounts =			2.87	3.01		

QC Flag Legend

M - Compound response manually integrated.

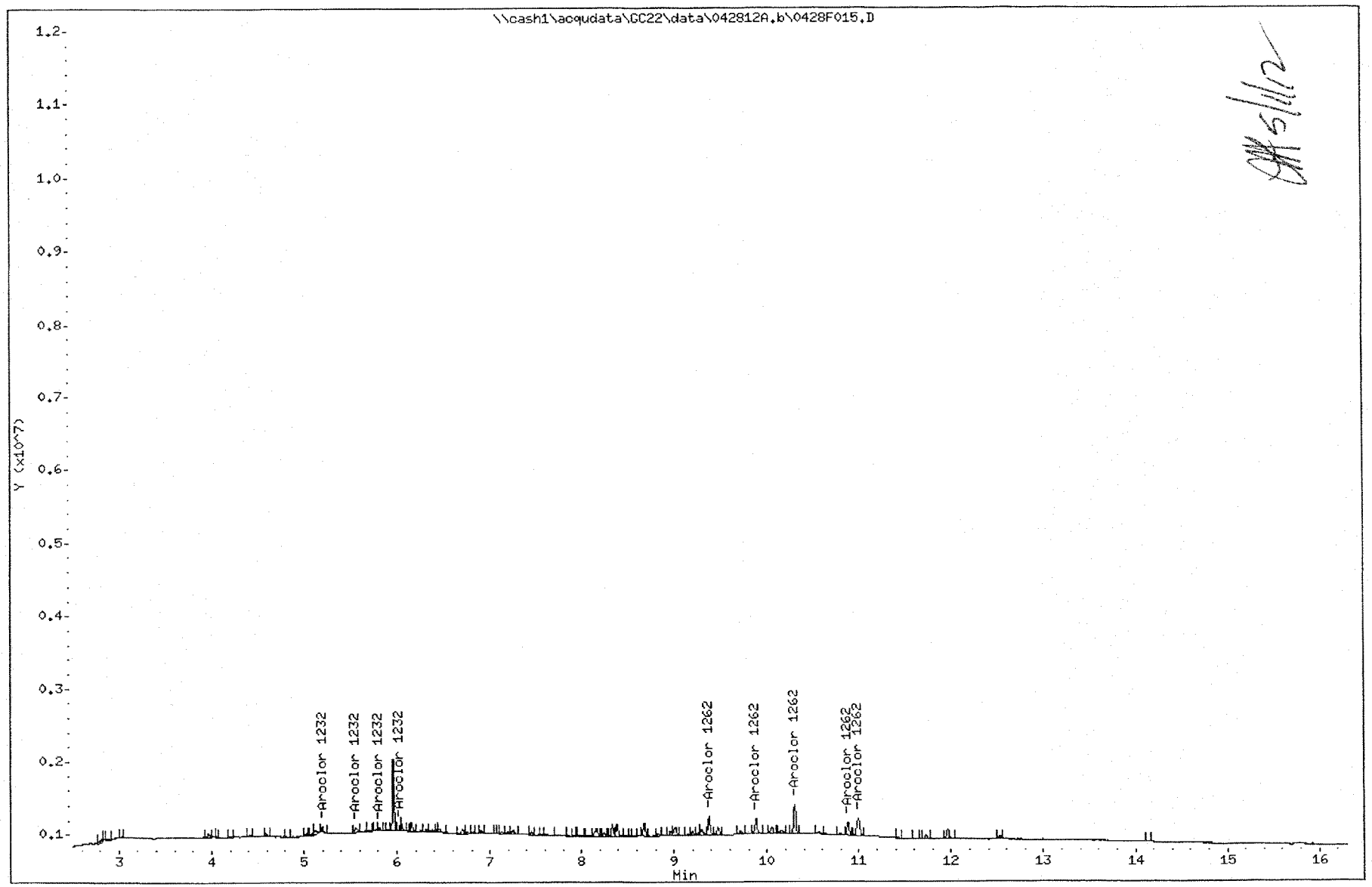
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F015.D
Date : 28-APR-2012 22:45
Client ID:
Sample Info: 1232/1262 @ 2.5ppb | PCB5-93H @20X

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

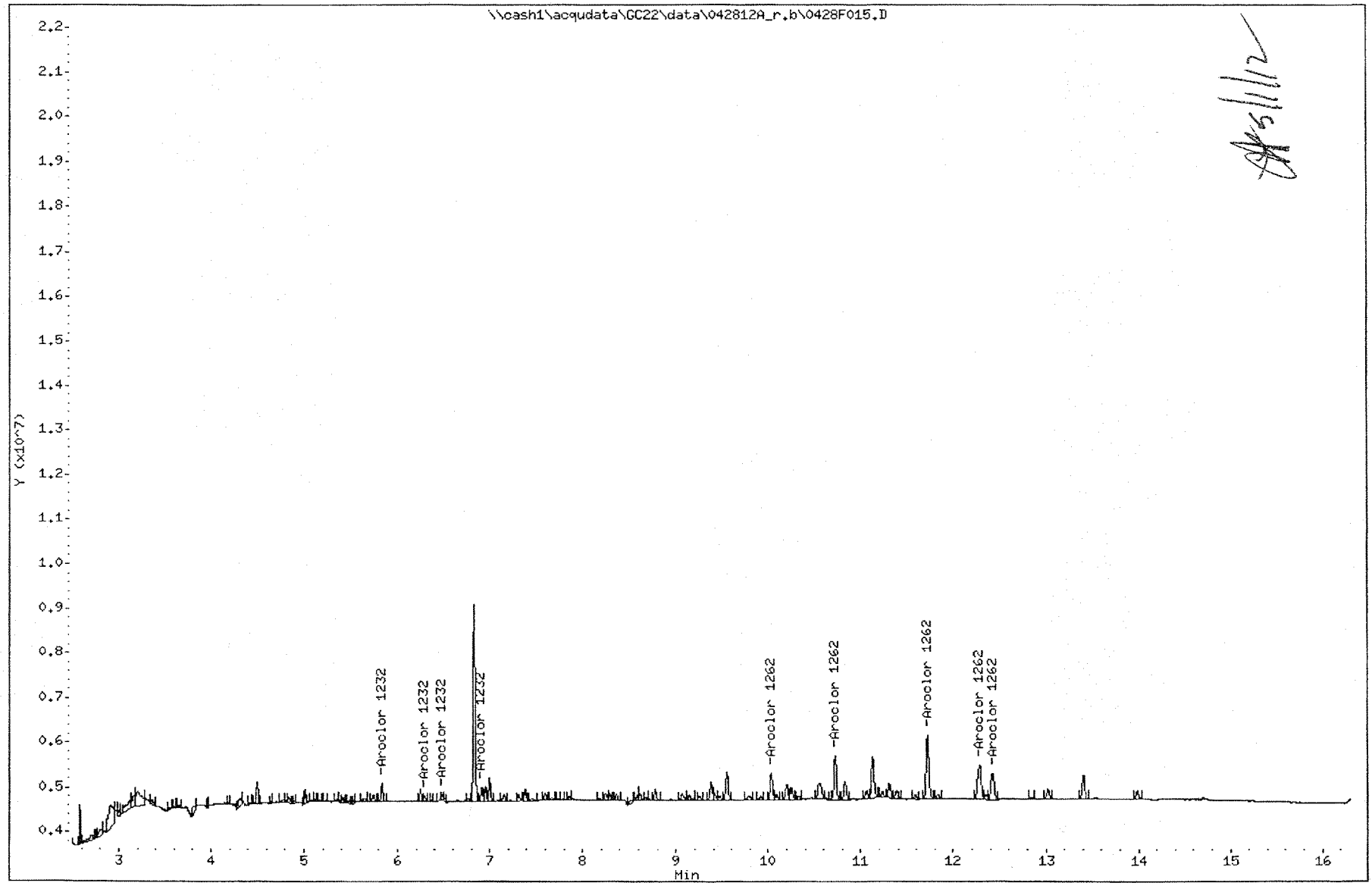


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F015.D
Date : 28-APR-2012 22:45
Client ID:
Sample Info: 1232/1262 @ 2.5ppb I PCB5-93H @20X

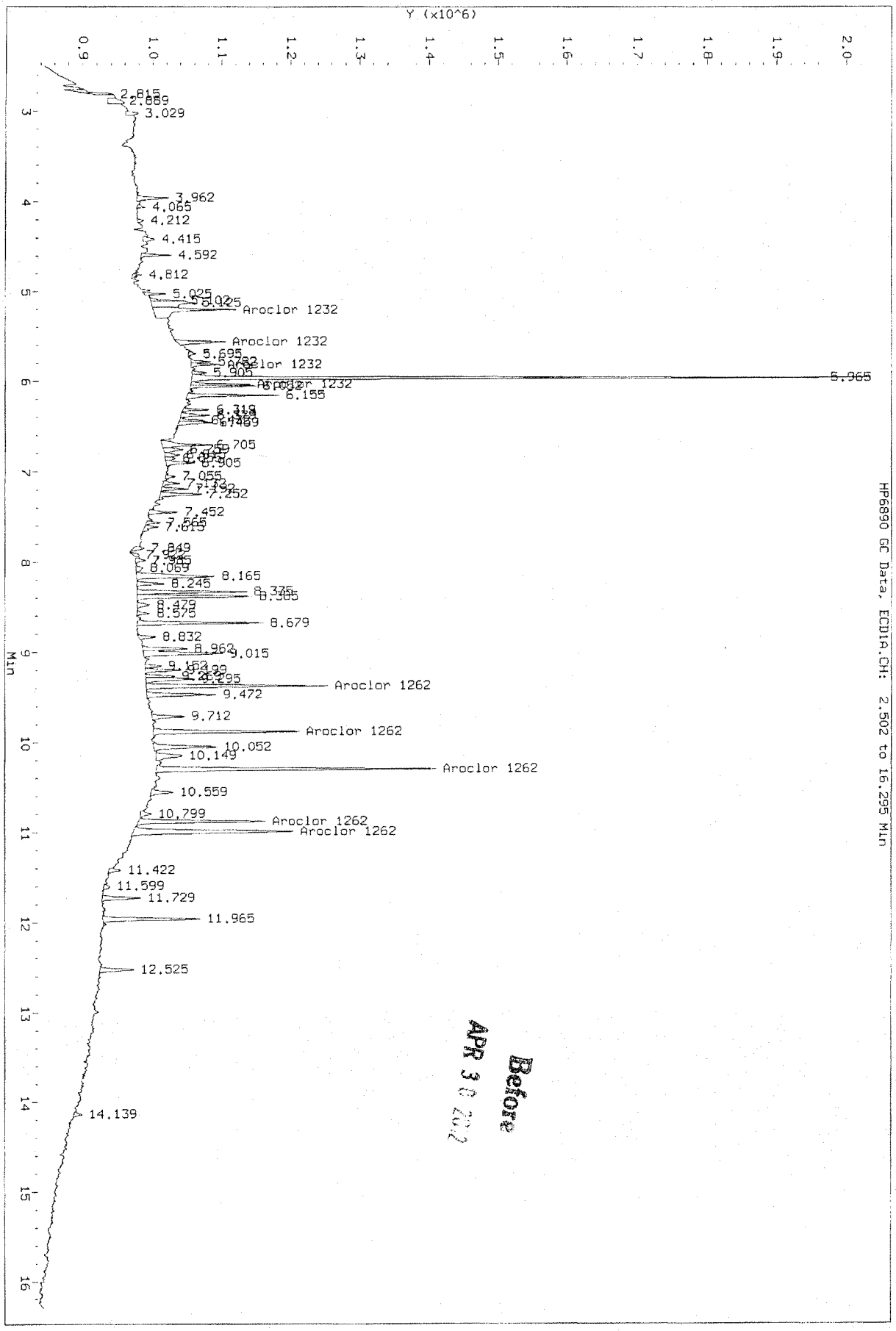
Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



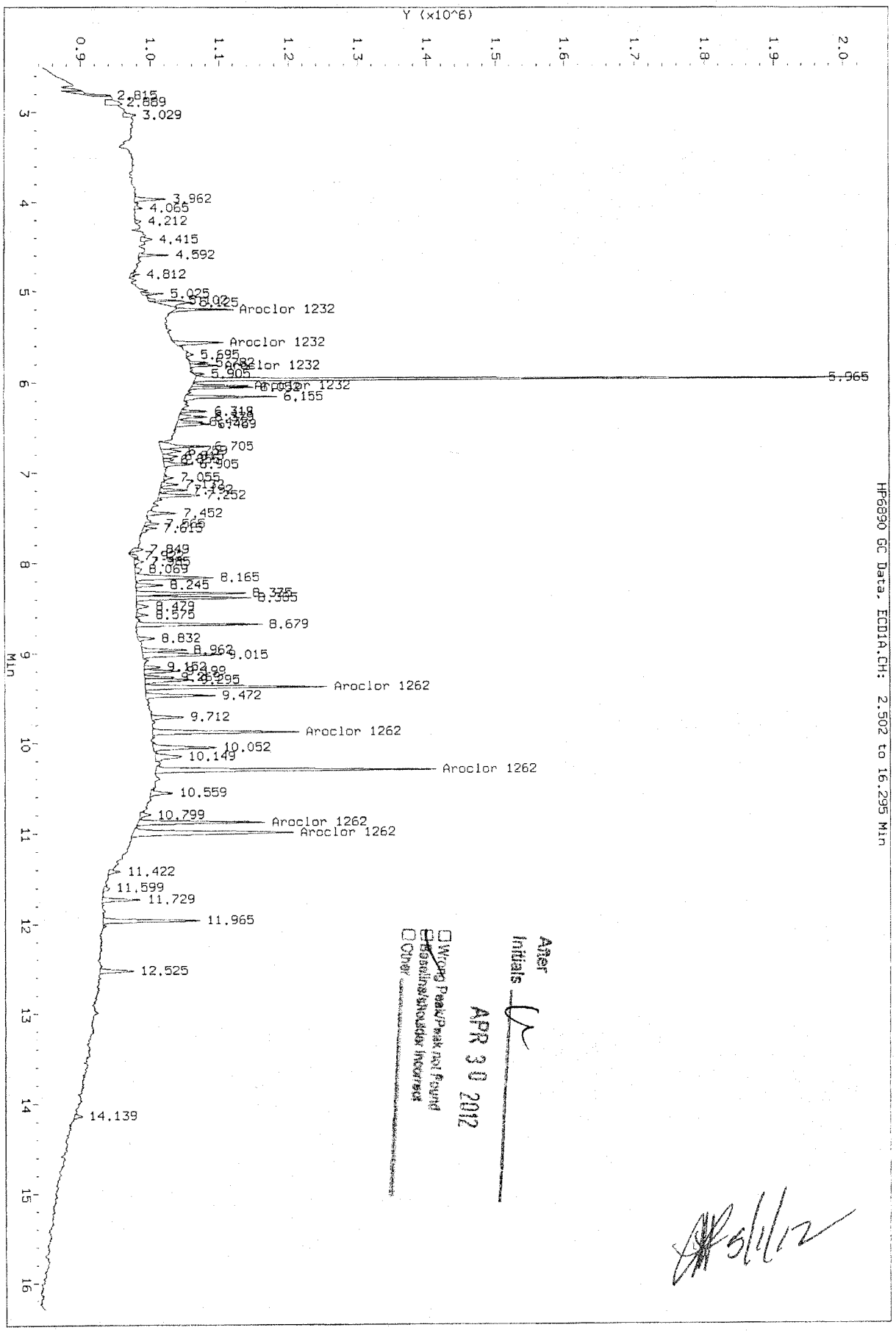
Data File: \\cash1\acqudata\GC22\data\0428120.b\0428F015.D
Injection Date: 28-APR-2012 22:45
Instrument: GC22.i
Client Sample ID:



HP6890 GC Data, ECD1A.CH: 2.502 to 16.295 Min

Before
APR 30 2012

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F015.D
Injection Date: 28-APR-2012 22:45
Instrument: GC22.i
Client Sample ID:



HP6890 GC Data, ECD1A.CH: 2.502 to 16.295 Min

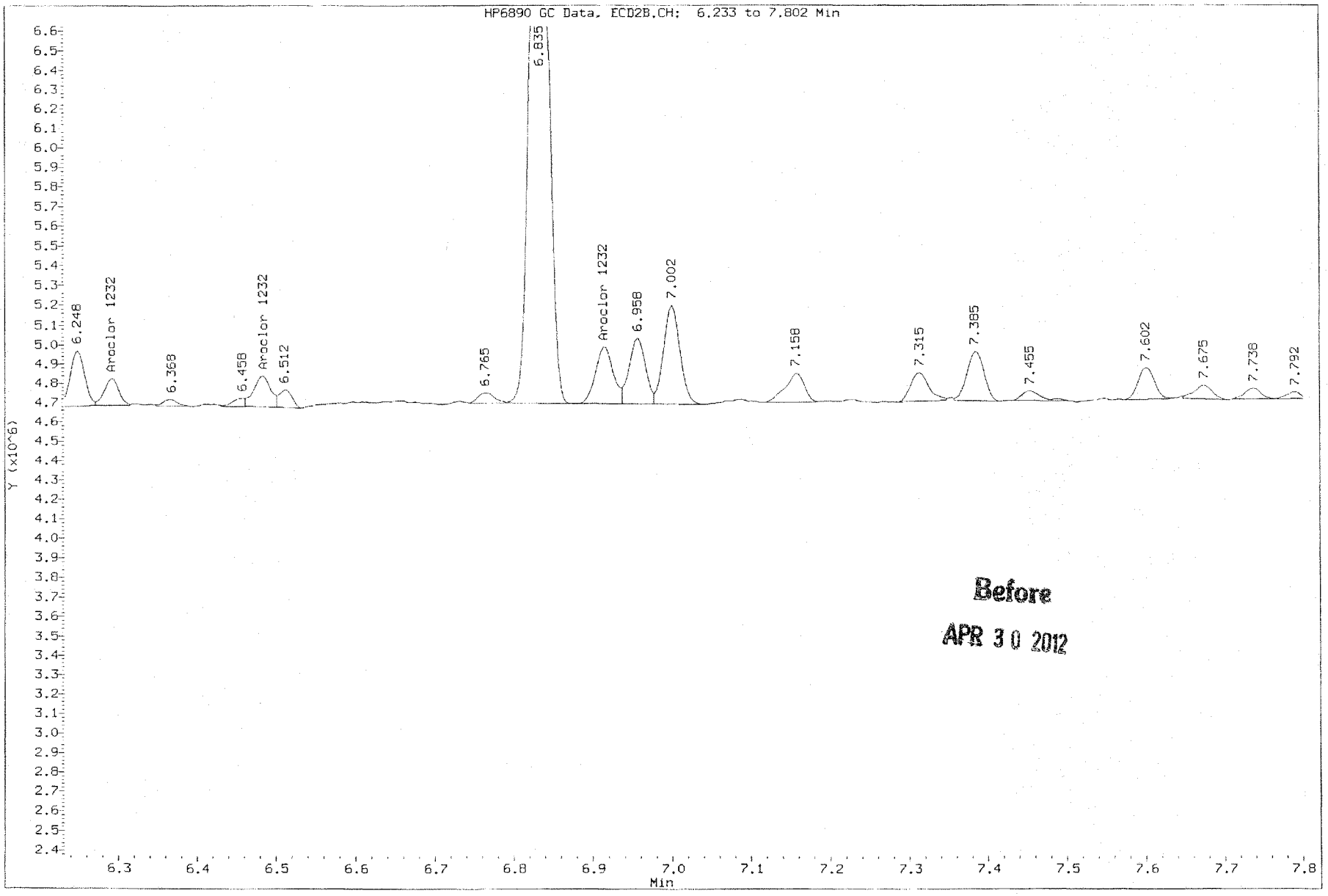
Analyst Initials

APR 30 2012

☐ Wrong Peak/Peak not Found
☐ Baseline/Shoulder Incorrect
☐ Other

5/1/12

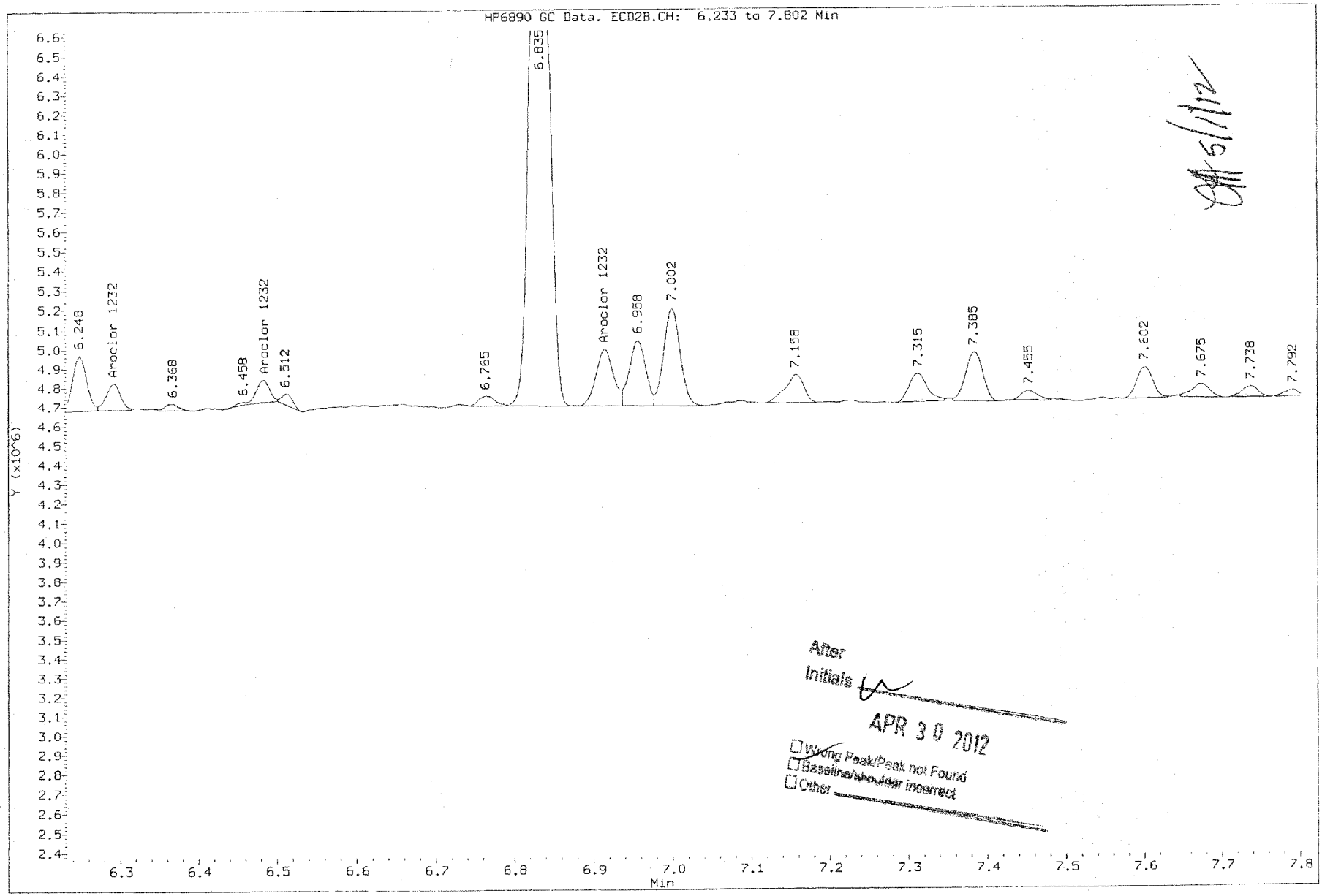
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F015.D
Injection Date: 28-APR-2012 22:45
Instrument: GC22.i
Client Sample ID:



Before

APR 30 2012

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F015.D
Injection Date: 28-APR-2012 22:45
Instrument: GC22.i
Client Sample ID:



After
Initials
APR 30 2012
☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other

601

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F016.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F016.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F016.D
Inj Date : 28-APR-2012 23:08
Sample Info: 1232/1262 @ 5ppb | PCB5-93H @10X
Misc Info :
Cal Date : 30-APR-2012 13:36
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1232+1262.sub
Sub List #2 : 1232+1262.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	5.200	5.836	197019	1005848	5.88	6.54	80.00- 120.00	100.00(M)
	5.560	6.293	219105	369349	5.95	6.65	88.50- 132.74	111.21(M)
	5.813	6.486	90584	347109	5.77	5.42	38.59- 57.89	45.98(M)
	6.036	6.919	165128	831383	5.66	6.43	70.38- 105.58	83.81(M)
			Average of Peak Amounts =		5.82	6.26		
Aroclor 1262	9.376	10.039	819595	2042996	5.60	5.53	80.00- 120.00	100.00
	9.883	10.729	710834	3425121	5.45	5.79	72.35- 108.53	86.73
	10.303	11.723	1287182	5334141	5.32	5.60	135.98- 203.98	157.05
	10.883	12.293	602834	3830204	5.49	5.80	60.43- 90.65	73.55
	10.993	12.429	1017418	2609948	5.45	5.84	103.29- 154.94	124.14
			Average of Peak Amounts =		5.46	5.71		

QC Flag Legend

M - Compound response manually integrated.

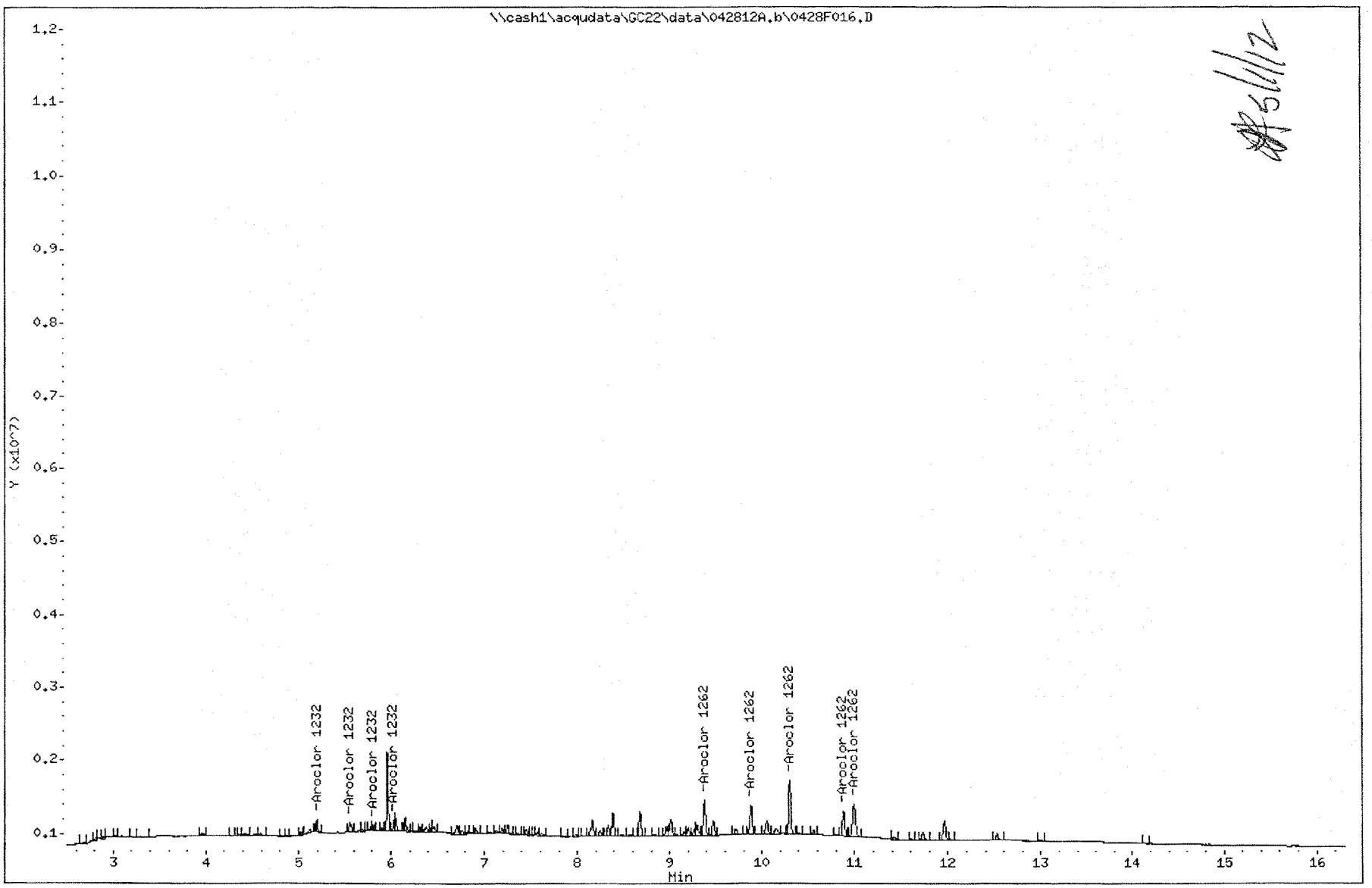
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F016.D
Date : 28-APR-2012 23:08
Client ID:
Sample Info: 1232/1262 @ 5ppb | PCB5-93H @10X

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

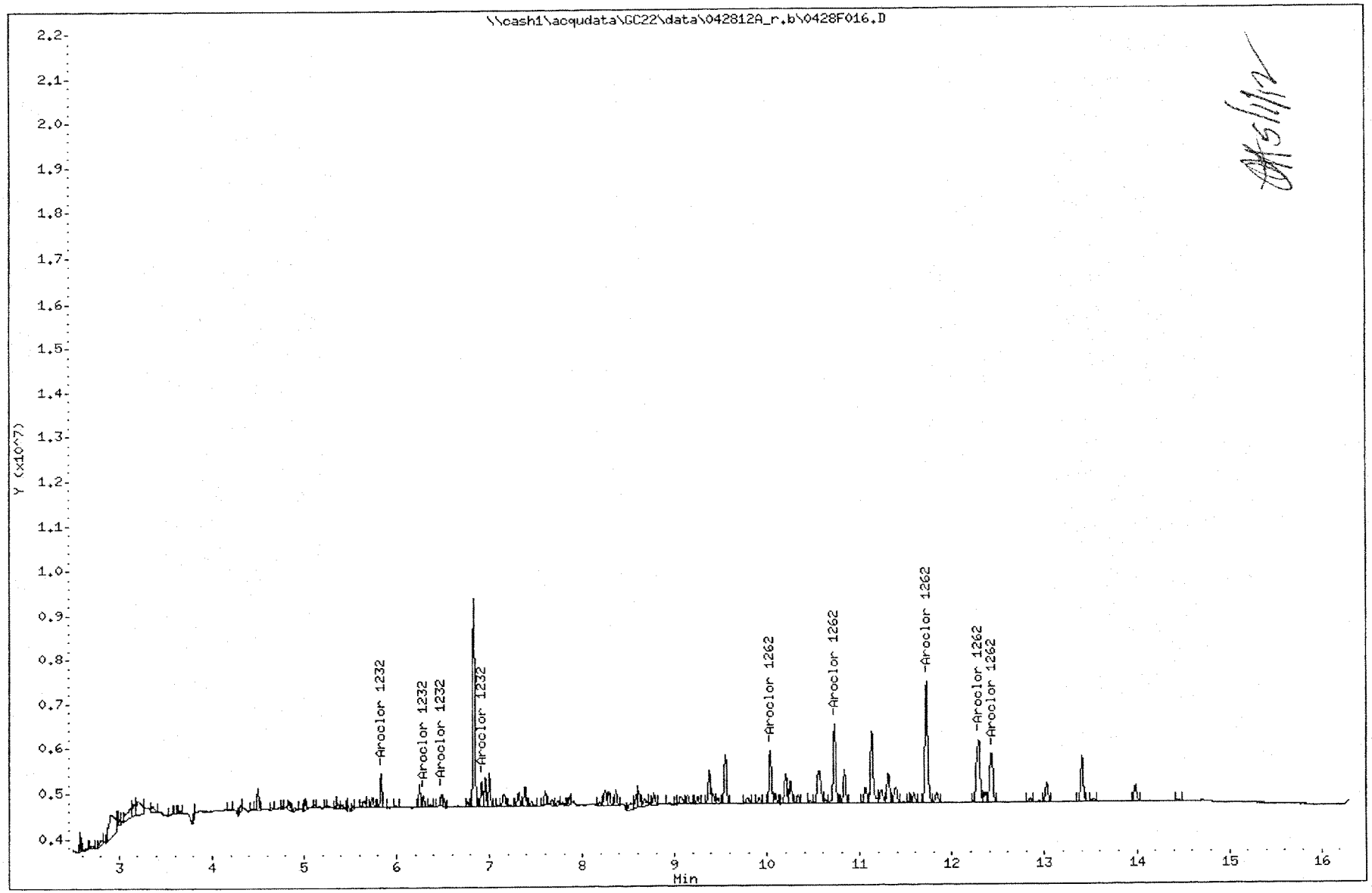


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F016.D
Date : 28-APR-2012 23:08
Client ID:
Sample Info: 1232/1262 @ 5ppb | PCB5-93H @10X

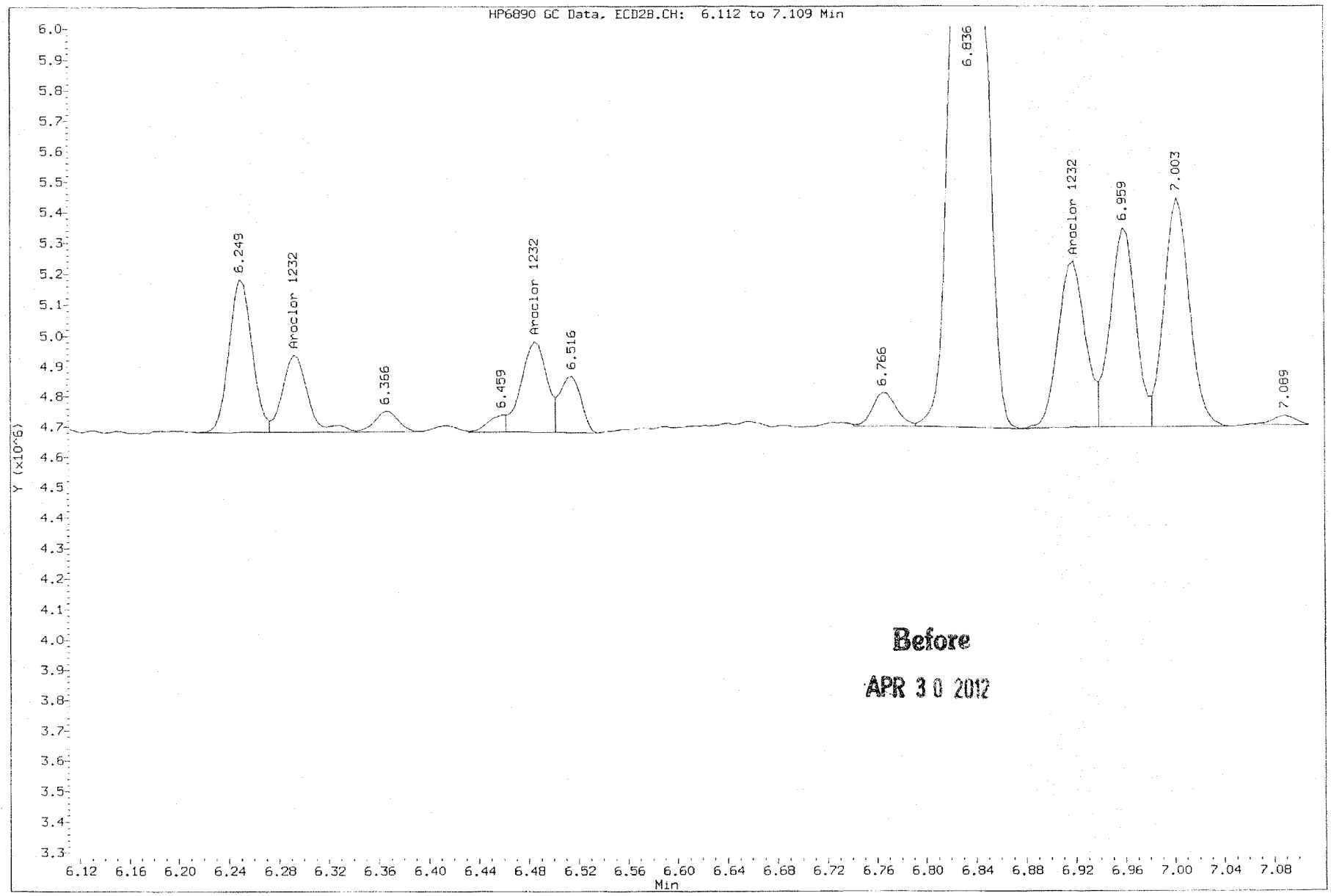
Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



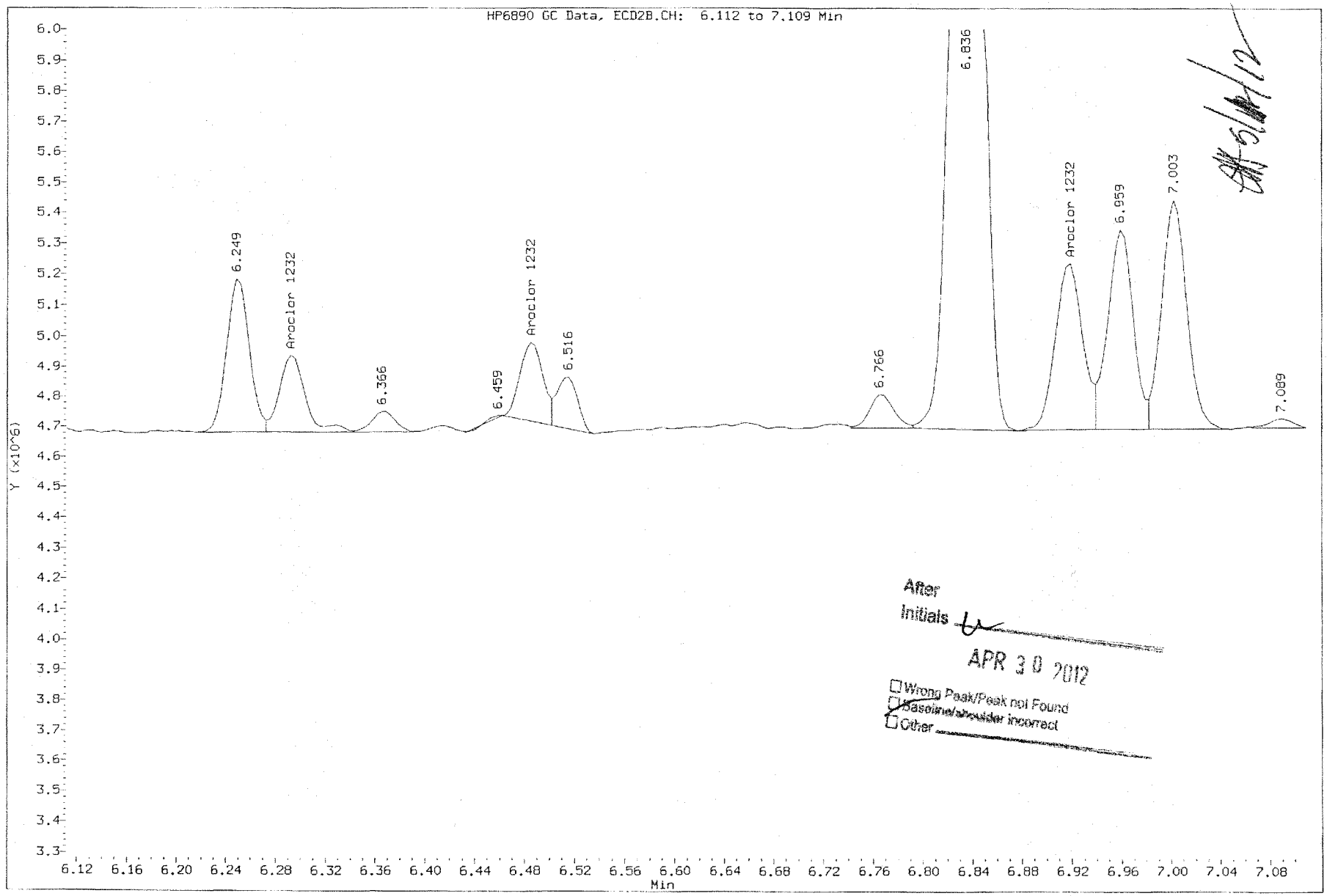
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F016.D
Injection Date: 28-APR-2012 23:08
Instrument: GC22.i
Client Sample ID:



Before

APR 30 2012

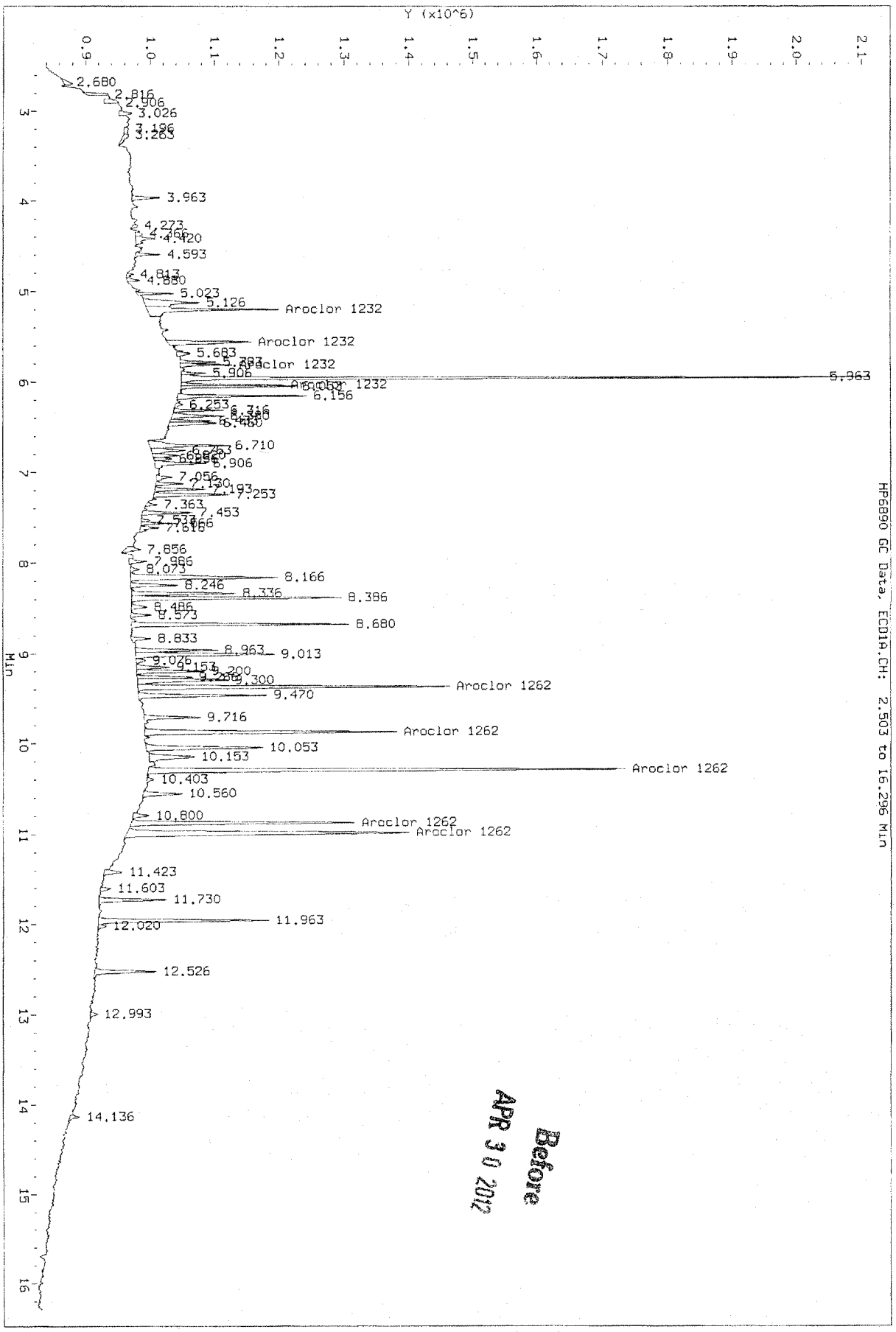
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F016.D
Injection Date: 28-APR-2012 23:08
Instrument: GC22.i
Client Sample ID:



After
Initials
APR 30 2012
☐ Wrong Peak/Peak not Found
☑ Baseline/shoulder incorrect
☐ Other

606

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F016.D
Injection Date: 28-APR-2012 23:08
Instrument: GC22.1
Client Sample ID:

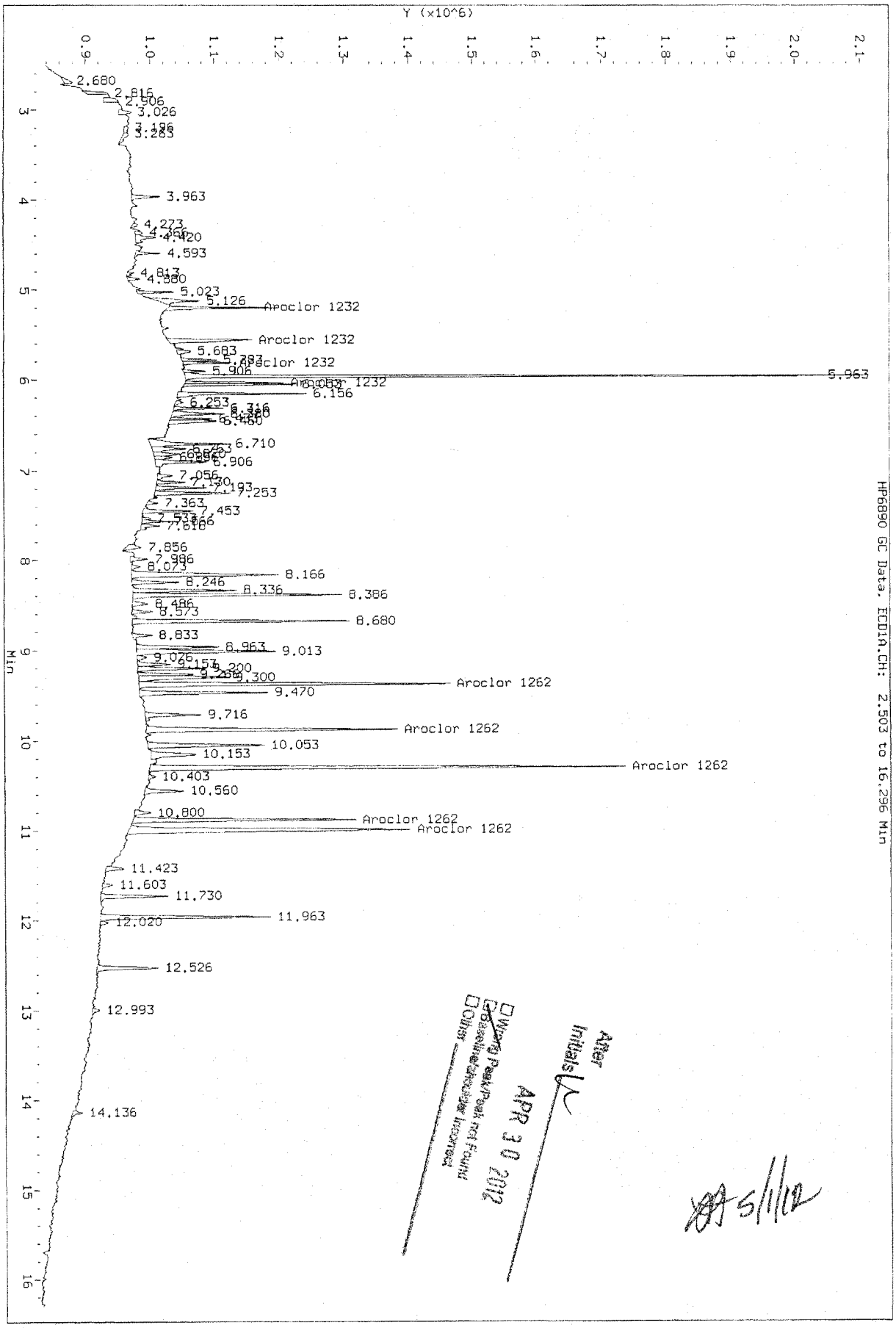


HP6890 GC Data. ECD1A.CH: 2.503 to 16.296 Min

Before
APR 30 2012

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F016.D
Injection Date: 28-APR-2012 23:08
Instrument: GC22:1
Client Sample ID:

HP6890 GC Data. ECD1A.CH: 2.503 to 16.296 Min



After Initials
APR 30 2012
Peak/Peak not Found
Other
Incorrect

5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F017.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F017.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F017.D
Inj Date : 28-APR-2012 23:30
Sample Info: 1232/1262 @ 50ppb | PCB5-93H
Misc Info :
Cal Date : 30-APR-2012 13:36
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1232+1262.sub
Sub List #2 : 1232+1262.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	5.200	5.833	1615283	7963617	48.5	51.8	80.00- 120.00	100.00(M)
	5.560	6.289	1818782	2854298	49.4	41.2	88.50- 132.74	112.60(M)
	5.810	6.483	758473	3567592	48.6	48.6	38.59- 57.89	46.96(M)
	6.033	6.916	1494204	6526546	50.8	50.5	70.38- 105.58	92.50(M)
		Average of Peak Amounts =			49.3	48.0		
Aroclor 1262	9.373	10.036	7036767	18593936	48.1	50.3	80.00- 120.00	100.00
	9.880	10.729	6333703	28745273	48.6	48.6	72.35- 108.53	90.01
	10.300	11.723	11549282	45659131	47.8	48.0	135.98- 203.98	164.13
	10.880	12.289	5361676	31957838	48.8	48.4	60.43- 90.65	76.20
	10.993	12.426	8993663	21713821	48.2	48.6	103.29- 154.94	127.81
		Average of Peak Amounts =			48.3	48.8		

QC Flag Legend

M - Compound response manually integrated.

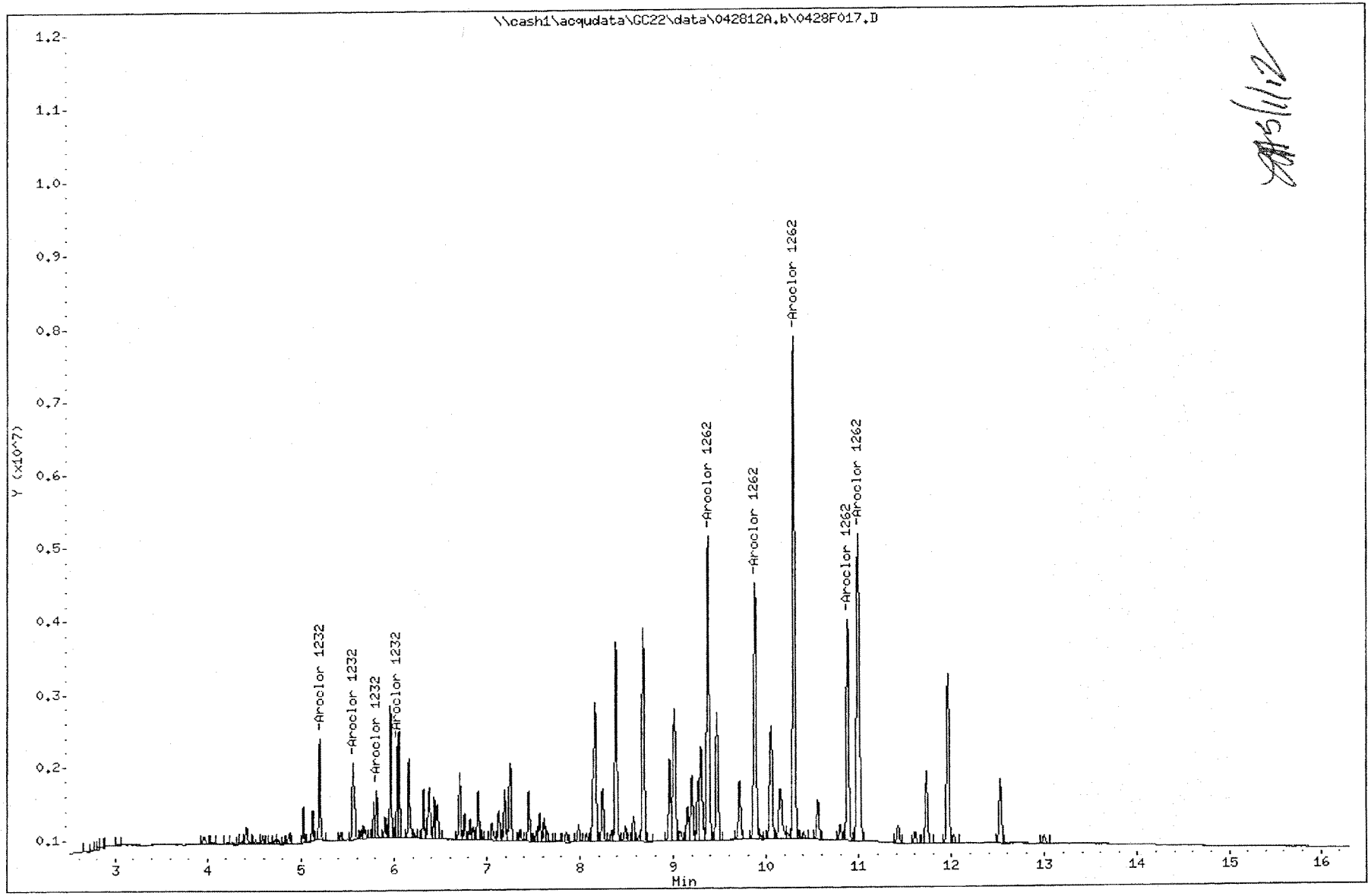
5/1/12 W 4/30/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F017.D
Date : 28-APR-2012 23:30
Client ID:
Sample Info: 1232/1262 @ 50ppb | PCB5-93H

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

Column phase: DB-35MS



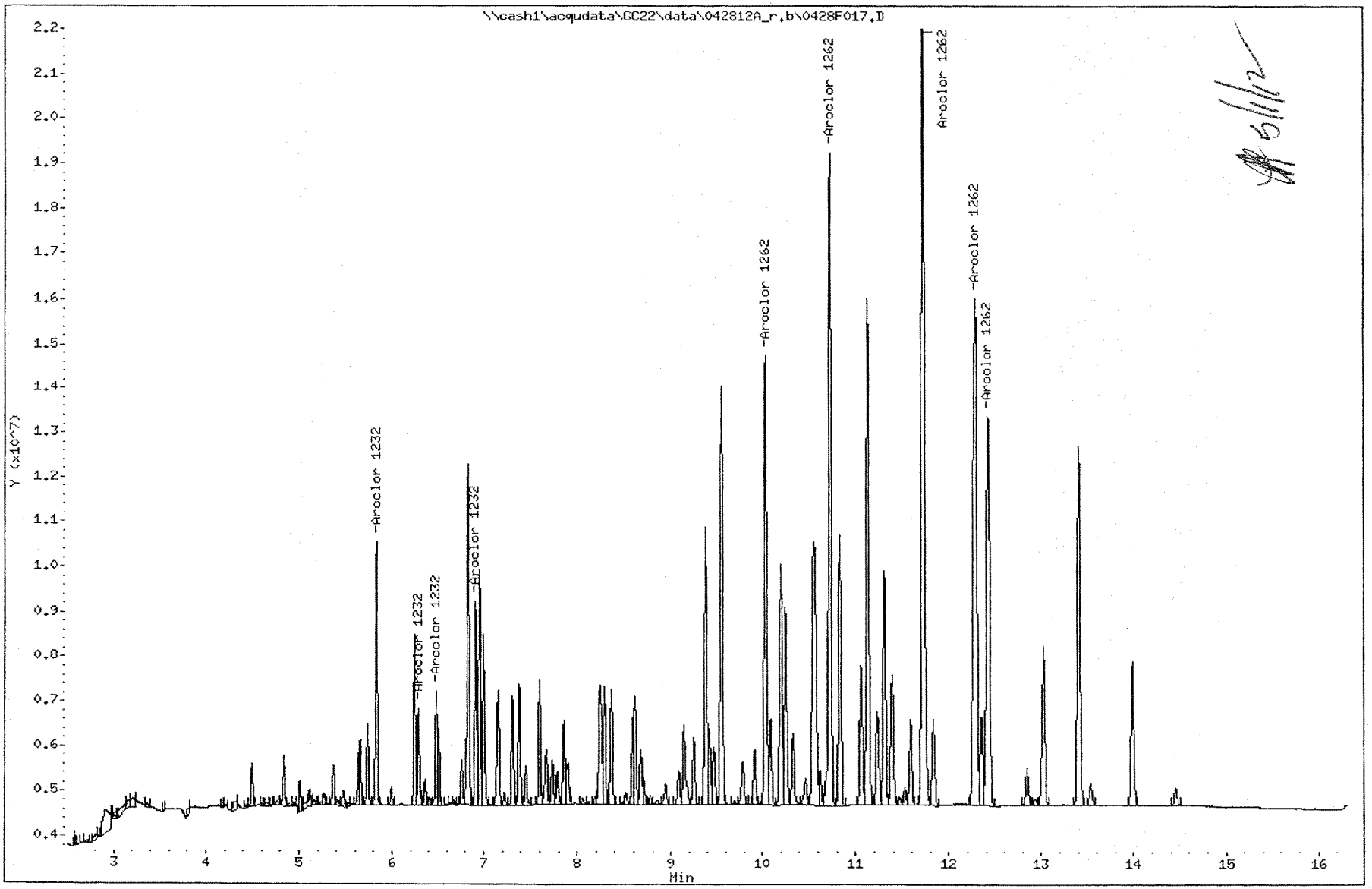
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F017.D
Date : 28-APR-2012 23:30
Client ID:
Sample Info: 1232/1262 @ 50ppb | PCB5-93H

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-XLB

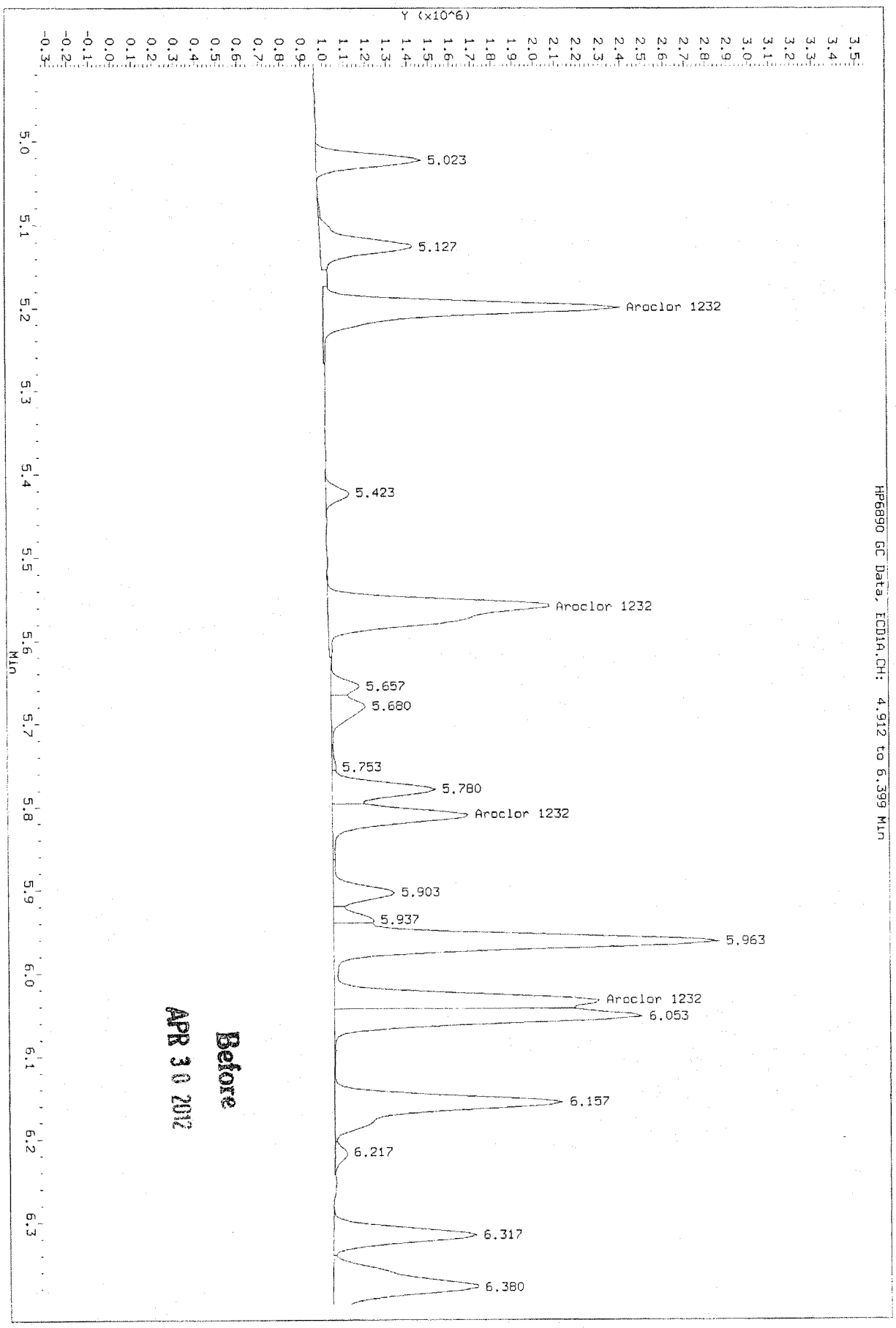
Column diameter: 0.32



611

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F017.D
Injection Date: 28-APR-2012 23:30
Instrument: GC22:1
Client Sample ID:

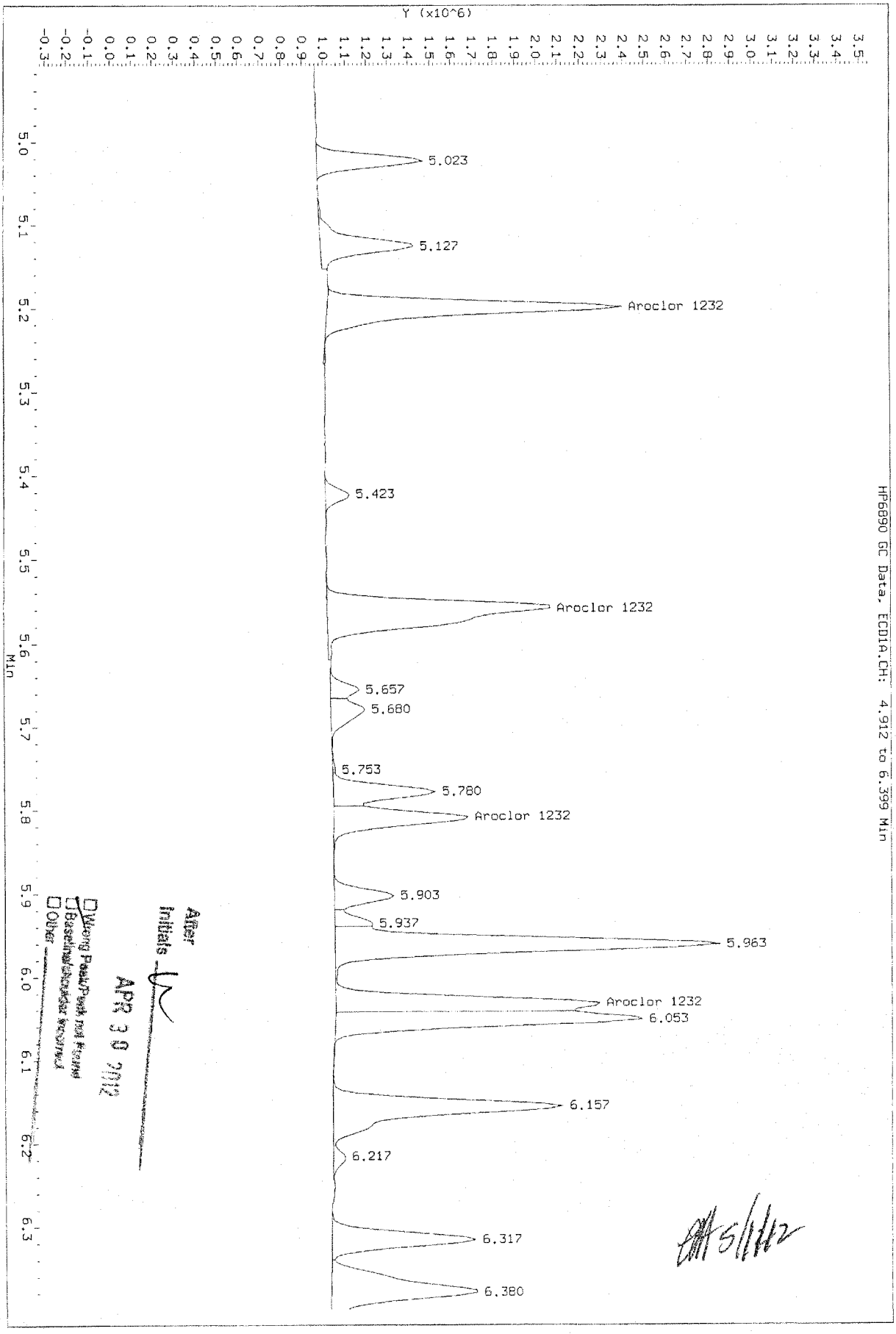
HP6890 GC Data, ECD1A.CH: 4.912 to 6.399 Min



Before
APR 30 2012

Data File: \\cash1\acqudata\GC22\data\0428I2A.b\0428F017.D
Injection Date: 28-APR-2012 23:30
Instrument: GC22.i
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 4.912 to 6.399 Min



After
Initials
APR 30 2012
☐ Wrong Peak/Peak not Found
☐ Baseline/Shoulder Incorrect
☐ Other

5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F018.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F018.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F018.D
Inj Date : 28-APR-2012 23:53
Sample Info: 1232/1262 @ 100ppb | PCB5-93G
Misc Info :
Cal Date : 30-APR-2012 13:36
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1232+1262.sub
Sub List #2 : 1232+1262.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	5.201	5.834	3029588	14753575	91.5	95.9	80.00- 120.00	100.00(M)
	5.557	6.294	3326859	5216278	90.3	75.4	88.50- 132.74	106.36(M)
	5.811	6.484	1385362	6559766	88.7	89.3	38.59- 57.89	44.29(M)
	6.034	6.917	2609623	12191488	88.7	94.3	70.38- 105.58	83.43(M)
		Average of Peak Amounts =			89.8	88.7		
Aroclor 1262	9.374	10.037	13291517	34733673	90.8	94.0	80.00- 120.00	100.00
	9.881	10.727	12010301	53758970	92.1	90.9	72.35- 108.53	90.36
	10.301	11.724	22176922	86170470	91.7	90.5	135.98- 203.98	166.85
	10.881	12.290	10084436	59289968	91.8	89.8	60.43- 90.65	75.87
	10.994	12.427	17045108	40020554	91.3	89.5	103.29- 154.94	128.24
		Average of Peak Amounts =			91.5	90.9		

QC Flag Legend

M - Compound response manually integrated.

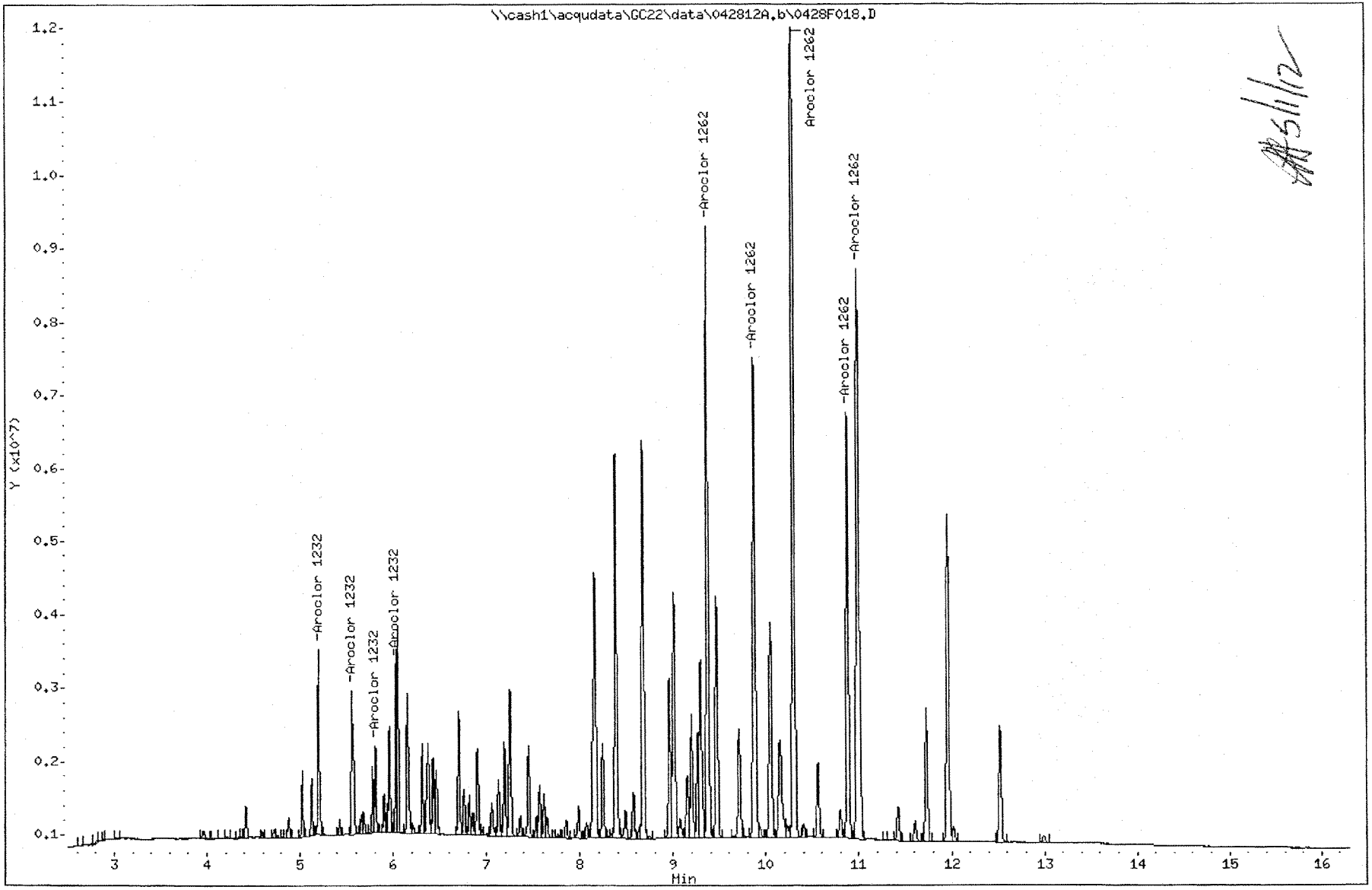
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F018.D
Date : 28-APR-2012 23:53
Client ID:
Sample Info: 1232/1262 @ 100ppb | PCB5-93G

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



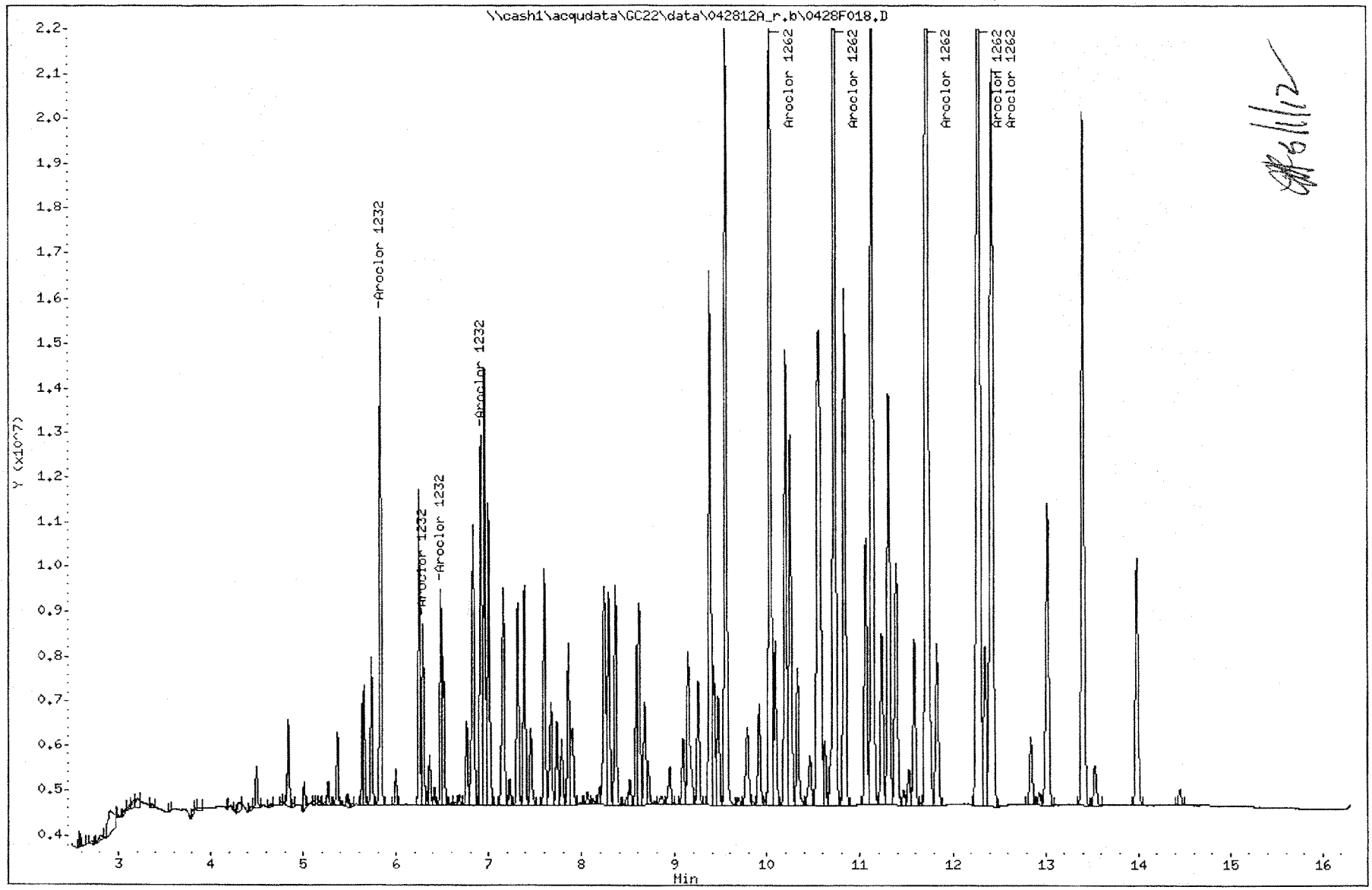
615

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F018.D
Date : 28-APR-2012 23:53
Client ID:
Sample Info: 1232/1262 @ 100ppb | PCB5-93G

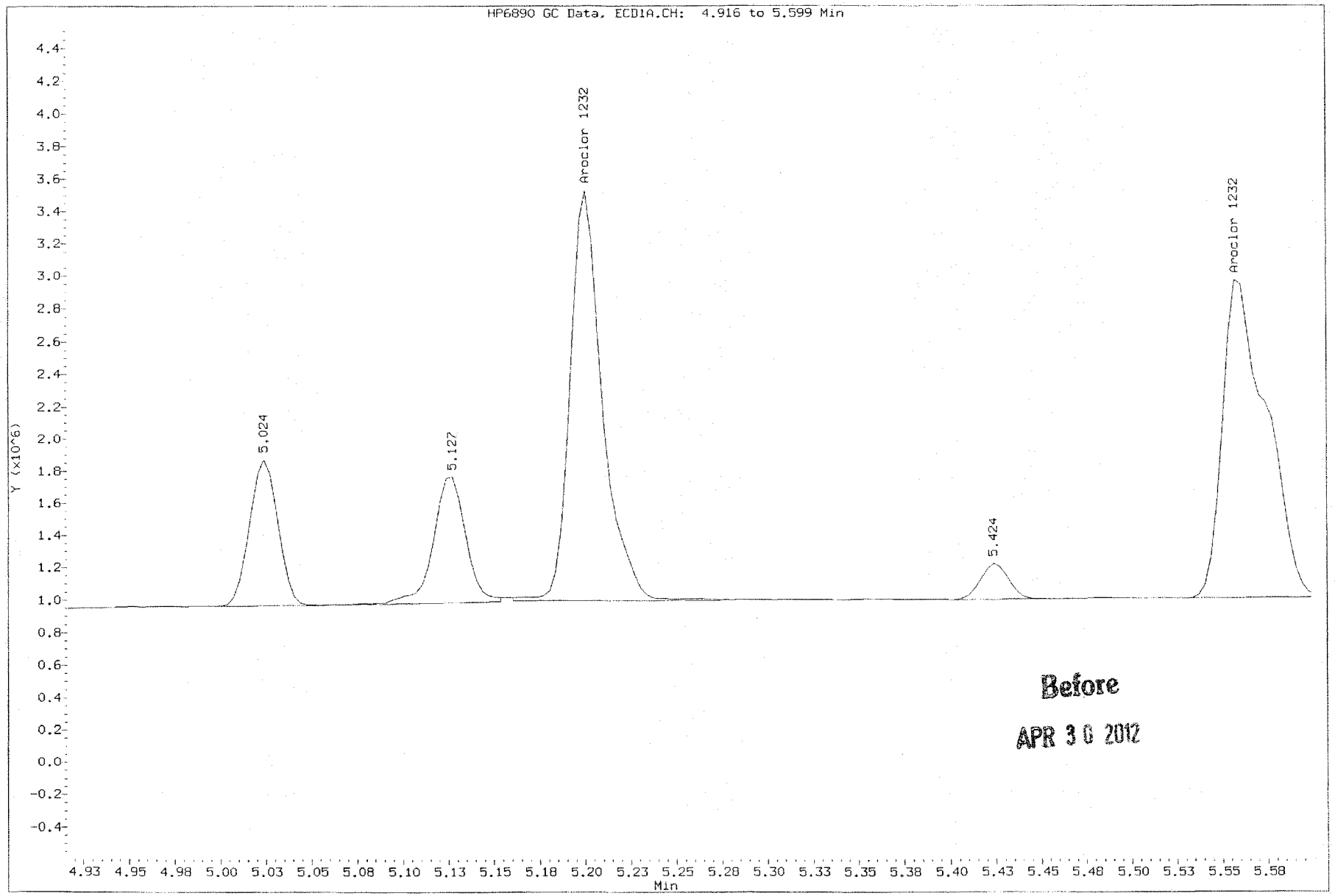
Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



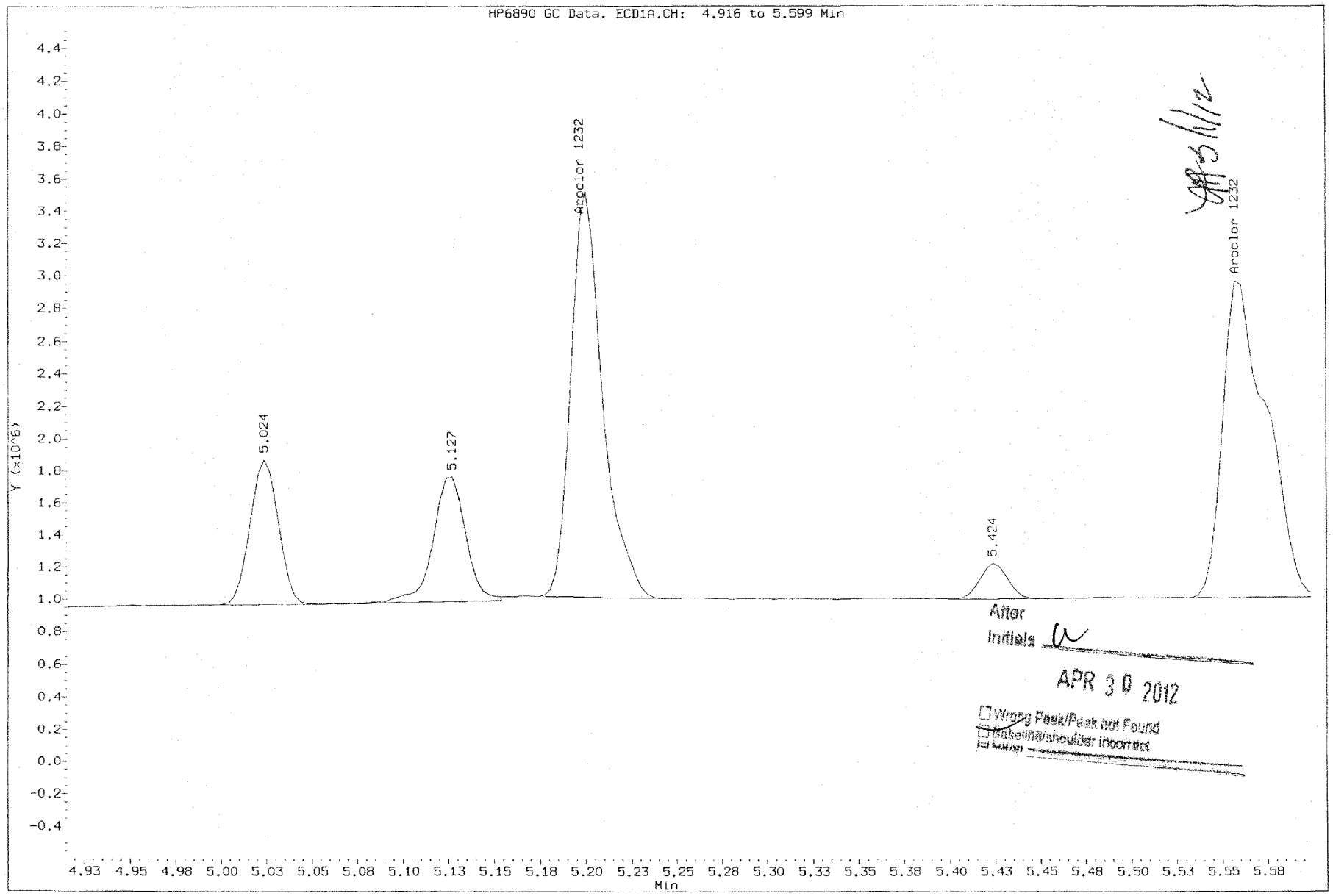
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F018.D
Injection Date: 28-APR-2012 23:53
Instrument: GC22.i
Client Sample ID:



Before

APR 30 2012

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F018.D
Injection Date: 28-APR-2012 23:53
Instrument: GC22.i
Client Sample ID:



After
Initials
APR 30 2012
☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other

618

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F019.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F019.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F019.D
Inj Date : 29-APR-2012 00:16
Sample Info: 1232/1262 @ 200ppb | PCB5-93F
Misc Info :
Cal Date : 30-APR-2012 13:36
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1232+1262.sub
Sub List #2 : 1232+1262.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	5.199	5.836	5724925	27272856	174	177	80.00- 120.00	100.00(M)
	5.559	6.292	6333181	9787967	172	158	88.50- 132.74	105.77(M)
	5.813	6.486	2761942	12869977	177	175	38.59- 57.89	46.13(M)
	6.036	6.916	5036785	23620418	171	183	70.38- 105.58	84.12(M)
		Average of Peak Amounts =			174	173		
Aroclor 1262	9.376	10.036	26605916	66872712	182	181	80.00- 120.00	100.00
	9.883	10.729	24062949	102294877	184	173	72.35- 108.53	90.44
	10.303	11.722	45224744	171200200	187	180	135.98- 203.98	169.98
	10.883	12.289	20098070	115170065	183	174	60.43- 90.65	75.54
	10.993	12.426	34351843	77152062	184	172	103.29- 154.94	129.11
		Average of Peak Amounts =			184	176		

QC Flag Legend

M - Compound response manually integrated.

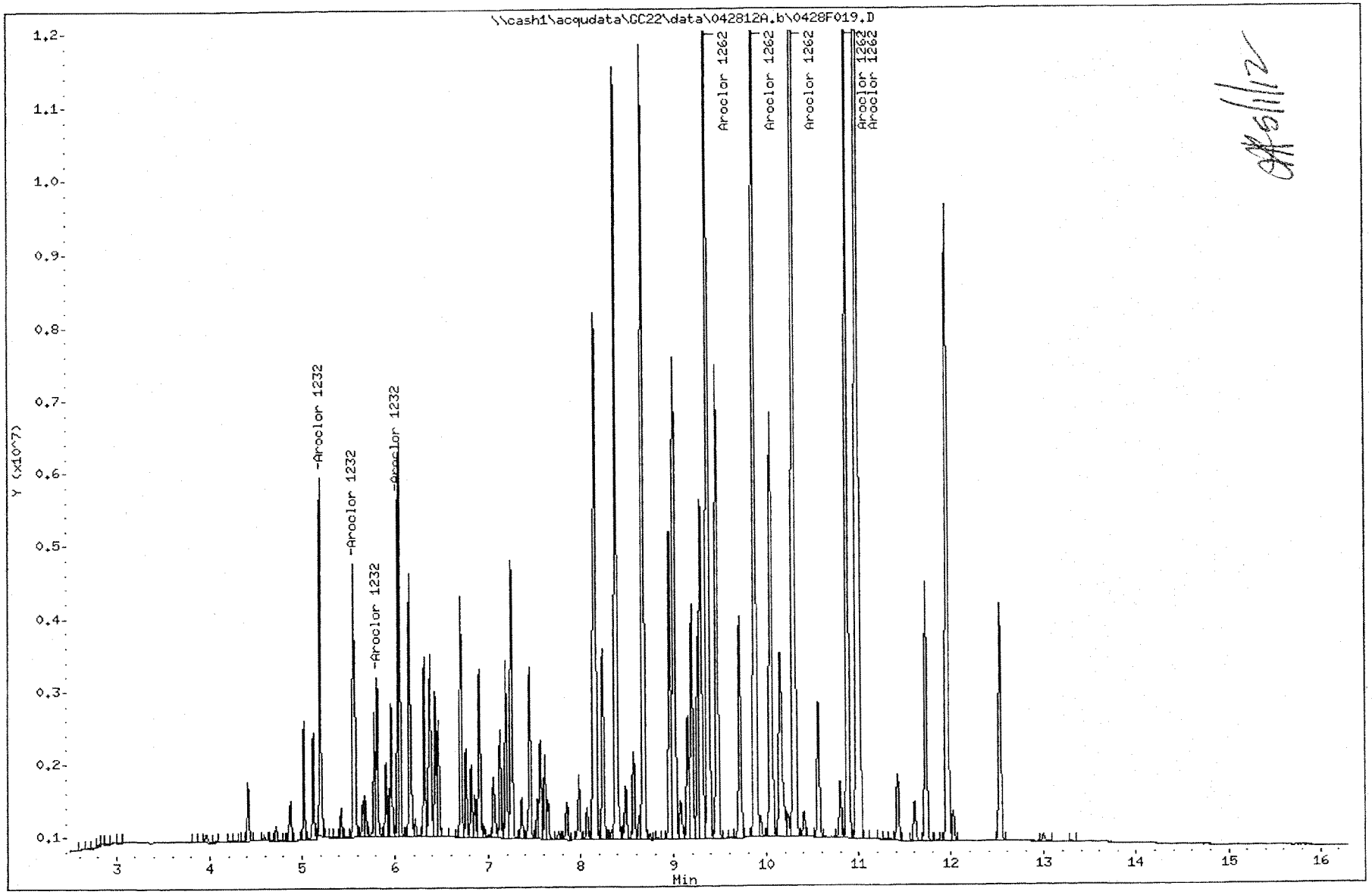
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F019.D
Date : 29-APR-2012 00:16
Client ID:
Sample Info: 1232/1262 @ 200ppb | PCB5-93F

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

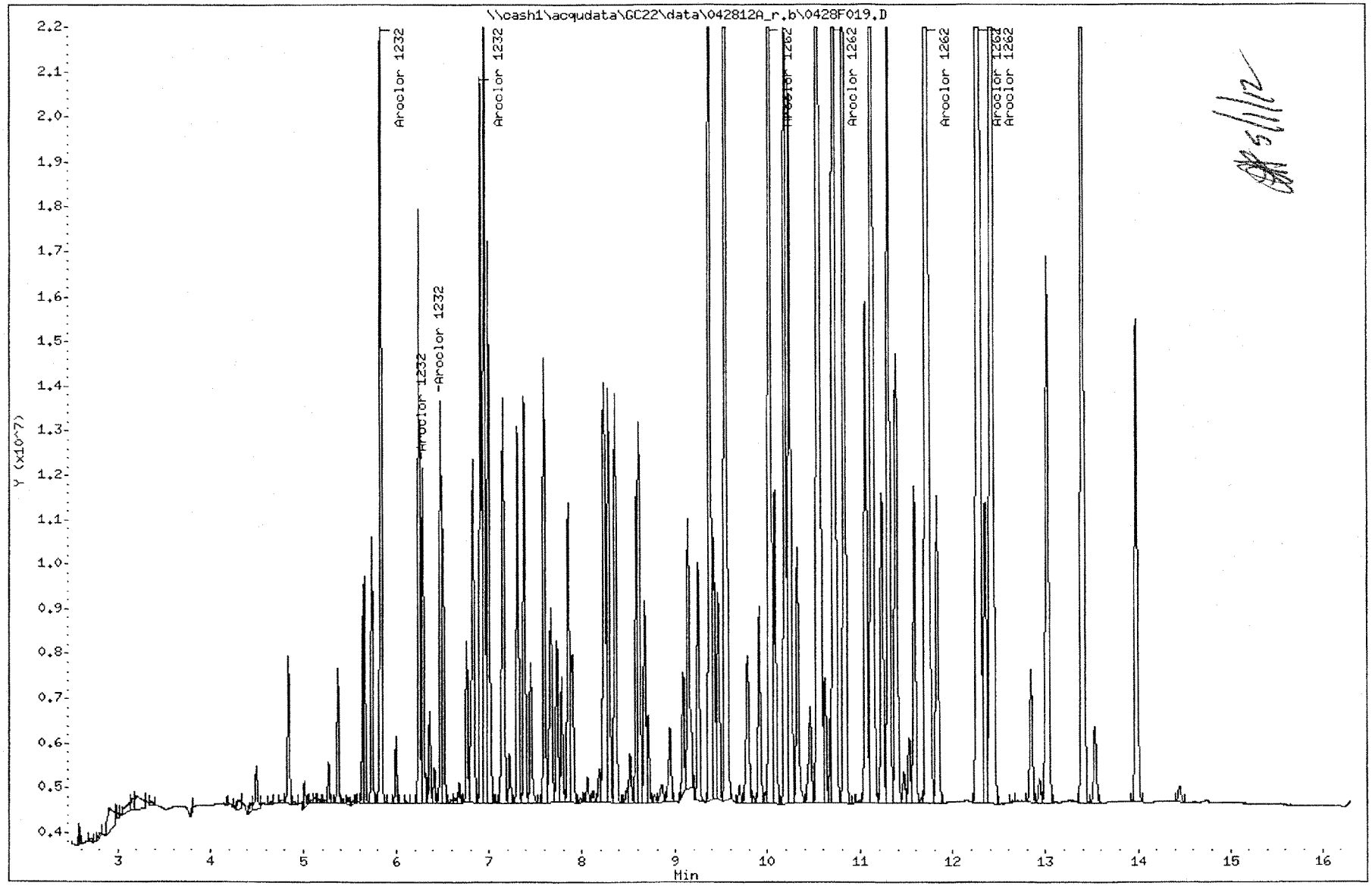


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F019.D
Date : 29-APR-2012 00:16
Client ID:
Sample Info: 1232/1262 @ 200ppb | PCB5-93F

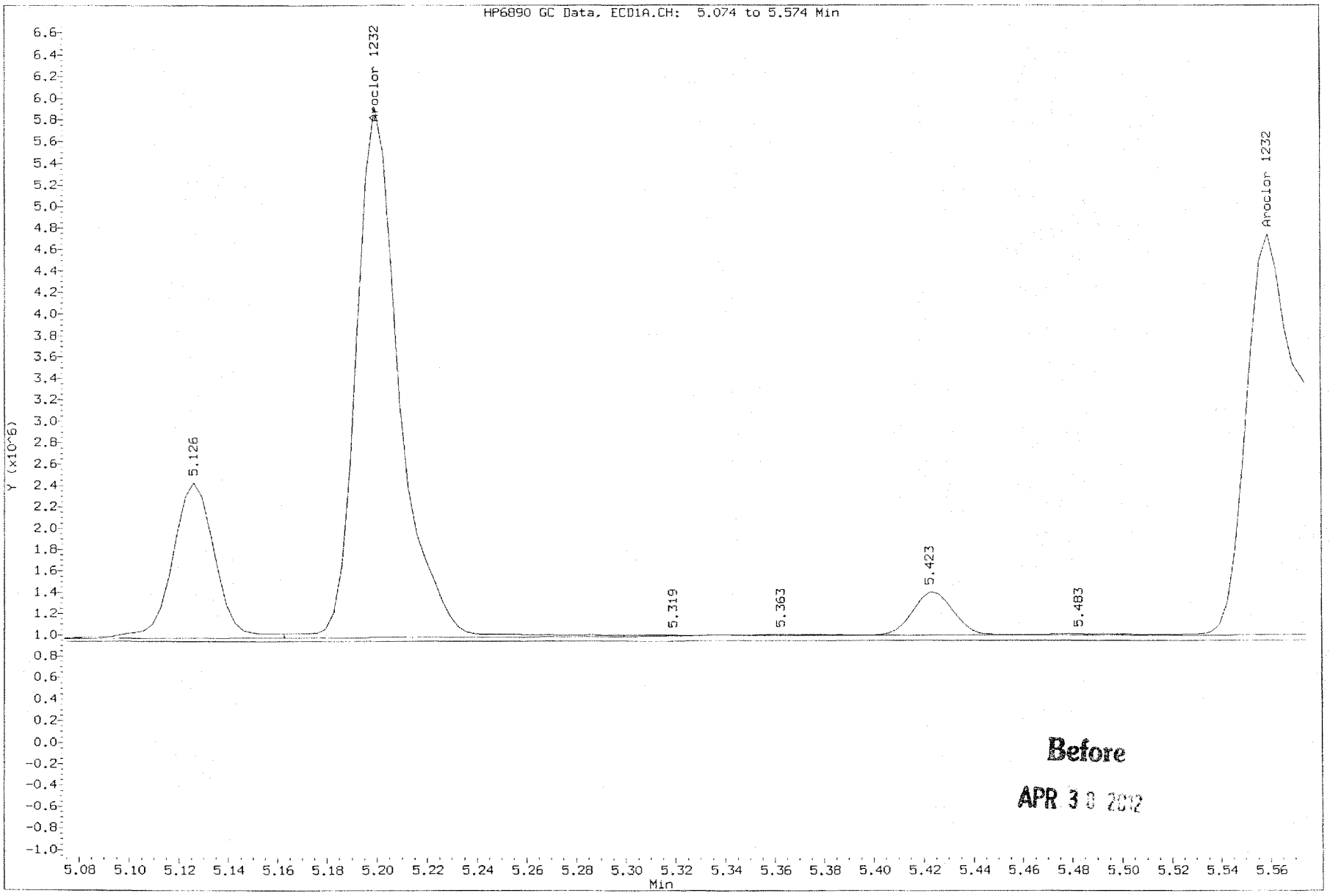
Column phase: DB-XLB

Instrument: GC22.i

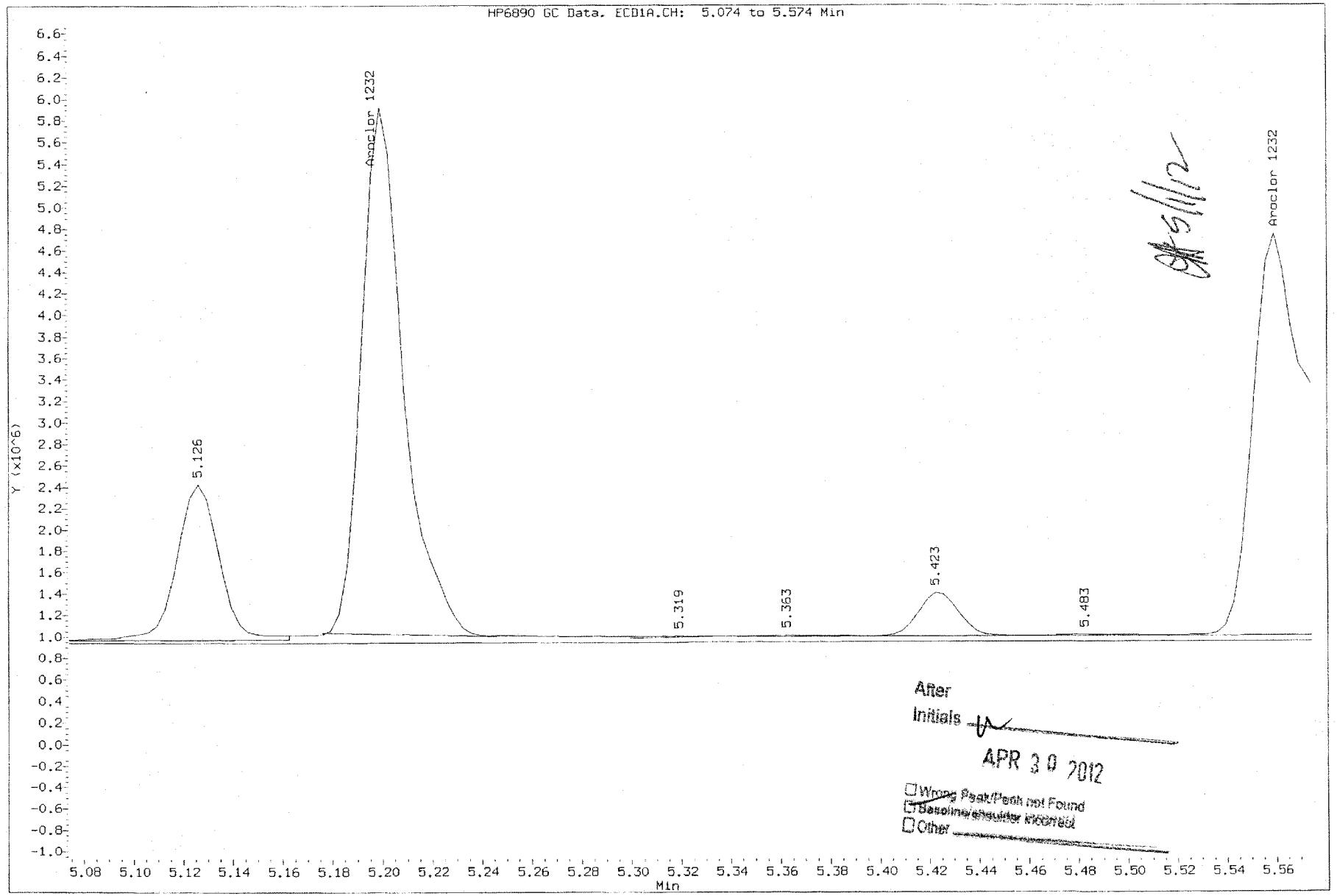
Operator: CCotnam
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F019.D
Injection Date: 29-APR-2012 00:16
Instrument: GC22.i
Client Sample ID:



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F019.D
Injection Date: 29-APR-2012 00:16
Instrument: GC22.i
Client Sample ID:



After
Initials
APR 30 2012
☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F020.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F020.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F020.D
Inj Date : 29-APR-2012 00:38
Sample Info: 1232/1262 @ 500ppb | PCB5-93E
Misc Info :
Cal Date : 30-APR-2012 13:36
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1232+1262.sub
Sub List #2 : 1232+1262.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	5.201	5.833	14196888	62525789	269	406	80.00- 120.00	100.00
	5.557	6.290	15003928	22739770	407	410	88.50- 132.74	105.68
	5.811	6.483	6426198	28786431	391	392	38.59- 57.89	45.26
	6.034	6.913	13556835	54860720	459	424	70.38- 105.58	95.49
		Average of Peak Amounts =			382	408		
Aroclor 1262	9.374	10.037	68667196	166350282	469	450	80.00- 120.00	100.00
	9.881	10.727	62428942	262289002	479	443	72.35- 108.53	90.92
	10.301	11.723	118484801	437094576	490	459	135.98- 203.98	172.55
	10.881	12.290	51955065	287943745	473	436	60.43- 90.65	75.66
	10.994	12.427	89598010	190880873	480	427	103.29- 154.94	130.48
		Average of Peak Amounts =			478	443		

5/1/12

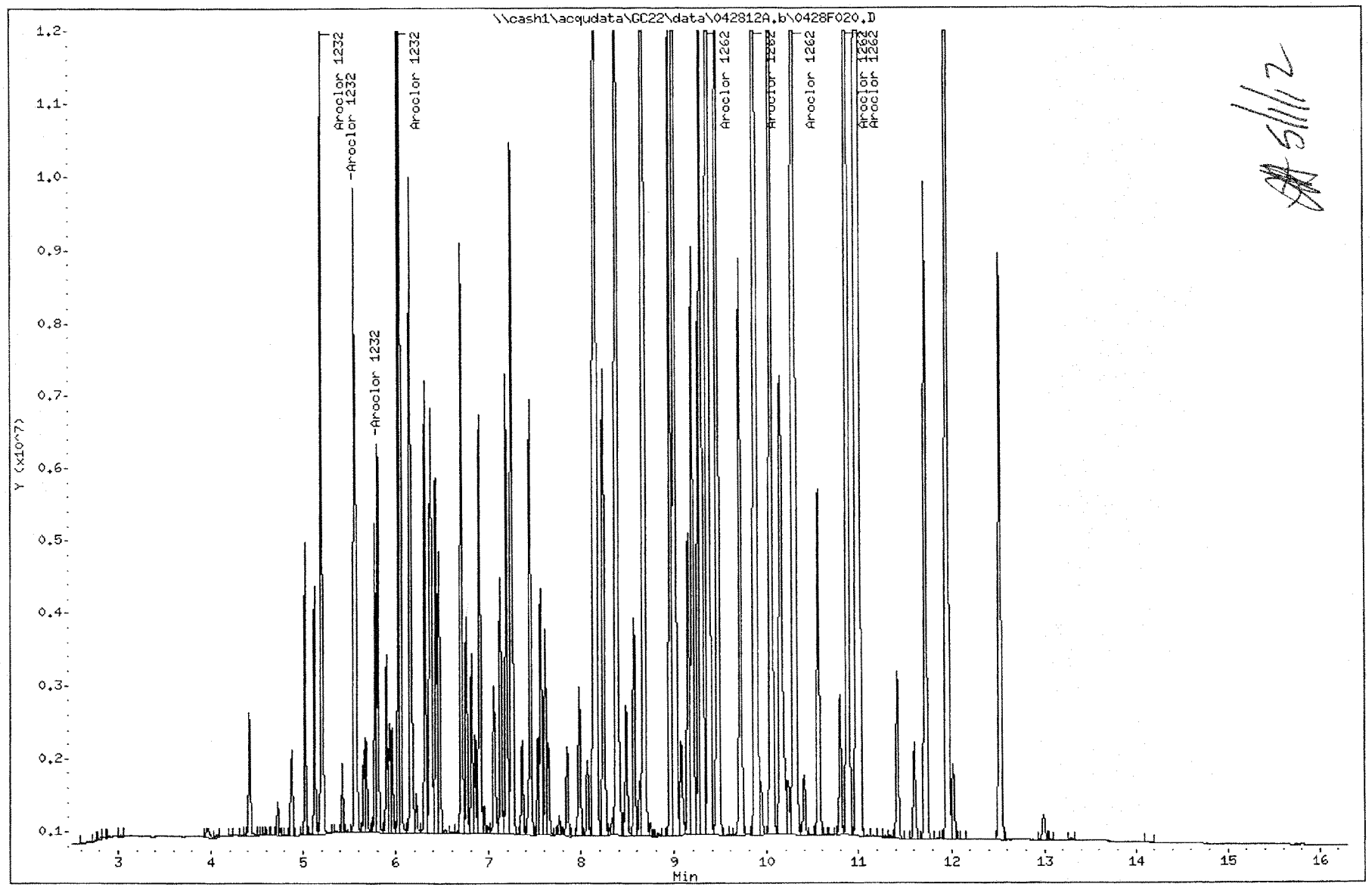
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F020.D
Date : 29-APR-2012 00:38
Client ID:
Sample Info: 1232/1262 @ 500ppb | PCB5-93E

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-35MS

Column diameter: 0.32



625

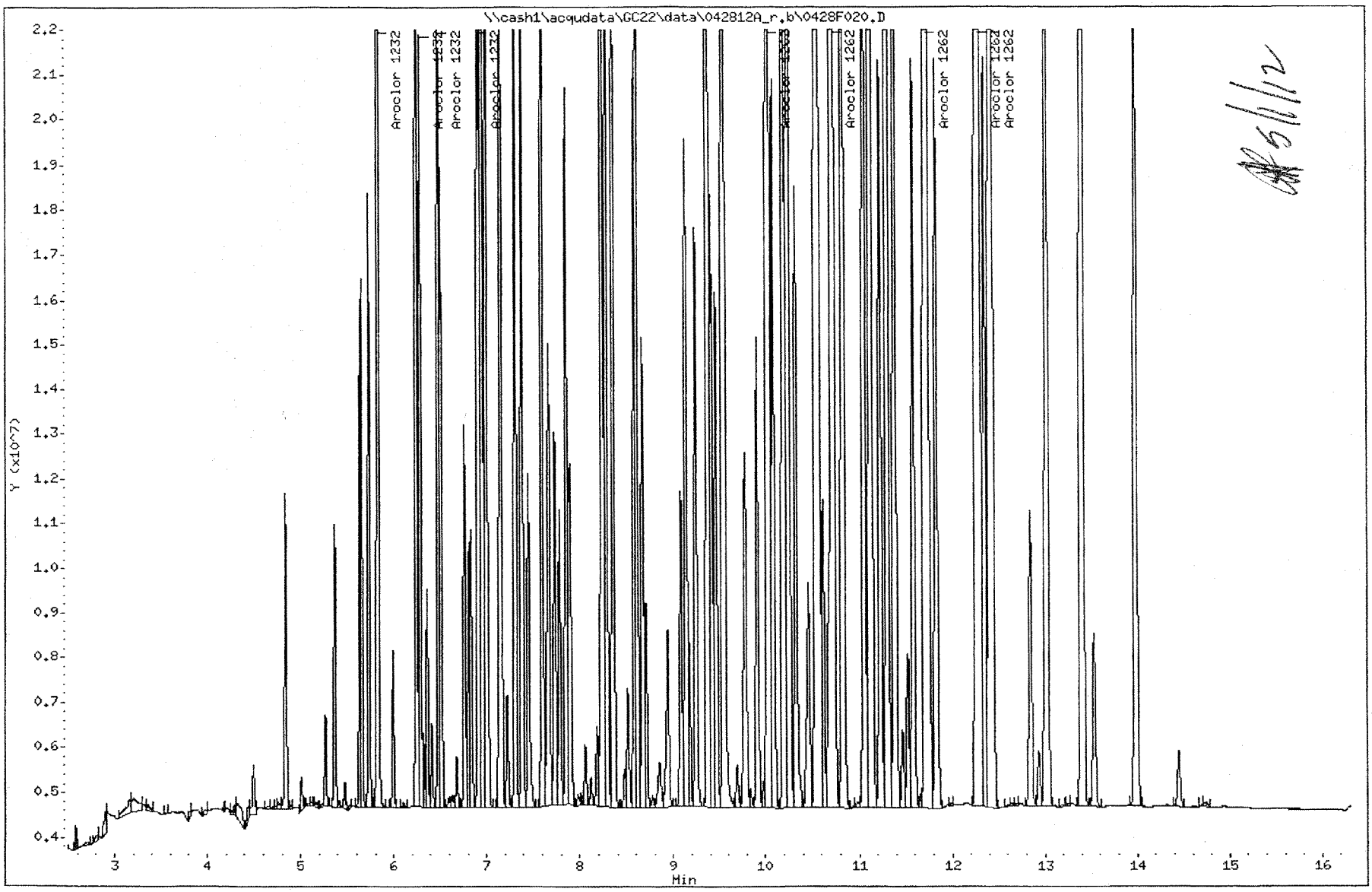
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F020.D
Date : 29-APR-2012 00:38
Client ID:
Sample Info: 1232/1262 @ 500ppb | PCB5-93E

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-XLB

Column diameter: 0.32



626

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F027.D
Report Date: 30-Apr-2012 17:09

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F027.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F027.D
Inj Date : 29-APR-2012 03:17
Sample Info: 1248 @ 2.5ppb | PCB5-93P @20X
Misc Info :
Cal Date : 29-APR-2012 13:53
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	6.430	7.600	125819	818794	3.08	4.20	80.00- 120.00	100.00(M)
	6.757	7.860	58462	554174	2.59	3.90	43.73- 65.60	46.47(M)
	6.903	8.250	162525	701941	2.98	3.65	110.97- 166.45	129.17(M)
	7.253	8.290	216339	861718	2.84	3.39	154.50- 231.75	171.94(M)
	7.450	8.363	89423	814795	2.50	3.42	53.90- 80.85	71.07(M)
			Average of Peak Amounts =		2.80	3.71		

QC Flag Legend

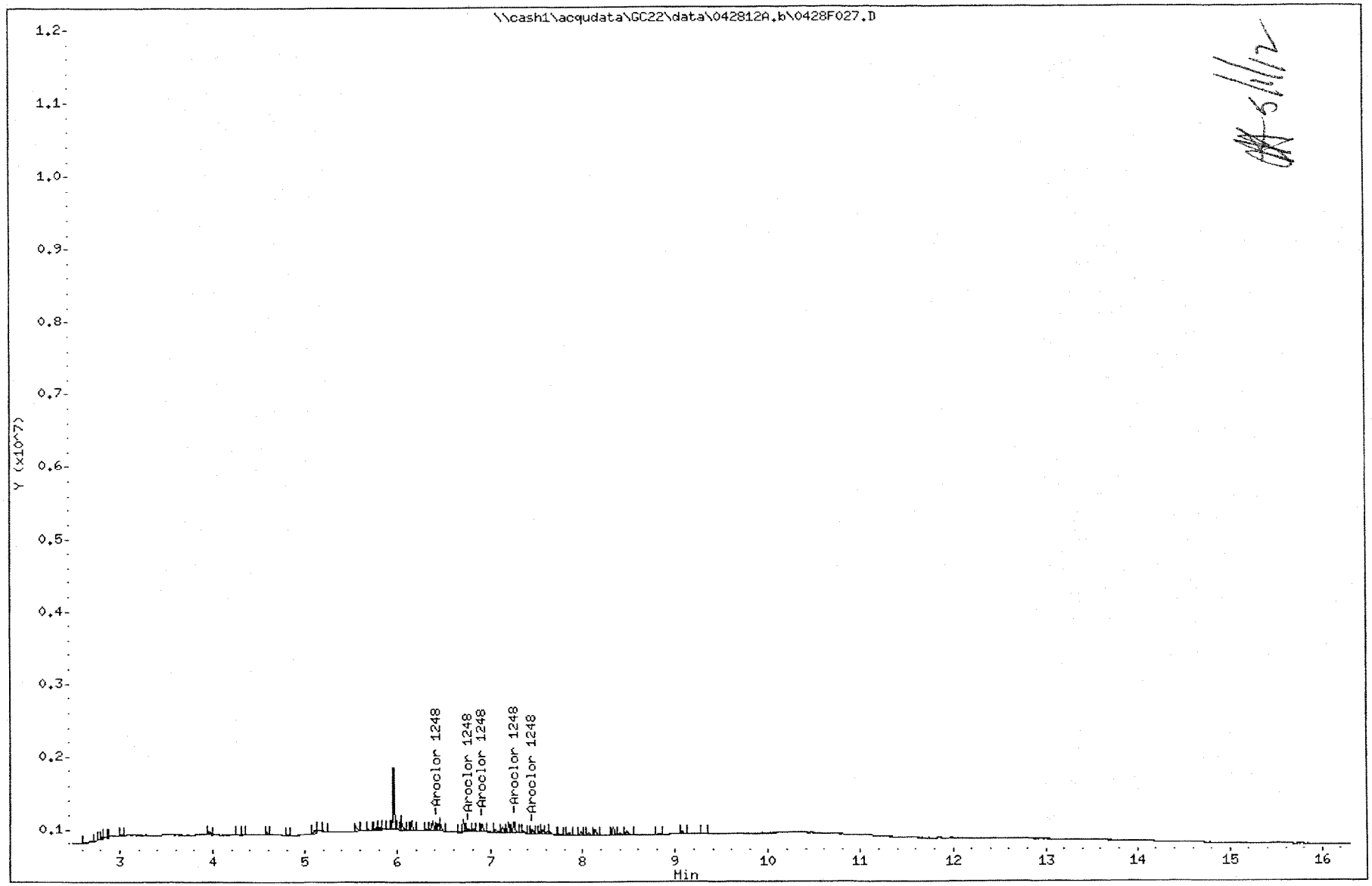
M - Compound response manually integrated.

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F027.D
Date : 29-APR-2012 03:17
Client ID:
Sample Info: 1248 @ 2.5ppb | PCB5-93P @20X

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

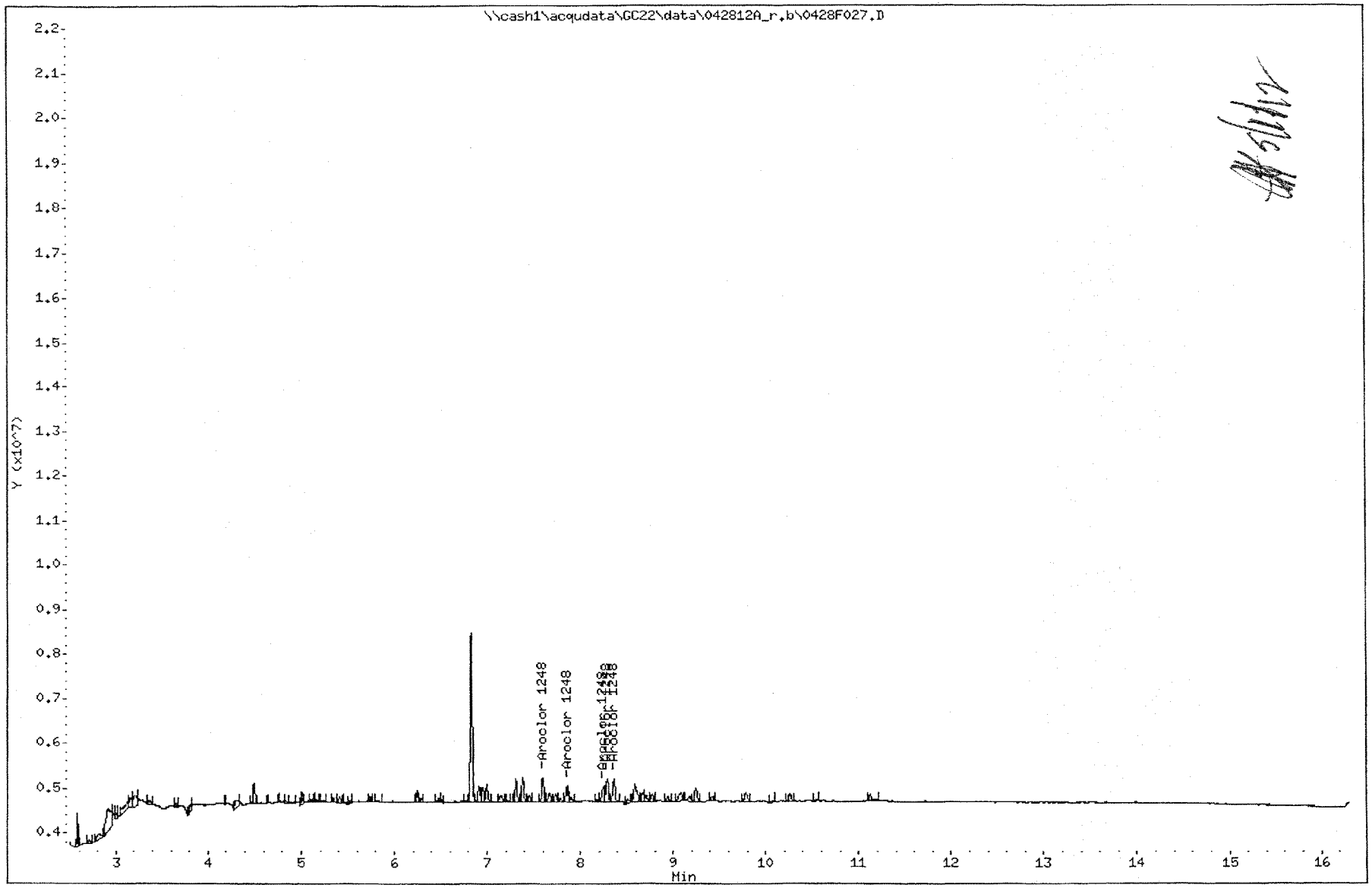


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F027.D
Date : 29-APR-2012 03:17
Client ID:
Sample Info: 1248 @ 2.5ppb | PCB5-93P @20X

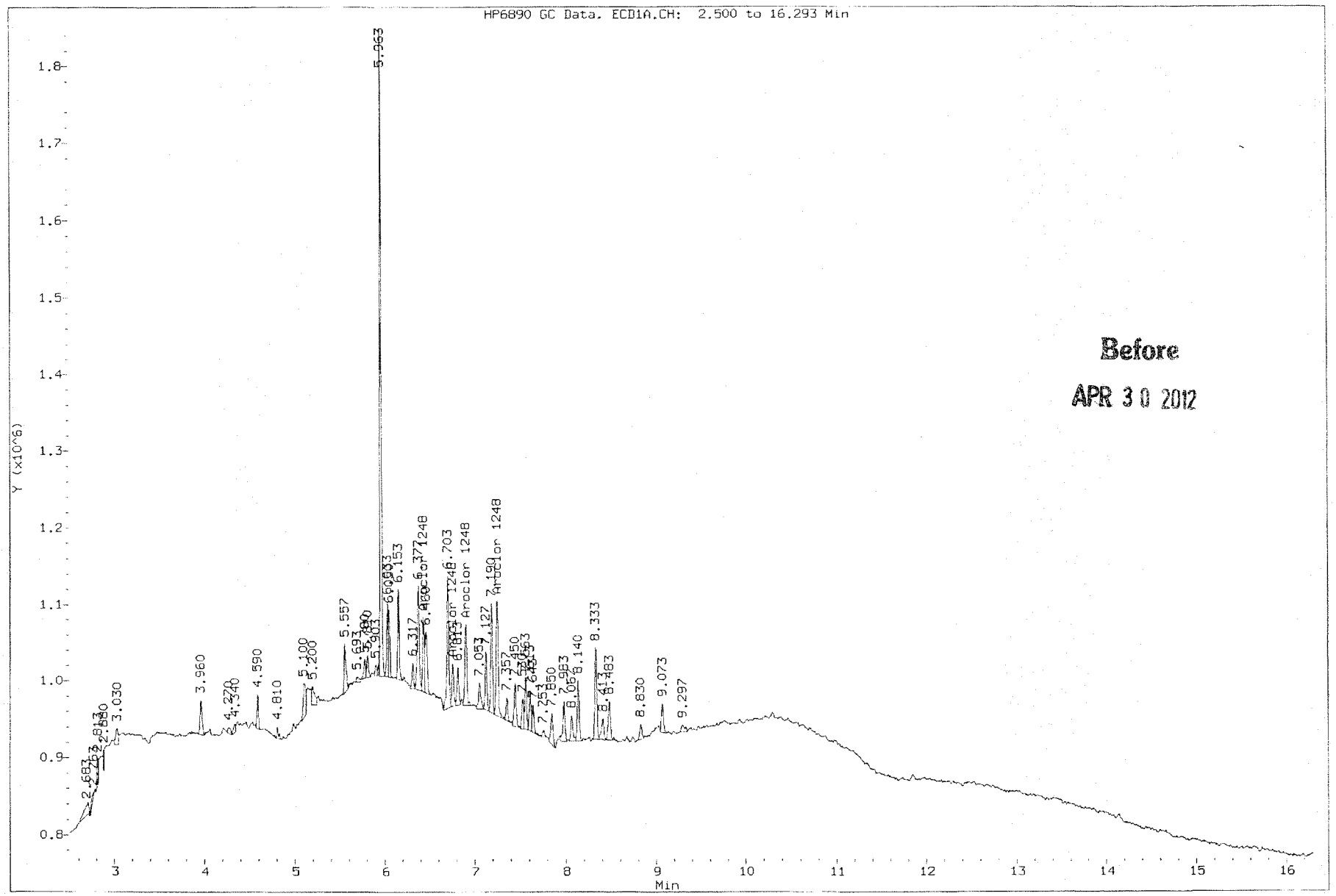
Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

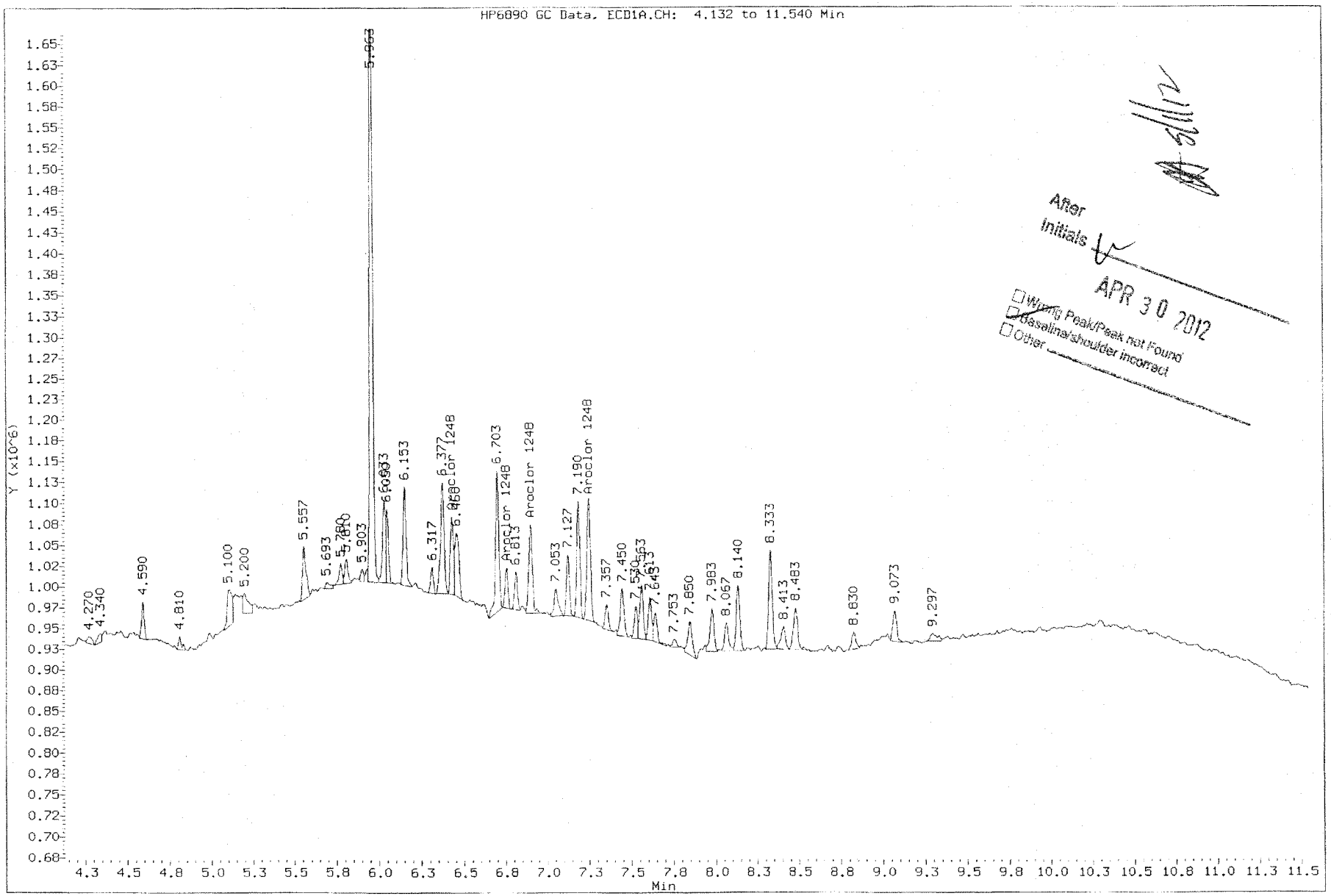


Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F027.D
Injection Date: 29-APR-2012 03:17
Instrument: GC22.i
Client Sample ID:



630

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F027.D
Injection Date: 29-APR-2012 03:17
Instrument: GC22.i
Client Sample ID:



After
Initials
APR 30 2012
☐ Wrong Peak/Peak not Found
☐ Baseline/shoulder incorrect
☐ Other

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F028.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F028.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F028.D
Inj Date : 29-APR-2012 03:39
Sample Info: 1248 @ 5ppb | PCB5-93P @10X
Misc Info :
Cal Date : 29-APR-2012 13:53
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	6.433	7.599	225659	1507919	5.59	7.17	80.00- 120.00	100.00(M)
	6.759	7.859	117170	1033221	5.48	6.84	43.73- 65.60	51.92(M)
	6.903	8.252	285132	1375391	5.34	6.76	110.97- 166.45	126.36(M)
	7.253	8.292	424775	1611614	5.66	6.22	154.50- 231.75	188.24(M)
	7.449	8.362	164596	1528415	4.79	6.21	53.90- 80.85	72.94(M)
			Average of Peak Amounts =		5.37	6.64		

QC Flag Legend

M - Compound response manually integrated.

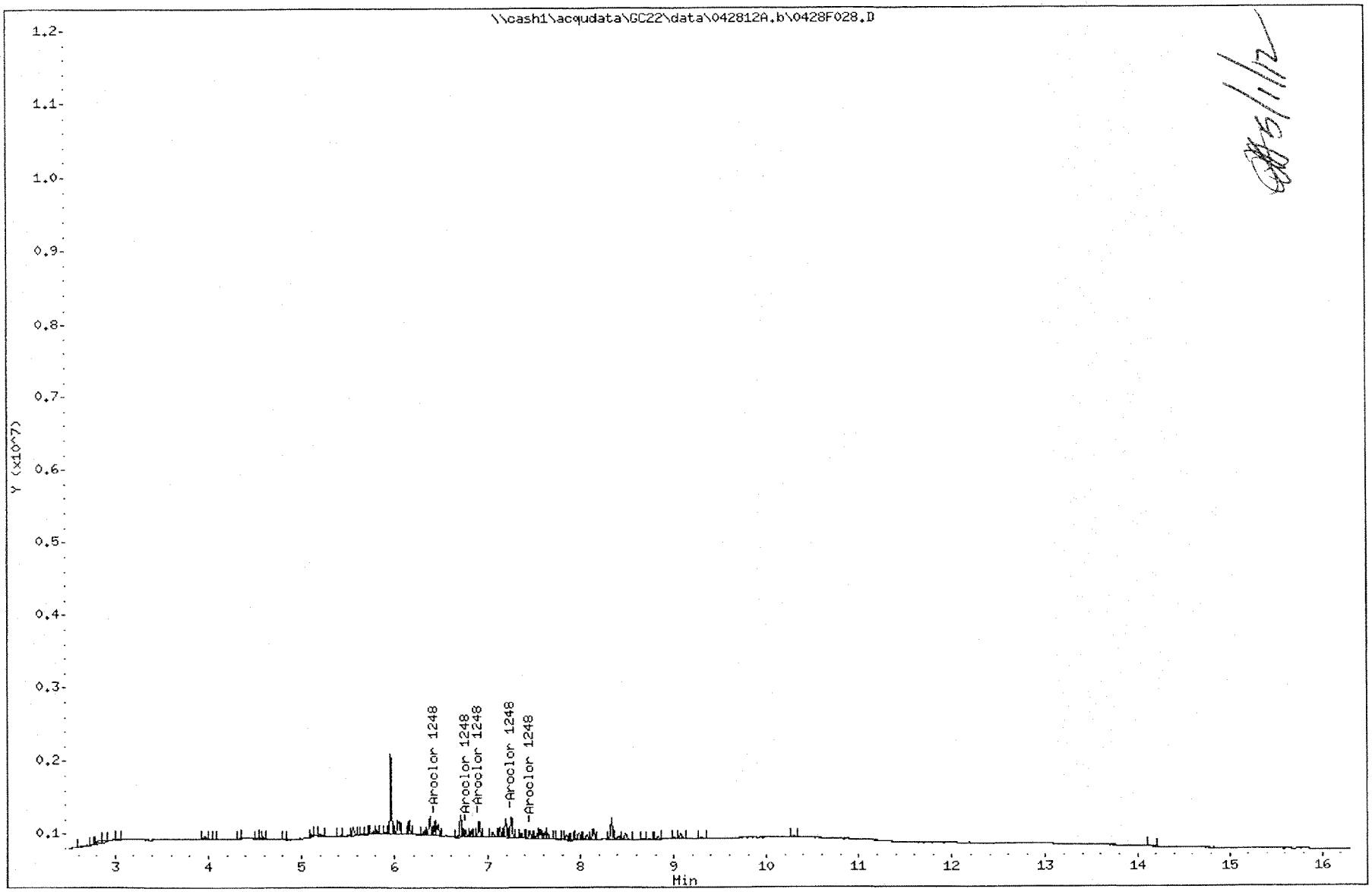
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F028.D
Date : 29-APR-2012 03:39
Client ID:
Sample Info: 1248 @ 5ppb | PCB5-93P @10X

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

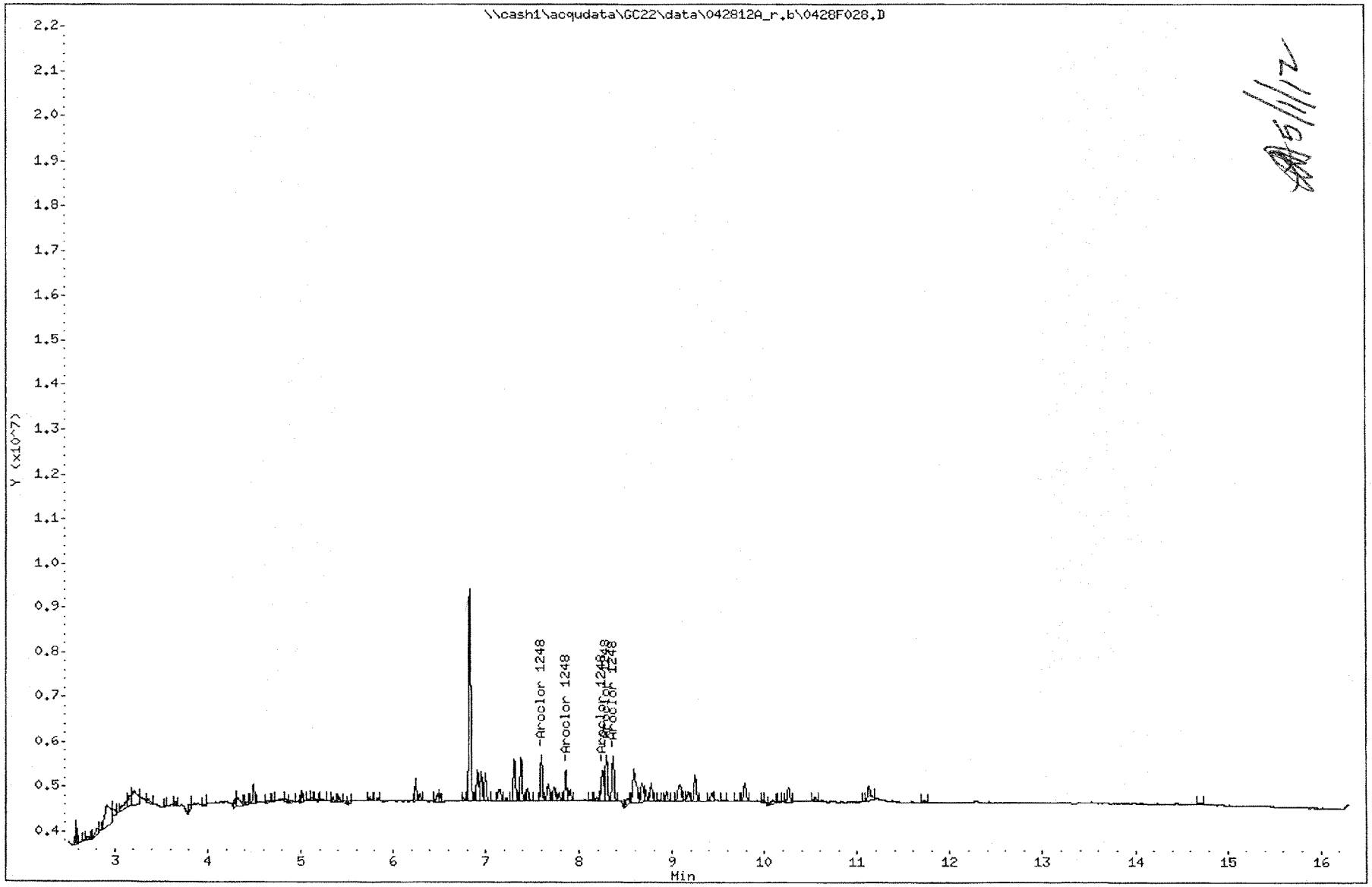


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F028.D
Date : 29-APR-2012 03:39
Client ID:
Sample Info: 1248 @ 5ppb | PCB5-93P @10X

Column phase: DB-XLB

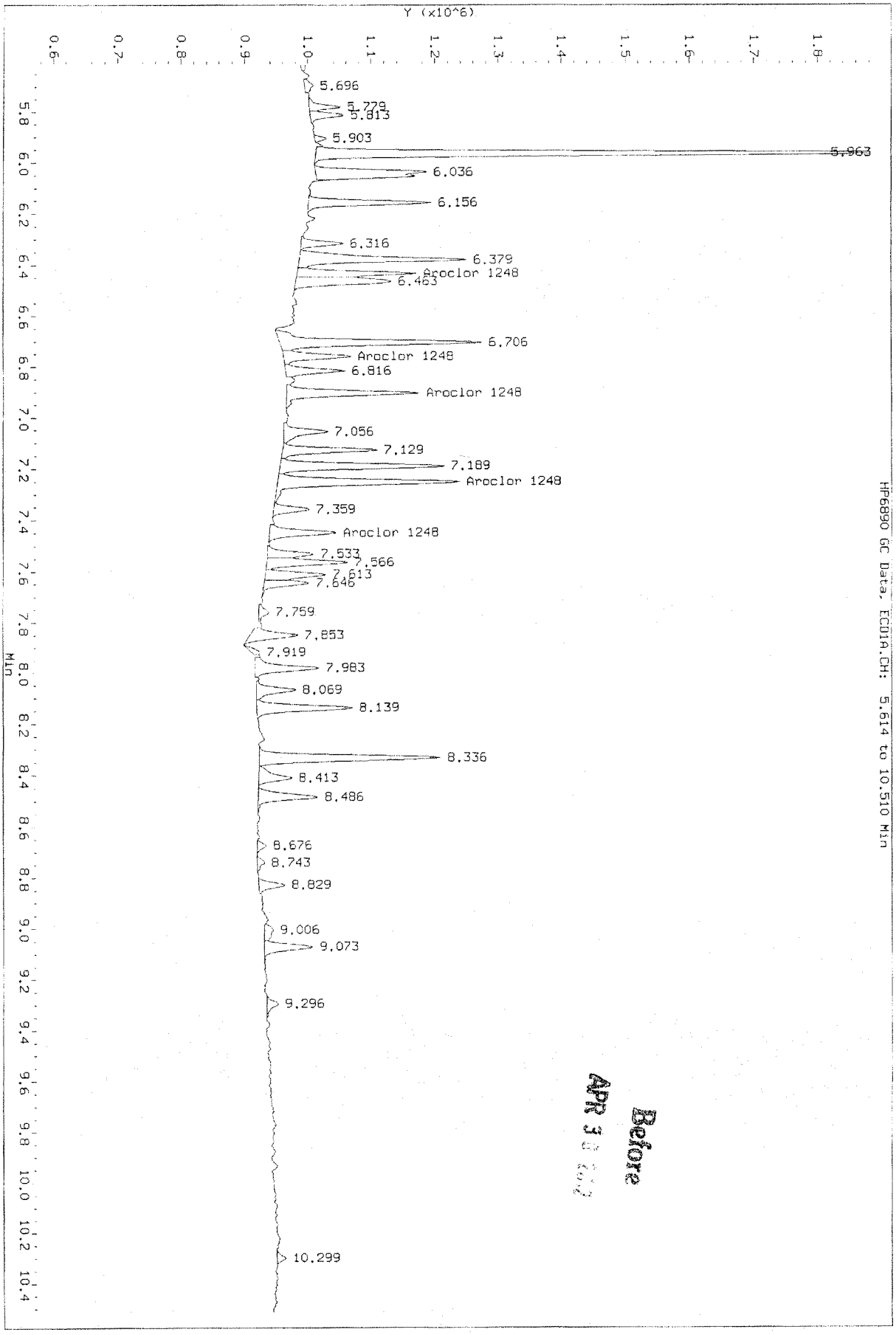
Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



634

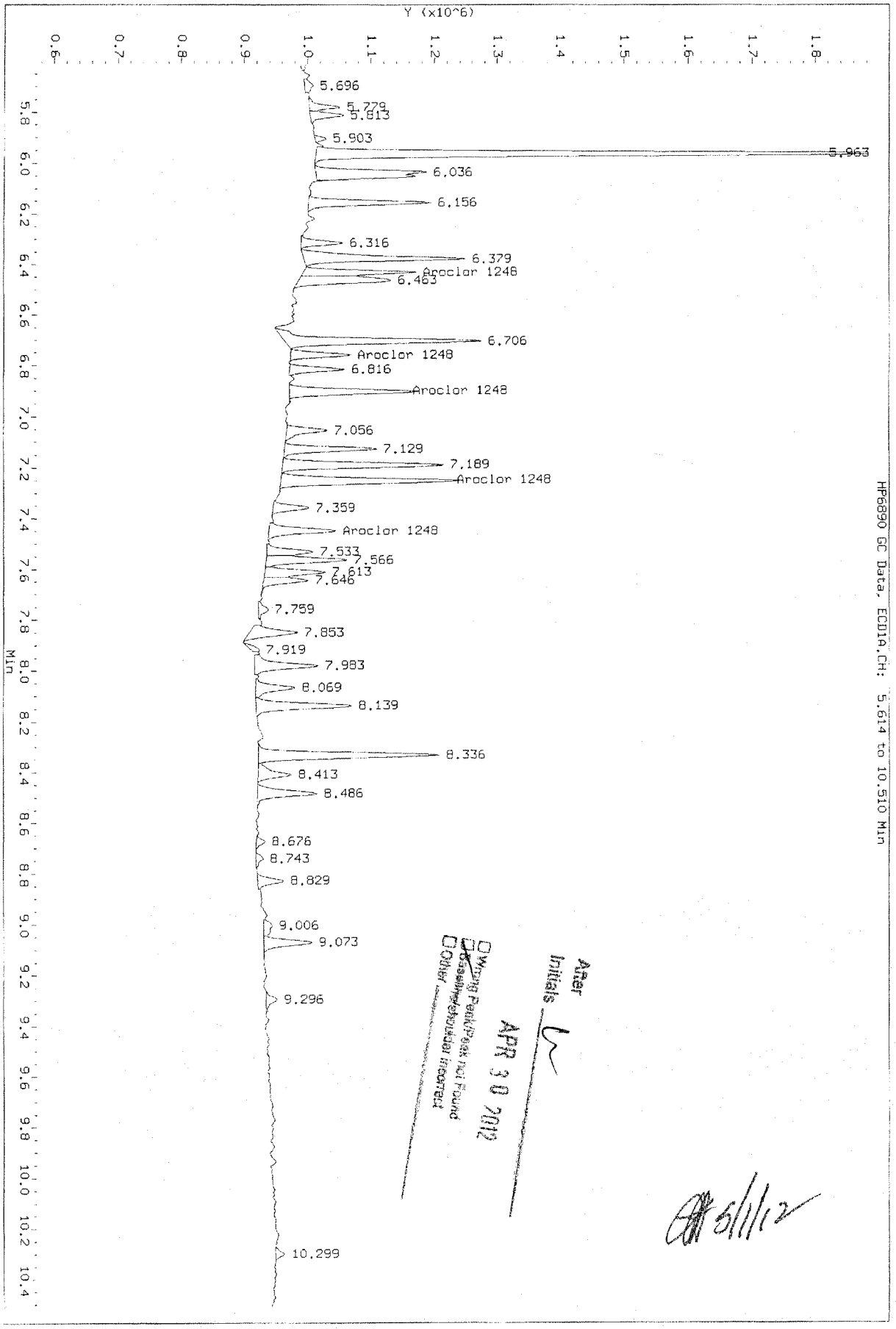
Data File: \\cash1\acqudata\GC22\data\042812A.b\042BF02B.D
Injection Date: 29-APR-2012 03:39
Instrument: GC22.1
Client Sample ID:



HP6890 GC Data, ECD1A.CH: 5.614 to 10.510 Min

Before
APR 30 2012

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F028.D
Injection Date: 29-APR-2012 03:39
Instrument: GC22.i
Client Sample ID:



After
Initials

APR 30 2012

☐ Wrong Peak/Peak Not Found
☐ Baseline/Integration Incorrect
☐ Other

5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F029.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F029.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F029.D
Inj Date : 29-APR-2012 04:02
Sample Info: 1248 @ 50ppb | PCB5-93P
Misc Info :
Cal Date : 29-APR-2012 13:53
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	6.430	7.600	1926591	12702796	47.7	57.3	80.00- 120.00	100.00
	6.757	7.856	1078636	8948135	50.4	56.8	43.73- 65.60	55.99
	6.903	8.250	2549527	11434827	47.8	54.7	110.97- 166.45	132.33
	7.253	8.290	3610778	13422566	48.1	51.6	154.50- 231.75	187.42
	7.447	8.360	1347720	12709531	42.3	51.5	53.90- 80.85	69.95
			Average of Peak Amounts =		47.3	54.4		

5/1/12

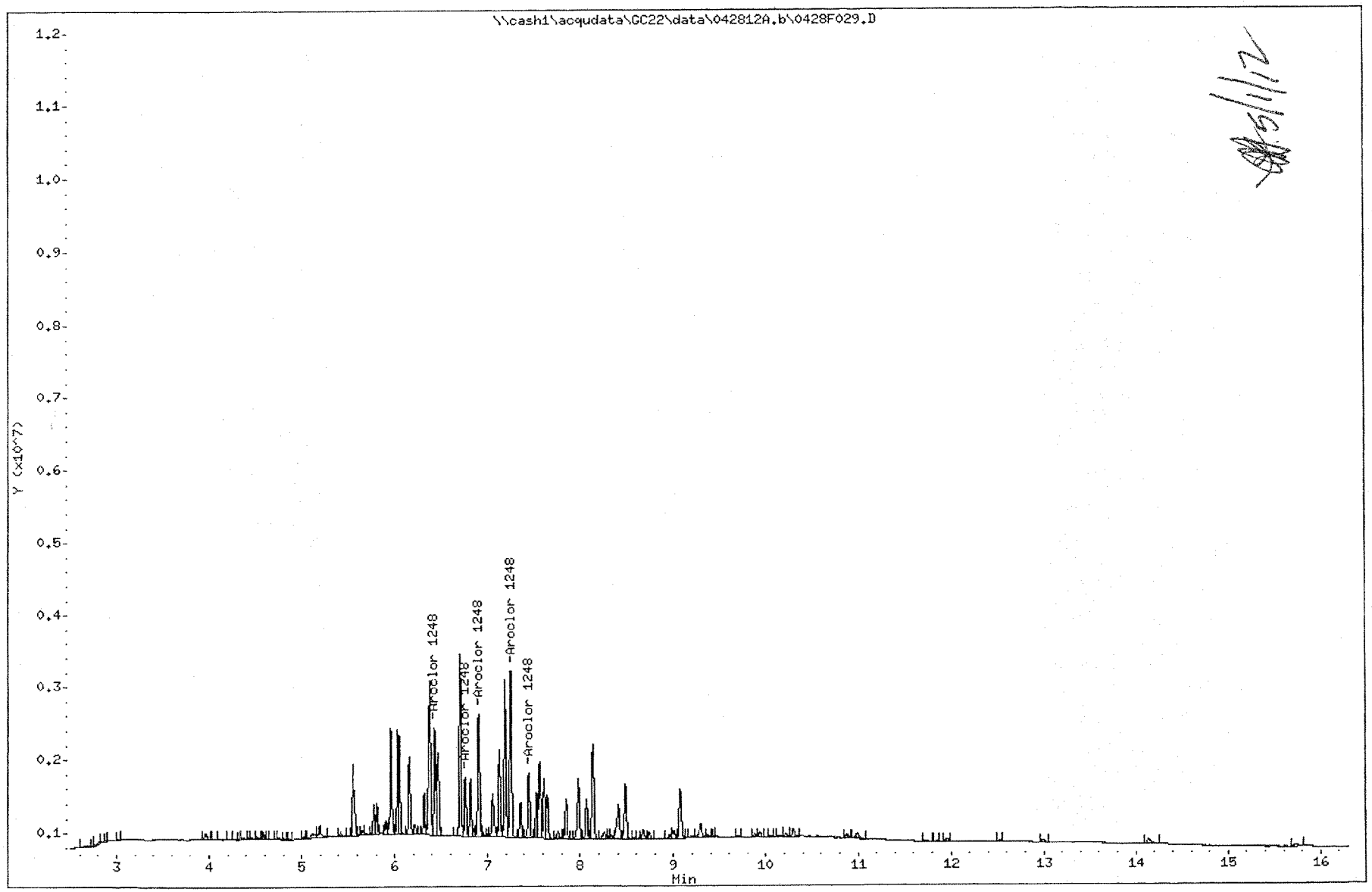
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F029.D
Date : 29-APR-2012 04:02
Client ID:
Sample Info: 1248 @ 50ppb I PCB5-93P

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-35MS

Column diameter: 0.32

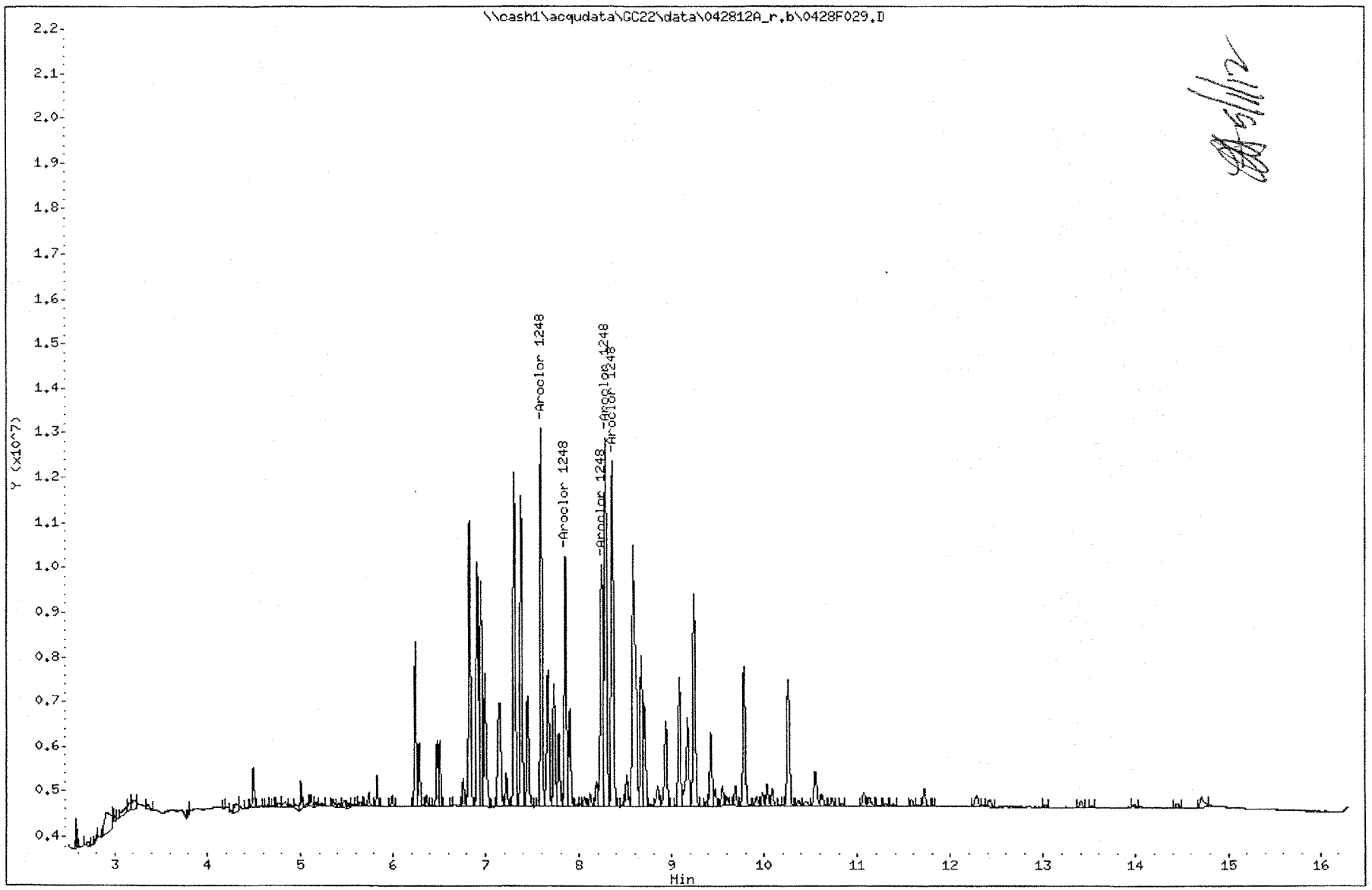


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F029.D
Date : 29-APR-2012 04:02
Client ID:
Sample Info: 1248 @ 50ppb | PCB5-93P

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



639

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F030.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F030.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F030.D
Inj Date : 29-APR-2012 04:25
Sample Info: 1248 @ 100ppb | PCB5-930
Misc Info :
Cal Date : 29-APR-2012 13:53
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	6.431	7.600	3625163	23856966	89.8	102	80.00- 120.00	100.00
	6.757	7.860	2057174	16801272	96.2	102	43.73- 65.60	56.75
	6.904	8.250	4903032	21390049	91.8	98.6	110.97- 166.45	135.25
	7.254	8.290	6913222	25621862	92.2	96.9	154.50- 231.75	190.70
	7.447	8.364	2529452	24097627	83.7	95.8	53.90- 80.85	69.77
		Average of Peak Amounts =			90.7	99.1		

5/1/12
04/30/12

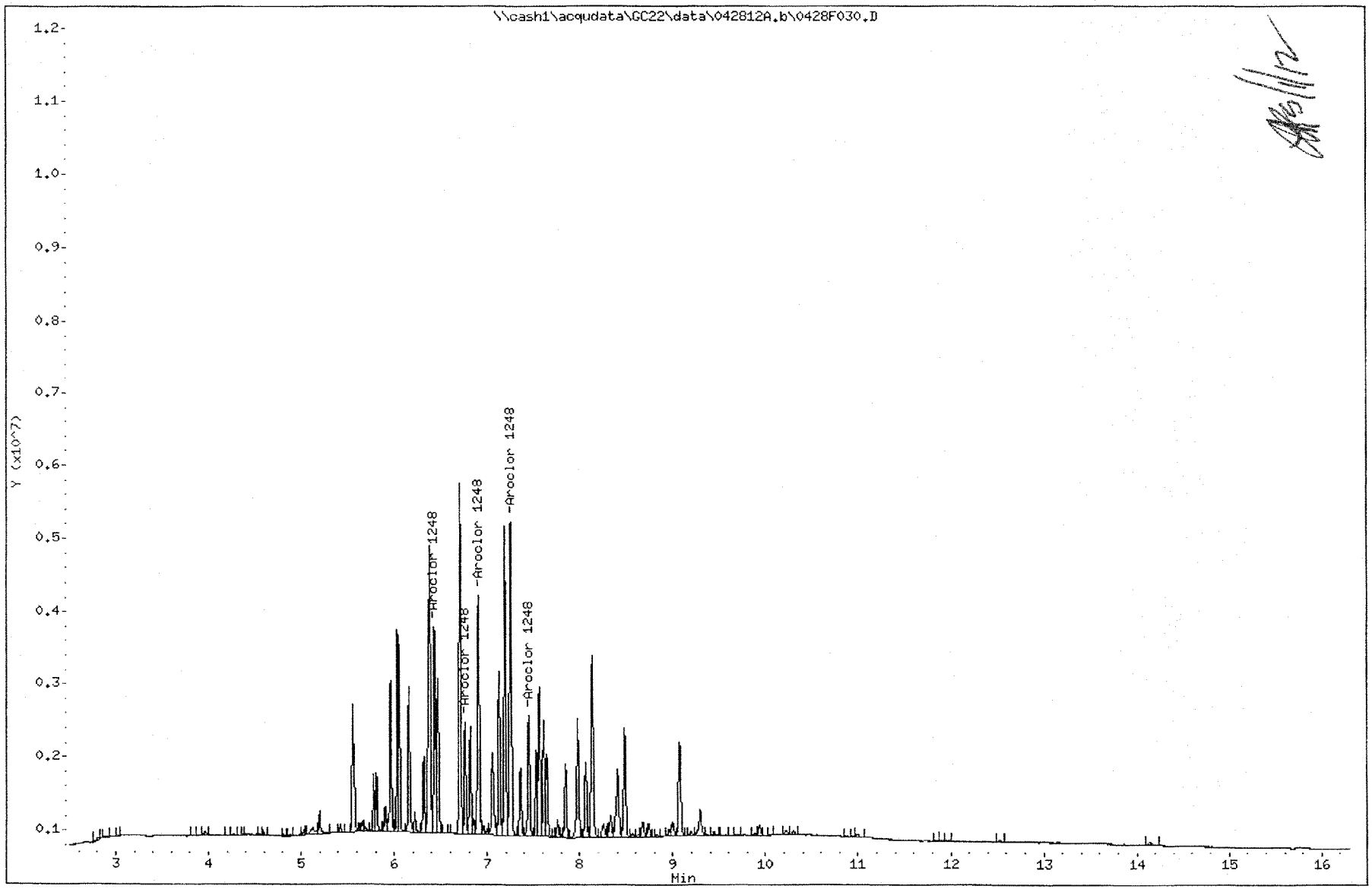
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F030.D
Date : 29-APR-2012 04:25
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-930

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-35MS

Column diameter: 0.32

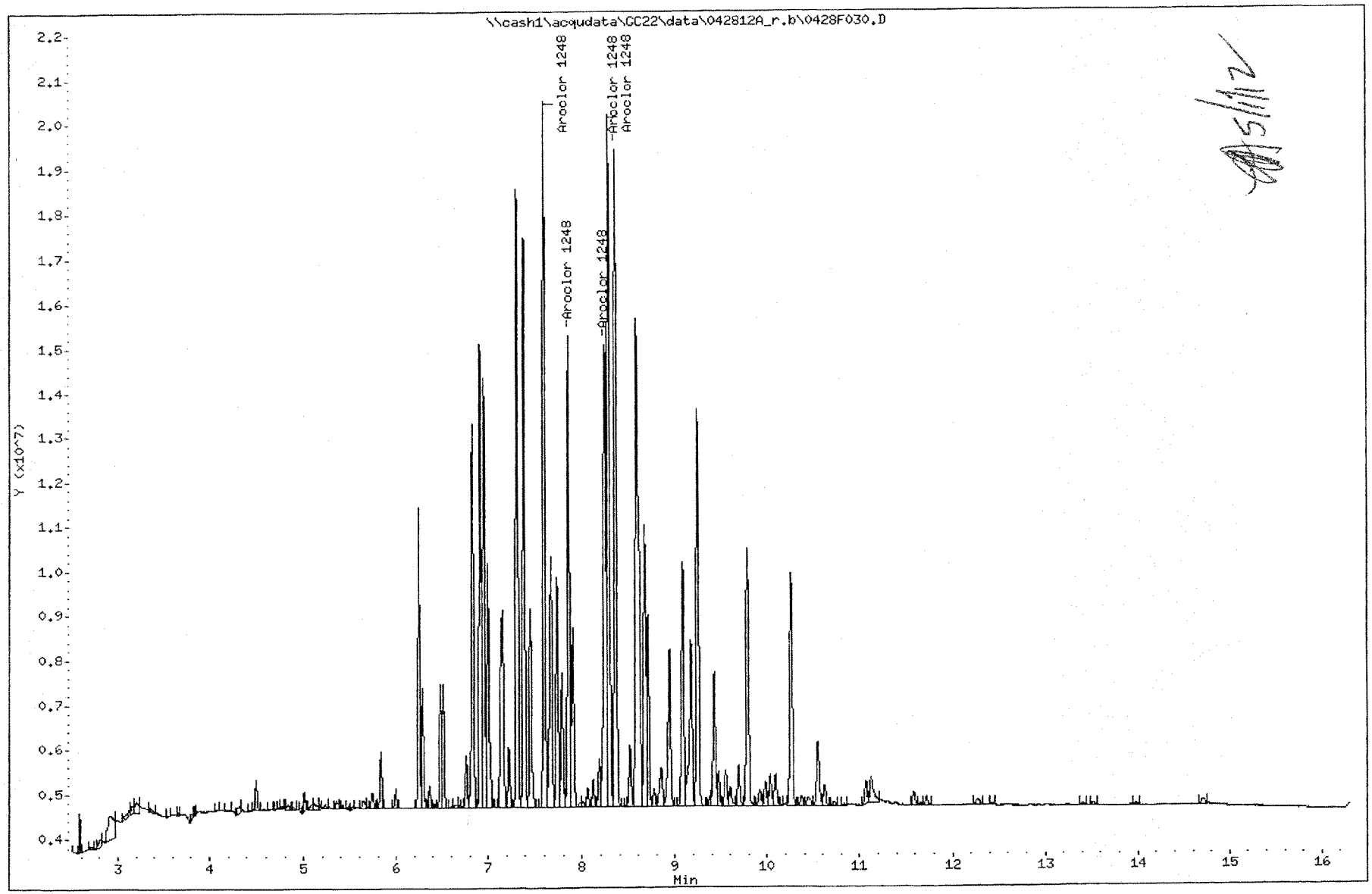


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F030.D
Date : 29-APR-2012 04:25
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-930

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



642

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F031.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F031.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F031.D
Inj Date : 29-APR-2012 04:47
Sample Info: 1248 @ 200ppb | PCB5-93N
Misc Info :
Cal Date : 29-APR-2012 13:53
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	6.431	7.600	7174994	46802016	178	188	80.00- 120.00	100.00
	6.758	7.860	3940009	33004447	184	190	43.73- 65.60	54.91
	6.904	8.250	9659061	41138596	181	184	110.97- 166.45	134.62
	7.251	8.290	13511526	49972017	180	184	154.50- 231.75	188.31
	7.448	8.364	4886258	46910553	168	183	53.90- 80.85	68.10
			Average of Peak Amounts =		178	186		

5/1/12

5/3/12

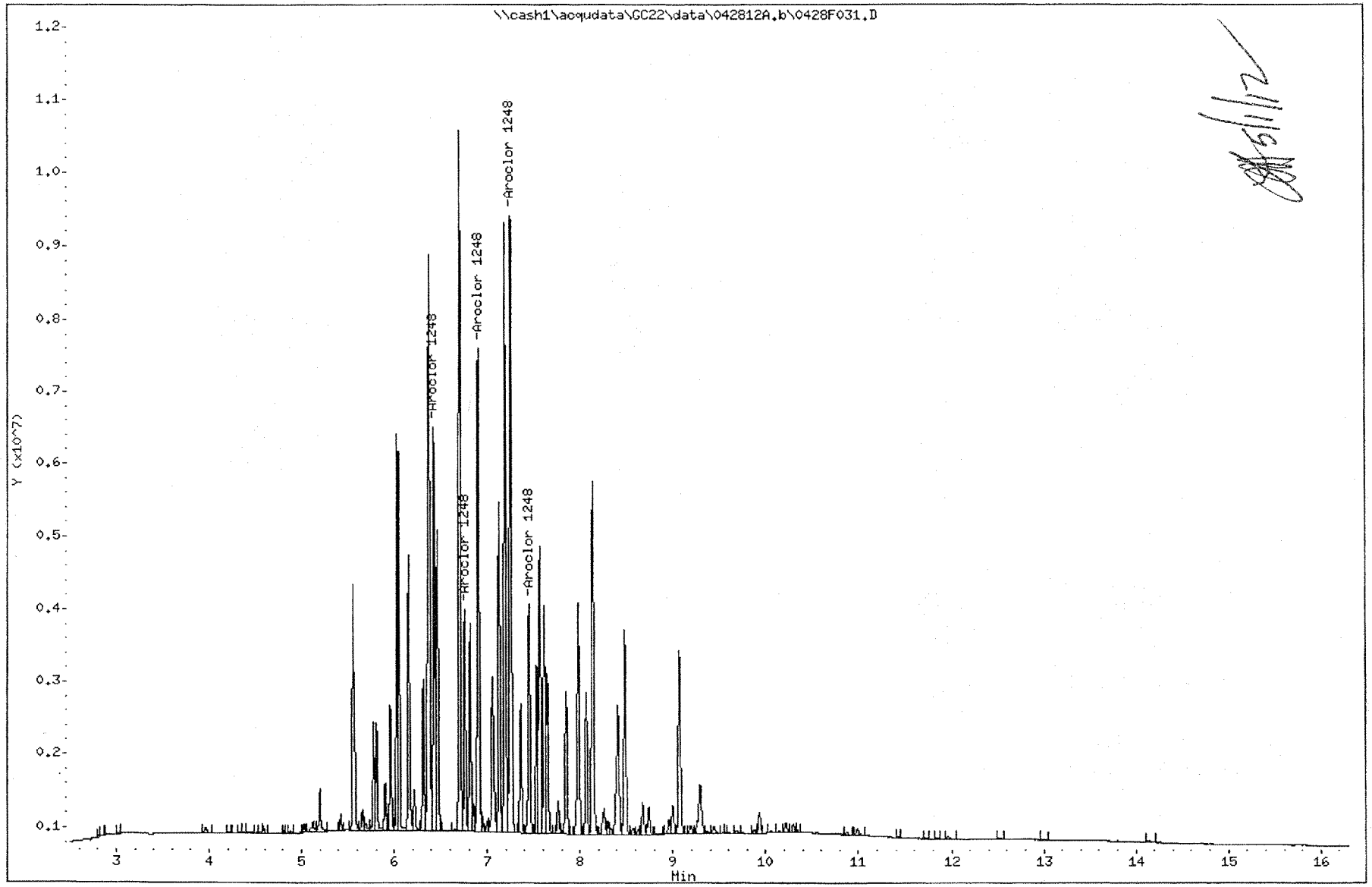
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F031.D
Date : 29-APR-2012 04:47
Client ID:
Sample Info: 1248 @ 200ppb | PCB5-93N

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-35MS

Column diameter: 0.32

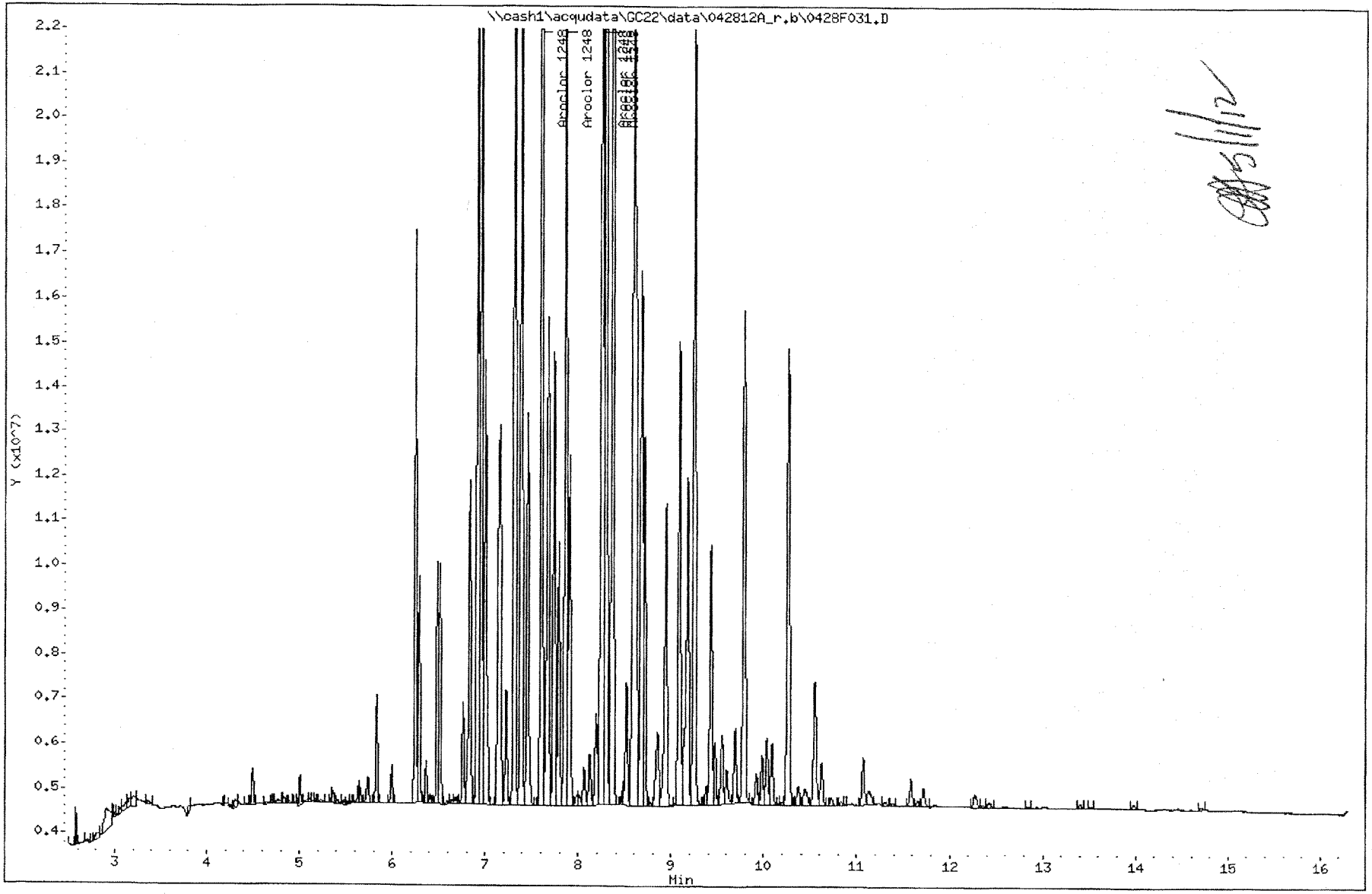


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F031.D
Date : 29-APR-2012 04:47
Client ID:
Sample Info: 1248 @ 200ppb | PCB5-93N

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



645

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F032.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F032.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F032.D
Inj Date : 29-APR-2012 05:10
Sample Info: 1248 @ 500ppb | PCB5-93M
Misc Info :
Cal Date : 29-APR-2012 13:53
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	6.431	7.601	18005381	113330929	446	430	80.00- 120.00	100.00
	6.761	7.861	9843194	80923561	460	440	43.73- 65.60	54.67
	6.904	8.251	24975439	101436209	468	432	110.97- 166.45	138.71
	7.254	8.291	34773307	122167284	464	435	154.50- 231.75	193.13
	7.451	8.364	12130672	115370032	429	435	53.90- 80.85	67.37
			Average of Peak Amounts =		453	434		

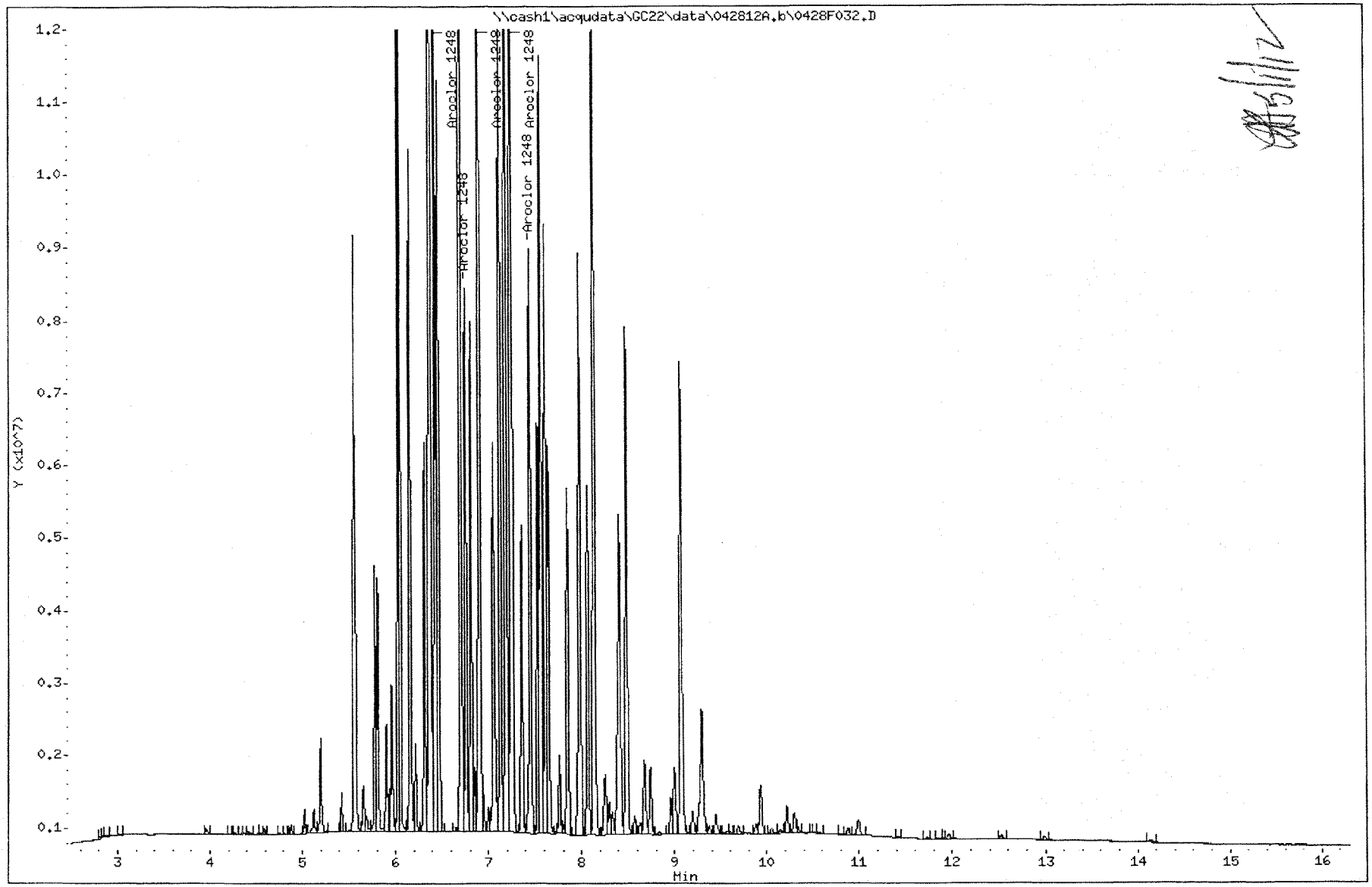
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F032.D
Date : 29-APR-2012 05:10
Client ID:
Sample Info: 1248 @ 500ppb | PCB5-93M

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

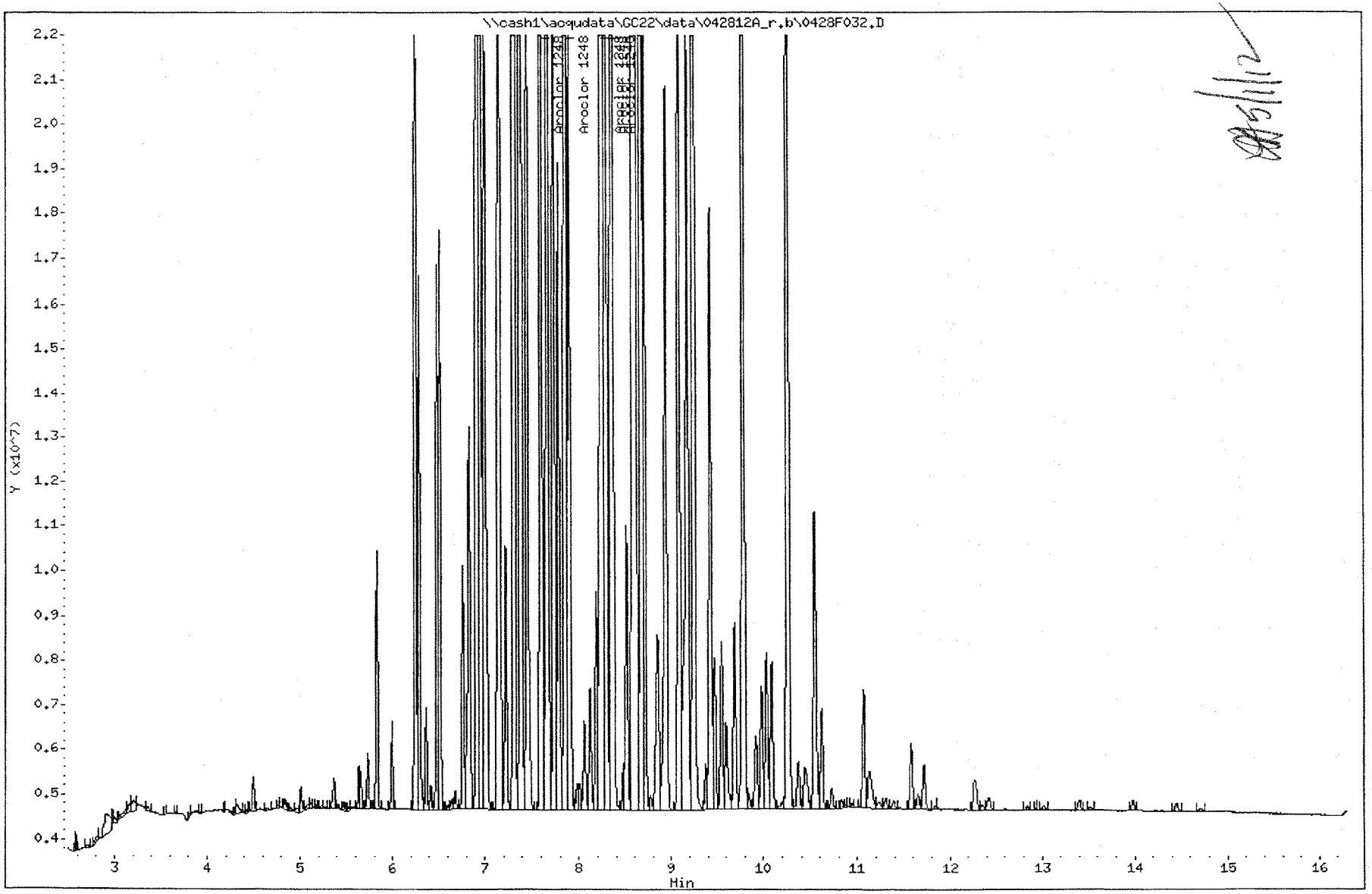


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F032.D
Date : 29-APR-2012 05:10
Client ID:
Sample Info: 1248 @ 500ppb | PCB5-93M

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



648

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F033.D
Report Date: 30-Apr-2012 17:21

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F033.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F033.D
Inj Date : 29-APR-2012 05:32
Sample Info: 1016 @ 100ppb | PCB5-94G
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1016.sub
Sub List #2 : AR1016.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1016	5.560	6.249	6703478	19726315	92.4	99.6	80.00- 120.00	100.00
	6.053	6.293	6574786	11074420	85.0	100	80.59- 120.89	98.08
	6.156	6.959	5256135	30661289	89.4	90.8	60.88- 91.31	78.41
	6.316	7.159	3093596	18637990	90.3	96.3	33.73- 50.60	46.15
	6.380	7.313	4853958	15171851	94.8	93.8	50.19- 75.29	72.41
			Average of Peak Amounts =		90.4	96.1		

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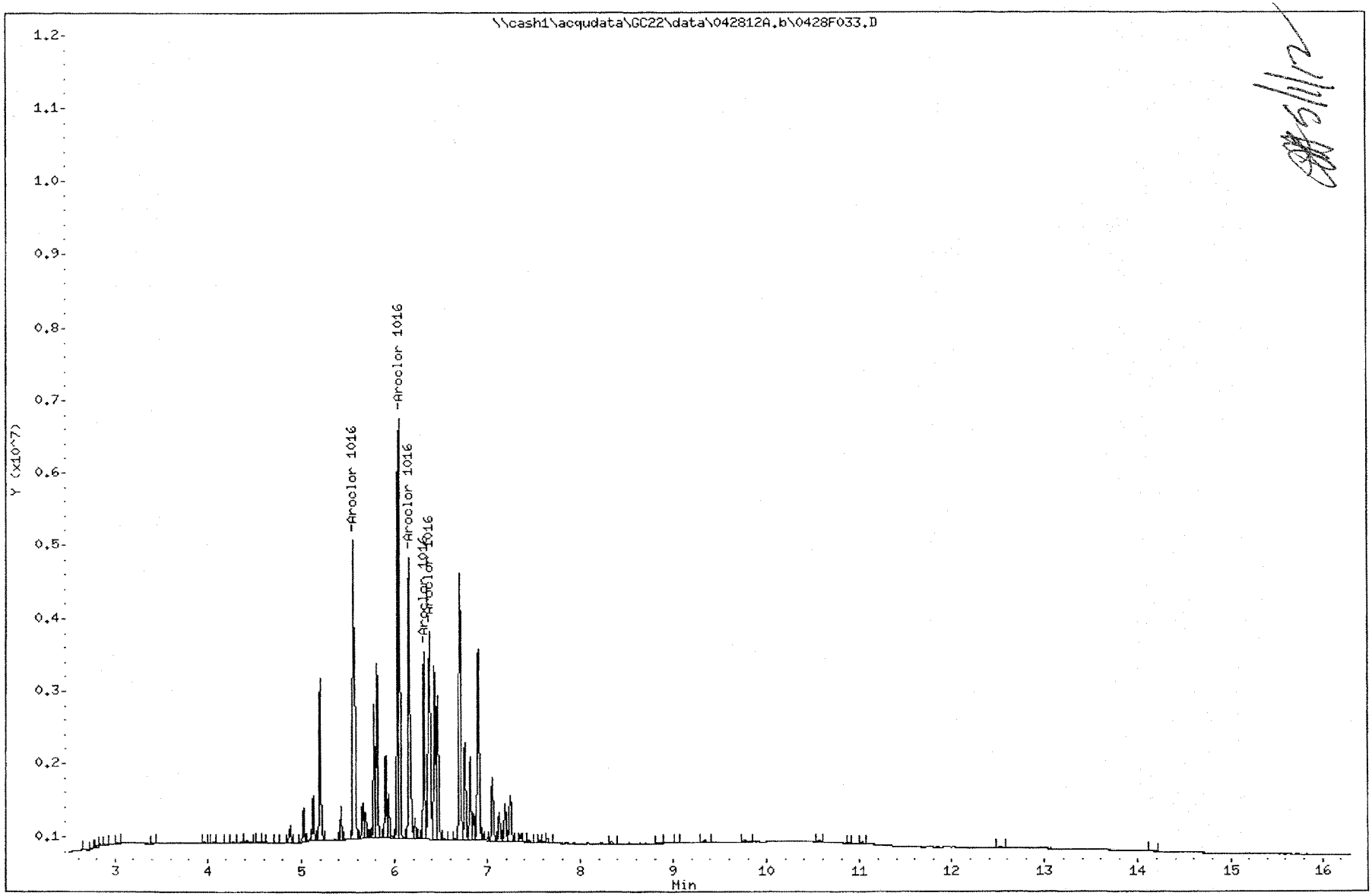
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F033.D
Date : 29-APR-2012 05:32
Client ID:
Sample Info: 1016 @ 100ppb | PCB5-94G

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

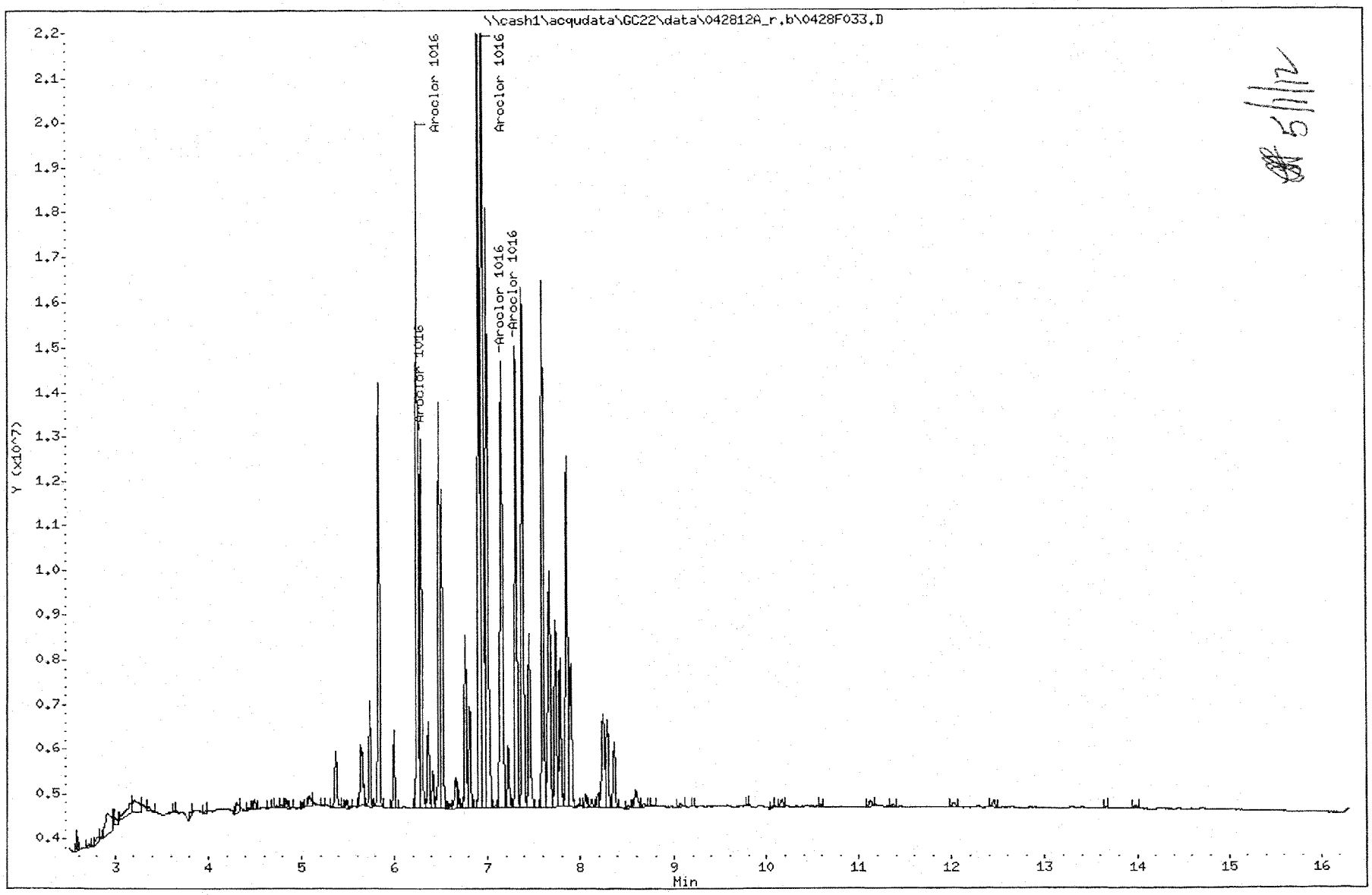


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F033.D
Date : 29-APR-2012 05:32
Client ID:
Sample Info: 1016 @ 100ppb | PCB5-94G

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



651

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F034.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F034.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F034.D
Inj Date : 29-APR-2012 05:55
Sample Info: 1221 @ 100ppb | PCB5-94H
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1221.SUB
Sub List #2 : AR1221.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1221	4.419	5.372	1029376	2933358	110	119	80.00- 120.00	100.00(M)
	5.026	5.655	1317468	4916394	96.1	99.8	126.02- 189.04	127.99(M)
	5.126	5.735	1114116	5222873	108	116	97.46- 146.18	108.23(M)
	5.202	5.835	3355558	16945272	92.7	106	338.74- 508.10	325.98(M)
			Average of Peak Amounts =		102	110		

QC Flag Legend

M - Compound response manually integrated.

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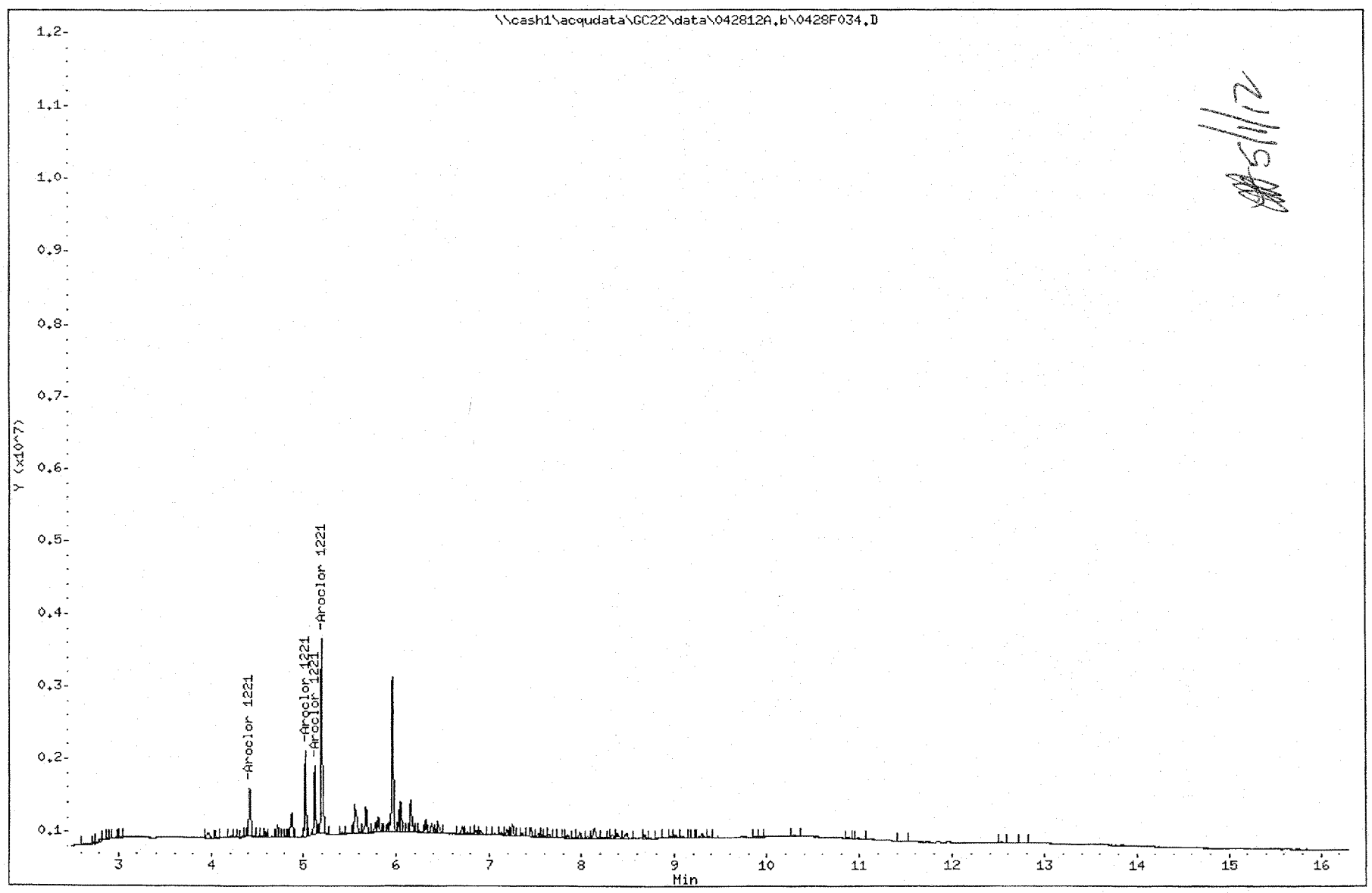
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F034.D
Date : 29-APR-2012 05:55
Client ID:
Sample Info: 1221 @ 100ppb | PCB5-94H

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

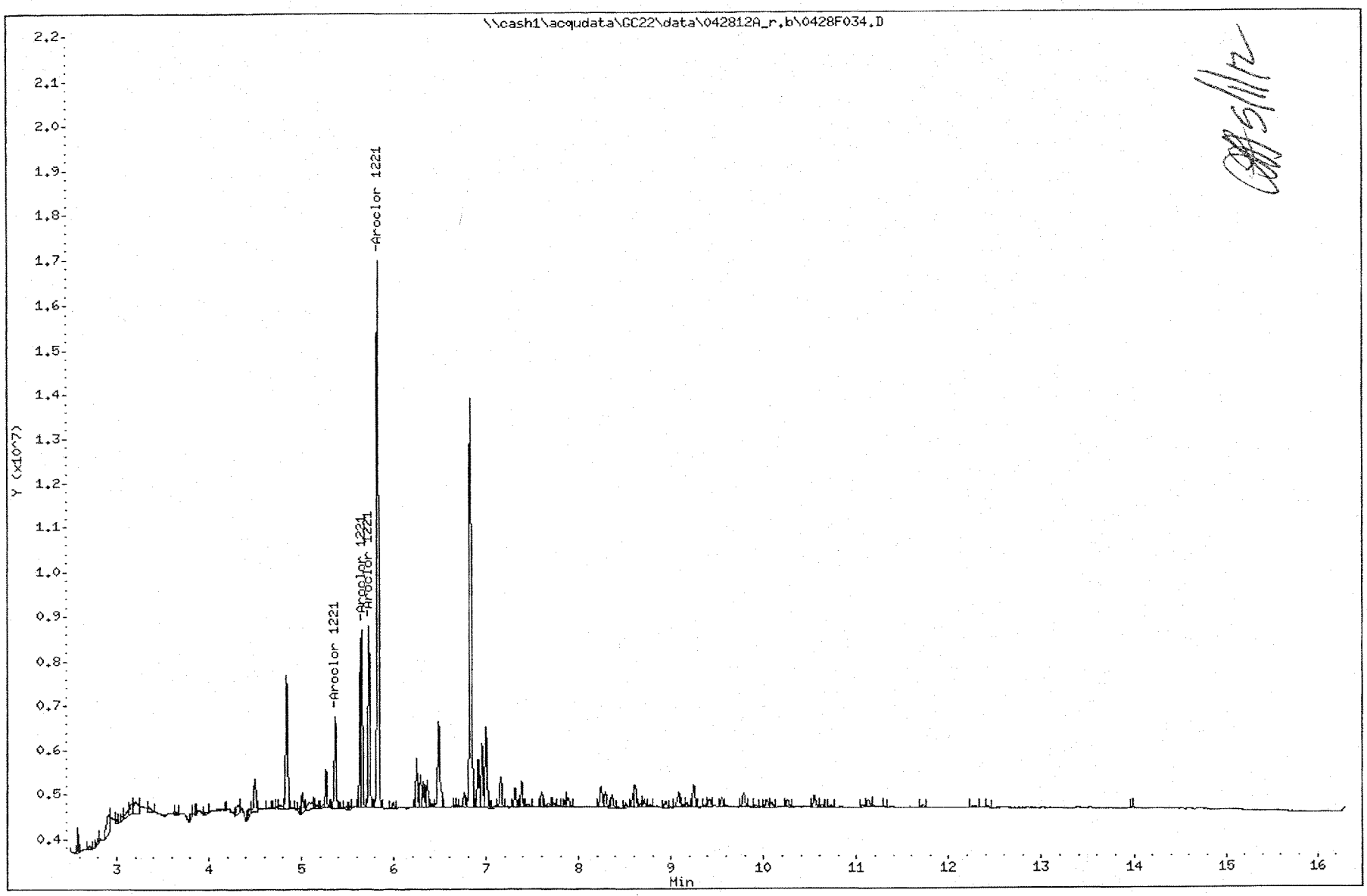


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F034.D
Date : 29-APR-2012 05:55
Client ID:
Sample Info: 1221 @ 100ppb | PCB5-94H

Column phase: DB-XLB

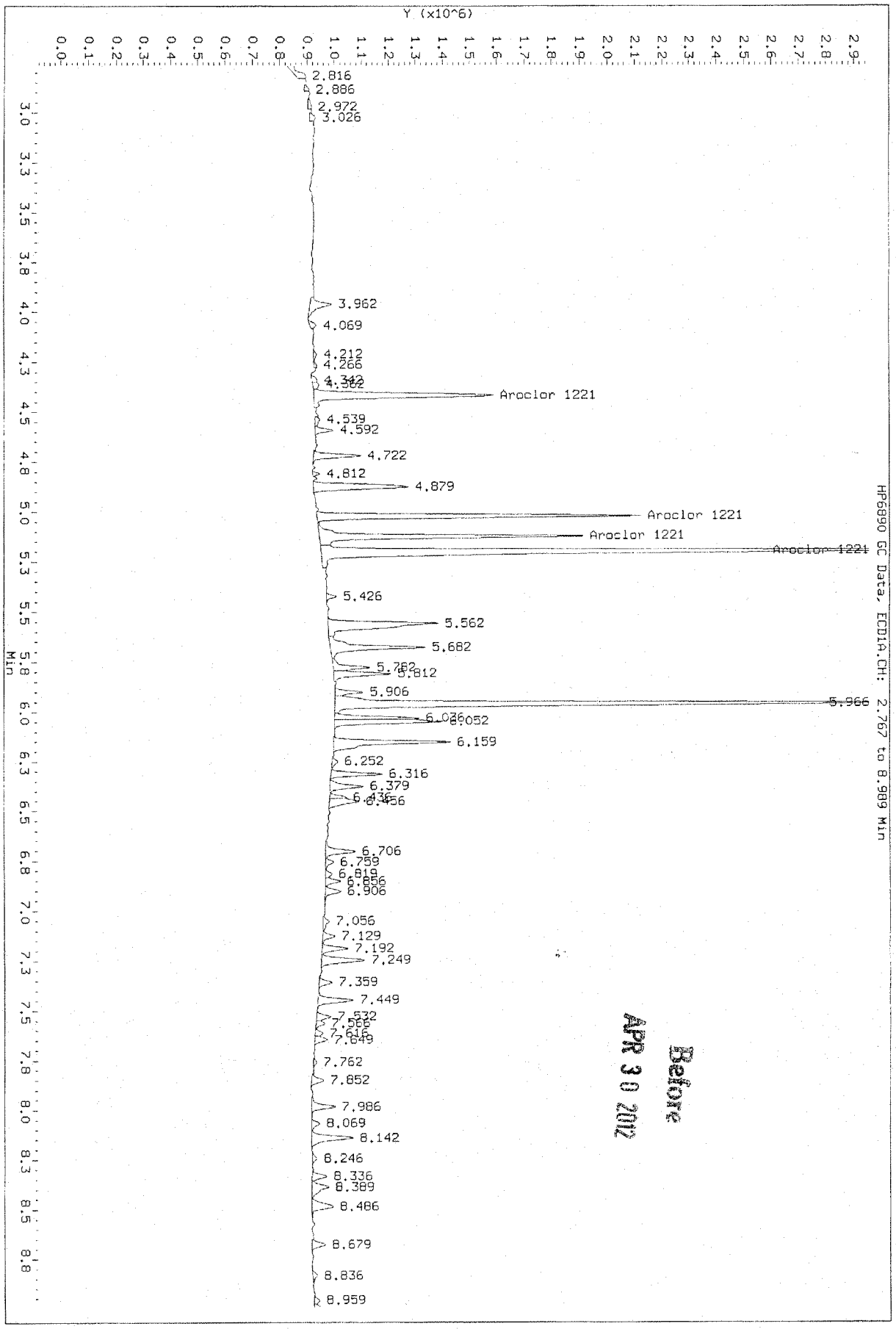
Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



654

Data File: \\cashl\acqudata\GC22\data\042812A.b\0428F034.D
Injection Date: 29-APR-2012 05:55
Instrument: GC22.i
Client Sample ID:

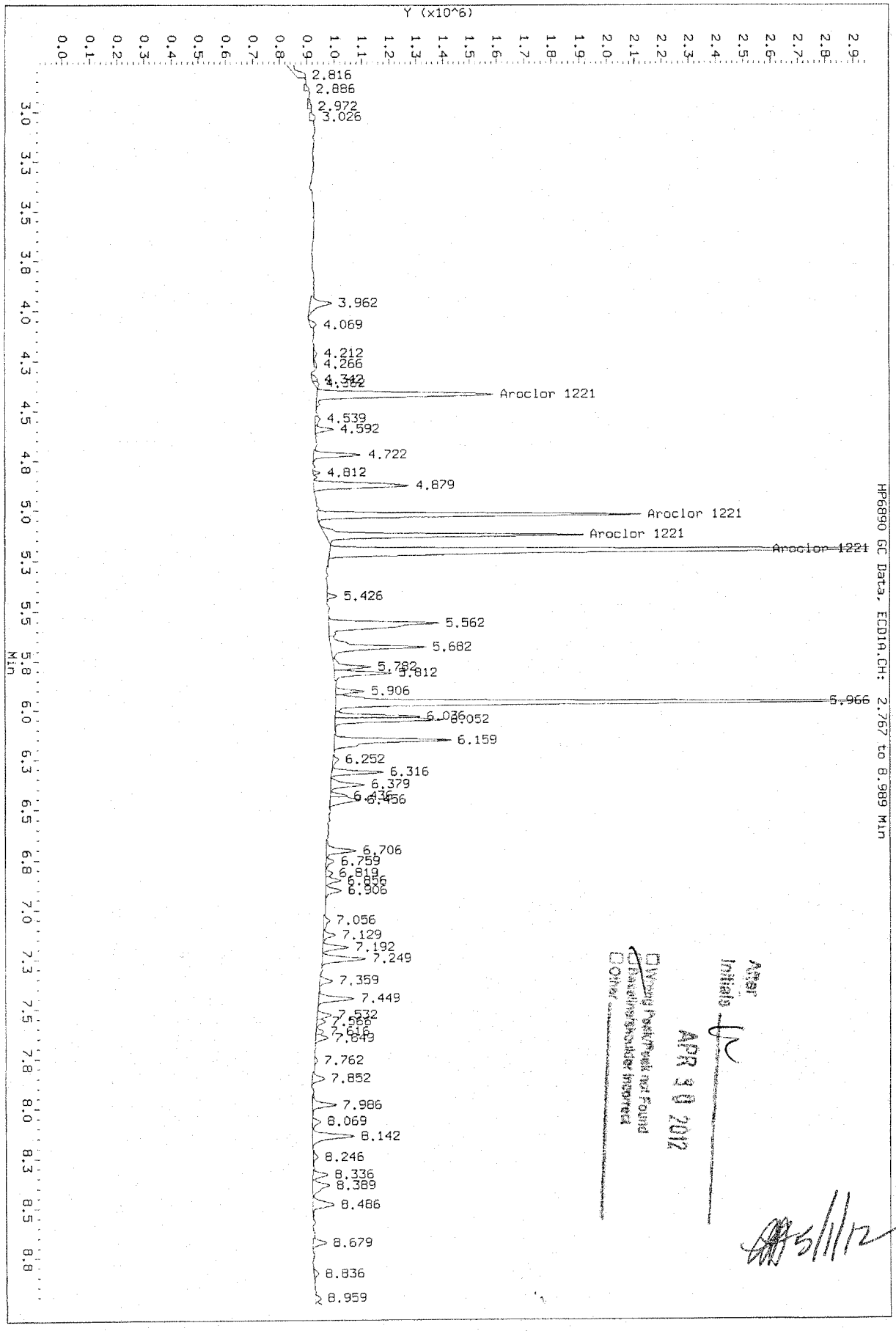


HP6890 GC Data, ECD1A.CH: 2.767 to 8.989 Min

Before
APR 30 2012

Data File: \\cash1\acqudata\GC22\data\0428I2A.b\0428F034.D
Injection Date: 29-APR-2012 05:55
Instrument: GC22.I
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 2.767 to 8.989 Min



Analyst Initials

APR 30 2012

☐ Wrong Peak Not Found
☐ Baseline/Shoulder Integrated
☐ Other

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Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F035.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F035.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F035.D
Inj Date : 29-APR-2012 06:18
Sample Info: 1232 @ 100ppb | PCB5-94I
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1232.SUB
Sub List #2 : AR1232.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1232	5.201	5.834	2735641	13011989	83.2	84.6	80.00- 120.00	100.00
	5.561	6.291	3113258	4835111	84.5	83.5	88.50- 132.74	113.80
	5.811	6.484	1351061	6415051	86.5	100	38.59- 57.89	49.39
	6.035	6.917	2070698	11592025	70.4	89.6	70.38- 105.58	75.69
			Average of Peak Amounts =		81.2	89.4		

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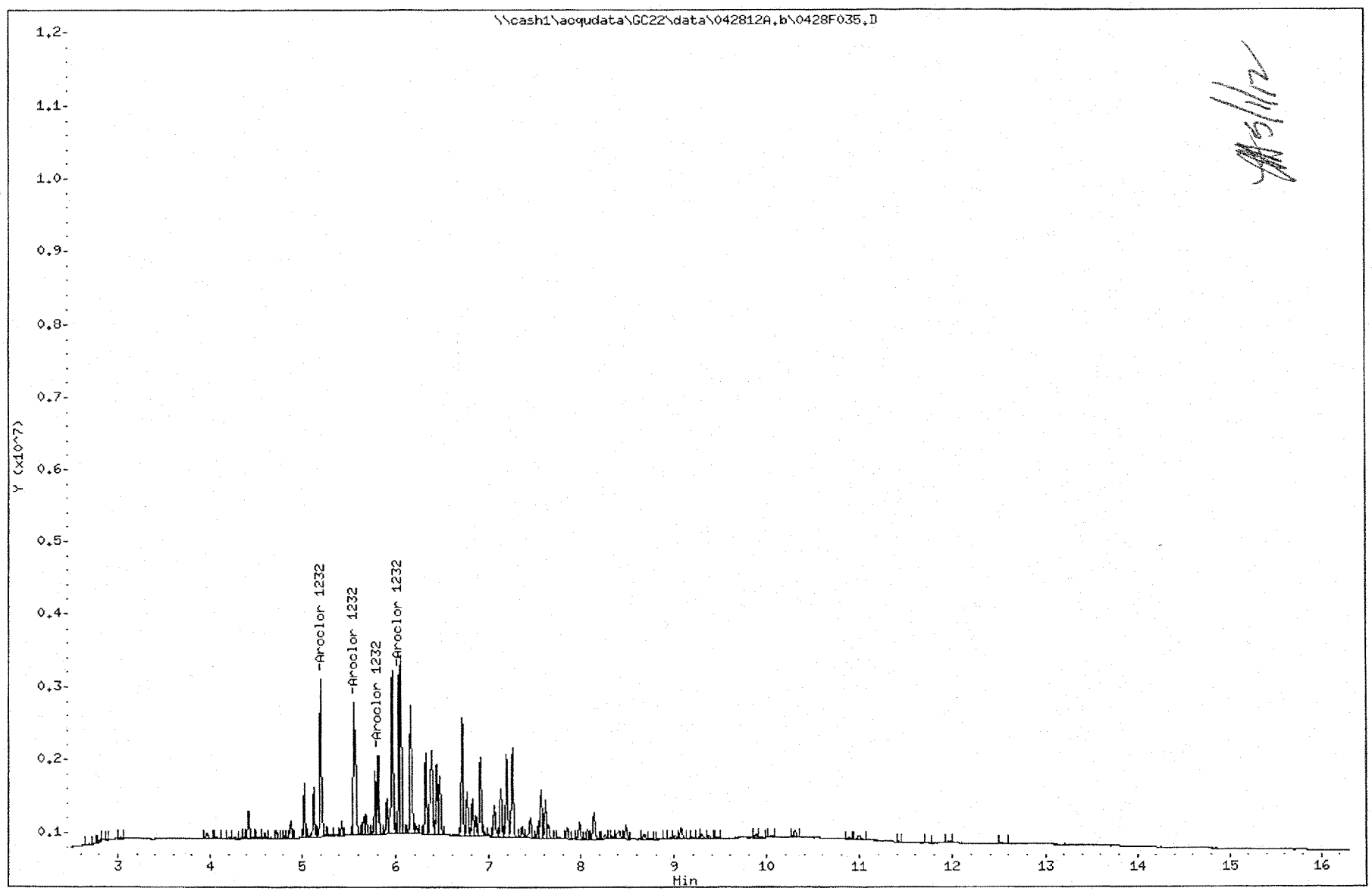
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F035.D
Date : 29-APR-2012 06:18
Client ID:
Sample Info: 1232 @ 100ppb | PCB5-94I

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



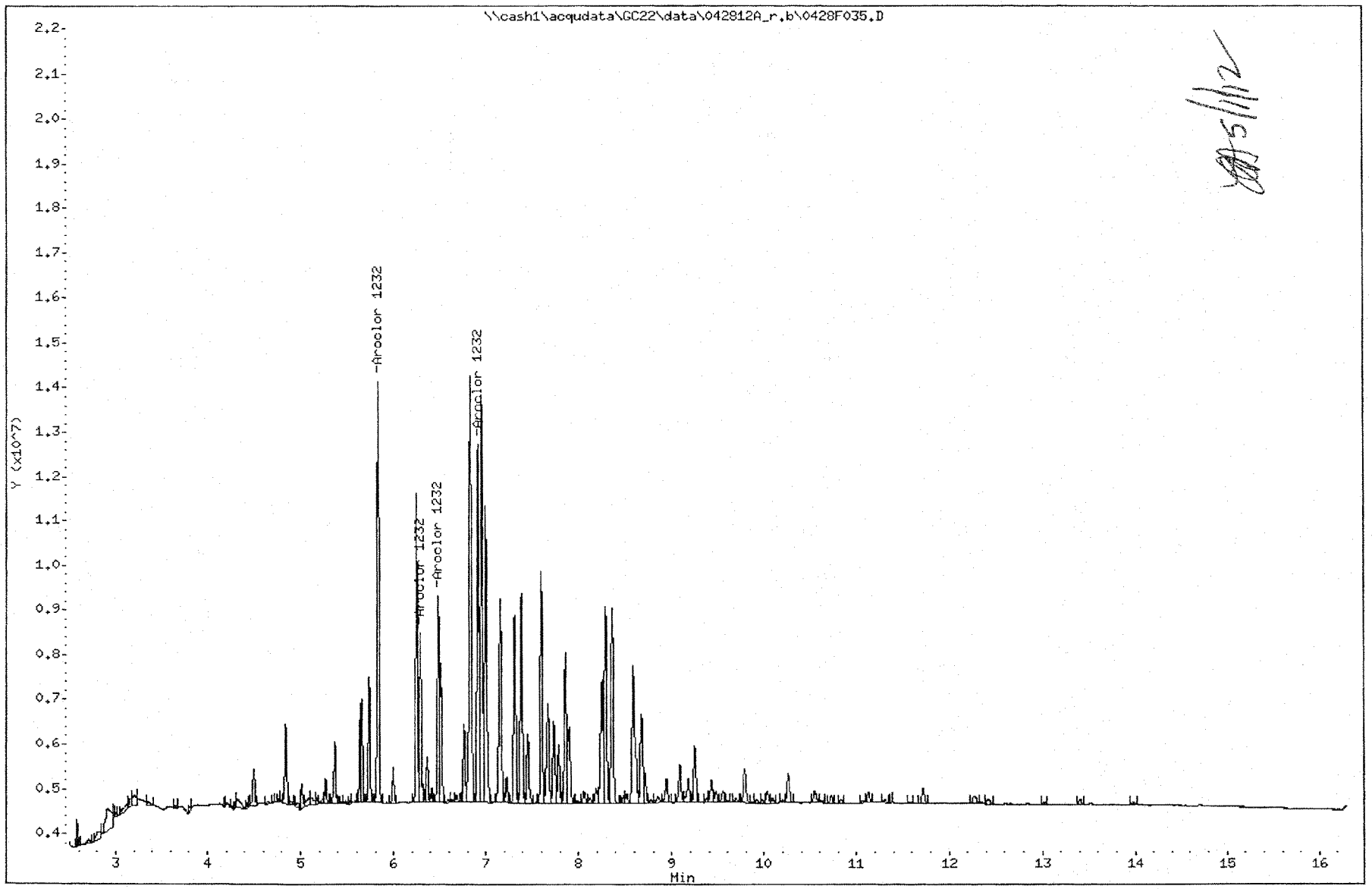
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F035.D
Date : 29-APR-2012 06:18
Client ID:
Sample Info: 1232 @ 100ppb | PCB5-94I

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-XLB

Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F036.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F036.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F036.D
Inj Date : 29-APR-2012 06:40
Sample Info: 1242 @ 100ppb | PCB5-94J
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1242.SUB
Sub List #2 : AR1242.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	5.782	5.834	1731780	9545348	97.5	82.9	80.00- 120.00	100.00
	6.055	6.291	4678228	8425328	80.9	88.8	244.39- 366.59	270.14
	6.318	6.514	2334737	6585756	90.1	91.2	108.55- 162.82	134.82
	6.378	7.161	3861700	13992978	98.6	87.9	174.52- 261.77	222.99
	6.708	7.601	3899031	14302784	93.2	89.8	179.56- 269.34	225.15
		Average of Peak Amounts =			92.1	88.1		

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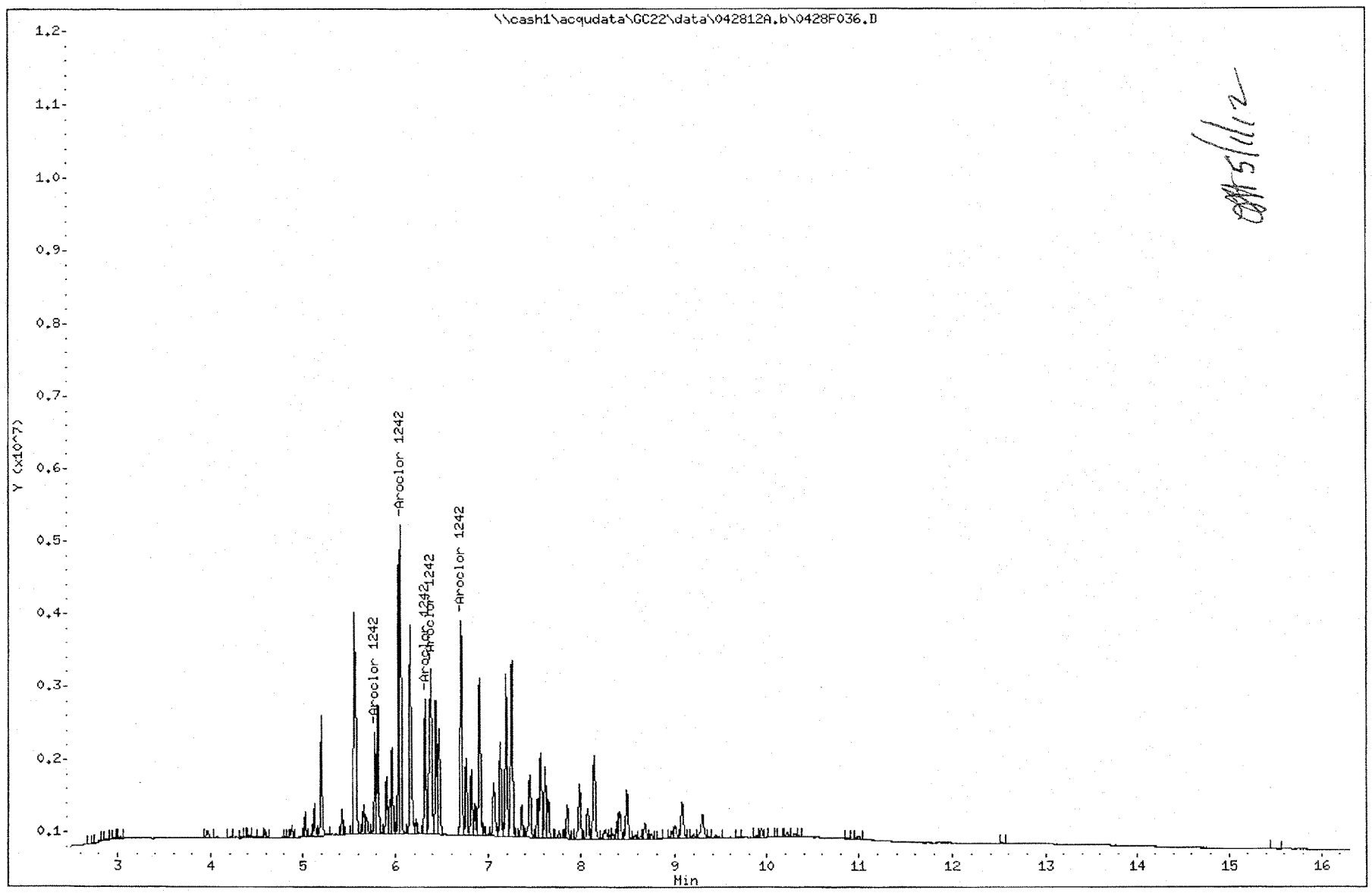
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F036.D
Date : 29-APR-2012 06:40
Client ID:
Sample Info: 1242 @ 100ppb | PCB5-94J

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



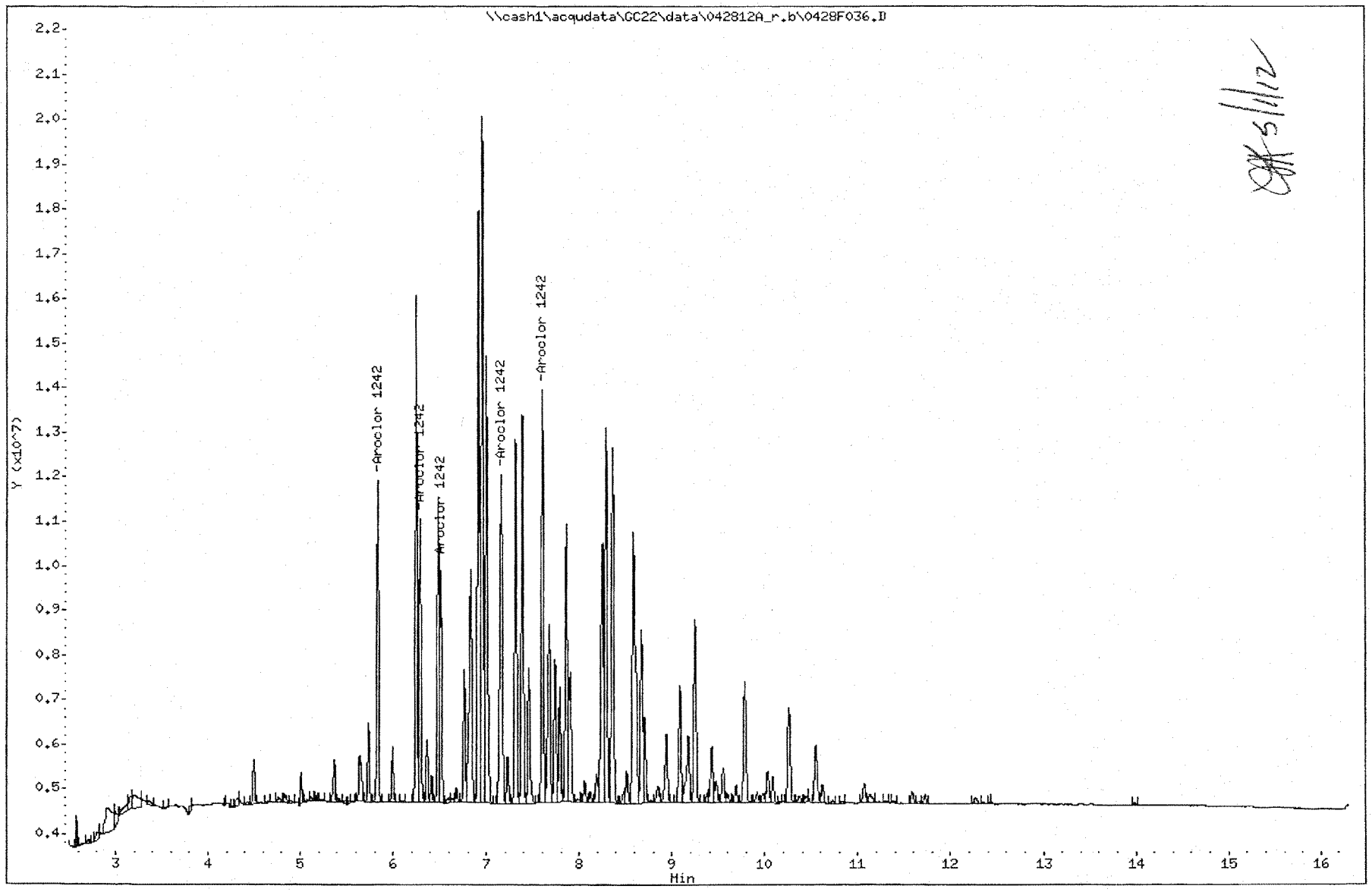
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F036.D
Date : 29-APR-2012 06:40
Client ID:
Sample Info: 1242 @ 100ppb | PCB5-94J

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-XLB

Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F037.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F037.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F037.D
Inj Date : 29-APR-2012 07:03
Sample Info: 1248 @ 100ppb | PCB5-94K
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1248.SUB
Sub List #2 : AR1248.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1248	6.433	7.602	3893612	25889348	96.5	98.2	80.00- 120.00	100.00
	6.759	7.862	2153469	17936309	101	97.6	43.73- 65.60	55.31
	6.906	8.252	5184679	22896222	97.1	97.6	110.97- 166.45	133.16
	7.253	8.292	7225114	26438379	96.3	94.1	154.50- 231.75	185.56
	7.449	8.362	2707684	24731864	95.8	93.2	53.90- 80.85	69.54
			Average of Peak Amounts =		97.3	96.1		

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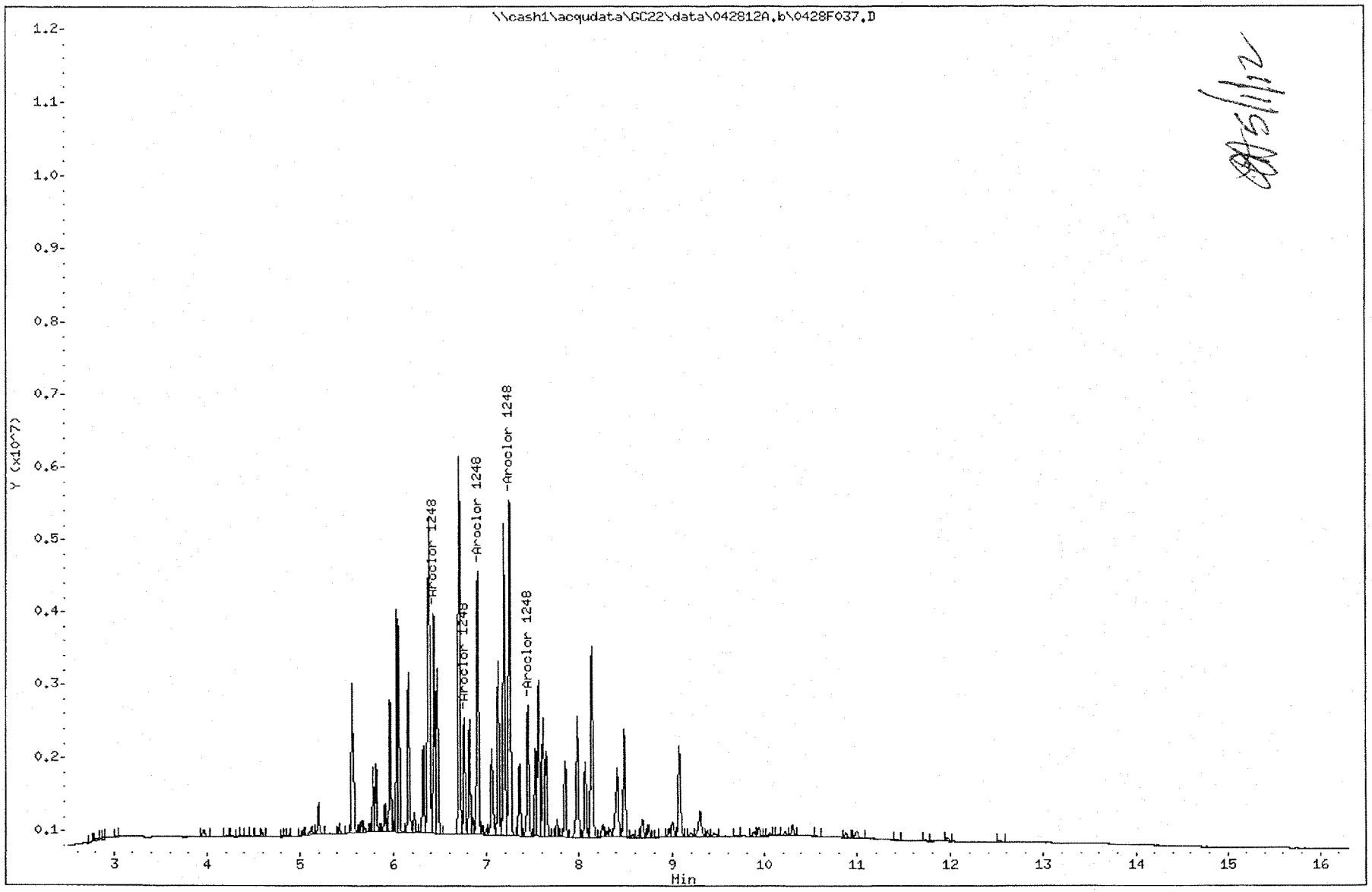
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F037.D
Date : 29-APR-2012 07:03
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-94K

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

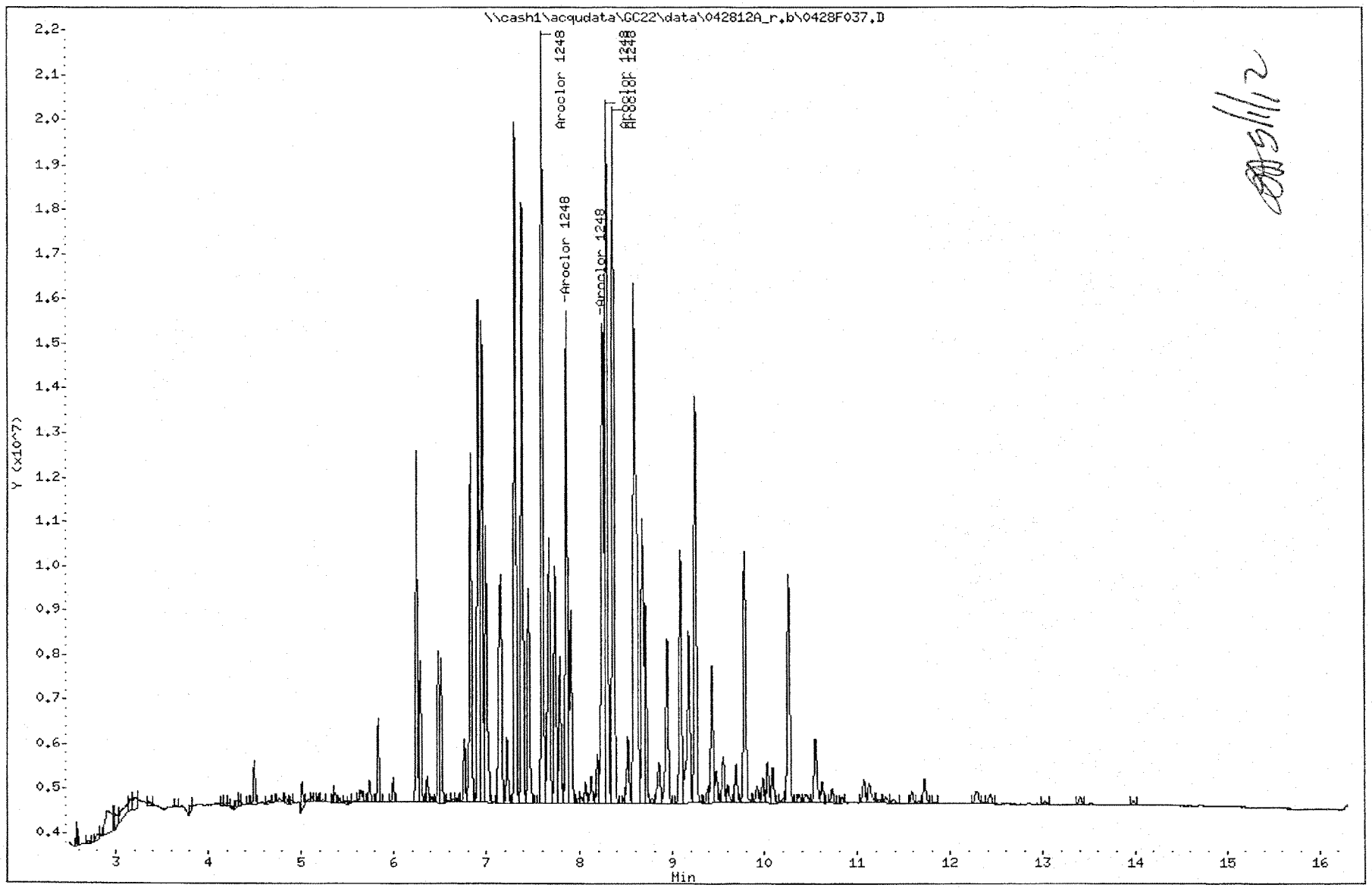


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F037.D
Date : 29-APR-2012 07:03
Client ID:
Sample Info: 1248 @ 100ppb | PCB5-94K

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



665

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F038.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F038.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F038.D
Inj Date : 29-APR-2012 07:26
Sample Info: 1254 @ 100ppb | PCB5-94L
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1254.SUB
Sub List #2 : AR1254.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1254	7.450	8.616	7988434	44509455	85.6	89.3	80.00- 120.00	100.00
	7.983	9.250	6425939	43218102	87.8	88.6	64.48- 96.73	80.44
	8.140	9.790	12489782	31045012	85.0	87.3	129.28- 193.92	156.35
	8.387	10.260	6581694	23582623	89.4	92.0	64.06- 96.09	82.39
	8.677	10.546	5051618	36930807	88.0	89.9	48.68- 73.02	63.24
			Average of Peak Amounts =		87.2	89.4		

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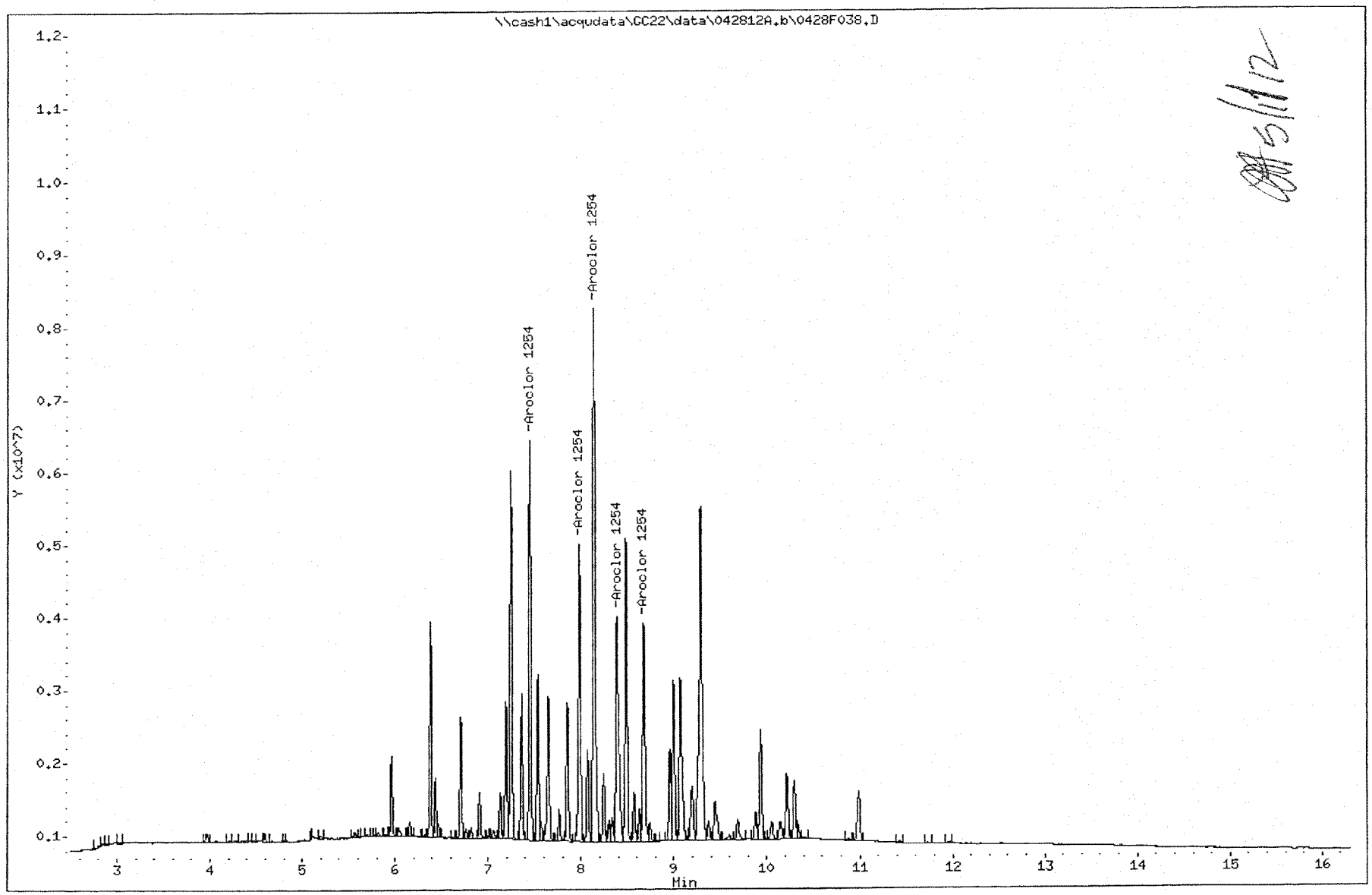
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F038.D
Date : 29-APR-2012 07:26
Client ID:
Sample Info: 1254 @ 100ppb | PCB5-94L

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

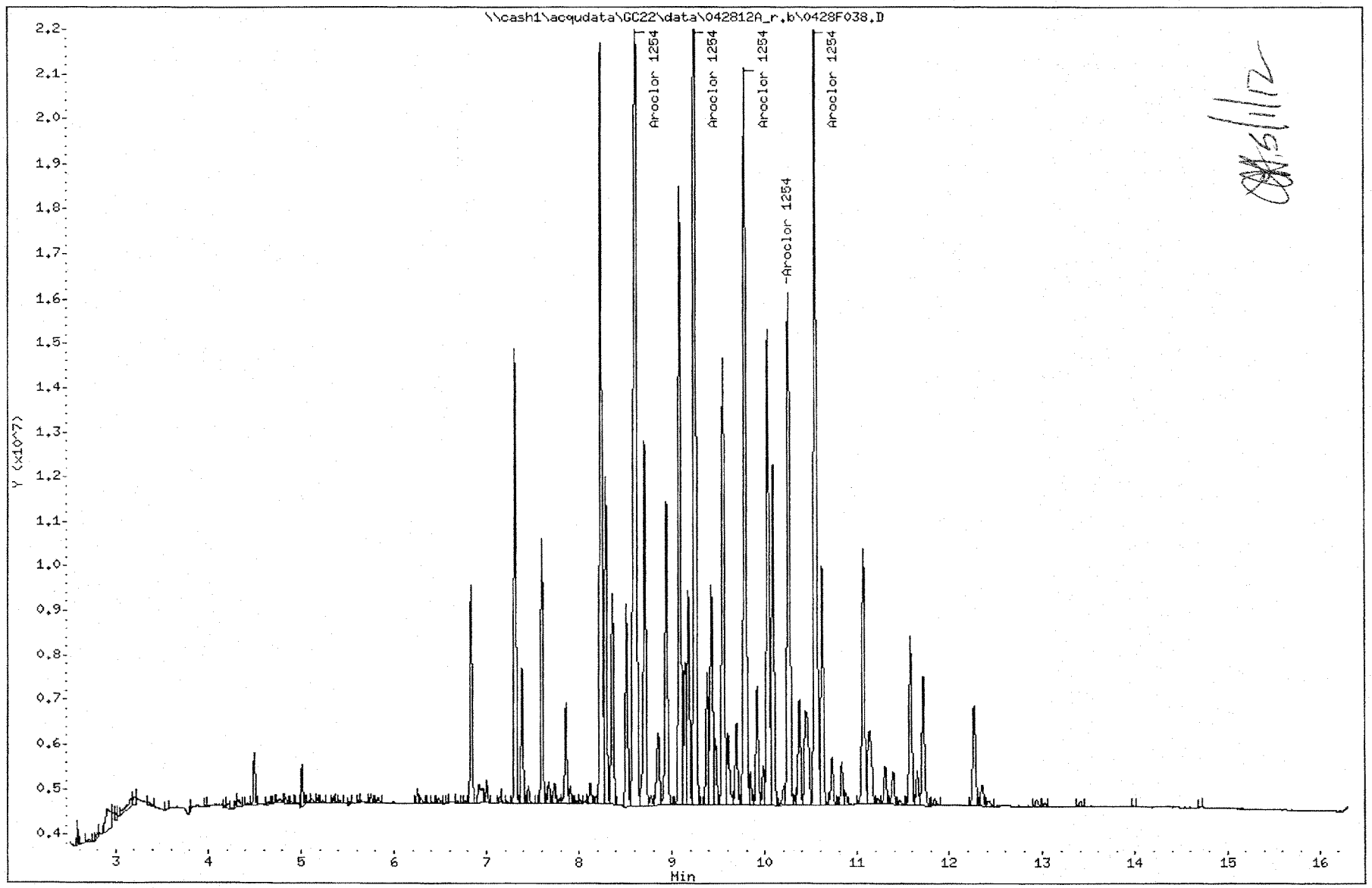


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F038.D
Date : 29-APR-2012 07:26
Client ID:
Sample Info: 1254 @ 100ppb | PCB5-94L

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F039.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F039.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F039.D
Inj Date : 29-APR-2012 07:48
Sample Info: 1260 @ 100ppb | PCB5-94M
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1260.sub
Sub List #2 : AR1260.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1260	8.383	9.552	9877575	38435998	92.8	93.9	80.00- 120.00	100.00
	8.676	10.035	10583678	42688895	92.3	94.3	86.65- 129.98	107.15
	9.296	10.549	8708502	48438330	81.5	86.3	81.11- 121.66	88.16
	9.373	10.725	8827198	35951737	113	114	57.22- 85.82	89.37
	10.299	11.722	19450411	76752086	110	107	128.43- 192.64	196.91
			Average of Peak Amounts =		97.9	99.1		

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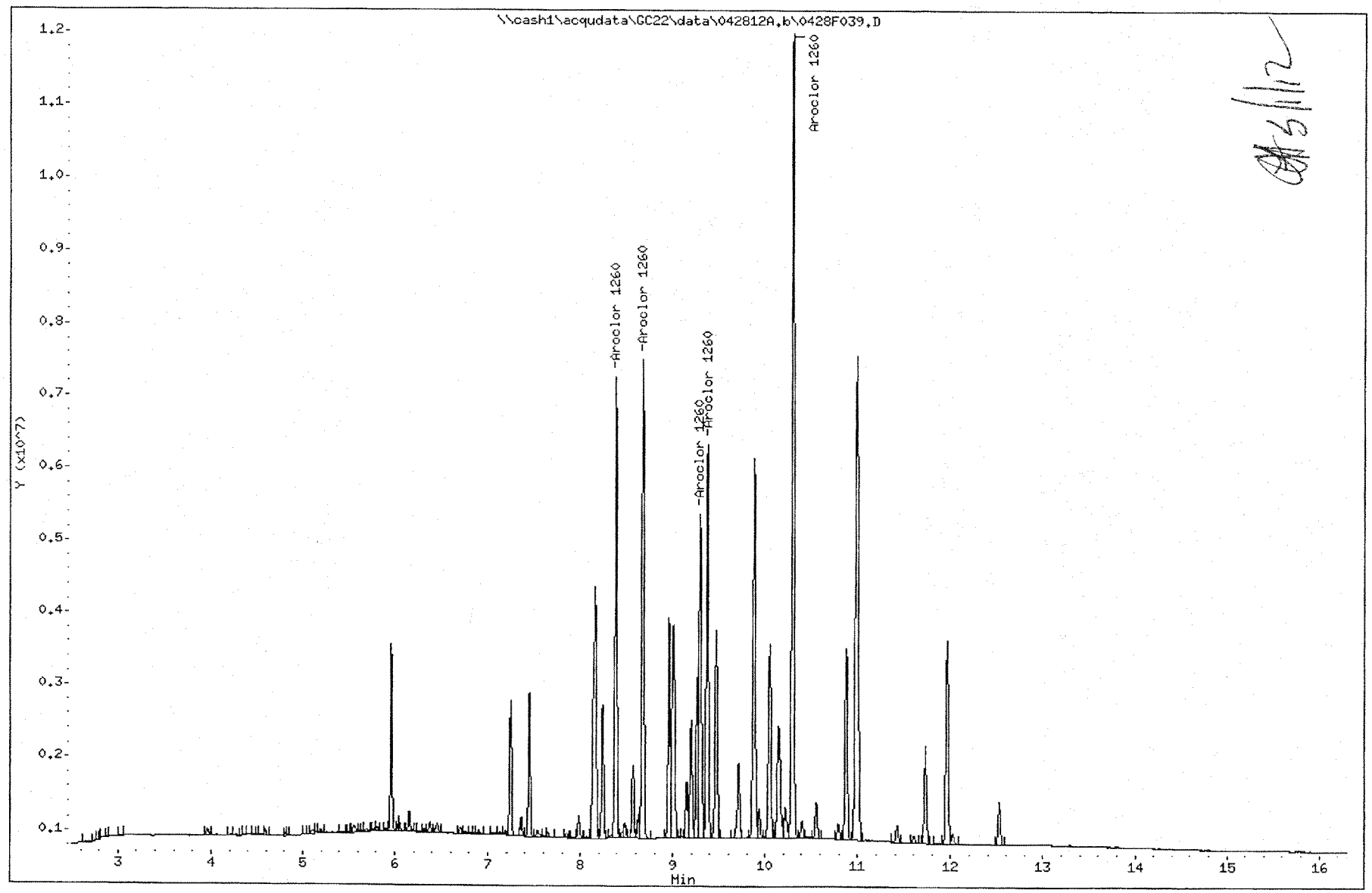
CC 5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F039.D
Date : 29-APR-2012 07:48
Client ID:
Sample Info: 1260 @ 100ppb | PCB5-94M

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

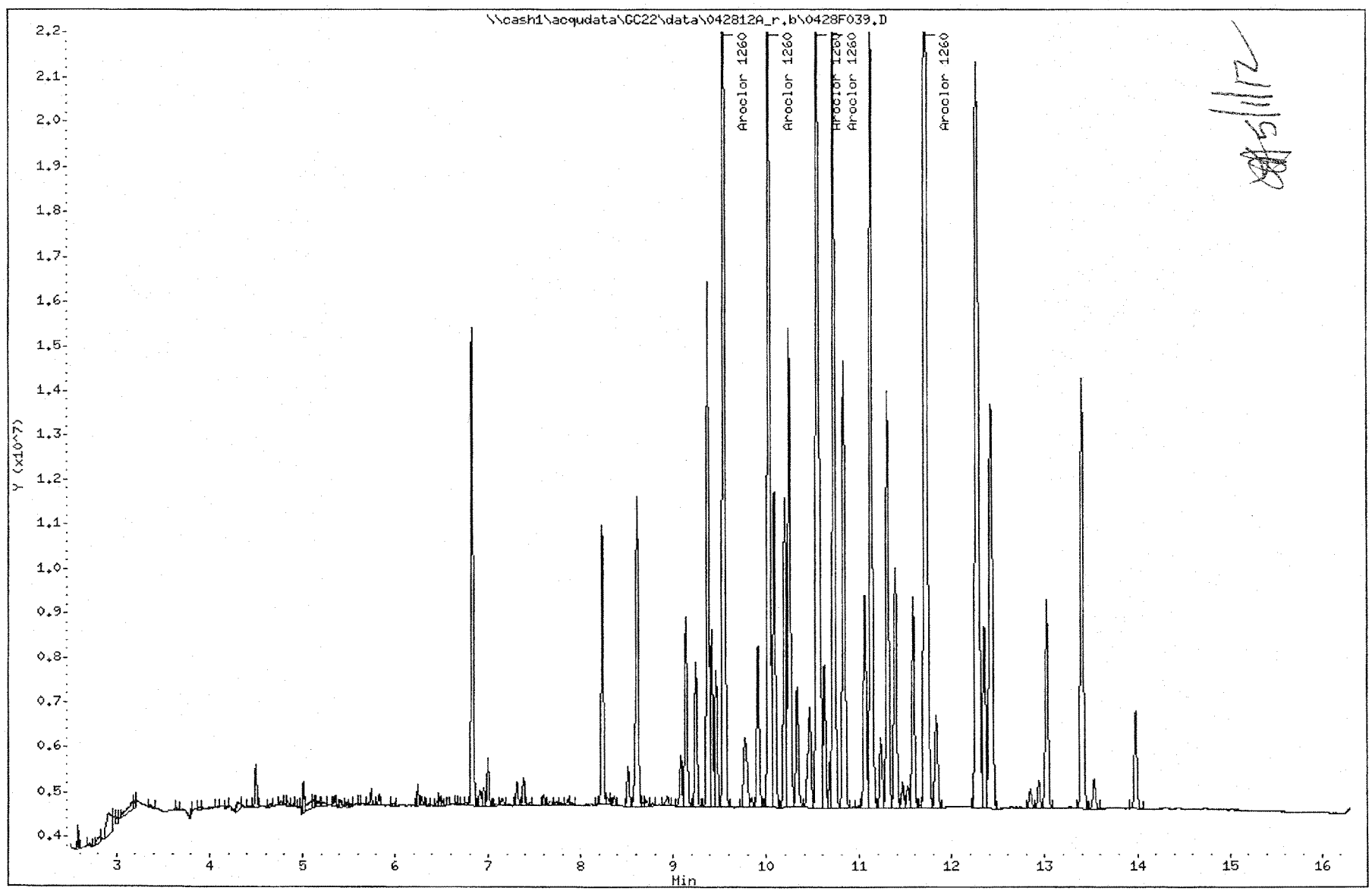


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F039.D
Date : 29-APR-2012 07:48
Client ID:
Sample Info: 1260 @ 100ppb | PCB5-94M

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F040.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F040.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F040.D
Inj Date : 29-APR-2012 08:11
Sample Info: 1262 @ 100ppb | PCB5-94N
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1262.SUB
Sub List #2 : AR1262.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1262	9.374	10.037	12008538	32020284	82.0	86.7	80.00- 120.00	100.00
	9.881	10.727	10536659	49703874	80.8	84.0	72.35- 108.53	87.74
	10.298	11.720	20311341	80327904	84.0	84.4	135.98- 203.98	169.14
	10.881	12.290	8823713	53535432	80.4	81.0	60.43- 90.65	73.48
	10.991	12.427	15292357	36202712	81.9	81.0	103.29- 154.94	127.35
			Average of Peak Amounts =		81.8	83.4		

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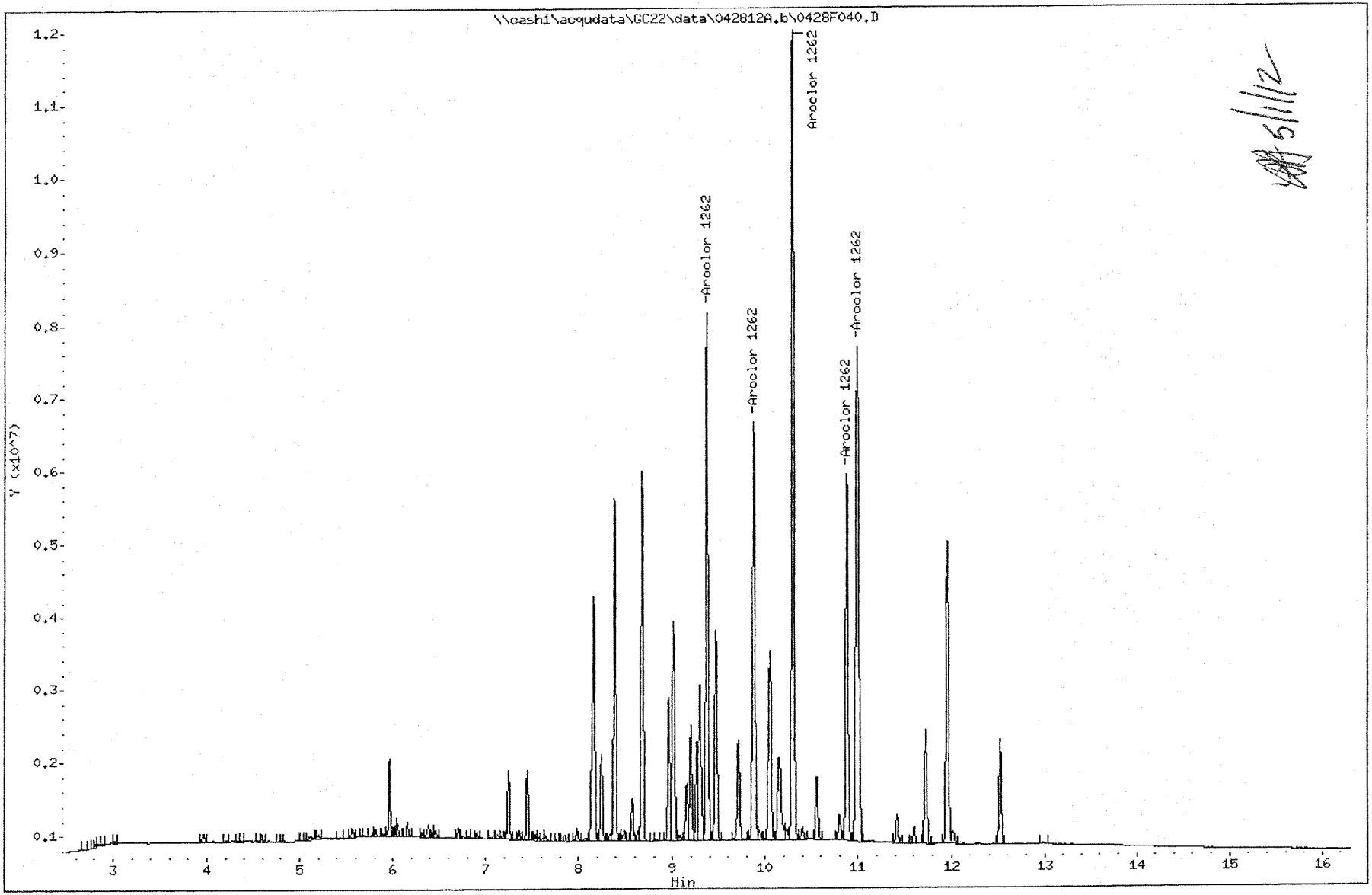
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F040.D
Date : 29-APR-2012 08:11
Client ID:
Sample Info: 1262 @ 100ppb | PCB5-94N

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



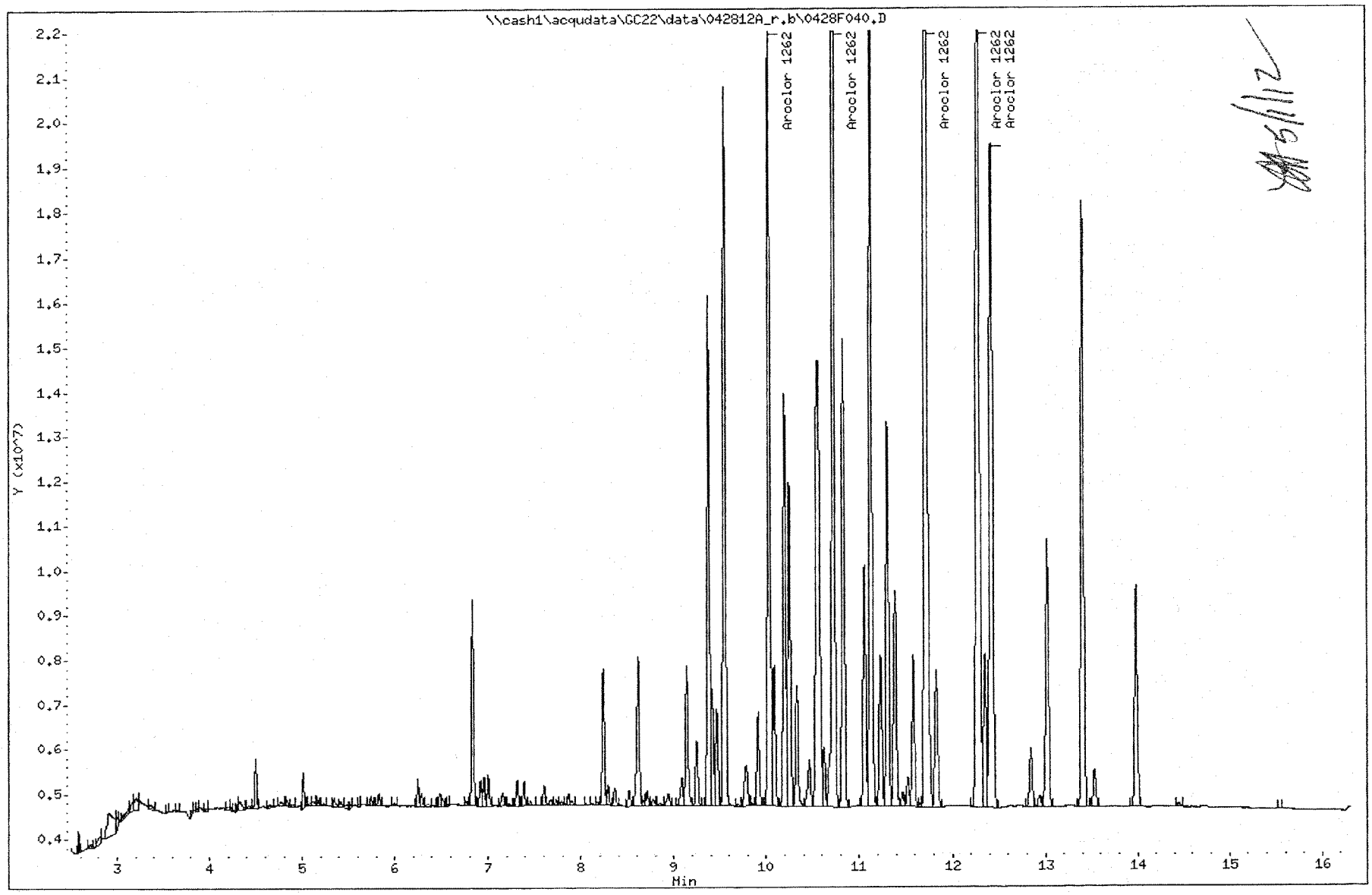
673

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F040.D
Date : 29-APR-2012 08:11
Client ID:
Sample Info: 1262 @ 100ppb | PCB5-94N

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F041.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F041.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F041.D
Inj Date : 29-APR-2012 08:34
Sample Info: 1268 @ 100ppb | PCB5-940
Misc Info :
Cal Date : 30-APR-2012 17:03
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : AR1268.SUB
Sub List #2 : AR1268.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1268	10.991	12.430	24190053	89970971	85.3	79.6	80.00- 120.00	100.00
	11.424	12.847	23535100	82199118	94.3	87.3	70.35- 105.52	97.29
	11.607	13.007	5669423	22691164	97.1	91.4	16.87- 25.30	23.44
	11.961	13.407	8055274	30558172	94.8	88.2	24.19- 36.29	33.30
	12.524	13.987	65557949	217879539	105	94.1	170.04- 255.05	271.01
			Average of Peak Amounts =		95.3	88.1		

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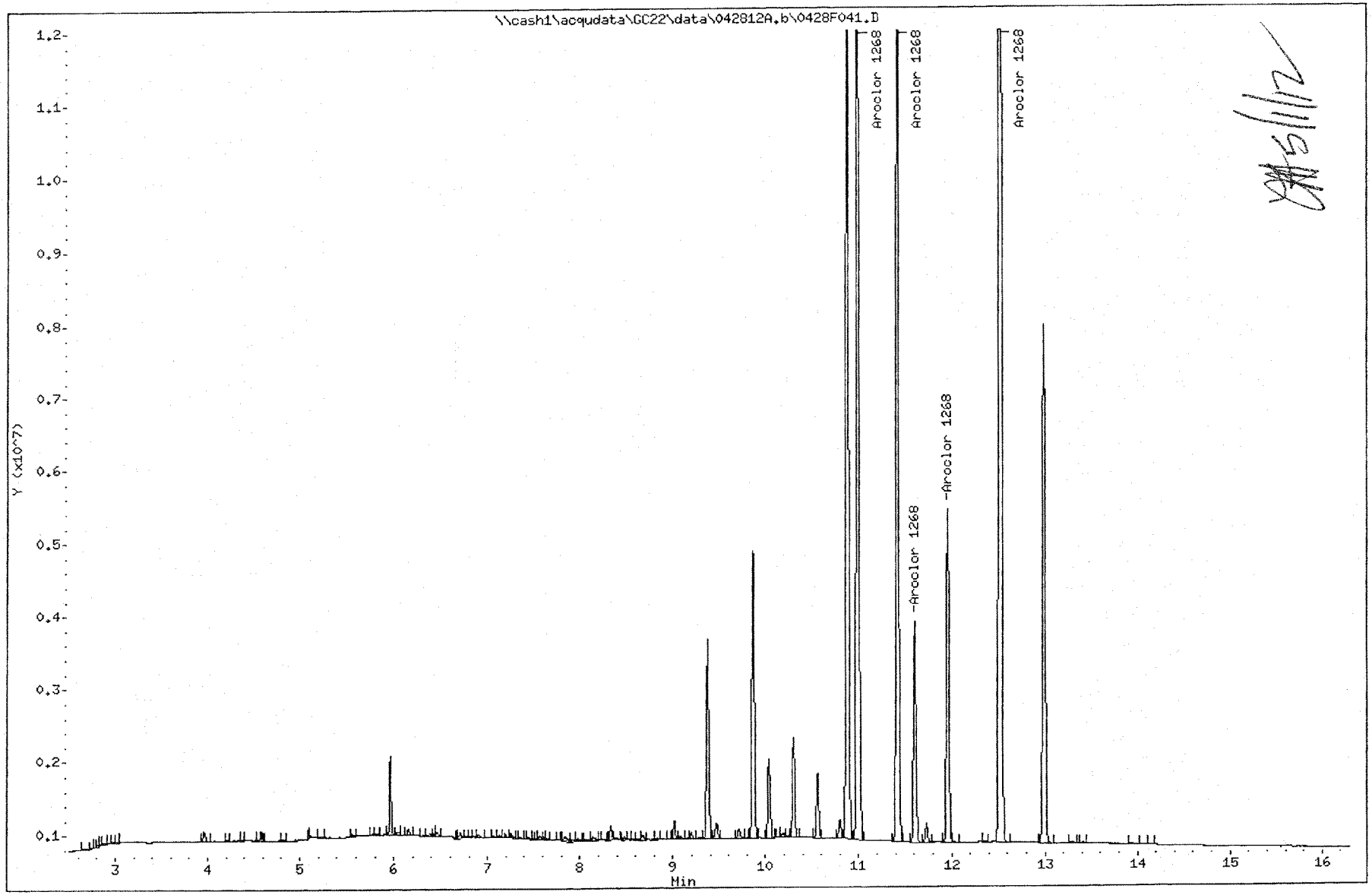
0428F

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F041.D
Date : 29-APR-2012 08:34
Client ID:
Sample Info: 1268 @ 100ppb | PCB5-940

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



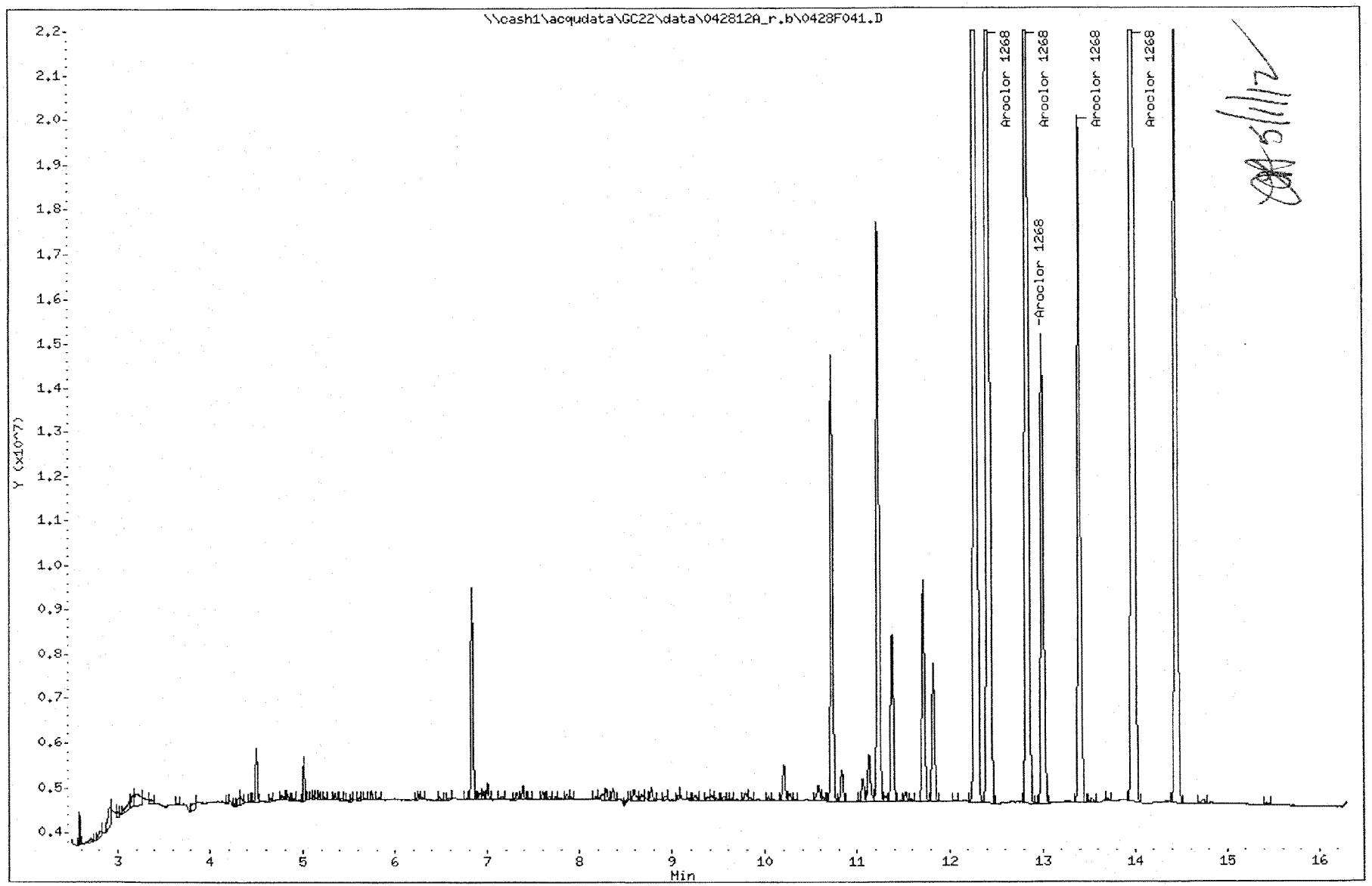
Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F041.D
Date : 29-APR-2012 08:34
Client ID:
Sample Info: 1268 @ 100ppb | PCB5-940

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-XLB

Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F044.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F044.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F044.D
Inj Date : 29-APR-2012 15:14
Sample Info: 1242/1268 @ 100ppb | PCB5-95E
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1242+1268.sub
Sub List #2 : 1242+1268.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	5.785	5.834	1550937	10087685	87.3	62.1	80.00- 120.00	100.00
	6.055	6.294	4818116	8577016	83.3	90.4	244.39- 366.59	310.66
	6.318	6.514	2230332	6962586	86.1	96.4	108.55- 162.82	143.81
	6.381	7.157	3470106	14635524	88.6	91.9	174.52- 261.77	223.74
	6.708	7.601	3614298	14482096	86.4	91.0	179.56- 269.34	233.04
		Average of Peak Amounts =			86.3	86.4		
Aroclor 1268	10.985	12.424	24558410	99175032	86.6	87.7	80.00- 120.00	100.00
	11.418	12.837	21576809	82695462	86.5	87.8	70.35- 105.52	87.86
	11.601	13.001	5051849	22188326	86.5	89.4	16.87- 25.30	20.57
	11.958	13.401	7436286	30852819	87.5	89.1	24.19- 36.29	30.28
	12.521	13.981	56281859	204848279	90.0	88.5	170.04- 255.05	229.18
		Average of Peak Amounts =			87.4	88.5		

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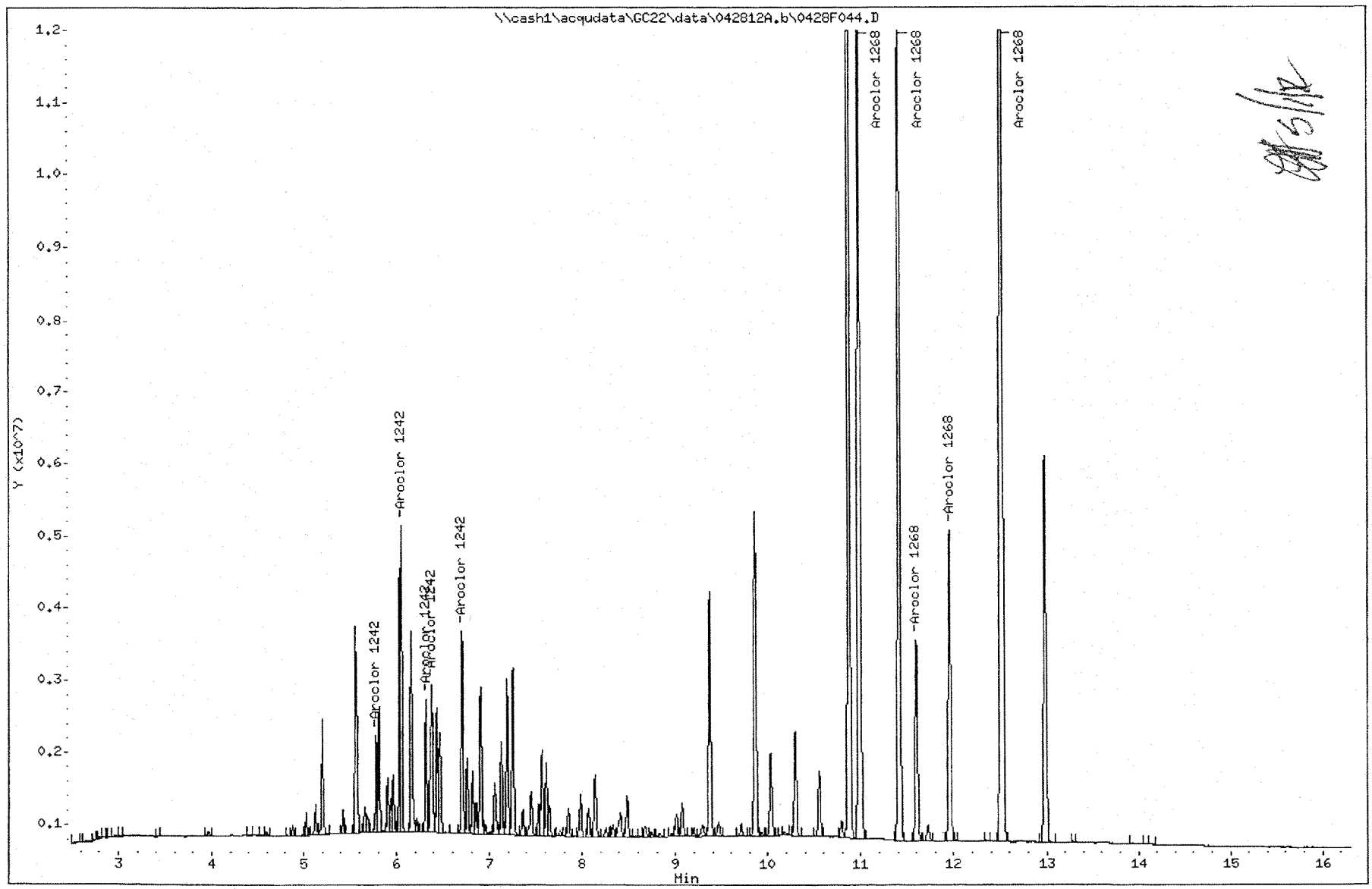
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F044.D
Date : 29-APR-2012 15:14
Client ID:
Sample Info: 1242/1268 @ 100ppb | PCB5-95E

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-35MS

Column diameter: 0.32



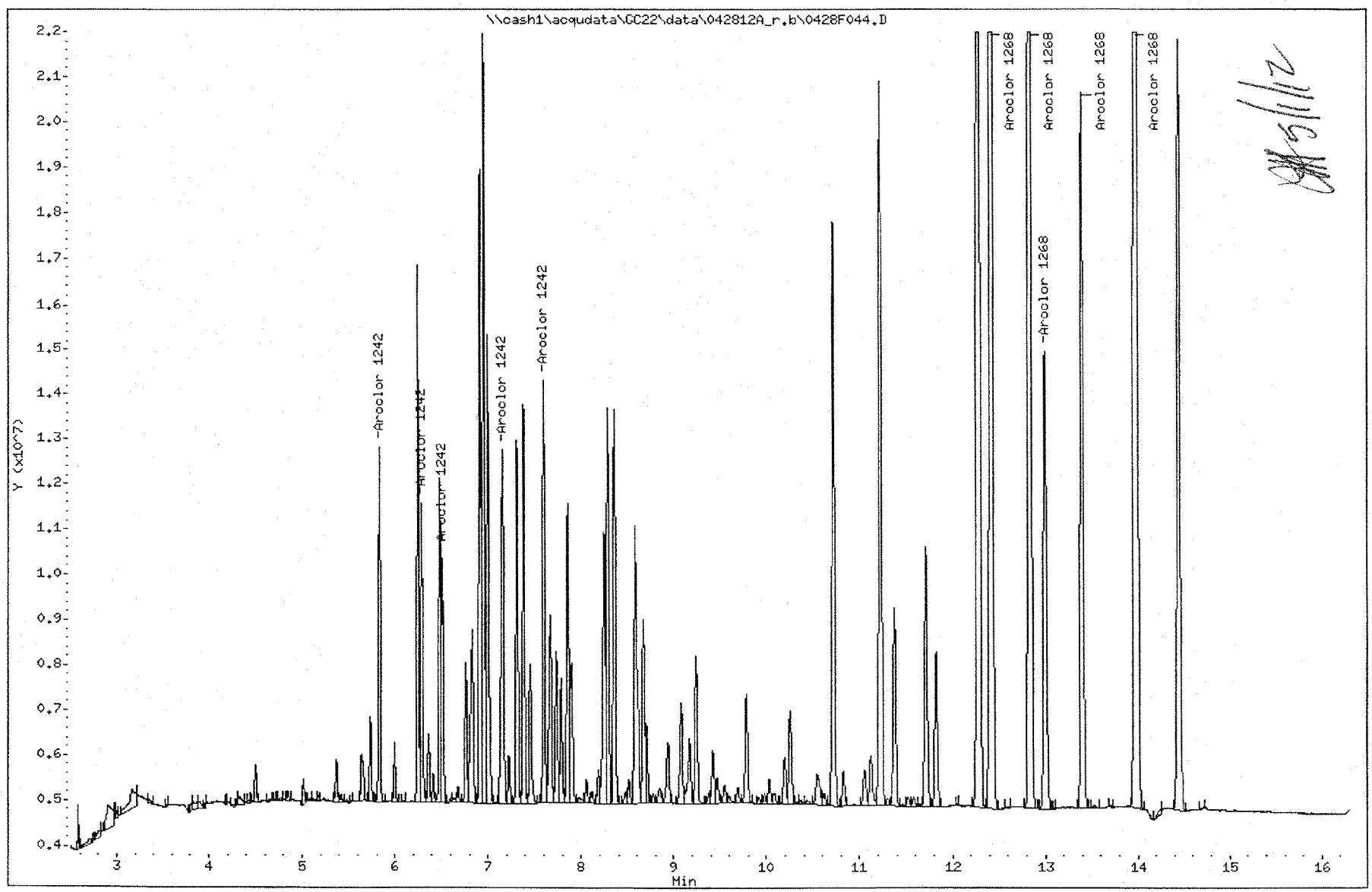
679

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F044.D
Date : 29-APR-2012 15:14
Client ID:
Sample Info: 1242/1268 @ 100ppb | PCB5-95E

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



680

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F045.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F045.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F045.D
Inj Date : 29-APR-2012 15:36
Sample Info: 1242/1268 @ 200ppb | PCB5-95F
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1242+1268.sub
Sub List #2 : 1242+1268.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	5.784	5.836	3041106	18859490	171	122	80.00- 120.00	100.00
	6.054	6.293	10060605	16203381	174	171	244.39- 366.59	330.82
	6.317	6.513	4561007	13713356	176	190	108.55- 162.82	149.98
	6.380	7.160	6931955	28225490	177	177	174.52- 261.77	227.94
	6.707	7.600	7404217	28068441	177	176	179.56- 269.34	243.47
		Average of Peak Amounts =			175	167		
Aroclor 1268	10.990	12.430	53269577	200761124	188	178	80.00- 120.00	100.00
	11.420	12.843	47055325	167031400	188	177	70.35- 105.52	88.33
	11.604	13.003	10646191	43183720	182	174	16.87- 25.30	19.99
	11.960	13.406	15765088	60749909	186	175	24.19- 36.29	29.59
	12.520	13.983	122092788	421808162	195	182	170.04- 255.05	229.20
		Average of Peak Amounts =			188	177		

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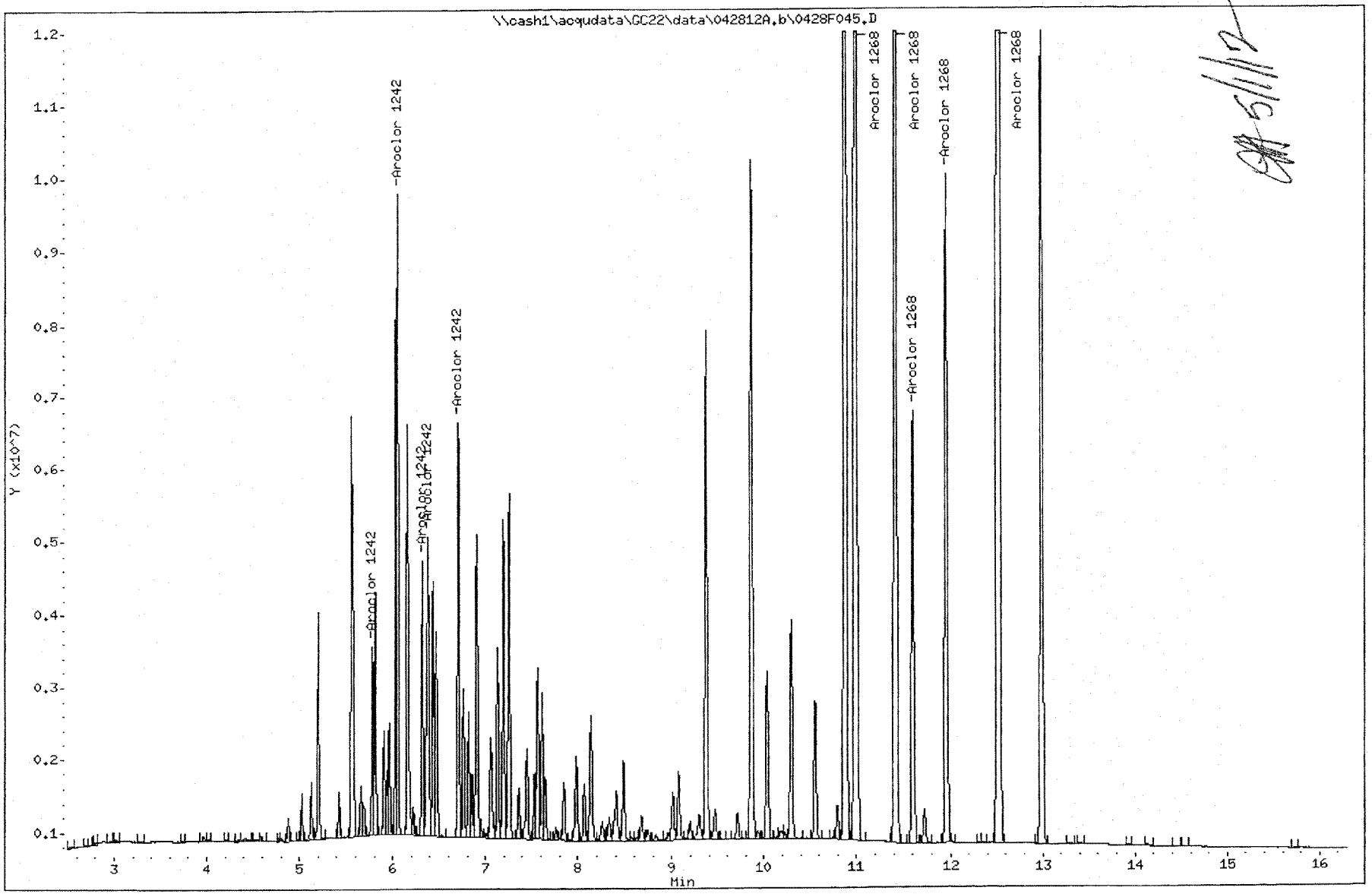
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F045.D
Date : 29-APR-2012 15:36
Client ID:
Sample Info: 1242/1268 @ 200ppb | PCB5-95F

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



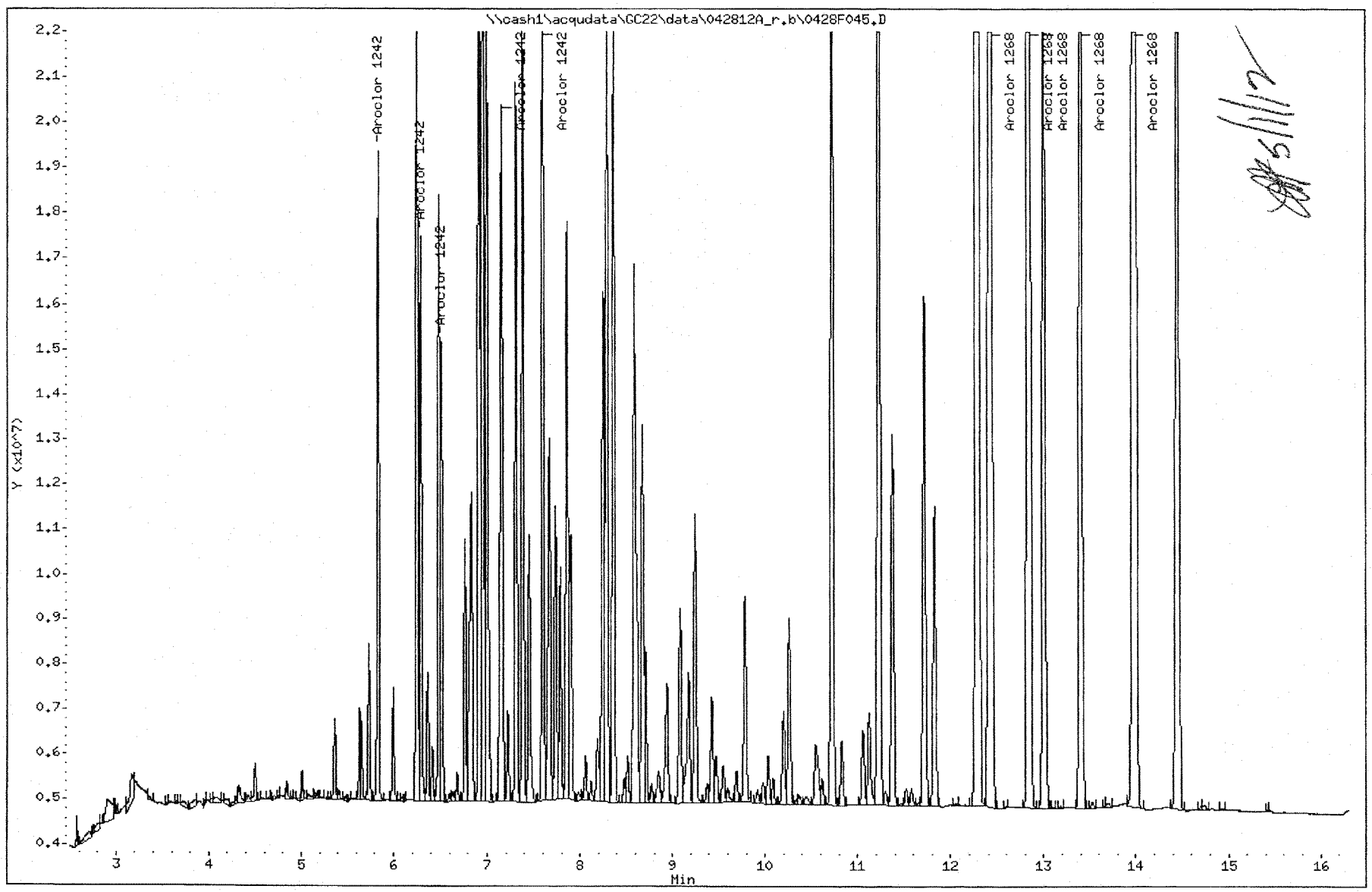
682

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F045.D
Date : 29-APR-2012 15:36
Client ID:
Sample Info: 1242/1268 @ 200ppb | PCB5-95F

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



683

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F046.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F046.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F046.D
Inj Date : 29-APR-2012 15:59
Sample Info: 1242/1268 @ 500ppb | PCB5-95G
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1242+1268.sub
Sub List #2 : 1242+1268.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	5.784	5.837	7788042	43752154	438	299	80.00- 120.00	100.00
	6.054	6.294	28556008	38768355	494	408	244.39- 366.59	366.66
	6.321	6.517	12162785	31098101	469	431	108.55- 162.82	156.17
	6.381	7.161	17680498	69667908	451	438	174.52- 261.77	227.02
	6.708	7.604	19313292	68944020	462	433	179.56- 269.34	247.99
		Average of Peak Amounts =			463	402		
Aroclor 1268	10.991	12.431	145385487	523233001	513	463	80.00- 120.00	100.00
	11.421	12.844	129011859	435154779	517	462	70.35- 105.52	88.74
	11.608	13.007	28574381	107177596	489	432	16.87- 25.30	19.65
	11.961	13.407	42413550	151423277	499	437	24.19- 36.29	29.17
	12.524	13.984	325745042	1110680363	521	480	170.04- 255.05	224.06
		Average of Peak Amounts =			508	455		

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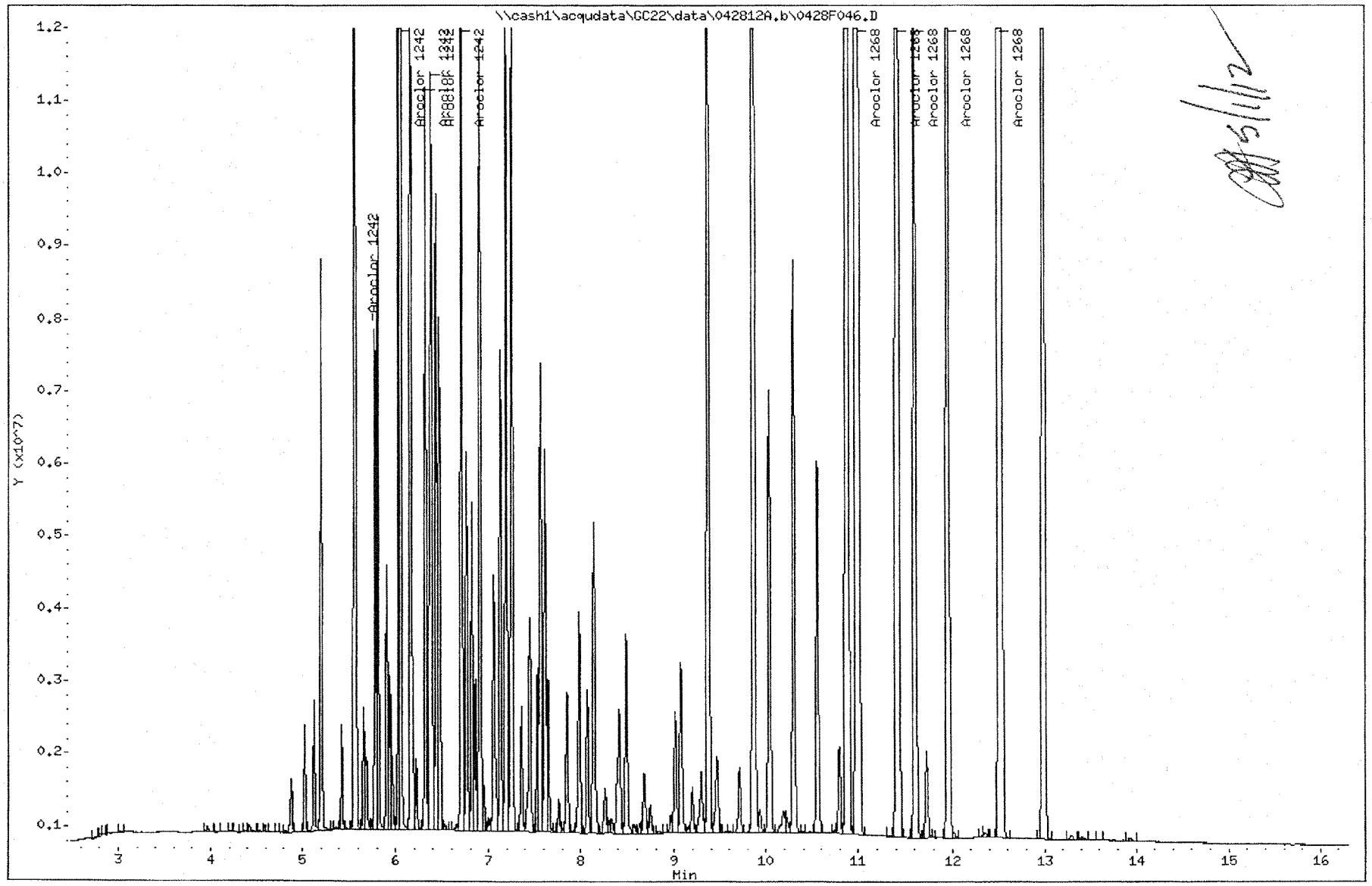
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F046.D
Date : 29-APR-2012 15:59
Client ID:
Sample Info: 1242/1268 @ 500ppb | PCB5-95G

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-35MS

Column diameter: 0.32



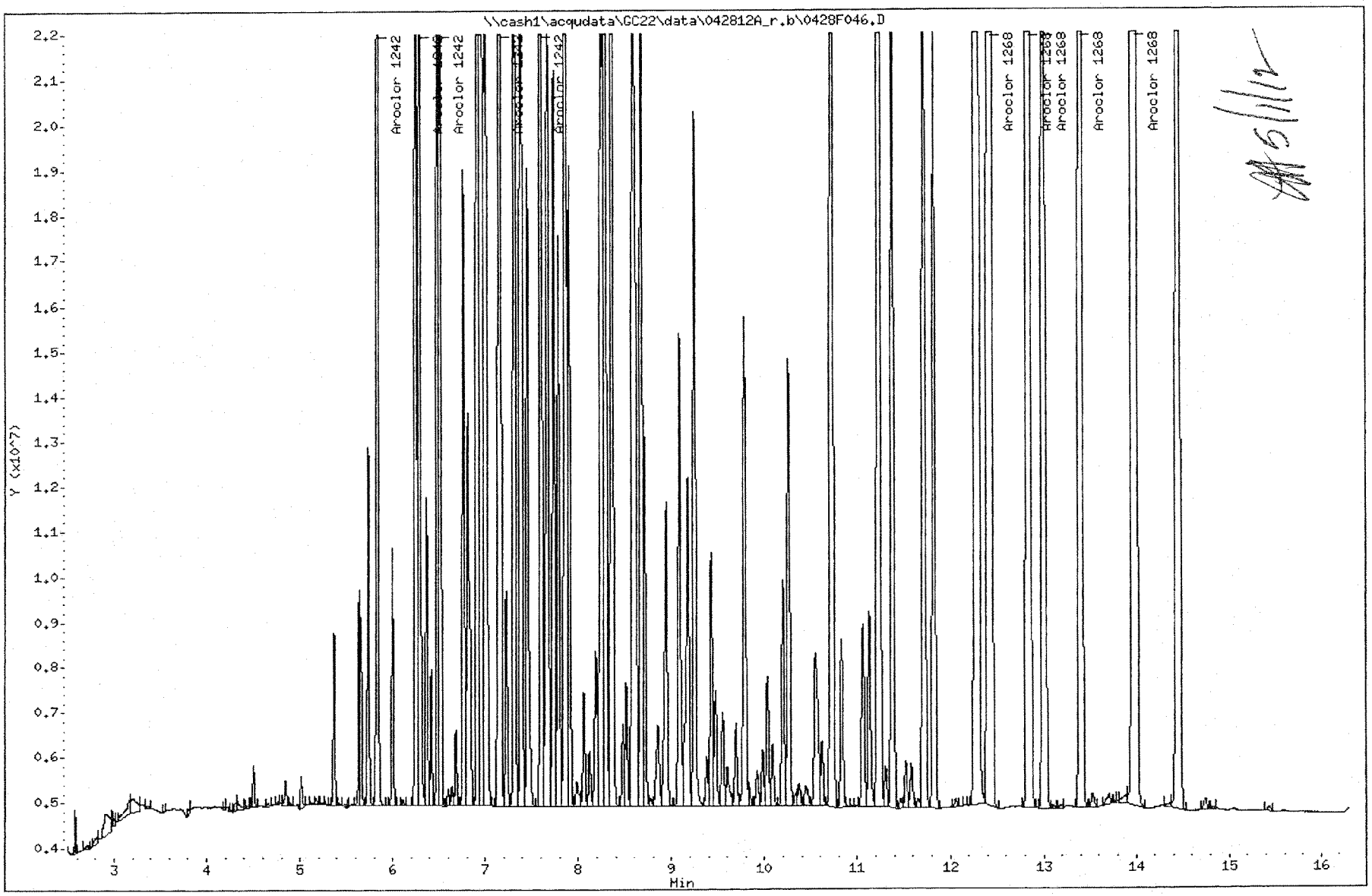
685

Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F046.D
Date : 29-APR-2012 15:59
Client ID:
Sample Info: 1242/1268 @ 500ppb | PCB5-95G

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F047.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F047.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F047.D
Inj Date : 29-APR-2012 16:22
Sample Info: 1242/1268 @ 2.5ppb | PCB5-95H @20X
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1242+1268.sub
Sub List #2 : 1242+1268.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	5.786	5.839	57985	376510	3.26	2.84	80.00- 120.00	100.00(M)
	6.056	6.295	196657	312996	3.40	3.30	244.39- 366.59	339.15(M)
	6.319	6.515	86419	212620	3.33	2.94	108.55- 162.82	149.04(M)
	6.383	7.162	119327	505798	3.05	3.18	174.52- 261.77	205.79(M)
	6.709	7.602	133094	511733	3.18	3.21	179.56- 269.34	229.53(M)
		Average of Peak Amounts =			3.24	3.09		
Aroclor 1268	10.989	12.432	849156	3683904	2.99	3.26	80.00- 120.00	100.00
	11.423	12.845	738195	3050720	2.96	3.24	70.35- 105.52	86.93
	11.609	13.005	178685	811825	3.06	3.27	16.87- 25.30	21.04
	11.963	13.409	254034	1134636	2.99	3.28	24.19- 36.29	29.92
	12.526	13.985	1756041	7380873	2.81	3.19	170.04- 255.05	206.80
		Average of Peak Amounts =			2.96	3.25		

QC Flag Legend

M - Compound response manually integrated.

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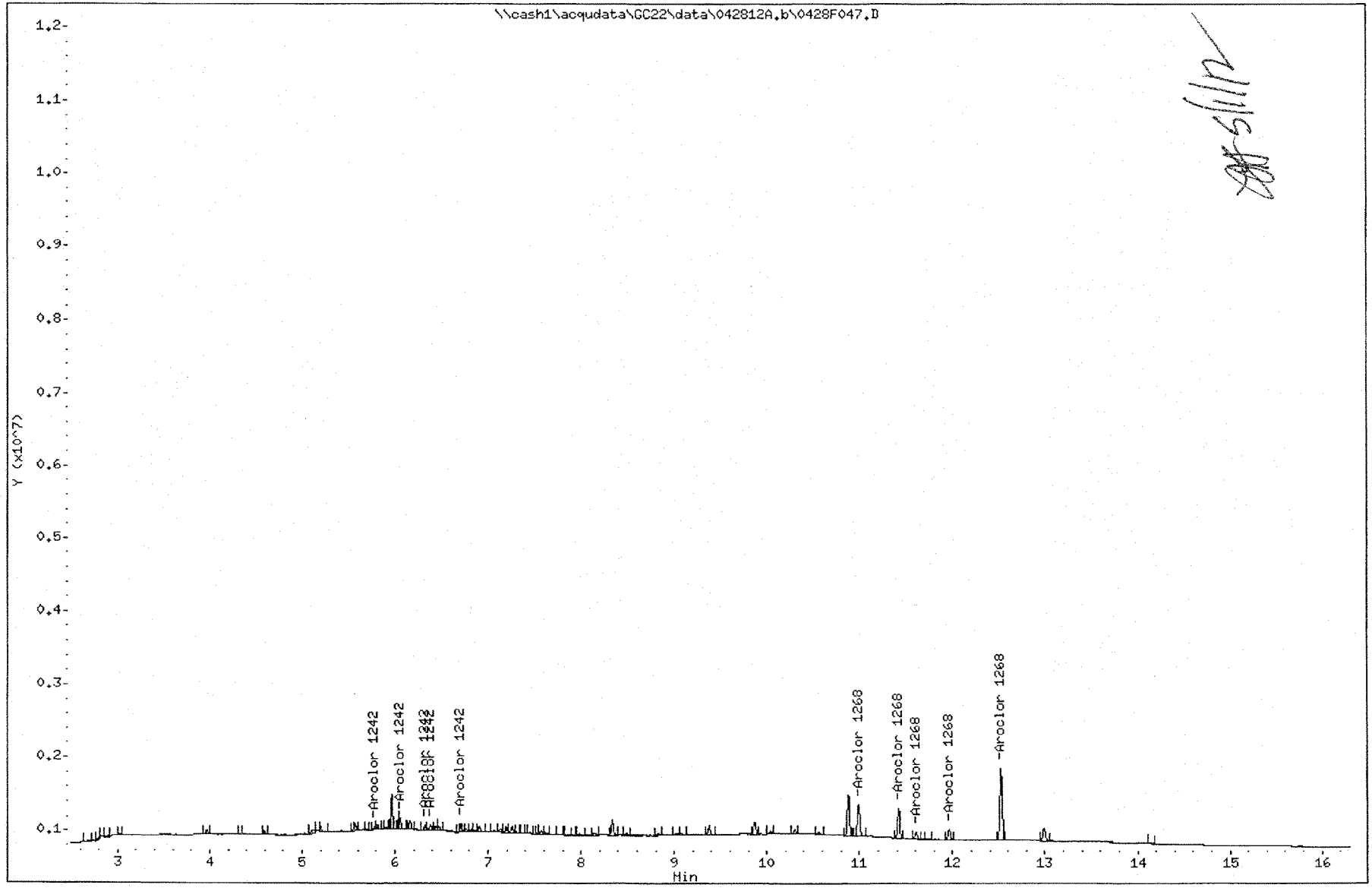
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F047.D
Date : 29-APR-2012 16:22
Client ID:
Sample Info: 1242/1268 @ 2.5ppb | PCB5-95H @20X

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

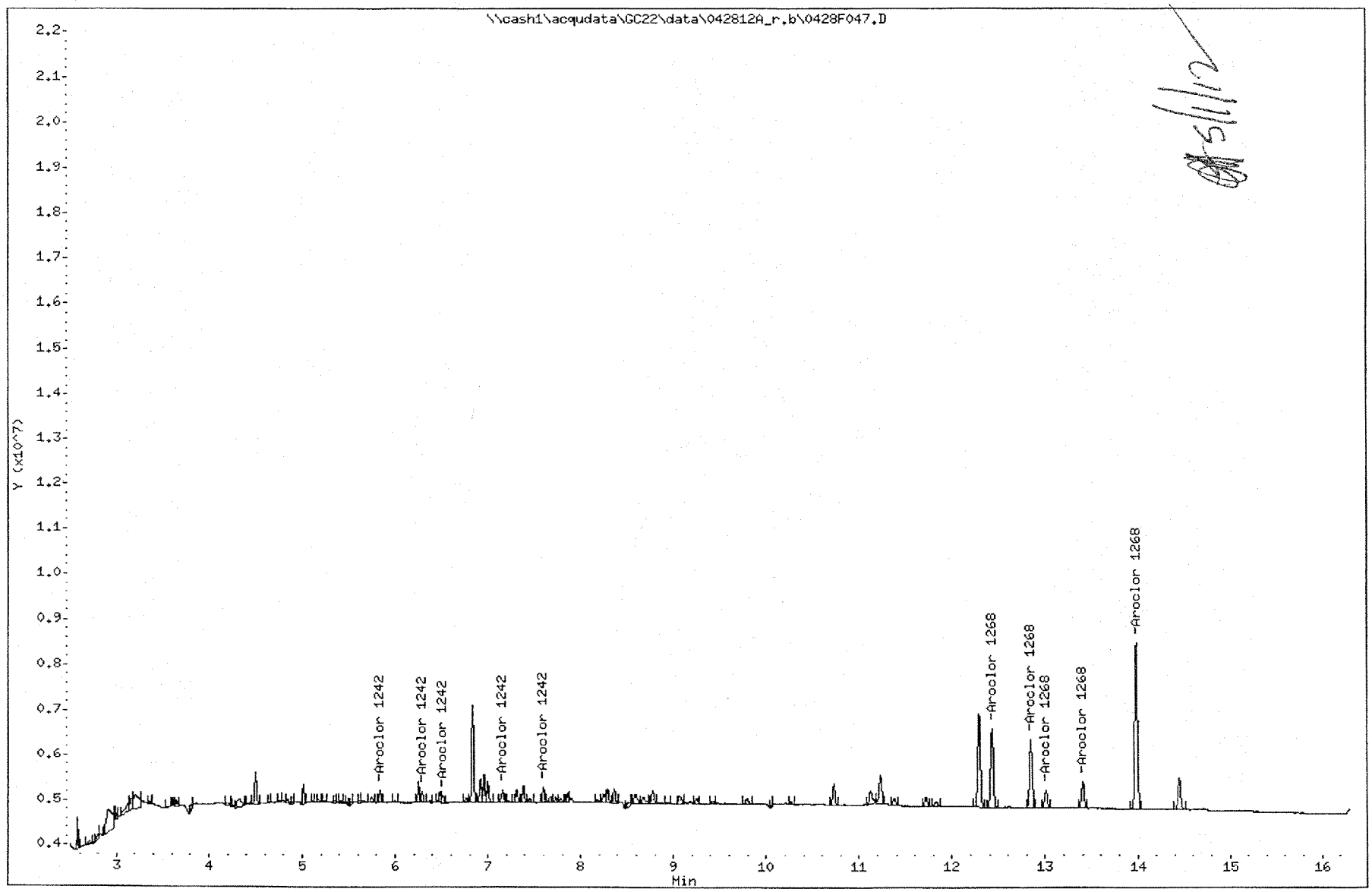


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F047.D
Date : 29-APR-2012 16:22
Client ID:
Sample Info: 1242/1268 @ 2.5ppb | PCB5-95H @20X

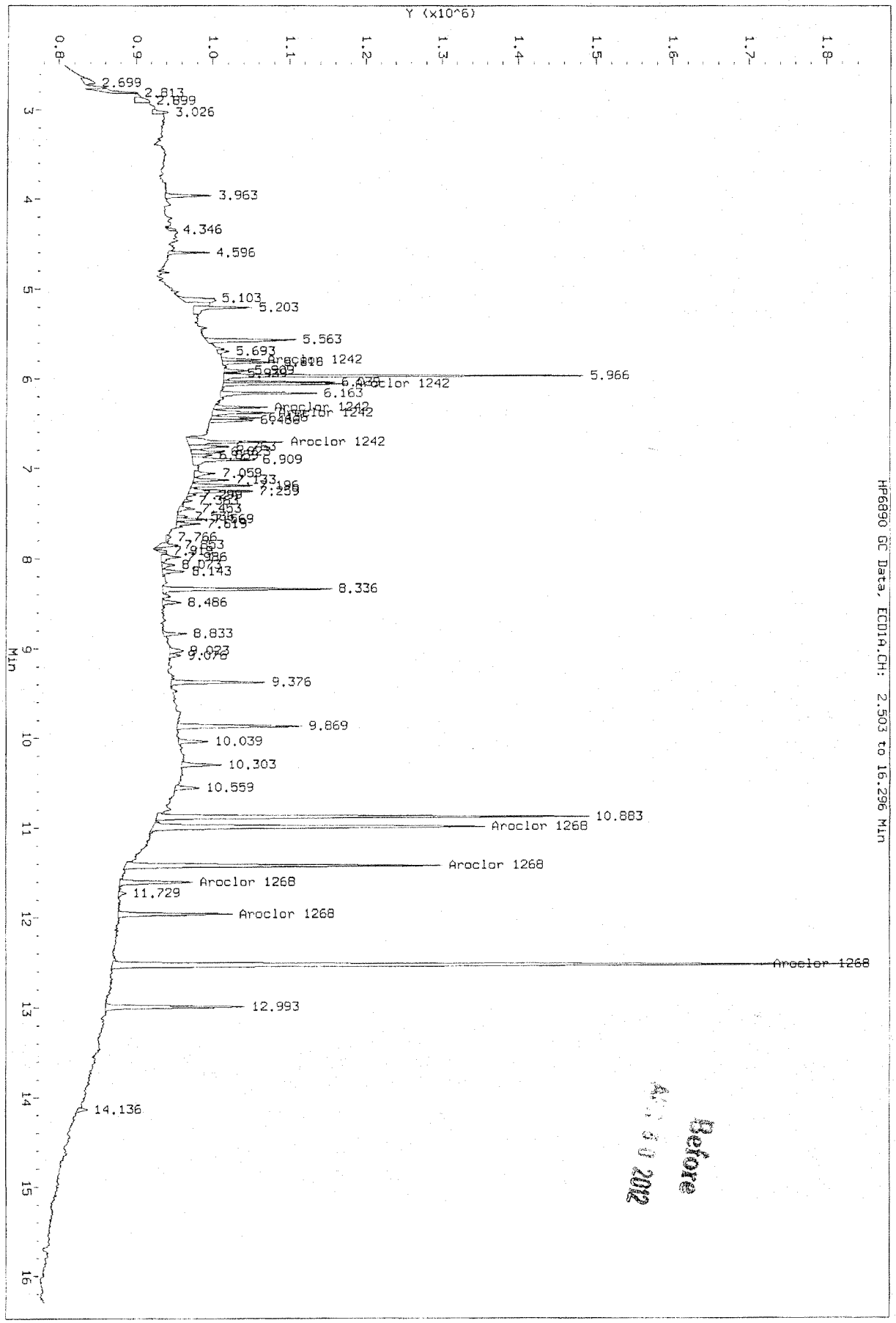
Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F047.D
Injection Date: 29-APR-2012 16:22
Instrument: GC22.i
Client Sample ID:



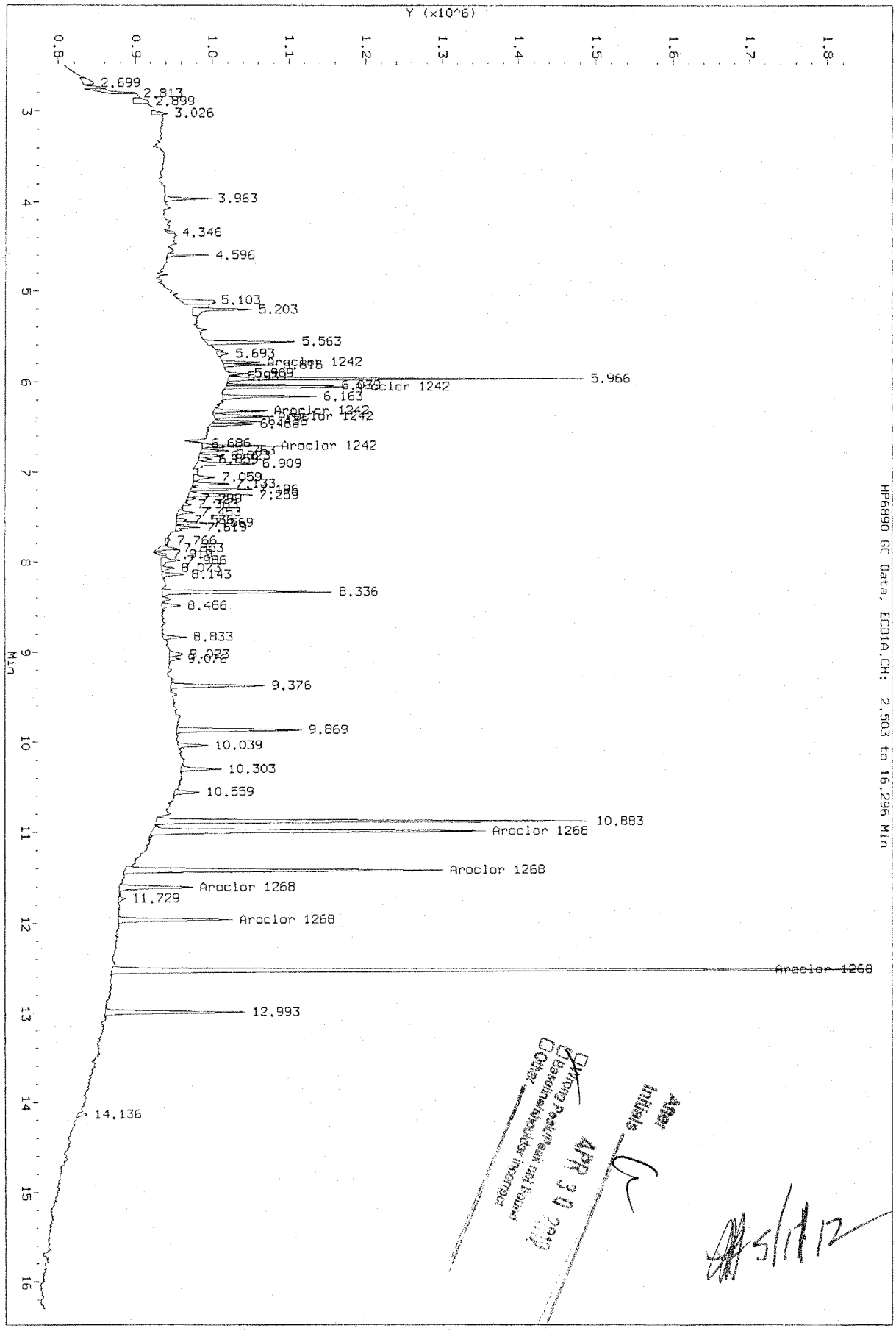
HP6890 GC Data, ECD1A.CH: 2.503 to 16.296 Min

Before

2012

Data File: \\cash1\acqudata\GC22\data\0428I2A.b\0428F047.D
Injection Date: 29-APR-2012 16:22
Instrument: GC22.1
Client Sample ID:

HP6890 GC Data. ECD1A.CH: 2.503 to 16.296 Min



APR 30 2012

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Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F048.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F048.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F048.D
Inj Date : 29-APR-2012 16:45
Sample Info: 1242/1268 @ 5ppb | PCB5-95H @10X
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1242+1268.sub
Sub List #2 : 1242+1268.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	5.786	5.838	97910	616501	5.51	5.13	80.00- 120.00	100.00(M)
	6.056	6.298	299108	548007	5.17	5.77	244.39- 366.59	305.49(M)
	6.322	6.518	132846	365020	5.13	5.06	108.55- 162.82	135.68(M)
	6.382	7.162	213585	858179	5.45	5.39	174.52- 261.77	218.14(M)
	6.712	7.605	219757	870321	5.25	5.47	179.56- 269.34	224.45(M)
			Average of Peak Amounts =		5.30	5.36		
Aroclor 1268	10.992	12.432	1425881	6145525	5.03	5.43	80.00- 120.00	100.00
	11.422	12.845	1253879	5130364	5.02	5.45	70.35- 105.52	87.94
	11.609	13.008	300682	1367081	5.15	5.51	16.87- 25.30	21.09
	11.962	13.408	431202	1912028	5.07	5.52	24.19- 36.29	30.24
	12.526	13.988	3030649	12241625	4.85	5.29	170.04- 255.05	212.55
			Average of Peak Amounts =		5.02	5.44		

QC Flag Legend

M - Compound response manually integrated.

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CC 5/1/12

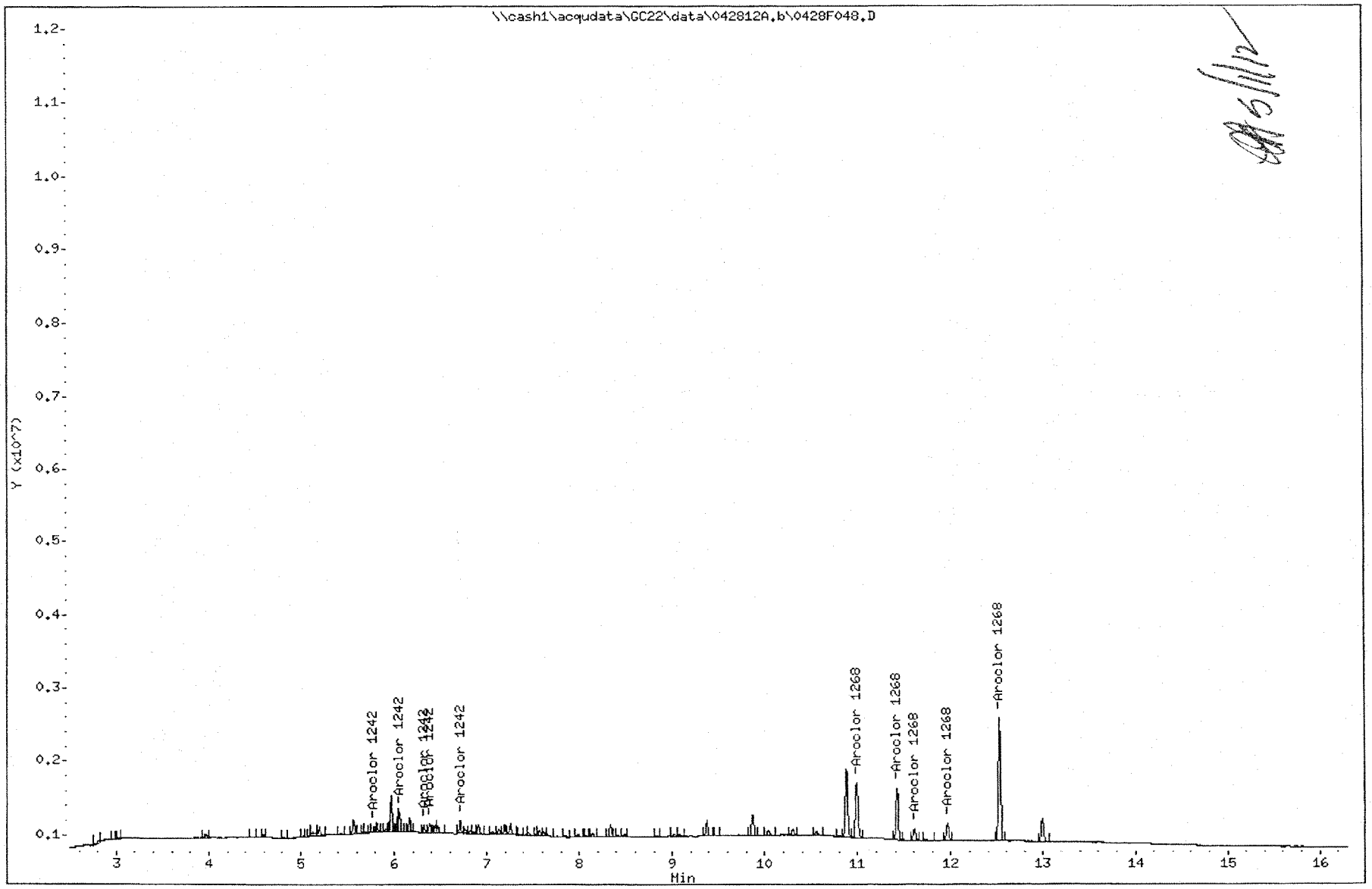
Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F048.D
Date : 29-APR-2012 16:45
Client ID:
Sample Info: 1242/1268 @ 5ppb | PCB5-95H @10X

Instrument: GC22.i

Operator: CCotnam

Column phase: DB-35MS

Column diameter: 0.32

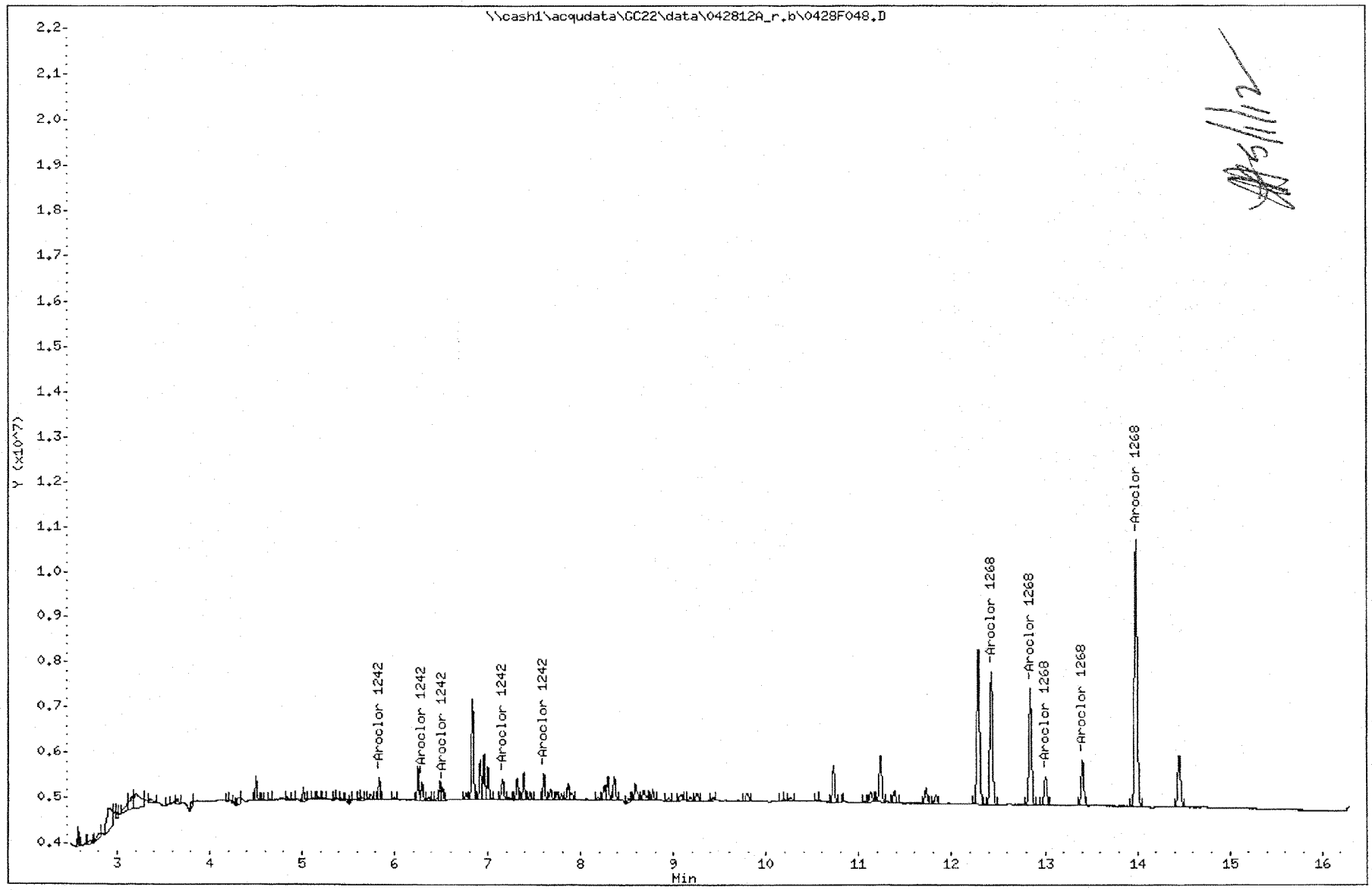


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F048.D
Date : 29-APR-2012 16:45
Client ID:
Sample Info: 1242/1268 @ 5ppb | PCB5-95H @10X

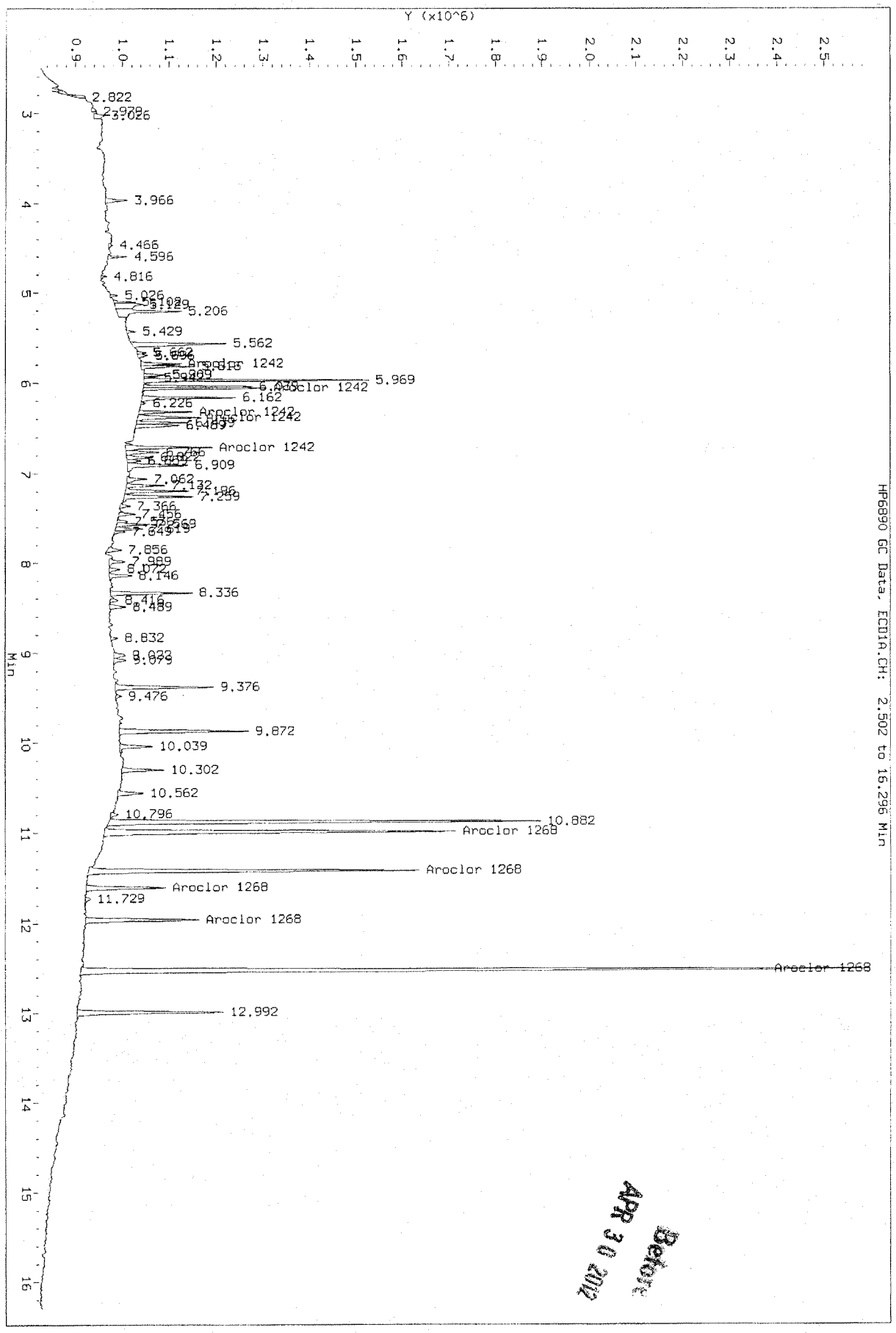
Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F048.D
Injection Date: 29-APR-2012 16:45
Instrument: GC22.i
Client Sample ID:

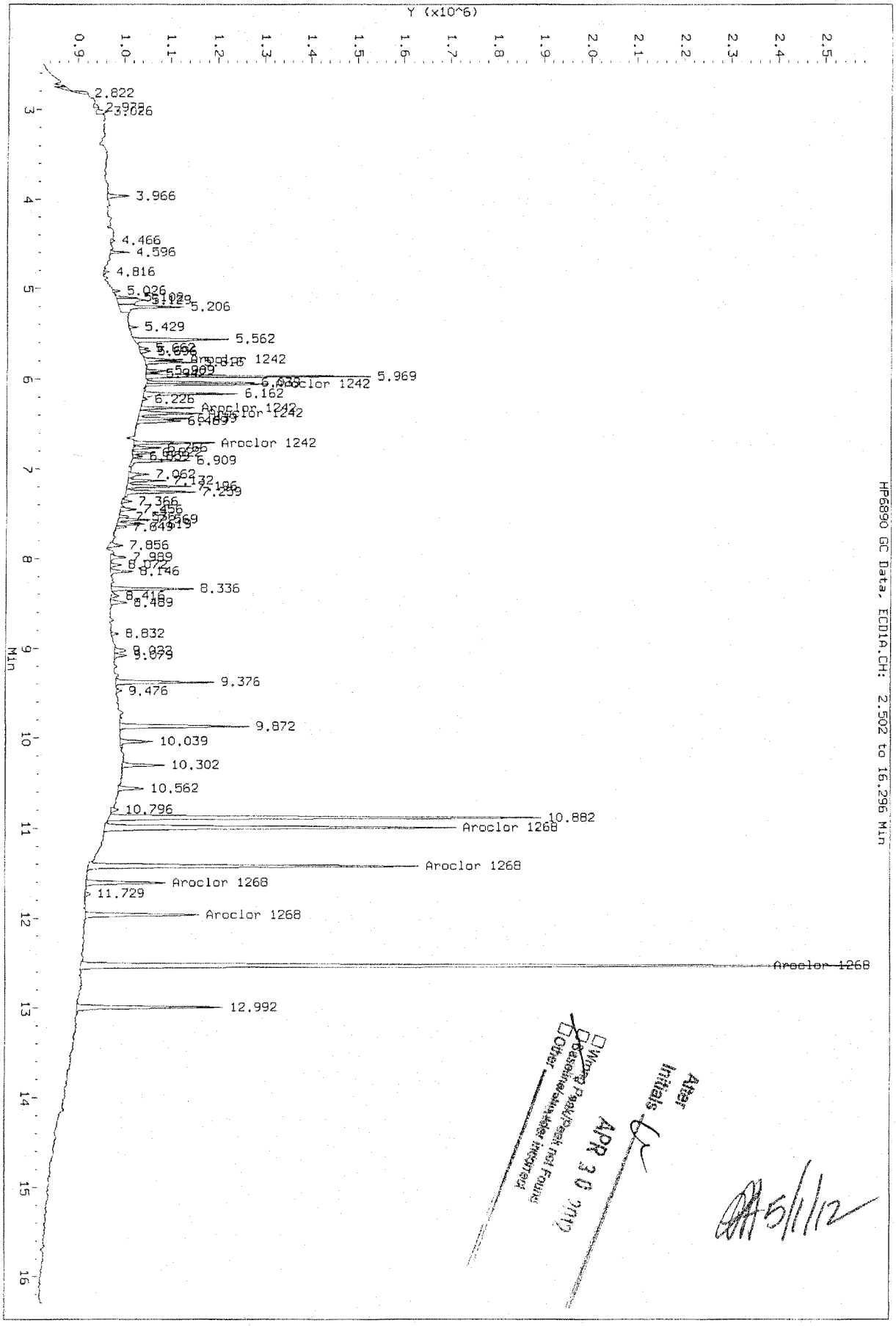


HP6890 GC Data, ECD1A.CH: 2.502 to 16.296 Min

Before
APR 30 2012

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F048.D
Injection Date: 29-APR-2012 16:45
Instrument: GC22.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 2.502 to 16.296 Min



Analyst Initials

APR 30 2012

Wrong Peak/Peak not Found
Baseline/Integration Incorrect
Other

5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F049.D
Report Date: 30-Apr-2012 17:10

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\042812A.b\0428F049.D
Sample #2 : \\cash1\acqudata\GC22\data\042812A_r.b\0428F049.D
Inj Date : 29-APR-2012 17:08
Sample Info: 1242/1268 @ 50ppb | PCB5-95H
Misc Info :
Cal Date : 30-APR-2012 16:42
Operator : CCotnam
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\042812A.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\042812A_r.b\042812ul_r.m
Sub List #1 : 1242+1268.sub
Sub List #2 : 1242+1268.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Aroclor 1242	5.784	5.837	873997	5336073	49.2	48.3	80.00- 120.00	100.00
	6.058	6.297	2645252	4521960	45.7	47.6	244.39- 366.59	302.66
	6.321	6.517	1245579	3736292	48.1	51.8	108.55- 162.82	142.52
	6.384	7.164	1992933	7717630	50.9	48.5	174.52- 261.77	228.03
	6.711	7.607	2098125	7670415	50.2	48.2	179.56- 269.34	240.06
		Average of Peak Amounts =			48.8	48.9		
Aroclor 1268	10.994	12.434	13693347	51988446	48.3	46.0	80.00- 120.00	100.00
	11.424	12.847	12110598	43594262	48.5	46.3	70.35- 105.52	88.44
	11.608	13.007	2893823	11947860	49.6	48.1	16.87- 25.30	21.13
	11.964	13.407	4201742	16355612	49.4	47.2	24.19- 36.29	30.68
	12.528	13.987	30852229	105311095	49.4	45.5	170.04- 255.05	225.31
		Average of Peak Amounts =			49.0	46.6		

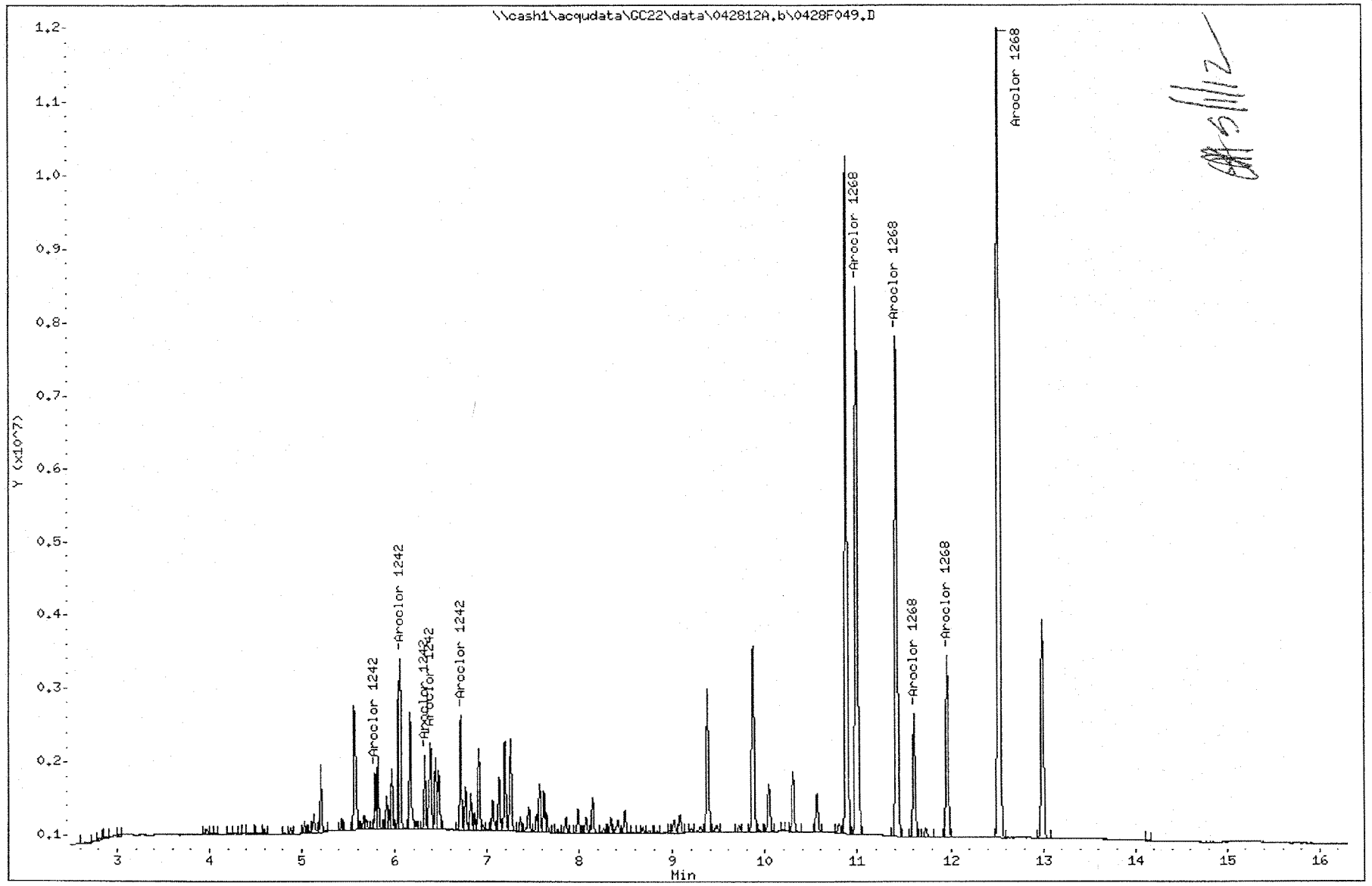
5/1/12

Data File: \\cash1\acqudata\GC22\data\042812A.b\0428F049.D
Date : 29-APR-2012 17:08
Client ID:
Sample Info: 1242/1268 @ 50ppb | PCB5-95H

Column phase: DB-35MS

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32

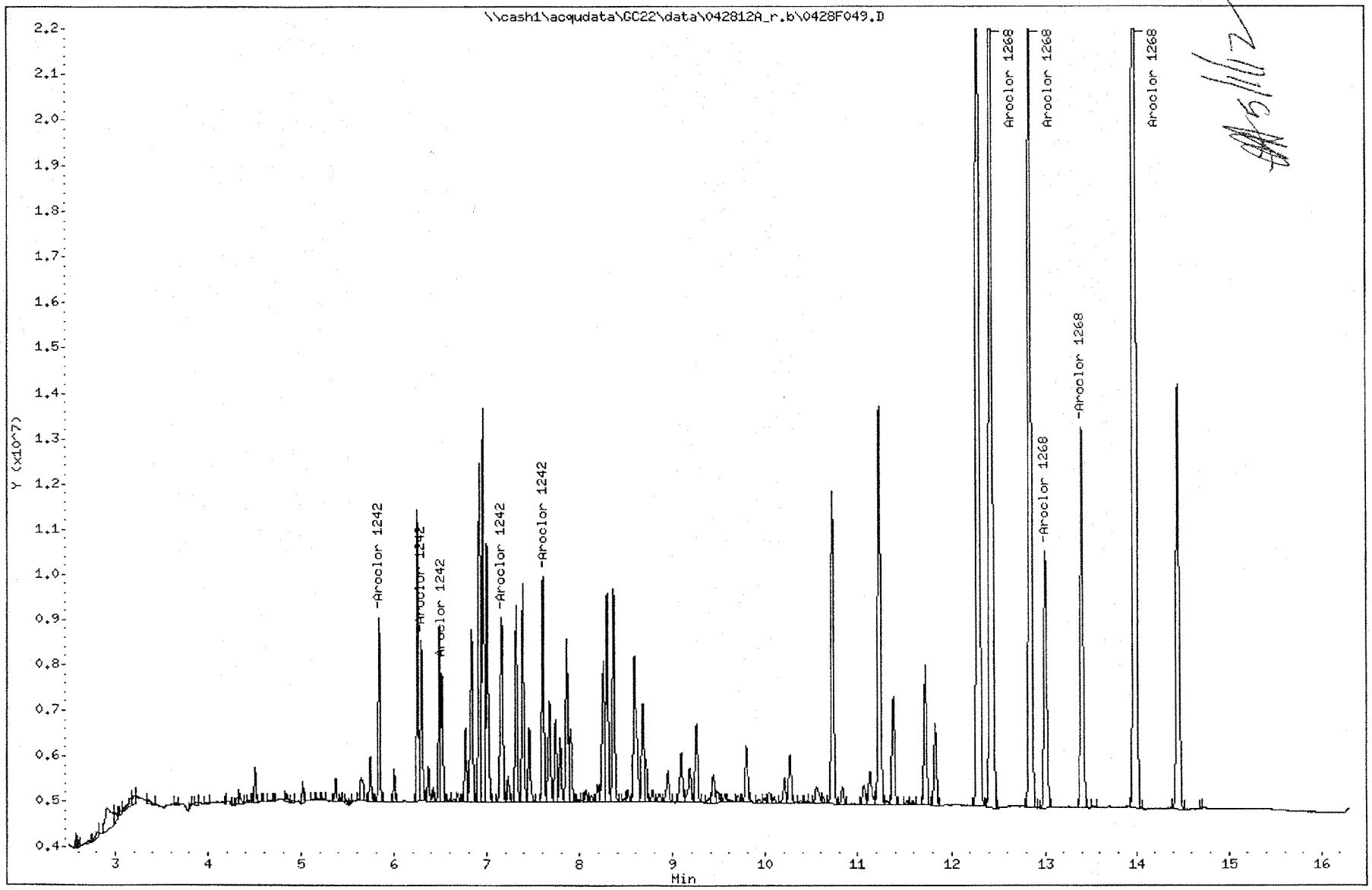


Data File: \\cash1\acqudata\GC22\data\042812A_r.b\0428F049.D
Date : 29-APR-2012 17:08
Client ID:
Sample Info: 1242/1268 @ 50ppb | PCB5-95H

Column phase: DB-XLB

Instrument: GC22.i

Operator: CCotnam
Column diameter: 0.32



COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/30/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 04/28/2012
Calibration ID: CAL11473
Analysis Lot: KWG1204502
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F014.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	1580000	1740000	10	NA	± 20 %	AverageRF
Aroclor 1016	100	100	NA	NA	NA	2	± 20 %	NA
Aroclor 1016 {1}	100	96	72500	69400	-4	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	100	77400	79900	3	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	100	58800	59300	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	34200	36200	6	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	100	51200	53400	4	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	9	± 20 %	NA
Aroclor 1260 {1}	100	110	106000	113000	6	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	110	115000	126000	10	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	107000	116000	9	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	78200	85000	9	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	178000	199000	12	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/30/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 04/28/2012
Calibration ID: CAL11473
Analysis Lot: KWG1204502
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F014.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	10	5780000	5900000	2	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	7	± 20 %	NA
Aroclor 1016 {1}	100	100	198000	204000	3	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	111000	116000	5	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	338000	359000	6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	194000	212000	9	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	162000	179000	11	NA	± 100 %	AverageRF
Aroclor 1260	100	90	NA	NA	NA	-10	± 20 %	NA
Aroclor 1260 {1}	100	110	413000	438000	6	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	95	453000	432000	-5	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	80	561000	450000	-20	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	63	316000	198000	-37	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	718000	763000	6	NA	± 100 %	AverageRF

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

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F014.D
Lab ID: KWG1204502-3
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 04/30/2012 19:39
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: 05/2/12

Secondary Review: [illegible]

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F014.D
Lab ID: KWG1204502-3
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 04/30/2012 19:39
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: _____

Secondary Review: _____

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F014.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F014.D			**Vial:**	96
Acqu Date:	04/30/2012 19:39	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204502-3				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	8082A PCB ULL	**Collect Date:**		**Receive Date:**	05/02/2012

Analysis Lot:	KWG1204502	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082A	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	4.76	5.48	14831135	80020394	9.61	10.00			NA
				%Recovery =	NA	NA	Limits =	21-114	
Decachlorobiphenyl	13.00	14.45	17418071	58964993	11.01	10.20			NA
				%Recovery =	NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	101.94	106.91			
Aroclor 1016 {1}	5.56	6.25	6940461	20441867	95.73	103.20			
Aroclor 1016 {2}	6.05	6.29	7986577	11628614	103.24	105.15			
Aroclor 1016 {3}	6.16	6.96	5926442	35880877	100.81	106.21			
Aroclor 1016 {4}	6.32	7.16	3616115	21152511	105.60	109.31			
Aroclor 1016 {5}	6.38	7.31	5339320	17901273	104.33	110.68			
Aroclor 1260			0	0	108.98	90.19			
Aroclor 1260 {1}	8.39	9.56	11265425m	43837725m	105.85	106.27			
Aroclor 1260 {2}	8.68	10.04	12592869m	43166650m	109.87	95.36			
Aroclor 1260 {3}	9.30	10.55	11611591m	45048601m	108.71	80.23			
Aroclor 1260 {4}	9.38	10.73	8495255m	19795794m	108.60	62.74			
Aroclor 1260 {5}	10.30	11.73	19860514m	76333773m	111.85	106.37			

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

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

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

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F014.D
Report Date: 02-May-2012 14:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F014.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F014.D
Inj Date : 30-APR-2012 19:39
Sample Info: 1660 @ 100ppb | PCB5-91L
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.755	5.475	14831135	80020394	9.61	10.0		100.00
Aroclor 1016	5.558	6.248	6940461	20441867	95.7	103	80.00- 120.00	100.00
	6.052	6.291	7986577	11628614	103	105	101.27- 151.90	115.07
	6.158	6.958	5926442	35880877	101	106	70.42- 105.63	85.39
	6.315	7.158	3616115	21152511	106	109	43.34- 65.01	52.10
	6.378	7.311	5339320	17901273	104	111	61.77- 92.65	76.93
		Average of Peak Amounts =			102	107		
Aroclor 1260	8.385	9.555	11265425	43837725	106	106	80.00- 120.00	100.00(M)
	8.678	10.038	12592869	43166650	110	95.4	90.38- 135.58	111.78(M)
	9.295	10.548	11611591	45048601	109	80.2	83.05- 124.58	103.07(M)
	9.375	10.728	8495255	19795794	108	62.7	60.30- 90.45	75.41(M)
	10.302	11.725	19860514	76333773	112	106	142.83- 214.24	176.30(M)
		Average of Peak Amounts =			109	90.1		
Decachlorobiphenyl	12.995	14.451	17418071	58964993	11.0	10.2		100.00

QC Flag Legend

M - Compound response manually integrated.

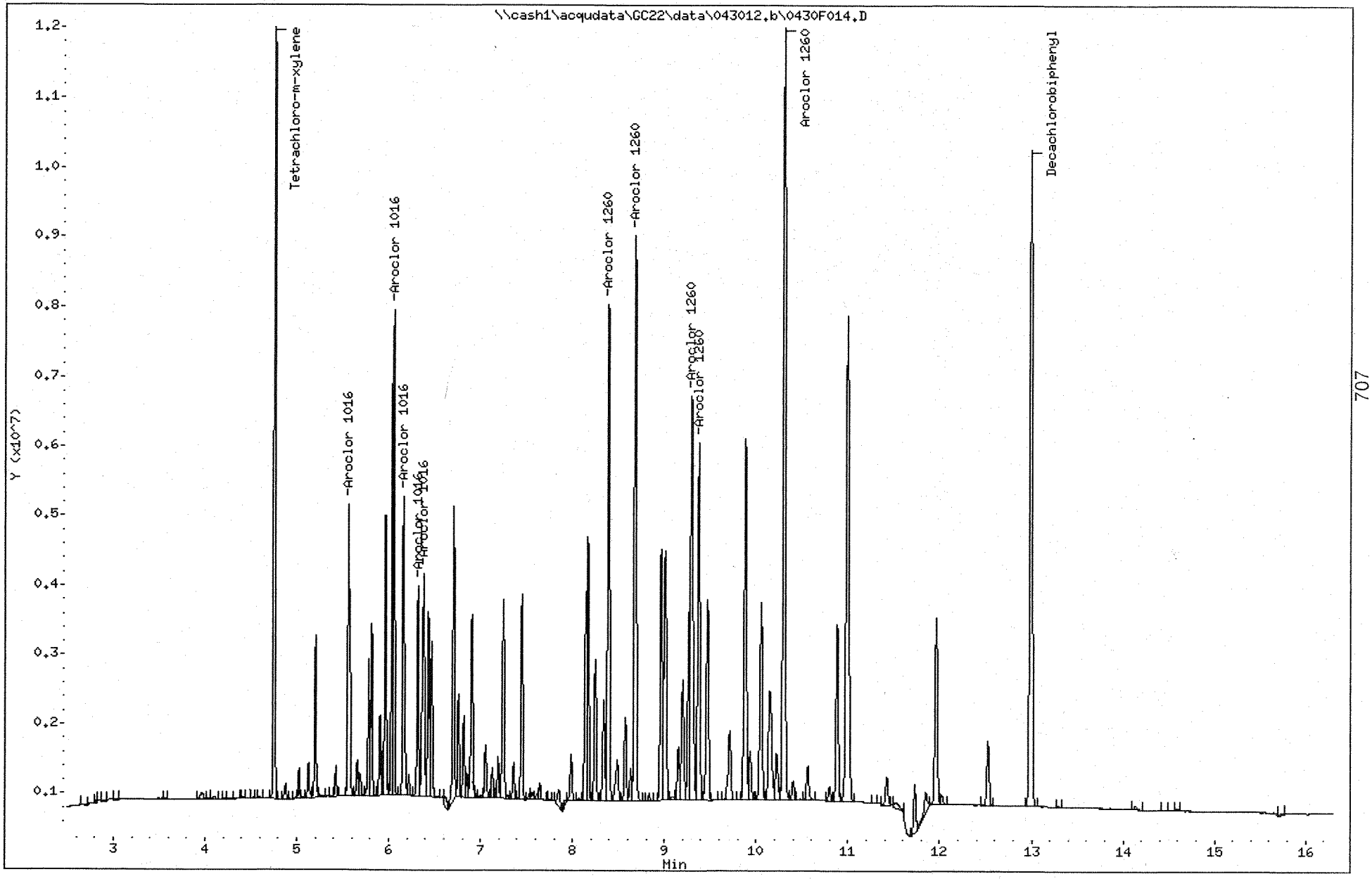
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F014.D
Date : 30-APR-2012 19:39
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-91L

Instrument: GC22.i

Operator: LHarris

Column phase: DB-35MS

Column diameter: 0.32



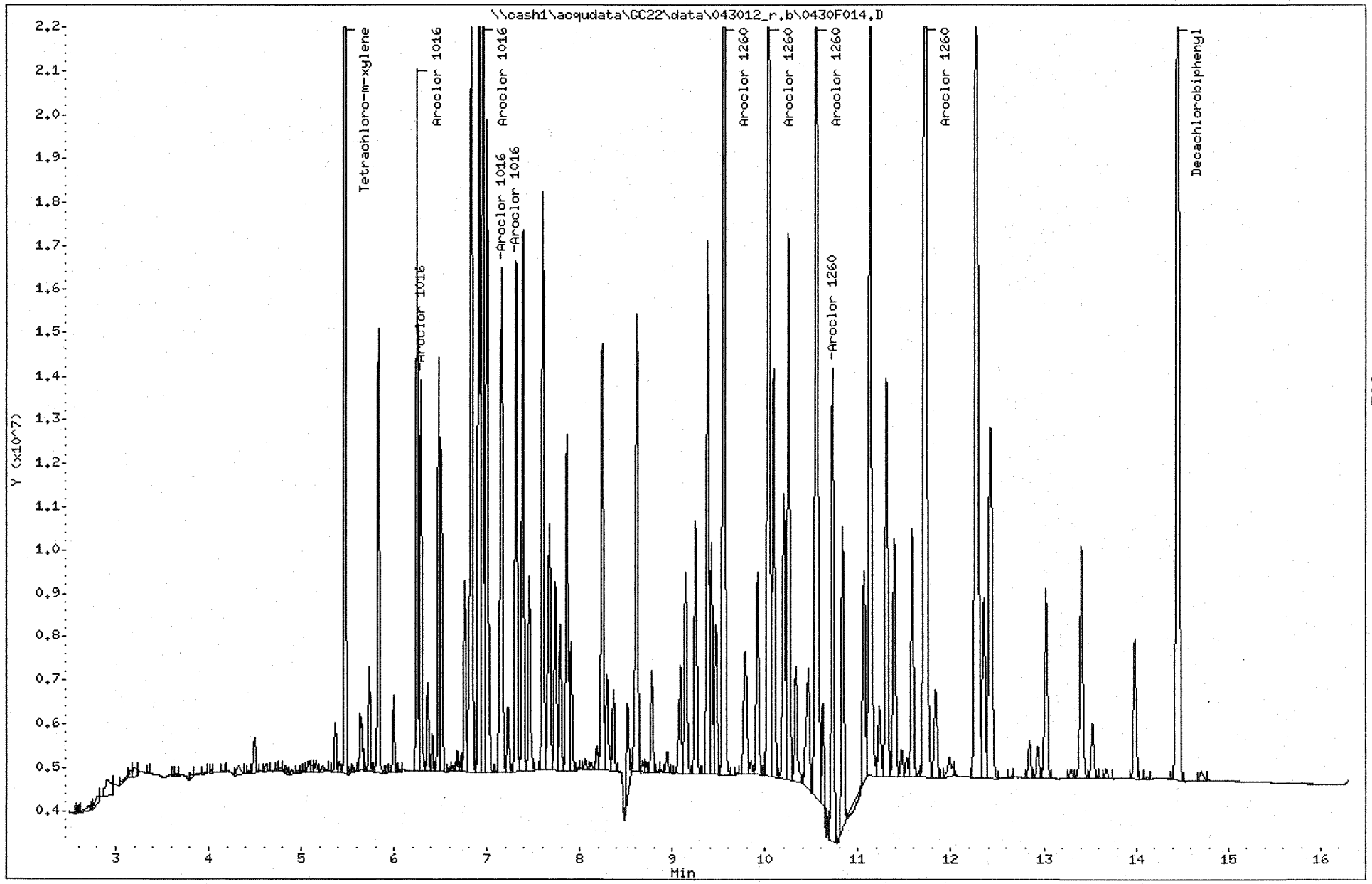
Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F014.D
Date : 30-APR-2012 19:39
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-91L

Instrument: GC22.i

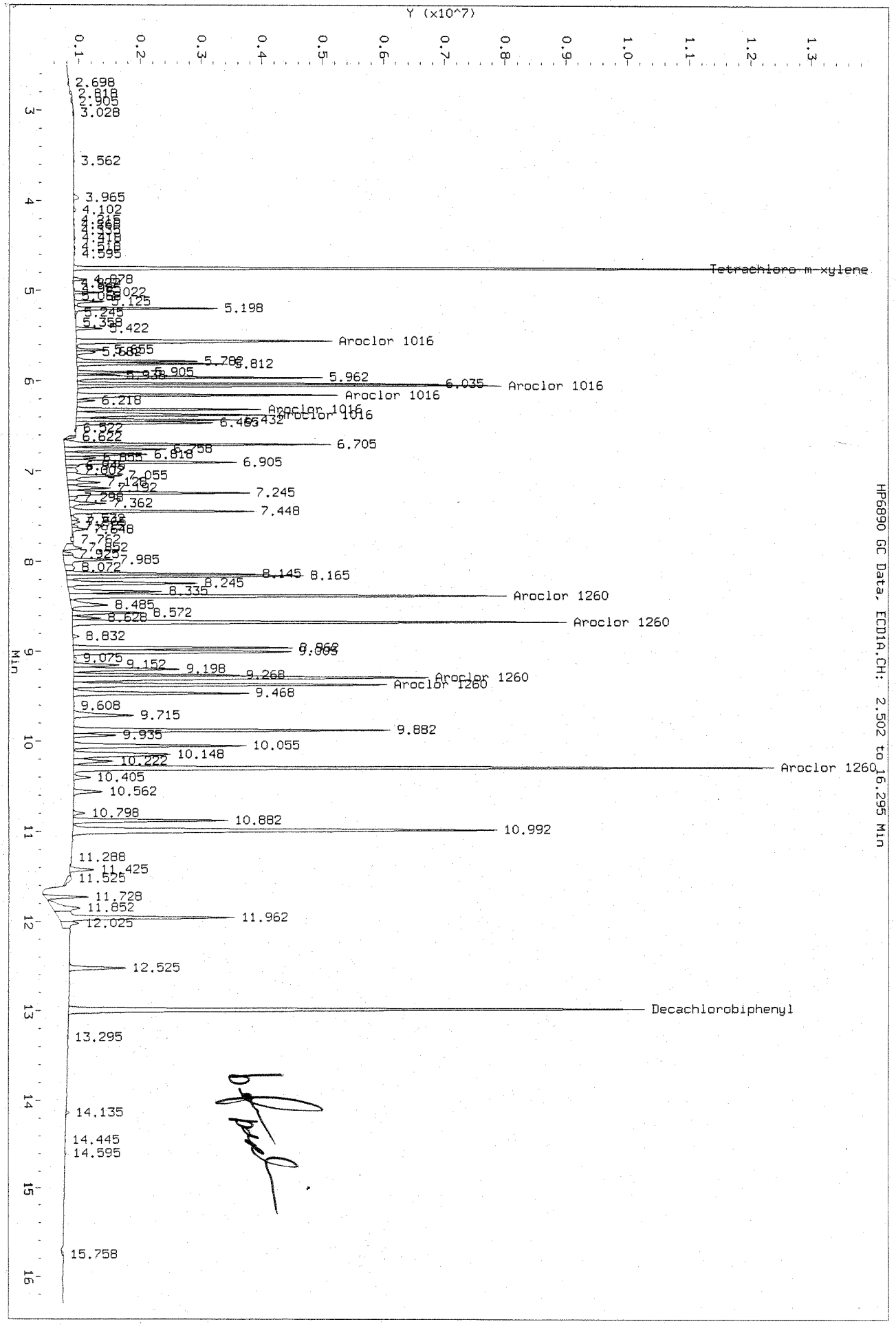
Operator: LHarris

Column phase: DB-XLB

Column diameter: 0.32

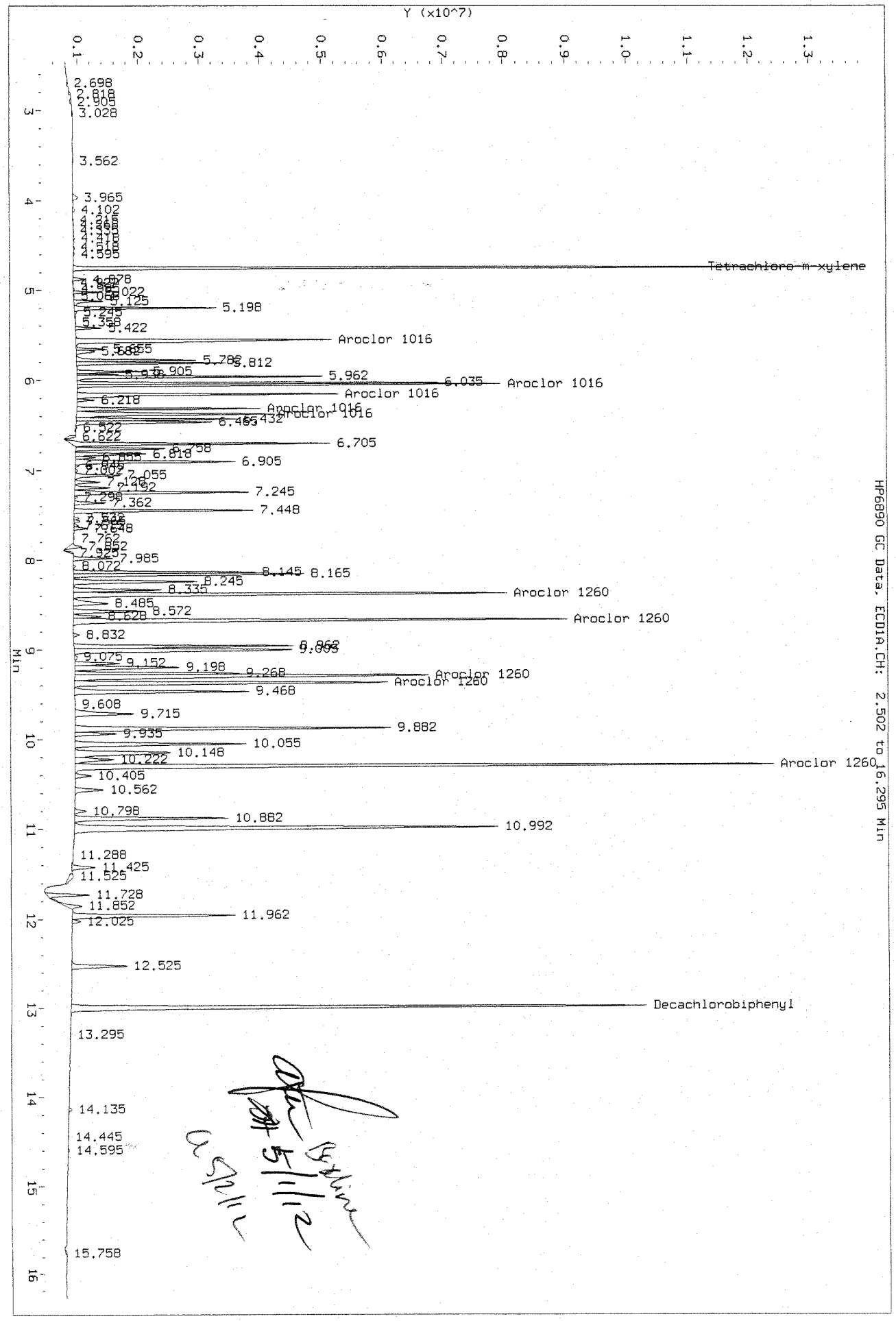


Data File: \\cash1\acqudata\GC22\data\043012.b\0430F014.D
Injection Date: 30-APR-2012 19:39
Instrument: GC22.i
Client Sample ID:

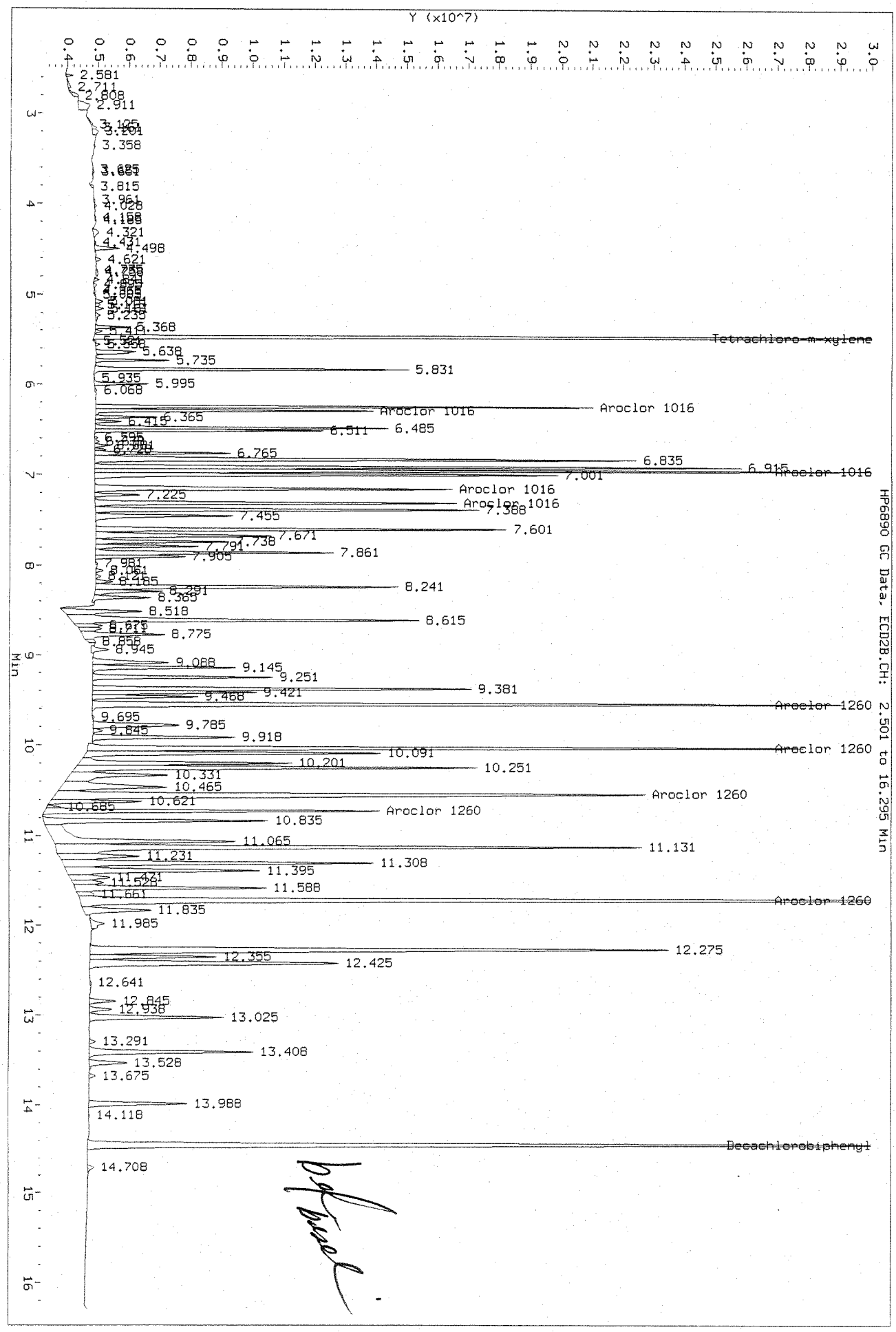


HP6890 GC Data, ECD1A.CH: 2.502 to 16.295 Min

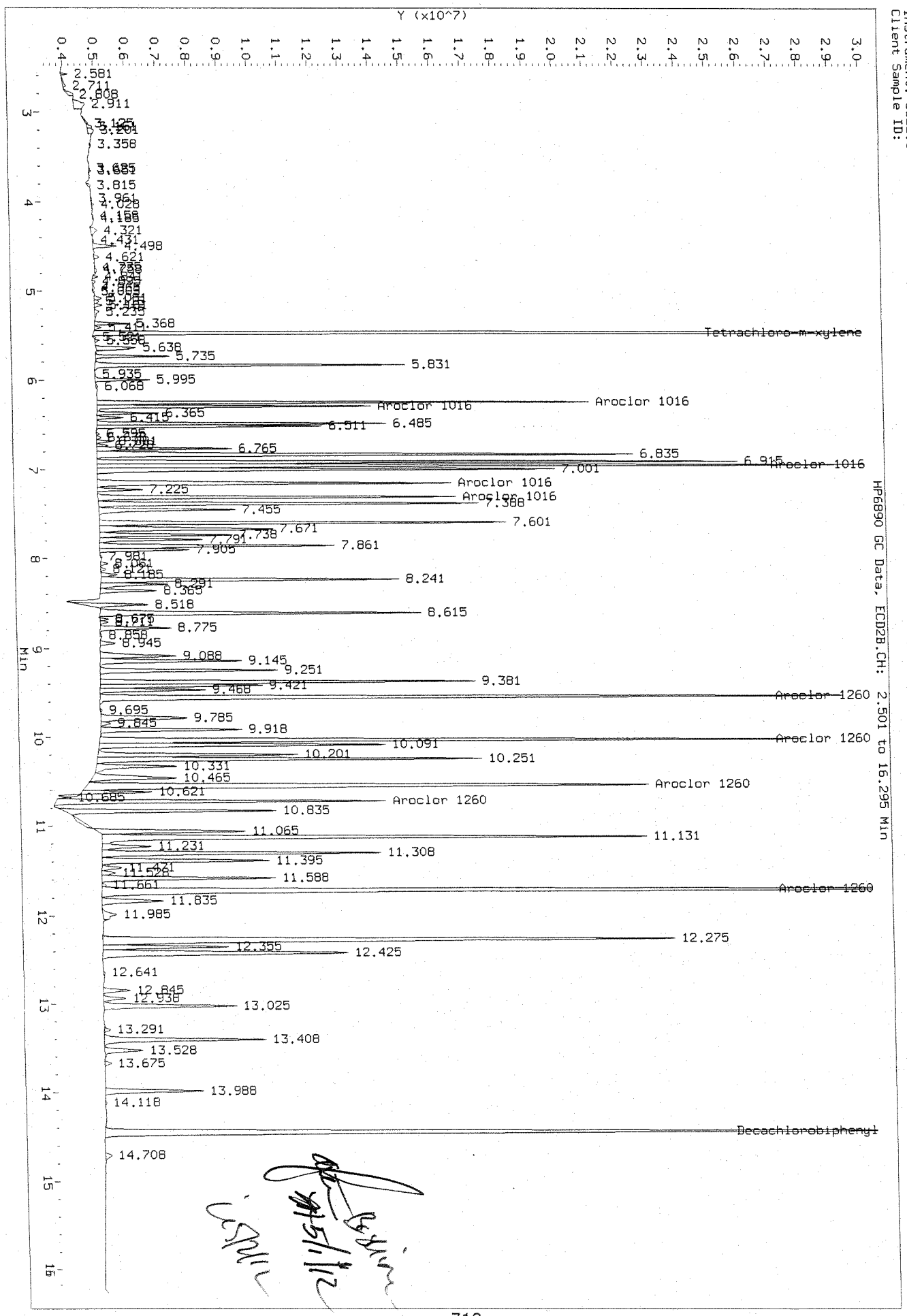
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F014.D
Injection Date: 30-APR-2012 19:39
Instrument: GC22.i
Client Sample ID:



Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F014.D
Injection Date: 30-APR-2012 19:39
Instrument: GC22.i
Client Sample ID:



Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F014.D
Injection Date: 30-APR-2012 19:39
Instrument: GC22:i
Client Sample ID:



HP6890 GC Data, ECD2B.CH: 2.501 to 16.295 Min

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/30/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 04/28/2012
Calibration ID: CAL11473
Analysis Lot: KWG1204502
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F025.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	1580000	1800000	14	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	9	± 20 %	NA
Aroclor 1016 {1}	100	98	72500	71400	-2	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	120	77400	90300	17	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	58800	62800	7	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	34200	38700	13	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	51200	55100	8	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	14	± 20 %	NA
Aroclor 1260 {1}	100	110	106000	117000	10	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	120	115000	132000	15	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	110	107000	122000	14	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	78200	88300	13	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	120	178000	209000	18	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/30/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 04/28/2012
Calibration ID: CAL11473
Analysis Lot: KWG1204502
Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F025.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	10	5780000	5930000	3	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	10	± 20 %	NA
Aroclor 1016 {1}	100	110	198000	210000	6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	111000	119000	7	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	338000	379000	12	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	194000	219000	13	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	162000	183000	13	NA	± 100 %	AverageRF
Aroclor 1260	100	88	NA	NA	NA	-12	± 20 %	NA
Aroclor 1260 {1}	100	110	413000	446000	8	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	97	453000	439000	-3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	71	561000	396000	-30	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	57	316000	179000	-43	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	718000	774000	8	NA	± 100 %	AverageRF

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

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F025.D
Lab ID: KWG1204502-5
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 04/30/2012 23:49
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: 05/02/12

Secondary Review: 5/5/2012

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F025.D
Lab ID: KWG1204502-5
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 04/30/2012 23:49
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: _____

Secondary Review: _____

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F025.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F025.D			**Vial:**	96
Acqu Date:	04/30/2012 23:49	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	CCV			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204502-5				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	8082A PCB ULL	**Collect Date:**		**Receive Date:**	05/02/2012

Analysis Lot:	KWG1204502	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082A	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	4.75	5.47	15204400	81375358	9.85	10.17			NA
				%Recovery =	NA	NA	Limits =	21-114	
Decachlorobiphenyl	12.99	14.45	17979441	59289075	11.37	10.25			NA
				%Recovery =	NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	108.52	110.37			
Aroclor 1016 {1}	5.56	6.25	7136332m	20986039	98.43	105.95			
Aroclor 1016 {2}	6.05	6.29	9033334m	11875450	116.77	107.38			
Aroclor 1016 {3}	6.15	6.96	6281638m	37895226	106.85	112.17			
Aroclor 1016 {4}	6.31	7.16	3866217m	21891044	112.90	113.13			
Aroclor 1016 {5}	6.38	7.31	5509763m	18314052	107.66	113.23			
Aroclor 1260			0	0	113.99	88.00			
Aroclor 1260 {1}	8.38	9.55	11712654m	44595042m	110.05	108.11			
Aroclor 1260 {2}	8.67	10.03	13232902m	43866525m	115.46	96.91			
Aroclor 1260 {3}	9.29	10.55	12159454m	39585061m	113.83	70.50			
Aroclor 1260 {4}	9.37	10.73	8828574m	17862058m	112.86	56.61			
Aroclor 1260 {5}	10.30	11.72	20911057m	77409316m	117.77	107.87			

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

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

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

Calibration Verification Report

Calibration ID: CAL11473
Method ID: MJ702

DataFile: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F025.D

Parameter Name	Type	PARM Type	Curve Fit	Method Criteria	Min RF	ICAL RF	CCV RF	%Diff	Sol'n Conc.	True Value	% Drift
Aroclor 1016		MS	NA	20					110.4	100.0	10.4
Aroclor 1260		MS	NA	20					88.00	100.0	-12.0
Tetrachloro-m-xylene		SURR	AverageRF	20		8.0E+6	8.1E+6	1.7			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.0E+5	2.1E+5	5.9			
Aroclor 1016 {2}		MULTI	AverageRF	100		1.1E+5	1.2E+5	7.4			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.4E+5	3.8E+5	12.2			
Aroclor 1016 {4}		MULTI	AverageRF	100		1.9E+5	2.2E+5	13.1			
Aroclor 1016 {5}		MULTI	AverageRF	100		1.6E+5	1.8E+5	13.2			
Aroclor 1260 {1}		MULTI	AverageRF	100		4.1E+5	4.5E+5	8.1			
Aroclor 1260 {2}		MULTI	AverageRF	100		4.5E+5	4.4E+5	-3.1			
Aroclor 1260 {3}		MULTI	AverageRF	100		5.6E+5	4.0E+5	-29.5			
Aroclor 1260 {4}		MULTI	AverageRF	100		3.2E+5	1.8E+5	-43.4			
Aroclor 1260 {5}		MULTI	AverageRF	100		7.2E+5	7.7E+5	7.9			
Decachlorobiphenyl		SURR	AverageRF	20		5.8E+6	5.9E+6	2.5			

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F025.D
Report Date: 02-May-2012 14:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F025.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F025.D
Inj Date : 30-APR-2012 23:49
Sample Info: 1660 @ 100ppb | PCB5-91L
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : AR1660.SUB
Sub List #2 : AR1660.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
Tetrachloro-m-xylene	4.753	5.473	15204400	81375358	9.85	10.2		100.00
Aroclor 1016	5.557	6.246	7136332	20986039	98.4	106	80.00- 120.00	100.00(M)
	6.050	6.290	9033334	11875450	117	107	101.27- 151.90	126.58(M)
	6.153	6.956	6281638	37895226	107	112	70.42- 105.63	88.02(M)
	6.313	7.156	3866217	21891044	113	113	43.34- 65.01	54.18(M)
	6.377	7.310	5509763	18314052	108	113	61.77- 92.65	77.21(M)
		Average of Peak Amounts =			109	110		
Aroclor 1260	8.383	9.553	11712654	44595042	110	108	80.00- 120.00	100.00(M)
	8.673	10.033	13232902	43866525	115	96.9	90.38- 135.58	112.98(M)
	9.293	10.546	12159454	39585061	114	70.5	83.05- 124.58	103.81(M)
	9.373	10.726	8828574	17862058	113	56.6	60.30- 90.45	75.38(M)
	10.300	11.720	20911057	77409316	118	108	142.83- 214.24	178.53(M)
		Average of Peak Amounts =			114	88.0		
Decachlorobiphenyl	12.990	14.450	17979441	59289075	11.4	10.2		100.00

QC Flag Legend

M - Compound response manually integrated.

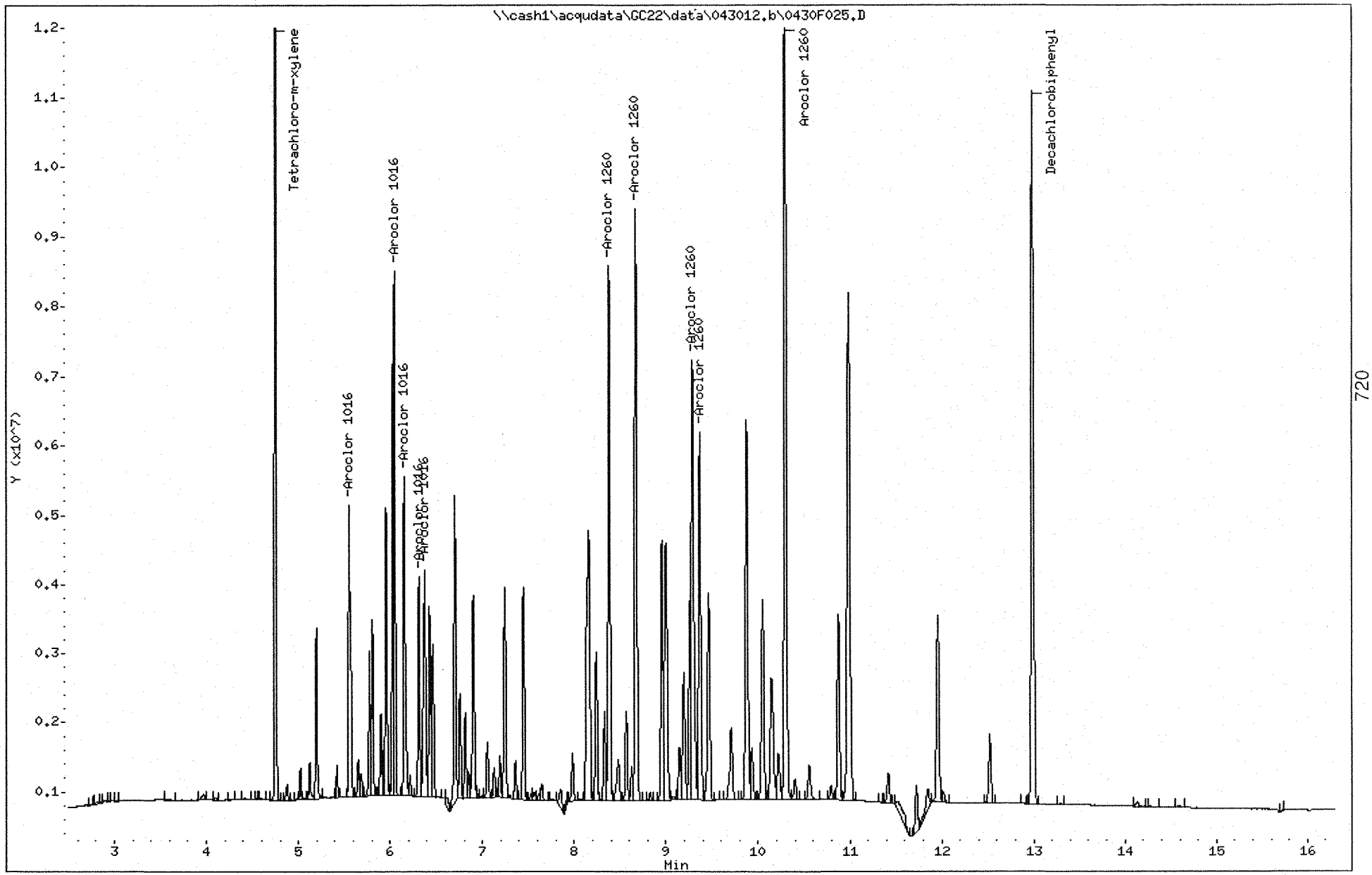
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F025.D
Date : 30-APR-2012 23:49
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-91L

Instrument: GC22.i

Operator: LHarris

Column phase: DB-35MS

Column diameter: 0.32



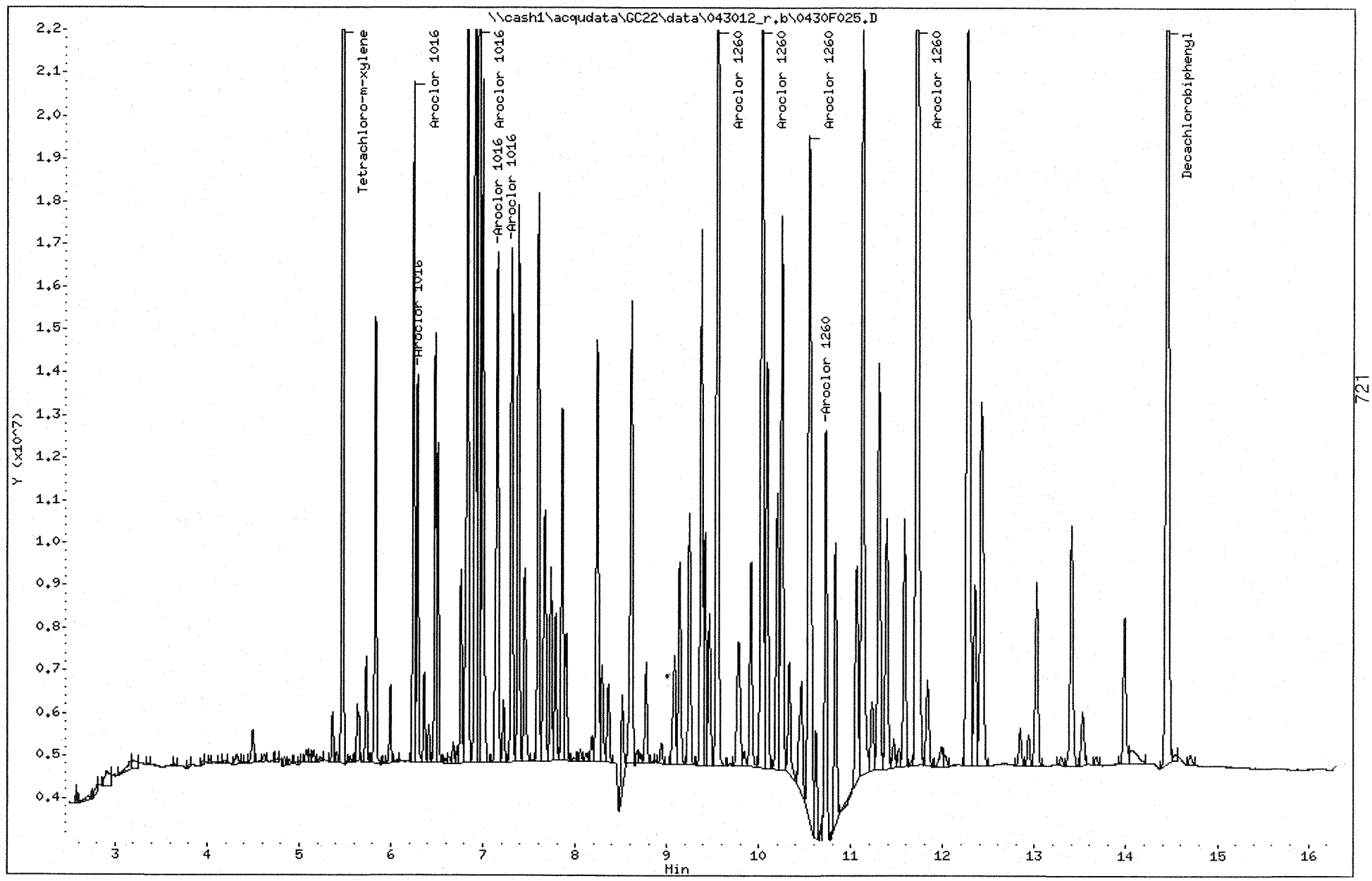
Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F025.D
Date : 30-APR-2012 23:49
Client ID:
Sample Info: 1660 @ 100ppb | PCB5-91L

Instrument: GC22.i

Operator: LHarris

Column phase: DB-XLB

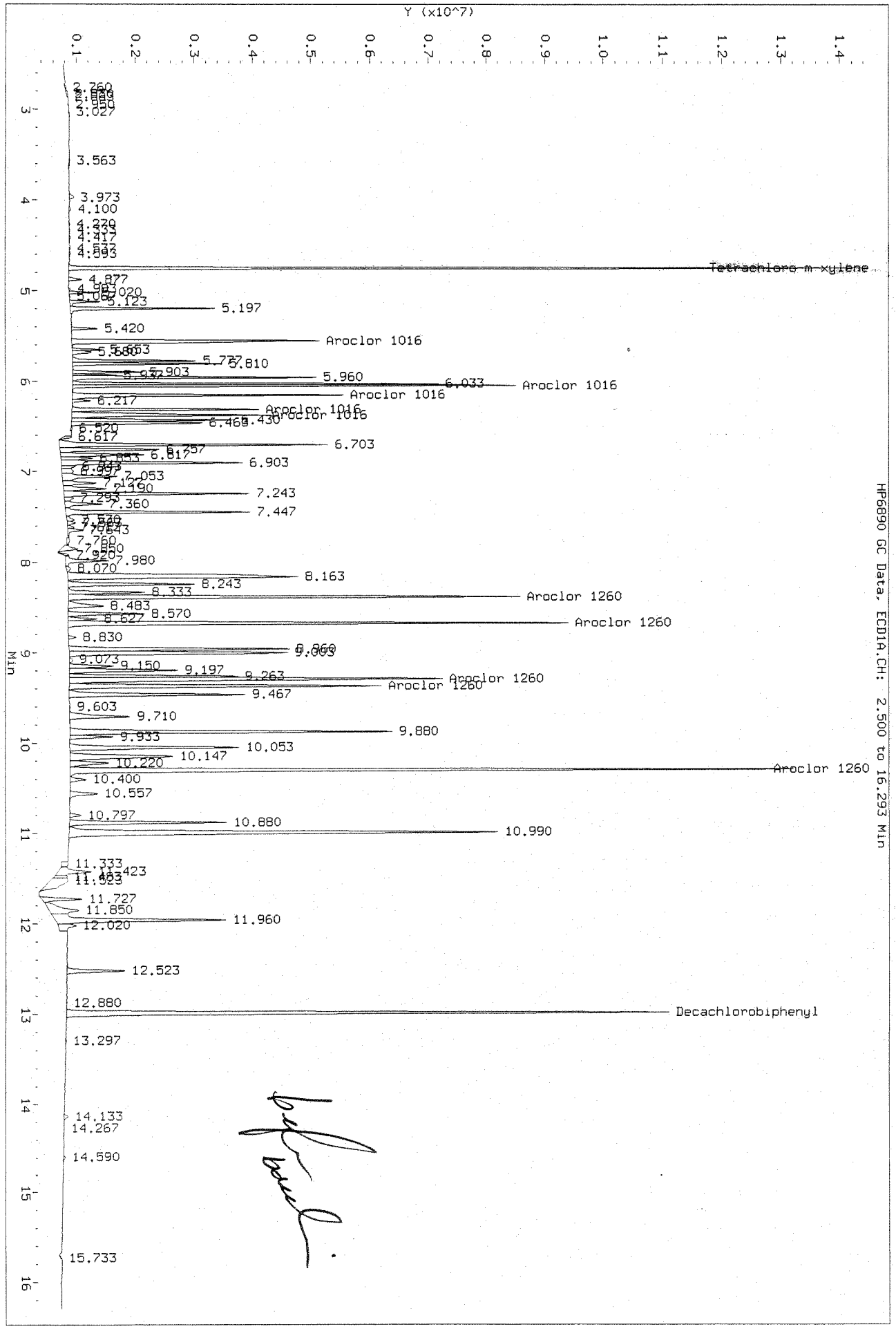
Column diameter: 0.32



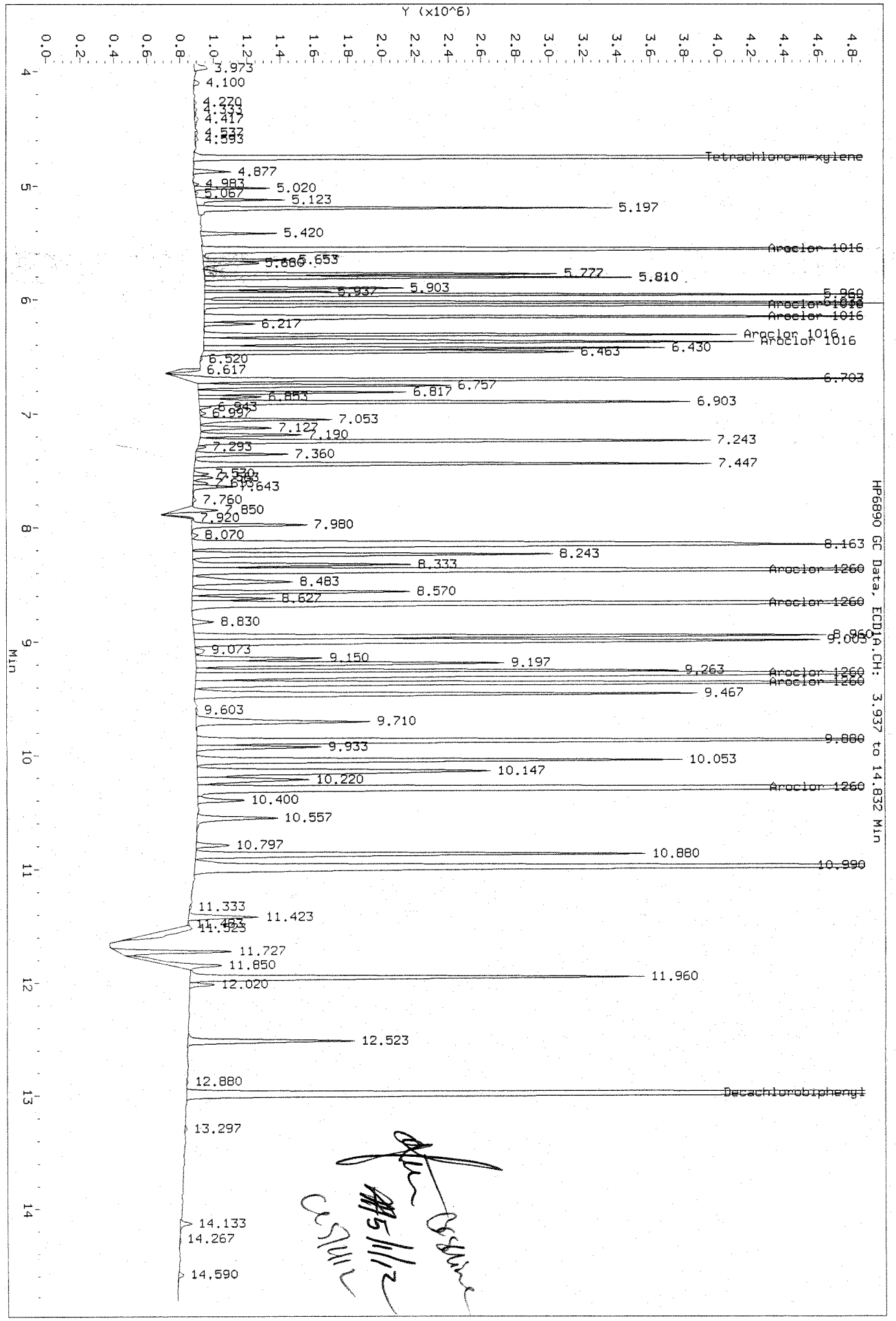
721

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F025.D
Injection Date: 30-APR-2012 23:49
Instrument: GC22.i
Client Sample ID:

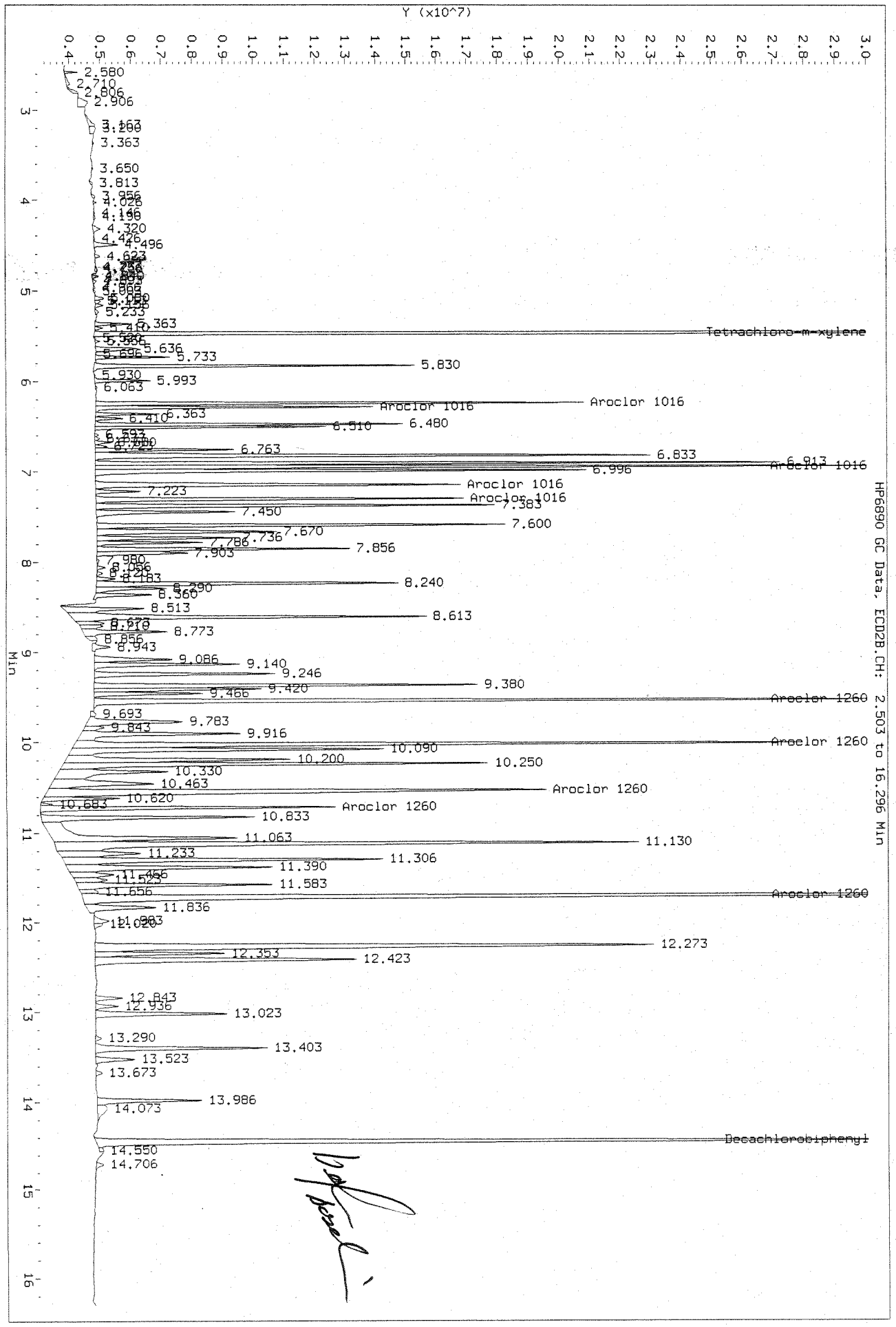
HP6890 GC Data, ECD1A.CH: 2.500 to 16.293 Min



Data File: \\cash1\acqudata\GC22\data\043012.b\043OF025.D
Injection Date: 30-APR-2012 23:49
Instrument: GC22.1
Client Sample ID:

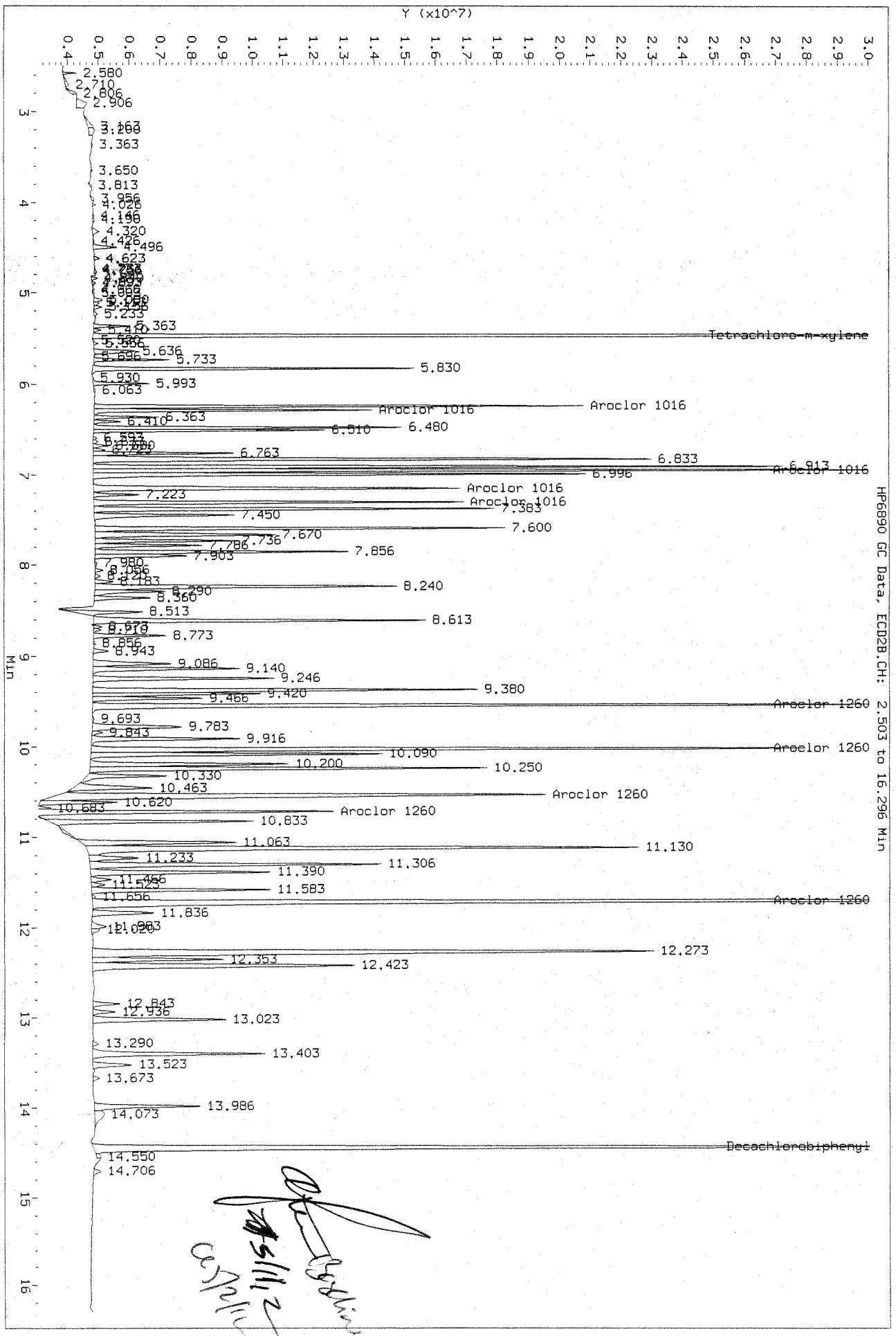


Data File: \\cash1\acqudata\GC22\Xdata\043012_r.b\0430F025.D
Injection Date: 30-APR-2012 23:49
Instrument: GC22.1
Client Sample ID:



HP6890 GC Data, ECD2B.CH: 2.503 to 16.296 Min

Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F025.D
Injection Date: 30-APR-2012 23:49
Instrument: GC22.1
Client Sample ID:



Organic Analysis:
Polychlorinated Biphenyls (PCBs)

Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID:	KWG1204291	**Prep Method:**	EPA 3535A	**Prep Date:**	04/23/12 00:00
Department:	Semivoa GC				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
K1203581-001	MISY-2012-R-001	8082A PCB ULL	WATER	990mL	2mL	
K1203626-001	MISY-2012-R-003	8082A PCB ULL	WATER	1000mL	2mL	
K1203687-001	TOF	8082A PCB ULL	WATER	1000mL	2mL	
K1203695-001	Outfall A	8082 PCB_ULL	WATER	990mL	2mL	
K1203695-002	Outfall B	8082 PCB_ULL	WATER	1000mL	2mL	
KWG1204291-1	Matrix Spike	8082A PCB ULL	WATER	1000mL	2mL	
KWG1204291-2	Duplicate Matrix Spike	8082A PCB ULL	WATER	990mL	2mL	
KWG1204291-3	Lab Control Sample	8082A PCB ULL	WATER	1000mL	2mL	
KWG1204291-4	Method Blank	8082A PCB ULL	WATER	1000mL	2mL	

Lab Code	Parent Lab Code	Comments
KWG1204291-1	K1203581-001	KQ1204343-01
KWG1204291-2	K1203581-001	KQ1204343-02
KWG1204291-3		KQ1204343-03
KWG1204291-4		KQ1204343-04

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1203581-001	1120626					CPorter
K1203626-001	1120627					CPorter
K1203687-001	1120628					CPorter
K1203695-001	1120629					CPorter
K1203695-002	1120630					CPorter
KWG1204291-1	1120631					CPorter
KWG1204291-2	1120632					CPorter
KWG1204291-3	1120633					CPorter
KWG1204291-4	1120634					CPorter

Comments:

Started By: SCaggian Assisted By: Training Yes No

Completed By: SCaggian Assisted By: Yes No

Reviewed By: EE Date: 4-27-12 Storage:

Chain of Custody

Relinquished By: SC Date: 4/26/12

Received By: Date: 4/30/12 Extracts Examined Yes No

Columbia Analytical Services™ **Preparation Information Benchsheet**

Prep Run:	156273	**Prep Workflow**:	OrgExtSPEaq (7)	**Status**:	Final Volume	**Prep Date**:	04/23/2012 00:00
Team:	Semivoa GC	**Prep Method**:	EPA 3535A	**Current Step**:	Final Volume	**Due Date**:	04/26/2012
Analyst:	SCaggiano	**Rush/NPDES**:	NPDES			**Hold Date**:	06/02/2012

	Lab Code	Client ID	Bottle #	✓	Initial Amount mL	pH Initial	pH Adj 1	Inter. Volume	Final Volume mL	Surr Amt µL	Spike Amt µL	TestNo List
✓*	K1203581-001	MISY-2012-R-001	~~.01~~ 11	✓	990	NA	2.5	NA	2	50	—	PCB ULL
*	K1203626-001	MISY-2012-R-003	~~.01~~ 2	✓	1000		2.5		2	50	—	PCB ULL
*	K1203687-001	TOF	~~.01~~ 2	✓	1000		2.5		2	50	—	PCB ULL
	K1203695-001	Outfall A SC	~~.01~~ 5	✓	990		2.5		2	50	—	PCB_ULL
	K1203695-002	Outfall B EE 4/23/12	~~.01~~ 5	✓	1000		2.5		2	50	—	PCB_ULL
✓*	K1203581-001: KQ1204343-01	Matrix Spike	.01	✓	1000		2.5		2	50	200	PCB ULL
✓*	K1203581-001: KQ1204343-02	Duplicate Matrix Spike	~~.01~~ 10	✓	990		2.5		2	50	200	PCB ULL
	KQ1204343-03	Lab Control Sample			1000		2.5		2	50	200	PCB ULL, PCB_ULL
	KQ1204343-04	Method Blank			1000	↓	2.5	↓	2	50	—	PCB ULL, PCB_ULL

9 Total Samples consisting of 5 Client Samples, 2 Client QC Samples, 2 Batch QC Samples associated with the current Prep Run.

Spiking Solutions **Witness**: [illegible] 4.23.12

PCB5-86S 0.2ppm 6/22/12 50uL Epp

PCB5-92E 1ug/mL 6/9/12 200uL Epp

Preparation Steps

Step	Started	Finished	By	Assisted By	Training?	Comments
Extraction	4/23/12		SC			
Final Volume	4/26/12		SC			

Comments

* samples required extra sulfuric acid to bring to pH of 2.5 SC 4/23/12

✓ samples contained excess sediment, required two DVB disks and took ~3.5 hours to extract. 4/23/12 SC

Additional Prep Information For Pest/PCB Water by 3535

Service Request #K1203581, K1203626 K1203695 Work Group # KQ1204343

Solvents/Reagents used:

Methanol Lot#: K34E03 Sulfuric Acid Lot#: 49296

Acetone Lot #: 51278 Hexane Lot #: 51300

H_2O Phobic DVB cartridge Lot #: K39N13

Extraction Program # 8081.6 Initial Purge Prog # 8081.4
Between Sample Purge Program# 8081.8

Start (Time/Date/Initial): 1700 4/23/12 SC

Stop (Time/Date/Initial): 2045 4/23/12 SC

Final Volume/Cleanups:

Dry Disk (Time/Date/Initial): 1615 4/26/12 SC Lot #: B024002046O4

TurboVap(Time/Date/Initials): 1620 4/26/12 SC Temp/Therm ID: K-turbovap-001

Sulfuric Acid Clean-up (Time/Date/Initials): 1845 4/26/12 SC Acid Lot #: 51164

Pest Vial: — Vial Storage: —
PCB Vial: green Vial Storage: Mel D1-D9

Comments/Observations:

Bench Sheet Review Check List
☑ Hold Times Met (if no, Reason:)
☑ Prep date, dept, method, product code correct in stealth
☑ Spike Information correct
☑ Weights/Volumes and units correct on raw and final bench sheets
☑ Sample IDs have been checked—Bottle numbers appended if required
☑ Names present for: Started by, Completed by, relinquished by, and witnessed by.
☑ Training has been circled
☑ Extract Storage recorded
☑ Additional Prep Sheet completely filled out (NA or line out Blanks)
☑ All clean-ups have been noted on additional prep sheet
☑ Signed service request with Form V, if applicable, has been attached

Sequence Name: C:\GC22\SEQUENCE\043012.S
Comment:
Operator: LHarris
Data Path: C:\GC22\DATA\043012\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

VOAL 11473

Run # 289619

	Line	Type	Vial	DataFile	Method	Sample Name
	1	IB	1	0430F001	PCB5H	HEXANE
	2	IB	1	0430F002	PCB5H	HEXANE
	3	IB	1	0430F003	PCB5H	HEXANE
	4	IB	1	0430F004	PCB5H	HEXANE
	5	IB	2	0430F005	PCB5H	HEXANE
OK,OK	6	CCV	96	0430F006	PCB5H	1660 @ 100ppb | PCB5-91L
	7	IB	2	0430F007	PCB5H	IB
	8	SMPL	3	0430F008	PCB5H	K1203487-001
	9	SMPL	4	0430F009	PCB5H	K1203487-002
	10	SMPL	5	0430F010	PCB5H	K1203489-001
	11	LCS	6	0430F011	PCB5H	KWG1203866-1 | LCS | 8082A PC
	12	DLCS	7	0430F012	PCB5H	KWG1203866-2 | DLCS | 8082A P
	13	MB	8	0430F013	PCB5H	KWG1203866-3 | MB | 8082A PCB
OK,OK	14	CCV	96	0430F014	PCB5H	1660 @ 100ppb | PCB5-91L
	15	IB	2	0430F015	PCB5H	IB
	16	SMPL	9	0430F016	PCB5H	K1203581-001
	17	MS	10	0430F017	PCB5H	K1203581-001 MS
	18	DMS	11	0430F018	PCB5H	K1203581-001 DMS
	19	SMPL	12	0430F019	PCB5H	K1203626-001
	20	SMPL	13	0430F020	PCB5H	K1203687-001
	21	SMPL	14	0430F021	PCB5H	K1203695-001
	22	SMPL	15	0430F022	PCB5H	K1203695-002
	23	LCS	16	0430F023	PCB5H	KWG1204291-3 | LCS | 8082A PC
	24	MB	17	0430F024	PCB5H	KWG1204291-4 | MB | 8082A PCB
	25	CCV	96	0430F025	PCB5H	1660 @ 100ppb | PCB5-91L
OK,OK	26	IB	2	0430F026	PCB5H	IB
	27					

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F015.D
Lab ID: KWG1204502-4
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 04/30/2012 20:01
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F015.D
Lab ID: KWG1204502-4
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 04/30/2012 20:01
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: WS 2/12

Secondary Review: 05/02/12

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F015.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F015.D			**Vial:**	2
Acqu Date:	04/30/2012 20:01	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204502-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	8082A PCB ULL	**Collect Date:**		**Receive Date:**	05/02/2012

Analysis Lot:	KWG1204502	**Prep Lot:**		**Report Group:**	
Analysis Method:	8082A	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0	0d		0.0000			NA
			%Recovery =		NA	NA	Limits =	21-114	
Decachlorobiphenyl	0.00		0d	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0	0d	0.0000	0.0000			
Aroclor 1016 {2}			0	0d	0.0000	0.0000			
Aroclor 1016 {3}			0	0d	0.0000	0.0000			
Aroclor 1016 {4}			0	0d	0.0000	0.0000			
Aroclor 1016 {5}			0	0d	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0	0	0.0000	0.0000			
Aroclor 1221 {2}			0	0	0.0000	0.0000			
Aroclor 1221 {3}			0	0	0.0000	0.0000			
Aroclor 1221 {4}			0	0	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0	0d	0.0000	0.0000			
Aroclor 1232 {2}			0	0d	0.0000	0.0000			
Aroclor 1232 {3}			0	0d	0.0000	0.0000			
Aroclor 1232 {4}			0	0d	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			

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

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F015.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F015.D			**Vial:**	2
Acqu Date:	04/30/2012 20:01	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204502-4				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {1}			0d	0d	0.0000	0.0000			
Aroclor 1242 {2}			0d	0d	0.0000	0.0000			
Aroclor 1242 {3}			0d	0d	0.0000	0.0000			
Aroclor 1242 {4}			0d	0d	0.0000	0.0000			
Aroclor 1242 {5}			0d	0d	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0d	0.0000	0.0000			
Aroclor 1248 {2}			0d	0d	0.0000	0.0000			
Aroclor 1248 {3}			0d	0d	0.0000	0.0000			
Aroclor 1248 {4}			0d	0d	0.0000	0.0000			
Aroclor 1248 {5}			0d	0d	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0d	0.0000	0.0000			
Aroclor 1254 {2}			0d	0d	0.0000	0.0000			
Aroclor 1254 {3}			0d	0d	0.0000	0.0000			
Aroclor 1254 {4}			0d	0d	0.0000	0.0000			
Aroclor 1254 {5}			0d	0d	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0d	0.0000	0.0000			
Aroclor 1260 {2}			0d	0d	0.0000	0.0000			
Aroclor 1260 {3}			0d	0d	0.0000	0.0000			
Aroclor 1260 {4}			0d	0d	0.0000	0.0000			
Aroclor 1260 {5}			0d	0d	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0d	0	0.0000	0.0000			
Aroclor 1262 {2}			0d	0	0.0000	0.0000			
Aroclor 1262 {3}			0d	0	0.0000	0.0000			
Aroclor 1262 {4}			0d	0	0.0000	0.0000			
Aroclor 1262 {5}			0d	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0d	0	0.0000	0.0000			
Aroclor 1268 {2}			0d	0	0.0000	0.0000			
Aroclor 1268 {3}			0d	0	0.0000	0.0000			
Aroclor 1268 {4}			0d	0	0.0000	0.0000			
Aroclor 1268 {5}			0d	0	0.0000	0.0000			

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

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

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

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F015.D
Report Date: 02-May-2012 14:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F015.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F015.D
Inj Date : 30-APR-2012 20:01
Sample Info: IB
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

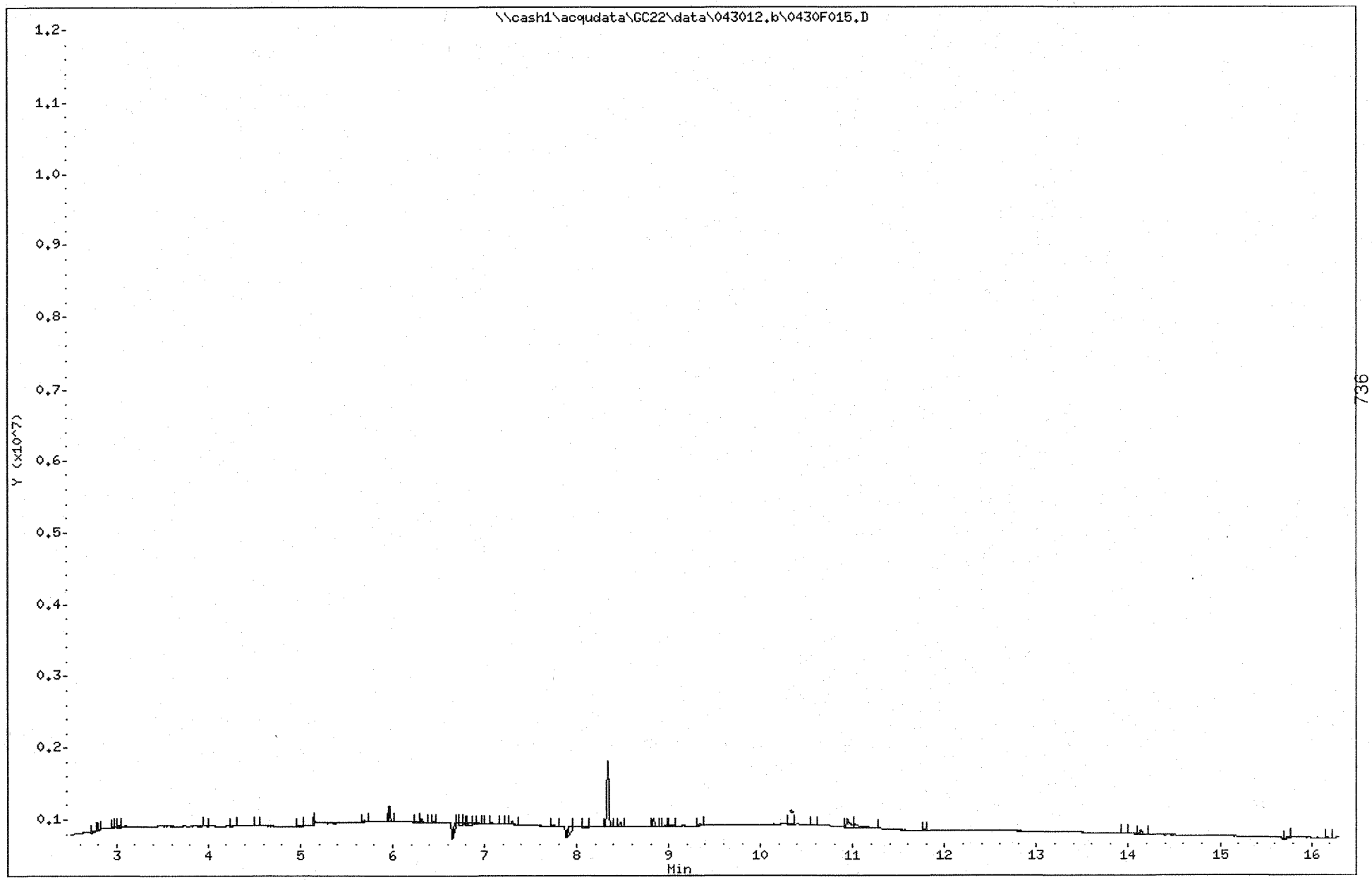
Data File: \\cash1\acqudata\GC22\data\043012.b\0430F015.D
Date : 30-APR-2012 20:01
Client ID:
Sample Info: IB

Instrument: GC22.i

Operator: LHarris

Column phase: DB-35MS

Column diameter: 0.32

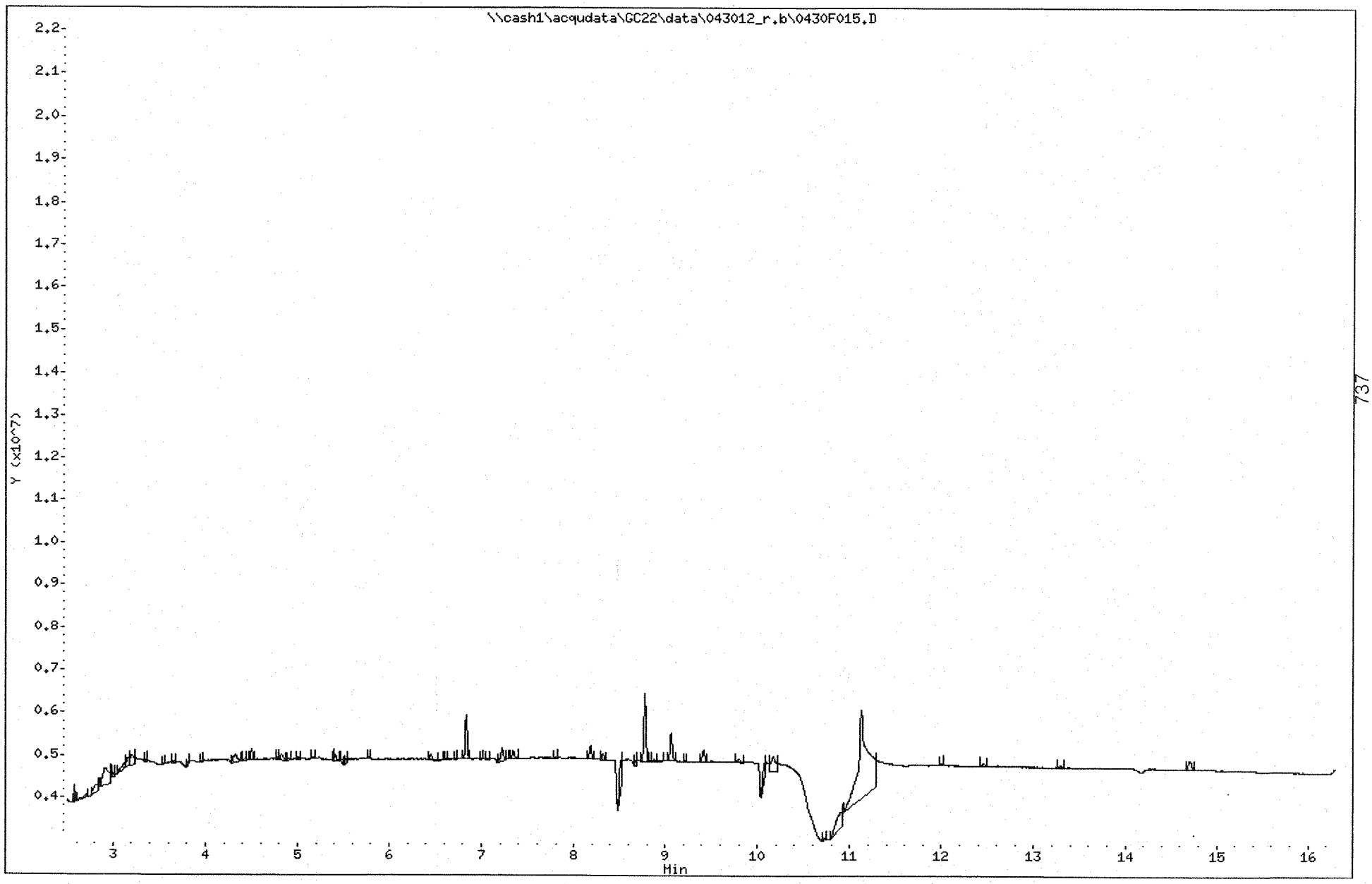


Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F015.D
Date : 30-APR-2012 20:01
Client ID:
Sample Info: IB

Column phase: DB-XLB

Instrument: GC22.i

Operator: LHarris
Column diameter: 0.32



Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012.B\0430F026.D
Lab ID: KWG1204502-6
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 05/01/2012 00:11
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: _____

Secondary Review: _____

Exception Report

Data File: \\CASH1\ACQUDATA\GC22\DATA\043012_R.B\0430F026.D
Lab ID: KWG1204502-6
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 05/01/2012 00:11
Date Quantitated: 05/02/2012 14:43
Batch ID: KWG1204502
Analysis Method: 8082A
MethodJoinID: MJ702

Sample Exceptions

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

Primary Review: 05/2/12

Secondary Review: 05/2/12

Quantitation Report

Data File #1:	J:\GC22\DATA\043012.B\0430F026.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F026.D			**Vial:**	2
Acqu Date:	05/01/2012 00:11	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204502-6				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	8082A PCB ULL	**Collect Date:**		**Receive Date:**	05/02/2012

Analysis Lot:	KWG1204502	**Prep Lot:**		**Report Group:**
Analysis Method:	8082A	**Prep Method:**		
Prep Ref:		**Prep Date:**		

Quant Method:	\\CASH1\ACQUDATA\GC22\DATA\043012.B\042812UL_F.M	**Calibration ID:**	CAL11473
Title:			
MB Ref:		**Method ID:**	MJ702
		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Respe #2	ng/mL #1	ng/mL #2			Rpt
Tetrachloro-m-xylene	0.00		0	0d		0.0000			NA
			%Recovery =		NA	NA	Limits =	21-114	
Decachlorobiphenyl	0.00		0	0		0.0000			NA
			%Recovery =		NA	NA	Limits =	36-113	

Target Compounds

Final Conc. Units: ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0d	0d	0.0000	0.0000			
Aroclor 1016 {2}			0d	0d	0.0000	0.0000			
Aroclor 1016 {3}			0d	0d	0.0000	0.0000			
Aroclor 1016 {4}			0d	0d	0.0000	0.0000			
Aroclor 1016 {5}			0d	0d	0.0000	0.0000			
Aroclor 1221			0	0	0.0000	0.0000			
Aroclor 1221 {1}			0	0d	0.0000	0.0000			
Aroclor 1221 {2}			0	0d	0.0000	0.0000			
Aroclor 1221 {3}			0	0d	0.0000	0.0000			
Aroclor 1221 {4}			0	0d	0.0000	0.0000			
Aroclor 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0	0d	0.0000	0.0000			
Aroclor 1232 {2}			0	0d	0.0000	0.0000			
Aroclor 1232 {3}			0	0d	0.0000	0.0000			
Aroclor 1232 {4}			0	0d	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			

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E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

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

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

Data File #1:	J:\GC22\DATA\043012.B\0430F026.D			**Instrument:**	GC22.i
Data File #2:	\\cash1\acqudata\GC22\data\043012_r.b\0430F026.D			**Vial:**	2
Acqu Date:	05/01/2012 00:11	**Quant Date:**	05/02/2012 14:43	**Dilution:**	1.0
Run Type:	IB			**Soln Conc. Units:**	ng/mL
Lab ID:	KWG1204502-6				
Signal #1:	DB-35MS	**Signal #2:**	DB-XLB		

Target Compounds **Final Conc. Units:** ug/L

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/L #1	ug/L #2	Rpt
Aroclor 1242 {1}			0d	0d	0.0000	0.0000			
Aroclor 1242 {2}			0d	0d	0.0000	0.0000			
Aroclor 1242 {3}			0d	0d	0.0000	0.0000			
Aroclor 1242 {4}			0d	0d	0.0000	0.0000			
Aroclor 1242 {5}			0d	0d	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0d	0.0000	0.0000			
Aroclor 1248 {2}			0d	0d	0.0000	0.0000			
Aroclor 1248 {3}			0d	0d	0.0000	0.0000			
Aroclor 1248 {4}			0d	0d	0.0000	0.0000			
Aroclor 1248 {5}			0d	0d	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0d	0d	0.0000	0.0000			
Aroclor 1254 {2}			0d	0d	0.0000	0.0000			
Aroclor 1254 {3}			0d	0d	0.0000	0.0000			
Aroclor 1254 {4}			0d	0d	0.0000	0.0000			
Aroclor 1254 {5}			0d	0d	0.0000	0.0000			
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0d	0.0000	0.0000			
Aroclor 1260 {2}			0d	0d	0.0000	0.0000			
Aroclor 1260 {3}			0d	0d	0.0000	0.0000			
Aroclor 1260 {4}			0d	0d	0.0000	0.0000			
Aroclor 1260 {5}			0d	0d	0.0000	0.0000			
Aroclor 1262			0	0	0.0000	0.0000			
Aroclor 1262 {1}			0d	0	0.0000	0.0000			
Aroclor 1262 {2}			0d	0	0.0000	0.0000			
Aroclor 1262 {3}			0d	0	0.0000	0.0000			
Aroclor 1262 {4}			0d	0	0.0000	0.0000			
Aroclor 1262 {5}			0d	0	0.0000	0.0000			
Aroclor 1268			0	0	0.0000	0.0000			
Aroclor 1268 {1}			0d	0	0.0000	0.0000			
Aroclor 1268 {2}			0d	0	0.0000	0.0000			
Aroclor 1268 {3}			0d	0	0.0000	0.0000			
Aroclor 1268 {4}			0d	0	0.0000	0.0000			
Aroclor 1268 {5}			0d	0	0.0000	0.0000			

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

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

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

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F026.D
Report Date: 02-May-2012 14:43

Laboratory Name

Sample #1 : \\cash1\acqudata\GC22\data\043012.b\0430F026.D
Sample #2 : \\cash1\acqudata\GC22\data\043012_r.b\0430F026.D
Inj Date : 01-MAY-2012 00:11
Sample Info: IB
Misc Info :
Cal Date : 01-MAY-2012 09:35
Operator : LHarris
Inst ID : GC22.i
Dil Factor : 1.000000

Method #1 : \\cash1\acqudata\GC22\data\043012.b\042812ul_f.m
Method #2 : \\cash1\acqudata\GC22\data\043012_r.b\042812ul_r.m
Sub List #1 : ALL.SUB
Sub List #2 : ALL.SUB
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

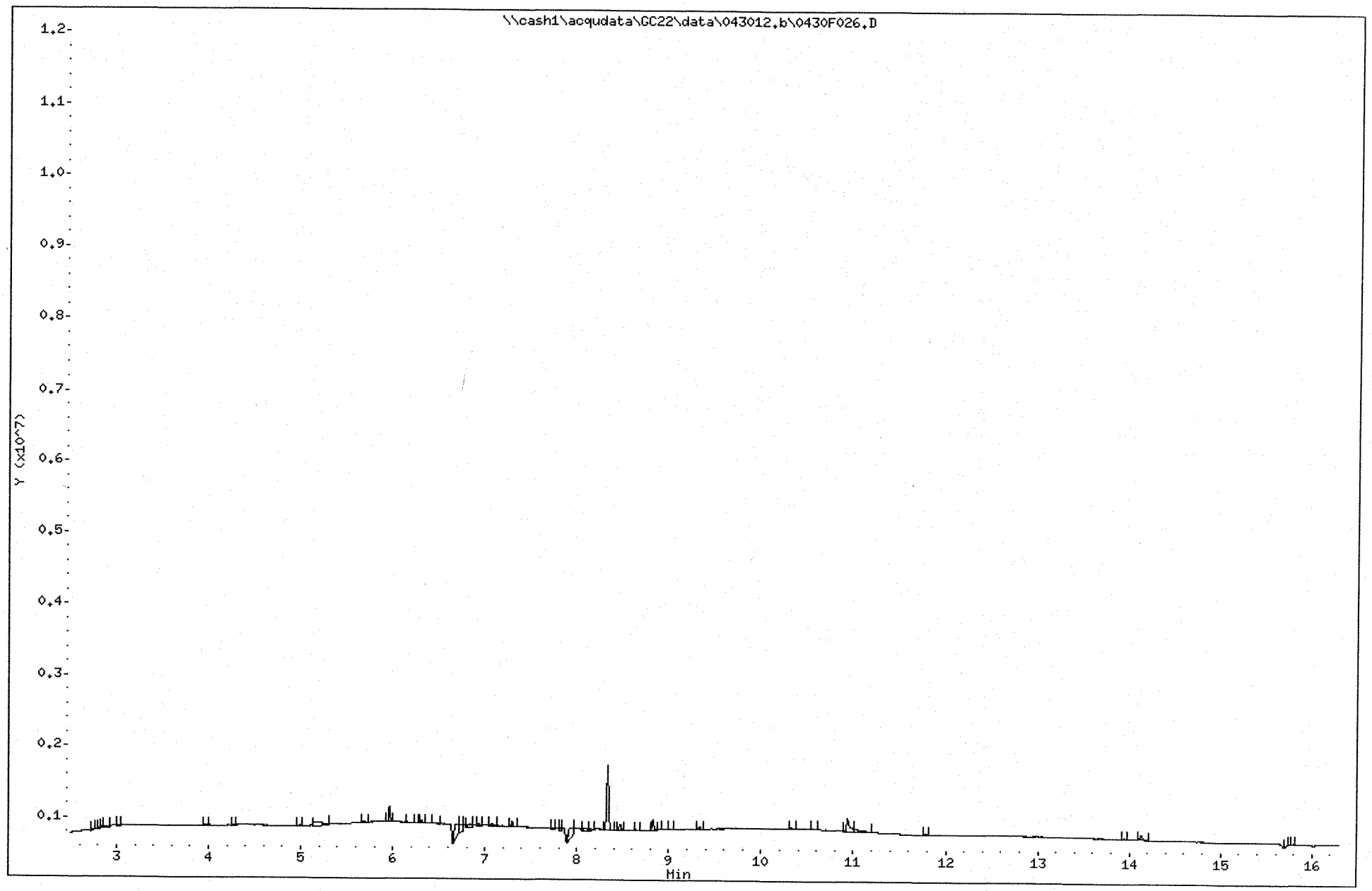
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio

Data File: \\cash1\acqudata\GC22\data\043012.b\0430F026.D
Date : 01-MAY-2012 00:11
Client ID:
Sample Info: IB

Instrument: GC22.i

Operator: LHarris
Column diameter: 0.32

Column phase: DB-35MS

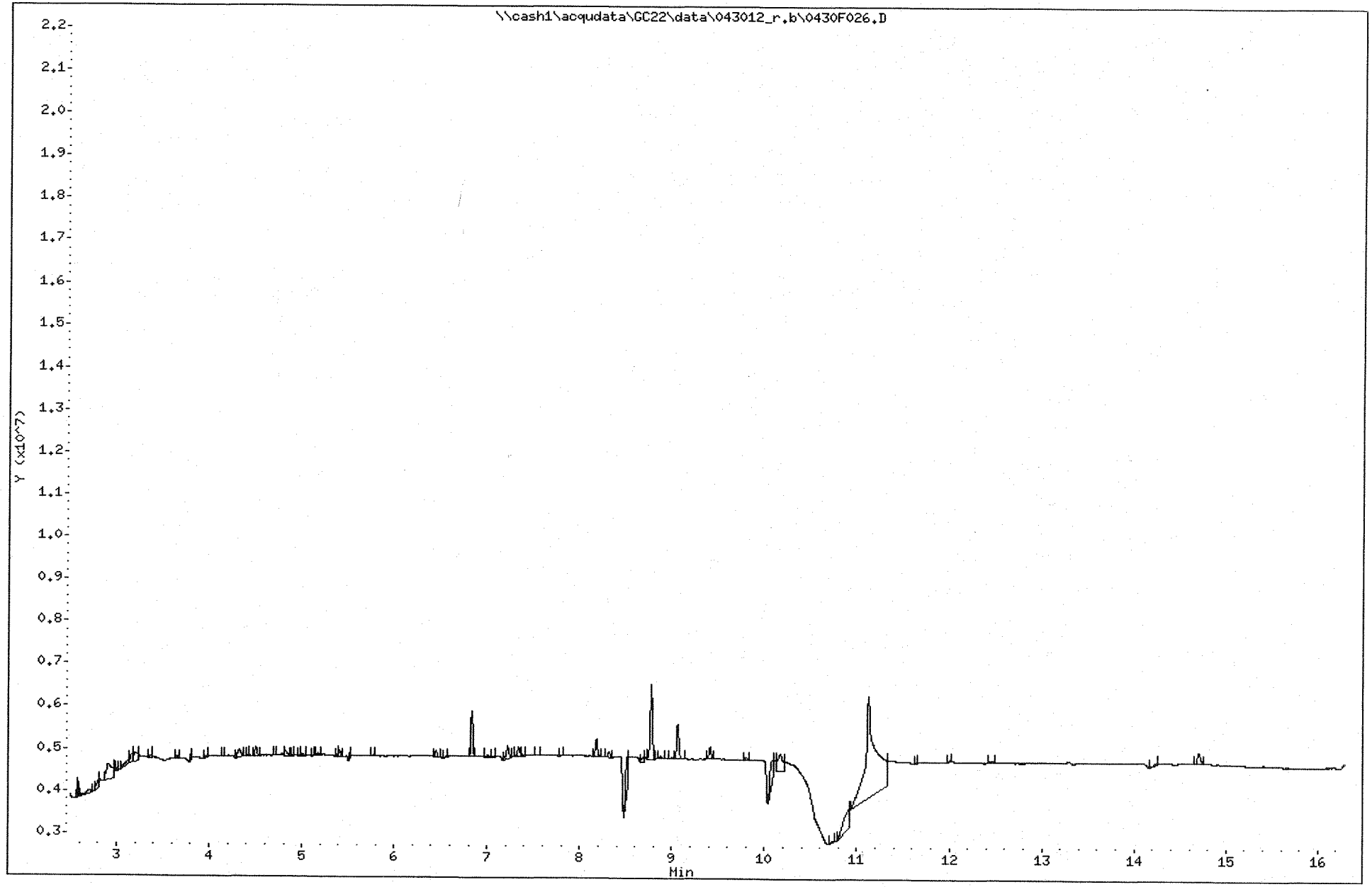


Data File: \\cash1\acqudata\GC22\data\043012_r.b\0430F026.D
Date : 01-MAY-2012 00:11
Client ID:
Sample Info: IB

Instrument: GC22.i

Operator: LHarris
Column diameter: 0.32

Column phase: DB-XLB



Polynuclear Aromatic Hydrocarbons

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Summary Package

Sample and QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695

Cover Page - Organic Analysis Data Package
Polynuclear Aromatic Hydrocarbons

Sample Name	Lab Code	Date Collected	Date Received
Outfall A	K1203695-001	04/19/2012	04/20/2012
Outfall B	K1203695-002	04/19/2012	04/20/2012

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

Signature: _____ Name: Carl Degner

Date: 5/1/12 Title: SVM Supervisor

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Collected: 04/19/2012
Date Received: 04/20/2012

Polynuclear Aromatic Hydrocarbons

Sample Name: Outfall A
Lab Code: K1203695-001

Units: ng/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**95**		3.3	0.71	1	04/25/12	04/28/12	KWG1204233	
2-Methylnaphthalene	**6.1**		3.3	0.40	1	04/25/12	04/28/12	KWG1204233	
Acenaphthylene	**2.7**	JX	3.3	0.37	1	04/25/12	04/28/12	KWG1204233	
Acenaphthene	**4.2**		3.3	0.36	1	04/25/12	04/28/12	KWG1204233	
Fluorene	**4.4**		3.3	0.42	1	04/25/12	04/28/12	KWG1204233	
Phenanthrene	**19**		3.3	0.72	1	04/25/12	04/28/12	KWG1204233	
Anthracene	**1.8**	JX	3.3	0.29	1	04/25/12	04/28/12	KWG1204233	
Fluoranthene	**7.5**		3.3	0.46	1	04/25/12	04/28/12	KWG1204233	
Pyrene	**7.9**		3.3	0.78	1	04/25/12	04/28/12	KWG1204233	
Benz(a)anthracene	**2.9**	JX	3.3	0.34	1	04/25/12	04/28/12	KWG1204233	
Chrysene	**2.3**	JX	3.3	0.65	1	04/25/12	04/28/12	KWG1204233	
Benzo(b)fluoranthene	**6.2**		3.3	0.25	1	04/25/12	04/28/12	KWG1204233	
Benzo(k)fluoranthene	**1.7**	J	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Benzo(a)pyrene	**2.9**	J	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Indeno(1,2,3-cd)pyrene	**5.1**		3.3	0.44	1	04/25/12	04/28/12	KWG1204233	
Dibenz(a,h)anthracene	**1.9**	J	3.3	0.45	1	04/25/12	04/28/12	KWG1204233	
Benzo(g,h,i)perylene	**5.7**		3.3	0.36	1	04/25/12	04/28/12	KWG1204233	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	75	29-98	04/28/12	Acceptable
Fluoranthene-d10	62	31-105	04/28/12	Acceptable
Terphenyl-d14	84	27-112	04/28/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/2012
Sample Matrix:	Water	**Date Received:**	04/20/2012

Polynuclear Aromatic Hydrocarbons

Sample Name:	Outfall B	**Units:**	ng/L
Lab Code:	K1203695-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**24**		3.3	0.71	1	04/25/12	04/28/12	KWG1204233	
2-Methylnaphthalene	**6.0**		3.3	0.40	1	04/25/12	04/28/12	KWG1204233	
Acenaphthylene	**3.0**	JX	3.3	0.37	1	04/25/12	04/28/12	KWG1204233	
Acenaphthene	**9.0**		3.3	0.36	1	04/25/12	04/28/12	KWG1204233	
Fluorene	**13**		3.3	0.42	1	04/25/12	04/28/12	KWG1204233	
Phenanthrene	**56**		3.3	0.72	1	04/25/12	04/28/12	KWG1204233	
Anthracene	**2.8**	JX	3.3	0.29	1	04/25/12	04/28/12	KWG1204233	
Fluoranthene	**29**		3.3	0.46	1	04/25/12	04/28/12	KWG1204233	
Pyrene	**25**		3.3	0.78	1	04/25/12	04/28/12	KWG1204233	
Benz(a)anthracene	**4.7**	X	3.3	0.34	1	04/25/12	04/28/12	KWG1204233	
Chrysene	**5.2**	X	3.3	0.65	1	04/25/12	04/28/12	KWG1204233	
Benzo(b)fluoranthene	**7.5**		3.3	0.25	1	04/25/12	04/28/12	KWG1204233	
Benzo(k)fluoranthene	**1.2**	J	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Benzo(a)pyrene	**3.0**	J	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Indeno(1,2,3-cd)pyrene	**4.2**		3.3	0.44	1	04/25/12	04/28/12	KWG1204233	
Dibenz(a,h)anthracene	**0.71**	J	3.3	0.45	1	04/25/12	04/28/12	KWG1204233	
Benzo(g,h,i)perylene	**4.2**		3.3	0.36	1	04/25/12	04/28/12	KWG1204233	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	74	29-98	04/28/12	Acceptable
Fluoranthene-d10	68	31-105	04/28/12	Acceptable
Terphenyl-d14	83	27-112	04/28/12	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Method Blank
Lab Code: KWG1204233-3

Units: ng/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.84**	J	3.3	0.71	1	04/25/12	04/28/12	KWG1204233	
2-Methylnaphthalene	**0.47**	J	3.3	0.40	1	04/25/12	04/28/12	KWG1204233	
Acenaphthylene	ND	U	3.3	0.37	1	04/25/12	04/28/12	KWG1204233	
Acenaphthene	ND	U	3.3	0.36	1	04/25/12	04/28/12	KWG1204233	
Fluorene	ND	U	3.3	0.42	1	04/25/12	04/28/12	KWG1204233	
Phenanthrene	**0.87**	J	3.3	0.72	1	04/25/12	04/28/12	KWG1204233	
Anthracene	ND	U	3.3	0.29	1	04/25/12	04/28/12	KWG1204233	
Fluoranthene	ND	U	3.3	0.46	1	04/25/12	04/28/12	KWG1204233	
Pyrene	ND	U	3.3	0.78	1	04/25/12	04/28/12	KWG1204233	
Benz(a)anthracene	ND	U	3.3	0.34	1	04/25/12	04/28/12	KWG1204233	
Chrysene	ND	U	3.3	0.65	1	04/25/12	04/28/12	KWG1204233	
Benzo(b)fluoranthene	ND	U	3.3	0.25	1	04/25/12	04/28/12	KWG1204233	
Benzo(k)fluoranthene	ND	U	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Benzo(a)pyrene	ND	U	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.44	1	04/25/12	04/28/12	KWG1204233	
Dibenz(a,h)anthracene	ND	U	3.3	0.45	1	04/25/12	04/28/12	KWG1204233	
Benzo(g,h,i)perylene	ND	U	3.3	0.36	1	04/25/12	04/28/12	KWG1204233	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	77	29-98	04/28/12	Acceptable
Fluoranthene-d10	75	31-105	04/28/12	Acceptable
Terphenyl-d14	87	27-112	04/28/12	Acceptable

Comments:

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
Outfall A	K1203695-001	75	62	84
Outfall B	K1203695-002	74	68	83
Method Blank	KWG1204233-3	77	75	87
Lab Control Sample	KWG1204233-1	78	76	83
Duplicate Lab Control Sample	KWG1204233-2	76	74	84

Surrogate Recovery Control Limits (%)

Sur1 =	Fluorene-d10	29-98
Sur2 =	Fluoranthene-d10	31-105
Sur3 =	Terphenyl-d14	27-112

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/28/2012
Time Analyzed: 08:49

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\042812\0428F004.D
Instrument ID: MS11
Analysis Method: 8270D SIM

Lab Code: KWG1204349-2
Analysis Lot: KWG1204349

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	RT	Area	RT	Area	RT
	Results ==>	86,697	4.87	53,210	6.29	105,029	7.52
	Upper Limit ==>	173,394	5.37	106,420	6.79	210,058	8.02
	Lower Limit ==>	43,349	4.37	26,605	5.79	52,515	7.02
	ICAL Result ==>	99,177	4.97	57,681	6.38	112,431	7.61
Associated Analyses							
Method Blank	KWG1204233-3	92,606	4.88	53,992	6.29	107,624	7.53
Lab Control Sample	KWG1204233-1	90,242	4.88	51,773	6.29	102,759	7.53
Duplicate Lab Control Sample	KWG1204233-2	89,609	4.88	51,894	6.29	104,443	7.53
Outfall A	K1203695-001	93,713	4.88	54,173	6.29	97,150	7.53
Outfall B	K1203695-002	167,311	4.88	95,490	6.29	183,295	7.53

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/28/2012
Time Analyzed: 08:49

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\042812\0428F004.D
Instrument ID: MS11
Analysis Method: 8270D SIM

Lab Code: KWG1204349-2
Analysis Lot: KWG1204349

		Chrysene-d12		Perylene-d12	
		Area	RT	Area	RT
	Results ==>	118,755	10.27	112,517	13.93
	Upper Limit ==>	237,510	10.77	225,034	14.43
	Lower Limit ==>	59,378	9.77	56,259	13.43
	ICAL Result ==>	137,721	10.40	139,188	14.10
Associated Analyses					
Method Blank	KWG1204233-3	114,503	10.28	102,233	13.96
Lab Control Sample	KWG1204233-1	115,020	10.27	106,844	13.94
Duplicate Lab Control Sample	KWG1204233-2	114,631	10.27	105,813	13.95
Outfall A	K1203695-001	82,420	10.27	83,005	13.97
Outfall B	K1203695-002	185,467	10.27	169,246	13.96

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Extracted: 04/25/2012
Date Analyzed: 04/28/2012

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG1204233

	Lab Control Sample KWG1204233-1 Lab Control Spike			Duplicate Lab Control Sample KWG1204233-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	372	500	74	369	500	74	39-110	1	30
2-Methylnaphthalene	376	500	75	371	500	74	39-115	1	30
Acenaphthylene	398	500	80	389	500	78	44-115	2	30
Acenaphthene	383	500	77	375	500	75	44-113	2	30
Fluorene	391	500	78	384	500	77	48-118	2	30
Phenanthrene	373	500	75	358	500	72	47-120	4	30
Anthracene	397	500	79	381	500	76	44-117	4	30
Fluoranthene	394	500	79	383	500	77	48-128	3	30
Pyrene	424	500	85	423	500	85	42-133	0	30
Benz(a)anthracene	427	500	85	421	500	84	48-125	2	30
Chrysene	434	500	87	436	500	87	50-128	1	30
Benzo(b)fluoranthene	460	500	92	460	500	92	49-131	0	30
Benzo(k)fluoranthene	489	500	98	489	500	98	54-131	0	30
Benzo(a)pyrene	468	500	94	461	500	92	43-134	2	30
Indeno(1,2,3-cd)pyrene	369	500	74	370	500	74	45-133	0	30
Dibenz(a,h)anthracene	466	500	93	468	500	94	49-133	0	30
Benzo(g,h,i)perylene	425	500	85	426	500	85	51-124	0	30

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

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

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/25/2012
Sample Matrix:	Water	**Date Analyzed:**	04/28/2012
		Time Analyzed:	09:48

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Instrument ID:**	MS11
Lab Code:	KWG1204233-3	**File ID:**	J:\MS11\DATA\042812\0428F006.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1204233

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1204233-1	J:\MS11\DATA\042812\0428F017.D	04/28/12	14:38
Duplicate Lab Control Sample	KWG1204233-2	J:\MS11\DATA\042812\0428F018.D	04/28/12	15:05
Outfall A	K1203695-001	J:\MS11\DATA\042812\0428F025.D	04/28/12	18:09
Outfall B	K1203695-002	J:\MS11\DATA\042812\0428F026.D	04/28/12	18:36

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/25/2012
Sample Matrix:	Water	**Date Analyzed:**	04/28/2012
		Time Analyzed:	14:38

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Instrument ID:**	MS11
Lab Code:	KWG1204233-1	**File ID:**	J:\MS11\DATA\042812\0428F017.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1204233

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1204233-3	J:\MS11\DATA\042812\0428F006.D	04/28/12	09:48
Outfall A	K1203695-001	J:\MS11\DATA\042812\0428F025.D	04/28/12	18:09
Outfall B	K1203695-002	J:\MS11\DATA\042812\0428F026.D	04/28/12	18:36

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/28/2012
Time Analyzed: 08:23

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\042812\0428F003.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1204349

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	33.7	53576	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	36.2	57568	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	42.7	67808	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	38.3	158976	PASS
199	198	5	9	7.0	11076	PASS
275	198	10	60	36.6	58176	PASS
365	442	1	50	2.0	8370	PASS
441	443	0	100	72.2	57032	PASS
442	442	100	100	100.0	415488	PASS
443	442	15	24	19.0	78944	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1204349-2	J:\MS11\DATA\042812\0428F004.D	04/28/2012	08:49	
Method Blank	KWG1204233-3	J:\MS11\DATA\042812\0428F006.D	04/28/2012	09:48	
Lab Control Sample	KWG1204233-1	J:\MS11\DATA\042812\0428F017.D	04/28/2012	14:38	
Duplicate Lab Control Sample	KWG1204233-2	J:\MS11\DATA\042812\0428F018.D	04/28/2012	15:05	
Outfall A	K1203695-001	J:\MS11\DATA\042812\0428F025.D	04/28/2012	18:09	
Outfall B	K1203695-002	J:\MS11\DATA\042812\0428F026.D	04/28/2012	18:36	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 02/27/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL11297
Instrument ID: MS11

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS11\DATA\022712\0227F004.D	G	J:\MS11\DATA\022712\0227F010.D
B	J:\MS11\DATA\022712\0227F005.D	H	J:\MS11\DATA\022712\0227F011.D
C	J:\MS11\DATA\022712\0227F006.D	I	J:\MS11\DATA\022712\0227F012.D
D	J:\MS11\DATA\022712\0227F007.D	J	J:\MS11\DATA\022712\0227F013.D
E	J:\MS11\DATA\022712\0227F008.D		
F	J:\MS11\DATA\022712\0227F009.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	4.0	1.20	B	8.0	1.21	C	20	1.15	D	100	1.05	E	200	1.09
	F	400	1.14	G	1000	1.05	H	1600	1.03	I	2000	0.976	J	2.0	1.32
2-Methylnaphthalene	A	4.0	0.811	B	8.0	0.825	C	20	0.777	D	100	0.724	E	200	0.768
	F	400	0.800	G	1000	0.758	H	1600	0.759	I	2000	0.728	J	2.0	0.955
Acenaphthylene	A	4.0	1.96	B	8.0	2.01	C	20	1.91	D	100	1.81	E	200	1.95
	F	400	2.09	G	1000	1.98	H	1600	1.95	I	2000	1.85	J	2.0	2.44
Acenaphthene	A	4.0	1.24	B	8.0	1.28	C	20	1.24	D	100	1.12	E	200	1.19
	F	400	1.24	G	1000	1.17	H	1600	1.16	I	2000	1.11	J	2.0	1.58
Fluorene	A	4.0	1.49	B	8.0	1.56	C	20	1.47	D	100	1.37	E	200	1.47
	F	400	1.56	G	1000	1.45	H	1600	1.45	I	2000	1.37	J	2.0	1.84
Phenanthrene	A	4.0	1.32	B	8.0	1.41	C	20	1.24	D	100	1.09	E	200	1.11
	F	400	1.19	G	1000	1.07	H	1600	1.06	I	2000	0.986	J	2.0	1.53
Anthracene	A	4.0	1.21	B	8.0	1.24	C	20	1.15	D	100	1.05	E	200	1.13
	F	400	1.17	G	1000	1.10	H	1600	1.11	I	2000	1.05	J	2.0	1.34
Fluoranthene	A	4.0	1.48	B	8.0	1.49	C	20	1.40	D	100	1.27	E	200	1.30
	F	400	1.38	G	1000	1.25	H	1600	1.26	I	2000	1.17	J	2.0	1.55
Pyrene	A	4.0	1.39	B	8.0	1.34	C	20	1.25	D	100	1.09	E	200	1.12
	F	400	1.20	G	1000	1.10	H	1600	1.05	I	2000	1.02	J	2.0	1.41
Benz(a)anthracene	A	4.0	1.23	B	8.0	1.18	C	20	1.08	D	100	1.02	E	200	1.09
	F	400	1.15	G	1000	1.10	H	1600	1.06	I	2000	1.05	J	2.0	1.40
Chrysene	A	4.0	1.18	B	8.0	1.13	C	20	1.08	D	100	1.02	E	200	1.05
	F	400	1.12	G	1000	1.05	H	1600	1.02	I	2000	0.995	J	2.0	1.24
Benzo(b)fluoranthene	A	4.0	1.19	B	8.0	1.14	C	20	1.14	D	100	1.06	E	200	1.14
	F	400	1.24	G	1000	1.18	H	1600	1.16	I	2000	1.14	J	2.0	1.25
Benzo(k)fluoranthene	A	4.0	1.12	B	8.0	1.11	C	20	1.08	D	100	1.04	E	200	1.11
	F	400	1.23	G	1000	1.16	H	1600	1.14	I	2000	1.10	J	2.0	1.14
Benzo(a)pyrene	A	4.0	0.925	B	8.0	0.901	C	20	0.881	D	100	0.888	E	200	0.990
	F	400	1.11	G	1000	1.09	H	1600	1.07	I	2000	1.06	J	2.0	0.918

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 02/27/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL11297
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Indeno(1,2,3-cd)pyrene	A	4.0	1.10	B	8.0	1.01	C	20	0.965	D	100	0.913	E	200	1.01
	F	400	1.11	G	1000	1.03	H	1600	1.02	I	2000	1.00	J	2.0	1.11
Dibenz(a,h)anthracene	A	4.0	1.19	B	8.0	1.05	C	20	0.981	D	100	0.928	E	200	0.999
	F	400	1.10	G	1000	1.04	H	1600	1.03	I	2000	1.02	J	2.0	1.05
Benzo(g,h,i)perylene	A	4.0	1.37	B	8.0	1.25	C	20	1.18	D	100	1.07	E	200	1.14
	F	400	1.25	G	1000	1.14	H	1600	1.11	I	2000	1.09	J	2.0	1.56
Fluorene-d10	A	4.0	1.19	B	8.0	1.20	C	20	1.14	D	100	1.07	E	200	1.13
	F	400	1.20	G	1000	1.15	H	1600	1.15	I	2000	1.10	J	2.0	1.43
Fluoranthene-d10	A	4.0	1.30	B	8.0	1.35	C	20	1.24	D	100	1.14	E	200	1.17
	F	400	1.27	G	1000	1.17	H	1600	1.19	I	2000	1.11	J	2.0	1.36
Terphenyl-d14	A	4.0	0.988	B	8.0	0.880	C	20	0.851	D	100	0.793	E	200	0.848
	F	400	0.918	G	1000	0.773	H	1600	0.741	I	2000	0.734			

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 02/27/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL11297
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	9.2		≤ 20	1.12		0.70
2-Methylnaphthalene	MS	AverageRF	% RSD	8.4		≤ 20	0.791		0.40
Acenaphthylene	MS	AverageRF	% RSD	8.8		≤ 20	1.99		0.90
Acenaphthene	MS	AverageRF	% RSD	10.9		≤ 20	1.23		0.90
Fluorene	MS	AverageRF	% RSD	9.0		≤ 20	1.50		0.90
Phenanthrene	MS	AverageRF	% RSD	14.4		≤ 20	1.20		0.70
Anthracene	MS	AverageRF	% RSD	7.7		≤ 20	1.15		0.70
Fluoranthene	MS	AverageRF	% RSD	9.1		≤ 20	1.36		0.60
Pyrene	MS	AverageRF	% RSD	12.1		≤ 20	1.20		0.60
Benz(a)anthracene	MS	AverageRF	% RSD	9.8		≤ 20	1.14		0.80
Chrysene	MS	AverageRF	% RSD	7.1		≤ 20	1.09		0.70
Benzo(b)fluoranthene	MS	AverageRF	% RSD	4.8		≤ 20	1.16		0.70
Benzo(k)fluoranthene	MS	AverageRF	% RSD	4.4		≤ 20	1.12		0.70
Benzo(a)pyrene	MS	AverageRF	% RSD	9.3		≤ 20	0.983		0.70
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	6.2		≤ 20	1.03		0.50
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	6.7		≤ 20	1.04		0.40
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	12.3		≤ 20	1.22		0.50
Fluorene-d10	SURR	AverageRF	% RSD	8.4		≤ 20	1.18		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	7.2		≤ 20	1.23		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	10.1		≤ 20	0.836		0.01

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

† SPCC Compound ‡ CCC Compound

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 02/27/2012
Date Analyzed: 02/27/2012

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration ID: CAL11297
Units: ng/ml

File ID: J:\MS11\DATA\022712\0227X017.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	400	1.12	1.13	1	NA	± 30 %	AverageRF
2-Methylnaphthalene	400	410	0.791	0.809	2	NA	± 30 %	AverageRF
Acenaphthylene	400	420	1.99	2.09	5	NA	± 30 %	AverageRF
Acenaphthene	400	400	1.23	1.23	0	NA	± 30 %	AverageRF
Fluorene	400	420	1.50	1.56	4	NA	± 30 %	AverageRF
Phenanthrene	400	400	1.20	1.19	-1	NA	± 30 %	AverageRF
Anthracene	400	410	1.15	1.18	2	NA	± 30 %	AverageRF
Fluoranthene	400	410	1.36	1.39	2	NA	± 30 %	AverageRF
Pyrene	400	400	1.20	1.18	-1	NA	± 30 %	AverageRF
Benz(a)anthracene	400	410	1.14	1.17	3	NA	± 30 %	AverageRF
Chrysene	400	410	1.09	1.12	3	NA	± 30 %	AverageRF
Benzo(b)fluoranthene	400	430	1.16	1.25	7	NA	± 30 %	AverageRF
Benzo(k)fluoranthene	400	440	1.12	1.23	10	NA	± 30 %	AverageRF
Benzo(a)pyrene	400	450	0.983	1.11	13	NA	± 30 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	430	1.03	1.11	8	NA	± 30 %	AverageRF
Dibenz(a,h)anthracene	400	430	1.04	1.11	7	NA	± 30 %	AverageRF
Benzo(g,h,i)perylene	400	410	1.22	1.25	2	NA	± 30 %	AverageRF

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

† SPCC Compound ‡ CCC Compound

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/28/2012

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration Date: 02/27/2012
Calibration ID: CAL11297
Analysis Lot: KWG1204349
Units: ng/ml

File ID: J:\MS11\DATA\042812\0428F004.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	360	0.70	1.12	0.999	-11	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.40	0.791	0.749	-5	NA	± 20 %	AverageRF
Acenaphthylene	400	380	0.90	1.99	1.89	-5	NA	± 20 %	AverageRF
Acenaphthene	400	360	0.90	1.23	1.11	-10	NA	± 20 %	AverageRF
Fluorene	400	370	0.90	1.50	1.37	-9	NA	± 20 %	AverageRF
Phenanthrene	400	340	0.70	1.20	1.03	-14	NA	± 20 %	AverageRF
Anthracene	400	360	0.70	1.15	1.05	-9	NA	± 20 %	AverageRF
Fluoranthene	400	360	0.60	1.36	1.23	-9	NA	± 20 %	AverageRF
Pyrene	400	380	0.60	1.20	1.14	-5	NA	± 20 %	AverageRF
Benz(a)anthracene	400	380	0.80	1.14	1.08	-5	NA	± 20 %	AverageRF
Chrysene	400	380	0.70	1.09	1.05	-4	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	410	0.70	1.16	1.20	4	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	420	0.70	1.12	1.17	4	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	440	0.70	0.983	1.07	9	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	360	0.50	1.03	0.919	-11	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	420	0.40	1.04	1.08	4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	360	0.50	1.22	1.10	-9	NA	± 20 %	AverageRF
Fluorene-d10	400	390	0.01	1.18	1.16	-1	NA	± 20 %	AverageRF
Fluoranthene-d10	400	360	0.01	1.23	1.11	-10	NA	± 20 %	AverageRF
Terphenyl-d14	400	360	0.01	0.836	0.758	-9	NA	± 20 %	AverageRF

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM

Analysis Lot: KWG1204349
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0428F003.D	GC/MS Tuning - Decafluorotriphenylpl	KWG1204349-1	4/28/2012	08:23		4/28/2012	08:43
0428F004.D	Continuing Calibration Verification	KWG1204349-2	4/28/2012	08:49		4/28/2012	09:08
0428F005.D	ZZZZZZ	ZZZZZZ	4/28/2012	09:22		4/28/2012	09:41
0428F006.D	Method Blank	KWG1204233-3	4/28/2012	09:48		4/28/2012	10:07
0428F007.D	ZZZZZZ	ZZZZZZ	4/28/2012	10:15		4/28/2012	10:34
0428F011.D	ZZZZZZ	ZZZZZZ	4/28/2012	12:00		4/28/2012	12:19
0428F012.D	ZZZZZZ	ZZZZZZ	4/28/2012	12:26		4/28/2012	12:45
0428F013.D	ZZZZZZ	ZZZZZZ	4/28/2012	12:53		4/28/2012	13:12
0428F014.D	ZZZZZZ	ZZZZZZ	4/28/2012	13:19		4/28/2012	13:38
0428F015.D	ZZZZZZ	ZZZZZZ	4/28/2012	13:46		4/28/2012	14:05
0428F016.D	ZZZZZZ	ZZZZZZ	4/28/2012	14:12		4/28/2012	14:31
0428F017.D	Lab Control Sample	KWG1204233-1	4/28/2012	14:38		4/28/2012	14:57
0428F018.D	Duplicate Lab Control Sample	KWG1204233-2	4/28/2012	15:05		4/28/2012	15:24
0428F019.D	ZZZZZZ	ZZZZZZ	4/28/2012	15:31		4/28/2012	15:50
0428F020.D	ZZZZZZ	ZZZZZZ	4/28/2012	15:58		4/28/2012	16:17
0428F021.D	ZZZZZZ	ZZZZZZ	4/28/2012	16:24		4/28/2012	16:43
0428F022.D	ZZZZZZ	ZZZZZZ	4/28/2012	16:50		4/28/2012	17:09
0428F023.D	ZZZZZZ	ZZZZZZ	4/28/2012	17:17		4/28/2012	17:36
0428F024.D	ZZZZZZ	ZZZZZZ	4/28/2012	17:43		4/28/2012	18:02
0428F025.D	Outfall A	K1203695-001	4/28/2012	18:09		4/28/2012	18:28
0428F026.D	Outfall B	K1203695-002	4/28/2012	18:36		4/28/2012	18:55
0428F027.D	ZZZZZZ	ZZZZZZ	4/28/2012	19:02		4/28/2012	19:21
0428F028.D	ZZZZZZ	ZZZZZZ	4/28/2012	19:28		4/28/2012	19:47

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Extracted: 04/25/2012

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Extraction Lot: KWG1204233
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
Outfall A	K1203695-001	04/19/12	04/20/12	1050ml	1ml	NA	
Outfall B	K1203695-002	04/19/12	04/20/12	1050ml	1ml	NA	
Method Blank	KWG1204233-3	NA	NA	1050ml	1ml	NA	
Lab Control Sample	KWG1204233-1	NA	NA	1000ml	1ml	NA	
Duplicate Lab Control Sample	KWG1204233-2	NA	NA	1000ml	1ml	NA	

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

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

QC Reports

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Level: Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
Outfall A	K1203695-001	75	62	84
Outfall B	K1203695-002	74	68	83
Method Blank	KWG1204233-3	77	75	87
Lab Control Sample	KWG1204233-1	78	76	83
Duplicate Lab Control Sample	KWG1204233-2	76	74	84

Surrogate Recovery Control Limits (%)

Sur1 =	Fluorene-d10	29-98
Sur2 =	Fluoranthene-d10	31-105
Sur3 =	Terphenyl-d14	27-112

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/28/2012
Time Analyzed: 08:49

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\042812\0428F004.D
Instrument ID: MS11
Analysis Method: 8270D SIM

Lab Code: KWG1204349-2
Analysis Lot: KWG1204349

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	RT	Area	RT	Area	RT
	Results ==>	86,697	4.87	53,210	6.29	105,029	7.52
	Upper Limit ==>	173,394	5.37	106,420	6.79	210,058	8.02
	Lower Limit ==>	43,349	4.37	26,605	5.79	52,515	7.02
	ICAL Result ==>	99,177	4.97	57,681	6.38	112,431	7.61
Associated Analyses							
Method Blank	KWG1204233-3	92,606	4.88	53,992	6.29	107,624	7.53
Lab Control Sample	KWG1204233-1	90,242	4.88	51,773	6.29	102,759	7.53
Duplicate Lab Control Sample	KWG1204233-2	89,609	4.88	51,894	6.29	104,443	7.53
Outfall A	K1203695-001	93,713	4.88	54,173	6.29	97,150	7.53
Outfall B	K1203695-002	167,311	4.88	95,490	6.29	183,295	7.53

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/28/2012
Time Analyzed: 08:49

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\042812\0428F004.D
Instrument ID: MS11
Analysis Method: 8270D SIM

Lab Code: KWG1204349-2
Analysis Lot: KWG1204349

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	118,755	10.27	112,517	13.93
	Upper Limit ==>	237,510	10.77	225,034	14.43
	Lower Limit ==>	59,378	9.77	56,259	13.43
	ICAL Result ==>	137,721	10.40	139,188	14.10
Associated Analyses					
Method Blank	KWG1204233-3	114,503	10.28	102,233	13.96
Lab Control Sample	KWG1204233-1	115,020	10.27	106,844	13.94
Duplicate Lab Control Sample	KWG1204233-2	114,631	10.27	105,813	13.95
Outfall A	K1203695-001	82,420	10.27	83,005	13.97
Outfall B	K1203695-002	185,467	10.27	169,246	13.96

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Extracted: 04/25/2012
Date Analyzed: 04/28/2012

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG1204233

	Lab Control Sample KWG1204233-1 Lab Control Spike			Duplicate Lab Control Sample KWG1204233-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Expected**	**%Rec**	**Result**	**Expected**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	372	500	74	369	500	74	39-110	1	30
2-Methylnaphthalene	376	500	75	371	500	74	39-115	1	30
Acenaphthylene	398	500	80	389	500	78	44-115	2	30
Acenaphthene	383	500	77	375	500	75	44-113	2	30
Fluorene	391	500	78	384	500	77	48-118	2	30
Phenanthrene	373	500	75	358	500	72	47-120	4	30
Anthracene	397	500	79	381	500	76	44-117	4	30
Fluoranthene	394	500	79	383	500	77	48-128	3	30
Pyrene	424	500	85	423	500	85	42-133	0	30
Benz(a)anthracene	427	500	85	421	500	84	48-125	2	30
Chrysene	434	500	87	436	500	87	50-128	1	30
Benzo(b)fluoranthene	460	500	92	460	500	92	49-131	0	30
Benzo(k)fluoranthene	489	500	98	489	500	98	54-131	0	30
Benzo(a)pyrene	468	500	94	461	500	92	43-134	2	30
Indeno(1,2,3-cd)pyrene	369	500	74	370	500	74	45-133	0	30
Dibenz(a,h)anthracene	466	500	93	468	500	94	49-133	0	30
Benzo(g,h,i)perylene	425	500	85	426	500	85	51-124	0	30

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

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

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/25/2012
Sample Matrix:	Water	**Date Analyzed:**	04/28/2012
		Time Analyzed:	09:48

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Instrument ID:**	MS11
Lab Code:	KWG1204233-3	**File ID:**	J:\MS11\DATA\042812\0428F006.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1204233

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1204233-1	J:\MS11\DATA\042812\0428F017.D	04/28/12	14:38
Duplicate Lab Control Sample	KWG1204233-2	J:\MS11\DATA\042812\0428F018.D	04/28/12	15:05
Outfall A	K1203695-001	J:\MS11\DATA\042812\0428F025.D	04/28/12	18:09
Outfall B	K1203695-002	J:\MS11\DATA\042812\0428F026.D	04/28/12	18:36

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Extracted:**	04/25/2012
Sample Matrix:	Water	**Date Analyzed:**	04/28/2012
		Time Analyzed:	14:38

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Instrument ID:**	MS11
Lab Code:	KWG1204233-1	**File ID:**	J:\MS11\DATA\042812\0428F017.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1204233

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1204233-3	J:\MS11\DATA\042812\0428F006.D	04/28/12	09:48
Outfall A	K1203695-001	J:\MS11\DATA\042812\0428F025.D	04/28/12	18:09
Outfall B	K1203695-002	J:\MS11\DATA\042812\0428F026.D	04/28/12	18:36

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Raw Data

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/2012
Sample Matrix:	Water	**Date Received:**	04/20/2012

Polynuclear Aromatic Hydrocarbons

Sample Name:	Outfall A	**Units:**	ng/L
Lab Code:	K1203695-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**95**		3.3	0.71	1	04/25/12	04/28/12	KWG1204233	
2-Methylnaphthalene	**6.1**		3.3	0.40	1	04/25/12	04/28/12	KWG1204233	
Acenaphthylene	**2.7**	JX	3.3	0.37	1	04/25/12	04/28/12	KWG1204233	
Acenaphthene	**4.2**		3.3	0.36	1	04/25/12	04/28/12	KWG1204233	
Fluorene	**4.4**		3.3	0.42	1	04/25/12	04/28/12	KWG1204233	
Phenanthrene	**19**		3.3	0.72	1	04/25/12	04/28/12	KWG1204233	
Anthracene	**1.8**	JX	3.3	0.29	1	04/25/12	04/28/12	KWG1204233	
Fluoranthene	**7.5**		3.3	0.46	1	04/25/12	04/28/12	KWG1204233	
Pyrene	**7.9**		3.3	0.78	1	04/25/12	04/28/12	KWG1204233	
Benz(a)anthracene	**2.9**	JX	3.3	0.34	1	04/25/12	04/28/12	KWG1204233	
Chrysene	**2.3**	JX	3.3	0.65	1	04/25/12	04/28/12	KWG1204233	
Benzo(b)fluoranthene	**6.2**		3.3	0.25	1	04/25/12	04/28/12	KWG1204233	
Benzo(k)fluoranthene	**1.7**	J	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Benzo(a)pyrene	**2.9**	J	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Indeno(1,2,3-cd)pyrene	**5.1**		3.3	0.44	1	04/25/12	04/28/12	KWG1204233	
Dibenz(a,h)anthracene	**1.9**	J	3.3	0.45	1	04/25/12	04/28/12	KWG1204233	
Benzo(g,h,i)perylene	**5.7**		3.3	0.36	1	04/25/12	04/28/12	KWG1204233	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	75	29-98	04/28/12	Acceptable
Fluoranthene-d10	62	31-105	04/28/12	Acceptable
Terphenyl-d14	84	27-112	04/28/12	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\042812\0428F025.D
Lab ID: K1203695-001
RunType: SMPL
Matrix: WATER

Date Acquired: 04/28/2012 18:09
Date Quantitated: 04/30/2012 05:33
Batch ID: KWG1204349
Analysis Method: 8270D SIM
ListJoinID: LJ12722

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: APR 3 0 2012

Secondary Review: MAY 0 1 2012

Printed: 04/30/2012 06:19:31
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS11\DATA\042812\0428F025.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 18:09	**Quant Date:**	04/30/2012 05:33	**Vial:**	21
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1203695-001			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8270D PAH SIM U	**Collect Date:**	04/19/2012	**Receive Date:**	04/20/2012

Analysis Lot:	KWG1204349	**Prep Lot:**	KWG1204233	**Report Group:**	K1203695
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	1120121	**Prep Date:**	04/25/2012		

Quant Method:	J:\MS11\METHODS\SIM\0227ALK.M	**Calibration ID:**	CAL11297
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ12722
Tune Ref:	J:\MS11\DATA\042812\0428F003.D	**Method ID:**	MJ1189
MB Ref:	J:\MS11\DATA\042812\0428F006.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.01	136	93713**m**	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	54173	200.00	OK
3	Phenanthrene-d10	7.53	0.01	188	97150**m**	200.00	OK
4	Chrysene-d12	10.27	0.00	240	82420	200.00	OK
5	Perylene-d12	13.97	0.04	264	83005	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.71	-0.01	0.00	176	239362	751.82	75	29-98	OK
3	Fluoranthene-d10	8.51	0.00	0.00	212	367328	615.45	62	31-105	OK
4	Terphenyl-d14	8.88	0.00	0.00	244	288812	838.14	84	27-112	OK

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.90	0.01	0.00	128	52275	99.43	95		
1	2-Methylnaphthalene	5.44		0.00	142	2383**m**	6.43	6.1		
2	Acenaphthylene	6.18	0.01	0.00	152	1557**m**	2.88	2.7	JX	
2	Acenaphthene	6.31		0.00	154	1479	4.43	4.2		
2	Fluorene	6.74		0.00	166	1866**m**	4.59	4.4		
3	Phenanthrene	7.54		0.00	178	11489**m**	19.70	19		
3	Anthracene	7.58		0.00	178	1081**m**	1.93	1.8	JX	
3	Fluoranthene	8.52		0.00	202	5181**m**	7.87	7.5		
4	Pyrene	8.73		0.00	202	4099**m**	8.32	7.9		
4	Benz(a)anthracene	10.26	0.01	0.00	228	1423	3.04	2.9	JX	
4	Chrysene	10.32	0.01	0.00	228	1106**m**	2.46	2.3	JX	
5	Benzo(b)fluoranthene	12.73	0.04	0.00	252	3142**m**	6.52	6.2		

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

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

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

Data File:	J:\MS11\DATA\042812\0428F025.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 18:09	**Quant Date:**	04/30/2012 05:33	**Vial:**	21
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1203695-001			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.81	0.04	0.00	252	810**m**	1.74	1.7	J	
5	Benzo(a)pyrene	13.79	0.06	0.00	252	1236	3.03	2.9	J	
5	Indeno(1,2,3-cd)pyrene	17.13	0.04	0.00	276	2268	5.32	5.1		
5	Dibenz(a,h)anthracene	17.17	0.04	0.00	278	843**m**	1.96	1.9	J	
5	Benzo(g,h,i)perylene	17.56	0.04	0.00	276	3006	5.95	5.7		

Prep Amount:	1050 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F025.D Vial: 21
Acq On : 28 Apr 2012 6:09 pm Operator: LWeiskopf
Sample : K1203695-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 30 04:50:54 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	93713m	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.29	164	54173	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	97150m	200.00	ng/ml	-0.01
37) Chrysene-d12	10.27	240	82420	200.00	ng/ml	0.00
50) Perylene-d12	13.97	264	83005	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.71	176	239362	751.82	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 75.18%			
20) 2,4,6 Tribromophenol	6.95	330	85029	1197.96	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 119.80%			
36) Fluoranthene-d10	8.51	212	367328	615.45	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 61.55%			
43) Terphenyl-d14	8.88	244	288812	838.14	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 83.81%			
Target Compounds						Qvalue
2) Naphthalene	4.90	128	52275	99.43	ng/ml	98
3) 2-Methylnaphthalene	5.44	142	2383m	6.43	ng/ml	
4) 1-Methylnaphthalene	5.52	142	3031	9.29	ng/ml	98
5) Biphenyl	5.82	154	1601m	3.63	ng/ml	
6) 2,6-Dimethylnaphthalene	5.95	156	736	2.31	ng/ml	89
11) Acenaphthylene	6.18	152	1557m	2.88	ng/ml	
12) Acenaphthene	6.31	154	1479	4.43	ng/ml	87
13) Dibenzofuran	6.46	168	2673	5.32	ng/ml	50
16) Fluorene	6.74	166	1866m	4.59	ng/ml	
21) Pentachlorophenol	7.41	266	1115m	73.97	ng/ml	
23) Dibenzothiophene	7.44	184	1344m	2.53	ng/ml	
27) Phenanthrene	7.54	178	11489m	19.70	ng/ml	
28) Anthracene	7.58	178	1081m	1.93	ng/ml	
29) Carbazole	7.73	167	3125	6.17	ng/ml	96
30) 1-Methylphenanthrene	8.04	192	541	1.25	ng/ml	98
35) Fluoranthene	8.52	202	5181m	7.87	ng/ml	
38) Pyrene	8.73	202	4099m	8.32	ng/ml	
44) Benz(a)anthracene	10.26	228	1423	3.04	ng/ml	89
45) Chrysene	10.32	228	1106m	2.46	ng/ml	
51) Benzo(b)fluoranthene	12.73	252	3142m	6.52	ng/ml	
52) Benzo(k)fluoranthene	12.81	252	810m	1.74	ng/ml	
53) Benzo(e)pyrene	13.60	252	1589m	3.71	ng/ml	
54) Benzo(a)pyrene	13.79	252	1236	3.03	ng/ml	93
56) Indeno(1,2,3-cd)pyrene	17.13	276	2268	5.32	ng/ml	98
57) Dibenz(a,h)anthracene	17.17	278	843m	1.96	ng/ml	

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F025.D Vial: 21
Acq On : 28 Apr 2012 6:09 pm Operator: LWeiskopf
Sample : K1203695-001 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 30 04:50:54 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) Benzo(g,h,i)perylene	17.56	276	3006	5.95	ng/ml	99

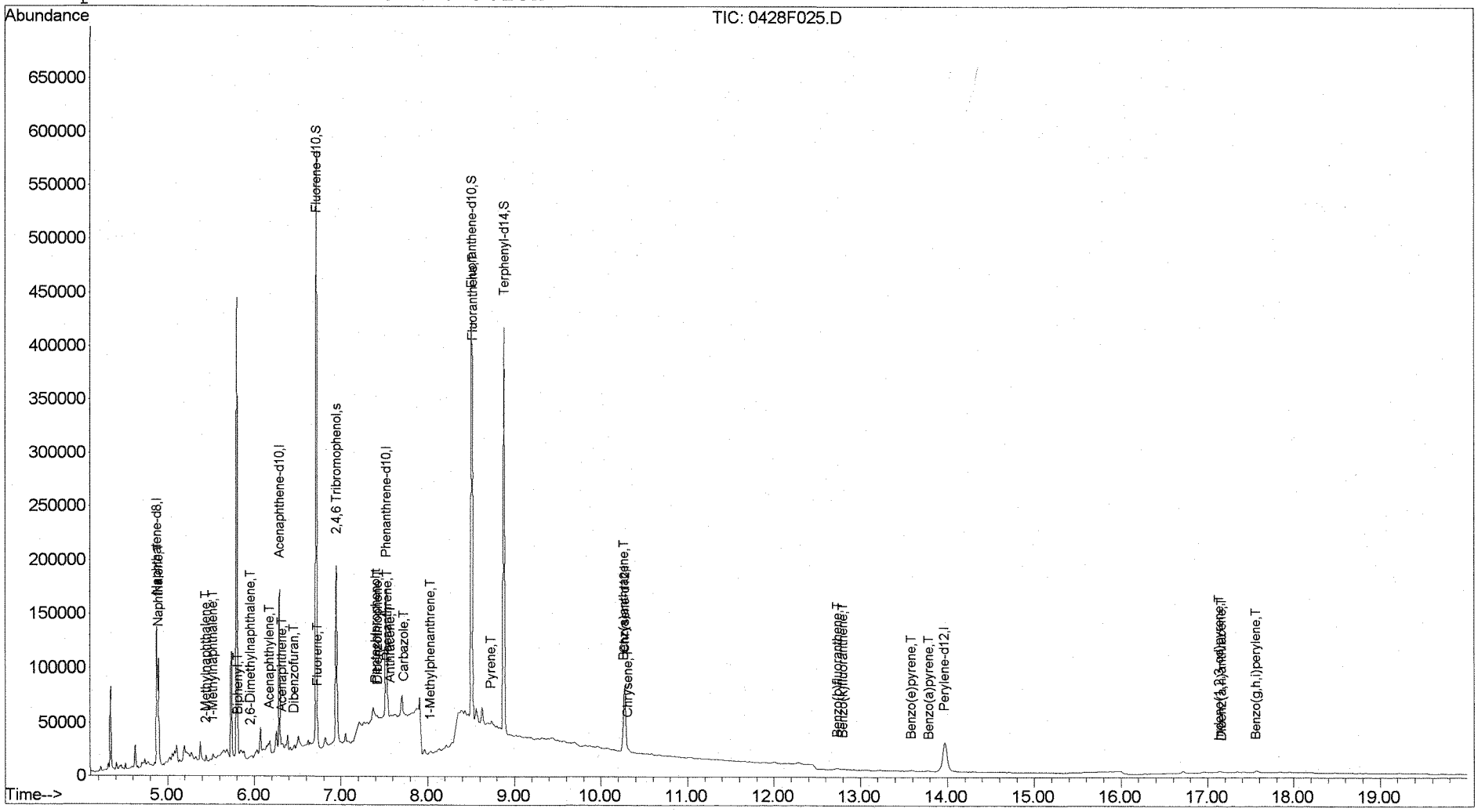
(#) = qualifier out of range (m) = manual integration

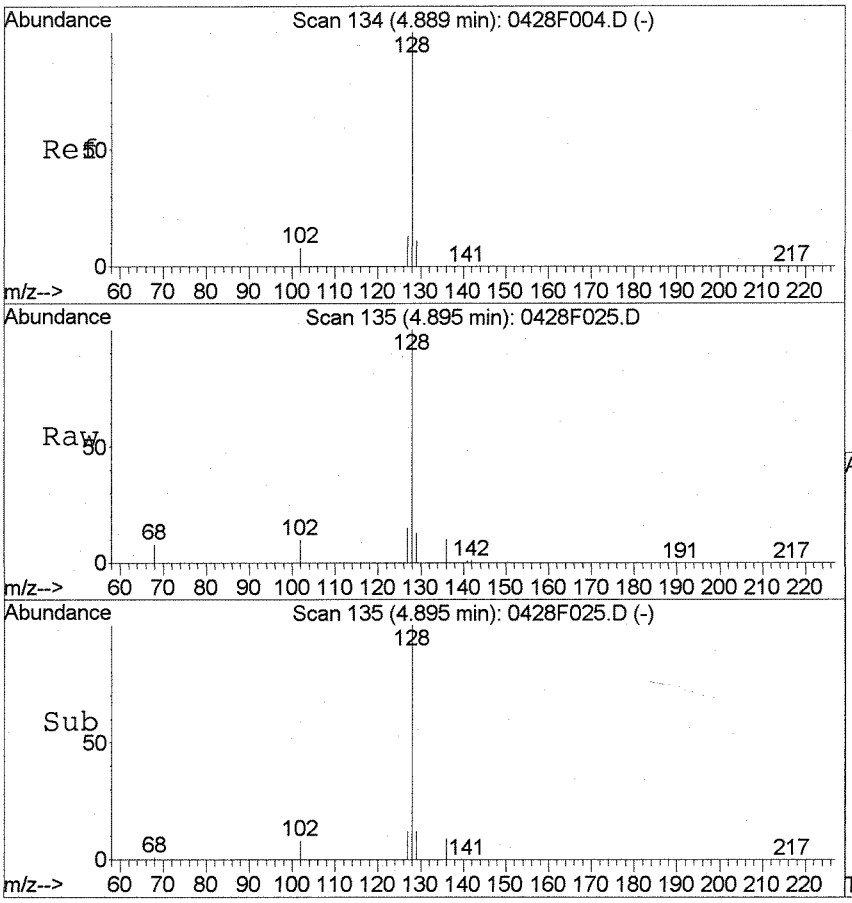
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:33 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration

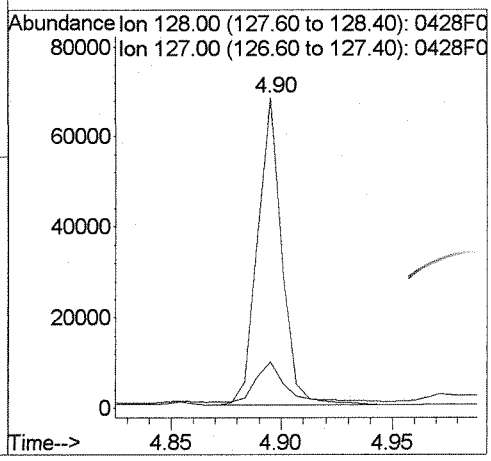


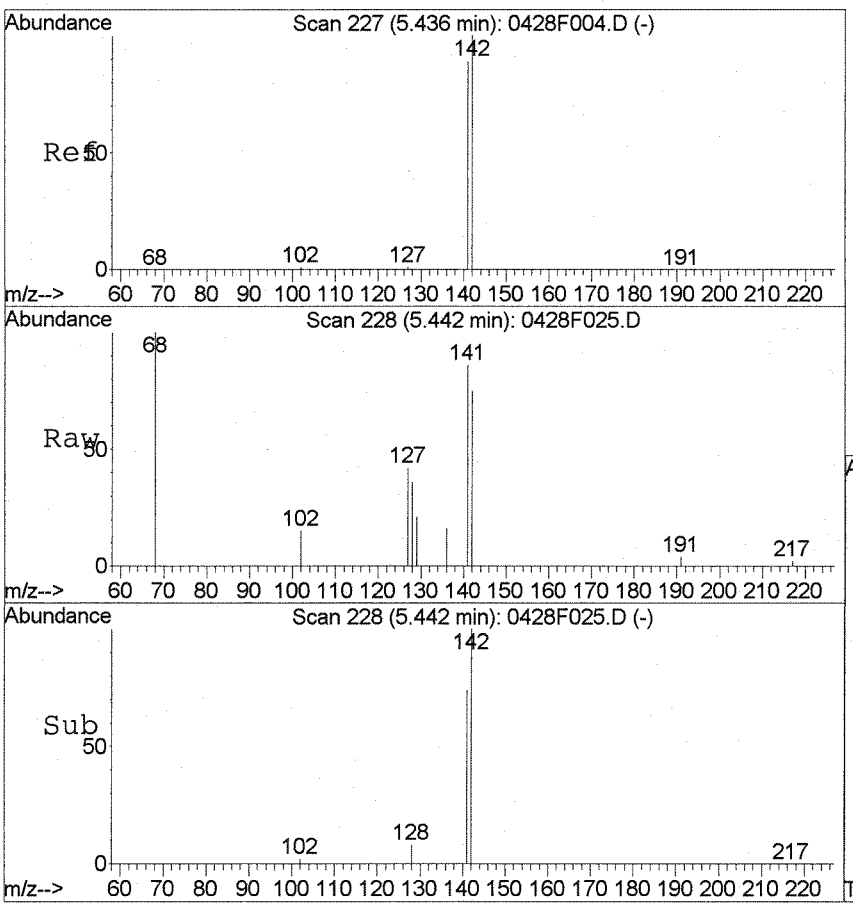


#2
Naphthalene
Concen: 99.43 ng/ml
RT: 4.90 min Scan# 135
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:128 Resp: 52275

Ion	Ratio	Lower	Upper
128	100		
127	13.2	0.0	42.3

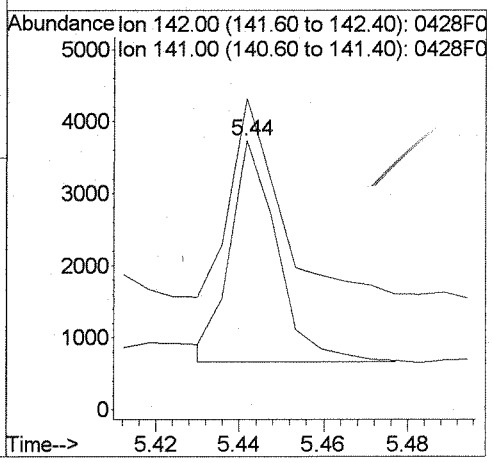


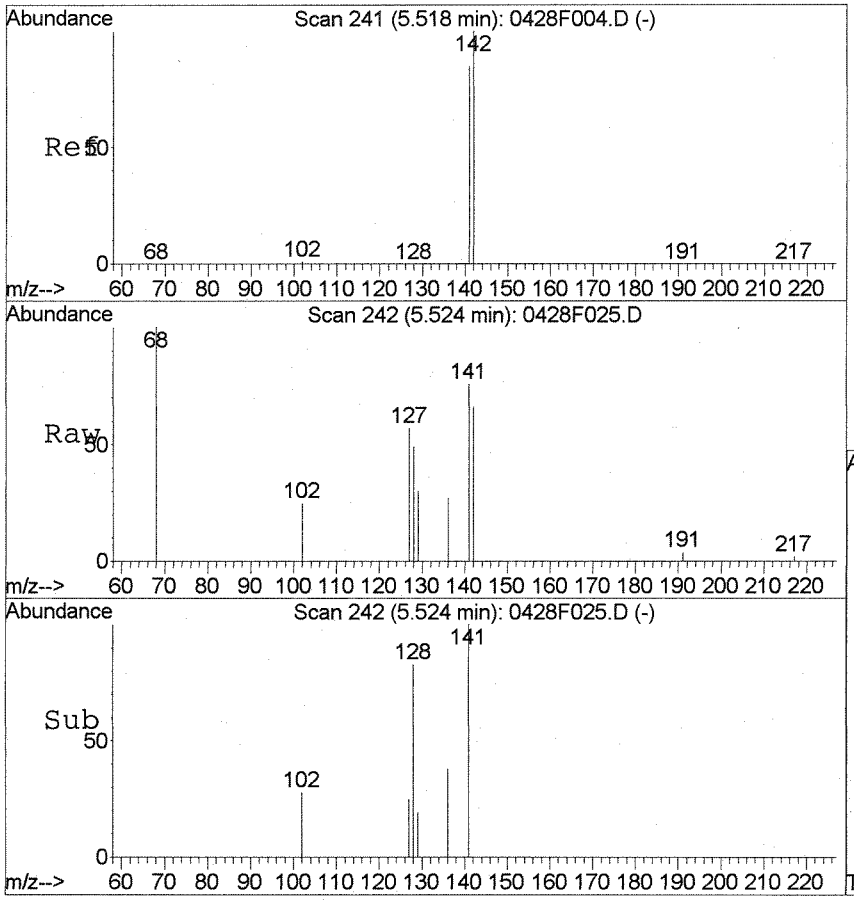


#3
2-Methylnaphthalene
Concen: 6.43 ng/ml m
RT: 5.44 min Scan# 228
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:142 Resp: 2383

Ion	Ratio	Lower	Upper
142	100		
141	115.6	60.1	120.1

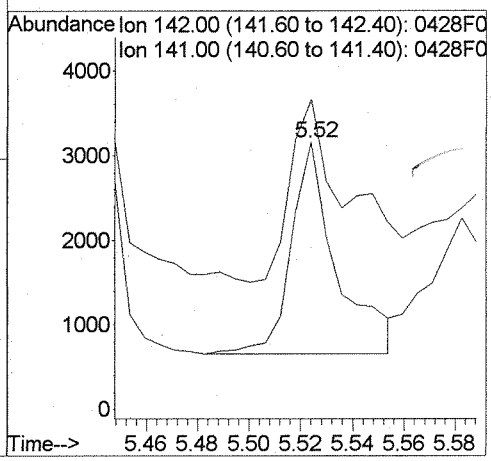


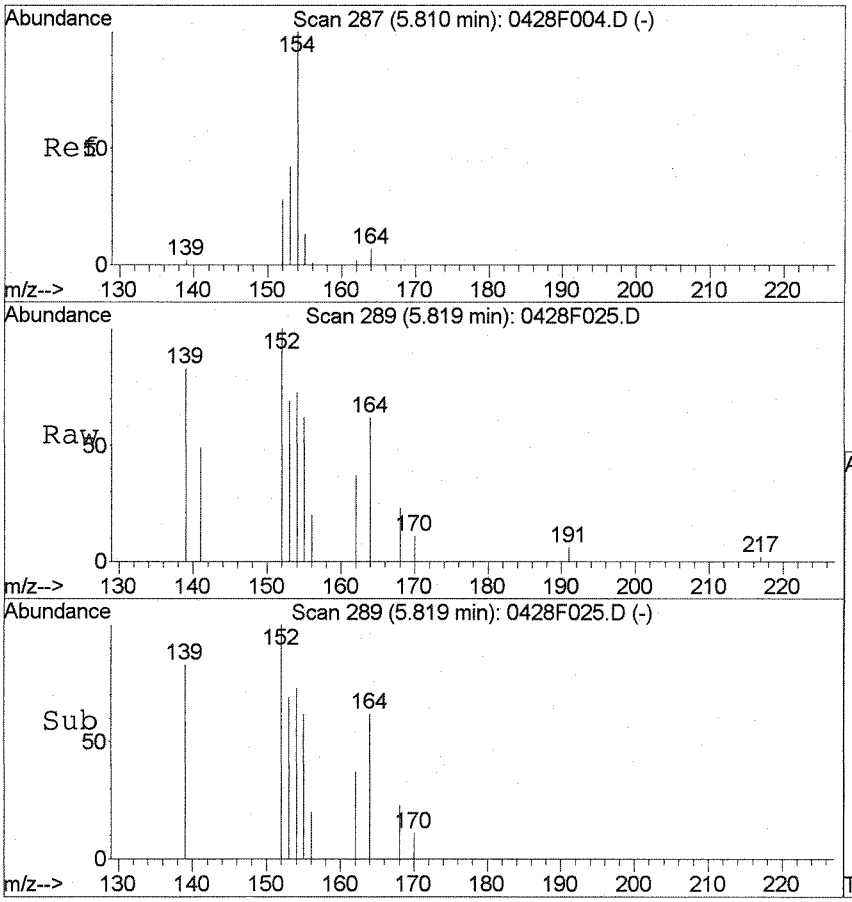


#4
1-Methylnaphthalene
Concen: 9.29 ng/ml
RT: 5.52 min Scan# 242
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:142 Resp: 3031

Ion	Ratio	Lower	Upper
142	100		
141	82.5	54.5	114.5

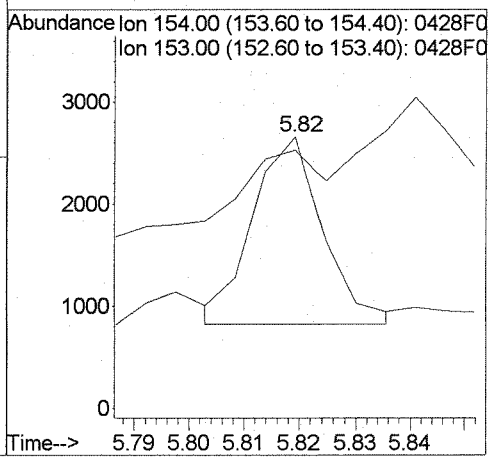


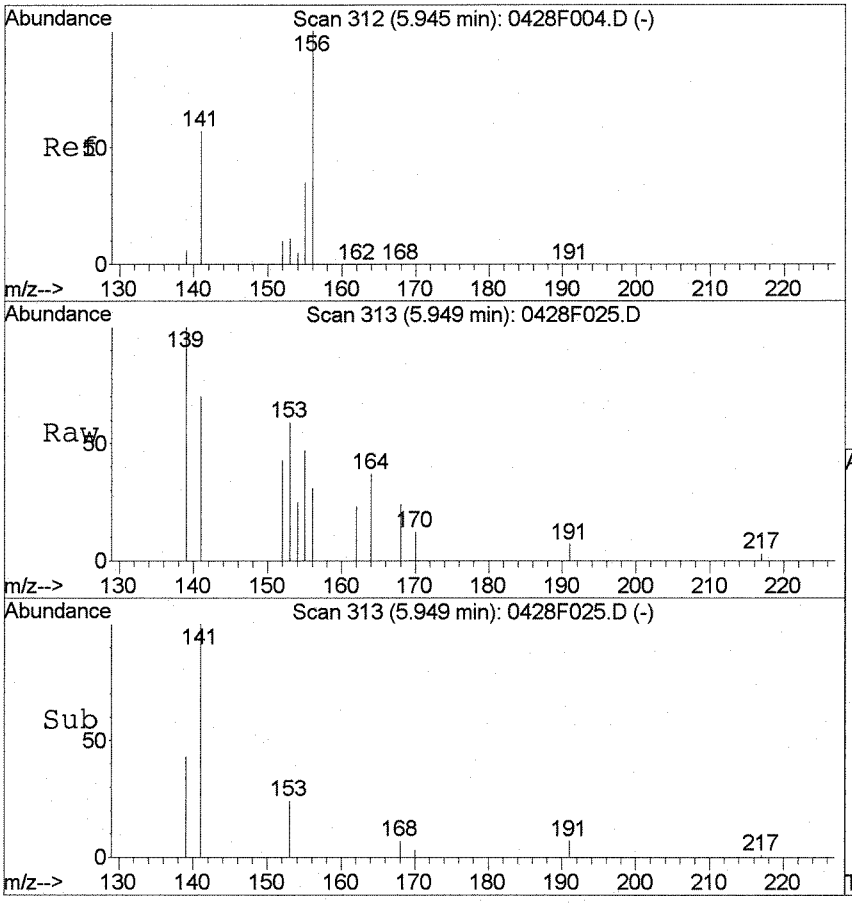


#5
Biphenyl
Concen: 3.63 ng/ml m
RT: 5.82 min Scan# 289
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:154 Resp: 1601

Ion	Ratio	Lower	Upper
154	100		
153	95.1	9.8	69.8#

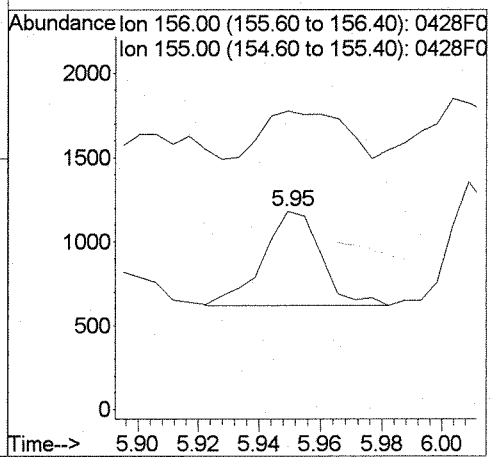


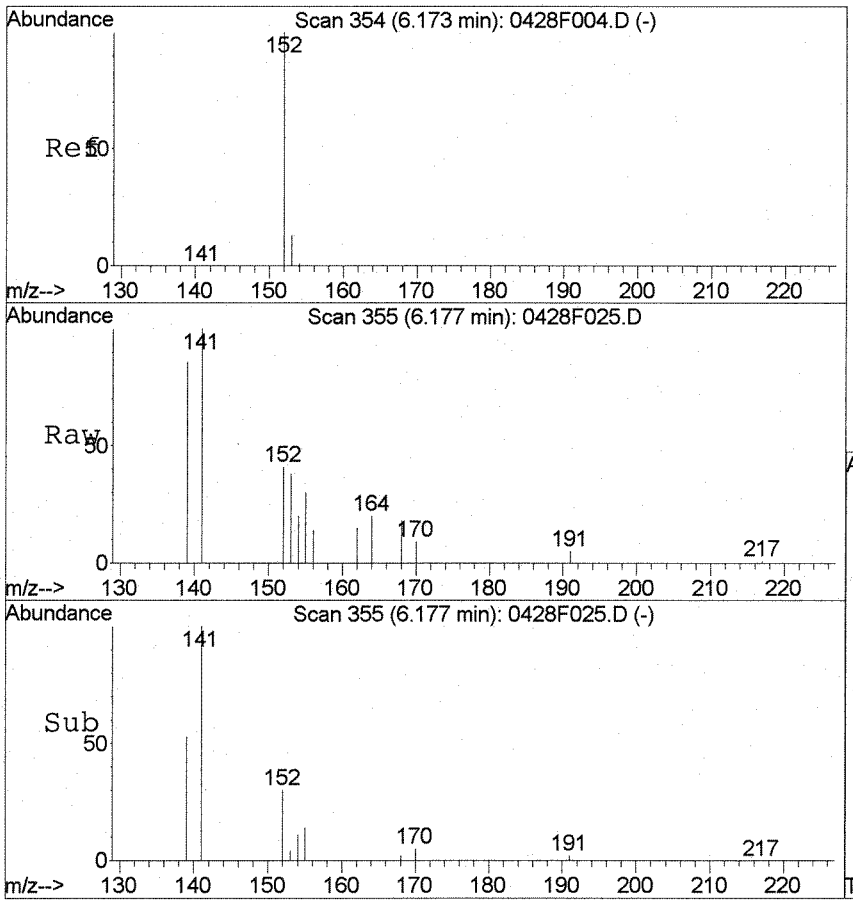


#6
2,6-Dimethylnaphthalene
Concen: 2.31 ng/ml
RT: 5.95 min Scan# 313
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:156 Resp: 736

Ion	Ratio	Lower	Upper
156	100		
155	41.2	5.0	65.0

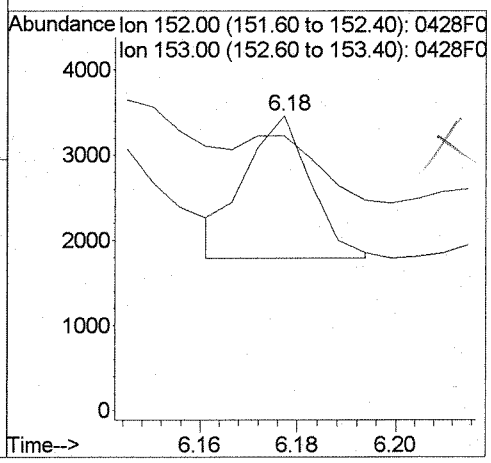


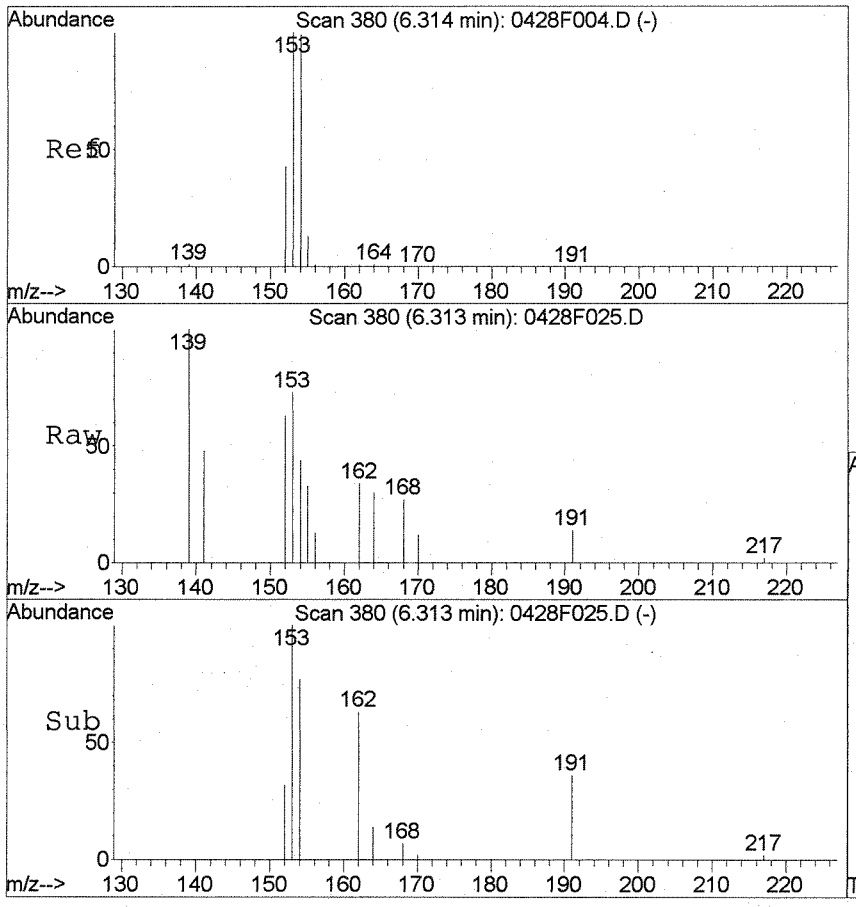


#11
Acenaphthylene
Concen: 2.88 ng/ml m
RT: 6.18 min Scan# 355
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:152 Resp: 1557

Ion	Ratio	Lower	Upper
152	100		
153	93.2	0.0	43.1#

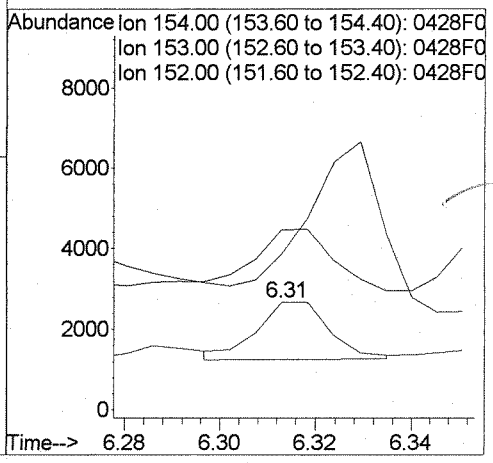


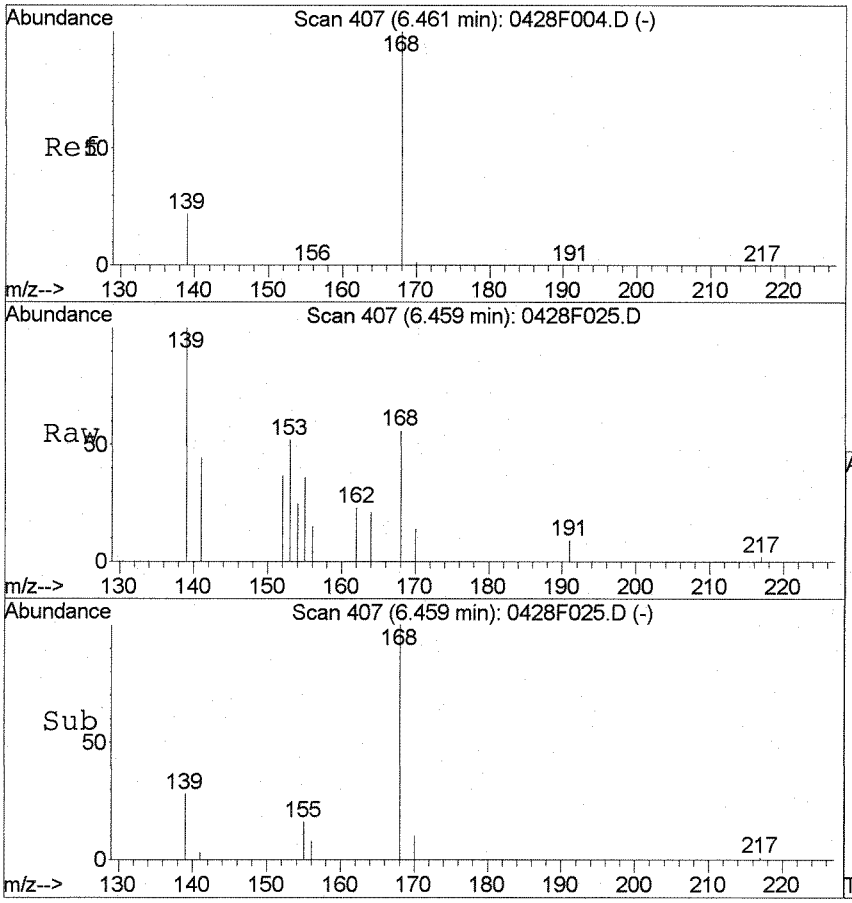


#12
Acenaphthene
Concen: 4.43 ng/ml
RT: 6.31 min Scan# 380
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:154 Resp: 1479

Ion	Ratio	Lower	Upper
154	100		
153	115.9	72.3	132.3
152	54.0	15.7	75.7

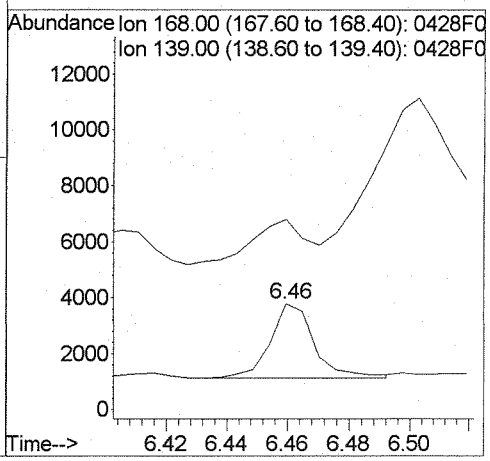


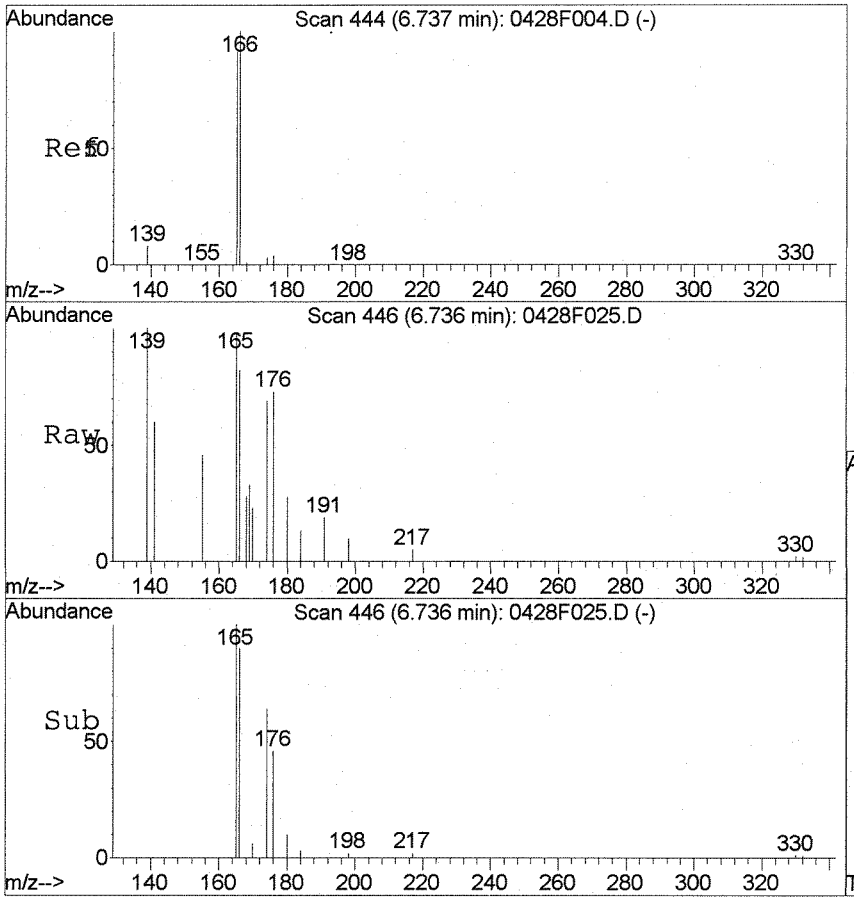


#13
Dibenzofuran
Concen: 5.32 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:168 Resp: 2673

Ion	Ratio	Lower	Upper
168	100		
139	56.4	0.0	59.6

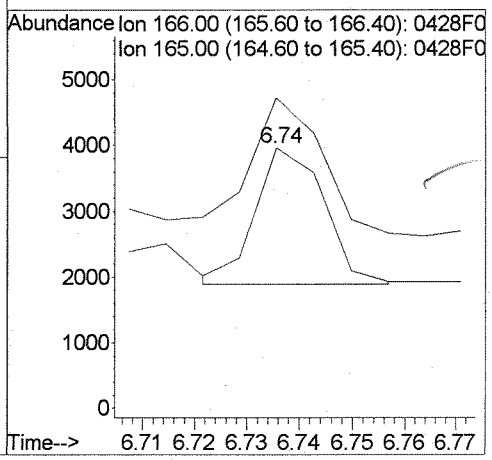


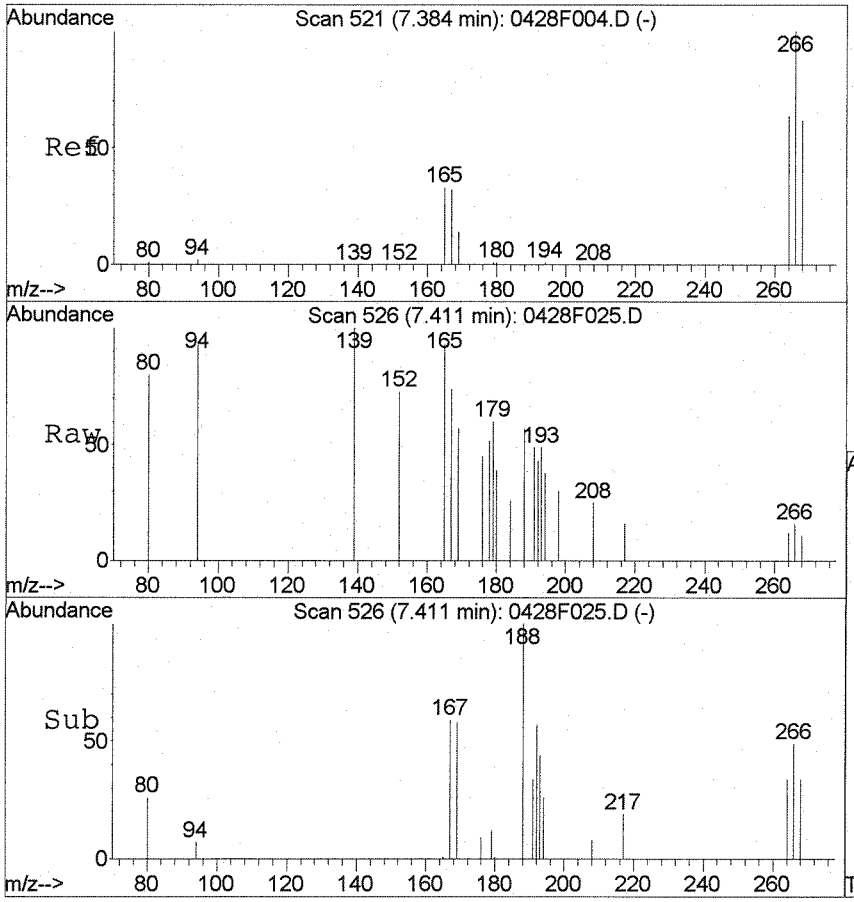


#16
Fluorene
Concen: 4.59 ng/ml m
RT: 6.74 min Scan# 446
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:166 Resp: 1866

Ion	Ratio	Lower	Upper
166	100		
165	119.3	65.3	125.3

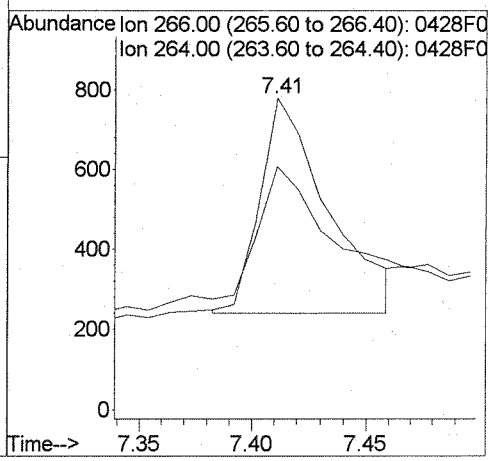


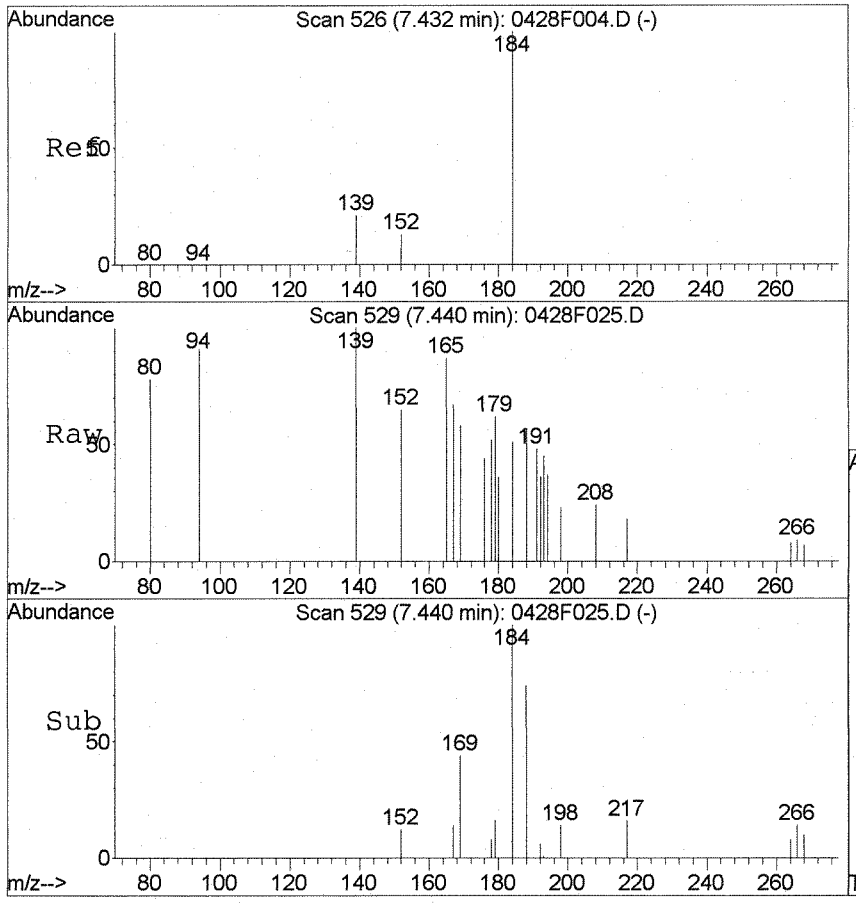


#21
Pentachlorophenol
Concen: 73.97 ng/ml m
RT: 7.41 min Scan# 526
Delta R.T. 0.02 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:266 Resp: 1115

Ion	Ratio	Lower	Upper
266	100		
264	77.9	46.5	86.5

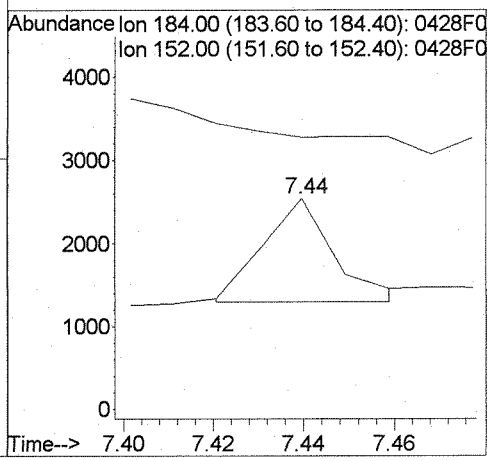


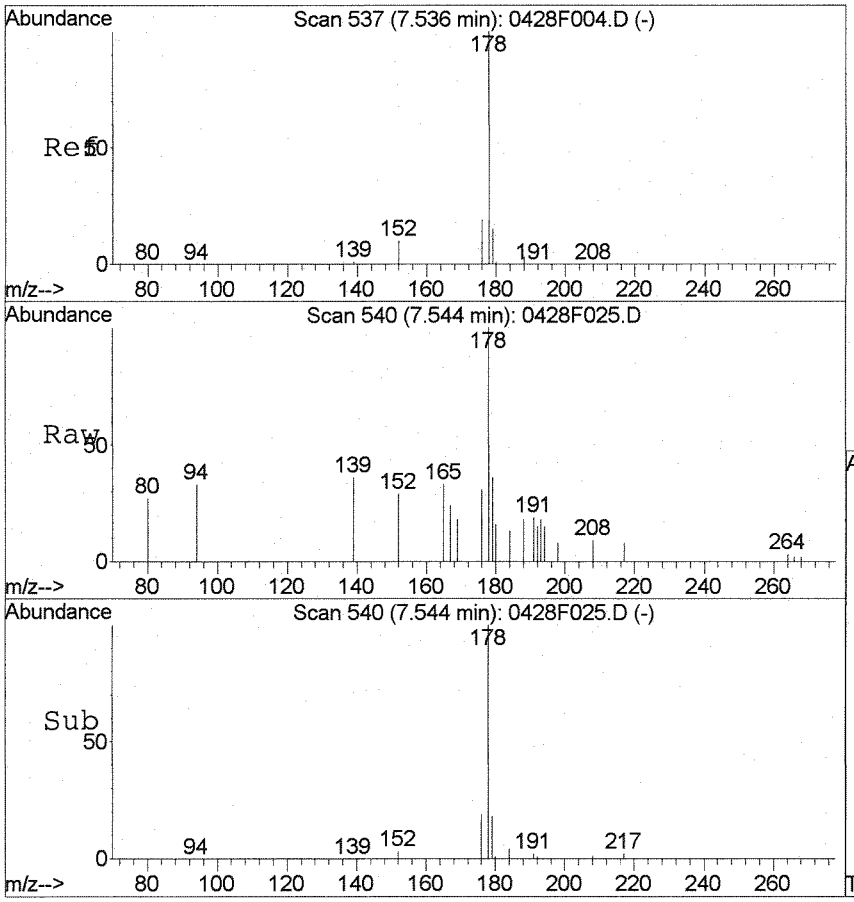


#23
Dibenzothiophene
Concen: 2.53 ng/ml m
RT: 7.44 min Scan# 529
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:184 Resp: 1344

Ion	Ratio	Lower	Upper
184	100		
152	128.7	0.0	36.1#

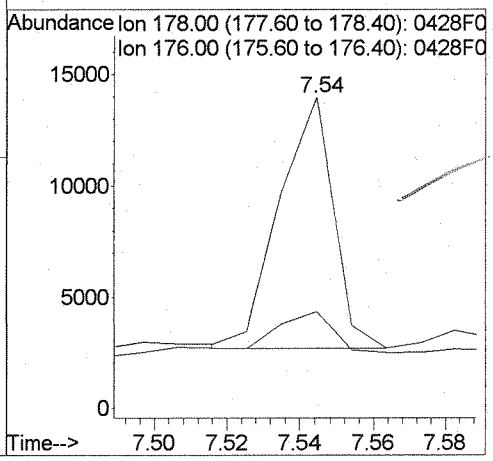


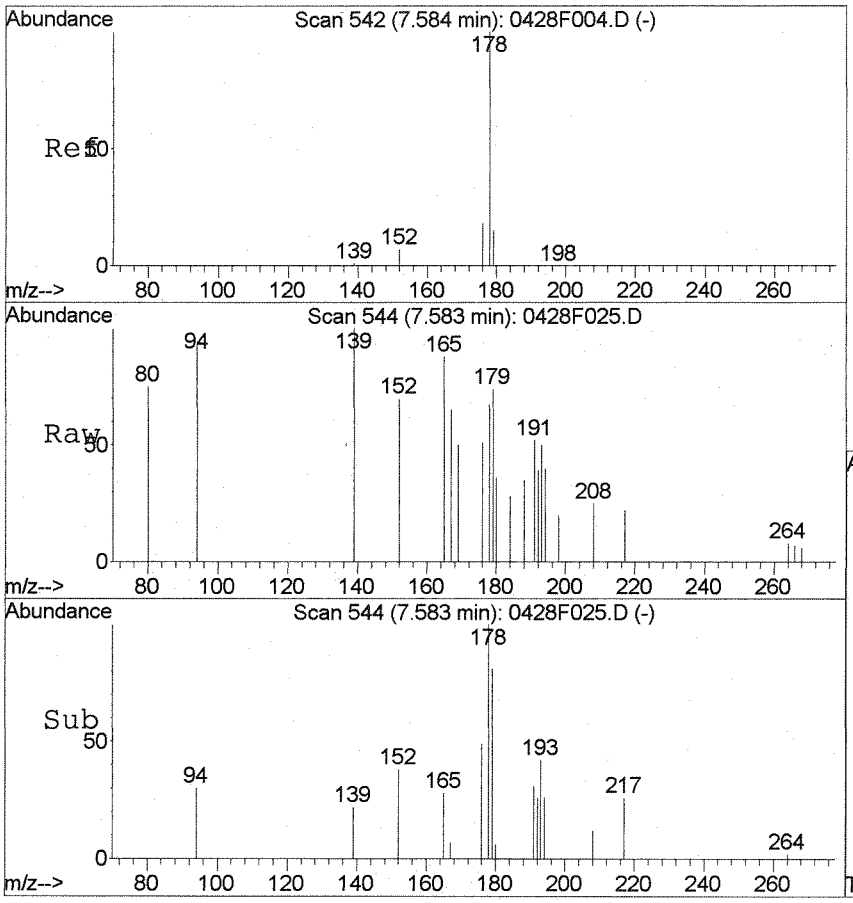


#27
Phenanthrene
Concen: 19.70 ng/ml m
RT: 7.54 min Scan# 540
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:178 Resp: 11489

Ion	Ratio	Lower	Upper
178	100		
176	31.1	0.0	48.3

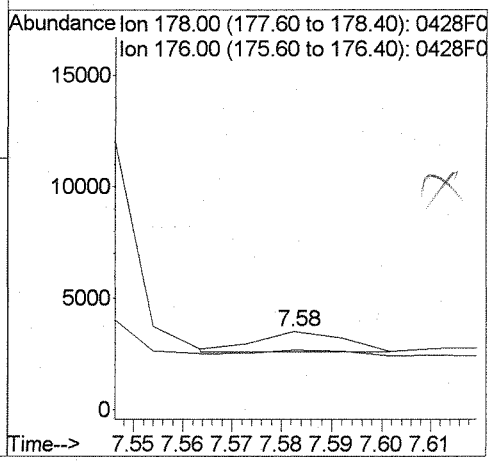


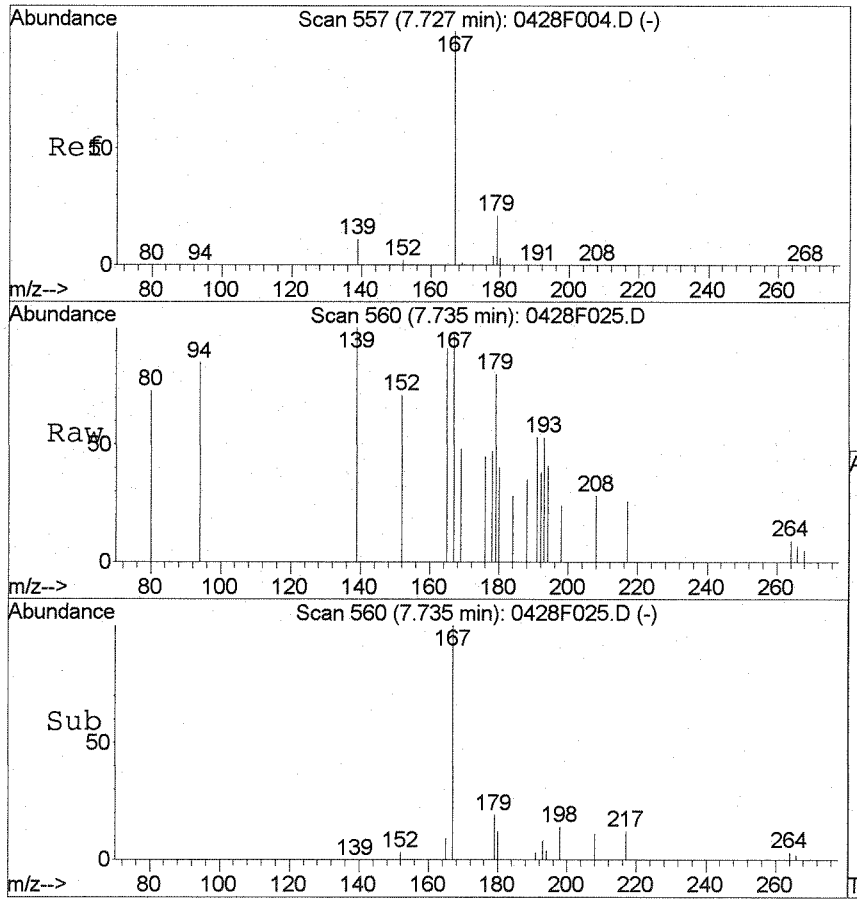


#28
Anthracene
Concen: 1.93 ng/ml m
RT: 7.58 min Scan# 544
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:178 Resp: 1081

Ion	Ratio	Lower	Upper
178	100		
176	76.1	0.0	48.1#

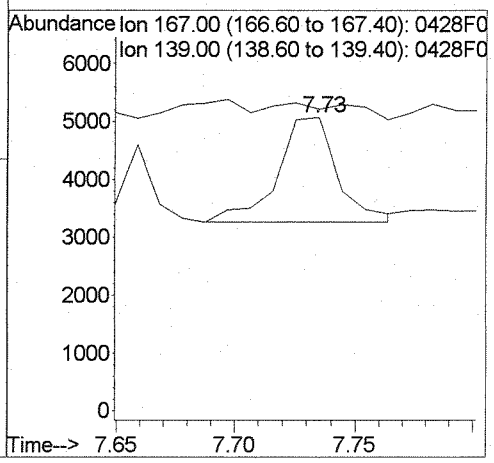


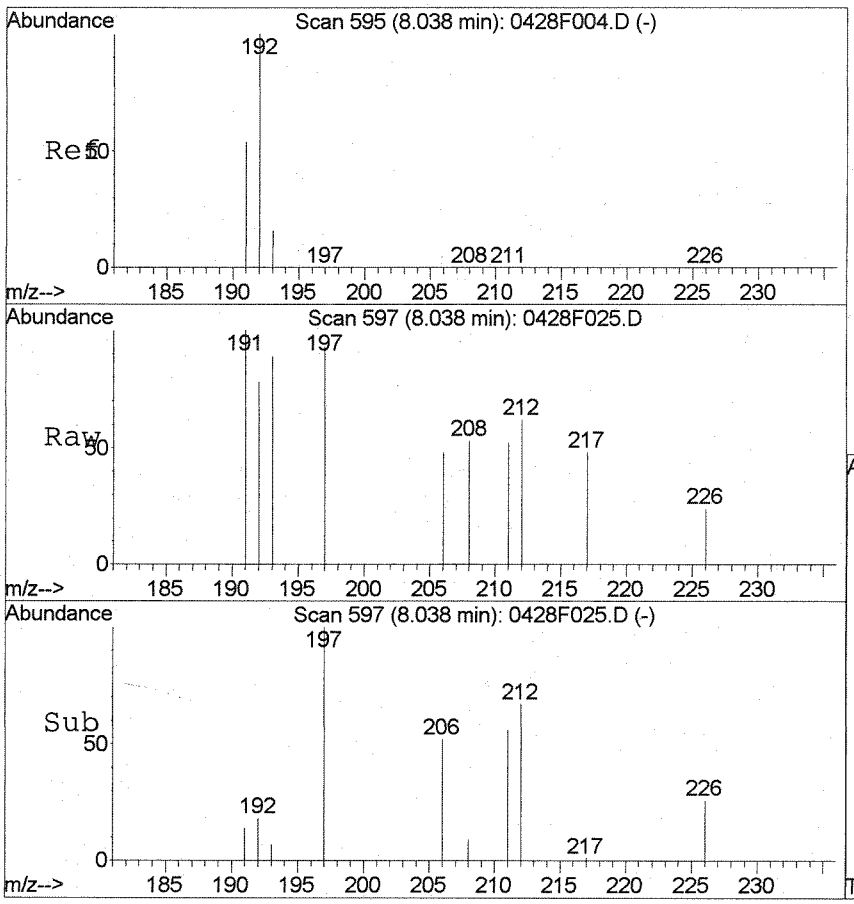


#29
Carbazole
Concen: 6.17 ng/ml
RT: 7.73 min Scan# 560
Delta R.T. -0.00 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:167 Resp: 3125

Ion	Ratio	Lower	Upper
167	100		
139	10.0	0.0	41.4

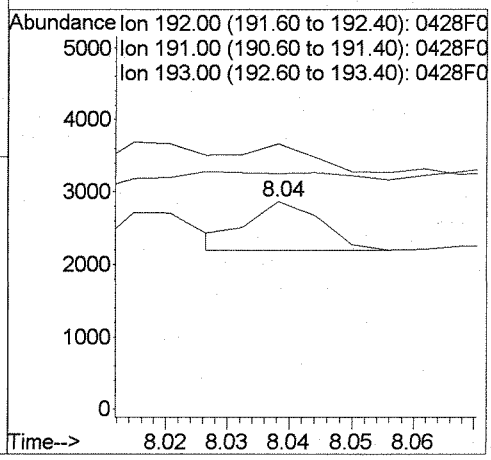


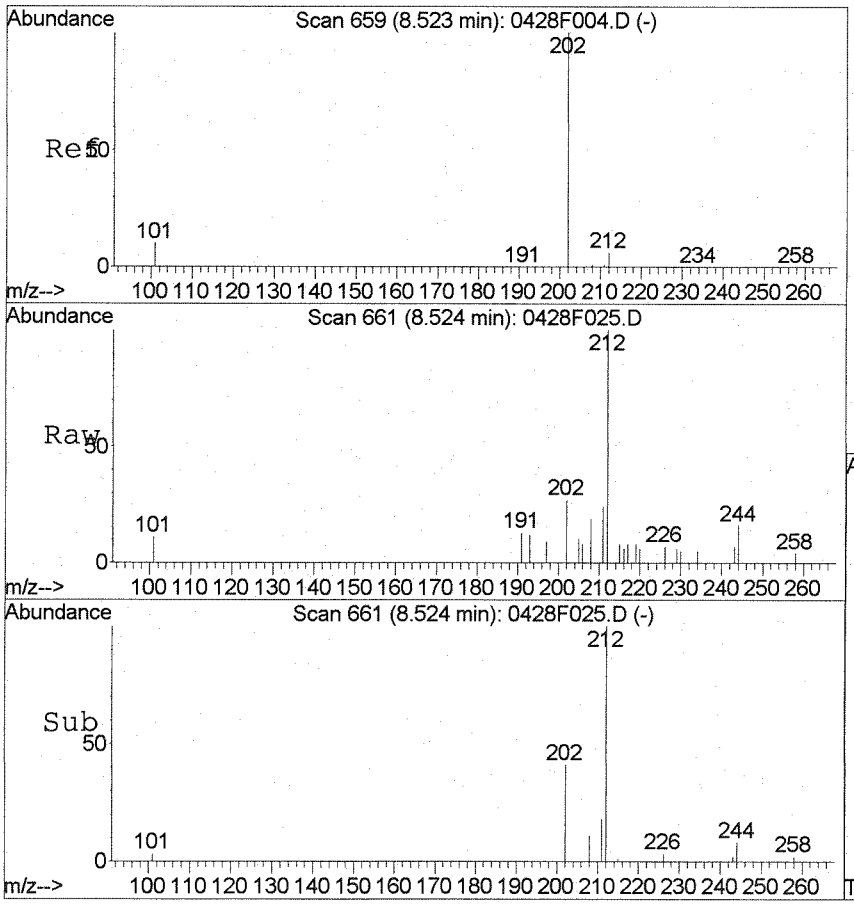


#30
1-Methylphenanthrene
Concen: 1.25 ng/ml
RT: 8.04 min Scan# 597
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:192 Resp: 541

Ion	Ratio	Lower	Upper
192	100		
191	60.1	29.3	89.3
193	13.0	0.0	44.8

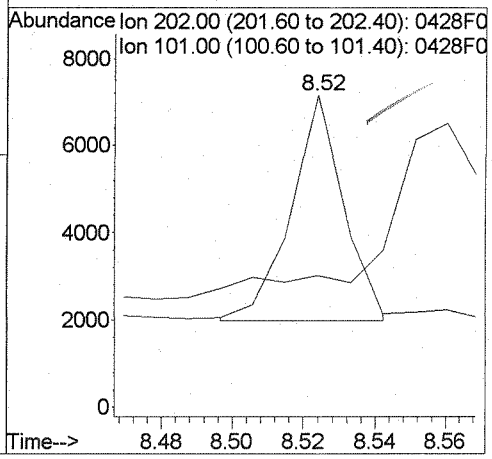


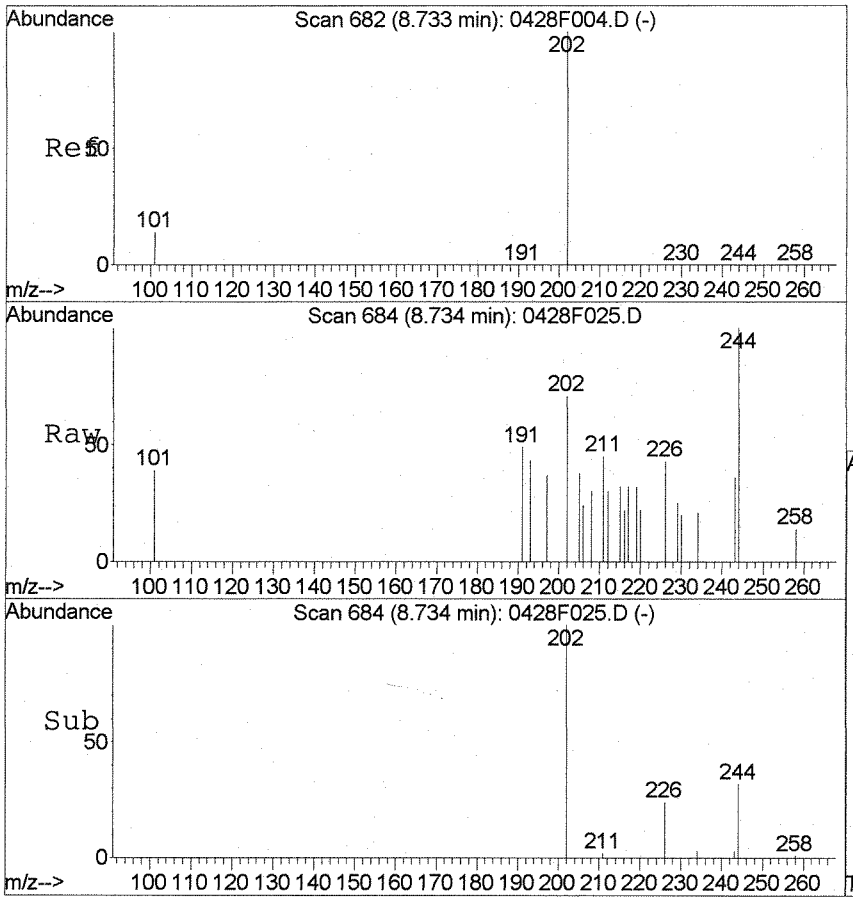


#35
Fluoranthene
Concen: 7.87 ng/ml m
RT: 8.52 min Scan# 661
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:202 Resp: 5181

Ion	Ratio	Lower	Upper
202	100		
101	42.2	0.0	41.7#

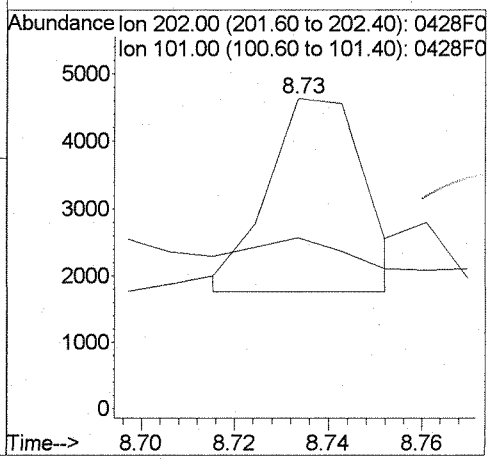


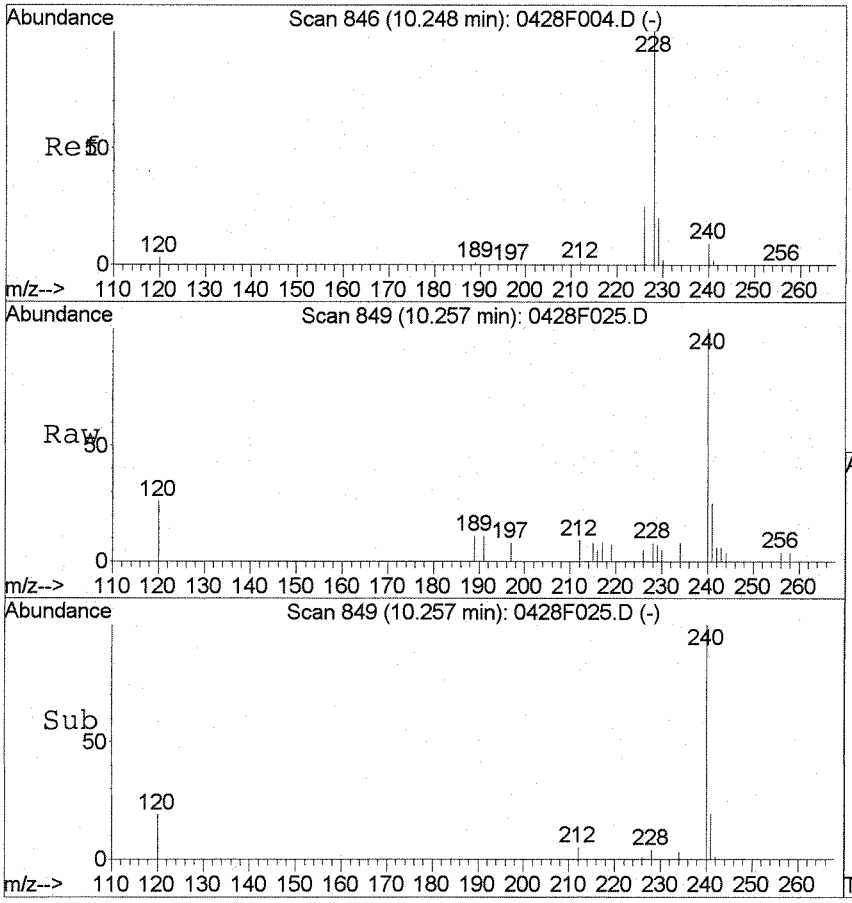


#38
Pyrene
Concen: 8.32 ng/ml m
RT: 8.73 min Scan# 684
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:202 Resp: 4099

Ion	Ratio	Lower	Upper
202	100		
101	55.4	0.0	45.5#

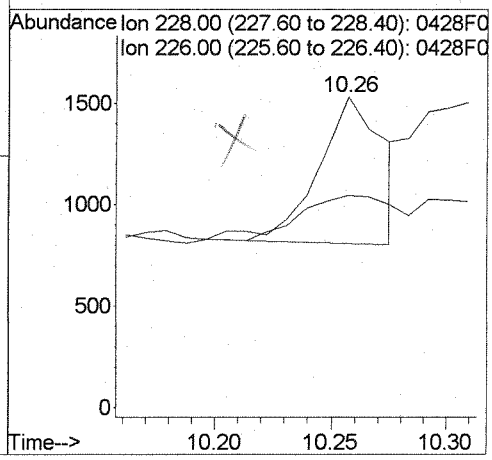


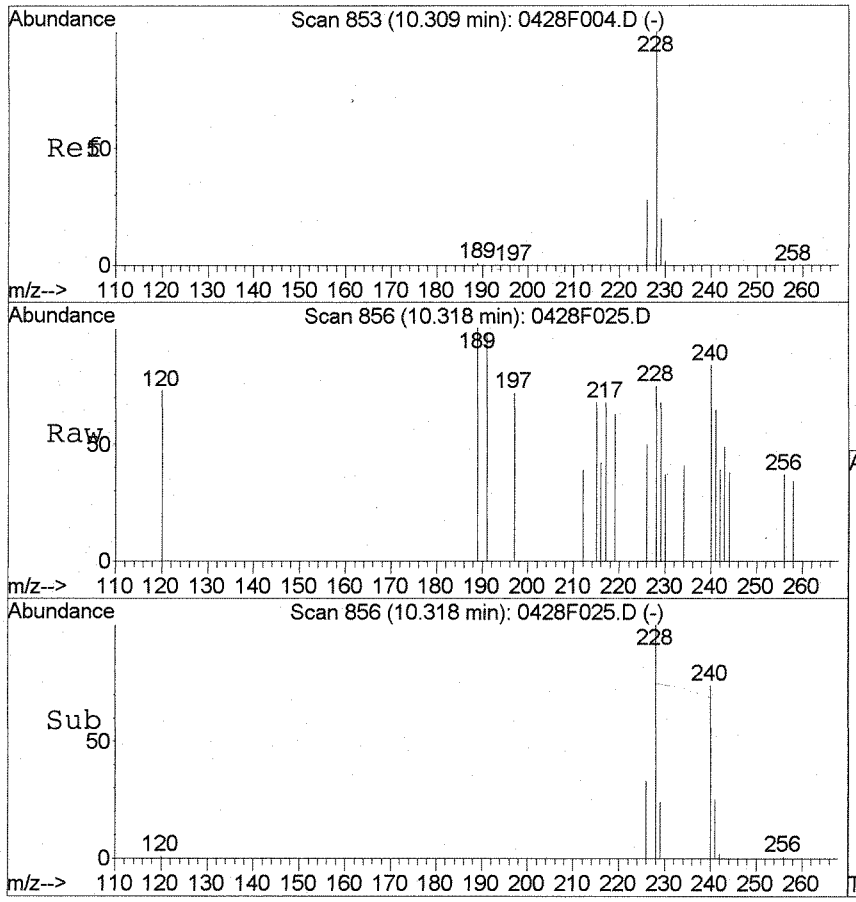


#44
Benz(a)anthracene
Concen: 3.04 ng/ml
RT: 10.26 min Scan# 849
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:228 Resp: 1423

Ion	Ratio	Lower	Upper
228	100		
226	31.0	0.0	55.5

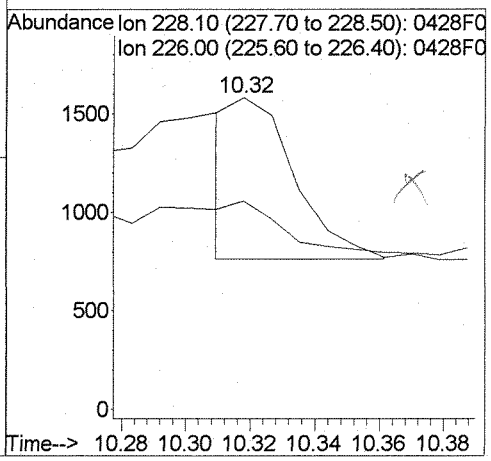


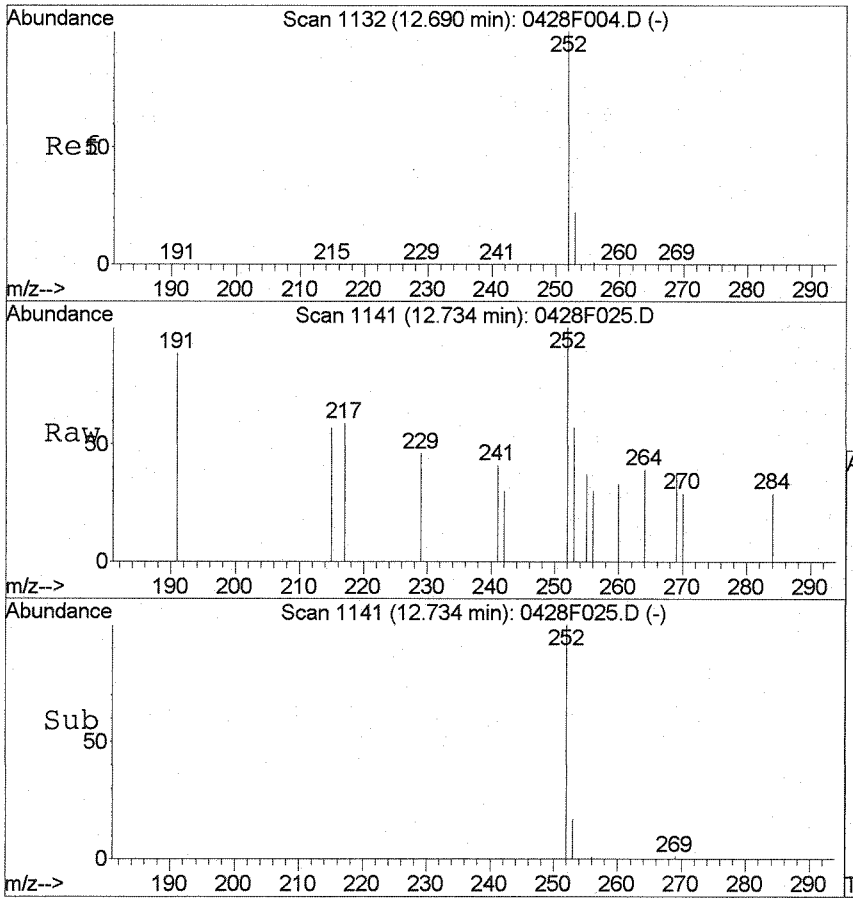


#45
Chrysene
Concen: 2.46 ng/ml m
RT: 10.32 min Scan# 856
Delta R.T. -0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:228 Resp: 1106

Ion	Ratio	Lower	Upper
228	100		
226	66.9	0.0	58.4#

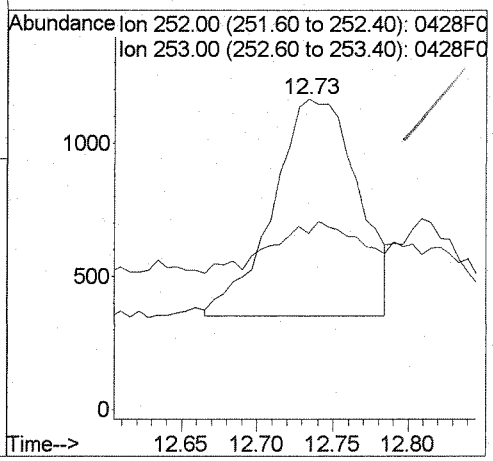


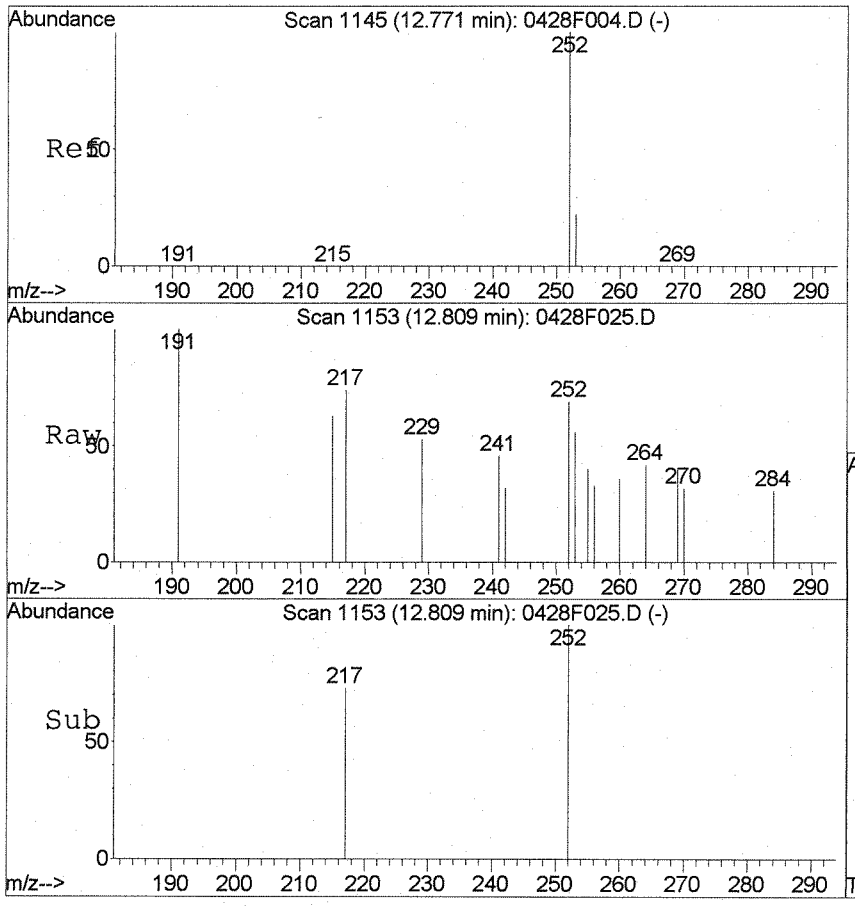


#51
Benzo(b)fluoranthene
Concen: 6.52 ng/ml m
RT: 12.73 min Scan# 1141
Delta R.T. 0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:252 Resp: 3142

Ion	Ratio	Lower	Upper
252	100		
253	56.8	0.0	51.9#

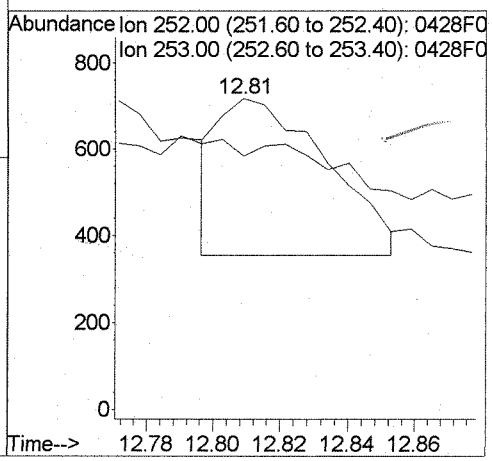


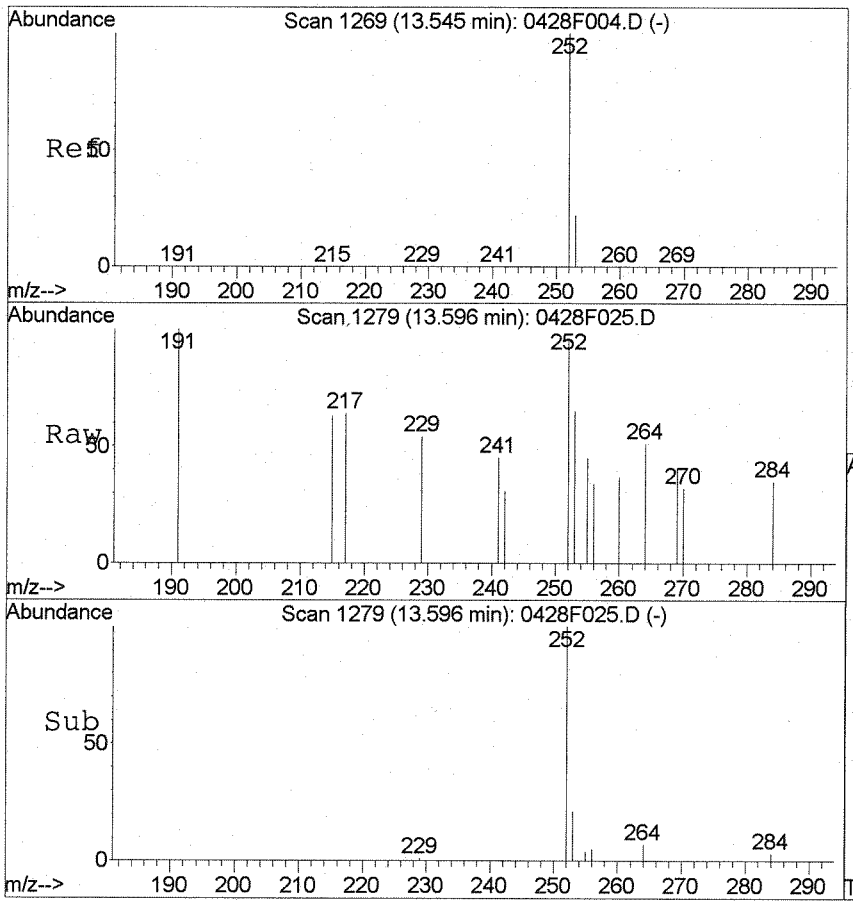


#52
Benzo(k)fluoranthene
Concen: 1.74 ng/ml m
RT: 12.81 min Scan# 1153
Delta R.T. 0.01 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:252 Resp: 810

Ion	Ratio	Lower	Upper
252	100		
253	81.3	0.0	52.0#

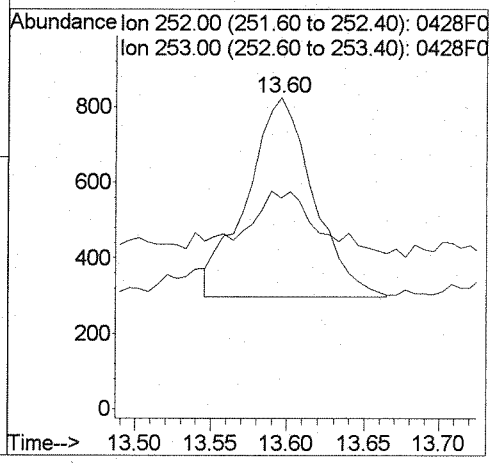


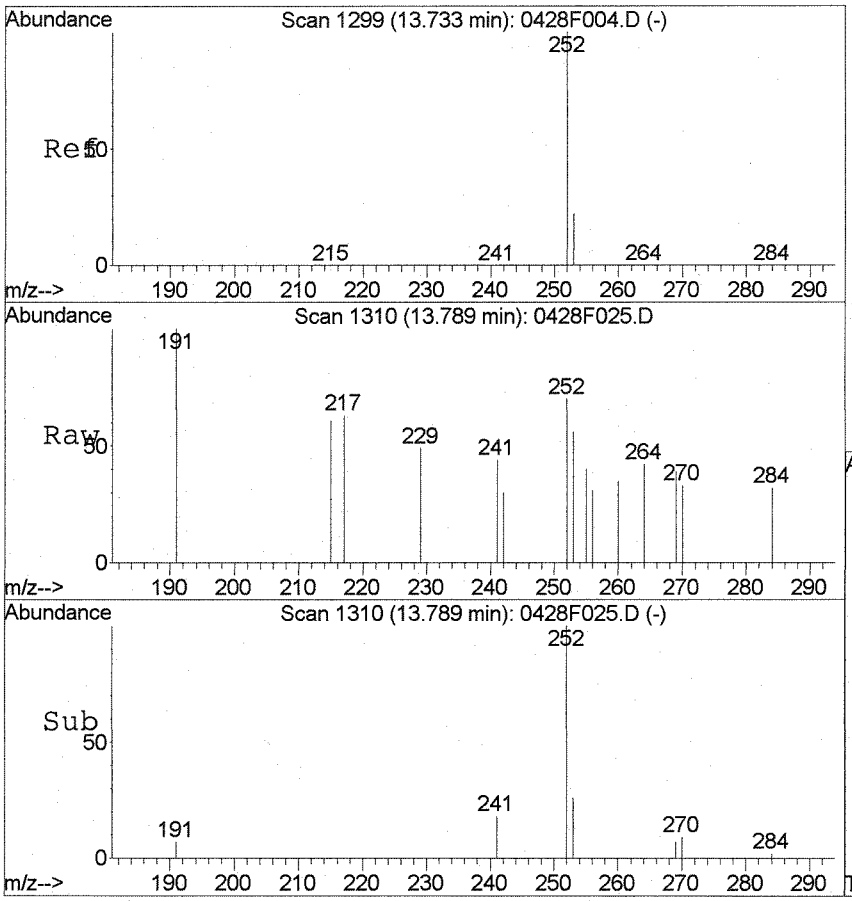


#53
Benzo(e)pyrene
Concen: 3.71 ng/ml m
RT: 13.60 min Scan# 1279
Delta R.T. 0.02 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:252 Resp: 1589

Ion	Ratio	Lower	Upper
252	100		
253	67.8	0.0	52.0#

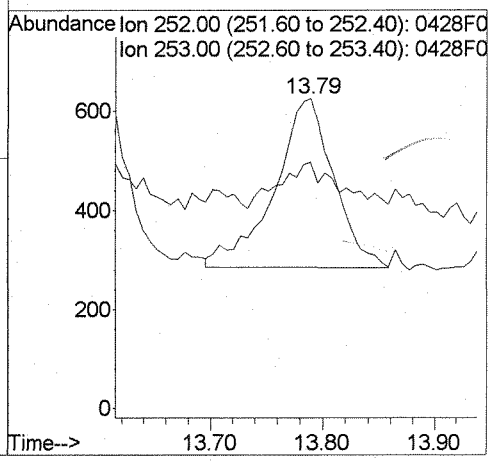


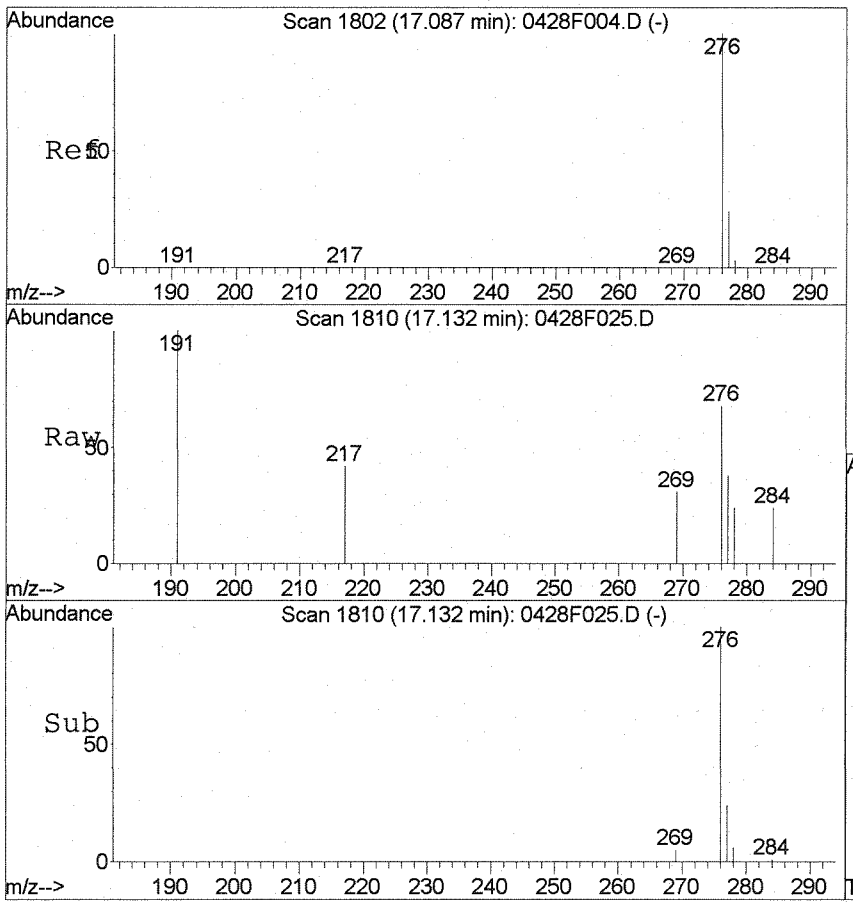


#54
Benzo(a)pyrene
Concen: 3.03 ng/ml
RT: 13.79 min Scan# 1310
Delta R.T. 0.02 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:252 Resp: 1236

Ion	Ratio	Lower	Upper
252	100		
253	25.1	0.0	51.6

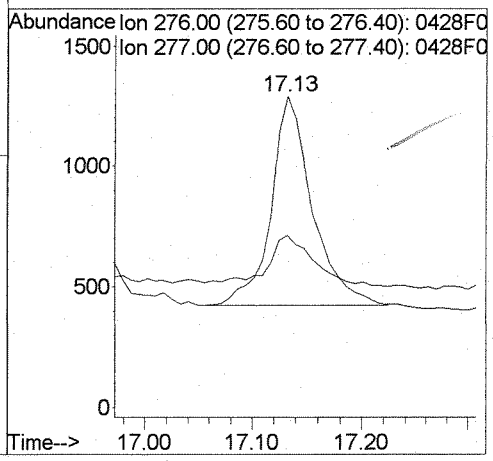


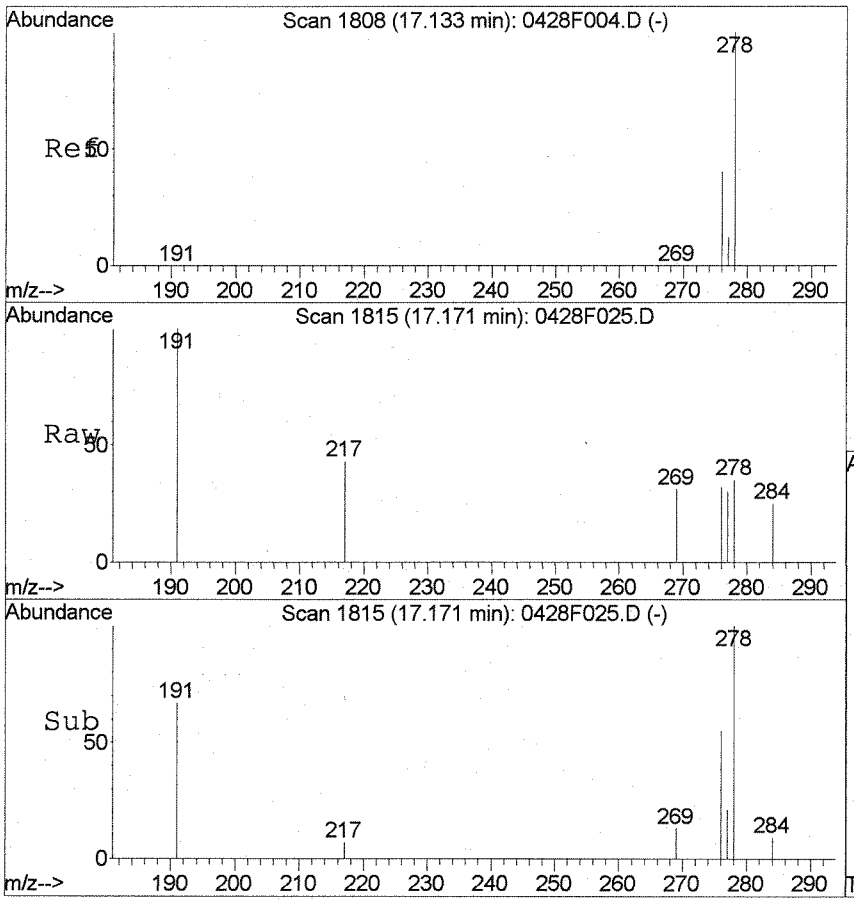


#56
Indeno(1,2,3-cd)pyrene
Concen: 5.32 ng/ml
RT: 17.13 min Scan# 1810
Delta R.T. 0.03 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:276 Resp: 2268

Ion	Ratio	Lower	Upper
276	100		
277	24.3	0.0	53.5

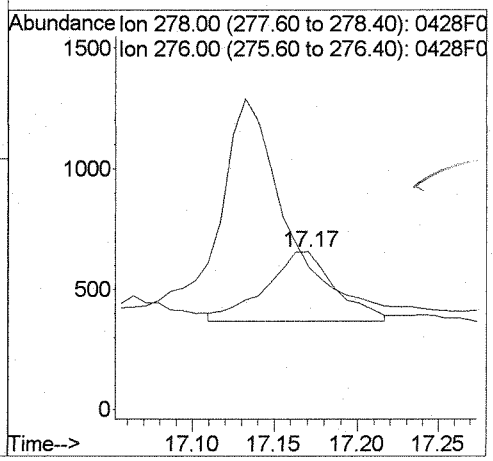


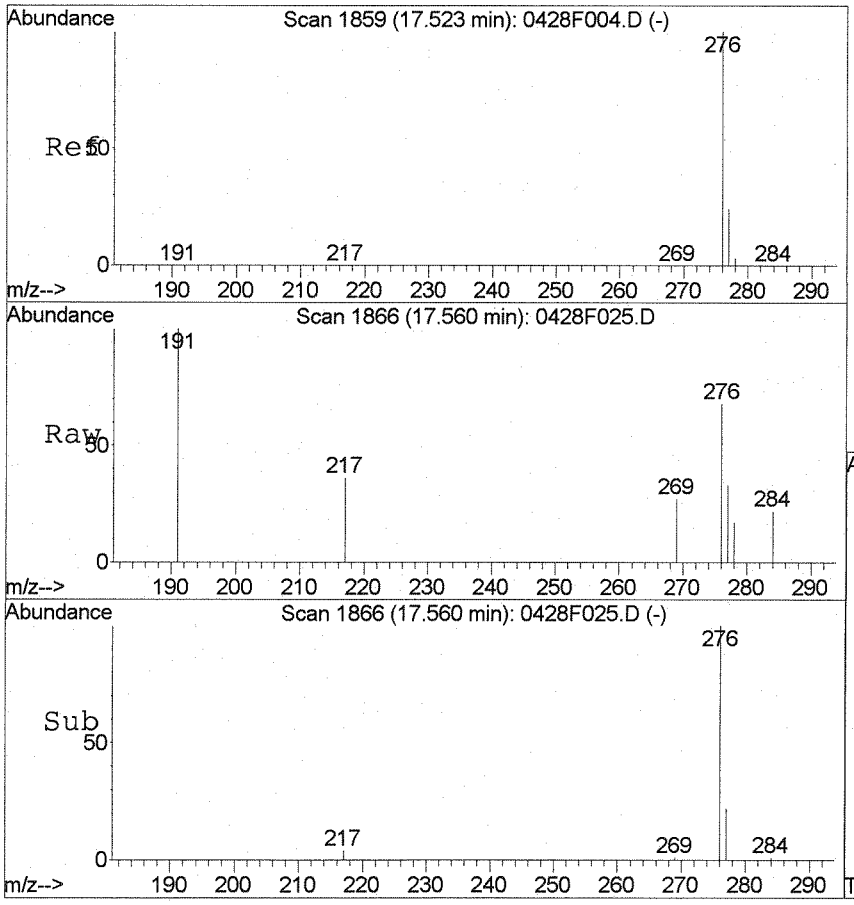


#57
Dibenz(a,h)anthracene
Concen: 1.96 ng/ml m
RT: 17.17 min Scan# 1815
Delta R.T. 0.02 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:278 Resp: 843

Ion	Ratio	Lower	Upper
278	100		
276	90.6	0.0	55.1#

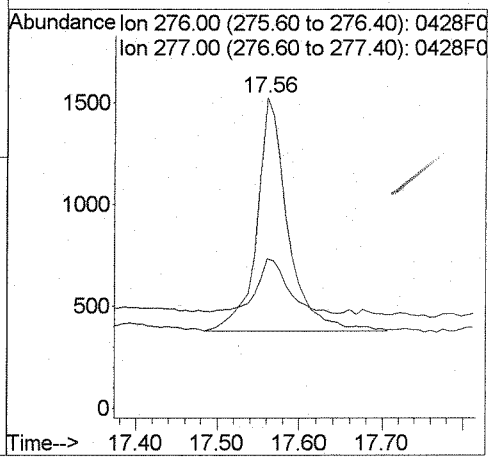




#58
Benzo(g,h,i)perylene
Concen: 5.95 ng/ml
RT: 17.56 min Scan# 1866
Delta R.T. 0.03 min
Lab File: 0428F025.D
Acq: 28 Apr 2012 6:09 pm

Tgt Ion:276 Resp: 3006

Ion	Ratio	Lower	Upper
276	100		
277	24.1	0.0	53.6

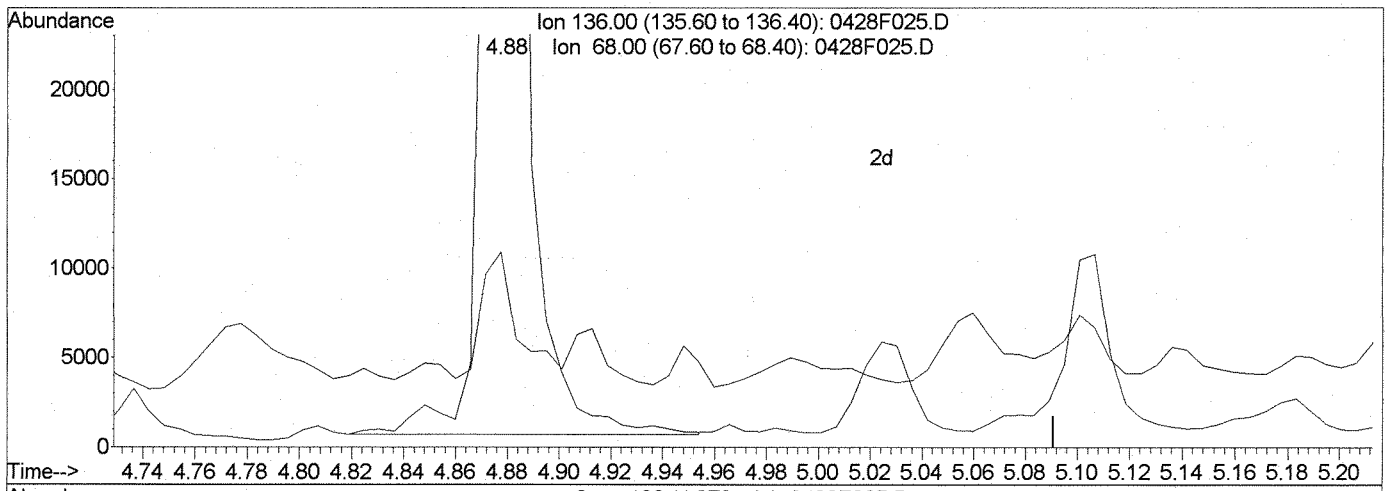


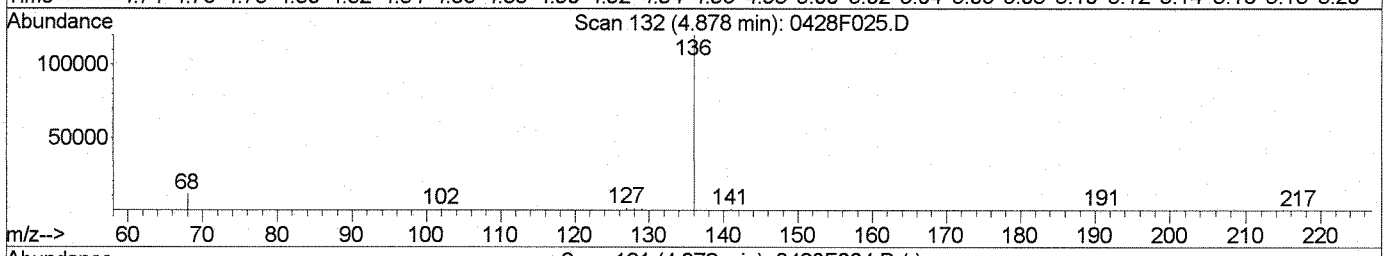
Quantitation Report (Qedit)

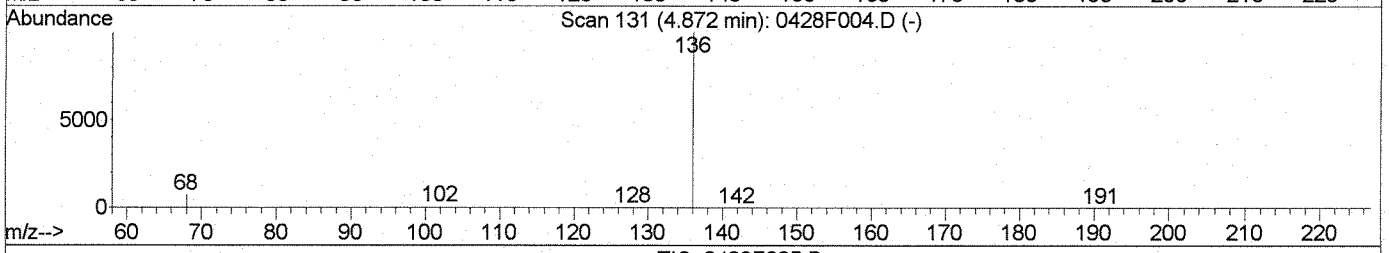
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:50 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(1) Naphthalene-d8 (I)

4.88min 200.00ng/ml

response 96308

Ion	Exp%	Act%
136.00	100	100
68.00	6.80	5.80
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

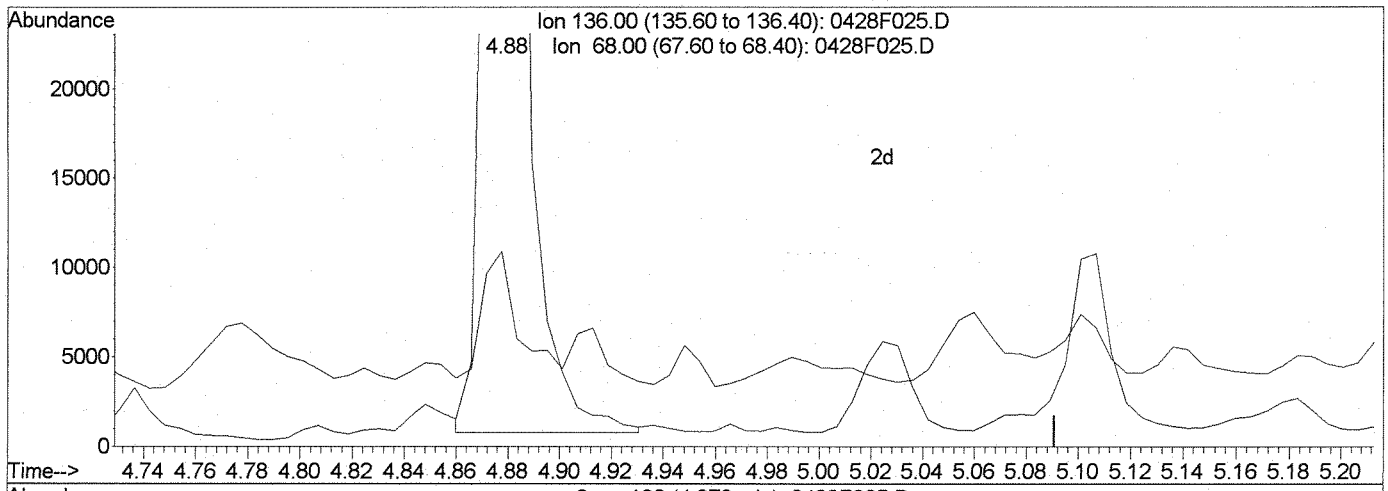
0428F025.D 0227ALK.M Mon Apr 30 05:30:55 2012

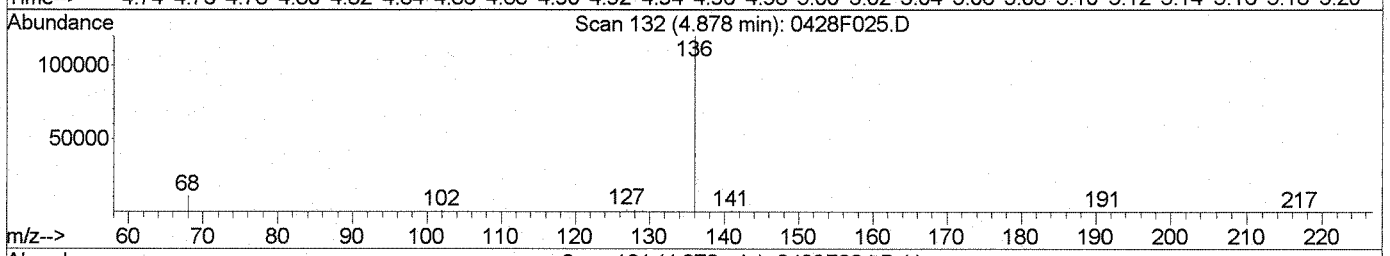
Quantitation Report (Qedit)

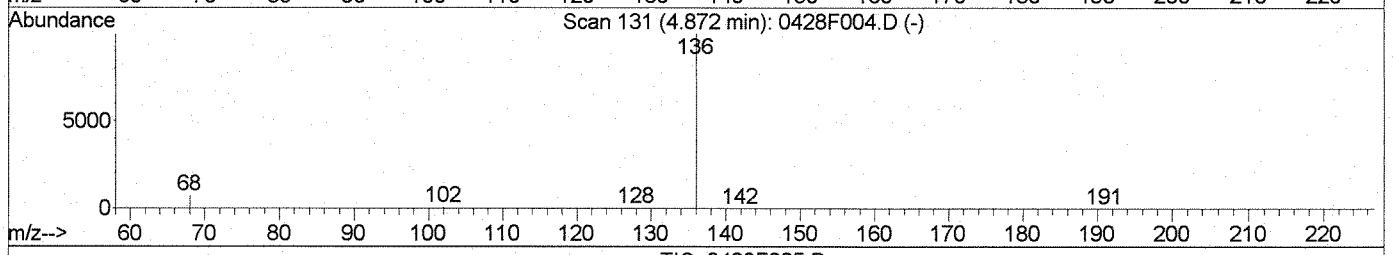
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:30 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(1) Naphthalene-d8 (I)

4.88min 200.00ng/ml m

response 93713

Ion	Exp%	Act%
136.00	100	100
68.00	6.80	9.08
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

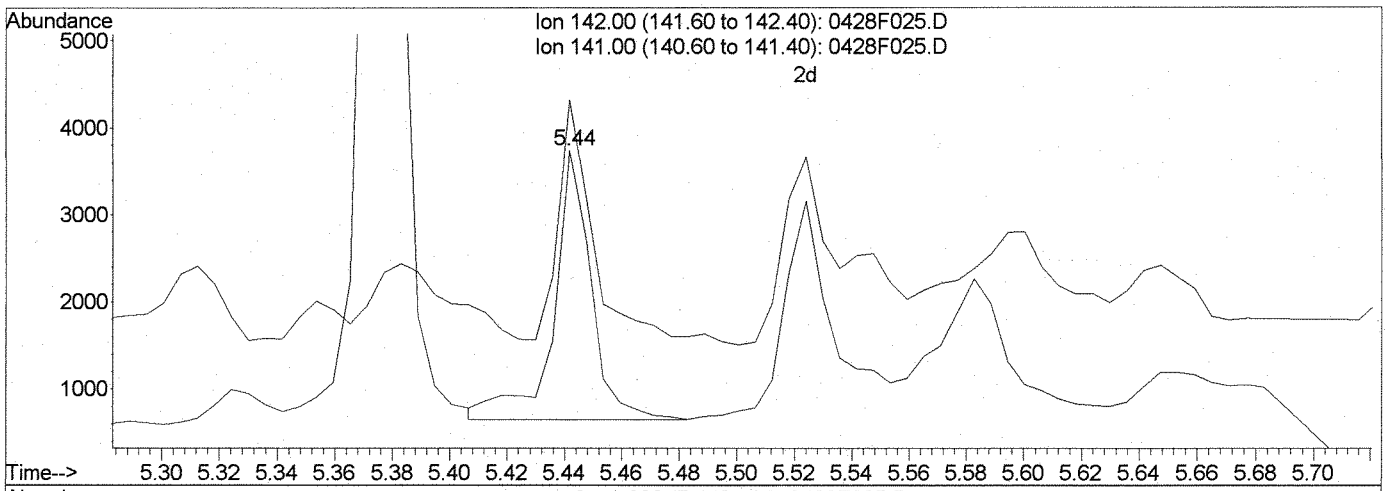
0428F025.D 0227ALK.M Mon Apr 30 05:31:00 2012

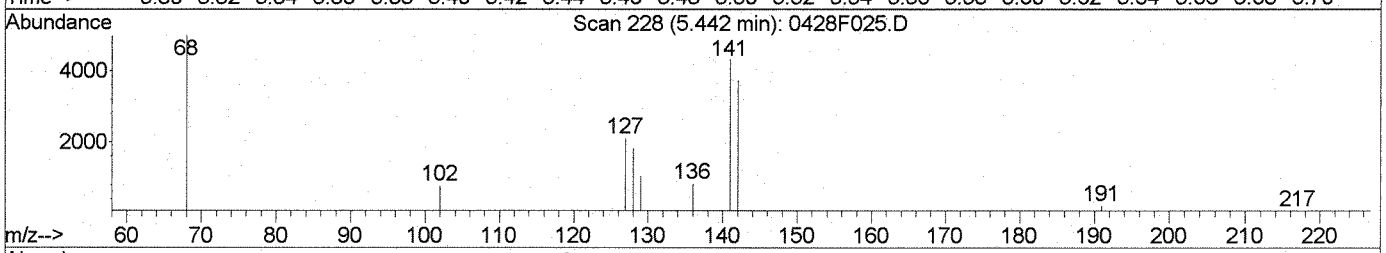
Quantitation Report (Qedit)

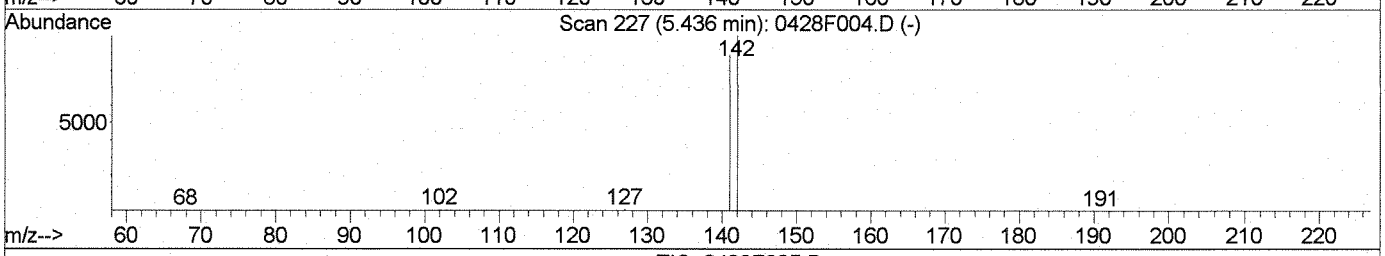
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:30 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(3) 2-Methylnaphthalene (T)

5.44min 7.50ng/ml

response 2779

Ion	Exp%	Act%
142.00	100	100
141.00	90.10	88.25
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

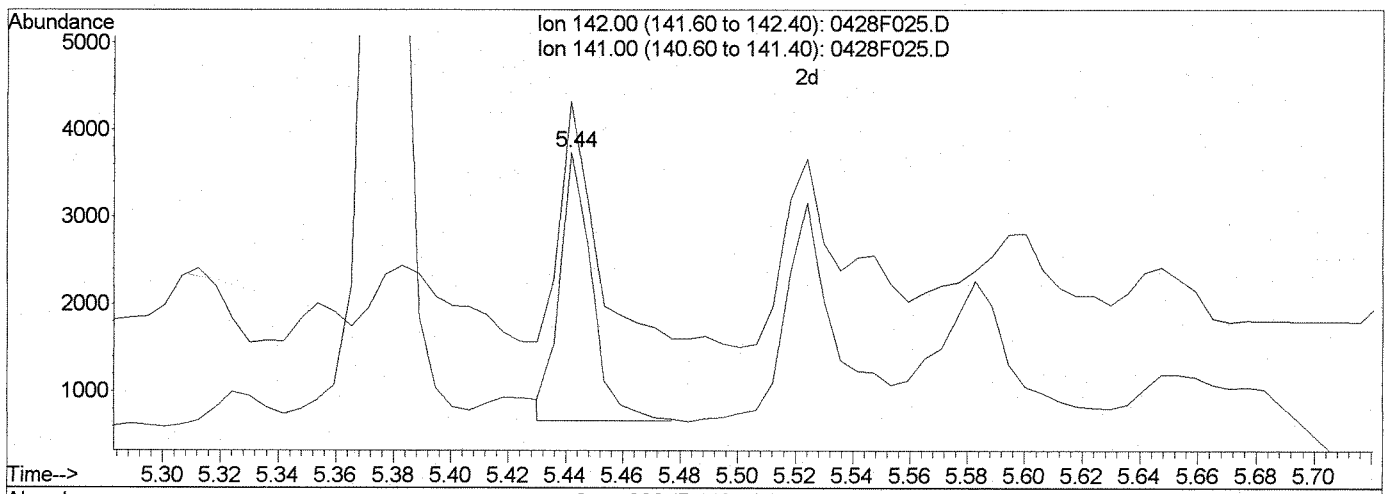
0428F025.D 0227ALK.M Mon Apr 30 05:31:05 2012

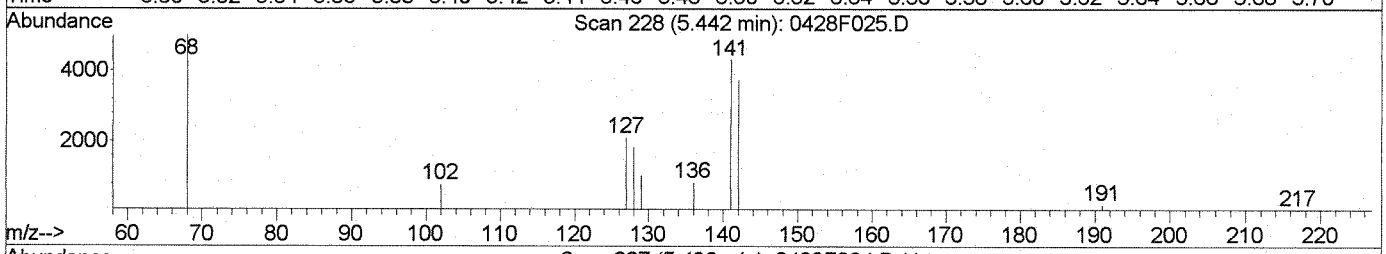
Quantitation Report (Qedit)

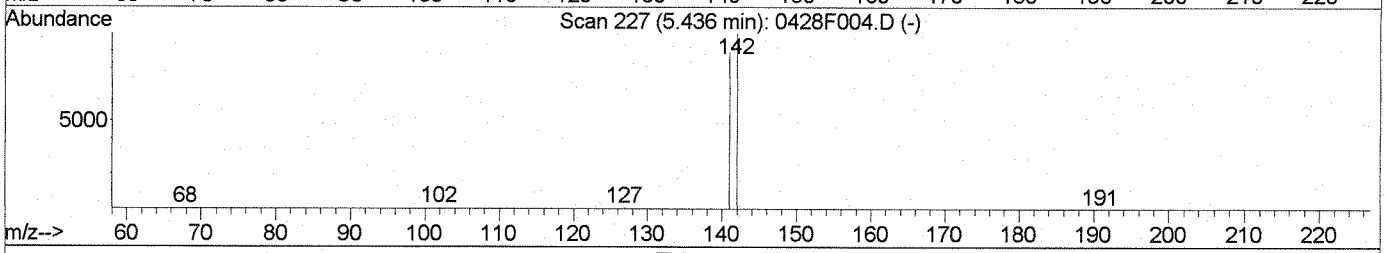
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:31 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(3) 2-Methylnaphthalene (T)

5.44min 6.43ng/ml m

response 2383

Ion	Exp%	Act%
142.00	100	100
141.00	90.10	115.63
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

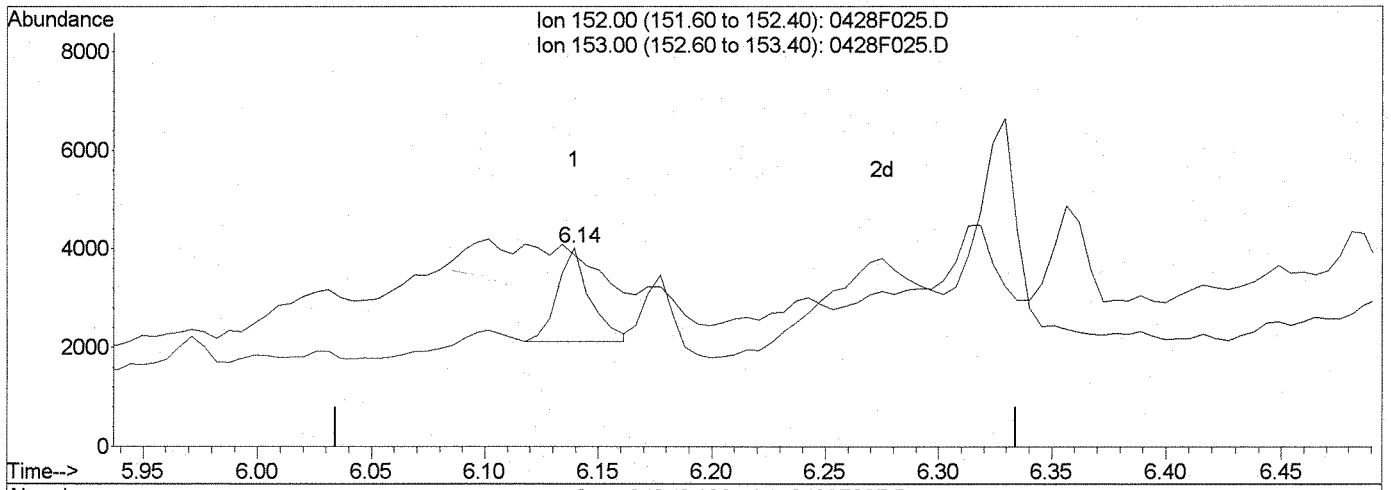
0428F025.D 0227ALK.M Mon Apr 30 05:31:08 2012

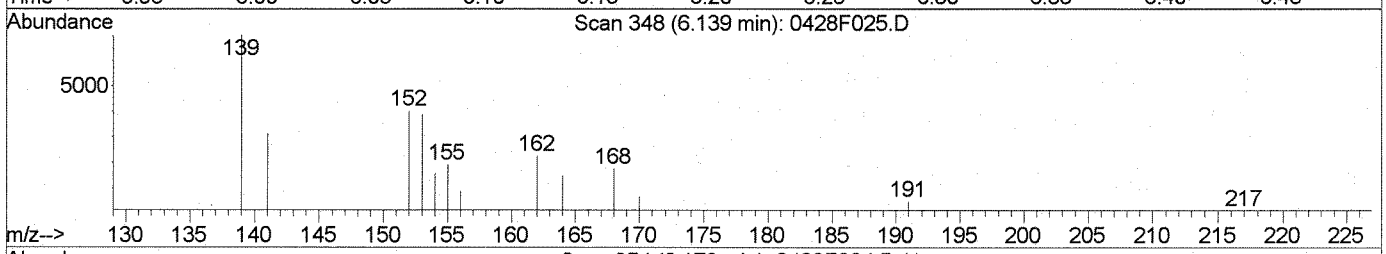
Quantitation Report (Qedit)

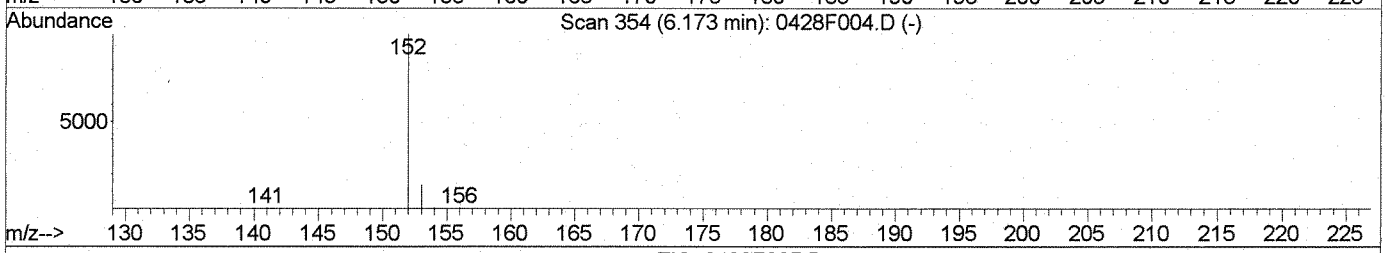
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:31 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(11) Acenaphthylene (T)

6.14min 3.50ng/ml

response 1893

Ion	Exp%	Act%
152.00	100	100
153.00	13.10	40.20
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

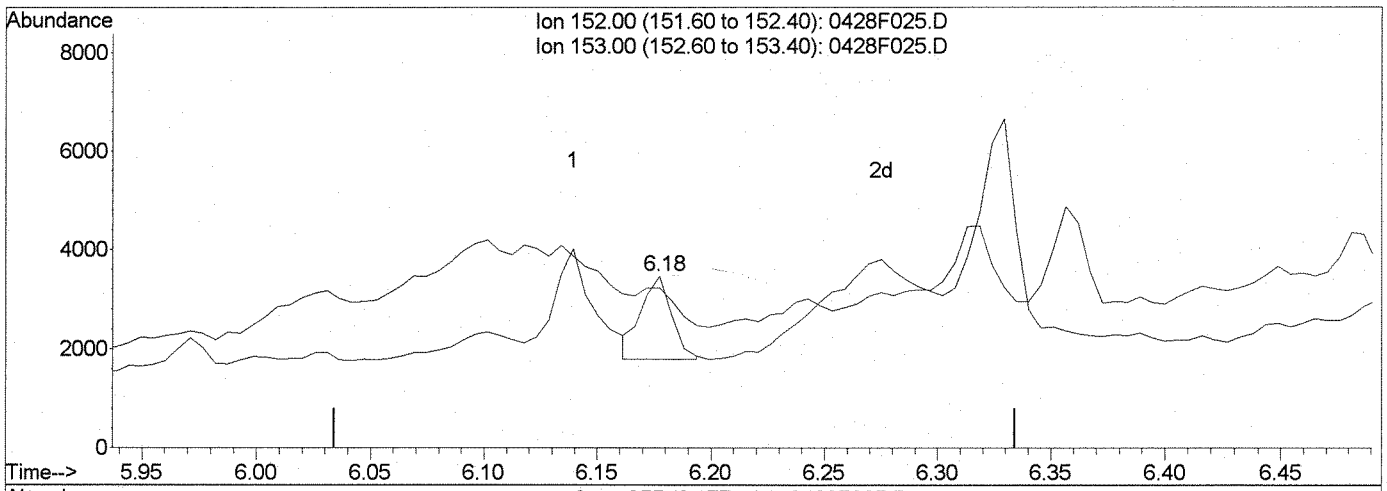
0428F025.D 0227ALK.M Mon Apr 30 05:31:26 2012

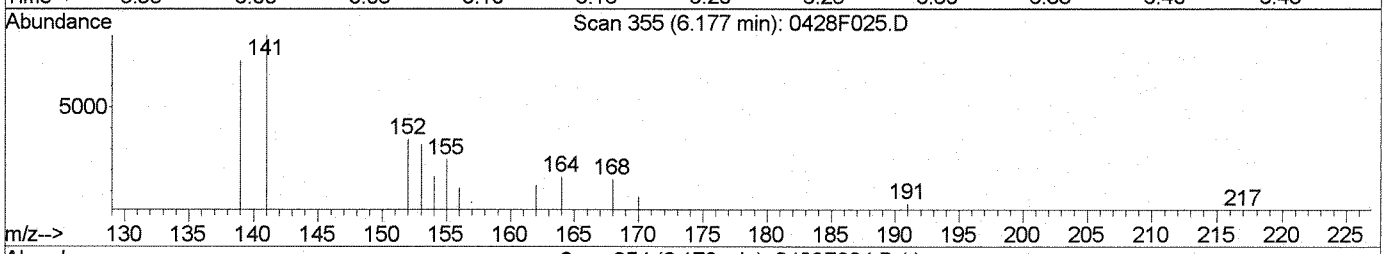
Quantitation Report (Qedit)

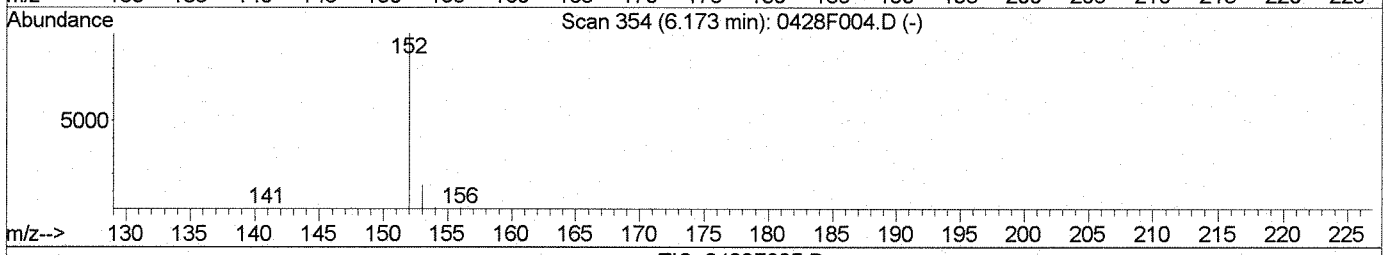
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:31 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(11) Acenaphthylene (T)

6.18min 2.88ng/ml m

response 1557

Ion	Exp%	Act%
152.00	100	100
153.00	13.10	93.18#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
WP
04/30/12

MAY 0 1 2012

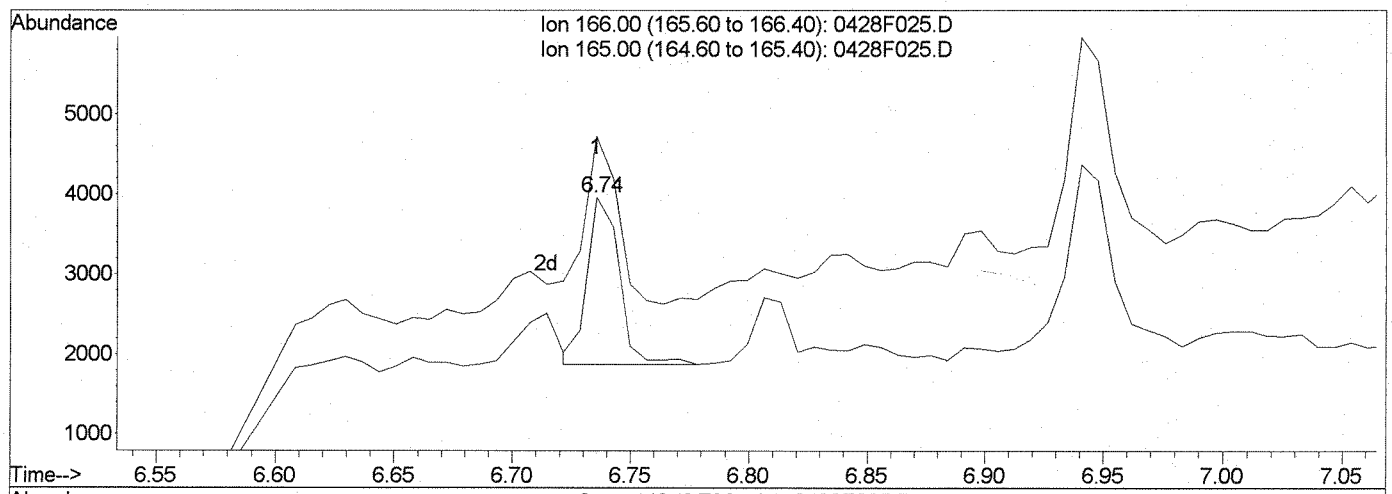
0428F025.D 0227ALK.M Mon Apr 30 05:31:32 2012

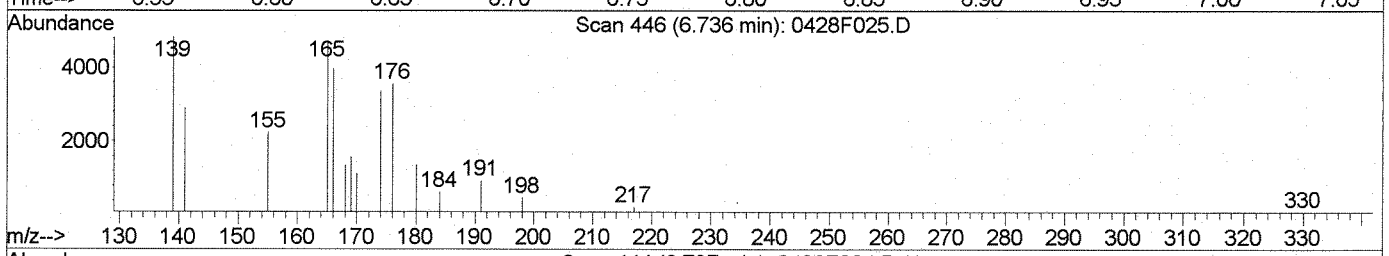
Quantitation Report (Qedit)

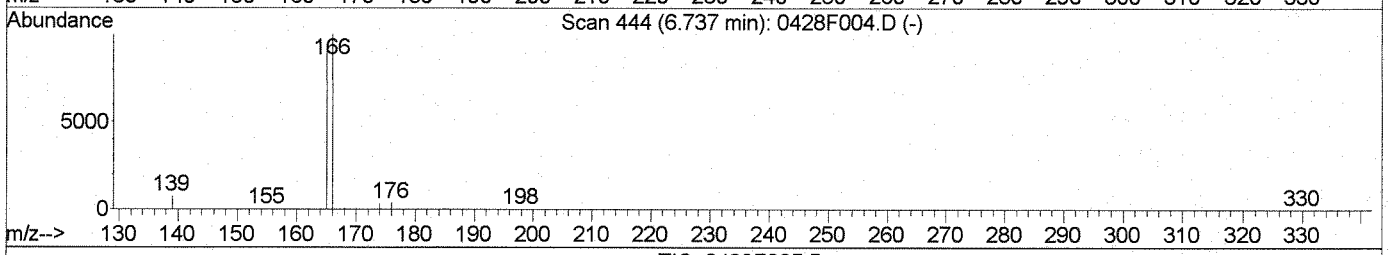
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:31 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(16) Fluorene (T)

6.74min 4.83ng/ml

response 1965

Ion	Exp%	Act%
166.00	100	100
165.00	95.30	97.85
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

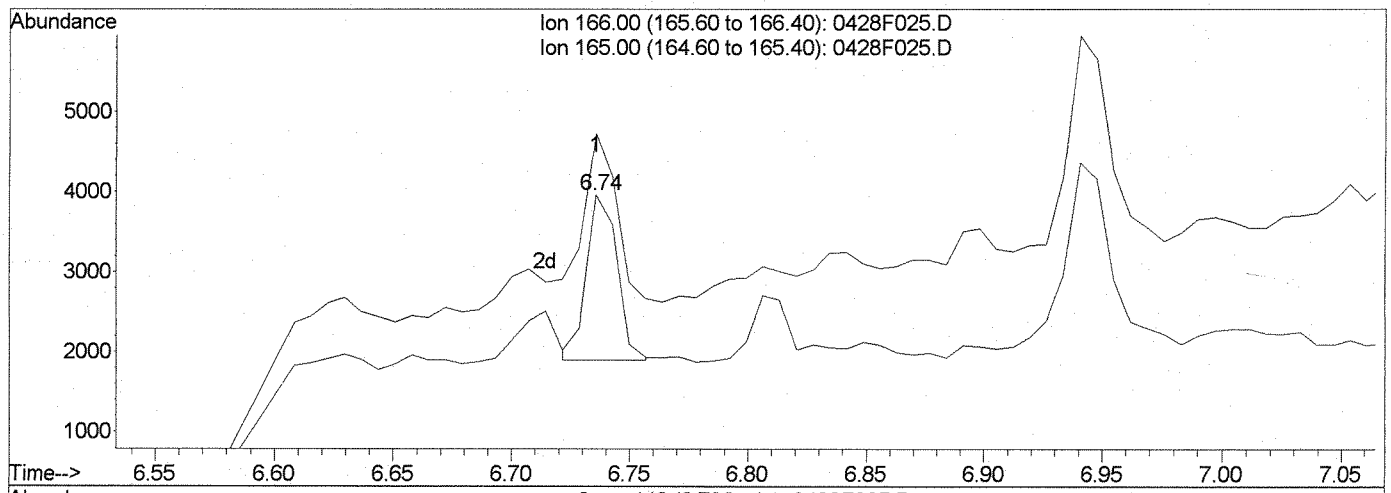
Before

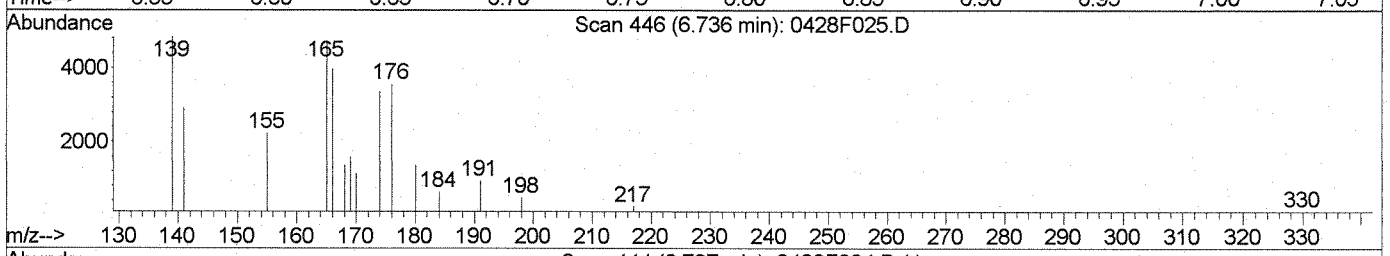
Quantitation Report (Qedit)

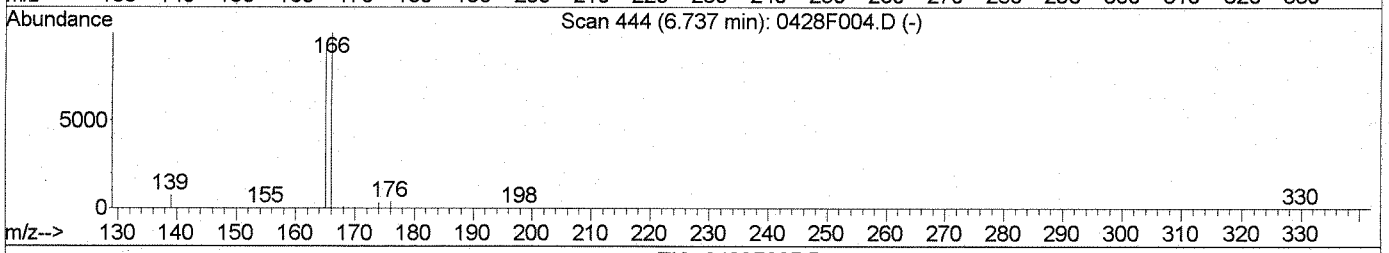
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:31 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(16) Fluorene (T)

6.74min 4.59ng/ml m

response 1866

Ion	Exp%	Act%
166.00	100	100
165.00	95.30	119.29
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

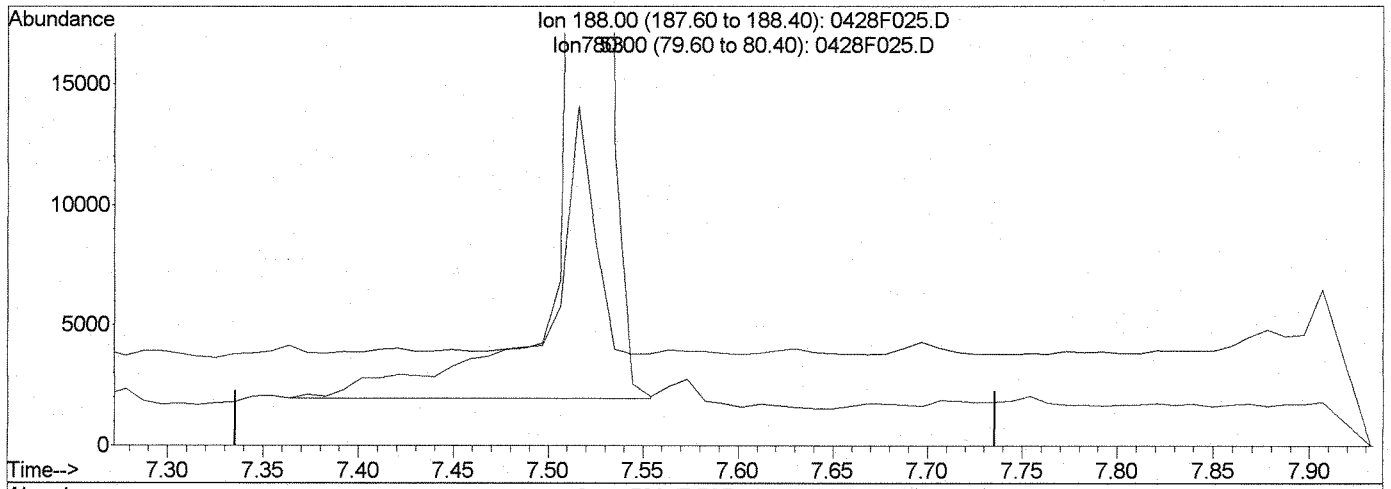
0428F025.D 0227ALK.M Mon Apr 30 05:31:44 2012

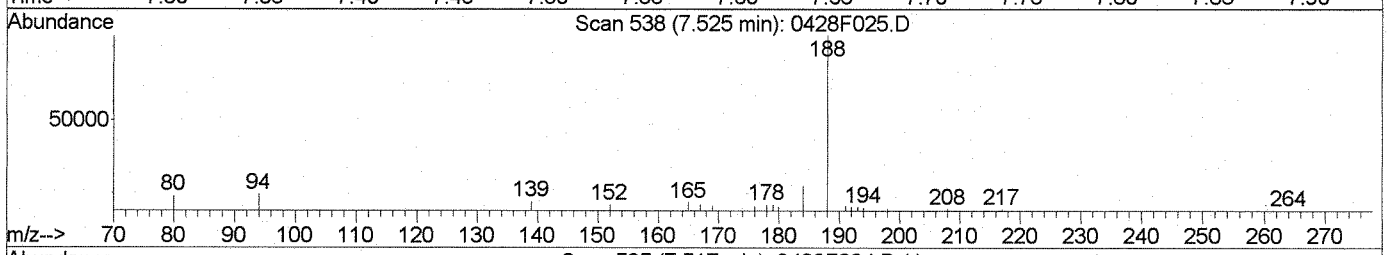
Quantitation Report (Qedit)

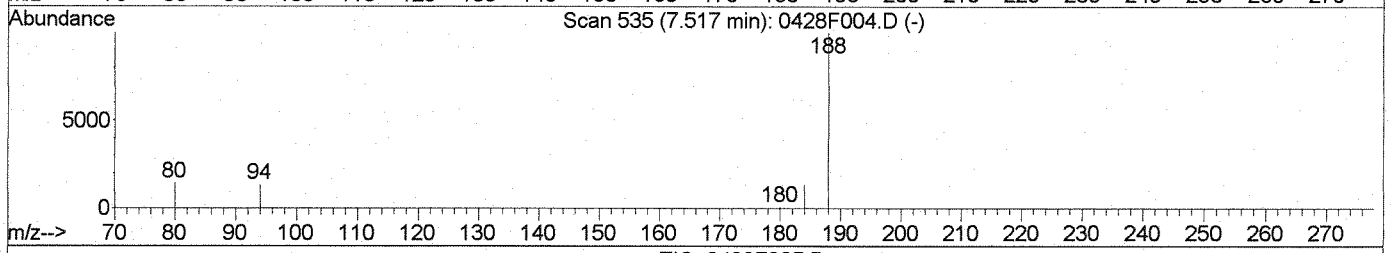
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:31 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(22) Phenanthrene-d10 (I)

7.53min 200.00ng/ml

response 100687

Ion	Exp%	Act%
188.00	100	100
80.00	10.50	4.74
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

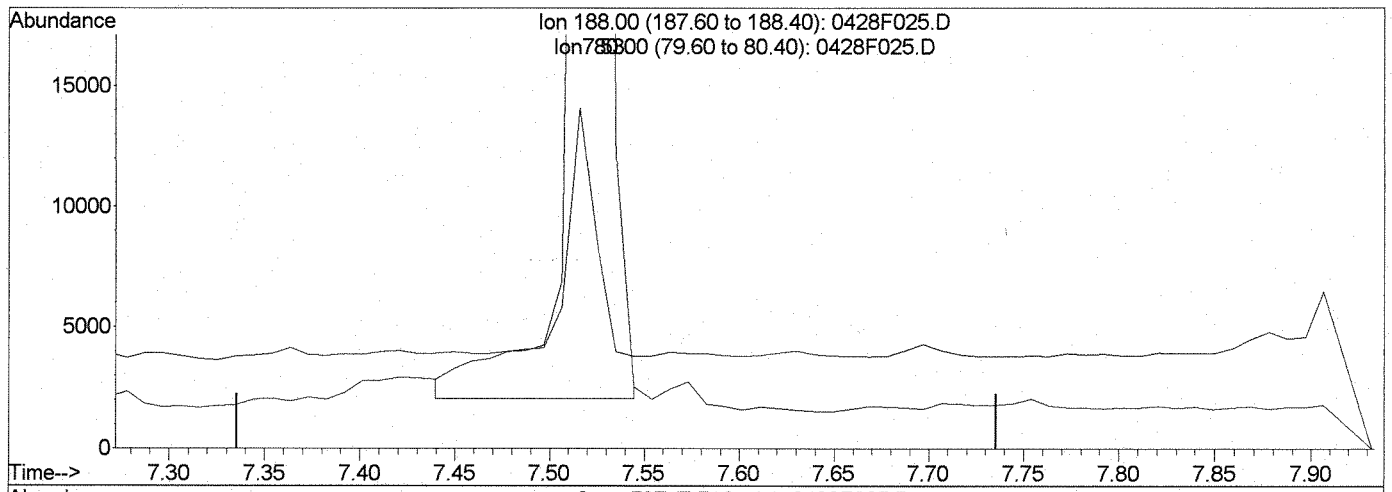
0428F025.D 0227ALK.M Mon Apr 30 05:31:54 2012

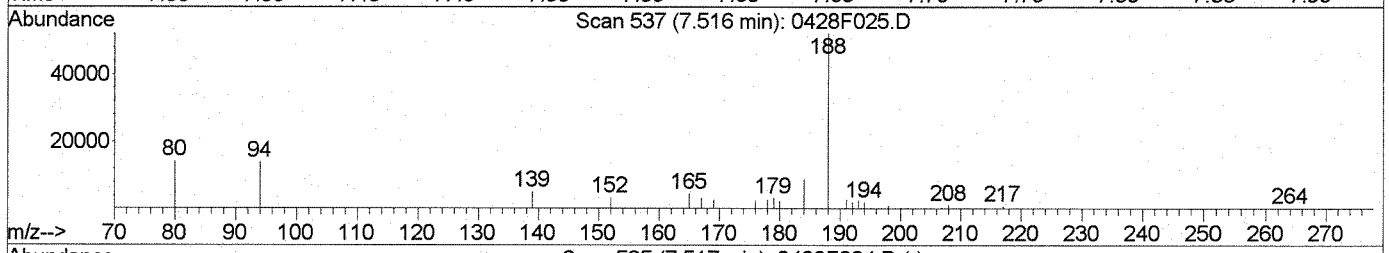
Quantitation Report (Qedit)

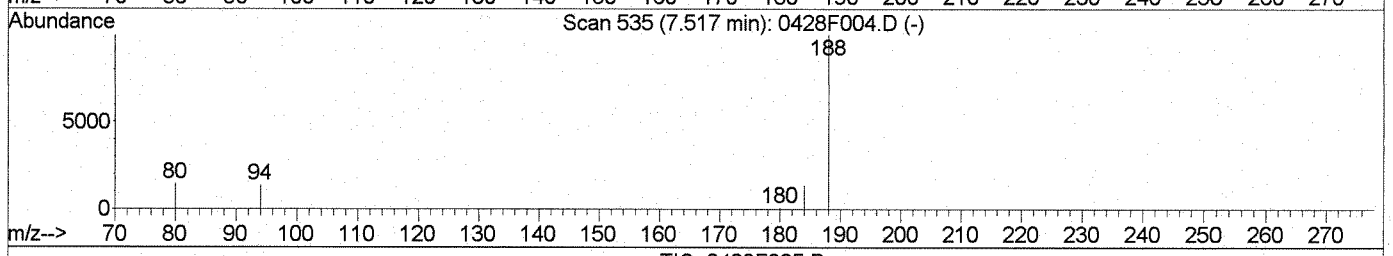
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:32 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(22) Phenanthrene-d10 (I)
7.53min 200.00ng/ml m
response 97150

Ion	Exp%	Act%
188.00	100	100
80.00	10.50	8.62
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

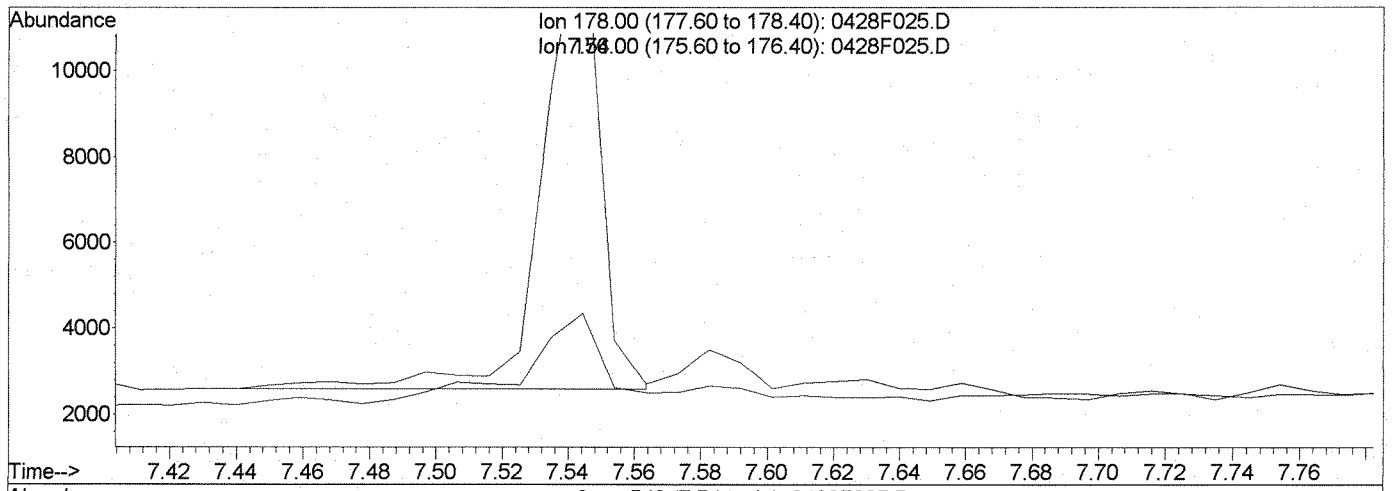
0428F025.D 0227ALK.M Mon Apr 30 05:32:05 2012

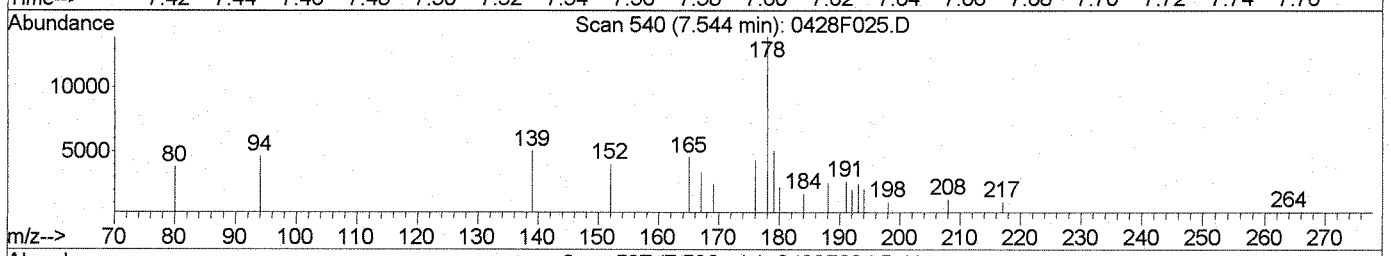
Quantitation Report (Qedit)

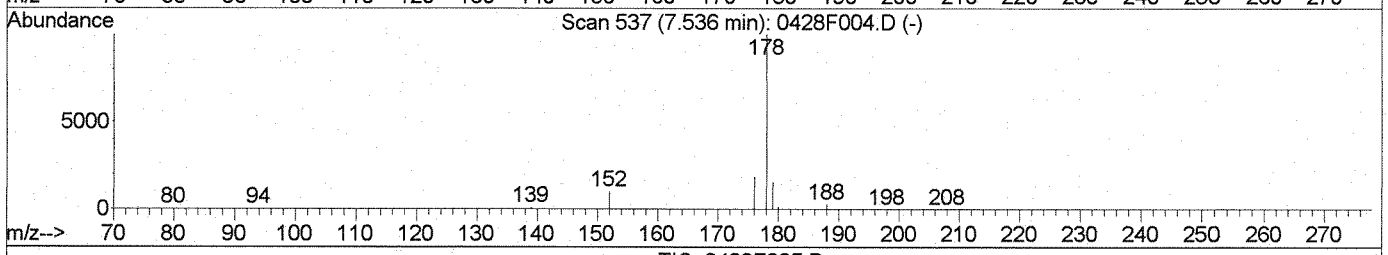
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:32 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(27) Phenanthrene (T)

7.54min 21.84ng/ml

response 12733

Ion	Exp%	Act%
178.00	100	100
176.00	18.30	18.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

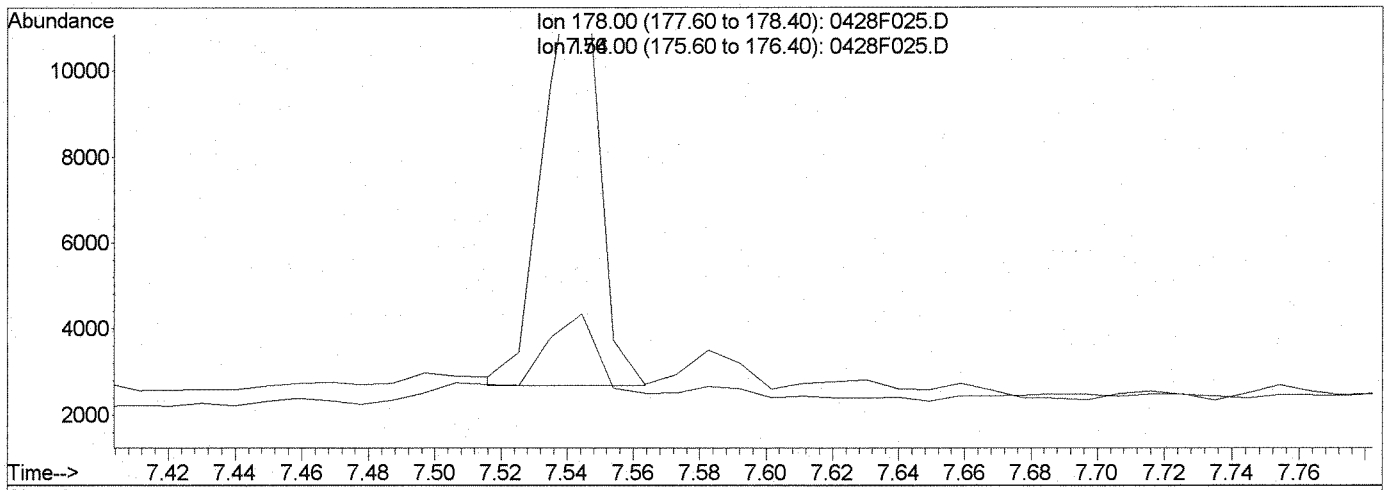
0428F025.D 0227ALK.M Mon Apr 30 05:32:15 2012

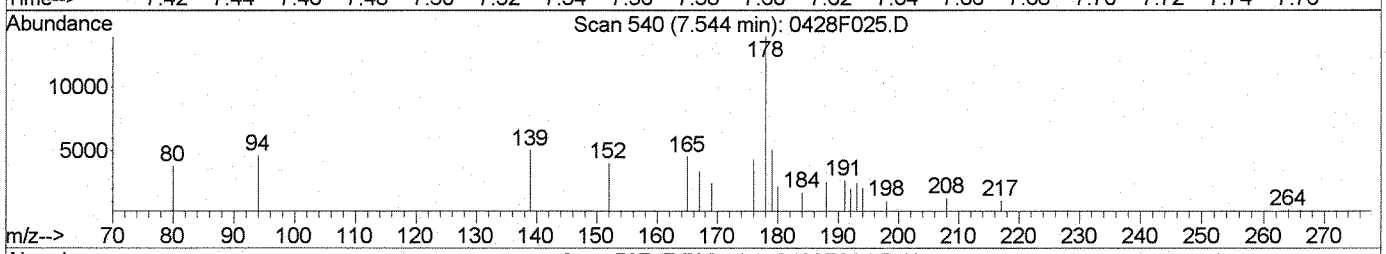
Quantitation Report (Qedit)

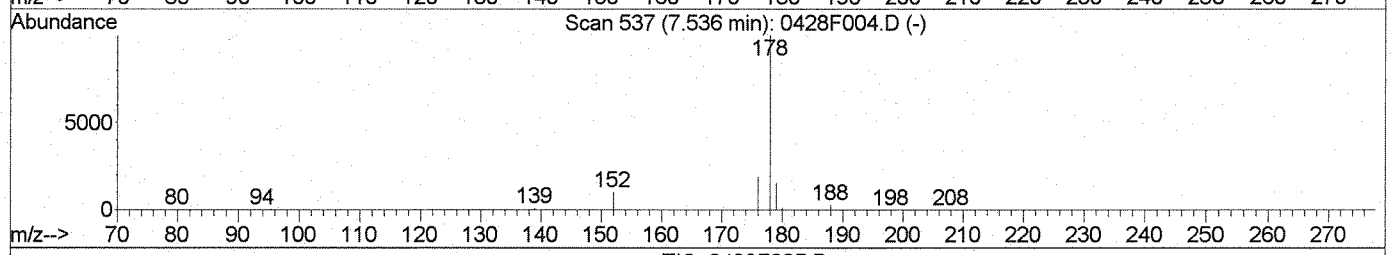
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:32 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(27) Phenanthrene (T)

7.54min 19.70ng/ml m

response 11489

Ion	Exp%	Act%
178.00	100	100
176.00	18.30	31.13
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

04/30/12

MAY 0 1 2012

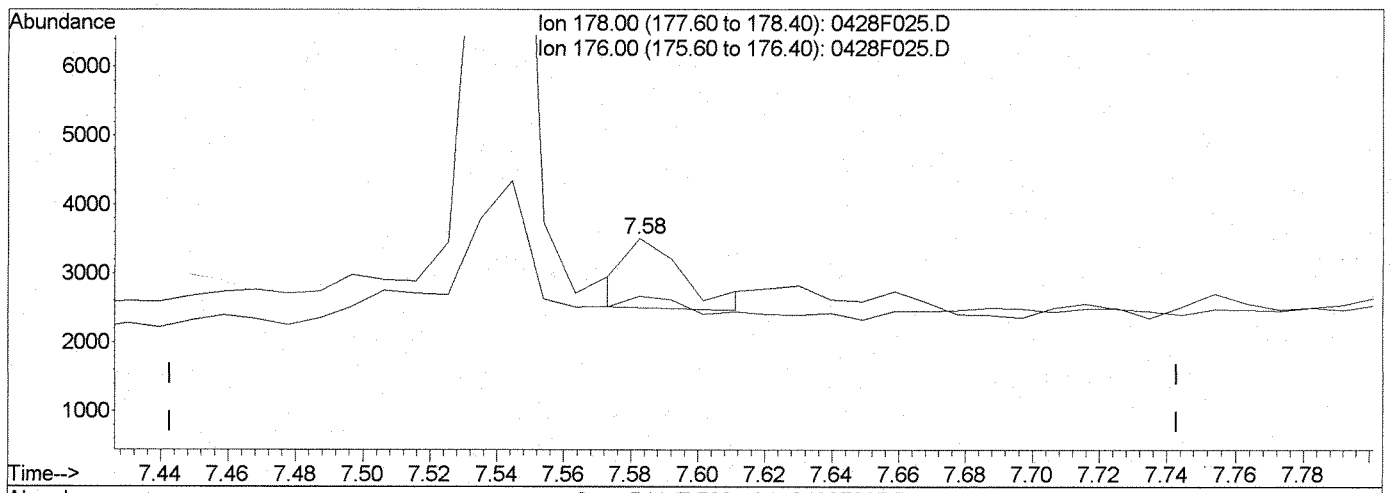
0428F025.D 0227ALK.M Mon Apr 30 05:32:19 2012

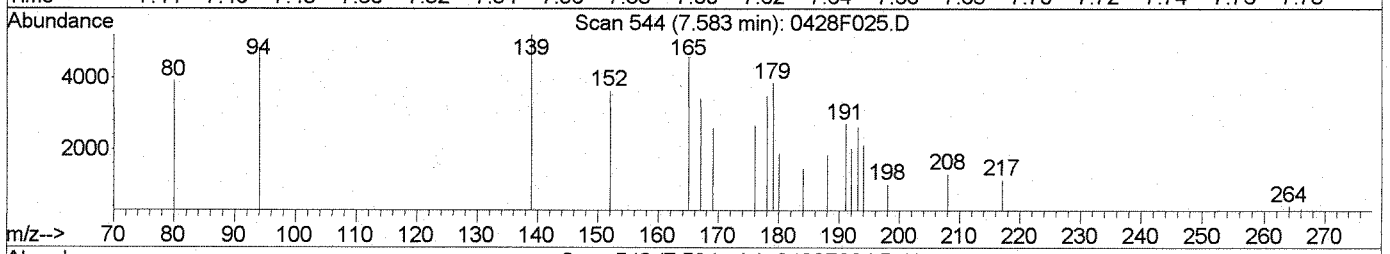
Quantitation Report (Qedit)

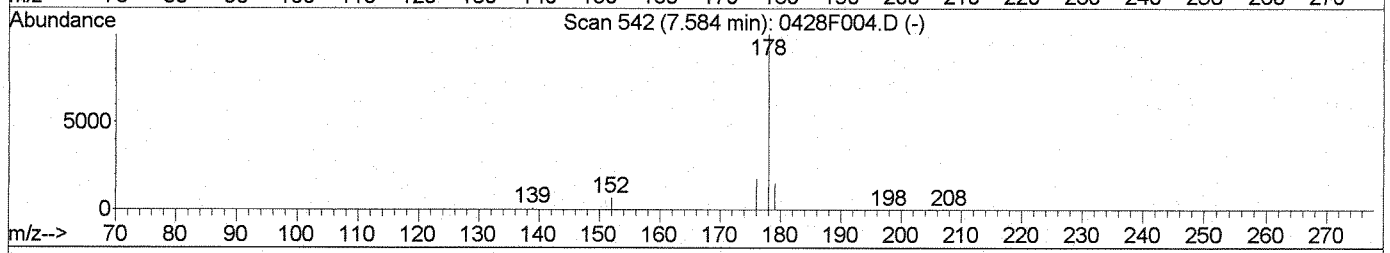
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:32 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(28) Anthracene (T)

7.58min 2.14ng/ml

response 1198

Ion	Exp%	Act%
178.00	100	100
176.00	18.10	29.11
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

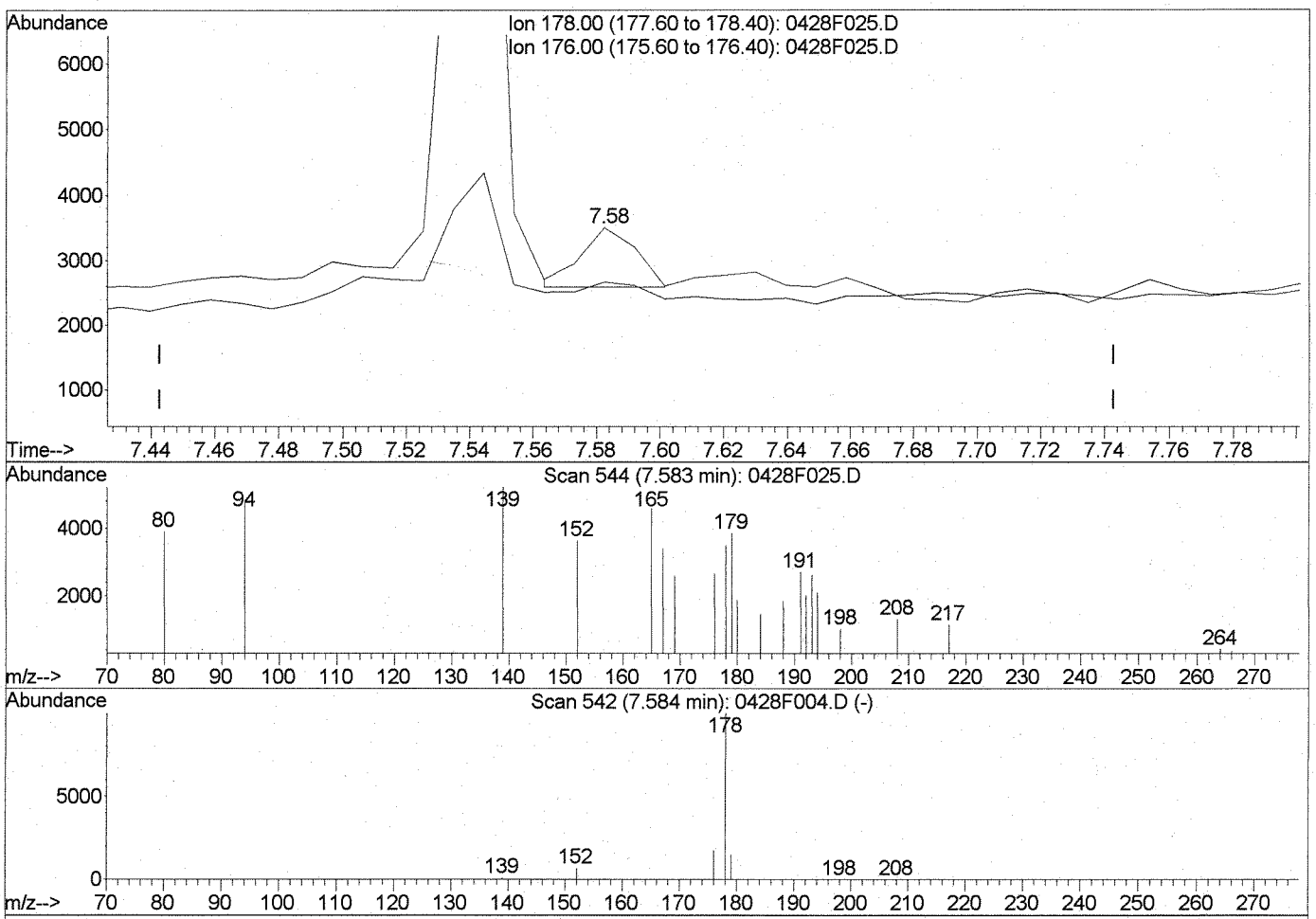
0428F025.D 0227ALK.M Mon Apr 30 05:32:24 2012

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:32 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration



(28) Anthracene (T)

7.58min 1.93ng/ml m

response 1081

Ion	Exp%	Act%
178.00	100	100
176.00	18.10	76.09#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

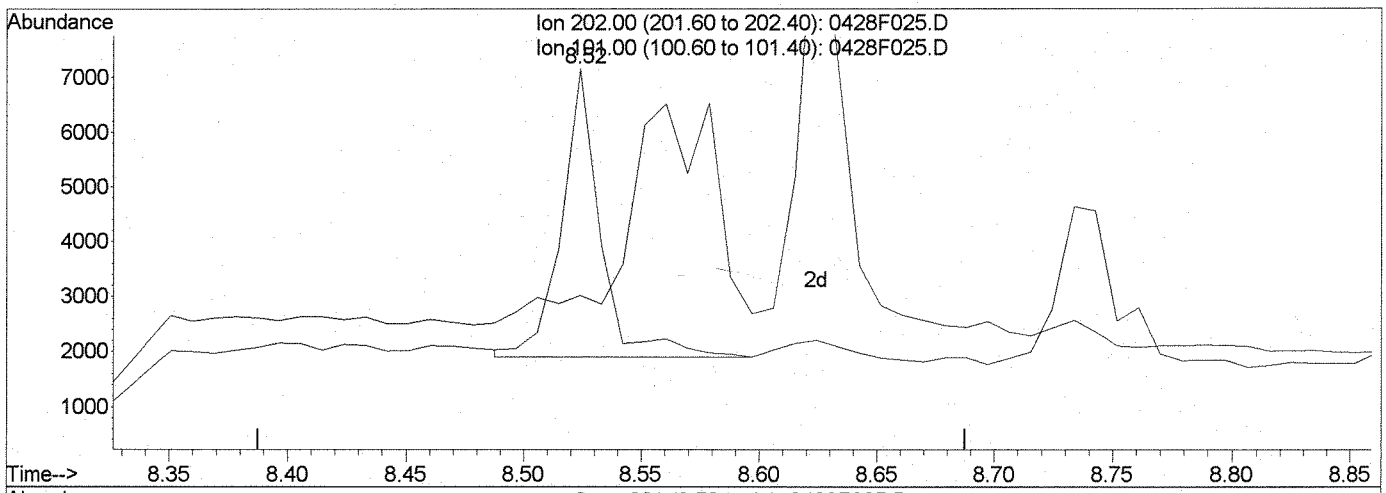
0428F025.D 0227ALK.M Mon Apr 30 05:32:29 2012

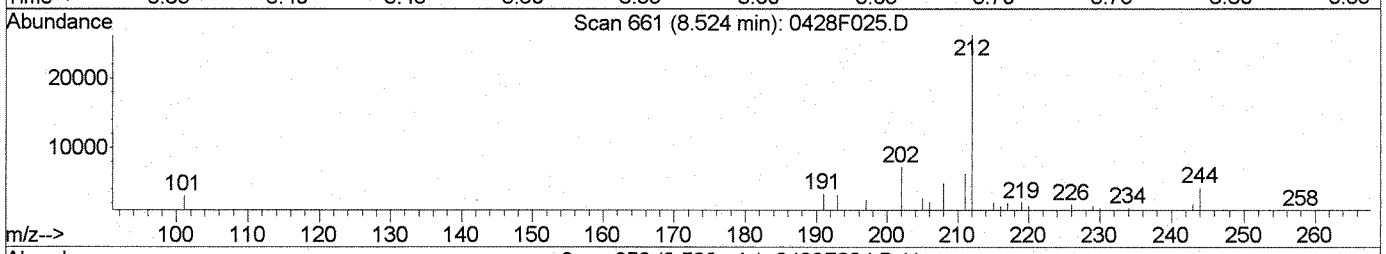
Quantitation Report (Qedit)

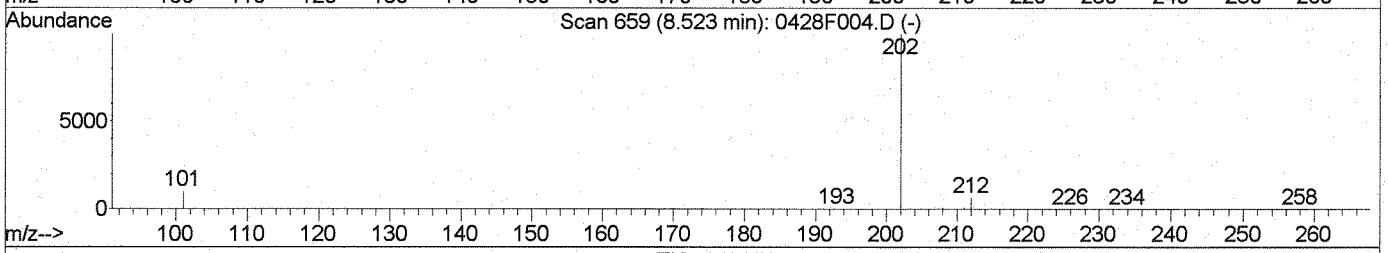
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:32 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(35) Fluoranthene (T)

8.52min 9.11ng/ml

response 5996

Ion	Exp%	Act%
202.00	100	100
101.00	11.70	9.58
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

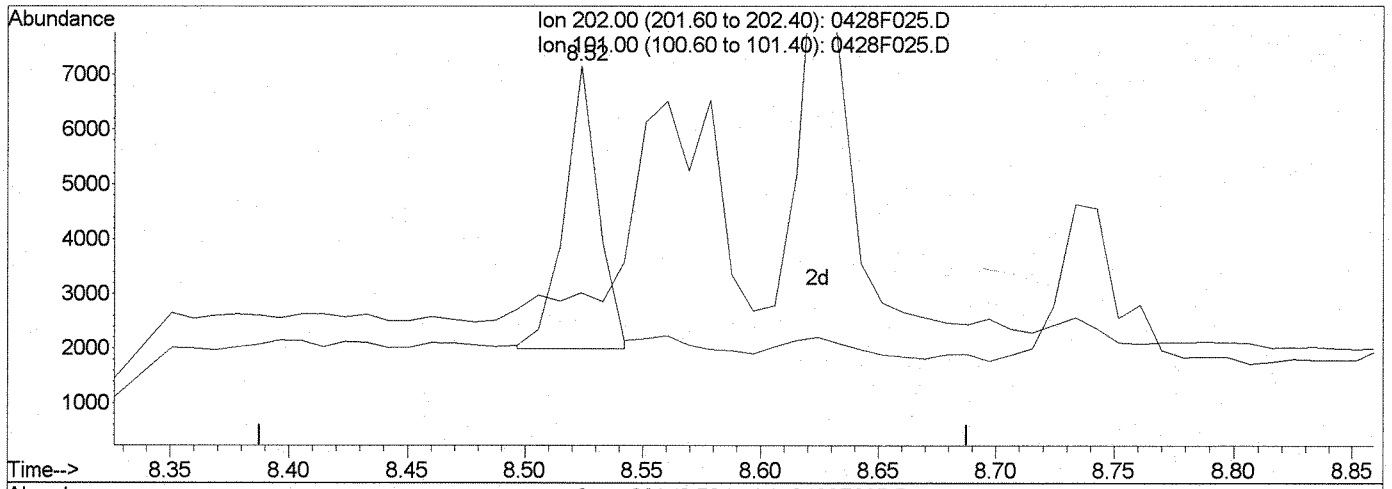
0428F025.D 0227ALK.M Mon Apr 30 05:32:37 2012

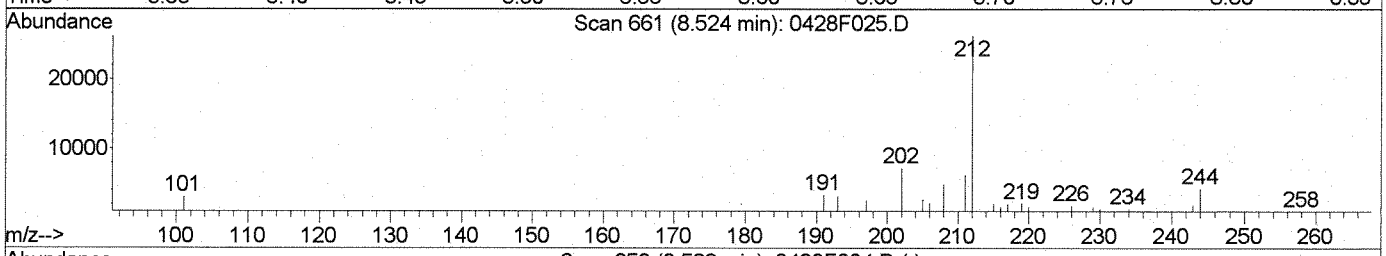
Quantitation Report (Qedit)

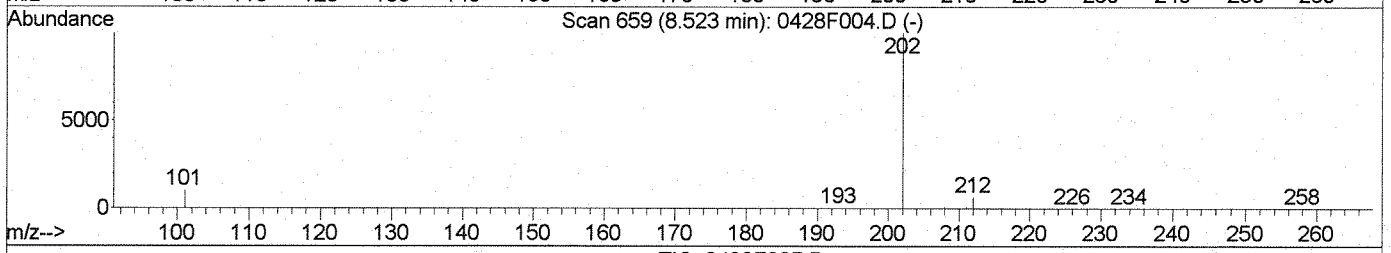
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:32 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(35) Fluoranthene (T)
8.52min 7.87ng/ml m
response 5181

Ion	Exp%	Act%
202.00	100	100
101.00	11.70	42.18#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

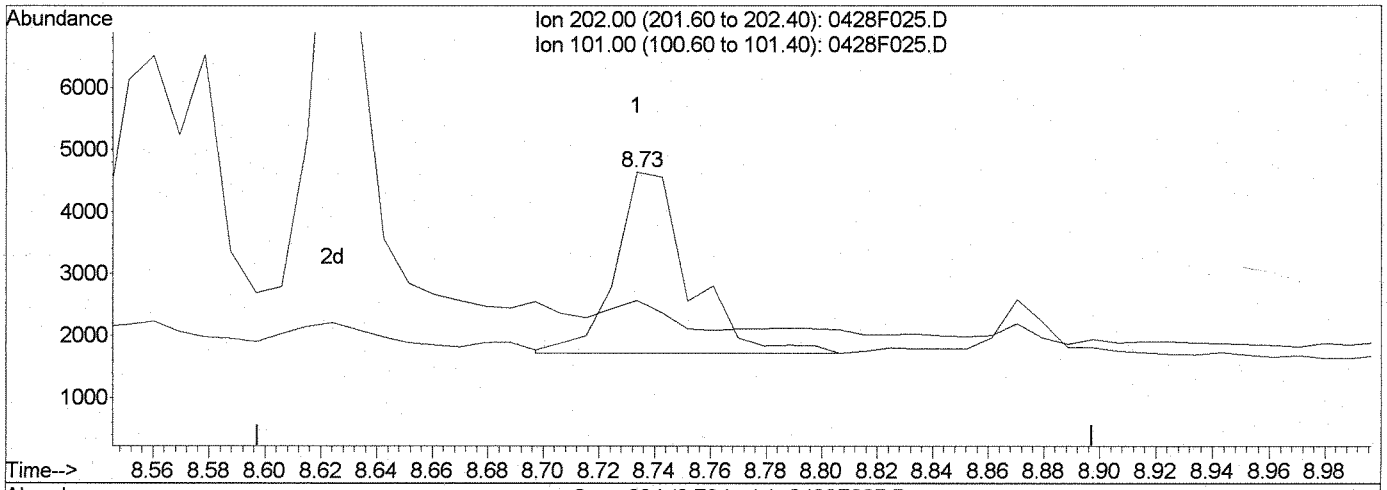
0428F025.D 0227ALK.M Mon Apr 30 05:32:41 2012

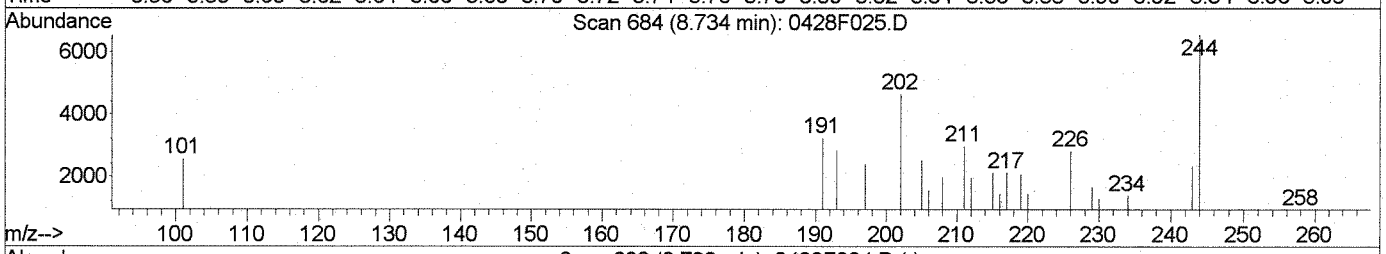
Quantitation Report (Qedit)

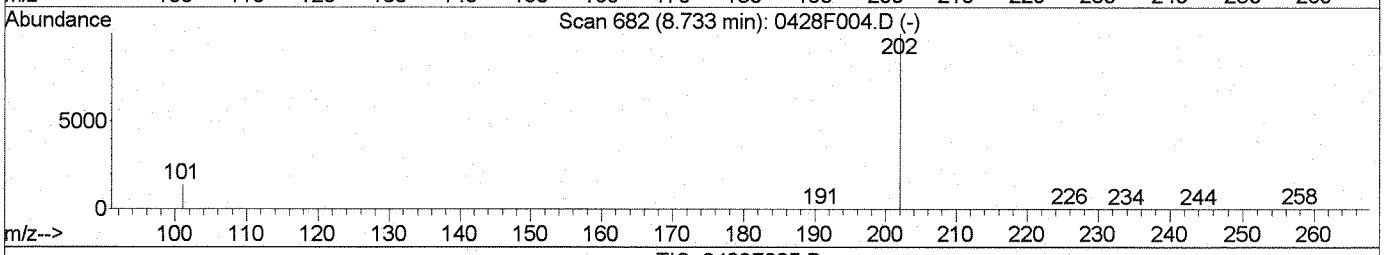
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:32 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(38) Pyrene (T)

8.73min 10.87ng/ml

response 5358

Ion	Exp%	Act%
202.00	100	100
101.00	15.50	16.14
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

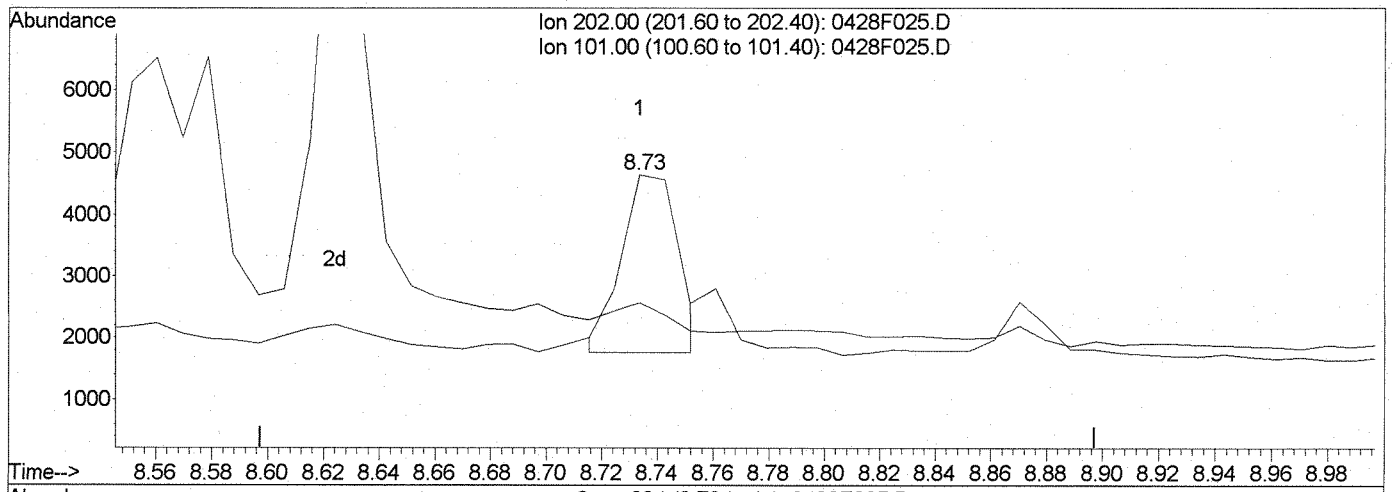
Before

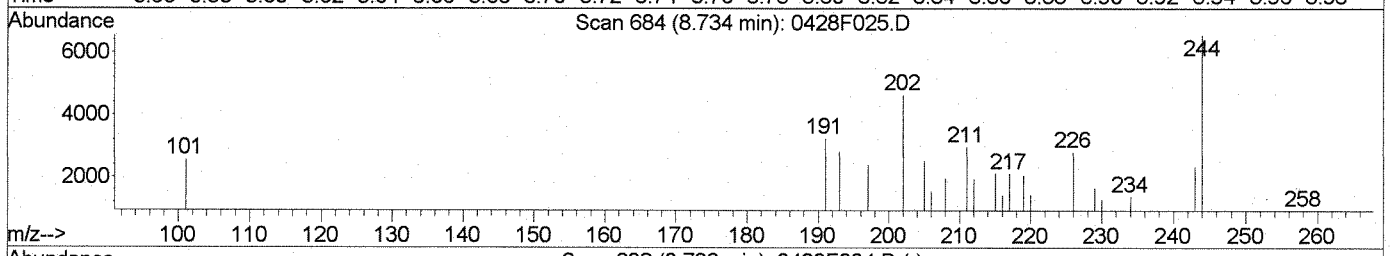
Quantitation Report (Qedit)

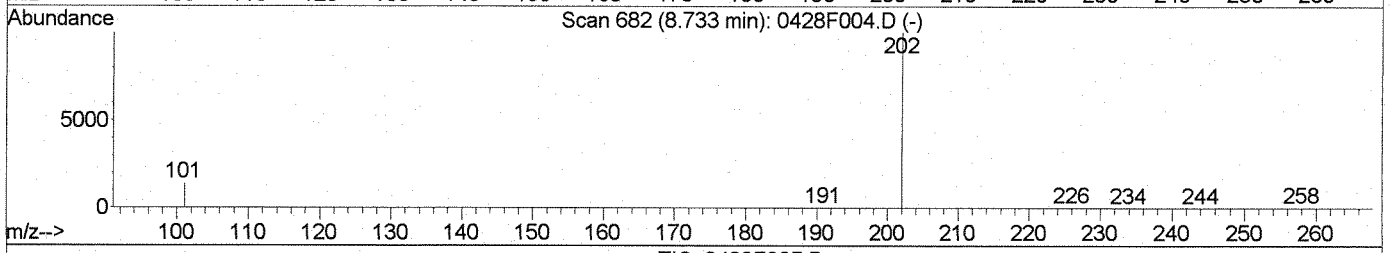
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:32 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(38) Pyrene (T)
8.73min 8.32ng/ml m
response 4099

Ion	Exp%	Act%
202.00	100	100
101.00	15.50	55.36#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

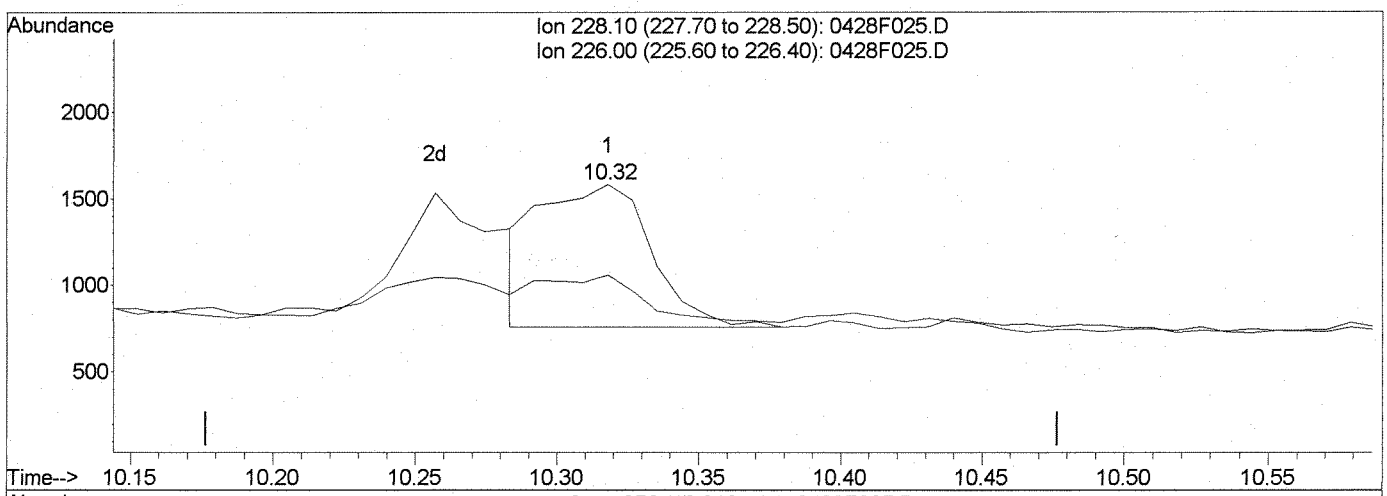
0428F025.D 0227ALK.M Mon Apr 30 05:32:54 2012

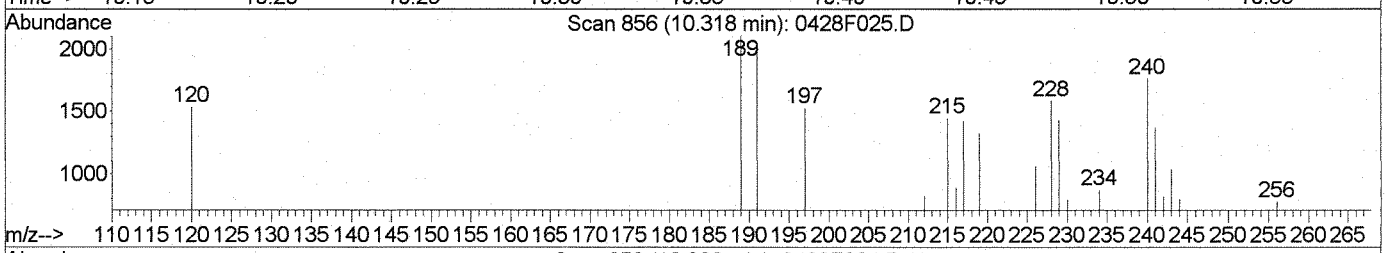
Quantitation Report (Qedit)

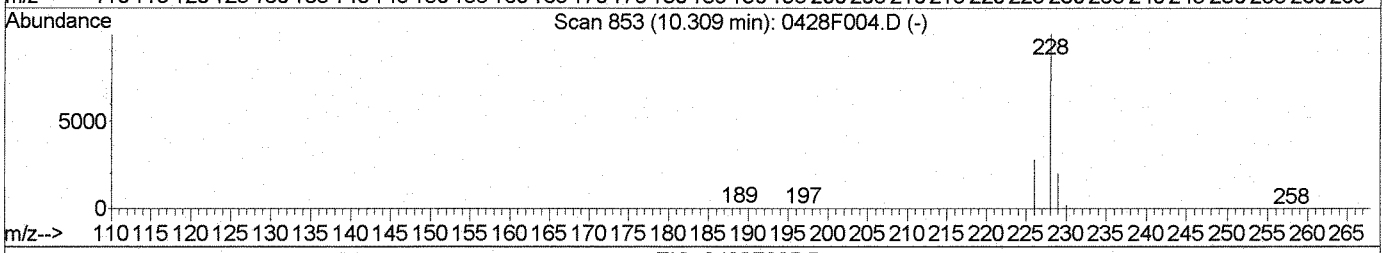
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:32 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(45) Chrysene (T)

10.32min 5.04ng/ml

response 2262

Ion	Exp%	Act%
228.10	100	100
226.00	28.40	33.29
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

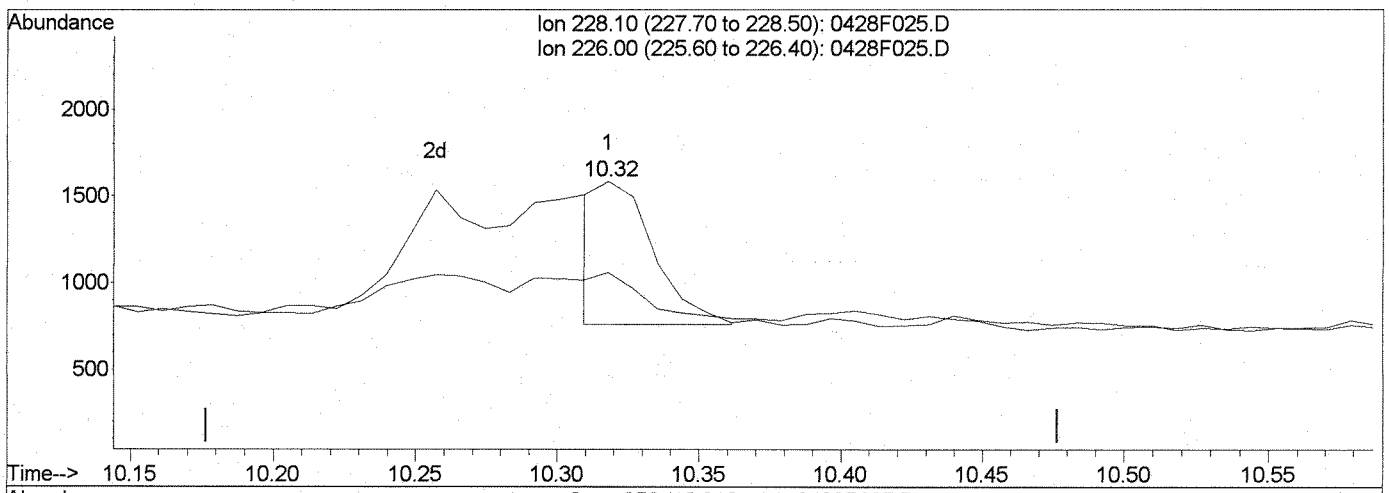
0428F025.D 0227ALK.M Mon Apr 30 05:32:59 2012

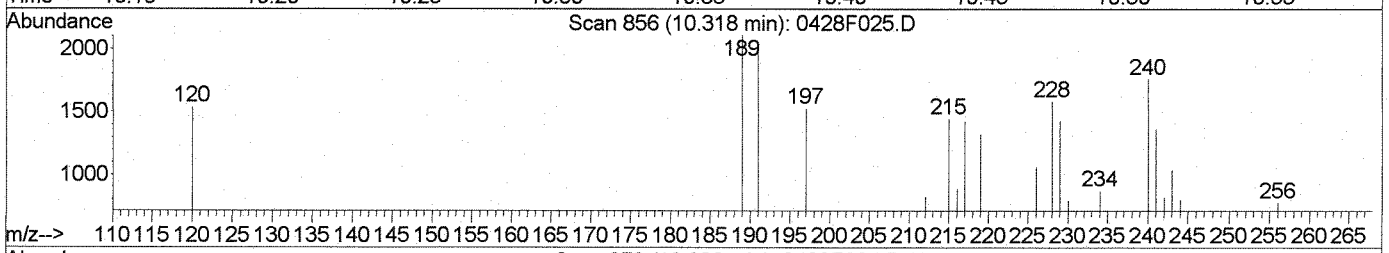
Quantitation Report (Qedit)

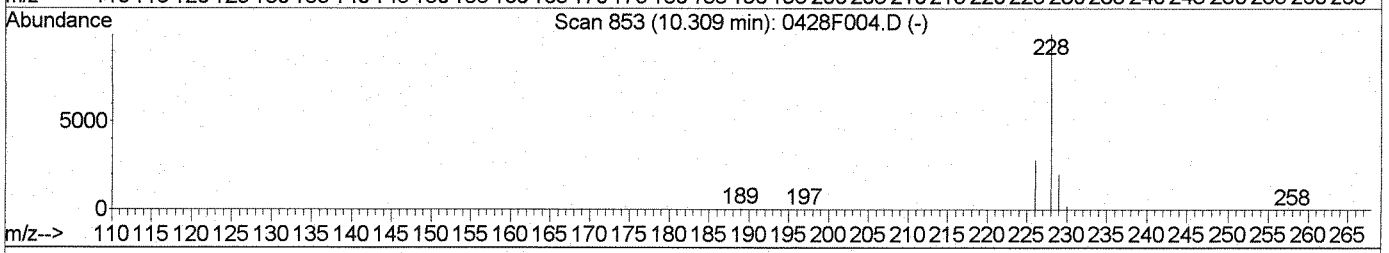
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:33 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(45) Chrysene (T)
10.32min 2.46ng/ml m
response 1106

Ion	Exp%	Act%
228.10	100	100
226.00	28.40	66.88#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

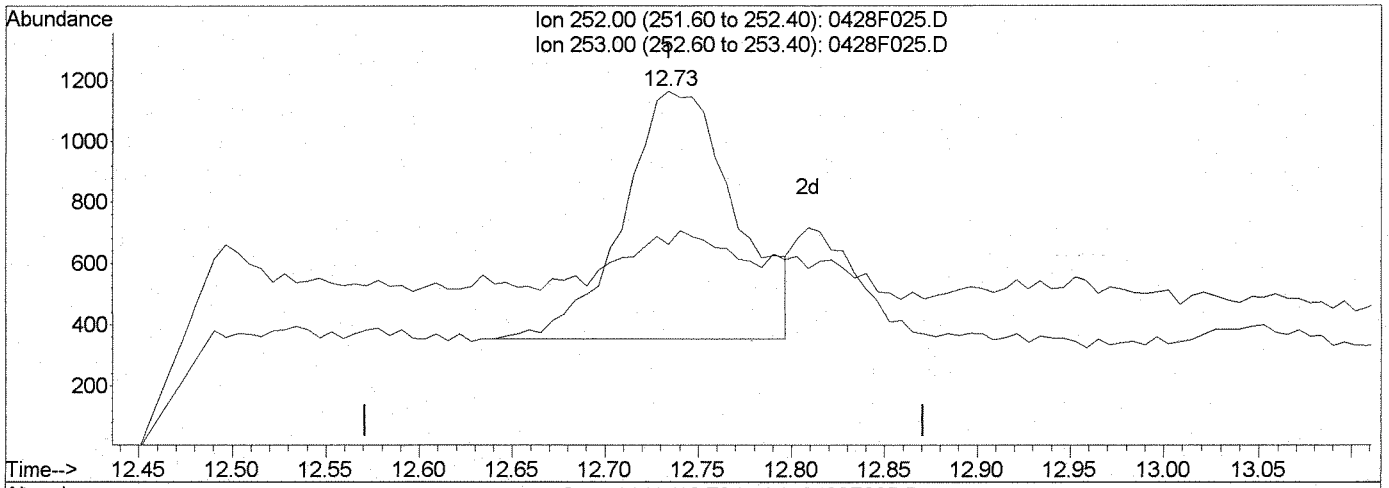
0428F025.D 0227ALK.M Mon Apr 30 05:33:04 2012

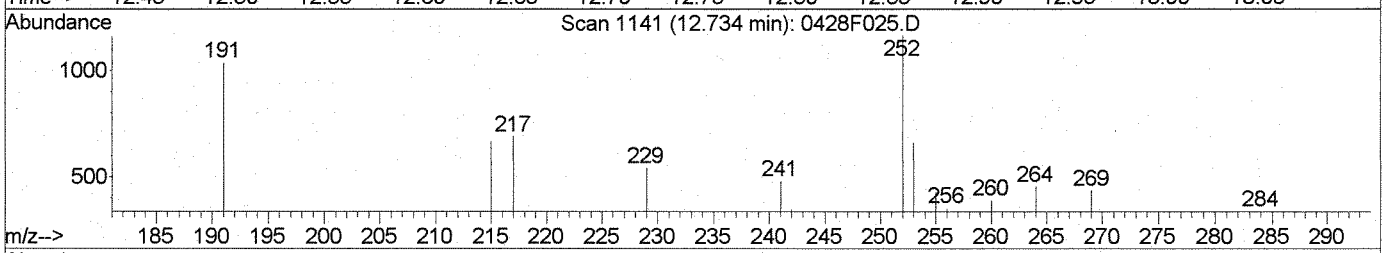
Quantitation Report (Qedit)

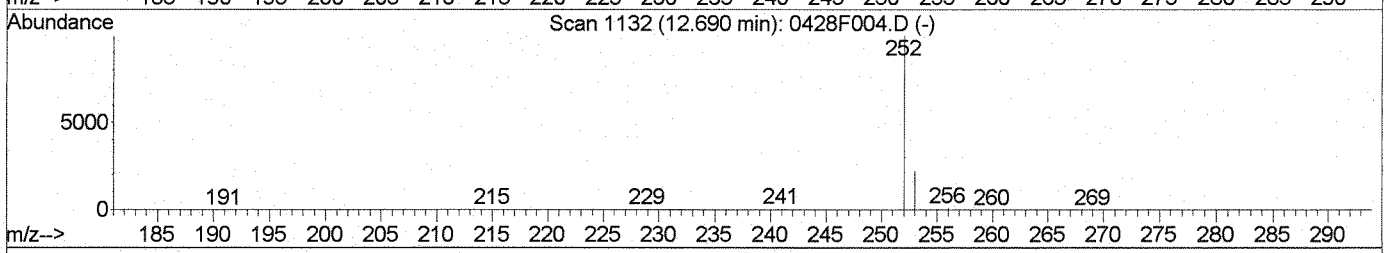
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:33 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(51) Benzo(b)fluoranthene (T)

12.73min 6.98ng/ml

response 3365

Ion	Exp%	Act%
252.00	100	100
253.00	21.90	15.91
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

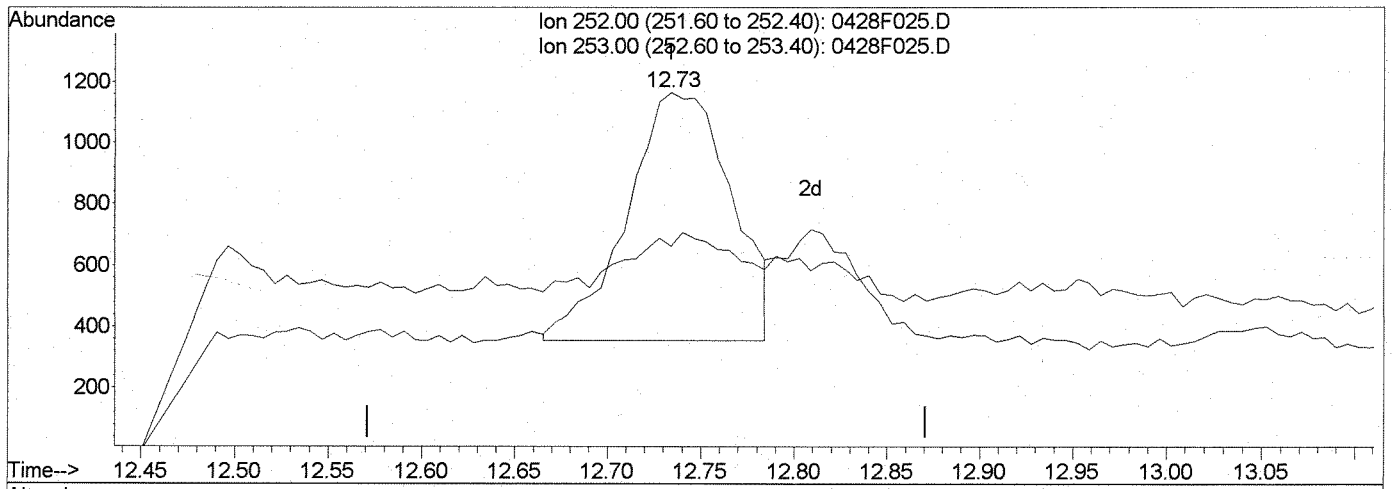
0428F025.D 0227ALK.M Mon Apr 30 05:33:10 2012

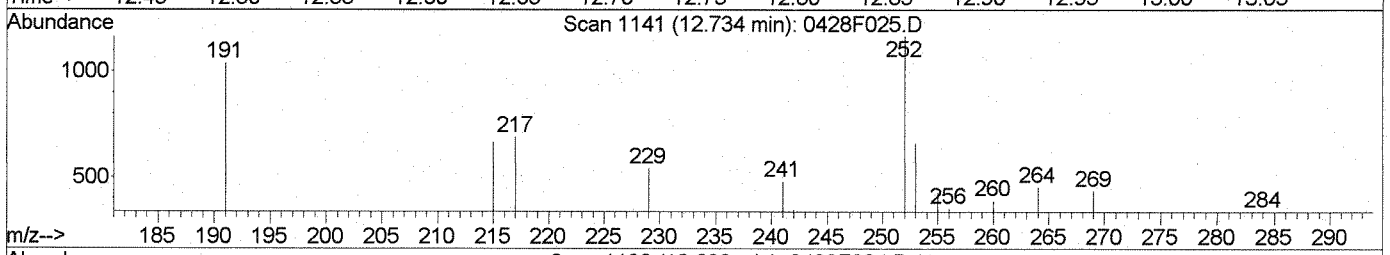
Quantitation Report (Qedit)

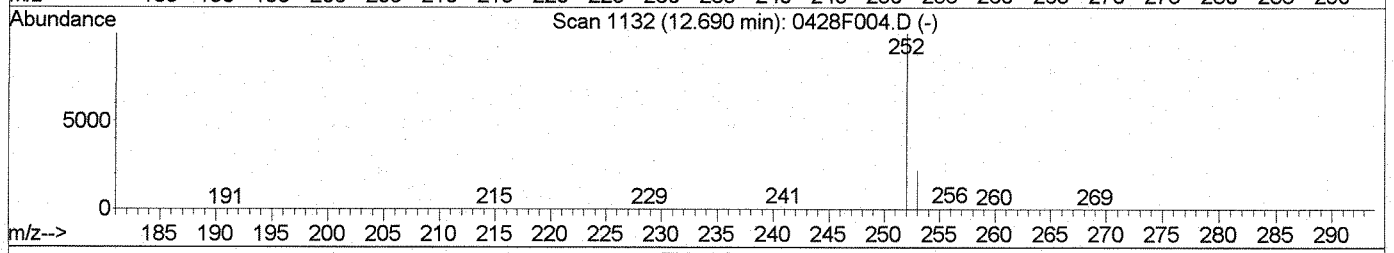
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:33 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(51) Benzo(b)fluoranthene (T)

12.73min 6.52ng/ml m

response 3142

Ion	Exp%	Act%
252.00	100	100
253.00	21.90	56.82#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

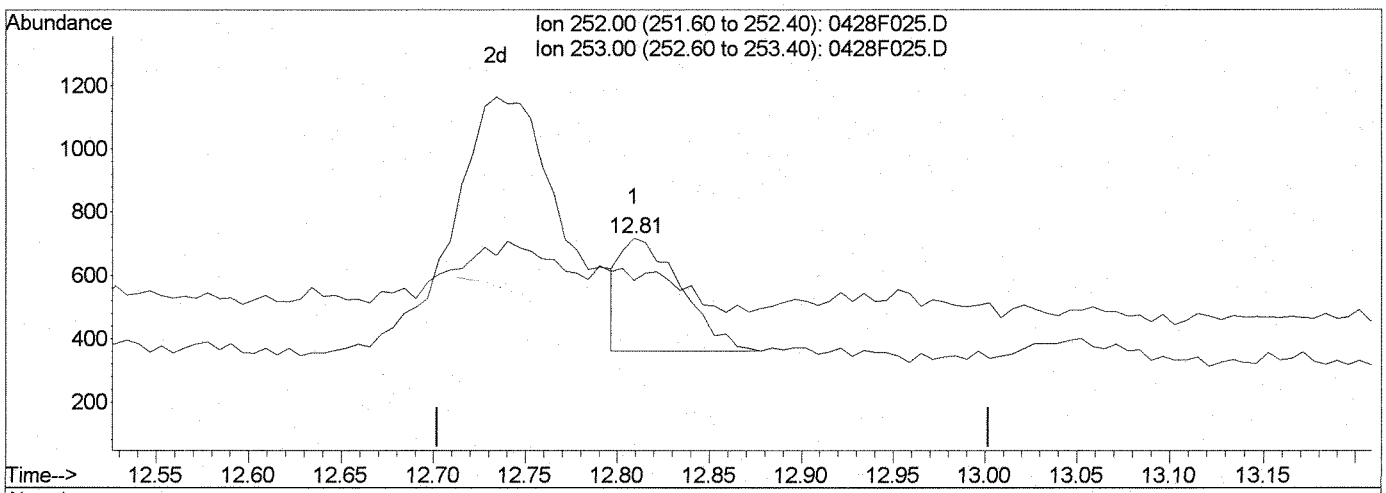
0428F025.D 0227ALK.M Mon Apr 30 05:33:14 2012

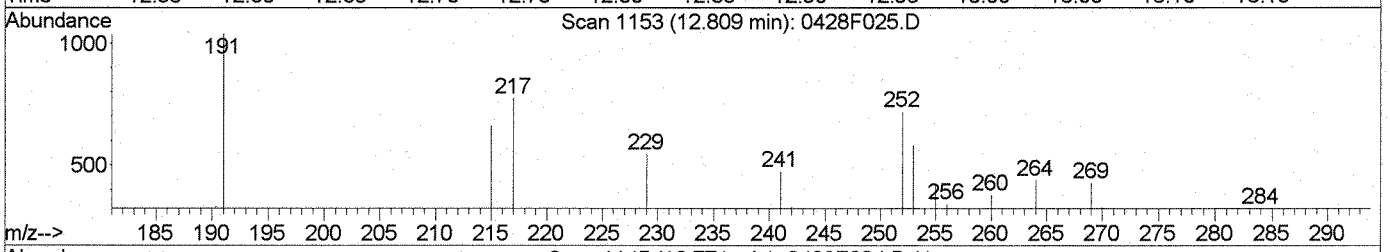
Quantitation Report (Qedit)

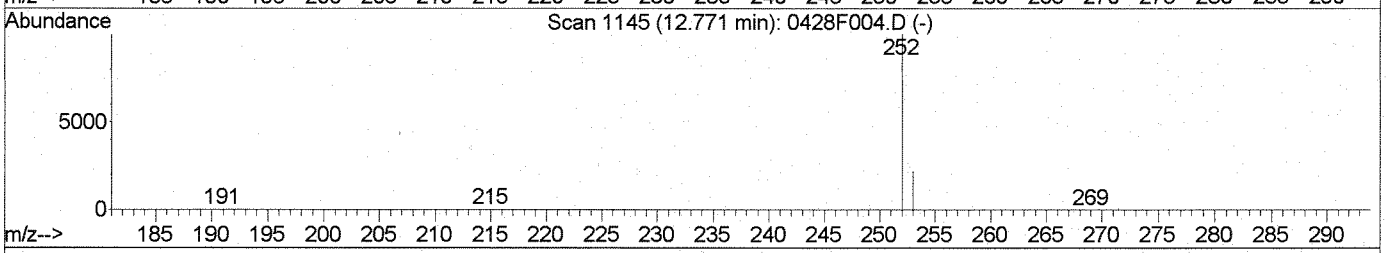
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:33 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(52) Benzo(k)fluoranthene (T)

12.81min 1.75ng/ml

response 815

Ion	Exp%	Act%
252.00	100	100
253.00	22.00	24.72
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

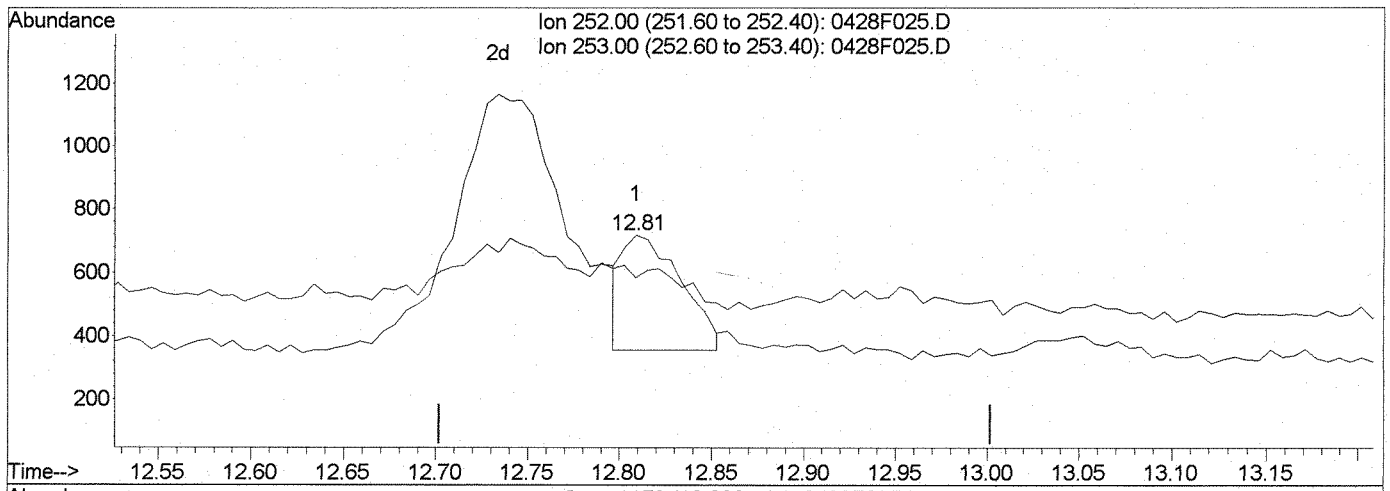
0428F025.D 0227ALK.M Mon Apr 30 05:33:17 2012

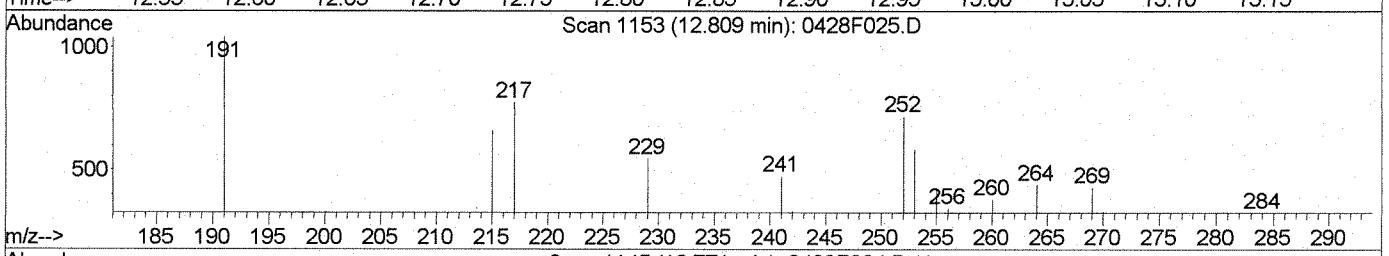
Quantitation Report (Qedit)

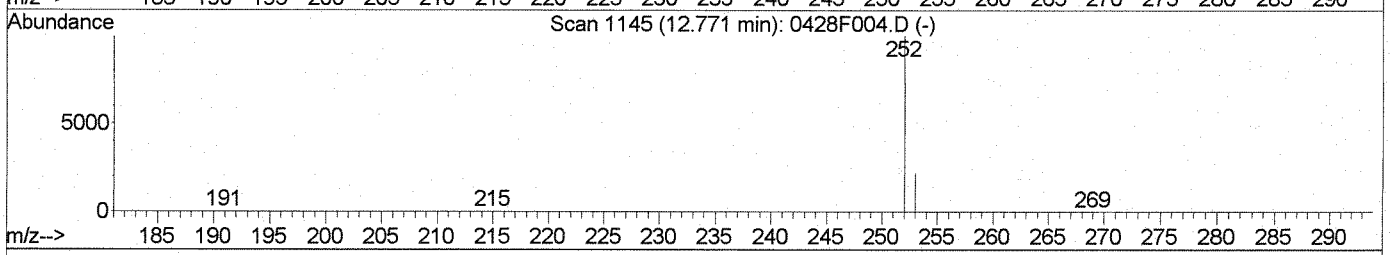
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:33 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(52) Benzo(k)fluoranthene (T)

12.81min 1.74ng/ml m

response 810

Ion	Exp%	Act%
252.00	100	100
253.00	22.00	81.31#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

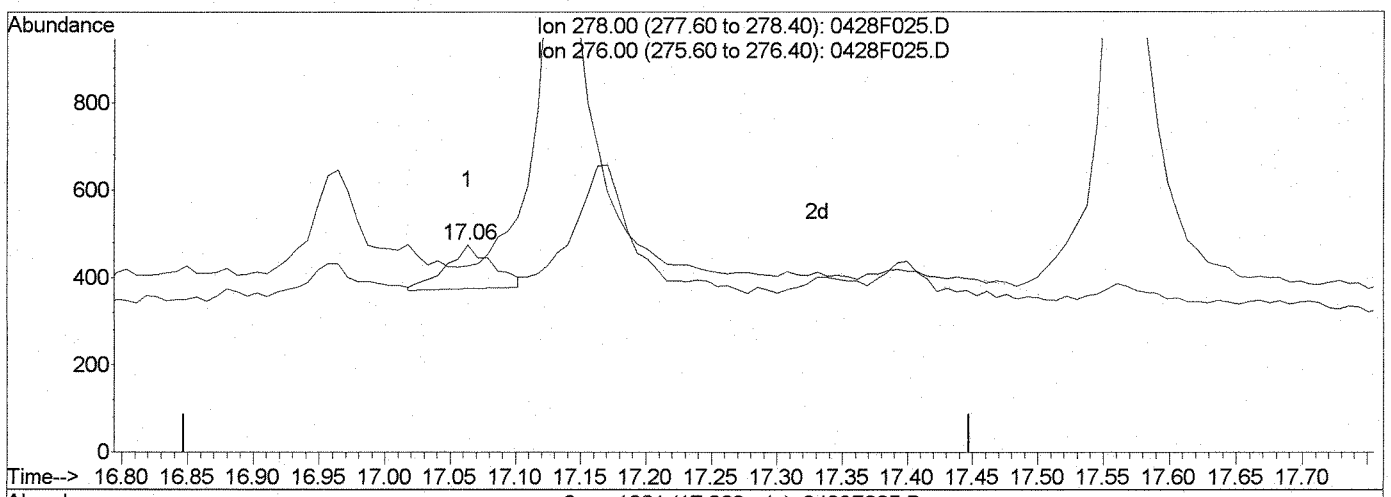
0428F025.D 0227ALK.M Mon Apr 30 05:33:21 2012

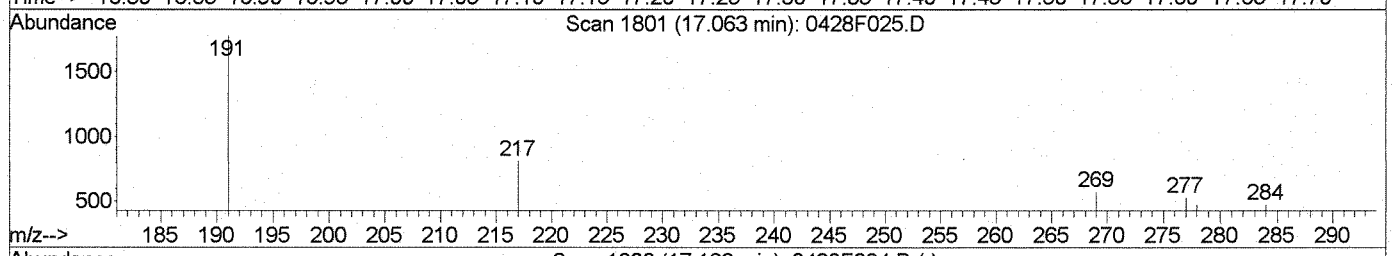
Quantitation Report (Qedit)

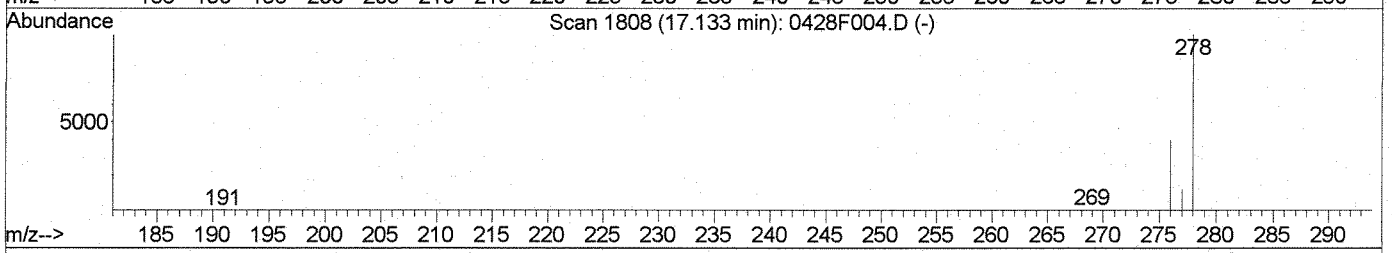
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:33 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(57) Dibenz(a,h)anthracene (T)

17.06min 0.57ng/ml

response 247

Ion	Exp%	Act%
278.00	100	100
276.00	25.10	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

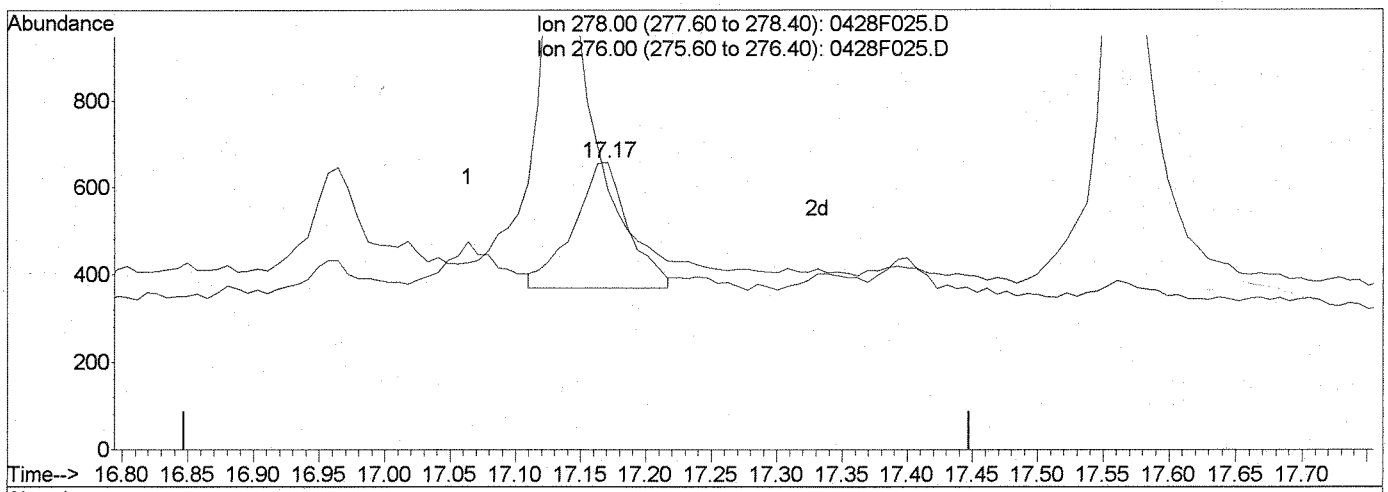
0428F025.D 0227ALK.M Mon Apr 30 05:33:40 2012

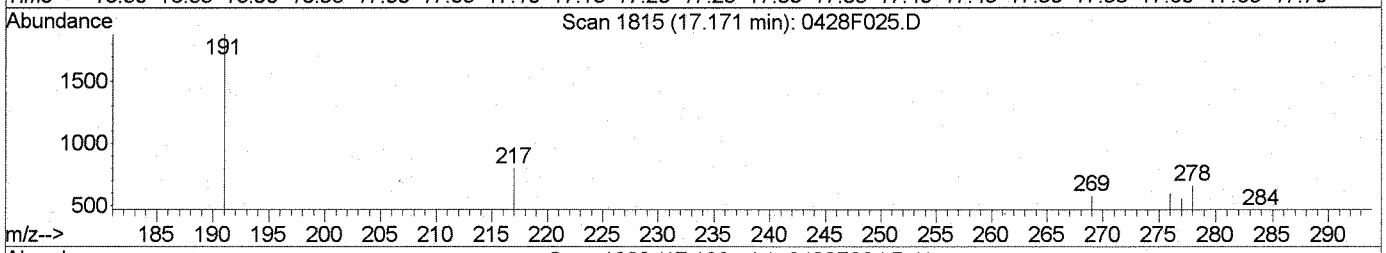
Quantitation Report (Qedit)

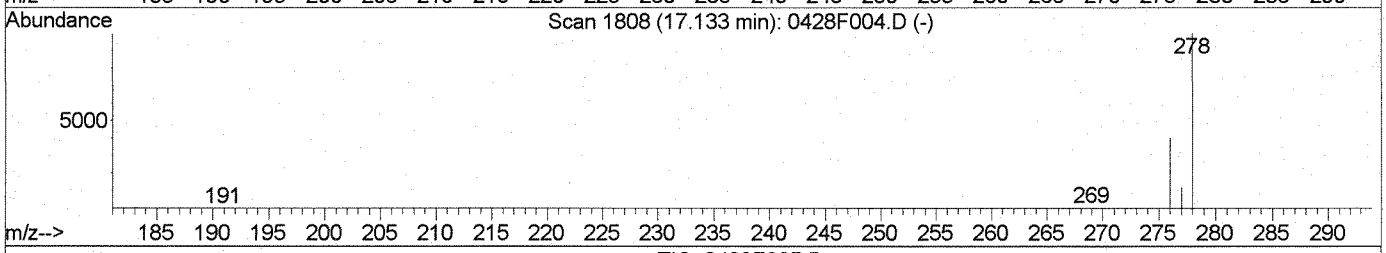
Data File : J:\MS11\DATA\042812\0428F025.D
Acq On : 28 Apr 2012 6:09 pm
Sample : K1203695-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:33 2012

Vial: 21
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F025.D

(57) Dibenz(a,h)anthracene (T)

17.17min 1.96ng/ml m

response 843

Ion	Exp%	Act%
278.00	100	100
276.00	25.10	90.58#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
WP
04/30/12

MAY 0 1 2012

0428F025.D 0227ALK.M Mon Apr 30 05:33:45 2012

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	04/19/2012
Sample Matrix:	Water	**Date Received:**	04/20/2012

Polynuclear Aromatic Hydrocarbons

Sample Name:	Outfall B	**Units:**	ng/L
Lab Code:	K1203695-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**24**		3.3	0.71	1	04/25/12	04/28/12	KWG1204233	
2-Methylnaphthalene	**6.0**		3.3	0.40	1	04/25/12	04/28/12	KWG1204233	
Acenaphthylene	**3.0**	JX	3.3	0.37	1	04/25/12	04/28/12	KWG1204233	
Acenaphthene	**9.0**		3.3	0.36	1	04/25/12	04/28/12	KWG1204233	
Fluorene	**13**		3.3	0.42	1	04/25/12	04/28/12	KWG1204233	
Phenanthrene	**56**		3.3	0.72	1	04/25/12	04/28/12	KWG1204233	
Anthracene	**2.8**	JX	3.3	0.29	1	04/25/12	04/28/12	KWG1204233	
Fluoranthene	**29**		3.3	0.46	1	04/25/12	04/28/12	KWG1204233	
Pyrene	**25**		3.3	0.78	1	04/25/12	04/28/12	KWG1204233	
Benz(a)anthracene	**4.7**	X	3.3	0.34	1	04/25/12	04/28/12	KWG1204233	
Chrysene	**5.2**	X	3.3	0.65	1	04/25/12	04/28/12	KWG1204233	
Benzo(b)fluoranthene	**7.5**		3.3	0.25	1	04/25/12	04/28/12	KWG1204233	
Benzo(k)fluoranthene	**1.2**	J	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Benzo(a)pyrene	**3.0**	J	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Indeno(1,2,3-cd)pyrene	**4.2**		3.3	0.44	1	04/25/12	04/28/12	KWG1204233	
Dibenz(a,h)anthracene	**0.71**	J	3.3	0.45	1	04/25/12	04/28/12	KWG1204233	
Benzo(g,h,i)perylene	**4.2**		3.3	0.36	1	04/25/12	04/28/12	KWG1204233	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	74	29-98	04/28/12	Acceptable
Fluoranthene-d10	68	31-105	04/28/12	Acceptable
Terphenyl-d14	83	27-112	04/28/12	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\042812\0428F026.D
Lab ID: K1203695-002
RunType: SMPL
Matrix: WATER

Date Acquired: 04/28/2012 18:36
Date Quantitated: 04/30/2012 05:36
Batch ID: KWG1204349
Analysis Method: 8270D SIM
ListJoinID: LJ12722

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Duplicate Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: APR 30 2012

Secondary Review: MAY 01 2012

Printed: 04/30/2012 06:19:34
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS11\DATA\042812\0428F026.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 18:36	**Quant Date:**	04/30/2012 05:36	**Vial:**	22
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1203695-002			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**	V	**Matrix:**	WATER
Prod Code:	8270D PAH SIM U	**Collect Date:**	04/19/2012	**Receive Date:**	04/20/2012

Analysis Lot:	KWG1204349	**Prep Lot:**	KWG1204233	**Report Group:**	K1203695
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	1120120	**Prep Date:**	04/25/2012		

Quant Method:	J:\MS11\METHODS\SIM\0227ALK.M	**Calibration ID:**	CAL11297
Title:	Polynuclear Aromatic Hydrocarbons	**Report List ID:**	LJ12722
Tune Ref:	J:\MS11\DATA\042812\0428F003.D	**Method ID:**	MJ1189
MB Ref:	J:\MS11\DATA\042812\0428F006.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.01	136	167311	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	95490	200.00	OK
3	Phenanthrene-d10	7.53	0.01	188	183295	200.00	OK
4	Chrysene-d12	10.27	0.00	240	185467	200.00	OK
5	Perylene-d12	13.96	0.03	264	169246	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.71	-0.01	0.00	176	413240	736.35	74	29-98 OK	
3	Fluoranthene-d10	8.51	0.00	0.00	212	770668	684.38	68	31-105 OK	
4	Terphenyl-d14	8.88	0.00	0.00	244	644100	830.66	83	27-112 OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.89		0.00	128	24060	25.63	24		
1	2-Methylnaphthalene	5.44		0.00	142	4144**m**	6.27	6.0		
2	Acenaphthylene	6.18	0.01	0.00	152	2993**m**	3.14	3.0	JX	
2	Acenaphthene	6.31		0.00	154	5571**m**	9.47	9.0		
2	Fluorene	6.73	-0.01	0.00	166	9654**m**	13.46	13		
3	Phenanthrene	7.55	0.01	0.00	178	64149**m**	58.31	56		
3	Anthracene	7.58		0.00	178	3098**m**	2.93	2.8	JX	
3	Fluoranthene	8.52		0.00	202	37434**m**	30.14	29		
4	Pyrene	8.73		0.00	202	29145	26.28	25		
4	Benz(a)anthracene	10.26	0.01	0.00	228	5178	4.92	4.7	X	
4	Chrysene	10.31		0.00	228	5462	5.41	5.2	X	
5	Benzo(b)fluoranthene	12.73	0.04	0.00	252	7769**m**	7.90	7.5		

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

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

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

Data File:	J:\MS11\DATA\042812\0428F026.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 18:36	**Quant Date:**	04/30/2012 05:36	**Vial:**	22
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1203695-002			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
5	Benzo(k)fluoranthene	12.81	0.04	0.00	252	1147**m**	1.21	1.2	J	
5	Benzo(a)pyrene	13.77	0.04	0.00	252	2635	3.17	3.0	J	
5	Indeno(1,2,3-cd)pyrene	17.13	0.04	0.00	276	3817	4.39	4.2		
5	Dibenz(a,h)anthracene	17.15	0.02	0.00	278	660**m**	0.7500	0.71	J	
5	Benzo(g,h,i)perylene	17.56	0.04	0.00	276	4535	4.40	4.2		

Prep Amount:	1050 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F026.D Vial: 22
Acq On : 28 Apr 2012 6:36 pm Operator: LWeiskopf
Sample : K1203695-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 30 04:50:56 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	167311	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.29	164	95490	200.00	ng/ml	-0.01
22) Phenanthrene-d10	7.53	188	183295	200.00	ng/ml	0.00
37) Chrysene-d12	10.27	240	185467	200.00	ng/ml	0.00
50) Perylene-d12	13.96	264	169246	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.71	176	413240	736.35	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 73.64%			
20) 2,4,6 Tribromophenol	6.95	330	149040	1191.56	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 119.16%			
36) Fluoranthene-d10	8.51	212	770668	684.38	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 68.44%			
43) Terphenyl-d14	8.88	244	644100	830.66	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 83.07%			
Target Compounds						Qvalue
2) Naphthalene	4.89	128	24060	25.63	ng/ml	92
3) 2-Methylnaphthalene	5.44	142	4144m	6.27	ng/ml	
4) 1-Methylnaphthalene	5.52	142	4276m	7.34	ng/ml	
5) Biphenyl	5.81	154	2879m	3.66	ng/ml	
6) 2,6-Dimethylnaphthalene	5.95	156	1337	2.35	ng/ml	78
11) Acenaphthylene	6.18	152	2993m	3.14	ng/ml	
12) Acenaphthene	6.31	154	5571m	9.47	ng/ml	
13) Dibenzofuran	6.46	168	8649	9.76	ng/ml	89
16) Fluorene	6.73	166	9654m	13.46	ng/ml	
21) Pentachlorophenol	7.41	266	3758	90.83	ng/ml	97
23) Dibenzothiophene	7.44	184	5328	5.32	ng/ml	83
27) Phenanthrene	7.55	178	64149m	58.31	ng/ml	
28) Anthracene	7.58	178	3098m	2.93	ng/ml	
29) Carbazole	7.74	167	7064m	7.39	ng/ml	
30) 1-Methylphenanthrene	8.04	192	2134m	2.62	ng/ml	
35) Fluoranthene	8.52	202	37434m	30.14	ng/ml	
38) Pyrene	8.73	202	29145	26.28	ng/ml	100
44) Benz(a)anthracene	10.26	228	5178	4.92	ng/ml	89
45) Chrysene	10.31	228	5462	5.41	ng/ml	95
51) Benzo(b)fluoranthene	12.73	252	7769m	7.90	ng/ml	
52) Benzo(k)fluoranthene	12.81	252	1147m	1.21	ng/ml	
53) Benzo(e)pyrene	13.59	252	3904	4.47	ng/ml	96
54) Benzo(a)pyrene	13.77	252	2635	3.17	ng/ml	82
56) Indeno(1,2,3-cd)pyrene	17.13	276	3817	4.39	ng/ml	94
57) Dibenz(a,h)anthracene	17.15	278	660m	0.75	ng/ml	

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F026.D Vial: 22
Acq On : 28 Apr 2012 6:36 pm Operator: LWeiskopf
Sample : K1203695-002 Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 30 04:50:56 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
58) Benzo(g,h,i)perylene	17.56	276	4535	4.40	ng/ml	99

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

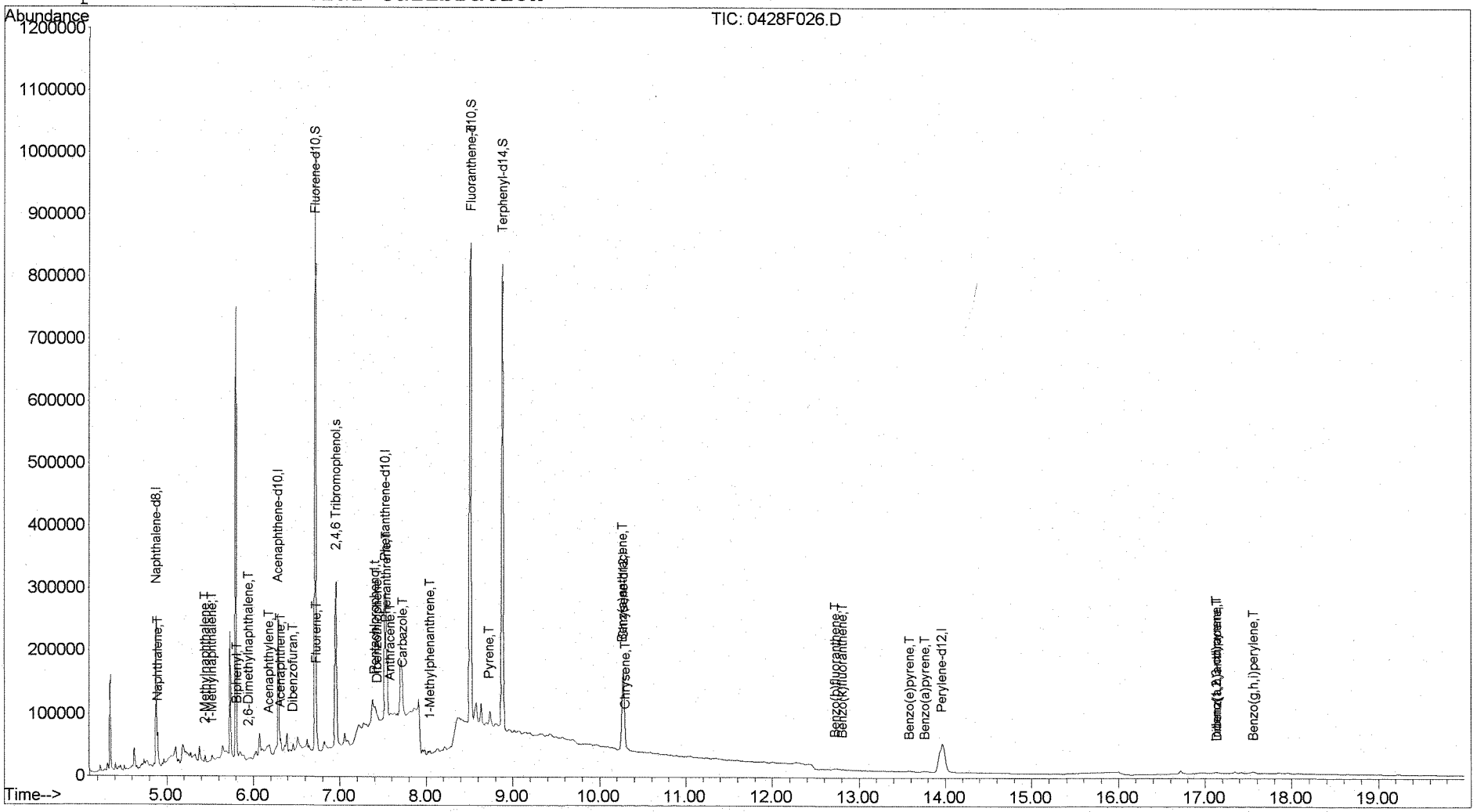
Quantitation Report (QT Reviewed)

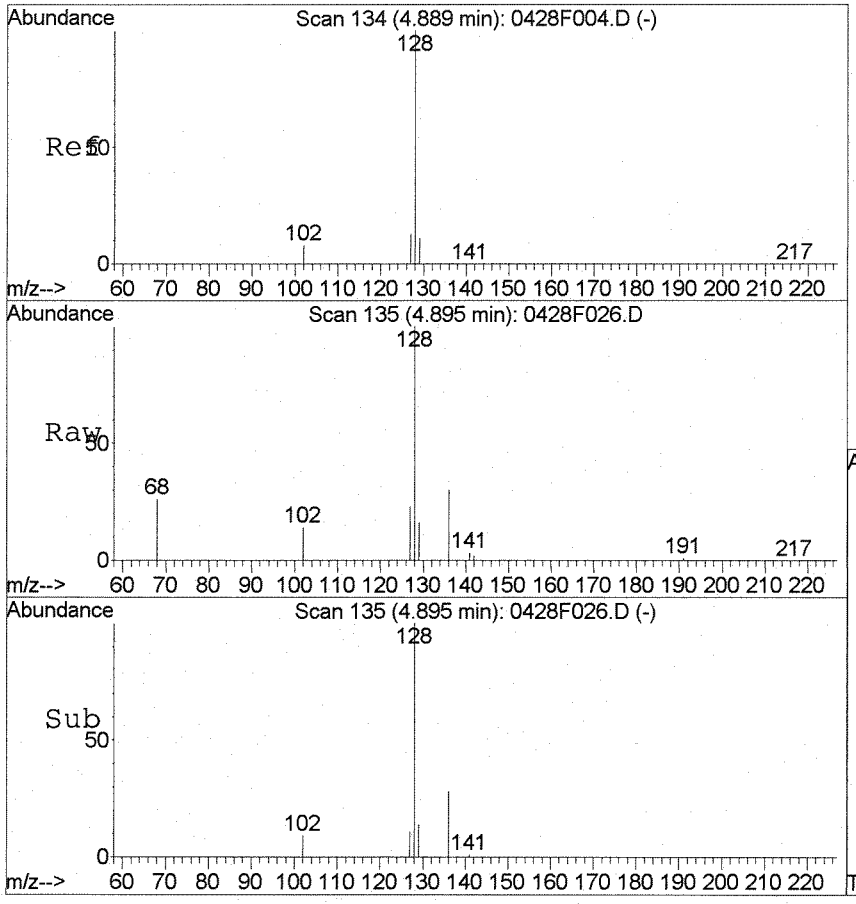
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:36 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration

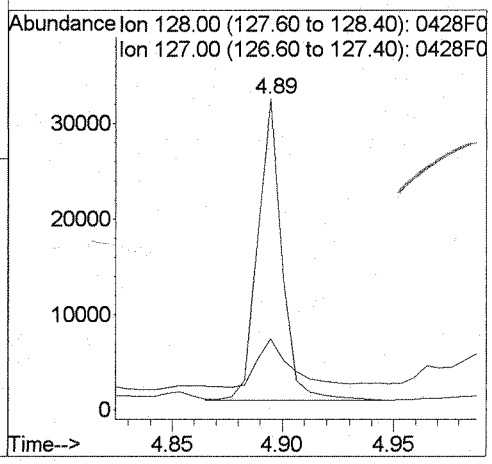


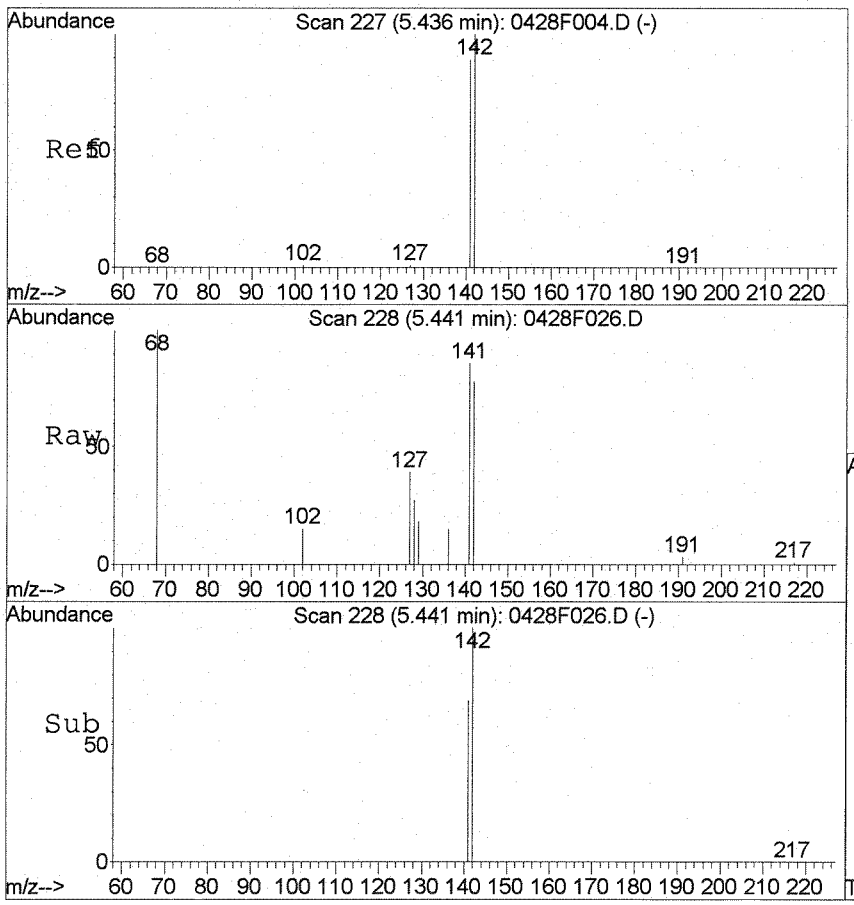


#2
Naphthalene
Concen: 25.63 ng/ml
RT: 4.89 min Scan# 135
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:128 Resp: 24060

Ion	Ratio	Lower	Upper
128	100		
127	15.6	0.0	42.3

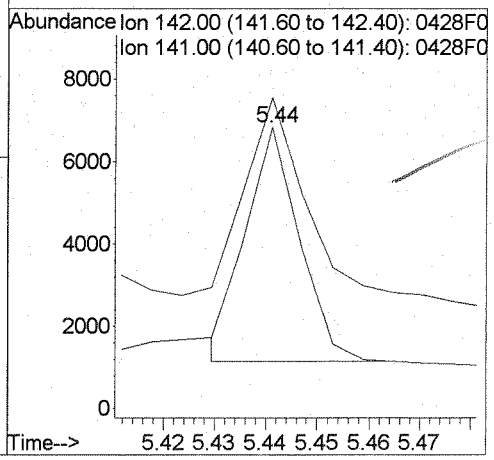


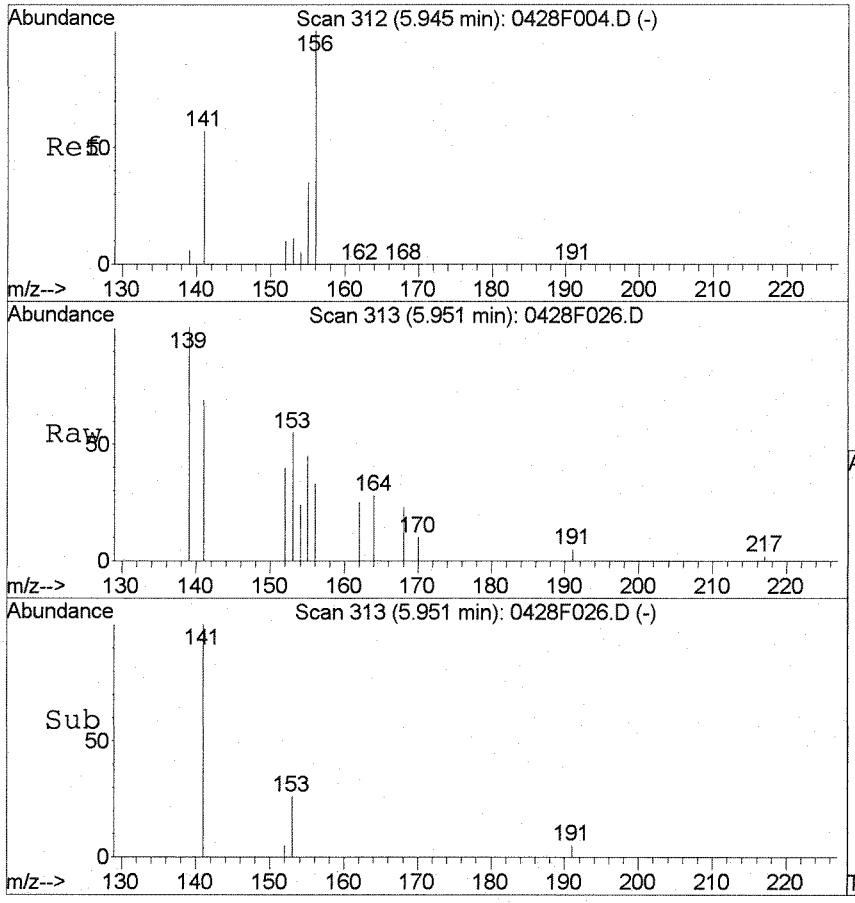


#3
2-Methylnaphthalene
Concen: 6.27 ng/ml m
RT: 5.44 min Scan# 228
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:142 Resp: 4144

Ion	Ratio	Lower	Upper
142	100		
141	110.6	60.1	120.1

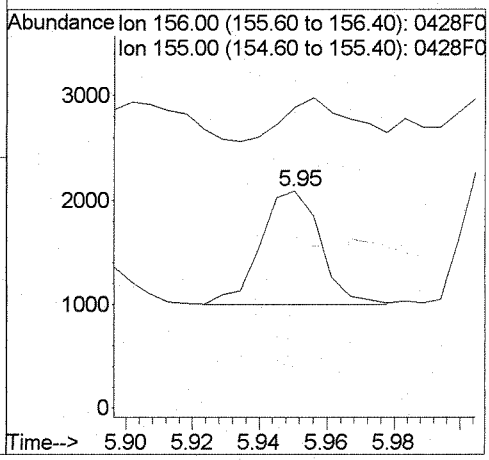


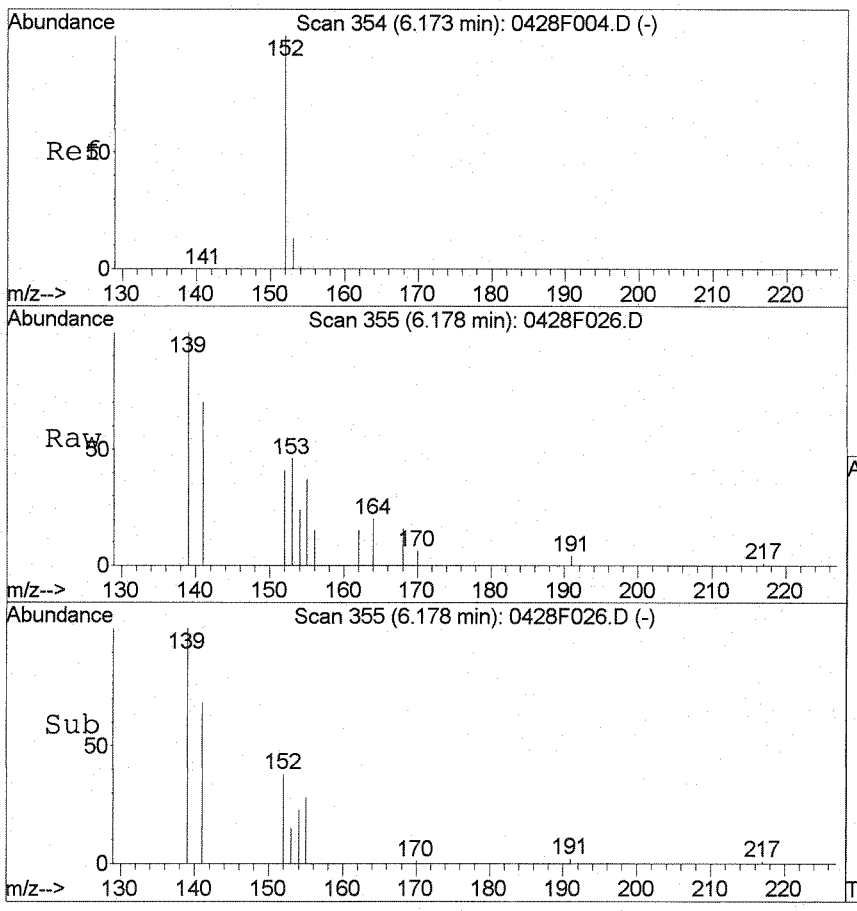


#6
2,6-Dimethylnaphthalene
Concen: 2.35 ng/ml
RT: 5.95 min Scan# 313
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:156 Resp: 1337

Ion	Ratio	Lower	Upper
156	100		
155	22.3	5.0	65.0

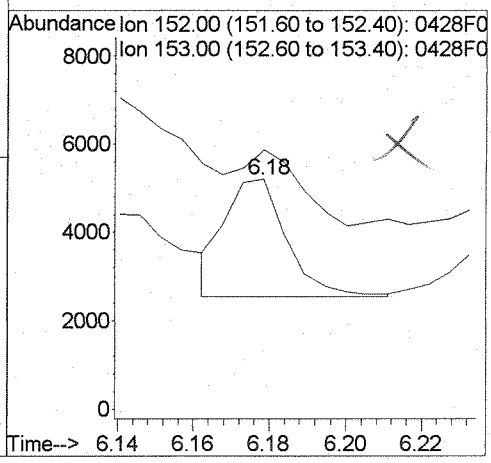


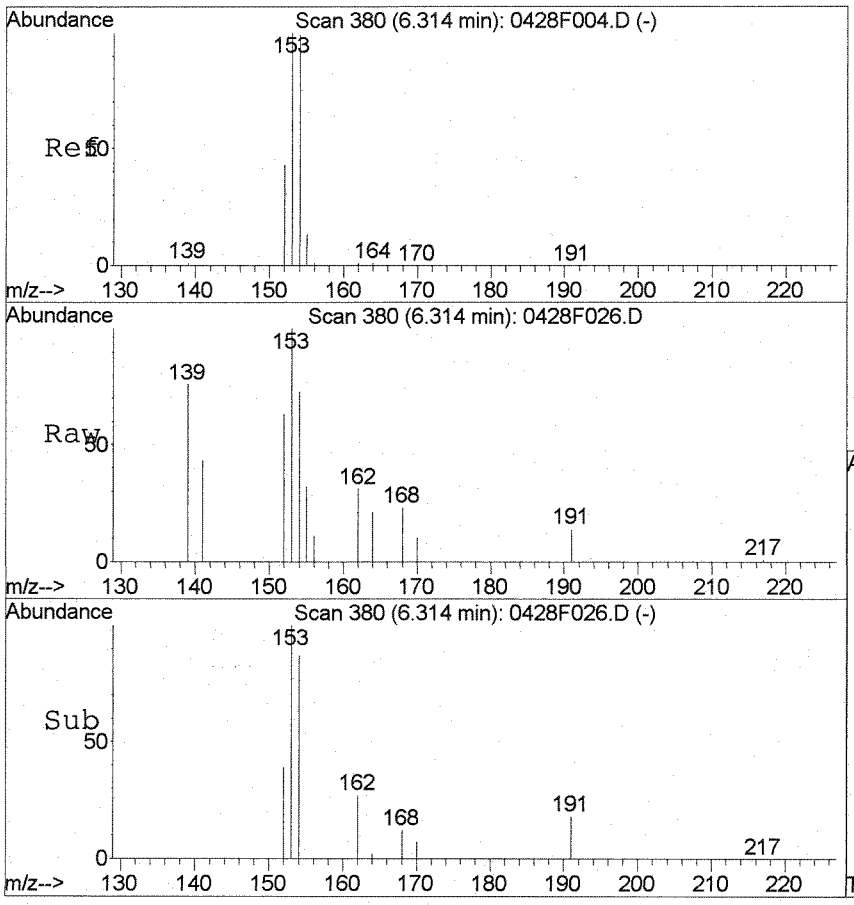


#11
Acenaphthylene
Concen: 3.14 ng/ml m
RT: 6.18 min Scan# 355
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:152 Resp: 2993

Ion	Ratio	Lower	Upper
152	100		
153	112.8	0.0	43.1#

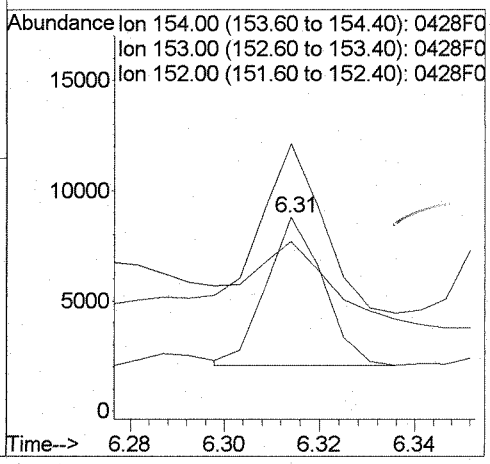


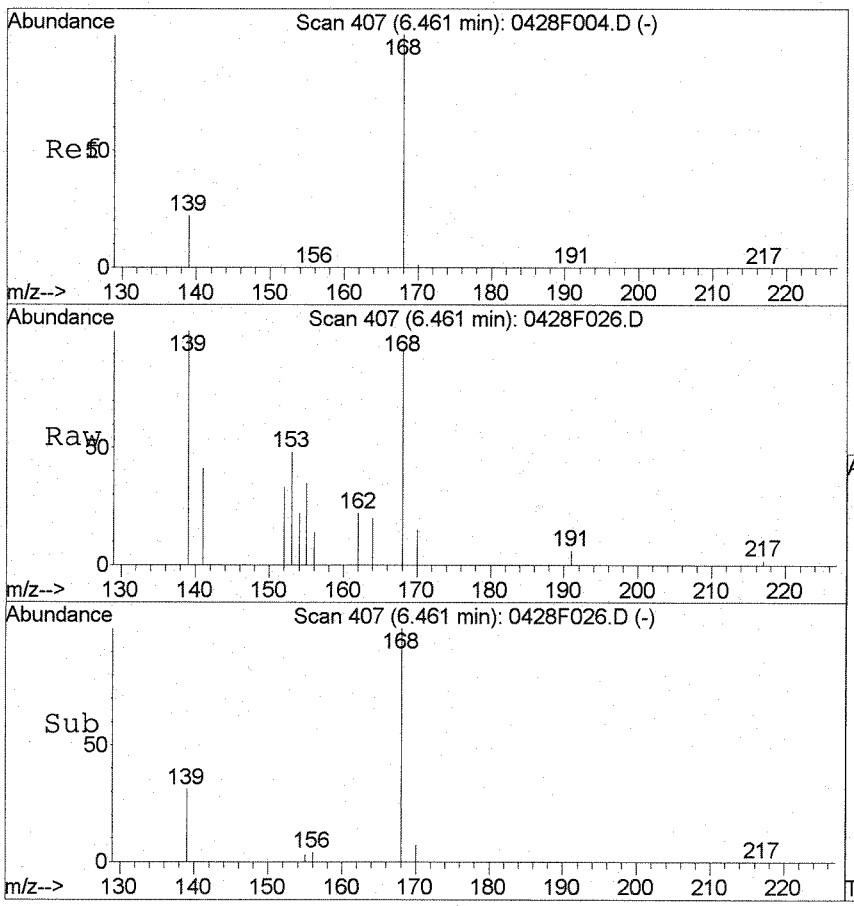


#12
Acenaphthene
Concen: 9.47 ng/ml m
RT: 6.31 min Scan# 380
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:154 Resp: 5571

Ion	Ratio	Lower	Upper
154	100		
153	137.9	72.3	132.3#
152	87.5	15.7	75.7#

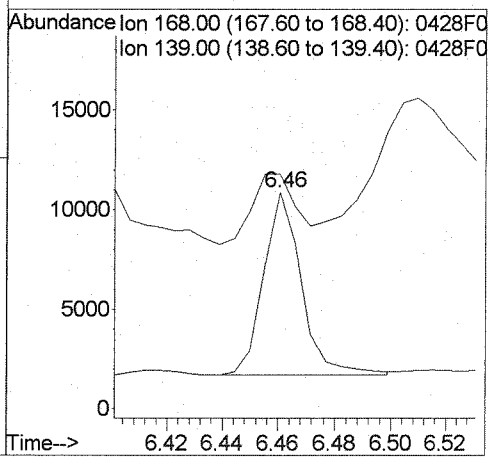


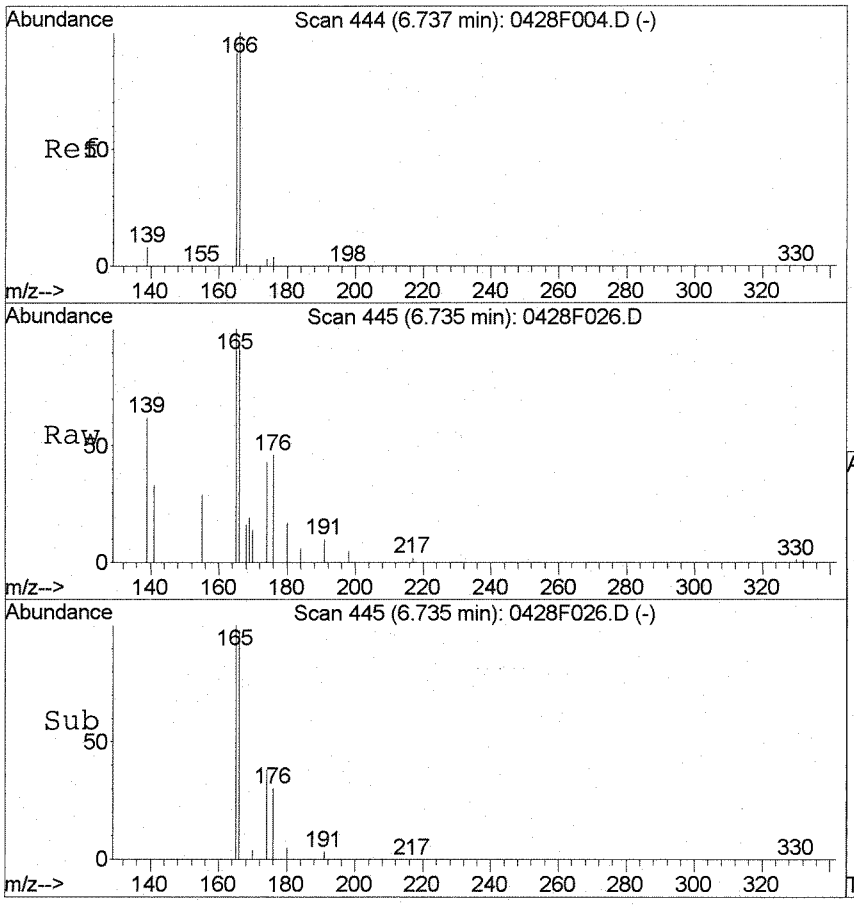


#13
Dibenzofuran
Concen: 9.76 ng/ml
RT: 6.46 min Scan# 407
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:168 Resp: 8649

Ion	Ratio	Lower	Upper
168	100		
139	35.3	0.0	59.6

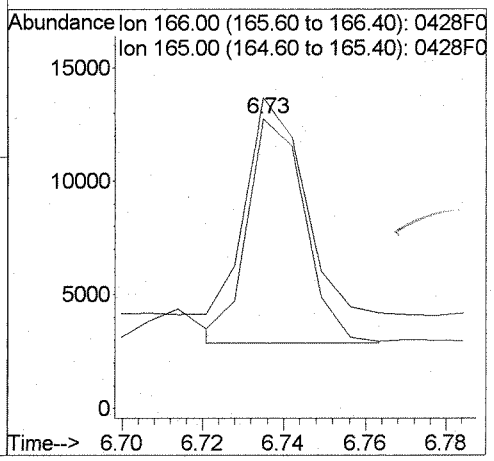


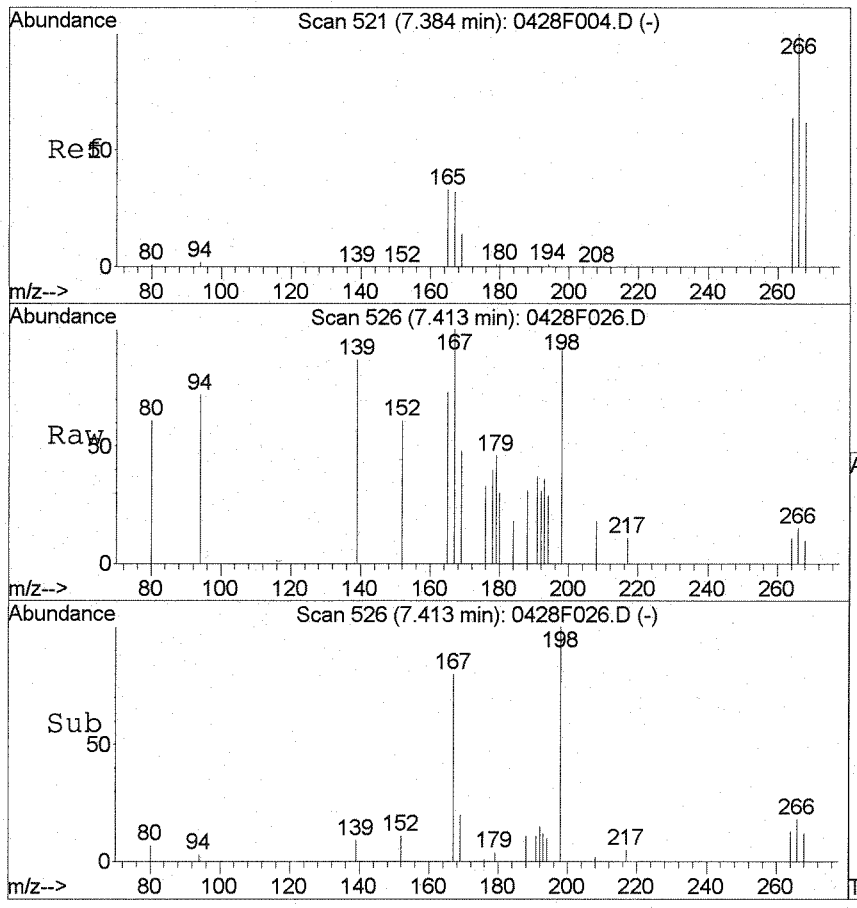


#16
Fluorene
Concen: 13.46 ng/ml m
RT: 6.73 min Scan# 445
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:166 Resp: 9654

Ion	Ratio	Lower	Upper
166	100		
165	107.3	65.3	125.3

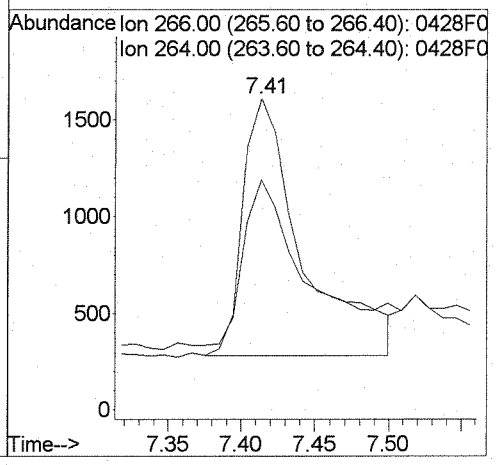


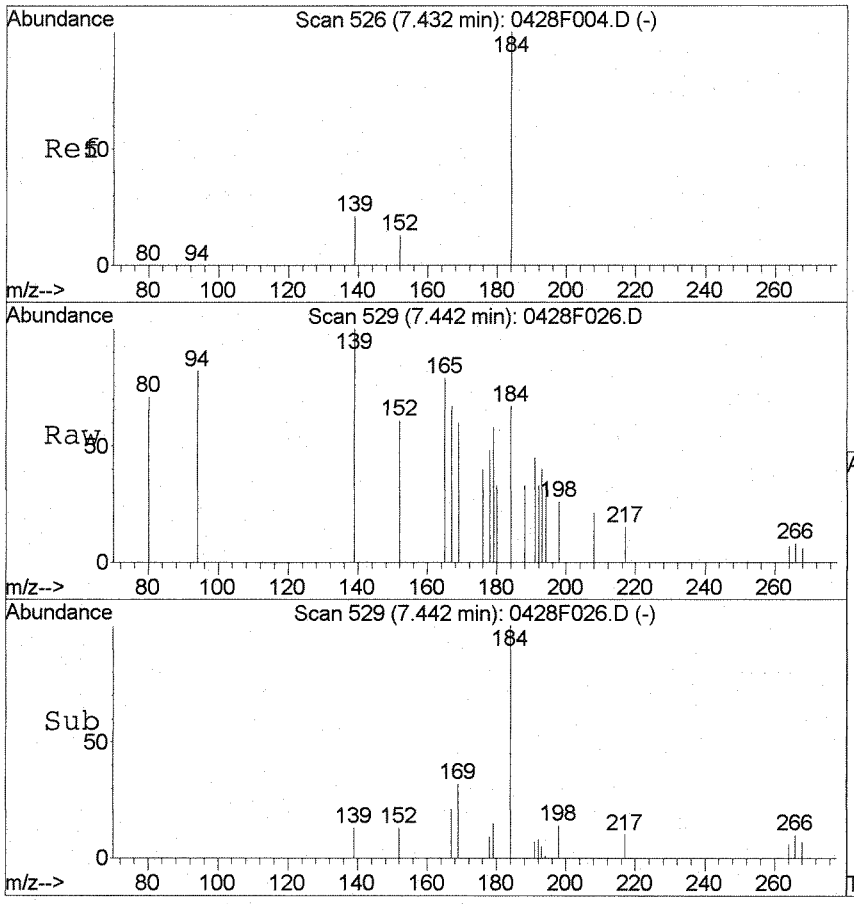


#21
Pentachlorophenol
Concen: 90.83 ng/ml
RT: 7.41 min Scan# 526
Delta R.T. 0.02 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:266 Resp: 3758

Ion	Ratio	Lower	Upper
266	100		
264	64.4	46.5	86.5

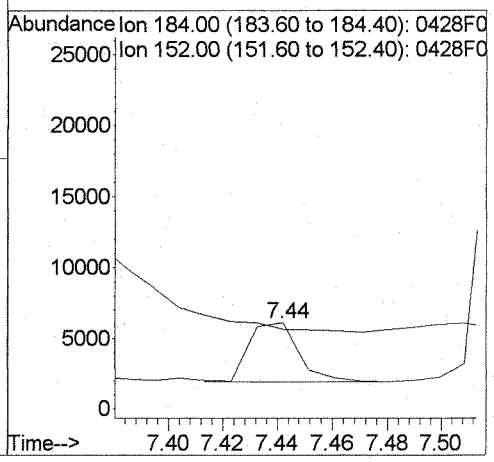


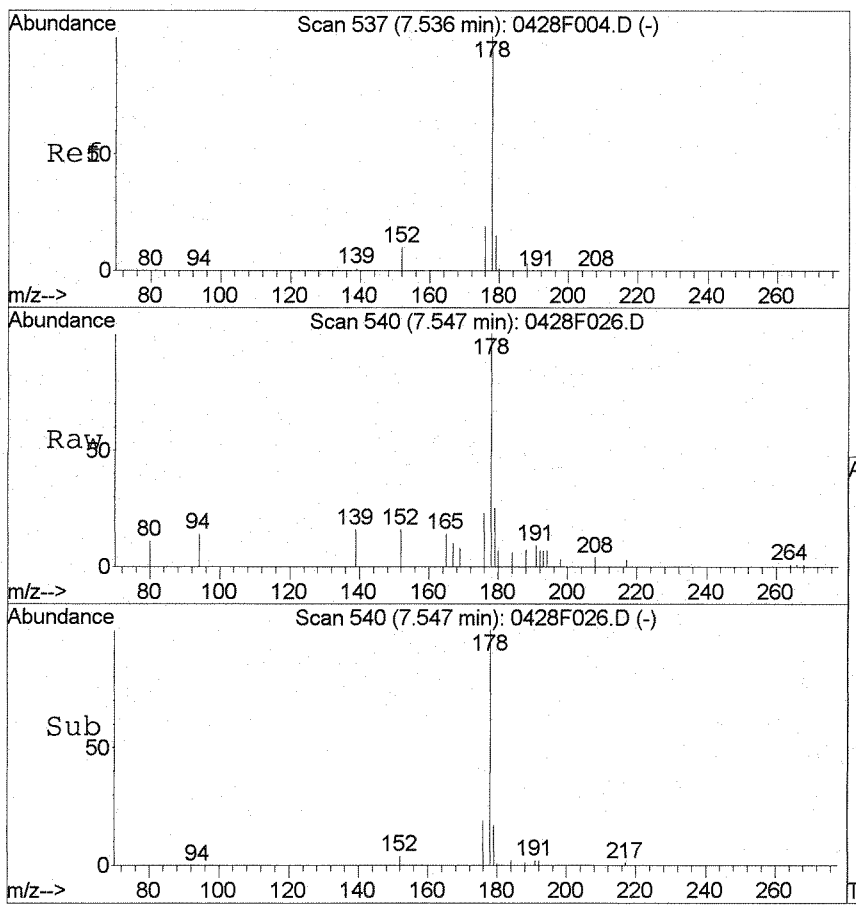


#23
Dibenzothiophene
Concen: 5.32 ng/ml
RT: 7.44 min Scan# 529
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:184 Resp: 5328

Ion	Ratio	Lower	Upper
184	100		
152	0.5	0.0	36.1

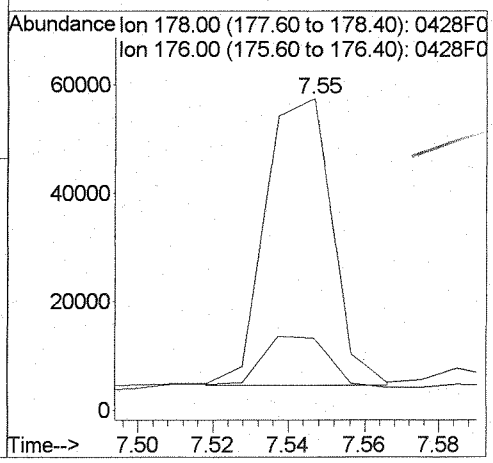


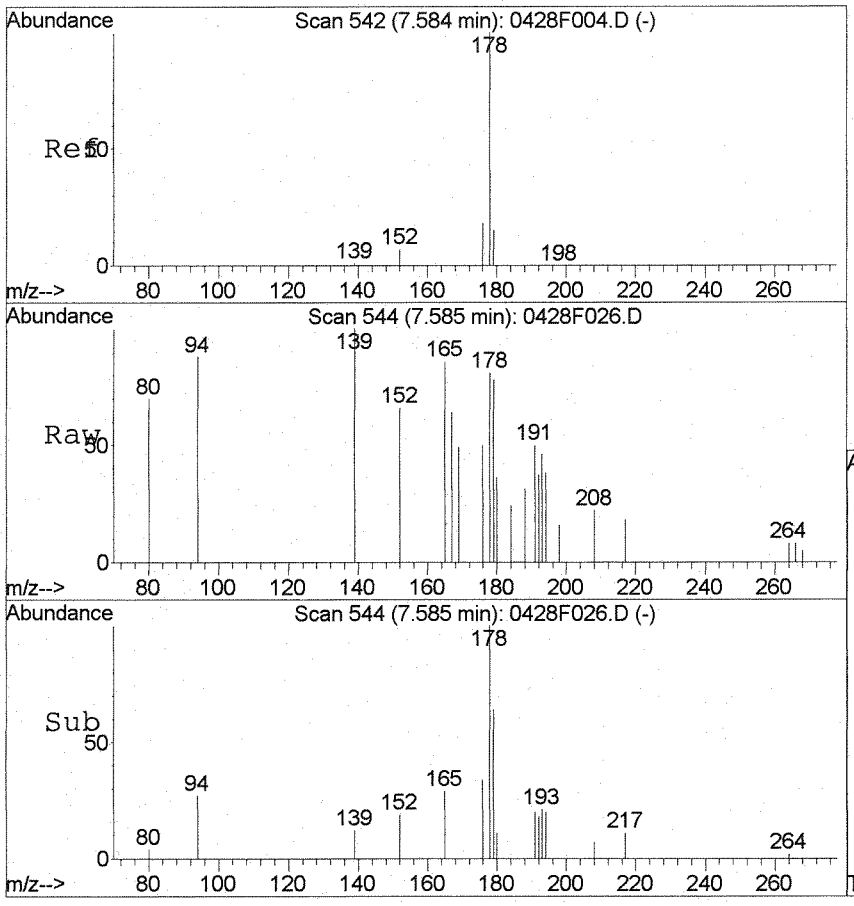


#27
Phenanthrene
Concen: 58.31 ng/ml m
RT: 7.55 min Scan# 540
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:178 Resp: 64149

Ion	Ratio	Lower	Upper
178	100		
176	23.2	0.0	48.3

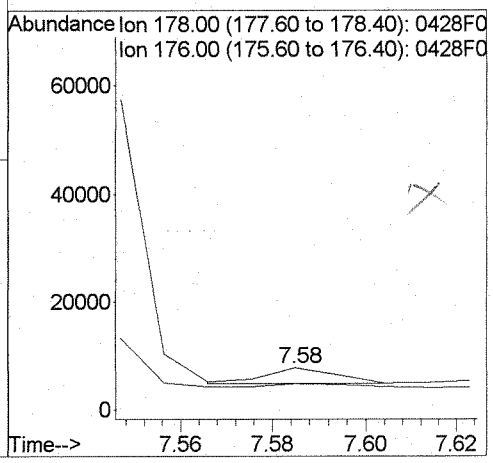


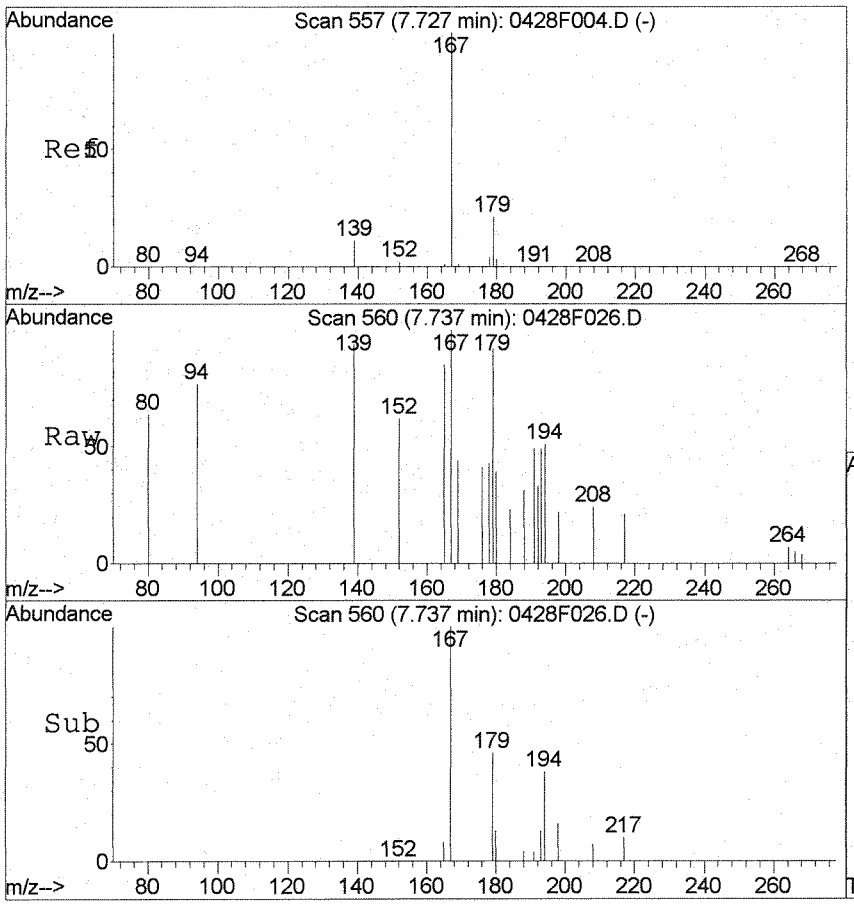


#28
Anthracene
Concen: 2.93 ng/ml m
RT: 7.58 min Scan# 544
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:178 Resp: 3098

Ion	Ratio	Lower	Upper
178	100		
176	62.0	0.0	48.1#

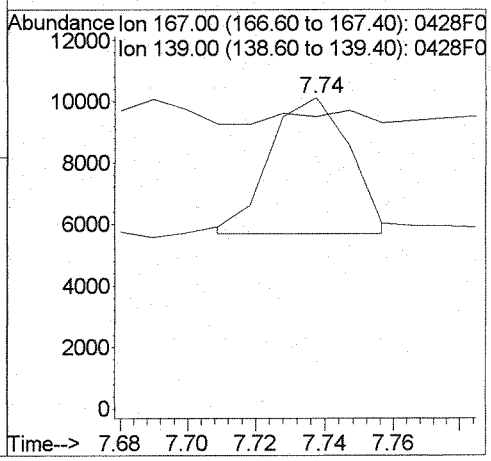


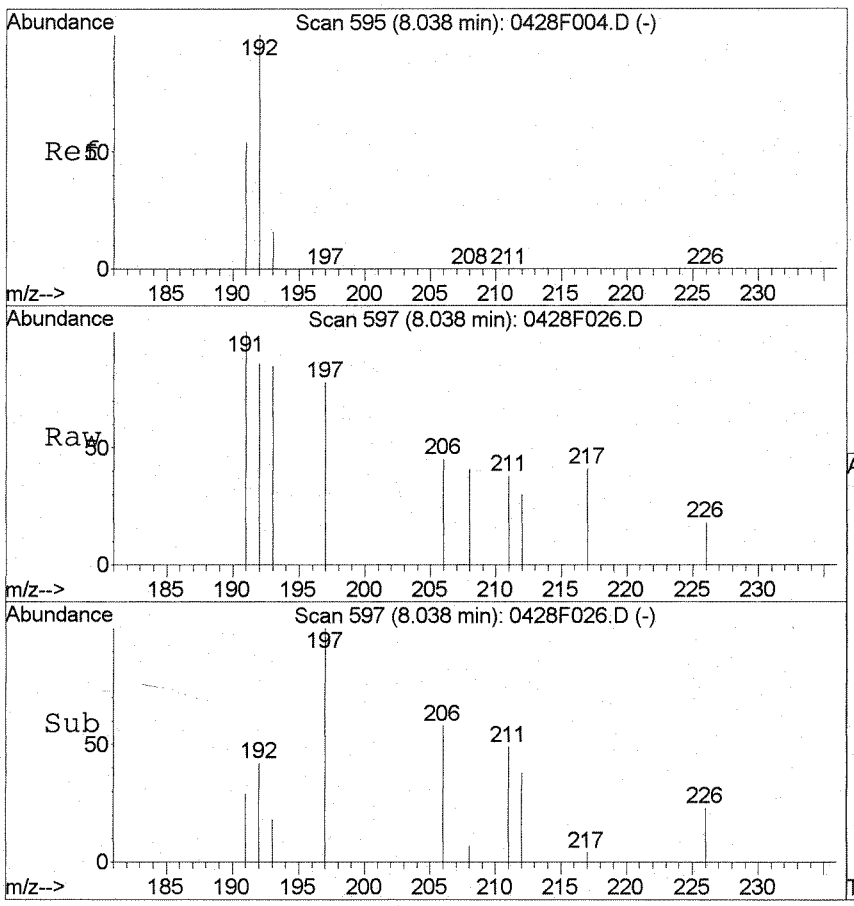


#29
Carbazole
Concen: 7.39 ng/ml m
RT: 7.74 min Scan# 560
Delta R.T. 0.00 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:167 Resp: 7064

Ion	Ratio	Lower	Upper
167	100		
139	93.9	0.0	41.4#

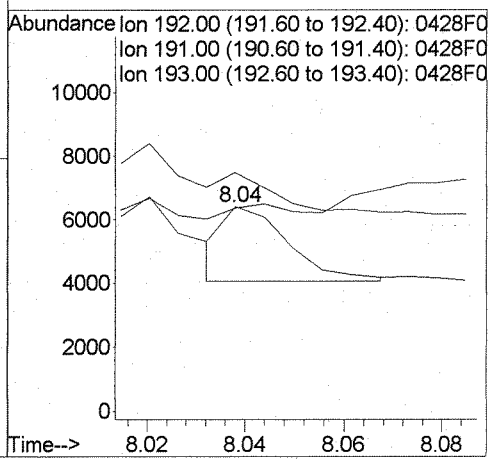


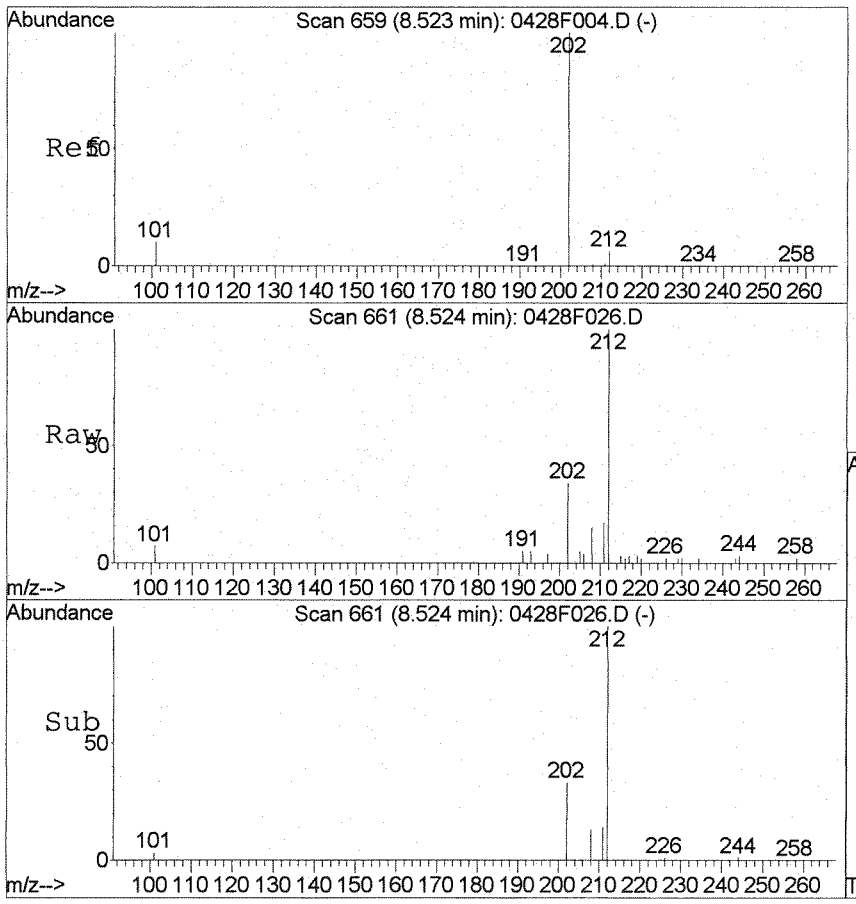


#30
1-Methylphenanthrene
Concen: 2.62 ng/ml m
RT: 8.04 min Scan# 597
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:192 Resp: 2134

Ion	Ratio	Lower	Upper
192	100		
191	116.7	29.3	89.3#
193	99.3	0.0	44.8#

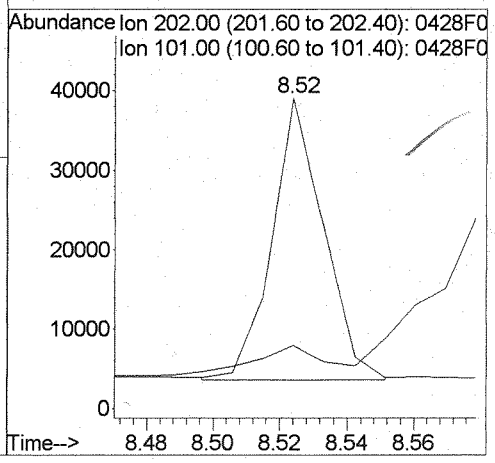


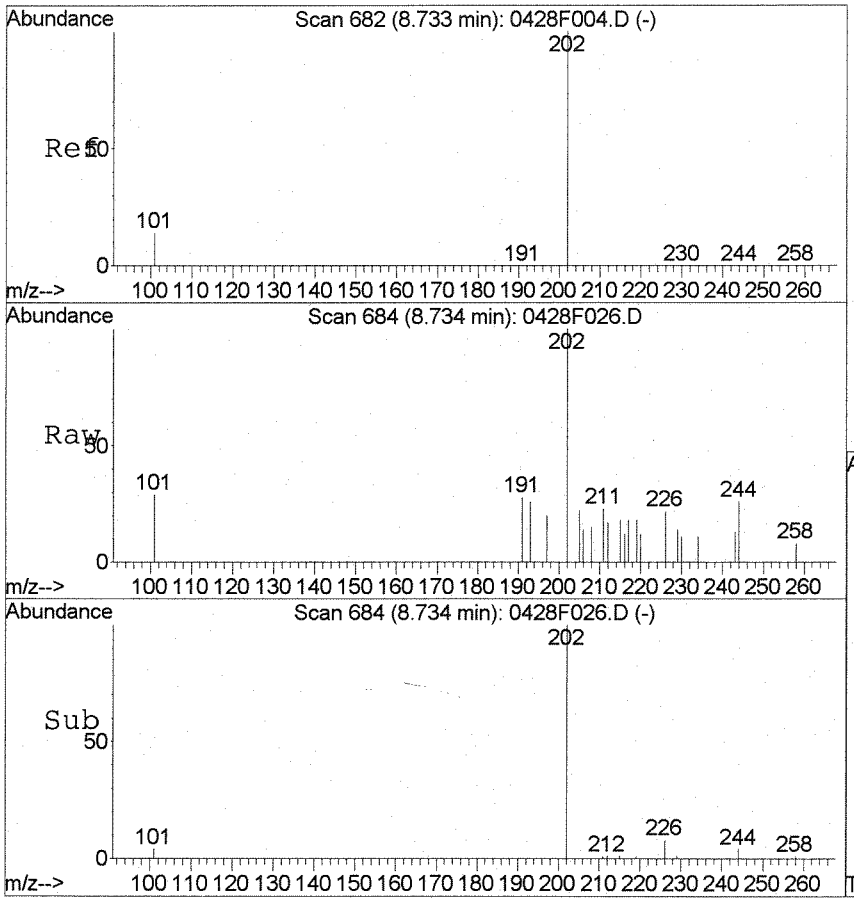


#35
Fluoranthene
Concen: 30.14 ng/ml m
RT: 8.52 min Scan# 661
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:202 Resp: 37434

Ion	Ratio	Lower	Upper
202	100		
101	20.4	0.0	41.7

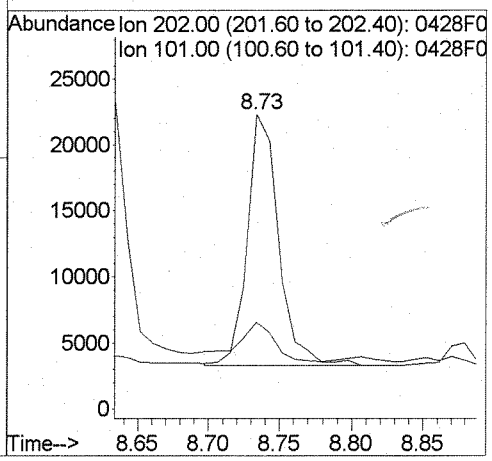


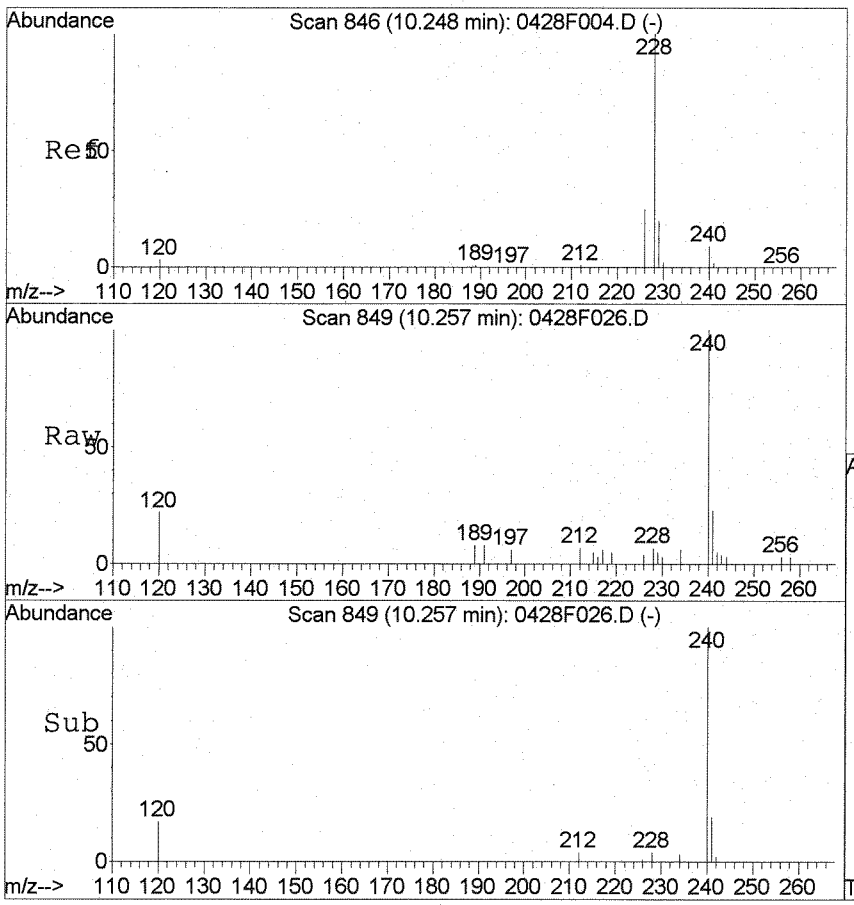


#38
Pyrene
Concen: 26.28 ng/ml
RT: 8.73 min Scan# 684
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:202 Resp: 29145

Ion	Ratio	Lower	Upper
202	100		
101	15.4	0.0	45.5

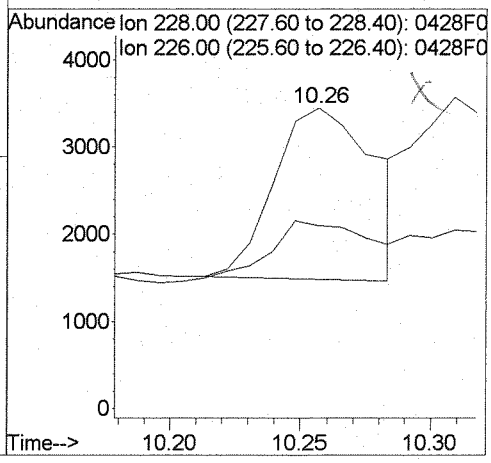


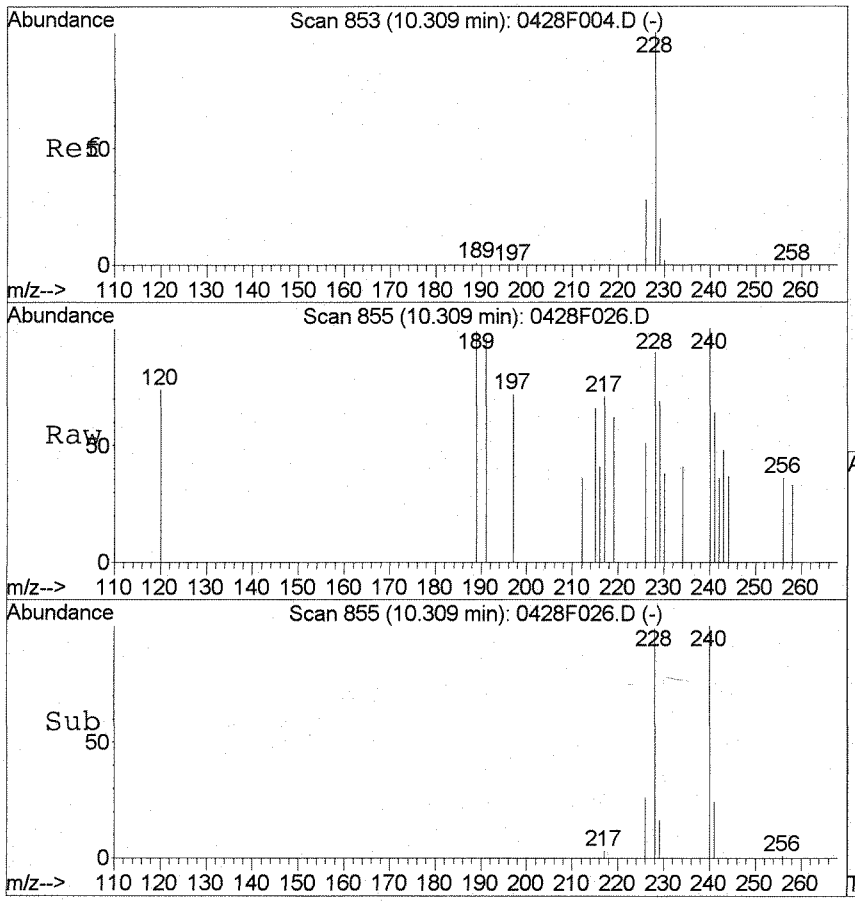


#44
Benz(a)anthracene
Concen: 4.92 ng/ml
RT: 10.26 min Scan# 849
Delta R.T. -0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:228 Resp: 5178

Ion	Ratio	Lower	Upper
228	100		
226	30.9	0.0	55.5

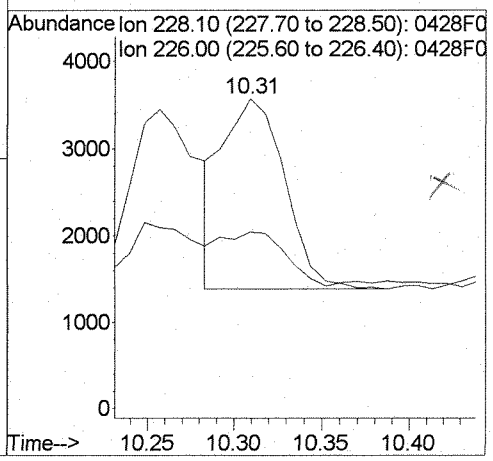


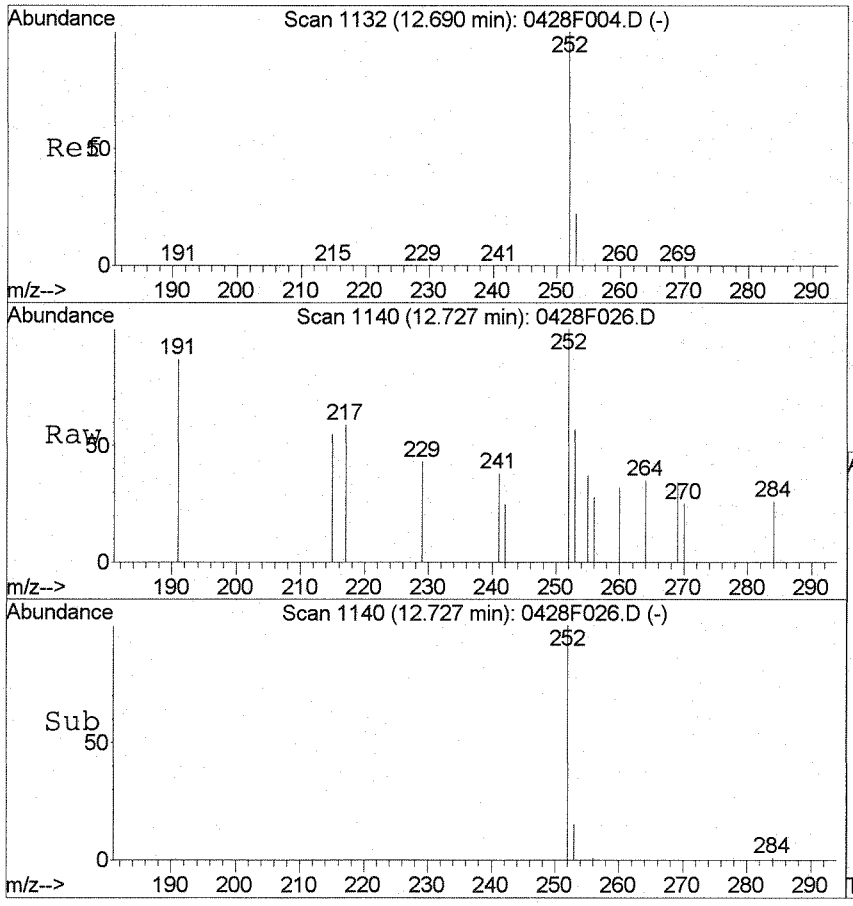


#45
Chrysene
Concen: 5.41 ng/ml
RT: 10.31 min Scan# 855
Delta R.T. -0.02 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:228 Resp: 5462

Ion	Ratio	Lower	Upper
228	100		
226	25.9	0.0	58.4

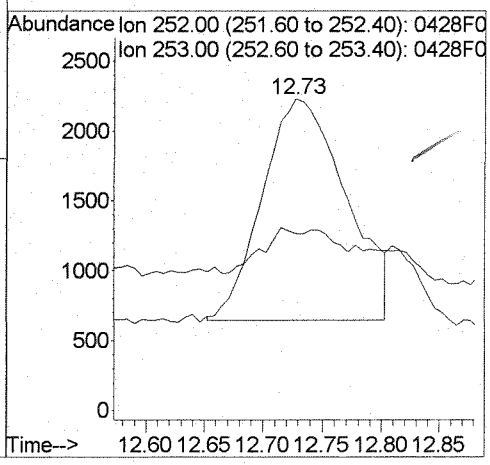


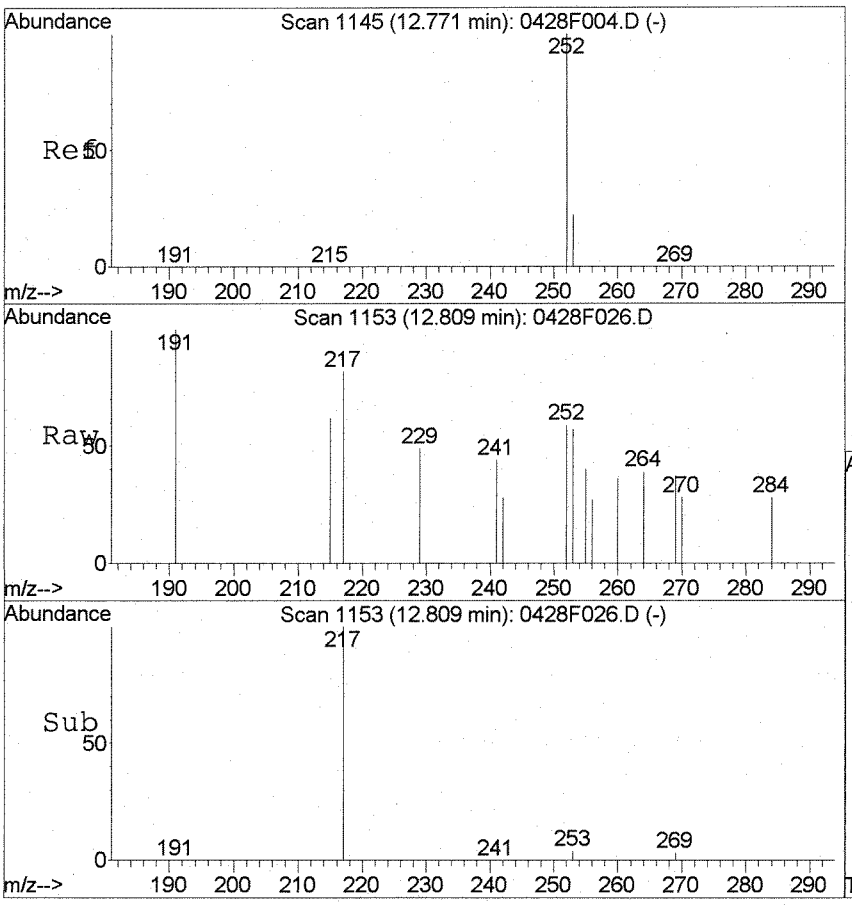


#51
Benzo(b)fluoranthene
Concen: 7.90 ng/ml m
RT: 12.73 min Scan# 1140
Delta R.T. 0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:252 Resp: 7769

Ion	Ratio	Lower	Upper
252	100		
253	56.8	0.0	51.9#

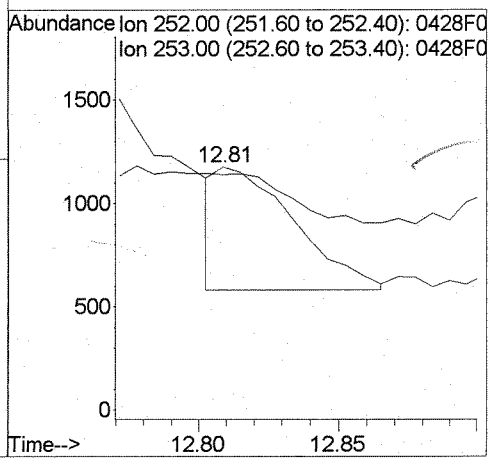


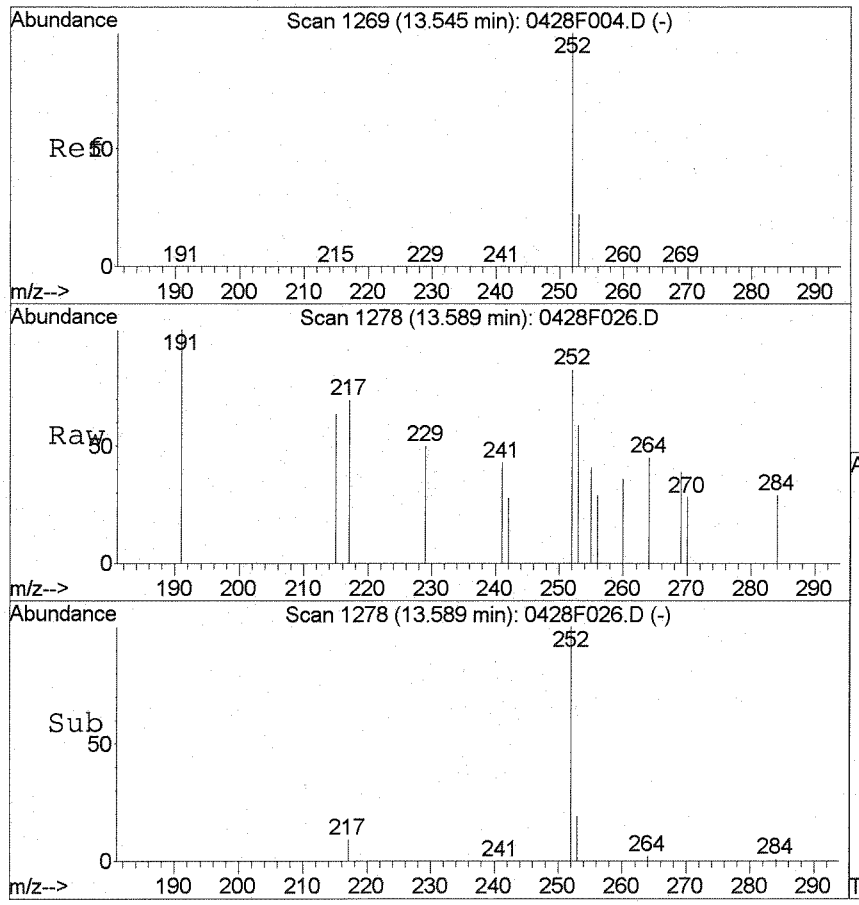


#52
Benzo(k)fluoranthene
Concen: 1.21 ng/ml m
RT: 12.81 min Scan# 1153
Delta R.T. 0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:252 Resp: 1147

Ion	Ratio	Lower	Upper
252	100		
253	96.9	0.0	52.0#

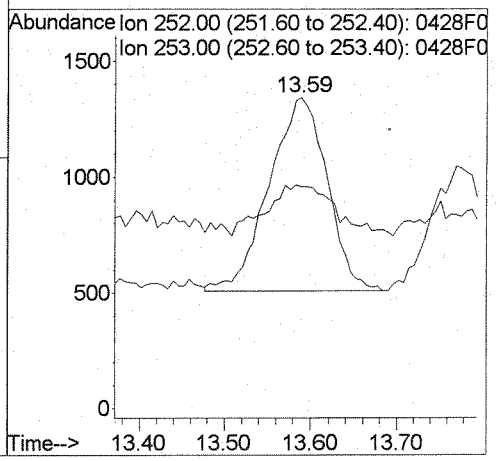


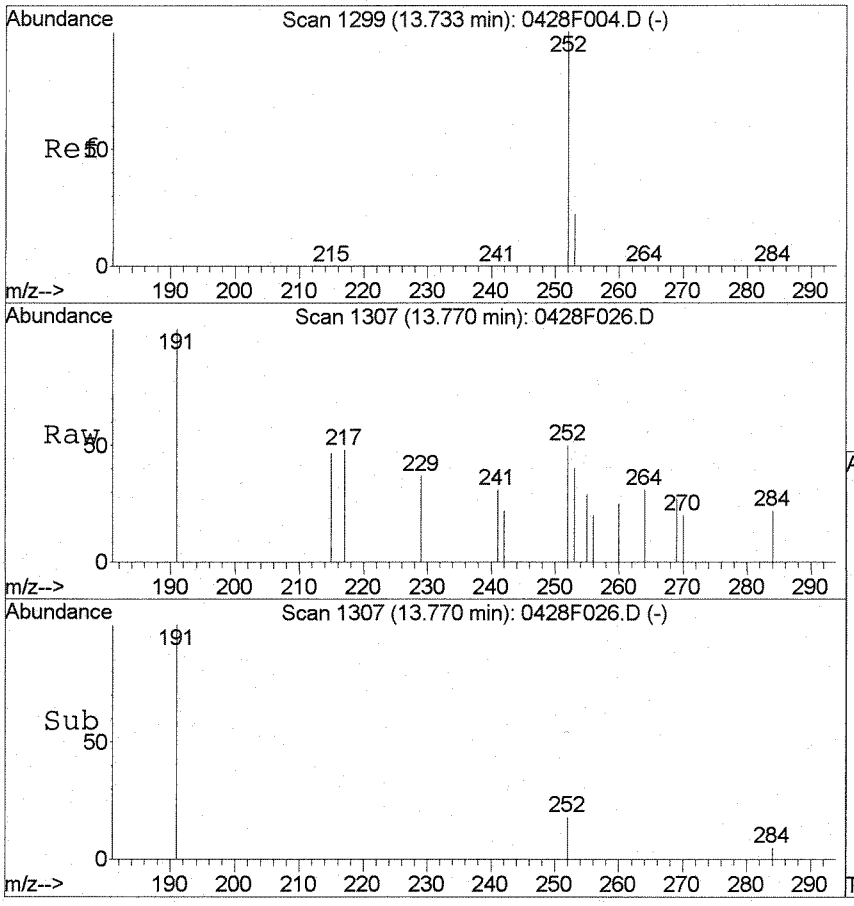


#53
Benzo(e)pyrene
Concen: 4.47 ng/ml
RT: 13.59 min Scan# 1278
Delta R.T. 0.01 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:252 Resp: 3904

Ion	Ratio	Lower	Upper
252	100		
253	23.8	0.0	52.0

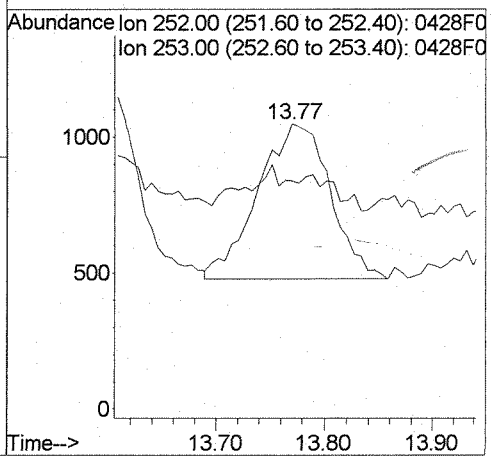


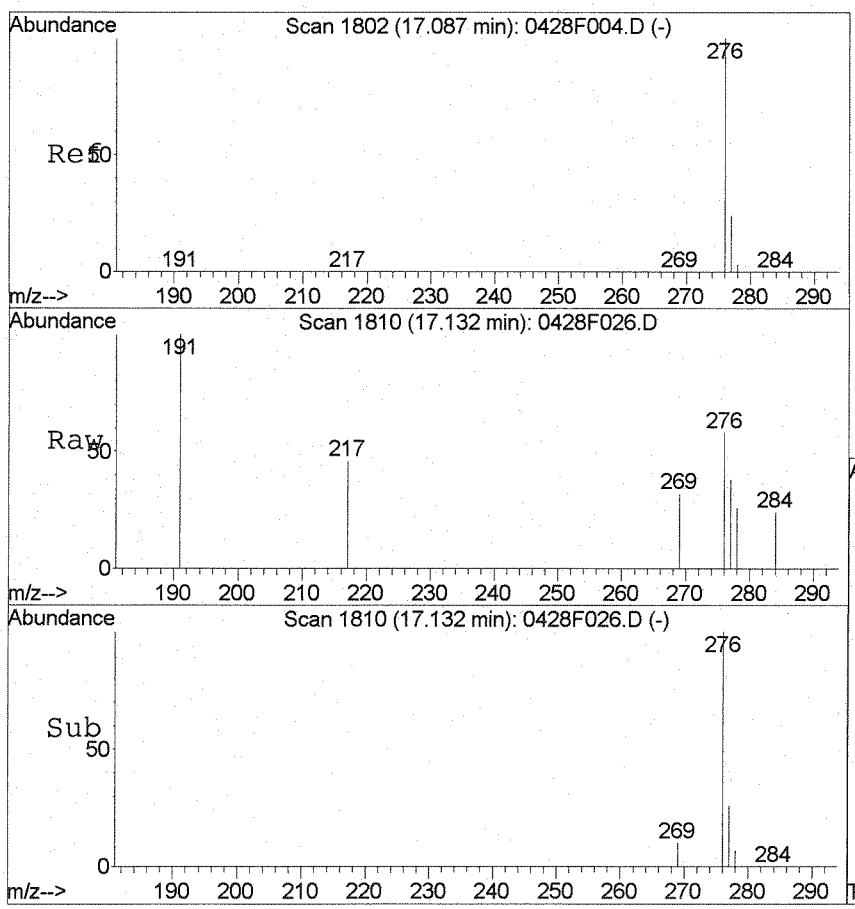


#54
Benzo(a)pyrene
Concen: 3.17 ng/ml
RT: 13.77 min Scan# 1307
Delta R.T. 0.00 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:252 Resp: 2635

Ion	Ratio	Lower	Upper
252	100		
253	13.1	0.0	51.6

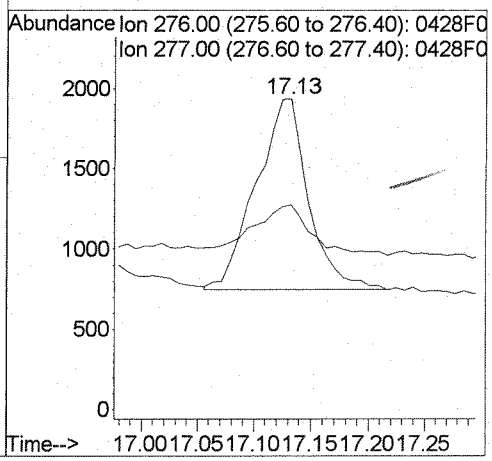


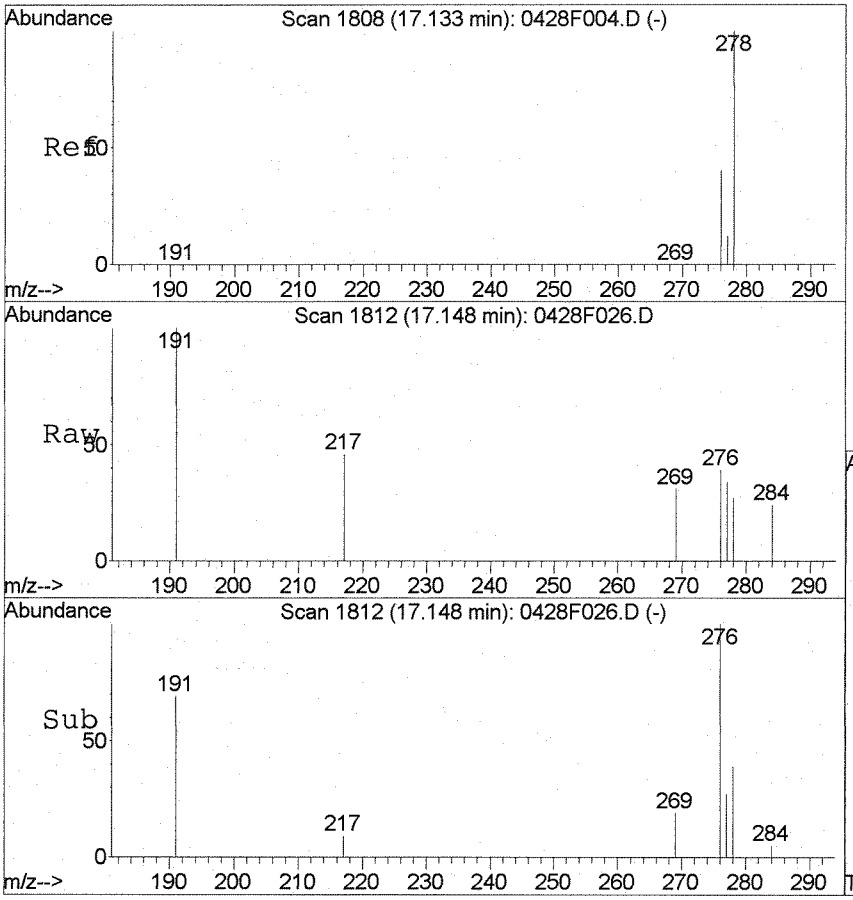


#56
Indeno(1,2,3-cd)pyrene
Concen: 4.39 ng/ml
RT: 17.13 min Scan# 1810
Delta R.T. 0.03 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:276 Resp: 3817

Ion	Ratio	Lower	Upper
276	100		
277	26.4	0.0	53.5

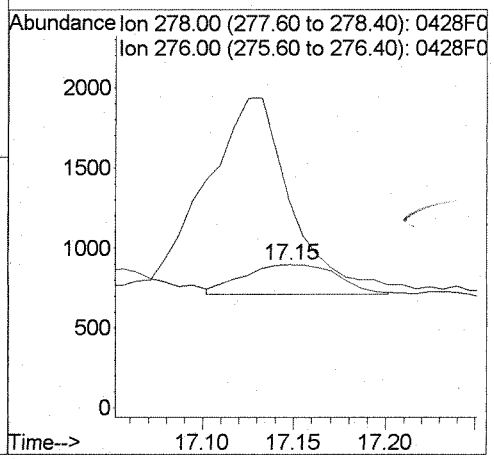


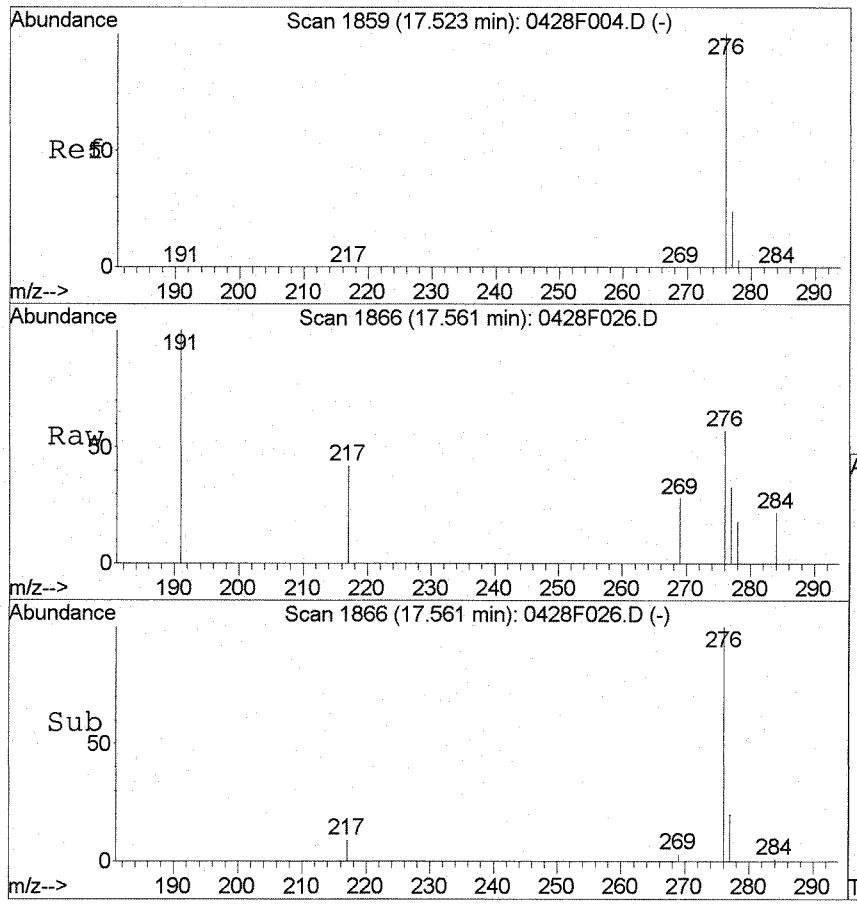


#57
Dibenz(a,h)anthracene
Concen: 0.75 ng/ml m
RT: 17.15 min Scan# 1812
Delta R.T. 0.00 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:278 Resp: 660

Ion	Ratio	Lower	Upper
278	100		
276	144.1	0.0	55.1#

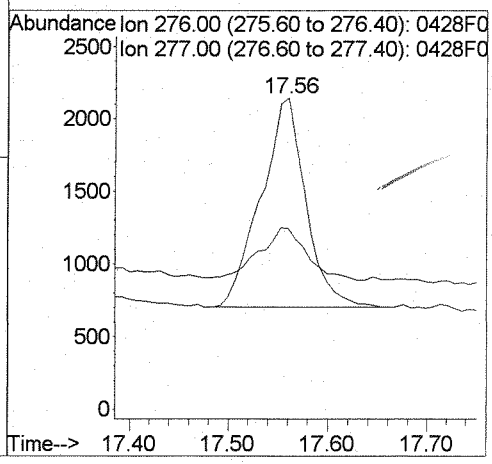




#58
Benzo(g,h,i)perylene
Concen: 4.40 ng/ml
RT: 17.56 min Scan# 1866
Delta R.T. 0.03 min
Lab File: 0428F026.D
Acq: 28 Apr 2012 6:36 pm

Tgt Ion:276 Resp: 4535

Ion	Ratio	Lower	Upper
276	100		
277	24.3	0.0	53.6

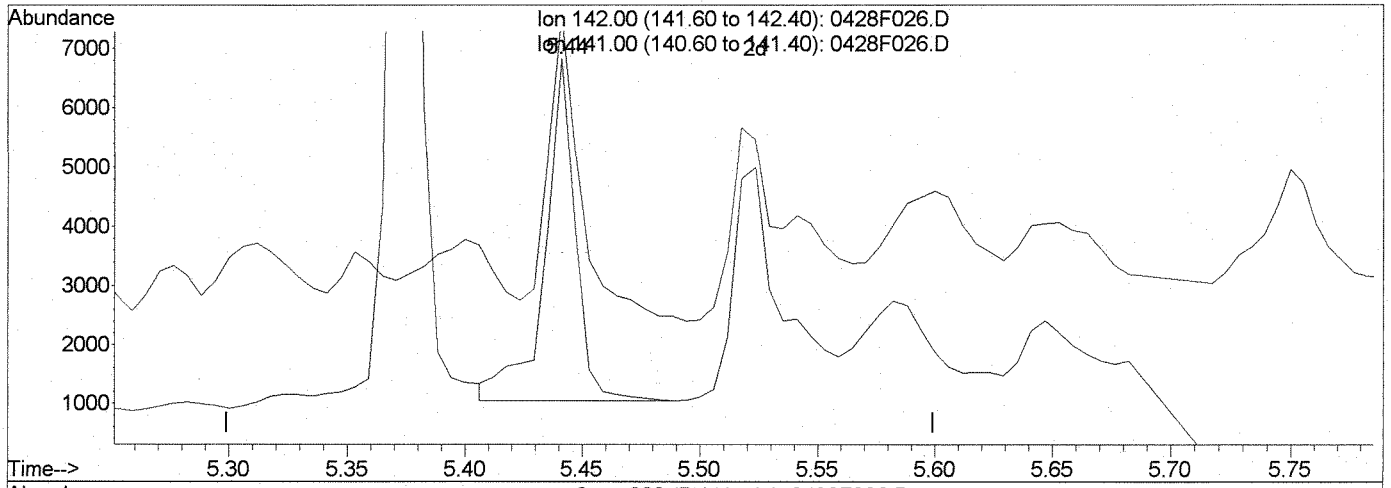


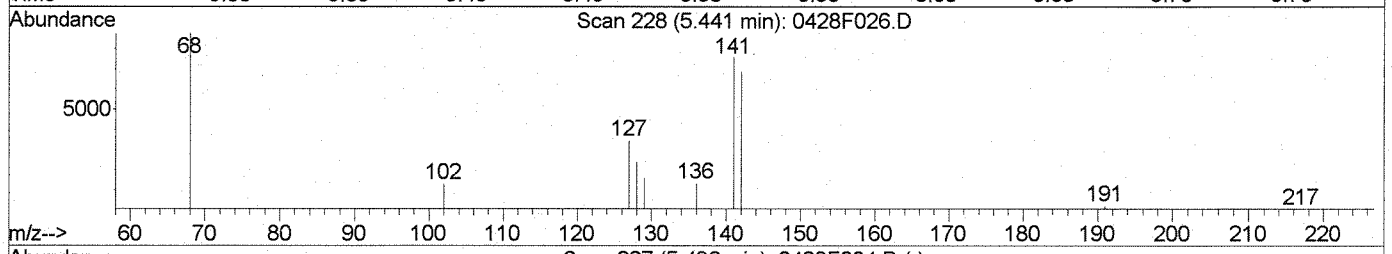
Quantitation Report (Qedit)

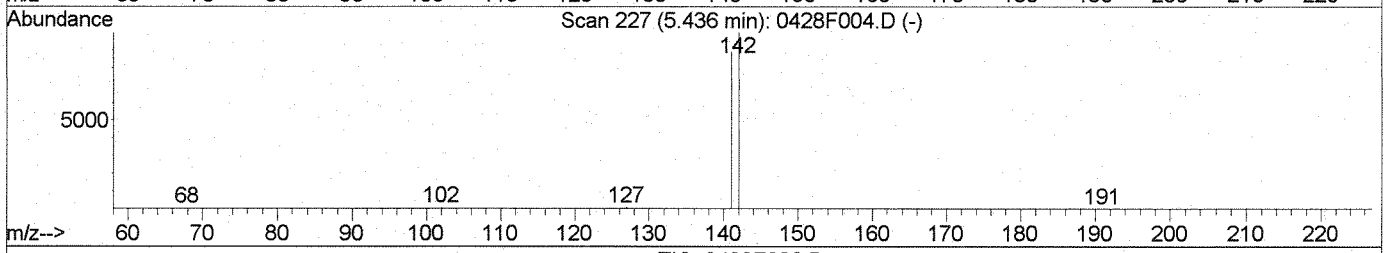
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:50 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(3) 2-Methylnaphthalene (T)

5.44min 7.89ng/ml

response 5215

Ion	Exp%	Act%
142.00	100	100
141.00	90.10	87.56
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

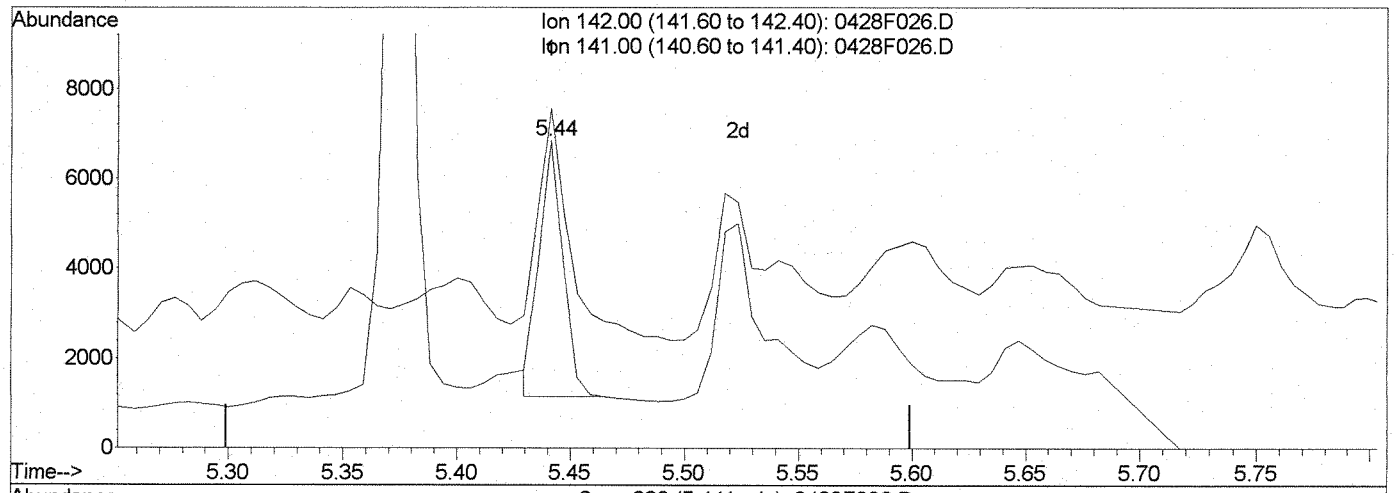
Before

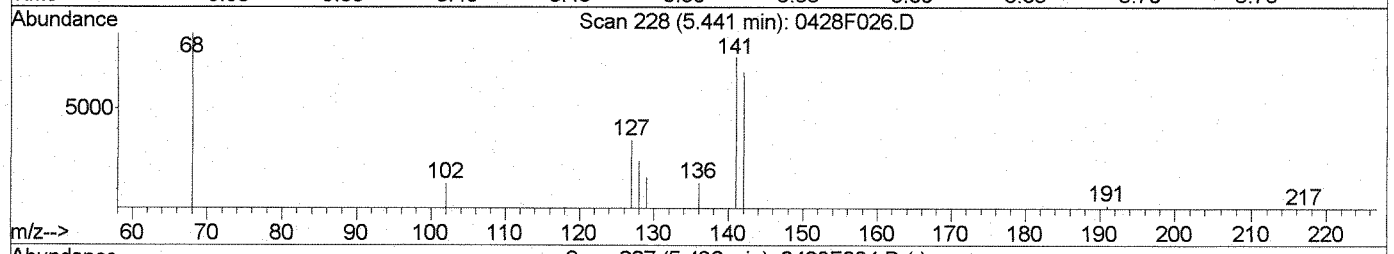
Quantitation Report (Qedit)

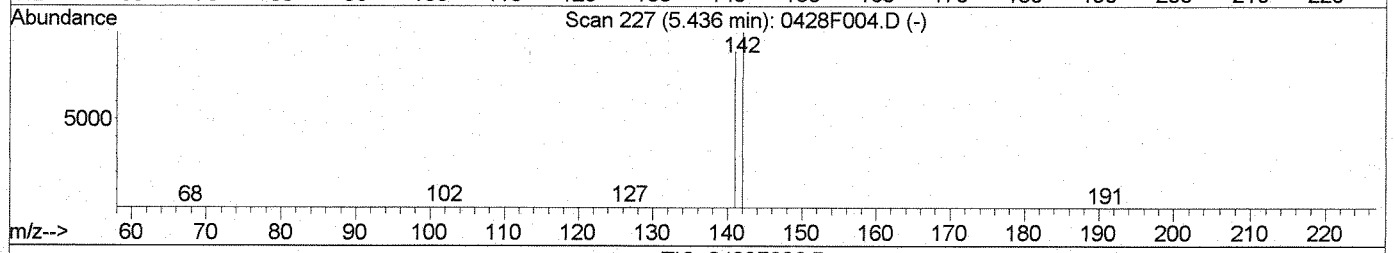
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:34 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(3) 2-Methylnaphthalene (T)

5.44min 6.27ng/ml m

response 4144

Ion	Exp%	Act%
142.00	100	100
141.00	90.10	110.60
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

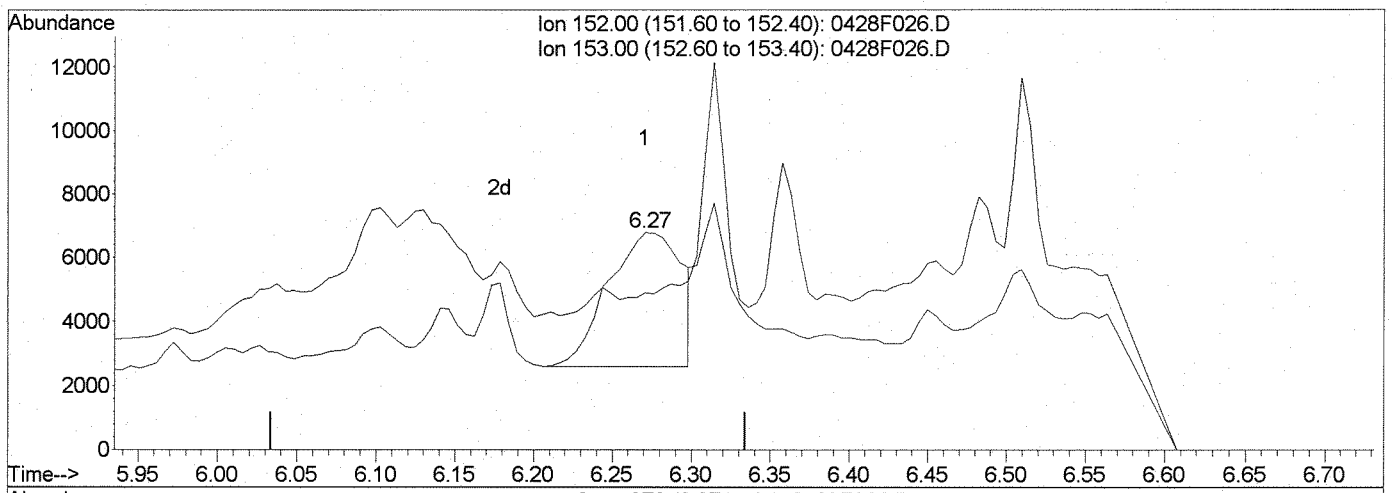
0428F026.D 0227ALK.M Mon Apr 30 05:34:21 2012

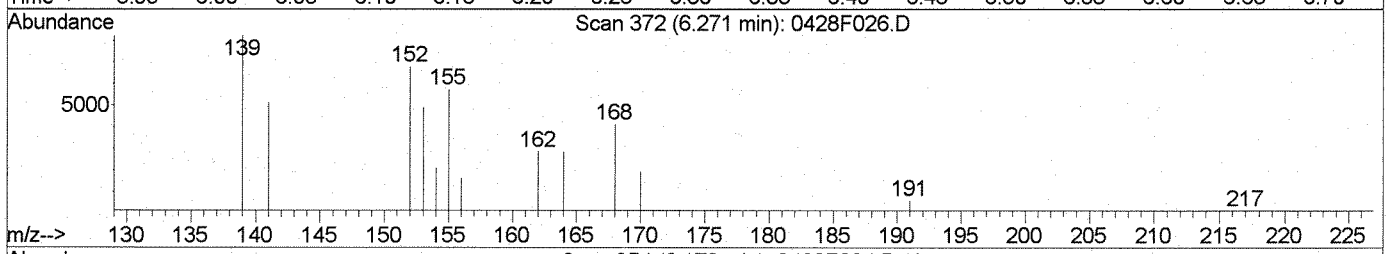
Quantitation Report (Qedit)

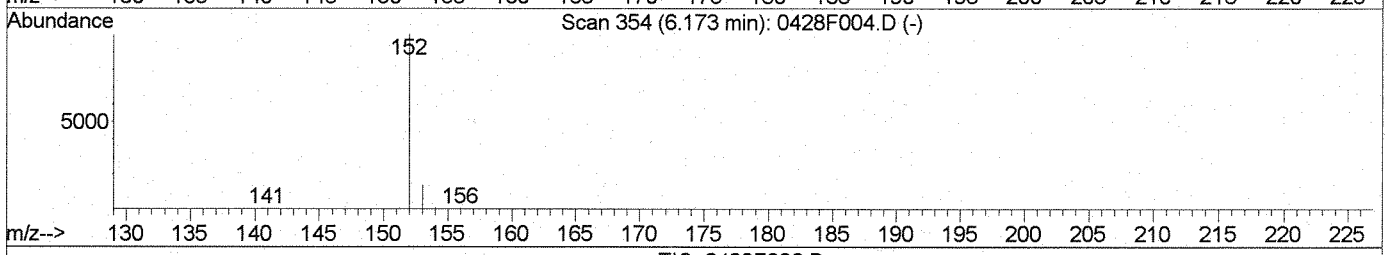
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:34 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(11) Acenaphthylene (T)

6.27min 14.10ng/ml

response 13420

Ion	Exp%	Act%
152.00	100	100
153.00	13.10	16.31
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

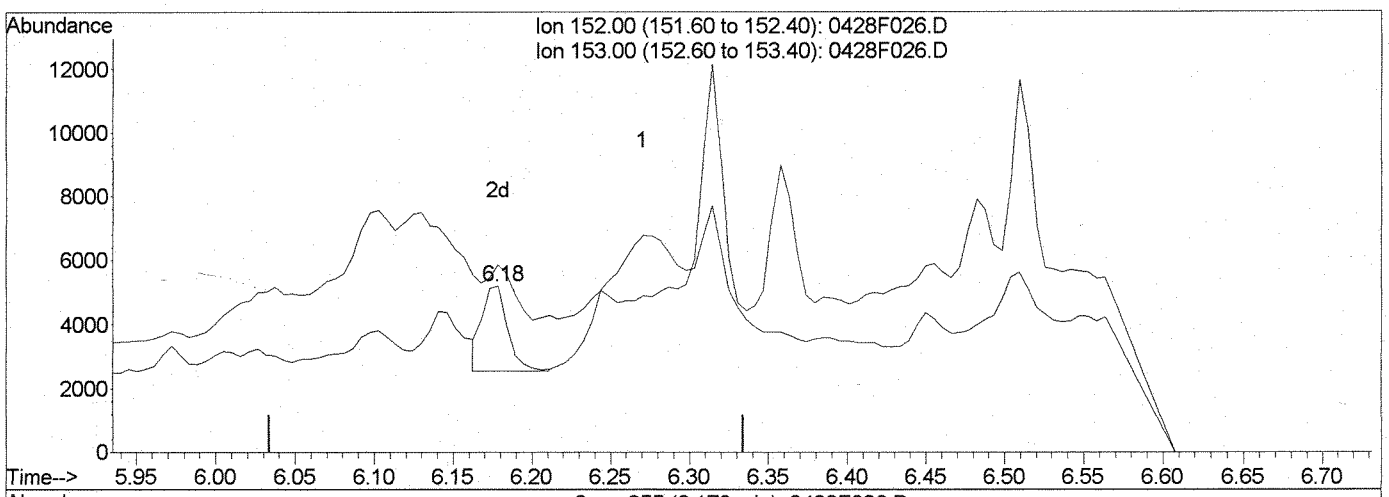
Before

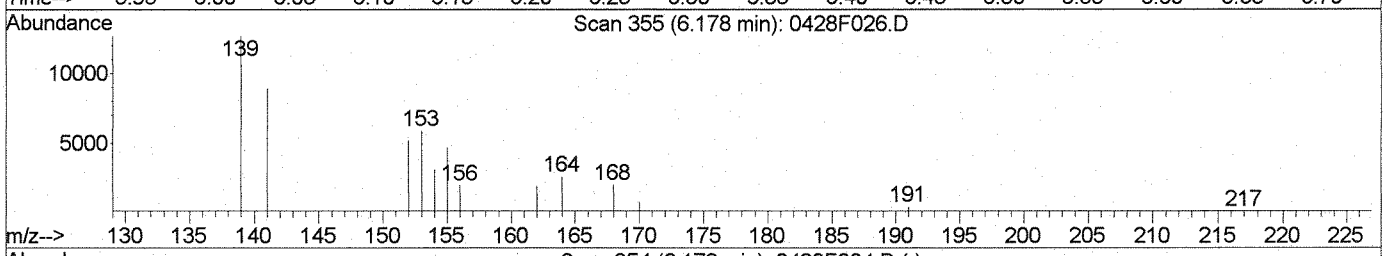
Quantitation Report (Qedit)

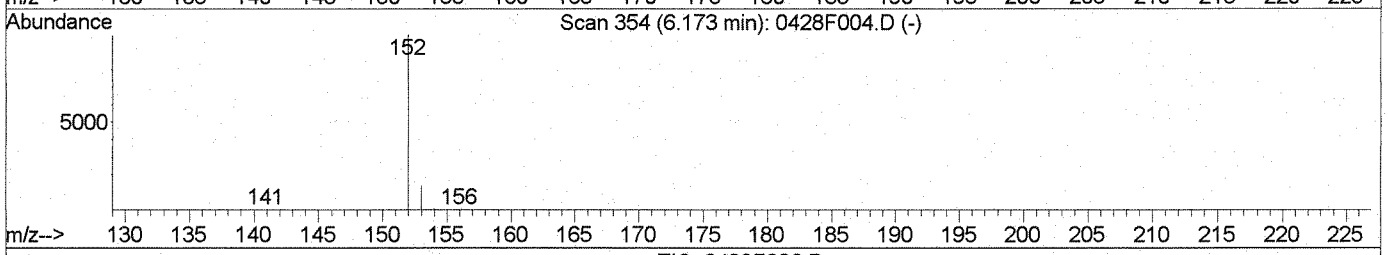
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:34 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(11) Acenaphthylene (T)
6.18min 3.14ng/ml m
response 2993

Ion	Exp%	Act%
152.00	100	100
153.00	13.10	112.80#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
WP
04/30/12

MAY 01 2012

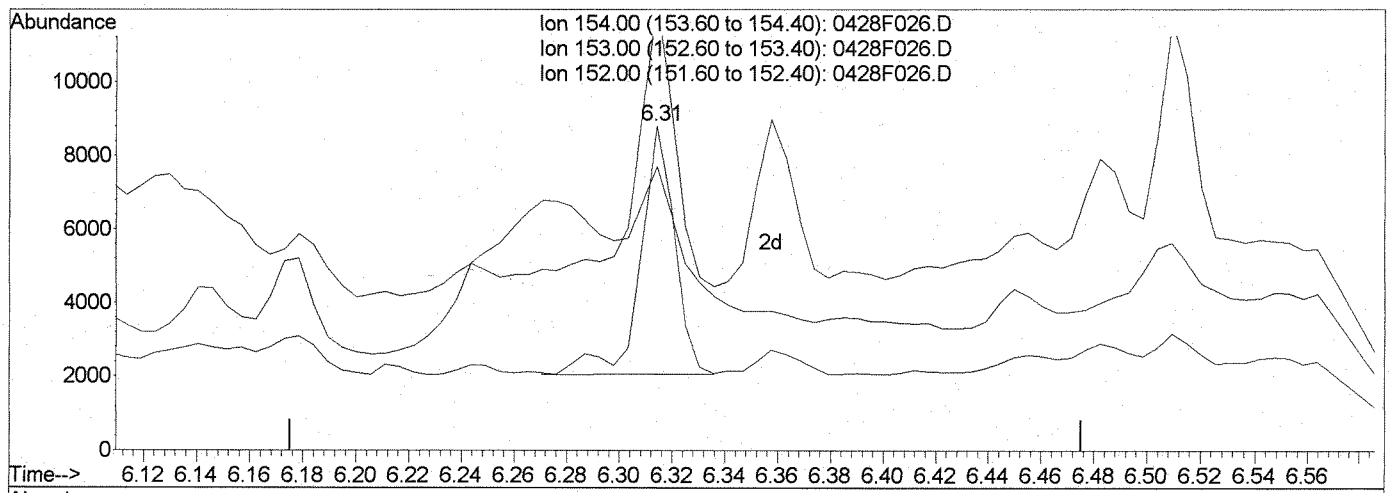
0428F026.D 0227ALK.M Mon Apr 30 05:34:38 2012

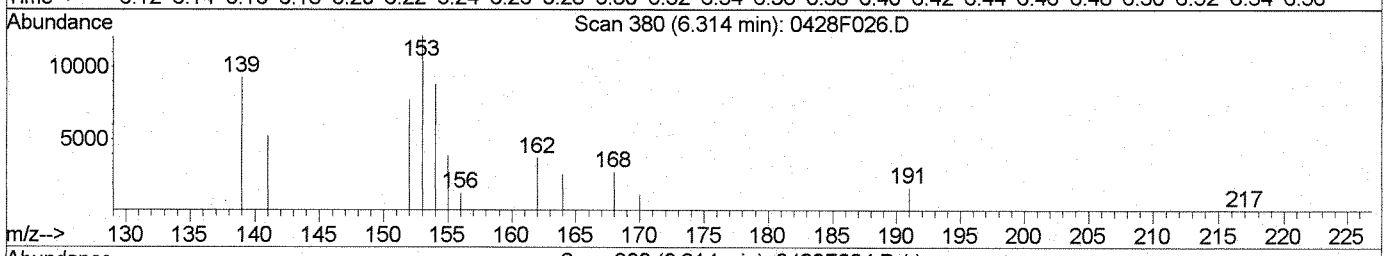
Quantitation Report (Qedit)

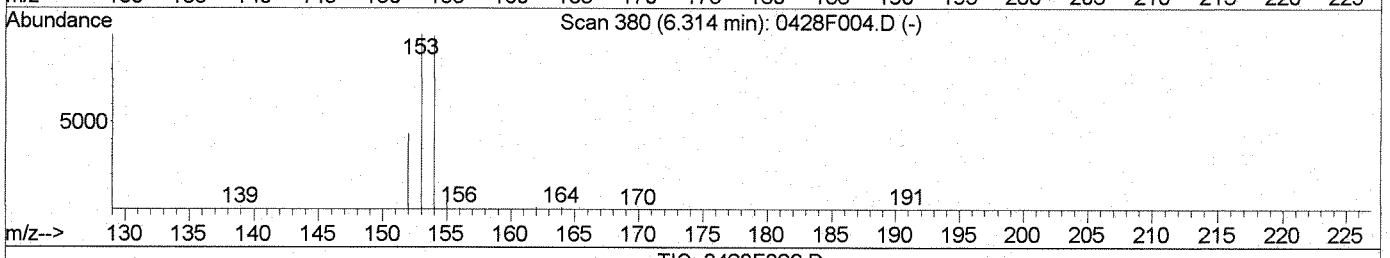
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:34 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(12) Acenaphthene (T)

6.31min 10.37ng/ml

response 6100

Ion	Exp%	Act%
154.00	100	100
153.00	102.30	114.48
152.00	45.70	52.53
0.00	0.00	0.00

Manual Integration:

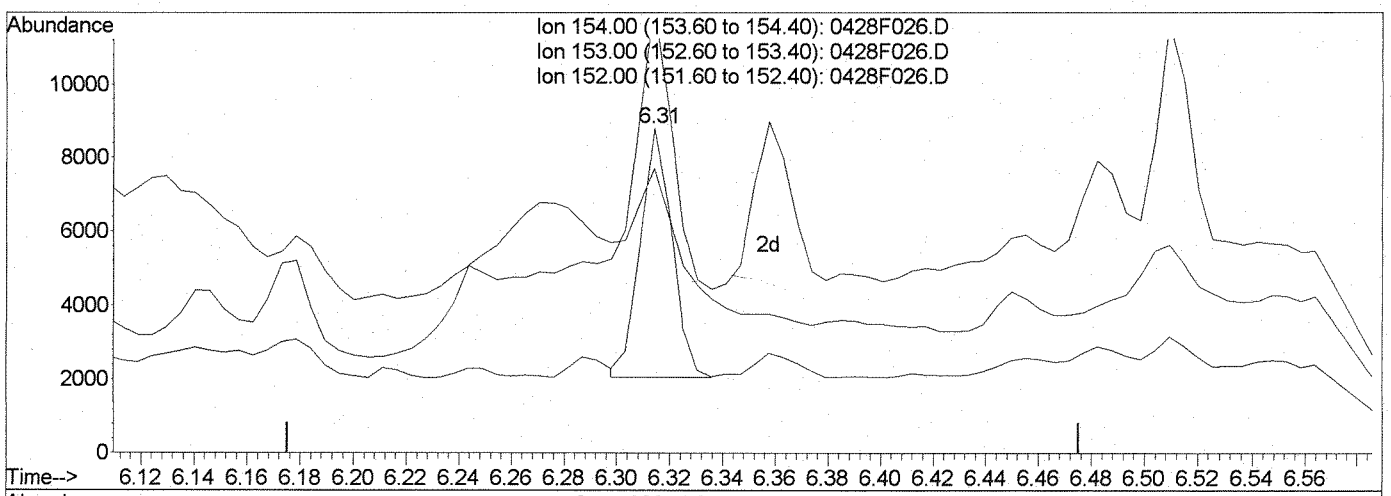
Before

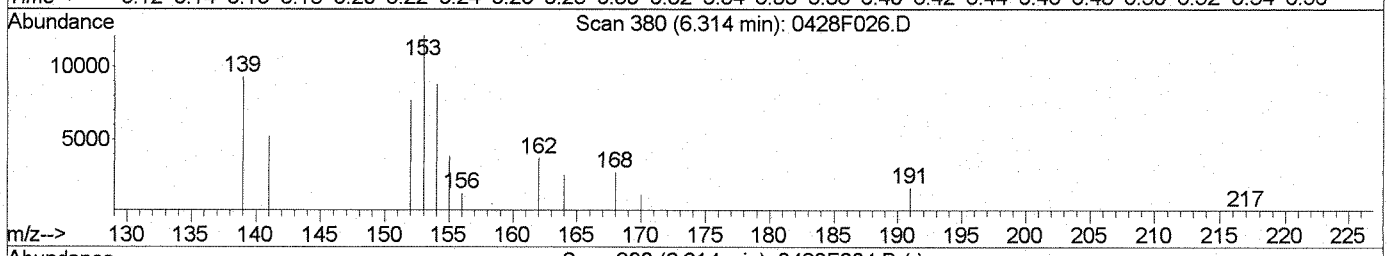
Quantitation Report (Qedit)

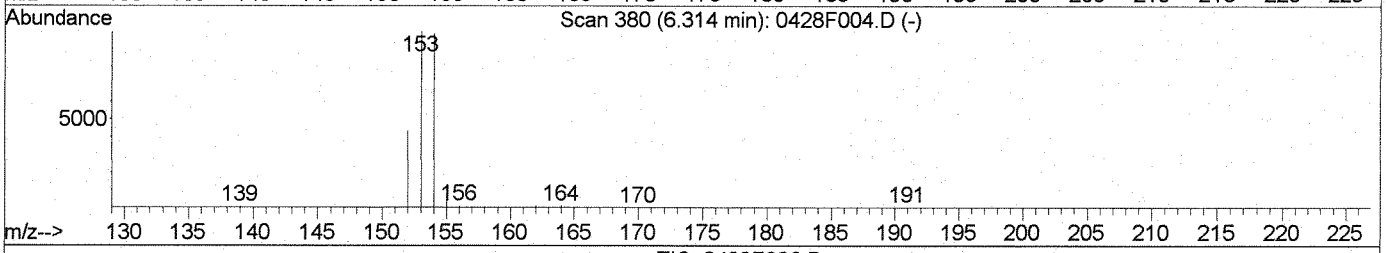
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:34 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(12) Acenaphthene (T)
6.31min 9.47ng/ml m
response 5571

Ion	Exp%	Act%
154.00	100	100
153.00	102.30	137.85#
152.00	45.70	87.48#
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

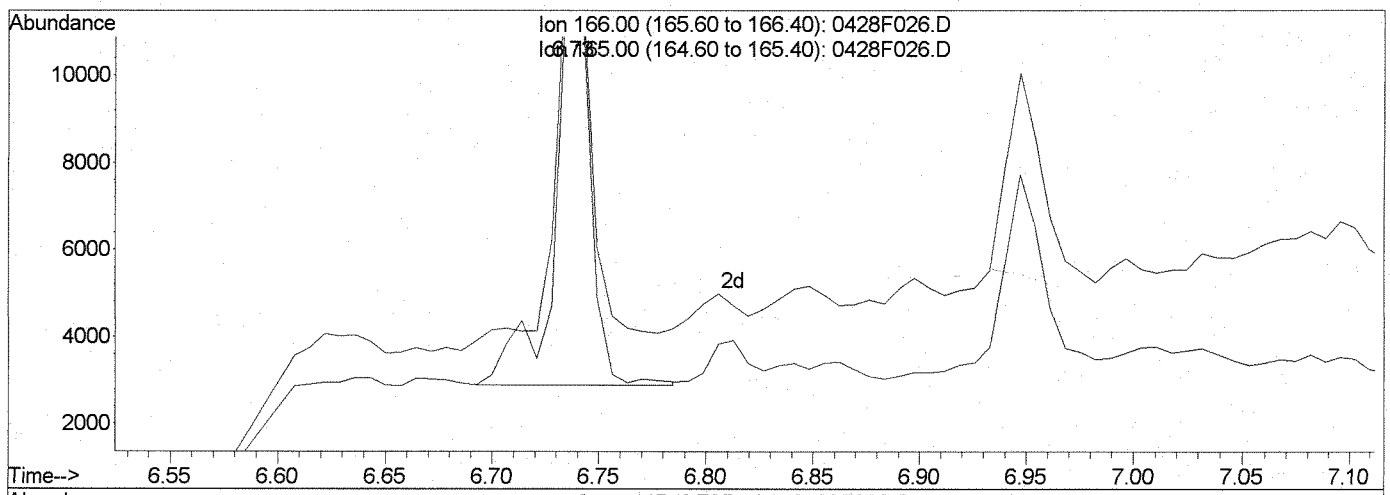
0428F026.D 0227ALK.M Mon Apr 30 05:34:48 2012

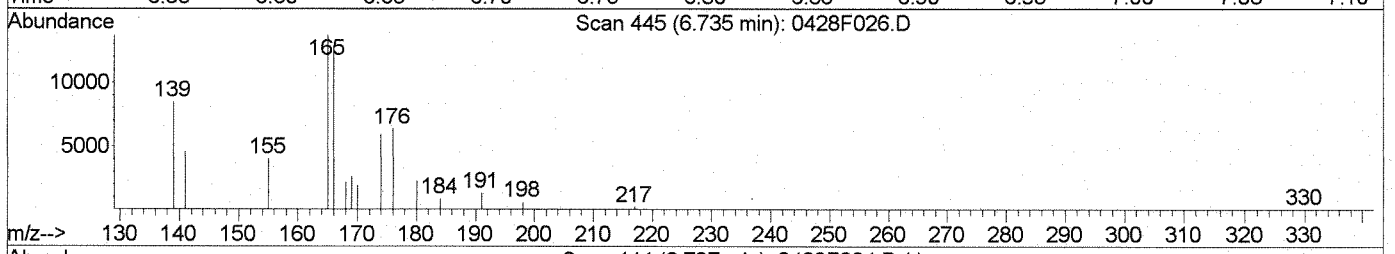
Quantitation Report (Qedit)

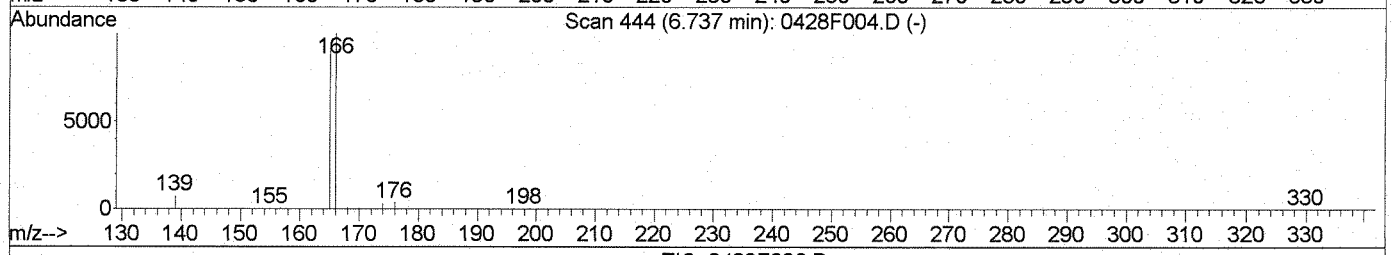
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:34 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(16) Fluorene (T)

6.73min 15.48ng/ml

response 11102

Ion	Exp%	Act%
166.00	100	100
165.00	95.30	99.15
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

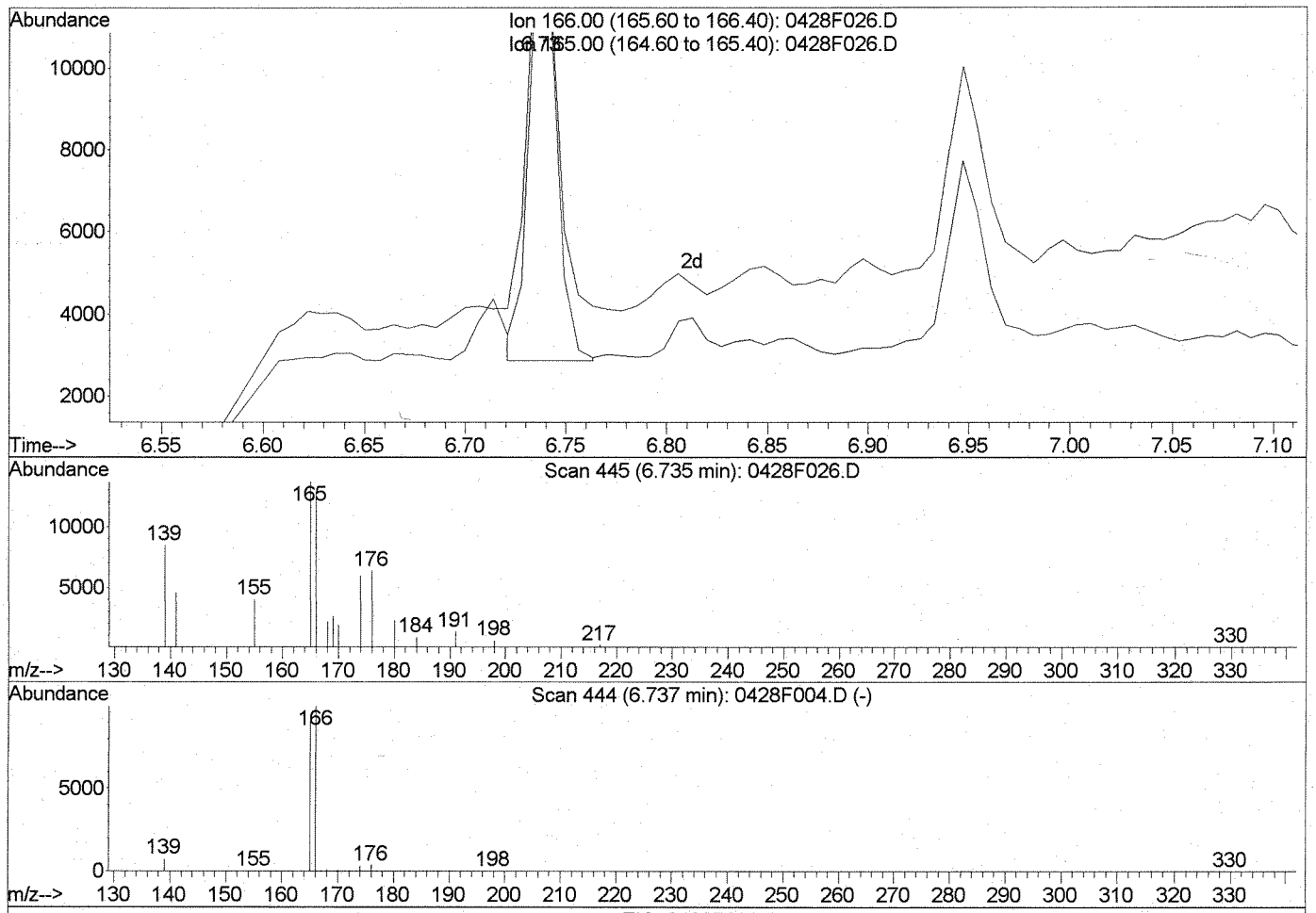
Before

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:34 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration



(16) Fluorene (T)

6.73min 13.46ng/ml m

response 9654

Ion	Exp%	Act%
166.00	100	100
165.00	95.30	107.30
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

04/30/12

MAY 0 1 2012

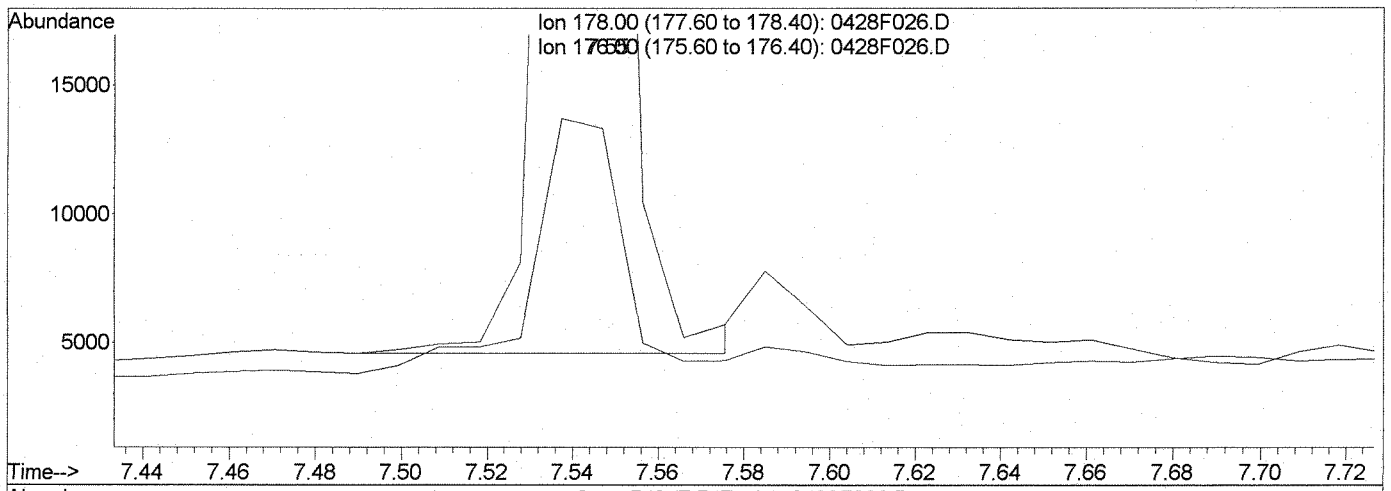
0428F026.D 0227ALK.M Mon Apr 30 05:35:00 2012

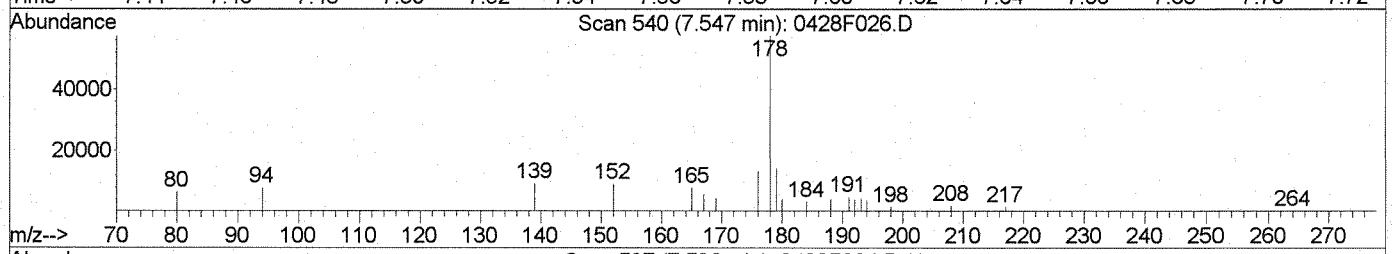
Quantitation Report (Qedit)

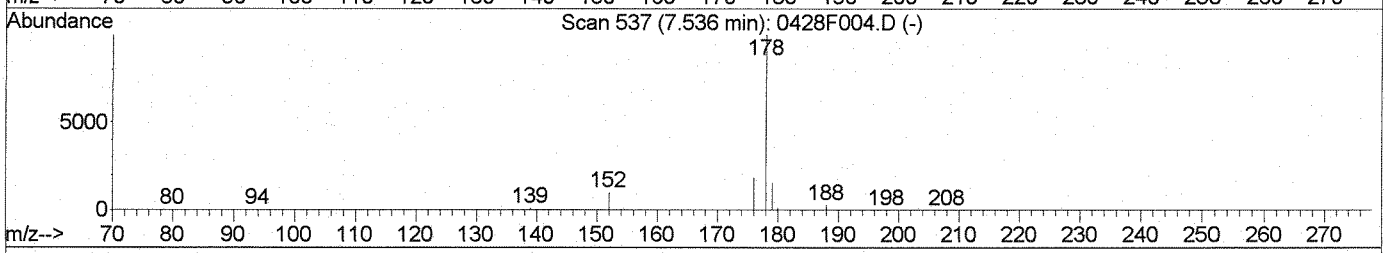
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:34 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(27) Phenanthrene (T)

7.55min 59.52ng/ml

response 65485

Ion	Exp%	Act%
178.00	100	100
176.00	18.30	18.03
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

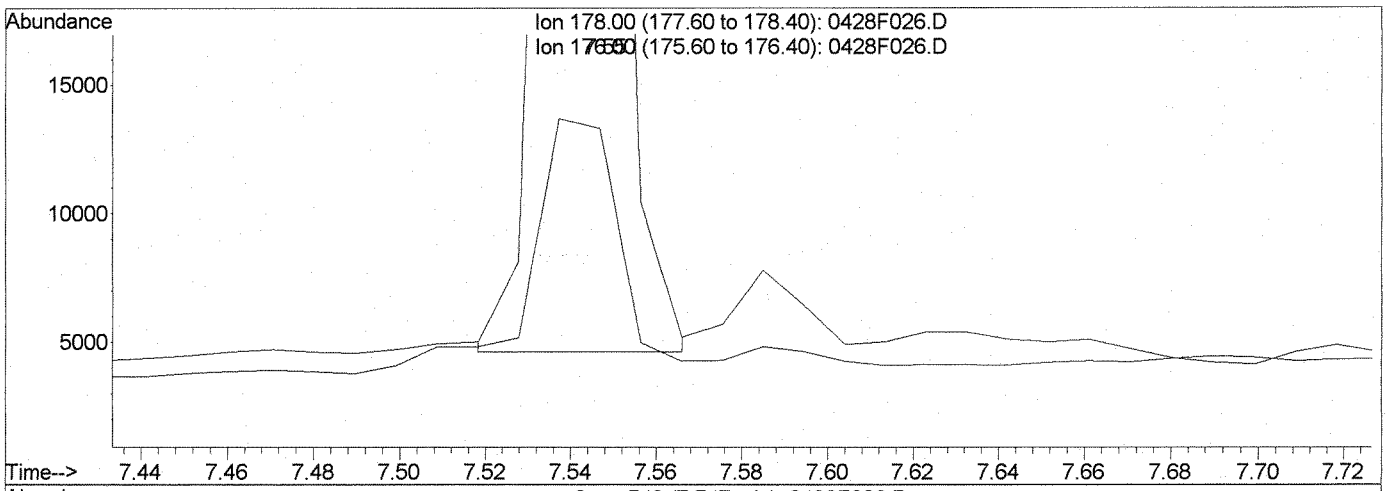
Before

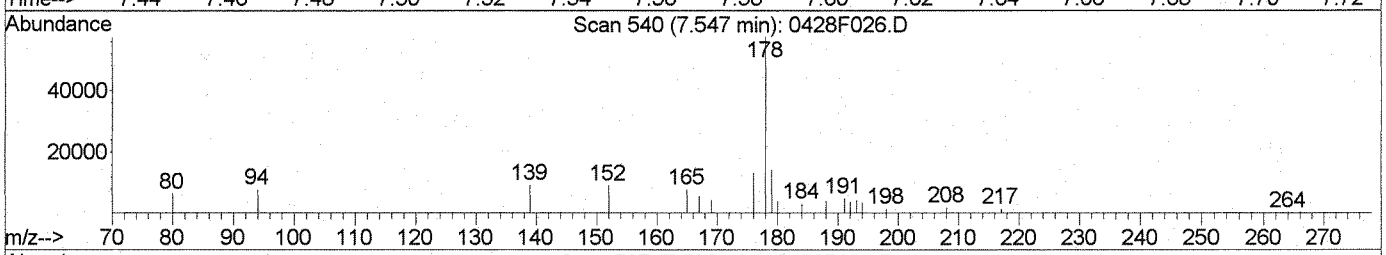
Quantitation Report (Qedit)

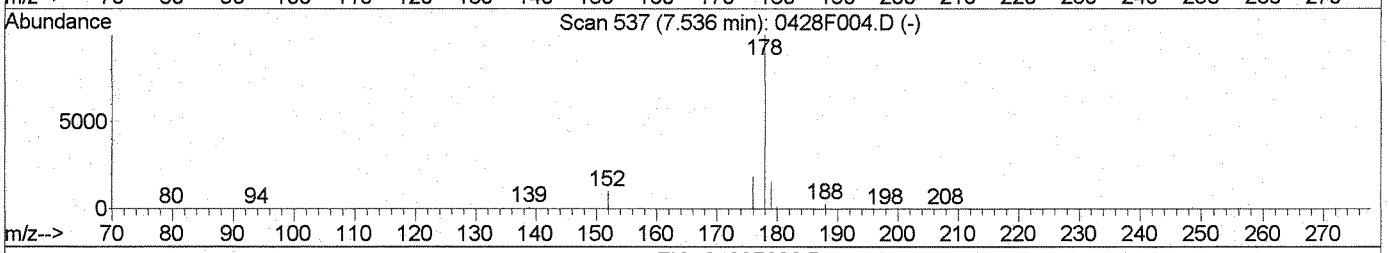
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:35 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(27) Phenanthrene (T)
7.55min 58.31ng/ml m
response 64149

Ion	Exp%	Act%
178.00	100	100
176.00	18.30	23.18
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

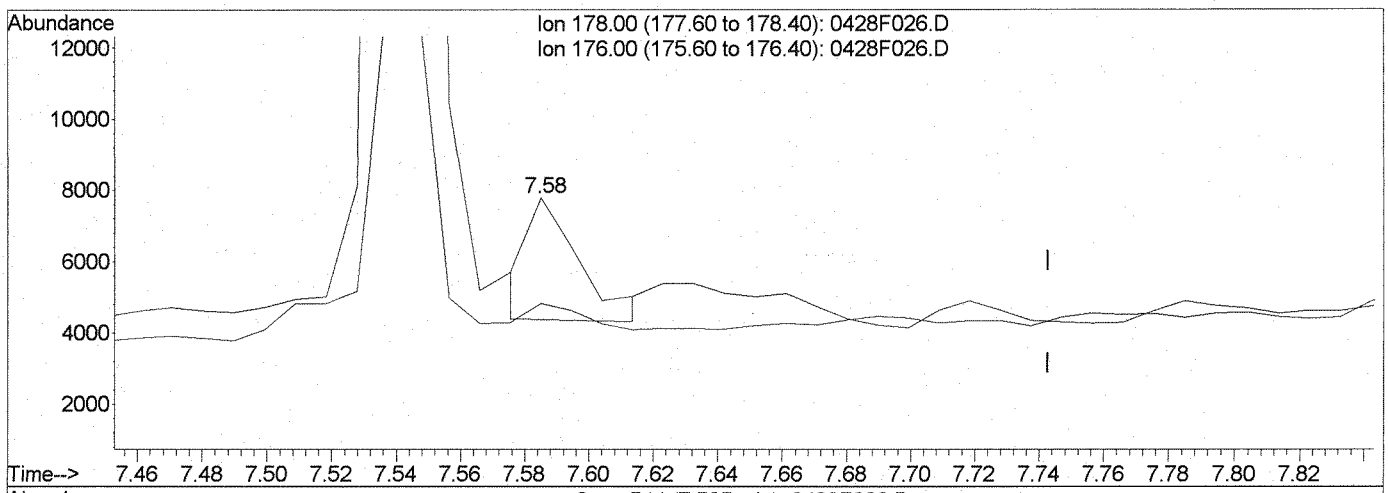
0428F026.D 0227ALK.M Mon Apr 30 05:35:15 2012

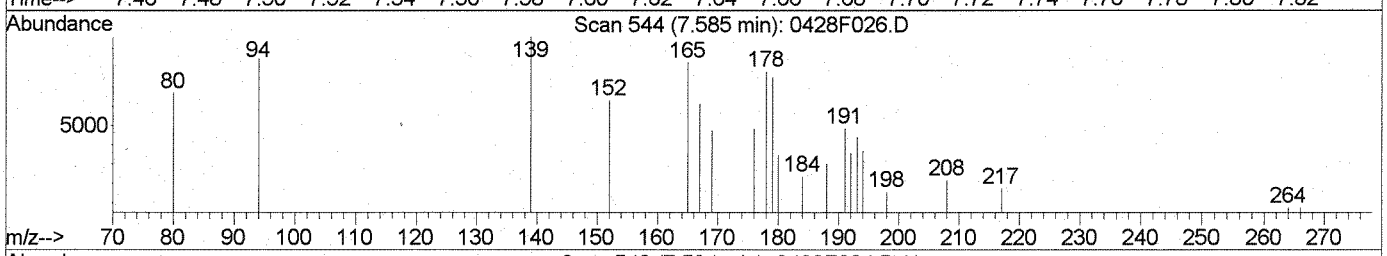
Quantitation Report (Qedit)

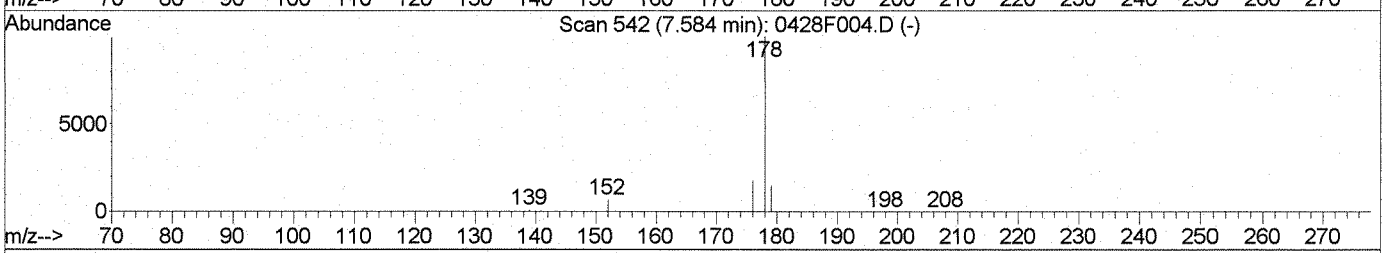
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:35 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(28) Anthracene (T)

7.58min 3.62ng/ml

response 3829

Ion	Exp%	Act%
178.00	100	100
176.00	18.10	26.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

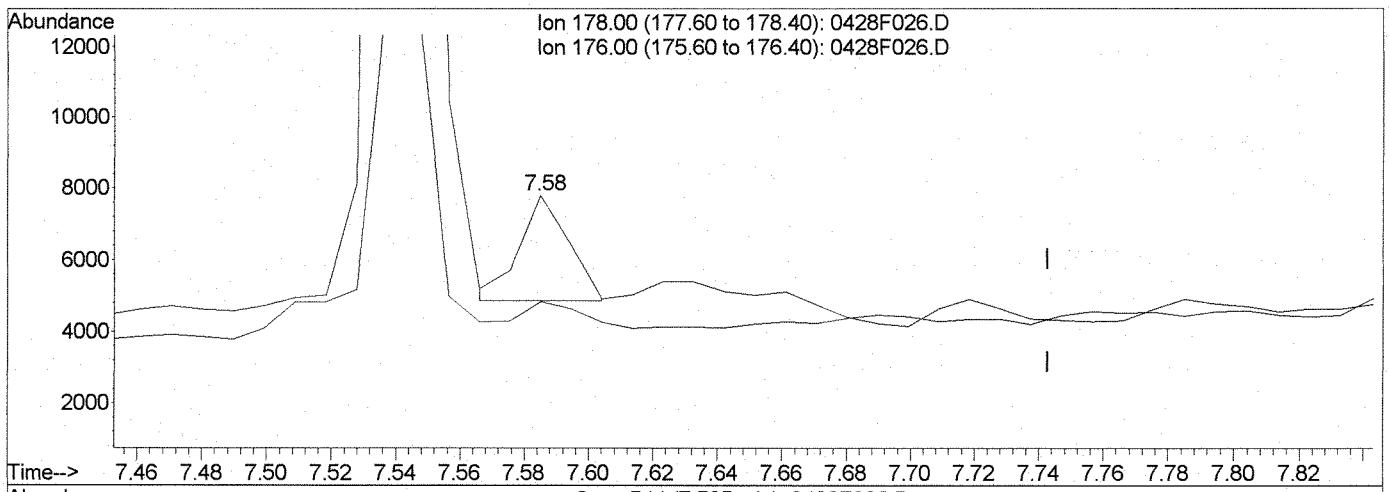
0428F026.D 0227ALK.M Mon Apr 30 05:35:20 2012

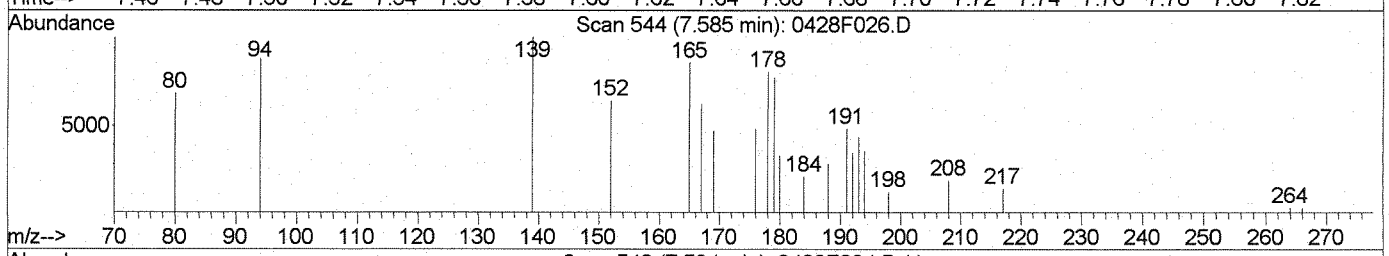
Quantitation Report (Qedit)

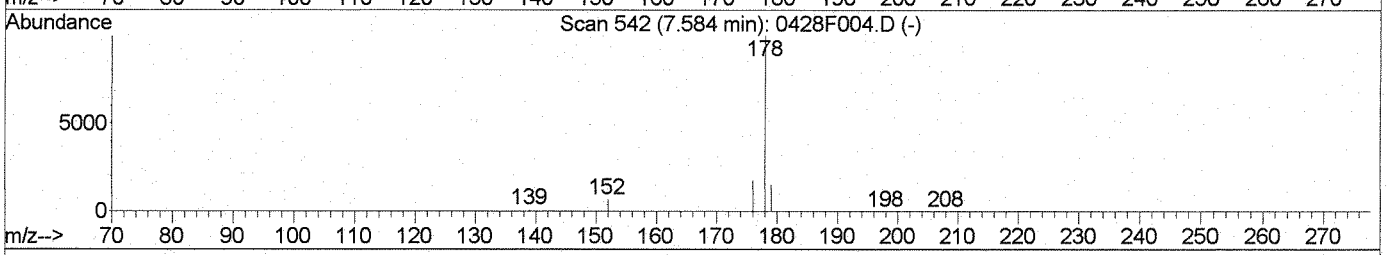
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:35 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(28) Anthracene (T)
7.58min 2.93ng/ml m
response 3098

Ion	Exp%	Act%
178.00	100	100
176.00	18.10	62.01#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

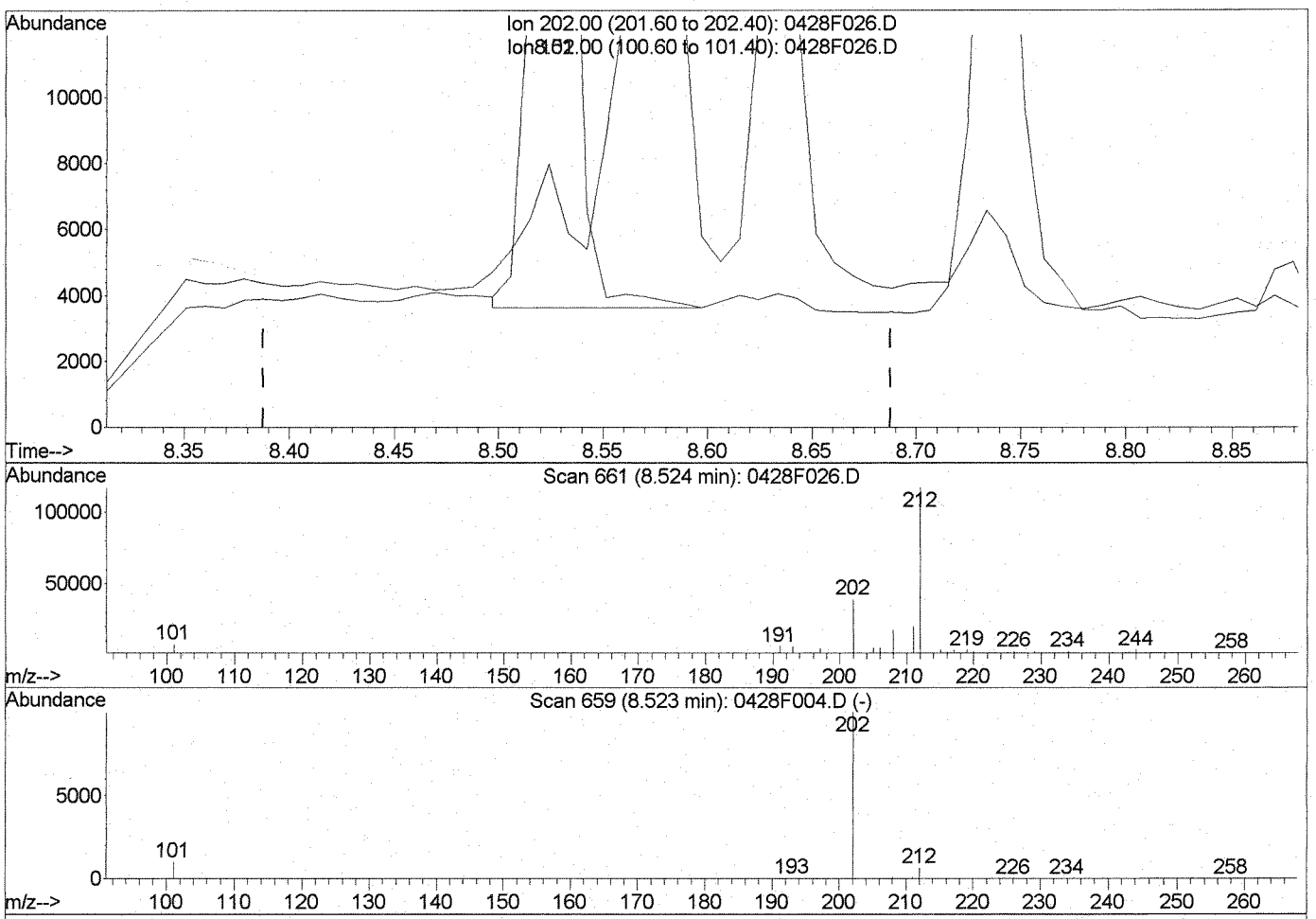
0428F026.D 0227ALK.M Mon Apr 30 05:35:25 2012

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:35 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration



(35) Fluoranthene (T)

8.52min 30.71ng/ml

response 38149

Ion	Exp%	Act%
202.00	100	100
101.00	11.70	9.27
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

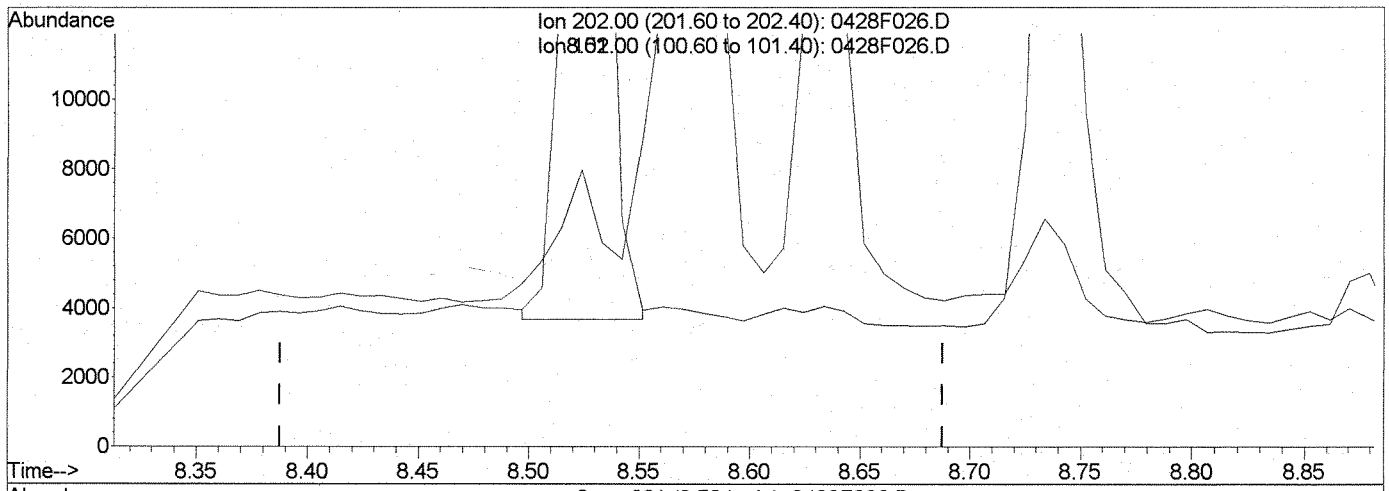
0428F026.D 0227ALK.M Mon Apr 30 05:35:38 2012

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:35 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration



(35) Fluoranthene (T)
8.52min 30.14ng/ml m
response 37434

Ion	Exp%	Act%
202.00	100	100
101.00	11.70	20.41
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

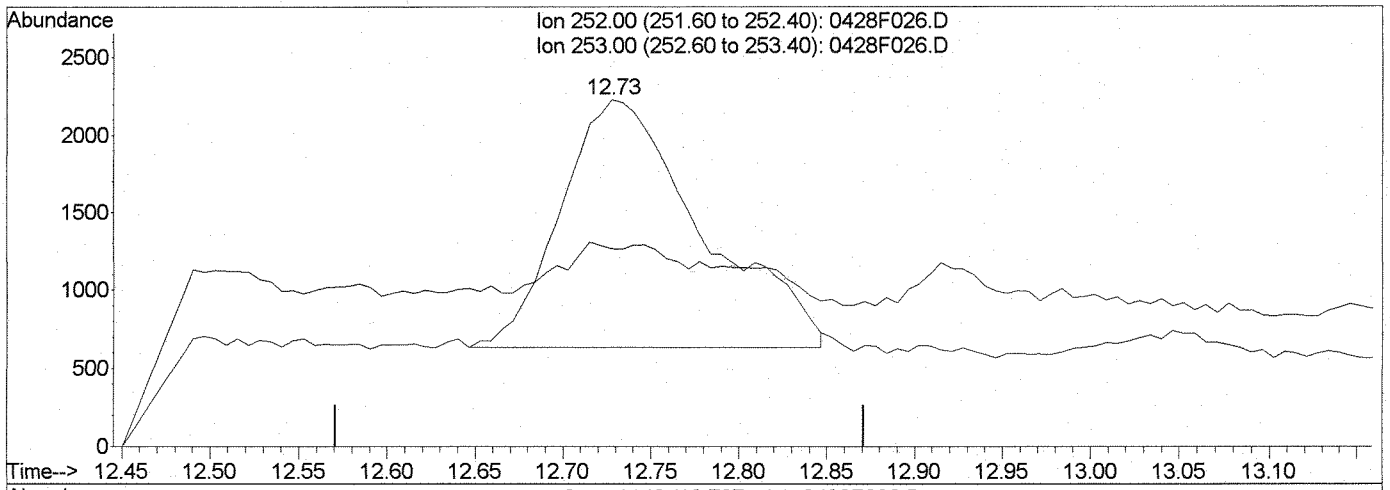
0428F026.D 0227ALK.M Mon Apr 30 05:35:45 2012

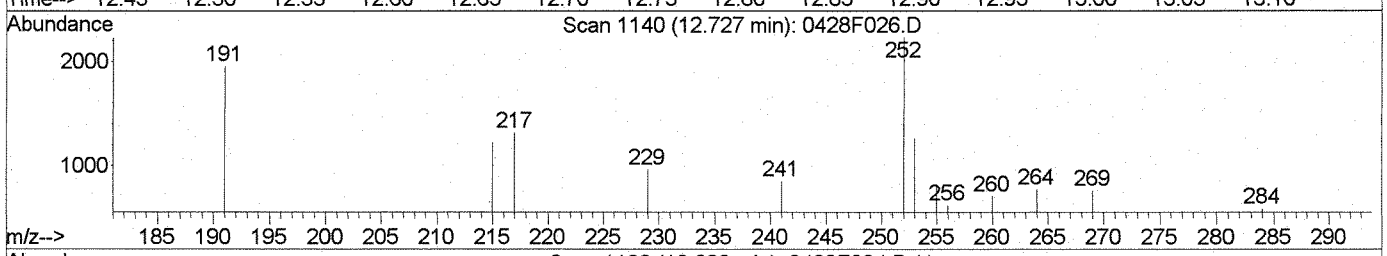
Quantitation Report (Qedit)

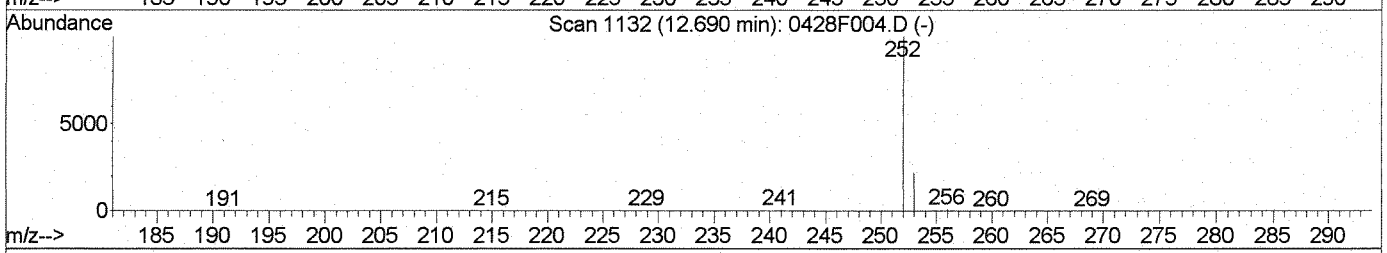
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:35 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(51) Benzo(b)fluoranthene (T)

12.73min 9.00ng/ml

response 8844

Ion	Exp%	Act%
252.00	100	100
253.00	21.90	21.05
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

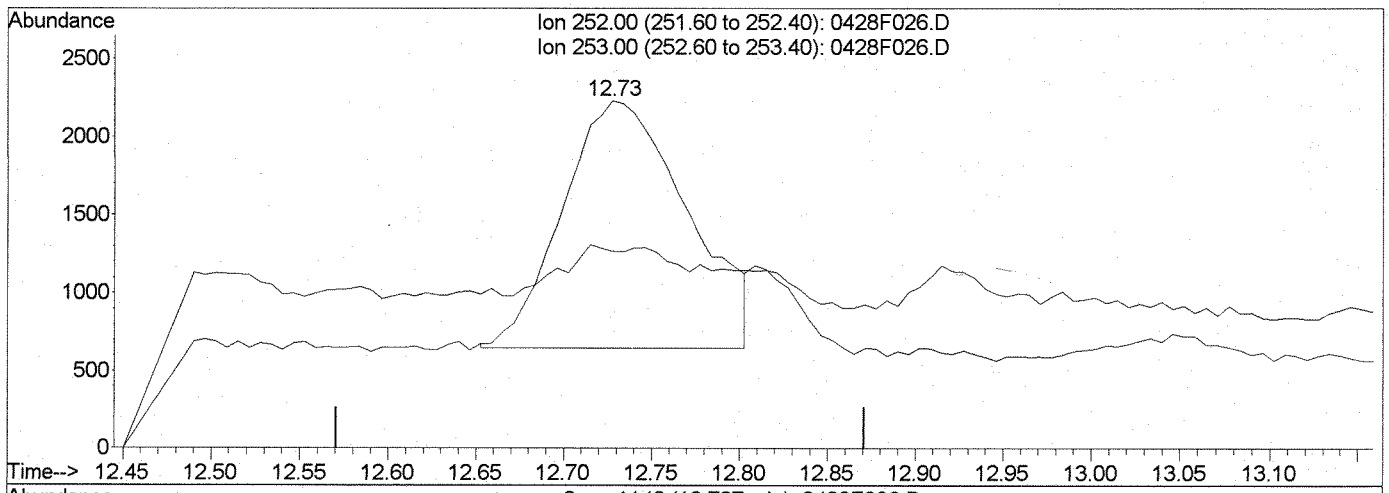
Before

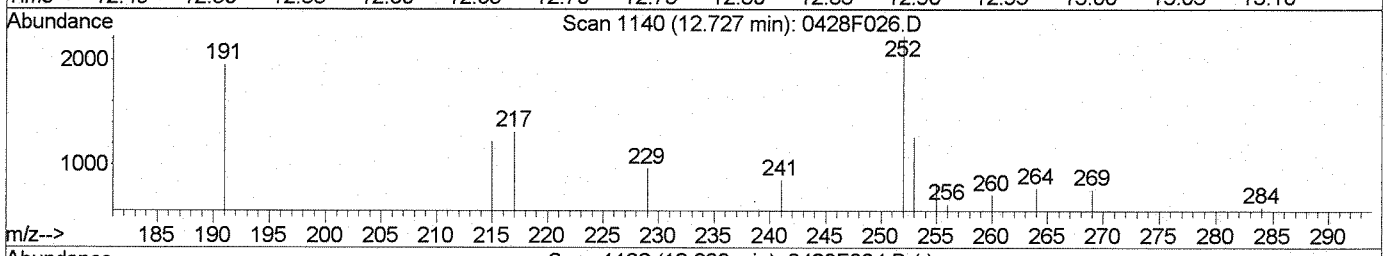
Quantitation Report (Qedit)

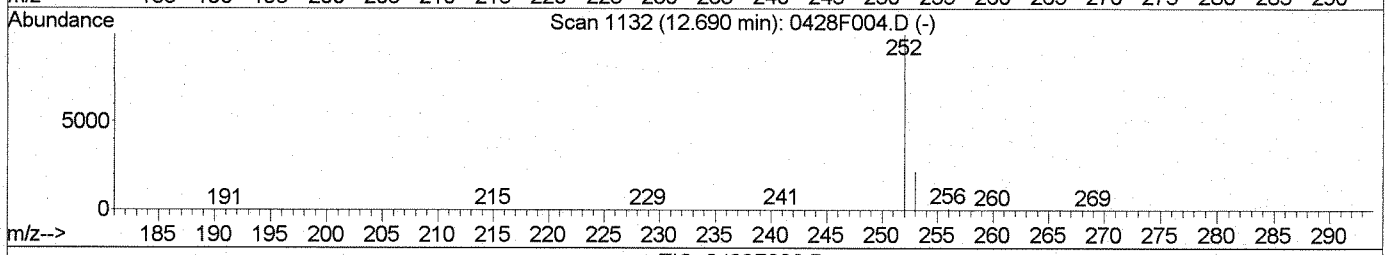
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:35 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(51) Benzo(b)fluoranthene (T)

12.73min 7.90ng/ml m

response 7769

Ion	Exp%	Act%
252.00	100	100
253.00	21.90	56.80#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

04/30/12

MAY 0 1 2012

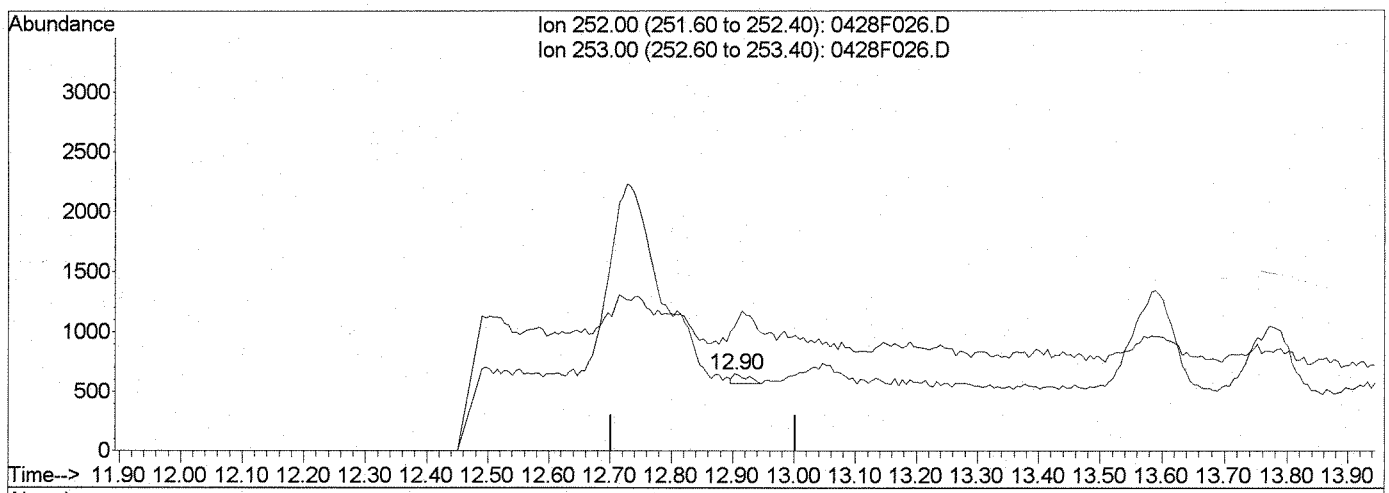
0428F026.D 0227ALK.M Mon Apr 30 05:36:00 2012

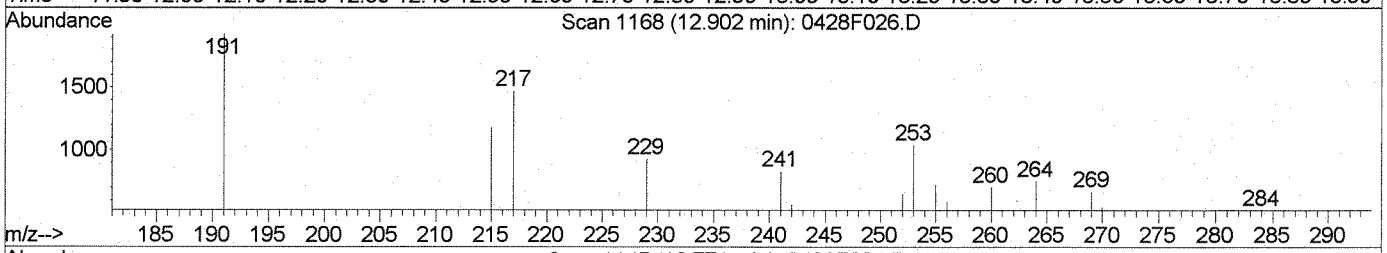
Quantitation Report (Qedit)

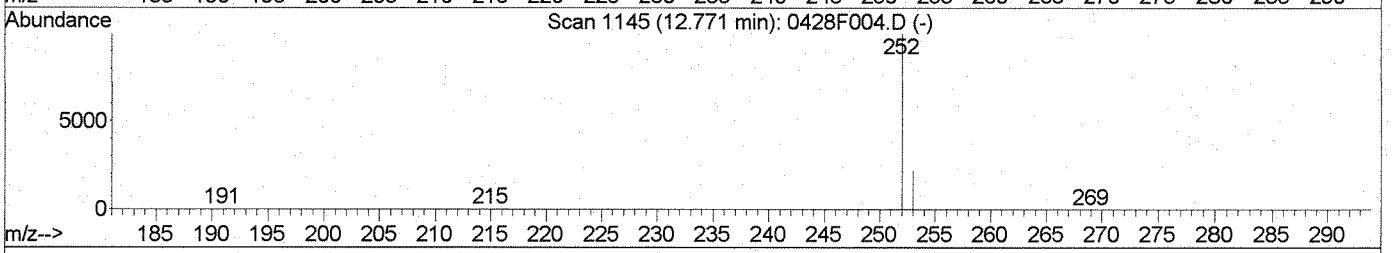
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:35 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(52) Benzo(k)fluoranthene (T)

12.90min 0.15ng/ml

response 142

Ion	Exp%	Act%
252.00	100	100
253.00	22.00	56.10#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

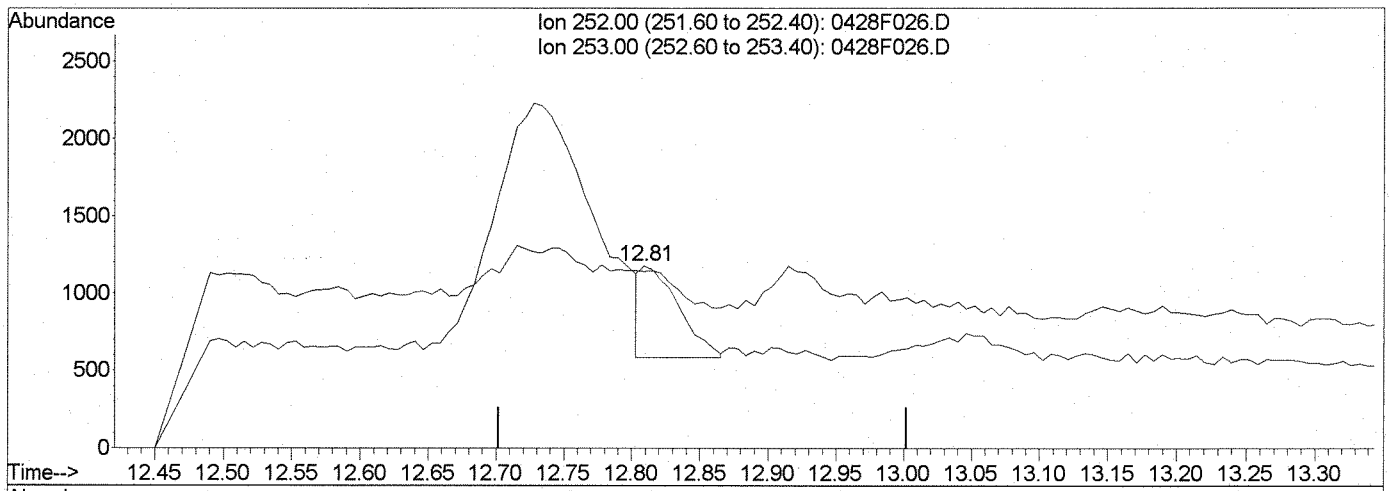
0428F026.D 0227ALK.M Mon Apr 30 05:36:02 2012

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:36 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration



(52) Benzo(k)fluoranthene (T)

12.81min 1.21ng/ml m

response 1147

Ion	Exp%	Act%
252.00	100	100
253.00	22.00	96.94#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

WP

04/30/12

MAY 0 1 2012

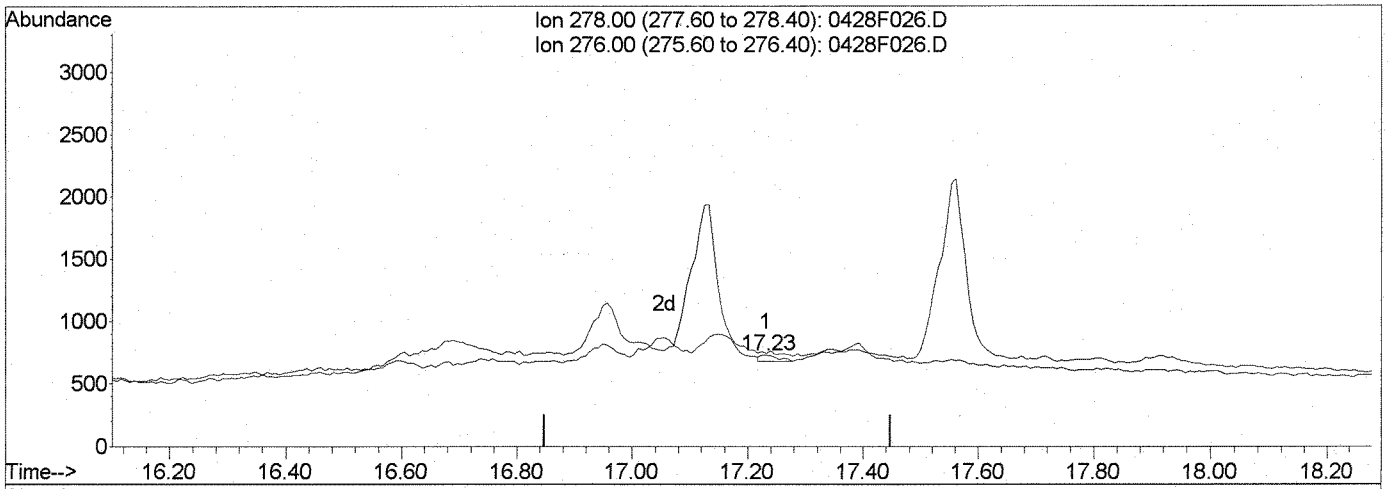
0428F026.D 0227ALK.M Mon Apr 30 05:36:12 2012

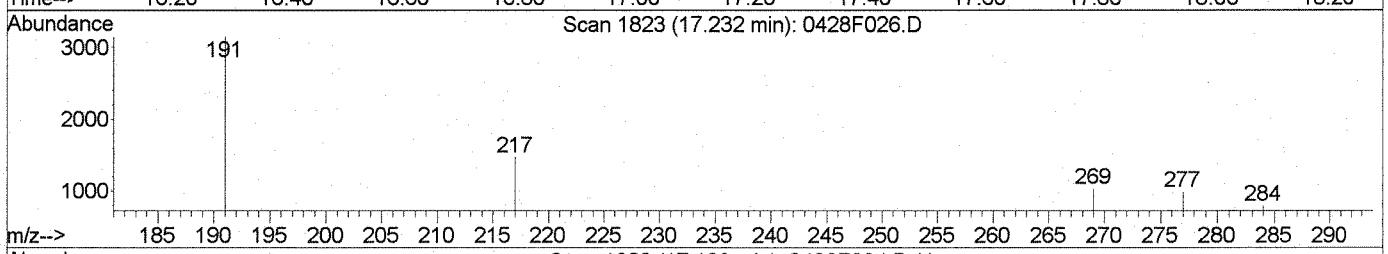
Quantitation Report (Qedit)

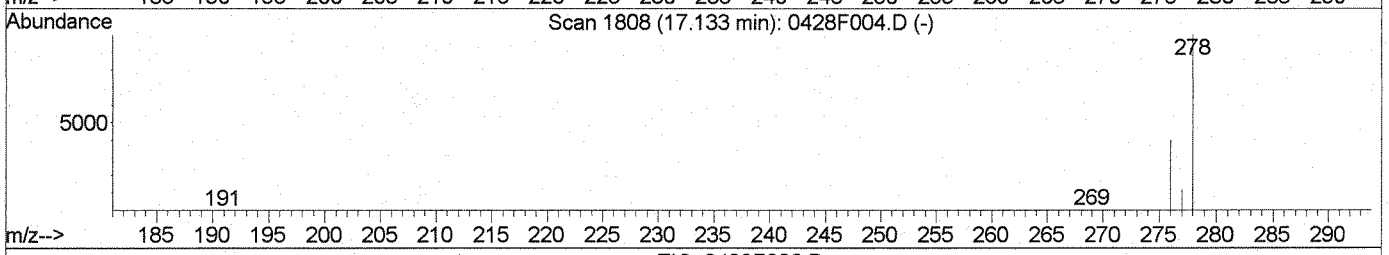
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:36 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(57) Dibenz(a,h)anthracene (T)

17.23min 0.12ng/ml

response 104

Ion	Exp%	Act%
278.00	100	100
276.00	25.10	45.83
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

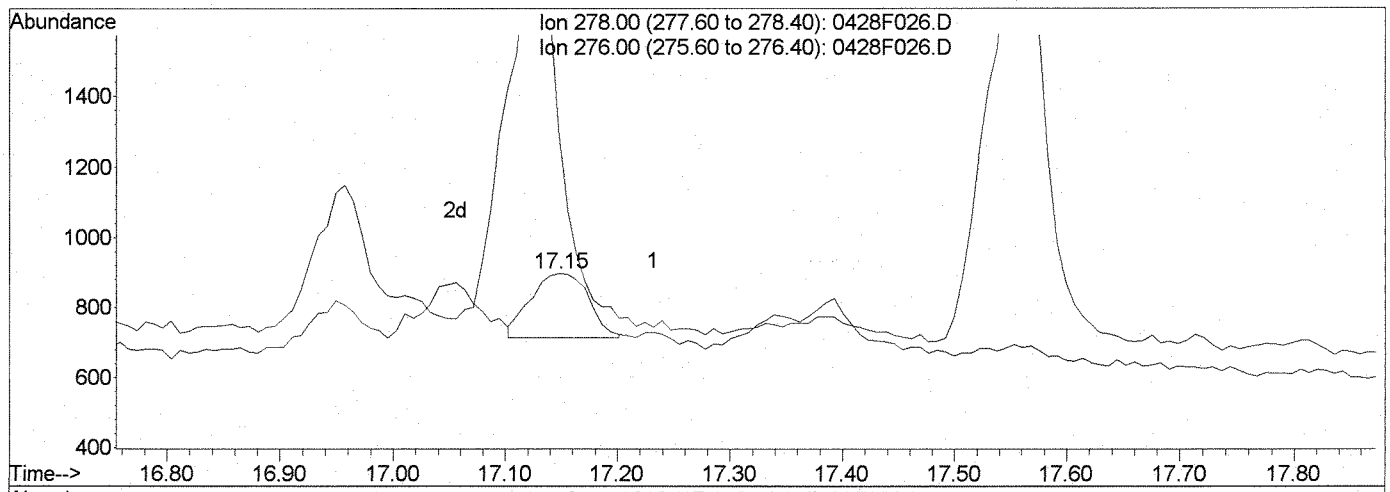
Before

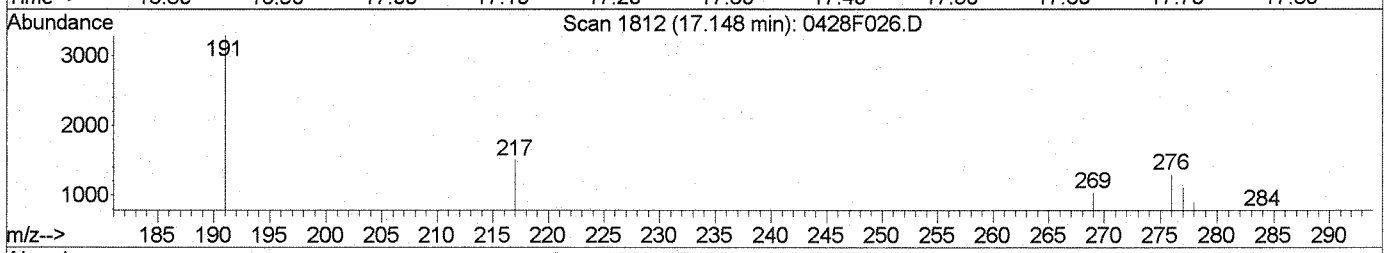
Quantitation Report (Qedit)

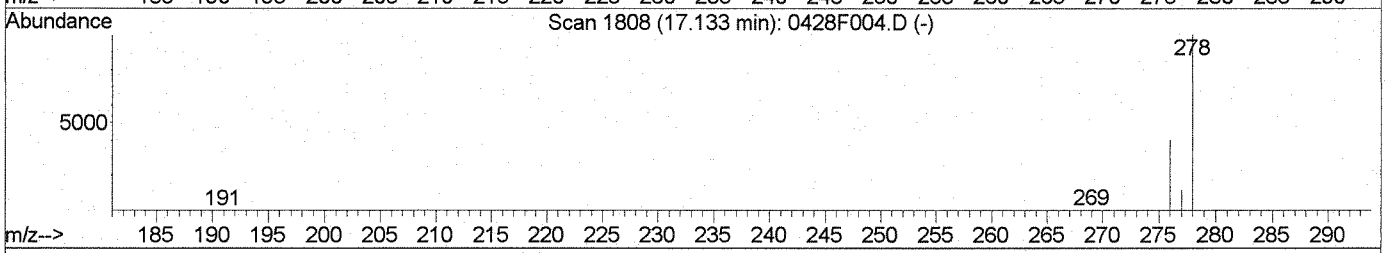
Data File : J:\MS11\DATA\042812\0428F026.D
Acq On : 28 Apr 2012 6:36 pm
Sample : K1203695-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:36 2012

Vial: 22
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F026.D

(57) Dibenz(a,h)anthracene (T)

17.15min 0.75ng/ml m

response 660

Ion	Exp%	Act%
278.00	100	100
276.00	25.10	144.15#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
WP
04/30/12

MAY 0 1 2012

0428F026.D 0227ALK.M Mon Apr 30 05:36:26 2012

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Method Blank
Lab Code: KWG1204233-3

Units: ng/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**0.84**	J	3.3	0.71	1	04/25/12	04/28/12	KWG1204233	
2-Methylnaphthalene	**0.47**	J	3.3	0.40	1	04/25/12	04/28/12	KWG1204233	
Acenaphthylene	ND	U	3.3	0.37	1	04/25/12	04/28/12	KWG1204233	
Acenaphthene	ND	U	3.3	0.36	1	04/25/12	04/28/12	KWG1204233	
Fluorene	ND	U	3.3	0.42	1	04/25/12	04/28/12	KWG1204233	
Phenanthrene	**0.87**	J	3.3	0.72	1	04/25/12	04/28/12	KWG1204233	
Anthracene	ND	U	3.3	0.29	1	04/25/12	04/28/12	KWG1204233	
Fluoranthene	ND	U	3.3	0.46	1	04/25/12	04/28/12	KWG1204233	
Pyrene	ND	U	3.3	0.78	1	04/25/12	04/28/12	KWG1204233	
Benz(a)anthracene	ND	U	3.3	0.34	1	04/25/12	04/28/12	KWG1204233	
Chrysene	ND	U	3.3	0.65	1	04/25/12	04/28/12	KWG1204233	
Benzo(b)fluoranthene	ND	U	3.3	0.25	1	04/25/12	04/28/12	KWG1204233	
Benzo(k)fluoranthene	ND	U	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Benzo(a)pyrene	ND	U	3.3	0.41	1	04/25/12	04/28/12	KWG1204233	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.44	1	04/25/12	04/28/12	KWG1204233	
Dibenz(a,h)anthracene	ND	U	3.3	0.45	1	04/25/12	04/28/12	KWG1204233	
Benzo(g,h,i)perylene	ND	U	3.3	0.36	1	04/25/12	04/28/12	KWG1204233	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	77	29-98	04/28/12	Acceptable
Fluoranthene-d10	75	31-105	04/28/12	Acceptable
Terphenyl-d14	87	27-112	04/28/12	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\042812\0428F006.D
Lab ID: KWG1204233-3
RunType: MB
Matrix: WATER

Date Acquired: 04/28/2012 09:48
Date Quantitated: 04/30/2012 04:55
Batch ID: KWG1204349
Analysis Method: 8270D SIM
MethodJoinID: MJ1189

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K1203695

Primary Review: APR 30 2012

Secondary Review: MAY 01 2012

Printed: 04/30/2012 06:18:43
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS11\DATA\042812\0428F006.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 09:48	**Quant Date:**	04/30/2012 04:55	**Vial:**	2
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1204233-3			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PAH SIM U	**Collect Date:**		**Receive Date:**	04/27/2012

Analysis Lot:	KWG1204349	**Prep Lot:**	KWG1204233	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	1120124	**Prep Date:**	04/25/2012		

Quant Method:	J:\MS11\METHODS\SIM\0227ALK.M	**Calibration ID:**	CAL11297
Title:			
Tune Ref:	J:\MS11\DATA\042812\0428F003.D	**Method ID:**	MJ1189
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.01	136	92606	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	53992	200.00	OK
3	Phenanthrene-d10	7.53	0.01	188	107624	200.00	OK
4	Chrysene-d12	10.28	0.01	240	114503	200.00	OK
5	Perylene-d12	13.96	0.03	264	102233	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.72	0.00	0.00	176	243612	767.73	77	29-98 OK	
2	2,4,6-Tribromophenol	6.95	0.00	0.00	330	77551	1,101	73	10-136 OK	
3	Fluoranthene-d10	8.51	0.00	0.00	212	493125	745.81	75	31-105 OK	
4	Terphenyl-d14	8.88	0.00	0.00	244	417666	872.46	87	27-112 OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.90	0.01	0.00	128	458m	0.8800	0.838	J	
1	2-Methylnaphthalene	5.45	0.01	0.00	142	181	0.4900	0.467	J	
1	1-Methylnaphthalene	5.52		0.00	142	111m	0.3400	0.37	U	
1	Biphenyl	5.81		0.00	154	509m	1.17	1.11	J	
1	2,6-Dimethylnaphthalene				156	0d		0.24	U	
2	Acenaphthylene				152	0d		0.37	U	
2	Acenaphthene				154	0d		0.36	U	
2	Dibenzofuran	6.47	0.01	0.00	168	168m	0.3400	0.42	U	
2	2,3,5-Trimethylnaphthalene				170	0d		0.30	U	
2	Fluorene	6.74		0.00	166	123m	0.3000	0.42	U	
2	Pentachlorophenol				266	0d		10	U	
3	Dibenzothiophene				184	0d		0.52	U	

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

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

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

Data File:	J:\MS11\DATA\042812\0428F006.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 09:48	**Quant Date:**	04/30/2012 04:55	**Vial:**	2
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1204233-3			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.55	0.01	0.00	178	591	0.9100	0.867	J	
3	Anthracene	7.60	0.02	0.00	178	129	0.2100	0.29	U	
3	Carbazole				167	0**d**		0.39	U	
3	1-Methylphenanthrene	8.05	0.01	0.00	192	81**m**	0.1700	0.72	U	
3	Fluoranthene	8.52		0.00	202	265**m**	0.3600	0.46	U	
4	Pyrene	8.74	0.01	0.00	202	252**m**	0.3700	0.78	U	
4	Benz(a)anthracene				228	0**d**		0.34	U	
4	Chrysene	10.32	0.01	0.00	228	107**m**	0.1700	0.65	U	
5	Benzo(b)fluoranthene				252	0**d**		0.25	U	
5	Benzo(k)fluoranthene				252	0**d**		0.41	U	
5	Benzo(e)pyrene				252	0**d**		0.49	U	
5	Benzo(a)pyrene				252	0**d**		0.41	U	
5	Perylene				252	0**d**		0.36	U	
5	Indeno(1,2,3-cd)pyrene				276	0**d**		0.44	U	
5	Dibenz(a,h)anthracene				278	0**d**		0.45	U	
5	Benzo(g,h,i)perylene				276	0**d**		0.36	U	

Prep Amount:	1050 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F006.D
Acq On : 28 Apr 2012 9:48 am
Sample : KWG1204233-3 MB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 04:50:22 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	92606	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.29	164	53992	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	107624	200.00	ng/ml	0.00
37) Chrysene-d12	10.28	240	114503	200.00	ng/ml	0.00
50) Perylene-d12	13.96	264	102233	200.00	ng/ml	0.00
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	243612	767.73	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 76.77%			
20) 2,4,6 Tribromophenol	6.95	330	77551	1100.67	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 110.07%			
36) Fluoranthene-d10	8.51	212	493125	745.81	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 74.58%			
43) Terphenyl-d14	8.88	244	417666	872.46	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 87.25%			

Target Compounds						Qvalue
2) Naphthalene	4.90	128	458m	0.88	ng/ml	
3) 2-Methylnaphthalene	5.45	142	181	0.49	ng/ml	73
4) 1-Methylnaphthalene	5.52	142	111m	0.34	ng/ml	
5) Biphenyl	5.81	154	509m	1.17	ng/ml	
13) Dibenzofuran	6.47	168	168m	0.34	ng/ml	
16) Fluorene	6.74	166	123m	0.30	ng/ml	
27) Phenanthrene	7.55	178	591	0.91	ng/ml	95
28) Anthracene	7.60	178	129	0.21	ng/ml	99
30) 1-Methylphenanthrene	8.05	192	81m	0.17	ng/ml	
35) Fluoranthene	8.52	202	265m	0.36	ng/ml	
38) Pyrene	8.74	202	252m	0.37	ng/ml	
45) Chrysene	10.32	228	107m	0.17	ng/ml	

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

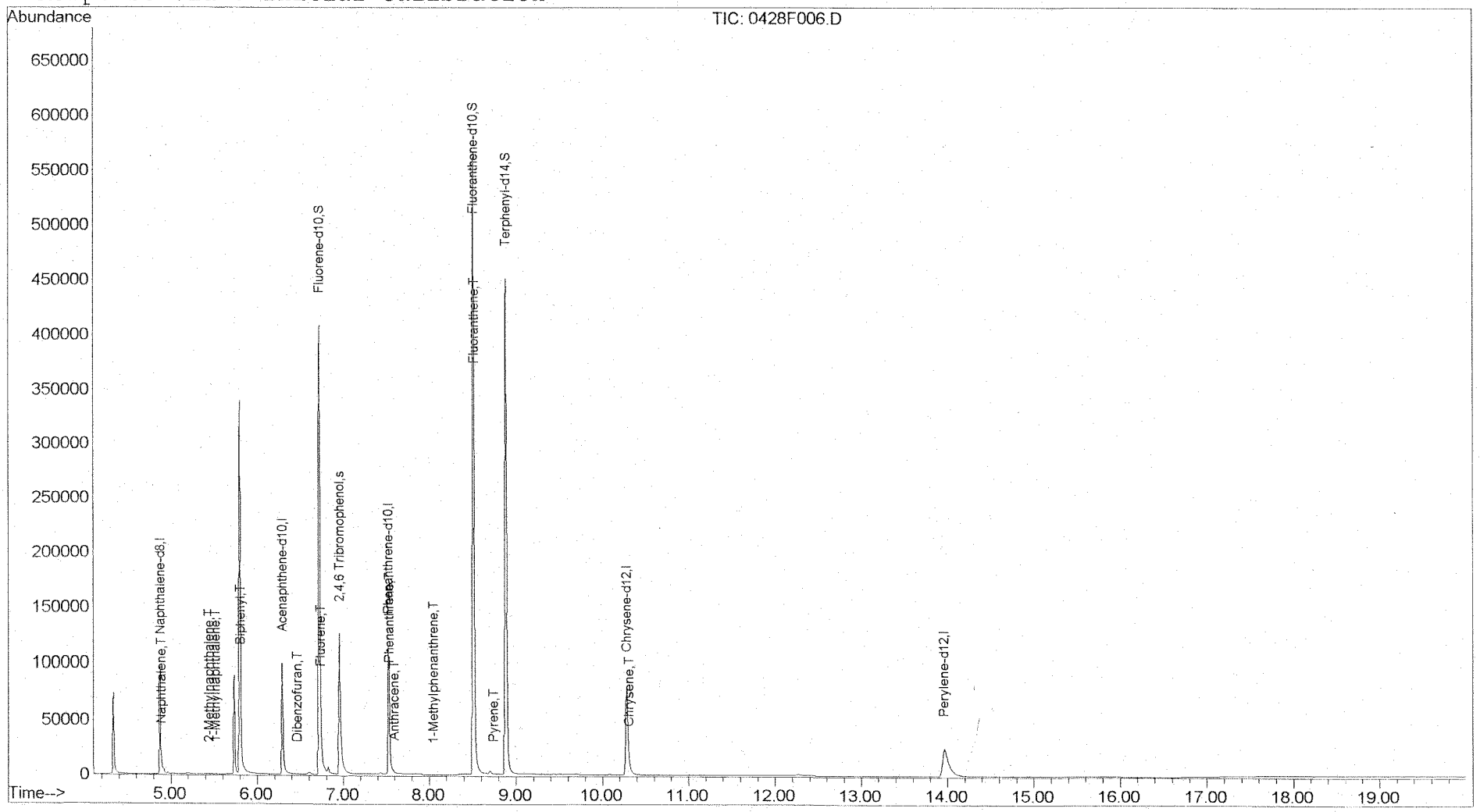
Quantitation Report (QT Reviewed)

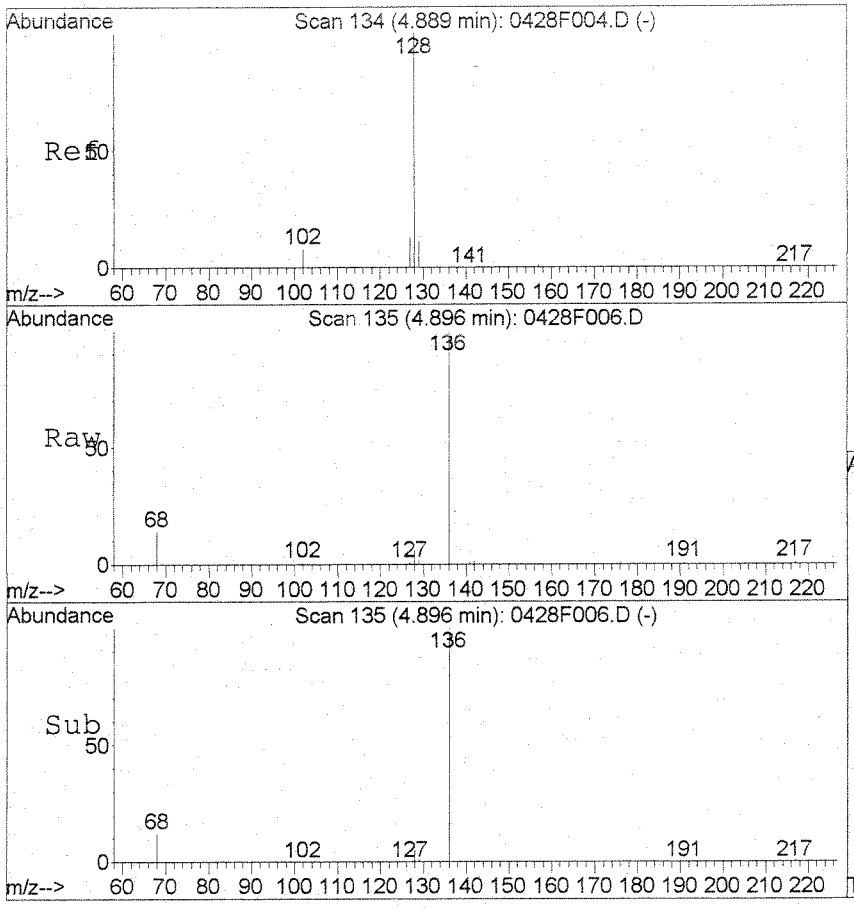
Data File : J:\MS11\DATA\042812\0428F006.D
Acq On : 28 Apr 2012 9:48 am
Sample : KWG1204233-3 MB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:55 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration

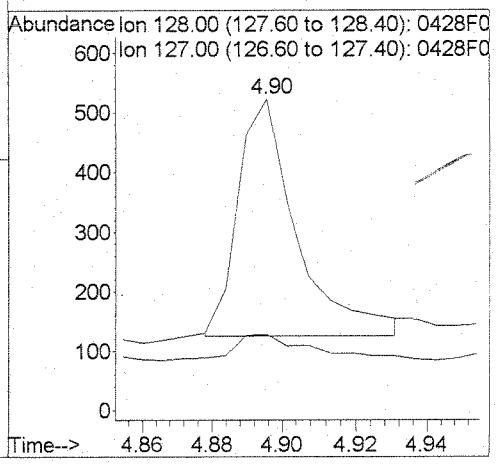


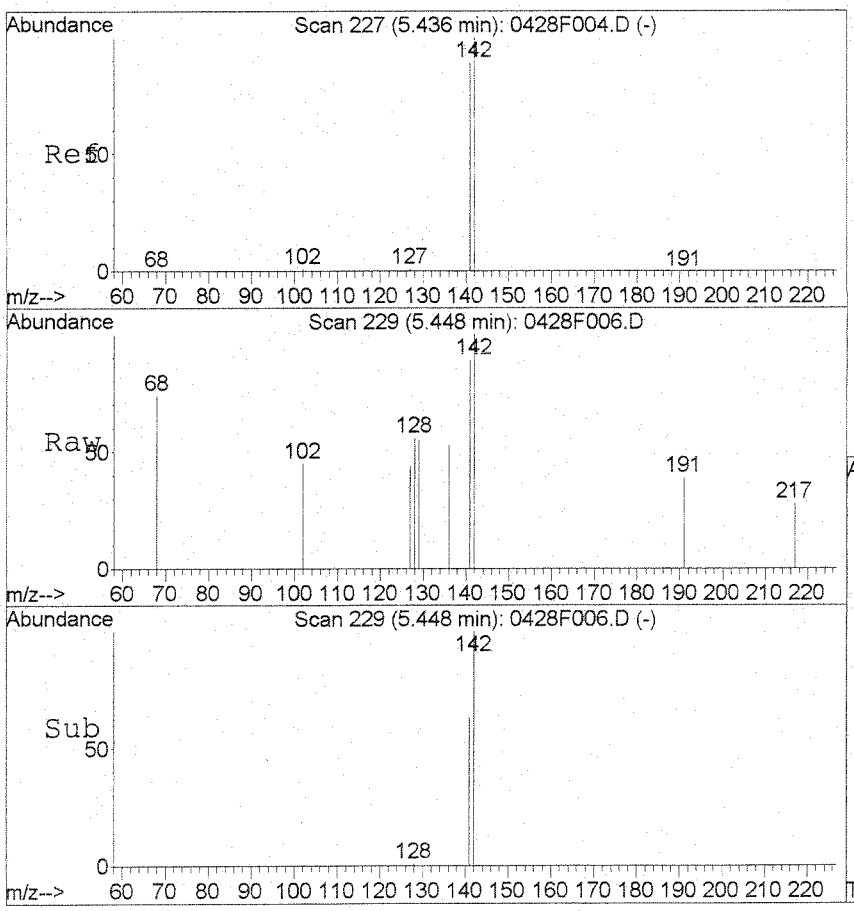


#2
Naphthalene
Concen: 0.88 ng/ml m
RT: 4.90 min Scan# 135
Delta R.T. -0.01 min
Lab File: 0428F006.D
Acq: 28 Apr 2012 9:48 am

Tgt Ion:128 Resp: 458

Ion	Ratio	Lower	Upper
128	100		
127	24.5	0.0	42.3

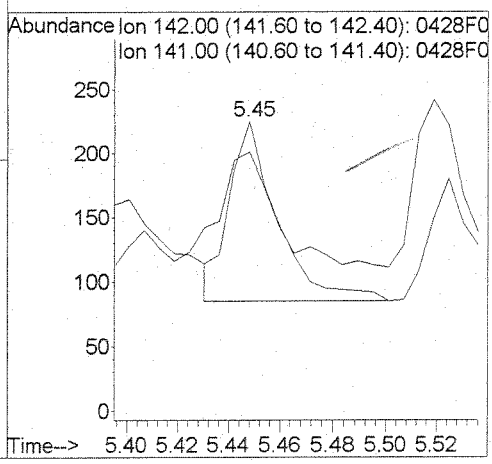


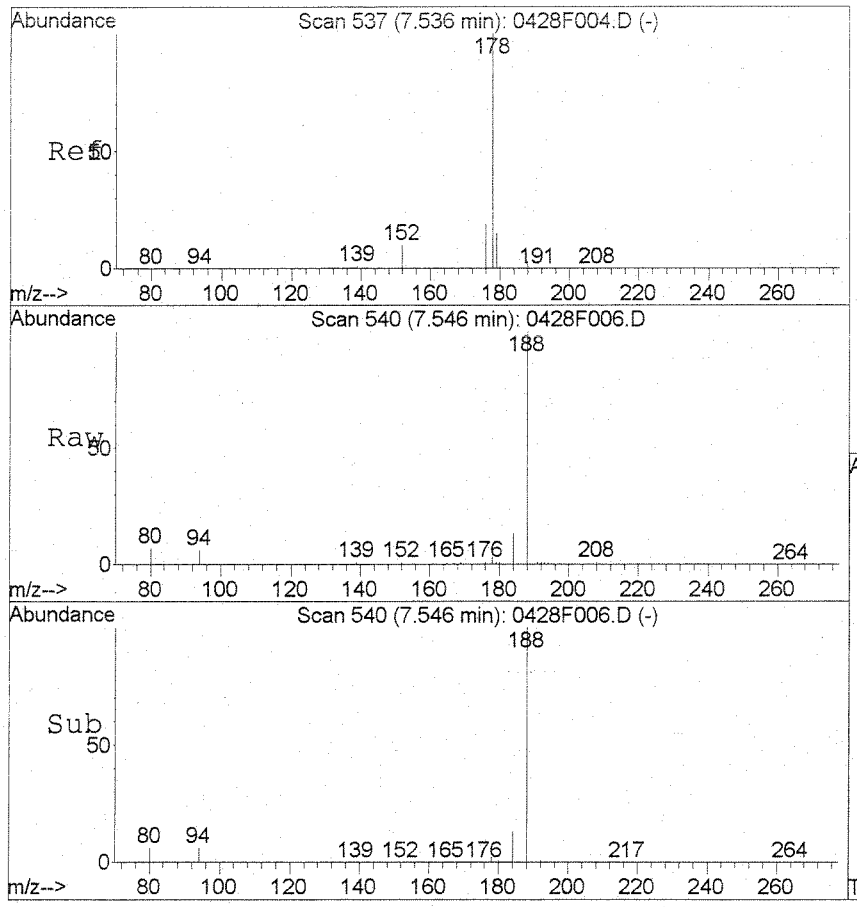


#3
2-Methylnaphthalene
Concen: 0.49 ng/ml
RT: 5.45 min Scan# 229
Delta R.T. -0.00 min
Lab File: 0428F006.D
Acq: 28 Apr 2012 9:48 am

Tgt Ion:142 Resp: 181

Ion	Ratio	Lower	Upper
142	100		
141	64.3	60.1	120.1

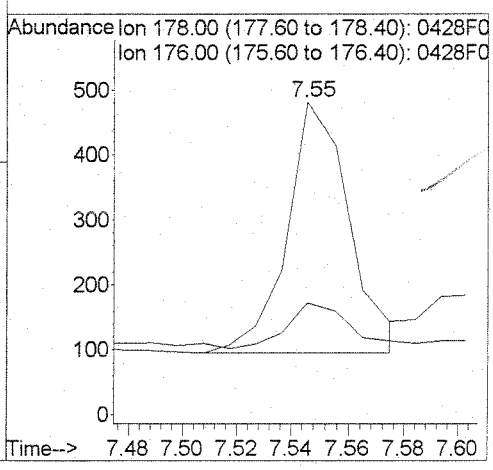


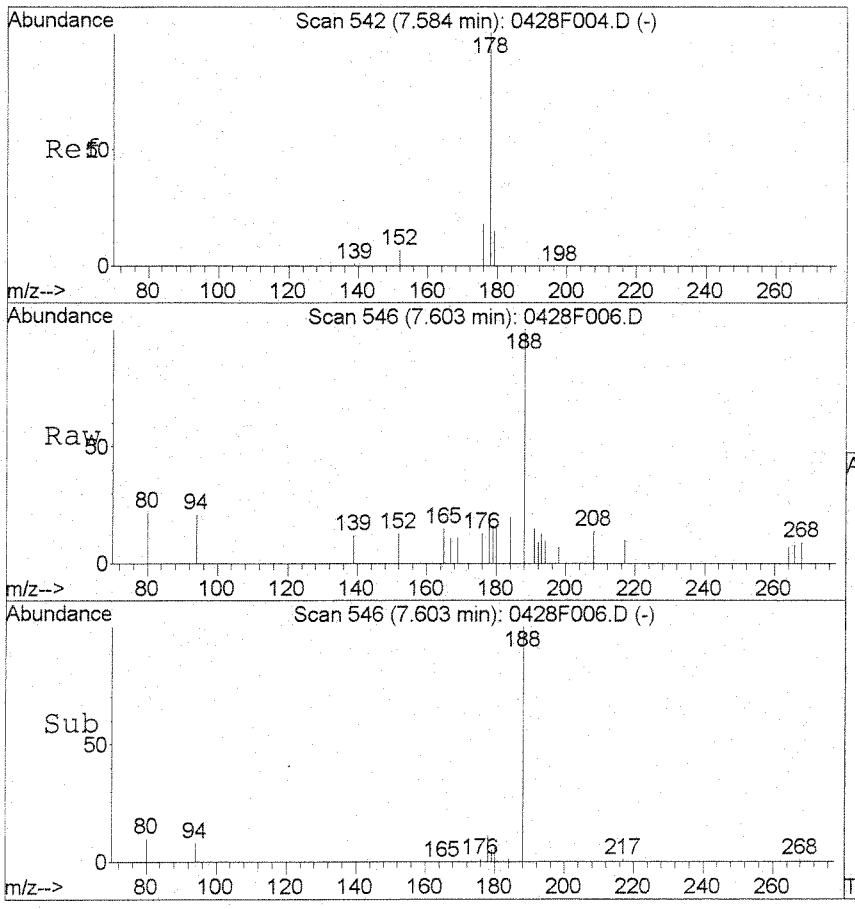


#27
Phenanthrene
Concen: 0.91 ng/ml
RT: 7.55 min Scan# 540
Delta R.T. -0.01 min
Lab File: 0428F006.D
Acq: 28 Apr 2012 9:48 am

Tgt Ion:178 Resp: 591

Ion	Ratio	Lower	Upper
178	100		
176	16.0	0.0	48.3

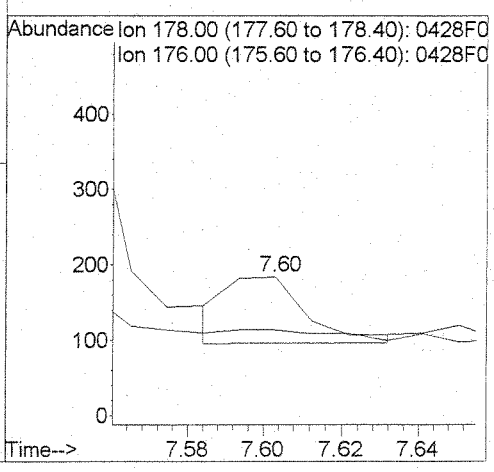




#28
Anthracene
Concen: 0.21 ng/ml
RT: 7.60 min Scan# 546
Delta R.T. 0.01 min
Lab File: 0428F006.D
Acq: 28 Apr 2012 9:48 am

Tgt Ion:178 Resp: 129

Ion	Ratio	Lower	Upper
178	100		
176	18.4	0.0	48.1

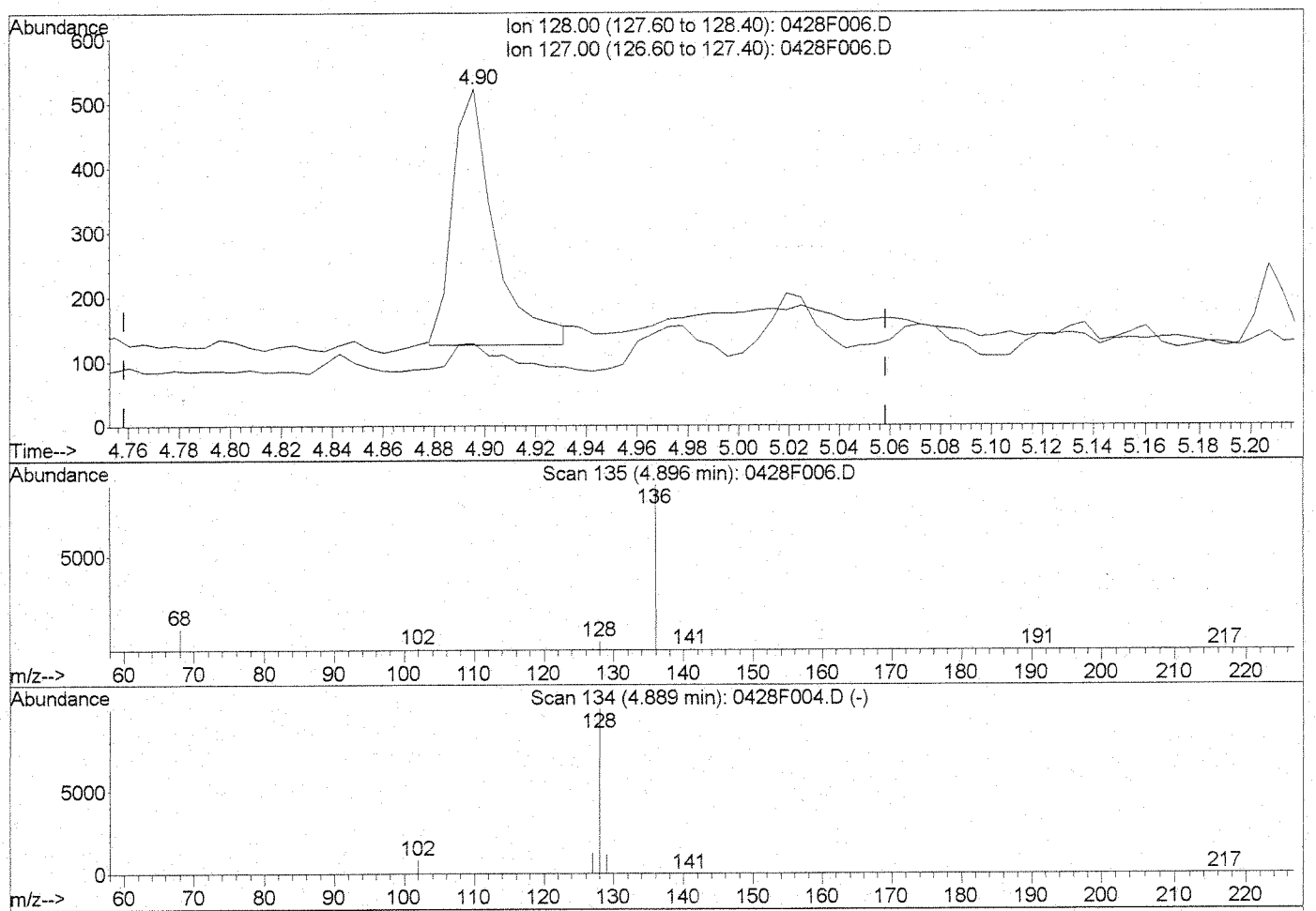


Quantitation Report (Qedit)

Data File : J:\MS11\DATA\042812\0428F006.D
Acq On : 28 Apr 2012 9:48 am
Sample : KWG1204233-3 MB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:53 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration



TIC: 0428F006.D

(2) Naphthalene (T)

4.90min 0.88ng/ml m

response 458

Ion	Exp%	Act%
128.00	100	100
127.00	12.30	24.47
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 01 2012

0428F006.D 0227ALK.M Mon Apr 30 04:53:39 2012

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1203695
Project:	T2 Storm water Project/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Units:**	ng/L
Lab Code:	KWG1204233-1	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**372**		3.4	0.71	1	04/25/12	04/28/12	KWG1204233	
2-Methylnaphthalene	**376**		3.4	0.40	1	04/25/12	04/28/12	KWG1204233	
Acenaphthylene	**398**		3.4	0.37	1	04/25/12	04/28/12	KWG1204233	
Acenaphthene	**383**		3.4	0.36	1	04/25/12	04/28/12	KWG1204233	
Fluorene	**391**		3.4	0.42	1	04/25/12	04/28/12	KWG1204233	
Phenanthrene	**373**		3.4	0.72	1	04/25/12	04/28/12	KWG1204233	
Anthracene	**397**		3.4	0.29	1	04/25/12	04/28/12	KWG1204233	
Fluoranthene	**394**		3.4	0.46	1	04/25/12	04/28/12	KWG1204233	
Pyrene	**424**		3.4	0.78	1	04/25/12	04/28/12	KWG1204233	
Benz(a)anthracene	**427**		3.4	0.34	1	04/25/12	04/28/12	KWG1204233	
Chrysene	**434**		3.4	0.65	1	04/25/12	04/28/12	KWG1204233	
Benzo(b)fluoranthene	**460**		3.4	0.25	1	04/25/12	04/28/12	KWG1204233	
Benzo(k)fluoranthene	**489**		3.4	0.41	1	04/25/12	04/28/12	KWG1204233	
Benzo(a)pyrene	**468**		3.4	0.41	1	04/25/12	04/28/12	KWG1204233	
Indeno(1,2,3-cd)pyrene	**369**		3.4	0.44	1	04/25/12	04/28/12	KWG1204233	
Dibenz(a,h)anthracene	**466**		3.4	0.45	1	04/25/12	04/28/12	KWG1204233	
Benzo(g,h,i)perylene	**425**		3.4	0.36	1	04/25/12	04/28/12	KWG1204233	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	78	29-98	04/28/12	Acceptable
Fluoranthene-d10	76	31-105	04/28/12	Acceptable
Terphenyl-d14	83	27-112	04/28/12	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\042812\0428F017.D
Lab ID: KWG1204233-1
RunType: LCS
Matrix: WATER

Date Acquired: 04/28/2012 14:38
Date Quantitated: 04/30/2012 05:02
Batch ID: KWG1204349
Analysis Method: 8270D SIM
MethodJoinID: MJ1189

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

K1203695

Primary Review: APR 30 2012

Secondary Review: MAY 01 2012

Quantitation Report

Data File:	J:\MS11\DATA\042812\0428F017.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 14:38	**Quant Date:**	04/30/2012 05:02	**Vial:**	13
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1204233-1			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PAH SIM U	**Collect Date:**		**Receive Date:**	04/27/2012

Analysis Lot:	KWG1204349	**Prep Lot:**	KWG1204233	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	1120122	**Prep Date:**	04/25/2012		

Quant Method:	J:\MS11\METHODS\SIM\0227ALK.M	**Calibration ID:**	CAL11297
Title:			
Tune Ref:	J:\MS11\DATA\042812\0428F003.D	**Method ID:**	MJ1189
MB Ref:	J:\MS11\DATA\042812\0428F006.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.01	136	90242	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	51773	200.00	OK
3	Phenanthrene-d10	7.53	0.01	188	102759	200.00	OK
4	Chrysene-d12	10.27	0.00	240	115020	200.00	OK
5	Perylene-d12	13.94	0.01	264	106844	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.71	-0.01	0.00	176	235949	775.45	78	29-98	OK	
2	2,4,6-Tribromophenol	6.95	0.00	0.00	330	67044	996.61	66	10-136	OK	
3	Fluoranthene-d10	8.51	0.00	0.00	212	482197	763.81	76	31-105	OK	
4	Terphenyl-d14	8.88	0.00	0.00	244	401127	834.15	83	27-112	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.89		0.00	128	188236	371.81	372		
1	2-Methylnaphthalene	5.44		0.00	142	134072	375.89	376		
1	1-Methylnaphthalene	5.52		0.00	142	121425	386.68	387		
1	Biphenyl	5.82	0.01	0.00	154	158925	374.19	374		
1	2,6-Dimethylnaphthalene	5.95		0.00	156	119489	389.12	389		
2	Acenaphthylene	6.17		0.00	152	205368	397.86	398		
2	Acenaphthene	6.31		0.00	154	122007	382.61	383		
2	Dibenzofuran	6.46		0.00	168	186440	388.18	388		
2	2,3,5-Trimethylnaphthalene	6.62		0.00	170	121073m	399.31	399		
2	Fluorene	6.74		0.00	166	152021	390.95	391		
2	Pentachlorophenol				266	0d		10	U	
3	Dibenzothiophene	7.43		0.00	184	209027	372.07	372		

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

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

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

Data File:	J:\MS11\DATA\042812\0428F017.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 14:38	**Quant Date:**	04/30/2012 05:02	**Vial:**	13
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1204233-1			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.55	0.01	0.00	178	230045	372.98	373		
3	Anthracene	7.59	0.01	0.00	178	235452	397.13	397		
3	Carbazole	7.73		0.00	167	214445	400.07	400		
3	1-Methylphenanthrene	8.04		0.00	192	185985	406.68	407		
3	Fluoranthene	8.52		0.00	202	274208	393.76	394		
4	Pyrene	8.73		0.00	202	291712	424.15	424		
4	Benz(a)anthracene	10.26	0.01	0.00	228	279189	427.43	427		
4	Chrysene	10.32	0.01	0.00	228	271548	433.64	434		
5	Benzo(b)fluoranthene	12.69		0.00	252	285756	460.48	460		
5	Benzo(k)fluoranthene	12.78	0.01	0.00	252	293070	488.60	489		
5	Benzo(e)pyrene	13.54	-0.01	0.00	252	260724	472.56	473		
5	Benzo(a)pyrene	13.74	0.01	0.00	252	245972	468.36	468		
5	Perylene	14.05	0.02	0.00	252	246699	451.37	451		
5	Indeno(1,2,3-cd)pyrene	17.09		0.00	276	202655**m**	369.26	369		
5	Dibenz(a,h)anthracene	17.14	0.01	0.00	278	258733	466.19	466		
5	Benzo(g,h,i)perylene	17.53	0.01	0.00	276	276096**m**	424.73	425		

Prep Amount:	1000 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F017.D Vial: 13
Acq On : 28 Apr 2012 2:38 pm Operator: LWeiskopf
Sample : KWG1204233-1 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 30 04:50:41 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	90242	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.29	164	51773	200.00	ng/ml	-0.01
22) Phenanthrene-d10	7.53	188	102759	200.00	ng/ml	0.00
37) Chrysene-d12	10.27	240	115020	200.00	ng/ml	0.00
50) Perylene-d12	13.94	264	106844	200.00	ng/ml	-0.02
System Monitoring Compounds						
15) Fluorene-d10	6.71	176	235949	775.45	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 77.55%			
20) 2,4,6 Tribromophenol	6.95	330	67044	996.61	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 99.66%			
36) Fluoranthene-d10	8.51	212	482197	763.81	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 76.38%			
43) Terphenyl-d14	8.88	244	401127	834.15	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 83.41%			
Target Compounds						Qvalue
2) Naphthalene	4.89	128	188236	371.81	ng/ml	97
3) 2-Methylnaphthalene	5.44	142	134072	375.89	ng/ml	90
4) 1-Methylnaphthalene	5.52	142	121425	386.68	ng/ml	94
5) Biphenyl	5.82	154	158925	374.19	ng/ml	98
6) 2,6-Dimethylnaphthalene	5.95	156	119489	389.12	ng/ml	98
11) Acenaphthylene	6.17	152	205368	397.86	ng/ml	100
12) Acenaphthene	6.31	154	122007	382.61	ng/ml	99
13) Dibenzofuran	6.46	168	186440	388.18	ng/ml	97
14) 2,3,5-Trimethylnaphthalene	6.62	170	121073m	399.31	ng/ml	
16) Fluorene	6.74	166	152021	390.95	ng/ml	93
23) Dibenzothiophene	7.43	184	209027	372.07	ng/ml	77
27) Phenanthrene	7.55	178	230045	372.98	ng/ml	98
28) Anthracene	7.59	178	235452	397.13	ng/ml	100
29) Carbazole	7.73	167	214445	400.07	ng/ml	99
30) 1-Methylphenanthrene	8.04	192	185985	406.68	ng/ml	92
35) Fluoranthene	8.52	202	274208	393.76	ng/ml	97
38) Pyrene	8.73	202	291712	424.15	ng/ml	98
44) Benz(a)anthracene	10.26	228	279189	427.43	ng/ml	99
45) Chrysene	10.32	228	271548	433.64	ng/ml	99
51) Benzo(b)fluoranthene	12.69	252	285756	460.48	ng/ml	100
52) Benzo(k)fluoranthene	12.78	252	293070	488.60	ng/ml	100
53) Benzo(e)pyrene	13.54	252	260724	472.56	ng/ml	100
54) Benzo(a)pyrene	13.74	252	245972	468.36	ng/ml	100
55) Perylene	14.05	252	246699	451.37	ng/ml	99
56) Indeno(1,2,3-cd)pyrene	17.09	276	202655m	369.26	ng/ml	

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F017.D Vial: 13
Acq On : 28 Apr 2012 2:38 pm Operator: LWeiskopf
Sample : KWG1204233-1 LCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 30 04:50:41 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
57) Dibenz(a,h)anthracene	17.14	278	258733	466.19 ng/ml	51
58) Benzo(g,h,i)perylene	17.53	276	276096m	424.73 ng/ml	

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

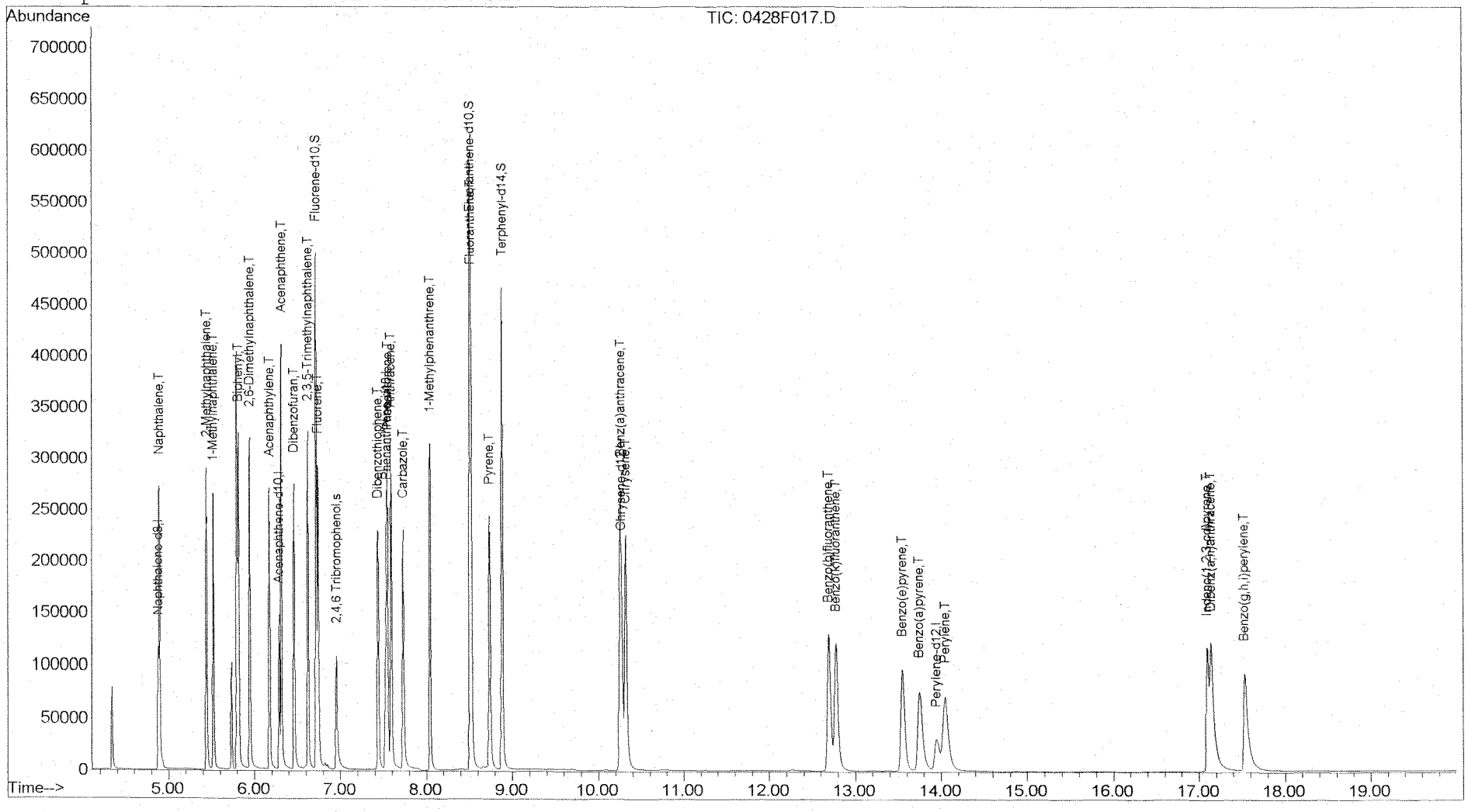
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F017.D
Acq On : 28 Apr 2012 2:38 pm
Sample : KWG1204233-1 LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:02 2012

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration

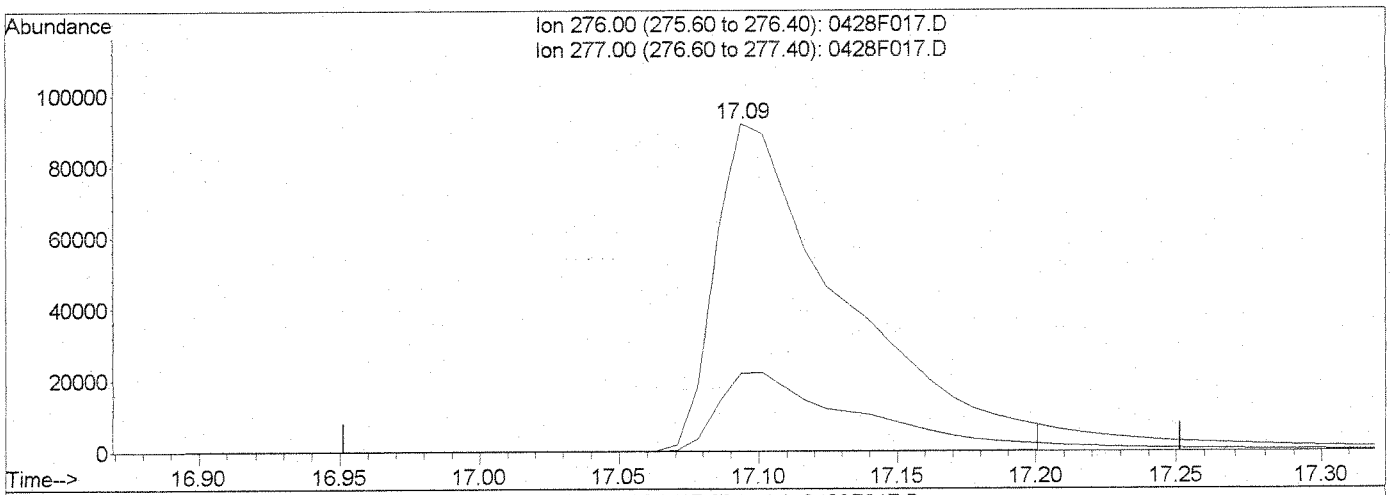


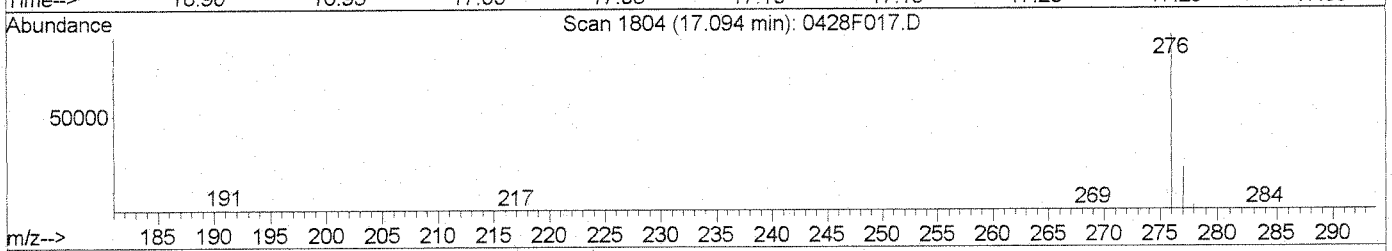
Quantitation Report (Qedit)

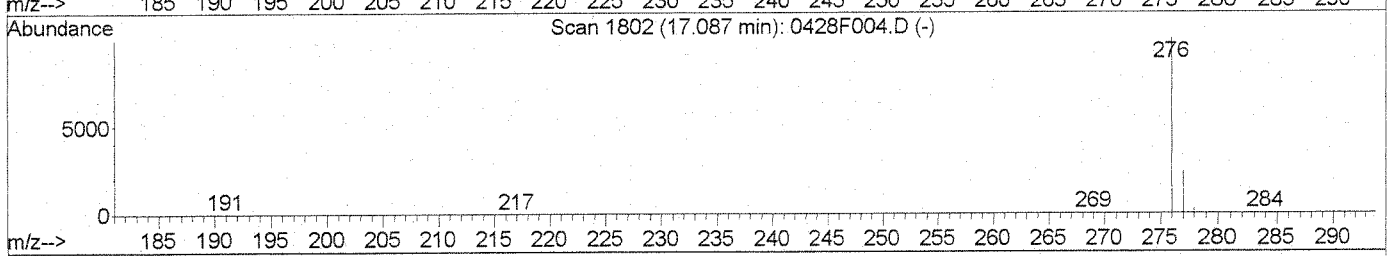
Data File : J:\MS11\DATA\042812\0428F017.D
Acq On : 28 Apr 2012 2:38 pm
Sample : KWG1204233-1 LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:01 2012

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F017.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.09min 540.44ng/ml

response 296596

Ion	Exp%	Act%
276.00	100	100
277.00	23.50	23.66
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

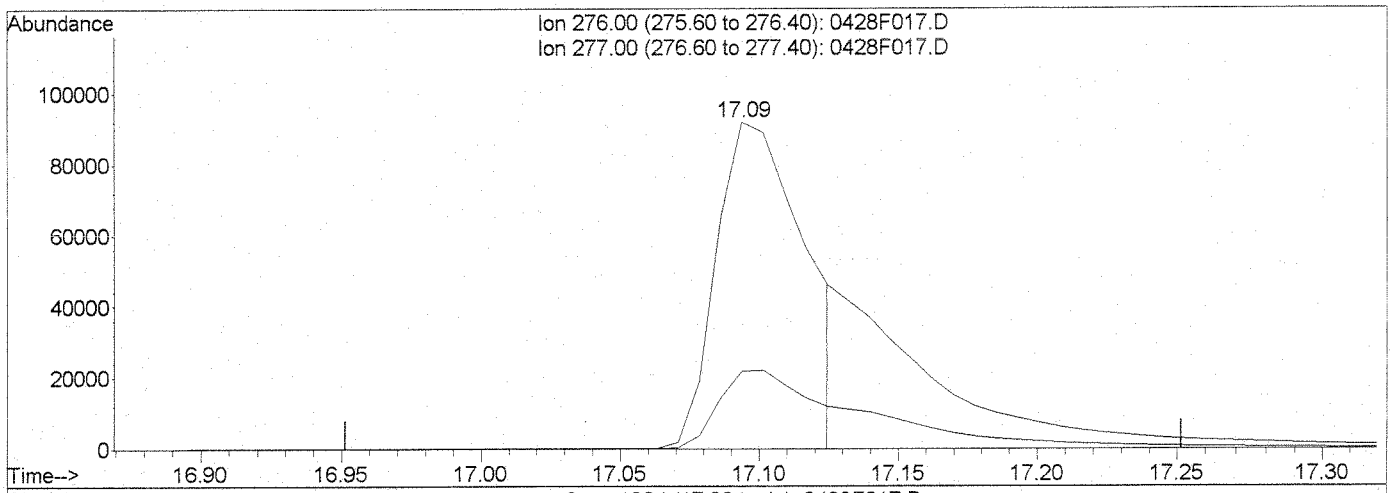
0428F017.D 0227ALK.M Mon Apr 30 05:02:05 2012

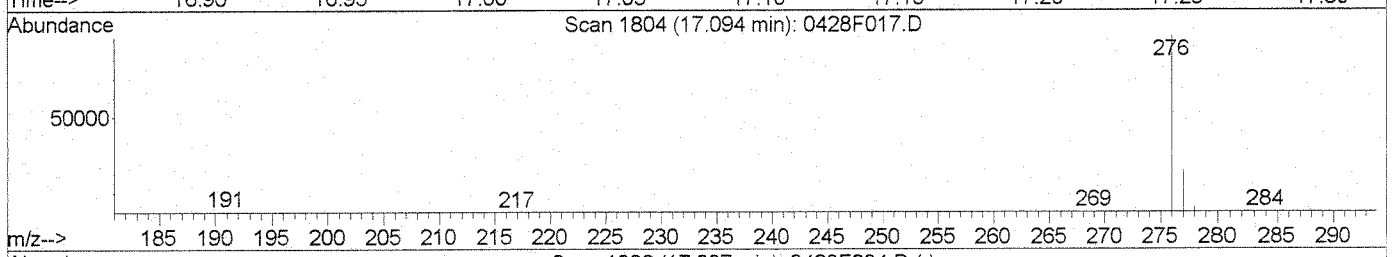
Quantitation Report (Qedit)

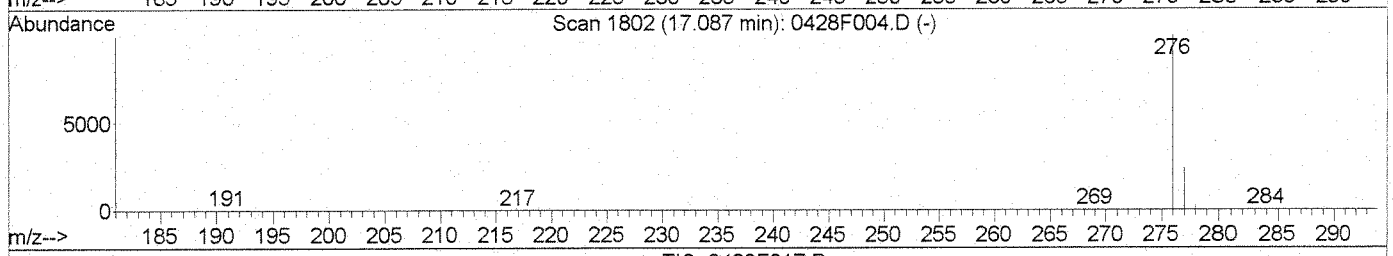
Data File : J:\MS11\DATA\042812\0428F017.D
Acq On : 28 Apr 2012 2:38 pm
Sample : KWG1204233-1 LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:02 2012

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F017.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.09min 369.26ng/ml m

response 202655

Ion	Exp%	Act%
276.00	100	100
277.00	23.50	23.72
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

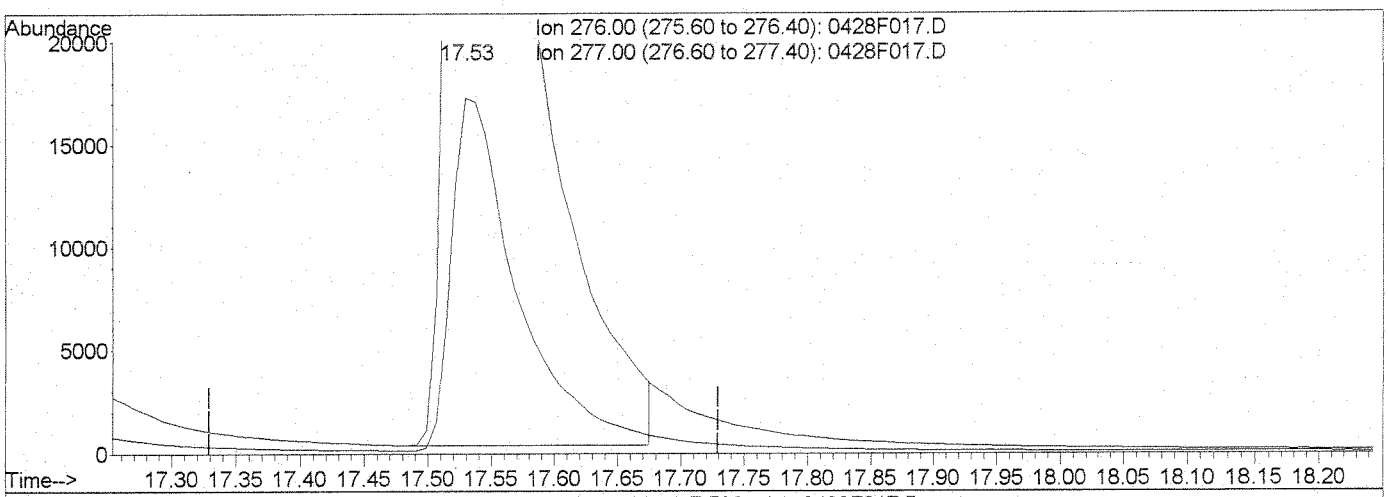
0428F017.D 0227ALK.M Mon Apr 30 05:02:09 2012

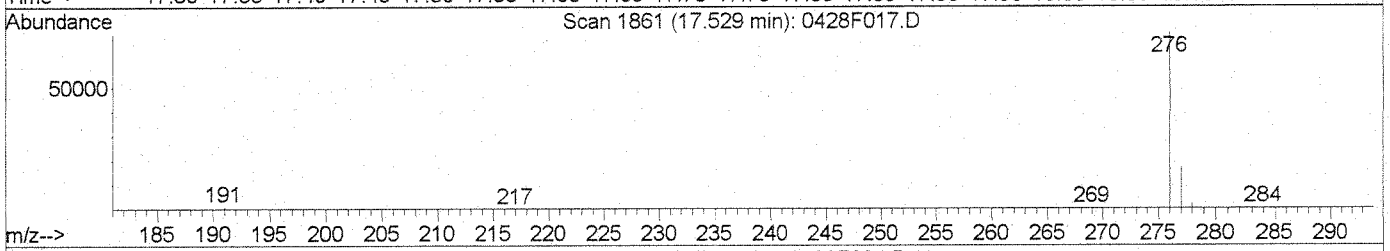
Quantitation Report (Qedit)

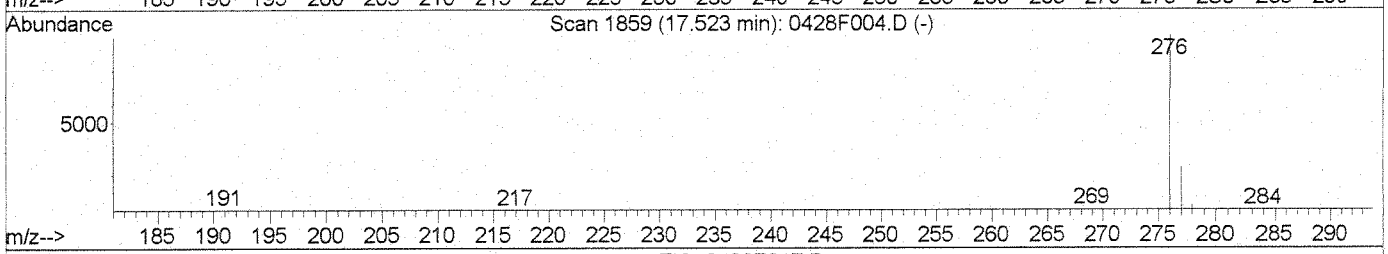
Data File : J:\MS11\DATA\042812\0428F017.D
Acq On : 28 Apr 2012 2:38 pm
Sample : KWG1204233-1 LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:02 2012

Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F017.D

(58) Benzo(g,h,i)perylene (T)

17.53min 404.18ng/ml

response 262736

Ion	Exp%	Act%
276.00	100	100
277.00	23.60	23.84
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

0428F017.D 0227ALK.M Mon Apr 30 05:02:12 2012

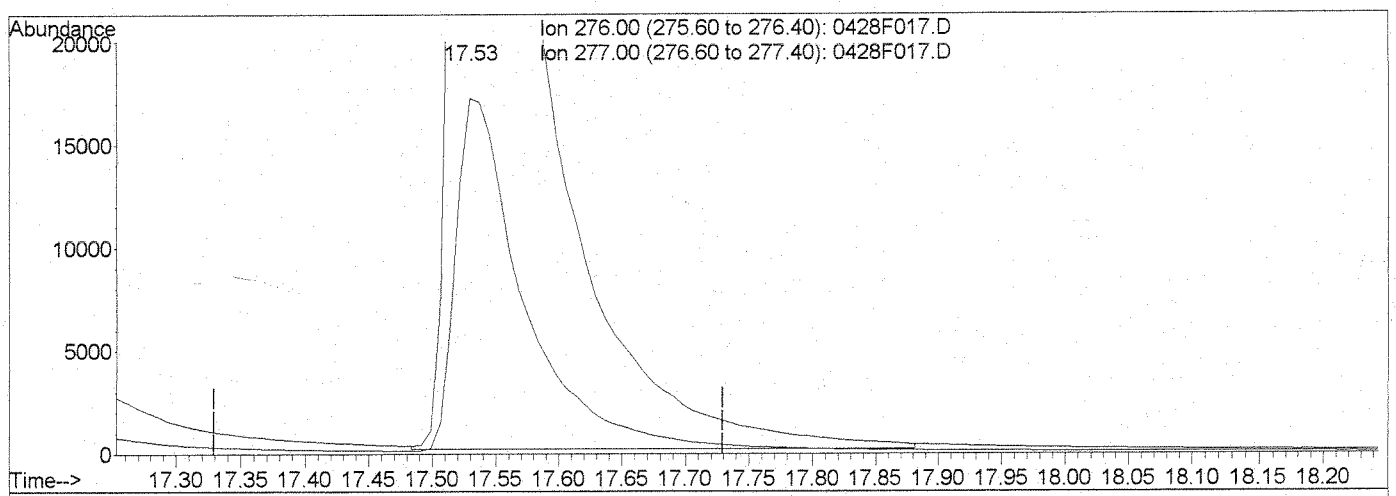
Quantitation Report (Qedit)

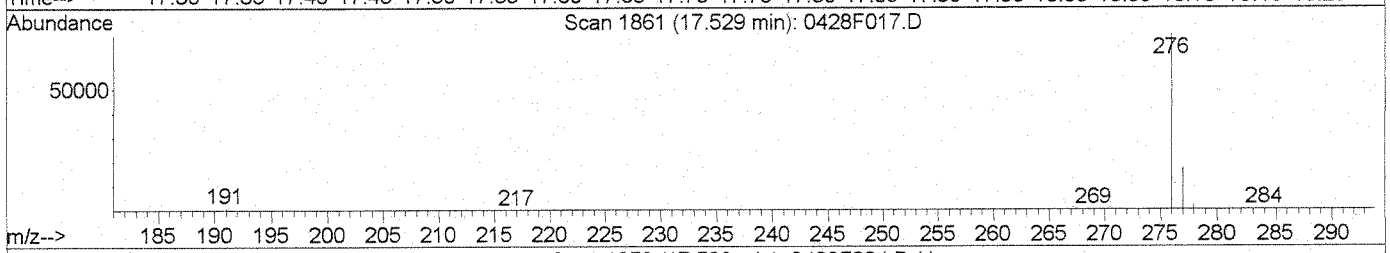
Data File : J:\MS11\DATA\042812\0428F017.D
Acq On : 28 Apr 2012 2:38 pm
Sample : KWG1204233-1 LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:02 2012

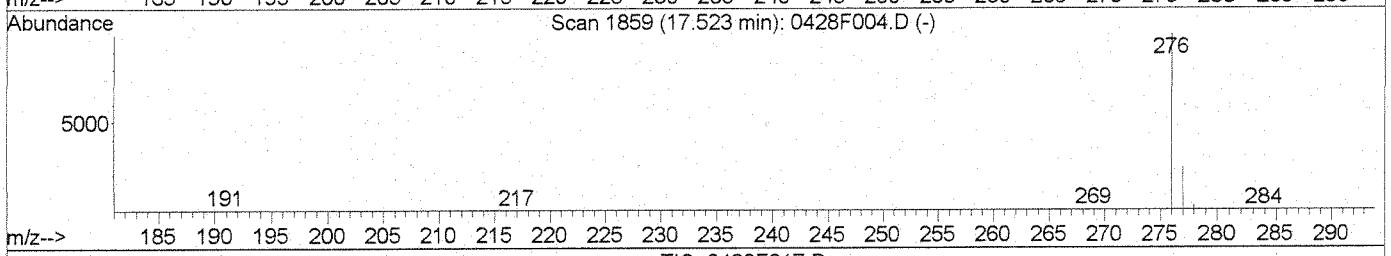
Vial: 13
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F017.D

(58) Benzo(g,h,i)perylene (T)

17.53min 424.73ng/ml m

response 276096

Ion	Exp%	Act%
276.00	100	100
277.00	23.60	23.93
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Incomplete
04/30/12

MAY 01 2012

0428F017.D 0227ALK.M Mon Apr 30 05:02:18 2012

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

Analytical Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02
Sample Matrix: Water

Service Request: K1203695
Date Collected: NA
Date Received: NA

Polynuclear Aromatic Hydrocarbons

Sample Name: Duplicate Lab Control Sample
Lab Code: KWG1204233-2

Units: ng/L
Basis: NA

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**369**		3.4	0.71	1	04/25/12	04/28/12	KWG1204233	
2-Methylnaphthalene	**371**		3.4	0.40	1	04/25/12	04/28/12	KWG1204233	
Acenaphthylene	**389**		3.4	0.37	1	04/25/12	04/28/12	KWG1204233	
Acenaphthene	**375**		3.4	0.36	1	04/25/12	04/28/12	KWG1204233	
Fluorene	**384**		3.4	0.42	1	04/25/12	04/28/12	KWG1204233	
Phenanthrene	**358**		3.4	0.72	1	04/25/12	04/28/12	KWG1204233	
Anthracene	**381**		3.4	0.29	1	04/25/12	04/28/12	KWG1204233	
Fluoranthene	**383**		3.4	0.46	1	04/25/12	04/28/12	KWG1204233	
Pyrene	**423**		3.4	0.78	1	04/25/12	04/28/12	KWG1204233	
Benz(a)anthracene	**421**		3.4	0.34	1	04/25/12	04/28/12	KWG1204233	
Chrysene	**436**		3.4	0.65	1	04/25/12	04/28/12	KWG1204233	
Benzo(b)fluoranthene	**460**		3.4	0.25	1	04/25/12	04/28/12	KWG1204233	
Benzo(k)fluoranthene	**489**		3.4	0.41	1	04/25/12	04/28/12	KWG1204233	
Benzo(a)pyrene	**461**		3.4	0.41	1	04/25/12	04/28/12	KWG1204233	
Indeno(1,2,3-cd)pyrene	**370**		3.4	0.44	1	04/25/12	04/28/12	KWG1204233	
Dibenz(a,h)anthracene	**468**		3.4	0.45	1	04/25/12	04/28/12	KWG1204233	
Benzo(g,h,i)perylene	**426**		3.4	0.36	1	04/25/12	04/28/12	KWG1204233	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	76	29-98	04/28/12	Acceptable
Fluoranthene-d10	74	31-105	04/28/12	Acceptable
Terphenyl-d14	84	27-112	04/28/12	Acceptable

Comments:

Exception Report

Data File: J:\MS11\DATA\042812\0428F018.D
Lab ID: KWG1204233-2
RunType: DLCS
Matrix: WATER

Date Acquired: 04/28/2012 15:05
Date Quantitated: 04/30/2012 05:02
Batch ID: KWG1204349
Analysis Method: 8270D SIM
MethodJoinID: MJ1189

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

KI 203695

Primary Review: APR 30 2012 MAY 07 2012

Secondary Review:

Printed: 04/30/2012 06:19:10
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS11\DATA\042812\0428F018.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 15:05	**Quant Date:**	04/30/2012 05:02	**Vial:**	14
Run Type:	DLCS			**Dilution:**	1.0
Lab ID:	KWG1204233-2			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PAH SIM U	**Collect Date:**		**Receive Date:**	04/27/2012

Analysis Lot:	KWG1204349	**Prep Lot:**	KWG1204233	**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**	EPA 3520C		
Prep Ref:	1120123	**Prep Date:**	04/25/2012		

Quant Method:	J:\MS11\METHODS\SIM\0227ALK.M	**Calibration ID:**	CAL11297
Title:			
Tune Ref:	J:\MS11\DATA\042812\0428F003.D	**Method ID:**	MJ1189
MB Ref:	J:\MS11\DATA\042812\0428F006.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.88	0.01	136	89609	200.00	OK
2	Acenaphthene-d10	6.29	0.00	164	51894	200.00	OK
3	Phenanthrene-d10	7.53	0.01	188	104443	200.00	OK
4	Chrysene-d12	10.27	0.00	240	114631	200.00	OK
5	Perylene-d12	13.95	0.02	264	105813	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
2	Fluorene-d10	6.71	-0.01	0.00	176	232047	760.85	76	29-98	OK	
2	2,4,6-Tribromophenol	6.95	0.00	0.00	330	63085	937.86	63	10-136	OK	
3	Fluoranthene-d10	8.51	0.00	0.00	212	476349	742.38	74	31-105	OK	
4	Terphenyl-d14	8.88	0.00	0.00	244	403132	841.16	84	27-112	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.89		0.00	128	185395	368.79	369		
1	2-Methylnaphthalene	5.44		0.00	142	131485	371.24	371		
1	1-Methylnaphthalene	5.52		0.00	142	118640	380.48	380		
1	Biphenyl	5.81		0.00	154	157789	374.14	374		
1	2,6-Dimethylnaphthalene	5.94	-0.01	0.00	156	116959	383.57	384		
2	Acenaphthylene	6.18	0.01	0.00	152	201467	389.39	389		
2	Acenaphthene	6.31		0.00	154	119730	374.59	375		
2	Dibenzofuran	6.46		0.00	168	182725	379.56	380		
2	2,3,5-Trimethylnaphthalene	6.62		0.00	170	119998m	394.84	395		
2	Fluorene	6.74		0.00	166	149523	383.63	384		
2	Pentachlorophenol				266	0d		10	U	
3	Dibenzothiophene	7.44	0.01	0.00	184	205470	359.84	360		

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

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

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

Data File:	J:\MS11\DATA\042812\0428F018.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 15:05	**Quant Date:**	04/30/2012 05:02	**Vial:**	14
Run Type:	DLCS			**Dilution:**	1.0
Lab ID:	KWG1204233-2			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.54		0.00	178	224424	358.00	358		
3	Anthracene	7.58		0.00	178	229757	381.28	381		
3	Carbazole	7.73		0.00	167	212931	390.84	391		
3	1-Methylphenanthrene	8.04		0.00	192	184220	396.32	396		
3	Fluoranthene	8.52		0.00	202	270962	382.82	383		
4	Pyrene	8.74	0.01	0.00	202	289710	422.67	423		
4	Benz(a)anthracene	10.26	0.01	0.00	228	273894	420.75	421		
4	Chrysene	10.32	0.01	0.00	228	271990	435.82	436		
5	Benzo(b)fluoranthene	12.70	0.01	0.00	252	282396	459.50	460		
5	Benzo(k)fluoranthene	12.78	0.01	0.00	252	290364	488.81	489		
5	Benzo(e)pyrene	13.55		0.00	252	257791	471.79	472		
5	Benzo(a)pyrene	13.75	0.02	0.00	252	239689	460.84	461		
5	Perylene	14.05	0.02	0.00	252	241211	445.63	446		
5	Indeno(1,2,3-cd)pyrene	17.10	0.01	0.00	276	201196**m**	370.18	370		
5	Dibenz(a,h)anthracene	17.15	0.02	0.00	278	256956	467.50	468		
5	Benzo(g,h,i)perylene	17.53	0.01	0.00	276	274199**m**	425.92	426		

Prep Amount:	1000 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

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

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F018.D Vial: 14
Acq On : 28 Apr 2012 3:05 pm Operator: LWeiskopf
Sample : KWG1204233-2 DLCS Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 30 04:50:43 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.88	136	89609	200.00	ng/ml	-0.01
10) Acenaphthene-d10	6.29	164	51894	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.53	188	104443	200.00	ng/ml	0.00
37) Chrysene-d12	10.27	240	114631	200.00	ng/ml	0.00
50) Perylene-d12	13.95	264	105813	200.00	ng/ml	-0.01
System Monitoring Compounds						
15) Fluorene-d10	6.71	176	232047	760.85	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 76.09%			
20) 2,4,6 Tribromophenol	6.95	330	63085	937.86	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 93.79%			
36) Fluoranthene-d10	8.51	212	476349	742.38	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 74.24%			
43) Terphenyl-d14	8.88	244	403132	841.16	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 84.12%			
Target Compounds						Qvalue
2) Naphthalene	4.89	128	185395	368.79	ng/ml	98
3) 2-Methylnaphthalene	5.44	142	131485	371.24	ng/ml	91
4) 1-Methylnaphthalene	5.52	142	118640	380.48	ng/ml	94
5) Biphenyl	5.81	154	157789	374.14	ng/ml	99
6) 2,6-Dimethylnaphthalene	5.94	156	116959	383.57	ng/ml	96
11) Acenaphthylene	6.18	152	201467	389.39	ng/ml	99
12) Acenaphthene	6.31	154	119730	374.59	ng/ml	97
13) Dibenzofuran	6.46	168	182725	379.56	ng/ml	91
14) 2,3,5-Trimethylnaphthalene	6.62	170	119998m	394.84	ng/ml	
16) Fluorene	6.74	166	149523	383.63	ng/ml	100
23) Dibenzothiophene	7.44	184	205470	359.84	ng/ml	99
27) Phenanthrene	7.54	178	224424	358.00	ng/ml	99
28) Anthracene	7.58	178	229757	381.28	ng/ml	99
29) Carbazole	7.73	167	212931	390.84	ng/ml	96
30) 1-Methylphenanthrene	8.04	192	184220	396.32	ng/ml	98
35) Fluoranthene	8.52	202	270962	382.82	ng/ml	98
38) Pyrene	8.74	202	289710	422.67	ng/ml	89
44) Benz(a)anthracene	10.26	228	273894	420.75	ng/ml	99
45) Chrysene	10.32	228	271990	435.82	ng/ml	99
51) Benzo(b)fluoranthene	12.70	252	282396	459.50	ng/ml	99
52) Benzo(k)fluoranthene	12.78	252	290364	488.81	ng/ml	99
53) Benzo(e)pyrene	13.55	252	257791	471.79	ng/ml	100
54) Benzo(a)pyrene	13.75	252	239689	460.84	ng/ml	99
55) Perylene	14.05	252	241211	445.63	ng/ml	100
56) Indeno(1,2,3-cd)pyrene	17.10	276	201196m	370.18	ng/ml	

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F018.D
Acq On : 28 Apr 2012 3:05 pm
Sample : KWG1204233-2 DLCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 04:50:43 2012

Vial: 14
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
57) Dibenz(a,h)anthracene	17.15	278	256956	467.50 ng/ml	62
58) Benzo(g,h,i)perylene	17.53	276	274199m	425.92 ng/ml	

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

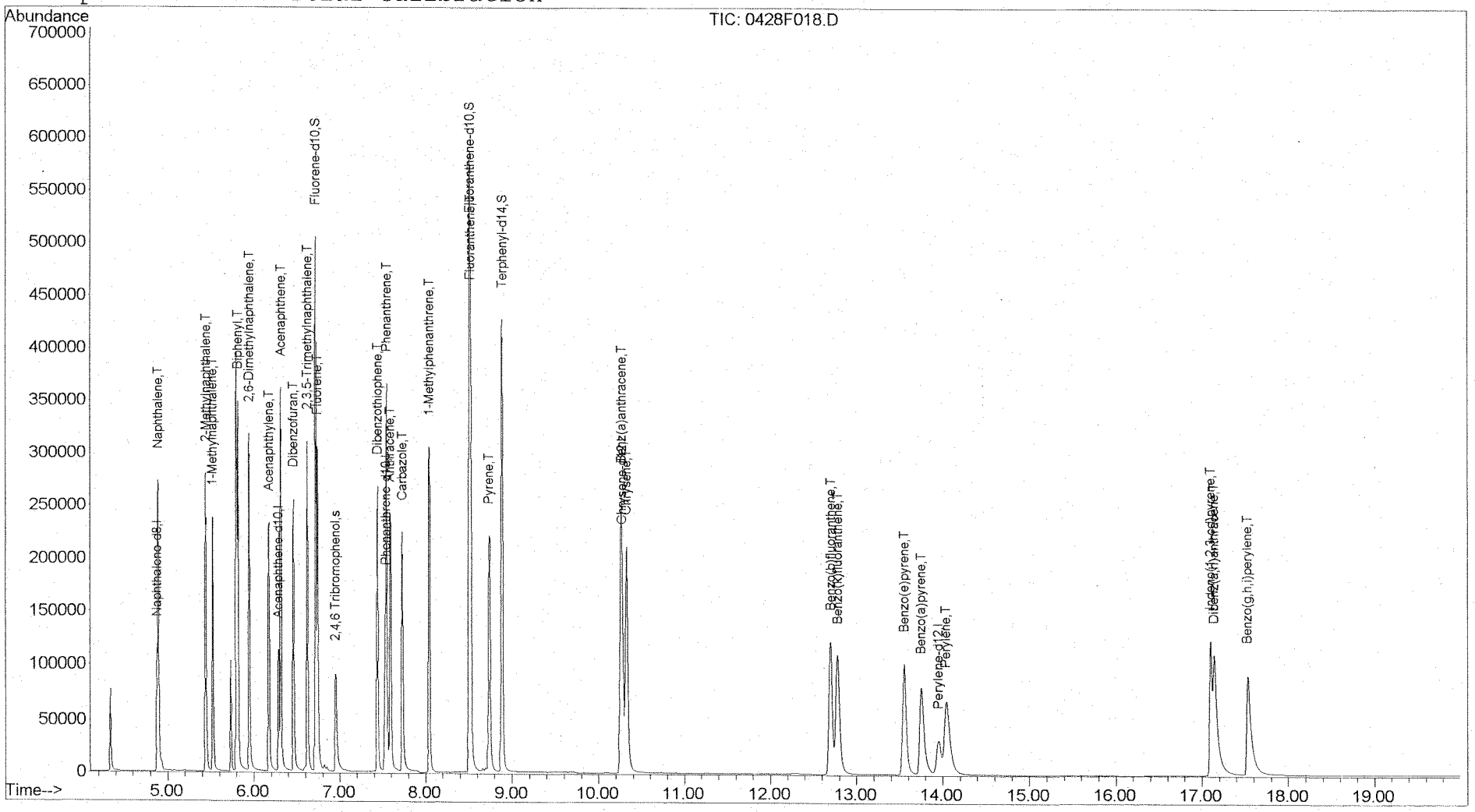
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F018.D
Acq On : 28 Apr 2012 3:05 pm
Sample : KWG1204233-2 DLCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:02 2012

Vial: 14
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration

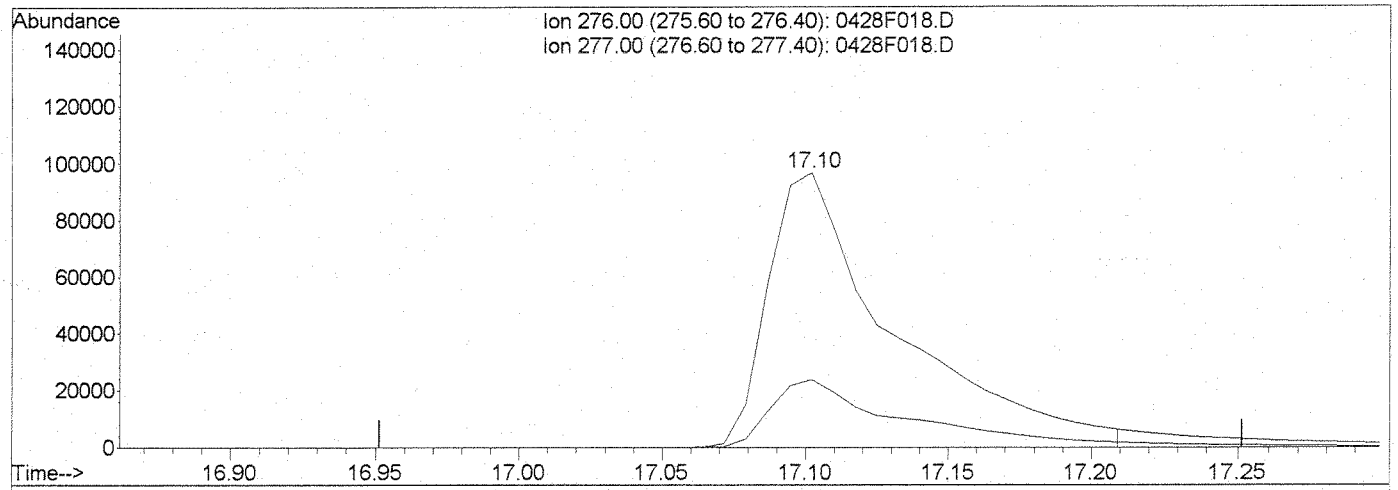


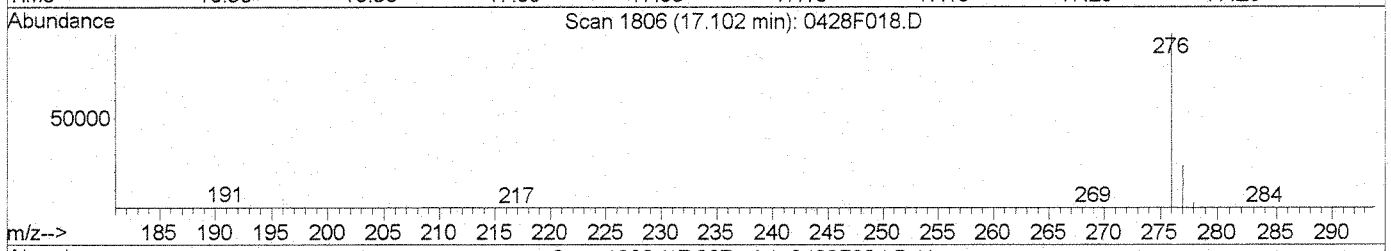
Quantitation Report (Qedit)

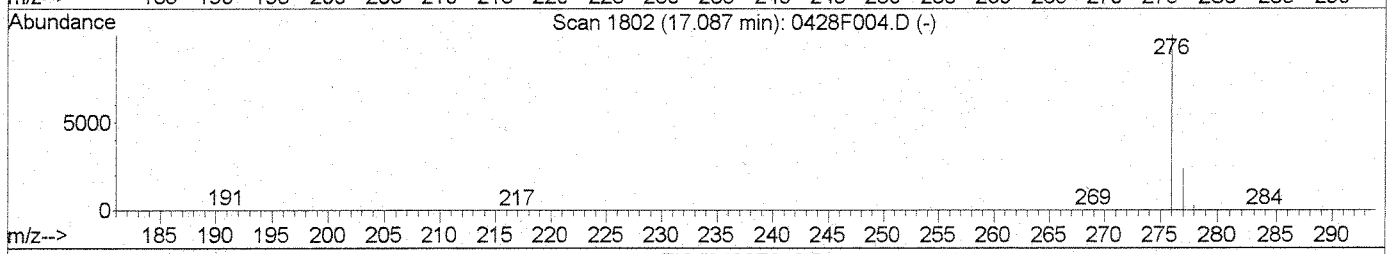
Data File : J:\MS11\DATA\042812\0428F018.D
Acq On : 28 Apr 2012 3:05 pm
Sample : KWG1204233-2 DLCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:02 2012

Vial: 14
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F018.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.10min 545.63ng/ml

response 296558

Ion	Exp%	Act%
276.00	100	100
277.00	23.50	24.49
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

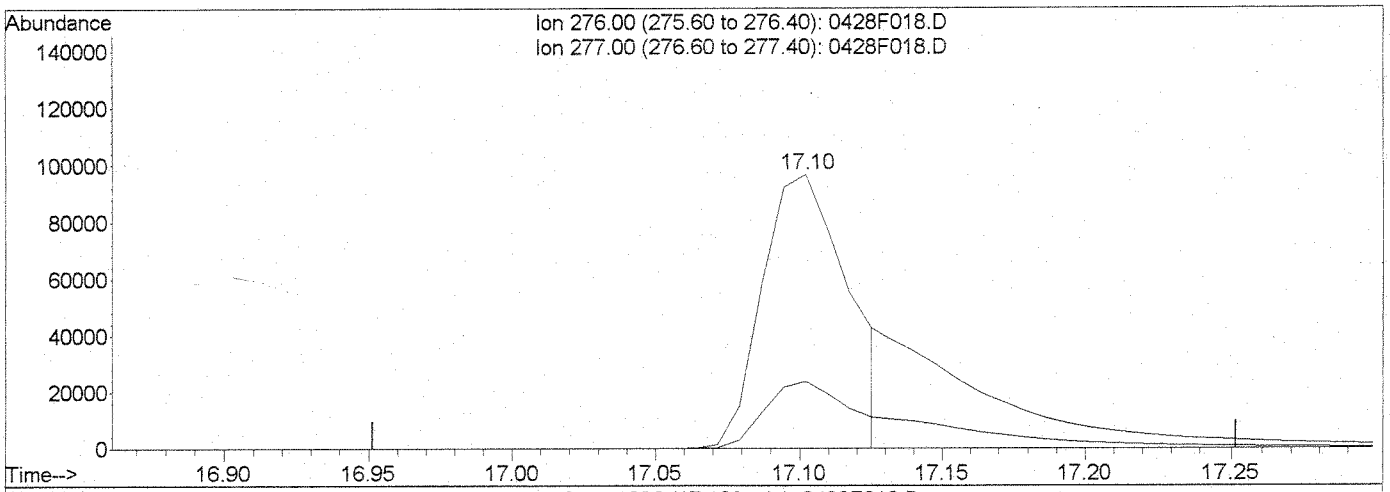
0428F018.D 0227ALK.M Mon Apr 30 05:02:38 2012

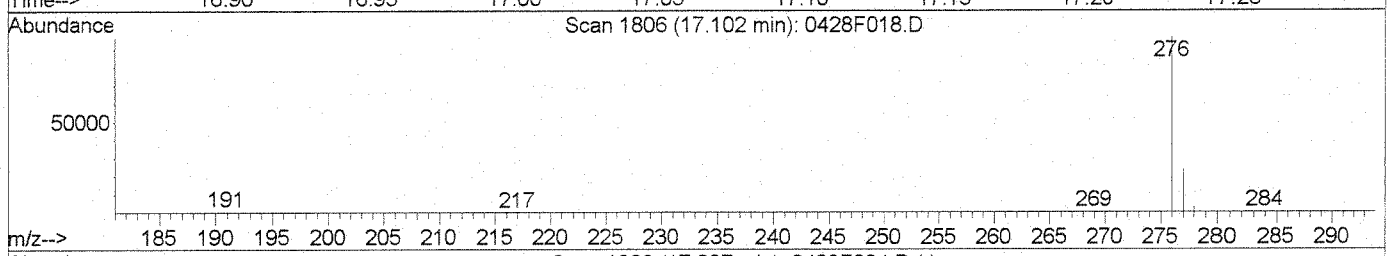
Quantitation Report (Qedit)

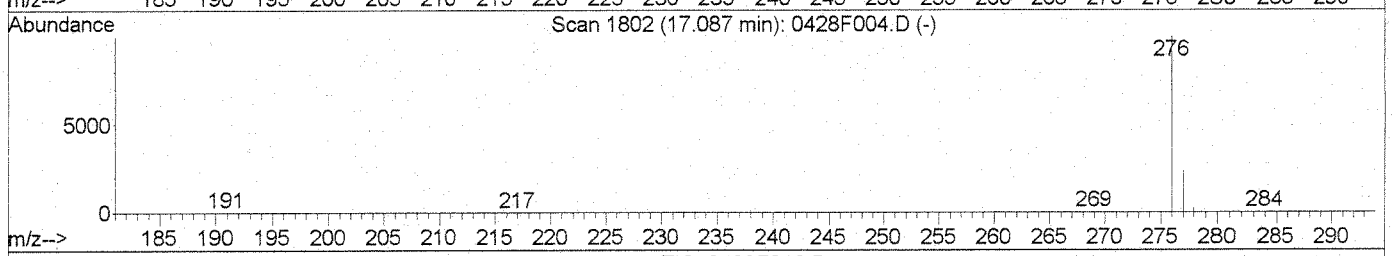
Data File : J:\MS11\DATA\042812\0428F018.D
Acq On : 28 Apr 2012 3:05 pm
Sample : KWG1204233-2 DLCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:02 2012

Vial: 14
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F018.D

(56) Indeno(1,2,3-cd)pyrene (T)
17.10min 370.18ng/ml m
response 201196

Ion	Exp%	Act%
276.00	100	100
277.00	23.50	24.54
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
04/30/12

MAY 0 1 2012

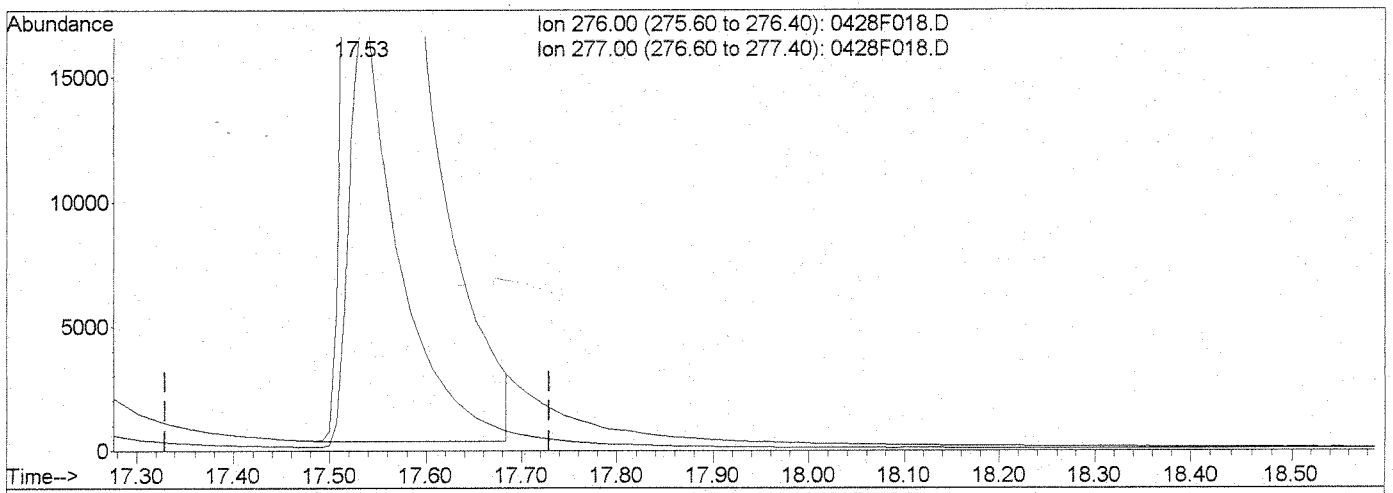
0428F018.D 0227ALK.M Mon Apr 30 05:02:41 2012

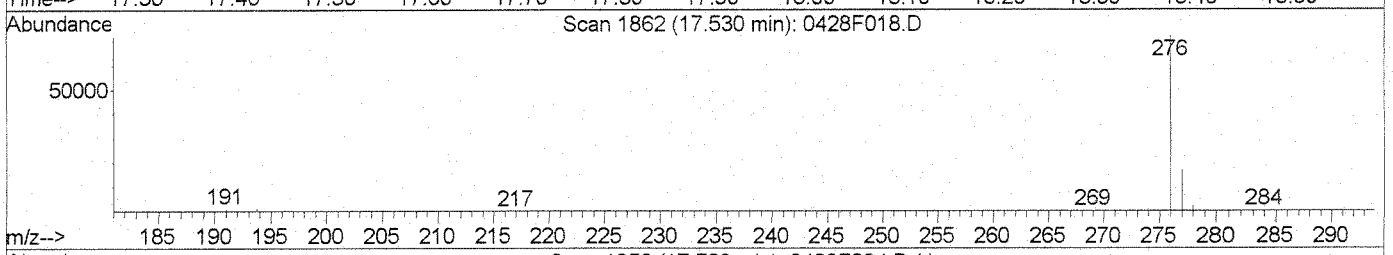
Quantitation Report (Qedit)

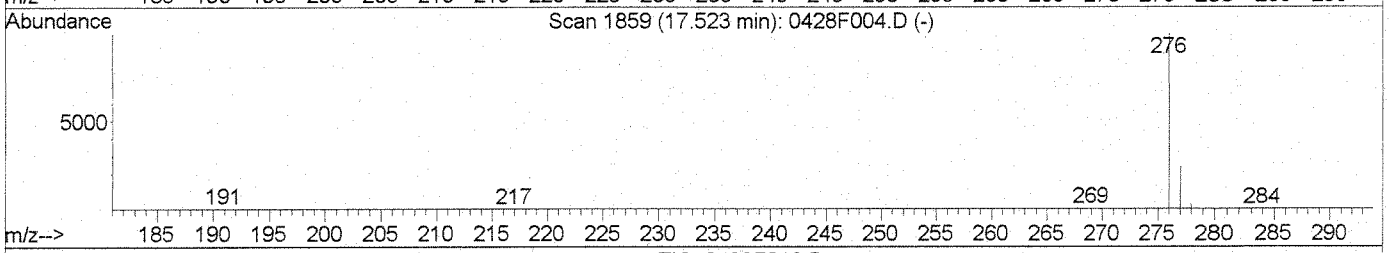
Data File : J:\MS11\DATA\042812\0428F018.D
Acq On : 28 Apr 2012 3:05 pm
Sample : KWG1204233-2 DLCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:02 2012

Vial: 14
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F018.D

(58) Benzo(g,h,i)perylene (T)

17.53min 406.71ng/ml

response 261831

Ion	Exp%	Act%
276.00	100	100
277.00	23.60	23.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

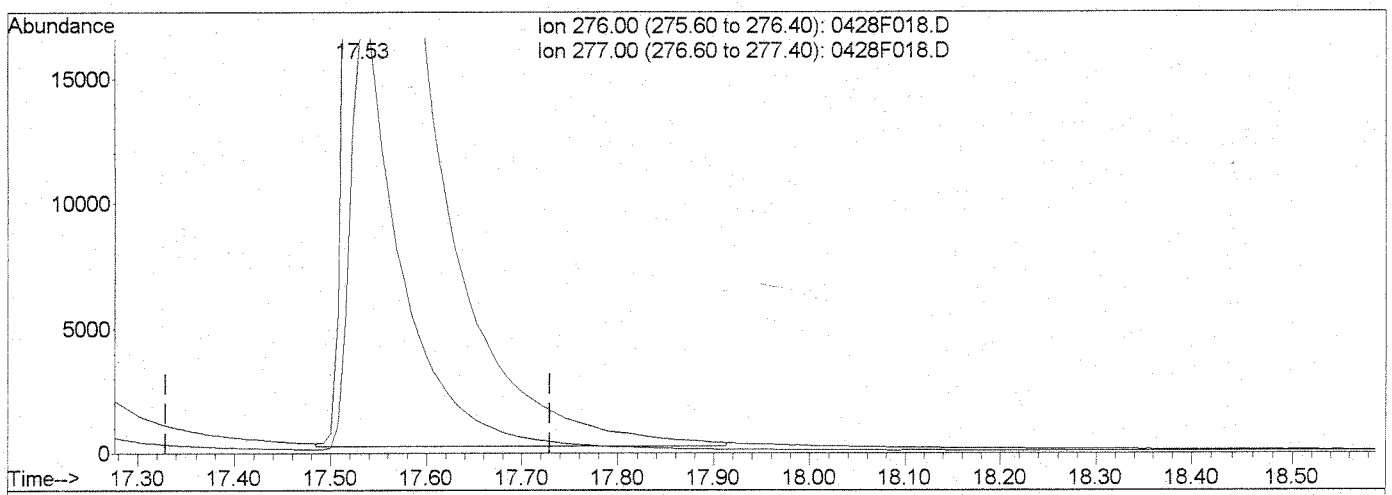
Before

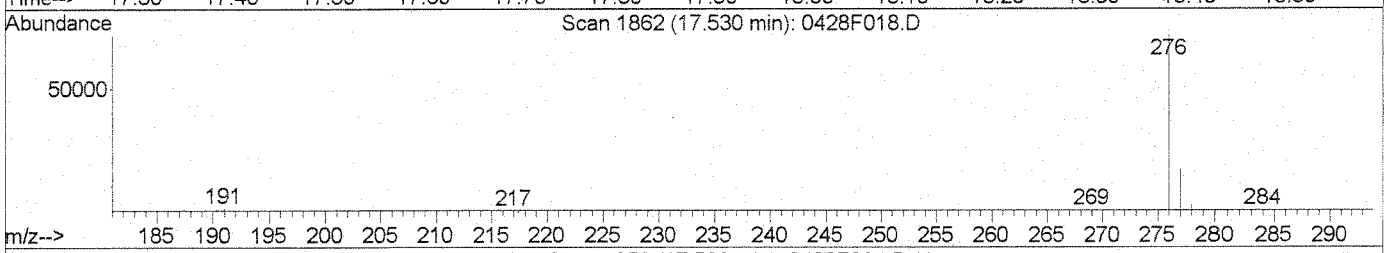
Quantitation Report (Qedit)

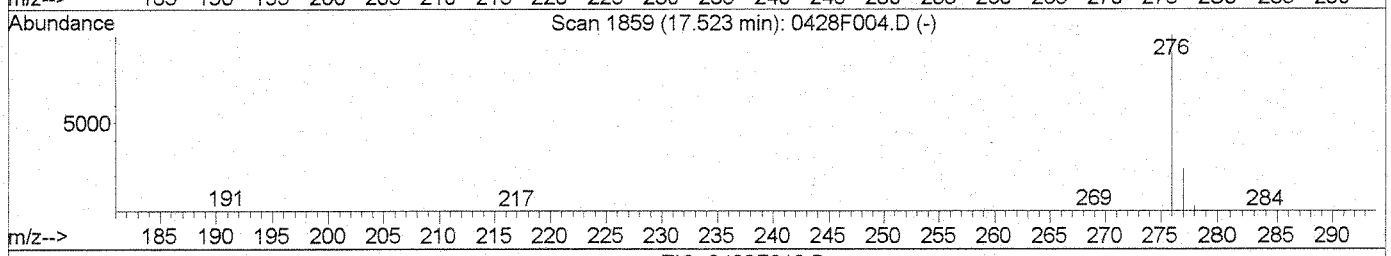
Data File : J:\MS11\DATA\042812\0428F018.D
Acq On : 28 Apr 2012 3:05 pm
Sample : KWG1204233-2 DLCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 5:02 2012

Vial: 14
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Multiple Level Calibration







TIC: 0428F018.D

(58) Benzo(g,h,i)perylene (T)

17.53min 425.92ng/ml m

response 274199

Ion	Exp%	Act%
276.00	100	100
277.00	23.60	23.44
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Incomplete
04/30/12

MAY 01 2012

0428F018.D 0227ALK.M Mon Apr 30 05:02:50 2012

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Standards Data

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/28/2012
Time Analyzed: 08:23

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\042812\0428F003.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1204349

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	33.7	53576	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	36.2	57568	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	42.7	67808	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	38.3	158976	PASS
199	198	5	9	7.0	11076	PASS
275	198	10	60	36.6	58176	PASS
365	442	1	50	2.0	8370	PASS
441	443	0	100	72.2	57032	PASS
442	442	100	100	100.0	415488	PASS
443	442	15	24	19.0	78944	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1204349-2	J:\MS11\DATA\042812\0428F004.D	04/28/2012	08:49	
Method Blank	KWG1204233-3	J:\MS11\DATA\042812\0428F006.D	04/28/2012	09:48	
Lab Control Sample	KWG1204233-1	J:\MS11\DATA\042812\0428F017.D	04/28/2012	14:38	
Duplicate Lab Control Sample	KWG1204233-2	J:\MS11\DATA\042812\0428F018.D	04/28/2012	15:05	
Outfall A	K1203695-001	J:\MS11\DATA\042812\0428F025.D	04/28/2012	18:09	
Outfall B	K1203695-002	J:\MS11\DATA\042812\0428F026.D	04/28/2012	18:36	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Exception Report

Data File: J:\MS11\DATA\042812\0428F003.D
Lab ID: KWG1204349-1
RunType: DFTPP
Matrix: WATER

Date Acquired: 04/28/2012 08:23
Date Quantitated:
Batch ID: KWG1204349
Analysis Method: DFTPP
ListJoinID: LJ1965

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Ion Ratio	NA	NA	NA	x	

Primary Review: APR 30 2012

Secondary Review: 04/30/12

Quantitation Report

Data File:	J:\MS11\DATA\042812\0428F003.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 08:23	**Quant Date:**		**Vial:**	1
Run Type:	DFTPP			**Dilution:**	1.0
Lab ID:	KWG1204349-1			**Soln Conc. Units:**	

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	04/30/2012

Analysis Lot:	KWG1204349	**Prep Lot:**		**Report Group:**	
Analysis Method:	DFTPP	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\DFTPPPAH.M	**Calibration ID:**	CAL11297
Title:		**Report List ID:**	LJ1965
Tune Ref:		**Method ID:**	MJ190
MB Ref:		**Quant based on Report List**	

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	33.7	53576	Pass
68	69	0	2	0.0	0	Pass
69	198	0	100	36.2	57568	Pass
70	69	0	2	0.0	0	Pass
127	198	10	80	42.7	67808	Pass
197	198	0	2	0.0	0	Pass
198	442	30	100	38.3	158976	Pass
199	198	5	9	7.0	11076	Pass
275	198	10	60	36.6	58176	Pass
365	442	1	50	2.0	8370	Pass
441	443	0.01	100	72.2	57032	Pass
442	442	100	100	100.0	415488	Pass
443	442	15	24	19.0	78944	Pass

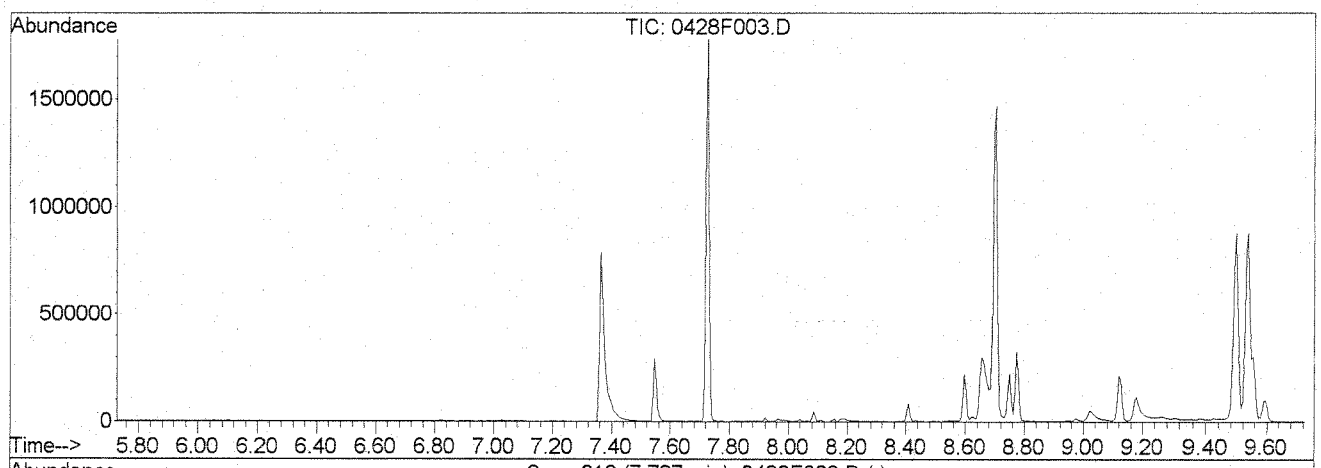
U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

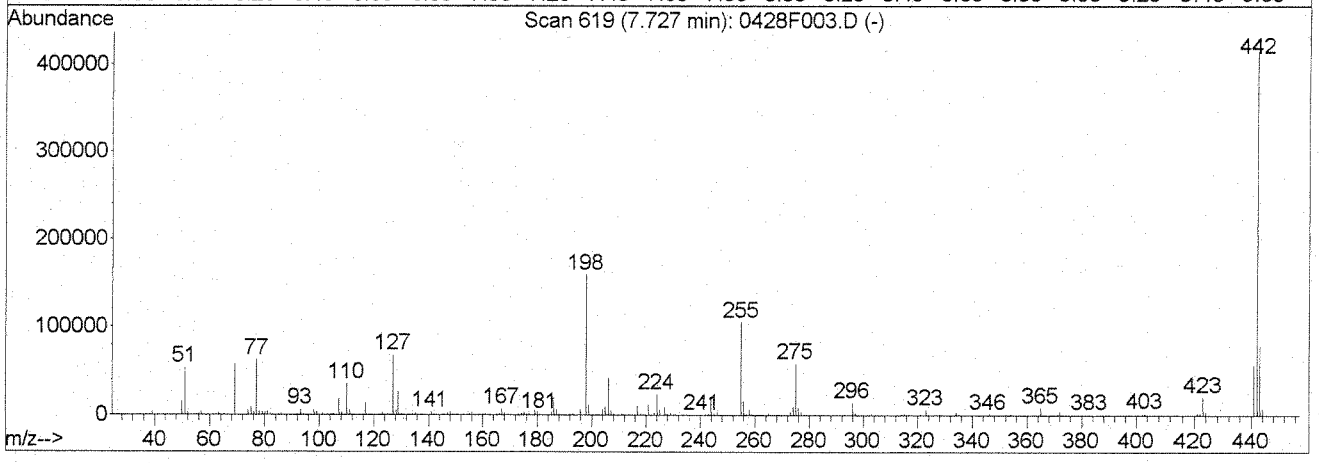
D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

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

DFTPP

Data File : J:\MS11\DATA\042812\0428F003.D Vial: 1
Acq On : 28 Apr 2012 8:23 am Operator: LWeiskopf
Sample : DFTPP @ 3.0ppm | SVM38-51A Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS





Spectrum Information: Scan 619

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.7	53576	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	42.7	67808	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	38.3	158976	PASS
199	198	5	9	7.0	11076	PASS
275	198	10	60	36.6	58176	PASS
365	442	1	50	2.0	8370	PASS
441	443	0.01	100	72.2	57032	PASS
442	442	30	100	100.0	415488	PASS
443	442	15	24	19.0	78944	PASS

0428F003.D DFTPPPAH.M Mon Apr 30 05:43:43 2012

Scan 619 (7.727 min): 0428F003.D
DFTPP @ 3.0ppm | SVM38-51A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.10	873	63.10	2319	79.10	4188	94.10	582
39.10	4218	64.10	725	80.10	3248	98.10	5292
49.10	356	65.10	1333	81.10	4657	99.10	3875
50.10	14757	66.05	350	82.00	1227	101.10	2457
51.10	53576	69.10	57568	83.00	1191	103.10	930
52.10	2718	73.00	505	84.00	164	104.10	1516
55.10	577	74.10	5551	85.10	989	105.00	1609
56.10	1760	75.10	9292	86.00	1588	106.10	600
57.10	4067	76.20	3066	91.00	1226	107.10	18168
61.00	571	77.10	62512	92.10	1307	108.10	3025
62.10	814	78.10	3665	93.10	6429	110.00	35304

Scan 619 (7.727 min): 0428F003.D
DFTPP @ 3.0ppm | SVM38-51A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
111.10	5358	129.00	26304	147.10	1921	160.00	1210
112.00	687	130.00	2037	148.00	3539	161.00	1886
116.10	1022	131.00	532	149.00	869	162.10	522
117.10	13249	134.00	799	151.10	559	165.00	1371
118.00	967	135.10	2156	153.00	1072	166.00	1342
122.00	1378	136.00	1012	154.10	1016	167.00	6854
123.00	2115	137.10	1180	155.00	1786	168.00	2731
124.00	806	141.00	3605	156.10	3012	169.00	551
125.00	848	142.00	1035	157.00	607	172.00	637
127.10	67808	143.00	795	158.00	629	173.00	892
128.10	5654	146.00	765	159.00	577	174.10	1607

Scan 619 (7.727 min): 0428F003.D
DFTPP @ 3.0ppm | SVM38-51A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
175.10	2681	191.10	666	206.10	41480	226.10	634
176.00	952	192.00	1649	207.10	5389	227.00	8708
177.00	1300	193.00	1884	208.00	1649	228.00	1287
179.00	5279	196.00	6209	211.00	1614	229.00	2044
180.00	3569	198.00	158976	216.10	843	231.00	932
181.00	1646	199.00	11076	217.00	10393	234.00	797
185.10	2776	200.00	805	218.00	1404	235.00	839
186.00	20584	201.50	1020	221.00	11807	236.00	512
187.00	5609	203.00	1086	223.00	2495	237.10	850
188.00	723	204.10	5643	224.10	23552	240.90	564
189.00	1395	205.00	9051	225.00	6373	242.00	1096

Scan 619 (7.727 min): 0428F003.D
DFTPP @ 3.0ppm | SVM38-51A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
243.00	1437	265.00	2317	303.00	1782	341.00	589
244.10	21104	273.00	3557	314.00	763	346.00	1262
245.00	2761	274.00	9854	315.00	1679	352.00	1782
246.00	3508	275.00	58176	316.00	966	353.10	1387
247.00	770	276.00	7912	321.00	658	354.00	2081
249.00	758	277.00	3805	323.10	6149	365.00	8370
255.00	105400	278.00	825	324.00	1124	366.00	1180
256.00	15717	285.00	793	327.00	1228	371.00	591
257.00	1317	293.00	999	328.00	579	372.00	4088
258.00	5653	296.00	14101	334.00	3750	373.10	1103
259.00	855	297.00	1895	335.00	1101	383.00	1081

Scan 619 (7.727 min): 0428F003.D
DFTPP @ 3.0ppm | SVM38-51A
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
390.00	567	444.10	7738				
402.00	1908						
403.00	2649						
404.00	885						
421.00	2438						
422.00	2536						
423.10	20664						
424.10	4220						
441.10	57032						
442.10	415488						
443.10	78944						

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 02/27/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL11297
Instrument ID: MS11

Column: MS

Level ID	File ID	Level ID	File ID
A	J:\MS11\DATA\022712\0227F004.D	G	J:\MS11\DATA\022712\0227F010.D
B	J:\MS11\DATA\022712\0227F005.D	H	J:\MS11\DATA\022712\0227F011.D
C	J:\MS11\DATA\022712\0227F006.D	I	J:\MS11\DATA\022712\0227F012.D
D	J:\MS11\DATA\022712\0227F007.D	J	J:\MS11\DATA\022712\0227F013.D
E	J:\MS11\DATA\022712\0227F008.D		
F	J:\MS11\DATA\022712\0227F009.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	4.0	1.20	B	8.0	1.21	C	20	1.15	D	100	1.05	E	200	1.09
	F	400	1.14	G	1000	1.05	H	1600	1.03	I	2000	0.976	J	2.0	1.32
2-Methylnaphthalene	A	4.0	0.811	B	8.0	0.825	C	20	0.777	D	100	0.724	E	200	0.768
	F	400	0.800	G	1000	0.758	H	1600	0.759	I	2000	0.728	J	2.0	0.955
Acenaphthylene	A	4.0	1.96	B	8.0	2.01	C	20	1.91	D	100	1.81	E	200	1.95
	F	400	2.09	G	1000	1.98	H	1600	1.95	I	2000	1.85	J	2.0	2.44
Acenaphthene	A	4.0	1.24	B	8.0	1.28	C	20	1.24	D	100	1.12	E	200	1.19
	F	400	1.24	G	1000	1.17	H	1600	1.16	I	2000	1.11	J	2.0	1.58
Fluorene	A	4.0	1.49	B	8.0	1.56	C	20	1.47	D	100	1.37	E	200	1.47
	F	400	1.56	G	1000	1.45	H	1600	1.45	I	2000	1.37	J	2.0	1.84
Phenanthrene	A	4.0	1.32	B	8.0	1.41	C	20	1.24	D	100	1.09	E	200	1.11
	F	400	1.19	G	1000	1.07	H	1600	1.06	I	2000	0.986	J	2.0	1.53
Anthracene	A	4.0	1.21	B	8.0	1.24	C	20	1.15	D	100	1.05	E	200	1.13
	F	400	1.17	G	1000	1.10	H	1600	1.11	I	2000	1.05	J	2.0	1.34
Fluoranthene	A	4.0	1.48	B	8.0	1.49	C	20	1.40	D	100	1.27	E	200	1.30
	F	400	1.38	G	1000	1.25	H	1600	1.26	I	2000	1.17	J	2.0	1.55
Pyrene	A	4.0	1.39	B	8.0	1.34	C	20	1.25	D	100	1.09	E	200	1.12
	F	400	1.20	G	1000	1.10	H	1600	1.05	I	2000	1.02	J	2.0	1.41
Benz(a)anthracene	A	4.0	1.23	B	8.0	1.18	C	20	1.08	D	100	1.02	E	200	1.09
	F	400	1.15	G	1000	1.10	H	1600	1.06	I	2000	1.05	J	2.0	1.40
Chrysene	A	4.0	1.18	B	8.0	1.13	C	20	1.08	D	100	1.02	E	200	1.05
	F	400	1.12	G	1000	1.05	H	1600	1.02	I	2000	0.995	J	2.0	1.24
Benzo(b)fluoranthene	A	4.0	1.19	B	8.0	1.14	C	20	1.14	D	100	1.06	E	200	1.14
	F	400	1.24	G	1000	1.18	H	1600	1.16	I	2000	1.14	J	2.0	1.25
Benzo(k)fluoranthene	A	4.0	1.12	B	8.0	1.11	C	20	1.08	D	100	1.04	E	200	1.11
	F	400	1.23	G	1000	1.16	H	1600	1.14	I	2000	1.10	J	2.0	1.14
Benzo(a)pyrene	A	4.0	0.925	B	8.0	0.901	C	20	0.881	D	100	0.888	E	200	0.990
	F	400	1.11	G	1000	1.09	H	1600	1.07	I	2000	1.06	J	2.0	0.918

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 02/27/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL11297
Instrument ID: MS11

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Indeno(1,2,3-cd)pyrene	A	4.0	1.10	B	8.0	1.01	C	20	0.965	D	100	0.913	E	200	1.01
	F	400	1.11	G	1000	1.03	H	1600	1.02	I	2000	1.00	J	2.0	1.11
Dibenz(a,h)anthracene	A	4.0	1.19	B	8.0	1.05	C	20	0.981	D	100	0.928	E	200	0.999
	F	400	1.10	G	1000	1.04	H	1600	1.03	I	2000	1.02	J	2.0	1.05
Benzo(g,h,i)perylene	A	4.0	1.37	B	8.0	1.25	C	20	1.18	D	100	1.07	E	200	1.14
	F	400	1.25	G	1000	1.14	H	1600	1.11	I	2000	1.09	J	2.0	1.56
Fluorene-d10	A	4.0	1.19	B	8.0	1.20	C	20	1.14	D	100	1.07	E	200	1.13
	F	400	1.20	G	1000	1.15	H	1600	1.15	I	2000	1.10	J	2.0	1.43
Fluoranthene-d10	A	4.0	1.30	B	8.0	1.35	C	20	1.24	D	100	1.14	E	200	1.17
	F	400	1.27	G	1000	1.17	H	1600	1.19	I	2000	1.11	J	2.0	1.36
Terphenyl-d14	A	4.0	0.988	B	8.0	0.880	C	20	0.851	D	100	0.793	E	200	0.848
	F	400	0.918	G	1000	0.773	H	1600	0.741	I	2000	0.734			

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

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

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 02/27/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL11297
Instrument ID: MS11

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	9.2		≤ 20	1.12		0.70
2-Methylnaphthalene	MS	AverageRF	% RSD	8.4		≤ 20	0.791		0.40
Acenaphthylene	MS	AverageRF	% RSD	8.8		≤ 20	1.99		0.90
Acenaphthene	MS	AverageRF	% RSD	10.9		≤ 20	1.23		0.90
Fluorene	MS	AverageRF	% RSD	9.0		≤ 20	1.50		0.90
Phenanthrene	MS	AverageRF	% RSD	14.4		≤ 20	1.20		0.70
Anthracene	MS	AverageRF	% RSD	7.7		≤ 20	1.15		0.70
Fluoranthene	MS	AverageRF	% RSD	9.1		≤ 20	1.36		0.60
Pyrene	MS	AverageRF	% RSD	12.1		≤ 20	1.20		0.60
Benz(a)anthracene	MS	AverageRF	% RSD	9.8		≤ 20	1.14		0.80
Chrysene	MS	AverageRF	% RSD	7.1		≤ 20	1.09		0.70
Benzo(b)fluoranthene	MS	AverageRF	% RSD	4.8		≤ 20	1.16		0.70
Benzo(k)fluoranthene	MS	AverageRF	% RSD	4.4		≤ 20	1.12		0.70
Benzo(a)pyrene	MS	AverageRF	% RSD	9.3		≤ 20	0.983		0.70
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	6.2		≤ 20	1.03		0.50
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	6.7		≤ 20	1.04		0.40
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	12.3		≤ 20	1.22		0.50
Fluorene-d10	SURR	AverageRF	% RSD	8.4		≤ 20	1.18		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	7.2		≤ 20	1.23		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	10.1		≤ 20	0.836		0.01

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Calibration Date: 02/27/2012
Date Analyzed: 02/27/2012

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration ID: CAL11297
Units: ng/ml

File ID: J:\MS11\DATA\022712\0227X017.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	400	1.12	1.13	1	NA	± 30 %	AverageRF
2-Methylnaphthalene	400	410	0.791	0.809	2	NA	± 30 %	AverageRF
Acenaphthylene	400	420	1.99	2.09	5	NA	± 30 %	AverageRF
Acenaphthene	400	400	1.23	1.23	0	NA	± 30 %	AverageRF
Fluorene	400	420	1.50	1.56	4	NA	± 30 %	AverageRF
Phenanthrene	400	400	1.20	1.19	-1	NA	± 30 %	AverageRF
Anthracene	400	410	1.15	1.18	2	NA	± 30 %	AverageRF
Fluoranthene	400	410	1.36	1.39	2	NA	± 30 %	AverageRF
Pyrene	400	400	1.20	1.18	-1	NA	± 30 %	AverageRF
Benz(a)anthracene	400	410	1.14	1.17	3	NA	± 30 %	AverageRF
Chrysene	400	410	1.09	1.12	3	NA	± 30 %	AverageRF
Benzo(b)fluoranthene	400	430	1.16	1.25	7	NA	± 30 %	AverageRF
Benzo(k)fluoranthene	400	440	1.12	1.23	10	NA	± 30 %	AverageRF
Benzo(a)pyrene	400	450	0.983	1.11	13	NA	± 30 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	430	1.03	1.11	8	NA	± 30 %	AverageRF
Dibenz(a,h)anthracene	400	430	1.04	1.11	7	NA	± 30 %	AverageRF
Benzo(g,h,i)perylene	400	410	1.22	1.25	2	NA	± 30 %	AverageRF

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

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

Injection Log

Directory: J:\MS11\DATA\022712

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0227F001.D	1.	DFTPP @ 3.0ppm | SVM37-68B		27 Feb 2012 07:0
2	2	0227F002.D	1.	IB		27 Feb 2012 07:3
3	1	0227F003.D	1.	SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C	NR	27 Feb 2012 07:5
4	2	0227F004.D	1.	SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D		27 Feb 2012 08:3
5	3	0227F005.D	1.	SIM-PAH ICAL @.008/0.2ug/mL | SVM36-67E		27 Feb 2012 09:0
6	4	0227F006.D	1.	SIM-PAH ICAL @0.02/0.4ug/mL | SVM36-67F		27 Feb 2012 09:4
7	5	0227F007.D	1.	SIM-PAH ICAL @0.1/0.6ug/mL | SVM36-67G		27 Feb 2012 10:0
8	6	0227F008.D	1.	SIM-PAH ICAL @0.2/0.8ug/mL | SVM36-67H		27 Feb 2012 10:3
9	7	0227F009.D	1.	SIM-PAH ICAL @0.4/1.0ug/mL | SVM36-67I		27 Feb 2012 11:0
10	8	0227F010.D	1.	SIM-PAH ICAL @1.0/1.6ug/mL | SVM36-67J		27 Feb 2012 11:2
11	9	0227F011.D	1.	SIM-PAH ICAL @1.6/2.4ug/mL | SVM36-67K		27 Feb 2012 12:2
12	10	0227F012.D	1.	SIM-PAH ICAL @2.0/3.0ug/mL | SVM36-67L		27 Feb 2012 12:4
13	1	0227F013.D	1.	SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C		27 Feb 2012 11:5
14	1	0227F014.D	1.	DFTPP @ 3.0ppm | SVM37-68B		27 Feb 2012 13:1
15	2	0227F015.D	1.	SIM-PAH ICV @ 0.4ug/mL | SVM37-68C	NR	27 Feb 2012 13:4
16	3	0227F016.D	1.	KWG1201818-5 LB		27 Feb 2012 14:0
17	2	0227F017.D	1.	SIM-PAH ICV @ 0.4ug/mL | SVM37-68C		27 Feb 2012 14:3
18	29	0227F044.D	1.	PR		28 Feb 2012 01:2
19	30	0227F045.D	1.	DCM		28 Feb 2012 01:4
20	2	0227x017.D	1.	SIM-PAH ICV @ 0.4ug/mL | SVM37-68C 71 I		27 Feb 2012 14:3

CAL 11297
SIM-PAH ICAL
2/28/12

FEB 28 2012

ALS-Columbia Kelso
Initial Calibration Checklist MS

Method: SJM-PAH
ICAL ID or Date: CAL11297 2/27/12
Instrument: MS 11

Primary	Secondary			
☒	☑	Tune meets SOP criteria?	Yes	No
☒	☑	New ICAL saved with a unique ID?	Yes	No
☒	☑	Calibration analyzed continuously (i.e. not interrupted by a maintenance event)?	Yes	No
☒	☑	All analytes in blank < MRL (< ½ MRL for DoD)?	Yes	No
☒	☑	ICAL contains minimum number of calibration points?	Yes	No
☒	☑	No internal levels excluded for any analyte?	Yes	No
☒	☑	Retention times and ion ratios updated using midpoint of the calibration? Secondary reviewer double check peak IDs.	Yes	No
☒	☑	Primary reviewer must check all integrations electronically. Secondary reviewer will check low and high point electronically.	Yes	No
☒	☑	Calibration files added to calibration table?	Yes	No
☒	☑	The average RF or COD meets SOP criteria for all analytes?	Yes	No
☒	☑	Calculated concentration meets SOP criteria for each analyte? (if applicable)	Yes	No
☒	☑	ICV quantitated against new ICAL?	Yes	No
☒	☑	ICV meets SOP criteria?	Yes	No
☒	☑	Stealth ICAL linked to an appropriate method? i.e. one that contains all analytes that were analyzed.	Yes	No
☒	☑	All calibration reports included? (i.e. ICAL SUMMARY, ICAL DETAILED, ICV SUMMARY)	Yes	No
☒	☑	Enviroquant responses match those in Stealth.	Yes	No
☒	☑	All quant reports and manual integrations initialed by primary and secondary reviewers?	Yes	No

Data packet should be in the following order: Sequence log, Calibration Review, Stealth ICAL reports, and quant reports.

Primary: Lisa Weisskopf Date: 2/28/12

Secondary: [signature] Date: 2-28-12

C:\Documents and Settings\cdegner\Desktop\Calibration Review - MS.doc

Initial Calibration - Summary Report

Calibration ID:	CAL11297	**Instrument ID:**	MS11	FEB 2 8 2012
Method ID:	MJ1186	**Column Name:**	MS	

Parameter Name	Type	Curve Fit	Min RF	Mean RF	Max %RSD	%RSD	Min COD	COD	MRL Check	Conc ½ Low pt.
Naphthalene	MS	AverageRF	0.700	1.122	20	9.2			OK	
2-Methylnaphthalene	MS	AverageRF	0.400	0.791	20	8.4			OK	
1-Methylnaphthalene	MS	AverageRF	0.010	0.696	20	7.0			OK	
Biphenyl	MS	AverageRF	0.010	0.941	20	8.7			OK	
2,6-Dimethylnaphthalene	MS	AverageRF	0.010	0.681	20	5.7			OK	
Acenaphthylene	MS	AverageRF	0.900	1.994	20	8.8			OK	
Acenaphthene	MS	AverageRF	0.900	1.232	20	10.9			OK	
Dibenzofuran	MS	AverageRF	0.800	1.855	20	11.1			OK	
2,3,5-Trimethylnaphthalene	MS	AverageRF	0.010	1.171	20	6.4			OK	
Fluorene-d10	SURR	AverageRF	0.010	1.175	20	8.4			NA	
Fluorene	MS	AverageRF	0.900	1.502	20	9.0			OK	
2,4,6-Tribromophenol	SURR	Quadratic(0,(	0.010	0.232			0.990	0.9997	NA	2.91
Pentachlorophenol	MS	Quadratic	0.050	0.224			0.990	0.9988	OK	85.54
Dibenzothiophene	MS	AverageRF	0.010	1.093	20	8.6			OK	
Phenanthrene	MS	AverageRF	0.700	1.200	20	14.4			OK	
Anthracene	MS	AverageRF	0.700	1.154	20	7.7			OK	
Carbazole	MS	AverageRF	0.010	1.043	20	10.3			OK	
1-Methylphenanthrene	MS	AverageRF	0.010	0.890	20	7.4			OK	
Fluoranthene	MS	AverageRF	0.600	1.355	20	9.1			OK	
Fluoranthene-d10	SURR	AverageRF	0.010	1.229	20	7.2			NA	
Pyrene	MS	AverageRF	0.600	1.196	20	12.1			OK	
Terphenyl-d14	SURR	AverageRF	0.010	0.836	20	10.1			NA	
Benz(a)anthracene	MS	AverageRF	0.800	1.136	20	9.8			OK	
Chrysene	MS	AverageRF	0.700	1.089	20	7.1			OK	
Benzo(b)fluoranthene	MS	AverageRF	0.700	1.162	20	4.8			OK	
Benzo(k)fluoranthene	MS	AverageRF	0.700	1.123	20	4.4			OK	
Benzo(e)pyrene	MS	AverageRF	0.010	1.033	20	4.1			OK	
Benzo(a)pyrene	MS	AverageRF	0.700	0.983	20	9.3			OK	
Perylene	MS	AverageRF	0.010	1.023	20	6.3			OK	
Indeno(1,2,3-cd)pyrene	MS	AverageRF	0.500	1.027	20	6.2			OK	
Dibenz(a,h)anthracene	MS	AverageRF	0.400	1.039	20	6.7			OK	
Benzo(g,h,i)perylene	MS	AverageRF	0.500	1.217	20	12.3			OK	

FEB 2 8 2012

Initial Calibration - Detailed Report

Calibration ID:	CAL11297	**Instrument ID:**	MS11
Method ID:	MJ1186	**Column Name:**	MS
		Calibration Fit:	AverageRF

FEB 28 2012

#	FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
1	213932	J:\MS11\DATA\022712\0227F004.D	02/27/2012 08:33	02/28/2012 06:10	02/28/2012 06:39
2	213933	J:\MS11\DATA\022712\0227F005.D	02/27/2012 09:05	02/27/2012 09:34	02/28/2012 06:39
3	213934	J:\MS11\DATA\022712\0227F006.D	02/27/2012 09:43	02/27/2012 10:13	02/28/2012 06:39
4	213935	J:\MS11\DATA\022712\0227F007.D	02/27/2012 10:09	02/27/2012 10:54	02/28/2012 06:39
5	213936	J:\MS11\DATA\022712\0227F008.D	02/27/2012 10:36	02/27/2012 10:58	02/28/2012 06:39
6	213937	J:\MS11\DATA\022712\0227F009.D	02/27/2012 11:02	02/27/2012 11:53	02/28/2012 06:39
7	213938	J:\MS11\DATA\022712\0227F010.D	02/27/2012 11:28	02/27/2012 11:53	02/28/2012 06:39
8	213941	J:\MS11\DATA\022712\0227F013.D	02/27/2012 11:55	02/28/2012 06:11	02/28/2012 06:39
9	213939	J:\MS11\DATA\022712\0227F011.D	02/27/2012 12:21	02/27/2012 12:42	02/28/2012 06:39
10	213940	J:\MS11\DATA\022712\0227F012.D	02/27/2012 12:47	02/27/2012 13:08	02/28/2012 06:39

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
Naphthalene	1	1.195	2	1.213	3	1.155	4	1.049	5	1.095	6	1.137	1.122	9.2
	7	1.047	8	1.323	9	1.031	10	0.976						
2-Methylnaphthalene	1	0.811	2	0.825	3	0.777	4	0.724	5	0.768	6	0.800	0.791	8.4
	7	0.758	8	0.955	9	0.759	10	0.728						
1-Methylnaphthalene	1	0.708	2	0.724	3	0.688	4	0.642	5	0.684	6	0.711	0.696	7.0
	7	0.674	8	0.813	9	0.671	10	0.646						
Biphenyl	1	0.940	2	1.022	3	0.930	4	0.884	5	0.929	6	0.964	0.941	8.7
	7	0.887	8	1.128	9	0.878	10	0.851						
2,6-Dimethylnaphthalene	1	0.663	2	0.697	3	0.654	4	0.629	5	0.670	6	0.714	0.681	5.7
	7	0.677	8	0.770	9	0.676	10	0.656						
Acenaphthylene	1	1.956	2	2.006	3	1.906	4	1.812	5	1.952	6	2.090	1.994	8.8
	7	1.975	8	2.441	9	1.952	10	1.850						
Acenaphthene	1	1.244	2	1.278	3	1.238	4	1.122	5	1.189	6	1.236	1.232	10.9
	7	1.167	8	1.579	9	1.159	10	1.106						
Dibenzofuran	1	1.875	2	1.918	3	1.800	4	1.698	5	1.806	6	1.902	1.855	11.1
	7	1.762	8	2.390	9	1.746	10	1.658						
2,3,5-Trimethylnaphthalene	1	1.152	2	1.186	3	1.136	4	1.071	5	1.147	6	1.228	1.171	6.4
	7	1.177	8	1.346	9	1.159	10	1.112						
Fluorene-d10	1	1.185	2	1.203	3	1.143	4	1.065	5	1.132	6	1.200	1.175	8.4
	7	1.146	8	1.428	9	1.150	10	1.101						
Fluorene	1	1.493	2	1.557	3	1.466	4	1.372	5	1.471	6	1.559	1.502	9.0
	7	1.449	8	1.841	9	1.447	10	1.367						
2,4,6-Tribromophenol			2	0.181	3	0.179	4	0.201	5	0.234	6	0.263	0.232	17.0#
	7	0.257			9	0.269	10	0.270						
Pentachlorophenol	1	0.134	2	0.164	3	0.191	4	0.206	5	0.238	6	0.232	0.224	25.1#
	7	0.263			9	0.292	10	0.300						
Dibenzothiophene	1	1.087	2	1.196	3	1.112	4	1.004	5	1.055	6	1.134	1.093	8.6
	7	1.019	8	1.293	9	1.035	10	0.997						
Phenanthrene	1	1.318	2	1.409	3	1.240	4	1.093	5	1.110	6	1.193	1.200	14.4
	7	1.069	8	1.526	9	1.060	10	0.986						
Anthracene	1	1.211	2	1.239	3	1.146	4	1.054	5	1.132	6	1.171	1.154	7.7
	7	1.098	8	1.336	9	1.105	10	1.047						
Carbazole	1	1.020	2	1.061	3	1.006	4	0.972	5	1.010	6	1.093	1.043	10.3
	7	1.003	8	1.327	9	0.987	10	0.952						

Initial Calibration - Detailed Report

FEB 28 2012

Calibration ID:	CAL11297	**Instrument ID:**	MS11
Method ID:	MJ1186	**Column Name:**	MS
		Calibration Fit:	AverageRF

Parameter Name	#	RF	#	RF	#	RF	#	RF	#	RF	#	RF	Mean RF	%RSD
1-Methylphenanthrene	1	0.946	2	0.975	3	0.905	4	0.842	5	0.862	6	0.915	0.890	7.4
	7	0.846	8	0.987	9	0.835	10	0.788						
Fluoranthene	1	1.479	2	1.488	3	1.399	4	1.273	5	1.299	6	1.376	1.355	9.1
	7	1.254	8	1.554	9	1.261	10	1.172						
Fluoranthene-d10	1	1.298	2	1.351	3	1.239	4	1.139	5	1.167	6	1.270	1.229	7.2
	7	1.170	8	1.356	9	1.190	10	1.107						
Pyrene	1	1.389	2	1.337	3	1.245	4	1.091	5	1.123	6	1.198	1.196	12.1
	7	1.099	8	1.413	9	1.047	10	1.016						
Terphenyl-d14	1	0.988	2	0.880	3	0.851	4	0.793	5	0.848	6	0.918	0.836	10.1
	7	0.773			9	0.741	10	0.734						
Benz(a)anthracene	1	1.233	2	1.176	3	1.085	4	1.016	5	1.091	6	1.149	1.136	9.8
	7	1.098	8	1.395	9	1.065	10	1.050						
Chrysene	1	1.178	2	1.130	3	1.085	4	1.021	5	1.052	6	1.121	1.089	7.1
	7	1.046	8	1.239	9	1.022	10	0.995						
Benzo(b)fluoranthene	1	1.192	2	1.136	3	1.135	4	1.057	5	1.140	6	1.240	1.162	4.8
	7	1.177	8	1.248	9	1.155	10	1.137						
Benzo(k)fluoranthene	1	1.116	2	1.111	3	1.080	4	1.043	5	1.113	6	1.225	1.123	4.4
	7	1.163	8	1.135	9	1.140	10	1.102						
Benzo(e)pyrene	1	1.035	2	1.040	3	1.019	4	0.943	5	1.008	6	1.094	1.033	4.1
	7	1.051	8	1.086	9	1.035	10	1.015						
Benzo(a)pyrene	1	0.925	2	0.901	3	0.881	4	0.888	5	0.990	6	1.114	0.983	9.3
	7	1.085	8	0.918	9	1.073	10	1.055						
Perylene	1	0.989	2	0.992	3	0.966	4	0.938	5	1.028	6	1.121	1.023	6.3
	7	1.092	8	0.952	9	1.083	10	1.070						
Indeno(1,2,3-cd)pyrene	1	1.100	2	1.014	3	0.965	4	0.913	5	1.007	6	1.107	1.027	6.2
	7	1.031	8	1.111	9	1.022	10	1.004						
Dibenz(a,h)anthracene	1	1.186	2	1.048	3	0.981	4	0.928	5	0.999	6	1.103	1.039	6.7
	7	1.041	8	1.053	9	1.034	10	1.016						
Benzo(g,h,i)perylene	1	1.365	2	1.251	3	1.177	4	1.074	5	1.145	6	1.251	1.217	12.3
	7	1.137	8	1.562	9	1.114	10	1.092						

 # RSD Not Applicable. Compound being quantitated from curve. Included in Average RF summary for Average %RSD calculation.

M FEB 28 2012

Initial Calibration - Detailed Report

Calibration ID:	CAL11297	**Instrument ID:**	MS11
Method ID:	MJ1186	**Column Name:**	MS
		Calibration Fit:	Quadratic

FEB 28 2012

FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
213932	J:\MS11\DATA\022712\0227F004.D	02/27/2012 08:33	02/28/2012 06:10	02/28/2012 06:39
213933	J:\MS11\DATA\022712\0227F005.D	02/27/2012 09:05	02/27/2012 09:34	02/28/2012 06:39
213934	J:\MS11\DATA\022712\0227F006.D	02/27/2012 09:43	02/27/2012 10:13	02/28/2012 06:39
213935	J:\MS11\DATA\022712\0227F007.D	02/27/2012 10:09	02/27/2012 10:54	02/28/2012 06:39
213936	J:\MS11\DATA\022712\0227F008.D	02/27/2012 10:36	02/27/2012 10:58	02/28/2012 06:39
213937	J:\MS11\DATA\022712\0227F009.D	02/27/2012 11:02	02/27/2012 11:53	02/28/2012 06:39
213938	J:\MS11\DATA\022712\0227F010.D	02/27/2012 11:28	02/27/2012 11:53	02/28/2012 06:39
213941	J:\MS11\DATA\022712\0227F013.D	02/27/2012 11:55	02/28/2012 06:11	02/28/2012 06:39
213939	J:\MS11\DATA\022712\0227F011.D	02/27/2012 12:21	02/27/2012 12:42	02/28/2012 06:39
213940	J:\MS11\DATA\022712\0227F012.D	02/27/2012 12:47	02/27/2012 13:08	02/28/2012 06:39

Parameter Name	CoefX2	CoefX	Y-intercept	COD	Mean RF
Pentachlorophenol	0.006	0.218	-0.061	0.9988	0.224

FEB 28 2012

Initial Calibration - Detailed Report

FEB 2 8 2012

Calibration ID:	CAL11297	**Instrument ID:**	MS11
Method ID:	MJ1186	**Column Name:**	MS
		Calibration Fit:	Quadratic(0,0)

FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
213932	J:\MS11\DATA\022712\0227F004.D	02/27/2012 08:33	02/28/2012 06:10	02/28/2012 06:39
213933	J:\MS11\DATA\022712\0227F005.D	02/27/2012 09:05	02/27/2012 09:34	02/28/2012 06:39
213934	J:\MS11\DATA\022712\0227F006.D	02/27/2012 09:43	02/27/2012 10:13	02/28/2012 06:39
213935	J:\MS11\DATA\022712\0227F007.D	02/27/2012 10:09	02/27/2012 10:54	02/28/2012 06:39
213936	J:\MS11\DATA\022712\0227F008.D	02/27/2012 10:36	02/27/2012 10:58	02/28/2012 06:39
213937	J:\MS11\DATA\022712\0227F009.D	02/27/2012 11:02	02/27/2012 11:53	02/28/2012 06:39
213938	J:\MS11\DATA\022712\0227F010.D	02/27/2012 11:28	02/27/2012 11:53	02/28/2012 06:39
213941	J:\MS11\DATA\022712\0227F013.D	02/27/2012 11:55	02/28/2012 06:11	02/28/2012 06:39
213939	J:\MS11\DATA\022712\0227F011.D	02/27/2012 12:21	02/27/2012 12:42	02/28/2012 06:39
213940	J:\MS11\DATA\022712\0227F012.D	02/27/2012 12:47	02/27/2012 13:08	02/28/2012 06:39

Parameter Name	CoefX2	CoefX	Y-intercept	COD	Mean RF
2,4,6-Tribromophenol	0.002	0.249	0.000	0.9997	0.232

FEB 2 8 2012

Initial Calibration - Detailed Report

Calibration ID: CAL11297
Method ID: MJ1186

Instrument ID: MS11
Column Name: MS

FEB 2 8 2012

#	FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
1	213932	J:\MS11\DATA\022712\0227F004.D	02/27/2012 08:33	02/28/2012 06:10	02/28/2012 06:39
2	213933	J:\MS11\DATA\022712\0227F005.D	02/27/2012 09:05	02/27/2012 09:34	02/28/2012 06:39
3	213934	J:\MS11\DATA\022712\0227F006.D	02/27/2012 09:43	02/27/2012 10:13	02/28/2012 06:39
4	213935	J:\MS11\DATA\022712\0227F007.D	02/27/2012 10:09	02/27/2012 10:54	02/28/2012 06:39
5	213936	J:\MS11\DATA\022712\0227F008.D	02/27/2012 10:36	02/27/2012 10:58	02/28/2012 06:39
6	213937	J:\MS11\DATA\022712\0227F009.D	02/27/2012 11:02	02/27/2012 11:53	02/28/2012 06:39
7	213938	J:\MS11\DATA\022712\0227F010.D	02/27/2012 11:28	02/27/2012 11:53	02/28/2012 06:39
8	213941	J:\MS11\DATA\022712\0227F013.D	02/27/2012 11:55	02/28/2012 06:11	02/28/2012 06:39
9	213939	J:\MS11\DATA\022712\0227F011.D	02/27/2012 12:21	02/27/2012 12:42	02/28/2012 06:39
10	213940	J:\MS11\DATA\022712\0227F012.D	02/27/2012 12:47	02/27/2012 13:08	02/28/2012 06:39

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Naphthalene	1	4	4.262	6.5	2	8	8.647	8.1	3	20	20.59	2.9
	4	100	93.50	-6.5	5	200	195.1	-2.4	6	400	405.2	1.3
	7	1000	933.4	-6.7	8	2	2.358	17.9	9	1600	1470	-8.1
	10	2000	1739	-13.0								
2-Methylnaphthalene	1	4	4.104	2.6	2	8	8.354	4.4	3	20	19.66	-1.7
	4	100	91.53	-8.5	5	200	194.3	-2.9	6	400	404.7	1.2
	7	1000	958.8	-4.1	8	2	2.417	20.9	9	1600	1535	-4.0
	10	2000	1843	-7.9								
1-Methylnaphthalene	1	4	4.067	1.7	2	8	8.325	4.1	3	20	19.76	-1.2
	4	100	92.30	-7.7	5	200	196.4	-1.8	6	400	408.4	2.1
	7	1000	968.9	-3.1	8	2	2.336	16.8	9	1600	1542	-3.6
	10	2000	1855	-7.2								
Biphenyl	1	4	3.996	-0.1	2	8	8.684	8.5	3	20	19.76	-1.2
	4	100	93.88	-6.1	5	200	197.3	-1.3	6	400	409.6	2.4
	7	1000	942.6	-5.7	8	2	2.396	19.8	9	1600	1493	-6.7
	10	2000	1808	-9.6								
2,6-Dimethylnaphthalene	1	4	3.898	-2.6	2	8	8.192	2.4	3	20	19.22	-3.9
	4	100	92.44	-7.6	5	200	196.9	-1.6	6	400	419.6	4.9
	7	1000	994.3	-0.6	8	2	2.262	13.1	9	1600	1589	-0.7
	10	2000	1929	-3.6								
Acenaphthylene	1	4	3.924	-1.9	2	8	8.048	0.6	3	20	19.12	-4.4
	4	100	90.87	-9.1	5	200	195.8	-2.1	6	400	419.3	4.8
	7	1000	990.5	-1.0	8	2	2.448	22.4	9	1600	1566	-2.1
	10	2000	1855	-7.2								
Acenaphthene	1	4	4.040	1.0	2	8	8.299	3.7	3	20	20.10	0.5
	4	100	91.11	-8.9	5	200	193.1	-3.5	6	400	401.4	0.3
	7	1000	947.0	-5.3	8	2	2.563	28.2	9	1600	1506	-5.9
	10	2000	1796	-10.2								
Dibenzofuran	1	4	4.042	1.1	2	8	8.268	3.4	3	20	19.40	-3.0
	4	100	91.52	-8.5	5	200	194.6	-2.7	6	400	410.0	2.5
	7	1000	949.4	-5.1	8	2	2.576	28.8	9	1600	1506	-5.9
	10	2000	1787	-10.6								
2,3,5-Trimethylnaphthalene	1	4	3.934	-1.6	2	8	8.099	1.2	3	20	19.40	-3.0
	4	100	91.41	-8.6	5	200	195.8	-2.1	6	400	419.3	4.8
	7	1000	1005	0.5	8	2	2.298	14.9	9	1600	1584	-1.0
	10	2000	1899	-5.1								

FEB 2 8 2012

Initial Calibration - Detailed Report

Calibration ID: CAL11297
Method ID: MJ1186

Instrument ID: MS11
Column Name: MS

FEB 2 8 2012

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Fluorene-d10	1	4	4.034	0.9	2	8	8.189	2.4	3	20	19.45	-2.7
	4	100	90.63	-9.4	5	200	192.7	-3.7	6	400	408.4	2.1
	7	1000	975.0	-2.5	8	2	2.430	21.5	9	1600	1565	-2.2
	10	2000	1873	-6.3								
Fluorene	1	4	3.974	-0.6	2	8	8.294	3.7	3	20	19.51	-2.4
	4	100	91.34	-8.7	5	200	195.9	-2.1	6	400	415.1	3.8
	7	1000	964.9	-3.5	8	2	2.451	22.5	9	1600	1541	-3.7
	10	2000	1820	-9.0								
2,4,6-Tribromophenol					2	8	5.811	-27.4	3	20	14.33	-28.4
	4	100	80.32	-19.7	5	200	186.7	-6.7	6	400	414.4	3.6
	7	1000	988.5	-1.1					9	1600	1616	1.0
	10	2000	1992	-0.4								
Pentachlorophenol	1	100	115.5	15.5	2	200	201.3	0.6	3	400	385.8	-3.5
	4	600	577.4	-3.8	5	800	834.6	4.3	6	1000	988.3	-1.2
	7	2000	1957	-2.2					9	2400	2457	2.4
	10	3000	2983	-0.6								
Dibenzothiophene	1	4	3.976	-0.6	2	8	8.752	9.4	3	20	20.35	1.7
	4	100	91.85	-8.1	5	200	193.1	-3.5	6	400	414.9	3.7
	7	1000	932.4	-6.8	8	2	2.366	18.3	9	1600	1514	-5.4
	10	2000	1824	-8.8								
Phenanthrene	1	4	4.391	9.8	2	8	9.393	17.4	3	20	20.66	3.3
	4	100	91.08	-8.9	5	200	184.9	-7.5	6	400	397.6	-0.6
	7	1000	890.6	-10.9	8	2	2.542	27.1	9	1600	1413	-11.7
	10	2000	1643	-17.9								
Anthracene	1	4	4.199	5.0	2	8	8.589	7.4	3	20	19.86	-0.7
	4	100	91.37	-8.6	5	200	196.2	-1.9	6	400	406.0	1.5
	7	1000	951.5	-4.9	8	2	2.316	15.8	9	1600	1533	-4.2
	10	2000	1814	-9.3								
Carbazole	1	4	3.911	-2.2	2	8	8.132	1.7	3	20	19.29	-3.5
	4	100	93.18	-6.8	5	200	193.7	-3.1	6	400	419.0	4.7
	7	1000	961.7	-3.8	8	2	2.545	27.2	9	1600	1514	-5.4
	10	2000	1825	-8.7								
1-Methylphenanthrene	1	4	4.251	6.3	2	8	8.765	9.6	3	20	20.34	1.7
	4	100	94.60	-5.4	5	200	193.7	-3.1	6	400	411.1	2.8
	7	1000	950.1	-5.0	8	2	2.218	10.9	9	1600	1501	-6.2
	10	2000	1770	-11.5								
Fluoranthene	1	4	4.365	9.1	2	8	8.781	9.8	3	20	20.64	3.2
	4	100	93.91	-6.1	5	200	191.6	-4.2	6	400	406.0	1.5
	7	1000	925.3	-7.5	8	2	2.293	14.7	9	1600	1489	-7.0
	10	2000	1730	-13.5								
Fluoranthene-d10	1	4	4.227	5.7	2	8	8.799	10.0	3	20	20.17	0.8
	4	100	92.73	-7.3	5	200	189.9	-5.0	6	400	413.4	3.4
	7	1000	951.9	-4.8	8	2	2.207	10.3	9	1600	1549	-3.2
	10	2000	1802	-9.9								
Pyrene	1	4	4.647	16.2	2	8	8.946	11.8	3	20	20.83	4.1
	4	100	91.25	-8.8	5	200	187.8	-6.1	6	400	400.8	0.2
	7	1000	918.7	-8.1	8	2	2.363	18.2	9	1600	1401	-12.5
	10	2000	1699	-15.0								

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Initial Calibration - Detailed Report

Calibration ID: CAL11297
Method ID: MJ1186

Instrument ID: MS11
Column Name: MS

FEB 28 2012

Parameter Name	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D	#	Cal Amt	Calc Conc	% D
Terphenyl-d14	1	4	4.724	18.1	2	8	8.421	5.3	3	20	20.36	1.8
	4	100	94.79	-5.2	5	200	202.9	1.5	6	400	439.2	9.8
	7	1000	924.1	-7.6					9	1600	1418	-11.4
	10	2000	1755	-12.3								
Benz(a)anthracene	1	4	4.343	8.6	2	8	8.280	3.5	3	20	19.10	-4.5
	4	100	89.46	-10.5	5	200	192.1	-3.9	6	400	404.5	1.1
	7	1000	966.7	-3.3	8	2	2.457	22.9	9	1600	1500	-6.3
	10	2000	1850	-7.5								
Chrysene	1	4	4.328	8.2	2	8	8.302	3.8	3	20	19.93	-0.4
	4	100	93.72	-6.3	5	200	193.3	-3.3	6	400	411.7	2.9
	7	1000	960.5	-4.0	8	2	2.277	13.8	9	1600	1502	-6.1
	10	2000	1827	-8.6								
Benzo(b)fluoranthene	1	4	4.104	2.6	2	8	7.823	-2.2	3	20	19.55	-2.3
	4	100	91.02	-9.0	5	200	196.2	-1.9	6	400	426.9	6.7
	7	1000	1013	1.3	8	2	2.149	7.4	9	1600	1591	-0.6
	10	2000	1957	-2.2								
Benzo(k)fluoranthene	1	4	3.974	-0.6	2	8	7.915	-1.1	3	20	19.23	-3.8
	4	100	92.89	-7.1	5	200	198.2	-0.9	6	400	436.5	9.1
	7	1000	1036	3.6	8	2	2.022	1.1	9	1600	1625	1.5
	10	2000	1964	-1.8								
Benzo(e)pyrene	1	4	4.009	0.2	2	8	8.058	0.7	3	20	19.74	-1.3
	4	100	91.35	-8.6	5	200	195.2	-2.4	6	400	423.6	5.9
	7	1000	1017	1.7	8	2	2.104	5.2	9	1600	1604	0.2
	10	2000	1966	-1.7								
Benzo(a)pyrene	1	4	3.762	-5.9	2	8	7.334	-8.3	3	20	17.92	-10.4
	4	100	90.30	-9.7	5	200	201.3	0.7	6	400	453.4	13.4
	7	1000	1104	10.4	8	2	1.868	-6.6	9	1600	1746	9.1
	10	2000	2147	7.3								
Perylene	1	4	3.866	-3.3	2	8	7.754	-3.1	3	20	18.89	-5.6
	4	100	91.68	-8.3	5	200	201.1	0.5	6	400	438.2	9.6
	7	1000	1067	6.7	8	2	1.860	-7.0	9	1600	1694	5.9
	10	2000	2093	4.6								
Indeno(1,2,3-cd)pyrene	1	4	4.282	7.1	2	8	7.897	-1.3	3	20	18.78	-6.1
	4	100	88.89	-11.1	5	200	196.0	-2.0	6	400	431.0	7.7
	7	1000	1004	0.4	8	2	2.164	8.2	9	1600	1591	-0.5
	10	2000	1954	-2.3								
Dibenz(a,h)anthracene	1	4	4.565	14.1	2	8	8.069	0.9	3	20	18.89	-5.6
	4	100	89.33	-10.7	5	200	192.4	-3.8	6	400	424.7	6.2
	7	1000	1002	0.2	8	2	2.027	1.4	9	1600	1592	-0.5
	10	2000	1956	-2.2								
Benzo(g,h,i)perylene	1	4	4.488	12.2	2	8	8.222	2.8	3	20	19.34	-3.3
	4	100	88.30	-11.7	5	200	188.1	-5.9	6	400	411.4	2.8
	7	1000	934.1	-6.6	8	2	2.567	28.4	9	1600	1465	-8.4
	10	2000	1795	-10.2								

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Second Source Calibration Verification Summary

CalibrationID: CAL11297

Method ID: MJ1186

DataFile Location: J:\MS11\DATA\022712\0227X017.D

Units: ug/L

Column: MS

FEB 28 2012

Parameter Name	File ID	Curve Fit	Method Criteria	AveRF	SSV RF	% Diff	True Value	Sol'n Conc	% Drift
Naphthalene	213942	AverageRF	30	1.122	1.132	0.9	400.00	403.4	
2-Methylnaphthalene	213942	AverageRF	30	0.791	0.809	2.4	400.00	409.6	
1-Methylnaphthalene	213942	AverageRF	30	0.696	0.712	2.2	400.00	409.0	
Biphenyl	213942	AverageRF	30	0.941	0.964	2.4	400.00	409.7	
2,6-Dimethylnaphthalene	213942	AverageRF	30	0.681	0.713	4.8	400.00	419.2	
Acenaphthylene	213942	AverageRF	30	1.994	2.088	4.7	400.00	418.9	
Acenaphthene	213942	AverageRF	30	1.232	1.230	-0.2	400.00	399.4	
Dibenzofuran	213942	AverageRF	30	1.855	1.897	2.3	400.00	409.1	
2,3,5-Trimethylnaphthalene	213942	AverageRF	30	1.171	1.214	3.6	400.00	414.6	
Fluorene	213942	AverageRF	30	1.502	1.562	4.0	400.00	416.0	
Pentachlorophenol	213942	Quadratic	30				1000.00	1085.1	8.5
Dibenzothiophene	213942	AverageRF	30	1.093	1.126	3.0	400.00	411.9	
Phenanthrene	213942	AverageRF	30	1.200	1.194	-0.5	400.00	397.9	
Anthracene	213942	AverageRF	30	1.154	1.180	2.2	400.00	408.9	
Carbazole	213942	AverageRF	30	1.043	1.062	1.8	400.00	407.1	
1-Methylphenanthrene	213942	AverageRF	30	0.890	0.931	4.6	400.00	418.3	
Fluoranthene	213942	AverageRF	30	1.355	1.386	2.3	400.00	409.1	
Pyrene	213942	AverageRF	30	1.196	1.181	-1.2	400.00	395.1	
Benz(a)anthracene	213942	AverageRF	30	1.136	1.168	2.9	400.00	411.5	
Chrysene	213942	AverageRF	30	1.089	1.120	2.8	400.00	411.3	
Benzo(b)fluoranthene	213942	AverageRF	30	1.162	1.247	7.4	400.00	429.5	
Benzo(k)fluoranthene	213942	AverageRF	30	1.123	1.235	10.0	400.00	439.9	
Benzo(e)pyrene	213942	AverageRF	30	1.033	1.102	6.7	400.00	426.8	
Benzo(a)pyrene	213942	AverageRF	30	0.983	1.109	12.8	400.00	451.1	
Perylene	213942	AverageRF	30	1.023	1.117	9.2	400.00	436.7	
Indeno(1,2,3-cd)pyrene	213942	AverageRF	30	1.027	1.107	7.8	400.00	431.2	
Dibenz(a,h)anthracene	213942	AverageRF	30	1.039	1.114	7.2	400.00	428.9	
Benzo(g,h,i)perylene	213942	AverageRF	30	1.217	1.245	2.4	400.00	409.4	

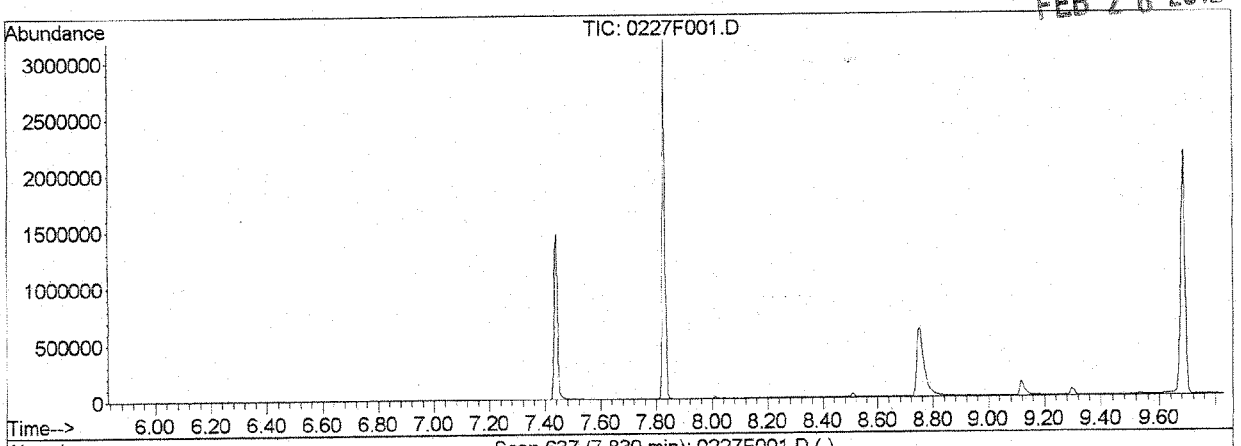
FEB 28 2012

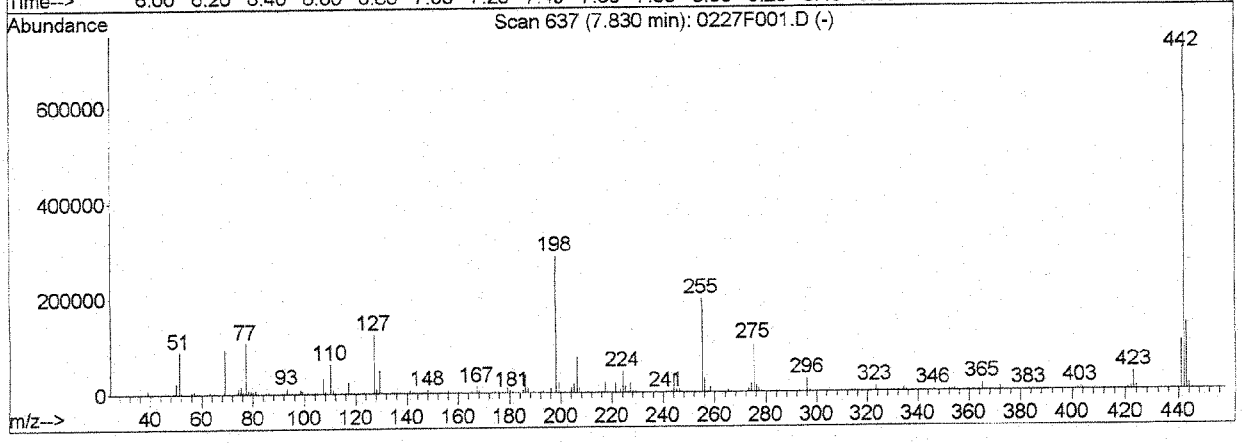
DFTPP

Data File : J:\MS11\DATA\022712\0227F001.D
Acq On : 27 Feb 2012 7:04 am
Sample : DFTPP @ 3.0ppm | SVM37-68B
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

FEB 28 2012





Spectrum Information: Scan 637

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	30.5	87632	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.7	625	PASS
127	198	10	80	43.0	123312	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	40.0	286912	PASS
199	198	5	9	6.9	19776	PASS
275	198	10	60	35.4	101480	PASS
365	442	1	50	2.2	15613	PASS
441	443	0.01	100	73.0	102280	PASS
442	442	30	100	100.0	716416	PASS
443	442	15	24	19.6	140160	PASS

0227F001.D DFTPPPAH.M Tue Feb 28 06:51:00 2012

FEB 28 2012

Scan 637 (7.830 min): 0227F001.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
38.10	1207	61.10	1152	77.10	106552	91.10	2092
39.10	6889	62.10	1355	78.10	7387	92.00	2012
41.20	604	63.10	4014	79.10	7414	93.00	12212
44.00	63	64.10	536	80.00	5305	94.00	859
49.10	951	65.10	1781	81.00	7878	96.10	755
50.10	23368	69.00	93904	82.10	2029	98.10	9003
51.10	87632	70.10	625	83.00	1850	99.00	7277
52.10	4432	73.10	1011	85.00	1364	100.10	593
55.10	796	74.10	10003	86.00	2407	101.10	4330
56.00	2775	75.10	15062	87.10	1107	103.00	1329
57.10	6100	76.10	5586	88.00	502	104.00	2876

Scan 637 (7.830 min): 0227F001.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

FEB 28 2012

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
105.00	2737	123.00	3444	136.00	1392	153.00	2198
107.00	32736	124.00	1494	137.00	2045	154.00	1676
108.10	5310	125.00	1544	140.00	713	155.00	3514
110.00	61992	127.00	123312	141.00	6425	156.10	5173
111.00	9693	128.00	9532	142.10	1910	157.10	1127
112.10	1291	129.00	48840	143.00	1506	158.00	1347
116.00	2145	130.00	4327	146.00	1145	159.00	919
117.00	25000	131.10	911	147.00	3261	160.00	2170
118.00	1834	132.10	542	148.00	7279	161.00	2917
120.10	585	134.00	1450	149.00	1519	162.00	802
122.00	2506	135.00	4022	151.10	800	165.00	2573

Scan 637 (7.830 min): 0227F001.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
166.00	1993	177.00	2493	189.00	2244	204.00	10450
167.00	12650	178.00	809	191.00	1261	205.00	18096
168.00	5941	179.00	10094	192.00	3313	206.00	74960
169.00	1078	180.00	6443	193.00	3587	207.05	10218
170.00	521	181.00	3349	194.10	862	208.00	2783
171.00	557	182.00	544	196.00	8901	209.00	955
172.00	1001	184.00	961	198.00	286912	210.30	1531
173.00	1688	185.00	4669	199.00	19776	211.00	3033
174.00	2847	186.00	38264	200.00	1552	214.90	793
175.10	5001	187.00	10901	201.50	1604	216.00	1655
176.00	1594	188.00	1242	203.00	1764	217.00	19984

Scan 637 (7.830 min): 0227F001.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
218.00	2401	234.00	1152	246.00	6869	273.00	6718
221.00	18024	235.00	1413	247.00	1449	274.00	17056
223.00	5079	236.00	791	249.00	1560	275.00	101480
224.00	42800	237.00	1399	253.00	713	276.00	14517
225.00	11317	239.00	689	255.00	195520	277.00	7484
226.10	1336	240.00	544	256.00	28704	278.00	1305
227.00	17752	241.00	1114	257.00	2396	281.00	508
228.00	2529	242.00	2324	258.00	10380	283.00	1117
229.00	3779	243.10	2621	259.00	1668	284.00	686
230.00	630	244.00	38080	265.00	4496	285.00	1401
231.00	1725	245.00	5100	266.00	904	293.00	1881

FEB 28 2012

Scan 637 (7.830 min): 0227F001.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
294.10	541	323.00	10846	352.00	3693	390.00	1032
295.00	741	324.00	1977	353.00	2709	391.00	808
296.00	26952	327.00	1953	354.00	3946	392.00	618
297.00	3718	328.00	1026	355.00	918	401.00	597
302.00	516	332.00	959	365.00	15613	402.00	3387
303.00	3464	333.00	929	366.00	2124	403.00	5204
304.00	1046	334.00	7320	371.00	1136	404.00	1851
314.00	1651	335.00	2103	372.00	7205	421.00	4935
315.00	3158	341.00	1385	373.00	1789	422.00	4911
316.00	2020	342.00	567	383.00	2215	423.00	37232
321.00	967	346.00	2593	383.90	684	424.00	8047

Scan 637 (7.830 min): 0227F001.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

FEB 2 8 2012

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
425.00	763						
441.10	102280						
442.10	716416						
443.00	140160						
444.00	13277						
445.00	762						

FEB 2 8 2012

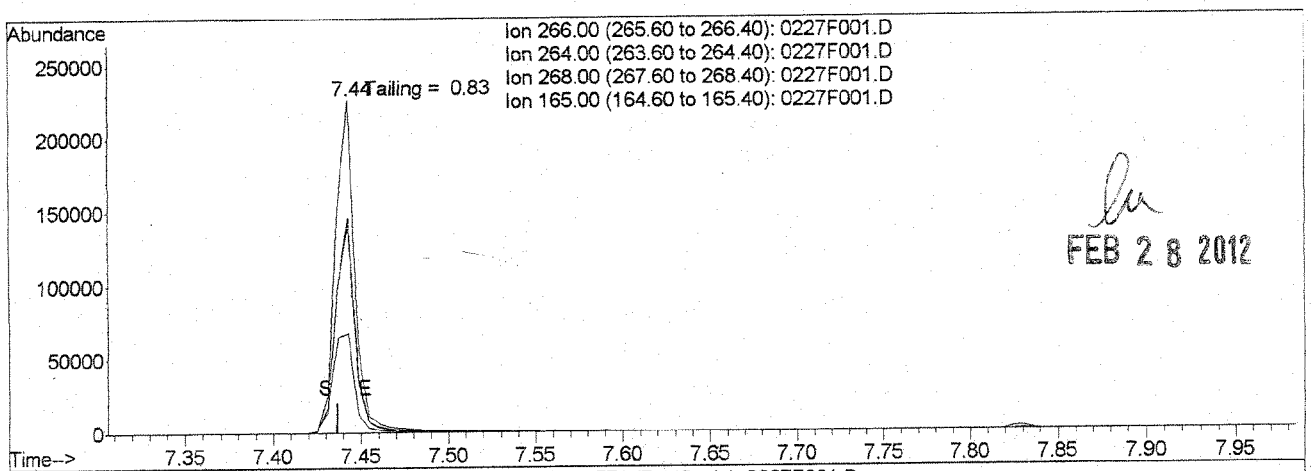
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F001.D
Acq On : 27 Feb 2012 7:04 am
Sample : DFTPP @ 3.0ppm | SVM37-68B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:50 2012

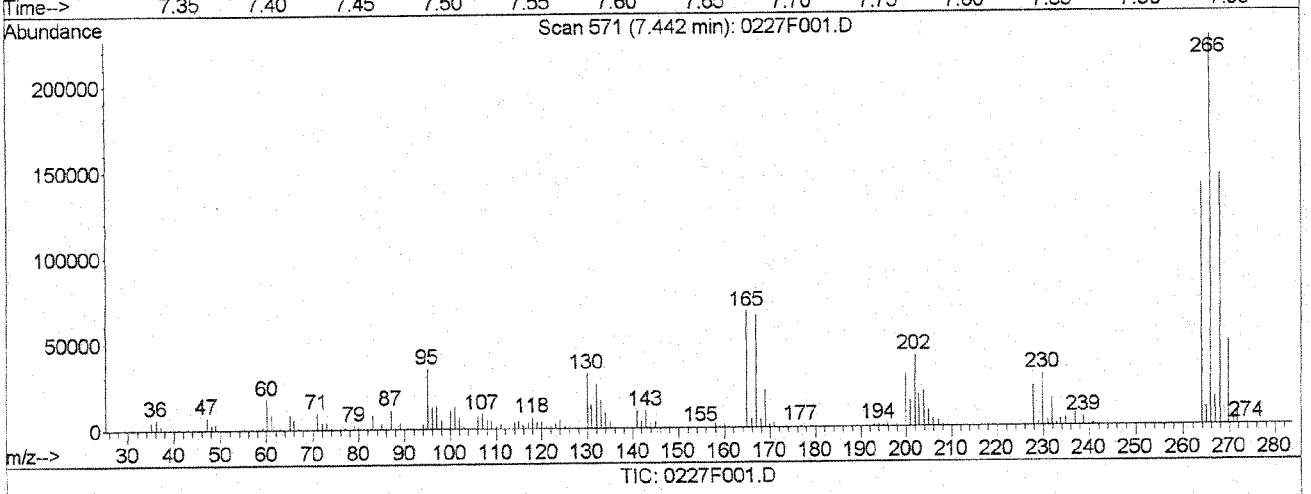
Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 12 13:33:42 2004
Response via : Single Level Calibration



FEB 28 2012



TIC: 0227F001.D

(1) Pentachlorophenol

6.94min 0.00ng/ml

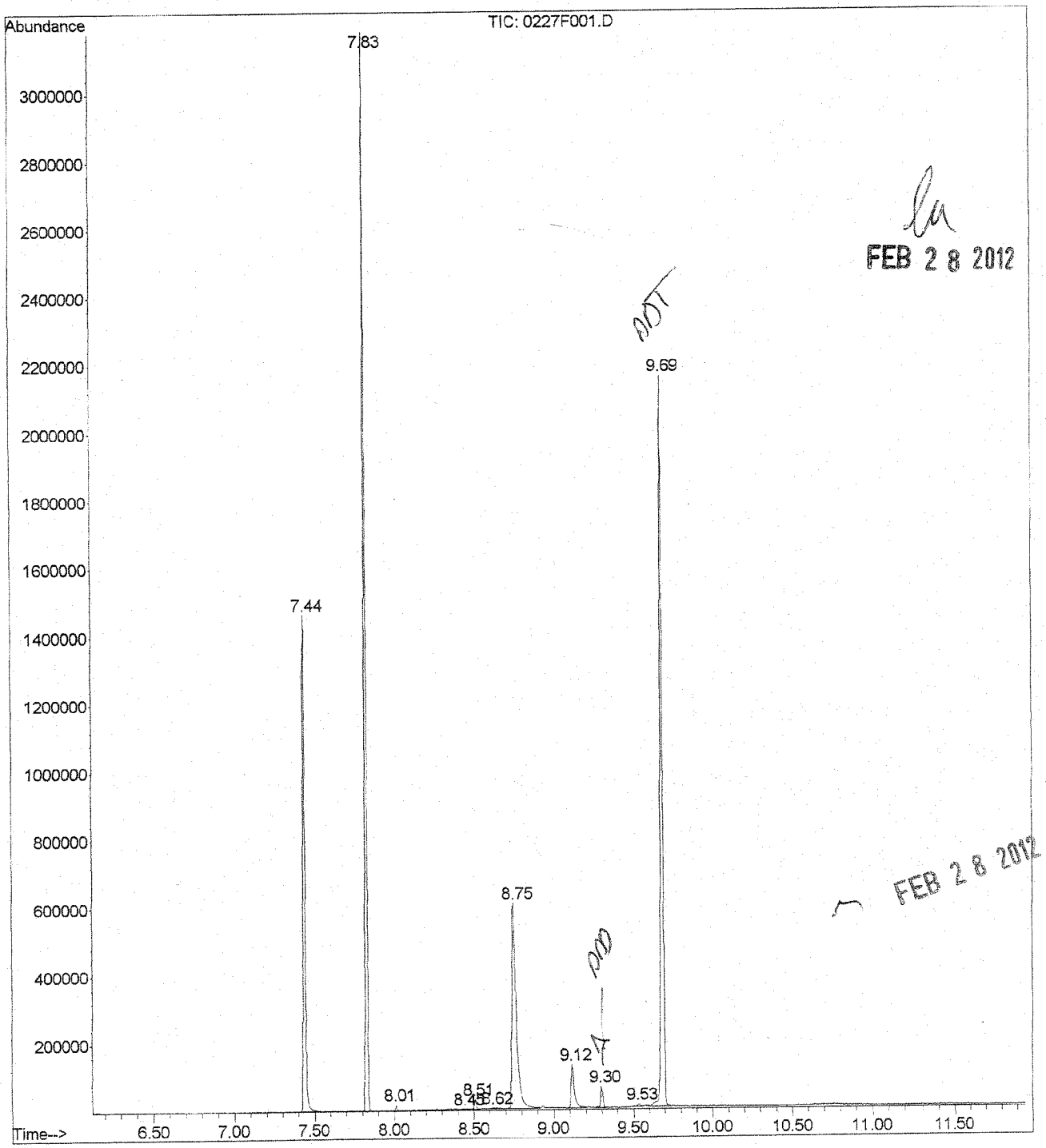
response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	64.50	0.00#
268.00	63.70	0.00#
165.00	28.70	0.00

FEB 28 2012

0227F001.D DFTPPPAH.M Tue Feb 28 06:51:10 2012

File : J:\MS11\DATA\022712\0227F001.D
Operator : LWeiskopf
Acquired : 27 Feb 2012 7:04 am using AcqMethod SIMLOC
Instrument : MS11
Sample Name: DFTPP @ 3.0ppm | SVM37-68B
Misc Info :
Vial Number: 1



FEB 28 2012

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1	7.443	rBV	0.147	1235985	7.407	7.554
2	7.830	rBV	0.071	2221812	7.801	7.871
3	8.012	rBV	0.041	9161	7.995	8.036
4	8.447	rBV	0.059	5537	8.418	8.477
5	8.506	rVB	0.047	23725	8.488	8.535
6	8.623	rBV	0.053	5161	8.594	8.647
7	8.753	rBV	0.206	1160713	8.712	8.917
8	9.117	rBV	0.118	174615	9.088	9.205
9	9.299	rBV	0.071	ooo 60433	9.258	9.329
10	9.534	rBV	0.047	10003	9.511	9.558
11	9.687	rVB	0.147	ooT 2365699	9.593	9.740

ooT breakdown
= 2.5%

FEB 2 8 2012

FEB 2 8 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F002.D
Acq On : 27 Feb 2012 7:30 am
Sample : IB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 07:51:04 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

LW
FEB 28 2012

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.97	136	105537	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.38	164	59860	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.61	188	113200	200.00	ng/ml	0.00
37) Chrysene-d12	10.40	240	135023	200.00	ng/ml	-0.01
49) Perylene-d12	14.10	264	125076	200.00	ng/ml	-0.06
System Monitoring Compounds						
15) Fluorene-d10	6.80	176	66	0.19	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.02%	
20) 2,4,6 Tribromophenol	0.00	330	0d	0.00	ng/ml	
Spiked Amount 1000.000			Recovery	=	0.00%	
36) Fluoranthene-d10	0.00	212	0d	0.00	ng/ml	
Spiked Amount 1000.000			Recovery	=	0.00%	
42) Terphenyl-d14	8.99	244	356m	0.58	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.06%	

Target Compounds						Qvalue
2) Naphthalene	4.98	128	78	0.12	ng/ml	85
3) 2-Methylnaphthalene	5.54	142	55	0.13	ng/ml	93
4) 1-Methylnaphthalene	5.62	142	23	0.06	ng/ml	90
5) Biphenyl	5.91	154	52	0.10	ng/ml	93
11) Acenaphthylene	6.27	152	89	0.14	ng/ml	94
12) Acenaphthene	6.40	154	56	0.15	ng/ml	97
13) Dibenzofuran	6.55	168	81m	0.14	ng/ml	
16) Fluorene	6.82	166	68m	0.15	ng/ml	
27) Phenanthrene	7.63	178	163m	0.24	ng/ml	
28) Anthracene	7.67	178	121	0.18	ng/ml	99
29) Carbazole	7.80	167	85m	0.14	ng/ml	
35) Fluoranthene	8.61	202	171	0.23	ng/ml	99
38) Pyrene	8.83	202	180m	0.22	ng/ml	
43) Benz(a)anthracene	10.40	228	500	0.68	ng/ml	61
44) Chrysene	10.44	228	199	0.28	ng/ml	95
50) Benzo(b)fluoranthene	12.86	252	212	0.30	ng/ml	90
51) Benzo(k)fluoranthene	12.94	252	170m	0.24	ng/ml	
53) Benzo(a)pyrene	13.89	252	116m	0.19	ng/ml	
55) Indeno(1,2,3-cd)pyrene	17.12	276	138m	0.23	ng/ml	
56) Dibenz(a,h)anthracene	17.20	278	200	0.32	ng/ml	80
57) Benzo(g,h,i)perylene	17.54	276	197m	0.27	ng/ml	

< 1/2 MDL

FEB 28 2012

(#) = qualifier out of range (m) = manual integration
0227F002.D 0227ALK.M Tue Feb 28 06:50:31 2012

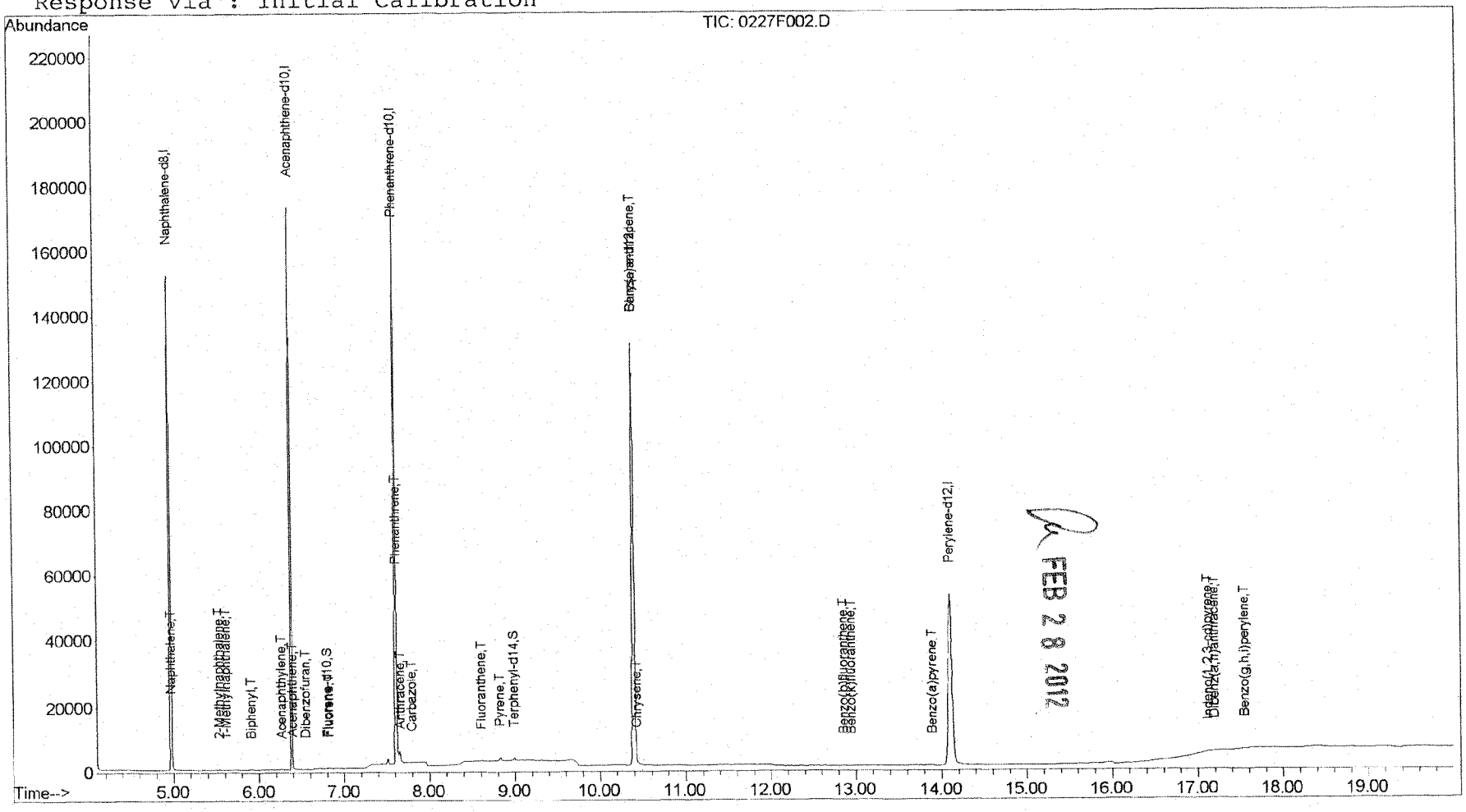
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F002.D
Acq On : 27 Feb 2012 7:30 am
Sample : IB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:50 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

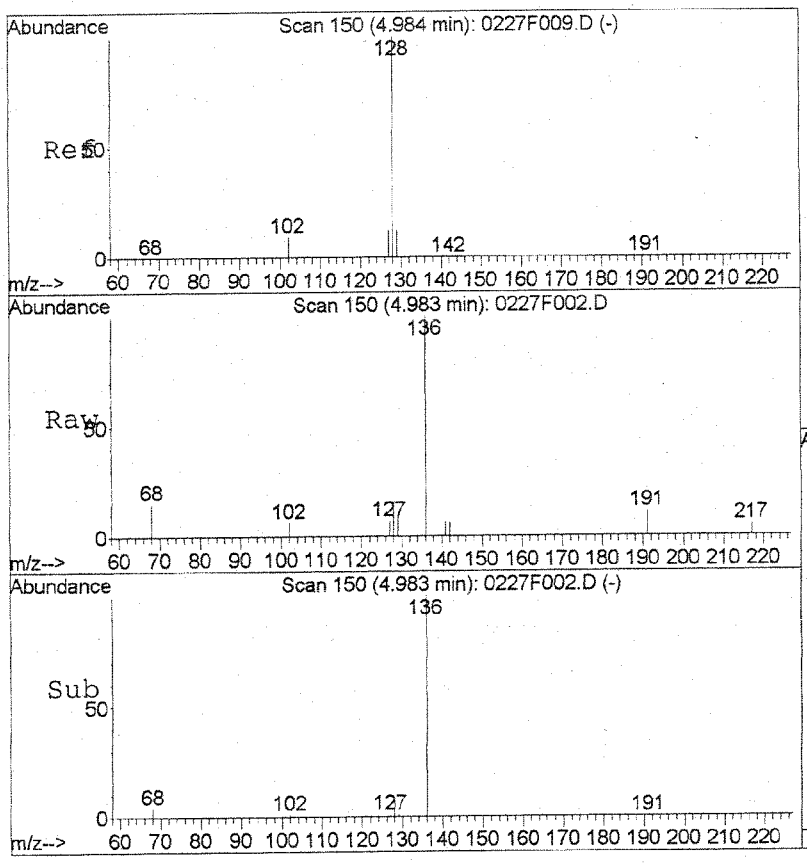
Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Feb 28 06:29:18 2012
Response via : Initial Calibration



FEB 28 2012

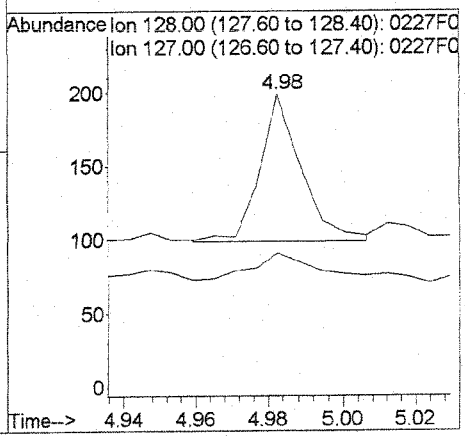
FEB 28 2012

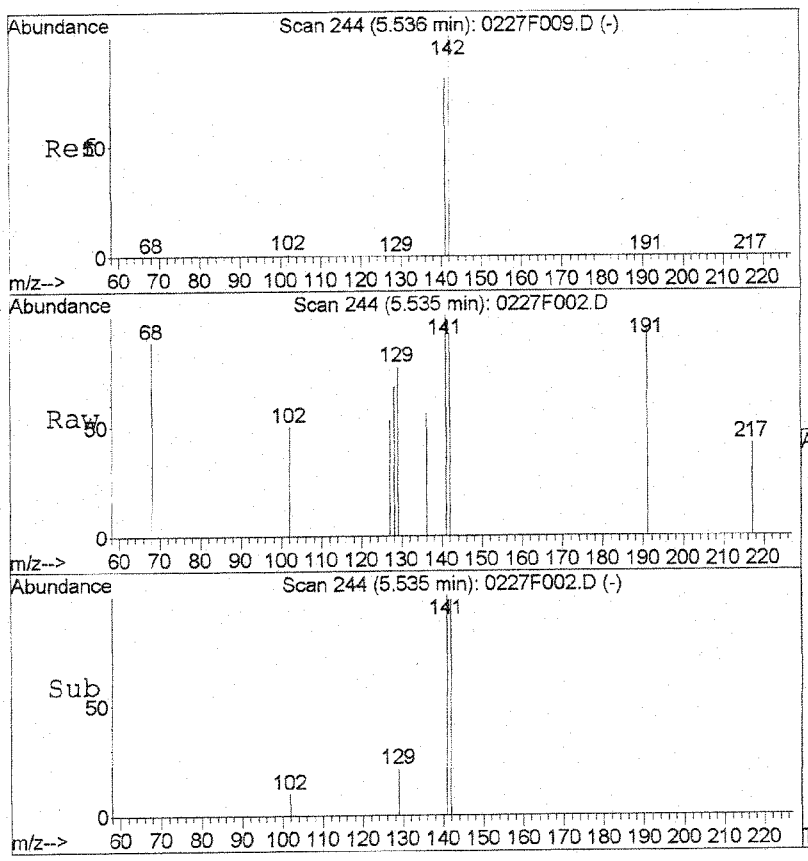


#2
Naphthalene
Concen: 0.12 ng/ml
RT: 4.98 min Scan# 150
Delta R.T. -0.00 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:128 Resp: 78

Ion	Ratio	Lower	Upper
128	100		
127	18.2	0.0	42.3

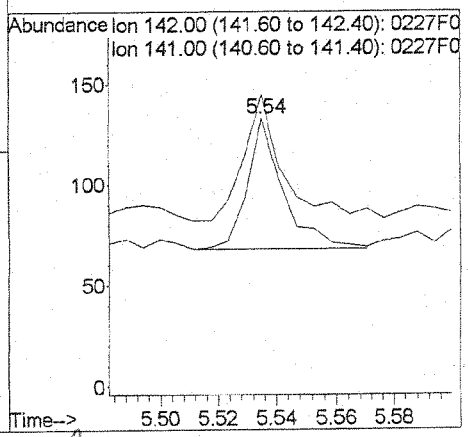




#3
2-Methylnaphthalene
Concen: 0.13 ng/ml
RT: 5.54 min Scan# 244
Delta R.T. -0.00 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

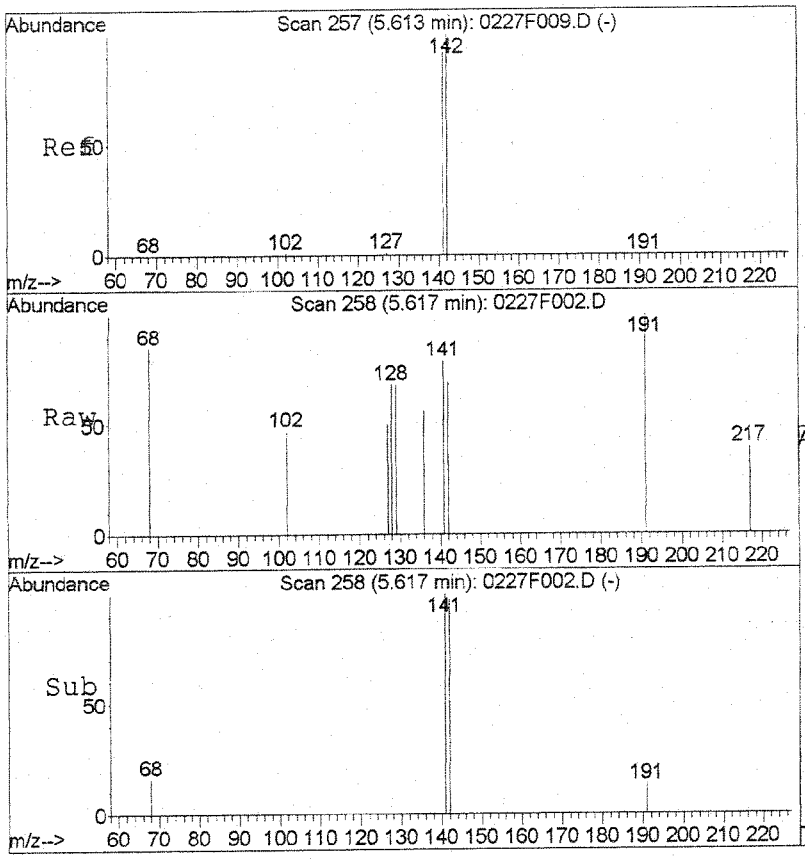
Tgt Ion:142 Resp: 55

Ion	Ratio	Lower	Upper
142	100		
141	96.9	60.1	120.1



FEB 28 2012

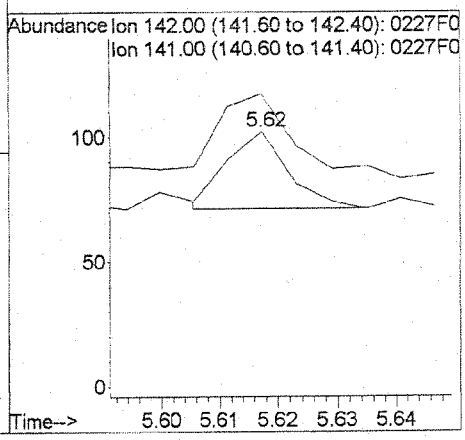
FEB 28 2012

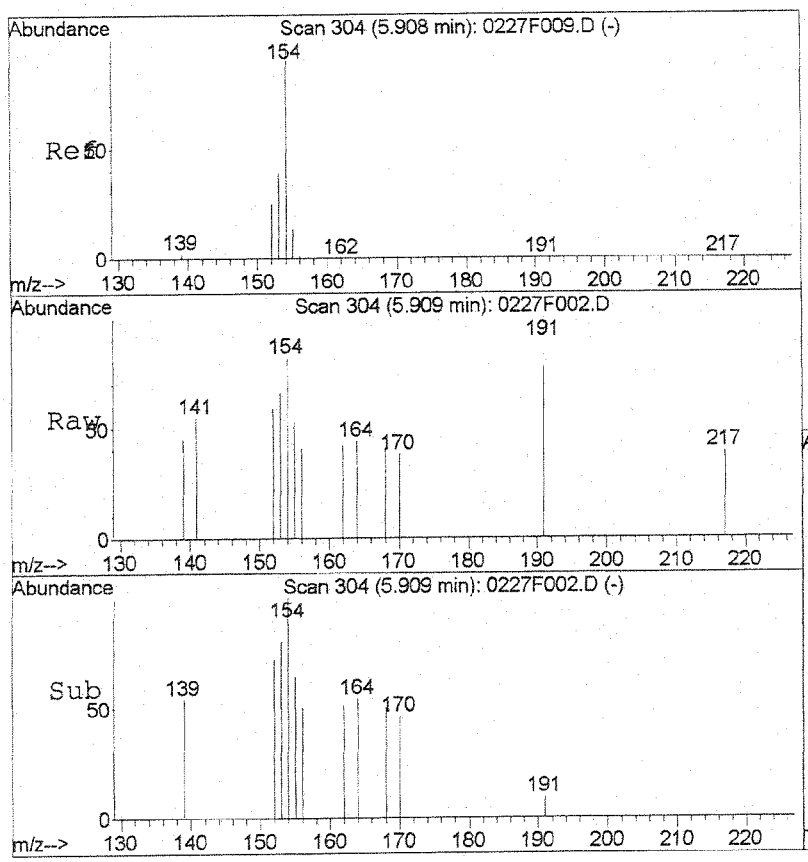


#4
1-Methylnaphthalene
Concen: 0.06 ng/ml
RT: 5.62 min Scan# 258
Delta R.T. -0.00 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:142 Resp: 23

Ion	Ratio	Lower	Upper
142	100		
141	93.5	54.5	114.5

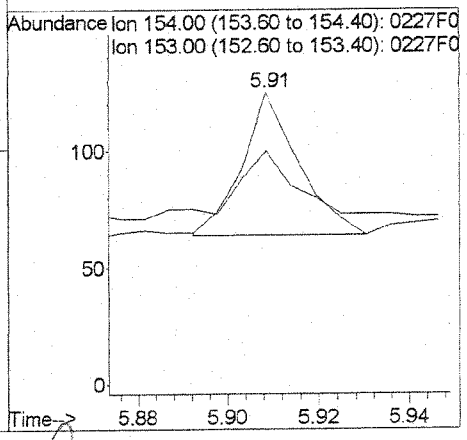




#5
Biphenyl
Concen: 0.10 ng/ml
RT: 5.91 min Scan# 304
Delta R.T. -0.00 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

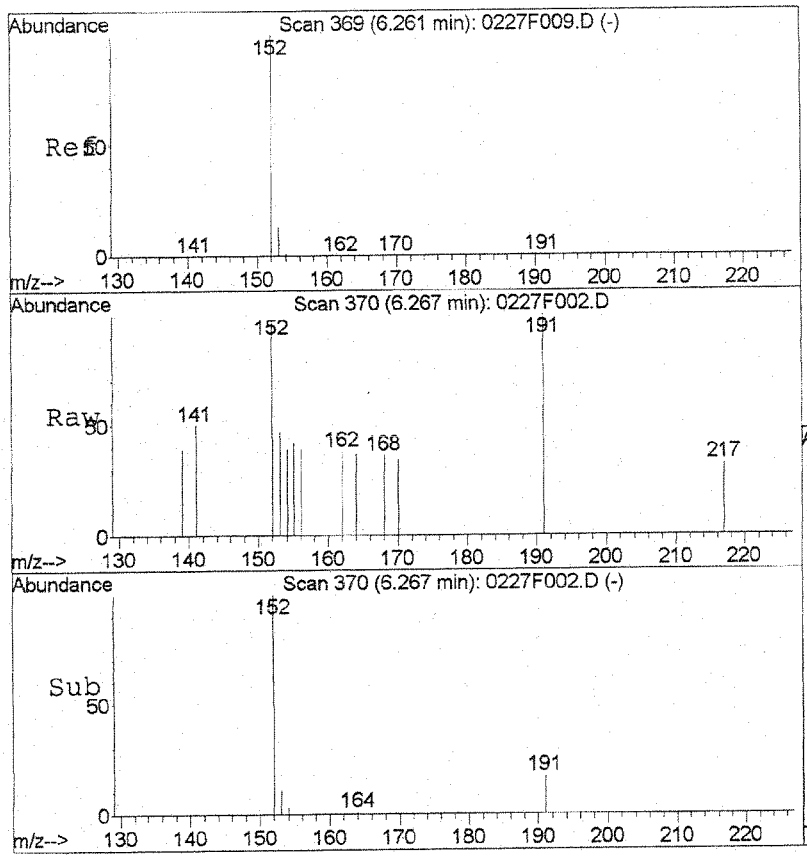
Tgt Ion:154 Resp: 52

Ion	Ratio	Lower	Upper
154	100		
153	44.3	9.8	69.8



FEB 28 2012

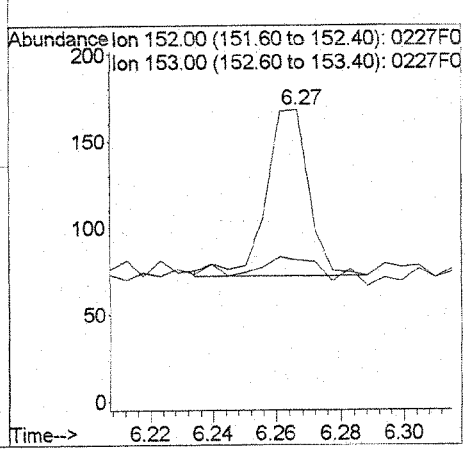
FEB 28 2012

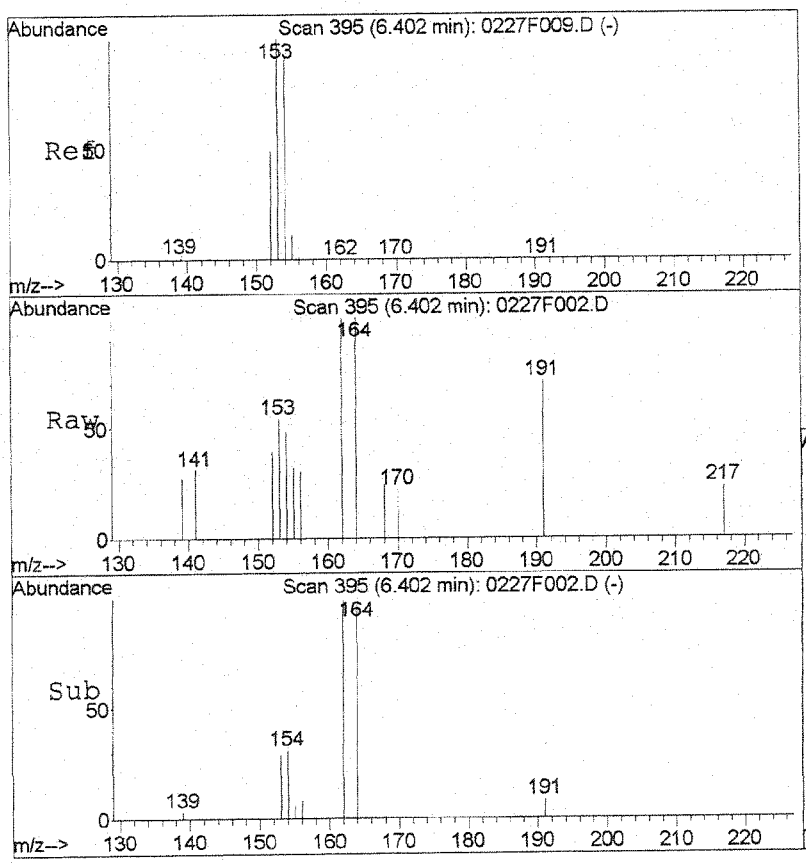


#11
Acenaphthylene
Concen: 0.14 ng/ml
RT: 6.27 min Scan# 370
Delta R.T. -0.00 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:152 Resp: 89

Ion	Ratio	Lower	Upper
152	100		
153	15.6	0.0	43.1

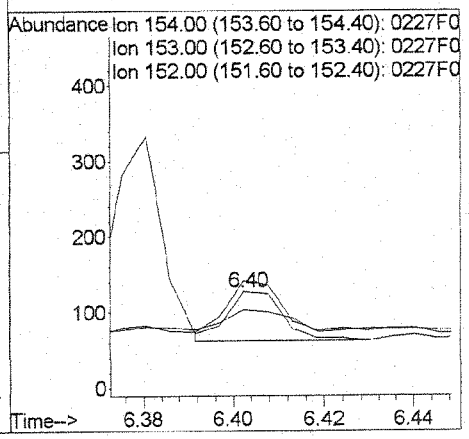




#12
Acenaphthene
Concen: 0.15 ng/ml
RT: 6.40 min Scan# 395
Delta R.T. -0.01 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

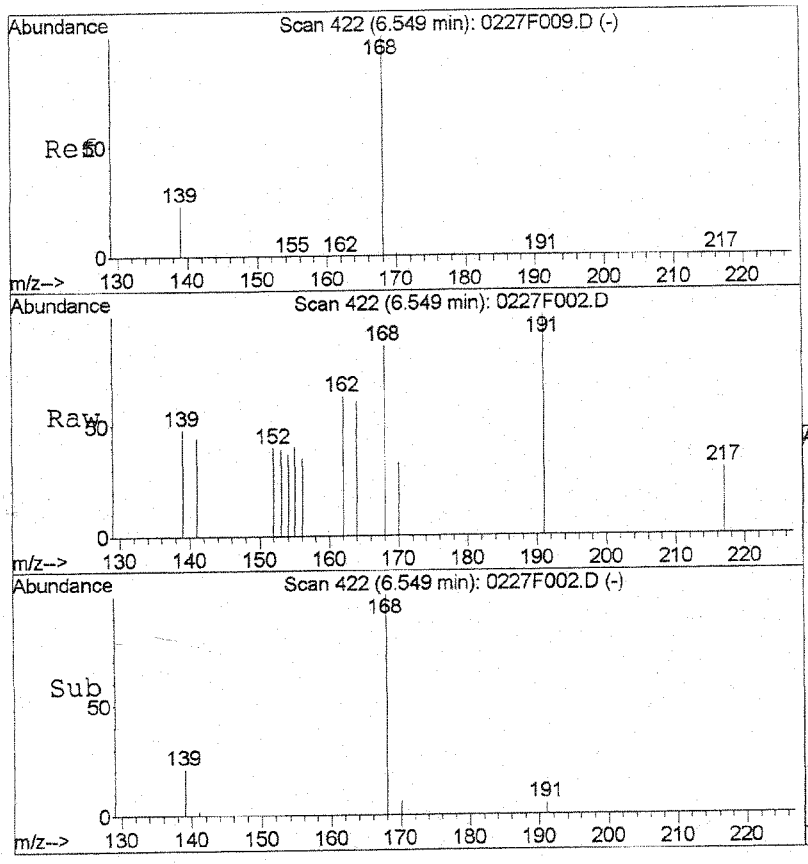
Tgt Ion:154 Resp: 56

Ion	Ratio	Lower	Upper
154	100		
153	103.1	72.3	132.3
152	40.0	15.7	75.7



FEB 28 2012

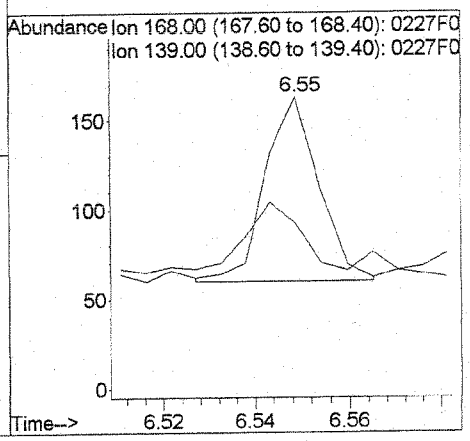
FEB 28 2012

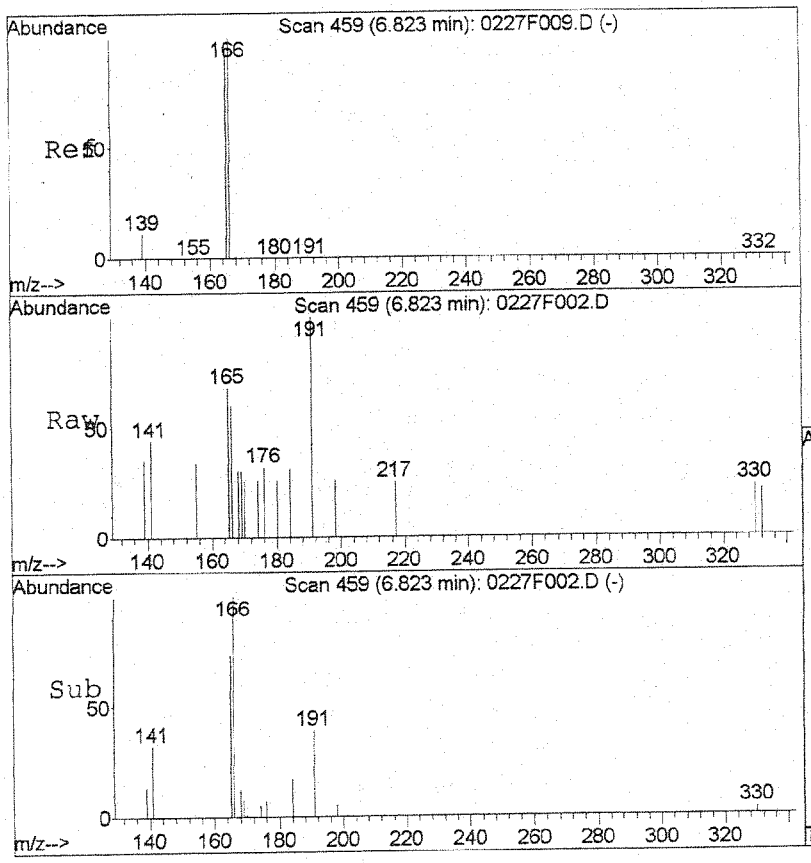


#13
Dibenzofuran
Concen: 0.14 ng/ml m
RT: 6.55 min Scan# 422
Delta R.T. -0.01 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:168 Resp: 81

Ion	Ratio	Lower	Upper
168	100		
139	56.4	0.0	59.6

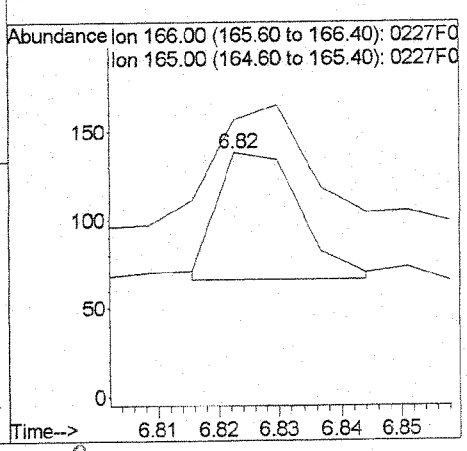




#16
Fluorene
Concen: 0.15 ng/ml m
RT: 6.82 min Scan# 459
Delta R.T. -0.01 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:166 Resp: 68

Ion	Ratio	Lower	Upper
166	100		
165	113.8	65.3	125.3



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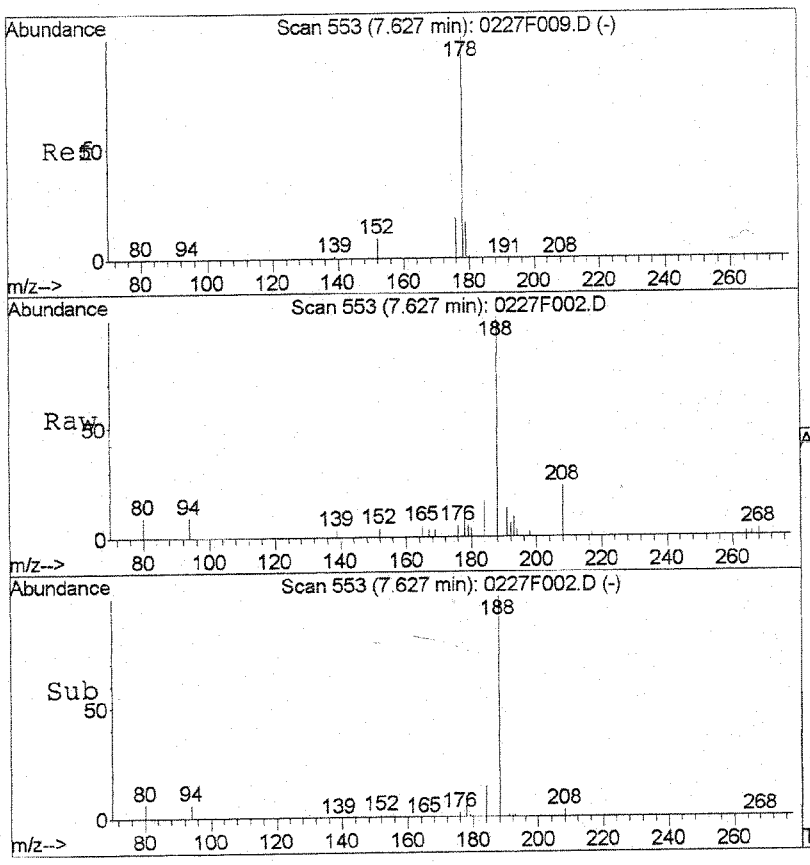
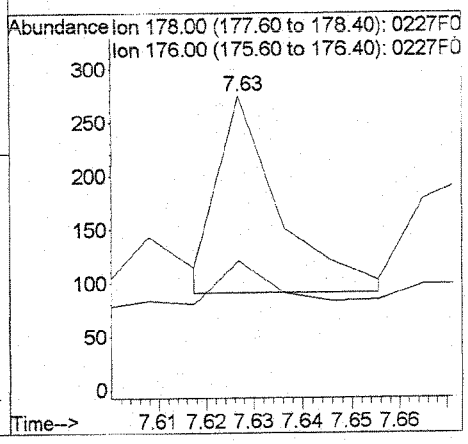
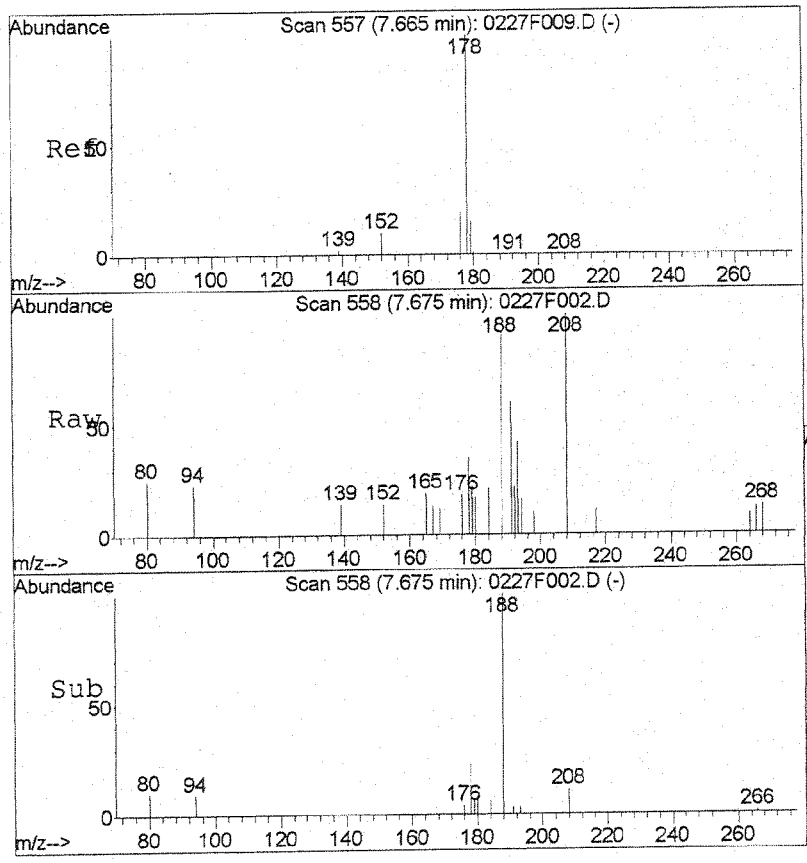


#27
Phenanthrene
Concen: 0.24 ng/ml m
RT: 7.63 min Scan# 553
Delta R.T. 0.00 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:178 Resp: 163

Ion	Ratio	Lower	Upper
178	100		
176	43.8	0.0	48.3

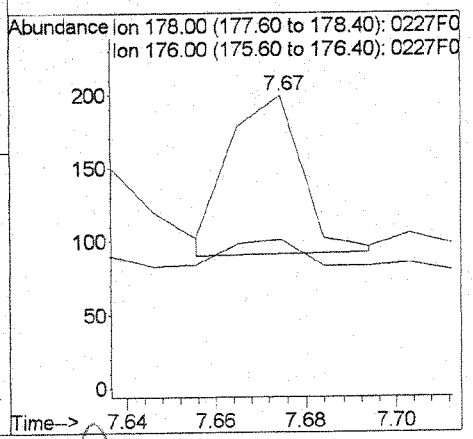




#28
Anthracene
Concen: 0.18 ng/ml
RT: 7.67 min Scan# 558
Delta R.T. 0.00 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:178 Resp: 121

Ion	Ratio	Lower	Upper
178	100		
176	17.5	0.0	48.1



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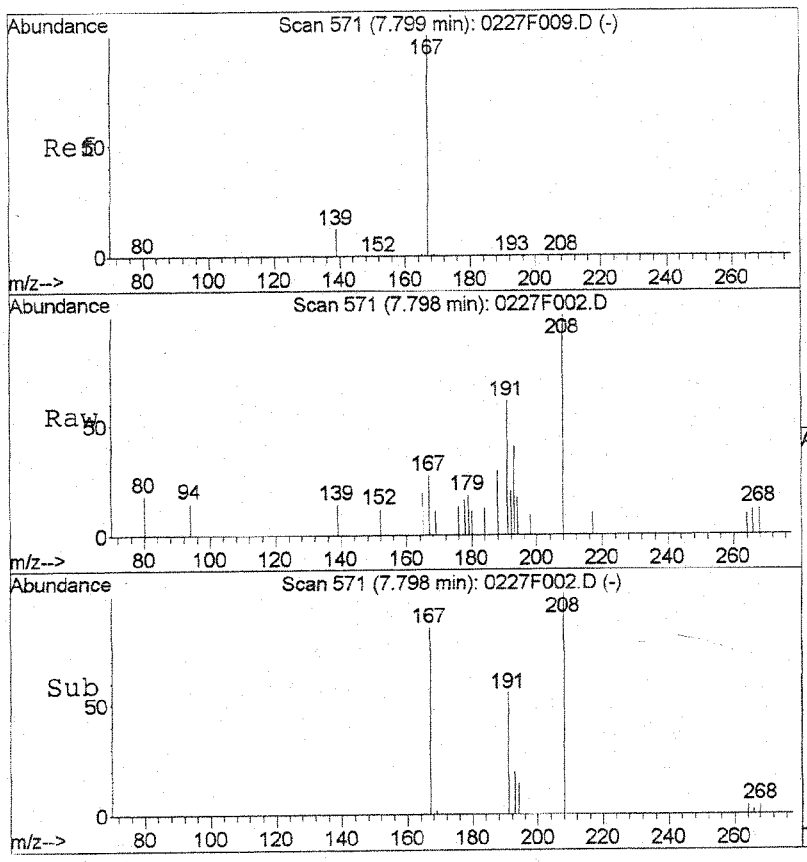
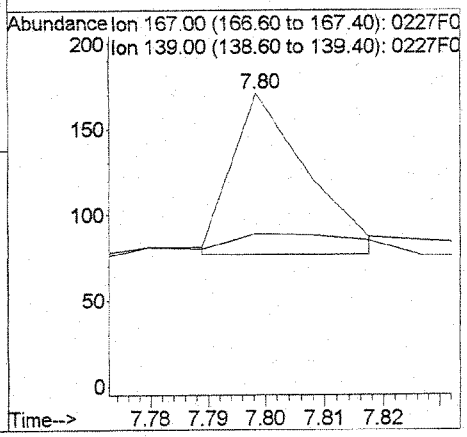
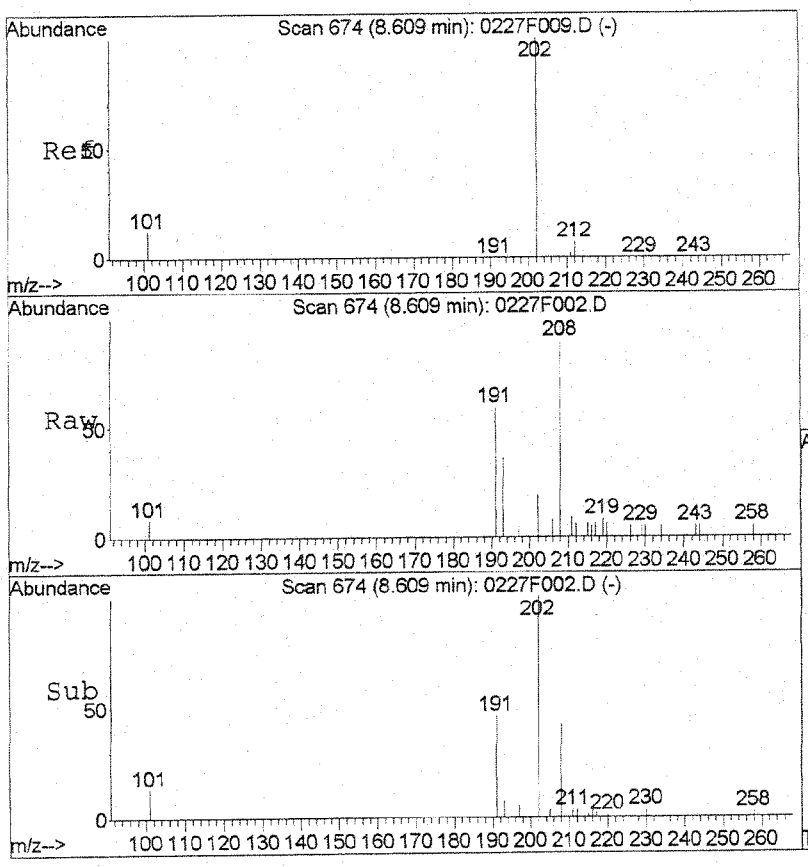


#29
Carbazole
Concen: 0.14 ng/ml m
RT: 7.80 min Scan# 571
Delta R.T. 0.00 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:167 Resp: 85

Ion	Ratio	Lower	Upper
167	100		
139	52.0	0.0	41.4#

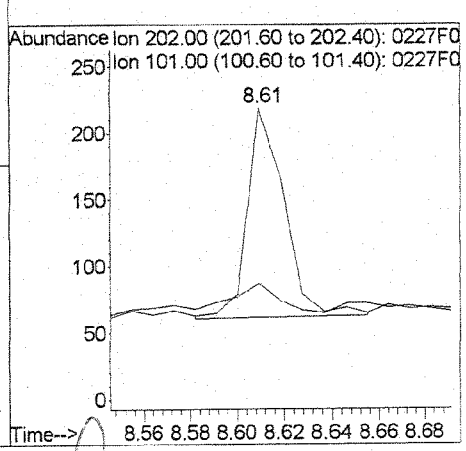




#35
Fluoranthene
Concen: 0.23 ng/ml
RT: 8.61 min Scan# 674
Delta R.T. -0.01 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:202 Resp: 171

Ion	Ratio	Lower	Upper
202	100		
101	12.2	0.0	41.7



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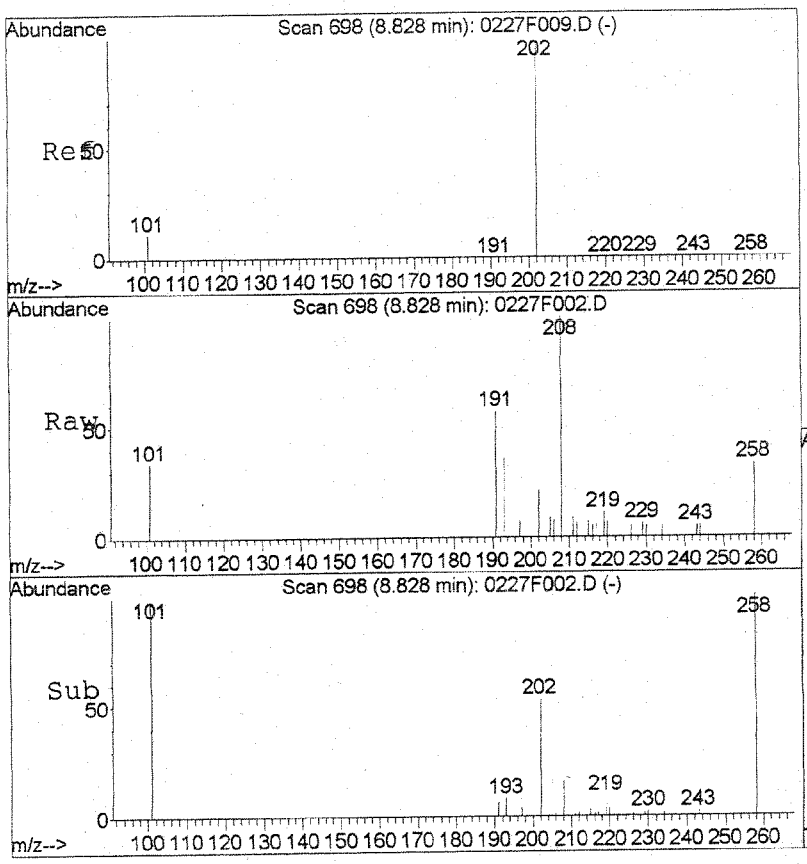
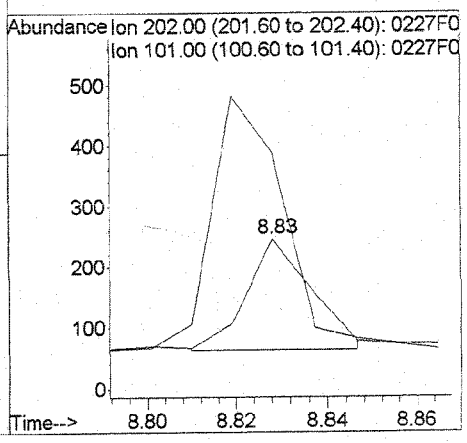
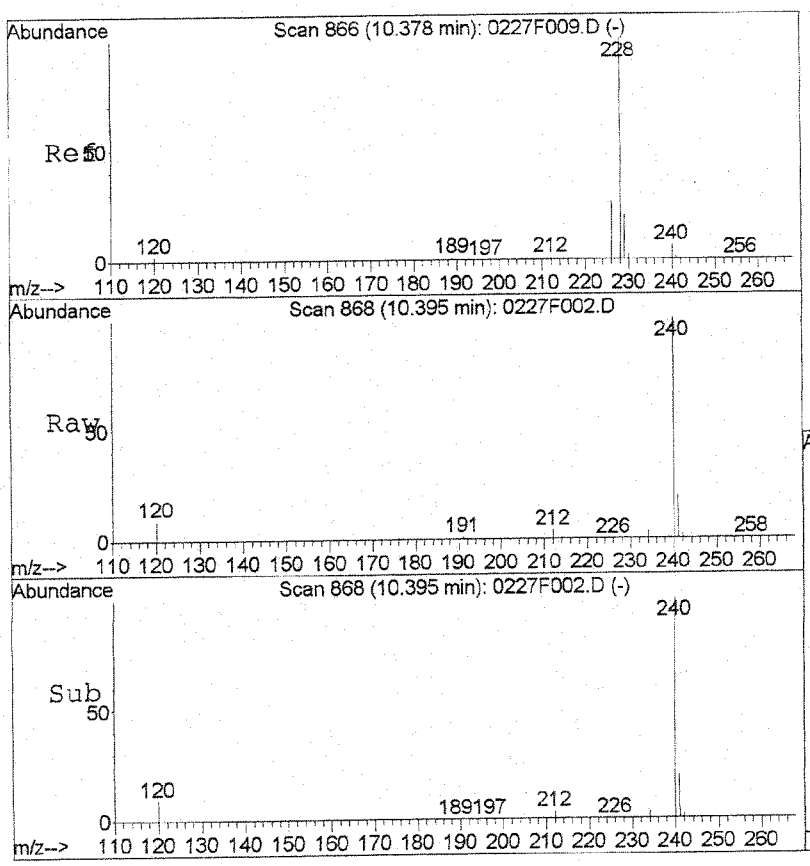


#38
Pyrene
Concen: 0.22 ng/ml m
RT: 8.83 min Scan# 698
Delta R.T. -0.00 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:202 Resp: 180

Ion	Ratio	Lower	Upper
202	100		
101	157.7	0.0	45.5#

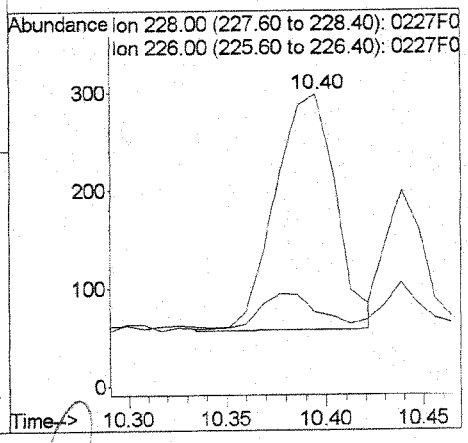




#43
Benz(a)anthracene
Concen: 0.68 ng/ml
RT: 10.40 min Scan# 868
Delta R.T. 0.00 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:228 Resp: 500

Ion	Ratio	Lower	Upper
228	100		
226	5.9	0.0	55.5



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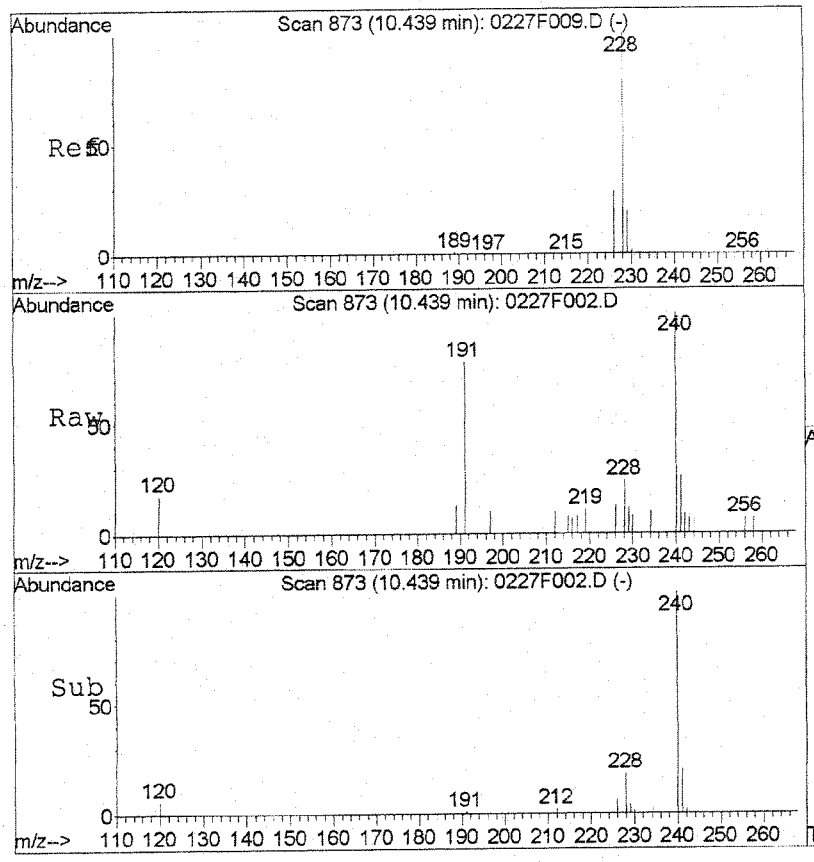
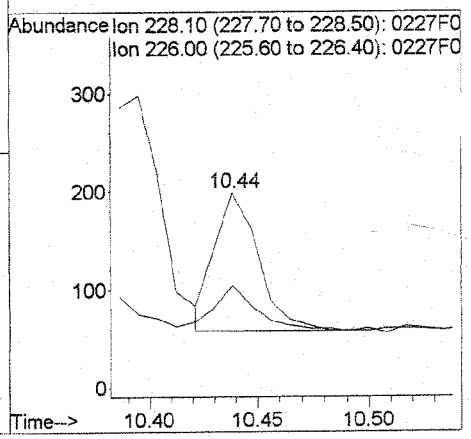
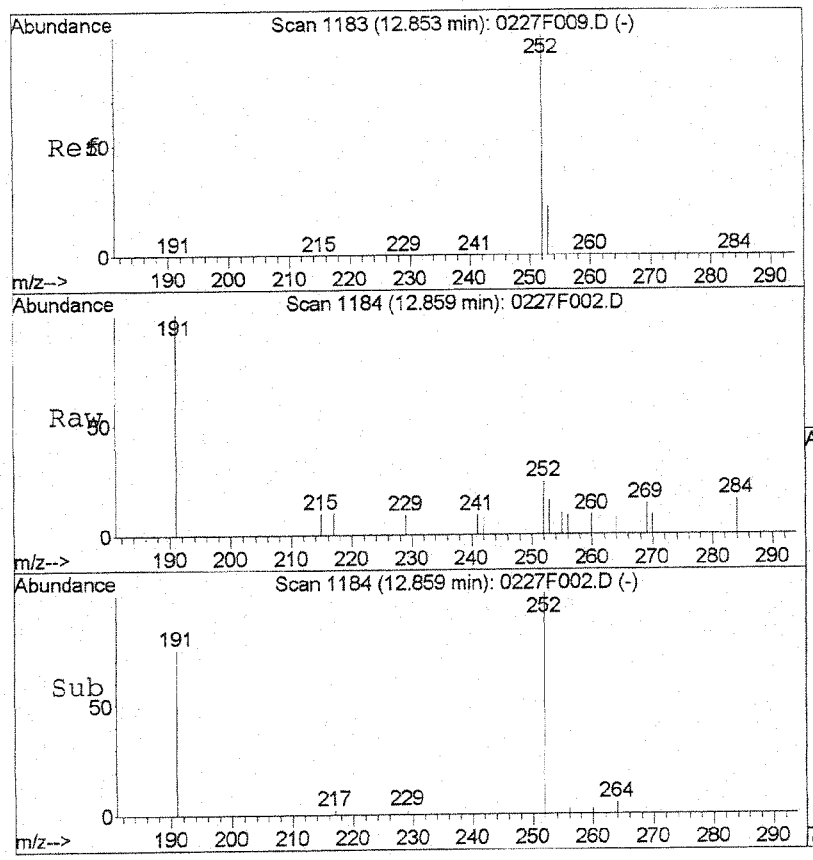


#44
Chrysene
Concen: 0.28 ng/ml
RT: 10.44 min Scan# 873
Delta R.T. -0.01 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:228 Resp: 199

Ion	Ratio	Lower	Upper
228	100		
226	31.2	0.0	58.4

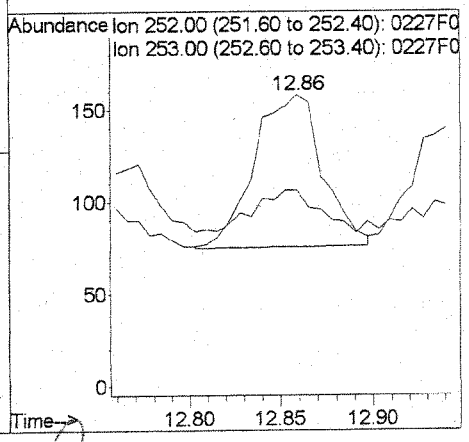




#50
Benzo(b)fluoranthene
Concen: 0.30 ng/ml
RT: 12.86 min Scan# 1184
Delta R.T. -0.05 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:252 Resp: 212

Ion	Ratio	Lower	Upper
252	100		
253	26.8	0.0	51.9



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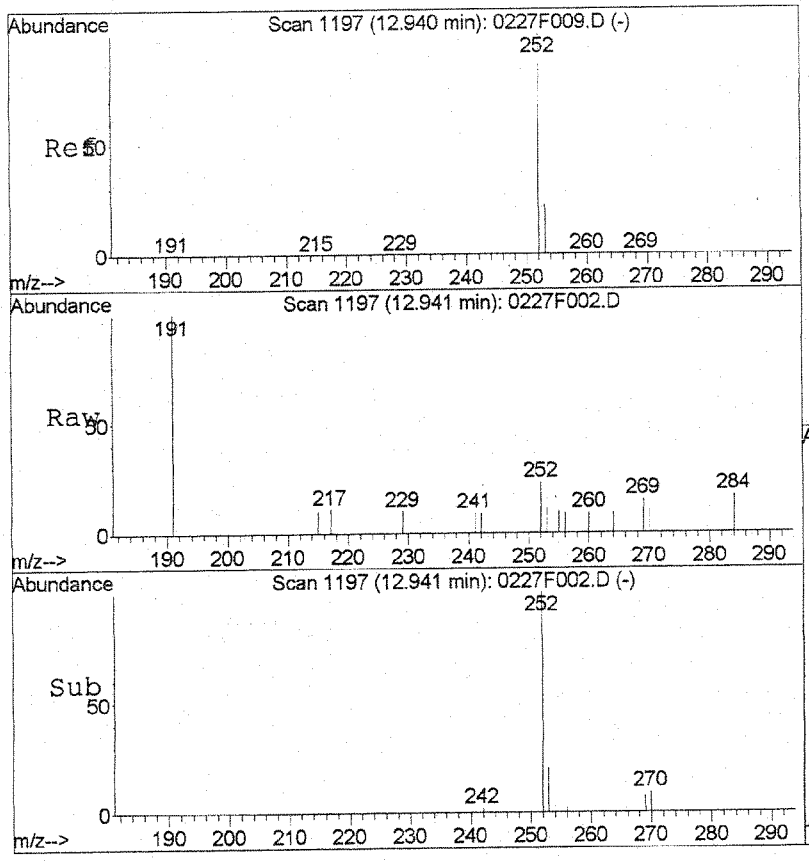
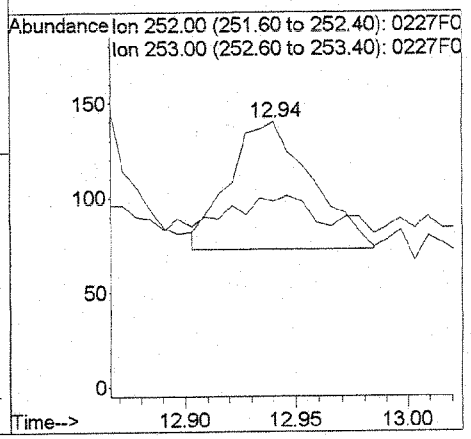
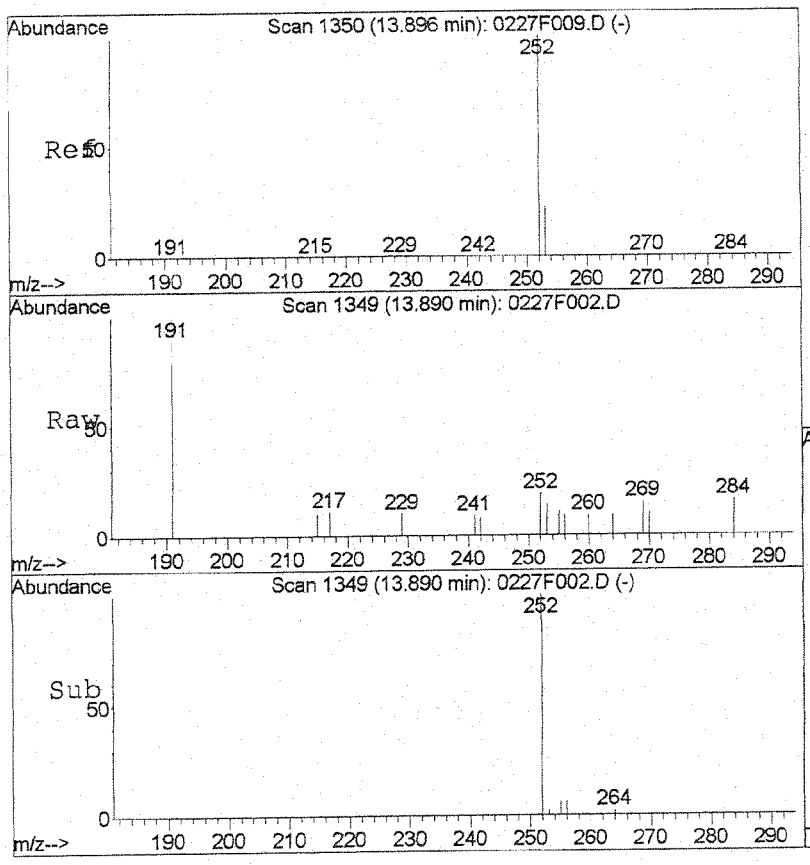


#51
Benzo(k)fluoranthene
Concen: 0.24 ng/ml m
RT: 12.94 min Scan# 1197
Delta R.T. -0.04 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:252 Resp: 170

Ion	Ratio	Lower	Upper
252	100		
253	70.0	0.0	52.0#

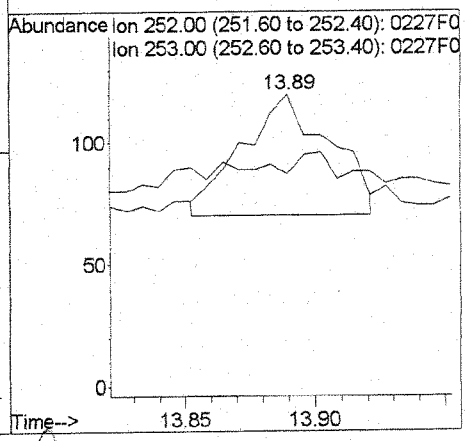




#53
Benzo(a)pyrene
Concen: 0.19 ng/ml m
RT: 13.89 min Scan# 1349
Delta R.T. -0.07 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:252 Resp: 116

Ion	Ratio	Lower	Upper
252	100		
253	72.5	0.0	51.6#



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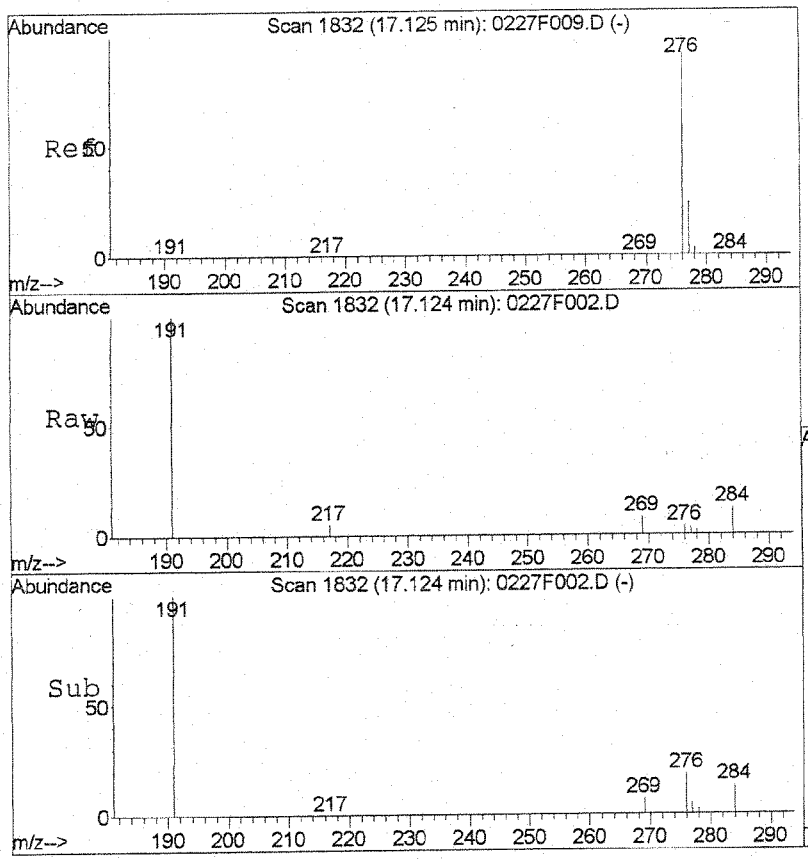
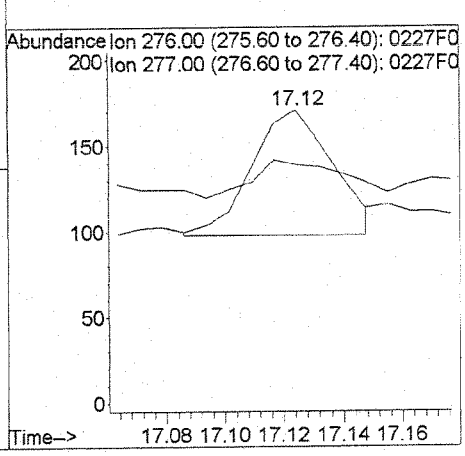
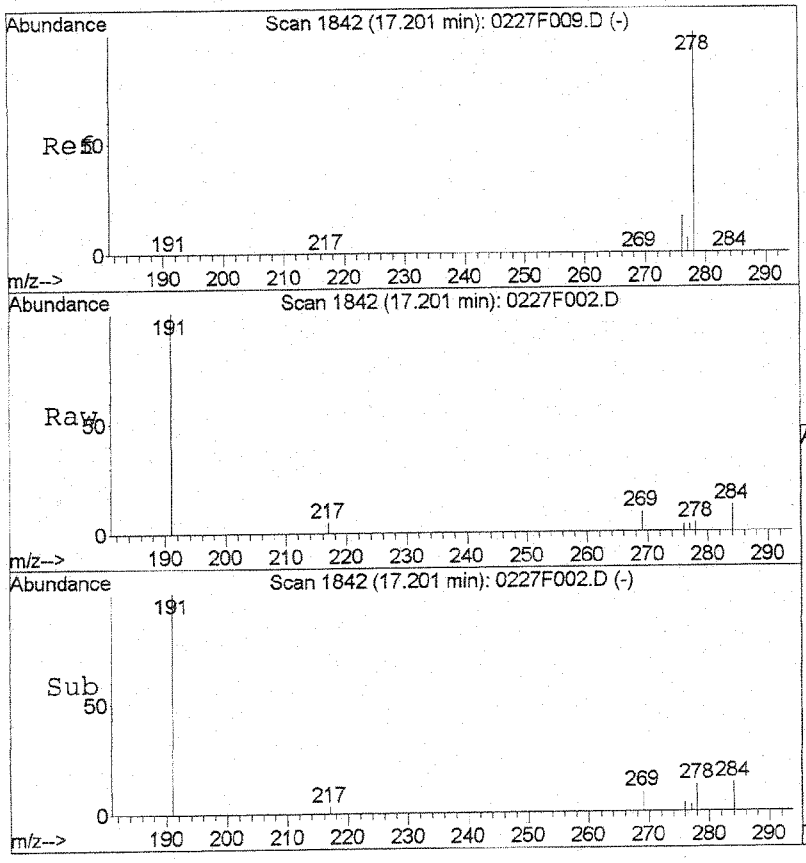


#55
Indeno(1,2,3-cd)pyrene
Concen: 0.23 ng/ml m
RT: 17.12 min Scan# 1832
Delta R.T. -0.05 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:276 Resp: 138

Ion	Ratio	Lower	Upper
276	100		
277	81.3	0.0	53.5#

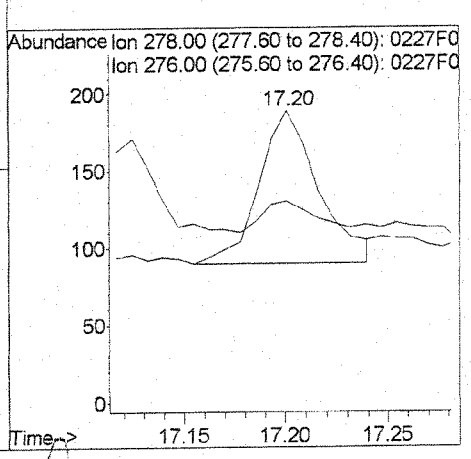




#56
Dibenz(a,h)anthracene
Concen: 0.32 ng/ml
RT: 17.20 min Scan# 1842
Delta R.T. -0.05 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:278 Resp: 200

Ion	Ratio	Lower	Upper
278	100		
276	15.2	0.0	55.1



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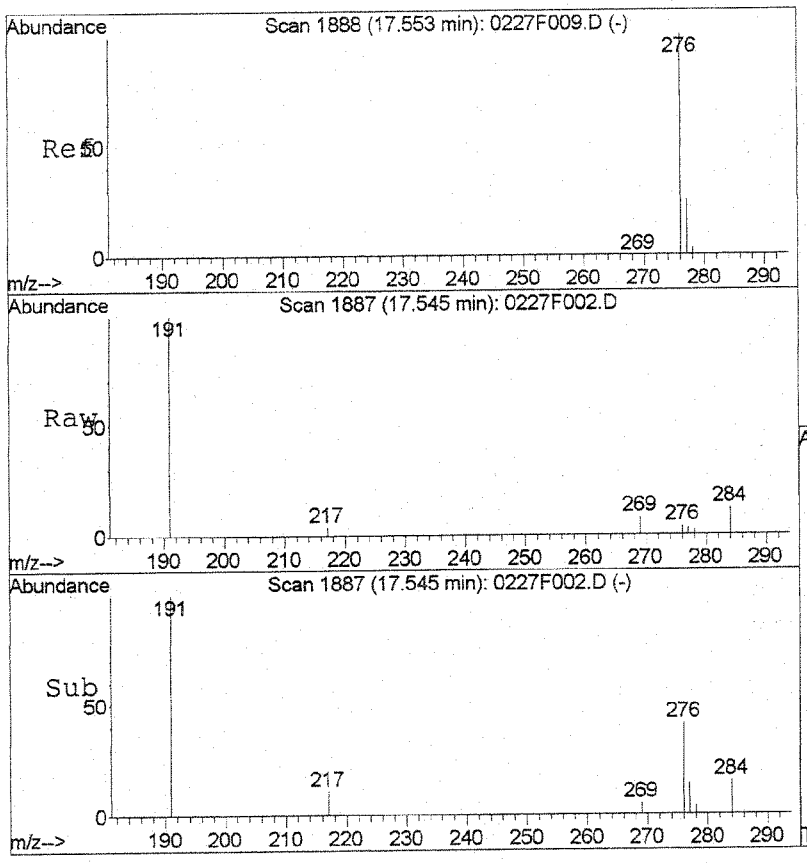
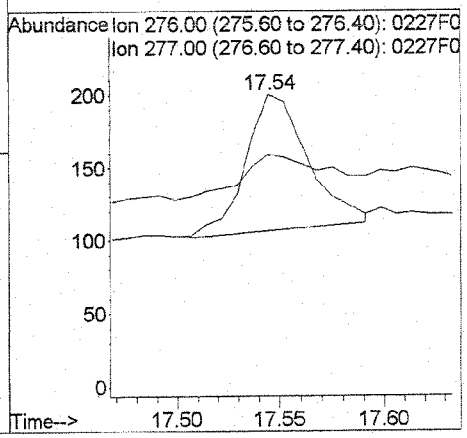


#57
Benzo(g,h,i)perylene
Concen: 0.27 ng/ml m
RT: 17.54 min Scan# 1887
Delta R.T. -0.07 min
Lab File: 0227F002.D
Acq: 27 Feb 2012 7:30 am

Tgt Ion:276 Resp: 197

Ion	Ratio	Lower	Upper
276	100		
277	79.5	0.0	53.6#



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Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:19:47 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

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Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.97	136	97445	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.38	164	54977	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.61	188	105467	200.00	ng/ml	0.00
37) Chrysene-d12	10.40	240	118039	200.00	ng/ml	-0.01
49) Perylene-d12	14.09	264	104559	200.00	ng/ml	-0.07
System Monitoring Compounds						
15) Fluorene-d10	6.80	176	785	2.48	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.25%	
20) 2,4,6 Tribromophenol	7.03	330	143	2.42	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.24%	
36) Fluoranthene-d10	8.59	212	1430m	2.20	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.22%	
42) Terphenyl-d14	8.99	244	1368	2.68	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.27%	
Target Compounds						Qvalue
2) Naphthalene	4.98	128	1289	2.35	ng/ml	100
3) 2-Methylnaphthalene	5.54	142	931	2.45	ng/ml	90
4) 1-Methylnaphthalene	5.61	142	792	2.36	ng/ml	95
5) Biphenyl	5.91	154	1099	2.41	ng/ml	98
6) 2,6-Dimethylnaphthalene	6.03	156	750	2.29	ng/ml	96
11) Acenaphthylene	6.26	152	1342m	2.49	ng/ml	
12) Acenaphthene	6.40	154	868	2.61	ng/ml	95
13) Dibenzofuran	6.55	168	1314	2.62	ng/ml	89
14) 2,3,5-Trimethylnaphthalene	6.72	170	740	2.33	ng/ml	87
16) Fluorene	6.82	166	1012m	2.49	ng/ml	
21) Pentachlorophenol	7.45	266	771	1.35	ng/ml	93
23) Dibenzothiophene	7.52	184	1364m	2.38	ng/ml	
27) Phenanthrene	7.63	178	1609m	2.53	ng/ml	
28) Anthracene	7.66	178	1409m	2.32	ng/ml	
29) Carbazole	7.80	167	1400	2.59	ng/ml	95
30) 1-Methylphenanthrene	8.12	192	1041	2.20	ng/ml	98
35) Fluoranthene	8.61	202	1639m	2.27	ng/ml	
38) Pyrene	8.83	202	1668m	2.33	ng/ml	
43) Benz(a)anthracene	10.38	228	1647	2.49	ng/ml	98
44) Chrysene	10.44	228	1463m	2.27	ng/ml	
50) Benzo(b)fluoranthene	12.85	252	1305	2.16	ng/ml	98
51) Benzo(k)fluoranthene	12.94	252	1187	2.02	ng/ml	97
52) Benzo(e)pyrene	13.71	252	1136	2.12	ng/ml	92
53) Benzo(a)pyrene	13.88	252	960	1.89	ng/ml	98
54) Perylene	14.18	252	995	1.87	ng/ml	96

(#) = qualifier out of range (m) = manual integration
0227F013.D 0227ALK.M Tue Feb 28 06:11:58 2012 Page 1

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Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:19:47 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

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Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55) Indeno(1,2,3-cd)pyrene	17.12	276	1162m	2.18 ng/ml	
56) Dibenz(a,h)anthracene	17.19	278	1101	2.02 ng/ml	96
57) Benzo(g,h,i)perylene	17.54	276	1633m	2.60 ng/ml	

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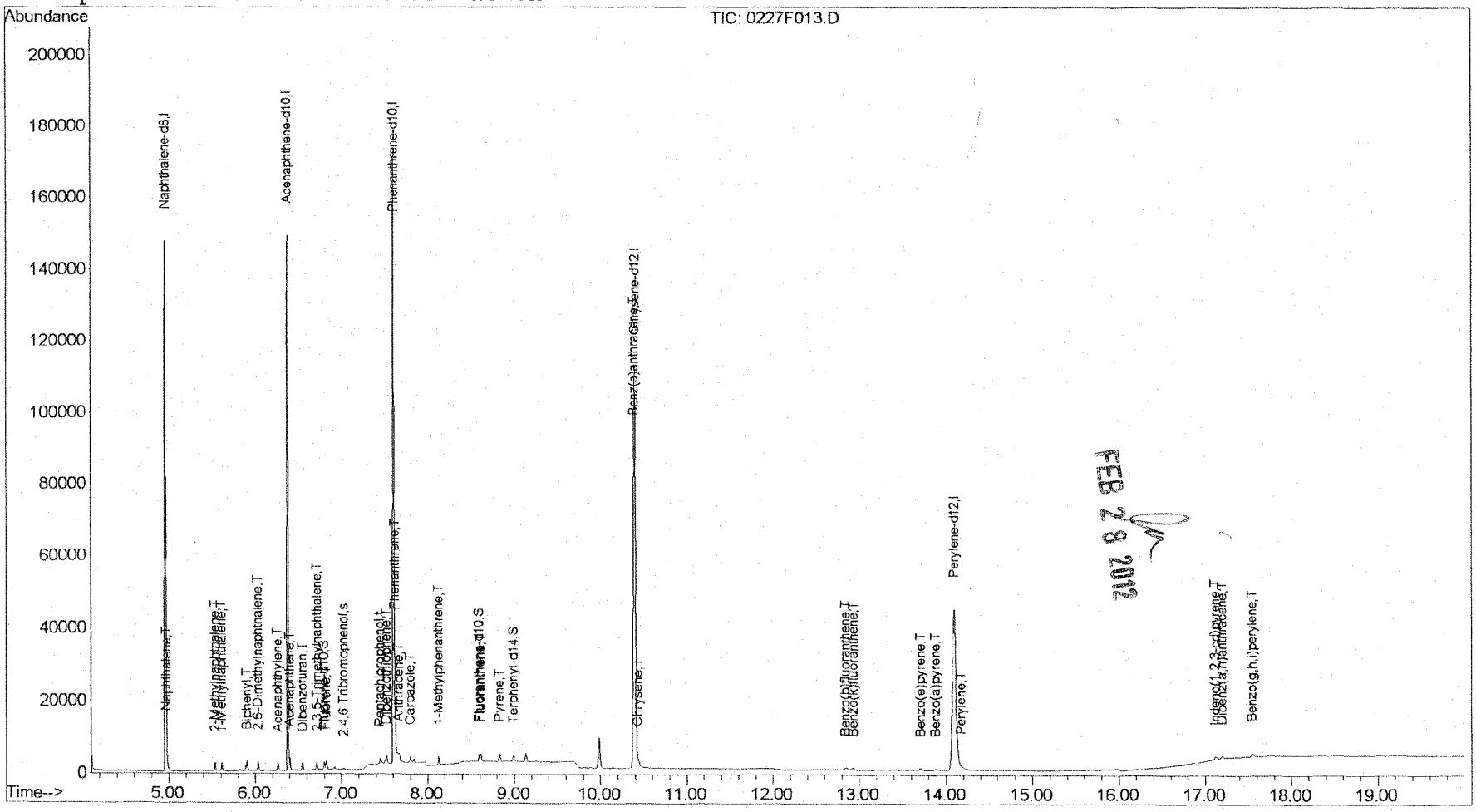
(#) = qualifier out of range (m) = manual integration
0227F013.D 0227ALK.M Tue Feb 28 06:11:58 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:11 2012 Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Initial Calibration



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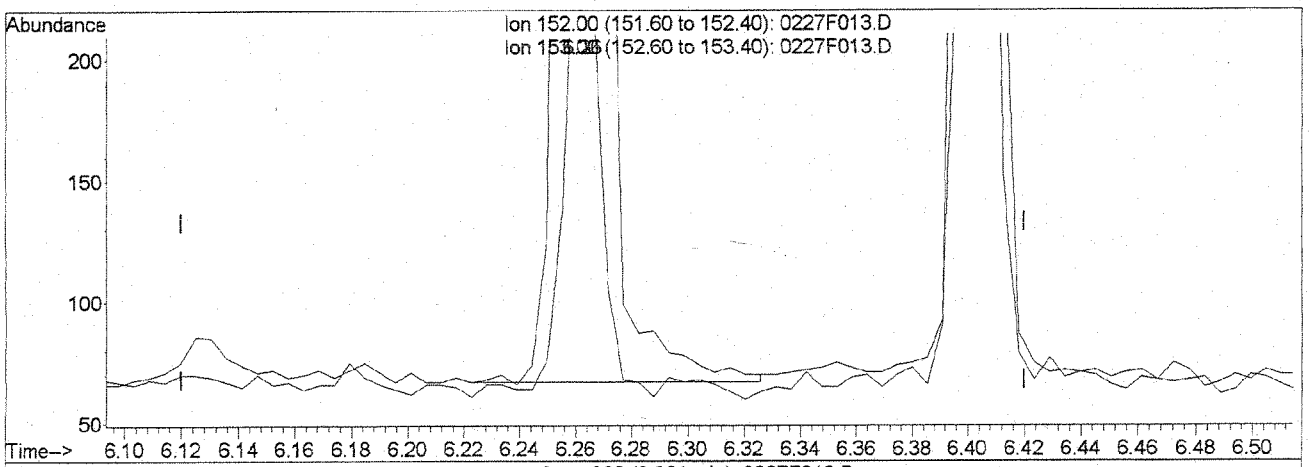
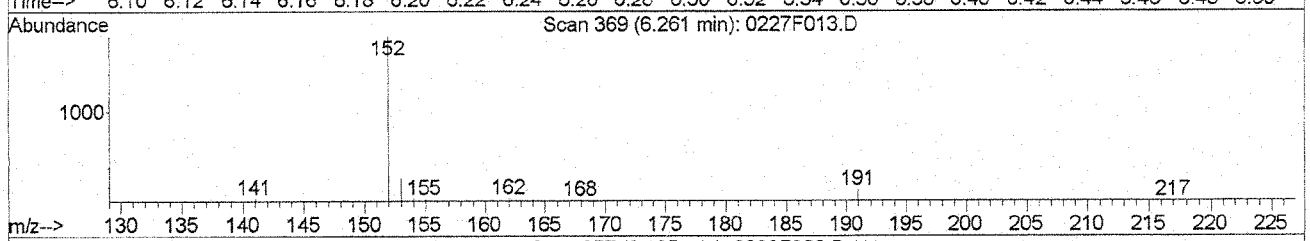
Quantitation Report (Qedit)

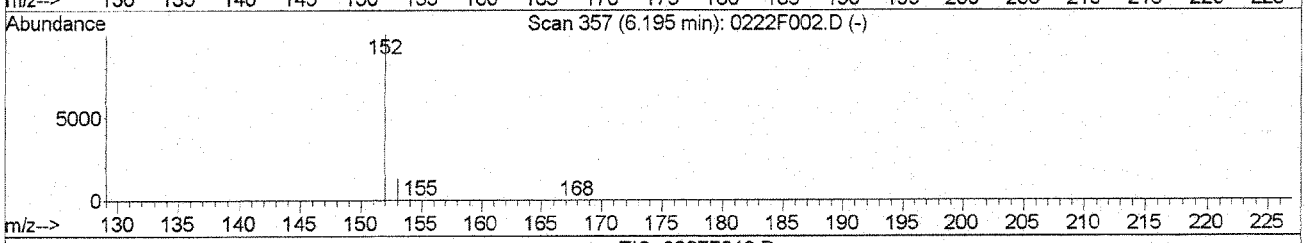
Data File : J:\MS11\DATA\022712\0227F013.D
Acq On : 27 Feb 2012 11:55 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:19 2012

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(11) Acenaphthylene (T)

6.26min 2.52ng/ml

response 1357

Ion	Exp%	Act%
152.00	100	100
153.00	13.10	13.33
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

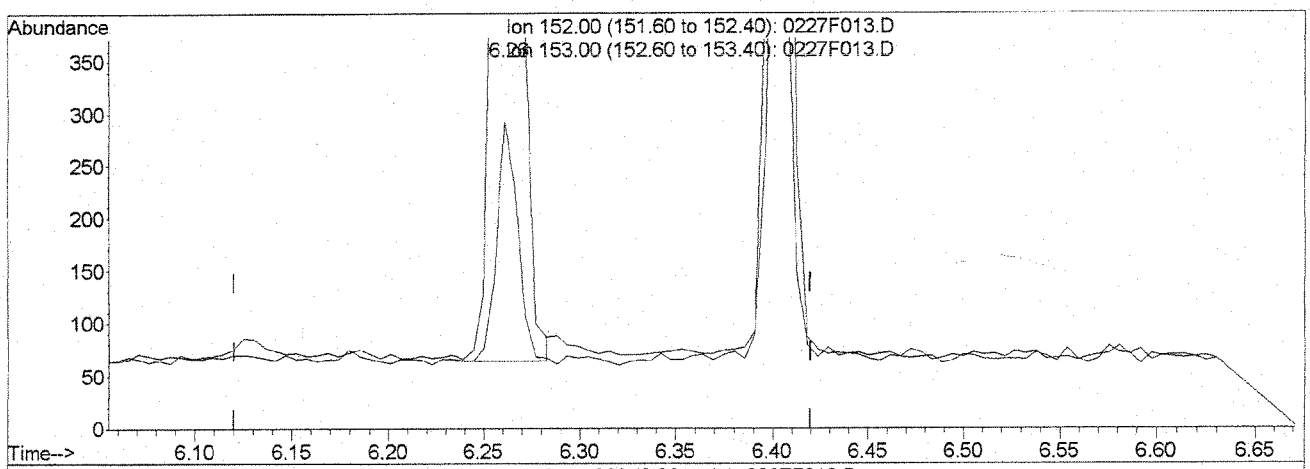
0227F013.D 0227ALK.M Mon Feb 27 12:20:39 2012

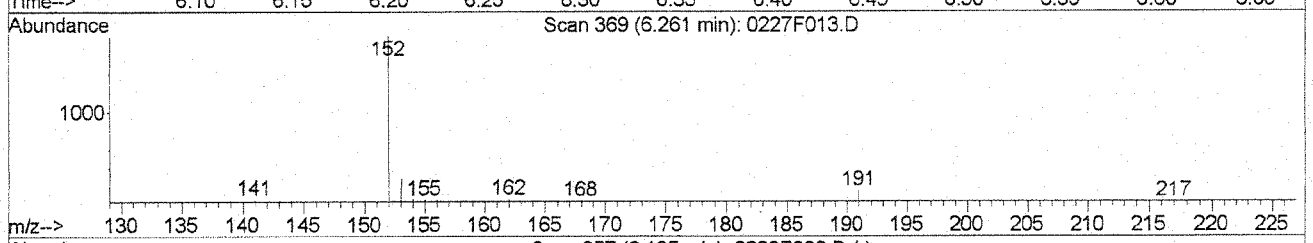
Quantitation Report (Qedit)

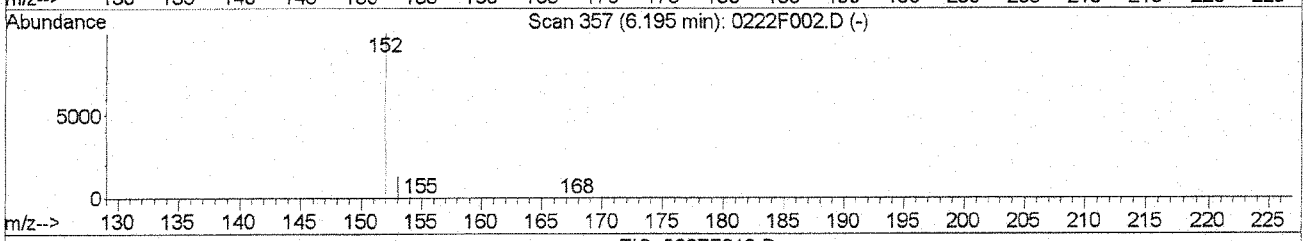
Data File : J:\MS11\DATA\022712\0227F013.D
Acq On : 27 Feb 2012 11:55 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:20 2012

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(11) Acenaphthylene (T)
6.26min 2.49ng/ml m
response 1342

Ion	Exp%	Act%
152.00	100	100
153.00	13.10	16.22
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

FEB 28 2012

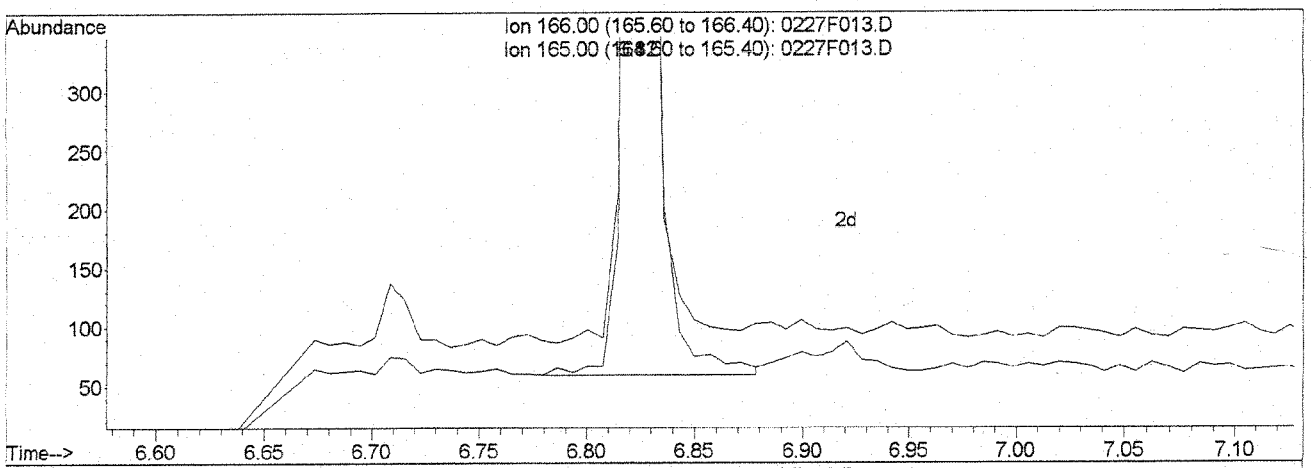
0227F013.D 0227ALK.M Mon Feb 27 12:20:49 2012

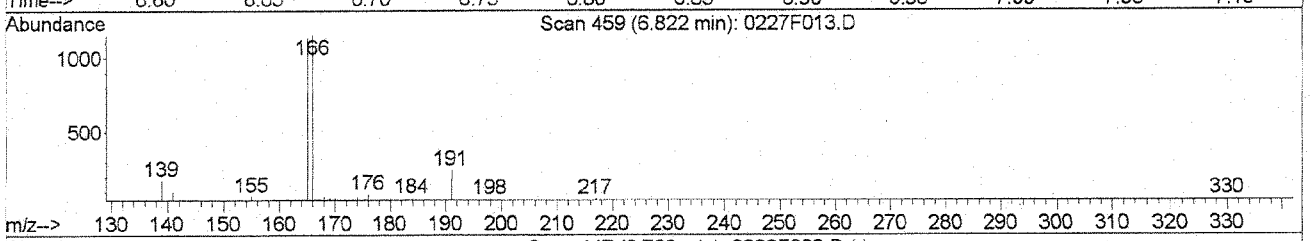
Quantitation Report (Qedit)

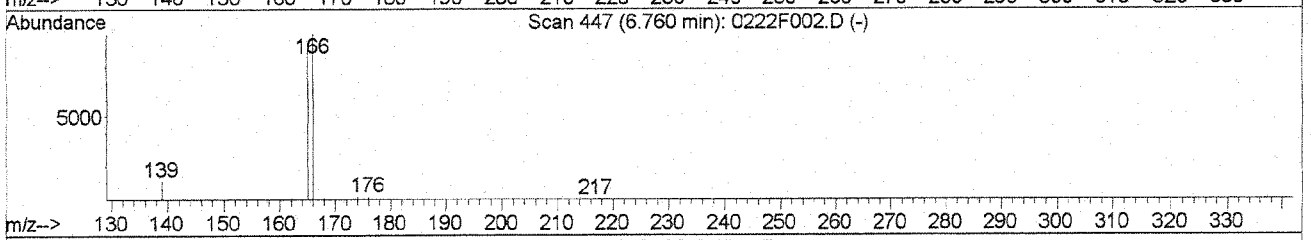
Data File : J:\MS11\DATA\022712\0227F013.D
Acq On : 27 Feb 2012 11:55 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:20 2012

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(16) Fluorene (T)

6.82min 2.57ng/ml

response 1047

Ion	Exp%	Act%
166.00	100	100
165.00	95.30	95.70
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

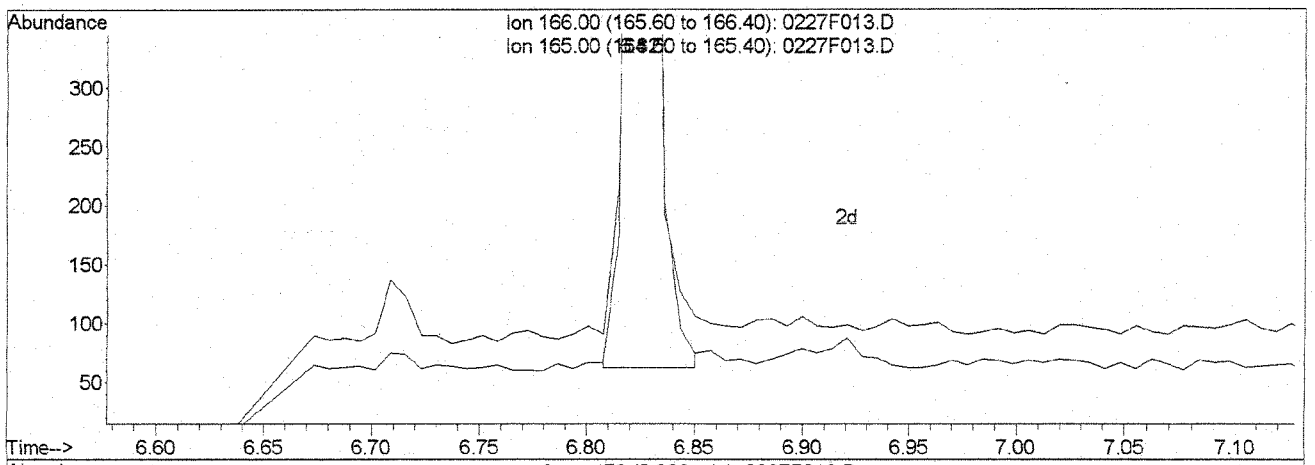
Before

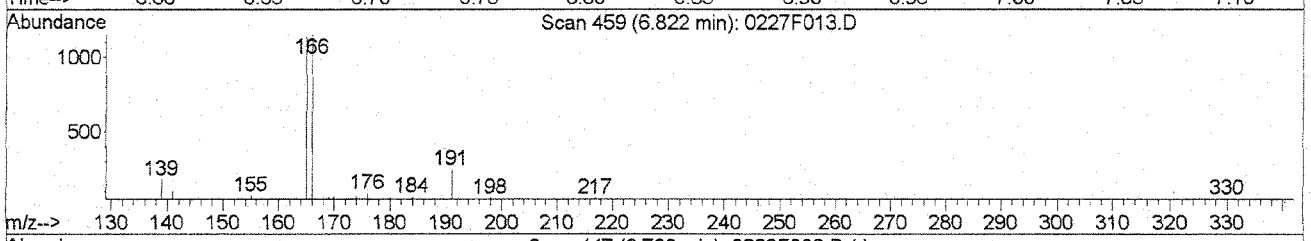
0227F013.D 0227ALK.M Mon Feb 27 12:20:56 2012

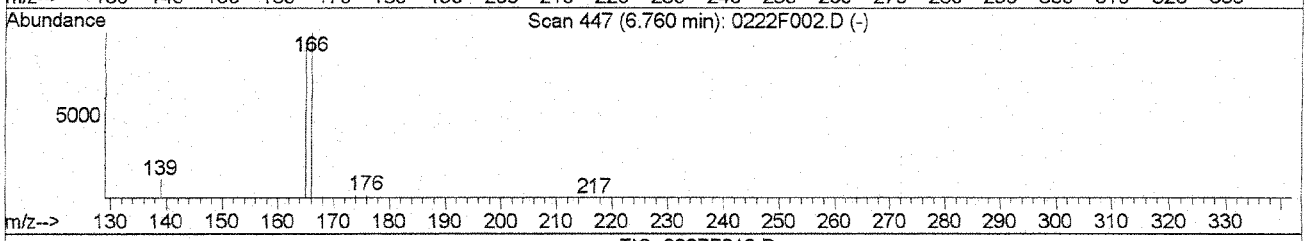
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:20 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(16) Fluorene (T)
6.82min 2.49ng/ml m
response 1012

Ion	Exp%	Act%
166.00	100	100
165.00	95.30	98.44
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

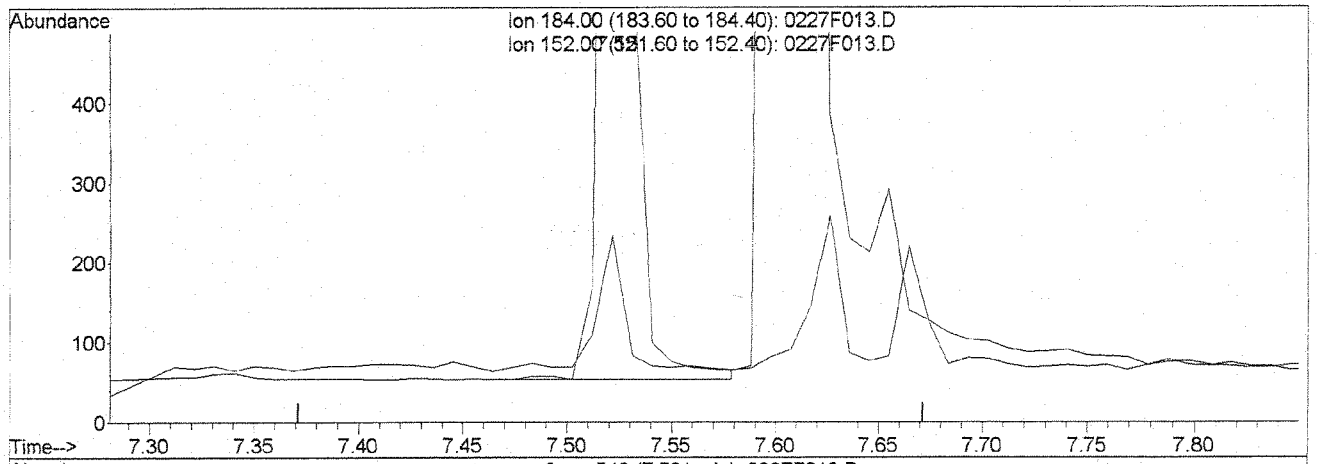
FEB 28 2012

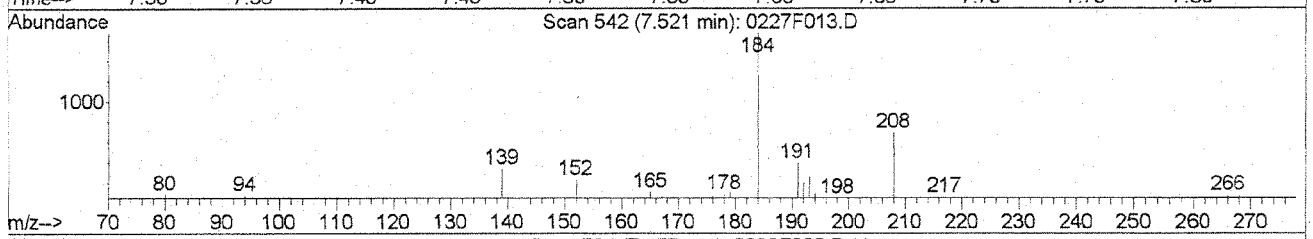
0227F013.D 0227ALK.M Mon Feb 27 12:21:02 2012

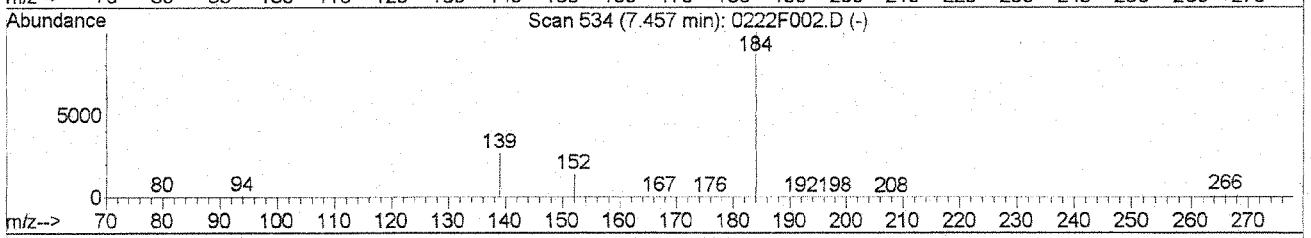
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:20 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(23) Dibenzothiophene (T)

7.52min 2.40ng/ml

response 1376

Ion	Exp%	Act%
184.00	100	100
152.00	6.10	10.57
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

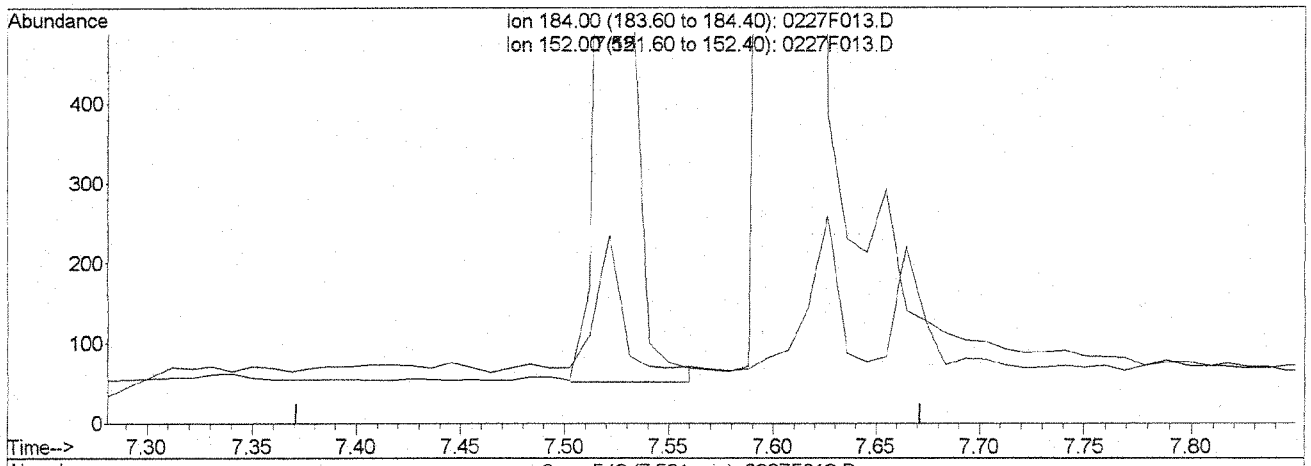
Before

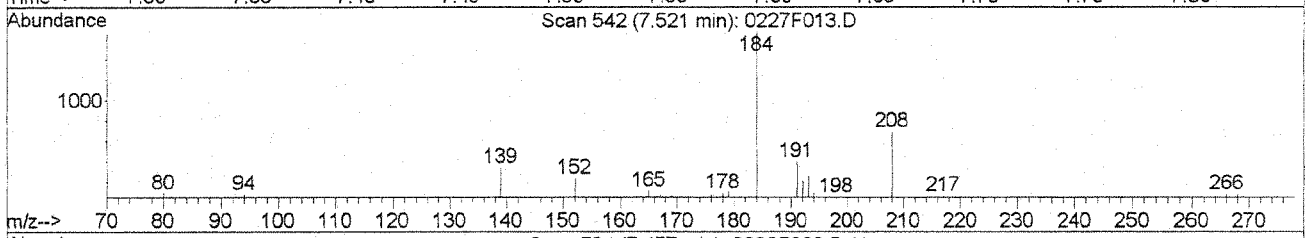
0227F013.D 0227ALK.M Mon Feb 27 12:21:09 2012

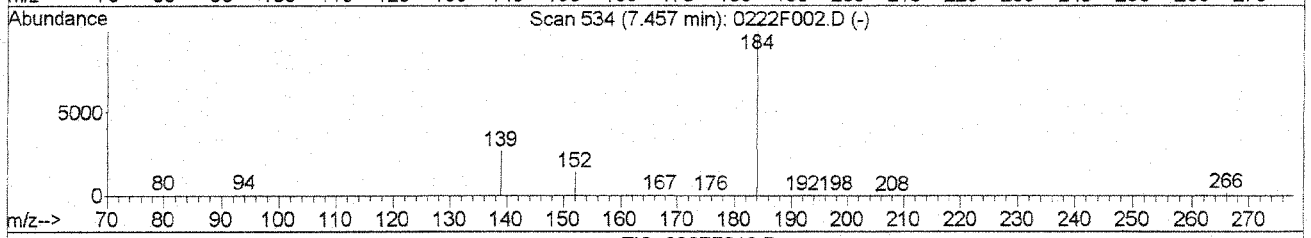
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:21 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(23) Dibenzothiophene (T)

7.52min 2.38ng/ml m

response 1364

Ion	Exp%	Act%
184.00	100	100
152.00	6.10	14.06
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

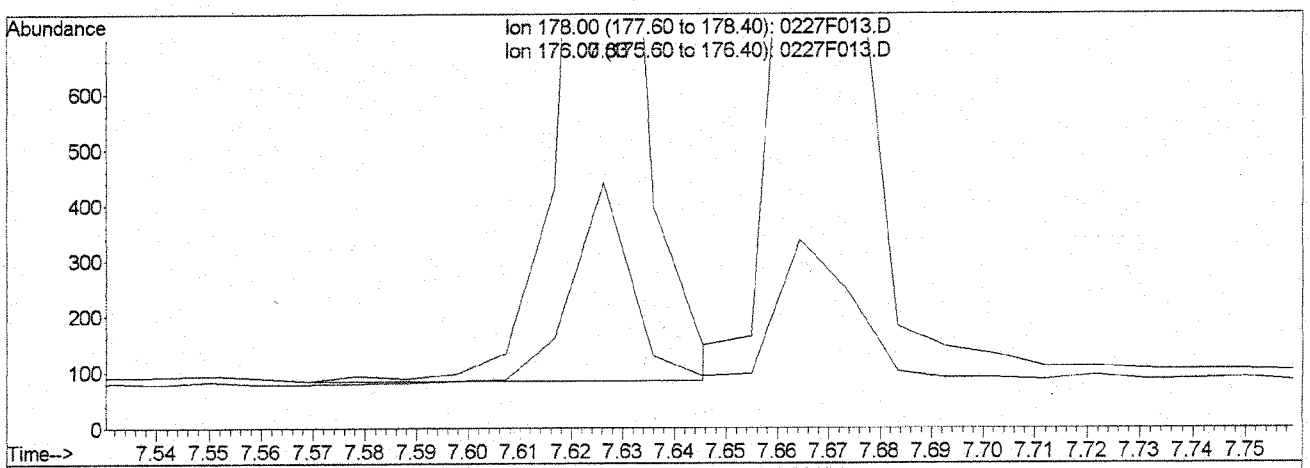
FEB 28 2012

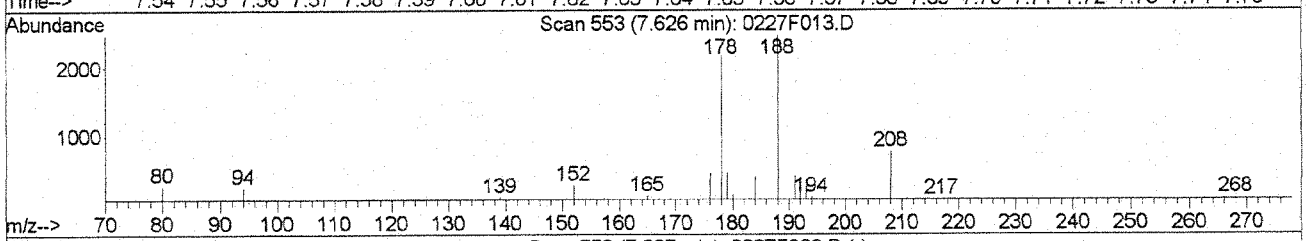
0227F013.D 0227ALK.M Mon Feb 27 12:21:19 2012

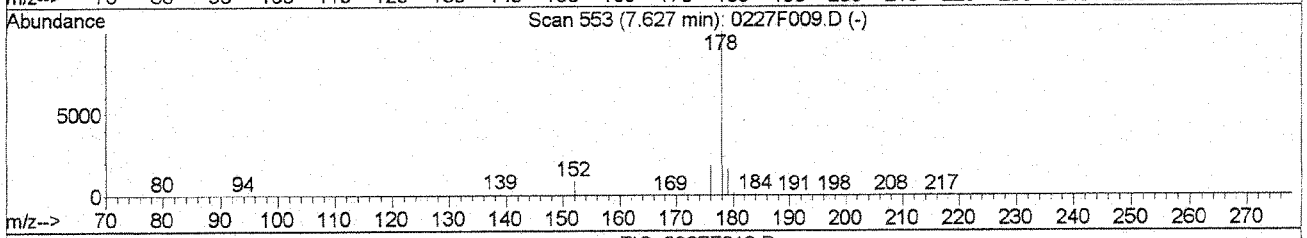
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:22 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(27) Phenanthrene (T)

7.63min 2.61ng/ml

response 1658

Ion	Exp%	Act%
178.00	100	100
176.00	18.30	17.19
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

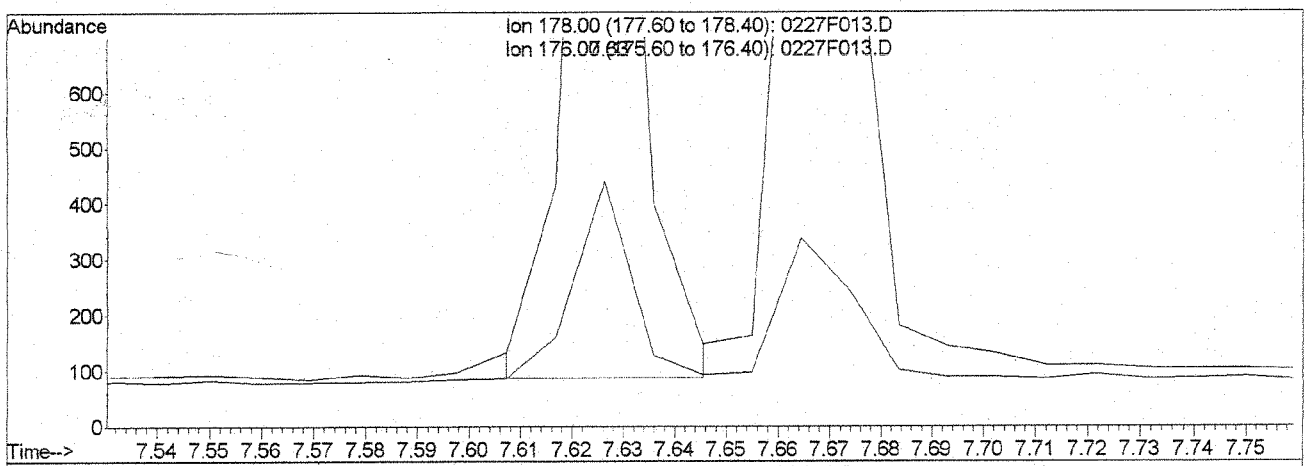
0227F013.D 0227ALK.M Tue Feb 28 06:11:06 2012

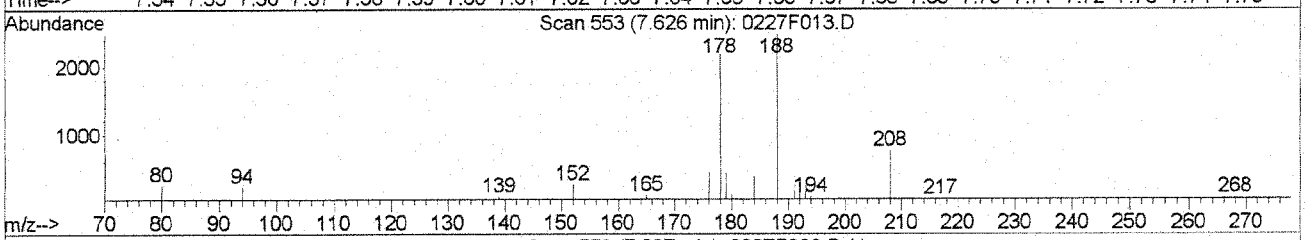
Quantitation Report (Qedit)

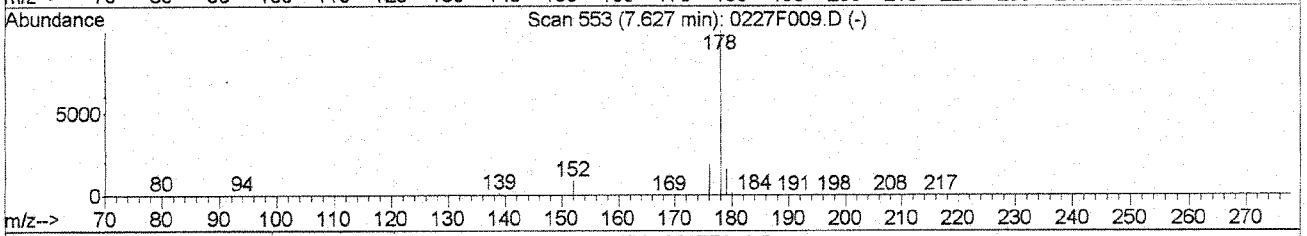
Data File : J:\MS11\DATA\022712\0227F013.D
Acq On : 27 Feb 2012 11:55 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:11 2012

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(27) Phenanthrene (T)
7.63min 2.53ng/ml m
response 1609

Ion	Exp%	Act%
178.00	100	100
176.00	18.30	20.15
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/28/12

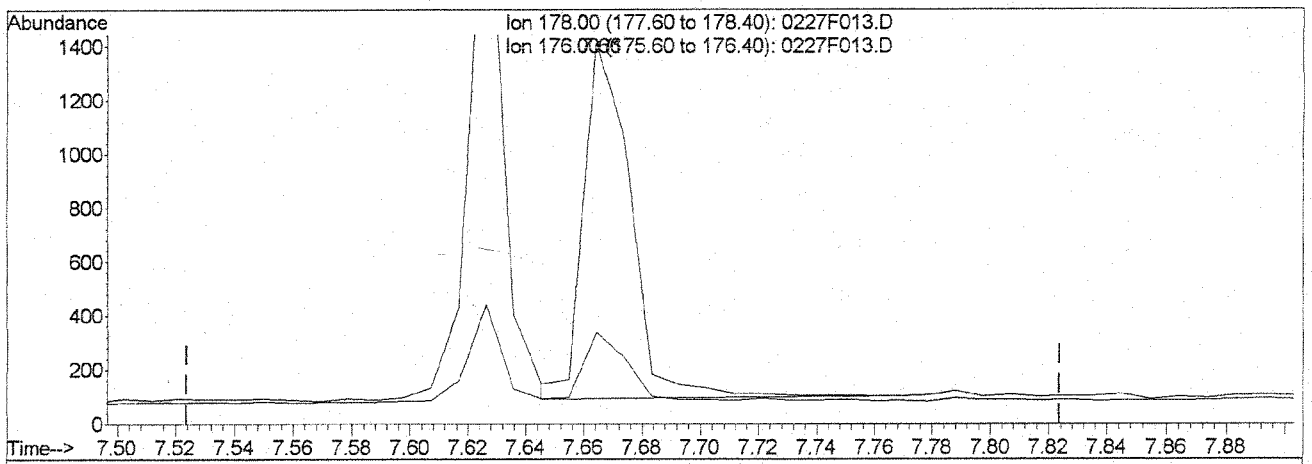
FEB 28 2012

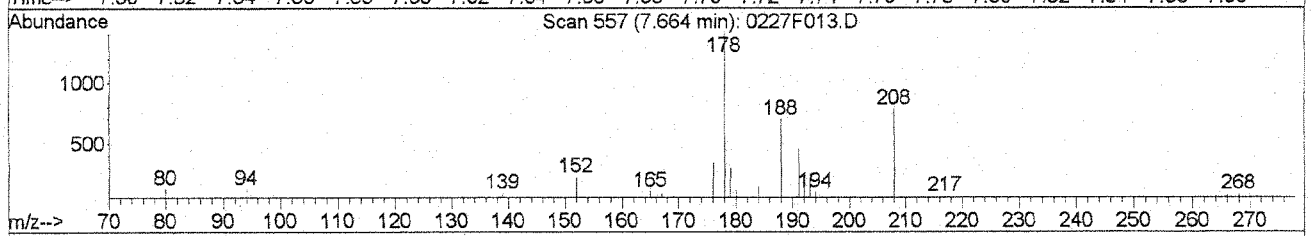
0227F013.D 0227ALK.M Tue Feb 28 06:11:10 2012

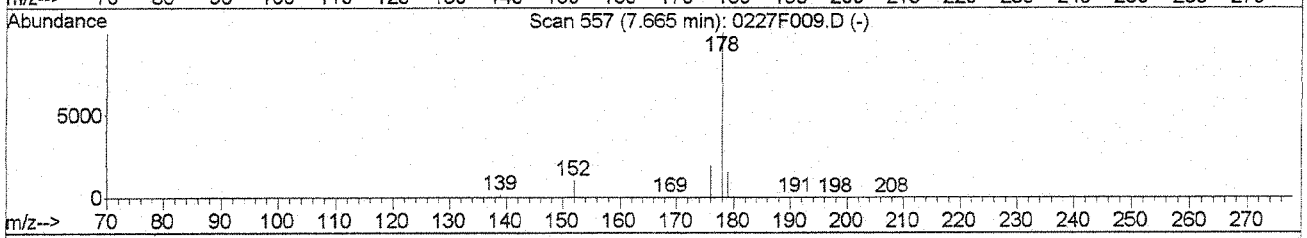
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:11 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(28) Anthracene (T)

7.66min 2.42ng/ml

response 1469

Ion	Exp%	Act%
178.00	100	100
176.00	18.10	19.16
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

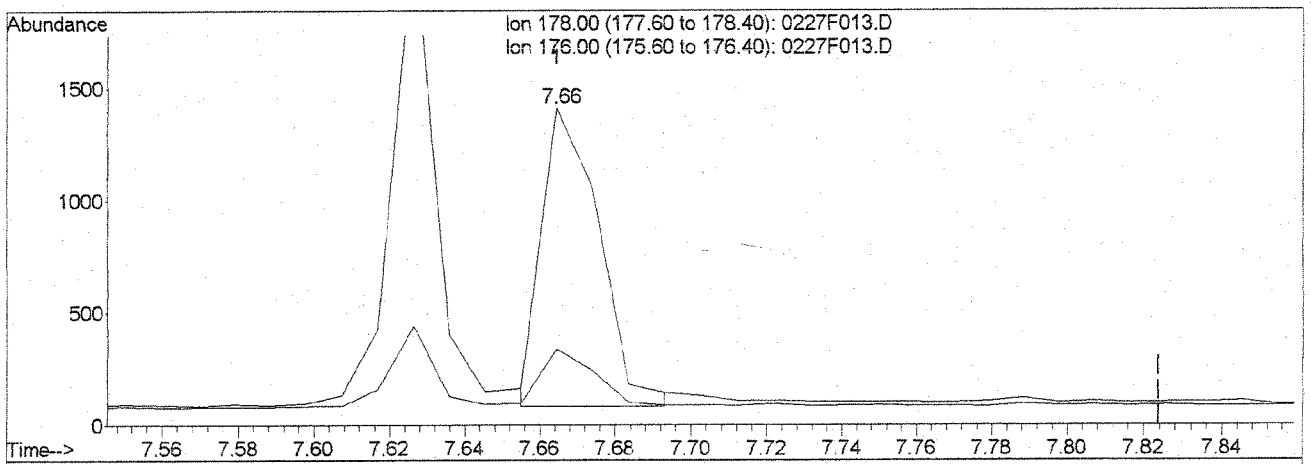
Before

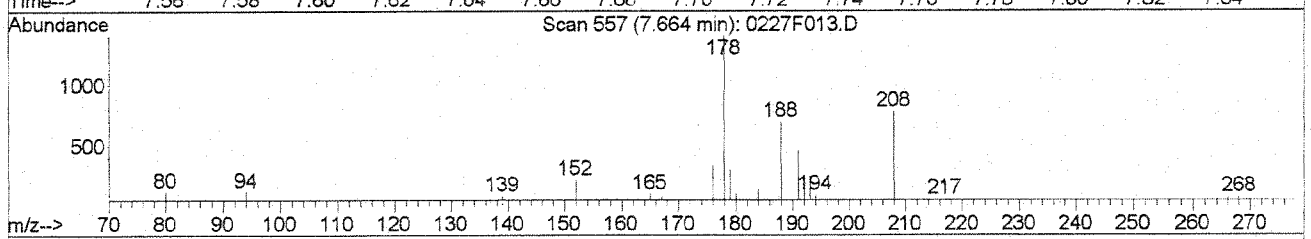
0227F013.D 0227ALK.M Tue Feb 28 06:11:19 2012

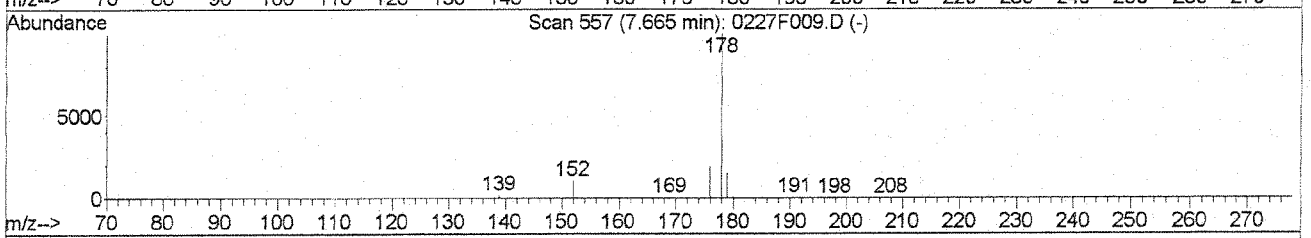
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:11 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(28) Anthracene (T)
7.66min 2.32ng/ml m
response 1409

Ion	Exp%	Act%
178.00	100	100
176.00	18.10	23.87
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/28/12

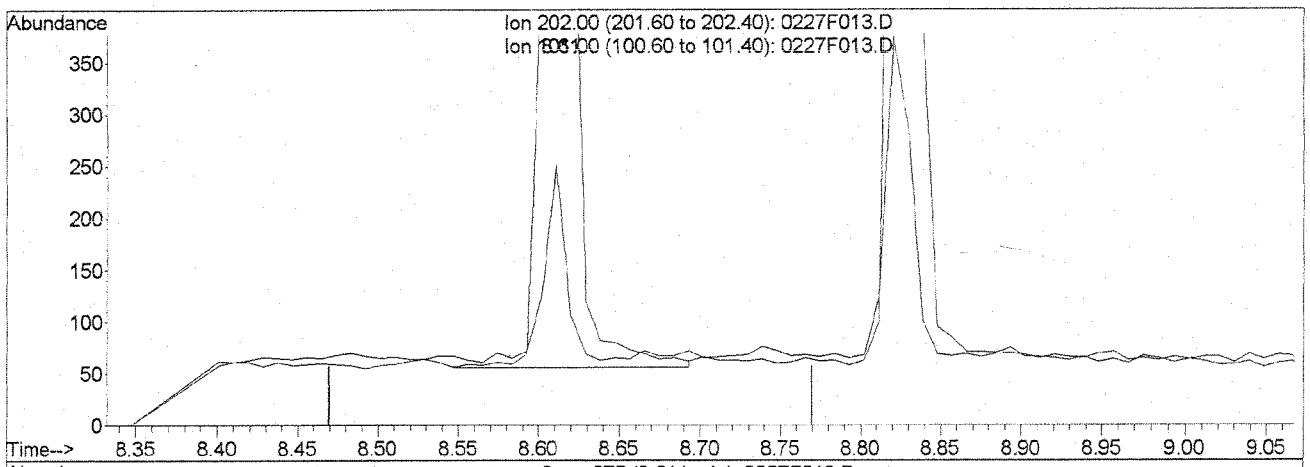
FEB 28 2012

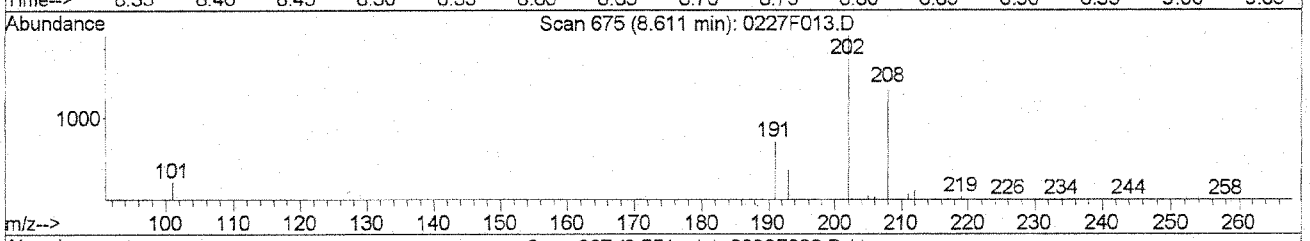
0227F013.D 0227ALK.M Tue Feb 28 06:11:40 2012

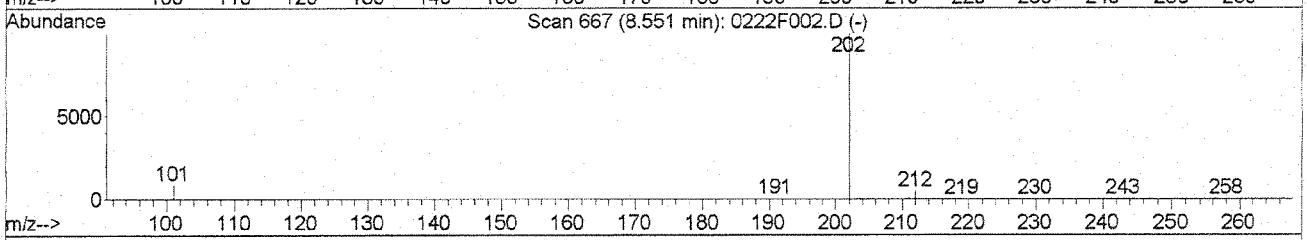
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:21 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(35) Fluoranthene (T)
8.61min 2.35ng/ml
response 1692

Ion	Exp%	Act%
202.00	100	100
101.00	11.70	9.75
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
Before

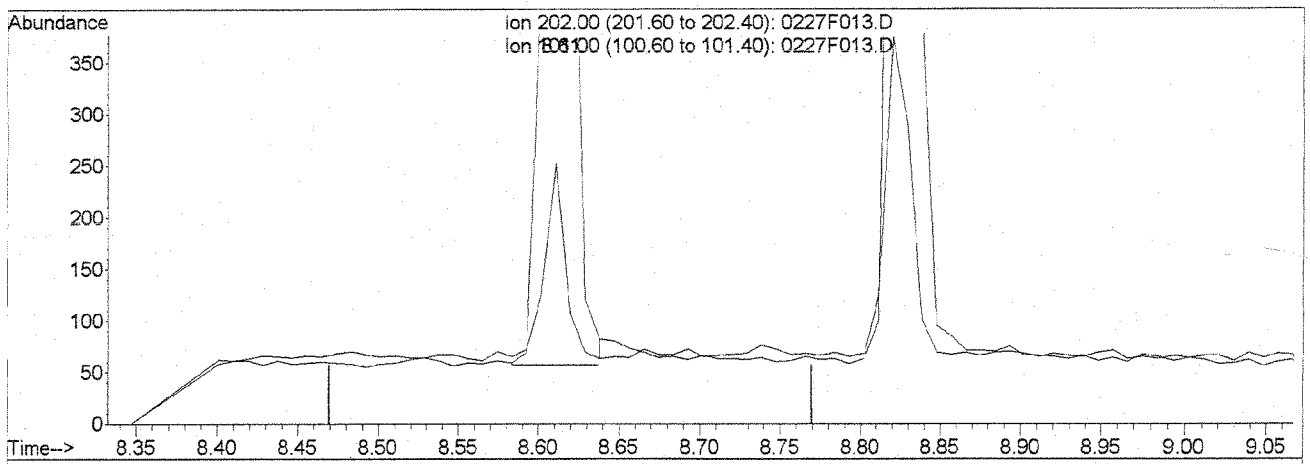
FEB 28 2012

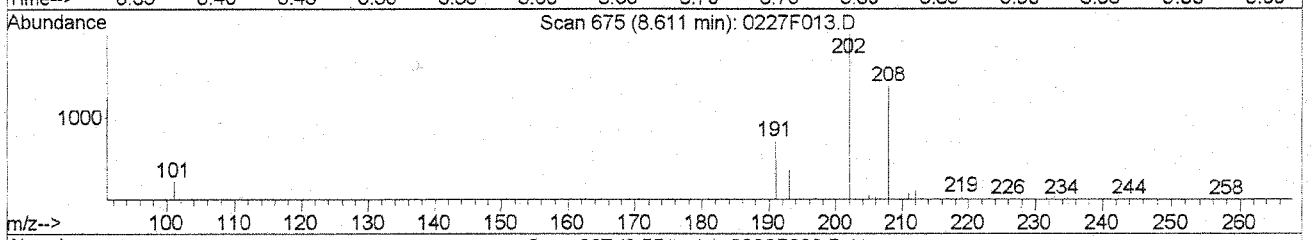
0227F013.D 0227ALK.M Mon Feb 27 12:21:26 2012

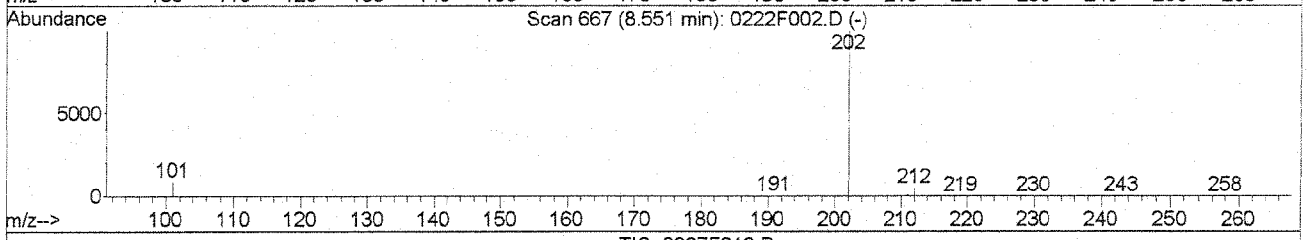
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:21 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(35) Fluoranthene (T)
8.61min 2.27ng/ml m
response 1639

Ion	Exp%	Act%
202.00	100	100
101.00	11.70	12.90
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

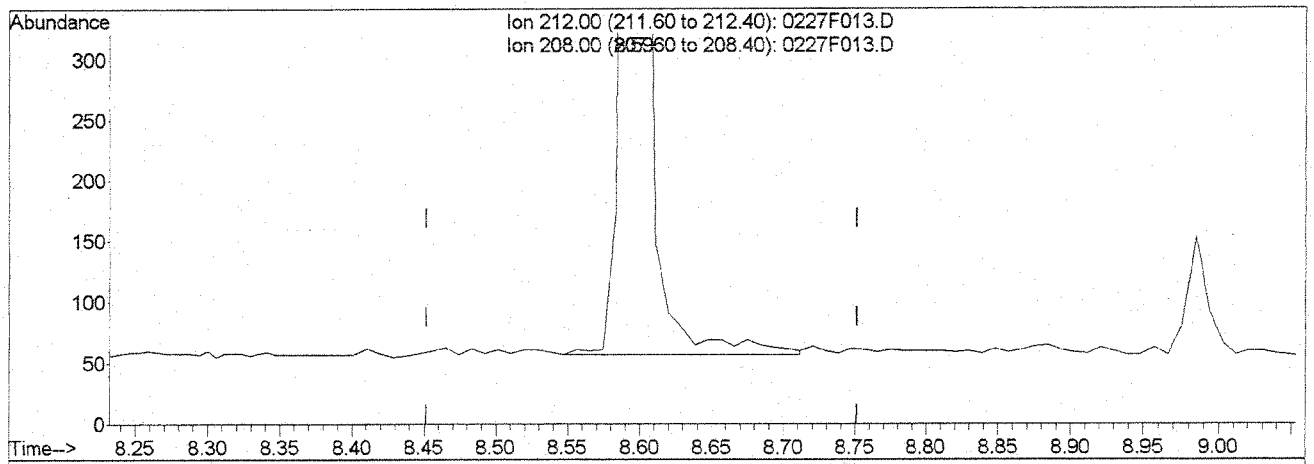
FEB 28 2012

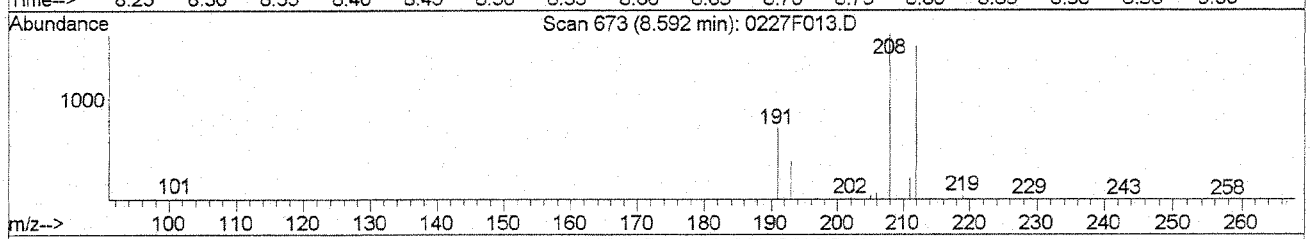
0227F013.D 0227ALK.M Mon Feb 27 12:21:31 2012

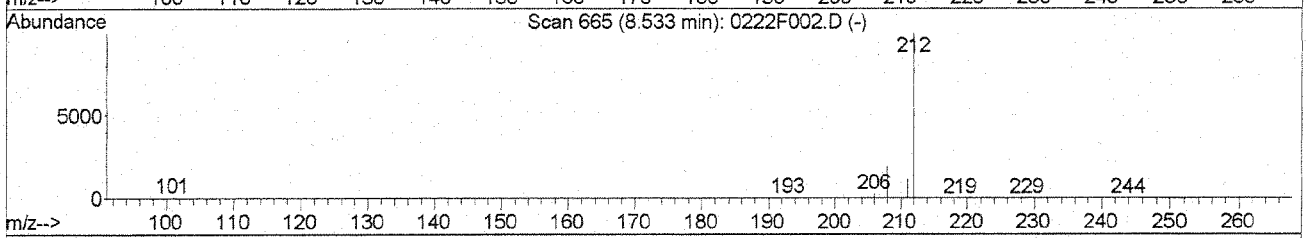
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:21 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(36) Fluoranthene-d10 (S)

8.59min 2.26ng/ml

response 1468

Ion	Exp%	Act%
212.00	100	100
208.00	16.50	18.77
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

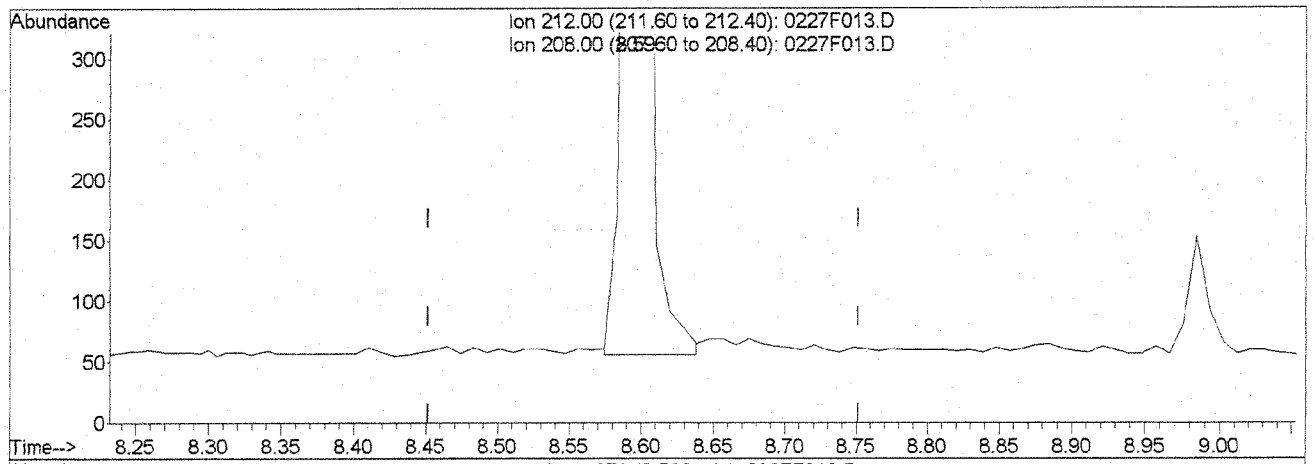
Before

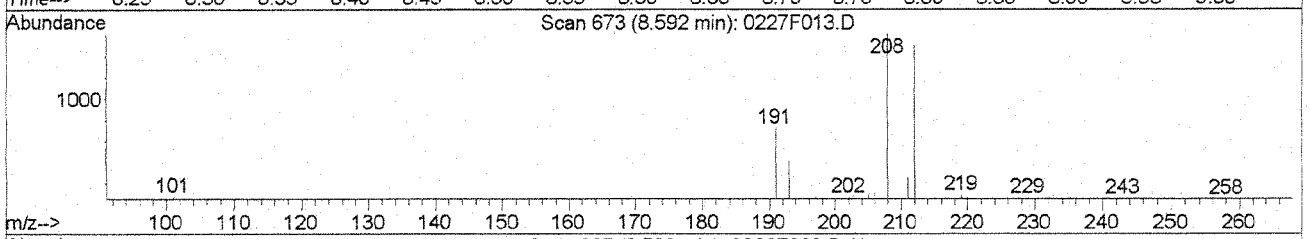
0227F013.D 0227ALK.M Mon Feb 27 12:21:34 2012

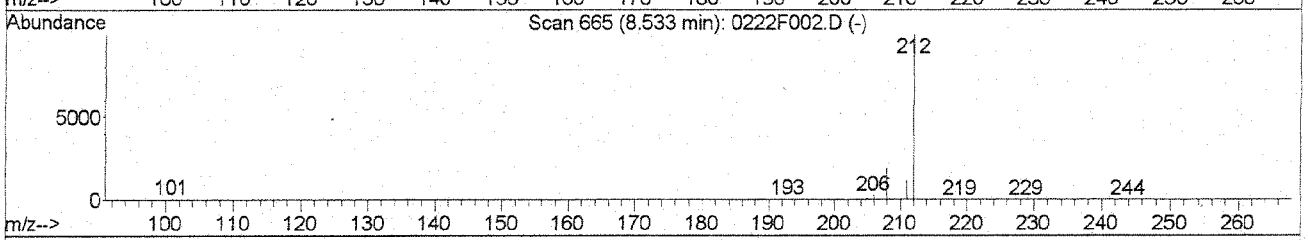
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:21 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(36) Fluoranthene-d10 (S)
8.59min 2.20ng/ml m
response 1430

Ion	Exp%	Act%
212.00	100	100
208.00	16.50	107.13#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

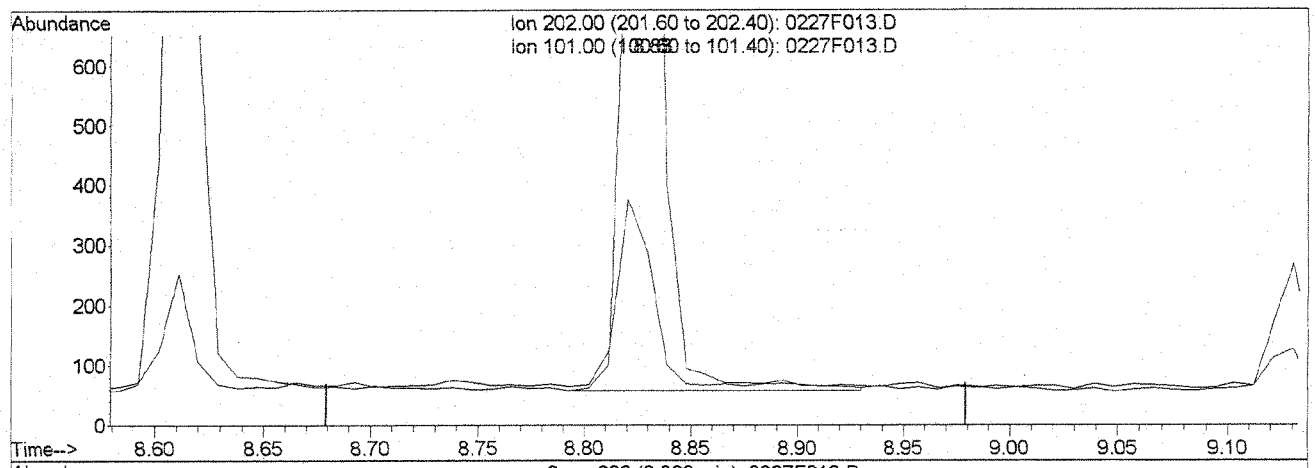
FEB 28 2012

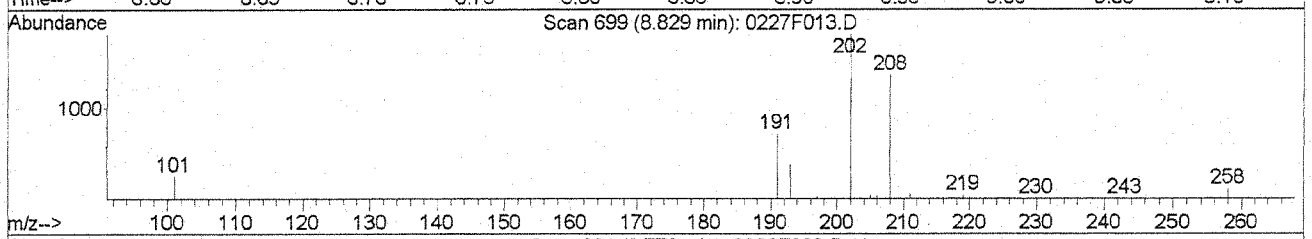
0227F013.D 0227ALK.M Mon Feb 27 12:21:39 2012

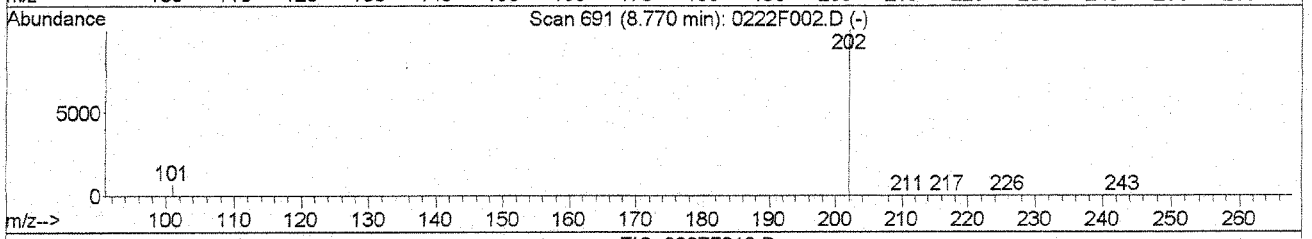
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:21 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(38) Pyrene (T)

8.83min 2.42ng/ml

response 1733

Ion	Exp%	Act%
202.00	100	100
101.00	15.50	12.95
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

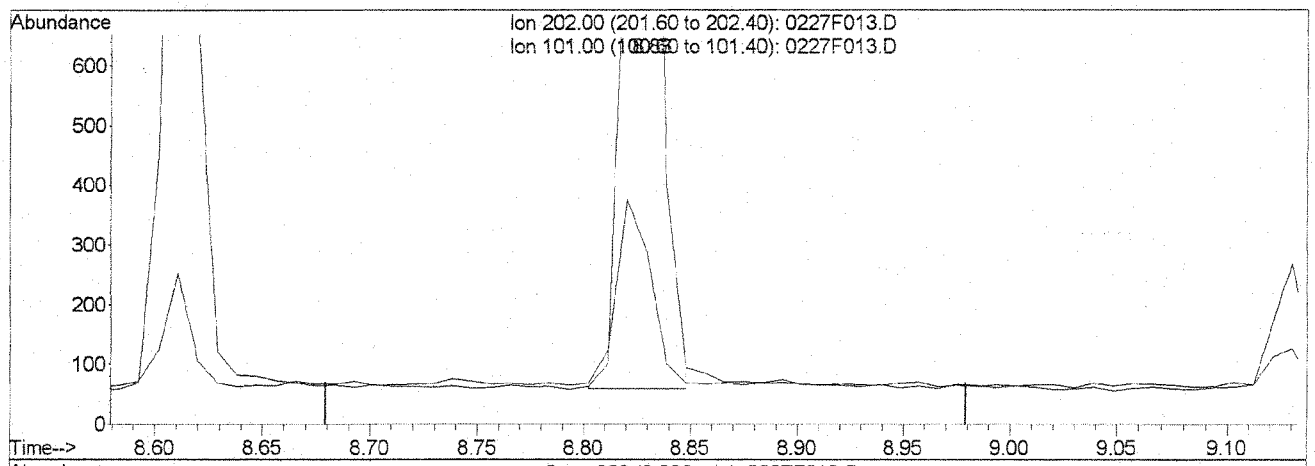
Before

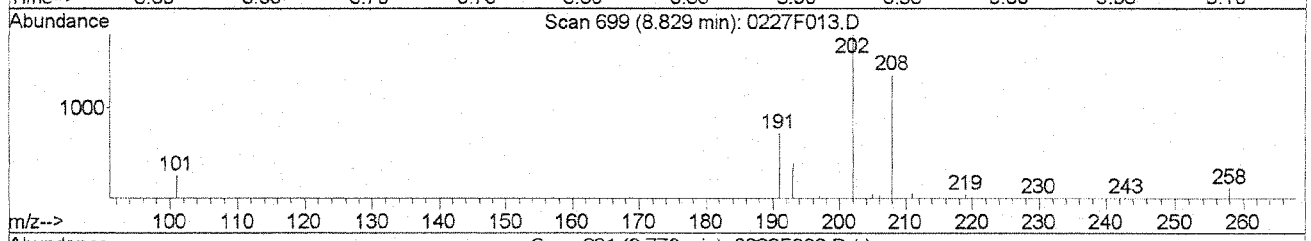
0227F013.D 0227ALK.M Mon Feb 27 12:21:44 2012

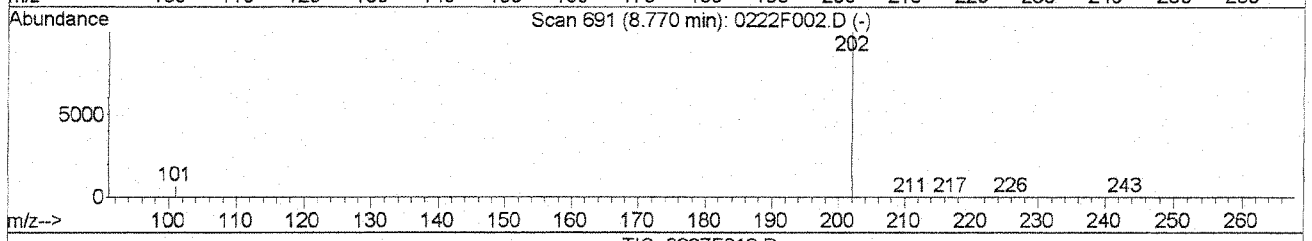
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:21 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(38) Pyrene (T)
8.83min 2.33ng/ml m
response 1668

Ion	Exp%	Act%
202.00	100	100
101.00	15.50	16.18
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

FEB 28 2012

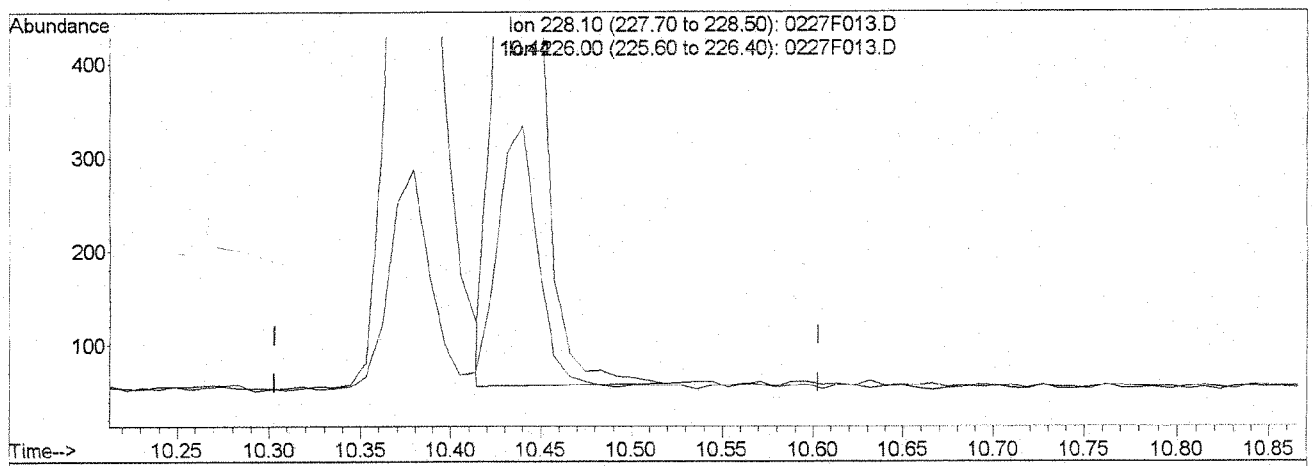
0227F013.D 0227ALK.M Mon Feb 27 12:21:50 2012

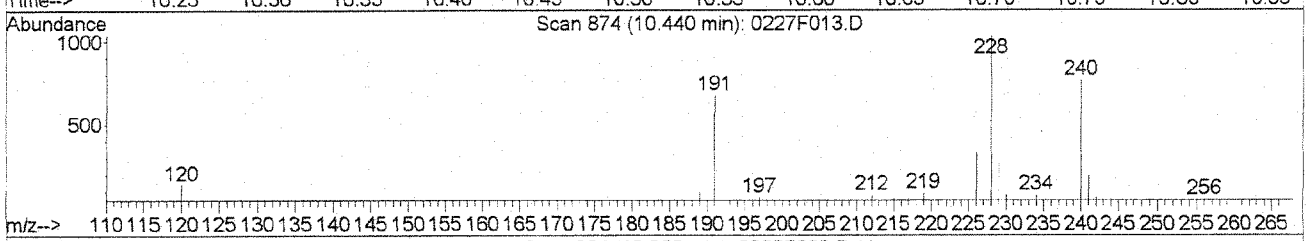
Quantitation Report (Qedit)

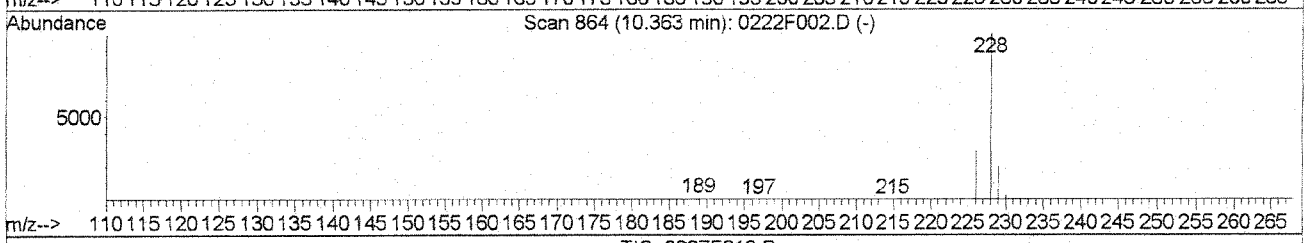
Data File : J:\MS11\DATA\022712\0227F013.D
Acq On : 27 Feb 2012 11:55 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:21 2012

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(44) Chrysene (T)

10.44min 2.31ng/ml

response 1488

Ion	Exp%	Act%
228.10	100	100
226.00	28.40	28.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

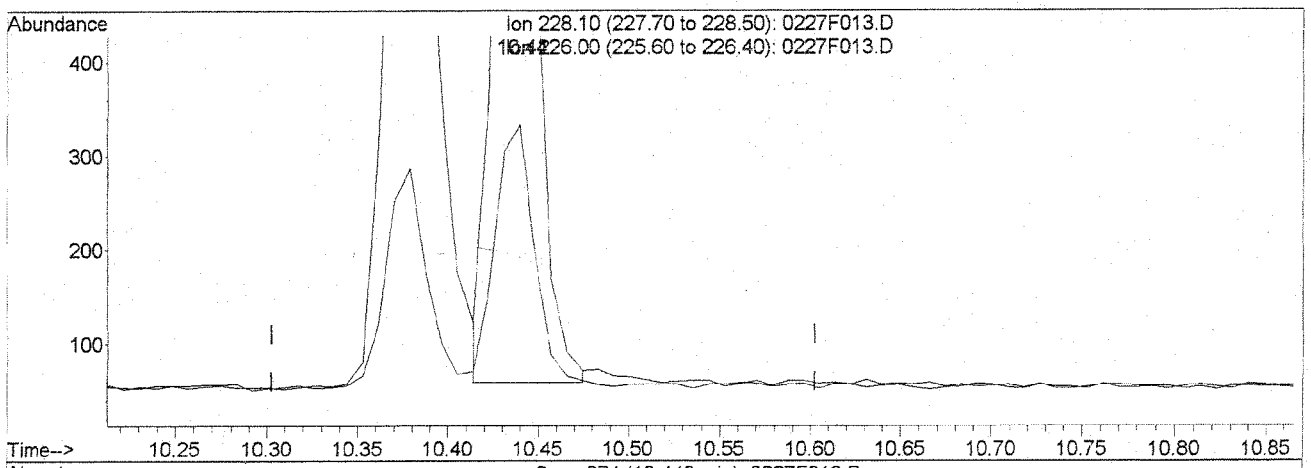
Before

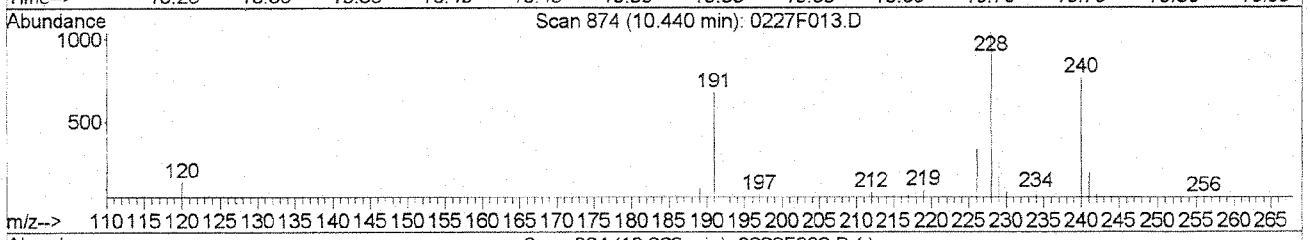
0227F013.D 0227ALK.M Mon Feb 27 12:21:57 2012

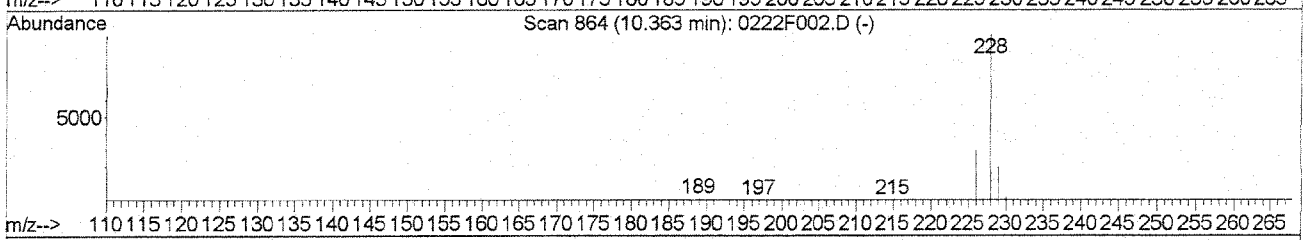
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:21 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(44) Chrysene (T)
10.44min 2.27ng/ml m
response 1463

Ion	Exp%	Act%
228.10	100	100
226.00	28.40	32.24
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

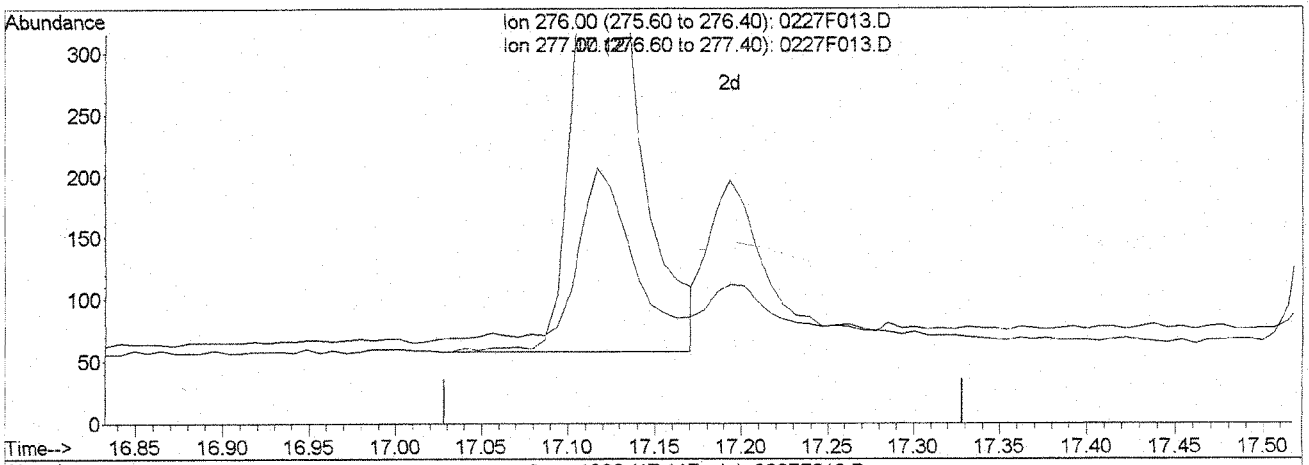
FEB 28 2012

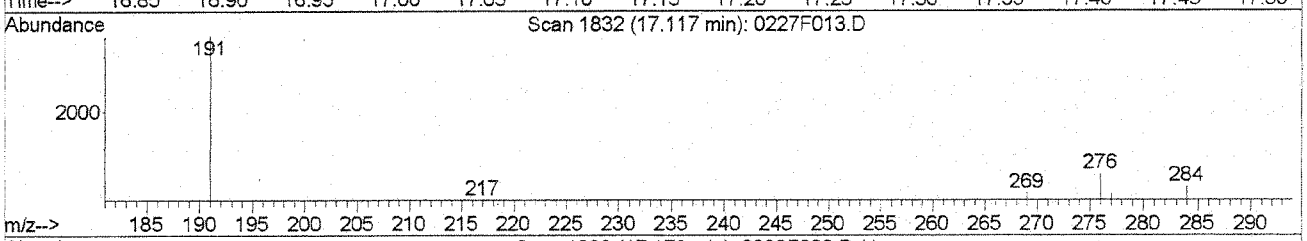
0227F013.D 0227ALK.M Mon Feb 27 12:22:02 2012

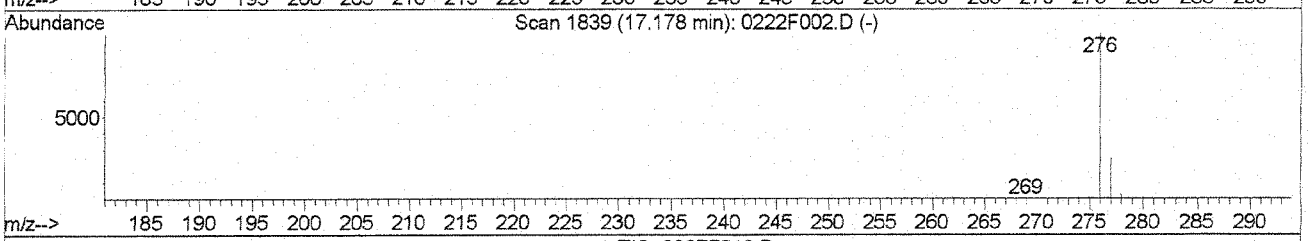
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:21 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(55) Indeno(1,2,3-cd)pyrene (T)

17.12min 2.20ng/ml

response 1175

Ion	Exp%	Act%
276.00	100	100
277.00	23.50	23.67
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

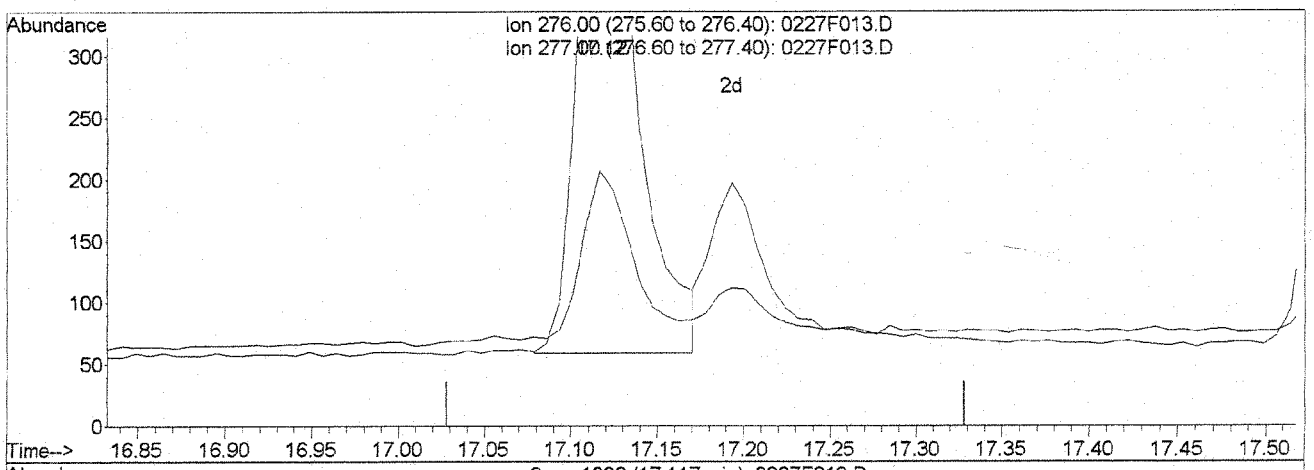
Before

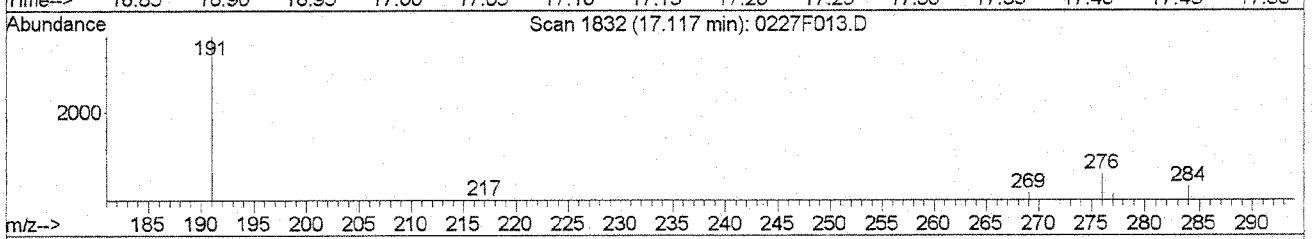
0227F013.D 0227ALK.M Mon Feb 27 12:22:13 2012

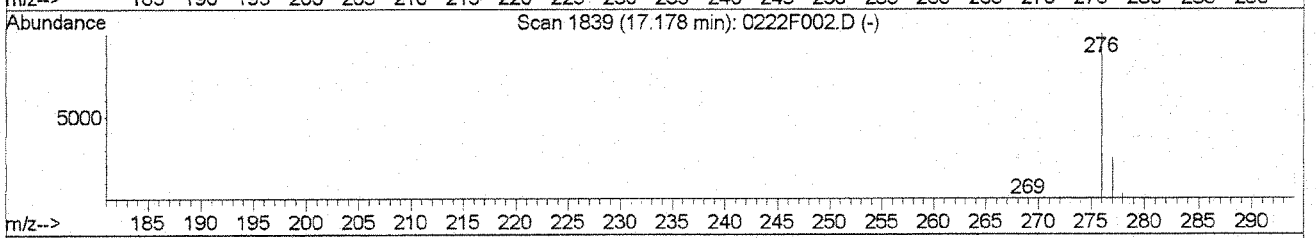
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:22 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:55:28 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(55) Indeno(1,2,3-cd)pyrene (T)

17.12min 2.18ng/ml m

response 1162

Ion	Exp%	Act%
276.00	100	100
277.00	23.50	32.29
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

FEB 28 2012

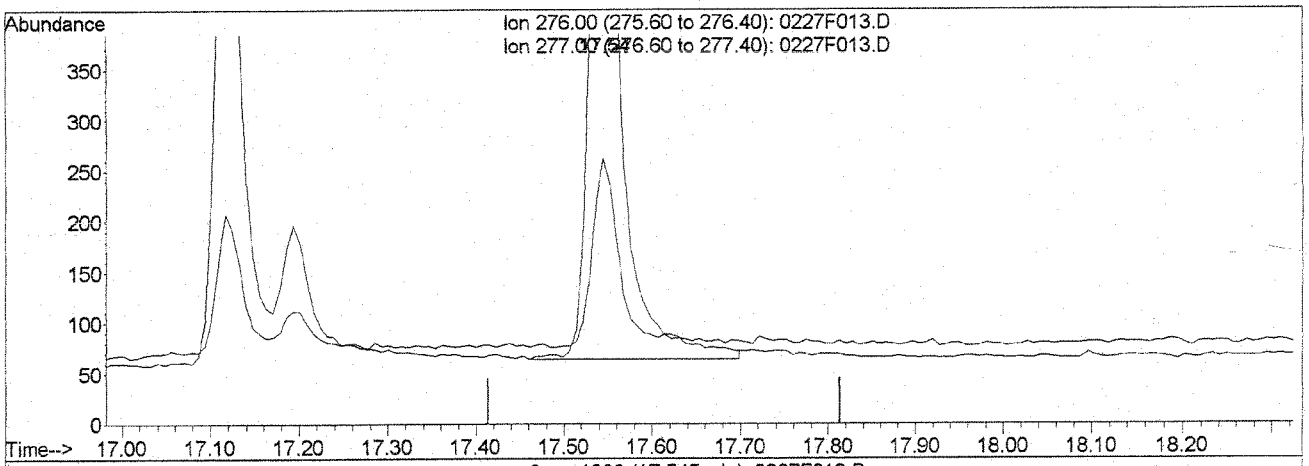
0227F013.D 0227ALK.M Mon Feb 27 12:22:21 2012

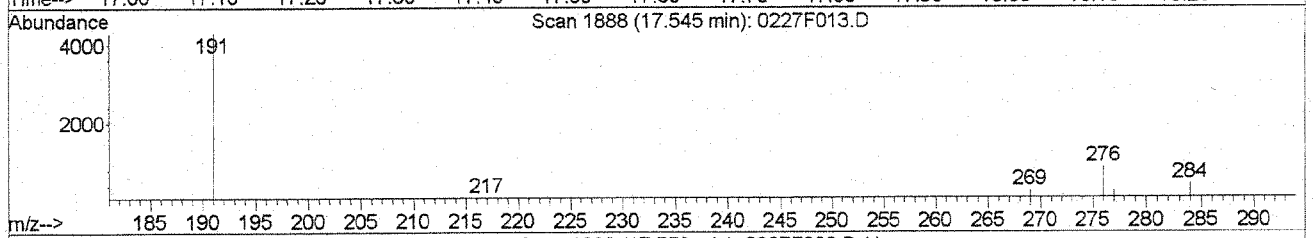
Quantitation Report (Qedit)

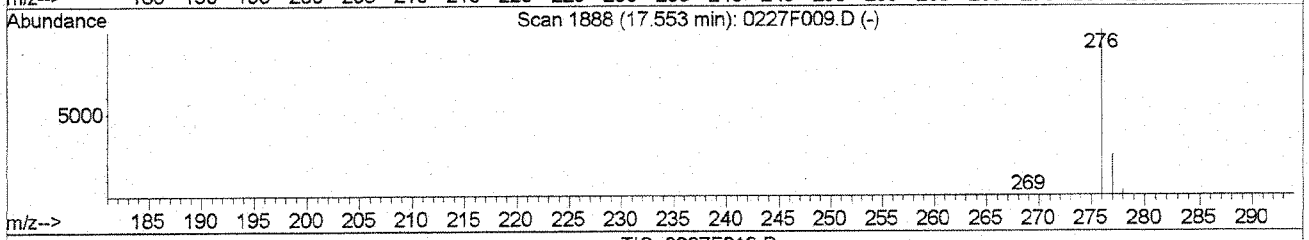
Data File : J:\MS11\DATA\022712\0227F013.D
Acq On : 27 Feb 2012 11:55 am
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:11 2012

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(57) Benzo(g,h,i)perylene (T)

17.54min 2.66ng/ml

response 1675

Ion	Exp%	Act%
276.00	100	100
277.00	23.60	23.34
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

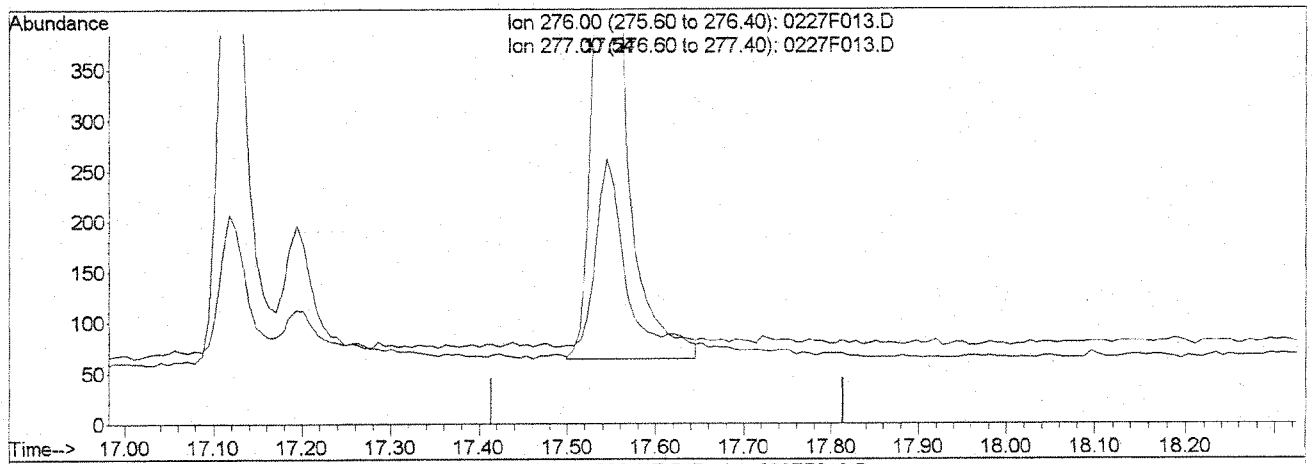
Before

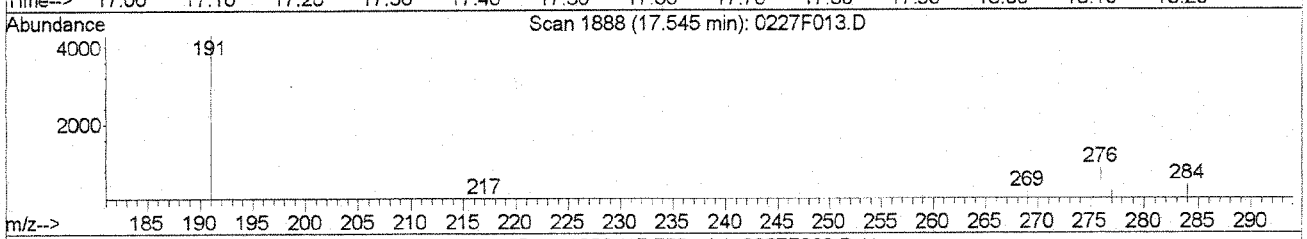
0227F013.D 0227ALK.M Tue Feb 28 06:11:46 2012

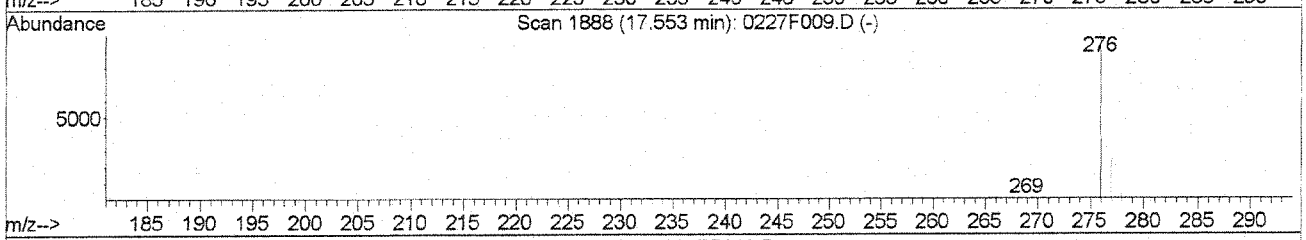
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F013.D Vial: 1
Acq On : 27 Feb 2012 11:55 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.002/.05ug/mL | SVM36-64C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:11 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Multiple Level Calibration







TIC: 0227F013.D

(57) Benzo(g,h,i)perylene (T)

17.54min 2.60ng/ml m

response 1633

Ion	Exp%	Act%
276.00	100	100
277.00	23.60	30.43
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/28/12

FEB 28 2012

0227F013.D 0227ALK.M Tue Feb 28 06:11:51 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 08:53:47 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.97	136	96658	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.38	164	53734	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.61	188	101014	200.00	ng/ml	0.00
37) Chrysene-d12	10.40	240	119845	200.00	ng/ml	-0.01
49) Perylene-d12	14.11	264	111334	200.00	ng/ml	-0.06
System Monitoring Compounds						
15) Fluorene-d10	6.81	176	1274	4.03	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.40%	
20) 2,4,6 Tribromophenol	7.03	330	205	2.60	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.26%	
36) Fluoranthene-d10	8.60	212	2623m	4.50	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.45%	
42) Terphenyl-d14	8.99	244	2367	4.33	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.43%	
Target Compounds						Qvalue
2) Naphthalene	4.98	128	2311m	3.94	ng/ml	
3) 2-Methylnaphthalene	5.54	142	1568	3.98	ng/ml	95
4) 1-Methylnaphthalene	5.62	142	1368	3.92	ng/ml	97
5) Biphenyl	5.91	154	1818m	3.84	ng/ml	
6) 2,6-Dimethylnaphthalene	6.04	156	1282	3.86	ng/ml	99
11) Acenaphthylene	6.27	152	2102	3.71	ng/ml	100
12) Acenaphthene	6.41	154	1337	3.90	ng/ml	96
13) Dibenzofuran	6.55	168	2015	3.84	ng/ml	81
14) 2,3,5-Trimethylnaphthalene	6.72	170	1238	3.93	ng/ml	96
16) Fluorene	6.83	166	1604	3.85	ng/ml	96
21) Pentachlorophenol	7.46	266	3596	35.17	ng/ml	90
23) Dibenzothiophene	7.52	184	2196m	3.64	ng/ml	
27) Phenanthrene	7.63	178	2662m	4.32	ng/ml	
28) Anthracene	7.67	178	2447	4.11	ng/ml	96
29) Carbazole	7.80	167	2061	3.91	ng/ml	89
30) 1-Methylphenanthrene	8.13	192	1911	4.26	ng/ml	96
35) Fluoranthene	8.61	202	2988	4.51	ng/ml	98
38) Pyrene	8.83	202	3330	4.63	ng/ml#	11
43) Benz(a)anthracene	10.39	228	2956	4.53	ng/ml	98
44) Chrysene	10.45	228	2824	4.48	ng/ml	100
50) Benzo(b)fluoranthene	12.85	252	2654	4.16	ng/ml	93
51) Benzo(k)fluoranthene	12.94	252	2484	3.99	ng/ml	100
52) Benzo(e)pyrene	13.73	252	2305	4.07	ng/ml	98
53) Benzo(a)pyrene	13.90	252	2059	3.73	ng/ml	99
54) Perylene	14.20	252	2202	3.96	ng/ml	96

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

FEB 28 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 08:53:47 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 2 8 2012

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	17.12	276	2449	4.65 ng/ml	100
56)	Dibenz(a,h)anthracene	17.20	278	2640	4.75 ng/ml	98
57)	Benzo(g,h,i)perylene	17.55	276	3040m	4.72 ng/ml	

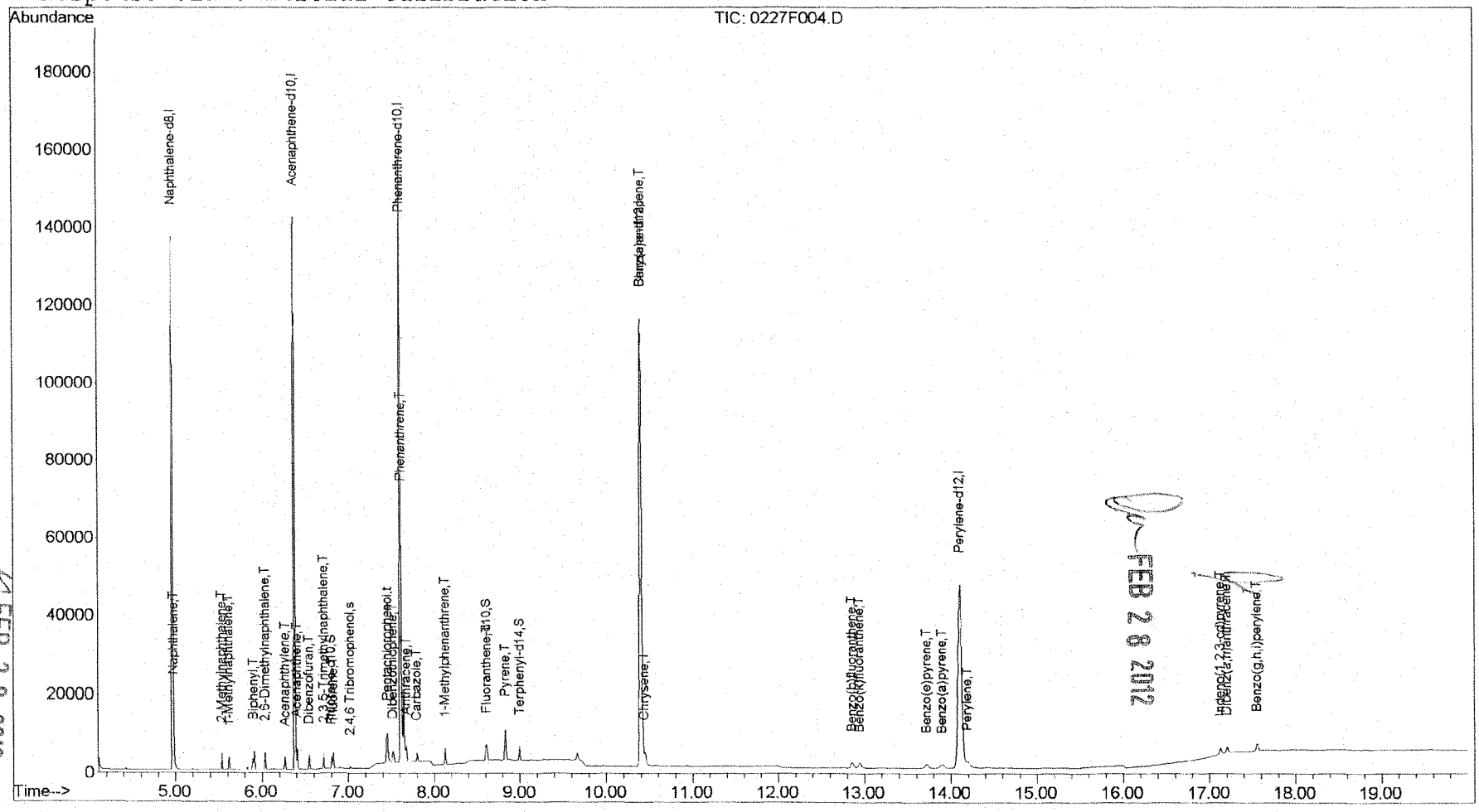
FEB 2 8 2012

(#) = qualifier out of range (m) = manual integration
0227F004.D 0227ALK.M Tue Feb 28 06:12:05 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:10 2012 Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Initial Calibration

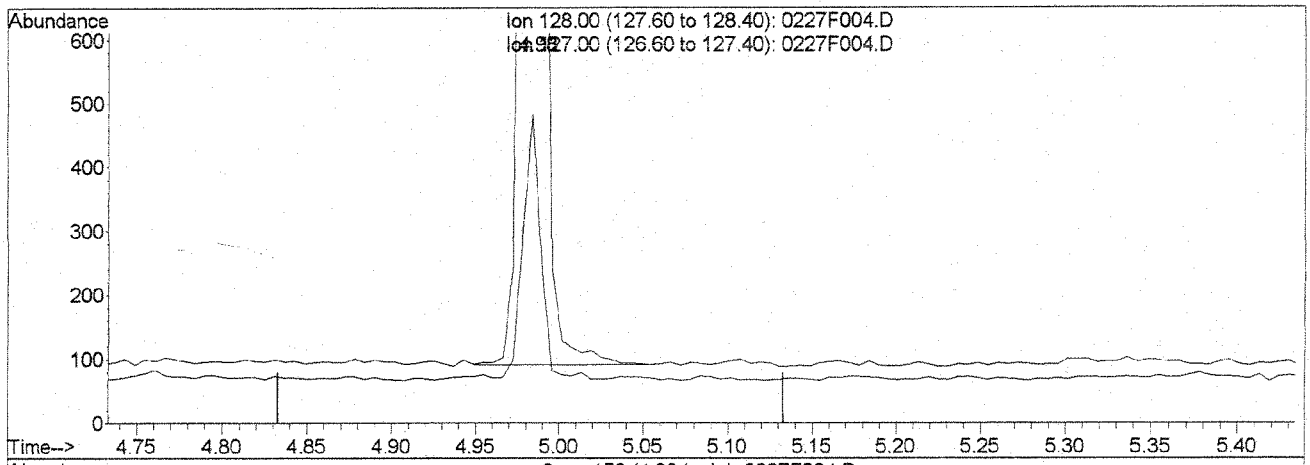


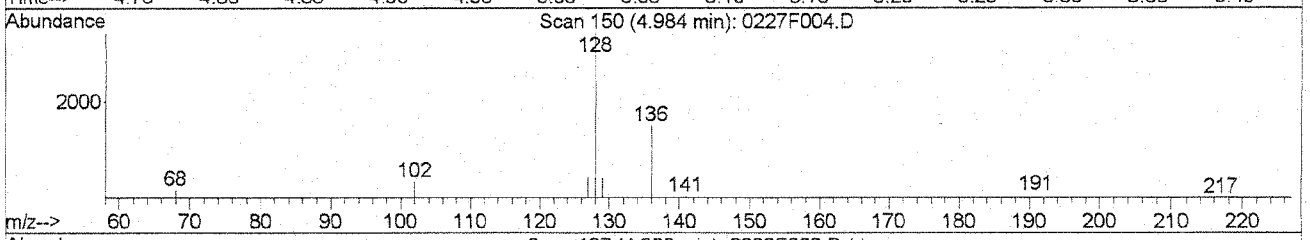
958

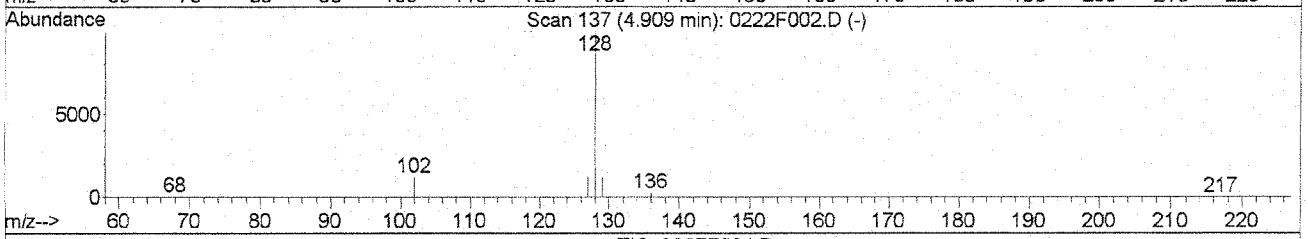
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 8:53 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(2) Naphthalene (T)

4.98min 3.99ng/ml

response 2341

Ion	Exp%	Act%
128.00	100	100
127.00	12.30	12.46
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

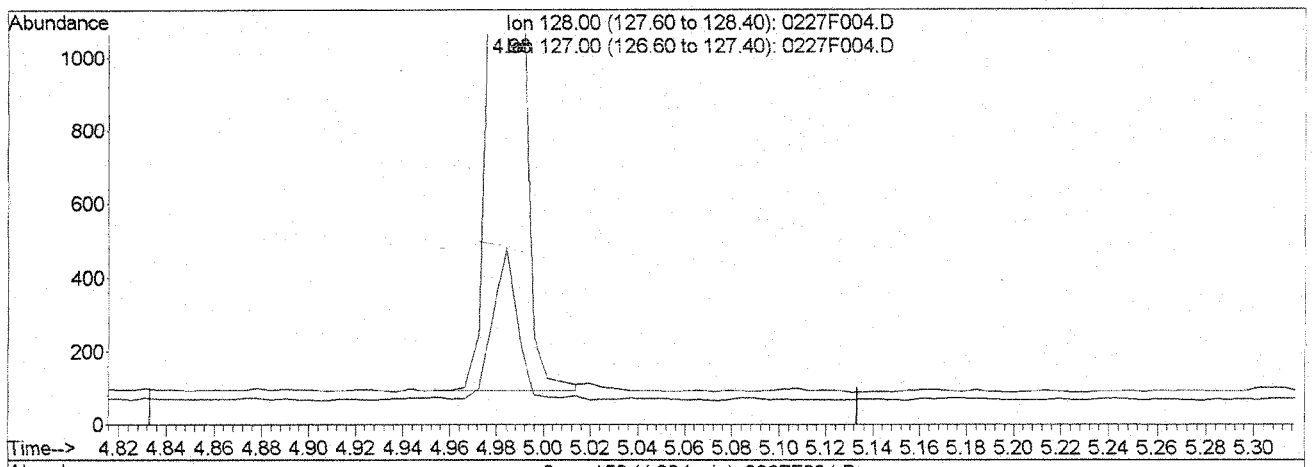
Before

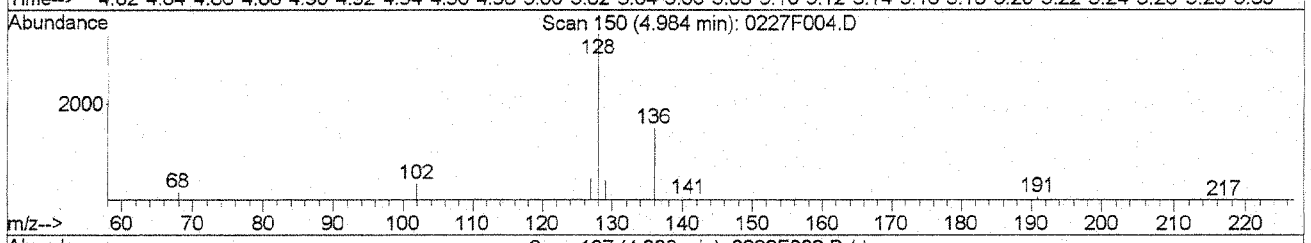
0227F004.D 0227ALK.M Mon Feb 27 09:32:34 2012

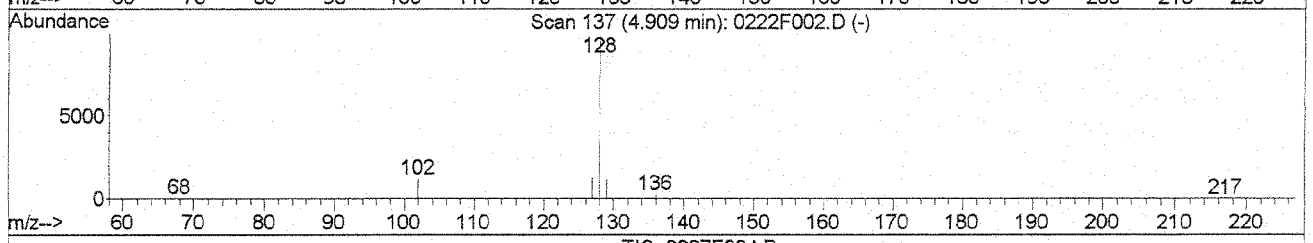
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:32 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(2) Naphthalene (T)
4.98min 3.94ng/ml m
response 2311

Ion	Exp%	Act%
128.00	100	100
127.00	12.30	14.22
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

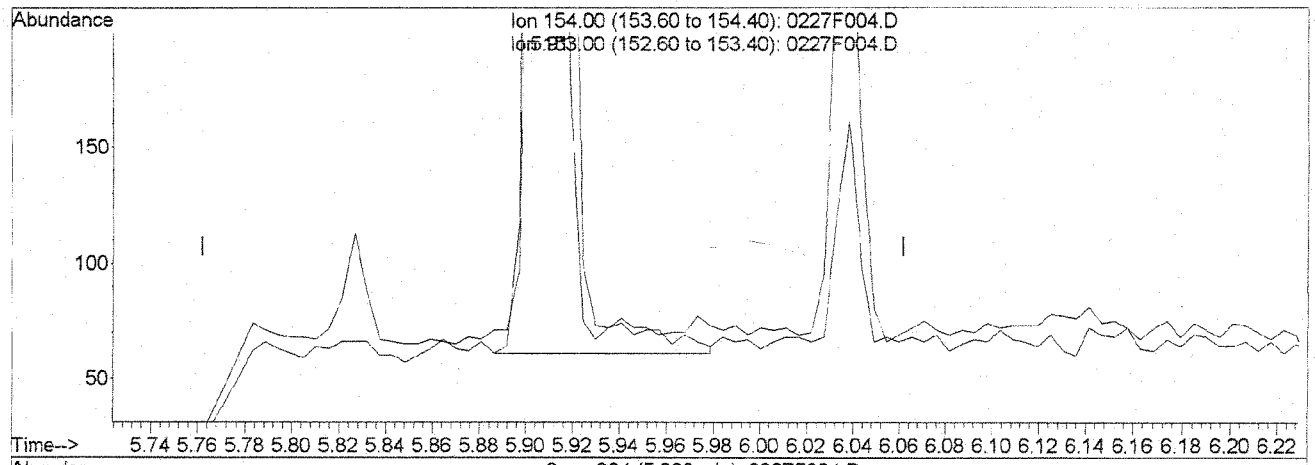
FEB 28 2012

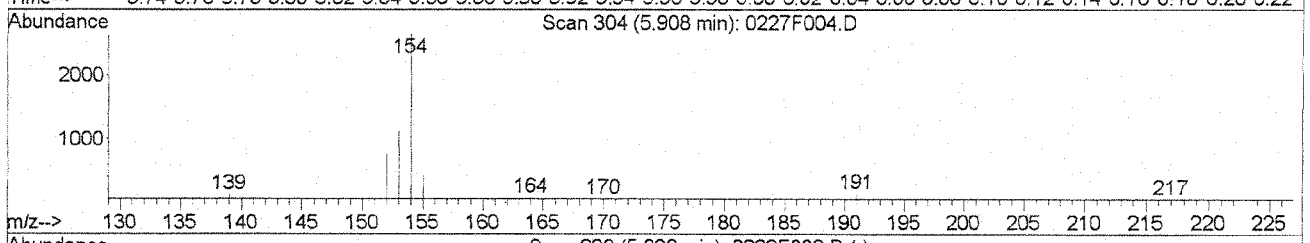
0227F004.D 0227ALK.M Mon Feb 27 09:32:48 2012

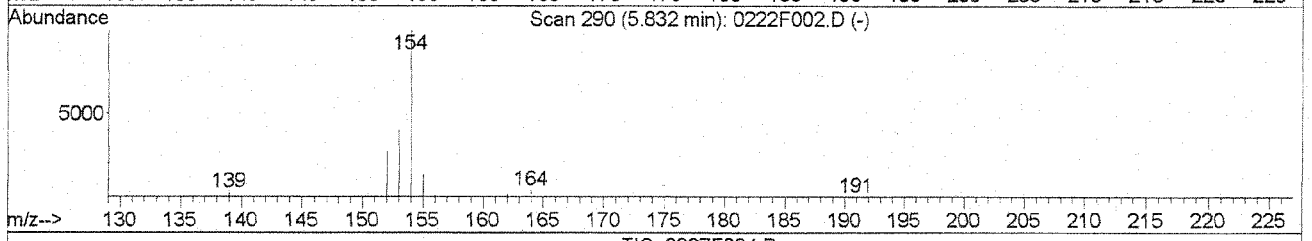
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:32 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(5) Biphenyl (T)

5.91min 3.88ng/ml

response 1835

Ion	Exp%	Act%
154.00	100	100
153.00	39.80	40.86
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

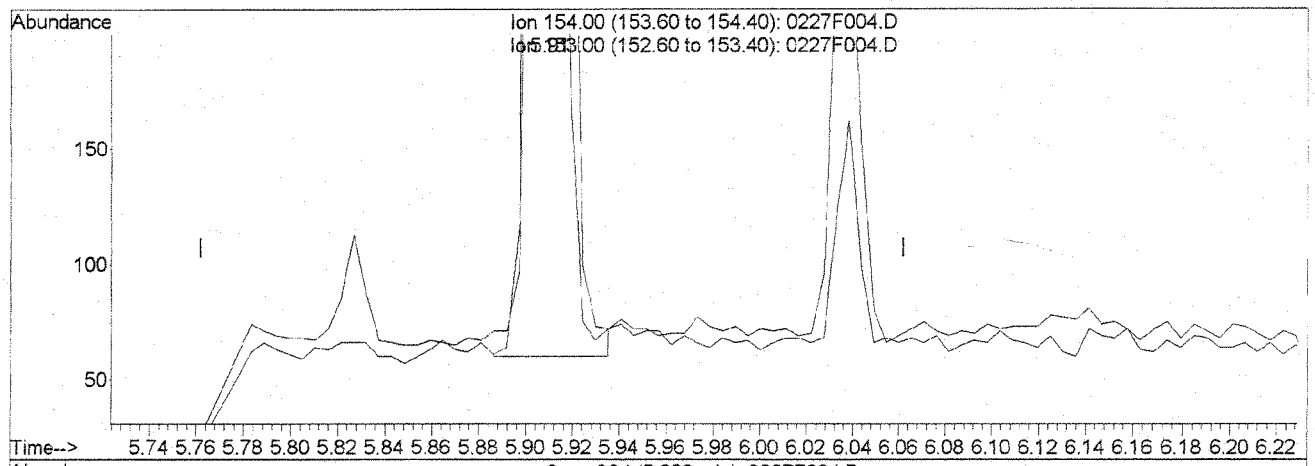
Before

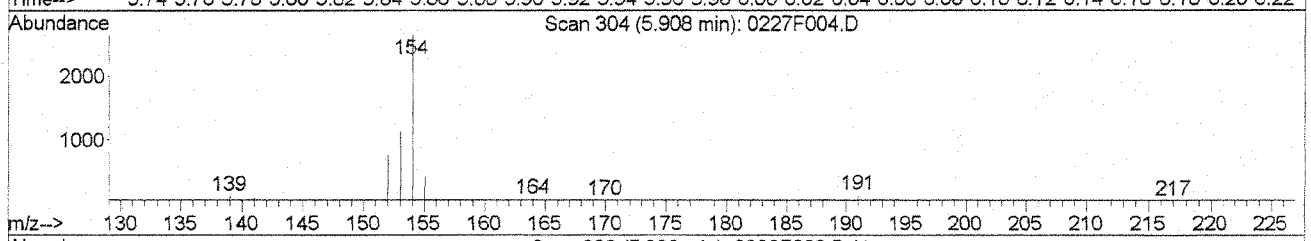
0227F004.D 0227ALK.M Mon Feb 27 09:32:56 2012

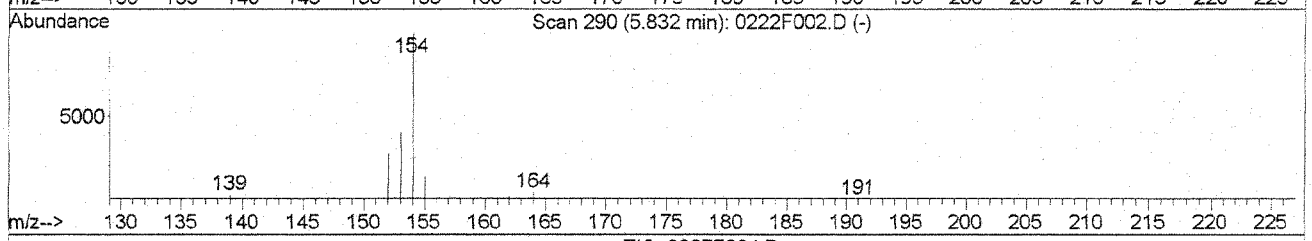
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:32 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(5) Biphenyl (T)
5.91min 3.84ng/ml m
response 1818

Ion	Exp%	Act%
154.00	100	100
153.00	39.80	42.60
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

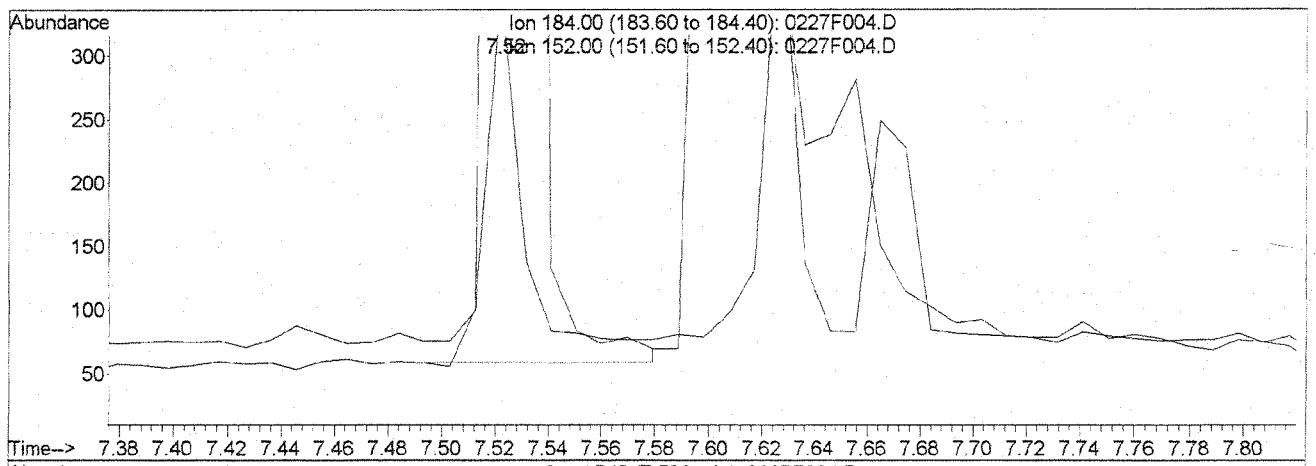
FEB 28 2012

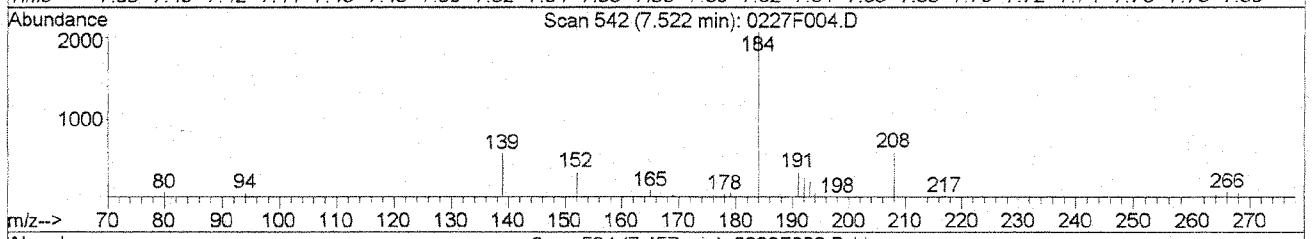
0227F004.D 0227ALK.M Mon Feb 27 09:33:02 2012

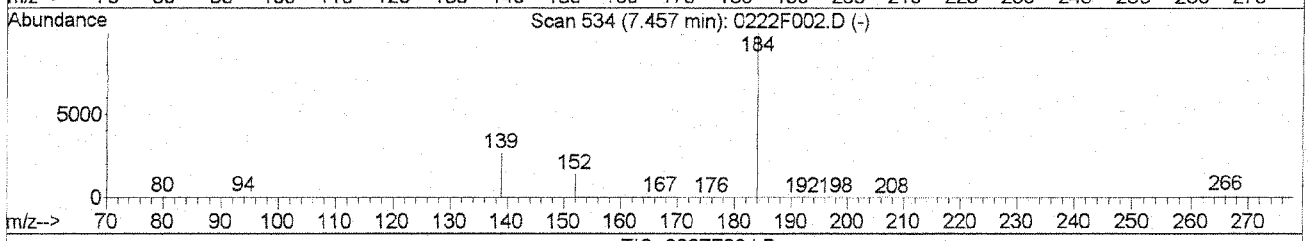
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:32 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(23) Dibenzothiophene (T)

7.52min 3.65ng/ml

response 2202

Ion	Exp%	Act%
184.00	100	100
152.00	6.10	14.01
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

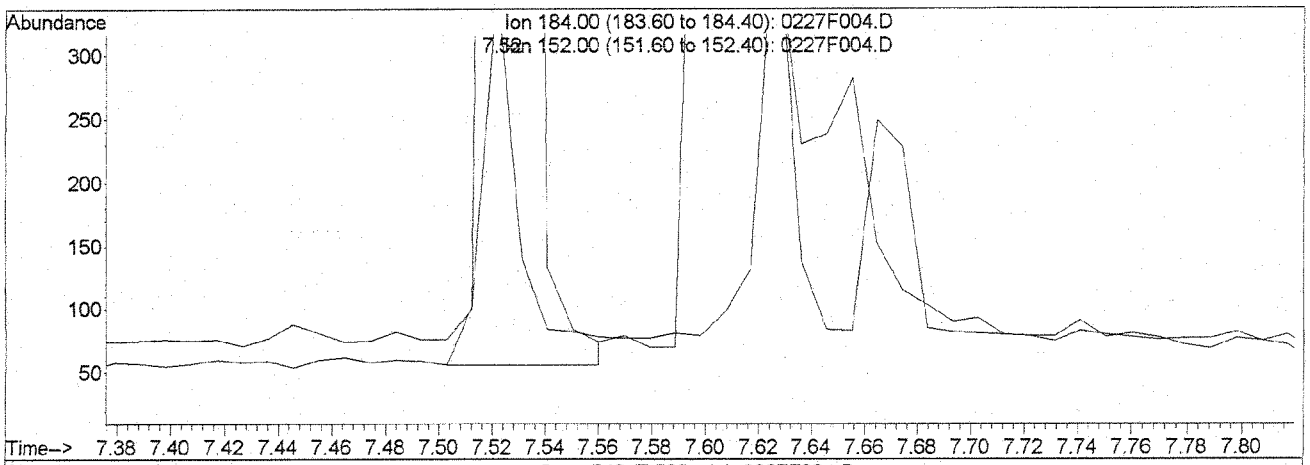
Before

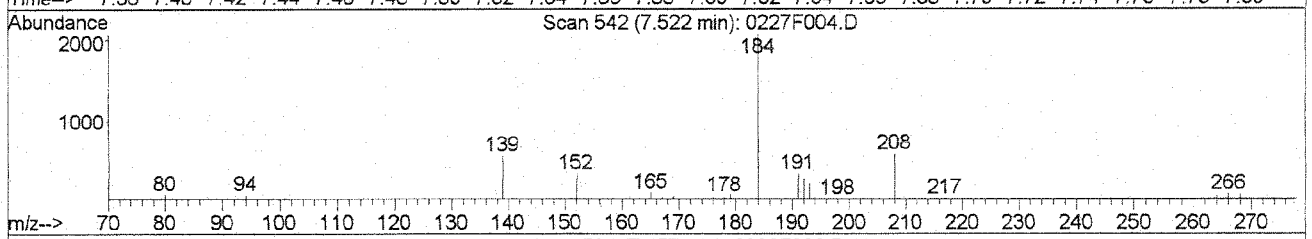
0227F004.D 0227ALK.M Mon Feb 27 09:33:25 2012

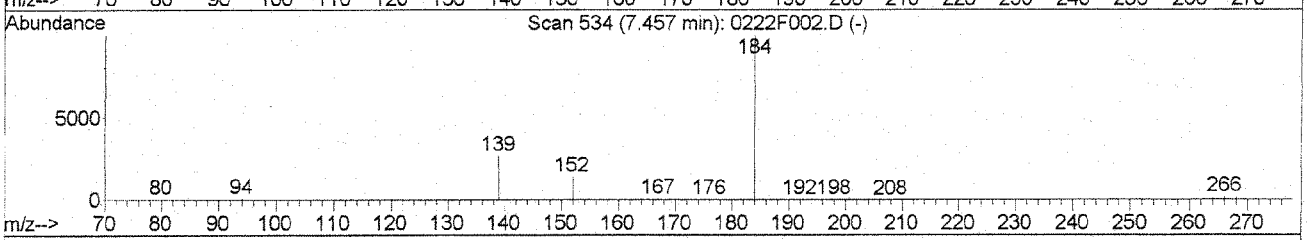
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:33 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(23) Dibenzothiophene (T)

7.52min 3.64ng/ml m

response 2196

Ion	Exp%	Act%
184.00	100	100
152.00	6.10	17.29
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

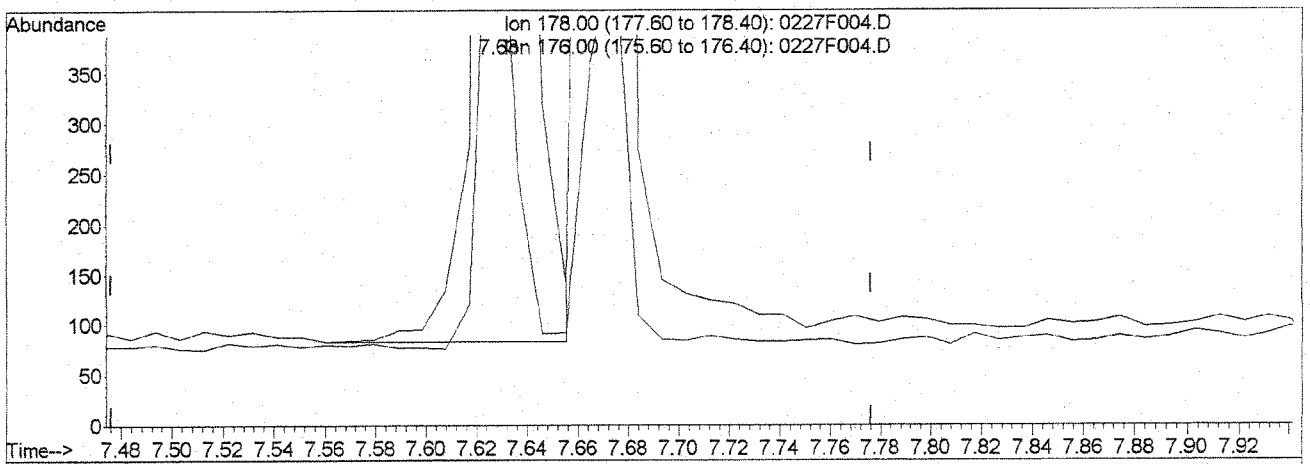
FEB 28 2012

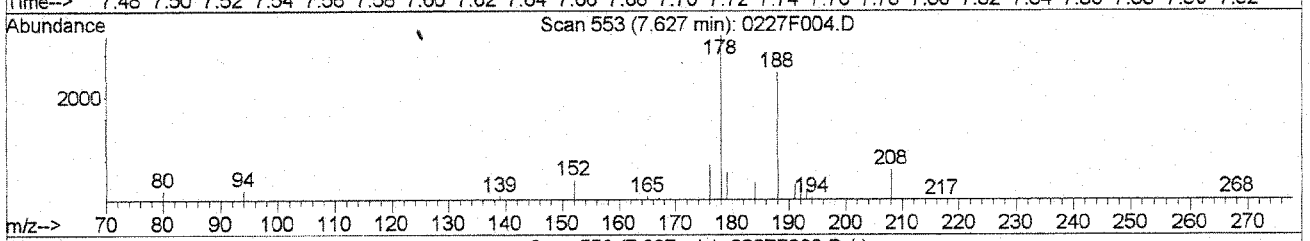
0227F004.D 0227ALK.M Mon Feb 27 09:33:31 2012

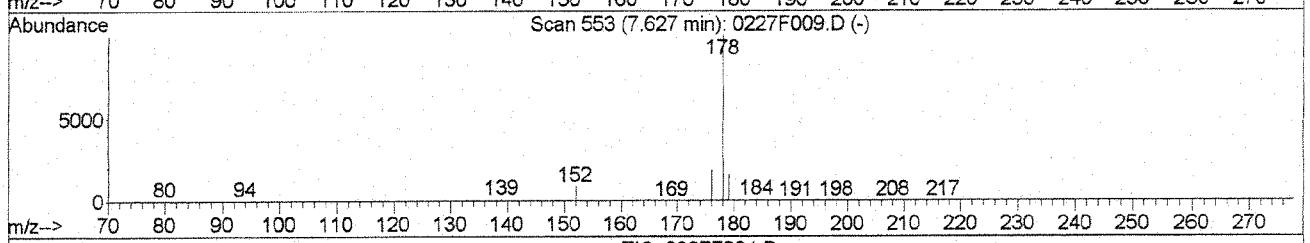
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:10 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(27) Phenanthrene (T)

7.63min 4.36ng/ml

response 2683

Ion	Exp%	Act%
178.00	100	100
176.00	18.30	20.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

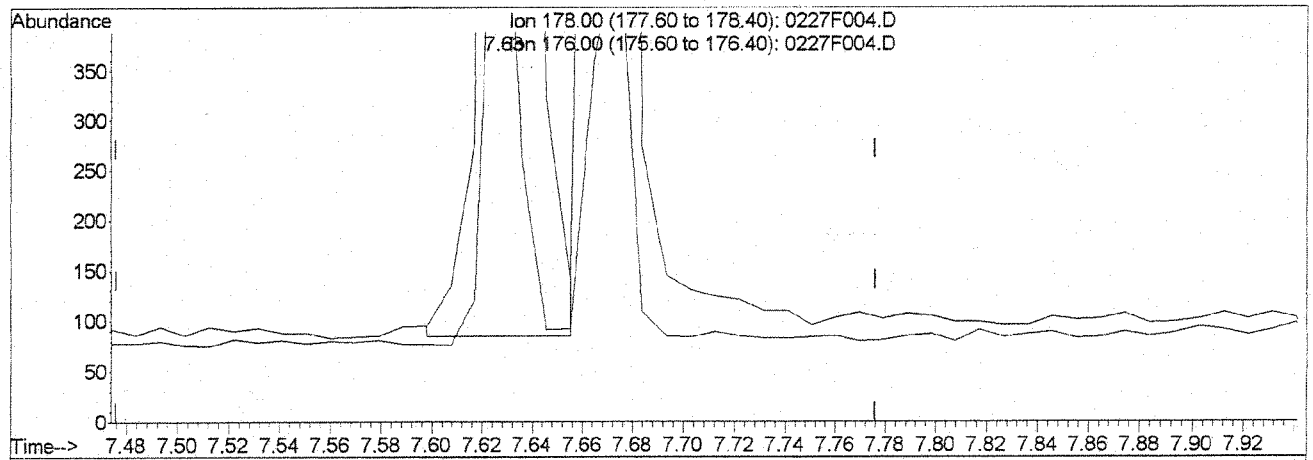
Before

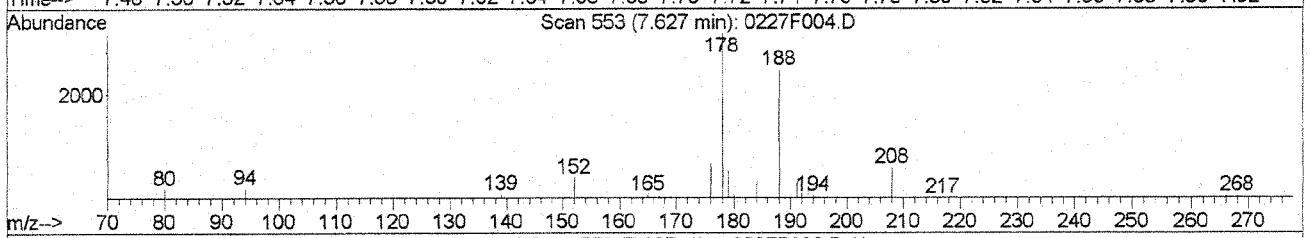
0227F004.D 0227ALK.M Tue Feb 28 06:10:39 2012

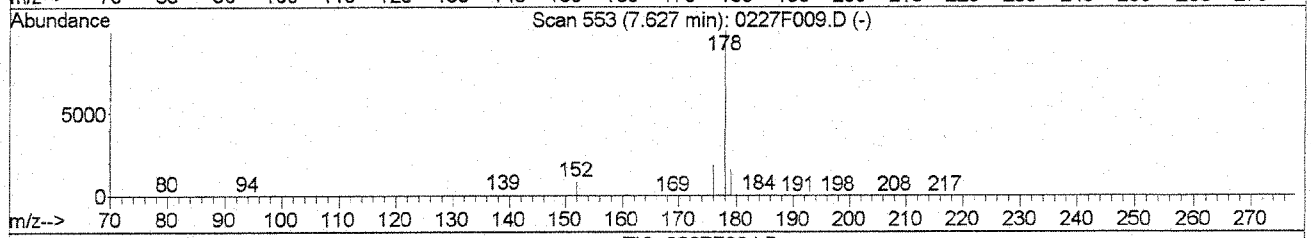
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:10 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(27) Phenanthrene (T)

7.63min 4.32ng/ml m

response 2662

Ion	Exp%	Act%
178.00	100	100
176.00	18.30	22.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

02/28/12

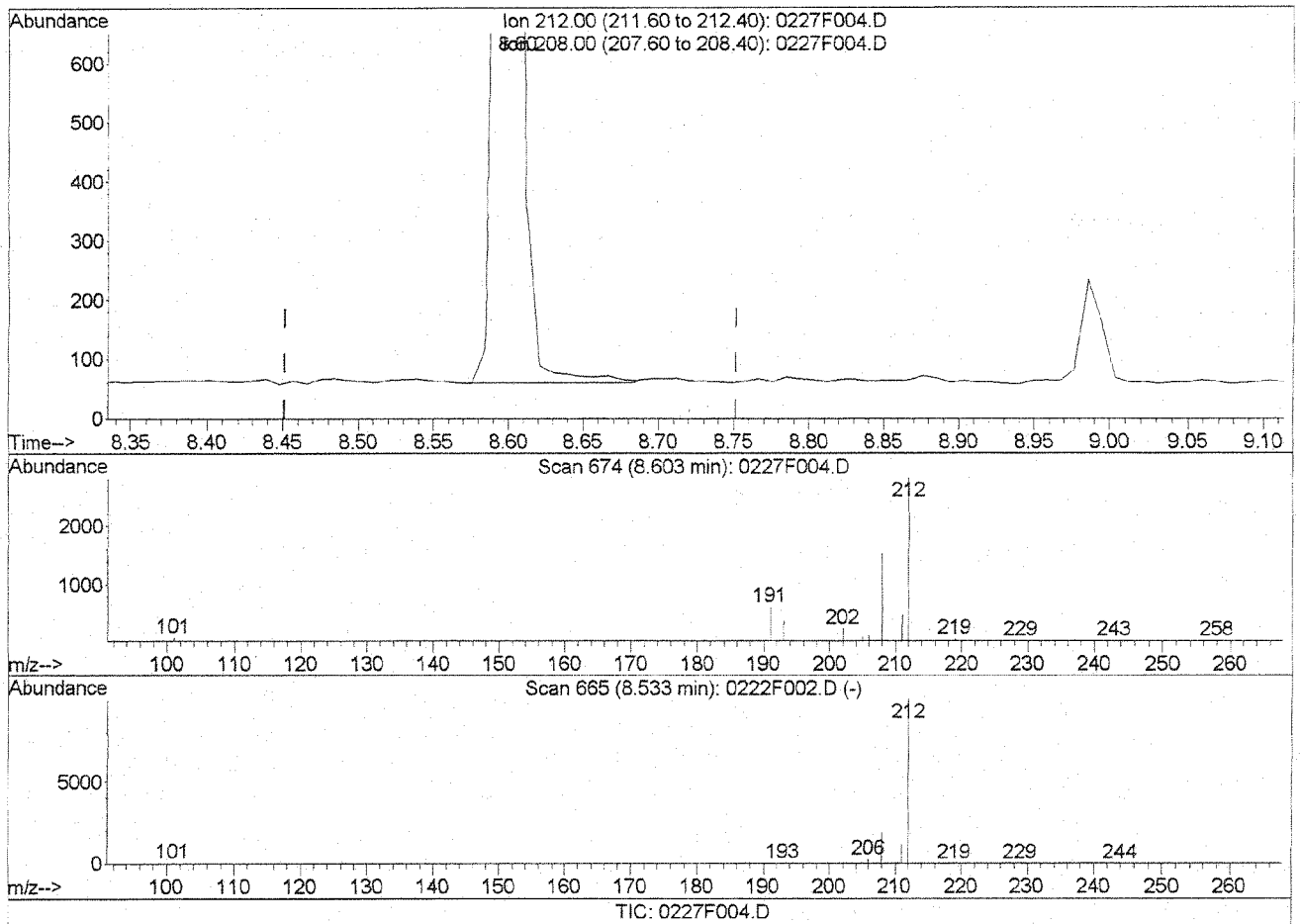
FEB 28 2012

0227F004.D 0227ALK.M Tue Feb 28 06:10:45 2012

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:33 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration



(36) Fluoranthene-d10 (S)

8.60min 4.52ng/ml

response 2631

Ion	Exp%	Act%
212.00	100	100
208.00	16.50	13.35
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

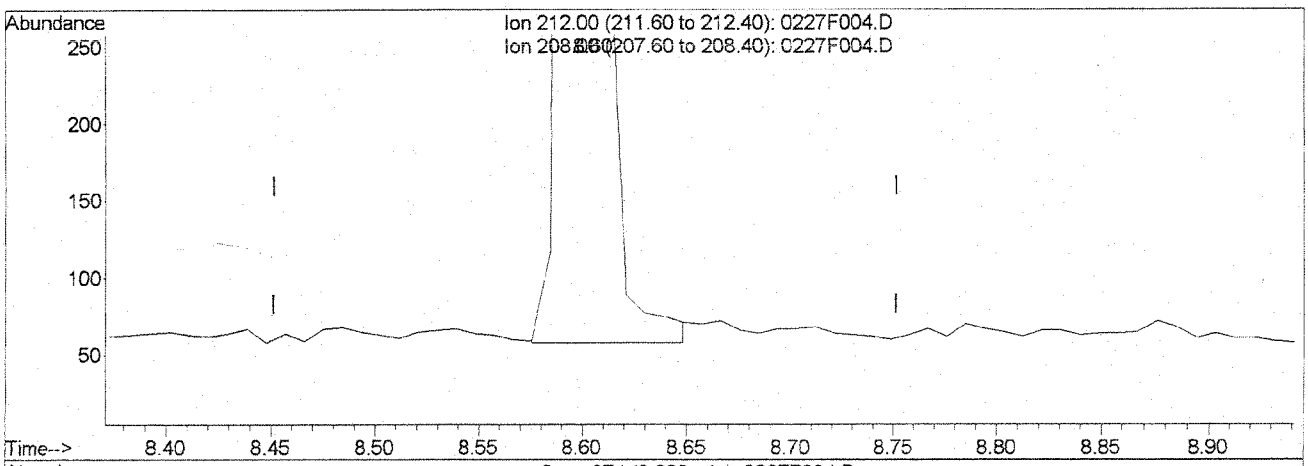
Before

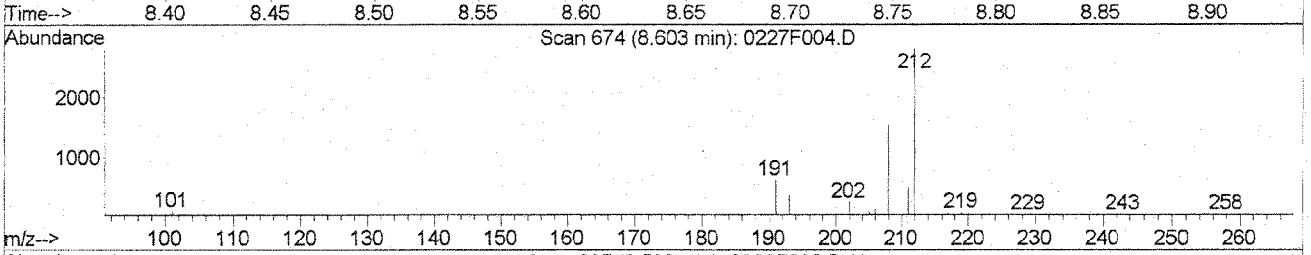
0227F004.D 0227ALK.M Mon Feb 27 09:33:40 2012

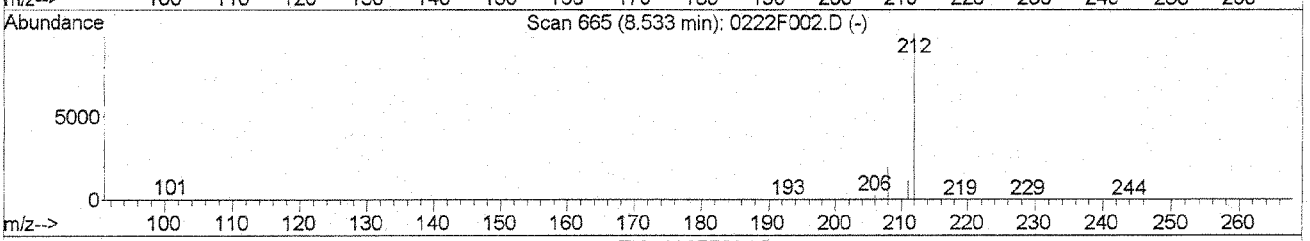
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:33 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(36) Fluoranthene-d10 (S)
8.60min 4.50ng/ml m
response 2623

Ion	Exp%	Act%
212.00	100	100
208.00	16.50	54.85#
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

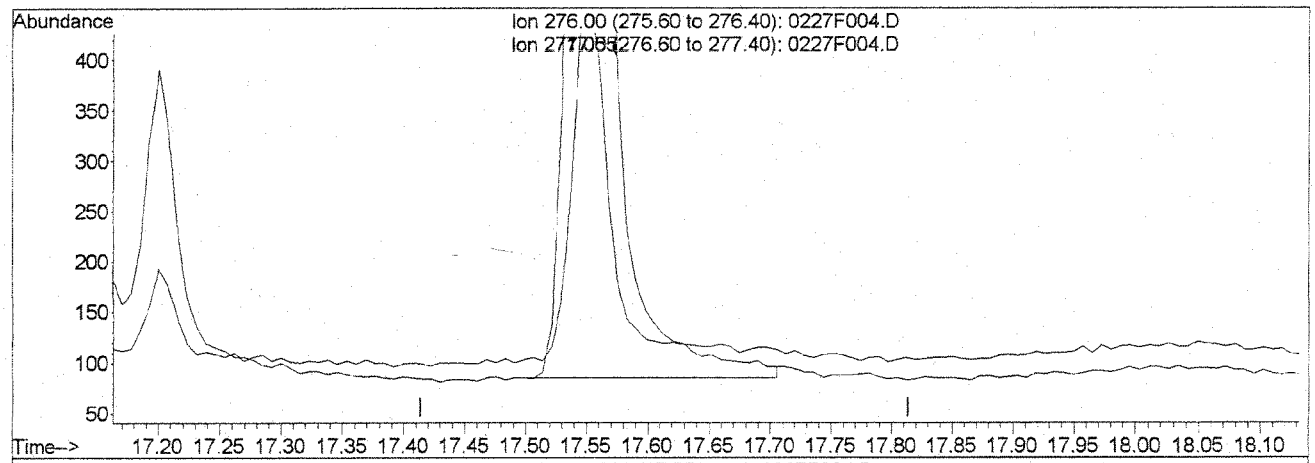
FEB 28 2012

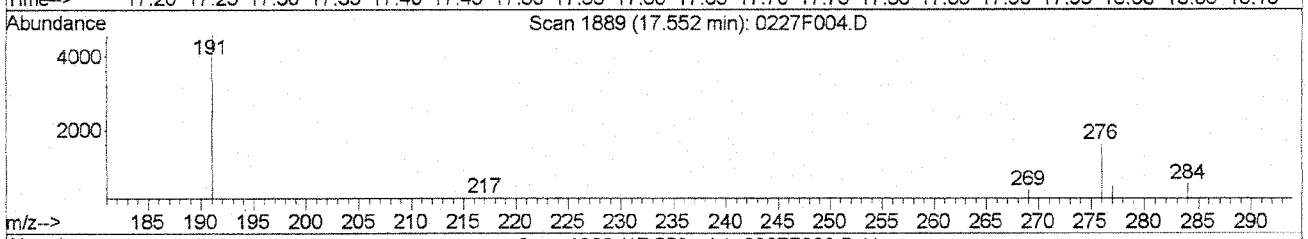
0227F004.D 0227ALK.M Mon Feb 27 09:33:47 2012

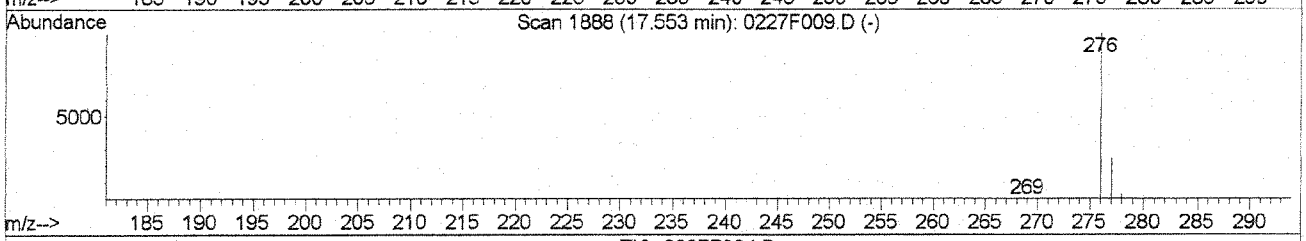
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F004.D Vial: 2
Acq On : 27 Feb 2012 8:33 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:33 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(57) Benzo(g,h,i)perylene (T)

17.55min 4.80ng/ml

response 3090

ion	Exp%	Act%
276.00	100	100
277.00	23.60	23.22
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

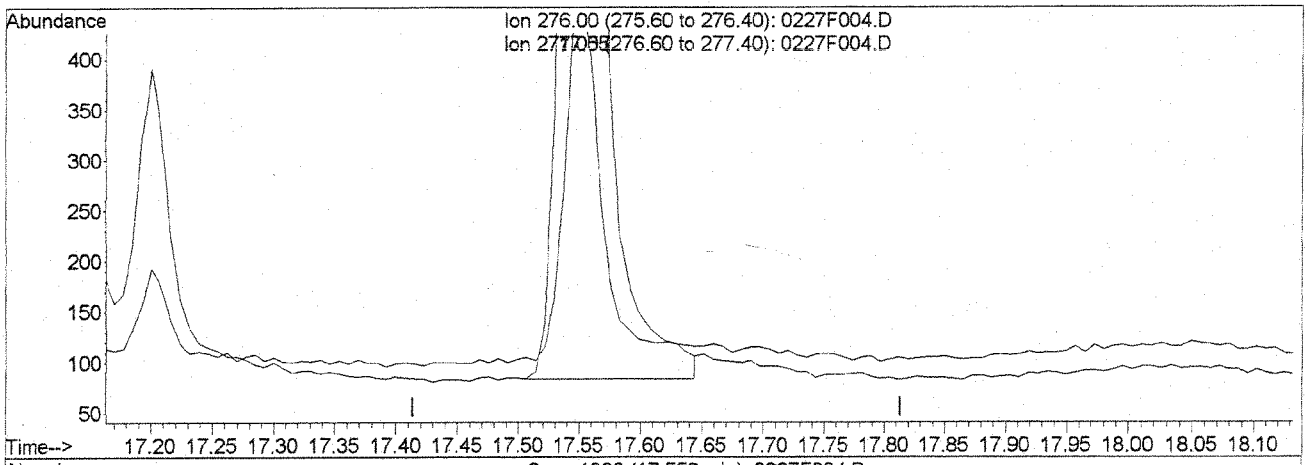
0227F004.D 0227ALK.M Tue Feb 28 06:10:10 2012

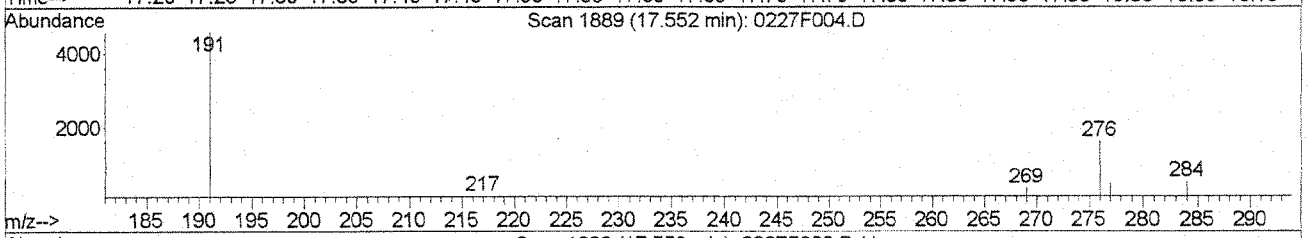
Quantitation Report (Qedit)

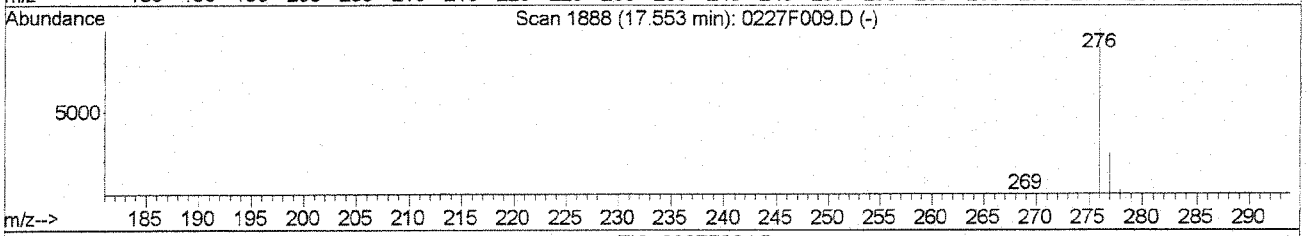
Data File : J:\MS11\DATA\022712\0227F004.D
Acq On : 27 Feb 2012 8:33 am
Sample : SIM-PAH ICAL @.004/0.1ug/mL | SVM36-64D
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:10 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 14:09:42 2012
Response via : Multiple Level Calibration







TIC: 0227F004.D

(57) Benzo(g,h,i)perylene (T)
17.55min 4.72ng/ml m
response 3040

Ion	Exp%	Act%
276.00	100	100
277.00	23.60	28.38
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/28/12

FEB 28 2012

0227F004.D 0227ALK.M Tue Feb 28 06:10:23 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F005.D Vial: 3
Acq On : 27 Feb 2012 9:05 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM36-67E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 09:29:32 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 2 8 2012

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.97	136	96822	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.38	164	54836	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.61	188	99669	200.00	ng/ml	0.00
37) Chrysene-d12	10.40	240	128473	200.00	ng/ml	-0.01
49) Perylene-d12	14.11	264	121438	200.00	ng/ml	-0.06
System Monitoring Compounds						
15) Fluorene-d10	6.81	176	2639m	8.17	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.82%	
20) 2,4,6 Tribromophenol	7.03	330	397m	4.93	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.49%	
36) Fluoranthene-d10	8.60	212	5388	9.37	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.94%	
42) Terphenyl-d14	8.99	244	4523	7.71	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.77%	
Target Compounds						Qvalue
2) Naphthalene	4.98	128	4697	8.00	ng/ml	97
3) 2-Methylnaphthalene	5.53	142	3197	8.10	ng/ml	99
4) 1-Methylnaphthalene	5.62	142	2805	8.02	ng/ml	97
5) Biphenyl	5.91	154	3957	8.35	ng/ml	97
6) 2,6-Dimethylnaphthalene	6.04	156	2699	8.12	ng/ml	99
11) Acenaphthylene	6.27	152	4400	7.62	ng/ml	99
12) Acenaphthene	6.41	154	2803	8.00	ng/ml	95
13) Dibenzofuran	6.55	168	4206	7.86	ng/ml	82
14) 2,3,5-Trimethylnaphthalene	6.72	170	2601	8.09	ng/ml	91
16) Fluorene	6.83	166	3416	8.03	ng/ml	93
21) Pentachlorophenol	7.45	266	9015	86.41	ng/ml	92
23) Dibenzothiophene	7.52	184	4769	8.01	ng/ml	77
27) Phenanthrene	7.63	178	5619	9.25	ng/ml	97
28) Anthracene	7.67	178	4939	8.42	ng/ml	96
29) Carbazole	7.80	167	4228m	8.13	ng/ml	
30) 1-Methylphenanthrene	8.13	192	3888	8.78	ng/ml	92
35) Fluoranthene	8.61	202	5931	9.07	ng/ml	99
38) Pyrene	8.83	202	6872	8.92	ng/ml#	1
43) Benz(a)anthracene	10.38	228	6041	8.65	ng/ml	99
44) Chrysene	10.44	228	5807	8.58	ng/ml	99
50) Benzo(b)fluoranthene	12.86	252	5518	7.93	ng/ml	100
51) Benzo(k)fluoranthene	12.94	252	5396	7.94	ng/ml	99
52) Benzo(e)pyrene	13.72	252	5053	8.18	ng/ml	97
53) Benzo(a)pyrene	13.89	252	4378	7.27	ng/ml	99
54) Perylene	14.19	252	4817	7.95	ng/ml	98

(#) = qualifier out of range (m) = manual integration
0227F005.D 0227ALK.M Mon Feb 27 10:55:25 2012 FEB 2 8 2012 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F005.D
Acq On : 27 Feb 2012 9:05 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM36-67E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 09:29:32 2012

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55) Indeno(1,2,3-cd)pyrene	17.12	276	4926	8.57 ng/ml	99
56) Dibenz(a,h)anthracene	17.20	278	5090	8.40 ng/ml	98
57) Benzo(g,h,i)perylene	17.55	276	6075	8.65 ng/ml	98

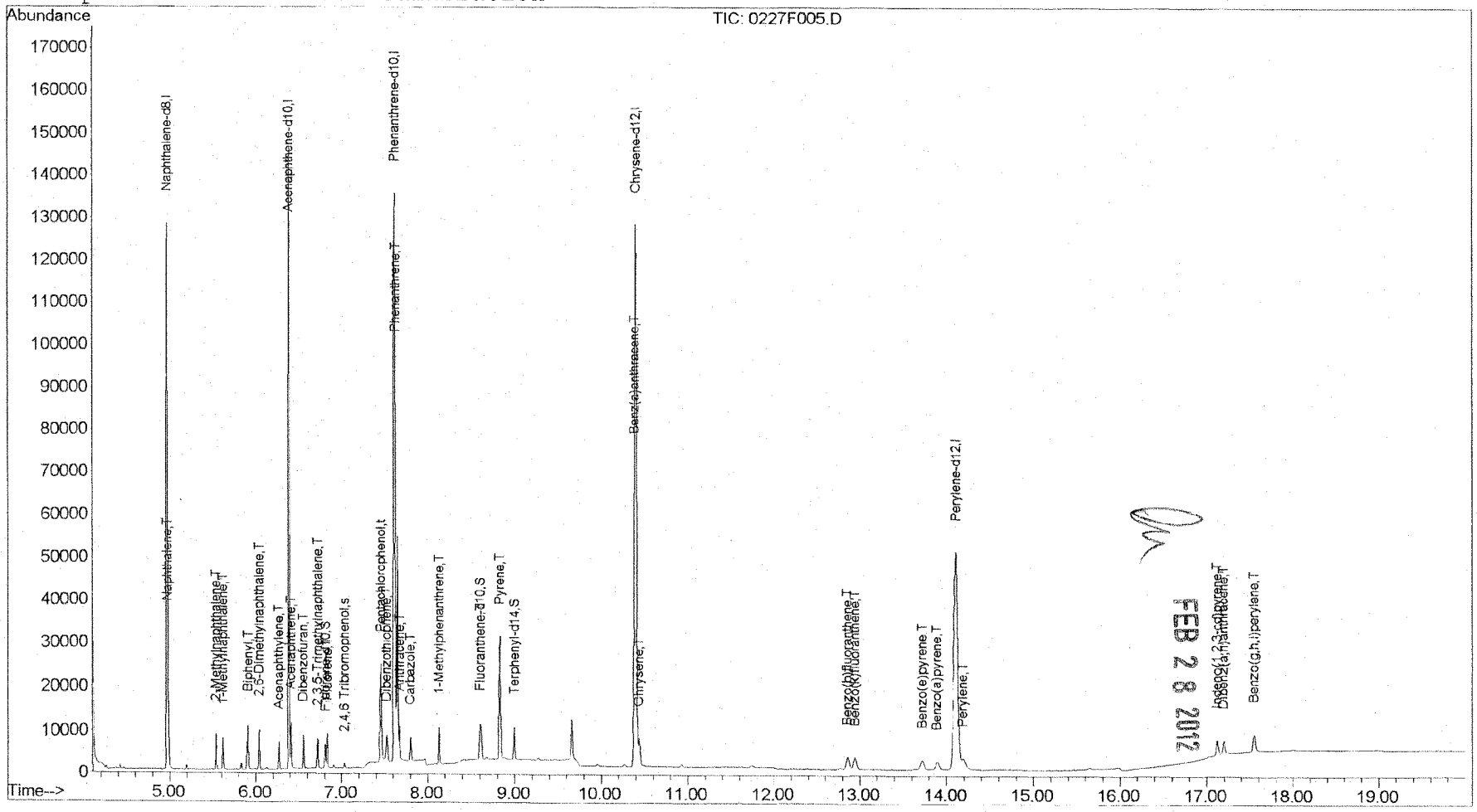
FEB 28 2012

(#) = qualifier out of range (m) = manual integration
0227F005.D 0227ALK.M Mon Feb 27 10:55:25 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F005.D Vial: 3
Acq On : 27 Feb 2012 9:05 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM36-67E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:34 2012 Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration

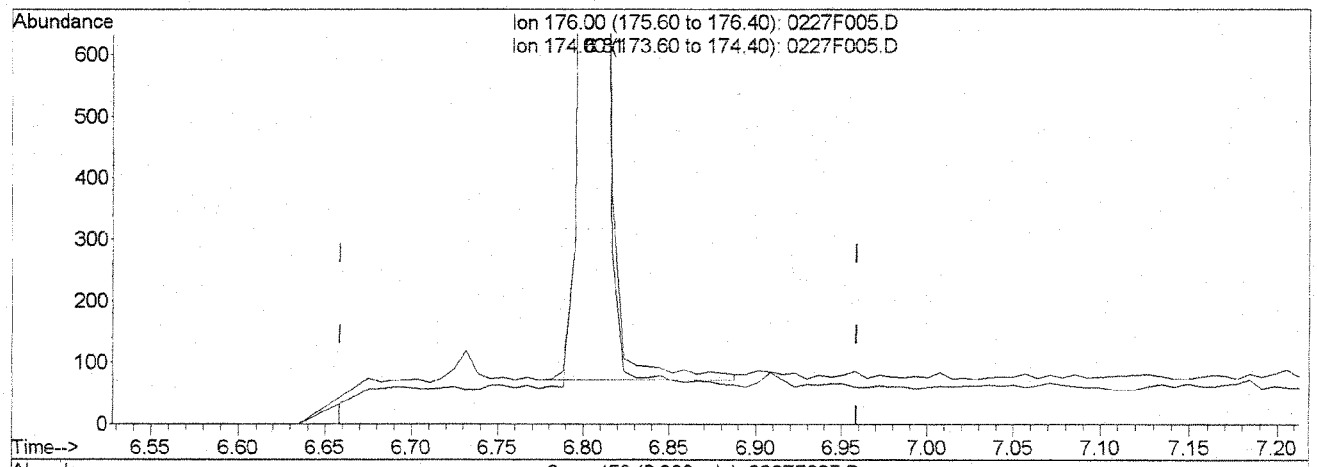


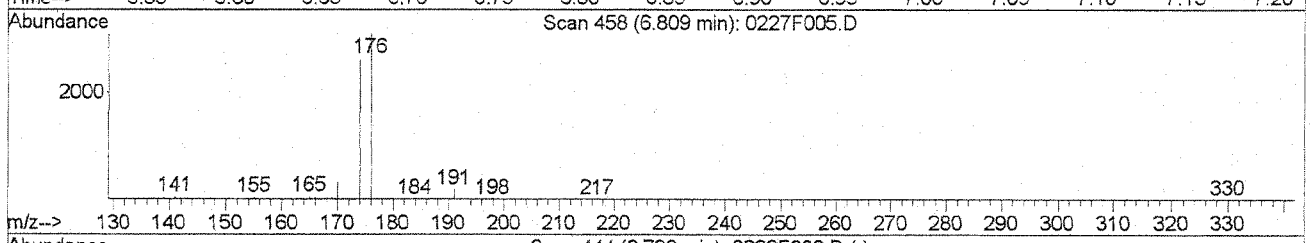
FEB 28 2012

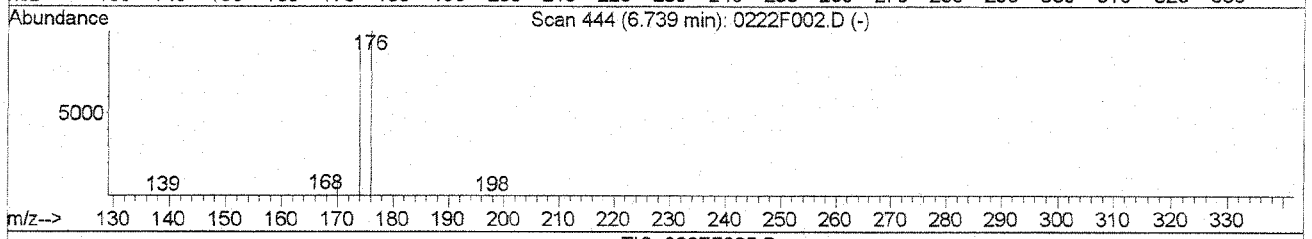
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F005.D Vial: 3
Acq On : 27 Feb 2012 9:05 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM36-67E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:29 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F005.D

(15) Fluorene-d10 (S)

6.81min 8.31ng/ml

response 2683

Ion	Exp%	Act%
176.00	100	100
174.00	91.40	84.79
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

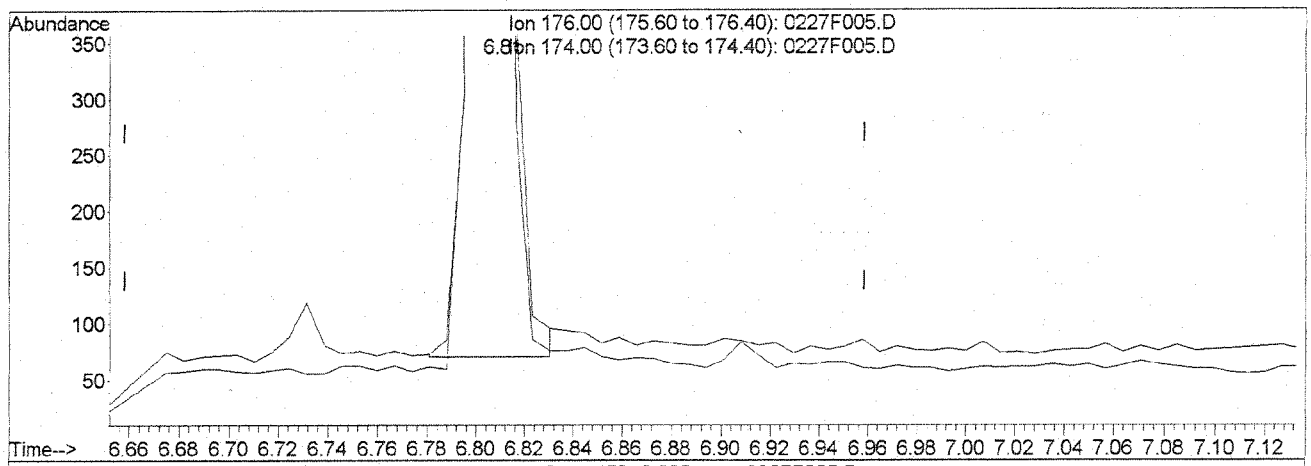
0227F005.D 0227ALK.M Mon Feb 27 09:34:13 2012

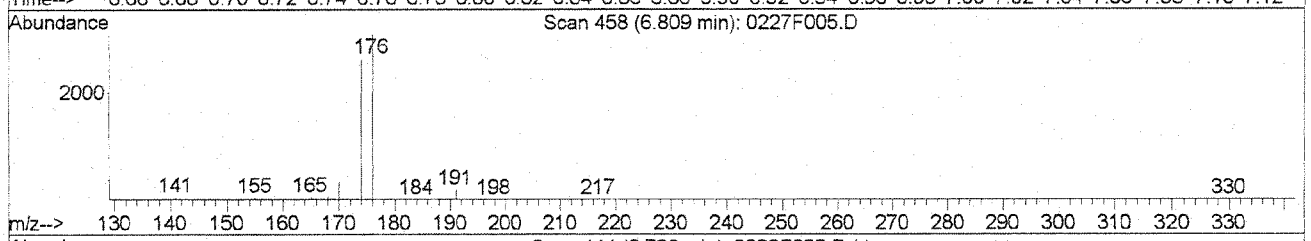
Quantitation Report (Qedit)

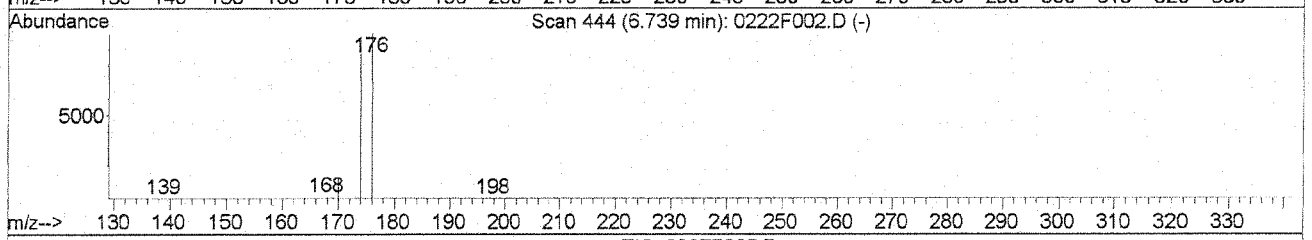
Data File : J:\MS11\DATA\022712\0227F005.D
Acq On : 27 Feb 2012 9:05 am
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM36-67E
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:34 2012

Vial: 3
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F005.D

(15) Fluorene-d10 (S)
6.81min 8.17ng/ml m
response 2639

Ion	Exp%	Act%
176.00	100	100
174.00	91.40	84.69
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

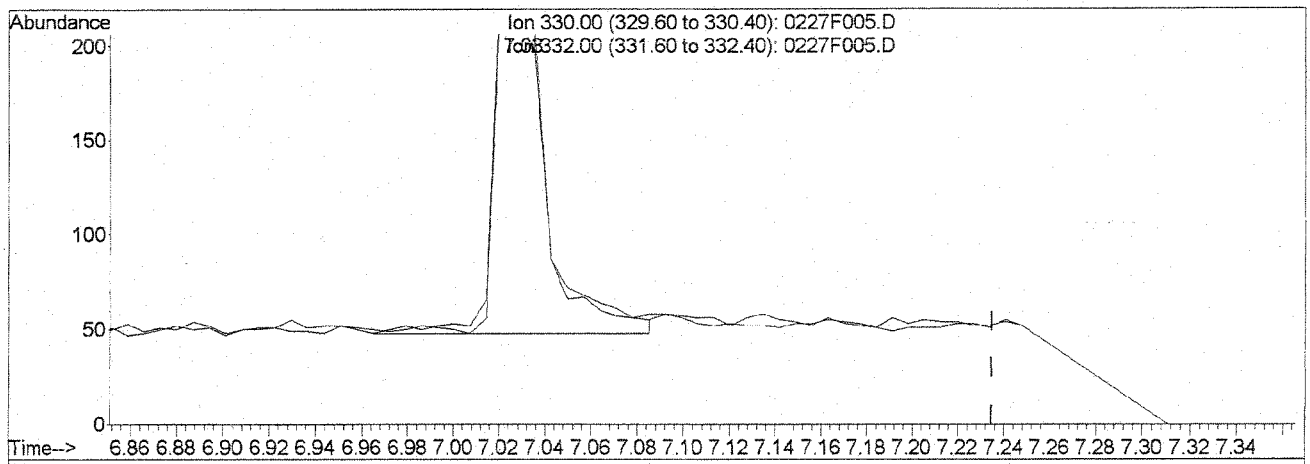
FEB 28 2012

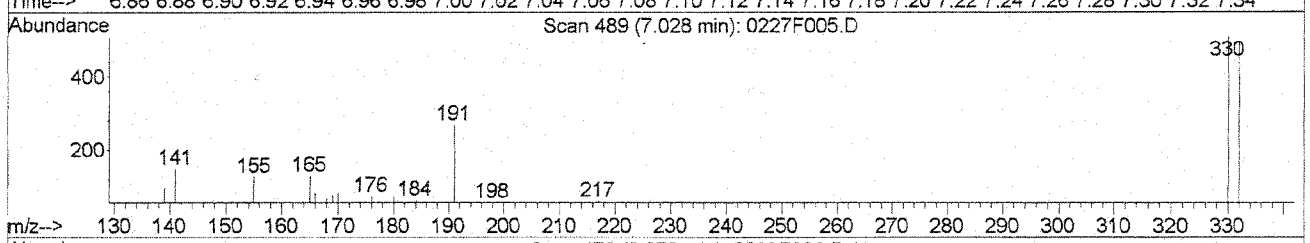
0227F005.D 0227ALK.M Mon Feb 27 09:34:20 2012

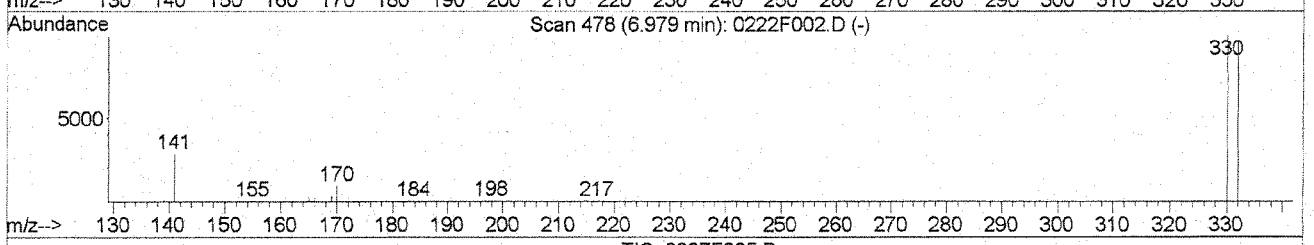
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F005.D Vial: 3
Acq On : 27 Feb 2012 9:05 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM36-67E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:34 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Single Level Calibration







TIC: 0227F005.D

(20) 2,4,6 Tribromophenol (s)

7.03min 5.21ng/ml

response 420

Ion	Exp%	Act%
330.00	100	100
332.00	103.80	96.51
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

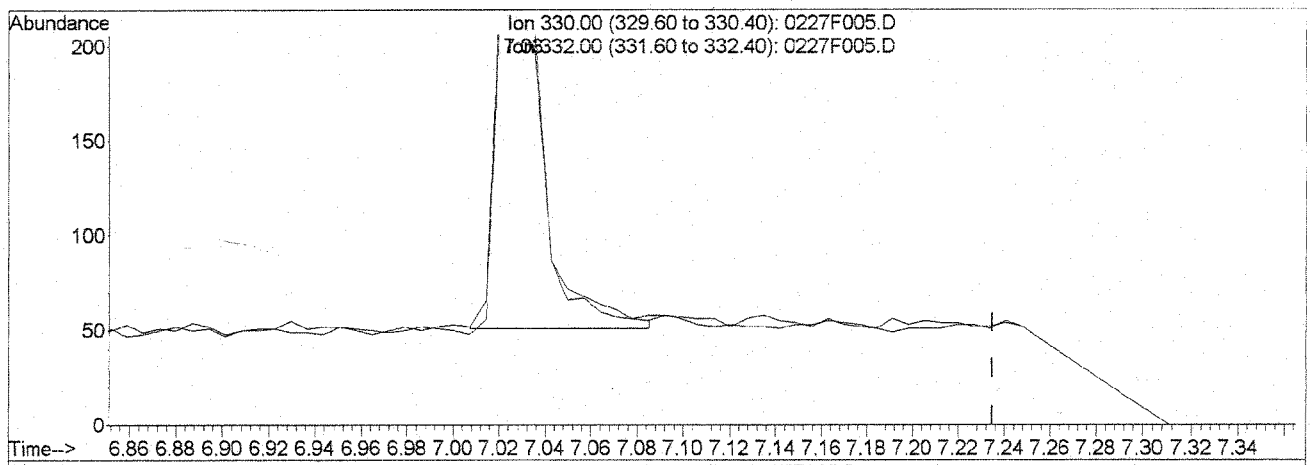
Before

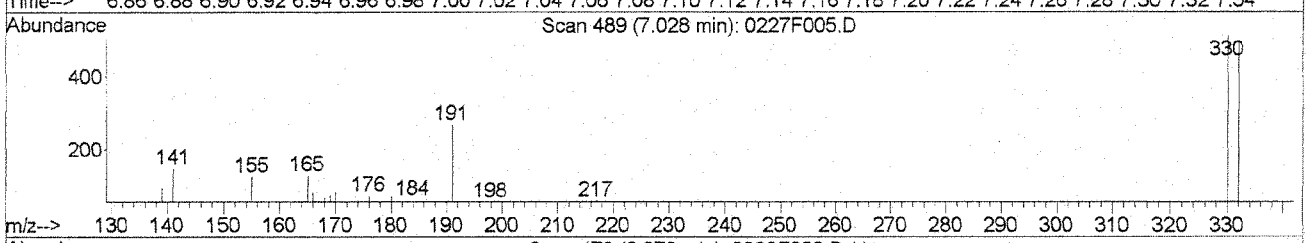
0227F005.D 0227ALK.M Mon Feb 27 09:34:26 2012

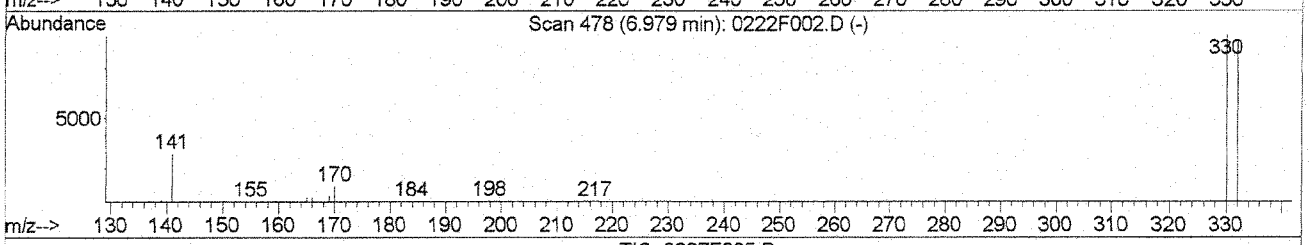
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F005.D Vial: 3
Acq On : 27 Feb 2012 9:05 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM36-67E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:34 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Single Level Calibration







TIC: 0227F005.D

(20) 2,4,6 Tribromophenol (s)

7.03min 4.93ng/ml m

response 397

Ion	Exp%	Act%
330.00	100	100
332.00	103.80	97.24
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

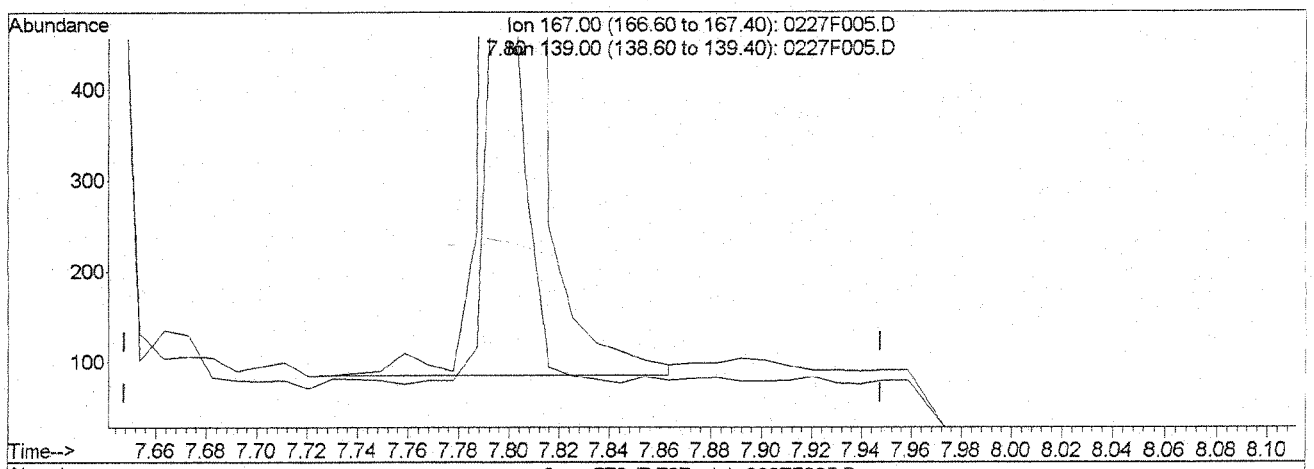
FEB 28 2012

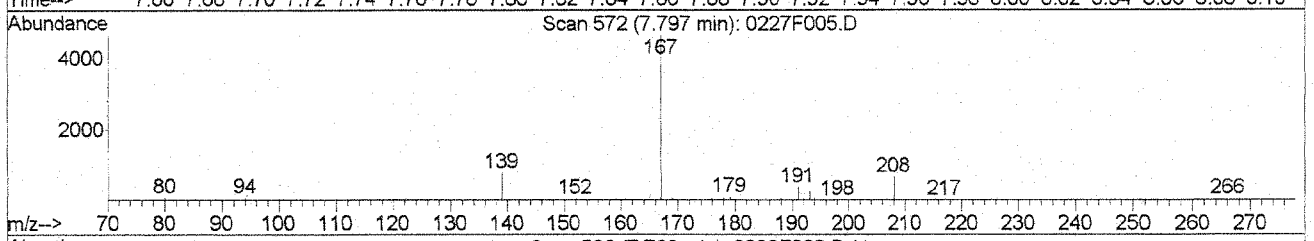
0227F005.D 0227ALK.M Mon Feb 27 09:34:31 2012

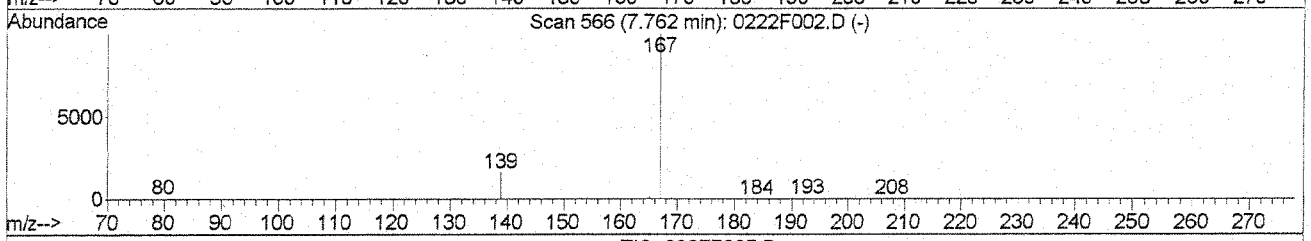
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F005.D Vial: 3
Acq On : 27 Feb 2012 9:05 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM36-67E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:34 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F005.D

(29) Carbazole (T)

7.80min 8.20ng/ml

response 4264

Ion	Exp%	Act%
167.00	100	100
139.00	11.40	15.76
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

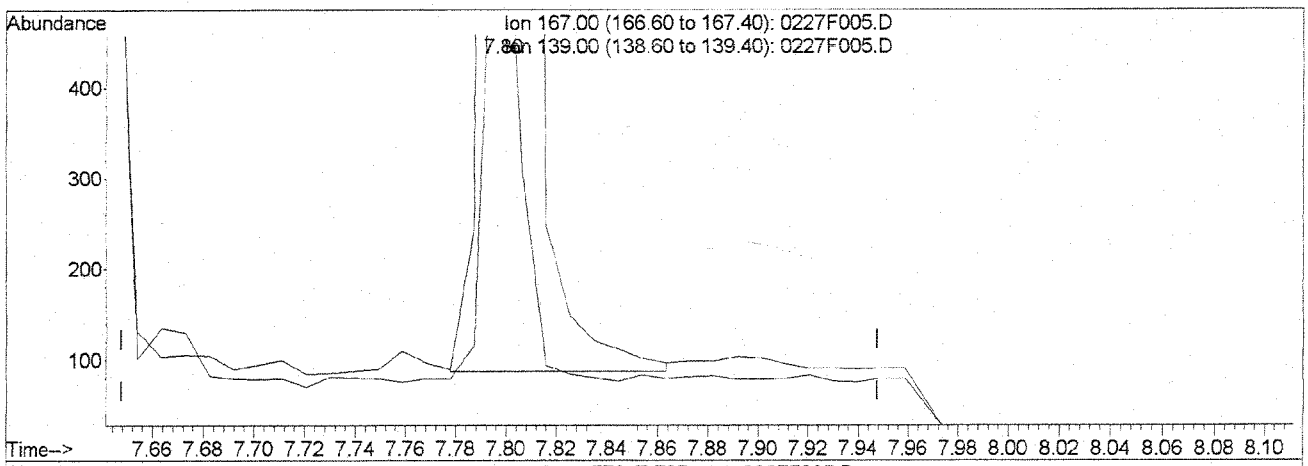
Before

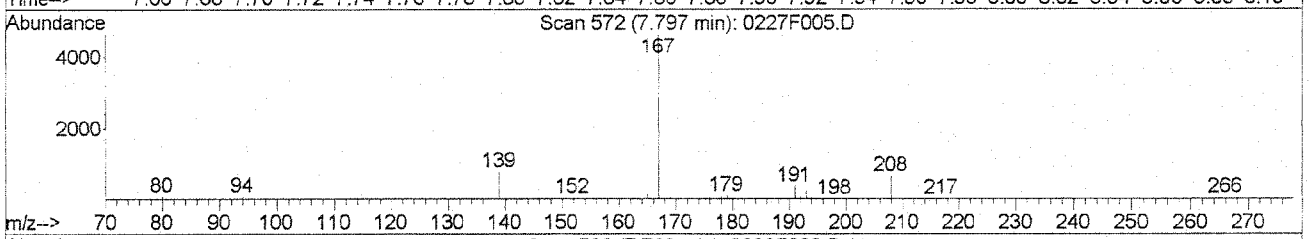
0227F005.D 0227ALK.M Mon Feb 27 09:34:42 2012

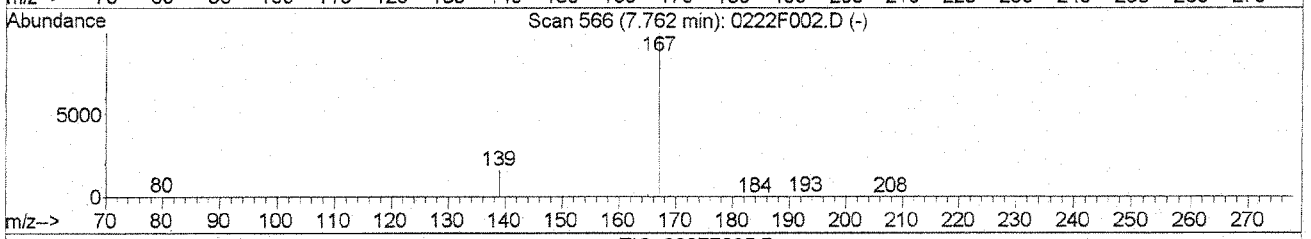
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F005.D Vial: 3
Acq On : 27 Feb 2012 9:05 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @.008/0.2ug/mL | SVM36-67E Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 9:34 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F005.D

(29) Carbazole (T)

7.80min 8.13ng/ml m

response 4228

Ion	Exp%	Act%
167.00	100	100
139.00	11.40	17.20
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

02/27/12

FEB 28 2012

0227F005.D 0227ALK.M Mon Feb 27 09:34:47 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F006.D Vial: 4
Acq On : 27 Feb 2012 9:43 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM36-67F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:14:02 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.97	136	96008	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.38	164	53419	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.61	188	99112	200.00	ng/ml	0.00
37) Chrysene-d12	10.40	240	122709	200.00	ng/ml	-0.01
49) Perylene-d12	14.11	264	114408	200.00	ng/ml	-0.06
System Monitoring Compounds						
15) Fluorene-d10	6.81	176	6107	19.42	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	1.94%		
20) 2,4,6 Tribromophenol	7.03	330	954	12.16	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	1.22%		
36) Fluoranthene-d10	8.60	212	12279	21.48	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	2.15%		
42) Terphenyl-d14	8.99	244	10446	18.65	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	1.87%		
Target Compounds						Qvalue
2) Naphthalene	4.99	128	11088	19.05	ng/ml	99
3) 2-Methylnaphthalene	5.54	142	7460	19.06	ng/ml	94
4) 1-Methylnaphthalene	5.62	142	6601	19.03	ng/ml	98
5) Biphenyl	5.91	154	8928	19.00	ng/ml	99
6) 2,6-Dimethylnaphthalene	6.04	156	6279	19.04	ng/ml	100
11) Acenaphthylene	6.27	152	10181	18.10	ng/ml	100
12) Acenaphthene	6.41	154	6614	19.38	ng/ml	98
13) Dibenzofuran	6.55	168	9616	18.45	ng/ml	88
14) 2,3,5-Trimethylnaphthalene	6.72	170	6069	19.37	ng/ml	90
16) Fluorene	6.83	166	7829	18.89	ng/ml	98
21) Pentachlorophenol	7.45	266	20368	200.41	ng/ml	91
23) Dibenzothiophene	7.52	184	11024	18.61	ng/ml	77
27) Phenanthrene	7.63	178	12291	20.35	ng/ml	98
28) Anthracene	7.67	178	11357	19.46	ng/ml	99
29) Carbazole	7.80	167	9974	19.29	ng/ml	90
30) 1-Methylphenanthrene	8.13	192	8972	20.39	ng/ml	94
35) Fluoranthene	8.61	202	13861	21.32	ng/ml	99
38) Pyrene	8.83	202	15282	20.77	ng/ml#	28
43) Benz(a)anthracene	10.38	228	13311	19.94	ng/ml	98
44) Chrysene	10.44	228	13312	20.60	ng/ml	99
50) Benzo(b)fluoranthene	12.86	252	12989	19.82	ng/ml	97
51) Benzo(k)fluoranthene	12.95	252	12353	19.30	ng/ml	99
52) Benzo(e)pyrene	13.72	252	11662	20.04	ng/ml	100
53) Benzo(a)pyrene	13.89	252	10080	17.77	ng/ml	98
54) Perylene	14.20	252	11053	19.36	ng/ml	99

(#) = qualifier out of range (m) = manual integration
0227F006.D 0227ALK.M Mon Feb 27 10:55:26 2012 Page 1

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Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F006.D Vial: 4
Acq On : 27 Feb 2012 9:43 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM36-67F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:14:02 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	17.12	276	11035	20.38 ng/ml	100
56)	Dibenz(a,h)anthracene	17.20	278	11225	19.66 ng/ml	99
57)	Benzo(g,h,i)perylene	17.55	276	13463	20.34 ng/ml	99

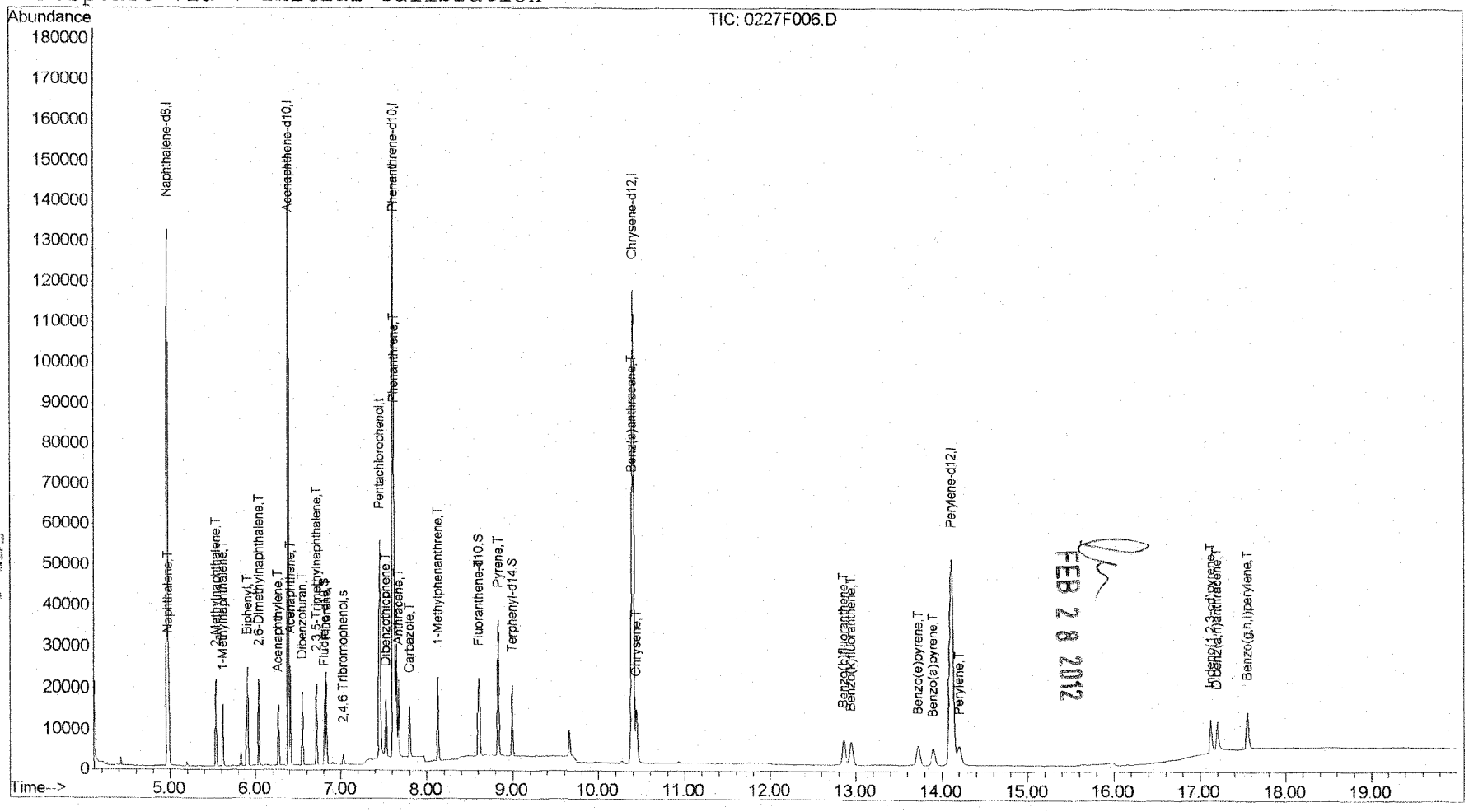
FEB 28 2012

(#) = qualifier out of range (m) = manual integration
0227F006.D 0227ALK.M Mon Feb 27 10:55:26 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F006.D Vial: 4
Acq On : 27 Feb 2012 9:43 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.02/0.4ug/mL | SVM36-67F Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:13 2012 Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F007.D Vial: 5
Acq On : 27 Feb 2012 10:09 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM36-67G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:30:34 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.96	136	101810	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.38	164	58819	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.61	188	112682	200.00	ng/ml	0.00
37) Chrysene-d12	10.40	240	140480	200.00	ng/ml	-0.01
49) Perylene-d12	14.10	264	140768	200.00	ng/ml	-0.07
System Monitoring Compounds						
15) Fluorene-d10	6.80	176	31330	90.47	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 9.05%			
20) 2,4,6 Tribromophenol	7.03	330	5905	68.33	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 6.83%			
36) Fluoranthene-d10	8.59	212	64192	98.77	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 9.88%			
42) Terphenyl-d14	8.99	244	55671	86.80	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 8.68%			
Target Compounds						Qvalue
2) Naphthalene	4.98	128	53404	86.51	ng/ml	99
3) 2-Methylnaphthalene	5.53	142	36834	88.76	ng/ml	94
4) 1-Methylnaphthalene	5.62	142	32701	88.91	ng/ml	97
5) Biphenyl	5.91	154	44985	90.30	ng/ml	97
6) 2,6-Dimethylnaphthalene	6.03	156	32024	91.58	ng/ml	97
11) Acenaphthylene	6.26	152	53290	86.04	ng/ml	99
12) Acenaphthene	6.40	154	33006	87.85	ng/ml	92
13) Dibenzofuran	6.55	168	49940m	87.04	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.72	170	31488	91.29	ng/ml	83
16) Fluorene	6.82	166	40350	88.42	ng/ml	97
21) Pentachlorophenol	7.45	266	36295	324.33	ng/ml	99
23) Dibenzothiophene	7.52	184	56585	84.02	ng/ml	93
27) Phenanthrene	7.63	178	61601	89.69	ng/ml	100
28) Anthracene	7.67	178	59400	89.53	ng/ml	97
29) Carbazole	7.80	167	54772	93.16	ng/ml	98
30) 1-Methylphenanthrene	8.12	192	47443	94.82	ng/ml	100
35) Fluoranthene	8.61	202	71710	97.00	ng/ml	96
38) Pyrene	8.83	202	76646	90.98	ng/ml	90
43) Benz(a)anthracene	10.38	228	71368	93.40	ng/ml	100
44) Chrysene	10.44	228	71682	96.90	ng/ml	100
50) Benzo(b)fluoranthene	12.85	252	74414	92.27	ng/ml	100
51) Benzo(k)fluoranthene	12.93	252	73410	93.22	ng/ml	99
52) Benzo(e)pyrene	13.71	252	66405	92.73	ng/ml	100
53) Benzo(a)pyrene	13.88	252	62484	89.54	ng/ml	99
54) Perylene	14.19	252	66022	93.98	ng/ml	100

(#) = qualifier out of range (m) = manual integration
0227F007.D 0227ALK.M Mon Feb 27 10:55:27 2012 Page 1

FEB 28 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F007.D Vial: 5
Acq On : 27 Feb 2012 10:09 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM36-67G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:30:34 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	17.12	276	64275	96.47 ng/ml	100
56)	Dibenz(a,h)anthracene	17.19	278	65321	92.97 ng/ml	99
57)	Benzo(g,h,i)perylene	17.54	276	75625	92.86 ng/ml	100

FEB 28 2012

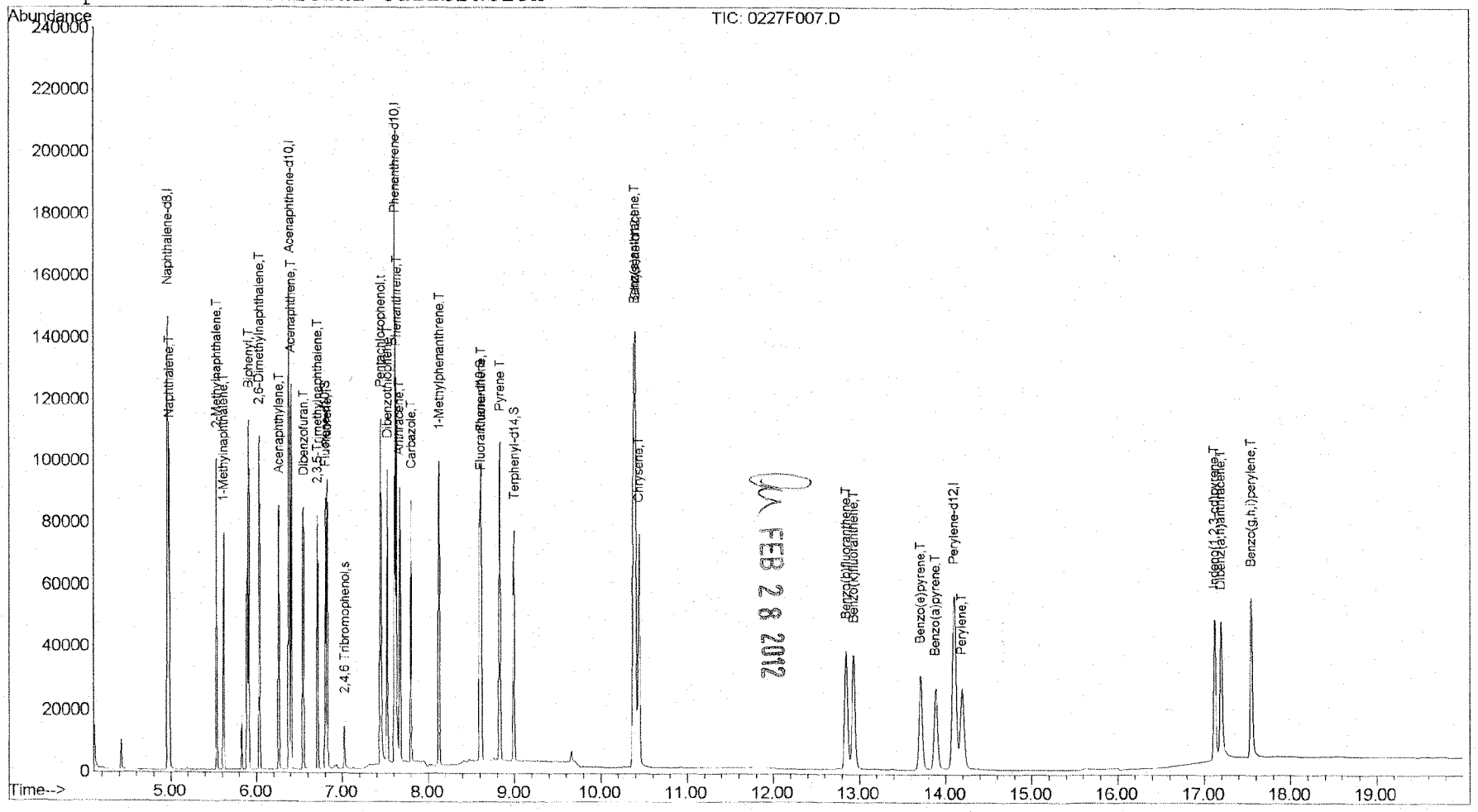
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F007.D
Acq On : 27 Feb 2012 10:09 am
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM36-67G
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:54 2012

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration

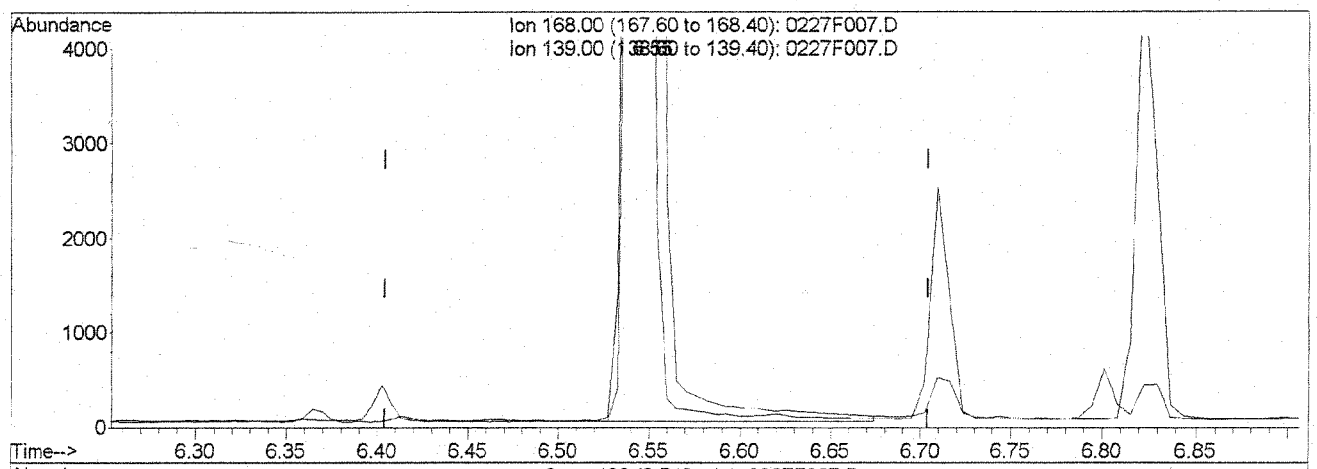


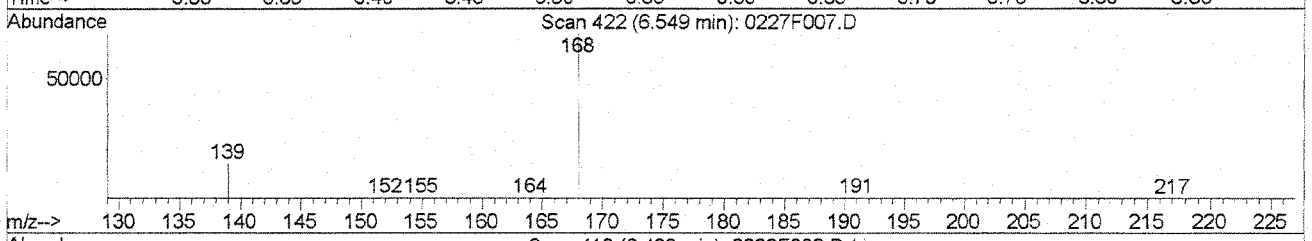
FEB 28 2012

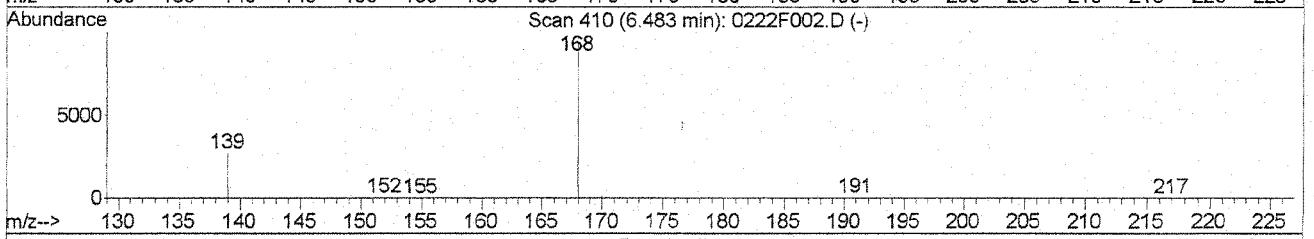
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F007.D Vial: 5
Acq On : 27 Feb 2012 10:09 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM36-67G Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:30 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F007.D

(13) Dibenzofuran (T)

6.55min 116.48ng/ml

response 66830

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	20.82
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

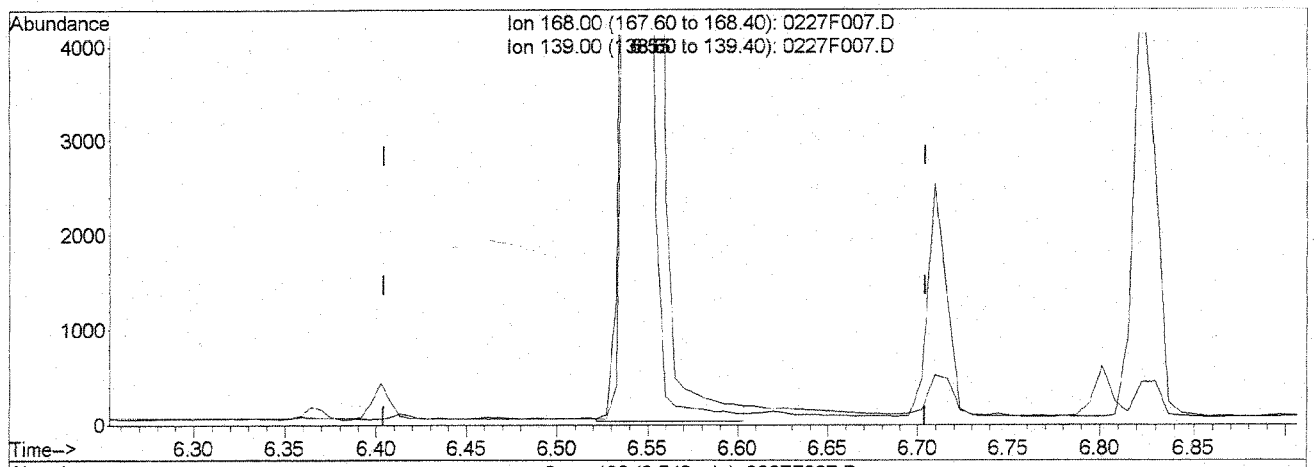
0227F007.D 0227ALK.M Mon Feb 27 10:54:41 2012

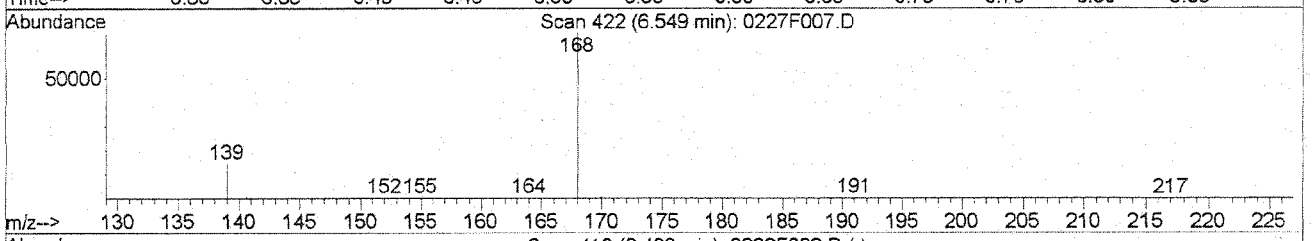
Quantitation Report (Qedit)

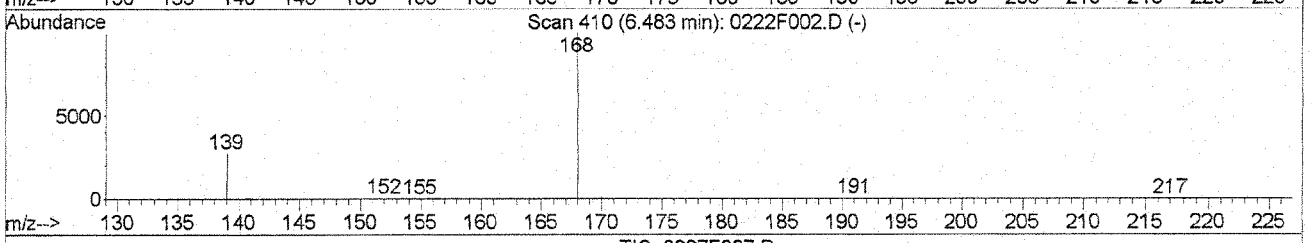
Data File : J:\MS11\DATA\022712\0227F007.D
Acq On : 27 Feb 2012 10:09 am
Sample : SIM-PAH ICAL @0.1/0.6ug/mL | SVM36-67G
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:54 2012

Vial: 5
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F007.D

(13) Dibenzofuran (T)

6.55min 87.04ng/ml m

response 49940

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	20.90
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

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0227F007.D 0227ALK.M Mon Feb 27 10:54:48 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F008.D
Acq On : 27 Feb 2012 10:36 am
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM36-67H
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:57:59 2012

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 2 8 2012

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.96	136	101298	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.38	164	58867	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.61	188	115177	200.00	ng/ml	0.00
37) Chrysene-d12	10.40	240	144040	200.00	ng/ml	-0.01
49) Perylene-d12	14.10	264	146060	200.00	ng/ml	-0.06
System Monitoring Compounds						
15) Fluorene-d10	6.80	176	66663	192.35	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 19.23%			
20) 2,4,6 Tribromophenol	7.03	330	13799	159.56	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 15.96%			
36) Fluoranthene-d10	8.60	212	134384	202.29	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 20.23%			
42) Terphenyl-d14	8.99	244	122190	185.80	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 18.58%			
Target Compounds						Qvalue
2) Naphthalene	4.98	128	110886	180.52	ng/ml	99
3) 2-Methylnaphthalene	5.53	142	77779	188.38	ng/ml	94
4) 1-Methylnaphthalene	5.62	142	69242	189.21	ng/ml	98
5) Biphenyl	5.91	154	94071	189.78	ng/ml	97
6) 2,6-Dimethylnaphthalene	6.03	156	67856	195.03	ng/ml	97
11) Acenaphthylene	6.26	152	114922	185.40	ng/ml	100
12) Acenaphthene	6.40	154	70004	186.18	ng/ml	92
13) Dibenzofuran	6.55	168	106285m	185.10	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.72	170	67506	195.56	ng/ml	82
16) Fluorene	6.83	166	86613	189.64	ng/ml	91
21) Pentachlorophenol	7.45	266	55965	499.70	ng/ml	100
23) Dibenzothiophene	7.52	184	121567	176.59	ng/ml	92
27) Phenanthrene	7.63	178	127851	182.12	ng/ml	99
28) Anthracene	7.67	178	130354	192.22	ng/ml	97
29) Carbazole	7.80	167	116378	193.65	ng/ml	98
30) 1-Methylphenanthrene	8.13	192	99313	194.18	ng/ml	91
35) Fluoranthene	8.61	202	149574	197.95	ng/ml	97
38) Pyrene	8.83	202	161750	187.26	ng/ml	95
43) Benz(a)anthracene	10.38	228	157161	200.60	ng/ml	99
44) Chrysene	10.44	228	151590	199.86	ng/ml	100
50) Benzo(b)fluoranthene	12.85	252	166470	198.94	ng/ml	100
51) Benzo(k)fluoranthene	12.94	252	162551	198.93	ng/ml	99
52) Benzo(e)pyrene	13.71	252	147201	198.11	ng/ml	99
53) Benzo(a)pyrene	13.89	252	144554	199.64	ng/ml	100
54) Perylene	14.19	252	150219	206.09	ng/ml	100

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

FEB 2 8 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F008.D Vial: 6
Acq On : 27 Feb 2012 10:36 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM36-67H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:57:59 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55) Indeno(1,2,3-cd)pyrene	17.12	276	147044	212.71 ng/ml	98
56) Dibenz(a,h)anthracene	17.20	278	145978	200.25 ng/ml	94
57) Benzo(g,h,i)perylene	17.55	276	167183	197.86 ng/ml	99

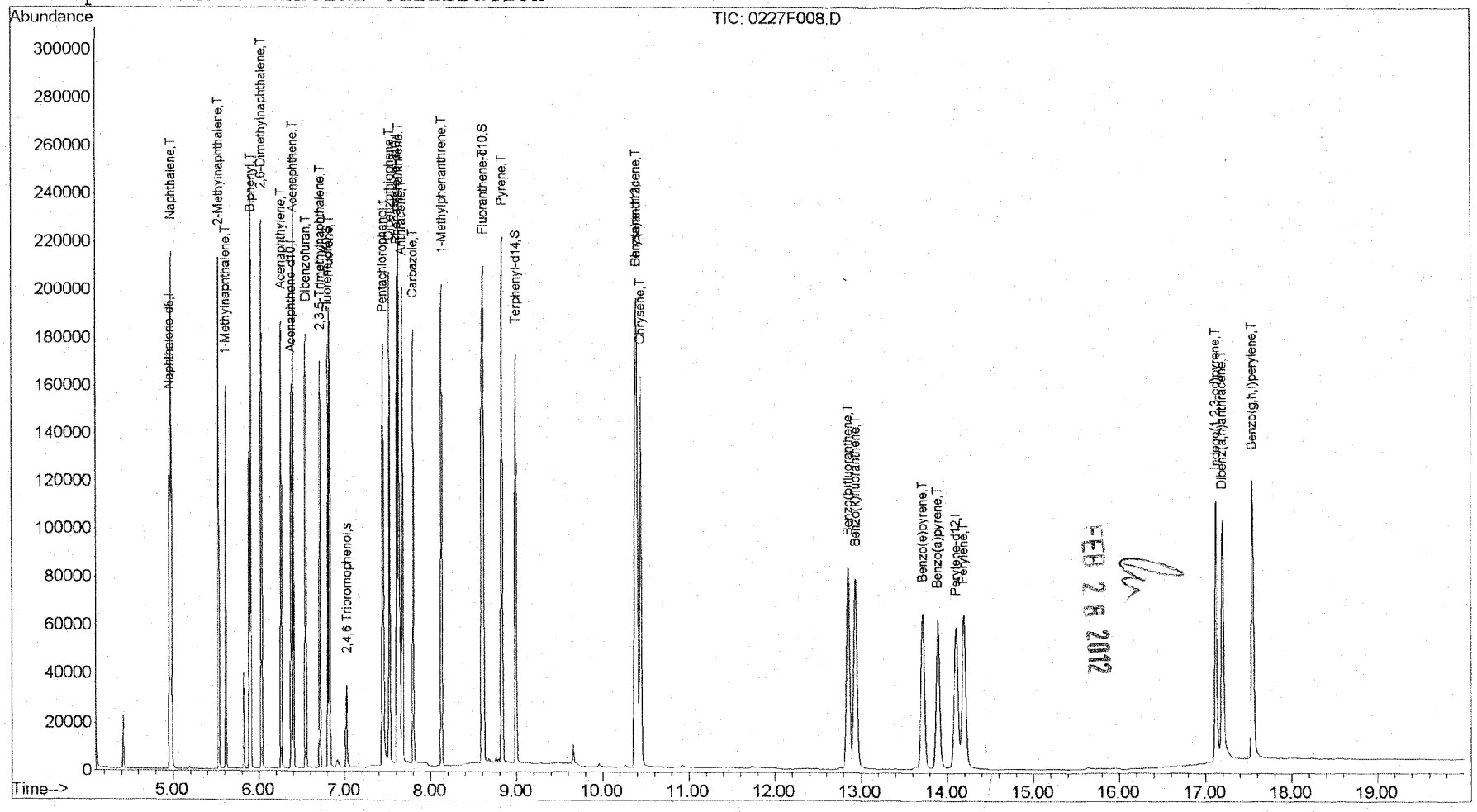
M FEB 28 2012

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F008.D Vial: 6
Acq On : 27 Feb 2012 10:36 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM36-67H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:58 2012 Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Initial Calibration



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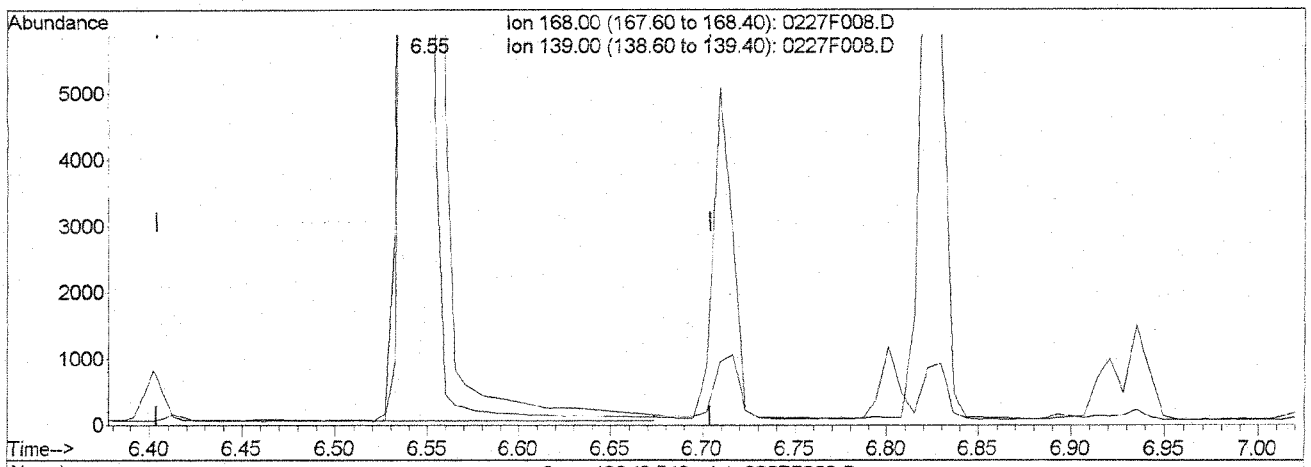
FEB 28 2012

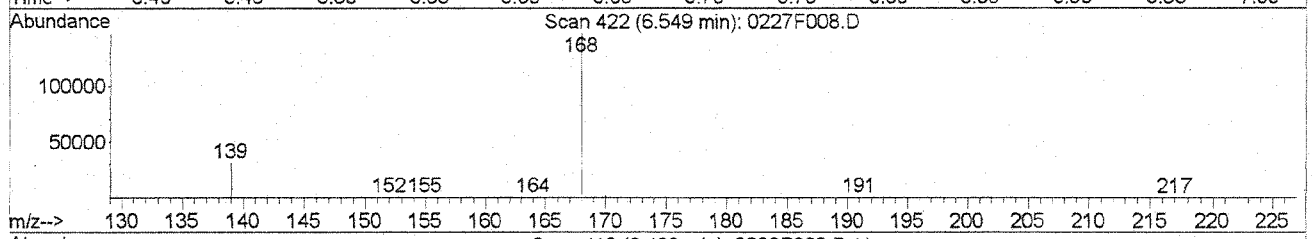
Quantitation Report (Qedit)

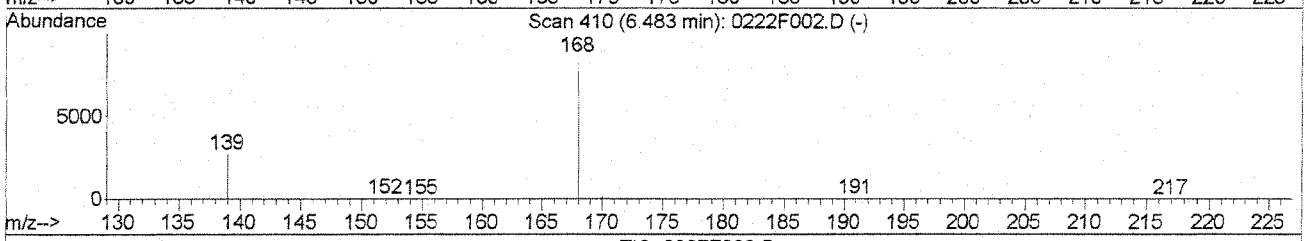
Data File : J:\MS11\DATA\022712\0227F008.D
Acq On : 27 Feb 2012 10:36 am
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM36-67H
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:57 2012

Vial: 6
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F008.D

(13) Dibenzofuran (T)

6.55min 242.45ng/ml

response 139213

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	21.39
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

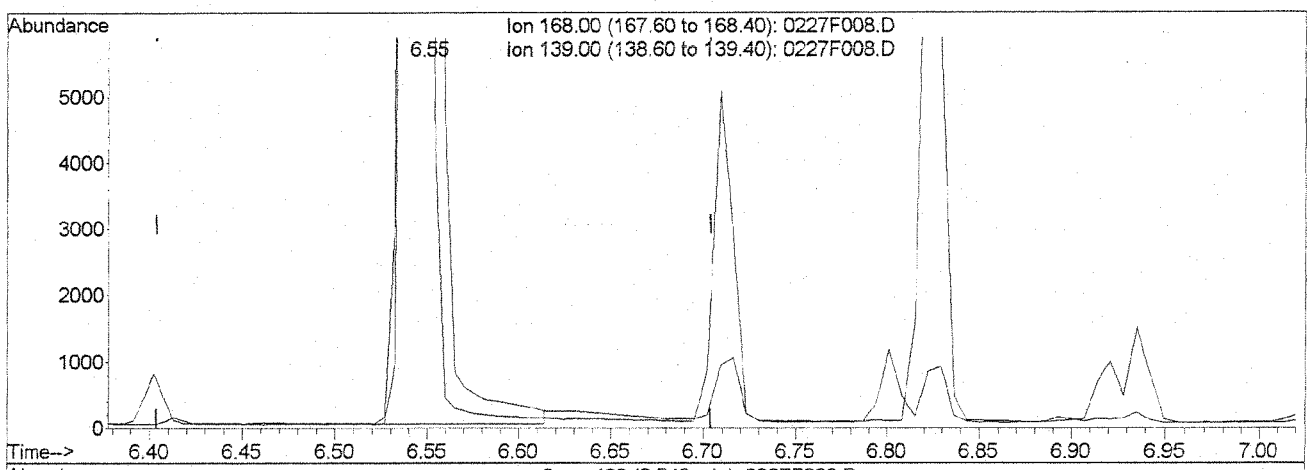
Before

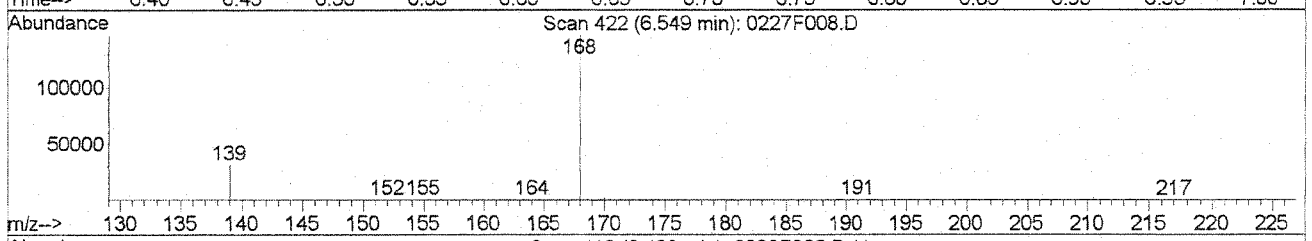
0227F008.D 0227ALK.M Mon Feb 27 10:58:09 2012

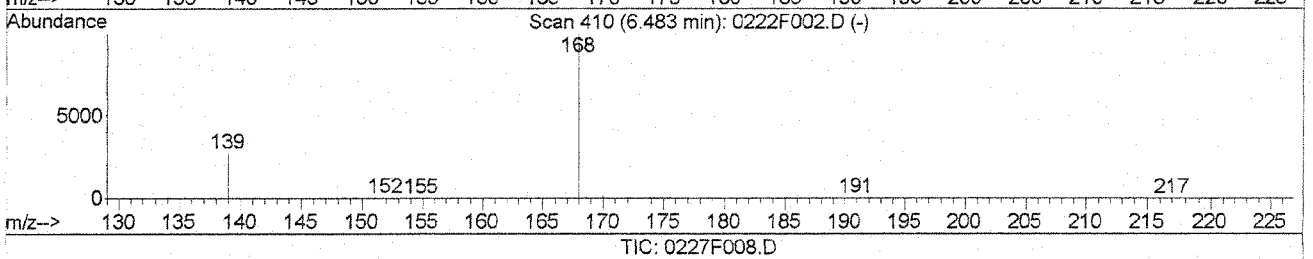
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F008.D Vial: 6
Acq On : 27 Feb 2012 10:36 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.2/0.8ug/mL | SVM36-67H Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 10:58 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 05:47:32 2012
Response via : Multiple Level Calibration







TIC: 0227F008.D

(13) Dibenzofuran (T)

6.55min 185.10ng/ml m

response 106285

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	21.43
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

FEB 28 2012

0227F008.D 0227ALK.M Mon Feb 27 10:58:18 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F009.D
Acq On : 27 Feb 2012 11:02 am
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM36-67I
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 11:42:03 2012

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:06:23 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.97	136	99177	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.38	164	57681	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.61	188	112431	200.00	ng/ml	0.00
37) Chrysene-d12	10.40	240	137721	200.00	ng/ml	-0.01
49) Perylene-d12	14.10	264	139188	200.00	ng/ml	-0.06
System Monitoring Compounds						
15) Fluorene-d10	6.80	176	138440	418.90	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 41.89%			
20) 2,4,6 Tribromophenol	7.03	330	30311	533.21	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 53.32%			
36) Fluoranthene-d10	8.60	212	285578	410.02	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 41.00%			
42) Terphenyl-d14	8.99	244	252913	421.21	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 42.12%			
Target Compounds						Qvalue
2) Naphthalene	4.98	128	225450	398.33	ng/ml	99
3) 2-Methylnaphthalene	5.54	142	158649	409.64	ng/ml	90
4) 1-Methylnaphthalene	5.61	142	140950	412.49	ng/ml	92
5) Biphenyl	5.91	154	191200	409.80	ng/ml	98
6) 2,6-Dimethylnaphthalene	6.03	156	141624	431.02	ng/ml	98
11) Acenaphthylene	6.26	152	241147	434.04	ng/ml	100
12) Acenaphthene	6.40	154	142590	407.15	ng/ml	92
13) Dibenzofuran	6.55	168	219402m	418.16	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.72	170	141629	431.43	ng/ml	80
16) Fluorene	6.82	166	179845	423.70	ng/ml	98
21) Pentachlorophenol	7.45	266	66875	86.18	ng/ml	99
23) Dibenzothiophene	7.52	184	255010	415.77	ng/ml	94
27) Phenanthrene	7.63	178	268317	386.11	ng/ml	100
28) Anthracene	7.67	178	263337	405.09	ng/ml	98
29) Carbazole	7.80	167	245707	431.08	ng/ml	98
30) 1-Methylphenanthrene	8.12	192	205692	403.80	ng/ml	100
35) Fluoranthene	8.61	202	309339	396.64	ng/ml	100
38) Pyrene	8.83	202	330040	387.39	ng/ml	90
43) Benz(a)anthracene	10.38	228	316372	410.16	ng/ml	99
44) Chrysene	10.44	228	308659	410.03	ng/ml	100
50) Benzo(b)fluoranthene	12.85	252	345098	438.04	ng/ml	100
51) Benzo(k)fluoranthene	12.94	252	341090	448.65	ng/ml	100
52) Benzo(e)pyrene	13.71	252	304489	433.53	ng/ml	100
53) Benzo(a)pyrene	13.90	252	310223	486.16	ng/ml	99
54) Perylene	14.20	252	312015	456.26	ng/ml	100

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

FEB 28 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F009.D Vial: 7
Acq On : 27 Feb 2012 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM36-67I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 11:42:03 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:06:23 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 2 8 2012

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55) Indeno(1,2,3-cd)pyrene	17.12	276	308119	442.88 ng/ml	98
56) Dibenz(a,h)anthracene	17.20	278	307086	429.06 ng/ml	94
57) Benzo(g,h,i)perylene	17.55	276	348383	414.80 ng/ml	98

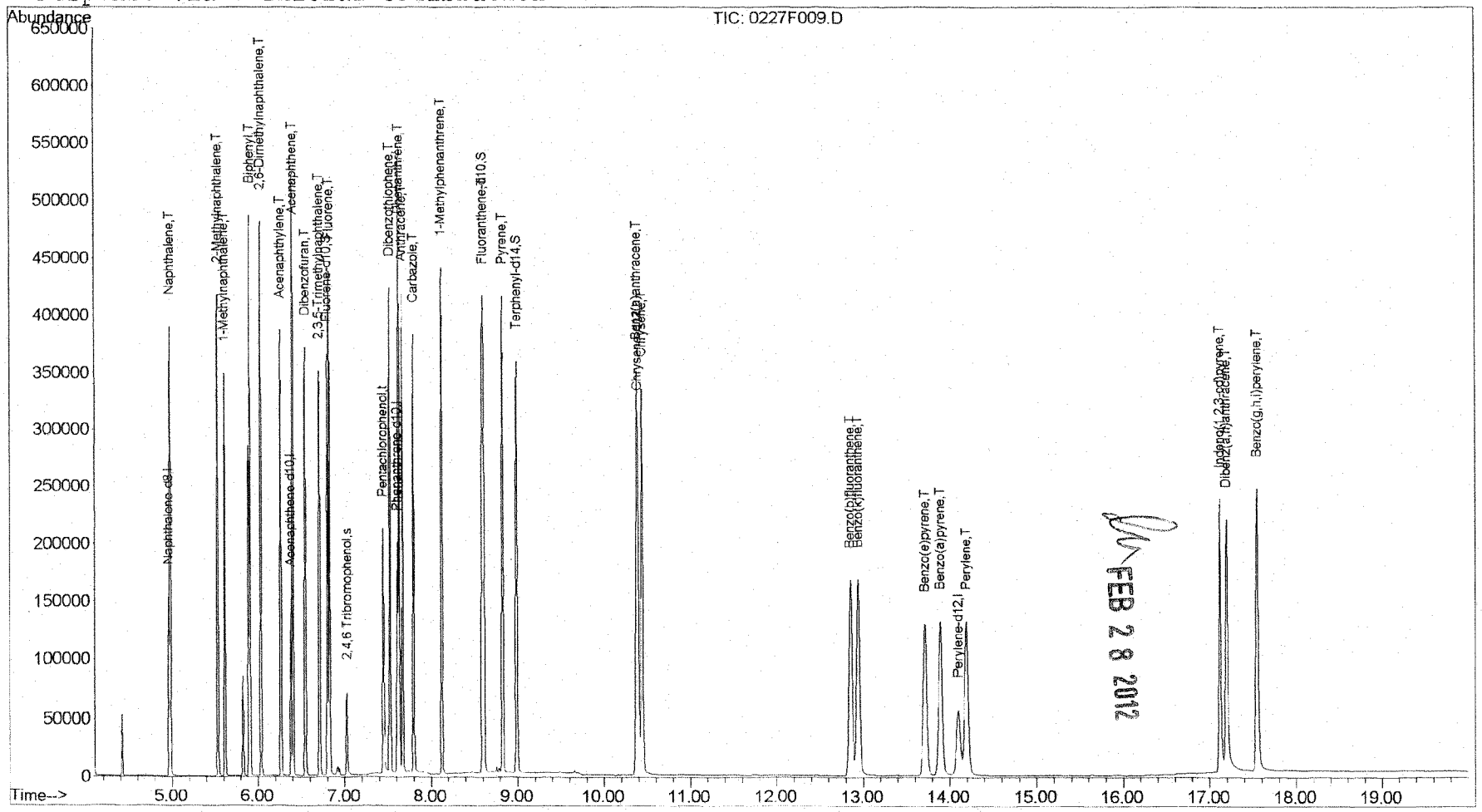
FEB 2 8 2012

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F009.D Vial: 7
Acq On : 27 Feb 2012 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM36-67I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 11:53 2012 Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Feb 28 06:29:18 2012
Response via : Initial Calibration



FEB 28 2012

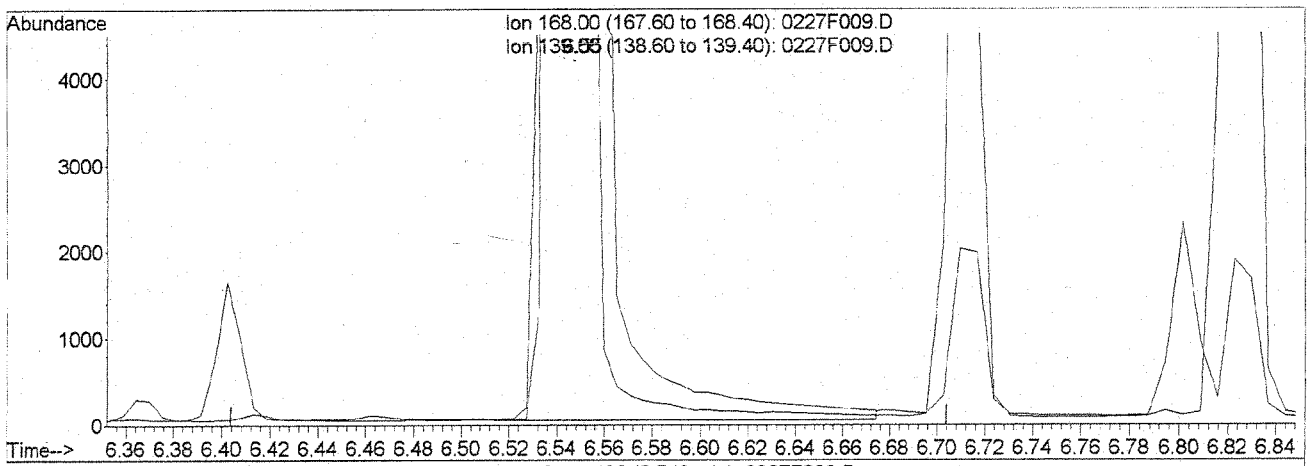
FEB 28 2012

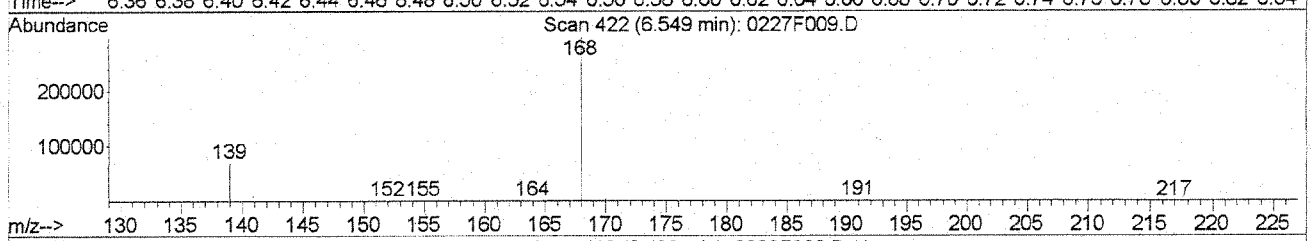
995

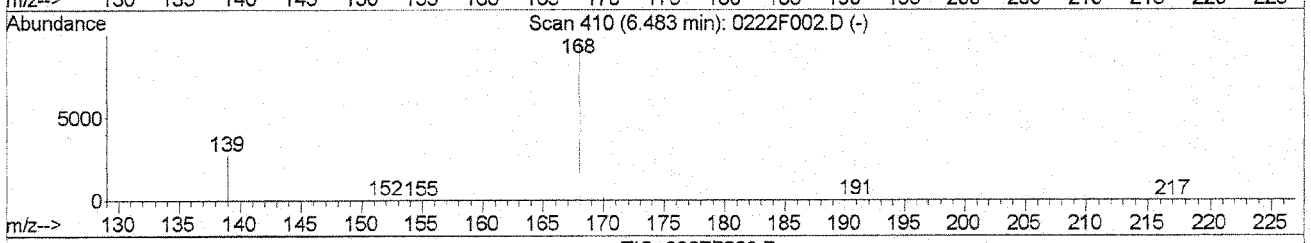
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F009.D Vial: 7
Acq On : 27 Feb 2012 11:02 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM36-67I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 11:41 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:06:23 2012
Response via : Multiple Level Calibration







TIC: 0227F009.D

(13) Dibenzofuran (T)

6.55min 554.28ng/ml

response 290819

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	23.01
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

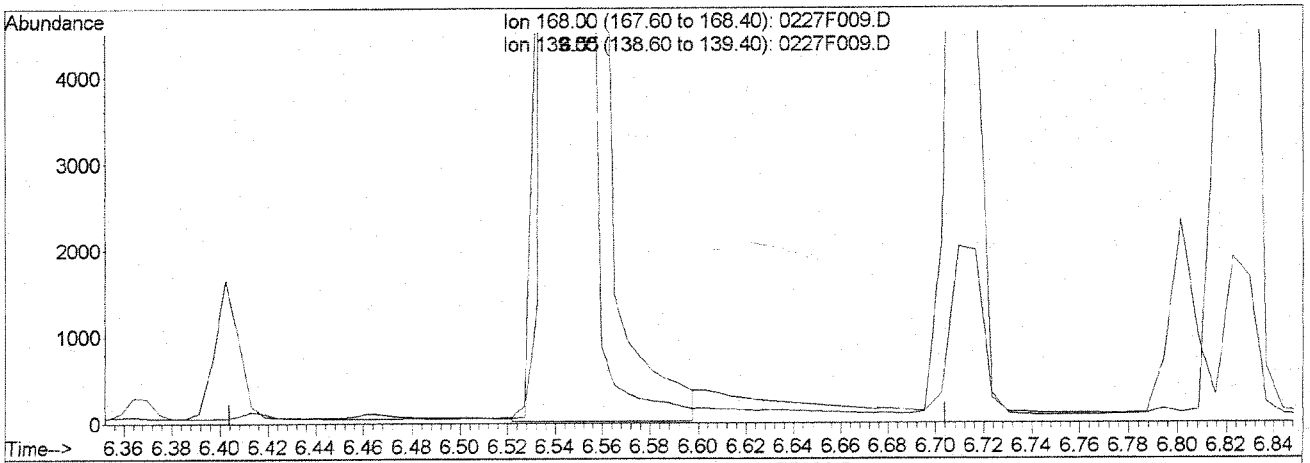
0227F009.D 0227ALK.M Mon Feb 27 11:53:19 2012

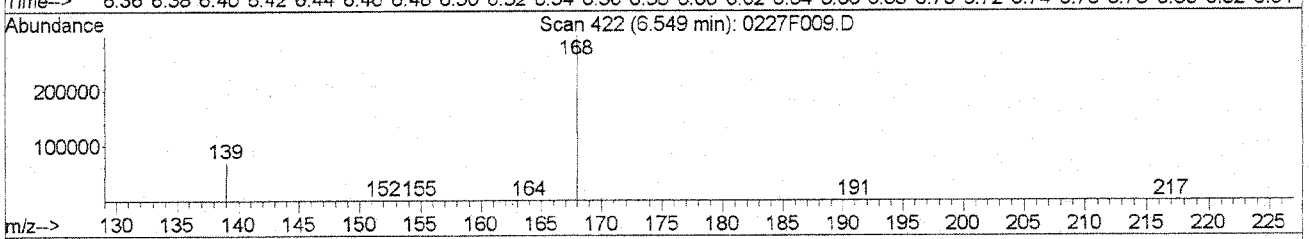
Quantitation Report (Qedit)

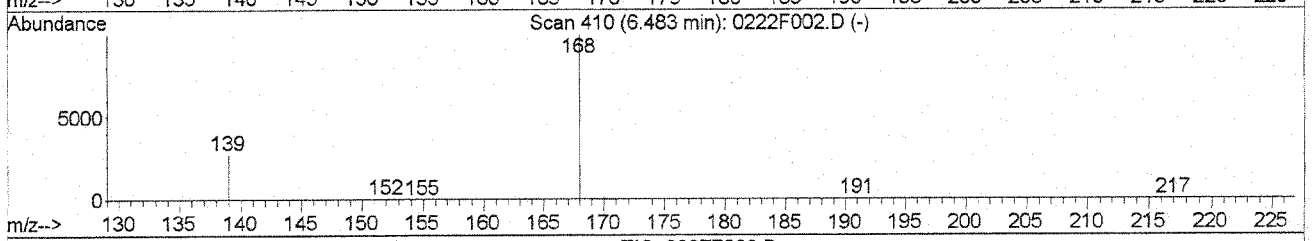
Data File : J:\MS11\DATA\022712\0227F009.D
Acq On : 27 Feb 2012 11:02 am
Sample : SIM-PAH ICAL @0.4/1.0ug/mL | SVM36-67I
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 11:53 2012

Vial: 7
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:06:23 2012
Response via : Multiple Level Calibration







TIC: 0227F009.D

(13) Dibenzofuran (T)
6.55min 418.16ng/ml m
response 219402

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	23.03
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

FEB 28 2012

0227F009.D 0227ALK.M Mon Feb 27 11:53:24 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F010.D Vial: 8
Acq On : 27 Feb 2012 11:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/1.6ug/mL | SVM36-67J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 11:52:57 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:06:23 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	4.97	136	105919	200.00 ng/ml	0.00
10) Acenaphthene-d10	6.38	164	61973	200.00 ng/ml	0.00
22) Phenanthrene-d10	7.61	188	122133	200.00 ng/ml	0.00
37) Chrysene-d12	10.40	240	150890	200.00 ng/ml	-0.01
49) Perylene-d12	14.11	264	153450	200.00 ng/ml	-0.06
System Monitoring Compounds					
15) Fluorene-d10	6.81	176	355109	1000.09 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 100.01%		
20) 2,4,6 Tribromophenol	7.03	330	79574	1302.86 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 130.29%		
36) Fluoranthene-d10	8.60	212	714272	944.07 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 94.41%		
42) Terphenyl-d14	8.99	244	582968	886.16 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 88.62%		
Target Compounds					Qvalue
2) Naphthalene	4.98	128	554632	917.55 ng/ml	99
3) 2-Methylnaphthalene	5.54	142	401387	970.44 ng/ml	89
4) 1-Methylnaphthalene	5.61	142	357106	978.55 ng/ml	93
5) Biphenyl	5.91	154	469887	943.00 ng/ml	100
6) 2,6-Dimethylnaphthalene	6.04	156	358357	1021.21 ng/ml	98
11) Acenaphthylene	6.27	152	611991	1025.24 ng/ml	96
12) Acenaphthene	6.41	154	361460	960.63 ng/ml	98
13) Dibenzofuran	6.55	168	545855m	968.31 ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.72	170	364606	1033.73 ng/ml	96
16) Fluorene	6.83	166	449130	984.83 ng/ml	89
21) Pentachlorophenol	7.46	266	163245	195.79 ng/ml	89
23) Dibenzothiophene	7.52	184	622563	934.40 ng/ml	81
27) Phenanthrene	7.63	178	652847	864.81 ng/ml	97
28) Anthracene	7.67	178	670459	949.42 ng/ml	97
29) Carbazole	7.80	167	612661	989.50 ng/ml	94
30) 1-Methylphenanthrene	8.13	192	516421	933.26 ng/ml	92
35) Fluoranthene	8.62	202	765889	904.03 ng/ml	89
38) Pyrene	8.83	202	828845	887.97 ng/ml	95
43) Benz(a)anthracene	10.38	228	828357	980.20 ng/ml	99
44) Chrysene	10.45	228	789014	956.66 ng/ml	99
50) Benzo(b)fluoranthene	12.86	252	902695	1039.30 ng/ml	99
51) Benzo(k)fluoranthene	12.95	252	892159	1064.44 ng/ml	99
52) Benzo(e)pyrene	13.73	252	806199	1041.18 ng/ml	99
53) Benzo(a)pyrene	13.91	252	832779	1183.78 ng/ml	98
54) Perylene	14.21	252	837622	1111.01 ng/ml	99

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

FEB 28 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F010.D Vial: 8
Acq On : 27 Feb 2012 11:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/1.6ug/mL | SVM36-67J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 11:52:57 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:06:23 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55) Indeno(1,2,3-cd)pyrene	17.13	276	790983	1031.26 ng/ml	96
56) Dibenz(a,h)anthracene	17.21	278	798772	1012.31 ng/ml	97
57) Benzo(g,h,i)perylene	17.56	276	872099	941.85 ng/ml	98

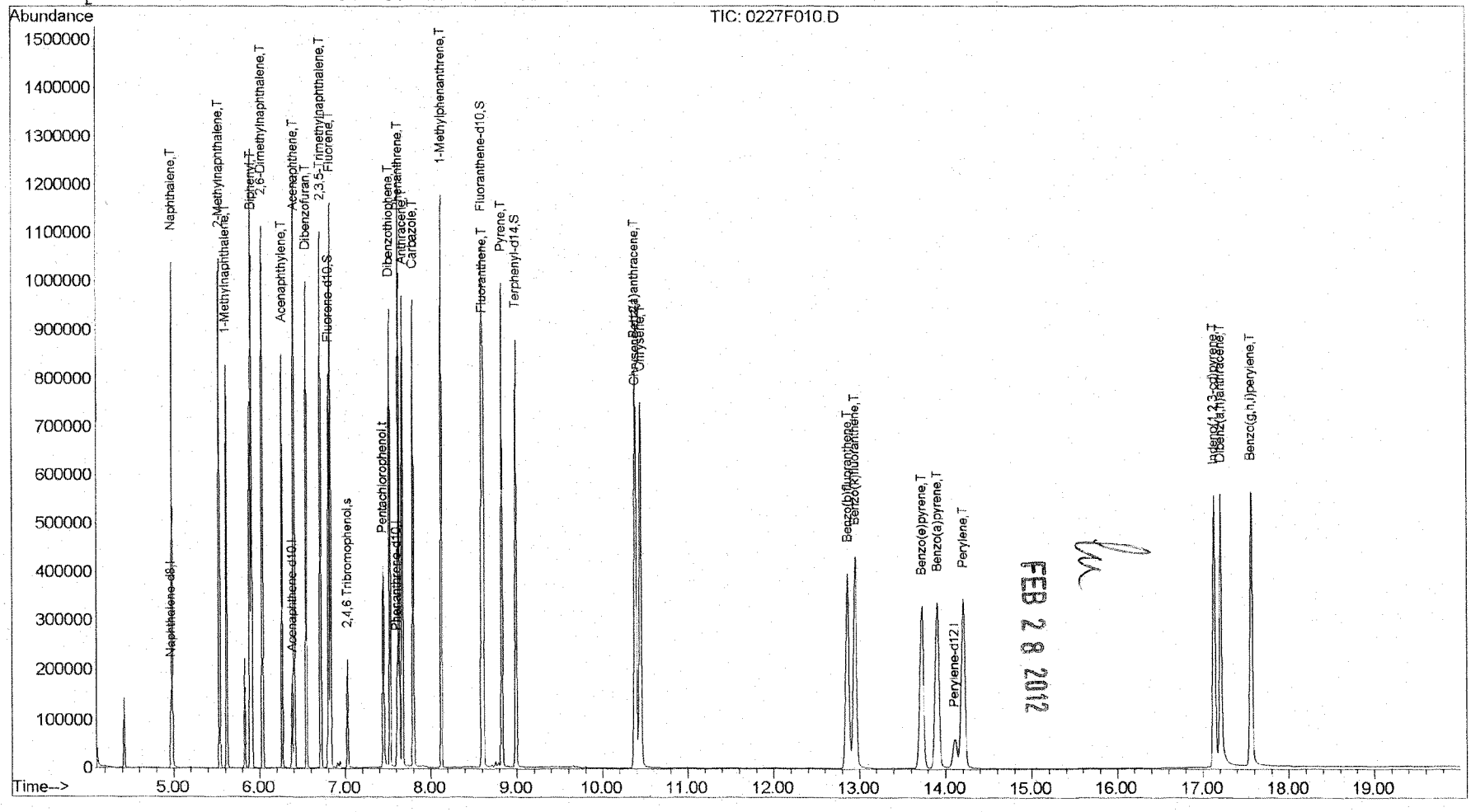
FEB 28 2012

(#) = qualifier out of range (m) = manual integration
0227F010.D 0227ALK.M Tue Feb 28 06:37:11 2012 Page 2

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F010.D Vial: 8
Acq On : 27 Feb 2012 11:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/1.6ug/mL | SVM36-67J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 11:53 2012 Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Feb 28 06:29:18 2012
Response via : Initial Calibration



FEB 28 2012

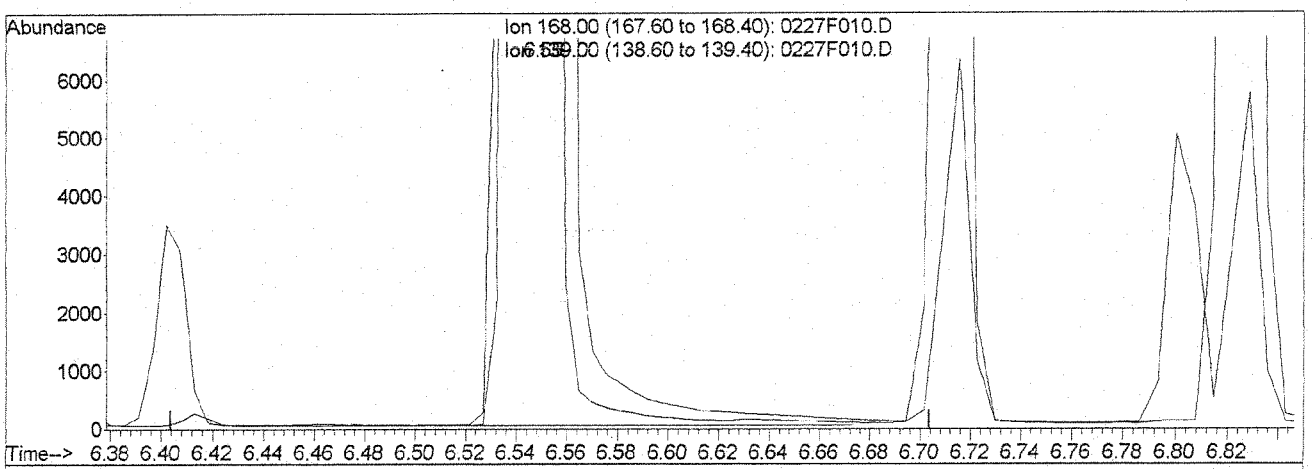
FEB 28 2012

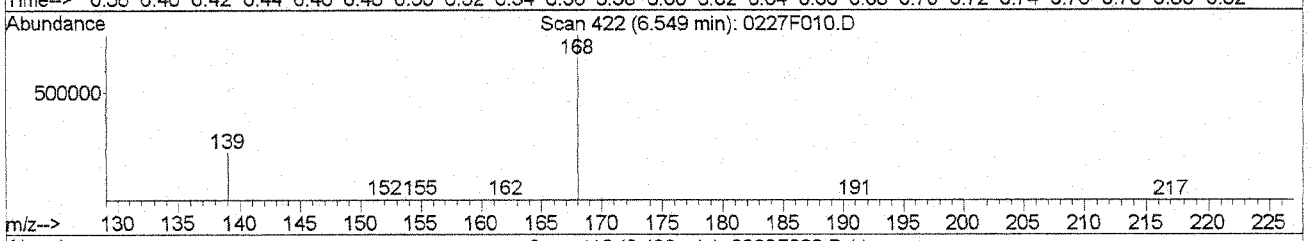
1000

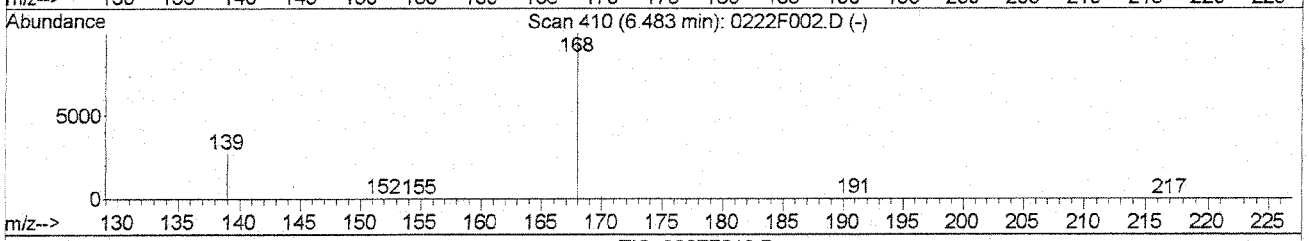
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F010.D Vial: 8
Acq On : 27 Feb 2012 11:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/1.6ug/mL | SVM36-67J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 11:52 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:06:23 2012
Response via : Multiple Level Calibration







TIC: 0227F010.D

(13) Dibenzofuran (T)

6.55min 1210.35ng/ml

response 682300

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	28.64
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

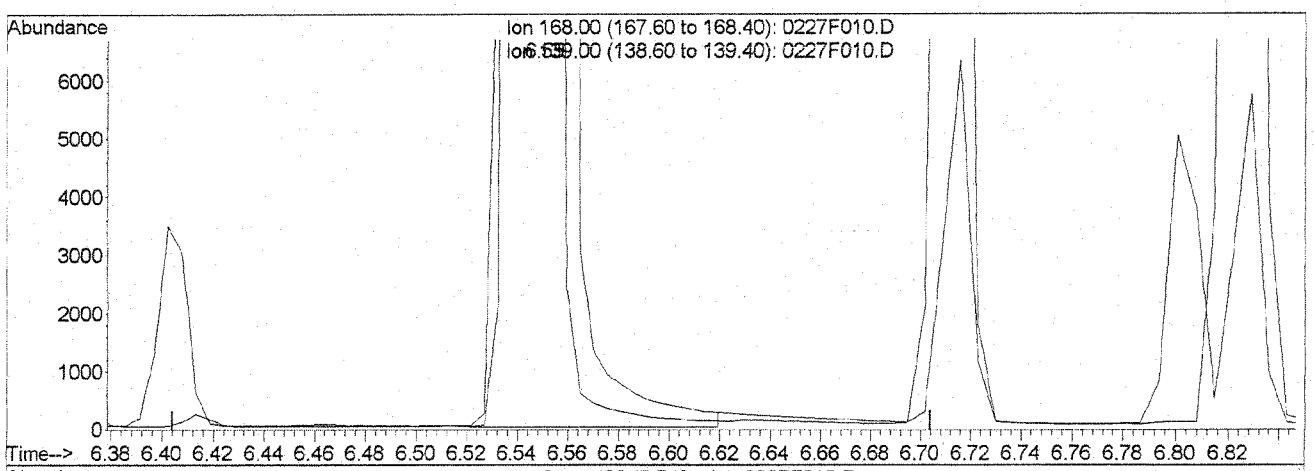
Before

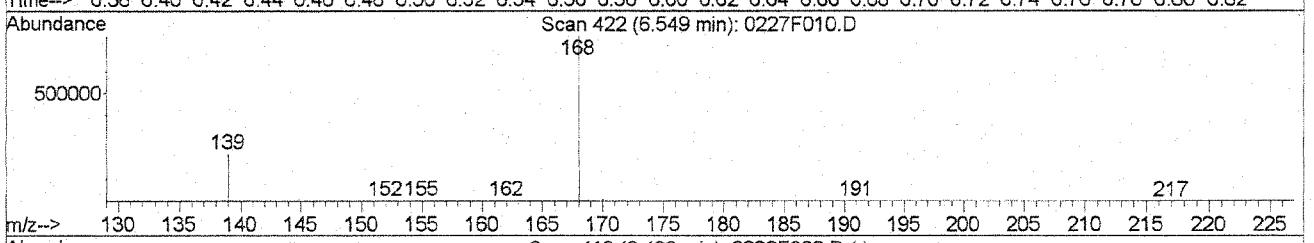
0227F010.D 0227ALK.M Mon Feb 27 11:53:54 2012

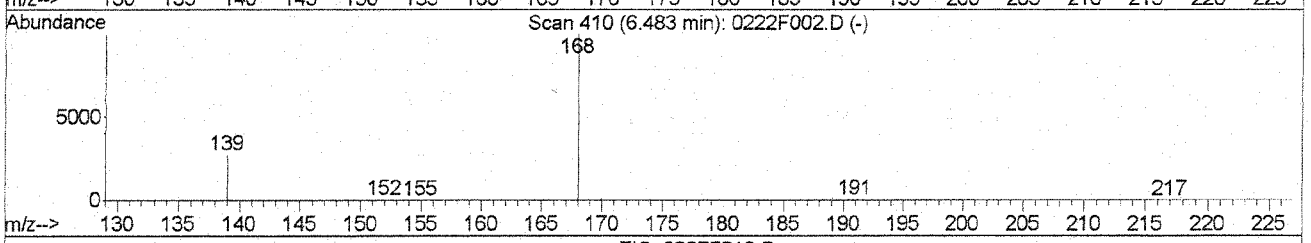
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F010.D Vial: 8
Acq On : 27 Feb 2012 11:28 am Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.0/1.6ug/mL | SVM36-67J Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 11:53 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 11:06:23 2012
Response via : Multiple Level Calibration







TIC: 0227F010.D

(13) Dibenzofuran (T)
6.55min 968.31ng/ml m
response 545855

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	28.65
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

FEB 28 2012

0227F010.D 0227ALK.M Mon Feb 27 11:54:07 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F011.D
Acq On : 27 Feb 2012 12:21 pm
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM36-67K
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:41:53 2012

Vial: 9
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 12:22:39 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	4.97	136	98914	200.00 ng/ml	0.00
10) Acenaphthene-d10	6.38	164	58244	200.00 ng/ml	0.00
22) Phenanthrene-d10	7.61	188	114873	200.00 ng/ml	0.00
37) Chrysene-d12	10.40	240	147892	200.00 ng/ml	0.00
49) Perylene-d12	14.11	264	150360	200.00 ng/ml	-0.05
System Monitoring Compounds					
15) Fluorene-d10	6.81	176	535753	1548.64 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 154.86%		
20) 2,4,6 Tribromophenol	7.03	330	125459	1952.45 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 195.25%		
36) Fluoranthene-d10	8.60	212	1093362	1524.35 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 152.43%		
42) Terphenyl-d14	8.99	244	876968	1315.96 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 131.60%		
Target Compounds					Qvalue
2) Naphthalene	4.99	128	815847	1432.33 ng/ml	100
3) 2-Methylnaphthalene	5.54	142	600234	1512.77 ng/ml	86
4) 1-Methylnaphthalene	5.61	142	530856	1521.68 ng/ml	97
5) Biphenyl	5.91	154	695048	1463.26 ng/ml	98
6) 2,6-Dimethylnaphthalene	6.04	156	534855	1580.68 ng/ml	98
11) Acenaphthylene	6.27	152	909568	1548.26 ng/ml	95
12) Acenaphthene	6.41	154	540197	1476.14 ng/ml	97
13) Dibenzofuran	6.55	168	813648m	1475.37 ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.72	170	540202	1571.72 ng/ml	94
16) Fluorene	6.83	166	674058	1516.78 ng/ml	93
21) Pentachlorophenol	7.45	266	204135	351.30 ng/ml	90
23) Dibenzothiophene	7.53	184	951043	1488.02 ng/ml	92
27) Phenanthrene	7.63	178	974084	1354.67 ng/ml	96
28) Anthracene	7.67	178	1015883	1498.29 ng/ml	100
29) Carbazole	7.80	167	907416	1488.16 ng/ml	90
30) 1-Methylphenanthrene	8.13	192	767417	1468.63 ng/ml	92
35) Fluoranthene	8.62	202	1158927	1451.55 ng/ml	91
38) Pyrene	8.83	202	1238640	1354.13 ng/ml	96
43) Benz(a)anthracene	10.38	228	1259462	1474.24 ng/ml	98
44) Chrysene	10.45	228	1209331	1474.72 ng/ml	99
50) Benzo(b)fluoranthene	12.87	252	1389406	1585.59 ng/ml	97
51) Benzo(k)fluoranthene	12.96	252	1371317	1624.01 ng/ml	98
52) Benzo(e)pyrene	13.74	252	1245304	1600.98 ng/ml	99
53) Benzo(a)pyrene	13.92	252	1290678	1783.11 ng/ml	98
54) Perylene	14.23	252	1302969	1716.53 ng/ml	98

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

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Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F011.D Vial: 9
Acq On : 27 Feb 2012 12:21 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM36-67K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:41:53 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 12:22:39 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

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	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	17.14	276	1229132	1585.85 ng/ml	94
56)	Dibenz(a,h)anthracene	17.22	278	1243536	1586.77 ng/ml	97
57)	Benzo(g,h,i)perylene	17.57	276	1340245	1422.72 ng/ml	94

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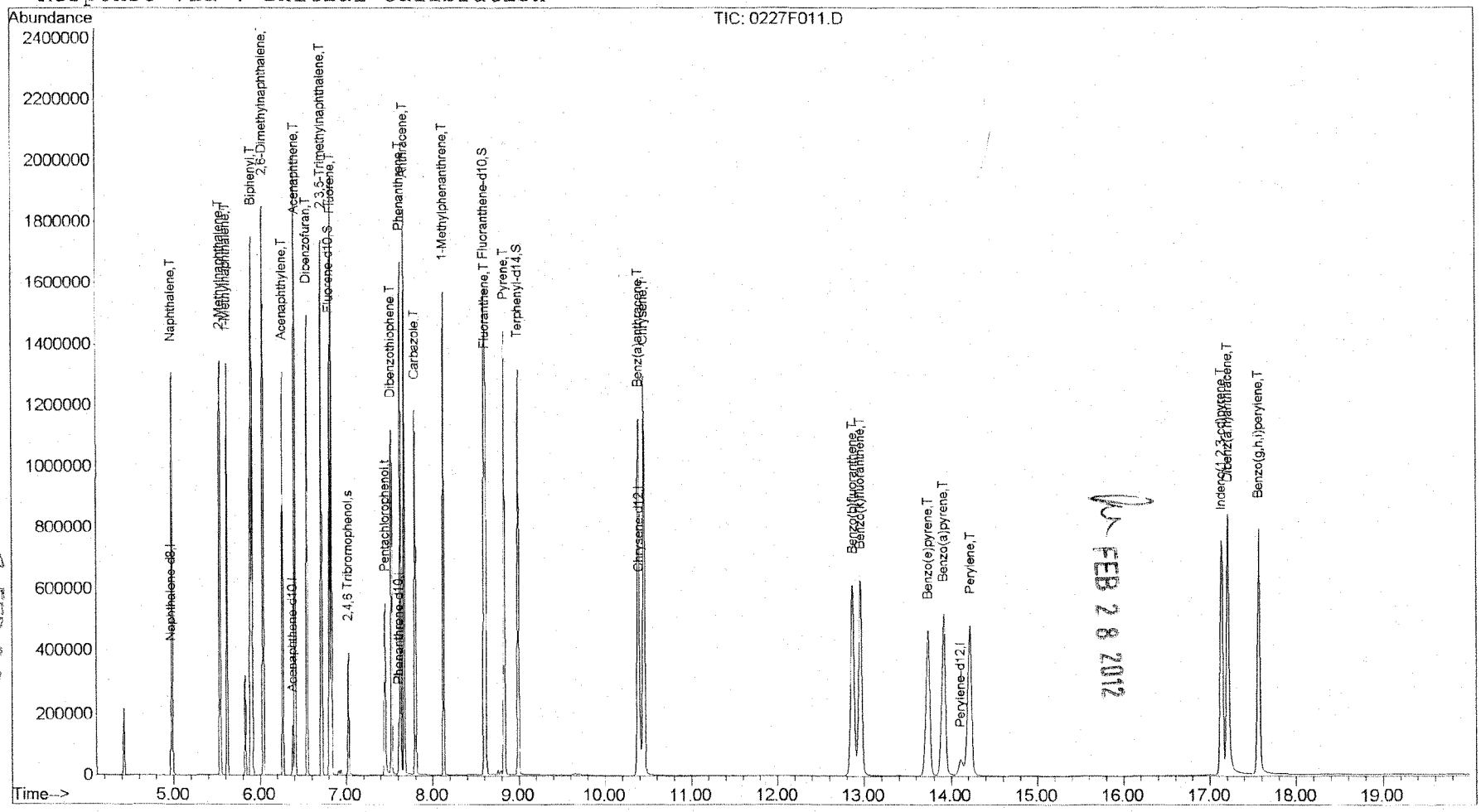
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F011.D Vial: 9
Acq On : 27 Feb 2012 12:21 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM36-67K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:42 2012 Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 12:42:45 2012
Response via : Initial Calibration

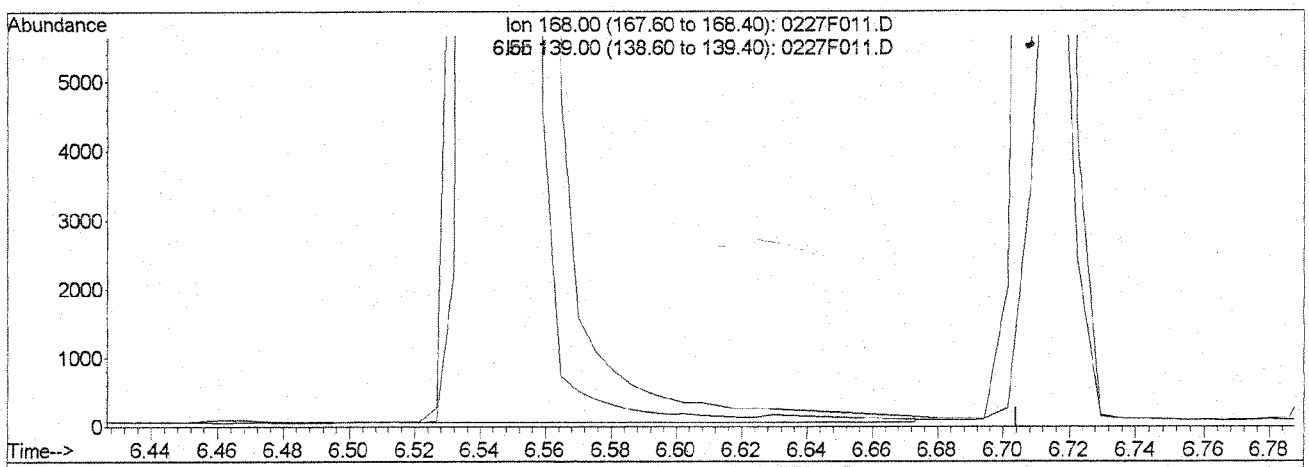


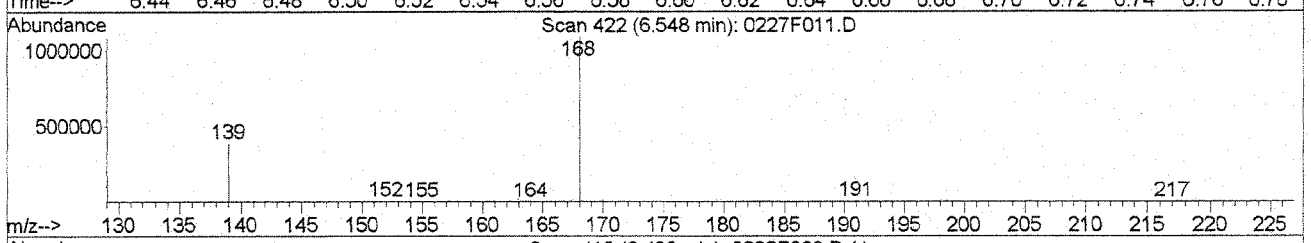
1005
FEB 28 2012
FEB 28 2012

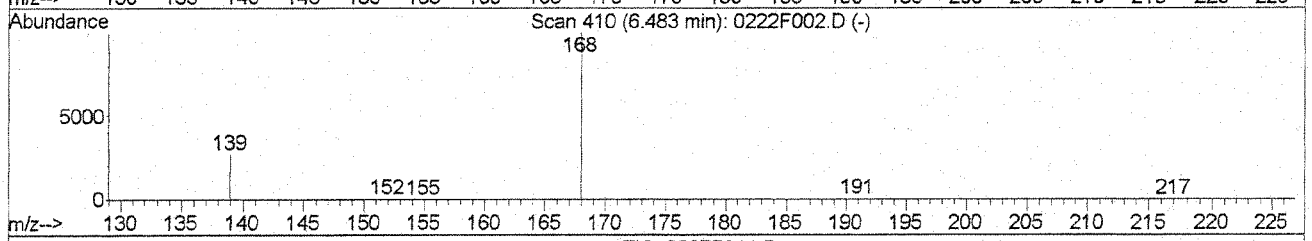
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F011.D Vial: 9
Acq On : 27 Feb 2012 12:21 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM36-67K Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:41 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 12:22:39 2012
Response via : Multiple Level Calibration







TIC: 0227F011.D

(13) Dibenzofuran (T)

6.55min 1967.05ng/ml

response 1084804

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	35.32
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

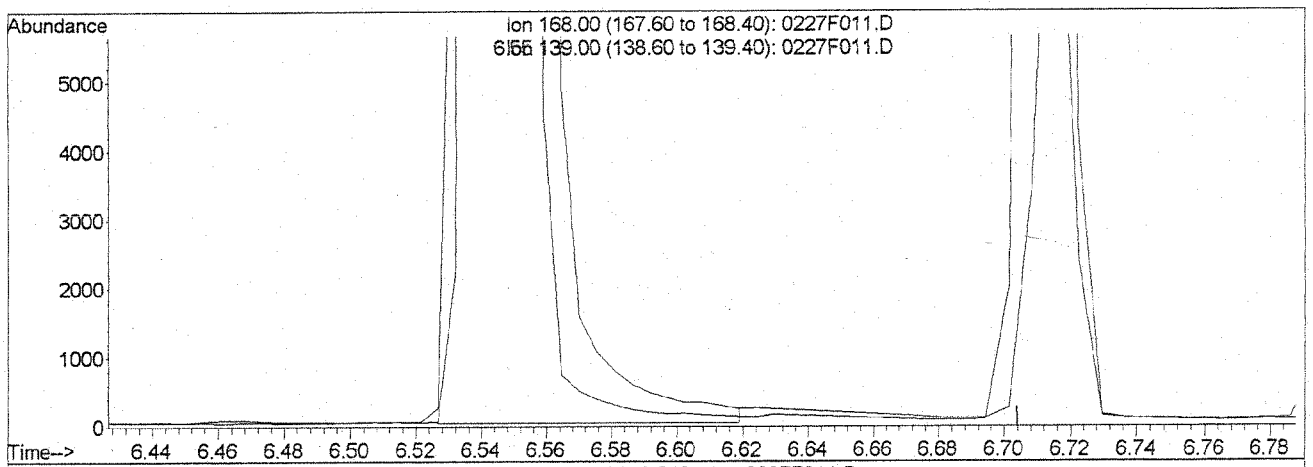
0227F011.D 0227ALK.M Mon Feb 27 12:42:13 2012

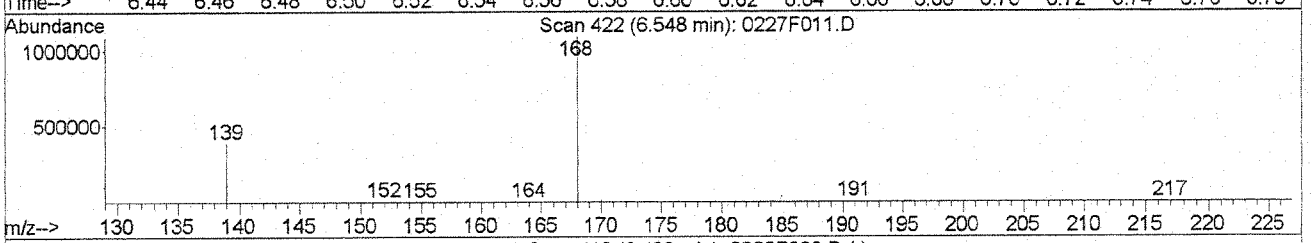
Quantitation Report (Qedit)

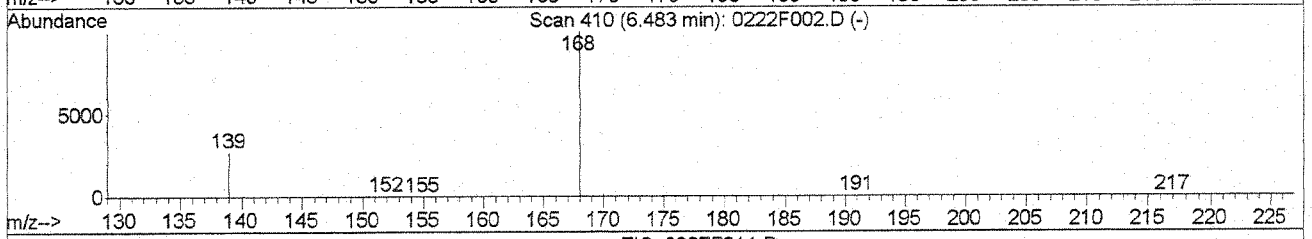
Data File : J:\MS11\DATA\022712\0227F011.D
Acq On : 27 Feb 2012 12:21 pm
Sample : SIM-PAH ICAL @1.6/2.4ug/mL | SVM36-67K
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 12:42 2012

Vial: 9
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 12:22:39 2012
Response via : Multiple Level Calibration







TIC: 0227F011.D

(13) Dibenzofuran (T)
6.55min 1475.37ng/ml m
response 813648

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	35.33
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

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0227F011.D 0227ALK.M Mon Feb 27 12:42:19 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F012.D
Acq On : 27 Feb 2012 12:47 pm
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM36-67L
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 13:08:10 2012

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 12:42:45 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

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Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Naphthalene-d8	4.97	136	104067	200.00 ng/ml	0.00
10) Acenaphthene-d10	6.38	164	62149	200.00 ng/ml	0.00
22) Phenanthrene-d10	7.61	188	123771	200.00 ng/ml	0.00
37) Chrysene-d12	10.41	240	154799	200.00 ng/ml	0.00
49) Perylene-d12	14.11	264	158999	200.00 ng/ml	-0.05
System Monitoring Compounds					
15) Fluorene-d10	6.81	176	684157	1859.99 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 186.00%		
20) 2,4,6 Tribromophenol	7.03	330	167525	2384.91 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 238.49%		
36) Fluoranthene-d10	8.60	212	1370143	1782.27 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 178.23%		
42) Terphenyl-d14	8.99	244	1135524	1660.67 ng/ml	0.00
Spiked Amount 1000.000			Recovery = 166.07%		

Target Compounds					Qvalue
2) Naphthalene	4.99	128	1015318	1714.22 ng/ml	99
3) 2-Methylnaphthalene	5.54	142	757951	1826.74 ng/ml	89
4) 1-Methylnaphthalene	5.61	142	671896	1840.61 ng/ml	95
5) Biphenyl	5.91	154	885586	1789.06 ng/ml	96
6) 2,6-Dimethylnaphthalene	6.04	156	683071	1921.33 ng/ml	99
11) Acenaphthylene	6.27	152	1149589	1840.48 ng/ml	94
12) Acenaphthene	6.41	154	687455	1775.77 ng/ml	97
13) Dibenzofuran	6.55	168	1030330m	1766.17 ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.72	170	691010	1887.88 ng/ml	91
16) Fluorene	6.83	166	849470	1801.80 ng/ml	95
21) Pentachlorophenol	7.46	266	279535	493.64 ng/ml	91
23) Dibenzothiophene	7.53	184	1234149	1806.20 ng/ml	94
27) Phenanthrene	7.63	178	1220351	1602.44 ng/ml	95
28) Anthracene	7.67	178	1295632	1786.12 ng/ml	98
29) Carbazole	7.80	167	1178566	1807.93 ng/ml	89
30) 1-Methylphenanthrene	8.13	192	975014	1747.71 ng/ml	96
35) Fluoranthene	8.62	202	1450767	1704.01 ng/ml	96
38) Pyrene	8.83	202	1572667	1671.12 ng/ml	99
43) Benz(a)anthracene	10.39	228	1626133	1834.53 ng/ml	98
44) Chrysene	10.45	228	1539808	1809.68 ng/ml	98
50) Benzo(b)fluoranthene	12.88	252	1807079	1952.14 ng/ml	97
51) Benzo(k)fluoranthene	12.97	252	1752819	1959.76 ng/ml	97
52) Benzo(e)pyrene	13.74	252	1614597	1962.83 ng/ml	98
53) Benzo(a)pyrene	13.93	252	1677916	2164.61 ng/ml	98
54) Perylene	14.23	252	1701982	2103.35 ng/ml	98

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F012.D
Acq On : 27 Feb 2012 12:47 pm
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM36-67L
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 13:08:10 2012

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 12:42:45 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

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	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55)	Indeno(1,2,3-cd)pyrene	17.15	276	1595920	1949.13 ng/ml	94
56)	Dibenz(a,h)anthracene	17.22	278	1615099	1950.71 ng/ml	99
57)	Benzo(g,h,i)perylene	17.58	276	1736891	1765.32 ng/ml	93

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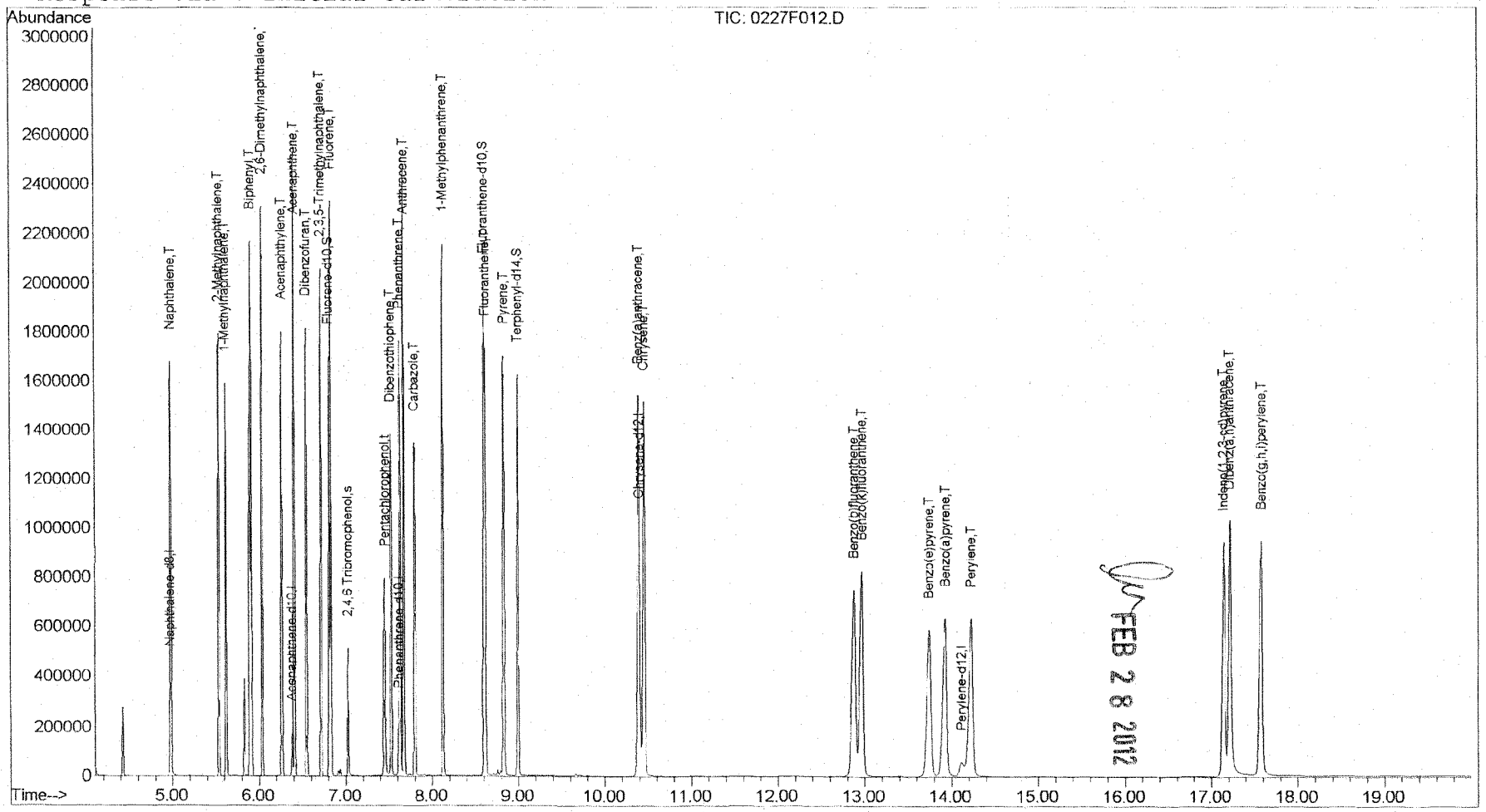
(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227F012.D Vial: 10
Acq On : 27 Feb 2012 12:47 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM36-67L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 13:08 2012 Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 12:42:45 2012
Response via : Initial Calibration



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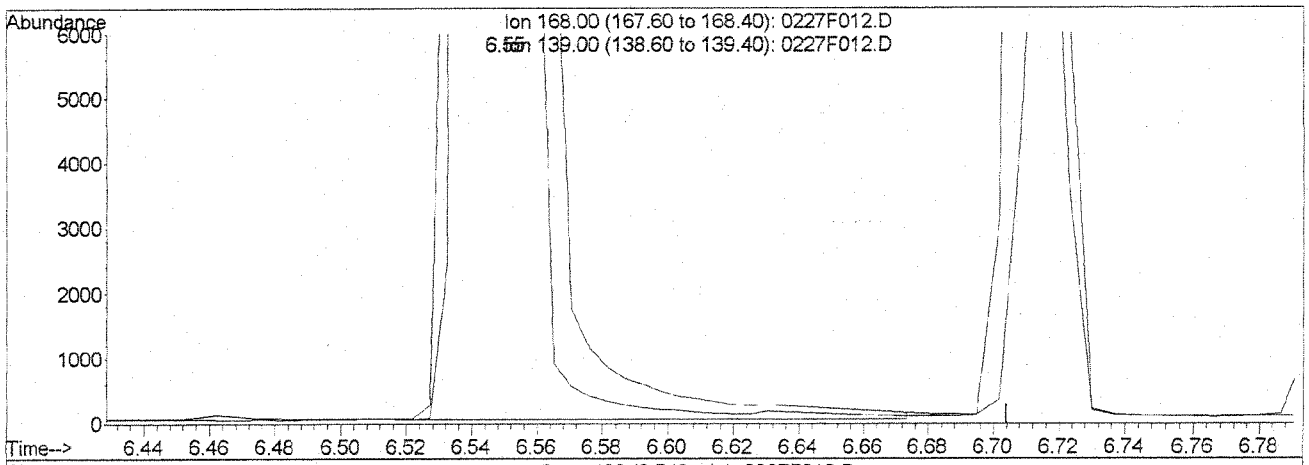
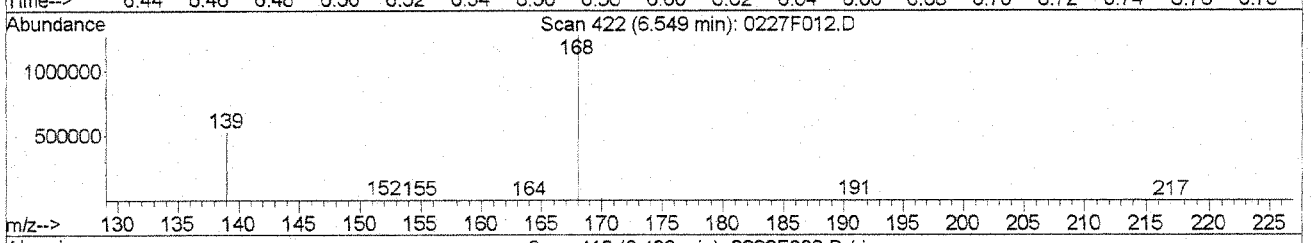
1010

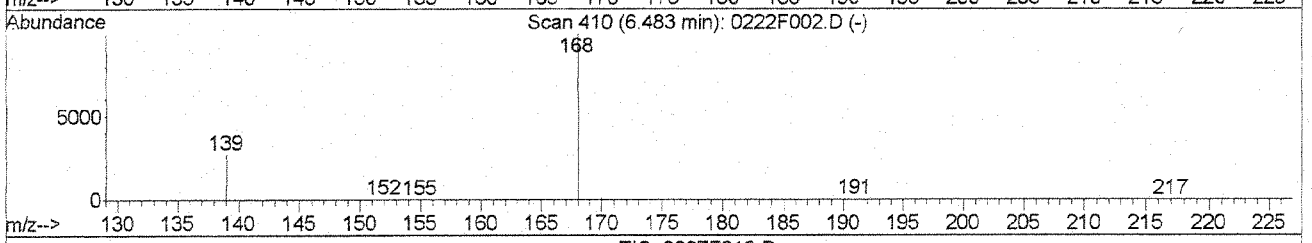
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F012.D Vial: 10
Acq On : 27 Feb 2012 12:47 pm Operator: LWeiskopf
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM36-67L Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 27 13:08 2012 Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 12:42:45 2012
Response via : Multiple Level Calibration







TIC: 0227F012.D

(13) Dibenzofuran (T)

6.55min 2354.44ng/ml

response 1373512

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	41.23
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

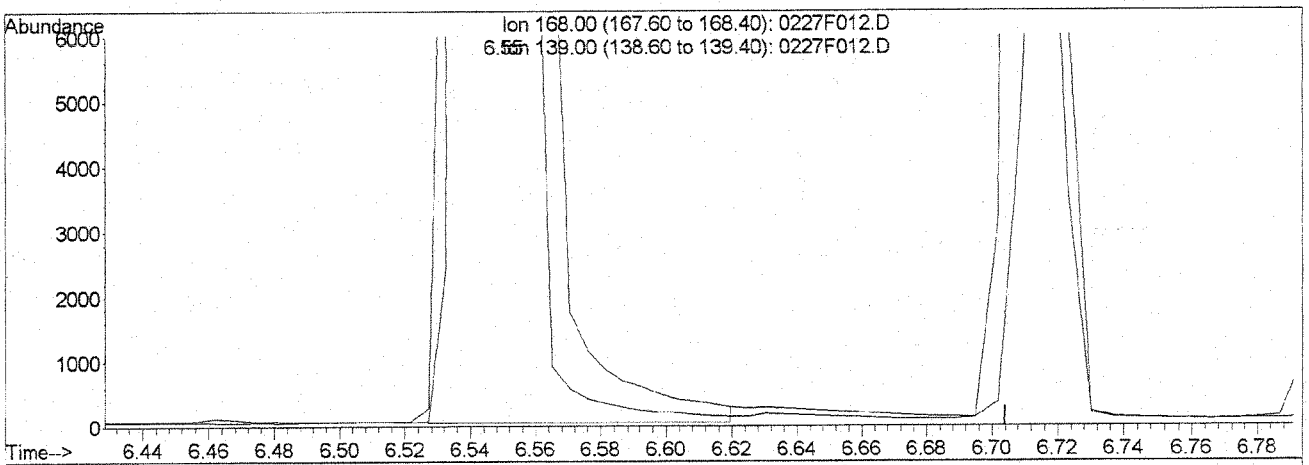
0227F012.D 0227ALK.M Mon Feb 27 13:08:25 2012

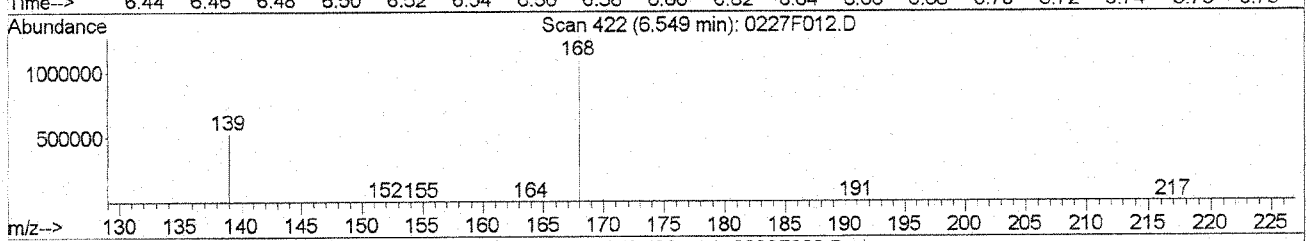
Quantitation Report (Qedit)

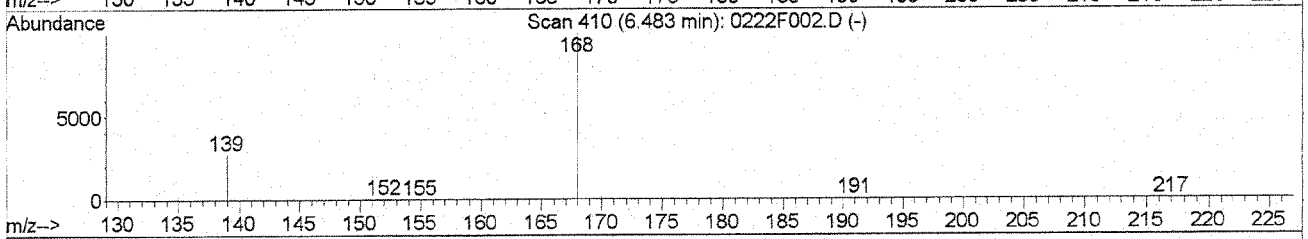
Data File : J:\MS11\DATA\022712\0227F012.D
Acq On : 27 Feb 2012 12:47 pm
Sample : SIM-PAH ICAL @2.0/3.0ug/mL | SVM36-67L
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 27 13:08 2012

Vial: 10
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Feb 27 12:42:45 2012
Response via : Multiple Level Calibration







TIC: 0227F012.D

(13) Dibenzofuran (T)

6.55min 1766.17ng/ml m

response 1030330

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	41.23
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/27/12

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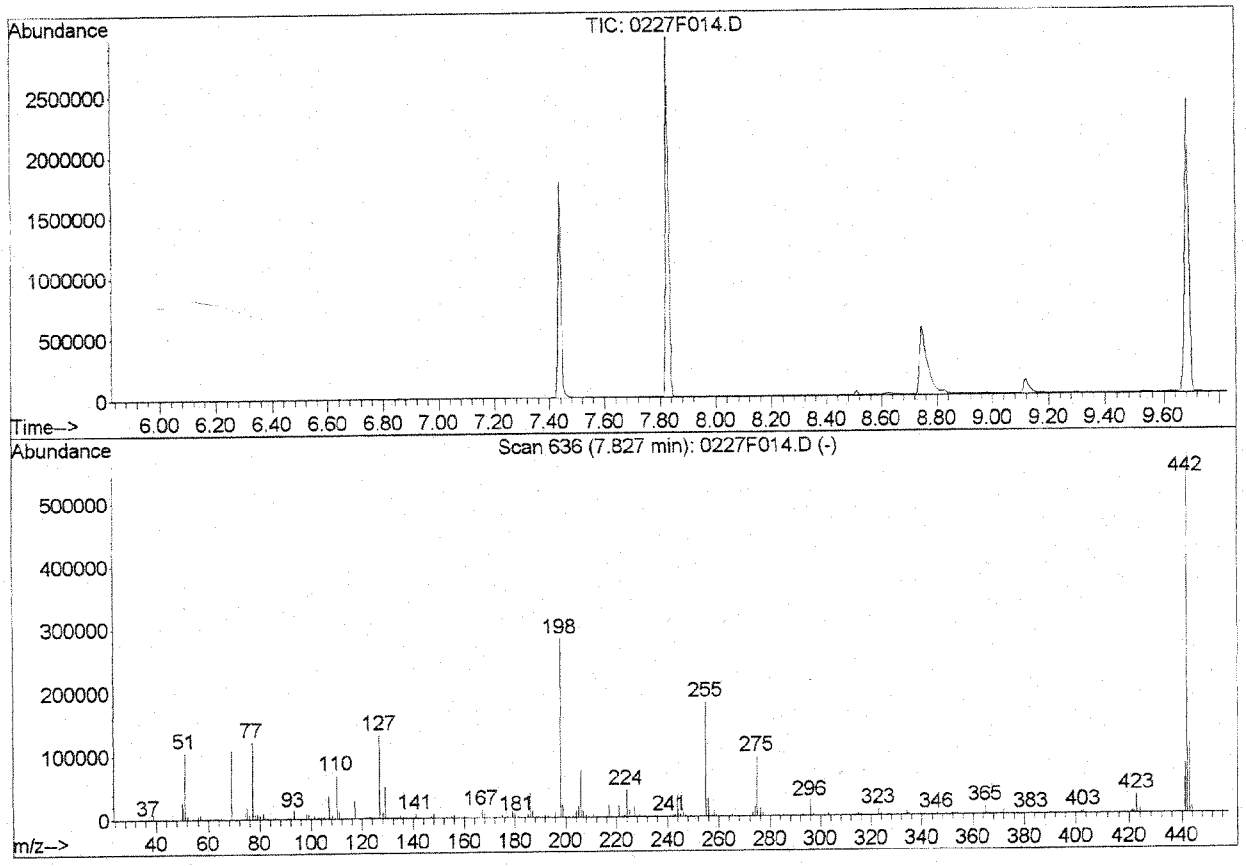
0227F012.D 0227ALK.M Mon Feb 27 13:08:29 2012

DFTPP

Data File : J:\MS11\DATA\022712\0227F014.D
Acq On : 27 Feb 2012 1:13 pm
Sample : DFTPP @ 3.0ppm | SVM37-68B
Misc :
MS Integration Params: RTEINT.P
Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00



FEB 28 2012

Spectrum Information: Scan 636

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	37.5	105864	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.7	744	PASS
127	198	10	80	46.8	132032	PASS
197	198	0.00	2	0.0	0	PASS
198	442	30	100	52.1	282304	PASS
199	198	5	9	6.9	19480	PASS
275	198	10	60	33.5	94448	PASS
365	442	1	50	2.3	12704	PASS
441	443	0.01	100	71.6	79288	PASS
442	442	30	100	100.0	541568	PASS
443	442	15	24	20.5	110752	PASS

0227F014.D DFTPPPAH.M Tue Feb 28 06:51:45 2012

FEB 28 2012

M

Scan 636 (7.827 min): 0227F014.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.10	541	62.10	1629	78.10	8246	93.10	13201
38.10	1508	63.10	4328	79.10	8334	94.10	1083
39.10	8364	64.10	745	80.10	6484	96.00	890
44.10	97	65.10	2161	81.10	8638	98.10	10175
50.10	27304	69.00	109152	82.00	2371	99.00	7878
51.10	105864	70.10	744	83.10	2029	100.00	731
52.10	5348	73.10	1002	85.10	1371	101.10	4972
55.10	625	74.10	11410	86.00	2436	103.00	1753
56.10	3532	75.10	17752	87.10	1112	104.00	3397
57.10	7100	76.10	6519	91.10	2093	105.00	3095
61.10	1361	77.10	122680	92.10	2257	107.00	36504

Scan 636 (7.827 min): 0227F014.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
108.10	5779	125.00	1558	140.00	716	155.00	3610
110.00	69352	127.00	132032	141.00	6800	156.10	5549
111.00	10303	128.10	10236	142.00	2312	157.10	1241
112.00	1262	129.00	50264	143.00	1486	157.90	1147
116.10	2270	130.00	4755	146.00	1272	159.00	1049
117.00	27512	131.00	821	147.00	3330	160.00	2235
118.00	2069	132.00	527	148.00	6697	161.00	3435
120.10	577	134.00	1398	149.00	1477	162.00	997
122.10	2596	135.00	4174	151.20	900	165.00	2417
123.00	3865	136.00	1795	153.00	2104	166.10	2072
124.00	1616	137.10	2236	154.00	1479	167.00	12502

Scan 636 (7.827 min): 0227F014.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
168.00	5755	181.00	3477	196.00	8510	209.00	1032
169.00	1230	184.00	761	198.00	282304	210.20	1272
172.00	1195	185.00	4820	199.00	19480	211.00	3004
173.00	1674	186.00	37832	200.00	1605	215.00	730
174.00	2830	187.00	10798	201.40	1536	216.00	1429
175.00	4982	188.10	1083	203.00	1891	217.00	18776
176.00	1661	189.00	2325	204.00	10094	218.00	2347
177.00	2496	191.00	1424	205.00	17256	221.00	17816
178.00	833	192.00	3055	206.00	73528	223.00	4304
179.00	9537	193.00	3475	207.00	9748	224.00	42992
180.00	6750	194.00	788	208.00	2875	225.00	10531

Scan 636 (7.827 min): 0227F014.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

FEB 2 8 2012

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
226.10	1116	241.00	984	257.00	2099	278.00	1280
227.00	16704	242.00	2343	258.00	10012	281.00	536
228.00	2338	243.00	2560	259.00	1815	283.00	918
229.00	3573	244.00	35416	265.00	3817	284.00	601
229.90	548	245.00	4843	266.00	669	285.00	1390
231.10	1622	246.00	6630	272.00	507	293.00	1719
234.00	1010	247.00	1466	273.00	6346	296.00	23416
235.00	1385	249.00	1278	274.00	15609	297.00	3210
236.00	810	253.00	914	275.00	94448	303.10	2835
237.00	1457	255.00	180352	276.00	12643	304.10	784
239.00	761	256.00	27576	277.00	7009	314.10	1326

FEB 2 8 2012

Scan 636 (7.827 min): 0227F014.D
DFTPP @ 3.0ppm | SVM37-68B
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
315.00	2853	341.10	1076	383.00	1598	425.10	698
316.00	1787	346.00	2099	390.00	975	441.10	79288
321.00	894	352.00	3152	391.00	673	442.10	541568
323.00	9540	353.00	2152	392.00	508	443.00	110752
324.00	1899	354.00	3368	402.00	2806	444.10	10565
327.00	1767	355.00	588	403.00	3992	445.00	713
328.00	945	365.00	12704	404.00	1455		
332.00	771	366.00	1959	421.00	3675		
333.00	858	371.00	876	422.00	3555		
334.00	5971	372.00	6016	423.00	29848		
335.00	1837	373.00	1511	424.00	7045		

FEB 2 8 2012

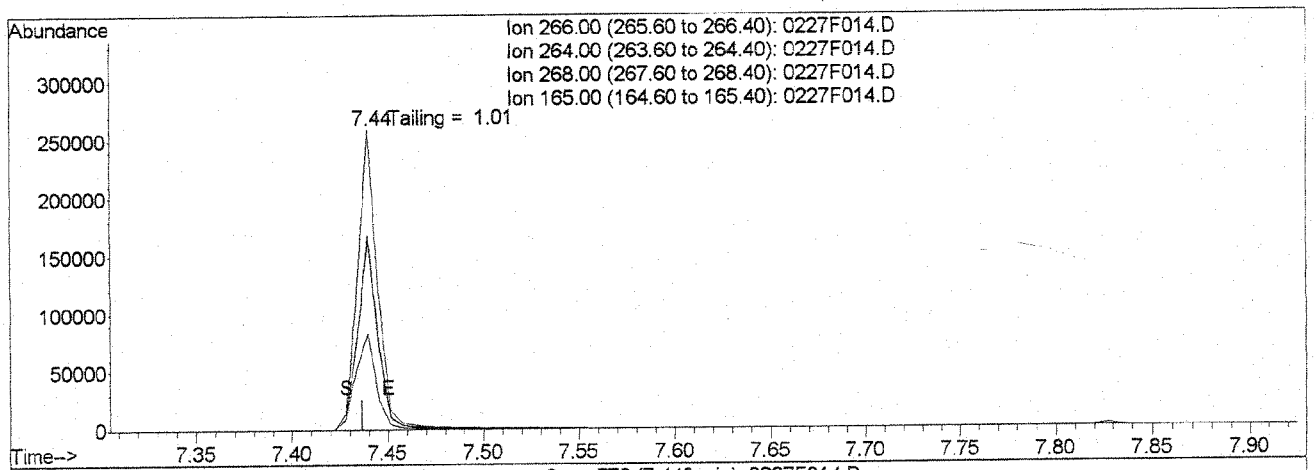
FEB 2 8 2012

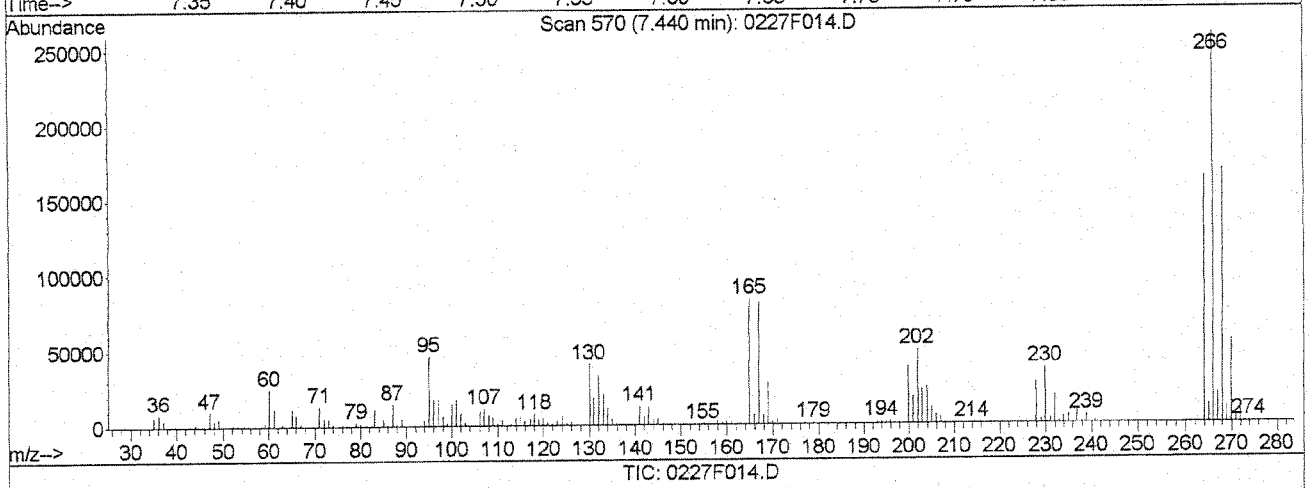
Quantitation Report (Qedit)

Data File : J:\MS11\DATA\022712\0227F014.D
Acq On : 27 Feb 2012 1:13 pm
Sample : DFTPP @ 3.0ppm | SVM37-68B
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:51 2012

Vial: 1
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\DFTPPPAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 12 13:33:42 2004
Response via : Single Level Calibration





(1) Pentachlorophenol

6.94min 0.00ng/ml

response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	64.50	0.00#
268.00	63.70	0.00#
165.00	28.70	0.00

FEB 28 2012

FEB 28 2012

0227F014.D DFTPPPAH.M Tue Feb 28 06:51:57 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227X017.D
Acq On : 27 Feb 2012 2:32 pm
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM37-68C 71I
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 28 06:41:36 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Feb 28 06:29:18 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.96	136	100485	200.00	ng/ml	0.00
10) Acenaphthene-d10	6.38	164	58940	200.00	ng/ml	0.00
22) Phenanthrene-d10	7.61	188	113842	200.00	ng/ml	0.00
37) Chrysene-d12	10.40	240	140781	200.00	ng/ml	-0.01
49) Perylene-d12	14.10	264	141849	200.00	ng/ml	-0.06
System Monitoring Compounds						
15) Fluorene-d10	6.80	176	142699	411.96	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 41.20%			
20) 2,4,6 Tribromophenol	7.03	330	34194	456.71	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 45.67%			
36) Fluoranthene-d10	8.60	212	291467	416.74	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 41.67%			
42) Terphenyl-d14	8.99	244	261148	443.69	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 44.37%			
Target Compounds						Qvalue
2) Naphthalene	4.98	128	227432	403.44	ng/ml	98
3) 2-Methylnaphthalene	5.53	142	162681	409.60	ng/ml	97
4) 1-Methylnaphthalene	5.62	142	142999	408.96	ng/ml	99
5) Biphenyl	5.91	154	193760	409.71	ng/ml	98
6) 2,6-Dimethylnaphthalene	6.04	156	143347	419.23	ng/ml	98
11) Acenaphthylene	6.26	152	246149	418.88	ng/ml	99
12) Acenaphthene	6.41	154	144980	399.37	ng/ml	99
13) Dibenzofuran	6.55	168	223661m	409.05	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.72	170	143104	414.58	ng/ml	93
16) Fluorene	6.83	166	184143	415.97	ng/ml	90
21) Pentachlorophenol	7.46	266	76286	1085.07	ng/ml	88
23) Dibenzothiophene	7.52	184	256362	411.90	ng/ml	87
27) Phenanthrene	7.63	178	271877	397.89	ng/ml	98
28) Anthracene	7.67	178	268601	408.94	ng/ml	96
29) Carbazole	7.80	167	241760	407.12	ng/ml	94
30) 1-Methylphenanthrene	8.13	192	211937	418.31	ng/ml	91
35) Fluoranthene	8.61	202	315609	409.09	ng/ml	99
38) Pyrene	8.83	202	332606	395.12	ng/ml	91
43) Benz(a)anthracene	10.38	228	328963	411.48	ng/ml	99
44) Chrysene	10.44	228	315245	411.30	ng/ml	99
50) Benzo(b)fluoranthene	12.85	252	353824	429.47	ng/ml	100
51) Benzo(k)fluoranthene	12.94	252	350297	439.89	ng/ml	100
52) Benzo(e)pyrene	13.72	252	312614	426.78	ng/ml	100
53) Benzo(a)pyrene	13.90	252	314530	451.11	ng/ml	99
54) Perylene	14.20	252	316867	436.68	ng/ml	100

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

FEB 28 2012

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227X017.D Vial: 2
Acq On : 27 Feb 2012 2:32 pm Operator: LWeiskopf
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM37-68C 7/I Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 28 06:41:36 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Feb 28 06:29:18 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

FEB 28 2012

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
55) Indeno(1,2,3-cd)pyrene	17.12	276	314165	431.18 ng/ml	98
56) Dibenz(a,h)anthracene	17.20	278	316019	428.89 ng/ml	96
57) Benzo(g,h,i)perylene	17.55	276	353345	409.42 ng/ml	98

FEB 28 2012

(#) = qualifier out of range (m) = manual integration
0227X017.D 0227ALK.M Tue Feb 28 06:41:56 2012 Page 2

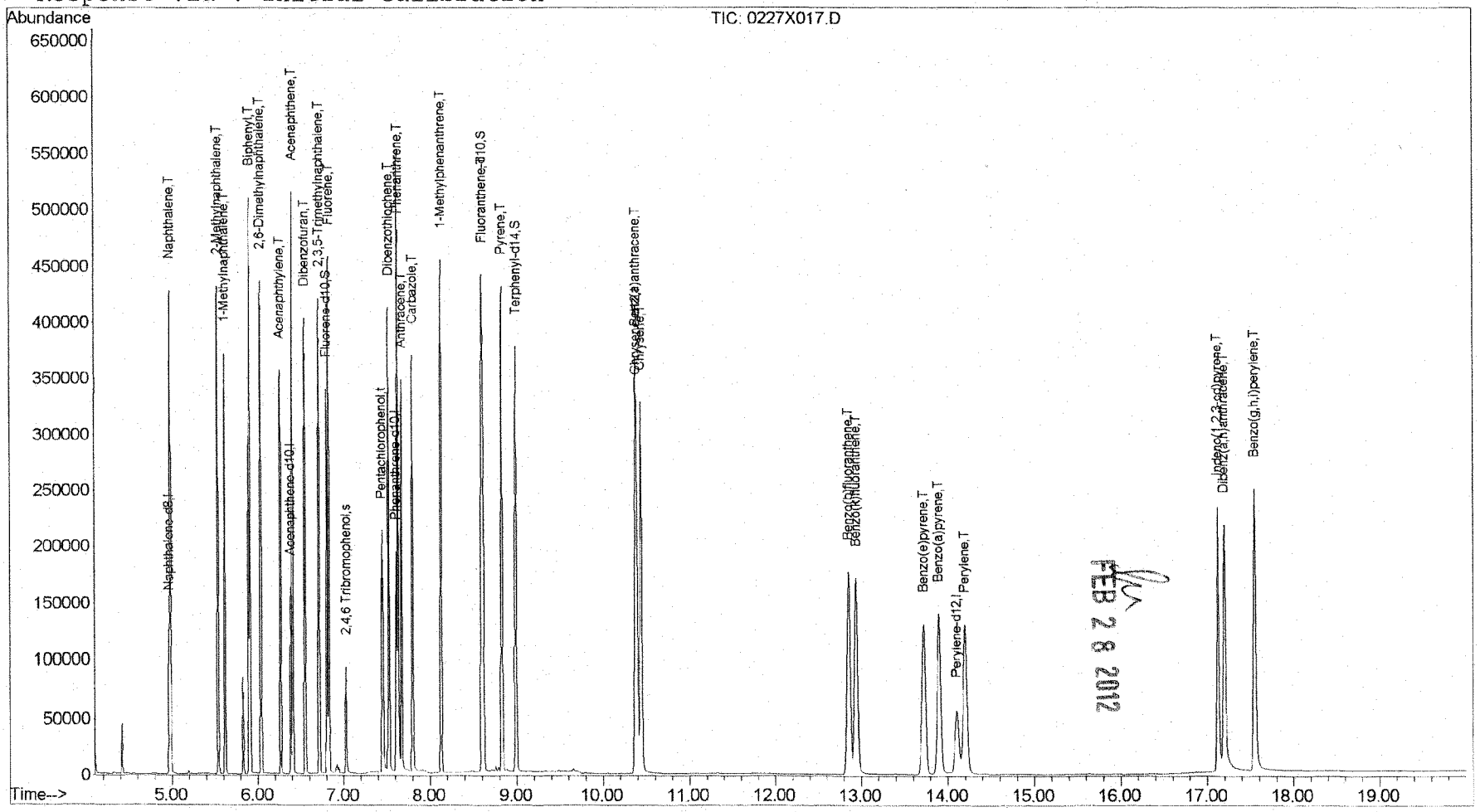
Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\022712\0227X017.D
Acq On : 27 Feb 2012 2:32 pm
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM37-68C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:41 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Feb 28 06:29:18 2012
Response via : Initial Calibration



FEB 28 2012

FEB 28 2012

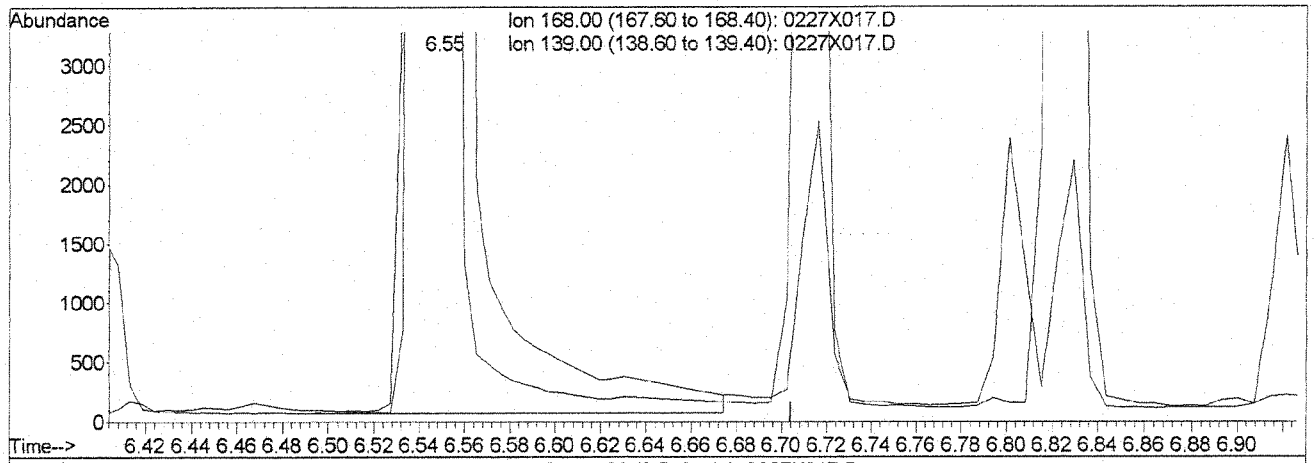
1019

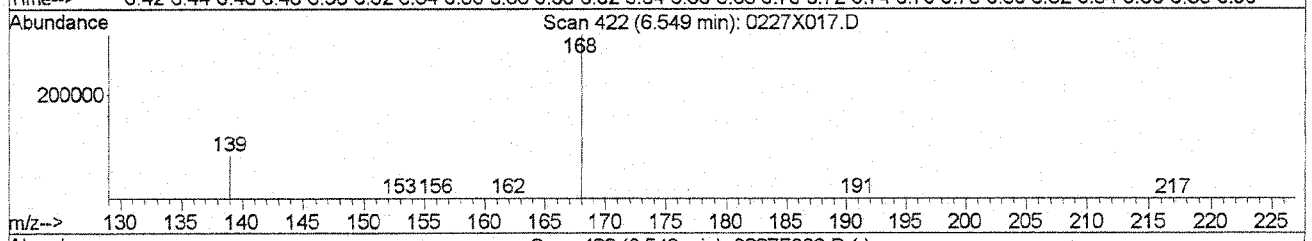
Quantitation Report (Qedit)

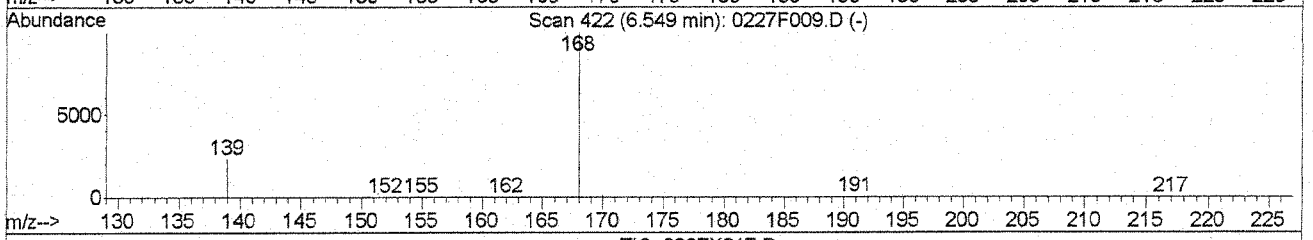
Data File : J:\MS11\DATA\022712\0227X017.D
Acq On : 27 Feb 2012 2:32 pm
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM37-68C 7/I
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:41 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Feb 28 06:29:18 2012
Response via : Multiple Level Calibration







TIC: 0227X017.D

(13) Dibenzofuran (T)

6.55min 516.60ng/ml

response 282465

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	25.92
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

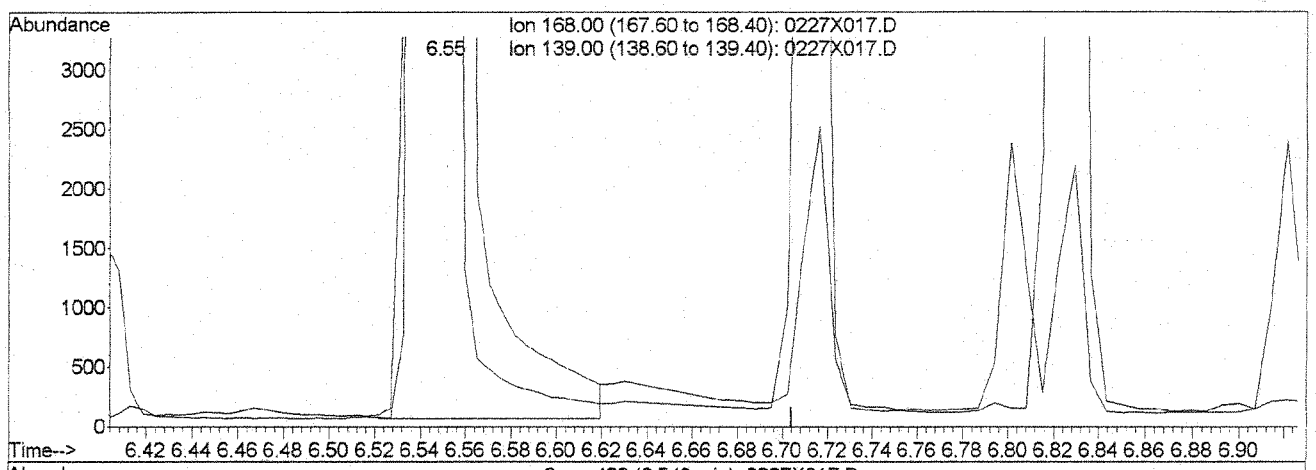
0227X017.D 0227ALK.M Tue Feb 28 06:41:45 2012

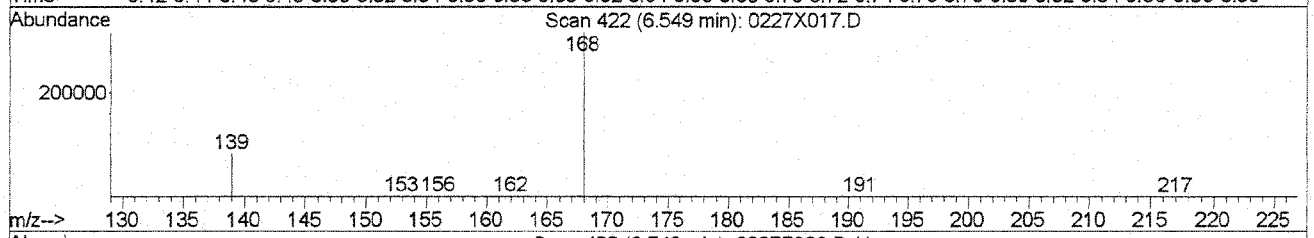
Quantitation Report (Qedit)

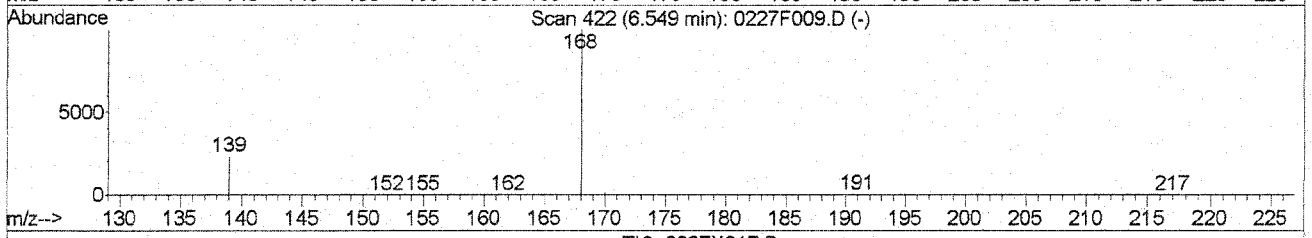
Data File : J:\MS11\DATA\022712\0227X017.D
Acq On : 27 Feb 2012 2:32 pm
Sample : SIM-PAH ICV @ 0.4ug/mL | SVM37-68C 71I
Misc :
MS Integration Params: RTEINT.P
Quant Time: Feb 28 6:41 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Feb 28 06:29:18 2012
Response via : Multiple Level Calibration







TIC: 0227X017.D

(13) Dibenzofuran (T)
6.55min 409.05ng/ml m
response 223661

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	25.94
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:
After
IC-Overintegrated
02/28/12

FEB 28 2012

0227X017.D 0227ALK.M Tue Feb 28 06:41:49 2012

Client: Ash Creek Associates, Inc.
Project: T2 Storm water Project/1053-02

Service Request: K1203695
Date Analyzed: 04/28/2012

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration Date: 02/27/2012
Calibration ID: CAL11297
Analysis Lot: KWG1204349
Units: ng/ml

File ID: J:\MS11\DATA\042812\0428F004.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	360	0.70	1.12	0.999	-11	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	380	0.40	0.791	0.749	-5	NA	± 20 %	AverageRF
Acenaphthylene	400	380	0.90	1.99	1.89	-5	NA	± 20 %	AverageRF
Acenaphthene	400	360	0.90	1.23	1.11	-10	NA	± 20 %	AverageRF
Fluorene	400	370	0.90	1.50	1.37	-9	NA	± 20 %	AverageRF
Phenanthrene	400	340	0.70	1.20	1.03	-14	NA	± 20 %	AverageRF
Anthracene	400	360	0.70	1.15	1.05	-9	NA	± 20 %	AverageRF
Fluoranthene	400	360	0.60	1.36	1.23	-9	NA	± 20 %	AverageRF
Pyrene	400	380	0.60	1.20	1.14	-5	NA	± 20 %	AverageRF
Benz(a)anthracene	400	380	0.80	1.14	1.08	-5	NA	± 20 %	AverageRF
Chrysene	400	380	0.70	1.09	1.05	-4	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	410	0.70	1.16	1.20	4	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	420	0.70	1.12	1.17	4	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	440	0.70	0.983	1.07	9	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	360	0.50	1.03	0.919	-11	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	420	0.40	1.04	1.08	4	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	360	0.50	1.22	1.10	-9	NA	± 20 %	AverageRF
Fluorene-d10	400	390	0.01	1.18	1.16	-1	NA	± 20 %	AverageRF
Fluoranthene-d10	400	360	0.01	1.23	1.11	-10	NA	± 20 %	AverageRF
Terphenyl-d14	400	360	0.01	0.836	0.758	-9	NA	± 20 %	AverageRF

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

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

Exception Report

Data File: J:\MS11\DATA\042812\0428F004.D
Lab ID: KWG1204349-2
RunType: CCV
Matrix: WATER

Date Acquired: 04/28/2012 08:49
Date Quantitated: 04/30/2012 04:49
Batch ID: KWG1204349
Analysis Method: 8270D SIM
MethodJoinID: MJ1186

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Primary Review: APR 3 0 2012

Secondary Review: 04/30/12

Printed: 04/30/2012 06:18:37
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS11\DATA\042812\0428F004.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 08:49	**Quant Date:**	04/30/2012 04:49	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1204349-2			**Soln Conc. Units:**	ng/ml

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	8270D PAH SIM	**Collect Date:**		**Receive Date:**	04/30/2012

Analysis Lot:	KWG1204349	**Prep Lot:**		**Report Group:**	
Analysis Method:	8270D SIM	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS11\METHODS\SIM\0227ALK.M	**Calibration ID:**	CAL11297
Title:			
Tune Ref:	J:\MS11\DATA\042812\0428F003.D	**Method ID:**	MJ1189
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	Naphthalene-d8	4.87	-0.10	136	86697	200.00	OK
2	Acenaphthene-d10	6.29	-0.09	164	53210	200.00	OK
3	Phenanthrene-d10	7.52	-0.09	188	105029	200.00	OK
4	Chrysene-d12	10.27	-0.13	240	118755	200.00	OK
5	Perylene-d12	13.93	-0.17	264	112517	200.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
2	Fluorene-d10	6.72			176	123226	394.05		29-98	NA
2	2,4,6-Tribromophenol	6.95			330	25367	376.58		10-136	NA
3	Fluoranthene-d10	8.51			212	232989	361.08		31-105	NA
4	Terphenyl-d14	8.88			244	180074	362.69		27-112	NA

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	Naphthalene	4.89			128	173248m	356.20			
1	2-Methylnaphthalene	5.44			142	129913	379.12			
1	1-Methylnaphthalene	5.52			142	117175	388.40			
1	Biphenyl	5.81			154	153714	376.72			
1	2,6-Dimethylnaphthalene	5.95			156	118236	400.78			
2	Acenaphthylene	6.17			152	200828	378.56			
2	Acenaphthene	6.31			154	118007	360.07			
2	Dibenzofuran	6.46			168	174083m	352.66			
2	2,3,5-Trimethylnaphthalene	6.62			170	115687	371.24			
2	Fluorene	6.74			166	145948	365.19			
2	Pentachlorophenol	7.38			266	49632	821.13			
3	Dibenzothiophene	7.43			184	195326	340.17			

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

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

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

Data File:	J:\MS11\DATA\042812\0428F004.D			**Instrument:**	MS11
Acqu Date:	04/28/2012 08:49	**Quant Date:**	04/30/2012 04:49	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1204349-2			**Soln Conc. Units:**	ng/ml

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
3	Phenanthrene	7.54			178	216144	342.86			
3	Anthracene	7.58			178	220687m	364.18			
3	Carbazole	7.73			167	192481	351.33			
3	1-Methylphenanthrene	8.04			192	169211	362.00			
3	Fluoranthene	8.52			202	258999	363.88			
4	Pyrene	8.73			202	270023	380.27			
4	Benz(a)anthracene	10.25			228	257309	381.55			
4	Chrysene	10.31			228	248216	383.91			
5	Benzo(b)fluoranthene	12.69			252	270894	414.52			
5	Benzo(k)fluoranthene	12.77			252	263585	417.29			
5	Benzo(e)pyrene	13.55			252	238389	410.29			
5	Benzo(a)pyrene	13.73			252	240872	435.52			
5	Perylene	14.03			252	239144	415.48			
5	Indeno(1,2,3-cd)pyrene	17.09			276	206785m	357.79			
5	Dibenz(a,h)anthracene	17.13			278	243462	416.55			
5	Benzo(g,h,i)perylene	17.52			276	248622	363.18			

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

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

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F004.D Vial: 2
Acq On : 28 Apr 2012 8:49 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 28 09:14:27 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Apr 27 13:28:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.87	136	86697	200.00	ng/ml	-0.02
10) Acenaphthene-d10	6.29	164	53210	200.00	ng/ml	-0.01
22) Phenanthrene-d10	7.52	188	105029	200.00	ng/ml	-0.02
37) Chrysene-d12	10.27	240	118755	200.00	ng/ml	-0.02
50) Perylene-d12	13.93	264	112517	200.00	ng/ml	-0.03
System Monitoring Compounds						
15) Fluorene-d10	6.72	176	123226	394.05	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 39.41%			
20) 2,4,6 Tribromophenol	6.95	330	25367	376.58	ng/ml	0.00
Spiked Amount 1000.000			Recovery = 37.66%			
36) Fluoranthene-d10	8.51	212	232989	361.08	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 36.11%			
43) Terphenyl-d14	8.88	244	180074	362.69	ng/ml	-0.01
Spiked Amount 1000.000			Recovery = 36.27%			

Target Compounds						Qvalue
2) Naphthalene	4.89	128	173248m	356.20	ng/ml	
3) 2-Methylnaphthalene	5.44	142	129913	379.12	ng/ml	99
4) 1-Methylnaphthalene	5.52	142	117175	388.40	ng/ml	100
5) Biphenyl	5.81	154	153714	376.72	ng/ml	97
6) 2,6-Dimethylnaphthalene	5.95	156	118236	400.78	ng/ml	100
11) Acenaphthylene	6.17	152	200828	378.56	ng/ml	99
12) Acenaphthene	6.31	154	118007	360.07	ng/ml	98
13) Dibenzofuran	6.46	168	174083m	352.66	ng/ml	
14) 2,3,5-Trimethylnaphthalene	6.62	170	115687	371.24	ng/ml	91
16) Fluorene	6.74	166	145948	365.19	ng/ml	96
21) Pentachlorophenol	7.38	266	49632	821.13	ng/ml	96
23) Dibenzothiophene	7.43	184	195326	340.17	ng/ml	81
27) Phenanthrene	7.54	178	216144	342.86	ng/ml	99
28) Anthracene	7.58	178	220687m	364.18	ng/ml	
29) Carbazole	7.73	167	192481	351.33	ng/ml	100
30) 1-Methylphenanthrene	8.04	192	169211	362.00	ng/ml	94
35) Fluoranthene	8.52	202	258999	363.88	ng/ml	96
38) Pyrene	8.73	202	270023	380.27	ng/ml	96
44) Benz(a)anthracene	10.25	228	257309	381.55	ng/ml	100
45) Chrysene	10.31	228	248216	383.91	ng/ml	99
51) Benzo(b)fluoranthene	12.69	252	270894	414.52	ng/ml	100
52) Benzo(k)fluoranthene	12.77	252	263585	417.29	ng/ml	100
53) Benzo(e)pyrene	13.55	252	238389	410.29	ng/ml	100
54) Benzo(a)pyrene	13.73	252	240872	435.52	ng/ml	99
55) Perylene	14.03	252	239144	415.48	ng/ml	99

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F004.D Vial: 2
Acq On : 28 Apr 2012 8:49 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 28 09:14:27 2012 Quant Results File: 0227ALK.RES

Quant Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Apr 27 13:28:32 2012
Response via : Initial Calibration
DataAcq Meth : A_ALKHAT

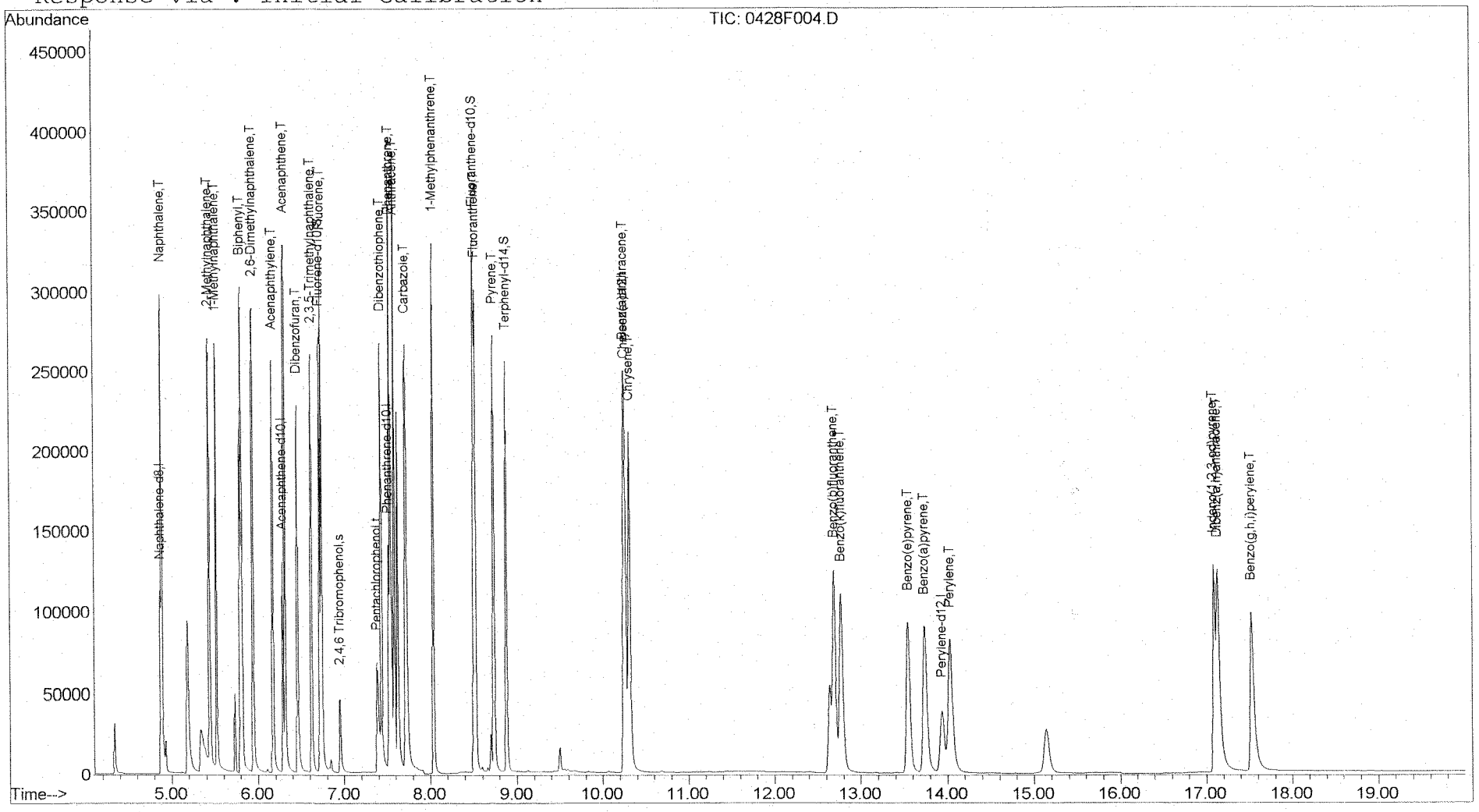
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
56)	Indeno(1,2,3-cd)pyrene	17.09	276	206785m	357.79 ng/ml	
57)	Dibenz(a,h)anthracene	17.13	278	243462	416.55 ng/ml	70
58)	Benzo(g,h,i)perylene	17.52	276	248622	363.18 ng/ml	99

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

Quantitation Report (QT Reviewed)

Data File : J:\MS11\DATA\042812\0428F004.D Vial: 2
Acq On : 28 Apr 2012 8:49 am Operator: LWeiskopf
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C Inst : MS11
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:49 2012 Quant Results File: 0227ALK.RES

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Mon Apr 30 04:50:02 2012
Response via : Initial Calibration

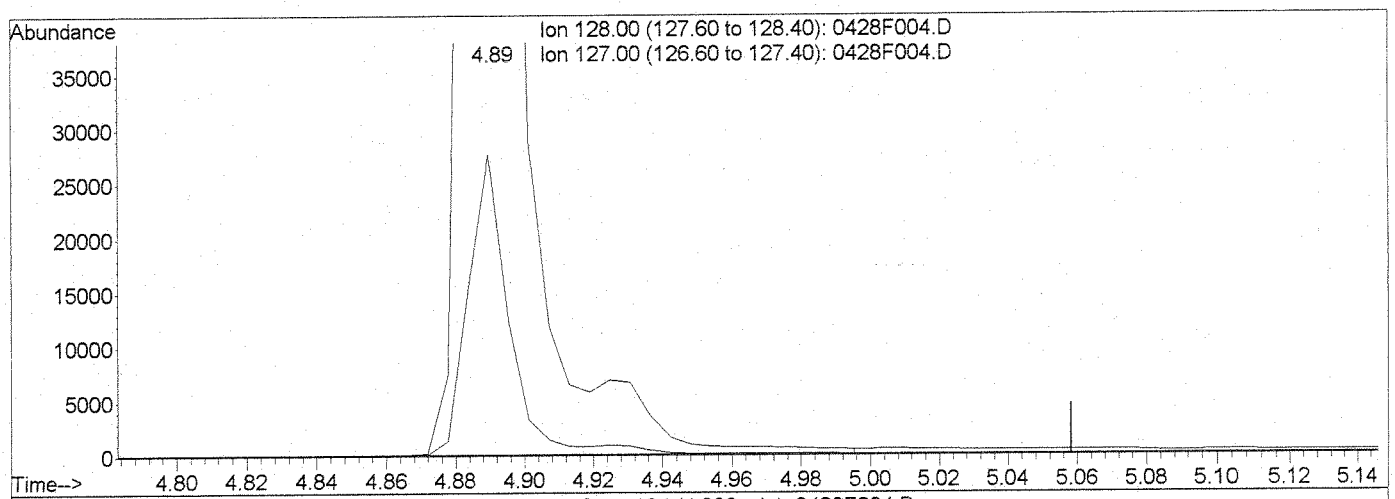


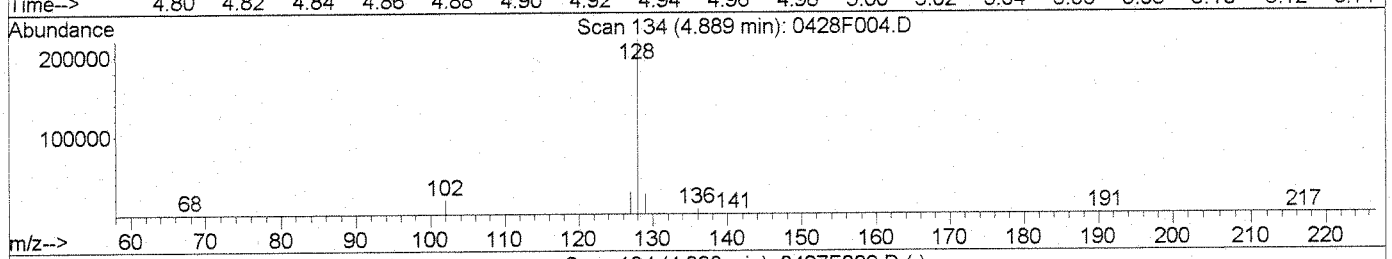
Quantitation Report (Qedit)

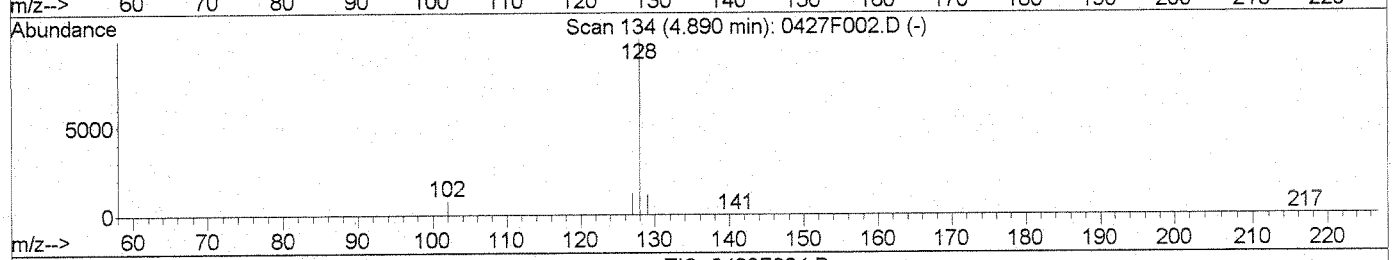
Data File : J:\MS11\DATA\042812\0428F004.D
Acq On : 28 Apr 2012 8:49 am
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 28 9:14 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Apr 27 13:28:32 2012
Response via : Multiple Level Calibration







TIC: 0428F004.D

(2) Naphthalene (T)

4.89min 373.48ng/ml

response 181653

Ion	Exp%	Act%
128.00	100	100
127.00	12.30	12.50
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

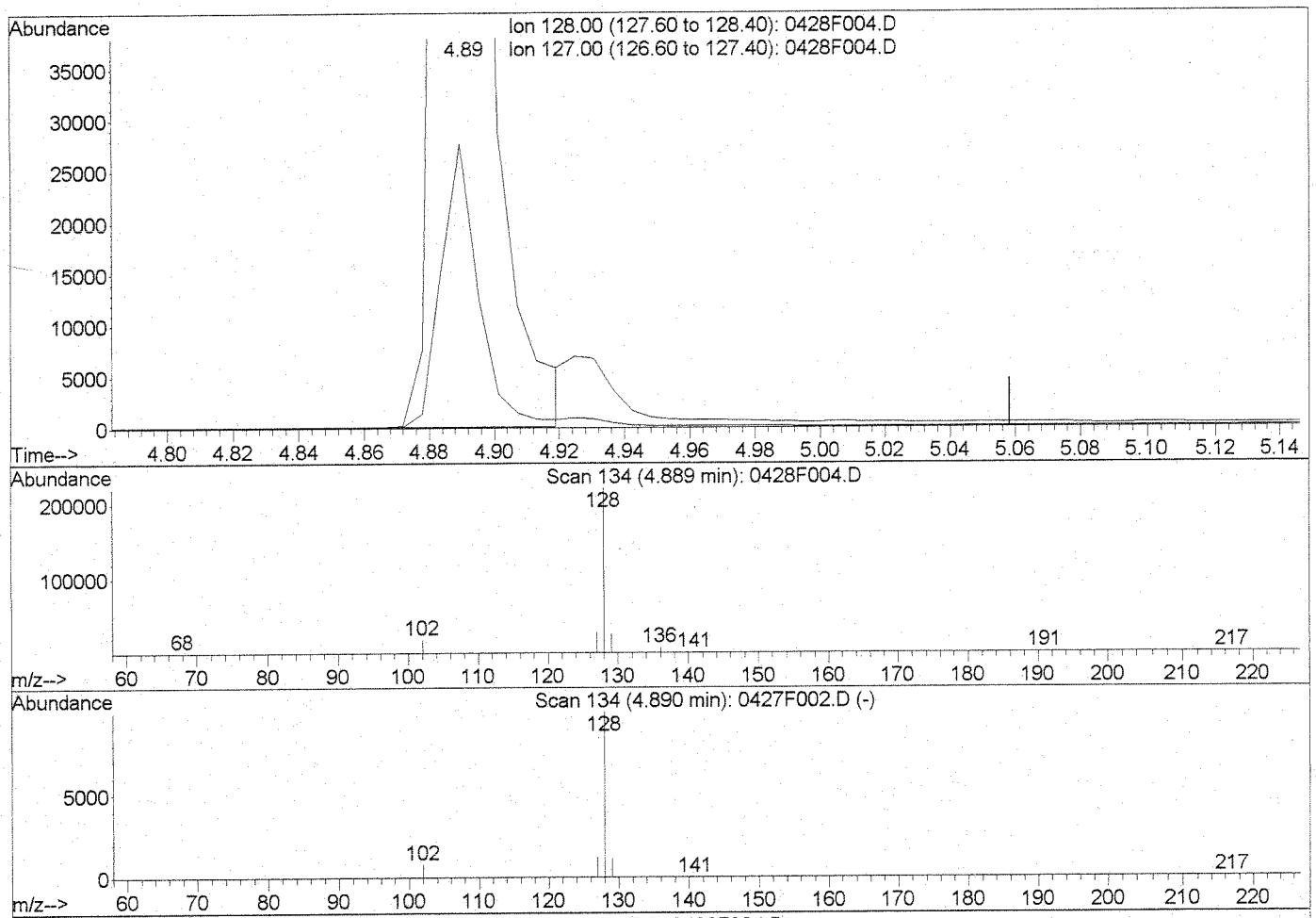
Before

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\042812\0428F004.D
Acq On : 28 Apr 2012 8:49 am
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:48 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Apr 27 13:28:32 2012
Response via : Multiple Level Calibration



(2) Naphthalene (T)

4.89min 356.20ng/ml m

response 173248

Ion	Exp%	Act%
128.00	100	100
127.00	12.30	12.53
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

04/30/12

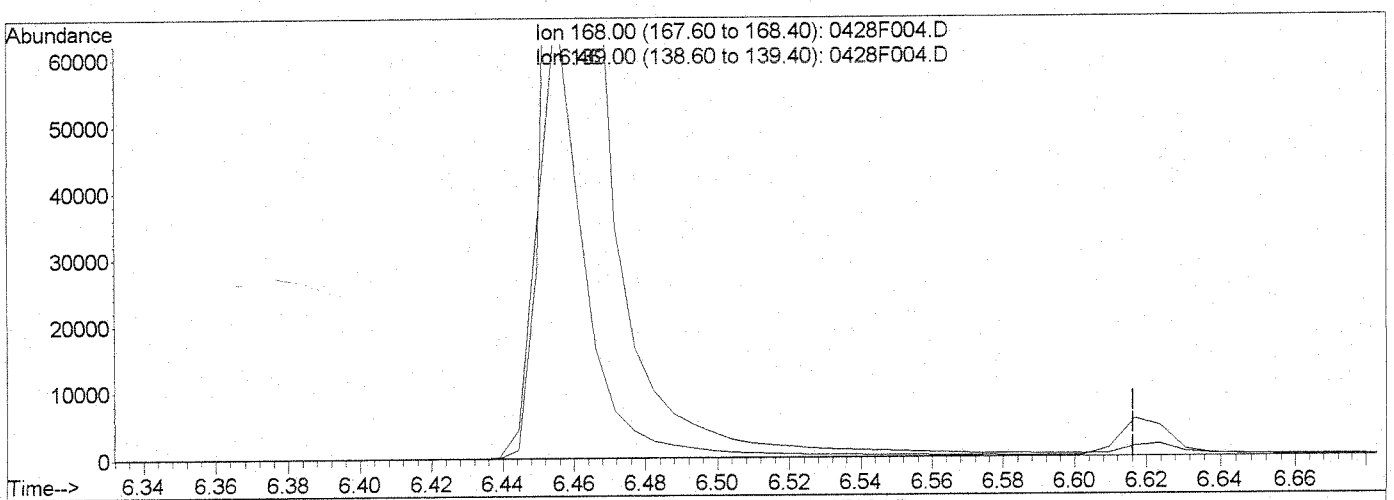
0428F004.D 0227ALK.M Mon Apr 30 04:48:50 2012

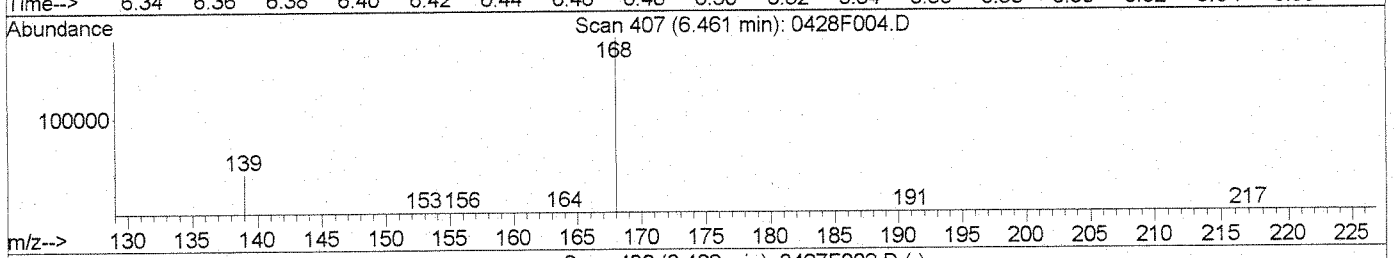
Quantitation Report (Qedit)

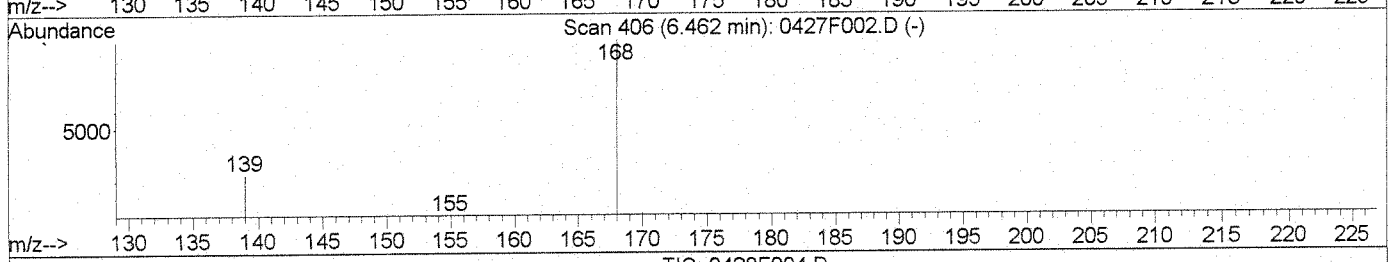
Data File : J:\MS11\DATA\042812\0428F004.D
Acq On : 28 Apr 2012 8:49 am
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:48 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Apr 27 13:28:32 2012
Response via : Multiple Level Calibration







TIC: 0428F004.D

(13) Dibenzofuran (T)

6.46min 482.62ng/ml

response 238231

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	22.39
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

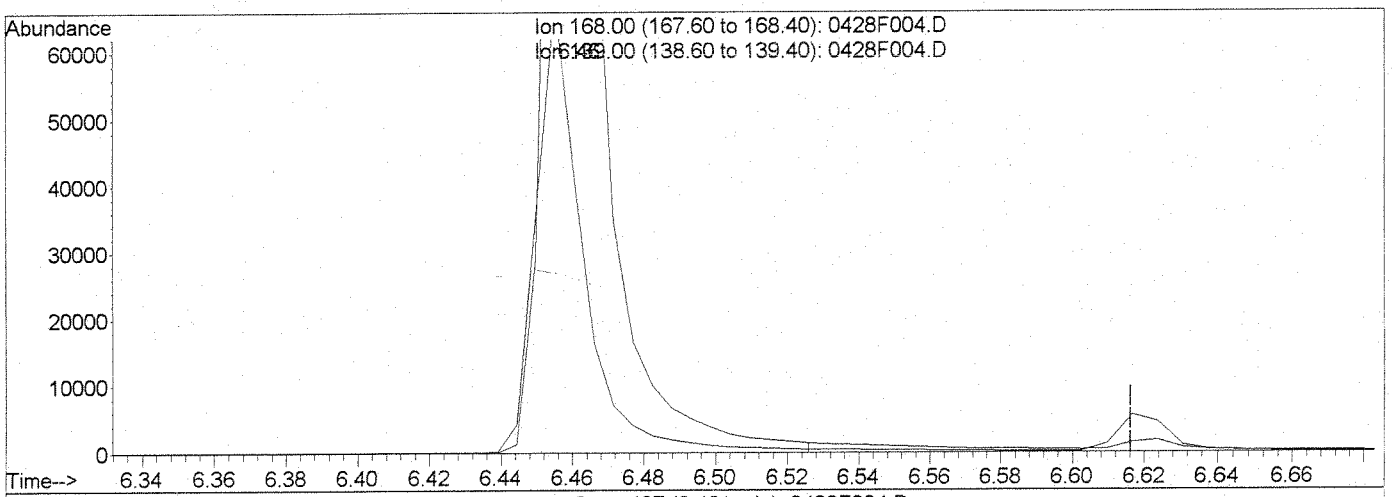
0428F004.D 0227ALK.M Mon Apr 30 04:49:00 2012

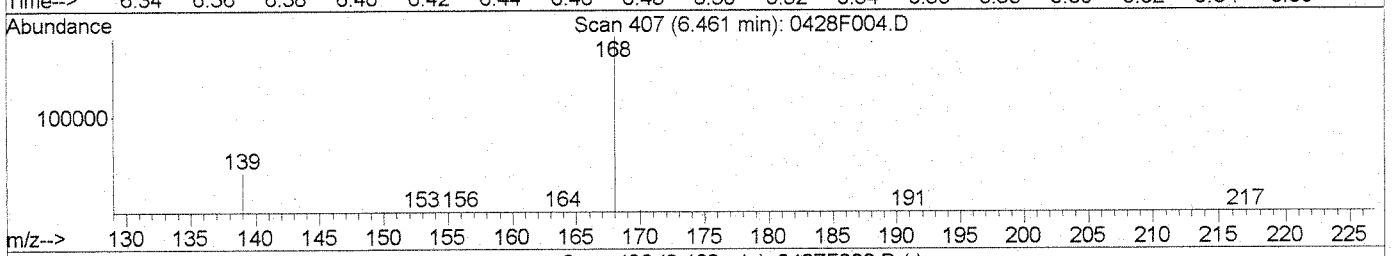
Quantitation Report (Qedit)

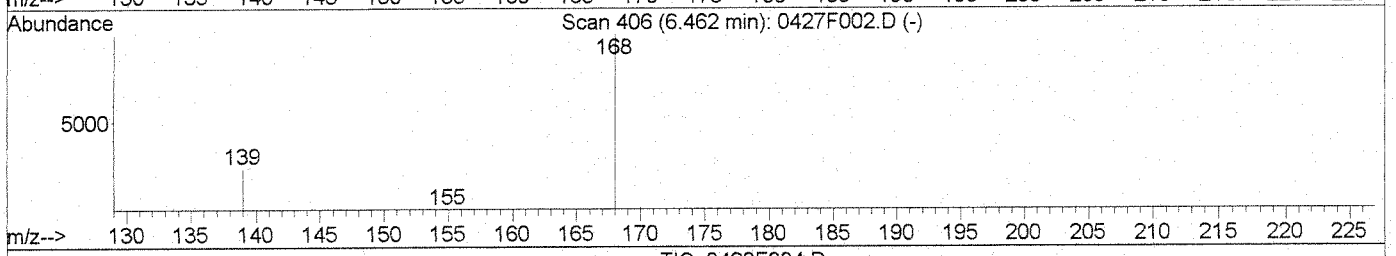
Data File : J:\MS11\DATA\042812\0428F004.D
Acq On : 28 Apr 2012 8:49 am
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:49 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Apr 27 13:28:32 2012
Response via : Multiple Level Calibration







TIC: 0428F004.D

(13) Dibenzofuran (T)

6.46min 352.66ng/ml m

response 174083

Ion	Exp%	Act%
168.00	100	100
139.00	29.60	22.43
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

04/30/12

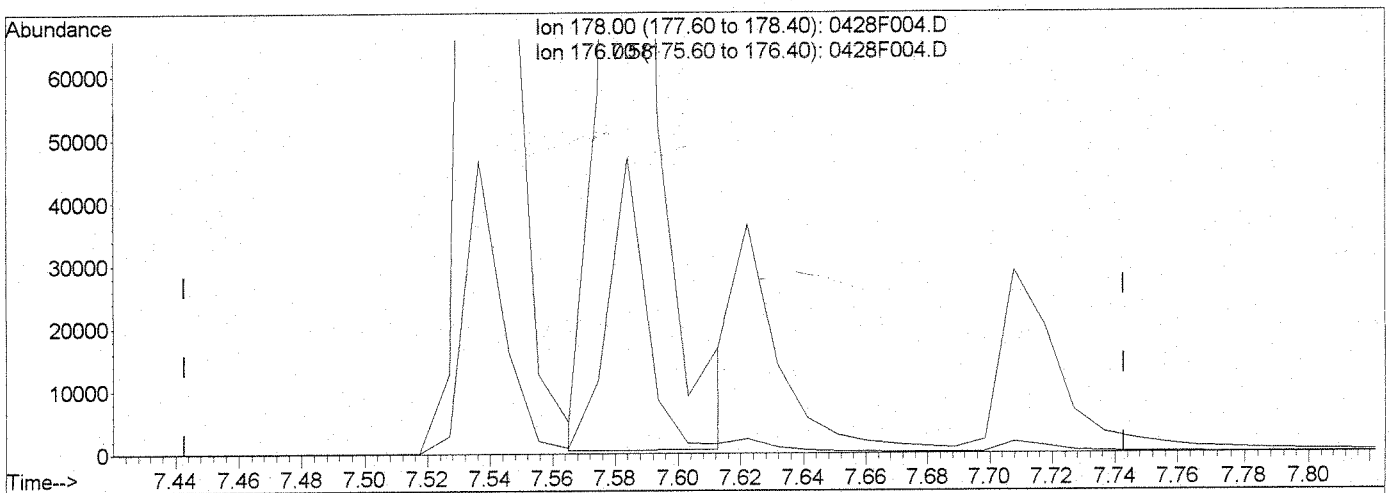
0428F004.D 0227ALK.M Mon Apr 30 04:49:12 2012

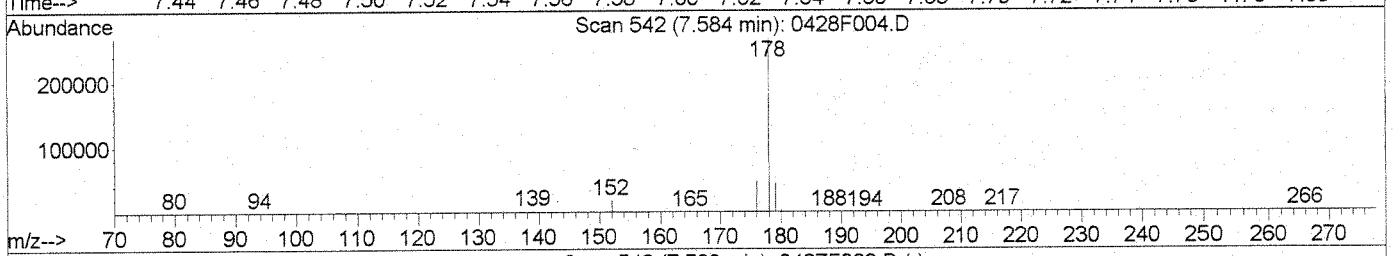
Quantitation Report (Qedit)

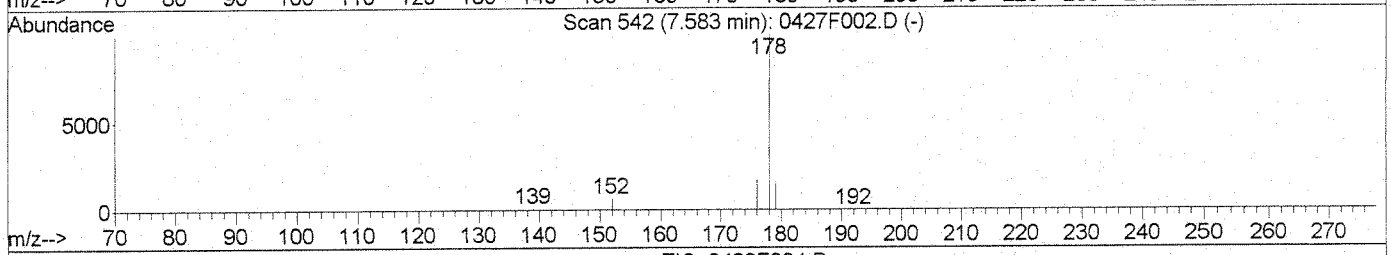
Data File : J:\MS11\DATA\042812\0428F004.D
Acq On : 28 Apr 2012 8:49 am
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:49 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Apr 27 13:28:32 2012
Response via : Multiple Level Calibration







TIC: 0428F004.D

(28) Anthracene (T)

7.58min 378.61ng/ml

response 229426

Ion	Exp%	Act%
178.00	100	100
176.00	18.10	17.59
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

0428F004.D 0227ALK.M Mon Apr 30 04:49:21 2012

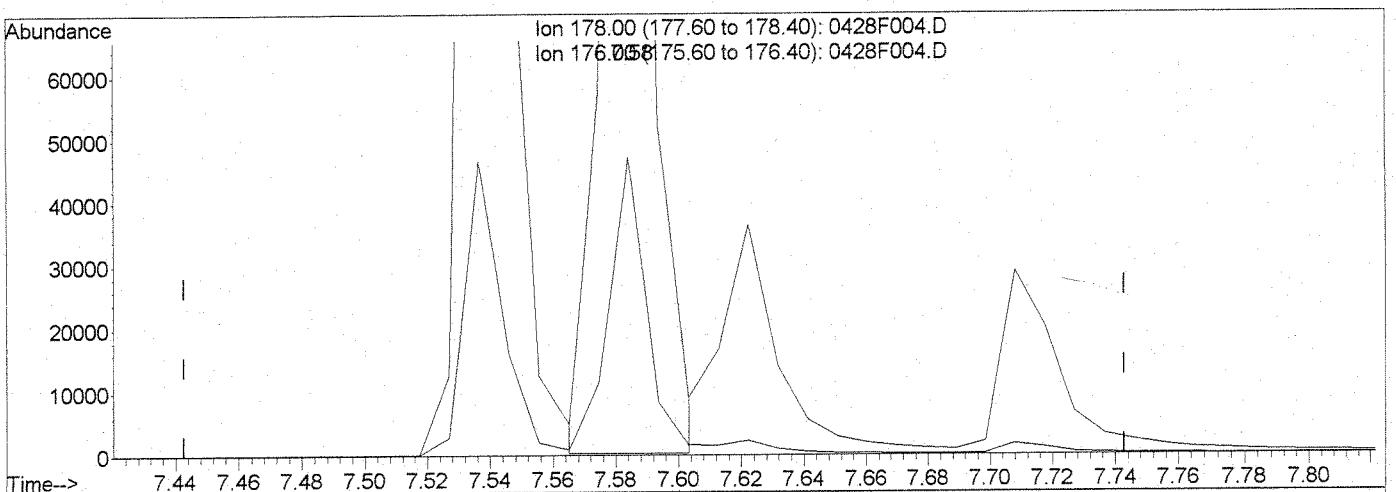
Quantitation Report (Qedit)

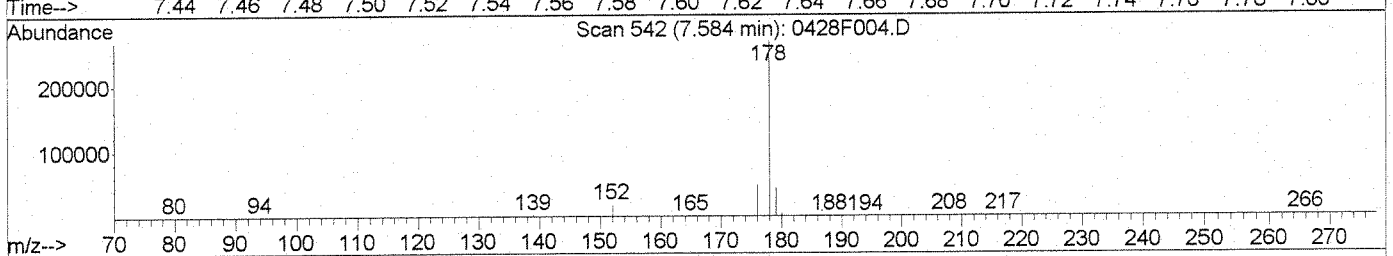
Data File : J:\MS11\DATA\042812\0428F004.D
Acq On : 28 Apr 2012 8:49 am
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:49 2012

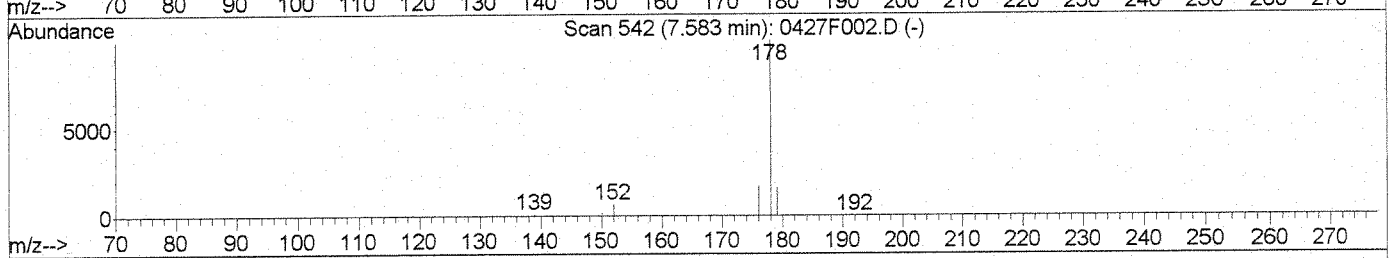
Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Apr 27 13:28:32 2012
Response via : Multiple Level Calibration







TIC: 0428F004.D

(28) Anthracene (T)

7.58min 364.18ng/ml m

response 220687

Ion	Exp%	Act%
178.00	100	100
176.00	18.10	17.58
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

04/30/12

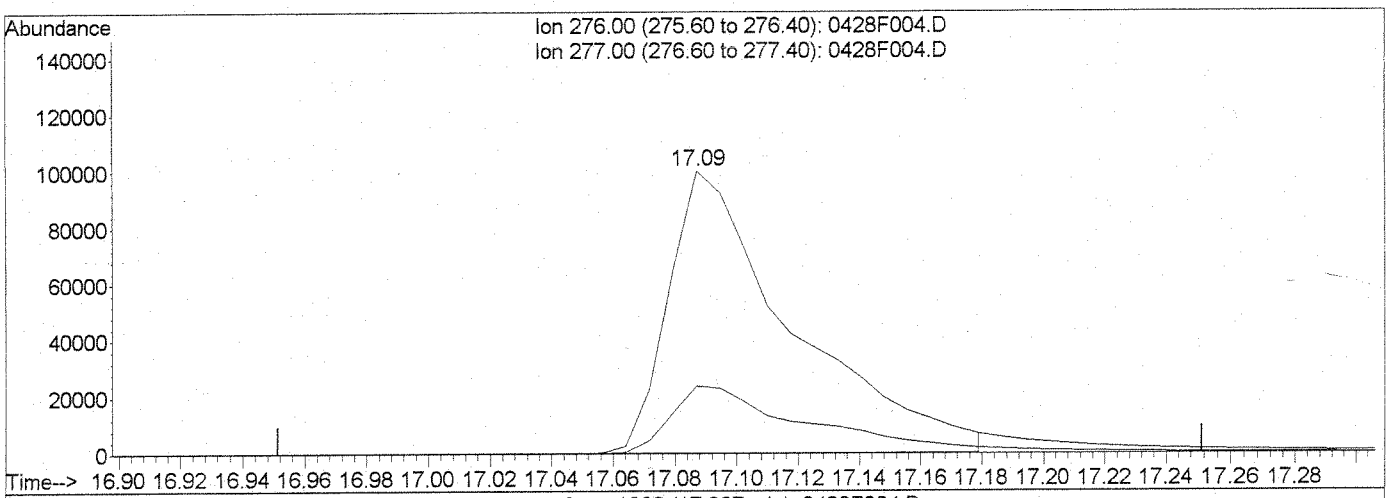
0428F004.D 0227ALK.M Mon Apr 30 04:49:25 2012

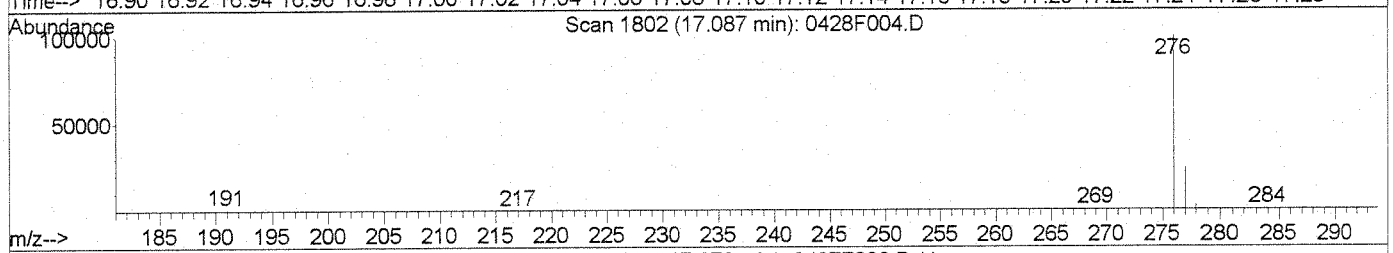
Quantitation Report (Qedit)

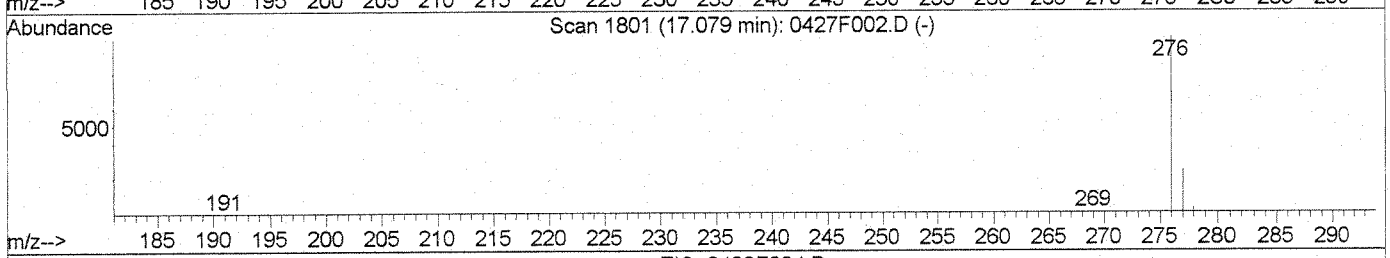
Data File : J:\MS11\DATA\042812\0428F004.D
Acq On : 28 Apr 2012 8:49 am
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:49 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Apr 27 13:28:32 2012
Response via : Multiple Level Calibration







TIC: 0428F004.D

(56) Indeno(1,2,3-cd)pyrene (T)

17.09min 483.29ng/ml

response 279318

Ion	Exp%	Act%
276.00	100	100
277.00	23.50	23.80
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

Before

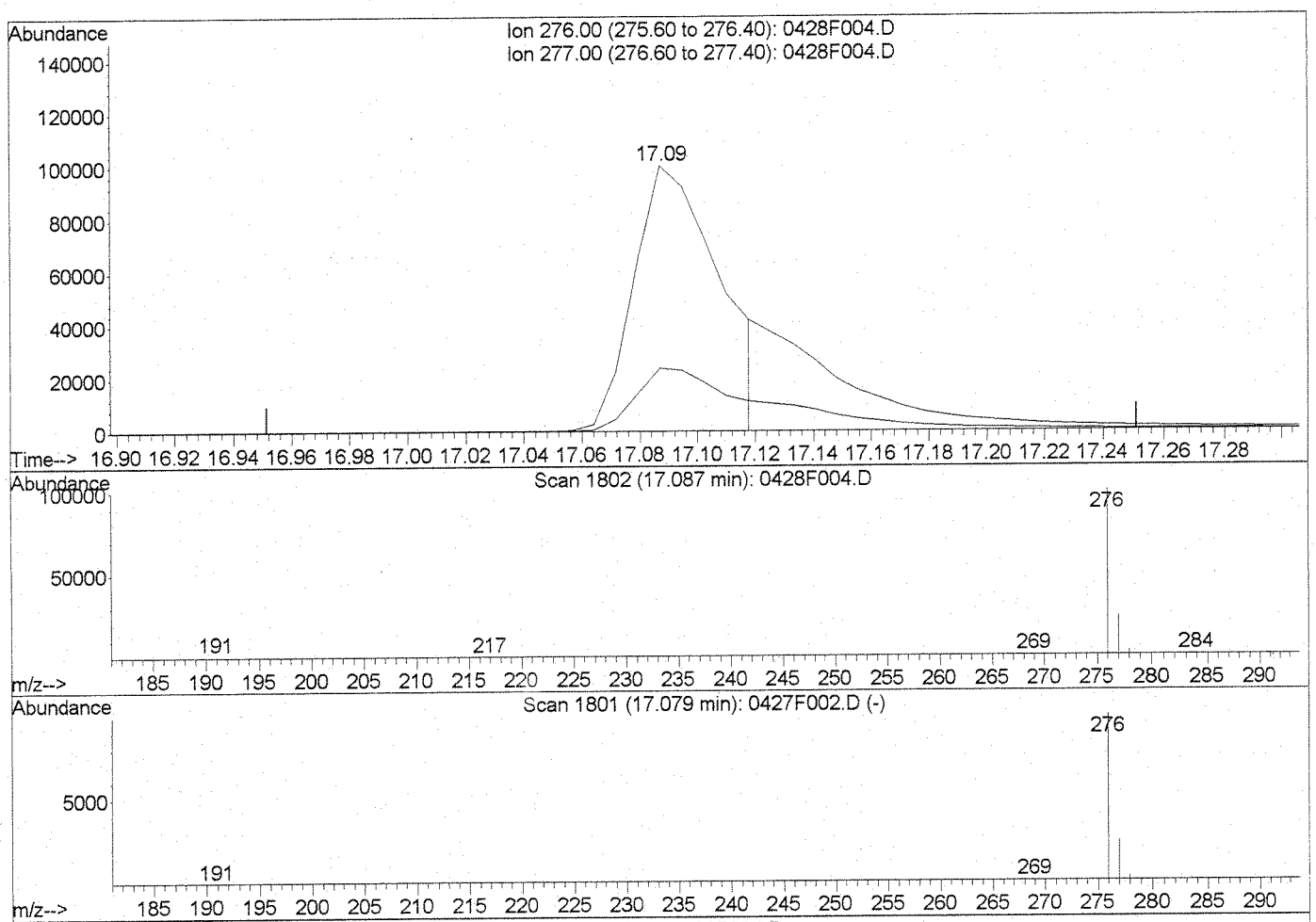
0428F004.D 0227ALK.M Mon Apr 30 04:49:39 2012

Quantitation Report (Qedit)

Data File : J:\MS11\DATA\042812\0428F004.D
Acq On : 28 Apr 2012 8:49 am
Sample : SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C
Misc :
MS Integration Params: RTEINT.P
Quant Time: Apr 30 4:49 2012

Vial: 2
Operator: LWeiskopf
Inst : MS11
Multiplr: 1.00
Quant Results File: temp.res

Method : J:\MS11\METHODS\SIM\0227ALK.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Apr 27 13:28:32 2012
Response via : Multiple Level Calibration



(56) Indeno(1,2,3-cd)pyrene (T)

17.09min 357.79ng/ml m

response 206785

Ion	Exp%	Act%
276.00	100	100
277.00	23.50	23.87
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

04/30/12

0428F004.D 0227ALK.M Mon Apr 30 04:49:55 2012

Organic Analysis:
Polynuclear Aromatic Hydrocarbons

Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID:	KWG1204233	**Prep Method:**	EPA 3520C	**Prep Date:**	04/25/12 00:00
Department:	Semivoa GCMS				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.
K1203695-001	Outfall A	8270D PAH SIM ULL	WATER	1050ml	1ml
K1203695-002	Outfall B	8270D PAH SIM ULL	WATER	1050ml	1ml
KWG1204233-1	Lab Control Sample	8270D PAH SIM ULL	WATER	1000ml	1ml
KWG1204233-2	Duplicate Lab Control Sampl	8270D PAH SIM ULL	WATER	1000ml	1ml
KWG1204233-3	Method Blank	8270D PAH SIM ULL	WATER	1050ml	1ml

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1203695-001	1120121	SVM36-87A	100uL			DHongel
K1203695-002	1120120	SVM36-87A	100uL			DHongel
KWG1204233-1	1120122	SVM36-87A	100uL	SVM37-50E	500uL	DHongel
KWG1204233-2	1120123	SVM36-87A	100uL	SVM37-50E	500uL	DHongel
KWG1204233-3	1120124	SVM36-87A	100uL			DHongel

Comments: IS = SVM 35 - 48B

Started By: RHolden Assisted By: — Training Yes No

Completed By: LBerg Assisted By: — Yes No

Reviewed By: [signature] Date: 4/30/12 Storage: SVM LAB AMII

Chain of Custody

Relinquished By: [signature] Date: 4-27-12

Received By: [signature] Date: 4/30/12 Extracts Examined Yes No

Preparation Information Due Date: 4-27-12

Group ID:	KWG1204233	**Prep Method:**	EPA 3520C	**Prep Date:**	04/25/12 00:00
Department:	Semivoa GCMS				

#	Lab Code	Client ID	B#	√	Product	Matrix	Amt. Ext. ml	pH	Int. Vol.	Final Vol. mL	Surr. Added	Spike Added
1	K1203695-001	Outfall A	.03	✓	8270D PAH SIM ULL	WATER	1050	5	N/A	1.0	100 ul	N/A
2	K1203695-002	Outfall B	.03	✓	8270D PAH SIM ULL	WATER	1050	5		1.0		
3	KWG1204233-1	Lab Control Sample			8270D PAH SIM ULL	WATER	1000	5		1.0		500 ul
4	KWG1204233-2	Duplicate Lab Control Sample			8270D PAH SIM ULL	WATER	1000	5		1.0		
5	KWG1204233-3	Method Blank			8270D PAH SIM ULL	WATER	1050	5		1.0		N/A

Comments: #156471

Surrogate ID: SVM36-87-A, 100 ul, 10/15ppm, XP: 5-10-12

Spike ID: SVM37-50-E, 500 ul, 1.0ppm, XP: 8-13-12

Witness: Dani Hoyal 4.25.12

Started By: RHolden

Assisted By:

Completed By:

Assisted By:

Additional Prep Information For EPA 3520C for waters by EXT-3520 Rev 13

Service Request K1203695 **Workgroup** KWG1204233

DCM Lot#: DF597 Acid Lot#: -NA- Base Lot#: -NA-

Continuous Start$_1$ (Time/Date/Initial): 16:20 / 4-25-12 / RRH

Continuous Stop$_1$ (Time/Date/Initial): 10:20 / 4-26-12 / RRH

Continuous Start$_2$ (Time/Date/Initial): ~~—~~

Continuous Stop$_2$ (Time/Date/Initial): ~~—~~

Sulfate Lot # 113858 Glass Wool Lot#: 13710001

S-Evap (Temp/ID/Time/Date/Initial): 70°C, X-SVM-05, 0750, 4/27/12

N-Evap (Temp/ID/Time/Date/Initial): 25°C, X-SVM-01, 0930, 4/27/12, th

Clean-up #1: ~~—~~ Time/Date/Initial: ~~—~~

Clean-up #2: ~~—~~ Time/Date/Initial: ~~—~~

Date Completed (Time/Date/Initial): 1645 4-27-12 [illegible]

Comments/Observations:

Bench Sheet Review Check List
☑ Hold Times Met (if no, Reason:)
☑ Prep date, dept, method, product code correct in stealth
☑ Spike Information correct
☑ Weights/Volumes and units correct on raw and final bench sheets
☑ Sample IDs have been checked—Bottle numbers appended if required
☑ Names present for: Started by, Completed by, relinquished by, and witnessed by.
☑ Training has been circled
☑ Extract Storage recorded
☑ Additional Prep Sheet completely filled out (NA or line out Blanks)
☑ All clean-ups have been noted on additional prep sheet
☑ Signed service request with Form V, if applicable, has been attached

Injection Log

Directory: J:\ms11\data\042812

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0428F001.D	1.	DFTPP @ 3.0ppm | SVM38-51A		28 Apr 2012 06:3
2	2	0428F002.D	1.	SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C	NR	28 Apr 2012 07:0
3	1	0428F003.D	1.	DFTPP @ 3.0ppm | SVM38-51A		28 Apr 2012 08:2
4	2	0428F004.D	1.	SIM-PAH CCV @ 0.4/1.0ug/mL | SVM38-50C		28 Apr 2012 08:4
5	1	0428F005.D	1.	KWG1204008-5 MB		28 Apr 2012 09:2
6	2	0428F006.D	1.	KWG1204233-3 MB		28 Apr 2012 09:4
7	3	0428F007.D	1.	K1203634-017		28 Apr 2012 10:1
8	4	0428F008.D	1.	K1203518-001DIL 10X	NR	28 Apr 2012 10:4
9	5	0428F009.D	1.	K1203695-001DIL 10X		28 Apr 2012 11:0
10	6	0428F010.D	1.	K1203695-002DIL 10X		28 Apr 2012 11:3
11	7	0428F011.D	1.	KWG1204230-3 MB		28 Apr 2012 12:0
12	8	0428F012.D	1.	KWG1204147-5 MB		28 Apr 2012 12:2
13	9	0428F013.D	1.	KWG1204147-3 LCS		28 Apr 2012 12:5
14	10	0428F014.D	1.	KWG1204147-4 DLCS		28 Apr 2012 13:1
15	11	0428F015.D	1.	KWG1204230-1 LCS		28 Apr 2012 13:4
16	12	0428F016.D	1.	KWG1204230-2 DLCS		28 Apr 2012 14:1
17	13	0428F017.D	1.	KWG1204233-1 LCS		28 Apr 2012 14:3
18	14	0428F018.D	1.	KWG1204233-2 DLCS		28 Apr 2012 15:0
19	15	0428F019.D	1.	K1203518-001		28 Apr 2012 15:3
20	16	0428F020.D	1.	K1203532-018		28 Apr 2012 15:5
21	17	0428F021.D	1.	K1203532-019		28 Apr 2012 16:2
22	18	0428F022.D	1.	K1203532-020		28 Apr 2012 16:5
23	19	0428F023.D	1.	K1203532-021		28 Apr 2012 17:1
24	20	0428F024.D	1.	K1203532-022		28 Apr 2012 17:4
25	21	0428F025.D	1.	K1203695-001		28 Apr 2012 18:0
26	22	0428F026.D	1.	K1203695-002		28 Apr 2012 18:3
27	23	0428F027.D	1.	K1203627-004DIL 5X		28 Apr 2012 19:0
28	24	0428F028.D	1.	K1203627-005DIL 5X		28 Apr 2012 19:2

CAZ 11297

Klims # 289422

4/30/12

4/30/12

9 files 3-5

December 17, 2012 Analytical Report for Service Request No: K1211655

Michael Pickering
Ash Creek Associates
3015 SW First Avenue
Portland, OR 97201

RE: T2 Storm Water/320001995-00.001

Dear Michael:

Enclosed are the results of the samples submitted to our laboratory on November 19, 2012. For your reference, these analyses have been assigned our service request number K1211655.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3363. You may also contact me via Email at Lisa.Domenighini@alsglobal.com.

Respectfully submitted,

Columbia Analytical Services, Inc. dba ALS Environmental

Lisa Domenighini
Project Manager

LD/jw

Columbia Analytical Services
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PHONE +1 360 577 7222 | FAX +1 360 636 1068
Columbia Analytical Services, Inc.
Part of the ALS Group A Campbell Brothers Limited Company

Environmental www.caslab.com ▪ www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Louisiana DHH	Not available	LA110003
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
New Mexico ED	http://www.nmenv.state.nm.us/dwb/Index.htm	-
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	4704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.caslab.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

ALS ENVIRONMENTAL

Client:	Ash Creek Associates, Inc.	**Service Request No.:**	K1211655
Project:	T2 Stormwater/320001995-00.001	**Date Received:**	11/19/12
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier III deliverables including summary forms for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Samples were received for analysis at ALS Environmental on 11/19/12. As instructed, the discrete samples were composited at the laboratory to create K1211655-001, *MT2-DBA-5198-111912-0845* and K1211655-002, *MT-2-DBB-5279-111912-0815 and* K1211655-003 *MT-DDS-B206-111912-1020*. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

Oil and Grease, Total by EPA 1664A:
The matrix spike recovery of Oil and Grease, Total for sample Batch QC was outside control criteria because of suspected matrix interference. The result of the original analysis was reported. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Pesticides by EPA Method 608

The detection limit was elevated for Aldrin in samples MT2-DBA-5198-111912-0845 and MT2-DBB-5279-111912-0815. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compound at the normal limit. The results were flagged to indicate the matrix interference.

No other anomalies associated with the analysis of these samples were observed.

PCP by EPA Method 625

Sample Notes and Discussion:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Approved by_____

PCB Aroclors by EPA Method 8082

Sample Notes and Discussion:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Polynuclear Aromatic Hydrocarbons by EPA Method 8270

Calibration Verification Exceptions:
The following analytes were flagged as outside the upper control criterion for Continuing Calibration Verification (CCV) MS11\1129F032.D and MS11\1204F015.D: Indeno(1,2,3-cd)pyrene. In accordance with the EPA Method 8270D, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the CAS SOP. The CCV met these criteria. The data quality was not affected. No further corrective action was required.

The following analytes were flagged as outside the upper control criterion for Continuing Calibration Verification (CCV) MS11\1205F002.D and MS11\1206F030.D: Benzo(a)pyrene, Indeno(1,2,3-cd)pyrene. In accordance with the EPA Method 8270D, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the CAS SOP. The CCV met these criteria. The data quality was not affected. No further corrective action was required.

Method Blank Exceptions:
The Method Blank KWG1213824-3 contained low levels of Naphthalene and Phenanthrene above the Method Reporting Limit (MRL). The samples were re-extracted 15 days past hold time and re-analyzed. The re-extracted MB also showed low levels of Phenanthrene above the MRL. The results of the original analysis were reported. In accordance with CAS QA/QC policy, all sample results less than twenty times the level found in the Method Blank were flagged as estimated.

Sample Notes and Discussion:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

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Approved by_____

Ash Creek Associates
A Division of Apex Companies, LLC
APEX

CHAIN OF CUSTODY RECORD

Client Name: Ash Creek Associates
Address: 3015 SW First Ave
City/State/Zip: Portland, OR 97201

Telephone Number: 503.924.4704
Fax No.: 503.943.6357

Project Manager: Michael Pickering
Project Name: T2 Storm Water
Project Number: 320001995-00.001
Sampler Name: C. CLOUGH / M. PICKERING

Analytical Lab: ALS
Report To: Michael Pickering
Page: 1 of 1

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Matrix: Storm Water	Analyze For: Total Suspended Solids (SM2540 D)	Analyze For: Total Aluminum, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Zinc, (EPA 200 Series)	Analyze For: Total PAHs (EPA 8270-SIM)	Analyze For: Total PCB Aroclors (EPA 8082) *	Analyze For: Oil & Grease by EPA 1664A	Analyze For: pH by SM 4500-H+B	Analyze For: Pesticides by EPA 608 **	Analyze For: Pentachlorophenol by EPA 625			RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
MT2-DBA-5198-111912-0845	11/19/12	845	4	X			X		X				X							X	X	X	X	X	X	X	X	X				X		
MT2-DBB-5279-111912-0815	11/19/12	815	4	X			X		X				X							X	X	X	X	X	X	X	X	X				X		
MT2-DDS-B206-111912-1020	11/19/12	1020	4	X			X		X				X							X	X	X	X	X	X	X	X	X				X		

Special Instructions: Bill to Ash Creek using rates from ALS Quote 23353 - Level III Deliverable - MDL Report
* 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268
** Report Aldrin, 4,4-DDT, 4,4-DDE, and Dieldrin only

Method of Shipment: Courier

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Michael J. Pickering	11/19/2012	1214	R. Vanderzanden Ash Creek	11/19	1214
R. Vanderzanden	11/19/12	1350	[illegible]	11/19/12	1350
			[illegible]	11/19/12	1600

Laboratory Comments:

Temperature Upon Receipt:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

PC Lisa

Cooler Receipt and Preservation Form

Client / Project: Ash Creek Service Request *K12* 116655

Received: 11/19/12 Opened: 11/19/12 By: BW Unloaded: 11/19/12 By: BW

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Temp	Corr. Temp	Raw Blank	Corr. Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.4	0.2	—	—	-0.2	304			
-0.5	-0.6	—	—	-0.1	320			
-0.2	-0.5	—	—	-0.3	308			

7. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page ____ *of* ____

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/12
Sample Matrix:	Water	**Date Received:**	11/19/12
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
MT2-DBA-5198-111912-0845	K1211655-001	ND	U	4.7	0.8	1	12/03/12	12/1/12	
MT2-DBB-5279-111912-0815	K1211655-002	ND	U	4.7	0.8	1	12/03/12	12/1/12	
MT-DDS-B206-111912-1020	K1211655-003	ND	U	4.7	0.8	1	12/03/12	12/1/12	
Method Blank	K1211655-MB1	ND	U	5.0	0.8	1	12/03/12	12/1/12	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	N/A
Sample Matrix:	Water	**Date Received:**	N/A
		Date Analyzed:	12/3/12
		Date Extracted:	12/1/12

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1211680-001	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1211680-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	ND	39.7	56.1	71 *	78-114

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/03/12
Sample Matrix:	Water	**Date Extracted:**	12/01/12

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	320809

	Lab Control Sample K1211655-LCS1			Duplicate Lab Control Sample K1211655-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	58.5	60.0	98	55.2	60.0	92	78-114	6	20

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/12
Sample Matrix:	Water	**Date Received:**	11/19/12
Analysis Method:	SM 2540 D	**Units:**	mg/L
		Basis:	NA

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
MT2-DBA-5198-111912-0845	K1211655-001	**1.1**	1.0	-	1	11/21/12 00:00	
MT2-DBB-5279-111912-0815	K1211655-002	**3.9**	1.1	-	1	11/21/12 00:00	
MT-DDS-B206-111912-1020	K1211655-003	**6.7**	1.0	-	1	11/21/12 00:00	
Method Blank	K1211655-MB1	ND U	5.0	-	1	11/21/12 00:00	
Method Blank	K1211655-MB2	ND U	5.0	-	1	11/21/12 00:00	
Method Blank	K1211655-MB3	ND U	5.0	-	1	11/21/12 00:00	
Method Blank	K1211655-MB4	ND U	5.0	-	1	11/21/12 00:00	
Method Blank	K1211655-MB5	ND U	4.0	-	1	11/21/12 00:00	
Method Blank	K1211655-MB6	ND U	1.0	-	1	11/21/12 00:00	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project	T2 Storm Water/320001995-00.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Analysis Method:	SM 2540 D	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary

Solids, Total Suspended (TSS)

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1211739-001DUP	4.0		ND	ND	NC	NC	10	11/21/12
Batch QC	K1211742-001DUP	4.0		ND	ND	NC	NC	10	11/21/12

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001
Sample Matrix: Water

Service Request:K1211655
Date Analyzed:11/21/12

Lab Control Sample Summary
Solids, Total Suspended (TSS)

Analysis Method: SM 2540 D

Units:mg/L
Basis:NA
Analysis Lot:319635

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1211655-LCS2	168	177	95	85-115
Lab Control Sample	K1211655-LCS3	154	177	87	85-115
Lab Control Sample	K1211655-LCS4	172	177	97	85-115
Lab Control Sample	K1211655-LCS5	17.0	17.7	96	85-115

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/12
Sample Matrix:	Water	**Date Received:**	11/19/12
Analysis Method:	SM 4500-H+ B	**Units:**	pH Units
		Basis:	NA

pH

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
MT2-DBA-5198-111912-0845	K1211655-001	**6.87**	-	-	1	11/20/12 11:13	H
MT2-DBB-5279-111912-0815	K1211655-002	**6.75**	-	-	1	11/20/12 11:15	H
MT-DDS-B206-111912-1020	K1211655-003	**7.52**	-	-	1	11/20/12 11:16	H

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/12
Sample Matrix:	Water	**Date Received:**	11/19/12
		Date Analyzed:	11/20/12

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	MT2-DBA-5198-111912-0845	**Units:**	pH Units
Lab Code:	K1211655-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1211655-001DUP Result	Average	RPD	RPD Limit
pH	SM 4500-H+ B	-	-	6.87	6.93	6.90	<1	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001
Sample Matrix: Water

Service Request:K1211655
Date Analyzed:11/20/12

Lab Control Sample Summary
pH

Analysis Method: SM 4500-H+ B

Units:pH Units
Basis:NA
Analysis Lot:319827

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1211655-LCS2	7.67	7.65	100	85-115

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Ash Creek Associates, Inc.
Project Name: T2 Storm Water
Project No.: 320001995-00.001

Service Request: K1211655

Sample Name:	Lab Code:
MT2-DBA-5198-111912-0845	K1211655-001
MT2-DBA-5198-111912-0845D	K1211655-001D
MT2-DBA-5198-111912-0845S	K1211655-001S
MT2-DBB-5279-111912-0815	K1211655-002
MT2-DBB-5279-111912-0815D	K1211655-002D
MT2-DBB-5279-111912-0815S	K1211655-002S
MT-DDS-B206-111912-1020	K1211655-003
Method Blank	K1211655-MB

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project No.:	320001995-00.001	**Date Collected:**	11/19/12
Project Name:	T2 Storm Water	**Date Received:**	11/19/12
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: **MT2-DBA-5198-111912-0845** **Lab Code:** **K1211655-001**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	5.00	0.50	1.0	11/27/12	12/04/12	27.5		
Cadmium	200.8	0.020	0.007	1.0	11/27/12	12/05/12	0.029		
Chromium	200.8	0.20	0.03	1.0	11/27/12	12/05/12	0.39		
Copper	200.8	0.10	0.02	1.0	11/27/12	12/05/12	5.69		
Iron	200.7	10.0	5.0	1.0	11/27/12	12/04/12	32.5		
Lead	200.8	0.020	0.002	1.0	11/27/12	12/05/12	0.336		
Nickel	200.8	0.20	0.01	1.0	11/27/12	12/05/12	0.29		
Zinc	200.8	0.50	0.08	1.0	11/27/12	12/05/12	24.6		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project No.:	320001995-00.001	**Date Collected:**	11/19/12
Project Name:	T2 Storm Water	**Date Received:**	11/19/12
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: **MT2-DBB-5279-111912-0815** **Lab Code:** **K1211655-002**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	5.00	0.50	1.0	11/27/12	12/04/12	70.7		
Cadmium	200.8	0.020	0.007	1.0	11/27/12	12/05/12	0.170		
Chromium	200.8	0.20	0.03	1.0	11/27/12	12/05/12	0.42		
Copper	200.8	0.10	0.02	1.0	11/27/12	12/05/12	5.22		
Iron	200.7	10.0	5.0	1.0	11/27/12	12/04/12	122		
Lead	200.8	0.020	0.002	1.0	11/27/12	12/05/12	1.340		
Nickel	200.8	0.20	0.01	1.0	11/27/12	12/05/12	0.66		
Zinc	200.8	0.50	0.08	1.0	11/27/12	12/05/12	71.6		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project No.:	320001995-00.001	**Date Collected:**	11/19/12
Project Name:	T2 Storm Water	**Date Received:**	11/19/12
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: **MT-DDS-B206-111912-1020** **Lab Code:** **K1211655-003**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	5.00	0.50	1.0	11/27/12	12/04/12	92.3		
Cadmium	200.8	0.020	0.007	1.0	11/27/12	12/05/12	0.049		
Chromium	200.8	0.20	0.03	1.0	11/27/12	12/05/12	1.13		
Copper	200.8	0.10	0.02	1.0	11/27/12	12/05/12	5.88		
Iron	200.7	10.0	5.0	1.0	11/27/12	12/04/12	293		
Lead	200.8	0.020	0.002	1.0	11/27/12	12/05/12	3.570		
Nickel	200.8	0.20	0.01	1.0	11/27/12	12/05/12	0.40		
Zinc	200.8	0.50	0.08	1.0	11/27/12	12/05/12	15.0		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Ash Creek Associates, Inc.
Project No.: 320001995-00.001
Project Name: T2 Storm Water
Matrix: WATER

Service Request: K1211655
Date Collected:
Date Received:
Units: ug/L
Basis: NA

Sample Name: Method Blank
Lab Code: K1211655-MB

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	5.00	0.50	1.0	11/27/12	12/04/12	2.40	J	
Cadmium	200.8	0.020	0.007	1.0	11/27/12	12/05/12	0.007	U	
Chromium	200.8	0.20	0.03	1.0	11/27/12	12/05/12	0.03	U	
Copper	200.8	0.10	0.02	1.0	11/27/12	12/05/12	0.02	U	
Iron	200.7	10.0	5.0	1.0	11/27/12	12/04/12	5.0	U	
Lead	200.8	0.020	0.002	1.0	11/27/12	12/05/12	0.002	U	
Nickel	200.8	0.20	0.01	1.0	11/27/12	12/05/12	0.01	U	
Zinc	200.8	0.50	0.08	1.0	11/27/12	12/05/12	0.08	U	

Comments:

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICV Source: Inorganic Ventures **CCV Source:** CAS Mixed

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Aluminum	1000	970	97	250	244	98	250	100	200.7
Aluminum	5000	4995	100	10000	10410	104	10830	108	200.7
Cadmium	12.5	13.2	106	25.0	26.4	106	25.1	100	200.8
Chromium	10.0	9.6	96	25.0	25.2	101	24.4	98	200.8
Copper	12.5	12.3	98	25.0	24.9	100	24.8	99	200.8
Iron	2500	2461	98	10000	10090	101	10150	102	200.7
Lead	25.0	24.4	98	25.0	25.6	102	25.3	101	200.8
Nickel	25.0	24.4	98	25.0	24.6	98	25.1	100	200.8
Zinc	25.0	24.8	99	25.0	25.5	102	24.6	98	200.8

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICV Source: Inorganic Ventures **CCV Source:** CAS Mixed

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Aluminum				10000	10520	105	10500	105	200.7
Aluminum				250	251	100	249	100	200.7
Cadmium				25.0	25.8	103	25.8	103	200.8
Chromium				25.0	25.0	100	25.3	101	200.8
Copper				25.0	25.2	101	25.4	102	200.8
Iron				10000	10150	102	10110	101	200.7
Lead				25.0	26.0	104	25.3	101	200.8
Nickel				25.0	23.7	95	25.1	100	200.8
Zinc				25.0	24.6	98	25.9	104	200.8

Metals

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum				50.0	56.3	113		
Aluminum				2.00			2.10	105
Cadmium				0.02	0.016	80		
Chromium				0.20	0.171	86		
Copper				0.10	0.088	88		
Iron				20.0	15.9	80		
Lead				0.02	0.023	115		
Nickel				0.20	0.104	52		
Zinc				0.50	0.314	63		

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Aluminum	0.50	U	0.50	U	1.30	J	0.50	U	200.7
Cadmium	0.007	U	0.007	U	0.007	U	0.007	U	200.8
Chromium	0.03	U	0.03	U	0.03	U	0.03	U	200.8
Copper	0.02	U	0.02	U	0.02	U	0.02	U	200.8
Iron	5.0	U	5.0	U	5.0	U	5.0	U	200.7
Lead	0.005	J	0.004	J	-0.003	J	0.002	U	200.8
Nickel	-0.02	J	-0.06	J	-0.10	J	-0.10	J	200.8
Zinc	0.08	U	0.08	U	-0.15	J	-0.14	J	200.8

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Cadmium			0.007	U					200.8
Chromium			0.03	U					200.8
Copper			0.02	U					200.8
Lead			0.002	U					200.8
Nickel			-0.09	J					200.8
Zinc			-0.12	J					200.8

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Aluminum			7.0	U					200.7
Iron			5.0	U					200.7

Metals

ICP INTERFERENCE CHECK SAMPLE

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: K-ICP-MS-04 **ICS Source:** Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Cadmium	0.0	25.0	0.3	25.6	102			
Chromium	0.0	50.0	0.3	52.3	105			
Copper	0.0	50.0	0.2	45.9	92			
Lead	0.0		0.0	0.0				
Nickel	0.0	50.0	0.8	49.0	98			
Zinc	0.0	25.0	1.1	23.9	96			

Metals

ICP INTERFERENCE CHECK SAMPLE

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: K-ICP-AES-04 **ICS Source:** Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Aluminum	500000	500000	429500	431500	86			
Iron	200000	200000	183800	182200	91			

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: **MT2-DBA-5198-111912-0845S** **Lab Code:** **K1211655-001S**

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Cadmium	70 - 130	26.512		0.029		25.000	105.9		200.8
Chromium	70 - 130	10.42		0.39		10.00	100.3		200.8
Copper	70 - 130	18.19		5.69		12.50	100.0		200.8
Lead	70 - 130	52.623		0.336		50.000	104.6		200.8
Nickel	70 - 130	25.03		0.29		25.00	99.0		200.8
Zinc	70 - 130	50.03		24.64		25.00	101.6		200.8

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: **MT2-DBB-5279-111912-0815S** **Lab Code:** **K1211655-002S**

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Aluminum	70 - 130	2140		70.7		2000.00	103.5		200.7
Iron	70 - 130	1130		122		1000.00	100.8		200.7

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: MT2-DBA-5198-111912-0845D **Lab Code:** K1211655-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Cadmium		0.029		0.037		24.2		200.8
Chromium		0.39		0.41		5.0		200.8
Copper	20	5.69		5.74		0.9		200.8
Lead	20	0.336		0.312		7.4		200.8
Nickel		0.29		0.28		3.5		200.8
Zinc	20	24.64		24.89		1.0		200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: MT2-DBB-5279-111912-0815D **Lab Code:** K1211655-002D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Aluminum	20	70.7		76.5		7.9		200.7
Iron	20	122		135		10.1		200.7

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

Aqueous LCS Source: Inorganic Ventures **Solid LCS Source:**

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	C	Limits	%R
Aluminum	5000	5190	103.8					
Cadmium	25.0	26.6	106.4					
Chromium	10.0	9.3	93.0					
Copper	12.5	11.9	95.2					
Iron	2500	2460	98.4					
Lead	50.0	51.2	102.4					
Nickel	25.0	24.0	96.0					
Zinc	25.0	24.7	98.8					

Metals

- 10 -

DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP/ICP-MS ID #:

GFAA ID #: **AA ID #:**

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Aluminum	167.0		5.00	0.50	P
Iron	259.9		10	5.0	P

Comments:

Metals

- 10 -

DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP/ICP-MS ID #: **K-ICP-MS-04**

GFAA ID #: **AA ID #:**

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Cadmium	111		0.020	0.007	MS
Chromium	52		0.20	0.03	MS
Copper	65		0.10	0.02	MS
Lead	208		0.020	0.002	MS
Nickel	60		0.20	0.01	MS
Zinc	66		0.50	0.08	MS

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Wave-length (nm)	Interelement Correction Factors for: Al	Ca	Fe	Mg	As
Aluminum	394.401	0.0000000	0.0001320	0.0000000	0.0000390	0.0000000
Antimony	206.833	0.0000360	0.0000000	-0.0001990	0.0000000	0.0000000
Arsenic	189.042	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000090	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000200	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	-0.0000010	0.0000000	0.0000970	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000440
Chromium	267.716	0.0000000	0.0000110	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000180	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000230	-0.0000100	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000480	0.0000000	0.0000290	0.0000000
Lead	220.353	-0.0001150	0.0000000	0.0000360	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000010	0.0000110	0.0000340	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000730	0.0000000	0.0000000
Phosphorus	214.914	-0.0007420	0.0000630	0.0006040	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	-0.0001190	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000070	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000140	0.0000000	0.0000360	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000100	0.0000000	0.0000000

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Zinc	213.856	0.0000000	0.0000040	0.0010300	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Wave-length (nm)	Interelement Correction Factors for: B	Ba	Cd	Co	Cr
Aluminum	394.401	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0210820
Arsenic	189.042	0.0000000	0.0010270	0.0000000	0.0000000	0.0005810
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000130	0.0000000	0.0000000	0.0000030	0.0000000
Boron	249.678	0.0000000	0.0000000	0.0010240	0.0020950	0.0004510
Cadmium	226.502	0.0000000	0.0000000	0.0000000	-0.0000250	0.0000110
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0001230	0.0020080
Chromium	267.716	0.0000000	0.0000000	-0.0002210	0.0000950	0.0000000
Cobalt	228.616	0.0000000	0.0000400	0.0000000	0.0000000	-0.0000640
Copper	327.396	0.0000000	0.0000000	0.0000000	0.0002830	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000650
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000590	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	-0.0013890	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	251.611	-0.0016750	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0008370	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000000	0.0000000	0.0000300	0.0000320
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	-0.0073310

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Zinc	213.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Wave-length (nm)	Interelement Correction Factors for: Cu	Mn	Mo	Ni	Pb
Aluminum	394.401	0.0000000	0.0000000	0.0002740	0.0004240	0.0000000
Antimony	206.833	0.0000000	-0.0000960	0.0006140	0.0000000	0.0000000
Arsenic	189.042	0.0000000	-0.0003200	0.0012760	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	-0.0000740	-0.0003410	-0.0000070	0.0000000
Boron	249.678	0.0000000	-0.0000900	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000050	-0.0000490	-0.0000450	0.0000000
Calcium	393.366	0.0000000	0.0000320	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000770	0.0001420	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000510	0.0000000	-0.0009890	0.0001340	0.0000200
Copper	327.396	0.0000000	0.0000190	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0002270	0.0000000	0.0000000	0.0008260
Lead	220.353	0.0005880	0.0001110	-0.0007450	0.0002090	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0001220	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0001330	0.0000000
Nickel	231.604	0.0000000	0.0000000	-0.0000300	0.0000000	0.0000000
Phosphorus	214.914	0.0050530	-0.0007840	0.0104330	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000520	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0003870	0.0111410	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000560	0.0000450	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0024410	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000040	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0003020	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000000	0.0000000	0.0000980	0.0000000
Vanadium	292.402	-0.0000430	-0.0012290	-0.0001580	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Zinc	213.856	0.0006980	0.0000180	-0.0000420	0.0068710	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Wave-length (nm)	Interelement Correction Factors for: P	Sb	Si	Sn	Sr
Aluminum	394.401	0.0000000	0.0007900	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0003090	0.0000000
Arsenic	189.042	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000010	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0002230	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000260	0.0001170	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000000	0.0000000	0.0000000	-0.0001120
Iron	259.94	0.0000000	0.0001980	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0002020	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0002510	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000110	0.0000000	0.0000260	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	-0.0000900	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0035140	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000005	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000810	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Zinc	213.856	0.0000240	0.0000000	0.0000000	0.0000000	0.0000890

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Wave-length (nm)	Interelement Correction Factors for: Ti	V	Zn		
Aluminum	394.401	0.0000000	0.0000000	0.0000000		
Antimony	206.833	0.0009680	0.0000000	0.0001170		
Arsenic	189.042	0.0000000	0.0000000	0.0000000		
Barium	455.403	0.0000000	0.0000520	0.0000000		
Beryllium	234.861	0.0000000	0.0000000	0.0000000		
Boron	249.678	0.0000000	0.0000000	0.0000000		
Cadmium	226.502	0.0000330	0.0000000	0.0000000		
Calcium	393.366	0.0000000	0.0000000	0.0000000		
Chromium	267.716	0.0000000	-0.0001500	0.0000000		
Cobalt	228.616	0.0019000	0.0000000	0.0000000		
Copper	327.396	-0.0002330	-0.0000600	0.0000000		
Iron	259.94	0.0000000	0.0000000	0.0000000		
Lead	220.353	0.0000000	0.0000000	0.0000000		
Lithium	670.784	0.0000000	0.0000000	0.0000000		
Magnesium	285.213	0.0000000	-0.0002080	0.0000000		
Manganese	257.61	0.0000000	0.0000000	0.0000000		
Molybdenum	202.03	0.0000000	-0.0000770	0.0000000		
Nickel	231.604	0.0000000	0.0000000	0.0000000		
Phosphorus	214.914	0.0000000	-0.0026780	0.0000000		
Potassium	766.491	0.0000000	0.0000000	0.0000000		
Selenium	196.0	0.0000000	0.0000000	0.0000000		
Silicon	251.611	0.0000000	0.0000000	0.0000000		
Silver	328.068	0.0000000	0.0000710	0.0000000		
Sodium	589.592	0.0000000	0.0050350	0.0000000		
Strontium	407.771	0.0000000	0.0000000	0.0000000		
Thallium	190.856	-0.0006580	0.0000000	0.0000000		
Tin	189.989	0.0000000	0.0000000	0.0000000		
Titanium	336.121	0.0000000	0.0000000	0.0000000		
Vanadium	292.402	0.0007290	0.0000000	0.0001280		

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Zinc	213.856	-0.0001280	0.0000000	0.0000000		

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-MS-04**

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Cadmium	45.000	3000	200.8
Chromium	45.000	3000	200.8
Copper	45.000	3000	200.8
Lead	45.000	3000	200.8
Nickel	45.000	3000	200.8
Zinc	45.000	3000	200.8

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Aluminum	15.000	400000	200.7
Iron	15.000	400000	200.7

Comments:

Metals
-13-
PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

Method: P

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1211655-001	11/27/12	50.0	50.0
K1211655-002	11/27/12	50.0	50.0
K1211655-002D	11/27/12	50.0	50.0
K1211655-002S	11/27/12	50.0	50.0
K1211655-003	11/27/12	50.0	50.0
K1211655-MB	11/27/12	50.0	50.0
LCSW	11/27/12	50.0	50.0

Metals
-13-
PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001

Project Name: T2 Storm Water

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1211655-001	11/27/12	50.0	50.0
K1211655-001D	11/27/12	50.0	50.0
K1211655-001S	11/27/12	50.0	50.0
K1211655-002	11/27/12	50.0	50.0
K1211655-003	11/27/12	50.0	50.0
K1211655-MB	11/27/12	50.0	50.0
LCSW	11/27/12	50.0	50.0

Metals
- 14 -

ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001 **Run Number:** 120412AICP04

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-AES-04 **Method:** P

Start Date: 12/04/12 **End Date:** 12/04/12

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
BLK	1.0	10:17		X										X													
STD A	1.0	10:20		X																							
STD B	1.0	10:22		X										X													
ICV1	1.0	10:25		X																							
ICV1	1.0	10:28		X										X													
ICB1	1.0	10:31		X										X													
ZZZZZZ	1.0	10:34																									
LLICV1	1.0	10:36		X										X													
TLLICV	1.0	10:39		X																							
ZZZZZZ	1.0	10:42																									
ZZZZZZ	1.0	10:45																									
CCV1	1.0	10:52												X													
CCV1	1.0	10:59		X																							
ZZZZZZ	1.0	11:04																									
CCV1	1.0	11:09		X																							
CCB1	1.0	11:13		X										X													
ZZZZZZ	1.0	11:16																									
ICSA	1.0	11:19		X										X													
ICSAB	1.0	11:22		X										X													
ZZZZZZ	1.0	11:25																									
ZZZZZZ	1.0	11:28																									
CCV2	1.0	11:30		X										X													
CCV2	1.0	11:33		X																							
CCB2	1.0	11:36		X										X													
ZZZZZZ	1.0	11:39																									
K1211655-MB	1.0	11:41		X										X													
LCSW	1.0	11:44		X										X													
ZZZZZZ	1.0	11:47																									
ZZZZZZ	1.0	11:50																									
ZZZZZZ	1.0	11:52																									
ZZZZZZ	1.0	11:55																									
ZZZZZZ	1.0	11:58																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -

ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001 **Run Number:** 120412AICP04

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-AES-04 **Method:** P

Start Date: 12/04/12 **End Date:** 12/04/12

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.0	12:00																									
K1211655-001	1.0	12:03		X										X													
K1211655-002	1.0	12:06		X										X													
CCV3	1.0	12:09		X										X													
CCV3	1.0	12:12		X																							
ZZZZZZ	1.0	12:14																									
CCB3	1.0	12:17		X										X													
K1211655-002D	1.0	12:20		X										X													
K1211655-002L	5.0	12:23		X										X													
K1211655-002S	1.0	12:25		X										X													
K1211655-003	1.0	12:28		X										X													
ZZZZZZ	1.0	12:31																									
ZZZZZZ	1.0	12:34																									
ZZZZZZ	1.0	12:37																									
ZZZZZZ	1.0	12:39																									
ZZZZZZ	1.0	12:42																									
ZZZZZZ	1.0	12:45																									
CCV4	1.0	12:48		X										X													
CCV4	1.0	12:51		X																							
CCB4	1.0	12:53		X										X													

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001 **Run Number:** 120512a-2

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-MS-04 **Method:** MS

Start Date: 12/05/12 **End Date:** 12/05/12

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Blank	1.0	09:23							X		X		X		X				X							X	
Standard 1	1.0	09:28							X		X		X		X				X							X	
ICV1	1.0	09:34							X		X		X		X				X							X	
CCV1	1.0	09:40							X		X		X		X				X							X	
ICB1	1.0	09:45							X		X		X		X				X							X	
CCB1	1.0	09:51							X		X		X		X				X							X	
LLICV1	1.0	09:56							X		X		X		X				X							X	
ZZZZZZ	1.0	10:02																									
ZZZZZZ	1.0	10:07																									
ICS-A1	1.0	10:12							X		X		X		X				X							X	
ICS-AB1	1.0	10:18							X		X		X		X				X							X	
ZZZZZZ	1.0	10:23																									
ZZZZZZ	1.0	10:29																									
ZZZZZZ	1.0	10:35																									
ZZZZZZ	1.0	10:40																									
ZZZZZZ	1.0	10:46																									
ZZZZZZ	1.0	10:51																									
CCV2	1.0	10:57							X		X		X		X				X							X	
CCB2	1.0	11:03							X		X		X		X				X							X	
ZZZZZZ	1.0	11:08																									
CCV3	1.0	11:22							X		X		X		X				X							X	
CCB3	1.0	11:28							X		X		X		X				X							X	
K1211655-MB	1.0	11:38							X		X		X		X				X							X	
K1211655-001	1.0	11:44							X		X		X		X				X							X	
K1211655-001D	1.0	11:49							X		X		X		X				X							X	
K1211655-001S	1.0	11:55							X		X		X		X				X							X	
LCSW	1.0	12:01							X		X		X		X				X							X	
ZZZZZZ	1.0	12:06																									
ZZZZZZ	1.0	12:12																									
K1211655-002	1.0	12:17							X		X		X		X				X							X	
K1211655-003	1.0	12:23							X		X		X		X				X							X	
ZZZZZZ	1.0	12:28																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

- 14 -

ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211655

Project No.: 320001995-00.001 **Run Number:** 120512a-2

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-MS-04 **Method:** MS

Start Date: 12/05/12 **End Date:** 12/05/12

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCV4	1.0	12:34							X		X		X		X				X							X	
CCB4	1.0	12:40							X		X		X		X				X							X	

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 320001995-00.001

Lab Code: CASK Case No.: _____ NRAS No.: _____ SDG NO.: K1211655

ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 12/05/2012 End Date: 12/05/2012

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Ge-KED3_	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
Blank	Blank	0923	100		100		100							
Standard 1	Standard 1	0928	103		104		100							
ICV1	ICV1	0934	105		103		103							
CCV1	CCV	0940	104		103		99							
ICB1	ICB1	0945	102		101		99							
CCB1	CCB	0951	104		103		99							
LLICV1	LLICV1	0956	105		102		95							
ZZZZZZ	ZZZZZZ	1002												
ZZZZZZ	ZZZZZZ	1007												
ICS-A1	ICSA	1012	92		89		94							
ICS-AB1	ICSAB	1018	91		90		96							
ZZZZZZ	ZZZZZZ	1023												
ZZZZZZ	ZZZZZZ	1029												
ZZZZZZ	ZZZZZZ	1035												
ZZZZZZ	ZZZZZZ	1040												
ZZZZZZ	ZZZZZZ	1046												
ZZZZZZ	ZZZZZZ	1051												
CCV2	CCV	1057	109		107		101							
CCB2	CCB	1103	110		107		101							
ZZZZZZ	ZZZZZZ	1108												
CCV3	CCV	1122	105		106		101							
CCB3	CCB	1128	106		106		98							
K1211655-MB	Method Blank	1138	107		106		99							
K1211655-001	MT2-DBA-5198-111	1144	109		107		100							
K1211655-001D	MT2-DBA-5198-111	1149	110		108		101							
K1211655-001S	MT2-DBA-5198-111	1155	109		107		101							
LCSW	LCSW	1201	109		106		101							
ZZZZZZ	ZZZZZZ	1206												
ZZZZZZ	ZZZZZZ	1212												
K1211655-002	MT2-DBB-5279-111	1217	105		104		102							
K1211655-003	MT-DDS-B206-1119	1223	108		106		101							
ZZZZZZ	ZZZZZZ	1228												
CCV4	CCV	1234	112		108		105							
CCB4	CCB	1240	110		108		95							

FORM XV-IN

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	MT2-DBA-5198-111912-0845	**Units:**	ug/L
Lab Code:	K1211655-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldrin	ND	Ui	0.0099	0.0022	1	11/26/12	12/11/12	KWG1214263	
Dieldrin	ND	U	0.0099	0.00085	1	11/26/12	12/11/12	KWG1214263	
4,4'-DDE	ND	U	0.0099	0.0011	1	11/26/12	12/11/12	KWG1214263	
4,4'-DDT	ND	U	0.0099	0.0018	1	11/26/12	12/11/12	KWG1214263	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	48	10-134	12/11/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	MT2-DBB-5279-111912-0815	**Units:**	ug/L
Lab Code:	K1211655-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldrin	ND	Ui	0.010	0.0028	1	11/26/12	12/11/12	KWG1214263	
Dieldrin	**0.0020**	J	0.010	0.00085	1	11/26/12	12/11/12	KWG1214263	
4,4'-DDE	ND	U	0.010	0.0011	1	11/26/12	12/11/12	KWG1214263	
4,4'-DDT	ND	U	0.010	0.0018	1	11/26/12	12/11/12	KWG1214263	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	47	10-134	12/11/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	MT-DDS-B206-111912-1020	**Units:**	ug/L
Lab Code:	K1211655-003	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldrin	ND	U	0.010	0.0017	1	11/26/12	12/11/12	KWG1214263	
Dieldrin	ND	U	0.010	0.00085	1	11/26/12	12/11/12	KWG1214263	
4,4'-DDE	ND	U	0.010	0.0011	1	11/26/12	12/11/12	KWG1214263	
4,4'-DDT	ND	U	0.010	0.0018	1	11/26/12	12/11/12	KWG1214263	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	55	10-134	12/11/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1214263-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldrin	ND	U	0.0098	0.0017	1	11/26/12	12/11/12	KWG1214263	
Dieldrin	ND	U	0.0098	0.00085	1	11/26/12	12/11/12	KWG1214263	
4,4'-DDE	ND	U	0.0098	0.0011	1	11/26/12	12/11/12	KWG1214263	
4,4'-DDT	ND	U	0.0098	0.0018	1	11/26/12	12/11/12	KWG1214263	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	72	10-134	12/11/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001
Sample Matrix: Water

Surrogate Recovery Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Extraction Method: EPA 3520C **Units:** PERCENT
Analysis Method: 608 **Level:** Low

Sample Name	Lab Code	Sur1
MT2-DBA-5198-111912-0845	K1211655-001	48
MT2-DBB-5279-111912-0815	K1211655-002	47
MT-DDS-B206-111912-1020	K1211655-003	55
Method Blank	KWG1214263-3	72
Lab Control Sample	KWG1214263-1	70
Duplicate Lab Control Sample	KWG1214263-2	58

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 10-134

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/11/2012
		Time Analyzed:	09:27

Internal Standard Area and RT Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

File ID:	J:\GC33\DATA\121112-608\1211003.D	**Lab Code:**	KWG1214550-1
Instrument ID:	GC33	**Analysis Lot:**	KWG1214550
Analysis Method:	608	**Column :**	RTX-CLP

		Pentachloronitrobenzene (PCNB	
		Area	**RT**
	Results ==>	176,275,100	11.86
	Upper Limit ==>	352,550,200	12.36
	Lower Limit ==>	88,137,550	11.36
	ICAL Result ==>	166,703,100	11.86
Associated Analyses			
MT2-DBA-5198-111912-0845	K1211655-001	182,602,200	11.85
MT2-DBB-5279-111912-0815	K1211655-002	188,621,600	11.85
MT-DDS-B206-111912-1020	K1211655-003	201,025,900	11.85
Lab Control Sample	KWG1214263-1	199,265,200	11.86
Duplicate Lab Control Sample	KWG1214263-2	196,068,200	11.86
Method Blank	KWG1214263-3	209,987,700	11.87

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/11/2012
		Time Analyzed:	09:27

Internal Standard Area and RT Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

File ID:	J:\GC33\DATA\121112-608\1211003.D\1211003C.D	**Lab Code:**	KWG1214550-1
Instrument ID:	GC33	**Analysis Lot:**	KWG1214550
Analysis Method:	608	**Column :**	RTX-CLP2

		Pentachloronitrobenzene (PCNB	
		Area	**RT**
	Results ==>	73,016,420	11.65
	Upper Limit ==>	146,032,840	12.15
	Lower Limit ==>	36,508,210	11.15
	ICAL Result ==>	69,522,980	11.66
Associated Analyses			
MT2-DBA-5198-111912-0845	K1211655-001	82,981,360	11.65
MT2-DBB-5279-111912-0815	K1211655-002	87,728,750	11.65
MT-DDS-B206-111912-1020	K1211655-003	90,795,600	11.65
Lab Control Sample	KWG1214263-1	89,214,390	11.65
Duplicate Lab Control Sample	KWG1214263-2	87,280,260	11.65
Method Blank	KWG1214263-3	95,051,330	11.66

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/11/2012
		Time Analyzed:	13:46

Internal Standard Area and RT Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

File ID:	J:\GC33\DATA\121112-608\1211013.D	**Lab Code:**	KWG1214550-2
Instrument ID:	GC33	**Analysis Lot:**	KWG1214550
Analysis Method:	608	**Column :**	RTX-CLP

	Pentachloronitrobenzene (PCNB	
	Area	**RT**
Results ==>	183,304,600	11.86
Upper Limit ==>	366,609,200	12.36
Lower Limit ==>	91,652,300	11.36
ICAL Result ==>	166,703,100	11.86

Associated Analyses

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/11/2012
		Time Analyzed:	13:46

Internal Standard Area and RT Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

File ID:	J:\GC33\DATA\121112-608\1211013.D\1211013C.D	**Lab Code:**	KWG1214550-2
Instrument ID:	GC33	**Analysis Lot:**	KWG1214550
Analysis Method:	608	**Column :**	RTX-CLP2

	Pentachloronitrobenzene (PCNB	
	Area	**RT**
Results ==>	79,433,160	11.66
Upper Limit ==>	158,866,320	12.16
Lower Limit ==>	39,716,580	11.16
ICAL Result ==>	69,522,980	11.66

Associated Analyses

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/26/2012
Sample Matrix:	Water	**Date Analyzed:**	12/11/2012

Lab Control Spike/Duplicate Lab Control Spike Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	608	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1214263

	Lab Control Sample KWG1214263-1 Lab Control Spike			Duplicate Lab Control Sample KWG1214263-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aldrin	0.0516	0.100	52	0.0471	0.100	47	42-122	9	30
Dieldrin	0.0691	0.100	69	0.0660	0.100	66	36-146	4	30
4,4'-DDE	0.0710	0.100	71	0.0679	0.100	68	30-145	4	30
4,4'-DDT	0.0708	0.100	71	0.0672	0.100	67	25-160	5	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/26/2012
Sample Matrix:	Water	**Date Analyzed:**	12/11/2012
		Time Analyzed:	12:54

Method Blank Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	Method Blank	**Instrument ID:**	GC33
Lab Code:	KWG1214263-3	**File ID:**	J:\GC33\DATA\121112-608\1211011.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608	**Extraction Lot:**	KWG1214263

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MT2-DBA-5198-111912-0845	K1211655-001	J:\GC33\DATA\121112-608\1211005.D	12/11/12	10:18
MT2-DBB-5279-111912-0815	K1211655-002	J:\GC33\DATA\121112-608\1211006.D	12/11/12	10:44
MT-DDS-B206-111912-1020	K1211655-003	J:\GC33\DATA\121112-608\1211007.D	12/11/12	11:10
Lab Control Sample	KWG1214263-1	J:\GC33\DATA\121112-608\1211009.D	12/11/12	12:02
Duplicate Lab Control Sample	KWG1214263-2	J:\GC33\DATA\121112-608\1211010.D	12/11/12	12:28

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/26/2012
Sample Matrix:	Water	**Date Analyzed:**	12/11/2012
		Time Analyzed:	12:02

Lab Control Sample Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	Lab Control Sample	**Instrument ID:**	GC33
Lab Code:	KWG1214263-1	**File ID:**	J:\GC33\DATA\121112-608\1211009.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608	**Extraction Lot:**	KWG1214263

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MT2-DBA-5198-111912-0845	K1211655-001	J:\GC33\DATA\121112-608\1211005.D	12/11/12	10:18
MT2-DBB-5279-111912-0815	K1211655-002	J:\GC33\DATA\121112-608\1211006.D	12/11/12	10:44
MT-DDS-B206-111912-1020	K1211655-003	J:\GC33\DATA\121112-608\1211007.D	12/11/12	11:10
Method Blank	KWG1214263-3	J:\GC33\DATA\121112-608\1211011.D	12/11/12	12:54

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12092 **Column:** RTX-CLP
Instrument ID: GC33

Level ID	File ID	Level ID	File ID
A	J:\GC33\Data\120712-ICAL\1207008.D	Z	J:\GC33\Data\120712-ICAL\1207049.D
B	J:\GC33\Data\120712-ICAL\1207009.D	AA	J:\GC33\Data\120712-ICAL\1207050.D
C	J:\GC33\Data\120712-ICAL\1207010.D	AB	J:\GC33\Data\120712-ICAL\1207051.D
D	J:\GC33\Data\120712-ICAL\1207011.D	AC	J:\GC33\Data\120712-ICAL\1207052.D
E	J:\GC33\Data\120712-ICAL\1207012.D	AD	J:\GC33\Data\120712-ICAL\1207055.D
F	J:\GC33\Data\120712-ICAL\1207015.D	AE	J:\GC33\Data\120712-ICAL\1207056.D
G	J:\GC33\Data\120712-ICAL\1207016.D	AF	J:\GC33\Data\120712-ICAL\1207057.D
H	J:\GC33\Data\120712-ICAL\1207017.D	AG	J:\GC33\Data\120712-ICAL\1207058.D
I	J:\GC33\Data\120712-ICAL\1207018.D	AH	J:\GC33\Data\120712-ICAL\1207059.D
J	J:\GC33\Data\120712-ICAL\1207019.D	AI	J:\GC33\Data\120712-ICAL\1207060.D
K	J:\GC33\Data\120712-ICAL\1207020.D	AJ	J:\GC33\Data\120712-ICAL\1207063.D
L	J:\GC33\Data\120712-ICAL\1207023.D	AK	J:\GC33\Data\120712-ICAL\1207064.D
M	J:\GC33\Data\120712-ICAL\1207024.D	AL	J:\GC33\Data\120712-ICAL\1207065.D
N	J:\GC33\Data\120712-ICAL\1207025.D	AM	J:\GC33\Data\120712-ICAL\1207066.D
O	J:\GC33\Data\120712-ICAL\1207026.D	AN	J:\GC33\Data\120712-ICAL\1207067.D
P	J:\GC33\Data\120712-ICAL\1207027.D	AO	J:\GC33\Data\120712-ICAL\1207068.D
Q	J:\GC33\Data\120712-ICAL\1207028.D	AP	J:\GC33\Data\120912-ICAL\1209005.D
R	J:\GC33\Data\120712-ICAL\1207031.D	AQ	J:\GC33\Data\120912-ICAL\1209006.D
S	J:\GC33\Data\120712-ICAL\1207032.D	AR	J:\GC33\Data\120912-ICAL\1209008.D
T	J:\GC33\Data\120712-ICAL\1207033.D	AS	J:\GC33\Data\120912-ICAL\1209009.D
U	J:\GC33\Data\120712-ICAL\1207034.D	AT	J:\GC33\Data\120912-ICAL\1209010.D
V	J:\GC33\Data\120712-ICAL\1207035.D	AU	J:\GC33\Data\120912-ICAL\1209011.D
W	J:\GC33\Data\120712-ICAL\1207036.D	AV	J:\GC33\Data\120912-ICAL\1209012.D
X	J:\GC33\Data\120712-ICAL\1207047.D	AW	J:\GC33\Data\120912-ICAL\1209013.D
Y	J:\GC33\Data\120712-ICAL\1207048.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Aldrin	A	20	1.08	B	50	1.14	C	75	1.19	D	100	1.28	E	200	1.27
				AP	2.0	1.08	AQ	5.0	1.06						

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12092 **Column:** RTX-CLP
Instrument ID: GC33

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Dieldrin	A	20	0.913	B	50	0.967	C	75	1.00	D	100	1.09	E	200	1.08
				AP	2.0	0.836	AQ	5.0	0.861						
4,4'-DDE	A	20	0.847	B	50	0.896	C	75	0.925	D	100	1.00	E	200	1.00
				AP	2.0	0.766	AQ	5.0	0.787						
4,4'-DDT	A	20	0.608	B	50	0.665	C	75	0.699	D	100	0.765	E	200	0.783
				AP	2.0	0.508	AQ	5.0	0.560						
Decachlorobiphenyl	A	20	0.591	B	50	0.588	C	75	0.595	D	100	0.639	E	200	0.634
				AP	2.0	0.656	AQ	5.0	0.579						

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12092 **Column:** RTX-CLP
Instrument ID: GC33

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Aldrin	MS	AverageRF	% RSD	8.0		≤ 10	1.16		
Dieldrin	MS	Linear	R2	0.998		≥ 0.990	0.963		
4,4'-DDE	MS	Linear	R2	0.998		≥ 0.990	0.889		
4,4'-DDT	MS	Linear	R2	0.996		≥ 0.990	0.655		
Decachlorobiphenyl	SURR	AverageRF	% RSD	5.0		≤ 10	0.612		

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Calibration Date:**	12/07/2012
		Date Analyzed:	12/07/2012

Second Source Calibration Verification
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration ID:**	CAL12092
Analysis Method:	608	**Units:**	ug/L
File ID:	J:\GC33\Data\120712-ICAL\1207013.D	**Column ID:**	RTX-CLP
	J:\GC33\Data\120712-ICAL\1207021.D		
	J:\GC33\Data\120712-ICAL\1207029.D		
	J:\GC33\Data\120712-ICAL\1207037.D		
	J:\GC33\Data\120712-ICAL\1207053.D		
	J:\GC33\Data\120712-ICAL\1207061.D		
	J:\GC33\Data\120712-ICAL\1207069.D		
	J:\GC33\Data\120912-ICAL\1209014.D		

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	50	53	1.16	1.22	6	NA	± 30 %	AverageRF
Dieldrin	50	50	0.963	1.03	NA	-1	± 30 %	Linear
4,4'-DDE	50	50	0.889	0.956	NA	-1	± 30 %	Linear
4,4'-DDT	50	48	0.655	0.714	NA	-3	± 30 %	Linear

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12092 **Column:** RTX-CLP2
Instrument ID: GC33

Level ID	File ID	Level ID	File ID
A	J:\GC33\Data\120712-ICAL\1207008.D\1207008c.d	Z	J:\GC33\Data\120712-ICAL\1207049.D\1207049c.d
B	J:\GC33\Data\120712-ICAL\1207009.D\1207009c.d	AA	J:\GC33\Data\120712-ICAL\1207050.D\1207050c.d
C	J:\GC33\Data\120712-ICAL\1207010.D\1207010c.d	AB	J:\GC33\Data\120712-ICAL\1207051.D\1207051c.d
D	J:\GC33\Data\120712-ICAL\1207011.D\1207011c.d	AC	J:\GC33\Data\120712-ICAL\1207052.D\1207052c.d
E	J:\GC33\Data\120712-ICAL\1207012.D\1207012c.d	AD	J:\GC33\Data\120712-ICAL\1207055.D\1207055c.d
F	J:\GC33\Data\120712-ICAL\1207015.D\1207015c.d	AE	J:\GC33\Data\120712-ICAL\1207056.D\1207056c.d
G	J:\GC33\Data\120712-ICAL\1207016.D\1207016c.d	AF	J:\GC33\Data\120712-ICAL\1207057.D\1207057c.d
H	J:\GC33\Data\120712-ICAL\1207017.D\1207017c.d	AG	J:\GC33\Data\120712-ICAL\1207058.D\1207058c.d
I	J:\GC33\Data\120712-ICAL\1207018.D\1207018c.d	AH	J:\GC33\Data\120712-ICAL\1207059.D\1207059c.d
J	J:\GC33\Data\120712-ICAL\1207019.D\1207019c.d	AI	J:\GC33\Data\120712-ICAL\1207060.D\1207060c.d
K	J:\GC33\Data\120712-ICAL\1207020.D\1207020c.d	AJ	J:\GC33\Data\120712-ICAL\1207063.D\1207063c.d
L	J:\GC33\Data\120712-ICAL\1207023.D\1207023c.d	AK	J:\GC33\Data\120712-ICAL\1207064.D\1207064c.d
M	J:\GC33\Data\120712-ICAL\1207024.D\1207024c.d	AL	J:\GC33\Data\120712-ICAL\1207065.D\1207065c.d
N	J:\GC33\Data\120712-ICAL\1207025.D\1207025c.d	AM	J:\GC33\Data\120712-ICAL\1207066.D\1207066c.d
O	J:\GC33\Data\120712-ICAL\1207026.D\1207026c.d	AN	J:\GC33\Data\120712-ICAL\1207067.D\1207067c.d
P	J:\GC33\Data\120712-ICAL\1207027.D\1207027c.d	AO	J:\GC33\Data\120712-ICAL\1207068.D\1207068c.d
Q	J:\GC33\Data\120712-ICAL\1207028.D\1207028c.d	AP	J:\GC33\Data\120912-ICAL\1209005.D\1209005c.d
R	J:\GC33\Data\120712-ICAL\1207031.D\1207031c.d	AQ	J:\GC33\Data\120912-ICAL\1209006.D\1209006c.d
S	J:\GC33\Data\120712-ICAL\1207032.D\1207032c.d	AR	J:\GC33\Data\120912-ICAL\1209008.D\1209008c.d
T	J:\GC33\Data\120712-ICAL\1207033.D\1207033c.d	AS	J:\GC33\Data\120912-ICAL\1209009.D\1209009c.d
U	J:\GC33\Data\120712-ICAL\1207034.D\1207034c.d	AT	J:\GC33\Data\120912-ICAL\1209010.D\1209010c.d
V	J:\GC33\Data\120712-ICAL\1207035.D\1207035c.d	AU	J:\GC33\Data\120912-ICAL\1209011.D\1209011c.d
W	J:\GC33\Data\120712-ICAL\1207036.D\1207036c.d	AV	J:\GC33\Data\120912-ICAL\1209012.D\1209012c.d
X	J:\GC33\Data\120712-ICAL\1207047.D\1207047c.d	AW	J:\GC33\Data\120912-ICAL\1209013.D\1209013c.d
Y	J:\GC33\Data\120712-ICAL\1207048.D\1207048c.d		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Aldrin	A	20	1.21	B	50	1.30	C	75	1.35	D	100	1.43	E	200	1.36
				AP	2.0	1.05	AQ	5.0	1.10						

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12092 **Column:** RTX-CLP2
Instrument ID: GC33

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Dieldrin	A	20	1.08	B	50	1.15	C	75	1.18	D	100	1.25	E	200	1.19
				AP	2.0	0.967	AQ	5.0	0.995						
4,4'-DDE	A	20	0.992	B	50	1.07	C	75	1.10	D	100	1.15	E	200	1.10
				AP	2.0	0.889	AQ	5.0	0.904						
4,4'-DDT	A	20	0.750	B	50	0.820	C	75	0.848	D	100	0.898	E	200	0.881
				AP	2.0	0.655	AQ	5.0	0.704						
Decachlorobiphenyl	A	20	0.740	B	50	0.720	C	75	0.721	D	100	0.749	E	200	0.708
				AP	2.0	0.822	AQ	5.0	0.797						

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12092 **Column:** RTX-CLP2
Instrument ID: GC33

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Aldrin	MS	Linear	R2	0.999		≥ 0.990	1.26		
Dieldrin	MS	AverageRF	% RSD	9.4		≤ 10	1.12		
4,4'-DDE	MS	AverageRF	% RSD	9.9		≤ 10	1.03		
4,4'-DDT	MS	Linear	R2	0.999		≥ 0.990	0.794		
Decachlorobiphenyl	SURR	AverageRF	% RSD	5.7		≤ 10	0.751		

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Calibration Date:**	12/07/2012
		Date Analyzed:	12/07/2012

Second Source Calibration Verification
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration ID:**	CAL12092
Analysis Method:	608	**Units:**	ug/L
File ID:	J:\GC33\Data\120712-ICAL\1207013.D\1207013c.d	**Column ID:**	RTX-CLP2
	J:\GC33\Data\120712-ICAL\1207021.D\1207021c.d		
	J:\GC33\Data\120712-ICAL\1207029.D\1207029c.d		
	J:\GC33\Data\120712-ICAL\1207037.D\1207037c.d		
	J:\GC33\Data\120712-ICAL\1207053.D\1207053c.d		
	J:\GC33\Data\120712-ICAL\1207061.D\1207061c.d		
	J:\GC33\Data\120712-ICAL\1207069.D\1207069c.d		
	J:\GC33\Data\120912-ICAL\1209014.D\1209014c.d		

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	50	52	1.26	1.41	NA	4	± 30 %	Linear
Dieldrin	50	55	1.12	1.23	10	NA	± 30 %	AverageRF
4,4'-DDE	50	56	1.03	1.14	11	NA	± 30 %	AverageRF
4,4'-DDT	50	50	0.794	0.867	NA	1	± 30 %	Linear

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

† SPCC Compound **‡ CCC Compound**

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Date Analyzed:** 12/11/2012

Continuing Calibration Verification Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type: Internal Standard **Calibration Date:** 12/07/2012
Analysis Method: 608 **Calibration ID:** CAL12092
Analysis Lot: KWG1214550
Units: ug/L
File ID: J:\GC33\DATA\121112-608\1211003.D **Column ID:** RTX-CLP

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	75	78		1.16	1.20	3	NA	± 15 %	AverageRF
Dieldrin	75	71		0.963	0.996	NA	-5	± 15 %	Linear
4,4'-DDE	75	71		0.889	0.919	NA	-5	± 15 %	Linear
4,4'-DDT	75	71		0.655	0.699	NA	-6	± 15 %	Linear
Decachlorobiphenyl	75	73		0.612	0.594	-3	NA	± 15 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/11/2012

Continuing Calibration Verification Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration Date:**	12/07/2012
Analysis Method:	608	**Calibration ID:**	CAL12092
		Analysis Lot:	KWG1214550
		Units:	ug/L
File ID:	J:\GC33\DATA\121112-608\1211003.D\1211003C.D	**Column ID:**	RTX-CLP2

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	75	75		1.26	1.35	NA	0	± 15 %	Linear
Dieldrin	75	76		1.12	1.14	2	NA	± 15 %	AverageRF
4,4'-DDE	75	78		1.03	1.07	4	NA	± 15 %	AverageRF
4,4'-DDT	75	71		0.794	0.815	NA	-6	± 15 %	Linear
Decachlorobiphenyl	75	70		0.751	0.699	-7	NA	± 15 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/11/2012

Continuing Calibration Verification Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration Date:**	12/07/2012
Analysis Method:	608	**Calibration ID:**	CAL12092
		Analysis Lot:	KWG1214550
		Units:	ug/L
File ID:	J:\GC33\DATA\121112-608\1211013.D	**Column ID:**	RTX-CLP

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	75	75		1.16	1.16	1	NA	± 15 %	AverageRF
Dieldrin	75	70		0.963	0.978	NA	-6	± 15 %	Linear
4,4'-DDE	75	71		0.889	0.914	NA	-6	± 15 %	Linear
4,4'-DDT	75	71		0.655	0.700	NA	-6	± 15 %	Linear
Decachlorobiphenyl	75	71		0.612	0.581	-5	NA	± 15 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/11/2012

Continuing Calibration Verification Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration Date:**	12/07/2012
Analysis Method:	608	**Calibration ID:**	CAL12092
		Analysis Lot:	KWG1214550
		Units:	ug/L
File ID:	J:\GC33\DATA\121112-608\1211013.D\1211013C.D	**Column ID:**	RTX-CLP2

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	75	70		1.26	1.27	NA	-6	± 15 %	Linear
Dieldrin	75	73		1.12	1.09	-3	NA	± 15 %	AverageRF
4,4'-DDE	75	74		1.03	1.02	-1	NA	± 15 %	AverageRF
4,4'-DDT	75	69		0.794	0.800	NA	-8	± 15 %	Linear
Decachlorobiphenyl	75	66		0.751	0.663	-12	NA	± 15 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001

Analysis Run Log
Organochlorine Pesticides and Polychlorinated Biphenyls

Analysis Method: 608 **Analysis Lot:** KWG1214550
Instrument ID: GC33
Column: RTX-CLP

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
\1211003.D	Continuing Calibration Verification	KWG1214550-1	12/11/2012	09:27		12/11/2012	09:48
\1211005.D	MT2-DBA-5198-111912-0845	K1211655-001	12/11/2012	10:18		12/11/2012	10:40
\1211006.D	MT2-DBB-5279-111912-0815	K1211655-002	12/11/2012	10:44		12/11/2012	11:06
\1211007.D	MT-DDS-B206-111912-1020	K1211655-003	12/11/2012	11:10		12/11/2012	11:32
\1211008.D	ZZZZZZ	ZZZZZZ	12/11/2012	11:36		12/11/2012	11:58
\1211009.D	Lab Control Sample	KWG1214263-1	12/11/2012	12:02		12/11/2012	12:23
\1211010.D	Duplicate Lab Control Sample	KWG1214263-2	12/11/2012	12:28		12/11/2012	12:49
\1211011.D	Method Blank	KWG1214263-3	12/11/2012	12:54		12/11/2012	13:15
\1211013.D	Continuing Calibration Verification	KWG1214550-2	12/11/2012	13:46		12/11/2012	14:07

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001
Sample Matrix: Water

Service Request: K1211655
Date Extracted: 11/26/2012

Extraction Prep Log
Organochlorine Pesticides and Polychlorinated Biphenyls

Extraction Method: EPA 3520C
Analysis Method: 608

Extraction Lot: KWG1214263
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5198-111912-0845	K1211655-001	11/19/12	11/19/12	1020mL	2mL	NA	
MT2-DBB-5279-111912-0815	K1211655-002	11/19/12	11/19/12	1010mL	2mL	NA	
MT-DDS-B206-111912-1020	K1211655-003	11/19/12	11/19/12	1000mL	2mL	NA	
Method Blank	KWG1214263-3	NA	NA	1030mL	2mL	NA	
Lab Control Sample	KWG1214263-1	NA	NA	1000mL	2mL	NA	
Duplicate Lab Control Sample	KWG1214263-2	NA	NA	1000mL	2mL	NA	

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

COLUMBIA ANALYTICAL SERVICES, INC.
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Confirmation Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012
		Date Extracted:	11/26/2012

Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	MT2-DBB-5279-111912-0815	**Units:**	ug/L
Lab Code:	K1211655-002	**Basis:**	NA
		Level:	Low
Extraction Method:	EPA 3520C		
Analysis Method:	608		

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Dieldrin	0.010	0.00085	0.0020	0.0020	0.0	J	1	12/11/12

COLUMBIA ANALYTICAL SERVICES, INC.
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Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001

Cover Page - Organic Analysis Data Package
Semi-Volatile Organic Compounds by GC/MS

Sample Name	Lab Code	Date Collected	Date Received
MT2-DBA-5198-111912-0845	K1211655-001	11/19/2012	11/19/2012
MT2-DBB-5279-111912-0815	K1211655-002	11/19/2012	11/19/2012
MT-DDS-B206-111912-1020	K1211655-003	11/19/2012	11/19/2012

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

Signature:_____ Name:_____

Date:_____ Title:_____

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MT2-DBA-5198-111912-0845	**Units:**	ug/L
Lab Code:	K1211655-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Pentachlorophenol	ND	U	26	0.39	1	11/20/12	12/01/12	KWG1213793	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4,6-Tribromophenol	81	47-128	12/01/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MT2-DBB-5279-111912-0815	**Units:**	ug/L
Lab Code:	K1211655-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Pentachlorophenol	ND	U	24	0.38	1	11/20/12	12/01/12	KWG1213793	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4,6-Tribromophenol	80	47-128	12/01/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MT-DDS-B206-111912-1020	**Units:**	ug/L
Lab Code:	K1211655-003	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Pentachlorophenol	**9.6**	J	25	0.38	1	11/20/12	12/01/12	KWG1213793	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4,6-Tribromophenol	80	47-128	12/01/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1213793-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Pentachlorophenol	ND	U	24	0.38	1	11/20/12	11/30/12	KWG1213793	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4,6-Tribromophenol	88	47-128	11/30/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001
Sample Matrix: Water

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C **Units:** PERCENT
Analysis Method: 625 **Level:** Low

Sample Name	Lab Code	Sur1
MT2-DBA-5198-111912-0845	K1211655-001	81
MT2-DBB-5279-111912-0815	K1211655-002	80
MT-DDS-B206-111912-1020	K1211655-003	80
Method Blank	KWG1213793-3	88
Lab Control Sample	KWG1213793-1	96
Duplicate Lab Control Sample	KWG1213793-2	102

Surrogate Recovery Control Limits (%)

Sur1 = 2,4,6-Tribromophenol 47-128

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	11/30/2012
		Time Analyzed:	12:02

Internal Standard Area and RT Summary
Semi-Volatile Organic Compounds by GC/MS

File ID:	J:\MS07\DATA\113012\1130F002.D	**Lab Code:**	KWG1214241-2
Instrument ID:	MS07	**Analysis Lot:**	KWG1214241
Analysis Method:	625		

		Phenanthrene-d10	
		Area	**RT**
	Results ==>	957,917	16.79
	Upper Limit ==>	1,915,834	17.29
	Lower Limit ==>	478,959	16.29
	ICAL Result ==>	763,325	16.77
Associated Analyses			
Method Blank	KWG1213793-3	1,023,045	16.78
Lab Control Sample	KWG1213793-1	873,244	16.79
Duplicate Lab Control Sample	KWG1213793-2	809,702	16.79
MT2-DBA-5198-111912-0845	K1211655-001	919,116	16.78
MT2-DBB-5279-111912-0815	K1211655-002	973,310	16.78
MT-DDS-B206-111912-1020	K1211655-003	951,949	16.78

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/20/2012
Sample Matrix:	Water	**Date Analyzed:**	11/30/2012

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	625	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1213793

	Lab Control Sample KWG1213793-1 Lab Control Spike			Duplicate Lab Control Sample KWG1213793-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Pentachlorophenol	89.2	100	89	100	100	100	52-117	12	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/20/2012
Sample Matrix:	Water	**Date Analyzed:**	11/30/2012
		Time Analyzed:	12:49

Method Blank Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Instrument ID:**	MS07
Lab Code:	KWG1213793-3	**File ID:**	J:\MS07\DATA\113012\1130F003.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625	**Extraction Lot:**	KWG1213793

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1213793-1	J:\MS07\DATA\113012\1130F008.D	11/30/12	16:14
Duplicate Lab Control Sample	KWG1213793-2	J:\MS07\DATA\113012\1130F009.D	11/30/12	16:54
MT2-DBA-5198-111912-0845	K1211655-001	J:\MS07\DATA\113012\1130F022.D	12/01/12	05:48
MT2-DBB-5279-111912-0815	K1211655-002	J:\MS07\DATA\113012\1130F023.D	12/01/12	06:28
MT-DDS-B206-111912-1020	K1211655-003	J:\MS07\DATA\113012\1130F024.D	12/01/12	07:08

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/20/2012
Sample Matrix:	Water	**Date Analyzed:**	11/30/2012
		Time Analyzed:	16:14

Lab Control Sample Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	MS07
Lab Code:	KWG1213793-1	**File ID:**	J:\MS07\DATA\113012\1130F008.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625	**Extraction Lot:**	KWG1213793

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1213793-3	J:\MS07\DATA\113012\1130F003.D	11/30/12	12:49
MT2-DBA-5198-111912-0845	K1211655-001	J:\MS07\DATA\113012\1130F022.D	12/01/12	05:48
MT2-DBB-5279-111912-0815	K1211655-002	J:\MS07\DATA\113012\1130F023.D	12/01/12	06:28
MT-DDS-B206-111912-1020	K1211655-003	J:\MS07\DATA\113012\1130F024.D	12/01/12	07:08

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Date Analyzed: 11/30/2012
Time Analyzed: 11:22

Tune Summary
Semi-Volatile Organic Compounds by GC/MS

File ID: J:\MS07\DATA\113012\1130F001.D
Instrument ID: MS07
Column:

Analysis Method: 625
Analysis Lot: KWG1214241

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	30	60	41.8	56400	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	46.6	62809	PASS
70	69	0	2	0.0	0	PASS
127	198	40	60	46.2	62309	PASS
197	198	0	1	0.0	0	PASS
198	198	100	100	100.0	134901	PASS
199	198	5	9	6.9	9317	PASS
275	198	10	30	20.1	27160	PASS
365	198	1	100	2.0	2665	PASS
441	443	0	100	78.3	10107	PASS
442	198	40	100	49.6	66934	PASS
443	442	17	23	19.3	12916	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1214241-2	J:\MS07\DATA\113012\1130F002.D	11/30/2012	12:02	
Method Blank	KWG1213793-3	J:\MS07\DATA\113012\1130F003.D	11/30/2012	12:49	
Lab Control Sample	KWG1213793-1	J:\MS07\DATA\113012\1130F008.D	11/30/2012	16:14	
Duplicate Lab Control Sample	KWG1213793-2	J:\MS07\DATA\113012\1130F009.D	11/30/2012	16:54	
MT2-DBA-5198-111912-0845	K1211655-001	J:\MS07\DATA\113012\1130F022.D	12/01/2012	05:48	
MT2-DBB-5279-111912-0815	K1211655-002	J:\MS07\DATA\113012\1130F023.D	12/01/2012	06:28	
MT-DDS-B206-111912-1020	K1211655-003	J:\MS07\DATA\113012\1130F024.D	12/01/2012	07:08	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 11/26/2012

Initial Calibration Summary
Semi-Volatile Organic Compounds by GC/MS

Calibration ID: CAL12056 **Column:** MS
Instrument ID: MS07

Level ID	File ID	Level ID	File ID
A	J:\MS07\DATA\112612\1126F003.D	G	J:\MS07\DATA\112612\1126F009.D
B	J:\MS07\DATA\112612\1126F004.D	H	J:\MS07\DATA\112612\1126F010.D
C	J:\MS07\DATA\112612\1126F005.D	I	J:\MS07\DATA\112612\1126F011.D
D	J:\MS07\DATA\112612\1126F006.D	J	J:\MS07\DATA\112612\1126F012.D
E	J:\MS07\DATA\112612\1126F007.D		
F	J:\MS07\DATA\112612\1126F008.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Pentachlorophenol										D	20	0.0590	E	50	0.0867
	F	80	0.0939	G	100	0.0991	H	120	0.101	I	160	0.110	J	200	0.109
2,4,6-Tribromophenol				B	5.0	0.0742	C	10	0.0796	D	20	0.0925	E	50	0.111
	F	80	0.114	G	100	0.110	H	120	0.107	I	160	0.104	J	200	0.0972

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 11/26/2012

Initial Calibration Summary
Semi-Volatile Organic Compounds by GC/MS

Calibration ID: CAL12056 **Column:** MS
Instrument ID: MS07

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Pentachlorophenol	MS	Quadratic	COD	0.998		≥ 0.990	0.0940		0.01
2,4,6-Tribromophenol	SURR	AverageRF	% RSD	14.3		≤ 35	0.0987		0.01

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Calibration Date:**	11/26/2012
		Date Analyzed:	11/26/2012

Second Source Calibration Verification
Semi-Volatile Organic Compounds by GC/MS

Calibration Type:	Internal Standard	**Calibration ID:**	CAL12056
Analysis Method:	625	**Units:**	ug/ml

File ID: J:\MS07\DATA\112612\1126F013.D
J:\MS07\DATA\112612\1126F014.D
J:\MS07\DATA\112612\1126F015.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Pentachlorophenol	80	86	0.0940	0.104	NA	7	± 30 %	Quadratic

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	11/30/2012

Continuing Calibration Verification Summary
Semi-Volatile Organic Compounds by GC/MS

Calibration Type:	Internal Standard	**Calibration Date:**	11/26/2012
Analysis Method:	625	**Calibration ID:**	CAL12056
		Analysis Lot:	KWG1214241
		Units:	ug/ml

File ID: J:\MS07\DATA\113012\1130F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Pentachlorophenol	80	88	0.01	0.0940	0.107	NA	10	± 20 %	Quadratic
2,4,6-Tribromophenol	80	76	0.01	0.0987	0.0933	-5	NA	± 20 %	AverageRF

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001

Analysis Run Log
Semi-Volatile Organic Compounds by GC/MS

Analysis Method: 625 **Analysis Lot:** KWG1214241
Instrument ID: MS07

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1130F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1214241-1	11/30/2012	11:22		11/30/2012	11:53
1130F002.D	Continuing Calibration Verification	KWG1214241-2	11/30/2012	12:02		11/30/2012	12:33
1130F003.D	Method Blank	KWG1213793-3	11/30/2012	12:49		11/30/2012	13:20
1130F004.D	ZZZZZZ	ZZZZZZ	11/30/2012	13:29		11/30/2012	14:00
1130F005.D	ZZZZZZ	ZZZZZZ	11/30/2012	14:10		11/30/2012	14:41
1130F007.D	ZZZZZZ	ZZZZZZ	11/30/2012	15:33		11/30/2012	16:04
1130F008.D	Lab Control Sample	KWG1213793-1	11/30/2012	16:14		11/30/2012	16:45
1130F009.D	Duplicate Lab Control Sample	KWG1213793-2	11/30/2012	16:54		11/30/2012	17:25
1130F010.D	ZZZZZZ	ZZZZZZ	11/30/2012	17:34		11/30/2012	18:05
1130F011.D	ZZZZZZ	ZZZZZZ	11/30/2012	18:14		11/30/2012	18:45
1130F012.D	ZZZZZZ	ZZZZZZ	11/30/2012	18:54		11/30/2012	19:25
1130F013.D	ZZZZZZ	ZZZZZZ	11/30/2012	19:35		11/30/2012	20:06
1130F014.D	ZZZZZZ	ZZZZZZ	11/30/2012	20:15		11/30/2012	20:46
1130F015.D	ZZZZZZ	ZZZZZZ	11/30/2012	20:55		11/30/2012	21:26
1130F022.D	MT2-DBA-5198-111912-0845	K1211655-001	12/1/2012	05:48		12/1/2012	06:19
1130F023.D	MT2-DBB-5279-111912-0815	K1211655-002	12/1/2012	06:28		12/1/2012	06:59
1130F024.D	MT-DDS-B206-111912-1020	K1211655-003	12/1/2012	07:08		12/1/2012	07:39
1130F025.D	ZZZZZZ	ZZZZZZ	12/1/2012	07:49		12/1/2012	08:20
1130F026.D	ZZZZZZ	ZZZZZZ	12/1/2012	08:29		12/1/2012	09:00
1130F027.D	ZZZZZZ	ZZZZZZ	12/1/2012	09:09		12/1/2012	09:40
1130F028.D	ZZZZZZ	ZZZZZZ	12/1/2012	09:49		12/1/2012	10:20

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

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/20/2012
Sample Matrix:	Water		

Extraction Prep Log

Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3520C	**Extraction Lot:**	KWG1213793
Analysis Method:	625	**Level:**	Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5198-111912-0845	K1211655-001	11/19/12	11/19/12	980ml	1ml	NA	
MT2-DBB-5279-111912-0815	K1211655-002	11/19/12	11/19/12	1060ml	1ml	NA	
MT-DDS-B206-111912-1020	K1211655-003	11/19/12	11/19/12	1040ml	1ml	NA	
Method Blank	KWG1213793-3	NA	NA	1060ml	1ml	NA	
Lab Control Sample	KWG1213793-1	NA	NA	1000ml	1ml	NA	
Duplicate Lab Control Sample	KWG1213793-2	NA	NA	1000ml	1ml	NA	

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:	MT2-DBA-5198-111912-0845	**Units:**	ug/L
Lab Code:	K1211655-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1221	ND	U	0.010	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1232	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1242	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1248	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1254	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1260	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1262	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1268	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	36-113	12/01/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:	MT2-DBB-5279-111912-0815	**Units:**	ug/L
Lab Code:	K1211655-002	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1221	ND	U	0.010	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1232	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1242	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1248	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1254	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1260	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1262	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1268	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	91	36-113	12/01/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:	MT-DDS-B206-111912-1020	**Units:**	ug/L
Lab Code:	K1211655-003	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1221	ND	U	0.010	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1232	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1242	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1248	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1254	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1260	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1262	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1268	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	97	36-113	12/01/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1214211-3	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1221	ND	U	0.0098	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1232	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1242	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1248	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1254	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1260	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1262	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	
Aroclor 1268	ND	U	0.0050	0.0021	1	11/26/12	12/01/12	KWG1214211	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	101	36-113	12/01/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001
Sample Matrix: Water

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A **Units:** PERCENT
Analysis Method: 8082A **Level:** Low

Sample Name	Lab Code	Sur1
MT2-DBA-5198-111912-0845	K1211655-001	92
MT2-DBB-5279-111912-0815	K1211655-002	91
MT-DDS-B206-111912-1020	K1211655-003	97
Method Blank	KWG1214211-3	101
Lab Control Sample	KWG1214211-1	94
Duplicate Lab Control Sample	KWG1214211-2	104

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 36-113

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/26/2012
Sample Matrix:	Water	**Date Analyzed:**	12/01/2012

Lab Control Spike/Duplicate Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3535A	**Units:**	ug/L
Analysis Method:	8082A	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1214211

	Lab Control Sample KWG1214211-1 Lab Control Spike			Duplicate Lab Control Sample KWG1214211-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	0.158	0.200	79	0.156	0.200	78	50-103	1	30
Aroclor 1260	0.160	0.200	80	0.160	0.200	80	56-100	0	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/26/2012
Sample Matrix:	Water	**Date Analyzed:**	12/01/2012
		Time Analyzed:	05:43

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Instrument ID:**	GC22.i
Lab Code:	KWG1214211-3	**File ID:**	J:\GC22\DATA\113012.B\1130F010.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1214211

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1214211-1	J:\GC22\DATA\113012.B\1130F008.D	12/01/12	04:58
Duplicate Lab Control Sample	KWG1214211-2	J:\GC22\DATA\113012.B\1130F009.D	12/01/12	05:21
MT2-DBA-5198-111912-0845	K1211655-001	J:\GC22\DATA\113012.B\1130F011.D	12/01/12	06:06
MT2-DBB-5279-111912-0815	K1211655-002	J:\GC22\DATA\113012.B\1130F012.D	12/01/12	06:29
MT-DDS-B206-111912-1020	K1211655-003	J:\GC22\DATA\113012.B\1130F013.D	12/01/12	06:52

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/26/2012
Sample Matrix:	Water	**Date Analyzed:**	12/01/2012
		Time Analyzed:	04:58

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Lab Control Sample	**Instrument ID:**	GC22.i
Lab Code:	KWG1214211-1	**File ID:**	J:\GC22\DATA\113012.B\1130F008.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1214211

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1214211-3	J:\GC22\DATA\113012.B\1130F010.D	12/01/12	05:43
MT2-DBA-5198-111912-0845	K1211655-001	J:\GC22\DATA\113012.B\1130F011.D	12/01/12	06:06
MT2-DBB-5279-111912-0815	K1211655-002	J:\GC22\DATA\113012.B\1130F012.D	12/01/12	06:29
MT-DDS-B206-111912-1020	K1211655-003	J:\GC22\DATA\113012.B\1130F013.D	12/01/12	06:52

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

Level ID	File ID	Level ID	File ID
A	\\cash1\acqudata\GC22\data\082212A.b\0822F205.D	Q	\\cash1\acqudata\GC22\data\082212A.b\0822F221.D
B	\\cash1\acqudata\GC22\data\082212A.b\0822F206.D	R	\\cash1\acqudata\GC22\data\082212A.b\0822F222.D
C	\\cash1\acqudata\GC22\data\082212A.b\0822F207.D	S	\\cash1\acqudata\GC22\data\082212A.b\0822F223.D
D	\\cash1\acqudata\GC22\data\082212A.b\0822F208.D	T	\\cash1\acqudata\GC22\data\082212A.b\0822F224.D
E	\\cash1\acqudata\GC22\data\082212A.b\0822F209.D	U	\\cash1\acqudata\GC22\data\082212A.b\0822F225.D
F	\\cash1\acqudata\GC22\data\082212A.b\0822F210.D	V	\\cash1\acqudata\GC22\data\082212A.b\0822F226.D
G	\\cash1\acqudata\GC22\data\082212A.b\0822F211.D	W	\\cash1\acqudata\GC22\data\082212A.b\0822F227.D
H	\\cash1\acqudata\GC22\data\082212A.b\0822F212.D	X	\\cash1\acqudata\GC22\data\082212A.b\0822F228.D
I	\\cash1\acqudata\GC22\data\082212A.b\0822F213.D	Y	\\cash1\acqudata\GC22\data\082212A.b\0822F229.D
J	\\cash1\acqudata\GC22\data\082212A.b\0822F214.D	Z	\\cash1\acqudata\GC22\data\082212A.b\0822F230.D
K	\\cash1\acqudata\GC22\data\082212A.b\0822F215.D	AA	\\cash1\acqudata\GC22\data\082212A.b\0822F231.D
L	\\cash1\acqudata\GC22\data\082212A.b\0822F216.D	AB	\\cash1\acqudata\GC22\data\082212A.b\0822F232.D
M	\\cash1\acqudata\GC22\data\082212A.b\0822F217.D	AC	\\cash1\acqudata\GC22\data\082212A.b\0822F233.D
N	\\cash1\acqudata\GC22\data\082212A.b\0822F218.D	AD	\\cash1\acqudata\GC22\data\082212A.b\0822F234.D
O	\\cash1\acqudata\GC22\data\082212A.b\0822F219.D		
P	\\cash1\acqudata\GC22\data\082212A.b\0822F220.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	5.87E+5	B	0.50	6.43E+5	C	5.0	6.47E+5	D	10	6.17E+5	E	20	4.89E+5
	F	50	4.62E+5												
Aroclor 1016 {1}	A	2.5	11200	B	5.0	9660	C	50	8550	D	100	8900	E	200	7380
	F	500	6430												
Aroclor 1016 {2}	A	2.5	25200	B	5.0	27400	C	50	26800	D	100	26500	E	200	22900
	F	500	20900												
Aroclor 1016 {3}	A	2.5	18000	B	5.0	18600	C	50	20500	D	100	17700	E	200	16200
	F	500	14100												
Aroclor 1016 {4}	A	2.5	9360	B	5.0	12100	C	50	12200	D	100	10700	E	200	9980
	F	500	8860												
Aroclor 1016 {5}	A	2.5	16200	B	5.0	14700	C	50	16300	D	100	13900	E	200	13000
	F	500	11600												
Aroclor 1260 {1}	A	2.5	41000	B	5.0	48200	C	50	46700	D	100	41000	E	200	35300
	F	500	31700												
Aroclor 1260 {2}	A	2.5	36200	B	5.0	46600	C	50	45600	D	100	39700	E	200	35400
	F	500	31600												
Aroclor 1260 {3}	A	2.5	33100	B	5.0	32700	C	50	30200	D	100	26800	E	200	23400
	F	500	20800												
Aroclor 1260 {4}	A	2.5	30600	B	5.0	30800	C	50	32500	D	100	28600	E	200	24800
	F	500	22600												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	71500	B	5.0	77400	C	50	74700	D	100	64900	E	200	56200
	F	500	52800												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

		Calibration Evaluation				
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**
Decachlorobiphenyl	SURR	AverageRF	% RSD	13.9		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	19.3		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	12.4		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	13.1		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	13.0		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	15.6		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	18.1		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	13.5		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	15.2		≤ 20

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Calibration Date: 08/23/2012
Date Analyzed: 08/23/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11805
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\082212A.b\0822F235.D
\\cash1\acqudata\GC22\data\082212A.b\0822F236.D
\\cash1\acqudata\GC22\data\082212A.b\0822F237.D
\\cash1\acqudata\GC22\data\082212A.b\0822F238.D
\\cash1\acqudata\GC22\data\082212A.b\0822F239.D
\\cash1\acqudata\GC22\data\082212A.b\0822F240.D
\\cash1\acqudata\GC22\data\082212A.b\0822F241.D
\\cash1\acqudata\GC22\data\082212A.b\0822F242.D
\\cash1\acqudata\GC22\data\082212A.b\0822F243.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	84	NA	NA	NA	-16	± 20 %	NA
Aroclor 1016 {1}	100	89	8680	7690	-11	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	85	25000	21300	-15	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	83	17500	14600	-17	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	84	10500	8780	-16	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	78	14300	11100	-22	NA	± 100 %	AverageRF
Aroclor 1260	100	85	NA	NA	NA	-15	± 20 %	NA
Aroclor 1260 {1}	100	83	40700	33600	-17	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	70	39200	27300	-30	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	91	27800	25300	-9	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	93	28300	26500	-7	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	90	66300	59800	-10	NA	± 100 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

Level ID	File ID	Level ID	File ID
A	\\cash1\acqudata\GC22\data\082212A_r.b\0822F205.D	Q	\\cash1\acqudata\GC22\data\082212A_r.b\0822F221.D
B	\\cash1\acqudata\GC22\data\082212A_r.b\0822F206.D	R	\\cash1\acqudata\GC22\data\082212A_r.b\0822F222.D
C	\\cash1\acqudata\GC22\data\082212A_r.b\0822F207.D	S	\\cash1\acqudata\GC22\data\082212A_r.b\0822F223.D
D	\\cash1\acqudata\GC22\data\082212A_r.b\0822F208.D	T	\\cash1\acqudata\GC22\data\082212A_r.b\0822F224.D
E	\\cash1\acqudata\GC22\data\082212A_r.b\0822F209.D	U	\\cash1\acqudata\GC22\data\082212A_r.b\0822F225.D
F	\\cash1\acqudata\GC22\data\082212A_r.b\0822F210.D	V	\\cash1\acqudata\GC22\data\082212A_r.b\0822F226.D
G	\\cash1\acqudata\GC22\data\082212A_r.b\0822F211.D	W	\\cash1\acqudata\GC22\data\082212A_r.b\0822F227.D
H	\\cash1\acqudata\GC22\data\082212A_r.b\0822F212.D	X	\\cash1\acqudata\GC22\data\082212A_r.b\0822F228.D
I	\\cash1\acqudata\GC22\data\082212A_r.b\0822F213.D	Y	\\cash1\acqudata\GC22\data\082212A_r.b\0822F229.D
J	\\cash1\acqudata\GC22\data\082212A_r.b\0822F214.D	Z	\\cash1\acqudata\GC22\data\082212A_r.b\0822F230.D
K	\\cash1\acqudata\GC22\data\082212A_r.b\0822F215.D	AA	\\cash1\acqudata\GC22\data\082212A_r.b\0822F231.D
L	\\cash1\acqudata\GC22\data\082212A_r.b\0822F216.D	AB	\\cash1\acqudata\GC22\data\082212A_r.b\0822F232.D
M	\\cash1\acqudata\GC22\data\082212A_r.b\0822F217.D	AC	\\cash1\acqudata\GC22\data\082212A_r.b\0822F233.D
N	\\cash1\acqudata\GC22\data\082212A_r.b\0822F218.D	AD	\\cash1\acqudata\GC22\data\082212A_r.b\0822F234.D
O	\\cash1\acqudata\GC22\data\082212A_r.b\0822F219.D		
P	\\cash1\acqudata\GC22\data\082212A_r.b\0822F220.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	8.92E+5	B	0.50	1.02E+6	C	5.0	7.79E+5	D	10	7.64E+5	E	20	7.40E+5
	F	50	7.06E+5												
Aroclor 1016 {1}	A	2.5	34900	B	5.0	31600	C	50	27800	D	100	25300	E	200	25500
	F	500	21900												
Aroclor 1016 {2}	A	2.5	49600	B	5.0	50200	C	50	47500	D	100	46900	E	200	46600
	F	500	43300												
Aroclor 1016 {3}	A	2.5	29200	B	5.0	27400	C	50	26500	D	100	25200	E	200	26800
	F	500	23900												
Aroclor 1016 {4}	A	2.5	28200	B	5.0	26200	C	50	22700	D	100	21500	E	200	21400
	F	500	19000												
Aroclor 1016 {5}	A	2.5	29200	B	5.0	22300	C	50	27000	D	100	25200	E	200	25100
	F	500	22500												
Aroclor 1260 {1}	A	2.5	57300	B	5.0	66300	C	50	58100	D	100	54000	E	200	52700
	F	500	48600												
Aroclor 1260 {2}	A	2.5	68900	B	5.0	68500	C	50	69000	D	100	66300	E	200	63800
	F	500	59900												
Aroclor 1260 {3}	A	2.5	71200	B	5.0	82100	C	50	79700	D	100	77700	E	200	75800
	F	500	71900												
Aroclor 1260 {4}	A	2.5	56200	B	5.0	52500	C	50	43200	D	100	42300	E	200	41200
	F	500	38900												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	87100	B	5.0	91700	C	50	97500	D	100	95800	E	200	94600
	F	500	92500												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	14.4		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	16.9		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	5.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	6.9		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	14.6		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	10.4		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	10.7		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	5.5		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	5.6		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	3.9		≤ 20

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Calibration Date:**	08/23/2012
		Date Analyzed:	08/23/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration ID:**	CAL11805
Analysis Method:	8082A	**Units:**	ng/mL
File ID:	\\cash1\acqudata\GC22\data\082212A_r.b\0822F235.D	**Column ID:**	DB-XLB
	\\cash1\acqudata\GC22\data\082212A_r.b\0822F236.D		
	\\cash1\acqudata\GC22\data\082212A_r.b\0822F237.D		
	\\cash1\acqudata\GC22\data\082212A_r.b\0822F238.D		
	\\cash1\acqudata\GC22\data\082212A_r.b\0822F239.D		
	\\cash1\acqudata\GC22\data\082212A_r.b\0822F240.D		
	\\cash1\acqudata\GC22\data\082212A_r.b\0822F241.D		
	\\cash1\acqudata\GC22\data\082212A_r.b\0822F242.D		
	\\cash1\acqudata\GC22\data\082212A_r.b\0822F243.D		

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	91	NA	NA	NA	-9	± 20 %	NA
Aroclor 1016 {1}	100	87	27900	24200	-13	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	95	47300	45100	-5	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	94	26500	24900	-6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	86	23200	20000	-14	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	92	25200	23200	-8	NA	± 100 %	AverageRF
Aroclor 1260	100	96	NA	NA	NA	-4	± 20 %	NA
Aroclor 1260 {1}	100	91	56100	51300	-9	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	94	66100	62400	-6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	88	76400	67400	-12	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	98	45700	44900	-2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93200	102000	10	NA	± 100 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/01/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
		Analysis Lot:	KWG1214362
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\113012.B\1130F006.D	**Column ID:**	DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	574000	633000	10	NA	± 20 %	AverageRF
Aroclor 1016	100	120	NA	NA	NA	15	± 20 %	NA
Aroclor 1016 {1}	100	110	8680	9540	10	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	120	25000	30000	20	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	17500	19900	13	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	120	10500	12300	17	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	120	14300	16500	15	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	7	± 20 %	NA
Aroclor 1260 {1}	100	110	40700	43600	7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	110	39200	43000	10	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	100	27800	29000	4	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	28300	30900	9	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	66300	71000	7	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/01/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
		Analysis Lot:	KWG1214362
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\113012_R.B\1130F006.D	**Column ID:**	DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	9.2	817000	750000	-8	NA	± 20 %	AverageRF
Aroclor 1016	100	94	NA	NA	NA	-6	± 20 %	NA
Aroclor 1016 {1}	100	88	27900	24500	-12	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	98	47300	46600	-2	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	99	26500	26200	-1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	89	23200	20500	-11	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	94	25200	23700	-6	NA	± 100 %	AverageRF
Aroclor 1260	100	94	NA	NA	NA	-6	± 20 %	NA
Aroclor 1260 {1}	100	89	56100	49900	-11	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	96	66100	63400	-4	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	97	76400	74400	-3	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	88	45700	40300	-12	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	100	93200	94100	1	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/01/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
		Analysis Lot:	KWG1214362
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\113012.B\1130F017.D	**Column ID:**	DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	9.9	574000	567000	-1	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	9	± 20 %	NA
Aroclor 1016 {1}	100	99	8680	8580	-1	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	120	25000	29200	17	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	17500	18800	7	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	10500	11700	11	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	14300	15400	8	NA	± 100 %	AverageRF
Aroclor 1260	100	100	NA	NA	NA	0	± 20 %	NA
Aroclor 1260 {1}	100	99	40700	40100	-1	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	100	39200	40200	3	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	96	27800	26900	-4	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	100	28300	28600	1	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	99	66300	65700	-1	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/01/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
		Analysis Lot:	KWG1214362
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\113012_R.B\1130F017.D	**Column ID:**	DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	9.2	817000	755000	-8	NA	± 20 %	AverageRF
Aroclor 1016	100	93	NA	NA	NA	-7	± 20 %	NA
Aroclor 1016 {1}	100	94	27900	26100	-6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	97	47300	46000	-3	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	96	26500	25400	-4	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	89	23200	20600	-11	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	92	25200	23200	-8	NA	± 100 %	AverageRF
Aroclor 1260	100	94	NA	NA	NA	-6	± 20 %	NA
Aroclor 1260 {1}	100	90	56100	50400	-10	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	94	66100	62400	-6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	97	76400	74100	-3	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	88	45700	40300	-12	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	100	93200	94000	1	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082A **Analysis Lot:** KWG1214362
Instrument ID: GC22.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1130F006.D	Continuing Calibration Verification	KWG1214362-1	12/1/2012	04:12		12/1/2012	04:12
1130F007.D	Instrument Blank	KWG1214362-2	12/1/2012	04:35		12/1/2012	04:35
1130F008.D	Lab Control Sample	KWG1214211-1	12/1/2012	04:58		12/1/2012	04:58
1130F009.D	Duplicate Lab Control Sample	KWG1214211-2	12/1/2012	05:21		12/1/2012	05:21
1130F010.D	Method Blank	KWG1214211-3	12/1/2012	05:43		12/1/2012	05:43
1130F011.D	MT2-DBA-5198-111912-0845	K1211655-001	12/1/2012	06:06		12/1/2012	06:06
1130F012.D	MT2-DBB-5279-111912-0815	K1211655-002	12/1/2012	06:29		12/1/2012	06:29
1130F013.D	MT-DDS-B206-111912-1020	K1211655-003	12/1/2012	06:52		12/1/2012	06:52
1130F014.D	ZZZZZZ	ZZZZZZ	12/1/2012	07:14		12/1/2012	07:14
1130F015.D	ZZZZZZ	ZZZZZZ	12/1/2012	07:37		12/1/2012	07:37
1130F016.D	ZZZZZZ	ZZZZZZ	12/1/2012	08:00		12/1/2012	08:00
1130F017.D	Continuing Calibration Verification	KWG1214362-3	12/1/2012	08:23		12/1/2012	08:23
1130F018.D	Instrument Blank	KWG1214362-4	12/1/2012	08:45		12/1/2012	08:45

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001
Sample Matrix: Water

Service Request: K1211655
Date Extracted: 11/26/2012

Extraction Prep Log
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A
Analysis Method: 8082A

Extraction Lot: KWG1214211
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5198-111912-0845	K1211655-001	11/19/12	11/19/12	1010mL	2mL	NA	
MT2-DBB-5279-111912-0815	K1211655-002	11/19/12	11/19/12	1010mL	2mL	NA	
MT-DDS-B206-111912-1020	K1211655-003	11/19/12	11/19/12	1010mL	2mL	NA	
Method Blank	KWG1214211-3	NA	NA	1030mL	2mL	NA	
Lab Control Sample	KWG1214211-1	NA	NA	1000mL	2mL	NA	
Duplicate Lab Control Sample	KWG1214211-2	NA	NA	1000mL	2mL	NA	

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Polynuclear Aromatic Hydrocarbons

Sample Name:	MT2-DBA-5198-111912-0845	**Units:**	ng/L
Lab Code:	K1211655-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**18**	B	3.4	0.71	1	11/20/12	11/30/12	KWG1213824	
2-Methylnaphthalene	**5.1**		3.4	0.40	1	11/20/12	11/30/12	KWG1213824	
Acenaphthylene	**2.1**	J	3.4	0.37	1	11/20/12	11/30/12	KWG1213824	
Acenaphthene	ND	U	3.4	0.36	1	11/20/12	11/30/12	KWG1213824	
Dibenzofuran	**2.3**	J	3.4	0.42	1	11/20/12	11/30/12	KWG1213824	
Fluorene	**2.7**	J	3.4	0.42	1	11/20/12	11/30/12	KWG1213824	
Phenanthrene	**9.6**	B	3.4	0.72	1	11/20/12	11/30/12	KWG1213824	
Anthracene	**2.2**	J	3.4	0.29	1	11/20/12	11/30/12	KWG1213824	
Fluoranthene	**4.2**		3.4	0.46	1	11/20/12	11/30/12	KWG1213824	
Pyrene	**6.2**		3.4	0.78	1	11/20/12	11/30/12	KWG1213824	
Benz(a)anthracene	**1.7**	J	3.4	0.34	1	11/20/12	11/30/12	KWG1213824	
Chrysene	**1.9**	J	3.4	0.65	1	11/20/12	11/30/12	KWG1213824	
Benzo(b)fluoranthene	**1.9**	J	3.4	0.25	1	11/20/12	11/30/12	KWG1213824	
Benzo(k)fluoranthene	ND	U	3.4	0.41	1	11/20/12	11/30/12	KWG1213824	
Benzo(a)pyrene	ND	U	3.4	0.41	1	11/20/12	11/30/12	KWG1213824	
Indeno(1,2,3-cd)pyrene	**0.82**	J	3.4	0.44	1	11/20/12	11/30/12	KWG1213824	*
Dibenz(a,h)anthracene	ND	U	3.4	0.45	1	11/20/12	11/30/12	KWG1213824	
Benzo(g,h,i)perylene	**1.3**	J	3.4	0.36	1	11/20/12	11/30/12	KWG1213824	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	59	46-114	11/30/12	Acceptable
Fluoranthene-d10	63	51-121	11/30/12	Acceptable
Terphenyl-d14	68	58-140	11/30/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Polynuclear Aromatic Hydrocarbons

Sample Name:	MT2-DBB-5279-111912-0815	**Units:**	ng/L
Lab Code:	K1211655-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**19**	B	3.5	0.72	1	11/20/12	11/30/12	KWG1213824	
2-Methylnaphthalene	**4.2**		3.5	0.41	1	11/20/12	11/30/12	KWG1213824	
Acenaphthylene	**2.7**	J	3.5	0.38	1	11/20/12	11/30/12	KWG1213824	
Acenaphthene	ND	U	3.5	0.37	1	11/20/12	11/30/12	KWG1213824	
Dibenzofuran	**1.7**	J	3.5	0.43	1	11/20/12	11/30/12	KWG1213824	
Fluorene	**2.1**	J	3.5	0.43	1	11/20/12	11/30/12	KWG1213824	
Phenanthrene	**9.8**	B	3.5	0.73	1	11/20/12	11/30/12	KWG1213824	
Anthracene	**3.2**	J	3.5	0.30	1	11/20/12	11/30/12	KWG1213824	
Fluoranthene	**5.5**		3.5	0.47	1	11/20/12	11/30/12	KWG1213824	
Pyrene	**6.8**		3.5	0.79	1	11/20/12	11/30/12	KWG1213824	
Benz(a)anthracene	**1.2**	J	3.5	0.35	1	11/20/12	11/30/12	KWG1213824	
Chrysene	**2.4**	J	3.5	0.66	1	11/20/12	11/30/12	KWG1213824	
Benzo(b)fluoranthene	**2.3**	J	3.5	0.26	1	11/20/12	11/30/12	KWG1213824	
Benzo(k)fluoranthene	ND	U	3.5	0.42	1	11/20/12	11/30/12	KWG1213824	
Benzo(a)pyrene	ND	U	3.5	0.42	1	11/20/12	11/30/12	KWG1213824	
Indeno(1,2,3-cd)pyrene	**1.0**	J	3.5	0.45	1	11/20/12	11/30/12	KWG1213824	*
Dibenz(a,h)anthracene	ND	U	3.5	0.46	1	11/20/12	11/30/12	KWG1213824	
Benzo(g,h,i)perylene	**1.6**	J	3.5	0.37	1	11/20/12	11/30/12	KWG1213824	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	68	46-114	11/30/12	Acceptable
Fluoranthene-d10	69	51-121	11/30/12	Acceptable
Terphenyl-d14	69	58-140	11/30/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	11/19/2012
Sample Matrix:	Water	**Date Received:**	11/19/2012

Polynuclear Aromatic Hydrocarbons

Sample Name:	MT-DDS-B206-111912-1020	**Units:**	ng/L
Lab Code:	K1211655-003	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**16**	B	3.5	0.73	1	11/20/12	12/07/12	KWG1213824	
2-Methylnaphthalene	**7.5**		3.5	0.41	1	11/20/12	12/07/12	KWG1213824	
Acenaphthylene	**2.7**	J	3.5	0.38	1	11/20/12	12/07/12	KWG1213824	
Acenaphthene	**1.2**	J	3.5	0.37	1	11/20/12	12/07/12	KWG1213824	
Dibenzofuran	**3.0**	J	3.5	0.43	1	11/20/12	12/07/12	KWG1213824	
Fluorene	**3.1**	J	3.5	0.43	1	11/20/12	12/07/12	KWG1213824	
Phenanthrene	**21**	B	3.5	0.74	1	11/20/12	12/07/12	KWG1213824	
Anthracene	**2.3**	J	3.5	0.30	1	11/20/12	12/07/12	KWG1213824	
Fluoranthene	**15**		3.5	0.47	1	11/20/12	12/07/12	KWG1213824	
Pyrene	**9.0**		3.5	0.80	1	11/20/12	12/07/12	KWG1213824	
Benz(a)anthracene	**2.1**	J	3.5	0.35	1	11/20/12	12/07/12	KWG1213824	
Chrysene	**3.0**	J	3.5	0.67	1	11/20/12	12/07/12	KWG1213824	
Benzo(b)fluoranthene	**3.8**		3.5	0.26	1	11/20/12	12/07/12	KWG1213824	
Benzo(k)fluoranthene	**1.1**	J	3.5	0.42	1	11/20/12	12/07/12	KWG1213824	
Benzo(a)pyrene	**2.4**	J	3.5	0.42	1	11/20/12	12/07/12	KWG1213824	*
Indeno(1,2,3-cd)pyrene	**2.7**	J	3.5	0.45	1	11/20/12	12/07/12	KWG1213824	*
Dibenz(a,h)anthracene	**0.82**	J	3.5	0.46	1	11/20/12	12/07/12	KWG1213824	
Benzo(g,h,i)perylene	**3.7**		3.5	0.37	1	11/20/12	12/07/12	KWG1213824	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	65	46-114	12/07/12	Acceptable
Fluoranthene-d10	69	51-121	12/07/12	Acceptable
Terphenyl-d14	71	58-140	12/07/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KWG1213824-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**4.8**		3.3	0.71	1	11/20/12	12/05/12	KWG1213824	
2-Methylnaphthalene	**1.7**	J	3.3	0.40	1	11/20/12	12/05/12	KWG1213824	
Acenaphthylene	ND	U	3.3	0.37	1	11/20/12	12/05/12	KWG1213824	
Acenaphthene	**1.5**	J	3.3	0.36	1	11/20/12	12/05/12	KWG1213824	
Dibenzofuran	**2.3**	J	3.3	0.42	1	11/20/12	12/05/12	KWG1213824	
Fluorene	**0.57**	J	3.3	0.42	1	11/20/12	12/05/12	KWG1213824	
Phenanthrene	**4.5**		3.3	0.72	1	11/20/12	12/05/12	KWG1213824	
Anthracene	ND	U	3.3	0.29	1	11/20/12	12/05/12	KWG1213824	
Fluoranthene	**0.89**	J	3.3	0.46	1	11/20/12	12/05/12	KWG1213824	
Pyrene	ND	U	3.3	0.78	1	11/20/12	12/05/12	KWG1213824	
Benz(a)anthracene	**0.54**	J	3.3	0.34	1	11/20/12	12/05/12	KWG1213824	
Chrysene	ND	U	3.3	0.65	1	11/20/12	12/05/12	KWG1213824	
Benzo(b)fluoranthene	ND	U	3.3	0.25	1	11/20/12	12/05/12	KWG1213824	
Benzo(k)fluoranthene	ND	U	3.3	0.41	1	11/20/12	12/05/12	KWG1213824	
Benzo(a)pyrene	ND	U	3.3	0.41	1	11/20/12	12/05/12	KWG1213824	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.44	1	11/20/12	12/05/12	KWG1213824	
Dibenz(a,h)anthracene	ND	U	3.3	0.45	1	11/20/12	12/05/12	KWG1213824	
Benzo(g,h,i)perylene	ND	U	3.3	0.36	1	11/20/12	12/05/12	KWG1213824	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	74	46-114	12/05/12	Acceptable
Fluoranthene-d10	79	51-121	12/05/12	Acceptable
Terphenyl-d14	84	58-140	12/05/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001
Sample Matrix: Water

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C **Units:** ng/L
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MT2-DBA-5198-111912-0845	K1211655-001	59	63	68
MT2-DBB-5279-111912-0815	K1211655-002	68	69	69
MT-DDS-B206-111912-1020	K1211655-003	65	69	71
Method Blank	KWG1213824-3	74	79	84
Lab Control Sample	KWG1213824-1	70	77	84
Duplicate Lab Control Sample	KWG1213824-2	75	81	86

Surrogate Recovery Control Limits (%)

Sur1	=	Fluorene-d10	46-114
Sur2	=	Fluoranthene-d10	51-121
Sur3	=	Terphenyl-d14	58-140

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	11/29/2012
		Time Analyzed:	23:30

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\112912\1129F032.D	**Lab Code:**	KWG1214367-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214367
Analysis Method:	8270D SIM		

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	56,662	4.86	33,671	6.27	68,837	7.50
	Upper Limit ==>	113,324	5.36	67,342	6.77	137,674	8.00
	Lower Limit ==>	28,331	4.36	16,836	5.77	34,419	7.00
	ICAL Result ==>	85,020	4.99	49,065	6.41	94,866	7.64
Associated Analyses							
MT2-DBA-5198-111912-0845	K1211655-001	54,471	4.86	34,063	6.27	66,765	7.51
MT2-DBB-5279-111912-0815	K1211655-002	55,703	4.85	35,010	6.27	69,854	7.51

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	11/29/2012
		Time Analyzed:	23:30

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\112912\1129F032.D	**Lab Code:**	KWG1214367-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214367
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	83,562	10.25	86,347	13.95
	Upper Limit ==>	167,124	10.75	172,694	14.45
	Lower Limit ==>	41,781	9.75	43,174	13.45
	ICAL Result ==>	123,084	10.45	108,017	14.23
Associated Analyses					
MT2-DBA-5198-111912-0845	K1211655-001	77,229	10.25	82,739	13.96
MT2-DBB-5279-111912-0815	K1211655-002	78,340	10.25	84,788	13.97

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/04/2012
		Time Analyzed:	20:18

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\120412\1204F015.D	**Lab Code:**	KWG1214341-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214341
Analysis Method:	8270D SIM		

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	116,972	5.03	65,307	6.44	132,970	7.67
	Upper Limit ==>	233,944	5.53	130,614	6.94	265,940	8.17
	Lower Limit ==>	58,486	4.53	32,654	5.94	66,485	7.17
	ICAL Result ==>	110,467	5.03	60,573	6.44	123,024	7.67
Associated Analyses							
Method Blank	KWG1213824-3	117,505	5.02	65,082	6.44	125,188	7.67

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/04/2012
		Time Analyzed:	20:18

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\120412\1204F015.D	**Lab Code:**	KWG1214341-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214341
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	153,803	10.53	147,100	14.39
	Upper Limit ==>	307,606	11.03	294,200	14.89
	Lower Limit ==>	76,902	10.03	73,550	13.89
	ICAL Result ==>	143,497	10.53	129,998	14.39
Associated Analyses					
Method Blank	KWG1213824-3	137,038	10.52	130,329	14.38

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/05/2012
		Time Analyzed:	08:25

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\120512\1205F002.D	**Lab Code:**	KWG1214419-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214419
Analysis Method:	8270D SIM		

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	126,544	5.02	70,270	6.44	135,891	7.66
	Upper Limit ==>	253,088	5.52	140,540	6.94	271,782	8.16
	Lower Limit ==>	63,272	4.52	35,135	5.94	67,946	7.16
	ICAL Result ==>	110,467	5.03	60,573	6.44	123,024	7.67
Associated Analyses							
Lab Control Sample	KWG1213824-1	113,439	5.02	63,412	6.43	124,590	7.66
Duplicate Lab Control Sample	KWG1213824-2	115,130	5.02	63,603	6.44	125,589	7.66

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/05/2012
		Time Analyzed:	08:25

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\120512\1205F002.D	**Lab Code:**	KWG1214419-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214419
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	159,586	10.52	156,401	14.39
	Upper Limit ==>	319,172	11.02	312,802	14.89
	Lower Limit ==>	79,793	10.02	78,201	13.89
	ICAL Result ==>	143,497	10.53	129,998	14.39
Associated Analyses					
Lab Control Sample	KWG1213824-1	143,687	10.52	139,486	14.38
Duplicate Lab Control Sample	KWG1213824-2	145,586	10.52	143,184	14.38

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/06/2012
		Time Analyzed:	22:34

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\120612\1206F030.D	**Lab Code:**	KWG1214450-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214450
Analysis Method:	8270D SIM		

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	120,598	5.02	69,200	6.44	135,095	7.66
	Upper Limit ==>	241,196	5.52	138,400	6.94	270,190	8.16
	Lower Limit ==>	60,299	4.52	34,600	5.94	67,548	7.16
	ICAL Result ==>	110,467	5.03	60,573	6.44	123,024	7.67
Associated Analyses							
MT-DDS-B206-111912-1020	K1211655-003	128,681	5.02	74,943	6.44	150,721	7.67

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Analyzed:**	12/06/2012
		Time Analyzed:	22:34

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\120612\1206F030.D	**Lab Code:**	KWG1214450-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214450
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	162,048	10.53	159,599	14.39
	Upper Limit ==>	324,096	11.03	319,198	14.89
	Lower Limit ==>	81,024	10.03	79,800	13.89
	ICAL Result ==>	143,497	10.53	129,998	14.39
Associated Analyses					
MT-DDS-B206-111912-1020	K1211655-003	181,943	10.54	187,366	14.46

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/20/2012
Sample Matrix:	Water	**Date Analyzed:**	12/05/2012

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3520C	**Units:**	ng/L
Analysis Method:	8270D SIM	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1213824

	Lab Control Sample KWG1213824-1 Lab Control Spike			Duplicate Lab Control Sample KWG1213824-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	361	500	72	377	500	75	39-110	4	30
2-Methylnaphthalene	374	500	75	390	500	78	39-115	4	30
Acenaphthylene	398	500	80	418	500	84	44-115	5	30
Acenaphthene	381	500	76	400	500	80	44-113	5	30
Dibenzofuran	392	500	78	410	500	82	46-116	5	30
Fluorene	387	500	77	407	500	81	48-118	5	30
Phenanthrene	398	500	80	407	500	81	47-120	2	30
Anthracene	406	500	81	426	500	85	44-117	5	30
Fluoranthene	411	500	82	421	500	84	48-128	2	30
Pyrene	396	500	79	407	500	81	42-133	3	30
Benz(a)anthracene	421	500	84	436	500	87	48-125	4	30
Chrysene	421	500	84	428	500	86	50-128	1	30
Benzo(b)fluoranthene	430	500	86	441	500	88	49-131	3	30
Benzo(k)fluoranthene	443	500	89	452	500	90	54-131	2	30
Benzo(a)pyrene	479	500	96	488	500	98	43-134	2	30
Indeno(1,2,3-cd)pyrene	517	500	103	538	500	108	45-133	4	30
Dibenz(a,h)anthracene	457	500	91	478	500	96	49-133	4	30
Benzo(g,h,i)perylene	451	500	90	462	500	92	51-124	2	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/20/2012
Sample Matrix:	Water	**Date Analyzed:**	12/05/2012
		Time Analyzed:	07:27

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Instrument ID:**	MS11
Lab Code:	KWG1213824-3	**File ID:**	J:\MS11\DATA\120412\1204F039.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1213824

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MT2-DBA-5198-111912-0845	K1211655-001	J:\MS11\DATA\112912\1129F054.D	11/30/12	10:21
MT2-DBB-5279-111912-0815	K1211655-002	J:\MS11\DATA\112912\1129F055.D	11/30/12	10:48
Lab Control Sample	KWG1213824-1	J:\MS11\DATA\120512\1205F006.D	12/05/12	10:19
Duplicate Lab Control Sample	KWG1213824-2	J:\MS11\DATA\120512\1205F007.D	12/05/12	10:47
MT-DDS-B206-111912-1020	K1211655-003	J:\MS11\DATA\120612\1206F042.D	12/07/12	03:51

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/20/2012
Sample Matrix:	Water	**Date Analyzed:**	12/05/2012
		Time Analyzed:	10:19

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Instrument ID:**	MS11
Lab Code:	KWG1213824-1	**File ID:**	J:\MS11\DATA\120512\1205F006.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1213824

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MT2-DBA-5198-111912-0845	K1211655-001	J:\MS11\DATA\112912\1129F054.D	11/30/12	10:21
MT2-DBB-5279-111912-0815	K1211655-002	J:\MS11\DATA\112912\1129F055.D	11/30/12	10:48
Method Blank	KWG1213824-3	J:\MS11\DATA\120412\1204F039.D	12/05/12	07:27
MT-DDS-B206-111912-1020	K1211655-003	J:\MS11\DATA\120612\1206F042.D	12/07/12	03:51

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Date Analyzed: 11/29/2012
Time Analyzed: 23:02

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\112912\1129F031.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1214367

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
70	69	0	2	0.7	454	PASS
127	198	10	80	53.2	65498	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	42.4	123178	PASS
199	198	5	9	7.2	8853	PASS
275	198	10	60	38.7	47636	PASS
365	442	1	50	5.1	14928	PASS
441	443	0	100	75.8	44144	PASS
442	442	100	100	100.0	290293	PASS
443	442	15	24	20.1	58248	PASS
51	198	10	80	79.7	98160	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	55.5	68389	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1214367-2	J:\MS11\DATA\112912\1129F032.D	11/29/2012	23:30	
MT2-DBA-5198-111912-0845	K1211655-001	J:\MS11\DATA\112912\1129F054.D	11/30/2012	10:21	
MT2-DBB-5279-111912-0815	K1211655-002	J:\MS11\DATA\112912\1129F055.D	11/30/2012	10:48	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Date Analyzed: 12/04/2012
Time Analyzed: 19:50

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\120412\1204F014.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1214341

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	45.7	68634	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	46.3	69589	PASS
70	69	0	2	0.5	375	PASS
127	198	10	80	49.6	74418	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	43.7	150144	PASS
199	198	5	9	6.9	10290	PASS
275	198	10	60	34.5	51797	PASS
365	442	1	50	2.3	8076	PASS
441	443	0	100	74.6	50560	PASS
442	442	100	100	100.0	343781	PASS
443	442	15	24	19.7	67760	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1214341-2	J:\MS11\DATA\120412\1204F015.D	12/04/2012	20:18	
Method Blank	KWG1213824-3	J:\MS11\DATA\120412\1204F039.D	12/05/2012	07:27	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Date Analyzed: 12/05/2012
Time Analyzed: 07:57

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\120512\1205F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1214419

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	40.9	87280	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	42.1	89752	PASS
70	69	0	2	0.7	603	PASS
127	198	10	80	47.5	101432	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	41.6	213376	PASS
199	198	5	9	6.9	14626	PASS
275	198	10	60	35.6	75952	PASS
365	442	1	50	2.1	10749	PASS
441	443	0	100	75.1	76584	PASS
442	442	100	100	100.0	512768	PASS
443	442	15	24	19.9	102008	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1214419-2	J:\MS11\DATA\120512\1205F002.D	12/05/2012	08:25	
Lab Control Sample	KWG1213824-1	J:\MS11\DATA\120512\1205F006.D	12/05/2012	10:19	
Duplicate Lab Control Sample	KWG1213824-2	J:\MS11\DATA\120512\1205F007.D	12/05/2012	10:47	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Date Analyzed: 12/06/2012
Time Analyzed: 22:08

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\120612\1206F029.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1214450

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	33.7	64192	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	36.0	68568	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	44.1	84072	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	35.2	190720	PASS
199	198	5	9	6.7	12690	PASS
275	198	10	60	39.5	75368	PASS
365	442	1	50	2.1	11409	PASS
441	443	0	100	76.6	80432	PASS
442	442	100	100	100.0	541888	PASS
443	442	15	24	19.4	104936	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1214450-2	J:\MS11\DATA\120612\1206F030.D	12/06/2012	22:34	
MT-DDS-B206-111912-1020	K1211655-003	J:\MS11\DATA\120612\1206F042.D	12/07/2012	03:51	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 09/28/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL11917 **Column:** MS
Instrument ID: MS11

Level ID	File ID	Level ID	File ID
A	J:\MS11\DATA\092812\0928F008.D	G	J:\MS11\DATA\092812\0928F014.D
B	J:\MS11\DATA\092812\0928F009.D	H	J:\MS11\DATA\092812\0928F015.D
C	J:\MS11\DATA\092812\0928F010.D	I	J:\MS11\DATA\092812\0928F016.D
D	J:\MS11\DATA\092812\0928F011.D	J	J:\MS11\DATA\092812\0928F017.D
E	J:\MS11\DATA\092812\0928F012.D		
F	J:\MS11\DATA\092812\0928F013.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	1.12	B	4.0	1.08	C	8.0	1.11	D	20	1.06	E	100	1.04
	F	200	1.04	G	400	1.01	H	1000	0.959	I	1600	0.916	J	2000	0.913
2-Methylnaphthalene	A	2.0	0.822	B	4.0	0.760	C	8.0	0.761	D	20	0.768	E	100	0.752
	F	200	0.755	G	400	0.737	H	1000	0.708	I	1600	0.683	J	2000	0.687
Acenaphthylene	A	2.0	1.89	B	4.0	1.70	C	8.0	1.80	D	20	1.79	E	100	1.84
	F	200	1.88	G	400	1.89	H	1000	1.86	I	1600	1.80	J	2000	1.80
Acenaphthene	A	2.0	1.18	B	4.0	1.09	C	8.0	1.13	D	20	1.15	E	100	1.14
	F	200	1.14	G	400	1.11	H	1000	1.10	I	1600	1.07	J	2000	1.07
Dibenzofuran	A	2.0	1.71	B	4.0	1.64	C	8.0	1.73	D	20	1.74	E	100	1.76
	F	200	1.75	G	400	1.71	H	1000	1.64	I	1600	1.58	J	2000	1.58
Fluorene	A	2.0	1.40	B	4.0	1.27	C	8.0	1.42	D	20	1.43	E	100	1.42
	F	200	1.40	G	400	1.36	H	1000	1.31	I	1600	1.27	J	2000	1.28
Phenanthrene	A	2.0	1.29	B	4.0	1.27	C	8.0	1.19	D	20	1.09	E	100	1.04
	F	200	1.07	G	400	1.03	H	1000	1.04	I	1600	0.968	J	2000	0.989
Anthracene	A	2.0	1.07	B	4.0	1.06	C	8.0	1.09	D	20	1.09	E	100	1.07
	F	200	1.10	G	400	1.09	H	1000	1.03	I	1600	0.954	J	2000	0.969
Fluoranthene	A	2.0	1.23	B	4.0	1.18	C	8.0	1.24	D	20	1.25	E	100	1.29
	F	200	1.22	G	400	1.14	H	1000	1.08	I	1600	1.05	J	2000	1.02
Pyrene	A	2.0	1.12	B	4.0	1.07	C	8.0	1.16	D	20	1.15	E	100	1.05
	F	200	0.969	G	400	0.907	H	1000	0.881	I	1600	0.934	J	2000	0.866
Benz(a)anthracene	A	2.0	1.17	B	4.0	1.08	C	8.0	0.984	D	20	0.996	E	100	0.945
	F	200	0.976	G	400	0.980	H	1000	1.00	I	1600	1.00	J	2000	0.981
Chrysene	A	2.0	0.945	B	4.0	0.916	C	8.0	0.978	D	20	1.02	E	100	0.979
	F	200	0.994	G	400	0.970	H	1000	0.948	I	1600	0.941	J	2000	0.932
Benzo(b)fluoranthene	A	2.0	1.05	B	4.0	1.02	C	8.0	1.07	D	20	1.12	E	100	1.15
	F	200	1.19	G	400	1.19	H	1000	1.17	I	1600	1.13	J	2000	1.15
Benzo(k)fluoranthene	A	2.0	0.969	B	4.0	0.960	C	8.0	1.01	D	20	1.10	E	100	1.12
	F	200	1.15	G	400	1.17	H	1000	1.13	I	1600	1.11	J	2000	1.11

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 09/28/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL11917 **Column:** MS
Instrument ID: MS11

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benzo(a)pyrene	A	2.0	0.769	B	4.0	0.728	C	8.0	0.809	D	20	0.856	E	100	0.895
	F	200	0.954	G	400	0.986	H	1000	1.01	I	1600	0.995	J	2000	1.01
Indeno(1,2,3-cd)pyrene	A	2.0	0.800	B	4.0	0.738	C	8.0	0.763	D	20	0.817	E	100	0.814
	F	200	0.818	G	400	0.779	H	1000	0.780	I	1600	0.785	J	2000	0.798
Dibenz(a,h)anthracene	A	2.0	0.846	B	4.0	0.830	C	8.0	0.877	D	20	0.924	E	100	0.932
	F	200	0.936	G	400	0.884	H	1000	0.880	I	1600	0.882	J	2000	0.878
Benzo(g,h,i)perylene	A	2.0	1.10	B	4.0	0.988	C	8.0	1.07	D	20	1.11	E	100	1.09
	F	200	1.06	G	400	0.980	H	1000	0.932	I	1600	0.914	J	2000	0.904
Fluorene-d10	A	2.0	1.39	B	4.0	1.26	C	8.0	1.23	D	20	1.21	E	100	1.21
	F	200	1.21	G	400	1.19	H	1000	1.18	I	1600	1.15	J	2000	1.17
Fluoranthene-d10							C	8.0	1.15	D	20	1.16	E	100	1.18
	F	200	1.13	G	400	1.09	H	1000	1.06	I	1600	1.05	J	2000	1.05
Terphenyl-d14				B	4.0	0.861	C	8.0	0.865	D	20	0.899	E	100	0.817
	F	200	0.758	G	400	0.747	H	1000	0.739	I	1600	0.789	J	2000	0.766

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Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 09/28/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL11917 **Column:** MS
Instrument ID: MS11

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Naphthalene	MS	AverageRF	% RSD	7.3		≤ 20	1.03		0.70
2-Methylnaphthalene	MS	AverageRF	% RSD	5.6		≤ 20	0.743		0.40
Acenaphthylene	MS	AverageRF	% RSD	3.3		≤ 20	1.82		0.90
Acenaphthene	MS	AverageRF	% RSD	3.3		≤ 20	1.12		0.90
Dibenzofuran	MS	AverageRF	% RSD	4.1		≤ 20	1.68		0.80
Fluorene	MS	AverageRF	% RSD	4.8		≤ 20	1.36		0.90
Phenanthrene	MS	AverageRF	% RSD	10.3		≤ 20	1.10		0.70
Anthracene	MS	AverageRF	% RSD	4.9		≤ 20	1.05		0.70
Fluoranthene	MS	AverageRF	% RSD	8.1		≤ 20	1.17		0.60
Pyrene	MS	AverageRF	% RSD	11.1		≤ 20	1.01		0.60
Benz(a)anthracene	MS	AverageRF	% RSD	6.6		≤ 20	1.01		0.80
Chrysene	MS	AverageRF	% RSD	3.3		≤ 20	0.962		0.70
Benzo(b)fluoranthene	MS	AverageRF	% RSD	5.3		≤ 20	1.12		0.70
Benzo(k)fluoranthene	MS	AverageRF	% RSD	6.9		≤ 20	1.08		0.70
Benzo(a)pyrene	MS	AverageRF	% RSD	11.7		≤ 20	0.901		0.70
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	3.3		≤ 20	0.789		0.50
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	3.9		≤ 20	0.887		0.40
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	7.8		≤ 20	1.01		0.50
Fluorene-d10	SURR	AverageRF	% RSD	5.5		≤ 20	1.22		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	4.6		≤ 20	1.11		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	7.3		≤ 20	0.804		0.01

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Calibration Date: 09/28/2012
Date Analyzed: 09/28/2012

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration ID: CAL11917
Units: ng/ml

File ID: J:\MS11\DATA\092812\0928F018.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	390	1.03	0.998	-3	NA	± 30 %	AverageRF
2-Methylnaphthalene	400	380	0.743	0.699	-6	NA	± 30 %	AverageRF
Acenaphthylene	400	400	1.82	1.84	1	NA	± 30 %	AverageRF
Acenaphthene	400	390	1.12	1.09	-3	NA	± 30 %	AverageRF
Dibenzofuran	400	400	1.68	1.66	-1	NA	± 30 %	AverageRF
Fluorene	400	390	1.36	1.32	-3	NA	± 30 %	AverageRF
Phenanthrene	400	380	1.10	1.04	-5	NA	± 30 %	AverageRF
Anthracene	400	410	1.05	1.09	4	NA	± 30 %	AverageRF
Fluoranthene	400	420	1.17	1.24	6	NA	± 30 %	AverageRF
Pyrene	400	390	1.01	0.985	-3	NA	± 30 %	AverageRF
Benz(a)anthracene	400	380	1.01	0.971	-4	NA	± 30 %	AverageRF
Chrysene	400	390	0.962	0.929	-3	NA	± 30 %	AverageRF
Benzo(b)fluoranthene	400	390	1.12	1.10	-2	NA	± 30 %	AverageRF
Benzo(k)fluoranthene	400	410	1.08	1.12	4	NA	± 30 %	AverageRF
Benzo(a)pyrene	400	420	0.901	0.937	4	NA	± 30 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	390	0.789	0.775	-2	NA	± 30 %	AverageRF
Dibenz(a,h)anthracene	400	400	0.887	0.879	-1	NA	± 30 %	AverageRF
Benzo(g,h,i)perylene	400	390	1.01	0.983	-3	NA	± 30 %	AverageRF

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 12/04/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12073 **Column:** MS
Instrument ID: MS11

Level ID	File ID	Level ID	File ID
A	J:\MS11\DATA\120412\1204F003.D	G	J:\MS11\DATA\120412\1204F009.D
B	J:\MS11\DATA\120412\1204F004.D	H	J:\MS11\DATA\120412\1204F010.D
C	J:\MS11\DATA\120412\1204F005.D	I	J:\MS11\DATA\120412\1204F011.D
D	J:\MS11\DATA\120412\1204F006.D	J	J:\MS11\DATA\120412\1204F012.D
E	J:\MS11\DATA\120412\1204F007.D		
F	J:\MS11\DATA\120412\1204F008.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	1.17	B	4.0	1.04	C	8.0	1.06	D	20	1.04	E	100	1.03
	F	200	1.02	G	400	0.994	H	1000	0.916	I	1600	0.850	J	2000	0.835
2-Methylnaphthalene	A	2.0	0.751	B	4.0	0.710	C	8.0	0.718	D	20	0.719	E	100	0.727
	F	200	0.733	G	400	0.712	H	1000	0.669	I	1600	0.629	J	2000	0.611
Acenaphthylene	A	2.0	1.76	B	4.0	1.63	C	8.0	1.77	D	20	1.77	E	100	1.86
	F	200	1.93	G	400	1.92	H	1000	1.80	I	1600	1.70	J	2000	1.64
Acenaphthene	A	2.0	1.11	B	4.0	1.06	C	8.0	1.12	D	20	1.13	E	100	1.15
	F	200	1.15	G	400	1.12	H	1000	1.05	I	1600	1.01	J	2000	0.977
Dibenzofuran	A	2.0	1.67	B	4.0	1.50	C	8.0	1.63	D	20	1.62	E	100	1.67
	F	200	1.70	G	400	1.68	H	1000	1.56	I	1600	1.47	J	2000	1.41
Fluorene	A	2.0	1.32	B	4.0	1.24	C	8.0	1.33	D	20	1.34	E	100	1.40
	F	200	1.40	G	400	1.39	H	1000	1.28	I	1600	1.22	J	2000	1.17
Phenanthrene	A	2.0	1.19	B	4.0	1.07	C	8.0	1.11	D	20	1.12	E	100	1.06
	F	200	1.03	G	400	1.02	H	1000	0.946	I	1600	0.888	J	2000	0.870
Anthracene	A	2.0	0.977	B	4.0	0.962	C	8.0	0.988	D	20	1.04	E	100	1.05
	F	200	1.08	G	400	1.04	H	1000	0.983	I	1600	0.930	J	2000	0.901
Fluoranthene	A	2.0	1.14	B	4.0	1.12	C	8.0	1.15	D	20	1.22	E	100	1.24
	F	200	1.25	G	400	1.18	H	1000	1.07	I	1600	1.00	J	2000	0.961
Pyrene	A	2.0	1.21	B	4.0	1.20	C	8.0	1.21	D	20	1.17	E	100	1.14
	F	200	1.14	G	400	1.08	H	1000	1.02	I	1600	0.995	J	2000	0.953
Benz(a)anthracene	A	2.0	1.23	B	4.0	1.04	C	8.0	1.02	D	20	1.03	E	100	0.986
	F	200	1.03	G	400	1.02	H	1000	1.03	I	1600	1.03	J	2000	1.00
Chrysene	A	2.0	0.997	B	4.0	0.903	C	8.0	0.980	D	20	1.03	E	100	1.01
	F	200	1.04	G	400	1.01	H	1000	0.996	I	1600	0.962	J	2000	0.968
Benzo(b)fluoranthene	A	2.0	0.994	B	4.0	0.944	C	8.0	0.995	D	20	1.08	E	100	1.11
	F	200	1.17	G	400	1.21	H	1000	1.21	I	1600	1.17	J	2000	1.17
Benzo(k)fluoranthene	A	2.0	0.930	B	4.0	0.881	C	8.0	0.916	D	20	1.03	E	100	1.11
	F	200	1.17	G	400	1.18	H	1000	1.17	I	1600	1.13	J	2000	1.13

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 12/04/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12073 **Column:** MS
Instrument ID: MS11

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benzo(a)pyrene	A	2.0	0.686	B	4.0	0.666	C	8.0	0.692	D	20	0.781	E	100	0.896
	F	200	0.978	G	400	1.03	H	1000	1.07	I	1600	1.05	J	2000	1.06
Indeno(1,2,3-cd)pyrene	A	2.0	0.694	B	4.0	0.606	C	8.0	0.641	D	20	0.719	E	100	0.809
	F	200	0.889	G	400	0.881	H	1000	0.890	I	1600	0.876	J	2000	0.855
Dibenz(a,h)anthracene	A	2.0	0.803	B	4.0	0.774	C	8.0	0.802	D	20	0.899	E	100	0.950
	F	200	1.02	G	400	0.971	H	1000	0.969	I	1600	0.953	J	2000	0.939
Benzo(g,h,i)perylene	A	2.0	1.01	B	4.0	0.928	C	8.0	0.968	D	20	1.05	E	100	1.10
	F	200	1.16	G	400	1.09	H	1000	1.02	I	1600	0.978	J	2000	0.961
Fluorene-d10	A	2.0	1.31	B	4.0	1.17	C	8.0	1.16	D	20	1.14	E	100	1.19
	F	200	1.21	G	400	1.21	H	1000	1.15	I	1600	1.11	J	2000	1.07
Fluoranthene-d10							C	8.0	1.04	D	20	1.09	E	100	1.09
	F	200	1.09	G	400	1.10	H	1000	1.04	I	1600	1.01	J	2000	0.984
Terphenyl-d14				B	4.0	0.759	C	8.0	0.765	D	20	0.809	E	100	0.773
	F	200	0.776	G	400	0.731	H	1000	0.742	I	1600	0.719	J	2000	0.712

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

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Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001 **Calibration Date:** 12/04/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12073 **Column:** MS
Instrument ID: MS11

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Naphthalene	MS	AverageRF	% RSD	10.3		≤ 20	0.997		0.70
2-Methylnaphthalene	MS	AverageRF	% RSD	6.6		≤ 20	0.698		0.40
Acenaphthylene	MS	AverageRF	% RSD	5.8		≤ 20	1.78		0.90
Acenaphthene	MS	AverageRF	% RSD	5.6		≤ 20	1.09		0.90
Dibenzofuran	MS	AverageRF	% RSD	6.2		≤ 20	1.59		0.80
Fluorene	MS	AverageRF	% RSD	6.2		≤ 20	1.31		0.90
Phenanthrene	MS	AverageRF	% RSD	10.0		≤ 20	1.03		0.70
Anthracene	MS	AverageRF	% RSD	5.7		≤ 20	0.995		0.70
Fluoranthene	MS	AverageRF	% RSD	8.7		≤ 20	1.13		0.60
Pyrene	MS	AverageRF	% RSD	8.5		≤ 20	1.11		0.60
Benz(a)anthracene	MS	AverageRF	% RSD	6.5		≤ 20	1.04		0.80
Chrysene	MS	AverageRF	% RSD	4.0		≤ 20	0.990		0.70
Benzo(b)fluoranthene	MS	AverageRF	% RSD	8.9		≤ 20	1.11		0.70
Benzo(k)fluoranthene	MS	AverageRF	% RSD	10.9		≤ 20	1.06		0.70
Benzo(a)pyrene	MS	AverageRF	% RSD	19.0		≤ 20	0.891		0.70
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	14.1		≤ 20	0.786		0.50
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	9.4		≤ 20	0.908		0.40
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	7.1		≤ 20	1.03		0.50
Fluorene-d10	SURR	AverageRF	% RSD	5.6		≤ 20	1.17		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	4.2		≤ 20	1.06		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	4.1		≤ 20	0.754		0.01

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Calibration Date: 12/04/2012
Date Analyzed: 12/04/2012

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration ID: CAL12073
Units: ng/ml

File ID: J:\MS11\DATA\120412\1204F013.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	390	0.997	0.976	-2	NA	± 30 %	AverageRF
2-Methylnaphthalene	400	390	0.698	0.672	-4	NA	± 30 %	AverageRF
Acenaphthylene	400	410	1.78	1.82	2	NA	± 30 %	AverageRF
Acenaphthene	400	400	1.09	1.08	-1	NA	± 30 %	AverageRF
Dibenzofuran	400	400	1.59	1.61	1	NA	± 30 %	AverageRF
Fluorene	400	410	1.31	1.35	3	NA	± 30 %	AverageRF
Phenanthrene	400	390	1.03	1.01	-2	NA	± 30 %	AverageRF
Anthracene	400	400	0.995	1.00	1	NA	± 30 %	AverageRF
Fluoranthene	400	410	1.13	1.17	3	NA	± 30 %	AverageRF
Pyrene	400	380	1.11	1.05	-5	NA	± 30 %	AverageRF
Benz(a)anthracene	400	390	1.04	1.00	-3	NA	± 30 %	AverageRF
Chrysene	400	390	0.990	0.964	-3	NA	± 30 %	AverageRF
Benzo(b)fluoranthene	400	410	1.11	1.14	3	NA	± 30 %	AverageRF
Benzo(k)fluoranthene	400	430	1.06	1.15	8	NA	± 30 %	AverageRF
Benzo(a)pyrene	400	450	0.891	0.993	11	NA	± 30 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	450	0.786	0.888	13	NA	± 30 %	AverageRF
Dibenz(a,h)anthracene	400	430	0.908	0.968	7	NA	± 30 %	AverageRF
Benzo(g,h,i)perylene	400	420	1.03	1.07	4	NA	± 30 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Date Analyzed: 11/29/2012

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration Date: 09/28/2012
Calibration ID: CAL11917
Analysis Lot: KWG1214367
Units: ng/ml

File ID: J:\MS11\DATA\112912\1129F032.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	410	0.70	1.03	1.04	2		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	430	0.40	0.743	0.793	7		NA	± 20 %	AverageRF
Acenaphthylene	400	430	0.90	1.82	1.95	7		NA	± 20 %	AverageRF
Acenaphthene	400	410	0.90	1.12	1.14	2		NA	± 20 %	AverageRF
Dibenzofuran	400	430	0.80	1.68	1.79	6		NA	± 20 %	AverageRF
Fluorene	400	430	0.90	1.36	1.45	7		NA	± 20 %	AverageRF
Phenanthrene	400	380	0.70	1.10	1.05	-4		NA	± 20 %	AverageRF
Anthracene	400	430	0.70	1.05	1.13	8		NA	± 20 %	AverageRF
Fluoranthene	400	450	0.60	1.17	1.31	12		NA	± 20 %	AverageRF
Pyrene	400	430	0.60	1.01	1.08	7		NA	± 20 %	AverageRF
Benz(a)anthracene	400	440	0.80	1.01	1.11	10		NA	± 20 %	AverageRF
Chrysene	400	420	0.70	0.962	1.02	6		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	420	0.70	1.12	1.19	6		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	430	0.70	1.08	1.16	7		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	470	0.70	0.901	1.07	18		NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	490	0.50	0.789	0.958	21	*	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	480	0.40	0.887	1.05	19		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	440	0.50	1.01	1.11	9		NA	± 20 %	AverageRF
Fluorene-d10	400	380	0.01	1.22	1.17	-4		NA	± 20 %	AverageRF
Fluoranthene-d10	400	400	0.01	1.11	1.11	0		NA	± 20 %	AverageRF
Terphenyl-d14	400	380	0.01	0.804	0.773	-4		NA	± 20 %	AverageRF

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Date Analyzed: 12/04/2012

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration Date: 12/04/2012
Calibration ID: CAL12073
Analysis Lot: KWG1214341
Units: ng/ml

File ID: J:\MS11\DATA\120412\1204F015.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	410	0.70	0.997	1.03	3		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	430	0.40	0.698	0.742	6		NA	± 20 %	AverageRF
Acenaphthylene	400	440	0.90	1.78	1.94	9		NA	± 20 %	AverageRF
Acenaphthene	400	420	0.90	1.09	1.15	6		NA	± 20 %	AverageRF
Dibenzofuran	400	430	0.80	1.59	1.72	8		NA	± 20 %	AverageRF
Fluorene	400	430	0.90	1.31	1.40	7		NA	± 20 %	AverageRF
Phenanthrene	400	400	0.70	1.03	1.03	0		NA	± 20 %	AverageRF
Anthracene	400	420	0.70	0.995	1.05	6		NA	± 20 %	AverageRF
Fluoranthene	400	430	0.60	1.13	1.23	9		NA	± 20 %	AverageRF
Pyrene	400	410	0.60	1.11	1.14	2		NA	± 20 %	AverageRF
Benz(a)anthracene	400	420	0.80	1.04	1.10	6		NA	± 20 %	AverageRF
Chrysene	400	430	0.70	0.990	1.07	8		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	430	0.70	1.11	1.19	8		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	450	0.70	1.06	1.20	13		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	480	0.70	0.891	1.06	19		NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	480	0.50	0.786	0.946	20	*	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	450	0.40	0.908	1.01	11		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	440	0.50	1.03	1.12	9		NA	± 20 %	AverageRF
Fluorene-d10	400	380	0.01	1.17	1.12	-4		NA	± 20 %	AverageRF
Fluoranthene-d10	400	400	0.01	1.06	1.05	-1		NA	± 20 %	AverageRF
Terphenyl-d14	400	390	0.01	0.754	0.727	-4		NA	± 20 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Date Analyzed: 12/05/2012

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration Date: 12/04/2012
Calibration ID: CAL12073
Analysis Lot: KWG1214419
Units: ng/ml

File ID: J:\MS11\DATA\120512\1205F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	410	0.70	0.997	1.03	3		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	420	0.40	0.698	0.740	6		NA	± 20 %	AverageRF
Acenaphthylene	400	440	0.90	1.78	1.95	10		NA	± 20 %	AverageRF
Acenaphthene	400	420	0.90	1.09	1.15	6		NA	± 20 %	AverageRF
Dibenzofuran	400	430	0.80	1.59	1.70	7		NA	± 20 %	AverageRF
Fluorene	400	430	0.90	1.31	1.40	7		NA	± 20 %	AverageRF
Phenanthrene	400	430	0.70	1.03	1.10	7		NA	± 20 %	AverageRF
Anthracene	400	450	0.70	0.995	1.11	11		NA	± 20 %	AverageRF
Fluoranthene	400	440	0.60	1.13	1.26	11		NA	± 20 %	AverageRF
Pyrene	400	420	0.60	1.11	1.16	4		NA	± 20 %	AverageRF
Benz(a)anthracene	400	430	0.80	1.04	1.12	8		NA	± 20 %	AverageRF
Chrysene	400	430	0.70	0.990	1.07	8		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	430	0.70	1.11	1.19	7		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	450	0.70	1.06	1.19	12		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	480	0.70	0.891	1.07	21	*	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	500	0.50	0.786	0.983	25	*	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	460	0.40	0.908	1.03	14		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	450	0.50	1.03	1.15	12		NA	± 20 %	AverageRF
Fluorene-d10	400	380	0.01	1.17	1.12	-4		NA	± 20 %	AverageRF
Fluoranthene-d10	400	400	0.01	1.06	1.06	1		NA	± 20 %	AverageRF
Terphenyl-d14	400	390	0.01	0.754	0.728	-3		NA	± 20 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/320001995-00.001

Service Request: K1211655
Date Analyzed: 12/06/2012

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration Date: 12/04/2012
Calibration ID: CAL12073
Analysis Lot: KWG1214450
Units: ng/ml

File ID: J:\MS11\DATA\120612\1206F030.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	400	0.70	0.997	0.997	0		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	420	0.40	0.698	0.737	6		NA	± 20 %	AverageRF
Acenaphthylene	400	420	0.90	1.78	1.88	5		NA	± 20 %	AverageRF
Acenaphthene	400	400	0.90	1.09	1.10	1		NA	± 20 %	AverageRF
Dibenzofuran	400	410	0.80	1.59	1.65	3		NA	± 20 %	AverageRF
Fluorene	400	410	0.90	1.31	1.36	4		NA	± 20 %	AverageRF
Phenanthrene	400	410	0.70	1.03	1.06	3		NA	± 20 %	AverageRF
Anthracene	400	420	0.70	0.995	1.05	6		NA	± 20 %	AverageRF
Fluoranthene	400	430	0.60	1.13	1.23	8		NA	± 20 %	AverageRF
Pyrene	400	400	0.60	1.11	1.11	0		NA	± 20 %	AverageRF
Benz(a)anthracene	400	430	0.80	1.04	1.11	7		NA	± 20 %	AverageRF
Chrysene	400	430	0.70	0.990	1.06	8		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	430	0.70	1.11	1.19	8		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	450	0.70	1.06	1.19	12		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	480	0.70	0.891	1.08	21	*	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	520	0.50	0.786	1.02	29	*	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	460	0.40	0.908	1.04	15		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	440	0.50	1.03	1.13	10		NA	± 20 %	AverageRF
Fluorene-d10	400	380	0.01	1.17	1.11	-5		NA	± 20 %	AverageRF
Fluoranthene-d10	400	410	0.01	1.06	1.09	3		NA	± 20 %	AverageRF
Terphenyl-d14	400	380	0.01	0.754	0.720	-5		NA	± 20 %	AverageRF

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1214341
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1204F014.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1214341-1	12/4/2012	19:50		12/4/2012	20:09
1204F015.D	Continuing Calibration Verification	KWG1214341-2	12/4/2012	20:18		12/4/2012	20:37
1204F016.D	ZZZZZZ	ZZZZZZ	12/4/2012	20:46		12/4/2012	21:05
1204F017.D	ZZZZZZ	ZZZZZZ	12/4/2012	21:14		12/4/2012	21:33
1204F018.D	ZZZZZZ	ZZZZZZ	12/4/2012	21:41		12/4/2012	22:00
1204F019.D	ZZZZZZ	ZZZZZZ	12/4/2012	22:09		12/4/2012	22:28
1204F020.D	ZZZZZZ	ZZZZZZ	12/4/2012	22:37		12/4/2012	22:56
1204F021.D	ZZZZZZ	ZZZZZZ	12/4/2012	23:05		12/4/2012	23:24
1204F022.D	ZZZZZZ	ZZZZZZ	12/4/2012	23:33		12/4/2012	23:52
1204F023.D	ZZZZZZ	ZZZZZZ	12/5/2012	00:00		12/5/2012	00:19
1204F024.D	ZZZZZZ	ZZZZZZ	12/5/2012	00:29		12/5/2012	00:48
1204F025.D	ZZZZZZ	ZZZZZZ	12/5/2012	00:56		12/5/2012	01:15
1204F026.D	ZZZZZZ	ZZZZZZ	12/5/2012	01:25		12/5/2012	01:44
1204F027.D	ZZZZZZ	ZZZZZZ	12/5/2012	01:52		12/5/2012	02:11
1204F028.D	ZZZZZZ	ZZZZZZ	12/5/2012	02:20		12/5/2012	02:39
1204F029.D	ZZZZZZ	ZZZZZZ	12/5/2012	02:48		12/5/2012	03:07
1204F030.D	ZZZZZZ	ZZZZZZ	12/5/2012	03:16		12/5/2012	03:35
1204F031.D	ZZZZZZ	ZZZZZZ	12/5/2012	03:44		12/5/2012	04:03
1204F032.D	ZZZZZZ	ZZZZZZ	12/5/2012	04:12		12/5/2012	04:31
1204F033.D	ZZZZZZ	ZZZZZZ	12/5/2012	04:40		12/5/2012	04:59
1204F034.D	ZZZZZZ	ZZZZZZ	12/5/2012	05:07		12/5/2012	05:26
1204F035.D	ZZZZZZ	ZZZZZZ	12/5/2012	05:35		12/5/2012	05:54
1204F036.D	ZZZZZZ	ZZZZZZ	12/5/2012	06:03		12/5/2012	06:22
1204F037.D	ZZZZZZ	ZZZZZZ	12/5/2012	06:31		12/5/2012	06:50
1204F038.D	ZZZZZZ	ZZZZZZ	12/5/2012	06:59		12/5/2012	07:18
1204F039.D	Method Blank	KWG1213824-3	12/5/2012	07:27		12/5/2012	07:46

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1214367
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1129F031.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1214367-1	11/29/2012	23:02		11/29/2012	23:22
1129F032.D	Continuing Calibration Verification	KWG1214367-2	11/29/2012	23:30		11/29/2012	23:49
1129F033.D	ZZZZZZ	ZZZZZZ	11/29/2012	23:57		11/30/2012	00:16
1129F034.D	ZZZZZZ	ZZZZZZ	11/30/2012	00:25		11/30/2012	00:44
1129F035.D	ZZZZZZ	ZZZZZZ	11/30/2012	00:52		11/30/2012	01:11
1129F036.D	ZZZZZZ	ZZZZZZ	11/30/2012	01:20		11/30/2012	01:39
1129F037.D	ZZZZZZ	ZZZZZZ	11/30/2012	01:47		11/30/2012	02:06
1129F038.D	ZZZZZZ	ZZZZZZ	11/30/2012	02:14		11/30/2012	02:33
1129F039.D	ZZZZZZ	ZZZZZZ	11/30/2012	02:41		11/30/2012	03:01
1129F040.D	ZZZZZZ	ZZZZZZ	11/30/2012	03:09		11/30/2012	03:28
1129F041.D	ZZZZZZ	ZZZZZZ	11/30/2012	03:36		11/30/2012	03:55
1129F042.D	ZZZZZZ	ZZZZZZ	11/30/2012	04:03		11/30/2012	04:22
1129F043.D	ZZZZZZ	ZZZZZZ	11/30/2012	04:31		11/30/2012	04:50
1129F044.D	ZZZZZZ	ZZZZZZ	11/30/2012	04:58		11/30/2012	05:17
1129F045.D	ZZZZZZ	ZZZZZZ	11/30/2012	05:25		11/30/2012	05:44
1129F046.D	ZZZZZZ	ZZZZZZ	11/30/2012	05:53		11/30/2012	06:12
1129F047.D	ZZZZZZ	ZZZZZZ	11/30/2012	07:07		11/30/2012	07:26
1129F048.D	ZZZZZZ	ZZZZZZ	11/30/2012	07:34		11/30/2012	07:53
1129F049.D	ZZZZZZ	ZZZZZZ	11/30/2012	08:01		11/30/2012	08:20
1129F050.D	ZZZZZZ	ZZZZZZ	11/30/2012	08:29		11/30/2012	08:48
1129F051.D	ZZZZZZ	ZZZZZZ	11/30/2012	08:57		11/30/2012	09:16
1129F052.D	ZZZZZZ	ZZZZZZ	11/30/2012	09:25		11/30/2012	09:44
1129F053.D	ZZZZZZ	ZZZZZZ	11/30/2012	09:53		11/30/2012	10:12
1129F054.D	MT2-DBA-5198-111912-0845	K1211655-001	11/30/2012	10:21		11/30/2012	10:40
1129F055.D	MT2-DBB-5279-111912-0815	K1211655-002	11/30/2012	10:48		11/30/2012	11:07
1129F056.D	ZZZZZZ	ZZZZZZ	11/30/2012	11:16		11/30/2012	11:35

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1214419
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1205F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1214419-1	12/5/2012	07:57		12/5/2012	08:17
1205F002.D	Continuing Calibration Verification	KWG1214419-2	12/5/2012	08:25		12/5/2012	08:44
1205F003.D	ZZZZZZ	ZZZZZZ	12/5/2012	08:54		12/5/2012	09:13
1205F004.D	ZZZZZZ	ZZZZZZ	12/5/2012	09:22		12/5/2012	09:41
1205F005.D	ZZZZZZ	ZZZZZZ	12/5/2012	09:51		12/5/2012	10:10
1205F006.D	Lab Control Sample	KWG1213824-1	12/5/2012	10:19		12/5/2012	10:38
1205F007.D	Duplicate Lab Control Sample	KWG1213824-2	12/5/2012	10:47		12/5/2012	11:06
1205F008.D	ZZZZZZ	ZZZZZZ	12/5/2012	11:15		12/5/2012	11:34
1205F009.D	ZZZZZZ	ZZZZZZ	12/5/2012	11:44		12/5/2012	12:03
1205F010.D	ZZZZZZ	ZZZZZZ	12/5/2012	12:12		12/5/2012	12:31
1205F011.D	ZZZZZZ	ZZZZZZ	12/5/2012	12:40		12/5/2012	12:59
1205F012.D	ZZZZZZ	ZZZZZZ	12/5/2012	13:09		12/5/2012	13:28
1205F013.D	ZZZZZZ	ZZZZZZ	12/5/2012	13:37		12/5/2012	13:56
1205F014.D	ZZZZZZ	ZZZZZZ	12/5/2012	14:05		12/5/2012	14:24
1205F015.D	ZZZZZZ	ZZZZZZ	12/5/2012	14:34		12/5/2012	14:54
1205F016.D	ZZZZZZ	ZZZZZZ	12/5/2012	15:03		12/5/2012	15:22
1205F017.D	ZZZZZZ	ZZZZZZ	12/5/2012	15:31		12/5/2012	15:50
1205F018.D	ZZZZZZ	ZZZZZZ	12/5/2012	16:00		12/5/2012	16:19
1205F019.D	ZZZZZZ	ZZZZZZ	12/5/2012	16:28		12/5/2012	16:47
1205F020.D	ZZZZZZ	ZZZZZZ	12/5/2012	16:57		12/5/2012	17:16
1205F021.D	ZZZZZZ	ZZZZZZ	12/5/2012	17:25		12/5/2012	17:44
1205F022.D	ZZZZZZ	ZZZZZZ	12/5/2012	17:54		12/5/2012	18:13
1205F023.D	ZZZZZZ	ZZZZZZ	12/5/2012	18:22		12/5/2012	18:41
1205F024.D	ZZZZZZ	ZZZZZZ	12/5/2012	18:51		12/5/2012	19:10
1205F025.D	ZZZZZZ	ZZZZZZ	12/5/2012	19:19		12/5/2012	19:38
1205F026.D	ZZZZZZ	ZZZZZZ	12/5/2012	19:47		12/5/2012	20:06

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211655
Project: T2 Storm Water/320001995-00.001

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1214450
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1206F029.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1214450-1	12/6/2012	22:08		12/6/2012	22:28
1206F030.D	Continuing Calibration Verification	KWG1214450-2	12/6/2012	22:34		12/6/2012	22:53
1206F031.D	ZZZZZZ	ZZZZZZ	12/6/2012	23:00		12/6/2012	23:19
1206F032.D	ZZZZZZ	ZZZZZZ	12/6/2012	23:27		12/6/2012	23:46
1206F033.D	ZZZZZZ	ZZZZZZ	12/6/2012	23:53		12/7/2012	00:12
1206F034.D	ZZZZZZ	ZZZZZZ	12/7/2012	00:20		12/7/2012	00:39
1206F035.D	ZZZZZZ	ZZZZZZ	12/7/2012	00:46		12/7/2012	01:05
1206F036.D	ZZZZZZ	ZZZZZZ	12/7/2012	01:12		12/7/2012	01:31
1206F037.D	ZZZZZZ	ZZZZZZ	12/7/2012	01:39		12/7/2012	01:58
1206F038.D	ZZZZZZ	ZZZZZZ	12/7/2012	02:05		12/7/2012	02:24
1206F039.D	ZZZZZZ	ZZZZZZ	12/7/2012	02:32		12/7/2012	02:51
1206F040.D	ZZZZZZ	ZZZZZZ	12/7/2012	02:58		12/7/2012	03:17
1206F041.D	ZZZZZZ	ZZZZZZ	12/7/2012	03:24		12/7/2012	03:43
1206F042.D	MT-DDS-B206-111912-1020	K1211655-003	12/7/2012	03:51		12/7/2012	04:10
1206F043.D	ZZZZZZ	ZZZZZZ	12/7/2012	04:18		12/7/2012	04:37
1206F044.D	ZZZZZZ	ZZZZZZ	12/7/2012	04:44		12/7/2012	05:03
1206F045.D	ZZZZZZ	ZZZZZZ	12/7/2012	05:12		12/7/2012	05:31
1206F046.D	ZZZZZZ	ZZZZZZ	12/7/2012	05:38		12/7/2012	05:57
1206F047.D	ZZZZZZ	ZZZZZZ	12/7/2012	06:05		12/7/2012	06:24
1206F048.D	ZZZZZZ	ZZZZZZ	12/7/2012	06:31		12/7/2012	06:50
1206F049.D	ZZZZZZ	ZZZZZZ	12/7/2012	06:58		12/7/2012	07:17
1206F050.D	ZZZZZZ	ZZZZZZ	12/7/2012	07:24		12/7/2012	07:43
1206F051.D	ZZZZZZ	ZZZZZZ	12/7/2012	07:51		12/7/2012	08:10
1206F052.D	ZZZZZZ	ZZZZZZ	12/7/2012	08:18		12/7/2012	08:37
1206F053.D	ZZZZZZ	ZZZZZZ	12/7/2012	08:44		12/7/2012	09:03
1206F054.D	ZZZZZZ	ZZZZZZ	12/7/2012	09:11		12/7/2012	09:30
1206F055.D	ZZZZZZ	ZZZZZZ	12/7/2012	09:37		12/7/2012	09:56

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211655
Project:	T2 Storm Water/320001995-00.001	**Date Extracted:**	11/20/2012
Sample Matrix:	Water		

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3520C	**Extraction Lot:**	KWG1213824
Analysis Method:	8270D SIM	**Level:**	Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5198-111912-0845	K1211655-001	11/19/12	11/19/12	1000ml	1ml	NA	
MT2-DBB-5279-111912-0815	K1211655-002	11/19/12	11/19/12	990ml	1ml	NA	
MT-DDS-B206-111912-1020	K1211655-003	11/19/12	11/19/12	980ml	1ml	NA	
Method Blank	KWG1213824-3	NA	NA	1060ml	1ml	NA	
Lab Control Sample	KWG1213824-1	NA	NA	1000ml	1ml	NA	
Duplicate Lab Control Sample	KWG1213824-2	NA	NA	1000ml	1ml	NA	

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

December 13, 2012 Analytical Report for Service Request No: K1211798

Michael Pickering
Ash Creek Associates
3015 SW First Avenue
Portland, OR 97201

RE: T2-Stormwater/1053-02

Dear Michael:

Enclosed are the results of the samples submitted to our laboratory on November 26, 2012. For your reference, these analyses have been assigned our service request number K1211798.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3363. You may also contact me via Email at Lisa.Domenighini@alsglobal.com.

Respectfully submitted,

Columbia Analytical Services, Inc. dba ALS Environmental

Lisa Domenighini
Project Manager

LD/ln

Columbia Analytical Services
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Environmental www.caslab.com ▪ www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Louisiana DHH	Not available	LA110003
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
New Mexico ED	http://www.nmenv.state.nm.us/dwb/Index.htm	-
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	4704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.caslab.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

ALS ENVIRONMENTAL

Client:	Ash Creek Associates, Inc.	**Service Request No.:**	K1211798
Project:	T2 Stormwater/1053-02	**Date Received:**	11/26/12
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier III deliverables including summary forms for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Samples were received for analysis at ALS Environmental on 11/26/12. As instructed, the discrete samples were composited at the laboratory to create K1211798-001, *MT2-DBA-5238-112312-0910* and K1211798-002, *MT-2-DBB-5279-112312-0925*. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters

No anomalies associated with the analysis of these samples were observed.

Total Metals

No anomalies associated with the analysis of these samples were observed.

Phthalates by EPA Method 525.2

Matrix Spike Recovery Exceptions:
The matrix spike recovery of several analytesl for sample Batch QC was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential bias in this matrix. No further corrective action was appropriate.

Surrogate Exceptions:
The upper control criterion was exceeded for Triphenyl Phosphate in samples MT2DBA-5238-112312-0910 and MT2-DBB-5279-112312-0925. No target analytes were detected above the method reporting limits in the samples. The error associated with an elevated recovery equated to a high bias. The quality of the sample data was not significantly affected. No further corrective action was appropriate.

Elevated Detection Limits:
The detection limit was elevated for all analytes in the field sample. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. The extract was highly colored and viscous, which indicated the need to perform a dilution prior to injection into the instrument. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. The results were flagged to indicate the matrix interference.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

PCB Aroclors by EPA Method 8082

Matrix Spike Recovery Exceptions:
The matrix spike/duplicate matrix spike recoveries of Aroclor 1016 for sample Batch QC were outside control criteria because of matrix interference. The chromatogram indicated the presence of Aroclor 1242, which prevented accurate quantitation of the target analytes. The problem stemmed from common peaks for Aroclors 1016 and 1242. Complete resolution of these two Aroclors was not possible, so a portion of Aroclor 1242 was unavoidably quantitated as Aroclor 1016. The net effect was a high bias to the values reported for Aroclor 1016. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Polynuclear Aromatic Hydrocarbons by EPA Method 8270

Calibration Verification Exceptions:
The following analytes were flagged as outside the upper control criterion for Continuing Calibration Verification (CCV) MS11\1208F002.D and MS11\1210F002.D: Indeno(1,2,3-cd)pyrene. In accordance with the EPA Method 8270D, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the CAS SOP. The CCV met these criteria. The data quality was not affected. No further corrective action was required.

Method Blank Exceptions:
The Method Blank KWG1213991-3 contained low levels of Naphthalene and Phenanthrene above the Method Reporting Limit (MRL). In accordance with CAS QA/QC policy, all sample results less than twenty times the level found in the Method Blank were flagged as estimated. The samples were not re-extracted and re-analyzed because insufficient sample remained for additional testing.

Sample Notes and Discussion:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

K1211798

Ash Creek Associates
A Division of Apex Companies, LLC
APEX

CHAIN OF CUSTODY RECORD

Client Name: Ash Creek Associates
Address: 3015 SW First Ave
City/State/Zip: Portland, OR 97201

Telephone Number: 503.924.4704
Fax No.: 503.943.6357

Project Manager: Michael Pickering
Project Name: T2 Storm Water
Project Number: 1053-02
Sampler Name: M. Pickering

Analytical Lab: ALS
Report To: Michael Pickering
Page: 1 of 1

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)		Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Matrix: Storm Water	Analyze For: Total Suspended Solids (SM2540 D)	Analyze For: Total Cadmium, Chromium, Copper, Lead and Zinc (EPA 200 Series LL)	Analyze For: Total Mercury (EPA 7470A)	Analyze For: Total PAHs (EPA 8270-SIM)	Analyze For: Total Phthlalates (EPA 525.2)	Analyze For: Total PCB Aroclors (EPA 8082) *	Analyze For: Total Arsenic (EPA 1632)				RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
MT2-DBA-5238-112312-0910	11/23/12	910	2	X			X		X				X								X	X	X	X	X	X	X	X					X		
MT2-DBB-5279-112312-0925	11/23/12	925	2	X			X		X				X								X	X	X	X	X	X	X	X					X		

Special Instructions: Bill to Ash Creek using rates from ALS Quote 23353 - Level III Deliverable - MDL Report
* 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268 Composite containers for each sample.

Method of Shipment: Courier

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Michael J. Pickering	11/26/2012	814	Rachelle Varoch	11/26/12	814
Rachelle V	11/26/12	910	[illegible]	11/26/12	910
			[illegible] / ALS	11/26/12	1100

Laboratory Comments:

Temperature Upon Receipt:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

PC Lisa

Cooler Receipt and Preservation Form

Client / Project: Ash Creek Service Request *K12* 11798

Received: 11/20/12 Opened: 11/20/12 By: SW Unloaded: 11/20/12 By: SW

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Temp	Corr. Temp	Raw Blank	Corr. Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.6	-0.8	—	—	-0.2	307			
-0.5	-0.5	4.8	4.8	0	319			

7. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	11/23/12
Sample Matrix:	Water	**Date Received:**	11/26/12
Analysis Method:	SM 2540 D	**Units:**	mg/L
		Basis:	NA

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
MT2-DBA-5238-112312-0910	K1211798-001	**7.1**	1.0	-	1	11/27/12 14:45	
MT2-DBB-5279-112312-0925	K1211798-002	**4.9**	1.0	-	1	11/27/12 14:45	
Method Blank	K1211798-MB1	ND U	5.0	-	1	11/27/12 14:45	
Method Blank	K1211798-MB2	ND U	1.0	-	1	11/27/12 14:45	
Method Blank	K1211798-MB3	ND U	4.0	-	1	11/27/12 14:45	
Method Blank	K1211798-MB4	ND U	4.0	-	1	11/27/12 14:45	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project	T2-Stormwater/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Analysis Method:	SM 2540 D	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary

Solids, Total Suspended (TSS)

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1211811-005DUP	4.0		ND	ND	NC	NC	10	11/27/12
Batch QC	K1211812-001DUP	4.0		ND	ND	NC	NC	10	11/27/12
Batch QC	K1211812-006DUP	4.0		ND	ND	NC	NC	10	11/27/12

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02
Sample Matrix: Water

Service Request:K1211798
Date Analyzed:11/27/12

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method: SM 2540 D

Units:mg/L
Basis:NA
Analysis Lot:320061

	Lab Control Sample K1211798-LCS1			Duplicate Lab Control Sample K1211798-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Solids, Total Suspended (TSS)	18.0	17.7	102	19.5	17.7	110	85-115	8	20

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- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Ash Creek Associates, Inc.
Project Name: T2-Stormwater
Project No.: 1053-02

Service Request: K1211798

Sample Name:	Lab Code:
Batch QC1D	K1211643-001D
Batch QC1S	K1211643-001S
MT2-DBA-5238-112312-0910	K1211798-001
MT2-DBA-5238-112312-0910D	K1211798-001D
MT2-DBA-5238-112312-0910S	K1211798-001S
MT2-DBB-5279-112312-0925	K1211798-002
Method Blank	K1211798-MB

Comments:

Metals

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project No.:	1053-02	**Date Collected:**	11/23/12
Project Name:	T2-Stormwater	**Date Received:**	11/26/12
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: **MT2-DBA-5238-112312-0910** **Lab Code:** **K1211798-001**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Cadmium	200.8	0.020	0.007	1.0	11/28/12	12/05/12	0.092		
Chromium	200.8	0.20	0.03	1.0	11/28/12	12/05/12	1.35		
Copper	200.8	0.10	0.02	1.0	11/28/12	12/05/12	7.39		
Lead	200.8	0.020	0.002	1.0	11/28/12	12/05/12	0.996		
Mercury	7470A	0.20	0.02	1.0	12/04/12	12/04/12	0.02	U	
Zinc	200.8	0.50	0.08	1.0	11/28/12	12/05/12	70.8		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project No.:	1053-02	**Date Collected:**	11/23/12
Project Name:	T2-Stormwater	**Date Received:**	11/26/12
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: **MT2-DBB-5279-112312-0925** **Lab Code:** **K1211798-002**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Cadmium	200.8	0.020	0.007	1.0	11/28/12	12/05/12	0.072		
Chromium	200.8	0.20	0.03	1.0	11/28/12	12/05/12	0.54		
Copper	200.8	0.10	0.02	1.0	11/28/12	12/05/12	4.89		
Lead	200.8	0.020	0.002	1.0	11/28/12	12/05/12	0.915		
Mercury	7470A	0.20	0.02	1.0	12/04/12	12/04/12	0.02	U	
Zinc	200.8	0.50	0.08	1.0	11/28/12	12/05/12	86.1		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Ash Creek Associates, Inc.
Service Request: K1211798
Project No.: 1053-02
Date Collected:
Project Name: T2-Stormwater
Date Received:
Matrix: WATER
Units: ug/L
Basis: NA

Sample Name: Method Blank
Lab Code: K1211798-MB

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Cadmium	200.8	0.020	0.007	1.0	11/28/12	12/05/12	0.007	U	
Chromium	200.8	0.20	0.03	1.0	11/28/12	12/05/12	0.03	U	
Copper	200.8	0.10	0.02	1.0	11/28/12	12/05/12	0.02	U	
Lead	200.8	0.020	0.002	1.0	11/28/12	12/05/12	0.003	J	
Mercury	7470A	0.20	0.02	1.0	12/04/12	12/04/12	0.02	U	
Zinc	200.8	0.50	0.08	1.0	11/28/12	12/05/12	0.08	U	

Comments:

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Cadmium	12.5	13.2	106	25.0	25.1	100	25.8	103	200.8
Chromium	10.0	9.6	96	25.0	24.4	98	25.0	100	200.8
Copper	12.5	12.3	98	25.0	24.8	99	25.2	101	200.8
Lead	25.0	24.4	98	25.0	25.3	101	26.0	104	200.8
Mercury	5.00	4.70	94	5.00	5.10	102	5.00	100	7470A
Zinc	25.0	24.8	99	25.0	24.6	98	24.6	98	200.8

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Cadmium				25.0	25.8	103	26.4	106	200.8
Chromium				25.0	25.3	101	25.2	101	200.8
Copper				25.0	25.4	102	24.9	100	200.8
Lead				25.0	25.3	101	25.6	102	200.8
Zinc				25.0	25.9	104	25.5	102	200.8

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Cadmium				25.0	26.1	104	26.5	106	200.8
Chromium				25.0	25.3	101	25.8	103	200.8
Copper				25.0	25.9	104	25.5	102	200.8
Lead				25.0	25.0	100	26.0	104	200.8
Zinc				25.0	25.6	102	25.6	102	200.8

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Cadmium				25.0	26.9	108	26.4	106	200.8
Chromium				25.0	25.9	104	25.9	104	200.8
Copper				25.0	25.6	102	25.3	101	200.8
Lead				25.0	26.1	104	26.3	105	200.8
Zinc				25.0	26.1	104	26.0	104	200.8

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Cadmium				25.0	26.2	105	26.4	106	200.8
Chromium				25.0	25.2	101	25.3	101	200.8
Copper				25.0	25.4	102	25.1	100	200.8
Lead				25.0	26.3	105	26.3	105	200.8
Zinc				25.0	25.9	104	25.6	102	200.8

Metals

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Cadmium				0.02	0.016	80		
Chromium				0.20	0.171	86		
Copper				0.10	0.088	88		
Lead				0.02	0.023	115		
Mercury				0.20	0.20	100		
Zinc				0.50	0.314	63		

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Cadmium	0.007	U	0.007	U	0.007	U	0.007	U	200.8
Chromium	0.03	U	0.03	U	0.03	U	0.03	U	200.8
Copper	0.02	U	0.02	U	0.02	U	0.02	U	200.8
Lead	0.005	J	0.004	J	-0.003	J	0.002	U	200.8
Mercury	0.02	U	0.02	U	0.02	U			7470A
Zinc	0.08	U	0.08	U	-0.15	J	-0.14	J	200.8

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Cadmium			0.007	U	0.007	U	0.007	U	200.8
Chromium			0.03	U	0.03	U	0.03	U	200.8
Copper			0.02	U	0.02	U	0.02	U	200.8
Lead			0.002	U	-0.002	J	0.002	U	200.8
Zinc			-0.12	J	-0.16	J	-0.13	J	200.8

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Cadmium			0.007	U	0.007	U	0.007	U	200.8
Chromium			0.03	U	0.03	U	0.03	U	200.8
Copper			0.02	U	0.02	U	0.02	U	200.8
Lead			0.007	J	0.005	J	0.002	U	200.8
Zinc			-0.17	J	-0.17	J	-0.10	J	200.8

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Cadmium			0.007	U					200.8
Chromium			0.03	U					200.8
Copper			0.02	U					200.8
Lead			0.002	U					200.8
Zinc			-0.17	J					200.8

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02 **Units:** UG/L

Project Name: T2-Stormwater **Basis:** NA

Matrix: WATER

Sample Name: Batch QC1S **Lab Code:** K1211643-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Cadmium	70 - 130	27.332		0.028		25.000	109.2		200.8
Chromium	70 - 130	11.87		1.55		10.00	103.2		200.8
Copper	70 - 130	19.64		6.79		12.50	102.8		200.8
Lead	70 - 130	52.075		1.153		50.000	101.8		200.8
Zinc	70 - 130	35.98		9.37		25.00	106.4		200.8

An empty field in the Control Limit column indicates the control limit is not applicable

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Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02 **Units:** UG/L

Project Name: T2-Stormwater **Basis:** NA

Matrix: WATER

Sample Name: MT2-DBA-5238-112312-0910S **Lab Code:** K1211798-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	76 - 126	1.02		0.02	U	1.00	102.0		7470A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02 **Units:** UG/L

Project Name: T2-Stormwater **Basis:** NA

Matrix: WATER

Sample Name: Batch QC1D **Lab Code:** K1211643-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Cadmium		0.028		0.025		11.3		200.8
Chromium	20	1.55		1.42		8.8		200.8
Copper	20	6.79		6.70		1.3		200.8
Lead	20	1.153		1.130		2.0		200.8
Zinc	20	9.37		9.10		2.9		200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02 **Units:** UG/L

Project Name: T2-Stormwater **Basis:** NA

Matrix: WATER

Sample Name: **MT2-DBA-5238-112312-0910D** **Lab Code:** **K1211798-001D**

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.02	U	0.02	U			7470A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

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LABORATORY CONTROL SAMPLE

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	Solid (mg/kg) C	Solid (mg/kg) Limits	Solid (mg/kg) %R
Cadmium	25.0	27.5	110.0					
Chromium	10.0	10.2	102.0					
Copper	12.5	12.7	101.6					
Lead	50.0	50.8	101.6					
Mercury	5.0	4.96	99.2					
Zinc	25.0	26.2	104.8					

Metals

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DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

ICP/ICP-MS ID #:

GFAA ID #: **AA ID #:**

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Mercury	253.7		0.20	0.02	CV

Comments:

Metals

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DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

ICP/ICP-MS ID #: **K-ICP-MS-04**

GFAA ID #: **AA ID #:**

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Cadmium	111		0.020	0.007	MS
Chromium	52		0.20	0.03	MS
Copper	65		0.10	0.02	MS
Lead	208		0.020	0.002	MS
Zinc	66		0.50	0.08	MS

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

ICP ID Number: **K-ICP-MS-04**

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Cadmium	45.000	3000	200.8
Chromium	45.000	3000	200.8
Copper	45.000	3000	200.8
Lead	45.000	3000	200.8
Zinc	45.000	3000	200.8

Comments:

Metals
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PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1211643-001D	11/28/12	50.0	50.0
K1211643-001S	11/28/12	50.0	50.0
K1211798-001	11/28/12	50.0	50.0
K1211798-002	11/28/12	50.0	50.0
K1211798-MB	11/28/12	50.0	50.0
LCSW	11/28/12	50.0	50.0

Metals
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PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02

Project Name: T2-Stormwater

Method: CV

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1211798-001	12/04/12	20.0	20.0
K1211798-001D	12/04/12	20.0	20.0
K1211798-001S	12/04/12	20.0	20.0
K1211798-002	12/04/12	20.0	20.0
K1211798-MB	12/04/12	20.0	20.0
LCSW	12/04/12	20.0	20.0

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Metals
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ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02 **Run Number:** 120412C HG2

Project Name: T2-Stormwater

Instrument ID Number: K-CVAA-02 **Method:** CV

Start Date: 12/04/12 **End Date:** 12/04/12

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Blank	1.0	13:34																X									
Standard #1	1.0	13:35																X									
Standard #2	1.0	13:37																X									
Standard #3	1.0	13:39																X									
Standard #4	1.0	13:40																X									
Standard #5	1.0	13:42																X									
ICV1	1.0	13:43																X									
ICB1	1.0	13:45																X									
CRDL1	1.0	13:47																X									
CCV1	1.0	13:48																X									
CCB1	1.0	13:50																X									
K1211798-MB	1.0	13:52																X									
LCSW	1.0	13:53																X									
ZZZZZZ	1.0	13:55																									
ZZZZZZ	1.0	13:56																									
ZZZZZZ	1.0	13:58																									
ZZZZZZ	1.0	14:00																									
K1211798-001	1.0	14:01																X									
K1211798-001D	1.0	14:03																X									
K1211798-001S	1.0	14:04																X									
K1211798-002	1.0	14:06																X									
CCV2	1.0	14:08																X									
CCB2	1.0	14:09																X									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

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Metals
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ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02 **Run Number:** 120512a-2

Project Name: T2-Stormwater

Instrument ID Number: K-ICP-MS-04 **Method:** MS

Start Date: 12/05/12 **End Date:** 12/05/12

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Blank	1.0	09:23							X		X		X		X											X	
Standard 1	1.0	09:28							X		X		X		X											X	
ICV1	1.0	09:34							X		X		X		X											X	
CCV1	1.0	09:40							X		X		X		X											X	
ICB1	1.0	09:45							X		X		X		X											X	
CCB1	1.0	09:51							X		X		X		X											X	
LLICV1	1.0	09:56							X		X		X		X											X	
ZZZZZZ	1.0	10:02																									
ZZZZZZ	1.0	10:07																									
ICS-A1	1.0	10:12							X		X		X		X											X	
ICS-AB1	1.0	10:18							X		X		X		X											X	
ZZZZZZ	1.0	10:23																									
ZZZZZZ	1.0	10:29																									
ZZZZZZ	1.0	10:35																									
ZZZZZZ	1.0	10:40																									
ZZZZZZ	1.0	10:46																									
ZZZZZZ	1.0	10:51																									
CCV2	1.0	10:57							X		X		X		X											X	
CCB2	1.0	11:03							X		X		X		X											X	
ZZZZZZ	1.0	11:08																									
CCV3	1.0	11:22							X		X		X		X											X	
CCB3	1.0	11:28							X		X		X		X											X	
ZZZZZZ	1.0	11:38																									
ZZZZZZ	1.0	11:44																									
ZZZZZZ	1.0	11:49																									
ZZZZZZ	1.0	11:55																									
ZZZZZZ	1.0	12:01																									
ZZZZZZ	1.0	12:06																									
ZZZZZZ	1.0	12:12																									
ZZZZZZ	1.0	12:17																									
ZZZZZZ	1.0	12:23																									
ZZZZZZ	1.0	12:28																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

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Metals
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ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02 **Run Number:** 120512a-2

Project Name: T2-Stormwater

Instrument ID Number: K-ICP-MS-04 **Method:** MS

Start Date: 12/05/12 **End Date:** 12/05/12

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCV4	1.0	12:34							X		X		X		X											X	
CCB4	1.0	12:40							X		X		X		X											X	
ZZZZZZ	1.0	12:45																									
ZZZZZZ	1.0	12:51																									
ZZZZZZ	1.0	12:56																									
ZZZZZZ	1.0	13:02																									
ZZZZZZ	1.0	13:08																									
ZZZZZZ	1.0	13:13																									
ZZZZZZ	1.0	13:19																									
ZZZZZZ	1.0	13:24																									
ZZZZZZ	1.0	13:30																									
ZZZZZZ	1.0	13:36																									
CCV5	1.0	13:41							X		X		X		X											X	
ZZZZZZ	1.0	13:46																									
CCB5	1.0	13:58							X		X		X		X											X	
ZZZZZZ	1.0	14:04																									
ZZZZZZ	1.0	14:19																									
ZZZZZZ	1.0	14:25																									
ZZZZZZ	1.0	14:31																									
ZZZZZZ	1.0	14:36																									
ZZZZZZ	1.0	14:42																									
ZZZZZZ	1.0	14:48																									
ZZZZZZ	1.0	14:53																									
ZZZZZZ	1.0	14:59																									
ZZZZZZ	1.0	15:04																									
ZZZZZZ	1.0	15:10																									
ZZZZZZ	1.0	15:16																									
CCV6	1.0	15:21							X		X		X		X											X	
CCB6	1.0	15:27							X		X		X		X											X	
ZZZZZZ	1.0	15:33																									
ZZZZZZ	1.0	15:38																									
ZZZZZZ	1.0	15:44																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02 **Run Number:** 120512a-2

Project Name: T2-Stormwater

Instrument ID Number: K-ICP-MS-04 **Method:** MS

Start Date: 12/05/12 **End Date:** 12/05/12

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.0	15:49																									
ZZZZZZ	1.0	15:55																									
ZZZZZZ	1.0	16:00																									
ZZZZZZ	1.0	16:06																									
ZZZZZZ	1.0	16:12																									
ZZZZZZ	1.0	16:17																									
ZZZZZZ	1.0	16:23																									
CCV7	1.0	16:28							X		X		X		X											X	
CCB7	1.0	16:34							X		X		X		X											X	
ZZZZZZ	1.0	16:40																									
K1211798-MB	1.0	16:45							X		X		X		X											X	
ZZZZZZ	1.0	16:51																									
K1211643-001D	1.0	16:56							X		X		X		X											X	
K1211643-001S	1.0	17:02							X		X		X		X											X	
LCSW	1.0	17:07							X		X		X		X											X	
ZZZZZZ	1.0	17:13																									
ZZZZZZ	1.0	17:19																									
ZZZZZZ	1.0	17:24																									
ZZZZZZ	1.0	17:30																									
CCV8	1.0	17:35							X		X		X		X											X	
ZZZZZZ	1.0	17:41																									
CCB8	1.0	17:46							X		X		X		X											X	
ZZZZZZ	1.0	17:54																									
ZZZZZZ	1.0	17:59																									
ZZZZZZ	1.0	18:05																									
ZZZZZZ	1.0	18:11																									
ZZZZZZ	1.0	18:16																									
ZZZZZZ	1.0	18:22																									
ZZZZZZ	1.0	18:27																									
ZZZZZZ	1.0	18:33																									
ZZZZZZ	1.0	18:39																									
ZZZZZZ	1.0	18:44																									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1211798

Project No.: 1053-02 **Run Number:** 120512a-2

Project Name: T2-Stormwater

Instrument ID Number: K-ICP-MS-04 **Method:** MS

Start Date: 12/05/12 **End Date:** 12/05/12

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCV9	1.0	18:50							X		X		X		X											X	
CCB9	1.0	18:55							X		X		X		X											X	
ZZZZZZ	1.0	19:01																									
ZZZZZZ	1.0	19:06																									
K1211798-001	1.0	19:12							X		X		X		X											X	
K1211798-002	1.0	19:18							X		X		X		X											X	
ZZZZZZ	1.0	19:23																									
ZZZZZZ	1.0	19:29																									
ZZZZZZ	1.0	19:34																									
ZZZZZZ	1.0	19:40																									
ZZZZZZ	1.0	19:46																									
ZZZZZZ	1.0	19:51																									
CCV10	1.0	19:57							X		X		X		X											X	
CCB10	1.0	20:02							X		X		X		X											X	

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: _____ NRAS No.: _____ SDG NO.: K1211798

ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 12/05/2012 End Date: 12/05/2012

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Ge-KED3_	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
Blank	Blank	0923	100		100		100							
Standard 1	Standard 1	0928	103		104		100							
ICV1	ICV1	0934	105		103		103							
CCV1	CCV	0940	104		103		99							
ICB1	ICB1	0945	102		101		99							
CCB1	CCB	0951	104		103		99							
LLICV1	LLICV1	0956	105		102		95							
ZZZZZZ	ZZZZZZ	1002												
ZZZZZZ	ZZZZZZ	1007												
ICS-A1	ICSA	1012	92		89		94							
ICS-AB1	ICSAB	1018	91		90		96							
ZZZZZZ	ZZZZZZ	1023												
ZZZZZZ	ZZZZZZ	1029												
ZZZZZZ	ZZZZZZ	1035												
ZZZZZZ	ZZZZZZ	1040												
ZZZZZZ	ZZZZZZ	1046												
ZZZZZZ	ZZZZZZ	1051												
CCV2	CCV	1057	109		107		101							
CCB2	CCB	1103	110		107		101							
ZZZZZZ	ZZZZZZ	1108												
CCV3	CCV	1122	105		106		101							
CCB3	CCB	1128	106		106		98							
ZZZZZZ	ZZZZZZ	1138												
ZZZZZZ	ZZZZZZ	1144												
ZZZZZZ	ZZZZZZ	1149												
ZZZZZZ	ZZZZZZ	1155												
ZZZZZZ	ZZZZZZ	1201												
ZZZZZZ	ZZZZZZ	1206												
ZZZZZZ	ZZZZZZ	1212												
ZZZZZZ	ZZZZZZ	1217												
ZZZZZZ	ZZZZZZ	1223												
ZZZZZZ	ZZZZZZ	1228												
CCV4	CCV	1234	112		108		105							
CCB4	CCB	1240	110		108		95							
ZZZZZZ	ZZZZZZ	1245												
ZZZZZZ	ZZZZZZ	1251												
ZZZZZZ	ZZZZZZ	1256												
ZZZZZZ	ZZZZZZ	1302												
ZZZZZZ	ZZZZZZ	1308												
ZZZZZZ	ZZZZZZ	1313												
ZZZZZZ	ZZZZZZ	1319												
ZZZZZZ	ZZZZZZ	1324												
ZZZZZZ	ZZZZZZ	1330												
ZZZZZZ	ZZZZZZ	1336												

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: _____ NRAS No.: _____ SDG NO.: K1211798

ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 12/05/2012 End Date: 12/05/2012

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Ge-KED3_	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
CCV5	CCV	1341	95		103		103							
ZZZZZZ	ZZZZZZ	1346												
CCB5	CCB	1358	100		105		104							
ZZZZZZ	ZZZZZZ	1404												
ZZZZZZ	ZZZZZZ	1419												
ZZZZZZ	ZZZZZZ	1425												
ZZZZZZ	ZZZZZZ	1431												
ZZZZZZ	ZZZZZZ	1436												
ZZZZZZ	ZZZZZZ	1442												
ZZZZZZ	ZZZZZZ	1448												
ZZZZZZ	ZZZZZZ	1453												
ZZZZZZ	ZZZZZZ	1459												
ZZZZZZ	ZZZZZZ	1504												
ZZZZZZ	ZZZZZZ	1510												
ZZZZZZ	ZZZZZZ	1516												
CCV6	CCV	1521	108		110		104							
CCB6	CCB	1527	108		108		101							
ZZZZZZ	ZZZZZZ	1533												
ZZZZZZ	ZZZZZZ	1538												
ZZZZZZ	ZZZZZZ	1544												
ZZZZZZ	ZZZZZZ	1549												
ZZZZZZ	ZZZZZZ	1555												
ZZZZZZ	ZZZZZZ	1600												
ZZZZZZ	ZZZZZZ	1606												
ZZZZZZ	ZZZZZZ	1612												
ZZZZZZ	ZZZZZZ	1617												
ZZZZZZ	ZZZZZZ	1623												
CCV7	CCV	1628	109		109		105							
CCB7	CCB	1634	109		107		104							
ZZZZZZ	ZZZZZZ	1640												
K1211798-MB	Method Blank	1645	110		111		104							
ZZZZZZ	ZZZZZZ	1651												
K1211643-001D	Batch QC1D	1656	110		108		107							
K1211643-001S	Batch QC1S	1702	106		107		105							
LCSW	LCSW	1707	107		107		105							
ZZZZZZ	ZZZZZZ	1713												
ZZZZZZ	ZZZZZZ	1719												
ZZZZZZ	ZZZZZZ	1724												
ZZZZZZ	ZZZZZZ	1730												
CCV8	CCV	1735	104		106		100							
ZZZZZZ	ZZZZZZ	1741												
CCB8	CCB	1746	103		102		99							
ZZZZZZ	ZZZZZZ	1754												
ZZZZZZ	ZZZZZZ	1759												

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: _____ NRAS No.: _____ SDG NO.: K1211798

ICP-MS Instrument ID: K-ICP-MS-04 Start Date: 12/05/2012 End Date: 12/05/2012

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Ge-KED3_	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
ZZZZZZ	ZZZZZZ	1805												
ZZZZZZ	ZZZZZZ	1811												
ZZZZZZ	ZZZZZZ	1816												
ZZZZZZ	ZZZZZZ	1822												
ZZZZZZ	ZZZZZZ	1827												
ZZZZZZ	ZZZZZZ	1833												
ZZZZZZ	ZZZZZZ	1839												
ZZZZZZ	ZZZZZZ	1844												
CCV9	CCV	1850	106		107		101							
CCB9	CCB	1855	99		105		101							
ZZZZZZ	ZZZZZZ	1901												
ZZZZZZ	ZZZZZZ	1906												
K1211798-001	MT2-DBA-5238-112	1912	110		110		104							
K1211798-002	MT2-DBB-5279-112	1918	109		106		104							
ZZZZZZ	ZZZZZZ	1923												
ZZZZZZ	ZZZZZZ	1929												
ZZZZZZ	ZZZZZZ	1934												
ZZZZZZ	ZZZZZZ	1940												
ZZZZZZ	ZZZZZZ	1946												
ZZZZZZ	ZZZZZZ	1951												
CCV10	CCV	1957	107		107		101							
CCB10	CCB	2002	106		105		100							

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	11/23/12
Sample Matrix:	Water	**Date Received:**	11/26/12

Total Inorganic Arsenic

Prep Method:	None	Units:	ug/L
Analysis Method:	1632 Rev. A	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
MT2-DBA-5238-112312-0910	K1211798-001	0.02	0.003	1	NA	11/29/12	0.330	
MT2-DBB-5279-112312-0925	K1211798-002	0.02	0.003	1	NA	11/29/12	0.134	
Method Blank	K1211798-MB1	0.02	0.003	1	NA	11/29/12	0.009	J
Method Blank	K1211798-MB2	0.02	0.003	1	NA	11/29/12	0.005	J
Method Blank	K1211798-MB3	0.02	0.003	1	NA	11/29/12	0.007	J
Method Blank	K1211798-MB4	0.02	0.003	1	NA	11/29/12	ND	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	11/29/12

Total Metals
Matrix Spike/Duplicate Matrix Spike Summary

Sample Name:	Batch QC	Units:	ug/L
Lab Code:	K1211428-001MSD	Basis:	NA
Test Notes:			

				Spike Level		Sample	Spike Result		Percent Recovery				
Analyte	**Prep Method**	**Analysis Method**	**MRL**	**MS**	**DMS**	**Result**	**MS**	**DMS**	**MS**	**DMS**	**Method Acceptance Limits**	**Relative Percent Difference**	**Result Notes**
Inorganic Arsenic	None	1632 Rev. A	0.08	0.80	0.80	0.956	1.54	1.56	73	76	50-150	1	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	11/29/12

Calibration Verification (CALVER) Sample Summary
Total Metals

Sample Name: CALVER 1 Units: ug/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.200	0.186	93	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	11/29/12

Calibration Verification (CALVER) Sample Summary

Total Metals

Sample Name: CALVER 2

Units: ug/L

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.200	0.202	101	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	11/29/12

Calibration Verification (CALVER) Sample Summary
Total Metals

Sample Name: CALVER 3 Units: ug/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.200	0.189	94	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	11/23/2012
Sample Matrix:	Water	**Date Received:**	11/26/2012

Semivolatile Organics by EPA Method 525.2

Sample Name:	MT2-DBA-5238-112312-0910	**Units:**	ug/L
Lab Code:	K1211798-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	2.0	0.080	10	11/27/12	12/08/12	KWG1214021	
Dimethyl Phthalate	**0.070**	JD	2.0	0.040	10	11/27/12	12/08/12	KWG1214021	
Diethyl Phthalate	**0.12**	JD	2.0	0.090	10	11/27/12	12/08/12	KWG1214021	
Di-n-butyl Phthalate	ND	U	2.0	0.40	10	11/27/12	12/08/12	KWG1214021	
Benzyl butyl phthalate	ND	U	2.0	0.80	10	11/27/12	12/08/12	KWG1214021	
Bis(2-ethylhexyl) Phthalate	**1.2**	JD	5.0	0.60	10	11/27/12	12/08/12	KWG1214021	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	78	70-130	12/08/12	Acceptable
Triphenyl Phosphate	181	70-130	12/08/12	Outside Control Limits
Perylene-d12	114	70-130	12/08/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	11/23/2012
Sample Matrix:	Water	**Date Received:**	11/26/2012

Semivolatile Organics by EPA Method 525.2

Sample Name:	MT2-DBB-5279-112312-0925	**Units:**	ug/L
Lab Code:	K1211798-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	2.0	0.080	10	11/27/12	12/08/12	KWG1214021	
Dimethyl Phthalate	ND	U	2.0	0.040	10	11/27/12	12/08/12	KWG1214021	
Diethyl Phthalate	ND	U	2.0	0.090	10	11/27/12	12/08/12	KWG1214021	
Di-n-butyl Phthalate	ND	U	2.0	0.40	10	11/27/12	12/08/12	KWG1214021	
Benzyl butyl phthalate	ND	U	2.0	0.80	10	11/27/12	12/08/12	KWG1214021	
Bis(2-ethylhexyl) Phthalate	**1.1**	JD	5.0	0.60	10	11/27/12	12/08/12	KWG1214021	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	88	70-130	12/08/12	Acceptable
Triphenyl Phosphate	172	70-130	12/08/12	Outside Control Limits
Perylene-d12	124	70-130	12/08/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semivolatile Organics by EPA Method 525.2

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1214021-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	0.20	0.0080	1	11/27/12	12/08/12	KWG1214021	
Dimethyl Phthalate	ND	U	0.20	0.0040	1	11/27/12	12/08/12	KWG1214021	
Diethyl Phthalate	ND	U	0.20	0.0090	1	11/27/12	12/08/12	KWG1214021	
Di-n-butyl Phthalate	**0.045**	J	0.20	0.040	1	11/27/12	12/08/12	KWG1214021	
Benzyl butyl phthalate	ND	U	0.20	0.080	1	11/27/12	12/08/12	KWG1214021	
Bis(2-ethylhexyl) Phthalate	**0.13**	J	0.50	0.060	1	11/27/12	12/08/12	KWG1214021	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	108	70-130	12/08/12	Acceptable
Triphenyl Phosphate	82	70-130	12/08/12	Acceptable
Perylene-d12	103	70-130	12/08/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Semivolatile Organics by EPA Method 525.2

Extraction Method: METHOD **Units:** PERCENT
Analysis Method: 525.2 **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
Batch QC	K1211643-001	96 D	160 D *	108 D
MT2-DBA-5238-112312-0910	K1211798-001	78 D	181 D *	114 D
MT2-DBB-5279-112312-0925	K1211798-002	88 D	172 D *	124 D
Method Blank	KWG1214021-3	108	82	103
Batch QCMS	KWG1214021-1	78 D	157 D *	90 D
Lab Control Sample	KWG1214021-2	112	106	114

Surrogate Recovery Control Limits (%)

Sur1	=	1,3-Dimethyl-2-nitrobenzene	70-130
Sur2	=	Triphenyl Phosphate	70-130
Sur3	=	Perylene-d12	70-130

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Analyzed:**	12/08/2012
		Time Analyzed:	08:40

Internal Standard Area and RT Summary
Semivolatile Organics by EPA Method 525.2

File ID:	J:\MS22\DATA\120812-525\1208LP003.D	**Lab Code:**	KWG1214470-2
Instrument ID:	MS22	**Analysis Lot:**	KWG1214470
Analysis Method:	525.2		

		Acenaphthene-d10		Phenanthrene-d10		Chrysene-d12	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	168,300	11.66	291,218	15.12	307,151	23.87
	Upper Limit ==>	218,790	12.06	378,583	15.52	399,296	24.27
	Lower Limit ==>	117,810	11.26	203,853	14.72	215,006	23.47
	ICAL Result ==>	180,314	11.66	313,517	15.11	367,664	23.85
Associated Analyses							
Method Blank	KWG1214021-3	137,030	11.65	258,344	15.12	282,571	23.86
Lab Control Sample	KWG1214021-2	133,568	11.66	246,914	15.12	277,673	23.86
Batch QC	K1211643-001	124,416	11.65	258,819	15.11	300,245	23.84
Batch QCMS	KWG1214021-1	132,591	11.65	263,236	15.11	300,333	23.86
MT2-DBA-5238-112312-0910	K1211798-001	148,356	11.66	280,934	15.12	310,287	23.86
MT2-DBB-5279-112312-0925	K1211798-002	142,450	11.66	272,053	15.12	313,930	23.86

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/27/2012
Sample Matrix:	Water	**Date Analyzed:**	12/08/2012

Matrix Spike Summary
Semivolatile Organics by EPA Method 525.2

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1211643-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1214021

		Batch QCMS KWG1214021-1 Matrix Spike				
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**
Di-n-octyl Phthalate	ND	1.35	0.971	139	*	70-130
Dimethyl Phthalate	ND	0.464	0.971	48	*	70-130
Diethyl Phthalate	ND	0.519	0.971	54	*	70-130
Di-n-butyl Phthalate	ND	0.647	0.971	67	*	70-130
Benzyl butyl phthalate	ND	1.11	0.971	114		70-130
Bis(2-ethylhexyl) Phthalate	1.9	1.99	0.971	13	*	70-130

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/27/2012
Sample Matrix:	Water	**Date Analyzed:**	12/08/2012

Lab Control Spike Summary
Semivolatile Organics by EPA Method 525.2

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	525.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1214021

	Lab Control Sample KWG1214021-2 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
Di-n-octyl Phthalate	1.15	1.00	115	70-130
Dimethyl Phthalate	1.04	1.00	104	70-130
Diethyl Phthalate	1.19	1.00	119	70-130
Di-n-butyl Phthalate	1.18	1.00	118	70-130
Benzyl butyl phthalate	1.15	1.00	115	70-130
Bis(2-ethylhexyl) Phthalate	1.22	1.00	122	70-130

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/27/2012
Sample Matrix:	Water	**Date Analyzed:**	12/08/2012
		Time Analyzed:	09:32

Method Blank Summary
Semivolatile Organics by EPA Method 525.2

Sample Name:	Method Blank	**Instrument ID:**	MS22
Lab Code:	KWG1214021-3	**File ID:**	J:\MS22\DATA\120812-525\1208LP004.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1214021

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1214021-2	J:\MS22\DATA\120812-525\1208LP006.D	12/08/12	10:57
Batch QC	K1211643-001	J:\MS22\DATA\120812-525\1208LP010.D	12/08/12	14:00
Batch QCMS	KWG1214021-1	J:\MS22\DATA\120812-525\1208LP011.D	12/08/12	14:46
MT2-DBA-5238-112312-0910	K1211798-001	J:\MS22\DATA\120812-525\1208LP012.D	12/08/12	15:32
MT2-DBB-5279-112312-0925	K1211798-002	J:\MS22\DATA\120812-525\1208LP013.D	12/08/12	16:18

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/27/2012
Sample Matrix:	Water	**Date Analyzed:**	12/08/2012
		Time Analyzed:	10:57

Lab Control Sample Summary
Semivolatile Organics by EPA Method 525.2

Sample Name:	Lab Control Sample	**Instrument ID:**	MS22
Lab Code:	KWG1214021-2	**File ID:**	J:\MS22\DATA\120812-525\1208LP006.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1214021

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1214021-3	J:\MS22\DATA\120812-525\1208LP004.D	12/08/12	09:32
Batch QC	K1211643-001	J:\MS22\DATA\120812-525\1208LP010.D	12/08/12	14:00
Batch QCMS	KWG1214021-1	J:\MS22\DATA\120812-525\1208LP011.D	12/08/12	14:46
MT2-DBA-5238-112312-0910	K1211798-001	J:\MS22\DATA\120812-525\1208LP012.D	12/08/12	15:32
MT2-DBB-5279-112312-0925	K1211798-002	J:\MS22\DATA\120812-525\1208LP013.D	12/08/12	16:18

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02

Service Request: K1211798
Date Analyzed: 12/08/2012
Time Analyzed: 07:55

Tune Summary
Semivolatile Organics by EPA Method 525.2

File ID: J:\MS22\DATA\120812-525\1208LP002.D
Instrument ID: MS22
Column:

Analysis Method: 525.2
Analysis Lot: KWG1214470

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	39.2	8326	PASS
68	69	0	2	1.9	62	PASS
69	198	0	100	15.3	3253	PASS
70	69	0	2	0.6	21	PASS
127	198	10	80	32.5	6909	PASS
197	198	0	2	0.6	133	PASS
198	198	100	100	100.0	21262	PASS
199	198	5	9	7.7	1627	PASS
275	198	10	60	48.7	10354	PASS
365	198	1	100	3.5	736	PASS
441	443	0	100	90.4	2656	PASS
442	198	50	150	69.8	14844	PASS
443	442	15	24	19.8	2938	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1214470-2	J:\MS22\DATA\120812-525\1208LP003.D	12/08/2012	08:40	
Method Blank	KWG1214021-3	J:\MS22\DATA\120812-525\1208LP004.D	12/08/2012	09:32	
Lab Control Sample	KWG1214021-2	J:\MS22\DATA\120812-525\1208LP006.D	12/08/2012	10:57	
Batch QC	K1211643-001	J:\MS22\DATA\120812-525\1208LP010.D	12/08/2012	14:00	
Batch QCMS	KWG1214021-1	J:\MS22\DATA\120812-525\1208LP011.D	12/08/2012	14:46	
MT2-DBA-5238-112312-0910	K1211798-001	J:\MS22\DATA\120812-525\1208LP012.D	12/08/2012	15:32	
MT2-DBB-5279-112312-0925	K1211798-002	J:\MS22\DATA\120812-525\1208LP013.D	12/08/2012	16:18	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 10/03/2012

Initial Calibration Summary
Semivolatile Organics by EPA Method 525.2

Calibration ID: CAL11925 **Column:** MS
Instrument ID: MS22

Level ID	File ID	Level ID	File ID
A	J:\MS22\DATA\100312-525ICAL\1003LP003.D	F	J:\MS22\DATA\100312-525ICAL\1003LP008.D
B	J:\MS22\DATA\100312-525ICAL\1003LP004.D	G	J:\MS22\DATA\100312-525ICAL\1003LP009.D
C	J:\MS22\DATA\100312-525ICAL\1003LP005.D	H	J:\MS22\DATA\100312-525ICAL\1003LP010.D
D	J:\MS22\DATA\100312-525ICAL\1003LP006.D	I	J:\MS22\DATA\100312-525ICAL\1003LP011.D
E	J:\MS22\DATA\100312-525ICAL\1003LP007.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Di-n-octyl Phthalate							C	100	0.316	D	200	0.454	E	500	0.656
	F	1000	0.817	G	2000	1.01	H	4000	1.17						
1,3-Dimethyl-2-nitrobenzene	A	20	0.288	B	50	0.283	C	100	0.274	D	200	0.291	E	500	0.319
	F	1000	0.320	G	2000	0.345	H	4000	0.362	I	6000	0.362			
Dimethyl Phthalate	A	20	1.25	B	50	1.21	C	100	1.19	D	200	1.26	E	500	1.31
	F	1000	1.32	G	2000	1.39	H	4000	1.42	I	6000	1.41			
Diethyl Phthalate	A	20	1.12	B	50	1.04	C	100	1.10	D	200	1.20	E	500	1.28
	F	1000	1.32	G	2000	1.34	H	4000	1.38	I	6000	1.40			
Di-n-butyl Phthalate							C	100	0.768	D	200	0.954	E	500	1.09
	F	1000	1.21	G	2000	1.23	H	4000	1.31	I	6000	1.27			
Benzyl butyl phthalate				B	50	0.204	C	100	0.213	D	200	0.294	E	500	0.367
	F	1000	0.418	G	2000	0.483	H	4000	0.510	I	6000	0.514			
Triphenyl Phosphate							C	100	0.0686	D	200	0.0967	E	500	0.124
	F	1000	0.136	G	2000	0.144	H	4000	0.159	I	6000	0.158			
Bis(2-ethylhexyl) Phthalate							C	100	0.277	D	200	0.332	E	500	0.446
	F	1000	0.524	G	2000	0.668	H	4000	0.754	I	6000	0.794			
Perylene-d12				B	50	0.409	C	100	0.448	D	200	0.588	E	500	0.722
	F	1000	0.762	G	2000	0.830	H	4000	0.908	I	6000	0.899			

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 10/03/2012

Initial Calibration Summary
Semivolatile Organics by EPA Method 525.2

Calibration ID: CAL11925 **Column:** MS
Instrument ID: MS22

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Di-n-octyl Phthalate	MS	Quadratic	COD	0.999		≥ 0.99	0.738		
1,3-Dimethyl-2-nitrobenzene	SURR	AverageRF	% RSD	10.8		≤ 30	0.316		
Dimethyl Phthalate	MS	AverageRF	% RSD	6.6		≤ 30	1.31		
Diethyl Phthalate	MS	AverageRF	% RSD	10.8		≤ 30	1.24		
Di-n-butyl Phthalate	MS	AverageRF	% RSD	17.5		≤ 30	1.12		
Benzyl butyl phthalate	MS	Quadratic	COD	0.999		≥ 0.99	0.376		
Triphenyl Phosphate	SURR	Quadratic	COD	0.999		≥ 0.99	0.127		
Bis(2-ethylhexyl) Phthalate	MS	Quadratic	COD	0.998		≥ 0.99	0.542		
Perylene-d12	SURR	Quadratic	COD	0.999		≥ 0.99	0.696		

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02

Service Request: K1211798
Calibration Date: 10/03/2012
Date Analyzed: 10/03/2012

Second Source Calibration Verification
Semivolatile Organics by EPA Method 525.2

Calibration Type: Internal Standard
Analysis Method: 525.2

Calibration ID: CAL11925
Units: ug/L

File ID: J:\MS22\DATA\100312-525ICAL\1003LP014.D
J:\MS22\DATA\100312-525ICAL\1003LP012.D
J:\MS22\DATA\100312-525ICAL\1003LP013.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Di-n-octyl Phthalate	1000	950	0.738	0.813	NA	-5	± 30 %	Quadratic
Dimethyl Phthalate	1000	1100	1.31	1.40	7	NA	± 30 %	AverageRF
Diethyl Phthalate	1000	1100	1.24	1.33	7	NA	± 30 %	AverageRF
Di-n-butyl Phthalate	1000	950	1.12	1.06	-5	NA	± 30 %	AverageRF
Benzyl butyl phthalate	1000	890	0.376	0.386	NA	-11	± 30 %	Quadratic
Bis(2-ethylhexyl) Phthalate	1000	1200	0.542	0.698	NA	18	± 30 %	Quadratic

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Date Analyzed:** 12/08/2012

Continuing Calibration Verification Summary
Semivolatile Organics by EPA Method 525.2

Calibration Type: Internal Standard **Calibration Date:** 10/03/2012
Analysis Method: 525.2 **Calibration ID:** CAL11925
Analysis Lot: KWG1214470
Units: ug/L

File ID: J:\MS22\DATA\120812-525\1208LP003.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Di-n-octyl Phthalate	1000	1000		0.738	0.899	NA	3	± 30 %	Quadratic
1,3-Dimethyl-2-nitrobenzene	1000	1000		0.316	0.316	0	NA	± 30 %	AverageRF
Dimethyl Phthalate	1000	980		1.31	1.28	-2	NA	± 30 %	AverageRF
Diethyl Phthalate	1000	1100		1.24	1.32	7	NA	± 30 %	AverageRF
Di-n-butyl Phthalate	1000	1000		1.12	1.16	3	NA	± 30 %	AverageRF
Benzyl butyl phthalate	1000	1000		0.376	0.448	NA	2	± 30 %	Quadratic
Triphenyl Phosphate	1000	920		0.127	0.128	NA	-8	± 30 %	Quadratic
Bis(2-ethylhexyl) Phthalate	1000	990		0.542	0.575	NA	-1	± 30 %	Quadratic
Perylene-d12	1000	1100		0.696	0.838	NA	5	± 30 %	Quadratic

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02

Analysis Run Log
Semivolatile Organics by EPA Method 525.2

Analysis Method: 525.2 **Analysis Lot:** KWG1214470
Instrument ID: MS22

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
208LP002.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1214470-1	12/8/2012	07:55		12/8/2012	08:30
208LP003.D	Continuing Calibration Verification	KWG1214470-2	12/8/2012	08:40		12/8/2012	09:15
208LP004.D	Method Blank	KWG1214021-3	12/8/2012	09:32		12/8/2012	10:07
208LP006.D	Lab Control Sample	KWG1214021-2	12/8/2012	10:57		12/8/2012	11:32
208LP007.D	ZZZZZZ	ZZZZZZ	12/8/2012	11:42		12/8/2012	12:17
208LP008.D	ZZZZZZ	ZZZZZZ	12/8/2012	12:28		12/8/2012	13:03
208LP009.D	ZZZZZZ	ZZZZZZ	12/8/2012	13:14		12/8/2012	13:49
208LP010.D	Batch QC	K1211643-001	12/8/2012	14:00		12/8/2012	14:35
208LP011.D	Batch QCMS	KWG1214021-1	12/8/2012	14:46		12/8/2012	15:21
208LP012.D	MT2-DBA-5238-112312-0910	K1211798-001	12/8/2012	15:32		12/8/2012	16:07
208LP013.D	MT2-DBB-5279-112312-0925	K1211798-002	12/8/2012	16:18		12/8/2012	16:53

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02
Sample Matrix: Water

Service Request: K1211798
Date Extracted: 11/27/2012

Extraction Prep Log
Semivolatile Organics by EPA Method 525.2

Extraction Method: METHOD
Analysis Method: 525.2

Extraction Lot: KWG1214021
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5238-112312-0910	K1211798-001	11/23/12	11/26/12	1010ml	1ml	NA	
MT2-DBB-5279-112312-0925	K1211798-002	11/23/12	11/26/12	1010ml	1ml	NA	
Method Blank	KWG1214021-3	NA	NA	1000ml	1ml	NA	
Batch QC	K1211643-001	NA	NA	1030ml	1ml	NA	
Batch QCMS	KWG1214021-1	NA	NA	1030ml	1ml	NA	
Lab Control Sample	KWG1214021-2	NA	NA	1000ml	1ml	NA	

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	11/23/2012
Sample Matrix:	Water	**Date Received:**	11/26/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:	MT2-DBA-5238-112312-0910	**Units:**	ug/L
Lab Code:	K1211798-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1221	ND	U	0.010	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1232	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1242	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1248	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1254	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1260	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1262	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1268	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	87	36-113	12/05/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	11/23/2012
Sample Matrix:	Water	**Date Received:**	11/26/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:	MT2-DBB-5279-112312-0925	**Units:**	ug/L
Lab Code:	K1211798-002	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0051	0.0022	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1221	ND	U	0.011	0.0022	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1232	ND	U	0.0051	0.0022	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1242	ND	U	0.0051	0.0022	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1248	ND	U	0.0051	0.0022	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1254	ND	U	0.0051	0.0022	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1260	ND	U	0.0051	0.0022	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1262	ND	U	0.0051	0.0022	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1268	ND	U	0.0051	0.0022	1	11/29/12	12/05/12	KWG1214314	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	91	36-113	12/05/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1214314-4	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1221	ND	U	0.0099	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1232	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1242	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1248	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1254	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1260	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1262	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	
Aroclor 1268	ND	U	0.0050	0.0021	1	11/29/12	12/05/12	KWG1214314	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	104	36-113	12/05/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A **Units:** PERCENT
Analysis Method: 8082A **Level:** Low

Sample Name	Lab Code	Sur1
MT2-DBA-5238-112312-0910	K1211798-001	87
MT2-DBB-5279-112312-0925	K1211798-002	91
Batch QC	K1211927-002	97
Method Blank	KWG1214314-4	104
Batch QCMS	KWG1214314-1	102
Batch QCDMS	KWG1214314-2	100
Lab Control Sample	KWG1214314-3	93

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 36-113

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/29/2012
Sample Matrix:	Water	**Date Analyzed:**	12/05/2012

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Batch QC	**Units:**	ug/L
Lab Code:	K1211927-002	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1214314

		Batch QCMS KWG1214314-1 Matrix Spike			Batch QCDMS KWG1214314-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	ND	0.561	0.196	286 *	0.554	0.198	280 *	25-144	1	30
Aroclor 1260	ND	0.166	0.196	85	0.163	0.198	83	40-127	2	30

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/29/2012
Sample Matrix:	Water	**Date Analyzed:**	12/05/2012

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3535A	**Units:**	ug/L
Analysis Method:	8082A	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1214314

	Lab Control Sample KWG1214314-3 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
Aroclor 1016	0.159	0.200	80	50-103
Aroclor 1260	0.163	0.200	82	56-100

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/29/2012
Sample Matrix:	Water	**Date Analyzed:**	12/05/2012
		Time Analyzed:	02:59

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Instrument ID:**	GC22.i
Lab Code:	KWG1214314-4	**File ID:**	J:\GC22\DATA\120412UL.B\1204F109.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1214314

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1214314-3	J:\GC22\DATA\120412UL.B\1204F108.D	12/05/12	02:37
MT2-DBA-5238-112312-0910	K1211798-001	J:\GC22\DATA\120412UL.B\1204F110.D	12/05/12	03:22
MT2-DBB-5279-112312-0925	K1211798-002	J:\GC22\DATA\120412UL.B\1204F111.D	12/05/12	03:44
Batch QC	K1211927-002	J:\GC22\DATA\120412UL.B\1204F114.D	12/05/12	04:53
Batch QCMS	KWG1214314-1	J:\GC22\DATA\120412UL.B\1204F115.D	12/05/12	05:15
Batch QCDMS	KWG1214314-2	J:\GC22\DATA\120412UL.B\1204F116.D	12/05/12	05:38

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/29/2012
Sample Matrix:	Water	**Date Analyzed:**	12/05/2012
		Time Analyzed:	02:37

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Lab Control Sample	**Instrument ID:**	GC22.i
Lab Code:	KWG1214314-3	**File ID:**	J:\GC22\DATA\120412UL.B\1204F108.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1214314

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1214314-4	J:\GC22\DATA\120412UL.B\1204F109.D	12/05/12	02:59
MT2-DBA-5238-112312-0910	K1211798-001	J:\GC22\DATA\120412UL.B\1204F110.D	12/05/12	03:22
MT2-DBB-5279-112312-0925	K1211798-002	J:\GC22\DATA\120412UL.B\1204F111.D	12/05/12	03:44
Batch QC	K1211927-002	J:\GC22\DATA\120412UL.B\1204F114.D	12/05/12	04:53
Batch QCMS	KWG1214314-1	J:\GC22\DATA\120412UL.B\1204F115.D	12/05/12	05:15
Batch QCDMS	KWG1214314-2	J:\GC22\DATA\120412UL.B\1204F116.D	12/05/12	05:38

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

Level ID	File ID	Level ID	File ID
A	\\cash1\acqudata\GC22\data\082212A.b\0822F205.D	Q	\\cash1\acqudata\GC22\data\082212A.b\0822F221.D
B	\\cash1\acqudata\GC22\data\082212A.b\0822F206.D	R	\\cash1\acqudata\GC22\data\082212A.b\0822F222.D
C	\\cash1\acqudata\GC22\data\082212A.b\0822F207.D	S	\\cash1\acqudata\GC22\data\082212A.b\0822F223.D
D	\\cash1\acqudata\GC22\data\082212A.b\0822F208.D	T	\\cash1\acqudata\GC22\data\082212A.b\0822F224.D
E	\\cash1\acqudata\GC22\data\082212A.b\0822F209.D	U	\\cash1\acqudata\GC22\data\082212A.b\0822F225.D
F	\\cash1\acqudata\GC22\data\082212A.b\0822F210.D	V	\\cash1\acqudata\GC22\data\082212A.b\0822F226.D
G	\\cash1\acqudata\GC22\data\082212A.b\0822F211.D	W	\\cash1\acqudata\GC22\data\082212A.b\0822F227.D
H	\\cash1\acqudata\GC22\data\082212A.b\0822F212.D	X	\\cash1\acqudata\GC22\data\082212A.b\0822F228.D
I	\\cash1\acqudata\GC22\data\082212A.b\0822F213.D	Y	\\cash1\acqudata\GC22\data\082212A.b\0822F229.D
J	\\cash1\acqudata\GC22\data\082212A.b\0822F214.D	Z	\\cash1\acqudata\GC22\data\082212A.b\0822F230.D
K	\\cash1\acqudata\GC22\data\082212A.b\0822F215.D	AA	\\cash1\acqudata\GC22\data\082212A.b\0822F231.D
L	\\cash1\acqudata\GC22\data\082212A.b\0822F216.D	AB	\\cash1\acqudata\GC22\data\082212A.b\0822F232.D
M	\\cash1\acqudata\GC22\data\082212A.b\0822F217.D	AC	\\cash1\acqudata\GC22\data\082212A.b\0822F233.D
N	\\cash1\acqudata\GC22\data\082212A.b\0822F218.D	AD	\\cash1\acqudata\GC22\data\082212A.b\0822F234.D
O	\\cash1\acqudata\GC22\data\082212A.b\0822F219.D		
P	\\cash1\acqudata\GC22\data\082212A.b\0822F220.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	5.87E+5	B	0.50	6.43E+5	C	5.0	6.47E+5	D	10	6.17E+5	E	20	4.89E+5
	F	50	4.62E+5												
Aroclor 1016 {1}	A	2.5	11200	B	5.0	9660	C	50	8550	D	100	8900	E	200	7380
	F	500	6430												
Aroclor 1016 {2}	A	2.5	25200	B	5.0	27400	C	50	26800	D	100	26500	E	200	22900
	F	500	20900												
Aroclor 1016 {3}	A	2.5	18000	B	5.0	18600	C	50	20500	D	100	17700	E	200	16200
	F	500	14100												
Aroclor 1016 {4}	A	2.5	9360	B	5.0	12100	C	50	12200	D	100	10700	E	200	9980
	F	500	8860												
Aroclor 1016 {5}	A	2.5	16200	B	5.0	14700	C	50	16300	D	100	13900	E	200	13000
	F	500	11600												
Aroclor 1260 {1}	A	2.5	41000	B	5.0	48200	C	50	46700	D	100	41000	E	200	35300
	F	500	31700												
Aroclor 1260 {2}	A	2.5	36200	B	5.0	46600	C	50	45600	D	100	39700	E	200	35400
	F	500	31600												
Aroclor 1260 {3}	A	2.5	33100	B	5.0	32700	C	50	30200	D	100	26800	E	200	23400
	F	500	20800												
Aroclor 1260 {4}	A	2.5	30600	B	5.0	30800	C	50	32500	D	100	28600	E	200	24800
	F	500	22600												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	71500	B	5.0	77400	C	50	74700	D	100	64900	E	200	56200
	F	500	52800												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

		Calibration Evaluation				
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**
Decachlorobiphenyl	SURR	AverageRF	% RSD	13.9		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	19.3		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	12.4		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	13.1		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	13.0		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	15.6		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	18.1		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	13.5		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	15.2		≤ 20

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02

Service Request: K1211798
Calibration Date: 08/23/2012
Date Analyzed: 08/23/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11805
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\082212A.b\0822F235.D
\\cash1\acqudata\GC22\data\082212A.b\0822F236.D
\\cash1\acqudata\GC22\data\082212A.b\0822F237.D
\\cash1\acqudata\GC22\data\082212A.b\0822F238.D
\\cash1\acqudata\GC22\data\082212A.b\0822F239.D
\\cash1\acqudata\GC22\data\082212A.b\0822F240.D
\\cash1\acqudata\GC22\data\082212A.b\0822F241.D
\\cash1\acqudata\GC22\data\082212A.b\0822F242.D
\\cash1\acqudata\GC22\data\082212A.b\0822F243.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	84	NA	NA	NA	-16	± 20 %	NA
Aroclor 1016 {1}	100	89	8680	7690	-11	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	85	25000	21300	-15	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	83	17500	14600	-17	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	84	10500	8780	-16	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	78	14300	11100	-22	NA	± 100 %	AverageRF
Aroclor 1260	100	85	NA	NA	NA	-15	± 20 %	NA
Aroclor 1260 {1}	100	83	40700	33600	-17	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	70	39200	27300	-30	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	91	27800	25300	-9	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	93	28300	26500	-7	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	90	66300	59800	-10	NA	± 100 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

Level ID	File ID	Level ID	File ID
A	\\cash1\acqudata\GC22\data\082212A_r.b\0822F205.D	Q	\\cash1\acqudata\GC22\data\082212A_r.b\0822F221.D
B	\\cash1\acqudata\GC22\data\082212A_r.b\0822F206.D	R	\\cash1\acqudata\GC22\data\082212A_r.b\0822F222.D
C	\\cash1\acqudata\GC22\data\082212A_r.b\0822F207.D	S	\\cash1\acqudata\GC22\data\082212A_r.b\0822F223.D
D	\\cash1\acqudata\GC22\data\082212A_r.b\0822F208.D	T	\\cash1\acqudata\GC22\data\082212A_r.b\0822F224.D
E	\\cash1\acqudata\GC22\data\082212A_r.b\0822F209.D	U	\\cash1\acqudata\GC22\data\082212A_r.b\0822F225.D
F	\\cash1\acqudata\GC22\data\082212A_r.b\0822F210.D	V	\\cash1\acqudata\GC22\data\082212A_r.b\0822F226.D
G	\\cash1\acqudata\GC22\data\082212A_r.b\0822F211.D	W	\\cash1\acqudata\GC22\data\082212A_r.b\0822F227.D
H	\\cash1\acqudata\GC22\data\082212A_r.b\0822F212.D	X	\\cash1\acqudata\GC22\data\082212A_r.b\0822F228.D
I	\\cash1\acqudata\GC22\data\082212A_r.b\0822F213.D	Y	\\cash1\acqudata\GC22\data\082212A_r.b\0822F229.D
J	\\cash1\acqudata\GC22\data\082212A_r.b\0822F214.D	Z	\\cash1\acqudata\GC22\data\082212A_r.b\0822F230.D
K	\\cash1\acqudata\GC22\data\082212A_r.b\0822F215.D	AA	\\cash1\acqudata\GC22\data\082212A_r.b\0822F231.D
L	\\cash1\acqudata\GC22\data\082212A_r.b\0822F216.D	AB	\\cash1\acqudata\GC22\data\082212A_r.b\0822F232.D
M	\\cash1\acqudata\GC22\data\082212A_r.b\0822F217.D	AC	\\cash1\acqudata\GC22\data\082212A_r.b\0822F233.D
N	\\cash1\acqudata\GC22\data\082212A_r.b\0822F218.D	AD	\\cash1\acqudata\GC22\data\082212A_r.b\0822F234.D
O	\\cash1\acqudata\GC22\data\082212A_r.b\0822F219.D		
P	\\cash1\acqudata\GC22\data\082212A_r.b\0822F220.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	8.92E+5	B	0.50	1.02E+6	C	5.0	7.79E+5	D	10	7.64E+5	E	20	7.40E+5
	F	50	7.06E+5												
Aroclor 1016 {1}	A	2.5	34900	B	5.0	31600	C	50	27800	D	100	25300	E	200	25500
	F	500	21900												
Aroclor 1016 {2}	A	2.5	49600	B	5.0	50200	C	50	47500	D	100	46900	E	200	46600
	F	500	43300												
Aroclor 1016 {3}	A	2.5	29200	B	5.0	27400	C	50	26500	D	100	25200	E	200	26800
	F	500	23900												
Aroclor 1016 {4}	A	2.5	28200	B	5.0	26200	C	50	22700	D	100	21500	E	200	21400
	F	500	19000												
Aroclor 1016 {5}	A	2.5	29200	B	5.0	22300	C	50	27000	D	100	25200	E	200	25100
	F	500	22500												
Aroclor 1260 {1}	A	2.5	57300	B	5.0	66300	C	50	58100	D	100	54000	E	200	52700
	F	500	48600												
Aroclor 1260 {2}	A	2.5	68900	B	5.0	68500	C	50	69000	D	100	66300	E	200	63800
	F	500	59900												
Aroclor 1260 {3}	A	2.5	71200	B	5.0	82100	C	50	79700	D	100	77700	E	200	75800
	F	500	71900												
Aroclor 1260 {4}	A	2.5	56200	B	5.0	52500	C	50	43200	D	100	42300	E	200	41200
	F	500	38900												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	87100	B	5.0	91700	C	50	97500	D	100	95800	E	200	94600
	F	500	92500												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

		Calibration Evaluation				
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**
Decachlorobiphenyl	SURR	AverageRF	% RSD	14.4		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	16.9		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	5.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	6.9		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	14.6		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	10.4		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	10.7		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	5.5		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	5.6		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	3.9		≤ 20

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02

Service Request: K1211798
Calibration Date: 08/23/2012
Date Analyzed: 08/23/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11805
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\082212A_r.b\0822F235.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F236.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F237.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F238.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F239.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F240.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F241.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F242.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F243.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	91	NA	NA	NA	-9	± 20 %	NA
Aroclor 1016 {1}	100	87	27900	24200	-13	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	95	47300	45100	-5	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	94	26500	24900	-6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	86	23200	20000	-14	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	92	25200	23200	-8	NA	± 100 %	AverageRF
Aroclor 1260	100	96	NA	NA	NA	-4	± 20 %	NA
Aroclor 1260 {1}	100	91	56100	51300	-9	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	94	66100	62400	-6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	88	76400	67400	-12	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	98	45700	44900	-2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93200	102000	10	NA	± 100 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Date Analyzed:** 12/05/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard **Calibration Date:** 08/23/2012
Analysis Method: 8082A **Calibration ID:** CAL11805
Analysis Lot: KWG1214568
Units: ng/mL
File ID: \\CASH1\ACQUDATA\GC22\DATA\120412UL.B\1204F106.D **Column ID:** DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	10	574000	592000	3	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	10	± 20 %	NA
Aroclor 1016 {1}	100	95	8680	8260	-5	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	120	25000	30100	21	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	17500	19200	9	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	10500	11900	13	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	14300	16400	15	NA	± 100 %	AverageRF
Aroclor 1260	100	110	NA	NA	NA	5	± 20 %	NA
Aroclor 1260 {1}	100	110	40700	42800	5	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	110	39200	43700	12	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	100	27800	27900	0	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	28300	29800	5	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	100	66300	69000	4	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Analyzed:**	12/05/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
		Analysis Lot:	KWG1214568
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\120412UL_R.B\1204F106.D	**Column ID:**	DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	9.5	817000	775000	-5	NA	± 20 %	AverageRF
Aroclor 1016	100	94	NA	NA	NA	-6	± 20 %	NA
Aroclor 1016 {1}	100	91	27900	25200	-9	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	99	47300	47000	-1	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	97	26500	25600	-3	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	88	23200	20500	-12	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	95	25200	24000	-5	NA	± 100 %	AverageRF
Aroclor 1260	100	97	NA	NA	NA	-3	± 20 %	NA
Aroclor 1260 {1}	100	90	56100	50800	-10	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	98	66100	64600	-2	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	100	76400	76600	0	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	90	45700	41000	-10	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93200	98400	6	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Date Analyzed:** 12/05/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard **Calibration Date:** 08/23/2012
Analysis Method: 8082A **Calibration ID:** CAL11805
Analysis Lot: KWG1214568
Units: ng/mL
File ID: \\CASH1\ACQUDATA\GC22\DATA\120412UL.B\1204F117.D **Column ID:** DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	10	574000	595000	4	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	11	± 20 %	NA
Aroclor 1016 {1}	100	100	8680	8640	0	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	120	25000	29800	19	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	17500	19000	9	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	10500	11900	13	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	14300	16100	13	NA	± 100 %	AverageRF
Aroclor 1260	100	100	NA	NA	NA	4	± 20 %	NA
Aroclor 1260 {1}	100	100	40700	42600	5	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	110	39200	41700	6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	100	27800	28400	2	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	110	28300	29800	5	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	100	66300	69000	4	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Analyzed:**	12/05/2012

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
		Analysis Lot:	KWG1214568
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\120412UL_R.B\1204F117.D	**Column ID:**	DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	9.7	817000	789000	-3	NA	± 20 %	AverageRF
Aroclor 1016	100	95	NA	NA	NA	-5	± 20 %	NA
Aroclor 1016 {1}	100	93	27900	25800	-7	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	100	47300	47400	0	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	97	26500	25600	-3	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	89	23200	20600	-11	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	94	25200	23800	-6	NA	± 100 %	AverageRF
Aroclor 1260	100	97	NA	NA	NA	-3	± 20 %	NA
Aroclor 1260 {1}	100	91	56100	51100	-9	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	98	66100	64600	-2	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	100	76400	77300	1	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	91	45700	41500	-9	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	100	93200	97800	5	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082A **Analysis Lot:** KWG1214568
Instrument ID: GC22.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1204F106.D	Continuing Calibration Verification	KWG1214568-1	12/5/2012	01:51		12/5/2012	01:51
1204F107.D	Instrument Blank	KWG1214568-2	12/5/2012	02:14		12/5/2012	02:14
1204F108.D	Lab Control Sample	KWG1214314-3	12/5/2012	02:37		12/5/2012	02:37
1204F109.D	Method Blank	KWG1214314-4	12/5/2012	02:59		12/5/2012	02:59
1204F110.D	MT2-DBA-5238-112312-0910	K1211798-001	12/5/2012	03:22		12/5/2012	03:22
1204F111.D	MT2-DBB-5279-112312-0925	K1211798-002	12/5/2012	03:44		12/5/2012	03:44
1204F112.D	ZZZZZZ	ZZZZZZ	12/5/2012	04:07		12/5/2012	04:07
1204F113.D	ZZZZZZ	ZZZZZZ	12/5/2012	04:30		12/5/2012	04:30
1204F114.D	Batch QC	K1211927-002	12/5/2012	04:53		12/5/2012	04:53
1204F115.D	Batch QCMS	KWG1214314-1	12/5/2012	05:15		12/5/2012	05:15
1204F116.D	Batch QCDMS	KWG1214314-2	12/5/2012	05:38		12/5/2012	05:38
1204F117.D	Continuing Calibration Verification	KWG1214568-3	12/5/2012	06:01		12/5/2012	06:01
1204F118.D	Instrument Blank	KWG1214568-4	12/5/2012	06:24		12/5/2012	06:24
1204F119.D	ZZZZZZ	ZZZZZZ	12/5/2012	06:46		12/5/2012	06:46
1204F123.D	ZZZZZZ	ZZZZZZ	12/5/2012	08:17		12/5/2012	08:17
1204F124.D	ZZZZZZ	ZZZZZZ	12/5/2012	08:40		12/5/2012	08:40
1204F125.D	ZZZZZZ	ZZZZZZ	12/5/2012	09:03		12/5/2012	09:03
1204F128.D	ZZZZZZ	ZZZZZZ	12/5/2012	10:11		12/5/2012	10:11
1204F129.D	Continuing Calibration Verification	KWG1214568-5	12/5/2012	10:34		12/5/2012	10:34
1204F130.D	Instrument Blank	KWG1214568-6	12/5/2012	10:57		12/5/2012	10:57
1204F131.D	ZZZZZZ	ZZZZZZ	12/5/2012	11:33		12/5/2012	11:33
1204F132.D	ZZZZZZ	ZZZZZZ	12/5/2012	11:55		12/5/2012	11:55
1204F133.D	Continuing Calibration Verification	KWG1214568-7	12/5/2012	12:18		12/5/2012	12:18
1204F134.D	Instrument Blank	KWG1214568-8	12/5/2012	12:41		12/5/2012	12:41

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02
Sample Matrix: Water

Service Request: K1211798
Date Extracted: 11/29/2012

Extraction Prep Log
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A
Analysis Method: 8082A

Extraction Lot: KWG1214314
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5238-112312-0910	K1211798-001	11/23/12	11/26/12	1000mL	2mL	NA	
MT2-DBB-5279-112312-0925	K1211798-002	11/23/12	11/26/12	990mL	2mL	NA	
Method Blank	KWG1214314-4	NA	NA	1020mL	2mL	NA	
Batch QC	K1211927-002	NA	NA	1020mL	2mL	NA	
Batch QCMS	KWG1214314-1	NA	NA	1020mL	2mL	NA	
Batch QCDMS	KWG1214314-2	NA	NA	1010mL	2mL	NA	
Lab Control Sample	KWG1214314-3	NA	NA	1000mL	2mL	NA	

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	11/23/2012
Sample Matrix:	Water	**Date Received:**	11/26/2012

Polynuclear Aromatic Hydrocarbons

Sample Name:	MT2-DBA-5238-112312-0910	**Units:**	ng/L
Lab Code:	K1211798-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**51**	B	3.4	0.71	1	11/27/12	12/10/12	KWG1213991	
2-Methylnaphthalene	**16**		3.4	0.40	1	11/27/12	12/10/12	KWG1213991	
Acenaphthylene	**5.4**		3.4	0.37	1	11/27/12	12/10/12	KWG1213991	
Acenaphthene	**7.6**		3.4	0.36	1	11/27/12	12/10/12	KWG1213991	
Dibenzofuran	**11**		3.4	0.42	1	11/27/12	12/10/12	KWG1213991	
Fluorene	**9.1**		3.4	0.42	1	11/27/12	12/10/12	KWG1213991	
Phenanthrene	**29**	B	3.4	0.72	1	11/27/12	12/10/12	KWG1213991	
Anthracene	**3.6**		3.4	0.29	1	11/27/12	12/10/12	KWG1213991	
Fluoranthene	**13**		3.4	0.46	1	11/27/12	12/10/12	KWG1213991	
Pyrene	**15**		3.4	0.78	1	11/27/12	12/10/12	KWG1213991	
Benz(a)anthracene	**3.4**	J	3.4	0.34	1	11/27/12	12/10/12	KWG1213991	
Chrysene	**6.9**		3.4	0.65	1	11/27/12	12/10/12	KWG1213991	
Benzo(b)fluoranthene	**6.1**		3.4	0.25	1	11/27/12	12/10/12	KWG1213991	
Benzo(k)fluoranthene	**1.4**	J	3.4	0.41	1	11/27/12	12/10/12	KWG1213991	
Benzo(a)pyrene	**2.1**	J	3.4	0.41	1	11/27/12	12/10/12	KWG1213991	
Indeno(1,2,3-cd)pyrene	**3.3**	J	3.4	0.44	1	11/27/12	12/10/12	KWG1213991	*
Dibenz(a,h)anthracene	**0.97**	J	3.4	0.45	1	11/27/12	12/10/12	KWG1213991	
Benzo(g,h,i)perylene	**6.4**		3.4	0.36	1	11/27/12	12/10/12	KWG1213991	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	46-114	12/10/12	Acceptable
Fluoranthene-d10	70	51-121	12/10/12	Acceptable
Terphenyl-d14	71	58-140	12/10/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	11/23/2012
Sample Matrix:	Water	**Date Received:**	11/26/2012

Polynuclear Aromatic Hydrocarbons

Sample Name:	MT2-DBB-5279-112312-0925	**Units:**	ng/L
Lab Code:	K1211798-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**30**	B	3.5	0.72	1	11/27/12	12/08/12	KWG1213991	
2-Methylnaphthalene	**11**		3.5	0.41	1	11/27/12	12/08/12	KWG1213991	
Acenaphthylene	**6.0**		3.5	0.38	1	11/27/12	12/08/12	KWG1213991	
Acenaphthene	**7.0**		3.5	0.37	1	11/27/12	12/08/12	KWG1213991	
Dibenzofuran	**9.6**		3.5	0.43	1	11/27/12	12/08/12	KWG1213991	
Fluorene	**10**		3.5	0.43	1	11/27/12	12/08/12	KWG1213991	
Phenanthrene	**32**	B	3.5	0.73	1	11/27/12	12/08/12	KWG1213991	
Anthracene	**3.3**	J	3.5	0.30	1	11/27/12	12/08/12	KWG1213991	
Fluoranthene	**14**		3.5	0.47	1	11/27/12	12/08/12	KWG1213991	
Pyrene	**13**		3.5	0.79	1	11/27/12	12/08/12	KWG1213991	
Benz(a)anthracene	**2.1**	J	3.5	0.35	1	11/27/12	12/08/12	KWG1213991	
Chrysene	**3.6**		3.5	0.66	1	11/27/12	12/08/12	KWG1213991	
Benzo(b)fluoranthene	**4.0**		3.5	0.26	1	11/27/12	12/08/12	KWG1213991	
Benzo(k)fluoranthene	**1.2**	J	3.5	0.42	1	11/27/12	12/08/12	KWG1213991	
Benzo(a)pyrene	**2.7**	J	3.5	0.42	1	11/27/12	12/08/12	KWG1213991	
Indeno(1,2,3-cd)pyrene	**2.2**	J	3.5	0.45	1	11/27/12	12/08/12	KWG1213991	*
Dibenz(a,h)anthracene	**0.56**	J	3.5	0.46	1	11/27/12	12/08/12	KWG1213991	
Benzo(g,h,i)perylene	**4.8**		3.5	0.37	1	11/27/12	12/08/12	KWG1213991	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	67	46-114	12/08/12	Acceptable
Fluoranthene-d10	77	51-121	12/08/12	Acceptable
Terphenyl-d14	82	58-140	12/08/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KWG1213991-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**6.2**		3.4	0.71	1	11/27/12	12/08/12	KWG1213991	
2-Methylnaphthalene	**2.5**	J	3.4	0.40	1	11/27/12	12/08/12	KWG1213991	
Acenaphthylene	**0.64**	J	3.4	0.37	1	11/27/12	12/08/12	KWG1213991	
Acenaphthene	**2.3**	J	3.4	0.36	1	11/27/12	12/08/12	KWG1213991	
Dibenzofuran	**3.4**	J	3.4	0.42	1	11/27/12	12/08/12	KWG1213991	
Fluorene	**1.1**	J	3.4	0.42	1	11/27/12	12/08/12	KWG1213991	
Phenanthrene	**6.7**		3.4	0.72	1	11/27/12	12/08/12	KWG1213991	
Anthracene	**1.3**	J	3.4	0.29	1	11/27/12	12/08/12	KWG1213991	
Fluoranthene	**2.3**	J	3.4	0.46	1	11/27/12	12/08/12	KWG1213991	
Pyrene	**1.4**	J	3.4	0.78	1	11/27/12	12/08/12	KWG1213991	
Benz(a)anthracene	**0.92**	J	3.4	0.34	1	11/27/12	12/08/12	KWG1213991	
Chrysene	ND	U	3.4	0.65	1	11/27/12	12/08/12	KWG1213991	
Benzo(b)fluoranthene	**0.56**	J	3.4	0.25	1	11/27/12	12/08/12	KWG1213991	
Benzo(k)fluoranthene	**0.49**	J	3.4	0.41	1	11/27/12	12/08/12	KWG1213991	
Benzo(a)pyrene	**0.50**	J	3.4	0.41	1	11/27/12	12/08/12	KWG1213991	
Indeno(1,2,3-cd)pyrene	**0.81**	J	3.4	0.44	1	11/27/12	12/08/12	KWG1213991	*
Dibenz(a,h)anthracene	**0.60**	J	3.4	0.45	1	11/27/12	12/08/12	KWG1213991	
Benzo(g,h,i)perylene	**0.82**	J	3.4	0.36	1	11/27/12	12/08/12	KWG1213991	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	75	46-114	12/08/12	Acceptable
Fluoranthene-d10	82	51-121	12/08/12	Acceptable
Terphenyl-d14	90	58-140	12/08/12	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C **Units:** ng/L
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MT2-DBA-5238-112312-0910	K1211798-001	66	70	71
MT2-DBB-5279-112312-0925	K1211798-002	67	77	82
Method Blank	KWG1213991-3	75	82	90
Lab Control Sample	KWG1213991-1	76	85	89
Duplicate Lab Control Sample	KWG1213991-2	76	85	87

Surrogate Recovery Control Limits (%)

Sur1	=	Fluorene-d10	46-114
Sur2	=	Fluoranthene-d10	51-121
Sur3	=	Terphenyl-d14	58-140

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Analyzed:**	12/08/2012
		Time Analyzed:	10:49

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\120812\1208F002.D	**Lab Code:**	KWG1214472-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214472
Analysis Method:	8270D SIM		

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	104,849	5.02	58,926	6.44	111,972	7.67
	Upper Limit ==>	209,698	5.52	117,852	6.94	223,944	8.17
	Lower Limit ==>	52,425	4.52	29,463	5.94	55,986	7.17
	ICAL Result ==>	110,467	5.03	60,573	6.44	123,024	7.67
Associated Analyses							
Method Blank	KWG1213991-3	109,109	5.02	61,815	6.44	117,427	7.67
Lab Control Sample	KWG1213991-1	109,311	5.02	60,995	6.44	117,297	7.66
Duplicate Lab Control Sample	KWG1213991-2	106,829	5.02	59,432	6.44	112,637	7.66
MT2-DBB-5279-112312-0925	K1211798-002	105,147	5.02	58,414	6.44	111,299	7.67

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Analyzed:**	12/08/2012
		Time Analyzed:	10:49

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\120812\1208F002.D	**Lab Code:**	KWG1214472-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214472
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	126,875	10.54	124,955	14.43
	Upper Limit ==>	253,750	11.04	249,910	14.93
	Lower Limit ==>	63,438	10.04	62,478	13.93
	ICAL Result ==>	143,497	10.53	129,998	14.39
Associated Analyses					
Method Blank	KWG1213991-3	128,928	10.53	123,831	14.42
Lab Control Sample	KWG1213991-1	133,420	10.54	132,195	14.41
Duplicate Lab Control Sample	KWG1213991-2	130,024	10.53	126,610	14.42
MT2-DBB-5279-112312-0925	K1211798-002	127,802	10.54	128,314	14.45

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02

Service Request: K1211798
Date Analyzed: 12/10/2012
Time Analyzed: 08:29

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\121012\1210F002.D
Instrument ID: MS11
Analysis Method: 8270D SIM

Lab Code: KWG1214516-2
Analysis Lot: KWG1214516

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	98,479	5.01	55,520	6.42	107,600	7.65
	Upper Limit ==>	196,958	5.51	111,040	6.92	215,200	8.15
	Lower Limit ==>	49,240	4.51	27,760	5.92	53,800	7.15
	ICAL Result ==>	110,467	5.03	60,573	6.44	123,024	7.67
Associated Analyses							
MT2-DBA-5238-112312-0910	K1211798-001	126,620	5.01	72,943	6.44	146,108	7.66

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Analyzed:**	12/10/2012
		Time Analyzed:	08:29

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\121012\1210F002.D	**Lab Code:**	KWG1214516-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1214516
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	124,668	10.51	110,345	14.38
	Upper Limit ==>	249,336	11.01	220,690	14.88
	Lower Limit ==>	62,334	10.01	55,173	13.88
	ICAL Result ==>	143,497	10.53	129,998	14.39
Associated Analyses					
MT2-DBA-5238-112312-0910	K1211798-001	167,290	10.54	159,069	14.51

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/27/2012
Sample Matrix:	Water	**Date Analyzed:**	12/08/2012

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3520C	**Units:**	ng/L
Analysis Method:	8270D SIM	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1213991

	Lab Control Sample KWG1213991-1 Lab Control Spike			Duplicate Lab Control Sample KWG1213991-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	368	500	74	375	500	75	39-110	2	30
2-Methylnaphthalene	379	500	76	384	500	77	39-115	1	30
Acenaphthylene	403	500	81	403	500	81	44-115	0	30
Acenaphthene	381	500	76	386	500	77	44-113	1	30
Dibenzofuran	388	500	78	387	500	77	46-116	0	30
Fluorene	390	500	78	387	500	77	48-118	1	30
Phenanthrene	382	500	76	399	500	80	47-120	4	30
Anthracene	409	500	82	423	500	85	44-117	3	30
Fluoranthene	412	500	82	416	500	83	48-128	1	30
Pyrene	407	500	81	404	500	81	42-133	1	30
Benz(a)anthracene	415	500	83	414	500	83	48-125	0	30
Chrysene	426	500	85	420	500	84	50-128	1	30
Benzo(b)fluoranthene	423	500	85	432	500	86	49-131	2	30
Benzo(k)fluoranthene	435	500	87	443	500	89	54-131	2	30
Benzo(a)pyrene	471	500	94	479	500	96	43-134	2	30
Indeno(1,2,3-cd)pyrene	515	500	103	524	500	105	45-133	2	30
Dibenz(a,h)anthracene	442	500	88	447	500	89	49-133	1	30
Benzo(g,h,i)perylene	442	500	88	452	500	90	51-124	2	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/27/2012
Sample Matrix:	Water	**Date Analyzed:**	12/08/2012
		Time Analyzed:	12:09

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Instrument ID:**	MS11
Lab Code:	KWG1213991-3	**File ID:**	J:\MS11\DATA\120812\1208F005.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1213991

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1213991-1	J:\MS11\DATA\120812\1208F006.D	12/08/12	12:36
Duplicate Lab Control Sample	KWG1213991-2	J:\MS11\DATA\120812\1208F007.D	12/08/12	13:02
MT2-DBB-5279-112312-0925	K1211798-002	J:\MS11\DATA\120812\1208F027.D	12/08/12	21:59
MT2-DBA-5238-112312-0910	K1211798-001	J:\MS11\DATA\121012\1210F017.D	12/10/12	15:11

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/27/2012
Sample Matrix:	Water	**Date Analyzed:**	12/08/2012
		Time Analyzed:	12:36

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Instrument ID:**	MS11
Lab Code:	KWG1213991-1	**File ID:**	J:\MS11\DATA\120812\1208F006.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1213991

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1213991-3	J:\MS11\DATA\120812\1208F005.D	12/08/12	12:09
MT2-DBB-5279-112312-0925	K1211798-002	J:\MS11\DATA\120812\1208F027.D	12/08/12	21:59
MT2-DBA-5238-112312-0910	K1211798-001	J:\MS11\DATA\121012\1210F017.D	12/10/12	15:11

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02

Service Request: K1211798
Date Analyzed: 12/08/2012
Time Analyzed: 10:23

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\120812\1208F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1214472

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	47.9	101416	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	47.9	101416	PASS
70	69	0	2	0.7	692	PASS
127	198	10	80	50.1	105960	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	51.0	211520	PASS
199	198	5	9	6.9	14603	PASS
275	198	10	60	33.0	69880	PASS
365	442	1	50	2.3	9485	PASS
441	443	0	100	74.0	61248	PASS
442	442	100	100	100.0	414656	PASS
443	442	15	24	19.9	82712	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1214472-2	J:\MS11\DATA\120812\1208F002.D	12/08/2012	10:49	
Method Blank	KWG1213991-3	J:\MS11\DATA\120812\1208F005.D	12/08/2012	12:09	
Lab Control Sample	KWG1213991-1	J:\MS11\DATA\120812\1208F006.D	12/08/2012	12:36	
Duplicate Lab Control Sample	KWG1213991-2	J:\MS11\DATA\120812\1208F007.D	12/08/2012	13:02	
MT2-DBB-5279-112312-0925	K1211798-002	J:\MS11\DATA\120812\1208F027.D	12/08/2012	21:59	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02

Service Request: K1211798
Date Analyzed: 12/10/2012
Time Analyzed: 08:03

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\121012\1210F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1214516

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	44.8	93760	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	45.3	94824	PASS
70	69	0	2	0.6	570	PASS
127	198	10	80	48.8	102016	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	46.4	209216	PASS
199	198	5	9	6.9	14337	PASS
275	198	10	60	34.2	71464	PASS
365	442	1	50	2.2	9792	PASS
441	443	0	100	75.7	67032	PASS
442	442	100	100	100.0	450560	PASS
443	442	15	24	19.7	88584	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1214516-2	J:\MS11\DATA\121012\1210F002.D	12/10/2012	08:29	
MT2-DBA-5238-112312-0910	K1211798-001	J:\MS11\DATA\121012\1210F017.D	12/10/2012	15:11	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 12/04/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12073 **Column:** MS
Instrument ID: MS11

Level ID	File ID	Level ID	File ID
A	J:\MS11\DATA\120412\1204F003.D	G	J:\MS11\DATA\120412\1204F009.D
B	J:\MS11\DATA\120412\1204F004.D	H	J:\MS11\DATA\120412\1204F010.D
C	J:\MS11\DATA\120412\1204F005.D	I	J:\MS11\DATA\120412\1204F011.D
D	J:\MS11\DATA\120412\1204F006.D	J	J:\MS11\DATA\120412\1204F012.D
E	J:\MS11\DATA\120412\1204F007.D		
F	J:\MS11\DATA\120412\1204F008.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	1.17	B	4.0	1.04	C	8.0	1.06	D	20	1.04	E	100	1.03
	F	200	1.02	G	400	0.994	H	1000	0.916	I	1600	0.850	J	2000	0.835
2-Methylnaphthalene	A	2.0	0.751	B	4.0	0.710	C	8.0	0.718	D	20	0.719	E	100	0.727
	F	200	0.733	G	400	0.712	H	1000	0.669	I	1600	0.629	J	2000	0.611
Acenaphthylene	A	2.0	1.76	B	4.0	1.63	C	8.0	1.77	D	20	1.77	E	100	1.86
	F	200	1.93	G	400	1.92	H	1000	1.80	I	1600	1.70	J	2000	1.64
Acenaphthene	A	2.0	1.11	B	4.0	1.06	C	8.0	1.12	D	20	1.13	E	100	1.15
	F	200	1.15	G	400	1.12	H	1000	1.05	I	1600	1.01	J	2000	0.977
Dibenzofuran	A	2.0	1.67	B	4.0	1.50	C	8.0	1.63	D	20	1.62	E	100	1.67
	F	200	1.70	G	400	1.68	H	1000	1.56	I	1600	1.47	J	2000	1.41
Fluorene	A	2.0	1.32	B	4.0	1.24	C	8.0	1.33	D	20	1.34	E	100	1.40
	F	200	1.40	G	400	1.39	H	1000	1.28	I	1600	1.22	J	2000	1.17
Phenanthrene	A	2.0	1.19	B	4.0	1.07	C	8.0	1.11	D	20	1.12	E	100	1.06
	F	200	1.03	G	400	1.02	H	1000	0.946	I	1600	0.888	J	2000	0.870
Anthracene	A	2.0	0.977	B	4.0	0.962	C	8.0	0.988	D	20	1.04	E	100	1.05
	F	200	1.08	G	400	1.04	H	1000	0.983	I	1600	0.930	J	2000	0.901
Fluoranthene	A	2.0	1.14	B	4.0	1.12	C	8.0	1.15	D	20	1.22	E	100	1.24
	F	200	1.25	G	400	1.18	H	1000	1.07	I	1600	1.00	J	2000	0.961
Pyrene	A	2.0	1.21	B	4.0	1.20	C	8.0	1.21	D	20	1.17	E	100	1.14
	F	200	1.14	G	400	1.08	H	1000	1.02	I	1600	0.995	J	2000	0.953
Benz(a)anthracene	A	2.0	1.23	B	4.0	1.04	C	8.0	1.02	D	20	1.03	E	100	0.986
	F	200	1.03	G	400	1.02	H	1000	1.03	I	1600	1.03	J	2000	1.00
Chrysene	A	2.0	0.997	B	4.0	0.903	C	8.0	0.980	D	20	1.03	E	100	1.01
	F	200	1.04	G	400	1.01	H	1000	0.996	I	1600	0.962	J	2000	0.968
Benzo(b)fluoranthene	A	2.0	0.994	B	4.0	0.944	C	8.0	0.995	D	20	1.08	E	100	1.11
	F	200	1.17	G	400	1.21	H	1000	1.21	I	1600	1.17	J	2000	1.17
Benzo(k)fluoranthene	A	2.0	0.930	B	4.0	0.881	C	8.0	0.916	D	20	1.03	E	100	1.11
	F	200	1.17	G	400	1.18	H	1000	1.17	I	1600	1.13	J	2000	1.13

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 12/04/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12073 **Column:** MS
Instrument ID: MS11

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benzo(a)pyrene	A	2.0	0.686	B	4.0	0.666	C	8.0	0.692	D	20	0.781	E	100	0.896
	F	200	0.978	G	400	1.03	H	1000	1.07	I	1600	1.05	J	2000	1.06
Indeno(1,2,3-cd)pyrene	A	2.0	0.694	B	4.0	0.606	C	8.0	0.641	D	20	0.719	E	100	0.809
	F	200	0.889	G	400	0.881	H	1000	0.890	I	1600	0.876	J	2000	0.855
Dibenz(a,h)anthracene	A	2.0	0.803	B	4.0	0.774	C	8.0	0.802	D	20	0.899	E	100	0.950
	F	200	1.02	G	400	0.971	H	1000	0.969	I	1600	0.953	J	2000	0.939
Benzo(g,h,i)perylene	A	2.0	1.01	B	4.0	0.928	C	8.0	0.968	D	20	1.05	E	100	1.10
	F	200	1.16	G	400	1.09	H	1000	1.02	I	1600	0.978	J	2000	0.961
Fluorene-d10	A	2.0	1.31	B	4.0	1.17	C	8.0	1.16	D	20	1.14	E	100	1.19
	F	200	1.21	G	400	1.21	H	1000	1.15	I	1600	1.11	J	2000	1.07
Fluoranthene-d10							C	8.0	1.04	D	20	1.09	E	100	1.09
	F	200	1.09	G	400	1.10	H	1000	1.04	I	1600	1.01	J	2000	0.984
Terphenyl-d14				B	4.0	0.759	C	8.0	0.765	D	20	0.809	E	100	0.773
	F	200	0.776	G	400	0.731	H	1000	0.742	I	1600	0.719	J	2000	0.712

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Calibration Date:** 12/04/2012

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12073 **Column:** MS
Instrument ID: MS11

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Naphthalene	MS	AverageRF	% RSD	10.3		≤ 20	0.997		0.70
2-Methylnaphthalene	MS	AverageRF	% RSD	6.6		≤ 20	0.698		0.40
Acenaphthylene	MS	AverageRF	% RSD	5.8		≤ 20	1.78		0.90
Acenaphthene	MS	AverageRF	% RSD	5.6		≤ 20	1.09		0.90
Dibenzofuran	MS	AverageRF	% RSD	6.2		≤ 20	1.59		0.80
Fluorene	MS	AverageRF	% RSD	6.2		≤ 20	1.31		0.90
Phenanthrene	MS	AverageRF	% RSD	10.0		≤ 20	1.03		0.70
Anthracene	MS	AverageRF	% RSD	5.7		≤ 20	0.995		0.70
Fluoranthene	MS	AverageRF	% RSD	8.7		≤ 20	1.13		0.60
Pyrene	MS	AverageRF	% RSD	8.5		≤ 20	1.11		0.60
Benz(a)anthracene	MS	AverageRF	% RSD	6.5		≤ 20	1.04		0.80
Chrysene	MS	AverageRF	% RSD	4.0		≤ 20	0.990		0.70
Benzo(b)fluoranthene	MS	AverageRF	% RSD	8.9		≤ 20	1.11		0.70
Benzo(k)fluoranthene	MS	AverageRF	% RSD	10.9		≤ 20	1.06		0.70
Benzo(a)pyrene	MS	AverageRF	% RSD	19.0		≤ 20	0.891		0.70
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	14.1		≤ 20	0.786		0.50
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	9.4		≤ 20	0.908		0.40
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	7.1		≤ 20	1.03		0.50
Fluorene-d10	SURR	AverageRF	% RSD	5.6		≤ 20	1.17		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	4.2		≤ 20	1.06		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	4.1		≤ 20	0.754		0.01

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COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2-Stormwater/1053-02

Service Request: K1211798
Calibration Date: 12/04/2012
Date Analyzed: 12/04/2012

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration ID: CAL12073
Units: ng/ml

File ID: J:\MS11\DATA\120412\1204F013.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	390	0.997	0.976	-2	NA	± 30 %	AverageRF
2-Methylnaphthalene	400	390	0.698	0.672	-4	NA	± 30 %	AverageRF
Acenaphthylene	400	410	1.78	1.82	2	NA	± 30 %	AverageRF
Acenaphthene	400	400	1.09	1.08	-1	NA	± 30 %	AverageRF
Dibenzofuran	400	400	1.59	1.61	1	NA	± 30 %	AverageRF
Fluorene	400	410	1.31	1.35	3	NA	± 30 %	AverageRF
Phenanthrene	400	390	1.03	1.01	-2	NA	± 30 %	AverageRF
Anthracene	400	400	0.995	1.00	1	NA	± 30 %	AverageRF
Fluoranthene	400	410	1.13	1.17	3	NA	± 30 %	AverageRF
Pyrene	400	380	1.11	1.05	-5	NA	± 30 %	AverageRF
Benz(a)anthracene	400	390	1.04	1.00	-3	NA	± 30 %	AverageRF
Chrysene	400	390	0.990	0.964	-3	NA	± 30 %	AverageRF
Benzo(b)fluoranthene	400	410	1.11	1.14	3	NA	± 30 %	AverageRF
Benzo(k)fluoranthene	400	430	1.06	1.15	8	NA	± 30 %	AverageRF
Benzo(a)pyrene	400	450	0.891	0.993	11	NA	± 30 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	450	0.786	0.888	13	NA	± 30 %	AverageRF
Dibenz(a,h)anthracene	400	430	0.908	0.968	7	NA	± 30 %	AverageRF
Benzo(g,h,i)perylene	400	420	1.03	1.07	4	NA	± 30 %	AverageRF

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Date Analyzed:** 12/08/2012

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard **Calibration Date:** 12/04/2012
Analysis Method: 8270D SIM **Calibration ID:** CAL12073
Analysis Lot: KWG1214472
Units: ng/ml

File ID: J:\MS11\DATA\120812\1208F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	390	0.70	0.997	0.979	-2		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	400	0.40	0.698	0.700	0		NA	± 20 %	AverageRF
Acenaphthylene	400	410	0.90	1.78	1.83	3		NA	± 20 %	AverageRF
Acenaphthene	400	400	0.90	1.09	1.08	-1		NA	± 20 %	AverageRF
Dibenzofuran	400	400	0.80	1.59	1.58	-1		NA	± 20 %	AverageRF
Fluorene	400	400	0.90	1.31	1.32	1		NA	± 20 %	AverageRF
Phenanthrene	400	380	0.70	1.03	0.984	-5		NA	± 20 %	AverageRF
Anthracene	400	430	0.70	0.995	1.07	7		NA	± 20 %	AverageRF
Fluoranthene	400	430	0.60	1.13	1.21	7		NA	± 20 %	AverageRF
Pyrene	400	410	0.60	1.11	1.13	2		NA	± 20 %	AverageRF
Benz(a)anthracene	400	410	0.80	1.04	1.06	2		NA	± 20 %	AverageRF
Chrysene	400	410	0.70	0.990	1.01	2		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	410	0.70	1.11	1.14	3		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	430	0.70	1.06	1.15	8		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	470	0.70	0.891	1.04	17		NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	520	0.50	0.786	1.02	30	*	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	450	0.40	0.908	1.02	12		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	450	0.50	1.03	1.15	12		NA	± 20 %	AverageRF
Fluorene-d10	400	380	0.01	1.17	1.13	-4		NA	± 20 %	AverageRF
Fluoranthene-d10	400	410	0.01	1.06	1.08	2		NA	± 20 %	AverageRF
Terphenyl-d14	400	400	0.01	0.754	0.745	-1		NA	± 20 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
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Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02 **Date Analyzed:** 12/10/2012

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard **Calibration Date:** 12/04/2012
Analysis Method: 8270D SIM **Calibration ID:** CAL12073
Analysis Lot: KWG1214516
Units: ng/ml

File ID: J:\MS11\DATA\121012\1210F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Naphthalene	400	400	0.70	0.997	0.994	0		NA	± 20 %	AverageRF
2-Methylnaphthalene	400	400	0.40	0.698	0.699	0		NA	± 20 %	AverageRF
Acenaphthylene	400	420	0.90	1.78	1.85	4		NA	± 20 %	AverageRF
Acenaphthene	400	400	0.90	1.09	1.09	0		NA	± 20 %	AverageRF
Dibenzofuran	400	400	0.80	1.59	1.61	1		NA	± 20 %	AverageRF
Fluorene	400	410	0.90	1.31	1.33	2		NA	± 20 %	AverageRF
Phenanthrene	400	390	0.70	1.03	1.01	-2		NA	± 20 %	AverageRF
Anthracene	400	430	0.70	0.995	1.06	7		NA	± 20 %	AverageRF
Fluoranthene	400	420	0.60	1.13	1.19	5		NA	± 20 %	AverageRF
Pyrene	400	390	0.60	1.11	1.08	-3		NA	± 20 %	AverageRF
Benz(a)anthracene	400	390	0.80	1.04	1.02	-2		NA	± 20 %	AverageRF
Chrysene	400	420	0.70	0.990	1.03	4		NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	420	0.70	1.11	1.17	6		NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	460	0.70	1.06	1.23	16		NA	± 20 %	AverageRF
Benzo(a)pyrene	400	470	0.70	0.891	1.05	18		NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	480	0.50	0.786	0.952	21	*	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	450	0.40	0.908	1.02	13		NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	420	0.50	1.03	1.08	5		NA	± 20 %	AverageRF
Fluorene-d10	400	380	0.01	1.17	1.12	-4		NA	± 20 %	AverageRF
Fluoranthene-d10	400	410	0.01	1.06	1.07	1		NA	± 20 %	AverageRF
Terphenyl-d14	400	370	0.01	0.754	0.694	-8		NA	± 20 %	AverageRF

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COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1214472
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1208F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1214472-1	12/8/2012	10:23		12/8/2012	10:42
1208F002.D	Continuing Calibration Verification	KWG1214472-2	12/8/2012	10:49		12/8/2012	11:08
1208F004.D	ZZZZZZ	ZZZZZZ	12/8/2012	11:42		12/8/2012	12:01
1208F005.D	Method Blank	KWG1213991-3	12/8/2012	12:09		12/8/2012	12:28
1208F006.D	Lab Control Sample	KWG1213991-1	12/8/2012	12:36		12/8/2012	12:55
1208F007.D	Duplicate Lab Control Sample	KWG1213991-2	12/8/2012	13:02		12/8/2012	13:21
1208F008.D	ZZZZZZ	ZZZZZZ	12/8/2012	13:29		12/8/2012	13:48
1208F009.D	ZZZZZZ	ZZZZZZ	12/8/2012	13:55		12/8/2012	14:14
1208F010.D	ZZZZZZ	ZZZZZZ	12/8/2012	14:22		12/8/2012	14:41
1208F011.D	ZZZZZZ	ZZZZZZ	12/8/2012	14:49		12/8/2012	15:08
1208F012.D	ZZZZZZ	ZZZZZZ	12/8/2012	15:17		12/8/2012	15:36
1208F013.D	ZZZZZZ	ZZZZZZ	12/8/2012	15:44		12/8/2012	16:03
1208F014.D	ZZZZZZ	ZZZZZZ	12/8/2012	16:11		12/8/2012	16:30
1208F015.D	ZZZZZZ	ZZZZZZ	12/8/2012	16:37		12/8/2012	16:56
1208F016.D	ZZZZZZ	ZZZZZZ	12/8/2012	17:03		12/8/2012	17:22
1208F017.D	ZZZZZZ	ZZZZZZ	12/8/2012	17:30		12/8/2012	17:49
1208F018.D	ZZZZZZ	ZZZZZZ	12/8/2012	17:58		12/8/2012	18:17
1208F019.D	ZZZZZZ	ZZZZZZ	12/8/2012	18:27		12/8/2012	18:46
1208F020.D	ZZZZZZ	ZZZZZZ	12/8/2012	18:54		12/8/2012	19:13
1208F021.D	ZZZZZZ	ZZZZZZ	12/8/2012	19:20		12/8/2012	19:39
1208F022.D	ZZZZZZ	ZZZZZZ	12/8/2012	19:47		12/8/2012	20:06
1208F023.D	ZZZZZZ	ZZZZZZ	12/8/2012	20:13		12/8/2012	20:32
1208F024.D	ZZZZZZ	ZZZZZZ	12/8/2012	20:40		12/8/2012	20:59
1208F025.D	ZZZZZZ	ZZZZZZ	12/8/2012	21:06		12/8/2012	21:25
1208F026.D	ZZZZZZ	ZZZZZZ	12/8/2012	21:32		12/8/2012	21:51
1208F027.D	MT2-DBB-5279-112312-0925	K1211798-002	12/8/2012	21:59		12/8/2012	22:19

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1211798
Project: T2-Stormwater/1053-02

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1214516
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1210F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1214516-1	12/10/2012	08:03		12/10/2012	08:23
1210F002.D	Continuing Calibration Verification	KWG1214516-2	12/10/2012	08:29		12/10/2012	08:48
1210F006.D	ZZZZZZ	ZZZZZZ	12/10/2012	10:19		12/10/2012	10:38
1210F007.D	ZZZZZZ	ZZZZZZ	12/10/2012	10:45		12/10/2012	11:04
1210F008.D	ZZZZZZ	ZZZZZZ	12/10/2012	11:11		12/10/2012	11:30
1210F009.D	ZZZZZZ	ZZZZZZ	12/10/2012	11:39		12/10/2012	11:58
1210F010.D	ZZZZZZ	ZZZZZZ	12/10/2012	12:06		12/10/2012	12:25
1210F011.D	ZZZZZZ	ZZZZZZ	12/10/2012	12:32		12/10/2012	12:51
1210F012.D	ZZZZZZ	ZZZZZZ	12/10/2012	12:58		12/10/2012	13:17
1210F013.D	ZZZZZZ	ZZZZZZ	12/10/2012	13:25		12/10/2012	13:44
1210F014.D	ZZZZZZ	ZZZZZZ	12/10/2012	13:51		12/10/2012	14:10
1210F015.D	ZZZZZZ	ZZZZZZ	12/10/2012	14:18		12/10/2012	14:37
1210F016.D	ZZZZZZ	ZZZZZZ	12/10/2012	14:44		12/10/2012	15:03
1210F017.D	MT2-DBA-5238-112312-0910	K1211798-001	12/10/2012	15:11		12/10/2012	15:30
1210F018.D	ZZZZZZ	ZZZZZZ	12/10/2012	15:37		12/10/2012	15:56
1210F019.D	ZZZZZZ	ZZZZZZ	12/10/2012	16:05		12/10/2012	16:24
1210F020.D	ZZZZZZ	ZZZZZZ	12/10/2012	16:32		12/10/2012	16:51
1210F021.D	ZZZZZZ	ZZZZZZ	12/10/2012	16:58		12/10/2012	17:17
1210F022.D	ZZZZZZ	ZZZZZZ	12/10/2012	17:25		12/10/2012	17:44
1210F023.D	ZZZZZZ	ZZZZZZ	12/10/2012	17:51		12/10/2012	18:10
1210F024.D	ZZZZZZ	ZZZZZZ	12/10/2012	18:18		12/10/2012	18:37
1210F025.D	ZZZZZZ	ZZZZZZ	12/10/2012	18:44		12/10/2012	19:03
1210F026.D	ZZZZZZ	ZZZZZZ	12/10/2012	19:11		12/10/2012	19:30
1210F027.D	ZZZZZZ	ZZZZZZ	12/10/2012	19:37		12/10/2012	19:56

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

COLUMBIA ANALYTICAL SERVICES, INC.

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QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1211798
Project:	T2-Stormwater/1053-02	**Date Extracted:**	11/27/2012
Sample Matrix:	Water		

Extraction Prep Log

Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3520C	**Extraction Lot:**	KWG1213991
Analysis Method:	8270D SIM	**Level:**	Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5238-112312-0910	K1211798-001	11/23/12	11/26/12	1010ml	1ml	NA	
MT2-DBB-5279-112312-0925	K1211798-002	11/23/12	11/26/12	990ml	1ml	NA	
Method Blank	KWG1213991-3	NA	NA	1010ml	1ml	NA	
Lab Control Sample	KWG1213991-1	NA	NA	1000ml	1ml	NA	
Duplicate Lab Control Sample	KWG1213991-2	NA	NA	1000ml	1ml	NA	

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

Specialty Analytical

11711 SE Capps Road, Ste B
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

December 18, 2012

Michael Pickering
Ash Creek Associates
3015 SW First Avenue
Portland, Oregon 97201

TEL: (503) 924-4704
FAX (503) 924-4707

RE: T2 Storm Water / 1995-00

Dear Michael Pickering: Order No.: 1212157

Specialty Analytical received 3 sample(s) on 12/17/2012 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Marty French
Lab Director

Specialty Analytical

Date Reported: 18-Dec-12

CLIENT: Ash Creek Associates
Collection Date: 12/17/2012 8:45:00 AM
Project: T2 Storm Water / 1995-00
Lab ID: 1212157-001
Client Sample ID: MT2-DBA-5198-121712-0845
Matrix: STORM WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS- TOTAL RECOVERABLE		**E200.7**				Analyst: **CT**
Aluminum	0.0568	0.0500		mg/L	1	12/17/2012 3:22:38 PM
Cadmium	ND	0.00100		mg/L	1	12/17/2012 3:22:38 PM
Chromium	ND	0.00500		mg/L	1	12/17/2012 3:22:38 PM
Copper	ND	0.0100		mg/L	1	12/17/2012 3:22:38 PM
Iron	0.0620	0.0100		mg/L	1	12/17/2012 3:22:38 PM
Lead	ND	0.0200		mg/L	1	12/17/2012 3:22:38 PM
Nickel	ND	0.00500		mg/L	1	12/17/2012 3:22:38 PM
Zinc	0.0277	0.0100		mg/L	1	12/17/2012 3:22:38 PM
PH		**SM 4500-H+ B**				Analyst: **AT**
pH	6.69	0	HT	pH Units	1	12/17/2012 11:06:00 AM
HEM/SGT PER EPA 1664		**E1664**				Analyst: **kbh**
HEM (Total Hexane Extractable Material)	ND	4.75		mg/L	1	12/17/2012 2:00:00 PM
TOTAL SUSPENDED SOLIDS		**M2540 D**				Analyst: **AT**
Total Suspended Solids	10.0	5.00		mg/L	1	12/18/2012 8:55:59 AM

Specialty Analytical

Date Reported: 18-Dec-12

CLIENT: Ash Creek Associates
Collection Date: 12/17/2012 8:34:00 AM
Project: T2 Storm Water / 1995-00
Lab ID: 1212157-002
Client Sample ID: MT2-DBB-5279-121712-0834
Matrix: STORM WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS- TOTAL RECOVERABLE		**E200.7**				Analyst: **CT**
Aluminum	0.717	0.0500		mg/L	1	12/17/2012 3:27:45 PM
Cadmium	ND	0.00100		mg/L	1	12/17/2012 3:27:45 PM
Chromium	ND	0.00500		mg/L	1	12/17/2012 3:27:45 PM
Copper	ND	0.0100		mg/L	1	12/17/2012 3:27:45 PM
Iron	0.758	0.0100		mg/L	1	12/17/2012 3:27:45 PM
Lead	ND	0.0200		mg/L	1	12/17/2012 3:27:45 PM
Nickel	ND	0.00500		mg/L	1	12/17/2012 3:27:45 PM
Zinc	0.0895	0.0100		mg/L	1	12/17/2012 3:27:45 PM
PH		**SM 4500-H+ B**				Analyst: **AT**
pH	6.48	0	HT	pH Units	1	12/17/2012 11:11:00 AM
HEM/SGT PER EPA 1664		**E1664**				Analyst: **kbh**
HEM (Total Hexane Extractable Material)	ND	4.70		mg/L	1	12/17/2012 2:00:00 PM
TOTAL SUSPENDED SOLIDS		**M2540 D**				Analyst: **AT**
Total Suspended Solids	62.0	5.00		mg/L	1	12/18/2012 8:59:59 AM

Specialty Analytical

Date Reported: 18-Dec-12

CLIENT: Ash Creek Associates
Collection Date: 12/17/2012 8:24:00 AM
Project: T2 Storm Water / 1995-00
Lab ID: 1212157-003
Client Sample ID: MT2-DDS-B206-121712-0824
Matrix: STORM WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS- TOTAL RECOVERABLE		**E200.7**				Analyst: **CT**
Aluminum	0.0558	0.0500		mg/L	1	12/17/2012 3:32:52 PM
Cadmium	ND	0.00100		mg/L	1	12/17/2012 3:32:52 PM
Chromium	ND	0.00500		mg/L	1	12/17/2012 3:32:52 PM
Copper	ND	0.0100		mg/L	1	12/17/2012 3:32:52 PM
Iron	0.318	0.0100		mg/L	1	12/17/2012 3:32:52 PM
Lead	ND	0.0200		mg/L	1	12/17/2012 3:32:52 PM
Nickel	ND	0.00500		mg/L	1	12/17/2012 3:32:52 PM
Zinc	0.0105	0.0100		mg/L	1	12/17/2012 3:32:52 PM
PH		**SM 4500-H+ B**				Analyst: **AT**
pH	6.85	0	HT	pH Units	1	12/17/2012 11:36:00 AM
HEM/SGT PER EPA 1664		**E1664**				Analyst: **kbh**
HEM (Total Hexane Extractable Material)	ND	4.75		mg/L	1	12/17/2012 2:00:00 PM
TOTAL SUSPENDED SOLIDS		**M2540 D**				Analyst: **AT**
Total Suspended Solids	13.0	5.00		mg/L	1	12/18/2012 9:01:59 AM

QC SUMMARY REPORT

WO#: **1212157**

Specialty Analytical

18-Dec-12

Client: Ash Creek Associates

Project: T2 Storm Water / 1995-00

TestCode: **1664_SPE**

Sample ID: **MB-R7668** SampType: **MBLK** TestCode: **1664_SPE** Units: **mg/L** Prep Date: RunNo: **7668**

Client ID: **PBW** Batch ID: **R7668** TestNo: **E1664** Analysis Date: **12/17/2012** SeqNo: **97329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
HEM (Total Hexane Extractable Materia	ND	5.00									

Sample ID: **LCS-R7668** SampType: **LCS** TestCode: **1664_SPE** Units: **mg/L** Prep Date: RunNo: **7668**

Client ID: **LCSW** Batch ID: **R7668** TestNo: **E1664** Analysis Date: **12/17/2012** SeqNo: **97330**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
HEM (Total Hexane Extractable Materia	34.2	5.00	40.00	0	85.5	78	114				

Sample ID: **LCSD-R7668** SampType: **LCSD** TestCode: **1664_SPE** Units: **mg/L** Prep Date: RunNo: **7668**

Client ID: **LCSS02** Batch ID: **R7668** TestNo: **E1664** Analysis Date: **12/17/2012** SeqNo: **97331**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
HEM (Total Hexane Extractable Materia	32.6	5.00	40.00	0	81.5	78	114	34.20	4.79	20	

Qualifiers:

QC SUMMARY REPORT

WO#: **1212157**

Specialty Analytical

18-Dec-12

Client: Ash Creek Associates

Project: T2 Storm Water / 1995-00 **TestCode:** **200.7**

Sample ID: **ICV** SampType: **ICV** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **7653**

Client ID: **ICV** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97109**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.0500	2.500	0	101	95	105				
Cadmium	0.0495	0.00100	0.05000	0	99.0	95	105				
Chromium	0.242	0.00500	0.2500	0	96.6	95	105				
Copper	0.488	0.0100	0.5000	0	97.6	95	105				
Iron	0.515	0.0100	0.5000	0	103	95	105				
Lead	1.02	0.0200	1.000	0	102	95	105				
Nickel	0.254	0.00500	0.2500	0	102	95	105				
Zinc	0.511	0.0100	0.5000	0	102	95	105				

Sample ID: **MB-4186** SampType: **MBLK** TestCode: **200.7** Units: **mg/L** Prep Date: **12/17/2012** RunNo: **7653**

Client ID: **PBW** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0500									
Cadmium	ND	0.00100									
Chromium	ND	0.00500									
Copper	ND	0.0100									
Iron	ND	0.0100									
Lead	ND	0.0200									
Nickel	ND	0.00500									
Zinc	ND	0.0100									

Qualifiers:

QC SUMMARY REPORT

WO#: **1212157**

Specialty Analytical

18-Dec-12

Client: Ash Creek Associates

Project: T2 Storm Water / 1995-00 **TestCode:** **200.7**

Sample ID: **LCS-4186** SampType: **LCS** TestCode: **200.7** Units: **mg/L** Prep Date: **12/17/2012** RunNo: **7653**

Client ID: **LCSW** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97112**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.58	0.0500	2.500	0	103	85	115				
Cadmium	0.0512	0.00100	0.05000	0	102	91.8	110				
Chromium	0.261	0.00500	0.2500	0	104	93.9	113				
Copper	0.507	0.0100	0.5000	0	101	89.7	117				
Iron	0.546	0.0100	0.5000	0	109	86.2	117				
Lead	1.10	0.0200	1.000	0	110	93.1	112				
Zinc	0.546	0.0100	0.5000	0	109	92.3	111				

Sample ID: **A1212152-003BDUP** SampType: **DUP** TestCode: **200.7** Units: **mg/L** Prep Date: **12/17/2012** RunNo: **7653**

Client ID: **ZZZZZZ** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97114**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	822	0.200						826.4	0.558	20	

Sample ID: **CCV** SampType: **CCV** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **7653**

Client ID: **CCV** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.0500	2.500	0	101	90	110				
Cadmium	0.0509	0.00100	0.05000	0	102	90	110				
Chromium	0.259	0.00500	0.2500	0	104	90	110				
Copper	0.494	0.0100	0.5000	0	98.8	90	110				
Iron	0.549	0.0100	0.5000	0	110	90	110				
Lead	1.09	0.0200	1.000	0	109	90	110				
Nickel	0.272	0.00500	0.2500	0	109	90	110				

Qualifiers:

QC SUMMARY REPORT

WO#: **1212157**

Specialty Analytical

18-Dec-12

Client: Ash Creek Associates
Project: T2 Storm Water / 1995-00 **TestCode:** **200.7**

Sample ID: **CCV** SampType: **CCV** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **7653**
Client ID: **CCV** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.539	0.0100	0.5000	0	108	90	110				

Sample ID: **A1212152-003BMS** SampType: **MS** TestCode: **200.7** Units: **mg/L** Prep Date: **12/17/2012** RunNo: **7653**
Client ID: **ZZZZZZ** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97116**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	862	0.200	0.5000	826.4	7200	75	125				SMC

Sample ID: **A1212152-003BMSD** SampType: **MSD** TestCode: **200.7** Units: **mg/L** Prep Date: **12/17/2012** RunNo: **7653**
Client ID: **ZZZZZZ** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97117**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	860	0.200	0.5000	826.4	6640	75	125	862.4	0.325	20	SMC

Sample ID: **CCV** SampType: **CCV** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **7653**
Client ID: **CCV** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97125**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.0500	2.500	0	101	90	110				
Cadmium	0.0493	0.00100	0.05000	0	98.6	90	110				
Chromium	0.240	0.00500	0.2500	0	96.1	90	110				
Copper	0.471	0.0100	0.5000	0	94.2	90	110				
Iron	0.523	0.0100	0.5000	0	105	90	110				
Lead	1.06	0.0200	1.000	0	106	90	110				
Nickel	0.265	0.00500	0.2500	0	106	90	110				

Qualifiers:

QC SUMMARY REPORT

WO#: **1212157**

Specialty Analytical

18-Dec-12

Client: Ash Creek Associates

Project: T2 Storm Water / 1995-00 **TestCode:** **200.7**

Sample ID: **CCV** SampType: **CCV** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **7653**

Client ID: **CCV** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97125**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.523	0.0100	0.5000	0	105	90	110				

Sample ID: **LCS-4186** SampType: **LCS** TestCode: **200.7** Units: **mg/L** Prep Date: **12/17/2012** RunNo: **7653**

Client ID: **LCSW** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97131**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.250	0.00500	0.2500	0	99.8	93.4	111				

Sample ID: **A1212152-003BDUP** SampType: **DUP** TestCode: **200.7** Units: **mg/L** Prep Date: **12/17/2012** RunNo: **7653**

Client ID: **ZZZZZZ** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97136**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0500						0	0	20	
Cadmium	ND	0.00100						0	0	20	
Chromium	ND	0.00500						0	0	20	
Copper	ND	0.0100						0	0	20	
Lead	ND	0.0200						0	0	20	
Nickel	ND	0.00500						0	0	20	
Zinc	0.0403	0.0100						0.04280	6.02	20	

Sample ID: **A1212152-003BMS** SampType: **MS** TestCode: **200.7** Units: **mg/L** Prep Date: **12/17/2012** RunNo: **7653**

Client ID: **ZZZZZZ** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.43	0.0500	2.500	0	57.1	83.8	125				S

Qualifiers:

QC SUMMARY REPORT

WO#: **1212157**

Specialty Analytical

18-Dec-12

Client: Ash Creek Associates

Project: T2 Storm Water / 1995-00 **TestCode:** **200.7**

Sample ID: **A1212152-003BMS** SampType: **MS** TestCode: **200.7** Units: **mg/L** Prep Date: **12/17/2012** RunNo: **7653**

Client ID: **ZZZZZZ** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0589	0.00100	0.05000	0	118	93.4	110				S
Chromium	0.246	0.00500	0.2500	0	98.6	93.4	112				
Copper	0.465	0.0100	0.5000	0	93.1	92.7	114				
Lead	1.10	0.0200	1.000	0	110	91.9	112				
Nickel	0.188	0.00500	0.2500	0	75.0	88.5	112				S
Zinc	0.603	0.0100	0.5000	0.04280	112	93	110				S

Sample ID: **A1212152-003BMSD** SampType: **MSD** TestCode: **200.7** Units: **mg/L** Prep Date: **12/17/2012** RunNo: **7653**

Client ID: **ZZZZZZ** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97138**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.43	0.0500	2.500	0	57.0	83.8	125	1.428	0.140	20	S
Cadmium	0.0594	0.00100	0.05000	0	119	93.4	110	0.05890	0.845	20	S
Chromium	0.247	0.00500	0.2500	0	98.7	93.4	112	0.2464	0.162	20	
Copper	0.466	0.0100	0.5000	0	93.3	92.7	114	0.4653	0.258	20	
Lead	1.10	0.0200	1.000	0	110	91.9	112	1.100	0.0909	20	
Nickel	0.189	0.00500	0.2500	0	75.7	88.5	112	0.1875	0.955	20	S
Zinc	0.606	0.0100	0.5000	0.04280	113	93	110	0.6031	0.529	20	S

Sample ID: **CCV** SampType: **CCV** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **7653**

Client ID: **CCV** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97139**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.57	0.0500	2.500	0	103	90	110				
Cadmium	0.0494	0.00100	0.05000	0	98.8	90	110				

Qualifiers:

QC SUMMARY REPORT

WO#: **1212157**

Specialty Analytical

18-Dec-12

Client: Ash Creek Associates

Project: T2 Storm Water / 1995-00 **TestCode:** **200.7**

Sample ID: **CCV** SampType: **CCV** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **7653**

Client ID: **CCV** Batch ID: **4186** TestNo: **E200.7** **E200.7** Analysis Date: **12/17/2012** SeqNo: **97139**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.247	0.00500	0.2500	0	98.8	90	110				
Copper	0.479	0.0100	0.5000	0	95.9	90	110				
Iron	0.533	0.0100	0.5000	0	107	90	110				
Lead	1.08	0.0200	1.000	0	108	90	110				
Nickel	0.272	0.00500	0.2500	0	109	90	110				
Zinc	0.535	0.0100	0.5000	0	107	90	110				

Qualifiers:

QC SUMMARY REPORT

WO#: **1212157**

Specialty Analytical

18-Dec-12

Client: Ash Creek Associates

Project: T2 Storm Water / 1995-00

TestCode: **PH_CWA**

Sample ID: **1212162-001BDUP** SampType: **DUP** TestCode: **PH_CWA** Units: **pH Units** Prep Date: RunNo: **7662**

Client ID: **ZZZZZZ** Batch ID: **R7662** TestNo: **SM 4500-H+** Analysis Date: **12/17/2012** SeqNo: **97276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.88	0						6.870	0.145	20	HT

Qualifiers:

QC SUMMARY REPORT

WO#: **1212157**

Specialty Analytical

18-Dec-12

Client: Ash Creek Associates

Project: T2 Storm Water / 1995-00 **TestCode:** **TSS_WW**

Sample ID: **MB-R7659** SampType: **MBLK** TestCode: **TSS_WW** Units: **mg/L** Prep Date: RunNo: **7659**
Client ID: **PBW** Batch ID: **R7659** TestNo: **M2540 D** Analysis Date: **12/18/2012** SeqNo: **97228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	5.00									

Sample ID: **LCS-R7659** SampType: **LCS** TestCode: **TSS_WW** Units: **mg/L** Prep Date: RunNo: **7659**
Client ID: **LCSW** Batch ID: **R7659** TestNo: **M2540 D** Analysis Date: **12/18/2012** SeqNo: **97229**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	89.0	5.00	100.0	0	89.0	80	105				

Sample ID: **1212157-001BDUP** SampType: **DUP** TestCode: **TSS_WW** Units: **mg/L** Prep Date: RunNo: **7659**
Client ID: **MT2-DBA-5198-1217** Batch ID: **R7659** TestNo: **M2540 D** Analysis Date: **12/18/2012** SeqNo: **97231**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	9.00	5.00						10.00	10.5	20	

Sample ID: **1212160-001BDUP** SampType: **DUP** TestCode: **TSS_WW** Units: **mg/L** Prep Date: RunNo: **7659**
Client ID: **ZZZZZZ** Batch ID: **R7659** TestNo: **M2540 D** Analysis Date: **12/18/2012** SeqNo: **97235**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	5.00						0	0	20	

Qualifiers:

KEY TO FLAGS

Rev. May 12, 2010

A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards

A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.

A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.

A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4 The product appears to be aged or degraded diesel.

B The blank exhibited a positive result great than the reporting limit for this compound.

CN See Case Narrative.

D Result is based from a dilution.

E Result exceeds the calibration range for this compound. The result should be considered as estimate.

F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

G Result may be biased high due to biogenic interferences. Clean up is recommended.

H Sample was analyzed outside recommended holding time.

HT At clients request, samples was analyzed outside of recommended holding time.

J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.

K Diesel result is biased high due to amount of Oil contained in the sample.

L Diesel result is biased high due to amount of Gasoline contained in the sample.

M Oil result is biased high due to amount of Diesel contained in the sample.

MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI Result is outside control limits due to matrix interference.

MSA Value determined by Method of Standard Addition.

O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.

Q Detection levels elevated due to sample matrix.

R RPD control limits were exceeded.

RF Duplicate failed due to result being at or near the method-reporting limit.

RP Matrix spike values exceed established QC limits; post digestion spike is in control.

S Recovery is outside control limits.

SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

* The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit.

Ash Creek Associates
A Division of Apex Companies, LLC

APEX

CHAIN OF CUSTODY RECORD

12/2/57

Client Name: Ash Creek Associates
Address: 3015 SW First Ave
City/State/Zip: Portland, OR 97201

Telephone Number: 503.924.4704
Fax No.: 503.943.6357

Project Manager: Michael Pickering
Project Name: T2 Storm Water
Project Number: 1995-00
Sampler Name: M. Pickering

Analytical Lab: Specialty
Report To: Michael Pickering
Page: 1 of 1

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)		Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Matrix: Storm Water	Analyze For: Total Suspended Solids (SM2540 D)	Analyze For: Total aluminum, cadmium, chromium, copper, iron, lead, nickel, and zinc by EPA 200 Series	Analyze For: Oil & Grease by EPA 1664A	Analyze For: pH by SM 4500-H+B					RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
MT2-DBA-5198-121712-0845	12/17/12	845	3	X			X		X				X								X	X	X	X	X					X			
MT2-DBB-5279-121712-0834	12/17/12	834	3	X			X		X				X								X	X	X	X	X					X			
MT2-DDS-B206-121712-0824	12/17/12	824	3	X			X		X				X								X	X	X	X	X					X			

Special Instructions: **Please bill to Ash Creek using Port rates**

Method of Shipment:

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Matt Thoenes Ash Creek	12/17/2012	1022	Nikki Bippes/SA	12/17/12	1022
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time

Laboratory Comments:

Temperature Upon Receipt:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

March 12, 2013 Analytical Report for Service Request No: K1301564

Michael Pickering
Ash Creek Associates
3015 SW First Avenue
Portland, OR 97201

RE: T2 Storm Water/1053-02

Dear Michael:

Enclosed are the results of the samples submitted to our laboratory on February 22, 2013. For your reference, these analyses have been assigned our service request number K1301564.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3363. You may also contact me via Email at Lisa.Domenighini@alsglobal.com.

Respectfully submitted,

Columbia Analytical Services, Inc. dba ALS Environmental

Lisa Domenighini
Project Manager

LD/ln

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Columbia Analytical Services, Inc.
Part of the ALS Group A Campbell Brothers Limited Company

Environmental www.caslab.com ▪ www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Louisiana DHH	Not available	LA110003
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
New Mexico ED	http://www.nmenv.state.nm.us/dwb/Index.htm	-
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	4704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.caslab.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

ALS ENVIRONMENTAL

Client:	Ash Creek Associates, Inc.	**Service Request No.:**	K1301564
Project:	T2 Storm Water	**Date Received:**	2/22/13
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier III deliverables including summary forms for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Three Grab samples and three Composite samples were received for analysis at ALS Environmental on 2/22/13. As instructed, the containers that were labeled as composite samples were composited in the laboratory to create K1301564-004, *MT2-DBA-5198-022213-1050 Comp* , K1301564-005, *MT2-DBB-5279-022213-1015 Comp* , K1301564-006, *MT2-DDS-B206-022213-1130 Comp* . The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters: Grab

No anomalies associated with the analysis of these samples were observed.

Total Metals:Composite

Matrix Spike Recovery Exceptions:
The control criteria for matrix spike recovery of Zinc for sample MT2-DBB-5279-022213-1015 Comp were not applicable. The analyzed concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

No other anomalies associated with the analysis of these samples were observed.

Organochlorine Pesticides by EPA Method 608: Composite

Calibration Verification Exceptions:
The analysis of Chlorinated Pesticides by EPA 608 requires the use of dual column confirmation. When the Continuing Calibration Verification (CCV) criterion is met for both columns, the lower of the two sample results is generally reported. The primary evaluation criteria were not met on the confirmation column for delta-BHC, 4,4'-DDT, and Decachlorobiphenyl. The results were reported from the column with an acceptable CCV. The data quality was not affected. No further corrective action was necessary.

Elevated Detection Limits:
The detection limit was elevated for all analytes in samples MT2-DBA-5198-022213-1050 Comp and MT2-DBB-5579-022213-1015 Comp. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. The extract was highly colored, which indicated the need to perform a dilution prior to injection into the instrument. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. The results were flagged to indicate the matrix interference.

Approved by_____

Matrix Spike Recovery Exceptions:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 625-PCP: Composite

Sample Notes and Discussion:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082: Composite

Matrix Spike Recovery Exceptions:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

Elevated Detection Limits:
The detection limit was elevated for several target Aroclors in these samples. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference.

No other anomalies associated with the analysis of these samples were observed.

Polynuclear Aromatic Hydrocarbons by EPA Method 8270:Composite

Surrogate Exceptions:
The control criteria were exceeded for Terphenyl-d14 in sample MT2-DBB-5279-022213-1015 Comp due to matrix interference. The presence of non-target background components prevented adequate resolution of the surrogate. Accurate quantitation was not possible. No further corrective action was appropriate.

The control criteria were exceeded for Terphenyl-d14 in sample Batch QCMS due to matrix interference. The parent sample and DMS produced similar results which were just within control criteria. The results of the original analysis were reported. No further corrective action was required.

Sample Notes and Discussion:
The following analytes could not be adequately resolved in sample MT2-DBA-5198-022213-1050 Comp: Benzo(b)fluoranthene and Benzo(k)fluoranthene. The results for these compounds were integrated together and reported as Benzo(b)fluoranthene. The results for both analytes were flagged with "X" to indicate the issue.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Semivolatile Organic Compounds by EPA Method 525.2-Phthalates: Composite

Surrogate Exceptions and Internal Standard Exceptions:
A couple of surrogates failed recovery criteria 564-5 and Perylene (low) and Triphenyl phosphate (high) in 564-06 The internal standard fiailed critieria Acenapthene-d10 and Phenanthrene-d10 failed low in MT2-DBB-5279-022213-1015 Comp and Acenapthene-d10 in MT2-DDS-B206-022213-1130 Comp. The samples contained particulate matter that collected on the extraction disk during sample elution. Historical results have shown that particulate matter can cause recovery issues for both surrogates and internal standards. The control criteria are designed for drinking water matrices and can only be used as default limits for wastewaters. No further corrective action was appropriate.

Lab Control Sample Exceptions:
The control criterion was exceeded Bis (2-ethylhexyl) Phthalate in Duplicate Laboratory Control Sample (DLCS) KWG1301880-2. The problem indicated a potential bias for results reported from this analytical batch. Reanalysis was not performed because insufficient sample remained for additional testing. The data was flagged to indicate the problem.

Elevated Detection Limits:
The detection limit was elevated for the analytes in the samples. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. The results were flagged to indicate the matrix interference.

Sample Notes and Discussion:
Insufficient sample volume was received to perform a Matrix Spike/Matrix Spike Duplicate (MS/MSD). A Laboratory Control Sample/Duplicate Laboratory Control Sample (LCS/DLCS) was analyzed and reported in lieu of the MS/MSD for these samples.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Ash Creek Associates
A Division of Apex Companies, LLC
APEX

CHAIN OF CUSTODY RECORD

K1301564

Client Name: Ash Creek Associates
Address: 3015 SW First Ave
City/State/Zip: Portland, OR 97201
Telephone Number: 503.924.4704
Fax No.: 503.943.6357

Project Manager: Michael Pickering
Analytical Lab: ALS
Project Name: T2 Storm Water
Report To: Michael Pickering
Project Number: 1053-02
Page: 1 of 1
Sampler Name: Carmen Owens / Chris Clough

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	HNO_3 (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 Plastic (Yellow Label)	H_2SO_4 Glass(Yellow Label)	None (Black Label)		Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other (specify):	Storm Water	Analyze For: Total Suspended Solids (SM2540 D)	Total Aluminum, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Nickel, Zinc, (EPA 200 Series)	Total PAHs (EPA 8270-SIM)	Total Phthlalates (EPA 525.2)	Total PCB Aroclors (EPA 8082) *	Total Arsenic (EPA 1632)	Oil & Grease by EPA 1664A	pH by SM 4500-H+B	Pesticides by EPA 608 **	Pentachlorophenol by EPA 625	RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
MT2-DBA-5198-022213-1050	2/22/13	1050	5	X			X		X				X								X	X	X	X	X	X	X	X	X	X	X			X		
MT2-DBB-5279-022213-1015	2/22/13	1015	5	X			X		X				X								X	X	X	X	X	X	X	X	X	X	X			X		
MT2-DDS-B206-022213-1130	2/22/13	1130	4	X			X		X				X								X	X	X	X	X	X	X	X	X	X	X			X		

Special Instructions: Bill to Ash Creek using rates from ALS Quote 23353 - Level III Deliverable - MDL Report
* 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268 * Composite all containers with the exception of O&G/pH
** Report Aldrin, 4,4-DDT, 4,4-DDE, and Dieldrin

Method of Shipment: Courier

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Carmen Owens / Apex	2-22-13	1222	Rachelle Vanderzanden / Apex	2/22/13	1222
Rachelle Vanderzanden / Apex	2/22/13	1312	D. Hoblamen ALS	2.22.13	13:12
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
			ALS KCISO	2/22/13	1410
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time

Laboratory Comments:

Temperature Upon Receipt:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

SHORT HOLD TIME

Cooler Receipt and Preservation Form

PC Lisa

Client / Project: Ash Creek Service Request *K13* 01564

Received: 2/22/13 Opened: 2/22/13 By: SD Unloaded: 2/22/13 By: SD

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Temp	Corr. Temp	Raw Blank	Corr. Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number (NA)	Filed
4.6	4.9	Frozen		+0.1	335			
-0.5	-0.5	4.2	4.2	0	324			
3.6	3.8	—	—	+0.2	300			

7. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* * NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: * Composite created @ lab

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Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/13
Sample Matrix:	Water	**Date Received:**	02/22/13
Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
MT2-DBA-5198-022213-1050 Grab	K1301564-001	**1.4 J**	4.8	0.8	1	03/04/13	3/4/13	
MT2-DBB-5279-022213-1015 Grab	K1301564-002	ND U	4.8	0.8	1	03/04/13	3/4/13	
MT2-DDS-B206-022213-1130 Grab	K1301564-003	ND U	4.8	0.8	1	03/04/13	3/4/13	
Method Blank	K1301564-MB1	ND U	5.0	0.8	1	03/04/13	3/4/13	

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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	N/A
Sample Matrix:	Water	**Date Received:**	N/A
		Date Analyzed:	03/4/13
		Date Extracted:	03/4/13

Matrix Spike Summary
Oil and Grease, Total (HEM)

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1301500-002	**Basis:**	NA
Analysis Method:	1664A		
Prep Method:	Method		

Matrix Spike
K1301500-002MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	ND	55.8	60.0	93	78-114

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

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

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

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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	03/04/13
Sample Matrix:	Water	**Date Extracted:**	03/04/13

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	1664A	**Units:**	mg/L
Prep Method:	Method	**Basis:**	NA
		Analysis Lot:	331214

	Lab Control Sample K1301564-LCS1			Duplicate Lab Control Sample K1301564-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Total (HEM)	57.1	60.0	95	57.2	60.0	95	78-114	<1	20

COLUMBIA ANALYTICAL SERVICES, INC.
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Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/13
Sample Matrix:	Water	**Date Received:**	02/22/13
Analysis Method:	SM 2540 D	**Units:**	mg/L
		Basis:	NA

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
MT2-DBA-5198-022213-1050 Comp	K1301564-004	**58.3**	2.9	-	1	03/01/13 13:30	
MT2-DBB-5279-022213-1015 Comp	K1301564-005	**50.7**	3.3	-	1	03/01/13 13:30	
MT2-DDS-B206-022213-1130 Comp	K1301564-006	**23.0**	2.0	-	1	03/01/13 13:30	
Method Blank	K1301564-MB1	ND U	5.0	-	1	03/01/13 13:30	
Method Blank	K1301564-MB2	ND U	5.0	-	1	03/01/13 13:30	
Method Blank	K1301564-MB3	ND U	1.0	-	1	03/01/13 13:30	
Method Blank	K1301564-MB4	ND U	4.0	-	1	03/01/13 13:30	

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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project	T2 Storm Water/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	03/01/13

Replicate Sample Summary

General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	mg/L
Lab Code:	K1301674-003	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1301674-003DUP Result	Average	RPD	RPD Limit
Solids, Total Suspended (TSS)	SM 2540 D	4.0	-	ND	ND	NC	NC	10

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Service Request:K1301564
Date Analyzed:03/01/13

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method: SM 2540 D

Units:mg/L
Basis:NA
Analysis Lot:331024

	Lab Control Sample K1301564-LCS1			Duplicate Lab Control Sample K1301564-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Solids, Total Suspended (TSS)	30.5	32.5	94	30.2	32.5	93	85-115	<1	20

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Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/13
Sample Matrix:	Water	**Date Received:**	02/22/13
Analysis Method:	SM 4500-H+ B	**Units:**	pH Units
		Basis:	NA

pH

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
MT2-DBA-5198-022213-1050 Grab	K1301564-001	**7.68**	-	-	1	02/22/13 17:24	H
MT2-DBB-5279-022213-1015 Grab	K1301564-002	**7.20**	-	-	1	02/22/13 17:26	H
MT2-DDS-B206-022213-1130 Grab	K1301564-003	**7.27**	-	-	1	02/22/13 17:28	H

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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project	T2 Storm Water/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	02/22/13

Replicate Sample Summary

General Chemistry Parameters

Sample Name:	Batch QC	**Units:**	pH Units
Lab Code:	K1301542-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1301542-001DUP Result	Average	RPD	RPD Limit
pH	SM 4500-H+ B	-	-	6.59	6.63	6.61	<1	20

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Service Request:K1301564
Date Analyzed:02/22/13

Lab Control Sample Summary
pH

Analysis Method: SM 4500-H+ B

Units:pH Units
Basis:NA
Analysis Lot:330244

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1301564-LCS2	7.51	7.65	98	85-115

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Ash Creek Associates, Inc.
Project Name: T2 Storm Water
Project No.: 1053-02

Service Request: K1301564

Sample Name:	Lab Code:
MT2-DBA-5198-022213-1050 Comp	K1301564-004
MT2-DBA-5198-022213-1050 CompD	K1301564-004D
MT2-DBA-5198-022213-1050 CompS	K1301564-004S
MT2-DBB-5279-022213-1015 Comp	K1301564-005
MT2-DBB-5279-022213-1015 CompD	K1301564-005D
MT2-DBB-5279-022213-1015 CompS	K1301564-005S
MT2-DDS-B206-022213-1130 Comp	K1301564-006
MT2-DDS-B206-022213-1130 CompD	K1301564-006D
MT2-DDS-B206-022213-1130 CompS	K1301564-006S
Method Blank	K1301564-MB

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project No.:	1053-02	**Date Collected:**	02/22/13
Project Name:	T2 Storm Water	**Date Received:**	02/22/13
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: **MT2-DBA-5198-022213-1050 Comp** **Lab Code:** **K1301564-004**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	2.0	0.5	1.0	02/25/13	02/27/13	943		
Cadmium	200.8	0.020	0.005	1.0	02/25/13	02/26/13	0.176		
Chromium	200.8	0.20	0.02	1.0	02/25/13	02/26/13	3.17		
Copper	200.8	0.10	0.02	1.0	02/25/13	02/26/13	13.0		
Iron	200.7	10.0	5.0	1.0	02/25/13	02/27/13	3260		
Lead	200.8	0.020	0.005	1.0	02/25/13	02/26/13	10.6		
Mercury	7470A	0.20	0.02	1.0	02/25/13	02/26/13	0.02	U	
Nickel	200.8	0.20	0.02	1.0	02/25/13	02/26/13	2.28		
Zinc	200.8	0.5	0.2	1.0	02/25/13	02/26/13	96.6		

Comments:

Metals

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project No.:	1053-02	**Date Collected:**	02/22/13
Project Name:	T2 Storm Water	**Date Received:**	02/22/13
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: **MT2-DBB-5279-022213-1015 Comp** **Lab Code:** **K1301564-005**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	2.0	0.5	1.0	02/25/13	02/27/13	730		
Cadmium	200.8	0.020	0.005	1.0	02/25/13	02/26/13	0.191		
Chromium	200.8	0.20	0.02	1.0	02/25/13	02/26/13	1.98		
Copper	200.8	0.10	0.02	1.0	02/25/13	02/26/13	15.5		
Iron	200.7	10.0	5.0	1.0	02/25/13	02/27/13	1660		
Lead	200.8	0.020	0.005	1.0	02/25/13	02/26/13	19.7		
Mercury	7470A	0.20	0.02	1.0	02/25/13	02/26/13	0.09	J	
Nickel	200.8	0.20	0.02	1.0	02/25/13	02/26/13	2.13		
Zinc	200.8	0.5	0.2	1.0	02/25/13	02/26/13	121		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project No.:	1053-02	**Date Collected:**	02/22/13
Project Name:	T2 Storm Water	**Date Received:**	02/22/13
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: **MT2-DDS-B206-022213-1130 Comp** **Lab Code:** **K1301564-006**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	2.0	0.5	1.0	02/25/13	02/27/13	405		
Cadmium	200.8	0.020	0.005	1.0	02/25/13	02/26/13	0.071		
Chromium	200.8	0.20	0.02	1.0	02/25/13	02/26/13	2.57		
Copper	200.8	0.10	0.02	1.0	02/25/13	02/26/13	12.0		
Iron	200.7	10.0	5.0	1.0	02/25/13	02/27/13	1200		
Lead	200.8	0.020	0.005	1.0	02/25/13	02/26/13	9.710		
Mercury	7470A	0.20	0.02	1.0	02/25/13	02/26/13	0.03	J	
Nickel	200.8	0.20	0.02	1.0	02/25/13	02/26/13	1.97		
Zinc	200.8	0.5	0.2	1.0	02/25/13	02/26/13	27.4		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Ash Creek Associates, Inc.
Service Request: K1301564
Project No.: 1053-02
Date Collected:
Project Name: T2 Storm Water
Date Received:
Matrix: WATER
Units: ug/L
Basis: NA

Sample Name: Method Blank
Lab Code: K1301564-MB

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	200.7	2.0	0.5	1.0	02/25/13	02/27/13	1.5	J	
Cadmium	200.8	0.020	0.005	1.0	02/25/13	02/26/13	0.005	U	
Chromium	200.8	0.20	0.02	1.0	02/25/13	02/26/13	0.03	J	
Copper	200.8	0.10	0.02	1.0	02/25/13	02/26/13	0.05	J	
Iron	200.7	10.0	5.0	1.0	02/25/13	02/27/13	5.0	U	
Lead	200.8	0.020	0.005	1.0	02/25/13	02/26/13	0.005	U	
Mercury	7470A	0.20	0.02	1.0	02/25/13	02/26/13	0.02	U	
Nickel	200.8	0.20	0.02	1.0	02/25/13	02/26/13	0.02	U	
Zinc	200.8	0.5	0.2	1.0	02/25/13	02/26/13	0.2	U	

Comments:

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Aluminum	1000	962	96	250	251	100	255	102	200.7
Aluminum	5000	5122	102	10000	10260	103	10050	100	200.7
Cadmium	12.5	12.6	101	25.0	24.8	99	24.8	99	200.8
Chromium	10.0	10.0	100	25.0	25.0	100	24.7	99	200.8
Copper	12.5	12.5	100	25.0	24.9	100	24.3	97	200.8
Iron	2500	2505	100	10000	10300	103	10070	101	200.7
Lead	25.0	24.9	100	25.0	24.9	100	24.7	99	200.8
Mercury	5.00	5.30	106	5.00	5.10	102	5.10	102	7470A
Nickel	25.0	25.1	100	25.0	25.0	100	24.5	98	200.8
Zinc	25.0	24.9	100	25.0	24.5	98	24.4	98	200.8

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Aluminum				10000	10080	101	10210	102	200.7
Aluminum				250	252	101	251	100	200.7
Cadmium				25.0	24.8	99	24.6	98	200.8
Chromium				25.0	25.0	100	24.8	99	200.8
Copper				25.0	24.8	99	25.0	100	200.8
Iron				10000	10070	101	10040	100	200.7
Lead				25.0	24.7	99	24.7	99	200.8
Nickel				25.0	24.8	99	24.7	99	200.8
Zinc				25.0	24.6	98	24.5	98	200.8

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Aluminum				10000	10210	102			200.7
Aluminum				250	250	100			200.7
Cadmium				25.0	24.7	99			200.8
Chromium				25.0	25.0	100			200.8
Copper				25.0	25.1	100			200.8
Iron				10000	10160	102			200.7
Lead				25.0	24.9	100			200.8
Nickel				25.0	24.9	100			200.8
Zinc				25.0	24.6	98			200.8

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Aluminum	1000	982	98	250	257	103	256	102	200.7
Aluminum	5000	5080	102	10000	10190	102	10040	100	200.7
Iron	2500	2557	102	10000	10260	103	10110	101	200.7

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Aluminum				10000	9995	100	9957	100	200.7
Aluminum				250	255	102	256	102	200.7
Iron				10000	10090	101	10250	102	200.7

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Aluminum				10000	9576	96	9925	99	200.7
Aluminum				250	254	102	261	104	200.7
Iron				10000	10250	102	10170	102	200.7

Metals

- 2b -
CRDL STANDARD FOR AA AND ICP

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum				2.0	1.9	95		
Cadmium				0.020	0.017	85		
Chromium				0.20	0.19	95		
Copper				0.10	0.10	100		
Iron				10.0	9.2	92		
Lead				0.02	0.019	95		
Mercury	0.20	0.22	110					
Nickel				0.20	0.18	90		
Zinc				0.50	0.46	92		

Metals

- 2b -
CRDL STANDARD FOR AA AND ICP

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Aluminum				2.0	2.2	110		
Iron				10.0	7.2	72		

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Aluminum	-0.50	J	0.50	J	0.50	U	0.50	U	200.7
Cadmium	0.005	U	0.005	U	0.005	U	0.005	U	200.8
Chromium	0.02	U	0.02	U	0.02	U	0.02	U	200.8
Copper	0.02	U	0.02	U	0.02	U	0.02	U	200.8
Iron	5.0	U	5.0	U	5.0	U	5.0	U	200.7
Lead	0.005	U	0.005	U	0.005	U	0.005	U	200.8
Mercury	0.02	U	0.02	U	0.02	U			7470A
Nickel	0.02	U	0.02	U	0.02	U	0.02	U	200.8
Zinc	0.20	U	0.20	U	0.20	U	0.20	U	200.8

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Aluminum			0.50	U	0.50	U			200.7
Cadmium			0.005	U	0.007	J			200.8
Chromium			0.02	U	0.02	U			200.8
Copper			0.02	U	0.02	U			200.8
Iron			5.0	U	5.0	U			200.7
Lead			0.007	J	0.007	J			200.8
Nickel			0.02	U	0.02	U			200.8
Zinc			0.20	U	0.20	U			200.8

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Aluminum	-0.50	J	0.50	U	0.50	U	-0.80	J	200.7
Iron	5.0	U	5.0	U	5.0	U	5.0	U	200.7

Metals

- 3 -

BLANKS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Method
Aluminum			-0.70	J	0.50	U	-1.10	J	200.7
Iron			5.0	U	5.0	U	5.0	U	200.7

Metals

ICP INTERFERENCE CHECK SAMPLE

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: K-ICP-AES-04 **ICS Source:** Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Aluminum	500000	500000	438900	433600	87			
Iron	200000	200000	181200	178600	89			

Metals

ICP INTERFERENCE CHECK SAMPLE

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: K-ICP-AES-04 **ICS Source:** Inorganic Ventures

Concentration Units): ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Aluminum	500000	500000	433600	432100	86			
Iron	200000	200000	180500	185500	93			

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: MT2-DBA-5198-022213-1050 C **Lab Code:** K1301564-004S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Aluminum	70 - 130	3110		943		2000.00	108.4		200.7
Iron	70 - 130	4220		3260		1000.00	96.0		200.7

An empty field in the Control Limit column indicates the control limit is not applicable

COLUMBIA ANALYTICAL SERVICES, INC.
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Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: MT2-DBB-5279-022213-1015 C **Lab Code:** K1301564-005S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Cadmium	70 - 130	25.6		0.191		25.00	101.6		200.8
Chromium	70 - 130	12.4		1.98		10.00	104.2		200.8
Copper	70 - 130	28.5		15.5		12.50	104.0		200.8
Lead	70 - 130	70.8		19.7		50.00	102.2		200.8
Nickel	70 - 130	28.0		2.13		25.00	103.5		200.8
Zinc		147		121		25.00	104.0		200.8

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: **MT2-DDS-B206-022213-1130 C** **Lab Code:** **K1301564-006S**

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	76 - 126	1.01		0.03	J	1.00	98.0		7470A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 5B -
POST SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: **MT2-DDS-B206-022213-1130 C** **Lab Code:** **K1301564-006A**

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	80 - 120	0.99		0.03		1.0	96		7470A

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: MT2-DBA-5198-022213-1050 **Lab Code:** K1301564-004D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Aluminum	20	943		958		1.6		200.7
Iron	20	3260		3230		0.9		200.7

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: MT2-DBB-5279-022213-1015 **Lab Code:** K1301564-005D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Cadmium	20	0.191		0.206		7.6		200.8
Chromium	20	1.98		2.42		20.0		200.8
Copper	20	15.5		15.7		1.3		200.8
Lead	20	19.7		21.0		6.4		200.8
Nickel	20	2.13		2.34		9.4		200.8
Zinc	20	121		122		0.8		200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm Water **Basis:** NA

Matrix: WATER

Sample Name: **MT2-DDS-B206-022213-1130** **Lab Code:** **K1301564-006D**

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.03	J	0.03	J	0.0		7470A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	Solid (mg/kg) C	Solid (mg/kg) Limits	Solid (mg/kg) %R
Aluminum	5000	5230	104.6					
Cadmium	25	25.0	100.0					
Chromium	10	10.2	102.0					
Copper	12.5	12.8	102.4					
Iron	2500	2490	99.6					
Lead	50	49.4	98.8					
Mercury	5.00	4.76	95.2					
Nickel	25	25.4	101.6					
Zinc	25	25.5	102.0					

Metals

- 9 -

ICP SERIAL DILUTIONS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Storm Water

Sample Name: **MT2-DBA-5198-022213-1050 C** **Lab Code:** **K1301564-004L**

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ-ence	Q	M
Aluminum	943.10		1016.00		7.7		P
Iron	3264.0		3379.0		3.5		P

Metals

- 10 -

DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP/ICP-MS ID #:

GFAA ID #: **AA ID #:**

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Mercury	253.7		0.20	0.02	CV

Comments:

Metals

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DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP/ICP-MS ID #:

GFAA ID #: **AA ID #:**

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Aluminum	167.0		2.00	0.50	P
Iron	259.9		10.0	5.0	P

Comments:

Metals

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DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP/ICP-MS ID #: **K-ICP-MS-03**

GFAA ID #: **AA ID #:**

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Cadmium	111		0.020	0.005	MS
Chromium	52		0.20	0.020	MS
Copper	65		0.10	0.02	MS
Lead	208		0.020	0.005	MS
Nickel	60		0.20	0.02	MS
Zinc	66		0.5	0.2	MS

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Wave-length (nm)	Interelement Correction Factors for: Al	Ca	Fe	Mg	As
Aluminum	394.401	0.0000000	0.0001320	0.0000000	0.0000390	0.0000000
Antimony	206.833	0.0000360	0.0000000	-0.0001990	0.0000000	0.0000000
Arsenic	189.042	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000090	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	0.0000000	0.0000200	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	-0.0000010	0.0000000	0.0000970	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.0000440
Chromium	267.716	0.0000000	0.0000110	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000180	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000230	-0.0000100	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0000480	0.0000000	0.0000290	0.0000000
Lead	220.353	-0.0001150	0.0000000	0.0000360	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000010	0.0000110	0.0000340	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000730	0.0000000	0.0000000
Phosphorus	214.914	-0.0007420	0.0000630	0.0006040	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	-0.0001190	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000070	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000140	0.0000000	0.0000360	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000100	0.0000000	0.0000000

Comments:

Metals

- 11A -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Zinc	213.856	0.0000000	0.0000040	0.0010300	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Wave-length (nm)	Interelement Correction Factors for: B	Ba	Cd	Co	Cr
Aluminum	394.401	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0000000	0.0210820
Arsenic	189.042	0.0000000	0.0010270	0.0000000	0.0000000	0.0005810
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000130	0.0000000	0.0000000	0.0000030	0.0000000
Boron	249.678	0.0000000	0.0000000	0.0010240	0.0020950	0.0004510
Cadmium	226.502	0.0000000	0.0000000	0.0000000	-0.0000250	0.0000110
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0001230	0.0020080
Chromium	267.716	0.0000000	0.0000000	-0.0002210	0.0000950	0.0000000
Cobalt	228.616	0.0000000	0.0000400	0.0000000	0.0000000	-0.0000640
Copper	327.396	0.0000000	0.0000000	0.0000000	0.0002830	0.0000000
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000650
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000590	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	-0.0013890	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	251.611	-0.0016750	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0008370	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000000	0.0000000	0.0000300	0.0000320
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	-0.0073310

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Zinc	213.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Wave-length (nm)	Interelement Correction Factors for: Cu	Mn	Mo	Ni	Pb
Aluminum	394.401	0.0000000	0.0000000	0.0002740	0.0004240	0.0000000
Antimony	206.833	0.0000000	-0.0000960	0.0006140	0.0000000	0.0000000
Arsenic	189.042	0.0000000	-0.0003200	0.0012760	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000000	-0.0000740	-0.0003410	-0.0000070	0.0000000
Boron	249.678	0.0000000	-0.0000900	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000050	-0.0000490	-0.0000450	0.0000000
Calcium	393.366	0.0000000	0.0000320	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000770	0.0001420	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000510	0.0000000	-0.0009890	0.0001340	0.0000200
Copper	327.396	0.0000000	0.0000190	0.0000000	0.0000000	0.0000000
Iron	259.94	0.0000000	0.0002270	0.0000000	0.0000000	0.0008260
Lead	220.353	0.0005880	0.0001110	-0.0007450	0.0002090	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0001220	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0001330	0.0000000
Nickel	231.604	0.0000000	0.0000000	-0.0000300	0.0000000	0.0000000
Phosphorus	214.914	0.0050530	-0.0007840	0.0104330	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000520	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0003870	0.0111410	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000560	0.0000450	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0024410	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000040	0.0000000	0.0000000
Thallium	190.856	0.0000000	-0.0003020	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000000	0.0000000	0.0000980	0.0000000
Vanadium	292.402	-0.0000430	-0.0012290	-0.0001580	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Zinc	213.856	0.0006980	0.0000180	-0.0000420	0.0068710	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Wave-length (nm)	Interelement Correction Factors for: P	Sb	Si	Sn	Sr
Aluminum	394.401	0.0000000	0.0007900	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000000	0.0000000	0.0000000	0.0003090	0.0000000
Arsenic	189.042	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	234.861	0.0000010	0.0000000	0.0000000	0.0000000	0.0000000
Boron	249.678	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	226.502	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	393.366	0.0000000	0.0002230	0.0000000	0.0000000	0.0000000
Chromium	267.716	0.0000260	0.0001170	0.0000000	0.0000000	0.0000000
Cobalt	228.616	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Copper	327.396	0.0000000	0.0000000	0.0000000	0.0000000	-0.0001120
Iron	259.94	0.0000000	0.0001980	0.0000000	0.0000000	0.0000000
Lead	220.353	0.0000000	0.0000000	0.0002020	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Magnesium	285.213	0.0000000	0.0002510	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000110	0.0000000	0.0000260	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	-0.0000900	0.0000000	0.0000000	0.0000000
Phosphorus	214.914	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0035140	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000005	0.0000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Titanium	336.121	0.0000000	0.0000810	0.0000000	0.0000000	0.0000000
Vanadium	292.402	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Zinc	213.856	0.0000240	0.0000000	0.0000000	0.0000000	0.0000890

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Wave-length (nm)	Interelement Correction Factors for: Ti	V	Zn		
Aluminum	394.401	0.0000000	0.0000000	0.0000000		
Antimony	206.833	0.0009680	0.0000000	0.0001170		
Arsenic	189.042	0.0000000	0.0000000	0.0000000		
Barium	455.403	0.0000000	0.0000520	0.0000000		
Beryllium	234.861	0.0000000	0.0000000	0.0000000		
Boron	249.678	0.0000000	0.0000000	0.0000000		
Cadmium	226.502	0.0000330	0.0000000	0.0000000		
Calcium	393.366	0.0000000	0.0000000	0.0000000		
Chromium	267.716	0.0000000	-0.0001500	0.0000000		
Cobalt	228.616	0.0019000	0.0000000	0.0000000		
Copper	327.396	-0.0002330	-0.0000600	0.0000000		
Iron	259.94	0.0000000	0.0000000	0.0000000		
Lead	220.353	0.0000000	0.0000000	0.0000000		
Lithium	670.784	0.0000000	0.0000000	0.0000000		
Magnesium	285.213	0.0000000	-0.0002080	0.0000000		
Manganese	257.61	0.0000000	0.0000000	0.0000000		
Molybdenum	202.03	0.0000000	-0.0000770	0.0000000		
Nickel	231.604	0.0000000	0.0000000	0.0000000		
Phosphorus	214.914	0.0000000	-0.0026780	0.0000000		
Potassium	766.491	0.0000000	0.0000000	0.0000000		
Selenium	196.0	0.0000000	0.0000000	0.0000000		
Silicon	251.611	0.0000000	0.0000000	0.0000000		
Silver	328.068	0.0000000	0.0000710	0.0000000		
Sodium	589.592	0.0000000	0.0050350	0.0000000		
Strontium	407.771	0.0000000	0.0000000	0.0000000		
Thallium	190.856	-0.0006580	0.0000000	0.0000000		
Tin	189.989	0.0000000	0.0000000	0.0000000		
Titanium	336.121	0.0000000	0.0000000	0.0000000		
Vanadium	292.402	0.0007290	0.0000000	0.0001280		

Comments:

Metals

- 11B -

ICP INTERELEMENT CORRECTION FACTORS

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Zinc	213.856	-0.0001280	0.0000000	0.0000000		

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-AES-04**

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Aluminum	15.000	400000	200.7
Iron	15.000	400000	200.7

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

ICP ID Number: **K-ICP-MS-03**

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Cadmium	15.000	2000	200.8
Chromium	15.000	2000	200.8
Copper	15.000	2000	200.8
Lead	15.000	2000	200.8
Nickel	15.000	2000	200.8
Zinc	15.000	2000	200.8

Comments:

Metals
-13-
PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

Method: CV

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1301564-004	02/25/13	20.0	20.0
K1301564-005	02/25/13	20.0	20.0
K1301564-006	02/25/13	20.0	20.0
K1301564-006D	02/25/13	20.0	20.0
K1301564-006S	02/25/13	20.0	20.0
K1301564-MB	02/25/13	20.0	20.0
LCSW	02/25/13	20.0	20.0

Metals
-13-
PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

Method: P

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1301564-004	02/25/13	50.0	50.0
K1301564-004D	02/25/13	50.0	50.0
K1301564-004S	02/25/13	50.0	50.0
K1301564-005	02/25/13	50.0	50.0
K1301564-006	02/25/13	50.0	50.0
K1301564-MB	02/25/13	50.0	50.0
LCSW	02/25/13	50.0	50.0

Metals
-13-
PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02

Project Name: T2 Storm Water

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1301564-004	02/25/13	50.0	50.0
K1301564-005	02/25/13	50.0	50.0
K1301564-005D	02/25/13	50.0	50.0
K1301564-005S	02/25/13	50.0	50.0
K1301564-006	02/25/13	50.0	50.0
K1301564-MB	02/25/13	50.0	50.0
LCSW	02/25/13	50.0	50.0

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Metals
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ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Run Number:** 022613B HG2

Project Name: T2 Storm Water

Instrument ID Number: K-CVAA-02 **Method:** CV

Start Date: 02/26/13 **End Date:** 02/26/13

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Blank	1.0	09:50																X									
Standard #1	1.0	09:52																X									
Standard #2	1.0	09:53																X									
Standard #3	1.0	09:55																X									
Standard #4	1.0	09:57																X									
Standard #5	1.0	09:58																X									
ICV1	1.0	10:00																X									
ICB1	1.0	10:01																X									
CRA1	1.0	10:03																X									
CCV1	1.0	10:05																X									
CCB1	1.0	10:06																X									
K1301564-MB	1.0	10:08																X									
LCSW	1.0	10:10																X									
K1301564-004	1.0	10:11																X									
K1301564-005	1.0	10:13																X									
K1301564-006	1.0	10:14																X									
K1301564-006A	1.0	10:16																X									
K1301564-006D	1.0	10:18																X									
K1301564-006S	1.0	10:19																X									
CCV2	1.0	10:21																X									
CCB2	1.0	10:22																X									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

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Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Run Number:** 022713AICP04

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-AES-04 **Method:** P

Start Date: 02/27/13 **End Date:** 02/27/13

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
BLK	1.0	08:16		X										X													
STD A	1.0	08:19		X																							
STD B	1.0	08:21		X										X													
ZZZZZZ	1.0	08:24																									
ICV1	1.0	08:29		X																							
ICV1	1.0	08:31		X										X													
ICB1	1.0	08:34		X										X													
ZZZZZZ	1.0	08:36																									
ZZZZZZ	1.0	08:39																									
TLLICV1	1.0	08:41		X										X													
ZZZZZZ	1.0	08:44																									
ZZZZZZ	1.0	08:46																									
CCV1	1.0	08:51		X										X													
CCV1	1.0	08:57		X																							
ZZZZZZ	1.0	09:06																									
CCB1	1.0	09:09		X										X													
ICS-A1	1.0	09:11		X										X													
ICS-AB1	1.0	09:14		X										X													
ZZZZZZ	1.0	09:16																									
ZZZZZZ	1.0	09:19																									
CCV2	1.0	09:21		X										X													
CCV2	1.0	09:24		X																							
CCB2	1.0	09:28		X										X													
ZZZZZZ	1.0	09:31																									
K1301564-MB	1.0	09:33		X										X													
LCSW	1.0	09:36		X										X													
ZZZZZZ	1.0	09:38																									
ZZZZZZ	1.0	09:41																									
ZZZZZZ	1.0	09:44																									
ZZZZZZ	1.0	09:46																									
ZZZZZZ	1.0	09:49																									
ZZZZZZ	1.0	09:51																									

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COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Run Number:** 022713AICP04

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-AES-04 **Method:** P

Start Date: 02/27/13 **End Date:** 02/27/13

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.0	09:54																									
ZZZZZZ	1.0	09:56																									
CCV3	1.0	09:59		X										X													
CCV3	1.0	10:02		X																							
CCB3	1.0	10:04		X										X													
ZZZZZZ	1.0	10:06																									
ZZZZZZ	1.0	10:09																									
ZZZZZZ	1.0	10:11																									
ZZZZZZ	1.0	10:14																									
K1301564-006	1.0	10:16		X										X													
ZZZZZZ	1.0	10:19																									
ZZZZZZ	1.0	10:21																									
K1301564-004	1.0	10:24		X										X													
K1301564-004D	1.0	10:26		X										X													
K1301564-004S	1.0	10:29		X										X													
ZZZZZZ	1.0	10:31																									
CCV4	1.0	10:34		X										X													
CCV4	1.0	10:36		X																							
CCB4	1.0	10:39		X										X													
ZZZZZZ	1.0	10:41																									
K1301564-005	1.0	10:44		X										X													
ZZZZZZ	1.0	10:46																									
ZZZZZZ	1.0	10:49																									
ZZZZZZ	1.0	10:51																									
ZZZZZZ	1.0	10:54																									
ZZZZZZ	5.0	10:56																									
ZZZZZZ	1.0	10:59																									
ZZZZZZ	1.0	11:01																									
ZZZZZZ	1.0	11:04																									
ZZZZZZ	1.0	11:06																									
CCV5	1.0	11:09		X										X													
CCV5	1.0	11:11		X																							

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COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Run Number:** 022713AICP04

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-AES-04 **Method:** P

Start Date: 02/27/13 **End Date:** 02/27/13

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCB5	1.0	11:14		X										X													

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COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Run Number:** 030413AICP04

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-AES-04 **Method:** P

Start Date: 03/04/13 **End Date:** 03/04/13

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
BLK	1.0	14:43		X										X													
STD A	1.0	14:46		X																							
STD B	1.0	14:48		X										X													
ICV2	1.0	14:51		X																							
ICV2	1.0	14:53		X										X													
ZZZZZZ	1.0	14:56																									
ICB2	1.0	14:58		X										X													
ZZZZZZ	1.0	15:01																									
CRA2	1.0	15:03		X										X													
ZZZZZZ	1.0	15:05																									
ZZZZZZ	1.0	15:08																									
CCV1	1.0	15:18		X										X													
CCV1	1.0	15:24		X																							
CCB1	1.0	15:30		X										X													
ZZZZZZ	1.0	15:32																									
ICS-A2	1.0	15:34		X										X													
ICS-AB2	1.0	15:37		X										X													
ZZZZZZ	1.0	15:40																									
ZZZZZZ	1.0	15:42																									
CCV2	1.0	15:45		X										X													
CCV2	1.0	15:47		X																							
CCB2	1.0	15:50		X										X													
ZZZZZZ	1.0	15:58																									
ZZZZZZ	1.0	16:01																									
ZZZZZZ	1.0	16:03																									
ZZZZZZ	1.0	16:06																									
ZZZZZZ	1.0	16:08																									
ZZZZZZ	1.0	16:11																									
ZZZZZZ	1.0	16:13																									
ZZZZZZ	1.0	16:16																									
ZZZZZZ	1.0	16:18																									
ZZZZZZ	5.0	16:21																									

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COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Run Number:** 030413AICP04

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-AES-04 **Method:** P

Start Date: 03/04/13 **End Date:** 03/04/13

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.0	16:23																									
CCV3	1.0	16:26		X										X													
CCV3	1.0	16:28		X																							
CCB3	1.0	16:31		X										X													
ZZZZZZ	1.0	16:37																									
ZZZZZZ	1.0	16:39																									
ZZZZZZ	1.0	16:42																									
ZZZZZZ	1.0	16:44																									
ZZZZZZ	1.0	16:47																									
ZZZZZZ	1.0	16:49																									
ZZZZZZ	1.0	16:51																									
ZZZZZZ	1.0	16:54																									
ZZZZZZ	1.0	17:01																									
ZZZZZZ	1.0	17:03																									
ZZZZZZ	1.0	17:06																									
CCV4	1.0	17:08		X										X													
CCV4	1.0	17:11		X																							
CCB4	1.0	17:13		X										X													
ZZZZZZ	1.0	17:15																									
ZZZZZZ	1.0	17:18																									
ZZZZZZ	1.0	17:20																									
ZZZZZZ	1.0	17:23																									
ZZZZZZ	1.0	17:25																									
ZZZZZZ	1.0	17:28																									
ZZZZZZ	1.0	17:30																									
ZZZZZZ	1.0	17:32																									
ZZZZZZ	1.0	17:35																									
ZZZZZZ	1.0	17:37																									
ZZZZZZ	1.0	17:40																									
CCV5	1.0	17:42		X										X													
ZZZZZZ	1.0	17:45																									
CCB5	1.0	17:47		X										X													

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COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Run Number:** 030413AICP04

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-AES-04 **Method:** P

Start Date: 03/04/13 **End Date:** 03/04/13

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.0	17:52																									
CCV5	1.0	17:56		X																							
ZZZZZZ	1.0	17:59																									
ZZZZZZ	1.0	18:02																									
ZZZZZZ	1.0	18:09																									
ZZZZZZ	1.0	18:12																									
ZZZZZZ	1.0	18:14																									
ZZZZZZ	1.0	18:17																									
ZZZZZZ	1.0	18:19																									
ZZZZZZ	1.0	18:21																									
ZZZZZZ	1.0	18:24																									
K1301564-004L	5.0	18:26		X										X													
ZZZZZZ	1.0	18:29																									
ZZZZZZ	1.0	18:31																									
CCV6	1.0	18:34		X										X													
CCV6	1.0	18:36		X																							
CCB6	1.0	18:39		X										X													

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COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Run Number:** 022613AMS03

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-MS-03 **Method:** MS

Start Date: 02/26/13 **End Date:** 02/26/13

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal. Blk	1.0	09:49							X		X		X		X				X							X	
Cal. Stn	1.0	09:54							X		X		X		X				X							X	
ICV1	1.0	09:59							X		X		X		X				X							X	
CCV1	1.0	10:08							X		X		X		X				X							X	
ICB1	1.0	10:17							X		X		X		X				X							X	
CCB1	1.0	10:23							X		X		X		X				X							X	
CRA1	1.0	10:28							X		X		X		X				X							X	
ZZZZZZ	1.0	10:33																									
ZZZZZZ	1.0	10:43																									
ZZZZZZ	1.0	10:55																									
ZZZZZZ	1.0	11:01																									
ZZZZZZ	1.0	11:06																									
ZZZZZZ	1.0	11:15																									
ZZZZZZ	100.0	11:21																									
ZZZZZZ	100.0	11:26																									
ZZZZZZ	100.0	11:31																									
CCV2	1.0	11:36							X		X		X		X				X							X	
ZZZZZZ	1.0	11:46																									
CCB2	1.0	11:55							X		X		X		X				X							X	
ZZZZZZ	100.0	12:00																									
ZZZZZZ	100.0	12:06																									
ZZZZZZ	20.0	12:12																									
ZZZZZZ	20.0	12:22																									
ZZZZZZ	20.0	12:32																									
ZZZZZZ	20.0	12:42																									
ZZZZZZ	20.0	12:49																									
CCV3	1.0	12:54							X		X		X		X				X							X	
CCB3	1.0	13:04							X		X		X		X				X							X	
ZZZZZZ	1.0	13:10																									
ZZZZZZ	1.0	13:18																									
ZZZZZZ	1.0	13:23																									
ZZZZZZ	1.0	13:36																									

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COLUMBIA ANALYTICAL SERV
Now part of the ALS Group

Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1301564

Project No.: 1053-02 **Run Number:** 022613AMS03

Project Name: T2 Storm Water

Instrument ID Number: K-ICP-MS-03 **Method:** MS

Start Date: 02/26/13 **End Date:** 02/26/13

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.0	13:49																									
CCV4	1.0	13:58							X		X		X		X				X							X	
ZZZZZZ	1.0	14:10																									
ZZZZZZ	1.0	14:23																									
ZZZZZZ	1.0	14:36																									
CCB4	1.0	14:42							X		X		X		X				X							X	
ZZZZZZ	1.0	14:47																									
K1301564-MB	1.0	14:53							X		X		X		X				X							X	
LCSW	1.0	14:59							X		X		X		X				X							X	
K1301564-004	1.0	15:06							X		X		X		X				X							X	
K1301564-005	1.0	15:12							X		X		X		X				X							X	
K1301564-005D	1.0	15:18							X		X		X		X				X							X	
K1301564-005S	1.0	15:24							X		X		X		X				X							X	
K1301564-006	1.0	15:31							X		X		X		X				X							X	
ZZZZZZ	1.0	15:36																									
ZZZZZZ	1.0	15:42																									
ZZZZZZ	1.0	15:48																									
CCV5	1.0	15:56							X		X		X		X				X							X	
CCB5	1.0	16:03							X		X		X		X				X							X	

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Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: _____ NRAS No.: _____ SDG NO.: K1301564

ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 02/26/2013 End Date: 02/26/2013

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Li_6	Q	Element Sc_45	Q	Element Ga_71	Q	Element Y_89	Q	Element Rh_103	Q	Element In_115	Q
Cal. Blk	Cal. Blk	0949	100		100		100		100		100		100	
Cal. Stn	Cal. Stn	0954	100		99		99		99		99		100	
ICV1	ICV1	0959	99		97		98		98		98		99	
CCV1	CCV1	1008	97		95		96		96		96		97	
ICB1	ICB1	1017	96		95		95		95		96		95	
CCB1	CCB1	1023	98		95		96		96		96		96	
CRA1	LLICVW	1028	99		97		97		97		97		97	
ZZZZZZ	ZZZZZZ	1033												
ZZZZZZ	ZZZZZZ	1043												
ZZZZZZ	ZZZZZZ	1055												
ZZZZZZ	ZZZZZZ	1101												
ZZZZZZ	ZZZZZZ	1106												
ZZZZZZ	ZZZZZZ	1115												
ZZZZZZ	ZZZZZZ	1121												
ZZZZZZ	ZZZZZZ	1126												
ZZZZZZ	ZZZZZZ	1131												
CCV2	CCV2	1136	95		93		95		94		94		96	
ZZZZZZ	ZZZZZZ	1146												
CCB2	CCB2	1155	95		93		93		94		93		94	
ZZZZZZ	ZZZZZZ	1200												
ZZZZZZ	ZZZZZZ	1206												
ZZZZZZ	ZZZZZZ	1212												
ZZZZZZ	ZZZZZZ	1222												
ZZZZZZ	ZZZZZZ	1232												
ZZZZZZ	ZZZZZZ	1242												
ZZZZZZ	ZZZZZZ	1249												
CCV3	CCV3	1254	95		92		93		93		93		94	
CCB3	CCB3	1304	94		91		91		91		91		92	
ZZZZZZ	ZZZZZZ	1310												
ZZZZZZ	ZZZZZZ	1318												
ZZZZZZ	ZZZZZZ	1323												
ZZZZZZ	ZZZZZZ	1336												
ZZZZZZ	ZZZZZZ	1349												
CCV4	CCV4	1358	93		88		89		89		89		90	
ZZZZZZ	ZZZZZZ	1410												
ZZZZZZ	ZZZZZZ	1423												
ZZZZZZ	ZZZZZZ	1436												
CCB4	CCB4	1442	93		87		87		87		88		88	
ZZZZZZ	ZZZZZZ	1447												
K1301564-MB	Method Blank	1453	95		87		88		87		88		88	
LCSW	LCSW	1459	96		89		90		90		90		90	
K1301564-004	MT2-DBA-5198-022	1506	96		89		90		90		90		91	
K1301564-005	MT2-DBB-5279-022	1512	103		96		96		96		96		96	
K1301564-005D	MT2-DBB-5279-022	1518	107		99		99		99		99		99	

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: NRAS No.: SDG NO.: K1301564

ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 02/26/2013 End Date: 02/26/2013

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Li_6	Q	Element Sc_45	Q	Element Ga_71	Q	Element Y_89	Q	Element Rh_103	Q	Element In_115	Q
K1301564-005S	MT2-DBB-5279-022	1524	108		101		102		102		101		101	
K1301564-006	MT2-DDS-B206-022	1531	109		102		101		102		101		101	
ZZZZZZ	ZZZZZZ	1536												
ZZZZZZ	ZZZZZZ	1542												
ZZZZZZ	ZZZZZZ	1548												
CCV5	CCV5	1556	109		102		102		102		102		102	
CCB5	CCB5	1603	109		101		101		101		101		101	

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: _____ NRAS No.: _____ SDG NO.: K1301564

ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 02/26/2013 End Date: 02/26/2013

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Tm_169	Q	Element Lu_175	Q	Element Th_232	Q	Element	Q	Element	Q		
Cal. Blk	Cal. Blk	0949	100		100		100							
Cal. Stn	Cal. Stn	0954	100		100		101							
ICV1	ICV1	0959	99		99		100							
CCV1	CCV1	1008	97		98		98							
ICB1	ICB1	1017	96		97		97							
CCB1	CCB1	1023	97		97		97							
CRA1	LLICVW	1028	98		98		98							
ZZZZZZ	ZZZZZZ	1033												
ZZZZZZ	ZZZZZZ	1043												
ZZZZZZ	ZZZZZZ	1055												
ZZZZZZ	ZZZZZZ	1101												
ZZZZZZ	ZZZZZZ	1106												
ZZZZZZ	ZZZZZZ	1115												
ZZZZZZ	ZZZZZZ	1121												
ZZZZZZ	ZZZZZZ	1126												
ZZZZZZ	ZZZZZZ	1131												
CCV2	CCV2	1136	97		98		98							
ZZZZZZ	ZZZZZZ	1146												
CCB2	CCB2	1155	96		96		96							
ZZZZZZ	ZZZZZZ	1200												
ZZZZZZ	ZZZZZZ	1206												
ZZZZZZ	ZZZZZZ	1212												
ZZZZZZ	ZZZZZZ	1222												
ZZZZZZ	ZZZZZZ	1232												
ZZZZZZ	ZZZZZZ	1242												
ZZZZZZ	ZZZZZZ	1249												
CCV3	CCV3	1254	95		96		97							
CCB3	CCB3	1304	93		94		94							
ZZZZZZ	ZZZZZZ	1310												
ZZZZZZ	ZZZZZZ	1318												
ZZZZZZ	ZZZZZZ	1323												
ZZZZZZ	ZZZZZZ	1336												
ZZZZZZ	ZZZZZZ	1349												
CCV4	CCV4	1358	92		92		93							
ZZZZZZ	ZZZZZZ	1410												
ZZZZZZ	ZZZZZZ	1423												
ZZZZZZ	ZZZZZZ	1436												
CCB4	CCB4	1442	90		90		90							
ZZZZZZ	ZZZZZZ	1447												
K1301564-MB	Method Blank	1453	90		90		91							
LCSW	LCSW	1459	92		93		94							
K1301564-004	MT2-DBA-5198-022	1506	93		93		95							
K1301564-005	MT2-DBB-5279-022	1512	97		97		97							
K1301564-005D	MT2-DBB-5279-022	1518	99		100		100							

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: NRAS No.: SDG NO.: K1301564

ICP-MS Instrument ID: K-ICP-MS-03 Start Date: 02/26/2013 End Date: 02/26/2013

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Tm_169	Q	Element Lu_175	Q	Element Th_232	Q	Element	Q	Element	Q		
K1301564-005S	MT2-DBB-5279-022	1524	101		102		101							
K1301564-006	MT2-DDS-B206-022	1531	101		101		100							
ZZZZZZ	ZZZZZZ	1536												
ZZZZZZ	ZZZZZZ	1542												
ZZZZZZ	ZZZZZZ	1548												
CCV5	CCV5	1556	101		101		100							
CCB5	CCB5	1603	100		100		99							

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/13
Sample Matrix:	Water	**Date Received:**	02/22/13

Total Inorganic Arsenic

Prep Method:	None	Units:	ug/L
Analysis Method:	1632 Rev. A	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
MT2-DBA-5198-022213-1050 Com	K1301564-004	0.02	0.003	1	NA	02/27/13	0.274	
MT2-DBB-5279-022213-1015 Com	K1301564-005	0.04	0.006	2	NA	02/27/13	0.391	
MT2-DDS-B206-022213-1130 Com	K1301564-006	0.02	0.003	1	NA	02/27/13	0.284	
Method Blank 1	K1301564-MB1	0.02	0.003	1	NA	02/27/13	ND	
Method Blank 2	K1301564-MB2	0.02	0.003	1	NA	02/27/13	ND	
Method Blank 3	K1301564-MB3	0.02	0.003	1	NA	02/27/13	ND	
Method Blank 4	K1301564-MB4	0.02	0.003	1	NA	02/27/13	ND	
Method Blank 5	K1301564-MB5	0.02	0.003	1	NA	02/27/13	ND	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	02/27/13

Total Metals
Matrix Spike/Duplicate Matrix Spike Summary

Sample Name:	Batch QC	Units:	ug/L
Lab Code:	K1301519-002MSD	Basis:	NA
Test Notes:			

				Spike Level		Sample	Spike Result		Percent Recovery				
Analyte	**Prep Method**	**Analysis Method**	**MRL**	**MS**	**DMS**	**Result**	**MS**	**DMS**	**MS**	**DMS**	**Method Acceptance Limits**	**Relative Percent Difference**	**Result Notes**
Inorganic Arsenic	None	1632 Rev. A	1.0	10.0	10.0	14.3	23.5	22.0	92	77	50-150	7	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	02/27/13

Calibration Verification (CALVER) Sample Summary

Total Metals

Sample Name: CALVER 1 Units: ug/L

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.200	0.235	117	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	02/27/13

Calibration Verification (CALVER) Sample Summary

Total Metals

Sample Name: CALVER 2

Units: ug/L

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.200	0.201	100	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	02/27/13

Calibration Verification (CALVER) Sample Summary

Total Metals

Sample Name: CALVER 3

Units: ug/L

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.200	0.179	89	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	02/27/13

Calibration Verification (CALVER) Sample Summary

Total Metals

Sample Name: CALVER 4

Units: ug/L

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.200	0.165	82	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Semivolatile Organics by EPA Method 525.2

Sample Name:	MT2-DBA-5198-022213-1050 Comp	**Units:**	ug/L
Lab Code:	K1301564-004	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	2.1	0.082	10	03/01/13	03/02/13	KWG1301880	
Dimethyl Phthalate	ND	U	2.1	0.041	10	03/01/13	03/02/13	KWG1301880	
Diethyl Phthalate	ND	U	2.1	0.092	10	03/01/13	03/02/13	KWG1301880	
Di-n-butyl Phthalate	**0.51**	JD	2.1	0.41	10	03/01/13	03/02/13	KWG1301880	
Benzyl butyl phthalate	ND	U	2.1	0.82	10	03/01/13	03/02/13	KWG1301880	
Bis(2-ethylhexyl) Phthalate	**1.9**	JD	5.2	0.62	10	03/01/13	03/02/13	KWG1301880	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	87	70-130	03/02/13	Acceptable
Triphenyl Phosphate	126	70-130	03/02/13	Acceptable
Perylene-d12	71	70-130	03/02/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Semivolatile Organics by EPA Method 525.2

Sample Name:	MT2-DBB-5279-022213-1015 Comp	**Units:**	ug/L
Lab Code:	K1301564-005	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	**1.1**	JD	2.0	0.080	10	03/01/13	03/02/13	KWG1301880	
Dimethyl Phthalate	ND	U	2.0	0.040	10	03/01/13	03/02/13	KWG1301880	*
Diethyl Phthalate	ND	U	2.0	0.090	10	03/01/13	03/02/13	KWG1301880	*
Di-n-butyl Phthalate	ND	U	2.0	0.40	10	03/01/13	03/02/13	KWG1301880	*
Benzyl butyl phthalate	ND	U	2.0	0.80	10	03/01/13	03/02/13	KWG1301880	
Bis(2-ethylhexyl) Phthalate	**1.7**	JD	5.0	0.60	10	03/01/13	03/02/13	KWG1301880	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	94	70-130	03/02/13	Acceptable
Triphenyl Phosphate	151	70-130	03/02/13	Outside Control Limits
Perylene-d12	87	70-130	03/02/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Semivolatile Organics by EPA Method 525.2

Sample Name:	MT2-DDS-B206-022213-1130 Comp	**Units:**	ug/L
Lab Code:	K1301564-006	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	0.98	0.040	5	03/01/13	03/02/13	KWG1301880	
Dimethyl Phthalate	**0.026**	JD	0.98	0.020	5	03/01/13	03/02/13	KWG1301880	*
Diethyl Phthalate	**0.092**	JD	0.98	0.045	5	03/01/13	03/02/13	KWG1301880	*
Di-n-butyl Phthalate	**0.25**	JD	0.98	0.20	5	03/01/13	03/02/13	KWG1301880	
Benzyl butyl phthalate	ND	U	0.98	0.40	5	03/01/13	03/02/13	KWG1301880	
Bis(2-ethylhexyl) Phthalate	**2.7**	D	2.5	0.30	5	03/01/13	03/02/13	KWG1301880	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	106	70-130	03/02/13	Acceptable
Triphenyl Phosphate	154	70-130	03/02/13	Outside Control Limits
Perylene-d12	69	70-130	03/02/13	Outside Control Limits

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semivolatile Organics by EPA Method 525.2

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1301880-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	**0.12**	J	0.20	0.0080	1	03/01/13	03/01/13	KWG1301880	
Dimethyl Phthalate	ND	U	0.20	0.0040	1	03/01/13	03/01/13	KWG1301880	
Diethyl Phthalate	ND	U	0.20	0.0090	1	03/01/13	03/01/13	KWG1301880	
Di-n-butyl Phthalate	ND	U	0.20	0.040	1	03/01/13	03/01/13	KWG1301880	
Benzyl butyl phthalate	ND	U	0.20	0.080	1	03/01/13	03/01/13	KWG1301880	
Bis(2-ethylhexyl) Phthalate	**0.36**	J	0.50	0.060	1	03/01/13	03/01/13	KWG1301880	*

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	87	70-130	03/01/13	Acceptable
Triphenyl Phosphate	87	70-130	03/01/13	Acceptable
Perylene-d12	73	70-130	03/01/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Semivolatile Organics by EPA Method 525.2

Extraction Method: METHOD **Units:** PERCENT
Analysis Method: 525.2 **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MT2-DBA-5198-022213-1050 Comp	K1301564-004	87 D	126 D	71 D
MT2-DBB-5279-022213-1015 Comp	K1301564-005	94 D	151 D *	87 D
MT2-DDS-B206-022213-1130 Comp	K1301564-006	106 D	154 D *	69 D *
Method Blank	KWG1301880-3	87	87	73
Lab Control Sample	KWG1301880-1	89	89	85
Duplicate Lab Control Sample	KWG1301880-2	87	88	81

Surrogate Recovery Control Limits (%)

Sur1	=	1,3-Dimethyl-2-nitrobenzene	70-130
Sur2	=	Triphenyl Phosphate	70-130
Sur3	=	Perylene-d12	70-130

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	03/01/2013
		Time Analyzed:	21:17

Internal Standard Area and RT Summary
Semivolatile Organics by EPA Method 525.2

File ID:	J:\MS22\DATA\030113-525\0301DV003.D	**Lab Code:**	KWG1301993-1
Instrument ID:	MS22	**Analysis Lot:**	KWG1301993
Analysis Method:	525.2		

		Acenaphthene-d10		Phenanthrene-d10		Chrysene-d12	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	62,600	11.40	109,699	14.85	131,160	23.42
	Upper Limit ==>	81,380	11.80	142,609	15.25	170,508	23.82
	Lower Limit ==>	43,820	11.00	76,789	14.45	91,812	23.02
	ICAL Result ==>	77,772	11.48	141,504	14.93	170,396	23.56
Associated Analyses							
Lab Control Sample	KWG1301880-1	48,766	11.40	92,061	14.85	107,401	23.41
Duplicate Lab Control Sample	KWG1301880-2	47,730	11.39	88,893	14.83	107,397	23.40
Method Blank	KWG1301880-3	49,338	11.39	90,504	14.84	107,924	23.40
MT2-DBA-5198-022213-1050 Comp	K1301564-004	45,836	11.39	90,444	14.84	109,167	23.40
MT2-DBB-5279-022213-1015 Comp	K1301564-005	40,313*	11.39	75,225*	14.83	91,851	23.39
MT2-DDS-B206-022213-1130 Comp	K1301564-006	40,869*	11.39	79,392	14.84	98,704	23.41

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	03/01/2013
Sample Matrix:	Water	**Date Analyzed:**	03/01/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Semivolatile Organics by EPA Method 525.2

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	525.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1301880

	Lab Control Sample KWG1301880-1 Lab Control Spike			Duplicate Lab Control Sample KWG1301880-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Di-n-octyl Phthalate	0.828	1.00	83	0.824	1.00	82	70-130	0	30
Dimethyl Phthalate	0.990	1.00	99	0.983	1.00	98	70-130	1	30
Diethyl Phthalate	0.995	1.00	100	0.988	1.00	99	70-130	1	30
Di-n-butyl Phthalate	0.978	1.00	98	1.06	1.00	106	70-130	8	30
Benzyl butyl phthalate	0.912	1.00	91	0.929	1.00	93	70-130	2	30
Bis(2-ethylhexyl) Phthalate	1.29	1.00	129	1.54	1.00	154 *	70-130	18	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	03/01/2013
Sample Matrix:	Water	**Date Analyzed:**	03/01/2013
		Time Analyzed:	23:54

Method Blank Summary
Semivolatile Organics by EPA Method 525.2

Sample Name:	Method Blank	**Instrument ID:**	MS22
Lab Code:	KWG1301880-3	**File ID:**	J:\MS22\DATA\030113-525\0301DV006.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1301880

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1301880-1	J:\MS22\DATA\030113-525\0301DV004.D	03/01/13	22:31
Duplicate Lab Control Sample	KWG1301880-2	J:\MS22\DATA\030113-525\0301DV005.D	03/01/13	23:08
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\MS22\DATA\030113-525\0301DV008.D	03/02/13	01:26
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\MS22\DATA\030113-525\0301DV009.D	03/02/13	02:12
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\MS22\DATA\030113-525\0301DV010.D	03/02/13	02:59

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	03/01/2013
Sample Matrix:	Water	**Date Analyzed:**	03/01/2013
		Time Analyzed:	22:31

Lab Control Sample Summary
Semivolatile Organics by EPA Method 525.2

Sample Name:	Lab Control Sample	**Instrument ID:**	MS22
Lab Code:	KWG1301880-1	**File ID:**	J:\MS22\DATA\030113-525\0301DV004.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1301880

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1301880-3	J:\MS22\DATA\030113-525\0301DV006.D	03/01/13	23:54
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\MS22\DATA\030113-525\0301DV008.D	03/02/13	01:26
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\MS22\DATA\030113-525\0301DV009.D	03/02/13	02:12
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\MS22\DATA\030113-525\0301DV010.D	03/02/13	02:59

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02

Service Request: K1301564
Date Analyzed: 03/01/2013
Time Analyzed: 20:32

Tune Summary
Semivolatile Organics by EPA Method 525.2

File ID: J:\MS22\DATA\030113-525\0301DV002.D
Instrument ID: MS22
Column:

Analysis Method: 525.2
Analysis Lot: KWG1301993

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	48.0	1391	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	8.8	254	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	37.3	1080	PASS
197	198	0	2	0.6	17	PASS
198	198	100	100	100.0	2895	PASS
199	198	5	9	7.2	207	PASS
275	198	10	60	48.6	1408	PASS
365	198	1	100	4.2	122	PASS
441	443	0	100	97.7	422	PASS
442	198	50	150	63.8	1847	PASS
443	442	15	24	23.4	432	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1301993-1	J:\MS22\DATA\030113-525\0301DV003.D	03/01/2013	21:17	
Lab Control Sample	KWG1301880-1	J:\MS22\DATA\030113-525\0301DV004.D	03/01/2013	22:31	
Duplicate Lab Control Sample	KWG1301880-2	J:\MS22\DATA\030113-525\0301DV005.D	03/01/2013	23:08	
Method Blank	KWG1301880-3	J:\MS22\DATA\030113-525\0301DV006.D	03/01/2013	23:54	
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\MS22\DATA\030113-525\0301DV008.D	03/02/2013	01:26	
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\MS22\DATA\030113-525\0301DV009.D	03/02/2013	02:12	
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\MS22\DATA\030113-525\0301DV010.D	03/02/2013	02:59	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 01/28/2013

Initial Calibration Summary
Semivolatile Organics by EPA Method 525.2

Calibration ID: CAL12202 **Column:** MS
Instrument ID: MS22

Level ID	File ID	Level ID	File ID
A	J:\MS22\DATA\012813-525\0128LP004.D	F	J:\MS22\DATA\012813-525\0128LP009.D
B	J:\MS22\DATA\012813-525\0128LP005.D	G	J:\MS22\DATA\012813-525\0128LP010.D
C	J:\MS22\DATA\012813-525\0128LP006.D	H	J:\MS22\DATA\012813-525\0128LP011.D
D	J:\MS22\DATA\012813-525\0128LP007.D	I	J:\MS22\DATA\012813-525\0128LP012.D
E	J:\MS22\DATA\012813-525\0128LP008.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Di-n-octyl Phthalate							C	100	0.597	D	200	0.714	E	500	0.904
	F	1000	1.01	G	2000	1.15	H	4000	1.25	I	6000	1.27			
1,3-Dimethyl-2-nitrobenzene	A	20	0.284	B	50	0.278	C	100	0.281	D	200	0.303	E	500	0.323
	F	1000	0.342	G	2000	0.329	H	4000	0.361	I	6000	0.363			
Dimethyl Phthalate	A	20	1.13	B	50	1.02	C	100	1.07	D	200	1.14	E	500	1.25
	F	1000	1.33	G	2000	1.35	H	4000	1.42	I	6000	1.41			
Diethyl Phthalate	A	20	1.16	B	50	1.05	C	100	1.04	D	200	1.18	E	500	1.24
	F	1000	1.40	G	2000	1.40	H	4000	1.43	I	6000	1.42			
Di-n-butyl Phthalate	A	20	1.12	B	50	1.01	C	100	1.00	D	200	1.14	E	500	1.23
	F	1000	1.23	G	2000	1.28	H	4000	1.32	I	6000	1.31			
Benzyl butyl phthalate				B	50	0.331	C	100	0.337	D	200	0.374	E	500	0.449
	F	1000	0.474	G	2000	0.512	H	4000	0.519	I	6000	0.533			
Triphenyl Phosphate				B	50	0.117	C	100	0.117	D	200	0.128	E	500	0.147
	F	1000	0.150	G	2000	0.173	H	4000	0.187	I	6000	0.186			
Bis(2-ethylhexyl) Phthalate				B	50	0.512	C	100	0.449	D	200	0.487	E	500	0.607
	F	1000	0.685	G	2000	0.747	H	4000	0.780	I	6000	0.813			
Perylene-d12				B	50	0.594	C	100	0.592	D	200	0.671	E	500	0.755
	F	1000	0.810	G	2000	0.857	H	4000	0.938	I	6000	0.937			

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 01/28/2013

Initial Calibration Summary
Semivolatile Organics by EPA Method 525.2

Calibration ID: CAL12202 **Column:** MS
Instrument ID: MS22

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Di-n-octyl Phthalate	MS	Quadratic	COD	1.000		≥ 0.99	0.986		
1,3-Dimethyl-2-nitrobenzene	SURR	AverageRF	% RSD	10.5		≤ 30	0.318		
Dimethyl Phthalate	MS	AverageRF	% RSD	12.1		≤ 30	1.24		
Diethyl Phthalate	MS	AverageRF	% RSD	12.6		≤ 30	1.26		
Di-n-butyl Phthalate	MS	AverageRF	% RSD	10.3		≤ 30	1.18		
Benzyl butyl phthalate	MS	Quadratic	COD	1.000		≥ 0.99	0.441		
Triphenyl Phosphate	SURR	Quadratic	COD	0.999		≥ 0.99	0.151		
Bis(2-ethylhexyl) Phthalate	MS	Quadratic	COD	1.000		≥ 0.99	0.635		
Perylene-d12	SURR	Quadratic	COD	0.999		≥ 0.99	0.769		

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02

Service Request: K1301564
Calibration Date: 01/28/2013
Date Analyzed: 01/29/2013

Second Source Calibration Verification
Semivolatile Organics by EPA Method 525.2

Calibration Type: Internal Standard
Analysis Method: 525.2

Calibration ID: CAL12202
Units: ug/L

File ID: J:\MS22\DATA\012813-525\0128LP013.D
J:\MS22\DATA\012813-525\0128LP014.D
J:\MS22\DATA\012813-525\0128LP015.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Di-n-octyl Phthalate	1000	830	0.986	0.876	NA	-17	± 30 %	Quadratic
Dimethyl Phthalate	1000	1000	1.24	1.25	1	NA	± 30 %	AverageRF
Diethyl Phthalate	1000	1000	1.26	1.26	0	NA	± 30 %	AverageRF
Di-n-butyl Phthalate	1000	930	1.18	1.10	-7	NA	± 30 %	AverageRF
Benzyl butyl phthalate	1000	870	0.441	0.415	NA	-13	± 30 %	Quadratic
Bis(2-ethylhexyl) Phthalate	1000	950	0.635	0.657	NA	-5	± 30 %	Quadratic

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Date Analyzed:** 03/01/2013

Continuing Calibration Verification Summary
Semivolatile Organics by EPA Method 525.2

Calibration Type: Internal Standard **Calibration Date:** 01/28/2013
Analysis Method: 525.2 **Calibration ID:** CAL12202
Analysis Lot: KWG1301993
Units: ug/L

File ID: J:\MS22\DATA\030113-525\0301DV003.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Di-n-octyl Phthalate	1000	860		0.986	0.918	NA	-14	± 30 %	Quadratic
1,3-Dimethyl-2-nitrobenzene	1000	1100		0.318	0.345	8	NA	± 30 %	AverageRF
Dimethyl Phthalate	1000	1100		1.24	1.30	5	NA	± 30 %	AverageRF
Diethyl Phthalate	1000	1000		1.26	1.30	3	NA	± 30 %	AverageRF
Di-n-butyl Phthalate	1000	1000		1.18	1.22	3	NA	± 30 %	AverageRF
Benzyl butyl phthalate	1000	940		0.441	0.450	NA	-6	± 30 %	Quadratic
Triphenyl Phosphate	1000	950		0.151	0.153	NA	-5	± 30 %	Quadratic
Bis(2-ethylhexyl) Phthalate	1000	930		0.635	0.637	NA	-7	± 30 %	Quadratic
Perylene-d12	1000	880		0.769	0.722	NA	-12	± 30 %	Quadratic

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02

Analysis Run Log
Semivolatile Organics by EPA Method 525.2

Analysis Method: 525.2 **Analysis Lot:** KWG1301993
Instrument ID: MS22

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
301DV002.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1301993-2	3/1/2013	20:32		3/1/2013	21:07
301DV003.D	Continuing Calibration Verification	KWG1301993-1	3/1/2013	21:17		3/1/2013	21:52
301DV004.D	Lab Control Sample	KWG1301880-1	3/1/2013	22:31		3/1/2013	23:06
301DV005.D	Duplicate Lab Control Sample	KWG1301880-2	3/1/2013	23:08		3/1/2013	23:43
301DV006.D	Method Blank	KWG1301880-3	3/1/2013	23:54		3/2/2013	00:29
301DV007.D	ZZZZZZ	ZZZZZZ	3/2/2013	00:40		3/2/2013	01:15
301DV008.D	MT2-DBA-5198-022213-1050 Comp	K1301564-004	3/2/2013	01:26		3/2/2013	02:01
301DV009.D	MT2-DBB-5279-022213-1015 Comp	K1301564-005	3/2/2013	02:12		3/2/2013	02:47
301DV010.D	MT2-DDS-B206-022213-1130 Comp	K1301564-006	3/2/2013	02:59		3/2/2013	03:34

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Service Request: K1301564
Date Extracted: 03/01/2013

Extraction Prep Log
Semivolatile Organics by EPA Method 525.2

Extraction Method: METHOD
Analysis Method: 525.2

Extraction Lot: KWG1301880
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5198-022213-1050 Co	K1301564-004	02/22/13	02/22/13	980ml	1ml	NA	
MT2-DBB-5279-022213-1015 Co	K1301564-005	02/22/13	02/22/13	1010ml	1ml	NA	
MT2-DDS-B206-022213-1130 Co	K1301564-006	02/22/13	02/22/13	1030ml	1ml	NA	
Method Blank	KWG1301880-3	NA	NA	1000ml	1ml	NA	
Lab Control Sample	KWG1301880-1	NA	NA	1000ml	1ml	NA	
Duplicate Lab Control Sample	KWG1301880-2	NA	NA	1000ml	1ml	NA	

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	MT2-DBA-5198-022213-1050 Comp	**Units:**	ug/L
Lab Code:	K1301564-004	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldrin	ND	U	0.051	0.0086	5	02/25/13	02/28/13	KWG1301805	
Dieldrin	ND	U	0.051	0.0043	5	02/25/13	02/28/13	KWG1301805	
4,4'-DDE	ND	U	0.051	0.0056	5	02/25/13	02/28/13	KWG1301805	
4,4'-DDT	ND	U	0.051	0.0091	5	02/25/13	02/28/13	KWG1301805	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	74	10-134	02/28/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	MT2-DBB-5279-022213-1015 Comp	**Units:**	ug/L
Lab Code:	K1301564-005	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldrin	ND	U	0.051	0.0086	5	02/25/13	02/28/13	KWG1301805	
Dieldrin	ND	U	0.051	0.0043	5	02/25/13	02/28/13	KWG1301805	
4,4'-DDE	ND	U	0.051	0.0056	5	02/25/13	02/28/13	KWG1301805	
4,4'-DDT	ND	U	0.051	0.0091	5	02/25/13	02/28/13	KWG1301805	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	83	10-134	02/28/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	MT2-DDS-B206-022213-1130 Comp	**Units:**	ug/L
Lab Code:	K1301564-006	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldrin	ND	U	0.010	0.0017	1	02/25/13	02/28/13	KWG1301805	
Dieldrin	ND	U	0.010	0.00085	1	02/25/13	02/28/13	KWG1301805	
4,4'-DDE	ND	U	0.010	0.0011	1	02/25/13	02/28/13	KWG1301805	
4,4'-DDT	ND	U	0.010	0.0018	1	02/25/13	02/28/13	KWG1301805	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	94	10-134	02/28/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1301805-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aldrin	ND	U	0.0095	0.0017	1	02/25/13	02/28/13	KWG1301805	
Dieldrin	ND	U	0.0095	0.00085	1	02/25/13	02/28/13	KWG1301805	
4,4'-DDE	ND	U	0.0095	0.0011	1	02/25/13	02/28/13	KWG1301805	
4,4'-DDT	ND	U	0.0095	0.0018	1	02/25/13	02/28/13	KWG1301805	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	99	10-134	02/28/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Extraction Method: EPA 3520C **Units:** PERCENT
Analysis Method: 608 **Level:** Low

Sample Name	Lab Code	Sur1
MT2-DBA-5198-022213-1050 Comp	K1301564-004	74 D
MT2-DBB-5279-022213-1015 Comp	K1301564-005	83 D
MT2-DDS-B206-022213-1130 Comp	K1301564-006	94
Method Blank	KWG1301805-3	99
Lab Control Sample	KWG1301805-1	92
Duplicate Lab Control Sample	KWG1301805-2	88

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 10-134

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013
		Time Analyzed:	12:29

Internal Standard Area and RT Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

File ID:	J:\GC33\DATA\022813-608\0228003.D	**Lab Code:**	KWG1301924-1
Instrument ID:	GC33	**Analysis Lot:**	KWG1301924
Analysis Method:	608	**Column :**	RTX-CLP

		Pentachloronitrobenzene (PCNB	
		Area	**RT**
	Results ==>	214,722,200	11.66
	Upper Limit ==>	429,444,400	12.16
	Lower Limit ==>	107,361,100	11.16
	ICAL Result ==>	182,476,500	11.84
Associated Analyses			
Lab Control Sample	KWG1301805-1	228,712,800	11.65
Duplicate Lab Control Sample	KWG1301805-2	228,801,900	11.65
Method Blank	KWG1301805-3	243,468,300	11.65
MT2-DDS-B206-022213-1130 Comp	K1301564-006	223,577,400	11.65

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013
		Time Analyzed:	12:29

Internal Standard Area and RT Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

File ID:	J:\GC33\DATA\022813-608\0228003.D\0228003C.D	**Lab Code:**	KWG1301924-1
Instrument ID:	GC33	**Analysis Lot:**	KWG1301924
Analysis Method:	608	**Column :**	RTX-CLP2

		Pentachloronitrobenzene (PCNB	
		Area	**RT**
	Results ==>	94,552,440	11.52
	Upper Limit ==>	189,104,880	12.02
	Lower Limit ==>	47,276,220	11.02
	ICAL Result ==>	77,078,210	11.64
Associated Analyses			
Lab Control Sample	KWG1301805-1	105,863,100	11.51
Duplicate Lab Control Sample	KWG1301805-2	104,486,300	11.51
Method Blank	KWG1301805-3	109,052,100	11.51
MT2-DDS-B206-022213-1130 Comp	K1301564-006	95,019,540	11.51

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013
		Time Analyzed:	15:30

Internal Standard Area and RT Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

File ID:	J:\GC33\DATA\022813-608\0228010.D	**Lab Code:**	KWG1301924-2
Instrument ID:	GC33	**Analysis Lot:**	KWG1301924
Analysis Method:	608	**Column :**	RTX-CLP

		Pentachloronitrobenzene (PCNB	
		Area	**RT**
	Results ==>	230,212,200	11.65
	Upper Limit ==>	460,424,400	12.15
	Lower Limit ==>	115,106,100	11.15
	ICAL Result ==>	182,476,500	11.84
Associated Analyses			
MT2-DBA-5198-022213-1050 Comp	K1301564-004	229,492,300	11.65
MT2-DBB-5279-022213-1015 Comp	K1301564-005	230,125,500	11.65

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013
		Time Analyzed:	15:30

Internal Standard Area and RT Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

File ID:	J:\GC33\DATA\022813-608\0228010.D\0228010C.D	**Lab Code:**	KWG1301924-2
Instrument ID:	GC33	**Analysis Lot:**	KWG1301924
Analysis Method:	608	**Column :**	RTX-CLP2

		Pentachloronitrobenzene (PCNB	
		Area	**RT**
	Results ==>	100,820,200	11.51
	Upper Limit ==>	201,640,400	12.01
	Lower Limit ==>	50,410,100	11.01
	ICAL Result ==>	77,078,210	11.64
Associated Analyses			
MT2-DBA-5198-022213-1050 Comp	K1301564-004	103,362,200	11.51
MT2-DBB-5279-022213-1015 Comp	K1301564-005	103,909,000	11.51

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013
		Time Analyzed:	17:40

Internal Standard Area and RT Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

File ID:	J:\GC33\DATA\022813-608\0228015.D	**Lab Code:**	KWG1301924-3
Instrument ID:	GC33	**Analysis Lot:**	KWG1301924
Analysis Method:	608	**Column :**	RTX-CLP

	Pentachloronitrobenzene (PCNB	
	Area	**RT**
Results ==>	236,626,400	11.65
Upper Limit ==>	473,252,800	12.15
Lower Limit ==>	118,313,200	11.15
ICAL Result ==>	182,476,500	11.84

Associated Analyses

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013
		Time Analyzed:	17:40

Internal Standard Area and RT Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

File ID:	J:\GC33\DATA\022813-608\0228015.D\0228015C.D	**Lab Code:**	KWG1301924-3
Instrument ID:	GC33	**Analysis Lot:**	KWG1301924
Analysis Method:	608	**Column :**	RTX-CLP2

	Pentachloronitrobenzene (PCNB	
	Area	**RT**
Results ==>	101,798,200	11.51
Upper Limit ==>	203,596,400	12.01
Lower Limit ==>	50,899,100	11.01
ICAL Result ==>	77,078,210	11.64

Associated Analyses

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/25/2013
Sample Matrix:	Water	**Date Analyzed:**	02/28/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	608	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1301805

	Lab Control Sample KWG1301805-1 Lab Control Spike			Duplicate Lab Control Sample KWG1301805-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aldrin	0.0744	0.100	74	0.0697	0.100	70	42-122	6	30
Dieldrin	0.0875	0.100	87	0.0800	0.100	80	36-146	9	30
4,4'-DDE	0.0837	0.100	84	0.0766	0.100	77	30-145	9	30
4,4'-DDT	0.0795	0.100	80	0.0709	0.100	71	25-160	12	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/25/2013
Sample Matrix:	Water	**Date Analyzed:**	02/28/2013
		Time Analyzed:	14:13

Method Blank Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	Method Blank	**Instrument ID:**	GC33
Lab Code:	KWG1301805-3	**File ID:**	J:\GC33\DATA\022813-608\0228007.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608	**Extraction Lot:**	KWG1301805

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1301805-1	J:\GC33\DATA\022813-608\0228005.D	02/28/13	13:21
Duplicate Lab Control Sample	KWG1301805-2	J:\GC33\DATA\022813-608\0228006.D	02/28/13	13:47
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\GC33\DATA\022813-608\0228008.D	02/28/13	14:39
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\GC33\DATA\022813-608\0228012.D	02/28/13	16:22
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\GC33\DATA\022813-608\0228013.D	02/28/13	16:48

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/25/2013
Sample Matrix:	Water	**Date Analyzed:**	02/28/2013
		Time Analyzed:	13:21

Lab Control Sample Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Sample Name:	Lab Control Sample	**Instrument ID:**	GC33
Lab Code:	KWG1301805-1	**File ID:**	J:\GC33\DATA\022813-608\0228005.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	608	**Extraction Lot:**	KWG1301805

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1301805-3	J:\GC33\DATA\022813-608\0228007.D	02/28/13	14:13
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\GC33\DATA\022813-608\0228008.D	02/28/13	14:39
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\GC33\DATA\022813-608\0228012.D	02/28/13	16:22
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\GC33\DATA\022813-608\0228013.D	02/28/13	16:48

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12134 **Column:** RTX-CLP
Instrument ID: GC33

Level ID	File ID	Level ID	File ID
A	J:\GC33\Data\120712-ICAL\1207015.D	Z	J:\GC33\Data\120712-ICAL\1207056.D
B	J:\GC33\Data\120712-ICAL\1207016.D	AA	J:\GC33\Data\120712-ICAL\1207057.D
C	J:\GC33\Data\120712-ICAL\1207017.D	AB	J:\GC33\Data\120712-ICAL\1207058.D
D	J:\GC33\Data\120712-ICAL\1207018.D	AC	J:\GC33\Data\120712-ICAL\1207059.D
E	J:\GC33\Data\120712-ICAL\1207019.D	AD	J:\GC33\Data\120712-ICAL\1207060.D
F	J:\GC33\Data\120712-ICAL\1207020.D	AE	J:\GC33\Data\120712-ICAL\1207063.D
G	J:\GC33\Data\120712-ICAL\1207023.D	AF	J:\GC33\Data\120712-ICAL\1207064.D
H	J:\GC33\Data\120712-ICAL\1207024.D	AG	J:\GC33\Data\120712-ICAL\1207065.D
I	J:\GC33\Data\120712-ICAL\1207025.D	AH	J:\GC33\Data\120712-ICAL\1207066.D
J	J:\GC33\Data\120712-ICAL\1207026.D	AI	J:\GC33\Data\120712-ICAL\1207067.D
K	J:\GC33\Data\120712-ICAL\1207027.D	AJ	J:\GC33\Data\120712-ICAL\1207068.D
L	J:\GC33\Data\120712-ICAL\1207028.D	AK	J:\GC33\Data\120912-ICAL\1209008.D
M	J:\GC33\Data\120712-ICAL\1207031.D	AL	J:\GC33\Data\120912-ICAL\1209009.D
N	J:\GC33\Data\120712-ICAL\1207032.D	AM	J:\GC33\Data\120912-ICAL\1209010.D
O	J:\GC33\Data\120712-ICAL\1207033.D	AN	J:\GC33\Data\120912-ICAL\1209011.D
P	J:\GC33\Data\120712-ICAL\1207034.D	AO	J:\GC33\Data\120912-ICAL\1209012.D
Q	J:\GC33\Data\120712-ICAL\1207035.D	AP	J:\GC33\Data\120912-ICAL\1209013.D
R	J:\GC33\Data\120712-ICAL\1207036.D	AQ	J:\GC33\Data\122612-ICAL\1226104.D
S	J:\GC33\Data\120712-ICAL\1207047.D	AR	J:\GC33\Data\122612-ICAL\1226105.D
T	J:\GC33\Data\120712-ICAL\1207048.D	AS	J:\GC33\Data\122612-ICAL\1226106.D
U	J:\GC33\Data\120712-ICAL\1207049.D	AT	J:\GC33\Data\122612-ICAL\1226107.D
V	J:\GC33\Data\120712-ICAL\1207050.D	AU	J:\GC33\Data\122612-ICAL\1226108.D
W	J:\GC33\Data\120712-ICAL\1207051.D	AV	J:\GC33\Data\122612-ICAL\1226109.D
X	J:\GC33\Data\120712-ICAL\1207052.D	AW	J:\GC33\Data\122612-ICAL\1226110.D
Y	J:\GC33\Data\120712-ICAL\1207055.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Aldrin															
							AQ	2.0	1.03	AR	5.0	1.02	AS	20	1.06
	AT	50	1.11	AU	75	1.13	AV	100	1.24	AW	200	1.25			

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12134 **Column:** RTX-CLP
Instrument ID: GC33

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Dieldrin															
							AQ	2.0	0.806	AR	5.0	0.830	AS	20	0.881
	AT	50	0.927	AU	75	0.951	AV	100	1.04	AW	200	1.06			
4,4'-DDE															
							AQ	2.0	0.826	AR	5.0	0.800	AS	20	0.838
	AT	50	0.877	AU	75	0.897	AV	100	0.983	AW	200	1.01			
4,4'-DDT															
							AQ	2.0	0.553	AR	5.0	0.580	AS	20	0.631
	AT	50	0.663	AU	75	0.685	AV	100	0.753	AW	200	0.793			
Decachlorobiphenyl															
							AQ	2.0	0.549	AR	5.0	0.536	AS	20	0.545
	AT	50	0.543	AU	75	0.544	AV	100	0.587	AW	200	0.527			

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12134 **Column:** RTX-CLP
Instrument ID: GC33

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Aldrin	MS	AverageRF	% RSD	8.2		≤ 10	1.12		
Dieldrin	MS	Linear	R2	0.997		≥ 0.990	0.928		
4,4'-DDE	MS	AverageRF	% RSD	8.9		≤ 10	0.890		
4,4'-DDT	MS	Linear	R2	0.995		≥ 0.990	0.665		
Decachlorobiphenyl	SURR	AverageRF	% RSD	3.4		≤ 10	0.547		

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Calibration Date:**	12/07/2012
		Date Analyzed:	12/26/2012

Second Source Calibration Verification
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration ID:**	CAL12134
Analysis Method:	608	**Units:**	ug/L
File ID:	J:\GC33\Data\120712-ICAL\1207021.D	**Column ID:**	RTX-CLP
	J:\GC33\Data\120712-ICAL\1207029.D		
	J:\GC33\Data\120712-ICAL\1207037.D		
	J:\GC33\Data\120712-ICAL\1207053.D		
	J:\GC33\Data\120712-ICAL\1207061.D		
	J:\GC33\Data\120712-ICAL\1207069.D		
	J:\GC33\Data\120912-ICAL\1209014.D		
	J:\GC33\Data\122612-ICAL\1226111.D		

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	50	55	1.12	1.23	9	NA	± 30 %	AverageRF
Dieldrin	50	51	0.928	1.04	NA	3	± 30 %	Linear
4,4'-DDE	50	55	0.890	0.978	10	NA	± 30 %	AverageRF
4,4'-DDT	50	51	0.665	0.748	NA	1	± 30 %	Linear

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12134 **Column:** RTX-CLP2
Instrument ID: GC33

Level ID	File ID	Level ID	File ID
A	J:\GC33\Data\120712-ICAL\1207015.D\1207015c.d	Z	J:\GC33\Data\120712-ICAL\1207056.D\1207056c.d
B	J:\GC33\Data\120712-ICAL\1207016.D\1207016c.d	AA	J:\GC33\Data\120712-ICAL\1207057.D\1207057c.d
C	J:\GC33\Data\120712-ICAL\1207017.D\1207017c.d	AB	J:\GC33\Data\120712-ICAL\1207058.D\1207058c.d
D	J:\GC33\Data\120712-ICAL\1207018.D\1207018c.d	AC	J:\GC33\Data\120712-ICAL\1207059.D\1207059c.d
E	J:\GC33\Data\120712-ICAL\1207019.D\1207019c.d	AD	J:\GC33\Data\120712-ICAL\1207060.D\1207060c.d
F	J:\GC33\Data\120712-ICAL\1207020.D\1207020c.d	AE	J:\GC33\Data\120712-ICAL\1207063.D\1207063c.d
G	J:\GC33\Data\120712-ICAL\1207023.D\1207023c.d	AF	J:\GC33\Data\120712-ICAL\1207064.D\1207064c.d
H	J:\GC33\Data\120712-ICAL\1207024.D\1207024c.d	AG	J:\GC33\Data\120712-ICAL\1207065.D\1207065c.d
I	J:\GC33\Data\120712-ICAL\1207025.D\1207025c.d	AH	J:\GC33\Data\120712-ICAL\1207066.D\1207066c.d
J	J:\GC33\Data\120712-ICAL\1207026.D\1207026c.d	AI	J:\GC33\Data\120712-ICAL\1207067.D\1207067c.d
K	J:\GC33\Data\120712-ICAL\1207027.D\1207027c.d	AJ	J:\GC33\Data\120712-ICAL\1207068.D\1207068c.d
L	J:\GC33\Data\120712-ICAL\1207028.D\1207028c.d	AK	J:\GC33\Data\120912-ICAL\1209008.D\1209008c.d
M	J:\GC33\Data\120712-ICAL\1207031.D\1207031c.d	AL	J:\GC33\Data\120912-ICAL\1209009.D\1209009c.d
N	J:\GC33\Data\120712-ICAL\1207032.D\1207032c.d	AM	J:\GC33\Data\120912-ICAL\1209010.D\1209010c.d
O	J:\GC33\Data\120712-ICAL\1207033.D\1207033c.d	AN	J:\GC33\Data\120912-ICAL\1209011.D\1209011c.d
P	J:\GC33\Data\120712-ICAL\1207034.D\1207034c.d	AO	J:\GC33\Data\120912-ICAL\1209012.D\1209012c.d
Q	J:\GC33\Data\120712-ICAL\1207035.D\1207035c.d	AP	J:\GC33\Data\120912-ICAL\1209013.D\1209013c.d
R	J:\GC33\Data\120712-ICAL\1207036.D\1207036c.d	AQ	J:\GC33\Data\122612-ICAL\1226104.D\1226104c.d
S	J:\GC33\Data\120712-ICAL\1207047.D\1207047c.d	AR	J:\GC33\Data\122612-ICAL\1226105.D\1226105c.d
T	J:\GC33\Data\120712-ICAL\1207048.D\1207048c.d	AS	J:\GC33\Data\122612-ICAL\1226106.D\1226106c.d
U	J:\GC33\Data\120712-ICAL\1207049.D\1207049c.d	AT	J:\GC33\Data\122612-ICAL\1226107.D\1226107c.d
V	J:\GC33\Data\120712-ICAL\1207050.D\1207050c.d	AU	J:\GC33\Data\122612-ICAL\1226108.D\1226108c.d
W	J:\GC33\Data\120712-ICAL\1207051.D\1207051c.d	AV	J:\GC33\Data\122612-ICAL\1226109.D\1226109c.d
X	J:\GC33\Data\120712-ICAL\1207052.D\1207052c.d	AW	J:\GC33\Data\122612-ICAL\1226110.D\1226110c.d
Y	J:\GC33\Data\120712-ICAL\1207055.D\1207055c.d		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Aldrin															
							AQ	2.0	0.988	AR	5.0	1.03	AS	20	1.14
	AT	50	1.20	AU	75	1.23	AV	100	1.31	AW	200	1.26			

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12134 **Column:** RTX-CLP2
Instrument ID: GC33

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Dieldrin															
							AQ	2.0	0.873	AR	5.0	0.907	AS	20	0.987
	AT	50	1.04	AU	75	1.06	AV	100	1.14	AW	200	1.11			
4,4'-DDE															
							AQ	2.0	0.824	AR	5.0	0.851	AS	20	0.936
	AT	50	0.986	AU	75	1.01	AV	100	1.08	AW	200	1.05			
4,4'-DDT															
							AQ	2.0	0.678	AR	5.0	0.702	AS	20	0.744
	AT	50	0.779	AU	75	0.798	AV	100	0.861	AW	200	0.860			
Decachlorobiphenyl															
							AQ	2.0	0.688	AR	5.0	0.670	AS	20	0.630
	AT	50	0.615	AU	75	0.561	AV	100	0.633	AW	200	0.639			

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 12/07/2012

Initial Calibration Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration ID: CAL12134 **Column:** RTX-CLP2
Instrument ID: GC33

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Aldrin	MS	Linear	R2	0.999		≥ 0.990	1.17		
Dieldrin	MS	AverageRF	% RSD	9.7		≤ 10	1.02		
4,4'-DDE	MS	Linear	R2	0.999		≥ 0.990	0.962		
4,4'-DDT	MS	AverageRF	% RSD	9.3		≤ 10	0.775		
Decachlorobiphenyl	SURR	AverageRF	% RSD	6.4		≤ 10	0.634		

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Calibration Date:**	12/07/2012
		Date Analyzed:	12/26/2012

Second Source Calibration Verification
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration ID:**	CAL12134
Analysis Method:	608	**Units:**	ug/L
File ID:	J:\GC33\Data\120712-ICAL\1207021.D\1207021c.d	**Column ID:**	RTX-CLP2
	J:\GC33\Data\120712-ICAL\1207029.D\1207029c.d		
	J:\GC33\Data\120712-ICAL\1207037.D\1207037c.d		
	J:\GC33\Data\120712-ICAL\1207053.D\1207053c.d		
	J:\GC33\Data\120712-ICAL\1207061.D\1207061c.d		
	J:\GC33\Data\120712-ICAL\1207069.D\1207069c.d		
	J:\GC33\Data\120912-ICAL\1209014.D\1209014c.d		
	J:\GC33\Data\122612-ICAL\1226111.D\1226111c.d		

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	50	53	1.17	1.33	NA	7	± 30 %	Linear
Dieldrin	50	57	1.02	1.16	15	NA	± 30 %	AverageRF
4,4'-DDE	50	54	0.962	1.10	NA	7	± 30 %	Linear
4,4'-DDT	50	56	0.775	0.874	13	NA	± 30 %	AverageRF

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013

Continuing Calibration Verification Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration Date:**	12/07/2012
Analysis Method:	608	**Calibration ID:**	CAL12134
		Analysis Lot:	KWG1301924
		Units:	ug/L
File ID:	J:\GC33\DATA\022813-608\0228003.D	**Column ID:**	RTX-CLP

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	75	75		1.12	1.13	0	NA	± 15 %	AverageRF
Dieldrin	75	71		0.928	0.964	NA	-5	± 15 %	Linear
4,4'-DDE	75	72		0.890	0.851	-4	NA	± 15 %	AverageRF
4,4'-DDT	75	67		0.665	0.667	NA	-10	± 15 %	Linear
Decachlorobiphenyl	75	80		0.547	0.582	6	NA	± 15 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013

Continuing Calibration Verification Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration Date:**	12/07/2012
Analysis Method:	608	**Calibration ID:**	CAL12134
		Analysis Lot:	KWG1301924
		Units:	ug/L
File ID:	J:\GC33\DATA\022813-608\0228003.D\0228003C.D	**Column ID:**	RTX-CLP2

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	75	72		1.17	1.21	NA	-4	± 15 %	Linear
Dieldrin	75	81		1.02	1.09	7	NA	± 15 %	AverageRF
4,4'-DDE	75	75		0.962	1.04	NA	0	± 15 %	Linear
4,4'-DDT	75	75		0.775	0.779	1	NA	± 15 %	AverageRF
Decachlorobiphenyl	75	79		0.634	0.667	5	NA	± 15 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013

Continuing Calibration Verification Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration Date:**	12/07/2012
Analysis Method:	608	**Calibration ID:**	CAL12134
		Analysis Lot:	KWG1301924
		Units:	ug/L
File ID:	J:\GC33\DATA\022813-608\0228010.D	**Column ID:**	RTX-CLP

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	75	71		1.12	1.06	-5	NA	± 15 %	AverageRF
Dieldrin	75	67		0.928	0.901	NA	-11	± 15 %	Linear
4,4'-DDE	75	73		0.890	0.863	-3	NA	± 15 %	AverageRF
4,4'-DDT	75	65		0.665	0.642	NA	-13	± 15 %	Linear
Decachlorobiphenyl	75	74		0.547	0.544	-1	NA	± 15 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013

Continuing Calibration Verification Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration Date:**	12/07/2012
Analysis Method:	608	**Calibration ID:**	CAL12134
		Analysis Lot:	KWG1301924
		Units:	ug/L
File ID:	J:\GC33\DATA\022813-608\0228010.D\0228010C.D	**Column ID:**	RTX-CLP2

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Aldrin	75	67		1.17	1.11	NA	-11	± 15 %	Linear
Dieldrin	75	72		1.02	0.975	-4	NA	± 15 %	AverageRF
4,4'-DDE	75	67		0.962	0.929	NA	-10	± 15 %	Linear
4,4'-DDT	75	66		0.775	0.681	-12	NA	± 15 %	AverageRF
Decachlorobiphenyl	75	67		0.634	0.563	-11	NA	± 15 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013

Continuing Calibration Verification Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration Date:**	12/07/2012
Analysis Method:	608	**Calibration ID:**	CAL12134
		Analysis Lot:	KWG1301924
		Units:	ug/L
File ID:	J:\GC33\DATA\022813-608\0228015.D	**Column ID:**	RTX-CLP

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift		Criteria	Curve Fit
Aldrin	75	70		1.12	1.05	-6	NA		± 15 %	AverageRF
Dieldrin	75	65		0.928	0.878	NA	-13		± 15 %	Linear
4,4'-DDE	75	72		0.890	0.849	-5	NA		± 15 %	AverageRF
4,4'-DDT	75	63		0.665	0.625	NA	-16	*	± 15 %	Linear
Decachlorobiphenyl	75	71		0.547	0.517	-6	NA		± 15 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	02/28/2013

Continuing Calibration Verification Summary
Organochlorine Pesticides and Polychlorinated Biphenyls

Calibration Type:	Internal Standard	**Calibration Date:**	12/07/2012
Analysis Method:	608	**Calibration ID:**	CAL12134
		Analysis Lot:	KWG1301924
		Units:	ug/L
File ID:	J:\GC33\DATA\022813-608\0228015.D\0228015C.D	**Column ID:**	RTX-CLP2

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D		%Drift	Criteria	Curve Fit
Aldrin	75	66		1.17	1.10	NA		-12	± 15 %	Linear
Dieldrin	75	70		1.02	0.943	-7		NA	± 15 %	AverageRF
4,4'-DDE	75	65		0.962	0.901	NA		-13	± 15 %	Linear
4,4'-DDT	75	65		0.775	0.676	-13		NA	± 15 %	AverageRF
Decachlorobiphenyl	75	63		0.634	0.535	-16	*	NA	± 15 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02

Analysis Run Log
Organochlorine Pesticides and Polychlorinated Biphenyls

Analysis Method: 608

Analysis Lot: KWG1301924
Instrument ID: GC33
Column: RTX-CLP

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
\0228003.D	Continuing Calibration Verification	KWG1301924-1	2/28/2013	12:29		2/28/2013	12:51
\0228005.D	Lab Control Sample	KWG1301805-1	2/28/2013	13:21		2/28/2013	13:43
\0228006.D	Duplicate Lab Control Sample	KWG1301805-2	2/28/2013	13:47		2/28/2013	14:09
\0228007.D	Method Blank	KWG1301805-3	2/28/2013	14:13		2/28/2013	14:35
\0228008.D	MT2-DDS-B206-022213-1130 Comp	K1301564-006	2/28/2013	14:39		2/28/2013	15:00
\0228009.D	ZZZZZZ	ZZZZZZ	2/28/2013	15:05		2/28/2013	15:26
\0228010.D	Continuing Calibration Verification	KWG1301924-2	2/28/2013	15:30		2/28/2013	15:52
\0228012.D	MT2-DBA-5198-022213-1050 Comp	K1301564-004	2/28/2013	16:22		2/28/2013	16:44
\0228013.D	MT2-DBB-5279-022213-1015 Comp	K1301564-005	2/28/2013	16:48		2/28/2013	17:10
\0228014.D	ZZZZZZ	ZZZZZZ	2/28/2013	17:14		2/28/2013	17:36
\0228015.D	Continuing Calibration Verification	KWG1301924-3	2/28/2013	17:40		2/28/2013	18:01

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Service Request: K1301564
Date Extracted: 02/25/2013

Extraction Prep Log
Organochlorine Pesticides and Polychlorinated Biphenyls

Extraction Method: EPA 3520C
Analysis Method: 608

Extraction Lot: KWG1301805
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5198-022213-1050 Co	K1301564-004	02/22/13	02/22/13	990mL	2mL	NA	
MT2-DBB-5279-022213-1015 Co	K1301564-005	02/22/13	02/22/13	990mL	2mL	NA	
MT2-DDS-B206-022213-1130 Co	K1301564-006	02/22/13	02/22/13	1000mL	2mL	NA	
Method Blank	KWG1301805-3	NA	NA	1060mL	2mL	NA	
Lab Control Sample	KWG1301805-1	NA	NA	1000mL	2mL	NA	
Duplicate Lab Control Sample	KWG1301805-2	NA	NA	1000mL	2mL	NA	

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MT2-DBA-5198-022213-1050 Comp	**Units:**	ug/L
Lab Code:	K1301564-004	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Pentachlorophenol	ND	U	24	0.38	1	02/25/13	03/04/13	KWG1301683	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4,6-Tribromophenol	75	47-128	03/04/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MT2-DBB-5279-022213-1015 Comp	**Units:**	ug/L
Lab Code:	K1301564-005	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Pentachlorophenol	ND	U	25	0.38	1	02/25/13	03/04/13	KWG1301683	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4,6-Tribromophenol	76	47-128	03/04/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	MT2-DDS-B206-022213-1130 Comp	**Units:**	ug/L
Lab Code:	K1301564-006	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Pentachlorophenol	ND	U	25	0.38	1	02/25/13	03/04/13	KWG1301683	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4,6-Tribromophenol	64	47-128	03/04/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1301683-3	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Pentachlorophenol	ND	U	24	0.38	1	02/25/13	03/04/13	KWG1301683	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
2,4,6-Tribromophenol	76	47-128	03/04/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C **Units:** PERCENT
Analysis Method: 625 **Level:** Low

Sample Name	Lab Code	Sur1
MT2-DBA-5198-022213-1050 Comp	K1301564-004	75
MT2-DBB-5279-022213-1015 Comp	K1301564-005	76
MT2-DDS-B206-022213-1130 Comp	K1301564-006	64
Method Blank	KWG1301683-3	76
Lab Control Sample	KWG1301683-1	86
Duplicate Lab Control Sample	KWG1301683-2	80

Surrogate Recovery Control Limits (%)

Sur1 = 2,4,6-Tribromophenol 47-128

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	03/04/2013
		Time Analyzed:	12:21

Internal Standard Area and RT Summary
Semi-Volatile Organic Compounds by GC/MS

File ID:	J:\MS07\DATA\030413\0304F002.D	**Lab Code:**	KWG1301974-2
Instrument ID:	MS07	**Analysis Lot:**	KWG1301974
Analysis Method:	625		

		Phenanthrene-d10	
		Area	**RT**
	Results ==>	79,575	16.84
	Upper Limit ==>	159,150	17.34
	Lower Limit ==>	39,788	16.34
	ICAL Result ==>	85,088	16.83
Associated Analyses			
Method Blank	KWG1301683-3	92,502	16.84
Lab Control Sample	KWG1301683-1	76,375	16.84
Duplicate Lab Control Sample	KWG1301683-2	89,871	16.84
MT2-DBA-5198-022213-1050 Comp	K1301564-004	80,861	16.84
MT2-DBB-5279-022213-1015 Comp	K1301564-005	78,285	16.84
MT2-DDS-B206-022213-1130 Comp	K1301564-006	76,135	16.84

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/25/2013
Sample Matrix:	Water	**Date Analyzed:**	03/04/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3520C	**Units:**	ug/L
Analysis Method:	625	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1301683

	Lab Control Sample KWG1301683-1 Lab Control Spike			Duplicate Lab Control Sample KWG1301683-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Pentachlorophenol	87.0	100	87	79.6	100	80	52-117	9	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/25/2013
Sample Matrix:	Water	**Date Analyzed:**	03/04/2013
		Time Analyzed:	13:32

Method Blank Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Instrument ID:**	MS07
Lab Code:	KWG1301683-3	**File ID:**	J:\MS07\DATA\030413\0304F003.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625	**Extraction Lot:**	KWG1301683

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1301683-1	J:\MS07\DATA\030413\0304F004.D	03/04/13	14:12
Duplicate Lab Control Sample	KWG1301683-2	J:\MS07\DATA\030413\0304F005.D	03/04/13	14:52
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\MS07\DATA\030413\0304F009.D	03/04/13	17:34
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\MS07\DATA\030413\0304F010.D	03/04/13	18:15
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\MS07\DATA\030413\0304F011.D	03/04/13	18:55

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/25/2013
Sample Matrix:	Water	**Date Analyzed:**	03/04/2013
		Time Analyzed:	14:12

Lab Control Sample Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Lab Control Sample	**Instrument ID:**	MS07
Lab Code:	KWG1301683-1	**File ID:**	J:\MS07\DATA\030413\0304F004.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	625	**Extraction Lot:**	KWG1301683

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1301683-3	J:\MS07\DATA\030413\0304F003.D	03/04/13	13:32
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\MS07\DATA\030413\0304F009.D	03/04/13	17:34
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\MS07\DATA\030413\0304F010.D	03/04/13	18:15
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\MS07\DATA\030413\0304F011.D	03/04/13	18:55

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02

Service Request: K1301564
Date Analyzed: 03/04/2013
Time Analyzed: 11:40

Tune Summary
Semi-Volatile Organic Compounds by GC/MS

File ID: J:\MS07\DATA\030413\0304F001.D
Instrument ID: MS07
Column:

Analysis Method: 625
Analysis Lot: KWG1301974

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	30	60	54.9	5931	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	68.9	7444	PASS
70	69	0	2	0.0	0	PASS
127	198	40	60	47.1	5089	PASS
197	198	0	1	0.0	0	PASS
198	198	100	100	100.0	10810	PASS
199	198	5	9	6.5	704	PASS
275	198	10	30	25.6	2764	PASS
365	198	1	100	3.8	406	PASS
441	443	0	100	82.1	1578	PASS
442	198	40	100	93.6	10116	PASS
443	442	17	23	19.0	1923	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1301974-2	J:\MS07\DATA\030413\0304F002.D	03/04/2013	12:21	
Method Blank	KWG1301683-3	J:\MS07\DATA\030413\0304F003.D	03/04/2013	13:32	
Lab Control Sample	KWG1301683-1	J:\MS07\DATA\030413\0304F004.D	03/04/2013	14:12	
Duplicate Lab Control Sample	KWG1301683-2	J:\MS07\DATA\030413\0304F005.D	03/04/2013	14:52	
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\MS07\DATA\030413\0304F009.D	03/04/2013	17:34	
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\MS07\DATA\030413\0304F010.D	03/04/2013	18:15	
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\MS07\DATA\030413\0304F011.D	03/04/2013	18:55	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 02/26/2013

Initial Calibration Summary
Semi-Volatile Organic Compounds by GC/MS

Calibration ID: CAL12275 **Column:** MS
Instrument ID: MS07

Level ID	File ID	Level ID	File ID
A	J:\MS07\DATA\022613\0226F008.D	G	J:\MS07\DATA\022613\0226F014.D
B	J:\MS07\DATA\022613\0226F009.D	H	J:\MS07\DATA\022613\0226F015.D
C	J:\MS07\DATA\022613\0226F010.D	I	J:\MS07\DATA\022613\0226F016.D
D	J:\MS07\DATA\022613\0226F011.D	J	J:\MS07\DATA\022613\0226F017.D
E	J:\MS07\DATA\022613\0226F012.D		
F	J:\MS07\DATA\022613\0226F013.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Pentachlorophenol										D	20	0.125	E	50	0.160
	F	80	0.184	G	100	0.208	H	120	0.198	I	160	0.195	J	200	0.187
2,4,6-Tribromophenol							C	10	0.140	D	20	0.166	E	50	0.208
	F	80	0.203	G	100	0.203	H	120	0.184	I	160	0.172	J	200	0.150

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 02/26/2013

Initial Calibration Summary
Semi-Volatile Organic Compounds by GC/MS

Calibration ID: CAL12275 **Column:** MS
Instrument ID: MS07

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Pentachlorophenol	MS	Quadratic	COD	0.996		≥ 0.990	0.180		0.01
2,4,6-Tribromophenol	SURR	AverageRF	% RSD	14.4		≤ 35	0.178		0.01

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group

QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Calibration Date:**	02/26/2013
		Date Analyzed:	02/27/2013

Second Source Calibration Verification
Semi-Volatile Organic Compounds by GC/MS

Calibration Type:	Internal Standard	**Calibration ID:**	CAL12275
Analysis Method:	625	**Units:**	ug/ml

File ID: J:\MS07\DATA\022613\0226F018.D
J:\MS07\DATA\022613\0226F019.D
J:\MS07\DATA\022613\0226F020.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Pentachlorophenol	80	78	0.180	0.190	NA	-2	± 30 %	Quadratic

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02

Service Request: K1301564
Date Analyzed: 03/04/2013

Continuing Calibration Verification Summary
Semi-Volatile Organic Compounds by GC/MS

Calibration Type: Internal Standard
Analysis Method: 625

Calibration Date: 02/26/2013
Calibration ID: CAL12275
Analysis Lot: KWG1301974
Units: ug/ml

File ID: J:\MS07\DATA\030413\0304F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Pentachlorophenol	80	79	0.01	0.180	0.193	NA	-1	± 20 %	Quadratic
2,4,6-Tribromophenol	80	84	0.01	0.178	0.188	5	NA	± 20 %	AverageRF

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02

Analysis Run Log
Semi-Volatile Organic Compounds by GC/MS

Analysis Method: 625 **Analysis Lot:** KWG1301974
Instrument ID: MS07

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0304F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1301974-1	3/4/2013	11:40		3/4/2013	12:11
0304F002.D	Continuing Calibration Verification	KWG1301974-2	3/4/2013	12:21		3/4/2013	12:52
0304F003.D	Method Blank	KWG1301683-3	3/4/2013	13:32		3/4/2013	14:03
0304F004.D	Lab Control Sample	KWG1301683-1	3/4/2013	14:12		3/4/2013	14:43
0304F005.D	Duplicate Lab Control Sample	KWG1301683-2	3/4/2013	14:52		3/4/2013	15:23
0304F009.D	MT2-DBA-5198-022213-1050 Comp	K1301564-004	3/4/2013	17:34		3/4/2013	18:05
0304F010.D	MT2-DBB-5279-022213-1015 Comp	K1301564-005	3/4/2013	18:15		3/4/2013	18:46
0304F011.D	MT2-DDS-B206-022213-1130 Comp	K1301564-006	3/4/2013	18:55		3/4/2013	19:26
0304F012.D	ZZZZZZ	ZZZZZZ	3/4/2013	19:35		3/4/2013	20:06
0304F014.D	ZZZZZZ	ZZZZZZ	3/4/2013	20:56		3/4/2013	21:27

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Service Request: K1301564
Date Extracted: 02/25/2013

Extraction Prep Log
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3520C
Analysis Method: 625

Extraction Lot: KWG1301683
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5198-022213-1050 Co	K1301564-004	02/22/13	02/22/13	1050ml	1ml	NA	
MT2-DBB-5279-022213-1015 Co	K1301564-005	02/22/13	02/22/13	1020ml	1ml	NA	
MT2-DDS-B206-022213-1130 Co	K1301564-006	02/22/13	02/22/13	1010ml	1ml	NA	
Method Blank	KWG1301683-3	NA	NA	1050ml	1ml	NA	
Lab Control Sample	KWG1301683-1	NA	NA	1000ml	1ml	NA	
Duplicate Lab Control Sample	KWG1301683-2	NA	NA	1000ml	1ml	NA	

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	MT2-DBA-5198-022213-1050 Comp	**Units:**	ug/L
Lab Code:	K1301564-004	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0075	0.0075	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1221	ND	Ui	0.030	0.030	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1232	ND	Ui	0.061	0.061	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1242	ND	Ui	0.011	0.011	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1248	ND	Ui	0.0064	0.0064	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1254	ND	Ui	0.014	0.014	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1260	ND	Ui	0.0073	0.0073	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1262	ND	Ui	0.0066	0.0066	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1268	ND	Ui	0.0067	0.0067	1	02/26/13	03/02/13	KWG1301884	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	93	36-113	03/02/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	MT2-DBB-5279-022213-1015 Comp	**Units:**	ug/L
Lab Code:	K1301564-005	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.015	0.015	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1221	ND	Ui	0.030	0.030	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1232	ND	Ui	0.058	0.058	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1242	ND	Ui	0.051	0.051	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1248	ND	Ui	0.011	0.011	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1254	ND	Ui	0.014	0.014	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1260	ND	Ui	0.0055	0.0055	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1262	ND	Ui	0.0063	0.0063	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1268	ND	Ui	0.0050	0.0041	1	02/26/13	03/02/13	KWG1301884	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	113	36-113	03/02/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
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Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	MT2-DDS-B206-022213-1130 Comp	**Units:**	ug/L
Lab Code:	K1301564-006	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0050	0.0035	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1221	ND	Ui	0.025	0.025	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1232	ND	Ui	0.029	0.029	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1242	ND	Ui	0.012	0.012	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1248	ND	Ui	0.0058	0.0058	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1254	ND	Ui	0.0065	0.0065	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1260	ND	Ui	0.0050	0.0041	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1262	ND	Ui	0.0057	0.0057	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1268	ND	Ui	0.0050	0.0033	1	02/26/13	03/02/13	KWG1301884	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	80	36-113	03/02/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1301884-3	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.0021	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1221	ND	U	0.0098	0.0021	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1232	ND	U	0.0050	0.0021	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1242	ND	U	0.0050	0.0021	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1248	ND	U	0.0050	0.0021	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1254	ND	U	0.0050	0.0021	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1260	ND	U	0.0050	0.0021	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1262	ND	U	0.0050	0.0021	1	02/26/13	03/02/13	KWG1301884	
Aroclor 1268	ND	U	0.0050	0.0021	1	02/26/13	03/02/13	KWG1301884	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	101	36-113	03/02/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A **Units:** PERCENT
Analysis Method: 8082A **Level:** Low

Sample Name	Lab Code	Sur1
MT2-DBA-5198-022213-1050 Comp	K1301564-004	93
MT2-DBB-5279-022213-1015 Comp	K1301564-005	113
MT2-DDS-B206-022213-1130 Comp	K1301564-006	80
Method Blank	KWG1301884-3	101
Lab Control Sample	KWG1301884-1	98
Duplicate Lab Control Sample	KWG1301884-2	94

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 36-113

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/26/2013
Sample Matrix:	Water	**Date Analyzed:**	03/02/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3535A	**Units:**	ug/L
Analysis Method:	8082A	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1301884

	Lab Control Sample KWG1301884-1 Lab Control Spike			Duplicate Lab Control Sample KWG1301884-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	0.157	0.200	79	0.153	0.200	77	50-103	3	30
Aroclor 1260	0.168	0.200	84	0.158	0.200	79	56-100	6	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/26/2013
Sample Matrix:	Water	**Date Analyzed:**	03/02/2013
		Time Analyzed:	01:34

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Instrument ID:**	GC22.i
Lab Code:	KWG1301884-3	**File ID:**	J:\GC22\DATA\030113UL.B\0301F010.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1301884

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1301884-1	J:\GC22\DATA\030113UL.B\0301F008.D	03/02/13	00:49
Duplicate Lab Control Sample	KWG1301884-2	J:\GC22\DATA\030113UL.B\0301F009.D	03/02/13	01:12
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\GC22\DATA\030113UL.B\0301F014.D	03/02/13	03:05
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\GC22\DATA\030113UL.B\0301F015.D	03/02/13	03:28
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\GC22\DATA\030113UL.B\0301F016.D	03/02/13	03:50

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/26/2013
Sample Matrix:	Water	**Date Analyzed:**	03/02/2013
		Time Analyzed:	00:49

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Lab Control Sample	**Instrument ID:**	GC22.i
Lab Code:	KWG1301884-1	**File ID:**	J:\GC22\DATA\030113UL.B\0301F008.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1301884

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1301884-3	J:\GC22\DATA\030113UL.B\0301F010.D	03/02/13	01:34
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\GC22\DATA\030113UL.B\0301F014.D	03/02/13	03:05
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\GC22\DATA\030113UL.B\0301F015.D	03/02/13	03:28
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\GC22\DATA\030113UL.B\0301F016.D	03/02/13	03:50

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

Level ID	File ID	Level ID	File ID
A	\\cash1\acqudata\GC22\data\082212A.b\0822F205.D	Q	\\cash1\acqudata\GC22\data\082212A.b\0822F221.D
B	\\cash1\acqudata\GC22\data\082212A.b\0822F206.D	R	\\cash1\acqudata\GC22\data\082212A.b\0822F222.D
C	\\cash1\acqudata\GC22\data\082212A.b\0822F207.D	S	\\cash1\acqudata\GC22\data\082212A.b\0822F223.D
D	\\cash1\acqudata\GC22\data\082212A.b\0822F208.D	T	\\cash1\acqudata\GC22\data\082212A.b\0822F224.D
E	\\cash1\acqudata\GC22\data\082212A.b\0822F209.D	U	\\cash1\acqudata\GC22\data\082212A.b\0822F225.D
F	\\cash1\acqudata\GC22\data\082212A.b\0822F210.D	V	\\cash1\acqudata\GC22\data\082212A.b\0822F226.D
G	\\cash1\acqudata\GC22\data\082212A.b\0822F211.D	W	\\cash1\acqudata\GC22\data\082212A.b\0822F227.D
H	\\cash1\acqudata\GC22\data\082212A.b\0822F212.D	X	\\cash1\acqudata\GC22\data\082212A.b\0822F228.D
I	\\cash1\acqudata\GC22\data\082212A.b\0822F213.D	Y	\\cash1\acqudata\GC22\data\082212A.b\0822F229.D
J	\\cash1\acqudata\GC22\data\082212A.b\0822F214.D	Z	\\cash1\acqudata\GC22\data\082212A.b\0822F230.D
K	\\cash1\acqudata\GC22\data\082212A.b\0822F215.D	AA	\\cash1\acqudata\GC22\data\082212A.b\0822F231.D
L	\\cash1\acqudata\GC22\data\082212A.b\0822F216.D	AB	\\cash1\acqudata\GC22\data\082212A.b\0822F232.D
M	\\cash1\acqudata\GC22\data\082212A.b\0822F217.D	AC	\\cash1\acqudata\GC22\data\082212A.b\0822F233.D
N	\\cash1\acqudata\GC22\data\082212A.b\0822F218.D	AD	\\cash1\acqudata\GC22\data\082212A.b\0822F234.D
O	\\cash1\acqudata\GC22\data\082212A.b\0822F219.D		
P	\\cash1\acqudata\GC22\data\082212A.b\0822F220.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	5.87E+5	B	0.50	6.43E+5	C	5.0	6.47E+5	D	10	6.17E+5	E	20	4.89E+5
	F	50	4.62E+5												
Aroclor 1016 {1}	A	2.5	11200	B	5.0	9660	C	50	8550	D	100	8900	E	200	7380
	F	500	6430												
Aroclor 1016 {2}	A	2.5	25200	B	5.0	27400	C	50	26800	D	100	26500	E	200	22900
	F	500	20900												
Aroclor 1016 {3}	A	2.5	18000	B	5.0	18600	C	50	20500	D	100	17700	E	200	16200
	F	500	14100												
Aroclor 1016 {4}	A	2.5	9360	B	5.0	12100	C	50	12200	D	100	10700	E	200	9980
	F	500	8860												
Aroclor 1016 {5}	A	2.5	16200	B	5.0	14700	C	50	16300	D	100	13900	E	200	13000
	F	500	11600												
Aroclor 1260 {1}	A	2.5	41000	B	5.0	48200	C	50	46700	D	100	41000	E	200	35300
	F	500	31700												
Aroclor 1260 {2}	A	2.5	36200	B	5.0	46600	C	50	45600	D	100	39700	E	200	35400
	F	500	31600												
Aroclor 1260 {3}	A	2.5	33100	B	5.0	32700	C	50	30200	D	100	26800	E	200	23400
	F	500	20800												
Aroclor 1260 {4}	A	2.5	30600	B	5.0	30800	C	50	32500	D	100	28600	E	200	24800
	F	500	22600												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	71500	B	5.0	77400	C	50	74700	D	100	64900	E	200	56200
	F	500	52800												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

		Calibration Evaluation				
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**
Decachlorobiphenyl	SURR	AverageRF	% RSD	13.9		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	19.3		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	12.4		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	13.1		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	13.0		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	15.6		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	18.1		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	13.5		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	15.2		≤ 20

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02

Service Request: K1301564
Calibration Date: 08/23/2012
Date Analyzed: 08/23/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11805
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\082212A.b\0822F235.D
\\cash1\acqudata\GC22\data\082212A.b\0822F236.D
\\cash1\acqudata\GC22\data\082212A.b\0822F237.D
\\cash1\acqudata\GC22\data\082212A.b\0822F238.D
\\cash1\acqudata\GC22\data\082212A.b\0822F239.D
\\cash1\acqudata\GC22\data\082212A.b\0822F240.D
\\cash1\acqudata\GC22\data\082212A.b\0822F241.D
\\cash1\acqudata\GC22\data\082212A.b\0822F242.D
\\cash1\acqudata\GC22\data\082212A.b\0822F243.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	84	NA	NA	NA	-16	± 20 %	NA
Aroclor 1016 {1}	100	89	8680	7690	-11	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	85	25000	21300	-15	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	83	17500	14600	-17	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	84	10500	8780	-16	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	78	14300	11100	-22	NA	± 100 %	AverageRF
Aroclor 1260	100	85	NA	NA	NA	-15	± 20 %	NA
Aroclor 1260 {1}	100	83	40700	33600	-17	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	70	39200	27300	-30	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	91	27800	25300	-9	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	93	28300	26500	-7	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	90	66300	59800	-10	NA	± 100 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

Level ID	File ID	Level ID	File ID
A	\\cash1\acqudata\GC22\data\082212A_r.b\0822F205.D	Q	\\cash1\acqudata\GC22\data\082212A_r.b\0822F221.D
B	\\cash1\acqudata\GC22\data\082212A_r.b\0822F206.D	R	\\cash1\acqudata\GC22\data\082212A_r.b\0822F222.D
C	\\cash1\acqudata\GC22\data\082212A_r.b\0822F207.D	S	\\cash1\acqudata\GC22\data\082212A_r.b\0822F223.D
D	\\cash1\acqudata\GC22\data\082212A_r.b\0822F208.D	T	\\cash1\acqudata\GC22\data\082212A_r.b\0822F224.D
E	\\cash1\acqudata\GC22\data\082212A_r.b\0822F209.D	U	\\cash1\acqudata\GC22\data\082212A_r.b\0822F225.D
F	\\cash1\acqudata\GC22\data\082212A_r.b\0822F210.D	V	\\cash1\acqudata\GC22\data\082212A_r.b\0822F226.D
G	\\cash1\acqudata\GC22\data\082212A_r.b\0822F211.D	W	\\cash1\acqudata\GC22\data\082212A_r.b\0822F227.D
H	\\cash1\acqudata\GC22\data\082212A_r.b\0822F212.D	X	\\cash1\acqudata\GC22\data\082212A_r.b\0822F228.D
I	\\cash1\acqudata\GC22\data\082212A_r.b\0822F213.D	Y	\\cash1\acqudata\GC22\data\082212A_r.b\0822F229.D
J	\\cash1\acqudata\GC22\data\082212A_r.b\0822F214.D	Z	\\cash1\acqudata\GC22\data\082212A_r.b\0822F230.D
K	\\cash1\acqudata\GC22\data\082212A_r.b\0822F215.D	AA	\\cash1\acqudata\GC22\data\082212A_r.b\0822F231.D
L	\\cash1\acqudata\GC22\data\082212A_r.b\0822F216.D	AB	\\cash1\acqudata\GC22\data\082212A_r.b\0822F232.D
M	\\cash1\acqudata\GC22\data\082212A_r.b\0822F217.D	AC	\\cash1\acqudata\GC22\data\082212A_r.b\0822F233.D
N	\\cash1\acqudata\GC22\data\082212A_r.b\0822F218.D	AD	\\cash1\acqudata\GC22\data\082212A_r.b\0822F234.D
O	\\cash1\acqudata\GC22\data\082212A_r.b\0822F219.D		
P	\\cash1\acqudata\GC22\data\082212A_r.b\0822F220.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	8.92E+5	B	0.50	1.02E+6	C	5.0	7.79E+5	D	10	7.64E+5	E	20	7.40E+5
	F	50	7.06E+5												
Aroclor 1016 {1}	A	2.5	34900	B	5.0	31600	C	50	27800	D	100	25300	E	200	25500
	F	500	21900												
Aroclor 1016 {2}	A	2.5	49600	B	5.0	50200	C	50	47500	D	100	46900	E	200	46600
	F	500	43300												
Aroclor 1016 {3}	A	2.5	29200	B	5.0	27400	C	50	26500	D	100	25200	E	200	26800
	F	500	23900												
Aroclor 1016 {4}	A	2.5	28200	B	5.0	26200	C	50	22700	D	100	21500	E	200	21400
	F	500	19000												
Aroclor 1016 {5}	A	2.5	29200	B	5.0	22300	C	50	27000	D	100	25200	E	200	25100
	F	500	22500												
Aroclor 1260 {1}	A	2.5	57300	B	5.0	66300	C	50	58100	D	100	54000	E	200	52700
	F	500	48600												
Aroclor 1260 {2}	A	2.5	68900	B	5.0	68500	C	50	69000	D	100	66300	E	200	63800
	F	500	59900												
Aroclor 1260 {3}	A	2.5	71200	B	5.0	82100	C	50	79700	D	100	77700	E	200	75800
	F	500	71900												
Aroclor 1260 {4}	A	2.5	56200	B	5.0	52500	C	50	43200	D	100	42300	E	200	41200
	F	500	38900												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	87100	B	5.0	91700	C	50	97500	D	100	95800	E	200	94600
	F	500	92500												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

		Calibration Evaluation				
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**
Decachlorobiphenyl	SURR	AverageRF	% RSD	14.4		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	16.9		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	5.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	6.9		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	14.6		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	10.4		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	10.7		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	5.5		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	5.6		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	3.9		≤ 20

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02

Service Request: K1301564
Calibration Date: 08/23/2012
Date Analyzed: 08/23/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11805
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\082212A_r.b\0822F235.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F236.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F237.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F238.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F239.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F240.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F241.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F242.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F243.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	91	NA	NA	NA	-9	± 20 %	NA
Aroclor 1016 {1}	100	87	27900	24200	-13	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	95	47300	45100	-5	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	94	26500	24900	-6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	86	23200	20000	-14	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	92	25200	23200	-8	NA	± 100 %	AverageRF
Aroclor 1260	100	96	NA	NA	NA	-4	± 20 %	NA
Aroclor 1260 {1}	100	91	56100	51300	-9	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	94	66100	62400	-6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	88	76400	67400	-12	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	98	45700	44900	-2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93200	102000	10	NA	± 100 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	03/02/2013

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
		Analysis Lot:	KWG1302042
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\030113UL.B\0301F006.D	**Column ID:**	DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	574000	626000	9	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	8	± 20 %	NA
Aroclor 1016 {1}	100	94	8680	8160	-6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	120	25000	30700	23	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	110	17500	19000	8	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	10500	11100	6	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	110	14300	15200	7	NA	± 100 %	AverageRF
Aroclor 1260	100	100	NA	NA	NA	1	± 20 %	NA
Aroclor 1260 {1}	100	100	40700	41500	2	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	100	39200	40800	4	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	97	27800	27100	-3	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	100	28300	28400	0	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	100	66300	66800	1	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	03/02/2013

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
		Analysis Lot:	KWG1302042
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\030113UL_R.B\0301F006.D	**Column ID:**	DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	9.8	817000	799000	-2	NA	± 20 %	AverageRF
Aroclor 1016	100	86	NA	NA	NA	-14	± 20 %	NA
Aroclor 1016 {1}	100	81	27900	22500	-19	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	92	47300	43400	-8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	92	26500	24500	-8	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	80	23200	18500	-20	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	87	25200	21900	-13	NA	± 100 %	AverageRF
Aroclor 1260	100	91	NA	NA	NA	-9	± 20 %	NA
Aroclor 1260 {1}	100	84	56100	47300	-16	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	92	66100	61000	-8	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	95	76400	72400	-5	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	85	45700	38700	-15	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	99	93200	91900	-1	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	03/02/2013

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
		Analysis Lot:	KWG1302042
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\030113UL.B\0301F018.D	**Column ID:**	DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	11	574000	609000	6	NA	± 20 %	AverageRF
Aroclor 1016	100	110	NA	NA	NA	8	± 20 %	NA
Aroclor 1016 {1}	100	110	8680	9340	8	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	120	25000	29700	19	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	100	17500	18200	4	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	110	10500	11100	5	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	100	14300	14900	4	NA	± 100 %	AverageRF
Aroclor 1260	100	97	NA	NA	NA	-3	± 20 %	NA
Aroclor 1260 {1}	100	97	40700	39400	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	99	39200	38700	-1	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	93	27800	25800	-7	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	98	28300	27700	-2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	96	66300	63800	-4	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	03/02/2013

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
		Analysis Lot:	KWG1302042
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\030113UL_R.B\0301F018.D	**Column ID:**	DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	10	817000	814000	0	NA	± 20 %	AverageRF
Aroclor 1016	100	86	NA	NA	NA	-14	± 20 %	NA
Aroclor 1016 {1}	100	86	27900	23900	-14	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	88	47300	41700	-12	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	89	26500	23700	-11	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	83	23200	19100	-17	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	86	25200	21600	-14	NA	± 100 %	AverageRF
Aroclor 1260	100	90	NA	NA	NA	-10	± 20 %	NA
Aroclor 1260 {1}	100	85	56100	47900	-15	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	90	66100	59500	-10	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	92	76400	70500	-8	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	86	45700	39300	-14	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	98	93200	91200	-2	NA	± 100 %	AverageRF

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082A **Analysis Lot:** KWG1302042
Instrument ID: GC22.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0301F006.D	Continuing Calibration Verification	KWG1302042-1	3/2/2013	00:03		3/2/2013	00:03
0301F007.D	Instrument Blank	KWG1302042-2	3/2/2013	00:26		3/2/2013	00:26
0301F008.D	Lab Control Sample	KWG1301884-1	3/2/2013	00:49		3/2/2013	00:49
0301F009.D	Duplicate Lab Control Sample	KWG1301884-2	3/2/2013	01:12		3/2/2013	01:12
0301F010.D	Method Blank	KWG1301884-3	3/2/2013	01:34		3/2/2013	01:34
0301F011.D	ZZZZZZ	ZZZZZZ	3/2/2013	01:57		3/2/2013	01:57
0301F012.D	ZZZZZZ	ZZZZZZ	3/2/2013	02:20		3/2/2013	02:20
0301F013.D	ZZZZZZ	ZZZZZZ	3/2/2013	02:42		3/2/2013	02:42
0301F014.D	MT2-DBA-5198-022213-1050 Comp	K1301564-004	3/2/2013	03:05		3/2/2013	03:05
0301F015.D	MT2-DBB-5279-022213-1015 Comp	K1301564-005	3/2/2013	03:28		3/2/2013	03:28
0301F016.D	MT2-DDS-B206-022213-1130 Comp	K1301564-006	3/2/2013	03:50		3/2/2013	03:50
0301F017.D	ZZZZZZ	ZZZZZZ	3/2/2013	04:13		3/2/2013	04:13
0301F018.D	Continuing Calibration Verification	KWG1302042-3	3/2/2013	04:36		3/2/2013	04:36
0301F019.D	Instrument Blank	KWG1302042-4	3/2/2013	04:58		3/2/2013	04:58

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Service Request: K1301564
Date Extracted: 02/26/2013

Extraction Prep Log
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A
Analysis Method: 8082A

Extraction Lot: KWG1301884
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5198-022213-1050 Co	K1301564-004	02/22/13	02/22/13	980mL	2mL	NA	
MT2-DBB-5279-022213-1015 Co	K1301564-005	02/22/13	02/22/13	1030mL	2mL	NA	
MT2-DDS-B206-022213-1130 Co	K1301564-006	02/22/13	02/22/13	1000mL	2mL	NA	
Method Blank	KWG1301884-3	NA	NA	1030mL	2mL	NA	
Lab Control Sample	KWG1301884-1	NA	NA	1000mL	2mL	NA	
Duplicate Lab Control Sample	KWG1301884-2	NA	NA	1000mL	2mL	NA	

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Polynuclear Aromatic Hydrocarbons

Sample Name:	MT2-DBA-5198-022213-1050 Comp	**Units:**	ng/L
Lab Code:	K1301564-004	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**45**		3.6	0.74	1	02/28/13	03/06/13	KWG1301848	
2-Methylnaphthalene	**22**		3.6	0.42	1	02/28/13	03/06/13	KWG1301848	
Acenaphthylene	**13**		3.6	0.39	1	02/28/13	03/06/13	KWG1301848	
Acenaphthene	**9.8**		3.6	0.38	1	02/28/13	03/06/13	KWG1301848	
Fluorene	**17**		3.6	0.44	1	02/28/13	03/06/13	KWG1301848	
Phenanthrene	**130**		3.6	0.75	1	02/28/13	03/06/13	KWG1301848	
Anthracene	**19**		3.6	0.30	1	02/28/13	03/06/13	KWG1301848	
Fluoranthene	**120**		3.6	0.48	1	02/28/13	03/06/13	KWG1301848	
Pyrene	**170**		3.6	0.81	1	02/28/13	03/06/13	KWG1301848	
Benz(a)anthracene	**25**		3.6	0.36	1	02/28/13	03/06/13	KWG1301848	
Chrysene	**200**		3.6	0.68	1	02/28/13	03/06/13	KWG1301848	
Benzo(b)fluoranthene	**97**	X	3.6	0.26	1	02/28/13	03/06/13	KWG1301848	
Benzo(k)fluoranthene	ND	UX	3.6	0.43	1	02/28/13	03/06/13	KWG1301848	
Benzo(a)pyrene	**45**		3.6	0.43	1	02/28/13	03/06/13	KWG1301848	
Indeno(1,2,3-cd)pyrene	**56**		3.6	0.46	1	02/28/13	03/06/13	KWG1301848	
Dibenz(a,h)anthracene	**19**		3.6	0.47	1	02/28/13	03/06/13	KWG1301848	
Benzo(g,h,i)perylene	**100**		3.6	0.38	1	02/28/13	03/06/13	KWG1301848	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	77	46-114	03/06/13	Acceptable
Fluoranthene-d10	79	51-121	03/06/13	Acceptable
Terphenyl-d14	69	58-140	03/06/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
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Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Polynuclear Aromatic Hydrocarbons

Sample Name:	MT2-DBB-5279-022213-1015 Comp	**Units:**	ng/L
Lab Code:	K1301564-005	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**45**		3.4	0.71	1	02/28/13	03/06/13	KWG1301848	
2-Methylnaphthalene	**32**		3.4	0.40	1	02/28/13	03/06/13	KWG1301848	
Acenaphthylene	**8.2**		3.4	0.37	1	02/28/13	03/06/13	KWG1301848	
Acenaphthene	**7.1**		3.4	0.36	1	02/28/13	03/06/13	KWG1301848	
Fluorene	**15**		3.4	0.42	1	02/28/13	03/06/13	KWG1301848	
Phenanthrene	**93**		3.4	0.72	1	02/28/13	03/06/13	KWG1301848	
Anthracene	**12**		3.4	0.29	1	02/28/13	03/06/13	KWG1301848	
Fluoranthene	**64**		3.4	0.46	1	02/28/13	03/06/13	KWG1301848	
Pyrene	**66**		3.4	0.78	1	02/28/13	03/06/13	KWG1301848	
Benz(a)anthracene	**16**		3.4	0.34	1	02/28/13	03/06/13	KWG1301848	
Chrysene	**74**		3.4	0.65	1	02/28/13	03/06/13	KWG1301848	
Benzo(b)fluoranthene	**40**		3.4	0.25	1	02/28/13	03/06/13	KWG1301848	
Benzo(k)fluoranthene	**12**		3.4	0.41	1	02/28/13	03/06/13	KWG1301848	
Benzo(a)pyrene	**22**		3.4	0.41	1	02/28/13	03/06/13	KWG1301848	
Indeno(1,2,3-cd)pyrene	**29**		3.4	0.44	1	02/28/13	03/06/13	KWG1301848	
Dibenz(a,h)anthracene	**7.8**		3.4	0.45	1	02/28/13	03/06/13	KWG1301848	
Benzo(g,h,i)perylene	**43**		3.4	0.36	1	02/28/13	03/06/13	KWG1301848	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	69	46-114	03/06/13	Acceptable
Fluoranthene-d10	68	51-121	03/06/13	Acceptable
Terphenyl-d14	57	58-140	03/06/13	Outside Control Limits

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	02/22/2013
Sample Matrix:	Water	**Date Received:**	02/22/2013

Polynuclear Aromatic Hydrocarbons

Sample Name:	MT2-DDS-B206-022213-1130 Comp	**Units:**	ng/L
Lab Code:	K1301564-006	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**21**		3.4	0.71	1	02/28/13	03/06/13	KWG1301848	
2-Methylnaphthalene	**13**		3.4	0.40	1	02/28/13	03/06/13	KWG1301848	
Acenaphthylene	**4.5**		3.4	0.37	1	02/28/13	03/06/13	KWG1301848	
Acenaphthene	**2.7**	J	3.4	0.36	1	02/28/13	03/06/13	KWG1301848	
Fluorene	**6.7**		3.4	0.42	1	02/28/13	03/06/13	KWG1301848	
Phenanthrene	**52**		3.4	0.72	1	02/28/13	03/06/13	KWG1301848	
Anthracene	**11**		3.4	0.29	1	02/28/13	03/06/13	KWG1301848	
Fluoranthene	**47**		3.4	0.46	1	02/28/13	03/06/13	KWG1301848	
Pyrene	**38**		3.4	0.78	1	02/28/13	03/06/13	KWG1301848	
Benz(a)anthracene	**8.1**		3.4	0.34	1	02/28/13	03/06/13	KWG1301848	
Chrysene	**33**		3.4	0.65	1	02/28/13	03/06/13	KWG1301848	
Benzo(b)fluoranthene	**23**		3.4	0.25	1	02/28/13	03/06/13	KWG1301848	
Benzo(k)fluoranthene	**6.9**		3.4	0.41	1	02/28/13	03/06/13	KWG1301848	
Benzo(a)pyrene	**10**		3.4	0.41	1	02/28/13	03/06/13	KWG1301848	
Indeno(1,2,3-cd)pyrene	**15**		3.4	0.44	1	02/28/13	03/06/13	KWG1301848	
Dibenz(a,h)anthracene	**4.4**		3.4	0.45	1	02/28/13	03/06/13	KWG1301848	
Benzo(g,h,i)perylene	**18**		3.4	0.36	1	02/28/13	03/06/13	KWG1301848	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	46-114	03/06/13	Acceptable
Fluoranthene-d10	65	51-121	03/06/13	Acceptable
Terphenyl-d14	59	58-140	03/06/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KWG1301848-5	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**1.4**	J	3.4	0.71	1	02/28/13	03/06/13	KWG1301848	
2-Methylnaphthalene	**0.84**	J	3.4	0.40	1	02/28/13	03/06/13	KWG1301848	
Acenaphthylene	ND	U	3.4	0.37	1	02/28/13	03/06/13	KWG1301848	
Acenaphthene	**0.51**	J	3.4	0.36	1	02/28/13	03/06/13	KWG1301848	
Fluorene	ND	U	3.4	0.42	1	02/28/13	03/06/13	KWG1301848	
Phenanthrene	**3.2**	J	3.4	0.72	1	02/28/13	03/06/13	KWG1301848	
Anthracene	ND	U	3.4	0.29	1	02/28/13	03/06/13	KWG1301848	
Fluoranthene	**1.0**	J	3.4	0.46	1	02/28/13	03/06/13	KWG1301848	
Pyrene	**1.0**	J	3.4	0.78	1	02/28/13	03/06/13	KWG1301848	
Benz(a)anthracene	**1.1**	J	3.4	0.34	1	02/28/13	03/06/13	KWG1301848	
Chrysene	**0.65**	J	3.4	0.65	1	02/28/13	03/06/13	KWG1301848	
Benzo(b)fluoranthene	**0.69**	J	3.4	0.25	1	02/28/13	03/06/13	KWG1301848	
Benzo(k)fluoranthene	**0.73**	J	3.4	0.41	1	02/28/13	03/06/13	KWG1301848	
Benzo(a)pyrene	**0.56**	J	3.4	0.41	1	02/28/13	03/06/13	KWG1301848	
Indeno(1,2,3-cd)pyrene	**1.1**	J	3.4	0.44	1	02/28/13	03/06/13	KWG1301848	
Dibenz(a,h)anthracene	**0.96**	J	3.4	0.45	1	02/28/13	03/06/13	KWG1301848	
Benzo(g,h,i)perylene	**0.95**	J	3.4	0.36	1	02/28/13	03/06/13	KWG1301848	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	77	46-114	03/06/13	Acceptable
Fluoranthene-d10	79	51-121	03/06/13	Acceptable
Terphenyl-d14	65	58-140	03/06/13	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C **Units:** ng/L
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3	
MT2-DBA-5198-022213-1050 Comp	K1301564-004	77	79	69	
MT2-DBB-5279-022213-1015 Comp	K1301564-005	69	68	57	*
MT2-DDS-B206-022213-1130 Comp	K1301564-006	66	65	59	
Batch QC	K1301675-001	56	63	59	
Method Blank	KWG1301848-5	77	79	65	
Batch QCMS	KWG1301848-1	58	69	57	*
Batch QCDMS	KWG1301848-2	67	70	62	
Lab Control Sample	KWG1301848-3	75	77	64	
Duplicate Lab Control Sample	KWG1301848-4	74	76	64	

Surrogate Recovery Control Limits (%)

Sur1	=	Fluorene-d10	46-114
Sur2	=	Fluoranthene-d10	51-121
Sur3	=	Terphenyl-d14	58-140

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02

Service Request: K1301564
Date Analyzed: 03/06/2013
Time Analyzed: 06:56

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\030613\0306F002.D
Instrument ID: MS11
Analysis Method: 8270D SIM

Lab Code: KWG1302056-2
Analysis Lot: KWG1302056

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	59,190	4.85	34,617	6.26	71,490	7.49
	Upper Limit ==>	118,380	5.35	69,234	6.76	142,980	7.99
	Lower Limit ==>	29,595	4.35	17,309	5.76	35,745	6.99
	ICAL Result ==>	60,523	4.85	35,453	6.26	68,294	7.49
Associated Analyses							
Method Blank	KWG1301848-5	66,634	4.85	39,893	6.26	83,333	7.49
Lab Control Sample	KWG1301848-3	58,196	4.84	33,992	6.26	72,235	7.49
Duplicate Lab Control Sample	KWG1301848-4	59,939	4.84	34,535	6.26	73,291	7.49
Batch QCMS	KWG1301848-1	59,187	4.84	35,289	6.25	74,384	7.49
Batch QCDMS	KWG1301848-2	59,929	4.84	35,871	6.25	77,002	7.49
MT2-DDS-B206-022213-1130 Comp	K1301564-006	62,726	4.84	39,504	6.26	79,506	7.49
MT2-DBA-5198-022213-1050 Comp	K1301564-004	65,828	4.84	42,504	6.26	81,930	7.50
MT2-DBB-5279-022213-1015 Comp	K1301564-005	68,203	4.85	42,287	6.27	81,006	7.50

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	03/06/2013
		Time Analyzed:	06:56

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\030613\0306F002.D	**Lab Code:**	KWG1302056-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1302056
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	91,731	10.18	90,281	13.67
	Upper Limit ==>	183,462	10.68	180,562	14.17
	Lower Limit ==>	45,866	9.68	45,141	13.17
	ICAL Result ==>	88,757	10.16	80,129	13.59
Associated Analyses					
Method Blank	KWG1301848-5	102,853	10.18	100,660	13.66
Lab Control Sample	KWG1301848-3	89,783	10.18	88,656	13.66
Duplicate Lab Control Sample	KWG1301848-4	91,345	10.18	88,903	13.66
Batch QCMS	KWG1301848-1	92,070	10.18	91,191	13.66
Batch QCDMS	KWG1301848-2	87,469	10.18	92,097	13.66
MT2-DDS-B206-022213-1130 Comp	K1301564-006	87,201	10.19	81,152	13.74
MT2-DBA-5198-022213-1050 Comp	K1301564-004	93,870	10.24	86,176	13.92
MT2-DBB-5279-022213-1015 Comp	K1301564-005	89,884	10.24	83,971	13.85

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	03/07/2013
		Time Analyzed:	08:08

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\030713\0307F005.D	**Lab Code:**	KWG1302109-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1302109
Analysis Method:	8270D SIM		

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	62,727	4.83	37,581	6.24	74,681	7.47
	Upper Limit ==>	125,454	5.33	75,162	6.74	149,362	7.97
	Lower Limit ==>	31,364	4.33	18,791	5.74	37,341	6.97
	ICAL Result ==>	60,523	4.85	35,453	6.26	68,294	7.49
Associated Analyses							
Batch QC	K1301675-001	65,855	4.84	41,593	6.25	85,981	7.48

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Analyzed:**	03/07/2013
		Time Analyzed:	08:08

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\030713\0307F005.D	**Lab Code:**	KWG1302109-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1302109
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	96,844	10.16	96,189	13.63
	Upper Limit ==>	193,688	10.66	192,378	14.13
	Lower Limit ==>	48,422	9.66	48,095	13.13
	ICAL Result ==>	88,757	10.16	80,129	13.59
Associated Analyses					
Batch QC	K1301675-001	89,482	10.18	90,025	13.70

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/28/2013
Sample Matrix:	Water	**Date Analyzed:**	03/06/2013

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Batch QC	**Units:**	ng/L
Lab Code:	K1301675-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1301848

		Batch QCMS KWG1301848-1 Matrix Spike			Batch QCDMS KWG1301848-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	14	284	485	56	269	505	50	37-118	5	30
2-Methylnaphthalene	2.4	281	485	57	271	505	53	37-117	4	30
Acenaphthylene	ND	303	485	62	301	505	60	43-114	1	30
Acenaphthene	0.43	288	485	59	285	505	56	45-114	1	30
Fluorene	1.2	300	485	62	296	505	58	45-123	2	30
Phenanthrene	2.8	307	485	63	285	505	56	42-127	7	30
Anthracene	0.99	328	485	67	302	505	60	32-125	8	30
Fluoranthene	0.56	345	485	71	301	505	59	48-134	14	30
Pyrene	4.8	355	485	72	332	505	65	44-130	7	30
Benz(a)anthracene	ND	349	485	72	329	505	65	41-128	6	30
Chrysene	ND	360	485	74	335	505	66	48-128	7	30
Benzo(b)fluoranthene	ND	333	485	69	305	505	60	40-139	9	30
Benzo(k)fluoranthene	ND	365	485	75	329	505	65	48-134	10	30
Benzo(a)pyrene	ND	391	485	81	361	505	71	35-132	8	30
Indeno(1,2,3-cd)pyrene	0.68	445	485	91	407	505	80	40-135	9	30
Dibenz(a,h)anthracene	0.64	392	485	81	362	505	72	43-135	8	30
Benzo(g,h,i)perylene	ND	361	485	74	335	505	66	44-128	7	30

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/28/2013
Sample Matrix:	Water	**Date Analyzed:**	03/06/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3520C	**Units:**	ng/L
Analysis Method:	8270D SIM	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1301848

	Lab Control Sample KWG1301848-3 Lab Control Spike			Duplicate Lab Control Sample KWG1301848-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	365	500	73	368	500	74	39-110	1	30
2-Methylnaphthalene	371	500	74	372	500	74	39-115	0	30
Acenaphthylene	405	500	81	402	500	80	44-115	1	30
Acenaphthene	378	500	76	381	500	76	44-113	1	30
Fluorene	387	500	77	383	500	77	48-118	1	30
Phenanthrene	359	500	72	358	500	72	47-120	1	30
Anthracene	373	500	75	386	500	77	44-117	3	30
Fluoranthene	382	500	76	384	500	77	48-128	0	30
Pyrene	381	500	76	379	500	76	42-133	0	30
Benz(a)anthracene	404	500	81	399	500	80	48-125	1	30
Chrysene	400	500	80	407	500	81	50-128	2	30
Benzo(b)fluoranthene	391	500	78	386	500	77	49-131	1	30
Benzo(k)fluoranthene	408	500	82	417	500	83	54-131	2	30
Benzo(a)pyrene	443	500	89	439	500	88	43-134	1	30
Indeno(1,2,3-cd)pyrene	475	500	95	487	500	97	45-133	3	30
Dibenz(a,h)anthracene	432	500	86	440	500	88	49-133	2	30
Benzo(g,h,i)perylene	391	500	78	400	500	80	51-124	2	30

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/28/2013
Sample Matrix:	Water	**Date Analyzed:**	03/06/2013
		Time Analyzed:	07:22

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Instrument ID:**	MS11
Lab Code:	KWG1301848-5	**File ID:**	J:\MS11\DATA\030613\0306F003.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1301848

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1301848-3	J:\MS11\DATA\030613\0306F004.D	03/06/13	07:49
Duplicate Lab Control Sample	KWG1301848-4	J:\MS11\DATA\030613\0306F005.D	03/06/13	08:15
Batch QCMS	KWG1301848-1	J:\MS11\DATA\030613\0306F006.D	03/06/13	08:42
Batch QCDMS	KWG1301848-2	J:\MS11\DATA\030613\0306F007.D	03/06/13	09:09
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\MS11\DATA\030613\0306F014.D	03/06/13	12:15
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\MS11\DATA\030613\0306F018.D	03/06/13	14:01
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\MS11\DATA\030613\0306F019.D	03/06/13	14:28
Batch QC	K1301675-001	J:\MS11\DATA\030713\0307F025.D	03/07/13	16:58

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1301564
Project:	T2 Storm Water/1053-02	**Date Extracted:**	02/28/2013
Sample Matrix:	Water	**Date Analyzed:**	03/06/2013
		Time Analyzed:	07:49

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Instrument ID:**	MS11
Lab Code:	KWG1301848-3	**File ID:**	J:\MS11\DATA\030613\0306F004.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1301848

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1301848-5	J:\MS11\DATA\030613\0306F003.D	03/06/13	07:22
Batch QCMS	KWG1301848-1	J:\MS11\DATA\030613\0306F006.D	03/06/13	08:42
Batch QCDMS	KWG1301848-2	J:\MS11\DATA\030613\0306F007.D	03/06/13	09:09
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\MS11\DATA\030613\0306F014.D	03/06/13	12:15
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\MS11\DATA\030613\0306F018.D	03/06/13	14:01
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\MS11\DATA\030613\0306F019.D	03/06/13	14:28
Batch QC	K1301675-001	J:\MS11\DATA\030713\0307F025.D	03/07/13	16:58

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02

Service Request: K1301564
Date Analyzed: 03/06/2013
Time Analyzed: 06:29

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\030613\0306F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1302056

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	49.2	73072	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	49.2	73072	PASS
70	69	0	2	1.2	889	PASS
127	198	10	80	50.6	75200	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	56.0	148608	PASS
199	198	5	9	6.9	10228	PASS
275	198	10	60	34.2	50856	PASS
365	442	1	50	2.9	7745	PASS
441	443	0	100	74.9	39264	PASS
442	442	100	100	100.0	265344	PASS
443	442	15	24	19.8	52448	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1302056-2	J:\MS11\DATA\030613\0306F002.D	03/06/2013	06:56	
Method Blank	KWG1301848-5	J:\MS11\DATA\030613\0306F003.D	03/06/2013	07:22	
Lab Control Sample	KWG1301848-3	J:\MS11\DATA\030613\0306F004.D	03/06/2013	07:49	
Duplicate Lab Control Sample	KWG1301848-4	J:\MS11\DATA\030613\0306F005.D	03/06/2013	08:15	
Batch QCMS	KWG1301848-1	J:\MS11\DATA\030613\0306F006.D	03/06/2013	08:42	
Batch QCDMS	KWG1301848-2	J:\MS11\DATA\030613\0306F007.D	03/06/2013	09:09	
MT2-DDS-B206-022213-1130 Comp	K1301564-006	J:\MS11\DATA\030613\0306F014.D	03/06/2013	12:15	
MT2-DBA-5198-022213-1050 Comp	K1301564-004	J:\MS11\DATA\030613\0306F018.D	03/06/2013	14:01	
MT2-DBB-5279-022213-1015 Comp	K1301564-005	J:\MS11\DATA\030613\0306F019.D	03/06/2013	14:28	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02

Service Request: K1301564
Date Analyzed: 03/07/2013
Time Analyzed: 07:42

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\030713\0307F004.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1302109

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	52.7	66912	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	51.1	64912	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	52.8	67024	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	60.1	127032	PASS
199	198	5	9	7.2	9156	PASS
275	198	10	60	33.9	43104	PASS
365	442	1	50	2.9	6114	PASS
441	443	0	100	73.5	30552	PASS
442	442	100	100	100.0	211456	PASS
443	442	15	24	19.7	41576	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1302109-2	J:\MS11\DATA\030713\0307F005.D	03/07/2013	08:08	
Batch QC	K1301675-001	J:\MS11\DATA\030713\0307F025.D	03/07/2013	16:58	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 02/22/2013

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12269 **Column:** MS
Instrument ID: MS11

Level ID	File ID	Level ID	File ID
A	J:\MS11\DATA\022213\0222F003.D	F	J:\MS11\DATA\022213\0222F009.D
B	J:\MS11\DATA\022213\0222F004.D	G	J:\MS11\DATA\022213\0222F010.D
C	J:\MS11\DATA\022213\0222F006.D	H	J:\MS11\DATA\022213\0222F011.D
D	J:\MS11\DATA\022213\0222F007.D	I	J:\MS11\DATA\022213\0222F012.D
E	J:\MS11\DATA\022213\0222F008.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	1.33	B	8.0	0.979	C	20	1.08	D	100	1.02	E	200	1.04
	F	400	1.03	G	1000	0.984	H	1600	0.950	I	2000	0.950			
2-Methylnaphthalene	A	2.0	0.879	B	8.0	0.678	C	20	0.744	D	100	0.744	E	200	0.757
	F	400	0.743	G	1000	0.728	H	1600	0.709	I	2000	0.711			
Acenaphthylene	A	2.0	1.71	B	8.0	1.61	C	20	1.76	D	100	1.82	E	200	1.88
	F	400	1.89	G	1000	1.85	H	1600	1.80	I	2000	1.79			
Acenaphthene	A	2.0	1.11	B	8.0	1.04	C	20	1.11	D	100	1.12	E	200	1.14
	F	400	1.11	G	1000	1.09	H	1600	1.06	I	2000	1.06			
Fluorene	A	2.0	1.32	B	8.0	1.23	C	20	1.36	D	100	1.40	E	200	1.41
	F	400	1.40	G	1000	1.34	H	1600	1.31	I	2000	1.31			
Phenanthrene	A	2.0	1.33	B	8.0	0.978	C	20	1.06	D	100	1.04	E	200	1.05
	F	400	1.04	G	1000	1.03	H	1600	0.961	I	2000	0.966			
Anthracene	A	2.0	0.986	B	8.0	0.855	C	20	1.01	D	100	1.03	E	200	1.09
	F	400	1.09	G	1000	1.04	H	1600	0.958	I	2000	0.962			
Fluoranthene	A	2.0	1.20	B	8.0	1.04	C	20	1.23	D	100	1.25	E	200	1.29
	F	400	1.27	G	1000	1.16	H	1600	1.10	I	2000	1.08			
Pyrene	A	2.0	1.16	B	8.0	0.905	C	20	1.07	D	100	1.04	E	200	1.07
	F	400	1.01	G	1000	1.02	H	1600	0.987	I	2000	0.998			
Benz(a)anthracene	A	2.0	1.24	B	8.0	0.959	C	20	1.01	D	100	0.955	E	200	0.994
	F	400	0.975	G	1000	1.01	H	1600	1.01	I	2000	1.01			
Chrysene	A	2.0	0.953	B	8.0	0.893	C	20	1.02	D	100	0.994	E	200	1.02
	F	400	0.983	G	1000	0.970	H	1600	0.959	I	2000	0.969			
Benzo(b)fluoranthene	A	2.0	1.20	B	8.0	1.10	C	20	1.15	D	100	1.11	E	200	1.16
	F	400	1.15	G	1000	1.19	H	1600	1.15	I	2000	1.18			
Benzo(k)fluoranthene	A	2.0	0.999	B	8.0	0.939	C	20	1.10	D	100	1.10	E	200	1.16
	F	400	1.15	G	1000	1.14	H	1600	1.11	I	2000	1.09			
Benzo(a)pyrene	A	2.0	0.741	B	8.0	0.688	C	20	0.821	D	100	0.890	E	200	0.956
	F	400	0.982	G	1000	1.03	H	1600	1.02	I	2000	1.03			

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 02/22/2013

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12269 **Column:** MS
Instrument ID: MS11

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Indeno(1,2,3-cd)pyrene	A	2.0	0.740	B	8.0	0.676	C	20	0.736	D	100	0.762	E	200	0.808
	F	400	0.829	G	1000	0.859	H	1600	0.857	I	2000	0.867			
Dibenz(a,h)anthracene	A	2.0	0.849	B	8.0	0.807	C	20	0.845	D	100	0.875	E	200	0.927
	F	400	0.920	G	1000	0.952	H	1600	0.950	I	2000	0.959			
Benzo(g,h,i)perylene	A	2.0	1.07	B	8.0	0.965	C	20	1.05	D	100	1.03	E	200	1.08
	F	400	1.04	G	1000	1.04	H	1600	1.01	I	2000	1.01			
Fluorene-d10	A	2.0	1.35	B	8.0	1.06	C	20	1.20	D	100	1.21	E	200	1.25
	F	400	1.24	G	1000	1.21	H	1600	1.20	I	2000	1.20			
Fluoranthene-d10				B	8.0	0.957	C	20	1.10	D	100	1.12	E	200	1.17
	F	400	1.20	G	1000	1.17	H	1600	1.10	I	2000	1.12			
Terphenyl-d14				B	8.0	0.685	C	20	0.836	D	100	0.788	E	200	0.800
	F	400	0.778	G	1000	0.789	H	1600	0.778	I	2000	0.791			

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

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Calibration Date:** 02/22/2013

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12269 **Column:** MS
Instrument ID: MS11

		Calibration Evaluation					RRF Evaluation		
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**	**Average RRF**	**Q**	**Minimum RRF**
Naphthalene	MS	AverageRF	% RSD	11.3		≤ 20	1.04		0.70
2-Methylnaphthalene	MS	AverageRF	% RSD	7.5		≤ 20	0.744		0.40
Acenaphthylene	MS	AverageRF	% RSD	4.9		≤ 20	1.79		0.90
Acenaphthene	MS	AverageRF	% RSD	3.0		≤ 20	1.09		0.90
Fluorene	MS	AverageRF	% RSD	4.2		≤ 20	1.34		0.90
Phenanthrene	MS	AverageRF	% RSD	10.6		≤ 20	1.05		0.70
Anthracene	MS	AverageRF	% RSD	7.4		≤ 20	1.00		0.70
Fluoranthene	MS	AverageRF	% RSD	7.8		≤ 20	1.18		0.60
Pyrene	MS	AverageRF	% RSD	6.7		≤ 20	1.03		0.60
Benz(a)anthracene	MS	AverageRF	% RSD	8.5		≤ 20	1.02		0.80
Chrysene	MS	AverageRF	% RSD	4.1		≤ 20	0.974		0.70
Benzo(b)fluoranthene	MS	AverageRF	% RSD	2.9		≤ 20	1.15		0.70
Benzo(k)fluoranthene	MS	AverageRF	% RSD	6.7		≤ 20	1.09		0.70
Benzo(a)pyrene	MS	AverageRF	% RSD	14.2		≤ 20	0.906		0.70
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	8.5		≤ 20	0.793		0.50
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	6.2		≤ 20	0.898		0.40
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	3.3		≤ 20	1.03		0.50
Fluorene-d10	SURR	AverageRF	% RSD	6.0		≤ 20	1.21		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	6.7		≤ 20	1.12		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	5.5		≤ 20	0.781		0.01

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Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02

Service Request: K1301564
Calibration Date: 02/22/2013
Date Analyzed: 02/22/2013

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration ID: CAL12269
Units: ng/ml

File ID: J:\MS11\DATA\022213\0222F013.D
J:\MS11\DATA\022213\0222F014.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	360	1.04	0.942	-9	NA	± 30 %	AverageRF
2-Methylnaphthalene	400	350	0.744	0.655	-12	NA	± 30 %	AverageRF
Acenaphthylene	400	380	1.79	1.71	-5	NA	± 30 %	AverageRF
Acenaphthene	400	370	1.09	1.02	-7	NA	± 30 %	AverageRF
Fluorene	400	380	1.34	1.27	-5	NA	± 30 %	AverageRF
Phenanthrene	400	370	1.05	0.967	-8	NA	± 30 %	AverageRF
Anthracene	400	400	1.00	0.995	-1	NA	± 30 %	AverageRF
Fluoranthene	400	380	1.18	1.13	-5	NA	± 30 %	AverageRF
Pyrene	400	360	1.03	0.927	-10	NA	± 30 %	AverageRF
Benz(a)anthracene	400	350	1.02	0.881	-13	NA	± 30 %	AverageRF
Chrysene	400	360	0.974	0.873	-10	NA	± 30 %	AverageRF
Benzo(b)fluoranthene	400	380	1.15	1.09	-6	NA	± 30 %	AverageRF
Benzo(k)fluoranthene	400	410	1.09	1.11	2	NA	± 30 %	AverageRF
Benzo(a)pyrene	400	410	0.906	0.923	2	NA	± 30 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	370	0.793	0.732	-8	NA	± 30 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.898	0.827	-8	NA	± 30 %	AverageRF
Benzo(g,h,i)perylene	400	360	1.03	0.943	-9	NA	± 30 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Date Analyzed:** 03/06/2013

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard **Calibration Date:** 02/22/2013
Analysis Method: 8270D SIM **Calibration ID:** CAL12269
Analysis Lot: KWG1302056
Units: ng/ml

File ID: J:\MS11\DATA\030613\0306F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	370	0.70	1.04	0.969	-7	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	360	0.40	0.744	0.678	-9	NA	± 20 %	AverageRF
Acenaphthylene	400	410	0.90	1.79	1.82	2	NA	± 20 %	AverageRF
Acenaphthene	400	380	0.90	1.09	1.05	-4	NA	± 20 %	AverageRF
Fluorene	400	390	0.90	1.34	1.32	-2	NA	± 20 %	AverageRF
Phenanthrene	400	360	0.70	1.05	0.953	-9	NA	± 20 %	AverageRF
Anthracene	400	380	0.70	1.00	0.954	-5	NA	± 20 %	AverageRF
Fluoranthene	400	390	0.60	1.18	1.14	-3	NA	± 20 %	AverageRF
Pyrene	400	370	0.60	1.03	0.956	-7	NA	± 20 %	AverageRF
Benz(a)anthracene	400	380	0.80	1.02	0.960	-6	NA	± 20 %	AverageRF
Chrysene	400	380	0.70	0.974	0.921	-5	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	370	0.70	1.15	1.07	-7	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	380	0.70	1.09	1.03	-5	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	420	0.70	0.906	0.947	4	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	420	0.50	0.793	0.839	6	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	400	0.40	0.898	0.891	-1	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	350	0.50	1.03	0.898	-13	NA	± 20 %	AverageRF
Fluorene-d10	400	370	0.01	1.21	1.12	-8	NA	± 20 %	AverageRF
Fluoranthene-d10	400	380	0.01	1.12	1.07	-4	NA	± 20 %	AverageRF
Terphenyl-d14	400	360	0.01	0.781	0.710	-9	NA	± 20 %	AverageRF

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† SPCC Compound **‡ CCC Compound**

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Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02 **Date Analyzed:** 03/07/2013

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard **Calibration Date:** 02/22/2013
Analysis Method: 8270D SIM **Calibration ID:** CAL12269
Analysis Lot: KWG1302109
Units: ng/ml

File ID: J:\MS11\DATA\030713\0307F005.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	370	0.70	1.04	0.965	-7	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	370	0.40	0.744	0.686	-8	NA	± 20 %	AverageRF
Acenaphthylene	400	400	0.90	1.79	1.79	0	NA	± 20 %	AverageRF
Acenaphthene	400	380	0.90	1.09	1.03	-6	NA	± 20 %	AverageRF
Fluorene	400	380	0.90	1.34	1.29	-4	NA	± 20 %	AverageRF
Phenanthrene	400	360	0.70	1.05	0.955	-9	NA	± 20 %	AverageRF
Anthracene	400	400	0.70	1.00	1.01	1	NA	± 20 %	AverageRF
Fluoranthene	400	390	0.60	1.18	1.15	-2	NA	± 20 %	AverageRF
Pyrene	400	370	0.60	1.03	0.940	-9	NA	± 20 %	AverageRF
Benz(a)anthracene	400	380	0.80	1.02	0.970	-5	NA	± 20 %	AverageRF
Chrysene	400	370	0.70	0.974	0.908	-7	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	370	0.70	1.15	1.06	-8	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.70	1.09	1.06	-3	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	430	0.70	0.906	0.969	7	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	470	0.50	0.793	0.937	18	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	430	0.40	0.898	0.970	8	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	370	0.50	1.03	0.949	-8	NA	± 20 %	AverageRF
Fluorene-d10	400	360	0.01	1.21	1.11	-9	NA	± 20 %	AverageRF
Fluoranthene-d10	400	380	0.01	1.12	1.07	-5	NA	± 20 %	AverageRF
Terphenyl-d14	400	360	0.01	0.781	0.704	-10	NA	± 20 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1302056
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0306F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1302056-1	3/6/2013	06:29		3/6/2013	06:49
0306F002.D	Continuing Calibration Verification	KWG1302056-2	3/6/2013	06:56		3/6/2013	07:15
0306F003.D	Method Blank	KWG1301848-5	3/6/2013	07:22		3/6/2013	07:41
0306F004.D	Lab Control Sample	KWG1301848-3	3/6/2013	07:49		3/6/2013	08:08
0306F005.D	Duplicate Lab Control Sample	KWG1301848-4	3/6/2013	08:15		3/6/2013	08:34
0306F006.D	Batch QCMS	KWG1301848-1	3/6/2013	08:42		3/6/2013	09:01
0306F007.D	Batch QCDMS	KWG1301848-2	3/6/2013	09:09		3/6/2013	09:28
0306F008.D	ZZZZZZ	ZZZZZZ	3/6/2013	09:35		3/6/2013	09:54
0306F009.D	ZZZZZZ	ZZZZZZ	3/6/2013	10:02		3/6/2013	10:21
0306F010.D	ZZZZZZ	ZZZZZZ	3/6/2013	10:29		3/6/2013	10:48
0306F011.D	ZZZZZZ	ZZZZZZ	3/6/2013	10:55		3/6/2013	11:14
0306F012.D	ZZZZZZ	ZZZZZZ	3/6/2013	11:22		3/6/2013	11:41
0306F013.D	ZZZZZZ	ZZZZZZ	3/6/2013	11:48		3/6/2013	12:07
0306F014.D	MT2-DDS-B206-022213-1130 Comp	K1301564-006	3/6/2013	12:15		3/6/2013	12:34
0306F015.D	ZZZZZZ	ZZZZZZ	3/6/2013	12:41		3/6/2013	13:00
0306F016.D	ZZZZZZ	ZZZZZZ	3/6/2013	13:08		3/6/2013	13:27
0306F017.D	ZZZZZZ	ZZZZZZ	3/6/2013	13:34		3/6/2013	13:53
0306F018.D	MT2-DBA-5198-022213-1050 Comp	K1301564-004	3/6/2013	14:01		3/6/2013	14:20
0306F019.D	MT2-DBB-5279-022213-1015 Comp	K1301564-005	3/6/2013	14:28		3/6/2013	14:47
0306F020.D	ZZZZZZ	ZZZZZZ	3/6/2013	14:54		3/6/2013	15:13
0306F021.D	ZZZZZZ	ZZZZZZ	3/6/2013	15:21		3/6/2013	15:40
0306F022.D	ZZZZZZ	ZZZZZZ	3/6/2013	15:48		3/6/2013	16:07
0306F023.D	ZZZZZZ	ZZZZZZ	3/6/2013	16:14		3/6/2013	16:33
0306F024.D	ZZZZZZ	ZZZZZZ	3/6/2013	16:41		3/6/2013	17:00
0306F025.D	ZZZZZZ	ZZZZZZ	3/6/2013	17:07		3/6/2013	17:26
0306F026.D	ZZZZZZ	ZZZZZZ	3/6/2013	17:34		3/6/2013	17:53
0306F027.D	ZZZZZZ	ZZZZZZ	3/6/2013	18:00		3/6/2013	18:19

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

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1301564
Project: T2 Storm Water/1053-02

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1302109
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0307F004.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1302109-1	3/7/2013	07:42		3/7/2013	08:01
0307F005.D	Continuing Calibration Verification	KWG1302109-2	3/7/2013	08:08		3/7/2013	08:27
0307F006.D	ZZZZZZ	ZZZZZZ	3/7/2013	08:35		3/7/2013	08:54
0307F007.D	ZZZZZZ	ZZZZZZ	3/7/2013	09:01		3/7/2013	09:20
0307F008.D	ZZZZZZ	ZZZZZZ	3/7/2013	09:28		3/7/2013	09:47
0307F009.D	ZZZZZZ	ZZZZZZ	3/7/2013	09:54		3/7/2013	10:13
0307F010.D	ZZZZZZ	ZZZZZZ	3/7/2013	10:21		3/7/2013	10:40
0307F011.D	ZZZZZZ	ZZZZZZ	3/7/2013	10:47		3/7/2013	11:06
0307F012.D	ZZZZZZ	ZZZZZZ	3/7/2013	11:13		3/7/2013	11:32
0307F013.D	ZZZZZZ	ZZZZZZ	3/7/2013	11:40		3/7/2013	11:59
0307F014.D	ZZZZZZ	ZZZZZZ	3/7/2013	12:06		3/7/2013	12:25
0307F015.D	ZZZZZZ	ZZZZZZ	3/7/2013	12:33		3/7/2013	12:52
0307F016.D	ZZZZZZ	ZZZZZZ	3/7/2013	12:59		3/7/2013	13:18
0307F017.D	ZZZZZZ	ZZZZZZ	3/7/2013	13:26		3/7/2013	13:45
0307F018.D	ZZZZZZ	ZZZZZZ	3/7/2013	13:53		3/7/2013	14:12
0307F019.D	ZZZZZZ	ZZZZZZ	3/7/2013	14:19		3/7/2013	14:38
0307F020.D	ZZZZZZ	ZZZZZZ	3/7/2013	14:46		3/7/2013	15:05
0307F021.D	ZZZZZZ	ZZZZZZ	3/7/2013	15:12		3/7/2013	15:31
0307F022.D	ZZZZZZ	ZZZZZZ	3/7/2013	15:38		3/7/2013	15:57
0307F023.D	ZZZZZZ	ZZZZZZ	3/7/2013	16:05		3/7/2013	16:24
0307F024.D	ZZZZZZ	ZZZZZZ	3/7/2013	16:31		3/7/2013	16:50
0307F025.D	Batch QC	K1301675-001	3/7/2013	16:58		3/7/2013	17:17
0307F026.D	ZZZZZZ	ZZZZZZ	3/7/2013	17:24		3/7/2013	17:43
0307F027.D	ZZZZZZ	ZZZZZZ	3/7/2013	17:51		3/7/2013	18:10
0307F028.D	ZZZZZZ	ZZZZZZ	3/7/2013	18:17		3/7/2013	18:36
0307F029.D	ZZZZZZ	ZZZZZZ	3/7/2013	18:44		3/7/2013	19:03

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Storm Water/1053-02
Sample Matrix: Water

Service Request: K1301564
Date Extracted: 02/28/2013

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Extraction Lot: KWG1301848
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5198-022213-1050 Co	K1301564-004	02/22/13	02/22/13	970ml	1ml	NA	
MT2-DBB-5279-022213-1015 Co	K1301564-005	02/22/13	02/22/13	1020ml	1ml	NA	
MT2-DDS-B206-022213-1130 Co	K1301564-006	02/22/13	02/22/13	1020ml	1ml	NA	
Method Blank	KWG1301848-5	NA	NA	1030ml	1ml	NA	
Batch QC	K1301675-001	NA	NA	1020ml	1ml	NA	
Batch QCMS	KWG1301848-1	NA	NA	1030ml	1ml	NA	
Batch QCDMS	KWG1301848-2	NA	NA	990ml	1ml	NA	
Lab Control Sample	KWG1301848-3	NA	NA	1000ml	1ml	NA	
Duplicate Lab Control Sample	KWG1301848-4	NA	NA	1000ml	1ml	NA	

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

April 15, 2013 Analytical Report for Service Request No: K1302486

Michael Pickering
Ash Creek Associates
3015 SW First Avenue
Portland, OR 97201

RE: T2 Stormwater/1053-02

Dear Michael:

Enclosed are the results of the samples submitted to our laboratory on March 20, 2013. For your reference, these analyses have been assigned our service request number K1302486.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3363. You may also contact me via Email at Lisa.Domenighini@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Lisa Domenighini
Project Manager

LD/ln

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626 USA | PHONE +1 360 577 7222 | FAX +1 360 636 1068
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Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

Columbia Analytical Services, Inc. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Louisiana DHH	Not available	LA110003
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
New Mexico ED	http://www.nmenv.state.nm.us/dwb/Index.htm	-
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	4704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.caslab.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

ALS ENVIRONMENTAL

Client:	Ash Creek Associates, Inc.	**Service Request No.:**	K1302486
Project:	T2 Storm Water	**Date Received:**	3/20/13
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier III deliverables including summary forms for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two composite samples were received for analysis at ALS Environmental on 3/20/13. As instructed, all of the containers for MT2-DBA-5238-031913-1650 were composited to create sample K1302486-001. All containers for MT2-DBB-5279-031913-1730 were composited to create K1302486-002. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

General Chemistry Parameters: Composite

No anomalies associated with the analysis of these samples were observed.

Total Metals:Composite

Matrix Spike Recovery Exceptions:
The control criteria for matrix spike recovery of Zinc for sample MT2—DBA-5238-031913-1650 were not applicable. The analyzed concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

No other anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 525.2-Phthalates: Composite

The lower control criterion was exceeded for all of the surrogates in method blank KWG1302673-3. It appears that the method blank was not spiked. No target analytes were detected in the Method Blank and the problem appears to be isolated to the Method Blank results. A re-analysis was not performed because insufficient sample remained for additional testing. No further corrective action was possible.

The lower control criterion was exceeded for Triphenyl Phosphate in sample MT2-DBA-5238-031913-1650 and the associated Matrix Spike, and for Perylene-d12 in the Matrix Spike. The samples contained particulate matter that collected on the extraction disk during sample elution. Historical results have shown that particulate matter can cause recovery issues for surrogates. The control criteria are designed for drinking water matrices and can only be used as default limits for wastewaters. No further corrective action was appropriate.

Approved by_____

Matrix Spike Recovery Exceptions:
The matrix spike recovery of several analytes for sample MT2-DBA-5238-031913-1650 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The samples contained particulate matter that collected on the extraction disk during sample elution. The control criteria are designed for drinking water matrices and can only be used as default limits for wastewaters. No further corrective action was appropriate.

Elevated Detection Limits:
The detection limit was elevated for all analytes in the samples. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. The extract was highly colored and viscous, which indicated the need to perform a dilution prior to injection into the instrument. The samples contained particulate matter that collected on the extraction disk during sample elution. Cleanup of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. The results were flagged to indicate the matrix interference.

No other anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082: Composite

Elevated Detection Limits:
The detection limit was elevated for several Aroclors in both field samples. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limits. The results were flagged to indicate the matrix interference.

No other anomalies associated with the analysis of these samples were observed.

Polynuclear Aromatic Hydrocarbons by EPA Method 8270:Composite

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for Naphthalene, 2-Methylnaphthalene, and Acenaphthylene in the replicate matrix spike analyses of sample Batch QC was outside control criteria. In general, the RPD was relatively high for all early eluting spiked compounds, which indicates a low bias in the Matrix Spike Duplicate (MSD). All spike recoveries in the MS, DMS, and associated Laboratory Control Sample (LCS) were within acceptance limits, indicating the analytical batch was in control. No further corrective action was appropriate.

Elevated Detection Limits:
The detection limit was elevated for Acenaphthylene, Acenaphthene, and Dibenzofuran in sample MT2-DBA-5238-031920-1650. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the normal limit. The results were flagged to indicate the matrix interference.

Sample Notes and Discussion:
The results reported for 2-Methlnaphthalene, Benzo(b)fluoranthene, and Benzo(a)pyrene in sample MT2-DBA-5238-031920-1650 may contain a slight bias. The chromatogram indicated the presence of non-target background components. The matrix interference may have resulted in a slight high bias in the affected samples. The results were flagged with "X" to indicate the issue.

The following analytes could not be adequately resolved in sample MT2-DBA-5238-031920-1650: Benz(a)anthracene and Chrysene. The results for these compounds were integrated together and reported as Chrysene. The results for both analytes were flagged with "X" to indicate the issue.

Approved by_____

The results reported for Acenaphthylene, Acenaphthene, and Anthracene in sample MT2-DBB-5279-031920-1730 may contain a slight bias. The chromatogram indicated the presence of non-target background components. The matrix interference may have resulted in a slight high bias in the affected samples. The results were flagged with "X" to indicate the issue.

The following analytes could not be adequately resolved in sample MT2-DBB-5279-031920-1730: Benzo(b)fluoranthene, Benzo(k)fluoranthene. The results for these compounds were integrated together and reported as Benzo(b)fluoranthene. The results for both analytes were flagged with "X" to indicate the issue.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Ash Creek Associates
A Division of Apex Companies, LLC
APEX

CHAIN OF CUSTODY RECORD

K1302486

Client Name: Ash Creek Associates
Address: 3015 SW First Ave
City/State/Zip: Portland, OR 97201

Telephone Number: 503.924.4704
Fax No.: 503.943.6357

Project Manager: Michael Pickering
Project Name: T2 Storm Water
Project Number: 1053-02
Sampler Name: Chris Luk

Analytical Lab: ALS
Report To: Michael Pickering
Page: 1 of 1

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)	Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Matrix: Storm Water	Analyze For: Total Suspended Solids (SM2540 D)	Analyze For: Total Cadmium, Chromium, Copper, Lead and Zinc (EPA 200 Series LL)	Analyze For: Total Mercury (EPA 7470A)	Analyze For: Total PAHs (EPA 8270-SIM)	Analyze For: Total Phthlalates (EPA 525.2)	Analyze For: Total PCB Aroclors (EPA 8082) *	Analyze For: Total Arsenic (EPA 1632)				RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
MT2-DBA-5238-031913-1650	3/19/13	1650	2	X			X		X				X							X	X	X	X	X	X	X	X					X		
MT2-DBB-5279-031913-1730	3/19/13	1730	2	X			X		X				X							X	X	X	X	X	X	X	X					X		

Special Instructions: Bill to Ash Creek using rates from ALS Quote 23353 - Level III Deliverable - MDL Report
* 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268 Composite containers for each sample.

Method of Shipment: Courier

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Chris Luk / Apex	3/20/13	0850	Rochelle Vandyke / Apex	3/20/13	0850
Rochelle Va / Apex	3/20/13	1310	Dwight	3/20/13	1310
			Sw / ALS	3/20/13	1530

Laboratory Comments:

Temperature Upon Receipt:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

PC Lisa

Cooler Receipt and Preservation Form

Client / Project: Ash Creek Service Request *K13* 02486

Received: 3/20/13 Opened: 3/20/13 By: BMW Unloaded: 3/20/13 By: BMW

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Temp	Corr. Temp	Raw Blank	Corr. Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.5	-0.7	-	-	-0.2	307			
0.0	-0.2	-	-	-0.2	276			

7. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
15. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

SHORT HOLD TIME

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Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	03/19/13
Sample Matrix:	Water	**Date Received:**	03/20/13
Analysis Method:	SM 2540 D	**Units:**	mg/L
		Basis:	NA

Solids, Total Suspended (TSS)

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
MT2-DBA-5238-031913-1650	K1302486-001	**8.7**	1.7	-	1	03/26/13 15:00	
MT2-DBB-5279-031913-1730	K1302486-002	**22.2**	2.0	-	1	03/26/13 15:00	
Method Blank	K1302486-MB1	ND U	5.0	-	1	03/26/13 15:00	
Method Blank	K1302486-MB2	ND U	4.0	-	1	03/26/13 15:00	
Method Blank	K1302486-MB3	ND U	1.0	-	1	03/26/13 15:00	
Method Blank	K1302486-MB4	ND U	4.0	-	1	03/26/13 15:00	

COLUMBIA ANALYTICAL SERVICES, INC.

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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project	T2 Stormwater/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Analysis Method:	SM 2540 D	**Units:**	mg/L
		Basis:	NA

Duplicate Sample Summary

Solids, Total Suspended (TSS)

Sample Name:	Lab Code:	MRL	MDL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1302616-001DUP	4.0		ND	ND	NC	NC	10	03/26/13
Batch QC	K1302617-003DUP	4.0		ND	ND	NC	NC	10	03/26/13

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

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

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

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02
Sample Matrix: Water

Service Request:K1302486
Date Analyzed:03/26/13

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method: SM 2540 D

Units:mg/L
Basis:NA
Analysis Lot:333986

	Lab Control Sample K1302486-LCS1			Duplicate Lab Control Sample K1302486-DLCS1					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Solids, Total Suspended (TSS)	30.5	32.5	94	30.4	32.5	94	85-115	<1	20

COLUMBIA ANALYTICAL SERVICES, INC.
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- Cover Page -
INORGANIC ANALYSIS DATA PACKAGE

Client: Ash Creek Associates, Inc.
Project Name: T2 Stormwater
Project No.: 1053-02

Service Request: K1302486

Sample Name:	Lab Code:
Batch QC1D	K1302360-001D
Batch QC1S	K1302360-001S
MT2-DBA-5238-031913-1650	K1302486-001
MT2-DBA-5238-031913-1650D	K1302486-001D
MT2-DBA-5238-031913-1650S	K1302486-001S
MT2-DBB-5279-031913-1730	K1302486-002
Method Blank	K1302486-MB

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project No.:	1053-02	**Date Collected:**	03/19/13
Project Name:	T2 Stormwater	**Date Received:**	03/20/13
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: **MT2-DBA-5238-031913-1650** **Lab Code:** **K1302486-001**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Cadmium	200.8	0.020	0.003	1.0	03/21/13	03/25/13	0.213		
Chromium	200.8	0.20	0.04	1.0	03/21/13	03/25/13	1.45		
Copper	200.8	0.10	0.02	1.0	03/21/13	03/25/13	28.1		
Lead	200.8	0.020	0.005	1.0	03/21/13	03/25/13	1.33		
Mercury	7470A	0.20	0.02	1.0	03/21/13	03/22/13	0.02	U	
Zinc	200.8	0.50	0.20	1.0	03/21/13	03/25/13	178		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project No.:	1053-02	**Date Collected:**	03/19/13
Project Name:	T2 Stormwater	**Date Received:**	03/20/13
Matrix:	WATER	**Units:**	ug/L
		Basis:	NA

Sample Name: **MT2-DBB-5279-031913-1730** **Lab Code:** **K1302486-002**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Cadmium	200.8	0.020	0.003	1.0	03/21/13	03/25/13	0.136		
Chromium	200.8	0.20	0.04	1.0	03/21/13	03/25/13	1.94		
Copper	200.8	0.10	0.02	1.0	03/21/13	03/25/13	14.1		
Lead	200.8	0.020	0.005	1.0	03/21/13	03/25/13	3.62		
Mercury	7470A	0.20	0.02	1.0	03/21/13	03/22/13	0.02	U	
Zinc	200.8	0.50	0.20	1.0	03/21/13	03/25/13	143		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Ash Creek Associates, Inc.
Project No.: 1053-02
Project Name: T2 Stormwater
Matrix: WATER

Service Request: K1302486
Date Collected:
Date Received:
Units: ug/L
Basis: NA

Sample Name: Method Blank
Lab Code: K1302486-MB

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Cadmium	200.8	0.020	0.003	1.0	03/21/13	03/25/13	0.003	U	
Chromium	200.8	0.20	0.04	1.0	03/21/13	03/25/13	0.12	J	
Copper	200.8	0.10	0.02	1.0	03/21/13	03/25/13	0.02	U	
Lead	200.8	0.020	0.005	1.0	03/21/13	03/25/13	0.005	U	
Mercury	7470A	0.20	0.02	1.0	03/21/13	03/22/13	0.02	U	
Zinc	200.8	0.50	0.20	1.0	03/21/13	03/25/13	0.20	U	

Comments:

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02

Project Name: T2 Stormwater

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Cadmium	12.5	12.3	98	25.0	24.9	100	24.3	97	200.8
Chromium	10.0	9.9	99	25.0	24.9	100	25.0	100	200.8
Copper	12.5	12.6	101	25.0	25.3	101	25.6	102	200.8
Lead	25.0	24.4	98	25.0	24.9	100	24.7	99	200.8
Mercury	5.00	5.20	104	5.00	5.10	102	5.30	106	7470A
Zinc	25.0	25.0	100	25.0	24.7	99	25.2	101	200.8

Metals
- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02

Project Name: T2 Stormwater

ICV Source: Inorganic Ventures **CCV Source:** CAS MIXED

Concentration Units: ug/L

	Initial Calibration			Continuing Calibration					
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Cadmium				25.0	24.1	96	23.1	92	200.8
Chromium				25.0	24.8	99	23.7	95	200.8
Copper				25.0	25.4	102	24.1	96	200.8
Lead				25.0	24.6	98	23.8	95	200.8
Mercury				5.00	5.30	106	5.30	106	7470A
Zinc				25.0	24.7	99	23.5	94	200.8

Metals

- 2b -

CRDL STANDARD FOR AA AND ICP

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02

Project Name: T2 Stormwater

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
				Initial			Final	
	True	Found	%R	True	Found	%R	Found	%R
Cadmium				0.020	0.022	110		
Chromium				0.20	0.22	110		
Copper				0.10	0.10	100		
Lead				0.020	0.022	110		
Mercury				0.20	0.20	100		
Zinc				0.50	0.51	102		

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Stormwater **Basis:** NA

Matrix: WATER

Sample Name: MT2-DBA-5238-031913-1650S **Lab Code:** K1302486-001S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Cadmium	70 - 130	25.5		0.213		25.00	101.1		200.8
Chromium	70 - 130	11.3		1.45		10.00	98.5		200.8
Copper	70 - 130	39.4		28.1		12.50	90.4		200.8
Lead	70 - 130	50.6		1.33		50.00	98.5		200.8
Zinc		198		178		25.00	80.0		200.8

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Stormwater **Basis:** NA

Matrix: WATER

Sample Name: **Batch QC1S** **Lab Code:** **K1302360-001S**

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	76 - 126	0.89		0.02	U	1	89.0		7470A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Stormwater **Basis:** NA

Matrix: WATER

Sample Name: MT2-DBA-5238-031913-1650D **Lab Code:** K1302486-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Cadmium	20	0.213		0.217		1.9		200.8
Chromium	20	1.45		1.40		3.5		200.8
Copper	20	28.1		27.4		2.5		200.8
Lead	20	1.33		1.33		0.0		200.8
Zinc	20	178		177		0.6		200.8

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 6 -

DUPLICATES

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02 **Units:** UG/L

Project Name: T2 Stormwater **Basis:** NA

Matrix: WATER

Sample Name: Batch QC1D **Lab Code:** K1302360-001D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.02	U	0.02	J	200.0		7470A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

- 7 -

LABORATORY CONTROL SAMPLE

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02

Project Name: T2 Stormwater

Aqueous LCS Source: CAS MIXED **Solid LCS Source:**

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	Solid (mg/kg) C	Solid (mg/kg) Limits	Solid (mg/kg) %R
Cadmium	25	23.6	94.4					
Chromium	10	9.53	95.3					
Copper	12.5	11.8	94.4					
Lead	50	45.9	91.8					
Mercury	5	5.22	104.4					
Zinc	25	23.7	94.8					

Metals

- 10 -

DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02

Project Name: T2 Stormwater

ICP/ICP-MS ID #:

GFAA ID #: **AA ID #:**

Analyte	Wave-length (nm)	Back-ground	MRL ug/L	MDL ug/L	M
Mercury	253.7		0.20	0.02	CV

Comments:

Metals

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DETECTION LIMITS

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02

Project Name: T2 Stormwater

ICP/ICP-MS ID #: **K-ICP-MS-02**

GFAA ID #: **AA ID #:**

Analyte	Isotope	Back-ground	MRL ug/L	MDL ug/L	M
Cadmium	111		0.02	0.003	MS
Chromium	52		0.2	0.04	MS
Copper	65		0.1	0.02	MS
Lead	208		0.02	0.005	MS
Zinc	66		0.5	0.20	MS

Comments:

Metals
-12-
ICP LINEAR RANGES (QUARTERLY)

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02

Project Name: T2 Stormwater

ICP ID Number: **K-ICP-MS-02**

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Cadmium	15.000	900	200.8
Chromium	15.000	900	200.8
Copper	15.000	900	200.8
Lead	15.000	900	200.8
Zinc	15.000	900	200.8

Comments:

Metals
-13-
PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02

Project Name: T2 Stormwater

Method: CV

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1302360-001D	03/21/13	20.0	20.0
K1302360-001S	03/21/13	20.0	20.0
K1302486-001	03/21/13	20.0	20.0
K1302486-002	03/21/13	20.0	20.0
K1302486-MB	03/21/13	20.0	20.0
LCSW	03/21/13	20.0	20.0

Metals
-13-
PREPARATION LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02

Project Name: T2 Stormwater

Method: MS

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1302486-001	03/21/13	50.0	50.0
K1302486-001D	03/21/13	50.0	50.0
K1302486-001S	03/21/13	50.0	50.0
K1302486-002	03/21/13	50.0	50.0
K1302486-MB	03/21/13	50.0	50.0
LCSW	03/21/13	50.0	50.0

COLUMBIA ANALYTICAL SERV
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Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02 **Run Number:** 032213B HG2

Project Name: T2 Stormwater

Instrument ID Number: K-CVAA-02 **Method:** CV

Start Date: 03/22/13 **End Date:** 03/22/13

Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Calibration Blank	1.0	09:28																X									
Standard #1	1.0	09:29																X									
Standard #2	1.0	09:31																X									
Standard #3	1.0	09:32																X									
Standard #4	1.0	09:34																X									
Standard #5	1.0	09:36																X									
ICV1	1.0	09:38																X									
ICB1	1.0	09:39																X									
CRDL1	1.0	09:41																X									
CCV1	1.0	09:42																X									
CCB1	1.0	09:44																X									
K1302486-MB	1.0	09:46																X									
LCSW	1.0	09:47																X									
ZZZZZZ	1.0	09:49																									
ZZZZZZ	1.0	09:50																									
ZZZZZZ	1.0	09:52																									
ZZZZZZ	1.0	09:54																									
ZZZZZZ	1.0	09:55																									
K1302360-001D	1.0	09:57																X									
K1302360-001S	1.0	09:59																X									
ZZZZZZ	1.0	10:00																									
CCV2	1.0	10:02																X									
CCB2	1.0	10:03																X									
ZZZZZZ	1.0	10:05																									
K1302486-001	1.0	10:10																X									
K1302486-002	1.0	10:11																X									
ZZZZZZ	1.0	10:13																									
ZZZZZZ	1.0	10:14																									
ZZZZZZ	1.0	10:16																									
ZZZZZZ	1.0	10:18																									
CCV3	1.0	10:19																X									
CCB3	1.0	10:21																X									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

COLUMBIA ANALYTICAL SERV
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Metals
- 14 -
ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02 **Run Number:** 032213B HG2

Project Name: T2 Stormwater

Instrument ID Number: K-CVAA-02 **Method:** CV

Start Date: 03/22/13 **End Date:** 03/22/13

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.0	10:27																									
ZZZZZZ	1.0	10:28																									
ZZZZZZ	50.0	10:31																									
CCV4	1.0	10:33																X									
CCB4	1.0	10:34																X									

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

COLUMBIA ANALYTICAL SERV
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Metals
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ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02 **Run Number:** 032513CMS02

Project Name: T2 Stormwater

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 03/25/13 **End Date:** 03/25/13

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Cal. Blk	1.0	10:05							X		X		X		X											X	
Cal. Stn	1.0	10:25							X		X		X		X											X	
ICV1	1.0	10:31							X		X		X		X											X	
CCV1	1.0	10:37							X		X		X		X											X	
ICB1	1.0	10:50							X		X		X		X											X	
CCB1	1.0	10:56							X		X		X		X											X	
LLICV	1.0	11:02							X		X		X		X											X	
ZZZZZZ	1.0	11:08																									
ZZZZZZ	1.0	11:14																									
ZZZZZZ	1.0	11:21																									
ZZZZZZ	1.0	11:26																									
ZZZZZZ	1.0	11:38																									
CCV2	1.0	11:44							X		X		X		X											X	
CCB2	1.0	11:58							X		X		X		X											X	
ZZZZZZ	1.0	12:03																									
ZZZZZZ	1.0	12:09																									
ZZZZZZ	1.0	12:15																									
ZZZZZZ	1.0	12:20																									
ZZZZZZ	1.0	12:26																									
ZZZZZZ	1.0	12:32																									
ZZZZZZ	1.0	12:38																									
K1302486-MB	1.0	12:44							X		X		X		X											X	
LCSW	1.0	12:55							X		X		X		X											X	
CCV3	1.0	13:04							X		X		X		X											X	
ZZZZZZ	1.0	13:15																									
CCB3	1.0	13:21							X		X		X		X											X	
ZZZZZZ	1.0	13:27																									
ZZZZZZ	1.0	13:33																									
ZZZZZZ	1.0	13:38																									
ZZZZZZ	1.0	13:49																									
K1302486-001	1.0	13:56							X		X		X		X											X	
K1302486-001D	1.0	14:02							X		X		X		X											X	

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

COLUMBIA ANALYTICAL SERV
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Metals
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ANALYSIS RUN LOG

Client: Ash Creek Associates, Inc. **Service Request:** K1302486

Project No.: 1053-02 **Run Number:** 032513CMS02

Project Name: T2 Stormwater

Instrument ID Number: K-ICP-MS-02 **Method:** MS

Start Date: 03/25/13 **End Date:** 03/25/13

Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
K1302486-001S	1.0	14:08							X		X		X		X											X	
K1302486-002	1.0	14:17							X		X		X		X											X	
ZZZZZZ	1.0	14:24																									
ZZZZZZ	1.0	14:30																									
CCV4	1.0	14:36							X		X		X		X											X	
CCB4	1.0	14:44							X		X		X		X											X	

* - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

Metals

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: COLUMBIA ANALYTICAL SERVICES, INC Contract: 1053-02

Lab Code: CASK Case No.: _____ NRAS No.: _____ SDG NO.: K1302486

ICP-MS Instrument ID: K-ICP-MS-02 Start Date: 03/25/2013 End Date: 03/25/2013

Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Li_6	Q	Element Sc_45	Q	Element Ga_71	Q	Element Rh_103	Q	Element In_115	Q	Element Lu_175	Q
Cal. Blk	Cal. Blk	1005	100		100		100		100		100		100	
Cal. Stn	Cal. Stn	1025	102		99		103		103		103		102	
ICV1	ICV1	1031	102		100		101		103		104		102	
CCV1	CCV1	1037	102		98		101		102		101		101	
ICB1	ICB1	1050	102		99		98		99		97		100	
CCB1	CCB1	1056	103		99		100		100		99		100	
LLICV	LLICV	1102	102		98		100		99		99		101	
ZZZZZZ	ZZZZZZ	1108												
ZZZZZZ	ZZZZZZ	1114												
ZZZZZZ	ZZZZZZ	1121												
ZZZZZZ	ZZZZZZ	1126												
ZZZZZZ	ZZZZZZ	1138												
CCV2	CCV2	1144	102		99		99		100		102		103	
CCB2	CCB2	1158	105		102		102		102		101		103	
ZZZZZZ	ZZZZZZ	1203												
ZZZZZZ	ZZZZZZ	1209												
ZZZZZZ	ZZZZZZ	1215												
ZZZZZZ	ZZZZZZ	1220												
ZZZZZZ	ZZZZZZ	1226												
ZZZZZZ	ZZZZZZ	1232												
ZZZZZZ	ZZZZZZ	1238												
K1302486-MB	Method Blank	1244	102		100		100		99		100		103	
LCSW	LCSW	1255	101		101		102		102		101		104	
CCV3	CCV3	1304	100		98		99		100		100		102	
ZZZZZZ	ZZZZZZ	1315												
CCB3	CCB3	1321	101		99		100		100		100		103	
ZZZZZZ	ZZZZZZ	1327												
ZZZZZZ	ZZZZZZ	1333												
ZZZZZZ	ZZZZZZ	1338												
ZZZZZZ	ZZZZZZ	1349												
K1302486-001	MT2-DBA-5238-031	1356	101		102		102		101		102		106	
K1302486-001D	MT2-DBA-5238-031	1402	101		103		102		101		101		105	
K1302486-001S	MT2-DBA-5238-031	1408	101		102		102		102		102		105	
K1302486-002	MT2-DBB-5279-031	1417	104		105		105		105		103		105	
ZZZZZZ	ZZZZZZ	1424												
ZZZZZZ	ZZZZZZ	1430												
CCV4	CCV4	1436	93		91		89		89		89		101	
CCB4	CCB4	1444	96		91		90		89		87		101	

COLUMBIA ANALYTICAL SERVICES, INC.
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Analytical Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	03/19/13
Sample Matrix:	Water	**Date Received:**	03/20/13

Total Inorganic Arsenic

Prep Method:	None	Units:	ug/L
Analysis Method:	1632 Rev. A	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
MT2-DBA-5238-031913-1650	K1302486-001	0.04	0.006	2	NA	03/22/13	0.476	
MT2-DBB-5279-031913-1730	K1302486-002	0.02	0.003	1	NA	03/22/13	0.177	
Method Blank 1	K1302486-MB1	0.02	0.003	1	NA	03/22/13	0.008	J
Method Blank 2	K1302486-MB2	0.02	0.003	1	NA	03/22/13	0.016	J
Method Blank 3	K1302486-MB3	0.02	0.003	1	NA	03/22/13	ND	
Method Blank 4	K1302486-MB4	0.02	0.003	1	NA	03/22/13	ND	

COLUMBIA ANALYTICAL SERVICES, INC.
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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	03/22/13

Total Metals
Matrix Spike/Duplicate Matrix Spike Summary

Sample Name:	Batch QC	Units:	ug/L
Lab Code:	K1302199-001SD	Basis:	NA
Test Notes:			

				Spike Level		Sample	Spike Result		Percent Recovery				
Analyte	**Prep Method**	**Analysis Method**	**MRL**	**MS**	**DMS**	**Result**	**MS**	**DMS**	**MS**	**DMS**	**Method Acceptance Limits**	**Relative Percent Difference**	**Result Notes**
Inorganic Arsenic	None	1632 Rev. A	1.0	10.0	10.0	7.72	18.7	18.1	110	104	50-150	3	

COLUMBIA ANALYTICAL SERVICES, INC.
Now part of the ALS Group
QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	03/22/13

Calibration Verification (CALVER) Sample Summary
Total Metals

Sample Name: CALVER 1 Units: ug/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.200	0.218	109	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	03/22/13

Calibration Verification (CALVER) Sample Summary

Total Metals

Sample Name: CALVER 2

Units: ug/L

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.200	0.232	116	80-120	

COLUMBIA ANALYTICAL SERVICES, INC.

Now part of the ALS Group

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	NA
LCS Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	03/22/13

Calibration Verification (CALVER) Sample Summary

Total Metals

Sample Name: CALVER 3

Units: ug/L

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	CAS Percent Recovery Acceptance Limits	Result Notes
Inorganic Arsenic	None	1632 Rev. A	0.200	0.182	91	80-120	

ALS ENVIRONMENTAL

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	03/19/2013
Sample Matrix:	Water	**Date Received:**	03/20/2013

Semivolatile Organics by EPA Method 525.2

Sample Name:	MT2-DBA-5238-031913-1650	**Units:**	ug/L
Lab Code:	K1302486-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	1.1	0.044	5	03/22/13	04/11/13	KWG1302673	
Dimethyl Phthalate	**1.1**	JD	1.1	0.022	5	03/22/13	04/11/13	KWG1302673	
Diethyl Phthalate	ND	U	1.1	0.049	5	03/22/13	04/11/13	KWG1302673	
Di-n-butyl Phthalate	**0.36**	JD	1.1	0.22	5	03/22/13	04/11/13	KWG1302673	
Benzyl butyl phthalate	ND	U	1.1	0.44	5	03/22/13	04/11/13	KWG1302673	
Bis(2-ethylhexyl) Phthalate	**1.0**	JD	2.7	0.33	5	03/22/13	04/11/13	KWG1302673	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	86	70-130	04/11/13	Acceptable
Triphenyl Phosphate	26	70-130	04/11/13	Outside Control Limits
Perylene-d12	88	70-130	04/11/13	Acceptable

Comments:

ALS ENVIRONMENTAL

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	03/19/2013
Sample Matrix:	Water	**Date Received:**	03/20/2013

Semivolatile Organics by EPA Method 525.2

Sample Name:	MT2-DBB-5279-031913-1730	**Units:**	ug/L
Lab Code:	K1302486-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	ND	U	1.1	0.043	5	03/22/13	04/11/13	KWG1302673	
Dimethyl Phthalate	**0.38**	JD	1.1	0.022	5	03/22/13	04/11/13	KWG1302673	
Diethyl Phthalate	**0.094**	JD	1.1	0.048	5	03/22/13	04/11/13	KWG1302673	
Di-n-butyl Phthalate	**0.39**	JD	1.1	0.22	5	03/22/13	04/11/13	KWG1302673	
Benzyl butyl phthalate	**0.52**	JD	1.1	0.43	5	03/22/13	04/11/13	KWG1302673	
Bis(2-ethylhexyl) Phthalate	**1.1**	JD	2.7	0.32	5	03/22/13	04/11/13	KWG1302673	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	92	70-130	04/11/13	Acceptable
Triphenyl Phosphate	129	70-130	04/11/13	Acceptable
Perylene-d12	98	70-130	04/11/13	Acceptable

Comments:

ALS ENVIRONMENTAL

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Semivolatile Organics by EPA Method 525.2

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1302673-3	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Di-n-octyl Phthalate	**0.11**	J	0.20	0.0080	1	03/22/13	04/11/13	KWG1302673	
Dimethyl Phthalate	ND	U	0.20	0.0040	1	03/22/13	04/11/13	KWG1302673	
Diethyl Phthalate	ND	U	0.20	0.0090	1	03/22/13	04/11/13	KWG1302673	
Di-n-butyl Phthalate	ND	U	0.20	0.040	1	03/22/13	04/11/13	KWG1302673	
Benzyl butyl phthalate	**0.093**	J	0.20	0.080	1	03/22/13	04/11/13	KWG1302673	
Bis(2-ethylhexyl) Phthalate	**0.14**	J	0.50	0.060	1	03/22/13	04/11/13	KWG1302673	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
1,3-Dimethyl-2-nitrobenzene	0	70-130	04/11/13	Outside Control Limits
Triphenyl Phosphate	3	70-130	04/11/13	Outside Control Limits
Perylene-d12	5	70-130	04/11/13	Outside Control Limits

Comments:

ALS ENVIRONMENTAL

QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Semivolatile Organics by EPA Method 525.2

Extraction Method: METHOD **Units:** PERCENT
Analysis Method: 525.2 **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MT2-DBA-5238-031913-1650	K1302486-001	86 D	26 D *	88 D
MT2-DBB-5279-031913-1730	K1302486-002	92 D	129 D	98 D
Method Blank	KWG1302673-3	0 *	3 *	5 *
MT2-DBA-5238-031913-1650MS	KWG1302673-2	87 D	22 D *	25 D *
Lab Control Sample	KWG1302673-1	93	95	83

Surrogate Recovery Control Limits (%)

Sur1	=	1,3-Dimethyl-2-nitrobenzene	70-130
Sur2	=	Triphenyl Phosphate	70-130
Sur3	=	Perylene-d12	70-130

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

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

ALS ENVIRONMENTAL

QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02

Service Request: K1302486
Date Analyzed: 04/11/2013
Time Analyzed: 19:22

Internal Standard Area and RT Summary
Semivolatile Organics by EPA Method 525.2

File ID: J:\MS22\DATA\041113-525\0411DV103.D
Instrument ID: MS22
Analysis Method: 525.2

Lab Code: KWG1303499-2
Analysis Lot: KWG1303499

		Acenaphthene-d10		Phenanthrene-d10		Chrysene-d12	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	532,820	11.49	994,605	14.94	758,769	23.59
	Upper Limit ==>	692,666	11.89	1,292,987	15.34	986,400	23.99
	Lower Limit ==>	372,974	11.09	696,224	14.54	531,138	23.19
	ICAL Result ==>	488,867	11.48	912,547	14.93	726,671	23.57
Associated Analyses							
Lab Control Sample	KWG1302673-1	486,781	11.48	918,697	14.94	741,850	23.58
Method Blank	KWG1302673-3	461,120	11.49	838,859	14.94	673,404	23.58
MT2-DBA-5238-031913-1650	K1302486-001	572,024	11.49	1,089,545	14.94	845,733	23.59
MT2-DBA-5238-031913-1650MS	KWG1302673-2	590,400	11.50	1,138,281	14.95	885,566	23.61
MT2-DBB-5279-031913-1730	K1302486-002	524,201	11.50	987,545	14.95	819,919	23.59

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

ALS ENVIRONMENTAL

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/22/2013
Sample Matrix:	Water	**Date Analyzed:**	04/11/2013

Matrix Spike Summary
Semivolatile Organics by EPA Method 525.2

Sample Name:	MT2-DBA-5238-031913-1650	**Units:**	ug/L
Lab Code:	K1302486-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1302673

		MT2-DBA-5238-031913-1650MS KWG1302673-2 Matrix Spike			
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
Di-n-octyl Phthalate	ND	1.65	1.00	165 *	70-130
Dimethyl Phthalate	1.1	1.81	1.00	75	70-130
Diethyl Phthalate	ND	1.24	1.00	124	70-130
Di-n-butyl Phthalate	0.36	1.20	1.00	85	70-130
Benzyl butyl phthalate	ND	1.56	1.00	156 *	70-130
Bis(2-ethylhexyl) Phthalate	1.0	2.08	1.00	107	70-130

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

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

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

ALS ENVIRONMENTAL

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/22/2013
Sample Matrix:	Water	**Date Analyzed:**	04/11/2013

Lab Control Spike Summary
Semivolatile Organics by EPA Method 525.2

Extraction Method:	METHOD	**Units:**	ug/L
Analysis Method:	525.2	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1302673

	Lab Control Sample KWG1302673-1 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
Di-n-octyl Phthalate	0.815	1.00	81	70-130
Dimethyl Phthalate	0.911	1.00	91	70-130
Diethyl Phthalate	0.971	1.00	97	70-130
Di-n-butyl Phthalate	1.05	1.00	105	70-130
Benzyl butyl phthalate	0.944	1.00	94	70-130
Bis(2-ethylhexyl) Phthalate	0.938	1.00	94	70-130

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

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

ALS ENVIRONMENTAL

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/22/2013
Sample Matrix:	Water	**Date Analyzed:**	04/11/2013
		Time Analyzed:	20:54

Method Blank Summary
Semivolatile Organics by EPA Method 525.2

Sample Name:	Method Blank	**Instrument ID:**	MS22
Lab Code:	KWG1302673-3	**File ID:**	J:\MS22\DATA\041113-525\0411DV105.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1302673

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1302673-1	J:\MS22\DATA\041113-525\0411DV104.D	04/11/13	20:08
MT2-DBA-5238-031913-1650	K1302486-001	J:\MS22\DATA\041113-525\0411DV106.D	04/11/13	21:40
MT2-DBA-5238-031913-1650MS	KWG1302673-2	J:\MS22\DATA\041113-525\0411DV107.D	04/11/13	22:26
MT2-DBB-5279-031913-1730	K1302486-002	J:\MS22\DATA\041113-525\0411DV108.D	04/11/13	23:12

ALS ENVIRONMENTAL

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/22/2013
Sample Matrix:	Water	**Date Analyzed:**	04/11/2013
		Time Analyzed:	20:08

Lab Control Sample Summary
Semivolatile Organics by EPA Method 525.2

Sample Name:	Lab Control Sample	**Instrument ID:**	MS22
Lab Code:	KWG1302673-1	**File ID:**	J:\MS22\DATA\041113-525\0411DV104.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	525.2	**Extraction Lot:**	KWG1302673

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1302673-3	J:\MS22\DATA\041113-525\0411DV105.D	04/11/13	20:54
MT2-DBA-5238-031913-1650	K1302486-001	J:\MS22\DATA\041113-525\0411DV106.D	04/11/13	21:40
MT2-DBA-5238-031913-1650MS	KWG1302673-2	J:\MS22\DATA\041113-525\0411DV107.D	04/11/13	22:26
MT2-DBB-5279-031913-1730	K1302486-002	J:\MS22\DATA\041113-525\0411DV108.D	04/11/13	23:12

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02

Service Request: K1302486
Date Analyzed: 04/11/2013
Time Analyzed: 18:36

Tune Summary
Semivolatile Organics by EPA Method 525.2

File ID: J:\MS22\DATA\041113-525\0411DV102.D
Instrument ID: MS22
Column:

Analysis Method: 525.2
Analysis Lot: KWG1303499

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	55.0	13052	PASS
68	69	0	2	1.1	41	PASS
69	198	0	100	15.3	3635	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	45.3	10741	PASS
197	198	0	2	0.3	66	PASS
198	198	100	100	100.0	23736	PASS
199	198	5	9	5.1	1219	PASS
275	198	10	60	33.9	8040	PASS
365	198	1	100	2.6	618	PASS
441	443	0	100	81.6	2352	PASS
442	198	50	150	56.0	13294	PASS
443	442	15	24	21.7	2882	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1303499-2	J:\MS22\DATA\041113-525\0411DV103.D	04/11/2013	19:22	
Lab Control Sample	KWG1302673-1	J:\MS22\DATA\041113-525\0411DV104.D	04/11/2013	20:08	
Method Blank	KWG1302673-3	J:\MS22\DATA\041113-525\0411DV105.D	04/11/2013	20:54	
MT2-DBA-5238-031913-1650	K1302486-001	J:\MS22\DATA\041113-525\0411DV106.D	04/11/2013	21:40	
MT2-DBA-5238-031913-1650MS	KWG1302673-2	J:\MS22\DATA\041113-525\0411DV107.D	04/11/2013	22:26	
MT2-DBB-5279-031913-1730	K1302486-002	J:\MS22\DATA\041113-525\0411DV108.D	04/11/2013	23:12	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 03/12/2013

Initial Calibration Summary
Semivolatile Organics by EPA Method 525.2

Calibration ID: CAL12299 **Column:** MS
Instrument ID: MS22

Level ID	File ID	Level ID	File ID
A	J:\MS22\DATA\031113-525ICAL\0311DV004.D	F	J:\MS22\DATA\031113-525ICAL\0311DV009.D
B	J:\MS22\DATA\031113-525ICAL\0311DV005.D	G	J:\MS22\DATA\031113-525ICAL\0311DV010.D
C	J:\MS22\DATA\031113-525ICAL\0311DV006.D	H	J:\MS22\DATA\031113-525ICAL\0311DV011.D
D	J:\MS22\DATA\031113-525ICAL\0311DV007.D		
E	J:\MS22\DATA\031113-525ICAL\0311DV008.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Di-n-octyl Phthalate							C	100	0.368	D	200	0.451	E	500	0.766
	F	2000	1.27	G	4000	1.49	H	6000	1.54						
1,3-Dimethyl-2-nitrobenzene	A	20	0.238	B	50	0.239	C	100	0.250	D	200	0.275	E	500	0.303
	F	2000	0.324	G	4000	0.357	H	6000	0.374						
Dimethyl Phthalate	A	20	1.24	B	50	1.20	C	100	1.25	D	200	1.36	E	500	1.43
	F	2000	1.38	G	4000	1.42	H	6000	1.56						
Diethyl Phthalate	A	20	1.01	B	50	1.01	C	100	1.02	D	200	1.18	E	500	1.35
	F	2000	1.29	G	4000	1.36	H	6000	1.36						
Di-n-butyl Phthalate	A	20	0.636	B	50	0.632	C	100	0.733	D	200	0.904	E	500	1.07
	F	2000	1.01	G	4000	1.00	H	6000	1.01						
Benzyl butyl phthalate							C	100	0.221	D	200	0.266	E	500	0.422
	F	2000	0.587	G	4000	0.709	H	6000	0.768						
Triphenyl Phosphate				B	50	0.0567	C	100	0.0797	D	200	0.0843	E	500	0.110
	F	2000	0.107	G	4000	0.113	H	6000	0.118						
Bis(2-ethylhexyl) Phthalate							C	100	0.317	D	200	0.353	E	500	0.540
	F	2000	0.843	G	4000	0.961	H	6000	1.03						
Perylene-d12				B	50	0.440	C	100	0.503	D	200	0.535	E	500	0.744
	F	2000	0.810	G	4000	0.854	H	6000	0.870						

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 03/12/2013

Initial Calibration Summary
Semivolatile Organics by EPA Method 525.2

Calibration ID: CAL12299 **Column:** MS
Instrument ID: MS22

		Calibration Evaluation					RRF Evaluation		
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Di-n-octyl Phthalate	MS	Quadratic	COD	0.998		≥ 0.99	0.982		
1,3-Dimethyl-2-nitrobenzene	SURR	AverageRF	% RSD	18.1		≤ 30	0.295		
Dimethyl Phthalate	MS	AverageRF	% RSD	8.9		≤ 30	1.35		
Diethyl Phthalate	MS	AverageRF	% RSD	13.7		≤ 30	1.20		
Di-n-butyl Phthalate	MS	Quadratic	COD	1.000		≥ 0.99	0.875		
Benzyl butyl phthalate	MS	Quadratic	COD	0.999		≥ 0.99	0.495		
Triphenyl Phosphate	SURR	Quadratic	COD	1.000		≥ 0.99	0.0954		
Bis(2-ethylhexyl) Phthalate	MS	Quadratic	COD	0.999		≥ 0.99	0.674		
Perylene-d12	SURR	Quadratic	COD	1.000		≥ 0.99	0.679		

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

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

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02

Service Request: K1302486
Calibration Date: 03/12/2013
Date Analyzed: 03/12/2013

Second Source Calibration Verification
Semivolatile Organics by EPA Method 525.2

Calibration Type: Internal Standard
Analysis Method: 525.2

Calibration ID: CAL12299
Units: ug/L

File ID: J:\MS22\DATA\031113-525ICAL\0311DV012.D
J:\MS22\DATA\031113-525ICAL\0311DV013.D
J:\MS22\DATA\031213-525\0312DV004.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Di-n-octyl Phthalate	1000	820	0.982	0.911	NA	-18	± 30 %	Quadratic
Dimethyl Phthalate	1000	1000	1.35	1.39	3	NA	± 30 %	AverageRF
Diethyl Phthalate	1000	1100	1.20	1.35	13	NA	± 30 %	AverageRF
Di-n-butyl Phthalate	1000	1100	0.875	1.13	NA	13	± 30 %	Quadratic
Benzyl butyl phthalate	1000	910	0.495	0.476	NA	-9	± 30 %	Quadratic
Bis(2-ethylhexyl) Phthalate	1000	990	0.674	0.736	NA	-1	± 30 %	Quadratic

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

† SPCC Compound **‡ CCC Compound**

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Date Analyzed:** 04/11/2013

Continuing Calibration Verification Summary
Semivolatile Organics by EPA Method 525.2

Calibration Type: Internal Standard **Calibration Date:** 03/12/2013
Analysis Method: 525.2 **Calibration ID:** CAL12299
Analysis Lot: KWG1303499
Units: ug/L

File ID: J:\MS22\DATA\041113-525\0411DV103.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Di-n-octyl Phthalate	500	470		0.982	0.911	NA	-6	± 30 %	Quadratic
1,3-Dimethyl-2-nitrobenzene	500	520		0.295	0.305	3	NA	± 30 %	AverageRF
Dimethyl Phthalate	500	530		1.35	1.43	6	NA	± 30 %	AverageRF
Diethyl Phthalate	500	560		1.20	1.34	12	NA	± 30 %	AverageRF
Di-n-butyl Phthalate	500	550		0.875	1.10	NA	11	± 30 %	Quadratic
Benzyl butyl phthalate	500	540		0.495	0.506	NA	7	± 30 %	Quadratic
Triphenyl Phosphate	500	530		0.0954	0.108	NA	7	± 30 %	Quadratic
Bis(2-ethylhexyl) Phthalate	500	540		0.674	0.715	NA	7	± 30 %	Quadratic
Perylene-d12	500	520		0.679	0.784	NA	4	± 30 %	Quadratic

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

† SPCC Compound **‡ CCC Compound**

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02

Analysis Run Log
Semivolatile Organics by EPA Method 525.2

Analysis Method: 525.2 **Analysis Lot:** KWG1303499
Instrument ID: MS22

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
411DV102.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1303499-1	4/11/2013	18:36		4/11/2013	19:11
411DV103.D	Continuing Calibration Verification	KWG1303499-2	4/11/2013	19:22		4/11/2013	19:57
411DV104.D	Lab Control Sample	KWG1302673-1	4/11/2013	20:08		4/11/2013	20:43
411DV105.D	Method Blank	KWG1302673-3	4/11/2013	20:54		4/11/2013	21:29
411DV106.D	MT2-DBA-5238-031913-1650	K1302486-001	4/11/2013	21:40		4/11/2013	22:15
411DV107.D	MT2-DBA-5238-031913-1650MS	KWG1302673-2	4/11/2013	22:26		4/11/2013	23:01
411DV108.D	MT2-DBB-5279-031913-1730	K1302486-002	4/11/2013	23:12		4/11/2013	23:47
411DV109.D	ZZZZZZ	ZZZZZZ	4/11/2013	23:58		4/12/2013	00:33
411DV110.D	ZZZZZZ	ZZZZZZ	4/12/2013	00:44		4/12/2013	01:19
411DV111.D	ZZZZZZ	ZZZZZZ	4/12/2013	01:30		4/12/2013	02:05
411DV112.D	ZZZZZZ	ZZZZZZ	4/12/2013	02:17		4/12/2013	02:52
411DV113.D	ZZZZZZ	ZZZZZZ	4/12/2013	03:03		4/12/2013	03:38
411DV114.D	ZZZZZZ	ZZZZZZ	4/12/2013	03:49		4/12/2013	04:24
411DV115.D	ZZZZZZ	ZZZZZZ	4/12/2013	04:35		4/12/2013	05:10

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

ALS ENVIRONMENTAL

QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/22/2013
Sample Matrix:	Water		

Extraction Prep Log
Semivolatile Organics by EPA Method 525.2

Extraction Method:	METHOD	**Extraction Lot:**	KWG1302673
Analysis Method:	525.2	**Level:**	Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5238-031913-1650	K1302486-001	03/19/13	03/20/13	930ml	1ml	NA	
MT2-DBB-5279-031913-1730	K1302486-002	03/19/13	03/20/13	950ml	1ml	NA	
Method Blank	KWG1302673-3	NA	NA	1000ml	1ml	NA	
MT2-DBA-5238-031913-1650MS	KWG1302673-2	03/19/13	03/20/13	1000ml	1ml	NA	
Lab Control Sample	KWG1302673-1	NA	NA	1000ml	1ml	NA	

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

ALS ENVIRONMENTAL

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	03/19/2013
Sample Matrix:	Water	**Date Received:**	03/20/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	MT2-DBA-5238-031913-1650	**Units:**	ug/L
Lab Code:	K1302486-001	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0076	0.0076	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1221	ND	Ui	0.048	0.048	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1232	ND	Ui	0.021	0.021	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1242	ND	Ui	0.0098	0.0098	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1248	ND	Ui	0.011	0.011	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1254	ND	Ui	0.011	0.011	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1260	ND	Ui	0.0052	0.0040	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1262	ND	U	0.0052	0.0022	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1268	ND	U	0.0052	0.0022	1	03/26/13	03/29/13	KWG1302882	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	50	36-113	03/29/13	Acceptable

Comments:

ALS ENVIRONMENTAL

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	03/19/2013
Sample Matrix:	Water	**Date Received:**	03/20/2013

Polychlorinated Biphenyls (PCBs)

Sample Name:	MT2-DBB-5279-031913-1730	**Units:**	ug/L
Lab Code:	K1302486-002	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	Ui	0.0089	0.0089	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1221	ND	Ui	0.022	0.022	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1232	ND	Ui	0.021	0.021	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1242	ND	Ui	0.024	0.024	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1248	ND	Ui	0.0085	0.0085	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1254	ND	Ui	0.0095	0.0095	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1260	ND	Ui	0.0052	0.0049	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1262	ND	Ui	0.0052	0.0029	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1268	ND	Ui	0.0052	0.0027	1	03/26/13	03/29/13	KWG1302882	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	70	36-113	03/29/13	Acceptable

Comments:

ALS ENVIRONMENTAL

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	NA
Sample Matrix:	Storm water	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1302882-3	**Basis:**	NA
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	0.0050	0.0021	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1221	ND	U	0.010	0.0021	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1232	ND	U	0.0050	0.0021	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1242	ND	U	0.0050	0.0021	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1248	ND	U	0.0050	0.0021	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1254	ND	U	0.0050	0.0021	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1260	ND	U	0.0050	0.0021	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1262	ND	U	0.0050	0.0021	1	03/26/13	03/29/13	KWG1302882	
Aroclor 1268	ND	U	0.0050	0.0021	1	03/26/13	03/29/13	KWG1302882	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	79	36-113	03/29/13	Acceptable

Comments:

ALS ENVIRONMENTAL

QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A **Units:** PERCENT
Analysis Method: 8082A **Level:** Low

Sample Name	Lab Code	Sur1
MT2-DBA-5238-031913-1650	K1302486-001	50
MT2-DBB-5279-031913-1730	K1302486-002	70
Method Blank	KWG1302882-3	79
Lab Control Sample	KWG1302882-1	76
Duplicate Lab Control Sample	KWG1302882-2	85

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 36-113

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

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

ALS ENVIRONMENTAL

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/26/2013
Sample Matrix:	Storm water	**Date Analyzed:**	03/29/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3535A	**Units:**	ug/L
Analysis Method:	8082A	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1302882

	Lab Control Sample KWG1302882-1 Lab Control Spike			Duplicate Lab Control Sample KWG1302882-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	0.155	0.200	77	0.147	0.200	74	50-103	5	30
Aroclor 1260	0.160	0.200	80	0.151	0.200	75	56-100	6	30

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

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

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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/26/2013
Sample Matrix:	Storm water	**Date Analyzed:**	03/29/2013
		Time Analyzed:	15:18

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Instrument ID:**	GC22.i
Lab Code:	KWG1302882-3	**File ID:**	J:\GC22\DATA\032913UL.B\0329F013.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1302882

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MT2-DBA-5238-031913-1650	K1302486-001	J:\GC22\DATA\032913UL.B\0329F007.D	03/29/13	12:57
MT2-DBB-5279-031913-1730	K1302486-002	J:\GC22\DATA\032913UL.B\0329F008.D	03/29/13	13:20
Lab Control Sample	KWG1302882-1	J:\GC22\DATA\032913UL.B\0329F011.D	03/29/13	14:28
Duplicate Lab Control Sample	KWG1302882-2	J:\GC22\DATA\032913UL.B\0329F012.D	03/29/13	14:55

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QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/26/2013
Sample Matrix:	Storm water	**Date Analyzed:**	03/29/2013
		Time Analyzed:	14:28

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Lab Control Sample	**Instrument ID:**	GC22.i
Lab Code:	KWG1302882-1	**File ID:**	J:\GC22\DATA\032913UL.B\0329F011.D
Extraction Method:	EPA 3535A	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1302882

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MT2-DBA-5238-031913-1650	K1302486-001	J:\GC22\DATA\032913UL.B\0329F007.D	03/29/13	12:57
MT2-DBB-5279-031913-1730	K1302486-002	J:\GC22\DATA\032913UL.B\0329F008.D	03/29/13	13:20
Method Blank	KWG1302882-3	J:\GC22\DATA\032913UL.B\0329F013.D	03/29/13	15:18

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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

Level ID	File ID	Level ID	File ID
A	\\cash1\acqudata\GC22\data\082212A.b\0822F205.D	Q	\\cash1\acqudata\GC22\data\082212A.b\0822F221.D
B	\\cash1\acqudata\GC22\data\082212A.b\0822F206.D	R	\\cash1\acqudata\GC22\data\082212A.b\0822F222.D
C	\\cash1\acqudata\GC22\data\082212A.b\0822F207.D	S	\\cash1\acqudata\GC22\data\082212A.b\0822F223.D
D	\\cash1\acqudata\GC22\data\082212A.b\0822F208.D	T	\\cash1\acqudata\GC22\data\082212A.b\0822F224.D
E	\\cash1\acqudata\GC22\data\082212A.b\0822F209.D	U	\\cash1\acqudata\GC22\data\082212A.b\0822F225.D
F	\\cash1\acqudata\GC22\data\082212A.b\0822F210.D	V	\\cash1\acqudata\GC22\data\082212A.b\0822F226.D
G	\\cash1\acqudata\GC22\data\082212A.b\0822F211.D	W	\\cash1\acqudata\GC22\data\082212A.b\0822F227.D
H	\\cash1\acqudata\GC22\data\082212A.b\0822F212.D	X	\\cash1\acqudata\GC22\data\082212A.b\0822F228.D
I	\\cash1\acqudata\GC22\data\082212A.b\0822F213.D	Y	\\cash1\acqudata\GC22\data\082212A.b\0822F229.D
J	\\cash1\acqudata\GC22\data\082212A.b\0822F214.D	Z	\\cash1\acqudata\GC22\data\082212A.b\0822F230.D
K	\\cash1\acqudata\GC22\data\082212A.b\0822F215.D	AA	\\cash1\acqudata\GC22\data\082212A.b\0822F231.D
L	\\cash1\acqudata\GC22\data\082212A.b\0822F216.D	AB	\\cash1\acqudata\GC22\data\082212A.b\0822F232.D
M	\\cash1\acqudata\GC22\data\082212A.b\0822F217.D	AC	\\cash1\acqudata\GC22\data\082212A.b\0822F233.D
N	\\cash1\acqudata\GC22\data\082212A.b\0822F218.D	AD	\\cash1\acqudata\GC22\data\082212A.b\0822F234.D
O	\\cash1\acqudata\GC22\data\082212A.b\0822F219.D		
P	\\cash1\acqudata\GC22\data\082212A.b\0822F220.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	5.87E+5	B	0.50	6.43E+5	C	5.0	6.47E+5	D	10	6.17E+5	E	20	4.89E+5
	F	50	4.62E+5												
Aroclor 1016 {1}	A	2.5	11200	B	5.0	9660	C	50	8550	D	100	8900	E	200	7380
	F	500	6430												
Aroclor 1016 {2}	A	2.5	25200	B	5.0	27400	C	50	26800	D	100	26500	E	200	22900
	F	500	20900												
Aroclor 1016 {3}	A	2.5	18000	B	5.0	18600	C	50	20500	D	100	17700	E	200	16200
	F	500	14100												
Aroclor 1016 {4}	A	2.5	9360	B	5.0	12100	C	50	12200	D	100	10700	E	200	9980
	F	500	8860												
Aroclor 1016 {5}	A	2.5	16200	B	5.0	14700	C	50	16300	D	100	13900	E	200	13000
	F	500	11600												
Aroclor 1260 {1}	A	2.5	41000	B	5.0	48200	C	50	46700	D	100	41000	E	200	35300
	F	500	31700												
Aroclor 1260 {2}	A	2.5	36200	B	5.0	46600	C	50	45600	D	100	39700	E	200	35400
	F	500	31600												
Aroclor 1260 {3}	A	2.5	33100	B	5.0	32700	C	50	30200	D	100	26800	E	200	23400
	F	500	20800												
Aroclor 1260 {4}	A	2.5	30600	B	5.0	30800	C	50	32500	D	100	28600	E	200	24800
	F	500	22600												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	71500	B	5.0	77400	C	50	74700	D	100	64900	E	200	56200
	F	500	52800												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-35MS
Instrument ID: GC22.i

		Calibration Evaluation				
Analyte Name	**Compound Type**	**Fit Type**	**Eval.**	**Eval. Result**	**Q**	**Control Criteria**
Decachlorobiphenyl	SURR	AverageRF	% RSD	13.9		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	19.3		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	12.4		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	13.1		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	13.0		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	15.6		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	18.1		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	13.5		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	15.2		≤ 20

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

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02

Service Request: K1302486
Calibration Date: 08/23/2012
Date Analyzed: 08/23/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11805
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\082212A.b\0822F235.D
\\cash1\acqudata\GC22\data\082212A.b\0822F236.D
\\cash1\acqudata\GC22\data\082212A.b\0822F237.D
\\cash1\acqudata\GC22\data\082212A.b\0822F238.D
\\cash1\acqudata\GC22\data\082212A.b\0822F239.D
\\cash1\acqudata\GC22\data\082212A.b\0822F240.D
\\cash1\acqudata\GC22\data\082212A.b\0822F241.D
\\cash1\acqudata\GC22\data\082212A.b\0822F242.D
\\cash1\acqudata\GC22\data\082212A.b\0822F243.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	84	NA	NA	NA	-16	± 20 %	NA
Aroclor 1016 {1}	100	89	8680	7690	-11	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	85	25000	21300	-15	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	83	17500	14600	-17	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	84	10500	8780	-16	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	78	14300	11100	-22	NA	± 100 %	AverageRF
Aroclor 1260	100	85	NA	NA	NA	-15	± 20 %	NA
Aroclor 1260 {1}	100	83	40700	33600	-17	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	70	39200	27300	-30	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	91	27800	25300	-9	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	93	28300	26500	-7	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	90	66300	59800	-10	NA	± 100 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

Level ID	File ID	Level ID	File ID
A	\\cash1\acqudata\GC22\data\082212A_r.b\0822F205.D	Q	\\cash1\acqudata\GC22\data\082212A_r.b\0822F221.D
B	\\cash1\acqudata\GC22\data\082212A_r.b\0822F206.D	R	\\cash1\acqudata\GC22\data\082212A_r.b\0822F222.D
C	\\cash1\acqudata\GC22\data\082212A_r.b\0822F207.D	S	\\cash1\acqudata\GC22\data\082212A_r.b\0822F223.D
D	\\cash1\acqudata\GC22\data\082212A_r.b\0822F208.D	T	\\cash1\acqudata\GC22\data\082212A_r.b\0822F224.D
E	\\cash1\acqudata\GC22\data\082212A_r.b\0822F209.D	U	\\cash1\acqudata\GC22\data\082212A_r.b\0822F225.D
F	\\cash1\acqudata\GC22\data\082212A_r.b\0822F210.D	V	\\cash1\acqudata\GC22\data\082212A_r.b\0822F226.D
G	\\cash1\acqudata\GC22\data\082212A_r.b\0822F211.D	W	\\cash1\acqudata\GC22\data\082212A_r.b\0822F227.D
H	\\cash1\acqudata\GC22\data\082212A_r.b\0822F212.D	X	\\cash1\acqudata\GC22\data\082212A_r.b\0822F228.D
I	\\cash1\acqudata\GC22\data\082212A_r.b\0822F213.D	Y	\\cash1\acqudata\GC22\data\082212A_r.b\0822F229.D
J	\\cash1\acqudata\GC22\data\082212A_r.b\0822F214.D	Z	\\cash1\acqudata\GC22\data\082212A_r.b\0822F230.D
K	\\cash1\acqudata\GC22\data\082212A_r.b\0822F215.D	AA	\\cash1\acqudata\GC22\data\082212A_r.b\0822F231.D
L	\\cash1\acqudata\GC22\data\082212A_r.b\0822F216.D	AB	\\cash1\acqudata\GC22\data\082212A_r.b\0822F232.D
M	\\cash1\acqudata\GC22\data\082212A_r.b\0822F217.D	AC	\\cash1\acqudata\GC22\data\082212A_r.b\0822F233.D
N	\\cash1\acqudata\GC22\data\082212A_r.b\0822F218.D	AD	\\cash1\acqudata\GC22\data\082212A_r.b\0822F234.D
O	\\cash1\acqudata\GC22\data\082212A_r.b\0822F219.D		
P	\\cash1\acqudata\GC22\data\082212A_r.b\0822F220.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	0.25	8.92E+5	B	0.50	1.02E+6	C	5.0	7.79E+5	D	10	7.64E+5	E	20	7.40E+5
	F	50	7.06E+5												
Aroclor 1016 {1}	A	2.5	34900	B	5.0	31600	C	50	27800	D	100	25300	E	200	25500
	F	500	21900												
Aroclor 1016 {2}	A	2.5	49600	B	5.0	50200	C	50	47500	D	100	46900	E	200	46600
	F	500	43300												
Aroclor 1016 {3}	A	2.5	29200	B	5.0	27400	C	50	26500	D	100	25200	E	200	26800
	F	500	23900												
Aroclor 1016 {4}	A	2.5	28200	B	5.0	26200	C	50	22700	D	100	21500	E	200	21400
	F	500	19000												
Aroclor 1016 {5}	A	2.5	29200	B	5.0	22300	C	50	27000	D	100	25200	E	200	25100
	F	500	22500												
Aroclor 1260 {1}	A	2.5	57300	B	5.0	66300	C	50	58100	D	100	54000	E	200	52700
	F	500	48600												
Aroclor 1260 {2}	A	2.5	68900	B	5.0	68500	C	50	69000	D	100	66300	E	200	63800
	F	500	59900												
Aroclor 1260 {3}	A	2.5	71200	B	5.0	82100	C	50	79700	D	100	77700	E	200	75800
	F	500	71900												
Aroclor 1260 {4}	A	2.5	56200	B	5.0	52500	C	50	43200	D	100	42300	E	200	41200
	F	500	38900												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	2.5	87100	B	5.0	91700	C	50	97500	D	100	95800	E	200	94600
	F	500	92500												

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

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 08/23/2012

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL11805 **Column:** DB-XLB
Instrument ID: GC22.i

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	14.4		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	16.9		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	5.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	6.9		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	14.6		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	10.4		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	10.7		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	5.5		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	5.6		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	15.2		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	3.9		≤ 20

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

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02

Service Request: K1302486
Calibration Date: 08/23/2012
Date Analyzed: 08/23/2012

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL11805
Units: ng/mL

File ID: \\cash1\acqudata\GC22\data\082212A_r.b\0822F235.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F236.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F237.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F238.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F239.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F240.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F241.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F242.D
\\cash1\acqudata\GC22\data\082212A_r.b\0822F243.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016	100	91	NA	NA	NA	-9	± 20 %	NA
Aroclor 1016 {1}	100	87	27900	24200	-13	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	95	47300	45100	-5	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	94	26500	24900	-6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	86	23200	20000	-14	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	92	25200	23200	-8	NA	± 100 %	AverageRF
Aroclor 1260	100	96	NA	NA	NA	-4	± 20 %	NA
Aroclor 1260 {1}	100	91	56100	51300	-9	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	94	66100	62400	-6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	88	76400	67400	-12	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	98	45700	44900	-2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	110	93200	102000	10	NA	± 100 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

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QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Analyzed:**	03/29/2013

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
CCV Standard ID:	PCB6-11C	**Analysis Lot:**	KWG1302923
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\032913UL.B\0329F003.D	**Column ID:**	DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	9.3	574000	535000	-7	NA	± 20 %	AverageRF
Aroclor 1016	100	96	NA	NA	NA	-4	± 20 %	NA
Aroclor 1016 {1}	100	88	8680	7660	-12	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	100	25000	25700	3	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	97	17500	17000	-3	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	96	10500	10100	-4	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	96	14300	13700	-4	NA	± 100 %	AverageRF
Aroclor 1260	100	90	NA	NA	NA	-10	± 20 %	NA
Aroclor 1260 {1}	100	90	40700	36700	-10	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	94	39200	36800	-6	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	86	27800	23800	-14	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	89	28300	25300	-11	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	89	66300	58900	-11	NA	± 100 %	AverageRF

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

ALS ENVIRONMENTAL

QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Analyzed:**	03/29/2013

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
CCV Standard ID:	PCB6-11C	**Analysis Lot:**	KWG1302923
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\032913UL_R.B\0329F003.D	**Column ID:**	DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	8.9	817000	724000	-11	NA	± 20 %	AverageRF
Aroclor 1016	100	81	NA	NA	NA	-19	± 20 %	NA
Aroclor 1016 {1}	100	78	27900	21700	-22	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	86	47300	40800	-14	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	83	26500	21900	-17	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	76	23200	17700	-24	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	81	25200	20300	-19	NA	± 100 %	AverageRF
Aroclor 1260	100	86	NA	NA	NA	-14	± 20 %	NA
Aroclor 1260 {1}	100	82	56100	45900	-18	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	86	66100	56800	-14	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	89	76400	68000	-11	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	81	45700	37000	-19	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	93	93200	86800	-7	NA	± 100 %	AverageRF

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

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QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Analyzed:**	03/29/2013

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
CCV Standard ID:	PCB6-11C	**Analysis Lot:**	KWG1302923
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\032913UL.B\0329F014.D	**Column ID:**	DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	9.7	574000	556000	-3	NA	± 20 %	AverageRF
Aroclor 1016	100	100	NA	NA	NA	3	± 20 %	NA
Aroclor 1016 {1}	100	100	8680	8640	0	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	110	25000	26700	7	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	100	17500	17700	1	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	100	10500	11000	4	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	100	14300	14700	3	NA	± 100 %	AverageRF
Aroclor 1260	100	93	NA	NA	NA	-7	± 20 %	NA
Aroclor 1260 {1}	100	94	40700	38200	-6	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	98	39200	38300	-2	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	90	27800	25000	-10	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	94	28300	26500	-6	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	92	66300	60900	-8	NA	± 100 %	AverageRF

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

ALS ENVIRONMENTAL

QA/QC Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Analyzed:**	03/29/2013

Continuing Calibration Verification Summary
Polychlorinated Biphenyls (PCBs)

Calibration Type:	External Standard	**Calibration Date:**	08/23/2012
Analysis Method:	8082A	**Calibration ID:**	CAL11805
CCV Standard ID:	PCB6-11C	**Analysis Lot:**	KWG1302923
		Units:	ng/mL
File ID:	\\CASH1\ACQUDATA\GC22\DATA\032913UL_R.B\0329F014.D	**Column ID:**	DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	10	9.5	817000	778000	-5	NA	± 20 %	AverageRF
Aroclor 1016	100	83	NA	NA	NA	-17	± 20 %	NA
Aroclor 1016 {1}	100	83	27900	23200	-17	NA	± 100 %	AverageRF
Aroclor 1016 {2}	100	88	47300	41500	-12	NA	± 100 %	AverageRF
Aroclor 1016 {3}	100	85	26500	22600	-15	NA	± 100 %	AverageRF
Aroclor 1016 {4}	100	79	23200	18200	-21	NA	± 100 %	AverageRF
Aroclor 1016 {5}	100	82	25200	20700	-18	NA	± 100 %	AverageRF
Aroclor 1260	100	88	NA	NA	NA	-12	± 20 %	NA
Aroclor 1260 {1}	100	82	56100	46000	-18	NA	± 100 %	AverageRF
Aroclor 1260 {2}	100	88	66100	58500	-12	NA	± 100 %	AverageRF
Aroclor 1260 {3}	100	90	76400	68800	-10	NA	± 100 %	AverageRF
Aroclor 1260 {4}	100	83	45700	37900	-17	NA	± 100 %	AverageRF
Aroclor 1260 {5}	100	95	93200	88600	-5	NA	± 100 %	AverageRF

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

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QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082A **Analysis Lot:** KWG1302923
Instrument ID: GC22.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0329F003.D	Continuing Calibration Verification	KWG1302923-1	3/29/2013	11:26		3/29/2013	11:26
0329F004.D	Instrument Blank	KWG1302923-2	3/29/2013	11:49		3/29/2013	11:49
0329F005.D	ZZZZZZ	ZZZZZZ	3/29/2013	12:12		3/29/2013	12:12
0329F006.D	ZZZZZZ	ZZZZZZ	3/29/2013	12:35		3/29/2013	12:35
0329F007.D	MT2-DBA-5238-031913-1650	K1302486-001	3/29/2013	12:57		3/29/2013	12:57
0329F008.D	MT2-DBB-5279-031913-1730	K1302486-002	3/29/2013	13:20		3/29/2013	13:20
0329F009.D	ZZZZZZ	ZZZZZZ	3/29/2013	13:43		3/29/2013	13:43
0329F010.D	ZZZZZZ	ZZZZZZ	3/29/2013	14:06		3/29/2013	14:06
0329F011.D	Lab Control Sample	KWG1302882-1	3/29/2013	14:28		3/29/2013	14:28
0329F012.D	Duplicate Lab Control Sample	KWG1302882-2	3/29/2013	14:55		3/29/2013	14:55
0329F013.D	Method Blank	KWG1302882-3	3/29/2013	15:18		3/29/2013	15:18
0329F014.D	Continuing Calibration Verification	KWG1302923-3	3/29/2013	15:41		3/29/2013	15:41
0329F015.D	Instrument Blank	KWG1302923-4	3/29/2013	16:04		3/29/2013	16:04
0329F016.D	ZZZZZZ	ZZZZZZ	3/29/2013	16:27		3/29/2013	16:27
0329F017.D	ZZZZZZ	ZZZZZZ	3/29/2013	16:49		3/29/2013	16:49
0329F018.D	ZZZZZZ	ZZZZZZ	3/29/2013	17:12		3/29/2013	17:12
0329F019.D	ZZZZZZ	ZZZZZZ	3/29/2013	17:35		3/29/2013	17:35
0329F020.D	ZZZZZZ	ZZZZZZ	3/29/2013	17:58		3/29/2013	17:58
0329F021.D	ZZZZZZ	ZZZZZZ	3/29/2013	18:21		3/29/2013	18:21
0329F022.D	ZZZZZZ	ZZZZZZ	3/29/2013	18:43		3/29/2013	18:43
0329F023.D	ZZZZZZ	ZZZZZZ	3/29/2013	19:06		3/29/2013	19:06
0329F024.D	ZZZZZZ	ZZZZZZ	3/29/2013	19:29		3/29/2013	19:29
0329F025.D	ZZZZZZ	ZZZZZZ	3/29/2013	19:52		3/29/2013	19:52
0329F026.D	Continuing Calibration Verification	KWG1302923-5	3/29/2013	20:15		3/29/2013	20:15
0329F027.D	Instrument Blank	KWG1302923-6	3/29/2013	20:38		3/29/2013	20:38
0329F028.D	ZZZZZZ	ZZZZZZ	3/29/2013	21:01		3/29/2013	21:01
0329F029.D	ZZZZZZ	ZZZZZZ	3/29/2013	21:23		3/29/2013	21:23
0329F030.D	ZZZZZZ	ZZZZZZ	3/29/2013	21:46		3/29/2013	21:46
0329F031.D	ZZZZZZ	ZZZZZZ	3/29/2013	22:09		3/29/2013	22:09
0329F032.D	ZZZZZZ	ZZZZZZ	3/29/2013	22:32		3/29/2013	22:32
0329F033.D	ZZZZZZ	ZZZZZZ	3/29/2013	22:54		3/29/2013	22:54
0329F034.D	ZZZZZZ	ZZZZZZ	3/29/2013	23:17		3/29/2013	23:17
0329F035.D	ZZZZZZ	ZZZZZZ	3/29/2013	23:40		3/29/2013	23:40
0329F036.D	ZZZZZZ	ZZZZZZ	3/30/2013	00:03		3/30/2013	00:03

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

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082A

Analysis Lot: KWG1302923
Instrument ID: GC22.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0329F037.D	ZZZZZZ	ZZZZZZ	3/30/2013	00:26		3/30/2013	00:26
0329F038.D	Continuing Calibration Verification	KWG1302923-7	3/30/2013	00:49		3/30/2013	00:49
0329F039.D	Instrument Blank	KWG1302923-8	3/30/2013	01:12		3/30/2013	01:12

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

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02
Sample Matrix: Water

Service Request: K1302486
Date Extracted: 03/26/2013

Extraction Prep Log
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3535A
Analysis Method: 8082A

Extraction Lot: KWG1302882
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5238-031913-1650	K1302486-001	03/19/13	03/20/13	980mL	2mL	NA	
MT2-DBB-5279-031913-1730	K1302486-002	03/19/13	03/20/13	970mL	2mL	NA	
Method Blank	KWG1302882-3	NA	NA	1010mL	2mL	NA	
Lab Control Sample	KWG1302882-1	NA	NA	1000mL	2mL	NA	
Duplicate Lab Control Sample	KWG1302882-2	NA	NA	1000mL	2mL	NA	

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

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Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	03/19/2013
Sample Matrix:	Water	**Date Received:**	03/20/2013

Polynuclear Aromatic Hydrocarbons

Sample Name:	MT2-DBA-5238-031913-1650	**Units:**	ng/L
Lab Code:	K1302486-001	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**19**		3.7	0.78	1	03/22/13	03/26/13	KWG1302653	
2-Methylnaphthalene	**20**	X	3.7	0.44	1	03/22/13	03/26/13	KWG1302653	
Acenaphthylene	ND	Ui	51	51	1	03/22/13	03/26/13	KWG1302653	
Acenaphthene	ND	Ui	27	27	1	03/22/13	03/26/13	KWG1302653	
Dibenzofuran	ND	Ui	5.3	5.3	1	03/22/13	03/26/13	KWG1302653	
Fluorene	ND	U	3.7	0.46	1	03/22/13	03/26/13	KWG1302653	
Phenanthrene	**50**		3.7	0.79	1	03/22/13	03/26/13	KWG1302653	
Anthracene	**15**		3.7	0.32	1	03/22/13	03/26/13	KWG1302653	
Fluoranthene	**19**		3.7	0.50	1	03/22/13	03/26/13	KWG1302653	
Pyrene	**28**		3.7	0.85	1	03/22/13	03/26/13	KWG1302653	
Benz(a)anthracene	ND	UX	3.7	0.37	1	03/22/13	03/26/13	KWG1302653	
Chrysene	**46**	X	3.7	0.71	1	03/22/13	03/26/13	KWG1302653	
Benzo(b)fluoranthene	**15**	X	3.7	0.28	1	03/22/13	03/26/13	KWG1302653	
Benzo(k)fluoranthene	ND	U	3.7	0.45	1	03/22/13	03/26/13	KWG1302653	
Benzo(a)pyrene	**11**	X	3.7	0.45	1	03/22/13	03/26/13	KWG1302653	
Indeno(1,2,3-cd)pyrene	ND	U	3.7	0.48	1	03/22/13	03/26/13	KWG1302653	
Dibenz(a,h)anthracene	ND	U	3.7	0.49	1	03/22/13	03/26/13	KWG1302653	
Benzo(g,h,i)perylene	ND	U	3.7	0.40	1	03/22/13	03/26/13	KWG1302653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	66	46-114	03/26/13	Acceptable
Fluoranthene-d10	71	51-121	03/26/13	Acceptable
Terphenyl-d14	63	58-140	03/26/13	Acceptable

Comments:

ALS ENVIRONMENTAL

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	03/19/2013
Sample Matrix:	Water	**Date Received:**	03/20/2013

Polynuclear Aromatic Hydrocarbons

Sample Name:	MT2-DBB-5279-031913-1730	**Units:**	ng/L
Lab Code:	K1302486-002	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**25**		3.5	0.72	1	03/22/13	03/26/13	KWG1302653	
2-Methylnaphthalene	**19**		3.5	0.41	1	03/22/13	03/26/13	KWG1302653	
Acenaphthylene	**4.5**	X	3.5	0.38	1	03/22/13	03/26/13	KWG1302653	
Acenaphthene	**7.2**	X	3.5	0.37	1	03/22/13	03/26/13	KWG1302653	
Dibenzofuran	**11**		3.5	0.43	1	03/22/13	03/26/13	KWG1302653	
Fluorene	**14**		3.5	0.43	1	03/22/13	03/26/13	KWG1302653	
Phenanthrene	**63**		3.5	0.73	1	03/22/13	03/26/13	KWG1302653	
Anthracene	**11**	X	3.5	0.30	1	03/22/13	03/26/13	KWG1302653	
Fluoranthene	**38**		3.5	0.47	1	03/22/13	03/26/13	KWG1302653	
Pyrene	**46**		3.5	0.79	1	03/22/13	03/26/13	KWG1302653	
Benz(a)anthracene	**13**		3.5	0.35	1	03/22/13	03/26/13	KWG1302653	
Chrysene	**57**		3.5	0.66	1	03/22/13	03/26/13	KWG1302653	
Benzo(b)fluoranthene	**34**	X	3.5	0.26	1	03/22/13	03/26/13	KWG1302653	
Benzo(k)fluoranthene	ND	UX	3.5	0.42	1	03/22/13	03/26/13	KWG1302653	
Benzo(a)pyrene	**12**		3.5	0.42	1	03/22/13	03/26/13	KWG1302653	
Indeno(1,2,3-cd)pyrene	**22**		3.5	0.45	1	03/22/13	03/26/13	KWG1302653	
Dibenz(a,h)anthracene	**3.9**		3.5	0.46	1	03/22/13	03/26/13	KWG1302653	
Benzo(g,h,i)perylene	**34**		3.5	0.37	1	03/22/13	03/26/13	KWG1302653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	74	46-114	03/26/13	Acceptable
Fluoranthene-d10	71	51-121	03/26/13	Acceptable
Terphenyl-d14	65	58-140	03/26/13	Acceptable

Comments:

ALS ENVIRONMENTAL

Analytical Results

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Collected:**	NA
Sample Matrix:	Ocean water	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ng/L
Lab Code:	KWG1302653-5	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	**1.1**	J	3.3	0.71	1	03/22/13	03/26/13	KWG1302653	
2-Methylnaphthalene	**0.56**	J	3.3	0.40	1	03/22/13	03/26/13	KWG1302653	
Acenaphthylene	ND	U	3.3	0.37	1	03/22/13	03/26/13	KWG1302653	
Acenaphthene	ND	U	3.3	0.36	1	03/22/13	03/26/13	KWG1302653	
Dibenzofuran	**0.80**	J	3.3	0.42	1	03/22/13	03/26/13	KWG1302653	
Fluorene	ND	U	3.3	0.42	1	03/22/13	03/26/13	KWG1302653	
Phenanthrene	**2.6**	J	3.3	0.72	1	03/22/13	03/26/13	KWG1302653	
Anthracene	ND	U	3.3	0.29	1	03/22/13	03/26/13	KWG1302653	
Fluoranthene	**0.49**	J	3.3	0.46	1	03/22/13	03/26/13	KWG1302653	
Pyrene	ND	U	3.3	0.78	1	03/22/13	03/26/13	KWG1302653	
Benz(a)anthracene	ND	U	3.3	0.34	1	03/22/13	03/26/13	KWG1302653	
Chrysene	ND	U	3.3	0.65	1	03/22/13	03/26/13	KWG1302653	
Benzo(b)fluoranthene	ND	U	3.3	0.25	1	03/22/13	03/26/13	KWG1302653	
Benzo(k)fluoranthene	ND	U	3.3	0.41	1	03/22/13	03/26/13	KWG1302653	
Benzo(a)pyrene	ND	U	3.3	0.41	1	03/22/13	03/26/13	KWG1302653	
Indeno(1,2,3-cd)pyrene	ND	U	3.3	0.44	1	03/22/13	03/26/13	KWG1302653	
Dibenz(a,h)anthracene	ND	U	3.3	0.45	1	03/22/13	03/26/13	KWG1302653	
Benzo(g,h,i)perylene	ND	U	3.3	0.36	1	03/22/13	03/26/13	KWG1302653	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	74	46-114	03/26/13	Acceptable
Fluoranthene-d10	72	51-121	03/26/13	Acceptable
Terphenyl-d14	62	58-140	03/26/13	Acceptable

Comments:

ALS ENVIRONMENTAL

QA/QC Report

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02
Sample Matrix: Water

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C **Units:** ng/L
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Sur1	Sur2	Sur3
MT2-DBA-5238-031913-1650	K1302486-001	66	71	63
MT2-DBB-5279-031913-1730	K1302486-002	74	71	65
Batch QC	K1302525-004	70	78	64
Method Blank	KWG1302653-5	74	72	62
Batch QCMS	KWG1302653-1	73	77	61
Batch QCDMS	KWG1302653-2	59	73	60
Lab Control Sample	KWG1302653-3	73	75	61
Duplicate Lab Control Sample	KWG1302653-4	77	80	64

Surrogate Recovery Control Limits (%)

Sur1	=	Fluorene-d10	46-114
Sur2	=	Fluoranthene-d10	51-121
Sur3	=	Terphenyl-d14	58-140

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

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

ALS ENVIRONMENTAL

QA/QC Report

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02

Service Request: K1302486
Date Analyzed: 03/26/2013
Time Analyzed: 08:33

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\032613\0326F002.D
Instrument ID: MS11
Analysis Method: 8270D SIM

Lab Code: KWG1302856-2
Analysis Lot: KWG1302856

		Naphthalene-d8		Acenaphthene-d10		Phenanthrene-d10	
		Area	**RT**	**Area**	**RT**	**Area**	**RT**
	Results ==>	52,196	4.78	30,301	6.19	61,315	7.43
	Upper Limit ==>	104,392	5.28	60,602	6.69	122,630	7.93
	Lower Limit ==>	26,098	4.28	15,151	5.69	30,658	6.93
	ICAL Result ==>	60,523	4.85	35,453	6.26	68,294	7.49
Associated Analyses							
Method Blank	KWG1302653-5	55,611	4.78	32,424	6.19	68,401	7.43
Lab Control Sample	KWG1302653-3	51,391	4.79	30,285	6.19	62,066	7.42
Duplicate Lab Control Sample	KWG1302653-4	50,890	4.78	29,307	6.19	59,817	7.43
Batch QCMS	KWG1302653-1	50,312	4.79	29,742	6.19	60,435	7.42
Batch QCDMS	KWG1302653-2	49,162	4.78	29,376	6.19	60,152	7.42
Batch QC	K1302525-004	48,734	4.78	29,230	6.19	58,901	7.42
MT2-DBA-5238-031913-1650	K1302486-001	54,766	4.79	45,430	6.21	76,691	7.46
MT2-DBB-5279-031913-1730	K1302486-002	51,570	4.79	35,598	6.20	72,392	7.44

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

ALS ENVIRONMENTAL

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Analyzed:**	03/26/2013
		Time Analyzed:	08:33

Internal Standard Area and RT Summary
Polynuclear Aromatic Hydrocarbons

File ID:	J:\MS11\DATA\032613\0326F002.D	**Lab Code:**	KWG1302856-2
Instrument ID:	MS11	**Analysis Lot:**	KWG1302856
Analysis Method:	8270D SIM		

		Chrysene-d12		Perylene-d12	
		Area	**RT**	**Area**	**RT**
	Results ==>	73,500	10.07	70,023	13.46
	Upper Limit ==>	147,000	10.57	140,046	13.96
	Lower Limit ==>	36,750	9.57	35,012	12.96
	ICAL Result ==>	88,757	10.16	80,129	13.59
Associated Analyses					
Method Blank	KWG1302653-5	76,475	10.07	70,465	13.47
Lab Control Sample	KWG1302653-3	73,255	10.06	68,160	13.45
Duplicate Lab Control Sample	KWG1302653-4	71,713	10.07	67,325	13.45
Batch QCMS	KWG1302653-1	73,093	10.06	68,924	13.45
Batch QCDMS	KWG1302653-2	72,037	10.06	69,737	13.44
Batch QC	K1302525-004	69,764	10.06	66,315	13.45
MT2-DBA-5238-031913-1650	K1302486-001	78,715	10.19	63,080	13.84
MT2-DBB-5279-031913-1730	K1302486-002	70,000	10.13	63,351	13.68

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

ALS ENVIRONMENTAL

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/22/2013
Sample Matrix:	Ocean water	**Date Analyzed:**	03/26/2013

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Batch QC	**Units:**	ng/L
Lab Code:	K1302525-004	**Basis:**	NA
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1302653

		Batch QCMS KWG1302653-1 Matrix Spike			Batch QCDMS KWG1302653-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	24	346	472	68	249	472	48	37-118	33 *	30
2-Methylnaphthalene	9.0	330	472	68	241	472	49	37-117	31 *	30
Acenaphthylene	0.76	362	472	77	266	472	56	43-114	31 *	30
Acenaphthene	0.81	347	472	73	256	472	54	45-114	30	30
Dibenzofuran	1.3	359	472	76	269	472	57	44-122	29	30
Fluorene	1.7	358	472	76	279	472	59	45-123	25	30
Phenanthrene	2.6	356	472	75	304	472	64	42-127	16	30
Anthracene	0.83	357	472	76	318	472	67	32-125	12	30
Fluoranthene	1.3	372	472	79	334	472	71	48-134	11	30
Pyrene	ND	382	472	81	354	472	75	44-130	8	30
Benz(a)anthracene	0.70	386	472	82	359	472	76	41-128	7	30
Chrysene	ND	391	472	83	366	472	78	48-128	7	30
Benzo(b)fluoranthene	0.41	387	472	82	350	472	74	40-139	10	30
Benzo(k)fluoranthene	ND	402	472	85	371	472	79	48-134	8	30
Benzo(a)pyrene	ND	412	472	87	387	472	82	35-132	6	30
Indeno(1,2,3-cd)pyrene	0.58	461	472	98	421	472	89	40-135	9	30
Dibenz(a,h)anthracene	0.59	403	472	85	370	472	78	43-135	9	30
Benzo(g,h,i)perylene	0.61	405	472	86	369	472	78	44-128	9	30

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

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

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

ALS ENVIRONMENTAL

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/22/2013
Sample Matrix:	Ocean water	**Date Analyzed:**	03/26/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3520C	**Units:**	ng/L
Analysis Method:	8270D SIM	**Basis:**	NA
		Level:	Low
		Extraction Lot:	KWG1302653

	Lab Control Sample KWG1302653-3 Lab Control Spike			Duplicate Lab Control Sample KWG1302653-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	310	500	62	367	500	73	39-110	17	30
2-Methylnaphthalene	322	500	64	378	500	76	39-115	16	30
Acenaphthylene	350	500	70	407	500	81	44-115	15	30
Acenaphthene	335	500	67	393	500	79	44-113	16	30
Dibenzofuran	342	500	68	398	500	80	46-116	15	30
Fluorene	345	500	69	397	500	79	48-118	14	30
Phenanthrene	327	500	65	388	500	78	47-120	17	30
Anthracene	353	500	71	409	500	82	44-117	14	30
Fluoranthene	348	500	70	392	500	78	48-128	12	30
Pyrene	364	500	73	419	500	84	42-133	14	30
Benz(a)anthracene	365	500	73	416	500	83	48-125	13	30
Chrysene	367	500	73	421	500	84	50-128	14	30
Benzo(b)fluoranthene	364	500	73	413	500	83	49-131	13	30
Benzo(k)fluoranthene	387	500	77	438	500	88	54-131	12	30
Benzo(a)pyrene	408	500	82	466	500	93	43-134	13	30
Indeno(1,2,3-cd)pyrene	433	500	87	504	500	101	45-133	15	30
Dibenz(a,h)anthracene	398	500	80	451	500	90	49-133	12	30
Benzo(g,h,i)perylene	394	500	79	445	500	89	51-124	12	30

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

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

ALS ENVIRONMENTAL

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/22/2013
Sample Matrix:	Ocean water	**Date Analyzed:**	03/26/2013
		Time Analyzed:	09:28

Method Blank Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Instrument ID:**	MS11
Lab Code:	KWG1302653-5	**File ID:**	J:\MS11\DATA\032613\0326F004.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1302653

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG1302653-3	J:\MS11\DATA\032613\0326F017.D	03/26/13	14:21
Duplicate Lab Control Sample	KWG1302653-4	J:\MS11\DATA\032613\0326F018.D	03/26/13	14:47
Batch QCMS	KWG1302653-1	J:\MS11\DATA\032613\0326F019.D	03/26/13	15:14
Batch QCDMS	KWG1302653-2	J:\MS11\DATA\032613\0326F020.D	03/26/13	15:40
Batch QC	K1302525-004	J:\MS11\DATA\032613\0326F021.D	03/26/13	16:06
MT2-DBA-5238-031913-1650	K1302486-001	J:\MS11\DATA\032613\0326F028.D	03/26/13	19:10
MT2-DBB-5279-031913-1730	K1302486-002	J:\MS11\DATA\032613\0326F029.D	03/26/13	19:37

ALS ENVIRONMENTAL

QA/QC Report

Client:	Ash Creek Associates, Inc.	**Service Request:**	K1302486
Project:	T2 Stormwater/1053-02	**Date Extracted:**	03/22/2013
Sample Matrix:	Ocean water	**Date Analyzed:**	03/26/2013
		Time Analyzed:	14:21

Lab Control Sample Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	Lab Control Sample	**Instrument ID:**	MS11
Lab Code:	KWG1302653-3	**File ID:**	J:\MS11\DATA\032613\0326F017.D
Extraction Method:	EPA 3520C	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1302653

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG1302653-5	J:\MS11\DATA\032613\0326F004.D	03/26/13	09:28
Batch QCMS	KWG1302653-1	J:\MS11\DATA\032613\0326F019.D	03/26/13	15:14
Batch QCDMS	KWG1302653-2	J:\MS11\DATA\032613\0326F020.D	03/26/13	15:40
Batch QC	K1302525-004	J:\MS11\DATA\032613\0326F021.D	03/26/13	16:06
MT2-DBA-5238-031913-1650	K1302486-001	J:\MS11\DATA\032613\0326F028.D	03/26/13	19:10
MT2-DBB-5279-031913-1730	K1302486-002	J:\MS11\DATA\032613\0326F029.D	03/26/13	19:37

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02

Service Request: K1302486
Date Analyzed: 03/26/2013
Time Analyzed: 08:06

Tune Summary
Polynuclear Aromatic Hydrocarbons

File ID: J:\MS11\DATA\032613\0326F001.D
Instrument ID: MS11
Column:

Analysis Method: 8270D SIM
Analysis Lot: KWG1302856

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	55.4	69216	PASS
68	69	0	2	0.0	0	PASS
69	198	0	100	52.6	65728	PASS
70	69	0	2	0.0	0	PASS
127	198	10	80	53.9	67272	PASS
197	198	0	2	0.0	0	PASS
198	442	30	100	62.6	124880	PASS
199	198	5	9	6.8	8502	PASS
275	198	10	60	32.4	40504	PASS
365	442	1	50	3.5	6968	PASS
441	443	0	100	72.5	28776	PASS
442	442	100	100	100.0	199488	PASS
443	442	15	24	19.9	39688	PASS

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed	Q
Continuing Calibration Verification	KWG1302856-2	J:\MS11\DATA\032613\0326F002.D	03/26/2013	08:33	
Method Blank	KWG1302653-5	J:\MS11\DATA\032613\0326F004.D	03/26/2013	09:28	
Lab Control Sample	KWG1302653-3	J:\MS11\DATA\032613\0326F017.D	03/26/2013	14:21	
Duplicate Lab Control Sample	KWG1302653-4	J:\MS11\DATA\032613\0326F018.D	03/26/2013	14:47	
Batch QCMS	KWG1302653-1	J:\MS11\DATA\032613\0326F019.D	03/26/2013	15:14	
Batch QCDMS	KWG1302653-2	J:\MS11\DATA\032613\0326F020.D	03/26/2013	15:40	
Batch QC	K1302525-004	J:\MS11\DATA\032613\0326F021.D	03/26/2013	16:06	
MT2-DBA-5238-031913-1650	K1302486-001	J:\MS11\DATA\032613\0326F028.D	03/26/2013	19:10	
MT2-DBB-5279-031913-1730	K1302486-002	J:\MS11\DATA\032613\0326F029.D	03/26/2013	19:37	

Results flagged with an asterisk (*) indicate the analysis performed outside specified tune window

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 02/22/2013

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12269 **Column:** MS
Instrument ID: MS11

Level ID	File ID	Level ID	File ID
A	J:\MS11\DATA\022213\0222F003.D	F	J:\MS11\DATA\022213\0222F009.D
B	J:\MS11\DATA\022213\0222F004.D	G	J:\MS11\DATA\022213\0222F010.D
C	J:\MS11\DATA\022213\0222F006.D	H	J:\MS11\DATA\022213\0222F011.D
D	J:\MS11\DATA\022213\0222F007.D	I	J:\MS11\DATA\022213\0222F012.D
E	J:\MS11\DATA\022213\0222F008.D		

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Naphthalene	A	2.0	1.33	B	8.0	0.979	C	20	1.08	D	100	1.02	E	200	1.04
	F	400	1.03	G	1000	0.984	H	1600	0.950	I	2000	0.950			
2-Methylnaphthalene	A	2.0	0.879	B	8.0	0.678	C	20	0.744	D	100	0.744	E	200	0.757
	F	400	0.743	G	1000	0.728	H	1600	0.709	I	2000	0.711			
Acenaphthylene	A	2.0	1.71	B	8.0	1.61	C	20	1.76	D	100	1.82	E	200	1.88
	F	400	1.89	G	1000	1.85	H	1600	1.80	I	2000	1.79			
Acenaphthene	A	2.0	1.11	B	8.0	1.04	C	20	1.11	D	100	1.12	E	200	1.14
	F	400	1.11	G	1000	1.09	H	1600	1.06	I	2000	1.06			
Dibenzofuran	A	2.0	1.79	B	8.0	1.53	C	20	1.70	D	100	1.70	E	200	1.72
	F	400	1.70	G	1000	1.64	H	1600	1.58	I	2000	1.58			
Fluorene	A	2.0	1.32	B	8.0	1.23	C	20	1.36	D	100	1.40	E	200	1.41
	F	400	1.40	G	1000	1.34	H	1600	1.31	I	2000	1.31			
Phenanthrene	A	2.0	1.33	B	8.0	0.978	C	20	1.06	D	100	1.04	E	200	1.05
	F	400	1.04	G	1000	1.03	H	1600	0.961	I	2000	0.966			
Anthracene	A	2.0	0.986	B	8.0	0.855	C	20	1.01	D	100	1.03	E	200	1.09
	F	400	1.09	G	1000	1.04	H	1600	0.958	I	2000	0.962			
Fluoranthene	A	2.0	1.20	B	8.0	1.04	C	20	1.23	D	100	1.25	E	200	1.29
	F	400	1.27	G	1000	1.16	H	1600	1.10	I	2000	1.08			
Pyrene	A	2.0	1.16	B	8.0	0.905	C	20	1.07	D	100	1.04	E	200	1.07
	F	400	1.01	G	1000	1.02	H	1600	0.987	I	2000	0.998			
Benz(a)anthracene	A	2.0	1.24	B	8.0	0.959	C	20	1.01	D	100	0.955	E	200	0.994
	F	400	0.975	G	1000	1.01	H	1600	1.01	I	2000	1.01			
Chrysene	A	2.0	0.953	B	8.0	0.893	C	20	1.02	D	100	0.994	E	200	1.02
	F	400	0.983	G	1000	0.970	H	1600	0.959	I	2000	0.969			
Benzo(b)fluoranthene	A	2.0	1.20	B	8.0	1.10	C	20	1.15	D	100	1.11	E	200	1.16
	F	400	1.15	G	1000	1.19	H	1600	1.15	I	2000	1.18			
Benzo(k)fluoranthene	A	2.0	0.999	B	8.0	0.939	C	20	1.10	D	100	1.10	E	200	1.16
	F	400	1.15	G	1000	1.14	H	1600	1.11	I	2000	1.09			

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 02/22/2013

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12269 **Column:** MS
Instrument ID: MS11

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Benzo(a)pyrene	A	2.0	0.741	B	8.0	0.688	C	20	0.821	D	100	0.890	E	200	0.956
	F	400	0.982	G	1000	1.03	H	1600	1.02	I	2000	1.03			
Indeno(1,2,3-cd)pyrene	A	2.0	0.740	B	8.0	0.676	C	20	0.736	D	100	0.762	E	200	0.808
	F	400	0.829	G	1000	0.859	H	1600	0.857	I	2000	0.867			
Dibenz(a,h)anthracene	A	2.0	0.849	B	8.0	0.807	C	20	0.845	D	100	0.875	E	200	0.927
	F	400	0.920	G	1000	0.952	H	1600	0.950	I	2000	0.959			
Benzo(g,h,i)perylene	A	2.0	1.07	B	8.0	0.965	C	20	1.05	D	100	1.03	E	200	1.08
	F	400	1.04	G	1000	1.04	H	1600	1.01	I	2000	1.01			
Fluorene-d10	A	2.0	1.35	B	8.0	1.06	C	20	1.20	D	100	1.21	E	200	1.25
	F	400	1.24	G	1000	1.21	H	1600	1.20	I	2000	1.20			
Fluoranthene-d10				B	8.0	0.957	C	20	1.10	D	100	1.12	E	200	1.17
	F	400	1.20	G	1000	1.17	H	1600	1.10	I	2000	1.12			
Terphenyl-d14				B	8.0	0.685	C	20	0.836	D	100	0.788	E	200	0.800
	F	400	0.778	G	1000	0.789	H	1600	0.778	I	2000	0.791			

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

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

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Calibration Date:** 02/22/2013

Initial Calibration Summary
Polynuclear Aromatic Hydrocarbons

Calibration ID: CAL12269 **Column:** MS
Instrument ID: MS11

		Calibration Evaluation					RRF Evaluation		
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Naphthalene	MS	AverageRF	% RSD	11.3		≤ 20	1.04		0.70
2-Methylnaphthalene	MS	AverageRF	% RSD	7.5		≤ 20	0.744		0.40
Acenaphthylene	MS	AverageRF	% RSD	4.9		≤ 20	1.79		0.90
Acenaphthene	MS	AverageRF	% RSD	3.0		≤ 20	1.09		0.90
Dibenzofuran	MS	AverageRF	% RSD	5.1		≤ 20	1.66		0.80
Fluorene	MS	AverageRF	% RSD	4.2		≤ 20	1.34		0.90
Phenanthrene	MS	AverageRF	% RSD	10.6		≤ 20	1.05		0.70
Anthracene	MS	AverageRF	% RSD	7.4		≤ 20	1.00		0.70
Fluoranthene	MS	AverageRF	% RSD	7.8		≤ 20	1.18		0.60
Pyrene	MS	AverageRF	% RSD	6.7		≤ 20	1.03		0.60
Benz(a)anthracene	MS	AverageRF	% RSD	8.5		≤ 20	1.02		0.80
Chrysene	MS	AverageRF	% RSD	4.1		≤ 20	0.974		0.70
Benzo(b)fluoranthene	MS	AverageRF	% RSD	2.9		≤ 20	1.15		0.70
Benzo(k)fluoranthene	MS	AverageRF	% RSD	6.7		≤ 20	1.09		0.70
Benzo(a)pyrene	MS	AverageRF	% RSD	14.2		≤ 20	0.906		0.70
Indeno(1,2,3-cd)pyrene	MS	AverageRF	% RSD	8.5		≤ 20	0.793		0.50
Dibenz(a,h)anthracene	MS	AverageRF	% RSD	6.2		≤ 20	0.898		0.40
Benzo(g,h,i)perylene	MS	AverageRF	% RSD	3.3		≤ 20	1.03		0.50
Fluorene-d10	SURR	AverageRF	% RSD	6.0		≤ 20	1.21		0.01
Fluoranthene-d10	SURR	AverageRF	% RSD	6.7		≤ 20	1.12		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	5.5		≤ 20	0.781		0.01

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

† SPCC Compound **‡ CCC Compound**

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02

Service Request: K1302486
Calibration Date: 02/22/2013
Date Analyzed: 02/22/2013

Second Source Calibration Verification
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard
Analysis Method: 8270D SIM

Calibration ID: CAL12269
Units: ng/ml

File ID: J:\MS11\DATA\022213\0222F013.D
J:\MS11\DATA\022213\0222F014.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	360	1.04	0.942	-9	NA	± 30 %	AverageRF
2-Methylnaphthalene	400	350	0.744	0.655	-12	NA	± 30 %	AverageRF
Acenaphthylene	400	380	1.79	1.71	-5	NA	± 30 %	AverageRF
Acenaphthene	400	370	1.09	1.02	-7	NA	± 30 %	AverageRF
Dibenzofuran	400	370	1.66	1.54	-7	NA	± 30 %	AverageRF
Fluorene	400	380	1.34	1.27	-5	NA	± 30 %	AverageRF
Phenanthrene	400	370	1.05	0.967	-8	NA	± 30 %	AverageRF
Anthracene	400	400	1.00	0.995	-1	NA	± 30 %	AverageRF
Fluoranthene	400	380	1.18	1.13	-5	NA	± 30 %	AverageRF
Pyrene	400	360	1.03	0.927	-10	NA	± 30 %	AverageRF
Benz(a)anthracene	400	350	1.02	0.881	-13	NA	± 30 %	AverageRF
Chrysene	400	360	0.974	0.873	-10	NA	± 30 %	AverageRF
Benzo(b)fluoranthene	400	380	1.15	1.09	-6	NA	± 30 %	AverageRF
Benzo(k)fluoranthene	400	410	1.09	1.11	2	NA	± 30 %	AverageRF
Benzo(a)pyrene	400	410	0.906	0.923	2	NA	± 30 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	370	0.793	0.732	-8	NA	± 30 %	AverageRF
Dibenz(a,h)anthracene	400	370	0.898	0.827	-8	NA	± 30 %	AverageRF
Benzo(g,h,i)perylene	400	360	1.03	0.943	-9	NA	± 30 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02 **Date Analyzed:** 03/26/2013

Continuing Calibration Verification Summary
Polynuclear Aromatic Hydrocarbons

Calibration Type: Internal Standard **Calibration Date:** 02/22/2013
Analysis Method: 8270D SIM **Calibration ID:** CAL12269
Analysis Lot: KWG1302856
Units: ng/ml

File ID: J:\MS11\DATA\032613\0326F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Naphthalene	400	350	0.70	1.04	0.915	-12	NA	± 20 %	AverageRF
2-Methylnaphthalene	400	350	0.40	0.744	0.650	-13	NA	± 20 %	AverageRF
Acenaphthylene	400	380	0.90	1.79	1.72	-4	NA	± 20 %	AverageRF
Acenaphthene	400	370	0.90	1.09	1.00	-8	NA	± 20 %	AverageRF
Dibenzofuran	400	370	0.80	1.66	1.53	-8	NA	± 20 %	AverageRF
Fluorene	400	380	0.90	1.34	1.26	-6	NA	± 20 %	AverageRF
Phenanthrene	400	360	0.70	1.05	0.941	-10	NA	± 20 %	AverageRF
Anthracene	400	390	0.70	1.00	0.971	-3	NA	± 20 %	AverageRF
Fluoranthene	400	370	0.60	1.18	1.10	-7	NA	± 20 %	AverageRF
Pyrene	400	380	0.60	1.03	0.983	-4	NA	± 20 %	AverageRF
Benz(a)anthracene	400	380	0.80	1.02	0.954	-6	NA	± 20 %	AverageRF
Chrysene	400	380	0.70	0.974	0.923	-5	NA	± 20 %	AverageRF
Benzo(b)fluoranthene	400	390	0.70	1.15	1.12	-3	NA	± 20 %	AverageRF
Benzo(k)fluoranthene	400	390	0.70	1.09	1.07	-2	NA	± 20 %	AverageRF
Benzo(a)pyrene	400	430	0.70	0.906	0.968	7	NA	± 20 %	AverageRF
Indeno(1,2,3-cd)pyrene	400	440	0.50	0.793	0.877	11	NA	± 20 %	AverageRF
Dibenz(a,h)anthracene	400	420	0.40	0.898	0.940	5	NA	± 20 %	AverageRF
Benzo(g,h,i)perylene	400	400	0.50	1.03	1.03	0	NA	± 20 %	AverageRF
Fluorene-d10	400	400	0.01	1.21	1.23	1	NA	± 20 %	AverageRF
Fluoranthene-d10	400	410	0.01	1.12	1.14	2	NA	± 20 %	AverageRF
Terphenyl-d14	400	390	0.01	0.781	0.768	-2	NA	± 20 %	AverageRF

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

† SPCC Compound **‡ CCC Compound**

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc. **Service Request:** K1302486
Project: T2 Stormwater/1053-02

Analysis Run Log
Polynuclear Aromatic Hydrocarbons

Analysis Method: 8270D SIM **Analysis Lot:** KWG1302856
Instrument ID: MS11

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0326F001.D	GC/MS Tuning - Decafluorotriphenylphosph	KWG1302856-1	3/26/2013	08:06		3/26/2013	08:26
0326F002.D	Continuing Calibration Verification	KWG1302856-2	3/26/2013	08:33		3/26/2013	08:52
0326F003.D	ZZZZZZ	ZZZZZZ	3/26/2013	09:01		3/26/2013	09:20
0326F004.D	Method Blank	KWG1302653-5	3/26/2013	09:28		3/26/2013	09:47
0326F005.D	ZZZZZZ	ZZZZZZ	3/26/2013	09:55		3/26/2013	10:14
0326F006.D	ZZZZZZ	ZZZZZZ	3/26/2013	10:22		3/26/2013	10:41
0326F007.D	ZZZZZZ	ZZZZZZ	3/26/2013	10:48		3/26/2013	11:07
0326F008.D	ZZZZZZ	ZZZZZZ	3/26/2013	11:15		3/26/2013	11:34
0326F009.D	ZZZZZZ	ZZZZZZ	3/26/2013	11:42		3/26/2013	12:01
0326F015.D	ZZZZZZ	ZZZZZZ	3/26/2013	13:28		3/26/2013	13:47
0326F016.D	ZZZZZZ	ZZZZZZ	3/26/2013	13:54		3/26/2013	14:13
0326F017.D	Lab Control Sample	KWG1302653-3	3/26/2013	14:21		3/26/2013	14:40
0326F018.D	Duplicate Lab Control Sample	KWG1302653-4	3/26/2013	14:47		3/26/2013	15:06
0326F019.D	Batch QCMS	KWG1302653-1	3/26/2013	15:14		3/26/2013	15:33
0326F020.D	Batch QCDMS	KWG1302653-2	3/26/2013	15:40		3/26/2013	15:59
0326F021.D	Batch QC	K1302525-004	3/26/2013	16:06		3/26/2013	16:25
0326F022.D	ZZZZZZ	ZZZZZZ	3/26/2013	16:32		3/26/2013	16:51
0326F023.D	ZZZZZZ	ZZZZZZ	3/26/2013	16:59		3/26/2013	17:18
0326F024.D	ZZZZZZ	ZZZZZZ	3/26/2013	17:25		3/26/2013	17:44
0326F025.D	ZZZZZZ	ZZZZZZ	3/26/2013	17:51		3/26/2013	18:10
0326F026.D	ZZZZZZ	ZZZZZZ	3/26/2013	18:18		3/26/2013	18:37
0326F027.D	ZZZZZZ	ZZZZZZ	3/26/2013	18:44		3/26/2013	19:03
0326F028.D	MT2-DBA-5238-031913-1650	K1302486-001	3/26/2013	19:10		3/26/2013	19:29
0326F029.D	MT2-DBB-5279-031913-1730	K1302486-002	3/26/2013	19:37		3/26/2013	19:56

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

ALS ENVIRONMENTAL

QA/QC Results

Client: Ash Creek Associates, Inc.
Project: T2 Stormwater/1053-02
Sample Matrix: Water

Service Request: K1302486
Date Extracted: 03/22/2013

Extraction Prep Log
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3520C
Analysis Method: 8270D SIM

Extraction Lot: KWG1302653
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MT2-DBA-5238-031913-1650	K1302486-001	03/19/13	03/20/13	920ml	1ml	NA	
MT2-DBB-5279-031913-1730	K1302486-002	03/19/13	03/20/13	990ml	1ml	NA	
Method Blank	KWG1302653-5	NA	NA	1060ml	1ml	NA	
Batch QC	K1302525-004	NA	NA	1060ml	1ml	NA	
Batch QCMS	KWG1302653-1	NA	NA	1060ml	1ml	NA	
Batch QCDMS	KWG1302653-2	NA	NA	1060ml	1ml	NA	
Lab Control Sample	KWG1302653-3	NA	NA	1000ml	1ml	NA	
Duplicate Lab Control Sample	KWG1302653-4	NA	NA	1000ml	1ml	NA	

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

Specialty Analytical

11711 SE Capps Road, Ste B
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

April 11, 2013

Michael Pickering
Apex Companies, LLC
3015 SW First Avenue
Portland, OR 97201

TEL: (503) 924-4704
FAX (503) 924-4707

RE: T2 Storm Water / 1995-00.001

Dear Michael Pickering: Order No.: 1304033

Specialty Analytical received 3 sample(s) on 4/4/2013 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Marty French
Lab Director

Specialty Analytical

Date Reported: 11-Apr-13

CLIENT: Apex Companies, LLC
Collection Date: 4/4/2013 1:00:00 PM
Project: T2 Storm Water / 1995-00.001
Lab ID: 1304033-001
Client Sample ID: MT2-DBA-5198-040413-1300
Matrix: STORM WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS- TOTAL RECOVERABLE		**E200.7**				Analyst: **CT**
Aluminum	0.297	0.0500		mg/L	1	4/9/2013 3:47:25 PM
Cadmium	ND	0.00100		mg/L	1	4/9/2013 3:47:25 PM
Chromium	ND	0.00500		mg/L	1	4/9/2013 3:47:25 PM
Copper	ND	0.0100		mg/L	1	4/9/2013 3:47:25 PM
Iron	0.703	0.0100		mg/L	1	4/9/2013 3:47:25 PM
Lead	ND	0.0200		mg/L	1	4/9/2013 3:47:25 PM
Nickel	ND	0.00500		mg/L	1	4/9/2013 3:47:25 PM
Zinc	0.0650	0.0100		mg/L	1	4/9/2013 3:47:25 PM
PH		**SM 4500-H+ B**				Analyst: **AT**
pH	5.98	0	HT	pH Units	1	4/4/2013 4:38:00 PM
HEM/SGT PER EPA 1664		**E1664**				Analyst: **jrp**
HEM (Total Hexane Extractable Material)	ND	4.75		mg/L	1	4/5/2013 10:30:00 AM
TOTAL SUSPENDED SOLIDS		**M2540 D**				Analyst: **AT**
Total Suspended Solids	ND	5.00		mg/L	1	4/9/2013 5:24:00 PM

Specialty Analytical

Date Reported: 11-Apr-13

CLIENT: Apex Companies, LLC
Collection Date: 4/4/2013 12:40:00 PM
Project: T2 Storm Water / 1995-00.001
Lab ID: 1304033-002
Client Sample ID: MT2-DBB-5279-040413-1240
Matrix: STORM WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS- TOTAL RECOVERABLE		**E200.7**				Analyst: **CT**
Aluminum	0.267	0.0500		mg/L	1	4/9/2013 3:52:02 PM
Cadmium	ND	0.00100		mg/L	1	4/9/2013 3:52:02 PM
Chromium	ND	0.00500		mg/L	1	4/9/2013 3:52:02 PM
Copper	0.0107	0.0100		mg/L	1	4/9/2013 3:52:02 PM
Iron	0.478	0.0100		mg/L	1	4/9/2013 3:52:02 PM
Lead	ND	0.0200		mg/L	1	4/9/2013 3:52:02 PM
Nickel	ND	0.00500		mg/L	1	4/9/2013 3:52:02 PM
Zinc	0.121	0.0100		mg/L	1	4/9/2013 3:52:02 PM
PH		**SM 4500-H+ B**				Analyst: **AT**
pH	5.98	0	HT	pH Units	1	4/4/2013 4:48:00 PM
HEM/SGT PER EPA 1664		**E1664**				Analyst: **jrp**
HEM (Total Hexane Extractable Material)	ND	4.75		mg/L	1	4/5/2013 10:40:00 AM
TOTAL SUSPENDED SOLIDS		**M2540 D**				Analyst: **AT**
Total Suspended Solids	ND	5.00		mg/L	1	4/9/2013 5:26:00 PM

Specialty Analytical

Date Reported: 11-Apr-13

CLIENT: Apex Companies, LLC
Collection Date: 4/4/2013 12:00:00 PM
Project: T2 Storm Water / 1995-00.001
Lab ID: 1304033-003
Client Sample ID: MT2-DDS-B206-040413-1200
Matrix: STORM WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
ICP METALS- TOTAL RECOVERABLE		**E200.7**				Analyst: **CT**
Aluminum	0.233	0.0500		mg/L	1	4/9/2013 3:24:52 PM
Cadmium	ND	0.00100		mg/L	1	4/9/2013 3:24:52 PM
Chromium	0.0174	0.00500		mg/L	1	4/9/2013 3:24:52 PM
Copper	0.0253	0.0100		mg/L	1	4/9/2013 3:24:52 PM
Iron	2.28	0.0100		mg/L	1	4/9/2013 3:24:52 PM
Lead	ND	0.0200		mg/L	1	4/9/2013 3:24:52 PM
Nickel	ND	0.00500		mg/L	1	4/9/2013 3:24:52 PM
Zinc	0.0214	0.0100		mg/L	1	4/9/2013 3:24:52 PM
PH		**SM 4500-H+ B**				Analyst: **AT**
pH	7.56	0	HT	pH Units	1	4/4/2013 5:08:00 PM
HEM/SGT PER EPA 1664		**E1664**				Analyst: **jrp**
HEM (Total Hexane Extractable Material)	ND	4.75		mg/L	1	4/5/2013 10:50:00 AM
TOTAL SUSPENDED SOLIDS		**M2540 D**				Analyst: **AT**
Total Suspended Solids	6.00	5.00		mg/L	1	4/9/2013 5:28:00 PM

QC SUMMARY REPORT

WO#: **1304033**

Specialty Analytical

11-Apr-13

Client: Apex Companies, LLC

Project: T2 Storm Water / 1995-00.001 **TestCode:** **1664_SPE**

Sample ID: **MB-R9119** SampType: **MBLK** TestCode: **1664_SPE** Units: **mg/L** Prep Date: RunNo: **9119**

Client ID: **PBW** Batch ID: **R9119** TestNo: **E1664** Analysis Date: **4/5/2013** SeqNo: **113637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
HEM (Total Hexane Extractable Materia	ND	5.00									

Sample ID: **LCS-R9119** SampType: **LCS** TestCode: **1664_SPE** Units: **mg/L** Prep Date: RunNo: **9119**

Client ID: **LCSW** Batch ID: **R9119** TestNo: **E1664** Analysis Date: **4/5/2013** SeqNo: **113638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
HEM (Total Hexane Extractable Materia	31.2	5.00	40.00	0	78.0	78	114				

Sample ID: **LCSD-R9119** SampType: **LCSD** TestCode: **1664_SPE** Units: **mg/L** Prep Date: RunNo: **9119**

Client ID: **LCSS02** Batch ID: **R9119** TestNo: **E1664** Analysis Date: **4/5/2013** SeqNo: **113639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
HEM (Total Hexane Extractable Materia	34.4	5.00	40.00	0	86.0	78	114	31.20	9.76	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

WO#: **1304033**

Specialty Analytical

11-Apr-13

Client: Apex Companies, LLC

Project: T2 Storm Water / 1995-00.001 **TestCode:** **200.7**

Sample ID: **ICV** SampType: **ICV** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **9165**

Client ID: **ICV** Batch ID: **4829** TestNo: **E200.7** **E200.7** Analysis Date: **4/9/2013** SeqNo: **114216**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.46	0.0500	2.500	0	98.5	95	105				
Cadmium	0.0496	0.00100	0.05000	0	99.2	95	105				
Chromium	0.245	0.00500	0.2500	0	98.0	95	105				
Copper	0.505	0.0100	0.5000	0	101	95	105				
Iron	0.510	0.0100	0.5000	0	102	95	105				
Lead	1.00	0.0200	1.000	0	100	95	105				
Nickel	0.258	0.00500	0.2500	0	103	95	105				
Zinc	0.499	0.0100	0.5000	0	99.9	95	105				

Sample ID: **MB-4829** SampType: **MBLK** TestCode: **200.7** Units: **mg/L** Prep Date: **4/9/2013** RunNo: **9165**

Client ID: **PBW** Batch ID: **4829** TestNo: **E200.7** **E200.7** Analysis Date: **4/9/2013** SeqNo: **114217**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.0500									
Cadmium	ND	0.00100									
Chromium	ND	0.00500									
Copper	ND	0.0100									
Iron	ND	0.0100									
Lead	ND	0.0200									
Nickel	ND	0.00500									
Zinc	ND	0.0100									

Qualifiers:
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

WO#: **1304033**

Specialty Analytical

11-Apr-13

Client: Apex Companies, LLC

Project: T2 Storm Water / 1995-00.001 **TestCode:** **200.7**

Sample ID: **LCS-4829** SampType: **LCS** TestCode: **200.7** Units: **mg/L** Prep Date: **4/9/2013** RunNo: **9165**

Client ID: **LCSW** Batch ID: **4829** TestNo: **E200.7** **E200.7** Analysis Date: **4/9/2013** SeqNo: **114218**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.57	0.0500	2.500	0	103	85	115				
Cadmium	0.0516	0.00100	0.05000	0	103	91.8	115				
Chromium	0.257	0.00500	0.2500	0	103	93.9	113				
Copper	0.512	0.0100	0.5000	0	102	89.7	117				
Iron	0.540	0.0100	0.5000	0	108	86.2	117				
Lead	1.07	0.0200	1.000	0	107	93.1	112				
Nickel	0.273	0.00500	0.2500	0	109	93.4	111				
Zinc	0.525	0.0100	0.5000	0	105	92.3	111				

Sample ID: **1304033-003CDUP** SampType: **DUP** TestCode: **200.7** Units: **mg/L** Prep Date: **4/9/2013** RunNo: **9165**

Client ID: **MT2-DDS-B206-0404** Batch ID: **4829** TestNo: **E200.7** **E200.7** Analysis Date: **4/9/2013** SeqNo: **114220**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.237	0.0500						0.2332	1.74	20	
Cadmium	ND	0.00100						0	0	20	
Chromium	0.0154	0.00500						0.01740	12.2	20	
Copper	0.0271	0.0100						0.02530	6.87	20	
Iron	2.32	0.0100						2.285	1.35	20	
Lead	ND	0.0200						0	0	20	
Nickel	ND	0.00500						0	0	20	
Zinc	0.0213	0.0100						0.02140	0.468	20	

Qualifiers:
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

WO#: **1304033**

Specialty Analytical

11-Apr-13

Client: Apex Companies, LLC

Project: T2 Storm Water / 1995-00.001 **TestCode: 200.7**

Sample ID: **1304033-003CMS** SampType: **MS** TestCode: **200.7** Units: **mg/L** Prep Date: **4/9/2013** RunNo: **9165**

Client ID: **MT2-DDS-B206-0404** Batch ID: **4829** TestNo: **E200.7** **E200.7** Analysis Date: **4/9/2013** SeqNo: **114221**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.12	0.0500	2.500	0.2332	116	83.8	125				
Cadmium	0.0516	0.00100	0.05000	0	103	93.4	115				
Chromium	0.284	0.00500	0.2500	0.01740	107	93.4	112				
Copper	0.558	0.0100	0.5000	0.02530	107	92.7	114				
Iron	2.93	0.0100	0.5000	2.285	130	75	125				SMC
Lead	1.12	0.0200	1.000	0	112	91.9	112				SRP
Nickel	0.284	0.00500	0.2500	0.003000	112	88.5	112				SRP
Zinc	0.572	0.0100	0.5000	0.02140	110	93	110				SRP

Sample ID: **1304033-003CMSD** SampType: **MSD** TestCode: **200.7** Units: **mg/L** Prep Date: **4/9/2013** RunNo: **9165**

Client ID: **MT2-DDS-B206-0404** Batch ID: **4829** TestNo: **E200.7** **E200.7** Analysis Date: **4/9/2013** SeqNo: **114222**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.10	0.0500	2.500	0.2332	115	83.8	125	3.121	0.707	20	
Cadmium	0.0512	0.00100	0.05000	0	102	93.4	115	0.05160	0.778	20	
Chromium	0.280	0.00500	0.2500	0.01740	105	93.4	112	0.2838	1.38	20	
Copper	0.560	0.0100	0.5000	0.02530	107	92.7	114	0.5583	0.375	20	
Iron	2.92	0.0100	0.5000	2.285	127	75	125	2.933	0.410	20	SMC
Lead	1.11	0.0200	1.000	0	111	91.9	112	1.120	1.17	20	
Nickel	0.284	0.00500	0.2500	0.003000	113	88.5	112	0.2837	0.282	20	SRP
Zinc	0.568	0.0100	0.5000	0.02140	109	93	110	0.5718	0.632	20	

Qualifiers:
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

WO#: **1304033**

Specialty Analytical

11-Apr-13

Client: Apex Companies, LLC

Project: T2 Storm Water / 1995-00.001 **TestCode:** **200.7**

Sample ID: **CCV** SampType: **CCV** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **9165**

Client ID: **CCV** Batch ID: **4829** TestNo: **E200.7** **E200.7** Analysis Date: **4/9/2013** SeqNo: **114226**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.48	0.0500	2.500	0	99.4	90	110				
Cadmium	0.0505	0.00100	0.05000	0	101	90	110				
Chromium	0.259	0.00500	0.2500	0	103	90	110				
Copper	0.493	0.0100	0.5000	0	98.6	90	110				
Iron	0.521	0.0100	0.5000	0	104	90	110				
Lead	1.02	0.0200	1.000	0	102	90	110				
Nickel	0.261	0.00500	0.2500	0	104	90	110				
Zinc	0.510	0.0100	0.5000	0	102	90	110				

Sample ID: **CCV** SampType: **CCV** TestCode: **200.7** Units: **mg/L** Prep Date: RunNo: **9165**

Client ID: **CCV** Batch ID: **4829** TestNo: **E200.7** **E200.7** Analysis Date: **4/9/2013** SeqNo: **114244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.57	0.0500	2.500	0	103	90	110				
Cadmium	0.0513	0.00100	0.05000	0	103	90	110				
Chromium	0.253	0.00500	0.2500	0	101	90	110				
Copper	0.503	0.0100	0.5000	0	101	90	110				
Iron	0.526	0.0100	0.5000	0	105	90	110				
Lead	1.02	0.0200	1.000	0	102	90	110				
Nickel	0.262	0.00500	0.2500	0	105	90	110				
Zinc	0.515	0.0100	0.5000	0	103	90	110				

Qualifiers:
B Analyte detected in the associated Method Blank
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

WO#: **1304033**

Specialty Analytical

11-Apr-13

Client: Apex Companies, LLC

Project: T2 Storm Water / 1995-00.001

TestCode: **PH_CWA**

Sample ID: **1304033-002BDUP** SampType: **DUP** TestCode: **PH_CWA** Units: **pH Units** Prep Date: RunNo: **9125**

Client ID: **MT2-DBB-5279-0404** Batch ID: **R9125** TestNo: **SM 4500-H+** Analysis Date: **4/4/2013** SeqNo: **113738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.01	0						5.980	0.500	20	HT

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

WO#: **1304033**

Specialty Analytical

11-Apr-13

Client: Apex Companies, LLC

Project: T2 Storm Water / 1995-00.001

TestCode: **TSS_WW**

Sample ID: **MB-R9164** SampType: **MBLK** TestCode: **TSS_WW** Units: **mg/L** Prep Date: RunNo: **9164**

Client ID: **PBW** Batch ID: **R9164** TestNo: **M2540 D** Analysis Date: **4/9/2013** SeqNo: **114191**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	5.00									

Sample ID: **LCS-R9164** SampType: **LCS** TestCode: **TSS_WW** Units: **mg/L** Prep Date: RunNo: **9164**

Client ID: **LCSW** Batch ID: **R9164** TestNo: **M2540 D** Analysis Date: **4/9/2013** SeqNo: **114192**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	90.0	5.00	100.0	0	90.0	80	105				

Sample ID: **A1304027-006ADUP** SampType: **DUP** TestCode: **TSS_WW** Units: **mg/L** Prep Date: RunNo: **9164**

Client ID: **ZZZZZZ** Batch ID: **R9164** TestNo: **M2540 D** Analysis Date: **4/9/2013** SeqNo: **114214**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	5.00						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	S	Spike Recovery outside accepted recovery limits		

KEY TO FLAGS

Rev. May 12, 2010

A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards

A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.

A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.

A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4 The product appears to be aged or degraded diesel.

B The blank exhibited a positive result great than the reporting limit for this compound.

CN See Case Narrative.

D Result is based from a dilution.

E Result exceeds the calibration range for this compound. The result should be considered as estimate.

F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

G Result may be biased high due to biogenic interferences. Clean up is recommended.

H Sample was analyzed outside recommended holding time.

HT At clients request, samples was analyzed outside of recommended holding time.

J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.

K Diesel result is biased high due to amount of Oil contained in the sample.

L Diesel result is biased high due to amount of Gasoline contained in the sample.

M Oil result is biased high due to amount of Diesel contained in the sample.

MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI Result is outside control limits due to matrix interference.

MSA Value determined by Method of Standard Addition.

O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.

Q Detection levels elevated due to sample matrix.

R RPD control limits were exceeded.

RF Duplicate failed due to result being at or near the method-reporting limit.

RP Matrix spike values exceed established QC limits; post digestion spike is in control.

S Recovery is outside control limits.

SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

* The result for this parameter was greater that the maximum contaminant level of the TCLP regulatory limit.

Ash Creek Associates
A Division of Apex Companies, LLC

APEX

CHAIN OF CUSTODY RECORD

1304035

Client Name: Apex Companies
Address: 3015 SW First Ave
City/State/Zip: Portland, OR 97201

Telephone Number: 503.924.4704
Fax No.: 503.943.6357

Project Manager: Michael Pickering
Project Name: T2 Storm Water
Project Number: ~~4053-02~~ 1995-00.001
Sampler Name: Matt Thomes, Chris Luk

Analytical Lab: Specialty Analytical
Report To: Michael Pickering
Page: 1 of 1

Sample ID / Description	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: Ice	Preservative: HNO_3 (Red Label)	Preservative: HCl (Blue Label)	Preservative: NaOH (Orange Label)	Preservative: H_2SO_4 Plastic (Yellow Label)	Preservative: H_2SO_4 Glass(Yellow Label)	Preservative: None (Black Label)		Matrix: Groundwater	Matrix: Wastewater	Matrix: Drinking Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Matrix: Storm Water	Analyze For: Total Suspended Solids (SM2540 D)	Analyze For: Total aluminum, cadmium, chromium, copper, iron, lead, nickel, and zinc by EPA 200.7	Analyze For: Oil & Grease by EPA 1664A	Analyze For: pH by SM 4500-H+B					RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with report
MT2-DBA-5198-040413-1300	04/04/13	1300	5	X			X		X				X								X	X	X	X	X							X	
MT2-DBB-5279-040413-1240	04/04/13	1240	5	X			X		X				X								X	X	X	X	X							X	
MT2-DDS-B206-040413-1200	04/04/13	1200	5	X			X		X				X								X	X	X	X	X							X	

Special Instructions:

Laboratory Comments:

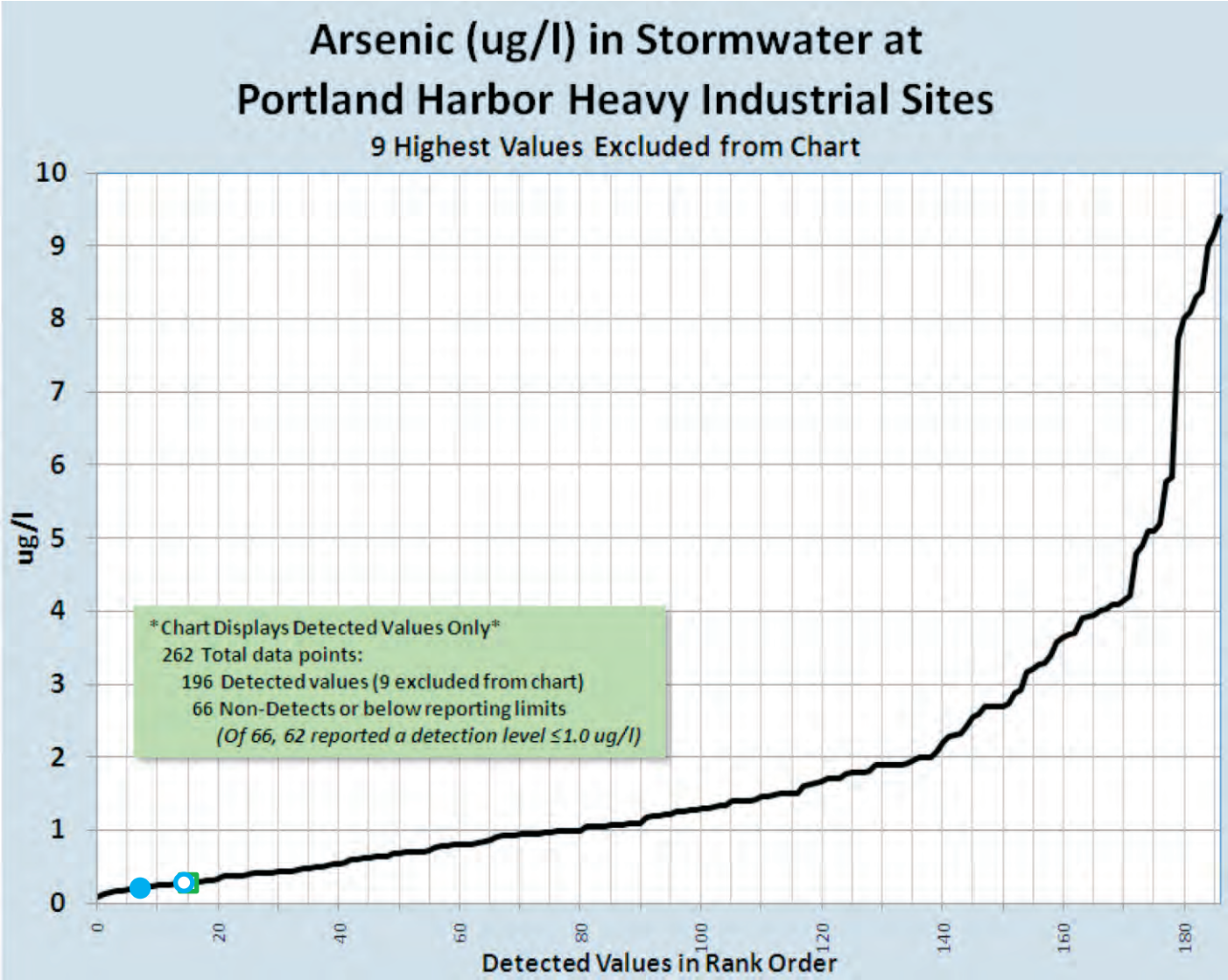
Temperature Upon Receipt:
Sample Containers Intact? Y N
VOCs Free of Headspace? Y N

Method of Shipment:

Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Chris Luk / APEX	4/4/13	16:04	[illegible]	9-4-13	16:04
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time
Relinquished by: Name/Company	Date	Time	Received by: Name/Company	Date	Time

Attachment D

DEQ Storm Water Data Plots



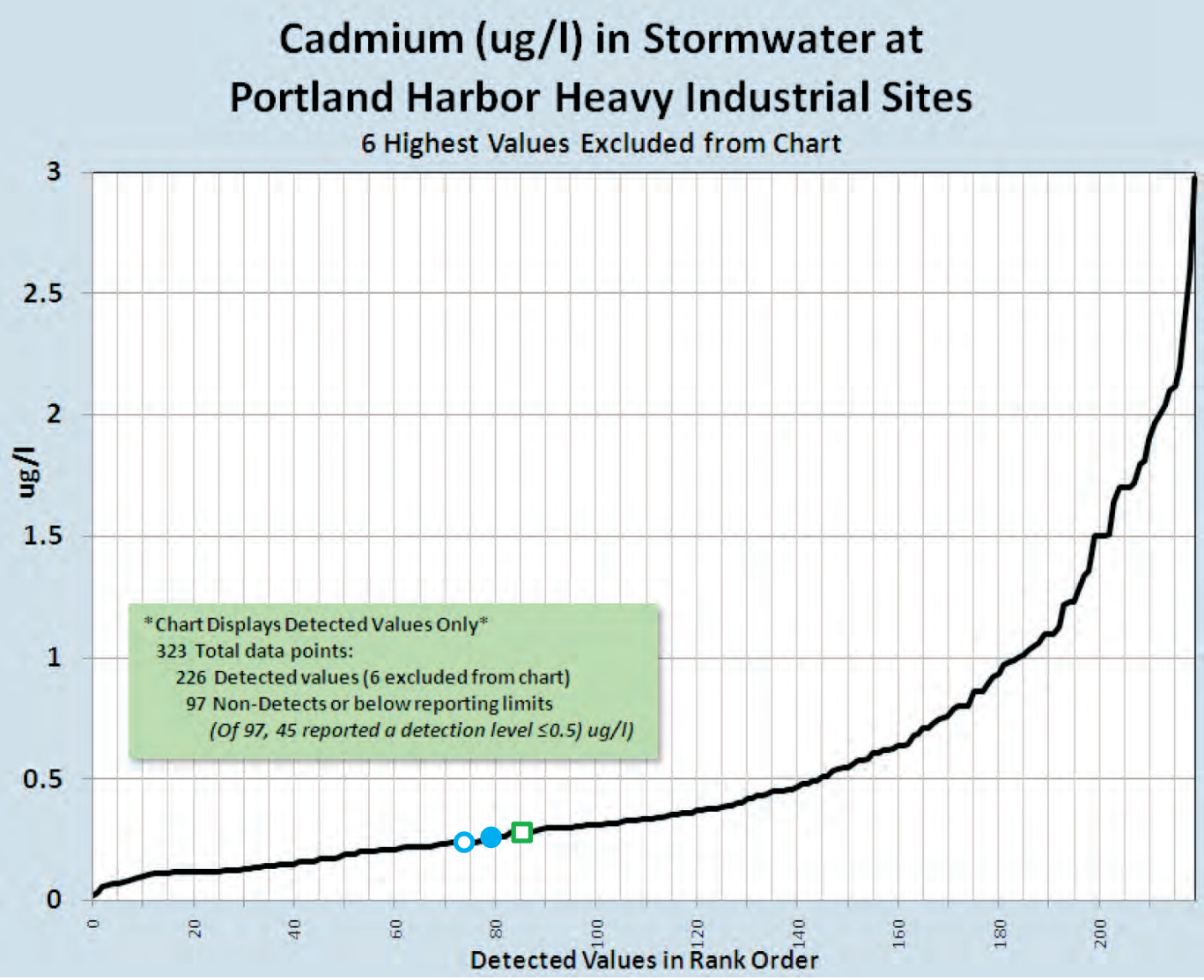
Legend:

- Basin A Average Concentration
- Basin B Average Concentration
- Scupper Average Concentration

Arsenic Plot

Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon

APEX Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	1053-02	Figure
	April 2013		D-1



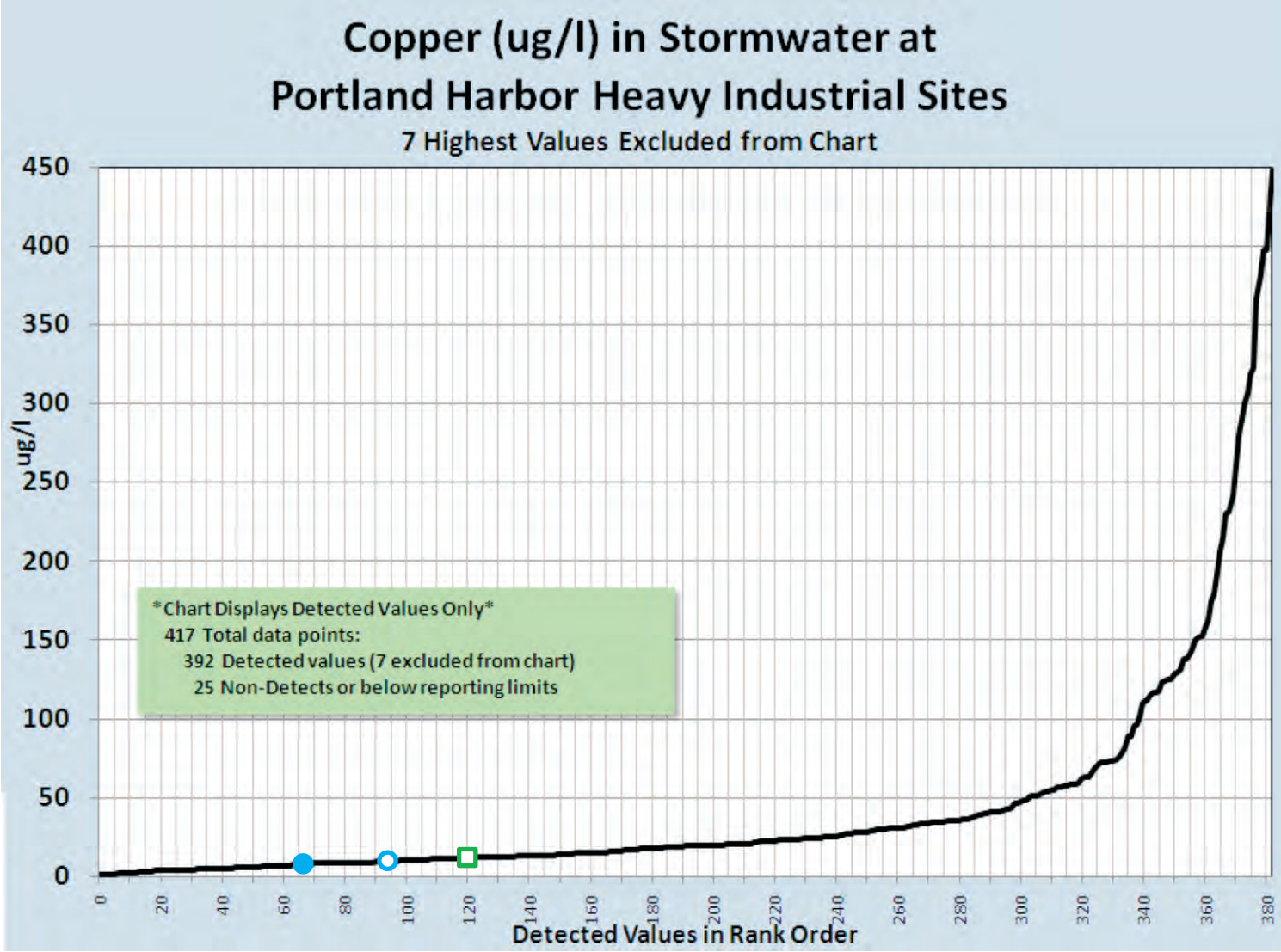
Legend:

- Basin A Average Concentration
- Basin B Average Concentration
- Scupper Average Concentration

Cadmium Plot

Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon

APEX Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	1053-02	Figure
	April 2013		D-2



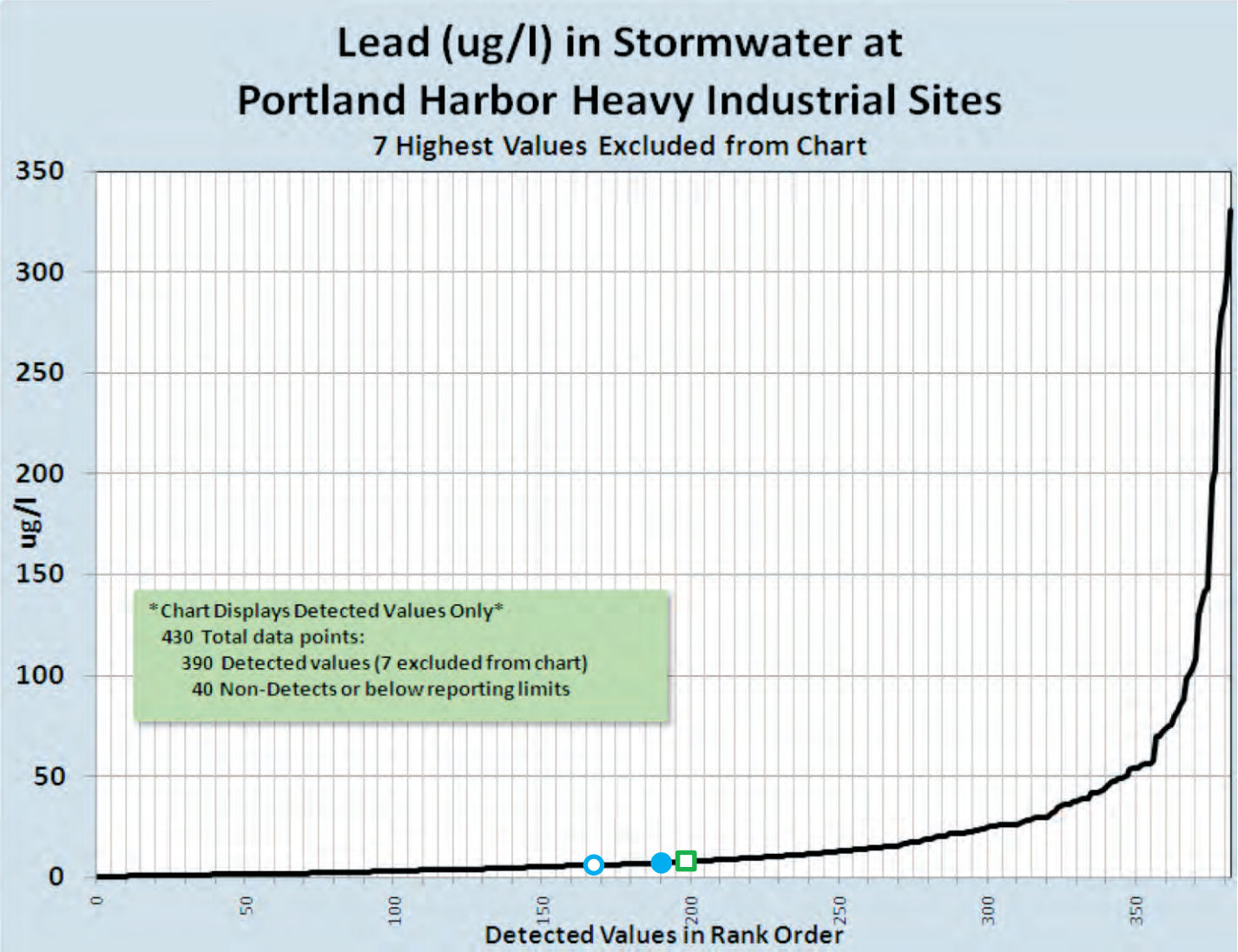
Legend:

- Basin A Average Concentration
- Basin B Average Concentration
- Scupper Average Concentration

Copper Plot

Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon

APEX	Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number 1053-02 April 2013	Figure D-3



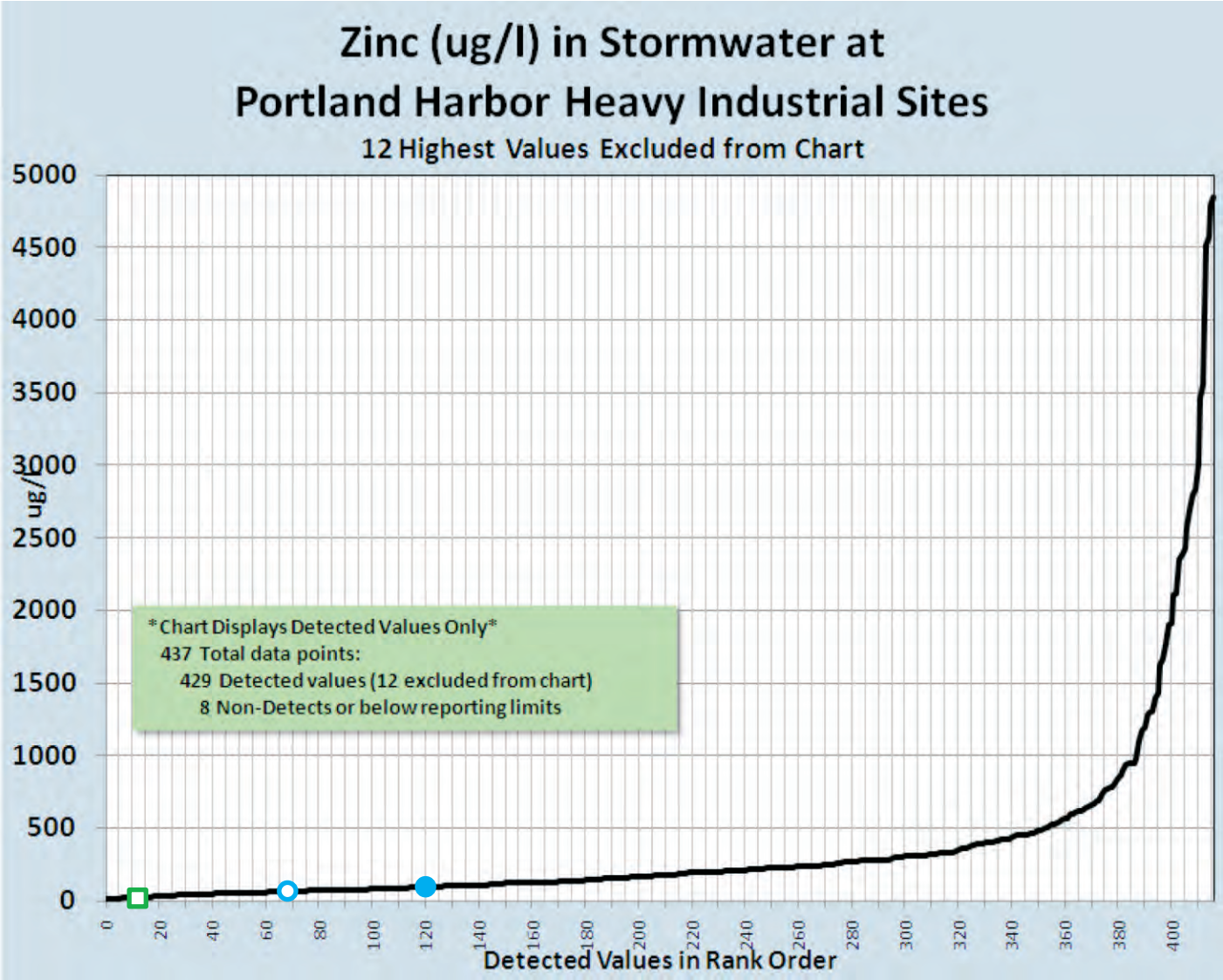
Legend:

- Basin A Average Concentration
- Basin B Average Concentration
- Scupper Average Concentration

Lead Plot

Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon

APEX Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	1053-02	Figure
	April 2013		D-4



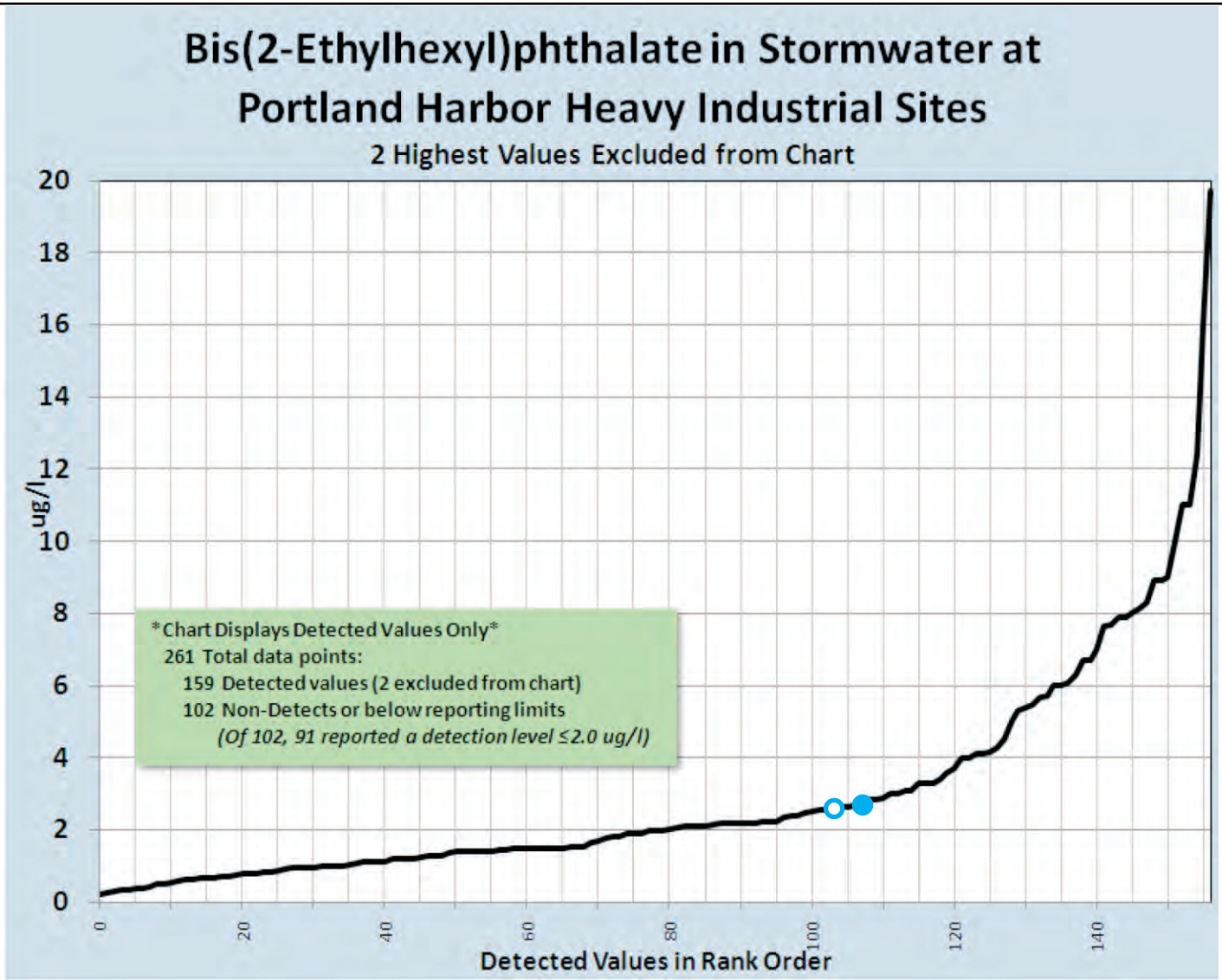
Legend:

- Basin A Average Concentration
- Basin B Average Concentration
- Scupper Average Concentration

Zinc Plot

Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon

APEX Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	1053-02	Figure
	April 2013		D-5



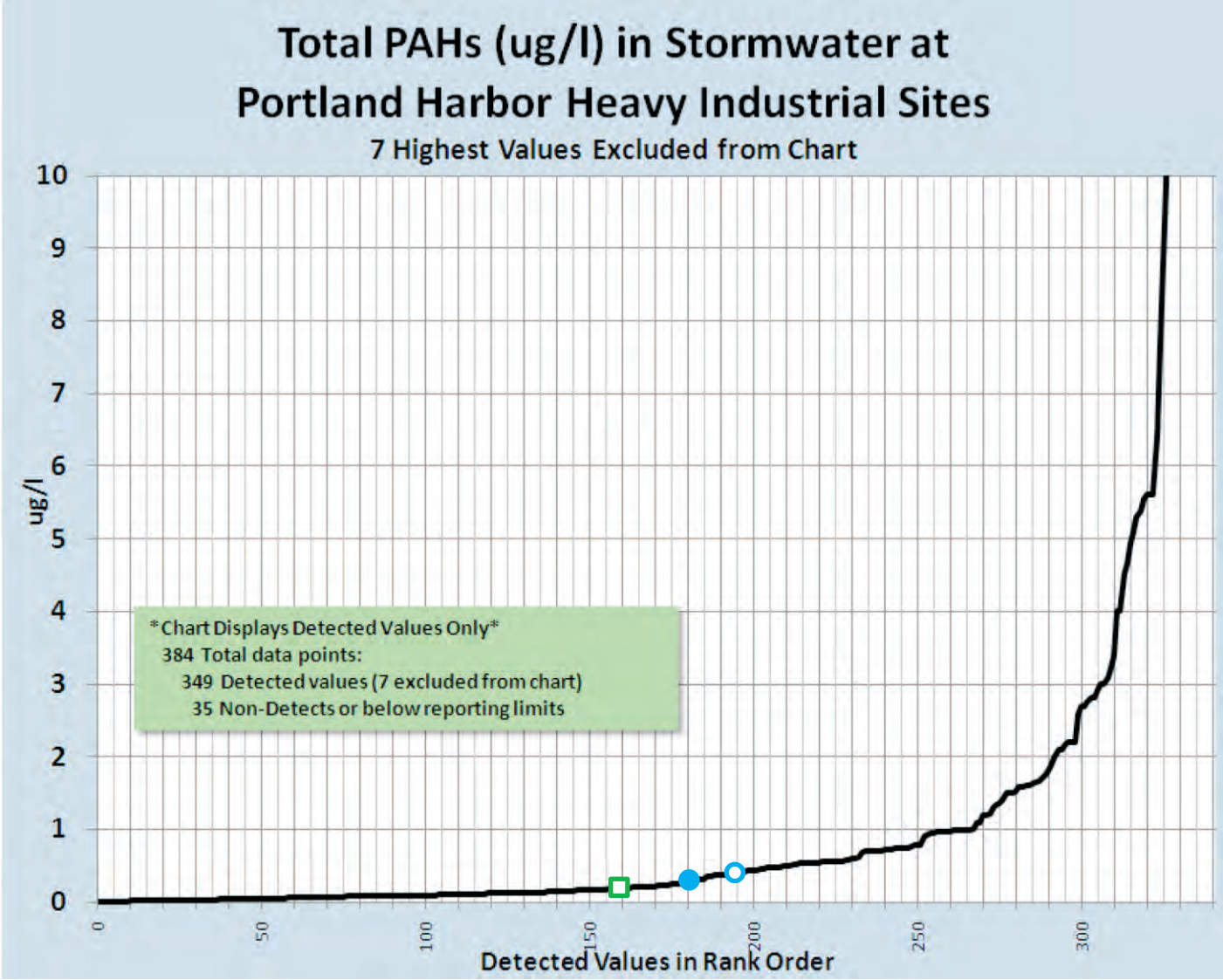
Legend:

- Basin A Average Concentration
- Basin B Average Concentration

Bis(2-Ethylhexyl)phthalate Plot

Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon

APEX Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	1053-02	Figure
	April 2013		D-6



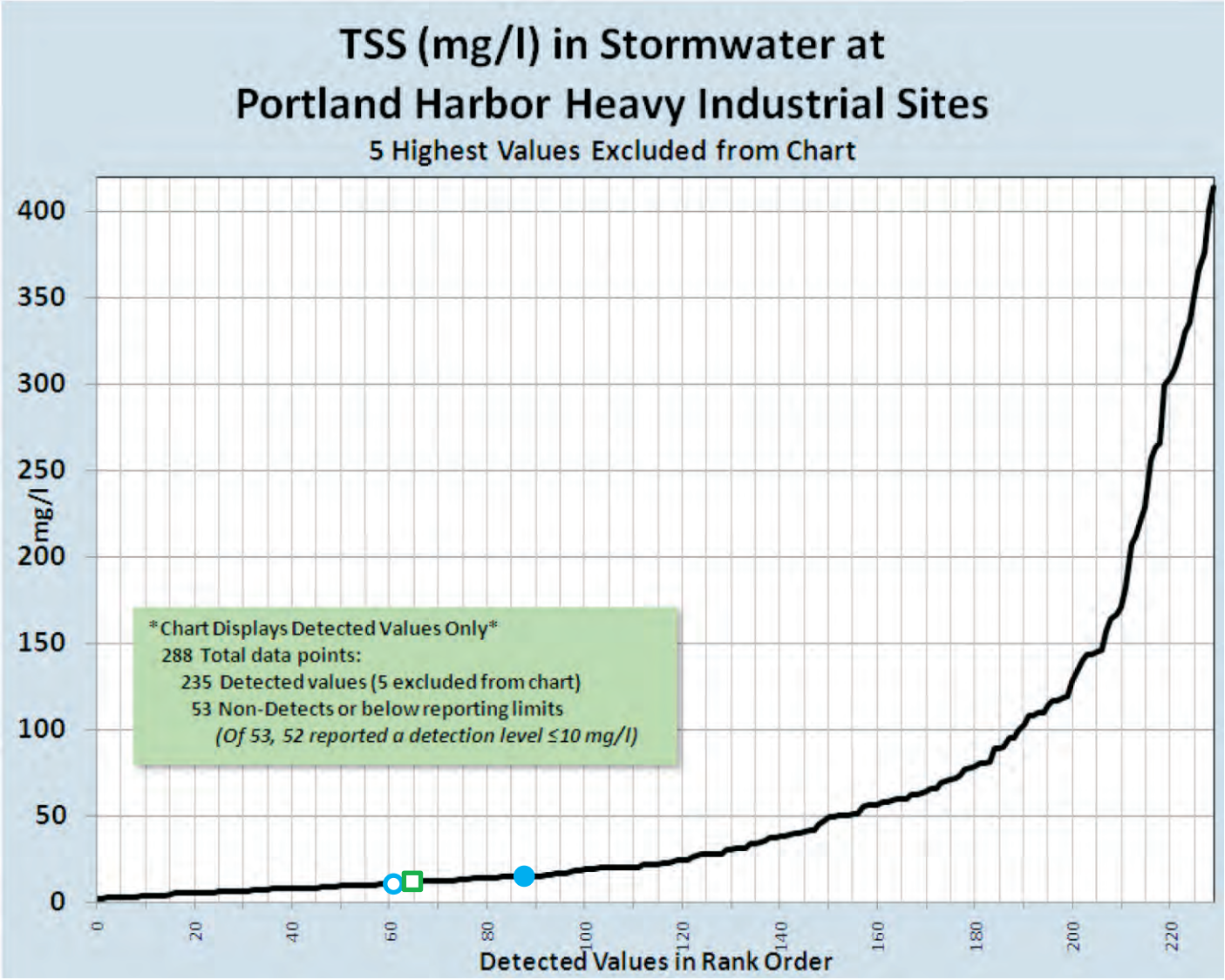
Legend:

- Basin A Average Concentration
- Basin B Average Concentration
- Scupper Average Concentration

Total PAHs Plot

Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon

APEX	Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number 1053-02 April 2013	Figure D-7



Legend:

- Basin A Average Concentration
- Basin B Average Concentration
- Scupper Average Concentration

TSS Plot

Storm Water Sampling Results
Terminal 2 Upland Facility
Portland, Oregon

APEX Apex Companies, LLC 3015 SW First Avenue Portland, Oregon 97201	Project Number	1053-02	Figure
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