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February 8, 2021

Mr. Jeffrey Kimble
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 5
2565 Plymouth Road
Ann Arbor, Michigan 48105

Subject: Summary Report (Revision 0)
Morrow Lake Sediment Release Site - BB
Comstock Township, Kalamazoo County, Michigan
EPA Contract No.: 68HE0519D0005
Task Order No.: 68HE0520F0032
Task Order Line Item No.: 0001BJ101
Document Tracking No.: 0597a

Dear Mr. Kimble:

Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) is submitting this Summary Report for the Morrow Lake Sediment Release Site in Kalamazoo County, Michigan. This report summarizes the assessment and oversight activities conducted at the site from October 5, 2020 to January 21, 2021.

If you have any questions or comments regarding this submittal, please call me at (312) 201-7457.

Sincerely,

A handwritten signature in black ink that reads 'Brendan Martin'.

Brendan Martin
Project Manager

Enclosure

cc: TO-TOLIN file
Chris Burns, Tetra Tech Program Manager

**SUMMARY REPORT
MORROW LAKE SEDIMENT RELEASE SITE
KALAMAZOO COUNTY, MICHIGAN**

Revision 0

Prepared for

U.S. Environmental Protection Agency
Superfund and Emergency Management Division
Region 5
2565 Plymouth Road
Ann Arbor, Michigan 48105

Prepared by

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Heather Wood
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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) tasked Tetra Tech, Inc. (Tetra Tech) to perform assessment and contractor oversight activities associated with a sediment release from the Morrow Lake Dam (the site) in Comstock Township, Kalamazoo County, Michigan. The sediment release resulted from an emergency drawdown of the Morrow Lake Dam impoundment that was initiated in November 2019. Initial assessment activities were conducted by Tetra Tech Superfund Technical Assessment and Response Team (START) with follow up assessment activities conducted by the potentially responsible party (PRP). Oversight activities proceeded as part of an EPA removal response authorized under Superfund Technical Assessment and Response Team (START) Contract 68HE0519D0005, Task Order 68HE0520F0032, Task Order Line Item No. (TOLIN) 0001BJ101.

Specifically, EPA tasked START with the following:

- Provide consultation regarding the addition of emergency sediment control measures
- Conduct initial site reconnaissance activities to identify sediment deposit areas downstream of the Morrow Lake Dam and erosion prone areas within the Morrow Lake impoundment
- Conduct oversight of and document PRP Phase I assessment activities on site
- Review PRP submittals.

This summary report documents activities that took place at the site between October 5, 2020 and January 21, 2021. This report discusses the site background in Section 2.0; describes the initial assessment and oversight activities in Section 3.0; summarizes analytical results in Section 4.0; presents conclusions in Section 5.0; and lists references in Section 6.0.

Figures are presented in Appendix A. Summary tables including validated analytical data are provided in Appendix B (Tetra Tech 2021). A photographic documentation log of site assessment activities is included in Appendix C. Scans of the START logbook are included in Appendix D. Environmentally preferred practices used are included in Appendix E. AECOM's Phase I Field Investigation Work Plan is presented in Attachment 1, and START's laboratory analytical data package is provided in Attachment 2.

2.0 SITE BACKGROUND

This section includes the site location, site description, and environmental investigations proximate to the site.

2.1 SITE LOCATION

The site includes three principal areas, listed in order from upstream to downstream: the Morrow Lake impoundment (an impounded lake resulting from the Morrow Lake dam), the Morrow Lake Dam, and the approximately 10-15 river miles of the Kalamazoo River immediately downstream of the Morrow Lake Dam where sediment deposits have accumulated (to date) as a result of the dam drawdown (Appendix A, Figures 1-5). Morrow Lake and Morrow Lake Dam are both within Comstock Township in Kalamazoo County, Michigan. The approximately 10-15 miles of the Kalamazoo River immediately downstream of the dam spans Comstock and Kalamazoo Townships, within Kalamazoo County, Michigan. The site is bordered by residential properties, commercial properties, and natural areas; additionally, the Morrow Lake impoundment and Kalamazoo River are used for recreational activities including boating and fishing.

2.2 SITE DESCRIPTION

In November 2019 as the result of recent inspection activities conducted by the PRP, the Morrow Lake Dam spillway gates required immediate emergency repairs to relieve gate pressure and potential risks of failure which could have induced uncontrolled flooding. To initiate the repairs, a drawdown of the Morrow Lake impoundment was performed.

Following the drawdown, the Michigan Department of Environmental, Great Lakes, and Energy (EGLE) received reports of increased turbidity and fine sediment deposits downstream of the dam. Turbid water and thick sediment deposits had been reported downstream of Morrow Dam by citizens and in published news pieces by local TV, radio, and other media outlets. EGLE documented increased turbidity levels in the Kalamazoo River at least 30 river miles downstream of the dam. The increased turbidity impacted water quality and is suspected to have impacted fish, macroinvertebrates, and other wildlife in the impacted areas.

In response, EGLE issued the first of two violation notices to the PRP in July 2020; the second violation notice was issued in September 2020. The PRP submitted two responses to the violation notices and agreed to:

- Perform turbidity and new channel stability monitoring
- Estimate sediment load released and changes in bathymetry

- Install engineered controls for turbidity
- Prepare monitoring, mitigation, and restoration plans

The violation notices required the PRP to develop a plan (1) to assess the volume, location, depth, and composition of downstream sediments that were mobilized by the drawdown of Morrow Lake and (2) to sample sediments for contaminants of concern. The PRP contracted AECOM to conduct the requested actions.

2.3 ENVIRONMENTAL INVESTIGATIONS PROXIMATE TO SITE

The site boundaries intersect with two prominent environmental investigations. The Morrow Lake Dam marks the downstream extent of the Enbridge oil spill that occurred in 2010 (EGLE 2020). The dam additionally marks the upstream extent of Operable Unit 5 (OU5) of the Allied Paper Inc./Portage Creek/Kalamazoo River Superfund site (Superfund Site; EGLE 2020).

Sediment samples collected from Morrow Lake in 2015 by EGLE indicated the presence of the following contaminants of concern: polychlorinated biphenyls (PCBs), semi-volatile organic compounds, volatile organic compounds, polynuclear aromatic hydrocarbons, and metals (EGLE 2020). Remedial and response actions at the Superfund Site are driven by the presence of PCBs in sediments, surface water, riverbanks, floodplain soils, and biota. The Superfund Site sediment cleanup standards for PCBs in sediment is greater than or equal to 1.0 milligram per kilogram (mg/kg) total PCBs, with a final sediment remediation goal of a surface-weighted average concentration of 0.33 mg/kg total PCBs (EPA 2020).

3.0 OVERSIGHT ACTIVITIES

This section provides information on initial assessment and PRP oversight activities conducted at the site. Section 3.1 describes the initial assessment and oversight timeline of site activities. Section 3.2 discusses the Phase I Field Investigation sampling event conducted by the PRP. START documented field activities via photographs and logbook notes, presented in Appendix C and Appendix D, respectively.

3.1 INITIAL ASSESSMENT AND PRP OVERSIGHT TIMELINE

The following timeline outlines project activities that occurred each week.

Dates	Project Activities
Week of August 3, 2020	8/6/20 - 8/10/20: PRP contractors installed approximately 600 feet (ft.) of impermeable bank protection, 300 ft. of Type III curtain, and 1,050 ft. of custom permeable curtain within the impoundment and downstream of the dam.
Week of August 10, 2020	No site activities.
Week of August 17, 2020	8/20/20: PRP contractors installed three YSI water quality monitoring sondes at the following locations: upstream of Morrow Lake, in Morrow Lake immediately upstream of the dam, and in the Kalamazoo River immediately downstream of the dam. 8/21/20: PRP contractors conducted river reconnaissance to document sediment deposits in the Kalamazoo River downstream of the dam.
Week of August 24, 2020	PRP contractors completed installation of a real-time turbidity monitoring system (two locations upstream of dam and one location downstream).
Week of August 31, 2020	8/31/20: PRP issued report titled "Morrow Reservoir – Preliminary Observations of Downstream Sedimentation."
Week of September 7, 2020	9/9/20: PRP contractors installed an additional 450 ft. of turbidity curtain downstream of the dam.
Week of September 14, 2020	No site activities.
Week of September 21, 2020	9/24/2020: EGLE officially requested EPA assistance with mitigating and controlling the documented, uncontrolled release of sediment as a result of the emergency Morrow Lake Dam drawdown and repair activities.
Week of September 28, 2020	10/1/20: EPA provided verbal authorization for START to initiate oversight activities.
Week of October 5, 2020	10/5/20: EPA and START, along with representatives from EGLE and Michigan Department of Natural Resources (DNR), conducted an initial site assessment to inspect and document sediment deposits in the Kalamazoo River downstream of the dam and areas of potential erosion within the Morrow Lake impoundment. Sediment deposit locations are presented in Figures 1-5 in Appendix A and photographs in Appendix C. EPA, START, EGLE, and DNR conducted an initial meeting with the PRP and their consultant AECOM to discuss recommendations for further containment and mitigation efforts.
Week of October 12, 2020	PRP contractors installed additional containment measures upstream in the Morrow Lake impoundment area.

Dates	Project Activities
Week of October 19, 2020	10/19/20: START conducted a field visit to inspect and document sediment containment measures deployed in Morrow Lake upstream of the dam (photographs are presented in Appendix C).
Week of October 26, 2020	10/28/20: AECOM submitted the “Draft Morrow Dam Field Investigation Plan Outline” (AECOM 2020). EPA and START reviewed the plan. 10/29/20: AECOM initiated a bathymetric survey of Kalamazoo River downstream of the dam. 10/29/20: EPA and START attended a regular project planning call with EGLE, DNR, PRP, and AECOM. AECOM dredged sediment in front of dam bays one and two to pass flows when repairing bays three and four.
Week of November 2, 2020	11/3/20: Morrow Lake Dam flow modification #1 occurred. 11/3/20: START and EPA attended project planning call with EGLE, DNR, PRP, and AECOM to discuss EPA comments on the “Draft Morrow Dam Field Investigation Plan Outline.” AECOM continued the bathymetric survey of Kalamazoo River downstream of the dam.
Week of November 9, 2020	11/12/20: EPA and START attended the regular project planning call with EGLE, DNR, PRP, and AECOM. 11/13/20: START attended a project planning call with AECOM to discuss sampling and processing logistics.
Week of November 16, 2020	11/18/20: START and EPA attended a project planning call with EGLE, DNR, PRP, and AECOM to discuss EGLE comments on the “Draft Morrow Dam Field Investigation Plan Outline.” 11/24/20: START provided a tour of the Plainwell processing facility to AECOM.
Week of November 23, 2020	11/29/20: AECOM submitted the “Phase I Field Investigation Work Plan” (Attachment 1). EPA and START reviewed the plan and provided comments.
Week of November 30, 2020	12/1/20: EPA and START attended the regular project planning call with EGLE, DNR, PRP, and AECOM. 12/1/20 – 12/8/20: AECOM initiated the Phase I Field Investigation. START conducted oversight of core and grab sample processing, including the collection of split samples. Section 3.2 provides additional details.
Week of December 7, 2020	12/1/20 – 12/8/20: AECOM continued the Phase I Field Investigation. START conducted oversight of core and grab sample processing, including the collection of split samples. Section 3.2 provides additional details. 12/10/20: EPA and START attended the regular project planning call with EGLE, DNR, PRP, and AECOM.
Week of December 14, 2020	12/16/20: Morrow Lake refill was initiated. The daily increase was limited to 6 vertical inches. 12/17/20: EPA and START attended the regular project planning call with EGLE, DNR, PRP, and AECOM.
Week of December 21, 2020	No site activities.

Dates	Project Activities
Week of December 28, 2020	EPA and START reviewed START Phase I Field Investigation split sample analytical results collected on behalf of EPA.
Week of January 4, 2021	1/7/21: EPA and START attended the regular project planning call with EGLE, DNR, PRP, and AECOM.
Week of January 11, 2021	No site activities.
Week of January 18, 2021	1/21/21: EPA and START attended the regular project planning call with EGLE, DNR, PRP, and AECOM.

3.2 PHASE I FIELD INVESTIGATION SAMPLING EVENT

START conducted oversight of AECOM's Phase I Field Investigation sampling event that occurred from December 1 to December 8, 2020. The Phase I Field Investigation Work Plan (Attachment 1), prepared by AECOM, was delivered to EPA, and EGLE on November 28, 2020. Due to COVID-19 considerations, START oversight was limited to the core processing and sample collection, which occurred at the sample processing facility in Plainwell, Michigan. START collected split samples for EPA and EGLE, at approximately 15 percent and 20 percent frequencies, respectively.

AECOM collected co-located sediment grab and sediment core samples at three locations upstream of the dam and 11 locations downstream of the dam. An additional sediment grab, without co-located cores, were collected from each the Kalamazoo river upstream of Morrow Lake and the dredge waste pile near the dam.

Sediment grabs were collected from the top 6-inches of sediment using either a ponar grab or a hand scoop. Sediment cores were advanced to refusal using a vibracore to push 3-inch polycarbonate tubes into sediment. At each sediment coring location one to four cores were collected. AECOM followed sediment coring guidelines and Standard Operating Procedures (SOPs) pertinent to Superfund Site activities (GEI 2020).

The material from each sediment grab was homogenized according to the EPA quartering procedure (EPA 2014) using disposable trays and utensils. All sampling details followed sampling guidelines and SOPs pertinent to Superfund Site activities (GEI 2020). AECOM collected one sample from each sediment grab location, for a total of 16 samples. Sample analysis were dependent on sample location, as recorded in START's Phase I Sample Notes (Appendix B, Table 1) and outlined in AECOM's Phase I Field Investigation Work Plan (Attachment 1). For the sediment grabs, START collected three investigative split samples and one duplicate split sample START additionally provided four sediment split samples to EGLE at the request of EPA. Sample details, including split samples collected and analyses performed are

presented in START's Phase I Sample Notes (Appendix B, Table 1). Following the collection of samples, excess sediment was containerized for each location for geotechnical analysis.

Of the 14 locations where sediment cores were collected, cores from five locations were processed and sampled; cores from the other nine locations were frozen for potential future use. For core locations that were processed, multiple cores from each location were processed together.

Cores from the same location were aligned and sample intervals were established, using distinct changes in sediment color and texture. Sample intervals were established so that each interval consisted of similar sediments, in attempt to sample distinct layers. If a given interval with similar color and texture was equal to or greater than 2-feet, it was divided into two separate 1-foot intervals for sampling. All other core processing and sampling details followed the homogenization and sampling guidelines and SOPs pertinent to Superfund Site activities (GEI 2020).

AECOM collected two to four samples from each sediment core location. Sample analysis were dependent on sample location, as recorded in START's Phase I Sample Notes (Appendix B, Table 1) and outlined in AECOM's Phase I Field Investigation Work Plan (Attachment 1). For the sediment cores, START collected two split samples. START additionally provided three sediment split samples to EGLE at the request of EPA. Sample details, including split samples collected and analyses are presented in START's Phase I Sample Notes (Appendix B, Table 1). Following the collection of samples, excess sediment was containerized for each location for geotechnical analysis.

START handled and packaged all EPA and EGLE split samples collected during this site assessment in accordance with the Tetra Tech's Quality Assurance Project Plan (QAPP) for START (Tetra Tech 2020). All samples were labeled, secured with custody seals, and delivered with signed chain-of-custody forms. Split samples collected by START on behalf of EPA were shipped to ALS laboratory in Kelso, Washington. Split samples collected by START on behalf of EGLE were handed off to EGLE on December 8, 2020. Tetra Tech photographed the site and documented activities in a logbook in accordance with Tetra Tech SOP No. 024, "Recording of Notes in Field Logbook" (Tetra Tech 2008) and Tetra Tech QAPP for START (Tetra Tech 2020).

4.0 ANALYTICAL RESULTS

PCB analytical results were compared to EPA's cleanup goal for sediments of 1 mg/kg (1 part per million [ppm]) for total PCBs. Though the cleanup standard for sediments selected for the Superfund Site is 0.33 ppm for total PCBs, it is calculated as a surface-weighted average concentration (SWAC)¹. EPA has been achieving the SWAC of 0.33 ppm total PCBs for sediments by removing contaminated sediments with PCBs at levels greater than or equal to 1 ppm total PCBs. This standard is set forth in the Record of Decision(s) for Areas 1 (EPA 2015) and Area 2 (EPA 2017) of the Superfund Site and is expected to be sufficiently protective of human health (for anglers, recreationists, and residents) as well as ecological (wildlife) receptors. The standard was generated from the Risk Assessment conducted for the Superfund Site (CDM 2003).

Validated analytical results from the split samples collected by START, on behalf of EPA, are presented in Appendix B, Table 2 (Tetra Tech 2021). None of the split samples collected by START, on behalf of EPA, exceeded the EPA's cleanup goal for sediments of 1 mg/kg for total PCBs. The analytical data from the START split samples were provided to AECOM for inclusion into the complete report of the sampling effort. The START split sample data were not compared to AECOM parent sample data values as this data was not yet available at the time of this summary report. It is expected that the START split sample data will be provided for comparison to the parent sample data in the final report to be provided to EPA by AECOM.

¹ A SWAC is a method of spatially calculating the mean (average) concentration of a constituent (i.e., total PCBs) in the sediment surface. Individual samples are collected throughout the area of concern, representative sub-areas are generated around each sample location, and a subarea-weighted concentration is calculated to produce the SWAC. The subareas may be generated using several different methods, such as grids or stream tubes.

5.0 CONCLUSIONS

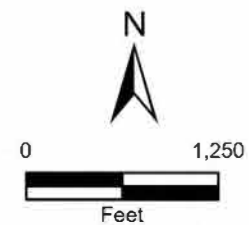
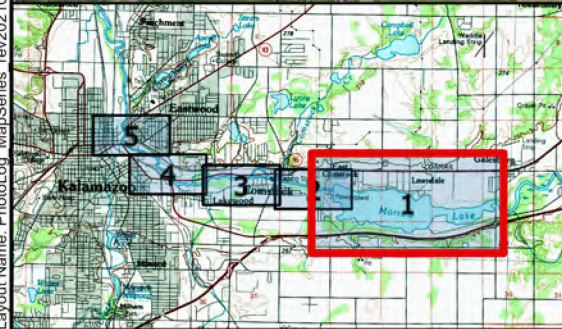
START conducted initial assessment and PRP oversight activities as part of the EPA removal response enacted in response to the Morrow Lake sediment release that resulted from an emergency drawdown of the Morrow Lake Dam impoundment that was initiated in November 2019. Initial assessment activities included observing, mapping, and photo documenting downstream sediment deposits and erosion areas in the upstream impoundment (Appendices A and C). Oversight activities included documenting and assisting with PRP activities on site, reviewing PRP technical documents, and providing technical advice on sediment control measures. START collected five investigative sediment split samples and one duplicate sediment sample on behalf of EPA. START additionally provided sediment split samples to EGLE at the request of EPA. For samples collected on behalf of EPA, sample results for total PCBs were compared to the Superfund Site in-stream sediment cleanup level of 1.0 mg/kg total PCBs. No samples collected by START, on behalf of the EPA, exceeded this cleanup level.

6.0 REFERENCES

- AECOM. 2020. Draft Morrow Dam Field Investigation Plan Outline. October 28.
- Camp, Dresser, & McKee (CDM). 2003. Final Human Health Risk Assessment (Revised), Allied Paper/Portage Creek/Kalamazoo Superfund Site. May 1.
- GEI Inc. (GEI). 2020. Pre-Design Investigation Field Sampling Plan, OU5 Area 4 Time Critical Removal Action, Allied Paper/Portage Creek/Kalamazoo Superfund Site. June 15.
- Michigan Department of Environment, Great Lakes, and Energy. (EGLE). 2020. Michigan Department of Environment, Great Lakes, and Energy (EGLE) request for assistance and response actions at Morrow dam impoundment, Kalamazoo, Kalamazoo County, Michigan. September 24.
- Tetra Tech Inc. (Tetra Tech). 2008. Standard Operating Procedure (SOP) No. 024, Revision 1, "Recording of Notes in Field Logbooks."
- Tetra Tech. 2020. Quality Assurance Project Plan (QAPP) for Superfund Technical Assessment and Response Team (START). Revision 2. August.
- Tetra Tech. 2021. Data Validation Report, Morrow Lake Sediment Release Site, Kalamazoo County, Michigan. January 25.
- United States Environmental Protection Agency. (EPA). 2014. Soil Sampling SOP, EPA Region 4, SESDPROC-300-R3. August 21.
- EPA. 2015. Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, Operable Unit 5 Area 1, Record of Decision. September.
- EPA. 2017. Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, Operable Unit 5 Area 2, Record of Decision. September.
- EPA. 2020. Approval for a Time-Critical Removal Action at the Trowbridge Dam Area of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, Allegan County, Michigan (EPA ID MID006007306). March 31.

APPENDIX A
FIGURES

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Morrow Lake Sediment Release
Kalamazoo River, Michigan

Figure 1 of 5
OBSERVED SEDIMENT DEPOSITS
OCTOBER 2020



Prepared For: USEPA

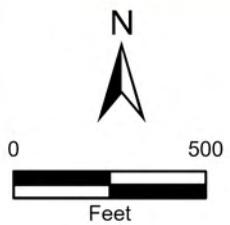
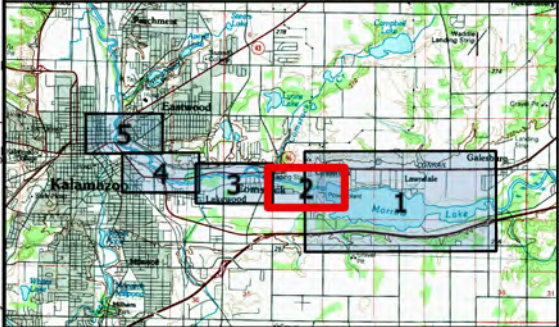
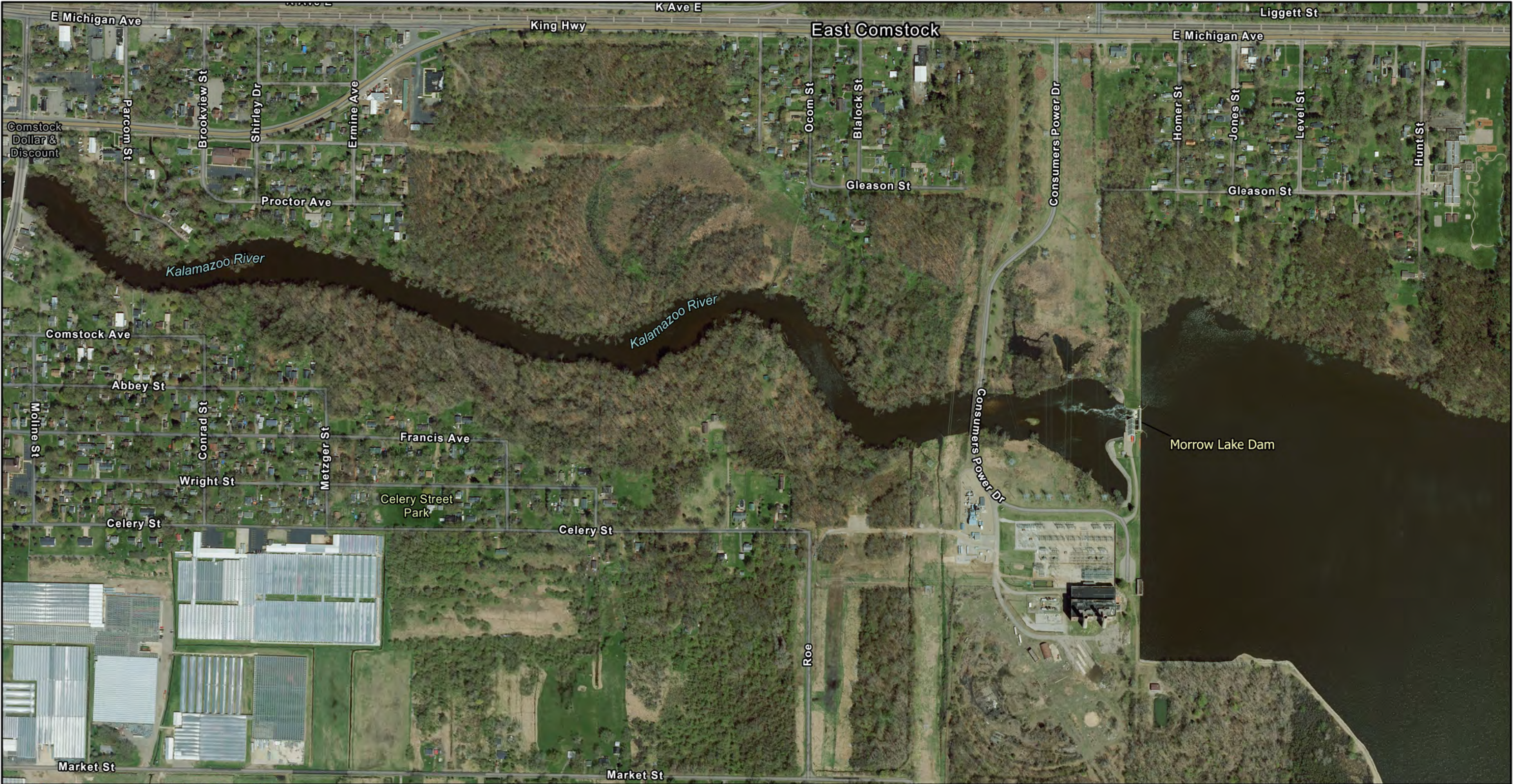
Prepared By: KRB

Base Map Source: Michigan Imagery Solution - Best Available (Kalamazoo County 2013 & 2019)

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EPA Contract No.: 68HE0519D0005



Morrow Lake Sediment Release
Kalamazoo River, Michigan

Figure 2 of 5
OBSERVED SEDIMENT DEPOSITS
OCTOBER 2020



Prepared For: USEPA

Prepared By: KRB

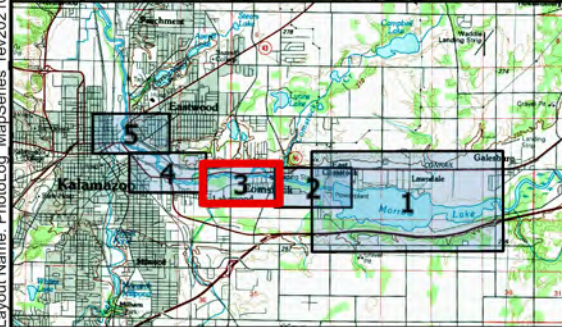
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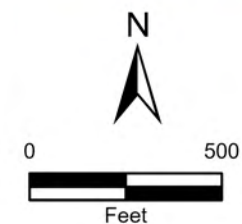
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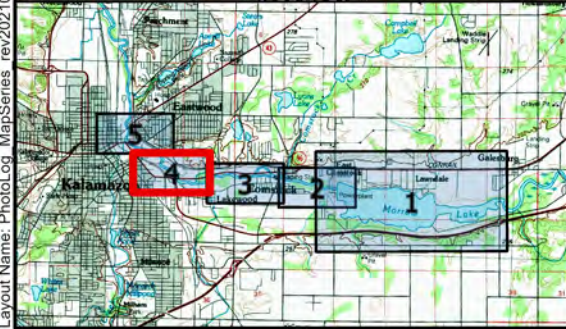
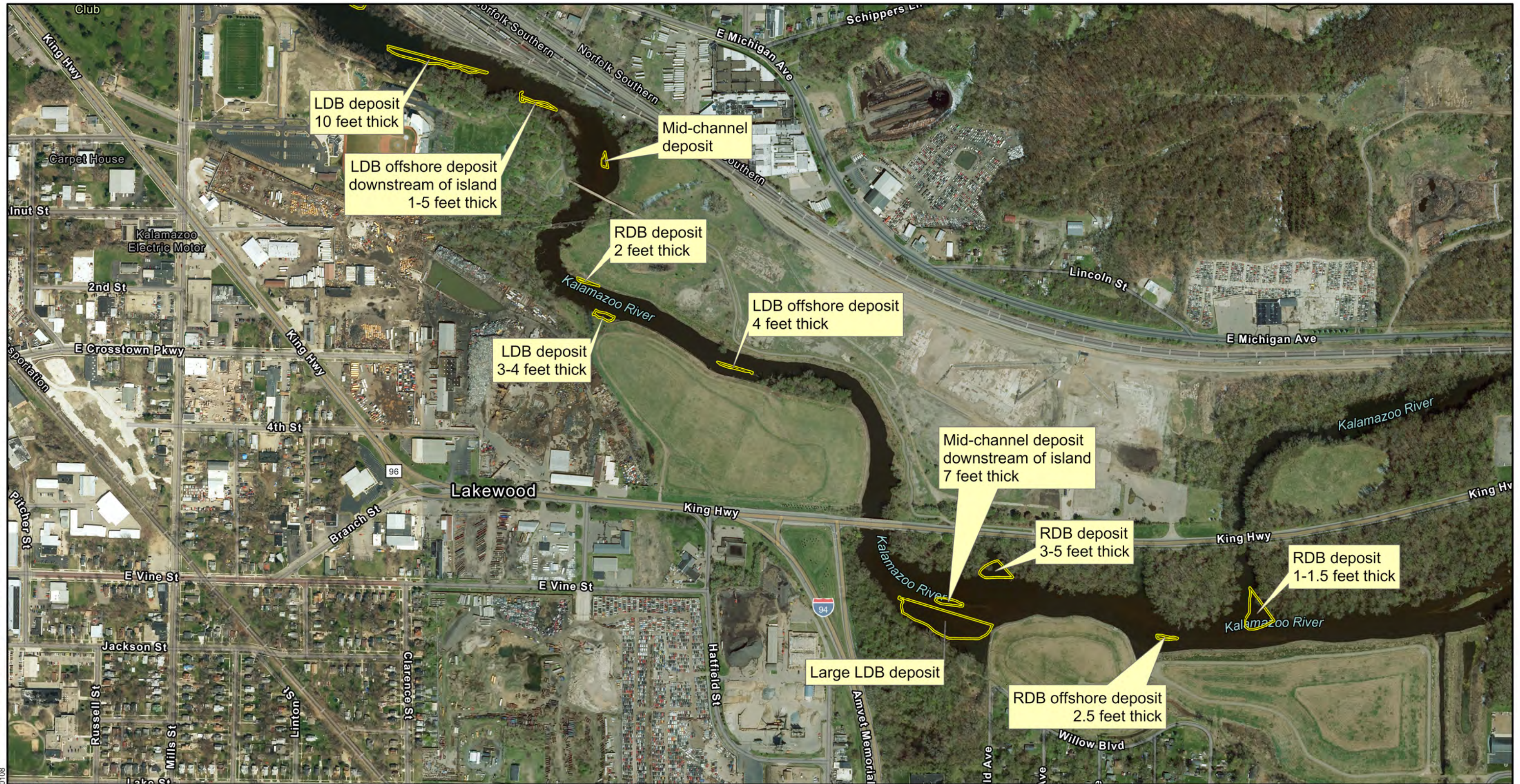



Observations (October 2020)
 Sediment Deposit Area
LDB = Left Descending Bank
RDB = Right Descending Bank

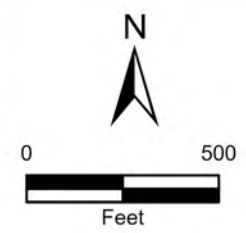



Morrow Lake Sediment Release Kalamazoo River, Michigan	
Figure 3 of 5 OBSERVED SEDIMENT DEPOSITS OCTOBER 2020	
	
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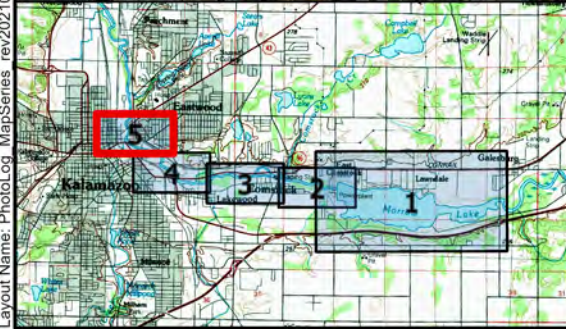



Observations (October 2020)
 Sediment Deposit Area
LDB = Left Descending Bank
RDB = Right Descending Bank

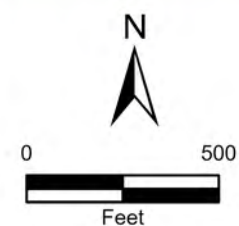


Morrow Lake Sediment Release Kalamazoo River, Michigan	
Figure 4 of 5 OBSERVED SEDIMENT DEPOSITS OCTOBER 2020	
	
Prepared For: USEPA	Prepared By: KRB

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Observations (October 2020)
 Sediment Deposit Area
LDB = Left Descending Bank
RDB = Right Descending Bank



Morrow Lake Sediment Release
Kalamazoo River, Michigan

Figure 5 of 5
OBSERVED SEDIMENT DEPOSITS
OCTOBER 2020



Prepared For: USEPA

Prepared By: KRB

APPENDIX B
TABLES

Table 1 - Phase I Sample Notes
Morrow Lake Sediment Release Site
Kalamazoo County, Michigan

Location ID	Area	Location	Channel	Type	Collection Date	Collected Amount	Frozen
DSRBC001	DS	1	Right Bank	Core	12/2/2020	1 core	Yes
DSRBG001	DS	1	Right Bank	Grab	12/2/2020	3 gal bucket	No
DSLBC002	DS	2	Left Bank	Core	12/2/2020	4 cores	No
DSLBG002	DS	2	Left Bank	Grab	12/2/2020	3 gal bucket	No
DSLBC003	DS	3	Left Bank	Core	12/2/2020	1 core	Yes
DSLBG003	DS	3	Left Bank	Grab	12/2/2020	3 gal bucket	No
DSLBC004	DS	4	Left Bank	Core	12/4/2020	2 cores	No
DSLBG004	DS	4	Left Bank	Grab	12/4/2020	3 gal bucket	No
DSCCC005	DS	5	Center	Core	12/4/2020	2 cores	Yes
DSCCG005	DS	5	Center	Grab	12/4/2020	3 gal bucket	No
DSRBC006	DS	6	Right Bank	Core	12/4/2020	2 cores	Yes
DSRBG006	DS	6	Right Bank	Grab	12/4/2020	3 gal bucket	No
DSLBC007	DS	7	Left Bank	Core	12/4/2020	2 cores	Yes
DSLBG007	DS	7	Left Bank	Grab	12/4/2020	3 gal bucket	No
DSRBC008	DS	8	Right Bank	Core	12/4/2020	4 cores	No
DSRBG008	DS	8	Right Bank	Grab	12/4/2020	3 gal bucket	No
DSLBC009	DS	9	Left Bank	Core	12/5/2020	2 cores	Yes
DSLBG009	DS	9	Left Bank	Grab	12/5/2020	3 gal bucket	No
DSRBC010	DS	10	Right Bank	Core	12/5/2020	2 cores	Yes
DSRBG010	DS	10	Right Bank	Grab	12/5/2020	3 gal bucket	No
DSRBC011	DS	11	Right Bank	Core	12/5/2020	4 cores	No
DSRBG011	DS	11	Right Bank	Grab	12/5/2020	3 gal bucket	No
USRBG001	US	1	Right Bank	Grab	12/3/2020	3 gal bucket	No
USCCC002	US	2	Right Bank	Core	12/3/2020	1 core	Yes
USCCG002	US	2	Center	Grab	12/3/2020	3 gal bucket	No
USCCC003	US	3	Center	Core	12/3/2020	1 core	Yes
USCCG003	US	3	Center	Grab	12/3/2020	3 gal bucket	No
USCCC004	US	4	Center	Core	12/3/2020	4 cores	No
USCCG004	US	4	Center	Grab	12/3/2020	3 gal bucket	No
WCDMACS001	WMA	1	NA	Grab	12/2/2020	3 gal bucket	No
Notes DS = Downstream NA = Not applicable PAH = Polycyclic Aromatic Hydrocarbons TPH = Total Petroleum Hydrocarbons US = Upstream WMA = Waste management area							

Table 1 - Phase I Sample Notes
Morrow Lake Sediment Release Site
Kalamazoo County, Michigan

Location ID	Area	Location	Processing Date	Intervals (feet)	Processing Notes
DSRBC001	DS	1	Frozen		
DSRBG001	DS	1	12/3/2020	0-0.5	
DSLBC002	DS	2	12/2/2020	2 Intervals = 0-1.3, 1.3-2.9	2 processed for chemical, 2 processed for geotech
DSLBG002	DS	2	12/3/2020	0-0.5	
DSLBC003	DS	3	Frozen		
DSLBG003	DS	3	12/3/2020	0-0.5	Bucket left out overnight
DSLBC004	DS	4	12/5/2020	4 Intervals = 0-1.3, 1.3-2.6, 2.6-3.75, 3.75-4.9	2 cores processed together
DSLBG004	DS	4	12/4/2020	0-0.5	
DSCCC005	DS	5	Frozen		
DSCCG005	DS	5	12/4/2020	0-0.5	Location changed from RBG005 to CCG005
DSRBC006	DS	6	Frozen		
DSRBG006	DS	6	12/5/2020	0-0.5	
DSLBC007	DS	7	Frozen		
DSLBG007	DS	7	12/5/2020	0-0.5	
DSRBC008	DS	8	12/5/2020	2 Intervals = 0-1.25, 1.25-2.33	
DSRBG008	DS	8	12/5/2020	0-0.5	
DSLBC009	DS	9	Frozen		
DSLBG009	DS	9	12/6/2020	0-0.5	
DSRBC010	DS	10	Frozen		
DSRBG010	DS	10	12/6/2020	0-0.5	
DSRBC011	DS	11	12/6/2020	3 Intervals = 0-1.2, 1.2-2.4, 2.4-4.0	4 cores processed together
DSRBG011	DS	11	12/6/2020	0-0.5	
USRBG001	US	1	12/4/2020	0-0.5	
USCCC002	US	2	Frozen		
USCCG002	US	2	12/4/2020	0-0.5	
USCCC003	US	3	Frozen		
USCCG003	US	3	12/4/2020	0-0.5	
USCCC004	US	4	12/4/2020	3 Intervals = 0-1, 1-2, 2-3	4 cores processed together, hydrocarbon scent at 29-30 inches
USCCG004	US	4	12/4/2020	0-0.5	
WCDMACS001	WMA	1	12/3/2020	NA	Waste sample, collected in place of USCCG005
Notes					
DS = Downstream					
NA = Not applicable					
PAH = Polycyclic Aromatic Hydrocarbons					
TPH = Total Petroleum Hydrocarbons					
US = Upstream					
WMA = Waste management area					

Table 1 - Phase I Sample Notes
Morrow Lake Sediment Release Site
Kalamazoo County, Michigan

Location ID	Area	Location	AECOM Sample Count	AECOM Sample Analytes	START Sample Count	START Split Samples	START Sample Analytes
DSRBC001	DS	1	Frozen		Frozen		
DSRBG001	DS	1	1	8082A, 1668A, TPH, PAH	0	0	
DSLBC002	DS	2	2	8082A, TPH	1	DSLBC002(0-1.3)-SP01	8082A, TPH
DSLBG002	DS	2	1	8082A, 1668A, TPH, PAH	0	0	
DSLBC003	DS	3	Frozen		Frozen		
DSLBG003	DS	3	1	8082A, 1668A, TPH, PAH	2	DSLBG003(0.0-0.5)-SP01, -SP02	8082A, TPH, PAH
DSLBC004	DS	4	4	8082A, TPH	0	0	
DSLBG004	DS	4	1	8082A, 1668A, TPH, PAH	0	0	
DSCCC005	DS	5	Frozen		Frozen		
DSCCG005	DS	5	1	8082A, 1668A, TPH, PAH	0	0	
DSRBC006	DS	6	Frozen		Frozen		
DSRBG006	DS	6	1	8082A, 1668A, TPH, PAH	0	0	
DSLBC007	DS	7	Frozen		Frozen		
DSLBG007	DS	7	1	8082A, 1668A, TPH, PAH	1	DSLBG007(0.0-0.5)-SP01	8082A, TPH, PAH
DSRBC008	DS	8	2	8082A, TPH	1	DSRBC008(0.0-1.25)-SP01	8082A, TPH
DSRBG008	DS	8	1	8082A, 1668A, TPH, PAH	0	0	
DSLBC009	DS	9	Frozen		Frozen		
DSLBG009	DS	9	1	8082A, 1668A, TPH, PAH	0	0	
DSRBC010	DS	10	Frozen		Frozen		
DSRBG010	DS	10	1	8082A, 1668A, TPH, PAH	0	0	
DSRBC011	DS	11	3	8082A, TPH	0	0	
DSRBG011	DS	11	1	8082A, 1668A, TPH, PAH	0	0	
USRBG001	US	1	1	8082A, 1668A, TPH, PAH, Metals	1	USRBG001(0.0-0.5)-SP01	8082A, TPH, PAH, Metals
USCCC002	US	2	Frozen		Frozen		
USCCG002	US	2	1	8082A, 1668A, TPH, PAH, Metals	0	0	
USCCC003	US	3	Frozen		Frozen		
USCCG003	US	3	1	8082A, 1668A, TPH, PAH, Metals	0	0	
USCCC004	US	4	3	8082A, 1668A, TPH, PAH, Metals	0	0	
USCCG004	US	4	1	8082A, 1668A, TPH, PAH, Metals	0	0	
WCDMACS001	WMA	1	1	8082A, 1668A, Metals	0	0	
			Total = 30 (not including dups)		Total = 6 (including dups)		
Notes DS = Downstream NA = Not applicable PAH = Polycyclic Aromatic Hydrocarbons TPH = Total Petroleum Hydrocarbons US = Upstream WMA = Waste management area							

Table 1 - Phase I Sample Notes
Morrow Lake Sediment Release Site
Kalamazoo County, Michigan

Location ID	Area	Location	EGLE Sample Count	EGLE Split Samples	EGLE Sample Analytes
DSRBC001	DS	1	Frozen		
DSRBG001	DS	1	1	DSRBG001(0.0-0.5)-EGLE01	8082A, 1668A, TPH, PAH
DSLBC002	DS	2	1	DSLBC002(1.3-2.9)-EGLE01	8082A, TPH
DSLBG002	DS	2	0	0	
DSLBC003	DS	3	Frozen		
DSLBG003	DS	3	0	0	
DSLBC004	DS	4	1	DSLBC004(1.3-2.6)-EGLE01	8082A, TPH
DSLBG004	DS	4	0	0	
DSCCC005	DS	5	Frozen		
DSCCG005	DS	5	1	DSCCG005(0.0-0.5)-EGLE01	8082A, 1668A, TPH, PAH
DSRBC006	DS	6	Frozen		
DSRBG006	DS	6	0	0	
DSLBC007	DS	7	Frozen		
DSLBG007	DS	7	0	0	
DSRBC008	DS	8	0	0	
DSRBG008	DS	8	0	0	
DSLBC009	DS	9	Frozen		
DSLBG009	DS	9	0	0	
DSRBC010	DS	10	Frozen		
DSRBG010	DS	10	0	0	
DSRBC011	DS	11	0	0	
DSRBG011	DS	11	0	0	
USRBG001	US	1	0	0	
USCCC002	US	2	Frozen		
USCCG002	US	2	1	USCCG002(0.0-0.5)-EGLE01	8082A, 1668A, TPH, PAH, Metals
USCCC003	US	3	Frozen		
USCCG003	US	3	0	0	
USCCC004	US	4	1	USCCC004(1.0-2.0)-EGLE01	8082A, 1668A, TPH, PAH, Metals
USCCG004	US	4	0	0	
WCDMACS001	WMA	1	1	WCDMACS001-EGLE01	8082A, 1668A, Metals
			Total = 7 (not including dups)		
Notes DS = Downstream NA = Not applicable PAH = Polycyclic Aromatic Hydrocarbons TPH = Total Petroleum Hydrocarbons US = Upstream WMA = Waste management area					

Table 2 - Phase I Split Sample Analytical Results
Morrow Lake Sediment Release Site
Kalamazoo County, Michigan

Analyte	CAS No.	USRBG001(0.0-0.5)-SP01		DSLBG003(0.0-0.5)-SP01		DSLBG003(0.0-0.5)-SP02		DSLBG007(0.0-0.5)-SP01		DSLBC002(0-1.3)-SP01		DSRBC008(0.0-1.25)-SP01	
		Result (mg/Kg)	Qualifier	Result (mg/Kg)	Qualifier	Result (mg/Kg)	Qualifier	Result (mg/Kg)	Qualifier	Result (mg/Kg)	Qualifier	Result (mg/Kg)	Qualifier
Polychlorinated Biphenyls (PCBs)													
Aroclor 1016	12674-11-2	0.042 U		0.086 UJ		0.034 UJ		0.074 UJ		0.11 U		0.058 UJ	
Aroclor 1221	11104-28-2	0.29 U		0.5 UJ		0.23 UJ		0.6 UJ		0.36 U		0.35 UJ	
Aroclor 1232	11141-16-5	0.082 U		0.047 UJ		0.058 UJ		0.092 UJ		0.076 U		0.035 UJ	
Aroclor 1242	53469-21-9	0.032 U		0.039 UJ		0.041 UJ		0.074 UJ		0.053 U		0.034 UJ	
Aroclor 1248	12672-29-6	0.021 U		0.054 UJ		0.073 UJ		0.081 UJ		0.092 U		0.06 UJ	
Aroclor 1254	11097-69-1	0.033		0.22 J		0.33 J		0.33 J		0.25		0.19 J	
Aroclor 1260	11096-82-5	0.01 J		0.067 J		0.1 J		0.096 J		0.071		0.056 J	
Aroclors, Total	NA	0.043 J		0.29 J		0.43 J		0.43 J		0.32		0.25 J	
Diesel Range Organics (DRO)													
DRO (C10 - C28)	NA	89		390 J		220 J		510 J		360		260 J	
Metals													
Arsenic	7440-38-2	16 U											
Barium	7440-39-3	46.3											
Cadmium	7440-43-9	0.51											
Chromium	7440-47-3	18.7											
Copper	7440-50-8	12.2 J											
Lead	7439-92-1	20.3 J											
Mercury	7439-97-6	0.085 J-											
Selenium	7782-49-2	16 U											
Silver	7440-22-4	3.2 U											
Zinc	7440-66-6	74.8											
Polycyclic Aromatic Hydrocarbons (PAHs)													
1-Methylnaphthalene	90-12-0	0.0029 J		0.017 J		0.016 J		0.013 J					
2-Methylnaphthalene	91-57-6	0.0047 J		0.027 J		0.02 J		0.023 J					
Acenaphthene	83-32-9	0.0084 J		0.018 J		0.016 J		0.014 J					
Acenaphthylene	208-96-8	0.0085 J		0.044 J		0.036 J		0.035 J					
Anthracene	120-12-7	0.027		0.074 J		0.067 J		0.067 J					
Benz(a)anthracene	56-55-3	0.16		0.5 J		0.49 J		0.47 J					
Benzo(a)pyrene	50-32-8	0.19		0.65 J		0.61 J		0.6 J					
Benzo(b)fluoranthene	205-99-2	0.3		0.94 J		0.89 J		0.92 J					
Benzo(g,h,i)perylene	191-24-2	0.16		0.5 J		0.47 J		0.5 J					
Benzo(k)fluoranthene	207-08-9	0.11		0.39 J		0.33 J		0.37 J					
Chrysene	218-01-9	0.23		0.69 J		0.67 J		0.54 J					
Dibenz(a,h)anthracene	53-70-3	0.034		0.11 J		0.1 J		0.11 J					
Fluoranthene	206-44-0	0.38		1 J		0.98 J		1 J					
Fluorene	86-73-7	0.011		0.039 J		0.032 J		0.033 J					
Indeno(1,2,3-cd)pyrene	193-39-5	0.16		0.52 J		0.49 J		0.51 J					
Naphthalene	91-20-3	0.0079 J+		0.036 J		0.028 J		0.027 J					
Phenanthrene	85-01-8	0.15		0.31 J		0.29 J		0.28 J					
Pyrene	129-00-0	0.3		0.77 J		0.77 J		0.79 J					
Notes: mg/Kg = Milligrams per Kilogram J = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample. J+ = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may bebiased high. J- = The analyte was positively identified; the associated value is the approximate concentration of the analyte in the sample and may be biased low. U = The analyte was analyzed for, but was not detected at or above the associated value (reporting limit). UJ = The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximatedue to deficiencies in one or more quality control criteria.													

APPENDIX C
PHOTOGRAPHIC DOCUMENTATION LOG



Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 1

Photographer: Paul Ruesch

Date: October 5, 2020

Description: Morrow Lake Dam gates. Immediately downstream/west of dam, photo facing upstream/east.

Location: 42.2829014, -85.4920516



Photograph No. 2

Photographer: Paul Ruesch

Date: October 5, 2020

Description: Island with sediment deposit (foreground) and sediment curtain along the right descending bank (RDB) (background) of Kalamazoo River immediately downstream of Morrow Lake Dam. Photo taken from mid-channel facing northeast.

Location: Not available (NA)





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 3

Photographer: Paul Ruesch

Date: October 5, 2020

Description: Silt curtain on RDB and left descending bank (LDB) of Kalamazoo River downstream of Morrow Lake Dam upstream of Consumers Power Drive. Photo taken from mid-channel facing west.

Location: NA



Photograph No. 4

Photographer: Dan Capone

Date: October 5, 2020

Description: Silt curtain on LDB of Kalamazoo River immediately downstream of Morrow Lake Dam. Photo taken from mid-channel facing east.

Location: 42.2826125,
-85.493235





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 5

Photographer: Paul Ruesch

Date: October 5, 2020

Description: Sediment deposit on a bank of the Kalamazoo River.

Location: NA



Photograph No. 6

Photographer: Dan Capone

Date: October 5, 2020

Description: Sediment deposit on RDB of Kalamazoo River at upstream end of oxbow side channel, approximately 1- to 2-feet thick. Photo taken from mid-channel facing north.

Location: 42.2834088,
-85.545886





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 7

Photographer: Dan Capone

Date: October 5, 2020

Description: Sediment deposit on RDB of Kalamazoo River across from Willow Street landfill, approximately 3- to 5-feet thick. Photo taken from mid-channel facing north

Location: 42.2840909,
-85.5506959



Photograph No. 8

Photographer: Dan Capone

Date: October 5, 2020

Description: Sediment deposit offshore of RDB of Kalamazoo River, approximately 2- to 3-feet thick. Photo taken from mid-channel facing north.

Location: 42.28336,
-85.5471140





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 9

Photographer: Dan Capone

Date: October 5, 2020

Description: Large sediment deposit area on LDB of Kalamazoo River, approximately 7 feet thick. Photo taken from mid-channel facing south.

Location: 42.283890,
-85.5512945



Photograph No. 10

Photographer: Dan Capone

Date: October 5, 2020

Description: Large sediment deposit area on RDB of Kalamazoo River upstream of Mills Street Bridge. Photo taken from mid-channel facing north.

Location: 42.2927039,
-85.5641818,





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 11

Photographer: Dan Capone

Date: October 5, 2020

Description: Sediment deposit on RDB of Kalamazoo River downstream of Gull Road Bridge. Photo taken from mid-channel facing east.

Location: 42.2997283,
-85.5728178



Photograph No. 12

Photographer: Dan Capone

Date: October 5, 2020

Description: Sediment deposit on RDB of Kalamazoo River at Verburg Park. Photo taken from mid-channel facing southwest.

Location: 42.3011736,
-85.5721078





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 13

Photographer: Paul Ruesch

Date: October 5, 2020

Description: Sediment deposit poling on Kalamazoo River to determine thickness of deposit.

Location: NA



Photograph No. 14

Photographer: Paul Ruesch

Date: October 5, 2020

Description: Large sediment deposit area on Kalamazoo River.

Location: NA





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 15

Photographer: Dan Capone

Date: October 19, 2020

Description: Sediment containment measures deployed in Morrow Lake upstream of dam. Photo taken Morrow Lake Dam area facing upstream (east).

Location: NA



Photograph No. 16

Photographer: Dan Capone

Date: October 19, 2020

Description: Sediment containment measures deployed on RDB of Morrow Lake immediately upstream of dam. Photo taken from mid-channel facing west.

Location: NA





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 17

Photographer: Dan Capone

Date: October 19, 2020

Description: Sediment containment measures deployed on RDB of Morrow Lake upstream of the dam. Photo taken from mid-channel facing northeast.

Location: NA



Photograph No. 18

Photographer: Dan Capone

Date: October 19, 2020

Description: Sediment containment measures deployed on mid-channel island located on Morrow Lake upstream of the dam. Photo taken from mid-channel facing southwest.

Location: NA





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 19

Photographer: Brendan Martin

Date: December 3, 2020

Description: Sediment grab collected by AECOM using a ponar grab from location DSLBG002, grab depth 0- to 0.5-feet, collected on December 2, 2020. Photo taken prior to decanting, homogenization, and sampling.

Location: Processing facility



Photograph No. 20

Photographer: Brendan Martin

Date: July 15, 2020

Description: AECOM collecting samples from sediment grab DSLBG002 following the decanting and homogenization of the material. AECOM filled sample jars, and split sample jars, using the alternate shoveling method.

Location: Processing facility





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 21

Photographer: Brendan Martin

Date: December 5, 2020

Description: Sediment core DSLBC004 attempt #2 after being cut open, prior to being logged by AECOM.

Location: Processing facility



Photograph No. 22

Photographer: Brendan Martin

Date: December 5, 2020

Description: Sediment cores attempt #1 and attempt #2 from location DSLBC004 aligned based on sediment horizons, following core logging. Two horizons were identified for this location, each horizon was divided into two intervals (marked on plastic sheeting).

Location: Processing facility





Photographic Documentation

Client: EPA Region 5

Site Name: Morrow Lake Sediment Release Site

Location: Kalamazoo County, Michigan

Prepared by: Tetra Tech, Inc.

TO/TOLIN Number: F0032-0001BJ101

Date: October 5, 2020, to December 6, 2020

Photograph No. 23

Photographer: Brendan Martin

Date: December 5, 2020

Description: Sediment cores attempt #1 and attempt #2 from location DSLBC004 aligned based on sediment horizons, following the homogenization of interval 1 (0.0- to 1.3-feet).

Location: Processing facility



Photograph No. 24

Photographer: Brendan Martin

Date: December 6, 2020

Description: Frozen sediment cores collected during the Phase I Field Investigation stored in a freezer trailer.

Location: Processing facility



APPENDIX D
START LOGBOOK AND FIELD NOTES

INCH

MADE IN TACOMA

— SINCE 1916 —

Rite in the Rain®

— DEFYING MOTHER NATURE —

1

2

Name _____

START FIELD LOGBOOKLogbook Tracking Number NASite Name Morrow Lake Sediment ReleaseIssue to Brandon MartinDate Issued NATO-TOLIN # F0032-0001BJ101

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**RiteintheRain.com****CONTENTS**

PAGE

REFERENCE

DATE

12/1/20

- 0800 START B. Martin arrived at GET processing facility in Plainville MT. GET Kelly T. on site. —
- 0930 AECOM Crystal Vasilion onsite to receive shipments. —
- 1130 Martin joined planning call w/ EPA, ECLF, AECOM, PRP. AECOM plans to have 3 teams 1) probing team (3 days), 2) coring team (7 days), 3) processing team (2 days). Work upstream to downstream if possible. SWIFT will operate boats. Bulk work for remaining sections (Oxbow) will be completed tomorrow + Thursday. Core replacement: 4 = done, 3 = in progress. 2nd flow change occurred on Nov 19 350 cfs = lowest, 462 cfs = average. 3rd flow change scheduled for 12/9 or 10. —
- 1300 START attending site safety meeting at processing center with AECOM, SWIFT, and GET. AECOM discussed HASP + Core guidelines. Field crews will meet at the boat launches at 0730 and processing crew will meet at the processing center at 0730. —
- 1830 AECOM, GET, START leaving processing center — Broken notes 12/1/20

12/2/20

- 0800 START B. Martin, GET, and AECOM arrived at processing center. —
- 0805 START + GET attend AECOM H.S. Tailgate. AECOM plans to collect waste characterization samples at site today, bring cores back for processing. —
- 1445 AECOM returned to processing center w/ sediment cores. Poling completed for 16 days, Coring will continue this afternoon. —
- DSLBC002 0.5' - 0.0' - 0.5'
- DSRBC001 0.0' - 0.5'
- DSLBC002 (4 attempts/corers)
- DSRBC001 (1 core) (Frozen)
- 1600 AECOM cut open core DSLBC002 (attempt 1) and conducted call w/ offsite team to discuss processing procedures. START did not attend call. —
- 1700 AECOM has decided to sample distinct horizons based on x color/texture, if horizons are $\geq 1/2$ meter then approx 2 feet then 2 or more samples will be collected from 12-inch intervals. Core DSLBC003 arrived & frozen. —
- 1815 AECOM collecting waste characterization samples collected from the geobag at site. —

4 Morron Lake

12/2/20

1850 AECOM began processing ^{2nd} cores from DSLBC002, combined distinct layers, 1 = 0-1.3 ft, + 2 = 1.3-2.9 ft. START collected split DSLBC002(0-1.3)-SP01 and EGLE split DSLBC002(1.3-2.9)-EGLE01.

→ start sample time = 1910

→ EGLE sample time = 1936

2035 START, GET, AECOM off site, -

Drinking water
12/2/20

Morron Lake

12/3/20

5

0800 START, GET, AECOM arrived at site processing center.

0810 START, GET, AECOM attended morning LFS test/grade. Field crews will continue to collect cores/grabs and policy DS of the dam today.

0830 AECOM identified that DSLBG003 grab sample was collected yesterday but not stored at the processing center overnight. Group is discussing collecting the sample again.

1130 AECOM collected sample from waste material collected yesterday from the geobags. START collected on EGLE split, ID = WCDMACS001-EGLE01.

1135: Note samples were dated/timed from collection time yesterday using bucket. 12/2 1130.

1400 AECOM returned w/ cores from field
USCLC003 1 core → frozen
USCLC004 4 cores → processing
DSLBG003 grab → processing
USCLG003 grab → processing
USCLG004 grab → processing

1500 AECOM collected samples from grab bucket DSLBG001(0.0-0.5), date = 12/2/20, time = 1140. EGLE split collected, -EGLE01.

Rite in the Rain

6 Morron Lake

12/3/20

- 1550 AECOM collecting samples from grab bucket DSLB6002(0.0-0.5), date=12/2/20 time=0955. No split collected.
- 1616 AECOM processing 2 extra cores from DSLB6002 for geotechnical, no chemical assays. No splits collected.
- 1702 AECOM collecting samples from grab bucket DSLB6003(0.0-0.5), date=12/2/20, time=1500. START collect EPT split -SP01 and duplicate -SP02.
- 1800 Note: AECOM collected returned w/ USCC6002 → grab → processor
USCC6002 → core(1) → freezer
USRB6001 → grab → processing
- 1835 START, AECOM, GEI off site.

*Don't know m/s
12/3/20*

Morron Lake

12/4/20

- 0800 START, GEI, AECOM onsite at Plummer processing center
- 0810 START + GEI arrived AECOM HS Tailgate.
- 0902 AECOM collecting samples from grab bucket USRB6001(0.0-0.5), date=12/3/20, time=1600. START collect split, 3x 16oz jars for msmsd, "-SP01"
Note: sediment piling was completed yesterday, core/grabs expected to be completed by end of Saturday. AECOM starting to process 4 cores from USCC6005.
- 1005 AECOM collecting samples from grab bucket USCC6002(0.0-0.5), date=12/3/20, time=1330. START collect EPT split, 4x 9oz jars, "-EPT01"
- 1140 AECOM collecting samples from USCC6003(0.0-0.5). No splits collected.
- 1210 AECOM collecting samples from USCC6004(0.0-0.5). No splits collected. Date=12/3/20 time=0930. Collected via hand grab rather than pump.
- 1215 Note USCC6003(0.0-0.5) date=12/3/20 time=1100
- 1300 Material arrived at processing center: DSLB6004 → grab → processing

Rite in the Rain

12/4/20

DSCL6005 → grab → processing
 (changed from AB6005), hard sample
 DSLB6006 → grab → processing
 DSCL6005 → 2 cores → frozen
 DSLB6006 → 2 cores → frozen
 DSLB6004 → 2 cores → frozen

1510 ADECOM collecting samples from
~~1510~~ DSLB6004 (0.0-0.5), date = 12/4/20, time
 1040, no splits collected

1630 ADECOM collecting sample from DSCL6005
 (0.0-0.5), date = 12/4/20, time = 1140,
 START collect EGLE split, 12 4oz
 jars, -SP" - EGLE01"

1735 Material moved at processing center:

DSRB6008 → grab → processing
 DSLB6007 → grab → processing
 DSLB6007 → 2 cores → frozen
 DSRB6008 → 4 cores → processing

1800 ADECOM holding interval cell to discuss
 how to process/sample USCL6006 cores
 due to hydrocarbon sent at approx 29-
 30 inches depth.

1900 Plan: process in 12 inch intervals from
 the surface, combining all 4 cores, clay
 bottom will be removed from 2 of

12/4/20

The four cores prior to processing.

1805 Processing the cores began:

USCL6004 (0.0-1.0) = 0-12 inches

USCL6004 (1.0-2.0) = 12-24 inches

USCL6004 (2.0-3.0) = 24-36 inches

Note: box ID shall be USCL6004, Dates =

12/3/20, times = 0930

2055 START, ADECOM, GET heavy str.

Note Egle split collected on
 USCL6004 (1.0-2.0), -EGLE 9 jars

1 sample
 12/4/20

Morrow Lake

12/5/20

- 0800 START, GET, AECOM arrived onsite, AECOM conducted HS testgate. —
- 0830 AECOM began processing 4 cores from DSLB0008 and grab DSLB0006 (0.0-0.5).
- 0905 AECOM collects sample from grab bucket DSLB0006 (0.0-0.5), time = 1230 date = 12/4/20
No splits collected. —
- 0930 AECOM began processing DSLB0007 (0.0-0.5)
- 0940 AECOM collects samples from grab bucket DSLB0007 (0.0-0.5), time = 1500, date = 12/4.
START collecting split sample - SP01, 1 16oz jar. —
- 1015 AECOM began processing DSLB0008 (0.0-0.5) —
- 1025 AECOM collecting samples from grab bucket DSLB0008 (0.0-0.5), date = 12/4/20, time = 1620
No splits collected. —
- 1025 Note: for every sample that AECOM collects, they are collecting a split for their client. Their client has not established what they are wanting. —
- 1150 AECOM completed processing the 4 cores from DSLB0008. AECOM now call to discuss intervals for sampling. —
- 1200 AECOM decided to process by horizon, order long up cores based on sediment characteristics. Note, core lengths are

Morrow Lake

12/5/20

- not consistent. see photo taken by start. Intervals = 0-15 inches, 15-28 inches. Gravel lower than 28 inches (present in two cores) will be discarded.
- 1205 AECOM modified START that location DSLB0004 (2 cores) will be sampled rather than frozen. —
- 1221 AECOM collects DSLB0008 (0.0-1.25), for 0-15 inch interval. Date = 12/4/20, time = 1550. START collect split sample "SP01", 1 16oz jar. —
- 1245 AECOM collects DSLB0008 (1.25-2.33), for 15-28 inch interval. Date = 12/4/20, time = 1550. No split samples collected. AECOM processing DSLB0004, 2 cores —
- 1405 AECOM established sample intervals for DSLB0004, 2 cores aligned by horizons.
- 1) 0-15.5 in (0.0-1.3) = sediment —
 - 2) 15.5-31 in (1.3-2.6) = sediment —
 - 3) 31-45 in (2.6-3.75) = sand/gravel —
 - 4) 45-59 in (3.75-4.9) = sand —
- 1425 AECOM collecting DSLB0004 (0.0-1.3) for 0-15.5 inch interval. Date = 12/4 Time = 1000.
- 1455 AECOM collecting DSLB0004 (1.3-2.6) for 15.5-31 inch interval. Date = 12/4/20, time = 2

Rite in the Rain

Morrow Lake

12/5/20

1000. START collecting EGLIE split, "EGLIE01", 4 4oz jars.
- 1522 AECOM collecting DSLBC004 (2.6-3.75) for 31-45 inch interval. Date = 12/4/20, Time = 1000.
- 1530 AECOM collecting DSLBC004 (3.75-4.9) for 45-58 inch interval. Date = 12/4, time = 1000.
- 1620 AECOM returned material to processing side:
 DSRB6010 → 3 gal bucket → processing
 DSRB6010 → 3 gal bucket → processing
 DSLBC009 → 3 gal bucket → processing
 ↑ hand samples (09 + 11).
- DSRBC010
 DSRBC010 → 2 cores → freeze
 DSRBC011 → 4 cores → processing.
 DSLBC009 → 2 cores → freeze
 Coring/greys/poling completed. Processing expected to be completed tomorrow. AECOM plans to demobilize on Monday.
- 1705 START, GET, AECOM off site.

Bruce T. J. 7/11/20
 12/5/20

Morrow Lake

12/6/20

- 0800 START, GET, AECOM arrived at processing center, followed by US tubs.
- 0830 AECOM collecting DSLBC009 (0.0-0.5), hand sample, date = 12/5/20, time = 1450.
- 0915 AECOM collecting DSRBC010 (0.0-0.5), date = 12/5/20, time = 1250.
- 0945 AECOM collecting DSRBC011 (0.0-0.5), hand sample, date = 12/5/20, time = 1050.
- 1110 AECOM lined up 4 cores from DSRBC011, horizons align w/ surfaces.
 Interval 1 0-14.5 (0.0-1.2) fine sd
 Interval 2 14.5-29 (1.2-2.4) fine sd
 Interval 3 29-48 (2.4-4.0) gravel/cobble.
- 1135 AECOM collecting DSRBC011 (0.0-1.2), date = 12/5/20, time = 1110.
- 1150 AECOM collecting DSRBC011 (1.2-2.4), date = 12/5/20, time = 1110.
- AECOM collecting DSRBC011 (2.4-4.0), date = 12/5/20, time = 1110.
- 1215 12/5/20, time = 1110
 START conducted final inventory of freezer
 DSLBC009 2 cores
 DSRBC006 2 cores
 DSCC005 2 cores
 DSRBC010 2 cores
 DSLBC003 1 core

Morrow Lake

12/6/20

USCC002 1 core

USCC003 1 core

DSRBC001 1 core

DSLBC007 2 cores

1400 AECOM done sampling/processing, loading
up equipment.

1500 START, GET, AECOM off site

Burke
12/6/20

Morrow Lake

12/7/20

1020 START arrived on site/processing center

1045 GET arrived on site

1140 START handed off ELLE split samples
to Chris at Lantinga (ELLE) w/ signed
COC.1220 AECOM arrived onsite. AECOM gathering
equipment & samples to deliver.

1300 AECOM offsite.

1430 START offsite.

Burke
12/7/20

APPENDIX E
ENVIRONMENTALLY PREFERRED PRACTICES

TO-TOLIN:	F0032-0001BJ101
Site Name:	Morrow Lake Sediment Release Site - BB
Site City, State:	Kalamazoo County, Michigan
Site Project Manager:	Brendan Martin
EPA OSC:	Jeffery Kimble

Environmentally Preferred General Field Practices				
If a general category is not applicable, then check N/A for the category box, not for each subcategory.	N= Not Used	N/A= Not Applicable	Y = Yes Implemented	Comments Section Justify in the comments for each BMP field as to why the practice was not used, not applicable, or implemented.
Energy				
Use of Energy Efficient Equipment				
Computer Equipment (FEMP/Energy Star)			X	Energy Star laptops
Installation of Electric Service		X		N/A
Reduce Carbon Emissions from Transportation				
Use Internet Based Meetings/Conferences			X	Teleconference and email between EPA and START
Maximize Carpooling		X		One START member on-site at a time
Use of Local Labor/Suppliers/Waste Disposal Facilities (50 mile radius)			X	START utilized local labor when possible
No idling, except for extreme weather conditions			X	Idling not necessary
Use of Alternative Fuels, if available within 10 miles	X			Vehicles not equipped for alternative fuel
Properly Inflated Tires			X	Vehicles properly maintained
Email Small Files (less than 8MB)			X	All files less than 8MB
Reusable Electronic Storage Media or the Cloud			X	Files stored digitally
Water				
Use of Low Flow Sampling Pumps		X		No water sampling
Waste				
Use of Local Recycling Programs		X		Recyclable materials not generated
Use of Rechargeable Batteries			X	All field equipment used rechargeable batteries
Recycling – Other		X		
Plastic Reduction		X		
Reuse of Resources			X	Supplies reused when possible
Direct Push Boring		X		
Materials				
Printing when Required				
Double-sided Printing		X		Printing not used
100% post-consumer recycled paper		X		Printing not used

Environmentally Preferred General Field Practices				
If a general category is not applicable, then check N/A for the category box, not for each subcategory.	N = Not Used	N/A = Not Applicable	Y = Yes Implemented	Comments Section Justify in the comments for each BMP field as to why the practice was not used, not applicable, or implemented.
Land & Ecosystems				
Minimize Disruption to Natural Vegetation		X		
Use of Non-invasive Investigation Techniques		X		Only collected split samples
Environmentally Preferred				
Green Procurement				
Environmentally Preferred Vendors		X		No vendors utilized
Green Lodging/Hotels			X	Holiday Inn is committed to sustainable activities
Use of Green Laboratories			X	ALS is committed to sustainable activities

ATTACHMENT 1
AECOM PHASE I FIELD INVESTIGATION WORK PLAN

November 29, 2020

Phase I Field Investigation Work Plan Morrow Lake Dam

Prepared for: STS Hydropower, LLC



1. Introduction

In November 2019, the Morrow Lake Dam spillway gates required immediate emergency repairs and a partial lake drawdown was performed to relieve gate pressure and eliminate the risk of uncontrolled flooding. During inspection of the gates, they were found to be in need of replacement instead of repairs. Although the initial drawdown for repairs was expected to continue for four months the time needed for full replacement is expected to continue until December 2020. Return of Morrow Lake to its pre-drawdown water level is currently scheduled to begin in mid- to late December 2020 through early January 2021.

Following the drawdown, the Michigan Department of Environmental, Great Lakes, and Energy (EGLE) received reports of increased turbidity and fine sediment deposits downstream of the dam. STS Hydropower, LLC (STS) received Violation Notices citing increased downstream turbidity and sediment deposition, issued by EGLE on July 8, 2020 and September 16, 2020. The violation notices require STS to develop a plan to assess the volume, location, depth and composition of sediments downstream that were mobilized by the drawdown of Morrow Lake and to sample these sediments for polychlorinated biphenyls (PCBs) and hydrocarbons.

This field investigation plan presents a phased sampling approach to obtain the above requested data and develop procedures for subsequent delineation of fine sediment deposits identified downstream and review alternatives for remediation of these depositional areas (as needed). The first phase of this field investigation is described below.

2. Phased Sampling Approach

AECOM proposes a phased approach for the collection and characterization of sediment released downstream of Morrow Lake Dam, RM 73.5 to 76.5. Phase I sediment sampling is being conducted to:

- Complete bathymetric and topographic surveys of the Kalamazoo River from Morrow Lake Dam to the railroad bridge crossing.
- Sediment delineation (location and volume of sediment deposited) using tile probes downstream of Morrow Lake Dam to the railroad bridge and downstream of the superfund site operating units (OUs);
- Sediment sampling to physically characterize the material tentatively identified as post-drawdown sediment;
- Analyze post-drawdown sediment for targeted chemical constituents (i.e., PCBs, polycyclic aromatic hydrocarbons [PAHs] and metals); and
- Compare downstream sediment deposition area characteristics (initially to the railroad bridge crossing) to upstream source materials.

Results of Phase I sampling will be evaluated and subsequently used to refine additional sediment sampling plans and methods (Phase II), identify data gaps and evaluate feasibility of future sediment management alternatives and designs, if determined to be needed. Additionally, dewatering treatability tests will be performed after receipt of Phase I results to evaluate efficacy of ex situ sediment management alternatives including but not limited to gravity/stacking, passive and mechanical dewatering, solidification/stabilization and potential water treatment of the resulting filtrate.

A Phase II investigation may include additional sediment sampling to further define the extent of post-drawdown sediment, further characterize the physical and chemical composition of the post-drawdown sediments including bioavailability of constituents of concern and further identify and evaluate ex situ dewatering and sediment management methods to further refine Phase I results, if necessary. Phase II investigations may identify potential sediment management options including but not limited to removal, beneficial re-use and disposal, as well as leachability, associated risk and additional data required to support the most likely remedial management options.

3. Project-Specific Hazard Assessment, Planning and Coronavirus

The team will develop a project-specific Health and Safety Plan (HASP) for all elements of the field work using previous approved HASPs for work on the Kalamazoo River (AECOM 2020). The HASP will incorporate AECOM safety requirements for working over water, any applicable Client requirements and applicable COVID-19 safety requirements. A task-specific HASP will be refined for each field sampling task and will be available for review by EGLE. Prior to field work, a detailed Emergency Response Plan (ERP) and Job Safety Analysis (JSA) will also be prepared.

The HASP, ERP, and JSA will be reviewed at each field task kick-off-meeting and the JSA will be reviewed at the daily safety meetings. All field staff, subcontractors, and oversight personnel will attend the field safety meetings that are conducted at the beginning of each workday. All employees will be fit for duty, adhere to standards of conduct, and empowered and expected to “stop work” in the event that an unsafe condition exists in their work area, or if they observe any unsafe act being performed. The unsafe conditions and hazards will be documented and reported to the Health & Safety Manager and necessary controls and corrective actions will be taken.

The Team is pleased to share our lessons learned from previous field studies that could be incorporated into the project plans:

- Establish a clear communication plan between boat and shore personnel.
- Boats may shift as staff load/unload on shore. Keep three points of contact at all times.
- Use the buddy system; all personnel should be present and accounted for on a regular basis.
- Do not overcrowd boats with observers. The mission of the safety boat is life rescue, not to serve as a water taxi. Do not distract the boat operator.

On March 11, 2020, the World Health Organization declared the spread of Coronavirus (COVID-19) a pandemic, and the Coronavirus outbreak has affected the United States and Michigan, particularly through the issuance of multiple Executive Orders by Governor Whitmer. Given the uncertainties and impacts associated with the Coronavirus outbreak, the potential impact that the Coronavirus may have on AECOM's performance of the scope of work defined in this proposal cannot be determined at this time, but may include delays or impacts on the following tasks:

- Completion of field activities;
- In-person attendance at meetings; and/or
- Preparation of project deliverables that are dependent on the completion of field activities, travel, and data collection.

In accordance with customary industry standards, AECOM will exercise reasonable care to mitigate the potential impact of the Coronavirus to the extent within AECOM's reasonable control, AECOM will notify

the appropriate client personnel in accordance with the parties' Agreement in the event AECOM becomes aware of any potential impact to the work caused by the Coronavirus.

4. Field Sampling Plan, Sampling Analysis Plan and Quality Assurance Project Plan

This Field Sampling Plan (FSP) is being prepared using sample collection methods and procedures, laboratory analytical methods and procedures and quality assurance/quality control (QA/QC) procedures developed by Others for the work being conducted at the downstream Superfund site (AMEC 2013a; 2013b; AMEC 2016a; 2016b; AMEC 2018; GEI 2020a; 2020b; 2020c; EPA 2005; EPA 2020; GEI 2020a). These methods and procedures are being used to facilitate an expedited approval from EGLE to initiate field sampling in 2020.

The existing documents (provided by USEPA Region 5) contain USEPA-approved methodologies and requirements that can be revised for this FSP. We quickly reviewed these plans to identify consistencies between the tasks proposed for this SOW and what has been performed and accepted in previous QAPPs. Our Team's expertise in developing numerous QAPPs conforming to EGLE, Great Lakes National Program Office (GLNPO) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites allows us to efficiently and cost-effectively meet EGLE's objectives. A site-specific QAPP will be developed prior to future sampling efforts in accordance with the State's Quality Management Plan requirements, and both the QAPP and FSP will comply with MDEQ Policy 09.026.

5. Field Investigation/Data Collection

Data collection will be conducted using a phased approach to increasingly build the data sets immediately downstream of Morrow Lake Dam. Phase I will include bathymetric and topographic surveys and initial sediment sampling of targeted downstream depositional and upstream source areas. Priority areas of post-drawdown deposition will be identified by changes in bathymetry since the last survey, tile-rod probing as well as visual evidence of sediment deposition in Area 1 summarized by EPA and other stakeholders (Attachment A).

All work will be conducted in accordance with the AECOM site-specific Health and Safety Plan, that includes work over water procedures and procedures for work over water in cold weather. The sampling methods will comply with State of Michigan and US EPA sampling, documentation, and chain-of-custody procedures. Each task is described in detail below.

5.1 Bathymetric and Topographic Surveys

When considering methods to estimate the fate and transport of sediment volume released from the Morrow Lake Dam, our team will initially consider four (4) discrete river segments as follows:

Morrow Lake. We will utilize a volumetric difference approach between the 2010 single beam survey performed by Tetra Tech and a new single beam survey (to be contracted). This new single beam survey will be collected in the spring 2021. The results of this differential analysis would be an estimate of the sediment volume potentially released when Morrow Lake was lowered.

Morrow Lake Dam to the Upstream Limit of 2018 Bathymetric Data (i.e., Homer Stryker Ball Park). This area is currently being surveyed using multi-beam/LIDAR methods to capture below/above water sediment features. This area is more challenging to develop a clean volumetric analysis given the lack of historical data. Review of the river profile suggests that the first portion of the river can be classified as

“transportive” or “erosional”. This means that it is unlikely to have accumulated any sediment from the release. However, once the first oxbow downstream of River Street is reached the river begins to be more transitional and depositional areas are observed. In this segment of the river, from River Street downstream to the Homer Stryker Ball Park, vertical probing of identifiable sediment deposition will be conducted in coordination with sediment core locations. This information (i.e., vertical probing and sediment cores) will be used to develop estimates of sediment volumes when coupled with the multi-beam/LIDAR survey currently being conducted by Eagle Creek Renewable Energy (ECRE).

Extent of 2018 Bathymetric Data (i.e., Homer Stryker Ball Park to RR Bridge by Lottie Ave.). Utilize a volumetric difference approach between the results of the 2018 multibeam survey and the new 2020 multibeam/LIDAR survey currently being collected by ECRE.

Downstream of Survey Extent (i.e., RR Bridge by Lottie Ave.). Use of a hydrodynamic model to assess what (if any) type of sediment would have moved outside this downstream limit and under what flow conditions. Our team will use this information, combined with the lines of evidence in the upper river segments, to estimate a volume of sediment leaving (if any) this downstream extent.

Full coverage surveys of the Kalamazoo River from just downstream of the Morrow Lake Dam to the railroad bridge crossing parallel to Lottie Avenue will include but is not limited to:

- Multi-beam, photogrammetry, and traditional hydrographic surveys to be compiled into a single dataset capable of generating accurate 1-foot contours. Multi-beam survey will be conducted in water depths greater than 3-feet. AECOM and Seaworks (licensed MI surveyor) will provide the following digital files associated with this data:
 - a. Cleaned, joined point data point delineated file (.csv); and
 - b. Cleaned, joined AutoCAD Civil 3D surface.
- Traditional hydrographic survey of the two oxbows downstream of the Morrow Lake Dam. Oxbow #1 is located between River Street Bridge and South Sprinkle Road Bridge. Oxbow #2 is located between the South Sprinkle Road Bridge and the King Highway Bridge. It is anticipated that these areas will not be accessible to a multi-beam survey boat and traditional hydrographic survey will be performed in these areas.

5.2 Sediment Delineation using Tile Probes

Poling to determine depth of sediments will be conducted prior to or in association with sampling activities in post-drawdown depositional areas.

In association with in-stream sediment cores in 10 high-priority depositional areas downstream of Morrow Lake Dam, poling will be conducted to determine the depth of soft sediments for each sampled location. These data will be used to estimate sediment volumes and to inform sediment transport models. The deepest penetration depth from the poling locations will be interpreted as the sediment thickness.

Poling involves the measurement of sediment thickness and water depth using specialized tooling, such as an AMS 7/16" x 4' Extendible Tile Probe. Each location will be logged with GPS at the time of poling. In addition to delineating the targeted sediment sampling locations, the probing team will delineate

post-drawdown sediment deposition areas working downstream from the King Highway Landfill OU (RM 72.5) to Crown Vantage Landfill (RM 68.5).

Prior to probing into the sediment, the water depth to top of sediment will be measured using the poling probe or a similar device with graduated markings at a maximum of 6-inch intervals and measuring tape or ruler. The probe will then be advanced into the riverbed, noting the depth of refusal and type of resistance met by the probe. The water level to the nearest exposed 6-inch interval on the device will be noted and the difference measured to calculate and record the estimated depth of water. The deepest penetration depth from the poling locations will be interpreted as the sediment thickness. Poling will be completed at each proposed sediment sampling location per procedures detailed in SOP P-005 of GEI's PDI Field Sampling Plan for OU5 Area 4 Time Critical Removal Action (GEI 2020d).

5.3 Sediment Sampling

Sediment samples (grabs and cores) will be collected from a maximum of 15 targeted locations both upstream (5 locations) and downstream (10 locations) of the Morrow Lake Dam. Representative sediment samples will be collected from previously identified and targeted, high priority deposition areas downstream of the Morrow Lake Dam (Figure 1). Sample collection, sample processing and quality assurance/quality control (QA/QC) procedures will be performed in both the field and laboratory settings to provide information regarding accuracy, precision, sensitivity, representation, completeness, and comparability associated with the sampling and analysis according to the QAPP developed by others for the downstream Superfund sites (GEI 2020a).

Sediment sampling will be expedited in collaboration with SWAT upstream of the Morrow Lake Dam. Upstream grab samples (3 locations) and one upstream core sample (one-foot horizons) will be collected, processed and characterized for geotechnical and chemical parameters. Core samples will be collected from the other two Morrow Lake sampling locations and frozen for future analyses, if needed. A sediment grab sample will be collected from the sediment management area used to dewater dredge material from the gate repairs effort. Additionally, a grab sample will be collected from a location upstream of Morrow Lake to be used as a background/reference site.

Downstream sediment sampling will be performed with SWAT to collect grab and core samples at all identified locations (Figure 1). Three cores will be initially characterized for geotechnical (composites) and chemical parameters (one-foot horizons) listed below and the remaining core samples frozen for future analyses.

Geotechnical and chemical analyses for both grab and core samples is summarized in Table 1. Analyses and methods include:

- Grain size analysis with hydrometer and sieve (ASTM D422);
- Moisture content (ASTM D2216);
- Specific gravity (ASTM D854);
- Total organic carbon (TOC) (ASTM D2974);
- Atterberg limits (ASTM D4318);
- PCBs as Aroclors – Kalamazoo SOP (EPA SW-846 Method 8082A (as described in the Superfund QAPPs));
- Total PCBs by congeners (M1668) (as recommended by EGLE);

- Polycyclic aromatic hydrocarbons (PAHs) – EPA Method 8270 SIM (grab samples only);
- Total Petroleum Hydrocarbons – Diesel Range Organics (Method 8015M); and
- Michigan metals (6010D) - upstream samples only.

Sediment cores will be simultaneously collected at all upstream and downstream locations. One upstream core and three downstream cores have been identified for initial processing and chemical and geotechnical analyses. The remaining cores (2 upstream and 7 downstream) will be frozen, stored at the GEI sample processing facility (Plainwell MI) and held for future analyses, as needed. Cores will extend into the pre-drawdown sediment (if possible) and be logged, sectioned and sampled at 1-ft horizons. If a sediment transition is observed within a core, additional horizons may be subsampled and analyzed. Additionally, homogenous, unconsolidated surficial sediment observed within a core may be composited as a single horizon in order to meet the laboratories quantity requirements.

5.3.1 Sample Collection Methods and Procedures

Surficial sediment (0 to 6-inches below surface) samples will be collected using a petite ponar clamshell dredge sampler or comparable equipment at each location (Attachment B). Additional sediment sample volume will be collected in five-gallon buckets for treatability testing or held for future analysis and/or evaluation including:

- Evaluation of ex situ dewatering approaches (e.g., stacking/drainage, gravity [geotextile tubes], mechanical [belt filter press, plate and frame press], solidification/stabilization, and other methods).
- Evaluation of dewatered material to pass paint-filter testing for transportation.
- Beneficial reuse of material for fill material, shoreline placement, capping, ENMR, etc.

In-stream sediment core samples will be collected for geotechnical and contaminants of concern (CoC) testing using portable vibracore sampling equipment from boats operated by SWAT (Attachment B). Vibracore sampling can be completed using flat-bottom sampling boats or air boats and will be determined based on site conditions. The vessel will be anchored and positioned using spud polls or anchor points depending on flow conditions and water depths. A thin-walled vibracore tube (3" diameter) will be advanced into the soft sediment until a predetermined depth is reached or refusal to penetrate further. The core tube will be advanced at least 1 foot past the target depth or refusal to limit washout. Core keepers may also be used to retain material if necessary. If recovery is less than 80 percent, up to three additional cores will be attempted within a 15-foot radius of the target location. If unsuccessful, we will utilize the core(s) with the best recovery for processing and analysis. Core locations will be collected using a Trimble GPS or similar. Additional measurements taken at each sample location include water depth, depth of sediment, and water quality characteristics (e.g., pH, dissolved oxygen, conductivity and turbidity).

The vibracore tube will be slowly advanced back to the surface keeping the core as vertical as possible. A cap will be placed on the bottom of the core tube and secured with electrical tape. The top of the core will be removed from the vibracore head and overlying water will be removed prior to cap and taping. Total sediment recovery will be recorded along with any visual observations of the core. Sediment cores will be brought to the shore and transported to the processing facility. The cores will be cut open lengthwise, measured, photographed and logged by a geologist or engineer using the Unified Soil

Classification System (USCS). Notes on attributes such as color, odor, organic matter, and depth of interface between sediments and native material.

Based on visual observations in the field, sub-samples may be collected for additional analyses from specific horizons identified in the core (these samples will be collected in plastic bags) and the majority of the core sample will be placed into buckets and transported to the laboratory. Samples will be labeled with the depth from the top of the core and the thickness of the material collected (i.e., 8 to 12-inches). Multiple pushes may be required at each location. Samples of native underlying material will be collected, if encountered.

5.3.2 Sediment Chemistry

AECOM will comply with the sampling and testing requirements outlined in the GLLA Data Reporting Standard (April 2020) and the GLLA QA Considerations (April 2020) guidance documents. These requirements may be modified per task. Any modifications will come from technical direction from the EGLE Project Manager and be defined in the approved QAPP developed by others for the downstream Superfund sites (GEI 2020a).

AECOM will be responsible for procuring the laboratory for all project analyses (Pace Analytical). Laboratory data will be of known and documented quality as specified by the applicable EGLE and EPA guidance documents. All laboratory data will be compliant with EPA Order 5360.1 quality requirements, which require data to withstand independent review and confirmation. The procured laboratory will be a participant in the EPA's Contract Laboratory Program (CLP), but non-CLP methods (EPA approved methods SWA 846 or other appropriate methods) may be used to meet the program requirements. Where non-CLP methods are to be used the data deliverables will meet the level of detail and requirements outlined in the Great Lakes Legacy Act (GLLA) Data Reporting Standard.

There will be no deviation from these statements of work unless approved by the EGLE Project Manager. If requested, AECOM will draft project-specific improvements or modifications to the methods employed for sample testing. For PCB data, the AECOM procured laboratories will follow both the EGLE-recommended method (M1688) for total and congener concentrations as well as the modified SOP developed for PCB analysis of sediment collected from the Kalamazoo River by EPA GLNPO (modified 8082A) as defined in the approved QAPP.

Pace Analytical (Pace) will follow the GLNPO QMP, QAPP requirements, and Level IV data reporting requirements. AECOM will include these requirements in their agreements with the laboratories. All procedures are clearly defined in the QAPP:

- The laboratory will ensure that the reporting of batch information in an appropriate EDD format is included. The GLLA Data Reporting Standard includes specifications for batch information reporting.
- If the laboratory provides totals for certain classes of chemicals (i.e., total PCBs), the QAPP will state the summation scheme, including how non-detect results are handled, or include details on how totals will be interpreted from the chromatograms.
- The lab's EDDs will include the method detection limit (MDL), the contract-reported quantitation limit (CRQL) if applicable, and sample-specific quantitation limit (SSQL).
- The laboratory shall ensure that the SSQLs are met in order to be able to answer the study question.

- The laboratory shall ensure that all detectable results are reported. If they are below the calibration limits or appropriate detection limits, they shall be reported as an estimated concentration and appropriately qualified as defined in the QAPP.

Deliverables from the procured laboratories will meet the GLLA's Electronic Data Deliverable format requirements as defined in the approved QAPP. AECOM will ensure that these EDDs are compatible with the Great Lakes Sediment Database (GLSED) and NOAA's Query Manager. EDDs will comply with the most recent version of the GLLA Data Reporting Standard.

Sediment samples will also be submitted to McDowell & Associates (Ferndale MI) for testing of geotechnical properties including, grain size analysis, bulk density, percent moisture solids, total organic carbon and Atterberg limits. These tests will be conducted on limited subset of the total number of samples collected, from the grab samples and composite of the core samples. If core samples can be further delineated by physical characteristic during processing, additional aliquots may be collected for geotechnical characterization.

5.3.3 Quality Assurance/Quality Control

AECOM will implement a workflow and field data management process to ensure that the sampling investigation yields high-quality data according to the objectives and requirements of the QAPP. Quality Assurance/Quality Control (QA/QC) procedures will be performed in both the field and laboratory to provide information regarding accuracy, precision, sensitivity, representation, completeness, and comparability associated with the sample collection and analysis. AECOM will collect field duplicates (1 per 10) and matrix spike/matrix spike duplicate (1 per 20) as dictated by the QAPP and use electronic data recording software to document field sampling activities. This approach will allow real-time receipt of completed data forms and electronic data, receipt of collected samples and early shipping to laboratories, and facilitation of rapid-response trouble shooting should any issues arise with field equipment or the sampling teams.

Field QA/QC will include the following procedures:

- Calibration of field equipment
- Field activities will be documented including any observations during sample collection or issues that may impact data quality
- Disposable sampling equipment will be used to minimize cross-contamination between samples
- Field duplicate samples will be collected to evaluate field sampling precision or reproducibility of the data
- Daily Trip Blanks
- Field Blanks
- Additional sample volume will be collected to allow Matrix Spike (MS) and Matrix Spike Duplicate (MSD) analyses to be performed by the laboratory
- Samples will immediately be placed on wet ice and maintained at 4° Celsius by the laboratory as method appropriate until analysis is completed
- Chain-of-Custody (COC) documentation will be completed to document custody from collection to delivery at the laboratory

- Samples will be delivered to the laboratory to ensure that all parameters are analyzed prior to the expiration of the applicable holding time

5.3.4 Sample Custody

Sample handling in the field will conform to appropriate sample custody procedures. Field custody procedures include proper sample identification, chain-of-custody (COC) forms, and packaging and shipping procedures. Sample labels will be attached to all sampling bottles before field activities begin to ensure proper sample identification. Each label will identify the sample location, date and time sampled, initials of the sampler, analysis to be performed, and the applicable preservative. Bubble wrap will be used to absorb shock and prevent breakage of sample containers. Wet ice will be used to maintain 4° Celsius during transport to the laboratory.

The Chain-of-custody (COC) forms to be prepared will include:

- Site name and address
- Sample identification
- Number of containers
- Date and time of collection
- Type of sample and sample matrix
- Preservation used (if any)
- Analyses to be performed on each sample

AECOM field personnel will sign and date the “Relinquished” blank on the COC form when the samples are delivered to the laboratory. A copy of the COC will be retained by the sampling group.

6. Bench-scale Dewatering Treatability Tests

A Treatability Study Work Plan (TSWP) will be prepared in accordance with EPA’s “Guidance for Conducting Treatability Studies under CERCLA” (EPA 1992) and the “Remedial Design/Remedial Action Handbook” (EPA 1995). The TSWP will include the scope and procedures for treatability testing to address geotechnical considerations for cap design, water treatment to meet the specified discharge criteria, and in situ solidification/stabilization (s/s) of the material, if necessary. AECOM will conduct the treatability studies as described in the TSWP using our in-house treatability laboratory. AECOM’s treatability staff has the experience and expertise not only to perform these tests according to industry standards and standard operating procedures, but also to work with our Remedial Design engineers to capture scalable observations and test endpoints not typically reported from third-party testing facilities. The ability to remove supplier bias, repeat experiments (as necessary), and perform tasks based on these initial observations without bias will further refine engineering and design assumptions typically not available from other vendors.

6.1 Chemical Conditioning for Passive and Mechanical Dewatering

Using typical industry testing equipment for a geotextile tube feasibility evaluation and standard operating procedures, AECOM will determine the dewatering characteristics of representative lime samples both with/without the use of a chemical conditioning program. In addition, AECOM will collect

filtrate samples for chemical analysis of total suspended solids (TSS), pH and other constituents of concern for use in wastewater treatment system design.

Sediment will be combined with site water to make a representative slurry with approximately 10% solids – consistent with the slurry solids anticipated from the excavation operation. The test slurry should also be analyzed for percent solids to confirm solids content of these evaluation samples. A full-breadth of chemical conditioning options including but not limited to anionic and cationic polymers in combination with inorganic and/or organic coagulants will be evaluated, as necessary. Selection of a chemical conditioning program(s) should be to optimize performance and will consider:

- Dose
- Mixing energy
- Shear
- Floc characteristics including size and strength
- Filtrate quality and quantity

6.2 Passive Dewatering Tests

Bench-scale filtration tests will be used to evaluate performance of the recommended chemical conditioning program(s) for facilitating dewatering of lime slurry from this site(s) with geotextile tubes. Slurry samples will be conditioned with the recommended conditioning program(s), flocculated, and subsequently poured through geotextile tube fabric samples. Percent solids of the conditioned solids captured on the fabric sample will be measured. Filtrate volume will be measured over the same 24-hour period and a filtrate sample will be collected and measured for TSS concentration.

6.3 Solidification/Stabilization Treatability Tests

The objective of the s/s treatability study is to identify a range of reagents and mix ratios that can be used to successfully dewater and/or stabilize the residual material prior to cap placement, if necessary. Study results will be used to develop the cost estimates included in the Remedial Design including, but not limited to, the following:

- Index Testing: Testing the physical characteristics of the untreated waste material for parameters such as moisture content, unit weight, particle size, density and/or percent organics.

- Sample Screening: Mixing and screening the samples with different reagents and mix ratios. It is expected that the material will be mixed with three or more of a combination of lime, lime kiln dust, fly ash, Portland cement and/or others. AECOM may also evaluate the effectiveness of mixing with surrounding soils or other low-cost additives that are readily available. The mixtures will be screened for ability to pass paint-filter testing, relative strength at specified time intervals and a subset of the mixes will be identified for optimized mix testing.

- Optimized Mix Development: Successful mixes from the screening phase will be mixed again and tested further for moisture content and unconfined compressive strength. The planned final disposition of the material will determine performance requirements for this treatability testing. Other criteria may include cure time (which would define how quickly the material can be moved after mixing), workability and strength.

6.4 Water Treatability Tests

AECOM will conduct water treatability studies to assess the effectiveness of various technologies to meet POTW-specified criteria for discharge, and to determine full-scale treatment system design parameters. Treatability testing will be performed to demonstrate best available technology economically achievable. At a minimum, the TSWP will include the following components:

- Treatability testing objectives;
- Water treatment objectives for alternate discharge locations such as surface water or local POTW; and
- Methods to collect and prepare samples for treatability testing. This is critical such that the data generated by the treatability tests are representative of the range of pH, waste types and other conditions that may be encountered during full-scale dewatering and material removal operations.

Untreated and treated water samples will be subsequently analyzed by a certified analytical laboratory. Results will be summarized, including treatment performance and full-scale design considerations. It may be desirable to repeat some of the tests to further explore unexpected test results.

7. Data Management and Validation

AECOM's full suite of data management and geospatial services will provide timely and effective organization, visualization and evaluation of large and complex data systems. We have extensive experience in data management support for environmental projects across the country as well as in natural disaster scenarios and catastrophic spills. AECOM's proposed data management and GIS personnel have successfully incorporated historic and current data streams into comprehensive project-wide databases in support of planning activities, work plans, permits, reports, and public presentations for many projects.

AECOM will develop a robust GIS platform (or adapt an existing GIS) to manage data collected over the duration of the contract. The database will include sampling locations and laboratory results, and features from the shoreline and in-river structure survey, utility investigation, and source evaluation study. The GIS platform will include features such as multi-user data entry forms, input processing and QA/QC routines, data query options, maps, and summary reports.

AECOM will manage the master database and provide data management support to requirements for both field and analytical data as part of the project deliverables. The support will primarily involve transfer of tabular and geospatial data from/to the Project Database and Geospatial Repository following procedures defined in the QAPP. The support is expected to include: export and packaging of file geodatabases and tabular data sets including location point data, sample information, analytical chemistry, and other field data from historical or the current investigation. The information transfer process will be fully defined in the QAPP and is expected to involve standardized data transmittal/request form(s), the Project SharePoint site, email, and for large data sets, portable hard drives. The support is anticipated for the duration of this task.

The quality of the historical data will be assessed in terms of geospatial location and analytical content. From a geospatial perspective, it is anticipated that some data clean-up actions may be necessary to

properly join the analytical tabular datasets with their corresponding geospatial locations. From an analytical content perspective, a quality review will be needed to determine if the data meet the data quality objectives associated with those developed for the RI using EPA and GLNPO guidance (e.g., older dataset may have higher method detection limits thereby minimizing their usability). Based on the assessment of the geospatial and analytical quality, the datasets will be parsed and organized for appropriate use and blending with data collected for the current investigation.

The laboratory reports will be EPA Stage 4 compliant and include all raw data necessary to report all levels of data validation. All laboratory analytical results will be loaded into the Project Database (EQulS) and data validation will be performed using AECOM's automated data validation tools. Unless otherwise stated in the final governing QAPP approved by EGLE and EPA, all data will be submitted and validated following the GLLA Data Reporting Standard (April 2020), and conform to the outline specified in the Quality Assurance Considerations for the Great Lakes Legacy Act (April 2020).

8. References

AECOM (2020). Eagle Creek Renewable Energy Morrow Dam Field Investigation HASP. October 2020.

AMEC (2013a). Allied Paper, Inc./Portage Creek/ Kalamazoo River Superfund Site Area 3/Former Otsego Impoundment: Supplemental RI/FS Work Plan. June 2013.

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Amec Foster Wheeler Environment & Infrastructure, Inc. (2016a). Multi-Area Quality Assurance Project Plan – Revision 1, Addendum 1, Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, Operable Unit 5. Prepared for Georgia-Pacific LLC. February 2016.

Amec Foster Wheeler Environment & Infrastructure, Inc. (2016b). Area 3 Supplemental Remedial Investigation Report. March 2016.

Amec Foster Wheeler (2018). Supplemental Remedial Investigation, Area 4, OU-5 Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site. Prepared for Georgia-Pacific LLC. November 2018.

GEI (2020a). Multi-Area Quality Assurance Project Plan, Revision 0: OU5 Allied Paper/Portage Creek/Kalamazoo River Superfund Site. Prepared for Kalamazoo River Areas 2, 3, and 4 Remediation LLC. April 2020 (submitted).

GEI (2020b). Waste Management Plan: OU-5 Allied Paper/Portage Creek/Kalamazoo River Superfund Site. Prepared for Kalamazoo River Areas 2, 3, and 4 Remediation LLC. May 2020 (in preparation).

GEI (2020c). Data Management Plan: OU-5 Allied Paper/ Portage Creek/Kalamazoo River Superfund Site. Prepared for Kalamazoo River Areas 2, 3, and 4 Remediation LLC. June 2020 (in preparation).

GEI (2020d). Pre-Design Investigation Field Sampling Plan; OU5 Area 4 Time Critical Removal Action Allied Paper/Portage Creek/ Kalamazoo River Superfund Site. June 2020.

EPA (2005). Intergovernmental Data Quality Task Force. Uniform Federal Policy for Quality Assurance Project Plans: Evaluating, Assessing, and Documenting Environmental Data Collection and Use Programs.

Part 1: UFP-QAPP Manual. Version 1, March 2005. Publication Numbers: USEPA: EPA-505-B-04-900A, Department of Defense: STIC ADA427785. March.



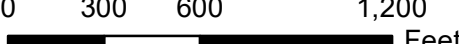
EPA (2020). Approval for a Time-Critical Removal Action at the Trowbridge Dam Area of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site, Allegan County, Michigan (EPA ID MID006007306). April 2020.

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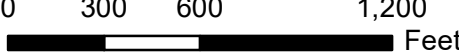
Figure 1. Proposed Sediment Sampling Locations

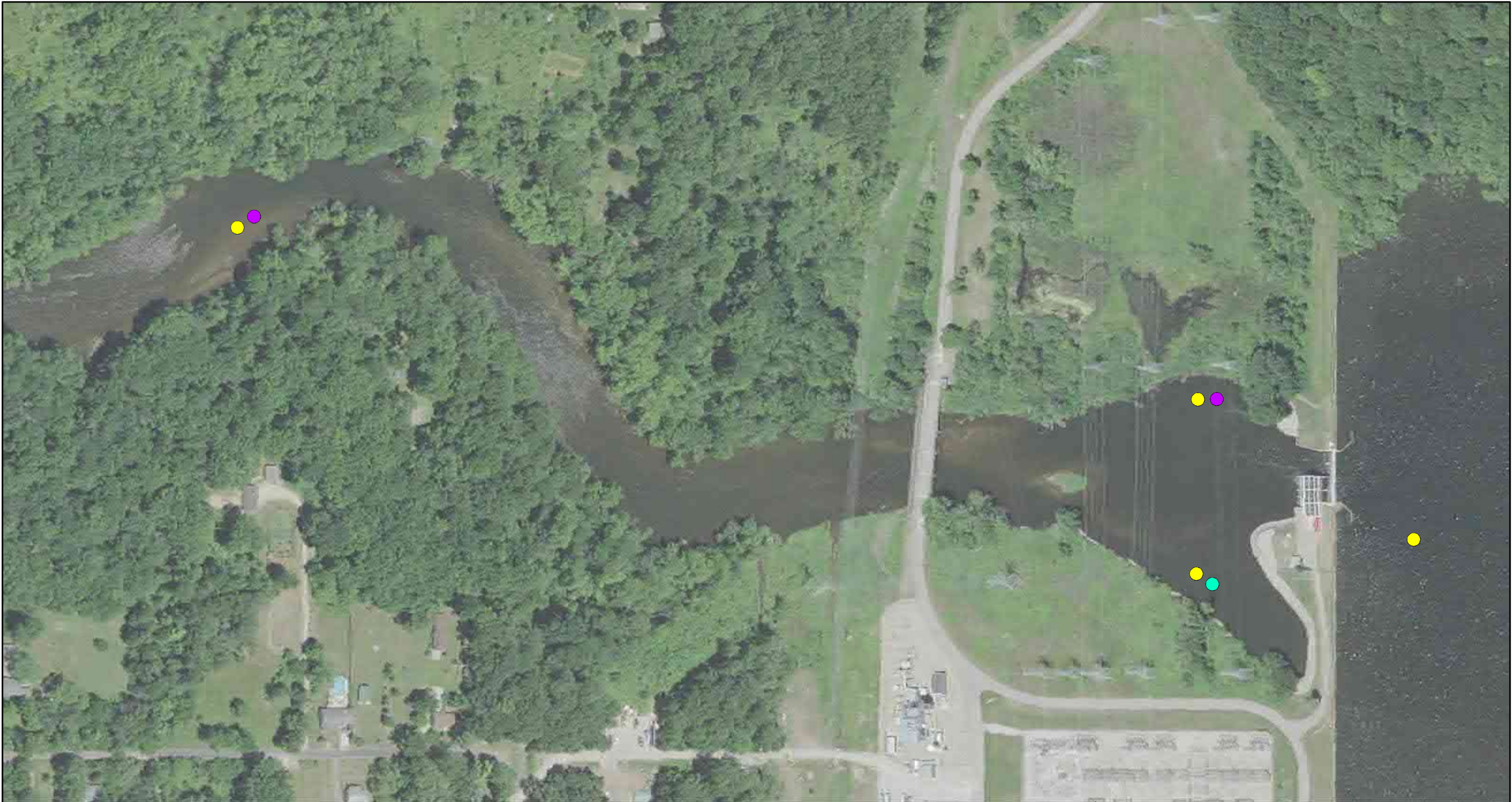
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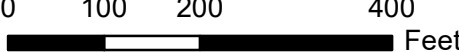


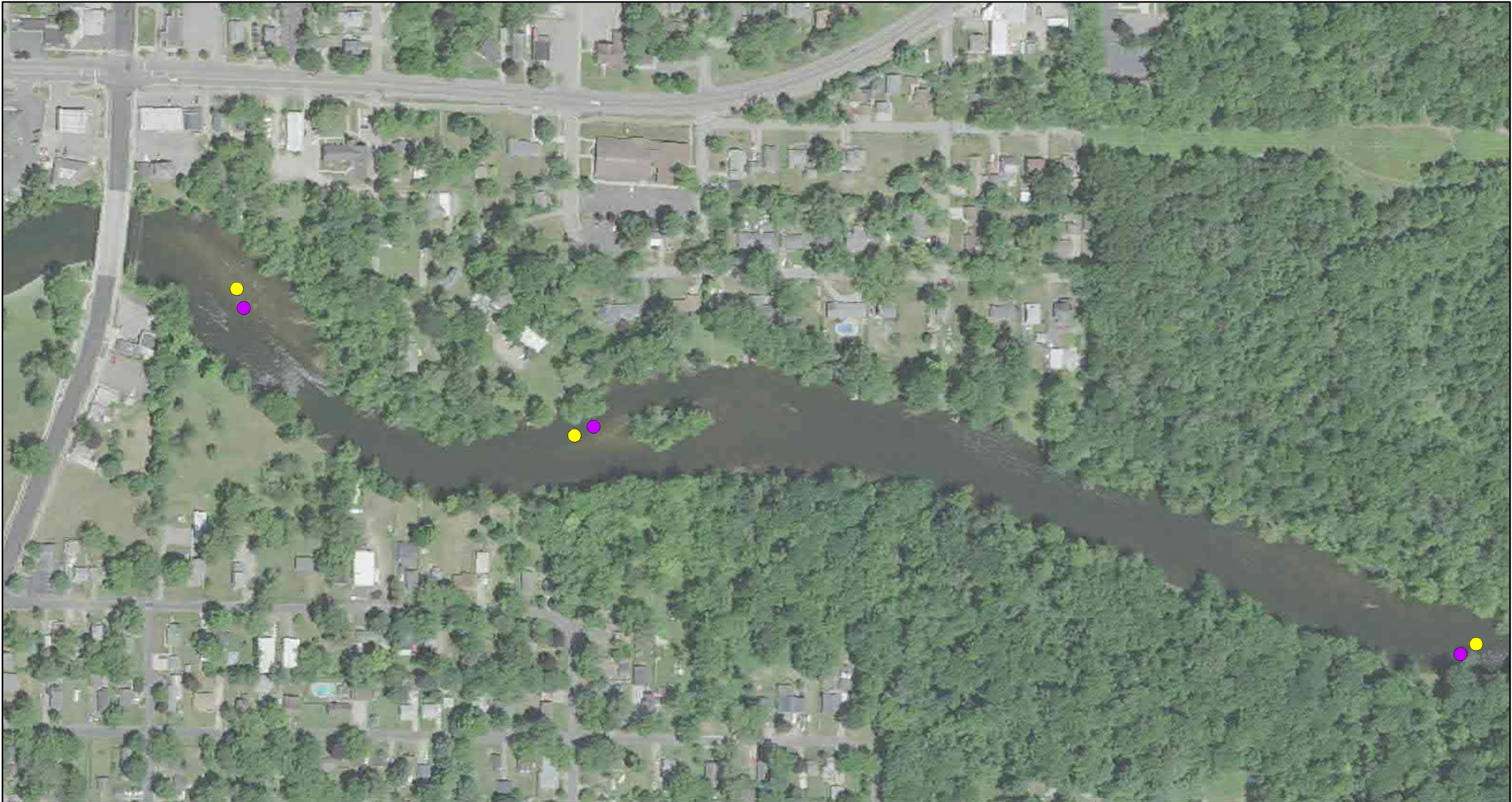
	Map Location	Legend <ul style="list-style-type: none">● Proposed Sediment Grab Sampling Location (16 locations)● Proposed Sediment Core Sampling Location (4 locations, will be analyzed)● Proposed Sediment Core Sampling Location (10 locations, will be frozen)	 	DRAFT FIGURE 1 PROPOSED SEDIMENT SAMPLING LOCATIONS SHEET 1 OF 6 STS MORROW LAKE DAM
	Project: 60644031			
	Prepared: 11/29/2020			



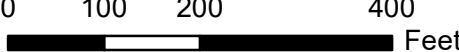


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	Prepared: 11/29/2020			



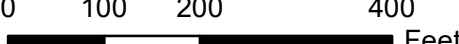


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	Project: 60644031			
	Prepared: 11/29/2020			



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	Prepared: 11/29/2020			



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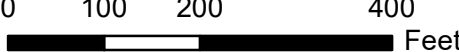
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	Project: 60644031			
	Prepared: 11/29/2020			

Table 1. Sample Matrix and Analytical Table

Location	Samples #	Matrix	Type	Analysis	QA/QC
Upstream	3	Sediment	Surface Grab	<ul style="list-style-type: none"> • PCB (8082A) • PCB (EPA M1688) • TPH (8015M) • PAHs (8270 SIM) • MI metals (6010D) • Geotechnical 	Field Duplicate (1) MS/MSD (1/1)
Upstream	1	Sediment	DMA - Grab	<ul style="list-style-type: none"> • PCB (8082A) • PCB (EPA M1688) • MI metals (6010D) • Geotechnical 	
Upstream	1	Sediment	Reference/Background - Grab	<ul style="list-style-type: none"> • PCB (8082A) • PCB (EPA M1688) • TPH (8015M) • PAHs (8270 SIM) • MI metals (6010D) • Geotechnical 	
Upstream	1 1-ft horizons	Sediment	Core (8-ft)	<ul style="list-style-type: none"> • PCB (8082A) • PCB (EPA M1688) • TPH (8015M) • MI metals (6010D) • Geotechnical (1 composite/core*) 	Field Duplicate (1) MS/MSD (1/1)
Upstream	2	Sediment	Core (8-ft)	Frozen	Field Duplicate (2) MS/MSD (1/1)
Downstream	10	Sediment	Surface Grab	<ul style="list-style-type: none"> • PCB (8082A) • PCB (EPA M1688) • TPH (8015M) • PAHs (8270 SIM) • Geotechnical 	Field Duplicate (1) MS/MSD (1/1)

Location	Samples #	Matrix	Type	Analysis	QA/QC
Downstream	3 1-ft horizons	Sediment	Core (10-ft)	<ul style="list-style-type: none"> • PCB (8082A) • TPH (8015M) • Geotechnical (1 composite/core*) 	Field Duplicate (1) MS/MSD (1/1)
Downstream	7	Sediment	Core (10-ft)	Frozen	Field Duplicate (7) MS/MSD (3/3)

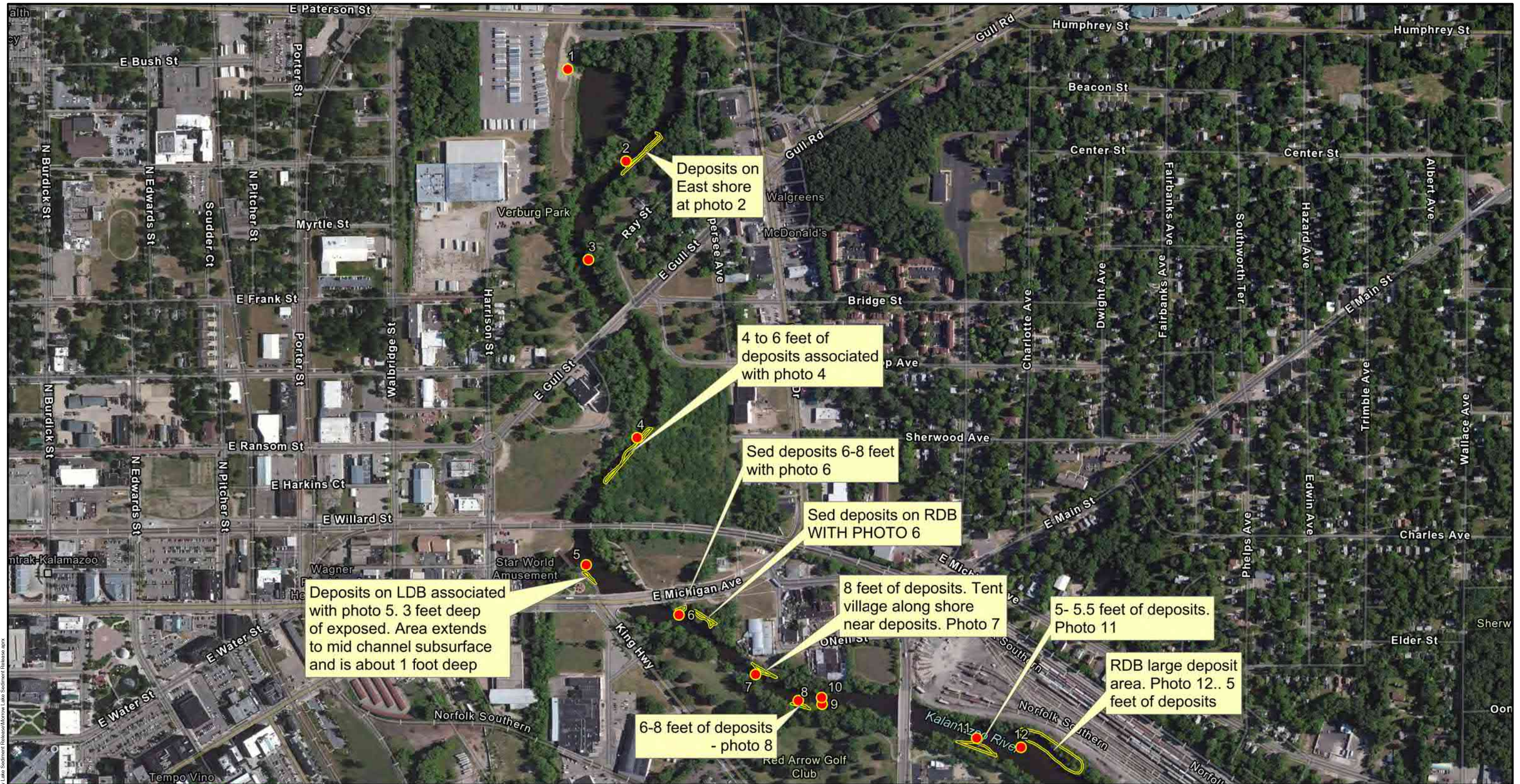
*Subsample cores into horizons for geotechnical analysis based on visual observations

Geotechnical analyses:

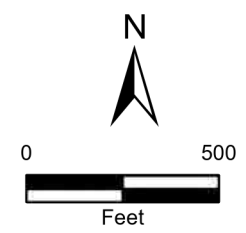
- Sieve analysis for grain size (ASTM D422)
- Moisture content (ASTM D2216)
- Specific gravity with hydrometer (ASTM D854)
- Total organic carbon (TOC) (ASTM D2974)
- Atterberg limits (ASTM D4318)

Attachment A – Sediment Deposit & Photograph Locations (TetraTech)

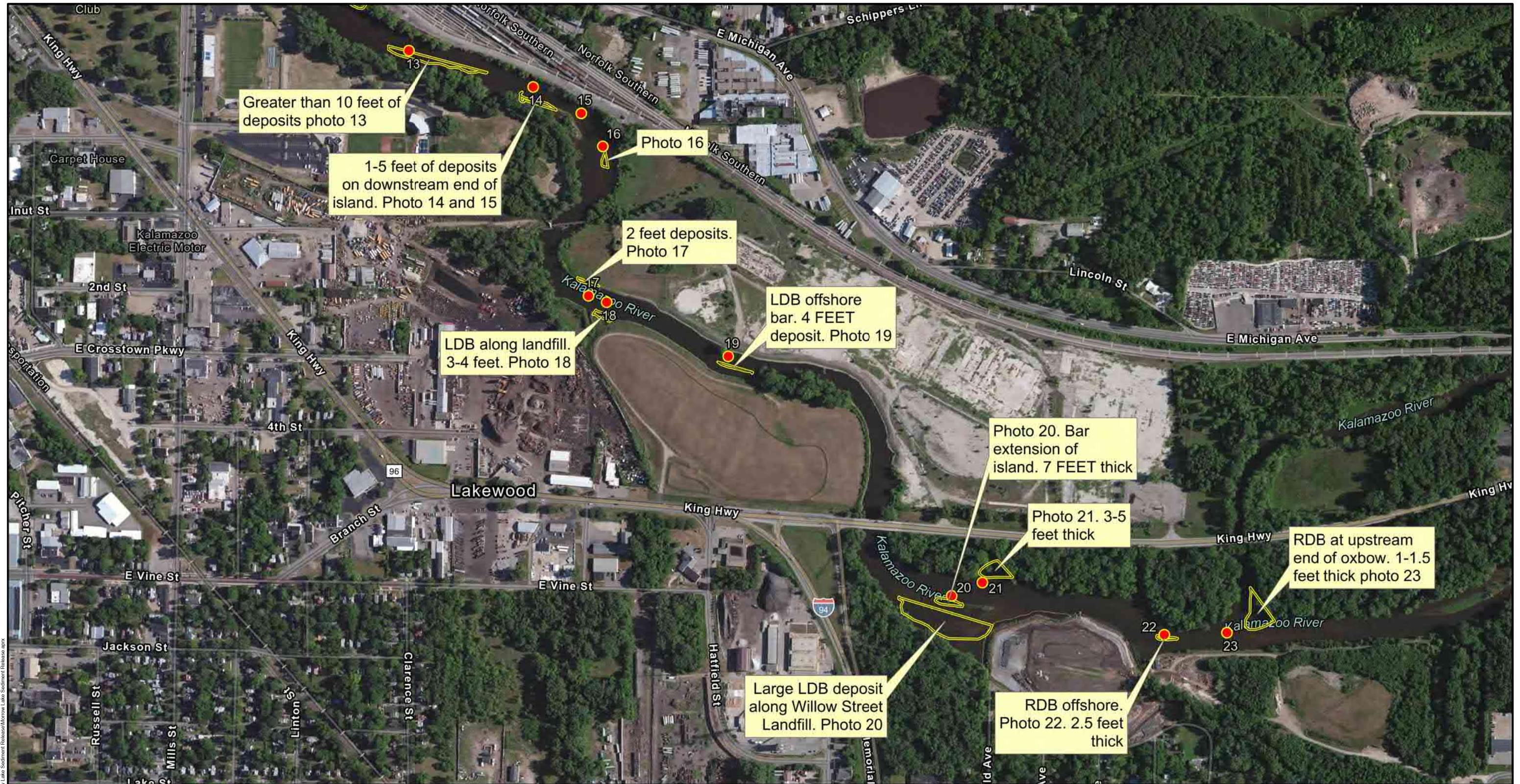
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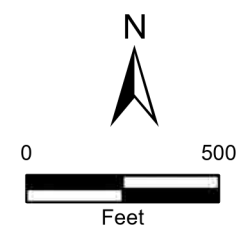
- Observations (10/05/2020 & 10/06/2020)
- Photograph Location
 - Sediment Deposit Area



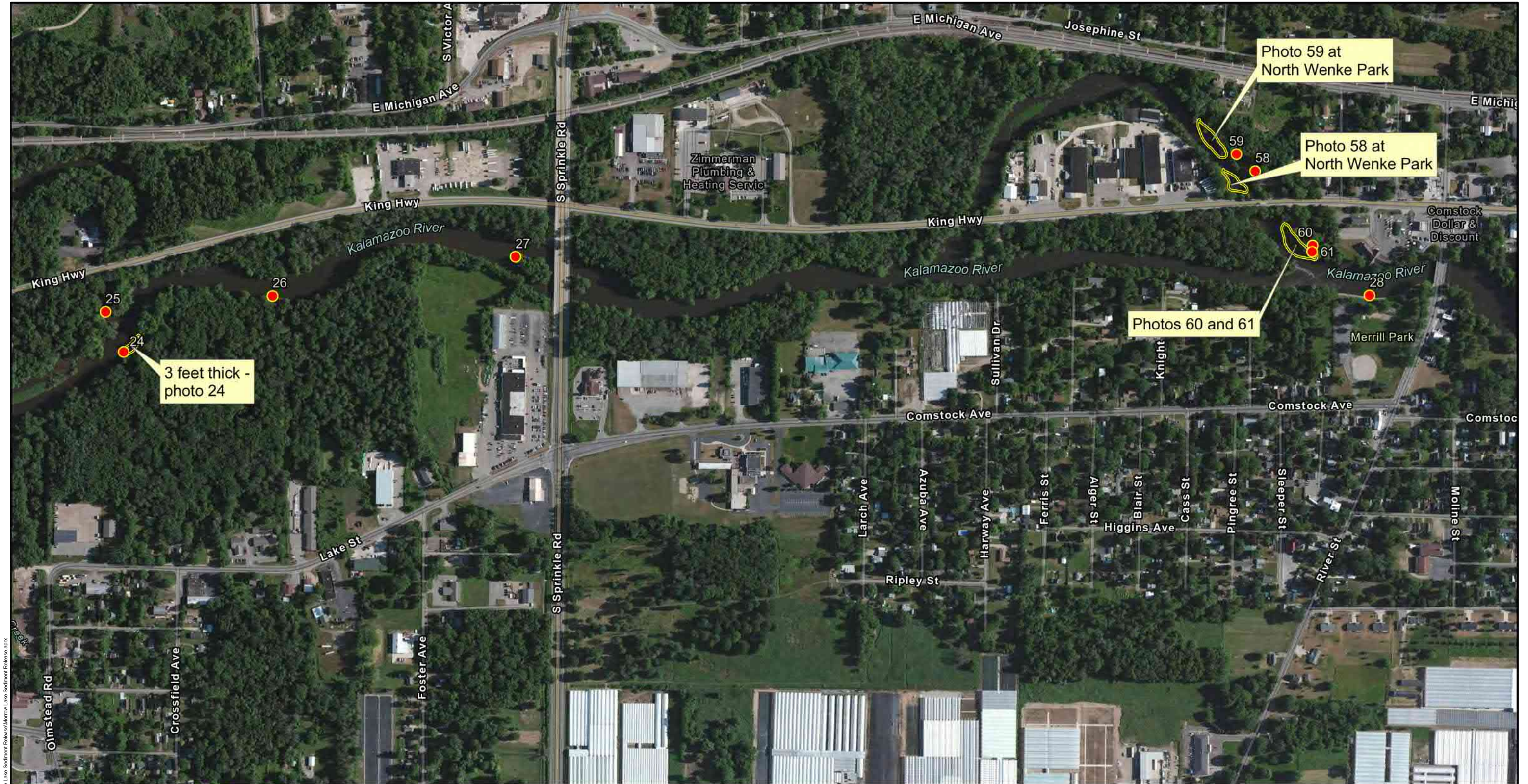
Morrow Lake Sediment Release Kalamazoo River, Michigan	
Figure 1 of 6 SEDIMENT DEPOSIT & PHOTOGRAPH LOCATIONS	
Prepared For: USEPA	Prepared By: KRB



- Observations (10/05/2020 & 10/06/2020)
- Photograph Location
 - Sediment Deposit Area



Morrow Lake Sediment Release Kalamazoo River, Michigan	
Figure 2 of 6 SEDIMENT DEPOSIT & PHOTOGRAPH LOCATIONS	
Prepared For: USEPA	Prepared By: KRB



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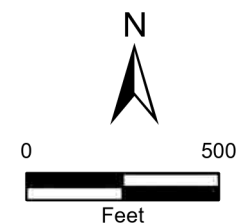
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- Photograph Location
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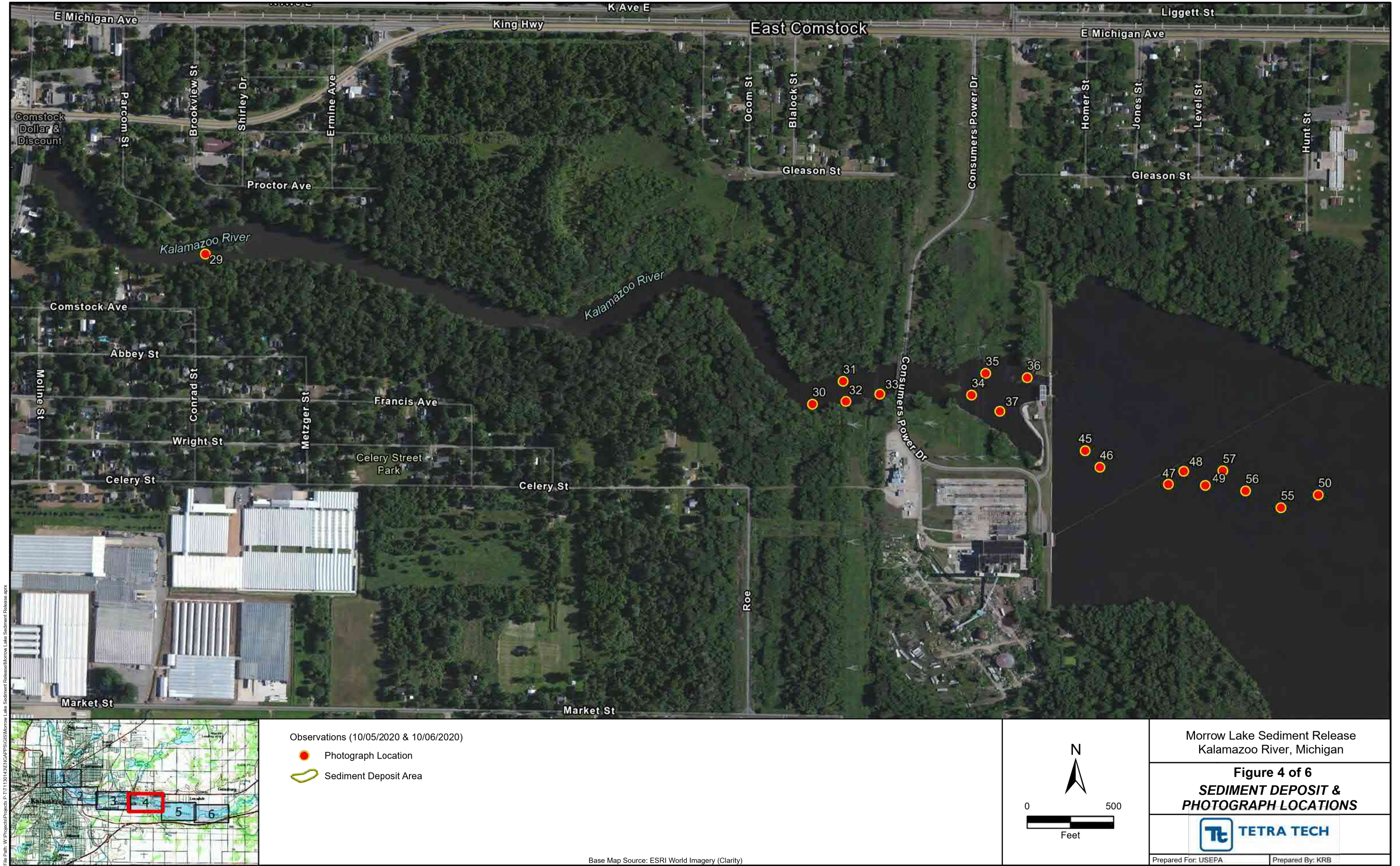
Morrow Lake Sediment Release
Kalamazoo River, Michigan

Figure 3 of 6
**SEDIMENT DEPOSIT &
PHOTOGRAPH LOCATIONS**

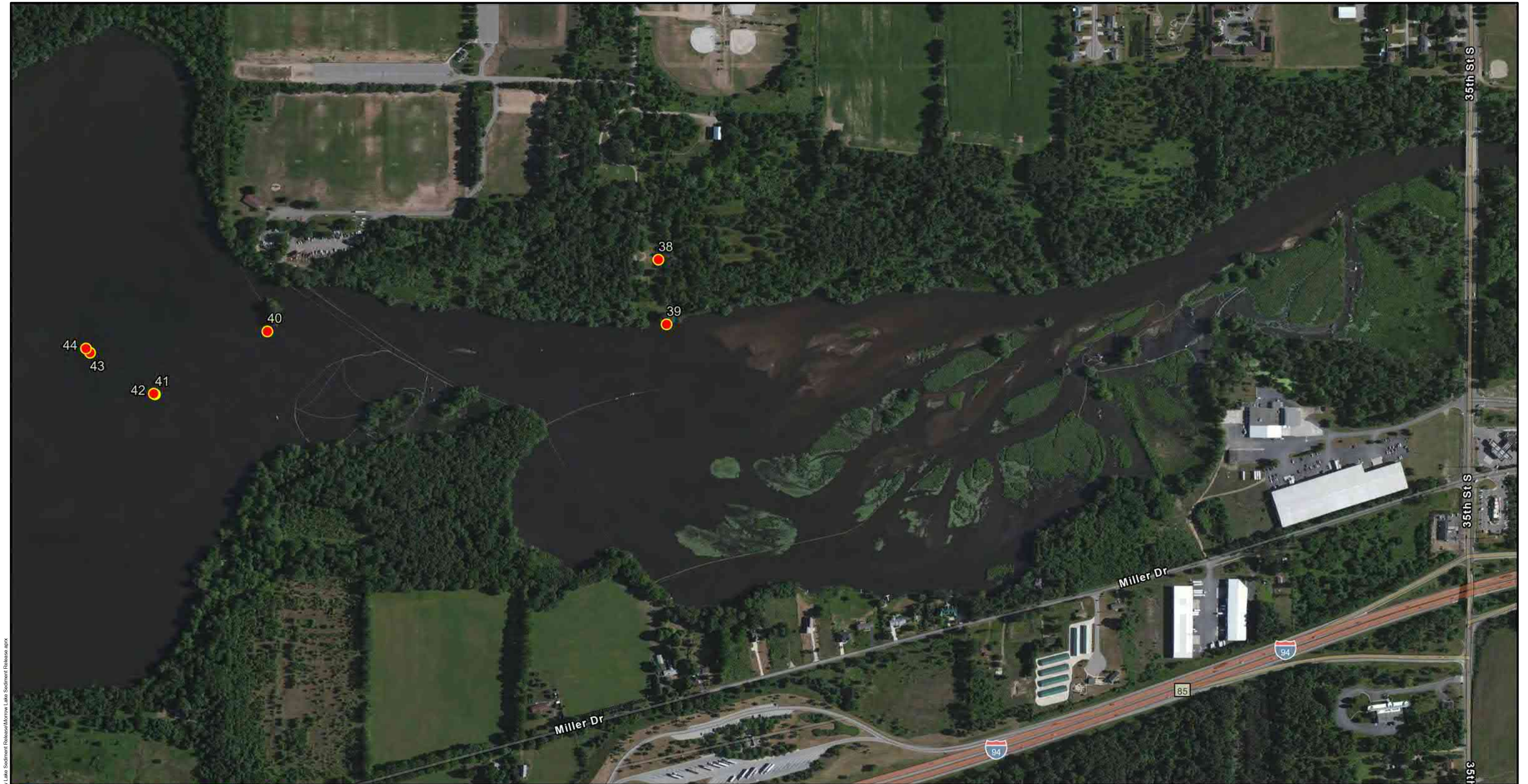


Prepared For: USEPA



Prepared By: KRB

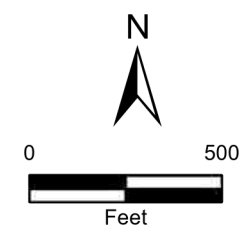






Observations (10/05/2020 & 10/06/2020)

-  Photograph Location
-  Sediment Deposit Area



Morrow Lake Sediment Release
Kalamazoo River, Michigan

Figure 6 of 6
**SEDIMENT DEPOSIT &
PHOTOGRAPH LOCATIONS**



Prepared For: USEPA

Prepared By: KRB

Base Map Source: ESRI World Imagery (Clarity)

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Date Saved: 10/08/20

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Attachment B – Standard Operating Procedures

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SOP ML-1

SEDIMENT SAMPLE COLLECTION

SEDIMENT SAMPLING

The following procedures are designed to be used to collect cores and surficial sediments to a specified depth as detailed in the sampling plan. Vibracore techniques will be conducted from vessels including a flat bottom shallow draft boat and air boats. Sediment samples should be collected from areas having lower levels of constituents of interest first, followed by stations with higher expected levels of constituents of interest or if collected from a flowing stream or river from downstream to upstream where possible. The procedures listed below may be modified in the field by the agreement of the lead site sampler and field personnel, based on field and site conditions, after appropriate annotations have been made in the appropriate field logbook.

EQUIPMENT

- Boat with sampling frame/davit
- Vibracore device with power supply
- SS sampling tools
- Al or polycarbonate core tubes
- Coring supplies (caps, tape, keepers, etc.)
- Decon equipment
- Safety equipment
- Camera
- Tape measure
- Pens, markers, whiteboard
- GPS
- Field logbook

VIBRACORE SAMPLING PROCEDURES

To collect core samples into sediment or sludge matrices a vibracore barge unit will be used. The vibracore barge unit consists of a pontoon sampling barge equipped with a tripod and a vibrating head. The vibrating head advances the sample core into the sediment or sludge material. Three-inch diameter thin walled aluminum tubing is used for the core barrel. The following procedures are used:

1. Position and anchor the sampling barge over the designated sampling location. Record sample location with GPS. Collect depth to water from center of barge to top of water surface.
2. Position a stick of 3-inch diameter aluminum pipe (typically 10 to 20- feet long) over the opening in the center of the barge. Lock the stick of pipe into the vibrating head using a hand tightened collar. Turn the motor that runs the vibrating head on and guide the agitator in a downward vertical motion to collect the sample. Repeat the procedures until the required depth is reached or the length of the pipe is reached.

3. Fill the core barrel with water and insert rubber stopper or similar plug in the top to create a vacuum, thus enabling retention of the core as it is extracted from the sediment/sludge.
4. Unhook the collar around the pipe, label the core with the total depth, top orientation and cut the core pipe above the sediment/sludge height.
5. Store the core vertically tied off to the barge railing.
6. Transfer sample core to onshore processing area. Place core on sampling table lined with plastic sheeting.
7. Cut core pipe with metal shears by making two lengthwise cuts along opposite sides of the core pipe to permit splitting of the sample with a wire saw.
8. Open core to yield two core halves.
9. Record core lithology.
10. Label scale, core number, core orientation, and core length with a broad-tip permanent marker on plastic sheeting beside the core.
11. Photograph core.
12. Collect discrete sample at designated sample locations from the interior of the core section (not in contact with core pipe) and place in sample containers as described in work plan.
13. Complete all pertinent field QA/QC documentation, logbooks, sample labels, and field data sheets.
14. Complete the appropriate field books and QA/QC documentation.
15. Decontaminate all sampling equipment.

1. Locate the sampling point as directed in the work plan or SAP. Containers will be labeled with sample tags prior to filling. If analytical testing will be performed for volatile organic compounds (VOCs), the VOC sample will be collected first (with a minimum of disturbance) by placing the sample into the container with a minimum amount of headspace and sealed tightly.
2. Surface sediments are typically collected in the biotic zone (0 to 4-inches deep). The sediment samplers identified above are designed to retrieve sediments from the upper 4-inches of the sediment bed. Surface sediments are typically collected from ponds, lakes, rivers or streams. A boat may be required to access the sampling locations without disturbing the sediments. Surface sediments from flowing streams, rivers, creeks, bayous, etc. should be collected from downstream to upstream.
3. When using a clam-type sampler lower to the water/sediment interface and release the messenger to activate the closure mechanism. The sampler will close and excavate the surface sediments. If using a decontaminated stainless-steel or disposable plastic sampling tool, remove sediment to the depth specified in the work plan or SAP.
4. After retrieval of the sampler, decant the excess water from the sampler and place the sediments into a decontaminated stainless steel or disposable plastic bowl.
5. If required for analysis, first collect VOC samples (prior to any homogenization), placing the samples in the appropriate-size containers.
6. Thoroughly mix and homogenize the sample using disposable equipment or a decontaminated stainless-steel spoon.
7. Remove samples of the homogenized sediment from the mixing bowl and place in the appropriate size sample container. The sample container should be filled to just below the container lip, and the container should be sealed tightly.

8. Complete all pertinent field QA/QC documentation, logbooks, sample labels, and field data sheets.
9. Mark the sampling site with a wire flag, wooden stake, metal rebar, or flagging, as appropriate.
10. Decontaminate all sampling equipment.
11. After collection of samples either Encore Sampler or other containers must be stored in ice chest and cooled.
12. Package and ship samples.

GRAB SAMPLE PROCEDURES

1. Locate the site as directed in the work plan or SAP. Containers will be labeled with sample tags prior to filling. If analytical testing will be performed for VOCs, the VOC sample will be collected first (with a minimum of disturbance) by placing the sample into the container with a minimum amount of headspace and sealed tightly.
2. The boat or barge should be positioned over the sample location. Collect and record the location using GPS.
3. Lower the Ekman/Ponar dredge to the water/sediment/sludge interface. Release the messenger to activate the closure mechanism and excavate the sediments/sludge.
4. Slowly pull the sampler up into the boat and decant the excess water. Empty the sediment/sludge material into a large decontaminated stainless steel bowl or disposal plastic bucket.
5. If required for analysis, first collect VOC samples (prior to any homogenization), placing the samples in the appropriate-size containers.
6. Thoroughly mix and homogenize the sample using a decontaminated plastic or stainless-steel spoon.
7. Remove samples of the homogenized sediment from the mixing bowl and place in the appropriate size sample container. The sample container should be filled to just below the container lip, and the container should be sealed tightly.
8. Complete all pertinent field QA/QC documentation, logbooks, sample labels, and field data sheets.
9. Complete the appropriate field books and QA/QC documentation.
10. Decontaminate all sampling equipment.

SOP ML-2

SEDIMENT SAMPLE PROCESSING

SEDIMENT CORE PROCESSING

The following procedures are designed to be used for processing sediment cores collected with dedicated core liners using vibracore or manual advancement techniques. Processing includes logging sediments and collecting material for laboratory analysis. Processing will be completed following site-specific sampling plans.

EQUIPMENT

- Processing table
- Vertical core stand
- Core liner cutting tools
- Plastic sheeting
- Disposable spoons/scoops
- Disposable Al pans, spatula, sheeting
- Laboratory bottle ware
- Sample coolers
- Trash bags
- COC' s, custody seals
- Decontamination supplies
- Tape measure
- Datasheet
- PPE

PROCEDURES

The procedures outlined below are to be used when processing sediments within a sampling core. All equipment used to process sediments should be decontaminated between sampling intervals or disposable.

Obtain sediment core and confirm sample identification

Keeping the core upright, remove the top cap and measure and record the length of sediment in the core. Check for settling, noting any measurable difference between the top of sediment and the "mud line" marked on the core liner by the boat crew.

If sediment is firm cap the core and transfer to the core cutting area. If sediment is flowable, collect the top interval specified in the sampling plan while in a vertical position. Prior to removing sediment, dry the outside of the liner and use a permanent marker to indicate the bottom of the interval to be processed vertically. Use a dedicated or decontaminated spoon/spatula to scoop out the sediment to the line drawn for that interval.

Confirm top versus bottom of each core and align the core(s) horizontally.

Cut cores length-wise on opposite sides using electric cutting sheers or other methods with appropriate PPE.

Wearing clean nitrile gloves, open the core tube and separate the core into two halves using putty knives or flat spatulas if need to separate the core. Measure the length of the material in the core and compare it to the field measurement noted on the end cap. Discard slough. Begin measurement at the surface of the core material after the slough is discarded. Note drive depth; record percent

recovery as: (length of material in core) / (drive depth). For example, if the field crew documented a drive of 4.0 ft, and 3.6 ft was recovered, the percent recovery would be $3.6/4.0 = 90\%$ recovery.

Use a white board to identify the core identification number, drive length, and recovery length. Photograph the exposed surface of the core. Mark the top and bottom depths at each end and include a ruler or scale along the length of the core. Include the core ID, sample date, and depth interval in the photograph. Remember to include a photograph of any high fluid (saturated) intervals previously removed and placed in bowls/pans prior to homogenization.

Visually log the core using the Unified Soil Classification System (USCS) and record detailed information. Note attributes such as cementation, color and mineralogy (if it can be determined). The presence of iron-staining, or other staining, presence of organic matter, shells, or debris will be recorded. Any odors (i.e., organic, hydrogen sulfide, fuel oil-like, etc.) will be recorded. Also note the depth of contact between bottom of sediment and native material, if distinguishable.

The sample processor will put the material for each sample interval into a clean (unused) aluminum pan for homogenization. Be sure to include the entire interval length (no more, no less), and homogenize all of the interval material from the core (i.e., do not just scrape material from along the interval, leaving a significant amount behind). Wearing clean nitrile gloves over Kevlar cut-resistant gloves, mix the material until it is visibly homogeneous. Break up silt aggregates. Discard easily retrievable, obviously non-native material (e.g., brick, concrete, angular gravel) and material that is not soil or sediment (e.g., shells, worms). Also remove large vegetated material that is not obviously decomposed (e.g., root wads/mats, wood debris, green plant material). Homogenization will follow the USEPA quartering procedure (USEPA, 2014) where the sample material is divided into equal quarters in the mixing pan, each quarter is mixed individually, the quarters are then combined in two halves that are individually mixed followed by the entire sample being mixed again. This procedure will be repeated several times until the sample is adequately mixed. Care will be taken to avoid material in contact with the core liner to the extent practicable.

Partition the core into each sample interval by placing a clean (unused) paint stick (or similar) in the core material at the boundary between each sample interval. Do not use sample intervals to log or account for missing material; intervals are for sampling purposes only.

If a sample is being split, pat down the material into uniform thickness after homogenizing and divide the material into equal parts using the alternate shoveling method from the USEPA (USEPA, 2014). This method involves repetitively placing an aliquot of soil in each sample container in sequence until the material or the sample volume are exhausted. The purpose is to create splits of the same material.

Use clean gloved hands (nitrile over Kevlar gloves) and/or an alternate, but compatible mixing tool to scoop the homogenized material into a sample container (e.g., jar or resealable plastic bag).

Record the appropriate sample information (i.e., project name or number, sample identification, collection date and time, analysis requested, preservative, sampler's initials) on the sample label and on the core sampling form.

Sampling tools and pans/bowls will be dedicated to one sample interval, these items will not be used for processing any other core intervals. Non-dedicated sampling tools will be decontaminated between sample intervals. When the entire core has been processed, discard the core tubes and contents of the bucket (pans, nitrile gloves, paint sticks, tape, end caps, and excess material) into the roll-off. Use a damp paper towel to collect spilled material and discard the collected material in the bucket or roll-off. Materials that have not contacted core material may be disposed with general refuse (i.e., in trash can or dumpster).

Collect QA/QC samples at the rate specified

Place samples in cold storage pending packing for shipment or courier pickup

REFERENCES

United States Environmental Protection Agency, Soil Sampling SOP, USEPA Region 4, SESDPROC-300-R3. August 21, 2014.

Kalamazoo River Cleanup Group. PDI FSP OU5 Area Time Critical Removal Action. June 15, 2020.

DRAFT

SOP ML-3 EQUIPMENT DECONTAMINATION

SEDIMENT EQUIPMENT DECON.

The following procedures are designed to be used for decontamination of core collection equipment and reusable sampling equipment for collection of analytical samples. The goal is to minimize the potential for cross-contamination between samples.

PROCEDURES

These procedures will be used to decontaminate sediment core collection equipment and support vessels, including anchors, vibracoring equipment, lines/ropes, etc.

- Personnel will don appropriate PPE for decontamination to reduce exposure to contaminants.

- Residual bulk material will be brushed or scraped off the equipment.

- Equipment will be washed down or rinsed with river water onboard the vessel, at the sampling location where appropriate and feasible, to remove any remaining sediment.

- Rinse water will not be contained.

- Boat decks will be washed down daily with river water at the conclusion of work for the day.

These procedures will be used to decontaminate sampling equipment including but not limited to core catchers and cutting heads, split-spoons, hand augers, and sample processing equipment.

- Personnel will don appropriate PPE for decontamination to reduce exposure to contaminants.

- Remove residual material by brushing or scraping.

- Place equipment in a wash tub or bucket containing Alconox (or equivalent non-phosphate detergent) and potable water. Scrub with a brush or similar tool to remove visible contamination or dirt from sampling devices.

- Rinse with potable water.

- Rinse with distilled water.

ATTACHMENT 2
FINAL START ANALYTICAL REPORT



ALS Environmental
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December 30, 2020

Analytical Report for Service Request No: K2011446

Karl Schultz
Tetra Tech, Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

RE: Allied Paper Site - Morrow Lake / 103X903100320001BJ101

Dear Karl,

Enclosed are the results of the sample(s) submitted to our laboratory December 08, 2020
For your reference, these analyses have been assigned our service request number **K2011446**.

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 contact me if you have any questions. My extension is 3312. You may also contact me via email at Todd.Poyfair@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Todd Poyfair
Technical Services
Manager



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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.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	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	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	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	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.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.ALSGlobal.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/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
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Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake
Sample Matrix: Soil

Service Request: K2011446
Date Received: 12/08/2020

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier level IV requested by the client.

Sample Receipt:

Six soil samples were received for analysis at ALS Environmental on 12/08/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Semivolatiles by GC/MS:

Method 8270D, 12/17/2020: The following analyte was flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS14\121720F030.D: Pyrene. In accordance with the EPA Method, 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 ALS SOP. The CCV met these criteria. No further corrective action was required.

Semivolatile GC:

Method 8082A: The detection limit was elevated for Aroclors 1016-1248 samples. The chromatogram indicated the presence of non-target background components that prevented an exact pattern match for any particular Aroclor. The matrix interference also prevented adequate resolution of the individual target compounds that comprise these Aroclors at the normal limit. Care was taken to minimize any quantitative overstatement for the level of interference for each Aroclor. The results were flagged to indicate the matrix interference.

Metals:

No significant anomalies were noted with this analysis.

Approved by



Date

12/30/2020



Chain of Custody

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CHAIN OF CUSTODY

Failure to complete all section of this form may delay analysis.

COC number (for client tracking)

MLSR1

Page 1 of 4

K2011446

Note: (a) **DW** (Drinking water), **SW** (Surface water), **GW** (Ground water), **WW** (Waste water), **S** (Soil), **SL** (Sludge), **SE** (Sediment), **OS** (Other solid material)

PM TP

Cooler Receipt and Preservation Form

Client Tetra Tech Service Request K20 11446
 Received: 12/8/20 Opened: 12/8/20 By: BR Unloaded: 12/8/20 By: BR

1. Samples were received via? USPS 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? 1 front
- If present, were custody seals intact? Y N If present, were they signed and dated? Y N
4. Was a Temperature Blank present in cooler? NA Y N If yes, note the temperature in the appropriate column below:
 If no, take the temperature of a representative sample bottle contained within the cooler; note in the column "Sample Temp":
5. Were samples received within the method specified temperature ranges? NA Y N
 If no, were they received on ice and same day as collected? If not, note the cooler # below and notify the PM. NA Y N
- If applicable, tissue samples were received: Frozen Partially Thawed Thawed

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
<u>2.2</u>	<u>—</u>	<u>1202</u>	<u>MLSR1</u>	<u>—</u>	<u>—</u>	<u>772275086280</u>	

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

Sample ID on Bottle	Sample ID on COC	Identified by:

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

Notes, Discrepancies, Resolutions: _____



Total Solids

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Analysis Method: 160.3 Modified
Prep Method: None

Service Request: K2011446
Date Collected: 12/02/20 - 12/04/20
Date Received: 12/8/20
Units: Percent
Basis: As Received

Solids, Total

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
DSLBG003(0.0-0.5)-SP01	K2011446-001	29.9	-	-	1	12/09/20 08:29	
DSLBG003(0.0-0.5)-SP02	K2011446-002	29.2	-	-	1	12/09/20 08:29	
DSLBC002(0-1.3)-SP01	K2011446-003	32.0	-	-	1	12/09/20 08:29	
USRBG001(0.0-0.5)-SP01	K2011446-004	47.4	-	-	1	12/09/20 08:29	
DSLBG007(0.0-0.5)-SP01	K2011446-005	24.2	-	-	1	12/09/20 08:29	
DSRBC008(0.0-1.25)-SP01	K2011446-006	29.5	-	-	1	12/09/20 08:29	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446**Date Collected:** 12/03/20**Date Received:** 12/08/20**Date Analyzed:** 12/09/20**Replicate Sample Summary****Inorganic Parameters****Sample Name:** USRBG001(0.0-0.5)-SP01**Units:** Percent**Lab Code:** K2011446-004**Basis:** As Received

				Duplicate Sample K2011446- 004DUP			
Analyte Name	Analysis Method	MRL	Sample Result	Result	Average	RPD	RPD Limit
Solids, Total	160.3 Modified	-	47.4	46.9	47.2	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.



Metals

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: USRBG001(0.0-0.5)-SP01
Lab Code: K2011446-004

Service Request: K2011446
Date Collected: 12/03/20 16:00
Date Received: 12/08/20 10:00

Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6010D	ND U	mg/Kg	16	4	2	12/18/20 10:06	12/11/20	
Barium	6010D	46.3	mg/Kg	1.6	0.6	2	12/18/20 10:06	12/11/20	
Cadmium	6010D	0.51	mg/Kg	0.40	0.18	2	12/18/20 10:06	12/11/20	
Chromium	6010D	18.7	mg/Kg	1.6	0.6	2	12/18/20 10:06	12/11/20	
Copper	6010D	12.2	mg/Kg	2.0	0.6	2	12/18/20 10:06	12/11/20	
Lead	6010D	20.3	mg/Kg	4.0	1.4	2	12/18/20 10:06	12/11/20	
Mercury	7471B	0.085	mg/Kg	0.037	0.004	1	12/17/20 12:48	12/16/20	
Selenium	6010D	ND U	mg/Kg	16	4	2	12/18/20 10:06	12/11/20	
Silver	6010D	ND U	mg/Kg	3.2	0.6	2	12/18/20 10:06	12/11/20	
Zinc	6010D	74.8	mg/Kg	2.0	0.8	2	12/18/20 10:06	12/11/20	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ2019719-03

Service Request: K2011446
Date Collected: NA
Date Received: NA
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic	6010D	ND U	mg/Kg	8	2.0	2	12/18/20 09:56	12/11/20	
Barium	6010D	ND U	mg/Kg	0.8	0.30	2	12/18/20 09:56	12/11/20	
Cadmium	6010D	ND U	mg/Kg	0.2	0.09	2	12/18/20 09:56	12/11/20	
Chromium	6010D	ND U	mg/Kg	0.8	0.30	2	12/18/20 09:56	12/11/20	
Copper	6010D	ND U	mg/Kg	1.0	0.3	2	12/18/20 09:56	12/11/20	
Lead	6010D	ND U	mg/Kg	2	0.7	2	12/18/20 09:56	12/11/20	
Selenium	6010D	ND U	mg/Kg	8	2.0	2	12/18/20 09:56	12/11/20	
Silver	6010D	ND U	mg/Kg	1.6	0.3	2	12/18/20 09:56	12/11/20	
Zinc	6010D	ND U	mg/Kg	1.0	0.4	2	12/18/20 09:56	12/11/20	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ2020215-01

Service Request: K2011446
Date Collected: NA
Date Received: NA
Basis: Dry

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Mercury	7471B	ND U	mg/Kg	0.02	0.002	1	12/17/20 12:06	12/16/20	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446**Date Collected:** 12/03/20**Date Received:** 12/08/20**Date Analyzed:** 12/18/20**Replicate Sample Summary****Total Metals****Sample Name:** USRBG001(0.0-0.5)-SP01**Units:** mg/Kg**Lab Code:** K2011446-004**Basis:** Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample KQ2019719-01	Average	RPD	RPD Limit
					Result			
Arsenic	6010D	16	4	ND U	ND U	ND	-	20
Barium	6010D	1.6	0.6	46.3	45.2	45.8	2	20
Cadmium	6010D	0.39	0.18	0.51	0.47	0.49	9	20
Chromium	6010D	1.6	0.6	18.7	18.3	18.5	2	20
Copper	6010D	2.0	0.6	12.2	12.1	12.2	<1	20
Lead	6010D	3.9	1.4	20.3	16.5	18.4	21 #	20
Selenium	6010D	16	4	ND U	ND U	ND	-	20
Silver	6010D	3.2	0.6	ND U	ND U	ND	-	20
Zinc	6010D	2.0	0.8	74.8	69.3	72.1	8	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.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446**Date Collected:** 12/03/20**Date Received:** 12/08/20**Date Analyzed:** 12/17/20**Replicate Sample Summary****Total Metals****Sample Name:** USRBG001(0.0-0.5)-SP01**Units:** mg/Kg**Lab Code:** K2011446-004**Basis:** Dry

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
					KQ2020215-05 Result			
Mercury	7471B	0.028	0.003	0.085	0.090	0.088	7	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.

ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/03/20
Date Received: 12/08/20
Date Analyzed: 12/18/20
Date Extracted: 12/11/20

Matrix Spike Summary
Total Metals

Sample Name: USRBG001(0.0-0.5)-SP01
Lab Code: K2011446-004
Analysis Method: 6010D
Prep Method: EPA 3050B

Units: mg/Kg
Basis: Dry

Matrix Spike
KQ2019719-02

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Arsenic	ND U	205	204	101	75-125
Barium	46.3	461	407	102	75-125
Cadmium	0.51	19.6	20.4	94	75-125
Chromium	18.7	99.4	81.4	99	75-125
Copper	12.2	112	102	98	75-125
Lead	20.3	206	204	91	75-125
Selenium	ND U	180	204	88	75-125
Silver	ND U	19.2	20.5	94	75-125
Zinc	74.8	262	204	92	75-125

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.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/03/20
Date Received: 12/08/20
Date Analyzed: 12/17/20
Date Extracted: 12/16/20

Matrix Spike Summary
Total Metals

Sample Name: USRBG001(0.0-0.5)-SP01
Lab Code: K2011446-004
Analysis Method: 7471B
Prep Method: Method

Units: mg/Kg
Basis: Dry

Matrix Spike
KQ2020215-06

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Mercury	0.085	0.992	0.949	96	80-120

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.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Analyzed: 12/18/20

Lab Control Sample Summary
Total Metals

Units:mg/Kg
Basis:Dry

Lab Control Sample
KQ2019719-04

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Arsenic	6010D	89.1	104	86	64-119
Barium	6010D	296	320	93	70-117
Cadmium	6010D	143	149	96	68-113
Chromium	6010D	147	155	95	66-123
Copper	6010D	139	156	89	72-121
Lead	6010D	94.1	92.4	102	70-130
Selenium	6010D	36.4	45.1	81	52-135
Silver	6010D	34.3	41.0	84	68-129
Zinc	6010D	339	393	86	66-122

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Analyzed: 12/17/20

Lab Control Sample Summary
Total Metals

Units:mg/Kg
Basis:Dry

Lab Control Sample
KQ2020215-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Mercury	7471B	18.3	26.6	69	41-110

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Prep Summary Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request:K2011446

Metals

Prep Method: EPA 3050B
Analytical Method: 6010D

Extraction Lot: 371207
Extraction Date: 12/11/20 07:30

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
USRBG001(0.0-0.5)-SP01	K2011446-004	12/3/20	12/8/20	1.065 g	100 mL	
Duplicate	KQ2019719-01DUP	12/3/20	12/8/20	1.070 g	100 mL	
Matrix Spike	KQ2019719-02MS	12/3/20	12/8/20	1.036 g	100 mL	
Method Blank	KQ2019719-03MB	NA	NA	1.0000 g	100 mL	
Lab Control Sample	KQ2019719-04LCS	NA	NA	1.0200 g	100 mL	

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Prep Summary Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request:K2011446

Metals

Prep Method: Method
Analytical Method: 7471B

Extraction Lot: 371606
Extraction Date: 12/16/20 15:20

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
USRBG001(0.0-0.5)-SP01	K2011446-004	12/3/20	12/8/20	0.5650 g	50 mL	
Method Blank	KQ2020215-01MB	NA	NA	0.5 g	50 mL	
Lab Control Sample	KQ2020215-02LCS	NA	NA	0.2890 g	50 mL	
Duplicate	KQ2020215-05DUP	12/3/20	12/8/20	0.7590 g	50 mL	
Matrix Spike	KQ2020215-06MS	12/3/20	12/8/20	0.5560 g	50 mL	

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QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
ICV 12/17/20 11:25	Mercury	7471B	707380	5.04	5.00	101	90-110
CCV 12/17/20 11:30	Mercury	7471B	707380	5.00	5.00	100	90-110
CCV 12/17/20 11:50	Mercury	7471B	707380	4.71	5.00	94	90-110
CCV 12/17/20 12:12	Mercury	7471B	707380	4.72	5.00	94	90-110
CCV 12/17/20 12:31	Mercury	7471B	707380	4.71	5.00	94	90-110
CCV 12/17/20 12:51	Mercury	7471B	707380	4.85	5.00	97	90-110
CCV 12/17/20 13:18	Mercury	7471B	707380	4.62	5.00	92	90-110
ICV 12/18/20 08:54	Arsenic	6010D	707607	2570	2500	103	90-110
	Barium	6010D	707607	5040	5000	101	90-110
	Cadmium	6010D	707607	1220	1250	98	90-110
	Chromium	6010D	707607	504	500	101	90-110
	Copper	6010D	707607	613	625	98	90-110
	Lead	6010D	707607	2390	2500	96	90-110
	Selenium	6010D	707607	2450	2500	98	90-110
	Silver	6010D	707607	607	625	97	90-110
	Zinc	6010D	707607	1210	1250	97	90-110
CCVB 12/18/20 09:14	Arsenic	6010D	707607	1040	1000	104	90-110
	Barium	6010D	707607	10000	10000	100	90-110
CCVA 12/18/20 09:19	Cadmium	6010D	707607	249	250	100	90-110
	Chromium	6010D	707607	252	250	101	90-110
	Copper	6010D	707607	254	250	102	90-110
	Lead	6010D	707607	249	250	100	90-110
	Selenium	6010D	707607	252	250	101	90-110
	Silver	6010D	707607	251	250	100	90-110
	Zinc	6010D	707607	249	250	100	90-110
CCVB 12/18/20 10:31	Arsenic	6010D	707607	1060	1000	106	90-110

ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits
CCVB	12/18/20 10:31						
	Barium	6010D	707607	10200	10000	102	90-110
CCVA	12/18/20 10:36						
	Cadmium	6010D	707607	254	250	101	90-110
	Chromium	6010D	707607	254	250	102	90-110
	Copper	6010D	707607	255	250	102	90-110
	Lead	6010D	707607	251	250	100	90-110
	Selenium	6010D	707607	250	250	100	90-110
	Silver	6010D	707607	255	250	102	90-110
	Zinc	6010D	707607	250	250	100	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID

Analyte		Method	Analysis Batch:	Result	C
ICB	12/17/20 11:27				
	Mercury	7471B	707380	0.02	U
CCB	12/17/20 11:32				
	Mercury	7471B	707380	0.02	U
CCB	12/17/20 11:51				
	Mercury	7471B	707380	0.02	U
CCB	12/17/20 12:13				
	Mercury	7471B	707380	0.02	U
CCB	12/17/20 12:33				
	Mercury	7471B	707380	0.02	U
CCB	12/17/20 12:52				
	Mercury	7471B	707380	0.02	U
CCB	12/17/20 13:20				
	Mercury	7471B	707380	0.02	U
ICB	12/18/20 08:59				
	Arsenic	6010D	707607	10	U
	Barium	6010D	707607	1.5	U
	Cadmium	6010D	707607	0.5	U
	Chromium	6010D	707607	1.5	U
	Copper	6010D	707607	1.5	U
	Lead	6010D	707607	4	U
	Selenium	6010D	707607	10	U
	Silver	6010D	707607	1.5	U
	Zinc	6010D	707607	2.0	U
CCB	12/18/20 09:24				
	Arsenic	6010D	707607	10	U
	Barium	6010D	707607	1.5	U
	Cadmium	6010D	707607	0.5	U
	Chromium	6010D	707607	1.5	U
	Copper	6010D	707607	1.5	U
	Lead	6010D	707607	4	U
	Selenium	6010D	707607	10	U
	Silver	6010D	707607	1.5	U
	Zinc	6010D	707607	2.0	U
CCB	12/18/20 10:41				
	Arsenic	6010D	707607	10	U
	Barium	6010D	707607	1.5	U

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QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

INITIAL AND CONTINUING CALIBRATION BLANKS

Concentration Units: ug/L

Sample ID

Analyte		Method	Analysis Batch:	Result	C
CCB	12/18/20 10:41				
	Cadmium	6010D	707607	0.5	U
	Chromium	6010D	707607	1.5	U
	Copper	6010D	707607	1.5	U
	Lead	6010D	707607	4	U
	Selenium	6010D	707607	10	U
	Silver	6010D	707607	1.5	U
	Zinc	6010D	707607	2.0	U

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

LOW LEVEL INITIAL AND LOW LEVEL CONTINUING CALIBRATION VERIFICATION

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
LLICV	Mercury	7471B	707380	0.21	0.2	105	50-150	12/17/20 11:29
LLICV	Arsenic	6010D	707607	10.8	10.0	108	80-120	12/18/20 09:04
	Barium	6010D	707607	3.9	4.0	98	80-120	12/18/20 09:04
	Cadmium	6010D	707607	0.90	1.0	90	80-120	12/18/20 09:04
	Chromium	6010D	707607	4.1	4.0	103	80-120	12/18/20 09:04
	Copper	6010D	707607	3.9	4.0	98	80-120	12/18/20 09:04
	Lead	6010D	707607	10.6	10.0	106	80-120	12/18/20 09:04
	Selenium	6010D	707607	22.0	20.0	110	80-120	12/18/20 09:04
	Zinc	6010D	707607	3.9	4.0	98	80-120	12/18/20 09:04
LLICV	Silver	6010D	707607	8.6	8.0	108	80-120	12/18/20 09:09

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

ICP INTERFERENCE CHECK SAMPLE

Sample ID ICSA

Concentration Units: ug/L

Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec.	Analysis Date
						Limits	
Arsenic	6010D	707607	10	-	-	-	12/18/20 09:29
Barium	6010D	707607	1.5	-	-	-	12/18/20 09:29
Cadmium	6010D	707607	-1.90	-	-	-	12/18/20 09:29
Chromium	6010D	707607	1.5	-	-	-	12/18/20 09:29
Copper	6010D	707607	1.5	-	-	-	12/18/20 09:29
Lead	6010D	707607	4	-	-	-	12/18/20 09:29
Selenium	6010D	707607	10	-	-	-	12/18/20 09:29
Silver	6010D	707607	1.5	-	-	-	12/18/20 09:29
Zinc	6010D	707607	2.0	-	-	-	12/18/20 09:29

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

ICP INTERFERENCE CHECK SAMPLE

Sample ID ICSAB

Concentration Units: ug/L

Analyte	Method	Analysis Batch:	Result	True Value	% Rec	% Rec. Limits	Analysis Date
Arsenic	6010D	707607	10	-	-	-	12/18/20 09:36
Barium	6010D	707607	507	500	101	80-120	12/18/20 09:36
Cadmium	6010D	707607	885	1000	89	80-120	12/18/20 09:36
Chromium	6010D	707607	495	500	99	80-120	12/18/20 09:36
Copper	6010D	707607	451	500	90	80-120	12/18/20 09:36
Lead	6010D	707607	879	1000	88	80-120	12/18/20 09:36
Selenium	6010D	707607	10	-	-	-	12/18/20 09:36
Silver	6010D	707607	891	1000	89	80-120	12/18/20 09:36
Zinc	6010D	707607	883	1000	88	80-120	12/18/20 09:36

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

POST SPIKE SAMPLE RECOVERY

Concentration Units: ug/L

Sample ID	Analyte	Method	Analysis Batch:	Initial Sample Result	Post Spike Result	True Value	% Rec	% Rec. Limits	Analysis Date
K2011446-004A	Arsenic	6010D	707607	4 U	2550	2500	102	80-120	12/18/20 10:26
	Barium	6010D	707607	117	5560	5000	109	80-120	12/18/20 10:26
	Cadmium	6010D	707607	1.3	1200	1250	96	80-120	12/18/20 10:26
	Chromium	6010D	707607	47.3	586	500	108	80-120	12/18/20 10:26
	Copper	6010D	707607	31	671	625	102	80-120	12/18/20 10:26
	Lead	6010D	707607	51	2420	2500	95	80-120	12/18/20 10:26
	Selenium	6010D	707607	4 U	2270	2500	91	80-120	12/18/20 10:26
	Silver	6010D	707607	0.6 U	612	625	98	80-120	12/18/20 10:26
	Zinc	6010D	707607	189	1440	1250	100	80-120	12/18/20 10:26

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

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

ICP SERIAL DILUTIONS

Concentration Units: ug/L

Sample ID				Initial Sample Result	Serial Dilution Result	% Diff	% Diff. Limit	Analysis Date
Analyte	Method	Analysis Batch:						
K2011446-004SDL								
Arsenic	6010D	707607		20	30 U	25	10	12/18/20 10:11
Barium	6010D	707607		234	226	3	10	12/18/20 10:11
Cadmium	6010D	707607		3	3 U	15	10	12/18/20 10:11
Chromium	6010D	707607		95	96	1	10	12/18/20 10:11
Copper	6010D	707607		61	74	21	10	12/18/20 10:11
Lead	6010D	707607		100	100	2	10	12/18/20 10:11
Selenium	6010D	707607		4 U	30 U	210	10	12/18/20 10:11
Silver	6010D	707607		0.6 U	3 U	1400	10	12/18/20 10:11
Zinc	6010D	707607		378	397	5	10	12/18/20 10:11

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QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Detection Limits

Instrument: K-ICP-AES-03

Matrix: Soil

Analyte	Wavelength (nm)	Units	MRL	MDL	Method
Arsenic	1890	ug/L	40	10	6010D
Barium	4554	ug/L	4	1.5	6010D
Cadmium	2265	ug/L	1	0.45	6010D
Chromium	2677	ug/L	4	1.5	6010D
Copper	3273	ug/L	5	1.5	6010D
Lead	2203	ug/L	10	3.5	6010D
Selenium	1960	ug/L	40	10	6010D
Silver	3280	ug/L	8	1.5	6010D
Zinc	2062	ug/L	5	2	6010D

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Detection Limits

Instrument: K-CVAA-02

Matrix: Soil

Analyte	Wavelength (nm)	Units	MRL	MDL	Method
Mercury	253	ug/L	0.2	0.02	7471B

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

ICP Linear Range (Quarterly)

Instrument: K-ICP-AES-03

Analyte	Concentration (ug/L)	Method
Arsenic 1890	90000	6010D
Barium 4554	45000	6010D
Cadmium 2265	23500	6010D
Chromium 2677	45000	6010D
Copper 3273	90000	6010D
Lead 2203	22500	6010D
Selenium 1960	45000	6010D
Silver 3280	1800	6010D
Zinc 2062	18000	6010D

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

ICP Linear Range (Quarterly)

Instrument: K-CVAA-02

Analyte	Concentration (ug/L)	Method
Mercury	10	7471B

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446

Analysis Run Log

Instrument ID: K-CVAA-02

Analytical BatchID: 707380

Sample	Dilution Factor	Date/Time	H g
ZZZZZZ	1	12/17/20 11:16	
ZZZZZZ	1	12/17/20 11:17	
ZZZZZZ	1	12/17/20 11:19	
ZZZZZZ	1	12/17/20 11:20	
ZZZZZZ	1	12/17/20 11:22	
ZZZZZZ	1	12/17/20 11:24	
ICV1	1	12/17/20 11:25	X
ICB1	1	12/17/20 11:27	X
LLICV1	1	12/17/20 11:29	X
CCV1	1	12/17/20 11:30	X
CCB1	1	12/17/20 11:32	X
ZZZZZZ	1	12/17/20 11:34	
ZZZZZZ	1	12/17/20 11:35	
ZZZZZZ	1	12/17/20 11:37	
ZZZZZZ	1	12/17/20 11:38	
ZZZZZZ	1	12/17/20 11:40	
ZZZZZZ	25	12/17/20 11:42	
ZZZZZZ	1	12/17/20 11:43	
ZZZZZZ	1	12/17/20 11:45	
ZZZZZZ	1	12/17/20 11:47	
ZZZZZZ	1	12/17/20 11:48	
CCV2	1	12/17/20 11:50	X
CCB2	1	12/17/20 11:51	X
ZZZZZZ	1	12/17/20 11:53	
ZZZZZZ	1	12/17/20 11:55	
ZZZZZZ	1	12/17/20 11:56	
ZZZZZZ	1	12/17/20 11:58	
ZZZZZZ	1	12/17/20 12:00	
ZZZZZZ	1	12/17/20 12:01	
ZZZZZZ	1	12/17/20 12:03	
ZZZZZZ	1	12/17/20 12:04	
KQ2020215-01MB	1	12/17/20 12:06	X
KQ2020215-02LCS1	25	12/17/20 12:08	X
ZZZZZZ	1	12/17/20 12:09	
CCV3	1	12/17/20 12:12	X
CCB3	1	12/17/20 12:13	X
ZZZZZZ	1	12/17/20 12:15	

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446

Analysis Run Log

Instrument ID: K-CVAA-02

Analytical BatchID: 707380

Sample	Dilution Factor	Date/Time	H g
ZZZZZZ	1	12/17/20 12:17	
ZZZZZZ	1	12/17/20 12:18	
ZZZZZZ	1	12/17/20 12:20	
ZZZZZZ	1	12/17/20 12:22	
ZZZZZZ	1	12/17/20 12:23	
ZZZZZZ	1	12/17/20 12:25	
ZZZZZZ	1	12/17/20 12:26	
ZZZZZZ	1	12/17/20 12:28	
ZZZZZZ	1	12/17/20 12:30	
CCV4	1	12/17/20 12:31	X
CCB4	1	12/17/20 12:33	X
ZZZZZZ	1	12/17/20 12:35	
ZZZZZZ	1	12/17/20 12:36	
ZZZZZZ	1	12/17/20 12:38	
ZZZZZZ	1	12/17/20 12:39	
ZZZZZZ	1	12/17/20 12:41	
ZZZZZZ	1	12/17/20 12:43	
ZZZZZZ	1	12/17/20 12:44	
ZZZZZZ	1	12/17/20 12:46	
K2011446-004	1	12/17/20 12:48	X
K2011446-004DUP	1	12/17/20 12:49	X
CCV5	1	12/17/20 12:51	X
CCB5	1	12/17/20 12:52	X
K2011446-004MS	1	12/17/20 12:54	X
CCV6	1	12/17/20 13:18	X
CCB6	1	12/17/20 13:20	X

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446

Analysis Run Log

Instrument ID: K-ICP-AES-03

Analytical BatchID: 707607

Sample	Dilution Factor	Date/Time	A s	B a	C d	C r	C u	P b	S e	A g	Z n
ZZZZZZ	1	12/18/20 08:34									
ZZZZZZ	1	12/18/20 08:39									
ZZZZZZ	1	12/18/20 08:43									
ZZZZZZ	1	12/18/20 08:49									
ICV	1	12/18/20 08:54	X	X	X	X	X	X	X	X	X
ICB	1	12/18/20 08:59	X	X	X	X	X	X	X	X	X
LLICV	1	12/18/20 09:04	X	X	X	X	X	X	X		X
LLICV	0.5	12/18/20 09:09								X	
CCVB1	1	12/18/20 09:14	X	X							
CCVA1	1	12/18/20 09:19			X	X	X	X	X	X	X
CCB	1	12/18/20 09:24	X	X	X	X	X	X	X	X	X
ICSA	1	12/18/20 09:29	X	X	X	X	X	X	X	X	X
ICSAB	1	12/18/20 09:36	X	X	X	X	X	X	X	X	X
KQ2019719-03MB	2	12/18/20 09:56	X	X	X	X	X	X	X	X	X
KQ2019719-04LCS1	2	12/18/20 10:01	X	X	X	X	X	X	X	X	X
K2011446-004	2	12/18/20 10:06	X	X	X	X	X	X	X	X	X
K2011446-004SDL	10	12/18/20 10:11	X	X	X	X	X	X	X	X	X
K2011446-004DUP	2	12/18/20 10:16	X	X	X	X	X	X	X	X	X
K2011446-004MS	2	12/18/20 10:21	X	X	X	X	X	X	X	X	X
K2011446-004PS	2	12/18/20 10:26	X	X	X	X	X	X	X	X	X
CCVB	1	12/18/20 10:31	X	X							
CCVA	1	12/18/20 10:36			X	X	X	X	X	X	X
CCB	1	12/18/20 10:41	X	X	X	X	X	X	X	X	X
ZZZZZZ	1	12/18/20 10:48									

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Al 167.079 {502}	<input checked="" type="checkbox"/>	2	Fe	0.001596	0.000000	No
			Mg	0.000028	0.000000	No
Al 394.401 { 85}	<input checked="" type="checkbox"/>	4	Ca	0.000054	0.000000	No
			Mg	0.000037	0.000000	No
			Mo	0.000228	0.000000	No
			Ni	0.000356	0.000000	No
Sb 206.833 {463}	<input checked="" type="checkbox"/>	2	Cr	0.011959	0.000000	No
			Mo	-0.001686	0.000000	No
Sb 217.581 {455}	<input checked="" type="checkbox"/>	4	Fe	-0.000413	0.000000	No
			Mn	-0.000924	0.000000	No
			V	0.002702	0.000000	No
			Cu	-0.000589	0.000000	No
As 189.042 {478}	<input checked="" type="checkbox"/>	4	Cr	0.000366	0.000000	No
			Al	0.000029	0.000000	No
			Fe	-0.000075	0.000000	No
			Mo	0.000468	0.000000	No
Ba 455.403 { 74}	<input checked="" type="checkbox"/>	None				
Be 234.861 {144}	<input checked="" type="checkbox"/>	3	Fe	0.000006	0.000000	No
			Mo	-0.000313	0.000000	No
			Mn	-0.000057	0.000000	No
B 249.678 {135}	<input checked="" type="checkbox"/>	4	Fe	-0.000602	0.000000	No
			Co	0.003924	0.000000	No
			Mo	-0.001373	0.000000	No
			V	-0.000499	0.000000	No
Cd 214.438 {457}	<input checked="" type="checkbox"/>	2	Al	-0.000003	0.000000	No
			Fe	0.000019	0.000000	No
Cd 226.502 {449}	<input checked="" type="checkbox"/>	5	Fe	0.000118	0.000000	No
			Co	-0.000045	0.000000	No
			Mo	0.000020	0.000000	No
			Ti	0.000072	0.000000	No
			Ni	-0.000033	0.000000	No
Ca 315.887 {107}	<input checked="" type="checkbox"/>	4	Co	0.000923	0.000000	No
			Mo	-0.000572	0.000000	No
			V	-0.000489	0.000000	No
			Sb	0.000450	0.000000	No
Ca 393.366 { 86}	<input type="checkbox"/>	None				
Cr 267.716 {126}	<input checked="" type="checkbox"/>	2	Cd	-0.000147	0.000000	No
			Mn	0.000223	0.000000	No
Co 228.616 {447}	<input checked="" type="checkbox"/>	3	Mo	-0.001300	0.000000	No
			Ni	0.000152	0.000000	No
			Ti	0.002262	0.000000	No
Co 230.786 {446}	<input checked="" type="checkbox"/>	3	Cr	-0.000061	0.000000	No
			Al	-0.000005	0.000000	No
			Ni	-0.000273	0.000000	No
Cu 224.700 {450}	<input checked="" type="checkbox"/>	5	Fe	0.000066	0.000000	No
			Pb	0.000704	0.000000	No
			Co	0.000125	0.000000	No
			Ti	0.000348	0.000000	No
			Ni	-0.006227	0.000000	No
Cu 327.396 {103}	<input checked="" type="checkbox"/>	4	Ca	0.000015	0.000000	No
			Co	0.000256	0.000000	No
			Mo	-0.000293	0.000000	No
			V	-0.000103	0.000000	No
Fe 259.940 {130}	<input checked="" type="checkbox"/>	None				

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Pb 220.353 {453}	<input checked="" type="checkbox"/>	3	Al	-0.000091	0.000000	No
			Mo	-0.000886	0.000000	No
			Cu	0.000369	0.000000	No
Li 670.784 { 50}	<input checked="" type="checkbox"/>	None				
Mg 279.079 {121}	<input checked="" type="checkbox"/>	None				
Mg 279.553 {121}	<input checked="" type="checkbox"/>	None				
Mg 285.213 {118}	<input checked="" type="checkbox"/>	1	V	-0.000468	0.000000	No
Mn 257.610 {131}	<input checked="" type="checkbox"/>	2	Fe	0.000012	0.000000	No
			Mg	0.000027	0.000000	No
Mn 260.569 {129}	<input checked="" type="checkbox"/>	None				
Mo 202.030 {467}	<input checked="" type="checkbox"/>	2	V	-0.000194	0.000000	No
			Ni	0.000141	0.000000	No
Ni 221.647 {452}	<input checked="" type="checkbox"/>	3	Cr	-0.000791	0.000000	No
			Co	-0.000387	0.000000	No
			Ti	-0.000267	0.000000	No
Ni 231.604 {446}	<input checked="" type="checkbox"/>	2	Co	0.000147	0.000000	No
			Sb	-0.000159	0.000000	No
P 178.284 {489}	<input checked="" type="checkbox"/>	None				
P 214.914 {457}	<input checked="" type="checkbox"/>	5	Al	-0.000791	0.000000	No
			Fe	0.000827	0.000000	No
			Mn	-0.001032	0.000000	No
			V	-0.004528	0.000000	No
			Cu	0.001808	0.000000	No
K 766.490 { 44}	<input checked="" type="checkbox"/>	None				
Se 196.090 {472}	<input checked="" type="checkbox"/>	1	Mn	0.000505	0.000000	No
Si 251.611 {134}	<input checked="" type="checkbox"/>	None				
Ag 328.068 {103}	<input checked="" type="checkbox"/>	1	Mn	0.000093	0.000000	No
Na 589.592 { 57}	<input checked="" type="checkbox"/>	None				
Sr 407.771 { 83}	<input checked="" type="checkbox"/>	None				
Tl 190.856 {477}	<input checked="" type="checkbox"/>	4	Co	-0.002167	0.000000	No
			Mn	-0.001168	0.000000	No
			Ti	-0.000269	0.000000	No
			V	-0.001691	0.000000	No
Sn 189.989 {477}	<input checked="" type="checkbox"/>	1	Ti	-0.000647	0.000000	No
Ti 336.121 {100}	<input checked="" type="checkbox"/>	3	Ca	0.000017	0.000000	No
			Mo	0.000111	0.000000	No
			Ni	0.000122	0.000000	No
V 292.402 {115}	<input checked="" type="checkbox"/>	4	Cr	-0.004032	0.000000	No
			Mo	-0.000081	0.000000	No
			Mn	-0.000154	0.000000	No
			Ti	0.000727	0.000000	No
Zn 206.200 {463}	<input checked="" type="checkbox"/>	2	Cr	-0.000240	0.000000	No
			Mo	0.000144	0.000000	No
Zn 213.856 {458}	<input checked="" type="checkbox"/>	5	Fe	0.000101	0.000000	No
			Mo	-0.000088	0.000000	No
			Ti	-0.003530	0.000000	No
			Ni	0.004724	0.000000	No
			Cu	0.001140	0.000000	No
Y 224.306 {450}*	<input type="checkbox"/>	None				
Y 360.073 { 94}*	<input type="checkbox"/>	None				
Y 360.073 { 94}2*	<input type="checkbox"/>	None				
In 230.606 {446}	<input type="checkbox"/>	None				
Bi 223.061 {451}	<input checked="" type="checkbox"/>	5	Cr	0.000870	0.000000	No
			Fe	0.000135	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Co	-0.004007	0.000000	No
			V	-0.000959	0.000000	No
			Cu	-0.002547	0.000000	No
S 182.034 {485}	<input checked="" type="checkbox"/>	2	Mo	-0.002949	0.000000	No
			Mn	0.003545	0.000000	No



Semivolatile Range Organics by GC/FID

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: DSLBG003(0.0-0.5)-SP01
Lab Code: K2011446-001

Service Request: K2011446
Date Collected: 12/02/20 15:00
Date Received: 12/08/20 10:00

Units: mg/Kg
Basis: Dry

Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (C10 - C28 DRO)	390 H	33	8.7	1	12/18/20 00:48	12/15/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	91	51 - 126	12/18/20 00:48	

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Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: DSLBG003(0.0-0.5)-SP02
Lab Code: K2011446-002

Service Request: K2011446
Date Collected: 12/02/20 15:00
Date Received: 12/08/20 10:00

Units: mg/Kg
Basis: Dry

Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (C10 - C28 DRO)	220 H	34	8.9	1	12/17/20 22:34	12/15/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	102	51 - 126	12/17/20 22:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: DSLBC002(0-1.3)-SP01
Lab Code: K2011446-003

Service Request: K2011446
Date Collected: 12/02/20 19:10
Date Received: 12/08/20 10:00
Units: mg/Kg
Basis: Dry

Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (C10 - C28 DRO)	360 H	31	8.2	1	12/18/20 01:10	12/15/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	88	51 - 126	12/18/20 01:10	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: USRBG001(0.0-0.5)-SP01
Lab Code: K2011446-004

Service Request: K2011446
Date Collected: 12/03/20 16:00
Date Received: 12/08/20 10:00
Units: mg/Kg
Basis: Dry

Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (C10 - C28 DRO)	89 H	21	5.5	1	12/17/20 22:57	12/15/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	108	51 - 126	12/17/20 22:57	

ALS Group USA, Corp.
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Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: DSLBG007(0.0-0.5)-SP01
Lab Code: K2011446-005

Service Request: K2011446
Date Collected: 12/04/20 15:00
Date Received: 12/08/20 10:00
Units: mg/Kg
Basis: Dry

Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (C10 - C28 DRO)	510 H	41	11	1	12/18/20 00:03	12/15/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	100	51 - 126	12/18/20 00:03	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: DSRBC008(0.0-1.25)-SP01
Lab Code: K2011446-006

Service Request: K2011446
Date Collected: 12/04/20 15:50
Date Received: 12/08/20 10:00

Units: mg/Kg
Basis: Dry

Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (C10 - C28 DRO)	260 H	34	8.9	1	12/18/20 00:26	12/15/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	102	51 - 126	12/18/20 00:26	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ2019720-04

Service Request: K2011446
Date Collected: NA
Date Received: NA
Units: mg/Kg
Basis: Dry

Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Prep Method: EPA 3550B

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Diesel Range Organics (C10 - C28 DRO)	7.8 J	10	2.6	1	12/17/20 22:12	12/15/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
o-Terphenyl	101	51 - 126	12/17/20 22:12	

ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446

SURROGATE RECOVERY SUMMARY
Semivolatile Range Organics by GC/FID

Analysis Method: 8015C
Extraction Method: EPA 3550B

Sample Name	Lab Code	o-Terphenyl
		51-126
DSLBG003(0.0-0.5)-SP01	K2011446-001	91
DSLBG003(0.0-0.5)-SP02	K2011446-002	102
DSLBC002(0-1.3)-SP01	K2011446-003	88
USRBG001(0.0-0.5)-SP01	K2011446-004	108
DSLBG007(0.0-0.5)-SP01	K2011446-005	100
DSRBC008(0.0-1.25)-SP01	K2011446-006	102
Method Blank	KQ2019720-04	101
Lab Control Sample	KQ2019720-03	112
USRBG001(0.0-0.5)-SP01	KQ2019720-01	96
USRBG001(0.0-0.5)-SP01	KQ2019720-02	111

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/03/20
Date Received: 12/08/20
Date Analyzed: 12/17/20
Date Extracted: 12/15/20

Duplicate Matrix Spike Summary
Semivolatile Range Organics by GC/FID

Sample Name: USRBG001(0.0-0.5)-SP01
Lab Code: K2011446-004
Analysis Method: 8015C
Prep Method: EPA 3550B

Units: mg/Kg
Basis: Dry

Analyte Name	Sample Result	Matrix Spike KQ2019720-01			Duplicate Matrix Spike KQ2019720-02			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Diesel Range Organics (C10 - C28 DRO)	89 H	685	562	106	813	561	129	23-144	17	40

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.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
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QA/QC Report

Client:	Tetra Tech (Chicago, IL)	Service Request:	K2011446
Project:	Allied Paper Site - Morrow Lake/103X903100320001BJ101	Date Analyzed:	12/17/20
Sample Matrix:	Soil	Date Extracted:	12/15/20

Lab Control Sample Summary
Semivolatile Range Organics by GC/FID

Analysis Method:	8015C	Units:	mg/Kg
Prep Method:	EPA 3550B	Basis:	Dry
		Analysis Lot:	707216

Lab Control Sample
KQ2019720-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Diesel Range Organics (C10 - C28 DRO)	351	267	132	42-134

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Analyzed: 12/17/20 22:12
Date Extracted: 12/15/20

Method Blank Summary
Semivolatile Range Organics by GC/FID

Sample Name:	Method Blank	Instrument ID:	K-GC-21
Lab Code:	KQ2019720-04	File ID:	J:\GC21\DATA\121620F\1216F186.D\
Analysis Method:	8015C	Analysis Lot:	707216
Prep Method:	EPA 3550B	Extraction Lot:	371208

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ2019720-03	J:\GC21\DATA\121620F\1216F185.D\	12/17/20 21:50
DSLBG003(0.0-0.5)-SP02	K2011446-002	J:\GC21\DATA\121620F\1216F187.D\	12/17/20 22:34
USRBG001(0.0-0.5)-SP01	K2011446-004	J:\GC21\DATA\121620F\1216F188.D\	12/17/20 22:57
USRBG001(0.0-0.5)-SP01MS	KQ2019720-01	J:\GC21\DATA\121620F\1216F189.D\	12/17/20 23:19
USRBG001(0.0-0.5)-SP01DMS	KQ2019720-02	J:\GC21\DATA\121620F\1216F190.D\	12/17/20 23:41
DSLBG007(0.0-0.5)-SP01	K2011446-005	J:\GC21\DATA\121620F\1216F191.D\	12/18/20 00:03
DSRBC008(0.0-1.25)-SP01	K2011446-006	J:\GC21\DATA\121620F\1216F192.D\	12/18/20 00:26
DSLBG003(0.0-0.5)-SP01	K2011446-001	J:\GC21\DATA\121620F\1216F193.D\	12/18/20 00:48
DSLBC002(0-1.3)-SP01	K2011446-003	J:\GC21\DATA\121620F\1216F194.D\	12/18/20 01:10

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Analyzed: 12/17/20 21:50
Date Extracted: 12/15/20

Lab Control Sample Summary
Semivolatle Range Organics by GC/FID

Sample Name: Lab Control Sample **Instrument ID:** K-GC-21
Lab Code: KQ2019720-03 **File ID:** J:\GC21\DATA\121620F\1216F185.D\
Analysis Method: 8015C **Analysis Lot:** 707216
Prep Method: EPA 3550B **Extraction Lot:** 371208

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ2019720-04	J:\GC21\DATA\121620F\1216F186.D\	12/17/20 22:12
DSLBG003(0.0-0.5)-SP02	K2011446-002	J:\GC21\DATA\121620F\1216F187.D\	12/17/20 22:34
USRBG001(0.0-0.5)-SP01	K2011446-004	J:\GC21\DATA\121620F\1216F188.D\	12/17/20 22:57
USRBG001(0.0-0.5)-SP01MS	KQ2019720-01	J:\GC21\DATA\121620F\1216F189.D\	12/17/20 23:19
USRBG001(0.0-0.5)-SP01DMS	KQ2019720-02	J:\GC21\DATA\121620F\1216F190.D\	12/17/20 23:41
DSLBG007(0.0-0.5)-SP01	K2011446-005	J:\GC21\DATA\121620F\1216F191.D\	12/18/20 00:03
DSRBC008(0.0-1.25)-SP01	K2011446-006	J:\GC21\DATA\121620F\1216F192.D\	12/18/20 00:26
DSLBG003(0.0-0.5)-SP01	K2011446-001	J:\GC21\DATA\121620F\1216F193.D\	12/18/20 00:48
DSLBC002(0-1.3)-SP01	K2011446-003	J:\GC21\DATA\121620F\1216F194.D\	12/18/20 01:10

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake

Service Request: K2011446
Calibration Date: 11/30/2020

Initial Calibration Summary
Semivolatile Range Organics by GC/FID

Calibration ID: KC2000628
Instrument ID: K-GC-21

Signal ID: ZB-1

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC2000628-01	SVF03-8E DRO 20/1.0	J:\GC21\DATA\113020F\1130F129.D	11/30/2020 17:28
02	KC2000628-02	SVF03-8D DRO 50/2.5	J:\GC21\DATA\113020F\1130F130.D	11/30/2020 17:50
03	KC2000628-03	SVF03-8C DRO 200/10	J:\GC21\DATA\113020F\1130F131.D	11/30/2020 18:12
04	KC2000628-04	SVF03-8B DRO 500/25	J:\GC21\DATA\113020F\1130F132.D	11/30/2020 18:34
05	KC2000628-05	SVF03-8A DRO 2000/100	J:\GC21\DATA\113020F\1130F133.D	11/30/2020 18:57
06	KC2000628-06	SVF03-7I DRO 5000/250	J:\GC21\DATA\113020F\1130F134.D	11/30/2020 19:19
07	KC2000628-07	SVF03-7H DRO 20,000	J:\GC21\DATA\113020F\1130F135.D	11/30/2020 19:41
08	KC2000628-08	SVF03-7G DRO 50, 000	J:\GC21\DATA\113020F\1130F136.D	11/30/2020 20:04
10	KC2000628-10	SVF03-9A RRO 50	J:\GC21\DATA\113020F\1130F143.D	11/30/2020 22:40
11	KC2000628-11	SVF03-8L RRO 200	J:\GC21\DATA\113020F\1130F144.D	11/30/2020 23:02
12	KC2000628-12	SVF03-8K RRO 500	J:\GC21\DATA\113020F\1130F145.D	11/30/2020 23:24
13	KC2000628-13	SVF03-8J RRO 2000	J:\GC21\DATA\113020F\1130F146.D	11/30/2020 23:47
14	KC2000628-14	SVF03-8I RRO 5000	J:\GC21\DATA\113020F\1130F147.D	12/01/2020 00:09
16	KC2000628-16	SVF03-9G AK103 50	J:\GC21\DATA\113020F\1130F154.D	12/01/2020 02:45
17	KC2000628-17	SVF03-9F AK103 200	J:\GC21\DATA\113020F\1130F155.D	12/01/2020 03:07
18	KC2000628-18	SVF03-9E AK103 500	J:\GC21\DATA\113020F\1130F156.D	12/01/2020 03:29
19	KC2000628-19	SVF03-9D AK103 2000	J:\GC21\DATA\113020F\1130F157.D	12/01/2020 03:51
20	KC2000628-20	SVF03-9C AK103 5000	J:\GC21\DATA\113020F\1130F158.D	12/01/2020 04:13

Analyte

Diesel Range Organics (C10 - C28 DRO)

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	20.000	1.607E3	02	50.000	1.537E3	03	200.000	1.468E3	04	500.000	1.502E3
05	2000.000	1.361E3	06	5000.000	1.408E3	07	20000.000	1.414E3	08	50000.000	1.451E3

o-Terphenyl

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	1.000	1.818E3	02	2.500	1.78E3	03	10.000	1.732E3	04	25.000	1.781E3
05	100.000	1.663E3	06	250.000	1.66E3						

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake

Service Request: K2011446
Calibration Date: 11/30/2020

Initial Calibration Summary
Semivolatile Range Organics by GC/FID

Calibration ID: KC2000628
Instrument ID: K-GC-21

Signal ID: ZB-1

Analyte Name	Compound Type	Calibration Evaluation				Calibration Evaluation	
		Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
Diesel Range Organics (C10 - C28 DRO)	TRG	Average RF	% RSD	5.4	20	1.469E3	
o-Terphenyl	SURR	Average RF	% RSD	3.8	20	1.739E3	

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake

Service Request: K2011446
Calibration Date: 11/30/2020

**Initial Calibration Verification Summary
Semivolatile Range Organics by GC/FID**

Calibration ID: KC2000628
Instrument ID: K-GC-21

Signal ID: ZB-1

#	Lab Code	Sample Name	File Location	Acquisition Date
09	KC2000628-09	SVF03-8G DRO ICV@1000	J:\GC21\DATA\113020F\1130F139.D	11/30/2020 21:10
15	KC2000628-15	SVF03-9B RRO ICV@1000	J:\GC21\DATA\113020F\1130F150.D	12/01/2020 01:16
21	KC2000628-21	SVF03-9H AK103 ICV@1000	J:\GC21\DATA\113020F\1130F161.D	12/01/2020 05:20
22	KC2000628-22	SVF03-9B RRO ICV@1000	J:\GC21\DATA\120120F\1201F105.D	12/01/2020 14:42

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Diesel Range Organics (C10 - C28 DRO)	1000	1030	1.469E3	1.509E3	2.78	±20	Average RF

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QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Date Analyzed: 12/17/20 20:43

Continuing Calibration Verification (CCV) Summary
Semivolatile Range Organics by GC/FID

Analysis Method: 8015C

Calibration Date: 11/30/2020

File ID: J:\GC21\DATA\121620F\1216F182.D\

Calibration ID: KC2000628

Signal ID: ZB-1

Analysis Lot: 707216

Units: ppm

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Diesel Range Organics (C10 - C28 DRO)	1000	1070	1.469E3	1.571E3	7.0	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
o-Terphenyl	50.0	49.8	1.739E3	1.733E3	-0.3	NA	±20	Average RF

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QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Date Analyzed: 12/18/20 02:17

Continuing Calibration Verification (CCV) Summary
Semivolatile Range Organics by GC/FID

Analysis Method: 8015C

Calibration Date: 11/30/2020

File ID: J:\GC21\DATA\121620F\1216F197.D\

Calibration ID: KC2000628

Signal ID: ZB-1

Analysis Lot: 707216

Units: ppm

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Diesel Range Organics (C10 - C28 DRO)	1000	1140	1.469E3	1.679E3	14.4	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
o-Terphenyl	50.0	52.2	1.739E3	1.816E3	4.5	NA	±20	Average RF

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446

Analysis Run Log
Semivolatile Range Organics by GC/FID

Analysis Method:

Analysis Lot: 707216
Instrument ID: K-GC-21

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\GC21\DATA\121620F\1216F167.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	15:09:00	
J:\GC21\DATA\121620F\1216F168.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	15:31:00	
J:\GC21\DATA\121620F\1216F169.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	15:54:00	
J:\GC21\DATA\121620F\1216F170.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	16:16:00	
J:\GC21\DATA\121620F\1216F171.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	16:38:00	
J:\GC21\DATA\121620F\1216F172.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	17:01:00	
J:\GC21\DATA\121620F\1216F173.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	17:23:00	
J:\GC21\DATA\121620F\1216F174.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	17:45:00	
J:\GC21\DATA\121620F\1216F175.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	18:07:00	
J:\GC21\DATA\121620F\1216F176.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	18:29:00	
J:\GC21\DATA\121620F\1216F177.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	18:52:00	
J:\GC21\DATA\121620F\1216F178.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	19:14:00	
J:\GC21\DATA\121620F\1216F179.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	19:36:00	
J:\GC21\DATA\121620F\1216F180.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	19:58:00	
J:\GC21\DATA\121620F\1216F181.D\	ZZZZZZZZ	ZZZZZZZZ	12/17/2020	20:21:00	
J:\GC21\DATA\121620F\1216F182.D\	Continuing Calibration Verification	KQ2020609-02	12/17/2020	20:43:00	
J:\GC21\DATA\121620F\1216F183.D\	Continuing Calibration Verification	KQ2020609-02	12/17/2020	21:05:00	
J:\GC21\DATA\121620F\1216F184.D\	Continuing Calibration Blank	KQ2020609-05	12/17/2020	21:28:00	
J:\GC21\DATA\121620F\1216F185.D\	Lab Control Sample	KQ2019720-03	12/17/2020	21:50:00	
J:\GC21\DATA\121620F\1216F186.D\	Method Blank	KQ2019720-04	12/17/2020	22:12:00	
J:\GC21\DATA\121620F\1216F187.D\	DSL BG003(0.0-0.5)-SP02	K2011446-002	12/17/2020	22:34:00	
J:\GC21\DATA\121620F\1216F188.D\	USRBG001(0.0-0.5)-SP01	K2011446-004	12/17/2020	22:57:00	
J:\GC21\DATA\121620F\1216F189.D\	USRBG001(0.0-0.5)-SP01 MS	KQ2019720-01	12/17/2020	23:19:00	
J:\GC21\DATA\121620F\1216F190.D\	USRBG001(0.0-0.5)-SP01 DMS	KQ2019720-02	12/17/2020	23:41:00	
J:\GC21\DATA\121620F\1216F191.D\	DSL BG007(0.0-0.5)-SP01	K2011446-005	12/18/2020	00:03:00	
J:\GC21\DATA\121620F\1216F192.D\	DSRBC008(0.0-1.25)-SP01	K2011446-006	12/18/2020	00:26:00	
J:\GC21\DATA\121620F\1216F193.D\	DSL BG003(0.0-0.5)-SP01	K2011446-001	12/18/2020	00:48:00	
J:\GC21\DATA\121620F\1216F194.D\	DSL BC002(0-1.3)-SP01	K2011446-003	12/18/2020	01:10:00	
J:\GC21\DATA\121620F\1216F197.D\	Continuing Calibration Verification	KQ2020609-03	12/18/2020	02:17:00	
J:\GC21\DATA\121620F\1216F199.D\	Continuing Calibration Blank	KQ2020609-06	12/18/2020	03:01:00	

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Prep Summary Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request:K2011446

Semivolatile Range Organics by GC/FID

Prep Method: EPA 3550B
Analytical Method: 8015C

Extraction Lot: 371208
Extraction Date: 12/15/20 14:04

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
DSLBG003(0.0-0.5)-SP01	K2011446-001	12/2/20	12/8/20	30.022 g	10 mL	29.9
DSLBG003(0.0-0.5)-SP02	K2011446-002	12/2/20	12/8/20	30.067 g	10 mL	29.2
DSLBC002(0-1.3)-SP01	K2011446-003	12/2/20	12/8/20	30.032 g	10 mL	32.0
USRBG001(0.0-0.5)-SP01	K2011446-004	12/3/20	12/8/20	30.008 g	10 mL	47.4
DSLBG007(0.0-0.5)-SP01	K2011446-005	12/4/20	12/8/20	30.055 g	10 mL	24.2
DSRBC008(0.0-1.25)-SP01	K2011446-006	12/4/20	12/8/20	30.046 g	10 mL	29.5
Matrix Spike	KQ2019720-01MS	12/3/20	12/8/20	30.037 g	10 mL	47.4
Duplicate Matrix Spike	KQ2019720-02DMS	12/3/20	12/8/20	30.067 g	10 mL	47.4
Lab Control Sample	KQ2019720-03LCS	NA	NA	30 g	10 mL	
Method Blank	KQ2019720-04MB	NA	NA	30.0670 g	10 mL	



Polychlorinated Biphenyls (PCBs)

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446

Cover Page - Organic Analysis Data Package
Polychlorinated Biphenyls (PCBs)

Sample Name	Lab Code	Date Collected	Date Received
DSLBG003(0.0-0.5)-SP01	K2011446-001	12/02/2020	12/08/2020
DSLBG003(0.0-0.5)-SP02	K2011446-002	12/02/2020	12/08/2020
DSLBC002(0-1.3)-SP01	K2011446-003	12/02/2020	12/08/2020
USRBG001(0.0-0.5)-SP01	K2011446-004	12/03/2020	12/08/2020
DSLBG007(0.0-0.5)-SP01	K2011446-005	12/04/2020	12/08/2020
DSRBC008(0.0-1.25)-SP01	K2011446-006	12/04/2020	12/08/2020
USRBG001(0.0-0.5)-SP01MS	KWG2003341-1	12/03/2020	12/08/2020
USRBG001(0.0-0.5)-SP01DMS	KWG2003341-2	12/03/2020	12/08/2020

Analytical Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/02/2020
Date Received: 12/08/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: DSLBG003(0.0-0.5)-SP01
Lab Code: K2011446-001
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	86	Ui	86	86	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1221	500	Ui	500	500	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1232	47	Ui	47	47	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1242	39	Ui	39	39	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1248	54	Ui	54	54	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1254	220		33	9.9	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1260	67		33	9.9	1	12/10/20	12/26/20	KWG2003341	
Aroclors, Total	290		33	9.9	1	12/10/20	12/26/20	KWG2003341	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	70	50-150	12/26/20	Acceptable
Decachlorobiphenyl	74	50-150	12/26/20	Acceptable

Comments: _____

Analytical Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/02/2020
Date Received: 12/08/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: DSLBG003(0.0-0.5)-SP02
Lab Code: K2011446-002
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	34	Ui	34	29	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1221	230	Ui	230	230	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1232	58	Ui	58	58	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1242	41	Ui	41	41	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1248	73	Ui	73	73	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1254	330		34	11	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1260	100		34	11	1	12/10/20	12/26/20	KWG2003341	
Aroclors, Total	430		34	11	1	12/10/20	12/26/20	KWG2003341	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	81	50-150	12/26/20	Acceptable
Decachlorobiphenyl	84	50-150	12/26/20	Acceptable

Comments: _____

Analytical Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/02/2020
Date Received: 12/08/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: DSLBC002(0-1.3)-SP01
Lab Code: K2011446-003
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	110	Ui	110	110	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1221	360	Ui	360	360	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1232	76	Ui	76	76	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1242	53	Ui	53	53	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1248	92	Ui	92	92	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1254	250		30	9.0	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1260	71		30	9.0	1	12/10/20	12/26/20	KWG2003341	
Aroclors, Total	320		30	9.0	1	12/10/20	12/26/20	KWG2003341	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	68	50-150	12/26/20	Acceptable
Decachlorobiphenyl	76	50-150	12/26/20	Acceptable

Comments: _____

Analytical Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/03/2020
Date Received: 12/08/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: USRBG001(0.0-0.5)-SP01
Lab Code: K2011446-004
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	42	Ui	42	42	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1221	290	Ui	290	290	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1232	82	Ui	82	82	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1242	32	Ui	32	32	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1248	21	Ui	21	19	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1254	33		21	6.2	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1260	10	J	21	6.2	1	12/10/20	12/26/20	KWG2003341	
Aroclors, Total	43		21	6.2	1	12/10/20	12/26/20	KWG2003341	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	80	50-150	12/26/20	Acceptable
Decachlorobiphenyl	75	50-150	12/26/20	Acceptable

Comments: _____

Analytical Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/04/2020
Date Received: 12/08/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: DSLBG007(0.0-0.5)-SP01
Lab Code: K2011446-005
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	74	Ui	74	74	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1221	600	Ui	600	600	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1232	92	Ui	92	92	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1242	74	Ui	74	74	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1248	81	Ui	81	81	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1254	330		41	13	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1260	96		41	13	1	12/10/20	12/26/20	KWG2003341	
Aroclors, Total	430		41	13	1	12/10/20	12/26/20	KWG2003341	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	73	50-150	12/26/20	Acceptable
Decachlorobiphenyl	76	50-150	12/26/20	Acceptable

Comments: _____

Analytical Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/04/2020
Date Received: 12/08/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: DSRBC008(0.0-1.25)-SP01
Lab Code: K2011446-006
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	58	Ui	58	58	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1221	350	Ui	350	350	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1232	35	Ui	35	35	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1242	34	Ui	34	28	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1248	60	Ui	60	60	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1254	190		34	11	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1260	56		34	11	1	12/10/20	12/26/20	KWG2003341	
Aroclors, Total	250		34	11	1	12/10/20	12/26/20	KWG2003341	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	89	50-150	12/26/20	Acceptable
Decachlorobiphenyl	95	50-150	12/26/20	Acceptable

Comments: _____

Analytical Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: NA
Date Received: NA

Polychlorinated Biphenyls (PCBs)

Sample Name: Method Blank
Lab Code: KWG2003341-4
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	9.6	U	9.6	3.0	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1221	20	U	20	3.0	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1232	9.6	U	9.6	3.0	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1242	9.6	U	9.6	3.0	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1248	9.6	U	9.6	3.0	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1254	9.6	U	9.6	3.0	1	12/10/20	12/26/20	KWG2003341	
Aroclor 1260	9.6	U	9.6	3.0	1	12/10/20	12/26/20	KWG2003341	
Aroclors, Total	9.6	U	9.6	3.0	1	12/10/20	12/26/20	KWG2003341	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	67	50-150	12/26/20	Acceptable
Decachlorobiphenyl	70	50-150	12/26/20	Acceptable

Comments: _____

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082A

Units: Percent
Level: Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>	<u>Sur2</u>
DSLBG003(0.0-0.5)-SP01	K2011446-001	70	74
DSLBG003(0.0-0.5)-SP02	K2011446-002	81	84
DSLBC002(0-1.3)-SP01	K2011446-003	68	76
USRBG001(0.0-0.5)-SP01	K2011446-004	80	75
DSLBG007(0.0-0.5)-SP01	K2011446-005	73	76
DSRBC008(0.0-1.25)-SP01	K2011446-006	89	95
Method Blank	KWG2003341-4	67	70
USRBG001(0.0-0.5)-SP01MS	KWG2003341-1	95	88
USRBG001(0.0-0.5)-SP01DMS	KWG2003341-2	81	76
Lab Control Sample	KWG2003341-3	57	61

Surrogate Recovery Control Limits (%)

Sur1 = Tetrachloro-m-xylene	50-150
Sur2 = Decachlorobiphenyl	50-150

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

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

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Extracted: 12/10/2020
Date Analyzed: 12/26/2020

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name: USRBG001(0.0-0.5)-SP01
Lab Code: K2011446-004
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG2003341

Analyte Name	Sample Result	USRBG001(0.0-0.5) -SP01MS KWG2003341-1 Matrix Spike			USRBG001(0.0-0.5) -SP01DMS KWG2003341-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Aroclor 1016	ND	251	209	120 #	213	202	105 #	50-150	16	40
Aroclor 1260	10	246	209	113	212	202	100	50-150	15	40

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.

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Extracted: 12/10/2020
Date Analyzed: 12/26/2020

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low
Extraction Lot: KWG2003341

Lab Control Sample KWG2003341-3 Lab Control Spike				
Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
Aroclor 1016	68.5	100	68	50-150
Aroclor 1260	72.1	100	72	50-150

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.

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Extracted: 12/10/2020
Date Analyzed: 12/26/2020
Time Analyzed: 12:11

Method Blank Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	Instrument ID:	GC27.i
Lab Code:	KWG2003341-4	File ID:	J:\GC27\DATA\122620.B\1226F004.D
Extraction Method:	EPA 3541	Level:	Low
Analysis Method:	8082A	Extraction Lot:	KWG2003341

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Lab Control Sample	KWG2003341-3	J:\GC27\DATA\122620.B\1226F005.D	12/26/20	12:43
DSL BG003(0.0-0.5)-SP01	K2011446-001	J:\GC27\DATA\122620.B\1226F006.D	12/26/20	13:14
DSL BG003(0.0-0.5)-SP02	K2011446-002	J:\GC27\DATA\122620.B\1226F007.D	12/26/20	13:45
DSL BC002(0-1.3)-SP01	K2011446-003	J:\GC27\DATA\122620.B\1226F008.D	12/26/20	14:16
USRB G001(0.0-0.5)-SP01	K2011446-004	J:\GC27\DATA\122620.B\1226F009.D	12/26/20	14:48
USRB G001(0.0-0.5)-SP01MS	KWG2003341-1	J:\GC27\DATA\122620.B\1226F010.D	12/26/20	15:19
USRB G001(0.0-0.5)-SP01DMS	KWG2003341-2	J:\GC27\DATA\122620.B\1226F011.D	12/26/20	15:50
DSL BG007(0.0-0.5)-SP01	K2011446-005	J:\GC27\DATA\122620.B\1226F012.D	12/26/20	16:22
DSR BC008(0.0-1.25)-SP01	K2011446-006	J:\GC27\DATA\122620.B\1226F013.D	12/26/20	16:53

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Extracted: 12/10/2020
Date Analyzed: 12/26/2020
Time Analyzed: 12:43

Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	Lab Control Sample	Instrument ID:	GC27.i
Lab Code:	KWG2003341-3	File ID:	J:\GC27\DATA\122620.B\1226F005.D
Extraction Method:	EPA 3541	Level:	Low
Analysis Method:	8082A	Extraction Lot:	KWG2003341

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Method Blank	KWG2003341-4	J:\GC27\DATA\122620.B\1226F004.D	12/26/20	12:11
DSL BG003(0.0-0.5)-SP01	K2011446-001	J:\GC27\DATA\122620.B\1226F006.D	12/26/20	13:14
DSL BG003(0.0-0.5)-SP02	K2011446-002	J:\GC27\DATA\122620.B\1226F007.D	12/26/20	13:45
DSL BC002(0-1.3)-SP01	K2011446-003	J:\GC27\DATA\122620.B\1226F008.D	12/26/20	14:16
USRB G001(0.0-0.5)-SP01	K2011446-004	J:\GC27\DATA\122620.B\1226F009.D	12/26/20	14:48
USRB G001(0.0-0.5)-SP01MS	KWG2003341-1	J:\GC27\DATA\122620.B\1226F010.D	12/26/20	15:19
USRB G001(0.0-0.5)-SP01DMS	KWG2003341-2	J:\GC27\DATA\122620.B\1226F011.D	12/26/20	15:50
DSL BG007(0.0-0.5)-SP01	K2011446-005	J:\GC27\DATA\122620.B\1226F012.D	12/26/20	16:22
DSRBC008(0.0-1.25)-SP01	K2011446-006	J:\GC27\DATA\122620.B\1226F013.D	12/26/20	16:53

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Calibration Date: 12/17/2020

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL16361
Instrument ID: GC27.i

Column: DB-35MS

Level ID	File ID	Level ID	File ID
A	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F006.D	V	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F027.D
B	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F007.D	W	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F028.D
C	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F008.D	X	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F029.D
D	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F009.D	Y	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F031.D
E	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F010.D	Z	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F032.D
F	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F011.D	AA	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F033.D
G	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F012.D	AB	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F034.D
H	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F013.D	AC	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F035.D
I	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F014.D	AD	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F036.D
J	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F015.D	AE	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F037.D
K	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F016.D	AF	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F038.D
L	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F017.D	AG	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F039.D
M	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F018.D	AH	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F040.D
N	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F019.D	AI	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F041.D
O	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F020.D	AJ	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F042.D
P	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F021.D	AK	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F043.D
Q	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F022.D	AL	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F044.D
R	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F023.D	AM	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F045.D
S	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F024.D	AN	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1222F006.D
T	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F025.D		
U	\\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F026.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Tetrachloro-m-xylene	A	0.10	2.57E+6	B	0.20	2.21E+6	C	0.50	2.08E+6	D	1.0	2.01E+6	E	2.0	1.93E+6
	F	5.0	1.91E+6	G	10	2.46E+6	H	20	2.37E+6						
Decachlorobiphenyl	A	0.10	1.36E+6	B	0.20	1.15E+6	C	0.50	1.07E+6	D	1.0	9.99E+5	E	2.0	9.47E+5
	F	5.0	9.46E+5	G	10	1.18E+6	H	20	1.09E+6						
Aroclor 1016 {1}	A	1.0	47000	B	2.0	38400	C	5.0	37900	D	10	38500	E	20	36700
	F	50	35100	G	100	43500	H	200	40100						
Aroclor 1016 {2}	A	1.0	45300	B	2.0	39700	C	5.0	37100	D	10	33300	E	20	30300
	F	50	29500	G	100	36800	H	200	33800						
Aroclor 1016 {3}	A	1.0	1.17E+5	B	2.0	1.06E+5	C	5.0	98800	D	10	98900	E	20	89400
	F	50	92100	G	100	1.25E+5	H	200	1.08E+5						
Aroclor 1016 {4}	A	1.0	75000	B	2.0	64500	C	5.0	60200	D	10	59800	E	20	55800
	F	50	54800	G	100	68200	H	200	62700						
Aroclor 1016 {5}	A	1.0	59800	B	2.0	49100	C	5.0	40400	D	10	39800	E	20	36600
	F	50	36100	G	100	45200	H	200	42700						
Aroclor 1260 {1}	A	1.0	50200	B	2.0	47900	C	5.0	43100	D	10	43300	E	20	41700
	F	50	39500	G	100	51400	H	200	48900						

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Calibration Date: 12/17/2020

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL16361
Instrument ID: GC27.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 {2}	A	1.0	89000	B	2.0	81300	C	5.0	71200	D	10	69200	E	20	65200
	F	50	63500	G	100	79800	H	200	74300						
Aroclor 1260 {3}	A	1.0	51400	B	2.0	44100	C	5.0	37900	D	10	37600	E	20	35700
	F	50	34600	G	100	43900	H	200	40700						
Aroclor 1260 {4}	A	1.0	1.77E+5	B	2.0	1.63E+5	C	5.0	1.47E+5	D	10	1.38E+5	E	20	1.32E+5
	F	50	1.31E+5	G	100	1.69E+5	H	200	1.60E+5						
Aroclor 1260 {5}	A	1.0	1.54E+5	B	2.0	1.20E+5	C	5.0	1.07E+5	D	10	1.04E+5	E	20	97500
	F	50	97300	G	100	1.24E+5	H	200	1.16E+5						

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

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Calibration Date: 12/17/2020

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL16361
Instrument ID: GC27.i

Column: DB-35MS

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Tetrachloro-m-xylene	SURR	AverageRF	% RSD	11.4		≤ 20
Decachlorobiphenyl	SURR	AverageRF	% RSD	12.6		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	9.7		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	14.5		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	11.7		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	10.6		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	17.8		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	9.6		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	11.7		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	13.6		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	11.5		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	16.3		≤ 20

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Calibration Date: 12/17/2020
Date Analyzed: 12/18/2020

**Second Source Calibration Verification
 Polychlorinated Biphenyls (PCBs)**

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL16361
Units: ng/mL

File ID: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F046.D
 \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F048.D
 \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F050.D
 \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F051.D
 \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F052.D
 \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F053.D
 \\naklsws003\instdata\GC27\Data\121720ICAL.b\1222F007.D
 \\naklsws003\instdata\GC27\Data\121720ICAL.b\1222F008.D
 \\naklsws003\instdata\GC27\Data\121720ICAL.b\1223F003.D

Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016 {1}	20	20	39600	39100	-1	NA	± 100 %	AverageRF
Aroclor 1016 {2}	20	18	35700	31700	-11	NA	± 100 %	AverageRF
Aroclor 1016 {3}	20	19	104000	97800	-6	NA	± 100 %	AverageRF
Aroclor 1016 {4}	20	18	62600	57100	-9	NA	± 100 %	AverageRF
Aroclor 1016 {5}	20	17	43700	37000	-15	NA	± 100 %	AverageRF
Aroclor 1016	20	18	NA	NA	NA	-9	± 20 %	NA
Aroclor 1260 {1}	20	19	45800	44300	-3	NA	± 100 %	AverageRF
Aroclor 1260 {2}	20	23	74200	84800	14	NA	± 100 %	AverageRF
Aroclor 1260 {3}	20	23	40700	46700	15	NA	± 100 %	AverageRF
Aroclor 1260 {4}	20	23	152000	175000	15	NA	± 100 %	AverageRF
Aroclor 1260 {5}	20	22	115000	127000	11	NA	± 100 %	AverageRF
Aroclor 1260	20	22	NA	NA	NA	10	± 20 %	NA

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

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Calibration Date: 12/17/2020

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL16361
Instrument ID: GC27.i

Column: DB-XLB

Level ID	File ID	Level ID	File ID
A	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F006.D	V	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F027.D
B	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F007.D	W	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F028.D
C	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F008.D	X	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F029.D
D	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F009.D	Y	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F031.D
E	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F010.D	Z	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F032.D
F	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F011.D	AA	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F033.D
G	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F012.D	AB	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F034.D
H	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F013.D	AC	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F035.D
I	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F014.D	AD	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F036.D
J	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F015.D	AE	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F037.D
K	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F016.D	AF	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F038.D
L	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F017.D	AG	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F039.D
M	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F018.D	AH	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F040.D
N	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F019.D	AI	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F041.D
O	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F020.D	AJ	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F042.D
P	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F021.D	AK	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F043.D
Q	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F022.D	AL	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F044.D
R	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F023.D	AM	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F045.D
S	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F024.D	AN	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1222F006.D
T	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F025.D		
U	\\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F026.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Tetrachloro-m-xylene	A	0.10	1.26E+6	B	0.20	1.27E+6	C	0.50	1.25E+6	D	1.0	1.22E+6	E	2.0	1.14E+6
	F	5.0	1.08E+6	G	10	1.35E+6	H	20	1.28E+6						
Decachlorobiphenyl	A	0.10	8.53E+5	B	0.20	7.73E+5	C	0.50	7.28E+5	D	1.0	6.91E+5	E	2.0	6.46E+5
	F	5.0	6.23E+5	G	10	7.42E+5	H	20	6.62E+5						
Aroclor 1016 {1}	A	1.0	22000	B	2.0	22300	C	5.0	20400	D	10	22000	E	20	21800
	F	50	21400	G	100	25800	H	200	23300						
Aroclor 1016 {2}	A	1.0	35700	B	2.0	39000	C	5.0	33000	D	10	34300	E	20	32500
	F	50	31300	G	100	36500	H	200	32500						
Aroclor 1016 {3}	A	1.0	43600	B	2.0	38100	C	5.0	37200	D	10	38200	E	20	36900
	F	50	35900	G	100	43300	H	200	39400						
Aroclor 1016 {4}	A	1.0	33300	B	2.0	32600	C	5.0	31600	D	10	30000	E	20	27800
	F	50	26500	G	100	31100	H	200	28100						
Aroclor 1016 {5}	A	1.0	29300	B	2.0	26700	C	5.0	27300	D	10	28100	E	20	26600
	F	50	25600	G	100	30300	H	200	27400						
Aroclor 1260 {1}	A	1.0	28300	B	2.0	27500	C	5.0	26200	D	10	27500	E	20	25700
	F	50	24800	G	100	29500	H	200	26300						

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Calibration Date: 12/17/2020

Initial Calibration Summary
Polychlorinated Biphenyls (PCBs)

Calibration ID: CAL16361
Instrument ID: GC27.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 {2}	A	1.0	49800	B	2.0	46000	C	5.0	45200	D	10	44700	E	20	40400
	F	50	38500	G	100	44900	H	200	39500						
Aroclor 1260 {3}	A	1.0	23700	B	2.0	27600	C	5.0	24300	D	10	23700	E	20	22300
	F	50	22300	G	100	26100	H	200	22800						
Aroclor 1260 {4}	A	1.0	54000	B	2.0	49700	C	5.0	47000	D	10	44600	E	20	42200
	F	50	39600	G	100	46800	H	200	41700						
Aroclor 1260 {5}	A	1.0	1.30E+5	B	2.0	1.13E+5	C	5.0	1.04E+5	D	10	96100	E	20	89100
	F	50	82800	G	100	98400	H	200	89200						

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

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Calibration Date: 12/17/2020

**Initial Calibration Summary
 Polychlorinated Biphenyls (PCBs)**

Calibration ID: CAL16361
Instrument ID: GC27.i

Column: DB-XLB

Analyte Name	Compound Type	Calibration Evaluation				
		Fit Type	Eval.	Eval. Result	Q	Control Criteria
Tetrachloro-m-xylene	SURR	AverageRF	% RSD	6.9		≤ 20
Decachlorobiphenyl	SURR	AverageRF	% RSD	10.6		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	7.3		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	7.5		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	7.4		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	8.2		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	5.5		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	5.7		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	8.8		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	7.8		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	10.2		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	15.3		≤ 20

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Calibration Date: 12/17/2020
Date Analyzed: 12/18/2020

Second Source Calibration Verification
Polychlorinated Biphenyls (PCBs)

Calibration Type: External Standard
Analysis Method: 8082A

Calibration ID: CAL16361
Units: ng/mL

File ID: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F046.D
 \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F048.D
 \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F050.D
 \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F051.D
 \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F052.D
 \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F053.D
 \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1222F007.D
 \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1222F008.D
 \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1223F003.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Aroclor 1016 {1}	20	21	22400	23800	6	NA	± 100 %	AverageRF
Aroclor 1016 {2}	20	19	34300	33400	-3	NA	± 100 %	AverageRF
Aroclor 1016 {3}	20	19	39100	38000	-3	NA	± 100 %	AverageRF
Aroclor 1016 {4}	20	18	30100	27800	-8	NA	± 100 %	AverageRF
Aroclor 1016 {5}	20	20	27700	27500	0	NA	± 100 %	AverageRF
Aroclor 1016	20	20	NA	NA	NA	-1	± 20 %	NA
Aroclor 1260 {1}	20	23	27000	31700	17	NA	± 100 %	AverageRF
Aroclor 1260 {2}	20	25	43600	54000	24	NA	± 100 %	AverageRF
Aroclor 1260 {3}	20	24	24100	29100	21	NA	± 100 %	AverageRF
Aroclor 1260 {4}	20	24	45700	53800	18	NA	± 100 %	AverageRF
Aroclor 1260 {5}	20	22	100000	113000	12	NA	± 100 %	AverageRF
Aroclor 1260	20	24	NA	NA	NA	18	± 20 %	NA

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

† SPCC Compound

‡ CCC Compound

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/26/2020

**Continuing Calibration Verification Summary
 Polychlorinated Biphenyls (PCBs)**

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 12/17/2020
Calibration ID: CAL16361
Analysis Lot: KWG2003438
Units: ng/mL
Column ID: DB-35MS

File ID: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F002.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Tetrachloro-m-xylene	2.0	2.0	2190000	2200000	0	NA	± 20	AverageRF
Decachlorobiphenyl	2.0	2.0	1090000	1080000	-2	NA	± 20	AverageRF
Aroclor 1016 {1}	20	21	39600	41600	5	NA	± 100	AverageRF
Aroclor 1016 {2}	20	20	35700	34900	-2	NA	± 100	AverageRF
Aroclor 1016 {3}	20	23	104000	118000	13	NA	± 100	AverageRF
Aroclor 1016 {4}	20	20	62600	64000	2	NA	± 100	AverageRF
Aroclor 1016 {5}	20	19	43700	41600	-5	NA	± 100	AverageRF
Aroclor 1016	20	21	NA	NA	NA	3	± 20	NA
Aroclor 1260 {1}	20	20	45800	45700	0	NA	± 100	AverageRF
Aroclor 1260 {2}	20	20	74200	73300	-1	NA	± 100	AverageRF
Aroclor 1260 {3}	20	21	40700	42600	5	NA	± 100	AverageRF
Aroclor 1260 {4}	20	20	152000	151000	-1	NA	± 100	AverageRF
Aroclor 1260 {5}	20	19	115000	111000	-4	NA	± 100	AverageRF
Aroclor 1260	20	20	NA	NA	NA	0	± 20	NA

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/26/2020

**Continuing Calibration Verification Summary
 Polychlorinated Biphenyls (PCBs)**

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 12/17/2020
Calibration ID: CAL16361
Analysis Lot: KWG2003438
Units: ng/mL
Column ID: DB-XLB

File ID: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F002.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Tetrachloro-m-xylene	2.0	2.0	1230000	1240000	1	NA	± 20	AverageRF
Decachlorobiphenyl	2.0	2.0	715000	720000	1	NA	± 20	AverageRF
Aroclor 1016 {1}	20	21	22400	23500	5	NA	± 100	AverageRF
Aroclor 1016 {2}	20	23	34300	39800	16	NA	± 100	AverageRF
Aroclor 1016 {3}	20	21	39100	40800	4	NA	± 100	AverageRF
Aroclor 1016 {4}	20	20	30100	30700	2	NA	± 100	AverageRF
Aroclor 1016 {5}	20	21	27700	29600	7	NA	± 100	AverageRF
Aroclor 1016	20	21	NA	NA	NA	7	± 20	NA
Aroclor 1260 {1}	20	22	27000	29100	8	NA	± 100	AverageRF
Aroclor 1260 {2}	20	20	43600	44600	2	NA	± 100	AverageRF
Aroclor 1260 {3}	20	21	24100	24900	3	NA	± 100	AverageRF
Aroclor 1260 {4}	20	20	45700	46800	2	NA	± 100	AverageRF
Aroclor 1260 {5}	20	20	100000	98400	-2	NA	± 100	AverageRF
Aroclor 1260	20	21	NA	NA	NA	3	± 20	NA

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/26/2020

**Continuing Calibration Verification Summary
 Polychlorinated Biphenyls (PCBs)**

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 12/17/2020
Calibration ID: CAL16361
Analysis Lot: KWG2003445
Units: ng/mL
Column ID: DB-35MS

File ID: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F014.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Tetrachloro-m-xylene	2.0	2.0	2190000	2210000	1	NA	± 20	AverageRF
Decachlorobiphenyl	2.0	2.0	1090000	1090000	-1	NA	± 20	AverageRF
Aroclor 1016 {1}	20	21	39600	42600	7	NA	± 100	AverageRF
Aroclor 1016 {2}	20	20	35700	36000	1	NA	± 100	AverageRF
Aroclor 1016 {3}	20	22	104000	113000	8	NA	± 100	AverageRF
Aroclor 1016 {4}	20	21	62600	67000	7	NA	± 100	AverageRF
Aroclor 1016 {5}	20	20	43700	43700	0	NA	± 100	AverageRF
Aroclor 1016	20	21	NA	NA	NA	5	± 20	NA
Aroclor 1260 {1}	20	21	45800	47400	4	NA	± 100	AverageRF
Aroclor 1260 {2}	20	20	74200	75400	2	NA	± 100	AverageRF
Aroclor 1260 {3}	20	21	40700	42900	5	NA	± 100	AverageRF
Aroclor 1260 {4}	20	21	152000	157000	3	NA	± 100	AverageRF
Aroclor 1260 {5}	20	20	115000	116000	1	NA	± 100	AverageRF
Aroclor 1260	20	21	NA	NA	NA	3	± 20	NA

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/26/2020

**Continuing Calibration Verification Summary
 Polychlorinated Biphenyls (PCBs)**

Calibration Type: External Standard
Analysis Method: 8082A

Calibration Date: 12/17/2020
Calibration ID: CAL16361
Analysis Lot: KWG2003445
Units: ng/mL
Column ID: DB-XLB

File ID: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F014.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Tetrachloro-m-xylene	2.0	2.1	1230000	1290000	5	NA	± 20	AverageRF
Decachlorobiphenyl	2.0	2.1	715000	733000	3	NA	± 20	AverageRF
Aroclor 1016 {1}	20	22	22400	25200	12	NA	± 100	AverageRF
Aroclor 1016 {2}	20	24	34300	42000	22	NA	± 100	AverageRF
Aroclor 1016 {3}	20	23	39100	44800	15	NA	± 100	AverageRF
Aroclor 1016 {4}	20	21	30100	32300	7	NA	± 100	AverageRF
Aroclor 1016 {5}	20	22	27700	31000	12	NA	± 100	AverageRF
Aroclor 1016	20	23	NA	NA	NA	14	± 20	NA
Aroclor 1260 {1}	20	22	27000	30300	12	NA	± 100	AverageRF
Aroclor 1260 {2}	20	21	43600	46700	7	NA	± 100	AverageRF
Aroclor 1260 {3}	20	21	24100	25900	7	NA	± 100	AverageRF
Aroclor 1260 {4}	20	21	45700	48900	7	NA	± 100	AverageRF
Aroclor 1260 {5}	20	20	100000	102000	1	NA	± 100	AverageRF
Aroclor 1260	20	21	NA	NA	NA	7	± 20	NA

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082A

Analysis Lot: KWG2003438
Instrument ID: GC27.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1226F002.D	Continuing Calibration Verification	KWG2003438-1	12/26/2020	11:09		12/26/2020	11:09
1226F003.D	Instrument Blank	KWG2003438-2	12/26/2020	11:40		12/26/2020	11:40
1226F004.D	Method Blank	KWG2003341-4	12/26/2020	12:11		12/26/2020	12:11
1226F005.D	Lab Control Sample	KWG2003341-3	12/26/2020	12:43		12/26/2020	12:43
1226F006.D	DSL BG003(0.0-0.5)-SP01	K2011446-001	12/26/2020	13:14		12/26/2020	13:14
1226F007.D	DSL BG003(0.0-0.5)-SP02	K2011446-002	12/26/2020	13:45		12/26/2020	13:45
1226F008.D	DSL BC002(0-1.3)-SP01	K2011446-003	12/26/2020	14:16		12/26/2020	14:16
1226F009.D	USRBG001(0.0-0.5)-SP01	K2011446-004	12/26/2020	14:48		12/26/2020	14:48
1226F010.D	USRBG001(0.0-0.5)-SP01MS	KWG2003341-1	12/26/2020	15:19		12/26/2020	15:19
1226F011.D	USRBG001(0.0-0.5)-SP01DMS	KWG2003341-2	12/26/2020	15:50		12/26/2020	15:50
1226F012.D	DSL BG007(0.0-0.5)-SP01	K2011446-005	12/26/2020	16:22		12/26/2020	16:22
1226F013.D	DSRBC008(0.0-1.25)-SP01	K2011446-006	12/26/2020	16:53		12/26/2020	16:53
1226F014.D	Continuing Calibration Verification	KWG2003438-3	12/26/2020	17:24		12/26/2020	17:24
1226F015.D	Instrument Blank	KWG2003438-4	12/26/2020	17:55		12/26/2020	17:55

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082A

Analysis Lot: KWG2003445
Instrument ID: GC27.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1226F014.D	Continuing Calibration Verification	KWG2003445-1	12/26/2020	17:24		12/26/2020	17:24
1226F015.D	Instrument Blank	KWG2003445-2	12/26/2020	17:55		12/26/2020	17:55
1226F016.D	ZZZZZZ	ZZZZZZ	12/26/2020	18:27		12/26/2020	18:27
1226F017.D	ZZZZZZ	ZZZZZZ	12/26/2020	18:58		12/26/2020	18:58
1226F018.D	ZZZZZZ	ZZZZZZ	12/26/2020	19:29		12/26/2020	19:29
1226F019.D	ZZZZZZ	ZZZZZZ	12/26/2020	20:00		12/26/2020	20:00
1226F020.D	ZZZZZZ	ZZZZZZ	12/26/2020	20:32		12/26/2020	20:32
1226F021.D	ZZZZZZ	ZZZZZZ	12/26/2020	21:03		12/26/2020	21:03
1226F022.D	ZZZZZZ	ZZZZZZ	12/26/2020	21:34		12/26/2020	21:34
1226F023.D	ZZZZZZ	ZZZZZZ	12/26/2020	22:05		12/26/2020	22:05
1226F024.D	ZZZZZZ	ZZZZZZ	12/26/2020	22:37		12/26/2020	22:37
1226F025.D	ZZZZZZ	ZZZZZZ	12/26/2020	23:08		12/26/2020	23:08
1226F026.D	ZZZZZZ	ZZZZZZ	12/26/2020	23:39		12/26/2020	23:39
1226F027.D	ZZZZZZ	ZZZZZZ	12/27/2020	00:11		12/27/2020	00:11
1226F028.D	Continuing Calibration Verification	KWG2003445-3	12/27/2020	00:42		12/27/2020	00:42
1226F029.D	Instrument Blank	KWG2003445-4	12/27/2020	01:13		12/27/2020	01:13
1226F030.D	ZZZZZZ	ZZZZZZ	12/27/2020	01:45		12/27/2020	01:45
1226F031.D	ZZZZZZ	ZZZZZZ	12/27/2020	02:16		12/27/2020	02:16
1226F032.D	ZZZZZZ	ZZZZZZ	12/27/2020	02:47		12/27/2020	02:47
1226F033.D	ZZZZZZ	ZZZZZZ	12/27/2020	03:18		12/27/2020	03:18
1226F034.D	ZZZZZZ	ZZZZZZ	12/27/2020	03:50		12/27/2020	03:50
1226F035.D	ZZZZZZ	ZZZZZZ	12/27/2020	04:21		12/27/2020	04:21
1226F036.D	ZZZZZZ	ZZZZZZ	12/27/2020	04:52		12/27/2020	04:52
1226F037.D	ZZZZZZ	ZZZZZZ	12/27/2020	05:23		12/27/2020	05:23
1226F038.D	ZZZZZZ	ZZZZZZ	12/27/2020	05:55		12/27/2020	05:55
1226F039.D	ZZZZZZ	ZZZZZZ	12/27/2020	06:26		12/27/2020	06:26
1226F040.D	ZZZZZZ	ZZZZZZ	12/27/2020	06:57		12/27/2020	06:57
1226F041.D	ZZZZZZ	ZZZZZZ	12/27/2020	07:28		12/27/2020	07:28
1226F042.D	Continuing Calibration Verification	KWG2003445-5	12/27/2020	08:00		12/27/2020	08:00
1226F043.D	Instrument Blank	KWG2003445-6	12/27/2020	08:31		12/27/2020	08:31
1226F044.D	ZZZZZZ	ZZZZZZ	12/27/2020	09:02		12/27/2020	09:02
1226F045.D	ZZZZZZ	ZZZZZZ	12/27/2020	09:33		12/27/2020	09:33
1226F046.D	ZZZZZZ	ZZZZZZ	12/27/2020	10:05		12/27/2020	10:05
1226F047.D	ZZZZZZ	ZZZZZZ	12/27/2020	10:36		12/27/2020	10:36
1226F048.D	ZZZZZZ	ZZZZZZ	12/27/2020	11:07		12/27/2020	11:07

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446

Analysis Run Log
Polychlorinated Biphenyls (PCBs)

Analysis Method: 8082A

Analysis Lot: KWG2003445
Instrument ID: GC27.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
1226F049.D	ZZZZZZ	ZZZZZZ	12/27/2020	11:38		12/27/2020	11:38
1226F050.D	ZZZZZZ	ZZZZZZ	12/27/2020	12:10		12/27/2020	12:10
1226F051.D	ZZZZZZ	ZZZZZZ	12/27/2020	12:41		12/27/2020	12:41
1226F052.D	ZZZZZZ	ZZZZZZ	12/27/2020	13:12		12/27/2020	13:12
1226F053.D	Continuing Calibration Verification	KWG2003445-7	12/27/2020	13:43		12/27/2020	13:43
1226F054.D	Instrument Blank	KWG2003445-8	12/27/2020	14:14		12/27/2020	14:14

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

QA/QC Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Extracted: 12/10/2020

Extraction Prep Log
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541
Analysis Method: 8082A

Extraction Lot: KWG2003341
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
DSLBG003(0.0-0.5)-SP01	K2011446-001	12/02/20	12/08/20	2.041g	8ml	29.9	
DSLBG003(0.0-0.5)-SP02	K2011446-002	12/02/20	12/08/20	2.039g	8ml	29.2	
DSLBC002(0-1.3)-SP01	K2011446-003	12/02/20	12/08/20	2.090g	8ml	32	
USRBG001(0.0-0.5)-SP01	K2011446-004	12/03/20	12/08/20	2.046g	8ml	47.4	
DSLBG007(0.0-0.5)-SP01	K2011446-005	12/04/20	12/08/20	2.056g	8ml	24.2	
DSRBC008(0.0-1.25)-SP01	K2011446-006	12/04/20	12/08/20	2.026g	8ml	29.5	
Method Blank	KWG2003341-4	NA	NA	2.090g	8ml	NA	
USRBG001(0.0-0.5)-SP01MS	KWG2003341-1	12/03/20	12/08/20	2.019g	8ml	47.4	
USRBG001(0.0-0.5)-SP01DMS	KWG2003341-2	12/03/20	12/08/20	2.089g	8ml	47.4	
Lab Control Sample	KWG2003341-3	NA	NA	2.000g	8ml	NA	

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

Confirmation Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/02/2020
Date Received: 12/08/2020
Date Extracted: 12/10/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: DSLBG003(0.0-0.5)-SP01
Lab Code: K2011446-001
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	33	9.9	220	240	8.7		1	12/26/20
Aroclor 1260	33	9.9	67	74	9.9		1	12/26/20

Confirmation Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/02/2020
Date Received: 12/08/2020
Date Extracted: 12/10/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: DSLBG003(0.0-0.5)-SP02
Lab Code: K2011446-002
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	34	11	330	360	8.7		1	12/26/20
Aroclor 1260	34	11	100	100	0.0		1	12/26/20

Confirmation Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/02/2020
Date Received: 12/08/2020
Date Extracted: 12/10/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: DSLBC002(0-1.3)-SP01
Lab Code: K2011446-003
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	30	9.0	250	260	3.9		1	12/26/20
Aroclor 1260	30	9.0	71	71	0.0		1	12/26/20

Confirmation Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/03/2020
Date Received: 12/08/2020
Date Extracted: 12/10/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: USRBG001(0.0-0.5)-SP01
Lab Code: K2011446-004
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	21	6.2	33	42	24.0		1	12/26/20
Aroclor 1260	21	6.2	10	13	26.1	J	1	12/26/20

Confirmation Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/04/2020
Date Received: 12/08/2020
Date Extracted: 12/10/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: DSLBG007(0.0-0.5)-SP01
Lab Code: K2011446-005
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	41	13	330	380	14.1		1	12/26/20
Aroclor 1260	41	13	96	100	4.1		1	12/26/20

Confirmation Results

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/04/2020
Date Received: 12/08/2020
Date Extracted: 12/10/2020

Polychlorinated Biphenyls (PCBs)

Sample Name: DSRBC008(0.0-1.25)-SP01
Lab Code: K2011446-006
Extraction Method: EPA 3541
Analysis Method: 8082A

Units: ug/Kg
Basis: Dry
Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1254	34	11	190	220	14.6		1	12/26/20
Aroclor 1260	34	11	56	65	14.9		1	12/26/20



Polycyclic Aromatic Hydrocarbons by GC/MS SIM

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: DSLBG003(0.0-0.5)-SP01
Lab Code: K2011446-001

Service Request: K2011446
Date Collected: 12/02/20 15:00
Date Received: 12/08/20 10:00

Units: ug/Kg
Basis: Dry

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	17	15	1.2	1	12/17/20 22:28	12/14/20	
2-Methylnaphthalene	27	15	1.2	1	12/17/20 22:28	12/14/20	
Acenaphthene	18	15	0.93	1	12/17/20 22:28	12/14/20	
Acenaphthylene	44	15	0.86	1	12/17/20 22:28	12/14/20	
Anthracene	74	15	0.89	1	12/17/20 22:28	12/14/20	
Benz(a)anthracene	500	15	0.71	1	12/17/20 22:28	12/14/20	
Benzo(a)pyrene	650	15	1.2	1	12/17/20 22:28	12/14/20	
Benzo(b)fluoranthene	940	15	1.2	1	12/17/20 22:28	12/14/20	
Benzo(g,h,i)perylene	500	15	1.3	1	12/17/20 22:28	12/14/20	
Benzo(k)fluoranthene	390	15	0.74	1	12/17/20 22:28	12/14/20	
Chrysene	690	15	0.96	1	12/17/20 22:28	12/14/20	
Dibenz(a,h)anthracene	110	15	0.71	1	12/17/20 22:28	12/14/20	
Fluoranthene	1000	15	2.0	1	12/17/20 22:28	12/14/20	
Fluorene	39	15	1.8	1	12/17/20 22:28	12/14/20	
Indeno(1,2,3-cd)pyrene	520	15	1.2	1	12/17/20 22:28	12/14/20	
Naphthalene	36	15	1.5	1	12/17/20 22:28	12/14/20	
Phenanthrene	310	15	1.9	1	12/17/20 22:28	12/14/20	
Pyrene	770	15	0.99	1	12/17/20 22:28	12/14/20	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	76	38 - 104	12/17/20 22:28	
Fluorene-d10	77	39 - 109	12/17/20 22:28	
Terphenyl-d14	72	38 - 113	12/17/20 22:28	

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Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: DSLBG003(0.0-0.5)-SP02
Lab Code: K2011446-002

Service Request: K2011446
Date Collected: 12/02/20 15:00
Date Received: 12/08/20 10:00

Units: ug/Kg
Basis: Dry

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	16 J	17	1.3	1	12/17/20 22:54	12/14/20	
2-Methylnaphthalene	20	17	1.3	1	12/17/20 22:54	12/14/20	
Acenaphthene	16 J	17	1.1	1	12/17/20 22:54	12/14/20	
Acenaphthylene	36	17	0.94	1	12/17/20 22:54	12/14/20	
Anthracene	67	17	0.98	1	12/17/20 22:54	12/14/20	
Benz(a)anthracene	490	17	0.78	1	12/17/20 22:54	12/14/20	
Benzo(a)pyrene	610	17	1.3	1	12/17/20 22:54	12/14/20	
Benzo(b)fluoranthene	890	17	1.3	1	12/17/20 22:54	12/14/20	
Benzo(g,h,i)perylene	470	17	1.4	1	12/17/20 22:54	12/14/20	
Benzo(k)fluoranthene	330	17	0.81	1	12/17/20 22:54	12/14/20	
Chrysene	670	17	1.1	1	12/17/20 22:54	12/14/20	
Dibenz(a,h)anthracene	100	17	0.78	1	12/17/20 22:54	12/14/20	
Fluoranthene	980	17	2.2	1	12/17/20 22:54	12/14/20	
Fluorene	32	17	2.0	1	12/17/20 22:54	12/14/20	
Indeno(1,2,3-cd)pyrene	490	17	1.3	1	12/17/20 22:54	12/14/20	
Naphthalene	28	17	1.6	1	12/17/20 22:54	12/14/20	
Phenanthrene	290	17	2.0	1	12/17/20 22:54	12/14/20	
Pyrene	770	17	1.1	1	12/17/20 22:54	12/14/20	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	73	38 - 104	12/17/20 22:54	
Fluorene-d10	73	39 - 109	12/17/20 22:54	
Terphenyl-d14	71	38 - 113	12/17/20 22:54	

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Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: USRBG001(0.0-0.5)-SP01
Lab Code: K2011446-004

Service Request: K2011446
Date Collected: 12/03/20 16:00
Date Received: 12/08/20 10:00

Units: ug/Kg
Basis: Dry

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	2.9 J	11	0.78	1	12/17/20 00:13	12/9/20	
2-Methylnaphthalene	4.7 J	11	0.78	1	12/17/20 00:13	12/9/20	
Acenaphthene	8.4 J	11	0.64	1	12/17/20 00:13	12/9/20	
Acenaphthylene	8.5 J	11	0.59	1	12/17/20 00:13	12/9/20	
Anthracene	27	11	0.62	1	12/17/20 00:13	12/9/20	
Benz(a)anthracene	160	11	0.49	1	12/17/20 00:13	12/9/20	
Benzo(a)pyrene	190	11	0.80	1	12/17/20 00:13	12/9/20	
Benzo(b)fluoranthene	300	11	0.80	1	12/17/20 00:13	12/9/20	
Benzo(g,h,i)perylene	160	11	0.85	1	12/17/20 00:13	12/9/20	
Benzo(k)fluoranthene	110	11	0.51	1	12/17/20 00:13	12/9/20	
Chrysene	230	11	0.66	1	12/17/20 00:13	12/9/20	
Dibenz(a,h)anthracene	34	11	0.49	1	12/17/20 00:13	12/9/20	
Fluoranthene	380	11	1.4	1	12/17/20 00:13	12/9/20	
Fluorene	11	11	1.2	1	12/17/20 00:13	12/9/20	
Indeno(1,2,3-cd)pyrene	160	11	0.76	1	12/17/20 00:13	12/9/20	
Naphthalene	7.9 J	11	0.99	1	12/17/20 00:13	12/9/20	
Phenanthrene	150	11	1.3	1	12/17/20 00:13	12/9/20	
Pyrene	300	11	0.68	1	12/17/20 00:13	12/9/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	43	38 - 104	12/17/20 00:13	
Fluorene-d10	45	39 - 109	12/17/20 00:13	
Terphenyl-d14	48	38 - 113	12/17/20 00:13	

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Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: DSLBG007(0.0-0.5)-SP01
Lab Code: K2011446-005

Service Request: K2011446
Date Collected: 12/04/20 15:00
Date Received: 12/08/20 10:00

Units: ug/Kg
Basis: Dry

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	13 J	20	1.5	1	12/17/20 23:20	12/14/20	
2-Methylnaphthalene	23	20	1.5	1	12/17/20 23:20	12/14/20	
Acenaphthene	14 J	20	1.3	1	12/17/20 23:20	12/14/20	
Acenaphthylene	35	20	1.2	1	12/17/20 23:20	12/14/20	
Anthracene	67	20	1.2	1	12/17/20 23:20	12/14/20	
Benz(a)anthracene	470	20	0.93	1	12/17/20 23:20	12/14/20	
Benzo(a)pyrene	600	20	1.6	1	12/17/20 23:20	12/14/20	
Benzo(b)fluoranthene	920	20	1.6	1	12/17/20 23:20	12/14/20	
Benzo(g,h,i)perylene	500	20	1.7	1	12/17/20 23:20	12/14/20	
Benzo(k)fluoranthene	370	20	0.97	1	12/17/20 23:20	12/14/20	
Chrysene	540	20	1.3	1	12/17/20 23:20	12/14/20	
Dibenz(a,h)anthracene	110	20	0.93	1	12/17/20 23:20	12/14/20	
Fluoranthene	1000	20	2.6	1	12/17/20 23:20	12/14/20	
Fluorene	33	20	2.3	1	12/17/20 23:20	12/14/20	
Indeno(1,2,3-cd)pyrene	510	20	1.5	1	12/17/20 23:20	12/14/20	
Naphthalene	27	20	1.9	1	12/17/20 23:20	12/14/20	
Phenanthrene	280	20	2.4	1	12/17/20 23:20	12/14/20	
Pyrene	790	20	1.3	1	12/17/20 23:20	12/14/20	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	70	38 - 104	12/17/20 23:20	
Fluorene-d10	69	39 - 109	12/17/20 23:20	
Terphenyl-d14	68	38 - 113	12/17/20 23:20	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ2019722-04

Service Request: K2011446
Date Collected: NA
Date Received: NA

Units: ug/Kg
Basis: Dry

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	ND U	5.0	0.37	1	12/16/20 22:36	12/9/20	
2-Methylnaphthalene	ND U	5.0	0.37	1	12/16/20 22:36	12/9/20	
Acenaphthene	ND U	5.0	0.30	1	12/16/20 22:36	12/9/20	
Acenaphthylene	ND U	5.0	0.28	1	12/16/20 22:36	12/9/20	
Anthracene	ND U	5.0	0.29	1	12/16/20 22:36	12/9/20	
Benz(a)anthracene	ND U	5.0	0.23	1	12/16/20 22:36	12/9/20	
Benzo(a)pyrene	ND U	5.0	0.38	1	12/16/20 22:36	12/9/20	
Benzo(b)fluoranthene	ND U	5.0	0.38	1	12/16/20 22:36	12/9/20	
Benzo(g,h,i)perylene	ND U	5.0	0.40	1	12/16/20 22:36	12/9/20	
Benzo(k)fluoranthene	ND U	5.0	0.24	1	12/16/20 22:36	12/9/20	
Chrysene	ND U	5.0	0.31	1	12/16/20 22:36	12/9/20	
Dibenz(a,h)anthracene	ND U	5.0	0.23	1	12/16/20 22:36	12/9/20	
Fluoranthene	1.1 J	5.0	0.63	1	12/16/20 22:36	12/9/20	
Fluorene	ND U	5.0	0.57	1	12/16/20 22:36	12/9/20	
Indeno(1,2,3-cd)pyrene	ND U	5.0	0.36	1	12/16/20 22:36	12/9/20	
Naphthalene	0.91 J	5.0	0.47	1	12/16/20 22:36	12/9/20	
Phenanthrene	2.2 J	5.0	0.59	1	12/16/20 22:36	12/9/20	
Pyrene	0.86 J	5.0	0.32	1	12/16/20 22:36	12/9/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	87	38 - 104	12/16/20 22:36	
Fluorene-d10	82	39 - 109	12/16/20 22:36	
Terphenyl-d14	91	38 - 113	12/16/20 22:36	

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dba ALS Environmental

Analytical Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil
Sample Name: Method Blank
Lab Code: KQ2019929-04

Service Request: K2011446
Date Collected: NA
Date Received: NA

Units: ug/Kg
Basis: Dry

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3546

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1-Methylnaphthalene	0.38 J	4.8	0.37	1	12/18/20 01:04	12/14/20	
2-Methylnaphthalene	0.52 J	4.8	0.37	1	12/18/20 01:04	12/14/20	
Acenaphthene	0.50 J	4.8	0.30	1	12/18/20 01:04	12/14/20	
Acenaphthylene	ND U	4.8	0.28	1	12/18/20 01:04	12/14/20	
Anthracene	0.42 J	4.8	0.29	1	12/18/20 01:04	12/14/20	
Benz(a)anthracene	1.5 J	4.8	0.23	1	12/18/20 01:04	12/14/20	
Benzo(a)pyrene	1.0 J	4.8	0.38	1	12/18/20 01:04	12/14/20	
Benzo(b)fluoranthene	1.3 J	4.8	0.38	1	12/18/20 01:04	12/14/20	
Benzo(g,h,i)perylene	0.49 J	4.8	0.40	1	12/18/20 01:04	12/14/20	
Benzo(k)fluoranthene	ND U	4.8	0.24	1	12/18/20 01:04	12/14/20	
Chrysene	1.3 J	4.8	0.31	1	12/18/20 01:04	12/14/20	
Dibenz(a,h)anthracene	ND U	4.8	0.23	1	12/18/20 01:04	12/14/20	
Fluoranthene	3.6 J	4.8	0.63	1	12/18/20 01:04	12/14/20	
Fluorene	ND U	4.8	0.57	1	12/18/20 01:04	12/14/20	
Indeno(1,2,3-cd)pyrene	0.61 J	4.8	0.36	1	12/18/20 01:04	12/14/20	
Naphthalene	2.3 J	4.8	0.47	1	12/18/20 01:04	12/14/20	
Phenanthrene	3.6 J	4.8	0.59	1	12/18/20 01:04	12/14/20	
Pyrene	2.2 J	4.8	0.32	1	12/18/20 01:04	12/14/20	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Fluoranthene-d10	92	38 - 104	12/18/20 01:04	
Fluorene-d10	84	39 - 109	12/18/20 01:04	
Terphenyl-d14	83	38 - 113	12/18/20 01:04	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D

Extraction Method: EPA 3546

Sample Name	Lab Code	Fluoranthene-d10	Fluorene-d10	Terphenyl-d14
		38-104	39-109	38-113
DSLBG003(0.0-0.5)-SP01	K2011446-001	76	77	72
DSLBG003(0.0-0.5)-SP02	K2011446-002	73	73	71
USRBG001(0.0-0.5)-SP01	K2011446-004	43	45	48
DSLBG007(0.0-0.5)-SP01	K2011446-005	70	69	68
Method Blank	KQ2019722-04	87	82	91
Method Blank	KQ2019929-04	92	84	83
Lab Control Sample	KQ2019722-03	84	78	87
Lab Control Sample	KQ2019929-03	87	78	80
USRBG001(0.0-0.5)-SP01	KQ2019722-01	67	65	69
USRBG001(0.0-0.5)-SP01	KQ2019722-02	57	55	61
DSLBG007(0.0-0.5)-SP01	KQ2019929-01	78	76	76
DSLBG007(0.0-0.5)-SP01	KQ2019929-02	80	78	77

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/16/20 17:20

Internal Standard Area and RT SUMMARY
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

File ID: J:\MS14\DATA\121620\1216F030.D\
Instrument ID: K-MS-14
Analysis Method: 8270D

Lab Code: KQ2020281-01
Analysis Lot: 707391
Signal ID: 1

	Acenaphthene-d10		Chrysene-d12		Naphthalene-d8	
	Area	RT	Area	RT	Area	RT
Result ==>	31,580	6.15	97,416	9.85	66,000	4.57
Upper Limit ==>	63,160	6.65	194,832	10.35	132,000	5.07
Lower Limit ==>	15,790	5.65	48,708	9.35	33,000	4.07

Associated Analyses

Method Blank	KQ2019722-04	28609	6.15	79167	9.84	58620	4.57
Lab Control Sample	KQ2019722-03	26871	6.15	77401	9.84	59556	4.57
USRBG001(0.0-0.5)-SP01MS	KQ2019722-01	34647	6.15	98923	9.85	77960	4.57
USRBG001(0.0-0.5)-SP01DMS	KQ2019722-02	36043	6.15	98866	9.84	80375	4.57
USRBG001(0.0-0.5)-SP01	K2011446-004	40310	6.15	106334	9.84	84267	4.57

ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/16/20 17:20

Internal Standard Area and RT SUMMARY
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

File ID: J:\MS14\DATA\121620\1216F030.D\
Instrument ID: K-MS-14
Analysis Method: 8270D

Lab Code: KQ2020281-01
Analysis Lot: 707391
Signal ID: 1

	Perylene-d12		Phenanthrene-d10	
	Area	RT	Area	RT
Result ==>	109,852	12.73	74,138	7.39
Upper Limit ==>	219,704	13.23	148,276	7.89
Lower Limit ==>	54,926	12.23	37,069	6.89

Associated Analyses

Method Blank	KQ2019722-04	89212	12.73	62338	7.39
Lab Control Sample	KQ2019722-03	92481	12.75	60004	7.39
USRBG001(0.0-0.5)-SP01MS	KQ2019722-01	127489	12.78	75792	7.39
USRBG001(0.0-0.5)-SP01DMS	KQ2019722-02	127782	12.74	78596	7.39
USRBG001(0.0-0.5)-SP01	K2011446-004	124148	12.73	82820	7.39

ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/17/20 19:53

Internal Standard Area and RT SUMMARY
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

File ID: J:\MS14\DATA\121720\1217F030.D\
Instrument ID: K-MS-14
Analysis Method: 8270D

Lab Code: KQ2020371-03
Analysis Lot: 707540
Signal ID: 1

	Acenaphthene-d10		Chrysene-d12		Naphthalene-d8	
	Area	RT	Area	RT	Area	RT
Result ==>	30,846	6.13	109,740	9.82	63,316	4.55
Upper Limit ==>	61,692	6.63	219,480	10.32	126,632	5.05
Lower Limit ==>	15,423	5.63	54,870	9.32	31,658	4.05

Associated Analyses

DSLBG003(0.0-0.5)-SP01	K2011446-001	32454	6.13	100109	9.83	58958	4.55
DSLBG003(0.0-0.5)-SP02	K2011446-002	36167	6.13	105373	9.82	77607	4.55
DSLBG007(0.0-0.5)-SP01	K2011446-005	37732	6.13	106869	9.82	80873	4.55
DSLBG007(0.0-0.5)-SP01MS	KQ2019929-01	35790	6.13	107203	9.83	83672	4.55
DSLBG007(0.0-0.5)-SP01DMS	KQ2019929-02	35162	6.13	109123	9.83	81637	4.55
Lab Control Sample	KQ2019929-03	35396	6.13	112191	9.82	85204	4.55
Method Blank	KQ2019929-04	37219	6.13	118204	9.82	86131	4.55

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request:K2011446

Date Analyzed:12/17/20 19:53

Internal Standard Area and RT SUMMARY
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

File ID: J:\MS14\DATA\121720\1217F030.D\

Instrument ID: K-MS-14

Analysis Method: 8270D

Lab Code:KQ2020371-03

Analysis Lot:707540

Signal ID:1

	Perylene-d12		Phenanthrene-d10	
	Area	RT	Area	RT
Result ==>	134,392	12.68	62,525	7.38
Upper Limit ==>	268,784	13.18	125,050	7.88
Lower Limit ==>	67,196	12.18	31,263	6.88

Associated Analyses

DSLBG003(0.0-0.5)-SP01	K2011446-001	128034	12.72	67694	7.37
DSLBG003(0.0-0.5)-SP02	K2011446-002	131397	12.71	73677	7.37
DSLBG007(0.0-0.5)-SP01	K2011446-005	133801	12.70	76379	7.37
DSLBG007(0.0-0.5)-SP01MS	KQ2019929-01	137065	12.72	76571	7.37
DSLBG007(0.0-0.5)-SP01DMS	KQ2019929-02	133720	12.73	76032	7.37
Lab Control Sample	KQ2019929-03	136989	12.69	79573	7.37
Method Blank	KQ2019929-04	139668	12.70	81692	7.37

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/03/20
Date Received: 12/08/20
Date Analyzed: 12/16/20
Date Extracted: 12/9/20

Duplicate Matrix Spike Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Sample Name: USRBG001(0.0-0.5)-SP01
Lab Code: K2011446-004
Analysis Method: 8270D
Prep Method: EPA 3546

Units: ug/Kg
Basis: Dry

Analyte Name	Sample Result	Matrix Spike KQ2019722-01			Duplicate Matrix Spike KQ2019722-02			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
1-Methylnaphthalene	2.9 J	477	1050	45	417	1050	40	17-108	13	40
2-Methylnaphthalene	4.7 J	497	1050	47	442	1050	42	28-98	12	40
Acenaphthene	8.4 J	560	1050	52	478	1050	45	30-101	16	40
Acenaphthylene	8.5 J	554	1050	52	455	1050	43	32-97	20	40
Anthracene	27	684	1050	62	572	1050	52	27-116	18	40
Benz(a)anthracene	160	943	1050	74	710	1050	52	27-127	28	40
Benzo(a)pyrene	190	931	1050	70	686	1050	47	25-129	30	40
Benzo(b)fluoranthene	300	1000	1050	66	766	1050	44	21-130	26	40
Benzo(g,h,i)perylene	160	783	1050	60	626	1050	45	17-130	22	40
Benzo(k)fluoranthene	110	766	1050	62	615	1050	48	22-126	22	40
Chrysene	230	1040	1050	77	792	1050	54	25-132	27	40
Dibenz(a,h)anthracene	34	630	1050	57	515	1050	46	32-116	20	40
Fluoranthene	380	1240	1050	82	960	1050	56	10-138	25	40
Fluorene	11	651	1050	61	555	1050	52	23-116	16	40
Indeno(1,2,3-cd)pyrene	160	941	1050	74	756	1050	57	17-138	22	40
Naphthalene	7.9 J	509	1050	47	437	1050	41	29-88	15	40
Phenanthrene	150	783	1050	60	654	1050	48	10-128	18	40
Pyrene	300	1100	1050	76	884	1050	56	16-134	22	40

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.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Collected: 12/04/20
Date Received: 12/08/20
Date Analyzed: 12/17/20
Date Extracted: 12/14/20

Duplicate Matrix Spike Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Sample Name: DSLBG007(0.0-0.5)-SP01
Lab Code: K2011446-005
Analysis Method: 8270D
Prep Method: EPA 3546

Units: ug/Kg
Basis: Dry

Analyte Name	Sample Result	Matrix Spike KQ2019929-01			Duplicate Matrix Spike KQ2019929-02			% Rec Limits	RPD	RPD Limit
		Result	Spike	% Rec	Result	Spike	% Rec			
			Amount			Amount				
1-Methylnaphthalene	13 J	1060	2030	51	1180	2000	58	17-108	11	40
2-Methylnaphthalene	23	1100	2030	53	1230	2000	60	28-98	12	40
Acenaphthene	14 J	1240	2030	61	1370	2000	68	30-101	10	40
Acenaphthylene	35	1200	2030	57	1330	2000	65	32-97	11	40
Anthracene	67	1480	2030	70	1610	2000	77	27-116	8	40
Benz(a)anthracene	470	1890	2030	70	2020	2000	78	27-127	7	40
Benzo(a)pyrene	600	1860	2030	62	2120	2000	76	25-129	13	40
Benzo(b)fluoranthene	920	2220	2030	64	2550	2000	81	21-130	14	40
Benzo(g,h,i)perylene	500	1720	2030	60	1910	2000	71	17-130	11	40
Benzo(k)fluoranthene	370	1720	2030	66	1900	2000	77	22-126	10	40
Chrysene	540	2130	2030	78	2290	2000	87	25-132	7	40
Dibenz(a,h)anthracene	110	1390	2030	63	1400	2000	65	32-116	<1	40
Fluoranthene	1000	2370	2030	67	2720	2000	86	10-138	14	40
Fluorene	33	1440	2030	69	1570	2000	77	23-116	9	40
Indeno(1,2,3-cd)pyrene	510	2070	2030	77	2310	2000	90	17-138	11	40
Naphthalene	27	1150	2030	55	1270	2000	62	29-88	10	40
Phenanthrene	280	1610	2030	66	1790	2000	76	10-128	11	40
Pyrene	790	2030	2030	61	2240	2000	72	16-134	10	40

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.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Analyzed: 12/16/20
Date Extracted: 12/09/20

Lab Control Sample Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3546

Units: ug/Kg
Basis: Dry
Analysis Lot: 707391

Lab Control Sample
KQ2019722-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1-Methylnaphthalene	300	500	60	43-90
2-Methylnaphthalene	310	500	62	43-92
Acenaphthene	333	500	67	44-95
Acenaphthylene	320	500	64	44-93
Anthracene	356	500	71	46-100
Benz(a)anthracene	359	500	72	52-105
Benzo(a)pyrene	334	500	67	52-111
Benzo(b)fluoranthene	350	500	70	52-114
Benzo(g,h,i)perylene	339	500	68	45-107
Benzo(k)fluoranthene	367	500	73	52-112
Chrysene	382	500	76	51-110
Dibenz(a,h)anthracene	350	500	70	44-110
Fluoranthene	367	500	73	49-102
Fluorene	364	500	73	45-98
Indeno(1,2,3-cd)pyrene	288	500	58	44-117
Naphthalene	313	500	63	42-88
Phenanthrene	332	500	66	41-99
Pyrene	350	500	70	48-104

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Analyzed: 12/18/20
Date Extracted: 12/14/20

Lab Control Sample Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D
Prep Method: EPA 3546

Units: ug/Kg
Basis: Dry
Analysis Lot: 707540

Lab Control Sample
KQ2019929-03

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1-Methylnaphthalene	298	500	60	43-90
2-Methylnaphthalene	310	500	62	43-92
Acenaphthene	340	500	68	44-95
Acenaphthylene	328	500	66	44-93
Anthracene	366	500	73	46-100
Benz(a)anthracene	367	500	73	52-105
Benzo(a)pyrene	346	500	69	52-111
Benzo(b)fluoranthene	361	500	72	52-114
Benzo(g,h,i)perylene	338	500	68	45-107
Benzo(k)fluoranthene	373	500	75	52-112
Chrysene	380	500	76	51-110
Dibenz(a,h)anthracene	355	500	71	44-110
Fluoranthene	383	500	77	49-102
Fluorene	370	500	74	45-98
Indeno(1,2,3-cd)pyrene	331	500	66	44-117
Naphthalene	325	500	65	42-88
Phenanthrene	341	500	68	41-99
Pyrene	340	500	68	48-104

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Analyzed: 12/16/20 22:36
Date Extracted: 12/09/20

Method Blank Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Sample Name: Method Blank **Instrument ID:** K-MS-14
Lab Code: KQ2019722-04 **File ID:** J:\MS14\DATA\121620\1216F043.D\
Analysis Method: 8270D **Analysis Lot:** 707391
Prep Method: EPA 3546 **Extraction Lot:** 371210

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Lab Control Sample	KQ2019722-03	J:\MS14\DATA\121620\1216F044.D\	12/16/20 23:00
USRBG001(0.0-0.5)-SP01MS	KQ2019722-01	J:\MS14\DATA\121620\1216F045.D\	12/16/20 23:24
USRBG001(0.0-0.5)-SP01DMS	KQ2019722-02	J:\MS14\DATA\121620\1216F046.D\	12/16/20 23:48
USRBG001(0.0-0.5)-SP01	K2011446-004	J:\MS14\DATA\121620\1216F047.D\	12/17/20 00:13

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Analyzed: 12/18/20 01:04
Date Extracted: 12/14/20

Method Blank Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Sample Name: Method Blank **Instrument ID:** K-MS-14
Lab Code: KQ2019929-04 **File ID:** J:\MS14\DATA\121720\1217F042.D\
Analysis Method: 8270D **Analysis Lot:** 707540
Prep Method: EPA 3546 **Extraction Lot:** 371385

This Method Blank applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
DSLBG003(0.0-0.5)-SP01	K2011446-001	J:\MS14\DATA\121720\1217F036.D\	12/17/20 22:28
DSLBG003(0.0-0.5)-SP02	K2011446-002	J:\MS14\DATA\121720\1217F037.D\	12/17/20 22:54
DSLBG007(0.0-0.5)-SP01	K2011446-005	J:\MS14\DATA\121720\1217F038.D\	12/17/20 23:20
DSLBG007(0.0-0.5)-SP01MS	KQ2019929-01	J:\MS14\DATA\121720\1217F039.D\	12/17/20 23:46
DSLBG007(0.0-0.5)-SP01DMS	KQ2019929-02	J:\MS14\DATA\121720\1217F040.D\	12/18/20 00:12
Lab Control Sample	KQ2019929-03	J:\MS14\DATA\121720\1217F041.D\	12/18/20 00:38

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Analyzed: 12/16/20 23:00
Date Extracted: 12/09/20

Lab Control Sample Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Sample Name: Lab Control Sample **Instrument ID:** K-MS-14
Lab Code: KQ2019722-03 **File ID:** J:\MS14\DATA\121620\1216F044.D\
Analysis Method: 8270D **Analysis Lot:** 707391
Prep Method: EPA 3546 **Extraction Lot:** 371210

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
Method Blank	KQ2019722-04	J:\MS14\DATA\121620\1216F043.D\	12/16/20 22:36
USRBG001(0.0-0.5)-SP01MS	KQ2019722-01	J:\MS14\DATA\121620\1216F045.D\	12/16/20 23:24
USRBG001(0.0-0.5)-SP01DMS	KQ2019722-02	J:\MS14\DATA\121620\1216F046.D\	12/16/20 23:48
USRBG001(0.0-0.5)-SP01	K2011446-004	J:\MS14\DATA\121620\1216F047.D\	12/17/20 00:13

ALS Group USA, Corp.

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101
Sample Matrix: Soil

Service Request: K2011446
Date Analyzed: 12/18/20 00:38
Date Extracted: 12/14/20

Lab Control Sample Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Sample Name: Lab Control Sample **Instrument ID:** K-MS-14
Lab Code: KQ2019929-03 **File ID:** J:\MS14\DATA\121720\1217F041.D\
Analysis Method: 8270D **Analysis Lot:** 707540
Prep Method: EPA 3546 **Extraction Lot:** 371385

This Lab Control Sample applies to the following analyses.

Sample Name	Lab Code	File ID	Date Analyzed
DSLBG003(0.0-0.5)-SP01	K2011446-001	J:\MS14\DATA\121720\1217F036.D\	12/17/20 22:28
DSLBG003(0.0-0.5)-SP02	K2011446-002	J:\MS14\DATA\121720\1217F037.D\	12/17/20 22:54
DSLBG007(0.0-0.5)-SP01	K2011446-005	J:\MS14\DATA\121720\1217F038.D\	12/17/20 23:20
DSLBG007(0.0-0.5)-SP01MS	KQ2019929-01	J:\MS14\DATA\121720\1217F039.D\	12/17/20 23:46
DSLBG007(0.0-0.5)-SP01DMS	KQ2019929-02	J:\MS14\DATA\121720\1217F040.D\	12/18/20 00:12
Method Blank	KQ2019929-04	J:\MS14\DATA\121720\1217F042.D\	12/18/20 01:04

ALS Group USA, Corp.
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QC/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/16/20 16:56

Tune Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

File ID: J:\MS14\DATA\121620\1216F029.D\
Instrument ID: K-MS-14

Analytical Method: 8270D
Analysis Lot: 707391

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	25.66	204147	Pass
68	69	0	2	0.09	174	Pass
69	198	0	100	24.94	198389	Pass
70	69	0	2	0.61	1201	Pass
127	198	10	80	38.61	307136	Pass
197	198	0	2	0.88	6986	Pass
198	442	30	100	34.22	795520	Pass
199	198	5	9	6.87	54670	Pass
275	198	10	60	39.93	317613	Pass
365	442	1	50	2.98	69202	Pass
441	443	0.01	100	72.68	342144	Pass
442	442	30	100	100.00	2324650	Pass
443	442	15	24	20.25	470741	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ2020281-01	J:\MS14\DATA\121620\1216F030.D\	12/16/20 17:20	
Method Blank	KQ2019722-04	J:\MS14\DATA\121620\1216F043.D\	12/16/20 22:36	
Lab Control Sample	KQ2019722-03	J:\MS14\DATA\121620\1216F044.D\	12/16/20 23:00	
USRBG001(0.0-0.5)-SP01	KQ2019722-01	J:\MS14\DATA\121620\1216F045.D\	12/16/20 23:24	
USRBG001(0.0-0.5)-SP01	KQ2019722-02	J:\MS14\DATA\121620\1216F046.D\	12/16/20 23:48	
USRBG001(0.0-0.5)-SP01	K2011446-004	J:\MS14\DATA\121620\1216F047.D\	12/17/20 00:13	

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QC/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/17/20 19:28

Tune Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

File ID: J:\MS14\DATA\121720\1217F029.D\
Instrument ID: K-MS-14

Analytical Method: 8270D
Analysis Lot: 707540

Target Mass	Relative to Mass	Lower Limit %	Upper Limit %	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	26.50	133311	Pass
68	69	0	2	1.20	1504	Pass
69	198	0	100	24.97	125647	Pass
70	69	0	2	0.56	707	Pass
127	198	10	80	38.25	192461	Pass
197	198	0	2	0.80	4037	Pass
198	442	30	100	36.81	503133	Pass
199	198	5	9	6.93	34844	Pass
275	198	10	60	39.26	197512	Pass
365	442	1	50	3.35	45808	Pass
441	443	0.01	100	74.82	200570	Pass
442	442	30	100	100.00	1366805	Pass
443	442	15	24	19.61	268066	Pass

Sample Name	Lab Code	File ID:	Date Analyzed:	Q
Continuing Calibration Verification	KQ2020371-03	J:\MS14\DATA\121720\1217F030.D\	12/17/20 19:53	
DSL BG003(0.0-0.5)-SP01	K2011446-001	J:\MS14\DATA\121720\1217F036.D\	12/17/20 22:28	
DSL BG003(0.0-0.5)-SP02	K2011446-002	J:\MS14\DATA\121720\1217F037.D\	12/17/20 22:54	
DSL BG007(0.0-0.5)-SP01	K2011446-005	J:\MS14\DATA\121720\1217F038.D\	12/17/20 23:20	
DSL BG007(0.0-0.5)-SP01	KQ2019929-01	J:\MS14\DATA\121720\1217F039.D\	12/17/20 23:46	
DSL BG007(0.0-0.5)-SP01	KQ2019929-02	J:\MS14\DATA\121720\1217F040.D\	12/18/20 00:12	
Lab Control Sample	KQ2019929-03	J:\MS14\DATA\121720\1217F041.D\	12/18/20 00:38	
Method Blank	KQ2019929-04	J:\MS14\DATA\121720\1217F042.D\	12/18/20 01:04	

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake

Service Request: K2011446
Calibration Date: 10/13/2020

Initial Calibration Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Calibration ID: KC2000546
Instrument ID: K-MS-14

Signal ID: 1

#	Lab Code	Sample Name	File Location	Acquisition Date
01	KC2000546-01	SIM-PAH ICAL @0.002ug/mL SVM64-75A	J:\MS14\DATA\101320\1013F003.D	10/13/2020 06:39
02	KC2000546-02	SIM-PAH ICAL @0.004ug/mL SVM64-75B	J:\MS14\DATA\101320\1013F004.D	10/13/2020 07:05
03	KC2000546-03	SIM-PAH ICAL @0.008ug/mL SVM64-75C	J:\MS14\DATA\101320\1013F005.D	10/13/2020 07:30
04	KC2000546-04	SIM-PAH ICAL @0.02ug/mL SVM64-75D	J:\MS14\DATA\101320\1013F006.D	10/13/2020 07:56
05	KC2000546-05	SIM-PAH ICAL @0.1ug/mL SVM64 -75E	J:\MS14\DATA\101320\1013F007.D	10/13/2020 08:23
06	KC2000546-06	SIM-PAH ICAL @0.2ug/mL SVM64 -75F	J:\MS14\DATA\101320\1013F008.D	10/13/2020 08:49
07	KC2000546-07	SIM-PAH ICAL @0.4ug/mL SVM64 -75G	J:\MS14\DATA\101320\1013F009.D	10/13/2020 10:31
08	KC2000546-08	SIM-PAH ICAL @1.0ug/mL SVM64 -75H	J:\MS14\DATA\101320\1013F010.D	10/13/2020 10:57
09	KC2000546-09	SIM-PAH ICAL @1.6ug/mL SVM64 -75I	J:\MS14\DATA\101320\1013F011.D	10/13/2020 11:22
10	KC2000546-10	SIM-PAH ICAL @2.0ug/mL SVM64 -75J	J:\MS14\DATA\101320\1013F012.D	10/13/2020 11:48

Analyte

1-Methylnaphthalene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	0.7347	02	4.000	0.6778	03	8.000	0.6312	04	20.000	0.6631
05	100.000	0.6442	06	200.000	0.6112	07	400.000	0.5423	08	1000.000	0.5549
09	1600.000	0.5596	10	2000.000	0.5496						

2-Methylnaphthalene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	0.8069	02	4.000	0.7101	03	8.000	0.6771	04	20.000	0.7126
05	100.000	0.6969	06	200.000	0.6699	07	400.000	0.5969	08	1000.000	0.5909
09	1600.000	0.5915	10	2000.000	0.5793						

Acenaphthene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.352	02	4.000	1.234	03	8.000	1.163	04	20.000	1.26
05	100.000	1.297	06	200.000	1.265	07	400.000	1.206	08	1000.000	1.199
09	1600.000	1.199	10	2000.000	1.18						

Acenaphthylene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	2.174	02	4.000	1.952	03	8.000	1.927	04	20.000	2.002
05	100.000	2.085	06	200.000	2.057	07	400.000	1.96	08	1000.000	1.965
09	1600.000	1.95	10	2000.000	1.922						

Anthracene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.121	02	4.000	1.091	03	8.000	1.053	04	20.000	1.073
05	100.000	1.097	06	200.000	1.086	07	400.000	1.035	08	1000.000	1.025
09	1600.000	1.012	10	2000.000	0.985						

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake

Service Request: K2011446
Calibration Date: 10/13/2020

Initial Calibration Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Calibration ID: KC2000546
Instrument ID: K-MS-14

Signal ID: 1

Analyte

Benz(a)anthracene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.5	02	4.000	1.309	03	8.000	1.338	04	20.000	1.188
05	100.000	1.2	06	200.000	1.199	07	400.000	1.186	08	1000.000	1.223
09	1600.000	1.229	10	2000.000	1.19						

Benzo(a)pyrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.232	02	4.000	1.177	03	8.000	1.3	04	20.000	1.147
05	100.000	1.181	06	200.000	1.153	07	400.000	1.122	08	1000.000	1.099
09	1600.000	1.094	10	2000.000	1.063						

Benzo(b)fluoranthene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.16	02	4.000	1.141	03	8.000	1.353	04	20.000	1.149
05	100.000	1.235	06	200.000	1.237	07	400.000	1.232	08	1000.000	1.218
09	1600.000	1.195	10	2000.000	1.169						

Benzo(g,h,i)perylene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.435	02	4.000	1.41	03	8.000	1.542	04	20.000	1.33
05	100.000	1.343	06	200.000	1.312	07	400.000	1.242	08	1000.000	1.193
09	1600.000	1.146	10	2000.000	1.127						

Benzo(k)fluoranthene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.187	02	4.000	1.117	03	8.000	1.239	04	20.000	1.137
05	100.000	1.223	06	200.000	1.224	07	400.000	1.189	08	1000.000	1.155
09	1600.000	1.152	10	2000.000	1.12						

Chrysene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.194	02	4.000	1.176	03	8.000	1.342	04	20.000	1.167
05	100.000	1.178	06	200.000	1.15	07	400.000	1.114	08	1000.000	1.134
09	1600.000	1.144	10	2000.000	1.114						

Dibenz(a,h)anthracene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.205	02	4.000	1.317	03	8.000	1.335	04	20.000	1.341
05	100.000	1.284	06	200.000	1.262	07	400.000	1.188	08	1000.000	1.198
09	1600.000	1.161	10	2000.000	1.118						

Fluoranthene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.455	02	4.000	1.41	03	8.000	1.586	04	20.000	1.342
05	100.000	1.439	06	200.000	1.395	07	400.000	1.357	08	1000.000	1.328
09	1600.000	1.333	10	2000.000	1.31						

ALS Group USA, Corp.
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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake

Service Request: K2011446
Calibration Date: 10/13/2020

Initial Calibration Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Calibration ID: KC2000546
Instrument ID: K-MS-14

Signal ID: 1

Analyte

Fluoranthene-d10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.186	02	4.000	1.16	03	8.000	1.168	04	20.000	1.141
05	100.000	1.209	06	200.000	1.208	07	400.000	1.2	08	1000.000	1.218
09	1600.000	1.224	10	2000.000	1.222						

Fluorene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.444	02	4.000	1.332	03	8.000	1.401	04	20.000	1.473
05	100.000	1.517	06	200.000	1.487	07	400.000	1.399	08	1000.000	1.362
09	1600.000	1.37	10	2000.000	1.336						

Fluorene-d10

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.427	02	4.000	1.231	03	8.000	1.185	04	20.000	1.198
05	100.000	1.216	06	200.000	1.203	07	400.000	1.149	08	1000.000	1.135
09	1600.000	1.143	10	2000.000	1.119						

Indeno(1,2,3-cd)pyrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.183	02	4.000	1.184	03	8.000	1.267	04	20.000	1.143
05	100.000	1.186	06	200.000	1.188	07	400.000	1.142	08	1000.000	1.101
09	1600.000	1.07	10	2000.000	1.024						

Naphthalene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.057	02	4.000	1.099	03	8.000	1.029	04	20.000	1.068
05	100.000	1.052	06	200.000	1.015	07	400.000	0.9662	08	1000.000	0.9535
09	1600.000	0.9574	10	2000.000	0.935						

Phenanthrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.212	02	4.000	1.193	03	8.000	1.11	04	20.000	1.12
05	100.000	1.163	06	200.000	1.126	07	400.000	1.078	08	1000.000	1.064
09	1600.000	1.049	10	2000.000	1.023						

Pyrene

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	1.304	02	4.000	1.275	03	8.000	1.399	04	20.000	1.2
05	100.000	1.194	06	200.000	1.163	07	400.000	1.157	08	1000.000	1.15
09	1600.000	1.189	10	2000.000	1.16						

Terphenyl-d14

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	2.000	0.9498	02	4.000	0.935	03	8.000	0.9478	04	20.000	0.8991
05	100.000	0.9145	06	200.000	0.8862	07	400.000	0.8714	08	1000.000	0.867
09	1600.000	0.8698	10	2000.000	0.8511						

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake

Service Request: K2011446
Calibration Date: 10/13/2020

Initial Calibration Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Calibration ID: KC2000546
Instrument ID: K-MS-14

Signal ID: 1

Analyte Name	Compound Type	Calibration Evaluation				Calibration Evaluation	
		Fit Type	Eval	Eval Result	Control Criteria	Average RRF	Minimum RRF
1-Methylnaphthalene	TRG	Average RF	% RSD	10.5	20	0.6169	0.01
2-Methylnaphthalene	TRG	Average RF	% RSD	11.1	20	0.6632	0.40
Acenaphthene	TRG	Average RF	% RSD	4.7	20	1.235	0.90
Acenaphthylene	TRG	Average RF	% RSD	4.1	20	1.999	0.90
Anthracene	TRG	Average RF	% RSD	4.1	20	1.058	0.70
Benz(a)anthracene	TRG	Average RF	% RSD	8.0	20	1.256	0.80
Benzo(a)pyrene	TRG	Average RF	% RSD	6.1	20	1.157	0.70
Benzo(b)fluoranthene	TRG	Average RF	% RSD	5.2	20	1.209	0.70
Benzo(g,h,i)perylene	TRG	Average RF	% RSD	10.2	20	1.308	0.50
Benzo(k)fluoranthene	TRG	Average RF	% RSD	3.8	20	1.174	0.70
Chrysene	TRG	Average RF	% RSD	5.6	20	1.171	0.70
Dibenz(a,h)anthracene	TRG	Average RF	% RSD	6.3	20	1.241	0.40
Fluoranthene	TRG	Average RF	% RSD	6.0	20	1.396	0.60
Fluoranthene-d10	SURR	Average RF	% RSD	2.4	20	1.194	0.01
Fluorene	TRG	Average RF	% RSD	4.6	20	1.412	0.90
Fluorene-d10	SURR	Average RF	% RSD	7.3	20	1.201	0.01
Indeno(1,2,3-cd)pyrene	TRG	Average RF	% RSD	6.0	20	1.149	0.50
Naphthalene	TRG	Average RF	% RSD	5.6	20	1.013	0.70
Phenanthrene	TRG	Average RF	% RSD	5.6	20	1.114	0.70
Pyrene	TRG	Average RF	% RSD	6.7	20	1.219	0.60
Terphenyl-d14	SURR	Average RF	% RSD	4.0	20	0.8992	0.01

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QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake

Service Request: K2011446
Calibration Date: 10/13/2020

Initial Calibration Verification Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Calibration ID: KC2000546
Instrument ID: K-MS-14

Signal ID: 1

#	Lab Code	Sample Name	File Location	Acquisition Date
11	KC2000546-11	SIM-PAH ICV @0.4ug/mL SVM64-87M	J:\MS14\DATA\101320\1013F014.D	10/13/2020 12:41

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
1-Methylnaphthalene	400	371	6.169E-1	5.718E-1	-7.310	±30	Average RF
2-Methylnaphthalene	400	378	6.632E-1	6.271E-1	-5.451	±30	Average RF
Acenaphthene	400	380	1.235E0	1.173E0	-5.047	±30	Average RF
Acenaphthylene	400	407	1.999E0	2.035E0	1.80	±30	Average RF
Anthracene	400	396	1.058E0	1.047E0	-1.048	±30	Average RF
Benz(a)anthracene	400	372	1.256E0	1.167E0	-7.096	±30	Average RF
Benzo(a)pyrene	400	383	1.157E0	1.108E0	-4.200	±30	Average RF
Benzo(b)fluoranthene	400	401	1.209E0	1.212E0	0.262	±30	Average RF
Benzo(g,h,i)perylene	400	361	1.308E0	1.18E0	-9.811	±30	Average RF
Benzo(k)fluoranthene	400	397	1.174E0	1.166E0	-0.718	±30	Average RF
Chrysene	400	368	1.171E0	1.077E0	-8.048	±30	Average RF
Dibenz(a,h)anthracene	400	369	1.241E0	1.146E0	-7.670	±30	Average RF
Fluoranthene	400	381	1.396E0	1.328E0	-4.829	±30	Average RF
Fluorene	400	402	1.412E0	1.42E0	0.548	±30	Average RF
Indeno(1,2,3-cd)pyrene	400	419	1.149E0	1.203E0	4.72	±30	Average RF
Naphthalene	400	402	1.013E0	1.018E0	0.489	±30	Average RF
Phenanthrene	400	378	1.114E0	1.051E0	-5.607	±30	Average RF
Pyrene	400	351	1.219E0	1.07E0	-12.228	±30	Average RF

Analyte Name	Expected	Result	Average RF	SSV RF	% D	Criteria	Curve Fit
Fluoranthene-d10	400	422	1.194E0	1.258E0	5.39	±30	Average RF
Fluorene-d10	400	413	1.201E0	1.239E0	3.17	±30	Average RF
Terphenyl-d14	400	404	8.992E-1	9.071E-1	0.877	±30	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/16/20 17:20

Continuing Calibration Verification (CCV) Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D
File ID: J:\MS14\DATA\121620\1216F030.D\
Signal ID: 1

Calibration Date: 10/13/2020
Calibration ID: KC2000546
Analysis Lot: 707391
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1-Methylnaphthalene	400	344	0.6169	0.53	-14.1	NA	±20	Average RF
2-Methylnaphthalene	400	349	0.6632	0.5792	-12.7	NA	±20	Average RF
Acenaphthene	400	367	1.2353	1.1324	-8.3	NA	±20	Average RF
Acenaphthylene	400	349	1.9994	1.7447	-12.7	NA	±20	Average RF
Anthracene	400	357	1.0577	0.943	-10.8	NA	±20	Average RF
Benz(a)anthracene	400	359	1.2561	1.1282	-10.2	NA	±20	Average RF
Benzo(a)pyrene	400	347	1.1568	1.0034	-13.3	NA	±20	Average RF
Benzo(b)fluoranthene	400	380	1.209	1.1477	-5.1	NA	±20	Average RF
Benzo(g,h,i)perylene	400	345	1.3079	1.1282	-13.7	NA	±20	Average RF
Benzo(k)fluoranthene	400	389	1.1743	1.1421	-2.7	NA	±20	Average RF
Chrysene	400	365	1.1713	1.0691	-8.7	NA	±20	Average RF
Dibenz(a,h)anthracene	400	364	1.2407	1.1277	-9.1	NA	±20	Average RF
Fluoranthene	400	357	1.3955	1.2451	-10.8	NA	±20	Average RF
Fluorene	400	397	1.4121	1.4016	-0.7	NA	±20	Average RF
Indeno(1,2,3-cd)pyrene	400	321	1.149	0.9231	-19.7	NA	±20	Average RF
Naphthalene	400	354	1.0132	0.896	-11.6	NA	±20	Average RF
Phenanthrene	400	359	1.1137	1.0004	-10.2	NA	±20	Average RF
Pyrene	400	354	1.2192	1.079	-11.5	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Fluoranthene-d10	400	385	1.1937	1.1498	-3.7	NA	±20	Average RF
Fluorene-d10	400	388	1.2005	1.1657	-2.9	NA	±20	Average RF
Terphenyl-d14	400	382	0.8992	0.8579	-4.6	NA	±20	Average RF

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)
Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Service Request: K2011446
Date Analyzed: 12/17/20 19:53

Continuing Calibration Verification (CCV) Summary
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method: 8270D
File ID: J:\MS14\DATA\121720\1217F030.D\
Signal ID: 1

Calibration Date: 10/13/2020
Calibration ID: KC2000546
Analysis Lot: 707540
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
1-Methylnaphthalene	400	387	0.6169	0.5962	-3.4	NA	±20	Average RF
2-Methylnaphthalene	400	392	0.6632	0.6507	-1.9	NA	±20	Average RF
Acenaphthene	400	402	1.2353	1.2414	0.5	NA	±20	Average RF
Acenaphthylene	400	378	1.9994	1.8919	-5.4	NA	±20	Average RF
Anthracene	400	383	1.0577	1.0124	-4.3	NA	±20	Average RF
Benz(a)anthracene	400	398	1.2561	1.2483	-0.6	NA	±20	Average RF
Benzo(a)pyrene	400	391	1.1568	1.131	-2.2	NA	±20	Average RF
Benzo(b)fluoranthene	400	413	1.209	1.2495	3.4	NA	±20	Average RF
Benzo(g,h,i)perylene	400	402	1.3079	1.3146	0.5	NA	±20	Average RF
Benzo(k)fluoranthene	400	422	1.1743	1.2376	5.4	NA	±20	Average RF
Chrysene	400	404	1.1713	1.1829	1.0	NA	±20	Average RF
Dibenz(a,h)anthracene	400	428	1.2407	1.3261	6.9	NA	±20	Average RF
Fluoranthene	400	404	1.3955	1.4104	1.1	NA	±20	Average RF
Fluorene	400	422	1.4121	1.4894	5.5	NA	±20	Average RF
Indeno(1,2,3-cd)pyrene	400	378	1.149	1.0855	-5.5	NA	±20	Average RF
Naphthalene	400	389	1.0132	0.9866	-2.6	NA	±20	Average RF
Phenanthrene	400	398	1.1137	1.1076	-0.5	NA	±20	Average RF
Pyrene	400	317	1.2192	0.9676	-20.6*	NA	±20	Average RF

Analyte Name	Expected	Result	Average RF	CCV RF	% D	% Drift	Criteria	Curve Fit
Fluoranthene-d10	400	390	1.1937	1.1646	-2.4	NA	±20	Average RF
Fluorene-d10	400	378	1.2005	1.1359	-5.4	NA	±20	Average RF
Terphenyl-d14	400	331	0.8992	0.7433	-17.3	NA	±20	Average RF

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: Tetra Tech (Chicago, IL)**Service Request:**K2011446**Project:** Allied Paper Site - Morrow Lake/103X903100320001BJ101**Analysis Run Log**
Polycyclic Aromatic Hydrocarbons by GC/MS SIM**Analysis Method:****Analysis Lot:**707391**Instrument ID:**K-MS-14

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS14\DATA\121620\1216F029.D\	ZZZZZZZ	ZZZZZZZ	12/16/2020	16:56:00	
J:\MS14\DATA\121620\1216F030.D\	Continuing Calibration Verification	KQ2020281-01	12/16/2020	17:20:00	
J:\MS14\DATA\121620\1216F043.D\	Method Blank	KQ2019722-04	12/16/2020	22:36:00	
J:\MS14\DATA\121620\1216F044.D\	Lab Control Sample	KQ2019722-03	12/16/2020	23:00:00	
J:\MS14\DATA\121620\1216F045.D\	USRBG001(0.0-0.5)-SP01 MS	KQ2019722-01	12/16/2020	23:24:00	
J:\MS14\DATA\121620\1216F046.D\	USRBG001(0.0-0.5)-SP01 DMS	KQ2019722-02	12/16/2020	23:48:00	
J:\MS14\DATA\121620\1216F047.D\	USRBG001(0.0-0.5)-SP01	K2011446-004	12/17/2020	00:13:00	

ALS Group USA, Corp.

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QA/QC Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Analysis Run Log
Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Analysis Method:

Analysis Lot: 707540

Instrument ID: K-MS-14

Raw Data File	Sample Name	Lab Code	Date Analyzed	Time Analyzed	Q
J:\MS14\DATA\121720\1217F029.D\	ZZZZZZZ	ZZZZZZZ	12/17/2020	19:28:00	
J:\MS14\DATA\121720\1217F030.D\	Continuing Calibration Verification	KQ2020371-03	12/17/2020	19:53:00	
J:\MS14\DATA\121720\1217F036.D\	DSLBG003(0.0-0.5)-SP01	K2011446-001	12/17/2020	22:28:00	
J:\MS14\DATA\121720\1217F037.D\	DSLBG003(0.0-0.5)-SP02	K2011446-002	12/17/2020	22:54:00	
J:\MS14\DATA\121720\1217F038.D\	DSLBG007(0.0-0.5)-SP01	K2011446-005	12/17/2020	23:20:00	
J:\MS14\DATA\121720\1217F039.D\	DSLBG007(0.0-0.5)-SP01 MS	KQ2019929-01	12/17/2020	23:46:00	
J:\MS14\DATA\121720\1217F040.D\	DSLBG007(0.0-0.5)-SP01 DMS	KQ2019929-02	12/18/2020	00:12:00	
J:\MS14\DATA\121720\1217F041.D\	Lab Control Sample	KQ2019929-03	12/18/2020	00:38:00	
J:\MS14\DATA\121720\1217F042.D\	Method Blank	KQ2019929-04	12/18/2020	01:04:00	

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: Tetra Tech (Chicago, IL)

Service Request: K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Sample Matrix: Soil

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Prep Method: EPA 3546

Extraction Lot: 371385

Analytical Method: 8270D

Extraction Date: 12/14/20 07:00

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
DSLBG003(0.0-0.5)-SP01	K2011446-001	12/2/20	12/8/20	10.9010 g	10 mL	29.9
DSLBG003(0.0-0.5)-SP02	K2011446-002	12/2/20	12/8/20	10.2090 g	10 mL	29.2
DSLBG007(0.0-0.5)-SP01	K2011446-005	12/4/20	12/8/20	10.2710 g	10 mL	24.2
Matrix Spike	KQ2019929-01MS	12/4/20	12/8/20	10.1850 g	10 mL	24.2
Duplicate Matrix Spike	KQ2019929-02DMS	12/4/20	12/8/20	10.3120 g	10 mL	24.2
Lab Control Sample	KQ2019929-03LCS	NA	NA	10.00 g	10 mL	
Method Blank	KQ2019929-04MB	NA	NA	10.4010 g	10 mL	

ALS Group USA, Corp.
dba ALS Environmental

Prep Summary Report

Client: Tetra Tech (Chicago, IL)

Service Request:K2011446

Project: Allied Paper Site - Morrow Lake/103X903100320001BJ101

Sample Matrix: Soil

Polycyclic Aromatic Hydrocarbons by GC/MS SIM

Prep Method: EPA 3546

Extraction Lot: 371210

Analytical Method: 8270D

Extraction Date: 12/09/20 08:34

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Amount	Percent Solids
USRBG001(0.0-0.5)-SP01	K2011446-004	12/3/20	12/8/20	10.026 g	10 mL	47.4
Matrix Spike	KQ2019722-01MS	12/3/20	12/8/20	10.005 g	10 mL	47.4
Duplicate Matrix Spike	KQ2019722-02DMS	12/3/20	12/8/20	10.074 g	10 mL	47.4
Lab Control Sample	KQ2019722-03LCS	NA	NA	10.00 g	10 mL	
Method Blank	KQ2019722-04MB	NA	NA	10.0740 g	10 mL	



Raw Data

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



Total Solids

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Benchsheet

Service Request #: K2011446, KQ2019712
 Test: TS
 Method: 160.3 Modified

Run #: 706326
 Balance ID: K-BALANCE-48

Matrix	Lab Code	Tare (g)	Wet Wt. (g)	Tare + Dry Wt. (g)	Dry Weight (g)	% Total Solids	RPD
Soil	K2011446-001	1.279	10.030	4.282	3.00	29.9	
Soil	K2011446-002	1.276	10.089	4.223	2.95	29.2	
Soil	K2011446-003	1.284	10.042	4.493	3.21	32.0	
Soil	K2011446-004	1.272	10.097	6.060	4.79	47.4	
Soil	K2011446-004DUP	1.273	10.081	6.000	4.73	46.9	1
Soil	K2011446-005	1.261	10.017	3.684	2.42	24.2	
Soil	K2011446-006	1.274	10.032	4.230	2.96	29.5	

Oven1	Oven ID	Temp In	Temp Out	Date In	Time In	Date Out	Time Out	Thermometer ID
	K-OVEN-07	105	105	12/9/2020	08:29	12/10/2020	06:50	

	Cal EQID	Cal Start Value	Cal End Value	Start Date	Start Time	End Date	End Time
Calibration1	K-BALANCE-48	0.999,99.999	1.000,99.999	12/9/2020	07:32	12/9/2020	08:28
Calibration2	K-BALANCE-48	1.000,99.999	0.999,99.999	12/10/2020	08:08	12/10/2020	08:12

Comments: SN 42868 LM Reviewed by SC 12/10/20



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 371207
Team: Metals/KLINN
 Number of Copies to make: 1

Prep WorkFlow: MetDigSICP
Prep Method: EPA 3050B

Status: Prepped
Prep Date/Time: 12/11/20 07:30

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2019719-03	MB		6010D/Metals T		Solid	1.0000g	100.00mL	10% HNO3, 10% HCl
2	KQ2019719-04	LCSI		6010D/Metals T		Solid	1.0200g	100.00mL	10% HNO3, 10% HCl
3	K2011446-004	USRBG001(0.0-0.5)-SP01	.01	6010D/Metals T		Soil	1.065g	100.00mL	LMORTENSEN K-BALANCE-48 / 10% HNO3, 10% HCl
4	KQ2019719-01	K2011446-004 DUP	.01	6010D/Metals T		Solid	1.070g	100.00mL	LMORTENSEN K-BALANCE-48 / 10% HNO3, 10% HCl
5	KQ2019719-02	K2011446-004 MS	.01	6010D/Metals T		Solid	1.036g	100.00mL	LMORTENSEN K-BALANCE-48 / 10% HNO3, 10% HCl

Spiking Solutions

Name:	K-MET SOIL CRM	Inventory ID	209985	Logbook Ref:	D107-540	Expires On:	05/09/2023
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Name:	K-MET SS3	Inventory ID	213108	Logbook Ref:	MET3-100-A	Expires On:	01/31/2021
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Name:	K-MET SS1	Inventory ID	213199	Logbook Ref:	MET3-100-B	Expires On:	03/02/2021
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Name:	K-MET SS4	Inventory ID	213571	Logbook Ref:	MET4-1-E	Expires On:	03/25/2021
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Name:	K-MET SS5	Inventory ID	213572	Logbook Ref:	MET4-1-F	Expires On:	01/31/2021
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Preparation Materials

K-MET 100ml Centrifuge Tube	2008043 (214320)	K-MET HCL	0000260309 (213650)	K-MET H2O2	60015005 (212378)
K-MET HNO3	0000262966 (213649)	K-METPTFE Boiling chips	23047413 (190802)		

Preparation Steps

Step:	Weigh	Step:	Digestion
Started:	12/11/20 07:30	Started:	12/11/20 07:30
Finished:	12/11/20 10:35	Finished:	12/11/20 10:35
By:	KLINN	By:	KLINN
Comments		Comments	

Prep Run#: 371207

Team: Metals/KLINN

Prep WorkFlow: MetDigSICP

Prep Method: EPA 3050B

Status: Prepped

Prep Date/Time: 12/11/20 07:30

Preparation Equipment

K-BlockDigerster-07 Digestion

IR Thermometer ID: IR03

K-BlockDigerster-07 Digestion

Temperature Check Location

10

K-BlockDigester-07

K-Balance-02

Digestion

Weigh

Temperature

Date Checked

95.6 deg C

12/11/20

Comments: 1: 15 mins, 2: 120 mins, 3: 15 mins.

Reviewed By:

Date:

12/12/20

Printed 12/11/20 11:25

Preparation Information Benchsheet

Page 2

Preparation Information Benchsheet

Prep Run#: 371207

Team: Metals/LMORTENSEN

Number of Copies to make: 1

Prep Workflow: MetDigSICP

Prep Method: EPA 3050B

Status: Draft

Prep Date/Time: 12/9/20 08:32 AM

#	Lab Code	Client ID	B#	Method / Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	KQ2019719-03	MB		6010D / Metals T	Solid	1.00					
2	KQ2019719-04	LCS1		6010D / Metals T	Solid	1.02					
3	K2011446-004	USRBG001(0.0-0.5)-SP01	.01	6010D / Metals T	Soil						
4	KQ2019719-01	K2011446-004 DUP	.01	6010D / Metals T	Solid						
5	KQ2019719-02	K2011446-004 MS	.01	6010D / Metals T	Solid						

Comments:

K-Balance-02 ~ 12.11.20 807 T⁹ 5.6 7210

Surrogate ID:

Spike ID:

Witnessed By:

Analyst:

Assisted By:

Printed 12/11/20 6:41

Preparation Information Benchsheet

1-0730-0745
2-0750-0835
4⁰2 - 0400-1015
3-1020-1035

Pre-Prep Information Benchsheet

Prep Run #: 371207

Container Lot No: 2008043

Prep Due Date: Dec-11-2020

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2011446-004	.01	Metals T : 601 OD/	1.065g		LMORTENSEN K-BALANCE-48
2	K2011446-004 DUP KQ2019719-01	.01	Metals T : 601 OD/	1.070g		LMORTENSEN K-BALANCE-48
3	K2011446-004 MS KQ2019719-02	.01	Metals T : 601 OD/	1.036g		LMORTENSEN K-BALANCE-48

Relinquished By: <i>LM</i>	Date/Time: 8/3/20	Received By: <i>W</i>	Date/Time: 12/11/20 0600
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METALS SPIKING SOLUTIONS CONCENTRATIONS FORM

Solution Name	Element	mLs of 1000ppm Solution	Final Volume	Solution Conc. mg/L	Enter mls Added
K-MET SS1 *** Add after HNO3 and before ALS-89 when making the solution	HNO3	50.0	1000ml	-	
	Al	100*	1000ml	200	
	Ag	100*	1000ml	5	
	Ba	100*	1000ml	100	
	Be	100*	1000ml	5	
	Cd	100*	1000ml	5	
	Co	100*	1000ml	50	
	Cr	100*	1000ml	20	
	Cu	100*	1000ml	25	
	Fe	100*	1000ml	100	
	Pb	100*	1000ml	50	
	Mn	100*	1000ml	50	
	Ni	100*	1000ml	50	
	Sb***	50.0	1000ml	50	
	V	100*	1000ml	50	
	Zn	100*	1000ml	50	
K-MET SS2	HNO3	25.0	500ml	-	
	As	2.00	500ml	4	
	Cd	2.00	500ml	4	
	Pb	2.00	500ml	4	
	Se	2.00	500ml	4	
	Tl	2.00	500ml	4	
K-MET SS3	HNO3	25.0	500ml	-	
	As	50.0	500ml	100	
	Se	50.0	500ml	100	
	Tl	10.0	500ml	20	
	Hg	6.00	500ml	12	
K-MET SS4	HNO3	25.0	500ml	-	
	B	25.0	500ml	50	
	Mo	50.0	500ml	100	
	U	10.0	500ml	20	
K-MET SS5	HNO3	25.0	500ml	-	
	K**	50.0	500ml	1000	
	Na**	50.0	500ml	1000	
	Mg**	50.0	500ml	1000	
	Ca**	50.0	500ml	1000	

K-MET Hydride	HNO3	1.0	100ml	-	
	As, Se	0.25	100ml	2.5	
K-MET QCP-CICV-1	Ca, Mg, Na, K	no dilution	-	2500	
	Al, Ba	no dilution	-	1000	
	Fe	no dilution	-	500	
	Co, Mn, Ni, V, Zn	no dilution	-	250	
	Cu, Ag	no dilution	-	125	
	Cr	no dilution	-	100	
K-MET QCP-CICV-3	Be	no dilution	-	25	
	As, Pb, Se, Tl	no dilution	-	500	
	Cd	no dilution	-	250	

* Denotes volume of mixed stock standard.

** Denotes 10,000 ppm individual stock standards.

Standard	mls of standard	ppm	Logbook #	Exp. Date

Service Request # K2011446

Calibration 121820AICP03

ALS LIMS Run # 707607

Pipette IDs: OU18256, 242761252, DJ07632

Pipette Calibration Due: 03/03/21

ICP-OES Data Review Form

	Yes	No
1. Appropriate standardization completed	<u>X</u>	<u> </u>
2. ICV within control limits	<u>X</u>	<u> </u>
3. CCV's in control	<u>X</u>	<u> </u>
4. ICB/CCB's below MRL	<u>X</u>	<u> </u>
4. LLICV standard analyzed and in control	<u>X</u>	<u> </u>
5. ICS standards within 20% of true value	<u>X</u>	<u> </u>
7. All analytes within instrument linear range	<u>X</u>	<u> </u>
7. Adequate rinse out time allowed	<u>X</u>	<u> </u>
8. Was the run terminated? If so, why.	<u> </u>	<u>X</u>

See Benchsheet exception report for sample batch QC information.

Comments:

6010D: MRL for Fe, Ag = 2X

Primary Review by AKM

Date 12/18/20

Secondary Review by CP

Date 12/21/20

Data Review Form


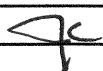
Instrument ID#: K-ICP-AES-03
DataFile Name: R:\ICP\WIP\DATA\K-ICP-AES-03 (6500)\121820A\ICP03.txt
RUNNO: 707607

K2011446

No exceptions to report.

Primary Approver: _____

Secondary Approver: _____

 12/18/20
 12/21/20

Sample Name: BLK Acquired: 12/18/2020 8:34:30 Type: Cal
Method: 2020A-6010D U ICP03(v6) Mode: IR Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: INT.STD.ICP19-39-C

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0005	-35.84	2.390	2.748	.0223	-2.5489	11.09
Stddev	.0000	17.71	.791	.967	.0017	5.7417	2.35
%RSD	2.787	49.42	33.07	35.18	7.402	225.26	21.18
#1	.0005	-41.38	1.489	1.840	.0242	-8.8465	12.35
#2	.0005	-16.02	2.964	2.640	.0212	2.3952	8.383
#3	.0005	-50.11	2.718	3.764	.0215	-1.1955	12.55
Elem	Cd2144	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.0002	-.0003	.0035	.1828	.0000	.0004	-.0002
Stddev	.0001	.0000	.0015	.0026	.000	.0003	.0001
%RSD	49.00	5.557	43.99	1.421	351.5	64.90	59.53
#1	-.0003	-.0003	.0036	.1811	.0000	.0001	-.0003
#2	-.0001	-.0003	.0049	.1858	.0000	.0007	-.0001
#3	-.0002	-.0003	.0019	.1815	.0000	.0004	-.0003
Elem	Cu3273	Fe2599	Pb2203	Li6707	Mg2790	Mg2795	Mg2852
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-71.44	.0003	.0000	.4817	-.0003	.0031	1.000
Stddev	6.78	.0007	.000	24.04	.0008	.0002	1.262
%RSD	9.496	259.0	1796.	4991.	291.1	6.630	126.2
#1	-73.02	.0010	.0000	-21.09	-.0009	.0029	1.350
#2	-77.30	.0002	-.0002	-3.860	.0006	.0032	-.4000
#3	-64.01	-.0004	.0001	26.40	-.0004	.0033	2.050
Elem	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00010	.0001	.0001	.0004	.0000	96.02	.0000
Stddev	.00005	.0000	.0002	.0002	.000	19.30	.0003
%RSD	49.000	4.545	328.0	54.50	955.0	20.10	1180.
#1	.00010	.0001	.0003	.0003	-.0003	117.3	-.0001
#2	.00015	.0001	.0001	.0006	.0001	79.60	-.0001
#3	.00005	.0001	-.0002	.0002	.0001	91.18	.0004

Sample Name: BLK Acquired: 12/18/2020 8:34:30 Type: Cal
Method: 2020A-6010D U ICP03(v6) Mode: IR Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: INT.STD.ICP19-39-C

Elem	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	1.632	-18.62	-79.42	-.00611	-.0001	.0002	.0012
Stddev	3.489	7.84	7.48	.00170	.0001	.0001	.0002
%RSD	213.8	42.13	9.418	27.869	50.58	31.88	14.66
#1	1.645	-23.34	-70.88	-.00657	.0000	.0002	.0011
#2	-1.864	-22.95	-84.79	-.00422	-.0002	.0003	.0011
#3	5.114	-9.564	-82.60	-.00753	-.0002	.0002	.0014

Elem	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0004	-.0001	1.637	.0007	-.8086
Stddev	.0000	.0000	.856	.0001	.2266
%RSD	4.530	58.19	52.30	10.51	28.02
#1	.0004	.0000	1.813	.0007	-.8865
#2	.0004	-.0001	.7067	.0008	-.5533
#3	.0004	-.0001	2.392	.0006	-.9860

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4200.2	86166.	4276.3
Stddev	79.8	317.	23.5
%RSD	1.9001	.36800	.54936
#1	4223.9	86253.	4254.1
#2	4265.5	86430.	4273.9
#3	4111.2	85814.	4300.9

ARM 12/18/20

Sample Name: STD A Acquired: 12/18/2020 8:39:03 Type: Cal
Method: 2020A-6010D U ICP03(v6) Mode: IR Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-36-A

Elem	Al1670	Sb2068	Be2348	B_2496	Cd2144	Cd2265	Ca3933	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.1976	193.9	18629.	1553.	1.462	1.130	12.45	.0547
Stddev	.0020	1.0	61.	9.	.008	.002	.03	.0002
%RSD	1.002	.5272	.33010	.6002	.5336	.1800	.2634	.4373

#1	.1989	194.5	18558.	1545.	1.468	1.130	12.47	.0548
#2	.1985	194.6	18664.	1564.	1.463	1.132	12.47	.0544
#3	.1953	192.8	18665.	1551.	1.453	1.128	12.41	.0549

Elem	Co2307	Cu2247	Cu3273	Pb2203	Mg2795	Mn2576	Mo2020	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.4141	.2270	5246.	.0924	2.409	.28105	.3169	.4143
Stddev	.0014	.0014	18.	.0005	.003	.00041	.0022	.0027
%RSD	.3332	.6185	.3457	.4943	.1068	.14455	.6798	.6453

#1	.4150	.2284	5230.	.0928	2.409	.28141	.3192	.4169
#2	.4148	.2269	5241.	.0923	2.407	.28114	.3166	.4145
#3	.4125	.2256	5266.	.0919	2.412	.28061	.3149	.4115

Elem	Se1960	Ag3280	Tl1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0351	6346.	.0751	.0923	.2087	.0573	.4455	4355.
Stddev	.0004	16.	.0006	.0007	.0012	.0005	.0019	38.
%RSD	1.086	.2573	.7714	.7988	.5552	.8298	.4345	.8611

#1	.0355	6337.	.0750	.0929	.2095	.0576	.4471	4392.
#2	.0352	6365.	.0758	.0926	.2074	.0567	.4462	4357.
#3	.0347	6337.	.0746	.0915	.2093	.0575	.4434	4317.

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4252.7	87158.	4320.0
Stddev	10.6	243.	9.6
%RSD	.24901	.27906	.22317

#1	4264.9	86910.	4329.6
#2	4246.8	87396.	4310.3
#3	4246.4	87168.	4320.2

Sample Name: STD B Acquired: 12/18/2020 8:43:46 Type: Cal
Method: 2020A-6010D U ICP03(v6) Mode: IR Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-37-A

Elem	Al3944	As1890	Ba4554	Ca3158	Fe2599	Li6707	Mg2790	Mg2852
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	83640.	541.5	84.35	1.725	2.016	14120.	.3568	21390.
Stddev	1470.	21.3	.98	.008	.011	87.	.0042	35.
%RSD	1.758	3.935	1.158	.4455	.5652	.6171	1.178	.1653
#1	85340.	554.8	84.72	1.717	2.005	14040.	.3540	21410.
#2	82730.	552.7	85.09	1.726	2.018	14210.	.3546	21410.
#3	82850.	516.9	83.24	1.733	2.027	14130.	.3616	21350.
Elem	Mn2605	P_1782	K_7664	Si2516	Na5895	Sr4077	Bi2230	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.0249	1.260	5693.	2237.	17860.	13.997	.2416	386.8
Stddev	.0001	.058	25.	21.	56.	.073	.0100	12.7
%RSD	.3220	4.630	.4402	.9317	.3122	.52209	4.149	3.293
#1	.0249	1.302	5666.	2214.	17840.	13.921	.2485	395.4
#2	.0250	1.286	5697.	2241.	17930.	14.066	.2462	392.9
#3	.0248	1.194	5715.	2255.	17820.	14.005	.2301	372.2
Int. Std.	Y_2243	Y_3600	Y_3600-2					
Units	Cts/S	Cts/S	Cts/S					
Avg	4208.9	84551.	4274.9					
Stddev	12.7	401.	13.3					
%RSD	.30106	.47431	.31028					
#1	4194.3	84908.	4259.9					
#2	4216.8	84117.	4285.1					
#3	4215.6	84630.	4279.6					

Sample Name: ICVB Acquired: 12/18/2020 8:49:15 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-42-B

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.9658	1.106	.0013	-.0011	.0005	-.00026	2.062	.0000
Stddev	.0170	.009	.0007	.0008	.0008	.00017	.006	.0001
%RSD	1.760	.8550	50.04	68.18	157.9	65.917	.2961	657.3
#1	.9834	1.103	.0018	-.0008	.0000	-.00031	2.062	.0001
#2	.9645	1.117	.0016	-.0020	.0014	-.00039	2.068	.0000
#3	.9495	1.099	.0006	-.0006	.0001	-.00007	2.056	.0000

Check ?	Chk Pass	None	None	None	None	None	Chk Pass	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0001	4.614	4.588	-.0009	.0010	.0009	.0015	9.144
Stddev	.0001	.355	.310	.0005	.0002	.0005	.0007	.685
%RSD	125.5	7.686	6.751	56.42	26.07	55.27	43.72	7.489
#1	.0000	4.218	4.237	-.0006	.0007	.0011	.0022	8.392
#2	-.0001	4.722	4.706	-.0006	.0010	.0012	.0008	9.307
#3	-.0001	4.902	4.822	-.0015	.0012	.0003	.0016	9.732

Check ?	None	None	Chk Pass	None	None	None	None	None
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0012	1.953	4.696	4.641	5.105	9.8001	9.574	.0003
Stddev	.0004	.072	.372	.321	.185	.0512	.335	.0002
%RSD	29.10	3.689	7.931	6.912	3.615	.52290	3.496	48.20
#1	.0016	1.876	4.284	4.284	4.899	9.8555	9.237	.0002
#2	.0012	1.966	4.795	4.737	5.162	9.7544	9.577	.0005
#3	.0009	2.018	5.009	4.904	5.255	9.7903	9.907	.0003

Check ?	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	None
Value								
Range								

Sample Name: ICVB Acquired: 12/18/2020 8:49:15 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-42-B

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0039	5.005	.0619	-.0015	4.842	.0007	13.39	1.8158
Stddev	.0003	.108	.0661	.0005	.183	.0003	.46	.1386
%RSD	7.165	2.155	106.9	36.92	3.779	38.26	3.403	7.6332
#1	.0042	5.119	.0068	-.0015	4.647	.0010	12.88	1.6620
#2	.0039	4.991	.1352	-.0009	4.869	.0007	13.52	1.8545
#3	.0036	4.904	.0435	-.0020	5.011	.0004	13.76	1.9310

Check ?	None	Chk Pass	None	None	Chk Pass	None	None	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0041	4.593	.0000	-.0006	.0004	.0007	5.034	4.686
Stddev	.0006	.089	.0002	.0004	.0001	.0001	.117	.133
%RSD	14.97	1.938	554.2	58.42	37.46	13.27	2.325	2.840
#1	.0035	4.684	-.0001	-.0002	.0005	.0008	5.150	4.827
#2	.0047	4.588	.0003	-.0007	.0002	.0007	5.035	4.667
#3	.0041	4.506	.0000	-.0009	.0004	.0006	4.916	4.563

Check ?	None	Chk Pass	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4261.8	85924.	4511.1
Stddev	10.7	483.	170.7
%RSD	.25212	.56233	3.7828
#1	4269.3	85835.	4706.7
#2	4249.5	86446.	4434.4
#3	4266.5	85493.	4392.3

Sample Name: ICV Acquired: 12/18/2020 8:54:44 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-42-A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2264
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	4.364	5.341	2.468	2.571	5.044	.12930	.0011	1.223	1.224
Stddev	.057	.046	.025	.026	.010	.00081	.0010	.013	.012
%RSD	1.314	.8610	1.017	1.003	.2036	.62953	92.55	1.031	1.012
#1	4.410	5.342	2.484	2.586	5.054	.12905	.0020	1.231	1.234
#2	4.383	5.386	2.481	2.586	5.044	.13021	.0012	1.229	1.228
#3	4.300	5.294	2.439	2.541	5.033	.12864	.0000	1.208	1.210

Check ? None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass None Chk Pass Chk Pass
Value
Range

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.55	12.69	.5044	1.203	.5957	.6128	2.505	2.392	.0011
Stddev	.02	.13	.0035	.014	.0087	.0054	.016	.030	.0026
%RSD	.1821	1.039	.7026	1.180	1.457	.8779	.6522	1.236	229.2
#1	12.58	12.76	.5060	1.214	.6024	.6099	2.509	2.414	.0040
#2	12.53	12.78	.5068	1.208	.5988	.6190	2.519	2.404	.0004
#3	12.54	12.54	.5003	1.187	.5859	.6095	2.487	2.358	-.0010

Check ? Chk Pass None Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass None
Value
Range

Elem	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	12.42	12.18	12.83	1.2271	1.224	.5011	1.198	-.0014	12.46
Stddev	.04	.03	.09	.0008	.008	.0061	.014	.0024	.08
%RSD	.3128	.2237	.6823	.06760	.6550	1.212	1.146	174.0	.6380
#1	12.40	12.19	12.73	1.2272	1.217	.5053	1.208	-.0027	12.40
#2	12.46	12.20	12.87	1.2279	1.222	.5040	1.203	.0014	12.42
#3	12.39	12.15	12.89	1.2263	1.232	.4942	1.182	-.0028	12.55

Check ? Chk Pass None Chk Pass Chk Pass None Chk Pass Chk Pass None Chk Pass
Value
Range

Sample Name: ICV Acquired: 12/18/2020 8:54:44 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-42-A

Elem	Se1960	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	2.445	.0217	.6071	12.38	.00043	2.402	.0017	2.035	1.270
Stddev	.028	.0251	.0051	.11	.00029	.022	.0001	.012	.004
%RSD	1.128	115.6	.8341	.9015	66.765	.9144	6.401	.5816	.2845
#1	2.458	.0245	.6028	12.27	.00021	2.415	.0018	2.037	1.271
#2	2.464	.0453	.6127	12.37	.00032	2.414	.0015	2.046	1.272
#3	2.414	-.0047	.6058	12.49	.00076	2.377	.0017	2.023	1.265
Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Elem	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	1.213	1.225	.0120	.0042
Stddev	.016	.014	.0040	.0022
%RSD	1.305	1.174	33.77	53.23
#1	1.227	1.233	.0099	.0051
#2	1.217	1.233	.0094	.0058
#3	1.196	1.208	.0166	.0016
Check ?	Chk Pass	Chk Pass	None	None
Value				
Range				

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4291.6	86483.	4309.2
Stddev	7.3	185.	35.3
%RSD	.16958	.21377	.81907
#1	4283.2	86273.	4272.7
#2	4296.6	86621.	4311.6
#3	4294.9	86554.	4343.2

Sample Name: ICB Acquired: 12/18/2020 8:59:28 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0006	.0035	.0023	-.0005	.0001	.00005	.0011	.0000	.0000
Stddev	.0001	.0005	.0020	.0015	.0003	.00012	.0022	.000	.0001
%RSD	14.13	13.92	84.77	322.1	494.2	243.22	201.8	305.9	3709
#1	.0006	.0032	.0025	-.0021	-.0001	-.00008	.0033	.0000	-.0001
#2	.0007	.0040	.0003	-.0002	-.0001	.00016	.0011	.0000	.0001
#3	.0005	.0032	.0041	.0009	.0004	.00007	-.0011	.0000	.0000
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0089	.0008	.0002	.0002	-.0004	.0000	-.0015	.0013	.0021
Stddev	.0136	.0004	.0003	.0002	.0005	.0008	.0039	.0005	.0027
%RSD	153.2	55.25	163.7	107.9	124.2	34500.	258.3	40.90	126.9
#1	.0094	.0011	.0005	.0002	-.0007	-.0009	-.0031	.0007	.0048
#2	.0222	.0010	.0001	.0000	-.0005	.0002	.0029	.0018	.0019
#3	-.0050	.0003	-.0001	.0005	.0002	.0007	-.0044	.0013	-.0005
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0127	.0004	.0029	.00010	-.0015	.0000	.0000	-.0035	.0351
Stddev	.0384	.0003	.0009	.00007	.0016	.0001	.000	.0015	.0507
%RSD	302.4	81.07	31.46	67.673	106.5	1078.	3033.	41.75	144.5
#1	.0282	.0007	.0023	.00008	-.0002	.0001	-.0005	-.0040	.0208
#2	-.0310	.0003	.0024	.00004	-.0033	-.0001	.0003	-.0019	.0914
#3	.0409	.0001	.0039	.00017	-.0010	.0000	.0001	-.0047	-.0070
Check ?	None	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: ICB Acquired: 12/18/2020 8:59:28 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Se1960	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0008	.0177	.0003	-.0087	.00005	.0015	.0002	.0003	.0005
Stddev	.0007	.0295	.0005	.0133	.00026	.0018	.0006	.0003	.0007
%RSD	94.45	166.8	141.9	152.9	538.98	125.8	371.4	89.95	137.0
#1	.0010	-.0153	.0009	-.0185	-.00006	-.0002	.0000	.0002	.0011
#2	.0014	.0270	.0000	.0064	-.00014	.0012	.0008	.0001	-.0003
#3	.0000	.0413	.0002	-.0140	.00034	.0034	-.0003	.0006	.0007

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	.0000	.0001	-.0005	.0007
Stddev	.0001	.0001	.0030	.0010
%RSD	211.8	74.61	544.5	144.2
#1	.0001	.0000	-.0039	.0018
#2	.0000	.0002	.0007	-.0001
#3	.0000	.0001	.0016	.0004

Check ?	Chk Pass	None	Chk Pass	Chk Pass
High Limit				
Low Limit				

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4311.1	87514.	4360.2
Stddev	9.9	316.	20.1
%RSD	.23031	.36122	.46030
#1	4306.0	87365.	4383.4
#2	4322.5	87299.	4347.5
#3	4304.7	87877.	4349.9

Sample Name: LLICV Acquired: 12/18/2020 9:04:32 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-41-A 0.5/50mL

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0100	F .0132	.0201	.0108	.0039	.00100	.0219	.0011
Stddev	.0004	.0010	.0042	.0023	.0006	.00006	.0003	.0001
%RSD	3.656	7.684	20.86	21.50	14.36	6.2593	1.402	6.607
#1	.0104	.0122	.0212	.0135	.0045	.00103	.0219	.0011
#2	.0098	.0133	.0237	.0097	.0036	.00093	.0222	.0011
#3	.0097	.0142	.0155	.0092	.0035	.00104	.0215	.0010

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0100						
Range		20.00%						

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	F .0050	.0214	.0041	.0023	.0040	.0039	F .0116
Stddev	.0002	.0078	.0002	.0001	.0003	.0007	.0008	.0042
%RSD	18.08	155.5	.8842	2.415	13.36	18.06	20.85	36.15
#1	.0007	.0021	.0213	.0042	.0027	.0047	.0038	.0074
#2	.0010	.0138	.0216	.0040	.0023	.0041	.0031	.0158
#3	.0010	-.0009	.0212	.0041	.0020	.0032	.0047	.0117

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value		.0200						.0200
Range		-20.00%						-20.00%

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0106	.0225	.0417	.0052	.0056	.00109	.0001	.0044
Stddev	.0010	.0016	.0304	.0001	.0026	.00012	.0011	.0003
%RSD	9.214	7.313	72.86	1.594	46.02	10.554	741.1	7.342
#1	.0116	.0244	.0767	.0051	.0085	.00096	-.0002	.0046
#2	.0097	.0219	.0270	.0053	.0048	.00115	-.0007	.0046
#3	.0106	.0213	.0215	.0053	.0036	.00117	.0014	.0040

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value								
Range								

✓ - 2 X
Allen 12/18/20

Sample Name: LLICV Acquired: 12/18/2020 9:04:32 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-41-A 0.5/50mL

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0044	.0395	.1916	.0220	.2209	F .0050	.2099	.00109
Stddev	.0003	.0038	.0706	.0016	.0162	.0003	.0097	.00008
%RSD	7.342	9.640	36.87	7.478	7.328	6.046	4.612	7.3546
#1	.0043	.0361	.1227	.0233	.2118	.0053	.2027	.00100
#2	.0048	.0437	.2638	.0201	.2112	.0047	.2062	.00113
#3	.0041	.0388	.1882	.0226	.2395	.0049	.2209	.00114

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value						.0040		
Range						20.00%		

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0102	.0197	.0022	.0040	.0039	.0041	.0220	.0398
Stddev	.0011	.0009	.0001	.0002	.0001	.0001	.0020	.0019
%RSD	11.24	4.551	2.889	5.141	2.276	2.820	9.253	4.657
#1	.0107	.0207	.0021	.0038	.0039	.0042	.0203	.0403
#2	.0110	.0193	.0022	.0039	.0039	.0042	.0242	.0414
#3	.0089	.0190	.0021	.0042	.0038	.0040	.0215	.0378

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4304.4	87519.	4379.2
Stddev	1.4	261.	19.7
%RSD	.03183	.29773	.45014
#1	4304.9	87820.	4396.2
#2	4302.9	87378.	4383.9
#3	4305.5	87360.	4357.6

* - 2 X

ARM 12/18/20

Sample Name: LLICV,0.5 Acquired: 12/18/2020 9:09:35 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-41-A 1/50mL

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0203	F .0248	.0393	.0229	.0075	.00202	.0406	.0021
Stddev	.0006	.0021	.0024	.0032	.0003	.00011	.0013	.0001
%RSD	2.886	8.490	6.110	14.09	3.650	5.6587	3.205	2.484
#1	.0207	.0272	.0367	.0192	.0074	.00210	.0421	.0021
#2	.0206	.0240	.0415	.0243	.0078	.00189	.0400	.0021
#3	.0196	.0231	.0396	.0252	.0074	.00208	.0398	.0020

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value		.0200						
Range		20.00%						

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0021	F .0523	.0414	.0082	F .0049	.0080	.0092	.0385
Stddev	.0001	.0178	.0002	.0009	.0005	.0004	.0006	.0028
%RSD	4.892	34.09	.4102	11.34	10.76	4.575	6.861	7.363
#1	.0022	.0331	.0416	.0093	.0055	.0077	.0099	.0411
#2	.0022	.0684	.0413	.0081	.0046	.0079	.0089	.0355
#3	.0020	.0553	.0414	.0074	.0046	.0084	.0088	.0389

Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value		.0400			.0040			
Range		20.00%			20.00%			

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0211	.0435	.0591	.0105	F .0130	.00217	.0012	.0081
Stddev	.0021	.0016	.0191	.0003	.0060	.00007	.0013	.0001
%RSD	9.872	3.738	32.26	3.200	46.07	3.3406	109.8	1.333
#1	.0226	.0420	.0768	.0109	.0061	.00221	-.0001	.0081
#2	.0220	.0452	.0615	.0104	.0156	.00209	.0024	.0080
#3	.0187	.0432	.0389	.0102	.0172	.00221	.0011	.0082

Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Fail	Chk Pass	None	Chk Pass
Value					.0100			
Range					20.00%			

Sample Name: LLICV,0.5 Acquired: 12/18/2020 9:09:35 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-41-A 1/50mL

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0085	.0817	.3854	.0410	.4160	.0086	.4073	.00201
Stddev	.0002	.0009	.0764	.0044	.0242	.0002	.0065	.00018
%RSD	2.478	1.105	19.82	10.61	5.822	2.296	1.596	8.8877
#1	.0087	.0815	.3073	.0458	.4050	.0088	.4003	.00208
#2	.0083	.0827	.3890	.0400	.4438	.0084	.4087	.00180
#3	.0085	.0809	.4599	.0373	.3992	.0088	.4131	.00213

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0204	.0386	.0044	.0077	.0081	.0084	.0422	.0814
Stddev	.0007	.0009	.0002	.0006	.0003	.0003	.0007	.0032
%RSD	3.595	2.412	3.399	7.298	3.679	3.350	1.626	3.949
#1	.0212	.0379	.0043	.0080	.0084	.0086	.0429	.0845
#2	.0200	.0397	.0044	.0080	.0081	.0084	.0422	.0815
#3	.0200	.0384	.0046	.0071	.0078	.0081	.0415	.0781

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4308.3	87528.	4376.7
Stddev	9.6	383.	18.6
%RSD	.22287	.43729	.42578
#1	4319.3	87096.	4355.3
#2	4303.6	87824.	4385.5
#3	4301.9	87665.	4389.4

Sample Name: CCVB1 Acquired: 12/18/2020 9:14:43 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.821	10.62	.0014	1.042	10.03	.00008	-.0006	.0000	.0000
Stddev	.228	.05	.0033	.024	.04	.00008	.0004	.000	.0000
%RSD	2.909	.4837	241.2	2.333	.3915	101.67	70.39	147.7	105.8
#1	7.977	10.62	.0010	1.062	10.04	.00002	-.0002	-.0001	.0000
#2	7.925	10.68	.0049	1.049	9.986	.00004	-.0010	.0000	.0000
#3	7.560	10.58	-.0017	1.015	10.06	.00017	-.0005	-.0001	.0000

Check ? None Chk Pass None Chk Pass Chk Pass None None None None
Value
Range

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.943	9.698	-.0002	.0007	.0004	.0006	9.905	.0011	1.017
Stddev	.072	.087	.0006	.0004	.0008	.0012	.026	.0010	.007
%RSD	.7229	.9015	408.5	53.32	213.2	209.5	.2659	88.23	.6637
#1	9.975	9.661	.0001	.0003	.0005	-.0005	9.894	.0006	1.024
#2	9.861	9.635	-.0009	.0011	.0010	.0018	9.886	.0022	1.015
#3	9.993	9.798	.0003	.0008	-.0005	.0004	9.935	.0005	1.011

Check ? Chk Pass None None None None None Chk Pass None Chk Pass
Value
Range

Elem	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	9.797	9.729	10.35	1.0177	1.020	-.0001	.0060	10.32	10.18
Stddev	.038	.037	.04	.0019	.002	.0003	.0003	.19	.13
%RSD	.3894	.3818	.4304	.19064	.1713	215.6	5.310	1.837	1.287
#1	9.767	9.737	10.40	1.0194	1.021	-.0004	.0057	10.48	10.19
#2	9.783	9.689	10.35	1.0180	1.018	.0001	.0064	10.37	10.31
#3	9.840	9.762	10.31	1.0156	1.021	-.0001	.0060	10.11	10.05

Check ? Chk Pass None Chk Pass None Chk Pass None None Chk Pass Chk Pass
Value
Range

Sample Name: CCVB1 Acquired: 12/18/2020 9:14:43 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Se1960	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0022	10.18	-.0001	10.26	.99704	-.0001	.0001	.0003	-.0002
Stddev	.0003	.04	.0005	.11	.00296	.0003	.0006	.0004	.0003
%RSD	13.10	.4138	653.3	1.049	.29645	189.1	475.5	141.9	147.1
#1	.0025	10.20	.0000	10.36	.99910	.0001	-.0006	.0003	-.0004
#2	.0022	10.20	-.0006	10.28	.99365	-.0004	.0004	-.0001	.0001
#3	.0019	10.13	.0003	10.15	.99836	-.0001	.0006	.0007	-.0003
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None	None
Value									
Range									

Elem	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	.0002	.0005	1.054	1.035
Stddev	.0001	.0002	.024	.018
%RSD	45.43	30.22	2.272	1.776
#1	.0003	.0007	1.073	1.051
#2	.0002	.0005	1.061	1.038
#3	.0002	.0004	1.027	1.015
Check ?	None	None	Chk Pass	Chk Pass
Value				
Range				

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4252.9	86121.	4355.9
Stddev	5.6	191.	34.5
%RSD	.13101	.22179	.79121
#1	4255.0	86108.	4377.6
#2	4246.5	86318.	4374.0
#3	4257.0	85937.	4316.2

Sample Name: CCVA1 Acquired: 12/18/2020 9:19:48 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2531	.2882	.2502	.2700	.2545	.25311	.2507	.2522	.2494
Stddev	.0025	.0007	.0034	.0033	.0003	.00101	.0020	.0020	.0019
%RSD	1.002	.2343	1.353	1.239	.1247	.39984	.7783	.7841	.7429
#1	.2558	.2882	.2538	.2736	.2544	.25413	.2488	.2537	.2503
#2	.2529	.2888	.2495	.2670	.2544	.25211	.2527	.2528	.2507
#3	.2507	.2875	.2472	.2693	.2549	.25308	.2506	.2499	.2473

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.5078	.5031	.2524	.2492	.2492	.2540	.2469	.2492	.0028
Stddev	.0167	.0009	.0007	.0019	.0022	.0012	.0029	.0021	.0005
%RSD	3.294	.1887	.2897	.7590	.8881	.4674	1.155	.8335	17.97
#1	.4888	.5020	.2528	.2505	.2514	.2546	.2442	.2497	.0033
#2	.5204	.5038	.2515	.2500	.2493	.2527	.2466	.2511	.0029
#3	.5141	.5034	.2528	.2470	.2470	.2549	.2499	.2470	.0023

Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None
Value									
Range									

Elem	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2844	.2505	.2643	.24931	.2428	.2507	.2514	-.0023	2.447
Stddev	.0336	.0004	.0034	.00062	.0018	.0019	.0023	.0026	.028
%RSD	11.82	.1465	1.274	.24807	.7548	.7500	.9000	112.7	1.132
#1	.2496	.2504	.2632	.24926	.2428	.2521	.2537	-.0021	2.439
#2	.2869	.2501	.2680	.24995	.2446	.2514	.2514	-.0050	2.425
#3	.3166	.2508	.2616	.24872	.2409	.2485	.2491	.0002	2.478

Check ?	None	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	None	None
Value									
Range									

Sample Name: CCVA1 Acquired: 12/18/2020 9:19:48 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Se1960	Si2516	Ag3280	Na5895	Sr4077	Ti1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2523	.1172	.2512	.2628	.00008	.2508	.2509	.2525	.2526
Stddev	.0026	.0043	.0009	.0049	.00008	.0041	.0013	.0005	.0023
%RSD	1.032	3.678	.3678	1.853	106.38	1.615	.5213	.1855	.9238
#1	.2498	.1207	.2521	.2645	.00017	.2537	.2518	.2520	.2552
#2	.2550	.1124	.2503	.2573	.00003	.2526	.2515	.2530	.2515
#3	.2521	.1186	.2511	.2666	.00003	.2462	.2494	.2525	.2510

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	.2488	.2545	.0016	.0011
Stddev	.0020	.0017	.0022	.0031
%RSD	.8165	.6567	132.6	271.0
#1	.2503	.2560	.0000	.0045
#2	.2496	.2547	.0041	.0004
#3	.2465	.2527	.0008	-.0015

Check ?	Chk Pass	Chk Pass	None	None
Value				
Range				

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4298.1	87620.	4343.4
Stddev	9.0	343.	35.4
%RSD	.20994	.39092	.81535
#1	4302.9	87909.	4365.5
#2	4287.7	87242.	4362.2
#3	4303.7	87710.	4302.6

Sample Name: CCB Acquired: 12/18/2020 9:24:34 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	.0010	.0004	-.0016	-.0003	.00008	-.0001	.0000	.0000
Stddev	.000	.0019	.0006	.0034	.0001	.00010	.0004	.0001	.0001
%RSD	1271.	192.3	142.0	206.1	39.35	119.76	303.0	1287.	749.7
#1	.0000	.0024	.0008	.0022	-.0003	-.00001	-.0001	.0001	.0001
#2	-.0002	.0016	.0006	-.0039	-.0004	.00019	.0002	.0000	-.0001
#3	.0001	-.0011	-.0002	-.0033	-.0002	.00006	-.0005	-.0001	-.0001

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0013	-.0001	.0001	.0003	.0000	.0012	-.0020	.0008	.0007
Stddev	.0057	.0001	.0004	.0002	.0002	.0008	.0007	.0024	.0032
%RSD	425.3	154.2	381.9	63.63	416.0	66.83	36.24	297.2	433.6
#1	-.0018	-.0002	.0005	.0003	.0003	.0022	-.0014	-.0004	-.0020
#2	.0046	.0001	-.0001	.0001	-.0001	.0007	-.0028	.0035	-.0001
#3	-.0068	-.0001	-.0001	.0004	-.0001	.0008	-.0017	-.0008	.0042

Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0095	-.0001	.0012	.00004	.0007	.0002	-.0001	-.0032	-.0063
Stddev	.0208	.0000	.0025	.00010	.0031	.0004	.0004	.0005	.0324
%RSD	219.3	19.19	213.3	222.37	436.0	208.0	489.0	16.70	516.8
#1	.0300	-.0001	-.0017	.00007	-.0007	.0003	.0001	-.0031	-.0429
#2	.0101	.0000	.0027	-.00006	-.0014	.0005	-.0005	-.0038	.0055
#3	-.0116	-.0001	.0024	.00012	.0043	-.0003	.0002	-.0027	.0186

Check ?	None	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Sample Name: CCB Acquired: 12/18/2020 9:24:34 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Se1960	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0017	-.0034	.0007	.0155	.00012	.0005	.0003	-.0001	.0001
Stddev	.0014	.0013	.0004	.0162	.00009	.0005	.0001	.0001	.0007
%RSD	84.51	39.59	55.22	104.4	80.091	88.10	29.51	196.7	1312
#1	.0001	-.0035	.0008	.0342	.00021	.0006	.0002	.0001	-.0001
#2	.0024	-.0047	.0003	.0073	.00002	.0009	.0004	-.0001	-.0005
#3	.0027	-.0020	.0010	.0051	.00013	.0000	.0002	-.0001	.0008

Check ? Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass Chk Pass
High Limit
Low Limit

Elem	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	.0000	.0000	.0002	-.0003
Stddev	.0002	.000	.0018	.0018
%RSD	487.2	369.2	1209.	713.1
#1	-.0001	.0000	.0013	-.0016
#2	.0002	-.0001	.0011	-.0009
#3	-.0001	.0000	-.0020	.0018

Check ? Chk Pass None Chk Pass Chk Pass
High Limit
Low Limit

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4294.4	87337.	4348.7
Stddev	4.3	336.	9.6
%RSD	.09915	.38424	.22059
#1	4297.0	87534.	4339.9
#2	4289.4	87528.	4358.9
#3	4296.6	86950.	4347.4

Sample Name: ICSA Acquired: 12/18/2020 9:29:39 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-44-A

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	25.33	411.2	.0100	.0064	-.0001	.00034	-.0146	.0000
Stddev	.10	2.8	.0030	.0004	.0005	.00009	.0009	.000
%RSD	.3992	.6880	29.70	7.040	437.3	27.070	6.028	858.0
#1	25.41	414.0	.0068	.0061	.0000	.00027	-.0156	.0002
#2	25.35	411.4	.0127	.0062	.0003	.00045	-.0139	.0001
#3	25.21	408.3	.0105	.0069	-.0007	.00032	-.0143	-.0005

Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0019	476.8	*****	.0000	.0011	.0137	.0003	184.8
Stddev	.0013	.7	----	.000	.0002	.0032	.0011	.6
%RSD	65.73	.1407	----	6256.	19.91	23.03	439.1	.3453
#1	-.0009	476.5	----	-.0004	.0009	.0153	.0007	184.3
#2	-.0016	476.3	----	.0004	.0013	.0158	.0011	184.7
#3	-.0033	477.5	----	.0000	.0011	.0101	-.0010	185.5

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019	.0092	492.2	244.0	452.4	-.01536	-.0375	-.0004
Stddev	.0028	.0015	1.8	.8	3.8	.00028	.0039	.0006
%RSD	148.8	16.90	.3635	.3427	.8302	1.8332	10.28	168.7
#1	.0004	.0109	490.5	244.9	456.7	-.01520	-.0417	-.0010
#2	.0001	.0081	492.1	243.3	450.8	-.01520	-.0366	.0003
#3	.0052	.0085	494.0	243.8	449.7	-.01569	-.0341	-.0004

Check ?	None	None	Chk Pass	None	None	None	None	None
Value								
Range								

Sample Name: ICSA Acquired: 12/18/2020 9:29:39 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-44-A

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0031	-.0106	-.0975	.0057	-.0067	-.0003	.0180	.00377
Stddev	.0004	.0022	.0100	.0063	.0075	.0000	.0144	.00021
%RSD	11.42	21.06	10.25	108.9	112.1	1.979	80.26	5.5419
#1	.0027	-.0128	-.0873	.0072	-.0094	-.0003	.0209	.00358
#2	.0032	-.0084	-.0980	-.0011	.0018	-.0003	.0023	.00374
#3	.0034	-.0107	-.1073	.0111	-.0125	-.0003	.0307	.00399

Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0028	.0012	.0004	.0041	.0003	.0009	-.0070	.0157
Stddev	.0025	.0006	.0002	.0004	.0003	.0017	.0019	.0010
%RSD	90.50	47.39	44.46	10.80	100.6	179.8	27.04	6.380
#1	.0007	.0012	.0002	.0043	.0000	.0023	-.0091	.0168
#2	.0056	.0006	.0005	.0036	.0005	.0014	-.0053	.0153
#3	.0021	.0018	.0005	.0044	.0004	-.0009	-.0066	.0149

Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	3852.7	76104.	4184.3
Stddev	23.7	188.	5.2
%RSD	.61399	.24749	.12367
#1	3834.9	76036.	4190.1
#2	3843.8	76318.	4180.1
#3	3879.6	75960.	4182.8

Sample Name: ICSAB Acquired: 12/18/2020 9:36:16 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-39-D

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	24.85	417.5	.8633	.0041	.5073	.47746	.0097	.8954	.8853
Stddev	.06	.6	.0294	.0018	.0015	.00033	.0018	.0265	.0265
%RSD	.2597	.1428	3.411	43.65	.2885	.06919	18.17	2.965	2.965
#1	24.92	418.1	.8820	.0039	.5083	.47727	.0110	.9133	.9022
#2	24.81	417.4	.8785	.0060	.5056	.47726	.0104	.9080	.8985
#3	24.81	416.9	.8293	.0024	.5079	.47784	.0077	.8649	.8557
Check ?	None	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Elem	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599	Pb2203	Li6707
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	479.8	*****	.4952	.4342	.4502	.4507	184.9	.8791	.0112
Stddev	.7	----	.0022	.0139	.0160	.0024	.7	.0182	.0033
%RSD	.1423	----	.4419	3.190	3.544	.5224	.3555	2.069	29.58
#1	480.3	----	.4943	.4441	.4604	.4483	185.1	.8873	.0091
#2	480.0	----	.4977	.4403	.4584	.4509	184.1	.8918	.0096
#3	479.0	----	.4936	.4184	.4318	.4530	185.4	.8583	.0151
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value									
Range									

Elem	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020	Ni2216	P_1782	K_7664
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	493.5	244.4	454.6	.46568	.4744	-.0009	.8661	-.0057	-.0884
Stddev	1.7	2.2	3.1	.00103	.0005	.0006	.0274	.0065	.0292
%RSD	.3418	.8896	.6750	.22015	.1118	62.95	3.162	113.2	33.06
#1	494.3	243.7	454.4	.46669	.4740	-.0003	.8845	-.0007	-.0556
#2	491.5	246.8	451.7	.46464	.4742	-.0010	.8791	-.0035	-.0979
#3	494.6	242.6	457.8	.46571	.4750	-.0014	.8346	-.0131	-.1116
Check ?	Chk Pass	None	None	Chk Pass	Chk Pass	None	Chk Pass	None	None
Value									
Range									

Sample Name: ICSAB Acquired: 12/18/2020 9:36:16 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: ICP19-39-D

Elem	Se1960	Si2516	Ag3280	Na5895	Sr4077	Tl1908	Sn1899	Ti3361	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0055	1.339	.8914	.0249	.00353	.0038	.0016	.0003	.5231
Stddev	.0035	.006	.0066	.0031	.00017	.0011	.0004	.0002	.0049
%RSD	64.77	.4782	.7409	12.59	4.8587	29.79	25.03	65.83	.9333
#1	.0091	1.343	.8864	.0220	.00338	.0034	.0019	.0004	.5256
#2	.0052	1.342	.8888	.0245	.00371	.0051	.0017	.0001	.5262
#3	.0021	1.332	.8989	.0282	.00349	.0029	.0011	.0004	.5175
Check ?	None	None	Chk Pass	None	None	None	None	None	Chk Pass
Value									
Range									

Elem	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm
Avg	.8828	.8559	-.0066	.0106
Stddev	.0281	.0270	.0029	.0048
%RSD	3.181	3.149	43.59	44.97
#1	.9026	.8731	-.0051	.0121
#2	.8951	.8697	-.0048	.0145
#3	.8506	.8248	-.0100	.0053
Check ?	Chk Pass	Chk Pass	None	None
Value				
Range				

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	3943.1	77225.	4144.7
Stddev	14.6	384.	31.4
%RSD	.37033	.49770	.75668
#1	3928.2	76931.	4134.7
#2	3943.6	77085.	4119.5
#3	3957.4	77660.	4179.8

Sample Name: KQ2019719-03 Acquired: 12/18/2020 9:56:56 Type: Unk
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 121820A 1/2 K2011446-MB

Elem Units Avg	Al1670 ppm .0081	Sb2068 ppm .0007	As1890 ppm .0007	Ba4554 ppm -.0010	Be2348 ppm -.00003	B_2496 ppm -.0005	Cd2144 ppm -.0001	Cd2265 ppm -.0001
#1	.0097	.0000	.0033	-.0002	-.00003	.0015	-.0001	-.0001
#2	.0069	.0029	.0003	-.0016	-.00001	-.0017	-.0002	-.0002
#3	.0076	-.0010	-.0014	-.0012	-.00006	-.0014	-.0001	-.0001
Elem Units Avg	Ca3933 ppm .0035	Cr2677 ppm .0002	Co2307 ppm .0002	Cu2247 ppm -.0003	Cu3273 ppm -.0002	Fe2599 ppm .0037	Pb2203 ppm .0000	Li6707 ppm .0032
#1	.0041	.0003	.0001	-.0008	.0000	.0036	-.0004	.0022
#2	.0034	.0002	.0003	.0001	-.0009	.0017	.0009	.0060
#3	.0031	.0003	.0003	-.0002	.0003	.0058	-.0004	.0015
Elem Units Avg	Mg2795 ppm .0039	Mn2576 ppm -.00001	Mo2020 ppm .0004	Ni2216 ppm .0005	P_1782 ppm .0175	K_7664 ppm -.0049	Se1960 ppm .0042	Si2516 ppm .0143
#1	.0047	-.00004	.0004	.0009	.0136	.0046	.0073	.0173
#2	.0036	-.00001	.0006	.0002	.0183	-.0400	.0018	.0156
#3	.0035	.00001	.0003	.0004	.0205	.0208	.0036	.0099
Elem Units Avg	Ag3280 ppm -.0002	Na5895 ppm .0015	Sr4077 ppm .00001	Tl1908 ppm .0004	Sn1899 ppm .0170	Ti3361 ppm -.0004	V_2924 ppm -.0004	Zn2062 ppm .0001
#1	-.0012	-.0039	-.00016	.0009	.0175	-.0003	-.0006	.0003
#2	.0006	.0182	.00035	-.0008	.0171	-.0006	-.0001	-.0002
#3	.0000	-.0099	-.00015	.0012	.0165	-.0002	-.0005	.0003
Elem Units Avg	Zn2138 ppm .0002	Bi2230 ppm -.0008	S_1820 ppm -.0002					
#1	.0002	-.0009	.0032					
#2	.0003	-.0002	-.0033					
#3	.0001	-.0013	-.0004					

Sample Name: KQ2019719-03 Acquired: 12/18/2020 9:56:56 Type: Unk
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 121820A 1/2 K2011446-MB

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4272.6	87020.	4233.5
#1	4281.2	87144.	4252.5
#2	4234.4	86521.	4243.1
#3	4302.1	87393.	4205.1

Sample Name: KQ2019719-04 Acquired: 12/18/2020 10:01:59 Type: Unk
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 121820A 1/2 K2011446-LCSS

Elem Units Avg	Al3944 ppm 33.58	Sb2068 ppm .3819	As1890 ppm .4546	Ba4554 ppm 1.512	Be2348 ppm .56992	B_2496 ppm .5583	Cd2144 ppm .7244	Cd2265 ppm .7289	Ca3158 ppm 24.48
#1	33.67	.3835	.4590	1.505	.56929	.5579	.7264	.7313	24.50
#2	33.83	.3855	.4506	1.510	.57256	.5623	.7263	.7317	24.38
#3	33.24	.3768	.4544	1.521	.56792	.5548	.7206	.7236	24.58
Elem Units Avg	Cr2677 ppm .7486	Co2307 ppm .2202	Cu2247 ppm .6809	Cu3273 ppm .7096	Fe2599 ppm 53.76	Pb2203 ppm .4800	Li6707 ppm .0299	Mg2852 ppm 10.51	Mn2576 ppm 3.4547
#1	.7456	.2208	.6833	.7109	53.67	.4818	.0301	10.56	3.4435
#2	.7501	.2204	.6828	.7089	53.49	.4819	.0293	10.48	3.4654
#3	.7503	.2195	.6768	.7090	54.12	.4764	.0303	10.48	3.4553
Elem Units Avg	Mo2020 ppm .1994	Ni2216 ppm .3128	P_1782 ppm 2.287	K_7664 ppm 8.755	Se1960 ppm .1857	Si2516 ppm 8.710	Ag3280 ppm .1747	Na5895 ppm .5550	Sr4077 ppm .81447
#1	.1997	.3133	2.278	8.745	.1818	8.667	.1736	.5667	.81167
#2	.1999	.3140	2.305	8.720	.1863	8.628	.1757	.5561	.81382
#3	.1986	.3111	2.278	8.799	.1890	8.835	.1749	.5421	.81792
Elem Units Avg	Ti1908 ppm .4243	Sn1899 ppm .4381	Ti3361 ppm 1.782	V_2924 ppm .4526	Zn2062 ppm 1.731	Zn2138 ppm 1.720	Bi2230 ppm -.0163	S_1820 ppm .4014	
#1	.4247	.4400	1.779	.4506	1.736	1.732	-.0171	.3989	
#2	.4266	.4412	1.782	.4529	1.739	1.721	-.0164	.3998	
#3	.4216	.4330	1.784	.4544	1.717	1.708	-.0153	.4056	
Int. Std. Units Avg	Y_2243 Cts/S 4322.7	Y_3600 Cts/S 87208.	Y_3600-2 Cts/S 4330.2						
#1	4331.4	87327.	4322.7						
#2	4313.7	87318.	4337.5						
#3	4323.0	86977.	4330.4						

Sample Name: K2011446-004 Acquired: 12/18/2020 10:06:45 Type: Unk
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 121820A 1/2

Elem Units Avg	Al3944 ppm 6.082	Sb2068 ppm .0002	As1890 ppm .0100	Ba4554 ppm .1168	Be2348 ppm .00041	B_2496 ppm .0054	Cd2144 ppm .0015	Cd2265 ppm .0013	Ca3158 ppm 126.4
#1	6.082	.0021	.0077	.1159	.00053	.0057	.0015	.0014	125.8
#2	6.096	.0005	.0100	.1167	.00044	.0068	.0014	.0013	126.4
#3	6.068	-.0022	.0124	.1179	.00027	.0037	.0015	.0012	126.4
Elem Units Avg	Cr2677 ppm .0473	Co2307 ppm .0082	Cu2247 ppm .0298	Cu3273 ppm .0307	Fe2599 ppm 25.22	Pb2203 ppm .0513	Li6707 ppm .0091	Mg2852 ppm 11.82	Mn2576 ppm .63810
#1	.0473	.0081	.0297	.0300	25.26	.0510	.0096	11.84	.64081
#2	.0467	.0085	.0305	.0309	25.22	.0527	.0091	11.77	.63278
#3	.0481	.0079	.0294	.0313	25.18	.0502	.0087	11.84	.64071
Elem Units Avg	Mo2020 ppm .0009	Ni2216 ppm .0197	P_1782 ppm .9138	K_7664 ppm .5461	Se1960 ppm .0042	Si2516 ppm 3.701	Ag3280 ppm .0001	Na5895 ppm .1535	Sr4077 ppm .07542
#1	.0007	.0197	.9324	.5822	.0068	3.710	.0002	.1455	.07529
#2	.0010	.0202	.9212	.5227	.0018	3.671	.0003	.1566	.07542
#3	.0010	.0193	.8876	.5334	.0039	3.720	-.0003	.1585	.07555
Elem Units Avg	Ti1908 ppm .0019	Sn1899 ppm .0225	Ti3361 ppm .2604	V_2924 ppm .0217	Zn2062 ppm .1888	Zn2138 ppm .1880	Bi2230 ppm -.0010	S_1820 ppm 4.772	
#1	.0006	.0226	.2617	.0221	.1918	.1900	.0008	4.800	
#2	.0021	.0229	.2598	.0208	.1900	.1901	-.0009	4.810	
#3	.0030	.0221	.2596	.0221	.1846	.1837	-.0031	4.706	
Int. Std. Units Avg	Y_2243 Cts/S 4230.4	Y_3600 Cts/S 85034.	Y_3600-2 Cts/S 4223.3						
#1	4224.6	84663.	4232.1						
#2	4233.6	85505.	4190.3						
#3	4233.0	84935.	4247.5						

Sample Name: K2011446-004L Acquired: 12/18/2020 10:11:43 Type: Unk
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 10 Test Type: Sample Type:
Comment: AM 121820A 1/10

Elem Units Avg	Al1670 ppm 1.151	Sb2068 ppm .0004	As1890 ppm .0025	Ba4554 ppm .0226	Be2348 ppm .00012	B_2496 ppm .0001	Cd2144 ppm .0004	Cd2265 ppm .0003	Ca3158 ppm 25.45
#1	1.174	.0024	.0043	.0225	.00007	.0002	.0003	.0002	25.53
#2	1.161	.0020	-.0011	.0223	.00015	-.0007	.0003	.0002	25.36
#3	1.118	-.0031	.0043	.0229	.00013	.0009	.0005	.0006	25.46
Elem Units Avg	Cr2677 ppm .0096	Co2307 ppm .0021	Cu2247 ppm .0064	Cu3273 ppm .0074	Fe2599 ppm 5.064	Pb2203 ppm .0101	Li6707 ppm .0028	Mg2795 ppm 2.355	Mn2576 ppm .13221
#1	.0096	.0018	.0063	.0075	5.096	.0090	.0044	2.360	.13210
#2	.0096	.0025	.0071	.0072	5.031	.0101	.0054	2.351	.13187
#3	.0097	.0020	.0058	.0076	5.066	.0111	-.0015	2.355	.13265
Elem Units Avg	Mo2020 ppm .0001	Ni2216 ppm .0044	P_1782 ppm .1832	K_7664 ppm .1247	Se1960 ppm .0026	Si2516 ppm .7504	Ag3280 ppm .0003	Na5895 ppm .0516	Sr4077 ppm .01501
#1	-.0001	.0044	.1832	.1710	.0024	.7244	.0010	.0501	.01510
#2	.0001	.0045	.1877	.0880	.0026	.7552	.0003	.0613	.01504
#3	.0004	.0042	.1786	.1150	.0026	.7715	-.0005	.0435	.01489
Elem Units Avg	Tl1908 ppm -.0005	Sn1899 ppm .0049	Ti3361 ppm .0525	V_2924 ppm .0041	Zn2062 ppm .0397	Zn2138 ppm .0402	Bi2230 ppm .0004	S_1820 ppm .9775	
#1	-.0002	.0054	.0523	.0045	.0406	.0408	.0039	.9931	
#2	-.0018	.0040	.0527	.0037	.0400	.0406	-.0007	.9797	
#3	.0007	.0052	.0525	.0042	.0386	.0392	-.0020	.9596	
Int. Std. Units Avg	Y_2243 Cts/S 4273.2	Y_3600 Cts/S 86416.	Y_3600-2 Cts/S 4237.9						
#1	4291.0	86508.	4247.6						
#2	4267.9	86469.	4231.8						
#3	4260.6	86272.	4234.3						

Sample Name: KQ2019719-01 Acquired: 12/18/2020 10:16:50 Type: Unk
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 121820A 1/2 K2011446-004D

Elem Units Avg	Al3944 ppm 5.959	Sb2068 ppm .0008	As1890 ppm .0087	Ba4554 ppm .1147	Be2348 ppm .00037	B_2496 ppm .0049	Cd2144 ppm .0013	Cd2265 ppm .0012	Ca3158 ppm 124.7
#1	6.008	.0027	.0076	.1143	.00036	.0047	.0014	.0013	123.8
#2	5.901	.0014	.0096	.1155	.00040	.0058	.0014	.0012	125.0
#3	5.968	-.0016	.0091	.1142	.00036	.0041	.0011	.0011	123.5
Elem Units Avg	Cr2677 ppm .0465	Co2307 ppm .0073	Cu2247 ppm .0286	Cu3273 ppm .0307	Fe2599 ppm 23.60	Pb2203 ppm .0419	Li6707 ppm .0120	Mg2852 ppm 10.33	Mn2576 ppm .59499
#1	.0463	.0077	.0295	.0310	23.60	.0443	.0130	10.29	.59459
#2	.0464	.0070	.0287	.0307	23.77	.0415	.0096	10.32	.59334
#3	.0468	.0073	.0277	.0303	23.43	.0399	.0134	10.36	.59703
Elem Units Avg	Mo2020 ppm .0008	Ni2216 ppm .0185	P_1782 ppm .9884	K_7664 ppm .5421	Se1960 ppm .0034	Si2516 ppm 3.704	Ag3280 ppm .0006	Na5895 ppm .1738	Sr4077 ppm .07490
#1	.0009	.0186	.9981	.5190	.0031	3.691	.0002	.1854	.07438
#2	.0007	.0190	.9950	.5120	.0029	3.682	.0007	.1671	.07535
#3	.0007	.0179	.9722	.5953	.0042	3.739	.0010	.1689	.07496
Elem Units Avg	Ti1908 ppm .0007	Sn1899 ppm .0192	Ti3361 ppm .2339	V_2924 ppm .0211	Zn2062 ppm .1758	Zn2138 ppm .1744	Bi2230 ppm -.0011	S_1820 ppm 4.537	
#1	-.0004	.0197	.2333	.0212	.1780	.1768	.0025	4.562	
#2	.0021	.0198	.2359	.0215	.1774	.1758	-.0011	4.557	
#3	.0003	.0183	.2326	.0206	.1720	.1705	-.0048	4.491	
Int. Std. Units Avg	Y_2243 Cts/S 4202.4	Y_3600 Cts/S 85109.	Y_3600-2 Cts/S 4195.2						
#1	4201.8	85383.	4200.0						
#2	4198.4	84892.	4162.5						
#3	4207.1	85051.	4223.0						

Sample Name: KQ2019719-02 Acquired: 12/18/2020 10:21:47 Type: Unk
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 2 Test Type: Sample Type:
Comment: AM 121820A 1/2 K2011446-004S

Elem Units Avg	Al3944 ppm 8.416	Sb2068 ppm .3516	As1890 ppm .5042	Ba4554 ppm 1.133	Be2348 ppm .04924	B_2496 ppm .2417	Cd2144 ppm .0486	Cd2265 ppm .0482	Ca3158 ppm 129.6
#1	8.417	.3500	.5018	1.132	.04854	.2430	.0487	.0483	128.9
#2	8.354	.3537	.5080	1.138	.04974	.2401	.0485	.0481	130.0
#3	8.477	.3512	.5028	1.130	.04944	.2420	.0485	.0483	128.6
Elem Units Avg	Cr2677 ppm .2441	Co2307 ppm .4814	Cu2247 ppm .2645	Cu3273 ppm .2753	Fe2599 ppm 24.60	Pb2203 ppm .5052	Li6707 ppm .0134	Mg2852 ppm 15.59	Mn2576 ppm 1.0833
#1	.2433	.4823	.2648	.2743	24.54	.5057	.0166	15.65	1.0892
#2	.2443	.4825	.2642	.2766	24.67	.5049	.0078	15.60	1.0757
#3	.2446	.4795	.2646	.2749	24.59	.5050	.0159	15.53	1.0851
Elem Units Avg	Mo2020 ppm .5134	Ni2216 ppm .4901	P_1782 ppm .9145	K_7664 ppm 5.450	Se1960 ppm .4422	Si2516 ppm 4.420	Ag3280 ppm .0471	Na5895 ppm 5.142	Sr4077 ppm .07262
#1	.5142	.4913	.9137	5.402	.4424	4.438	.0474	5.146	.07245
#2	.5130	.4911	.9186	5.484	.4428	4.407	.0463	5.155	.07303
#3	.5131	.4879	.9113	5.464	.4414	4.414	.0476	5.123	.07237
Elem Units Avg	Tl1908 ppm .0944	Sn1899 ppm .0225	Ti3361 ppm .2731	V_2924 ppm .5418	Zn2062 ppm .6437	Zn2138 ppm .6275	Bi2230 ppm -.0015	S_1820 ppm 4.296	
#1	.0935	.0238	.2733	.5426	.6453	.6293	-.0025	4.311	
#2	.0936	.0211	.2726	.5391	.6450	.6285	-.0005	4.285	
#3	.0960	.0226	.2732	.5438	.6406	.6247	-.0016	4.291	
Int. Std. Units Avg	Y_2243 Cts/S 4185.7	Y_3600 Cts/S 85081.	Y_3600-2 Cts/S 4148.8						
#1	4187.1	84645.	4172.7						
#2	4189.4	85605.	4126.4						
#3	4180.8	84994.	4147.2						

Sample Name: K2011446-004A Acquired: 12/18/2020 10:26:31 Type: Unk
 Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
 User: admin Dilution: 2 Test Type: Sample Type:
 Comment: AM 121820A 1/2 A=0.05/10mL CICV1,3

Elem Units Avg	Al3944 ppm 11.28	Sb2068 ppm .0002	As1890 ppm 2.546	Ba4554 ppm 5.564	Be2348 ppm .13379	B_2496 ppm .0028	Cd2144 ppm 1.209	Cd2265 ppm 1.201	Ca3158 ppm 136.6
#1	11.25	.0021	2.554	5.544	.13264	.0010	1.215	1.209	136.4
#2	11.34	-.0027	2.555	5.578	.13457	.0036	1.214	1.207	136.7
#3	11.26	.0013	2.529	5.569	.13416	.0038	1.198	1.188	136.8

Elem Units Avg	Cr2677 ppm .5857	Co2307 ppm 1.268	Cu2247 ppm .6510	Cu3273 ppm .6707	Fe2599 ppm 27.33	Pb2203 ppm 2.419	Li6707 ppm .0089	Mg2852 ppm 24.89	Mn2576 ppm 1.9342
#1	.5855	1.275	.6540	.6686	27.20	2.430	.0051	24.84	1.9433
#2	.5853	1.275	.6547	.6722	27.45	2.428	.0125	24.82	1.9318
#3	.5863	1.254	.6444	.6711	27.34	2.399	.0092	24.99	1.9273

Elem Units Avg	Mo2020 ppm .0006	Ni2216 ppm 1.274	P_1782 ppm .9172	K_7664 ppm 13.96	Se1960 ppm 2.266	Si2516 ppm 3.727	Ag3280 ppm .6119	Na5895 ppm 13.46	Sr4077 ppm .07418
#1	.0007	1.282	.9241	13.91	2.266	3.699	.6119	13.47	.07424
#2	.0010	1.279	.9260	14.03	2.274	3.726	.6141	13.41	.07413
#3	.0002	1.261	.9015	13.95	2.256	3.755	.6097	13.51	.07417

Elem Units Avg	Tl1908 ppm 2.340	Sn1899 ppm .0233	Ti3361 ppm .2606	V_2924 ppm 1.396	Zn2062 ppm 1.437	Zn2138 ppm 1.408	Bi2230 ppm .0029	S_1820 ppm 4.725
#1	2.341	.0235	.2605	1.393	1.446	1.421	.0016	4.751
#2	2.348	.0233	.2608	1.400	1.443	1.413	.0051	4.731
#3	2.331	.0231	.2605	1.395	1.422	1.391	.0019	4.692

Int. Std. Units Avg	Y_2243 Cts/S 4170.3	Y_3600 Cts/S 84289.	Y_3600-2 Cts/S 4201.6
#1	4182.7	84031.	4199.2
#2	4162.5	84618.	4194.8
#3	4165.7	84218.	4210.7

Sample Name: CCVB Acquired: 12/18/2020 10:31:21 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	7.933	10.71	-.0003	1.061	10.22	-.00004	.0009	.0000
Stddev	.234	.00	.0025	.020	.05	.00003	.0024	.000
%RSD	2.948	.0453	947.6	1.852	.5365	65.084	281.2	57.37
#1	8.073	10.71	.0026	1.072	10.25	-.00002	.0004	.0000
#2	8.064	10.71	-.0022	1.073	10.16	-.00004	-.0013	.0000
#3	7.663	10.71	-.0012	1.039	10.26	-.00007	.0035	.0000

Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	None	None
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	10.02	10.02	.0005	.0006	.0004	.0008	10.02
Stddev	.000	.05	.04	.0002	.0002	.0006	.0007	.08
%RSD	322.8	.5434	.4176	41.27	38.65	137.9	86.51	.8161
#1	-.0001	10.04	10.07	.0003	.0003	.0010	.0014	10.04
#2	.0001	9.955	9.985	.0007	.0008	.0004	.0000	9.929
#3	.0000	10.05	10.02	.0007	.0007	-.0002	.0011	10.09

Check ?	None	Chk Pass	None	None	None	None	None	Chk Pass
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0009	1.007	9.883	9.736	9.915	1.0215	.9710	.0000
Stddev	.0005	.003	.040	.065	.044	.0013	.0069	.000
%RSD	55.86	.2704	.4031	.6647	.4457	.12481	.7109	189.9
#1	.0013	1.004	9.866	9.750	9.865	1.0216	.9646	.0000
#2	.0003	1.007	9.855	9.665	9.933	1.0227	.9783	-.0001
#3	.0011	1.010	9.929	9.792	9.948	1.0202	.9701	-.0001

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value								
Range								

Sample Name: CCVB Acquired: 12/18/2020 10:31:21 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0068	10.69	10.11	-.0021	9.917	-.0001	10.01	1.0110
Stddev	.0002	.23	.08	.0025	.070	.0004	.02	.0051
%RSD	3.511	2.144	.7465	119.8	.7025	403.4	.1894	.50494
#1	.0069	10.79	10.02	-.0050	9.873	-.0005	9.984	1.0149
#2	.0069	10.85	10.15	-.0009	9.997	.0003	10.02	1.0052
#3	.0065	10.42	10.15	-.0004	9.880	-.0002	10.01	1.0127

Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0019	-.0006	.0002	.0000	.0002	.0006	1.072	1.061
Stddev	.0005	.0007	.0002	.001	.0001	.0001	.023	.014
%RSD	28.18	108.5	65.48	1411.	44.48	10.66	2.187	1.294
#1	.0025	-.0010	.0001	-.0001	.0003	.0006	1.083	1.065
#2	.0014	.0002	.0002	.0006	.0003	.0007	1.088	1.072
#3	.0018	-.0010	.0004	-.0006	.0001	.0005	1.045	1.046

Check ?	None	None	None	None	None	None	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4276.9	86417.	4193.0
Stddev	26.5	125.	28.7
%RSD	.61909	.14437	.68468
#1	4268.2	86496.	4163.4
#2	4255.8	86273.	4220.7
#3	4306.6	86481.	4195.0

Sample Name: CCVA Acquired: 12/18/2020 10:36:25 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2521	.2910	.2550	.2693	.2576	.25607	.2522	.2517
Stddev	.0028	.0036	.0032	.0034	.0011	.00180	.0006	.0015
%RSD	1.126	1.222	1.261	1.278	.4327	.70333	.2562	.6002
#1	.2540	.2898	.2584	.2732	.2588	.25400	.2514	.2532
#2	.2534	.2950	.2547	.2681	.2567	.25723	.2524	.2518
#3	.2488	.2882	.2520	.2667	.2572	.25698	.2526	.2501

Check ?	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2537	.5174	.5190	.2538	.2494	.2491	.2553	.2514
Stddev	.0010	.0091	.0016	.0002	.0014	.0021	.0027	.0034
%RSD	.3983	1.761	.3177	.0802	.5563	.8616	1.047	1.342
#1	.2548	.5274	.5209	.2535	.2505	.2509	.2523	.2511
#2	.2537	.5097	.5183	.2538	.2498	.2496	.2573	.2482
#3	.2527	.5149	.5179	.2539	.2478	.2467	.2564	.2549

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
Value								
Range								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2507	.0056	.2997	.2503	.2544	.25223	.2377	.2482
Stddev	.0011	.0032	.0179	.0001	.0049	.00132	.0021	.0024
%RSD	.4462	56.53	5.985	.0268	1.922	.52235	.8692	.9553
#1	.2511	.0082	.2959	.2504	.2558	.25362	.2389	.2504
#2	.2516	.0021	.3193	.2503	.2490	.25207	.2353	.2485
#3	.2495	.0066	.2840	.2503	.2584	.25100	.2388	.2456

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	Chk Pass
Value								
Range								

Sample Name: CCVA Acquired: 12/18/2020 10:36:25 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2497	-.0054	2.521	.2501	.1303	.2553	.2570	-.00017
Stddev	.0024	.0025	.019	.0018	.0153	.0017	.0233	.00034
%RSD	.9564	46.63	.7569	.7013	11.74	.6783	9.057	204.80
#1	.2517	-.0039	2.532	.2511	.1224	.2536	.2593	-.00055
#2	.2502	-.0040	2.532	.2481	.1480	.2571	.2327	-.00006
#3	.2470	-.0083	2.499	.2511	.1206	.2552	.2791	.00011

Check ?	Chk Pass	None	None	Chk Pass	None	Chk Pass	None	None
Value								
Range								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.2507	.2506	.2540	.2575	.2497	.2559	-.0002	-.0014
Stddev	.0020	.0022	.0010	.0017	.0019	.0019	.0007	.0054
%RSD	.8061	.8920	.4052	.6690	.7631	.7377	355.2	395.8
#1	.2530	.2524	.2543	.2594	.2518	.2579	-.0007	-.0052
#2	.2496	.2512	.2547	.2570	.2493	.2559	.0006	-.0038
#3	.2495	.2481	.2528	.2561	.2481	.2541	-.0005	.0049

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None
Value								
Range								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4353.5	88082.	4274.1
Stddev	7.5	541.	24.9
%RSD	.17242	.61463	.58175
#1	4360.3	87461.	4261.2
#2	4354.9	88451.	4258.2
#3	4345.5	88335.	4302.7

Sample Name: CCB Acquired: 12/18/2020 10:41:15 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Al1670	Al3944	Sb2068	As1890	Ba4554	Be2348	B_2496	Cd2144
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0005	-.0002	.0000	.0001	-.0006	.00005	-.0005	.0000
Stddev	.0002	.0010	.0015	.0033	.0008	.00008	.0011	.000
%RSD	41.91	531.2	9256.	2872.	147.6	152.94	223.6	504.7
#1	.0003	-.0013	.0017	-.0030	-.0003	-.00002	-.0010	.0000
#2	.0007	.0007	-.0004	.0035	-.0015	.00014	-.0013	-.0001
#3	.0004	.0000	-.0012	-.0001	.0001	.00004	.0008	.0001

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Cd2265	Ca3158	Ca3933	Cr2677	Co2307	Cu2247	Cu3273	Fe2599
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0000	-.0054	.0033	-.0001	-.0002	-.0004	-.0002	-.0005
Stddev	.0001	.0070	.0002	.0004	.0002	.0007	.0011	.0084
%RSD	209.9	130.2	6.686	423.3	105.8	172.0	516.0	1601.
#1	.0000	-.0016	.0031	-.0001	-.0002	-.0005	.0011	.0065
#2	.0000	-.0011	.0032	.0003	-.0005	.0003	-.0010	-.0098
#3	.0001	-.0135	.0036	-.0005	.0000	-.0010	-.0007	.0017

Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Pb2203	Li6707	Mg2790	Mg2795	Mg2852	Mn2576	Mn2605	Mo2020
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.0011	.0328	.0002	.0020	-.00002	-.0026	.0002
Stddev	.0008	.0005	.0514	.0001	.0006	.00001	.0003	.0002
%RSD	76.43	48.62	156.7	32.62	29.68	47.732	11.50	79.72
#1	.0008	.0015	-.0265	.0003	.0014	-.00002	-.0029	.0001
#2	.0004	.0005	.0611	.0001	.0025	-.00001	-.0024	.0002
#3	.0020	.0014	.0639	.0002	.0021	-.00003	-.0024	.0004

Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass
High Limit								
Low Limit								

Sample Name: CCB Acquired: 12/18/2020 10:41:15 Type: QC
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment:

Elem	Ni2216	P_1782	K_7664	Se1960	Si2516	Ag3280	Na5895	Sr4077
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	-.0002	-.0020	.0186	.0011	.0031	.0001	-.0102	-.00025
Stddev	.0002	.0026	.0946	.0012	.0042	.0003	.0237	.00004
%RSD	82.95	128.8	508.7	111.1	138.1	608.6	231.2	15.343
#1	-.0001	-.0050	.0308	-.0003	.0013	-.0003	.0062	-.00027
#2	-.0001	-.0004	.1065	.0014	.0000	.0001	-.0374	-.00028
#3	-.0004	-.0006	-.0815	.0021	.0079	.0003	.0005	-.00021

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Ti1908	Sn1899	Ti3361	V_2924	Zn2062	Zn2138	Bi2230	S_1820
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avg	.0011	.0004	-.0001	.0004	-.0001	.0000	-.0011	-.0002
Stddev	.0016	.0005	.0001	.0007	.0000	.0001	.0022	.0003
%RSD	145.6	133.2	112.6	187.6	40.44	179.1	191.7	178.2
#1	.0028	.0010	-.0002	.0006	-.0001	.0000	-.0003	-.0002
#2	-.0001	.0001	-.0002	.0010	-.0001	.0001	-.0036	-.0004
#3	.0005	.0000	.0000	-.0004	-.0001	.0000	.0005	.0001

Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Y_2243	Y_3600	Y_3600-2
Units	Cts/S	Cts/S	Cts/S
Avg	4272.4	87334.	4237.2
Stddev	14.4	275.	21.4
%RSD	.33667	.31537	.50451
#1	4281.9	87652.	4261.5
#2	4255.8	87176.	4228.7
#3	4279.4	87174.	4221.4

Sample Name: LR STD1 Acquired: 12/18/2020 10:48:23 Type: Unk
Method: 2020A-6010D U ICP03(v6) Mode: CONC Corr. Factor: 1.000000
User: admin Dilution: 1 Test Type: Sample Type:
Comment: AM 121820A 0.1/10mL CICV1,3

Elem Units Avg	Al3944 ppm 11.10	Sb2068 ppm -.0017	As1890 ppm 5.097	Ba4554 ppm 10.94	Be2348 ppm .27037	B_2496 ppm -.0072	Cd2144 ppm 2.479	Cd2265 ppm 2.501	Ca315 ppm 27.0
#1	11.16	-.0013	5.124	10.96	.27085	-.0082	2.478	2.495	27.0
#2	11.09	-.0044	5.103	10.90	.26873	-.0061	2.477	2.500	27.0
#3	11.05	.0006	5.062	10.94	.27154	-.0074	2.481	2.507	27.0
Elem Units Avg	Cr2677 ppm 1.098	Co2307 ppm 2.588	Cu2247 ppm 1.289	Cu3273 ppm 1.261	Fe2599 ppm 5.247	Pb2203 ppm 4.863	Li6707 ppm .0013	Mg2852 ppm 26.66	Mn2570 ppm 2.694
#1	1.095	2.590	1.289	1.263	5.236	4.864	.0030	26.69	2.689
#2	1.098	2.590	1.290	1.255	5.237	4.849	.0016	26.67	2.707
#3	1.099	2.585	1.286	1.265	5.268	4.877	-.0008	26.63	2.688
Elem Units Avg	Mo2020 ppm .0000	Ni2216 ppm 2.574	P_1782 ppm -.0024	K_7664 ppm 26.81	Se1960 ppm 4.924	Si2516 ppm .0106	Ag3280 ppm 1.256	Na5895 ppm 26.86	Sr4077 ppm .00059
#1	-.0001	2.578	-.0010	26.82	4.913	.0243	1.261	27.03	.00034
#2	.0004	2.576	-.0032	26.63	4.922	-.0190	1.251	26.76	.00023
#3	-.0003	2.569	-.0030	27.00	4.938	.0263	1.255	26.79	.00121
Elem Units Avg	Ti1908 ppm 4.832	Sn1899 ppm .0005	Ti3361 ppm .0001	V_2924 ppm 2.774	Zn2062 ppm 2.633	Zn2138 ppm 2.535	Bi2230 ppm .0027	S_1820 ppm .0057	
#1	4.812	.0008	.0003	2.771	2.633	2.555	.0037	.0044	
#2	4.814	.0006	-.0001	2.786	2.635	2.543	.0071	.0069	
#3	4.869	.0000	.0000	2.766	2.630	2.507	-.0026	.0057	
Int. Std. Units Avg	Y_2243 Cts/S 4142.6	Y_3600 Cts/S 84286.	Y_3600-2 Cts/S 4251.9						
#1	4171.6	84570.	4235.9						
#2	4149.4	83804.	4248.5						
#3	4106.8	84482.	4271.5						

CVAA Mercury Soil Data Review Form

K-CVAA-02

Element: Hg
 Analysis Lot #: 121720A HG2
 Starlins #: 707380
 Cal. STD/CCV Source: HG3-45-W
 Pipette IDs: U52540, HG2-5.0
 16mL Tube Lot #: P7404727
 KMnO4: HG3-45-S Expiration Date: 12/10/2021
 NH2OH-HCl/NaCl: HG3-45-N Expiration Date: 12/10/2021
 SnCl2/HCl: HG3-46-A Expiration Date: 3/6/2021

Service Request Numbers:

K2011232, K2011238, K2011246, K2011396, K2011446

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

Comments:

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

Primary Reviewed By: *JS*

Date: 12/17/20

Secondary Reviewed By: *AK*

Date: 12/17/20

Data Review Form

Instrument ID#: K-CVAA-02
DataFile Name: R:\ICPI\WIP\DATA\K-CVAA-02 (QUICKTRACE)\121720A HG2.csv
RUNNO: 707380

K2011232

No exceptions to report.

K2011238

No exceptions to report.

K2011246

No exceptions to report.

~~K2011260~~

~~No exceptions to report.~~

Re Extract 12/17/20 JH

K2011396

No exceptions to report.

K2011446

No exceptions to report.

Primary Approver: _____

Secondary Approver: _____

[Signature] 12/17/20
[Signature] 12/17/20

CVAA Hg ANALYTICAL WORKSHEET

Page 1

Method: 7471			<u>Cal. Inter. Std* (100ppb):</u> HG3-45-W <u>2nd Source Inter Std** (1ppm):</u> HG3-44-T			
Analysis For: Hg			DATA			
Pos.	SAMPLE NUMBER	Measured (µg/L)	Dilution Factor	Recoveries (ICV, CCV, LCS, MS)		Comments:
1	Cal. Blk.	0.000	~	~		
2	Std 0.2*	0.200	~	(0.10-50mL)		
3	Std 0.5*	0.500	~	(0.25-50mL)		
4	Std 1.0*	1.000	~	(0.5-50mL)		
5	Std 5.0*	5.000	~	(2.5-50mL)		
6	Std 10.0*	10.000	~	(5.0-50mL)		
7	ICV1**	5.04	~	101%		
8	ICB1	-0.01	~			
9	LLICV1*	0.209	~	105%		
10	CCV1*	5	~	100%		
11	CCB1	-0.013	~			
12	K2011260-012	-0.062	~			NOT REPORTING 12/17/2017
13	KQ2020218-01	-0.021	~			
14	KQ2020218-02	0.123	~			
15	KQ2020218-03	-0.020	~			
16	KQ2020217-01	-0.039	~			
17	KQ2020217-02 25X	4.080	25	73%		
18	K2011238-001	-0.051	~			
19	K2011238-002	-0.050	~			
20	K2011238-003	-0.041	~			
21	K2011238-004	0.001	~			
22	CCV2	4.710	~	94%		
23	CCB2	-0.010	~			
24	K2011238-005	0.028	~			
25	K2011238-006	-0.033	~			
26	K2011238-007	-0.034	~			
27	K2011238-008	-0.026	~			
28	K2011238-008A	4.900	~	98%		
29	KQ2020217-03	-0.041	~			
30	KQ2020217-04	4.860	~	97%		
31	K2011238-009	-0.031	~			
32	KQ2020215-01	-0.065	~			
Comments:						
Soil/Tissue Spike Level:						
Method	Spike Level	MRL	LCS Limit	MS Limit	RPD	Post-Spike @ 5ppb
7470A Water	5.0 µg/L	0.2 µg/L	80-120%	75-125%	20%	+/- 20%
245.1 Water	5.0 µg/L	0.2 µg/L	85-115%	70-130%	20%	+/- 20%
7470A TCLP	5.0 µg/L	1.0 µg/L	80-120%	75-125%	20%	+/- 20%
7471A Soil LCSS	7.1mg/kg	0.02 mg/kg	51-149%	80-120%	20%	+/- 20%
7471A Tissue Dorm	0.41 mg/kg	0.02 mg/kg	68-136%	80-120%	20%	+/- 20%

[121720A HG2 7471] HG1.XLS

CVAA Hg ANALYTICAL WORKSHEET

Page 2

Analysis For: Hg		DATA				
Pos.	SAMPLE NUMBER	Measured (µg/L)	Dilution Factor	Recoveries (ICV, CCV, LCS, MS)		Comments:
33	KQ2020215-02 25X	4.220	25	69%		
34	CCV3	4.460	~			BAD CURVE 12/12/2017
35	CCV3	4.720	~	94%		
36	CCB3	-0.008	~			
37	K2011232-001	0.180	~			
38	K2011232-001A	5.000	~	96%		
39	KQ2020215-03	0.156	~			
40	KQ2020215-04	4.860	~	93%		
41	K2011232-002	-0.001	~			
42	K2011232-003	-0.015	~			
43	K2011232-004	0.169	~			
44	K2011232-005	0.050	~			
45	K2011232-006	0.103	~			
46	K2011232-007	0.105	~			
47	CCV4	4.710	~	94%		
48	CCB4	-0.013	~			
49	K2011232-008	0.173	~			
50	K2011232-009	0.029	~			
51	K2011232-010	0.085	~			
52	K2011232-011	0.088	~			
53	K2011232-012	0.053	~			
54	K2011232-013	0.041	~			
55	K2011246-001	-0.059	~			
56	K2011396-001	-0.059	~			
57	K2011446-004	0.455	~			
58	KQ2020215-05	0.645	~			
59	CCV5	4.850	~	97%		
60	CCB5	-0.003	~			
61	KQ2020215-06	5.230	~	96%		
62	CCV6	4.620	~	92%		
63	CCB6	-0.004	~			
64			~			
Comments:						
Soil/Tissue Spike Level:						
Method	Spike Level	MRL	LCS Limit	MS Limit	RPD	Post-Spike @ 5ppb
7470A Water	5.0 µg/L	0.2 µg/L	80-120%	75-125%	20%	+/- 20%
245.1 Water	5.0 µg/L	0.2 µg/L	85-115%	70-130%	20%	+/- 20%
7470A TCLP	5.0 µg/L	1.0 µg/L	80-120%	75-125%	20%	+/- 20%
7471A Soil LCSS	7.1mg/kg	0.02 mg/kg	51-149%	80-120%	20%	+/- 20%
7471A Tissue Dorm	0.41 mg/kg	0.02 mg/kg	68-136%	80-120%	20%	+/- 20%

[121720A HG2 7471] HG2.XLS

Report Generated By CETAC QuickTrace

Analyst: alkls.alklsp196

Worksheet file: C:\Program Files\QuickTrace\Worksheets\121720A HG2.wsz

Date Started: 12/17/2020 8:18:34 AM

Comment:

Results

Sample Name	Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags
-------------	------	-----------	---------------	------	------	-------

Calibration Blank	STD	12/17/20 11:16:00 am	0.000	531	5.18	
Replicates			570.8 520.1 509.0 522.3			

Standard #1	STD	12/17/20 11:17:37 am	0.200	1601	1.05	
Replicates			1611.7 1602.0 1577.0 1613.1			

Standard #2	STD	12/17/20 11:19:15 am	0.500	2962	0.59	
Replicates			2968.3 2982.8 2942.4 2953.7			

Standard #3	STD	12/17/20 11:20:54 am	1.000	5599	0.90	
Replicates			5635.4 5644.1 5537.0 5580.3			

Standard #4	STD	12/17/20 11:22:33 am	5.000	23577	0.15	
Replicates			23554.0 23600.8 23612.2 23539.7			

Standard #5	STD	12/17/20 11:24:13 am	10.000	51482	0.75	
Replicates			51971.8 51583.4 51299.0 51074.5			

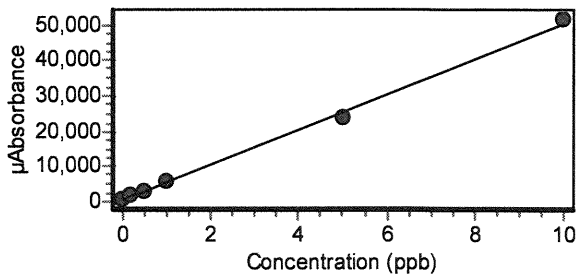
Calibration

Equation: $A = 530.555 + 4998.376C$

R2: 0.99736

SEE: 1256.6140

Flags:



ICV1	ICV	12/17/20 11:25:54 am	5.040	25710	0.17	
Replicates			25665.8 25679.8 25752.2 25741.7			
% Recovery			100.75			

ICB1	ICB	12/17/20 11:27:31 am	-0.010	482	4.20	
Replicates			479.4 500.4 454.4 492.9			

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
LLICV1					CRDL	12/17/20 11:29:08 am	0.209	1576	1.31	
Replicates	1600.1	1578.4	1549.7	1574.4						
% Recovery	104.54									
CCV1					CCV	12/17/20 11:30:47 am	5.000	25515	0.12	
Replicates	25558.0	25513.2	25489.0	25498.9						
% Recovery	99.97									
CCB1					CCB	12/17/20 11:32:24 am	-0.013	467	3.48	
Replicates	472.0	482.2	470.3	444.1						
K2011260-012					UNK	12/17/20 11:34:01 am	-0.062	222	19.04	
Replicates	200.5	199.1	285.2	202.7						
KQ2020218-01					UNK	12/17/20 11:35:37 am	-0.021	428	4.81	
Replicates	436.3	415.8	452.4	406.7						
KQ2020218-02					UNK	12/17/20 11:37:14 am	0.123	1147	1.67	
Replicates	1158.0	1120.2	1147.1	1163.4						
KQ2020218-03					UNK	12/17/20 11:38:51 am	-0.020	428	7.80	
Replicates	468.9	442.9	401.6	400.4						
KQ2020217-01					UNK	12/17/20 11:40:29 am	-0.039	337	14.57	
Replicates	270.8	382.9	363.9	331.8						
KQ2020217-02 25X					UNK	12/17/20 11:42:07 am	4.080	20907	0.04	
Replicates	20908.7	20914.6	20895.1	20908.1						
K2011238-001					UNK	12/17/20 11:43:45 am	-0.051	278	5.30	
Replicates	289.3	288.1	257.6	275.5						
K2011238-002					UNK	12/17/20 11:45:23 am	-0.050	281	10.05	
Replicates	252.8	320.1	274.7	275.7						
K2011238-003					UNK	12/17/20 11:47:01 am	-0.041	326	8.87	
Replicates	315.3	359.9	292.0	335.1						

Re Extract
12/17/20 ~~21~~

Re Extract
12/17/20 *gt*

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
K2011238-004					UNK	12/17/20 11:48:41 am	0.001	535	9.08	
Replicates	591.2	545.6	473.3	530.9						
CCV2					CCV	12/17/20 11:50:20 am	4.710	24055	0.20	
Replicates	24001.6	24061.7	24116.7	24039.8						
% Recovery	94.13									
CCB2					CCB	12/17/20 11:51:57 am	-0.010	479	9.41	
Replicates	497.6	518.8	414.8	486.5						
K2011238-005					UNK	12/17/20 11:53:36 am	0.028	671	1.52	
Replicates	679.8	667.9	677.4	657.4						
K2011238-006					UNK	12/17/20 11:55:15 am	-0.033	366	8.93	
Replicates	353.5	340.6	355.1	413.7						
K2011238-007					UNK	12/17/20 11:56:51 am	-0.034	361	9.75	
Replicates	319.3	405.5	361.7	358.5						
K2011238-008					UNK	12/17/20 11:58:28 am	-0.026	401	13.60	
Replicates	415.9	466.6	382.8	337.4						
K2011238-008A					UNK	12/17/20 12:00:04 pm	4.900	25036	0.56	
Replicates	24875.2	24969.5	25110.7	25186.9						
KQ2020217-03					UNK	12/17/20 12:01:41 pm	-0.041	325	9.98	
Replicates	358.0	281.7	321.9	338.3						
KQ2020217-04					UNK	12/17/20 12:03:18 pm	4.860	24813	0.20	
Replicates	24766.5	24823.8	24877.3	24784.4						
K2011238-009					UNK	12/17/20 12:04:55 pm	-0.031	377	14.17	
Replicates	432.1	366.9	307.5	401.4						
KQ2020215-01					UNK	12/17/20 12:06:33 pm	-0.065	205	25.47	
Replicates	244.7	145.8	176.5	252.8						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
KQ2020215-02 25X					UNK	12/17/20 12:08:11 pm	4.220	21638	0.22	
Replicates	21597.0	21676.2	21681.8	21596.4						
CCV3					CCV	12/17/20 12:09:50 pm	4.460	22804	0.43	Q
Replicates	22703.3	22780.4	22795.4	22936.8						
% Recovery	89.12									
CCV3					CCV	12/17/20 12:12:18 pm	4.720	24113	0.77	
Replicates	23865.8	24083.5	24205.6	24296.0						
% Recovery	94.36									
CCB3					CCB	12/17/20 12:13:55 pm	-0.008	491	4.31	
Replicates	522.8	482.6	478.6	480.6						
K2011232-001					UNK	12/17/20 12:15:33 pm	0.180	1430	3.00	
Replicates	1481.6	1446.5	1405.8	1385.2						
K2011232-001A					UNK	12/17/20 12:17:12 pm	5.000	25533	0.56	
Replicates	25338.3	25516.5	25636.2	25641.2						
KQ2020215-03					UNK	12/17/20 12:18:50 pm	0.156	1311	0.81	
Replicates	1312.9	1305.7	1300.2	1324.8						
KQ2020215-04					UNK	12/17/20 12:20:29 pm	4.860	24815	0.39	
Replicates	24681.3	24821.4	24847.7	24910.3						
K2011232-002					UNK	12/17/20 12:22:06 pm	-0.001	524	6.70	
Replicates	471.8	543.2	535.3	545.6						
K2011232-003					UNK	12/17/20 12:23:42 pm	-0.015	457	3.11	
Replicates	461.4	469.0	462.3	436.6						
K2011232-004					UNK	12/17/20 12:25:18 pm	0.169	1377	2.34	
Replicates	1415.2	1379.6	1375.9	1336.6						
K2011232-005					UNK	12/17/20 12:26:55 pm	0.050	781	2.79	
Replicates	774.2	784.6	755.5	807.6						

12/17/20 ✖

Sample Name				Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags
K2011232-006				UNK	12/17/20 12:28:32 pm	0.103	1047	2.30	
Replicates	1047.5	1079.1	1021.4	1039.9					
K2011232-007				UNK	12/17/20 12:30:10 pm	0.105	1054	1.81	
Replicates	1079.0	1033.3	1053.9	1048.1					
CCV4				CCV	12/17/20 12:31:49 pm	4.710	24054	1.14	
Replicates	23696.0	23994.1	24199.4	24326.2					
% Recovery	94.12								
CCB4				CCB	12/17/20 12:33:26 pm	-0.013	464	4.42	
Replicates	457.7	440.1	489.3	468.0					
K2011232-008				UNK	12/17/20 12:35:03 pm	0.173	1393	4.41	
Replicates	1436.6	1451.4	1320.3	1365.6					
K2011232-009				UNK	12/17/20 12:36:41 pm	0.029	678	6.33	
Replicates	652.5	715.1	630.1	712.6					
K2011232-010				UNK	12/17/20 12:38:20 pm	0.085	954	5.08	
Replicates	1021.4	917.6	920.0	957.6					
K2011232-011				UNK	12/17/20 12:39:58 pm	0.088	970	4.13	
Replicates	921.2	981.2	1017.2	961.3					
K2011232-012				UNK	12/17/20 12:41:37 pm	0.053	794	4.54	
Replicates	770.4	799.4	763.9	843.0					
K2011232-013				UNK	12/17/20 12:43:16 pm	0.041	738	3.09	
Replicates	766.3	730.0	742.5	712.1					
K2011246-001				UNK	12/17/20 12:44:53 pm	-0.059	237	11.06	
Replicates	268.9	206.3	229.0	242.8					
K2011396-001				UNK	12/17/20 12:46:29 pm	-0.059	236	9.77	
Replicates	206.6	247.3	229.3	259.5					

Sample Name				Type	Date/Time	Conc (ppb)	μAbs	%RSD	Flags
K2011446-004				UNK	12/17/20 12:48:05 pm	0.455	2805	0.69	
Replicates	2800.1	2796.3	2789.2	2833.0					
KQ2020215-05				UNK	12/17/20 12:49:42 pm	0.645	3753	0.84	
Replicates	3765.1	3781.3	3708.1	3758.3					
CCV5				CCV	12/17/20 12:51:22 pm	4.850	24781	1.53	
Replicates	25340.3	24682.8	24506.6	24593.6					
% Recovery	97.03								
CCB5				CCB	12/17/20 12:52:59 pm	-0.003	518	5.54	
Replicates	534.5	504.9	484.5	548.0					
KQ2020215-06				UNK	12/17/20 12:54:36 pm	5.230	26685	0.23	
Replicates	26613.2	26662.1	26760.2	26703.0					
CCV6				CCV	12/17/20 01:18:27 pm	4.620	23641	0.87	
Replicates	23419.5	23565.1	23672.6	23907.7					
% Recovery	92.47								
CCB6				CCB	12/17/20 01:20:04 pm	-0.004	511	2.50	
Replicates	495.1	526.2	509.6	512.9					

Preparation Information Benchsheet

Prep Run#: 371610
Team: Metals/JHINSON
Number of Copies to make: 1
Prep WorkFlow: HgDigs
Prep Method: Method
Status: Prepped
Prep Date/Time: 12/16/20 15:30

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	K2011260-012RE	CVAA-02	.01	7471B/Hg		Soil	0.5g	50.00mL	
2	KQ2020218-01	LODV		7471B/Hg		Solid	0.5g	50.00mL	
3	KQ2020218-02	LOQV		7471B/Hg		Solid	0.5g	50.00mL	
4	KQ2020218-03	MDL		7471B/Hg		Solid	0.5g	50.00mL	

Spiking Solutions

Name:	K-MET Hg LOD LOQ 10ug/L	Inventory ID	214530	Logbook Ref:	HG3-45-X	Expires On:	12/17/2020
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KQ2020218-01 0.25mL KQ2020218-02 1.00mL KQ2020218-03 0.25mL
Preparation Materials

K-MET 100ml Centrifuge Tube 2008043 (214320) K-MET HCl Hg 206309 (214110) K-MET HNO3 Hg 0000255830 (212644)
 K-MET/TFE Boiling chips 23047413 (190802)

Preparation Steps

Step: Weigh **Step:** Digestion
Started: 12/16/20 15:30 **Started:** 12/16/20 16:44
Finished: 12/16/20 16:00 **Finished:** 12/16/20 17:14
By: JHINSON **By:** JHINSON
Comments

Preparation Equipment

K-Block-Digester-14 Digestion IR Thermometer ID: IR03 K-Block-Digester-14 Digestion 95 deg C
 K-Block-Digester-14 Digestion Temperature Check Location 35 K-DG250A Digestion
 K-U72662 Digestion K-U52540 Digestion
 K-DG100A Digestion K-DG500A Digestion
 K-HG2-5.0 Digestion K-DG1000C Digestion

Comments: Cal Std: HG3-45-W.

Reviewed By: ABW **Date:** 12/17/20

Preparation Information Benchsheet

Prep Run#: 371610

Team: Metals/JHINSON

Number of Copies to make: 1

Prep WorkFlow: HgDigs

Prep Method: Method

Status: Draft

Prep Date/Time: 12/16/20 12:08 PM

#	Lab Code	Client ID	B#	Method / Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	K2011260-012RE	CVAA-02	.01	7471B / Hg	Soil						
2	KQ2020218-01	LODV		7471B / Hg	Solid						
3	KQ2020218-02	LOQV		7471B / Hg	Solid						
4	KQ2020218-03	MDL		7471B / Hg	Solid						

2x Extra

Comments:

Cell Std HQ3-45-u Bk 14/95/35 1644-1714

Surrogate ID:

Spike ID:

Witnessed By:

Analyst:

Assisted By:

767380

Preparation Information Benchsheet

Prep Run#: 371609
Team: Metals/JHINSON
Number of Copies to make: 1

Prep Workflow: HgDigs
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/16/20 15:55

#	Lab Code	Client ID	B#	Method / Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2020217-01	MB		7471B/Hg		Solid	0.5g	50.00mL	
2	KQ2020217-02	LCSI		7471B/Hg		Solid	0.2640g	50.00mL	
3	K2011238-001RE	SWMU10-WPA-SB2-2.0		7471B/Hg		Soil	0.5210g	50.00mL	lots rocks
4	K2011238-002RE	SWMU11-WPA-SB3-2.5	.01	7471B/Hg		Soil	0.5250g	50.00mL	
5	K2011238-003RE	SWMU11-WPA-SB50-2.5	.01	7471B/Hg		Soil	0.5460g	50.00mL	
6	K2011238-004RE	SWMU11-WPA-SB3-3.25	.01	7471B/Hg		Soil	0.6410g	50.00mL	
7	K2011238-005RE	SWMU11-WPA-SB4-1.5	.01	7471B/Hg		Soil	0.5210g	50.00mL	
8	K2011238-006RE	SWMU11-WPA-SB4-3.25	.01	7471B/Hg		Soil	0.5010g	50.00mL	
9	K2011238-007RE	SWMU11-WPA-SB4-5.75	.01	7471B/Hg		Soil	0.5070g	50.00mL	
10	K2011238-008RE	WPA-GW15-BAU-16.5	.01	7471B/Hg		Soil	0.5120g	50.00mL	
11	KQ2020217-03	K2011238-008 DUP	.01	7471B/Hg		Solid	0.5190g	50.00mL	
12	KQ2020217-04	K2011238-008 MS	.01	7471B/Hg		Solid	0.5160g	50.00mL	
13	K2011238-009RE	WPA-GW15-BAU-19.0	.01	7471B/Hg		Soil	0.5270g	50.00mL	

Spiking Solutions

Name:	K-MET SOIL CRM	Inventory ID	209985	Logbook Ref:	D107-540	Expires On:	05/09/2023
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KQ2020217-02 0.25g

Name:	K-MET Hg Source Standard 1000 ug/L	Inventory ID	214211	Logbook Ref:	HG3-44-T	Expires On:	01/01/2021
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KQ2020217-04 0.25mL

Preparation Materials

K-MET 100mL Centrifuge Tube	2008043 (214320)	K-MET HCl Hg	206309 (214110)	K-MET HNO3 Hg	0000255830 (212644)
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Preparation Steps

Step:	Weigh	Step:	Digestion
Started:	12/16/20 15:55	Started:	12/16/20 16:44
Finished:	12/16/20 16:12	Finished:	12/16/20 17:14
By:	JHINSON	By:	JHINSON
Comments		Comments	

Preparation Information Benchsheet

Prep Run#: 371609
Team: Metals/JHINSON

Prep WorkFlow: HgDigs
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/16/20 15:55

Preparation Equipment

K-Block-Digester-14	Digestion	IR Thermometer ID: IR03		K-Block-Digester-14	Digestion	Temperature	95 deg C
K-Block-Digester-14	Digestion	Temperature Check Location	35	K-Balance-37	Weight	Date Checked	12/16/2020
K-U52540	Digestion			K-DG100A	Digestion		
K-U72662	Digestion			K-DG500A	Digestion		
K-HG2-5.0	Digestion			K-DG1000C	Digestion		
K-DG250A	Digestion						

Comments: Cal Std: HG3-45-W.

Reviewed By: ARun Date: 12/17/20

Preparation Information Benchsheet

Prep Run#: 371609
Team: Metals/JHINSON
Number of Copies to make: 1

Prep Workflow: HgDigs
Prep Method: Method

Status: Draft
Prep Date/Time: 12/16/20 12:06 PM

#	Lab Code	Client ID	B#	✓	Method / Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	KQ2020217-01	MB			7471B / Hg	Solid						
2	KQ2020217-02	LCSI			7471B / Hg	Solid	0.264					
3	K2011238-001RE	SWMU10-WPA-SB2-2.0	.01		7471B / Hg	Soil	0.521					
4	KQ2020217-03	K2011238-001 DUP	.01		7471B / Hg	Solid	0.525					
5	KQ2020217-04	K2011238-001 MS	.01		7471B / Hg	Solid	0.546					
6	K2011238-002RE	SWMU11-WPA-SB3-2.5	.01		7471B / Hg	Soil	0.525					
7	K2011238-003RE	SWMU11-WPA-SB50-2.5	.01		7471B / Hg	Soil	0.546					
8	K2011238-004RE	SWMU11-WPA-SB3-3.25	.01		7471B / Hg	Soil	0.641					
9	K2011238-005RE	SWMU11-WPA-SB4-1.5	.01		7471B / Hg	Soil	0.521					
10	K2011238-006RE	SWMU11-WPA-SB4-3.25	.01		7471B / Hg	Soil	0.501					
11	K2011238-007RE	SWMU11-WPA-SB4-5.75	.01		7471B / Hg	Soil	0.507					
12	K2011238-008RE	WPA-GW15-BAU-16.5	.01		7471B / Hg	Soil	0.512					
13	K2011238-009RE	WPA-GW15-BAU-19.0	.01		7471B / Hg	Soil	0.527					

Sample - 001 has too many ^{small size} rocks, change QC to sample - 008 12/16/20
still non-homogeneous

-008 Dup 0.519
-008 MS 0.516 97

Comments: Bad 371609 155-1612 Bad SHAH3-45-10 BIK 14/95/35 1644-1714

Surrogate ID: Spike ID:

Witnessed By:

Analyst: Assisted By:

Preparation Information Benchsheet

Prep Run#: 371606
Team: Metals/JHINSON
Number of Copies to make: 4

Prep Workflow: HgDigs
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/16/20 15:20

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	KQ2020215-01	MB		7471B/Hg		Solid	0.5g	50.00mL	
2	KQ2020215-02	LCSI		7471B/Hg		Solid	0.2890g	50.00mL	
3	K2011232-001RE	SWMU31-WPA-SSA-SS-27	.01	7471B/Hg		Soil	0.5510g	50.00mL	
4	KQ2020215-03	K2011232-001 DUP	.01	7471B/Hg		Solid	0.5850g	50.00mL	
5	KQ2020215-04	K2011232-001 MS	.01	7471B/Hg		Solid	0.6060g	50.00mL	
6	K2011232-002RE	SWMU31-WPA-SSA-SS-28	.01	7471B/Hg		Soil	0.6710g	50.00mL	
7	K2011232-003RE	SWMU31-WPA-SSA-SS-29	.01	7471B/Hg		Soil	0.6550g	50.00mL	
8	K2011232-004RE	SWMU31-WPA-NESt-SS-1	.01	7471B/Hg		Soil	0.6020g	50.00mL	
9	K2011232-005RE	SWMU31-WPA-NESt-SS-2	.01	7471B/Hg		Soil	0.5290g	50.00mL	
10	K2011232-006RE	SWMU31-WPA-NESt-SS-3	.01	7471B/Hg		Soil	0.5660g	50.00mL	
11	K2011232-007RE	SWMU31-WPA-NESt-SS-4	.01	7471B/Hg		Soil	0.6730g	50.00mL	
12	K2011232-008RE	SWMU31-WPA-NESt-SS-5	.01	7471B/Hg		Soil	0.6080g	50.00mL	
13	K2011232-009RE	SWMU31-WPA-NESt-SS-6	.01	7471B/Hg		Soil	0.6790g	50.00mL	
14	K2011232-010RE	SWMU31-WPA-NESt-SS-7	.01	7471B/Hg		Soil	0.5710g	50.00mL	
15	K2011232-011RE	SWMU31-WPA-NESt-SS-52	.01	7471B/Hg		Soil	0.5560g	50.00mL	
16	K2011232-012RE	SWMU31-WPA-NESt-SS-8	.01	7471B/Hg		Soil	0.6250g	50.00mL	
17	K2011232-013RE	SWMU31-WPA-NESt-SS-9	.01	7471B/Hg		Soil	0.6220g	50.00mL	
18	K2011246-001RE	PCS	.01	7471B/Hg		Soil	0.5070g	50.00mL	
19	K2011396-001RE	IP Lime Samples 12-5-20	.01	7471B/Hg		Soil	0.6500g	50.00mL	
20	K2011446-004RE	USRBG001(0.0-0.5)-SF01	.01	7471B/Hg		Soil	0.5650g	50.00mL	
21	KQ2020215-05	K2011446-004 DUP	.01	7471B/Hg		Solid	0.7590g	50.00mL	
22	KQ2020215-06	K2011446-004 MS	.01	7471B/Hg		Solid	0.5560g	50.00mL	

Spiking Solutions

Name: K-MET SOIL CRM	Inventory ID 209985	Logbook Ref: D107-540	Expires On: 05/09/2023
KQ2020215-02 0.25g			
Name: K-MET Hg Source Standard 1000 ug/L	Inventory ID 214211	Logbook Ref: HG3-44-T	Expires On: 01/01/2021
KQ2020215-04 0.25mL KQ2020215-06 0.25mL			

Preparation Materials

K-MET 100ml Centrifuge Tube 2008043 (214320)	K-MET HCl Hg 206309 (214110)	K-MET HNO3 Hg 0000255830 (212644)
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Preparation Information Benchsheet

Prep Run#: 371606
Team: Metals/JHINSON

Prep WorkFlow: HgDigs
Prep Method: Method

Status: Prepped
Prep Date/Time: 12/16/20 15:20

Preparation Steps

Step:	Weigh	Step:	Digestion
Started:	12/16/20 15:20	Started:	12/16/20 16:49
Finished:	12/16/20 15:37	Finished:	12/16/20 17:19
By:	JHINSON	By:	JHINSON
Comments			

Preparation Equipment

K-BlockDigester-15	Digestion	IR Thermometer ID: IR03		K-BlockDigester-15	Digestion	Temperature	95 deg C
K-BlockDigester-15	Digestion	Temperature Check Location	35	K-Balance-37	Weigh	Date Checked	12/16/2020
K-U72662	Digestion			K-DG1000C	Digestion		
K-DG500A	Digestion			K-DG250A	Digestion		
K-U52540	Digestion			K-DG100A	Digestion		
K-HG2-5.0	Digestion						

Comments: Cal Std: HG3-45-W.

Reviewed By: AFM Date: 12/17/20

Preparation Information Benchsheet

Prep Run#: 371606

Team: Metals/JHINSON

Number of Copies to make: 4

Prep Workflow: HgDigs

Prep Method: Method

Status: Draft

Prep Date/Time: 12/16/20 12:02 PM

#	Lab Code	Client ID	B#	Method /Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	KQ2020215-01	MB		7471B /Hg	Solid						
2	KQ2020215-02	LCSI		7471B /Hg	Solid	0.289					
3	K2011232-001RE	SWMU31-WPA-SSA-SS-27	.01	7471B /Hg	Soil	0.551					
4	KQ2020215-03	K2011232-001 DUP	.01	7471B /Hg	Solid	0.585					
5	KQ2020215-04	K2011232-001 MS	.01	7471B /Hg	Solid	0.606					
6	K2011232-002RE	SWMU31-WPA-SSA-SS-28	.01	7471B /Hg	Soil	0.671					
7	K2011232-003RE	SWMU31-WPA-SSA-SS-29	.01	7471B /Hg	Soil	0.655					
8	K2011232-004RE	SWMU31-WPA-NEST-SS-1	.01	7471B /Hg	Soil	0.602					
9	K2011232-005RE	SWMU31-WPA-NEST-SS-2	.01	7471B /Hg	Soil	0.529					
10	K2011232-006RE	SWMU31-WPA-NEST-SS-3	.01	7471B /Hg	Soil	0.566					
11	K2011232-007RE	SWMU31-WPA-NEST-SS-4	.01	7471B /Hg	Soil	0.673					
12	K2011232-008RE	SWMU31-WPA-NEST-SS-5	.01	7471B /Hg	Soil	0.608					
13	K2011232-009RE	SWMU31-WPA-NEST-SS-6	.01	7471B /Hg	Soil	0.679					
14	K2011232-010RE	SWMU31-WPA-NEST-SS-7	.01	7471B /Hg	Soil	0.571					
15	K2011232-011RE	SWMU31-WPA-NEST-SS-52	.01	7471B /Hg	Soil	0.556					
16	K2011232-012RE	SWMU31-WPA-NEST-SS-8	.01	7471B /Hg	Soil	0.625					
17	K2011232-013RE	SWMU31-WPA-NEST-SS-9	.01	7471B /Hg	Soil	0.622					
18	K2011246-001RE	PCS	.01	7471B /Hg	Soil	0.507					
19	K2011396-001RE	IP Lime Samples 12-5-20	.01	7471B /Hg	Soil	0.650					
20	K2011446-004RE	USRBG001(0.0-0.5)-SP01	.01	7471B /Hg	Soil	0.565					
21	KQ2020215-05	K2011446-004 DUP	.01	7471B /Hg	Solid	0.759					
22	KQ2020215-06	K2011446-004 MS	.01	7471B /Hg	Solid	0.556					

Page 201 of 1229

Comments:

Lab 371606 12/16/20 15:20-15:37 Gold Std Hg3-45-00 Bk 15/95/35 1649-1719

Surrogate ID:

Spike ID:

Witnessed By:

Analyst:

Assisted By:



Semivolatile Range Organics by GC/FID

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 371208

Team: Semivoa GC/WVANDERHOFF

Number of Copies to make: 1

Prep Workflow: OrgExIS(14)

Prep Method: EPA 3550B

Status: Prepped

Prep Date/Time: 12/15/20 14:04

EEV 12-16-20

#	Lab Code	Client ID	B#	Method / Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	K2011446-001	DSL BG003(0.0-0.5)-SP01	.01	8015C/DRO RRO		Soil	30.022g	10.00mL	LMORTENSEN K-BALANCE-48
2	K2011446-002	DSL BG003(0.0-0.5)-SP02	.01	8015C/DRO RRO		Soil	30.067g	10.00mL	LMORTENSEN K-BALANCE-48
3	K2011446-003	DSL BC002(0-1.3)-SP01	.01	8015C/DRO RRO		Soil	30.032g	10.00mL	LMORTENSEN K-BALANCE-48
4	K2011446-004	USRBG001(0.0-0.5)-SP01	.01	8015C/DRO RRO		Soil	30.008g	10.00mL	LMORTENSEN K-BALANCE-48
5	K2011446-005	DSL BG007(0.0-0.5)-SP01	.01	8015C/DRO RRO		Soil	30.055g	10.00mL	LMORTENSEN K-BALANCE-48
6	K2011446-006	DSRBC008(0.0-1.25)-SP01	.01	8015C/DRO RRO		Soil	30.046g	10.00mL	LMORTENSEN K-BALANCE-48
7	KQ2019720-01	K2011446-004 MS	.01	8015C/DRO RRO		Solid	30.037g	10.00mL	LMORTENSEN K-BALANCE-48
8	KQ2019720-02	K2011446-004 DMS	.01	8015C/DRO RRO		Solid	30.067g	10.00mL	LMORTENSEN K-BALANCE-48
9	KQ2019720-03	LCS		8015C/DRO RRO		Solid	30g	10.00mL	
10	KQ2019720-04	MB		8015C/DRO RRO		Solid	30.0670g	10.00mL	

Spiking Solutions

Name: SVF-DRO/RRO MS	Inventory ID 212413	Logbook Ref: SVF03-03A	Expires On: 03/09/2021
KQ2019720-01 500.00µL	KQ2019720-02 500.00µL	KQ2019720-03 500.00µL	
Name: SVF-DRO/RRO SURR	Inventory ID 214155	Logbook Ref: SVF03-07F	Expires On: 05/19/2021

K2011446-001 500.00µL	K2011446-002 500.00µL	K2011446-003 500.00µL	K2011446-004 500.00µL	K2011446-005 500.00µL	K2011446-006 500.00µL
KQ2019720-01 500.00µL	KQ2019720-02 500.00µL	KQ2019720-03 500.00µL	KQ2019720-04 500.00µL		

Preparation Steps

Step:	Weight	Step:	Extraction	Step:	Final Volume
Started:	12/9/20 08:33	Started:	12/15/20 14:04	Started:	12/15/20 14:30
Finished:	12/15/20 13:05	Finished:	12/15/20 15:20	Finished:	12/15/20 16:41
By:	WVANDERHOFF	By:	WVANDERHOFF	By:	WVANDERHOFF
Comments		Comments		Comments	

Comments: Hagrid (A1-A10)

Reviewed By: WVANDERHOFF Date: 12-16-20

Preparation Information Benchsheet

Prep Run#: 371208
Team: Senivoa GC/WVANDERHOFF

Prep WorkFlow: OrgExtS(14)
Prep Method: EPA 3550B

Status: Prepped
Prep Date/Time: ~~12-15-20 08:33~~
12-15-20 14:04
EE TP 12-16-20

Chain of Custody

Relinquished By: <u>Erin West</u>	Date: <u>12-15-2020</u>	Extracts Examined <input checked="" type="radio"/> Yes <input type="radio"/> No
Received By: <u>[Signature]</u>	Date: <u>12-16-20</u>	

Pre-Prep Information Benchsheet

Prep Run #: 371208

Container Lot No: 110920-1BNU

Prep Due Date: Dec-11-2020

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2011446-001	.01	DRO RRO : 8015C/	30.022g		LMORTENSEN K-BALANCE-48
2	K2011446-002	.01	DRO RRO : 8015C/	30.067g		LMORTENSEN K-BALANCE-48
3	K2011446-003	.01	DRO RRO : 8015C/	30.032g		LMORTENSEN K-BALANCE-48
4	K2011446-004	.01	DRO RRO : 8015C/	30.008g		LMORTENSEN K-BALANCE-48
5	K2011446-004 MS KQ2019720-01	.01	DRO RRO : 8015C/	30.037g		LMORTENSEN K-BALANCE-48
6	K2011446-004 DMS KQ2019720-02	.01	DRO RRO : 8015C/	30.067g		LMORTENSEN K-BALANCE-48
7	K2011446-005	.01	DRO RRO : 8015C/	30.055g		LMORTENSEN K-BALANCE-48
8	K2011446-006	.01	DRO RRO : 8015C/	30.046g		LMORTENSEN K-BALANCE-48

Relinquished By: <i>Lu</i>	Date/Time: 12/9/20 8:37	Received By: <i>[Signature]</i>	Date/Time: 12/9/20 11:00
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**ALS Environmental
Extraction Analyst Notes**

Service Request: K2011446

Prep Group: 341208

Topic	Notes	Initials/Date
No Anomalies: <input type="checkbox"/>		
Sample Anomalies: <input type="checkbox"/>		
Organics Present (sticks, leaves, bugs): <input type="checkbox"/>		
Fuel Odors: <input type="checkbox"/>		
Sulfur Odors, Precipitate: <input type="checkbox"/>		
General Notes:		

ALS Environmental

Appendix from EXT-3550 Extracting Hydrocarbons in Soil
EPA Method 3550B

Service Request # K2011446 Work Group # KQ2019720

Clean-Up Work Group # —

DCM Lot # 299200 Sulfate Lot # 2020030385 Matrix Lot # 012418 Glass Wool Lot # 21311999

Sonic Horns Tuned (date/initial): 12-15-20 WJ

Extraction Start (time/date/initial): 14:04 / 12/15/2020 EW WJ

Extraction Stop (time/date/initial): 15:20 12-15-20 WJ

S-Evap (time/date/initial): 14:30 12-15-20 WJ S-Evap Thermometer ID: Ext 001

Temp as measured: 15 °C Correction factor: 0.0 °C Adjusted temp: 15 °C

N-Evap (time/date/initial): — N-Evap Thermometer ID: —

Temp as measured: — °C Correction factor: — °C Adjusted temp: — °C

Pipette (5 mL) Lot # 04428647

Sulfuric Acid Clean-up (3665) (time/date/initial): — Acid Lot #: —

Silica Gel Clean-up (3630) (time/date/initial): — Silica Gel Lot #: —

Pipette (1 mL) Lot # —

Vial clear w/ fuel cap Vial Storage: bagged

Clean-up Vial Storage: —

Archived Extract Storage: cowlick

Bench Sheet Review Check List

<input checked="" type="checkbox"/>	Hold times met; if no, reason: <u>—</u>
<input checked="" type="checkbox"/>	Prep date, time, method, department, product code correct
<input checked="" type="checkbox"/>	Spike information and Q.C. correct (insufficient volume or mass recorded if no Q.C.)
<input checked="" type="checkbox"/>	Weights/Volumes and units correct on raw and final bench sheets
<input checked="" type="checkbox"/>	Sample IDs have been checked - bottle numbers appended if required
<input checked="" type="checkbox"/>	Names present for: started by, completed by, relinquished by, and witnessed by
<input checked="" type="checkbox"/>	Extract storage recorded
<input checked="" type="checkbox"/>	Additional prep sheet completely filled out (NA or line out blanks)
<input checked="" type="checkbox"/>	All clean-ups have been noted on additional prep sheet

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F193.D\
Lab ID: K2011446-001
RunType: N/A
Matrix: Soil

Date Acquired: 12/18/20 00:48:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F193.D\	Instrument:	K-GC-21
Acqu Date:	12/18/20 00:48:00	Vial:	11
Run Type:	N/A	Dilution:	1
Lab ID:	K2011446-001	Raw Units:	ppm

Bottle ID:	K2011446-001.01	Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:	371208	Report Group:	K2011446
Analysis	8015C	Prep Method:	EPA 3550B		
		Prep Date:	12/15/20		

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	5.57		39403	22.659	91	51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		507680	345.706	390	H	Y

Prep Amount: 30.022 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 29.90

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

Printed: 12/22/20 9:49

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\GC21\DATA\121620F\1216F193.D Vial: 26
 Acq On : 18 Dec 2020 12:48 am Operator: TAP
 Sample : K2011446-001 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:34:58 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

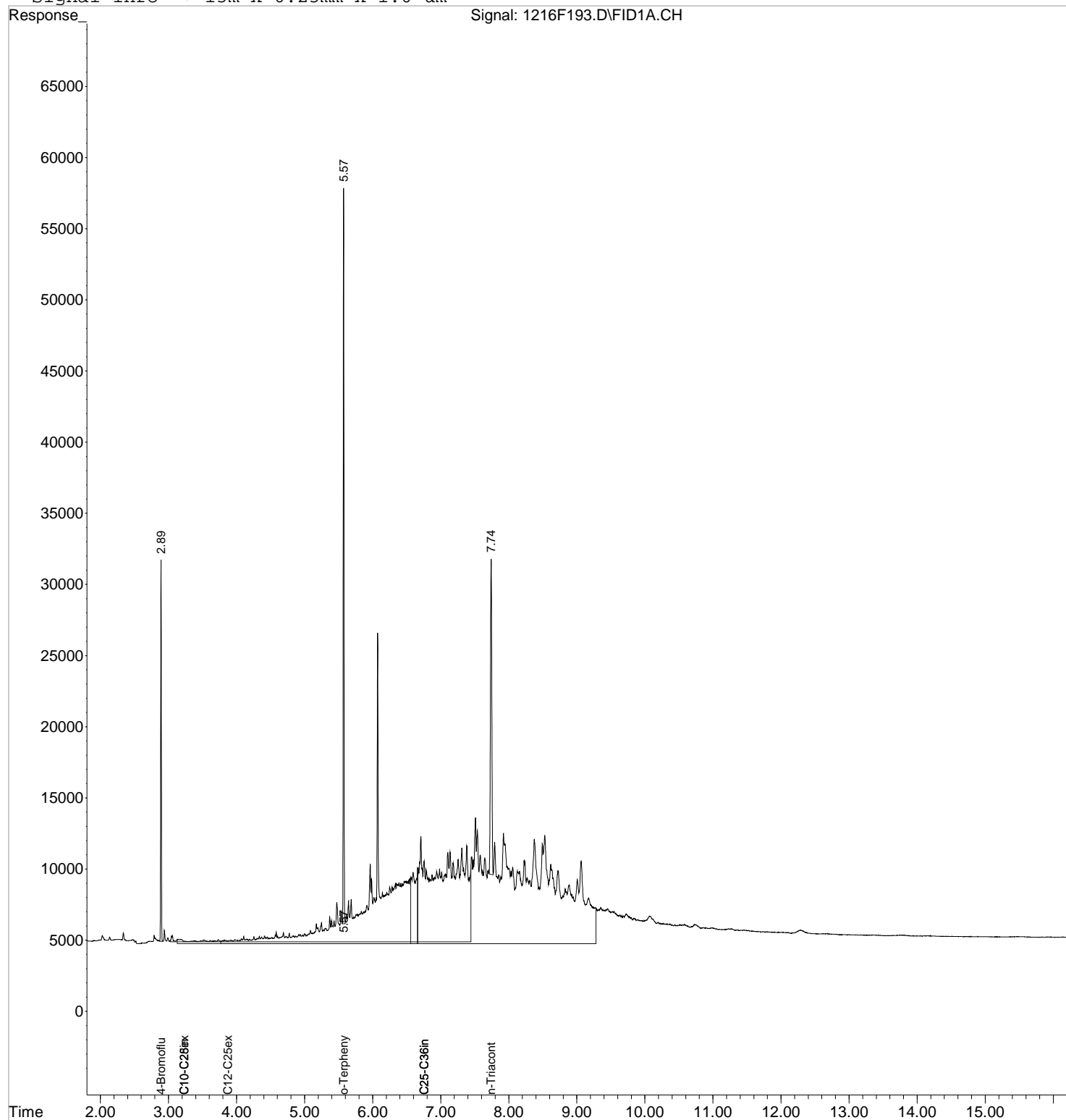
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	18137	20.098 ppm
Spiked Amount 50.000	Recovery	=	40.20%
2) S o-Terphenyl	5.57	39403	22.659 ppm
Spiked Amount 50.000	Recovery	=	45.32%
3) S n-Triacontane	7.74	31183	20.807 ppm
Spiked Amount 50.000	Recovery	=	41.61%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	304090	214.207 ppm
7) H C10-C28in DRO [8015]	3.23	507680	345.706 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	296516	247.495 ppm
10) H C25-C36in RRO [NWTPH]	6.76	754396	840.590 ppm
11) H C25-C36in RRO [AK103]	6.76	781965	993.310 ppm

Data File : J:\GC21\DATA\121620F\1216F193.D Vial: 26
Acq On : 18 Dec 2020 12:48 am Operator: TAP
Sample : K2011446-001 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:35 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\121620F\1216F193.D

Vial: 26

Acq On : 18 Dec 2020 12:48 am

Operator: TAP

Sample : K2011446-001

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

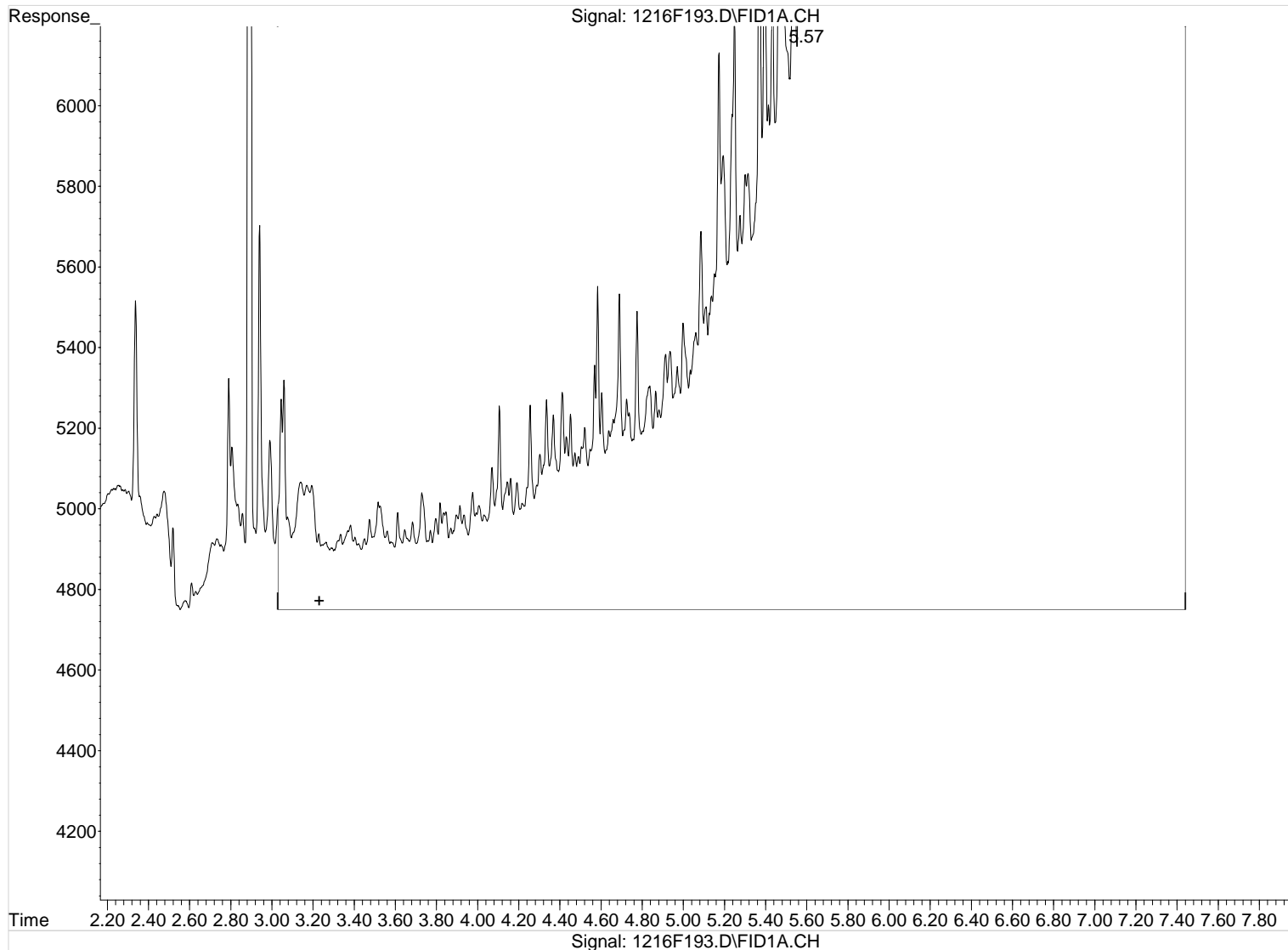
Quant Time: Dec 18 16:34 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 370.389ppm

Before

response 543929

12/18/20

Data File : J:\GC21\DATA\121620F\1216F193.D

Vial: 26

Acq On : 18 Dec 2020 12:48 am

Operator: TAP

Sample : K2011446-001

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

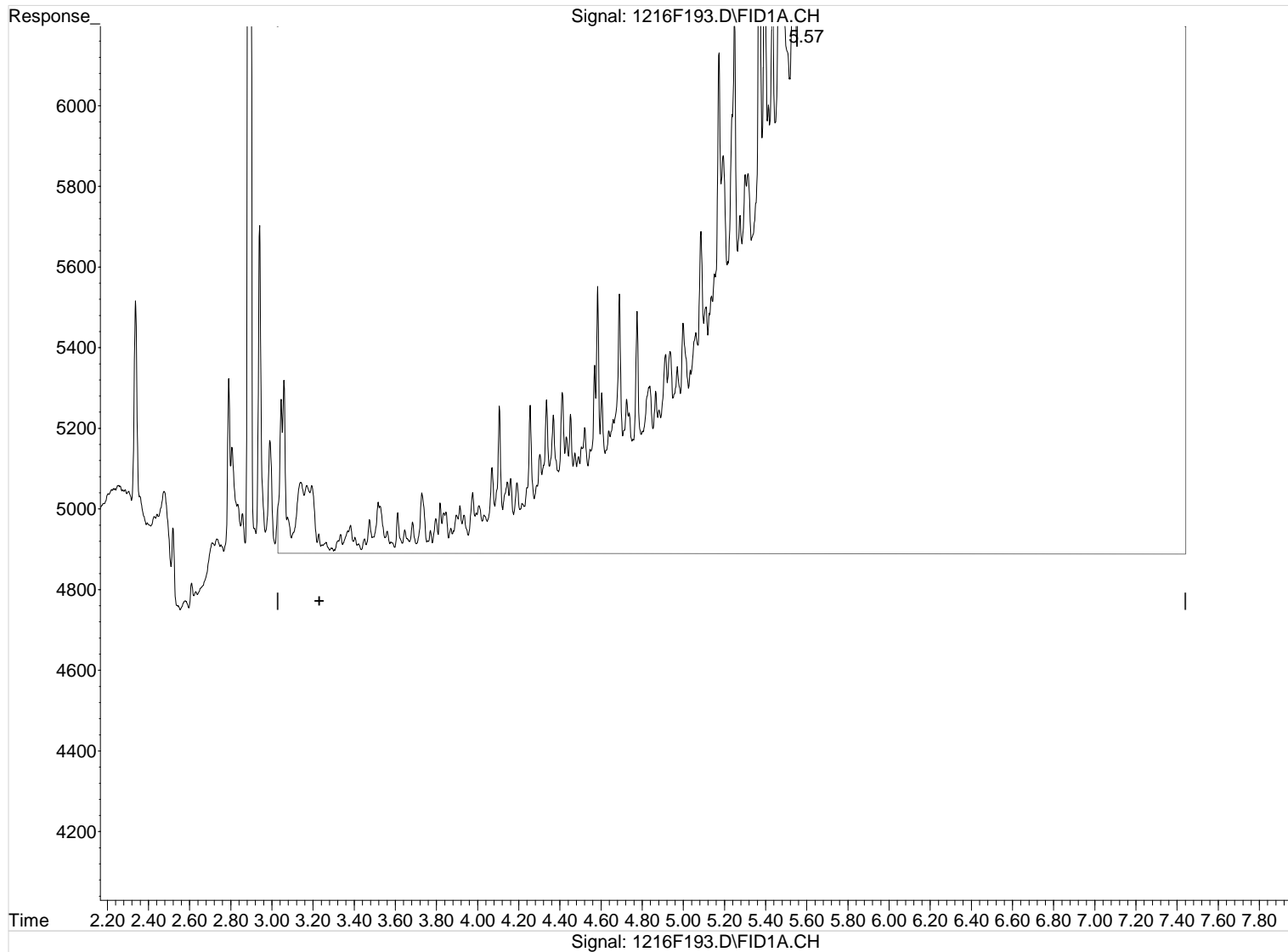
Quant Time: Dec 18 16:34 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 345.706ppm

After

response 507680

Baseline/Shoulder

12/18/20

(+) = Expected Retention Time

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F187.D\
Lab ID: K2011446-002
RunType: N/A
Matrix: Soil

Date Acquired: 12/17/20 22:34:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F187.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 22:34:00	Vial:	12
Run Type:	N/A	Dilution:	1
Lab ID:	K2011446-002	Raw Units:	ppm

Bottle ID:	K2011446-002.01	Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:	371208	Report Group:	K2011446
Analysis	8015C	Prep Method:	EPA 3550B		
		Prep Date:	12/15/20		

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	5.57		44502	25.592	102	51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		284108	193.464	220	H	Y

Prep Amount: 30.067 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 29.20

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

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Data File : J:\GC21\DATA\121620F\1216F187.D Vial: 20
 Acq On : 17 Dec 2020 10:34 pm Operator: TAP
 Sample : K2011446-002 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:31:37 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

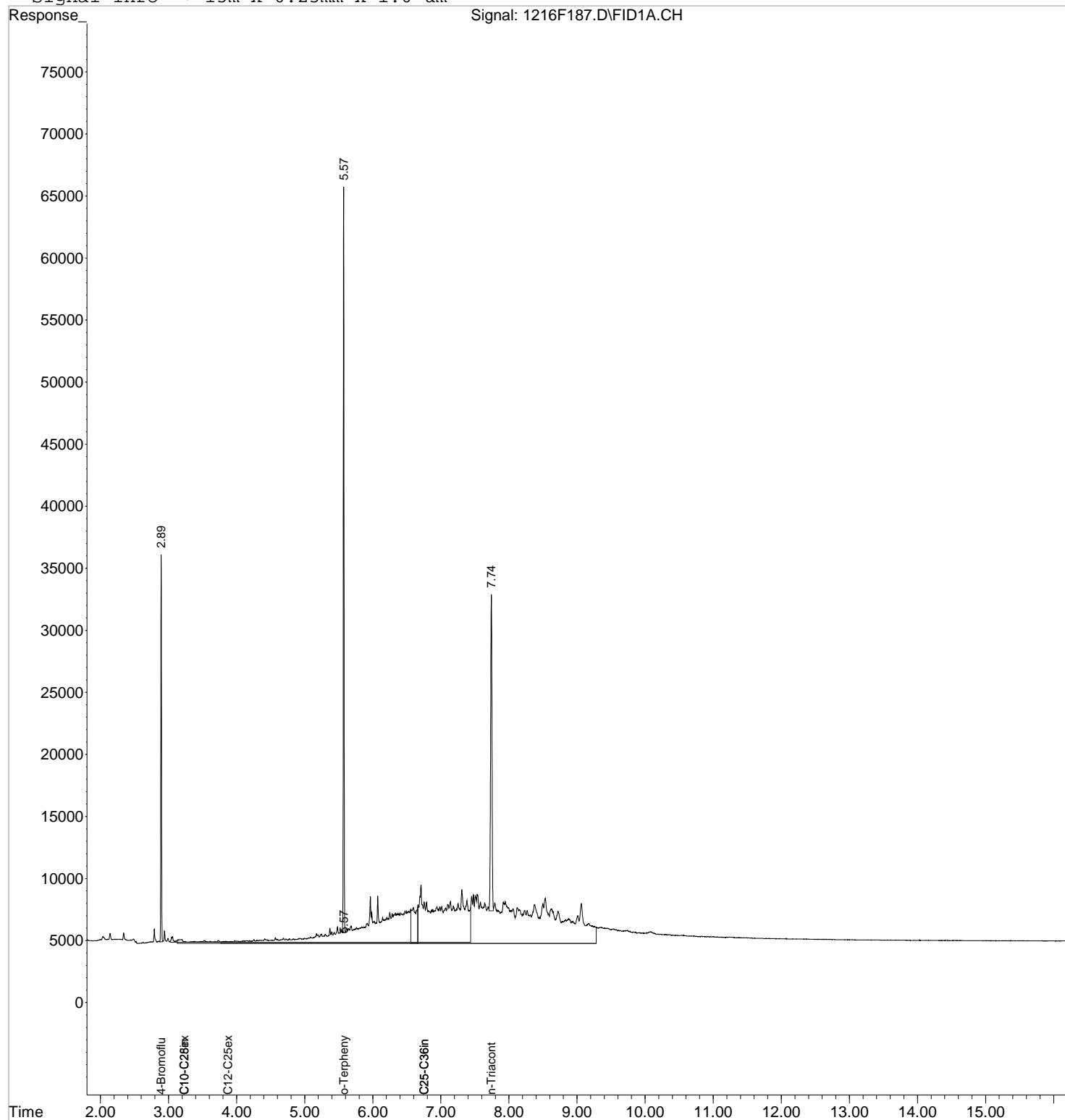
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	21685	24.030 ppm
Spiked Amount 50.000	Recovery	=	48.06%
2) S o-Terphenyl	5.57	44502	25.592 ppm
Spiked Amount 50.000	Recovery	=	51.18%
3) S n-Triacontane	7.74	35900	23.954 ppm
Spiked Amount 50.000	Recovery	=	47.91%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	173159	121.976 ppm
7) H C10-C28in DRO [8015]	3.23	284108	193.464 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	166811	139.233 ppm
10) H C25-C36in RRO [NWTPH]	6.76	406239	452.654 ppm
11) H C25-C36in RRO [AK103]	6.76	422198	536.307 ppm

Data File : J:\GC21\DATA\121620F\1216F187.D Vial: 20
Acq On : 17 Dec 2020 10:34 pm Operator: TAP
Sample : K2011446-002 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:32 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\121620F\1216F187.D

Vial: 20

Acq On : 17 Dec 2020 10:34 pm

Operator: TAP

Sample : K2011446-002

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

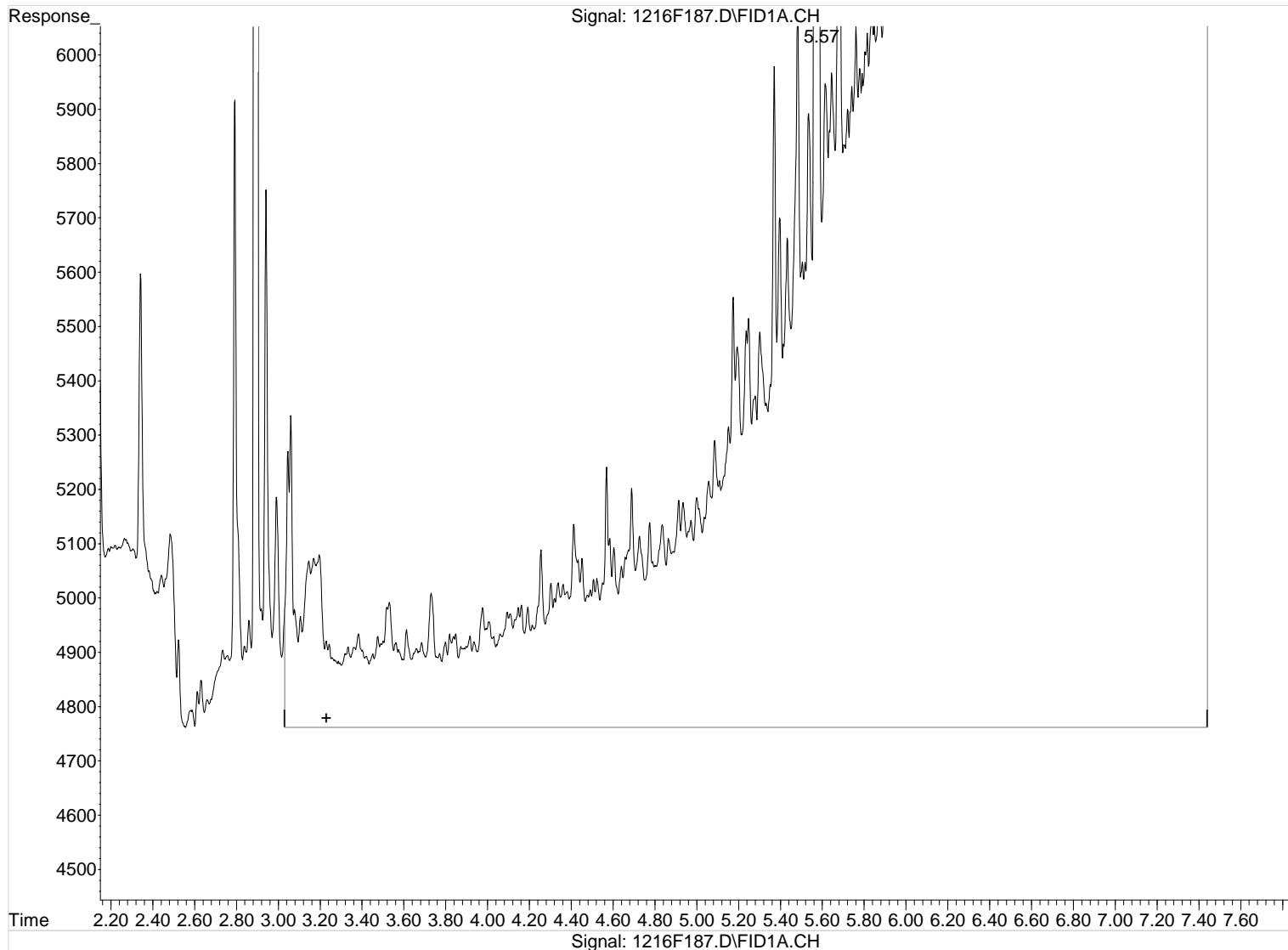
Quant Time: Dec 18 16:31 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 212.037ppm

Before

response 311383

12/18/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\121620F\1216F187.D

Vial: 20

Acq On : 17 Dec 2020 10:34 pm

Operator: TAP

Sample : K2011446-002

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

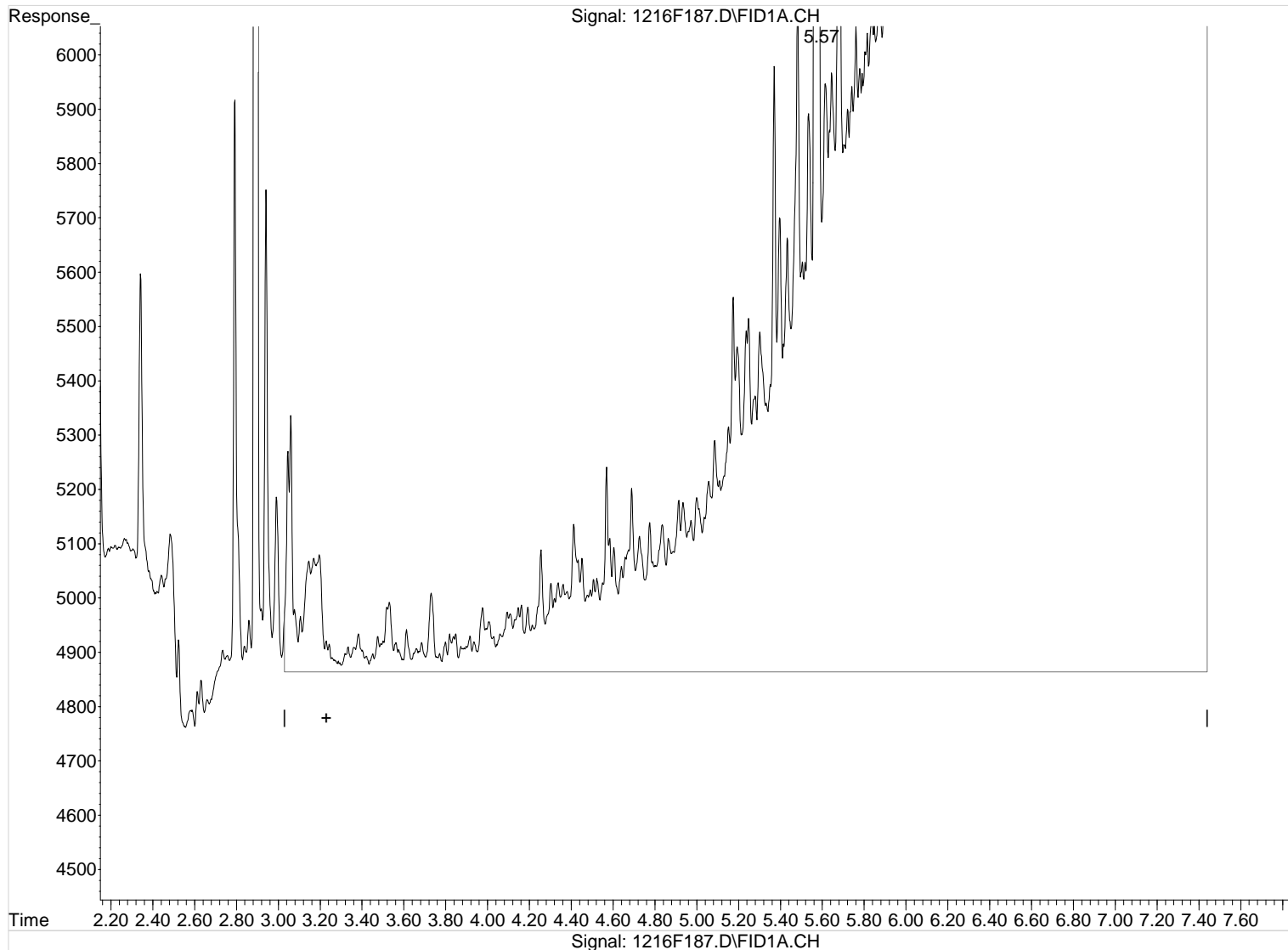
Quant Time: Dec 18 16:31 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 193.464ppm

After

response 284108

Baseline/Shoulder

12/18/20

(+) = Expected Retention Time

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F194.D\
Lab ID: K2011446-003
RunType: N/A
Matrix: Soil

Date Acquired: 12/18/20 01:10:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F194.D\	Instrument:	K-GC-21
Acqu Date:	12/18/20 01:10:00	Vial:	13
Run Type:	N/A	Dilution:	1
Lab ID:	K2011446-003	Raw Units:	ppm

Bottle ID:	K2011446-003.01	Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:	371208	Report Group:	K2011446
Analysis	8015C	Prep Method:	EPA 3550B		
		Prep Date:	12/15/20		

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	5.57		38312	22.032	88	51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		509171	346.721	360	H	Y

Prep Amount: 30.032 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 32.00

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

Printed: 12/22/20 9:49

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Data File : J:\GC21\DATA\121620F\1216F194.D Vial: 27
 Acq On : 18 Dec 2020 1:10 am Operator: TAP
 Sample : K2011446-003 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:35:24 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

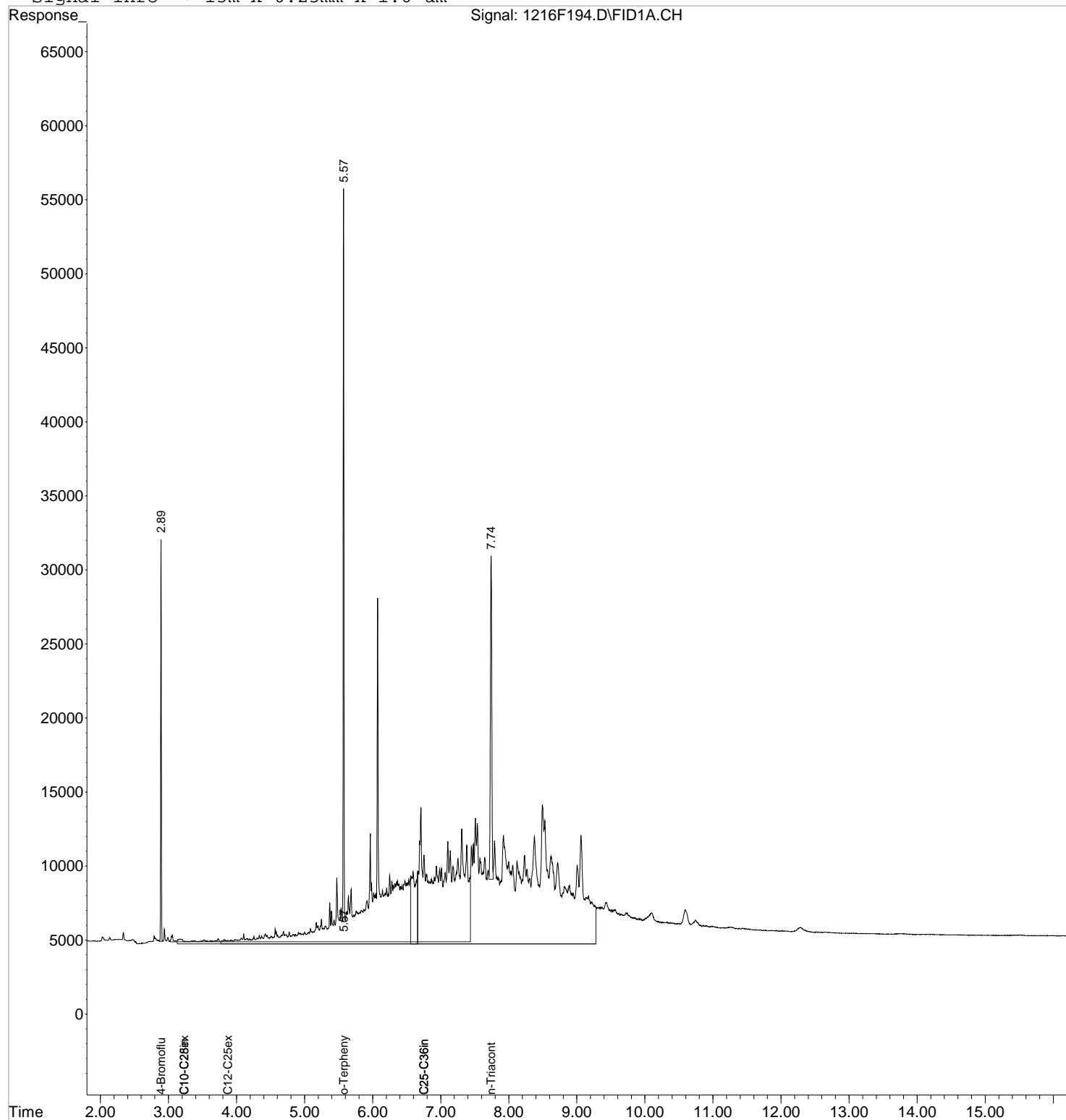
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	18037	19.988 ppm
Spiked Amount 50.000	Recovery	=	39.98%
2) S o-Terphenyl	5.57	38312	22.032 ppm
Spiked Amount 50.000	Recovery	=	44.06%
3) S n-Triacontane	7.74	31198	20.817 ppm
Spiked Amount 50.000	Recovery	=	41.63%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	313893	221.112 ppm
7) H C10-C28in DRO [8015]	3.23	509171	346.721 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	306280	255.644 ppm
10) H C25-C36in RRO [NWTPH]	6.76	754030	840.182 ppm
11) H C25-C36in RRO [AK103]	6.76	780014	990.832 ppm

Data File : J:\GC21\DATA\121620F\1216F194.D Vial: 27
Acq On : 18 Dec 2020 1:10 am Operator: TAP
Sample : K2011446-003 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:35 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\121620F\1216F194.D

Vial: 27

Acq On : 18 Dec 2020 1:10 am

Operator: TAP

Sample : K2011446-003

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

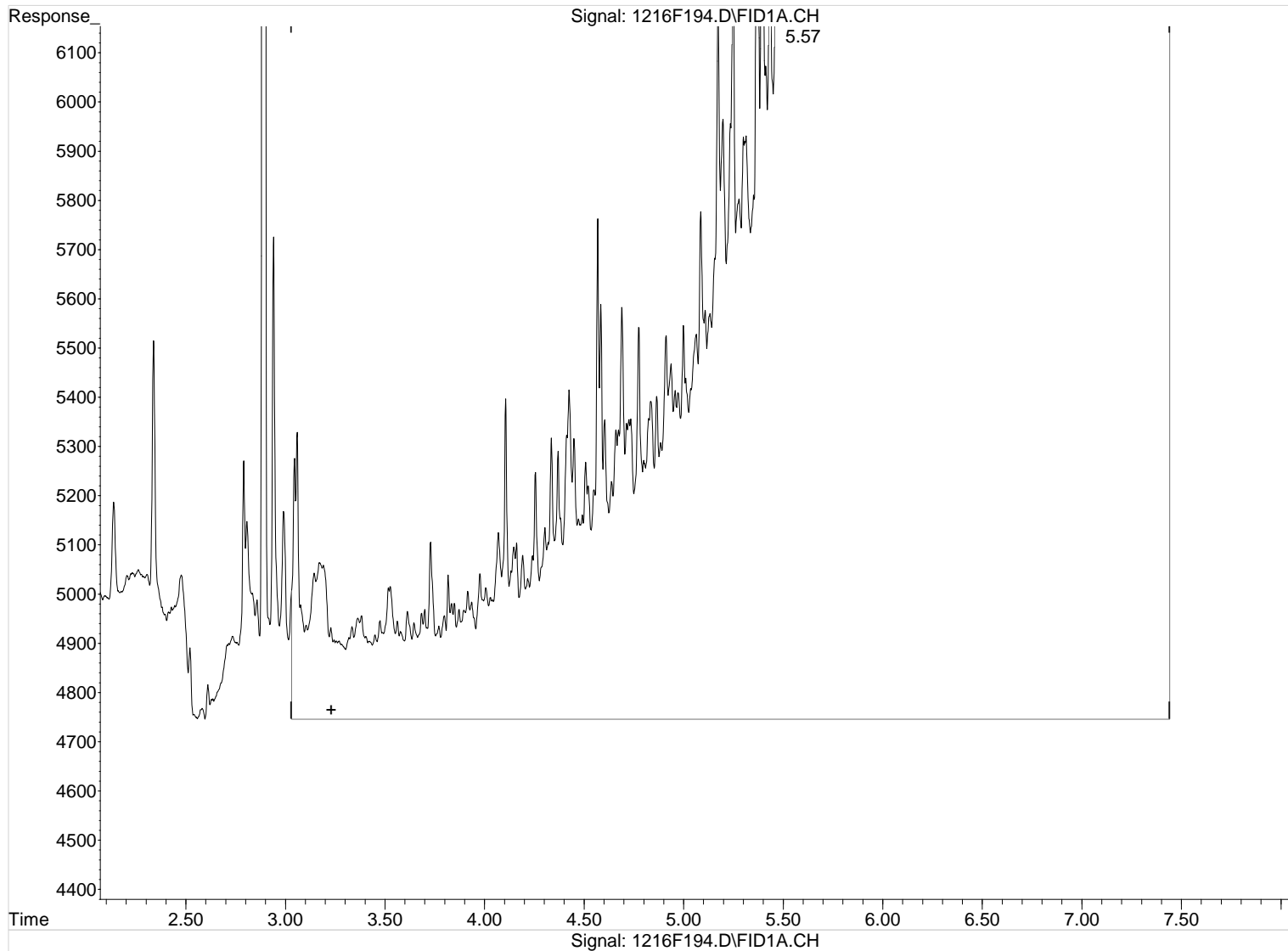
Quant Time: Dec 18 16:35 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 372.044ppm

Before

response 546359

12/18/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\121620F\1216F194.D

Vial: 27

Acq On : 18 Dec 2020 1:10 am

Operator: TAP

Sample : K2011446-003

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

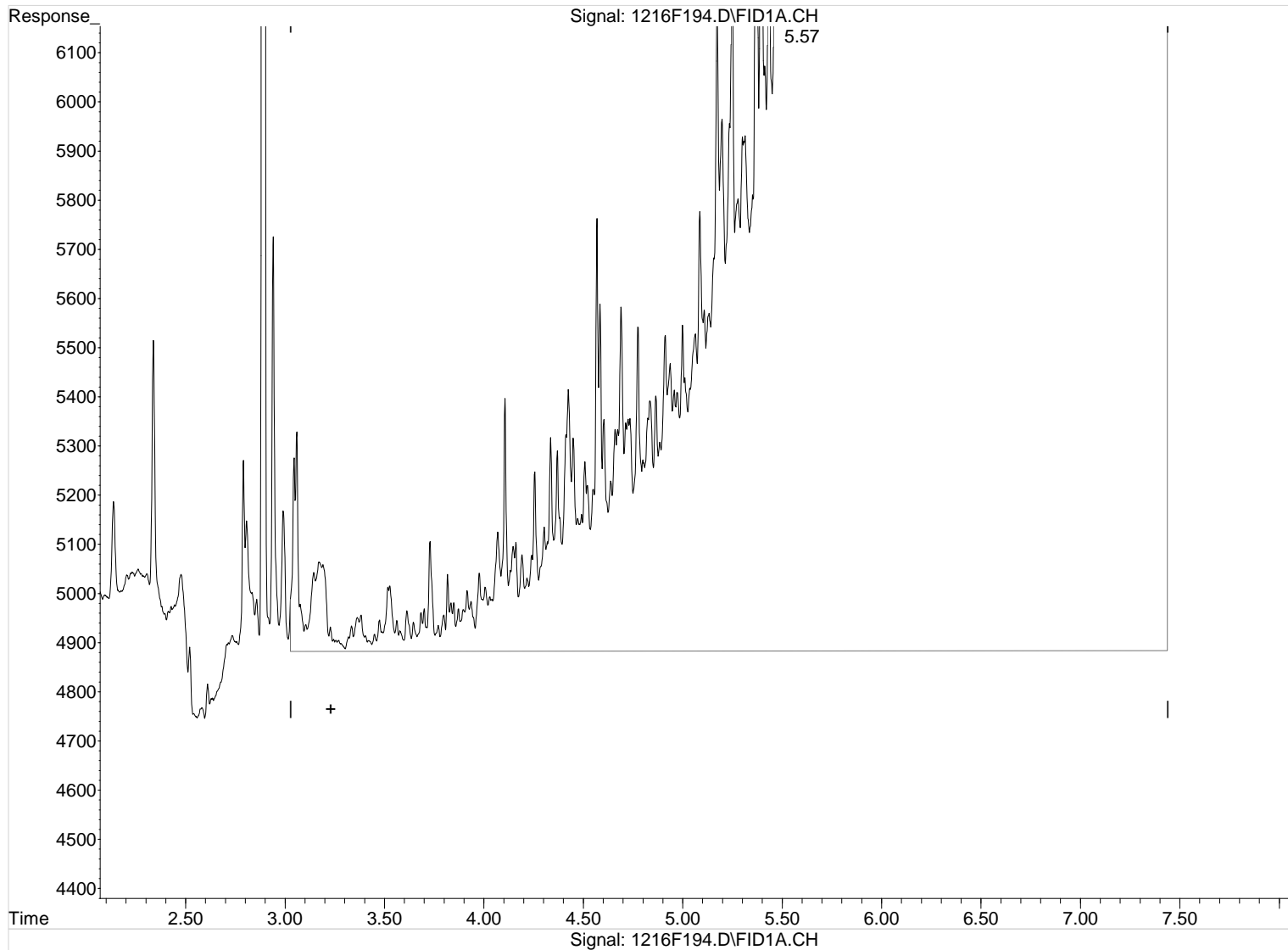
Quant Time: Dec 18 16:35 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 346.721ppm

After

response 509171

Baseline/Shoulder

12/18/20

(+) = Expected Retention Time

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F188.D\
Lab ID: K2011446-004
RunType: N/A
Matrix: Soil

Date Acquired: 12/17/20 22:57:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F188.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 22:57:00	Vial:	14
Run Type:	N/A	Dilution:	1
Lab ID:	K2011446-004	Raw Units:	ppm

Bottle ID:	K2011446-004.01	Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/3/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:	371208	Report Group:	K2011446
Analysis	8015C	Prep Method:	EPA 3550B		
		Prep Date:	12/15/20		

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	5.57		47048	27.056	108	51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		185530	126.337	89	H	Y

Prep Amount: 30.008 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 47.40

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

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Data File : J:\GC21\DATA\121620F\1216F188.D Vial: 21
 Acq On : 17 Dec 2020 10:57 pm Operator: TAP
 Sample : K2011446-004 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:32:45 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

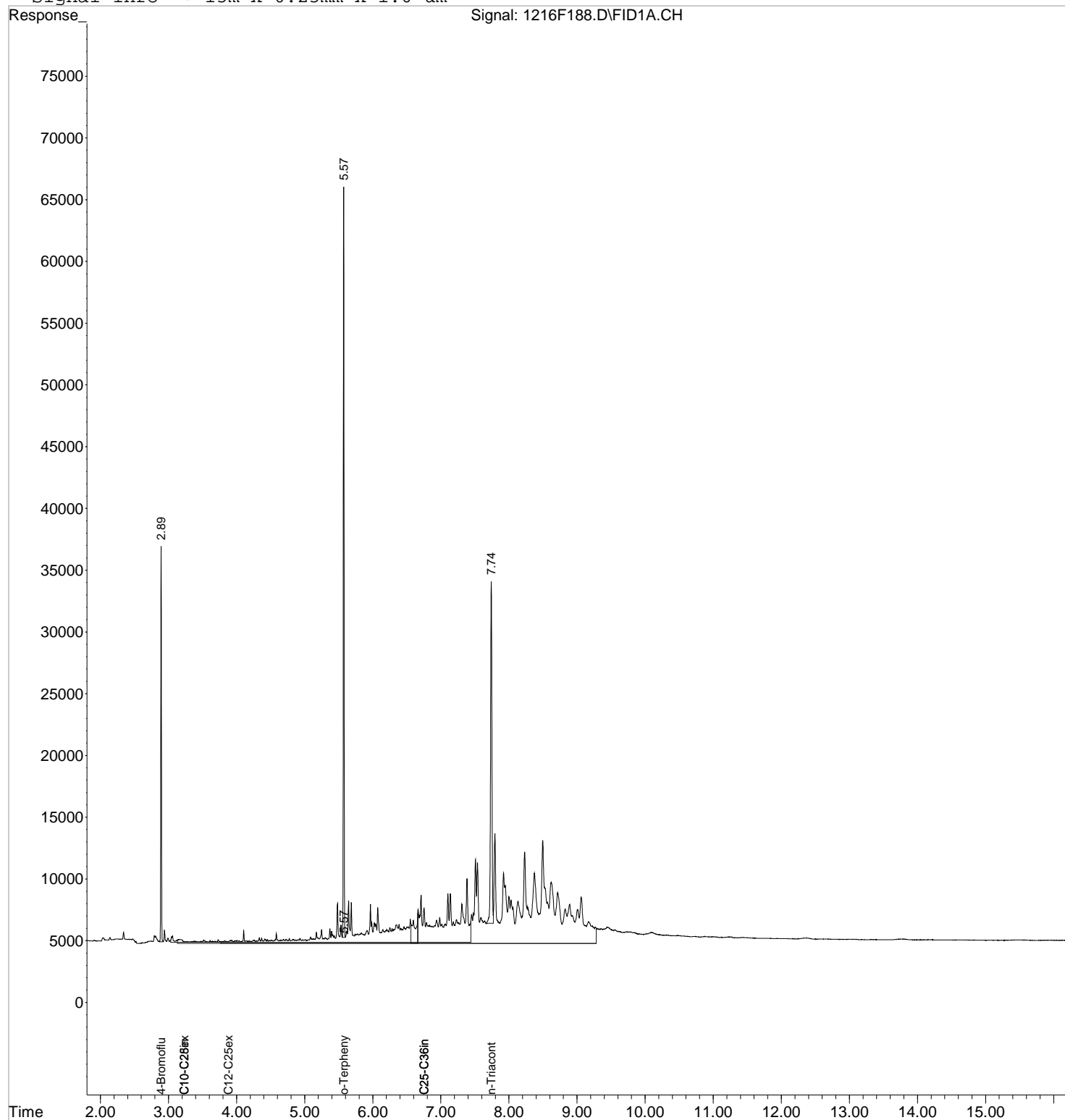
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	21502	23.827 ppm
Spiked Amount 50.000	Recovery	=	47.65%
2) S o-Terphenyl	5.57	47048	27.056 ppm
Spiked Amount 50.000	Recovery	=	54.11%
3) S n-Triacontane	7.74	38355	25.592 ppm
Spiked Amount 50.000	Recovery	=	51.18%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	121872	85.849 ppm
7) H C10-C28in DRO [8015]	3.23	185530	126.337 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	115002	95.989 ppm
10) H C25-C36in RRO [NWTPH]	6.76	405935	452.315 ppm
11) H C25-C36in RRO [AK103]	6.76	414751	526.848 ppm

Data File : J:\GC21\DATA\121620F\1216F188.D Vial: 21
Acq On : 17 Dec 2020 10:57 pm Operator: TAP
Sample : K2011446-004 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:33 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\121620F\1216F188.D

Acq On : 17 Dec 2020 10:57 pm

Sample : K2011446-004

Misc :

IntFile : rteint.p

Quant Time: Dec 18 16:32 2020 Quant Results File: 113020F.RES

Vial: 21

Operator: TAP

Inst : GC21

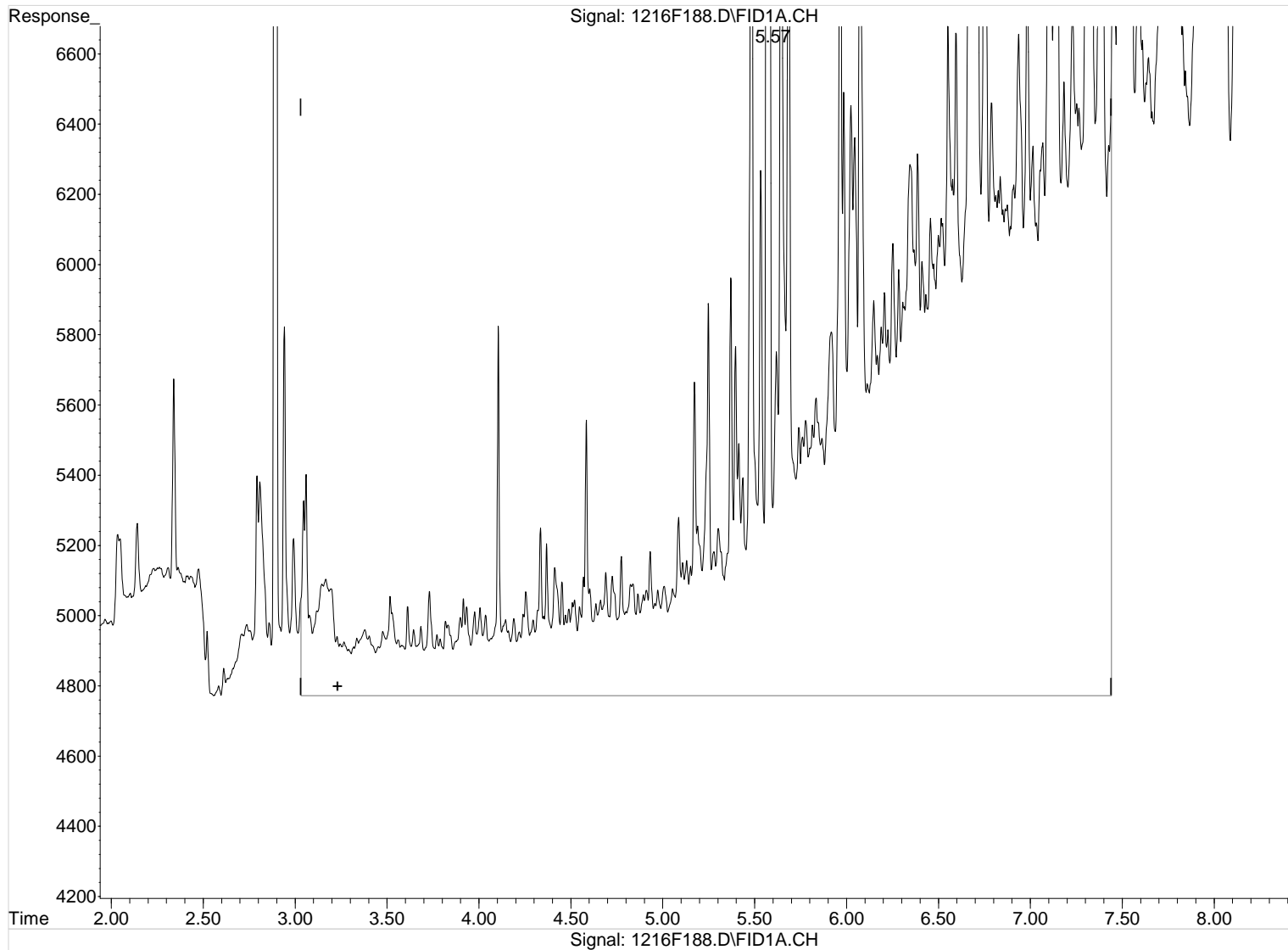
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

3.23min 145.628ppm

response 213860

Manual Integration:

Before

12/18/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\121620F\1216F188.D

Acq On : 17 Dec 2020 10:57 pm

Sample : K2011446-004

Misc :

IntFile : rteint.p

Quant Time: Dec 18 16:32 2020 Quant Results File: 113020F.RES

Vial: 21

Operator: TAP

Inst : GC21

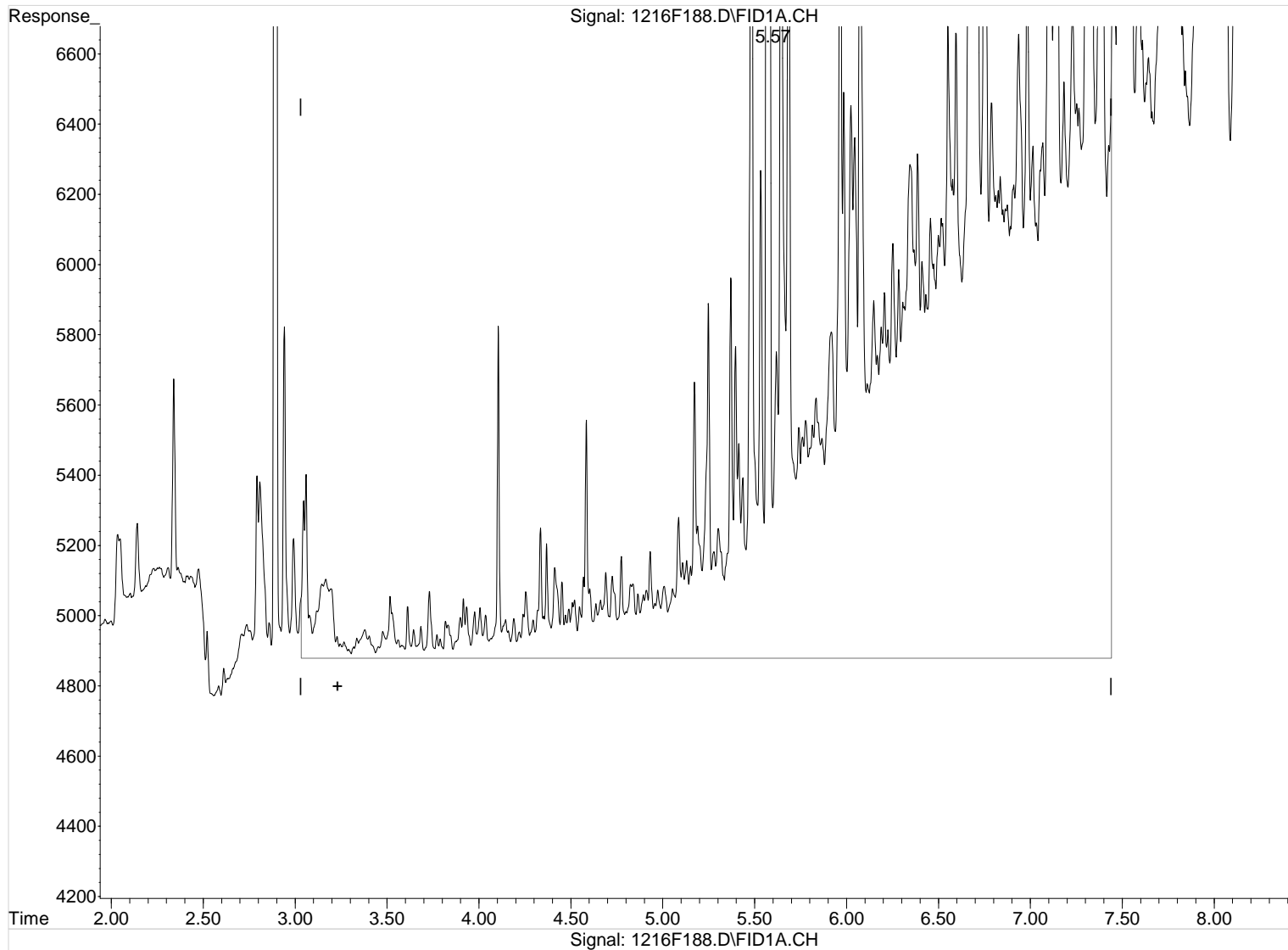
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

3.23min 126.337ppm

response 185530

Manual Integration:

After

Baseline/Shoulder

12/18/20

(+) = Expected Retention Time

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F191.D\
Lab ID: K2011446-005
RunType: N/A
Matrix: Soil

Date Acquired: 12/18/20 00:03:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F191.D\	Instrument:	K-GC-21
Acqu Date:	12/18/20 00:03:00	Vial:	15
Run Type:	N/A	Dilution:	1
Lab ID:	K2011446-005	Raw Units:	ppm

Bottle ID:	K2011446-005.01	Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/4/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:	371208	Report Group:	K2011446
Analysis	8015C	Prep Method:	EPA 3550B		
		Prep Date:	12/15/20		

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	5.57		43545	25.041	100	51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		544673	370.896	510	H	Y

Prep Amount: 30.055 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 24.20

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

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Data File : J:\GC21\DATA\121620F\1216F191.D Vial: 24
 Acq On : 18 Dec 2020 12:03 am Operator: TAP
 Sample : K2011446-005 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:34:03 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	19978	22.138 ppm
Spiked Amount 50.000	Recovery	=	44.28%
2) S o-Terphenyl	5.57	43545	25.041 ppm
Spiked Amount 50.000	Recovery	=	50.08%
3) S n-Triacontane	7.74	33683	22.475 ppm
Spiked Amount 50.000	Recovery	=	44.95%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	311272	219.266 ppm
7) H C10-C28in DRO [8015]	3.23	544673	370.896 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	303533	253.352 ppm
10) H C25-C36in RRO [NWTPH]	6.76	842855	939.156 ppm
11) H C25-C36in RRO [AK103]	6.76	872054	1107.748 ppm

Data File : J:\GC21\DATA\121620F\1216F191.D

Vial: 24

Acq On : 18 Dec 2020 12:03 am

Operator: TAP

Sample : K2011446-005

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

Quant Time: Dec 18 16:34 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

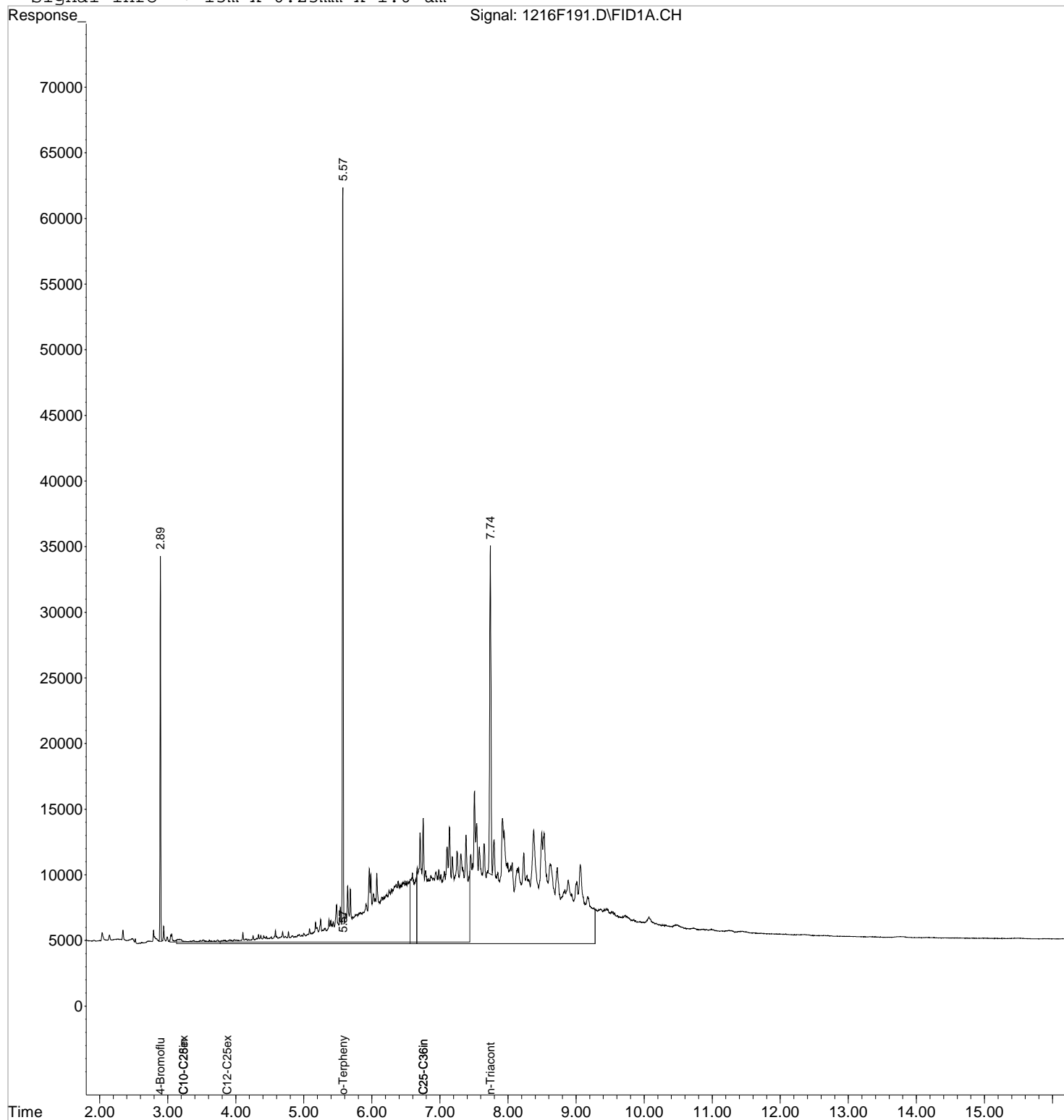
Response via : Single Level Calibration

DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL

Signal Phase : ZB-1

Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\121620F\1216F191.D

Vial: 24

Acq On : 18 Dec 2020 12:03 am

Operator: TAP

Sample : K2011446-005

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

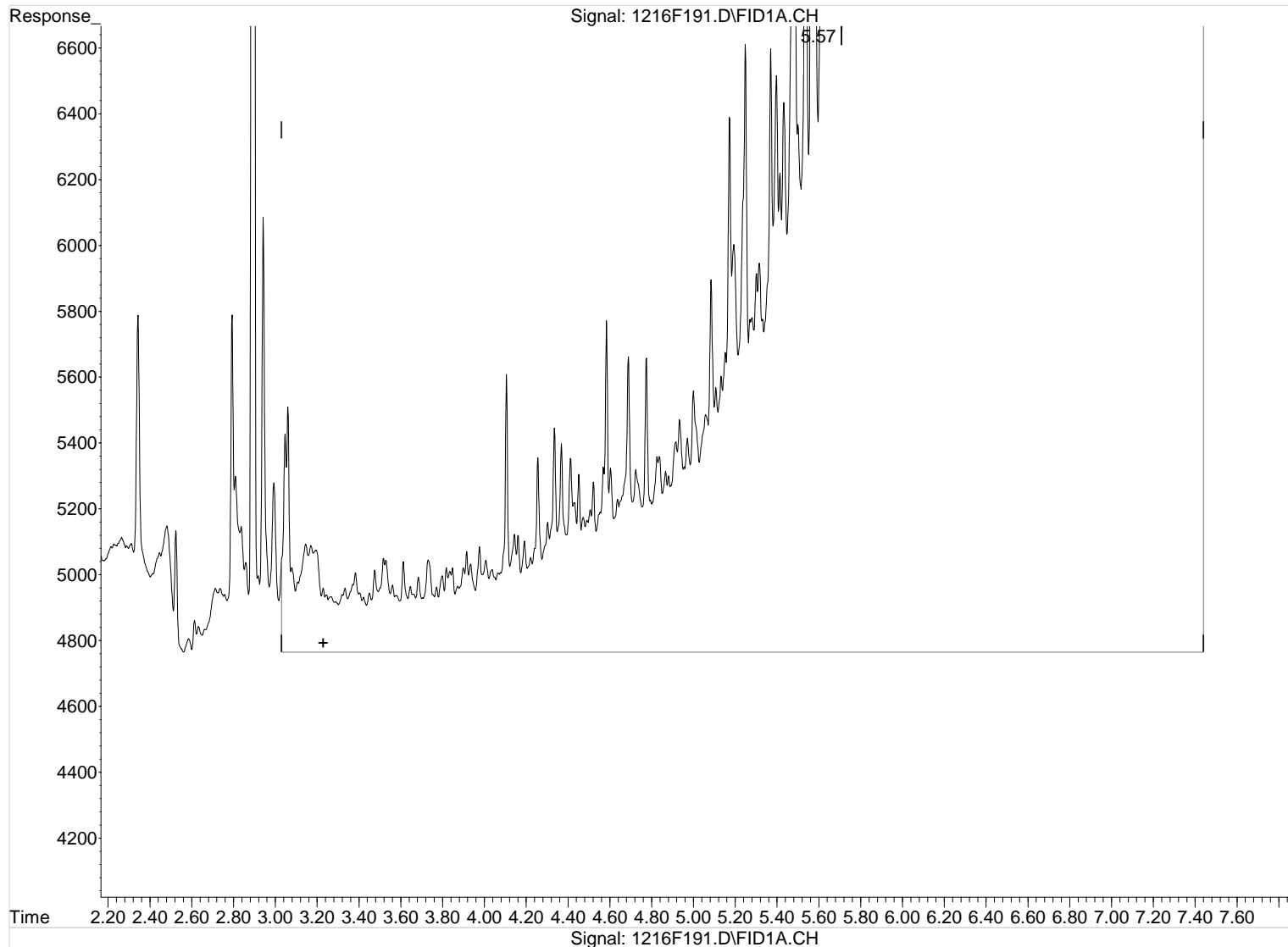
Quant Time: Dec 18 16:34 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 393.429ppm

Before

response 577764

12/18/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\121620F\1216F191.D

Vial: 24

Acq On : 18 Dec 2020 12:03 am

Operator: TAP

Sample : K2011446-005

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

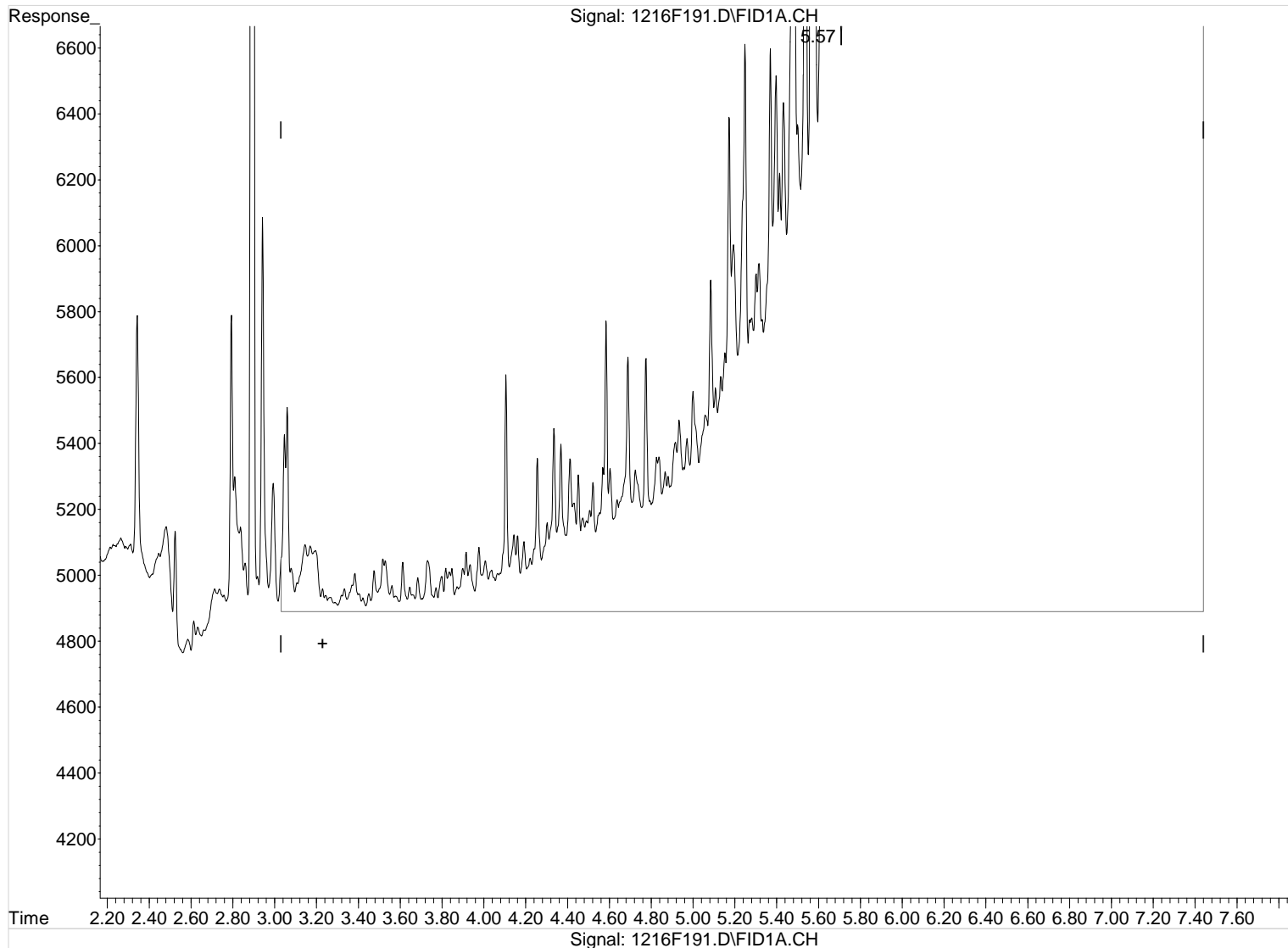
Quant Time: Dec 18 16:34 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 370.896ppm

After

response 544673

Baseline/Shoulder

12/18/20

(+) = Expected Retention Time

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F192.D\
Lab ID: K2011446-006
RunType: N/A
Matrix: Soil

Date Acquired: 12/18/20 00:26:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F192.D\	Instrument:	K-GC-21
Acqu Date:	12/18/20 00:26:00	Vial:	16
Run Type:	N/A	Dilution:	1
Lab ID:	K2011446-006	Raw Units:	ppm

Bottle ID:	K2011446-006.01	Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/4/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:	371208	Report Group:	K2011446
Analysis	8015C	Prep Method:	EPA 3550B		
		Prep Date:	12/15/20		

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	5.57		44407	25.537	102	51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		335992	228.794	260	H	Y

Prep Amount: 30.046 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 29.50

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

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Data File : J:\GC21\DATA\121620F\1216F192.D Vial: 25
 Acq On : 18 Dec 2020 12:26 am Operator: TAP
 Sample : K2011446-006 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:34:30 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

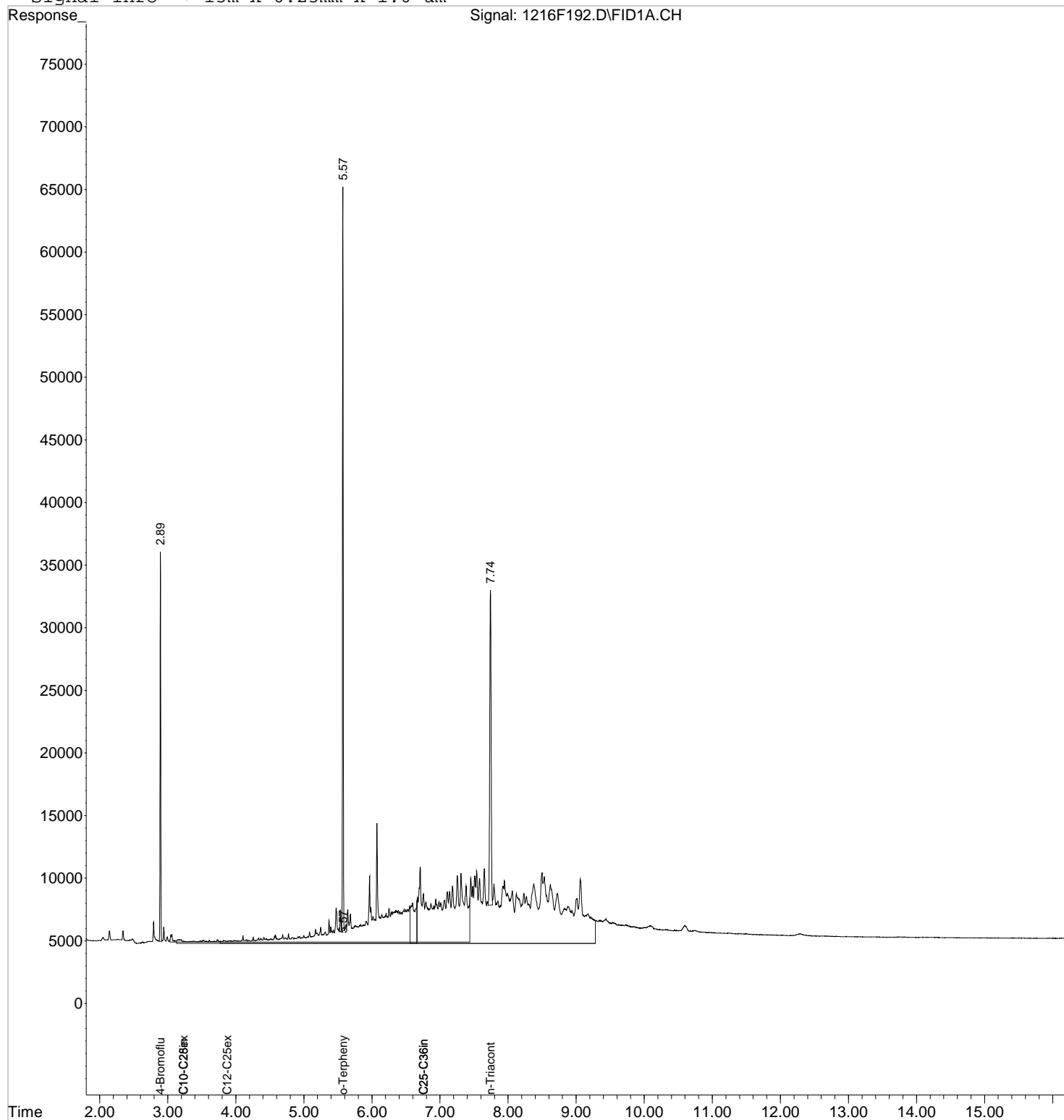
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	20715	22.955 ppm
Spiked Amount 50.000	Recovery	=	45.91%
2) S o-Terphenyl	5.57	44407	25.537 ppm
Spiked Amount 50.000	Recovery	=	51.07%
3) S n-Triacontane	7.74	35428	23.639 ppm
Spiked Amount 50.000	Recovery	=	47.28%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	208285	146.720 ppm
7) H C10-C28in DRO [8015]	3.23	335992	228.794 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	201097	167.851 ppm
10) H C25-C36in RRO [NWTPH]	6.76	536946	598.295 ppm
11) H C25-C36in RRO [AK103]	6.76	554095	703.853 ppm

Data File : J:\GC21\DATA\121620F\1216F192.D Vial: 25
Acq On : 18 Dec 2020 12:26 am Operator: TAP
Sample : K2011446-006 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:34 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\121620F\1216F192.D

Acq On : 18 Dec 2020 12:26 am

Sample : K2011446-006

Misc :

IntFile : rteint.p

Quant Time: Dec 18 16:34 2020 Quant Results File: 113020F.RES

Vial: 25

Operator: TAP

Inst : GC21

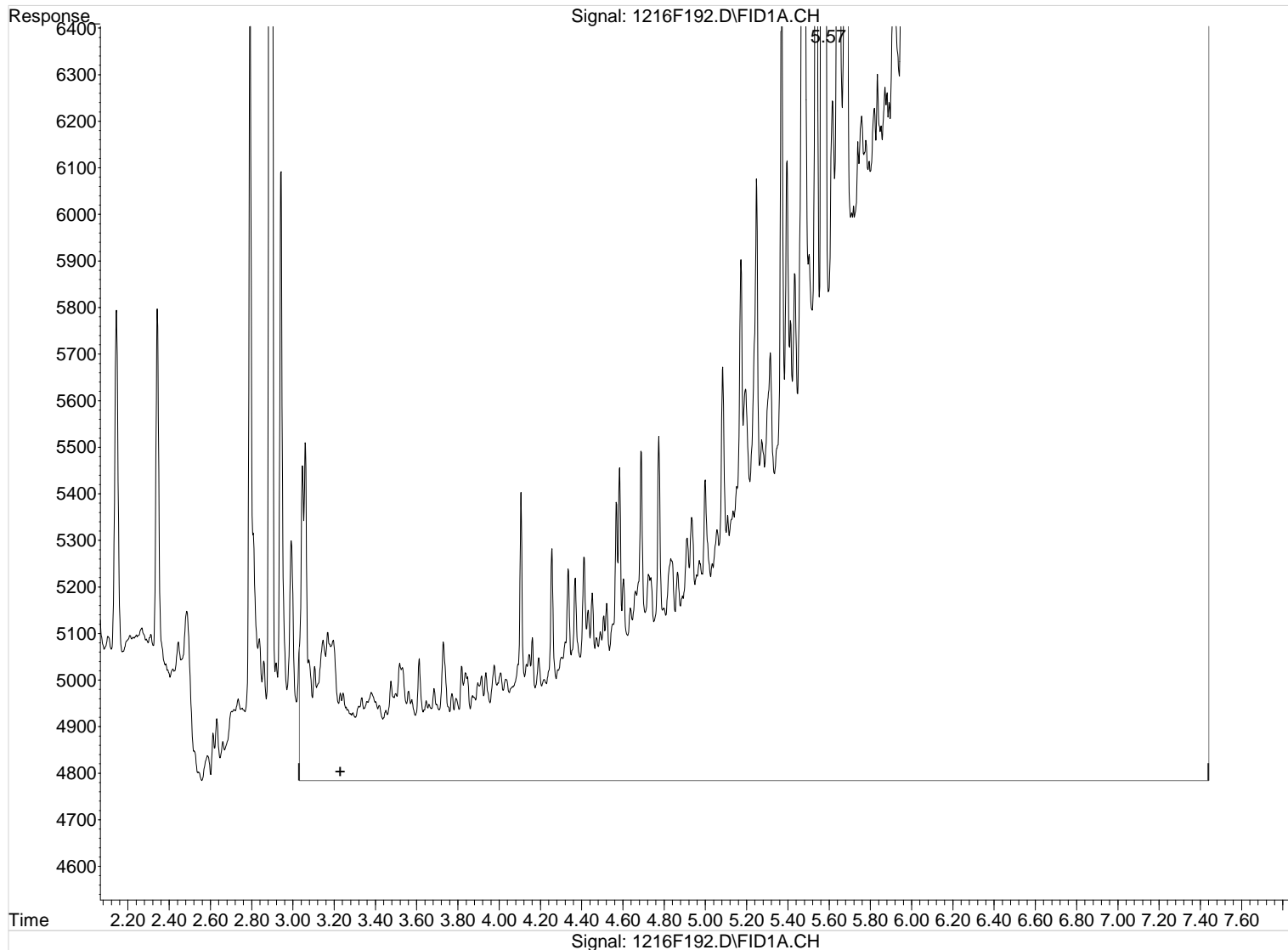
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

3.23min 251.390ppm

response 369174

Manual Integration:

Before

12/18/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\121620F\1216F192.D

Vial: 25

Acq On : 18 Dec 2020 12:26 am

Operator: TAP

Sample : K2011446-006

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

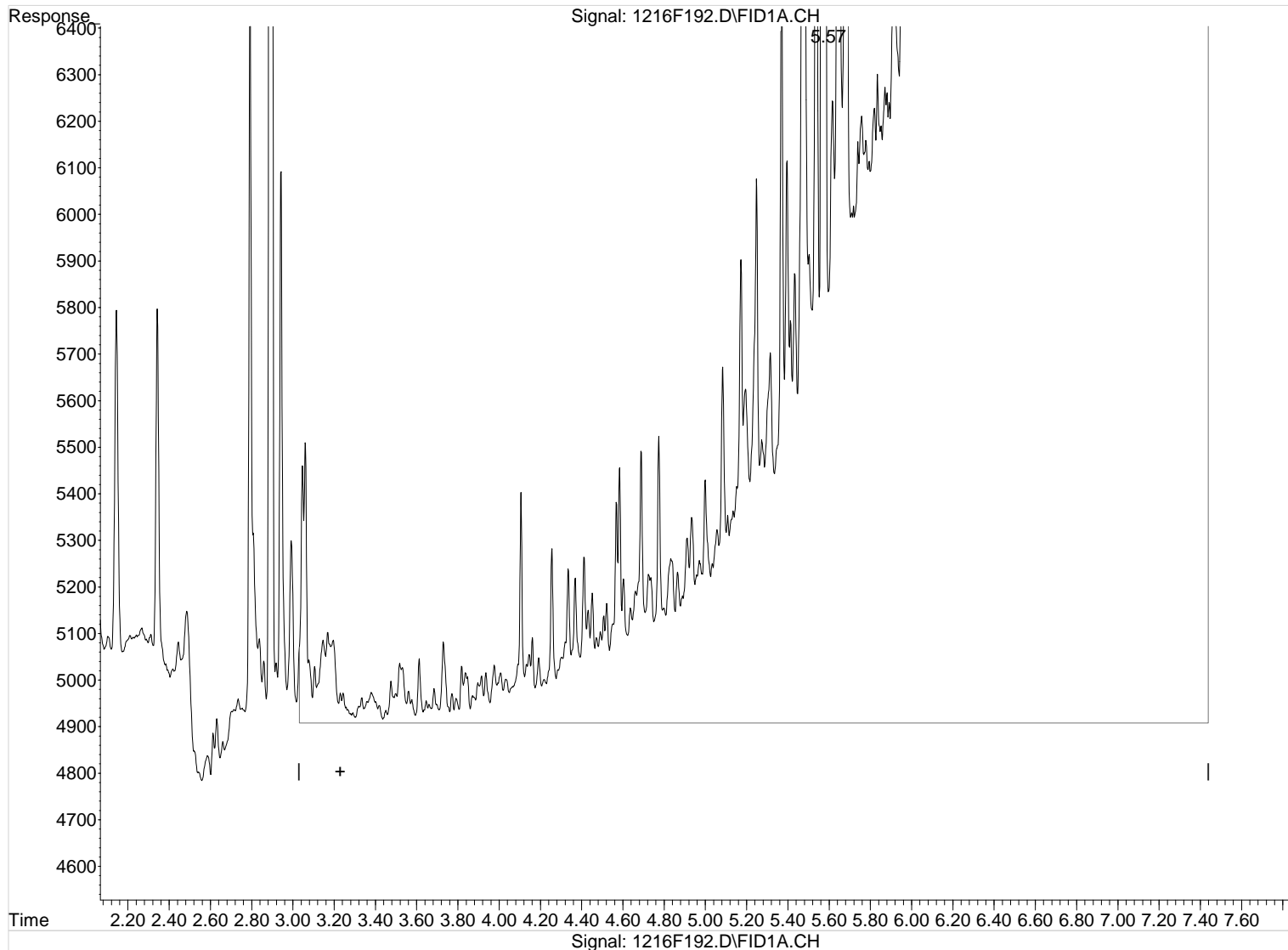
Quant Time: Dec 18 16:34 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 228.794ppm

After

response 335992

Baseline/Shoulder

12/18/20

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F186.D\
Lab ID: KQ2019720-04
RunType: MB
Matrix: Soil

Date Acquired: 12/17/20 22:12:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F186.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 22:12:00	Vial:	20
Run Type:	MB	Dilution:	1
Lab ID:	KQ2019720-04	Raw Units:	ppm

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/4/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:	371208	Report Group:	KQ2019720
Analysis	8015C	Prep Method:	EPA 3550B		
		Prep Date:	12/15/20		

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	5.57		43797	25.186	101	51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		34506	23.497	7.8	J	Y

Prep Amount: 30.0670 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 100.00

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

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Data File : J:\GC21\DATA\121620F\1216F186.D Vial: 19
 Acq On : 17 Dec 2020 10:12 pm Operator: TAP
 Sample : KQ2019720-04 MB Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:31:00 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

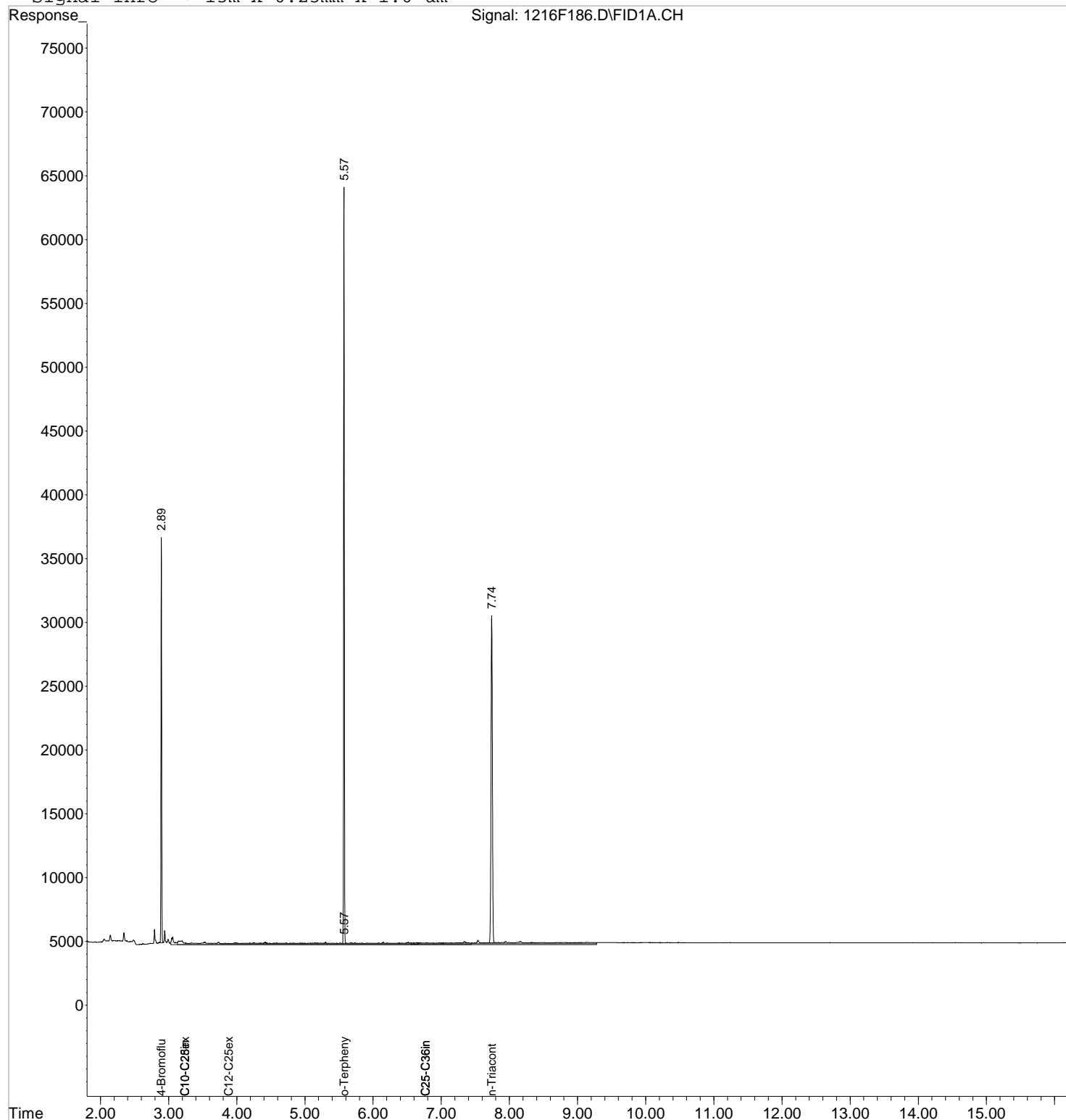
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	21675	24.019 ppm
Spiked Amount 50.000	Recovery	=	48.04%
2) S o-Terphenyl	5.57	43797	25.186 ppm
Spiked Amount 50.000	Recovery	=	50.37%
3) S n-Triacontane	7.74	35177	23.472 ppm
Spiked Amount 50.000	Recovery	=	46.94%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	26206	18.460 ppm
7) H C10-C28in DRO [8015]	3.23	34506	23.497 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	6047	5.047 ppm
10) H C25-C36in RRO [NWTPH]	6.76	11972	13.340 ppm
11) H C25-C36in RRO [AK103]	6.76	25985	33.008 ppm

Data File : J:\GC21\DATA\121620F\1216F186.D Vial: 19
Acq On : 17 Dec 2020 10:12 pm Operator: TAP
Sample : KQ2019720-04 MB Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:31 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\121620F\1216F186.D

Vial: 19

Acq On : 17 Dec 2020 10:12 pm

Operator: TAP

Sample : KQ2019720-04 MB

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

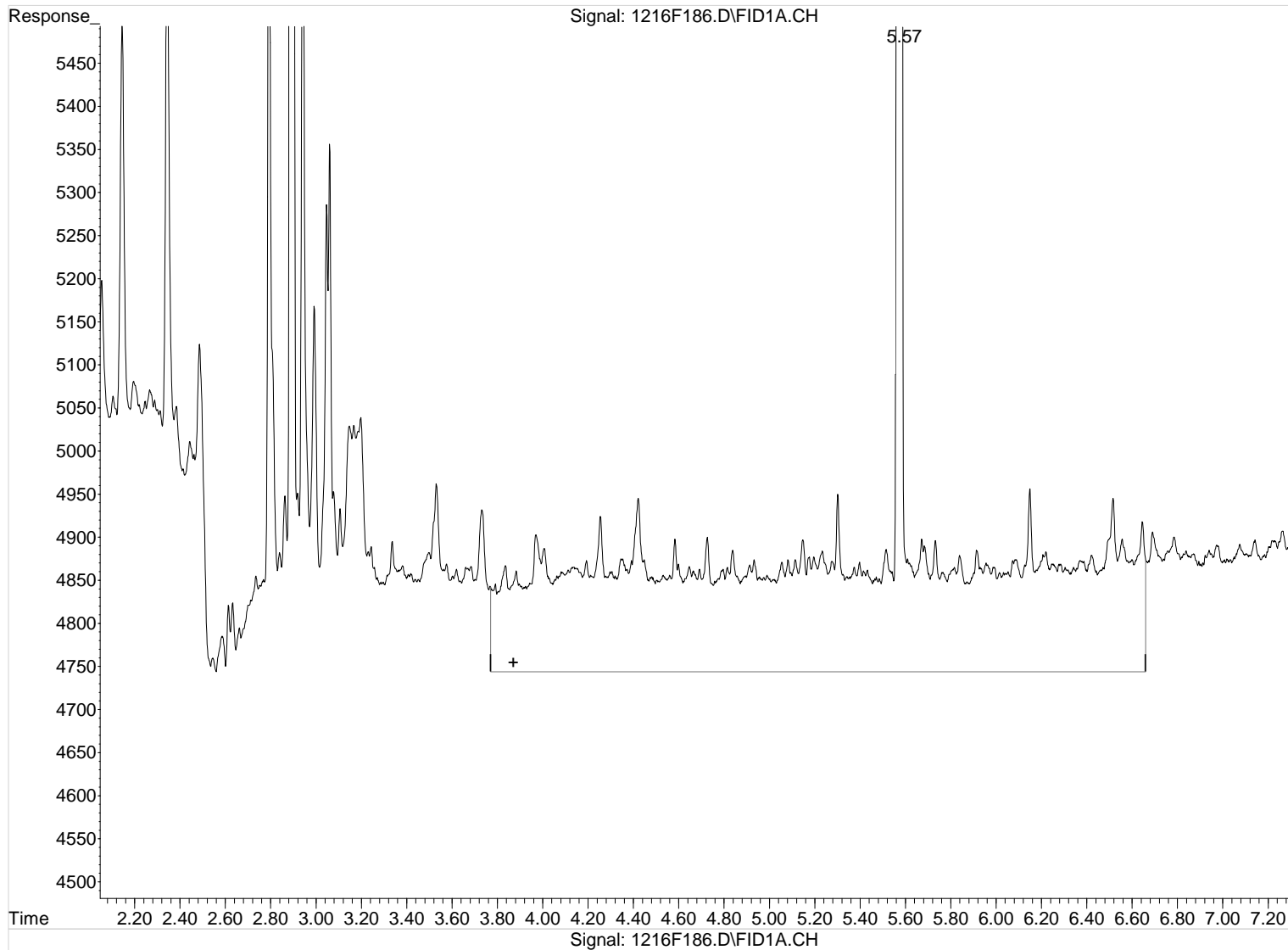
Quant Time: Dec 18 16:31 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 17.346ppm

Before

response 20782

12/18/20

Data File : J:\GC21\DATA\121620F\1216F186.D

Vial: 19

Acq On : 17 Dec 2020 10:12 pm

Operator: TAP

Sample : KQ2019720-04 MB

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

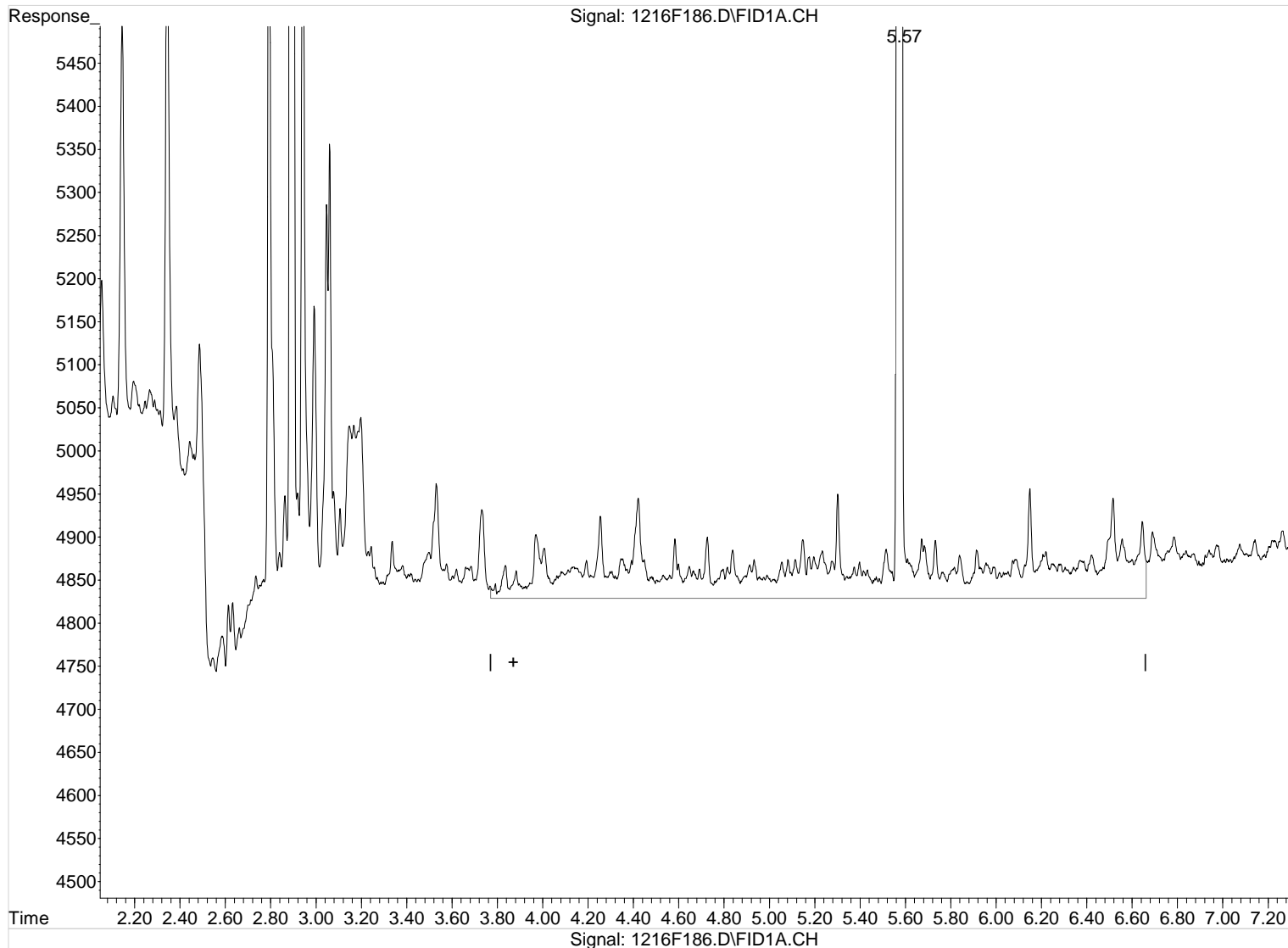
Quant Time: Dec 18 16:31 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 5.047ppm

After

response 6047

Baseline/Shoulder

12/18/20

Data File : J:\GC21\DATA\121620F\1216F186.D

Vial: 19

Acq On : 17 Dec 2020 10:12 pm

Operator: TAP

Sample : KQ2019720-04 MB

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

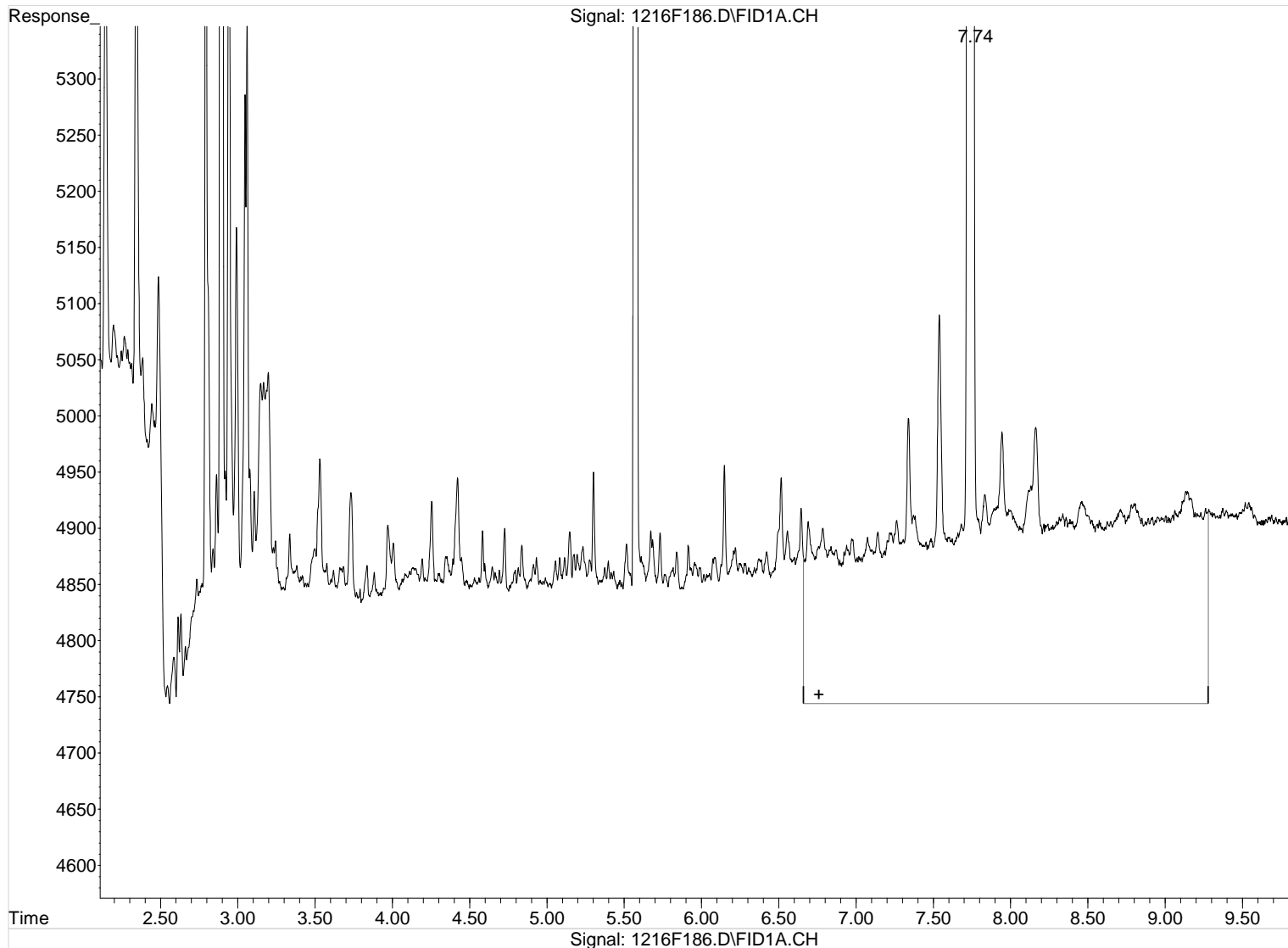
Quant Time: Dec 18 16:31 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 28.039ppm

Before

response 25164

12/18/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\121620F\1216F186.D

Vial: 19

Acq On : 17 Dec 2020 10:12 pm

Operator: TAP

Sample : KQ2019720-04 MB

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

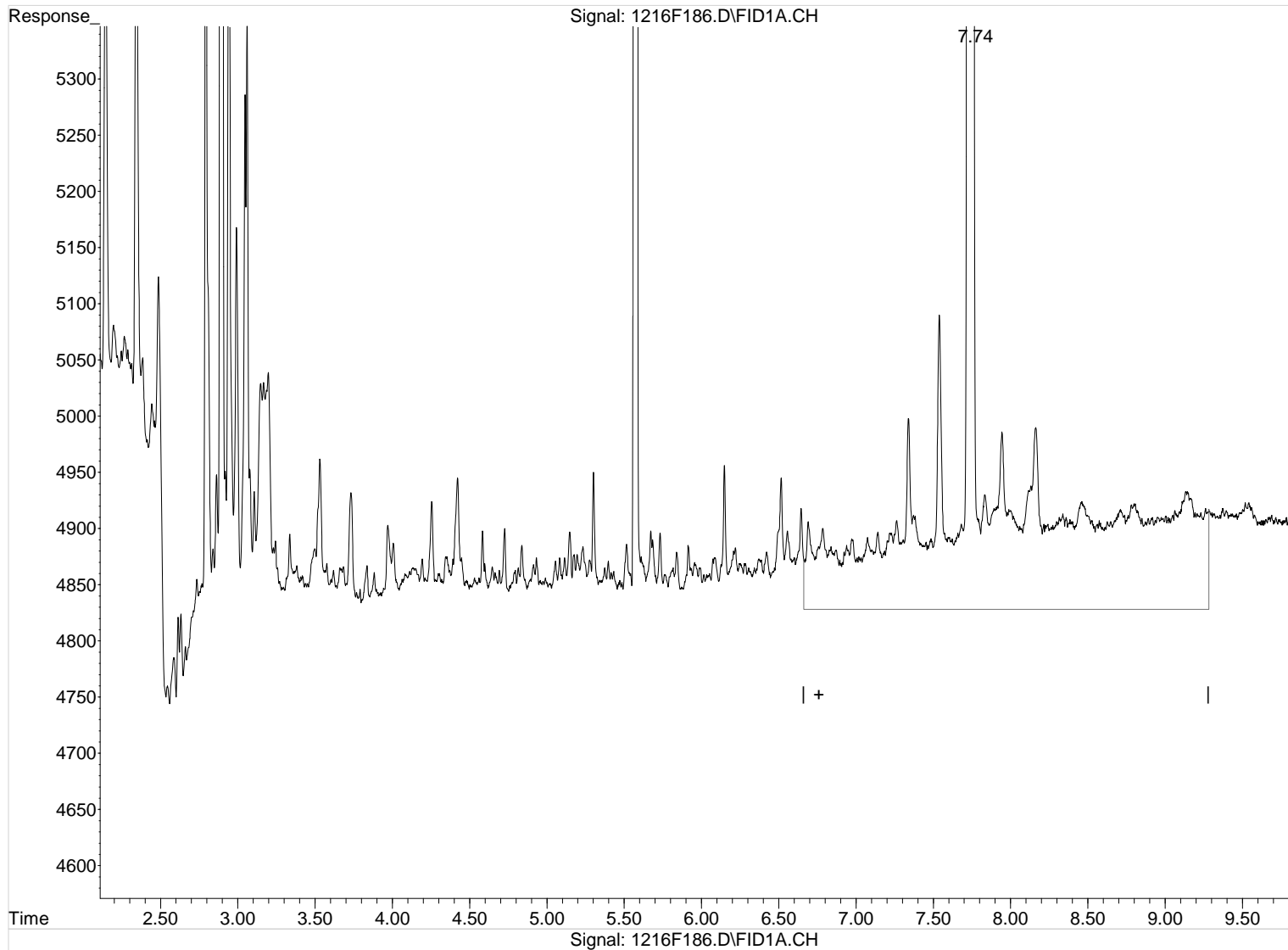
Quant Time: Dec 18 16:31 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 13.340ppm

After

response 11972

Baseline/Shoulder

12/18/20

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F185.D\
Lab ID: KQ2019720-03
RunType: LCS
Matrix: Soil

Date Acquired: 12/17/20 21:50:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F185.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 21:50:00	Vial:	19
Run Type:	LCS	Dilution:	1
Lab ID:	KQ2019720-03	Raw Units:	ppm

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/4/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:	371208	Report Group:	KQ2019720
Analysis	8015C	Prep Method:	EPA 3550B		
		Prep Date:	12/15/20		

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	5.57		48491	27.886	112	51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		1545299	1052.274	351		Y

Prep Amount: 30 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 100.00

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

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Data File : J:\GC21\DATA\121620F\1216F185.D Vial: 18
 Acq On : 17 Dec 2020 9:50 pm Operator: TAP
 Sample : KQ2019720-03 LCS Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:30:35 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

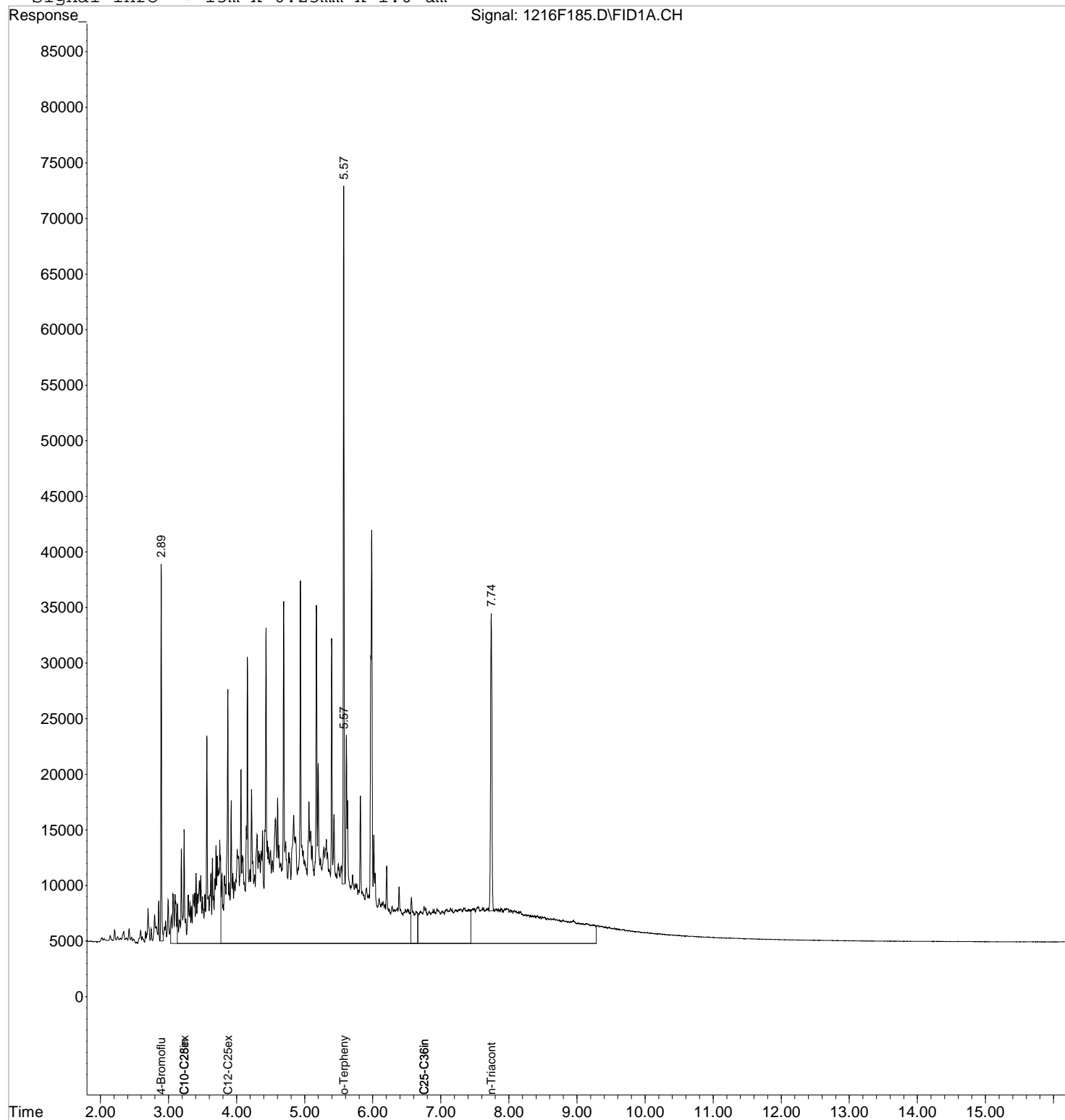
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	24201	26.818 ppm
Spiked Amount 50.000	Recovery	=	53.64%
2) S o-Terphenyl	5.57	48491	27.886 ppm
Spiked Amount 50.000	Recovery	=	55.77%
3) S n-Triacontane	7.74	37653	25.124 ppm
Spiked Amount 50.000	Recovery	=	50.25%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	1394428	982.261 ppm
7) H C10-C28in DRO [8015]	3.23	1545299	1052.274 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	1230331	1026.927 ppm
10) H C25-C36in RRO [NWTPH]	6.76	403873	450.018 ppm
11) H C25-C36in RRO [AK103]	6.76	421271	535.130 ppm

Data File : J:\GC21\DATA\121620F\1216F185.D Vial: 18
Acq On : 17 Dec 2020 9:50 pm Operator: TAP
Sample : KQ2019720-03 LCS Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:30 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F189.D\
Lab ID: KQ2019720-01
RunType: MS
Matrix: Soil

Date Acquired: 12/17/20 23:19:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F189.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 23:19:00	Vial:	17
Run Type:	MS	Dilution:	1
Lab ID:	KQ2019720-01	Raw Units:	ppm

Bottle ID:	K2011446-004.01	Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/3/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:	371208	Report Group:	KQ2019720
Analysis	8015C	Prep Method:	EPA 3550B		
		Prep Date:	12/15/20		

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	5.57		41725	23.995	96	51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		1432953	975.772	685		Y

Prep Amount: 30.037 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 47.40

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

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Data File : J:\GC21\DATA\121620F\1216F189.D Vial: 22
 Acq On : 17 Dec 2020 11:19 pm Operator: TAP
 Sample : K2011446-004 MS Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:33:20 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

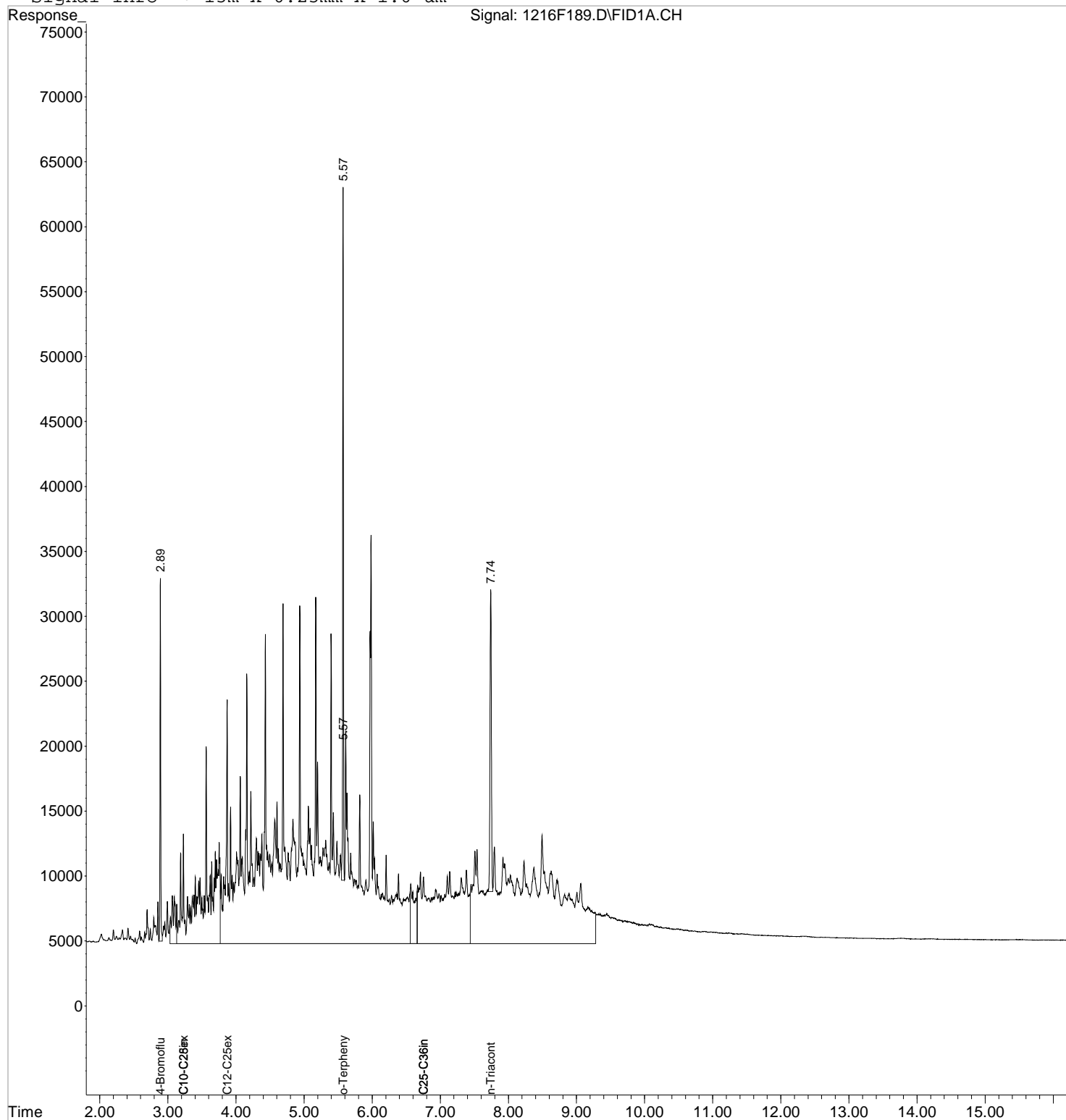
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	19979	22.140 ppm
Spiked Amount 50.000	Recovery	=	44.28%
2) S o-Terphenyl	5.57	41725	23.995 ppm
Spiked Amount 50.000	Recovery	=	47.99%
3) S n-Triacontane	7.74	32514	21.695 ppm
Spiked Amount 50.000	Recovery	=	43.39%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	1236626	871.103 ppm
7) H C10-C28in DRO [8015]	3.23	1432953	975.772 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	1100045	918.181 ppm
10) H C25-C36in RRO [NWTPH]	6.76	645688	719.462 ppm
11) H C25-C36in RRO [AK103]	6.76	667303	847.658 ppm

Data File : J:\GC21\DATA\121620F\1216F189.D Vial: 22
Acq On : 17 Dec 2020 11:19 pm Operator: TAP
Sample : K2011446-004 MS Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:33 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F190.D\
Lab ID: KQ2019720-02
RunType: DMS
Matrix: Soil

Date Acquired: 12/17/20 23:41:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F190.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 23:41:00	Vial:	18
Run Type:	DMS	Dilution:	1
Lab ID:	KQ2019720-02	Raw Units:	ppm

Bottle ID:	K2011446-004.01	Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/3/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:	371208	Report Group:	KQ2019720
Analysis	8015C	Prep Method:	EPA 3550B		
		Prep Date:	12/15/20		

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	5.57		48421	27.845	111	51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		1701592	1158.702	813		Y

Prep Amount: 30.067 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 47.40

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

Printed: 12/22/20 9:49

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Data File : J:\GC21\DATA\121620F\1216F190.D Vial: 23
 Acq On : 17 Dec 2020 11:41 pm Operator: TAP
 Sample : K2011446-004 DMS Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:33:37 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

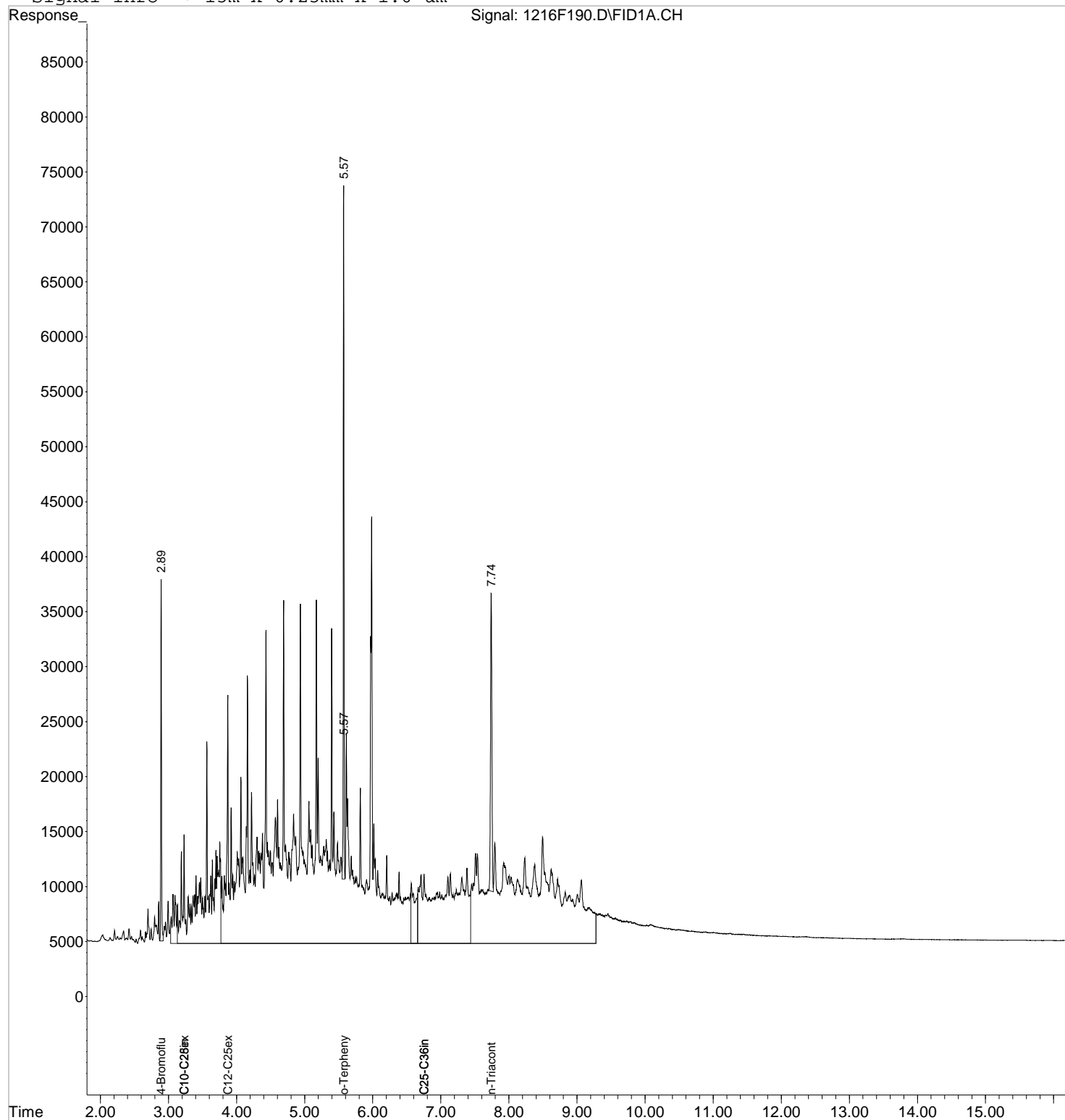
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	23746	26.314 ppm
Spiked Amount 50.000	Recovery	=	52.63%
2) S o-Terphenyl	5.57	48421	27.845 ppm
Spiked Amount 50.000	Recovery	=	55.69%
3) S n-Triacontane	7.74	37377	24.940 ppm
Spiked Amount 50.000	Recovery	=	49.88%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	1470016	1035.507 ppm
7) H C10-C28in DRO [8015]	3.23	1701592	1158.702 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	1308107	1091.845 ppm
10) H C25-C36in RRO [NWTPH]	6.76	762753	849.902 ppm
11) H C25-C36in RRO [AK103]	6.76	788272	1001.322 ppm

Data File : J:\GC21\DATA\121620F\1216F190.D Vial: 23
Acq On : 17 Dec 2020 11:41 pm Operator: TAP
Sample : K2011446-004 DMS Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:33 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F184.D\
Lab ID: KQ2020609-05
RunType: CCB
Matrix: Soil

Date Acquired: 12/17/20 21:28:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Continuing Calibration Recovery (Closing)	X	
Surrogates	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F184.D\
Lab ID: KQ2020609-05
RunType: CCB
Matrix: Soil

Date Acquired: 12/17/20 21:28:00
Batch ID: 707216
Analysis Method: NWTPH-Dx/NW_TPH

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Surrogates	X	
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F184.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 21:28:00	Vial:	9
Run Type:	CCB	Dilution:	1
Lab ID:	KQ2020609-05	Raw Units:	ppm

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	NW_TPH	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:		Report Group:	KQ2020609
Analysis	NWTPH-Dx	Prep Method:			
		Prep Date:			

Title:	Semi-Volatile Petroleum Products by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22364

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	0.00		0	0.000		50 - 150	Y
n-Triacontane	0.00		0	0.000		50 - 150	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C12 - C25 DRO)	3.87		10618	8.863	3.0	J	Y
Residual Range Organics (C25 - C36 RRO)	6.76		19028	21.202	7.1	J	Y

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

Printed: 12/22/20 9:49

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Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F184.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 21:28:00	Vial:	8
Run Type:	CCB	Dilution:	1
Lab ID:	KQ2020609-05	Raw Units:	ppm

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:		Report Group:	KQ2020609
Analysis	8015C	Prep Method:			
		Prep Date:			

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22410

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	0.00		0	0.000		51 - 126	Y
n-Triacontane	0.00		0	0.000		50 - 150	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C12 - C25 DRO)	3.87		10618	8.863	3.0	J	Y
Residual Range Organics (C25 - C36 RRO)	6.76		19028	21.202	7.1	J	Y

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

Printed: 12/22/20 9:49

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\GC21\DATA\121620F\1216F184.D Vial: 86
 Acq On : 17 Dec 2020 9:28 pm Operator: TAP
 Sample : IB Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:30:00 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

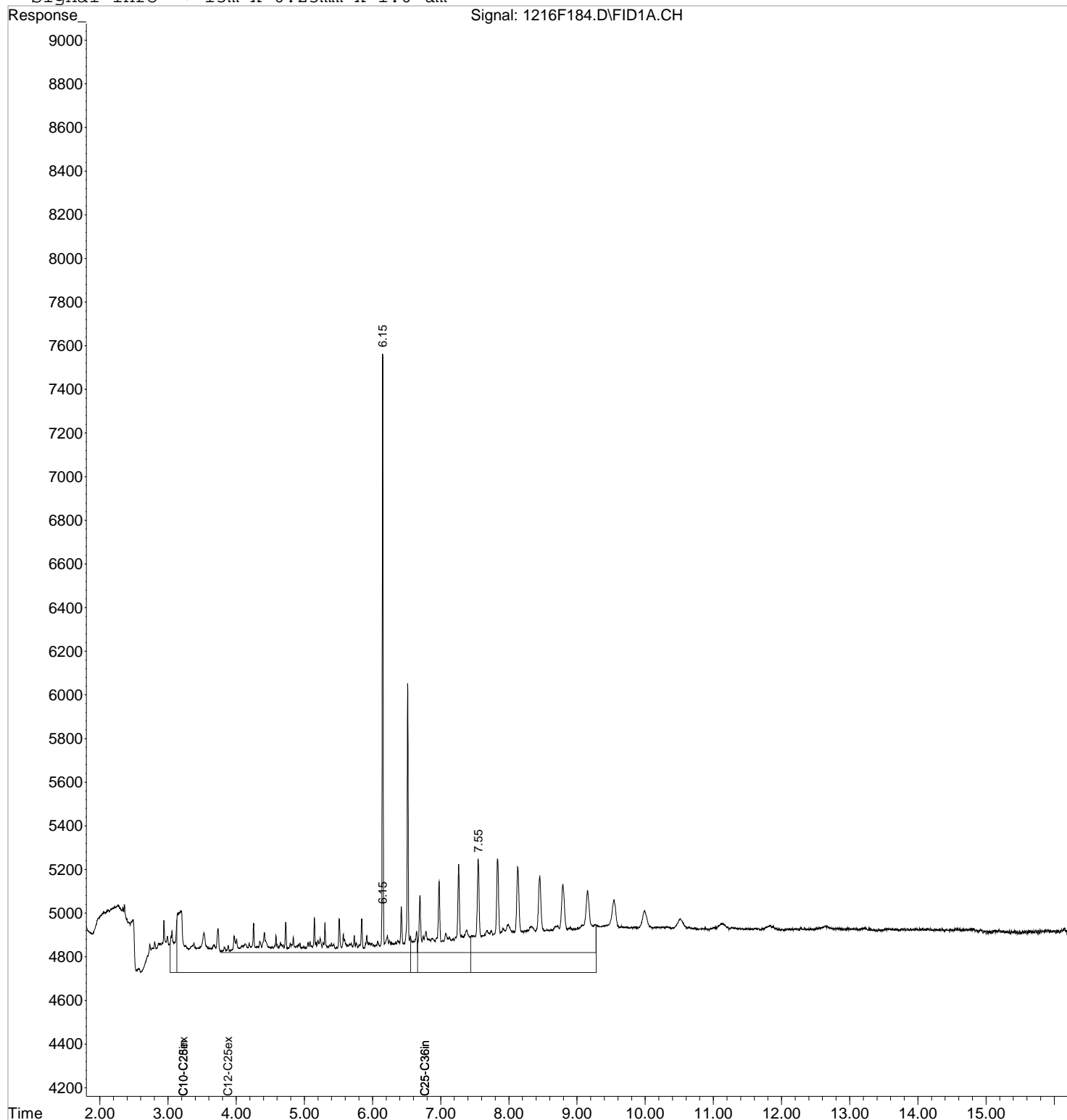
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	31857	22.441 ppm
7) H C10-C28in DRO [8015]	3.23	41285	28.113 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	10618	8.863 ppm
10) H C25-C36in RRO [NWTPH]	6.76	19028	21.202 ppm
11) H C25-C36in RRO [AK103]	6.76	34254	43.512 ppm

Data File : J:\GC21\DATA\121620F\1216F184.D Vial: 86
Acq On : 17 Dec 2020 9:28 pm Operator: TAP
Sample : IB Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:30 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\121620F\1216F184.D

Vial: 86

Acq On : 17 Dec 2020 9:28 pm

Operator: TAP

Sample : IB

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

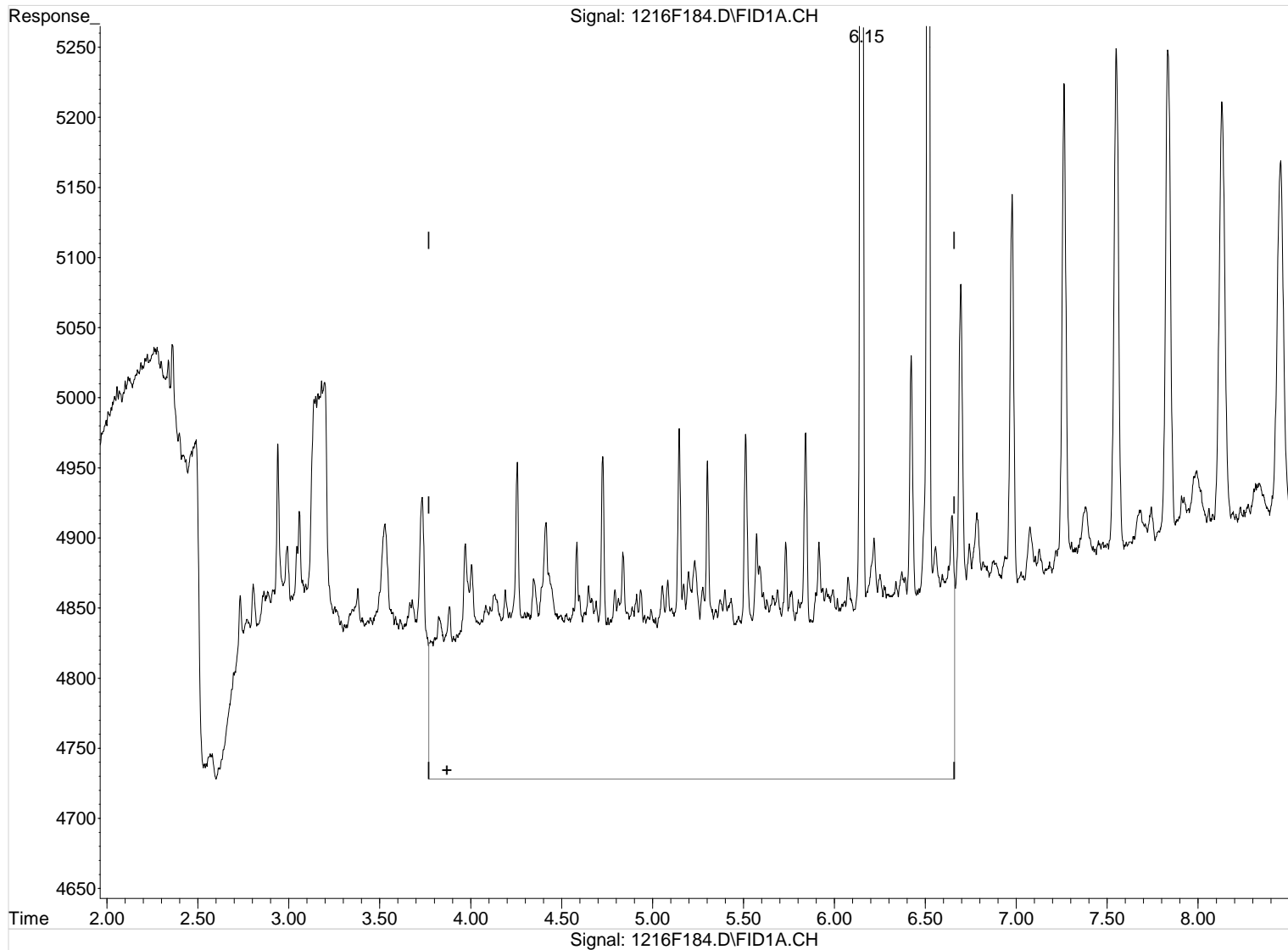
Quant Time: Dec 18 16:30 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 22.038ppm

Before

response 26403

12/18/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\121620F\1216F184.D

Vial: 86

Acq On : 17 Dec 2020 9:28 pm

Operator: TAP

Sample : IB

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

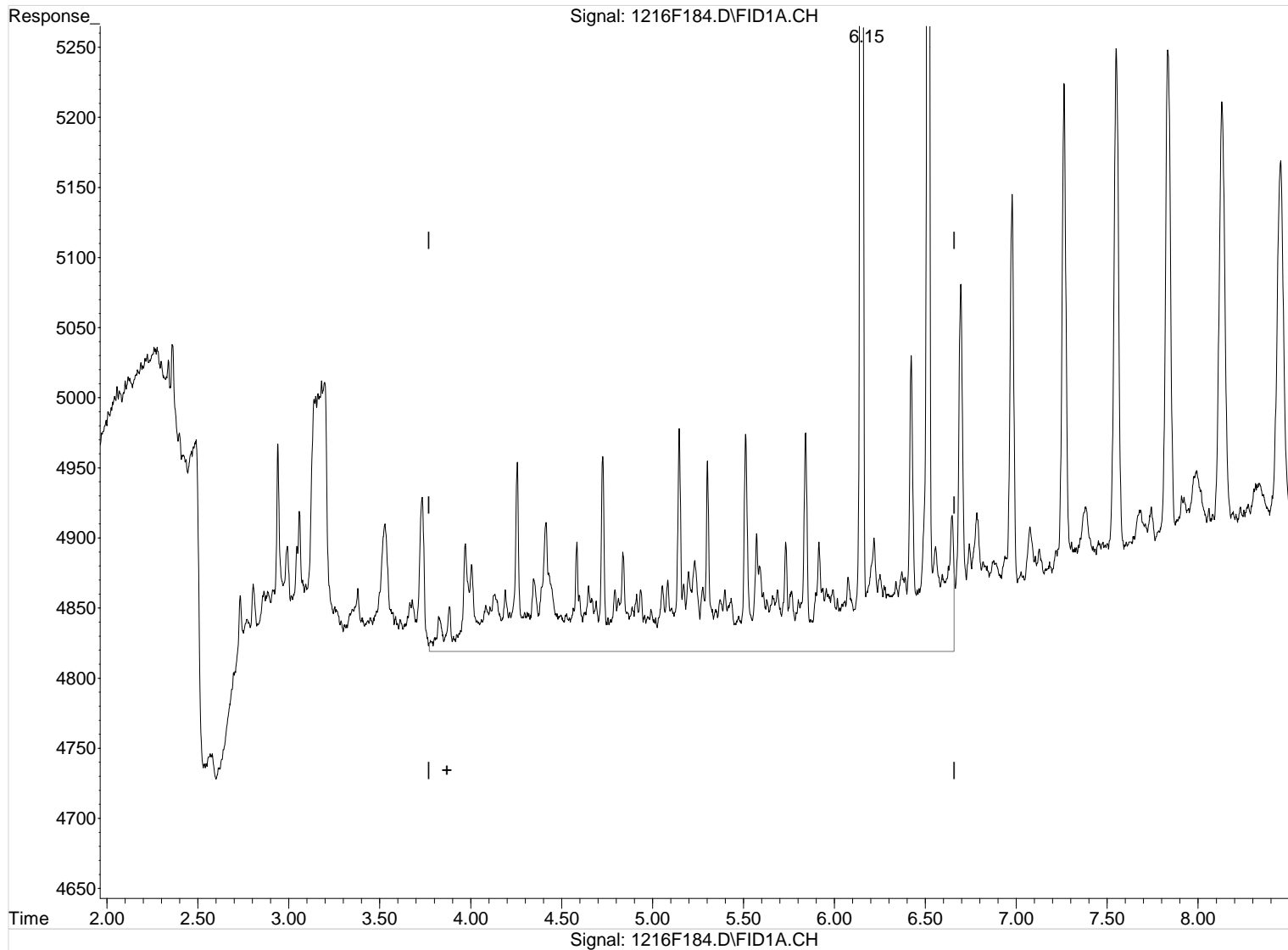
Quant Time: Dec 18 16:30 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 8.863ppm

After

response 10618

Baseline/Shoulder

12/18/20

Data File : J:\GC21\DATA\121620F\1216F184.D

Vial: 86

Acq On : 17 Dec 2020 9:28 pm

Operator: TAP

Sample : IB

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

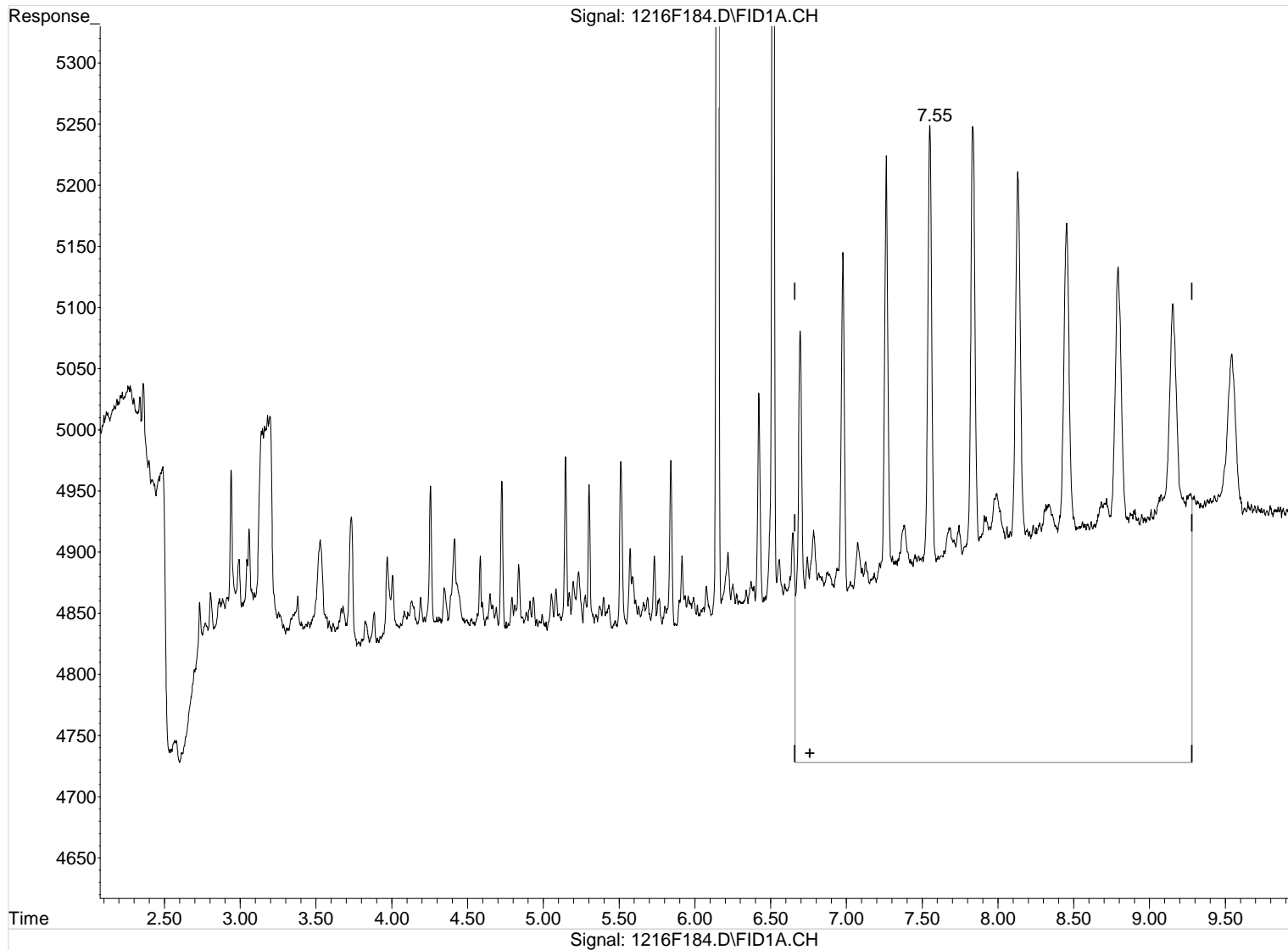
Quant Time: Dec 18 16:30 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 37.157ppm

Before

response 33347

12/18/20

Data File : J:\GC21\DATA\121620F\1216F184.D

Acq On : 17 Dec 2020 9:28 pm

Sample : IB

Misc :

IntFile : rteint.p

Quant Time: Dec 18 16:30 2020 Quant Results File: 113020F.RES

Vial: 86

Operator: TAP

Inst : GC21

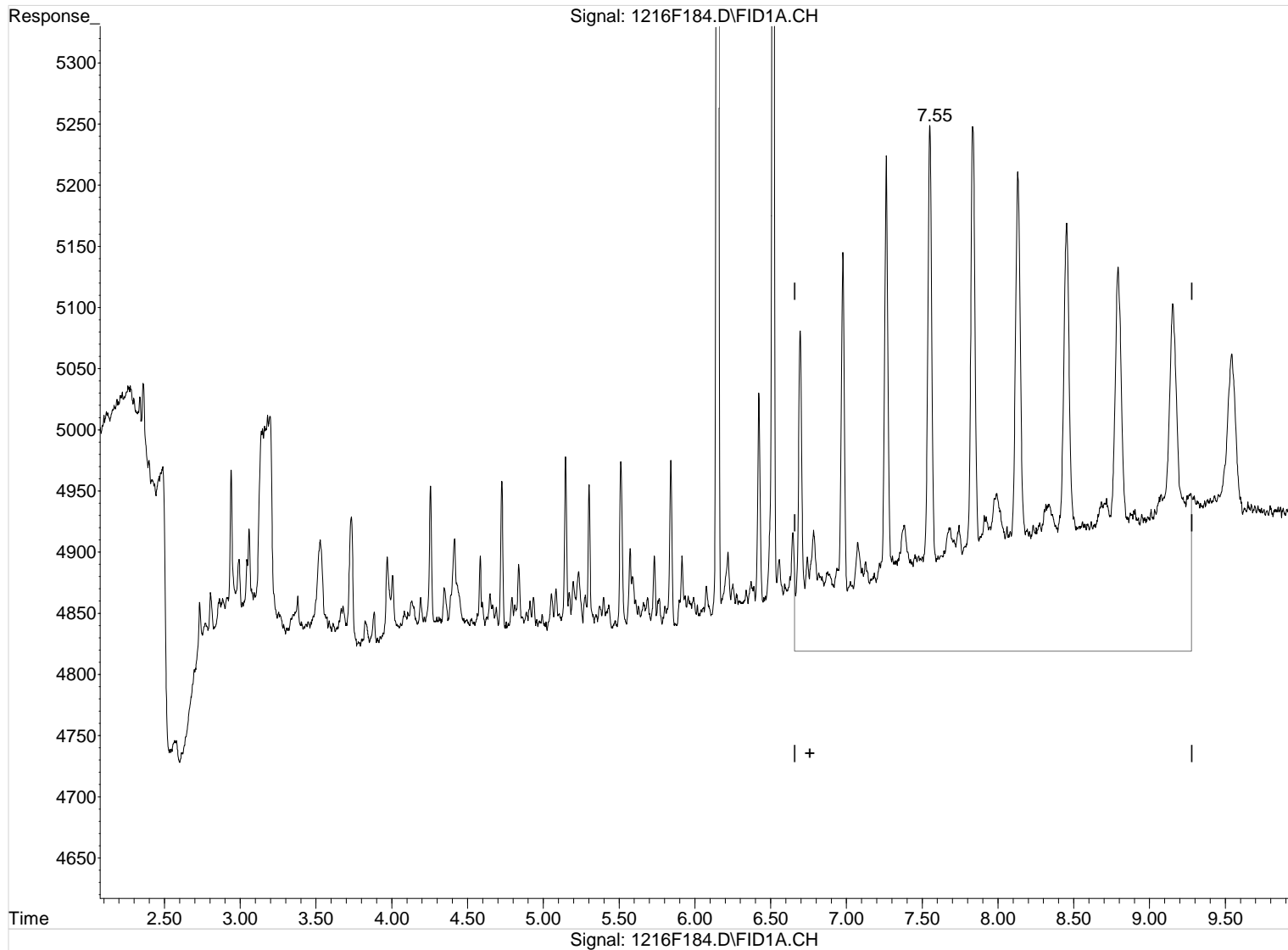
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

6.76min 21.202ppm

response 19028

Manual Integration:

After

Baseline/Shoulder

12/18/20

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F199.D\
Lab ID: KQ2020609-06
RunType: CCB
Matrix: Soil

Date Acquired: 12/18/20 03:01:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Surrogates	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F199.D\	Instrument:	K-GC-21
Acqu Date:	12/18/20 03:01:00	Vial:	10
Run Type:	CCB	Dilution:	1
Lab ID:	KQ2020609-06	Raw Units:	ppm

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:		Report Group:	KQ2020609
Analysis	8015C	Prep Method:			
		Prep Date:			

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
o-Terphenyl	0.00		0	0.000		51 - 126	Y

Target Compounds

Final Conc.Units: mg/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		33549	22.845	7.6	J	Y

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

Printed: 12/22/20 9:49

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Data File : J:\GC21\DATA\121620F\1216F199.D Vial: 86
Acq On : 18 Dec 2020 3:01 am Operator: TAP
Sample : IB Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:40:59 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

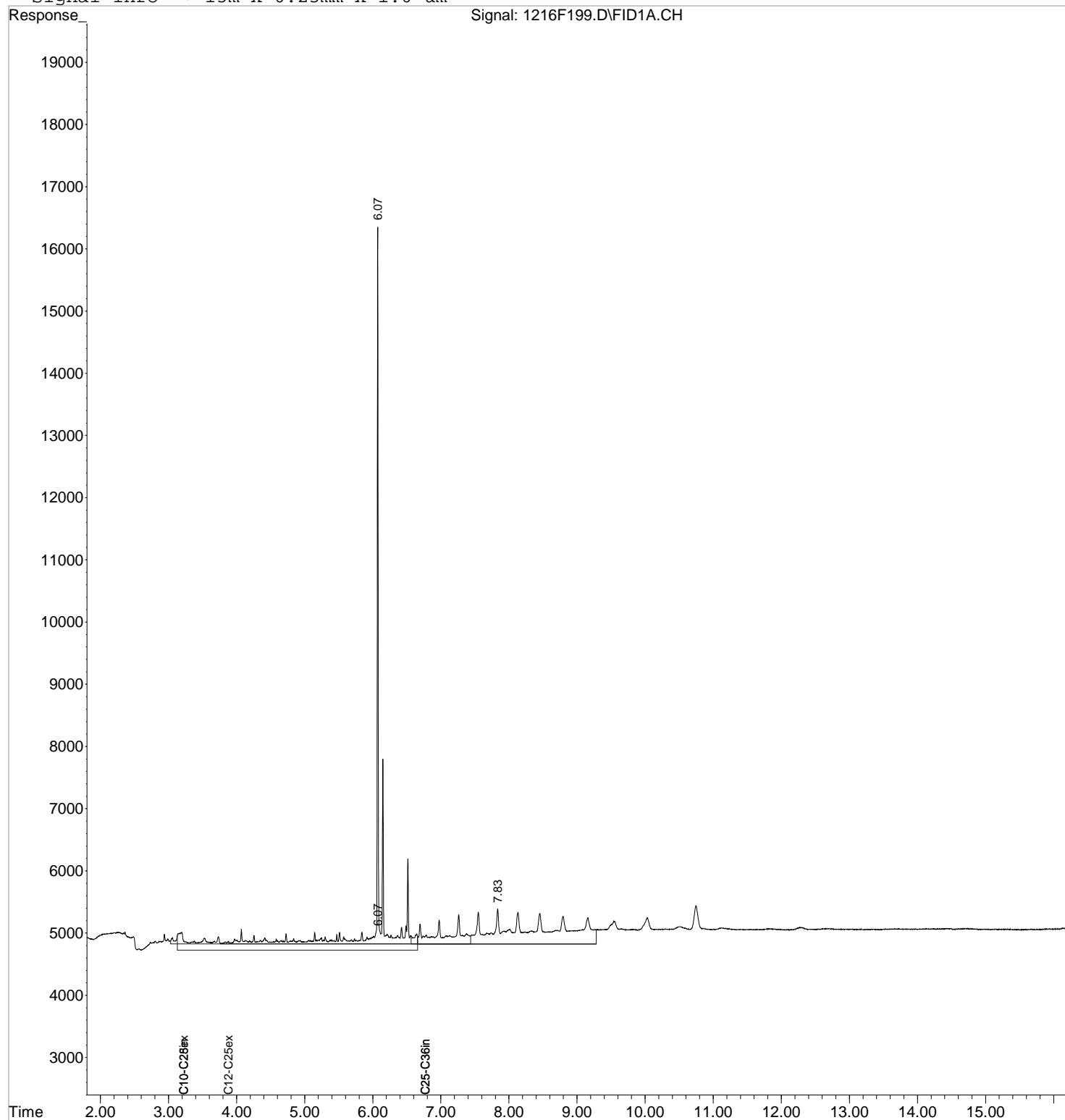
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	48326	34.042 ppm
7) H C10-C28in DRO [8015]	3.23	33549	22.845 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	24619	20.549 ppm
10) H C25-C36in RRO [NWTPH]	6.76	32350	36.046 ppm
11) H C25-C36in RRO [AK103]	6.76	32397	41.153 ppm

Data File : J:\GC21\DATA\121620F\1216F199.D Vial: 86
Acq On : 18 Dec 2020 3:01 am Operator: TAP
Sample : IB Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:42 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\121620F\1216F199.D

Acq On : 18 Dec 2020 3:01 am

Sample : IB

Misc :

IntFile : rteint.p

Quant Time: Dec 18 16:41 2020 Quant Results File: 113020F.RES

Vial: 86

Operator: TAP

Inst : GC21

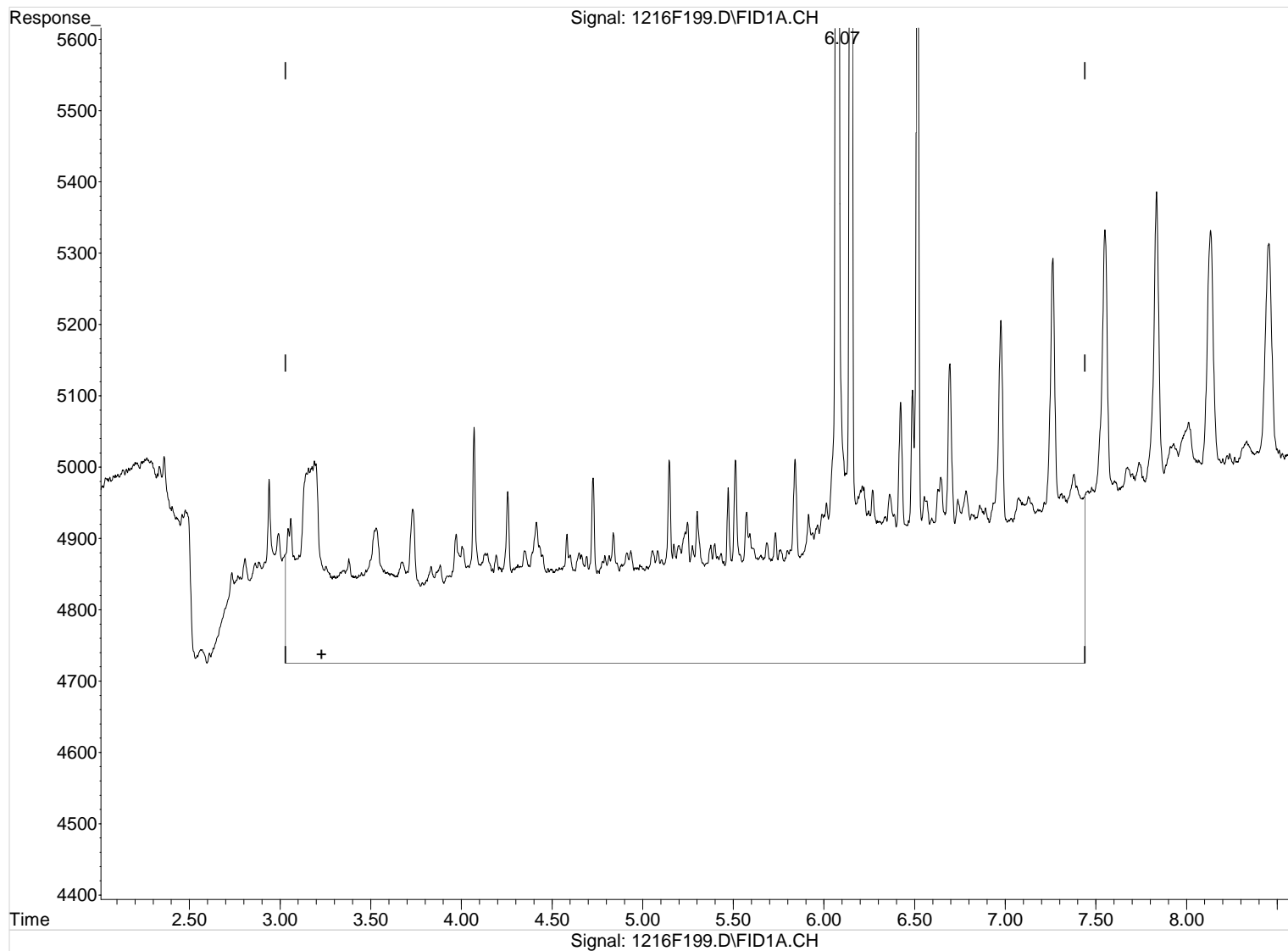
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

3.23min 41.411ppm

response 60813

Manual Integration:

Before

12/18/20

Data File : J:\GC21\DATA\121620F\1216F199.D

Vial: 86

Acq On : 18 Dec 2020 3:01 am

Operator: TAP

Sample : IB

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

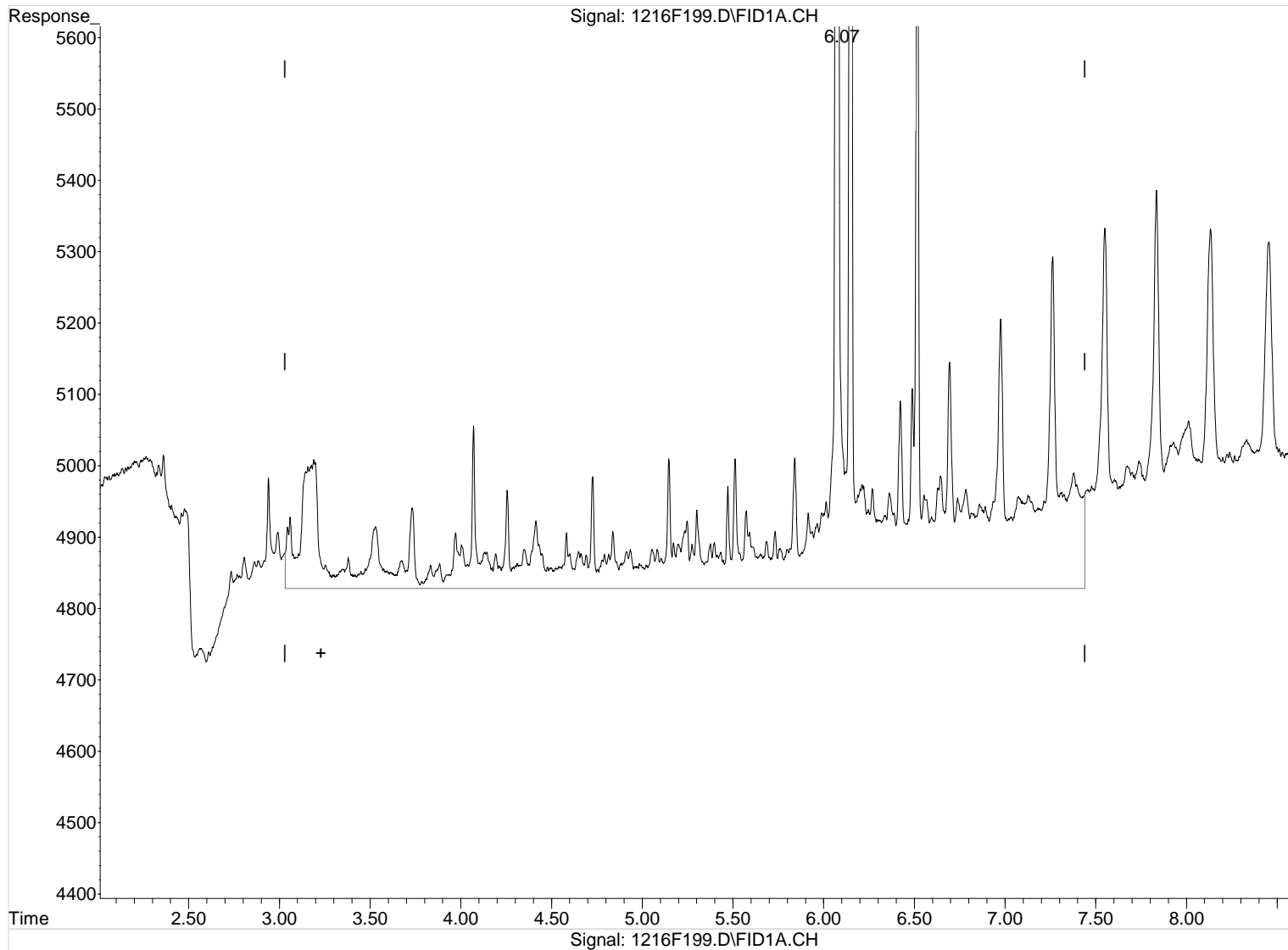
Quant Time: Dec 18 16:41 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

3.23min 22.845ppm

response 33549

Manual Integration:

After

Baseline/Shoulder

12/18/20

Data File : J:\GC21\DATA\121620F\1216F199.D

Acq On : 18 Dec 2020 3:01 am

Sample : IB

Misc :

IntFile : rteint.p

Quant Time: Dec 18 16:41 2020 Quant Results File: 113020F.RES

Vial: 86

Operator: TAP

Inst : GC21

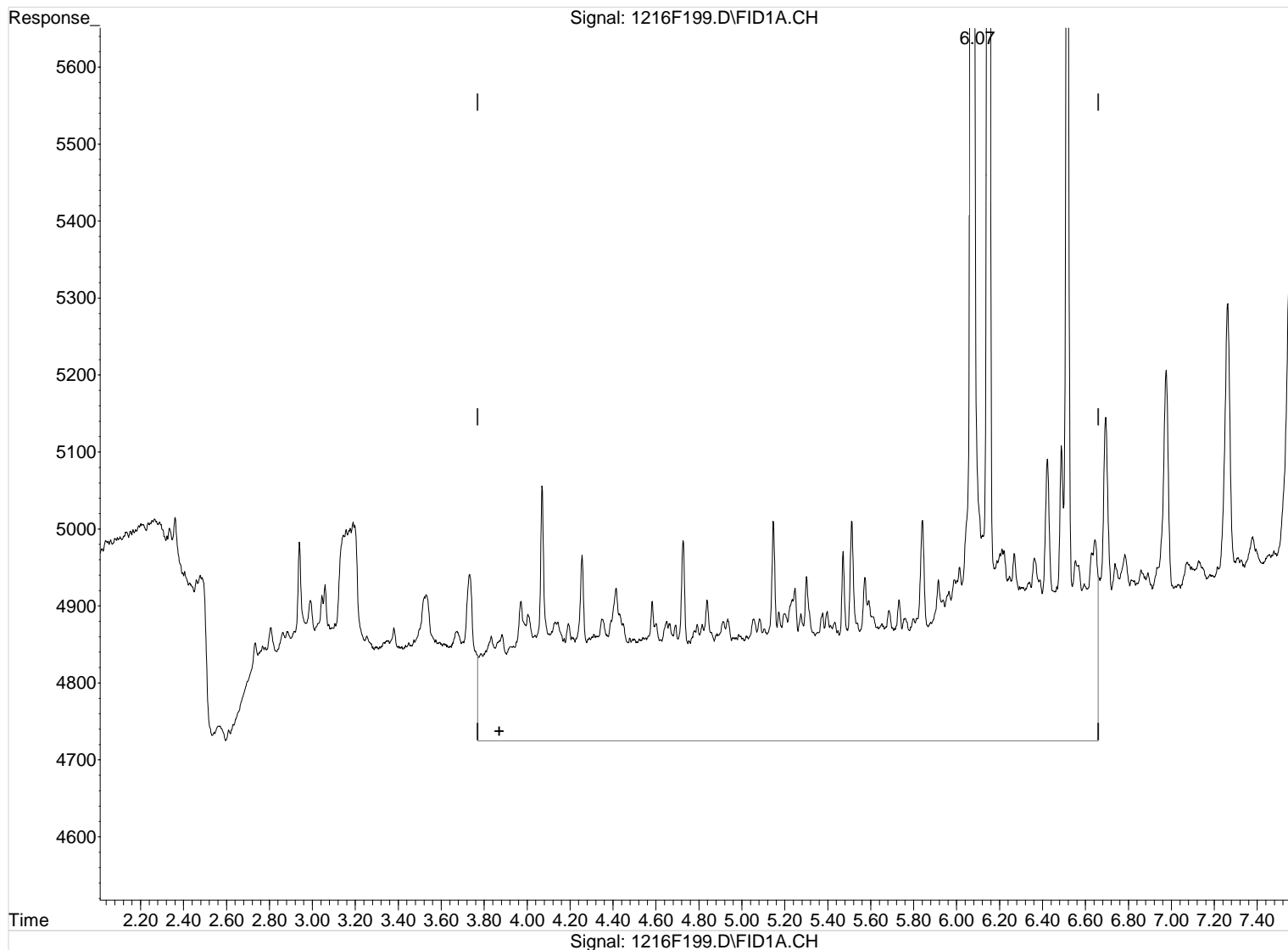
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

3.87min 35.456ppm

response 42479

Manual Integration:

Before

12/18/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\121620F\1216F199.D

Vial: 86

Acq On : 18 Dec 2020 3:01 am

Operator: TAP

Sample : IB

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

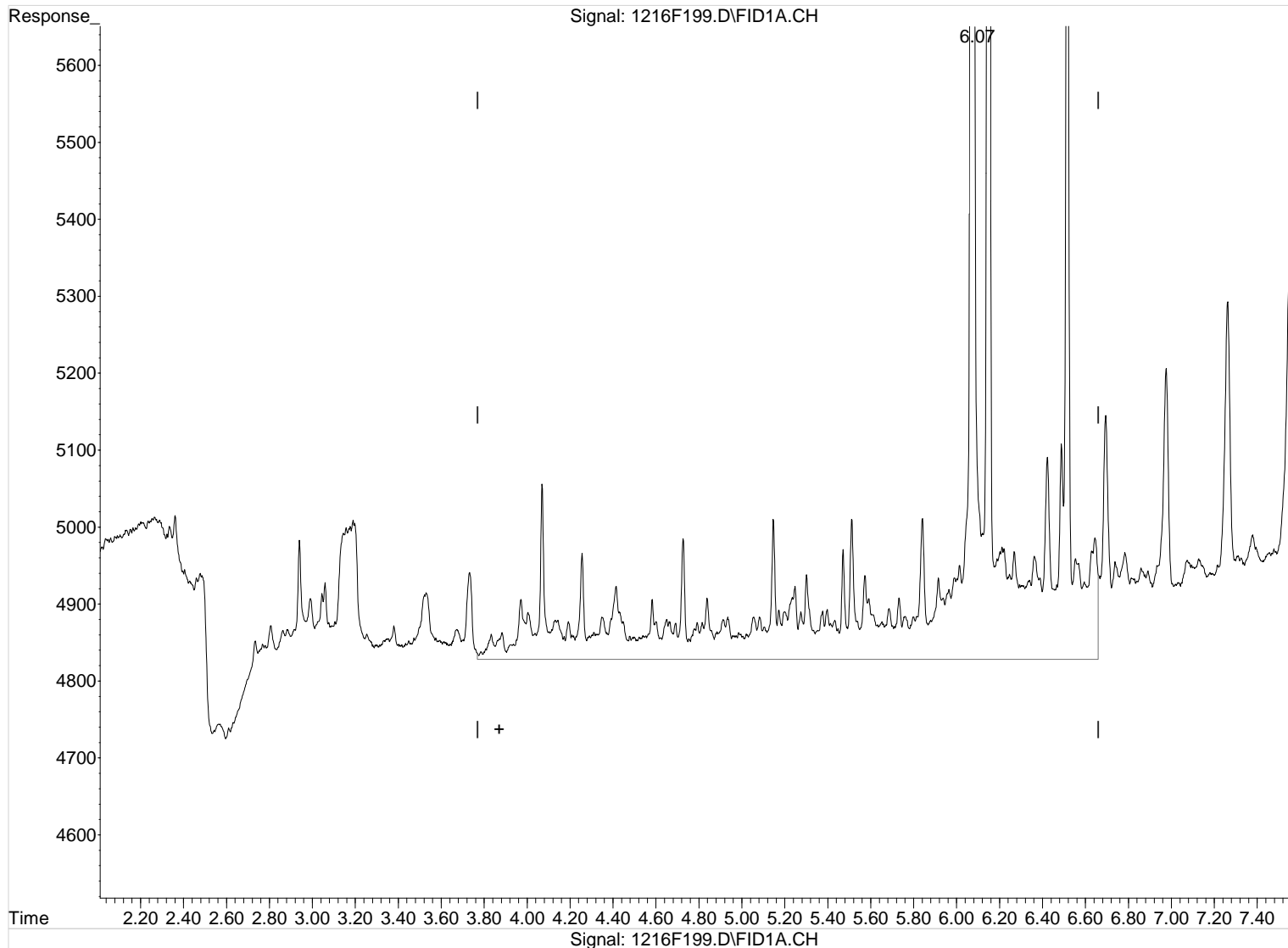
Quant Time: Dec 18 16:41 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 20.549ppm

After

response 24619

Baseline/Shoulder

12/18/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\121620F\1216F199.D

Acq On : 18 Dec 2020 3:01 am

Sample : IB

Misc :

IntFile : rteint.p

Quant Time: Dec 18 16:41 2020 Quant Results File: 113020F.RES

Vial: 86

Operator: TAP

Inst : GC21

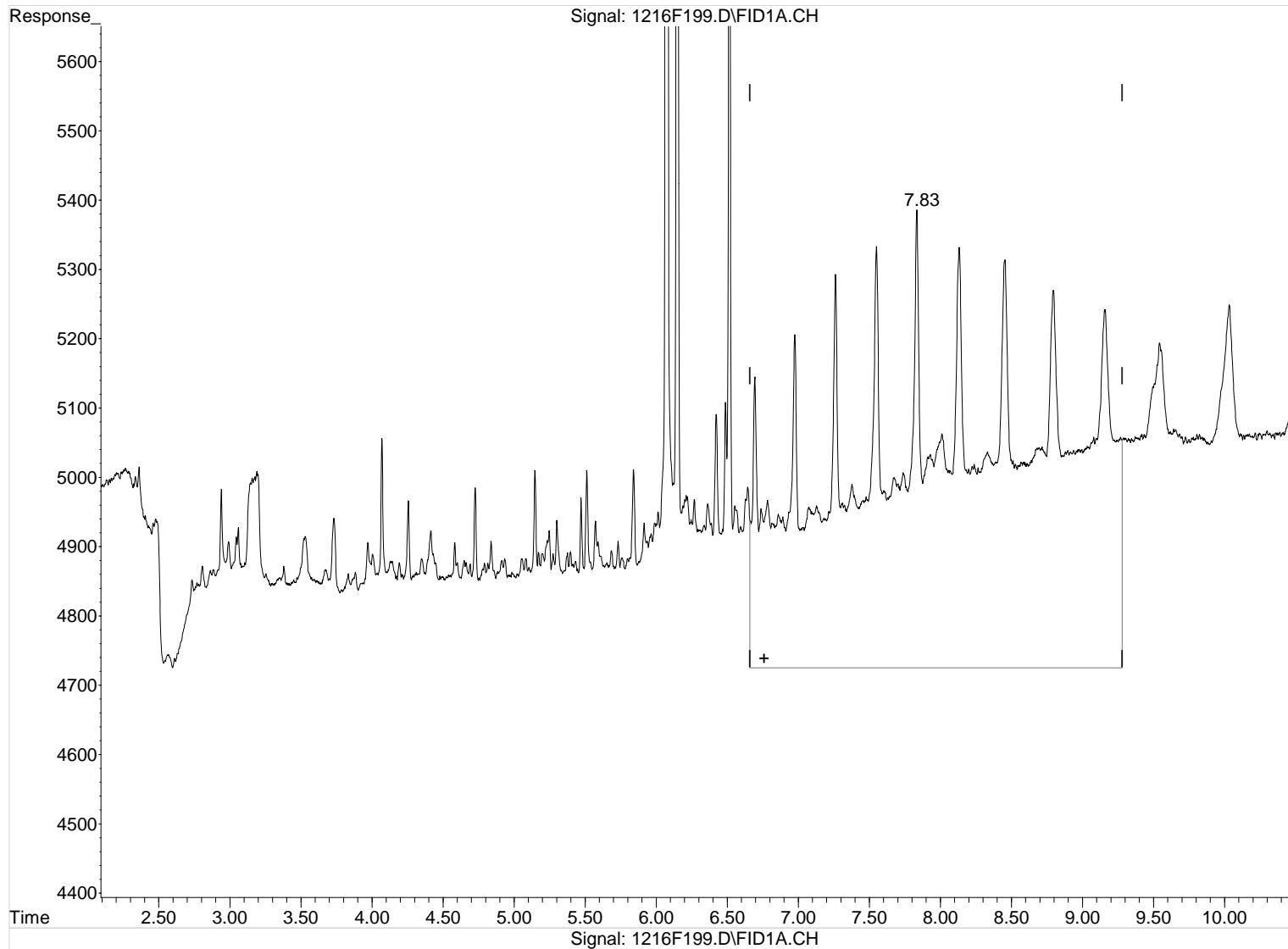
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

6.76min 53.336ppm

response 47867

Manual Integration:

Before

12/18/20

Data File : J:\GC21\DATA\121620F\1216F199.D

Acq On : 18 Dec 2020 3:01 am

Sample : IB

Misc :

IntFile : rteint.p

Quant Time: Dec 18 16:41 2020 Quant Results File: 113020F.RES

Vial: 86

Operator: TAP

Inst : GC21

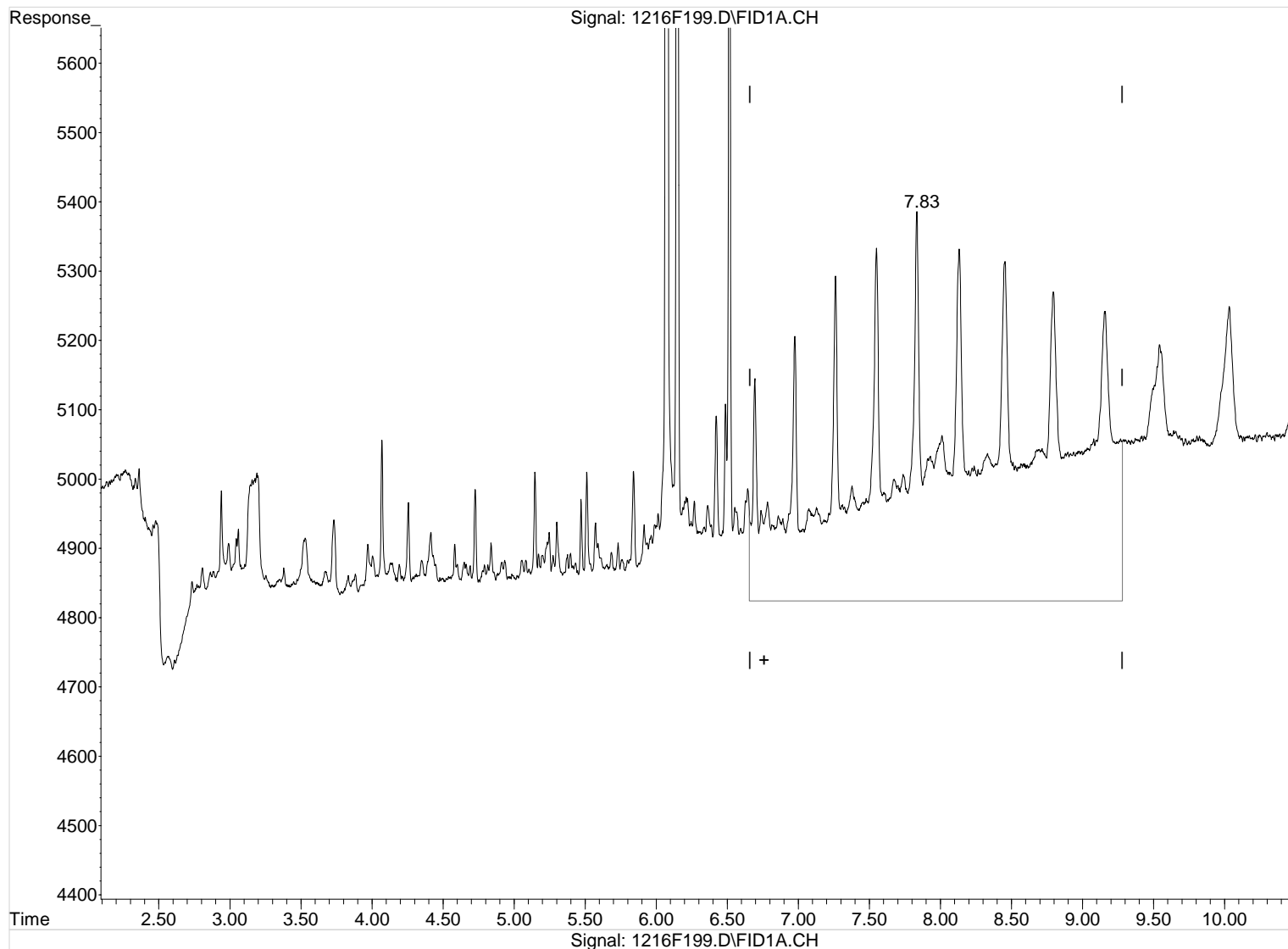
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

6.76min 36.046ppm

response 32350

Manual Integration:

After

Baseline/Shoulder

12/18/20

Data File : J:\GC21\DATA\121620F\1216F199.D

Acq On : 18 Dec 2020 3:01 am

Sample : IB

Misc :

IntFile : rteint.p

Quant Time: Dec 18 16:41 2020 Quant Results File: 113020F.RES

Vial: 86

Operator: TAP

Inst : GC21

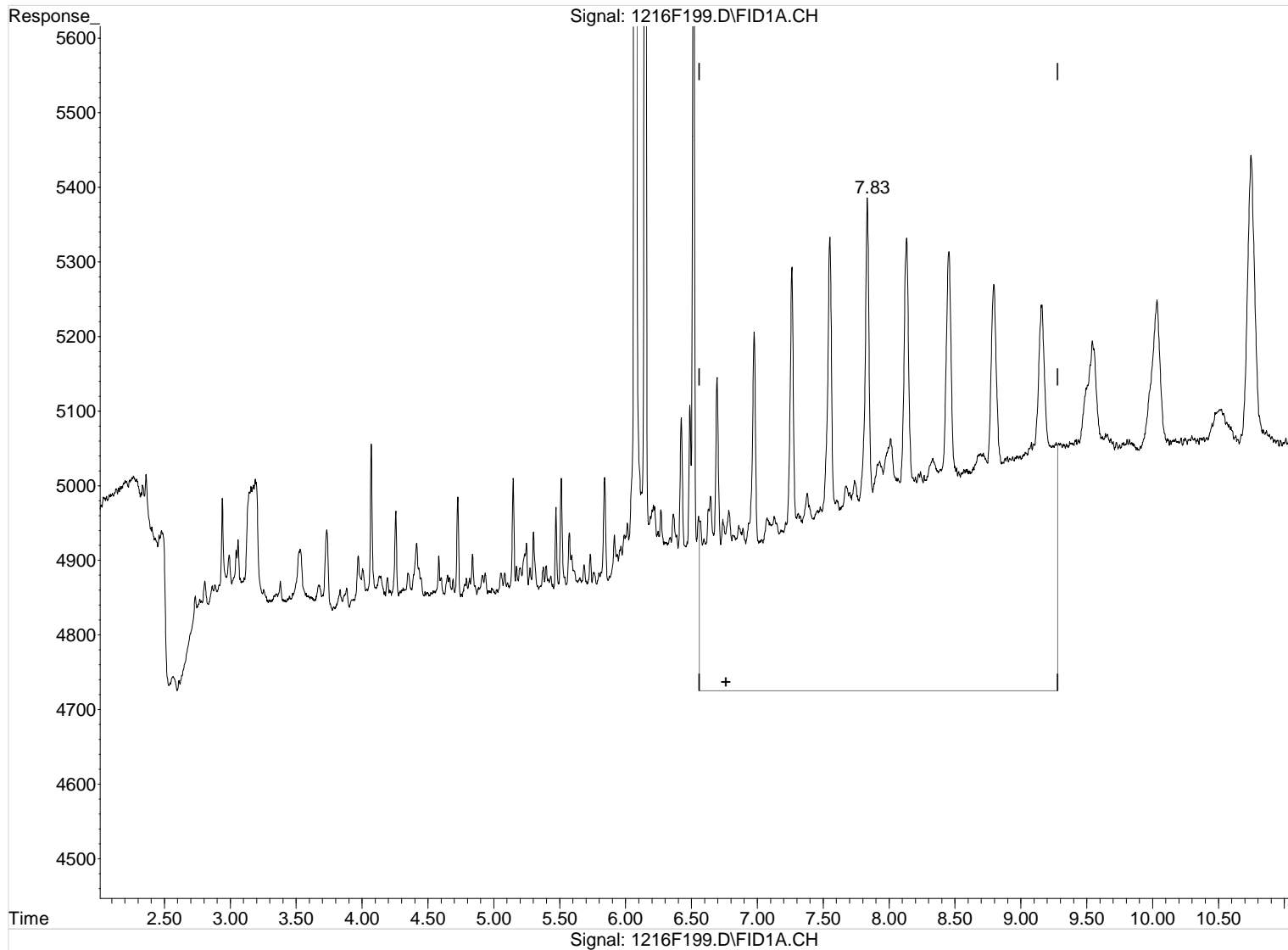
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

6.76min 62.481ppm

response 49187

Manual Integration:

Before

12/18/20

Data File : J:\GC21\DATA\121620F\1216F199.D

Acq On : 18 Dec 2020 3:01 am

Sample : IB

Misc :

IntFile : rteint.p

Quant Time: Dec 18 16:41 2020 Quant Results File: 113020F.RES

Vial: 86

Operator: TAP

Inst : GC21

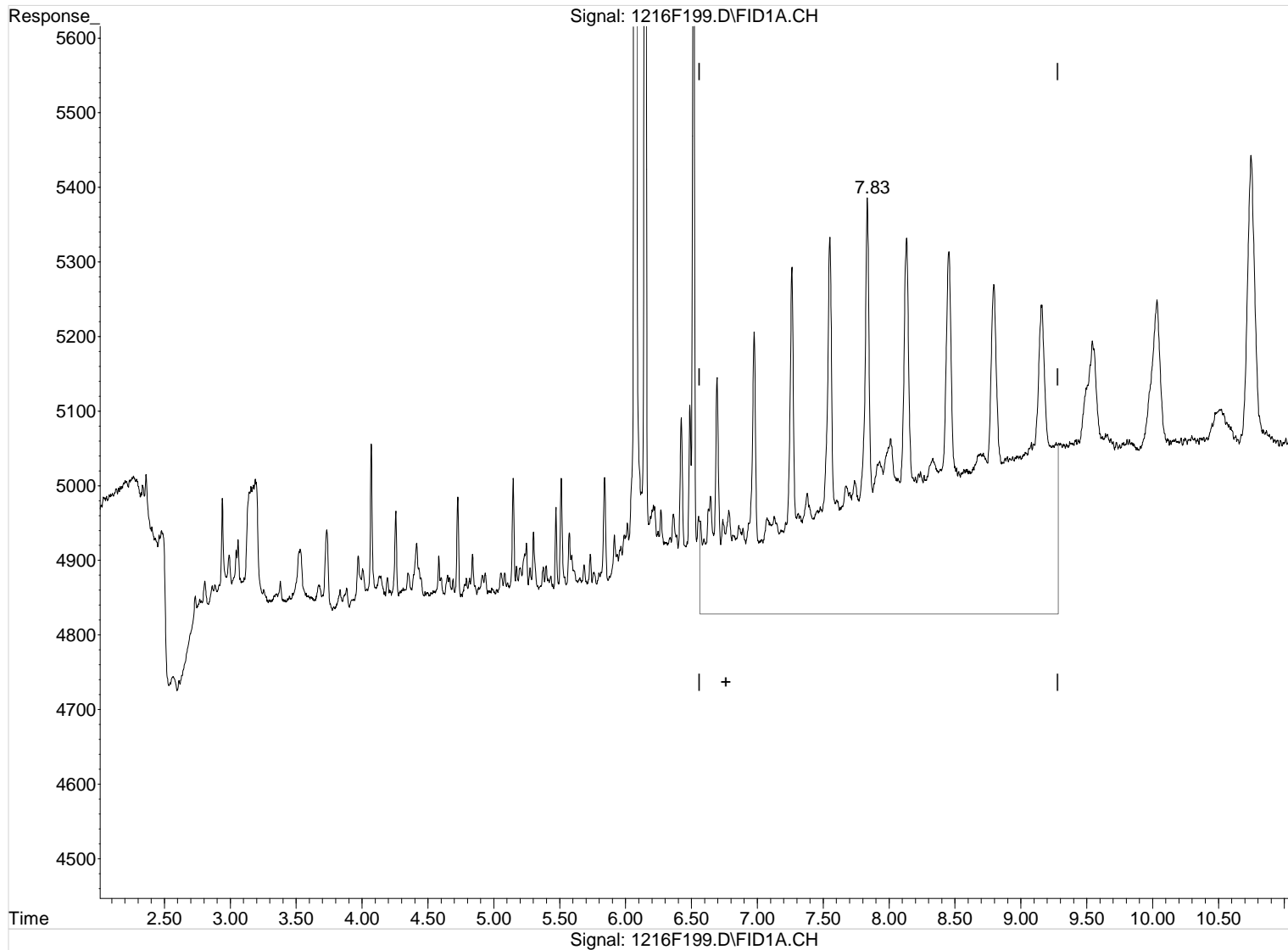
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 KC2000628

Last Update : Tue Dec 08 12:53:16 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

6.76min 41.153ppm

response 32397

Manual Integration:

After

Baseline/Shoulder

12/18/20

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F182.D\
Lab ID: KQ2020609-02
RunType: CCV
Matrix: Soil

Date Acquired: 12/17/20 20:43:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F182.D\
Lab ID: KQ2020609-02
RunType: CCV
Matrix: Soil

Date Acquired: 12/17/20 20:43:00
Batch ID: 707216
Analysis Method: NWTPH-Dx/NW_TPH

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Above Highest ICAL Level	X	
Analyte Coelutions	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F182.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 20:43:00	Vial:	4
Run Type:	CCV	Dilution:	1
Lab ID:	KQ2020609-02	Raw Units:	ppm

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	NW_TPH	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:		Report Group:	KQ2020609
Analysis	NWTPH-Dx	Prep Method:			
		Prep Date:			

Title:	Semi-Volatile Petroleum Products by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22364

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
o-Terphenyl	5.57		86660	49.835	Y
n-Triacontane	7.74		69119	46.120	Y

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
Diesel Range Organics (C12 - C25 DRO)	3.87		1337975	1116.775	Y
Residual Range Organics (C25 - C36 RRO)	0.00		0	0.000	N

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

Printed: 12/22/20 9:49

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Quantitation Report

1st *TP* 12/22/20
2nd *FW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F182.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 20:43:00	Vial:	3
Run Type:	CCV	Dilution:	1
Lab ID:	KQ2020609-02	Raw Units:	ppm

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:		Report Group:	KQ2020609
Analysis	8015C	Prep Method:			
		Prep Date:			

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22410

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
o-Terphenyl	5.57		86660	49.835	Y
n-Triacontane	7.74		69119	46.120	Y

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
Diesel Range Organics (C12 - C25 DRO)	3.87		1337975	1116.775	Y
Residual Range Organics (C25 - C36 RRO)	0.00		0	0.000	N

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

Printed: 12/22/20 9:46

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F182.D\	Instrument:	K-GC-21
Acqu Date:	12/17/20 20:43:00	Vial:	3
Run Type:	CCV	Dilution:	1
Lab ID:	KQ2020609-02	Raw Units:	ppm

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:		Report Group:	KQ2020609
Analysis	8015C	Prep Method:			
		Prep Date:			

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
o-Terphenyl	5.57		86660	49.835	Y

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		1570700	1069.571	Y

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

Printed: 12/22/20 9:49

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\GC21\DATA\121620F\1216F182.D Vial: 96
 Acq On : 17 Dec 2020 8:43 pm Operator: TAP
 Sample : DRO@1000/50 SVF03-11A Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:29:02 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

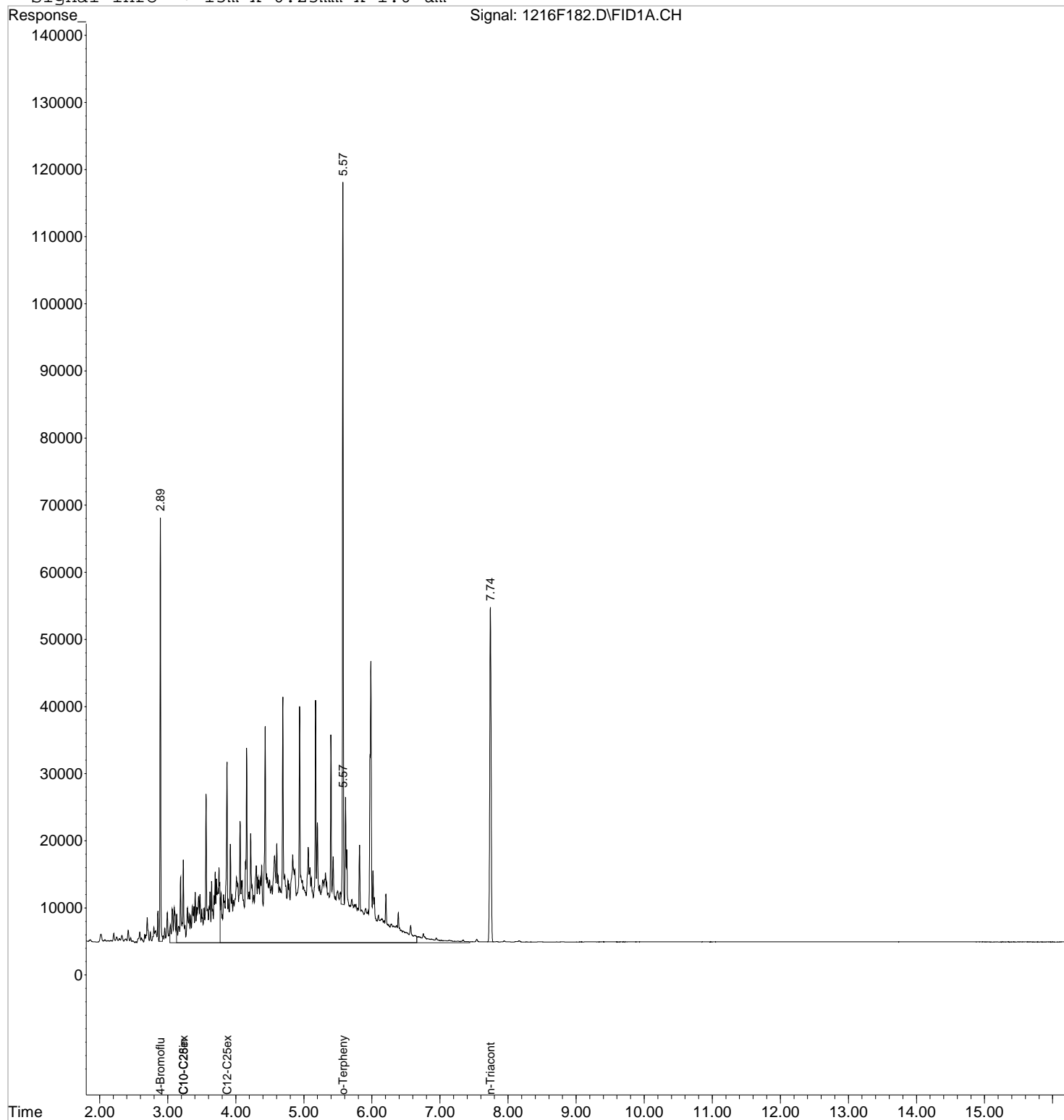
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	45144	50.026 ppm
Spiked Amount 50.000	Recovery	=	100.05%
2) S o-Terphenyl	5.57	86660	49.835 ppm
Spiked Amount 50.000	Recovery	=	99.67%
3) S n-Triacontane	7.74	69119	46.120 ppm
Spiked Amount 50.000	Recovery	=	92.24%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	1532313	1079.390 ppm
7) H C10-C28in DRO [8015]	3.23	1570700	1069.571 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	1337975	1116.775 ppm

Data File : J:\GC21\DATA\121620F\1216F182.D Vial: 96
Acq On : 17 Dec 2020 8:43 pm Operator: TAP
Sample : DRO@1000/50 SVF03-11A Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:29 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Validation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File: J:\GC21\DATA\121620F\1216F197.D\
Lab ID: KQ2020609-03
RunType: CCV
Matrix: Soil

Date Acquired: 12/18/20 02:17:00
Batch ID: 707216
Analysis Method: 8015C/DRO RRO

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Above Highest ICAL Level	X	
Analyte Coelutions		X

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Analyte Coelutions	Diesel Range Organics (C10 - C28 DRO)	3.23			overlapping range
	Diesel Range Organics (C10 - C25 DRO)	3.23			NR

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *TP* 12/22/20
2nd *SW* 12/22/20

Data File:	J:\GC21\DATA\121620F\1216F197.D\	Instrument:	K-GC-21
Acqu Date:	12/18/20 02:17:00	Vial:	6
Run Type:	CCV	Dilution:	1
Lab ID:	KQ2020609-03	Raw Units:	ppm

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	DRO RRO	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707216	Prep Lot:		Report Group:	KQ2020609
Analysis	8015C	Prep Method:			
		Prep Date:			

Title:	Semivolatile Range Organics by GC/FID	Calibration ID:	KC2000628
		Report List ID:	22411

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
o-Terphenyl	5.57		90821	52.228	Y

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
Diesel Range Organics (C10 - C28 DRO)	3.23		1679427	1143.609	Y

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

Printed: 12/22/20 9:49

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\GC21\DATA\121620F\1216F197.D Vial: 96
 Acq On : 18 Dec 2020 2:17 am Operator: TAP
 Sample : DRO@1000/50 SVF03-11A Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 18 16:38:38 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 KC2000628
 Last Update : Tue Dec 08 12:53:16 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

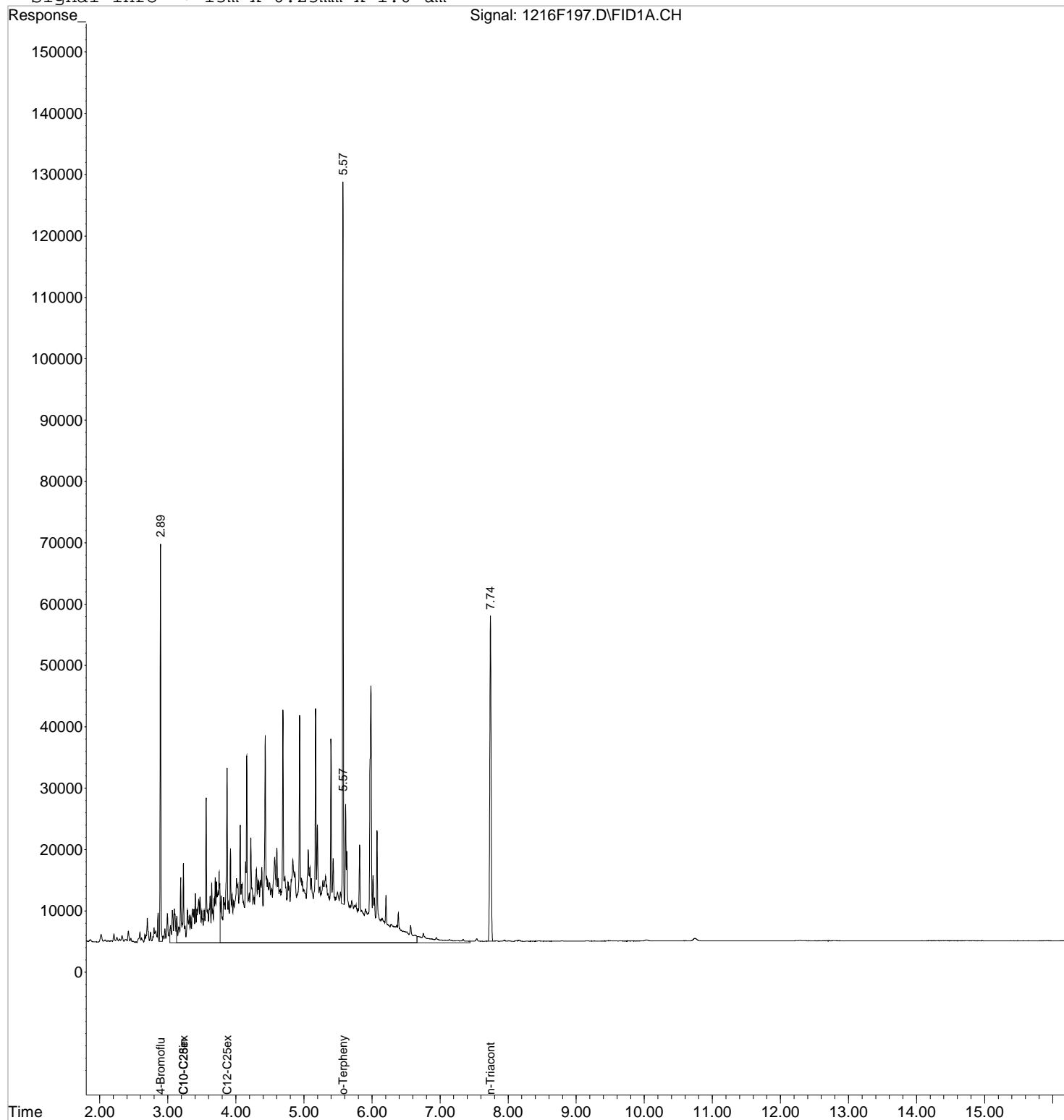
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	46870	51.939 ppm
Spiked Amount 50.000	Recovery	=	103.88%
2) S o-Terphenyl	5.57	90821	52.228 ppm
Spiked Amount 50.000	Recovery	=	104.46%
3) S n-Triacontane	7.74	71373	47.624 ppm
Spiked Amount 50.000	Recovery	=	95.25%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	1635961	1152.402 ppm
7) H C10-C28in DRO [8015]	3.23	1679427	1143.609 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	1432989	1196.081 ppm

Data File : J:\GC21\DATA\121620F\1216F197.D Vial: 96
Acq On : 18 Dec 2020 2:17 am Operator: TAP
Sample : DRO@1000/50 SVF03-11A Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 18 16:39 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 KC2000628
Last Update : Tue Dec 08 12:53:16 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Injection Log

Directory: J:\GC21\DATA\113020F

KC2000628

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	90	1130F101.D	1.	DCM		11/30/22020 6:18:0
2	90	1130F102.D	1.	DCM		11/30/22020 6:40:2
3	90	1130F103.D	1.	DCM		11/30/22020 7:02:5
4	90	1130F104.D	1.	DCM		11/30/22020 7:25:2
5	90	1130F105.D	1.	DCM		11/30/22020 7:47:5
6	90	1130F106.D	1.	DCM		11/30/22020 8:10:3
7	90	1130F107.D	1.	DCM		11/30/22020 8:33:0
8	90	1130F108.D	1.	IB		11/30/22020 8:55:4
9	90	1130F109.D	1.	IB		11/30/22020 9:18:1
10	90	1130F110.D	1.	IB		11/30/22020 9:40:4
11	90	1130F111.D	1.	IB		11/30/22020 10:03:1
12	90	1130F112.D	1.	IB		11/30/22020 10:25:3
13	90	1130F113.D	1.	IB		11/30/22020 10:48:0
14	90	1130F114.D	1.	IB		11/30/22020 11:10:2
15	90	1130F115.D	1.	IB		11/30/22020 11:32:4
16	90	1130F116.D	1.	IB		11/30/22020 11:55:0
17	90	1130F117.D	1.	IB		11/30/22020 12:17:2
18	90	1130F118.D	1.	IB		11/30/22020 12:39:4
19	90	1130F119.D	1.	IB		11/30/22020 1:02:1
20	90	1130F120.D	1.	IB		11/30/22020 1:24:3
21	90	1130F121.D	1.	IB		11/30/22020 1:46:5
22	90	1130F122.D	1.	IB		11/30/22020 2:09:1
23	90	1130F123.D	1.	IB		11/30/22020 2:31:3
24	99	1130F124.D	1.	MC252		11/30/22020 3:36:3
25	91	1130F125.D	1.	ALIPHATICS		11/30/22020 3:58:5
26	90	1130F126.D	1.	IB		11/30/22020 4:21:0
27	90	1130F127.D	1.	IB		11/30/22020 4:43:3
28	86	1130F128.D	1.	ICAL BLANK		11/30/22020 5:05:5
29	1	1130F129.D	1.	SVF03-8E DRO 20/1.0		11/30/22020 5:28:0
30	2	1130F130.D	1.	SVF03-8D DRO 50/2.5		11/30/22020 5:50:2
31	3	1130F131.D	1.	SVF03-8C DRO 200/10		11/30/22020 6:12:4
32	4	1130F132.D	1.	SVF03-8B DRO 500/25		11/30/22020 6:34:5
33	5	1130F133.D	1.	SVF03-8A DRO 2000/100		11/30/22020 6:57:1
34	6	1130F134.D	1.	SVF03-7I DRO 5000/250		11/30/22020 7:19:3
35	7	1130F135.D	1.	SVF03-7H DRO 20,000		11/30/22020 7:41:4
36	8	1130F136.D	1.	SVF03-7G DRO 50,000		11/30/22020 8:04:0
37	90	1130F137.D	1.	IB		11/30/22020 8:26:1
38	86	1130F138.D	1.	ICAL BLANK		11/30/22020 8:48:3
39	9	1130F139.D	1.	SVF03-8G DRO ICV@1000		11/30/22020 9:10:5
40	90	1130F140.D	1.	IB		11/30/22020 9:33:1
41	90	1130F141.D	1.	IB		11/30/22020 9:55:3
42	86	1130F142.D	1.	ICAL BLANK		11/30/22020 10:18:0
43	10	1130F143.D	1.	SVF03-9A RRO 50		11/30/22020 10:40:1
44	11	1130F144.D	1.	SVF03-8L RRO 200		11/30/22020 11:02:3
45	12	1130F145.D	1.	SVF03-8K RRO 500		11/30/22020 11:24:5
46	13	1130F146.D	1.	SVF03-8J RRO 2000		11/30/22020 11:47:0
47	14	1130F147.D	1.	SVF03-8I RRO 5000		12/01/22020 12:09:2
48	90	1130F148.D	1.	IB		12/01/22020 12:31:4
49	86	1130F149.D	1.	ICAL BLANK		12/01/22020 12:53:5
50	15	1130F150.D	1.	SVF03-9B RRO ICV@1000 <i>RR</i>		12/01/22020 1:16:1
51	90	1130F151.D	1.	IB		12/01/22020 1:38:3
52	90	1130F152.D	1.	IB		12/01/22020 2:00:4
53	86	1130F153.D	1.	ICAL BLANK		12/01/22020 2:22:5
54	16	1130F154.D	1.	SVF03-9G AK103 50		12/01/22020 2:45:1
55	17	1130F155.D	1.	SVF03-9F AK103 200		12/01/22020 3:07:2

Injection Log

Directory: J:\GC21\DATA\113020F

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
56	18	1130F156.D	1.	SVF03-9E AK103 500		12/01/22020 3:29:3
57	19	1130F157.D	1.	SVF03-9D AK103 2000		12/01/22020 3:51:4
58	20	1130F158.D	1.	SVF03-9C AK103 5000		12/01/22020 4:13:5
59	90	1130F159.D	1.	IB		12/01/22020 4:36:1
60	86	1130F160.D	1.	ICAL BLANK		12/01/22020 4:58:3
61	21	1130F161.D	1.	SVF03-9H AK103 ICV@1000		12/01/22020 5:20:3
62	90	1130F162.D	1.	IB		12/01/22020 5:42:5
63	90	1130F163.D	1.	IB		12/01/22020 6:05:1

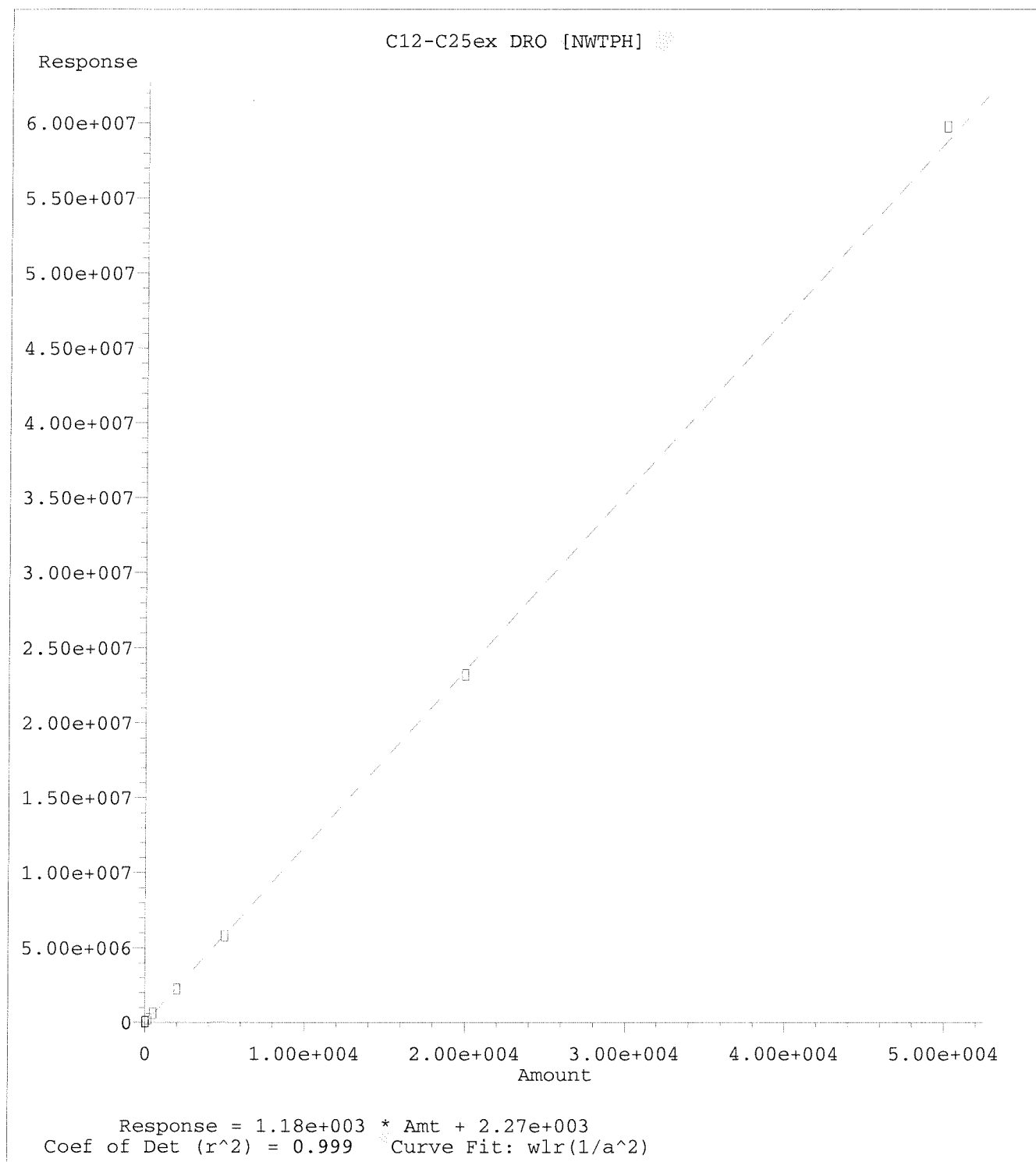
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Injection Log

Directory: J:\GC21\DATA\120120F

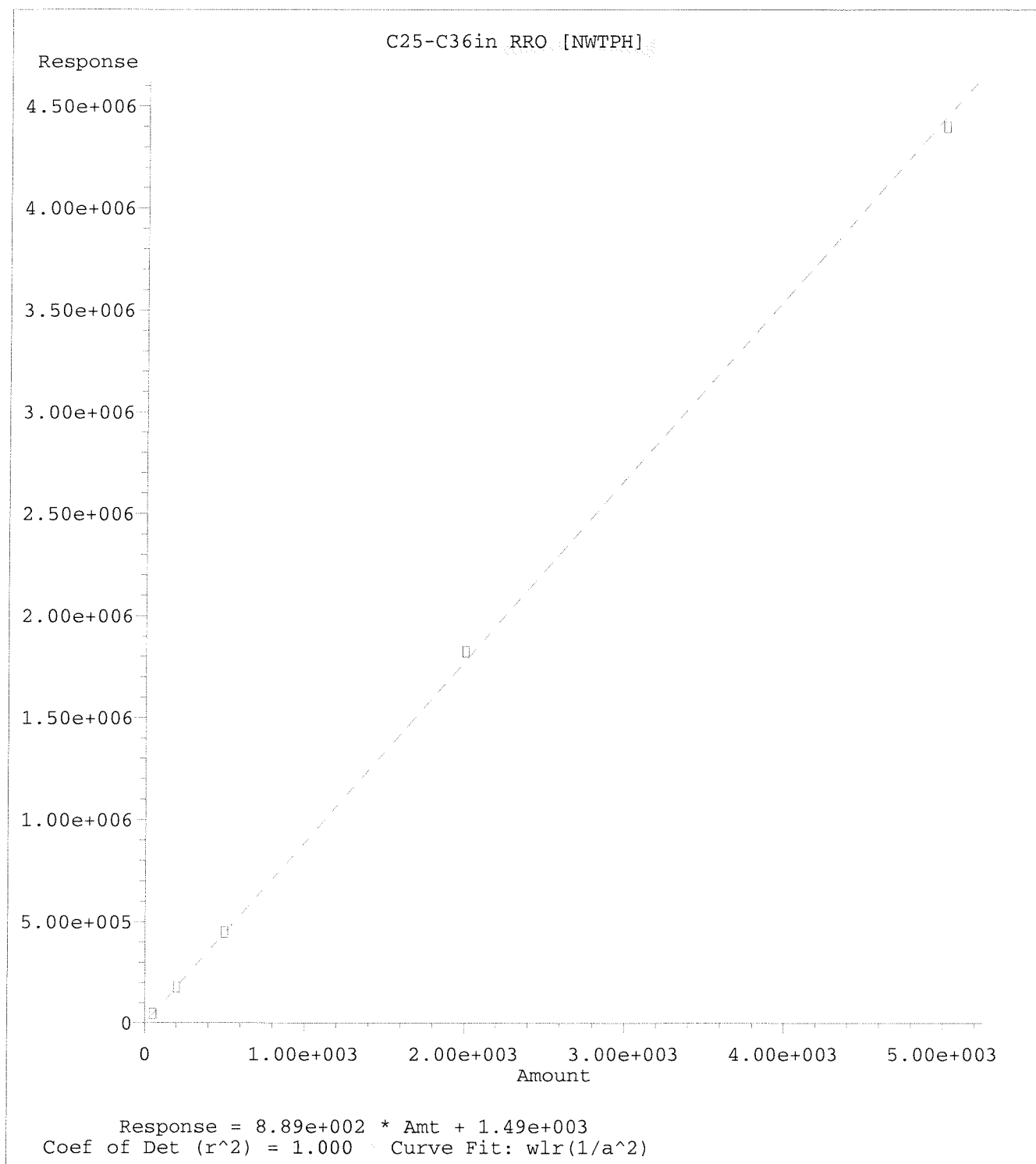
Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	90	1201F101.D	1.	DCM		12/01/22020 1:13:1
2	99	1201F102.D	1.	MC252		12/01/22020 1:35:3
3	91	1201F103.D	1.	ALIPHATICS		12/01/22020 1:57:5
4	86	1201F104.D	1.	ICAL BLANK		12/01/22020 2:20:1
5	1	1201F105.D	1.	SVF03-9B RRO ICV@1000		12/01/22020 2:42:3

NWTPH LINEAR CHECK



Method Name: J:\GC21\METHODS\113020F.M
 Calibration Table Last Updated: Tue Dec 01 12:53:39 2020

NWTPH LINEAR CHECK



Method Name: J:\GC21\METHODS\113020F.M
 Calibration Table Last Updated: Tue Dec 01 12:53:39 2020

Data File : J:\GC21\DATA\113020F\1130F128.D Vial: 86
Acq On : 30 Nov 2020 5:05 pm Operator: TAP
Sample : ICAL BLANK Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:10:50 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:09:56 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

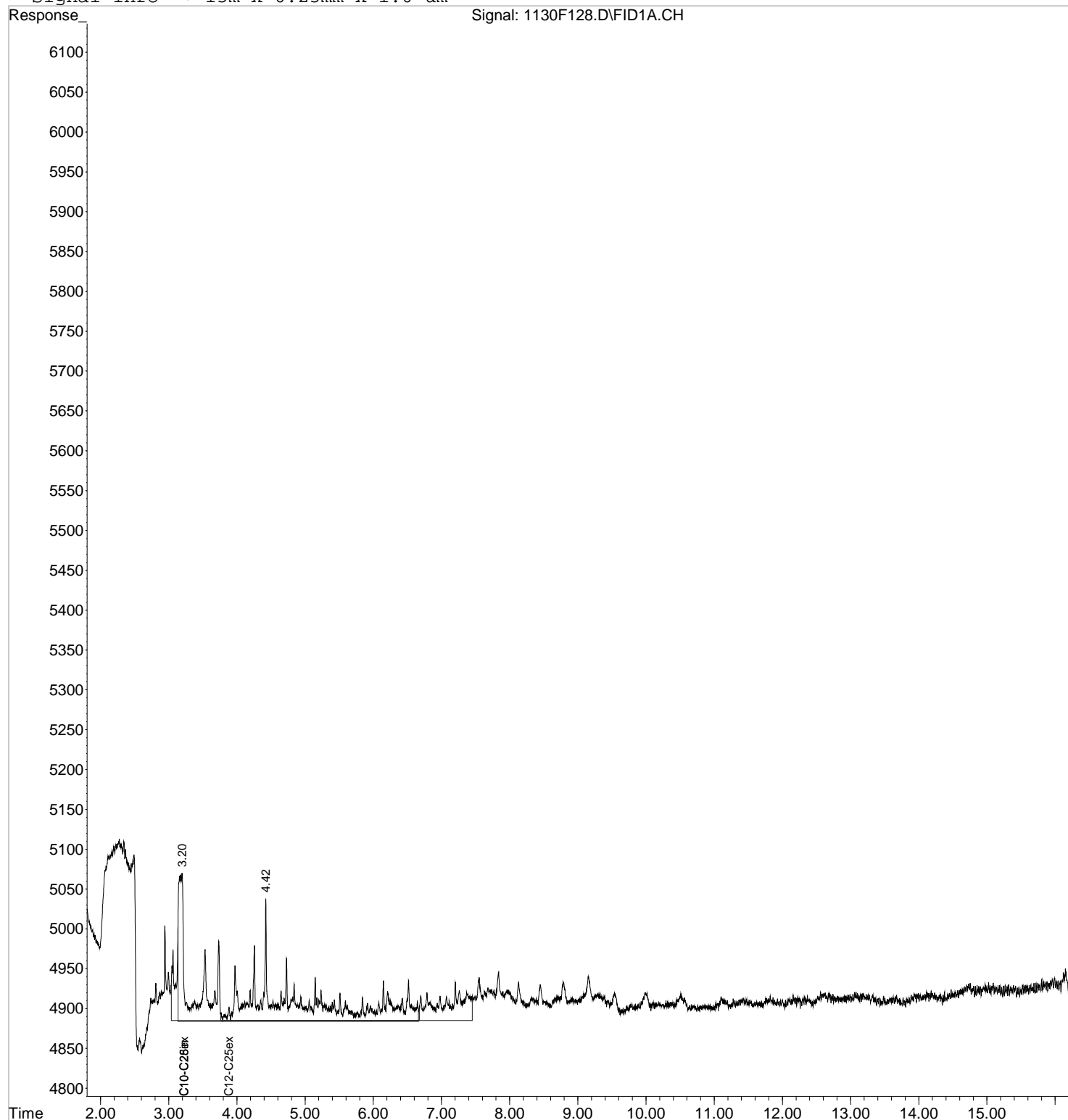
Target Compounds

6) H	C10-C25ex DRO [AK102]	3.23	5251	3.699 ppm
7) H	C10-C28in DRO [8015]	3.23	6423	4.374 ppm
8) H	C12-C25ex DRO [NWTPH]	3.87	3338	2.786 ppm

Data File : J:\GC21\DATA\113020F\1130F128.D Vial: 86
Acq On : 30 Nov 2020 5:05 pm Operator: TAP
Sample : ICAL BLANK Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:11 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:09:56 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F128.D

Vial: 86

Acq On : 30 Nov 2020 5:05 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

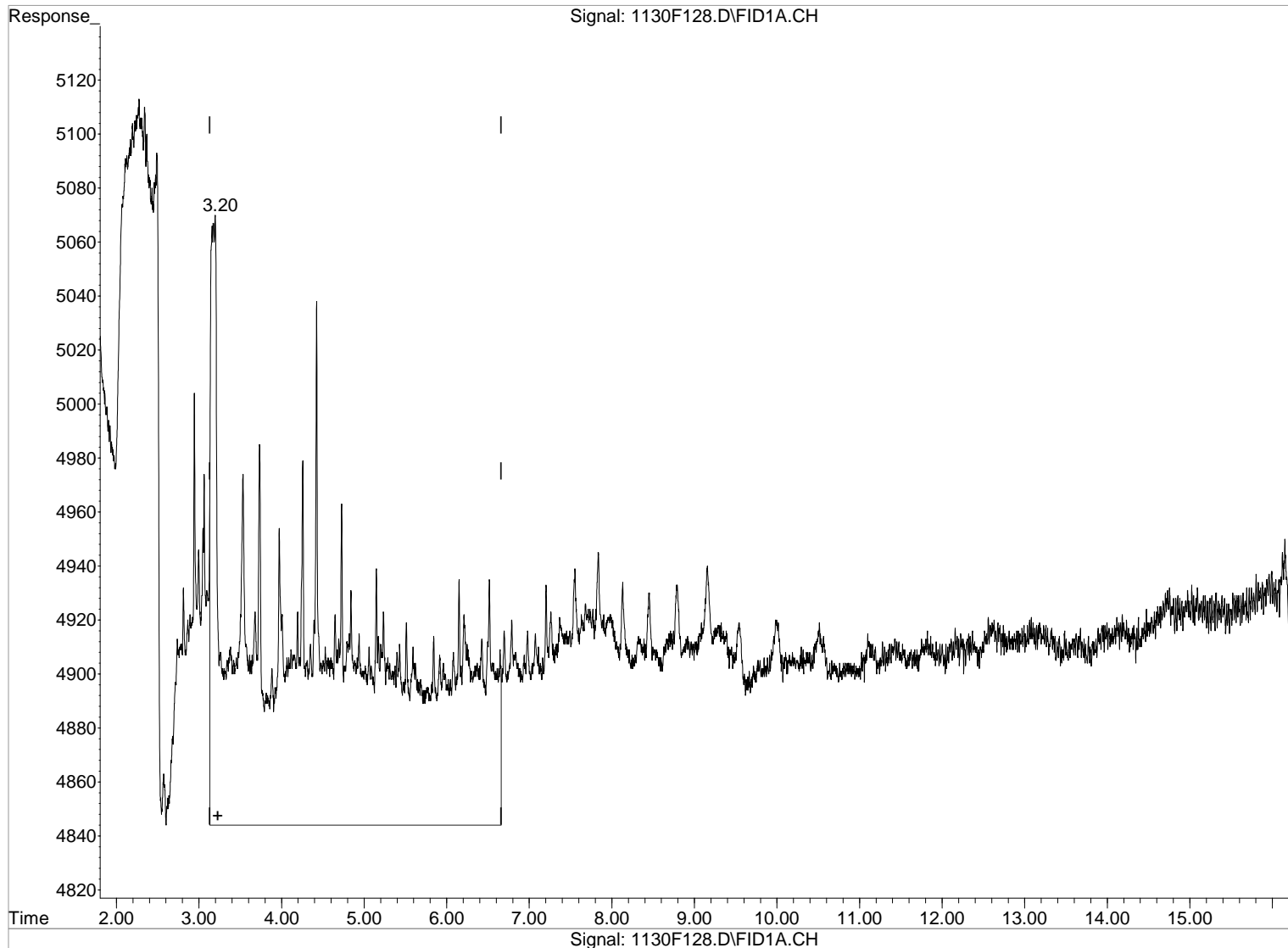
Quant Time: Dec 1 11:10 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(6) C10-C25ex DRO [AK102] (H)

Manual Integration:

3.23min 9.695ppm

Before

response 13763

12/01/20

Data File : J:\GC21\DATA\113020F\1130F128.D

Vial: 86

Acq On : 30 Nov 2020 5:05 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

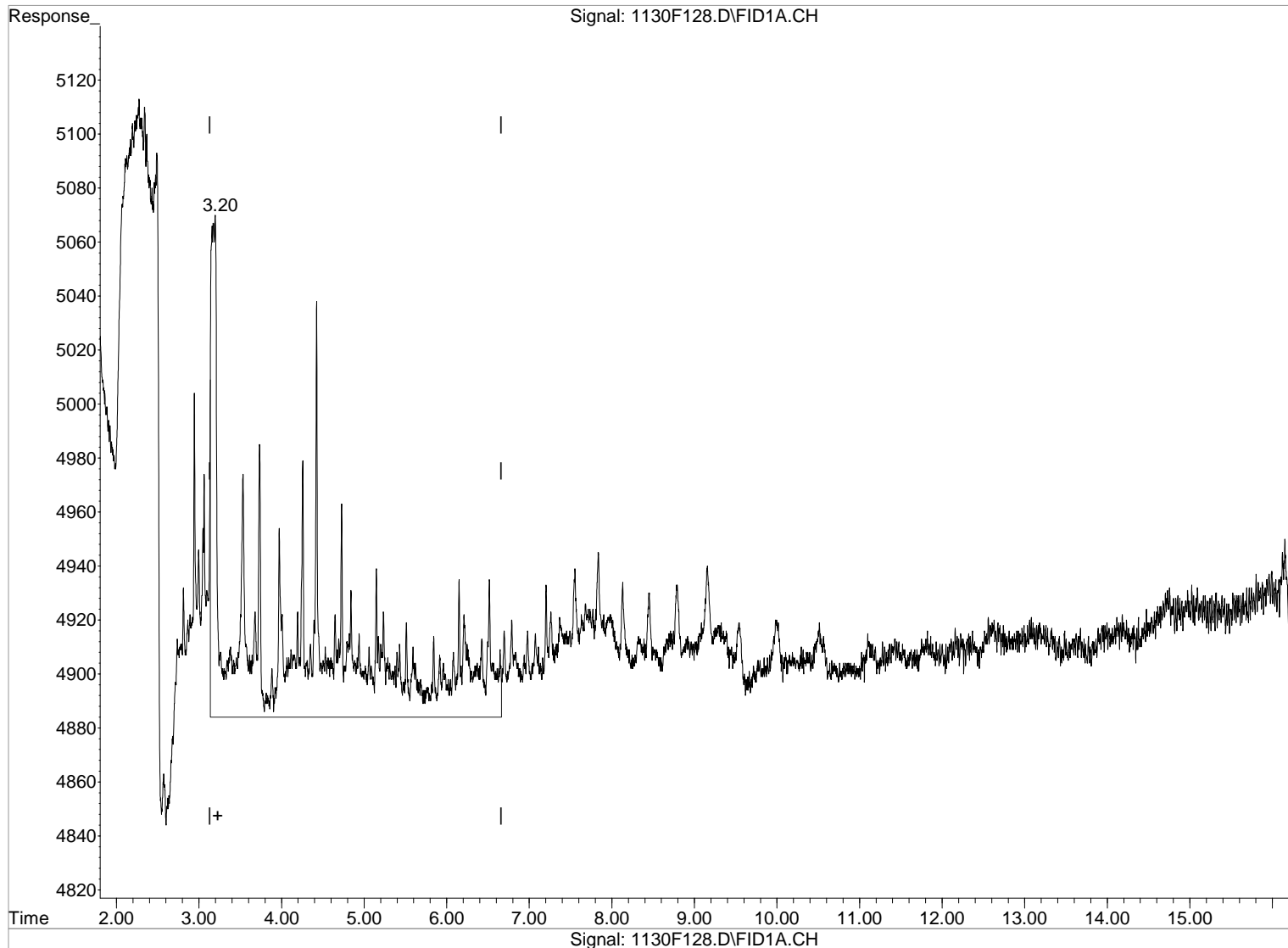
Quant Time: Dec 1 11:10 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(6) C10-C25ex DRO [AK102] (H)

Manual Integration:

3.23min 3.699ppm

After

response 5251

Baseline/Shoulder

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F128.D

Vial: 86

Acq On : 30 Nov 2020 5:05 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

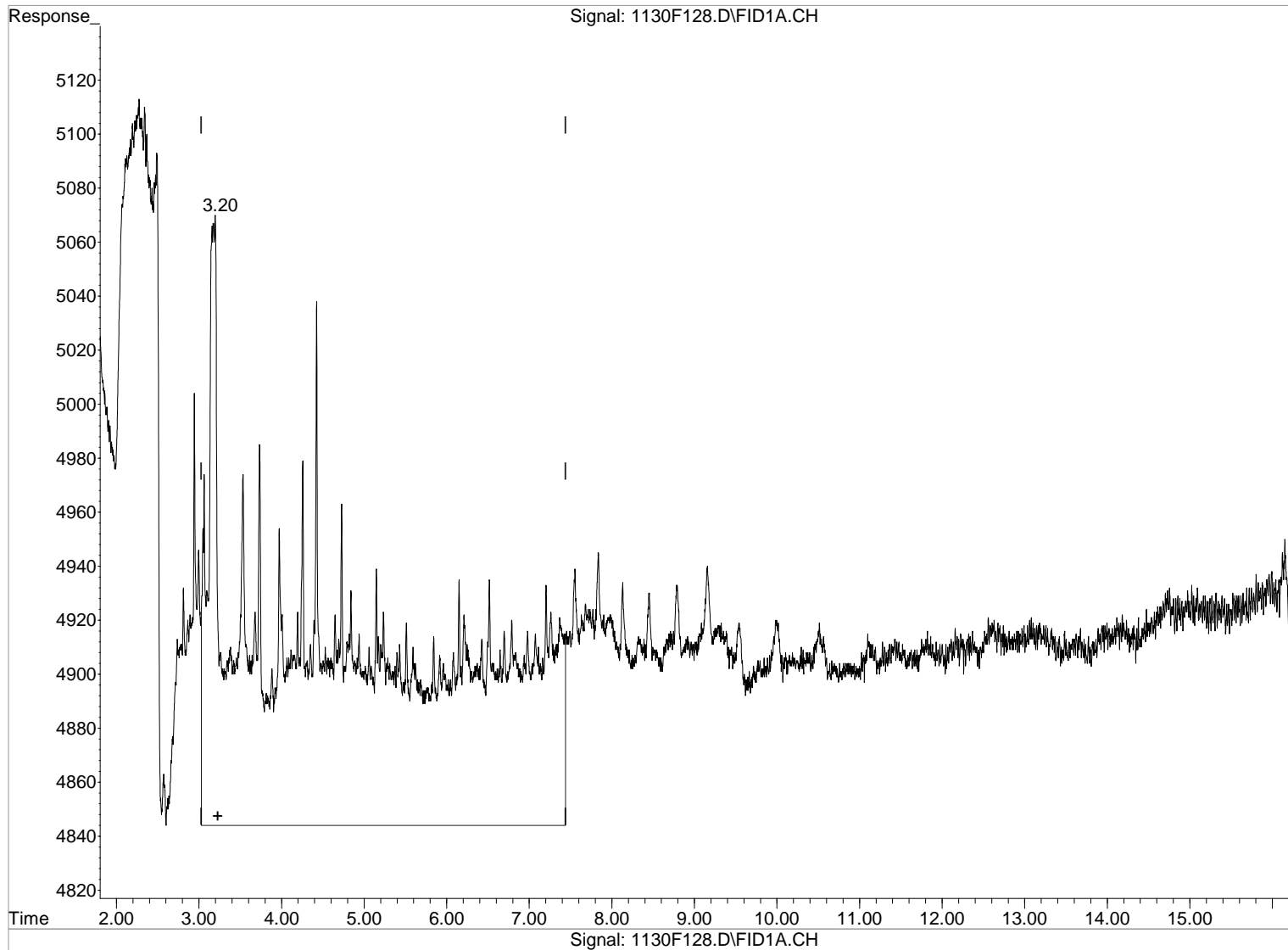
Quant Time: Dec 1 11:10 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 11.763ppm

Before

response 17275

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F128.D

Vial: 86

Acq On : 30 Nov 2020 5:05 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

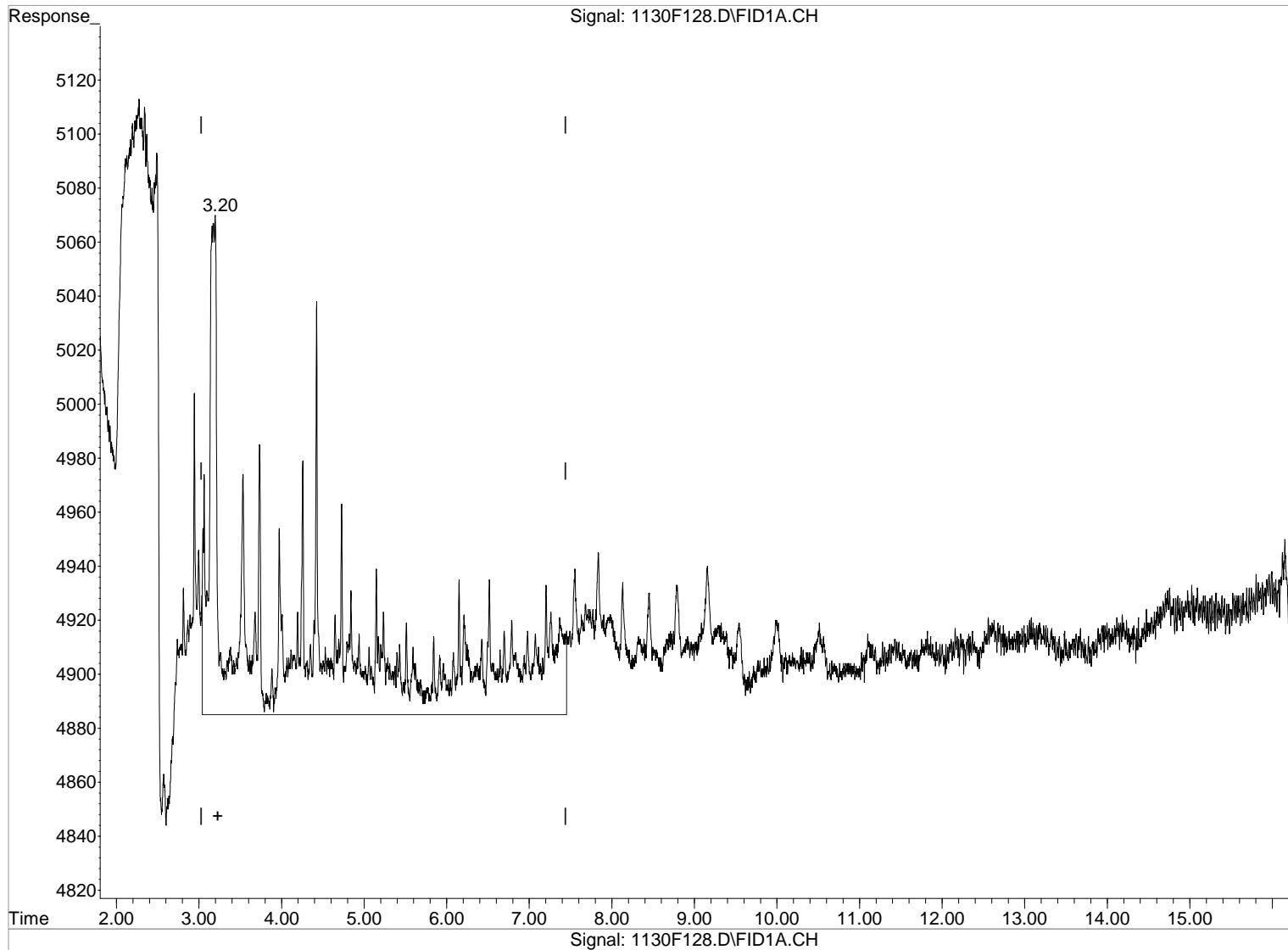
Quant Time: Dec 1 11:10 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 4.374ppm

After

response 6423

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F128.D

Vial: 86

Acq On : 30 Nov 2020 5:05 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

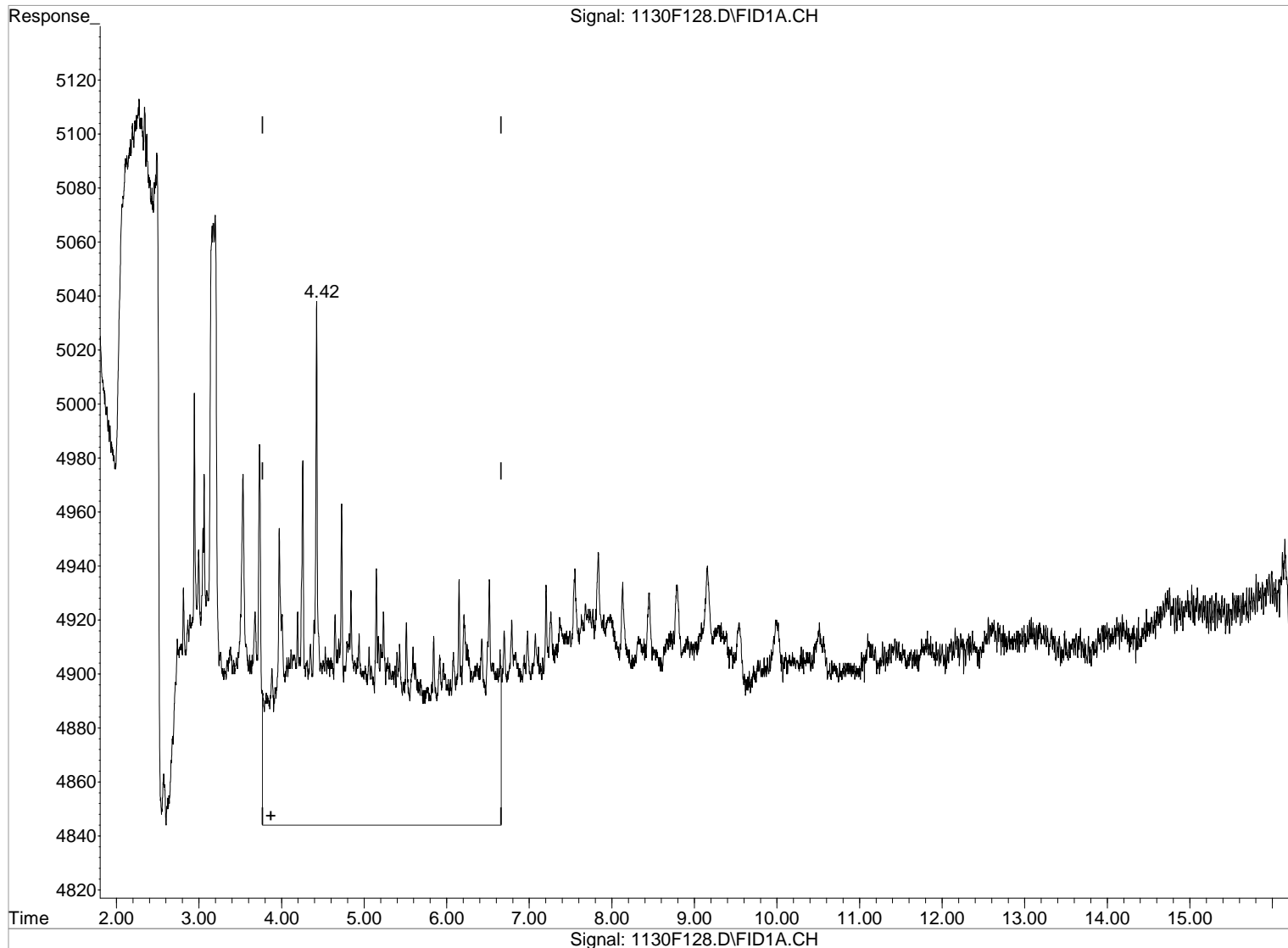
Quant Time: Dec 1 11:10 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 8.706ppm

Before

response 10430

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F128.D

Vial: 86

Acq On : 30 Nov 2020 5:05 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

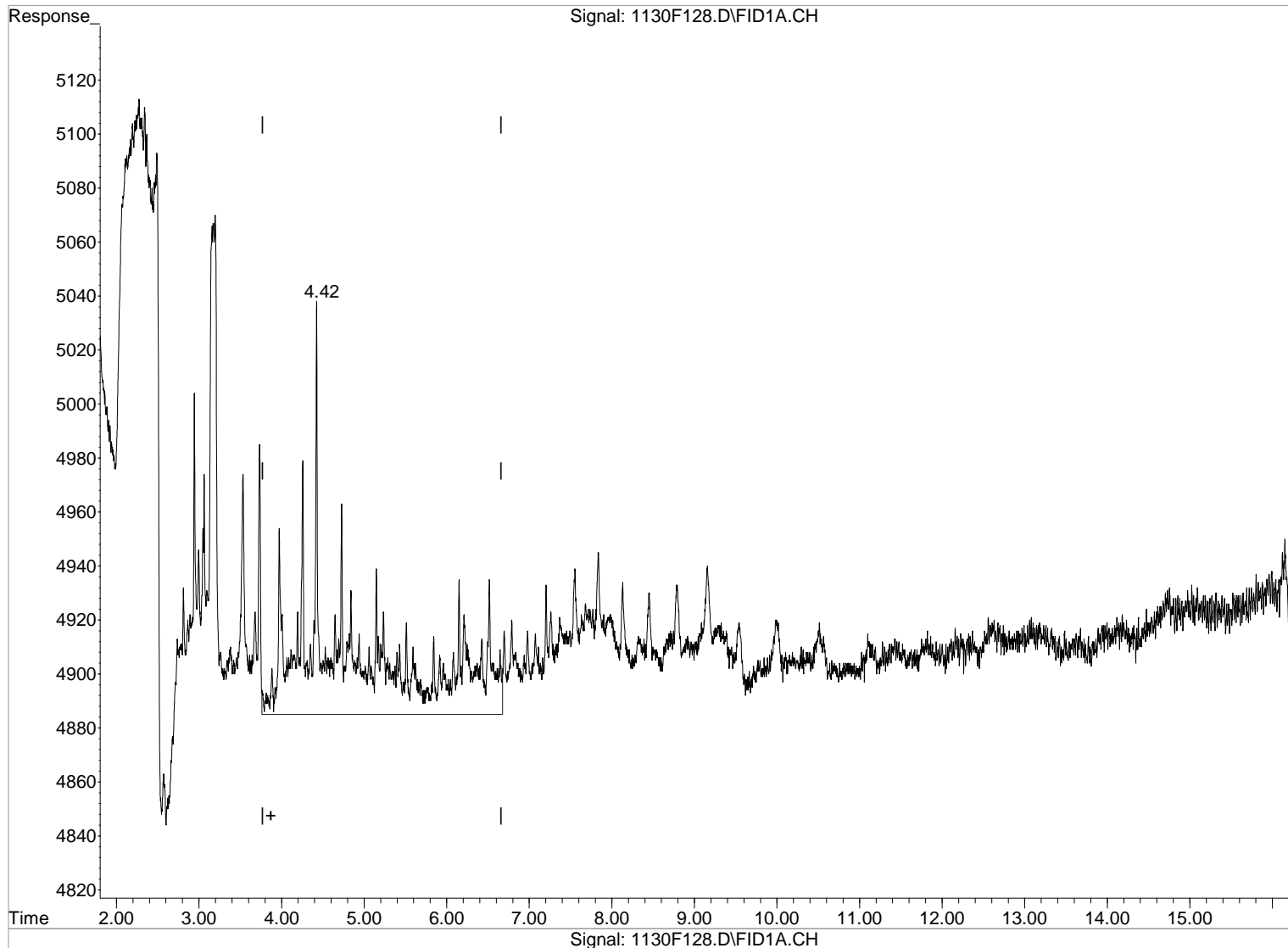
Quant Time: Dec 1 11:10 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 2.786ppm

After

response 3338

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F129.D Vial: 1
 Acq On : 30 Nov 2020 5:28 pm Operator: TAP
 Sample : SVF03-8E DRO 20/1.0 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 01 11:01:01 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 CAL16158
 Last Update : Tue Dec 01 11:00:25 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

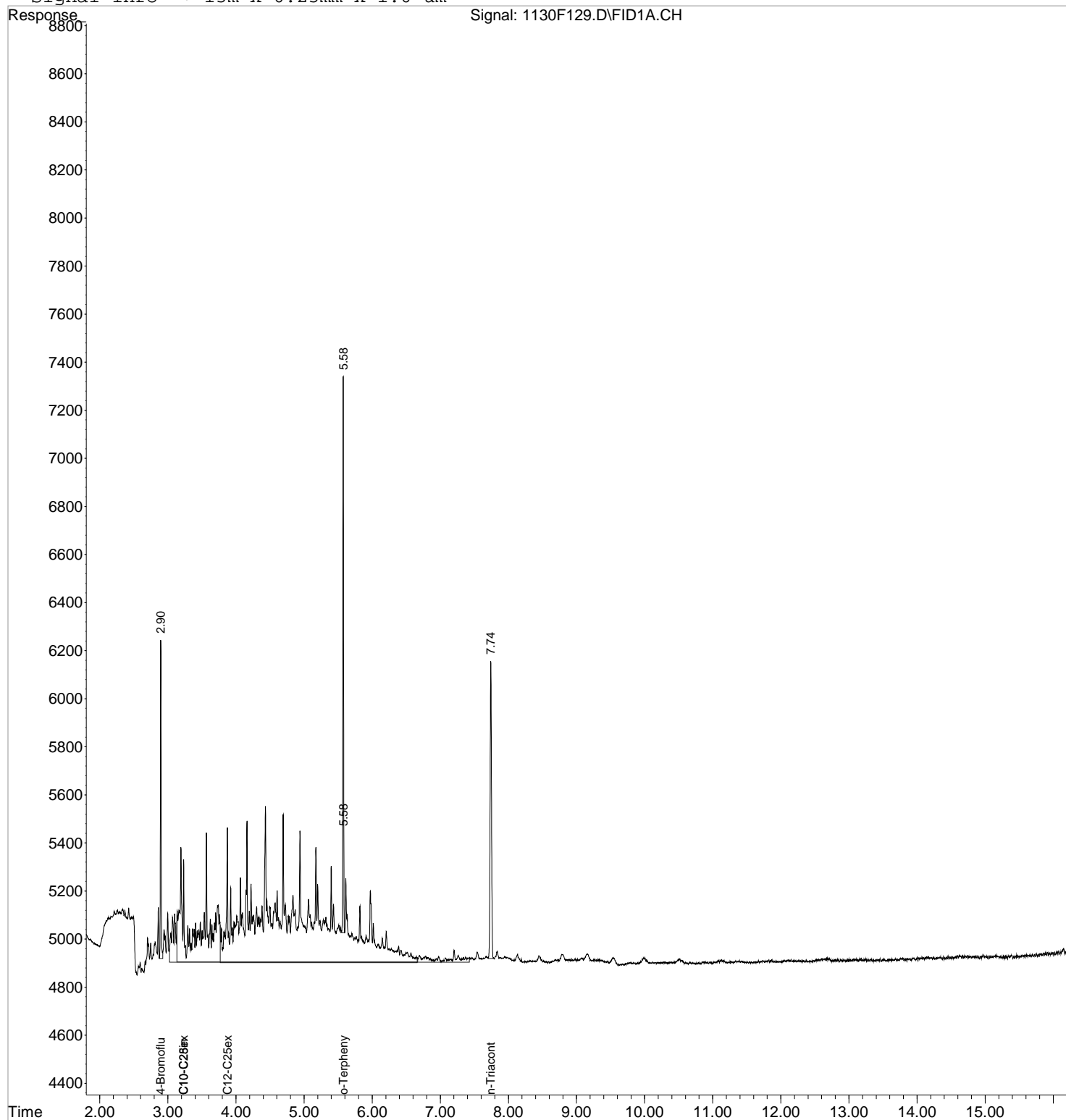
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.90	957	1.088 ppm
Spiked Amount 50.000	Recovery	=	2.18%
2) S o-Terphenyl	5.58	1818	1.040 ppm
Spiked Amount 50.000	Recovery	=	2.08%
3) S n-Triacontane	7.74	1711	1.216 ppm
Spiked Amount 50.000	Recovery	=	2.43%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	30486	19.802 ppm
7) H C10-C28in DRO [8015]	3.23	32138	20.166 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	25577	19.734 ppm

Data File : J:\GC21\DATA\113020F\1130F129.D Vial: 1
Acq On : 30 Nov 2020 5:28 pm Operator: TAP
Sample : SVF03-8E DRO 20/1.0 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:03 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F129.D

Vial: 1

Acq On : 30 Nov 2020 5:28 pm

Operator: TAP

Sample : SVF03-8E DRO 20/1.0

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

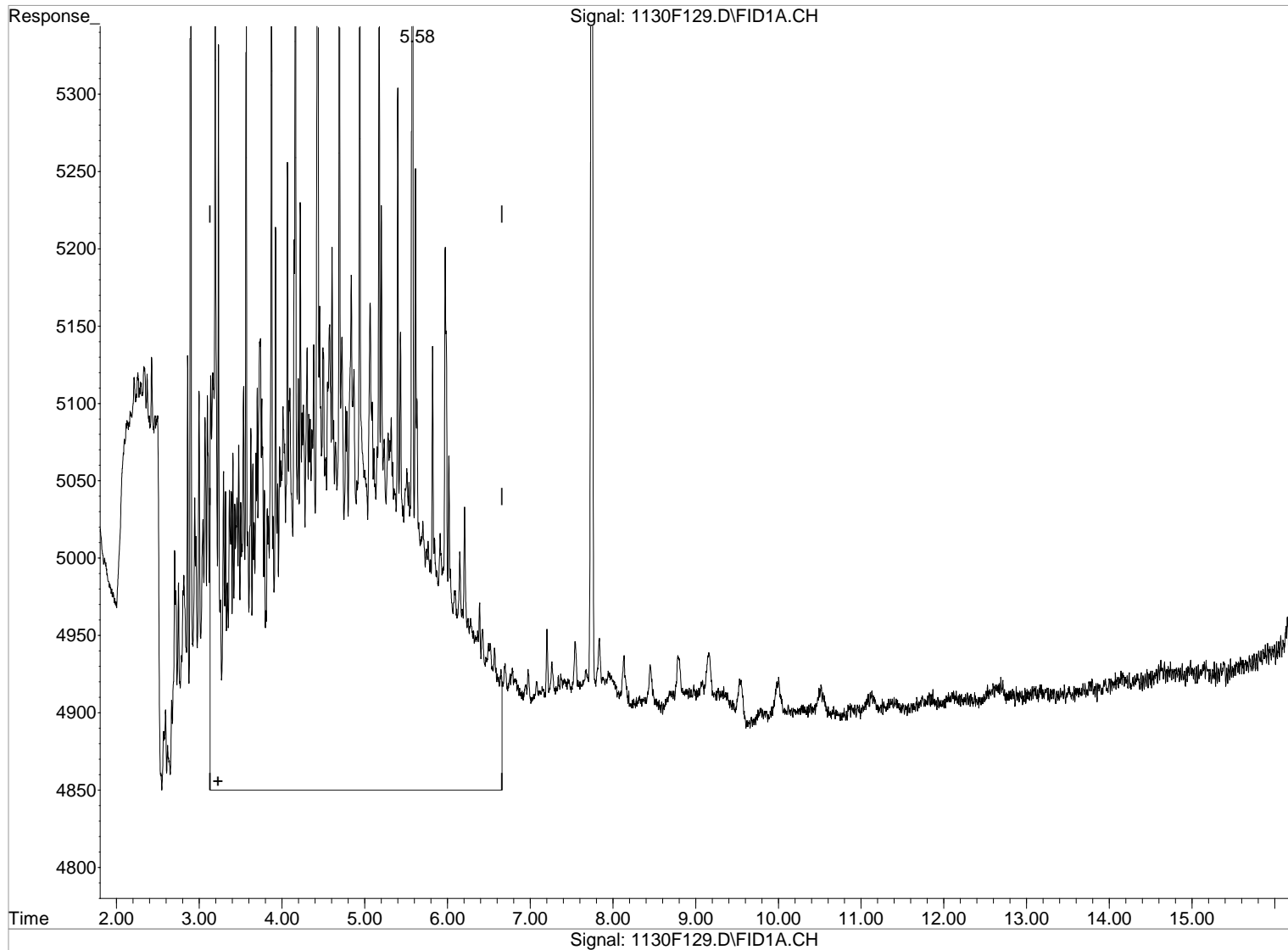
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(6) C10-C25ex DRO [AK102] (H)

Manual Integration:

3.23min 27.376ppm

Before

response 42147

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F129.D

Vial: 1

Acq On : 30 Nov 2020 5:28 pm

Operator: TAP

Sample : SVF03-8E DRO 20/1.0

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

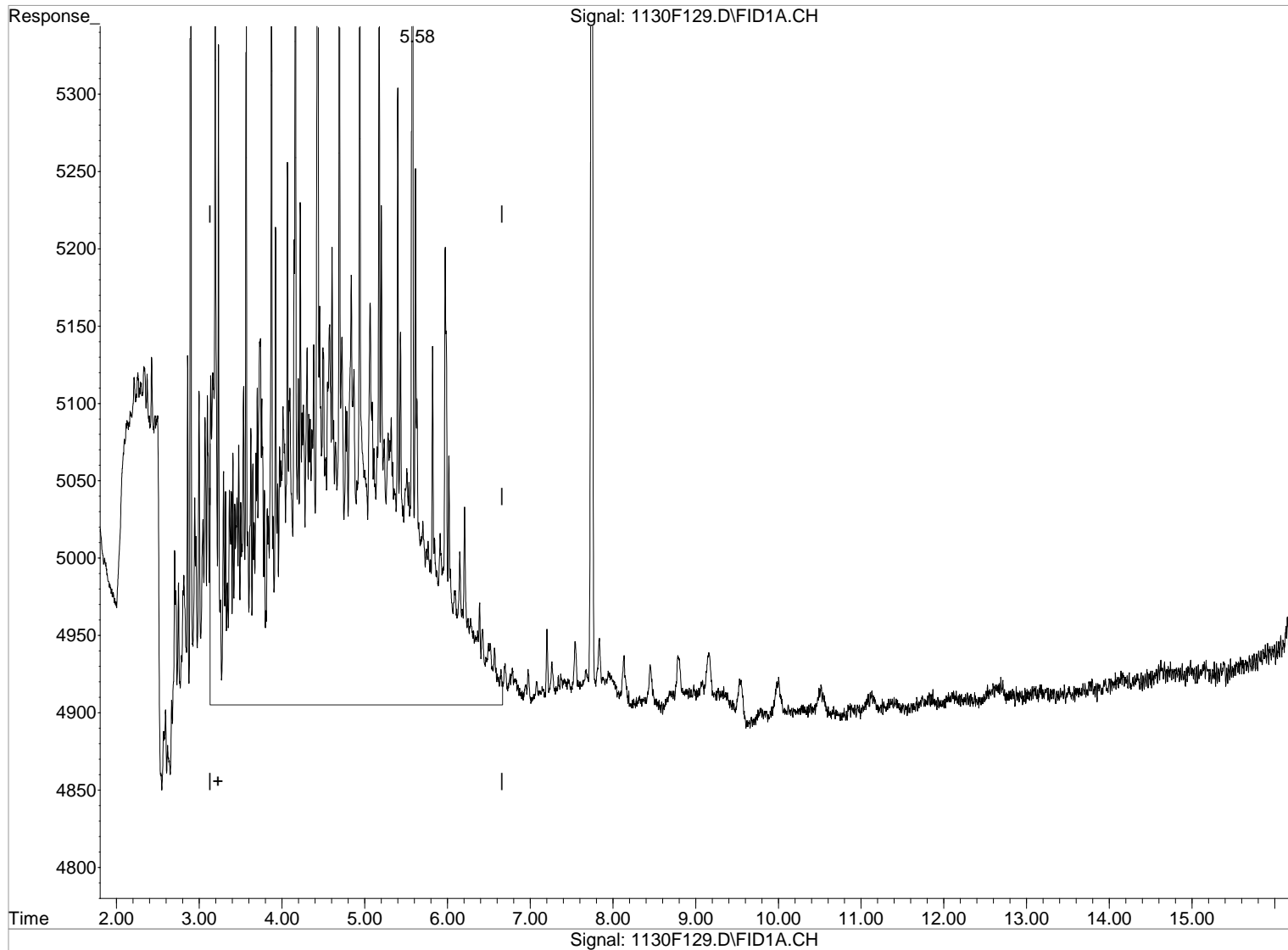
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(6) C10-C25ex DRO [AK102] (H)

Manual Integration:

3.23min 19.802ppm

After

response 30486

Baseline/Shoulder

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F129.D

Acq On : 30 Nov 2020 5:28 pm

Sample : SVF03-8E DRO 20/1.0

Misc :

IntFile : rteint.p

Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Vial: 1

Operator: TAP

Inst : GC21

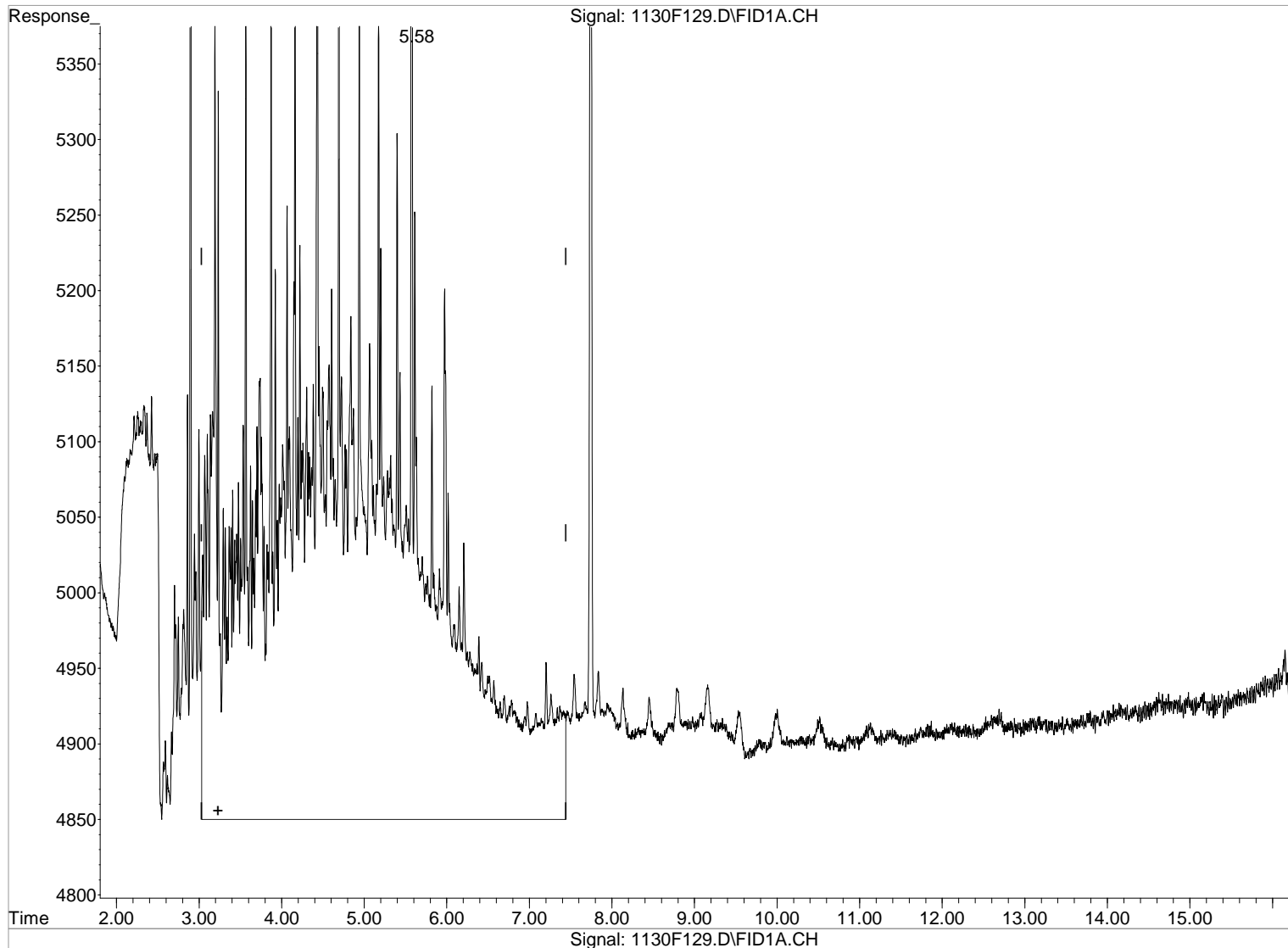
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 29.126ppm

Before

response 46417

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F129.D

Acq On : 30 Nov 2020 5:28 pm

Sample : SVF03-8E DRO 20/1.0

Misc :

IntFile : rteint.p

Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Vial: 1

Operator: TAP

Inst : GC21

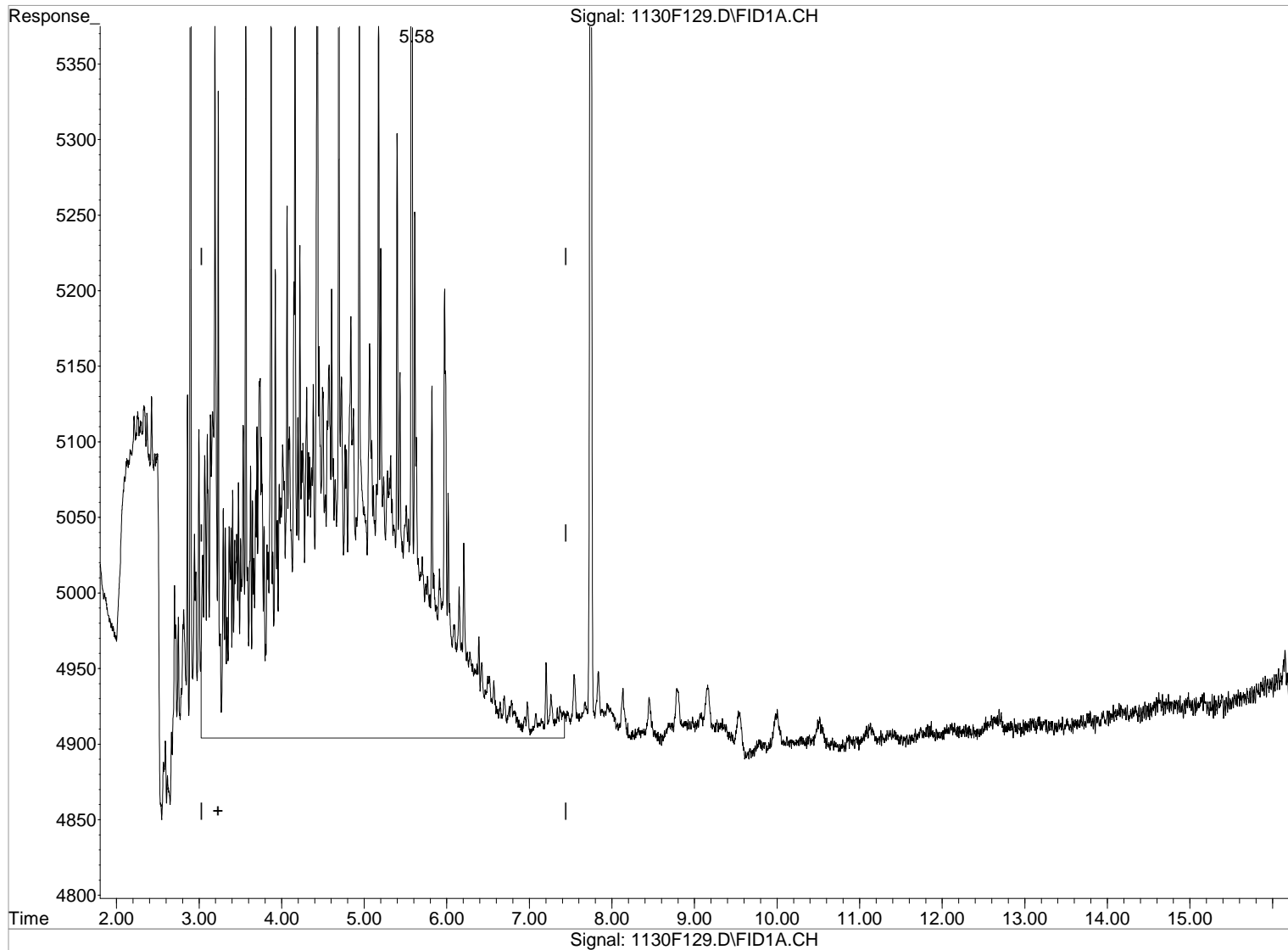
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

3.23min 20.166ppm

response 32138

Manual Integration:

After

Baseline/Shoulder

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F129.D

Vial: 1

Acq On : 30 Nov 2020 5:28 pm

Operator: TAP

Sample : SVF03-8E DRO 20/1.0

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

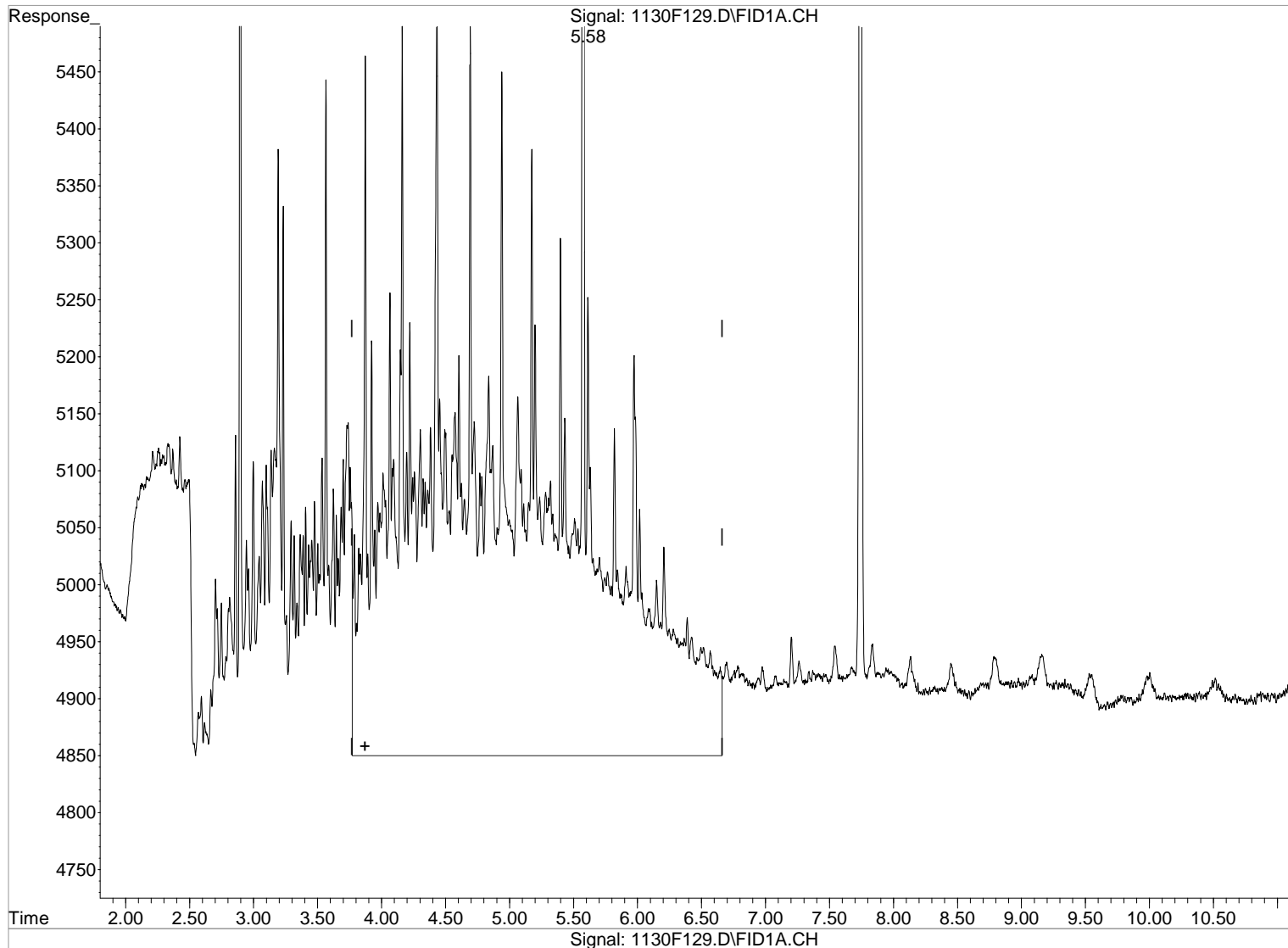
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 26.680ppm

Before

response 34580

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F129.D

Vial: 1

Acq On : 30 Nov 2020 5:28 pm

Operator: TAP

Sample : SVF03-8E DRO 20/1.0

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

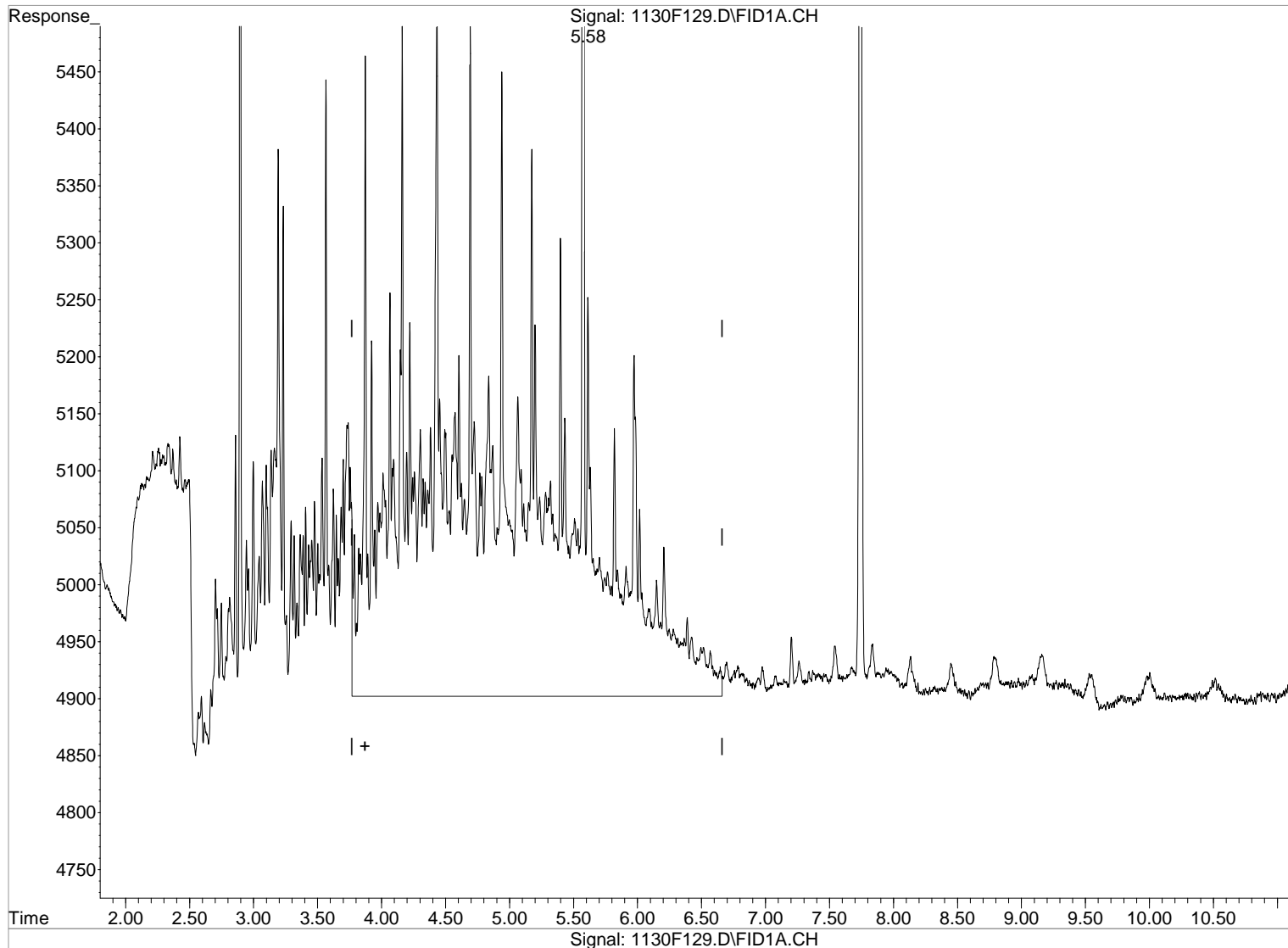
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 19.734ppm

After

response 25577

Baseline/Shoulder

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F130.D Vial: 2
 Acq On : 30 Nov 2020 5:50 pm Operator: TAP
 Sample : SVF03-8D DRO 50/2.5 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 01 11:01:02 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 CAL16158
 Last Update : Tue Dec 01 11:00:25 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

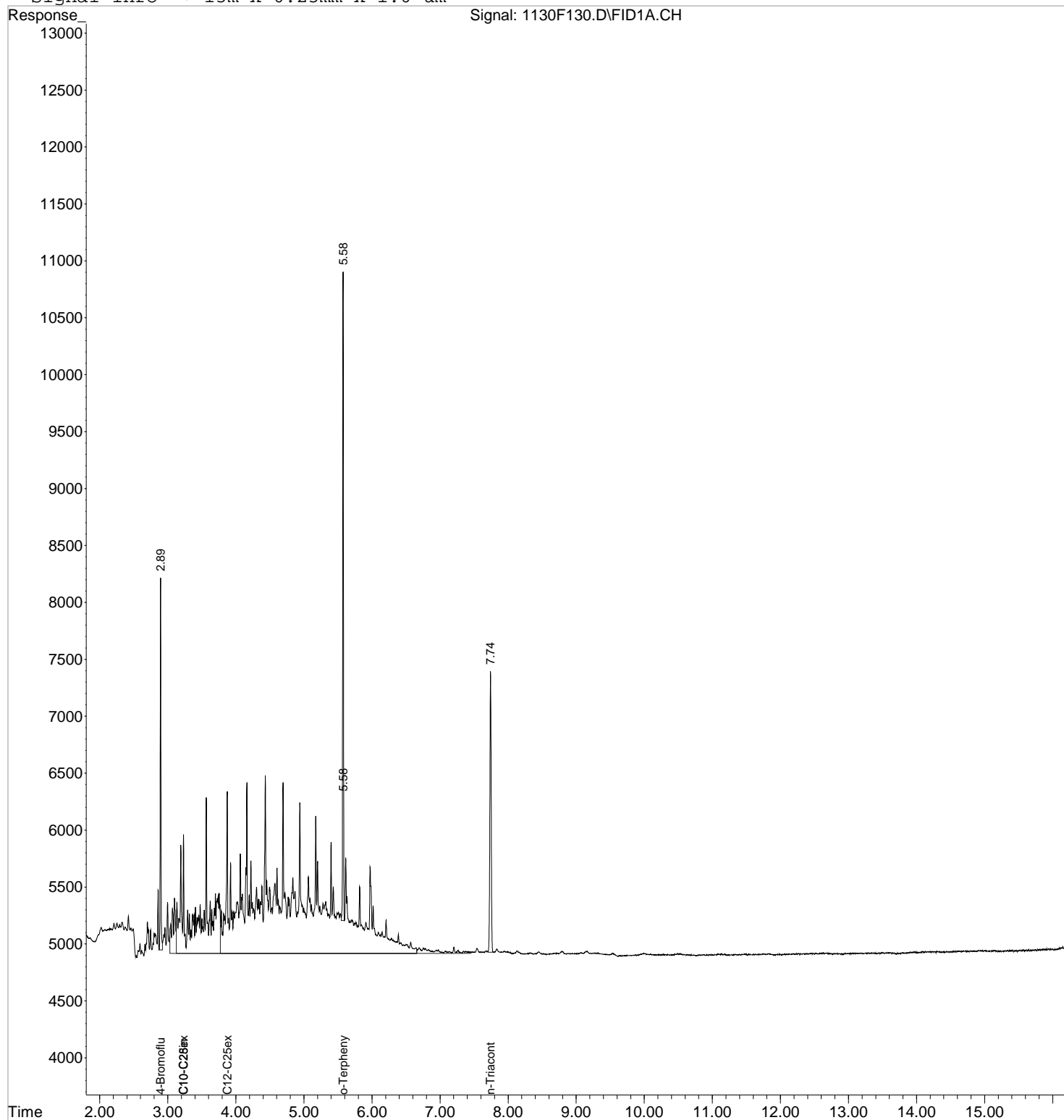
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	2325	2.643 ppm
Spiked Amount 50.000	Recovery	=	5.29%
2) S o-Terphenyl	5.58	4449	2.544 ppm
Spiked Amount 50.000	Recovery	=	5.09%
3) S n-Triacontane	7.74	3289	2.337 ppm
Spiked Amount 50.000	Recovery	=	4.67%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	74612	48.463 ppm
7) H C10-C28in DRO [8015]	3.23	76851	48.222 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	62117	47.926 ppm

Data File : J:\GC21\DATA\113020F\1130F130.D Vial: 2
Acq On : 30 Nov 2020 5:50 pm Operator: TAP
Sample : SVF03-8D DRO 50/2.5 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:05 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F130.D

Acq On : 30 Nov 2020 5:50 pm

Sample : SVF03-8D DRO 50/2.5

Misc :

IntFile : rteint.p

Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Vial: 2

Operator: TAP

Inst : GC21

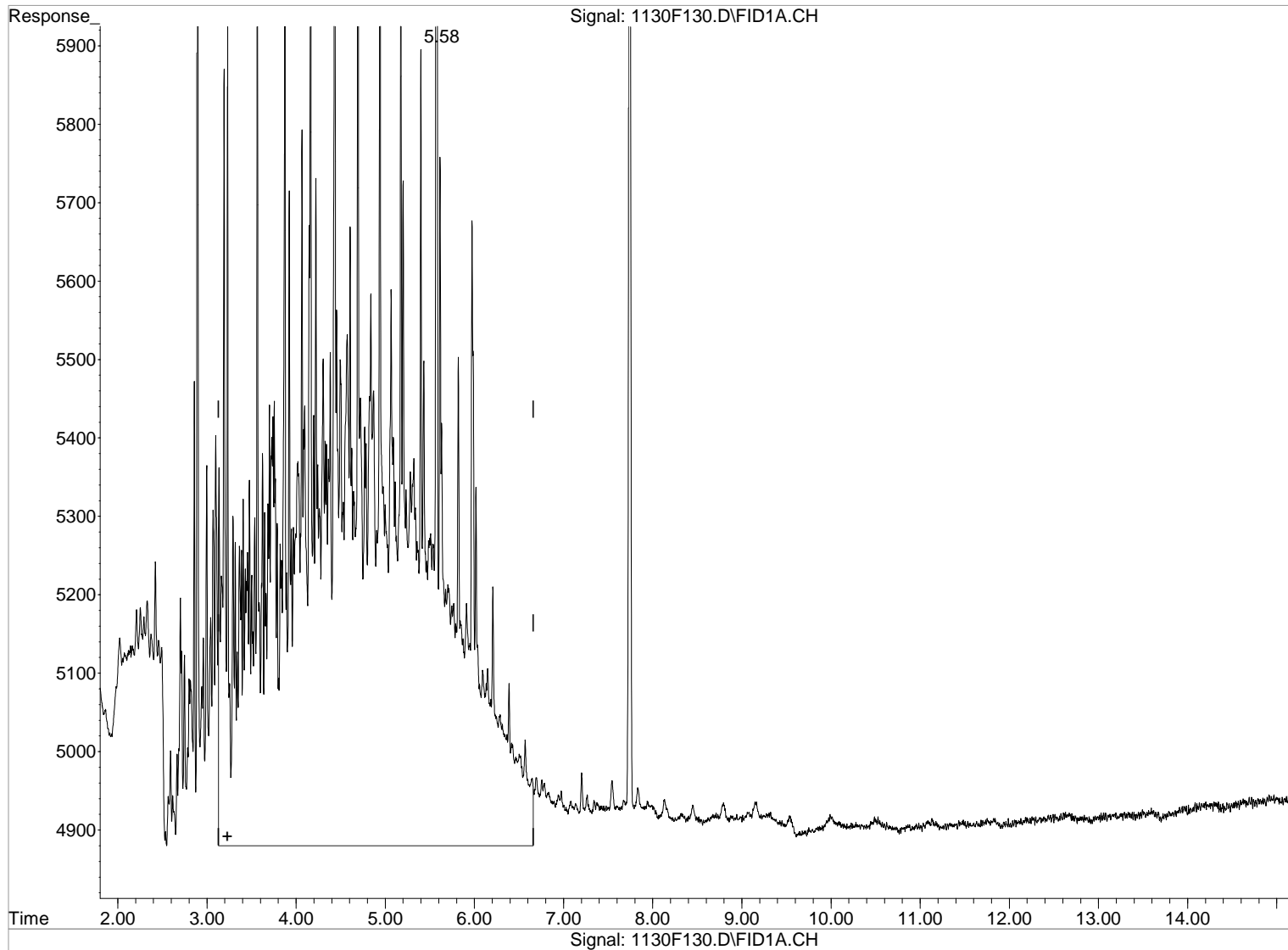
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(6) C10-C25ex DRO [AK102] (H)

Manual Integration:

3.23min 53.496ppm

Before

response 82361

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F130.D

Vial: 2

Acq On : 30 Nov 2020 5:50 pm

Operator: TAP

Sample : SVF03-8D DRO 50/2.5

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

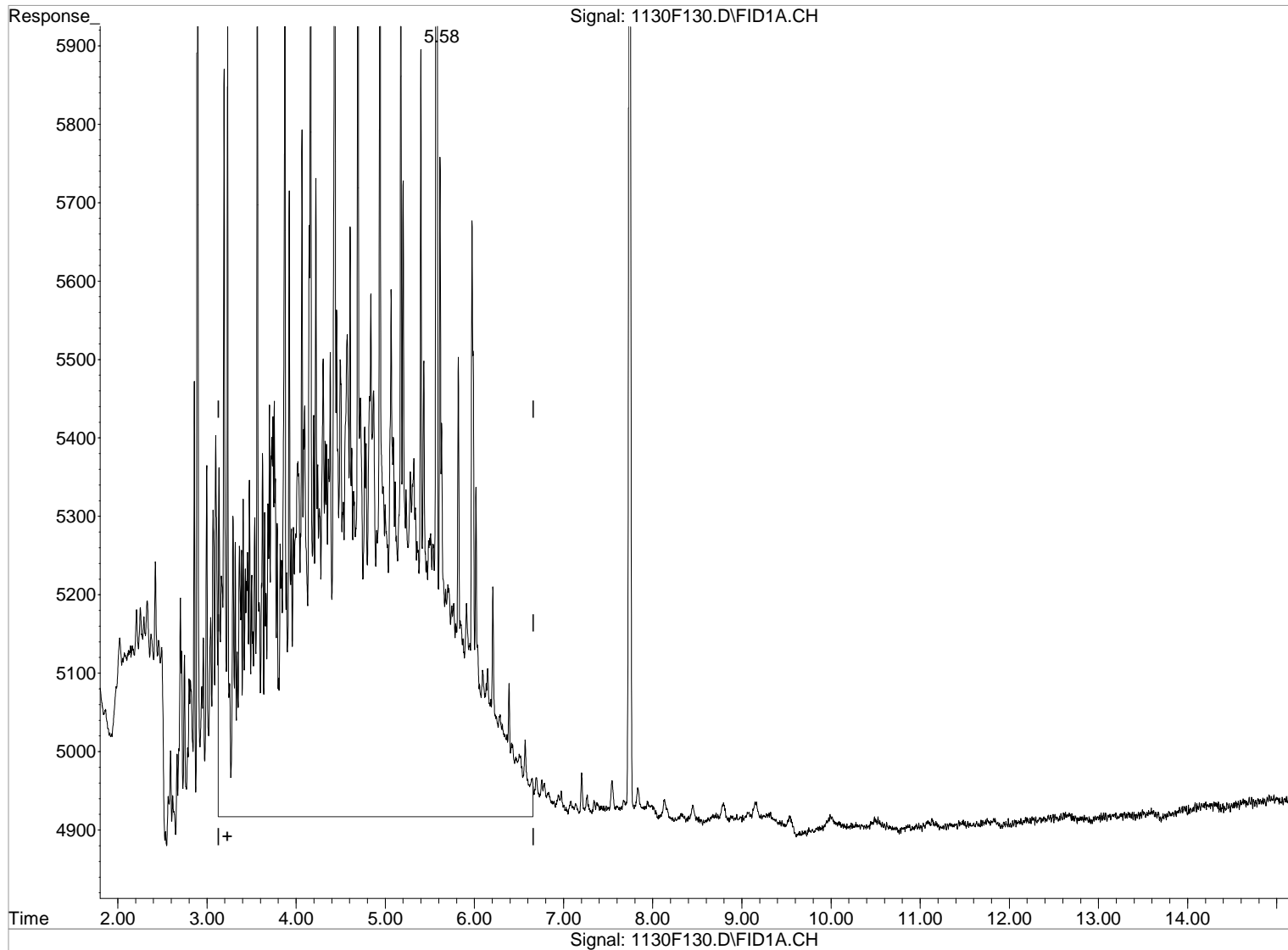
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(6) C10-C25ex DRO [AK102] (H)

Manual Integration:

3.23min 48.463ppm

After

response 74612

Baseline/Shoulder

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F130.D

Vial: 2

Acq On : 30 Nov 2020 5:50 pm

Operator: TAP

Sample : SVF03-8D DRO 50/2.5

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

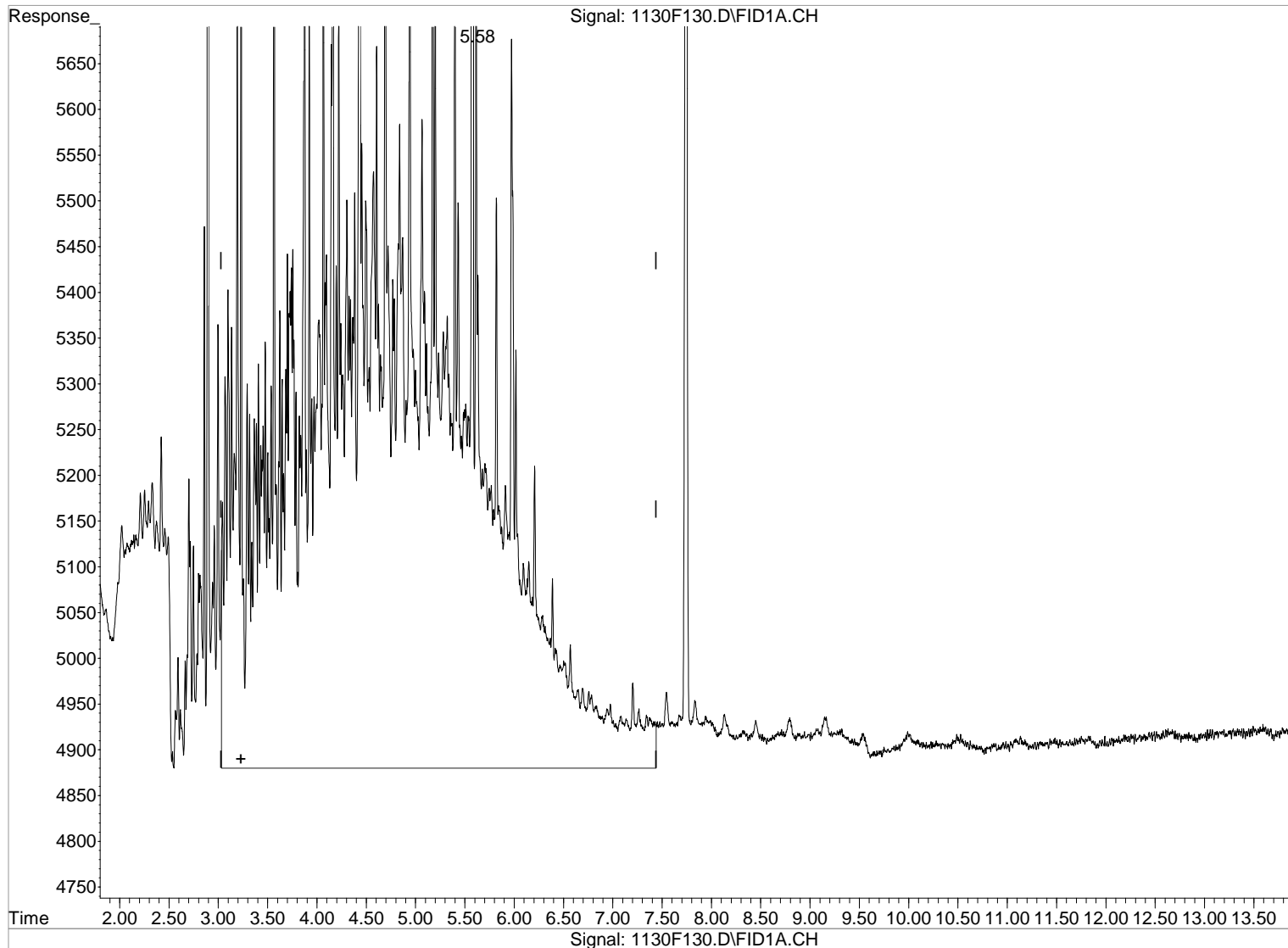
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 54.543ppm

Before

response 86925

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F130.D

Vial: 2

Acq On : 30 Nov 2020 5:50 pm

Operator: TAP

Sample : SVF03-8D DRO 50/2.5

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

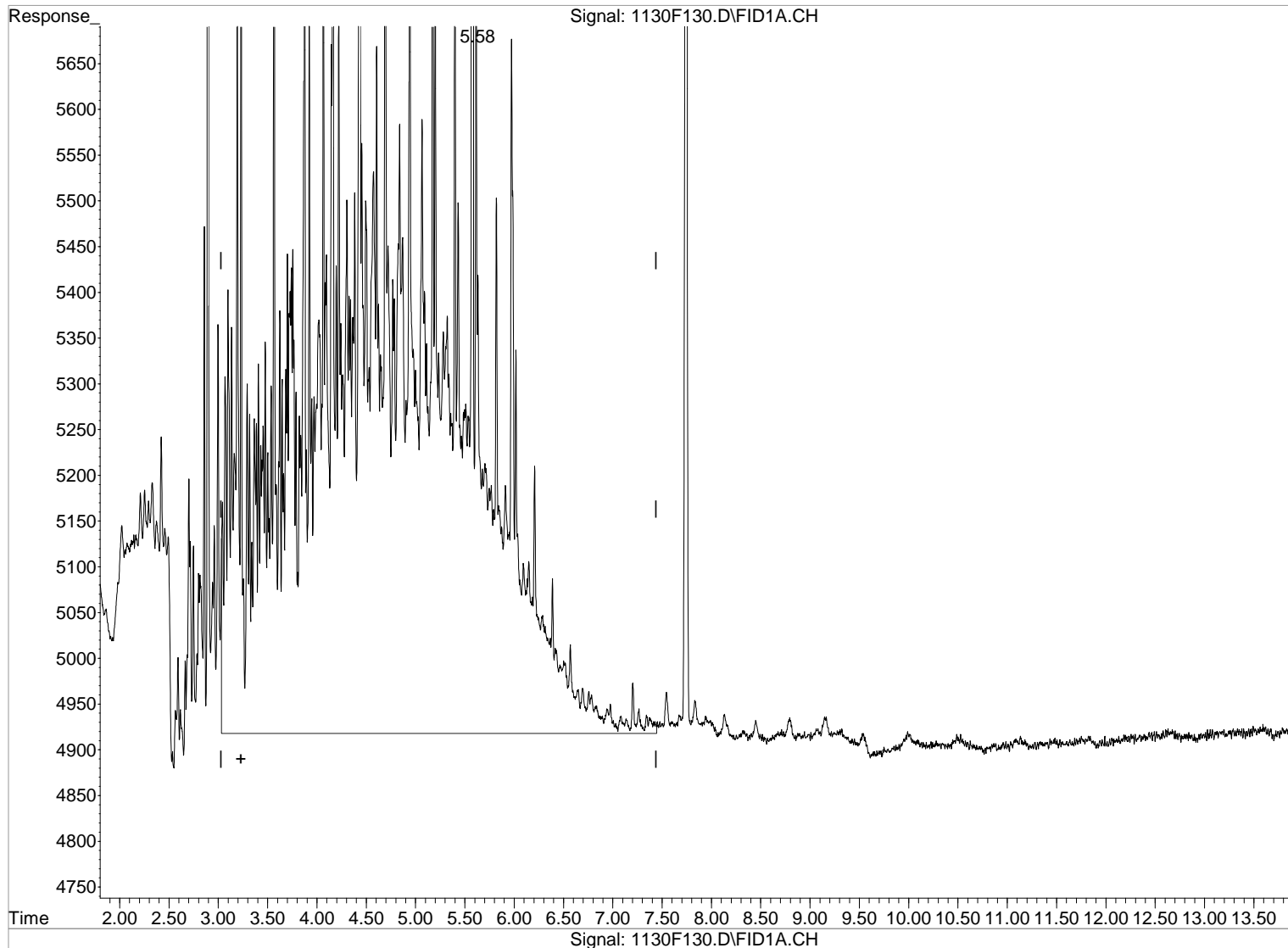
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 48.222ppm

After

response 76851

Baseline/Shoulder

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F130.D

Vial: 2

Acq On : 30 Nov 2020 5:50 pm

Operator: TAP

Sample : SVF03-8D DRO 50/2.5

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

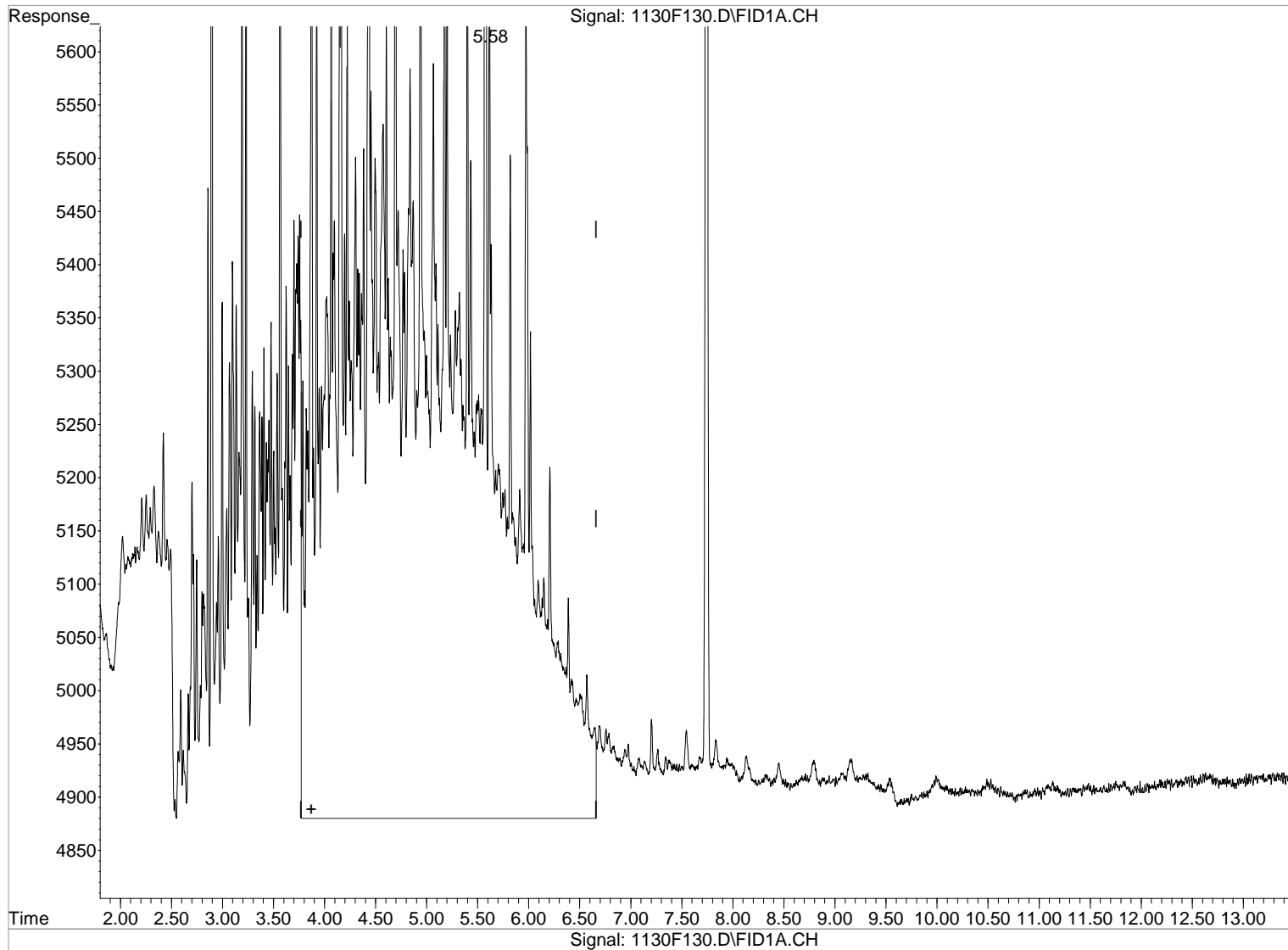
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 52.902ppm

Before

response 68567

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F130.D

Acq On : 30 Nov 2020 5:50 pm

Sample : SVF03-8D DRO 50/2.5

Misc :

IntFile : rteint.p

Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Vial: 2

Operator: TAP

Inst : GC21

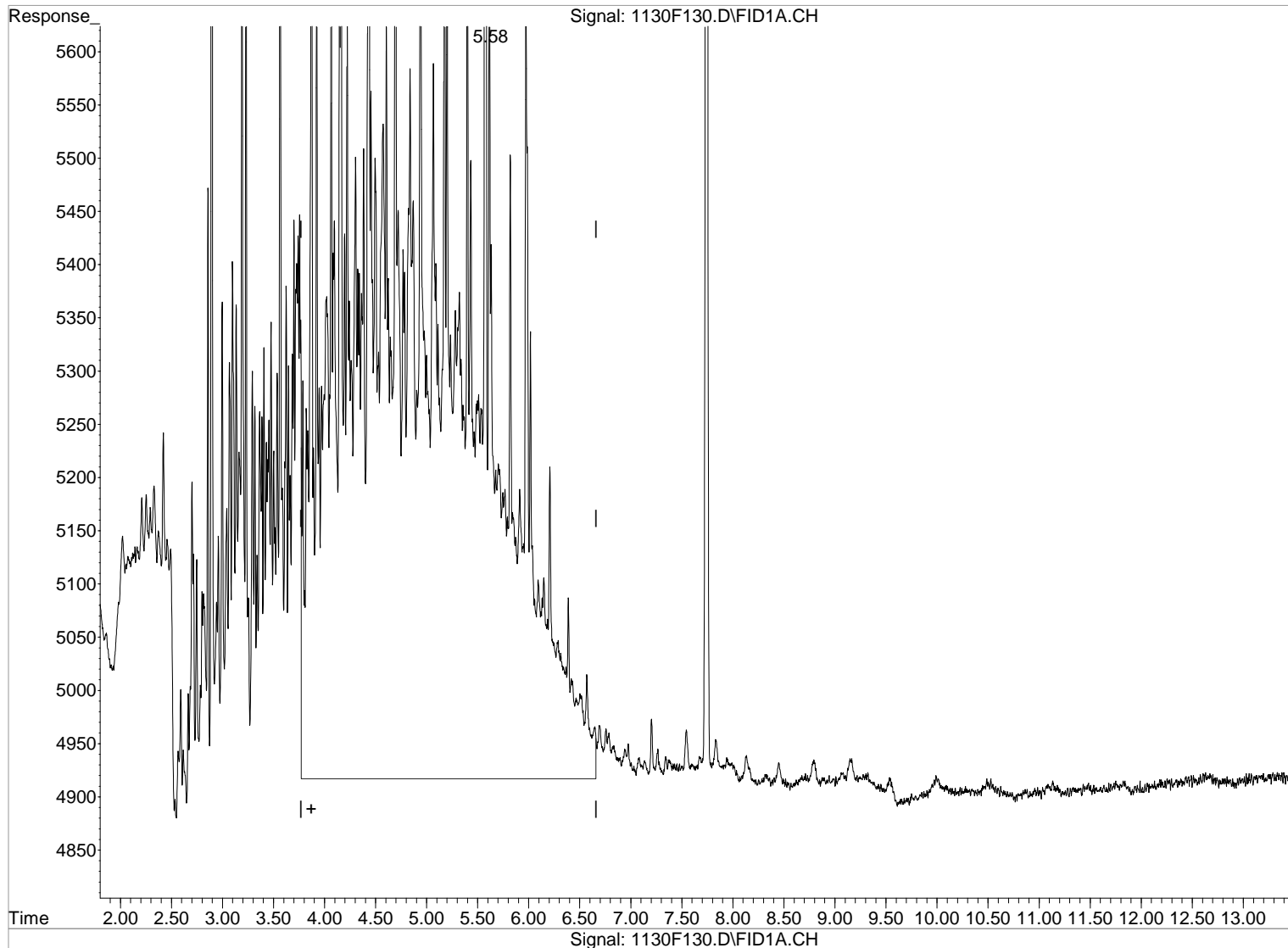
Multiplr: 1.00

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:00:25 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

3.87min 47.926ppm

response 62117

Manual Integration:

After

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F131.D Vial: 3
 Acq On : 30 Nov 2020 6:12 pm Operator: TAP
 Sample : SVF03-8C DRO 200/10 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 01 11:01:03 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 CAL16158
 Last Update : Tue Dec 01 11:00:25 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

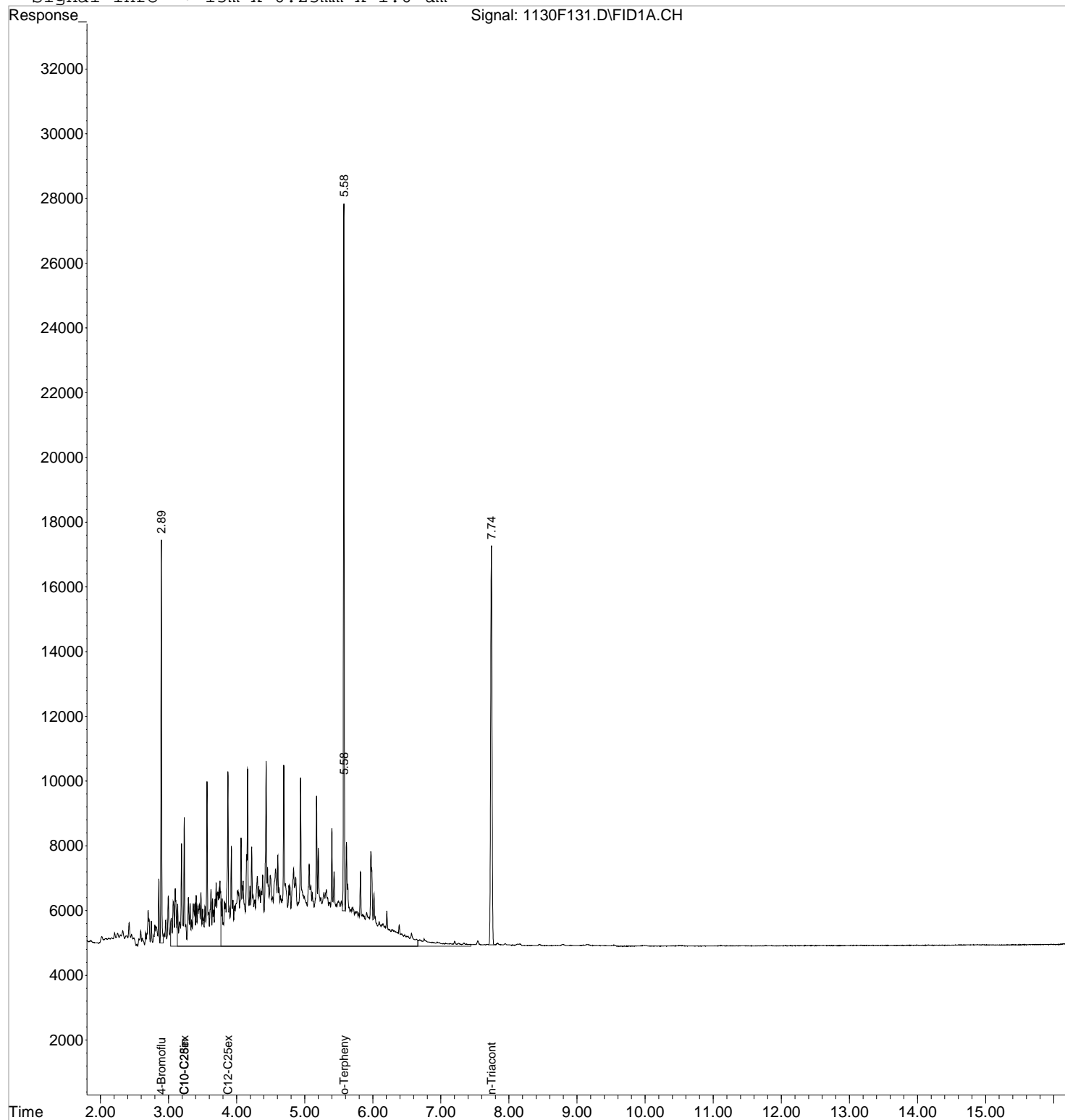
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	9011	10.242 ppm
Spiked Amount 50.000	Recovery	=	20.48%
2) S o-Terphenyl	5.58	17319	9.904 ppm
Spiked Amount 50.000	Recovery	=	19.81%
3) S n-Triacontane	7.74	17020	12.096 ppm
Spiked Amount 50.000	Recovery	=	24.19%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	283192	183.941 ppm
7) H C10-C28in DRO [8015]	3.23	293552	184.197 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	238642	184.122 ppm

Data File : J:\GC21\DATA\113020F\1130F131.D Vial: 3
Acq On : 30 Nov 2020 6:12 pm Operator: TAP
Sample : SVF03-8C DRO 200/10 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:06 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F132.D Vial: 4
 Acq On : 30 Nov 2020 6:34 pm Operator: TAP
 Sample : SVF03-8B DRO 500/25 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 01 11:01:04 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 CAL16158
 Last Update : Tue Dec 01 11:00:25 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

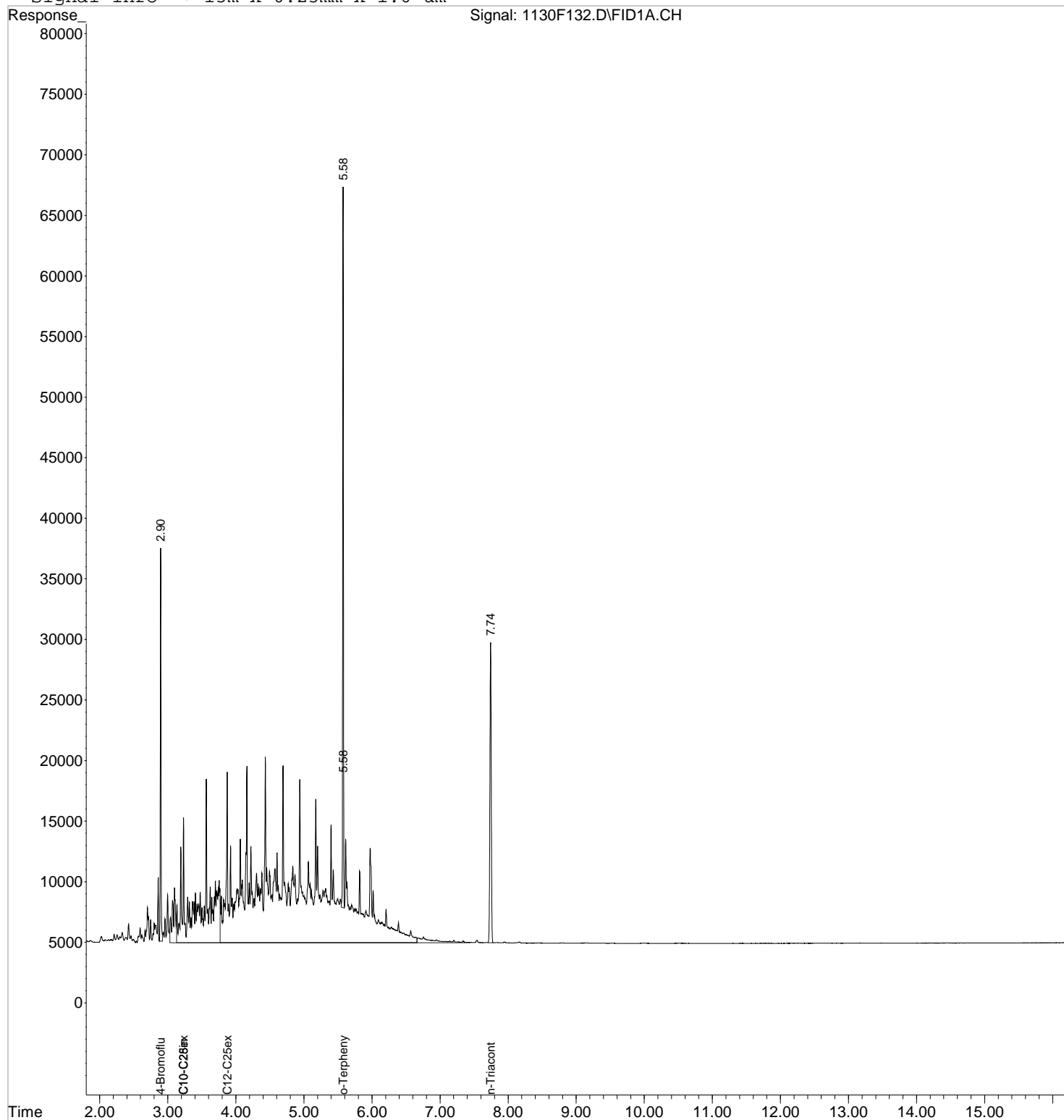
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.90	23118	26.276 ppm
Spiked Amount 50.000	Recovery	=	52.55%
2) S o-Terphenyl	5.58	44536	25.467 ppm
Spiked Amount 50.000	Recovery	=	50.93%
3) S n-Triacontane	7.74	33559	23.850 ppm
Spiked Amount 50.000	Recovery	=	47.70%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	729336	473.724 ppm
7) H C10-C28in DRO [8015]	3.23	751158	471.334 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	617146	476.154 ppm

Data File : J:\GC21\DATA\113020F\1130F132.D Vial: 4
Acq On : 30 Nov 2020 6:34 pm Operator: TAP
Sample : SVF03-8B DRO 500/25 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:06 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F133.D Vial: 5
 Acq On : 30 Nov 2020 6:57 pm Operator: TAP
 Sample : SVF03-8A DRO 2000/100 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 01 11:01:05 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 CAL16158
 Last Update : Tue Dec 01 11:00:25 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

1) S 4-Bromofluorobenzene	2.89	85009	96.620 ppm
Spiked Amount 50.000	Recovery	=	193.24%
2) S o-Terphenyl	5.57	166256	95.071 ppm
Spiked Amount 50.000	Recovery	=	190.14%
3) S n-Triacontane	7.74	164043	116.582 ppm
Spiked Amount 50.000	Recovery	=	233.16%

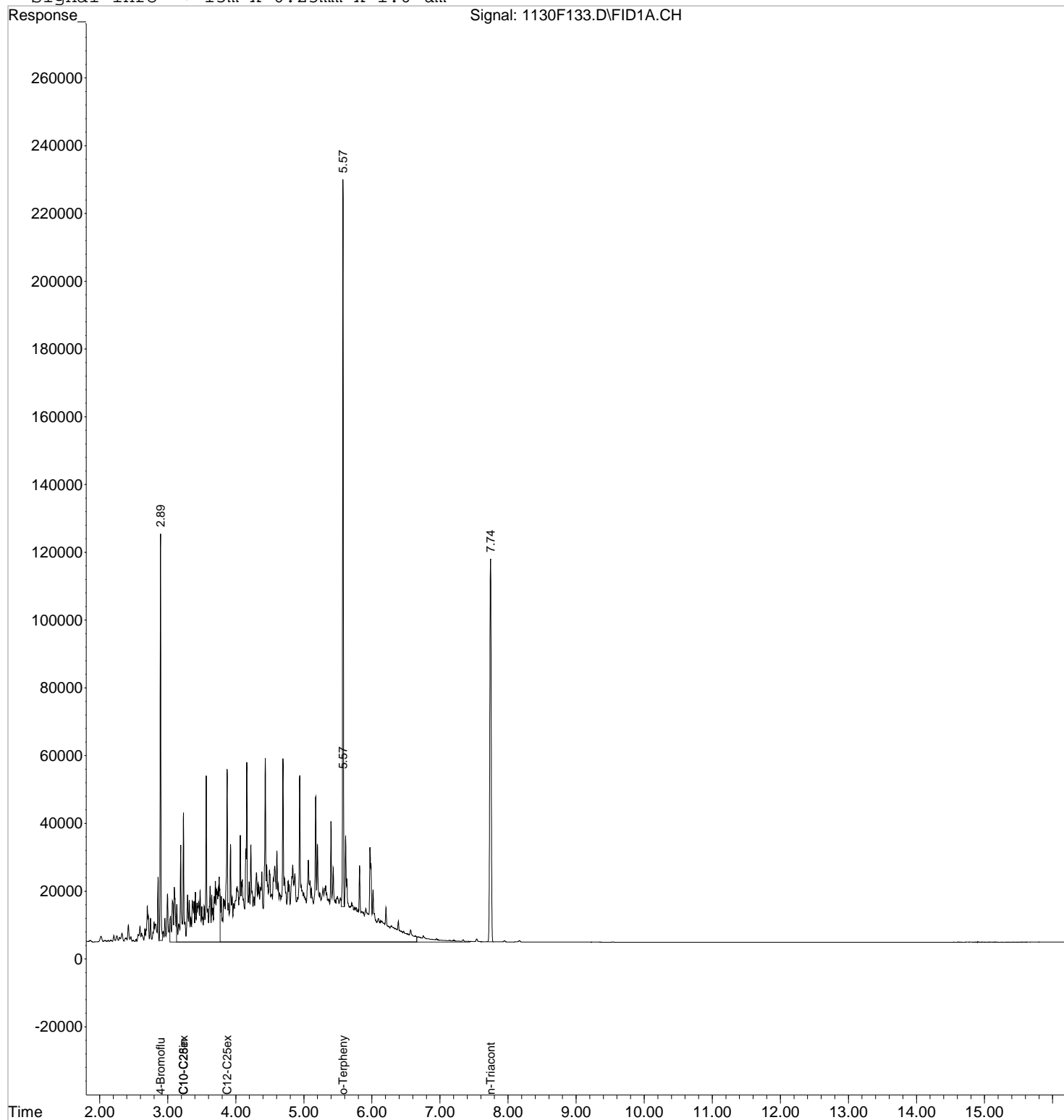
Target Compounds

6) H C10-C25ex DRO [AK102]	3.23	2643295	1716.895 ppm
7) H C10-C28in DRO [8015]	3.23	2722888	1708.547 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	2242458	1730.150 ppm

Data File : J:\GC21\DATA\113020F\1130F133.D Vial: 5
Acq On : 30 Nov 2020 6:57 pm Operator: TAP
Sample : SVF03-8A DRO 2000/100 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:07 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F134.D Vial: 6
 Acq On : 30 Nov 2020 7:19 pm Operator: TAP
 Sample : SVF03-7I DRO 5000/250 Inst : GC21
 Misc : Multiplr: 1.00
 IntFile : rteint.p
 Quant Time: Dec 01 11:01:06 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
 Title : 8015/NWTPH/AK SVF MJ257 CAL16158
 Last Update : Tue Dec 01 11:00:25 2020
 Response via : Initial Calibration
 DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
 Signal Phase : ZB-1
 Signal Info : 15m x 0.25mm x 1.0 um

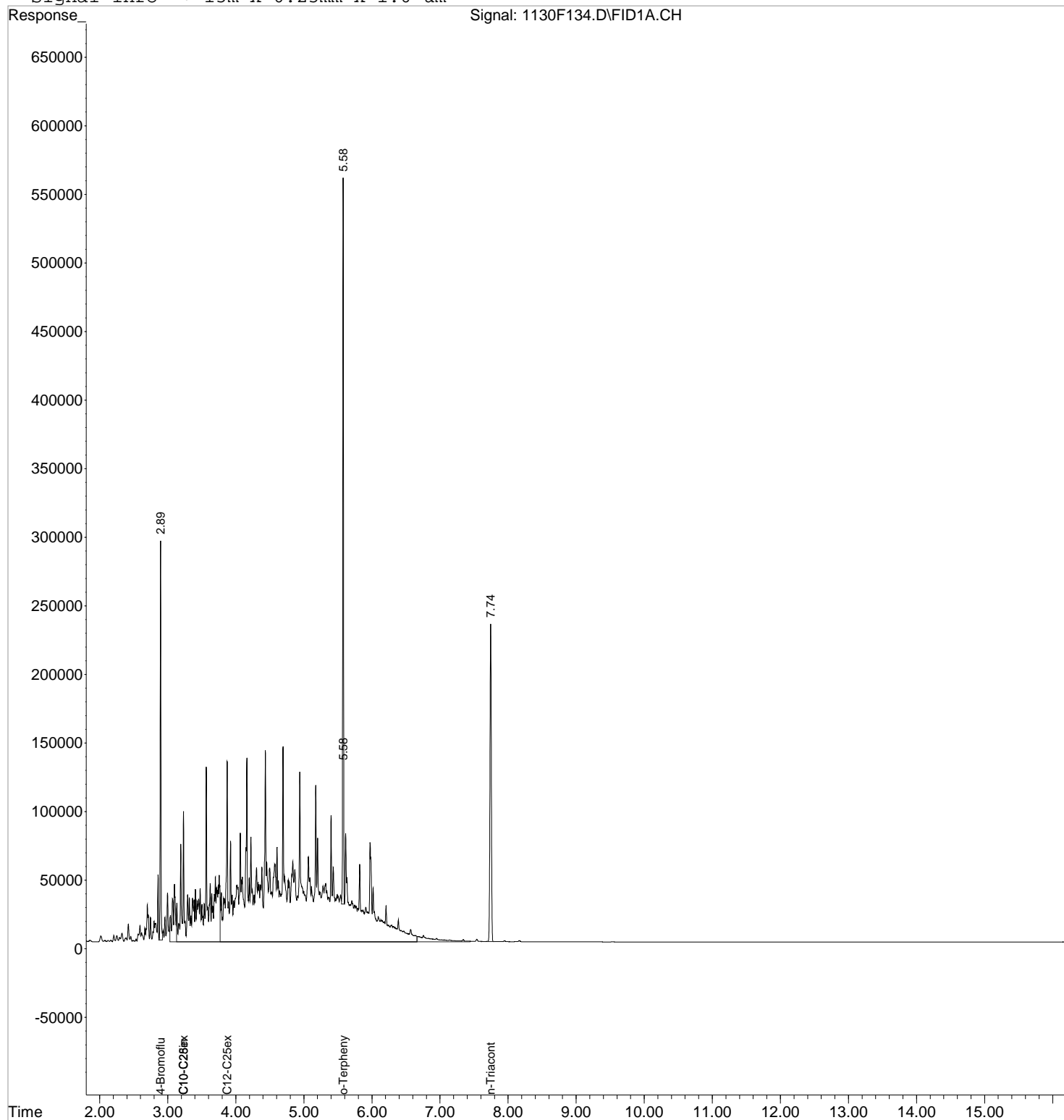
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
1) S 4-Bromofluorobenzene	2.89	212888	241.966 ppm
Spiked Amount 50.000	Recovery	=	483.93%
2) S o-Terphenyl	5.58	415014	237.318 ppm
Spiked Amount 50.000	Recovery	=	474.64%
3) S n-Triacontane	7.74	320181	227.546 ppm
Spiked Amount 50.000	Recovery	=	455.09%
Target Compounds			
6) H C10-C25ex DRO [AK102]	3.23	6827744	4434.814 ppm
7) H C10-C28in DRO [8015]	3.23	7037706	4415.993 ppm
8) H C12-C25ex DRO [NWTPH]	3.87	5793769	4470.135 ppm

Data File : J:\GC21\DATA\113020F\1130F134.D Vial: 6
Acq On : 30 Nov 2020 7:19 pm Operator: TAP
Sample : SVF03-7I DRO 5000/250 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:07 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F135.D Vial: 7
Acq On : 30 Nov 2020 7:41 pm Operator: TAP
Sample : SVF03-7H DRO 20,000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:07 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

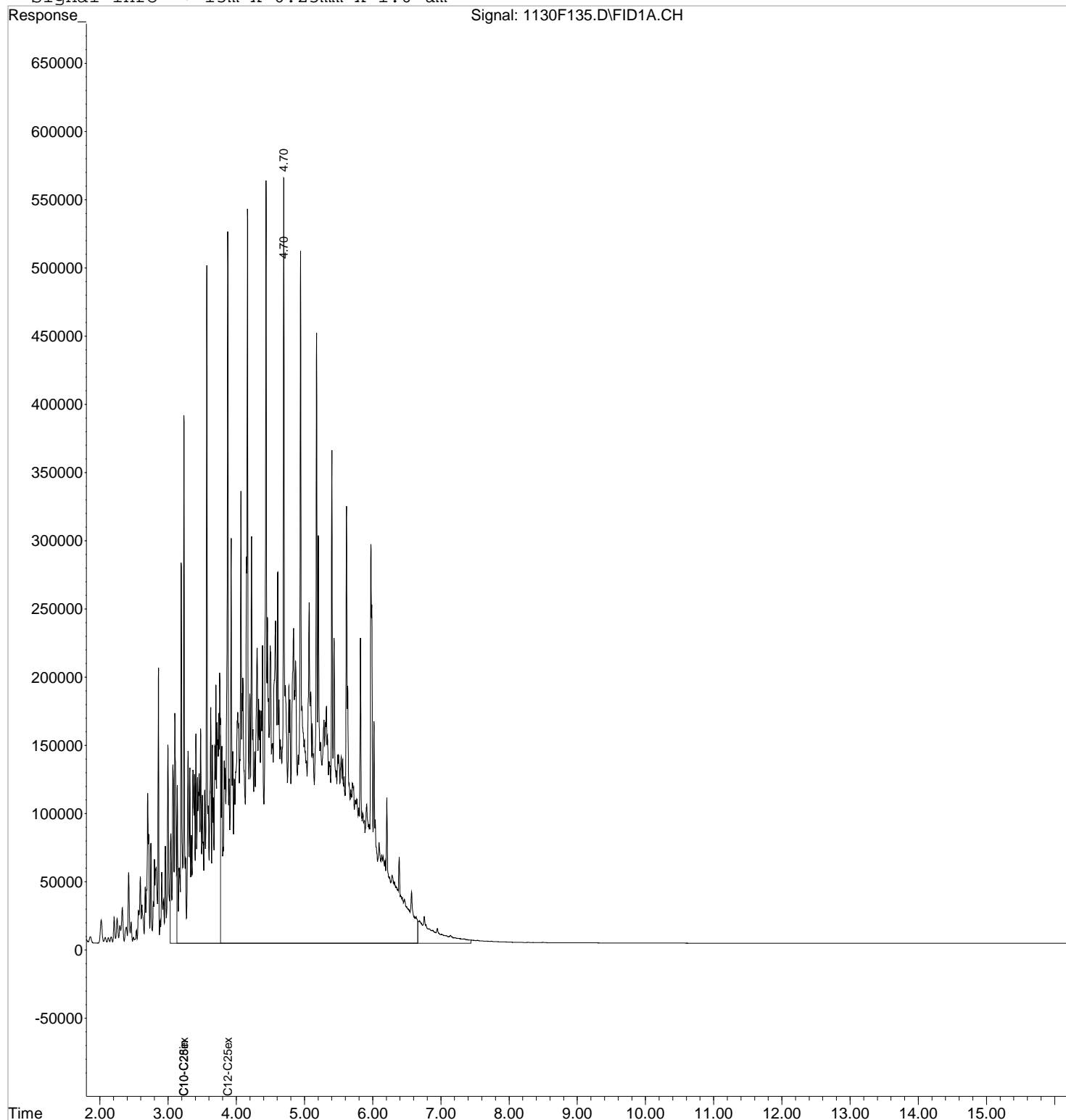
Target Compounds

6) H	C10-C25ex DRO [AK102]	3.23	27425905	17813.905	ppm
7) H	C10-C28in DRO [8015]	3.23	28286686	17749.221	ppm
8) H	C12-C25ex DRO [NWTPH]	3.87	23222175	17916.878	ppm

Data File : J:\GC21\DATA\113020F\1130F135.D Vial: 7
Acq On : 30 Nov 2020 7:41 pm Operator: TAP
Sample : SVF03-7H DRO 20,000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:08 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F136.D Vial: 8
Acq On : 30 Nov 2020 8:04 pm Operator: TAP
Sample : SVF03-7G DRO 50, 000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:08 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

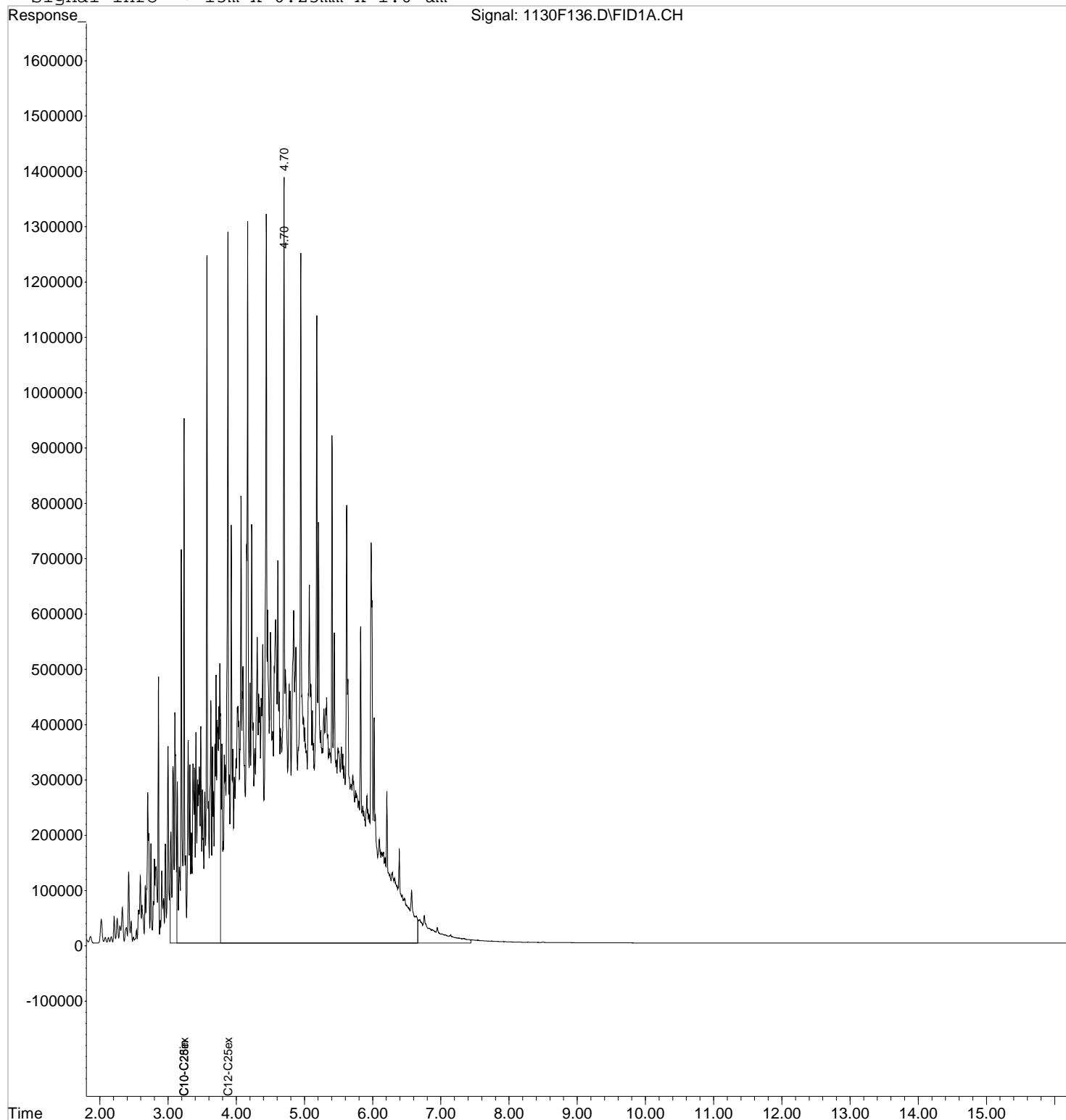
Target Compounds

6) H	C10-C25ex DRO [AK102]	3.23	70360729	45701.293	ppm
7) H	C10-C28in DRO [8015]	3.23	72547341	45521.726	ppm
8) H	C12-C25ex DRO [NWTPH]	3.87	59738944	46091.091	ppm

Data File : J:\GC21\DATA\113020F\1130F136.D Vial: 8
Acq On : 30 Nov 2020 8:04 pm Operator: TAP
Sample : SVF03-7G DRO 50, 000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:08 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F138.D Vial: 86
Acq On : 30 Nov 2020 8:48 pm Operator: TAP
Sample : ICAL BLANK Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 12:57:10 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 12:53:39 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

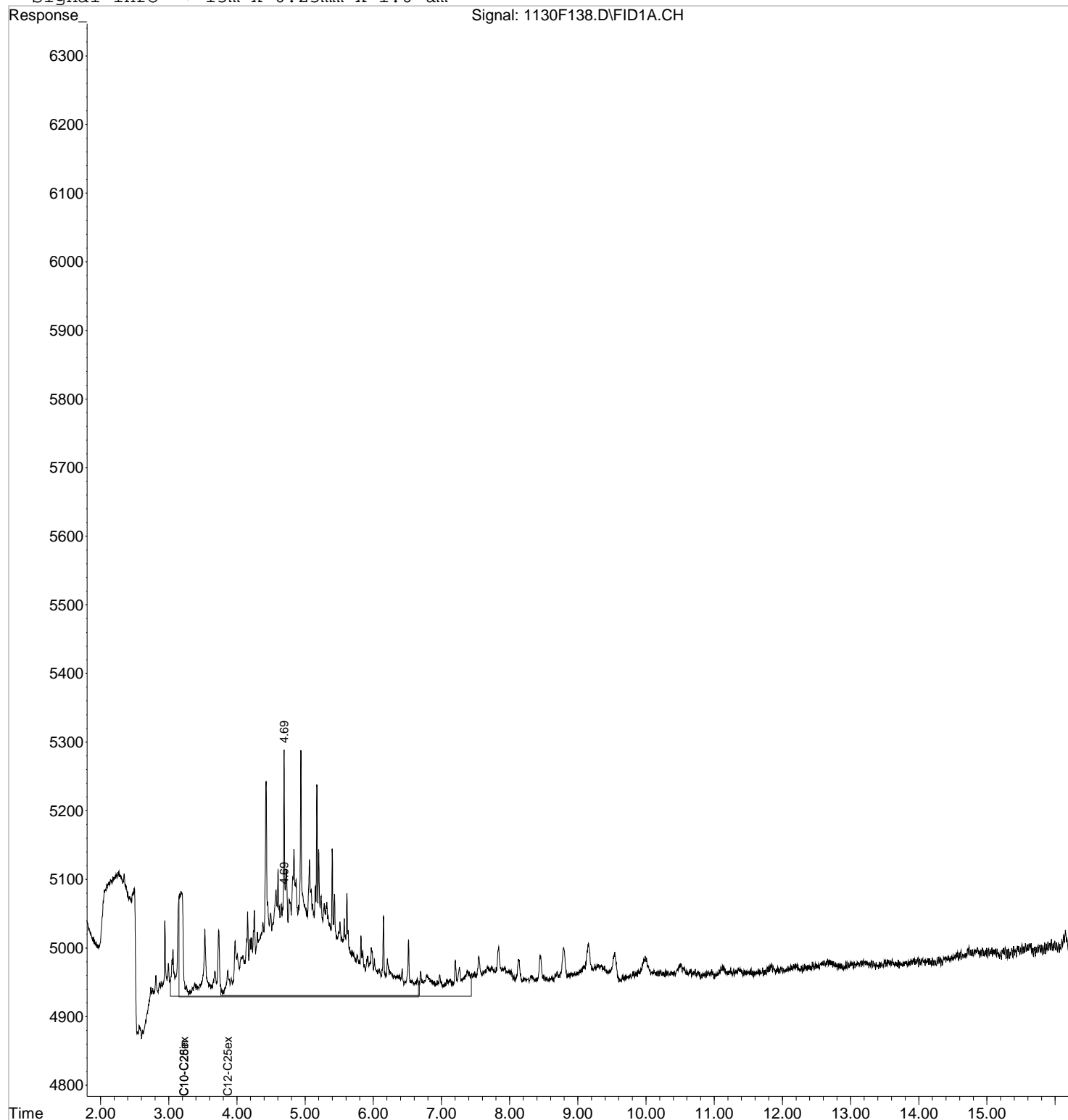
Target Compounds

6) H	C10-C25ex DRO [AK102]	3.23	16337	11.508 ppm
7) H	C10-C28in DRO [8015]	3.23	17638	12.011 ppm
8) H	C12-C25ex DRO [NWTPH]	3.87	14667	12.242 ppm

Data File : J:\GC21\DATA\113020F\1130F138.D Vial: 86
Acq On : 30 Nov 2020 8:48 pm Operator: TAP
Sample : ICAL BLANK Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:58 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 12:53:39 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F138.D

Vial: 86

Acq On : 30 Nov 2020 8:48 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

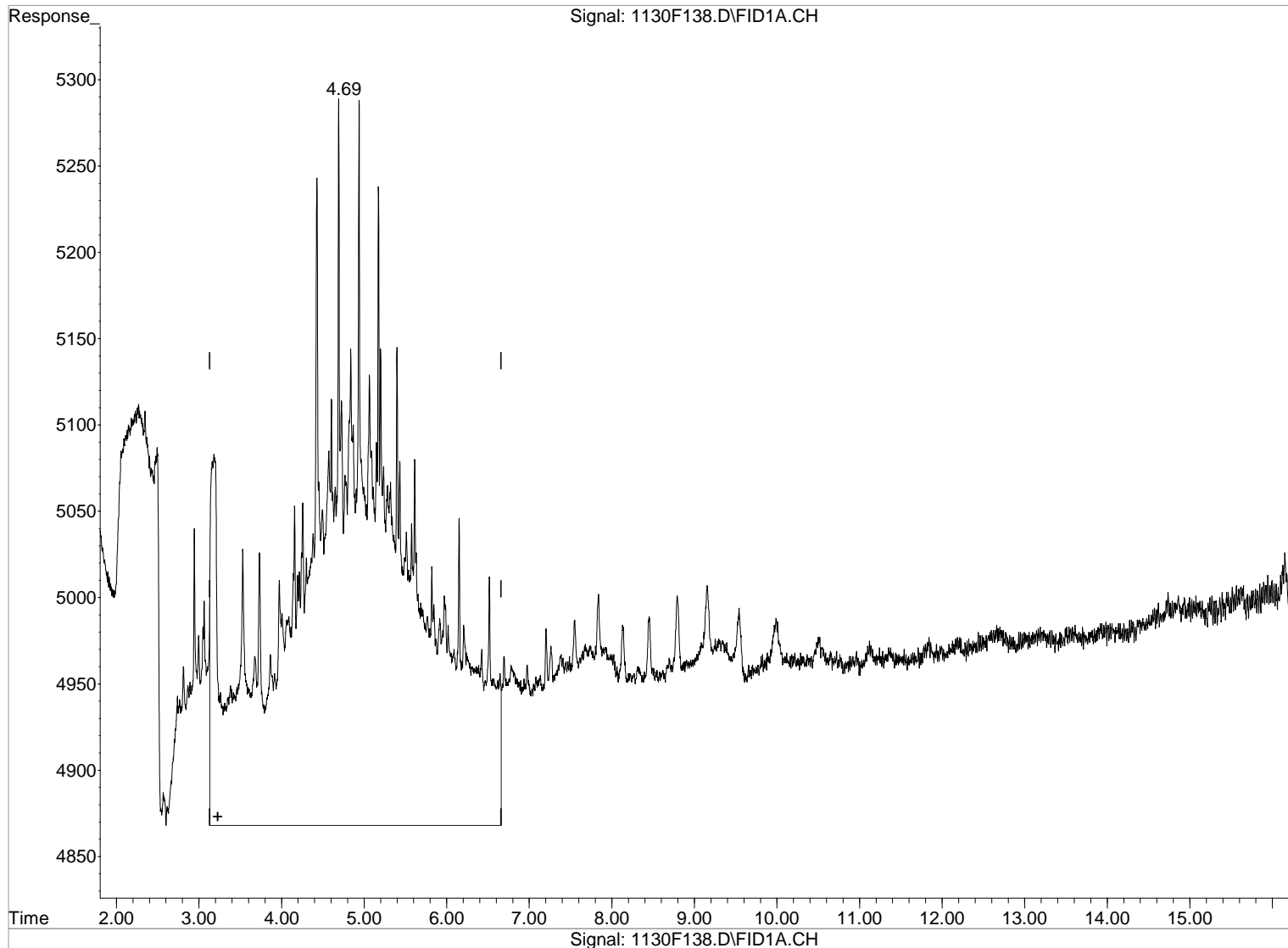
Quant Time: Dec 1 12:57 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:53:39 2020

Response via : Multiple Level Calibration



(6) C10-C25ex DRO [AK102] (H)

Manual Integration:

3.23min 20.711ppm

Before

response 29402

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F138.D

Vial: 86

Acq On : 30 Nov 2020 8:48 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

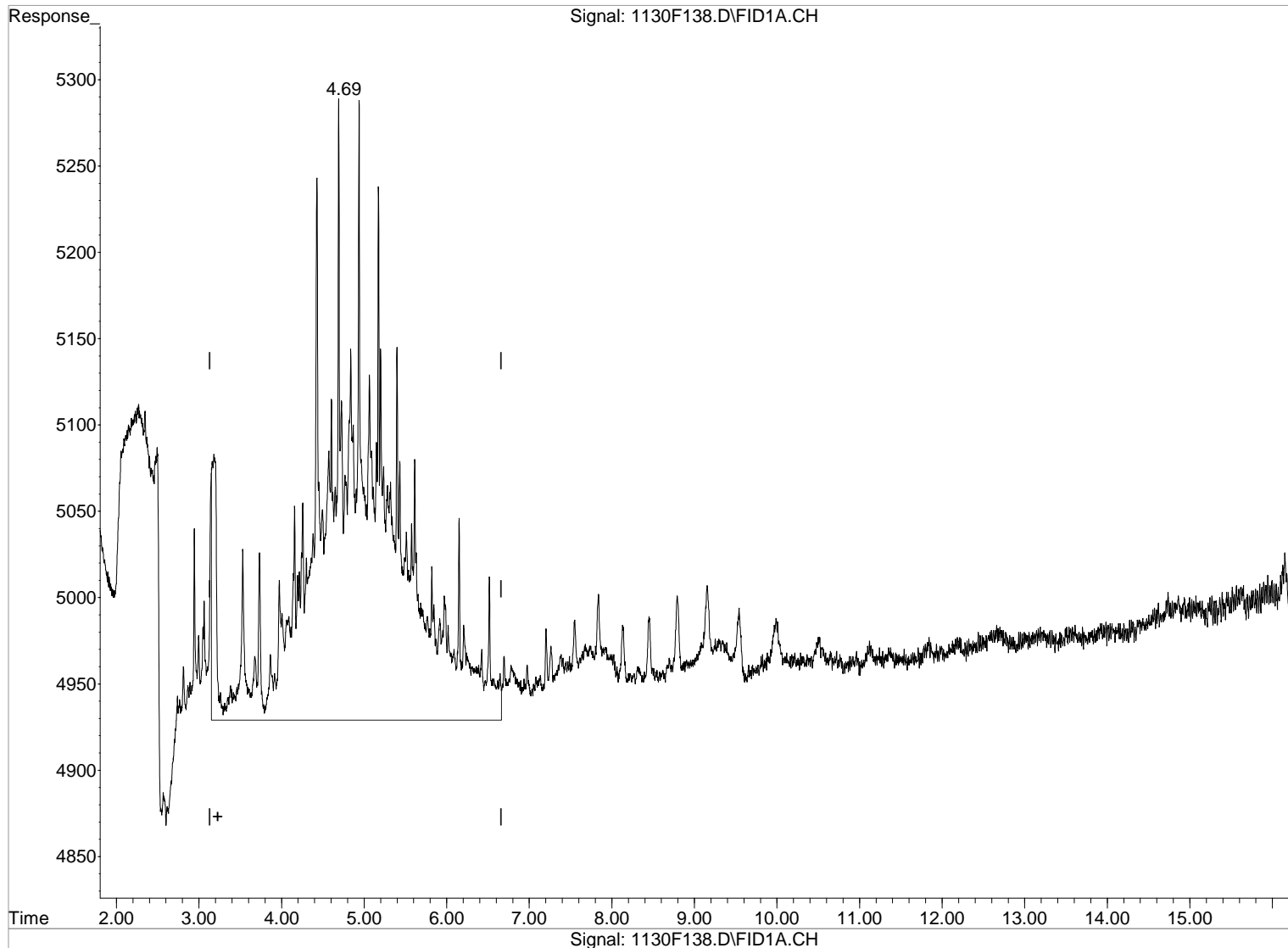
Quant Time: Dec 1 12:57 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:53:39 2020

Response via : Multiple Level Calibration



(6) C10-C25ex DRO [AK102] (H)

Manual Integration:

3.23min 11.508ppm

After

response 16337

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F138.D

Vial: 86

Acq On : 30 Nov 2020 8:48 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

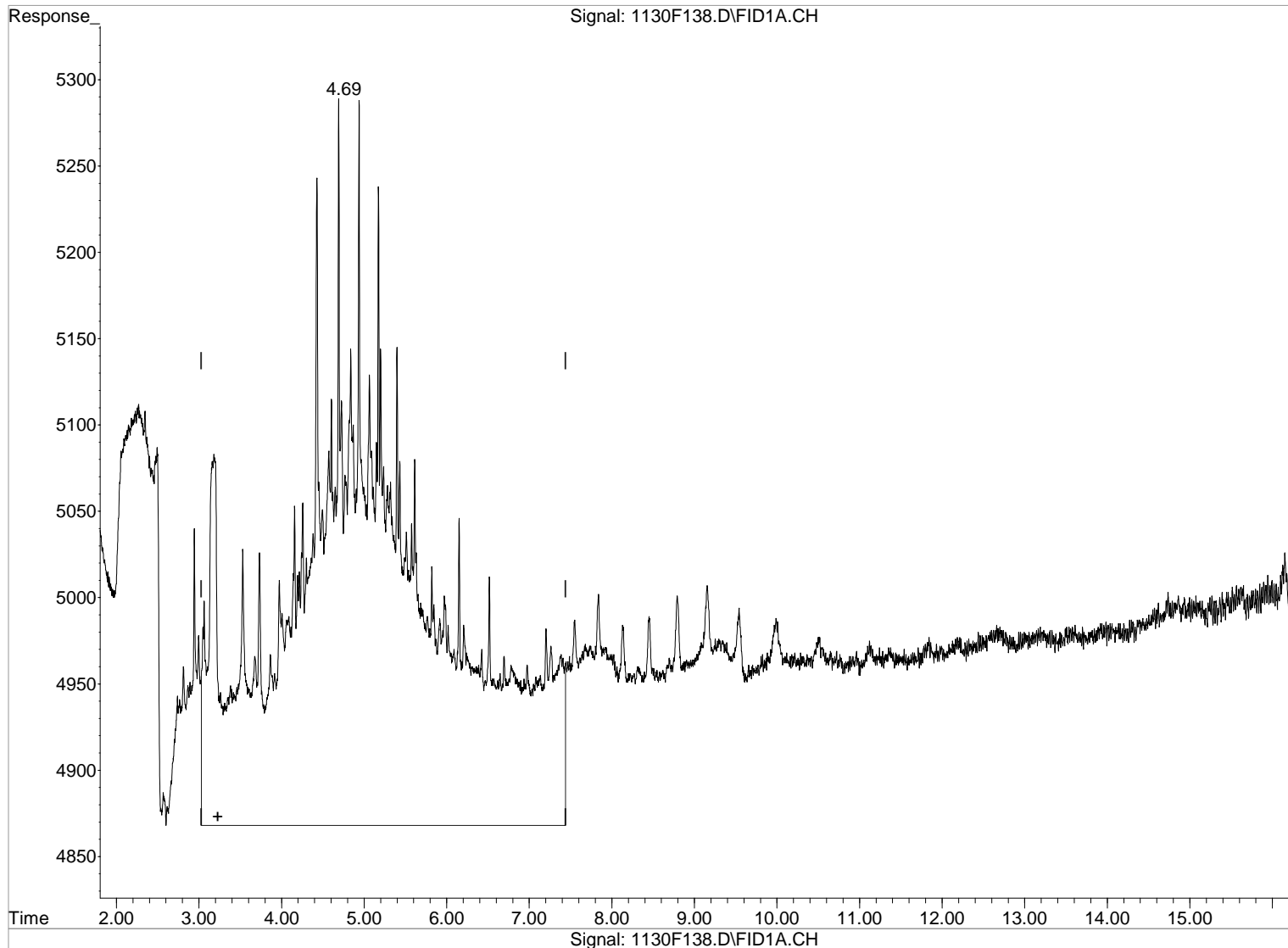
Quant Time: Dec 1 12:57 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:53:39 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 23.178ppm

Before

response 34038

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F138.D

Vial: 86

Acq On : 30 Nov 2020 8:48 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

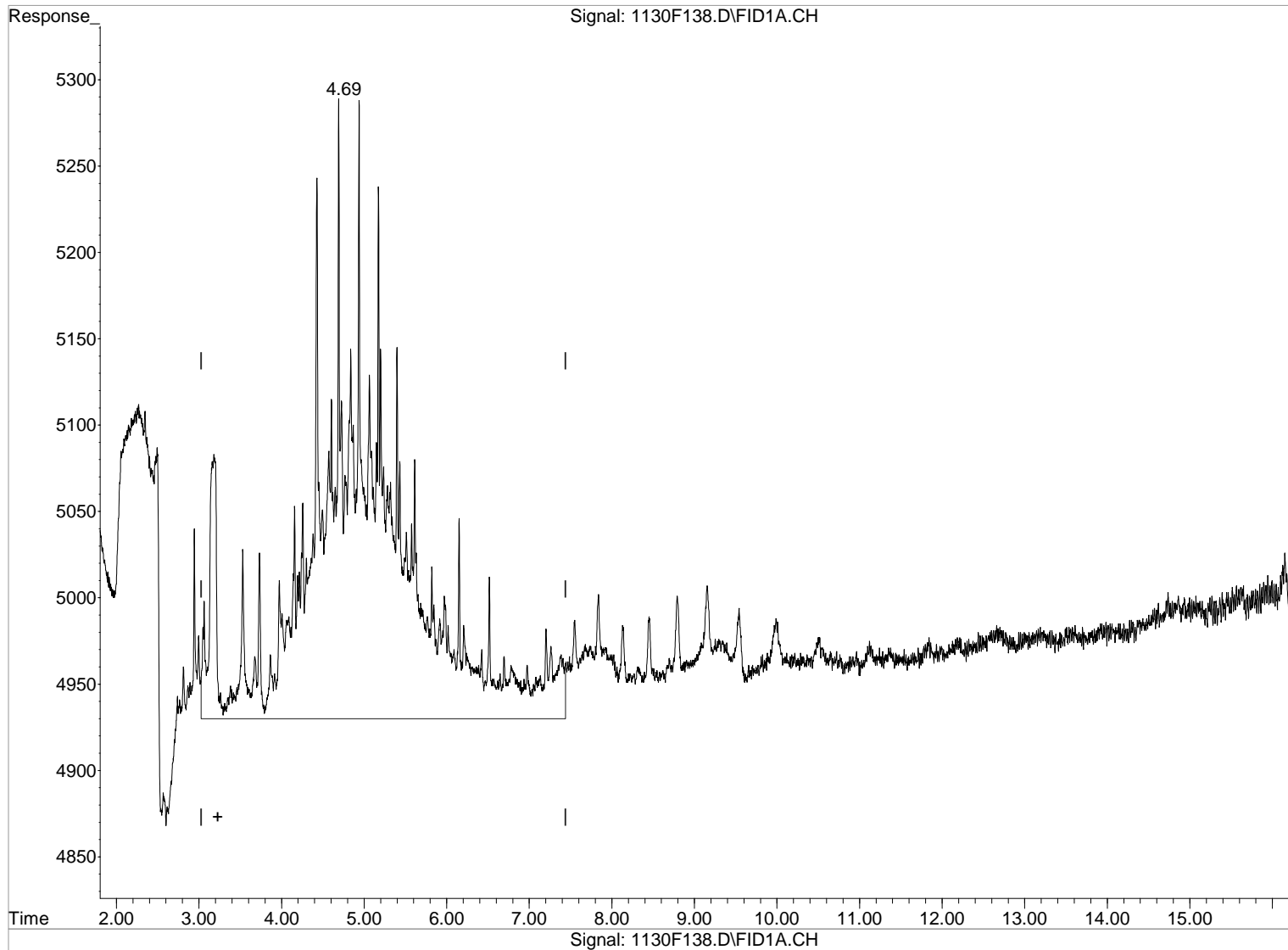
Quant Time: Dec 1 12:57 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:53:39 2020

Response via : Multiple Level Calibration



(7) C10-C28in DRO [8015] (H)

Manual Integration:

3.23min 12.011ppm

After

response 17638

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F138.D

Vial: 86

Acq On : 30 Nov 2020 8:48 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

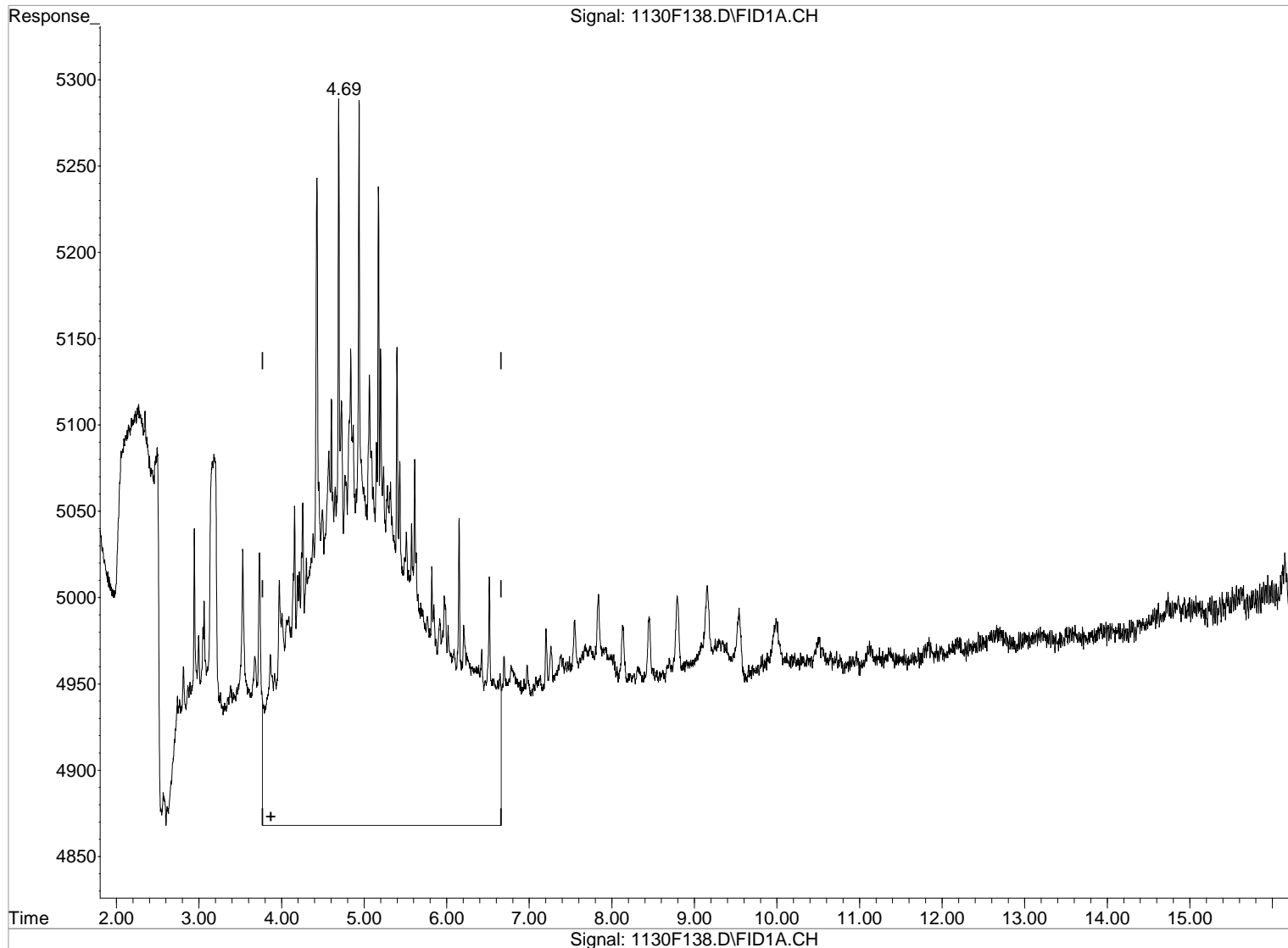
Quant Time: Dec 1 12:57 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:53:39 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 21.343ppm

Before

response 25570

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F138.D

Vial: 86

Acq On : 30 Nov 2020 8:48 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

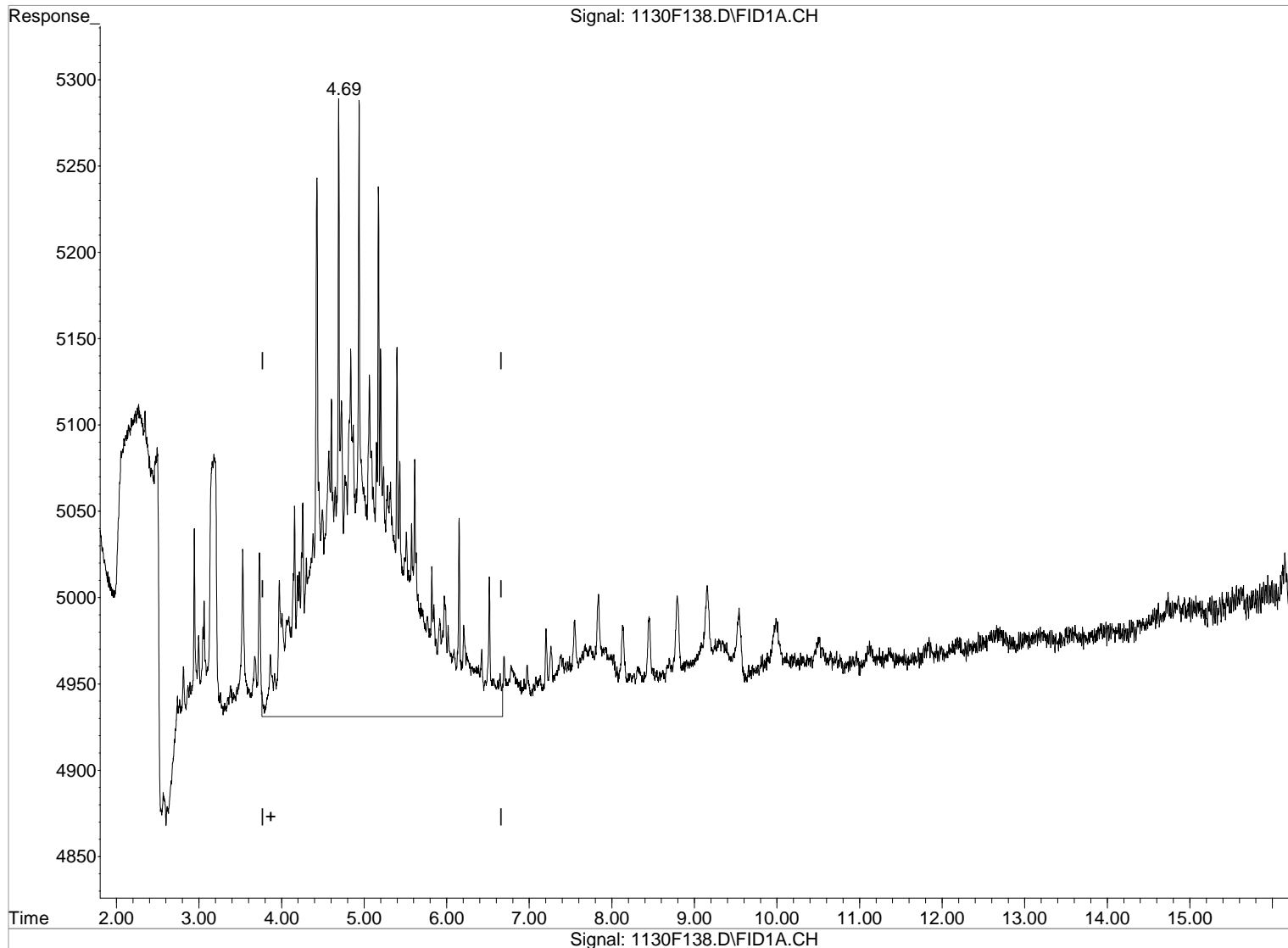
Quant Time: Dec 1 12:57 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:53:39 2020

Response via : Multiple Level Calibration



(8) C12-C25ex DRO [NWTPH] (H)

Manual Integration:

3.87min 12.242ppm

After

response 14667

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F139.D Vial: 9
Acq On : 30 Nov 2020 9:10 pm Operator: TAP
Sample : SVF03-8G DRO ICV@1000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 12:56:09 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 12:53:39 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

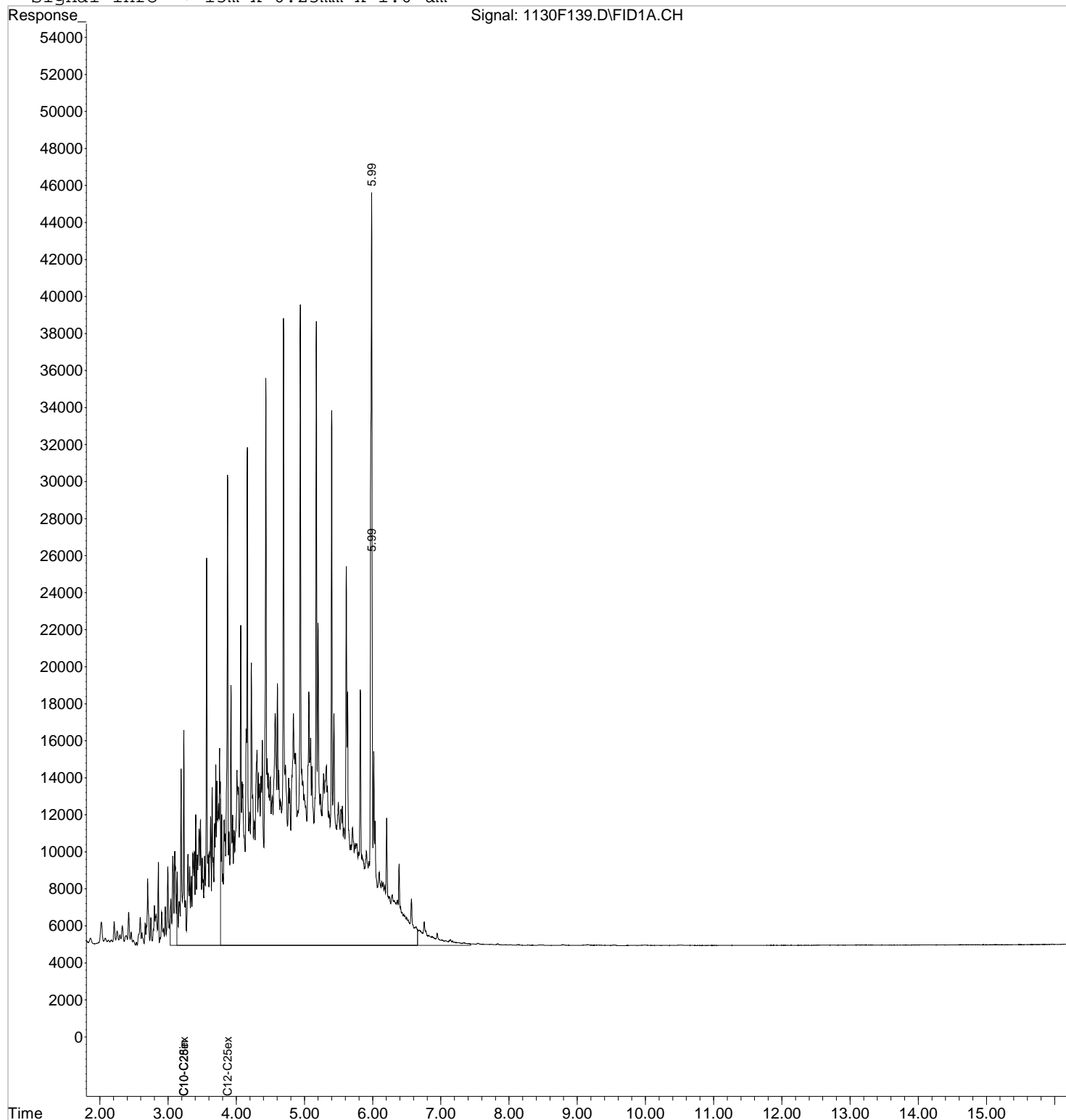
Target Compounds

6) H	C10-C25ex DRO [AK102]	3.23	1475815 1039.592 ppm
7) H	C10-C28in DRO [8015]	3.23	1509280 1027.747 ppm
8) H	C12-C25ex DRO [NWTPH]	3.87	1292458 1078.783 ppm

Data File : J:\GC21\DATA\113020F\1130F139.D Vial: 9
Acq On : 30 Nov 2020 9:10 pm Operator: TAP
Sample : SVF03-8G DRO ICV@1000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:56 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 12:53:39 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F142.D Vial: 86
Acq On : 30 Nov 2020 10:18 pm Operator: TAP
Sample : ICAL BLANK Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:50:35 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:46:23 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

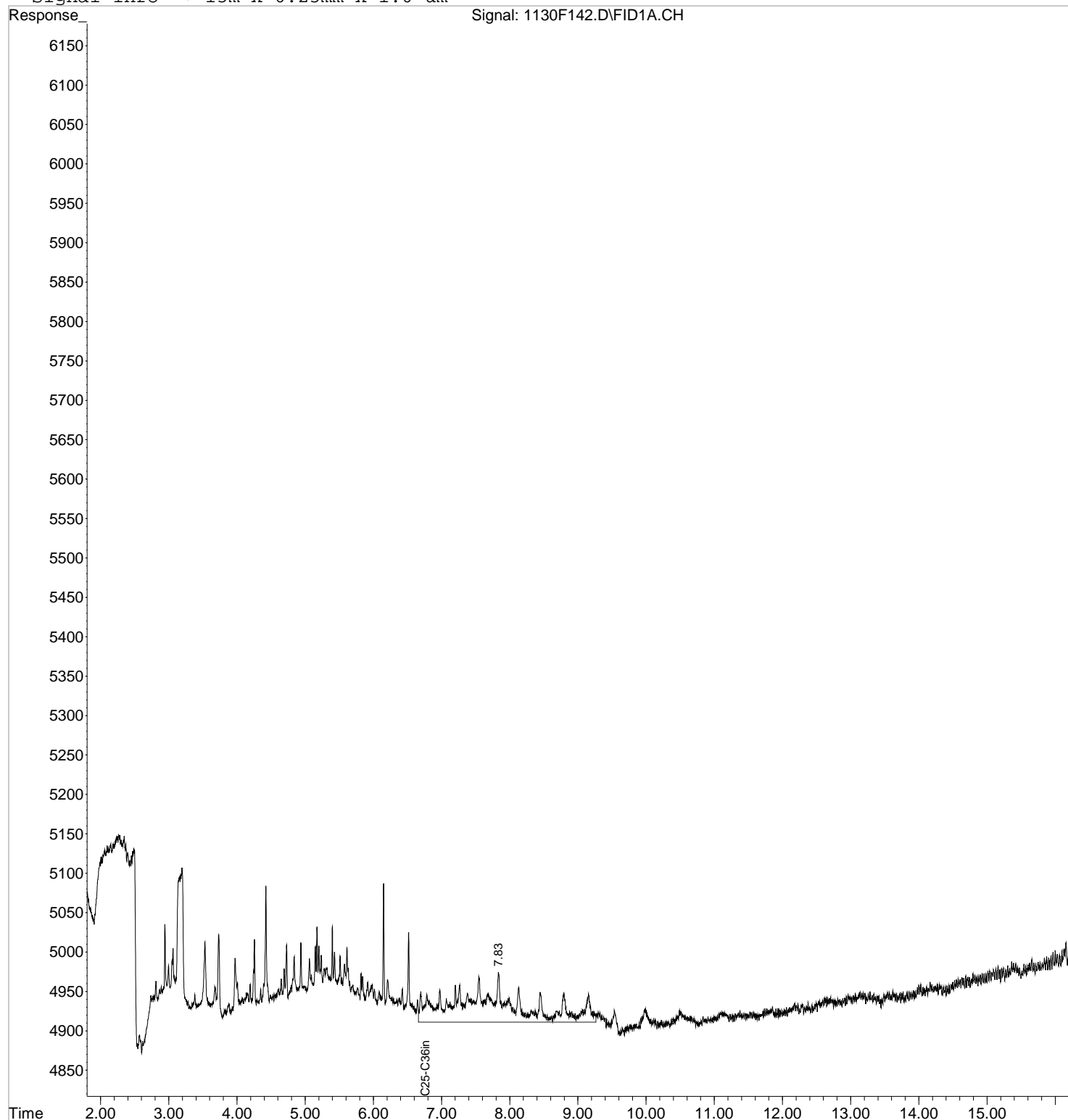
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
Target Compounds			
10) H C25-C36in RRO [NWTPH]	6.76	3114	3.470 ppm

Data File : J:\GC21\DATA\113020F\1130F142.D Vial: 86
Acq On : 30 Nov 2020 10:18 pm Operator: TAP
Sample : ICAL BLANK Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:47 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:46:23 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F142.D

Vial: 86

Acq On : 30 Nov 2020 10:18 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

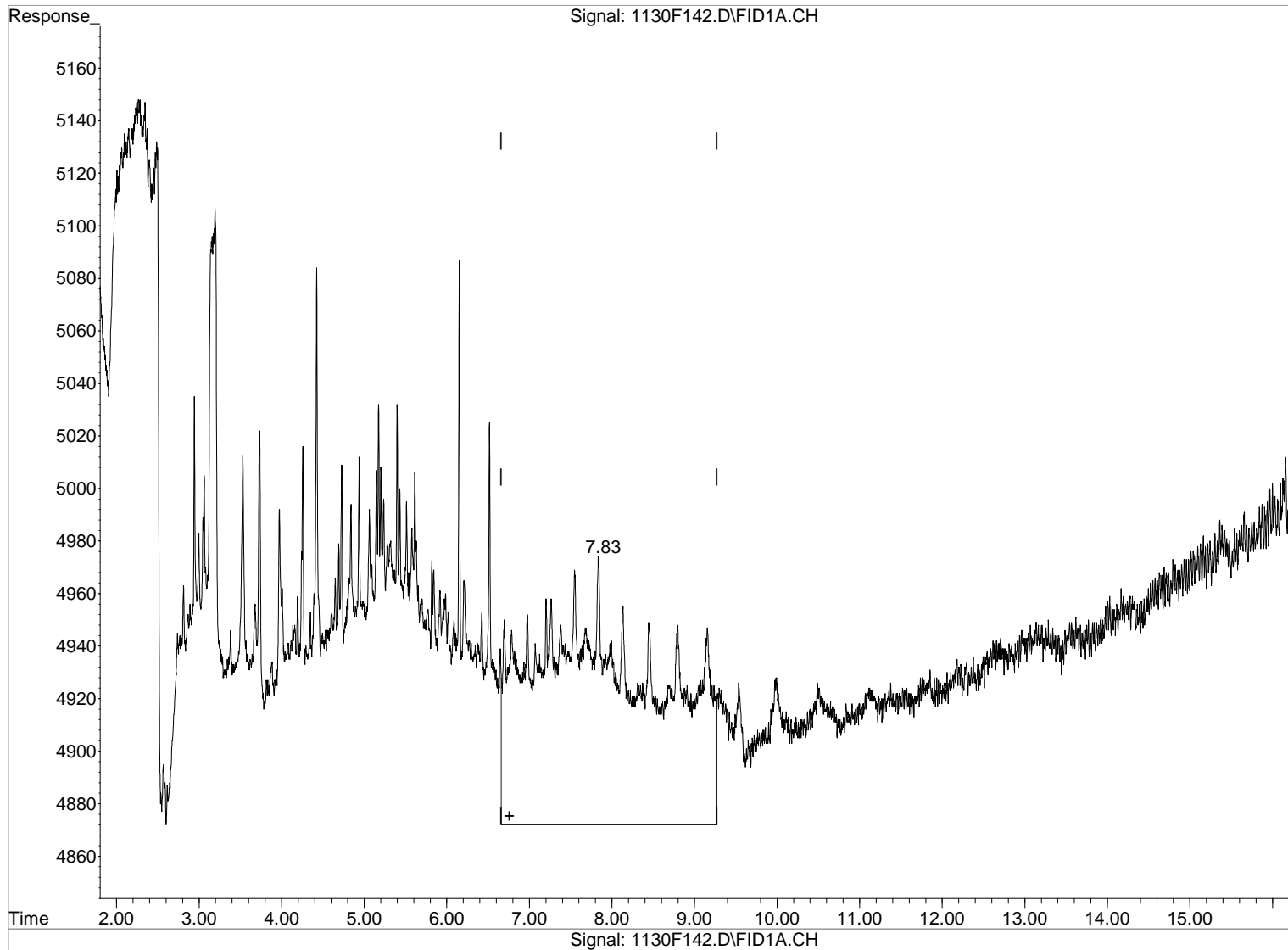
Quant Time: Dec 1 11:50 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:46:23 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 10.280ppm

Before

response 9226

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F142.D

Vial: 86

Acq On : 30 Nov 2020 10:18 pm

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

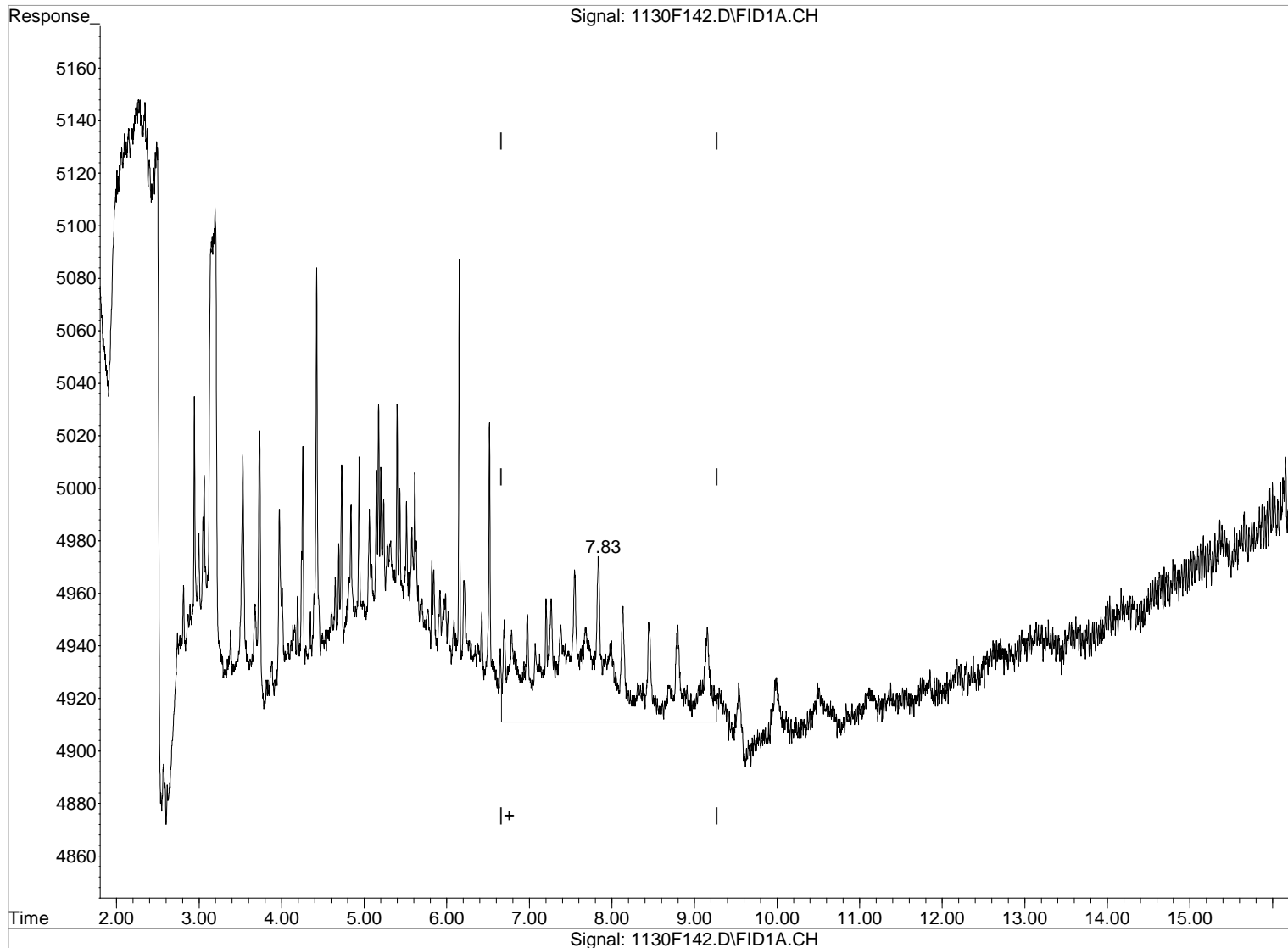
Quant Time: Dec 1 11:50 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:46:23 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 3.470ppm

After

response 3114

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F143.D Vial: 10
Acq On : 30 Nov 2020 10:40 pm Operator: TAP
Sample : SVF03-9A RRO 50 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:09 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

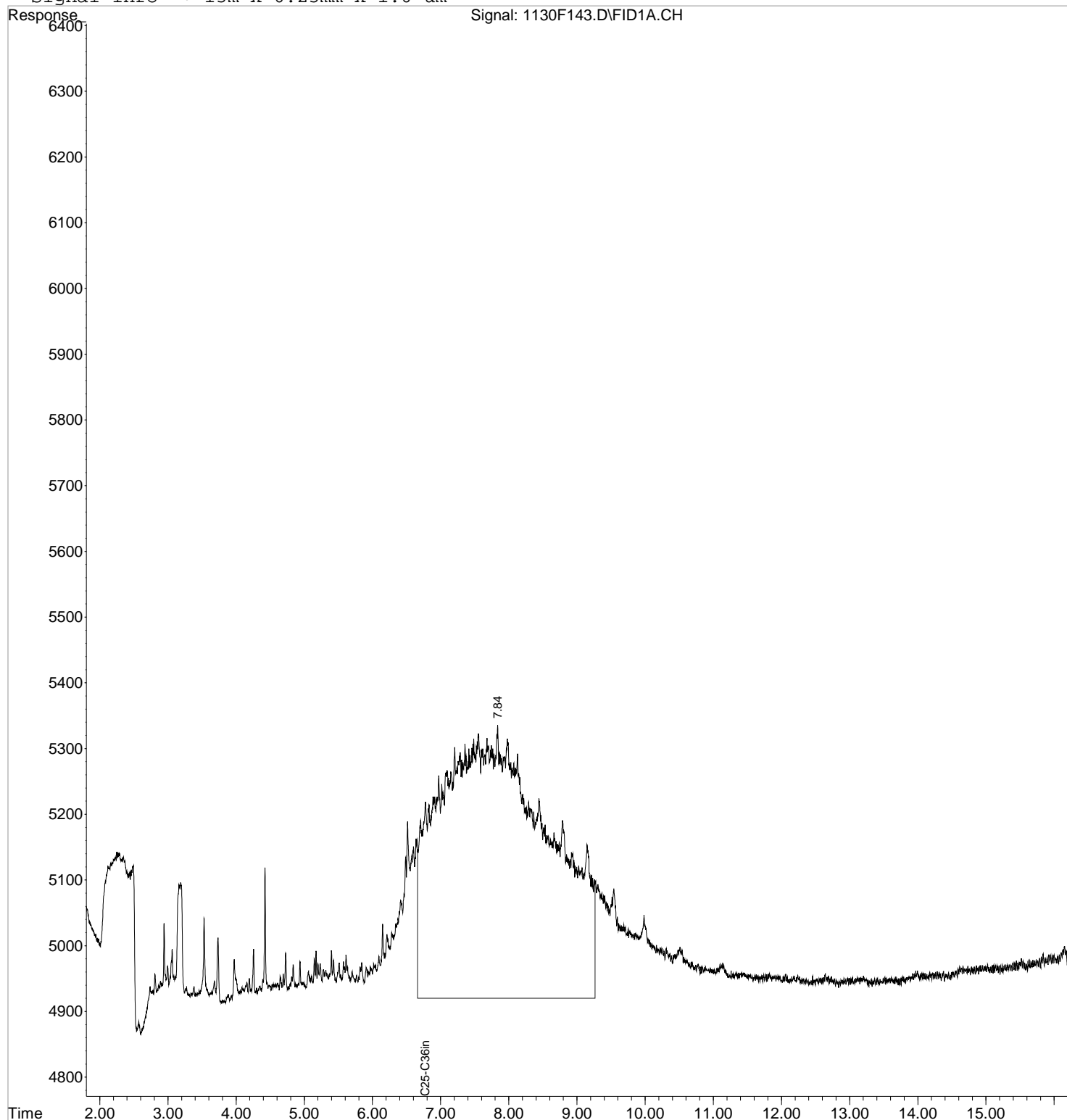
Target Compounds

10) H C25-C36in RRO [NWTPH]	6.76	46153	49.727 ppm
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Data File : J:\GC21\DATA\113020F\1130F143.D Vial: 10
Acq On : 30 Nov 2020 10:40 pm Operator: TAP
Sample : SVF03-9A RRO 50 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:40 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F143.D

Vial: 10

Acq On : 30 Nov 2020 10:40 pm

Operator: TAP

Sample : SVF03-9A RRO 50

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

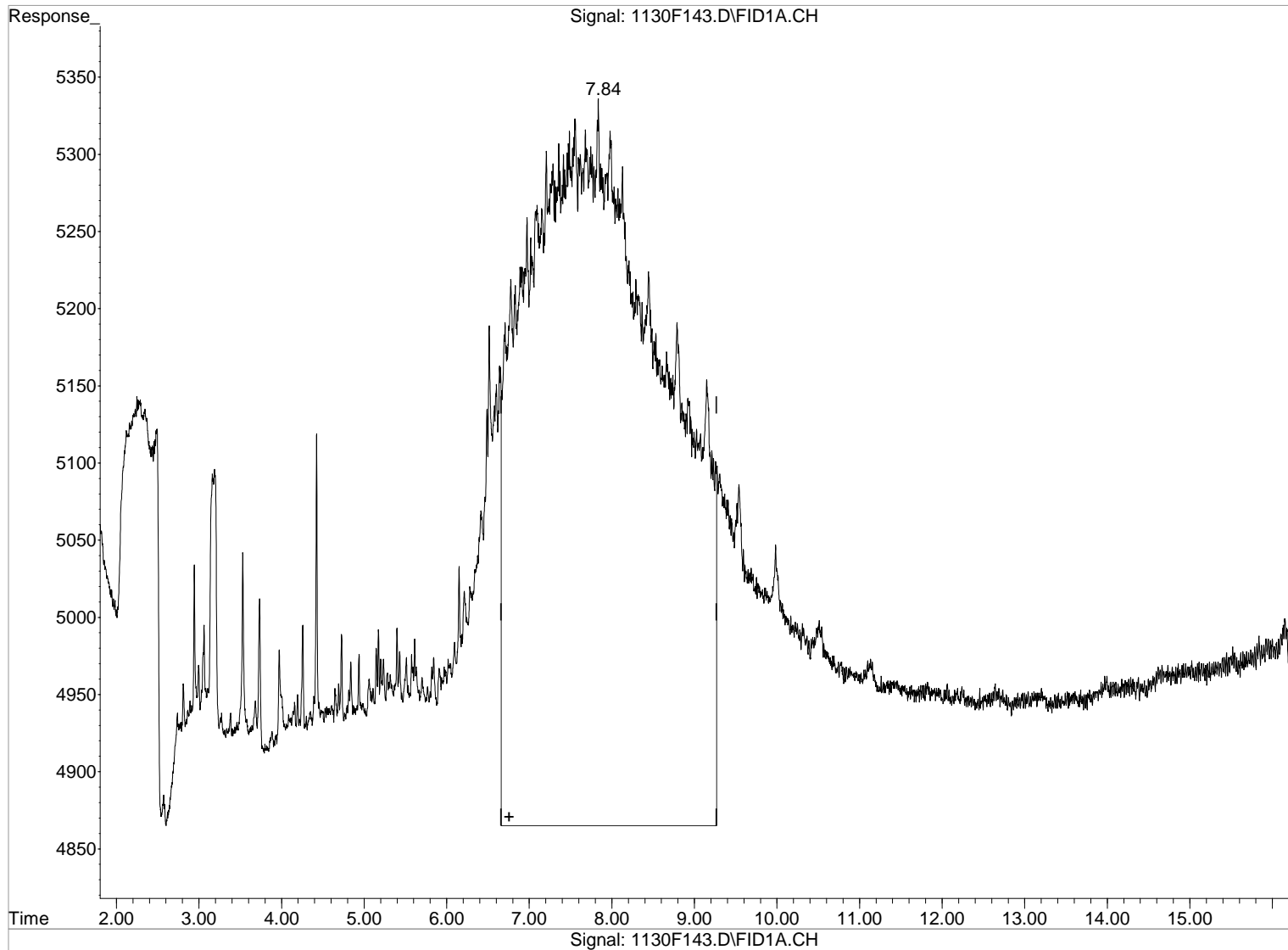
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 59.113ppm

Before

response 54864

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F143.D

Vial: 10

Acq On : 30 Nov 2020 10:40 pm

Operator: TAP

Sample : SVF03-9A RRO 50

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

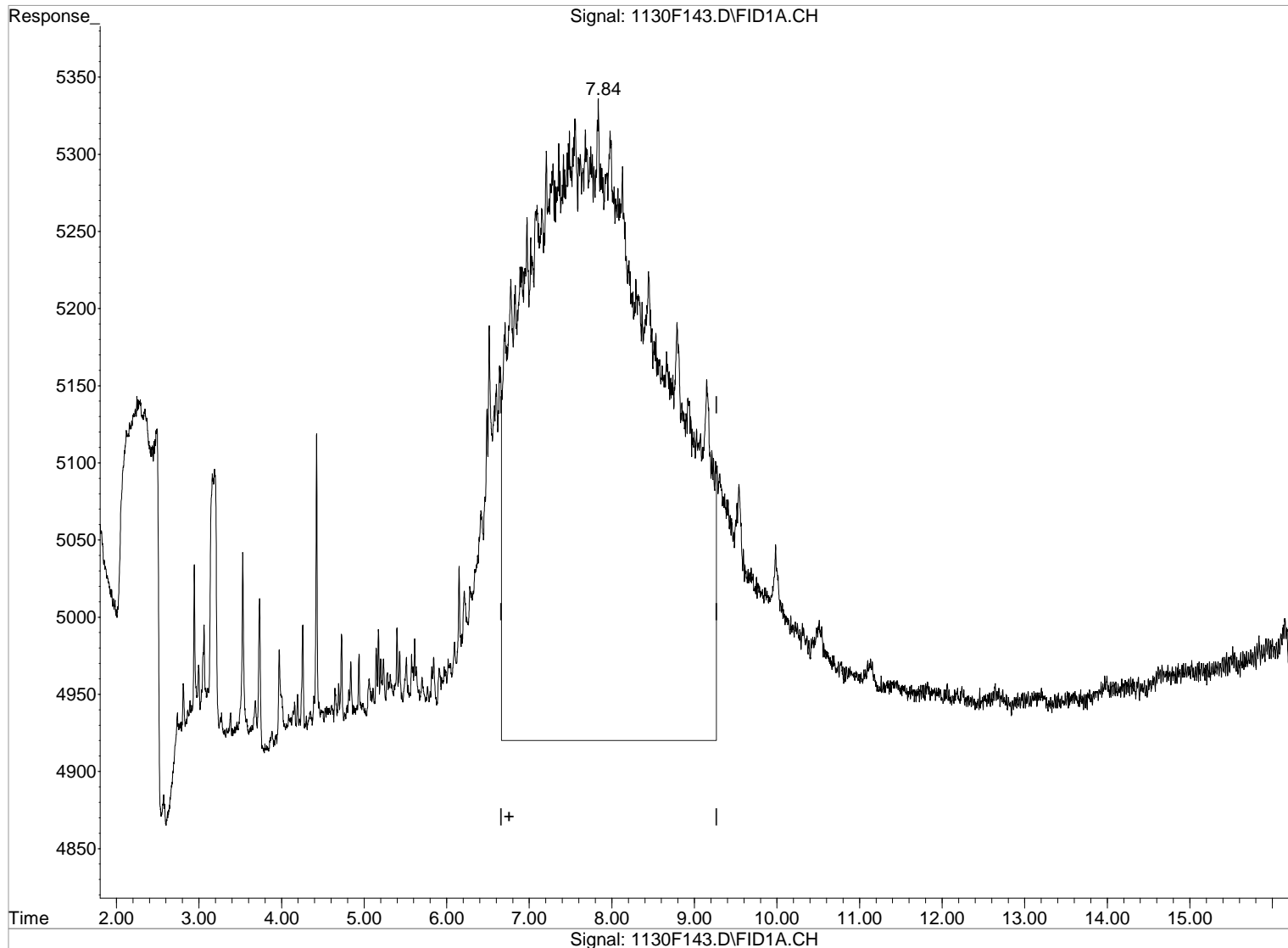
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 49.727ppm

After

response 46153

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F144.D Vial: 11
Acq On : 30 Nov 2020 11:02 pm Operator: TAP
Sample : SVF03-8L RRO 200 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:10 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

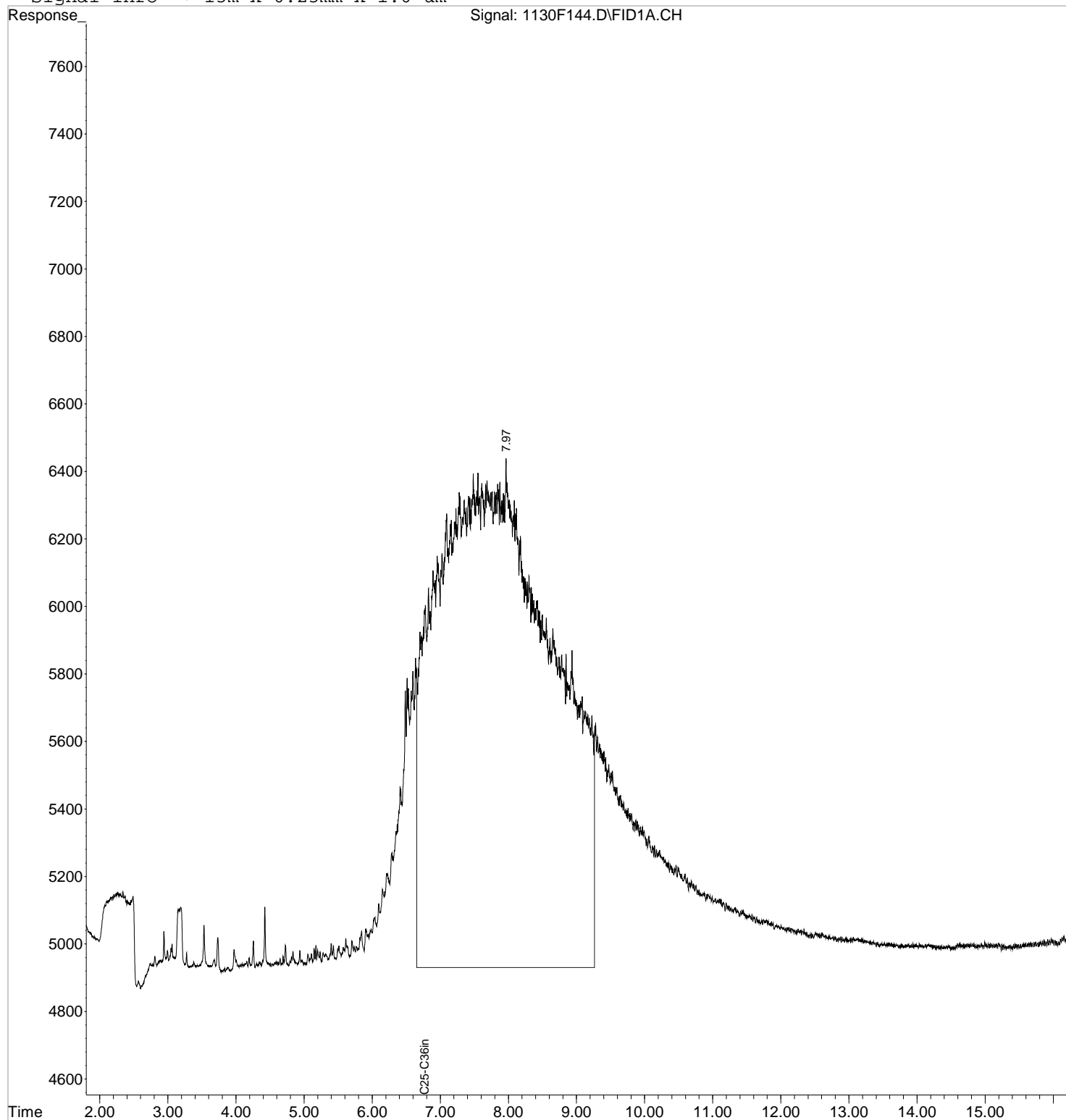
Target Compounds

10) H C25-C36in RRO [NWTPH]	6.76	175513	189.106 ppm
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Data File : J:\GC21\DATA\113020F\1130F144.D Vial: 11
Acq On : 30 Nov 2020 11:02 pm Operator: TAP
Sample : SVF03-8L RRO 200 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:41 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F144.D

Vial: 11

Acq On : 30 Nov 2020 11:02 pm

Operator: TAP

Sample : SVF03-8L RRO 200

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

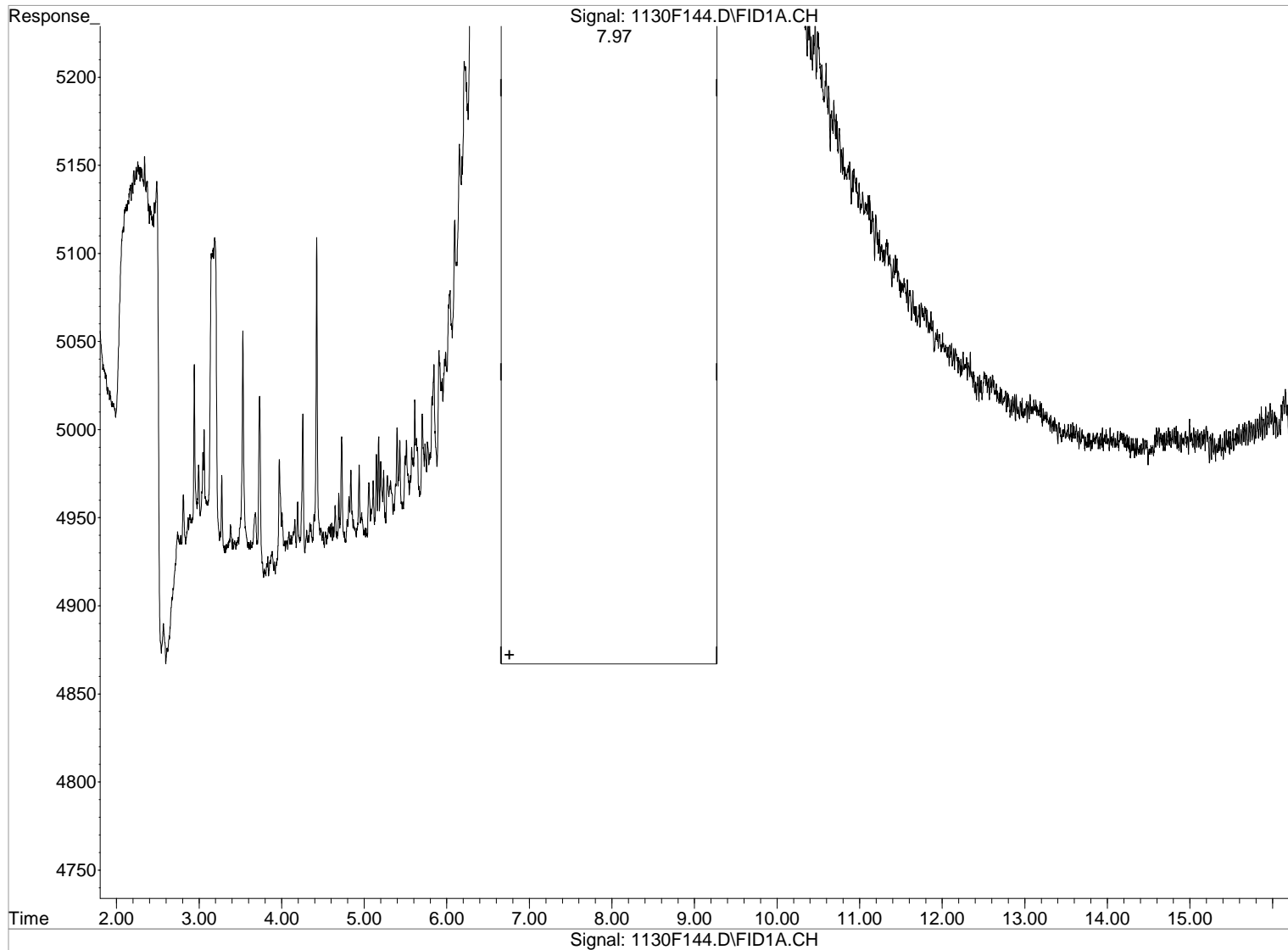
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 199.605ppm

Before

response 185257

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F144.D

Vial: 11

Acq On : 30 Nov 2020 11:02 pm

Operator: TAP

Sample : SVF03-8L RRO 200

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

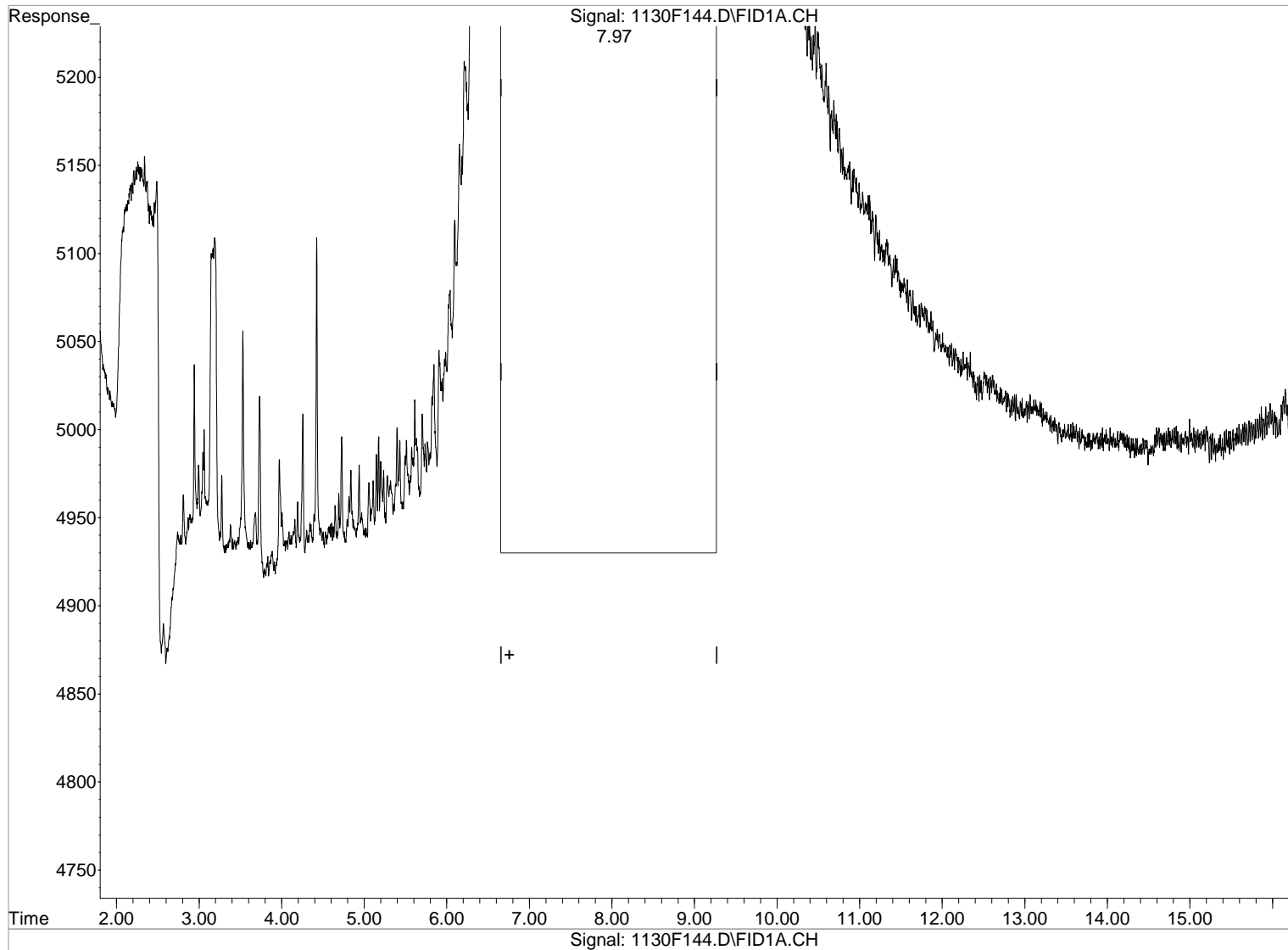
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 189.106ppm

After

response 175513

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F145.D Vial: 12
Acq On : 30 Nov 2020 11:24 pm Operator: TAP
Sample : SVF03-8K RRO 500 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:10 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

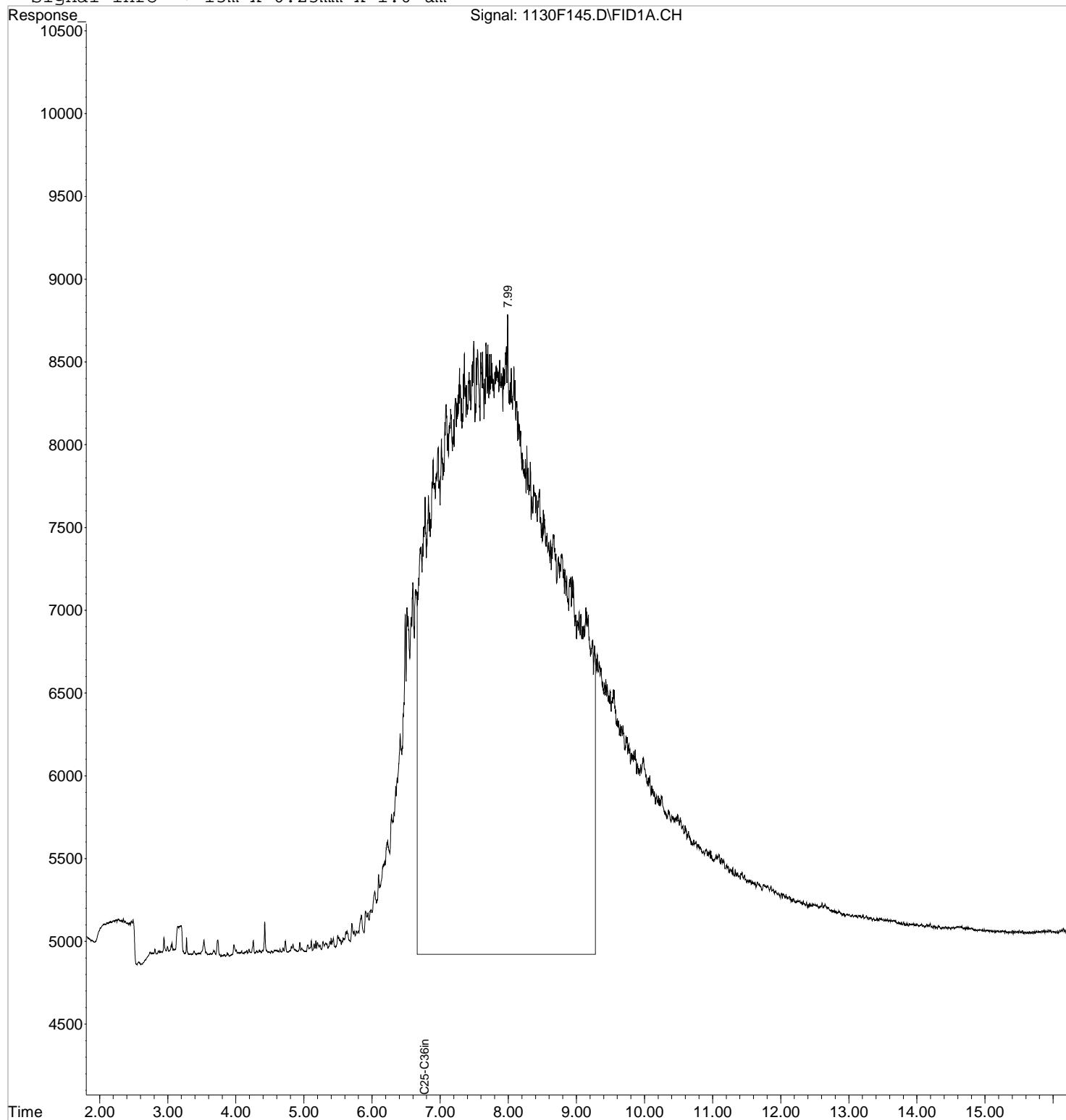
Target Compounds

10) H C25-C36in RRO [NWTPH]	6.76	447548	482.210 ppm
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Data File : J:\GC21\DATA\113020F\1130F145.D Vial: 12
Acq On : 30 Nov 2020 11:24 pm Operator: TAP
Sample : SVF03-8K RRO 500 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:42 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F145.D

Vial: 12

Acq On : 30 Nov 2020 11:24 pm

Operator: TAP

Sample : SVF03-8K RRO 500

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

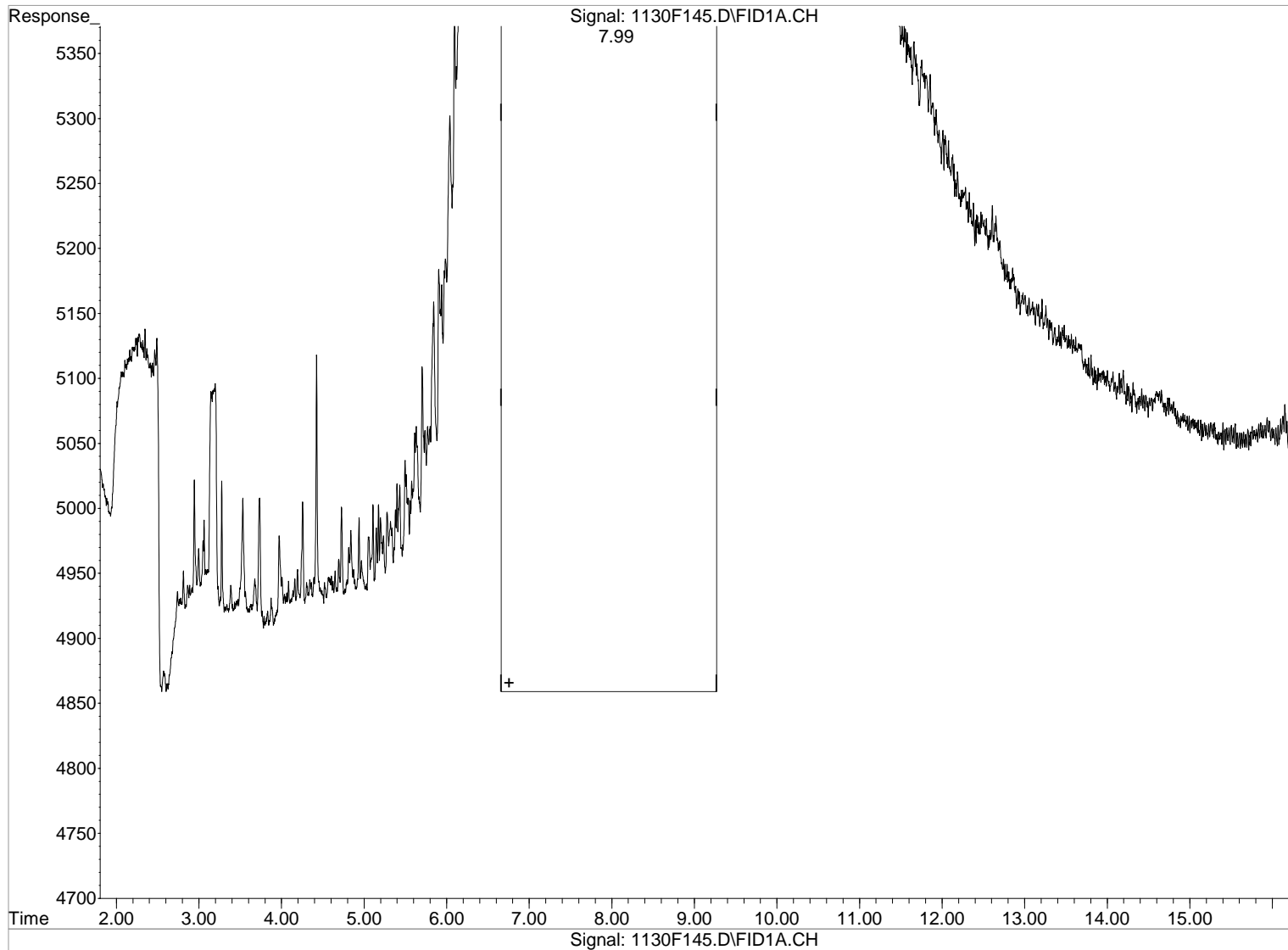
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 492.320ppm

Before

response 456931

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F145.D

Vial: 12

Acq On : 30 Nov 2020 11:24 pm

Operator: TAP

Sample : SVF03-8K RRO 500

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

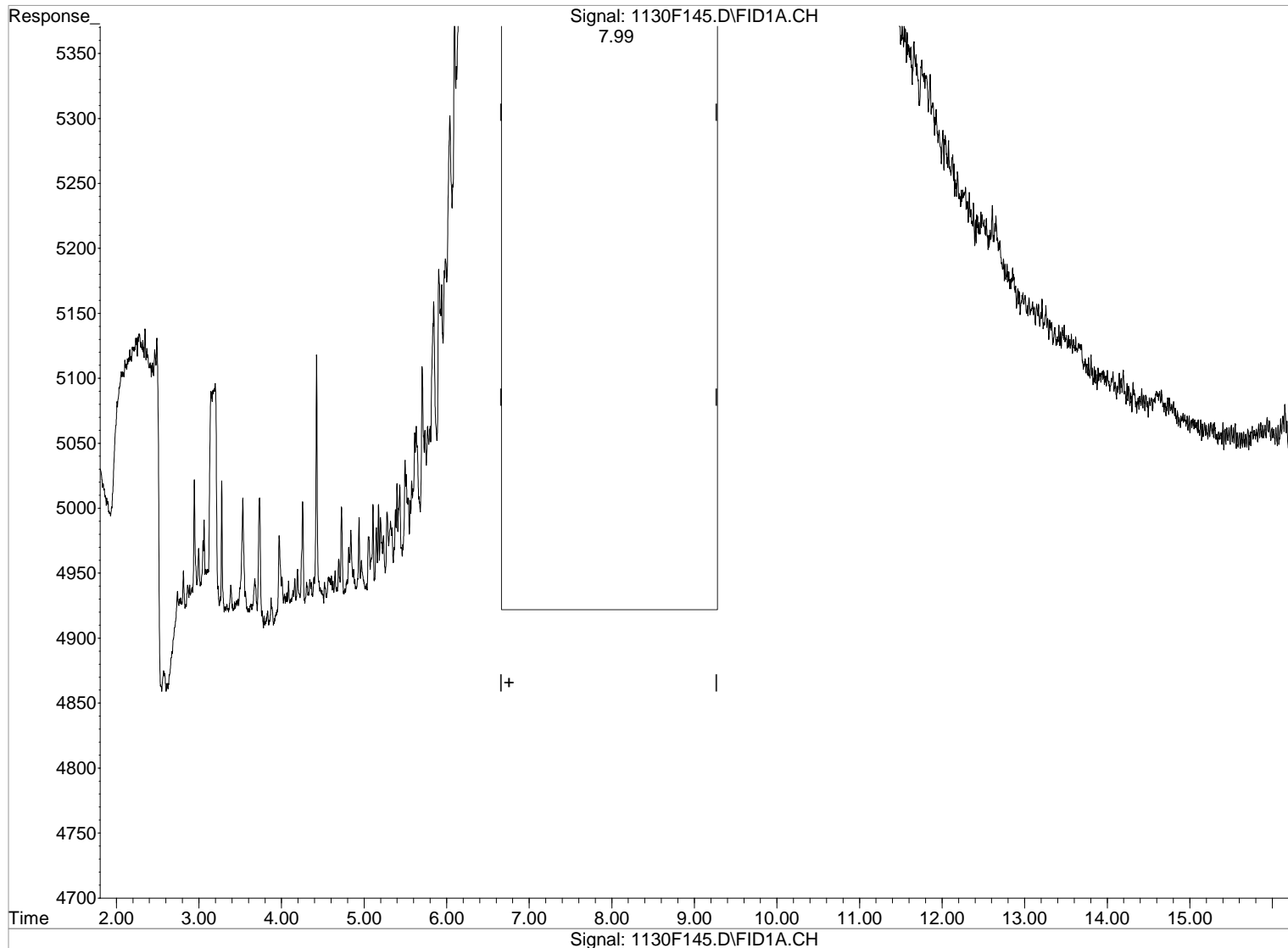
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 482.210ppm

After

response 447548

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F146.D Vial: 13
Acq On : 30 Nov 2020 11:47 pm Operator: TAP
Sample : SVF03-8J RRO 2000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:11 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

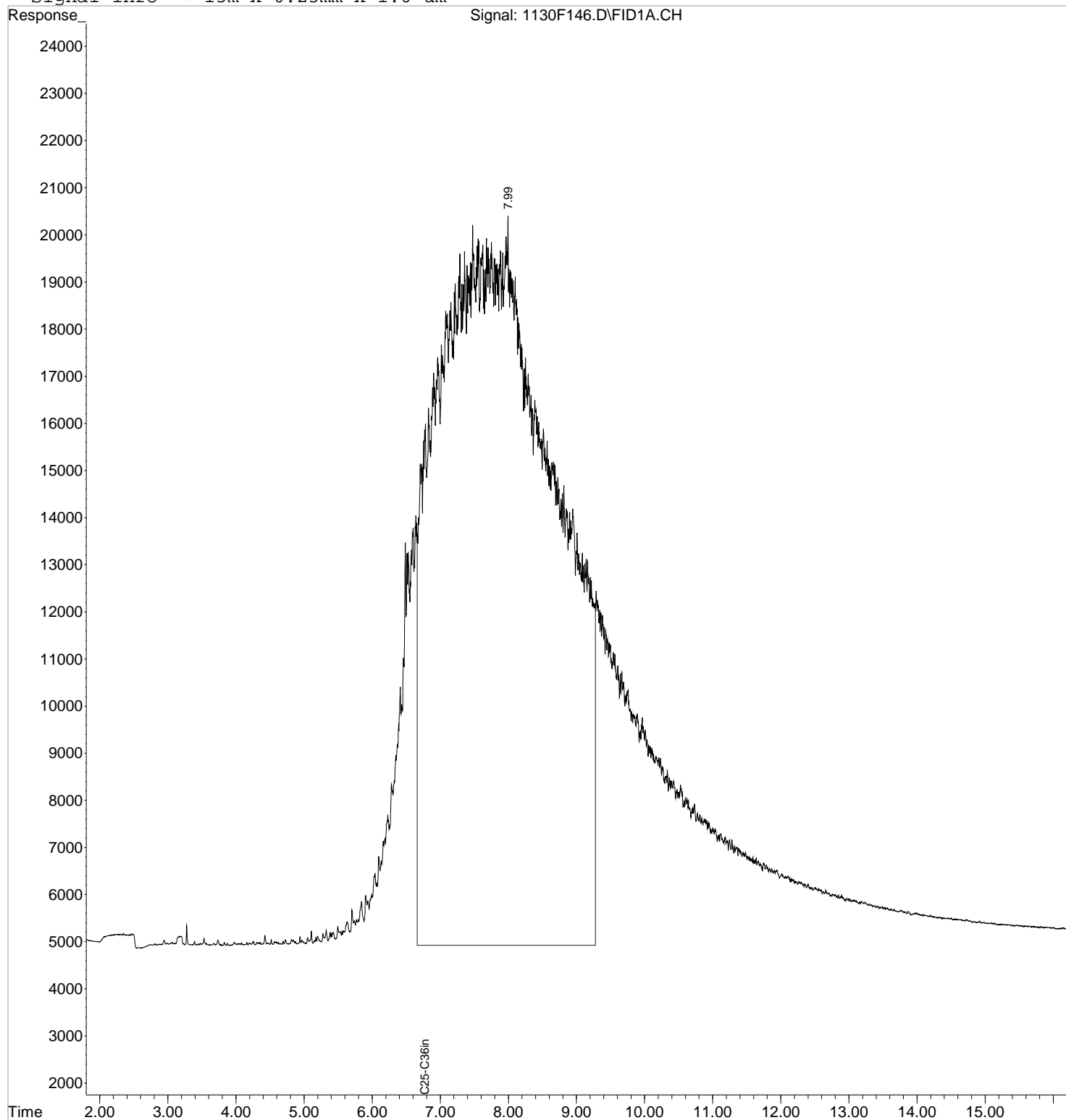
Target Compounds

10) H C25-C36in RRO [NWTPH]	6.76	1824179	1965.459 ppm
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Data File : J:\GC21\DATA\113020F\1130F146.D Vial: 13
Acq On : 30 Nov 2020 11:47 pm Operator: TAP
Sample : SVF03-8J RRO 2000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:43 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F146.D

Vial: 13

Acq On : 30 Nov 2020 11:47 pm

Operator: TAP

Sample : SVF03-8J RRO 2000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

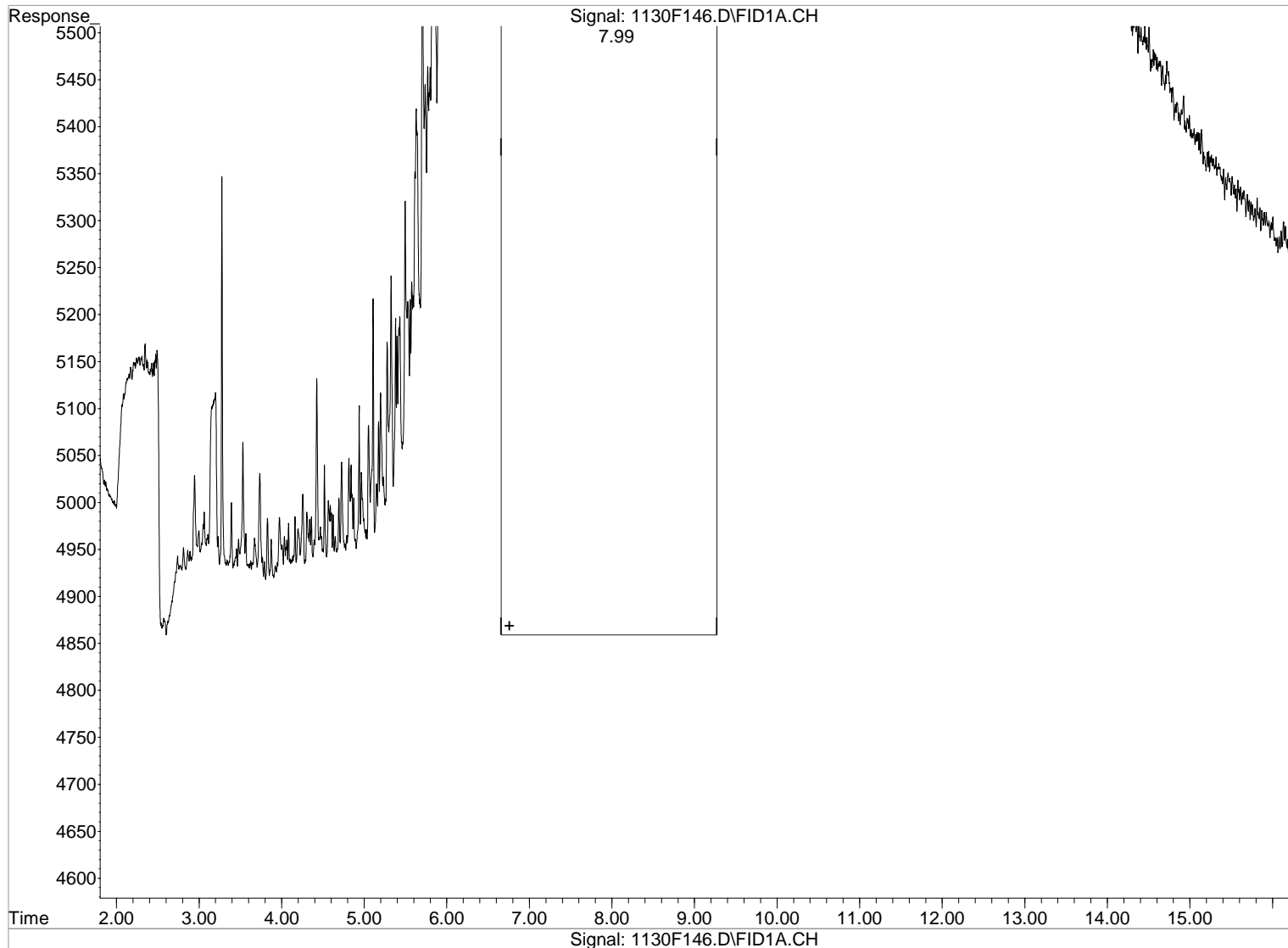
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 1974.408ppm

Before

response 1832485

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F146.D

Vial: 13

Acq On : 30 Nov 2020 11:47 pm

Operator: TAP

Sample : SVF03-8J RRO 2000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

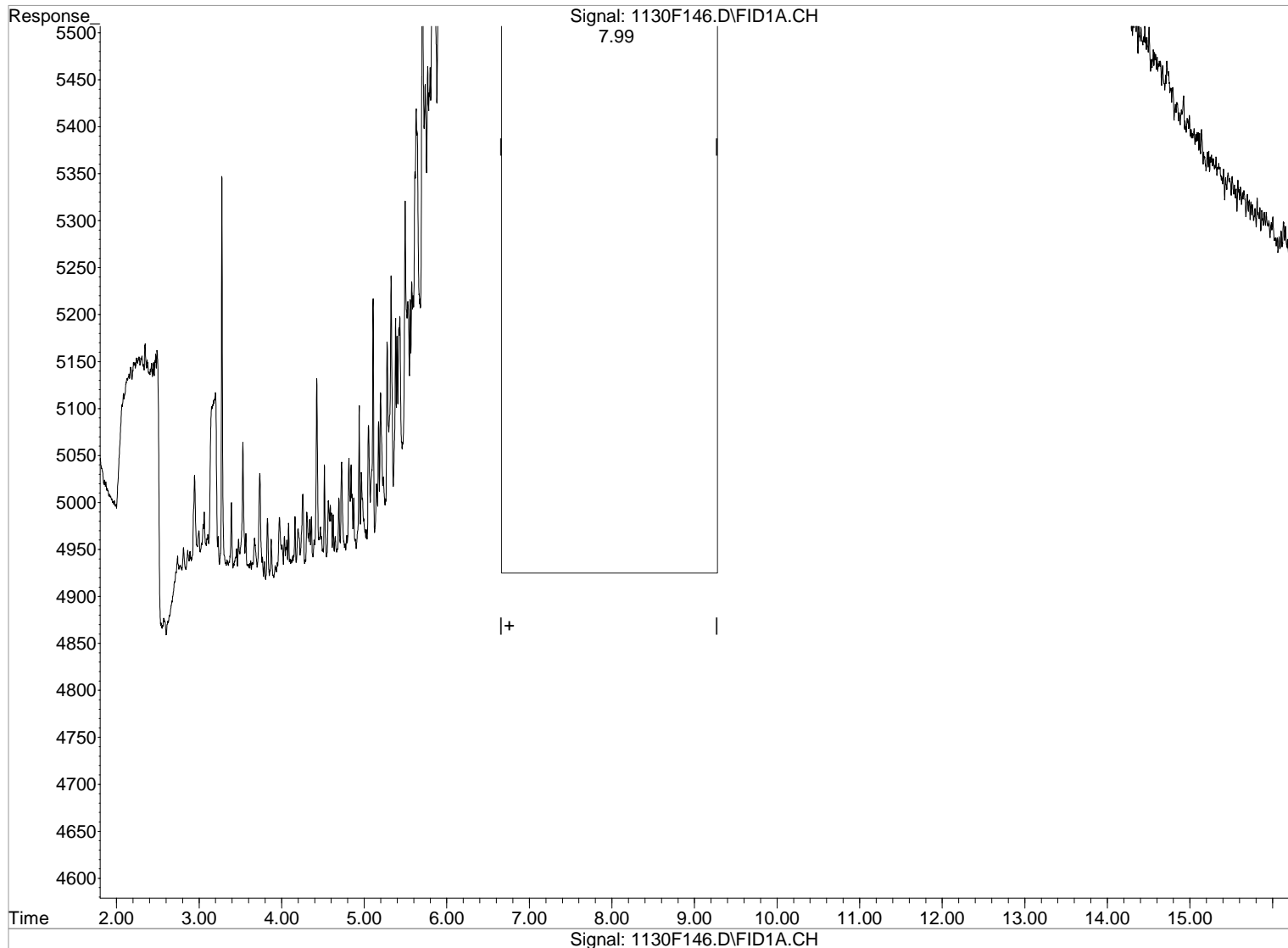
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 1965.459ppm

After

response 1824179

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F146.D

Vial: 13

Acq On : 30 Nov 2020 11:47 pm

Operator: TAP

Sample : SVF03-8J RRO 2000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

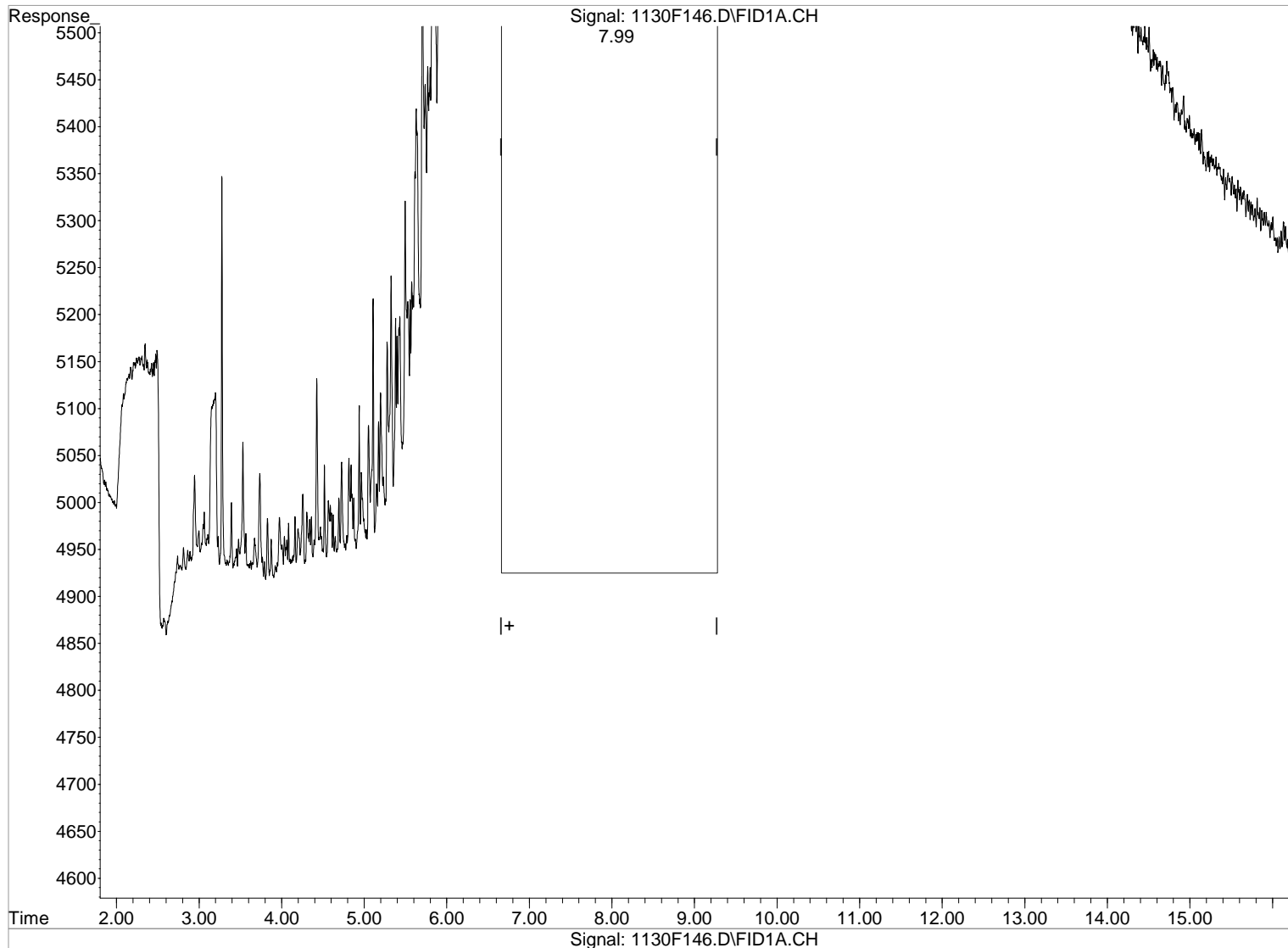
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 1965.459ppm

After

response 1824179

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F146.D

Vial: 13

Acq On : 30 Nov 2020 11:47 pm

Operator: TAP

Sample : SVF03-8J RRO 2000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

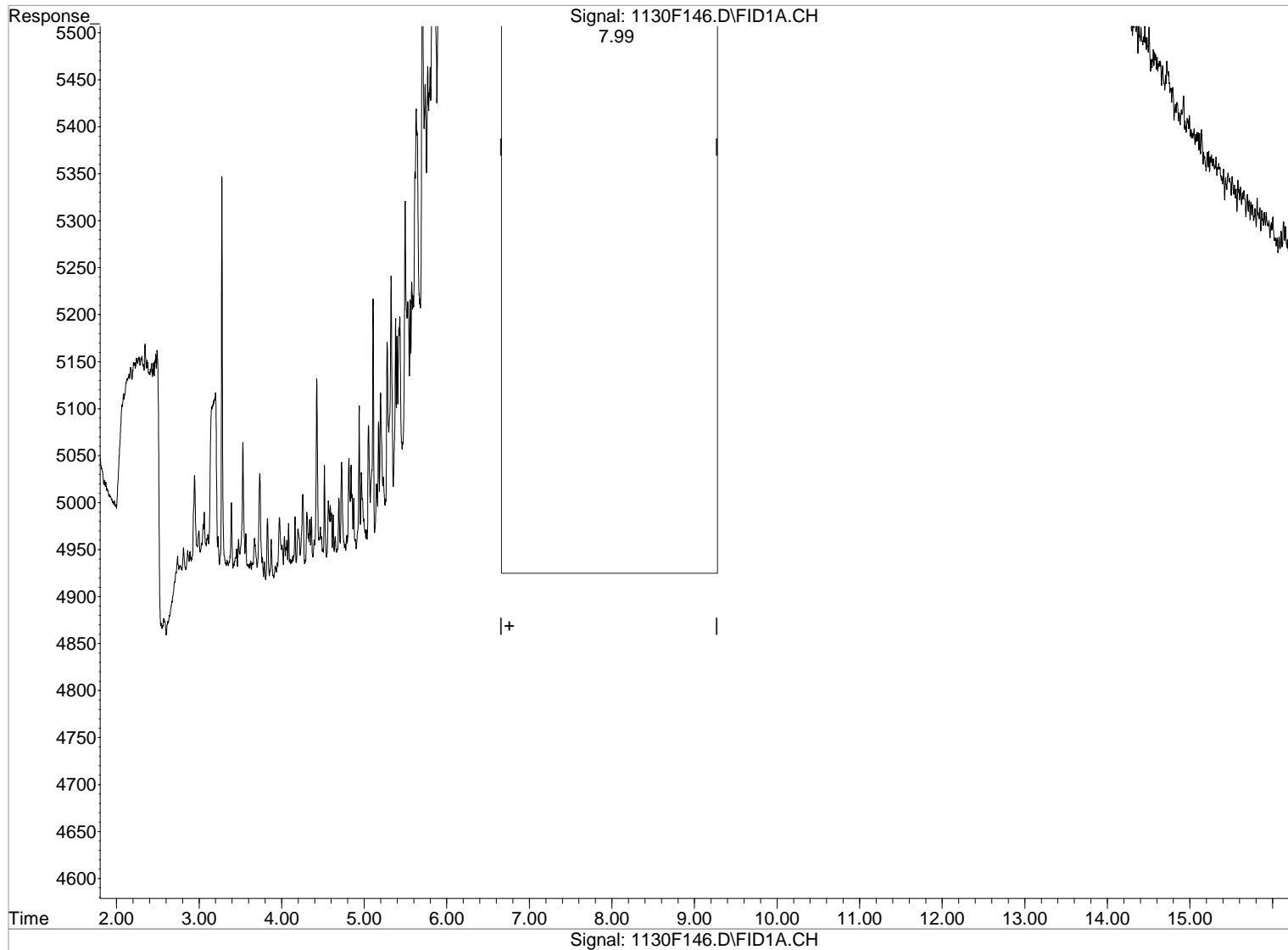
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 1965.459ppm

After

response 1824179

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F147.D Vial: 14
Acq On : 01 Dec 2020 12:09 am Operator: TAP
Sample : SVF03-8I RRO 5000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:13 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

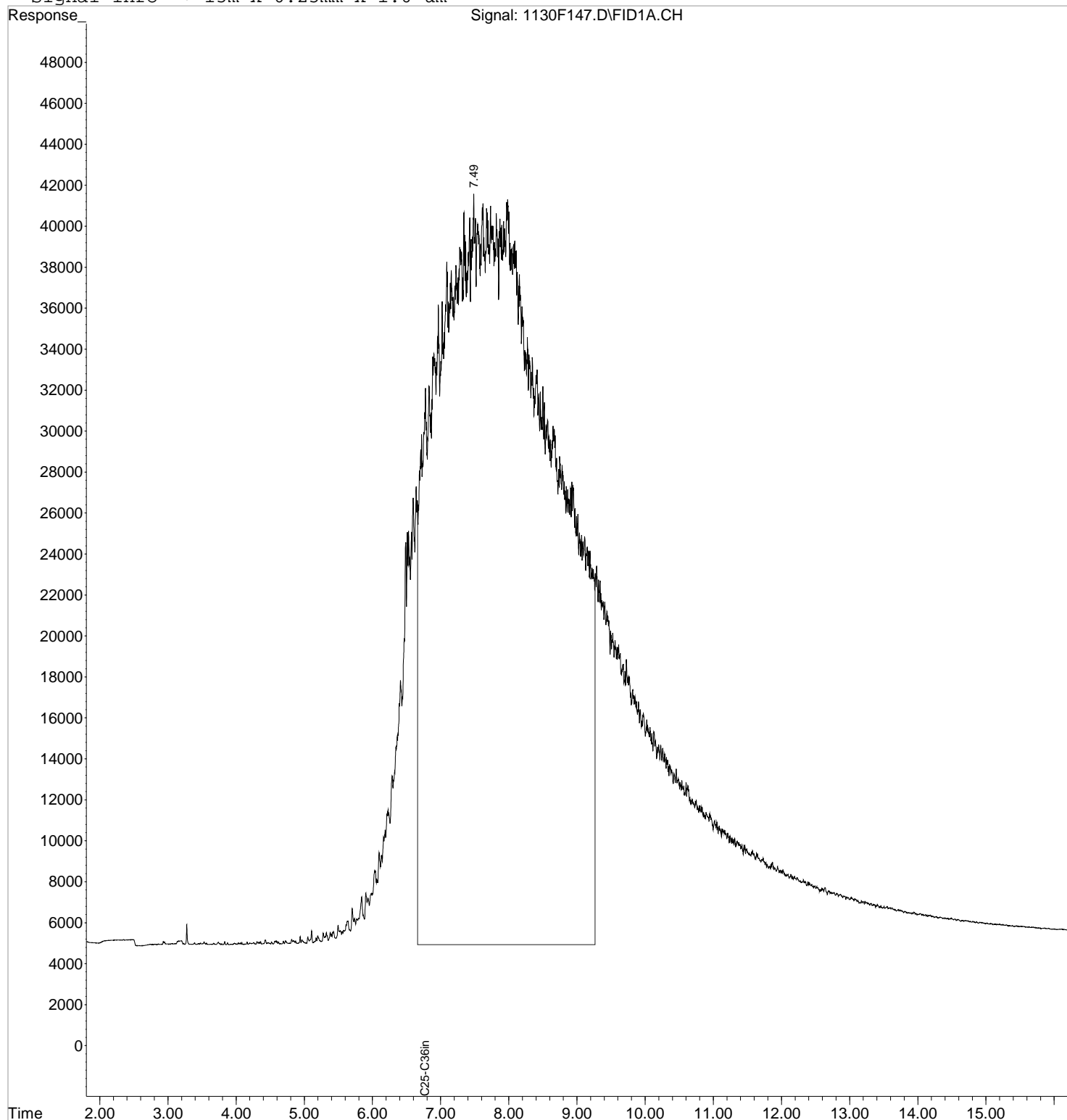
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
Target Compounds			
10) H C25-C36in RRO [NWTPH]	6.76	4397446	4738.021 ppm

Data File : J:\GC21\DATA\113020F\1130F147.D Vial: 14
Acq On : 01 Dec 2020 12:09 am Operator: TAP
Sample : SVF03-8I RRO 5000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 11:45 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F147.D

Vial: 14

Acq On : 01 Dec 2020 12:09 am

Operator: TAP

Sample : SVF03-8I RRO 5000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

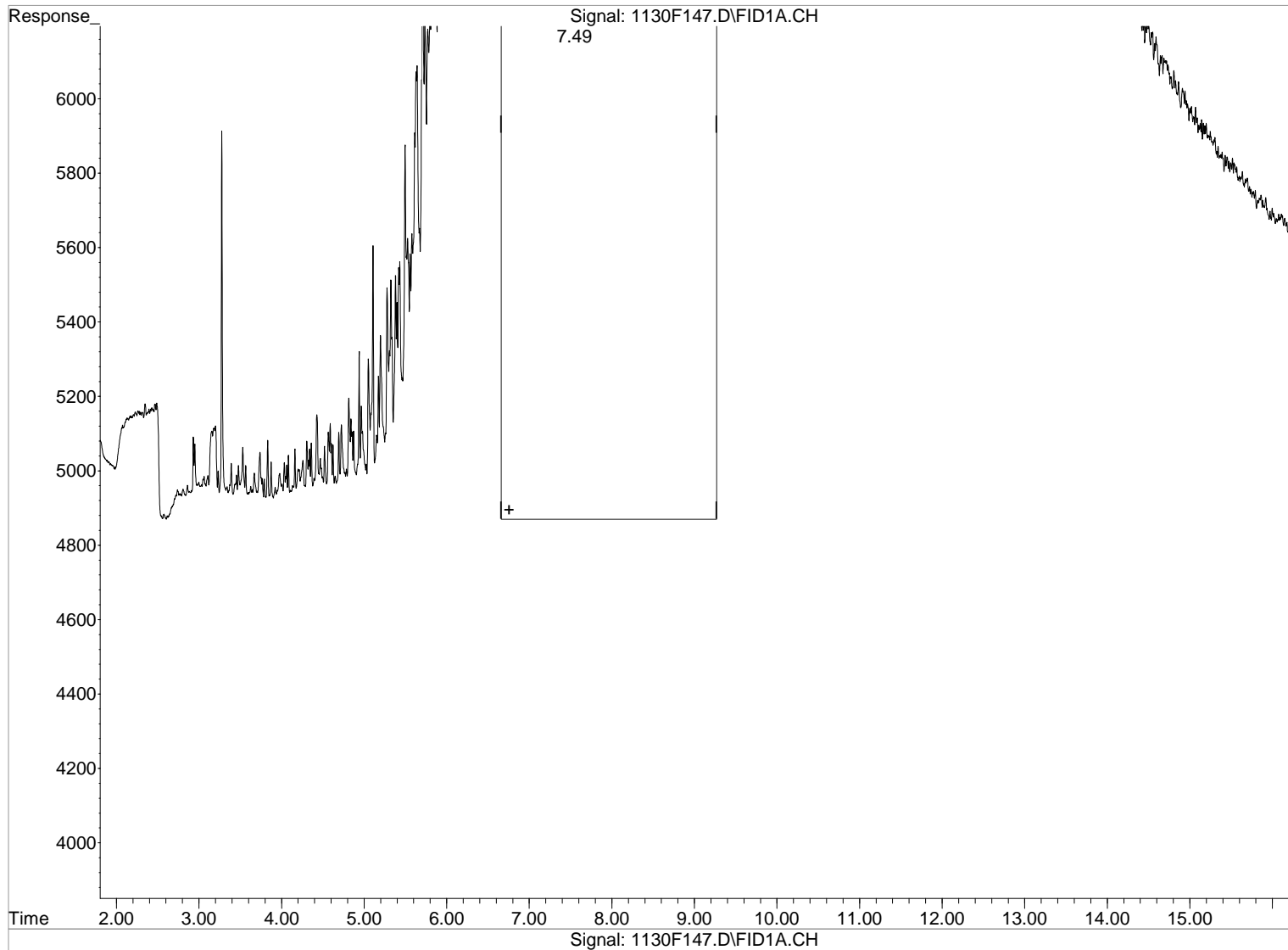
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 4759.087ppm

Before

response 4416998

12/01/20

Data File : J:\GC21\DATA\113020F\1130F147.D

Vial: 14

Acq On : 01 Dec 2020 12:09 am

Operator: TAP

Sample : SVF03-8I RRO 5000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

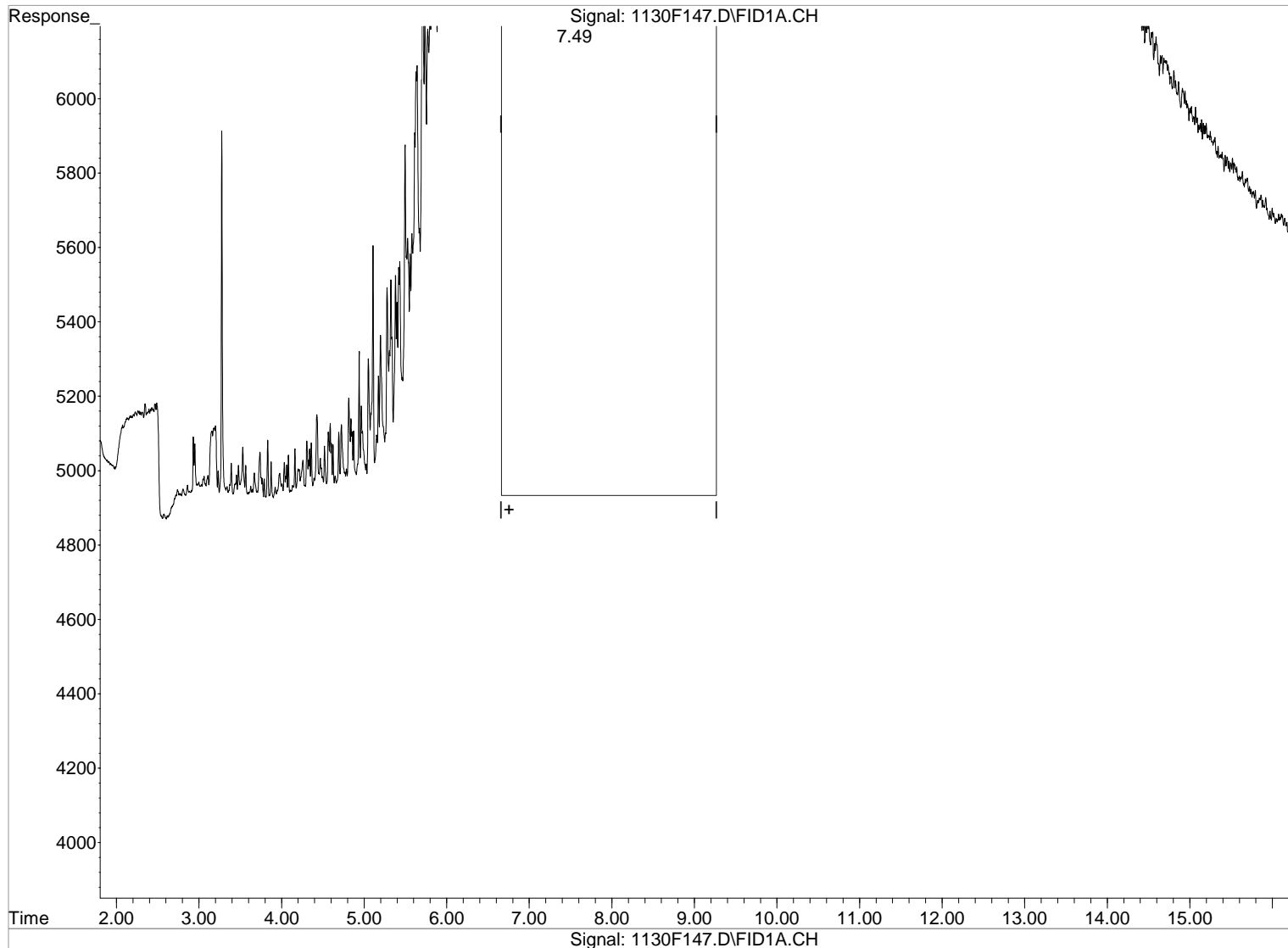
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:09:56 2020

Response via : Multiple Level Calibration



(10) C25-C36in RRO [NWTPH] (H)

Manual Integration:

6.76min 4738.021ppm

After

response 4397446

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F153.D Vial: 86
Acq On : 01 Dec 2020 2:22 am Operator: TAP
Sample : ICAL BLANK Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 12:54:43 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 12:53:39 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

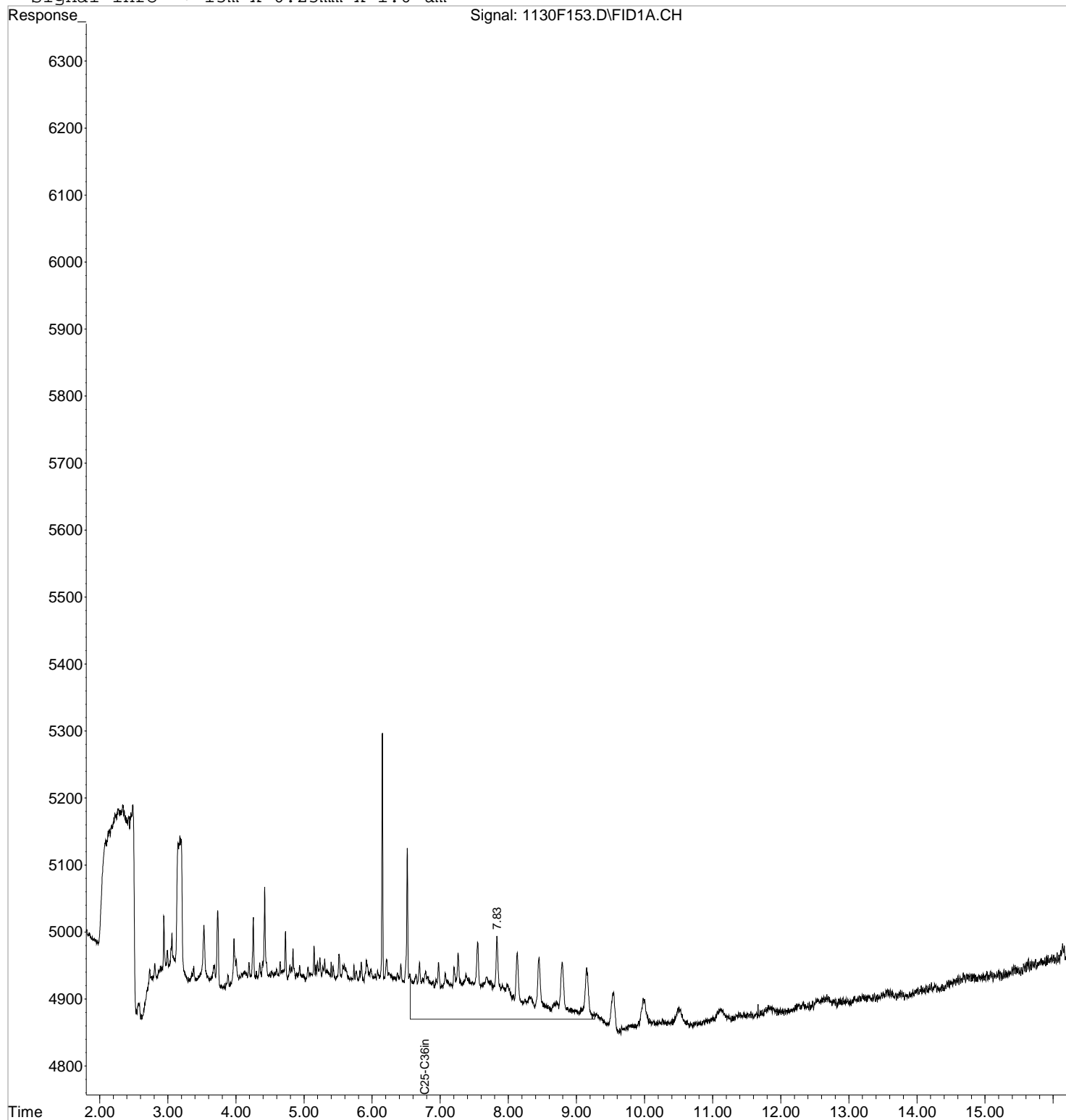
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
Target Compounds			
11) H C25-C36in RRO [AK103]	6.76	7278	9.245 ppm

Data File : J:\GC21\DATA\113020F\1130F153.D Vial: 86
Acq On : 01 Dec 2020 2:22 am Operator: TAP
Sample : ICAL BLANK Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:55 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 12:53:39 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F154.D Vial: 16
Acq On : 01 Dec 2020 2:45 am Operator: TAP
Sample : SVF03-9G AK103 50 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:13 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

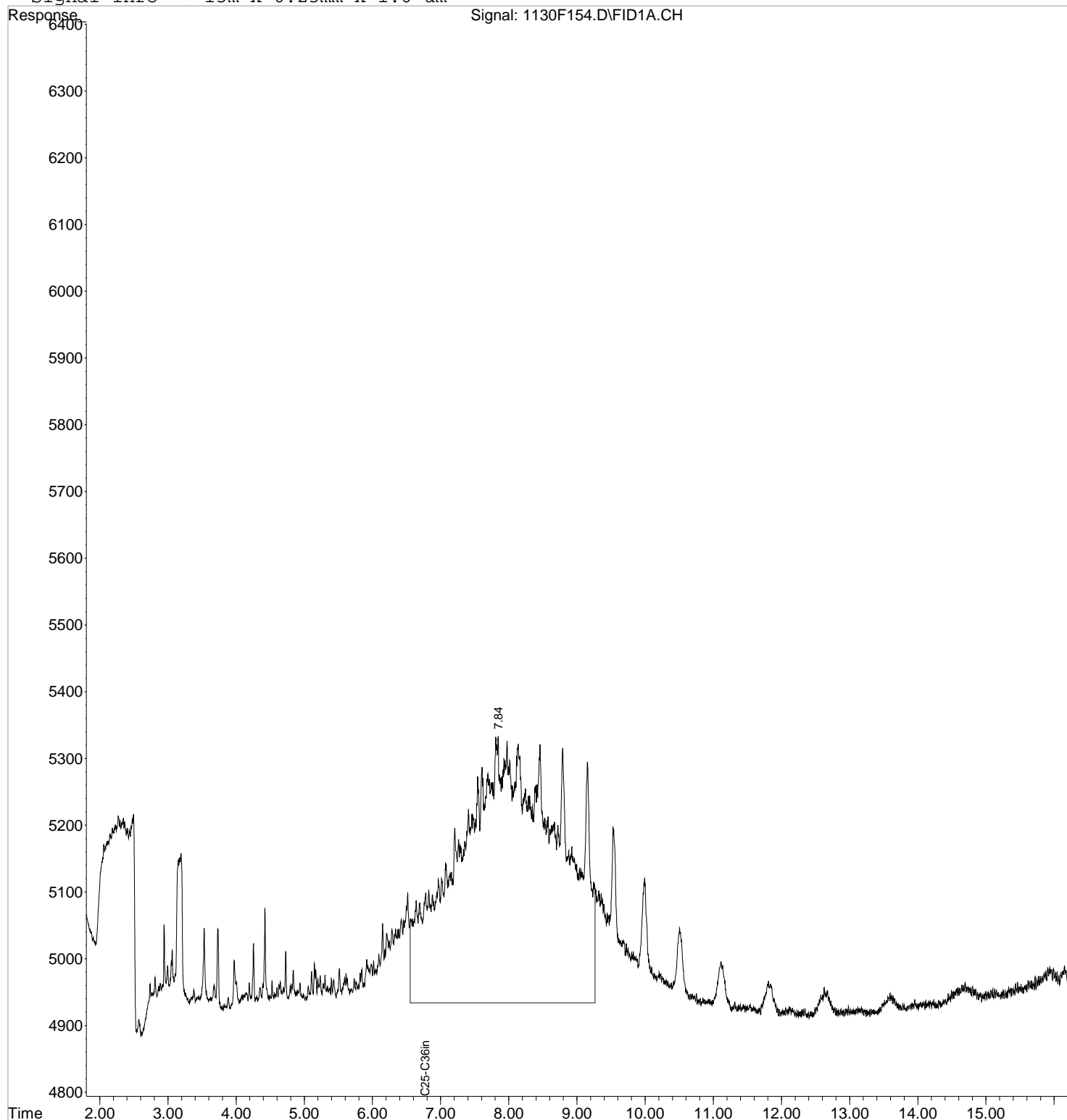
Target Compounds

11) H C25-C36in RRO [AK103]	6.76	40797	47.186 ppm
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Data File : J:\GC21\DATA\113020F\1130F154.D Vial: 16
Acq On : 01 Dec 2020 2:45 am Operator: TAP
Sample : SVF03-9G AK103 50 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:49 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F154.D

Vial: 16

Acq On : 01 Dec 2020 2:45 am

Operator: TAP

Sample : SVF03-9G AK103 50

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

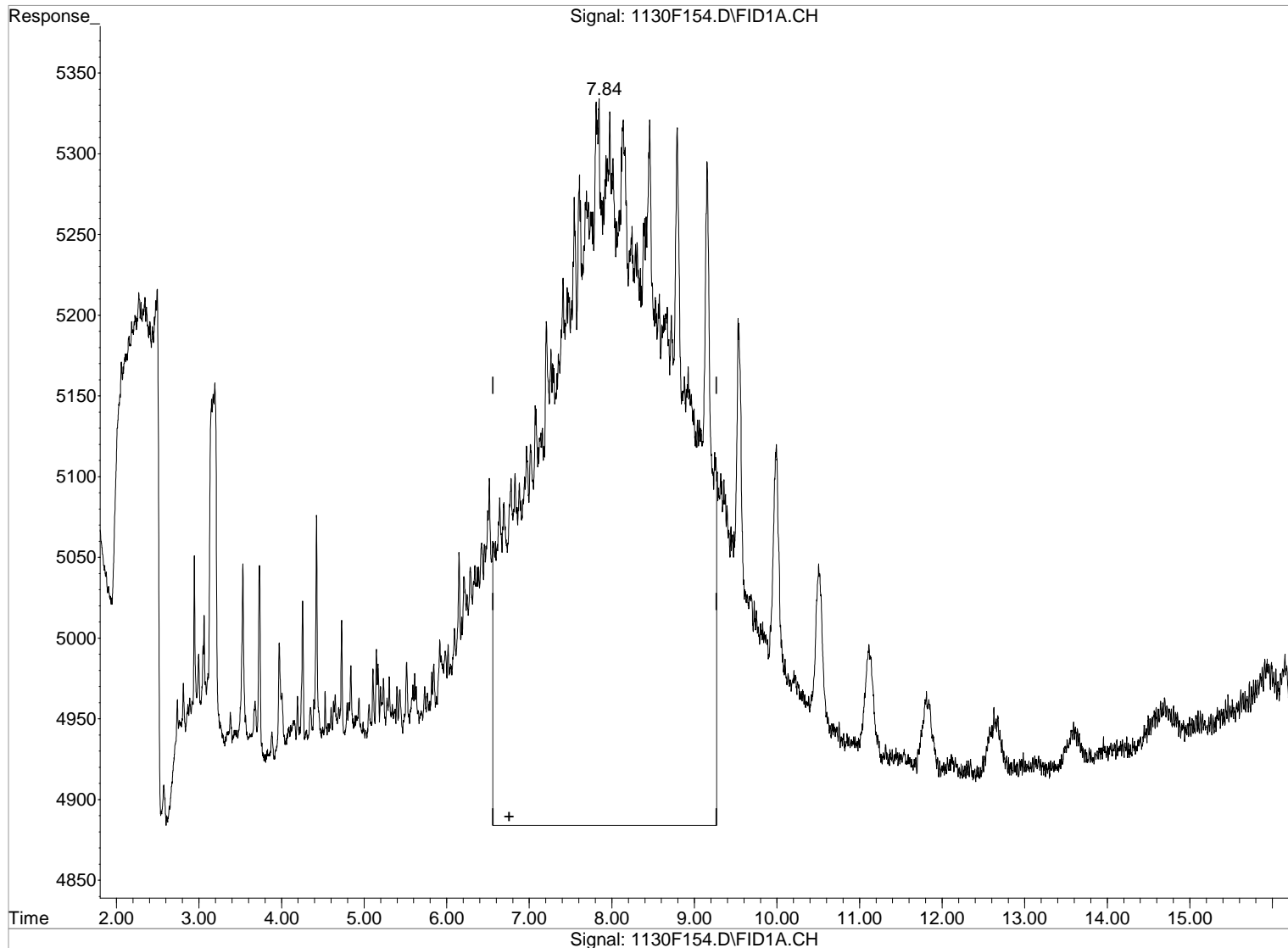
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:46:23 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 56.603ppm

Before

response 48939

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F154.D

Vial: 16

Acq On : 01 Dec 2020 2:45 am

Operator: TAP

Sample : SVF03-9G AK103 50

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

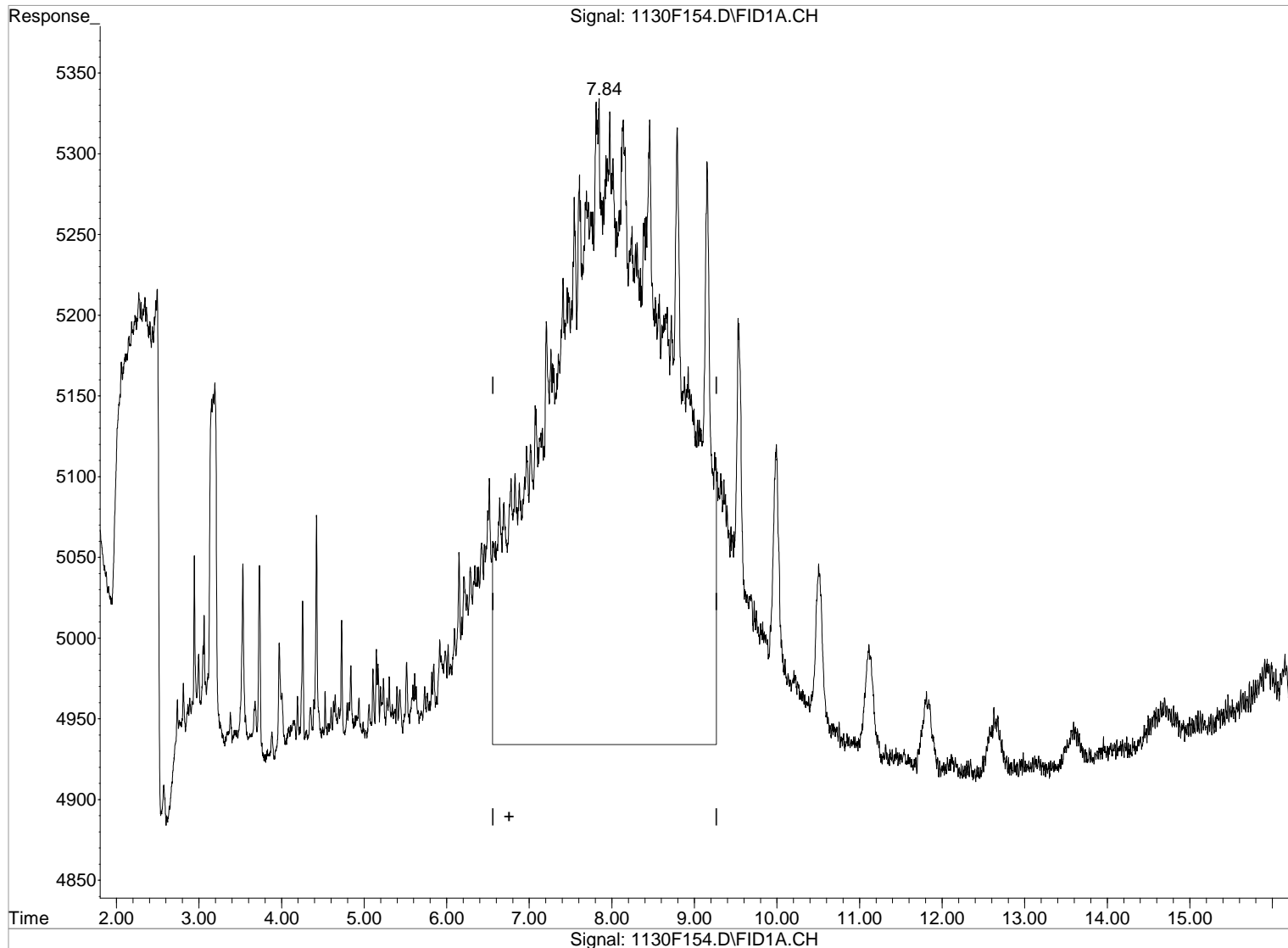
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 11:46:23 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 47.186ppm

After

response 40797

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F155.D Vial: 17
Acq On : 01 Dec 2020 3:07 am Operator: TAP
Sample : SVF03-9F AK103 200 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:14 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

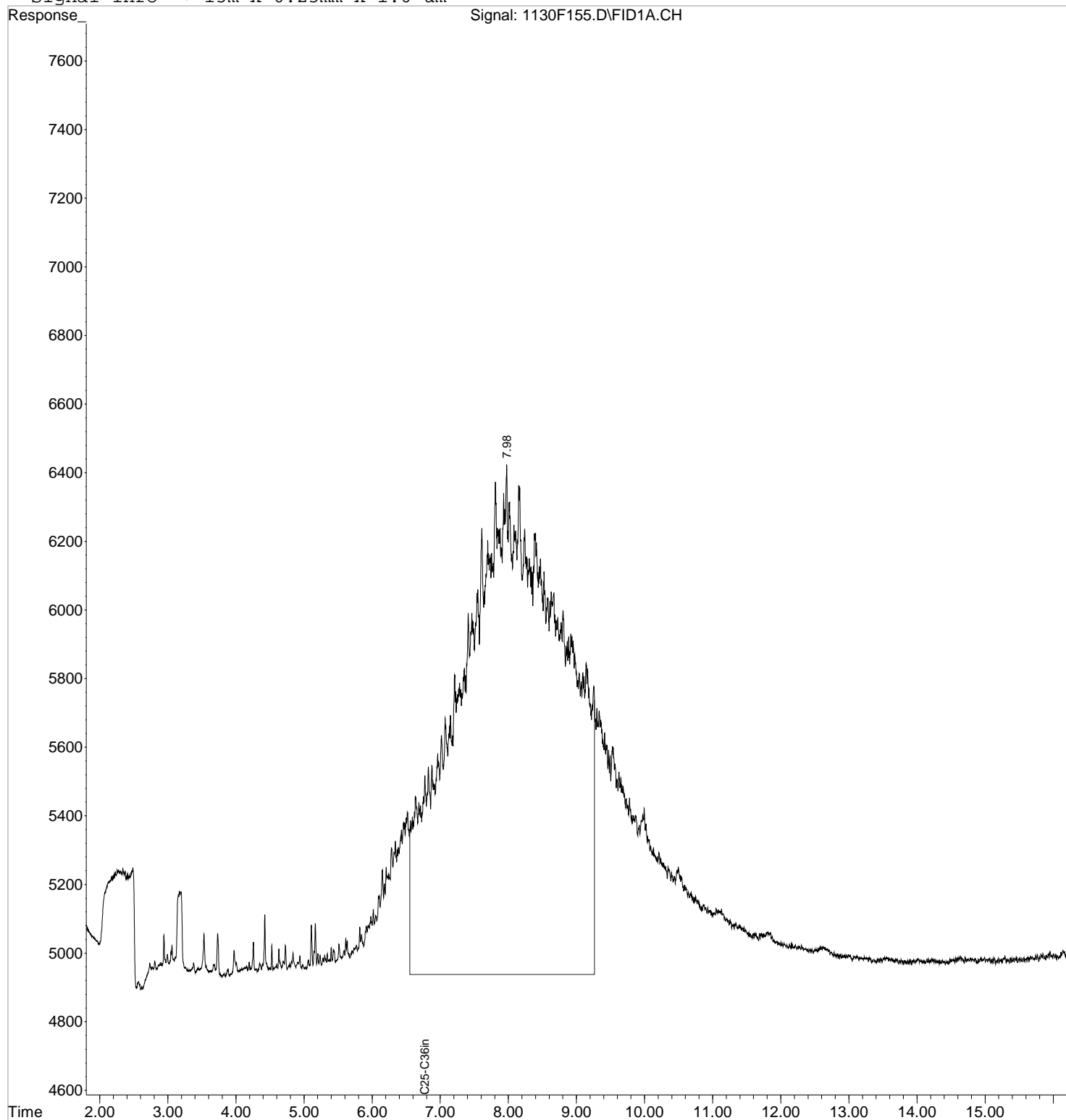
Target Compounds

11) H C25-C36in RRO [AK103]	6.76	154287	178.449 ppm
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Data File : J:\GC21\DATA\113020F\1130F155.D Vial: 17
Acq On : 01 Dec 2020 3:07 am Operator: TAP
Sample : SVF03-9F AK103 200 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:50 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F155.D

Vial: 17

Acq On : 01 Dec 2020 3:07 am

Operator: TAP

Sample : SVF03-9F AK103 200

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

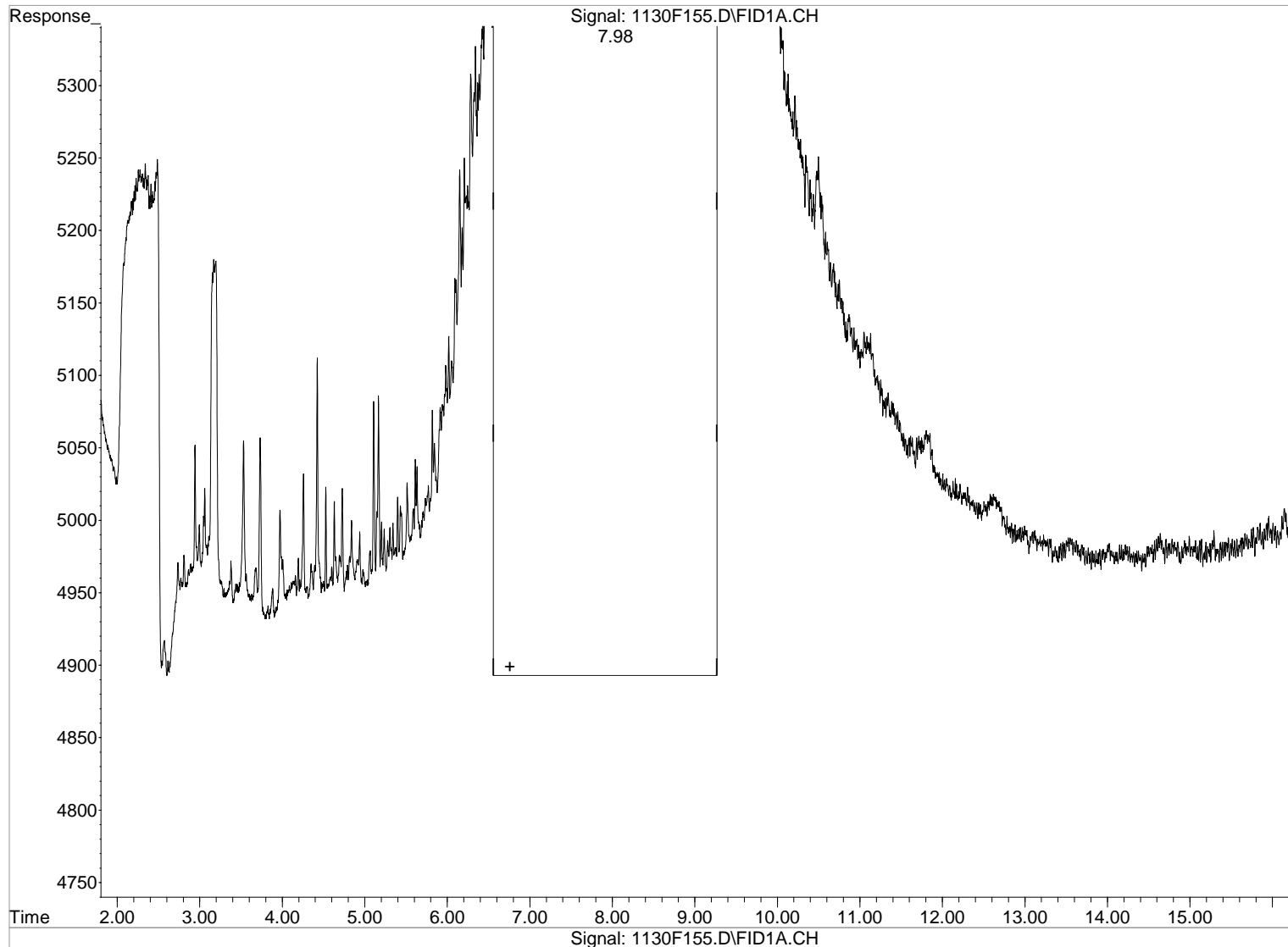
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:50:07 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 187.029ppm

Before

response 161705

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F155.D

Vial: 17

Acq On : 01 Dec 2020 3:07 am

Operator: TAP

Sample : SVF03-9F AK103 200

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

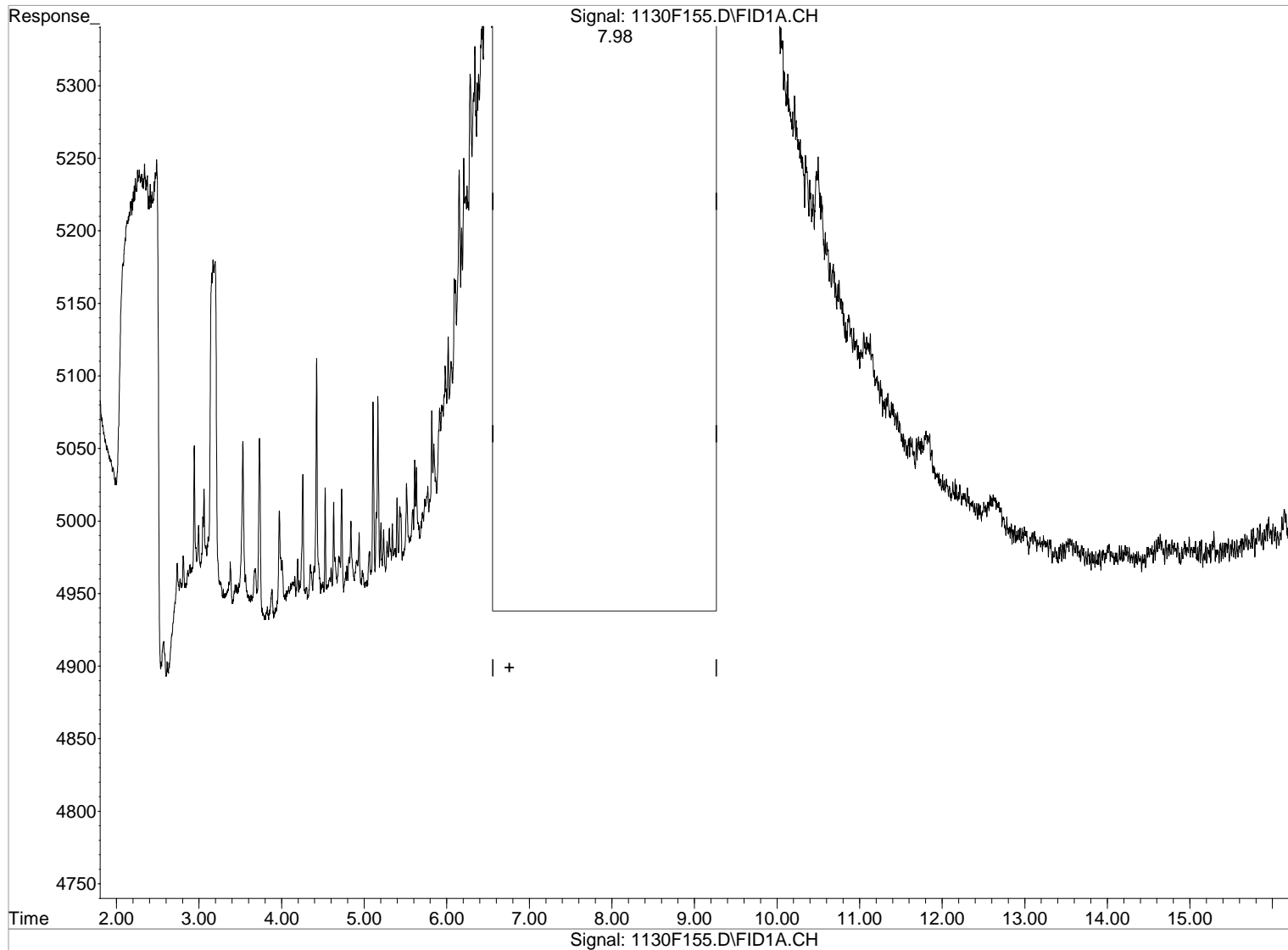
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:50:07 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 178.449ppm

After

response 154287

Baseline/Shoulder

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F156.D Vial: 18
Acq On : 01 Dec 2020 3:29 am Operator: TAP
Sample : SVF03-9E AK103 500 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:15 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

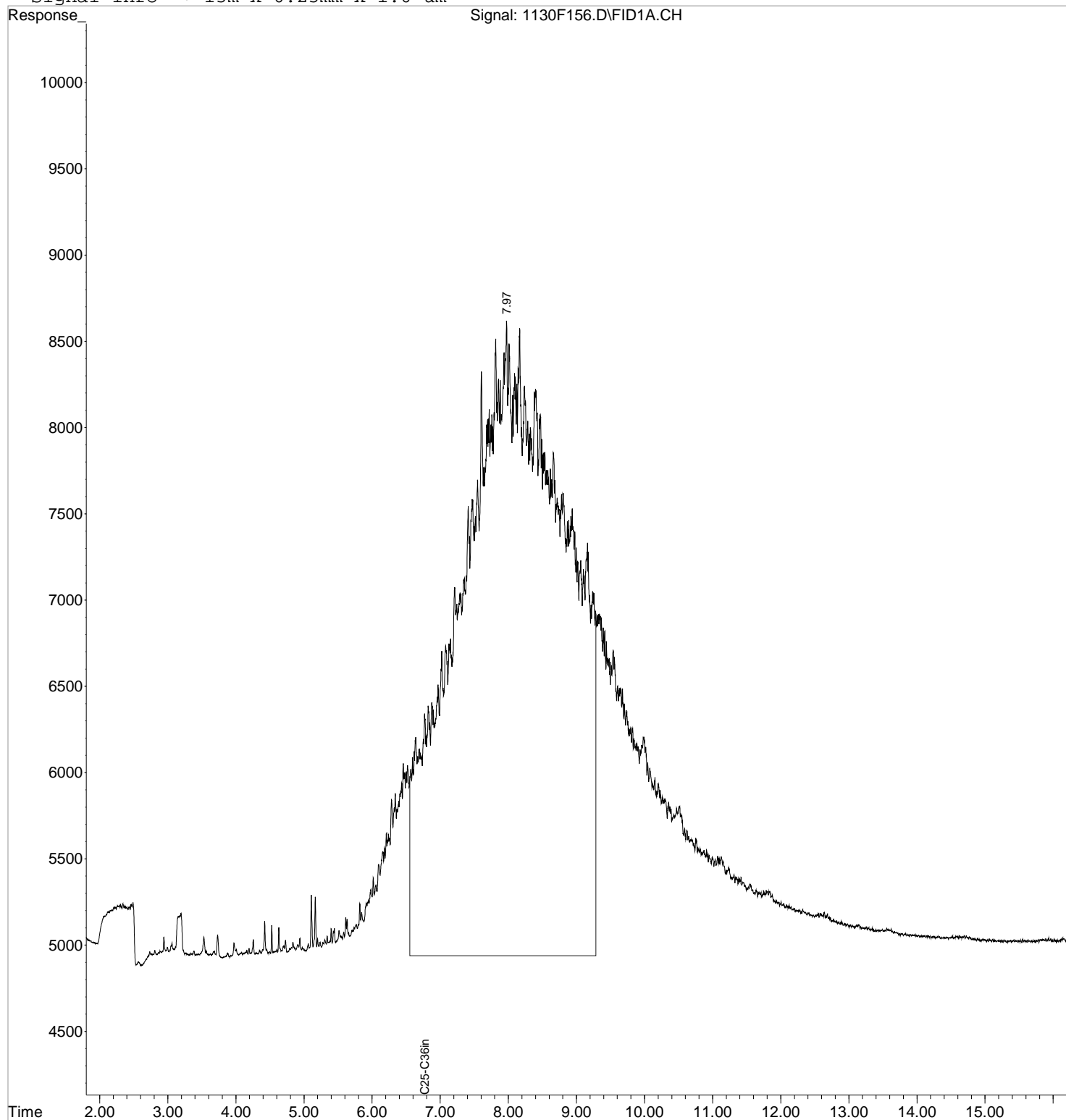
Target Compounds

11) H C25-C36in RRO [AK103]	6.76	393308	454.902 ppm
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Data File : J:\GC21\DATA\113020F\1130F156.D Vial: 18
Acq On : 01 Dec 2020 3:29 am Operator: TAP
Sample : SVF03-9E AK103 500 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:51 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F156.D

Vial: 18

Acq On : 01 Dec 2020 3:29 am

Operator: TAP

Sample : SVF03-9E AK103 500

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

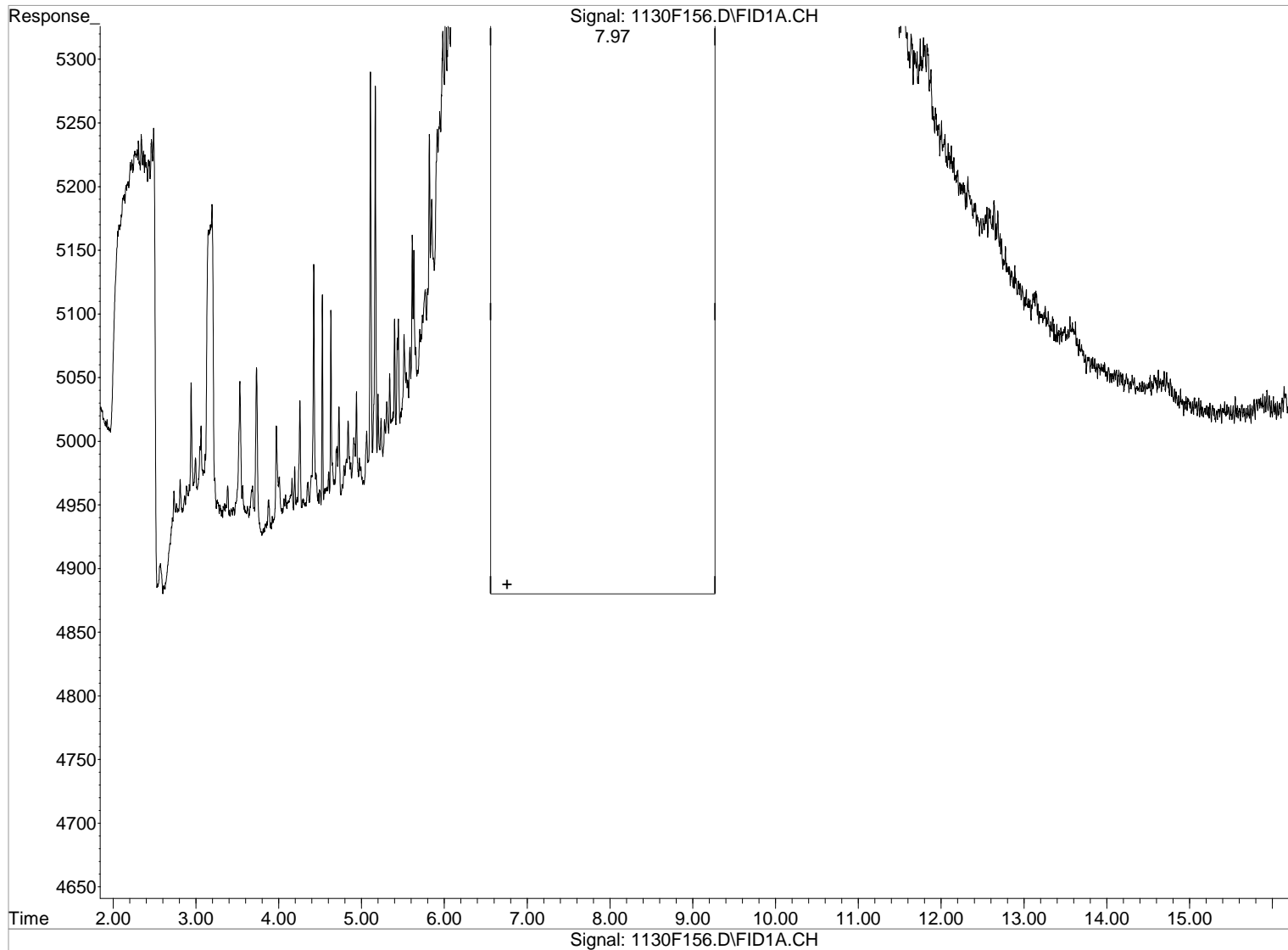
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:50:07 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 463.596ppm

Before

response 400825

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F156.D

Vial: 18

Acq On : 01 Dec 2020 3:29 am

Operator: TAP

Sample : SVF03-9E AK103 500

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

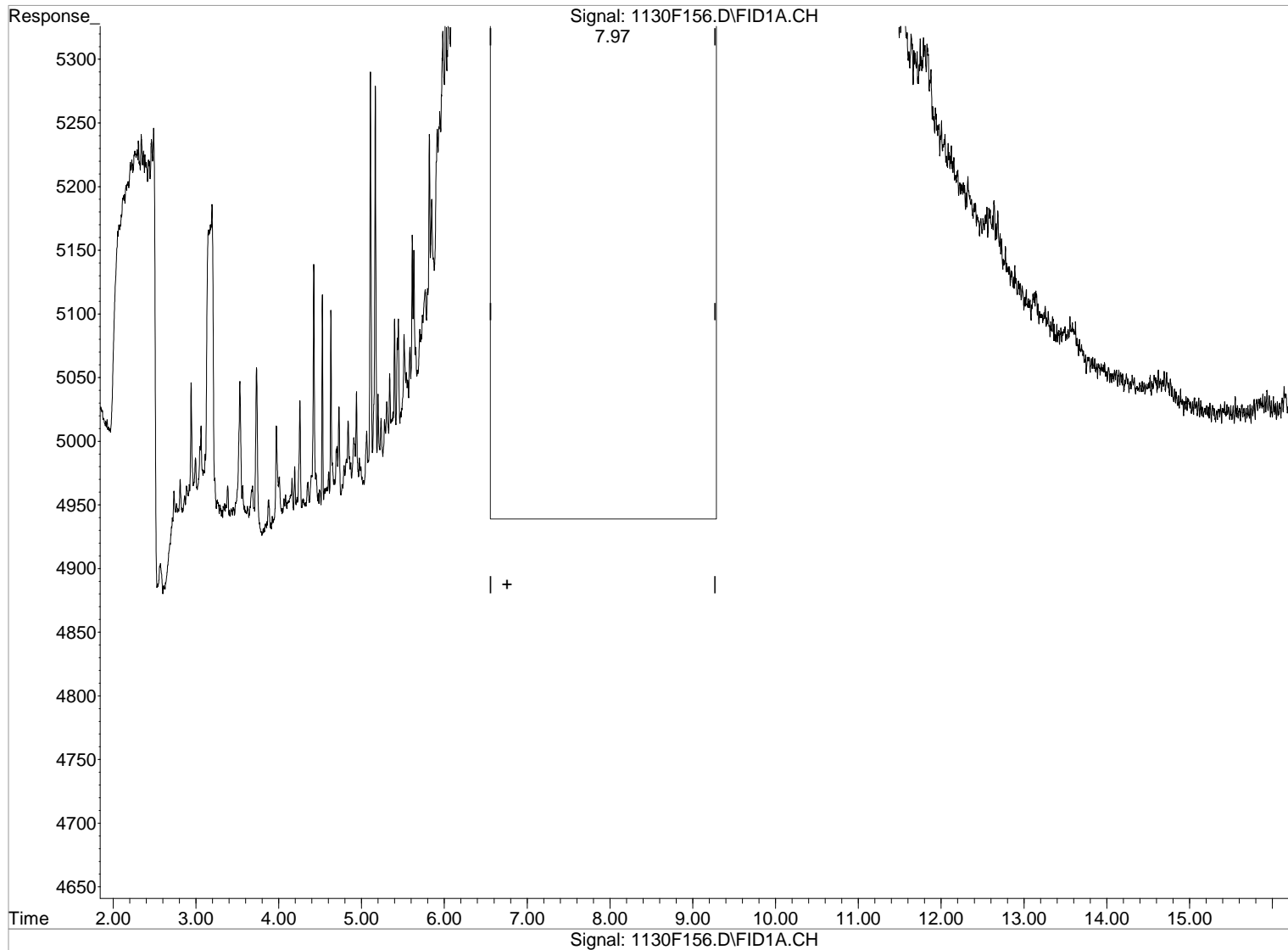
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:50:07 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 454.902ppm

After

response 393308

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F157.D Vial: 19
Acq On : 01 Dec 2020 3:51 am Operator: TAP
Sample : SVF03-9D AK103 2000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:16 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

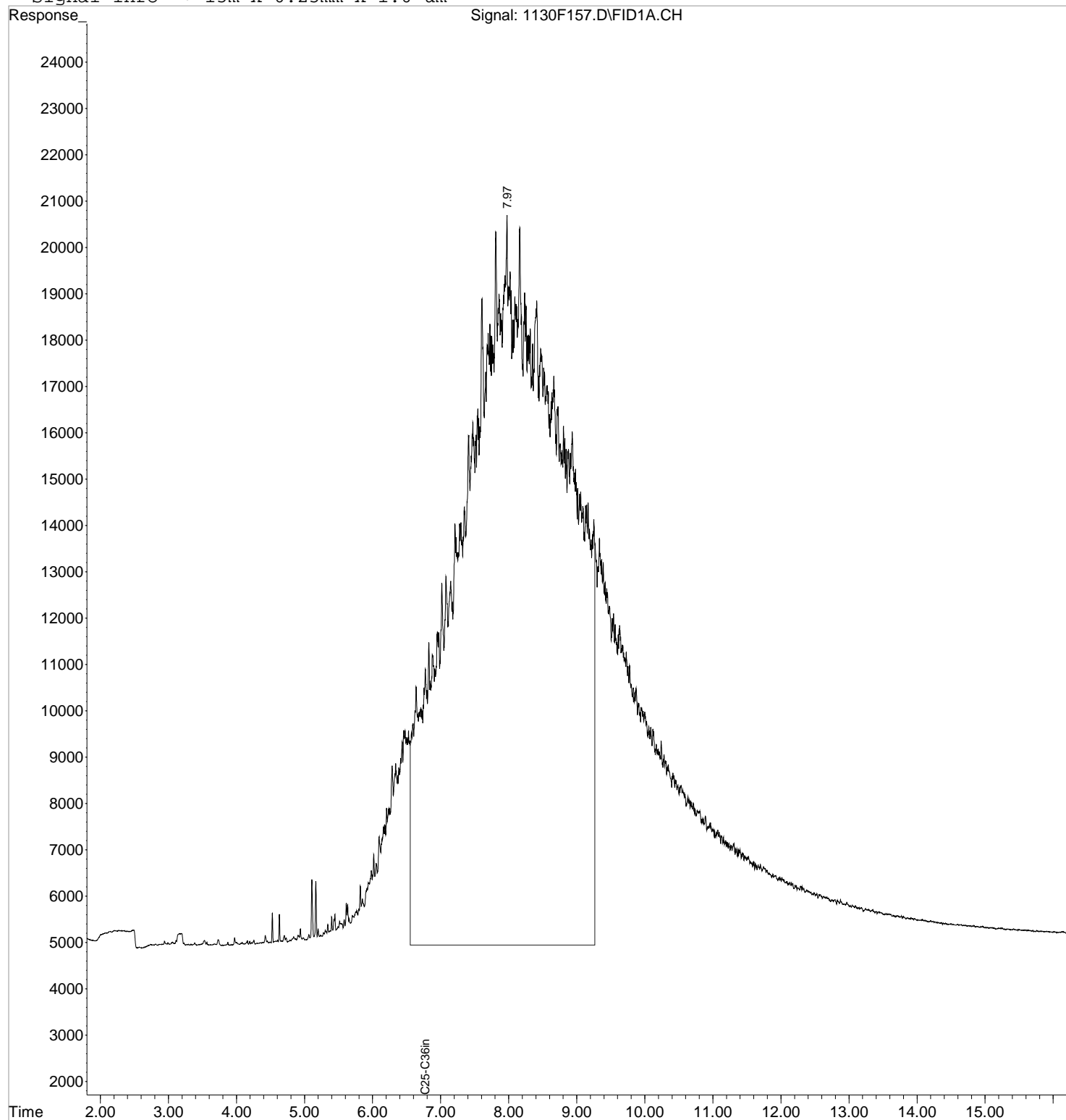
Target Compounds

11) H C25-C36in RRO [AK103]	6.76	1658845	1918.627 ppm
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Data File : J:\GC21\DATA\113020F\1130F157.D Vial: 19
Acq On : 01 Dec 2020 3:51 am Operator: TAP
Sample : SVF03-9D AK103 2000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:52 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F157.D

Vial: 19

Acq On : 01 Dec 2020 3:51 am

Operator: TAP

Sample : SVF03-9D AK103 2000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

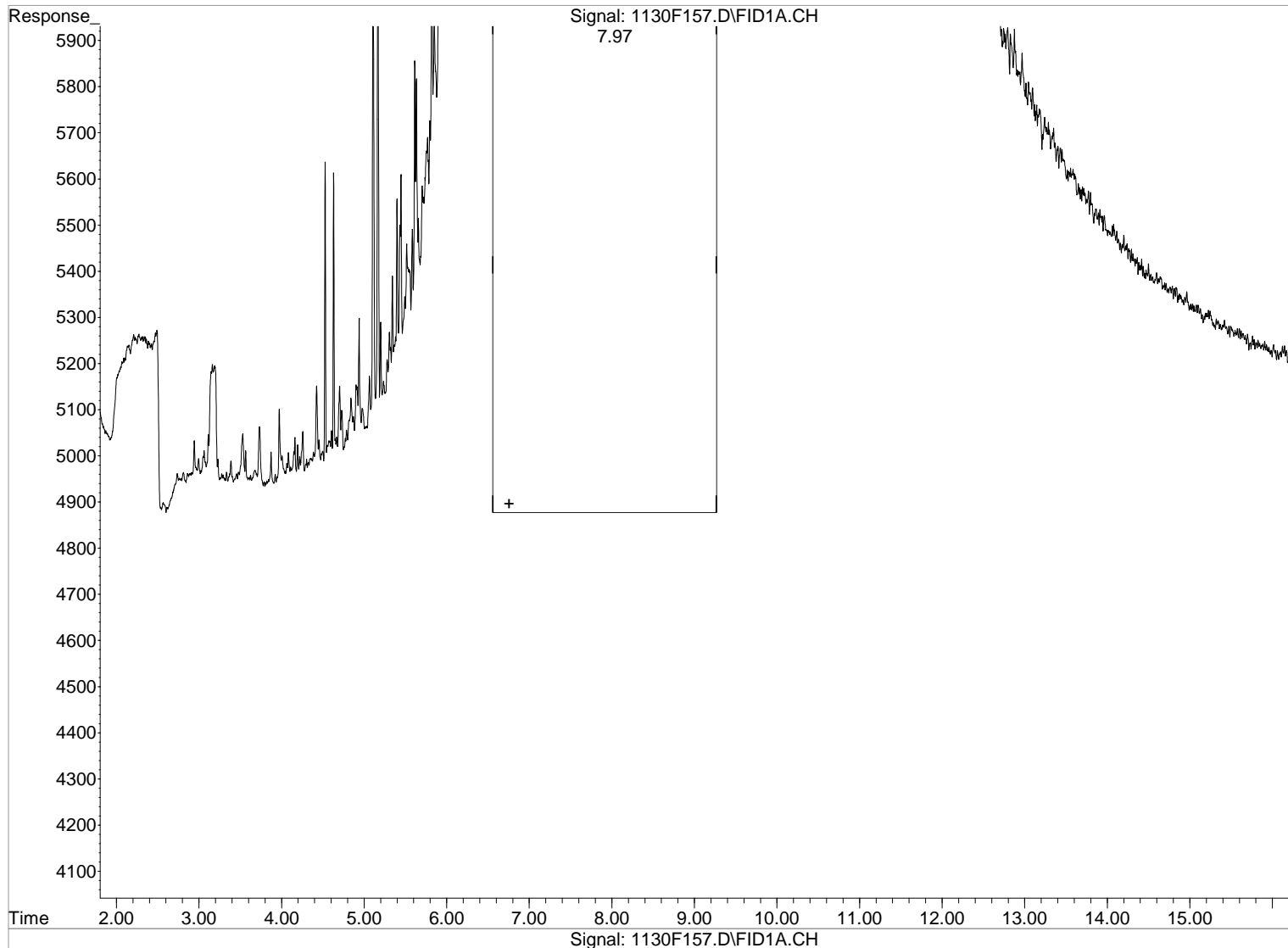
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:51:55 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 1933.264ppm

Before

response 1671500

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F157.D

Vial: 19

Acq On : 01 Dec 2020 3:51 am

Operator: TAP

Sample : SVF03-9D AK103 2000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

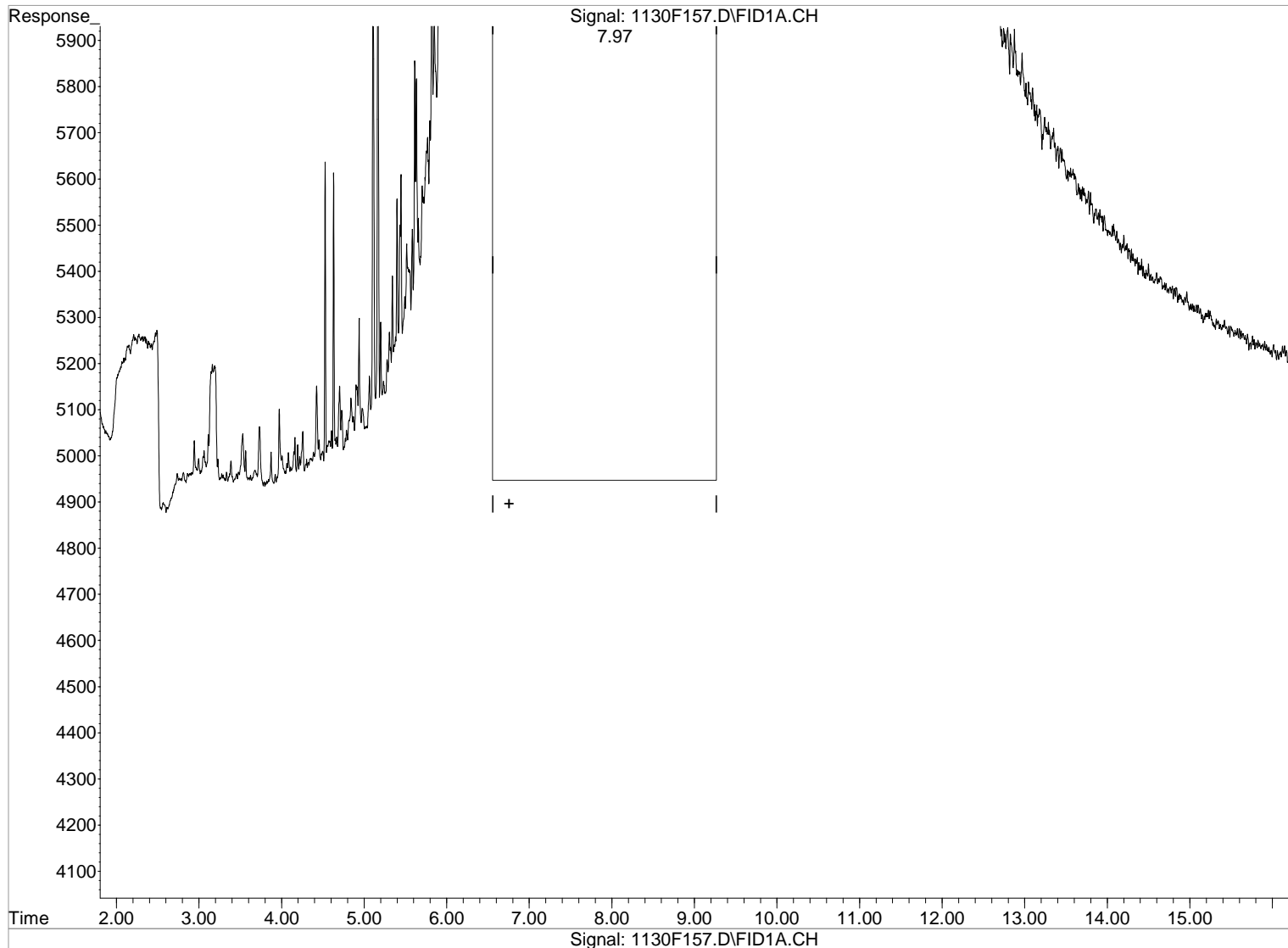
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:51:55 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 1918.627ppm

After

response 1658845

Baseline/Shoulder

12/01/20

(+) = Expected Retention Time

1130F157.D 113020F.M Tue Dec 01 12:52:34 2020 Page 392 of 1229

Data File : J:\GC21\DATA\113020F\1130F158.D Vial: 20
Acq On : 01 Dec 2020 4:13 am Operator: TAP
Sample : SVF03-9C AK103 5000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 11:01:17 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

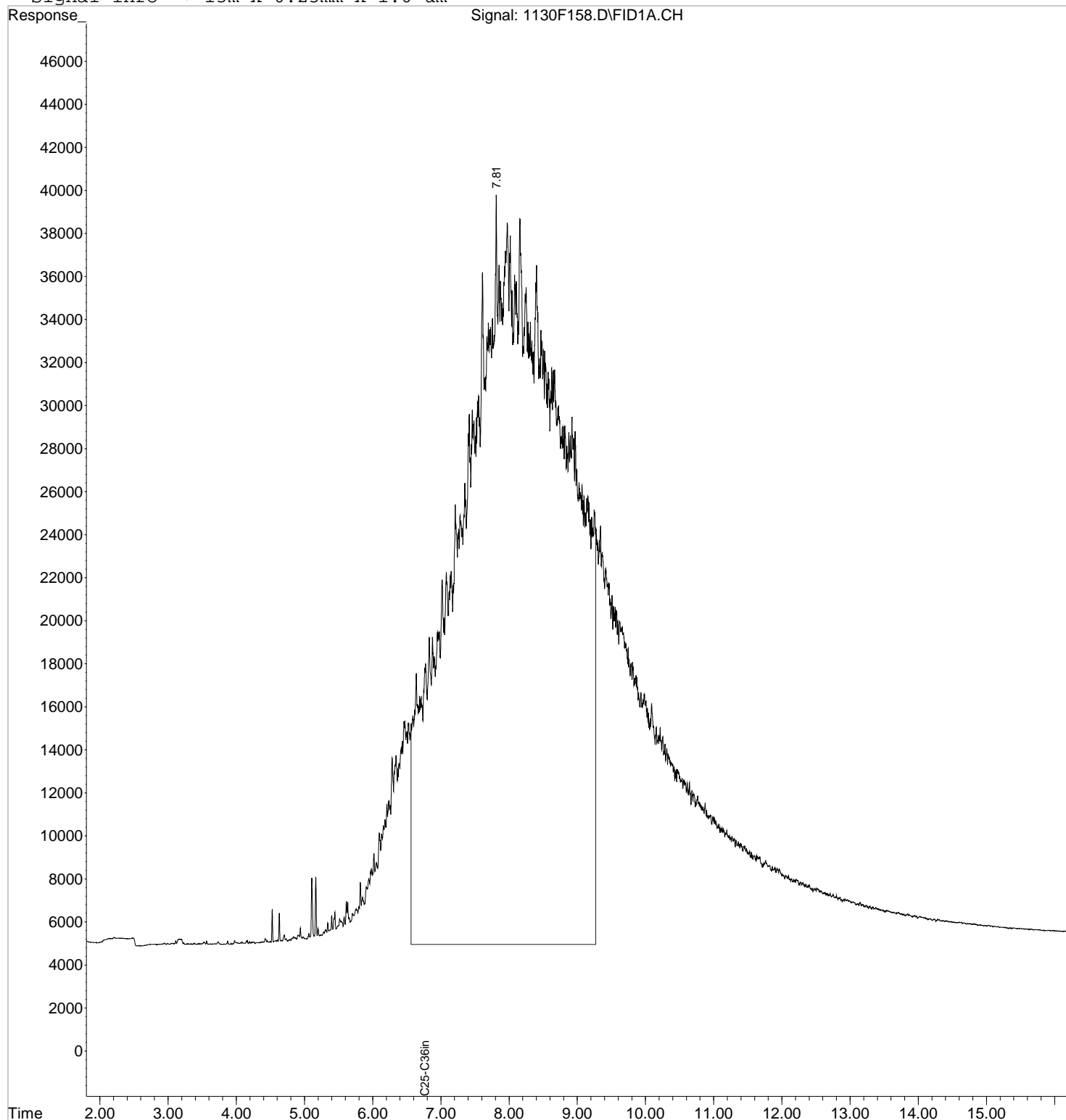
Target Compounds

11) H C25-C36in RRO [AK103]	6.76	3663719	4237.473 ppm
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Data File : J:\GC21\DATA\113020F\1130F158.D Vial: 20
Acq On : 01 Dec 2020 4:13 am Operator: TAP
Sample : SVF03-9C AK103 5000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:53 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 11:00:25 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F158.D

Vial: 20

Acq On : 01 Dec 2020 4:13 am

Operator: TAP

Sample : SVF03-9C AK103 5000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

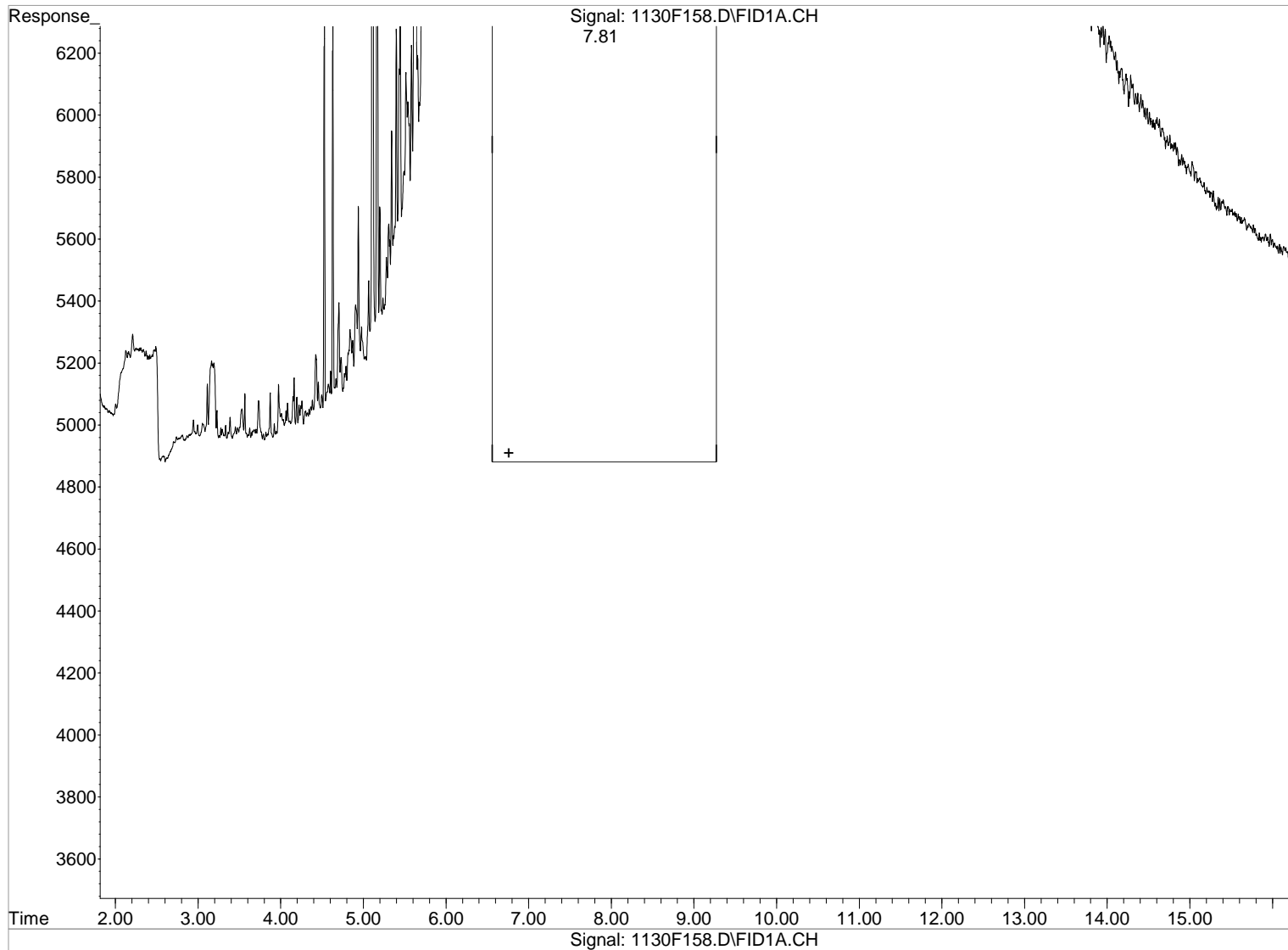
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:52:43 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 4253.564ppm

Before

response 3677632

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F158.D

Vial: 20

Acq On : 01 Dec 2020 4:13 am

Operator: TAP

Sample : SVF03-9C AK103 5000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

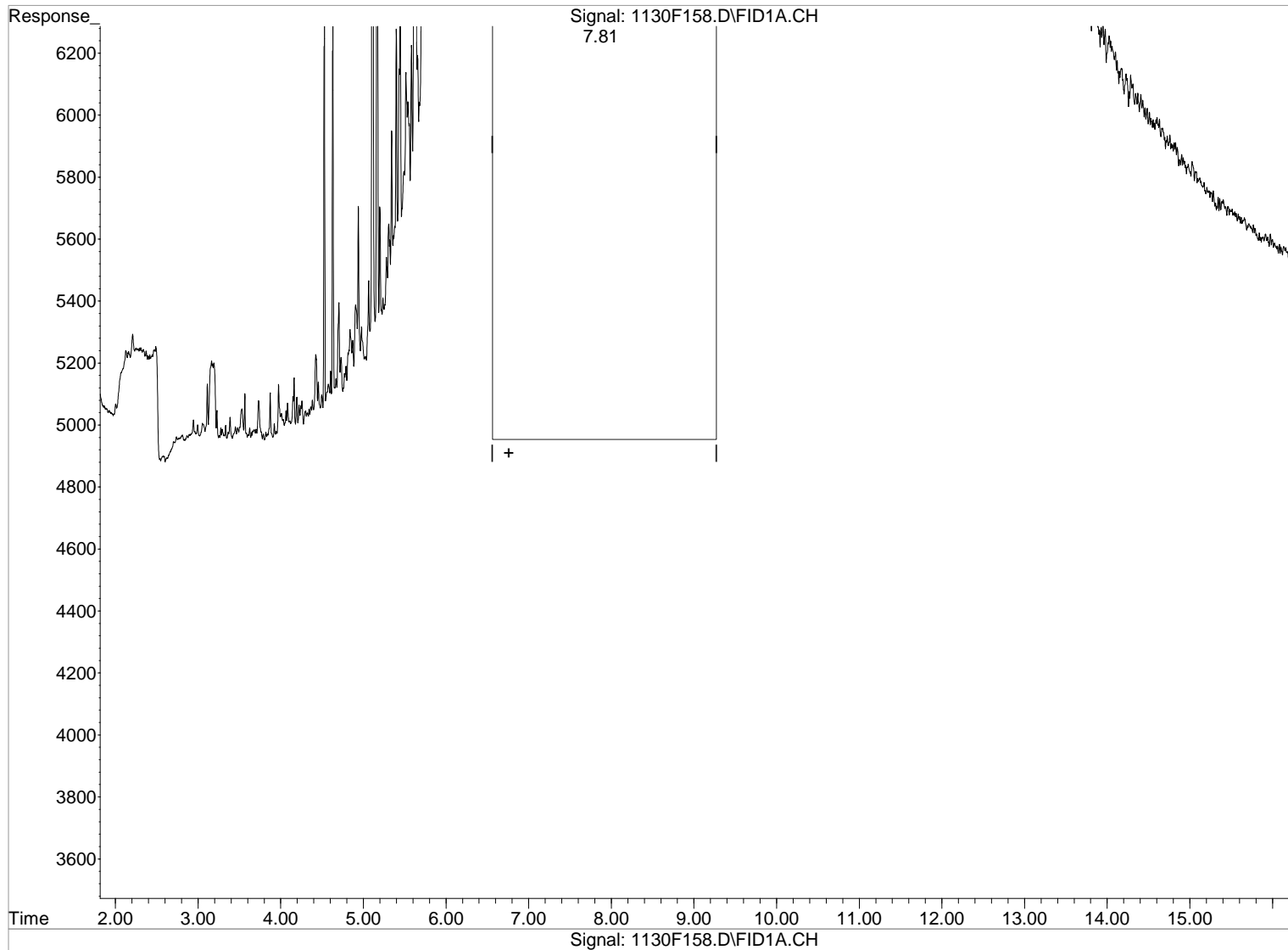
Quant Time: Dec 1 11:01 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:52:43 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 4237.473ppm

After

response 3663719

Baseline/Shoulder

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F160.D Vial: 86
Acq On : 01 Dec 2020 4:58 am Operator: TAP
Sample : ICAL BLANK Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 12:55:15 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 12:53:39 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

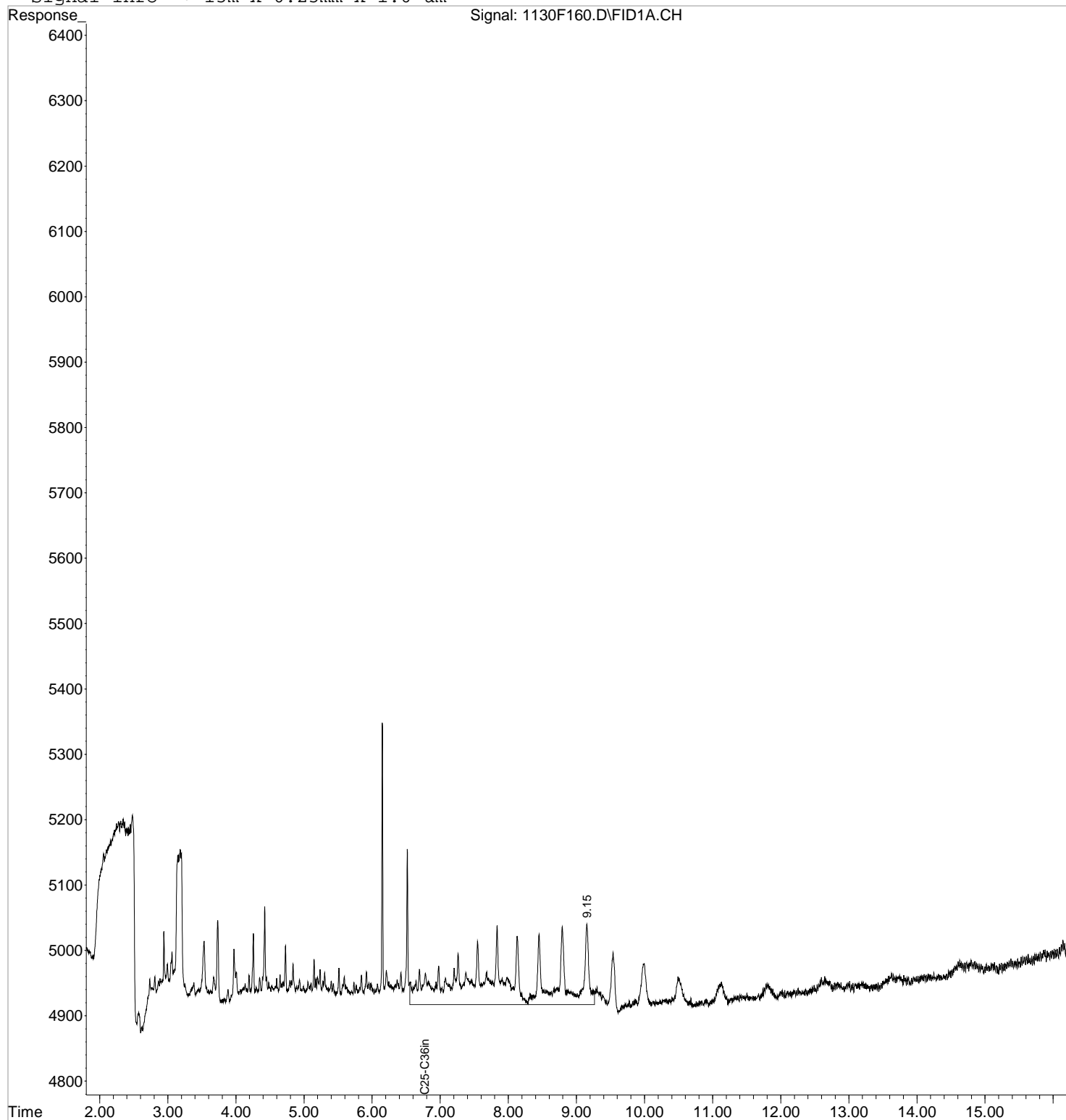
Compound	R.T.	Response	Conc Units

System Monitoring Compounds			
Target Compounds			
11) H C25-C36in RRO [AK103]	6.76	5437	6.906 ppm

Data File : J:\GC21\DATA\113020F\1130F160.D Vial: 86
Acq On : 01 Dec 2020 4:58 am Operator: TAP
Sample : ICAL BLANK Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:55 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 12:53:39 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F160.D

Vial: 86

Acq On : 01 Dec 2020 4:58 am

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

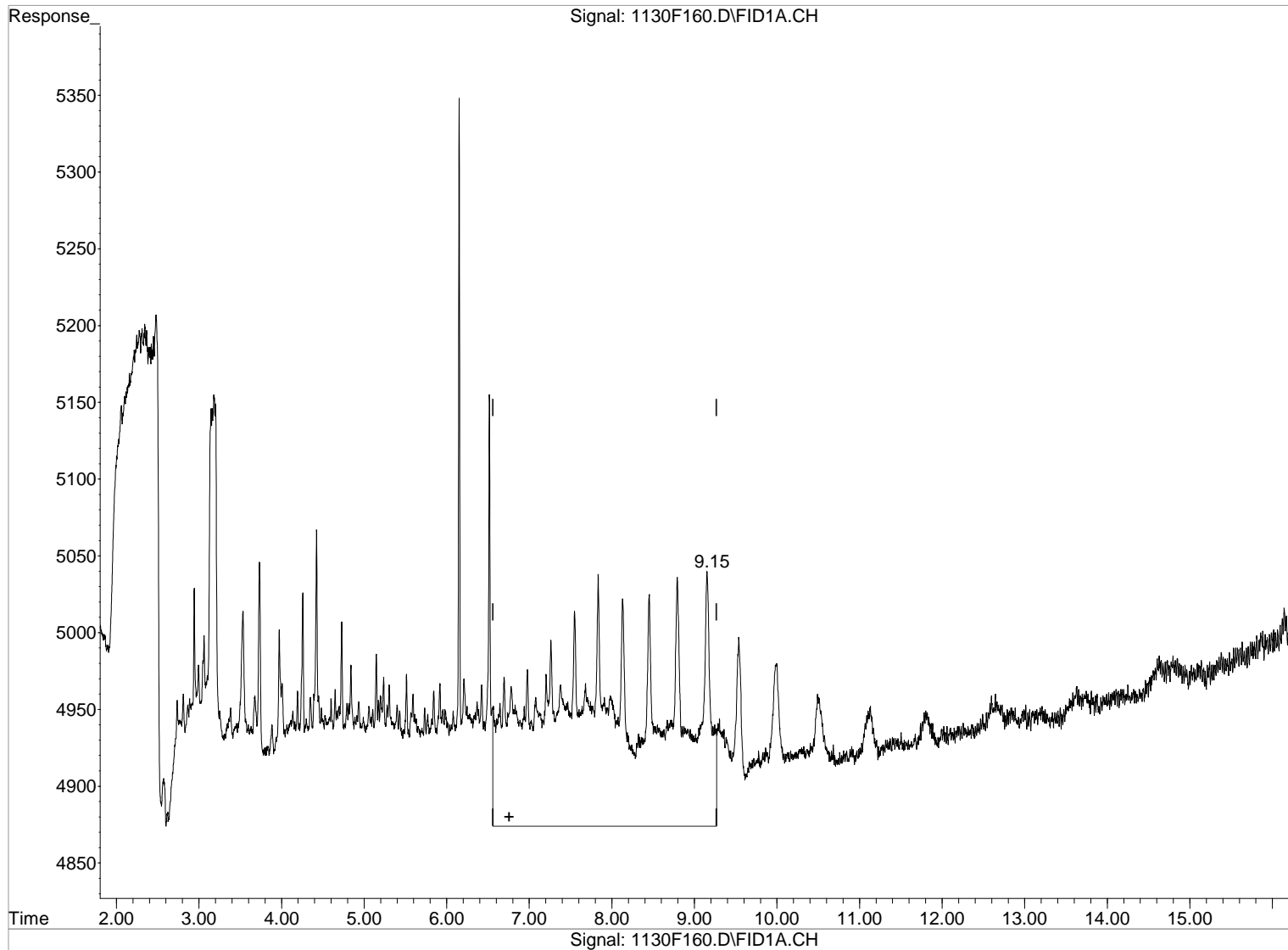
Quant Time: Dec 1 12:55 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:53:39 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 15.782ppm

Before

response 12424

12/01/20

(+) = Expected Retention Time

Data File : J:\GC21\DATA\113020F\1130F160.D

Vial: 86

Acq On : 01 Dec 2020 4:58 am

Operator: TAP

Sample : ICAL BLANK

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

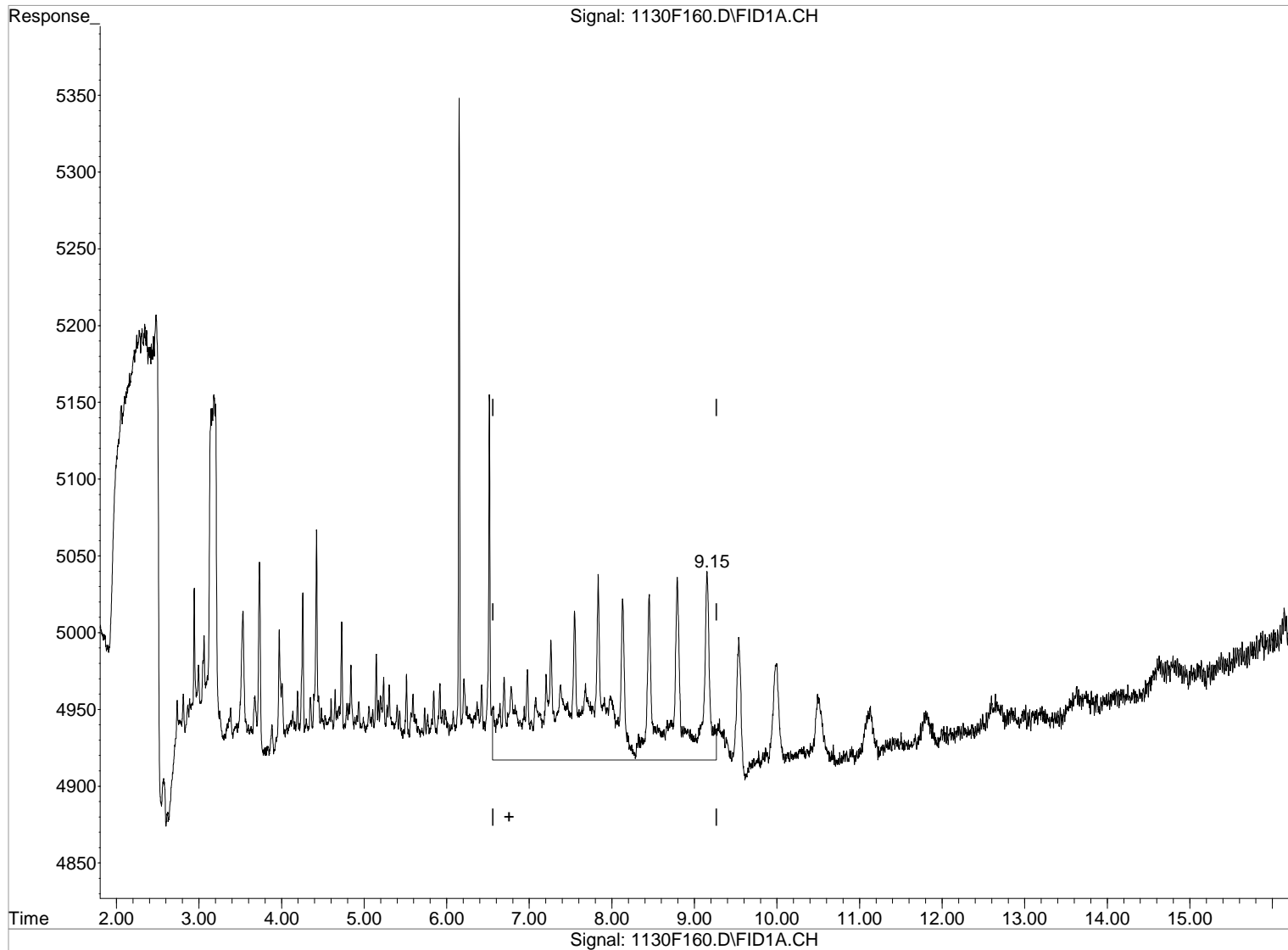
Quant Time: Dec 1 12:55 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:53:39 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 6.906ppm

After

response 5437

Baseline/Shoulder

12/01/20

Data File : J:\GC21\DATA\113020F\1130F161.D Vial: 21
Acq On : 01 Dec 2020 5:20 am Operator: TAP
Sample : SVF03-9H AK103 ICV@1000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 01 12:53:53 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 12:53:39 2020
Response via : Initial Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um

Compound	R.T.	Response	Conc Units
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System Monitoring Compounds

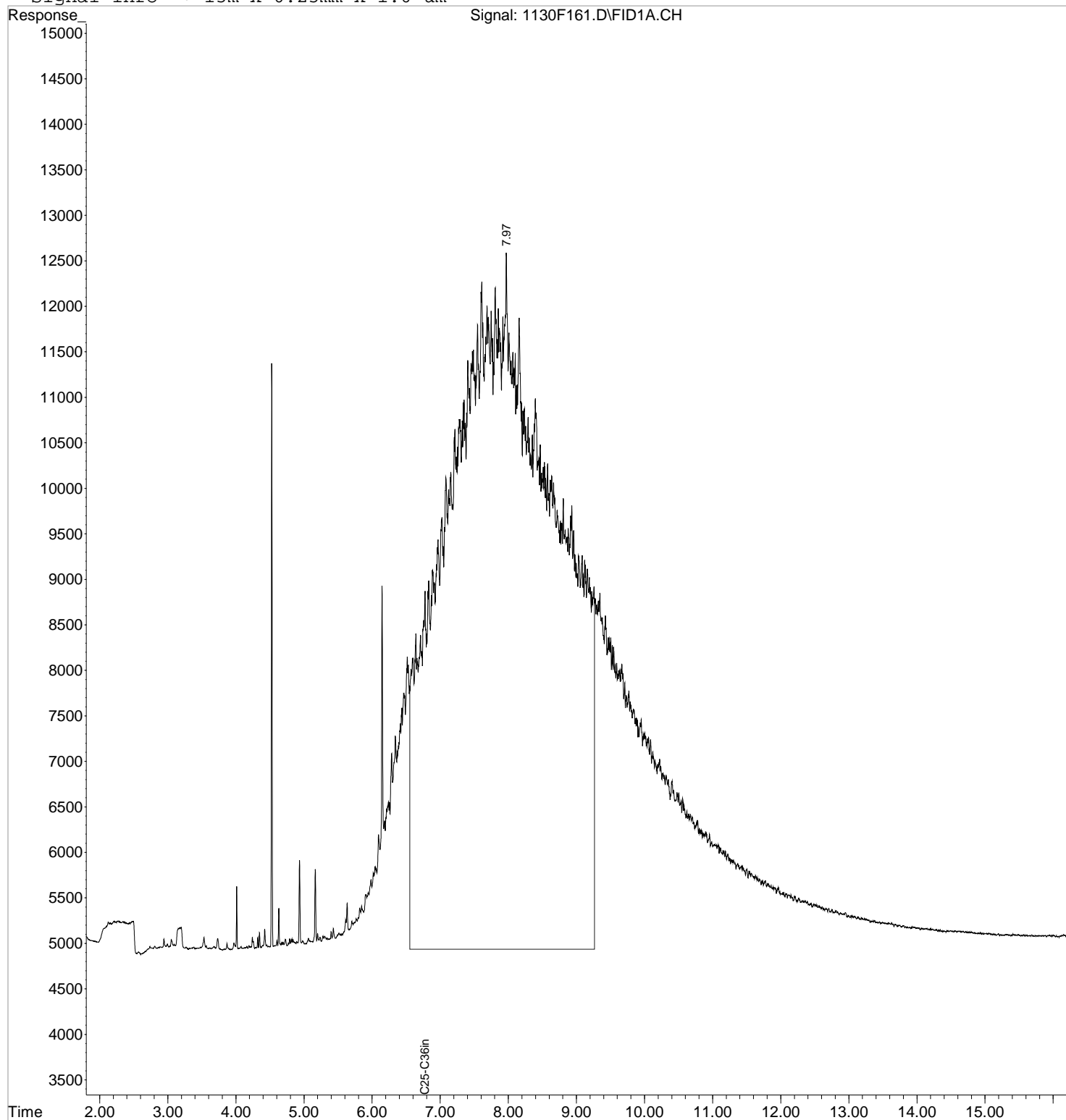
Target Compounds

11) H C25-C36in RRO [AK103]	6.76	837909	1064.374 ppm
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Data File : J:\GC21\DATA\113020F\1130F161.D Vial: 21
Acq On : 01 Dec 2020 5:20 am Operator: TAP
Sample : SVF03-9H AK103 ICV@1000 Inst : GC21
Misc : Multiplr: 1.00
IntFile : rteint.p
Quant Time: Dec 1 12:54 2020 Quant Results File: 113020F.RES

Quant Method : J:\GC21\METHODS\113020F.M (RTE Integrator)
Title : 8015/NWTPH/AK SVF MJ257 CAL16158
Last Update : Tue Dec 01 12:53:39 2020
Response via : Single Level Calibration
DataAcq Meth : SVF_FX32.M

Volume Inj. : 1 uL
Signal Phase : ZB-1
Signal Info : 15m x 0.25mm x 1.0 um



Data File : J:\GC21\DATA\113020F\1130F161.D

Vial: 21

Acq On : 01 Dec 2020 5:20 am

Operator: TAP

Sample : SVF03-9H AK103 ICV@1000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

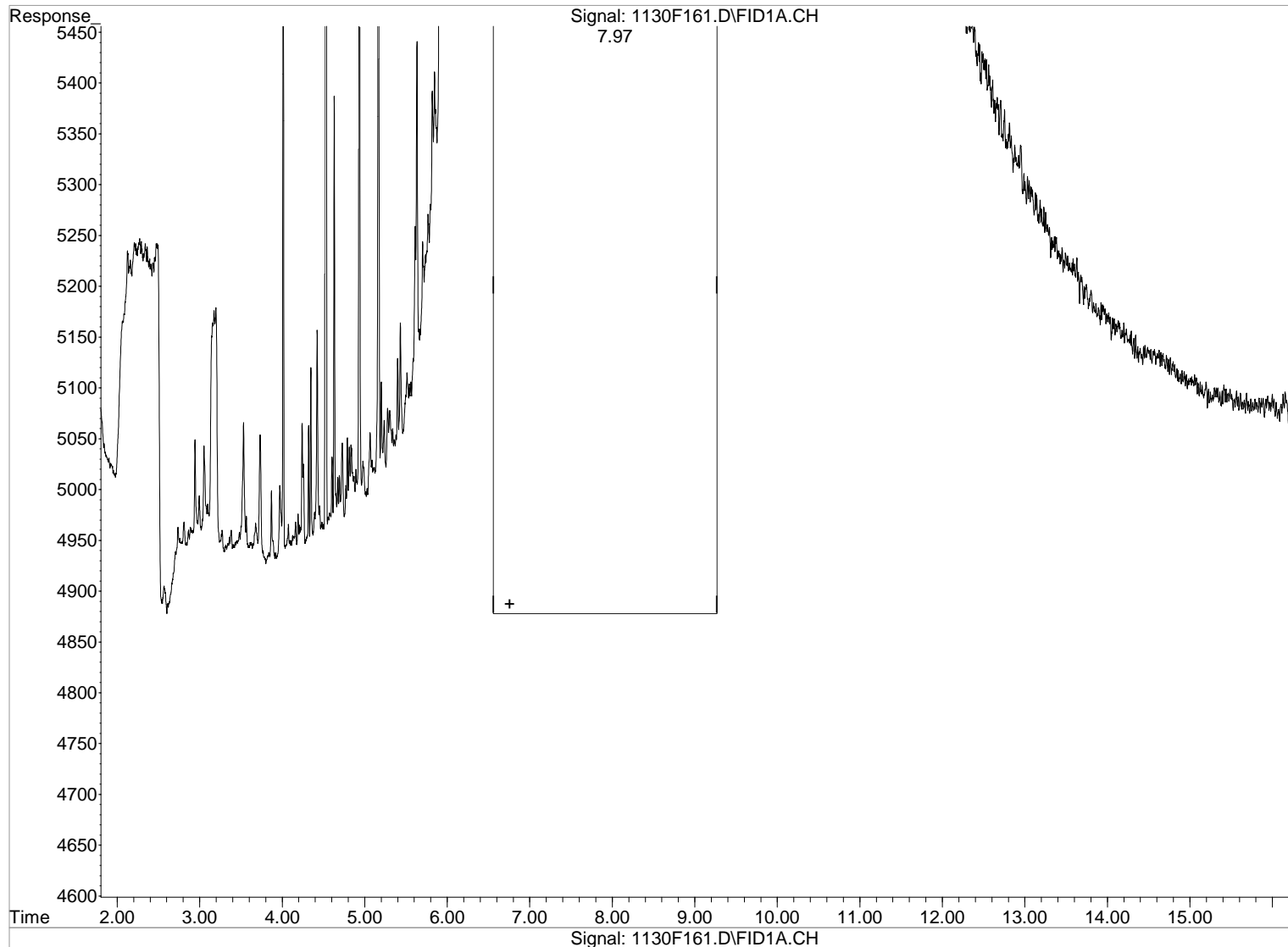
Quant Time: Dec 1 12:53 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:53:39 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 1076.704ppm

Before

response 847615

12/01/20

(+) = Expected Retention Time

1130F161.D 113020F.M Tue Dec 01 12:54:40 2020 Page 4 of 229

Data File : J:\GC21\DATA\113020F\1130F161.D

Vial: 21

Acq On : 01 Dec 2020 5:20 am

Operator: TAP

Sample : SVF03-9H AK103 ICV@1000

Inst : GC21

Misc :

Multiplr: 1.00

IntFile : rteint.p

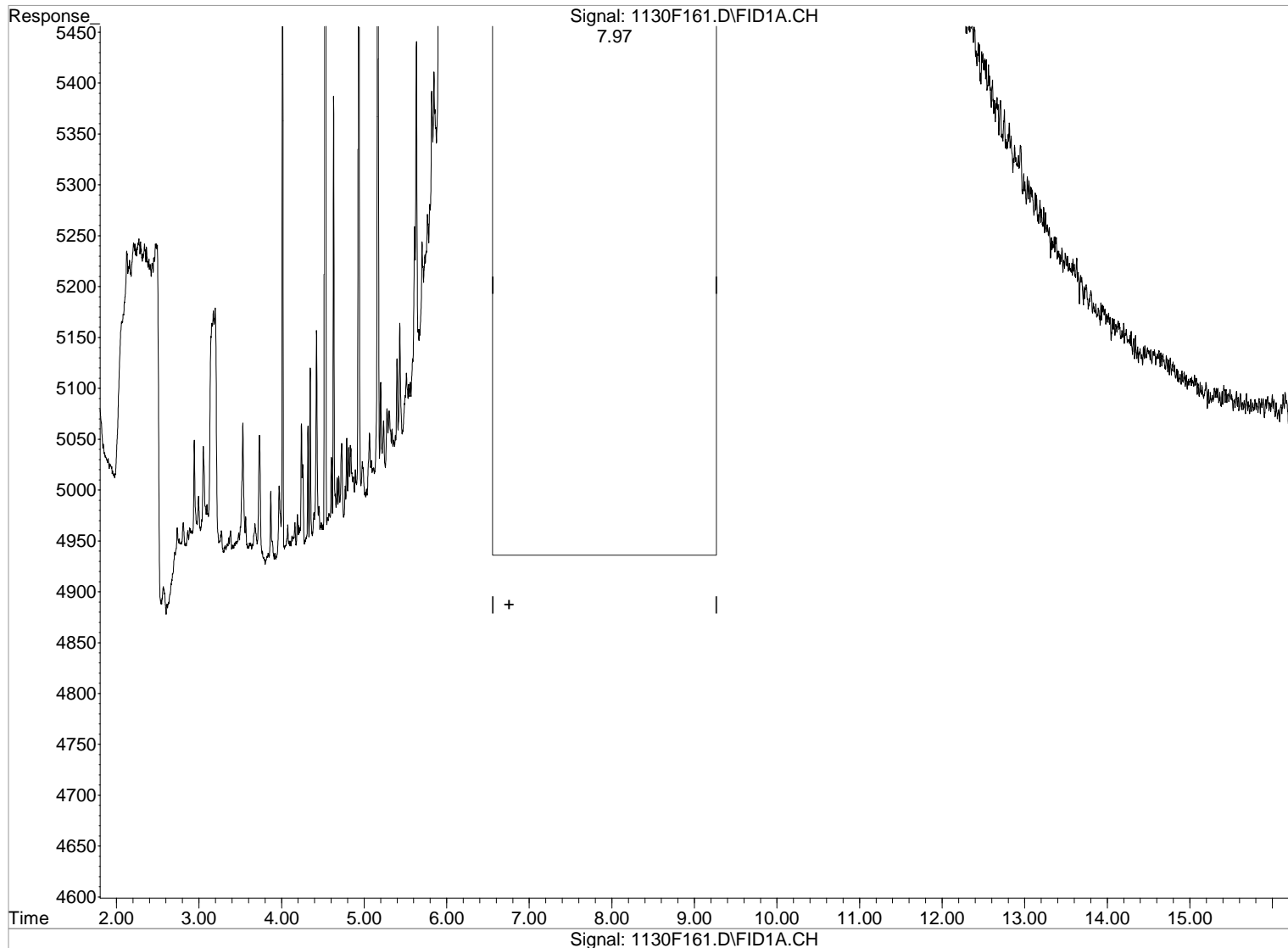
Quant Time: Dec 1 12:53 2020 Quant Results File: 113020F.RES

Method : J:\GC21\METHODS\113020F.M (RTE Integrator)

Title : 8015/NWTPH/AK SVF MJ257 CAL16158

Last Update : Tue Dec 01 12:53:39 2020

Response via : Multiple Level Calibration



(11) C25-C36in RRO [AK103] (H)

Manual Integration:

6.76min 1064.374ppm

After

response 837909

Baseline/Shoulder

12/01/20

(+) = Expected Retention Time

Injection Log

Directory: J:\GC21\DATA\121620F

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	90	1216F101.D	1.	DCM		12/16/22020 2:07:3
2	99	1216F102.D	1.	MC252		12/16/22020 2:29:5
3	91	1216F103.D	1.	ALIPHATICS	RUN 707215 P2	12/16/22020 2:52:2
4	96	1216F104.D	1.	DRO@1000/50 SVF30-8H ↑		12/16/22020 3:14:5
5	97	1216F105.D	1.	RRO@1000/50 SVF03-10K↑	RUN 707405	12/16/22020 3:37:2
6	86	1216F106.D	1.	IB		12/16/22020 3:59:5
7	1	1216F107.D	1.	KQ2020098-02 LCS	RUN 707216	12/16/22020 4:22:2
8	2	1216F108.D	1.	KQ2020098-03 MB	} R2	12/16/22020 4:44:5
9	3	1216F109.D	1.	K2011150-001 10X		12/16/22020 5:07:2
10	4	1216F110.D	1.	K2011150-001 DUP 10X	KC2000 628	12/16/22020 5:30:0
11	96	1216F111.D	1.	DRO@1000/50 SVF03-8H		12/16/22020 5:52:3
12	97	1216F112.D	1.	RRO@1000 SVF03-10K		12/16/22020 6:15:0
13	86	1216F113.D	1.	IB		12/16/22020 6:37:3
14	5	1216F114.D	1.	KQ2019648-03 LCS		12/16/22020 7:00:0
15	6	1216F115.D	1.	KQ2019648-04 MB		12/16/22020 7:22:3
16	7	1216F116.D	1.	K2011328-014		12/16/22020 7:45:0
17	8	1216F117.D	1.	K2011328-013		12/16/22020 8:07:2
18	9	1216F118.D	1.	K2011328-013 DUP		12/16/22020 8:29:5
19	10	1216F119.D	1.	K2011328-010		12/16/22020 8:52:2
20	11	1216F120.D	1.	K2011328-011		12/16/22020 9:14:4
21	12	1216F121.D	1.	K2011328-012		12/16/22020 9:37:0
22	13	1216F122.D	1.	K2011328-016		12/16/22020 9:59:3
23	14	1216F123.D	1.	K2011328-015		12/16/22020 10:21:5
24	15	1216F124.D	1.	K2011328-009		12/16/22020 10:44:1
25	16	1216F125.D	1.	K2011328-007		12/16/22020 11:06:4
26	96	1216F126.D	1.	DRO@1000/50 SVF03-8H		12/16/22020 11:29:0
27	97	1216F127.D	1.	RRO@1000 SVF03-10K		12/16/22020 11:51:2
28	86	1216F128.D	1.	IB		12/17/22020 12:13:4
29	17	1216F129.D	1.	K2011328-005		12/17/22020 12:36:0
30	18	1216F130.D	1.	K2011328-003	} R2	12/17/22020 12:58:2
31	19	1216F131.D	1.	K2011328-008 10X		12/17/22020 1:20:4
32	20	1216F132.D	1.	K2011328-002 10X		12/17/22020 1:43:0
33	21	1216F133.D	1.	K2011328-004 10X		12/17/22020 2:05:2
34	22	1216F134.D	1.	K2011328-006 10X		12/17/22020 2:27:5
35	23	1216F135.D	1.	K2011328-001 10X		12/17/22020 2:50:1
36	24	1216F136.D	1.	K2011328-001 DUP 10X		12/17/22020 3:12:2
37	25	1216F137.D	1.	K2011232-002		12/17/22020 3:34:5
38	96	1216F138.D	1.	DRO@1000/50 SVF03-8H ↑		12/17/22020 3:57:0
39	97	1216F139.D	1.	RRO@1000 SVF30-10K ↑		12/17/22020 4:19:2
40	86	1216F140.D	1.	IB		12/17/22020 4:41:5
41	26	1216F141.D	1.	KQ2019720-03 LCS	} R2	12/17/22020 5:04:0
42	27	1216F142.D	1.	KQ2019720-04 MB		12/17/22020 5:26:2
43	28	1216F143.D	1.	K2011446-002		12/17/22020 5:48:4
44	29	1216F144.D	1.	K2011446-004		12/17/22020 6:11:1
45	30	1216F145.D	1.	K2011446-004 MS		12/17/22020 6:33:4
46	31	1216F146.D	1.	K2011446-004 DMS		12/17/22020 6:56:2
47	96	1216F147.D	1.	DRO@1000/50 SVF03-8H ✓		12/17/22020 7:18:5
48	97	1216F148.D	1.	RRO@1000 SVF03-10K ✓		12/17/22020 7:41:1
49	86	1216F149.D	1.	IB		12/17/22020 8:03:4
50	1	1216F150.D	1.	KQ2020098-02 LCS	} R2	12/17/22020 8:26:1
51	2	1216F151.D	1.	KQ2020098-03 MB		12/17/22020 8:48:3
52	5	1216F152.D	1.	K2011232-002		12/17/22020 9:11:1
53	3	1216F153.D	1.	K2011150-001 10X		12/17/22020 9:33:4
54	4	1216F154.D	1.	K2011150-001 DUP 10X		12/17/22020 9:56:0
55	96	1216F155.D	1.	DRO@1000/50 SVR03-8H ↓		12/17/22020 10:18:3

Injection Log

Directory: J:\GC21\DATA\121620F

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
56	97	1216F156.D	1.	RRO@1000 SVF03-10K ✓		12/17/22020 10:41:0
57	96	1216F157.D	1.	DRO@1000/50 SVF03-11A ↓		12/17/22020 11:03:2
58	86	1216F158.D	1.	IB		12/17/22020 11:25:5
59	96	1216F159.D	1.	DRO@1000/50 SVF03-11A ✓		12/17/22020 11:48:1
60	97	1216F160.D	1.	RRO@1000 SVF03-10K ✓		12/17/22020 12:10:3
61	86	1216F161.D	1.	IB		12/17/22020 12:32:5
62	1	1216F162.D	1.	KQ2020098-02 LCS		12/17/22020 12:55:1
63	2	1216F163.D	1.	KQ2020098-003		12/17/22020 1:17:3
64	5	1216F164.D	1.	K2011232-002		12/17/22020 1:40:0
65	3	1216F165.D	1.	K2011150-001 10X		12/17/22020 2:02:2
66	4	1216F166.D	1.	K201150-001 DUP 10X		12/17/22020 2:24:4
67	96	1216F167.D	1.	• DRO@1000/50 SVF03-11A ✓		12/17/22020 3:09:2
68	97	1216F168.D	1.	• RRO@1000 SVF03-10K ✓		12/17/22020 3:31:4
69	86	1216F169.D	1.	• IB		12/17/22020 3:54:0
70	6	1216F170.D	1.	• KQ2019677-02 LCS		12/17/22020 4:16:2
71	7	1216F171.D	1.	• KQ2019677-03 MB		12/17/22020 4:38:3
72	8	1216F172.D	1.	• K2011330-004		12/17/22020 5:01:0
73	9	1216F173.D	1.	• K2011330-008		12/17/22020 5:23:1
74	10	1216F174.D	1.	• K2011330-009		12/17/22020 5:45:2
75	11	1216F175.D	1.	• K2011330-001		12/17/22020 6:07:4
76	12	1216F176.D	1.	• K2011330-001 DUP		12/17/22020 6:29:5
77	13	1216F177.D	1.	• K2011330-002		12/17/22020 6:52:1
78	14	1216F178.D	1.	• K2011330-003		12/17/22020 7:14:3
79	15	1216F179.D	1.	• K2011328-005		12/17/22020 7:36:4
80	16	1216F180.D	1.	• K2011328-003		12/17/22020 7:58:5
81	17	1216F181.D	1.	• K2011328-008 10X		12/17/22020 8:21:1
82	96	1216F182.D	1.	• DRO@1000/50 SVF03-11A ✓		12/17/22020 8:43:3
83	97	1216F183.D	1.	• RRO@1000 SVF02-10K ✓		12/17/22020 9:05:4
84	86	1216F184.D	1.	• IB		12/17/22020 9:28:0
85	18	1216F185.D	1.	• KQ2019720-03 LCS		12/17/22020 9:50:2
86	19	1216F186.D	1.	• KQ2019720-04 MB		12/17/22020 10:12:3
87	20	1216F187.D	1.	• K2011446-002		12/17/22020 10:34:5
88	21	1216F188.D	1.	• K2011446-004		12/17/22020 10:57:0
89	22	1216F189.D	1.	• K2011446-004 MS		12/17/22020 11:19:1
90	23	1216F190.D	1.	• K2011446-004 DMS		12/17/22020 11:41:3
91	24	1216F191.D	1.	• K2011446-005		12/18/22020 12:03:4
92	25	1216F192.D	1.	• K2011446-006		12/18/22020 12:26:0
93	26	1216F193.D	1.	• K2011446-001		12/18/22020 12:48:2
94	27	1216F194.D	1.	• K2011446-003		12/18/22020 1:10:3
95	28	1216F195.D	1.	K2011330-005 10X <i>RR</i>		12/18/22020 1:32:5
96	29	1216F196.D	1.	K2011330-006 10X <i>I</i>		12/18/22020 1:55:0
97	96	1216F197.D	1.	• DRO@1000/50 SVF03-11A ↑ <i>NWTPH</i>		12/18/22020 2:17:2
98	97	1216F198.D	1.	RRO@1000 SVF03-10K ↑ <i>NWTPH</i>		12/18/22020 2:39:3
99	86	1216F199.D	1.	• IB		12/18/22020 3:01:5
100	30	1216F200.D	1.	K2011330-007 10X <i>RR</i>		12/18/22020 3:24:0
101	31	1216F201.D	1.	K2011330-010 10X		12/18/22020 3:46:2
102	32	1216F202.D	1.	K2011328-002 10X		12/18/22020 4:08:4
103	33	1216F203.D	1.	K2011328-004 10X		12/18/22020 4:30:5
104	34	1216F204.D	1.	K2011328-006 10X		12/18/22020 4:53:0
105	35	1216F205.D	1.	K2011328-001 10X		12/18/22020 5:15:2
106	36	1216F206.D	1.	K2011328-001 DUP 10X <i>RR</i>		12/18/22020 5:37:3
107	37	1216F207.D	1.	K2010036-004 RE		12/18/22020 5:59:5
108	38	1216F208.D	1.	K2010036-004	} <i>NR</i>	12/18/22020 6:22:1
109	39	1216F209.D	1.	K2010030-004		12/18/22020 6:44:3
110	96	1216F210.D	1.	DRO@1000/50 SVF03-11A ↑ <i>NWTPH</i>		12/18/22020 7:06:4

Injection Log

Directory: J:\GC21\DATA\121620F

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
111	97	1216F211.D	1.	RRO@1000 SVF02-11K ↑ NUSPH		12/18/22020 7:29:1
112	86	1216F212.D	1.	IB		12/18/22020 7:51:2
113	86	1216F367.D	1.	IB		12/17/22020 2:47:0



Polychlorinated Biphenyls (PCBs)

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information

EPA 3541 EE 12/19/20

Group ID:	KWG2003341	Prep Method:	EPA 3541	Prep Date:	12/10/20 16:20
Department:	Semivova GC		EPA 3546		12.16.20

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.	Solids
K2011446-001	DSL BG003(0.0-0.5)-SP01	8082A PCB	SOIL	2.041g	8 mL	29.9
K2011446-002	DSL BG003(0.0-0.5)-SP02	8082A PCB	SOIL	2.039g	8	29.2
K2011446-003	DSL BC002(0-1.3)-SP01	8082A PCB	SOIL	2.090g	8	32.0
K2011446-004	USRBG001(0.0-0.5)-SP01	8082A PCB	SOIL	2.046g	8	47.4
K2011446-005	DSL BG007(0.0-0.5)-SP01	8082A PCB	SOIL	2.056g	8	24.2
K2011446-006	DSRBC008(0.0-1.25)-SP01	8082A PCB	SOIL	2.026g	8	29.5
KWG2003341-1	Matrix Spike	8082A PCB	SOIL	2.019g	8	47.4
KWG2003341-2	Duplicate Matrix Spike	8082A PCB	SOIL	2.089g	8	47.4
KWG2003341-3	Lab Control Sample	8082A PCB	SOIL	2.000g	8	
KWG2003341-4	Method Blank	8082A PCB	SOIL	2.090g	8	

Lab Code	Parent Lab Code	Comments
KWG2003341-1	K2011446-004	KQ2019721-01
KWG2003341-2	K2011446-004	KQ2019721-02
KWG2003341-3		KQ2019721-03
KWG2003341-4		KQ2019721-04

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K2011446-001	1762449					
K2011446-002	1762450					
K2011446-003	1762451					
K2011446-004	1762452					
K2011446-005	1762453					
K2011446-006	1762454					
KWG2003341-1	1762455					
KWG2003341-2	1762456					
KWG2003341-3	1762457					
KWG2003341-4	1762458					

Comments: _____

Started By: BGREER Assisted By: _____ Training Yes No

Completed By: TNorris Assisted By: _____ Yes No

Reviewed By: [Signature] Date: 12.16.2020 Storage: _____

Chain of Custody

Relinquished By:	<u>[Signature]</u>	Date:	<u>12/11/20</u>	Extracts Examined
Received By:	<u>[Signature]</u>	Date:	<u>12/19/20</u>	Yes No

Preparation Information

EPA 3541 EE 12/19/2019

Group ID: KWG2003341
 Department: Semivova GC

Prep Method: EPA 3541

EPA 3546

Prep Date: 12/10/20 16:20

#	Lab Code	Client ID	B#	✓	Product	Matrix	Amt. Ext.	pH	Int. Vol. ml	Final Vol. ml	Surr. Added	Spike Added
1	K2011446-001	DSL BG003(0.0-0.5)-SP01	.01	✓	8082A PCB	SOIL	g X	N/A	20	8	50	—
2	K2011446-002	DSL BG003(0.0-0.5)-SP02	.01	✓	8082A PCB	SOIL	X	1	20	8	1	—
3	K2011446-003	DSL BC002(0-1.3)-SP01	.01	✓	8082A PCB	SOIL	X	1	20	8	1	—
4	K2011446-004	USRBG001(0.0-0.5)-SP01	.01	✓	8082A PCB	SOIL	X	1	20	8	1	—
5	K2011446-005	DSL BG007(0.0-0.5)-SP01	.01	✓	8082A PCB	SOIL	X	1	20	8	1	—
6	K2011446-006	DSRBC008(0.0-1.25)-SP01	.01	✓	8082A PCB	SOIL	X	1	20	8	1	—
7	KWG2003341-1	Matrix Spike K2011446-4	.01	✓	8082A PCB	SOIL	X	1	20	8	1	200
8	KWG2003341-2	Duplicate Matrix Spike K2011446-4	.01	✓	8082A PCB	SOIL	X	1	20	8	1	1
9	KWG2003341-3	Lab Control Sample	—	—	8082A PCB	SOIL	2.000	1	20	8	1	1
10	KWG2003341-4	Method Blank	—	—	8082A PCB	SOIL	2.090	1	20	8	1	—

Comments:

*See pre prep sheet

PR: 371209

Surrogate ID:

PCB8-68H 0.8ppm Ace xp: 5/31/21 50ml

Spike ID:

PCB8-67K 1660 1ppm Ace xp: 4/14/21 200ml

Witness:

Regan Zimari

Started By:

BGREER

Assisted By:

Completed By:

Mami

Assisted By:

Preparation Information Benchsheet

Prep Run#: 371209
Team: Semivoa GC/BGREER
Number of Copies to make: 1

Prep Workflow: OrgExtS(365)
Prep Method: EPA 3541

Status: Draft
Prep Date/Time: 12/9/20 08:33 AM

#	Lab Code	Client ID	B#	Method / Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	K2011446-001	DSLBC003(0.0-0.5)-SP01	.01	8082A / PCB	Soil	*	N/A	20	8	50	200
2	K2011446-002	DSLBC003(0.0-0.5)-SP02	.01	8082A / PCB	Soil	*	1	20	8	1	200
3	K2011446-003	DSLBC002(0.1-3)-SP01	.01	8082A / PCB	Soil	*	1	20	8	1	200
4	K2011446-004	USRBG001(0.0-0.5)-SP01	.01	8082A / PCB	Soil	*	1	20	8	1	200
5	K2011446-005	DSLBC007(0.0-0.5)-SP01	.01	8082A / PCB	Soil	*	1	20	8	1	200
6	K2011446-006	DSRBC008(0.0-1.25)-SP01	.01	8082A / PCB	Soil	*	1	20	8	1	200
7	KQ2019721-01	K2011446-004 MS	.01	8082A / PCB	Solid	*	1	20	8	1	200
8	KQ2019721-02	K2011446-004 DMS	.01	8082A / PCB	Solid	*	1	20	8	1	200
9	KQ2019721-03	LCS	—	8082A / PCB	Solid	2.000	1	20	8	1	200
10	KQ2019721-04	MB	—	8082A / PCB	Solid	2.090	1	20	8	1	200

Comments:

* See pre prep sheet

Surrogate ID:

PCB8-684 .8ppm/Acetone XP 5/31/21

Spike ID:

STH464-684 XP 3/11/21

Witnessed By:

Rayan Zaidmull

Analyst:

BGREER

Assisted By:

PCB8-67K 1660 1ppm XP 4/14/21 200uL

Pre-Prep Information Benchsheet

Prep Run #: 371209

Container Lot No: 110920-1BNU

Prep Due Date: Dec-11-2020

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2011446-001	.01	PCB : 8082A/	2.041g		LMORTENSEN K-BALANCE-48
2	K2011446-002	.01	PCB : 8082A/	2.039g		LMORTENSEN K-BALANCE-48
3	K2011446-003	.01	PCB : 8082A/	2.090g		LMORTENSEN K-BALANCE-48
4	K2011446-004	.01	PCB : 8082A/	2.046g		LMORTENSEN K-BALANCE-48
5	K2011446-004 MS KO2019721-01	.01	PCB : 8082A/	2.019g		LMORTENSEN K-BALANCE-48
6	K2011446-004 DMS KO2019721-02	.01	PCB : 8082A/	2.089g		LMORTENSEN K-BALANCE-48
7	K2011446-005	.01	PCB : 8082A/	2.056g		LMORTENSEN K-BALANCE-48
8	K2011446-006	.01	PCB : 8082A/	2.026g		LMORTENSEN K-BALANCE-48

Relinquished By: <i>Uu</i>	Date/Time: 12/17/20	Received By: <i>Bayer</i>	Date/Time: 12/10/20
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Additional Prep Information for EPA 3546
Pest/PCB/Con in Soil/Paperboard/Wipes/Tissues

Service Request # K2011446 Work Group # Pest:
 1:1 PCB: KQ2019721/KWG2003341
 4:1 Hexane:Acetone Lot # 19Ex+0148Q Sulfate Lot # 2020020378

Extraction Start (time/date/initial): 1620 12/10/20 BG / 0700 12/11/20 BG

Pipette (5 mL) Lot # FF166 Pipette (2 mL) Lot # 21119946

N-Evap (time/date/initial): 08:00 12/11/20 AA N-Evap Thermometer ID: X-SVM-010

Temp as measured: 20 °C Correction factor: 0 °C Adjusted temp: 20 °C

Solvent Exchange to Hexane (time/date/initial): 0900/12/11/2014 Hexane Lot# 252024

Carbon Clean-up (Ext-Car) (time/date/initial): _____ Carbon Lot # _____

Hexane 1:1 DCM Lot # _____

Turbovap (time/date/initial): _____ Turbovap Thermometer ID: _____

Temp as measured: _____ °C Correction factor: _____ °C Adjusted temp: _____ °C

Overnight Florisil Clean-up (Ext-Flor)(time/date/initial): _____

Florisil Lot # _____

Sulfuric Acid Clean-up (3665)(time/date/initial): 10:20 12/11/20 ^{HH} Acid Lot # 59275

Other Clean-up (type/time/date/initial) copper 1100 12/11/20 m

Lot # 19E420177J

Pipette (2 mL) Lot # 02720646 Pipette (1 mL) Lot # 171106

Completed by: 1215 12/11/20 12

Pest Vial: _____ Vial Storage: _____

PCB Vial: green Vial Storage: Lowie D1-10

Archived Extract Storage: Gonzalo

Additional Comments _____

Bench Sheet Review Check List

- ☒ Hold times met; if no, reason: _____
- ☒ Prep date, time, method, department, product code correct
- ☒ Spike information and Q.C. correct (insufficient volume or mass recorded if no Q.C.)
- ☐ 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
- ☒ Extract storage recorded
- ☒ Additional prep sheet completely filled out (NA or line out blanks)
- ☒ All clean-ups have been noted on additional prep sheet

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F006.D
Lab ID: K2011446-001
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 13:14
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SA 12/28/20

Secondary Review: SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F006.D
Lab ID: K2011446-001
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 13:14
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

SA 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F006.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F006.D	Vial:	5
Acqu Date:	12/26/2020 13:14	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-001	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:	IV	Matrix:	SOIL
Prod Code:	8082A PCB	Collect Date:	12/02/2020	Receive Date:	12/08/2020

Analysis Lot:	KWG2003438	Prep Lot:	KWG2003341	Report Group:	K2011446
Analysis Method:	8082A	Prep Method:	EPA 3541		
Prep Ref:	1762449	Prep Date:	12/10/2020		

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:	Polychlorinated Biphenyls (PCBs)	Report List ID:	LJ20254
MB Ref:		Method ID:	MJ1824
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	Rpt	
Tetrachloro-m-xylene	6.61 ^{0.00}	7.94 ^{+0.00}	7467659	4328342	3.41	3.52	70	OK
			%Recovery =		68 OK	70 OK	Limits =	50-150
Decachlorobiphenyl	16.43 ^{0.00}	17.58 ^{+0.00}	3796831	2651449	3.48	3.71	74	OK
			%Recovery =		70 OK	74 OK	Limits =	50-150

Target Compounds

Final Conc. Units: ug/Kg Dry Weight									
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016 {1}	7.68 ^{0.00}	8.65 ^{-0.01}	108340m	75544m	2.73	3.38	36	44	(86) i mm
Aroclor 1016			0	0	6.56	9.44	86	120	
Aroclor 1016 {2}	8.89 ^{-0.02}	9.43 ^{+0.03}	315114m	0m	8.82	0.0000	120	9.9U	
Aroclor 1016 {3}	9.35 ^{-0.01}	10.55 ^{-0.02}	0m	0m	0.0000	0.0000	9.9U	9.9U	(500) i mm
Aroclor 1016 {4}	9.54 ^{+0.00}	11.08 ^{+0.00}	508659m	367899m	8.12	12.21	110	160	
Aroclor 1016 {5}	9.80 ^{+0.01}	11.31 ^{0.00}	0m	351698m	0.0000	12.72	9.9U	170	
Aroclor 1221 {1}	7.24	8.29	2045998	591494	99.70	79.28	1300	1000	(500) i mm
Aroclor 1221			0	0	45.81	37.99	600	500	
Aroclor 1221 {2}	7.51	8.48	469461	243239	33.28	31.87	440	420	
Aroclor 1221 {3}	7.66	8.65	223460	75544	4.44	2.83	58J	37J	47Ui
Aroclor 1232 {1}	7.24	8.65	0	75544	0.0000	2.85	9.9U	37	
Aroclor 1232			0	0	11.61	3.58	150	47	
Aroclor 1232 {2}	7.66	9.36	223460	0	4.82	0.0000	63	9.9U	RPD
Aroclor 1232 {3}	8.46	9.74	437543	0	10.60	0.0000	140	9.9U	
Aroclor 1232 {4}	9.35	10.48	0	100090	0.0000	4.79	9.9U	63	
Aroclor 1232 {5}	9.54	10.51	508659	73837	19.43	3.10	250	41	39Ui
Aroclor 1242 {1}	7.66	8.65	223460	75544	7.27	4.29	95	56	
Aroclor 1242			0	0	14.32	2.96	190	39	

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:\GC27\DATA\122620.B\1226F006.D	Instrument:	GC27.i
Data File #2:	\\nakls003\instdata\GC27\Data\122620_r.b\1226F006.D	Vial:	5
Acqu Date:	12/26/2020 13:14	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-001	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}	8.89	9.36	315114	0	12.33	0.0000	160	9.9U	
Aroclor 1242 {3}	9.35	10.48	1205509	100090	16.05	2.77	210	36	RPD
Aroclor 1242 {4}	9.54	10.51	508659	73837	11.49	1.83	150	24J	RPD
Aroclor 1242 {5}	9.92	10.78	750193	0	24.44	0.0000	320	9.9U	
Aroclor 1248 {1}	9.35	10.48	0	100090	0.0000	3.51	9.9U	46	
Aroclor 1248			0	0	10.54	4.07	140	53	53R i NM RPD
Aroclor 1248 {2}	9.54	10.51	508659	73837	18.47	3.20	240	42	
Aroclor 1248 {3}	10.70	11.08	241078	0	4.48	0.0000	59	9.9U	
Aroclor 1248 {4}	11.00	11.58	349190	133453	8.67	5.52	110	72	
Aroclor 1248 {5}	11.44	12.09	0	0	0.0000	0.0000	9.9U	9.9U	
Aroclor 1254 {1}	11.44	11.97	0	589565m	0.0000	13.00	9.9U	170	
Aroclor 1254			0	0	17.96	16.94	240	220	220
Aroclor 1254 {2}	12.05	12.03	2137753	353790m	16.99	14.54	220	190	
Aroclor 1254 {3}	12.29	12.34	1161616	931058m	19.15	17.90	250	230	
Aroclor 1254 {4}	12.38	12.43	1145006	489402m	15.37	22.30	200	290	
Aroclor 1254 {5}	13.14	13.87	1846681	0m	20.31	0.0000	270	9.9U	
Aroclor 1260 {1}	12.83 +0.00	13.07 +0.00	303900	184289m	6.64	6.83	87	90	
Aroclor 1260			0	0	5.09	5.61	67	74	67
Aroclor 1260 {2}	13.67 0.00	14.29 0.00	278390	157529m	3.75	3.61	49	47	
Aroclor 1260 {3}	13.81 -0.01	14.38 0.00	0	107784m	0.0000	4.47	9.9U	59	
Aroclor 1260 {4}	14.04 -0.01	14.64 -0.01	734582	384577m	4.83	8.41	63	110	
Aroclor 1260 {5}	14.66 0.00	15.17 0.00	592081	472778m	5.15	4.71	68	62	

The +/- after Retention Time symbolize the direction of the RT shift

Prep Amount: 2.041 g
Prep Final Vol: 8 ml
Solids: 29.9 %
Dilution: 1.0
Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F006.D
Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F006.D
Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F006.D
Inj Date : 26-DEC-2020 13:14
Sample Info: K2011446-001
Misc Info :
Cal Date : 28-DEC-2020 07:01
Operator : SM
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.611	7.940	7467659	4328342	3.41	3.52		100.00 (R)
Aroclor 1016	7.681	8.647	108340	75544	2.73	3.38	80.00- 120.00	100.00 (MH)
	8.894	9.433	315114		8.82		68.05- 102.08	290.86 (MH)
	9.347	10.550					138.46- 207.69	0.00 (MH)
	9.537	11.083	508659	367899	8.12	12.2	125.58- 188.37	469.50 (MH)
	9.801	11.307		351698		12.7	98.50- 147.76	465.55 (MH)
	Average of Peak Amounts =				6.56	9.43		
Aroclor 1221	7.237	8.287	2045998	591494	99.7	79.3	80.00- 120.00	100.00 (H)
	7.511	8.480	469461	243239	33.3	31.9	51.27- 76.90	22.95 (H)
	7.661	8.647	223460	75544	4.44	2.83	190.41- 285.62	10.92 (H)
	Average of Peak Amounts =				45.8	38.0		
Aroclor 1232	7.237	8.647		75544		2.85	80.00- 120.00	100.00 (H)
	7.661	9.363	223460		4.82		236.59- 354.88	10.92 (H)
	8.457	9.737	437543		10.6		198.03- 297.04	21.39 (H)
	9.347	10.477		100090		4.79	66.03- 99.04	132.49 (H)
	9.537	10.510	508659	73837	19.4	3.10	133.07- 199.60	24.86 (H)
	Average of Peak Amounts =				11.6	3.58		
Aroclor 1242	7.661	8.647	223460	75544	7.27	4.29	80.00- 120.00	100.00 (H)
	8.894	9.363	315114		12.3		65.11- 97.66	141.02 (H)
	9.347	10.477	1205509	100090	16.0	2.77	188.97- 283.46	539.47 (H)
	9.537	10.510	508659	73837	11.5	1.83	105.86- 158.79	227.63 (H)
	9.917	10.780	750193		24.4		82.30- 123.45	335.72 (H)
	Average of Peak Amounts =				14.3	2.96		
Aroclor 1248	9.347	10.477		100090		3.51	80.00- 120.00	100.00 (H)
	9.537	10.510	508659	73837	18.5	3.20	49.98- 74.97	42.19 (H)
	10.697	11.083	241078		4.48		96.54- 144.81	20.00 (H)
	10.997	11.583	349190	133453	8.67	5.52	72.00- 108.00	28.97 (H)
	11.437	12.093					109.93- 164.90	0.00 (H)

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
=====								
	Average of Peak Amounts =				10.6	4.08		
Aroclor 1254	11.437	11.970		589565		13.0	80.00- 120.00	100.00 (H)
	12.047	12.027	2137753	353790	17.0	14.5	244.22- 366.32	193.20 (H)
	12.291	12.343	1161616	931058	19.1	17.9	115.71- 173.56	104.98 (H)
	12.384	12.433	1145006	489402	15.4	22.3	147.40- 221.10	103.48 (H)
	13.137	13.873	1846681		20.3		167.70- 251.55	166.90 (H)
	Average of Peak Amounts =				18.0	16.9		
Aroclor 1260	12.834	13.067	303900	184289	6.64	6.83	80.00- 120.00	100.00 (H)
	13.671	14.287	278390	157529	3.75	3.61	121.48- 182.22	91.61 (H)
	13.814	14.380		107784		4.47	67.54- 101.31	58.49 (H)
	14.044	14.643	734582	384577	4.83	8.41	252.90- 379.35	241.72 (H)
	14.661	15.173	592081	472778	5.15	4.71	185.22- 277.83	194.83 (H)
	Average of Peak Amounts =				5.09	5.61		
Decachlorobiphenyl	16.434	17.580	3796831	2651449	3.48	3.71		100.00 (R)
Aroclors, Total	1.000	1.000	4630462	1689592	112	80.6		0.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
 M - Compound response manually integrated.
 H - Operator selected an alternate compound hit.

Data File: \\nakisws003\instdata\GC27\Data\122620.b\1226F006.D

Date : 26-DEC-2020 13:14

Client ID:

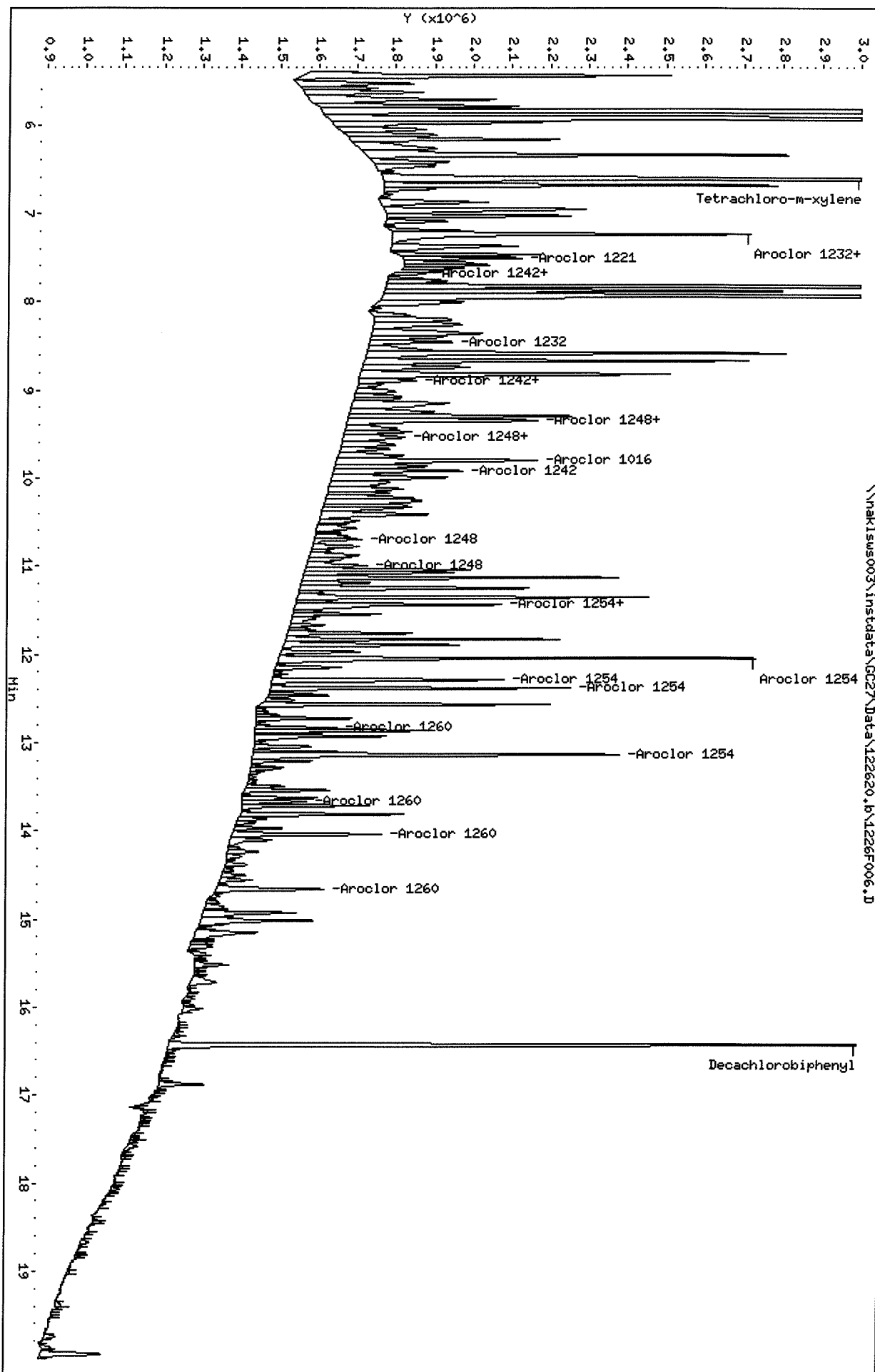
Sample Info: K2011446-001

Column phase: DB-35MS

Instrument: GC27.i

Operator: SH

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\122620_r.b\1226F006.D

Date : 26-DEC-2020 13:14

Client ID:

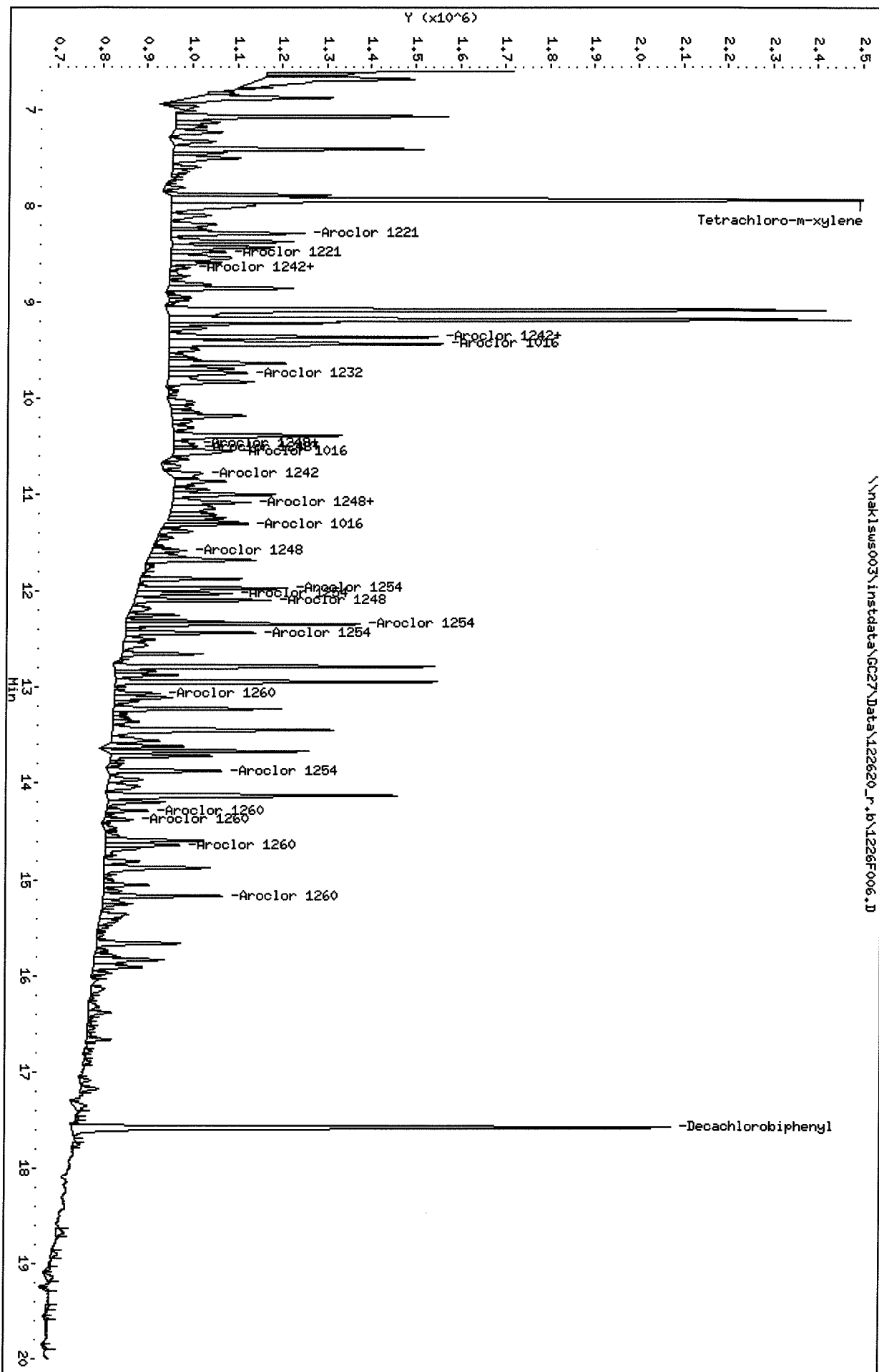
Sample Info: K201446-001

Column phase: DB-XLB

Instrument: GC27.i

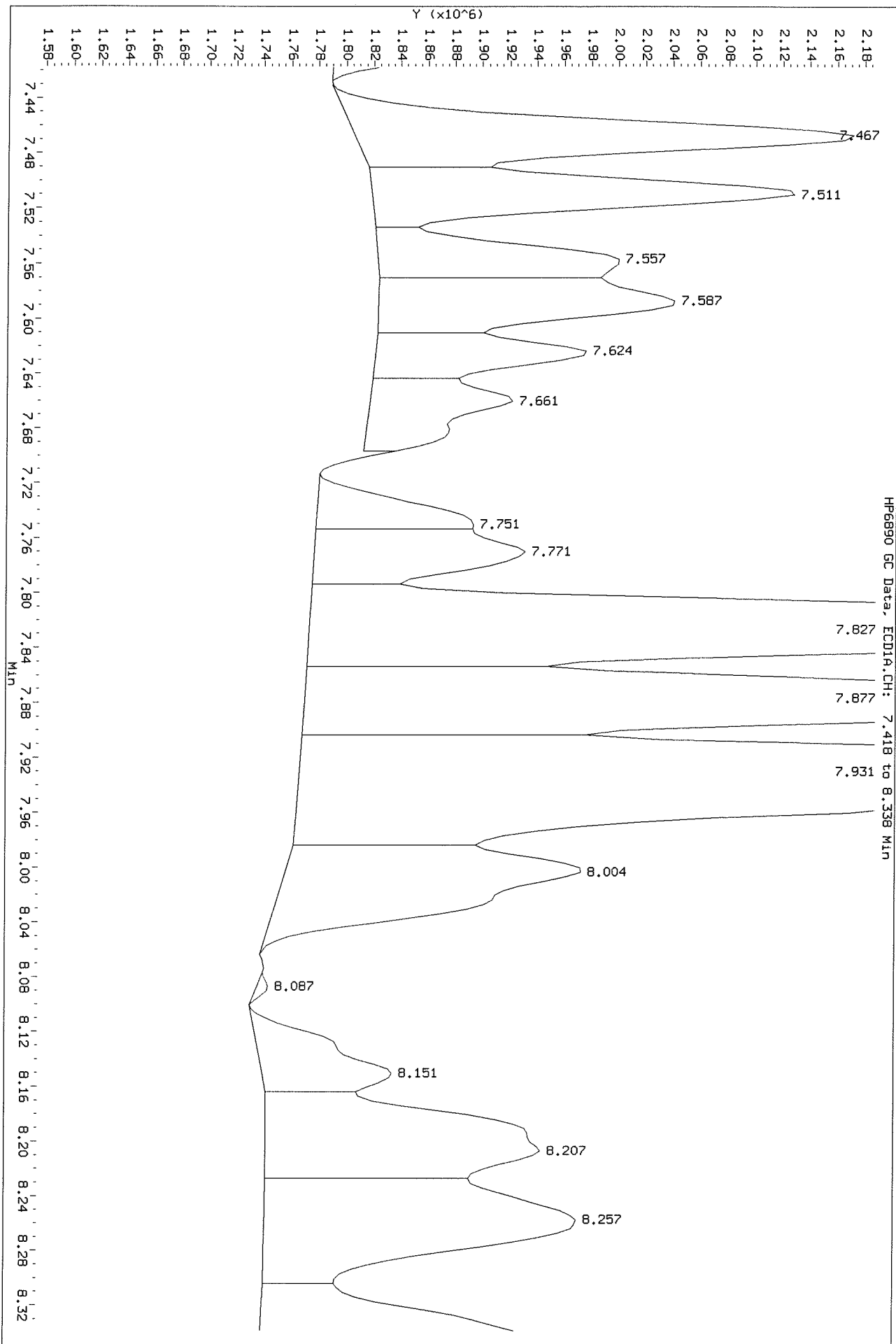
Operator: SH

Column diameter: 0.32

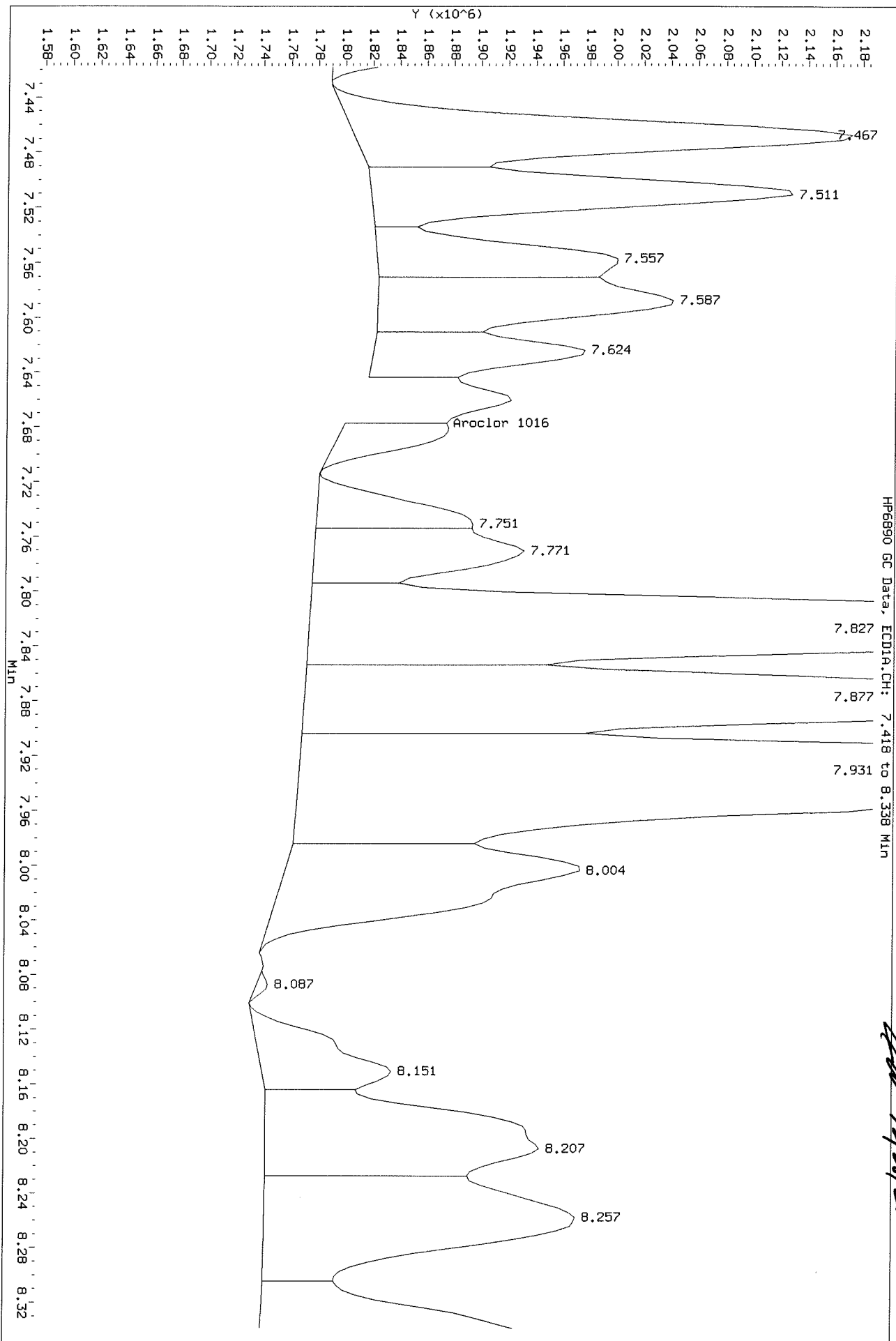


Data File: \\nakjsw003\instdata\GC27\Data\122620.b\1226f006.D
Injection Date: 26-DEC-2020 13:14
Instrument: GC27.1
Client Sample ID:

Before

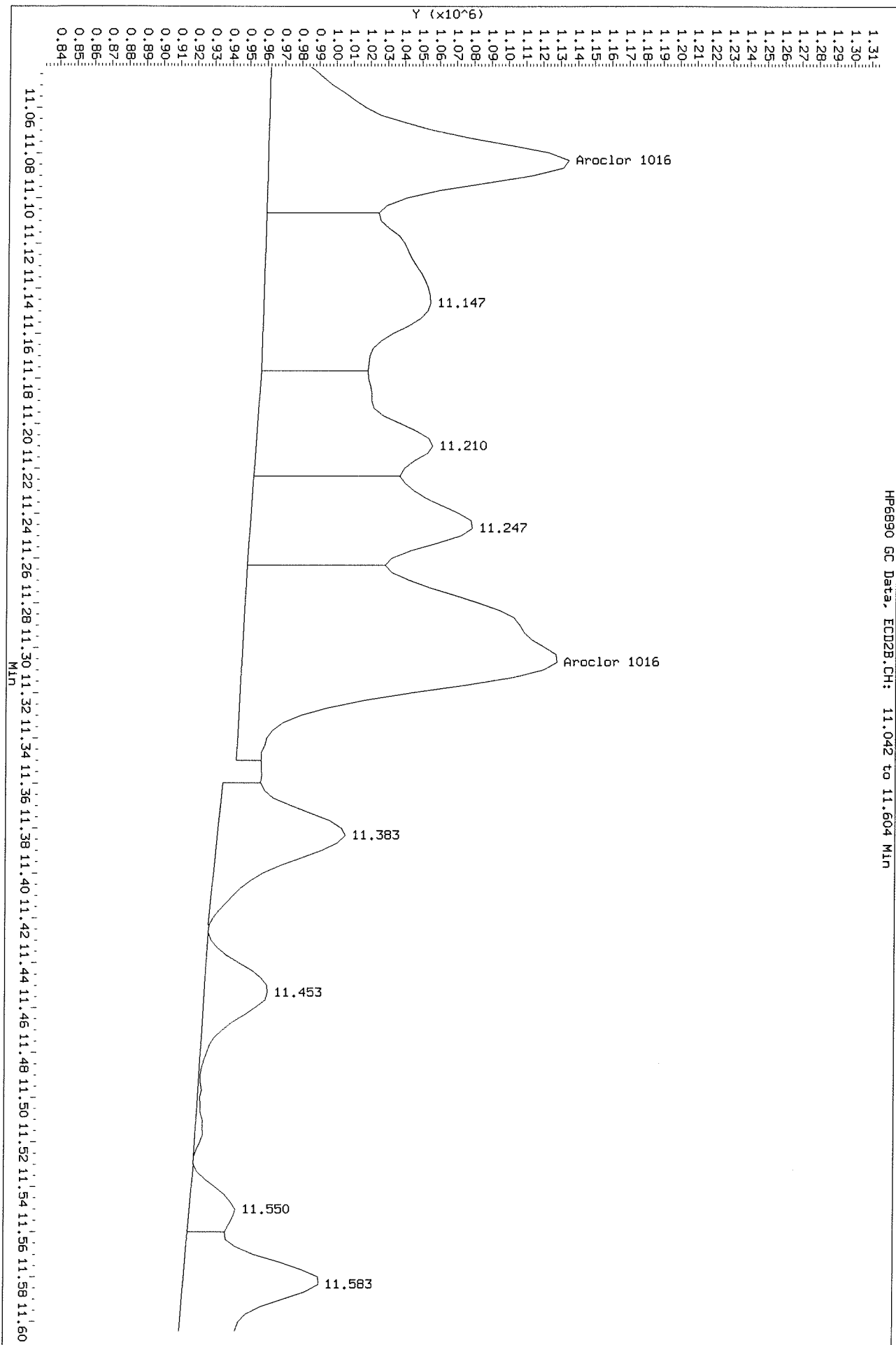


After wrong peak 12/28/2017



Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F006.D
Injection Date: 26-DEC-2020 13:14
Instrument: GC27.1
Client Sample ID:

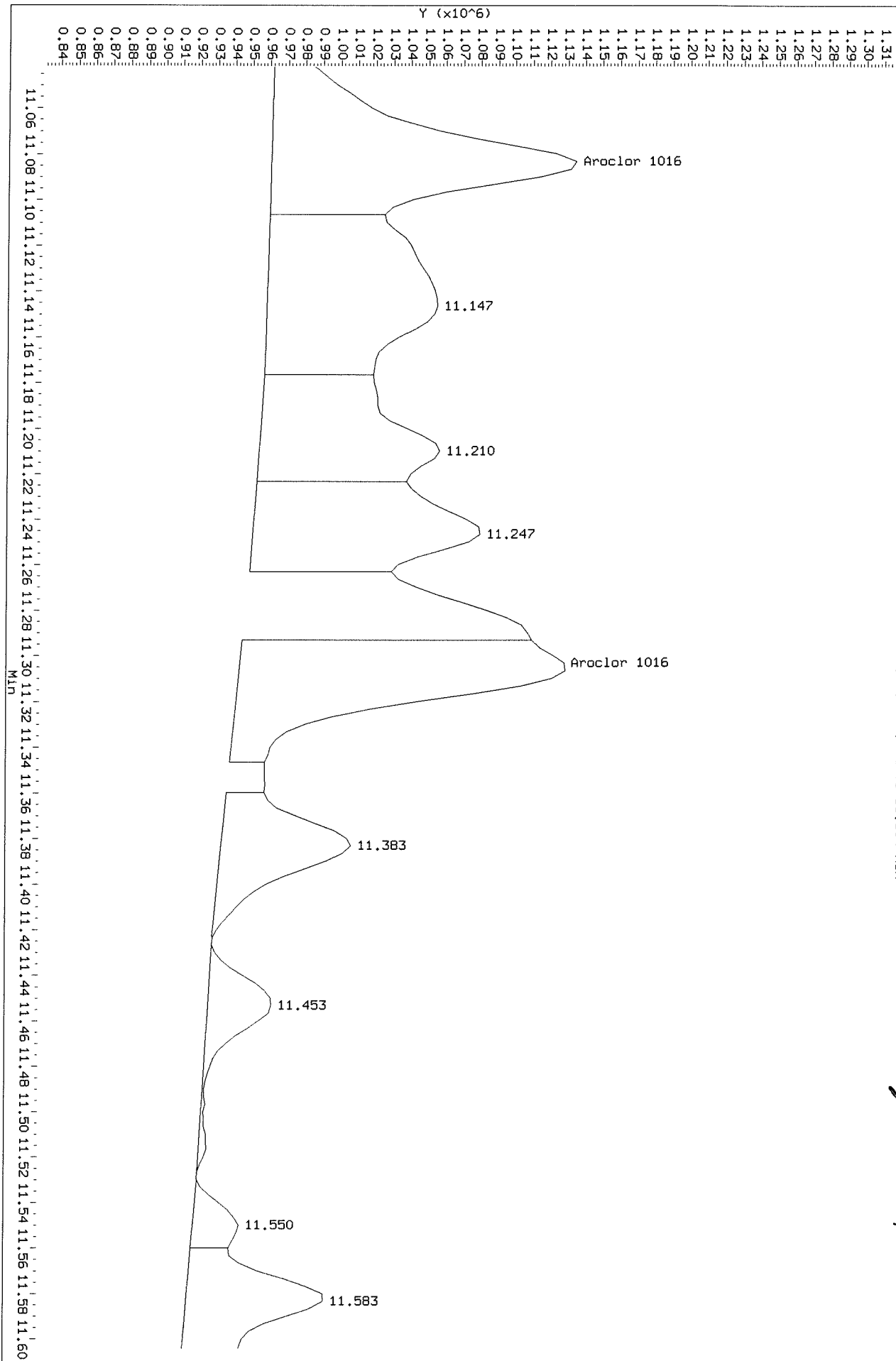
Before



Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F006.D
Injection Date: 26-DEC-2020 13:14
Instrument: GC27.1
Client Sample ID:

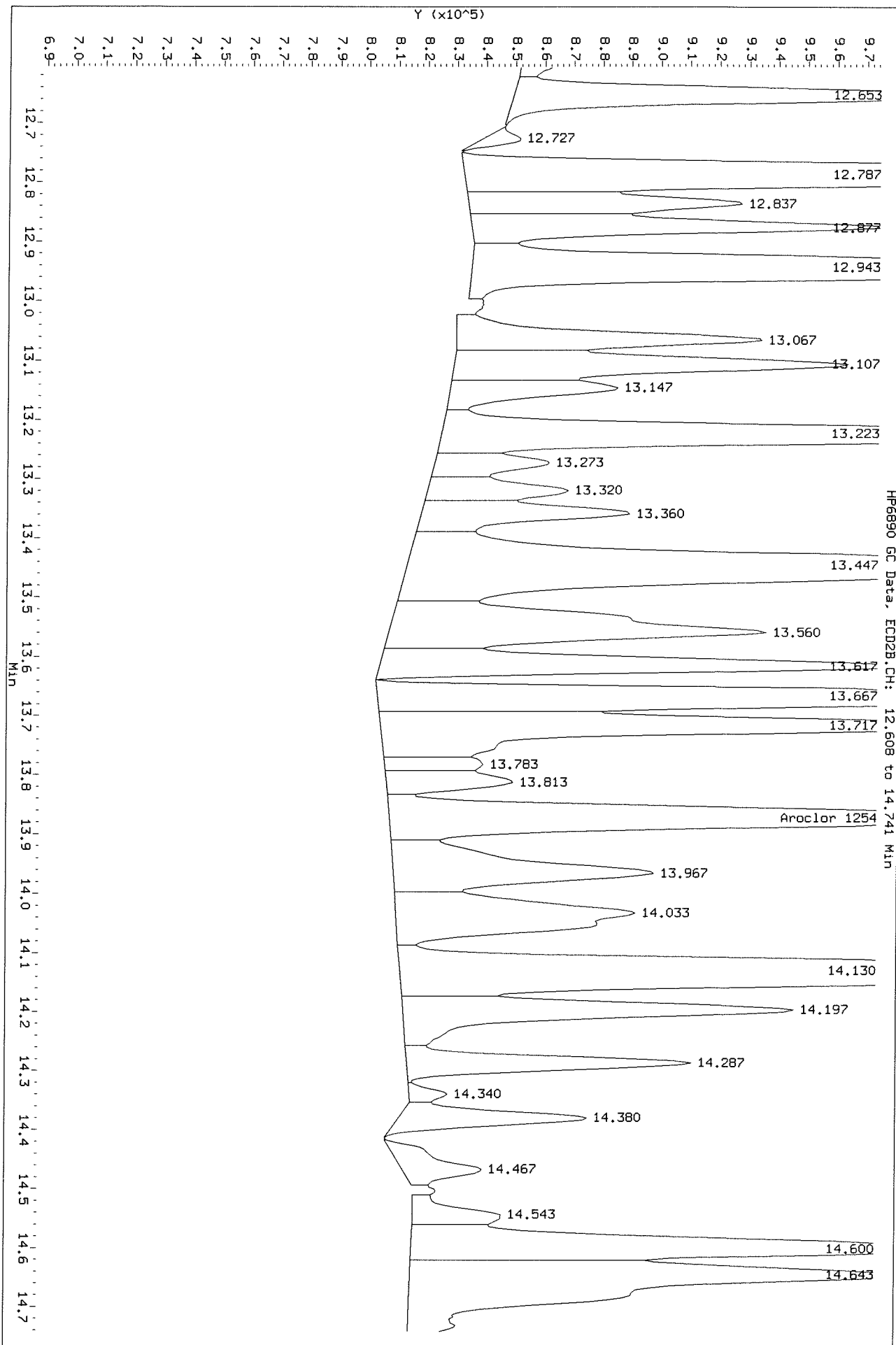
HP6890 GC Data, ECD2B.CH: 11.042 to 11.604 Min

*After 12/28/2020
12/28/2020
12/28/2020*



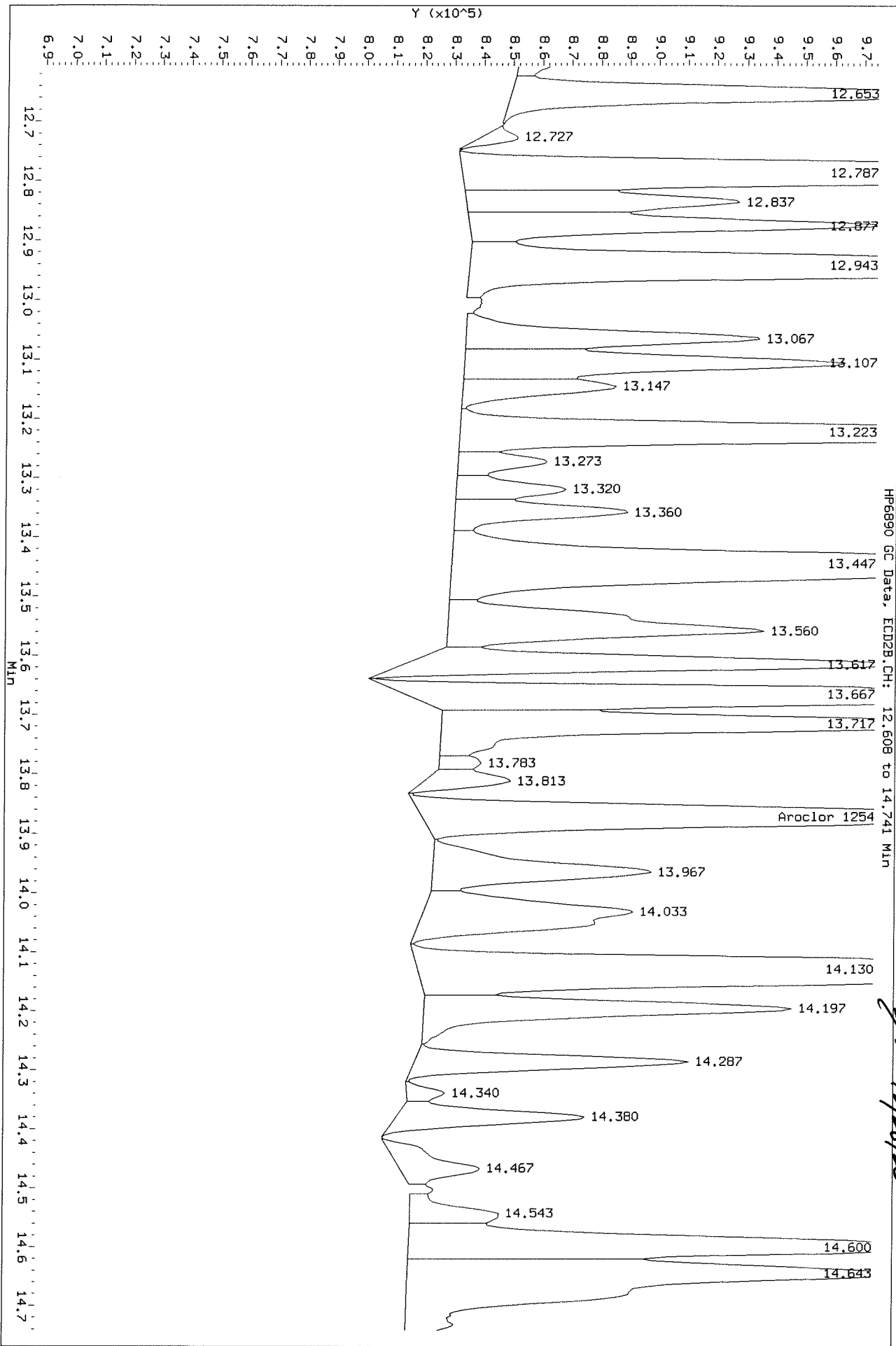
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Injection Date: 26-DEC-2020 13:14
Instrument: GC27.1
Client Sample ID:

Before



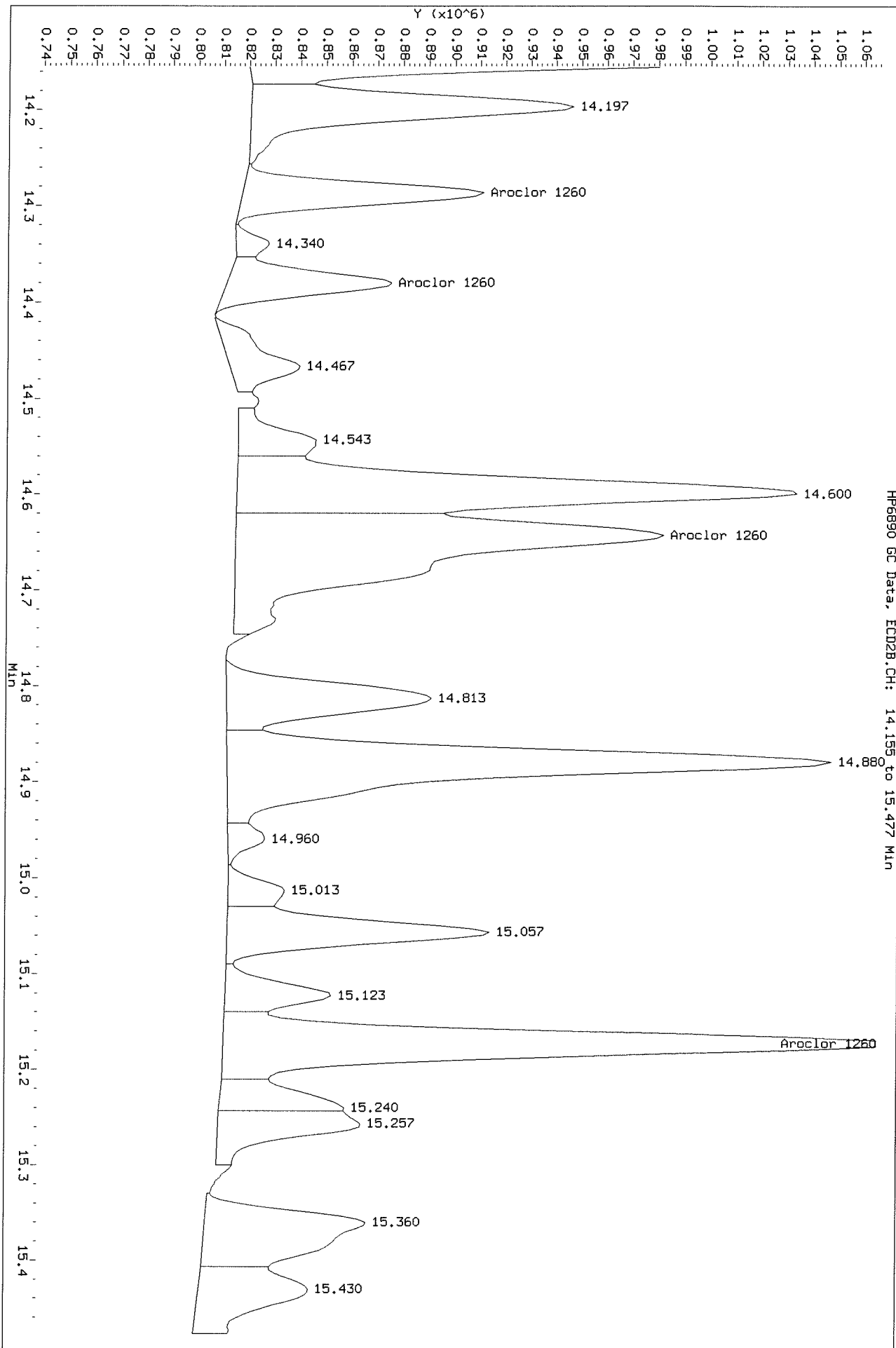
Data File: \\nak1sww003\instdata\GC27\Data\122620_r.b\1226f006.D
Injection Date: 26-DEC-2020 13:14
Instrument: GC27.1
Client Sample ID:

After baseline 12/28/2020
for 12/28/20



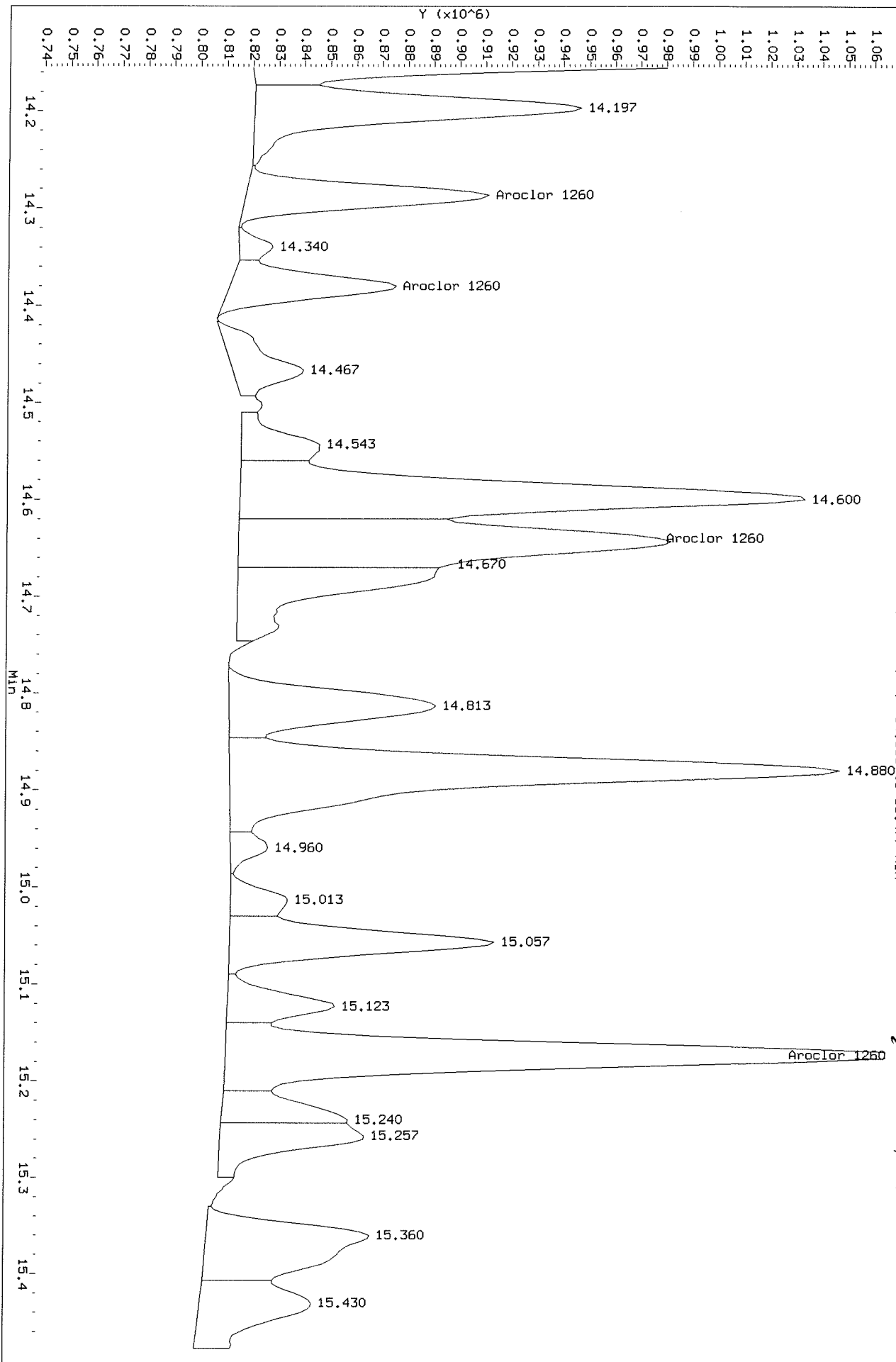
Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F006.D
Injection Date: 26-DEC-2020 13:14
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F006.D
Injection Date: 26-Dec-2020 13:14
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD2B.CH: 14.195 to 15.477 Min



After shoulder 12/28/20
12/29/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F007.D
Lab ID: K2011446-002
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 13:45
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F007.D
Lab ID: K2011446-002
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 13:45
Date Quantitated: 12/28/2020 09:10
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

SW 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F007.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F007.D	Vial:	6
Acqu Date:	12/26/2020 13:45	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-002	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:	IV	Matrix:	SOIL
Prod Code:	8082A PCB	Collect Date:	12/02/2020	Receive Date:	12/08/2020

Analysis Lot:	KWG2003438	Prep Lot:	KWG2003341	Report Group:	K2011446
Analysis Method:	8082A	Prep Method:	EPA 3541		
Prep Ref:	1762450	Prep Date:	12/10/2020		

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:	Polychlorinated Biphenyls (PCBs)	Report List ID:	LJ20254
MB Ref:		Method ID:	MJ1824
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2		Rpt
Tetrachloro-m-xylene	6.61 ^{-0.01}	7.94 ^{0.00}	8261870	4959587	3.77	4.04		81 OK
			%Recovery =		75 OK	81 OK	Limits = 50-150	
Decachlorobiphenyl	16.43 ^{0.00}	17.58 ^{0.00}	4107642	3006789	3.76	4.21		84 OK
			%Recovery =		75 OK	84 OK	Limits = 50-150	

Target Compounds

					Final Conc. Units:		ug/Kg Dry Weight		
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016 {1}	7.69 ^{+0.00}	8.65 ^{-0.01}	41541	45699	1.05	2.04	14J	27J	
Aroclor 1016			0	0	2.11	9.07	28J	120	34Ui
Aroclor 1016 {2}	8.90 ^{-0.02}	9.43 ^{+0.03}	38209	0	1.07	0.0000	14J	11U	
Aroclor 1016 {3}	9.35 ^{-0.01}	10.56 ^{-0.01}	0	278937	0.0000	7.14	11U	96	
Aroclor 1016 {4}	9.53 ^{0.00}	11.08 ^{+0.00}	264281	364373	4.22	12.10	57	160	
Aroclor 1016 {5}	9.80 ^{+0.01}	11.31 ^{0.00}	0	414600	0.0000	14.99	11U	200	
Aroclor 1221 {1}	7.24	8.29	1047648	265307	51.05	35.56	690	480	
Aroclor 1221			0	0	20.98	16.96	280	230	(230) i NPM
Aroclor 1221 {2}	7.51	8.48	155907	103797	11.05	13.60	150	180	
Aroclor 1221 {3}	7.69	8.65	41541	45699	0.8250	1.71	11J	23J	
Aroclor 1232 {1}	7.24	8.65	0	45699	0.0000	1.72	11U	23J	
Aroclor 1232			0	0	7.64	4.29	100	58	(58) i NPM
Aroclor 1232 {2}	7.69	9.36	41541	0	0.8960	0.0000	12J	11U	
Aroclor 1232 {3}	8.46	9.73	189822	0	4.60	0.0000	62	11U	
Aroclor 1232 {4}	9.35	10.46	737355	112702	14.96	5.40	200	73	
Aroclor 1232 {5}	9.53	10.51	264281	136604	10.09	5.74	140	77	
Aroclor 1242 {1}	7.69	8.65	41541	45699	1.35	2.59	18J	35	
Aroclor 1242			0	0	7.32	3.04	98	41	(41) i NPM

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:\GC27\DATA\122620.B\1226F007.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F007.D	Vial:	6
Acqu Date:	12/26/2020 13:45	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-002	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}	8.90	9.36	38209	0	1.50	0.0000	20J	11U	RPD
Aroclor 1242 {3}	9.35	10.46	737355	112702	9.82	3.12	130	42	
Aroclor 1242 {4}	9.53	10.51	264281	136604	5.97	3.39	80	46	
Aroclor 1242 {5}	9.92	10.77	551476	0	17.97	0.0000	240	11U	(73) m
Aroclor 1248 {1}	9.35	10.46	0	112702	0.0000	3.96	11U	53	
Aroclor 1248			0	0	7.10	5.43	95	73	
Aroclor 1248 {2}	9.53	10.51	264281	136604	9.60	5.91	130	79	
Aroclor 1248 {3}	10.70	11.08	290693	0	5.40	0.0000	73	11U	
Aroclor 1248 {4}	11.00	11.58	253911	155174	6.30	6.41	85	86	
Aroclor 1248 {5}	11.44	12.09	0	0	0.0000	0.0000	11U	11U	330 -
Aroclor 1254 {1}	11.44	11.97	0	909521	0.0000	20.06	11U	270	
Aroclor 1254			0	0	27.16	24.37	360	330	
Aroclor 1254 {2}	12.05	12.02	3058457	455791	24.31	18.73	330	250	
Aroclor 1254 {3}	12.29	12.34	1770875	1370323	29.19	26.35	390	350	
Aroclor 1254 {4}	12.38	12.43	1779942	783896	23.90	35.72	320	480	
Aroclor 1254 {5}	13.14	13.87	2838888	793862	31.23	21.00	420	280	100 ✓
Aroclor 1260 {1}	12.83 ^{0.00}	13.06 ^{0.00}	441492	311720	9.65	11.56	130	160	
Aroclor 1260			0	0	7.59	7.54	100	100	
Aroclor 1260 {2}	13.67 ^{0.00}	14.29 ^{0.00}	420805	228945	5.67	5.25	76	71	
Aroclor 1260 {3}	13.82 ^{-0.01}	14.38 ^{0.00}	0	145215	0.0000	6.03	11U	81	
Aroclor 1260 {4}	14.05 ^{0.00}	14.65 ^{0.00}	1077595	0	7.09	0.0000	95	11U	
Aroclor 1260 {5}	14.66 ^{0.00}	15.17 ^{0.00}	915671	737292	7.97	7.35	110	99	

The +/- after Retention Time symbolize the direction of the RT shift

Prep Amount: 2.039 g
Prep Final Vol: 8 ml
Solids: 29.2 %
Dilution: 1.0
Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F007.D
Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F007.D
Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F007.D
Inj Date : 26-DEC-2020 13:45
Sample Info: K2011446-002
Misc Info :
Cal Date : 28-DEC-2020 07:01
Operator : SM
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.608	7.938	8261870	4959587	3.77	4.04		100.00 (R)
Aroclor 1016	7.685	8.648	41541	45699	1.05	2.04	80.00- 120.00	100.00 (H)
	8.895	9.434	38209		1.07		68.05- 102.08	91.98 (H)
	9.348	10.558		278937		7.14	138.46- 207.69	610.38 (H)
	9.532	11.084	264281	364373	4.22	12.1	125.58- 188.37	636.19 (H)
	9.798	11.308		414600		15.0	98.50- 147.76	907.24 (H)
	Average of Peak Amounts =				2.11	9.07		
Aroclor 1221	7.238	8.288	1047648	265307	51.1	35.6	80.00- 120.00	100.00 (H)
	7.508	8.481	155907	103797	11.1	13.6	51.27- 76.90	14.88 (H)
	7.685	8.648	41541	45699	0.825	1.71	190.41- 285.62	3.97 (H)
	Average of Peak Amounts =				21.0	17.0		
Aroclor 1232	7.238	8.648		45699		1.72	80.00- 120.00	100.00 (H)
	7.685	9.361	41541		0.896		236.59- 354.88	3.97 (H)
	8.458	9.734	189822		4.60		198.03- 297.04	18.12 (H)
	9.348	10.458	737355	112702	15.0	5.40	237.24- 355.86	70.38 (H)
	9.532	10.511	264281	136604	10.1	5.74	133.07- 199.60	25.23 (H)
	Average of Peak Amounts =				7.65	4.29		
Aroclor 1242	7.685	8.648	41541	45699	1.35	2.59	80.00- 120.00	100.00 (H)
	8.895	9.361	38209		1.49		65.11- 97.66	91.98 (H)
	9.348	10.458	737355	112702	9.82	3.12	188.97- 283.46	1775.01 (H)
	9.532	10.511	264281	136604	5.97	3.39	105.86- 158.79	636.19 (H)
	9.918	10.774	551476		18.0		82.30- 123.45	1327.55 (H)
	Average of Peak Amounts =				7.33	3.03		
Aroclor 1248	9.348	10.458		112702		3.96	80.00- 120.00	100.00 (H)
	9.532	10.511	264281	136604	9.60	5.91	49.98- 74.97	35.84 (H)
	10.695	11.084	290693		5.40		96.54- 144.81	39.42 (H)
	10.995	11.581	253911	155174	6.30	6.41	72.00- 108.00	34.44 (H)
	11.438	12.094					109.93- 164.90	0.00 (H)

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
=====								
	Average of Peak Amounts =				7.10	5.43		
Aroclor 1254	11.438	11.971		909521		20.1	80.00- 120.00	100.00 (H)
	12.045	12.024	3058457	455791	24.3	18.7	244.22- 366.32	209.47 (H)
	12.288	12.341	1770875	1370323	29.2	26.3	115.71- 173.56	121.28 (H)
	12.382	12.431	1779942	783896	23.9	35.7	147.40- 221.10	121.91 (H)
	13.138	13.871	2838888	793862	31.2	21.0	167.70- 251.55	194.43 (H)
	Average of Peak Amounts =				27.2	24.4		
Aroclor 1260	12.832	13.064	441492	311720	9.65	11.6	80.00- 120.00	100.00 (H)
	13.672	14.288	420805	228945	5.67	5.25	121.48- 182.22	95.31 (H)
	13.815	14.381		145215		6.02	67.54- 101.31	46.59 (H)
	14.045	14.648	1077595		7.09		252.90- 379.35	244.08 (H)
	14.662	15.171	915671	737292	7.96	7.35	185.22- 277.83	207.40 (H)
	Average of Peak Amounts =				7.59	7.56		
Decachlorobiphenyl	16.432	17.578	4107642	3006789	3.76	4.21		100.00 (R)
Aroclors, Total	1.000	1.000	4510090	1964138	79.9	70.7		0.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
 H - Operator selected an alternate compound hit.

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226f007.D

Date : 26-DEC-2020 13:45

Client ID:

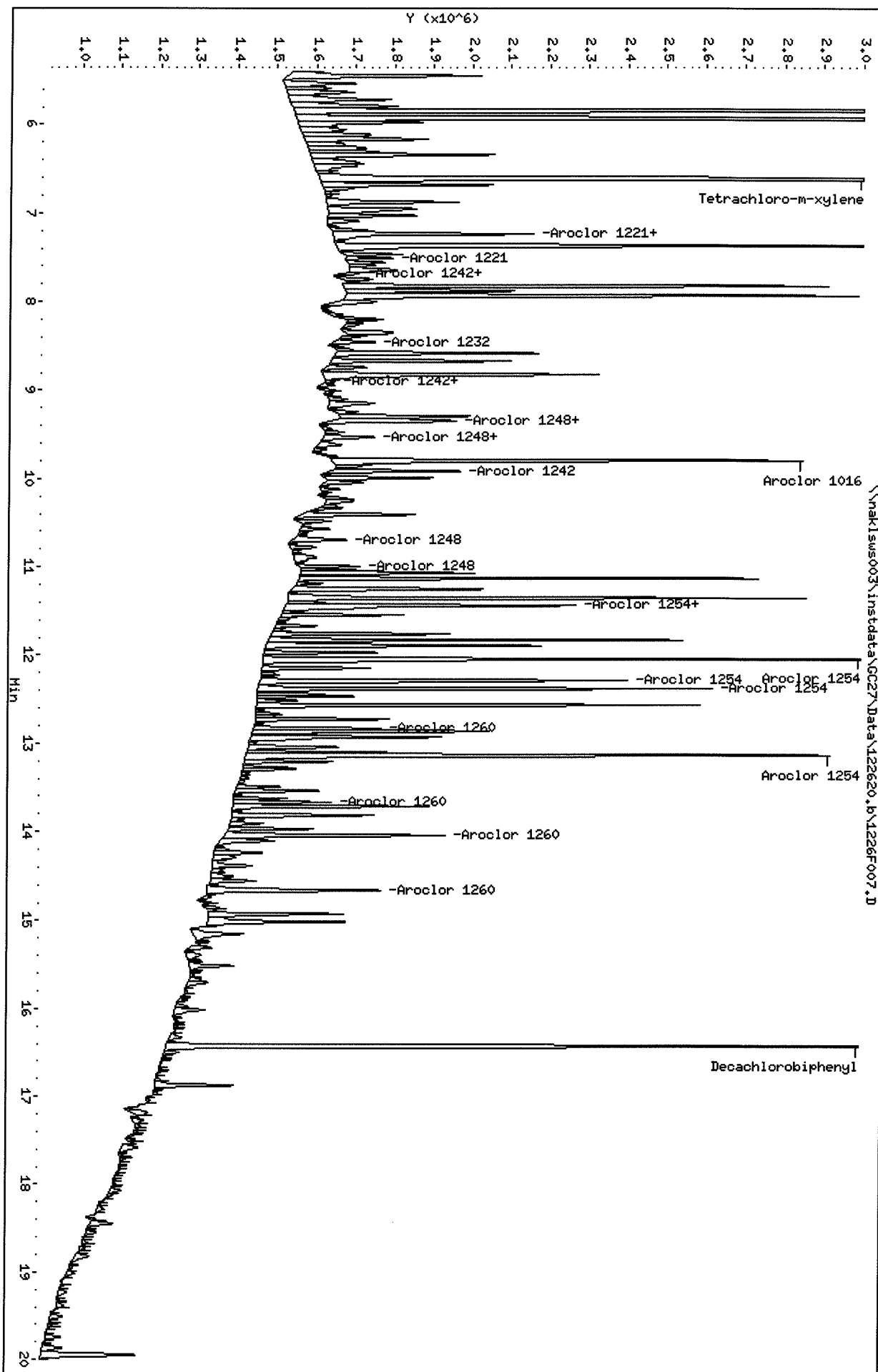
Sample Info: K2011446-002

Column phase: DB-35MS

Instrument: GC27.i

Operator: SH

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\122620_r.b\1226f007.D

Date : 26-DEC-2020 13:45

Client ID:

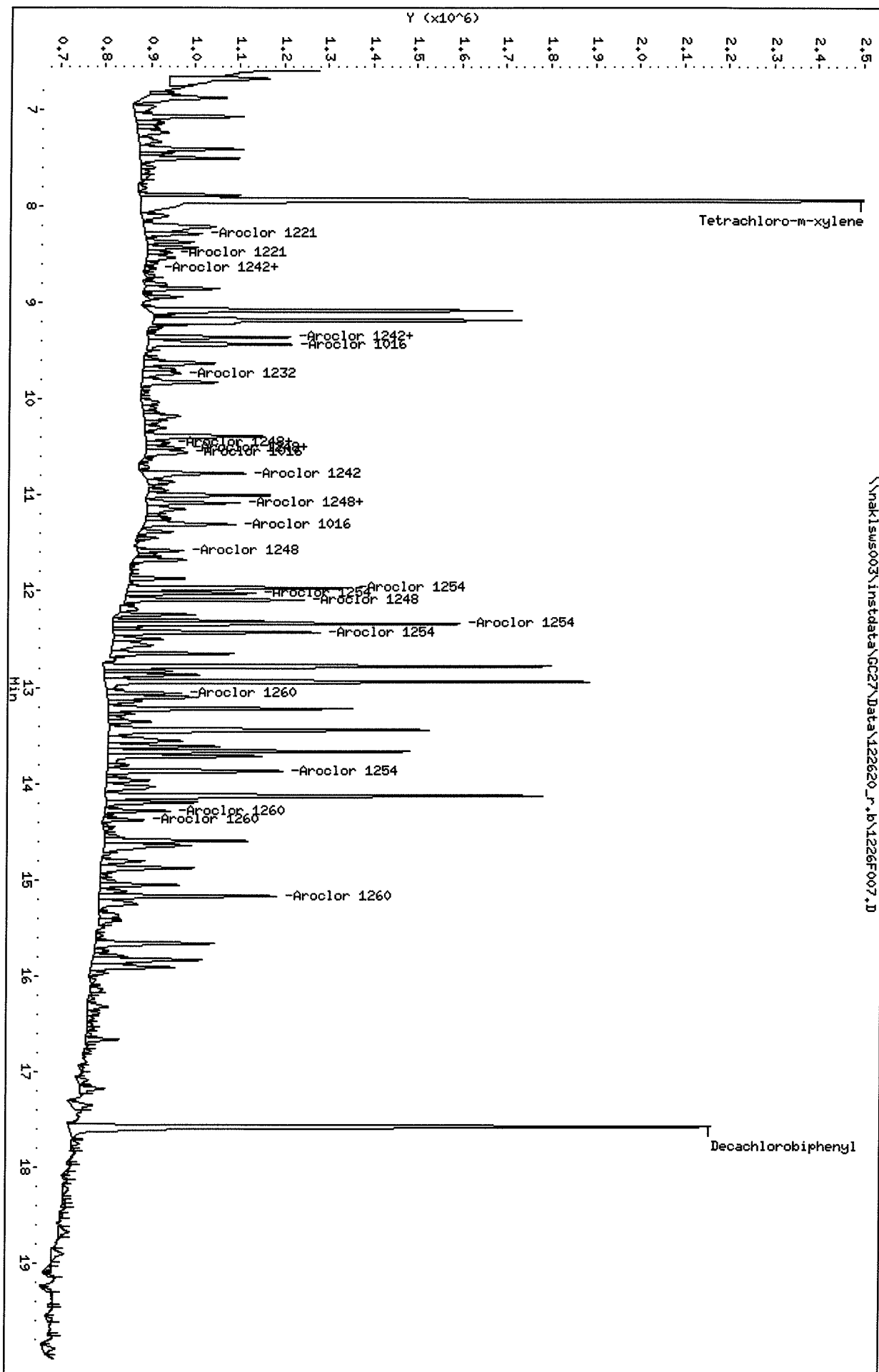
Sample Info: K2011446-002

Column phase: DB-XLB

Instrument: GC27.i

Operator: SM

Column diameter: 0.32



Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F008.D
Lab ID: K2011446-003
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 14:16
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F008.D
Lab ID: K2011446-003
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 14:16
Date Quantitated: 12/28/2020 09:10
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

12/28/20

Secondary Review:

12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F008.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F008.D	Vial:	7
Acqu Date:	12/26/2020 14:16	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-003	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:	IV	Matrix:	SOIL
Prod Code:	8082A PCB	Collect Date:	12/02/2020	Receive Date:	12/08/2020

Analysis Lot:	KWG2003438	Prep Lot:	KWG2003341	Report Group:	K2011446
Analysis Method:	8082A	Prep Method:	EPA 3541		
Prep Ref:	1762451	Prep Date:	12/10/2020		

Quant Method:	\\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:	Polychlorinated Biphenyls (PCBs)	Report List ID:	LJ20254
MB Ref:		Method ID:	MJ1824
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2		Rpt
Tetrachloro-m-xylene	6.61 ^{0.00}	7.94 ^{0.00}	7453305	4138487	3.40	3.37		68 OK
			%Recovery =		68 OK	67 OK	Limits = 50-150	
Decachlorobiphenyl	16.43 ^{0.00}	17.58 ^{0.00}	3771184	2721103	3.45	3.81		76 OK
			%Recovery =		69 OK	76 OK	Limits = 50-150	

Target Compounds

					Final Conc. Units:		ug/Kg Dry Weight		
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016 {1}	7.64 ^{-0.04}	8.65 ^{-0.01}	0	57079m	0.0000	2.55	9.0U	31	110 i mm
Aroclor 1016			0	0	12.95	9.18	150	110	
Aroclor 1016 {2}	8.90 ^{-0.02}	9.44 ^{+0.04}	313037	0m	8.76	0.0000	100	9.0U	
Aroclor 1016 {3}	9.35 ^{0.00}	10.57 ^{0.00}	1384113	205926m	13.25	5.27	160	63	360 i mm
Aroclor 1016 {4}	9.54 ^{+0.01}	11.09 ^{+0.00}	526401	594398m	8.41	19.73	100	240	
Aroclor 1016 {5}	9.80 ^{+0.01}	11.31 ^{0.00}	934116	0m	21.38	0.0000	260	9.0U	
Aroclor 1221 {1}	7.32	8.29	28342	479326	1.38	64.24	17J	770	RPD 360 i mm
Aroclor 1221			0	0	31.66	29.70	380	360	
Aroclor 1221 {2}	7.51	8.48	602180	173334	42.69	22.71	510	270	
Aroclor 1221 {3}	7.64	8.65	2561910	57079	50.90	2.14	610	26J	RPD
Aroclor 1232 {1}	7.32	8.65	0	57079	0.0000	2.15	9.0U	26J	
Aroclor 1232			0	0	20.55	6.32	250	76	
Aroclor 1232 {2}	7.64	9.36	0	0	0.0000	0.0000	9.0U	9.0U	RPD
Aroclor 1232 {3}	8.46	9.74	556085	0	13.47	0.0000	160	9.0U	
Aroclor 1232 {4}	9.35	10.46	1384113	185416	28.09	8.88	340	110	
Aroclor 1232 {5}	9.54	10.51	526401	189051	20.11	7.94	240	95	76Ui
Aroclor 1242 {1}	7.64	8.65	0	57079	0.0000	3.24	9.0U	39	
Aroclor 1242			0	0	17.55	4.36	210	52	

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:\GC27\DATA\122620.B\1226F008.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F008.D	Vial:	7
Acqu Date:	12/26/2020 14:16	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-003	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}	8.90	9.36	313037	0	12.25	0.0000	150	9.0U	
Aroclor 1242 {3}	9.35	10.46	1384113	185416	18.43	5.14	220	61	RPD
Aroclor 1242 {4}	9.54	10.51	526401	189051	11.89	4.70	140	56	
Aroclor 1242 {5}	9.92	10.80	848347	0	27.64	0.0000	330	9.0U	
Aroclor 1248 {1}	9.35	10.46	0	185416	0.0000	6.51	9.0U	78	
Aroclor 1248			0	0	10.83	7.68	130	92	(92) iNM
Aroclor 1248 {2}	9.54	10.51	526401	189051	19.12	8.18	230	98	
Aroclor 1248 {3}	10.70	11.09	339657	0	6.31	0.0000	75	9.0U	
Aroclor 1248 {4}	11.00	11.58	284986	202191	7.08	8.36	85	100	
Aroclor 1248 {5}	11.44	12.10	0	0	0.0000	0.0000	9.0U	9.0U	
Aroclor 1254 {1}	11.44	11.97	0	800717	0.0000	17.66	9.0U	210	
Aroclor 1254			0	0	21.64	20.86	260	250	250 ✓
Aroclor 1254 {2}	12.05	12.03	2664862	467144	21.18	19.20	250	230	
Aroclor 1254 {3}	12.29	12.35	1417871	1149417	23.37	22.10	280	260	
Aroclor 1254 {4}	12.38	12.44	1404728	626532	18.86	28.55	230	340	
Aroclor 1254 {5}	13.14	13.87	2105990	635173	23.16	16.80	280	200	
Aroclor 1260 {1}	12.83 ^{0.00}	13.07	358588	207174m	7.84	7.68	94	92	
Aroclor 1260			0	0	5.96	5.94	71	71	71 ✓
Aroclor 1260 {2}	13.67 ^{0.00}	14.29 ^{0.00}	312755	174075m	4.22	3.99	50	48	
Aroclor 1260 {3}	13.82 ^{-0.01}	14.38	0	117599m	0.0000	4.88	9.0U	58	
Aroclor 1260 {4}	14.05 ^{0.00}	14.65 ^{0.00}	858643	344381m	5.65	7.53	68	90	
Aroclor 1260 {5}	14.66 ^{0.00}	15.18	705353	563326m	6.14	5.61	73	67	

The +/- after Retention Time symbolize the direction of the RT shift

Prep Amount: 2.090 g
Prep Final Vol: 8 ml
Solids: 32 %
Dilution: 1.0
Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F008.D
Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F008.D
Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F008.D
Inj Date : 26-DEC-2020 14:16
Sample Info: K2011446-003
Misc Info :
Cal Date : 28-DEC-2020 07:01
Operator : SM
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.609	7.938	7453305	4138487	3.40	3.37		100.00 (R)
Aroclor 1016	7.642	8.648		57079		2.55	80.00- 120.00	100.00 (H)
	8.896	9.435	313037		8.76		68.05- 102.08	12.22 (H)
	9.349	10.568	1384113	205926	13.2	5.27	361.26- 541.89	54.03 (H)
	9.539	11.085	526401	594398	8.41	19.7	125.58- 188.37	20.55 (H)
	9.802	11.308	934116		21.4		81.63- 122.44	36.46 (H)
	Average of Peak Amounts =				12.9	9.17		
Aroclor 1221	7.322	8.288	28342	479326	1.38	64.2	80.00- 120.00	100.00 (H)
	7.509	8.478	602180	173334	42.7	22.7	51.27- 76.90	2124.69 (H)
	7.642	8.648	2561910	57079	50.9	2.14	190.41- 285.62	9039.27 (H)
	Average of Peak Amounts =				31.7	29.7		
Aroclor 1232	7.322	8.648		57079		2.15	80.00- 120.00	100.00 (H)
	7.642	9.362					44.68- 67.02	0.00 (H)
	8.459	9.735	556085		13.5		198.03- 297.04	1962.05 (H)
	9.349	10.458	1384113	185416	28.1	8.88	237.24- 355.86	4883.61 (H)
	9.539	10.512	526401	189051	20.1	7.94	133.07- 199.60	1857.32 (H)
	Average of Peak Amounts =				20.6	6.32		
Aroclor 1242	7.642	8.648		57079		3.24	80.00- 120.00	100.00 (H)
	8.896	9.362	313037		12.2		65.11- 97.66	12.22 (H)
	9.349	10.458	1384113	185416	18.4	5.14	188.97- 283.46	54.03 (H)
	9.539	10.512	526401	189051	11.9	4.70	105.86- 158.79	20.55 (H)
	9.919	10.795	848347		27.6		82.30- 123.45	33.11 (H)
	Average of Peak Amounts =				17.5	4.36		
Aroclor 1248	9.349	10.458		185416		6.51	80.00- 120.00	100.00 (H)
	9.539	10.512	526401	189051	19.1	8.18	49.98- 74.97	38.03 (H)
	10.699	11.085	339657		6.31		96.54- 144.81	24.54 (H)
	10.996	11.582	284986	202191	7.08	8.36	72.00- 108.00	20.59 (H)
	11.439	12.095					109.93- 164.90	0.00 (H)

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
=====								
	Average of Peak Amounts =				10.8	7.68		
Aroclor 1254	11.439	11.972		800717		17.7	80.00- 120.00	100.00 (H)
	12.049	12.025	2664862	467144	21.2	19.2	244.22- 366.32	187.01 (H)
	12.289	12.345	1417871	1149417	23.4	22.1	115.71- 173.56	99.50 (H)
	12.382	12.435	1404728	626532	18.9	28.6	147.40- 221.10	98.58 (H)
	13.139	13.872	2105990	635173	23.2	16.8	167.70- 251.55	147.79 (H)
	Average of Peak Amounts =				21.7	20.9		
Aroclor 1260	12.832	13.065	358588	207174	7.84	7.68	80.00- 120.00	100.00 (H)
	13.672	14.288	312755	174075	4.22	3.99	121.48- 182.22	87.22 (H)
	13.816	14.382		117599		4.88	67.54- 101.31	56.76 (H)
	14.046	14.648	858643	344381	5.65	7.53	252.90- 379.35	239.45 (H)
	14.662	15.175	705353	563326	6.14	5.61	185.22- 277.83	196.70 (H)
	Average of Peak Amounts =				5.96	5.94		
Decachlorobiphenyl	16.432	17.578	3771184	2721103	3.45	3.81		100.00 (R)
Aroclors, Total	1.000	1.000	6284613	2019405	121	84.0		0.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
 H - Operator selected an alternate compound hit.

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F008.D

Date : 26-DEC-2020 14:16

Client ID:

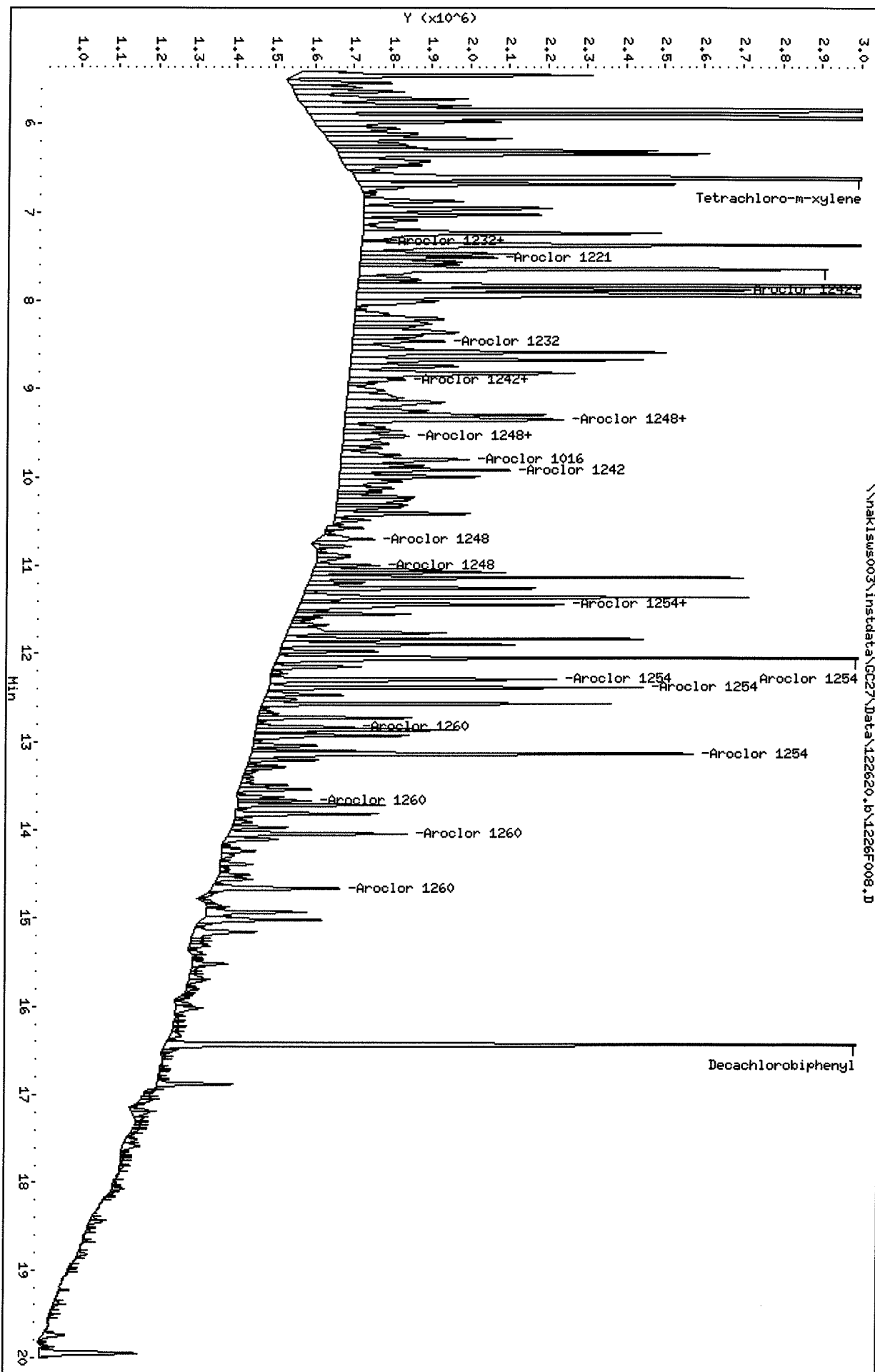
Sample Info: K201446-003

Column phase: DB-35MS

Instrument: GC27.i

Operator: SM

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\122620_r.b\1226F008.D

Date : 26-DEC-2020 14:16

Client ID:

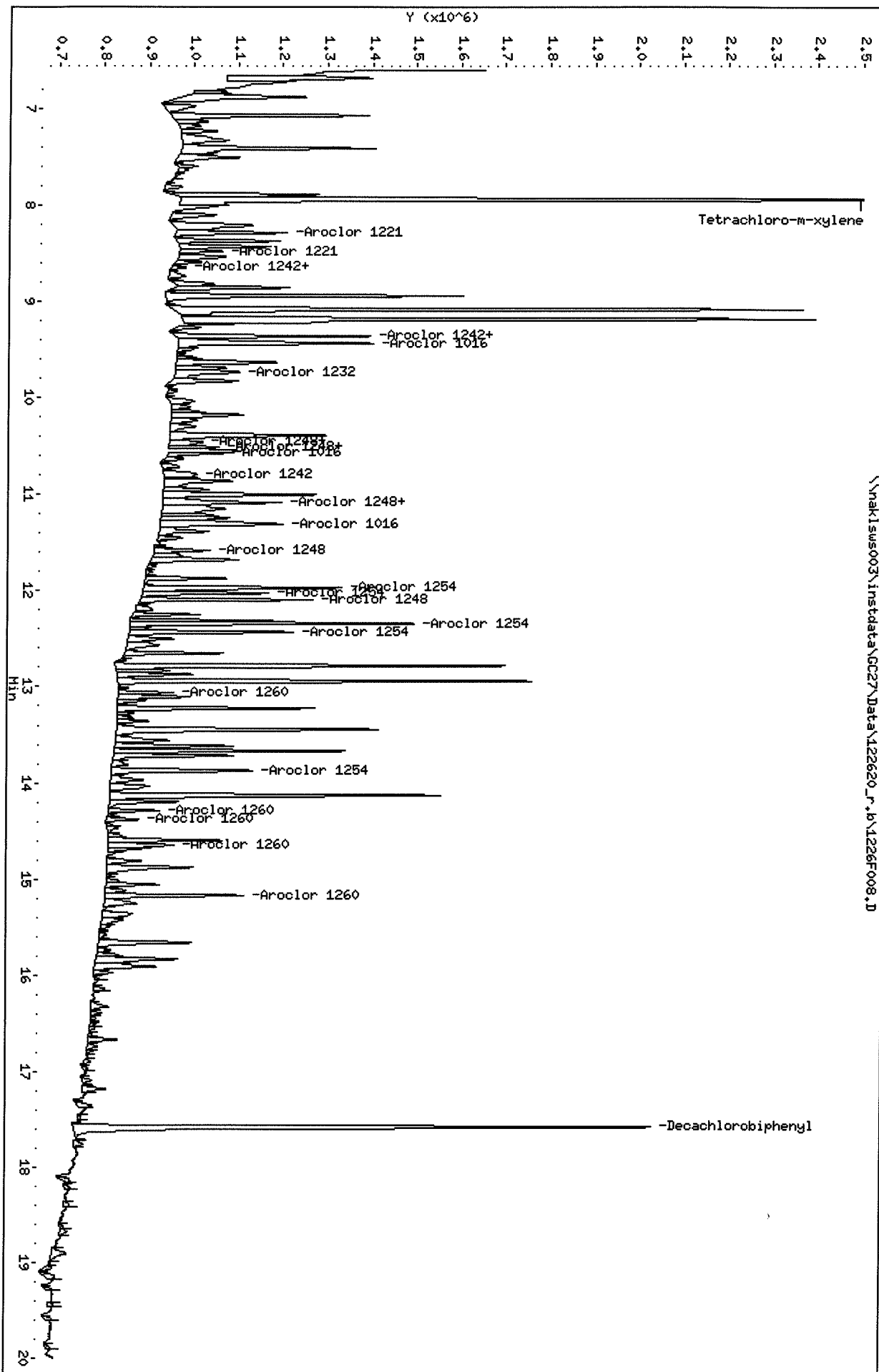
Sample Info: K201446-003

Column phase: DB-XLB

Instrument: GC27.i

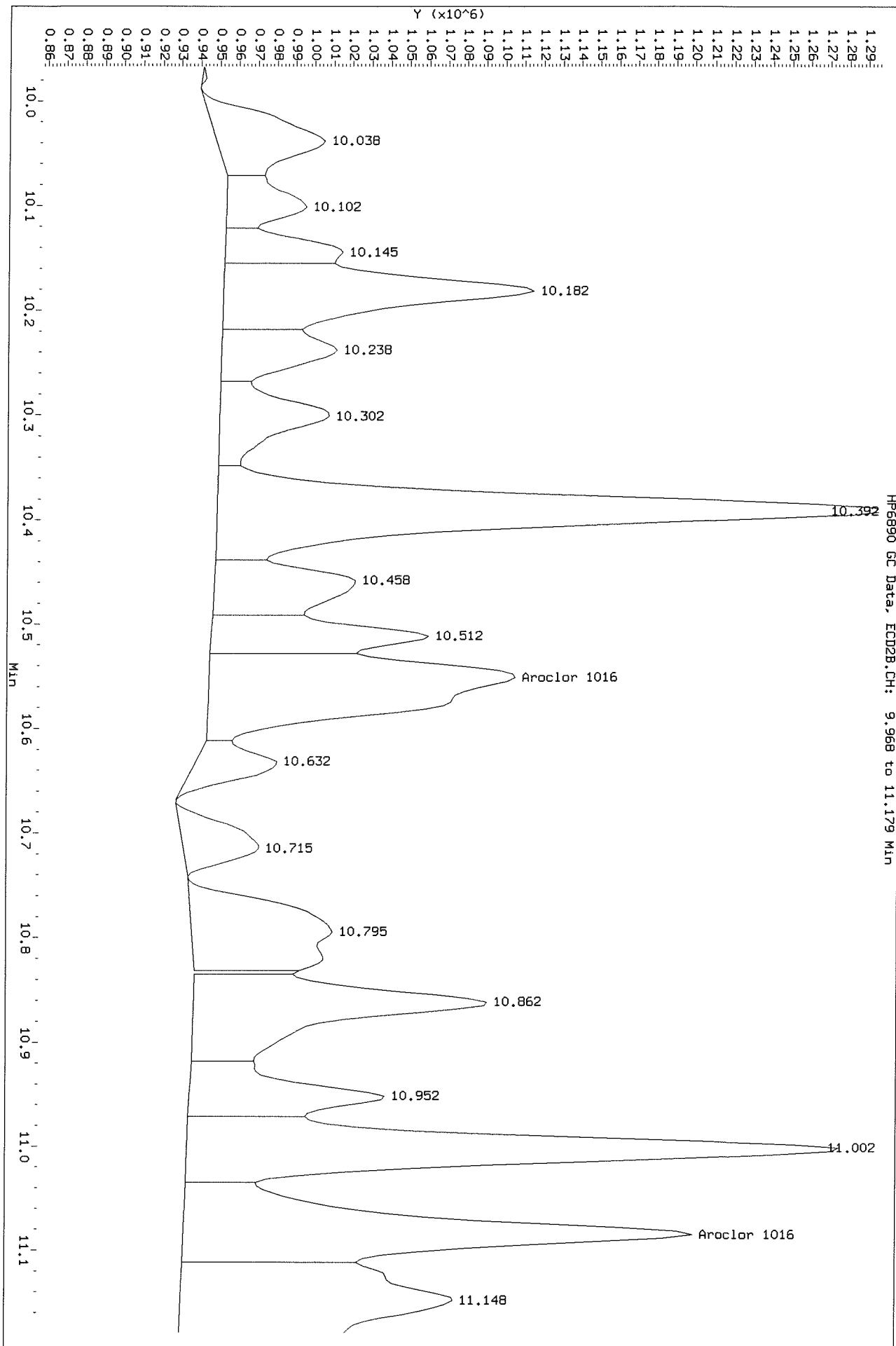
Operator: SM

Column diameter: 0.32

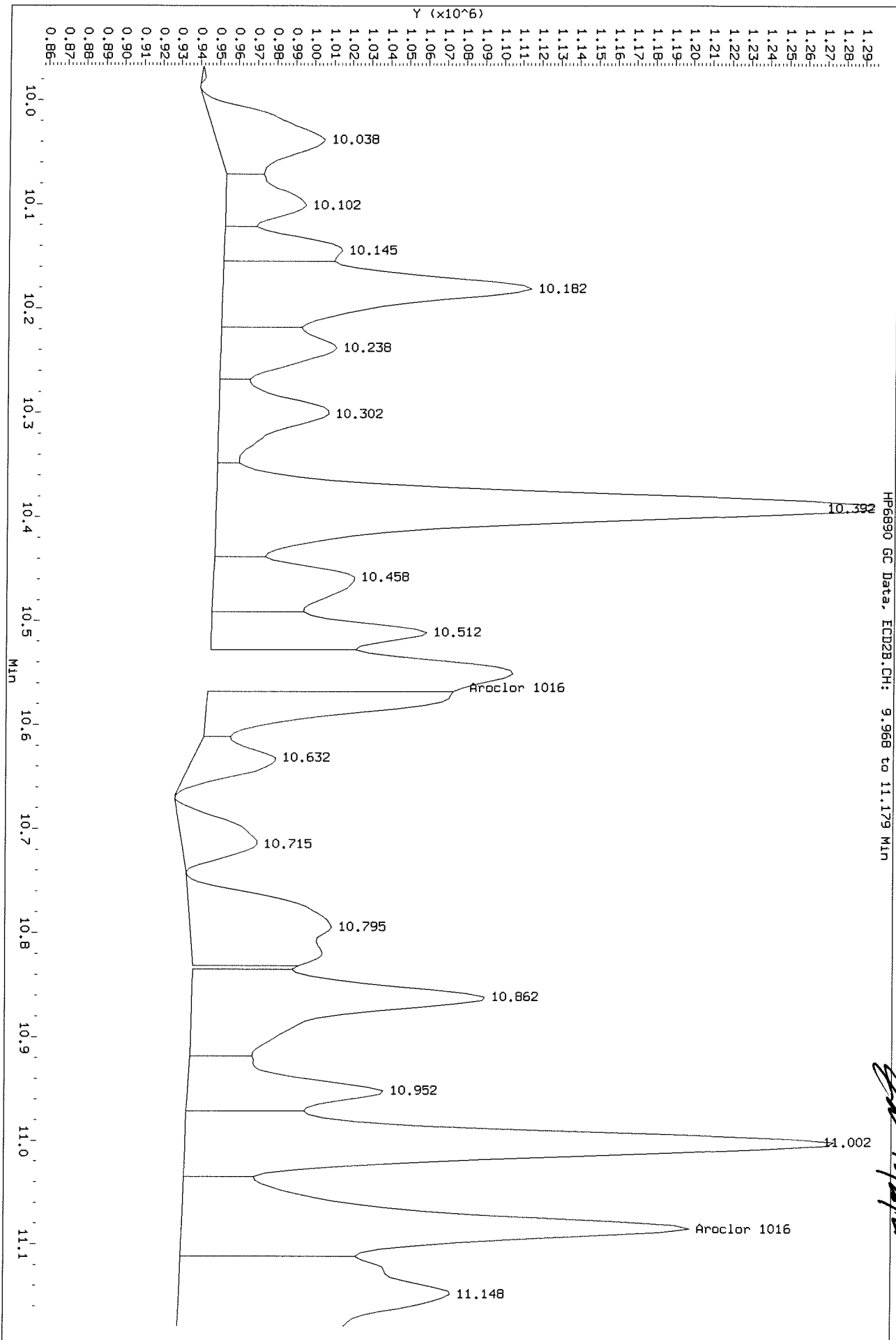


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Injection Date: 26-DEC-2020 14:16
Instrument: GC27.1
Client Sample ID:

Before



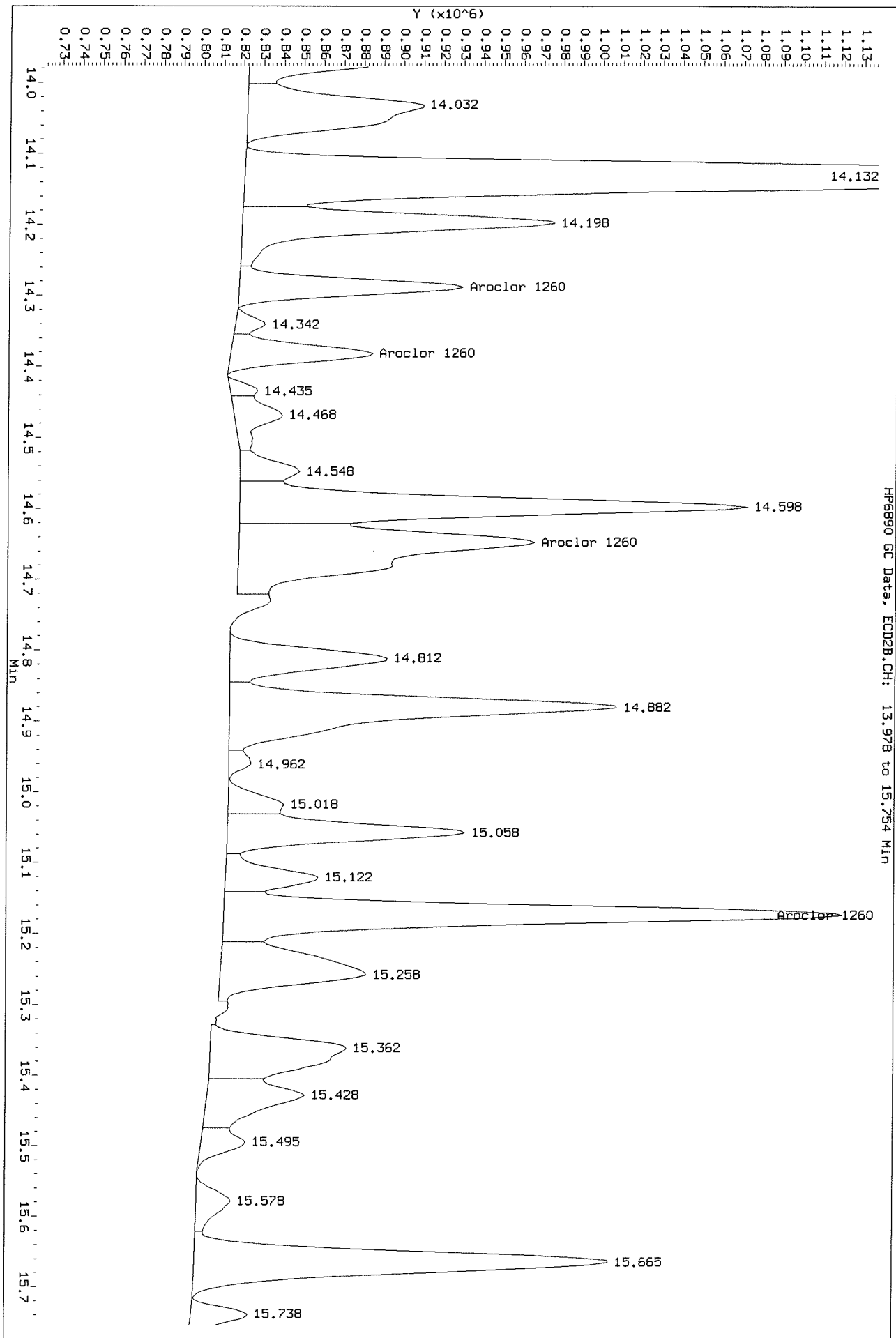
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 Injection Date: 26-DEC-2020 14:16
 Instrument: GC27.1
 Client Sample ID:



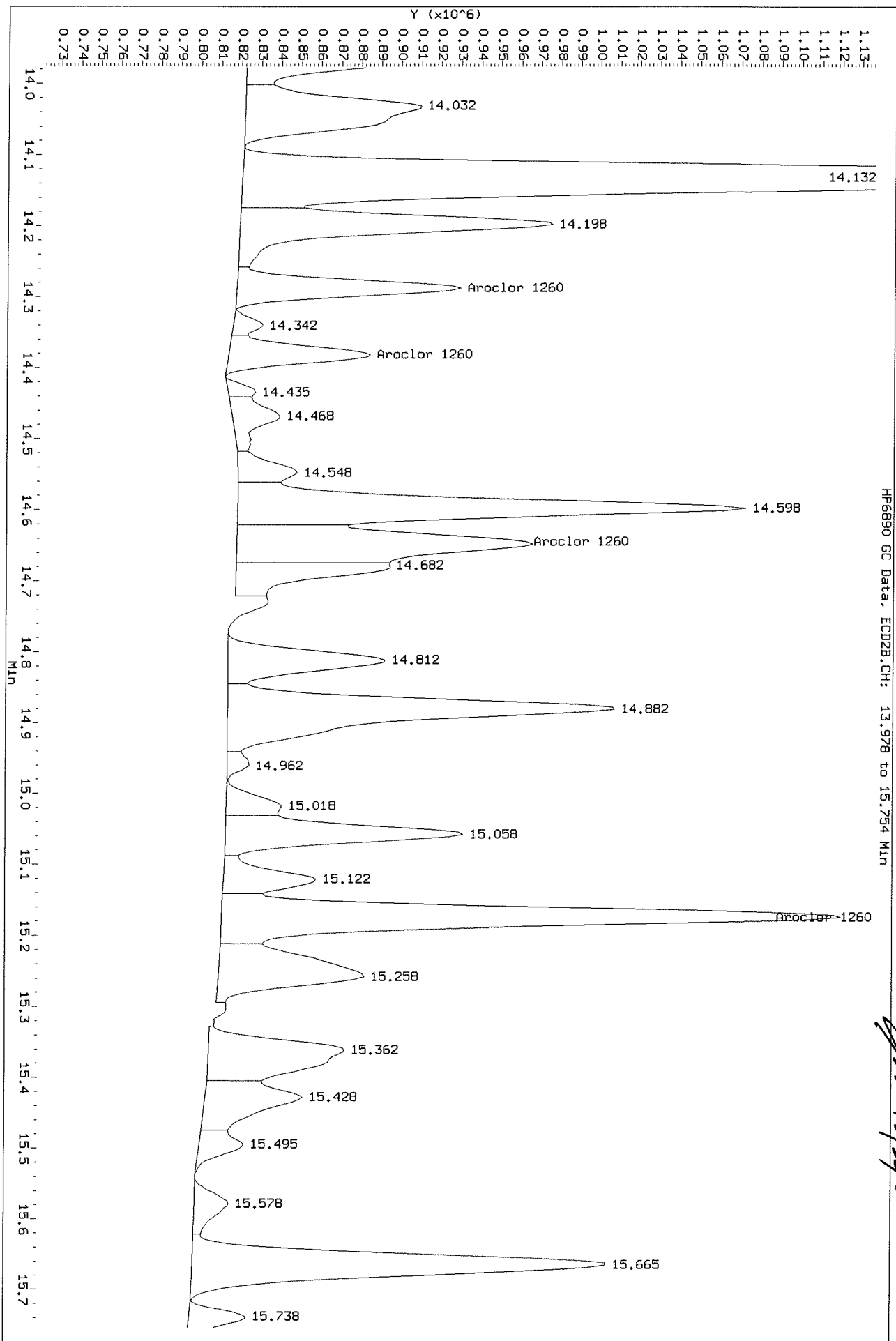
After every peak 12/28/2020
See 12/28/20

Data File: \\makls003\instdata\GC27\Data\122620.r.b\1226F008.D
Injection Date: 26-DEC-2020 14:16
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakslws003\instdata\GC27\Data\122620.r.b\1226F008.D
Injection Date: 26-DEC-2020 14:16
Instrument: GC27.1
Client Sample ID:



After shoulder 12/28/20
for 12/29/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F009.D
Lab ID: K2011446-004
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 14:48
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F009.D
Lab ID: K2011446-004
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 14:48
Date Quantitated: 12/28/2020 09:10
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

12/28/20

Secondary Review:

12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F009.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F009.D	Vial:	8
Acqu Date:	12/26/2020 14:48	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-004	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:	IV	Matrix:	SOIL
Prod Code:	8082A PCB	Collect Date:	12/03/2020	Receive Date:	12/08/2020

Analysis Lot:	KWG2003438	Prep Lot:	KWG2003341	Report Group:	K2011446
Analysis Method:	8082A	Prep Method:	EPA 3541		
Prep Ref:	1762452	Prep Date:	12/10/2020		

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:	Polychlorinated Biphenyls (PCBs)	Report List ID:	LJ20254
MB Ref:		Method ID:	MJ1824
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2		Rpt
Tetrachloro-m-xylene	6.61 ^{0.00}	7.94 ^{0.00}	8730831	4686155	3.98	3.81		80 OK
			%Recovery =		80 OK	76 OK	Limits = 50-150	
Decachlorobiphenyl	16.43 ^{-0.01}	17.58 ^{0.00}	4043537	2691344	3.70	3.77		75 OK
			%Recovery =		74 OK	75 OK	Limits = 50-150	

Target Compounds

					Final Conc. Units:		ug/Kg Dry Weight		
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016 {1}	7.64 ^{-0.04}	8.65 ^{-0.01}	0	54976	0.0000	2.46	6.2U	20J	42' <i>MM</i>
Aroclor 1016			0	0	5.05	6.35	42	52	
Aroclor 1016 {2}	8.89 ^{-0.02}	9.36 ^{-0.03}	134129	0	3.75	0.0000	31	6.2U	
Aroclor 1016 {3}	9.34 ^{-0.01}	10.55 ^{-0.02}	903700	367858	8.65	9.42	71	78	290' <i>MM</i>
Aroclor 1016 {4}	9.55 ^{+0.02}	11.08 ^{-0.01}	172890	216642	2.76	7.19	23	59	
Aroclor 1016 {5}	9.80 ^{+0.01}	11.29 ^{-0.02}	0	0	0.0000	0.0000	6.2U	6.2U	
Aroclor 1221 {1}	7.24	8.29	2468810	507916	120.31	68.07	990	560	82' <i>MM</i>
Aroclor 1221			0	0	59.34	34.60	490	290	
Aroclor 1221 {2}	7.51	8.48	511232	256961	36.24	33.67	300	280	
Aroclor 1221 {3}	7.64	8.65	1080401	54976	21.46	2.06	180	17J	RPD
Aroclor 1232 {1}	7.24	8.65	0	54976	0.0000	2.07	6.2U	17J	
Aroclor 1232			0	0	9.89	27.21	82	220	
Aroclor 1232 {2}	7.64	9.36	0	732959	0.0000	51.34	6.2U	420	RPD
Aroclor 1232 {3}	8.45	9.74	195060	514227	4.72	50.78	39	420	
Aroclor 1232 {4}	9.34	10.48	903700	96949	18.34	4.64	150	38	
Aroclor 1232 {5}	9.55		172890	0	6.60	0.0000	54	6.2U	32' <i>MM</i>
Aroclor 1242 {1}	7.64	8.65	0	54976	0.0000	3.12	6.2U	26	
Aroclor 1242			0	0	5.44	3.83	45	32	

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:\GC27\DATA\122620.B\1226F009.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F009.D	Vial:	8
Acqu Date:	12/26/2020 14:48	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-004	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}	8.89	9.36	134129	0	5.25	0.0000	43	6.2U	
Aroclor 1242 {3}	9.34	10.48	0	96949	0.0000	2.69	6.2U	22	
Aroclor 1242 {4}	9.55		172890	0	3.91	0.0000	32	6.2U	
Aroclor 1242 {5}	9.91	10.78	219848	131471	7.16	5.69	59	47	
Aroclor 1248 {1}	9.34	10.48	0	96949	0.0000	3.40	6.2U	28	
Aroclor 1248			0	0	2.27	4.46	19J	37	(19J) NPM
Aroclor 1248 {2}	9.55		172890	0	6.28	0.0000	52	6.2U	
Aroclor 1248 {3}	10.70	11.08	27193	216642	0.5050	6.79	6.2U	56	
Aroclor 1248 {4}	10.97	11.59	28361	24696	0.7040	1.02	6.2U	8.4J	
Aroclor 1248 {5}	11.47	12.09	57097	276903	1.59	6.61	13J	54	RPD
Aroclor 1254 {1}	11.44	11.97	145218m	147792m	3.55	3.26	29	27	
Aroclor 1254			0	0	4.04	5.04	33	42	33 ✓
Aroclor 1254 {2}	12.05	12.03	448329m	142037m	3.56	5.84	29	48	
Aroclor 1254 {3}	12.29	12.34	259559m	227391m	4.28	4.37	35	36	
Aroclor 1254 {4}	12.38	12.43	254052m	152844m	3.41	6.97	28	57	
Aroclor 1254 {5}	13.14	13.87	490004m	179281m	5.39	4.74	44	39	
Aroclor 1260 {1}	12.86 ^{+0.02}	13.07 ^{+0.00}	0	47374	0.0000	1.76	6.2U	14J	
Aroclor 1260			0	0	1.57	1.26	13J	10J	10J ✓
Aroclor 1260 {2}	13.67 ^{-0.01}	14.29 ^{+0.00}	85573	32362	1.15	0.7420	9.5J	6.2U	
Aroclor 1260 {3}	13.81 ^{-0.01}	14.38 ^{0.00}	0	25810	0.0000	1.07	6.2U	8.8J	
Aroclor 1260 {4}	14.04 ^{-0.01}	14.64 ^{-0.01}	207650	0	1.37	0.0000	11J	6.2U	
Aroclor 1260 {5}	14.66 ^{+0.00}	15.17 ^{0.00}	251126	148854	2.18	1.48	18J	12J	

The +/- after Retention Time symbolize the direction of the RT shift

Prep Amount: 2.046 g Dilution: 1.0
Prep Final Vol: 8 ml Unit Factor: 1
Solids: 47.4 %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F009.D
Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F009.D
Inj Date : 26-DEC-2020 14:48
Sample Info: K2011446-004
Misc Info :
Cal Date : 28-DEC-2020 07:01
Operator : SM
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.611	7.937	8730831	4686155	3.98	3.81		100.00 (R)
Aroclor 1016	7.641	8.647		54976		2.46	80.00- 120.00	100.00 (H)
	8.894	9.364	134129		3.75		68.05- 102.08	12.41 (H)
	9.344	10.550	903700	367858	8.65	9.41	361.26- 541.89	83.64 (H)
	9.551	11.077	172890	216642	2.76	7.19	125.58- 188.37	16.00 (H)
	9.801	11.290					98.50- 147.76	0.00 (H)
	Average of Peak Amounts =				5.05	6.35		
Aroclor 1221	7.238	8.287	2468810	507916	120	68.1	80.00- 120.00	100.00 (H)
	7.508	8.477	511232	256961	36.2	33.7	51.27- 76.90	20.71 (H)
	7.641	8.647	1080401	54976	21.5	2.06	190.41- 285.62	43.76 (H)
	Average of Peak Amounts =				59.2	34.6		
Aroclor 1232	7.238	8.647		54976		2.07	80.00- 120.00	100.00 (H)
	7.641	9.364		732959		51.3	44.68- 67.02	1333.23 (H)
	8.454	9.737	195060	514227	4.72	50.8	198.03- 297.04	7.90 (H)
	9.344	10.480	903700	96949	18.3	4.64	237.24- 355.86	36.60 (H)
	9.551	0.000	172890		6.60		133.07- 199.60	7.00 (H)
	Average of Peak Amounts =				9.87	27.2		
Aroclor 1242	7.641	8.647		54976		3.12	80.00- 120.00	100.00 (H)
	8.894	9.364	134129		5.25		65.11- 97.66	12.41 (H)
	9.344	10.480		96949		2.69	153.54- 230.31	176.35 (H)
	9.551	0.000	172890		3.91		105.86- 158.79	16.00 (H)
	9.914	10.777	219848	131471	7.16	5.69	82.30- 123.45	20.35 (H)
	Average of Peak Amounts =				5.44	3.83		
Aroclor 1248	9.344	10.480		96949		3.40	80.00- 120.00	100.00 (H)
	9.551	0.000	172890		6.28		49.98- 74.97	19.13 (H)
	10.704	11.077	27193	216642	0.505	6.79	96.54- 144.81	3.01 (H)
	10.974	11.587	28361	24696	0.704	1.02	72.00- 108.00	3.14 (H)
	11.474	12.094	57097	276903	1.59	6.61	65.22- 97.84	6.32 (H)

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
=====								
	Average of Peak Amounts =				2.27	4.46		
Aroclor 1254	11.438	11.970	145218	147792	3.55	3.26	80.00- 120.00	100.00 (MH)
	12.048	12.027	448329	142037	3.56	5.84	244.22- 366.32	362.31 (MH)
	12.291	12.344	259559	227391	4.28	4.37	115.71- 173.56	178.74 (MH)
	12.384	12.434	254052	152844	3.41	6.97	147.40- 221.10	174.95 (MH)
	13.138	13.874	490004	179281	5.39	4.74	167.70- 251.55	337.43 (MH)
	Average of Peak Amounts =				4.04	5.04		
Aroclor 1260	12.858	13.067		47374		1.76	80.00- 120.00	100.00 (H)
	13.668	14.290	85573	32362	1.15	0.742	121.48- 182.22	27.65 (H)
	13.814	14.380		25810		1.07	67.54- 101.31	54.48 (H)
	14.041	14.637	207650		1.37		252.90- 379.35	67.10 (H)
	14.664	15.174	251126	148854	2.18	1.48	185.22- 277.83	81.15 (H)
	Average of Peak Amounts =				1.57	1.26		
Decachlorobiphenyl	16.431	17.577	4043537	2691344	3.70	3.76		100.00 (R)
Aroclors, Total	1.000	1.000	2928827	1317952	87.6	82.7		0.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
 M - Compound response manually integrated.
 H - Operator selected an alternate compound hit.

Data File: \\nak1s003\instdata\GC27\Data\122620.b\1226F009.D
Date : 26-DEC-2020 14:48

Client ID:

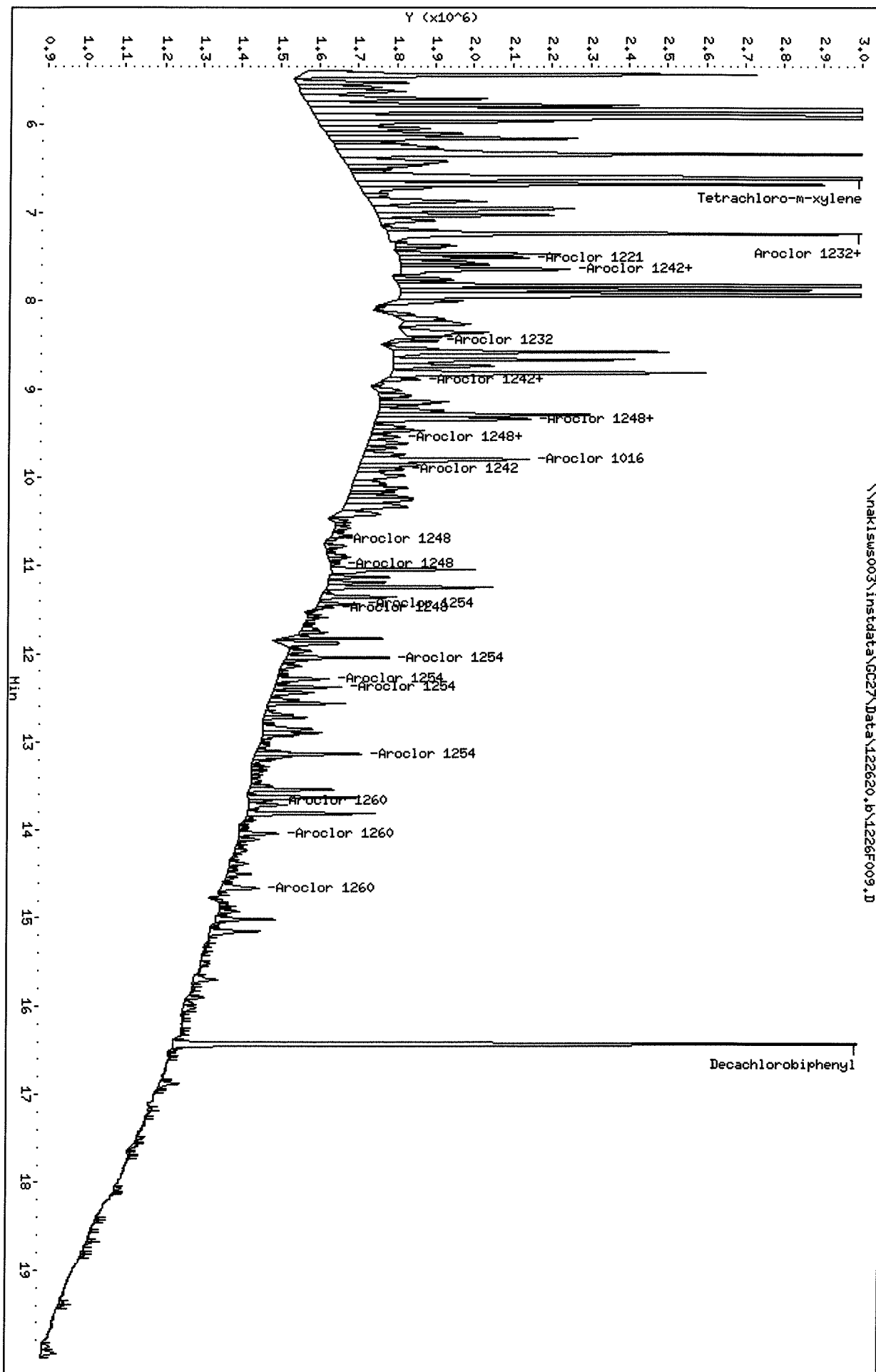
Sample Info: K201446-004

Column phase: DB-35MS

Instrument: GC27.i

Operator: SM

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F009.D

Date : 26-DEC-2020 14:48

Client ID:

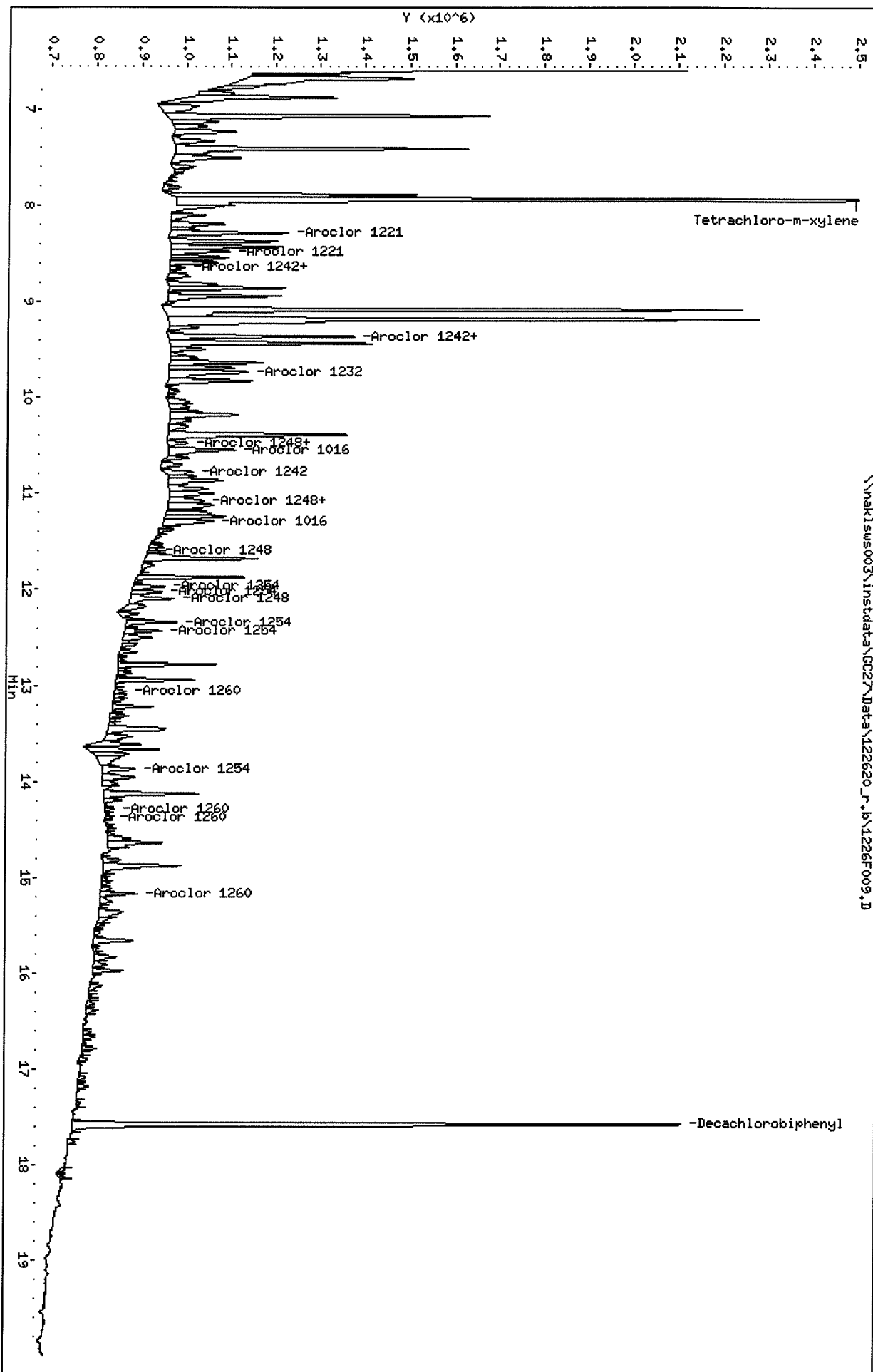
Sample Info: K201446-004

Column Phase: DB-XLB

Instrument: GC27.i

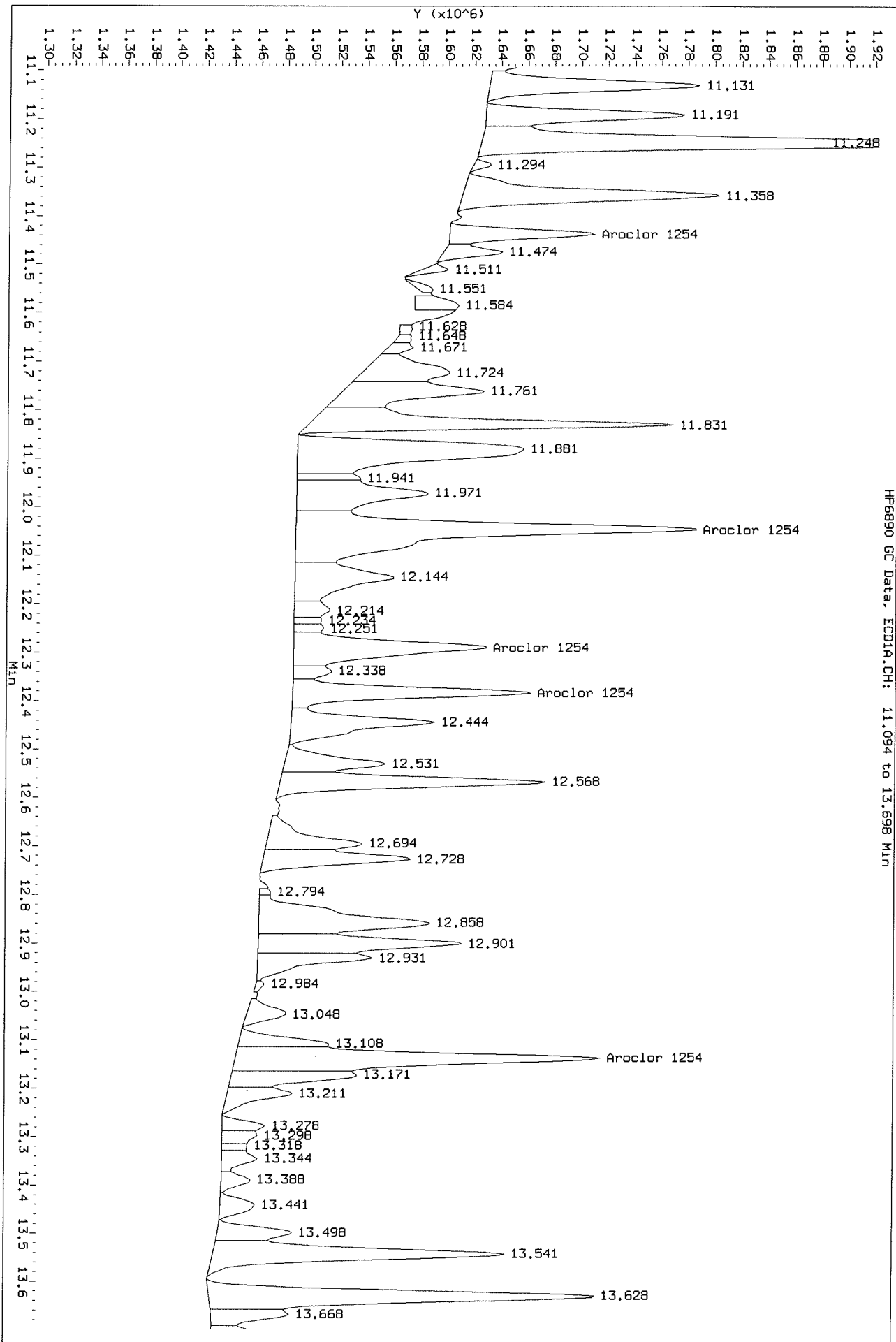
Operator: SH

Column diameter: 0.32



Data File: \\nak1swe003\inetdata\GC27\Data\122620.b\1226F009.D
Injection Date: 26-DEC-2020 14:48
Instrument: GC27.1
Client Sample ID:

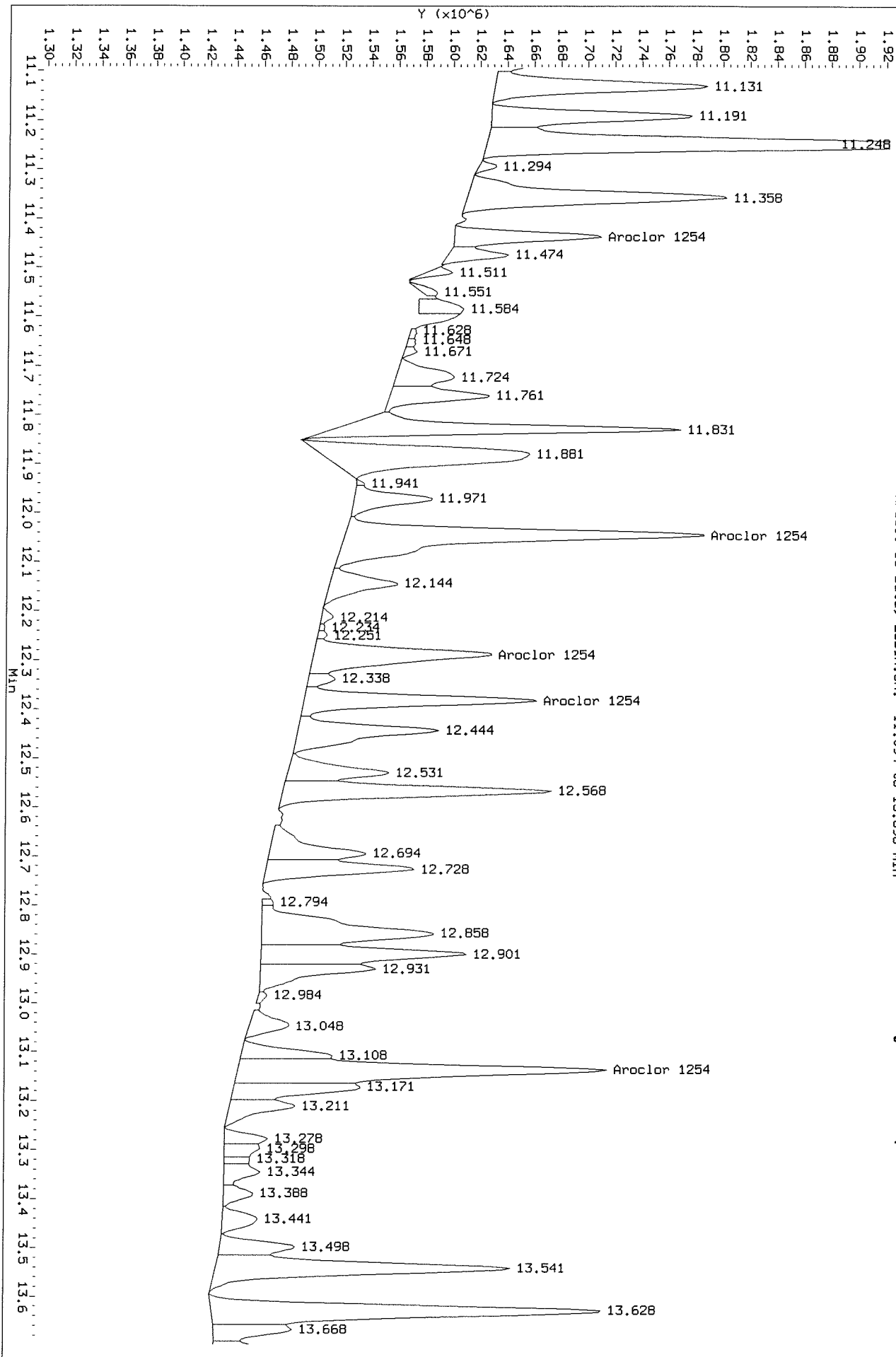
Before



Data File: \\naklsms003\instdata\GC27\Data\122620.b\1226F009.D
Injection Date: 26-DEC-2020 14:48
Instrument: GC27.1
Client Sample ID:

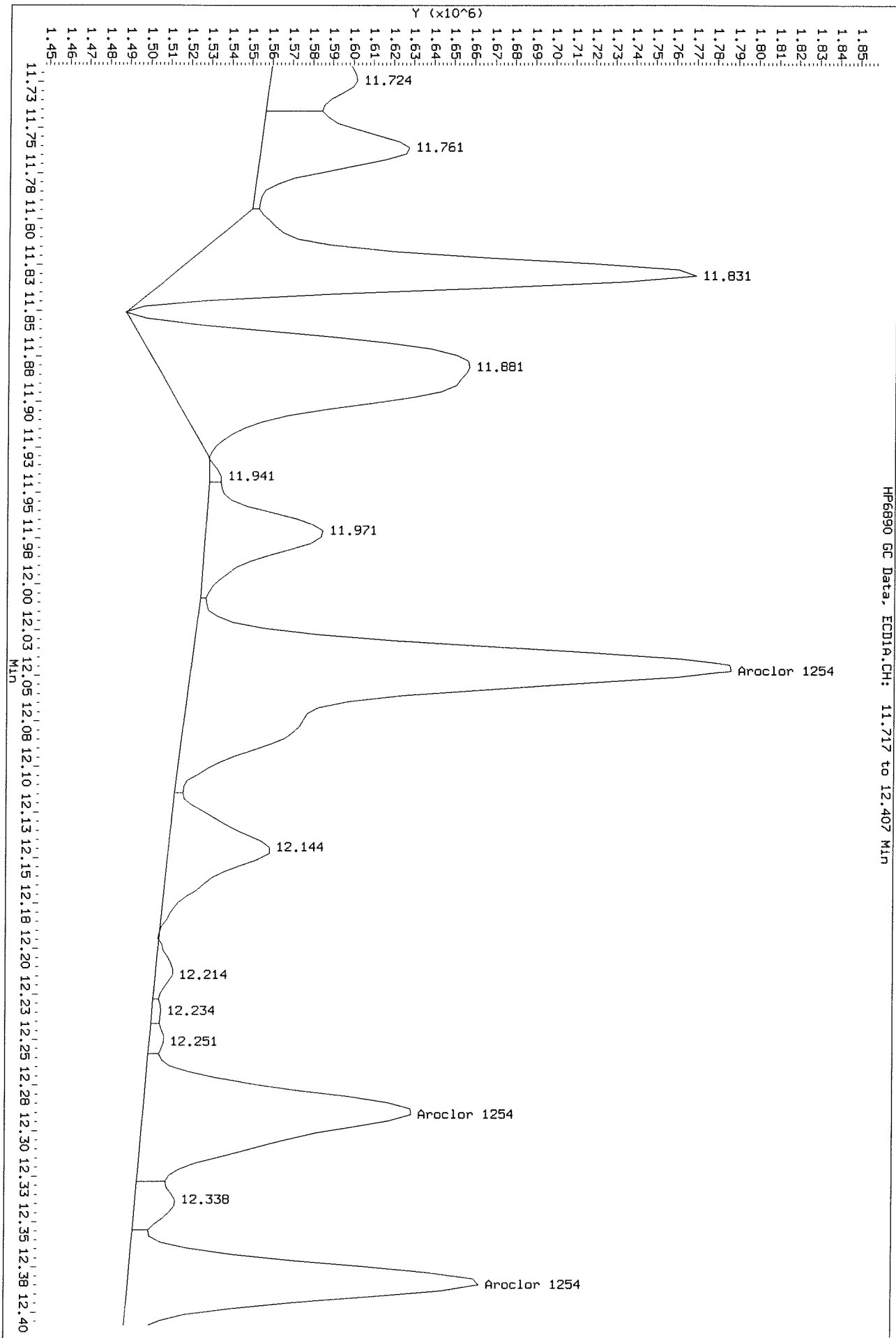
HP6890 GC Data, ECD1A.CH: 11.094 to 13.698 Min

After baseline 12/28/20
12/28/20



Data File: \\nakls003\instdata\GC27\Data\122620.b\1226F009.D
Injection Date: 26-DEC-2020 14:48
Instrument: GC27.1
Client Sample ID:

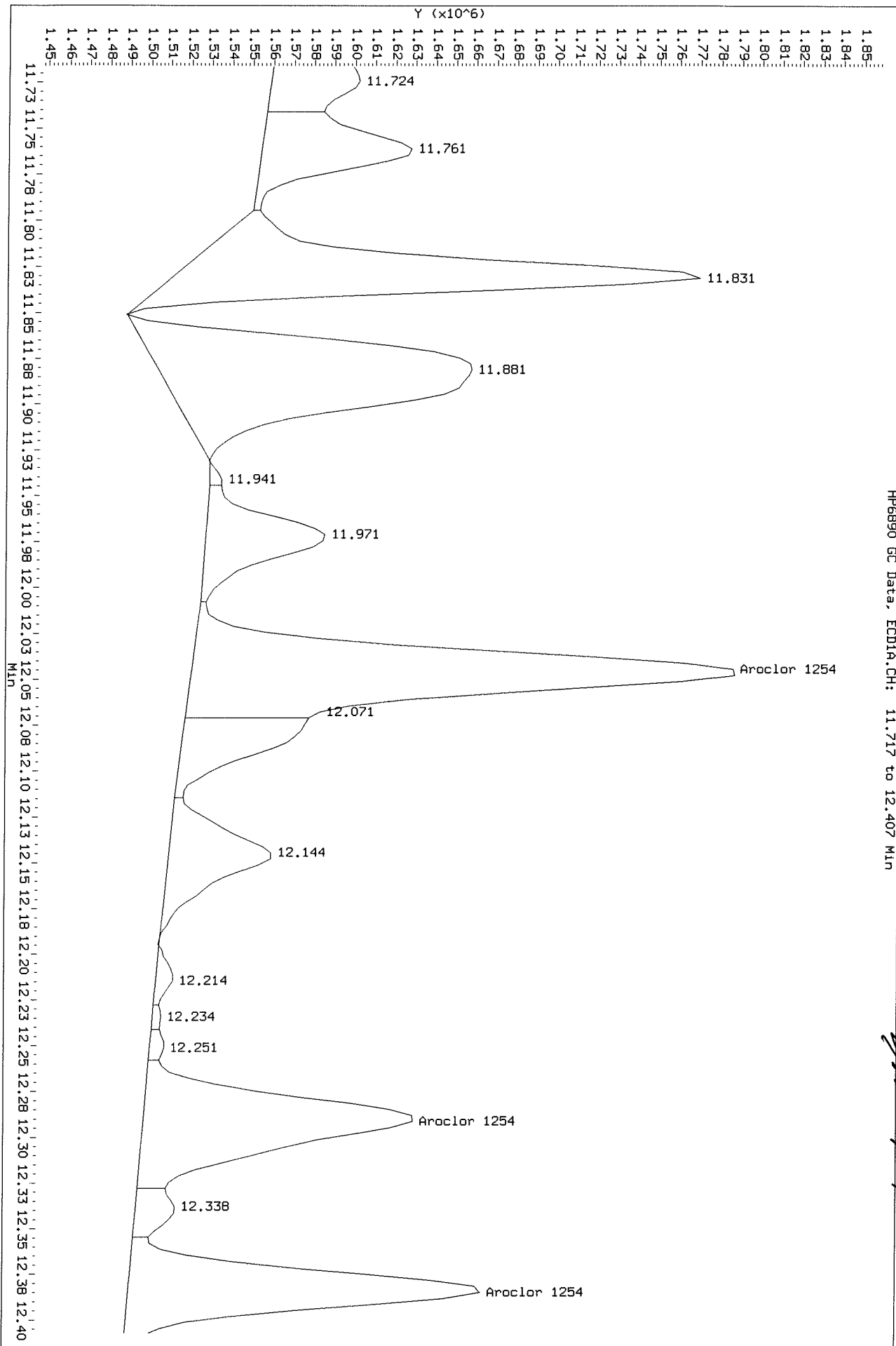
Before



Data File: \\naklews003\Instdata\GC27\Data\122620_b\1226f009.D
Injection Date: 26-DEC-2020 14:48
Instrument: GC27.1
Client Sample ID:

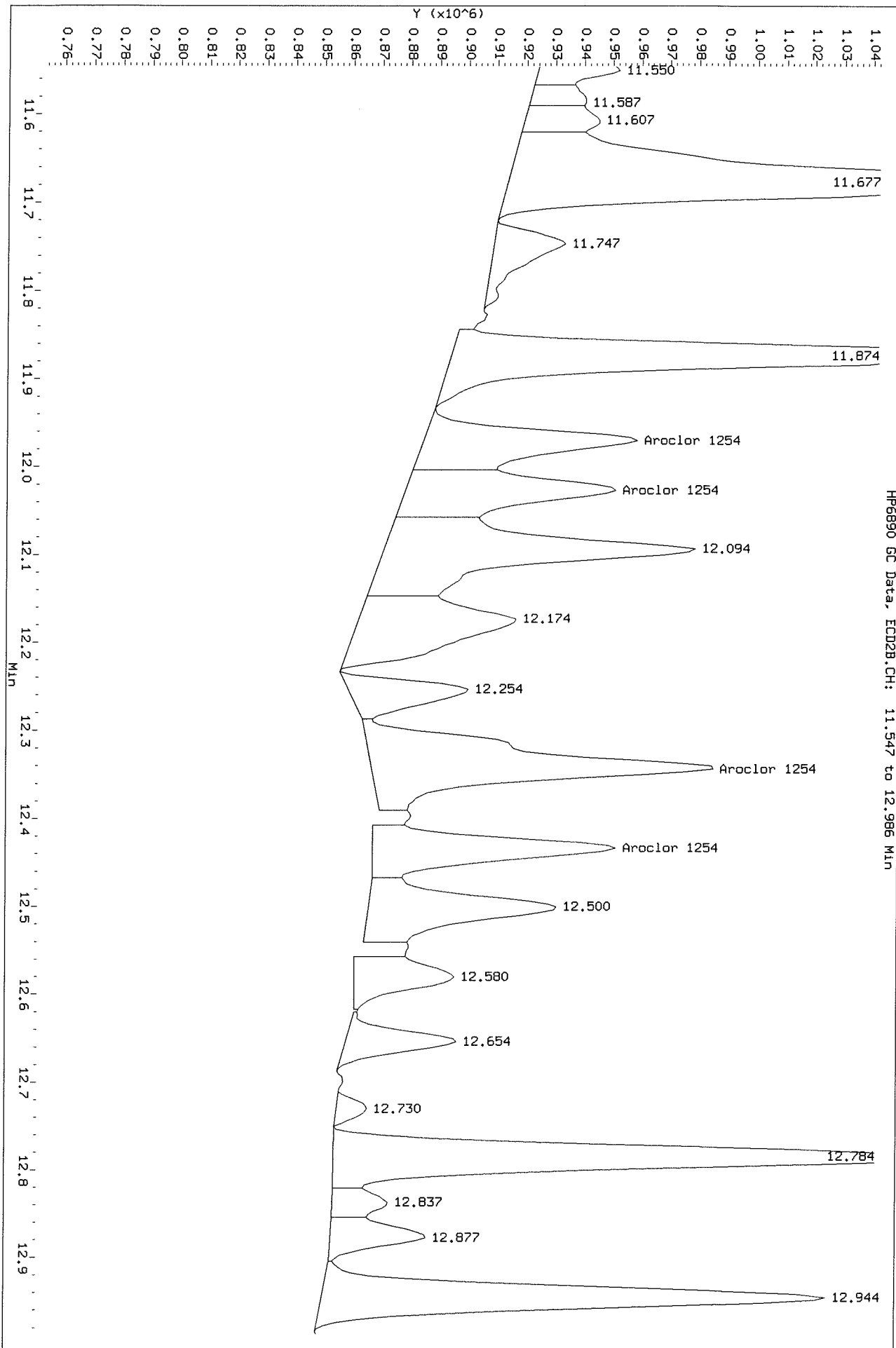
HP6890 GC Data, ECD1A.CH: 11.717 to 12.407 Min

After shoulder 12.8120 P
for 12/26/21



Data File: \\naklews003\Instdata\GC27\Data\122620_r.b\1226F009.D
Injection Date: 26-DEC-2020 14:48
Instrument: GC27.1
Client Sample ID:

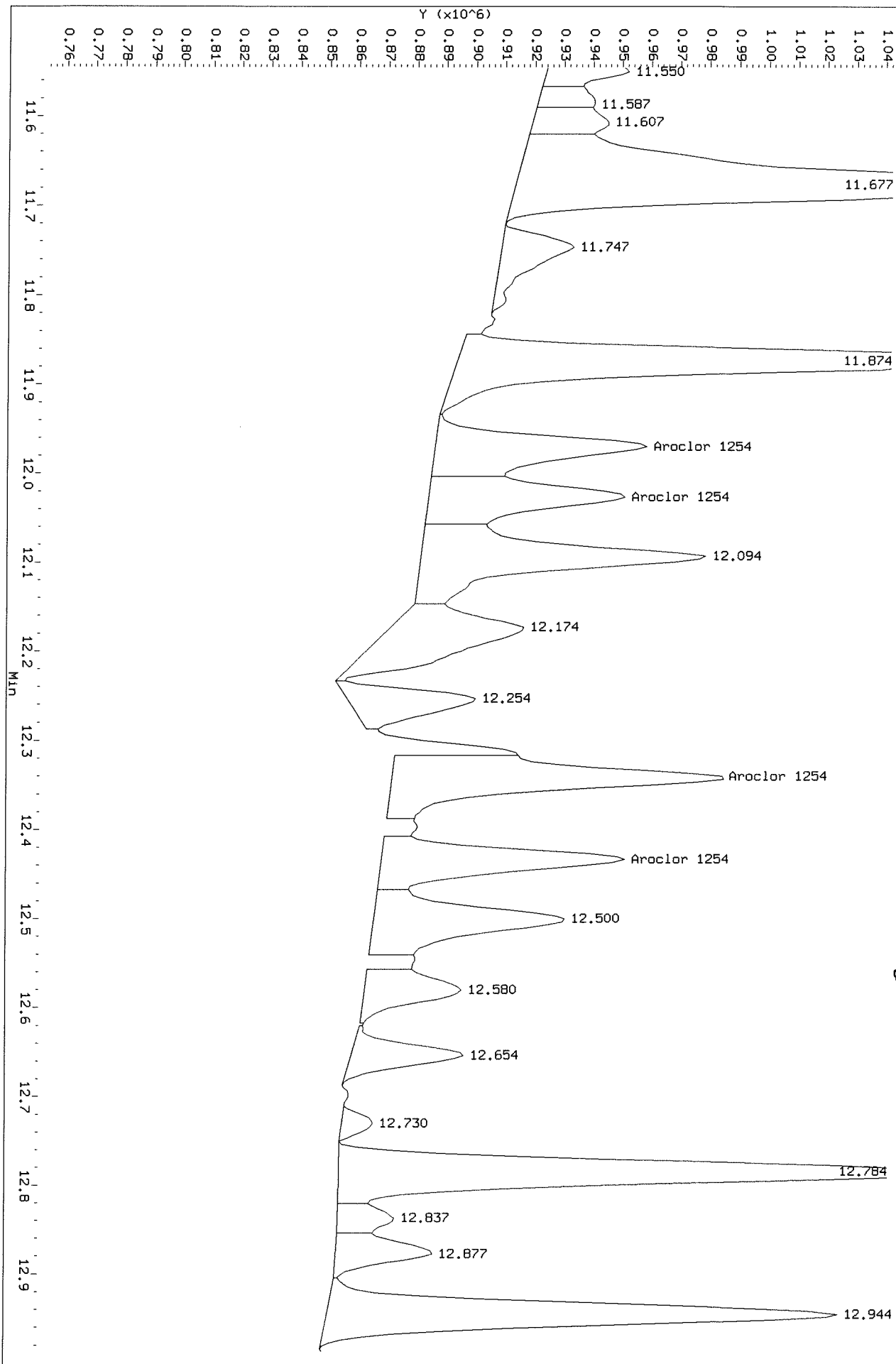
Before



Data File: \\naklews003\Instdata\GC27\Data\122620_r.b\1226F009.D
Injection Date: 26-DEC-2020 14:48
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, FID2B.CH: 11.547 to 12.986 Min

After baseline is established 12/28/2020
CH 122620



Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F012.D
Lab ID: K2011446-005
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 16:22
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

JA 12/28/20

Secondary Review:

JA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F012.D
Lab ID: K2011446-005
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 16:22
Date Quantitated: 12/28/2020 09:10
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

A 12/28/20

Secondary Review:

A 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F012.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F012.D	Vial:	11
Acqu Date:	12/26/2020 16:22	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-005	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:	IV	Matrix:	SOIL
Prod Code:	8082A PCB	Collect Date:	12/04/2020	Receive Date:	12/08/2020

Analysis Lot:	KWG2003438	Prep Lot:	KWG2003341	Report Group:	K2011446
Analysis Method:	8082A	Prep Method:	EPA 3541		
Prep Ref:	1762453	Prep Date:	12/10/2020		

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:	Polychlorinated Biphenyls (PCBs)	Report List ID:	LJ20254
MB Ref:		Method ID:	MJ1824
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2		Rpt
Tetrachloro-m-xylene	6.61 ^{-0.01}	7.94 ^{0.00}	7977731	4421811	3.64	3.60		73 OK
			%Recovery =		73 OK	72 OK	Limits = 50-150	
Decachlorobiphenyl	16.43 ^{0.00}	17.58 ^{+0.00}	3905323	2713113	3.58	3.80		76 OK
			%Recovery =		72 OK	76 OK	Limits = 50-150	

Target Compounds

Final Conc. Units: ug/Kg Dry Weight									
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016 {1}	7.68 ^{+0.00}	8.65 ^{-0.01}	118682	105694	2.99	4.72	48	76	74P i NPM
Aroclor 1016			0	0	4.59	11.97	74	190	
Aroclor 1016 {2}	8.89 ^{-0.02}	9.43 ^{+0.03}	139688	0	3.91	0.0000	63	13U	
Aroclor 1016 {3}	9.35 ^{-0.01}	10.55 ^{-0.02}	866675	384753	8.30	9.85	130	160	RPD
Aroclor 1016 {4}	9.53 ^{+0.00}	11.08 ^{+0.00}	197577	412416	3.16	13.69	51	220	
Aroclor 1016 {5}	9.80 ^{+0.01}	11.31 ^{0.00}	0	542329	0.0000	19.61	13U	320	
Aroclor 1221 {1}	7.24	8.29	1374970	576502	67.00	77.27	1100	1200	600 i NPM
Aroclor 1221			0	0	37.15	38.84	600	620	
Aroclor 1221 {2}	7.51	8.48	593802	269287	42.10	35.29	680	570	
Aroclor 1221 {3}	7.68	8.65	118682	105694	2.36	3.97	38J	64J	99 i NPM
Aroclor 1232 {1}	7.24	8.65	0	105694	0.0000	3.99	13U	64	
Aroclor 1232			0	0	6.03	5.70	97	92	
Aroclor 1232 {2}	7.68	9.36	118682	0	2.56	0.0000	41	13U	
Aroclor 1232 {3}	8.46	9.74	329903	0	7.99	0.0000	130	13U	
Aroclor 1232 {4}	9.35	10.47	0	165797	0.0000	7.94	13U	130	
Aroclor 1232 {5}	9.53	10.51	197577	123476	7.55	5.19	120	83	74 i NPM
Aroclor 1242 {1}	7.68	8.65	118682	105694	3.86	6.00	62	96	
Aroclor 1242			0	0	4.60	5.36	74	86	

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:\GC27\DATA\122620.B\1226F012.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F012.D	Vial:	11
Acqu Date:	12/26/2020 16:22	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-005	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}	8.89	9.36	139688	0	5.46	0.0000	88	13U	
Aroclor 1242 {3}	9.35	10.47	0	165797	0.0000	4.60	13U	74	
Aroclor 1242 {4}	9.53	10.51	197577	123476	4.46	3.07	72	49	
Aroclor 1242 {5}	9.92	10.79	0	179769	0.0000	7.78	13U	130	
Aroclor 1248 {1}	9.35	10.47	0	165797	0.0000	5.82	13U	94	
Aroclor 1248			0	0	5.02	9.36	81	150	818 
Aroclor 1248 {2}	9.53	10.51	197577	123476	7.18	5.34	120	86	
Aroclor 1248 {3}	10.70	11.08	169849	412416	3.16	12.93	51	210	RPD
Aroclor 1248 {4}	11.00	11.55	190587	0	4.73	0.0000	76	13U	
Aroclor 1248 {5}	11.44	12.09	0	559102	0.0000	13.34	13U	210	
Aroclor 1254 {1}	11.44	11.97	1156309	756526	28.23	16.68	450	270	
Aroclor 1254			0	0	23.64	20.27	380	330	330 
Aroclor 1254 {2}	12.05	12.03	2707554	395271	21.52	16.24	350	260	
Aroclor 1254 {3}	12.29	12.34	1469400	1171972	24.22	22.53	390	360	
Aroclor 1254 {4}	12.38	12.43	1419743	647217	19.06	29.49	310	470	
Aroclor 1254 {5}	13.14	13.87	2287035	620050	25.16	16.40	400	260	
Aroclor 1260 {1}	12.83 ^{+0.00}	13.06 ^{0.00}	359673	211008m	7.86	7.83	130	130	
Aroclor 1260			0	0	6.35	5.96	100	96	96 
Aroclor 1260 {2}	13.67 ^{0.00}	14.29 ^{0.00}	342436	191945m	4.62	4.40	74	71	
Aroclor 1260 {3}	13.81 ^{-0.01}	14.38 ^{0.00}	0	116978m	0.0000	4.85	13U	78	
Aroclor 1260 {4}	14.04 ^{-0.01}	14.65 ^{0.00}	865728	341091m	5.69	7.46	92	120	
Aroclor 1260 {5}	14.66 ^{0.00}	15.17 ^{0.00}	829570	529893m	7.22	5.28	120	85	

The +/- after Retention Time symbolize the direction of the RT shift

Prep Amount:	2.056 g	Dilution:	1.0
Prep Final Vol:	8 ml	Unit Factor:	1
Solids:	24.2 %		

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F012.D
Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F012.D
Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F012.D
Inj Date : 26-DEC-2020 16:22
Sample Info: K2011446-005
Misc Info :
Cal Date : 28-DEC-2020 07:01
Operator : SM
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.608	7.937	7977731	4421811	3.64	3.60		100.00 (R)
Aroclor 1016	7.684	8.647	118682	105694	2.99	4.72	80.00- 120.00	100.00 (H)
	8.894	9.434	139688		3.91		68.05- 102.08	117.70 (H)
	9.348	10.550	866675	384753	8.30	9.85	361.26- 541.89	730.25 (H)
	9.534	11.084	197577	412416	3.15	13.7	125.58- 188.37	166.48 (H)
	9.798	11.307		542329		19.6	98.50- 147.76	513.11 (H)
	Average of Peak Amounts =				4.59	12.0		
Aroclor 1221	7.238	8.287	1374970	576502	67.0	77.3	80.00- 120.00	100.00 (H)
	7.508	8.477	593802	269287	42.1	35.3	51.27- 76.90	43.19 (H)
	7.684	8.647	118682	105694	2.36	3.97	190.41- 285.62	8.63 (H)
	Average of Peak Amounts =				37.2	38.9		
Aroclor 1232	7.238	8.647		105694		3.99	80.00- 120.00	100.00 (H)
	7.684	9.360	118682		2.56		236.59- 354.88	8.63 (H)
	8.461	9.737	329903		7.99		198.03- 297.04	23.99 (H)
	9.348	10.474		165797		7.94	66.03- 99.04	156.87 (H)
	9.534	10.510	197577	123476	7.55	5.18	133.07- 199.60	14.37 (H)
	Average of Peak Amounts =				6.03	5.70		
Aroclor 1242	7.684	8.647	118682	105694	3.86	6.00	80.00- 120.00	100.00 (H)
	8.894	9.360	139688		5.46		65.11- 97.66	117.70 (H)
	9.348	10.474		165797		4.60	153.54- 230.31	156.87 (H)
	9.534	10.510	197577	123476	4.46	3.07	105.86- 158.79	166.48 (H)
	9.918	10.787		179769		7.78	88.28- 132.42	170.08 (H)
	Average of Peak Amounts =				4.59	5.36		
Aroclor 1248	9.348	10.474		165797		5.82	80.00- 120.00	100.00 (H)
	9.534	10.510	197577	123476	7.18	5.34	49.98- 74.97	22.80 (H)
	10.698	11.084	169849	412416	3.15	12.9	96.54- 144.81	19.60 (H)
	10.998	11.554	190587		4.73		72.00- 108.00	21.99 (H)
	11.438	12.094		559102		13.3	109.93- 164.90	337.22 (H)

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
=====								
	Average of Peak Amounts =				5.02	9.34		
Aroclor 1254	11.438	11.970	1156309	756526	28.2	16.7	80.00- 120.00	100.00 (H)
	12.048	12.027	2707554	395271	21.5	16.2	244.22- 366.32	234.15 (H)
	12.288	12.344	1469400	1171972	24.2	22.5	115.71- 173.56	127.08 (H)
	12.381	12.434	1419743	647217	19.1	29.5	147.40- 221.10	122.78 (H)
	13.138	13.874	2287035	620050	25.2	16.4	167.70- 251.55	197.79 (H)
	Average of Peak Amounts =				23.6	20.3		
Aroclor 1260	12.834	13.064	359673	211008	7.86	7.82	80.00- 120.00	100.00 (H)
	13.671	14.287	342436	191945	4.62	4.40	121.48- 182.22	95.21 (H)
	13.814	14.380		116978		4.85	67.54- 101.31	55.44 (H)
	14.044	14.647	865728	341091	5.69	7.46	252.90- 379.35	240.70 (H)
	14.661	15.174	829570	529893	7.22	5.28	185.22- 277.83	230.65 (H)
	Average of Peak Amounts =				6.35	5.96		
Decachlorobiphenyl	16.434	17.580	3905323	2713113	3.58	3.80		100.00 (R)
Aroclors, Total	1.000	1.000	3987207	2265386	87.4	97.5		0.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
 H - Operator selected an alternate compound hit.

Data File: \\nakisws003\instdata\GC27\Data\122620.b\1226F012.D
Date : 26-DEC-2020 16:22

Client ID:

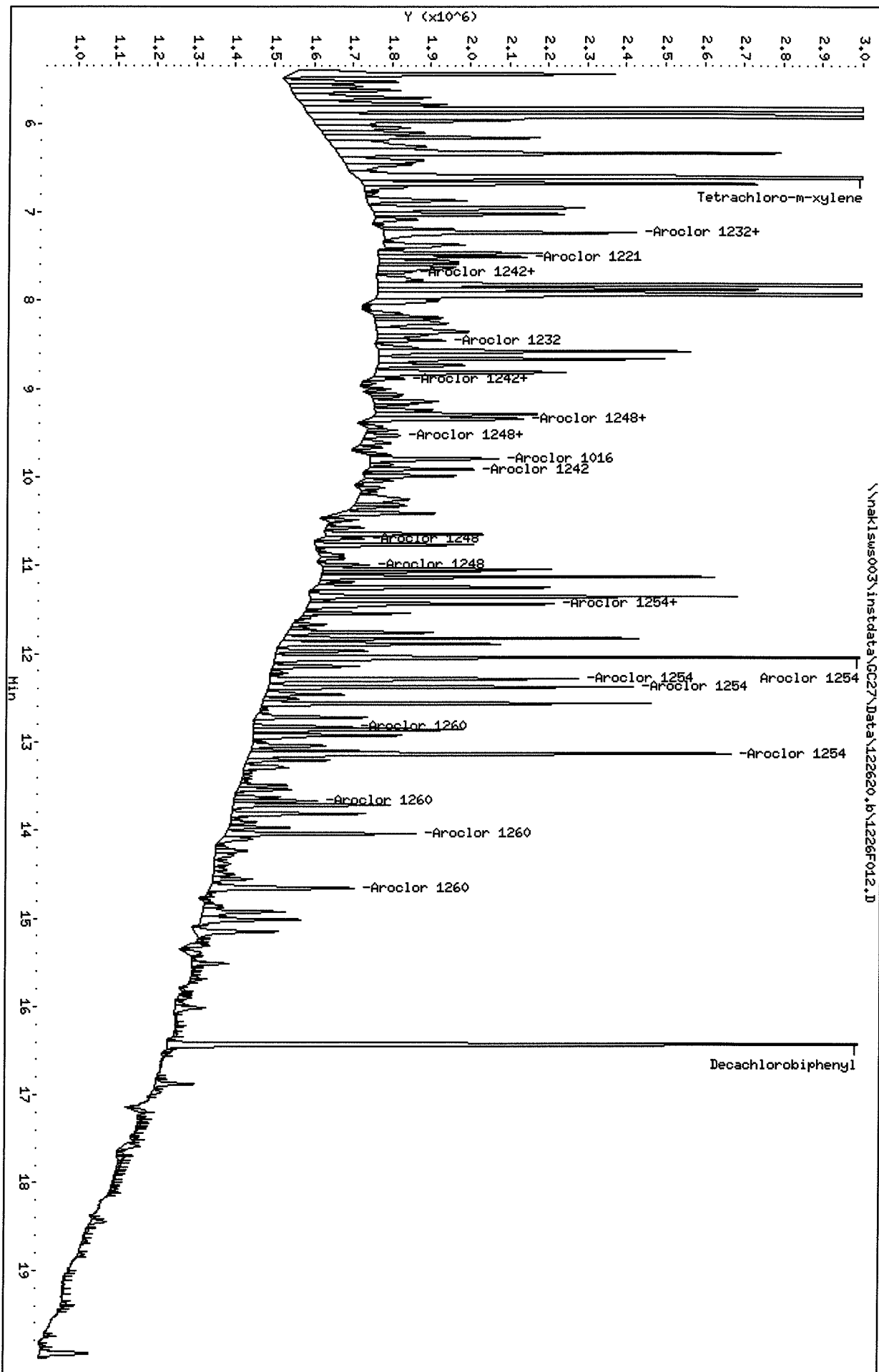
Sample Info: K2011446-005

Column phase: DB-35MS

Instrument: GC27.i

Operator: SM

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F012.D

Date : 26-DEC-2020 16:22

Client ID:

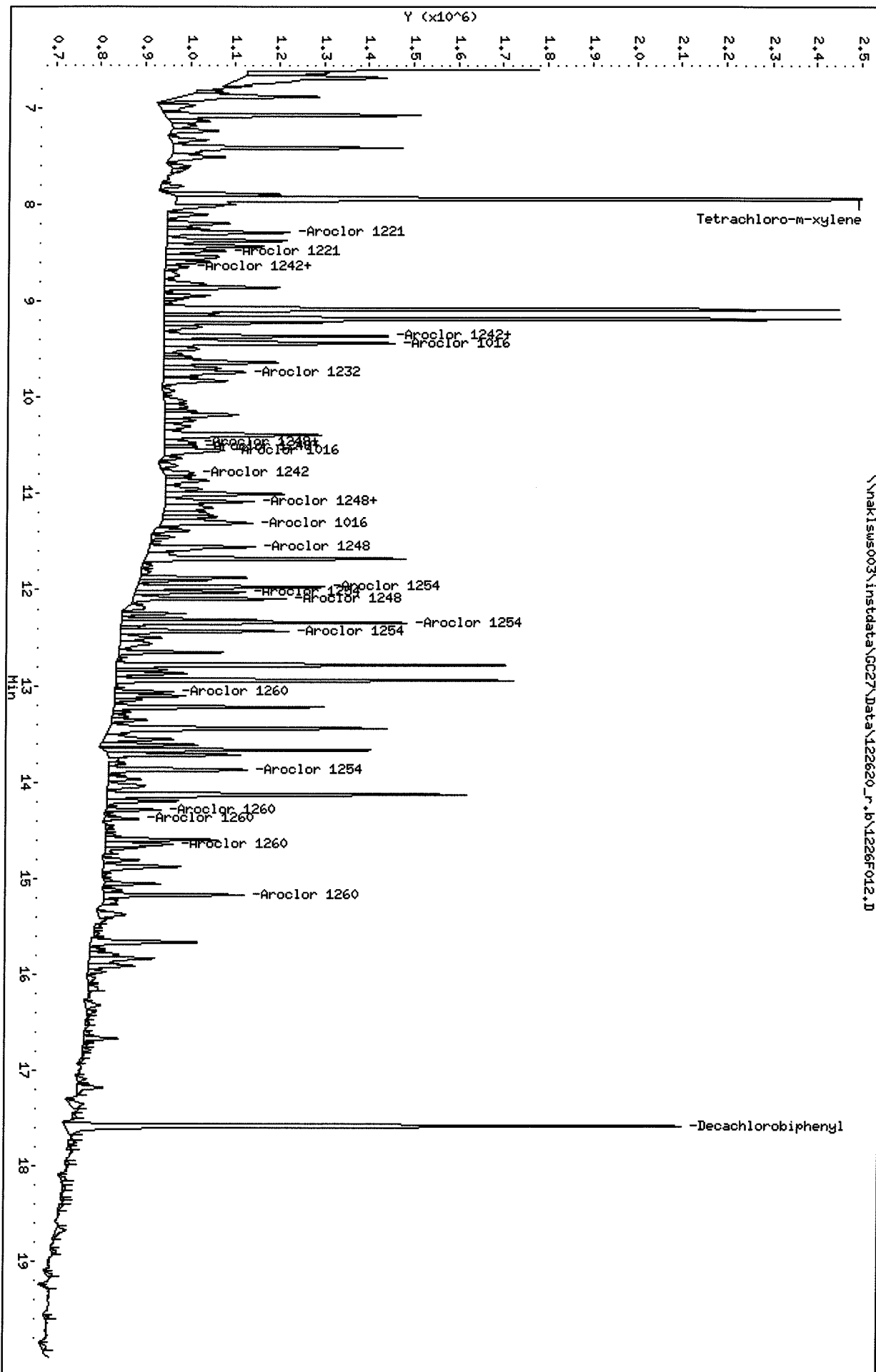
Sample Info: K201446-005

Column phase: DB-XLB

Instrument: GC27.i

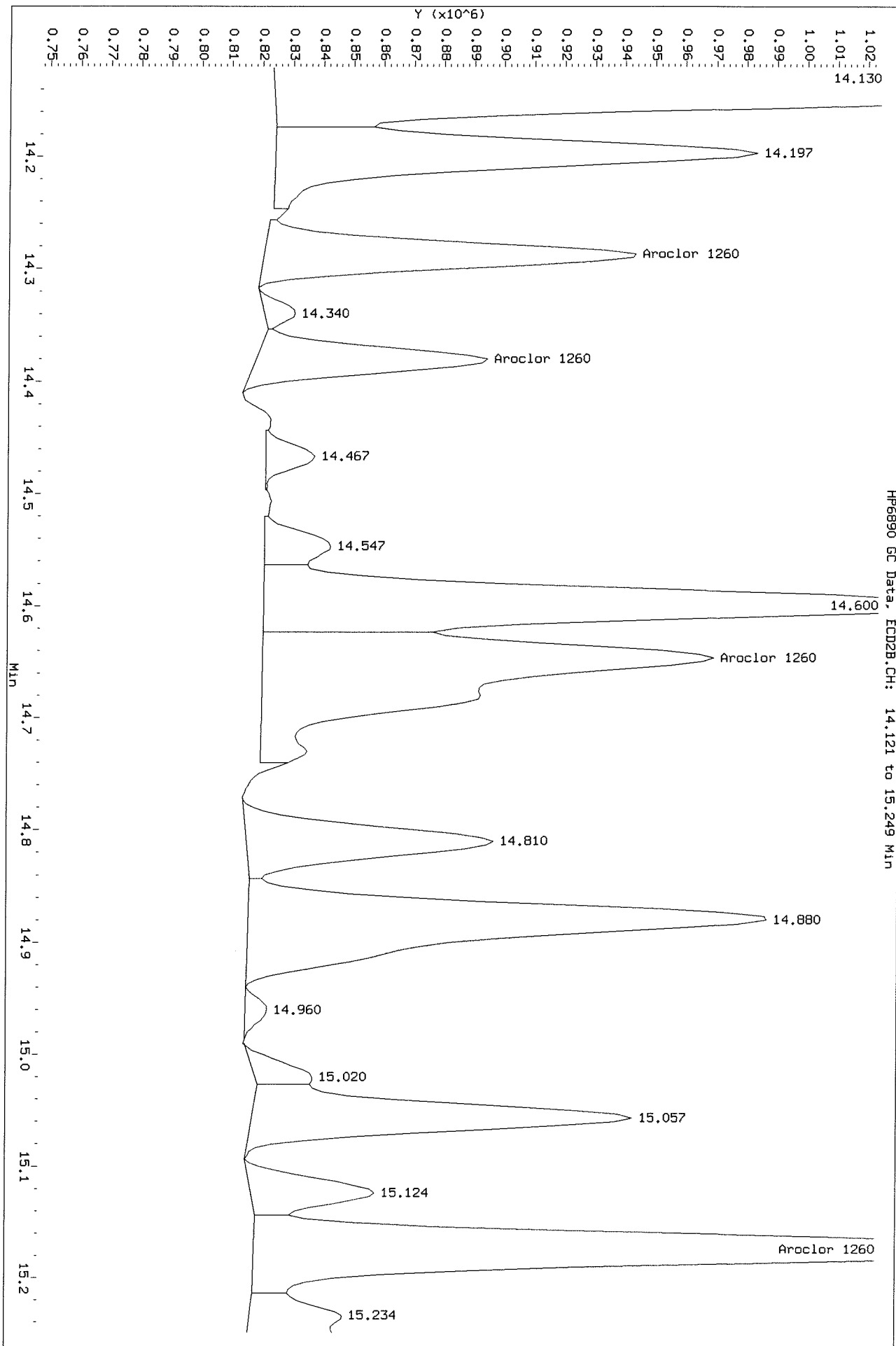
Operator: SM

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F012.D
Injection Date: 26-DEC-2020 16:22
Instrument: GC27.1
Client Sample ID:

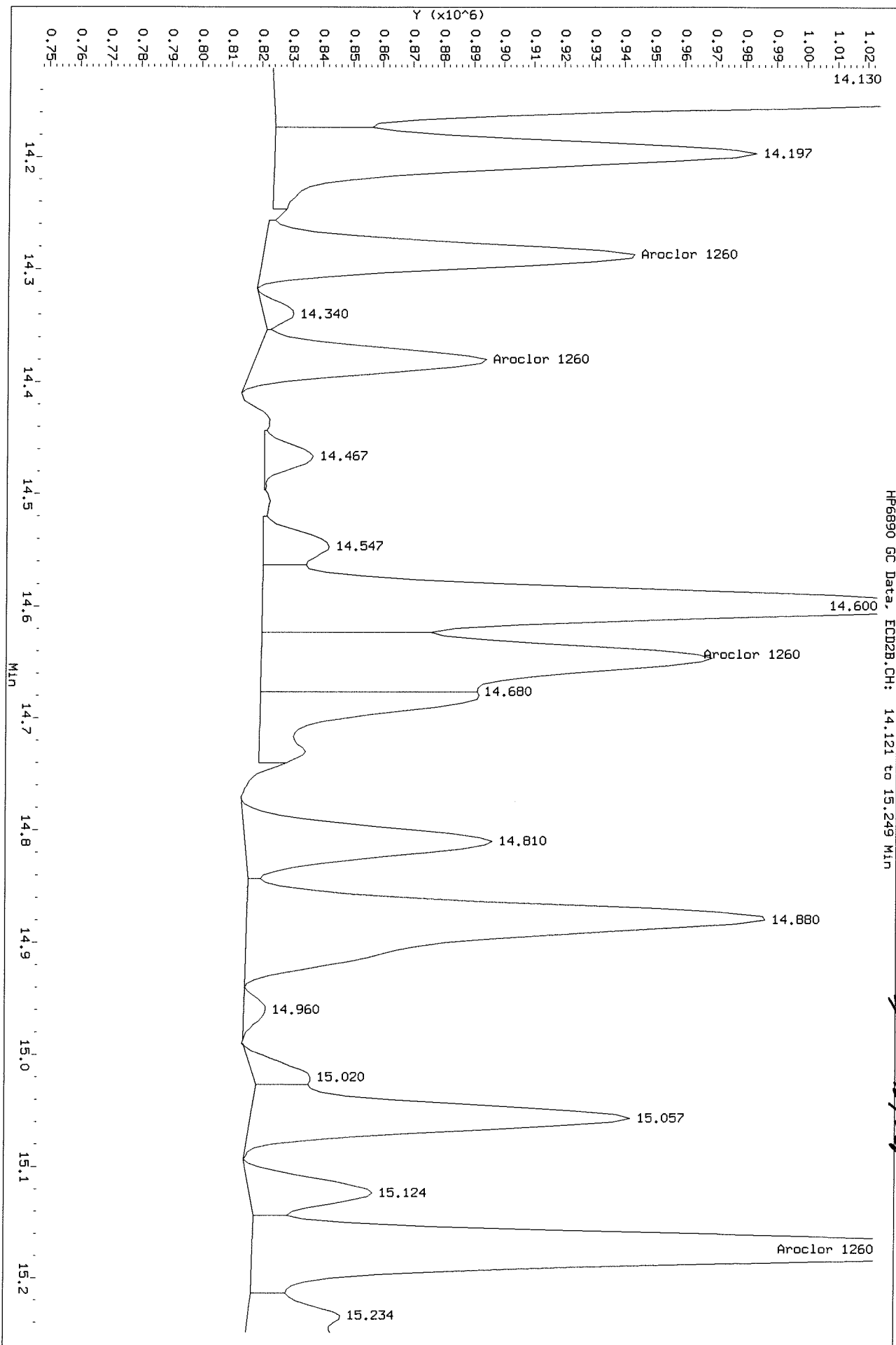
Before



Data File: \\naklews003\Instdata\GC27\Data\122620_r.b\1226F012.D
Injection Date: 26-DEC-2020 16:22
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD2B.CH: 14.121 to 15.249 Min

After shoulder 12/28/2020
12/28/20



Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F013.D
Lab ID: K2011446-006
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 16:53
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

for 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F013.D
Lab ID: K2011446-006
RunType: SMPL
Matrix: SOIL

Date Acquired: 12/26/2020 16:53
Date Quantitated: 12/28/2020 09:10
Batch ID: KWG2003438
Analysis Method: 8082A
ListJoinID: LJ20254

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

SA 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F013.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F013.D	Vial:	12
Acqu Date:	12/26/2020 16:53	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-006	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:	IV	Matrix:	SOIL
Prod Code:	8082A PCB	Collect Date:	12/04/2020	Receive Date:	12/08/2020

Analysis Lot:	KWG2003438	Prep Lot:	KWG2003341	Report Group:	K2011446
Analysis Method:	8082A	Prep Method:	EPA 3541		
Prep Ref:	1762454	Prep Date:	12/10/2020		

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:	Polychlorinated Biphenyls (PCBs)	Report List ID:	LJ20254
MB Ref:		Method ID:	MJ1824
		Quant based on Report List	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2		Rpt
Tetrachloro-m-xylene	6.61 ^{0.00}	7.94	9642778	5464251	4.40	4.45		89 OK
			%Recovery =		88 OK	89 OK	Limits = 50-150	
Decachlorobiphenyl	16.43 ^{0.00}	17.58	4721680	3388257	4.32	4.74		95 OK
			%Recovery =		86 OK	95 OK	Limits = 50-150	

Target Compounds

					Final Conc. Units:		ug/Kg Dry Weight		
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016 {1}	7.69 ^{+0.00}	8.65 ^{-0.01}	109241	49482	2.76	2.21	37	30J	(58P) ⁱ NPM
Aroclor 1016			0	0	4.33	8.45	58	110	
Aroclor 1016 {2}	8.89 ^{-0.02}	9.36 ^{-0.04}	152389	0	4.26	0.0000	57	11U	
Aroclor 1016 {3}	9.35 ^{-0.01}	10.55 ^{-0.02}	814444	0	7.80	0.0000	100	11U	RPD
Aroclor 1016 {4}	9.54 ^{+0.01}	11.08	155948	354148	2.49	11.76	33J	160	
Aroclor 1016 {5}	9.80 ^{+0.01}	11.31 ^{0.00}	0	314636	0.0000	11.38	11U	150	
Aroclor 1221 {1}	7.24	8.29	1519411	375009	74.04	50.26	990	670	(35P) ⁱ NPM
Aroclor 1221			0	0	36.72	25.87	490	350	
Aroclor 1221 {2}	7.51	8.48	478932	194536	33.95	25.49	450	340	
Aroclor 1221 {3}	7.69	8.65	109241	49482	2.17	1.86	29J	25J	(35P) ⁱ NPM
Aroclor 1232 {1}	7.24	8.65	0	49482	0.0000	1.87	11U	25J	
Aroclor 1232			0	0	5.46	2.58	73	35	
Aroclor 1232 {2}	7.69	9.36	109241	0	2.36	0.0000	32J	11U	(28P) ⁱ NPM
Aroclor 1232 {3}	8.46	9.74	332970	0	8.06	0.0000	110	11U	
Aroclor 1232 {4}	9.35	10.47	0	80547	0.0000	3.86	11U	52	
Aroclor 1232 {5}	9.54	10.51	155948	47990	5.96	2.02	80	27J	(28P) ⁱ NPM
Aroclor 1242 {1}	7.69	8.65	109241	49482	3.56	2.81	48	38	
Aroclor 1242			0	0	4.35	2.08	58	28J	

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:\GC27\DATA\122620.B\1226F013.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F013.D	Vial:	12
Acqu Date:	12/26/2020 16:53	Quant Date:	12/28/2020 09:09
Run Type:	SMPL	ListJoinID:	LJ20254
Lab ID:	K2011446-006	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}	8.89	9.36	152389	0	5.96	0.0000	80	11U	
Aroclor 1242 {3}	9.35	10.47	0	80547	0.0000	2.23	11U	30J	
Aroclor 1242 {4}	9.54	10.51	155948	47990	3.52	1.19	47	16J	
Aroclor 1242 {5}	9.92	10.78	0	0	0.0000	0.0000	11U	11U	
Aroclor 1248 {1}	9.35	10.47	0	80547	0.0000	2.83	11U	38	
Aroclor 1248			0	0	4.45	4.91	60	66	60i mm
Aroclor 1248 {2}	9.54	10.51	155948	47990	5.66	2.08	76	28J	
Aroclor 1248 {3}	10.70	11.08	134914	0	2.51	0.0000	34J	11U	
Aroclor 1248 {4}	11.00	11.58	133386	135408	3.31	5.60	44	75	
Aroclor 1248 {5}	11.47	12.09	226541	382595	6.32	9.13	85	120	
Aroclor 1254 {1}	11.44	11.97	831545	514288m	20.30	11.34	270	150	
Aroclor 1254			0	0	16.22	13.99	220	190	190 ✓
Aroclor 1254 {2}	12.05	12.03	1809166	288894m	14.38	11.87	190	160	
Aroclor 1254 {3}	12.29	12.34	983790	780474m	16.22	15.01	220	200	
Aroclor 1254 {4}	12.38	12.43	935780	441147m	12.57	20.10	170	270	
Aroclor 1254 {5}	13.14	13.87	1603192	438824m	17.63	11.61	240	160	
Aroclor 1260 {1}	12.83	13.07	256154m	166386	5.60	6.17	75	83	
Aroclor 1260			0	0	4.83	4.20	65	56	56 ✓
Aroclor 1260 {2}	13.67 ^{0.00}	14.29 ^{0.00}	236688m	129225	3.19	2.96	43	40	
Aroclor 1260 {3}	13.82 ^{-0.01}	14.38 ^{0.00}	0m	80954	0.0000	3.36	11U	45	
Aroclor 1260 {4}	14.04 ^{-0.01}	14.65 ^{0.00}	672361m	185663	4.42	4.06	59	54	
Aroclor 1260 {5}	14.66 ^{0.00}	15.17 ^{0.00}	702405m	446057	6.11	4.44	82	59	

The +/- after Retention Time symbolize the direction of the RT shift

Prep Amount: 2.026 g
Prep Final Vol: 8 ml
Solids: 29.5 %
Dilution: 1.0
Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
 J: Analyte detected above MDL, but below MRL
 B: Hit above MRL also found in Method Blank
 E: Analyte concentration above high point of ICAL
 N: Presumptive evidence of compound

D: Result from dilution
 m: Manual integration performed
 d: Compound manually deleted
 NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
 #: Acceptance criteria not applicable
 ?: Insufficient information to determine acceptance
 e: Result >= MRL, but MRL less than low point of ICAL
 c: check for co-elution

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F013.D
 Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F013.D
 Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F013.D
 Inj Date : 26-DEC-2020 16:53
 Sample Info: K2011446-006
 Misc Info :
 Cal Date : 28-DEC-2020 07:01
 Operator : SM
 Inst ID : GC27.i
 Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
 Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.609	7.939	9642778	5464251	4.40	4.45		100.00 (R)
Aroclor 1016	7.686	8.645	109241	49482	2.76	2.21	80.00- 120.00	100.00 (H)
	8.893	9.362	152389		4.26		68.05- 102.08	139.50 (H)
	9.346	10.549	814444		7.80		361.26- 541.89	745.55 (H)
	9.539	11.082	155948	354148	2.49	11.8	125.58- 188.37	142.76 (H)
	9.796	11.305		314636		11.4	98.50- 147.76	635.86 (H)
	Average of Peak Amounts =				4.33	8.47		
Aroclor 1221	7.236	8.289	1519411	375009	74.0	50.3	80.00- 120.00	100.00 (H)
	7.509	8.479	478932	194536	34.0	25.5	51.27- 76.90	31.52 (H)
	7.686	8.645	109241	49482	2.17	1.86	190.41- 285.62	7.19 (H)
	Average of Peak Amounts =				36.7	25.9		
Aroclor 1232	7.236	8.645		49482		1.87	80.00- 120.00	100.00 (H)
	7.686	9.362	109241		2.36		236.59- 354.88	7.19 (H)
	8.459	9.735	332970		8.06		198.03- 297.04	21.91 (H)
	9.346	10.472		80547		3.86	66.03- 99.04	162.78 (H)
	9.539	10.512	155948	47990	5.96	2.02	133.07- 199.60	10.26 (H)
	Average of Peak Amounts =				5.46	2.58		
Aroclor 1242	7.686	8.645	109241	49482	3.56	2.81	80.00- 120.00	100.00 (H)
	8.893	9.362	152389		5.96		65.11- 97.66	139.50 (H)
	9.346	10.472		80547		2.23	153.54- 230.31	162.78 (H)
	9.539	10.512	155948	47990	3.52	1.19	105.86- 158.79	142.76 (H)
	9.916	10.775					88.28- 132.42	0.00 (H)
	Average of Peak Amounts =				4.35	2.08		
Aroclor 1248	9.346	10.472		80547		2.83	80.00- 120.00	100.00 (H)
	9.539	10.512	155948	47990	5.66	2.08	49.98- 74.97	19.15 (H)
	10.696	11.082	134914		2.51		96.54- 144.81	16.57 (H)
	10.996	11.582	133386	135408	3.31	5.60	72.00- 108.00	16.38 (H)
	11.469	12.092	226541	382595	6.32	9.13	65.22- 97.84	27.82 (H)

Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target Range	Ratio
=====								
	Average of Peak Amounts =				4.45	4.91		
Aroclor 1254	11.436	11.969	831545	514288	20.3	11.3	80.00- 120.00	100.00 (H)
	12.046	12.025	1809166	288894	14.4	11.9	244.22- 366.32	217.57 (H)
	12.286	12.342	983790	780474	16.2	15.0	115.71- 173.56	118.31 (H)
	12.383	12.432	935780	441147	12.6	20.1	147.40- 221.10	112.54 (H)
	13.139	13.872	1603192	438824	17.6	11.6	167.70- 251.55	192.80 (H)
	Average of Peak Amounts =				16.2	14.0		
Aroclor 1260	12.833	13.065	256154	166386	5.60	6.17	80.00- 120.00	100.00 (MH)
	13.669	14.285	236688	129225	3.19	2.96	121.48- 182.22	92.40 (MH)
	13.816	14.379		80954		3.36	67.54- 101.31	48.65 (MH)
	14.043	14.645	672361	185663	4.42	4.06	252.90- 379.35	262.48 (MH)
	14.659	15.172	702405	446057	6.11	4.44	185.22- 277.83	274.21 (MH)
	Average of Peak Amounts =				4.83	4.20		
Decachlorobiphenyl	16.433	17.579	4721680	3388257	4.32	4.74		100.00 (R)
Aroclors, Total	1.000	1.000	3211406	1420461	76.4	62.1		0.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
 M - Compound response manually integrated.
 H - Operator selected an alternate compound hit.

Data File: \\nakisws003\instdata\GC27\Data\122620.b\1226F013.D

Date : 26-DEC-2020 16:53

Client ID:

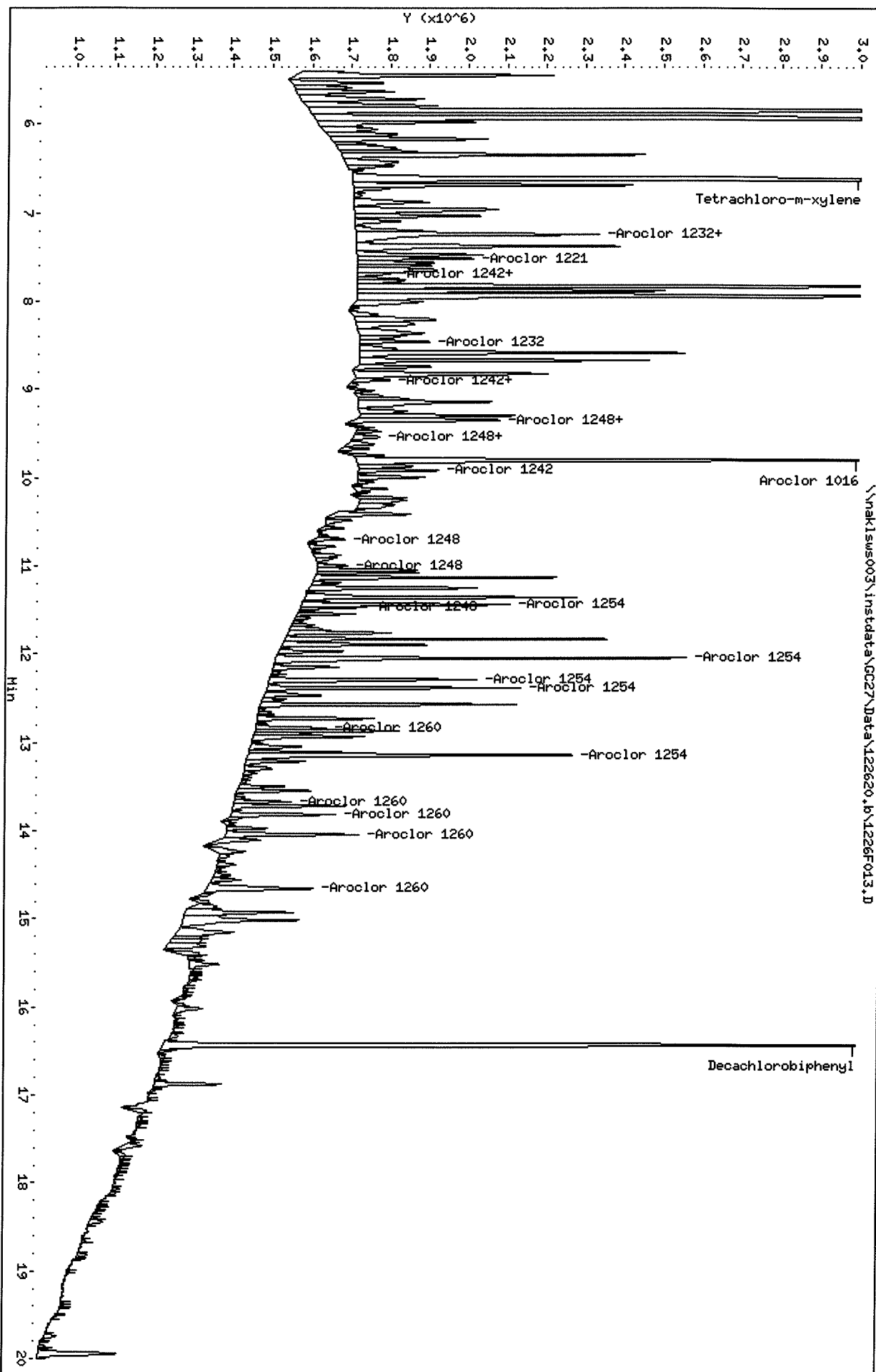
Sample Info: K2011446-006

Column phase: DB-35MS

Instrument: GC27.i

Operator: SM

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F013.D

Date : 26-DEC-2020 16:53

Client ID:

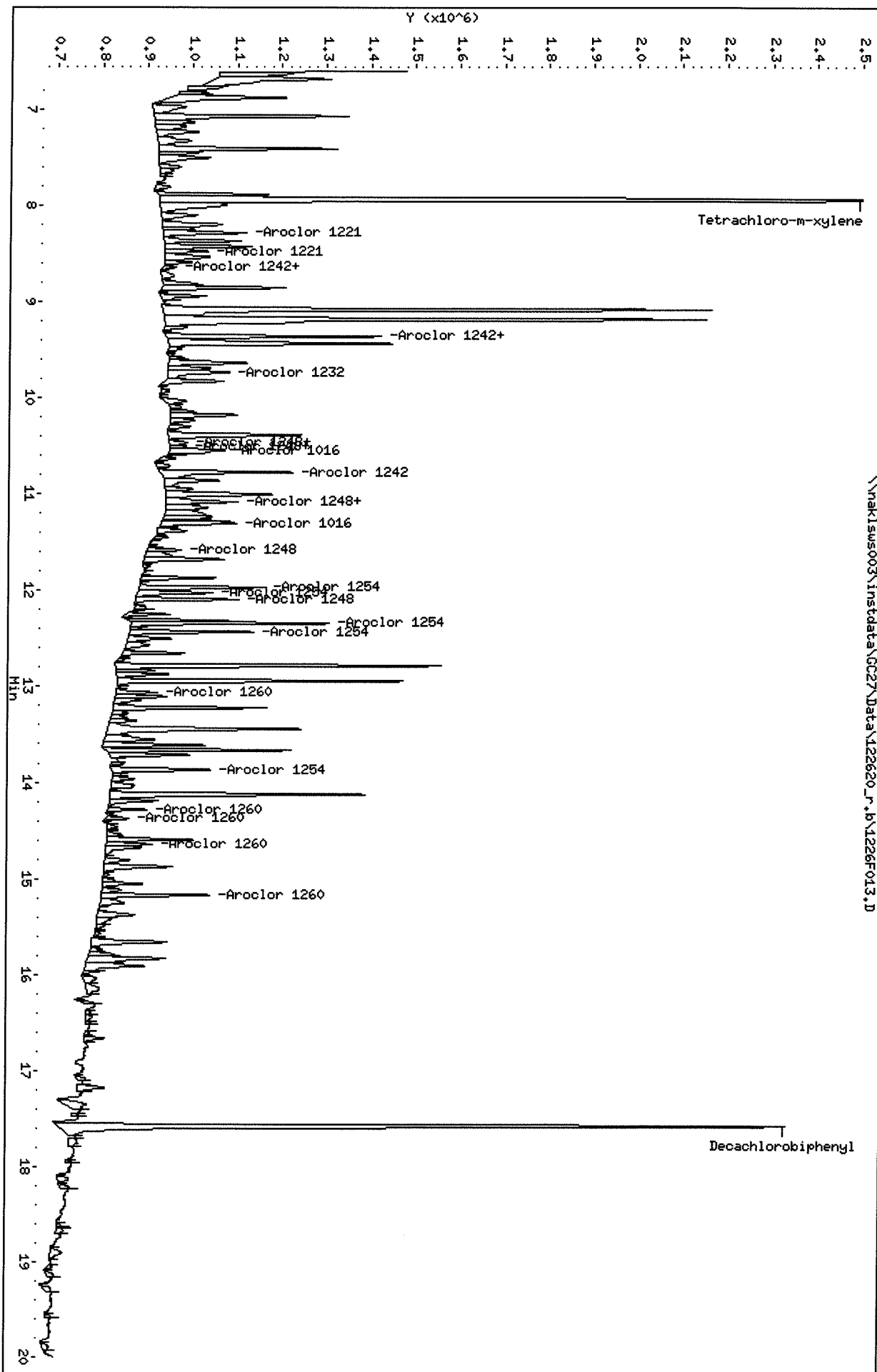
Sample Info: K201446-006

Column phase: DB-XLB

Instrument: GC27.i

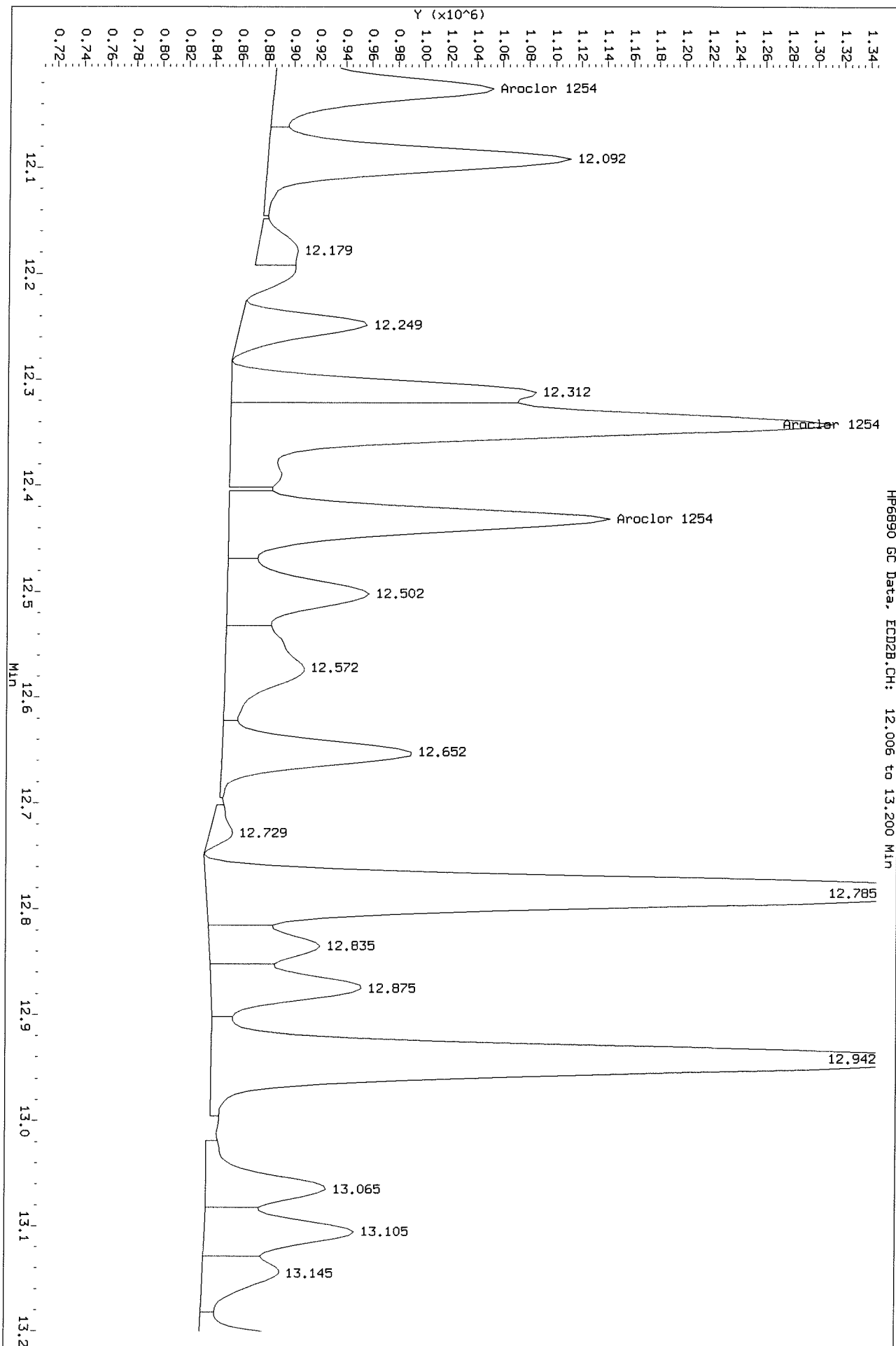
Operator: SH

Column diameter: 0.32

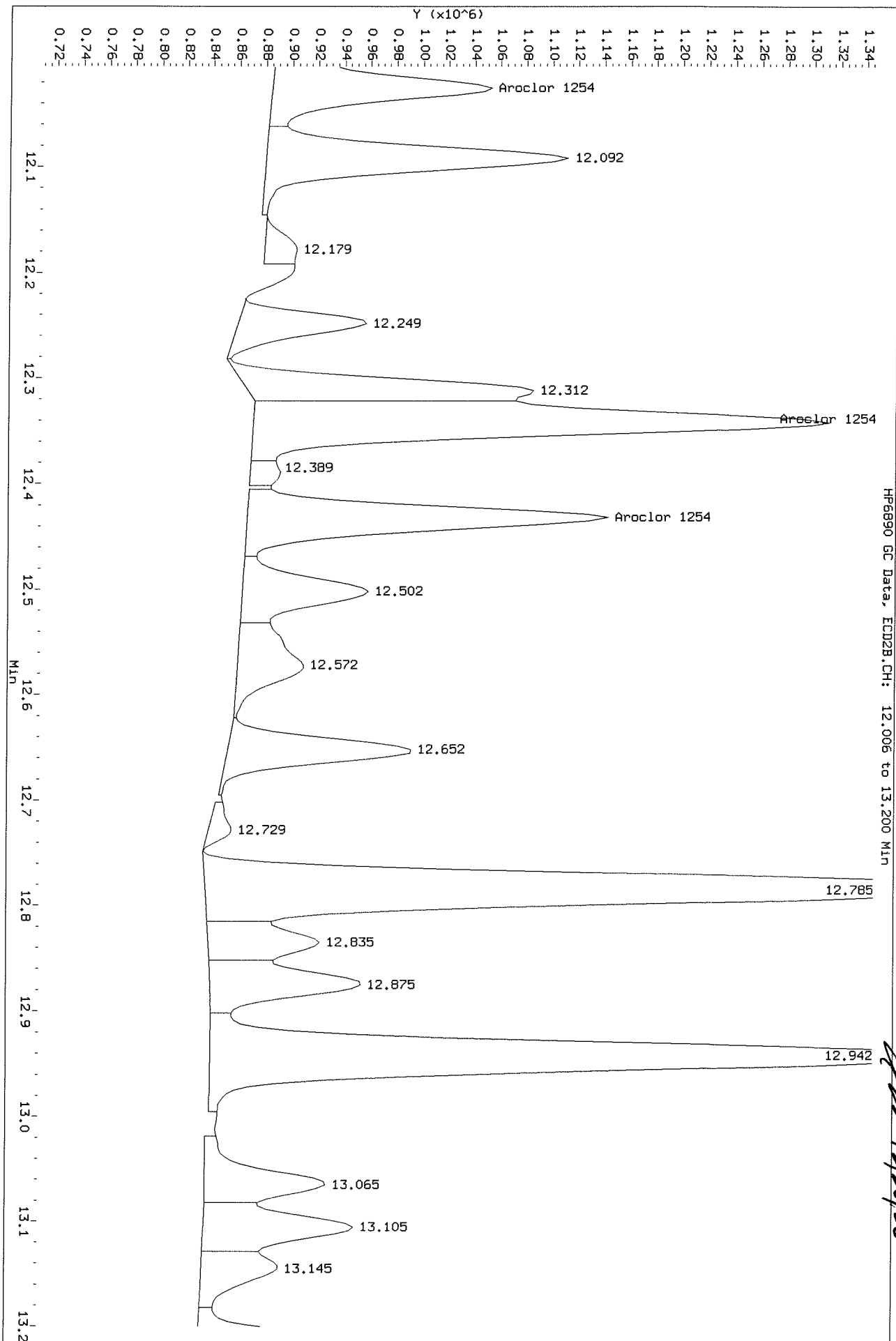


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Injection Date: 26-DEC-2020 16:53
Instrument: GC27.1
Client Sample ID:

Before



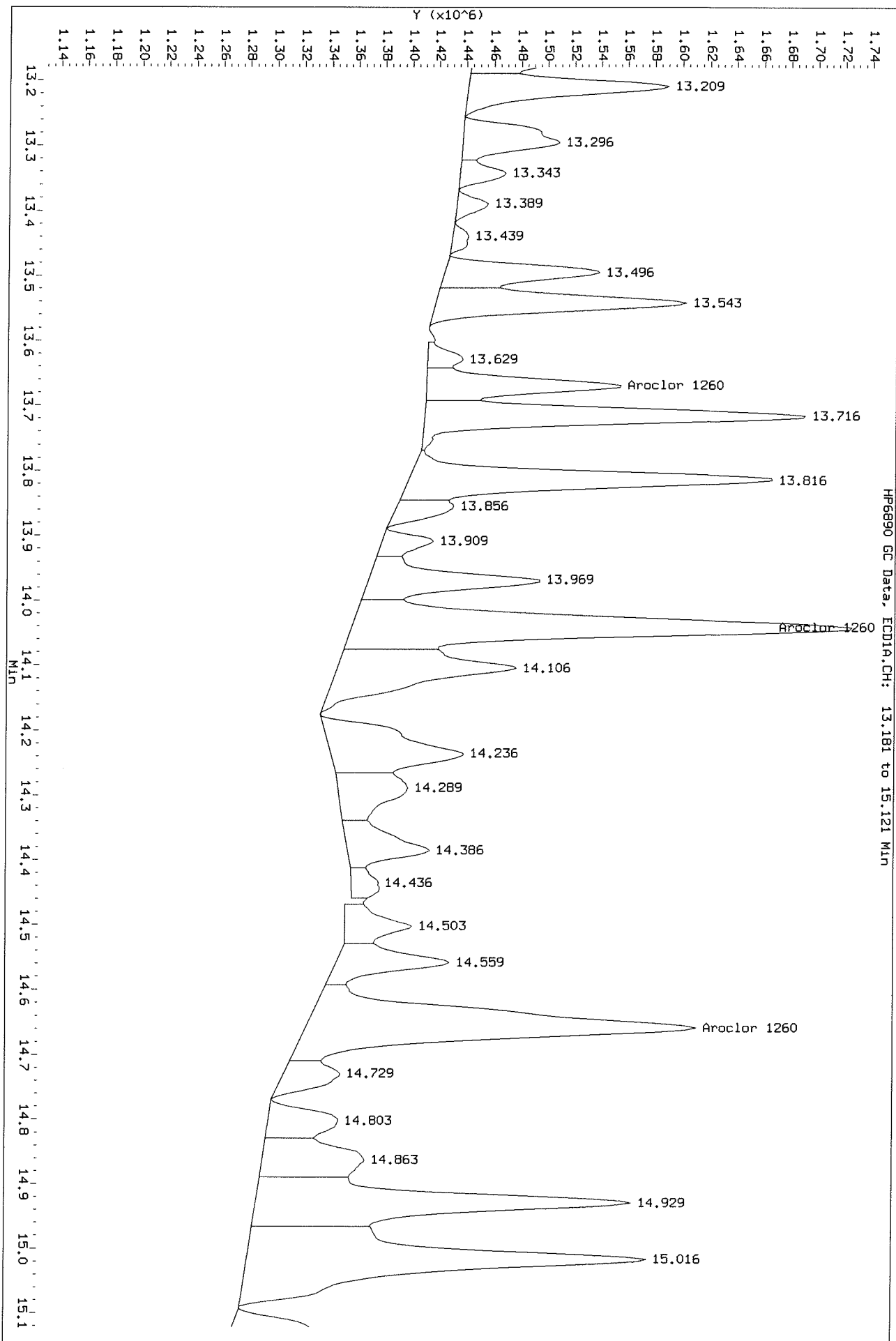
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Injection Date: 26-DEC-2020 16:53
Instrument: GC27.1
Client Sample ID:



After baseline/shoulder 12/28/20
12/28/20

Data File: \\naklsw003\instdata\GC27\Data\122620.b\1226f013.D
Injection Date: 26-DEC-2020 16:53
Instrument: GC27.1
Client Sample ID:

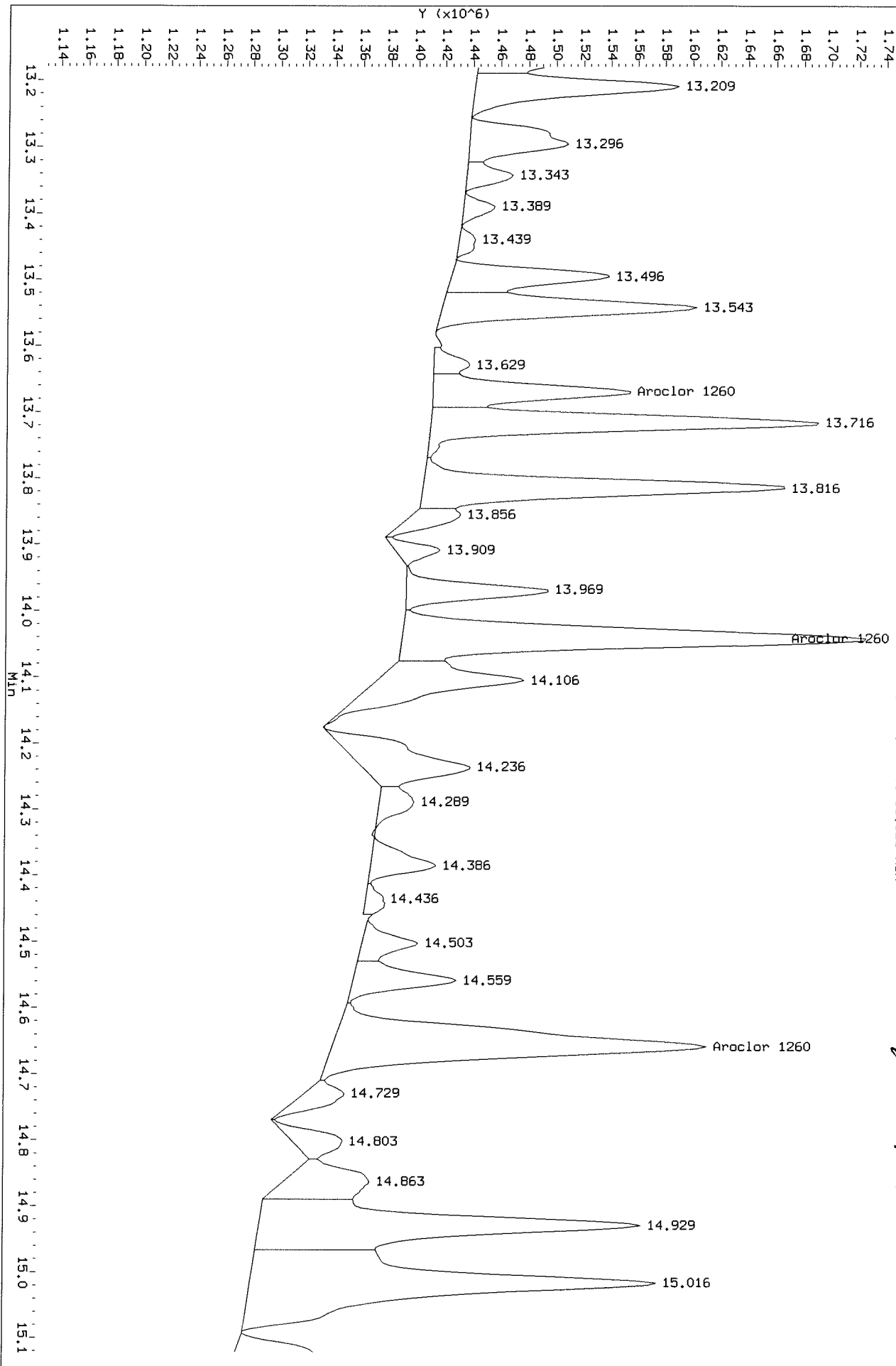
Before



Data File: \\naklms003\instdata\GC27\Data\122620.b\1226f013.D
Injection Date: 26-DEC-2020 16:53
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 13.181 to 15.121 Min

After baseline 12/28/20



Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F004.D
Lab ID: KWG2003341-4
RunType: MB
Matrix: SOIL

Date Acquired: 12/26/2020 12:11
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: SA 12/28/20

Secondary Review: SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F004.D
Lab ID: KWG2003341-4
RunType: MB
Matrix: SOIL

Date Acquired: 12/26/2020 12:11
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

SA 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F004.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F004.D	Vial:	3
Acqu Date:	12/26/2020 12:11	Quant Date:	12/28/2020 09:09
Run Type:	MB	MethodJoinID:	MJ1824
Lab ID:	KWG2003341-4	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:		Matrix:	SOIL
Prod Code:	8082A PCB	Collect Date:		Receive Date:	12/19/2020

Analysis Lot:	KWG2003438	Prep Lot:	KWG2003341	Report Group:	
Analysis Method:	8082A	Prep Method:	EPA 3541		
Prep Ref:	1762458	Prep Date:	12/10/2020		

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:		Method ID:	MJ1824
MB Ref:		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	6.61 ^{0.00}	7.94 ^{0.00}	7287671	4110853	3.32	3.35		67 OK
			%Recovery =		66 OK	67 OK	Limits = 50-150	
Decachlorobiphenyl	16.43 ^{0.00}	17.58	3823002	2516178	3.50	3.52		70 OK
			%Recovery =		70 OK	70 OK	Limits = 50-150	

Target Compounds

Target Compounds					Final Conc. Units:		ug/Kg Wet Weight		
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000	3.00U	3.00U	3.00U
Aroclor 1016 {1}			0d	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1016 {2}			0d	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1016 {3}			0d	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1016 {4}			0d	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1016 {5}			0d	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1221			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1221 {1}			0	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1221 {2}			0	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1221 {3}			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1232			0	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1232 {1}			0d	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1232 {2}			0d	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1232 {3}			0d	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1232 {4}			0d	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1232 {5}			0d	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1242			0	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1242 {1}			0d	0	0.0000	0.0000	3.0U	3.0U	

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:\GC27\DATA\122620.B\1226F004.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F004.D	Vial:	3
Acqu Date:	12/26/2020 12:11	Quant Date:	12/28/2020 09:09
Run Type:	MB	MethodJoinID:	MJ1824
Lab ID:	KWG2003341-4	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1242 {3}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1242 {4}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1242 {5}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1248			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1248 {1}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1248 {2}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1248 {3}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1248 {4}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1248 {5}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1254			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1254 {1}			Od	Od	0.0000	0.0000	3.0U	3.0U	
Aroclor 1254 {2}			Od	Od	0.0000	0.0000	3.0U	3.0U	
Aroclor 1254 {3}			Od	Od	0.0000	0.0000	3.0U	3.0U	
Aroclor 1254 {4}			Od	Od	0.0000	0.0000	3.0U	3.0U	
Aroclor 1254 {5}			Od	Od	0.0000	0.0000	3.0U	3.0U	
Aroclors, Total			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1260			0	0	0.0000	0.0000	3.00U	3.00U	3.00U
Aroclor 1260 {1}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1260 {2}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1260 {3}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1260 {4}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1260 {5}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1262			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1262 {1}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1262 {2}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1262 {3}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1262 {4}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1262 {5}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1268			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1268 {1}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1268 {2}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1268 {3}			Od	0	0.0000	0.0000	3.0U	3.0U	
Aroclor 1268 {4}			Od	0	0.0000	0.0000	3.0U	3.0U	

The +/- after Retention Time symbolize the direction of the RT shift

Prep Amount: 2.090 g
Prep Final Vol: 8 ml
Solids: %
Dilution: 1.0
Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F004.D
Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F004.D
Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F004.D
Inj Date : 26-DEC-2020 12:11
Sample Info: K3341-04MB
Misc Info : Kw62003341 EE12/28/2020
Cal Date : 28-DEC-2020 07:01
Operator : SM
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.610	7.936	7287671	4110853	3.32	3.34		100.00 (R)
Decachlorobiphenyl	16.433	17.579	3823002	2516178	3.50	3.52		100.00 (R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\nak1sws003\instdata\GC27\Data\122620.b\1226F004.D

Date : 26-DEC-2020 12:11

Client ID:

Sample Info: K5344-04HB

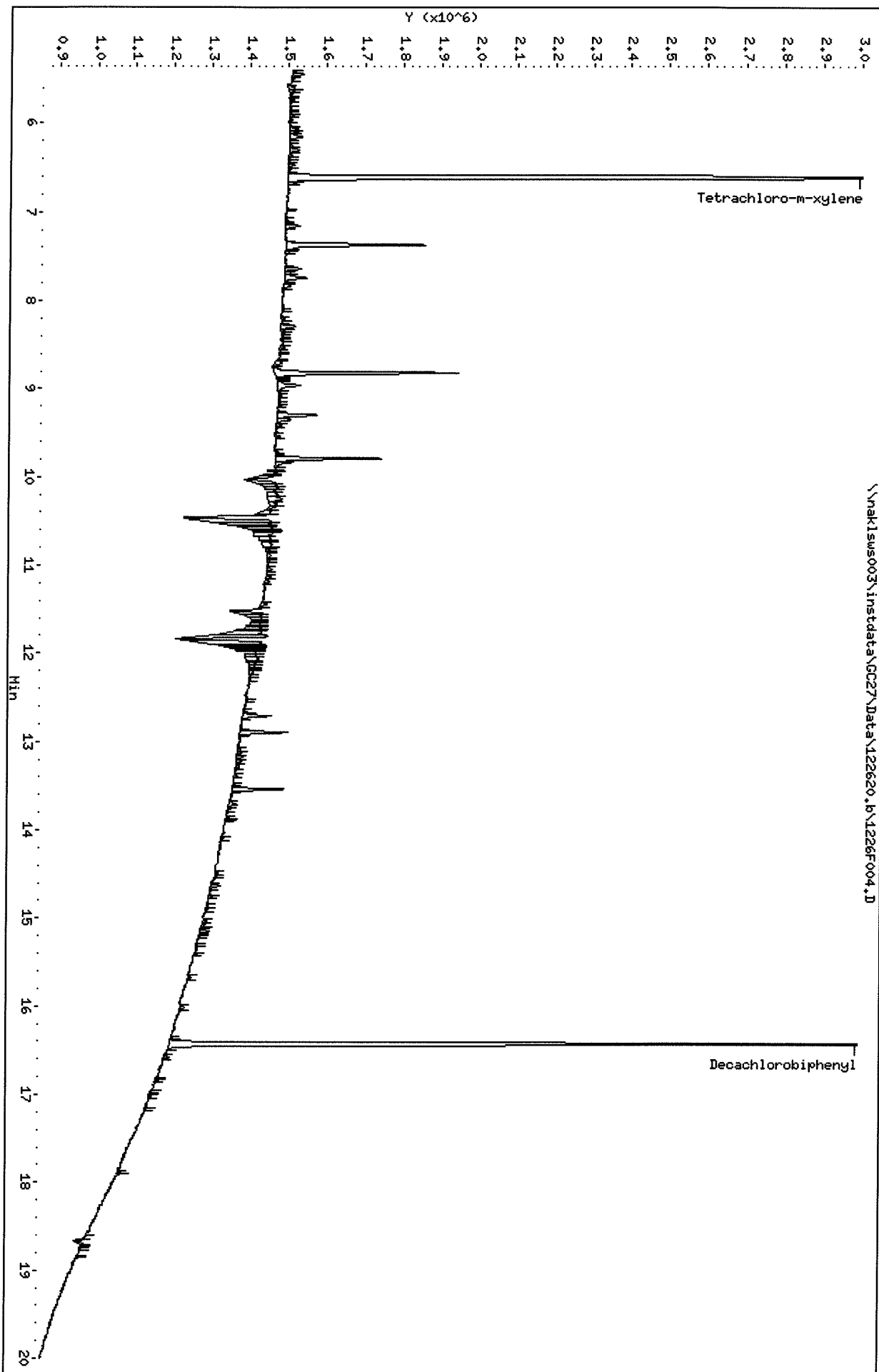
KW62007341 E E 12/26/2020

Column phase: DB-35MS

Instrument: GC27.i

Operator: SH

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\122620_r.b\1226F004.D
Date : 26-DEC-2020 12:11

Client ID:

Sample Info: ~~K3344-04HB~~

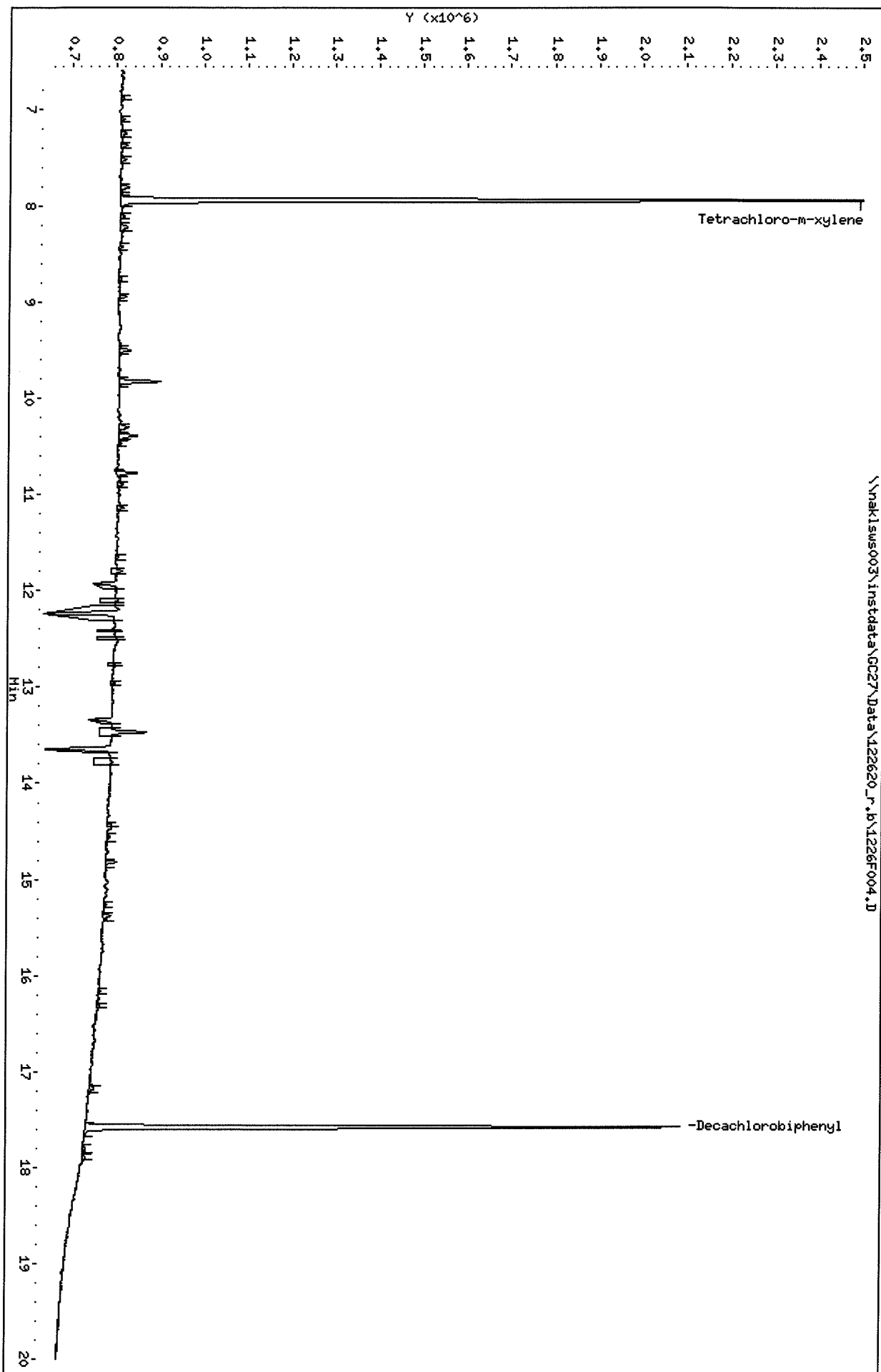
KW62003311 E6 12/21/20

Column phase: DB-XLB

Instrument: GC27.i

Operator: SM

Column diameter: 0.32



Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F010.D
Lab ID: KWG2003341-1 -- K2011446-004MS
RunType: MS
Matrix: SOIL

Date Acquired: 12/26/2020 15:19
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F010.D
Lab ID: KWG2003341-1 -- K2011446-004MS
RunType: MS
Matrix: SOIL

Date Acquired: 12/26/2020 15:19
Date Quantitated: 12/28/2020 09:10
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

SA 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F010.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F010.D	Vial:	9
Acqu Date:	12/26/2020 15:19	Quant Date:	12/28/2020 09:09
Run Type:	MS	MethodJoinID:	MJ1824
Lab ID:	KWG2003341-1 -- K2011446-004MS	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:		Matrix:	SOIL
Prod Code:	8082A PCB	Collect Date:		Receive Date:	12/19/2020

Analysis Lot:	KWG2003438	Prep Lot:	KWG2003341	Report Group:	
Analysis Method:	8082A	Prep Method:	EPA 3541		
Prep Ref:	1762455	Prep Date:	12/10/2020		

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:		Method ID:	MJ1824
MB Ref:		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2		Rpt
Tetrachloro-m-xylene	6.61 ^{0.00}	7.94 ^{0.00}	10468451	5350137	4.77	4.35		95 OK
			%Recovery =		95 OK	87 OK	Limits = 50-150	
Decachlorobiphenyl	16.43 ^{-0.01}	17.58 ^{0.00}	4714228	3129380	4.32	4.38		88 OK
			%Recovery =		86 OK	88 OK	Limits = 50-150	

Target Compounds

					Final Conc. Units:		ug/Kg Dry Weight		
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	29.99	32.12	251	269	251 ✓
Aroclor 1016 {1}	7.68 ^{-0.01}	8.66 ^{0.00}	1377279m	592288	34.74	26.47	290	221	
Aroclor 1016 {2}	8.91 ^{-0.01}	9.40 ^{+0.00}	981586m	911984	27.47	26.55	230	222	
Aroclor 1016 {3}	9.35 ^{-0.01}	10.57 ^{0.00}	0m	1282905	0.0000	32.83	6.3U	274	
Aroclor 1016 {4}	9.53 ^{0.00}	11.08 ^{0.00}	1738743m	999154	27.76	33.17	232	277	
Aroclor 1016 {5}	9.79 ^{+0.01}	11.31 ^{0.00}	0m	1149746	0.0000	41.58	6.3U	348	
Aroclor 1221			0	0	0.0000	0.0000	6.3U	6.3U	6.3U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1232			0	0	0.0000	0.0000	6.3U	6.3U	6.3U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1232 {5}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1242			0	0	0.0000	0.0000	6.3U	6.3U	6.3U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	6.3U	6.3U	

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:\GC27\DATA\122620.B\1226F010.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F010.D	Vial:	9
Acqu Date:	12/26/2020 15:19	Quant Date:	12/28/2020 09:09
Run Type:	MS	MethodJoinID:	MJ1824
Lab ID:	KWG2003341-1 -- K2011446-004MS	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1248			0	0	0.0000	0.0000	6.3U	6.3U	6.3U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1254			0	0	0.0000	0.0000	6.3U	6.3U	6.3U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclors, Total	1.00	1.00	3874111	2388226	60.32	61.54	504J	514J	504J
Aroclor 1260			0	0	30.32	29.42	253	246	246
Aroclor 1260 {1}	12.83 ^{0.00}	13.06 ^{0.00}	1222786	776829m	26.72	28.81	223	241	
Aroclor 1260 {2}	13.67 ^{0.00}	14.29 ^{0.00}	2109583	1262948m	28.43	28.95	238	242	
Aroclor 1260 {3}	13.82 ^{-0.01}	14.38 ^{0.00}	1619982	708706m	39.77	29.40	332	246	
Aroclor 1260 {4}	14.04 ^{-0.01}	14.65 ^{0.00}	4390842	1471053m	28.87	32.18	241	269	
Aroclor 1260 {5}	14.66 ^{0.00}	15.17 ^{0.00}	3198020	2785521m	27.82	27.75	233	232	
Aroclor 1262			0	0	0.0000	0.0000	6.3U	6.3U	6.3U
Aroclor 1262 {1}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1262 {2}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1262 {3}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1262 {4}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1262 {5}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1268			0	0	0.0000	0.0000	6.3U	6.3U	6.3U
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	6.3U	6.3U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	6.3U	6.3U	

The +/- after Retention Time symbolize the direction of the RT shift

Prep Amount: 2.019 g Dilution: 1.0
Prep Final Vol: 8 ml Unit Factor: 1
Solids: 47.4 %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F010.D
 Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F010.D
 Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F010.D
 Inj Date : 26-DEC-2020 15:19
 Sample Info: K2011446-004MS
 Misc Info :
 Cal Date : 28-DEC-2020 07:01
 Operator : SM
 Inst ID : GC27.i
 Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
 Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.611	7.937	10468451	5350137	4.77	4.35		100.00 (R)
Aroclor 1016	7.678	8.657	1377279	592288	34.7	26.5	80.00- 120.00	100.00 (MH)
	8.908	9.400	981586	911984	27.5	26.6	68.05- 102.08	71.27 (MH)
	9.348	10.567		1282905		32.8	138.46- 207.69	216.60 (MH)
	9.531	11.080	1738743	999154	27.8	33.2	125.58- 188.37	140.07 (MH)
	9.794	11.307		1149746		41.6	98.50- 147.76	194.12 (MH)
	Average of Peak Amounts =				30.0	32.1		
Aroclor 1260	12.831	13.064	1222786	776829	26.7	28.8	80.00- 120.00	100.00
	13.671	14.287	2109583	1262948	28.4	28.9	121.48- 182.22	172.52
	13.818	14.380	1619982	708706	39.8	29.4	70.12- 105.18	132.48
	14.044	14.647	4390842	1471053	28.9	32.2	252.90- 379.35	359.09
	14.661	15.174	3198020	2785521	27.8	27.8	185.22- 277.83	261.54
	Average of Peak Amounts =				30.3	29.4		
Decachlorobiphenyl	16.431	17.577	4714228	3129380	4.32	4.38		100.00 (R)
Aroclors, Total	1.000	1.000	3874111	2388226	60.3	61.5		0.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
 M - Compound response manually integrated.
 H - Operator selected an alternate compound hit.

Data File: \\nakisws003\instdata\GC27\Data\122620.b\1226F010.D
Date : 26-DEC-2020 15:19

Client ID:

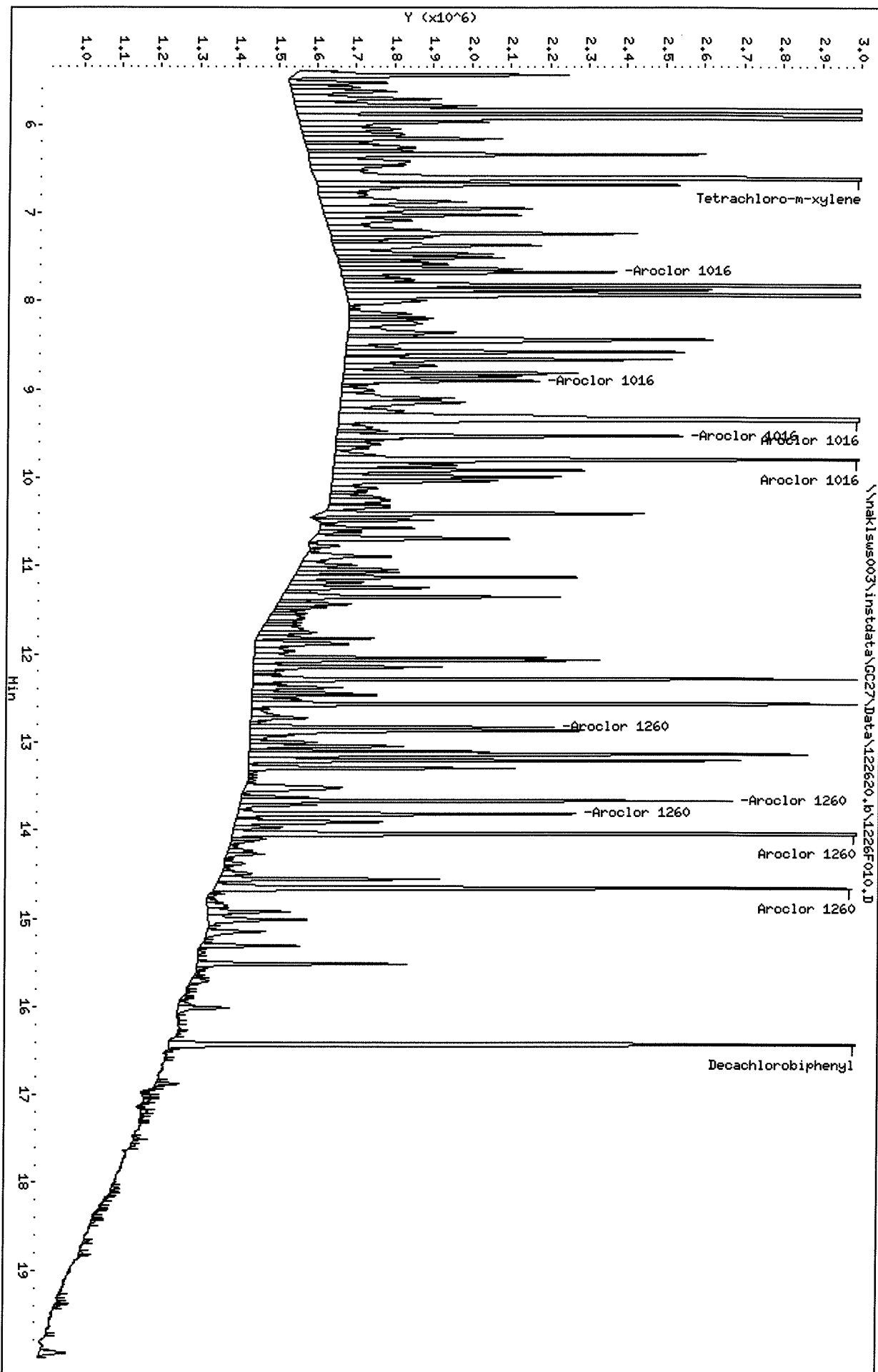
Sample Info: K201446-004HS

Column phase: DB-35MS

Instrument: GC27.i

Operator: SM

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\122620_r.b\1226F010.D
Date : 26-DEC-2020 15:19

Client ID:

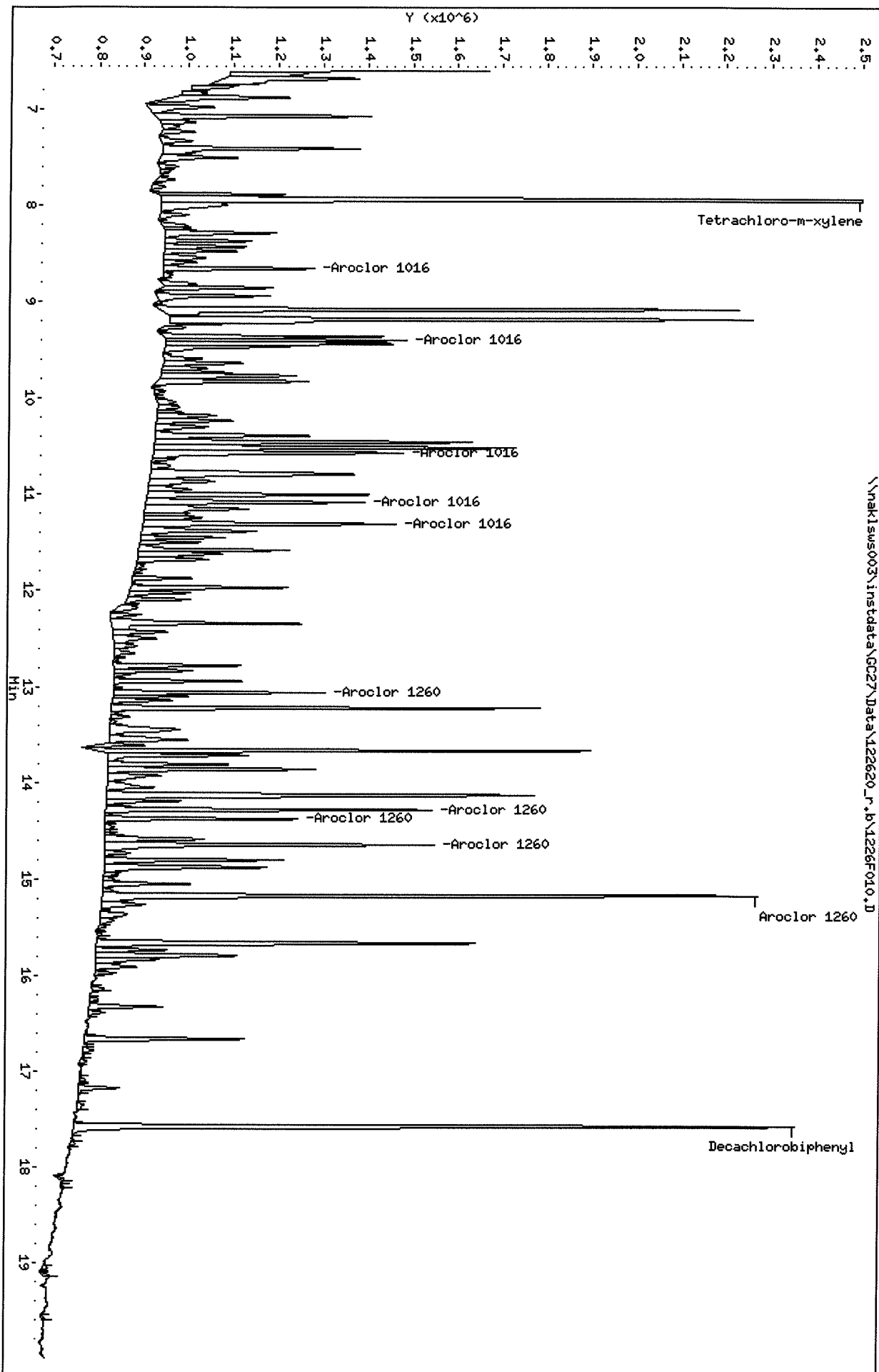
Sample Info: K2011446-004HS

Column phase: DB-XLB

Instrument: GC27.i

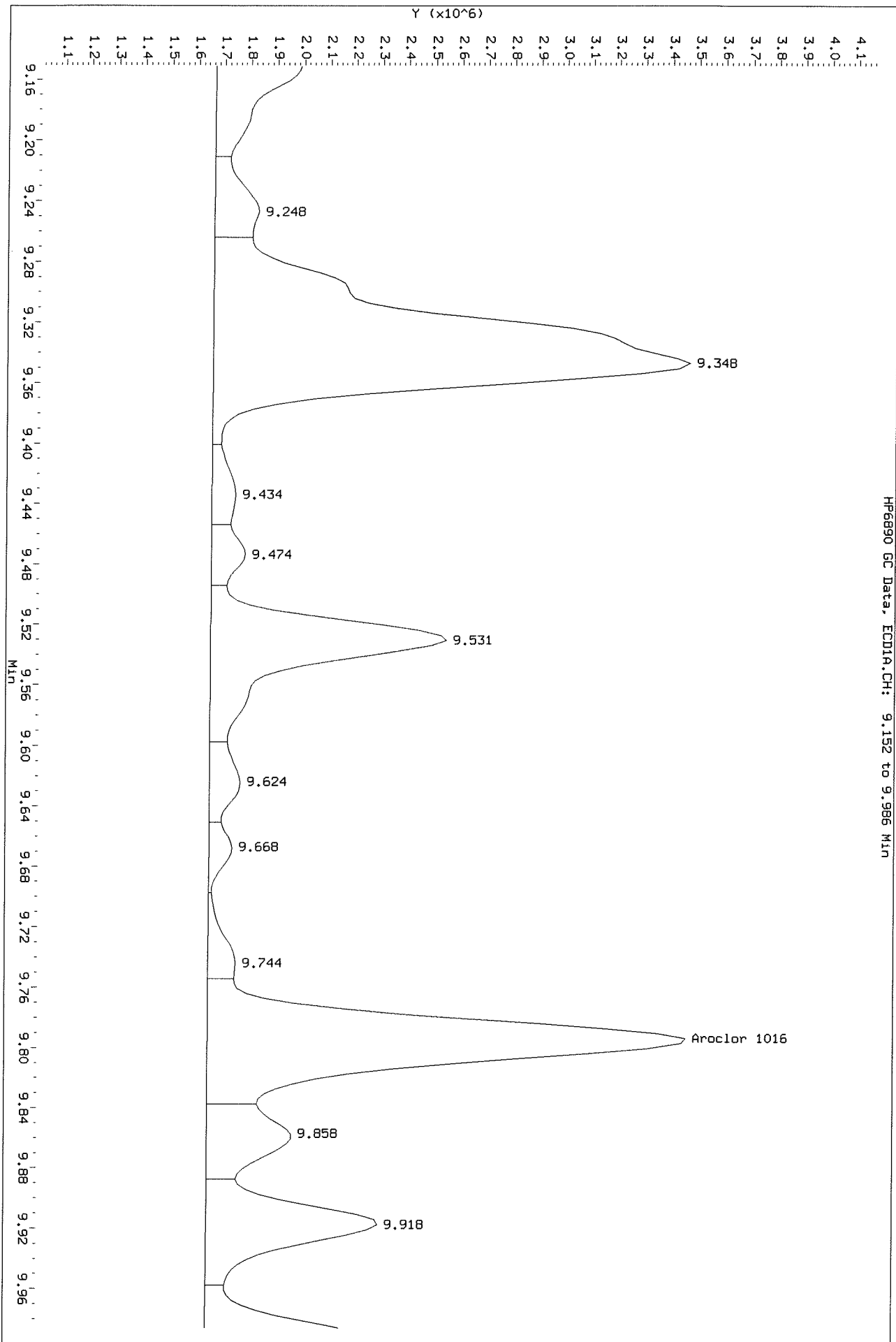
Operator: SM

Column diameter: 0.32



Data File: \\naklews003\Instdata\GC27\Data\122620.b\1226f010.D
Injection Date: 26-DEC-2020 15:19
Instrument: GC27.1
Client Sample ID:

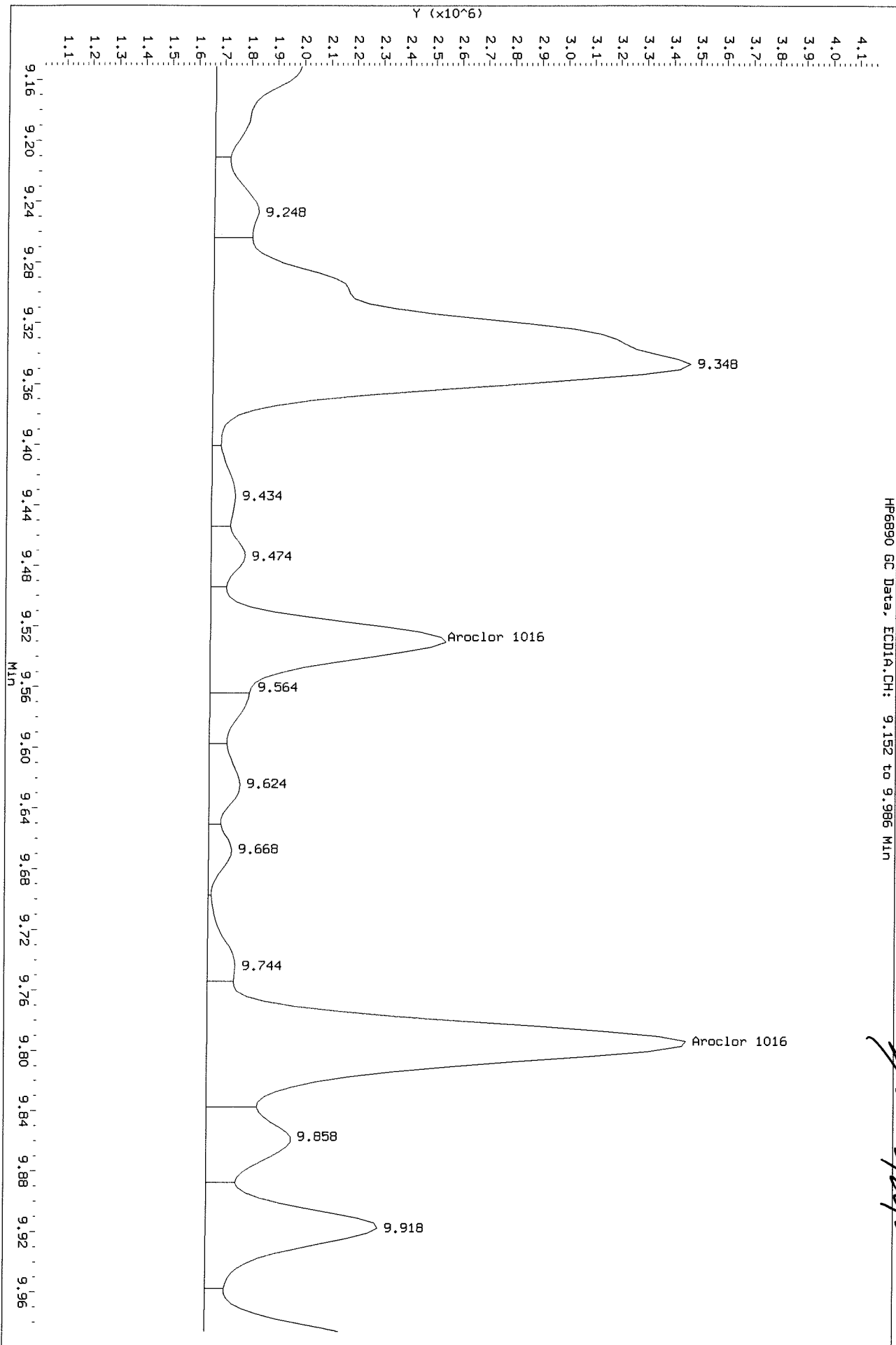
Before



Data File: \naklsws003\instdata\GC27\Data\122620.b\1226f010.D
Injection Date: 26-Dec-2020 15:19
Instrument: GC27.1
Client Sample ID:

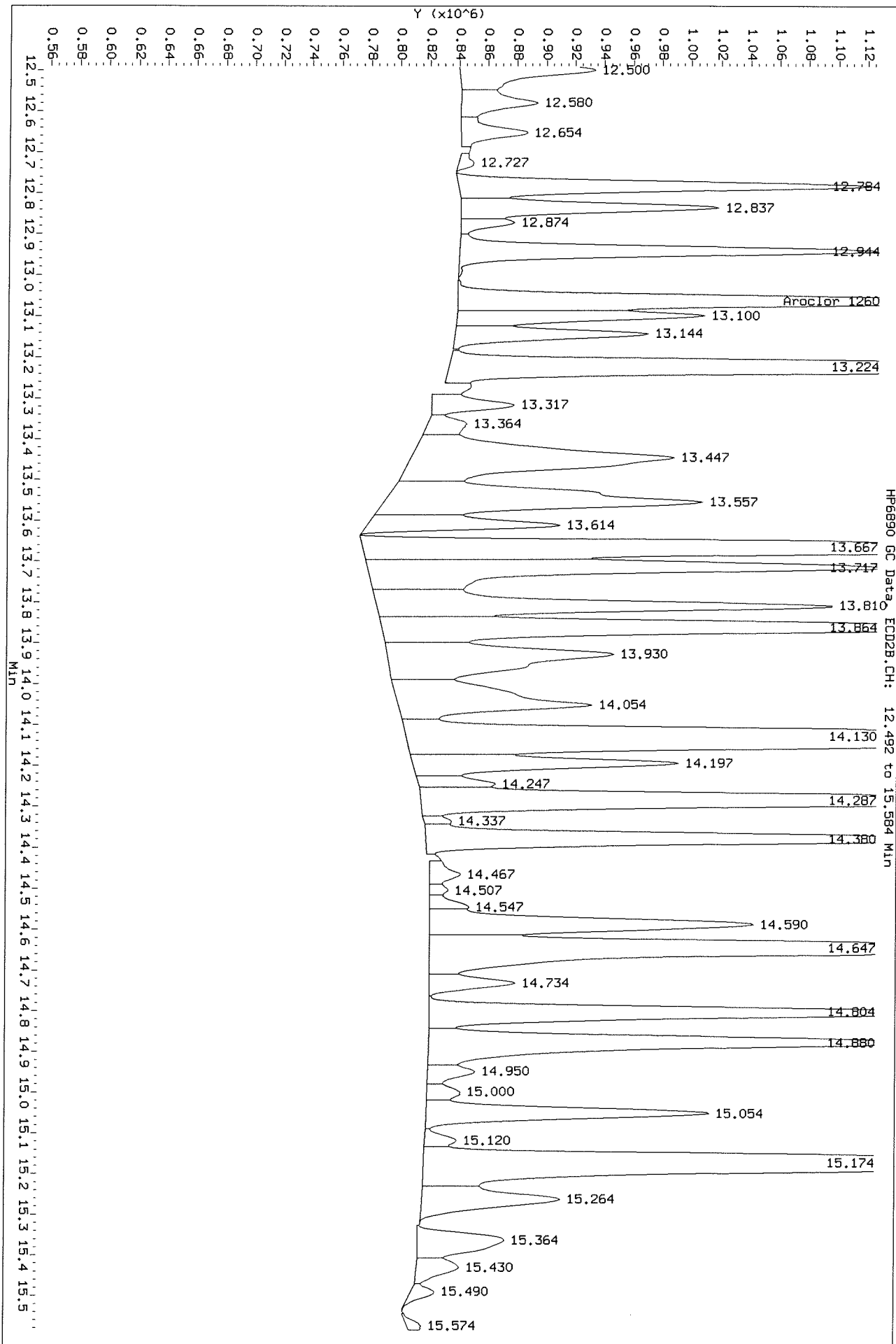
HP6890 GC Data, ECD1A.CH: 9.152 to 9.986 Min

*After Shoulder 12/28/20
for 12/28/20*



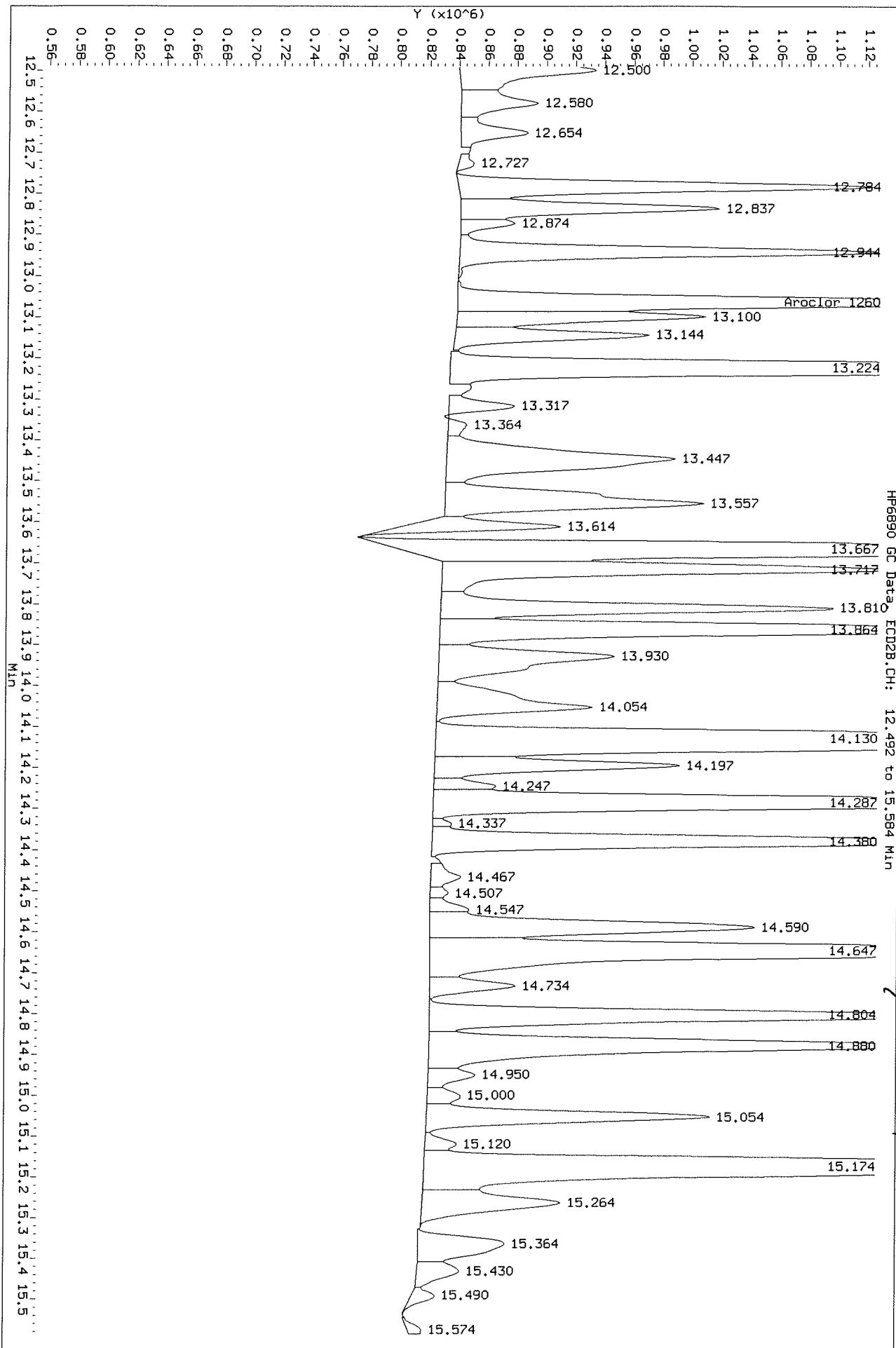
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Injection Date: 26-DEC-2020 15:19
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakjews003\Instdata\GC27\Data\122620_r.b\1226F010.D
Injection Date: 26-DEC-2020 15:19
Instrument: GC27.1
Client Sample ID:

After baseline
12/28/20
for 12/28/20



Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F011.D
Lab ID: KWG2003341-2 -- K2011446-004DMS
RunType: DMS
Matrix: SOIL

Date Acquired: 12/26/2020 15:50
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review: ATU23/20

Secondary Review: Jan 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F011.D
Lab ID: KWG2003341-2 -- K2011446-004DMS
RunType: DMS
Matrix: SOIL

Date Acquired: 12/26/2020 15:50
Date Quantitated: 12/28/2020 09:10
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/23/20

Secondary Review:

SA 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F011.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F011.D	Vial:	10
Acqu Date:	12/26/2020 15:50	Quant Date:	12/28/2020 09:09
Run Type:	DMS	MethodJoinID:	MJ1824
Lab ID:	KWG2003341-2 -- K2011446-004DMS	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:		Matrix:	SOIL
Prod Code:	8082A PCB	Collect Date:		Receive Date:	12/19/2020

Analysis Lot:	KWG2003438	Prep Lot:	KWG2003341	Report Group:	
Analysis Method:	8082A	Prep Method:	EPA 3541		
Prep Ref:	1762456	Prep Date:	12/10/2020		

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:		Method ID:	MJ1824
MB Ref:		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2				Rpt
Tetrachloro-m-xylene	6.61 ^{0.00}	7.94 ^{+0.00}	8743154	4983310	3.99	4.06				81 OK
			%Recovery =		80 OK	81 OK	Limits =	50-150		
Decachlorobiphenyl	16.43 ^{-0.01}	17.58 ^{0.00}	4055012	2713758	3.71	3.80				76 OK
			%Recovery =		74 OK	76 OK	Limits =	50-150		

Target Compounds

Final Conc. Units: ug/Kg Dry Weight									
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	26.32	30.94	213	250	213
Aroclor 1016 {1}	7.68 ^{-0.01}	8.66 ^{+0.00}	973213m	606910m	24.55	27.13	198	219	
Aroclor 1016 {2}	8.91 ^{-0.01}	9.40 ^{+0.00}	1004836m	918620m	28.12	26.75	227	216	
Aroclor 1016 {3}	9.35 ^{-0.01}	10.57 ^{0.00}	0m	1215343m	0.0000	31.11	6.1U	251	
Aroclor 1016 {4}	9.53 ^{0.00}	11.08 ^{+0.00}	1646811m	968073m	26.30	32.14	212	260	
Aroclor 1016 {5}	9.79 ^{+0.00}	11.31 ^{0.00}	0m	1039407m	0.0000	37.59	6.1U	304	
Aroclor 1221			0	0	0.0000	0.0000	6.1U	6.1U	6.1U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1232			0	0	0.0000	0.0000	6.1U	6.1U	6.1U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1232 {5}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1242			0	0	0.0000	0.0000	6.1U	6.1U	6.1U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	6.1U	6.1U	

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:\GC27\DATA\122620.B\1226F011.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F011.D	Vial:	10
Acqu Date:	12/26/2020 15:50	Quant Date:	12/28/2020 09:09
Run Type:	DMS	MethodJoinID:	MJ1824
Lab ID:	KWG2003341-2 -- K2011446-004DMS	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units: ug/Kg Dry Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1248			0	0	0.0000	0.0000	6.1U	6.1U	6.1U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1254			0	0	0.0000	0.0000	6.1U	6.1U	6.1U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclors, Total	1.00	1.00	3471656	2208443	53.71	57.24	434J	462J	434J
Aroclor 1260			0	0	27.39	26.30	221	212	212
Aroclor 1260 {1}	12.83 ^{0.00}	13.06 ^{0.00}	1140480	703821	24.92	26.10	201	211	
Aroclor 1260 {2}	13.67 ^{0.00}	14.29 ^{0.00}	1892516	1133140	25.51	25.97	206	210	
Aroclor 1260 {3}	13.82 ^{-0.01}	14.38 ^{0.00}	1441819	622044	35.40	25.81	286	209	
Aroclor 1260 {4}	14.04 ^{-0.01}	14.65 ^{0.00}	3948212	1292260	25.96	28.27	210	228	
Aroclor 1260 {5}	14.66 ^{0.00}	15.17 ^{0.00}	2893821	2542598	25.17	25.33	203	205	
Aroclor 1262			0	0	0.0000	0.0000	6.1U	6.1U	6.1U
Aroclor 1262 {1}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1262 {2}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1262 {3}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1262 {4}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1262 {5}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1268			0	0	0.0000	0.0000	6.1U	6.1U	6.1U
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	6.1U	6.1U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	6.1U	6.1U	

The +/- after Retention Time symbolize the direction of the RT shift

Prep Amount: 2.089 g Dilution: 1.0
Prep Final Vol: 8 ml Unit Factor: 1
Solids: 47.4 %

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F011.D
 Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F011.D
 Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F011.D
 Inj Date : 26-DEC-2020 15:50
 Sample Info: K2011446-004DMS
 Misc Info :
 Cal Date : 28-DEC-2020 07:01
 Operator : SM
 Inst ID : GC27.i
 Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
 Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.611	7.940	8743154	4983310	3.99	4.05		100.00 (R)
Aroclor 1016	7.677	8.660	973213	606910	24.6	27.1	80.00- 120.00	100.00 (M)
	8.907	9.400	1004836	918620	28.1	26.7	68.05- 102.08	103.25 (M)
	9.347	10.567		1215343		31.1	138.46- 207.69	200.25 (M)
	9.531	11.083	1646811	968073	26.3	32.1	125.58- 188.37	193.55 (M)
	9.791	11.307		1039407		37.6	98.50- 147.76	171.26 (M)
	Average of Peak Amounts =				26.3	30.9		
Aroclor 1260	12.831	13.063	1140480	703821	24.9	26.1	80.00- 120.00	100.00
	13.671	14.287	1892516	1133140	25.5	26.0	121.48- 182.22	165.94
	13.817	14.380	1441819	622044	35.4	25.8	70.12- 105.18	126.42
	14.044	14.647	3948212	1292260	26.0	28.3	252.90- 379.35	346.19
	14.661	15.173	2893821	2542598	25.2	25.3	185.22- 277.83	253.74
	Average of Peak Amounts =				27.4	26.3		
Decachlorobiphenyl	16.431	17.577	4055012	2713758	3.71	3.80		100.00 (R)
Aroclors, Total	1.000	1.000	3471656	2208443	53.7	57.2		0.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
 M - Compound response manually integrated.

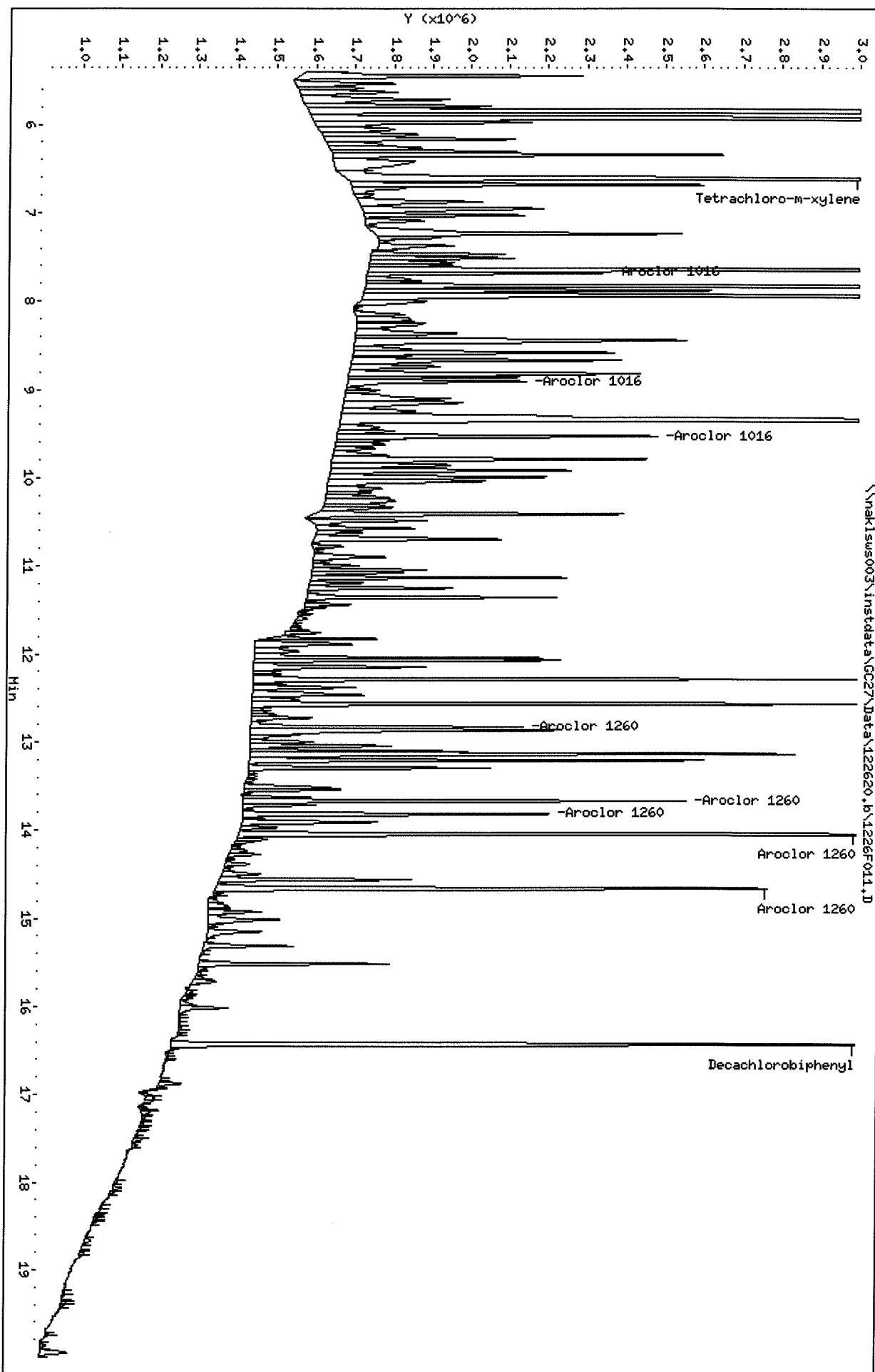
Data File: \\nakisus003\instdata\GC27\Data\122620.b\1226F011.D
Date : 26-DEC-2020 15:50

Client ID:
Sample Info: K2011446-004DHS

Column phase: DB-35MS

Instrument: GC27.i

Operator: SM
Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\122620_r.b\1226F011.D

Date : 26-DEC-2020 15:50

Client ID:

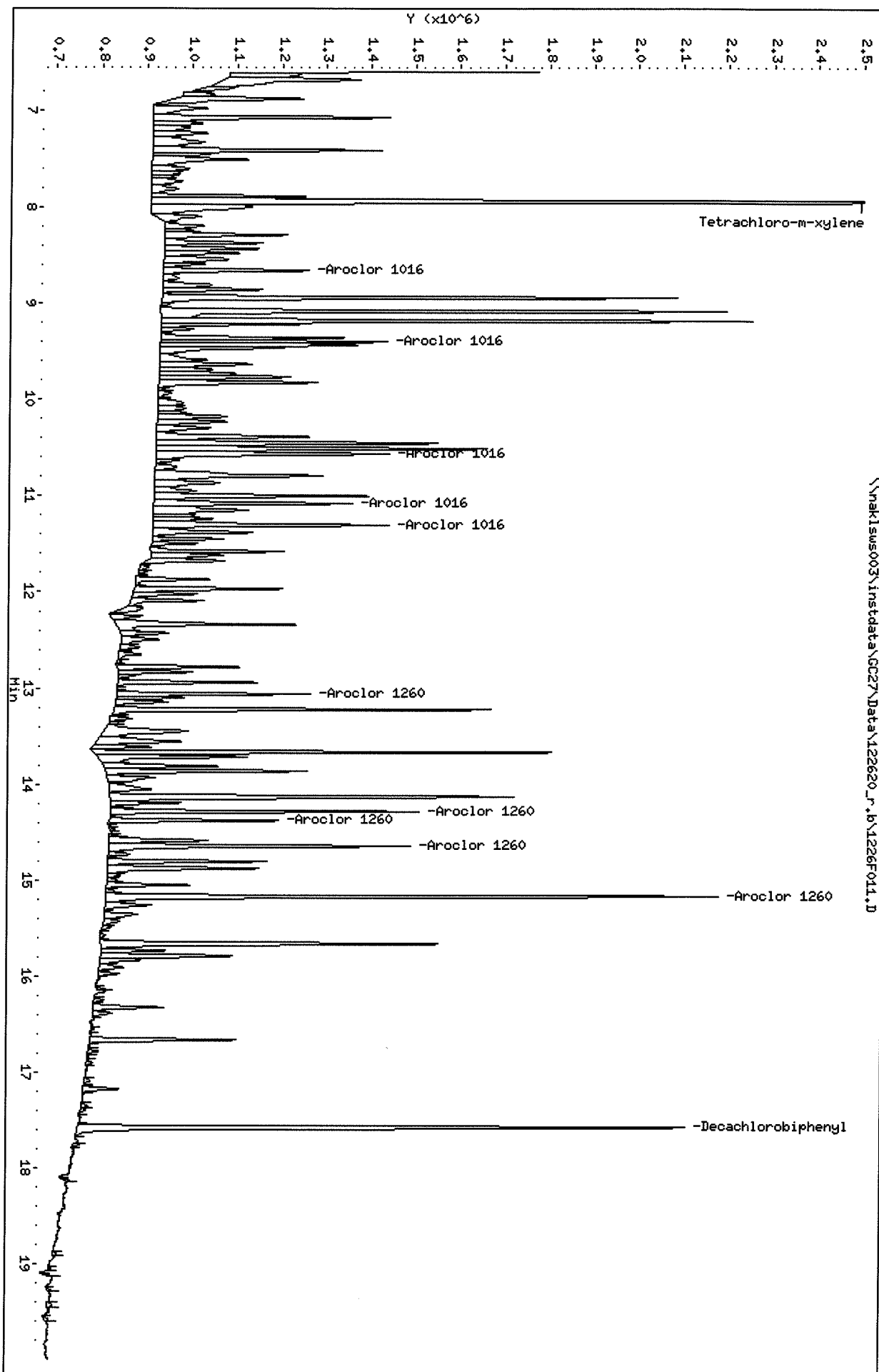
Sample Info: K2011446-004DHS

Column phase: DB-XLB

Instrument: GC27.i

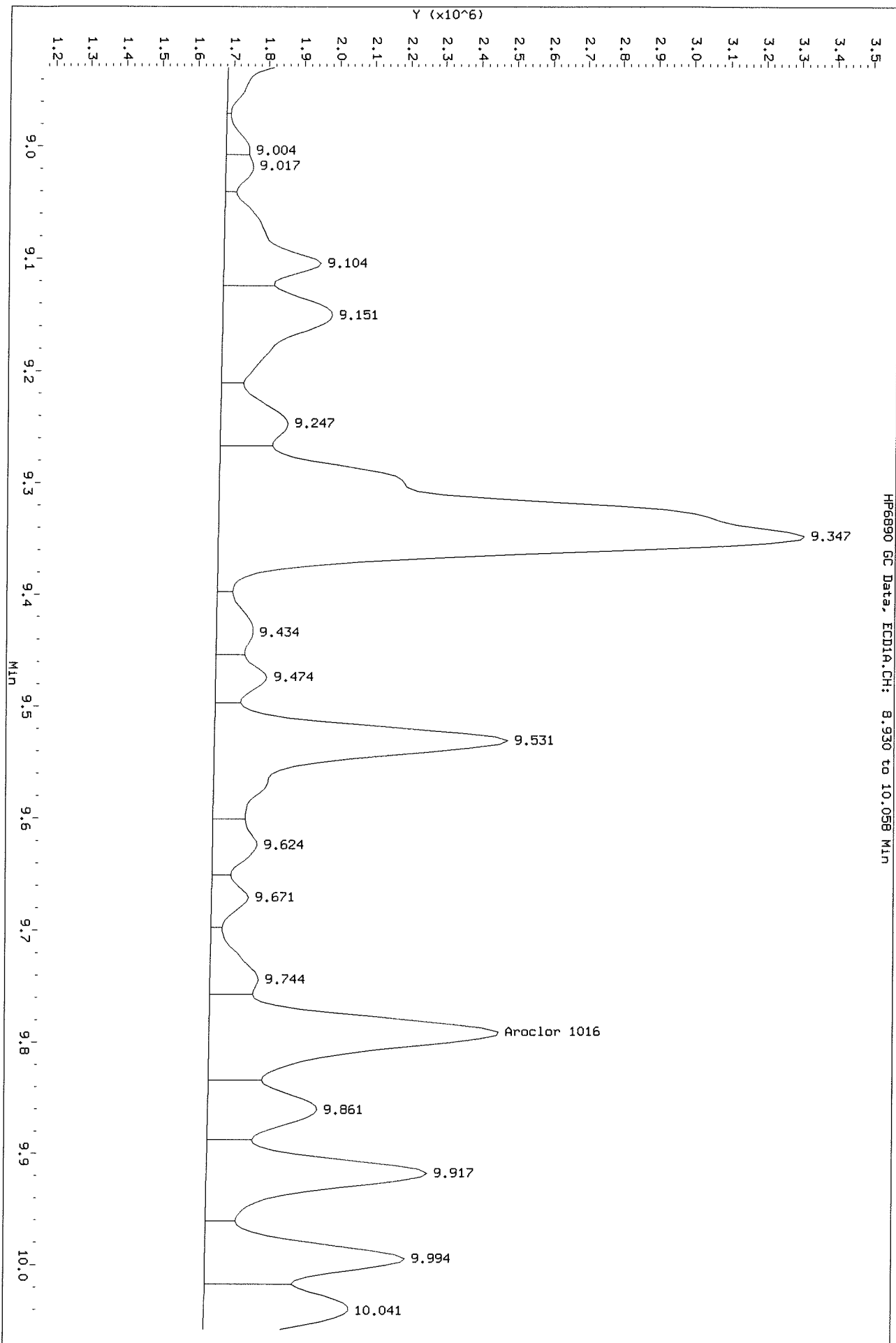
Operator: SM

Column diameter: 0.32



Data File: \\nakjsw003\instdata\GC27\Data\122620.b\1226f011.D
Injection Date: 26-DEC-2020 15:50
Instrument: GC27.1
Client Sample ID:

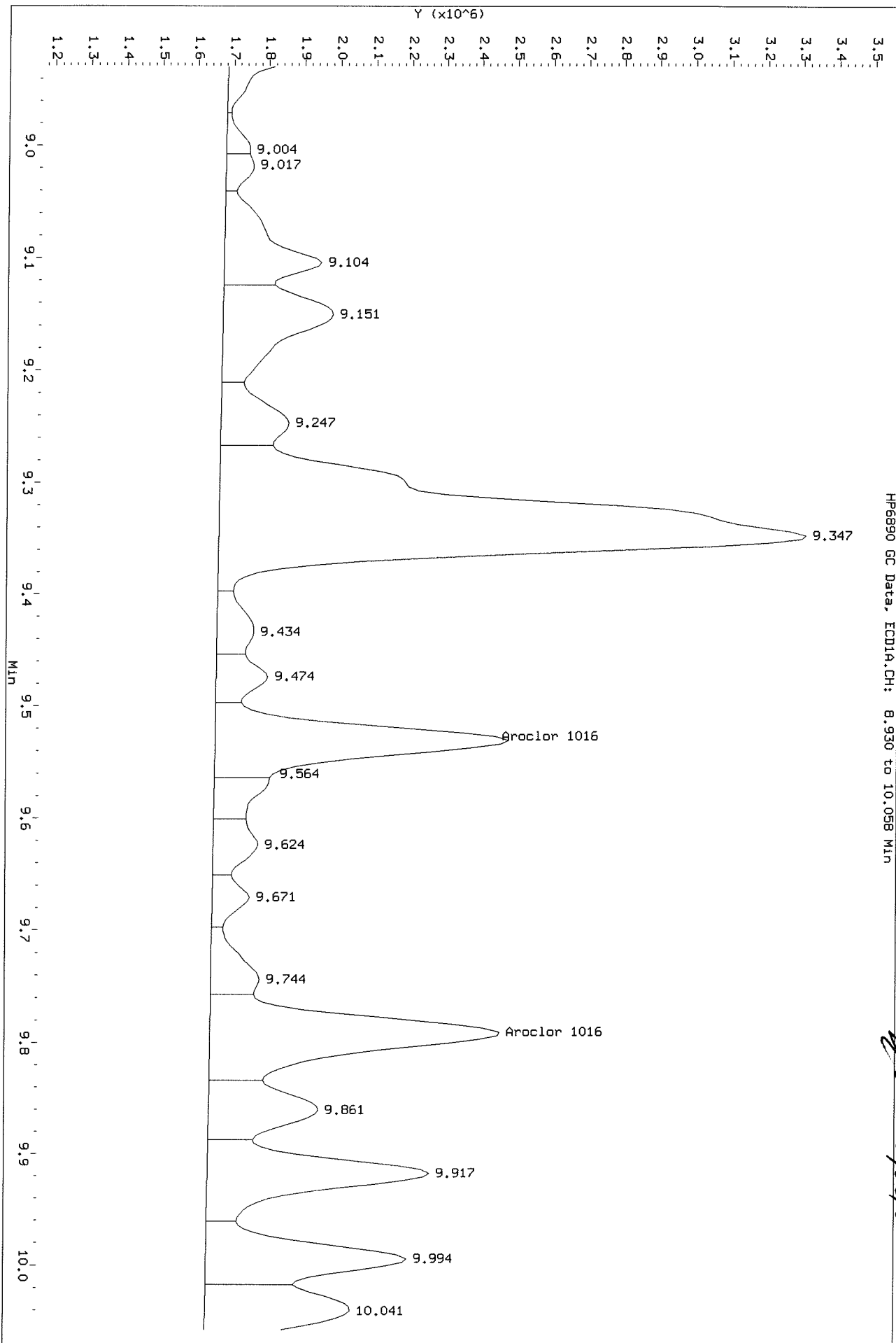
Before



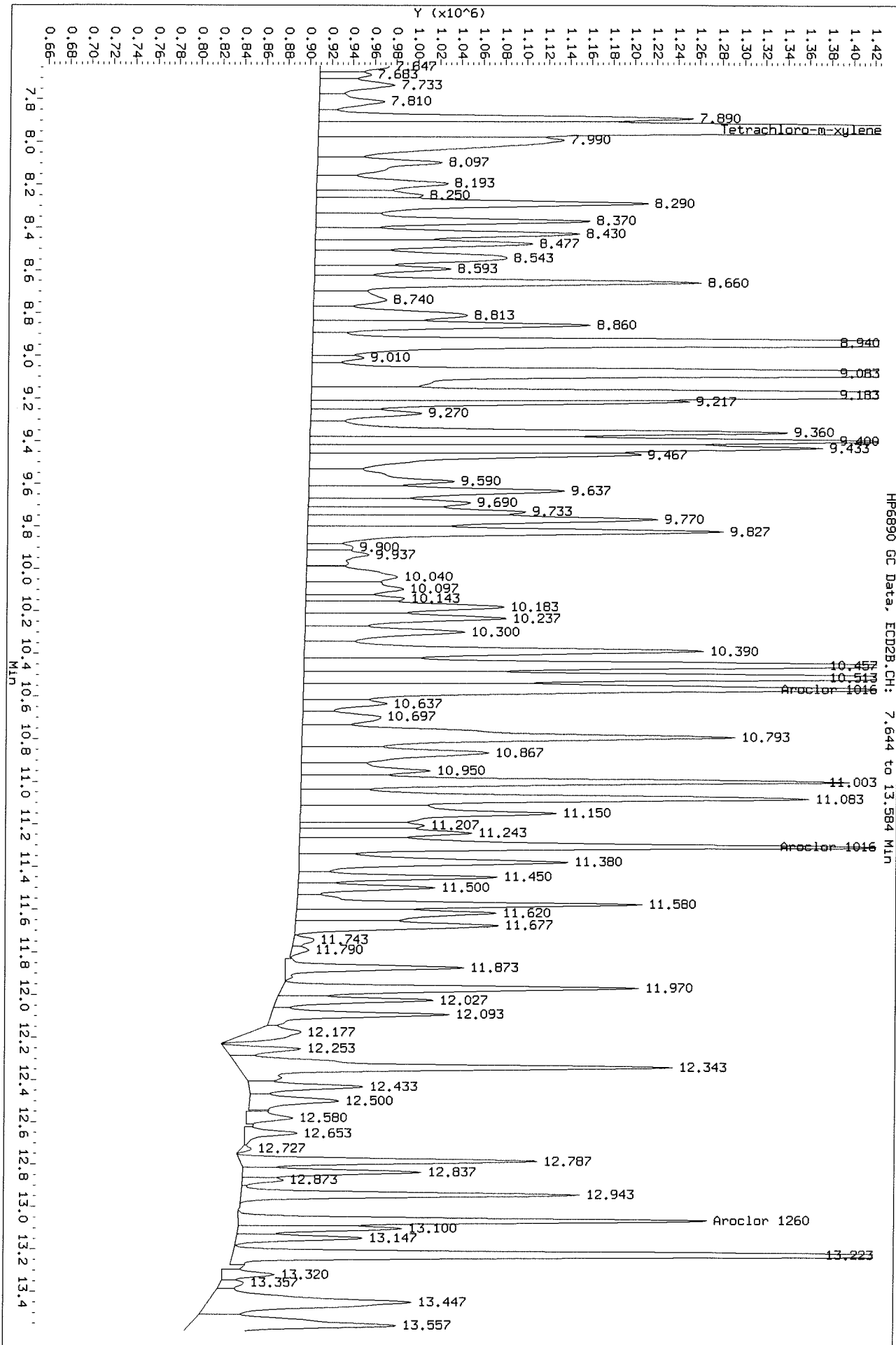
Data File: \\naki\sws003\instdata\GC27\Data\122620.b\1226f011.D
Injection Date: 26-DEC-2020 13:30
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.930 to 10.058 Min

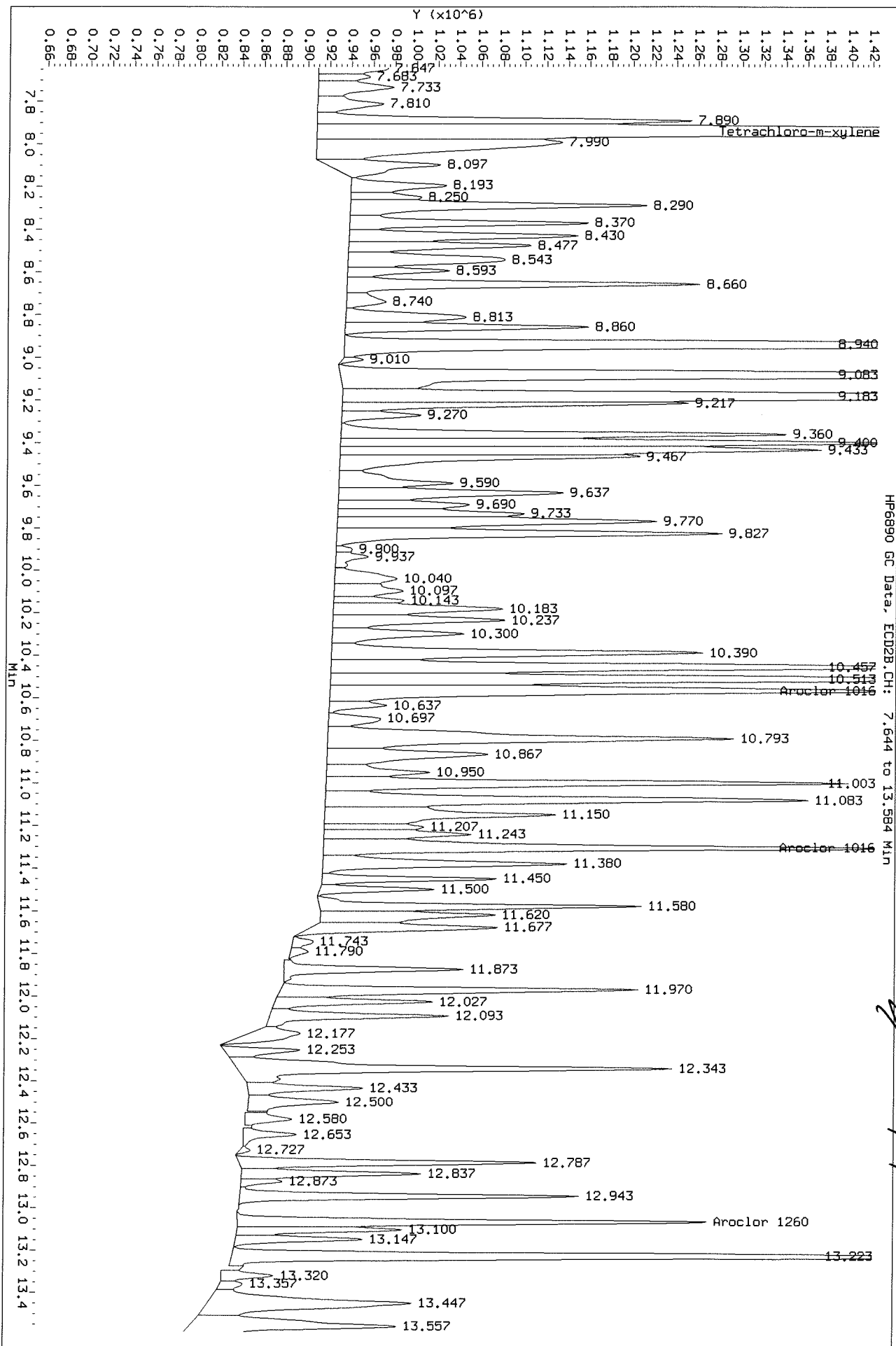
*After should 12/28/2020
12/28/20*



Data File: \\naklews003\instdata\GC27\Data\122620_r.b\1226F011.D
Injection Date: 26-DEC-2020 15:50
Instrument: GC27.1
Client Sample ID:



Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F011.D
Injection Date: 26-DEC-2020 15:50
Instrument: GC27.1
Client Sample ID:



After baseline 12/28/20
for 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F005.D
Lab ID: KWG2003341-3
RunType: LCS
Matrix: SOIL

Date Acquired: 12/26/2020 12:43
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

SA 12/28/20

Secondary Review:

SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F005.D
Lab ID: KWG2003341-3
RunType: LCS
Matrix: SOIL

Date Acquired: 12/26/2020 12:43
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Analytical Holding Time	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Primary Review:

ST 12/28/20

Secondary Review:

SA 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F005.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F005.D	Vial:	4
Acqu Date:	12/26/2020 12:43	Quant Date:	12/28/2020 09:09
Run Type:	LCS	MethodJoinID:	MJ1824
Lab ID:	KWG2003341-3	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:		Matrix:	SOIL
Prod Code:	8082A PCB	Collect Date:		Receive Date:	12/19/2020

Analysis Lot:	KWG2003438	Prep Lot:	KWG2003341	Report Group:	
Analysis Method:	8082A	Prep Method:	EPA 3541		
Prep Ref:	1762457	Prep Date:	12/10/2020		

Quant Method:	\\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:		Method ID:	MJ1824
MB Ref:		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2		Rpt
Tetrachloro-m-xylene	6.61 ^{0.00}	7.94 ^{0.00}	6167467	3505468	2.81	2.85		57 OK
			%Recovery =		56 OK	57 OK	Limits = 50-150	
Decachlorobiphenyl	16.43 ^{-0.01}	17.58 ^{+0.00}	3276892	2167314	3.00	3.03		61 OK
			%Recovery =		60 OK	61 OK	Limits = 50-150	

Target Compounds

					Final Conc. Units:		ug/Kg Wet Weight		
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	18.03	17.12	72.1	68.5	68.5 ✓
Aroclor 1016 {1}	7.68 ^{0.00}	8.66 ^{+0.00}	619620	394036	15.63	17.61	62.5	70.5	
Aroclor 1016 {2}	8.91 ^{0.00}	9.40 ^{+0.00}	584142	588264	16.35	17.13	65.4	68.5	
Aroclor 1016 {3}	9.35 ^{0.00}	10.57 ^{+0.00}	1830502	653804	17.52	16.73	70.1	66.9	
Aroclor 1016 {4}	9.53 ^{0.00}	11.08 ^{+0.00}	1019523	497758	16.28	16.52	65.1	66.1	
Aroclor 1016 {5}	9.79 ^{+0.00}	11.31 ^{+0.00}	1065376	486772	24.38	17.60	97.5	70.4	
Aroclor 1221			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1221 {1}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1221 {2}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1221 {3}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1232			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1232 {1}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1232 {2}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1232 {3}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1232 {4}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1232 {5}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1242			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1242 {1}			0d	0d	0.0000	0.0000	3.0U	3.0U	

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:\GC27\DATA\122620.B\1226F005.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F005.D	Vial:	4
Acqu Date:	12/26/2020 12:43	Quant Date:	12/28/2020 09:09
Run Type:	LCS	MethodJoinID:	MJ1824
Lab ID:	KWG2003341-3	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units: ug/Kg Wet Weight

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1242 {3}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1242 {4}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1242 {5}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1248			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1248 {1}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1248 {2}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1248 {3}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1248 {4}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1248 {5}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1254			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1254 {1}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1254 {2}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1254 {3}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1254 {4}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1254 {5}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclors, Total	1.00	1.00	2581745	1456572	36.07	36.74	144J	147J	144✓
Aroclor 1260			0	0	18.03	19.62	72.1	78.5	72.1✓
Aroclor 1260 {1}	12.83 ^{0.00}	13.06 ^{0.00}	762816	511342m	16.67	18.96	66.7	75.8	
Aroclor 1260 {2}	13.67 ^{0.00}	14.29 ^{0.00}	1363447	902596m	18.38	20.69	73.5	82.8	
Aroclor 1260 {3}	13.83 ^{0.00}	14.38 ^{+0.00}	754277	494088m	18.52	20.50	74.1	82.0	
Aroclor 1260 {4}	14.05 ^{0.00}	14.65 ^{0.00}	2870231	881556m	18.87	19.29	75.5	77.1	
Aroclor 1260 {5}	14.66 ^{0.00}	15.18 ^{+0.00}	2038794	1872644m	17.73	18.66	70.9	74.6	
Aroclor 1262			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1262 {1}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1262 {2}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1262 {3}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1262 {4}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1262 {5}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1268			0	0	0.0000	0.0000	3.0U	3.0U	3.0U
Aroclor 1268 {1}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1268 {2}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1268 {3}			0d	0d	0.0000	0.0000	3.0U	3.0U	
Aroclor 1268 {4}			0d	0d	0.0000	0.0000	3.0U	3.0U	

The +/- after Retention Time symbolize the direction of the RT shift

Prep Amount: 2.000 g
Prep Final Vol: 8 ml
Solids: %
Dilution: 1.0
Unit Factor: 1

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / (Prep Amount x Solids)) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F005.D
 Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F005.D
 Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F005.D
 Inj Date : 26-DEC-2020 12:43
 Sample Info: K3341-03LCS
 Misc Info : Kw6200334 EE 12/28/20
 Cal Date : 28-DEC-2020 07:01
 Operator : SM
 Inst ID : GC27.i
 Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
 Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.611	7.937	6167467	3505468	2.81	2.85		100.00 (R)
Aroclor 1016	7.681	8.661	619620	394036	15.6	17.6	80.00- 120.00	100.00
	8.911	9.401	584142	588264	16.3	17.1	68.05- 102.08	94.27
	9.351	10.571	1830502	653804	17.5	16.7	361.26- 541.89	295.42
	9.531	11.084	1019523	497758	16.3	16.5	125.58- 188.37	164.54
	9.791	11.311	1065376	486772	24.4	17.6	81.63- 122.44	171.94
	Average of Peak Amounts =				18.0	17.1		
Aroclor 1260	12.831	13.064	762816	511342	16.7	19.0	80.00- 120.00	100.00
	13.671	14.287	1363447	902596	18.4	20.7	121.48- 182.22	178.74
	13.825	14.384	754277	494088	18.5	20.5	70.12- 105.18	98.88
	14.045	14.647	2870231	881556	18.9	19.3	252.90- 379.35	376.27
	14.661	15.177	2038794	1872644	17.7	18.7	185.22- 277.83	267.27
	Average of Peak Amounts =				18.0	19.6		
Decachlorobiphenyl	16.431	17.581	3276892	2167314	3.00	3.03		100.00 (RH)
Aroclors, Total	1.000	1.000	2581745	1456572	36.1	36.7		0.00

QC Flag Legend

R - Spike/Surrogate failed recovery limits.
 H - Operator selected an alternate compound hit.

Data File: \\nakisws003\instdata\GC27\Data\122620.b\1226F005.D
Date : 26-DEC-2020 12:43

Client ID:

Sample Info: ~~K3941-03LCS~~

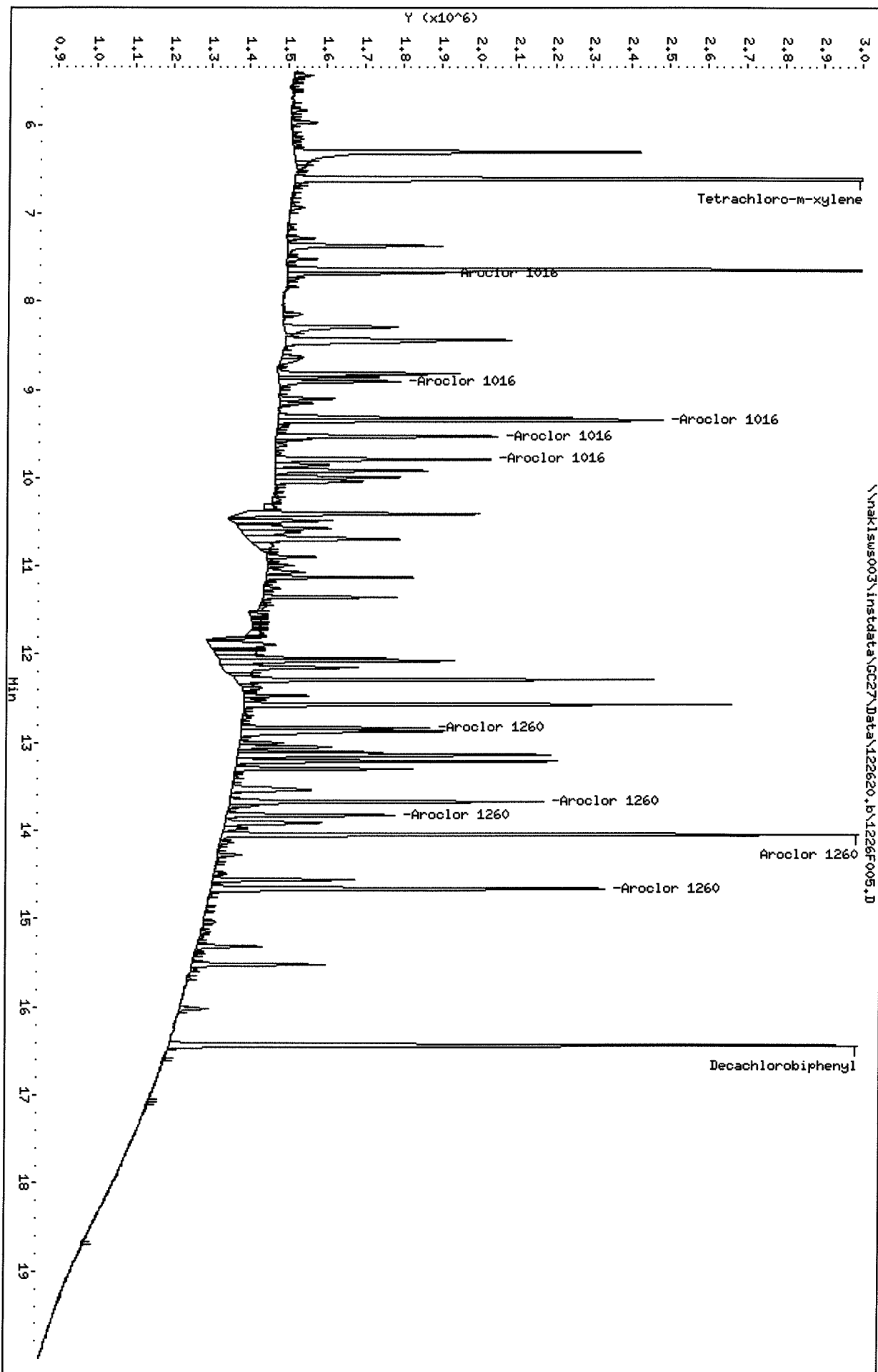
KW62003341 EEL/ELI/207

Column phase: DB-35MS

Instrument: GC27.i

Operator: SM

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F005.D

Date : 26-DEC-2020 12:43

Client ID:

Sample Info: K2344-03LCS

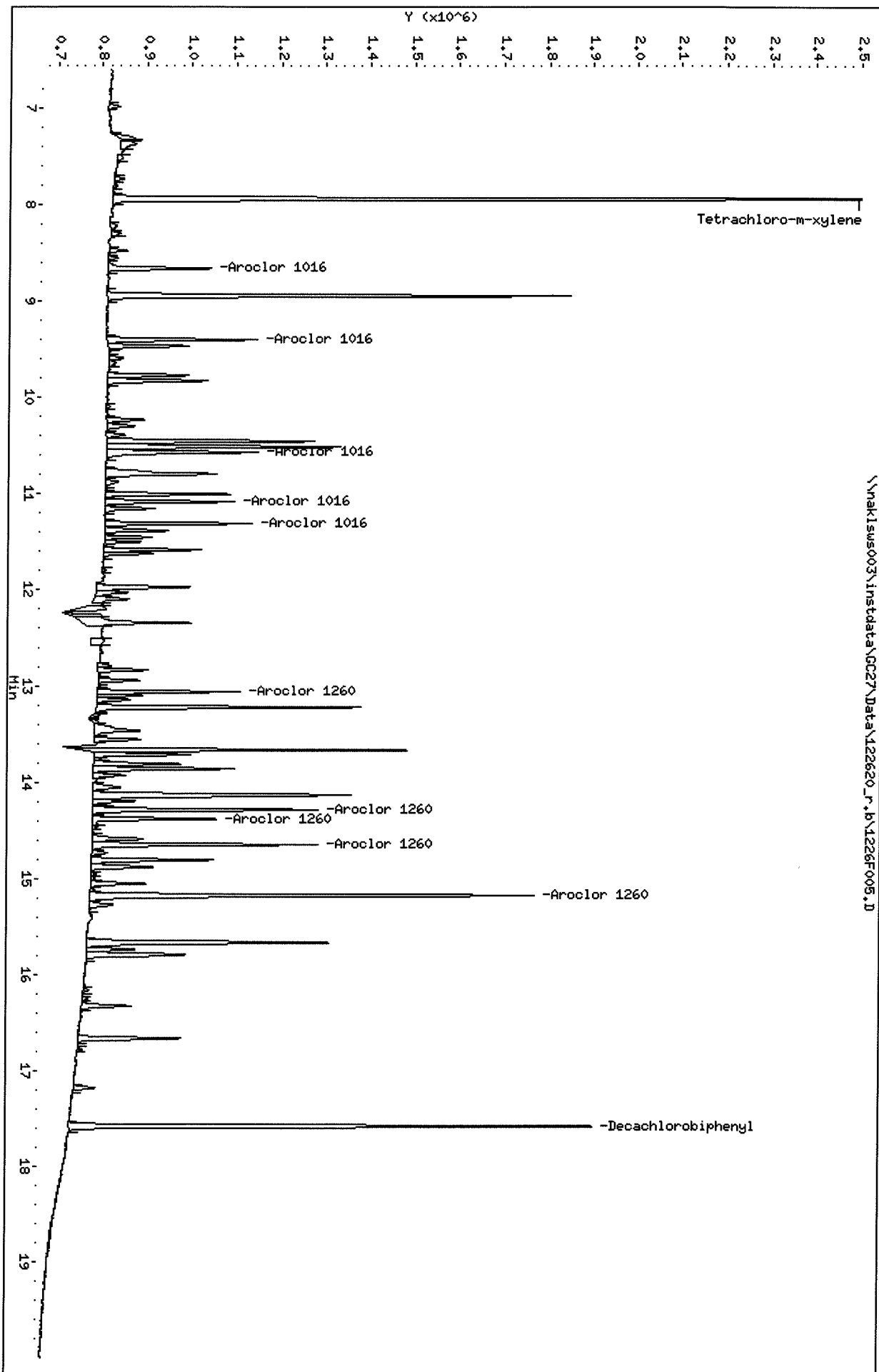
KW6203341 EE 12/26/2021

Column phase: DB-XLB

Instrument: GC27.i

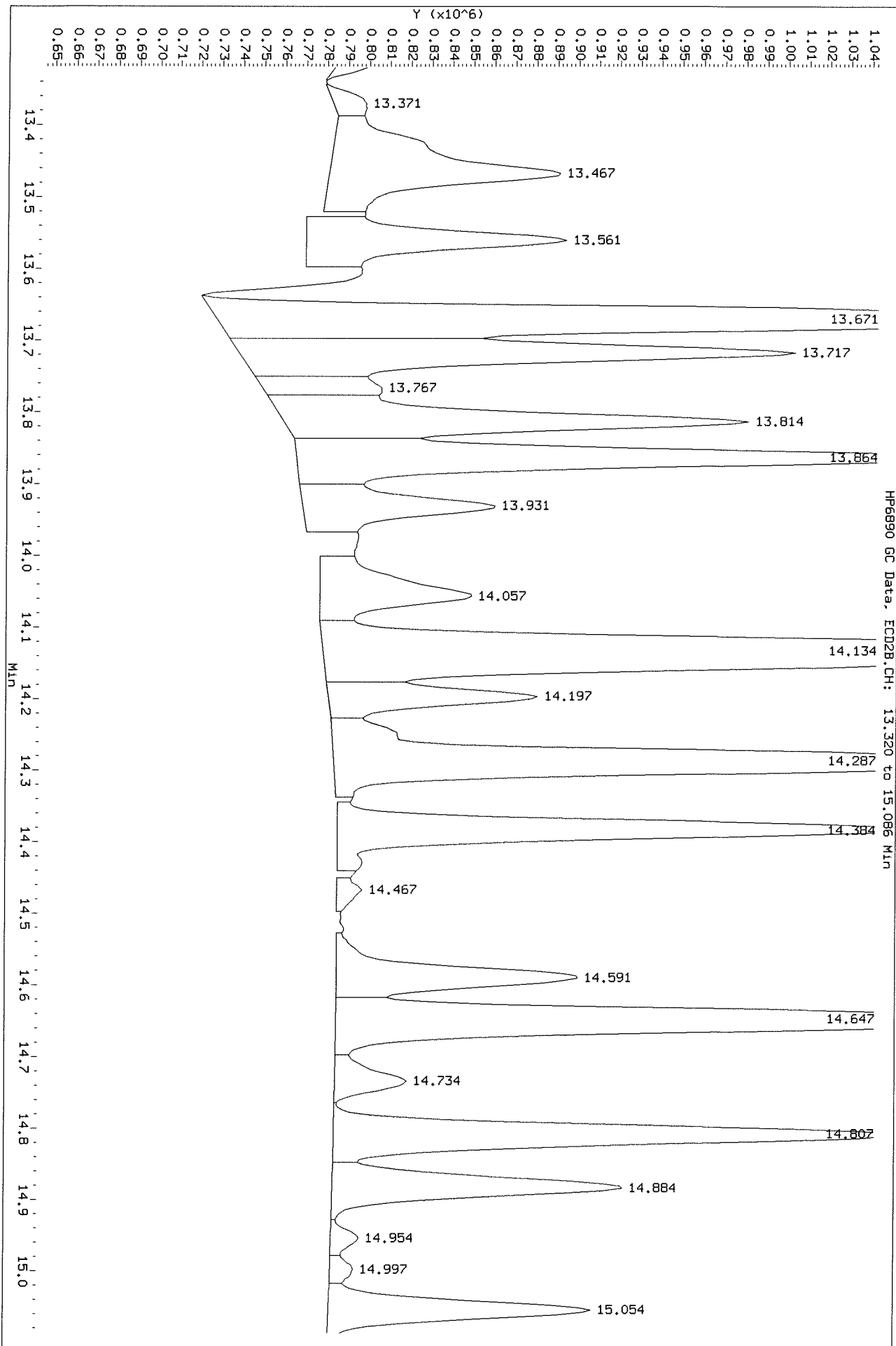
Operator: SH

Column diameter: 0.32



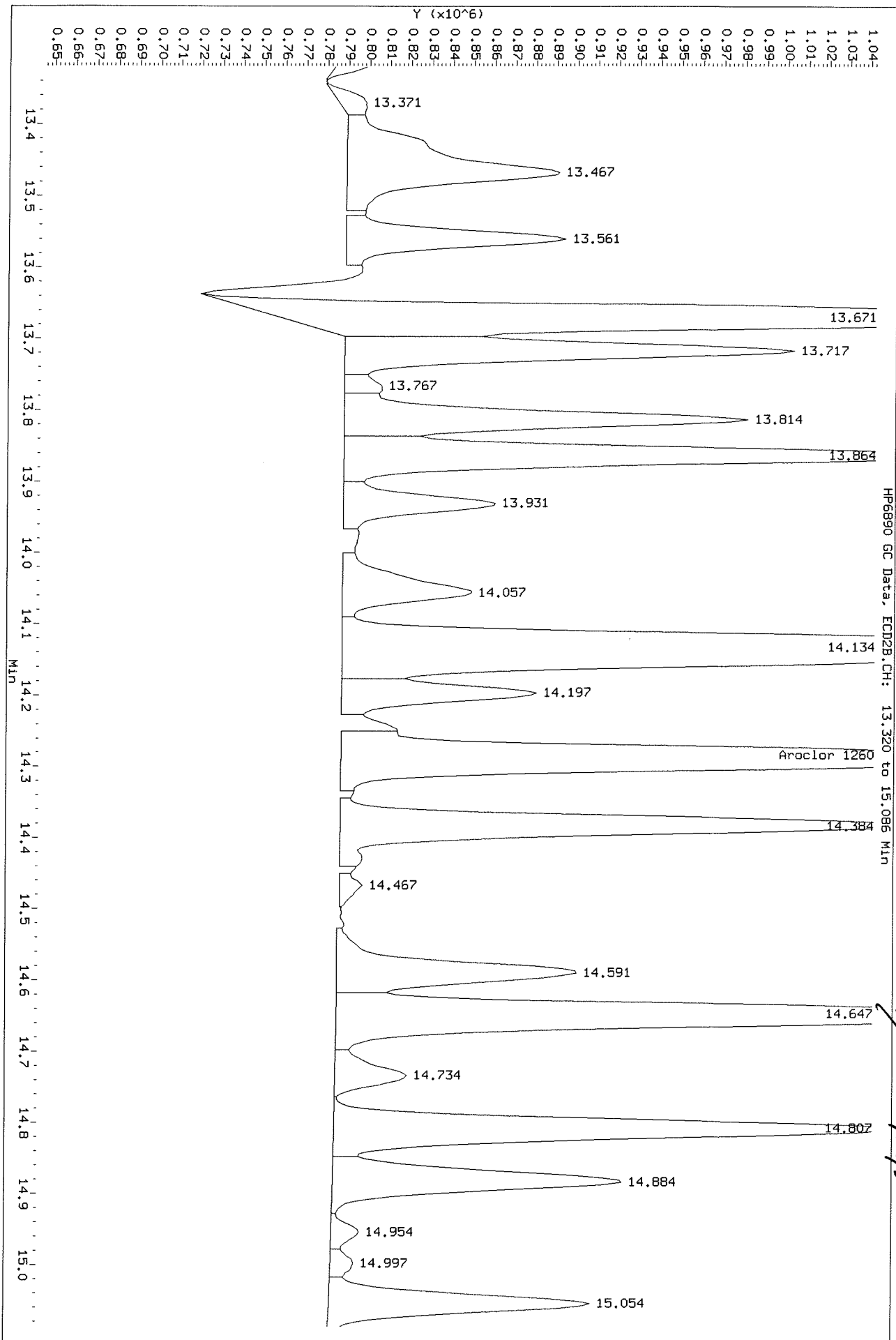
Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226f005.D
Injection Date: 26-DEC-2020 12:43
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsw003\instdata\GC27\Data\122620_r.b\1226F005.D
Injection Date: 26-DEC-2020 12:43
Instrument: GC27.1
Client Sample ID:

After baseline shift 12/28/2020



Injection Log

Directory: j:\GC27\Data\122620

Run: 708326
cal: 16361
KW62003438

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1226F002.D	1.	PCB8-69F 1660@25PPB <i>2-20 ppb ①</i>		12/26/2020 11:09:1
2	2	1226F003.D	1.	IB		12/26/2020 11:40:2
3	3	1226F004.D	1.	K3341-04MB <i>KW6200341 EE12/28/20</i>		12/26/2020 12:11:4
4	4	1226F005.D	1.	K3341-03LCS <i>+</i>		12/26/2020 12:43:0
5	5	1226F006.D	1.	K2011446-001		12/26/2020 1:14:2
6	6	1226F007.D	1.	K2011446-002		12/26/2020 1:45:3
7	7	1226F008.D	1.	K2011446-003		12/26/2020 2:16:5
8	8	1226F009.D	1.	K2011446-004		12/26/2020 2:48:1
9	9	1226F010.D	1.	K2011446-004MS		12/26/2020 3:19:3
10	10	1226F011.D	1.	K2011446-004DMS		12/26/2020 3:50:5
11	11	1226F012.D	1.	K2011446-005		12/26/2020 4:22:0
12	12	1226F013.D	1.	K2011446-006 <i>2-20 ppb ①</i>		12/26/2020 4:53:2
13	1	1226F014.D	1.	PCB8-69F 1660@25PPB <i>2-20 ppb ①</i>		12/26/2020 5:24:4
14	2	1226F015.D	1.	IB		12/26/2020 5:55:5
15	13	1226F016.D	1.	KWG2003407-09MB		12/26/2020 6:27:1
16	14	1226F017.D	1.	KWG2003407-11LCS		12/26/2020 6:58:3
17	15	1226F018.D	1.	K2011071-007		12/26/2020 7:29:4
18	16	1226F019.D	1.	K2011071-007MS		12/26/2020 8:00:5
19	17	1226F020.D	1.	K2011071-007DMS		12/26/2020 8:32:0
20	18	1226F021.D	1.	K2011071-008		12/26/2020 9:03:1
21	19	1226F022.D	1.	K2011071-009		12/26/2020 9:34:3
22	20	1226F023.D	1.	K2011071-013		12/26/2020 10:05:5
23	21	1226F024.D	1.	K2011071-017		12/26/2020 10:37:1
24	22	1226F025.D	1.	K2011071-019		12/26/2020 11:08:3
25	23	1226F026.D	1.	K2011071-020		12/26/2020 11:39:5
26	24	1226F027.D	1.	K2011071-026		12/27/2020 12:11:0
27	90	1226F028.D	1.	PCB8-69F 1660@25PPB <i>2-20 ppb ①</i>		12/27/2020 12:42:2
28	91	1226F029.D	1.	IB		12/27/2020 1:13:4
29	25	1226F030.D	1.	K2011071-028		12/27/2020 1:45:0
30	26	1226F031.D	1.	K2011071-031		12/27/2020 2:16:2
31	27	1226F032.D	1.	K2011071-034		12/27/2020 2:47:3
32	28	1226F033.D	1.	K2011071-043		12/27/2020 3:18:5
33	29	1226F034.D	1.	K2011071-044		12/27/2020 3:50:0
34	30	1226F035.D	1.	KWG2003407-08MB		12/27/2020 4:21:2
35	31	1226F036.D	1.	KWG2003407-07LCS		12/27/2020 4:52:3
36	32	1226F037.D	1.	K2011086-016		12/27/2020 5:23:4
37	33	1226F038.D	1.	K2011086-016MS		12/27/2020 5:55:0
38	34	1226F039.D	1.	K2011086-016DMS		12/27/2020 6:26:1
39	35	1226F040.D	1.	K2011086-017		12/27/2020 6:57:3
40	36	1226F041.D	1.	K2011086-023		12/27/2020 7:28:4
41	90	1226F042.D	1.	PCB8-69F 1660@25PPB <i>2-20 ppb ①</i>		12/27/2020 8:00:0
42	91	1226F043.D	1.	IB		12/27/2020 8:31:1
43	37	1226F044.D	1.	K2011086-024	<i>① EE 12/28/20</i>	12/27/2020 9:02:3
44	38	1226F045.D	1.	K2011086-035		12/27/2020 9:33:4
45	39	1226F046.D	1.	K2011086-036		12/27/2020 10:05:0
46	40	1226F047.D	1.	K2011086-044		12/27/2020 10:36:1
47	41	1226F048.D	1.	K2011086-045		12/27/2020 11:07:3
48	42	1226F049.D	1.	K2011086-063		12/27/2020 11:38:5
49	43	1226F050.D	1.	K2011086-071		12/27/2020 12:10:0
50	44	1226F051.D	1.	K2011086-076		12/27/2020 12:41:1
51	45	1226F052.D	1.	K2011086-079		12/27/2020 1:12:2
52	92	1226F053.D	1.	PCB8-69F 1660@25PPB <i>2-20 ppb ①</i>		12/27/2020 1:43:3
53	93	1226F054.D	1.	IB		12/27/2020 2:14:5
54	46	1226F055.D	1.	KWG2003435-04MB		12/27/2020 2:46:0
55	47	1226F056.D	1.	KWG2003435-03LCS		12/27/2020 3:17:2

Injection Log

Directory: j:\GC27\Data\122620

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
56	48	1226F057.D	1.	K2011097-001		12/27/22020 3:48:3
57	49	1226F058.D	1.	K2011097-002		12/27/22020 4:19:5
58	50	1226F059.D	1.	K2011097-006		12/27/22020 4:51:0
59	51	1226F060.D	1.	K2011097-007		12/27/22020 5:22:2
60	52	1226F061.D	1.	K2011097-026		12/27/22020 5:53:3
61	53	1226F062.D	1.	K2011097-026MS		12/27/22020 6:24:4
62	54	1226F063.D	1.	K2011097-026DMS		12/27/22020 6:55:5
63	55	1226F064.D	1.	K2011097-027		12/27/22020 7:27:0
64	56	1226F065.D	1.	K2011097-040		12/27/22020 7:58:1
65	57	1226F066.D	1.	K2011097-041		12/27/22020 8:29:2
66	94	1226F067.D	1.	PCB8-69F 1660@25PPB 2-20ppb ①		12/27/22020 9:00:4
67	95	1226F068.D	1.	IB		12/27/22020 9:31:5
68	58	1226F069.D	1.	K2011097-057		12/27/22020 10:03:1
69	59	1226F070.D	1.	K2011097-073		12/27/22020 10:34:2
70	60	1226F071.D	1.	K2011097-074		12/27/22020 11:05:3
71	94	1226F072.D	1.	PCB8-69F 1660@25PPB 2-20ppb ①		12/27/22020 11:37:0
72	95	1226F073.D	1.	IB		12/28/22020 12:08:1
73	100	1226FX01.D	1.	PRIMER		12/26/22020 10:38:1

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F002.D
Lab ID: KWG2003438-1
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 12/26/2020 11:09
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

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: SA 12/28/20
Secondary Review: SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F002.D
Lab ID: KWG2003438-1
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 12/26/2020 11:09
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

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: AT 12/28/20

Secondary Review: SA 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F002.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F002.D	Vial:	1
Acqu Date:	12/26/2020 11:09	Quant Date:	12/28/2020 09:09
Run Type:	CCV	MethodJoinID:	MJ1824
Lab ID:	KWG2003438-1	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:	Tier:	Matrix:	NOT APPLICABLE
Prod Code:	8082A PCB	Collect Date:	Receive Date:
			12/28/2020

Analysis Lot:	KWG2003438	Prep Lot:	Report Group:
Analysis Method:	8082A	Prep Method:	
Prep Ref:		Prep Date:	

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:		Method ID:	MJ1824
MB Ref:		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	Limits =		Rpt
Tetrachloro-m-xylene	6.61	7.94	4391936	2483744	2.00	2.02	50-150		NA
			%Recovery =		NA	NA			
Decachlorobiphenyl	16.44	17.58	2150059	1439577	1.97	2.01	50-150		NA
			%Recovery =		NA	NA			

Target Compounds

Final Conc. Units:									
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	20.53	21.36			
Aroclor 1016 {1}	7.68	8.66	832713	469110	21.01	20.97			
Aroclor 1016 {2}	8.91	9.40	697371	795003	19.52	23.15			
Aroclor 1016 {3}	9.35	10.57	2366380	816204	22.65	20.89			
Aroclor 1016 {4}	9.53	11.08	1280661	614044	20.45	20.38			
Aroclor 1016 {5}	9.79	11.31	832623	592096	19.05	21.41			
Aroclor 1260			0	0	19.95	20.56			
Aroclor 1260 {1}	12.83	13.07	914866	582626	19.99	21.61			
Aroclor 1260 {2}	13.67	14.29	1466065	892764	19.76	20.46			
Aroclor 1260 {3}	13.83	14.38	852401	498455	20.93	20.68			
Aroclor 1260 {4}	14.05	14.65	3015729	935421	19.83	20.46			
Aroclor 1260 {5}	14.66	15.18	2212301	1968124	19.24	19.61			

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: CAL16361

Method ID: MJ1824

DataFile: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F002.D

<u>Parameter Name</u>	<u>Type</u>	<u>PARM</u> <u>Type</u>	<u>Curve Fit</u>	<u>Method</u> <u>Criteria</u>	<u>Min</u> <u>RF</u>	<u>ICAL</u> <u>RF</u>	<u>CCV</u> <u>RF</u>	<u>%Diff</u>	<u>Sol'n</u> <u>Conc.</u>	<u>True</u> <u>Value</u>	<u>% Drift</u>
Aroclor 1016		MS	NA	20					20.53	20.00	3
Aroclor 1260		MS	NA	20					19.95	20.00	0
Tetrachloro-m-xylene		SURR	AverageRF	20		2.2E+6	2.2E+6	0			
Aroclor 1016 {1}		MULTI	AverageRF	100		4.0E+4	4.2E+4	5			
Aroclor 1016 {2}		MULTI	AverageRF	100		3.6E+4	3.5E+4	-2			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.0E+5	1.2E+5	13			
Aroclor 1016 {4}		MULTI	AverageRF	100		6.3E+4	6.4E+4	2			
Aroclor 1016 {5}		MULTI	AverageRF	100		4.4E+4	4.2E+4	-5			
Aroclor 1260 {1}		MULTI	AverageRF	100		4.6E+4	4.6E+4	0			
Aroclor 1260 {2}		MULTI	AverageRF	100		7.4E+4	7.3E+4	-1			
Aroclor 1260 {3}		MULTI	AverageRF	100		4.1E+4	4.3E+4	5			
Aroclor 1260 {4}		MULTI	AverageRF	100		1.5E+5	1.5E+5	-1			
Aroclor 1260 {5}		MULTI	AverageRF	100		1.1E+5	1.1E+5	-4			
Decachlorobiphenyl		SURR	AverageRF	20		1.1E+6	1.1E+6	-2			

Calibration Verification Report

Calibration ID: CAL16361

Method ID: MJ1824

DataFile: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F002.D

<u>Parameter Name</u>	<u>Type</u>	<u>PARM</u> <u>Type</u>	<u>Curve Fit</u>	<u>Method</u> <u>Criteria</u>	<u>Min</u> <u>RF</u>	<u>ICAL</u> <u>RF</u>	<u>CCV</u> <u>RF</u>	<u>%Diff</u>	<u>Sol'n</u> <u>Conc.</u>	<u>True</u> <u>Value</u>	<u>% Drift</u>
Aroclor 1016		MS	NA	20					21.36	20.00	7
Aroclor 1260		MS	NA	20					20.56	20.00	3
Tetrachloro-m-xylene		SURR	AverageRF	20		1.2E+6	1.2E+6	1			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.2E+4	2.3E+4	5			
Aroclor 1016 {2}		MULTI	AverageRF	100		3.4E+4	4.0E+4	16			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.9E+4	4.1E+4	4			
Aroclor 1016 {4}		MULTI	AverageRF	100		3.0E+4	3.1E+4	2			
Aroclor 1016 {5}		MULTI	AverageRF	100		2.8E+4	3.0E+4	7			
Aroclor 1260 {1}		MULTI	AverageRF	100		2.7E+4	2.9E+4	8			
Aroclor 1260 {2}		MULTI	AverageRF	100		4.4E+4	4.5E+4	2			
Aroclor 1260 {3}		MULTI	AverageRF	100		2.4E+4	2.5E+4	3			
Aroclor 1260 {4}		MULTI	AverageRF	100		4.6E+4	4.7E+4	2			
Aroclor 1260 {5}		MULTI	AverageRF	100		1.0E+5	9.8E+4	-2			
Decachlorobiphenyl		SURR	AverageRF	20		7.1E+5	7.2E+5	1			

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F002.D
 Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F002.D
 Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F002.D
 Inj Date : 26-DEC-2020 11:09
 Sample Info: PCB8-69F 1660@25PPB
 Misc Info :
 Cal Date : 28-DEC-2020 07:01
 Operator : SM
 Inst ID : GC27.i
 Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
 Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_r.m
 Sub List #1 : 1660.SUB
 Sub List #2 : 1660.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	6.613	7.939	4391936	2483744	2.00	2.02		100.00
Aroclor 1016	7.683	8.659	832713	469110	21.0	21.0	80.00- 120.00	100.00
	8.913	9.399	697371	795003	19.5	23.1	68.05- 102.08	83.75
	9.353	10.569	2366380	816204	22.7	20.9	361.26- 541.89	284.18
	9.533	11.082	1280661	614044	20.4	20.4	125.58- 188.37	153.79
	9.789	11.309	832623	592096	19.1	21.4	81.63- 122.44	99.99
	Average of Peak Amounts =				20.5	21.4		
Aroclor 1260	12.833	13.065	914866	582626	20.0	21.6	80.00- 120.00	100.00
	13.673	14.289	1466065	892764	19.8	20.5	121.48- 182.22	160.25
	13.826	14.382	852401	498455	20.9	20.7	70.12- 105.18	93.17
	14.049	14.649	3015729	935421	19.8	20.5	252.90- 379.35	329.64
	14.663	15.175	2212301	1968124	19.2	19.6	185.22- 277.83	241.82
	Average of Peak Amounts =				19.9	20.6		
Decachlorobiphenyl	16.436	17.579	2150059	1439577	1.97	2.01		100.00

Data File: \\nakisus003\instdata\GC27\Data\122620.b\1226F002.D
Date : 26-DEC-2020 11:09

Client ID:

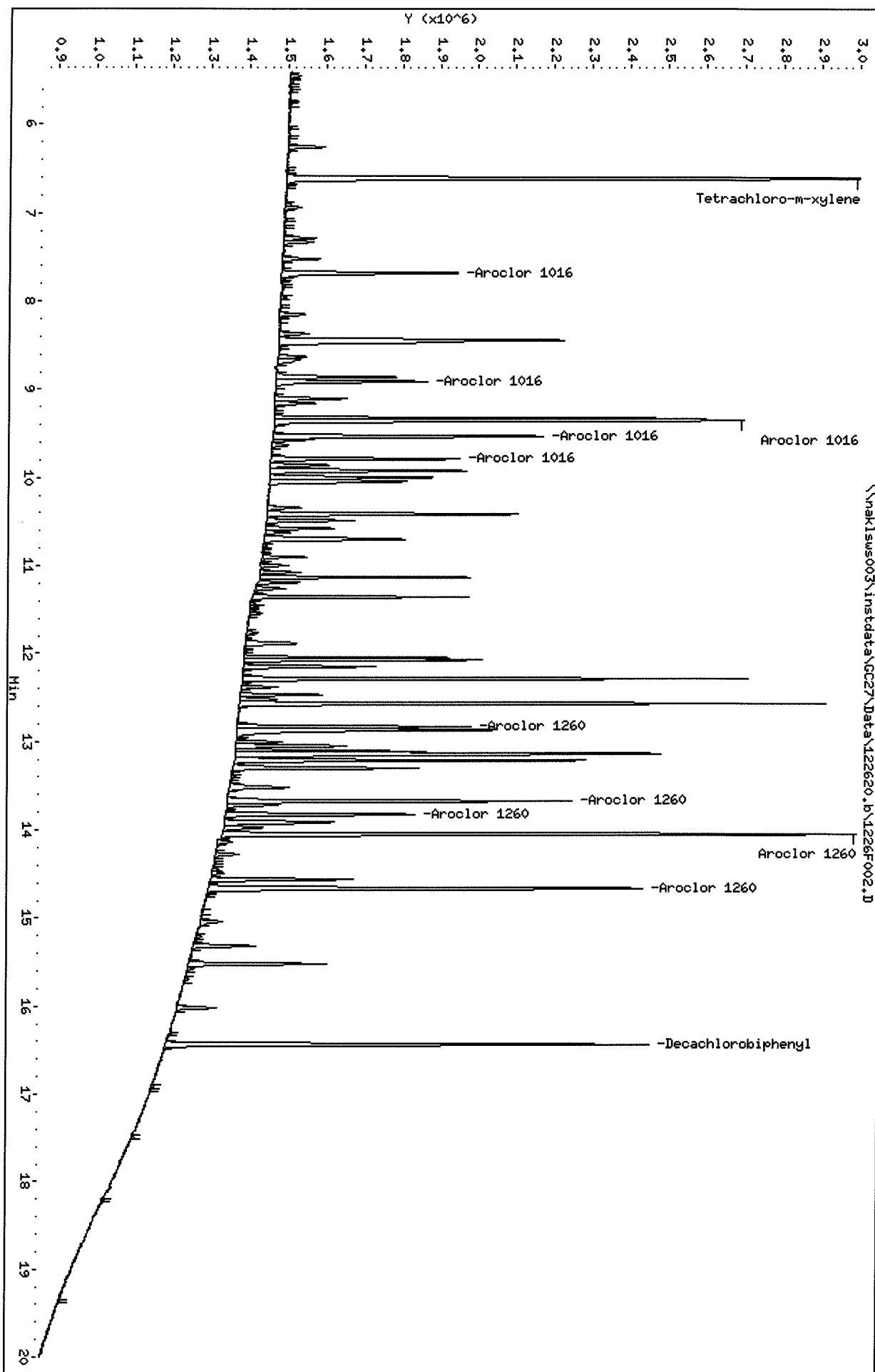
Sample Info: PCB8-69F 166025PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SH

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\122620_r.b\1226F002.D

Date : 26-DEC-2020 11:09

Client ID:

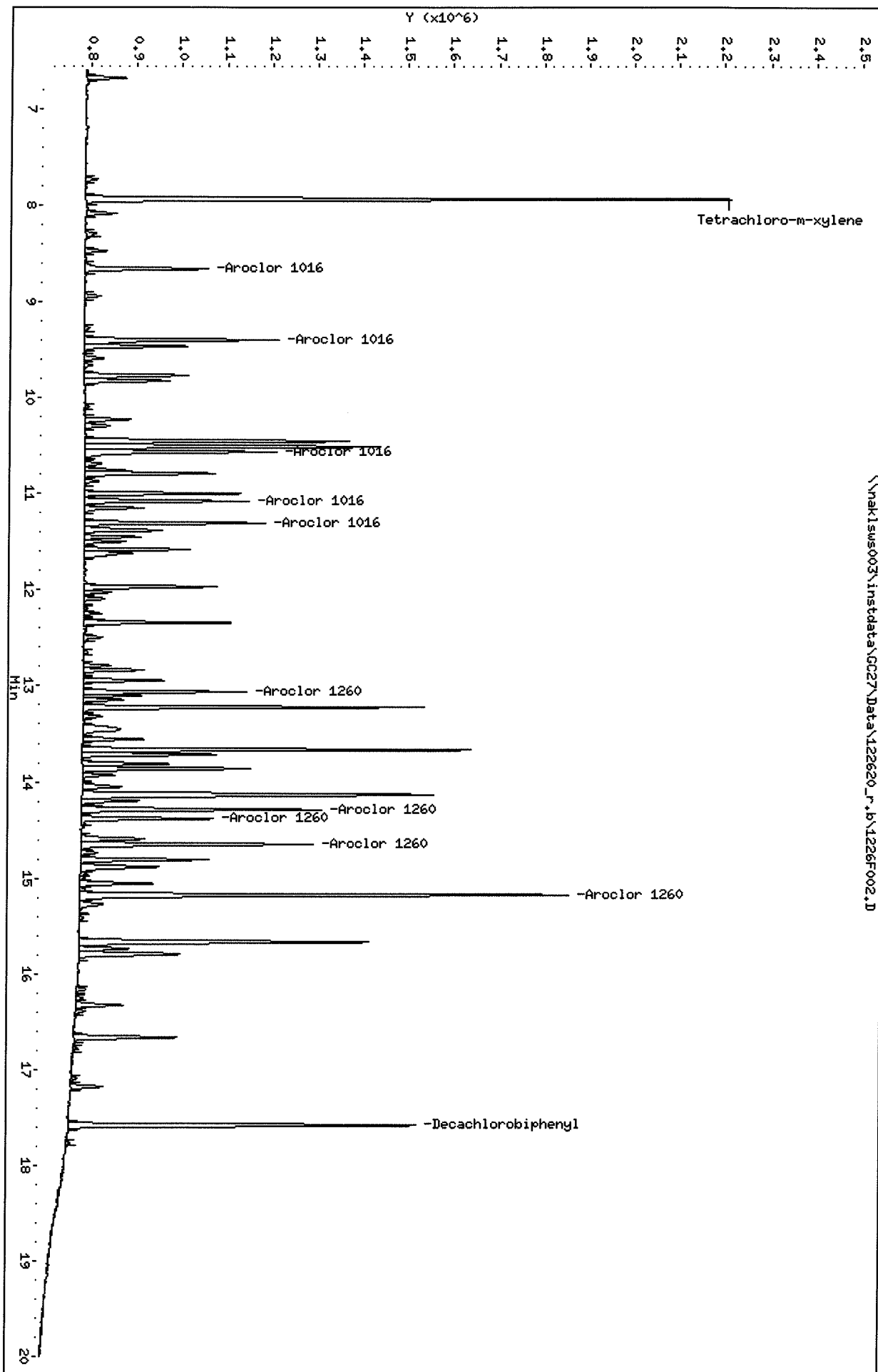
Sample Info: PCB8-69F 166025PPB

Column phase: DB-XLB

Instrument: GC27.i

Operator: SM

Column diameter: 0.32



Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F003.D
Lab ID: KWG2003438-2
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 12/26/2020 11:40
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

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: SA 12/28/20

Secondary Review: SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F003.D
Lab ID: KWG2003438-2
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 12/26/2020 11:40
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

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: SA 12/28/20

Secondary Review: SA 12/26/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F003.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F003.D	Vial:	2
Acqu Date:	12/26/2020 11:40	Quant Date:	12/28/2020 09:09
Run Type:	IB	MethodJoinID:	MJ1824
Lab ID:	KWG2003438-2	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:		Matrix:	NOT APPLICABLE
Prod Code:	8082A PCB	Collect Date:		Receive Date:	12/28/2020

Analysis Lot:	KWG2003438	Prep Lot:		Report Group:	
Analysis Method:	8082A	Prep Method:			
Prep Ref:		Prep Date:			

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:		Method ID:	MJ1824
MB Ref:		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	6.63		22915	0	0.0100	0.0000				NA
			%Recovery =		NA	NA	Limits =	50-150		
Decachlorobiphenyl	0.00		0	0		0.0000				NA
			%Recovery =		NA	NA	Limits =	50-150		

Target Compounds

Final Conc. Units:									
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0	0	0.0000	0.0000			
Aroclor 1016 {2}			0	0	0.0000	0.0000			
Aroclor 1016 {3}			0	0	0.0000	0.0000			
Aroclor 1016 {4}			0	0	0.0000	0.0000			
Aroclor 1016 {5}			0	0	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 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0	0	0.0000	0.0000			
Aroclor 1232 {2}			0	0	0.0000	0.0000			
Aroclor 1232 {3}			0	0	0.0000	0.0000			
Aroclor 1232 {4}			0	0	0.0000	0.0000			
Aroclor 1232 {5}			0	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			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:\GC27\DATA\122620.B\1226F003.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F003.D	Vial:	2
Acqu Date:	12/26/2020 11:40	Quant Date:	12/28/2020 09:09
Run Type:	IB	MethodJoinID:	MJ1824
Lab ID:	KWG2003438-2	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0	0	0.0000	0.0000			
Aroclor 1242 {3}			0	0	0.0000	0.0000			
Aroclor 1242 {4}			0	0	0.0000	0.0000			
Aroclor 1242 {5}			0	0	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0	0	0.0000	0.0000			
Aroclor 1248 {2}			0	0	0.0000	0.0000			
Aroclor 1248 {3}			0	0	0.0000	0.0000			
Aroclor 1248 {4}			0	0	0.0000	0.0000			
Aroclor 1248 {5}			0	0	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0	0	0.0000	0.0000			
Aroclor 1254 {2}			0	0	0.0000	0.0000			
Aroclor 1254 {3}			0	0	0.0000	0.0000			
Aroclor 1254 {4}			0	0	0.0000	0.0000			
Aroclor 1254 {5}			0	0	0.0000	0.0000			
Aroclors, Total			0	0	0.0000	0.0000	J	J	
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0	0.0000	0.0000			
Aroclor 1260 {2}			0d	0	0.0000	0.0000			
Aroclor 1260 {3}			0d	0	0.0000	0.0000			
Aroclor 1260 {4}			0d	0	0.0000	0.0000			
Aroclor 1260 {5}			0d	0	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}			0	0	0.0000	0.0000			
Aroclor 1268 {2}			0	0	0.0000	0.0000			
Aroclor 1268 {3}			0	0	0.0000	0.0000			
Aroclor 1268 {4}			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: \\naklsws003\instdata\GC27\Data\122620.b\1226F003.D
Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F003.D
Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F003.D
Inj Date : 26-DEC-2020 11:40
Sample Info: IB
Misc Info :
Cal Date : 28-DEC-2020 07:01
Operator : SM
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.634	0.000	22915	0	0.0104	0.000		100.00 (R)

QC Flag Legend

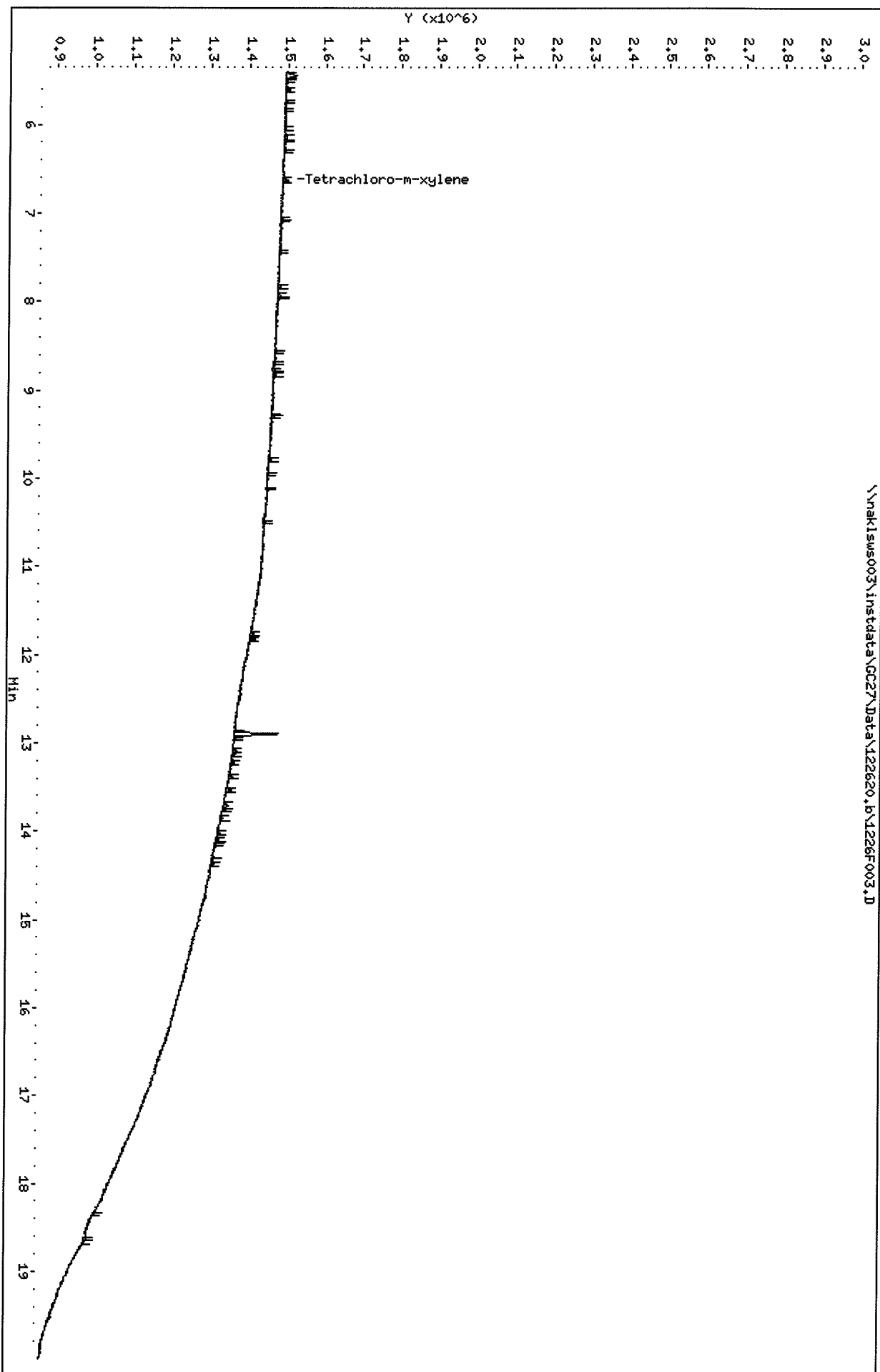
R - Spike/Surrogate failed recovery limits.

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F003.D
Date : 26-DEC-2020 11:40

Client ID:
Sample Info: 1B

Column phase: DB-35MS

Instrument: GC27.i
Operator: SH
Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\122620_r.b\1226f003.D

Date : 26-DEC-2020 11:40

Client ID:

Sample Info: IB

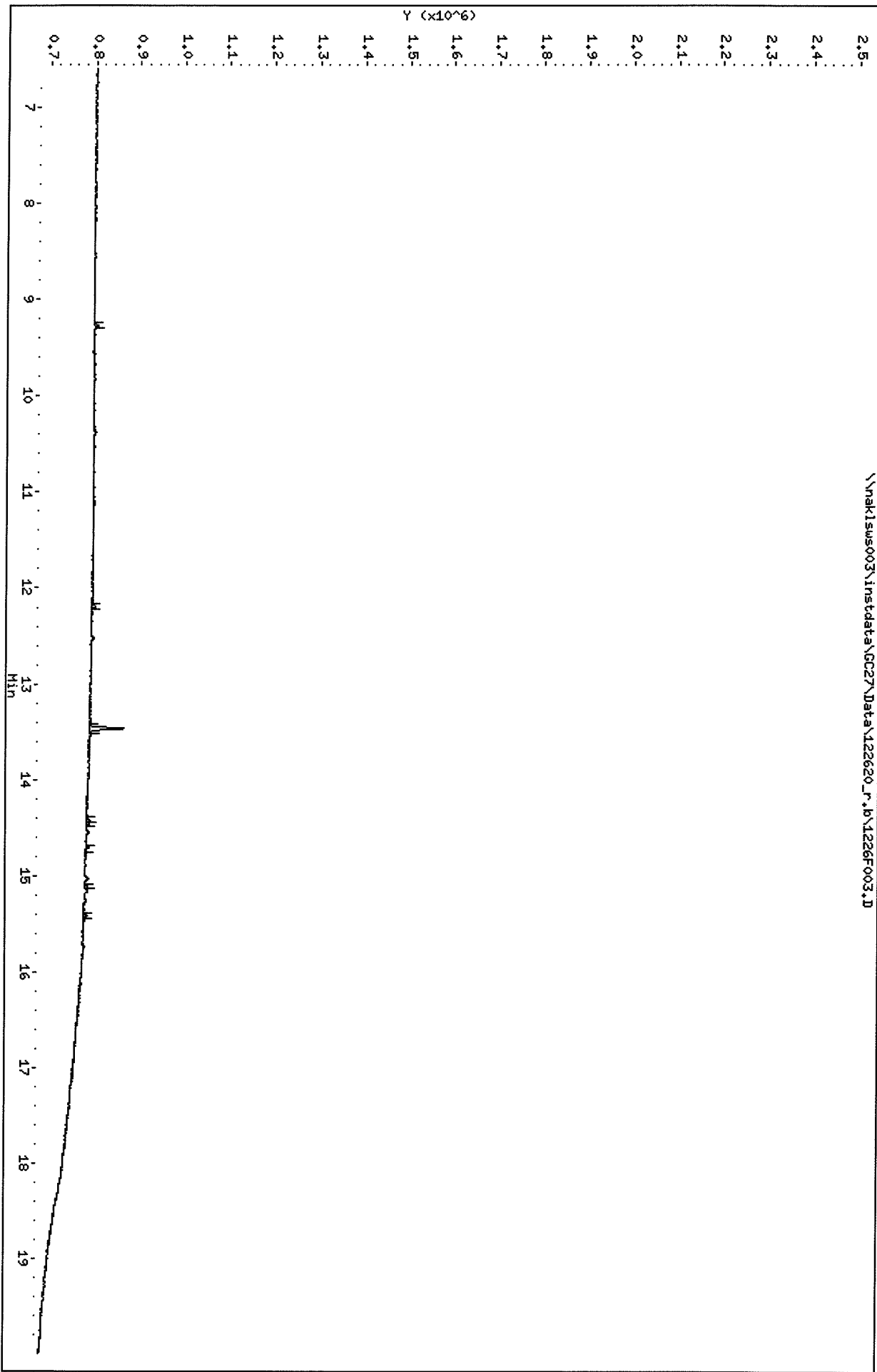
Column Phase: DB-XLB

Instrument: GC27.i

Operator: SM

Column diameter: 0.32

\\nak1sws003\instdata\GC27\Data\122620_r.b\1226f003.D



Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F014.D
Lab ID: KWG2003438-3
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 12/26/2020 17:24
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

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: SA 12/28/20

Secondary Review: SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F014.D
Lab ID: KWG2003438-3
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 12/26/2020 17:24
Date Quantitated: 12/28/2020 09:10
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

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:

SA 12/28/20

Secondary Review:

SA 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F014.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F014.D	Vial:	1
Acqu Date:	12/26/2020 17:24	Quant Date:	12/28/2020 09:09
Run Type:	CCV	MethodJoinID:	MJ1824
Lab ID:	KWG2003438-3	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:		Matrix:	NOT APPLICABLE
Prod Code:	8082A PCB	Collect Date:		Receive Date:	12/28/2020

Analysis Lot:	KWG2003438	Prep Lot:		Report Group:	
Analysis Method:	8082A	Prep Method:			
Prep Ref:		Prep Date:			

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:		Method ID:	MJ1824
MB Ref:		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	6.61	7.94	4428956	2571473	2.02	2.09				NA
			%Recovery =		NA	NA	Limits =	50-150		
Decachlorobiphenyl	16.43	17.58	2170353	1466250	1.99	2.05				NA
			%Recovery =		NA	NA	Limits =	50-150		

Target Compounds

Final Conc. Units:									
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	20.92	22.76			
Aroclor 1016 {1}	7.68	8.66	851282	503323	21.47	22.50			
Aroclor 1016 {2}	8.91	9.40	719561	840539	20.14	24.47			
Aroclor 1016 {3}	9.35	10.57	2254323	896650	21.58	22.95			
Aroclor 1016 {4}	9.53	11.08	1339624	646657	21.39	21.47			
Aroclor 1016 {5}	9.79	11.31	873906	619090	20.00	22.39			
Aroclor 1260			0	0	20.58	21.41			
Aroclor 1260 {1}	12.83	13.06	947476	606558	20.71	22.49			
Aroclor 1260 {2}	13.67	14.29	1507301	933807	20.32	21.40			
Aroclor 1260 {3}	13.82	14.38	858988	517382	21.09	21.47			
Aroclor 1260 {4}	14.05	14.65	3138014	978461	20.63	21.41			
Aroclor 1260 {5}	14.66	15.17	2314806	2034902	20.14	20.27			

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: CAL16361

Method ID: MJ1824

DataFile: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F014.D

<u>Parameter Name</u>	<u>Type</u>	<u>PARM</u> <u>Type</u>	<u>Curve Fit</u>	<u>Method</u> <u>Criteria</u>	<u>Min</u> <u>RF</u>	<u>ICAL</u> <u>RF</u>	<u>CCV</u> <u>RF</u>	<u>%Diff</u>	<u>Sol'n</u> <u>Conc.</u>	<u>True</u> <u>Value</u>	<u>% Drift</u>
Aroclor 1016		MS	NA	20					20.92	20.00	5
Aroclor 1260		MS	NA	20					20.58	20.00	3
Tetrachloro-m-xylene		SURR	AverageRF	20		2.2E+6	2.2E+6	1			
Aroclor 1016 {1}		MULTI	AverageRF	100		4.0E+4	4.3E+4	7			
Aroclor 1016 {2}		MULTI	AverageRF	100		3.6E+4	3.6E+4	1			
Aroclor 1016 {3}		MULTI	AverageRF	100		1.0E+5	1.1E+5	8			
Aroclor 1016 {4}		MULTI	AverageRF	100		6.3E+4	6.7E+4	7			
Aroclor 1016 {5}		MULTI	AverageRF	100		4.4E+4	4.4E+4	0			
Aroclor 1260 {1}		MULTI	AverageRF	100		4.6E+4	4.7E+4	4			
Aroclor 1260 {2}		MULTI	AverageRF	100		7.4E+4	7.5E+4	2			
Aroclor 1260 {3}		MULTI	AverageRF	100		4.1E+4	4.3E+4	5			
Aroclor 1260 {4}		MULTI	AverageRF	100		1.5E+5	1.6E+5	3			
Aroclor 1260 {5}		MULTI	AverageRF	100		1.1E+5	1.2E+5	1			
Decachlorobiphenyl		SURR	AverageRF	20		1.1E+6	1.1E+6	-1			

Calibration Verification Report

Calibration ID: CAL16361

Method ID: MJ1824

DataFile: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F014.D

<u>Parameter Name</u>	<u>Type</u>	<u>PARM</u> <u>Type</u>	<u>Curve Fit</u>	<u>Method</u> <u>Criteria</u>	<u>Min</u> <u>RF</u>	<u>ICAL</u> <u>RF</u>	<u>CCV</u> <u>RF</u>	<u>%Diff</u>	<u>Sol'n</u> <u>Conc.</u>	<u>True</u> <u>Value</u>	<u>% Drift</u>
Aroclor 1016		MS	NA	20					22.76	20.00	14
Aroclor 1260		MS	NA	20					21.41	20.00	7
Tetrachloro-m-xylene		SURR	AverageRF	20		1.2E+6	1.3E+6	5			
Aroclor 1016 {1}		MULTI	AverageRF	100		2.2E+4	2.5E+4	12			
Aroclor 1016 {2}		MULTI	AverageRF	100		3.4E+4	4.2E+4	22			
Aroclor 1016 {3}		MULTI	AverageRF	100		3.9E+4	4.5E+4	15			
Aroclor 1016 {4}		MULTI	AverageRF	100		3.0E+4	3.2E+4	7			
Aroclor 1016 {5}		MULTI	AverageRF	100		2.8E+4	3.1E+4	12			
Aroclor 1260 {1}		MULTI	AverageRF	100		2.7E+4	3.0E+4	12			
Aroclor 1260 {2}		MULTI	AverageRF	100		4.4E+4	4.7E+4	7			
Aroclor 1260 {3}		MULTI	AverageRF	100		2.4E+4	2.6E+4	7			
Aroclor 1260 {4}		MULTI	AverageRF	100		4.6E+4	4.9E+4	7			
Aroclor 1260 {5}		MULTI	AverageRF	100		1.0E+5	1.0E+5	1			
Decachlorobiphenyl		SURR	AverageRF	20		7.1E+5	7.3E+5	3			

Data File: \\naklsws003\instdata\GC27\Data\122620.b\1226F014.D
 Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F014.D
 Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F014.D
 Inj Date : 26-DEC-2020 17:24
 Sample Info: PCB8-69F 1660@25PPB
 Misc Info :
 Cal Date : 28-DEC-2020 07:01
 Operator : SM
 Inst ID : GC27.i
 Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
 Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_r.m
 Sub List #1 : 1660.SUB
 Sub List #2 : 1660.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	6.611	7.937	4428956	2571473	2.02	2.09		100.00
Aroclor 1016	7.681	8.661	851282	503323	21.5	22.5	80.00- 120.00	100.00
	8.911	9.401	719561	840539	20.1	24.5	68.05- 102.08	84.53
	9.351	10.567	2254323	896650	21.6	22.9	361.26- 541.89	264.82
	9.531	11.084	1339624	646657	21.4	21.5	125.58- 188.37	157.37
	9.788	11.311	873906	619090	20.0	22.4	81.63- 122.44	102.66
	Average of Peak Amounts =				20.9	22.8		
Aroclor 1260	12.831	13.064	947476	606558	20.7	22.5	80.00- 120.00	100.00
	13.671	14.287	1507301	933807	20.3	21.4	121.48- 182.22	159.09
	13.821	14.381	858988	517382	21.1	21.5	70.12- 105.18	90.66
	14.045	14.647	3138014	978461	20.6	21.4	252.90- 379.35	331.20
	14.661	15.174	2314806	2034902	20.1	20.3	185.22- 277.83	244.31
	Average of Peak Amounts =				20.6	21.4		
Decachlorobiphenyl	16.431	17.577	2170353	1466250	1.99	2.05		100.00

Data File: \\nakisws003\instdata\GC27\Data\122620.b\1226F014.D
Date : 26-DEC-2020 17:24

Client ID:

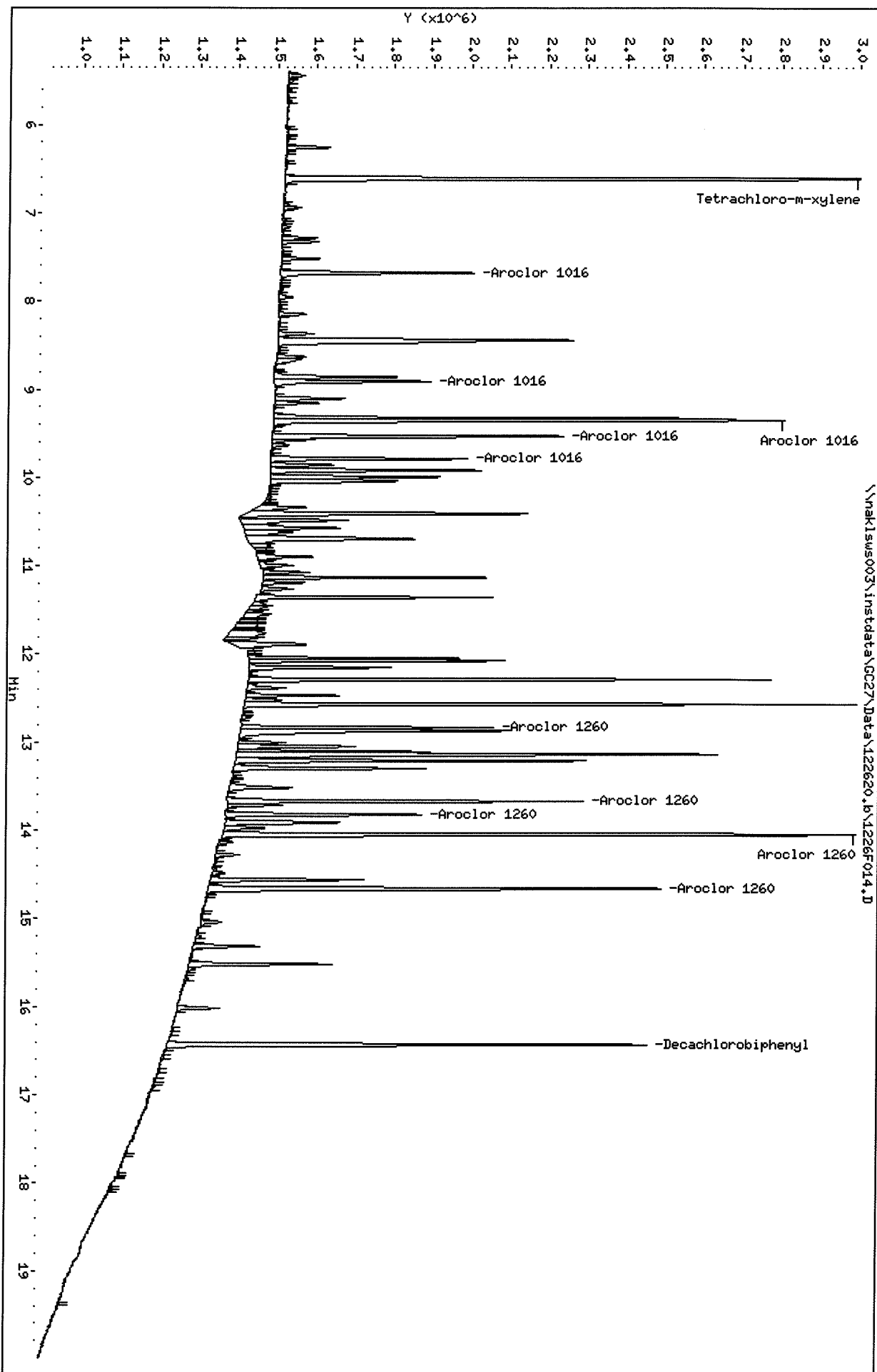
Sample Info: PCB8-69F 166025PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SH

Column diameter: 0.32



Data File: \\nakisus003\instdata\GC27\Data\122620_r.b\1226F014.D
Date : 26-DEC-2020 17:24

Client ID:

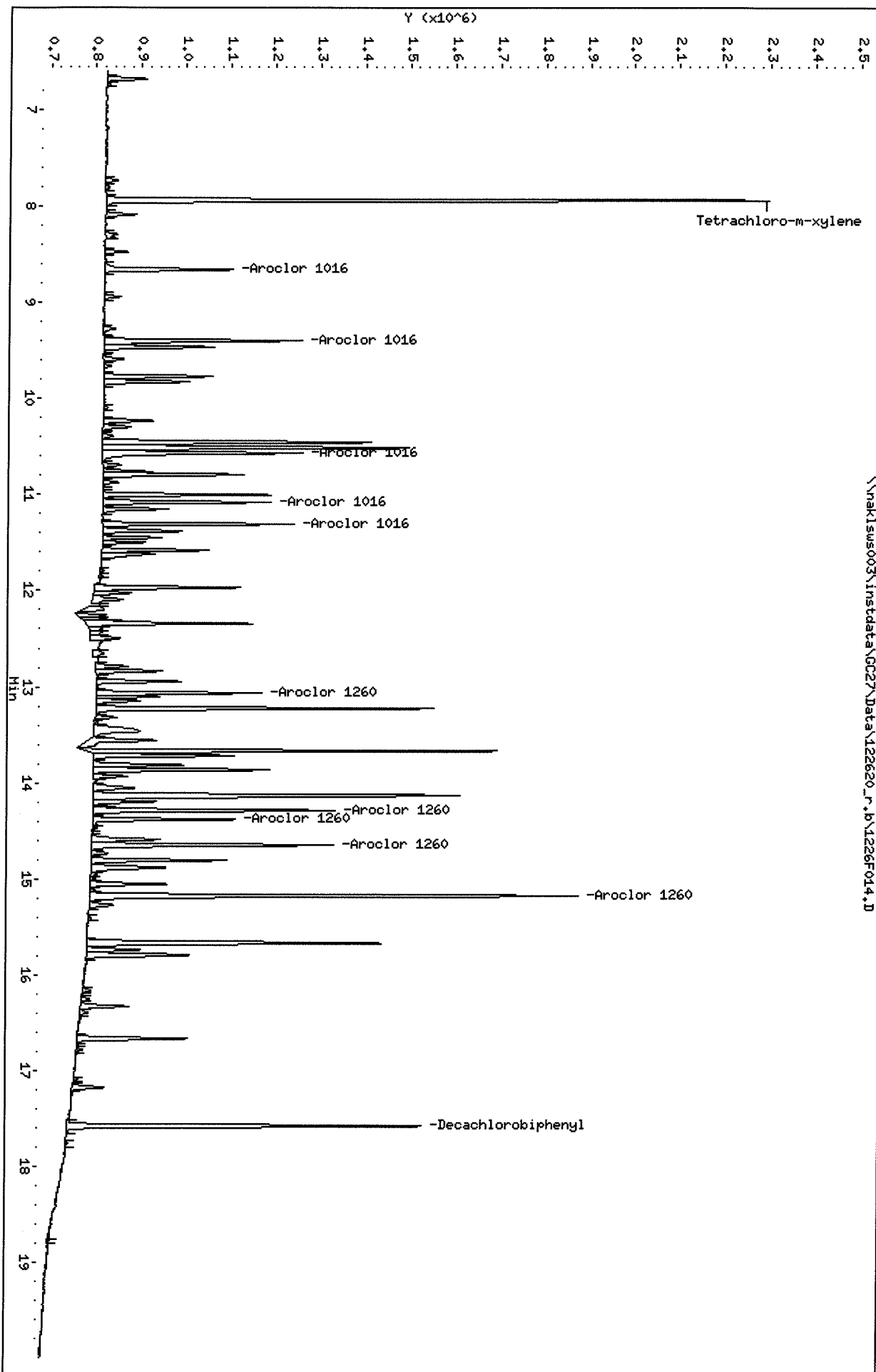
Sample Info: PCB8-69F 166025PPB

Column phase: DB-XLB

Instrument: GC27.i

Operator: SM

Column diameter: 0.32



Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620.B\1226F015.D
Lab ID: KWG2003438-4
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 12/26/2020 17:55
Date Quantitated: 12/28/2020 09:09
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

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: _____

SA 12/28/20

SA 12/28/20

Exception Report

Data File: \\NAKLSWS003\INSTDATA\GC27\DATA\122620_R.B\1226F015.D
Lab ID: KWG2003438-4
RunType: IB
Matrix: NOT APPLICABLE

Date Acquired: 12/26/2020 17:55
Date Quantitated: 12/28/2020 09:10
Batch ID: KWG2003438
Analysis Method: 8082A
MethodJoinID: MJ1824

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: SA 12/28/20

Secondary Review: SA 12/28/20

Quantitation Report

Data File #1:	J:\GC27\DATA\122620.B\1226F015.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F015.D	Vial:	2
Acqu Date:	12/26/2020 17:55	Quant Date:	12/28/2020 09:09
Run Type:	IB	MethodJoinID:	MJ1824
Lab ID:	KWG2003438-4	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Bottle ID:		Tier:		Matrix:	NOT APPLICABLE
Prod Code:	8082A PCB	Collect Date:		Receive Date:	12/28/2020

Analysis Lot:	KWG2003438	Prep Lot:		Report Group:	
Analysis Method:	8082A	Prep Method:			
Prep Ref:		Prep Date:			

Quant Method:	\\NAKLWS003\INSTDATA\GC27\DATA\122620.B\121720UL_F.M	Calibration ID:	CAL16361
Title:		Method ID:	MJ1824
MB Ref:		Quant based on Method	

Surrogate Compounds

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2		Rpt
Tetrachloro-m-xylene	6.64		13565	0	0.0060	0.0000		NA
			%Recovery =		NA	NA	Limits = 50-150	
Decachlorobiphenyl	0.00		0	0		0.0000		NA
			%Recovery =		NA	NA	Limits = 50-150	

Target Compounds

Final Conc. Units:									
Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1016			0	0	0.0000	0.0000			
Aroclor 1016 {1}			0	0	0.0000	0.0000			
Aroclor 1016 {2}			0	0	0.0000	0.0000			
Aroclor 1016 {3}			0	0	0.0000	0.0000			
Aroclor 1016 {4}			0	0	0.0000	0.0000			
Aroclor 1016 {5}			0	0	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 1232			0	0	0.0000	0.0000			
Aroclor 1232 {1}			0	0	0.0000	0.0000			
Aroclor 1232 {2}			0	0	0.0000	0.0000			
Aroclor 1232 {3}			0	0	0.0000	0.0000			
Aroclor 1232 {4}			0	0	0.0000	0.0000			
Aroclor 1232 {5}			0	0	0.0000	0.0000			
Aroclor 1242			0	0	0.0000	0.0000			
Aroclor 1242 {1}			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
C: 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:\GC27\DATA\122620.B\1226F015.D	Instrument:	GC27.i
Data File #2:	\\naklsws003\instdata\GC27\Data\122620_r.b\1226F015.D	Vial:	2
Acqu Date:	12/26/2020 17:55	Quant Date:	12/28/2020 09:09
Run Type:	IB	MethodJoinID:	MJ1824
Lab ID:	KWG2003438-4	Soln Conc. Units:	ng/mL
Signal #1:	DB-35MS	Signal #2:	DB-XLB

Target Compounds

Final Conc. Units:

Parameter Name	RT #1	RT #2	Resp #1	Resp #2	ng/mL #1	ng/mL #2	ug/Kg #1	ug/Kg #2	Rpt
Aroclor 1242 {2}			0	0	0.0000	0.0000			
Aroclor 1242 {3}			0	0	0.0000	0.0000			
Aroclor 1242 {4}			0	0	0.0000	0.0000			
Aroclor 1242 {5}			0	0	0.0000	0.0000			
Aroclor 1248			0	0	0.0000	0.0000			
Aroclor 1248 {1}			0d	0	0.0000	0.0000			
Aroclor 1248 {2}			0d	0	0.0000	0.0000			
Aroclor 1248 {3}			0d	0	0.0000	0.0000			
Aroclor 1248 {4}			0d	0	0.0000	0.0000			
Aroclor 1248 {5}			0d	0	0.0000	0.0000			
Aroclor 1254			0	0	0.0000	0.0000			
Aroclor 1254 {1}			0	0	0.0000	0.0000			
Aroclor 1254 {2}			0	0	0.0000	0.0000			
Aroclor 1254 {3}			0	0	0.0000	0.0000			
Aroclor 1254 {4}			0	0	0.0000	0.0000			
Aroclor 1254 {5}			0	0	0.0000	0.0000			
Aroclors, Total			0	0	0.0000	0.0000	J	J	
Aroclor 1260			0	0	0.0000	0.0000			
Aroclor 1260 {1}			0d	0	0.0000	0.0000			
Aroclor 1260 {2}			0d	0	0.0000	0.0000			
Aroclor 1260 {3}			0d	0	0.0000	0.0000			
Aroclor 1260 {4}			0d	0	0.0000	0.0000			
Aroclor 1260 {5}			0d	0	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}			0	0	0.0000	0.0000			
Aroclor 1268 {2}			0	0	0.0000	0.0000			
Aroclor 1268 {3}			0	0	0.0000	0.0000			
Aroclor 1268 {4}			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: \\naklsws003\instdata\GC27\Data\122620.b\1226F015.D
Report Date: 28-Dec-2020 09:09

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\122620.b\1226F015.D
Sample #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\1226F015.D
Inj Date : 26-DEC-2020 17:55
Sample Info: IB
Misc Info :
Cal Date : 28-DEC-2020 07:01
Operator : SM
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\122620.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\122620_r.b\121720_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	6.636	0.000	13565	0	0.00619	0.000		100.00 (R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Data File: \\nak1sws003\instdata\GC27\Data\122620.b\1226F015.D

Date : 26-DEC-2020 17:55

Client ID:

Sample Info: IB

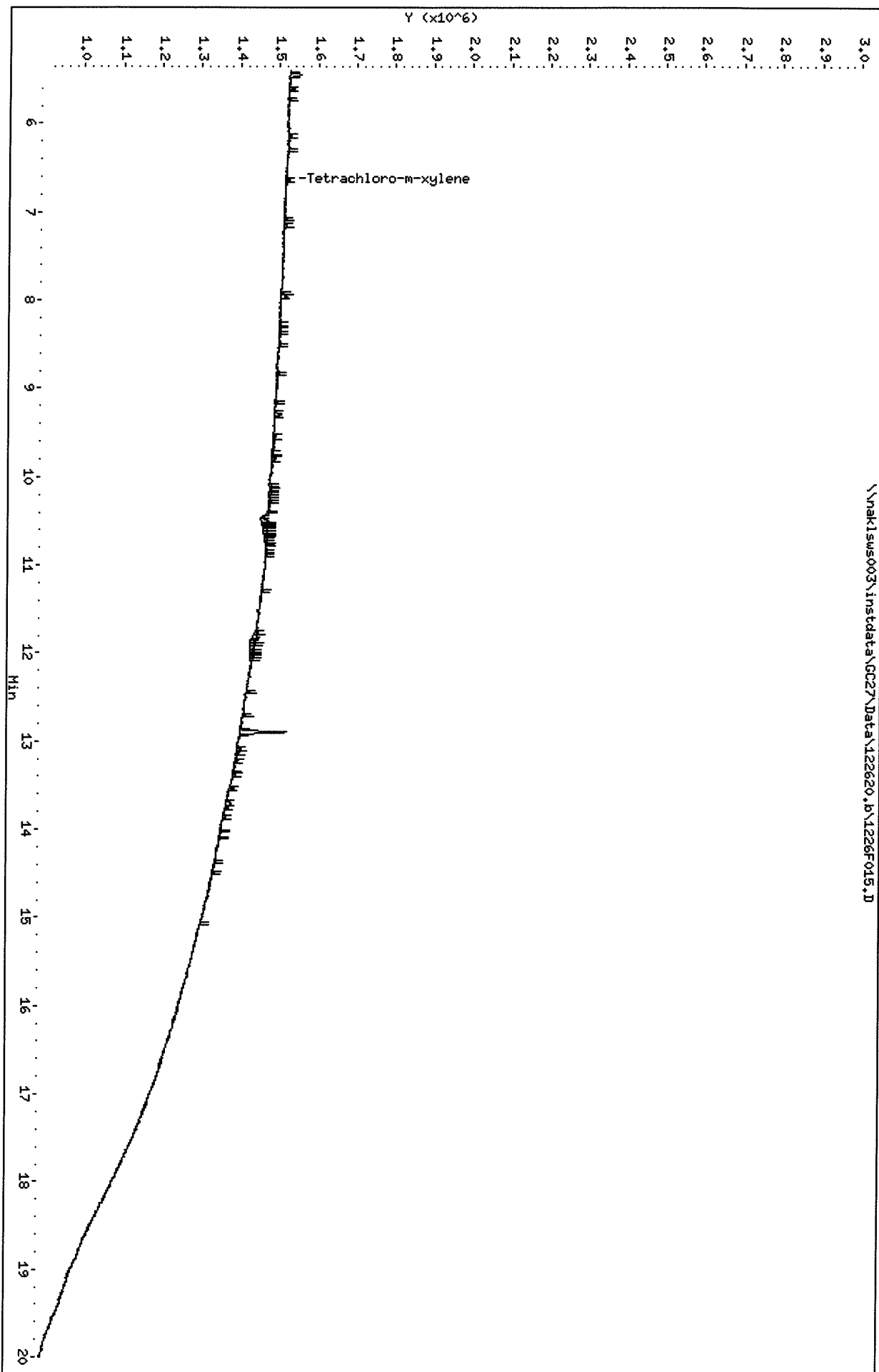
Column phase: DB-35MS

Instrument: GC27.i

Operator: SM

Column diameter: 0.32

\\nak1sws003\instdata\GC27\Data\122620.b\1226F015.D



Data File: \\nak1sws003\instdata\GC27\Data\122620_r.b\1226F015.D

Date : 26-DEC-2020 17:55

Client ID:

Sample Info: IB

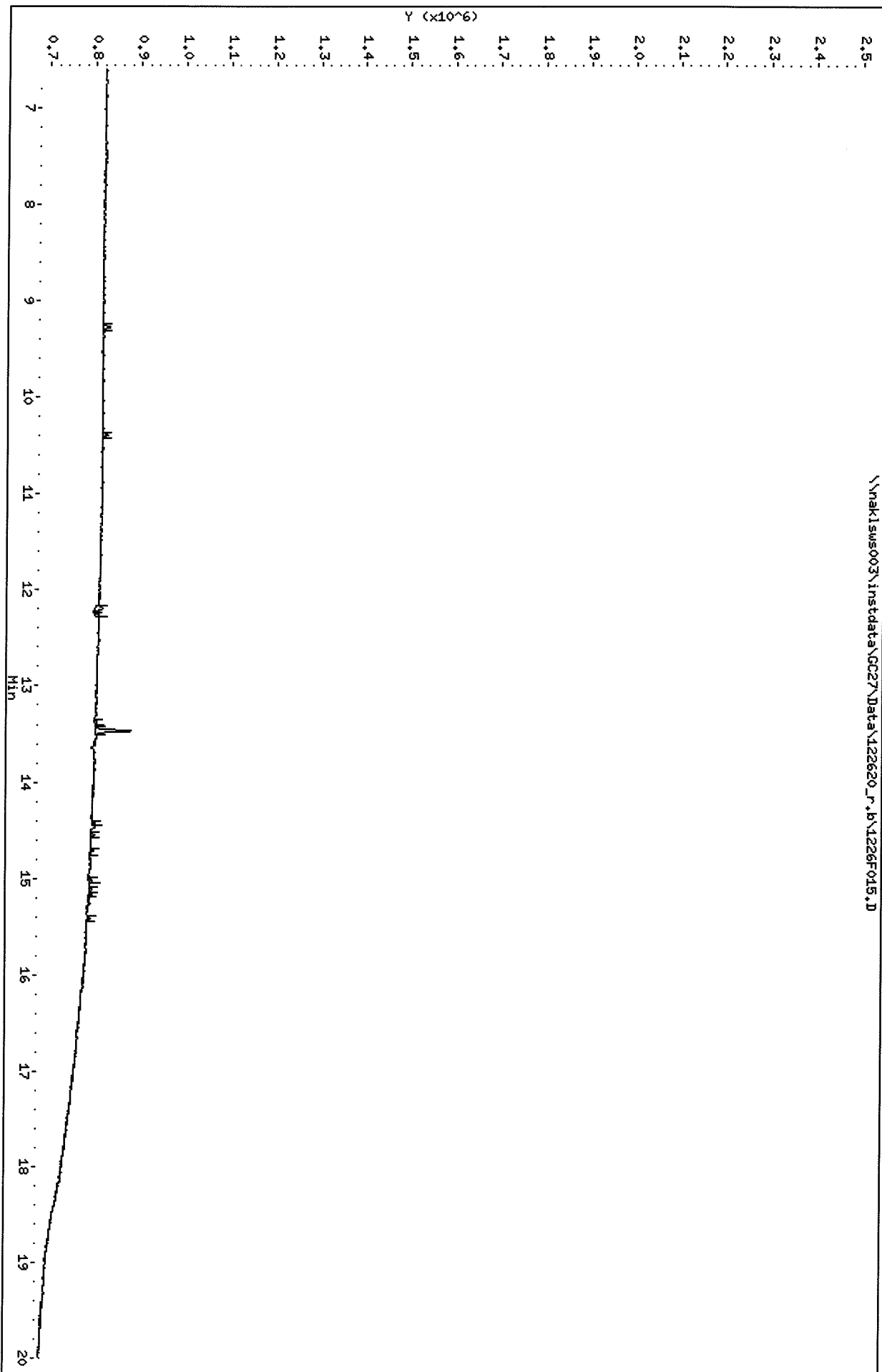
Column phase: DB-XLB

Instrument: GC27.i

Operator: SH

Column diameter: 0.32

\\nak1sws003\instdata\GC27\Data\122620_r.b\1226F015.D



Injection Log

Directory: J:\GC27\Data\121720ICAL

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	1217F001.D	1.	PRIMER		12/17/2020 5:38:5
2	100	1217F002.D	1.	PRIMER		12/17/2020 6:10:0
3	100	1217F003.D	1.	PRIMER		12/17/2020 6:41:2
4	1	1217F004.D	1.	DDX MARKER		12/17/2020 7:12:4
5	2	1217F005.D	1.	IB		12/17/2020 7:43:5
6	3	1217F006.D	1.	PCB8-65A 1660 0.1-1PPB @ 5X		12/17/2020 8:15:1
7	4	1217F007.D	1.	PCB8-64K 1660 0.2-2PPB @ 5X		12/17/2020 8:46:3
8	5	1217F008.D	1.	PCB8-65A 1660 0.5-5PPB		12/17/2020 9:17:3
9	6	1217F009.D	1.	PCB8-64K 1660 1-10PPB		12/17/2020 9:49:0
10	7	1217F010.D	1.	PCB8-64G 1660 2-20PPB		12/17/2020 10:20:1
11	8	1217F011.D	1.	PCB8-61F 1660 5-50PPB		12/17/2020 10:51:2
12	9	1217F012.D	1.	PCB8-61A 1660 10-100 @ 5X <i>EE 12/23/20</i>		12/17/2020 11:22:4
13	10	1217F013.D	1.	PCB8-61A 1660 20-200		12/17/2020 11:54:0
14	11	1217F014.D	1.	PCB8-65C 2154 1-2PPB @ 5X		12/18/2020 12:25:1
15	12	1217F015.D	1.	PCB8-65B 2154 2-4PPB @ 5X		12/18/2020 12:56:2
16	13	1217F016.D	1.	PCB8-65C 2154 5-10PPB		12/18/2020 1:27:3
17	14	1217F017.D	1.	PCB8-65B 2154 10-20PPB		12/18/2020 1:58:4
18	15	1217F018.D	1.	PCB8-64D 2154 20-40PPB		12/18/2020 2:29:5
19	16	1217F019.D	1.	PCB8-64E 2154 50-100PPB		12/18/2020 3:01:0
20	17	1217F020.D	1.	PCB8-64F 2154 100-200PPB		12/18/2020 3:32:1
21	18	1217F021.D	1.	PCB8-64C 2154 200-400PPB		12/18/2020 4:03:2
22	19	1217F022.D	1.	PCB8-65E 3262 1PPB @ 5X		12/18/2020 4:34:3
23	20	1217F023.D	1.	PCB8-65D 3262 2PPB @ 5X		12/18/2020 5:05:4
24	21	1217F024.D	1.	PCB8-65E 3262 5PPB		12/18/2020 5:37:0
25	22	1217F025.D	1.	PCB8-65D 3262 10PPB		12/18/2020 6:08:4
26	23	1217F026.D	1.	PCB8-64H 3262 20PPB		12/18/2020 6:39:5
27	24	1217F027.D	1.	PCB8-61H 3262 50PPB		12/18/2020 7:11:1
28	25	1217F028.D	1.	PCB8-61C 3262 100PPB @ 2X		12/18/2020 7:42:3
29	26	1217F029.D	1.	PCB8-61C 3262 200PPB		12/18/2020 8:13:4
30	27	1217F030.D	1.	PCB8-65G 4268 1PPB @ 5X- <i>KK</i>		12/18/2020 8:44:5
31	28	1217F031.D	1.	PCB8-65F 4268 2PPB @ 5X		12/18/2020 9:16:0
32	29	1217F032.D	1.	PCB8-65G 4268 5PPB		12/18/2020 9:47:2
33	30	1217F033.D	1.	PCB8-65F 4268 10PPB		12/18/2020 10:18:4
34	31	1217F034.D	1.	PCB8-65I 4268 20PPB <i>EE 12/23/20</i>		12/18/2020 10:50:0
35	32	1217F035.D	1.	PCB8-61I 4268 50 PPB		12/18/2020 11:21:2
36	33	1217F036.D	1.	PCB8-61D 4268 100PPB @ 2X		12/18/2020 11:52:4
37	34	1217F037.D	1.	PCB8-61D 4268 200PPB		12/18/2020 12:24:0
38	35	1217F038.D	1.	PCB8-65I 1248 1PPB @ 5X		12/18/2020 12:55:1
39	36	1217F039.D	1.	PCB8-65H 1248 2PPB @ 5X		12/18/2020 1:26:3
40	37	1217F040.D	1.	PCB8-65I 1248 5PPB		12/18/2020 1:57:5
41	38	1217F041.D	1.	PCB8-65H 1248 10PPB		12/18/2020 2:29:1
42	39	1217F042.D	1.	PCB8-65J 1248 20PPB		12/18/2020 3:00:3
43	40	1217F043.D	1.	PCB8-61J 1248 50PPB		12/18/2020 3:31:5
44	41	1217F044.D	1.	PCB8-61E 1248 100PPB @ 2X		12/18/2020 4:03:1
45	42	1217F045.D	1.	PCB8-61E 1248 200PPB		12/18/2020 4:34:3
46	43	1217F046.D	1.	PCB8-68M 1016 ICV @ 20PPB		12/18/2020 5:05:4
47	44	1217F047.D	1.	PCB8-65M 1221 ICV @ 20PPB- <i>KK</i>		12/18/2020 5:37:0
48	45	1217F048.D	1.	PCB8-68N 1232 ICV @ 20PPB		12/18/2020 6:08:1
49	46	1217F049.D	1.	PCB8-69A 1242 ICV @ 20PPB- <i>KK</i>		12/18/2020 6:39:3
50	47	1217F050.D	1.	PCB8-69B 1248 ICV @ 20PPB		12/18/2020 7:10:4
51	48	1217F051.D	1.	PCB8-69C 1254 ICV @ 20PPB		12/18/2020 7:41:5
52	49	1217F052.D	1.	PCB8-65N 1260 ICV @ 20PPB		12/18/2020 8:13:1
53	50	1217F053.D	1.	PCB8-69D 1262 ICV @ 20PPB		12/18/2020 8:44:3
54	51	1217F054.D	1.	PCB8-69E 1268 ICV @ 20PPB- <i>KK</i>		12/18/2020 9:15:4

Injection Log

Directory: J:\GC27\Data\122220

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	1222F001.D	1.	PRIMER		12/22/2020 1:57:1
2	1	1222F003.D	1.	IB		12/22/2020 2:28:3
3	2	1222F004.D	1.	PCB8-65G 4268 1PPB @ 5X - <i>KK</i>		12/22/2020 3:00:0
4	2	1222F005.D	1.	PCB8-65G 4268 1PPB @ 5X - <i>KK</i>		12/22/2020 3:55:0
5	3	1222F006.D	1.	PCB8-65F 4268 1PPB @ 10X		12/22/2020 4:49:3
6	4	1222F007.D	1.	PCB8-69A 1242 ICV @ 20PPB		12/22/2020 5:21:0
7	5	1222F008.D	1.	PCB8-69E 1268 ICV @ 20PPB		12/22/2020 5:52:3

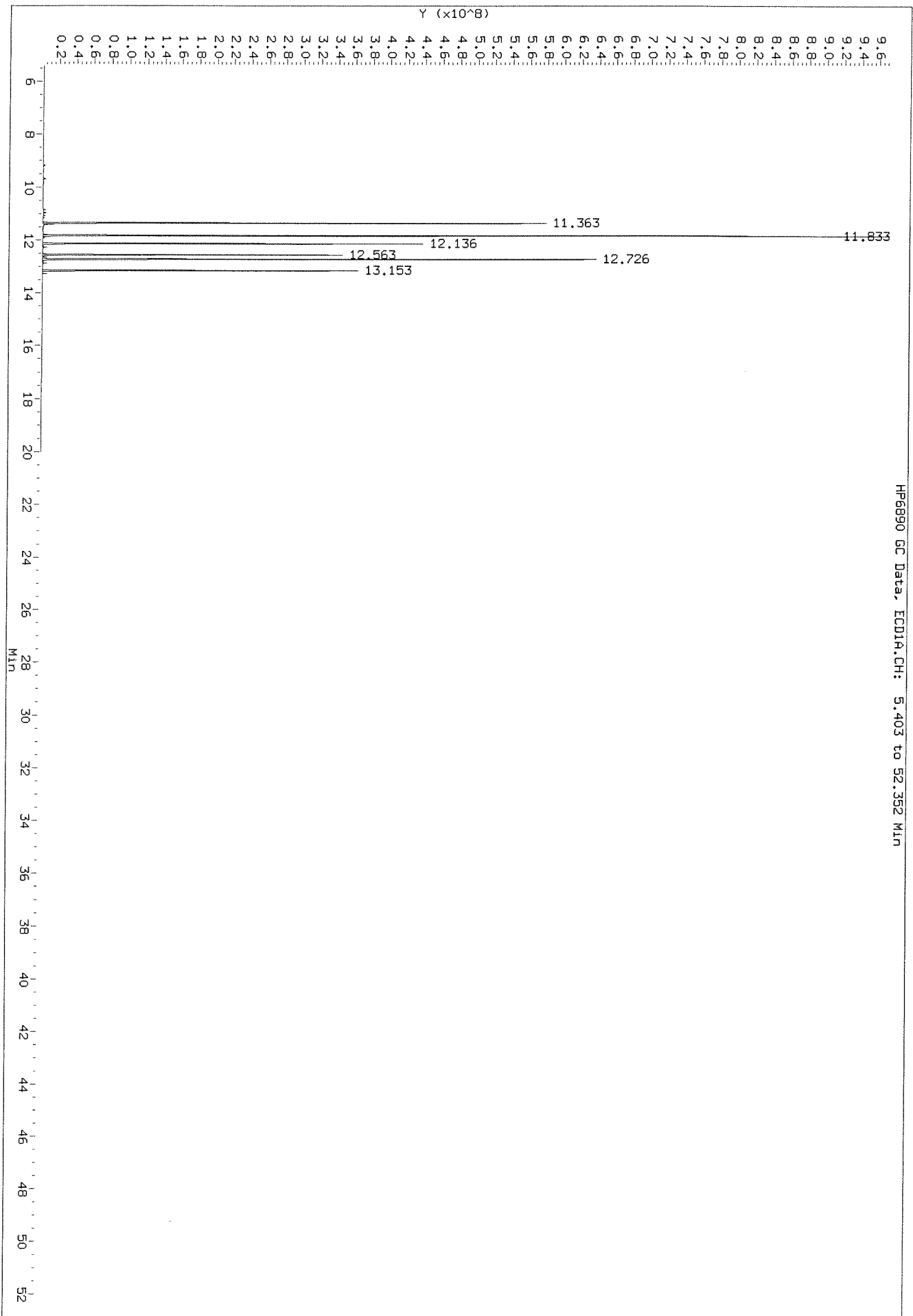
Injection Log

Directory: J:\GC27\Data\122320

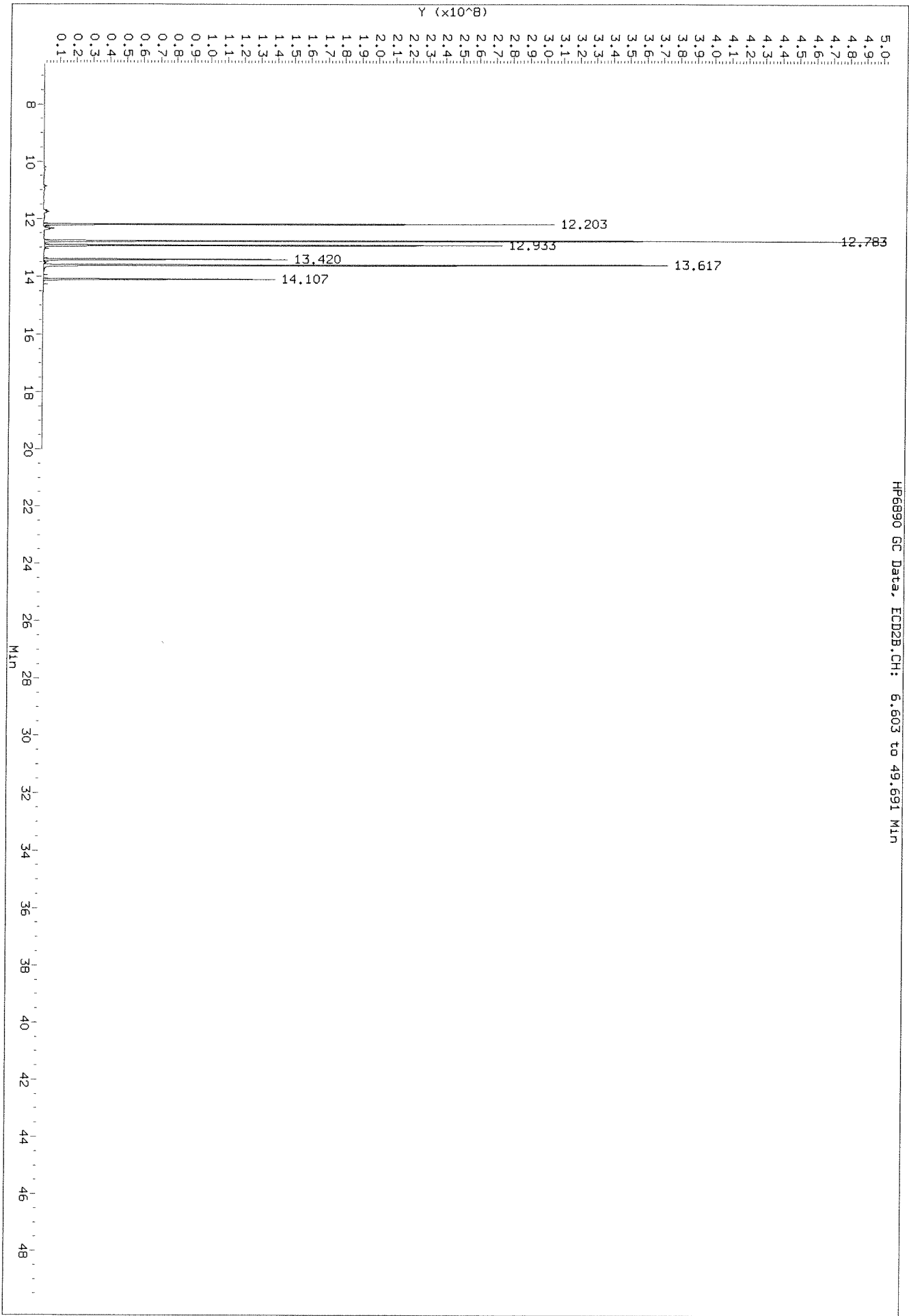
Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	100	1223F001.D	1.	PRIMER		12/23/22020 11:38:0
2	1	1223F002.D	1.	IB		12/23/22020 12:09:2
3	2	1223F003.D	1.	PCB8-69L 1221 ICV @ 20PPB		12/23/22020 12:40:4

Front	TCMX	1016	1221	1232	1242	1248	1254	1260	1262	1268 DCB	2,4'/4,4'-DDX
	6.608	7.678	7.283	7.285	7.679	9.330	11.436	12.828	13.208	14.556	16.428
		8.908	7.519	7.678	8.909	9.533	12.043	13.668	13.668	14.656	11.363
		9.348	7.679	8.438	9.349	10.697	12.286	13.818	14.041	15.032	11.833
		9.528		9.348	9.529	10.997	12.379	14.041	14.658	16.012	12.136
		9.785		9.528	9.916	11.460	13.136	14.658	15.515		12.563
											12.726
											13.153
Rear	TCMX	1016	1221	1232	1242	1248	1254	1260	1262	1268 DCB	2,4'/4,4'-DDX
	7.938	8.658	8.323	8.661	8.659	10.457	11.969	13.061	14.285	15.673	17.575
		9.398	8.476	9.398	9.399	10.513	12.026	14.285	14.378	15.796	12.203
		10.568	8.659	9.771	10.453	11.083	12.339	14.378	14.648	16.156	12.783
		11.081		10.455	10.509	11.580	12.433	14.645	15.171	17.172	12.933
		11.308		10.511	10.793	12.093	13.873	15.171	16.661		13.420
											13.617
											14.107

Data File: \\nakisus003\instdata\GC27\Data\121720ICM.b\1217F004.D
Injection Date: 17-DEC-2020 19:12



Data File: \\nakjsw003\instdata\GC27\Data\121720ICAL_r.b\1217F004.D
Injection Date: 17-DEC-2020 19:12



Report Date : 23-Dec-2020 10:18

ALS Environmental - Kelso

INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2020 20:15
 End Cal Date : 22-DEC-2020 16:49
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 4.04
 Integrator : Falcon
 Method file : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
 Cal Date : 23-Dec-2020 10:16 stephenie.andrews
 Curve Type : Average

Calibration File Names:

Level 1: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F038.D
 Level 2: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F039.D
 Level 3: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F040.D
 Level 4: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F041.D
 Level 5: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F042.D
 Level 6: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F043.D
 Level 7: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F044.D
 Level 8: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F045.D

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
2 Aroclor 1016(1)	46978	38428	37883	38545	36659	35069		
	43470	40106					39642	9.736
(2)	45268	39708	37133	33328	30338	29521		
	36766	33821					35735	14.459
(3)	116827	106216	98802	98872	89419	92062		
	125200	108408					104476	11.695
(4)	75019	64515	60221	59840	55832	54780		
	68161	62658					62628	10.609
(5)	59772	49066	40437	39825	36573	36059		
	45200	42654					43698	17.837
3 Aroclor 1221(1)	23774	21508	21757	21535	20191	18593		
	18363	18448					20521	9.552
(2)	18875	16021	14873	14693	12900	11969		
	11690	11822					14105	17.858
(3)	58689	56493	55224	51967	47946	44928		
	43545	43908					50337	12.029

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ALS Environmental - Kelso

INITIAL CALIBRATION DATA

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 Origin : Disabled
 Target Version : 4.04
 Integrator : Falcon
 Method file : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
 Cal Date : 23-Dec-2020 10:16 stephenie.andrews
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
4 Aroclor 1232(1)	21026	17953	17400	16939	15978	15103		
	14554	14292					16656	13.289
(2)	46161	46991	51607	48797	46586	44540		
	44044	42266					46374	6.281
(3)	43706	44862	42867	46059	43428	37352		
	36689	35377					41293	10.028
(4)	69182	54290	51372	46529	44338	44132		
	42012	42382					49280	18.542
(5)	30643	25433	27876	26843	25483	24439		
	24962	23772					26181	8.491
5 Aroclor 1242(1)	34750	30581	31991	31883	31067	30104		
	28461	26962					30725	7.678
(2)	28281	28981	27540	26265	24556	24161		
	22951	21782					25565	10.197
(3)	82085	85245	81385	76418	67357	75818		
	66440	66225					75122	10.152
(4)	45984	45252	48752	45459	42996	44100		
	41685	39964					44274	6.172
(5)	35749	30365	32832	31534	29819	30221		
	28270	26773					30695	8.980

Report Date : 23-Dec-2020 10:18

ALS Environmental - Kelso

INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2020 20:15
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 Quant Method : ESTD
 Origin : Disabled
 Target Version : 4.04
 Integrator : Falcon
 Method file : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
 Cal Date : 23-Dec-2020 10:16 stephenie.andrews
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
=====	=====	=====	=====	=====	=====	=====	=====	=====
6 Aroclor 1248(1)	50408	48405	52608	44621	46689	39344		
	41089	39789					45369	11.023
(2)	32252	29502	27259	28205	26460	25934		
	25805	24858					27534	8.738
(3)	64163	58670	56077	54144	51149	49510		
	48972	48015					53837	10.380
(4)	40739	46287	43954	41749	38757	37943		
	36988	35810					40278	8.930
(5)	35934	37452	38210	35148	37175	35766		
	34797	32439					35865	5.069
7 Aroclor 1254(1)	42066	45708	46549	42337	40252	37238		
	36537	36947					40954	9.543
(2)	149933	138330	137074	128042	119601	111415		
	109490	112787					125834	11.834
(3)	73954	68676	63008	61685	57718	53641		
	53171	53438					60661	12.673
(4)	85196	80161	79156	77524	71272	67362		
	67070	68073					74477	9.291
(5)	120659	109589	98072	87874	81505	77128		
	75047	77449					90915	18.618
=====	=====	=====	=====	=====	=====	=====	=====	=====

Report Date : 23-Dec-2020 10:18

ALS Environmental - Kelso

INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2020 20:15
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 Quant Method : ESTD
 Origin : Disabled
 Target Version : 4.04
 Integrator : Falcon
 Method file : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
 Cal Date : 23-Dec-2020 10:16 stephenie.andrews
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
=====	=====	=====	=====	=====	=====	=====	=====	=====
8 Aroclor 1260(1)	50241	47900	43109	43327	41691	39521		
	51406	48875					45759	9.585
(2)	88984	81322	71207	69228	65158	63516		
	79834	74299					74193	11.735
(3)	51353	44109	37908	37584	35658	34633		
	43935	40683					40733	13.615
(4)	177128	162968	146846	138313	131675	131453		
	168574	159655					152076	11.482
(5)	154171	120436	106502	103653	97511	97342		
	123746	116344					114963	16.309
9 Aroclor 1262(1)	140991	123162	119160	109420	101540	96764		
	96091	93405					110067	15.100
(2)	108565	103081	104409	95871	90653	87390		
	87212	85080					95283	9.502
(3)	204912	191768	184021	169377	162602	157404		
	160143	159541					173721	10.202
(4)	160287	142813	137479	125725	117008	114072		
	115365	113729					128310	13.286
(5)	55414	53617	52324	50217	47233	46265		
	46802	45931					49725	7.433

Report Date : 23-Dec-2020 10:18

ALS Environmental - Kelso

INITIAL CALIBRATION DATA

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 Integrator : Falcon
 Method file : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
 Cal Date : 23-Dec-2020 10:16 stephenie.andrews
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
10 Aroclor 1268(1)	214954	234656	218046	207894	194068	196638		
	186797	181052					204263	8.771
(2)	196733	201143	189890	180270	169583	173026		
	165686	161426					179720	8.230
(3)	155685	163840	163735	152500	145273	146487		
	139905	135854					150410	6.901
(4)	377856	398331	395608	374657	350780	359592		
	348335	340403					368195	5.932
M 75 Aroclors, Total	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
	+++++	+++++					+++++	+++++
\$ 1 Tetrachloro-m-xylene	2568780	2211765	2080834	2013327	1934903	1905907		
	2459759	2369121					2193049	11.401
\$ 11 Decachlorobiphenyl	1356140	1146730	1068840	998704	947405	946072		
	1179362	1092493					1091968	12.568

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INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2020 20:15
 End Cal Date : 22-DEC-2020 16:49
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 4.04
 Integrator : Falcon
 Method file : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
 Cal Date : 23-Dec-2020 11:08 stephenie.andrews
 Curve Type : Average

Calibration File Names:

Level 1: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F038.D
 Level 2: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F039.D
 Level 3: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F040.D
 Level 4: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F041.D
 Level 5: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F042.D
 Level 6: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F043.D
 Level 7: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F044.D
 Level 8: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F045.D

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
2 Aroclor 1016(1)	21993	22278	20361	21992	21754	21423		
	25833	23344					22372	7.276
(2)	35719	38998	32971	34285	32502	31296		
	36467	32527					34345	7.458
(3)	43641	38110	37172	38155	36893	35947		
	43309	39356					39073	7.418
(4)	33263	32629	31633	30040	27765	26464		
	31073	28124					30124	8.158
(5)	29295	26667	27315	28051	26591	25608		
	30310	27368					27651	5.535
3 Aroclor 1221(1)	9528	7311	7398	7225	7261	6991		
	7040	6937					7461	11.401
(2)	8766	7665	7897	7702	7547	7370		
	7143	6965					7632	7.212
(3)	30526	27960	29385	28751	26875	24276		
	23046	22434					26657	11.439

Report Date : 23-Dec-2020 11:09

ALS Environmental - Kelso

INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2020 20:15
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 Origin : Disabled
 Target Version : 4.04
 Integrator : Falcon
 Method file : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
 Cal Date : 23-Dec-2020 11:08 stephenie.andrews
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
4 Aroclor 1232 (1)	29122	28159	28339	27124	26337	25815		
	24342	22786					26503	8.110
(2)	16144	15094	14556	14034	13988	14055		
	13629	12726					14278	7.127
(3)	11889	7847	10429	9841	10074	10440		
	10307	10185					10126	10.953
(4)	23596	20207	21724	21125	21099	20597		
	19941	18807					20887	6.749
(5)	24826	23429	24643	24518	24283	23753		
	23217	21858					23816	4.127
5 Aroclor 1242 (1)	19427	16980	17429	18014	17662	18506		
	17141	15861					17627	6.057
(2)	27989	26952	27088	26935	25420	25628		
	23217	21231					25558	8.912
(3)	37286	36950	39041	38356	36480	36535		
	33495	30501					36080	7.722
(4)	38997	40121	44131	43214	41240	41122		
	37554	35626					40251	7.016
(5)	21438	27053	23952	23652	22757	23507		
	22074	20533					23121	8.548

Report Date : 23-Dec-2020 11:09

ALS Environmental - Kelso

INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2020 20:15
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 Quant Method : ESTD
 Origin : Disabled
 Target Version : 4.04
 Integrator : Falcon
 Method file : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
 Cal Date : 23-Dec-2020 11:08 stephenie.andrews
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000 Level 7	200.000 Level 8						
6 Aroclor 1248(1)	27924	28343	30308	30098	29097	28742		
	27568	25799					28485	5.098
(2)	19122	23375	24361	25140	24566	23830		
	22952	21529					23109	8.471
(3)	34368	33719	34542	33969	32310	30578		
	28770	26847					31888	9.019
(4)	26050	21729	25159	25788	25151	24415		
	23283	21994					24196	6.921
(5)	44183	45201	45385	45504	42743	39441		
	37429	35451					41917	9.439
7 Aroclor 1254(1)	52383	50154	50533	48969	45458	40326		
	37965	37012					45350	13.486
(2)	28112	26938	25862	25058	24041	22643		
	21197	20810					24333	10.886
(3)	62800	57159	59087	56734	52875	45184		
	41440	40799					52010	16.251
(4)	26630	21739	23733	23269	22121	20173		
	19202	18690					21945	11.962
(5)	51772	40960	40159	39039	35981	33000		
	30860	30681					37807	18.366

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ALS Environmental - Kelso

INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2020 20:15
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 Target Version : 4.04
 Integrator : Falcon
 Method file : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
 Cal Date : 23-Dec-2020 11:08 stephenie.andrews
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
8 Aroclor 1260(1)	28327	27485	26189	27477	25653	24773		
	29539	26292					26967	5.709
(2)	49807	46039	45230	44680	40373	38485		
	44944	39477					43629	8.821
(3)	23713	27561	24322	23739	22288	22314		
	26092	22792					24103	7.755
(4)	54004	49665	47026	44579	42213	39648		
	46839	41716					45711	10.249
(5)	129994	113194	104308	96064	89068	82767		
	98420	89173					100373	15.263
9 Aroclor 1262(1)	82566	75553	78105	72049	65718	59795		
	56836	53139					67970	15.784
(2)	33440	29007	32186	28734	27899	25619		
	24969	23218					28134	12.477
(3)	64484	58607	59965	55983	52771	48054		
	45819	42417					53512	14.244
(4)	139941	130345	129428	116977	106595	97238		
	93171	88568					112783	17.060
(5)	37904	39027	37541	34325	32873	31124		
	30109	28271					33897	11.725

Report Date : 23-Dec-2020 11:09

ALS Environmental - Kelso

INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2020 20:15
 End Cal Date : 22-DEC-2020 16:49
 Quant Method : ESTD
 Origin : Disabled
 Target Version : 4.04
 Integrator : Falcon
 Method file : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
 Cal Date : 23-Dec-2020 11:08 stephenie.andrews
 Curve Type : Average

Compound	1.000 Level 1	2.000 Level 2	5.000 Level 3	10.000 Level 4	20.000 Level 5	50.000 Level 6	RRF	% RSD
	100.000	200.000						
	Level 7	Level 8						
=====	=====	=====	=====	=====	=====	=====	=====	=====
10 Aroclor 1268(1)	149226	163834	148590	138469	124604	118847		
	107977	100455					131500	16.822
(2)	120989	142393	127587	120155	110252	105934		
	97273	90311					114362	14.767
(3)	102232	108088	109323	102477	93573	90035		
	82320	76281					95541	12.636
(4)	276876	279832	271579	249067	223515	218068		
	202276	191085					239037	14.652
M 75 Aroclors, Total	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++					+++++	+++++
=====	=====	=====	=====	=====	=====	=====	=====	=====
\$ 1 Tetrachloro-m-xylene	1255290	1274485	1245880	1215616	1135690	1080492		
	1345057	1279960					1229059	6.880
\$ 11 Decachlorobiphenyl	853330	772960	727954	691261	646291	622940		
	742363	661923					714878	10.573

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F004.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F004.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F004.D
Inj Date : 17-DEC-2020 19:12
Sample Info: DDX MARKER
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	6.636	0.000	625185	0	0.285	0.000		100.00 (R)
Decachlorobiphenyl	16.423	0.000	12318	0	0.0113	0.000		100.00 (R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

Handwritten signature
12/23/20

Handwritten signature 12/23/20

Data File: \\naklsws003\insdata\GC27\Data\1217201CAL.b\1217F004.D

Date : 17-DEC-2020 19:12

Client ID:

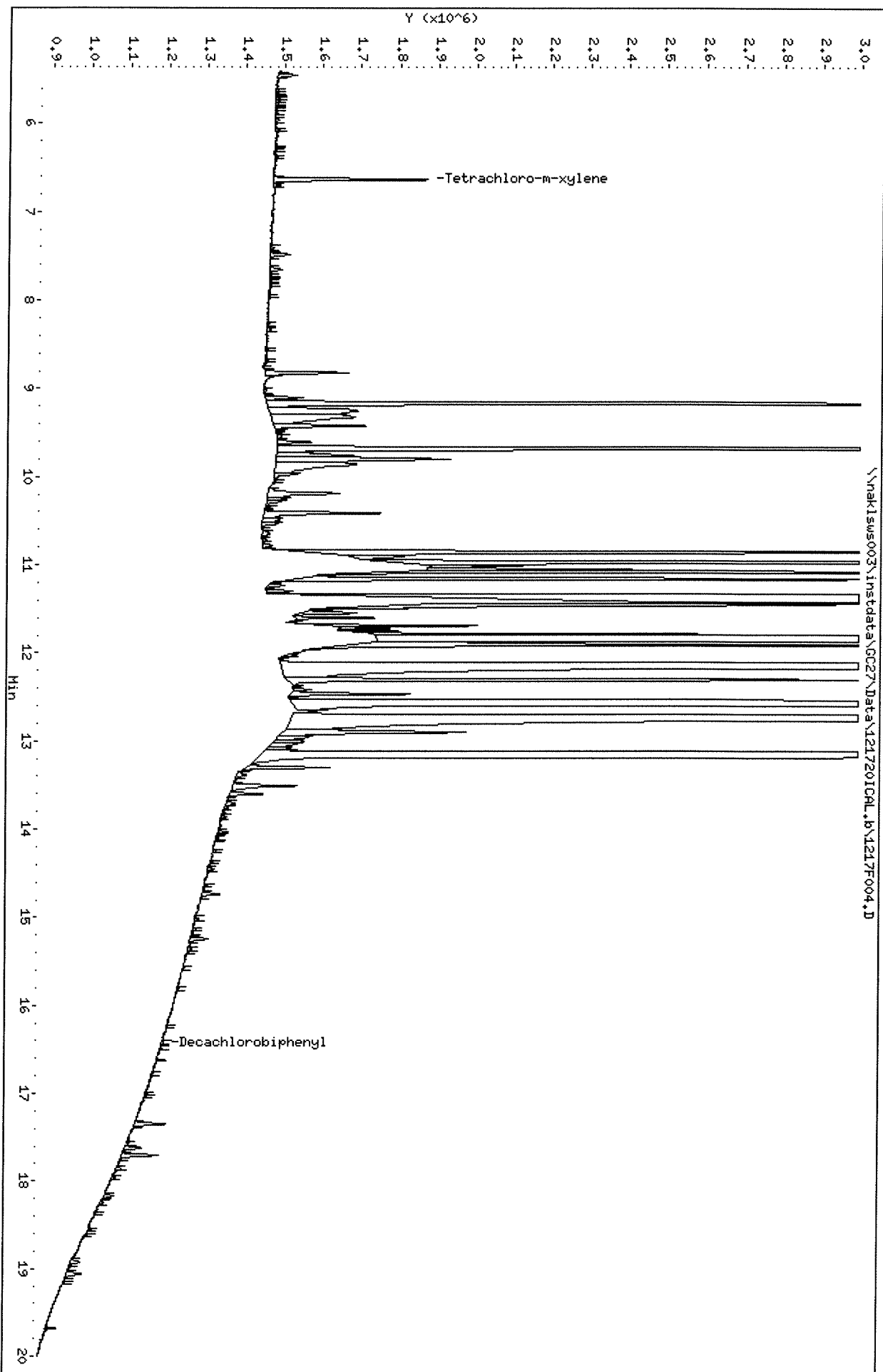
Sample Info: DDX MARKER

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL_r.b\1217F004.D
Date : 17-DEC-2020 19:12

Client ID:

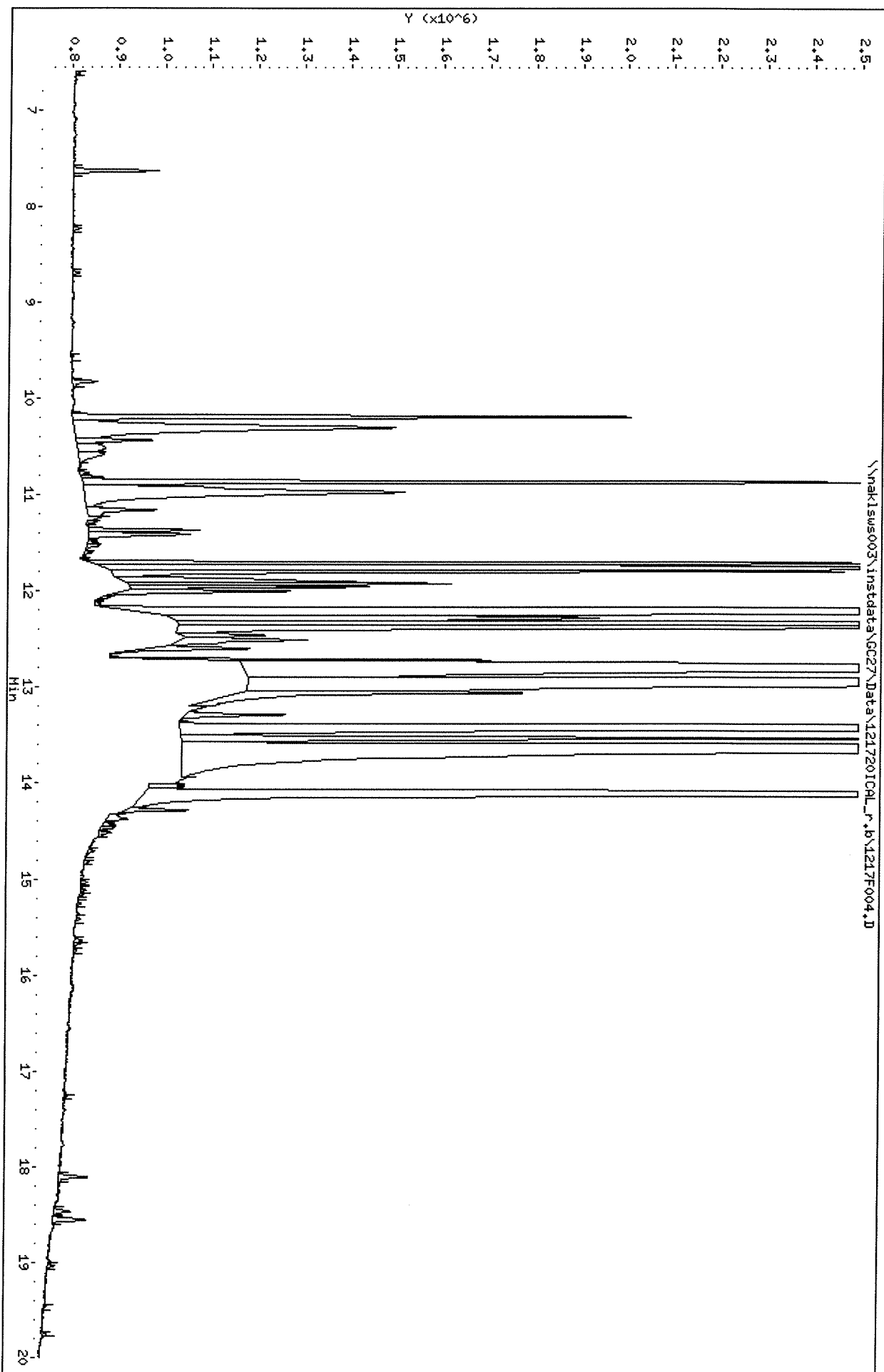
Sample Info: DDX MARKER

Column phase: DB-XLB

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F005.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F005.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F005.D
Inj Date : 17-DEC-2020 19:43
Sample Info: IB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	6.634	0.000	37618	0	0.0172	0.000		100.00 (R)

QC Flag Legend

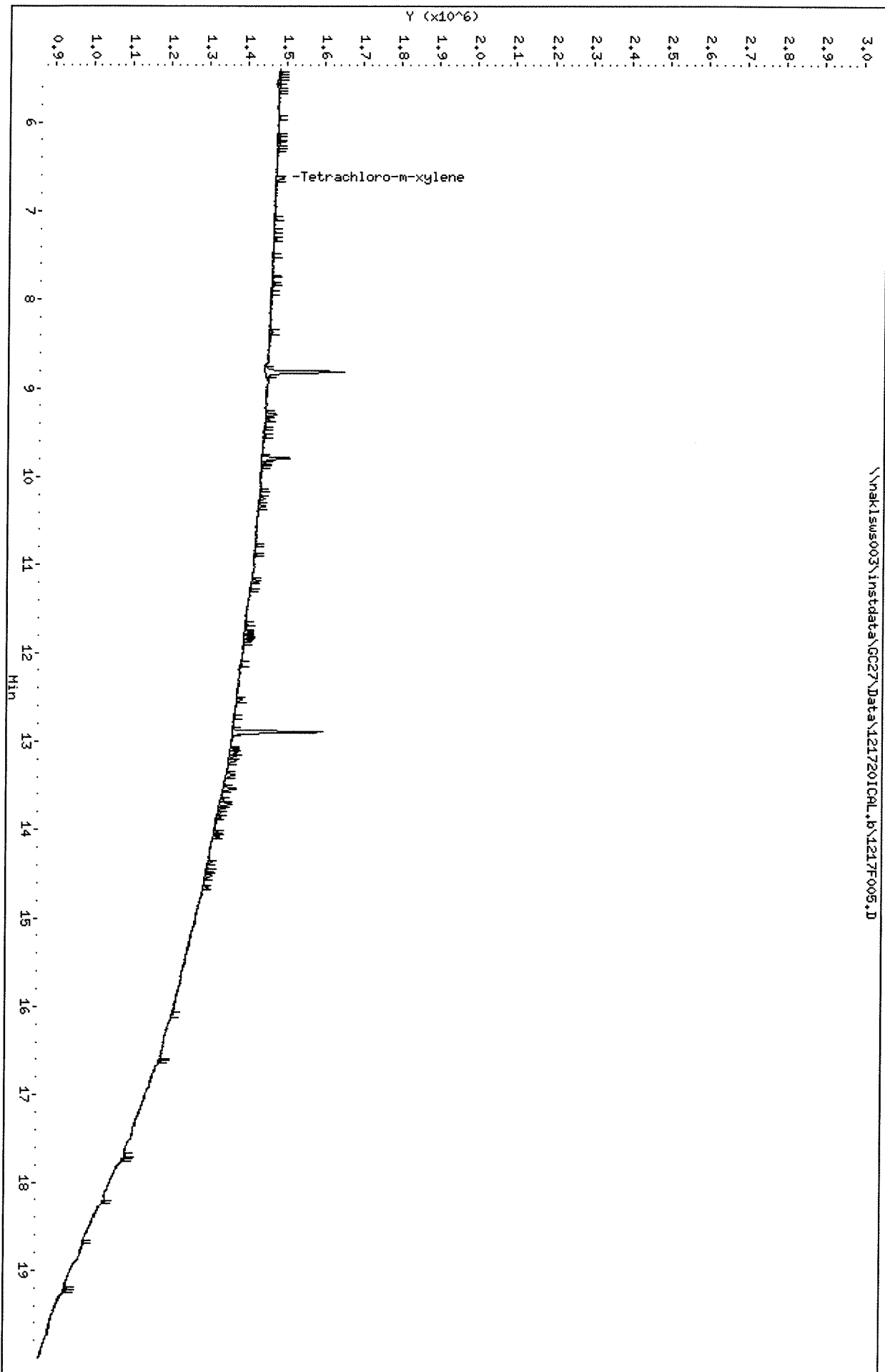
R - Spike/Surrogate failed recovery limits.

Data File: \\nak1sw003\instdata\GC27\Data\1217201CAL.b\1217F005.D
Date : 17-DEC-2020 19:43

Client ID:
Sample Info: IB

Column phase: DB-35MS

Instrument: GC27.i
Operator: SAA
Column diameter: 0.32

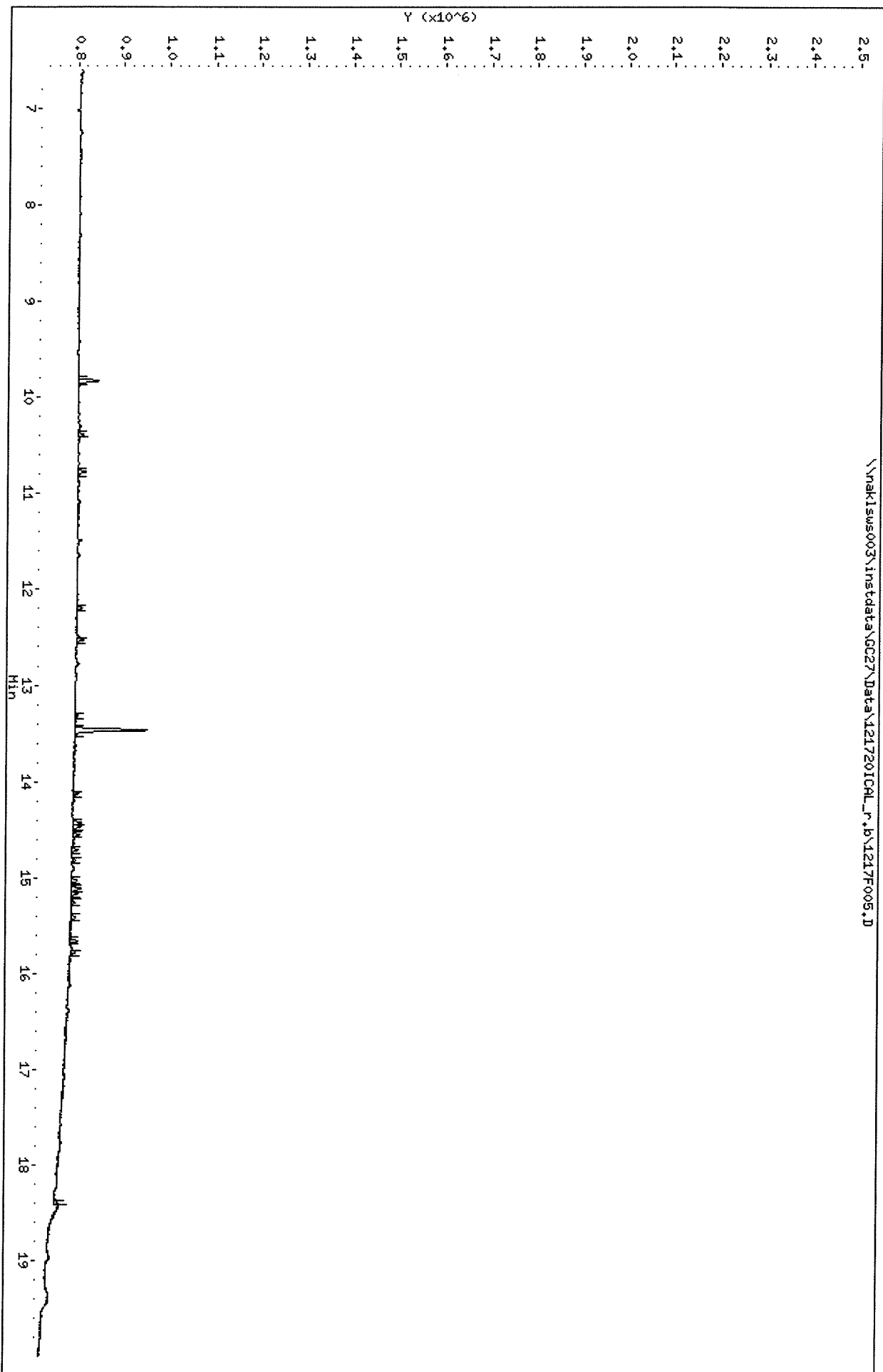


Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL_r.b\1217F005.D
Date : 17-DEC-2020 19:43

Client ID:
Sample Info: IB

Column phase: DB-XLB

Instrument: GC27.i
Operator: SAH
Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F006.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F006.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F006.D
Inj Date : 17-DEC-2020 20:15
Sample Info: PCB8-65A 1660 0.1-1PPB @ 5X
Misc Info :
Cal Date : 23-DEC-2020 10:14
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 1660.SUB
Sub List #2 : 1660.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	6.609	7.939	256878	125529	0.117	0.102		100.00
Aroclor 1016	7.679	8.662	46978	21993	1.19	0.983	80.00- 120.00	100.00 (M)
	8.912	9.399	45268	35719	1.27	1.04	67.46- 101.19	96.36 (M)
	9.349	10.569	116827	43641	1.12	1.12	216.24- 324.36	248.68 (M)
	9.532	11.082	75019	33263	1.20	1.10	124.98- 187.48	159.69 (M)
	9.789	11.309	59772	29295	1.37	1.06	85.08- 127.62	127.23 (M)
	Average of Peak Amounts =				1.23	1.06		
Aroclor 1260	12.829	13.062	50241	28327	1.10	1.05	80.00- 120.00	100.00 (M)
	13.669	14.286	88984	49807	1.20	1.14	121.62- 182.42	177.11 (M)
	13.819	14.382	51353	23713	1.26	0.984	66.59- 99.89	102.21 (M)
	14.042	14.646	177128	54004	1.16	1.18	261.33- 391.99	352.56 (M)
	14.659	15.172	154171	129994	1.34	1.30	190.43- 285.65	306.86 (M)
	Average of Peak Amounts =				1.21	1.13		
Decachlorobiphenyl	16.429	17.576	135614	85333	0.124	0.119		100.00

QC Flag Legend

M - Compound response manually integrated.

CM
12/23/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F006.D
Date : 17-DEC-2020 20:15

Client ID:

Sample Info: PCB8-65A 1660 0.1-1PPB @ 5X

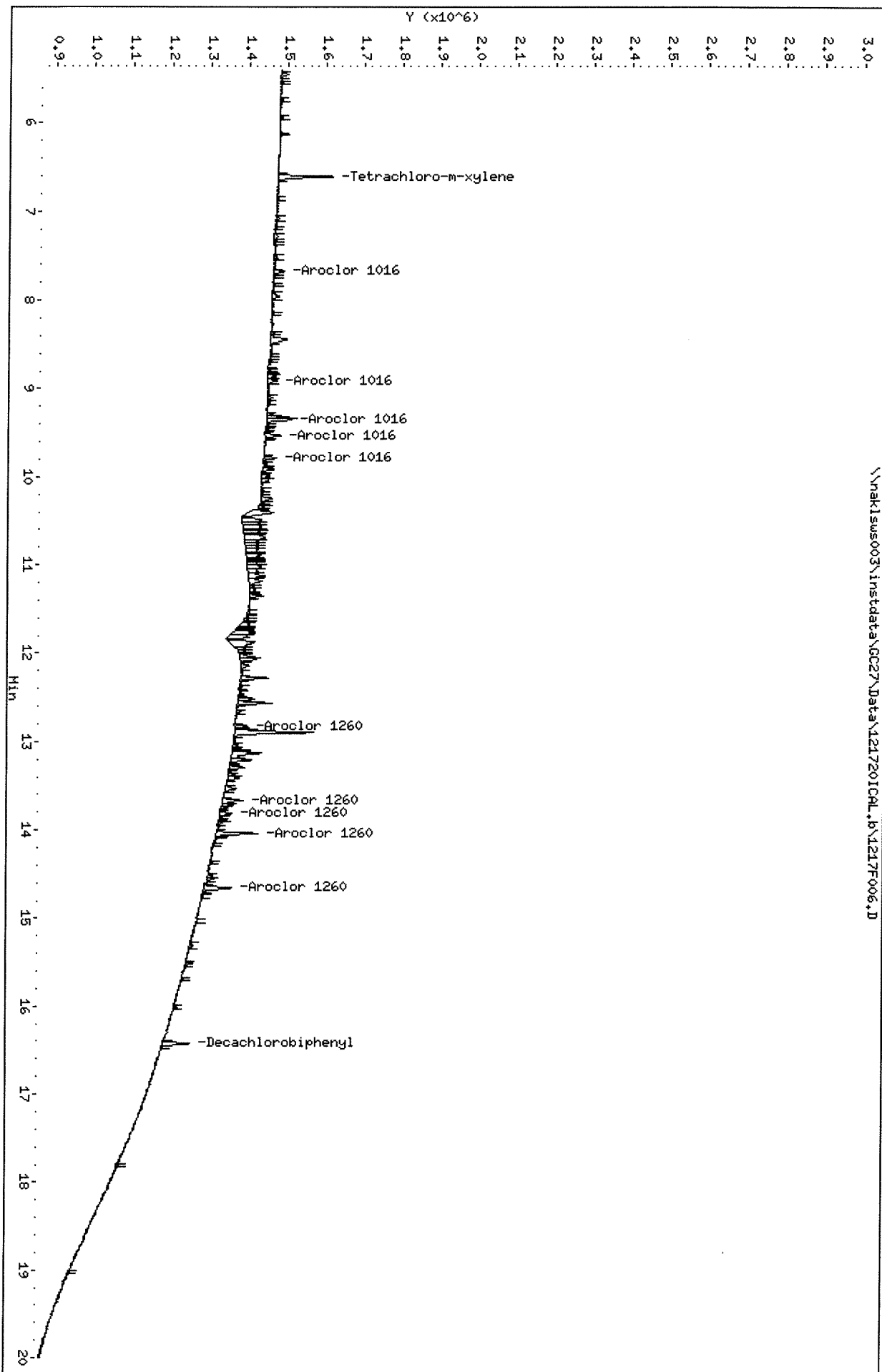
Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32

\\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F006.D



Data File: \\nak1sus003\instdata\GC27\Data\1217201CAL_r.b\1217F006.D
Date : 17-DEC-2020 20:15

Client ID:

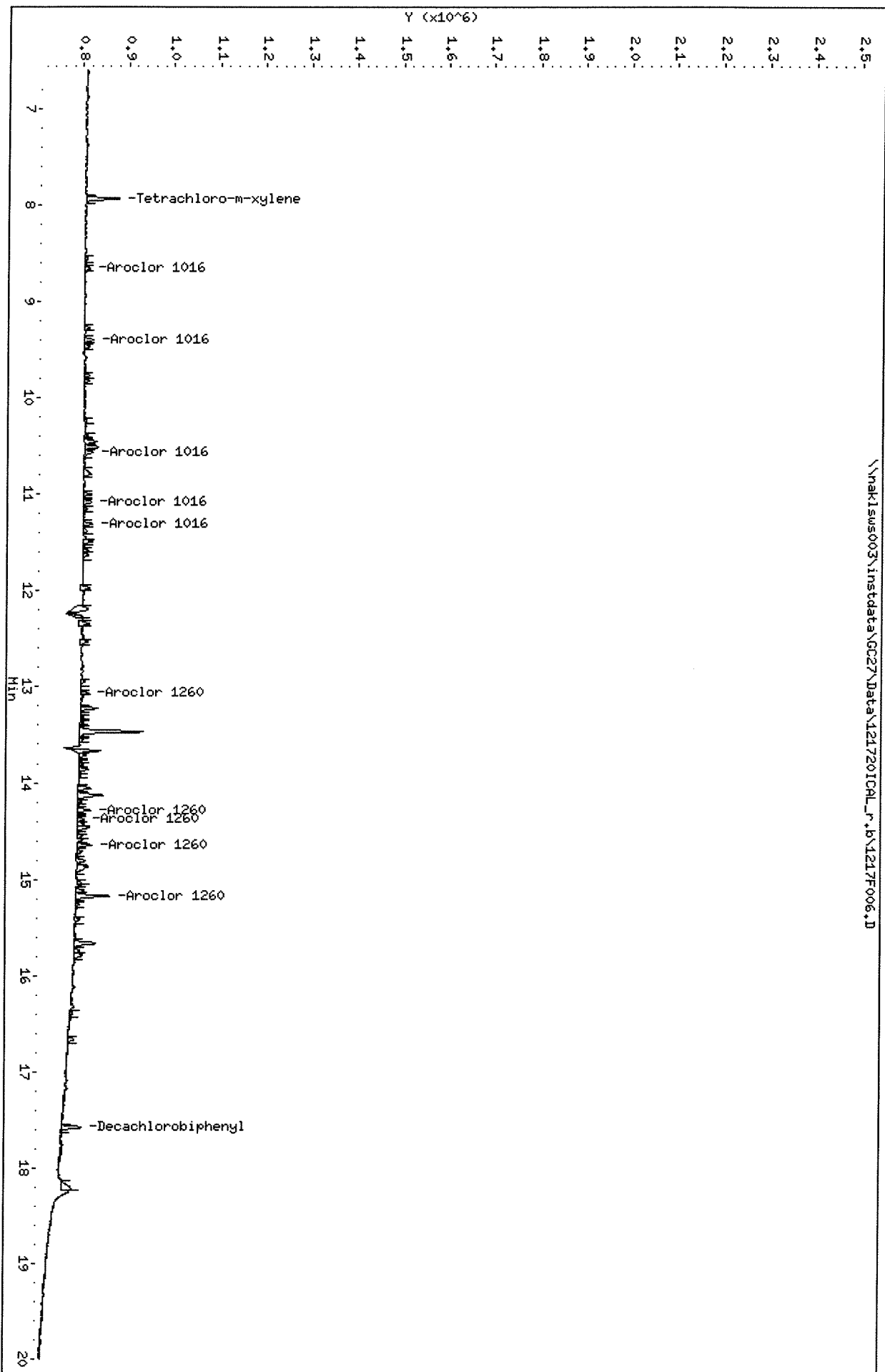
Sample Info: PCB8-65A 1660 0.1-1PPB @ 5X

Column phase: DB-XLB

Instrument: GC27.i

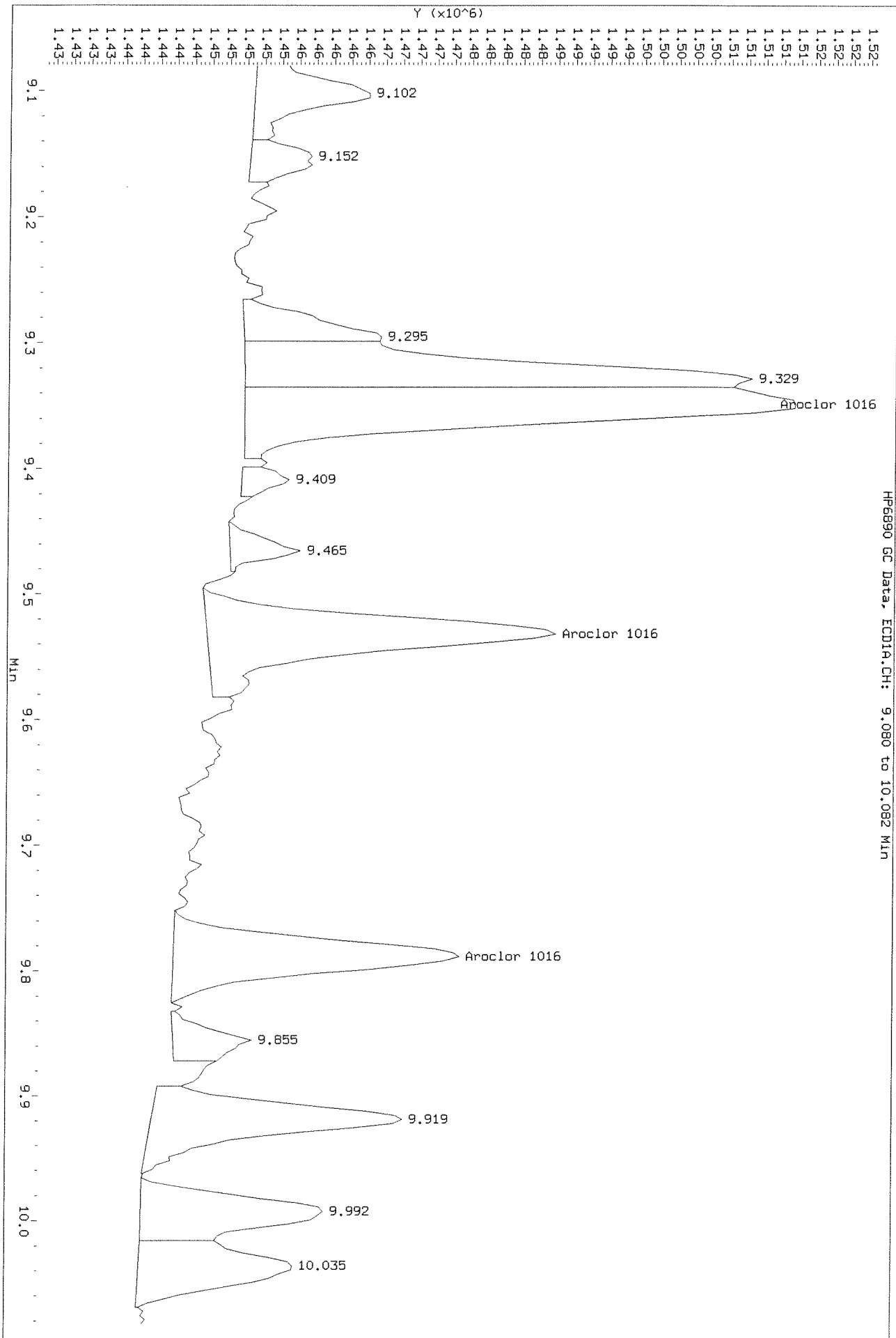
Operator: SAA

Column diameter: 0.32



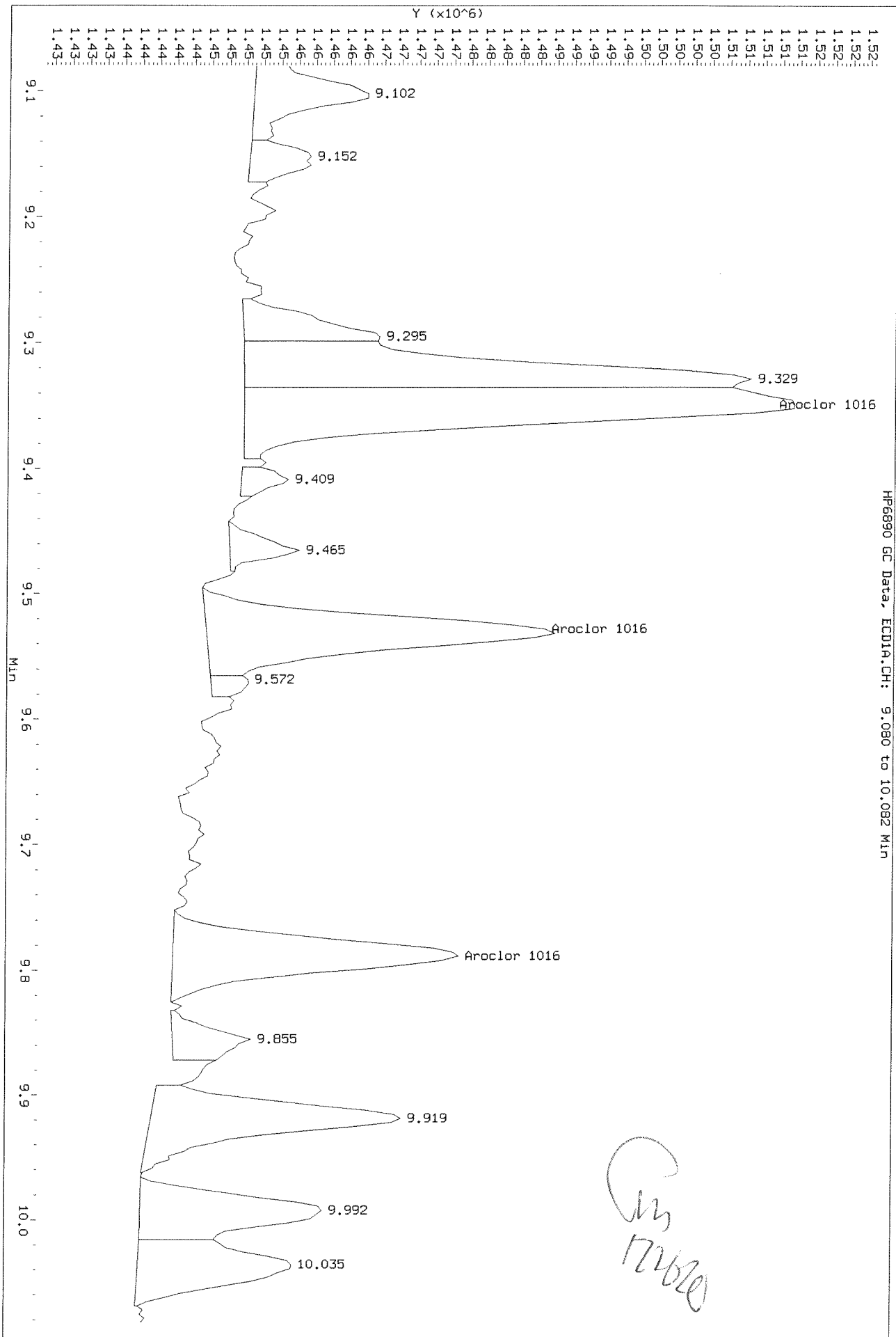
Data File: \\nakisw003\instdata\GC27\Data\1217201CAL.b\1217F006.D
Injection Date: 17-DEC-2020 20:15
Instrument: GC27.1
Client Sample ID:

Before



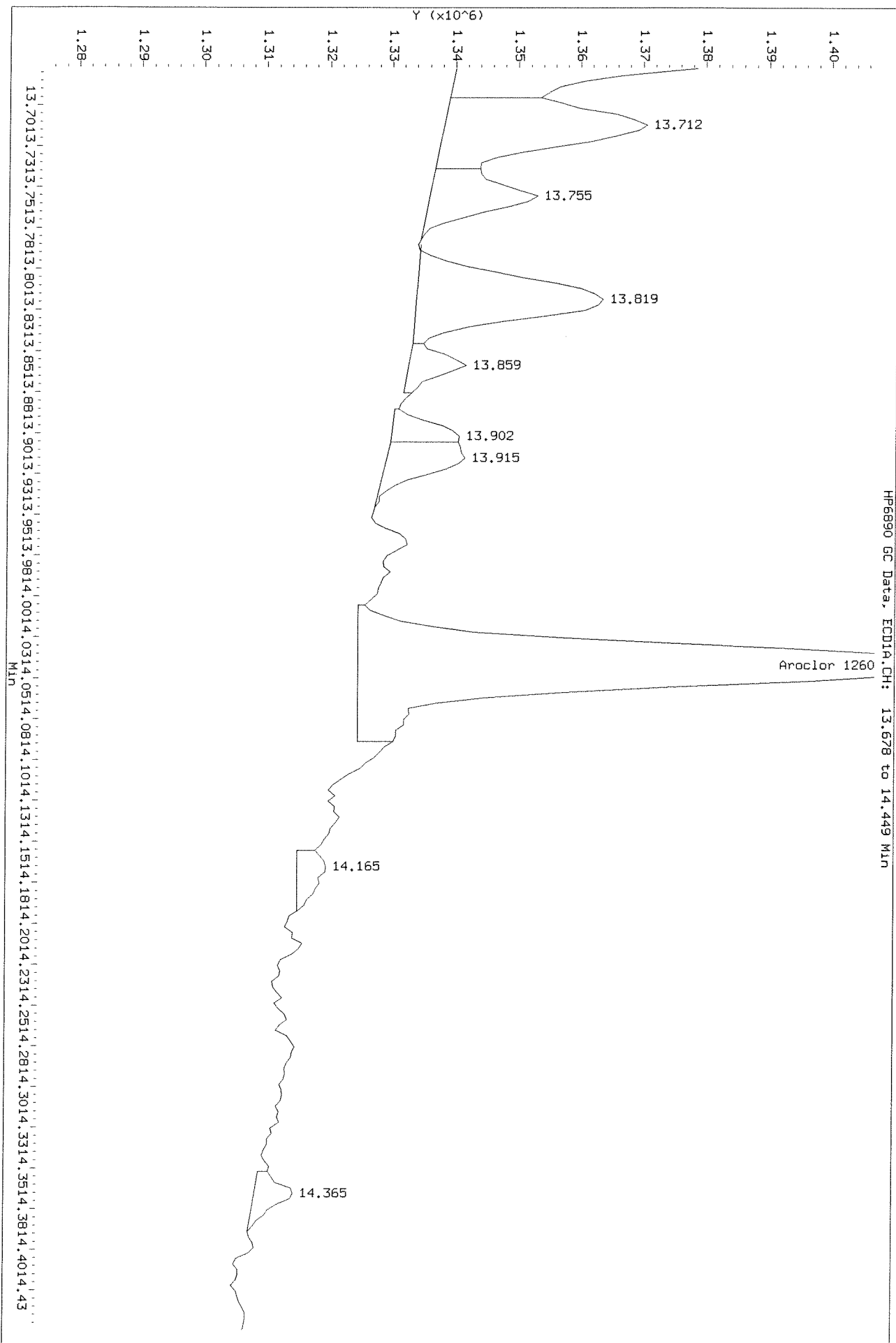
Data File: \\nakjsws003\instdata\GC27\Data\121720ICAL.b\1217F006.D
Injection Date: 17-DEC-2020 20:15
Instrument: GC27.1
Client Sample ID:

After Shoulder 12/23/2020



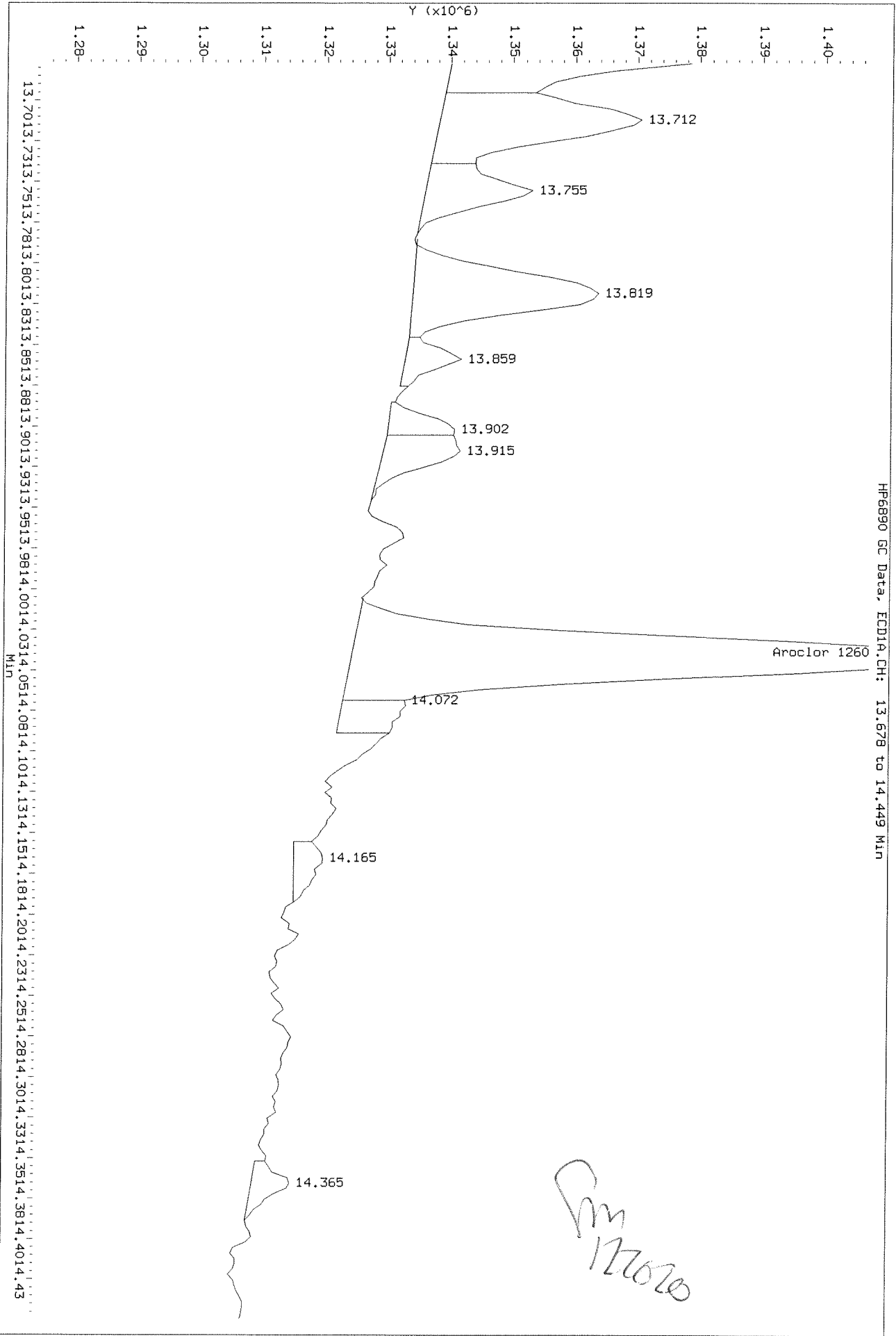
Data File: \\nakisw003\instdata\GC27\Data\121720ICAL.b\1217F006.D
Injection Date: 17-DEC-2020 20:15
Instrument: GC27.1
Client Sample ID:

Before



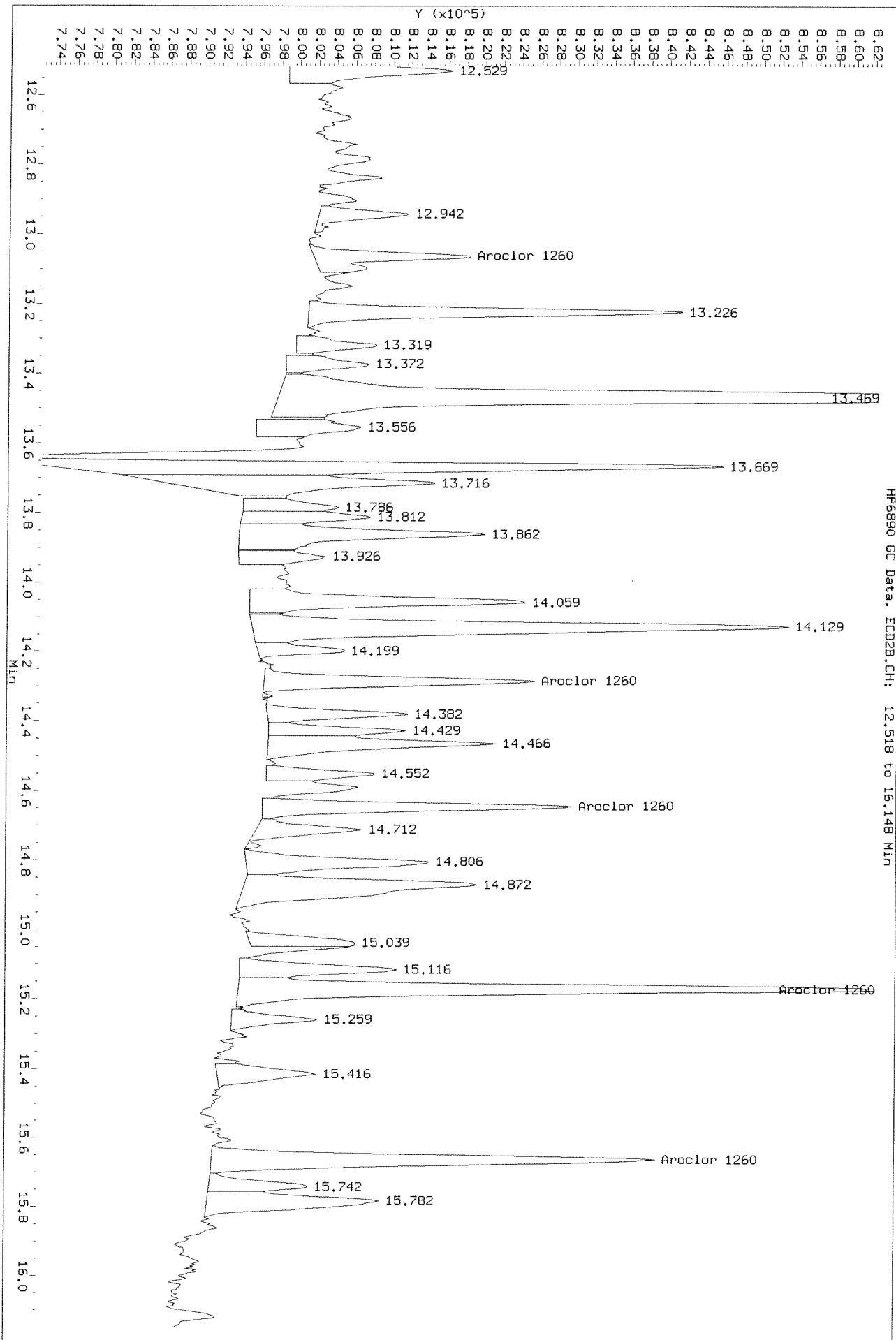
Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F006.D
Injection Date: 17-DEC-2020 20:15
Instrument: GC27.1
Client Sample ID:

After baseline/shoulder 12/23/20



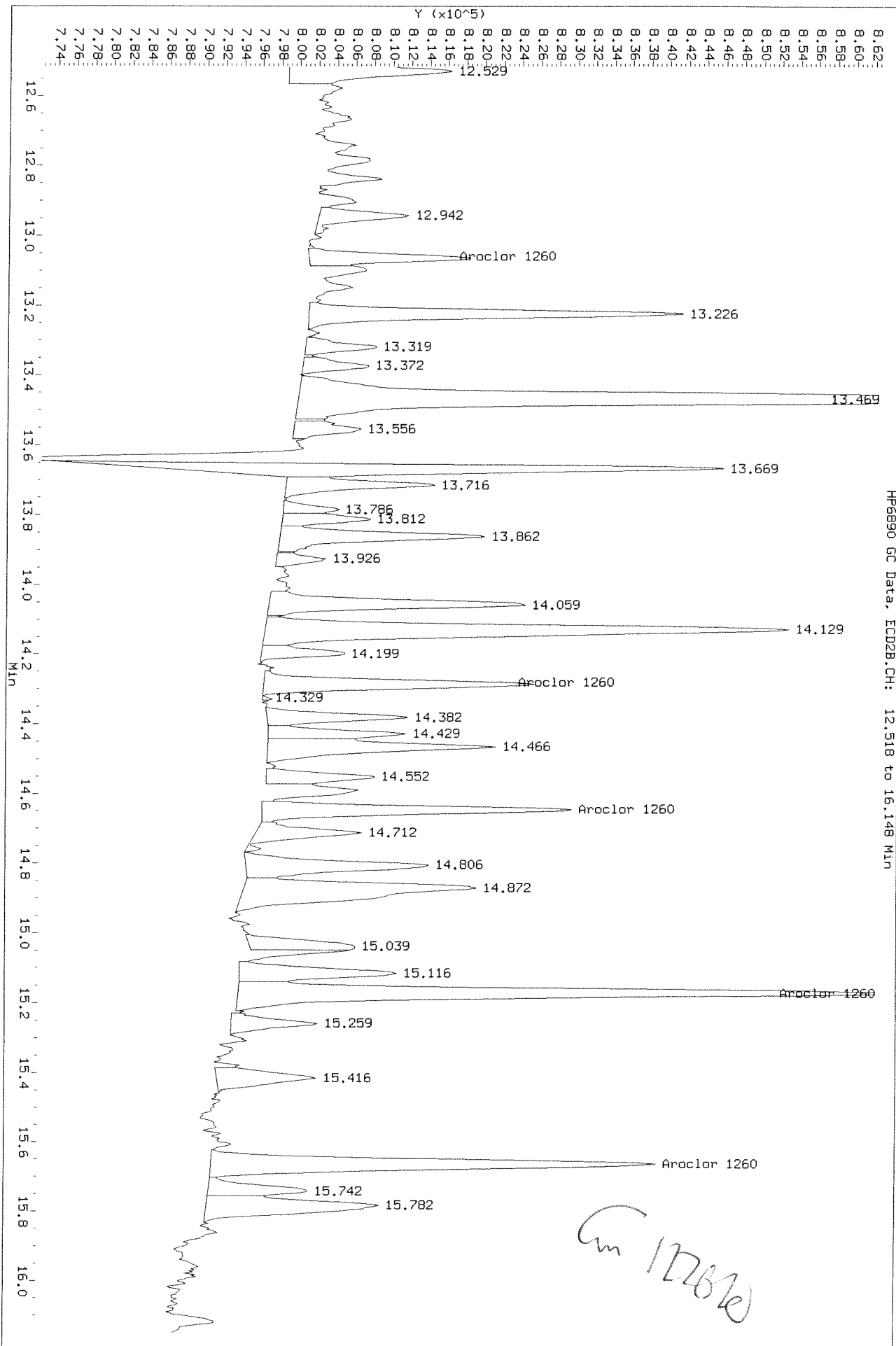
Data File: \\naklsws003\inst\data\GC27\Data\121720ICAL.r.b\1217F006.D
Injection Date: 17-DEC-2020 20:15
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakls003\instdata\GC27\Data\1217201CAL_r.b\1217F006.D
 Injection Date: 17-DEC-2020 20:15
 Instrument: GC27.1
 Client Sample ID:

After baseline 12/23/2020



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F007.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F007.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F007.D
Inj Date : 17-DEC-2020 20:46
Sample Info: PCB8-64K 1660 0.2-2PPB @ 5X
Misc Info :
Cal Date : 23-DEC-2020 10:14
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 1660.SUB
Sub List #2 : 1660.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	6.609	7.939	442353	254897	0.202	0.207		100.00
Aroclor 1016	7.679	8.659	76855	44556	1.94	1.99	80.00- 120.00	100.00 (M)
	8.912	9.399	79416	77995	2.22	2.27	67.46- 101.19	103.33 (M)
	9.349	10.569	212432	76220	2.03	1.95	216.24- 324.36	276.41 (M)
	9.532	11.082	129030	65258	2.06	2.17	124.98- 187.48	167.89 (M)
	9.789	11.309	98131	53333	2.25	1.93	85.08- 127.62	127.68 (M)
	Average of Peak Amounts =				2.10	2.06		
Aroclor 1260	12.832	13.062	95800	54969	2.09	2.04	80.00- 120.00	100.00
	13.669	14.286	162644	92078	2.19	2.11	121.62- 182.42	169.77
	13.822	14.379	88217	55122	2.17	2.29	66.59- 99.89	92.08
	14.045	14.649	325936	99330	2.14	2.17	261.33- 391.99	340.23
	14.659	15.172	240872	226387	2.10	2.26	190.43- 285.65	251.43
	Average of Peak Amounts =				2.14	2.17		
Decachlorobiphenyl	16.432	17.576	229346	154592	0.210	0.216		100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F007.D
Date : 17-DEC-2020 20:46

Client ID:

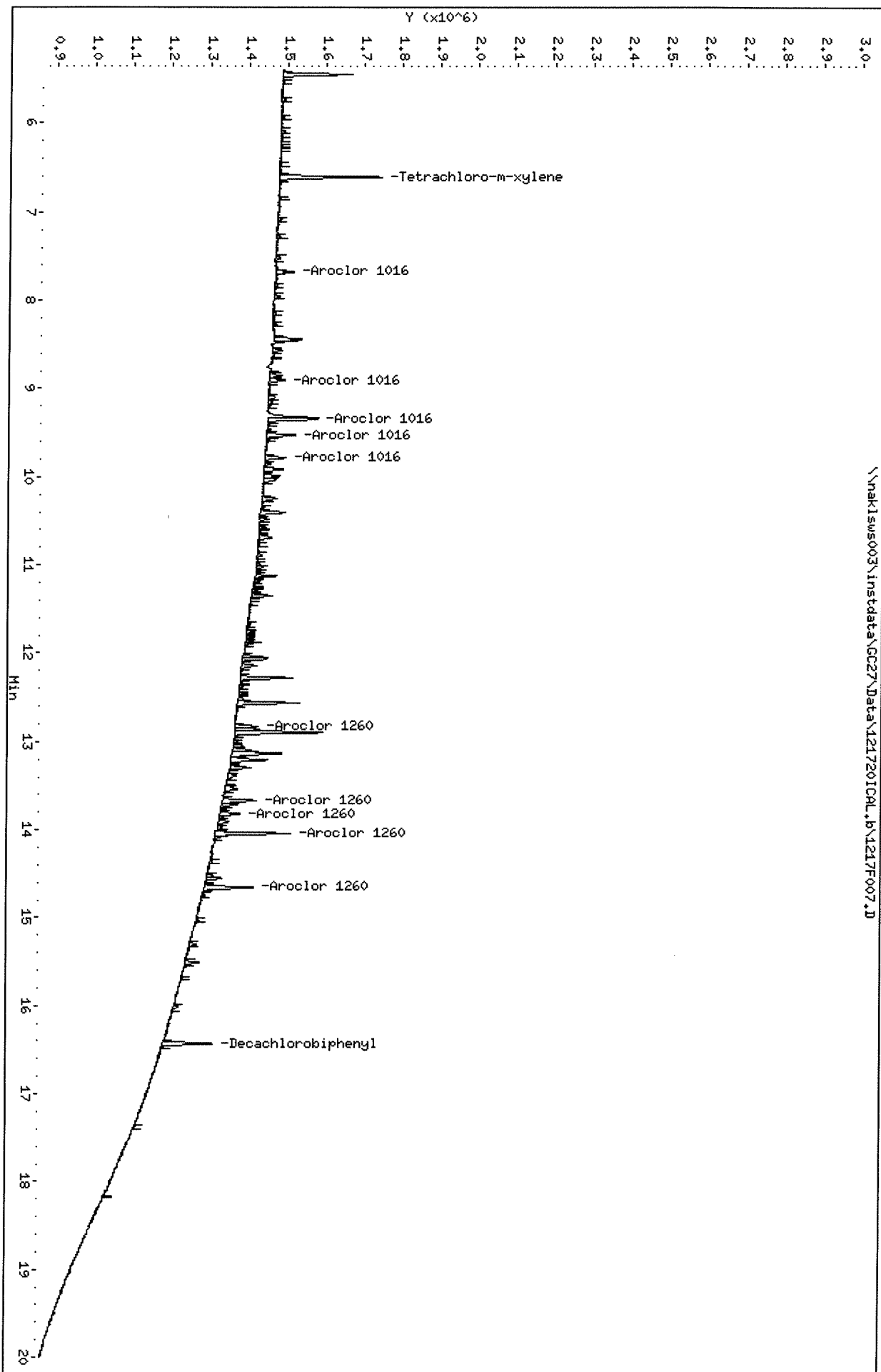
Sample Info: PCB8-64K 1660 0.2-2PPB @ 5X

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sus003\instdata\GC27\Data\1217201CAL_r.b\1217F007.D
Date : 17-DEC-2020 20:46

Client ID:

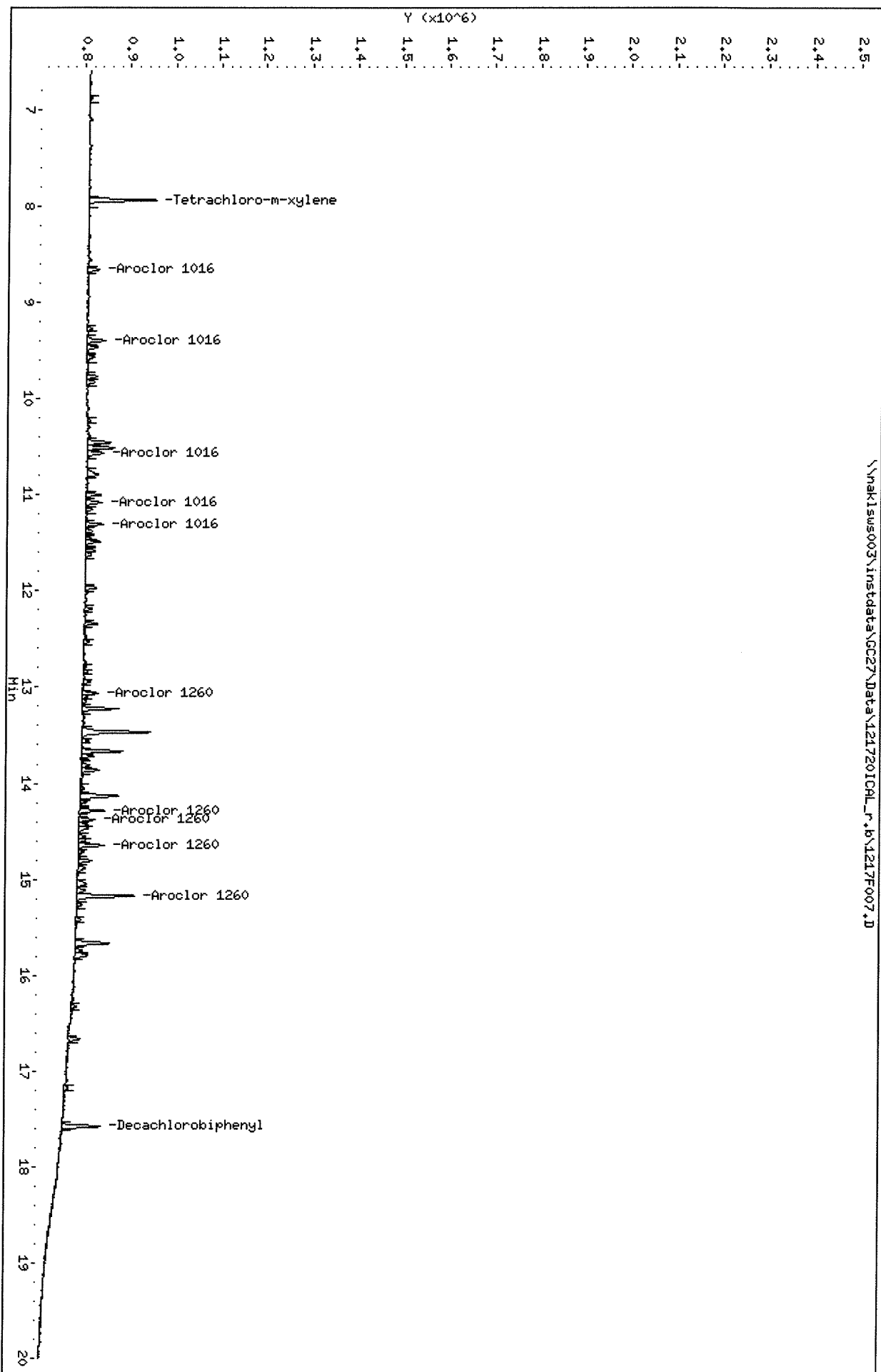
Sample Info: PCB8-64K 1660 0,2-2PPB @ 5X

Column phase: DB-XLB

Instrument: GC27.i

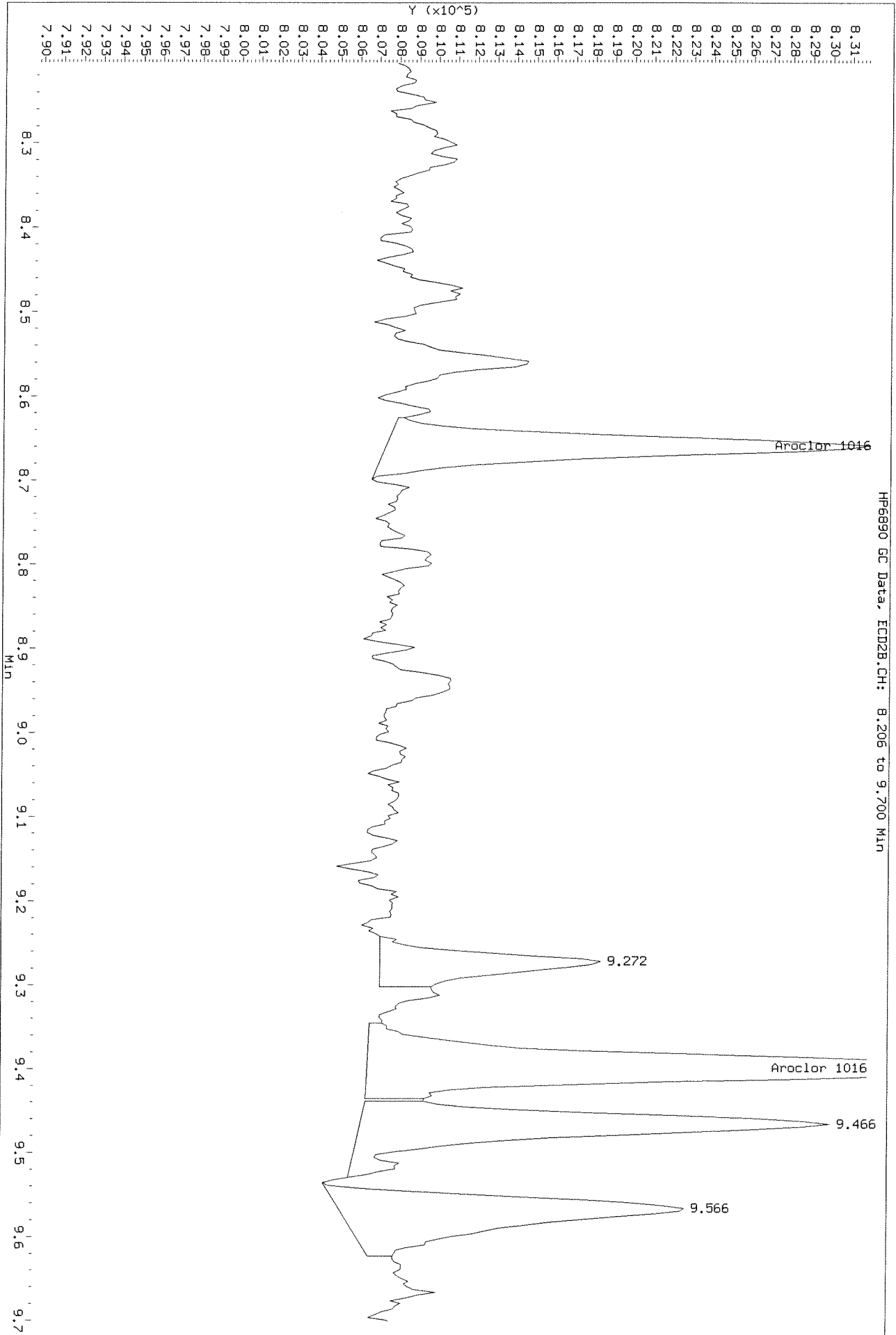
Operator: SAA

Column diameter: 0.32



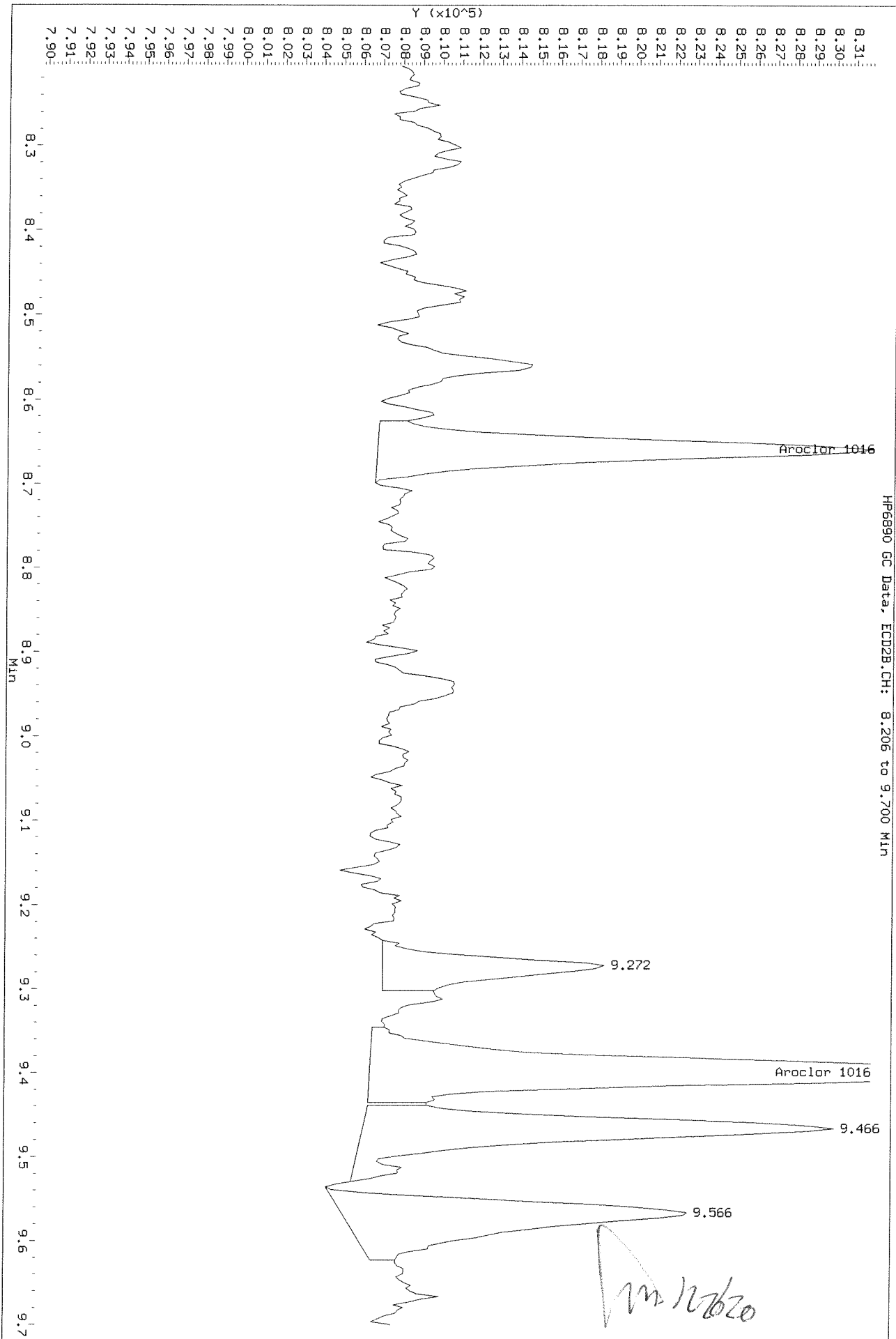
Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL_r.b\1217F007.D
Injection Date: 17-DEC-2020 20:46
Instrument: GC27.1
Client Sample ID:

Before



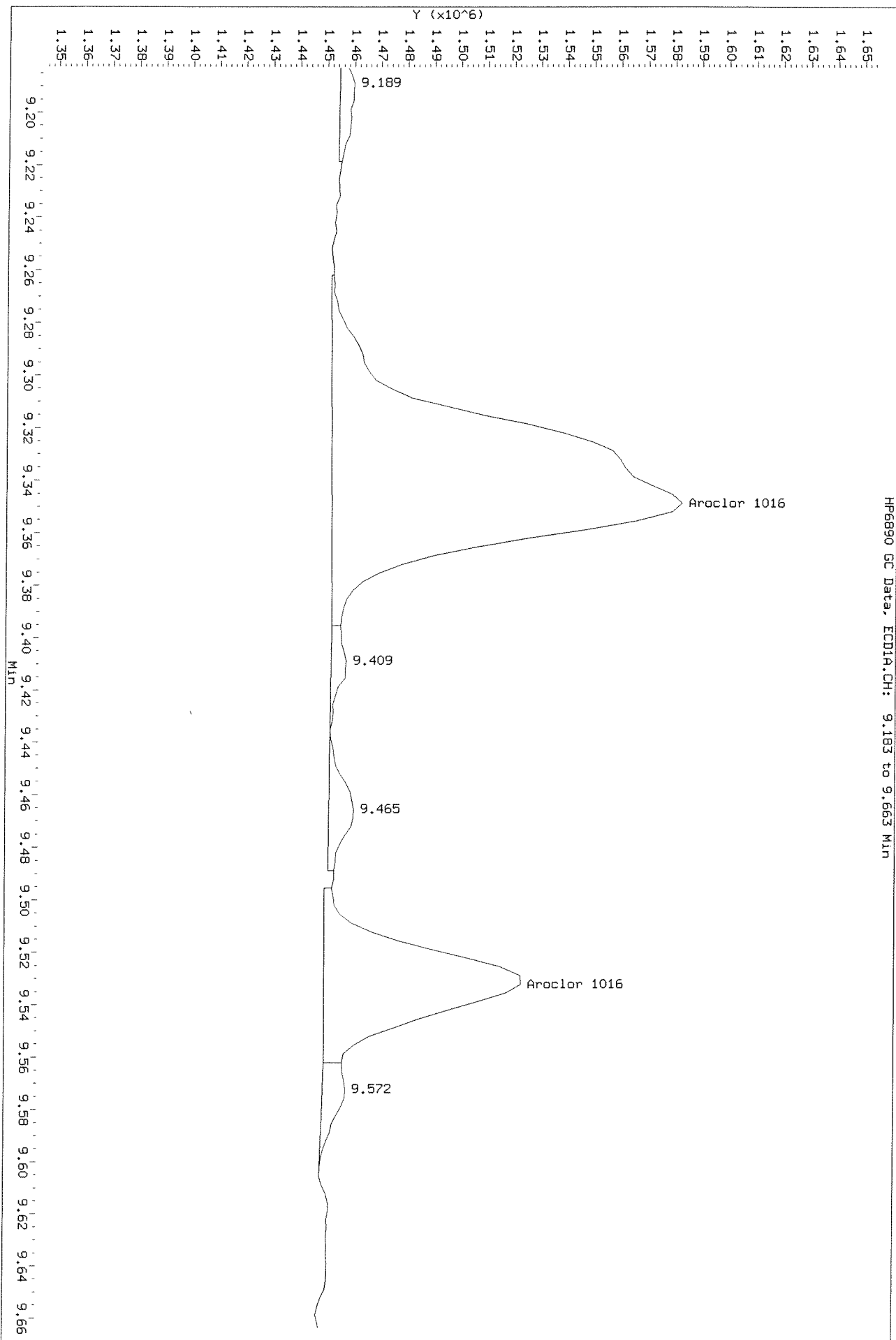
Data File: \\nakjsws003\instdata\GC27\Data\121720ICAL-r.b\1217F007.D
Injection Date: 17-DEC-2020 20:46
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20



Data File: \\nak1sws003\instdata\GC27\Data\121720ICL.b\1217F007.D
Injection Date: 17-DEC-2020 20:46
Instrument: GC27.1
Client Sample ID:

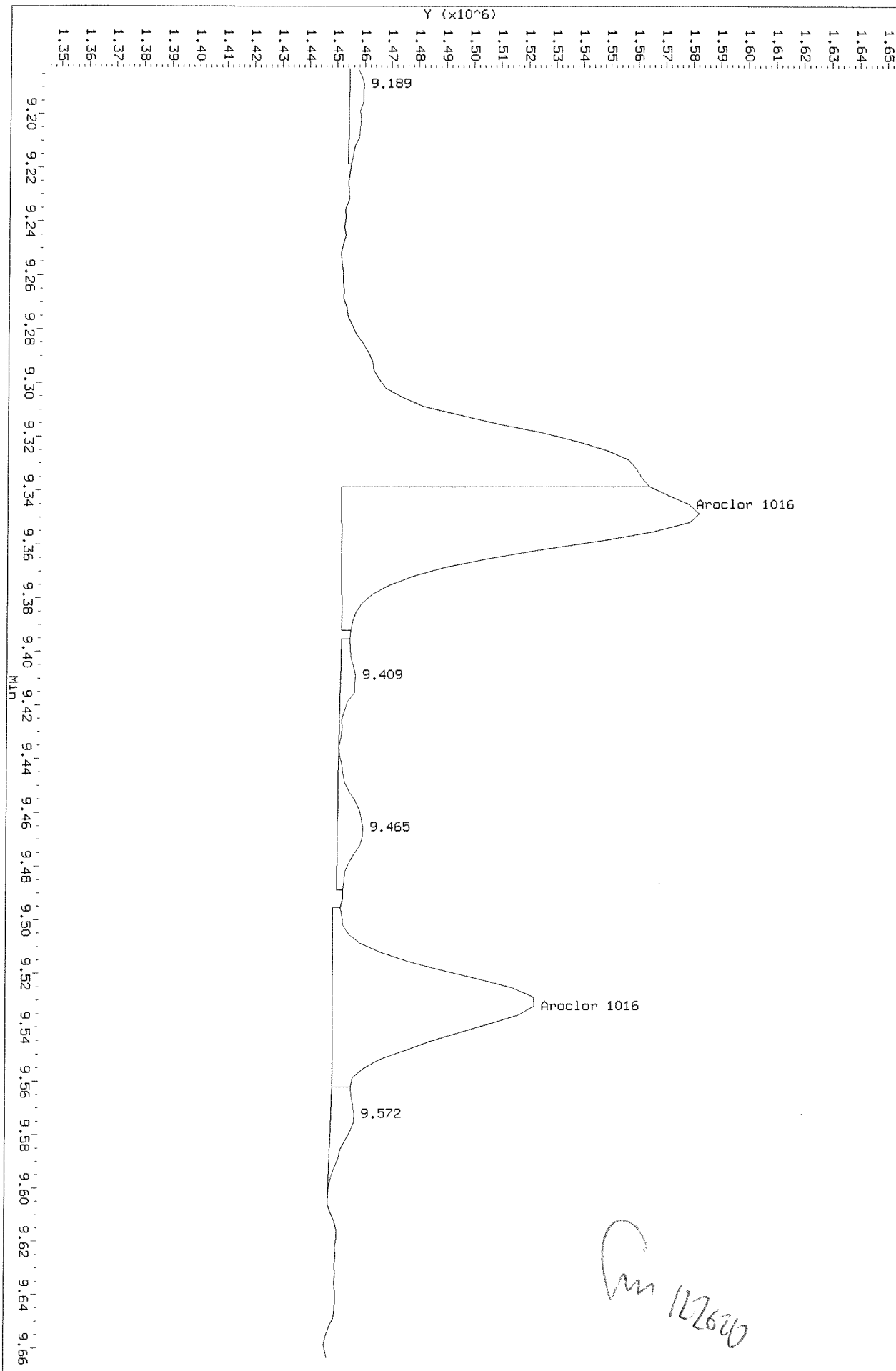
Before



Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F007.D
Injection Date: 17-DEC-2020 20:46
Instrument: GC27.1
Client Sample ID:

After wrong peak 12/23/2020

HP6890 GC Data, ECD1A.CH: 9.183 to 9.663 Min



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F008.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F008.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F008.D
Inj Date : 17-DEC-2020 21:17
Sample Info: PCB8-65A 1660 0.5-5PPB
Misc Info :
Cal Date : 23-DEC-2020 10:14
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 1660.SUB
Sub List #2 : 1660.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	6.609	7.939	1040417	622940	0.474	0.507		100.00
Aroclor 1016	7.679	8.663	189415	101803	4.78	4.55	80.00- 120.00	100.00
	8.909	9.399	185665	164856	5.20	4.80	67.46- 101.19	98.02
	9.349	10.569	494008	185861	4.73	4.76	216.24- 324.36	260.81
	9.529	11.083	301104	158166	4.81	5.25	124.98- 187.48	158.97
	9.786	11.309	202187	136577	4.63	4.94	85.08- 127.62	106.74
	Average of Peak Amounts =				4.83	4.86		
Aroclor 1260	12.829	13.063	215547	130945	4.71	4.86	80.00- 120.00	100.00
	13.669	14.286	356034	226151	4.80	5.18	121.62- 182.42	165.18
	13.822	14.379	189538	121608	4.65	5.05	66.59- 99.89	87.93
	14.046	14.646	734230	235129	4.83	5.14	261.33- 391.99	340.64
	14.659	15.173	532509	521541	4.63	5.20	190.43- 285.65	247.05
	Average of Peak Amounts =				4.72	5.09		
Decachlorobiphenyl	16.432	17.576	534420	363977	0.489	0.509		100.00

Conc 1260 8 12/23/20

Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F008.D

Date : 17-DEC-2020 21:17

Client ID:

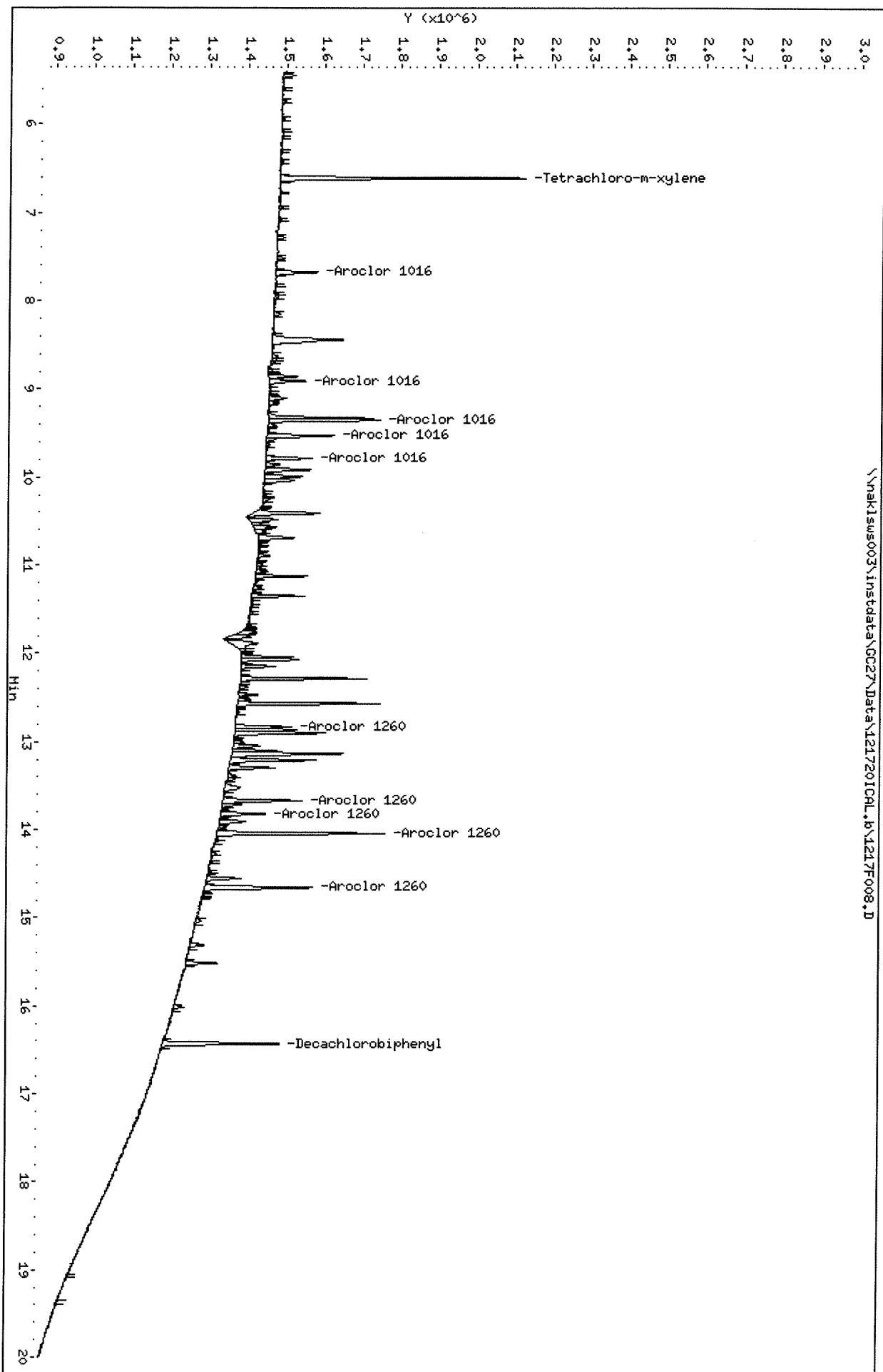
Sample Info: PCB8-65A 1660 0.5-5PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\121720ICAL_r.b\1217F008.D
Date : 17-DEC-2020 21:17

Client ID:

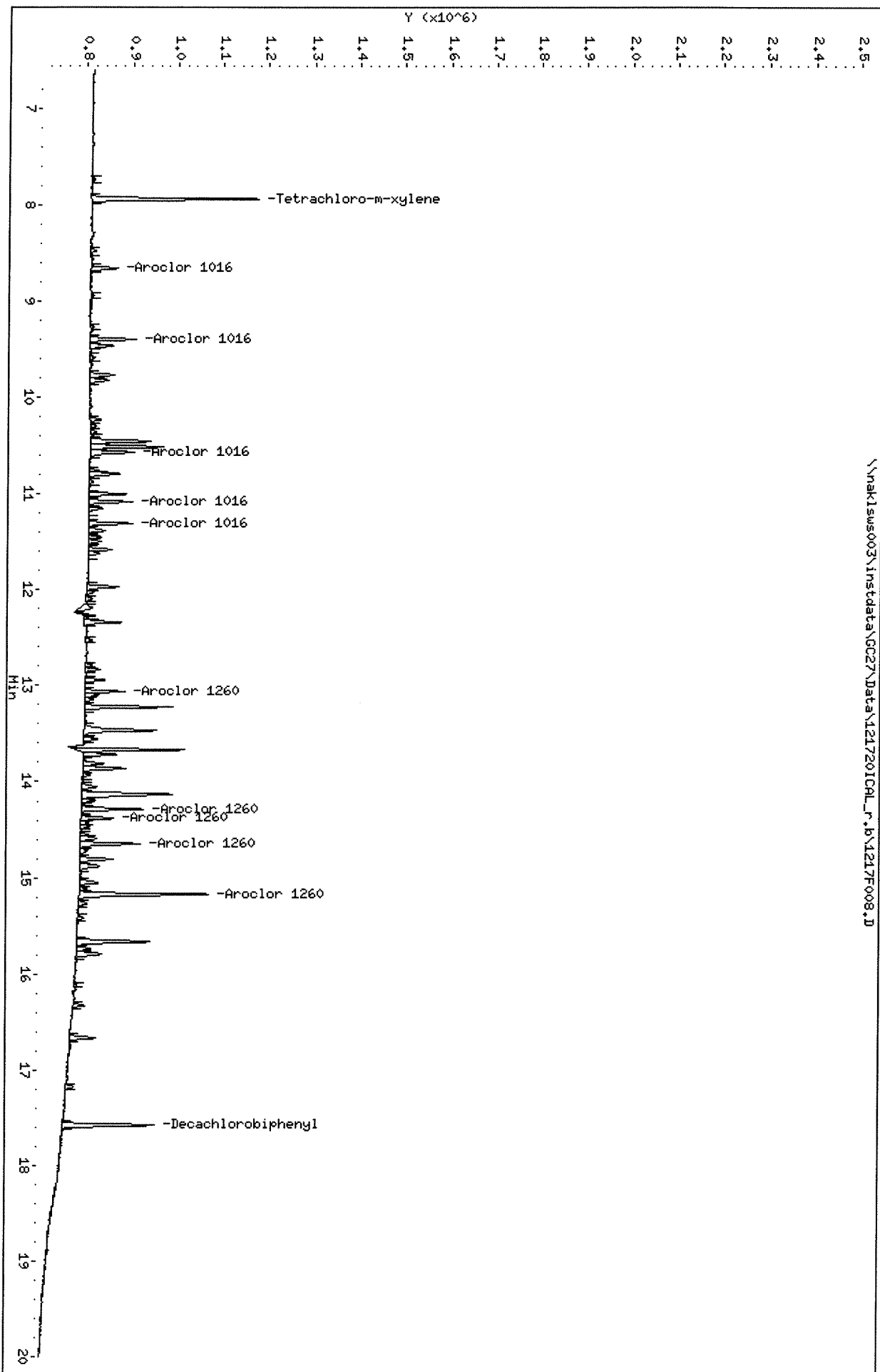
Sample Info: PCB8-65A 1660 0.5-5PPB

Column phase: DB-XLB

Instrument: GC27.i

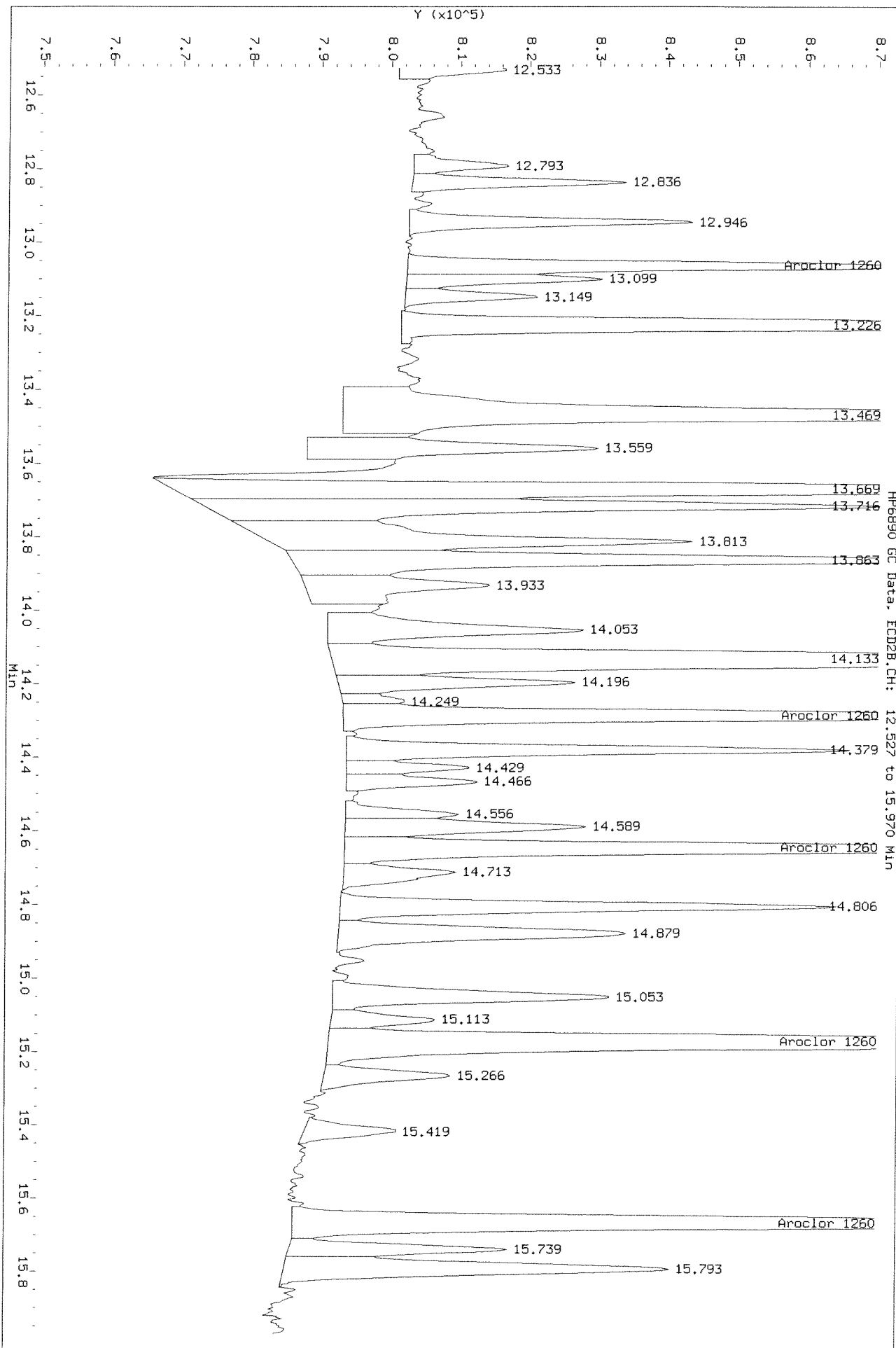
Operator: SAH

Column diameter: 0.32



Data File: \\naks003\instdata\GC27\Data\121720ICAL-r.b\1217F008.D
Injection Date: 17-DEC-2020 21:17
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F009.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F009.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F009.D
Inj Date : 17-DEC-2020 21:49
Sample Info: PCB8-64K 1660 1-10PPB
Misc Info :
Cal Date : 23-DEC-2020 10:14
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 1660.SUB
Sub List #2 : 1660.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	6.608	7.938	2013327	1215616	0.918	0.989		100.00
Aroclor 1016	7.678	8.661	385445	219916	9.72	9.83	80.00- 120.00	100.00 (M)
	8.911	9.398	333283	342847	9.33	9.98	67.46- 101.19	86.47 (M)
	9.351	10.568	988718	381549	9.46	9.77	216.24- 324.36	256.51 (M)
	9.531	11.081	598396	300401	9.55	9.97	124.98- 187.48	155.25 (M)
	9.788	11.308	398252	280506	9.11	10.1	85.08- 127.62	103.32 (M)
	Average of Peak Amounts =				9.43	9.93		
Aroclor 1260	12.831	13.065	433271	274772	9.47	10.2	80.00- 120.00	100.00
	13.671	14.288	692275	446802	9.33	10.2	121.62- 182.42	159.78
	13.821	14.381	375841	237387	9.23	9.85	66.59- 99.89	86.75
	14.044	14.648	1383131	445787	9.09	9.75	261.33- 391.99	319.23
	14.658	15.175	1036533	960640	9.02	9.57	190.43- 285.65	239.23
	Average of Peak Amounts =				9.23	9.91		
Decachlorobiphenyl	16.431	17.578	998704	691261	0.915	0.967		100.00

QC Flag Legend

M - Compound response manually integrated.

12/26/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\121720ICL.b\1217F009.D
Date : 17-DEC-2020 21:49

Client ID:

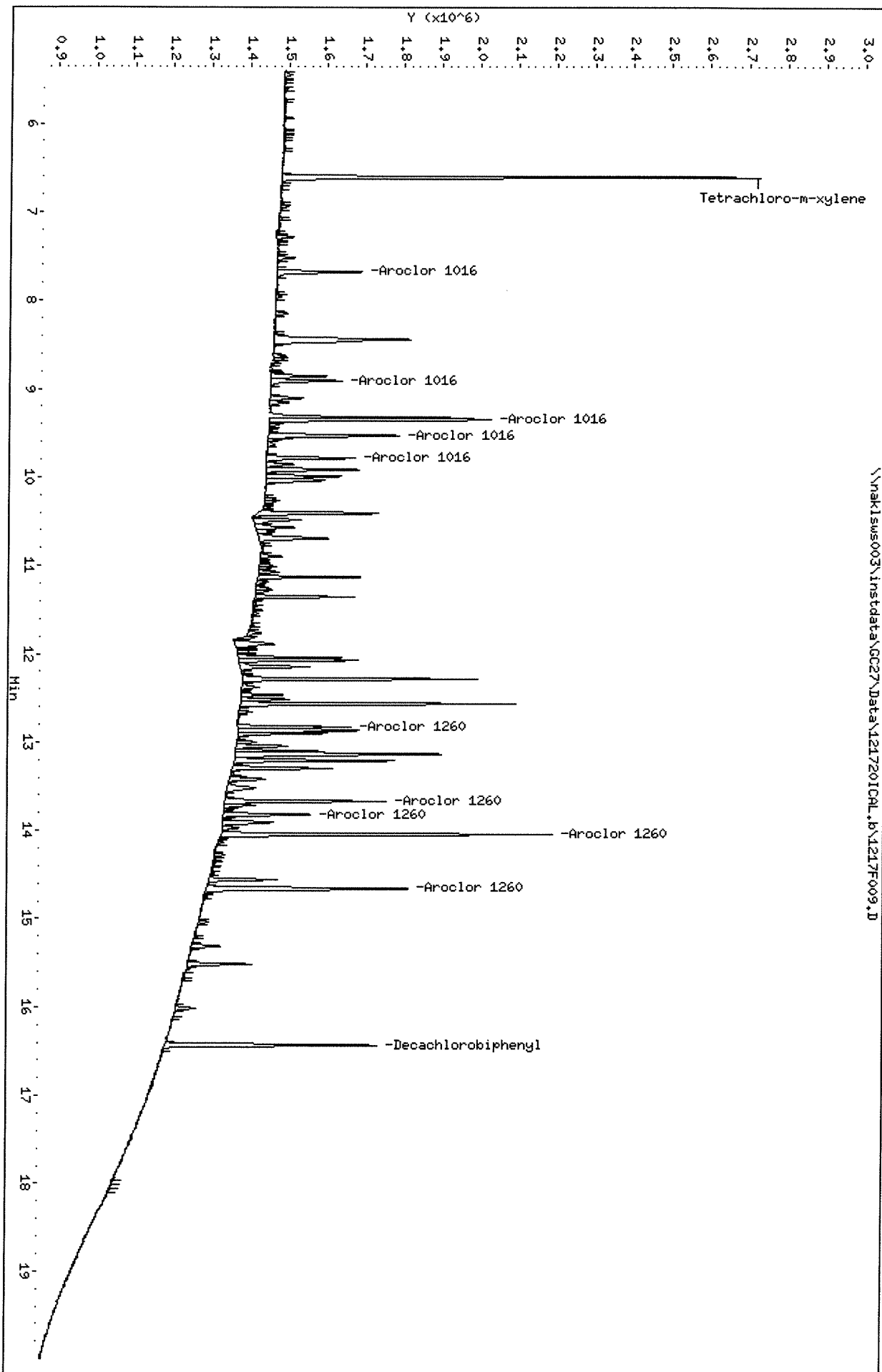
Sample Info: PCB8-64K 1660 1-10PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL_r.b\1217F009.D
Date: 17-DEC-2020 21:49

Client ID:

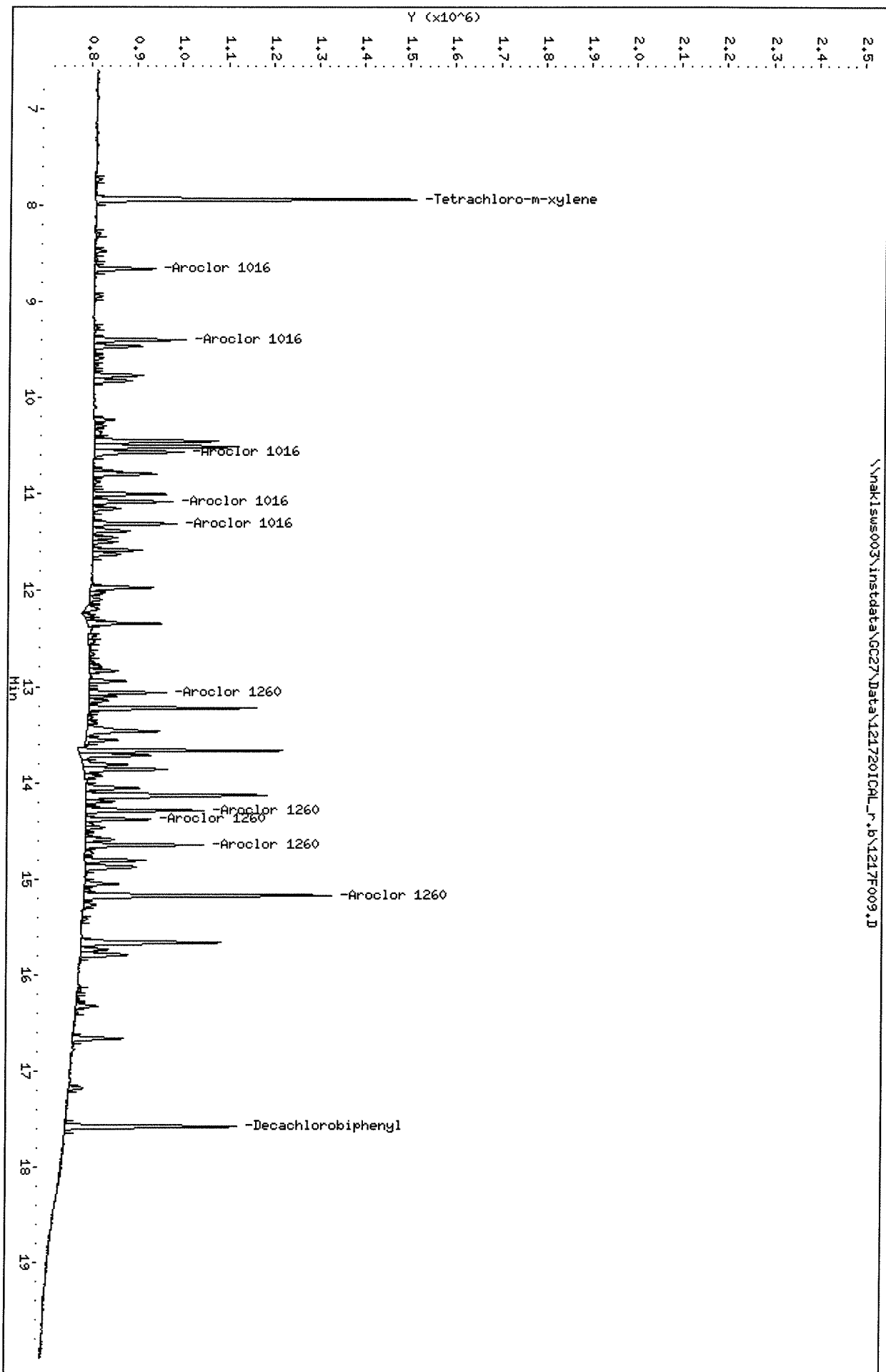
Sample Info: PCB8-64K 1660 1-10PPB

Column phase: DB-XLB

Instrument: GC27.i

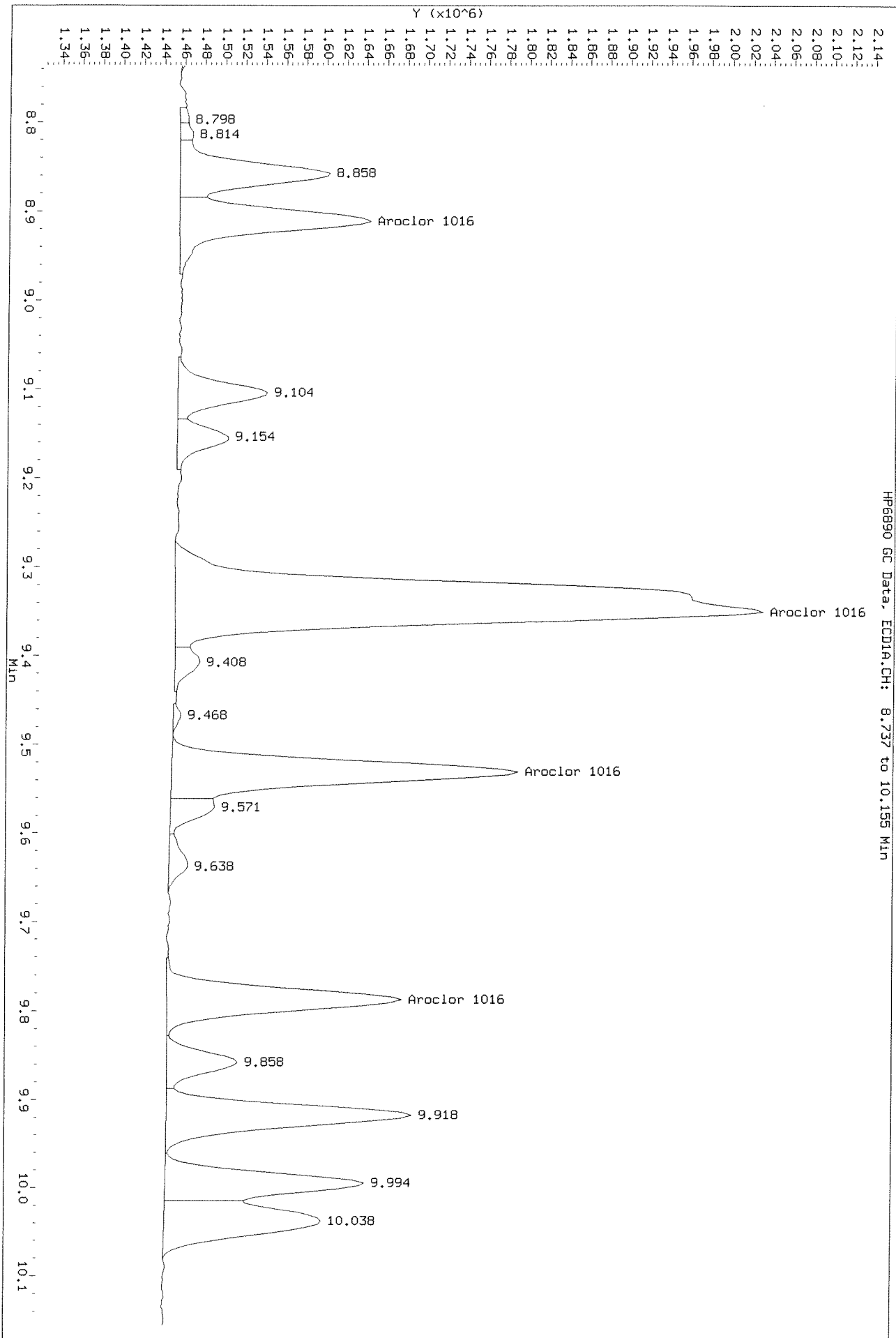
Operator: SAA

Column diameter: 0.32



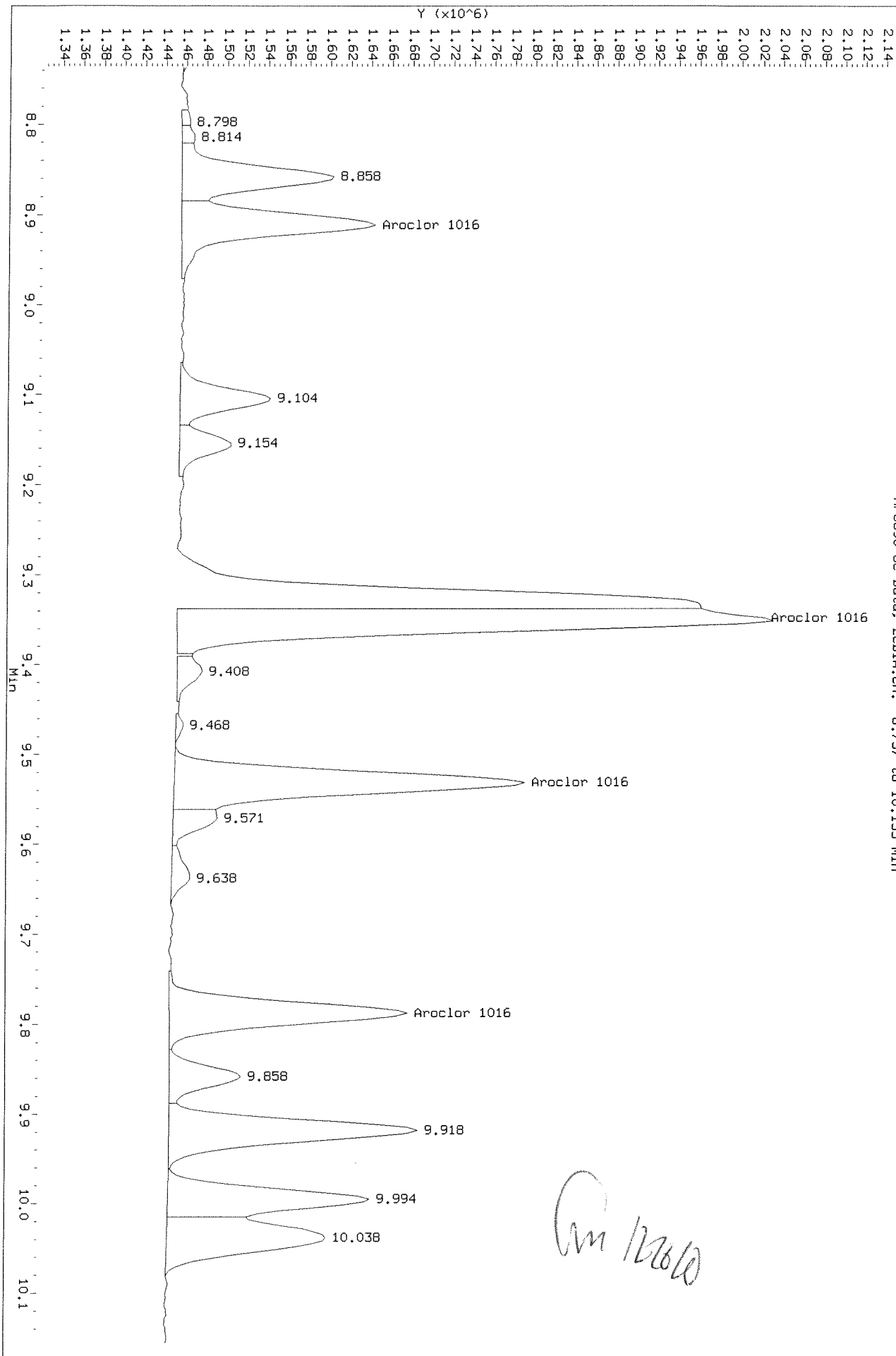
Data File: \\nakisw003\instdata\GC27\Data\121720ICL.b\1217F009.D
Injection Date: 17-DEC-2020 21:49
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nak1sw003\instdata\GC27\Data\1217201CAL.b\1217F009.D
Injection Date: 17-DEC-2020 21:49
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.737 to 10.155 Min



After very peak 12/23/2020

Am 12/26/20

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F010.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F010.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F010.D
Inj Date : 17-DEC-2020 22:20
Sample Info: PCB8-64G 1660 2-20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:14
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 1660.SUB
Sub List #2 : 1660.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	6.608	7.938	3869806	2271379	1.76	1.85		100.00
Aroclor 1016	7.678	8.658	733176	435086	18.5	19.4	80.00- 120.00	100.00
	8.908	9.398	606757	650037	17.0	18.9	67.46- 101.19	82.76
	9.348	10.568	1788389	737859	17.1	18.9	216.24- 324.36	243.92
	9.528	11.081	1116646	555303	17.8	18.4	124.98- 187.48	152.30
	9.785	11.308	731468	531828	16.7	19.2	85.08- 127.62	99.77
	Average of Peak Amounts =				17.4	19.0		
Aroclor 1260	12.828	13.061	833828	513060	18.2	19.0	80.00- 120.00	100.00
	13.668	14.285	1303163	807457	17.6	18.5	121.62- 182.42	156.29
	13.818	14.378	713168	445751	17.5	18.5	66.59- 99.89	85.53
	14.041	14.645	2633491	844257	17.3	18.5	261.33- 391.99	315.83
	14.658	15.171	1950218	1781350	17.0	17.7	190.43- 285.65	233.89
	Average of Peak Amounts =				17.5	18.4		
Decachlorobiphenyl	16.428	17.575	1894810	1292582	1.74	1.81		100.00

Am 1/16/20

SA 12/23/20

Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F010.D
Date : 17-DEC-2020 22:20

Client ID:

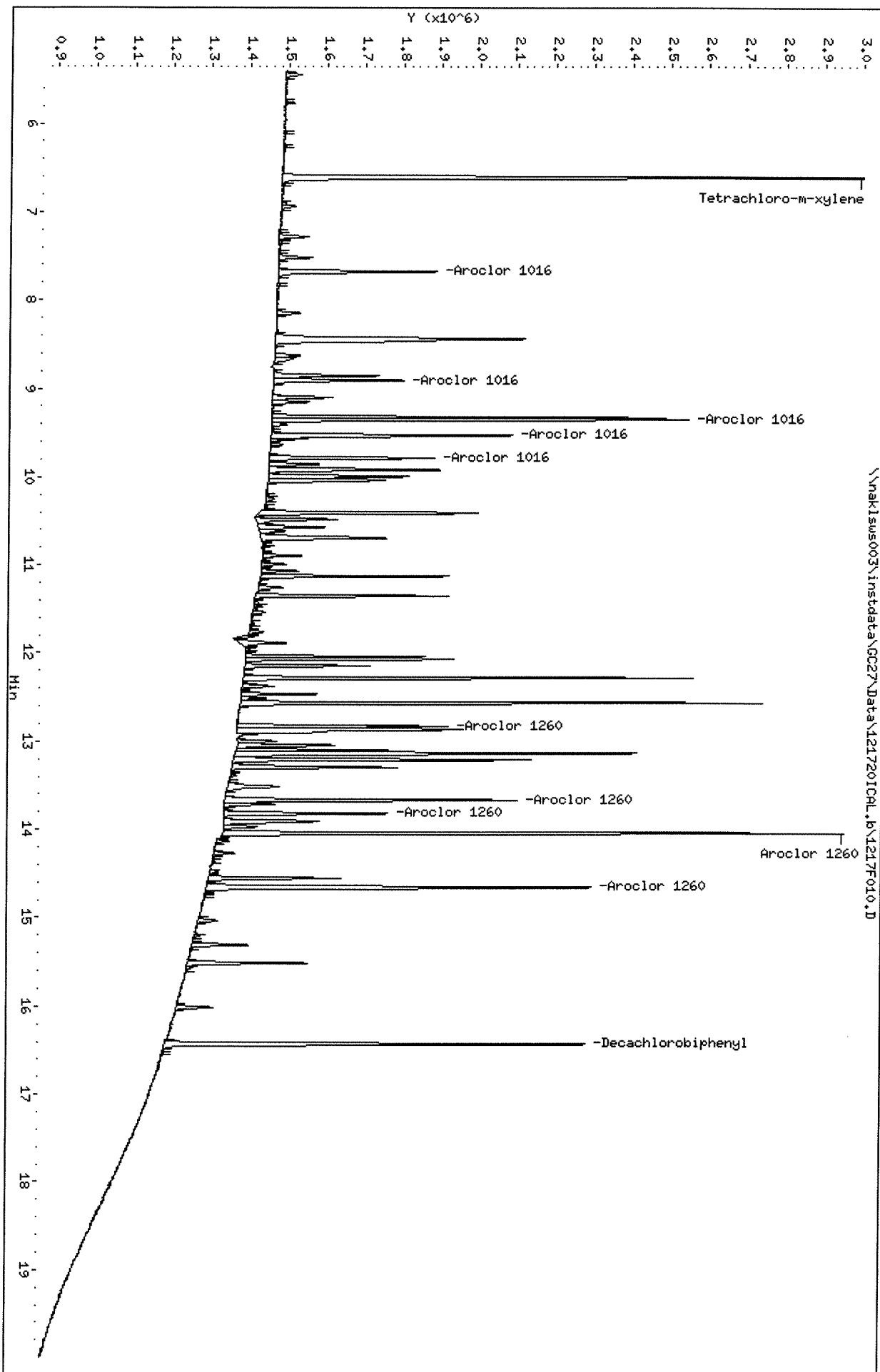
Sample Info: PCB8-64G 1660 2-20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL_r.b\1217F010.D
Date : 17-DEC-2020 22:20

Client ID:

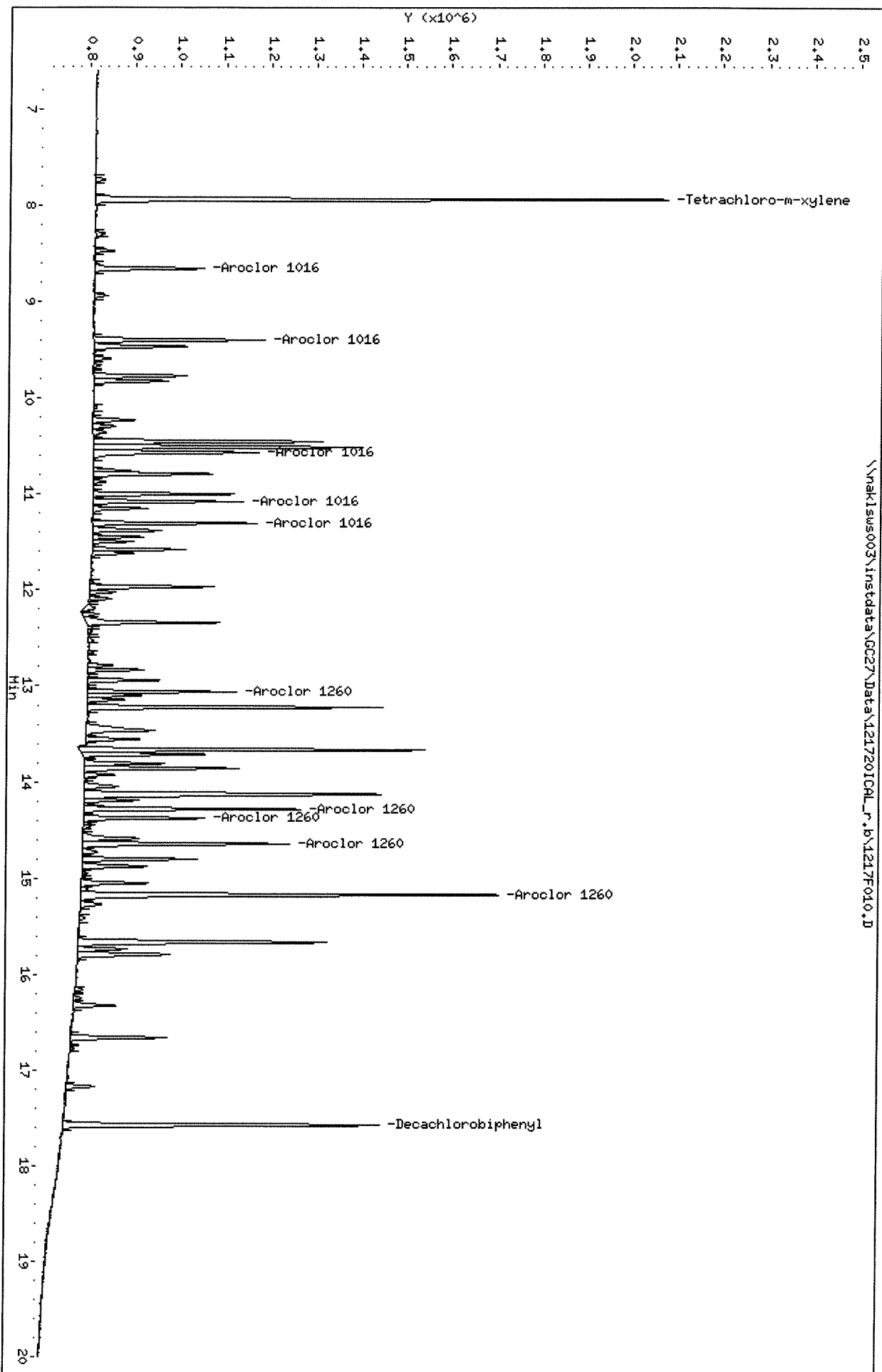
Sample Info: PCB8-64G 1660 2-20PPB

Column phase: DB-XLB

Instrument: GC27.i

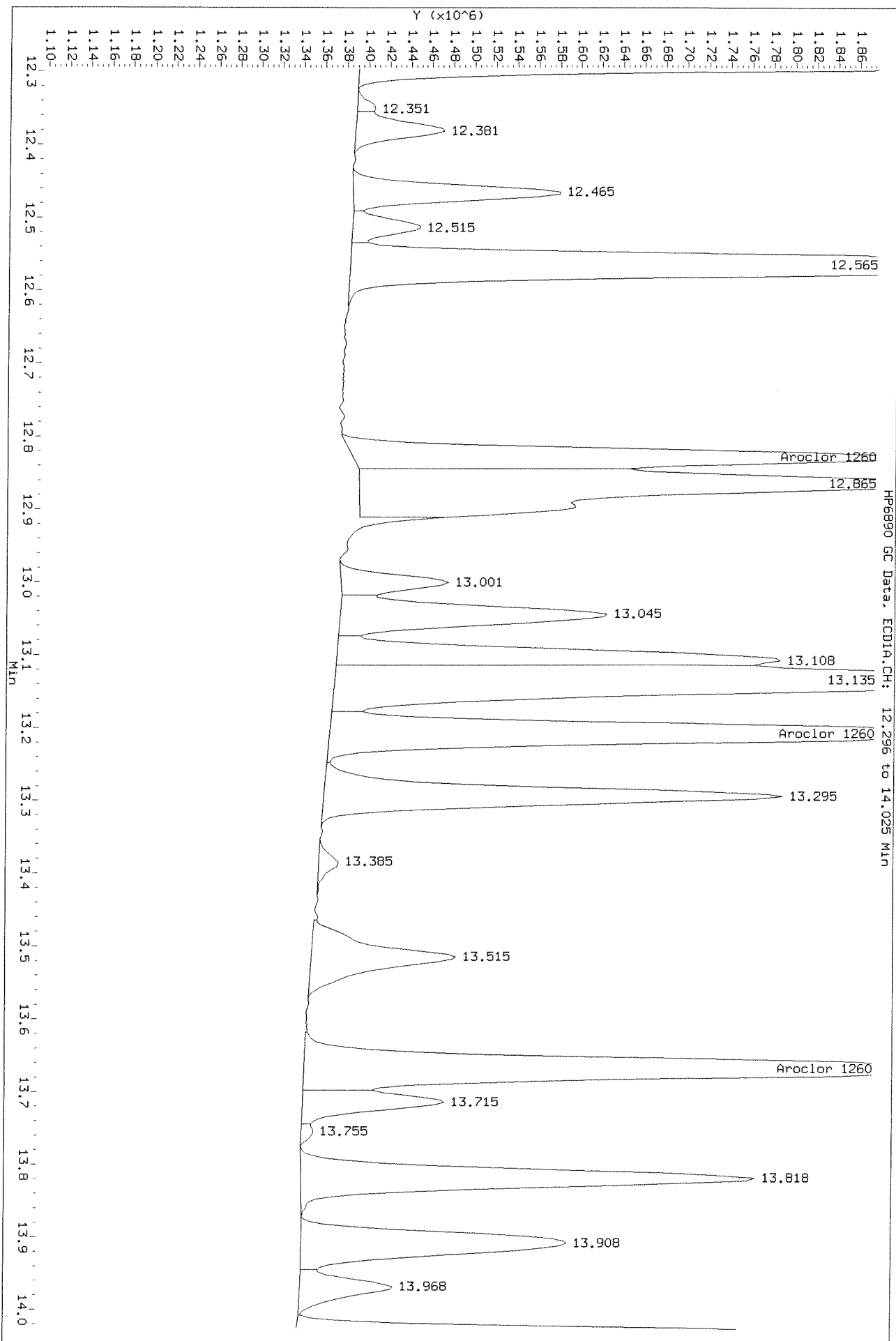
Operator: SAA

Column diameter: 0.32

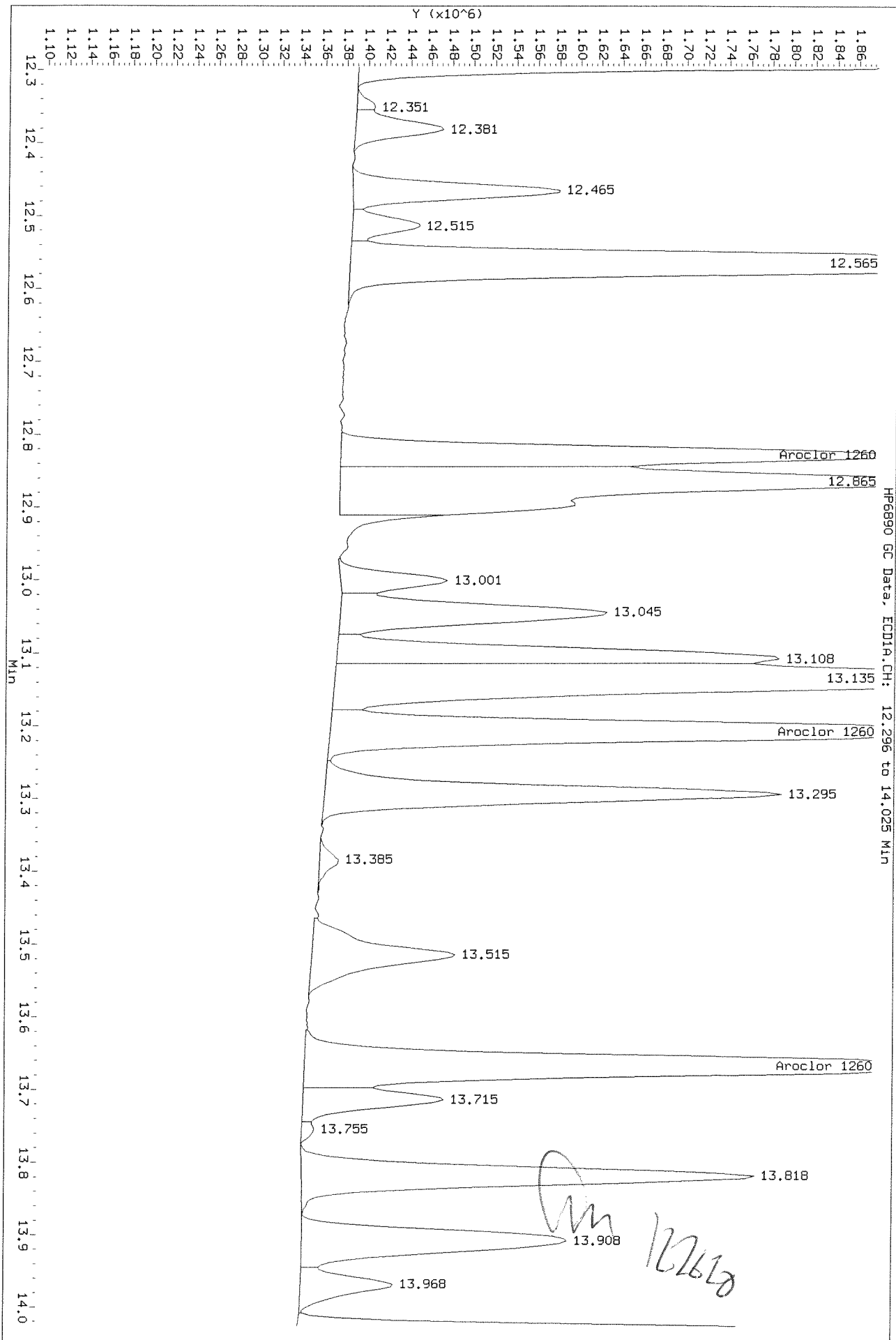


Data File: \\naklsws003\instdata\GC27\Data\121720ICL.b\1217F010.D
Injection Date: 17-DEC-2020 22:20
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakls003\instdata\GC27\Data\1217201CAL.b\1217F010.D
Injection Date: 17-DEC-2020 22:20
Instrument: GC27.1
Client Sample ID:



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F011.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F011.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F011.D
Inj Date : 17-DEC-2020 22:51
Sample Info: PCB8-61F 1660 5-50PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 1660.SUB
Sub List #2 : 1660.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	6.609	7.939	9529535	5402460	4.35	4.40		100.00
Aroclor 1016	7.679	8.659	1753430	1071149	44.2	47.9	80.00- 120.00	100.00 (M)
	8.909	9.399	1476032	1564795	41.3	45.6	67.46- 101.19	84.18 (M)
	9.349	10.569	4603080	1797325	44.1	46.0	216.24- 324.36	262.52 (M)
	9.532	11.082	2739020	1323208	43.7	43.9	124.98- 187.48	156.21 (M)
	9.785	11.309	1802966	1280382	41.3	46.3	85.08- 127.62	102.83 (M)
	Average of Peak Amounts =				42.9	45.9		
Aroclor 1260	12.829	13.065	1976063	1238673	43.2	45.9	80.00- 120.00	100.00
	13.669	14.285	3175782	1924228	42.8	44.1	121.62- 182.42	160.71
	13.819	14.379	1731644	1115718	42.5	46.3	66.59- 99.89	87.63
	14.042	14.649	6572640	1982377	43.2	43.4	261.33- 391.99	332.61
	14.662	15.172	4867121	4138356	42.3	41.2	190.43- 285.65	246.30
	Average of Peak Amounts =				42.8	44.2		
Decachlorobiphenyl	16.432	17.575	4730359	3114699	4.33	4.36		100.00

QC Flag Legend

M - Compound response manually integrated.

Data File: \\nakisws003\instdata\GC27\Data\1217201CAL.b\1217F011.D
Date : 17-DEC-2020 22:51

Client ID:

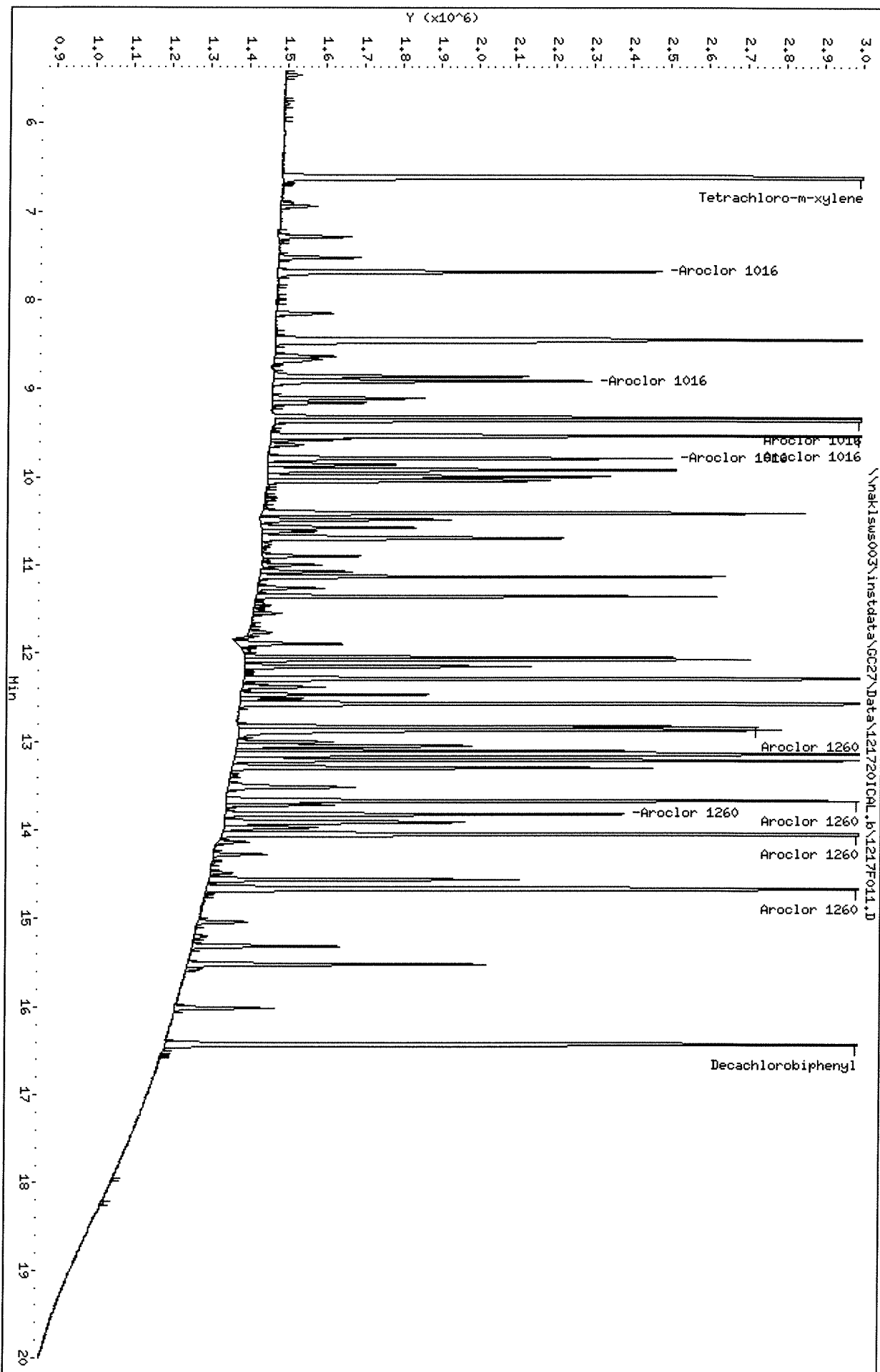
Sample Info: PCB8-6LF 1660 5-50PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sus003\\instdata\\GC27\\Data\\1217201CAL_r.b\\1217F011.D
Date : 17-DEC-2020 22:51

Client ID:

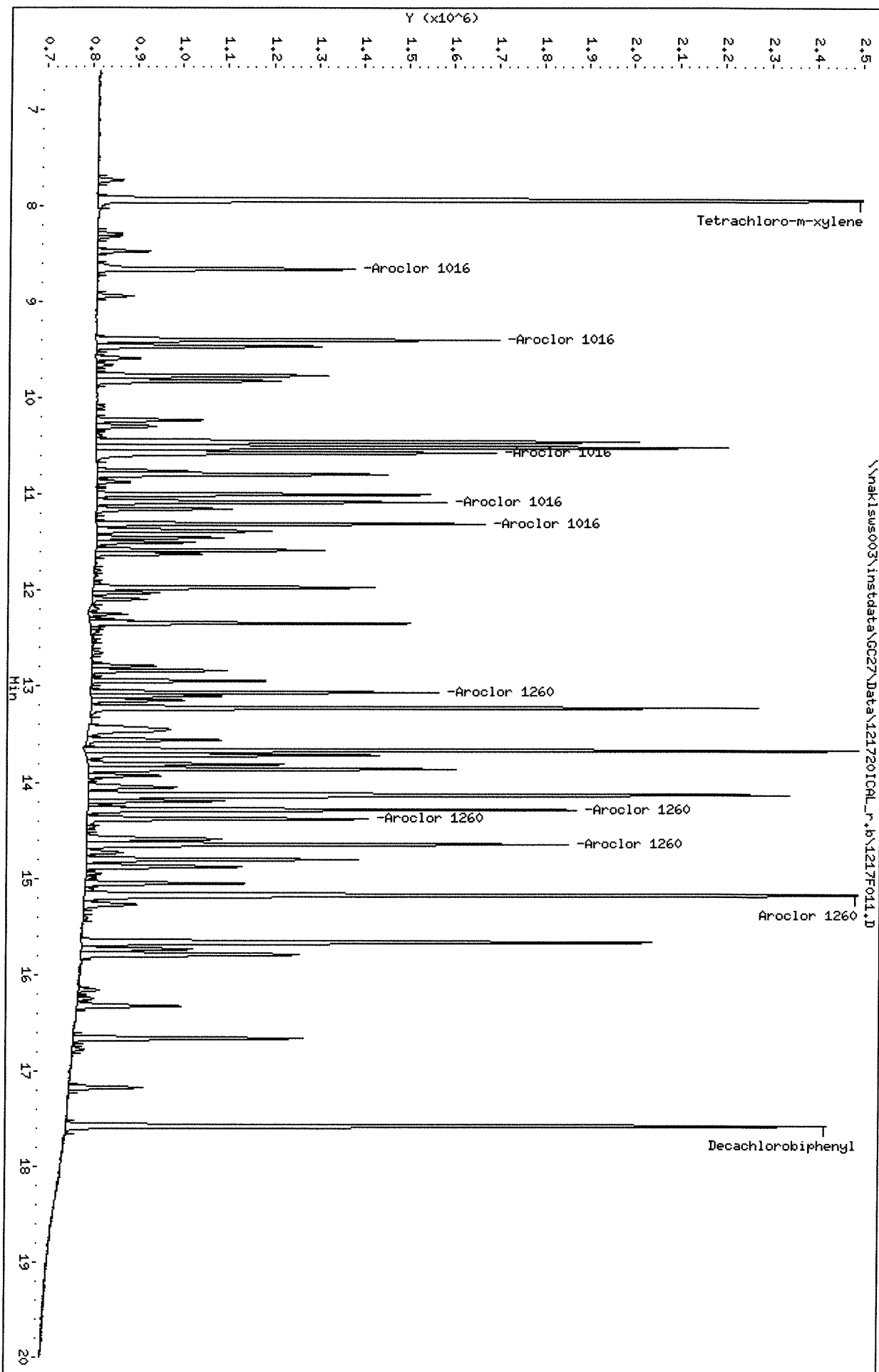
Sample Info: PCB8-61F 1660 5-50PPB

Column phase: DB-XLB

Instrument: GC27.i

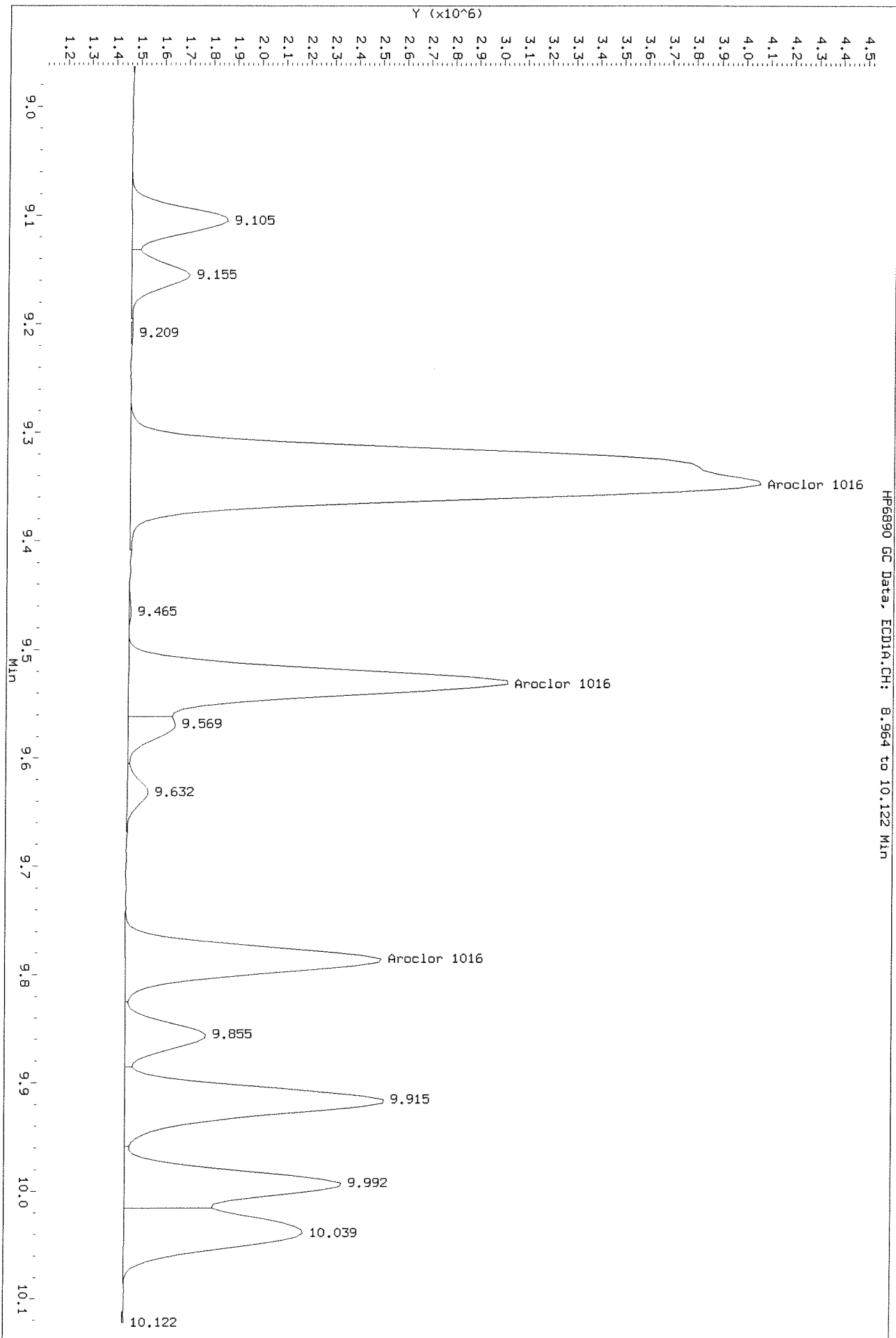
Operator: SAH

Column diameter: 0.32



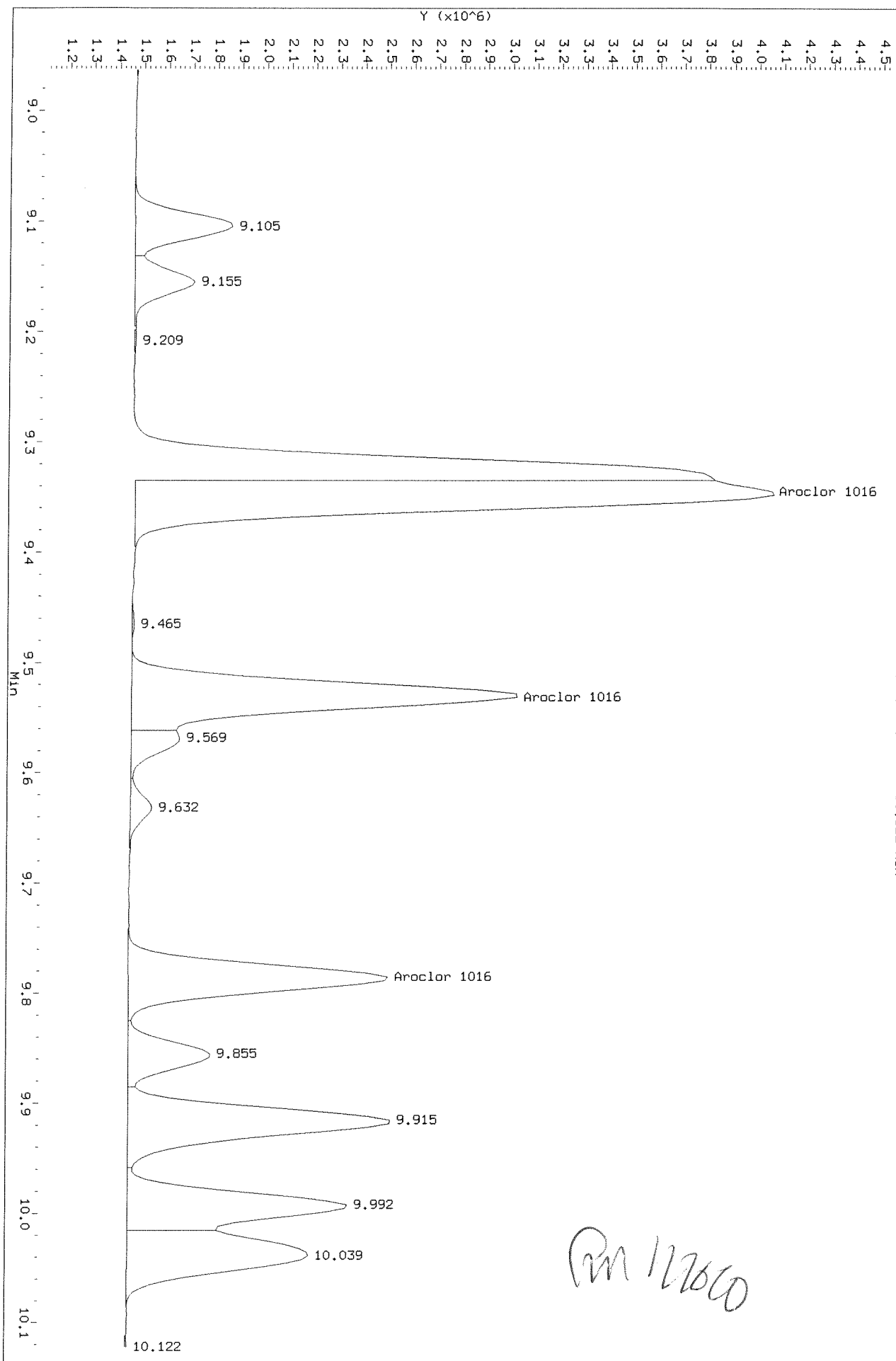
Data File: \\naklsw003\instdata\GC27\Data\1217201CAL.b\1217F011.D
Injection Date: 17-DEC-2020 22:51
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naki\sws003\inst\data\GC27\Data\121720ICHL.b\1217F011.D
Injection Date: 17-DEC-2020 22:51
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.964 to 10.122 Min



After using peak 12/23/2020

PM 12/26/20

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F012.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F012.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F012.D
Inj Date : 17-DEC-2020 23:22
Sample Info: PCB8-61A 1660 10-100 @ 5X
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 1660.SUB
Sub List #2 : 1660.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	6.610	7.937	24597590	13450574	11.2	10.9		100.00
Aroclor 1016	7.680	8.660	4346953	2583285	110	115	80.00- 120.00	100.00 (M)
	8.910	9.400	3676642	3646664	103	106	67.46- 101.19	84.58 (M)
	9.350	10.567	12520037	4330918	120	111	216.24- 324.36	288.02 (M)
	9.530	11.083	6816114	3107297	109	103	124.98- 187.48	156.80 (M)
	9.787	11.310	4519976	3031032	103	110	85.08- 127.62	103.98 (M)
	Average of Peak Amounts =				109	109		
Aroclor 1260	12.830	13.063	5140642	2953940	112	110	80.00- 120.00	100.00
	13.670	14.287	7983437	4494447	108	103	121.62- 182.42	155.30
	13.820	14.380	4393459	2609198	108	108	66.59- 99.89	85.47
	14.043	14.647	16857399	4683887	111	102	261.33- 391.99	327.92
	14.660	15.173	12374603	9842034	108	98.1	190.43- 285.65	240.72
	Average of Peak Amounts =				109	104		
Decachlorobiphenyl	16.430	17.577	11793623	7423626	10.8	10.4		100.00

QC Flag Legend

M - Compound response manually integrated.

Con 11260

SA 12/23/20

Data File: \\nak1sws003\insdata\CC27\Data\1217201CAL.b\1217F012.D
Date: 17-DEC-2020 23:22

Client ID:

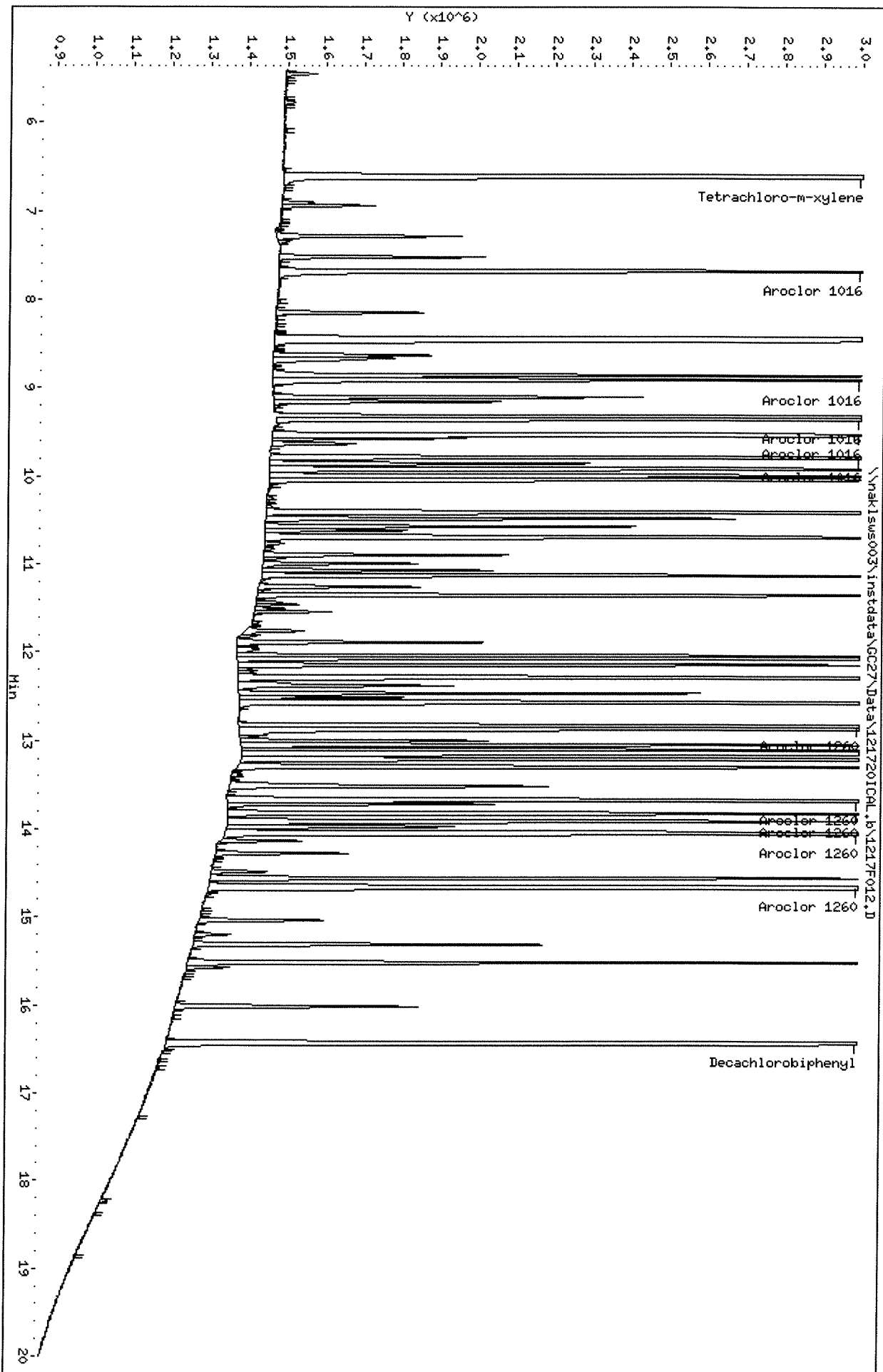
Sample Info: PCB8-61A 1660 10-100 @ 5X

Column phase: DB-35MS

Instrument: CC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL_r.b\1217F012.D
Date : 17-DEC-2020 23:22

Client ID:

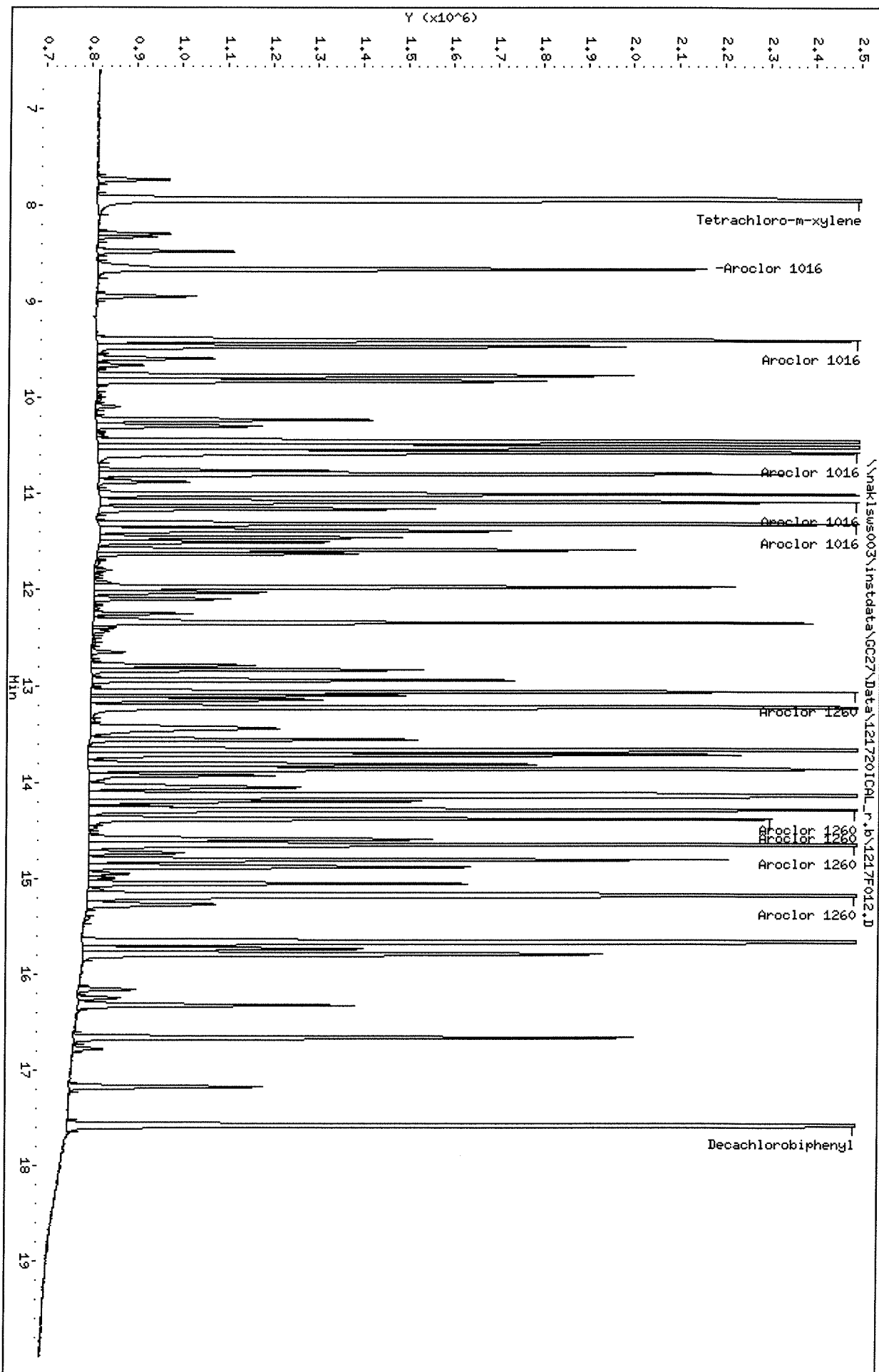
Sample Info: PCB8-61A 1660 10-100 @ 5X

Column phase: DB-XLB

Instrument: GC27.i

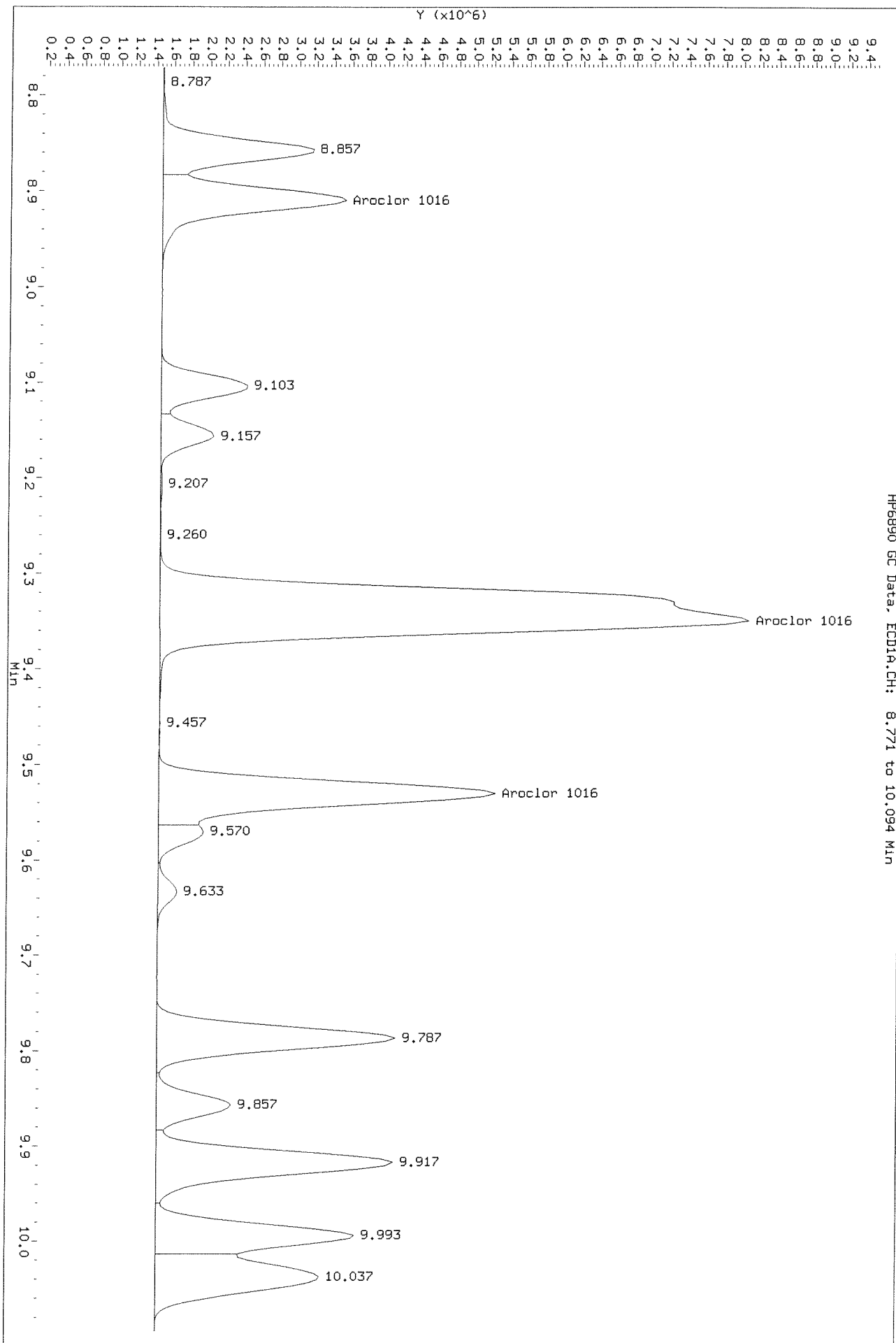
Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F012.D
Injection Date: 17-DEC-2020 23:22
Instrument: GC27.1
Client Sample ID:

Before

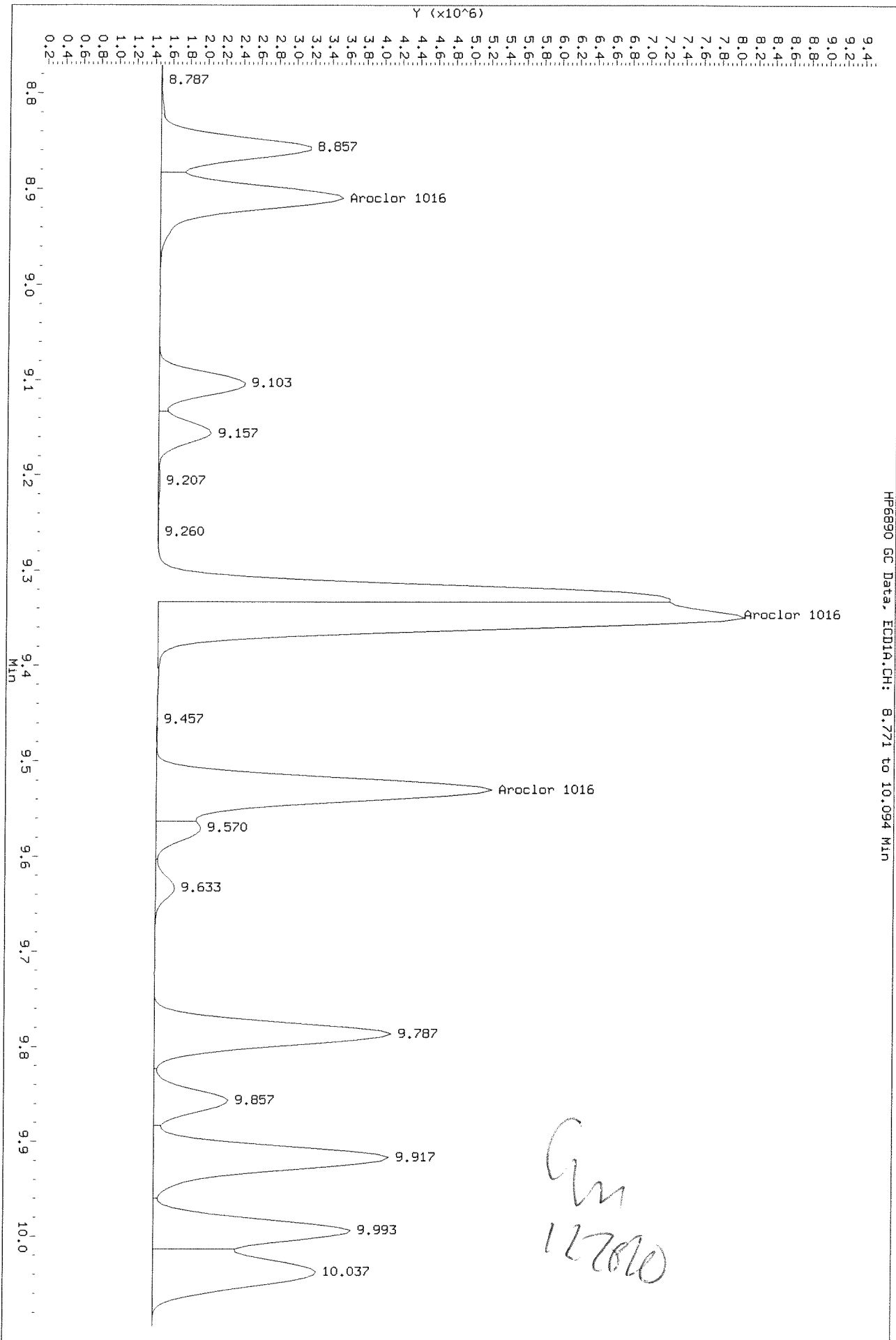


Data File: \\naks003\instdata\GC27\Data\121720ICL.b\1217F012.D
Injection Date: 17-DEC-2020 23:22
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.771 to 10.094 Min

After every peak 12/23/20 ds

GC
121720



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F013.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F013.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F013.D
Inj Date : 17-DEC-2020 23:54
Sample Info: PCB8-61A 1660 20-200
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 1660.SUB
Sub List #2 : 1660.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	6.609	7.935	47382416	25599204	21.6	20.8		100.00
Aroclor 1016	7.679	8.659	8021245	4668795	202	209	80.00- 120.00	100.00 (M)
	8.909	9.395	6764197	6505303	189	189	67.46- 101.19	84.33 (M)
	9.349	10.565	21681548	7871230	208	201	216.24- 324.36	270.30 (M)
	9.529	11.079	12531661	5624832	200	187	124.98- 187.48	156.23 (M)
	9.785	11.305	8530815	5473686	195	198	85.08- 127.62	106.35 (M)
	Average of Peak Amounts =				199	197		
Aroclor 1260	12.829	13.062	9775030	5258391	214	195	80.00- 120.00	100.00
	13.669	14.285	14859885	7895409	200	181	121.62- 182.42	152.02
	13.819	14.379	8136679	4558481	200	189	66.59- 99.89	83.24
	14.042	14.645	31931012	8343189	210	183	261.33- 391.99	326.66
	14.655	15.172	23268741	17834549	202	178	190.43- 285.65	238.04
	Average of Peak Amounts =				205	185		
Decachlorobiphenyl	16.429	17.572	21849869	13238456	20.0	18.5		100.00

QC Flag Legend

M - Compound response manually integrated.

Handwritten signature
12/26/20

Handwritten signature
SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F013.D
Date : 17-DEC-2020 23:54

Client ID:

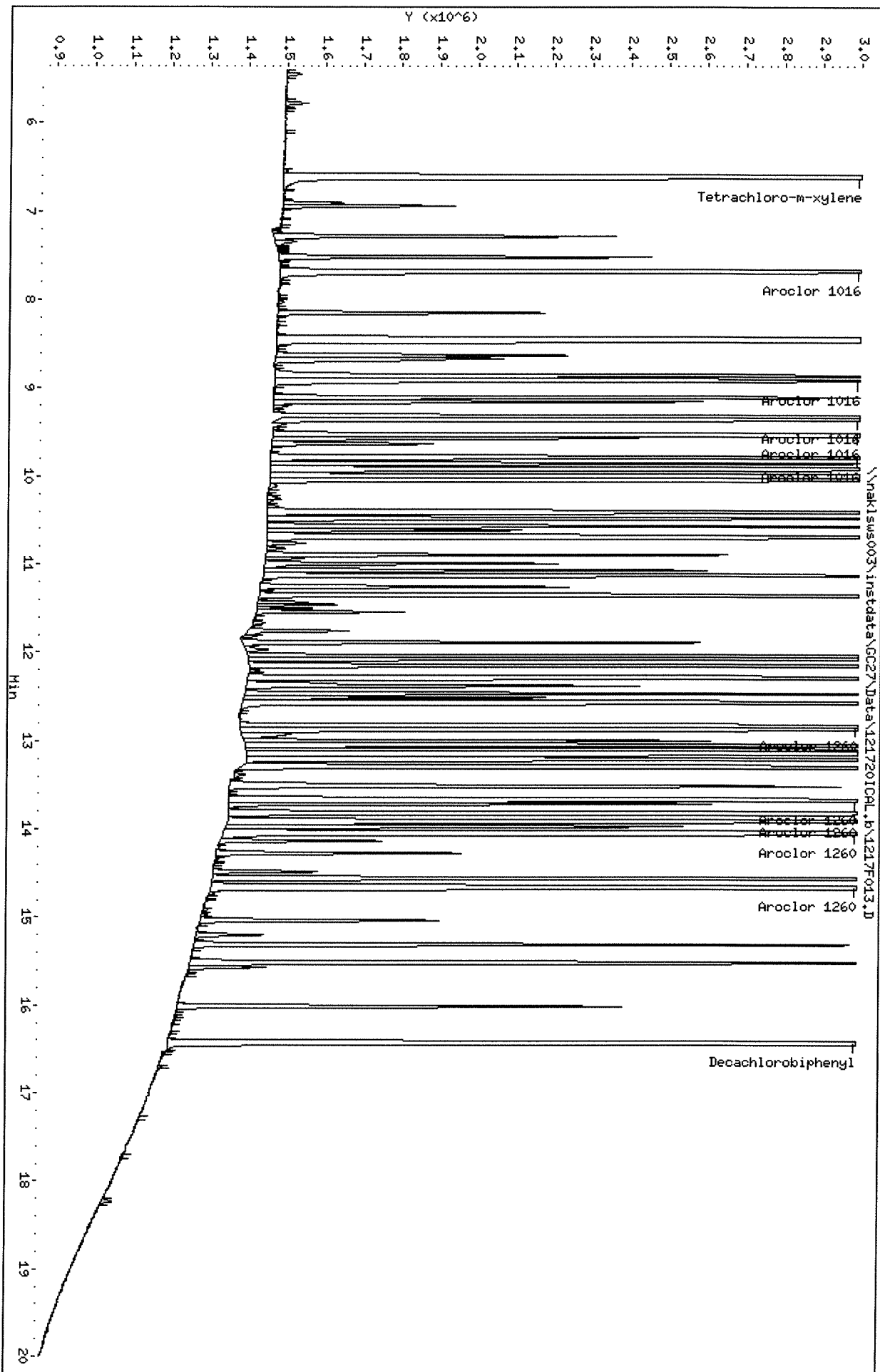
Sample Info: PCB8-61A 1660 20-200

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sus003\instdata\GC27\Data\1217201CAL_r.b\1217F013.D
Date : 17-DEC-2020 23:54

Client ID:

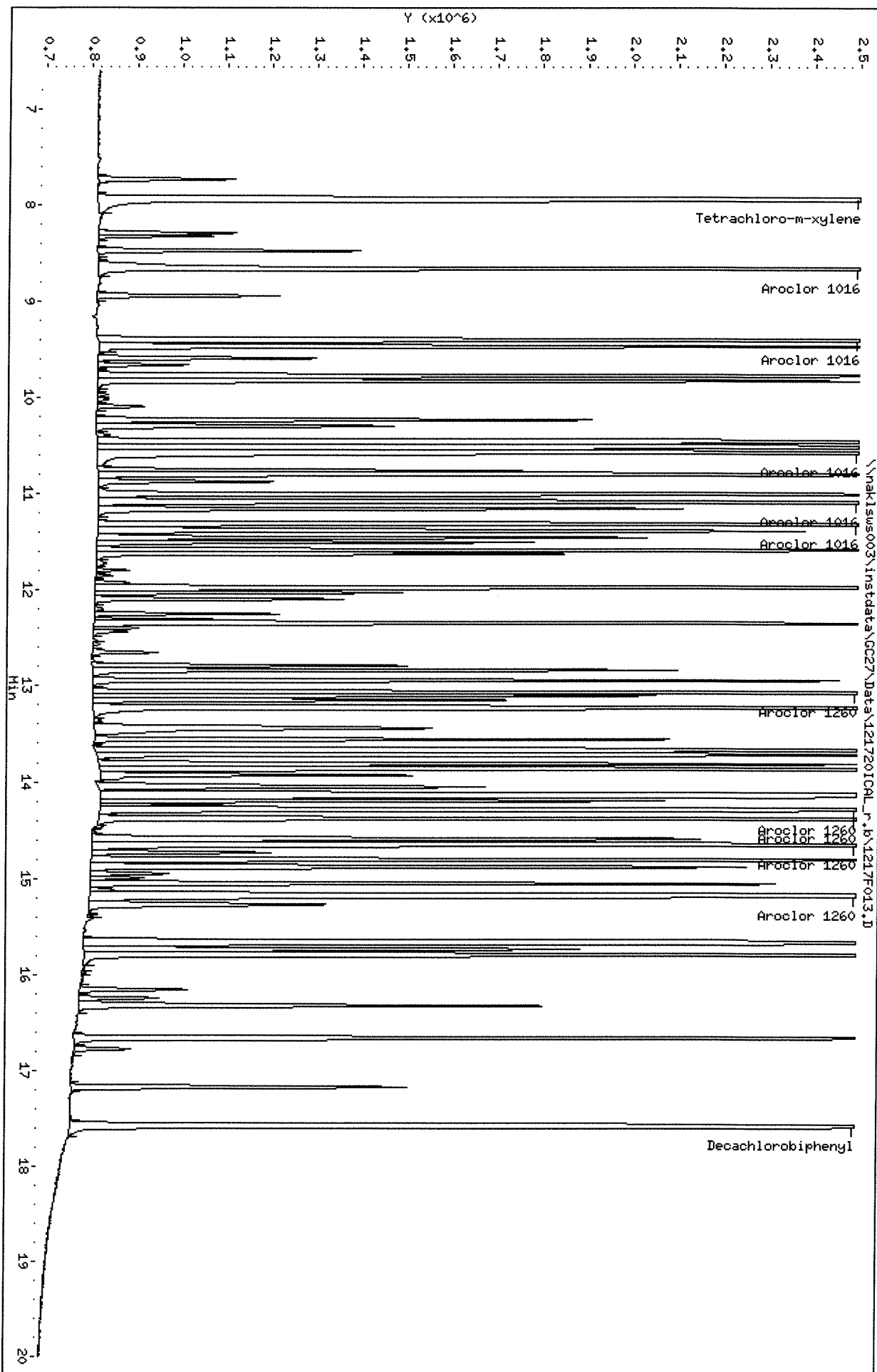
Sample Info: PCB8-61A 1660 20-200

Column phase: DB-XLB

Instrument: GC27.i

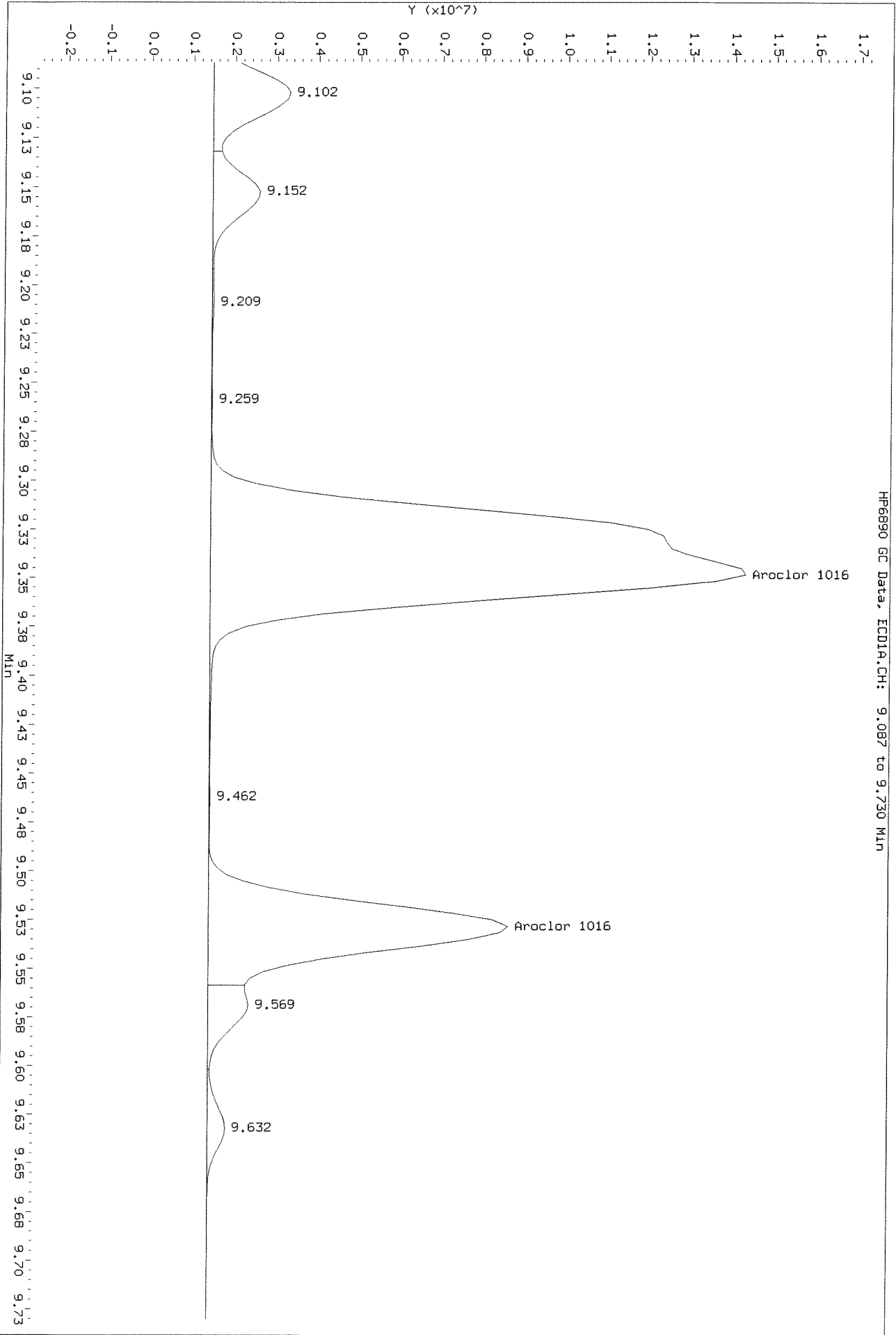
Operator: SAA

Column diameter: 0.32



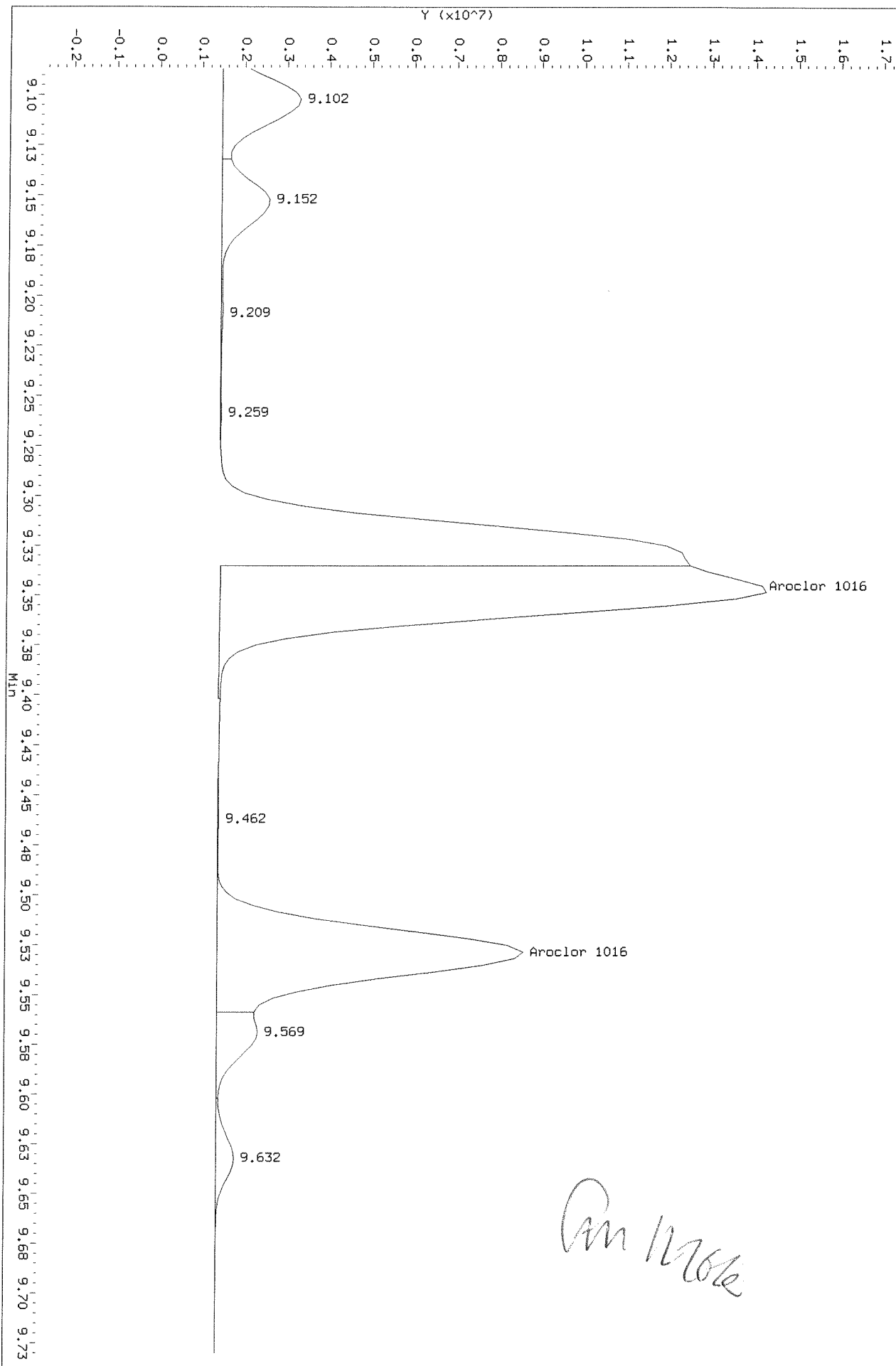
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F013.D
Injection Date: 17-DEC-2020 23:54
Instrument: GC27.1
Client Sample ID:

before



Data File: \\naklsws003\inst\data\GC27\Data\1217201CAL.b\1217F013.D
Injection Date: 17-DEC-2020 23:54
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 9.087 to 9.730 Min



After wrong peak 12/23/2020

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F014.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F014.D
Inj Date : 18-DEC-2020 00:25
Sample Info: PCB8-65C 2154 1-2PPB @ 5X
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 2154.sub
Sub List #2 : 2154.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	7.285	8.322	47548	19055	2.32	2.55	80.00- 120.00	100.00 (M)
	7.519	8.479	37749	17531	2.68	2.30	51.27- 76.90	79.39 (M)
	7.679	8.659	117378	61052	2.33	2.29	190.41- 285.62	246.86 (M)
	Average of Peak Amounts =				2.44	2.38		
Aroclor 1254	11.435	11.969	42066	52383	1.03	1.16	80.00- 120.00	100.00 (M)
	12.042	12.025	149933	28112	1.19	1.16	244.22- 366.32	356.42 (M)
	12.285	12.342	73954	62800	1.22	1.21	115.71- 173.56	175.80 (M)
	12.382	12.432	85196	26630	1.14	1.21	147.40- 221.10	202.53 (M)
	13.135	13.872	120659	51772	1.33	1.37	167.70- 251.55	286.83 (M)
	Average of Peak Amounts =				1.18	1.22		

QC Flag Legend

M - Compound response manually integrated.

Am 11/26/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F014.D
Date : 18-DEC-2020 00:25

Client ID:

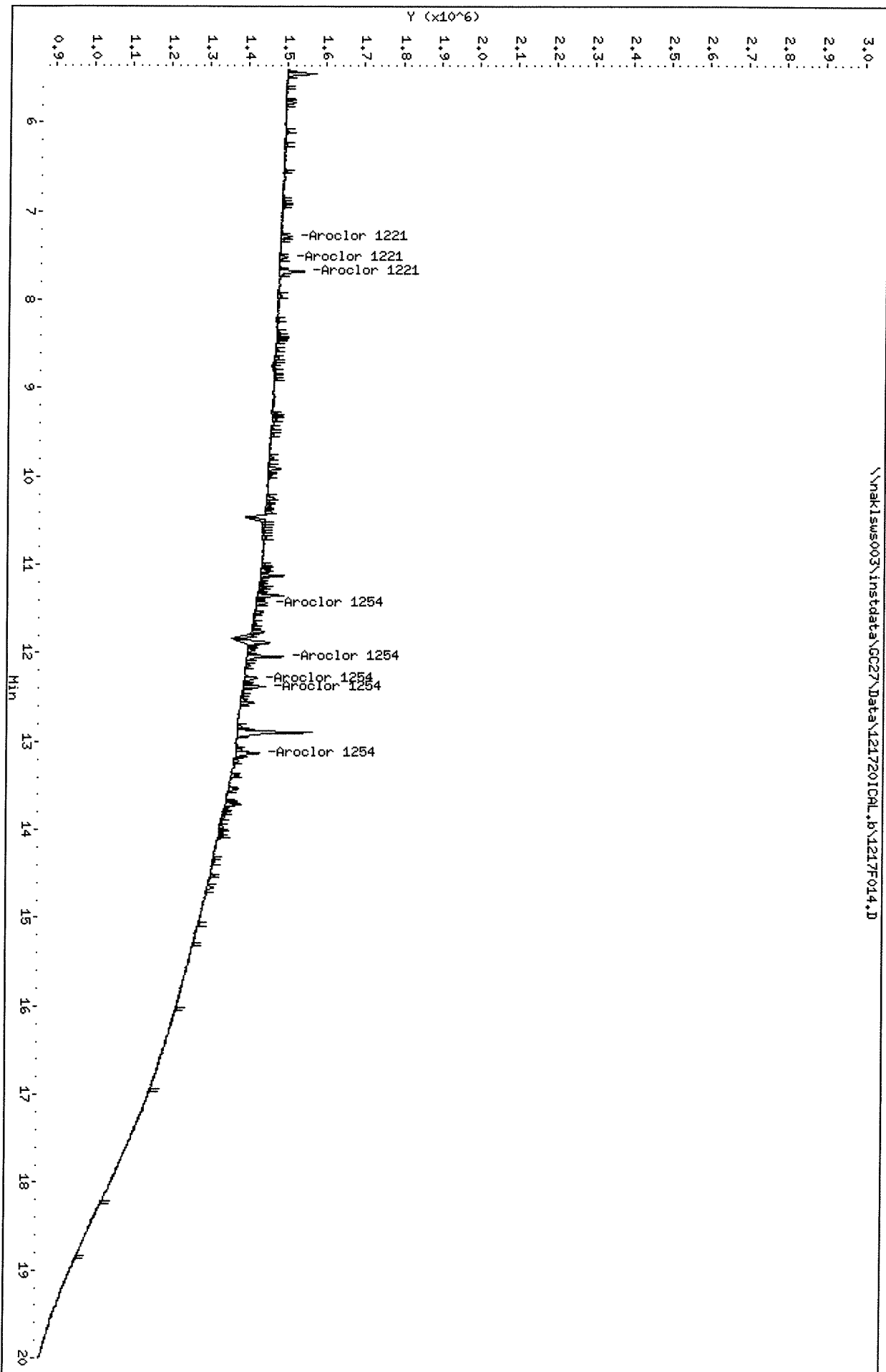
Sample Info: PCB8-65C 2154 1-2PPB @ 5X

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sw003\instdata\GC27\Data\1217201CAL_r.b\1217F014.D
Date: 18-DEC-2020 00:25

Client ID:

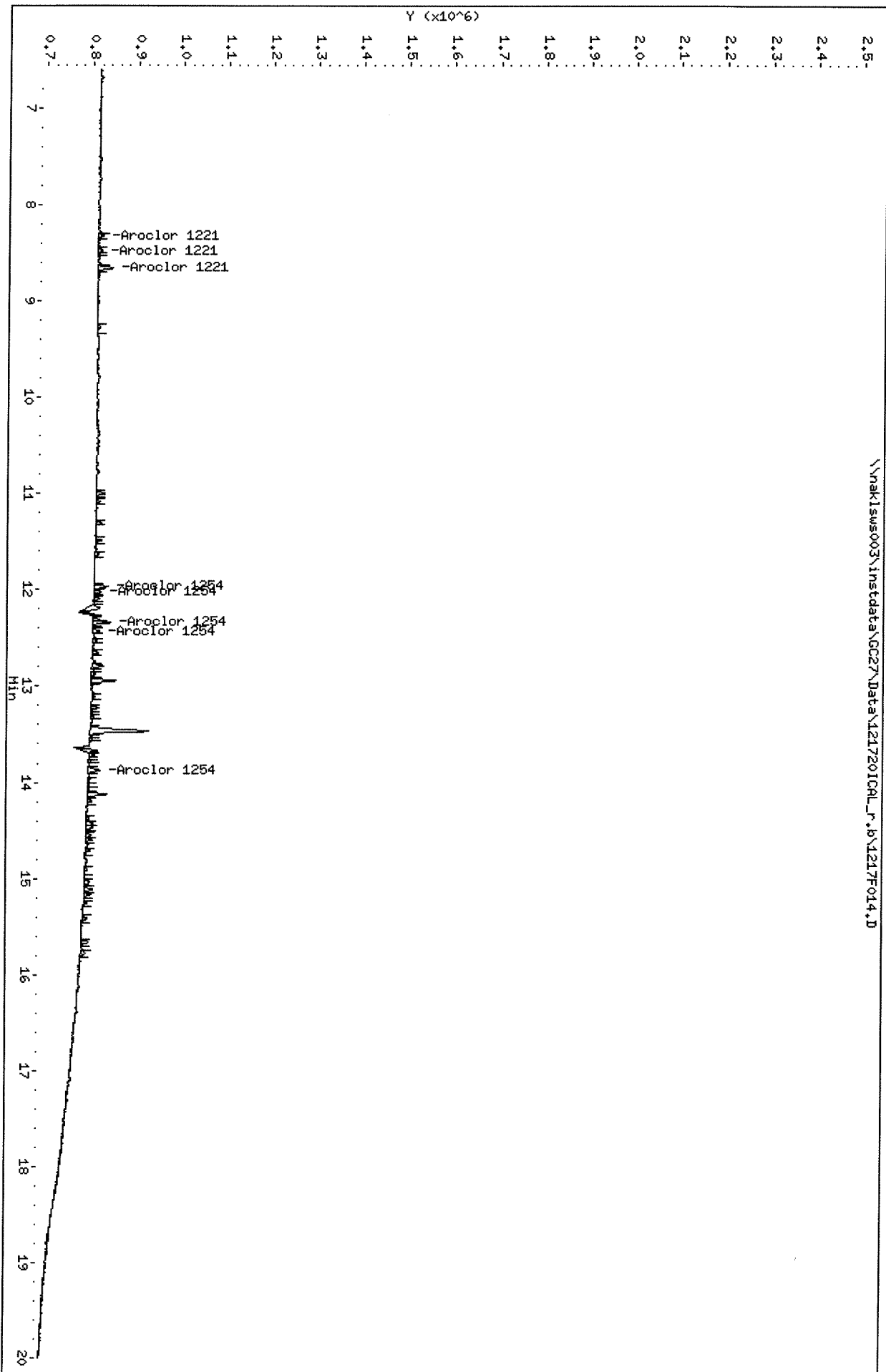
Sample Info: PCB8-65C 2154 1-2PPB @ SX

Column phase: DB-XLB

Instrument: GC27.i

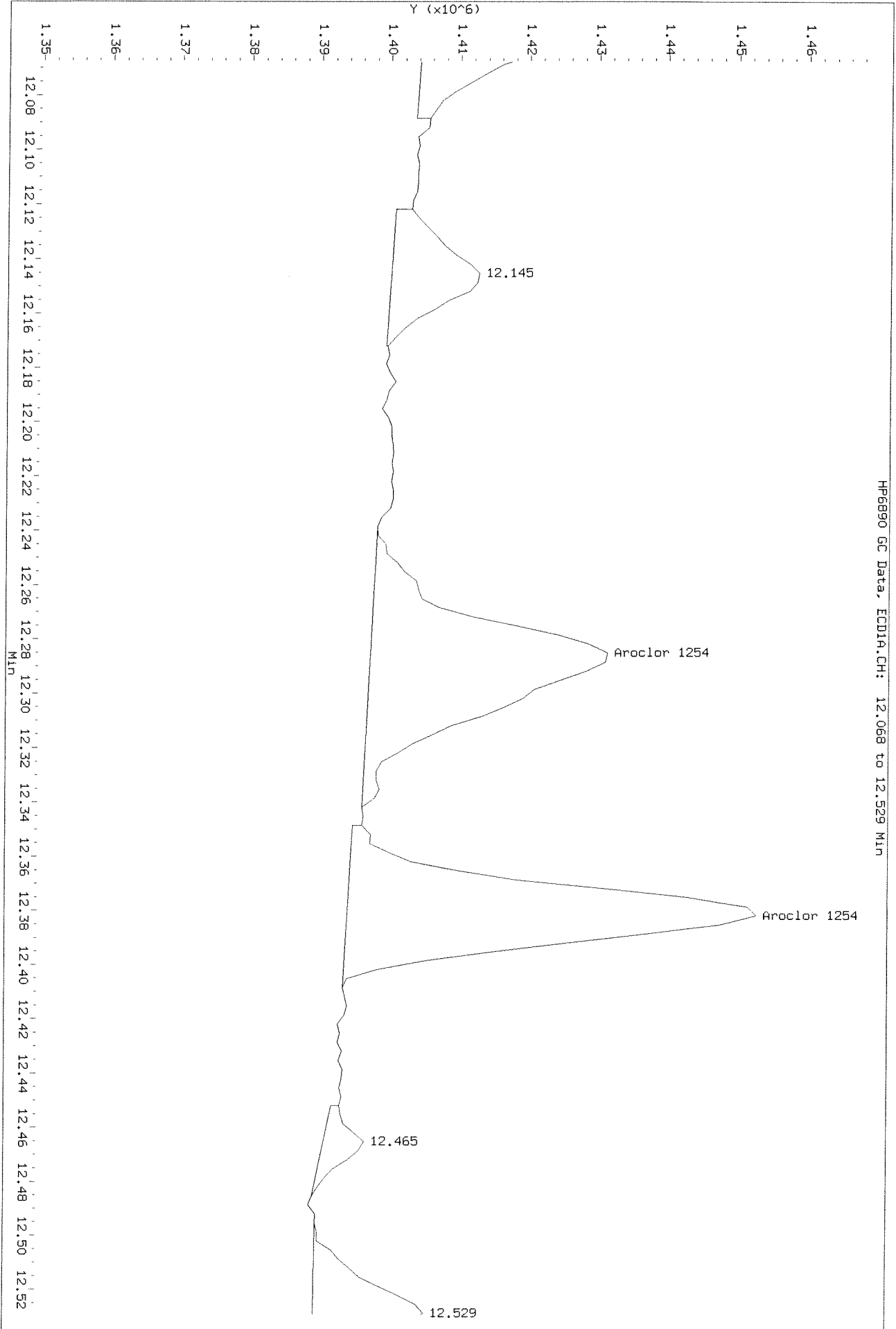
Operator: SAA

Column diameter: 0.32



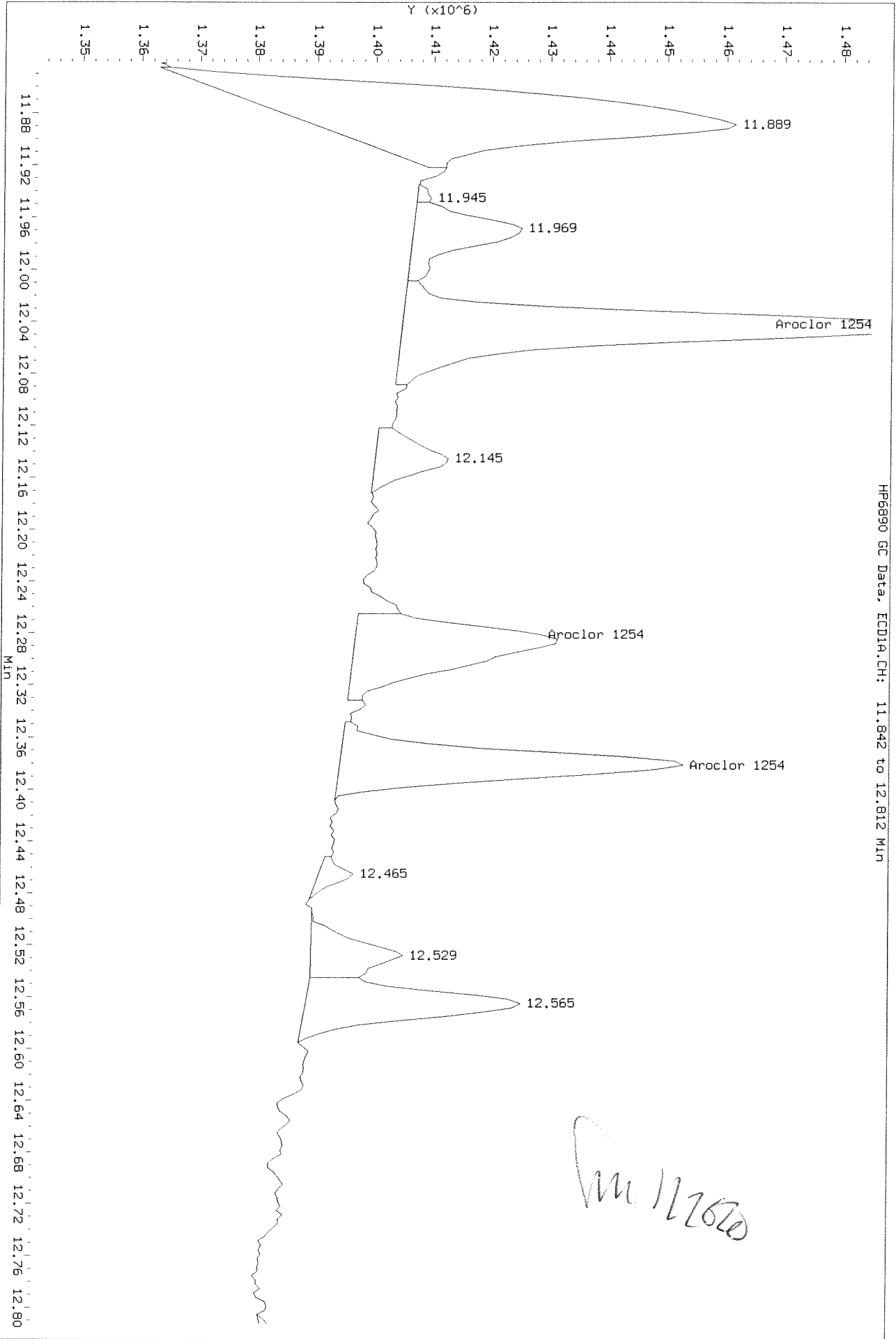
Data File: \\nakjsws003\instdata\GC27\Data\121720ICL.b\1217F014.D
Injection Date: 18-DEC-2020 00:25
Instrument: GC27.1
Client Sample ID:

Before



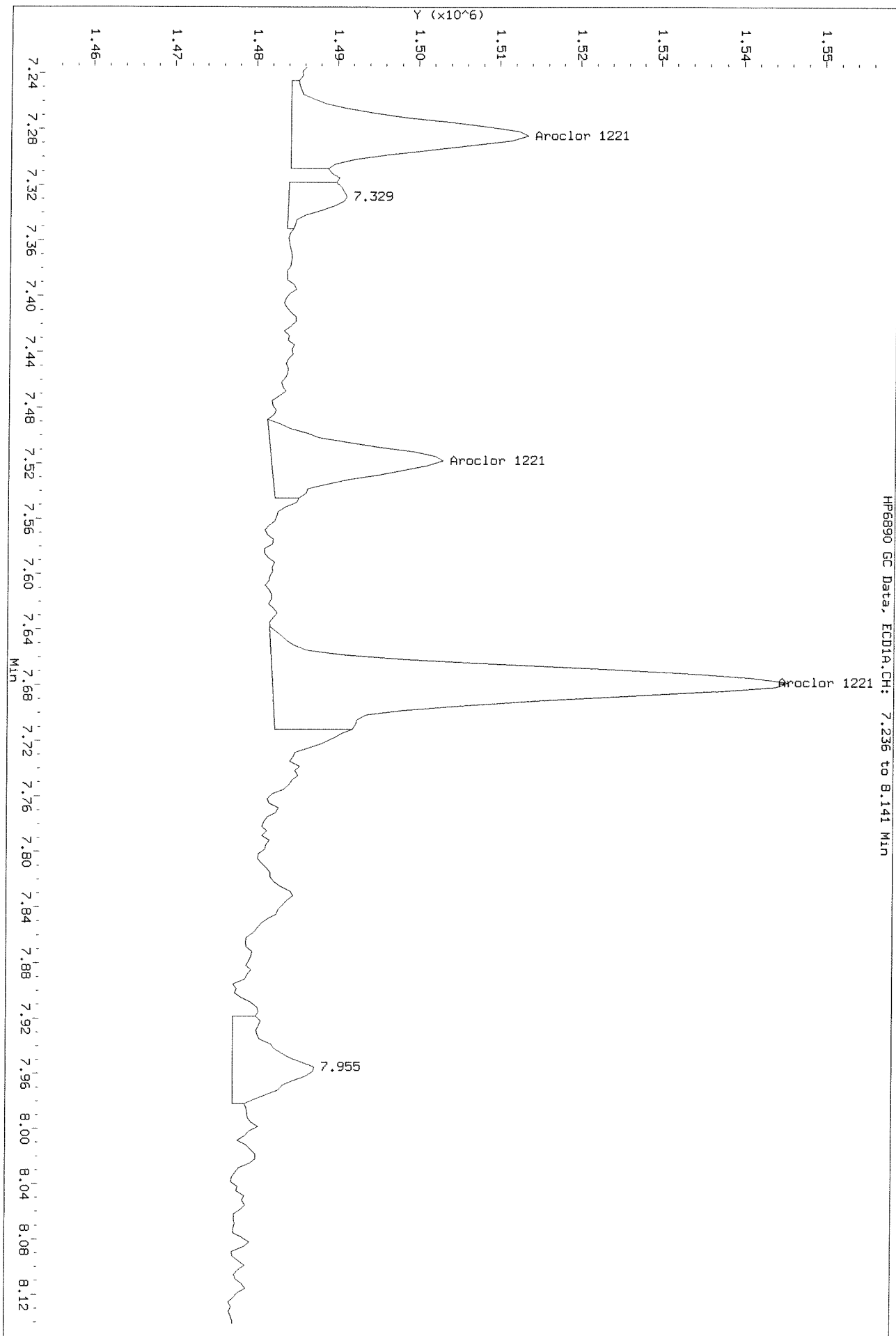
Data File: \\naklsus003\instdata\GC27\Data\1217201CAL.b\1217F014.D
Injection Date: 18-DEC-2020 00:25
Instrument: GC27.1
Client Sample ID:

After Shaker 12/23/2024



Data File: \\nak1sws003\instdata\GC27\Data\121720ICL.b\1217F014.D
Injection Date: 18-DEC-2020 00:25
Instrument: GC27.1
Client Sample ID:

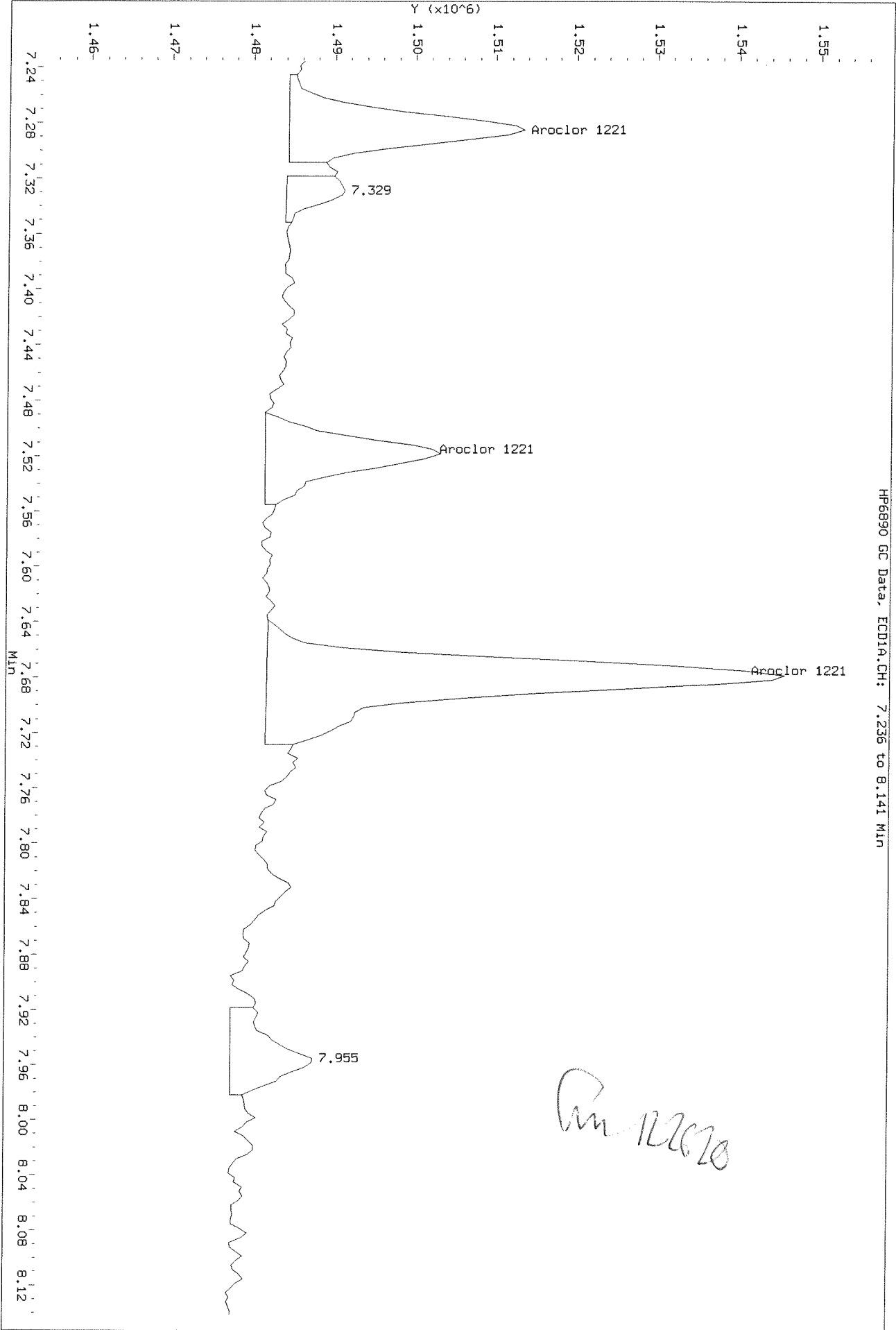
Before



Data File: \\nakjsms003\instdata\GC27\Data\1217201CAL.b\1217F014.D
Injection Date: 18-DEC-2020 00:25
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 7.236 to 8.141 Min

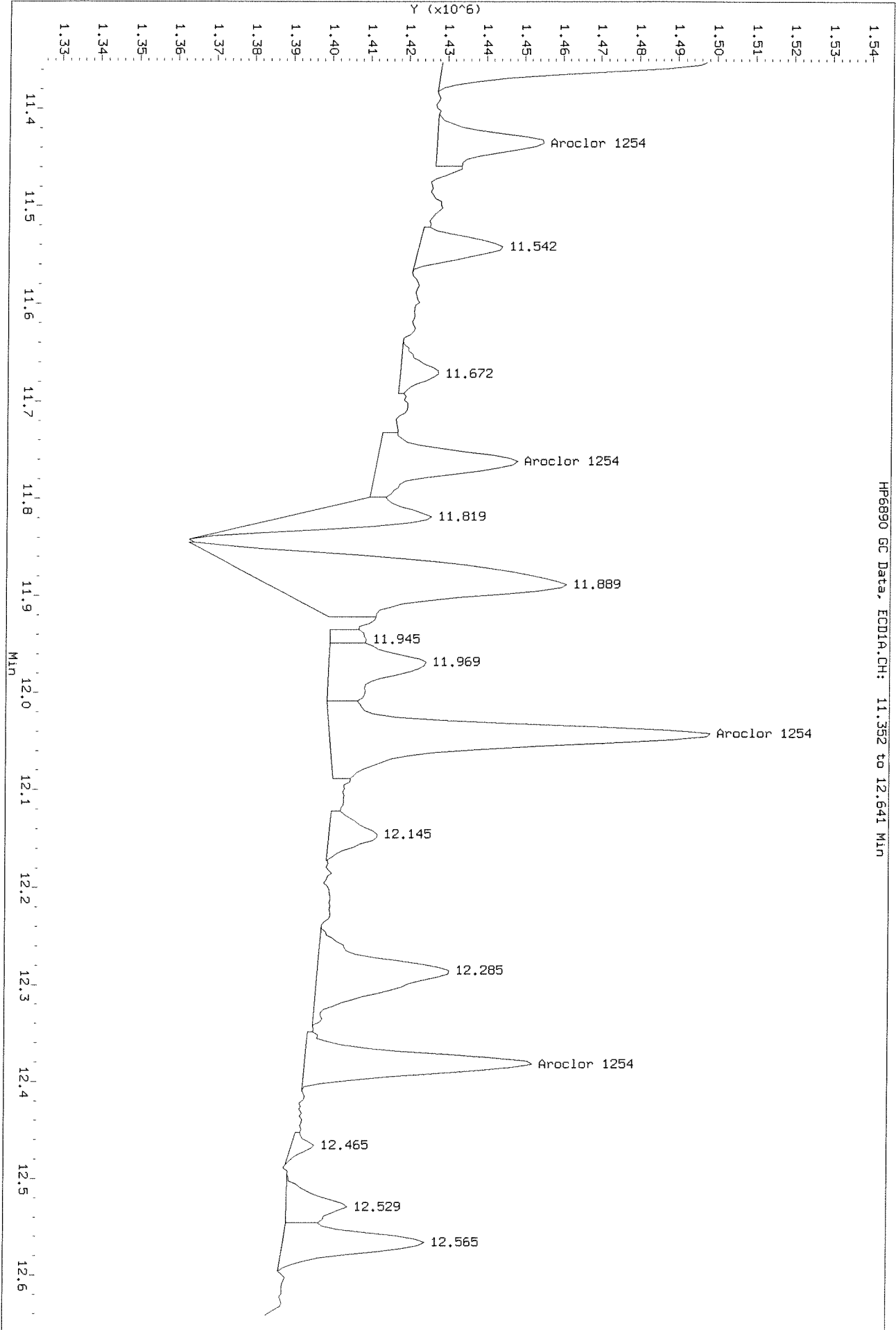
After baseline 12/23/2024



Run 121720

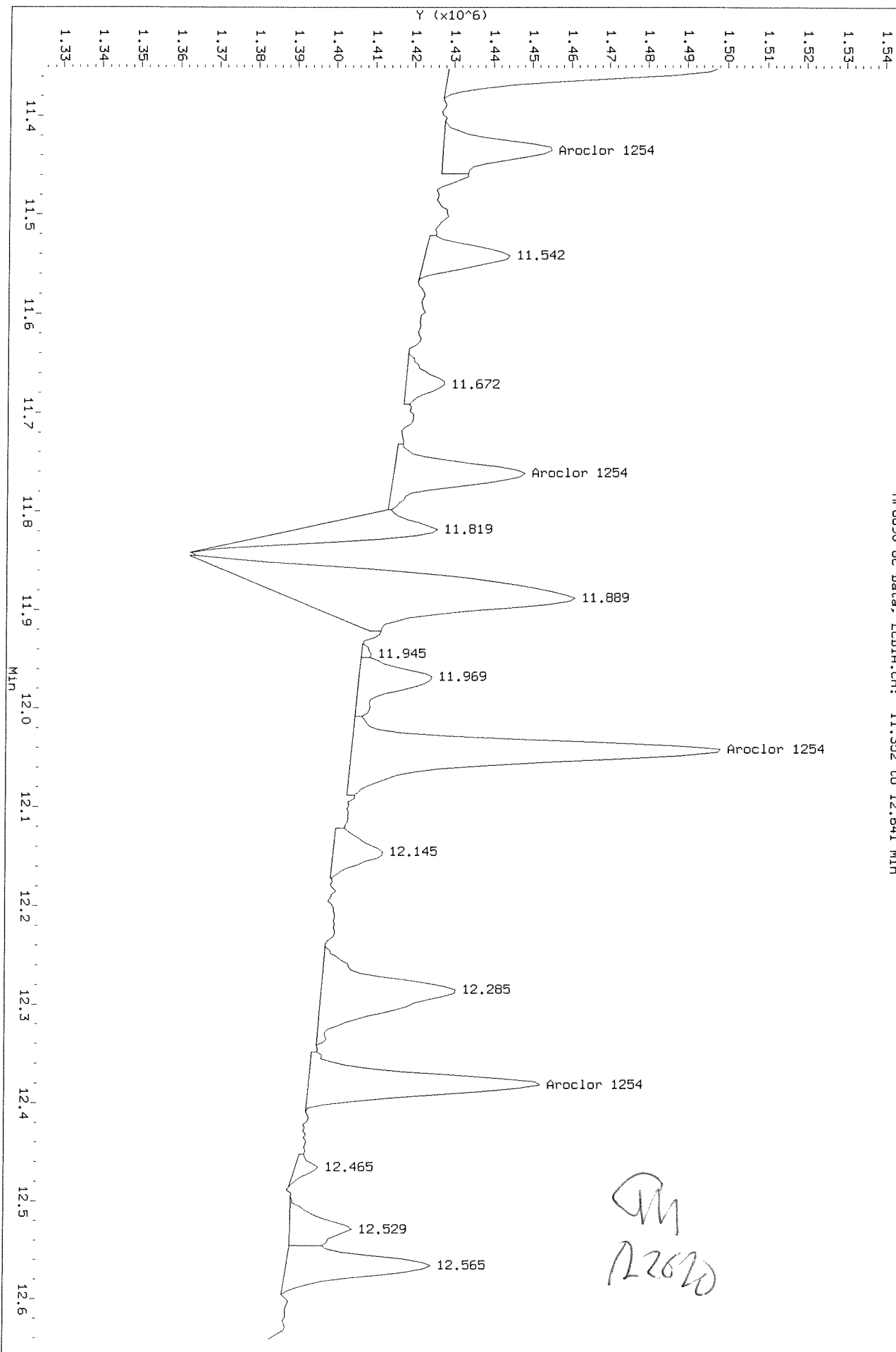
Data File: \\nakjsws003\instdata\GC27\Data\121720ICL.b\1217F014.D
Injection Date: 18-DEC-2020 00:25
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F014.D
Injection Date: 18-DEC-2020 00:25
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 11.352 to 12.641 Min



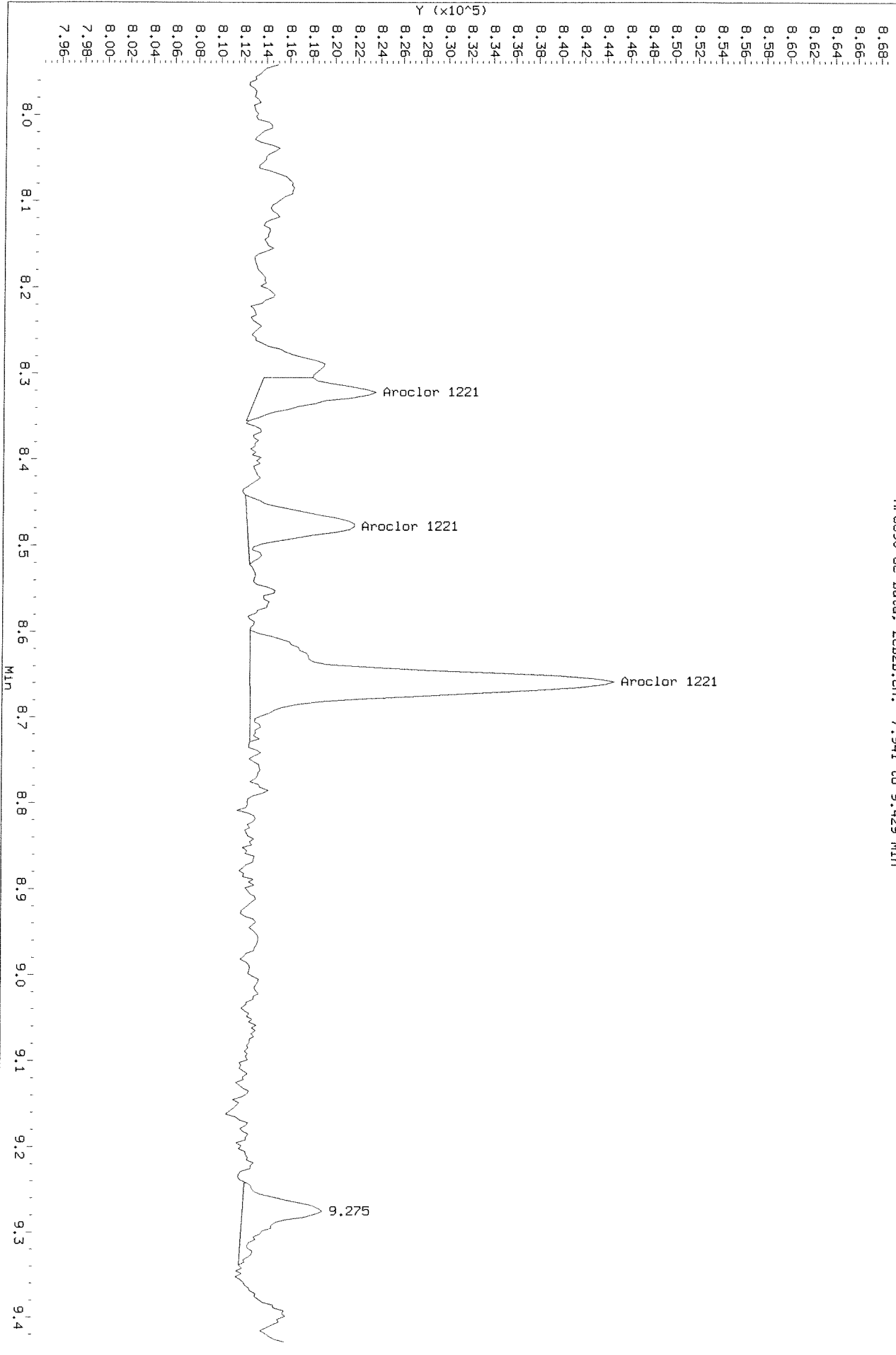
After baseline 12/23/2020

AM
12/26/20

Data File: \\nakisw003\instdata\GC27\Data\121720ICAL.r.b\1217F014.D
Injection Date: 18-DEC-2020 00:25
Instrument: GC27.1
Client Sample ID:

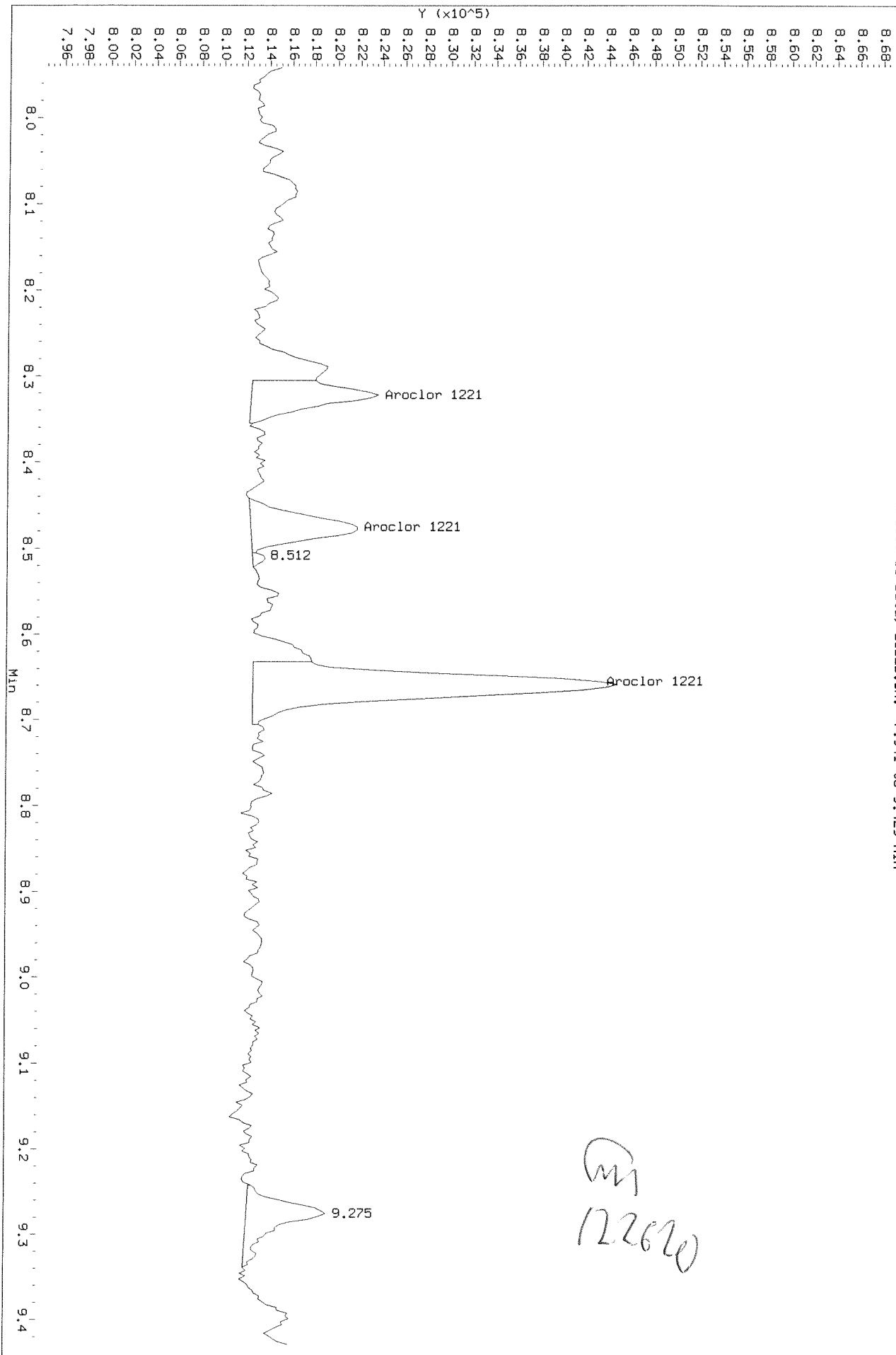
Before

HP6890 GC Data, ECD2B.CH: 7.941 to 9.429 Min



Data File: \\naklsws003\instdata\GC27\Data\121720ICL.r.b\1217F014.D
Injection Date: 18-DEC-2020 00:25
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD2B.CH: 7.941 to 9.429 Min

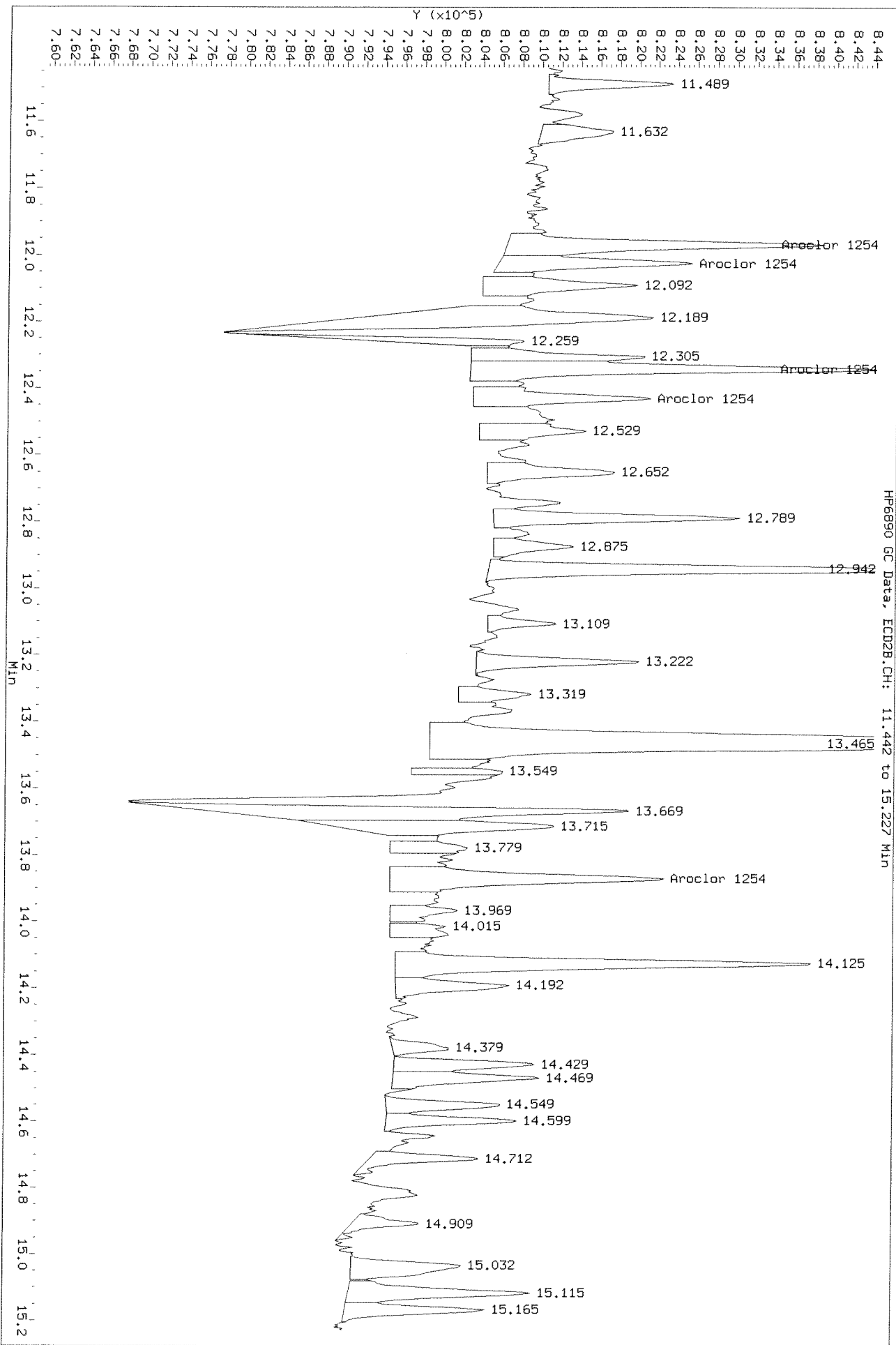


After transfer 12/23/20

122620

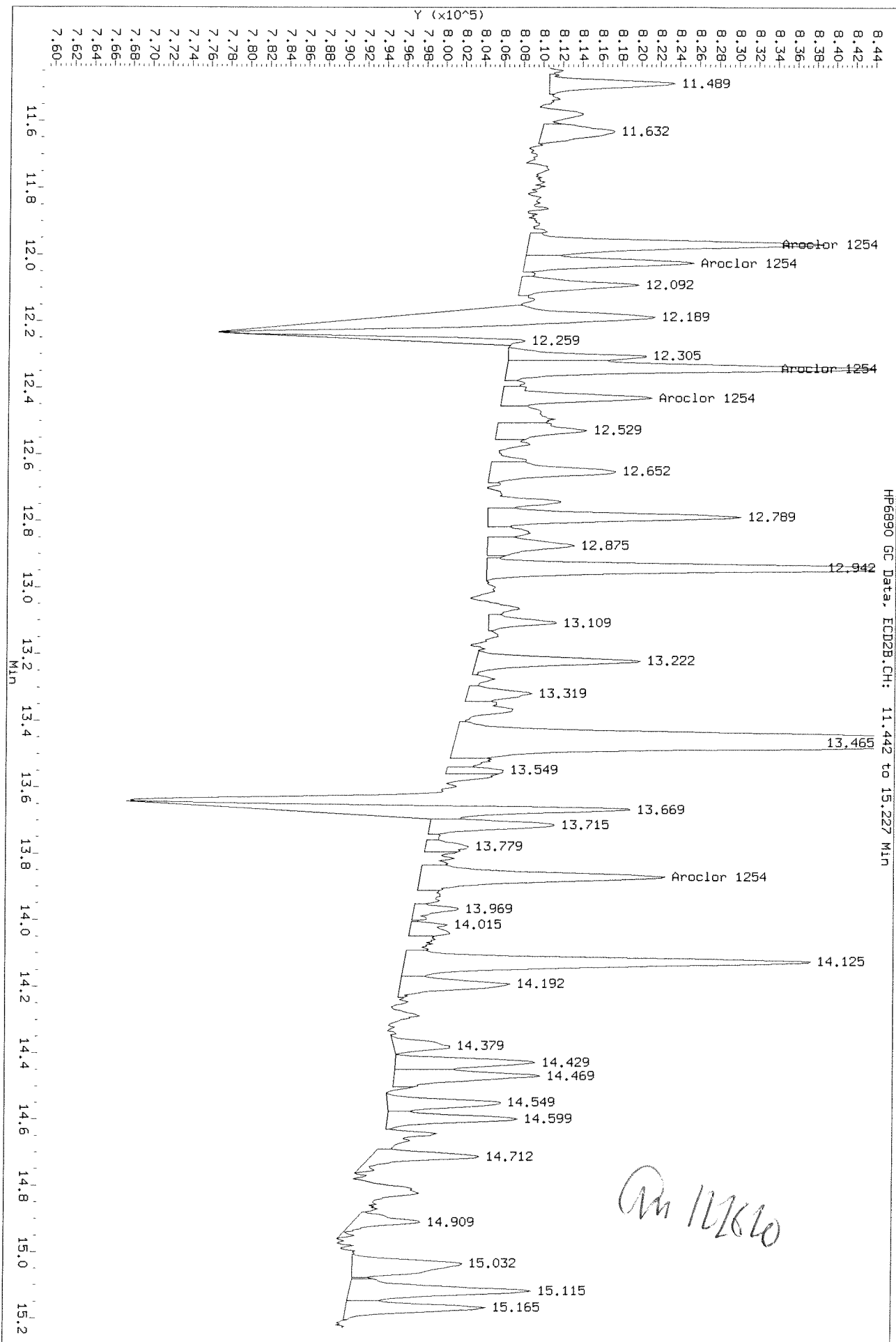
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.r.b\1217F014.D
 Injection Date: 18-DEC-2020 00:25
 Instrument: GC27.1
 Client Sample ID:

Before



Data File: \\nakls003\instdata\GC27\Data\1217201CAL_r.b\1217F014.D
Injection Date: 18-DEC-2020 00:25
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20 A



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F015.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F015.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F015.D
Inj Date : 18-DEC-2020 00:56
Sample Info: PCB8-65B 2154 2-4PPB @ 5X
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 2154.sub
Sub List #2 : 2154.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	7.284	8.325	86031	29245	4.19	3.92	80.00- 120.00	100.00
	7.521	8.475	64082	30660	4.54	4.02	51.27- 76.90	74.49
	7.678	8.661	225970	111841	4.49	4.20	190.41- 285.62	262.66
	Average of Peak Amounts =				4.41	4.05		
Aroclor 1254	11.434	11.968	91415	100308	2.23	2.21	80.00- 120.00	100.00
	12.044	12.025	276660	53875	2.20	2.21	244.22- 366.32	302.64
	12.288	12.341	137351	114317	2.26	2.20	115.71- 173.56	150.25
	12.381	12.431	160321	43478	2.15	1.98	147.40- 221.10	175.38
	13.134	13.875	219178	81920	2.41	2.17	167.70- 251.55	239.76
	Average of Peak Amounts =				2.25	2.15		

Am

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SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F015.D
Date : 18-DEC-2020 00:56

Client ID:

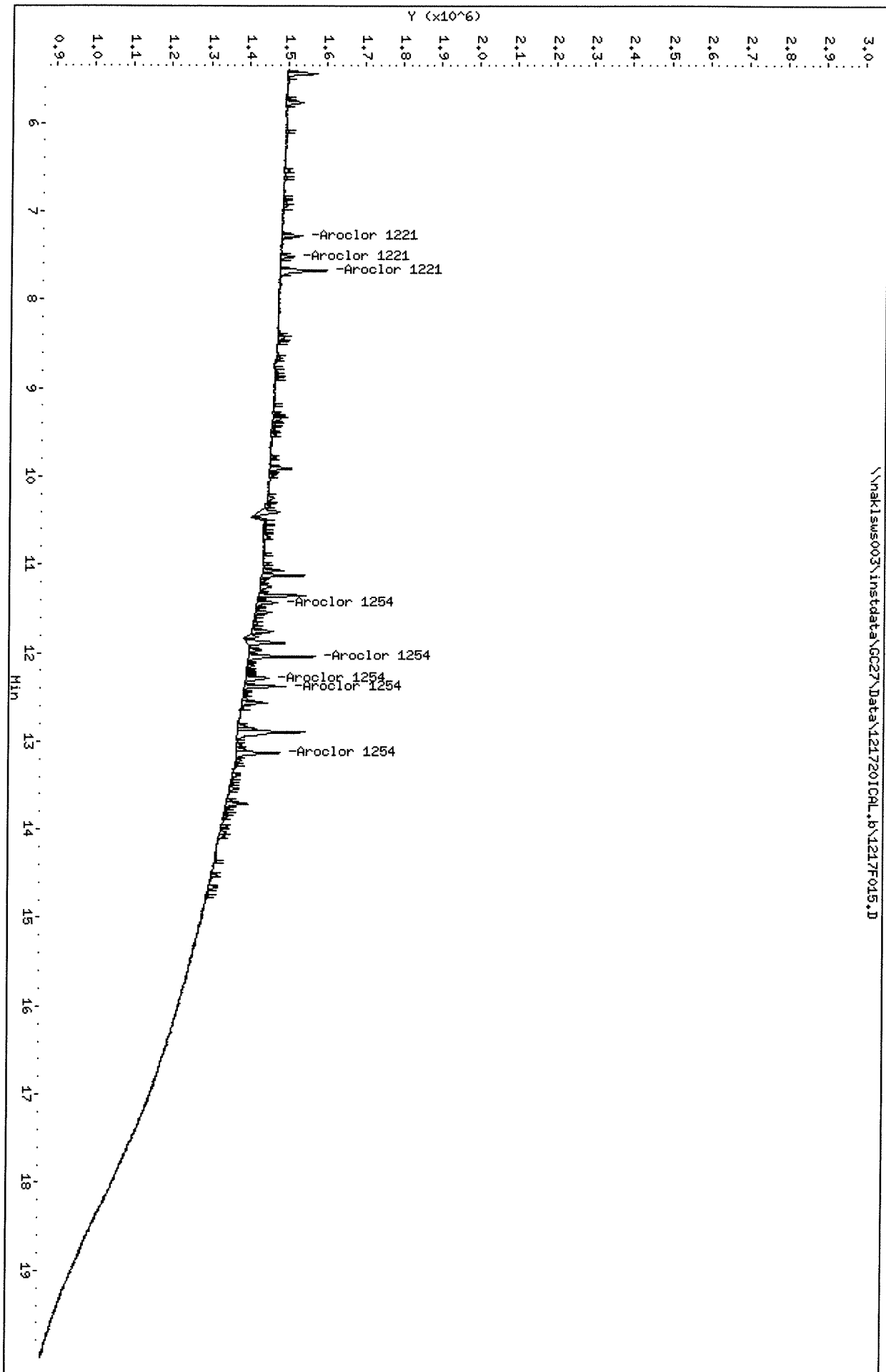
Sample Info: PCB8-65B 2154 2-4PPB @ 5X

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\12172010AL_r.b\1217F015.D
Date : 18-DEC-2020 00:56

Client ID:

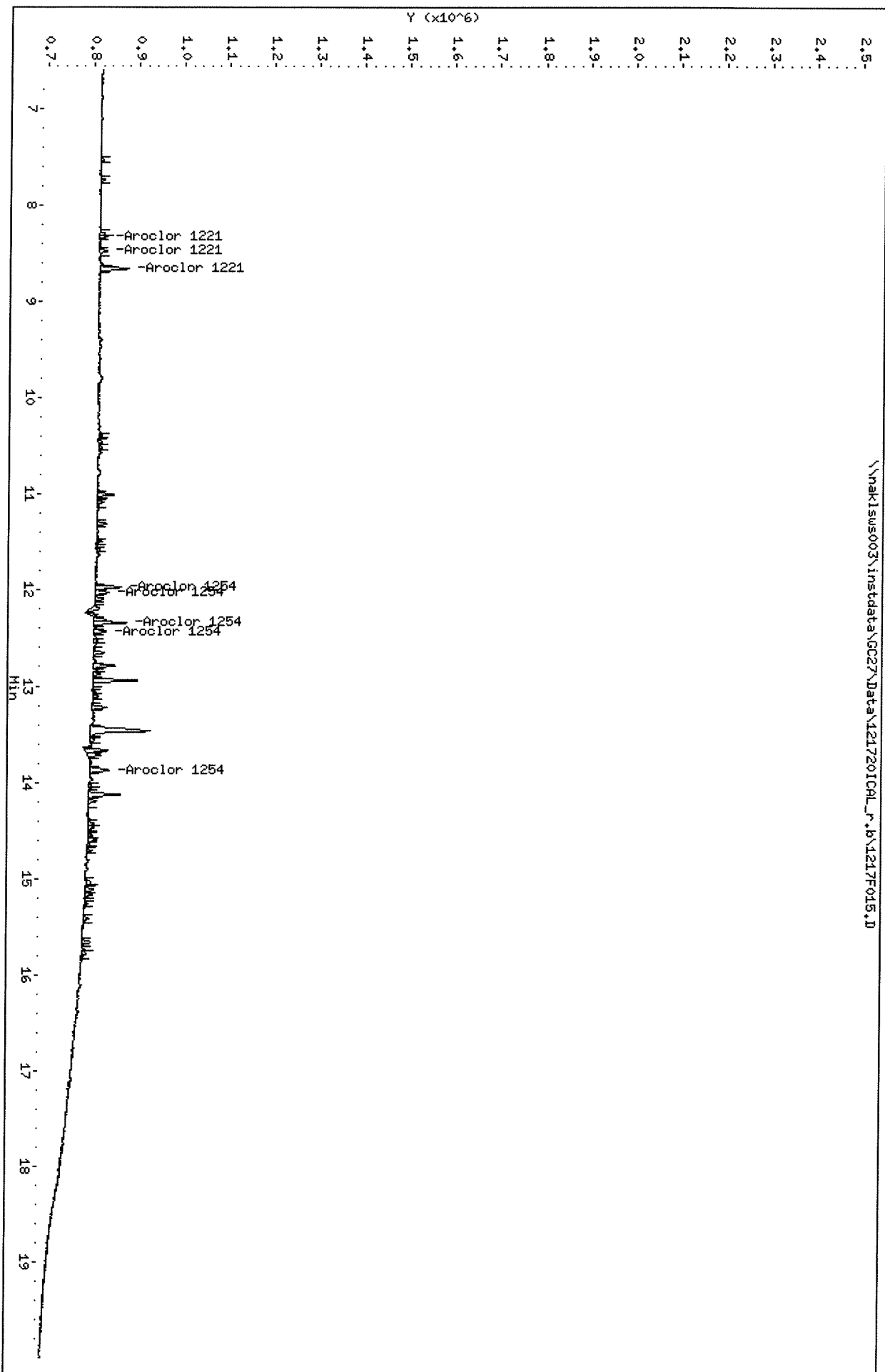
Sample Info: PCB8-65B 2154 2-4PPB @ 5X

Column phase: DB-XLB

Instrument: GC27.i

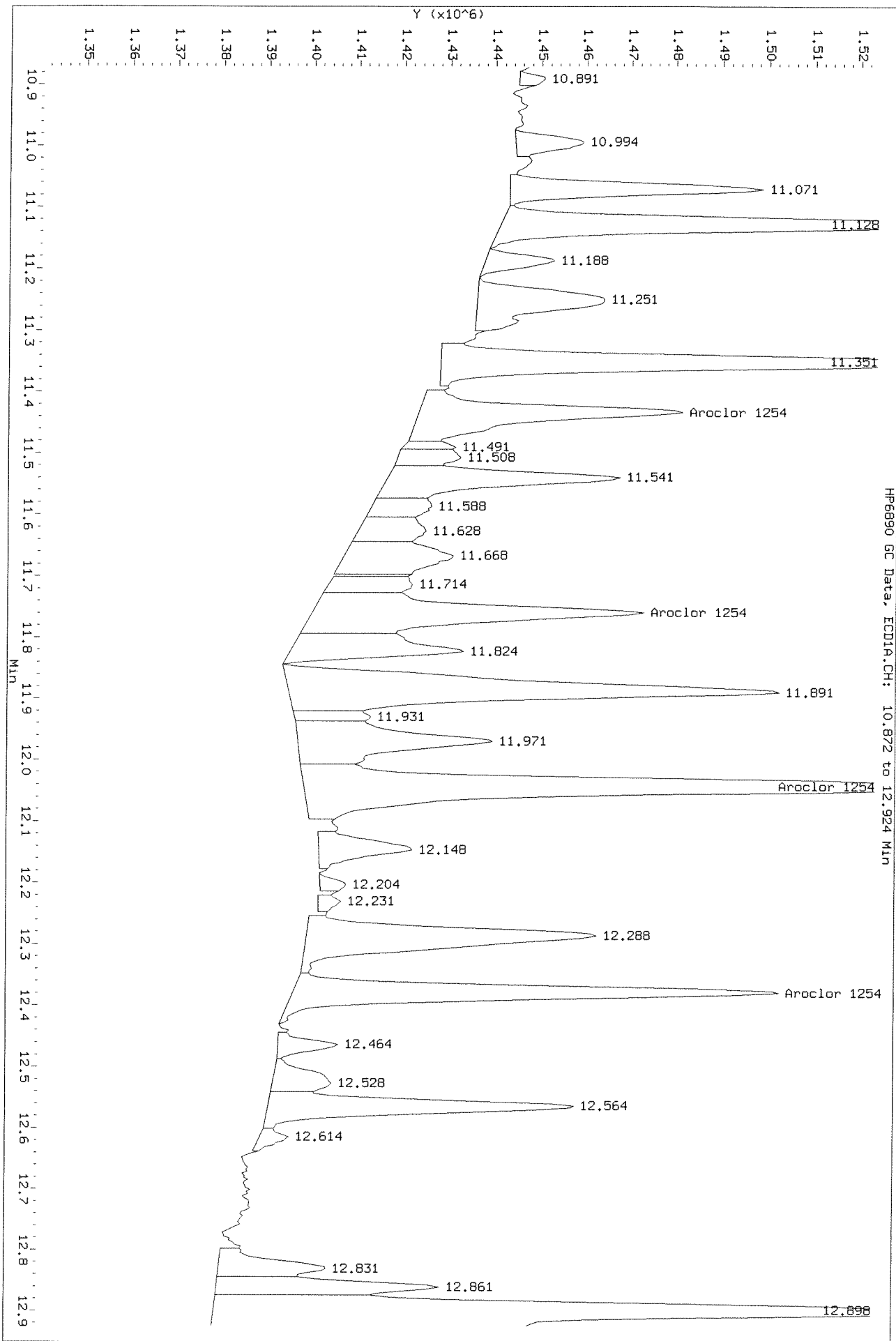
Operator: SAA

Column diameter: 0.32

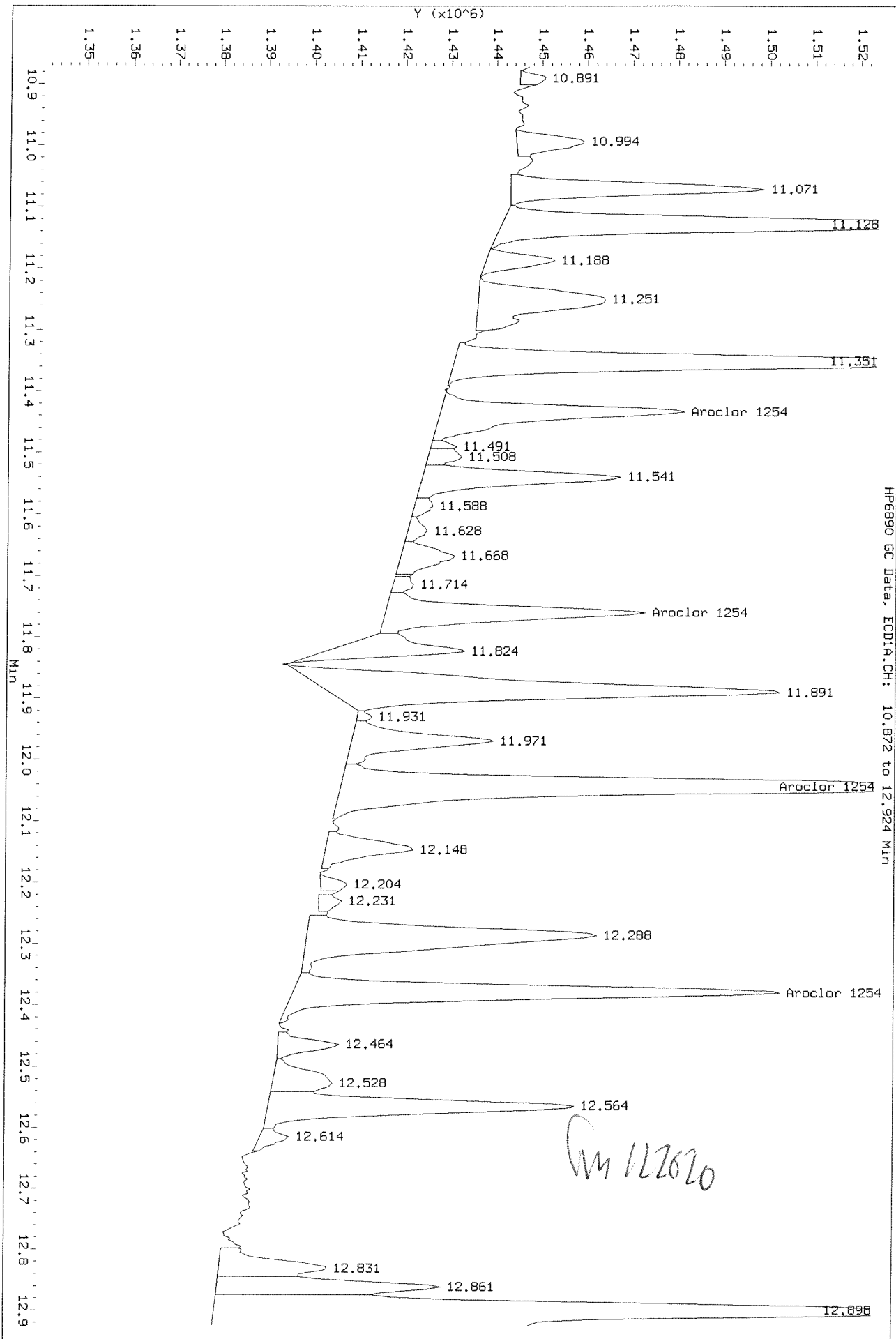


Data File: \\naks003\instdata\GC27\Data\121720ICAL.b\1217F015.D
Injection Date: 18-DEC-2020 00:56
Instrument: GC27.1
Client Sample ID:

Before

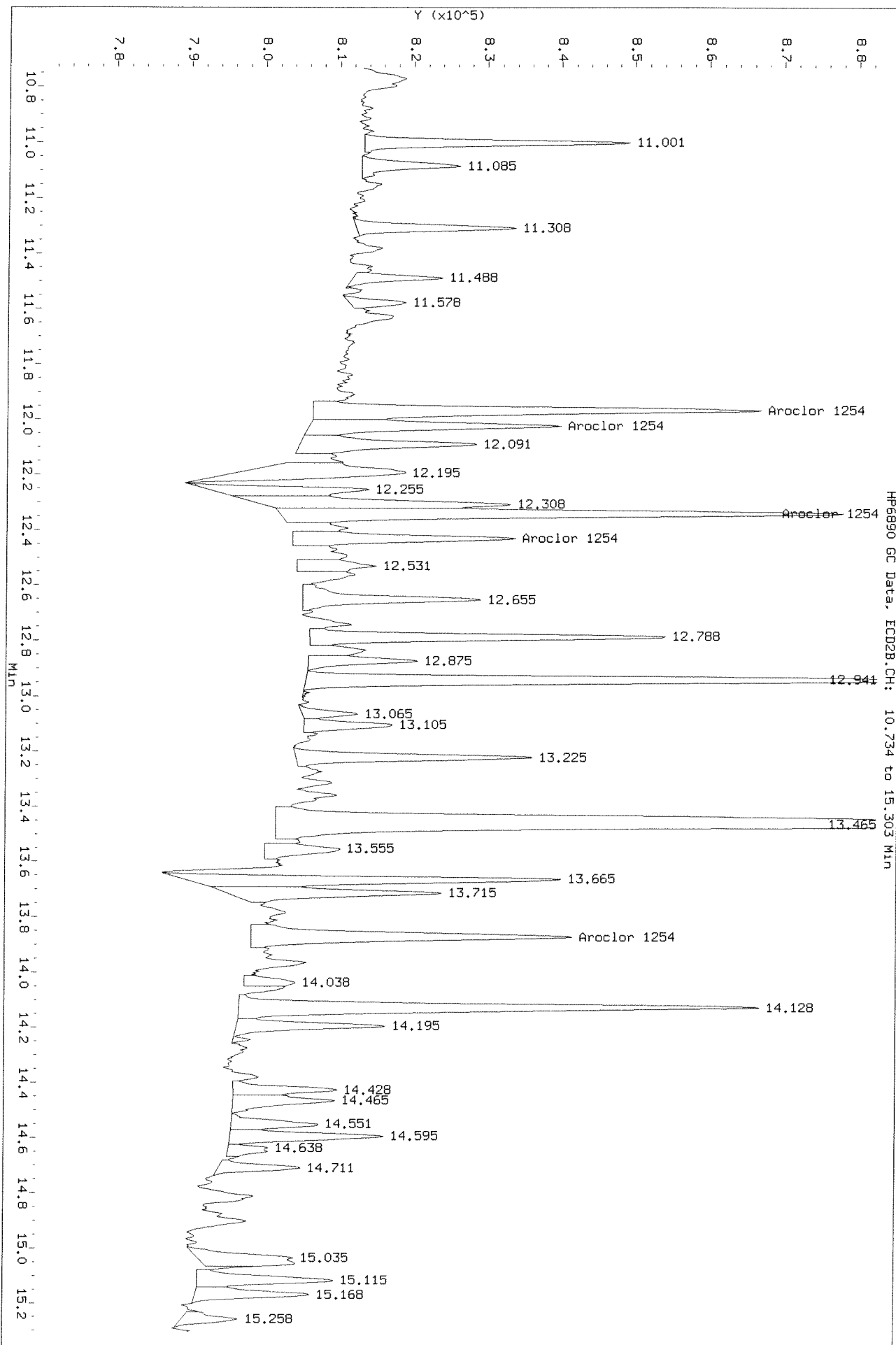


Data File: \\nakslus003\instdata\GC27\Data\121720ICAL.b\1217F015.D
Injection Date: 18-DEC-2020 00:56
Instrument: GC27.1
Client Sample ID:



Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL_r.b\1217F015.D
Injection Date: 18-DEC-2020 00:56
Instrument: GC27.1
Client Sample ID:

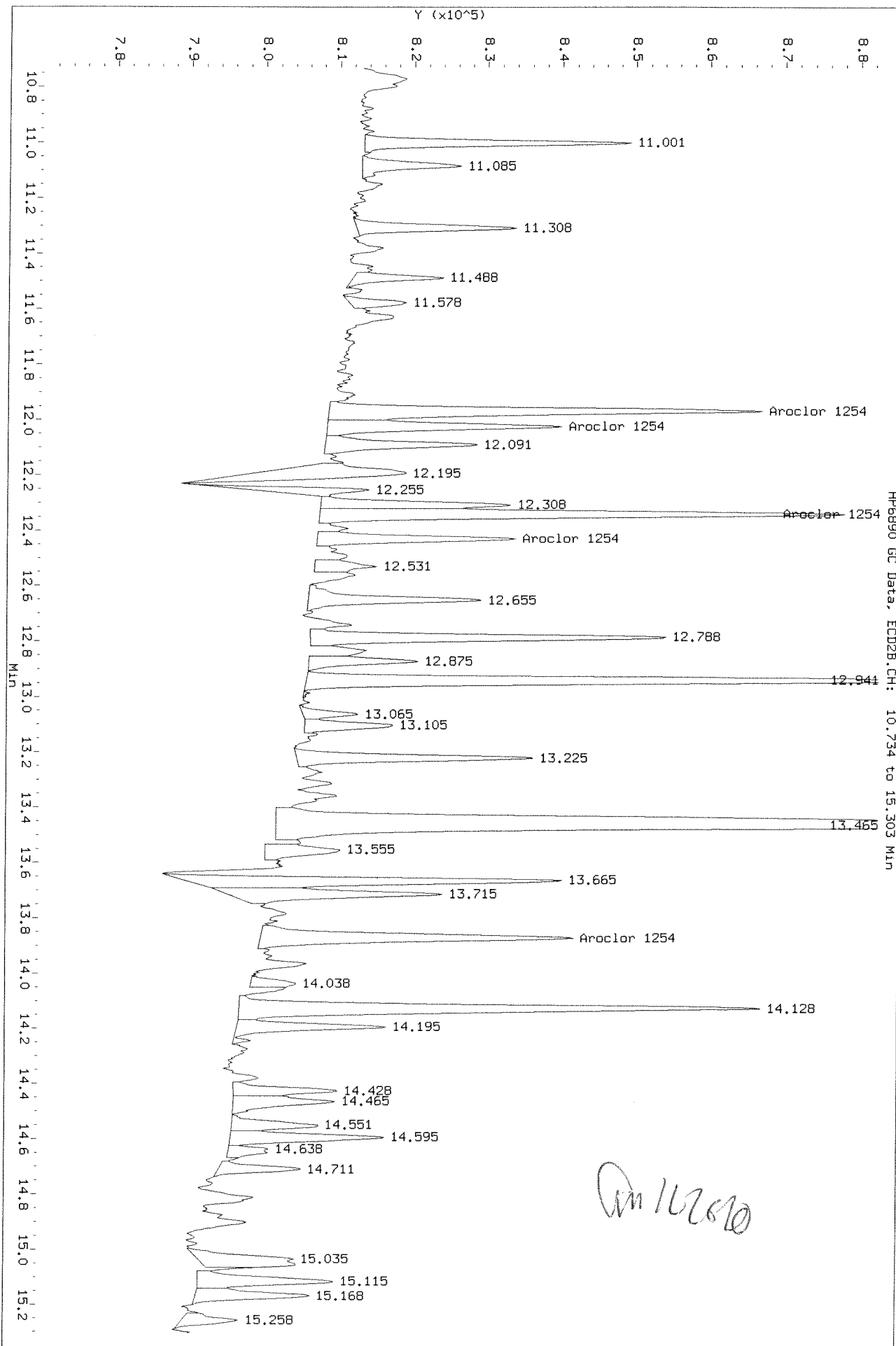
Before



Data File: \\naklsws003\jnstdata\GC27\Data\121720ICAL_r.b\1217F015.D
Injection Date: 18-DEC-2020 00:56
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20 ✓

Am 1/6/20



ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F016.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F016.D
Inj Date : 18-DEC-2020 01:27
Sample Info: PCB8-65C 2154 5-10PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 2154.sub
Sub List #2 : 2154.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	7.283	8.323	217573	73981	10.6	9.92	80.00- 120.00	100.00 (M)
	7.520	8.477	148726	78974	10.5	10.3	51.27- 76.90	68.36 (M)
	7.680	8.660	552240	293848	11.0	11.0	190.41- 285.62	253.82 (M)
	Average of Peak Amounts =				10.7	10.4		
Aroclor 1254	11.433	11.970	232745	252665	5.68	5.57	80.00- 120.00	100.00 (M)
	12.043	12.023	685368	129310	5.45	5.31	244.22- 366.32	294.47 (M)
	12.287	12.343	315040	295435	5.19	5.68	115.71- 173.56	135.36 (M)
	12.380	12.433	395780	118667	5.31	5.41	147.40- 221.10	170.05 (M)
	13.137	13.873	490358	200795	5.39	5.31	167.70- 251.55	210.68 (M)
Average of Peak Amounts =				5.40	5.46			

QC Flag Legend

M - Compound response manually integrated.

Am 12/26/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F016.D

Date : 18-DEC-2020 01:27

Client ID:

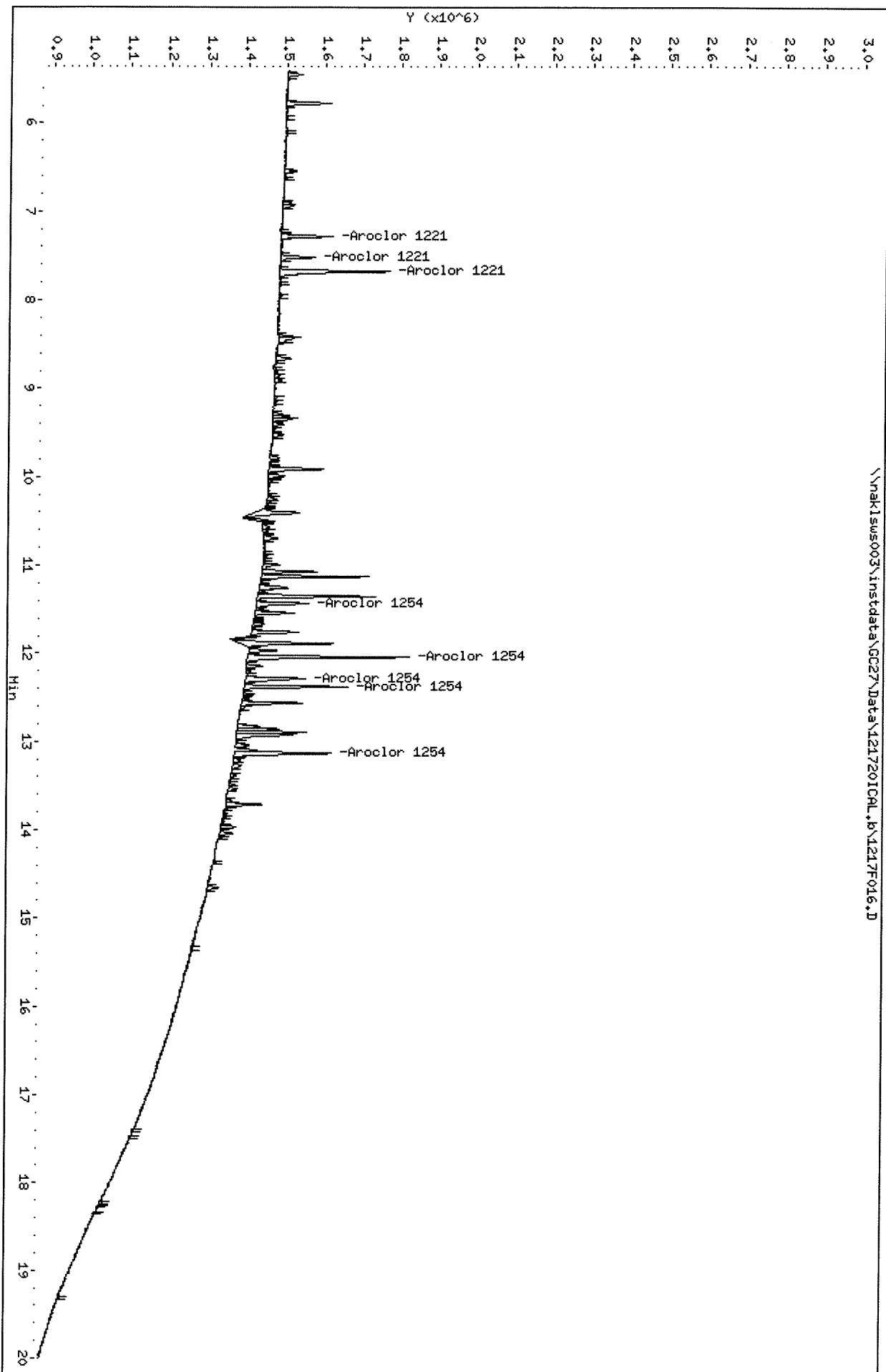
Sample Info: PCB8-65C 2154 5-10PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\1217201CAL_r.b\1217F016.D
Date : 18-DEC-2020 01:27

Client ID:

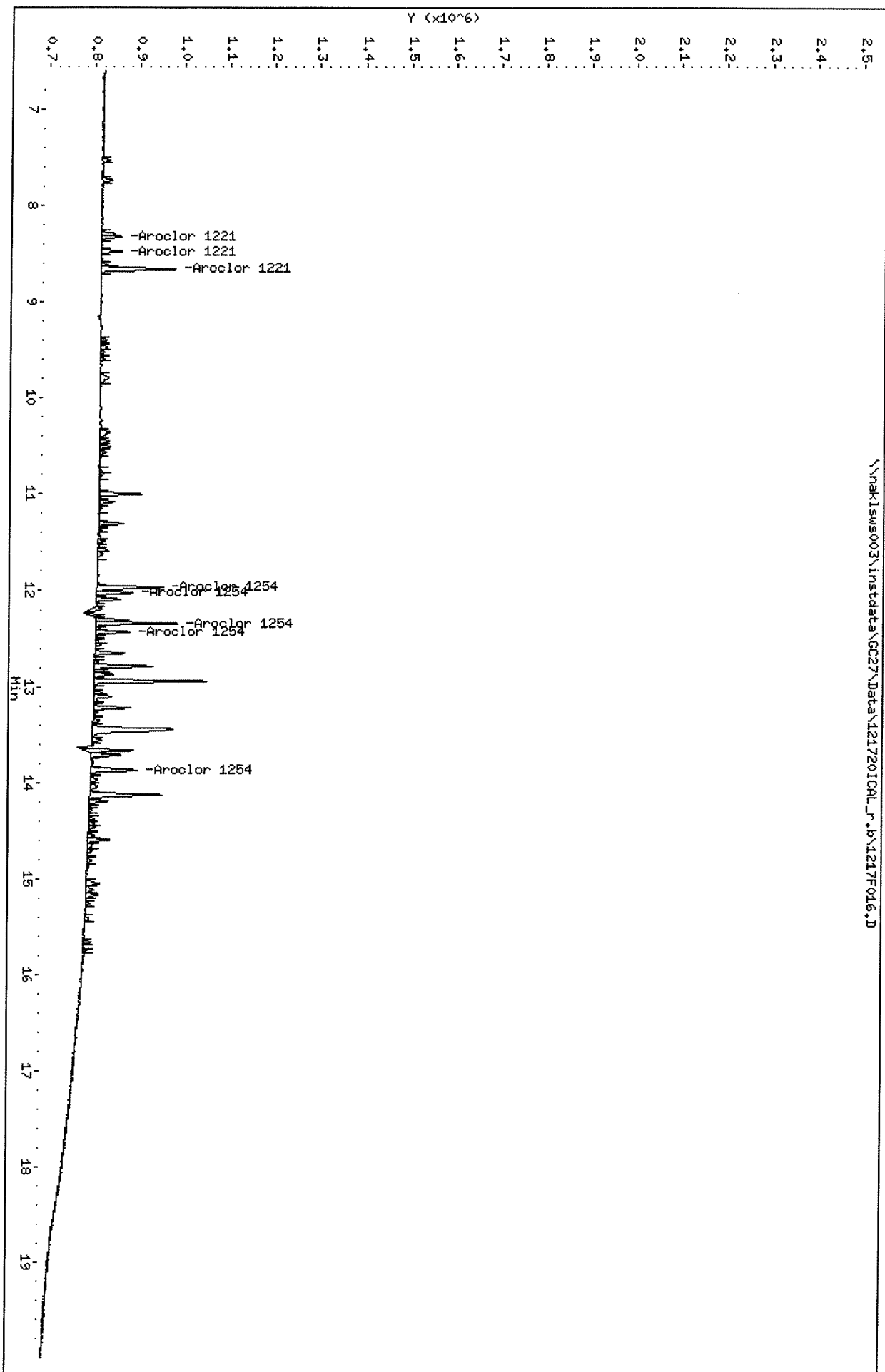
Sample Info: PCB8-65C 2154 5-10PPB

Column phase: DB-XLB

Instrument: GC27.i

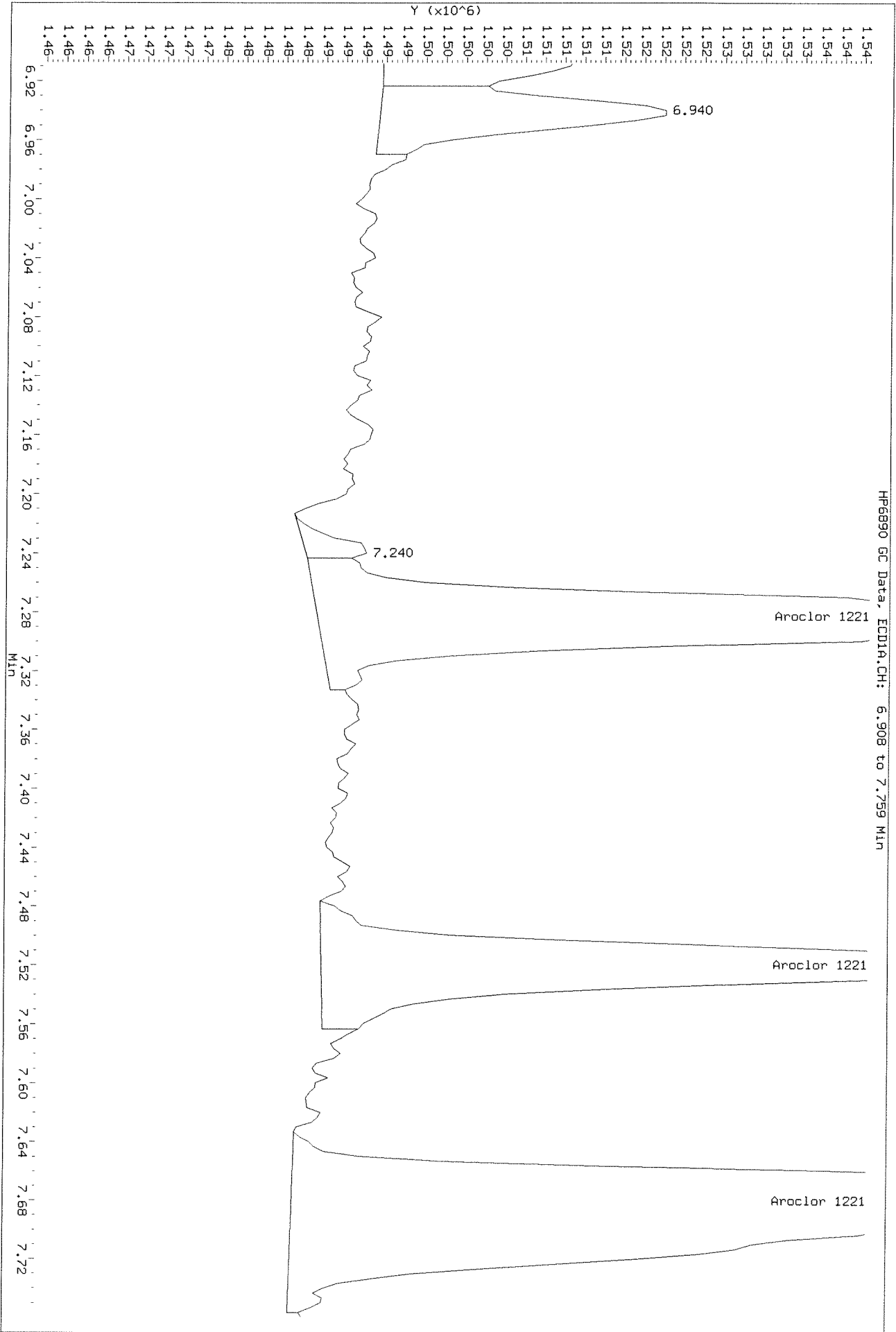
Operator: SAA

Column diameter: 0.32



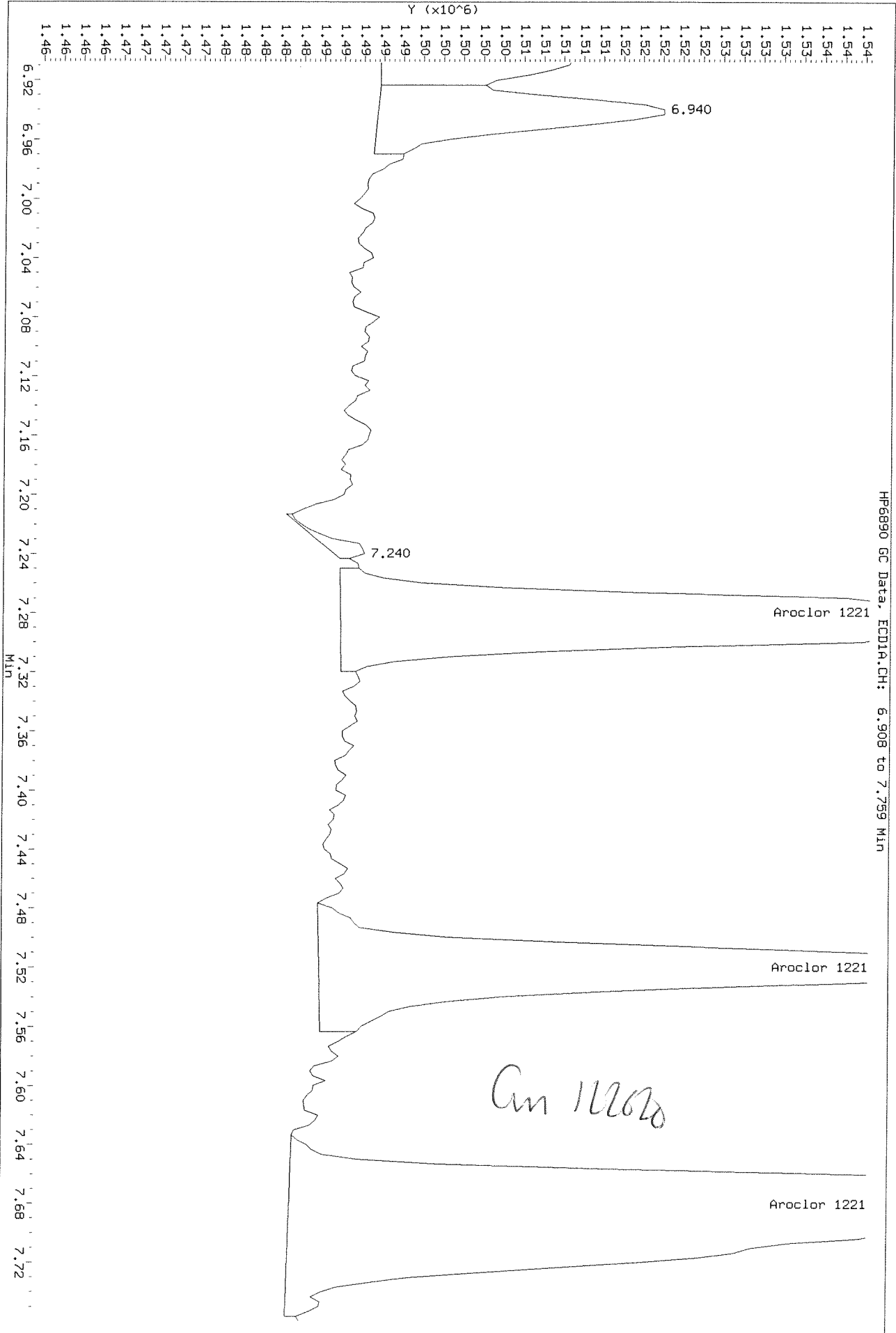
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F016.D
Injection Date: 18-DEC-2020 01:27
Instrument: GC27.1
Client Sample ID:

Before



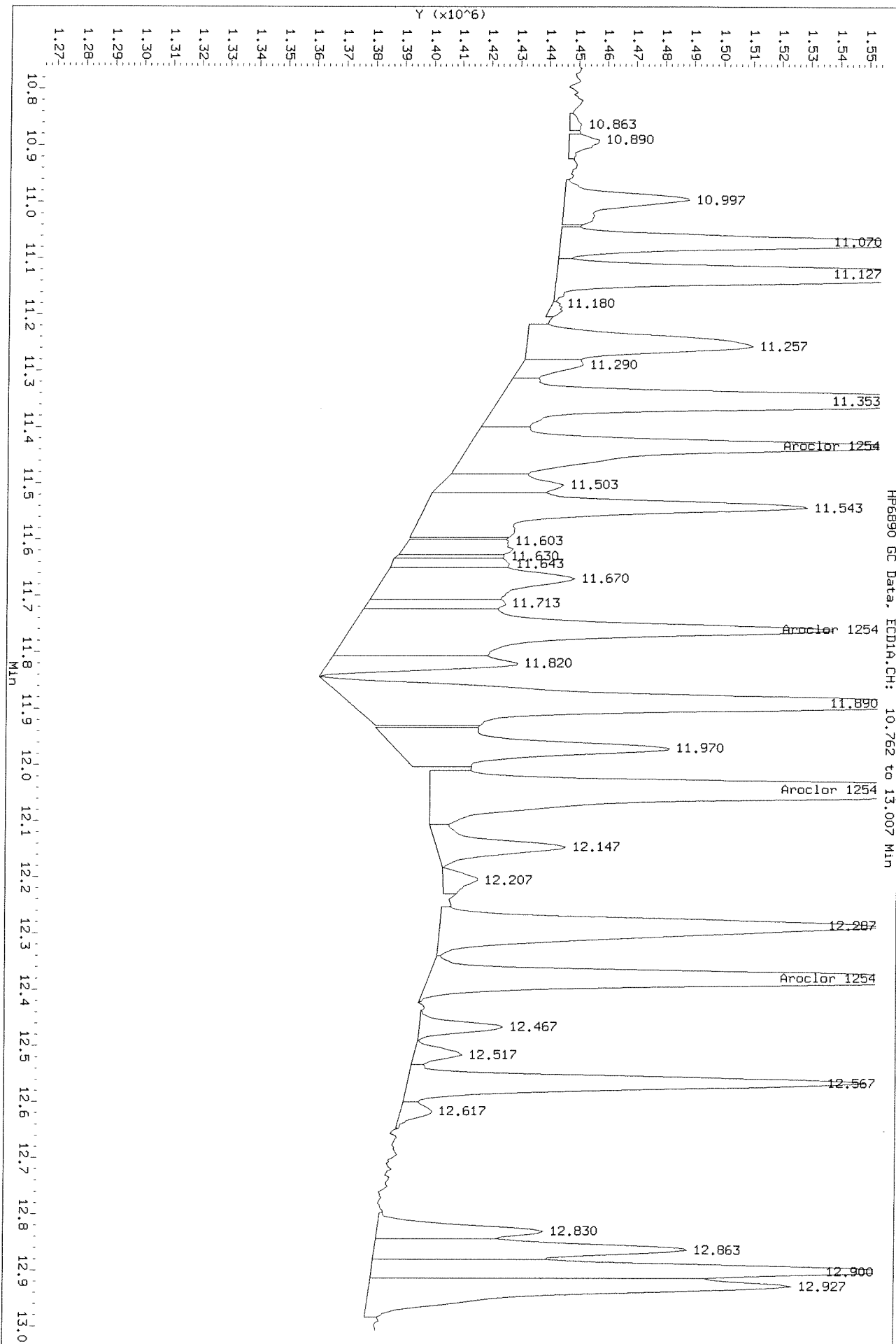
Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F016.D
Injection Date: 18-DEC-2020 01:27
Instrument: GC27.1
Client Sample ID:

After baseline should be 12/23/20 at



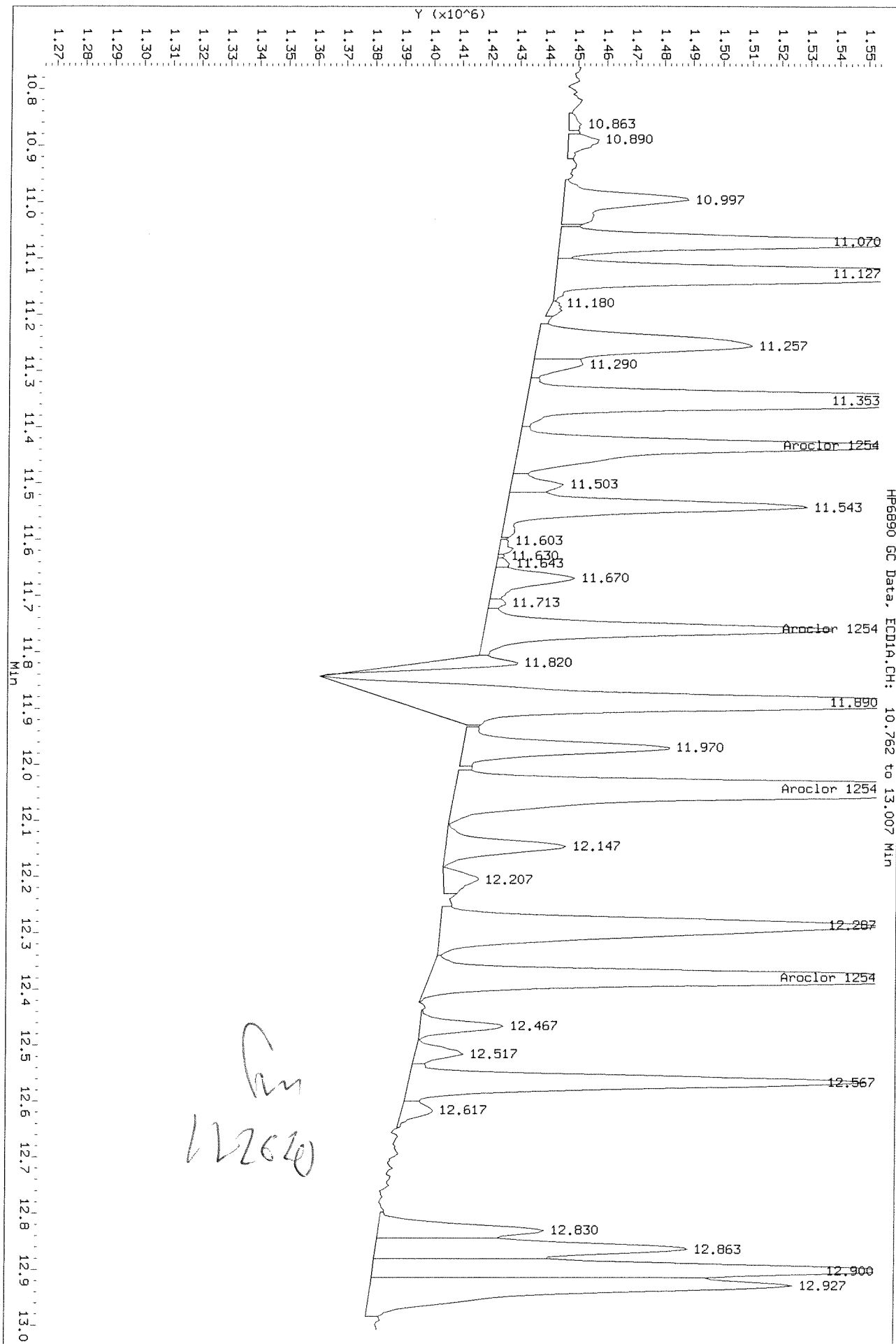
Data File: \\naklsws003\jnstdata\GC27\Data\121720ICL.b\1217F016.D
Injection Date: 18-DEC-2020 01:27
Instrument: GC27.1
Client Sample ID:

Before



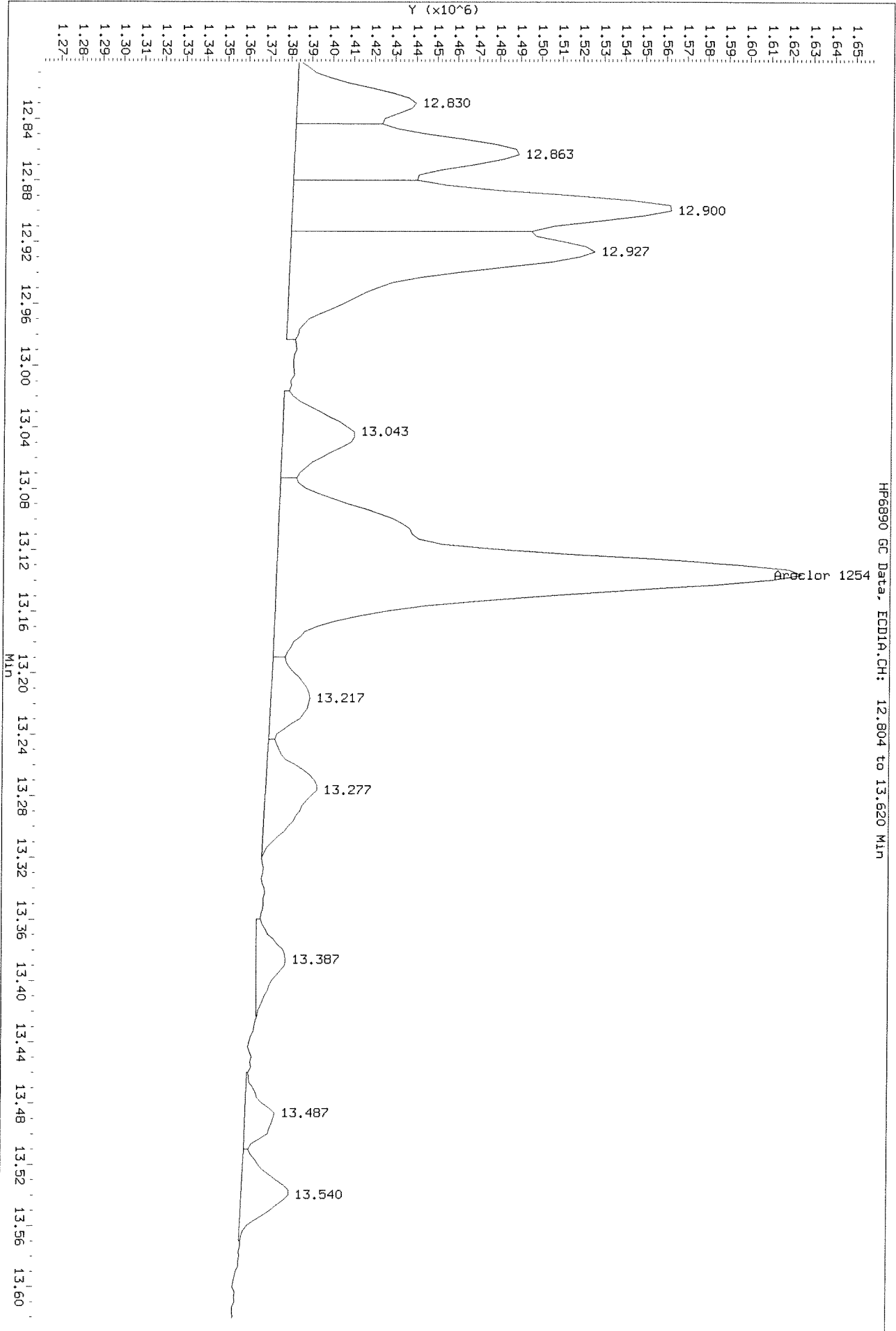
Data File: \\nakiw003\instdata\GC27\Data\121720ICL.b\1217F016.D
 Injection Date: 18-DEC-2020 01:27
 Instrument: GC27.1
 Client Sample ID:

After baseline 12/23/2014



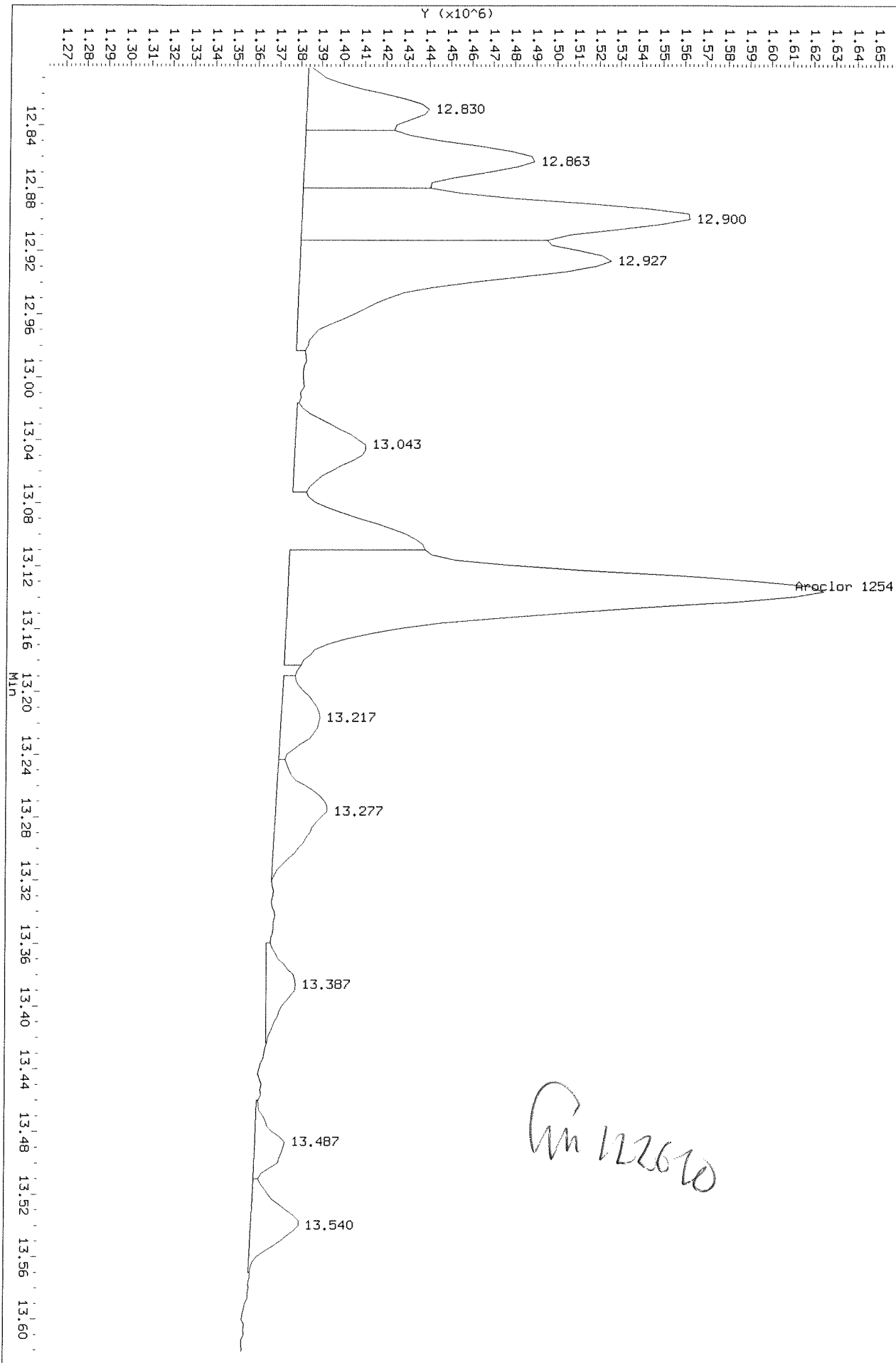
Data File: \\nakjsws003\instdata\GC27\Data\121720ICL.b\1217F016.D
Injection Date: 18-DEC-2020 01:27
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakjsws003\instdata\GC27\Data\1217201CAL.b\1217F016.D
Injection Date: 18-DEC-2020 01:27
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 12.804 to 13.620 Min

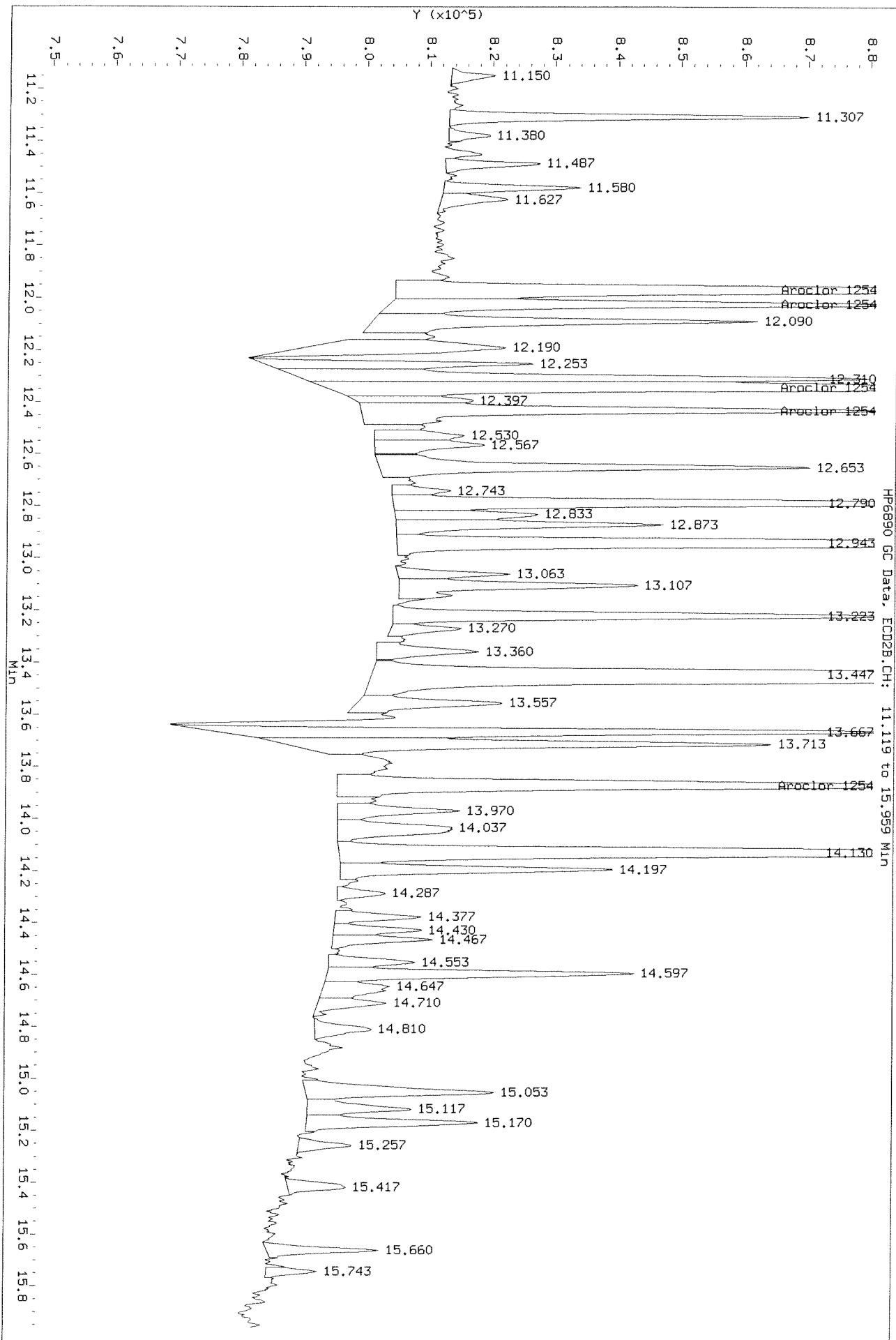


After shoulder 12/28/20

12/28/20

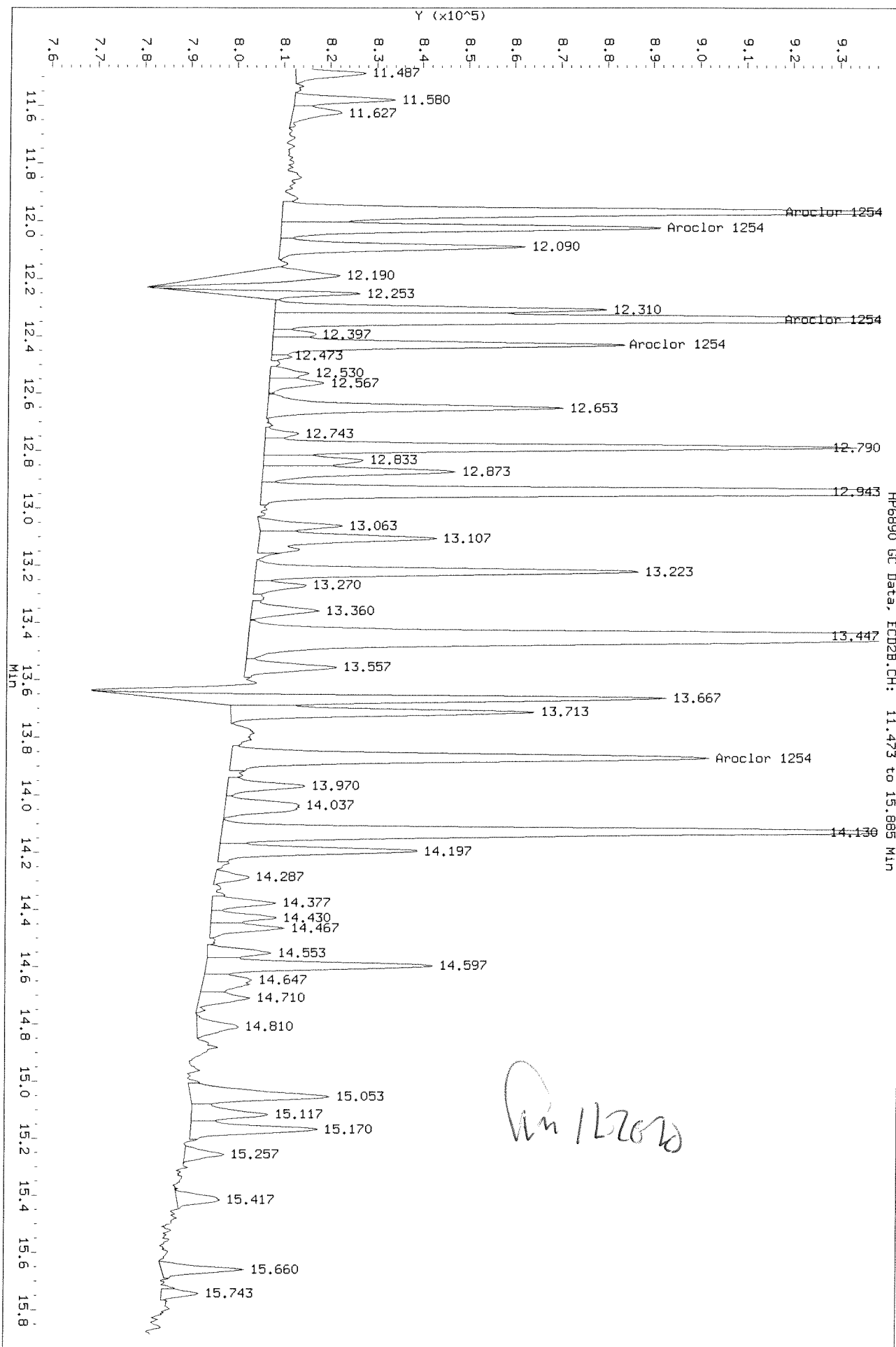
Data File: \\nakls003\instdata\GC27\Data\1217201CAL_r.b\1217F016.D
Injection Date: 18-DEC-2020 01:27
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsms003\instdata\GC27\Data\121720ICaL_r.b\1217F016.D
Injection Date: 18-DEC-2020 01:27
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2024



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F017.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F017.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F017.D
Inj Date : 18-DEC-2020 01:58
Sample Info: PCB8-65B 2154 10-20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 2154.sub
Sub List #2 : 2154.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	7.283	8.323	430699	144503	21.0	19.4	80.00- 120.00	100.00
	7.520	8.477	293858	154030	20.8	20.2	51.27- 76.90	68.23
	7.680	8.660	1039347	575018	20.6	21.6	190.41- 285.62	241.32
	Average of Peak Amounts =				20.8	20.4		
Aroclor 1254	11.433	11.967	423371	489694	10.3	10.8	80.00- 120.00	100.00
	12.043	12.023	1280418	250584	10.2	10.3	244.22- 366.32	302.43
	12.286	12.343	616845	567341	10.2	10.9	115.71- 173.56	145.70
	12.380	12.430	775240	232685	10.4	10.6	147.40- 221.10	183.11
	13.136	13.873	878739	390390	9.67	10.3	167.70- 251.55	207.56
	Average of Peak Amounts =				10.2	10.6		

Jim
12/23/20

SA 12/23/20

Data File: \\maklsus003\instdata\GC27\Data\121720ICAL.b\1217F017.D
Date : 18-DEC-2020 01:58

Client ID:

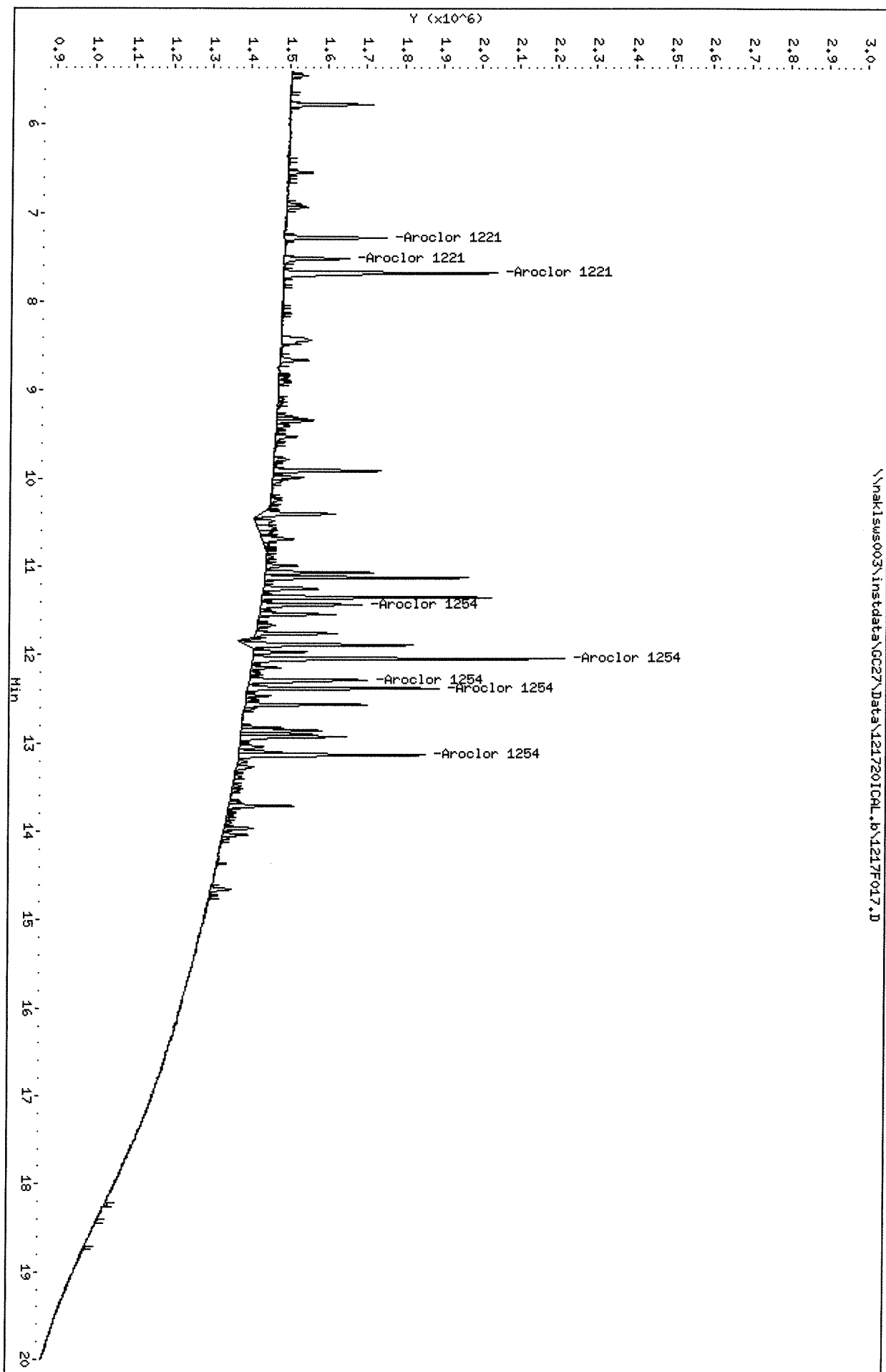
Sample Info: PCB8-65B 2154 10-20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL_r.b\1217F017.D

Date : 18-DEC-2020 01:58

Client ID:

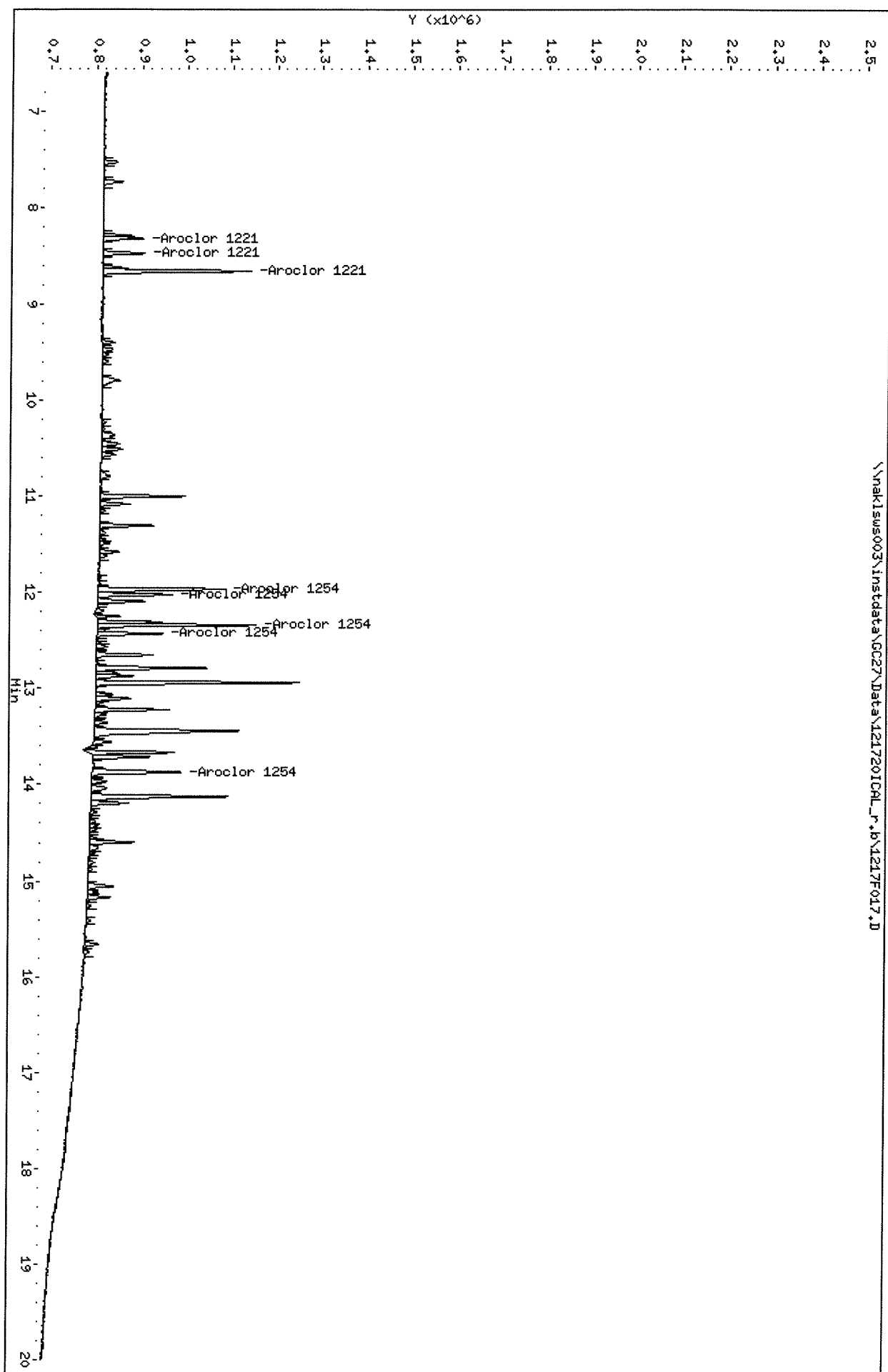
Sample Info: PCB8-65B 2154 10-20PPB

Column phase: DB-XLB

Instrument: GC27.i

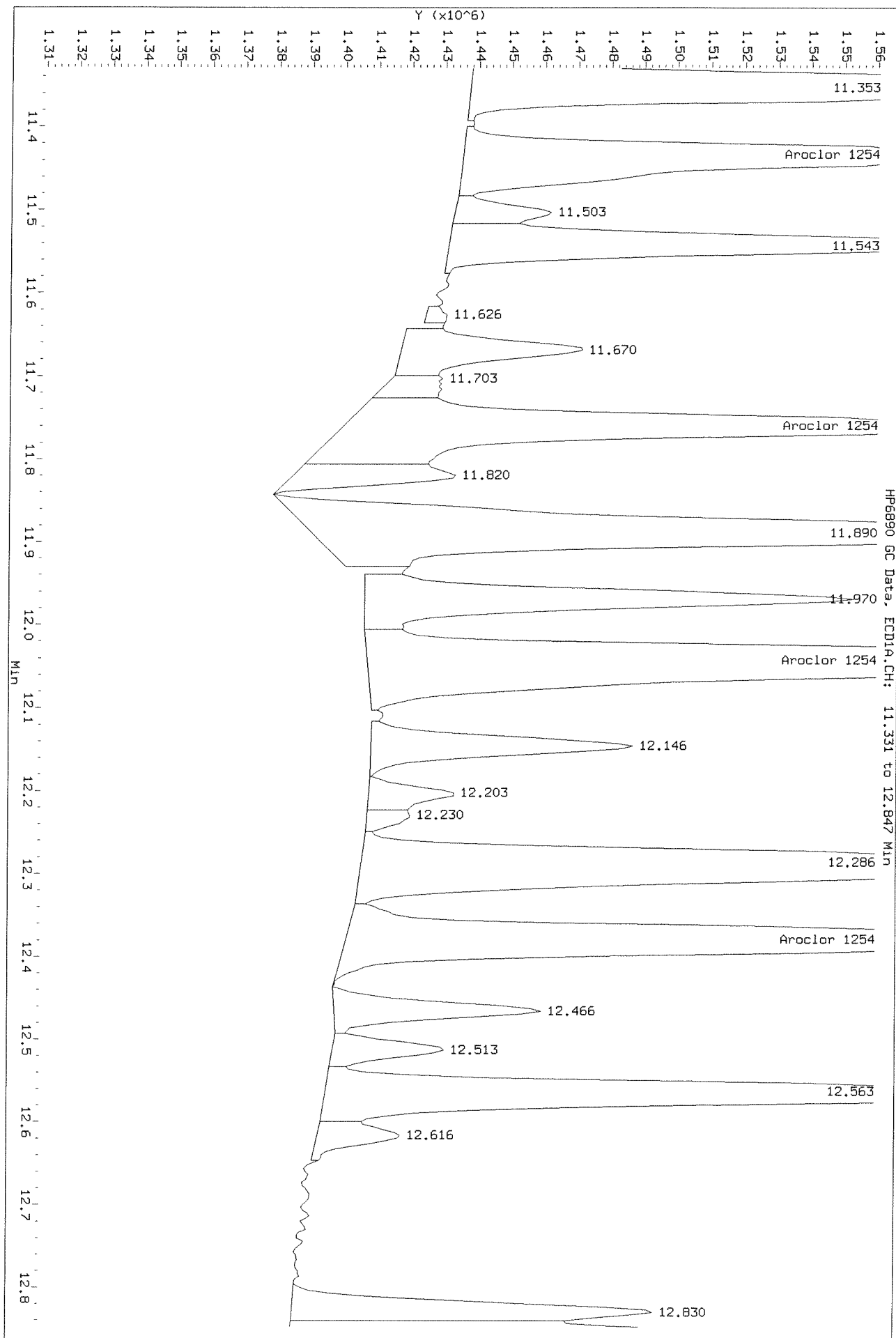
Operator: SAA

Column diameter: 0.32



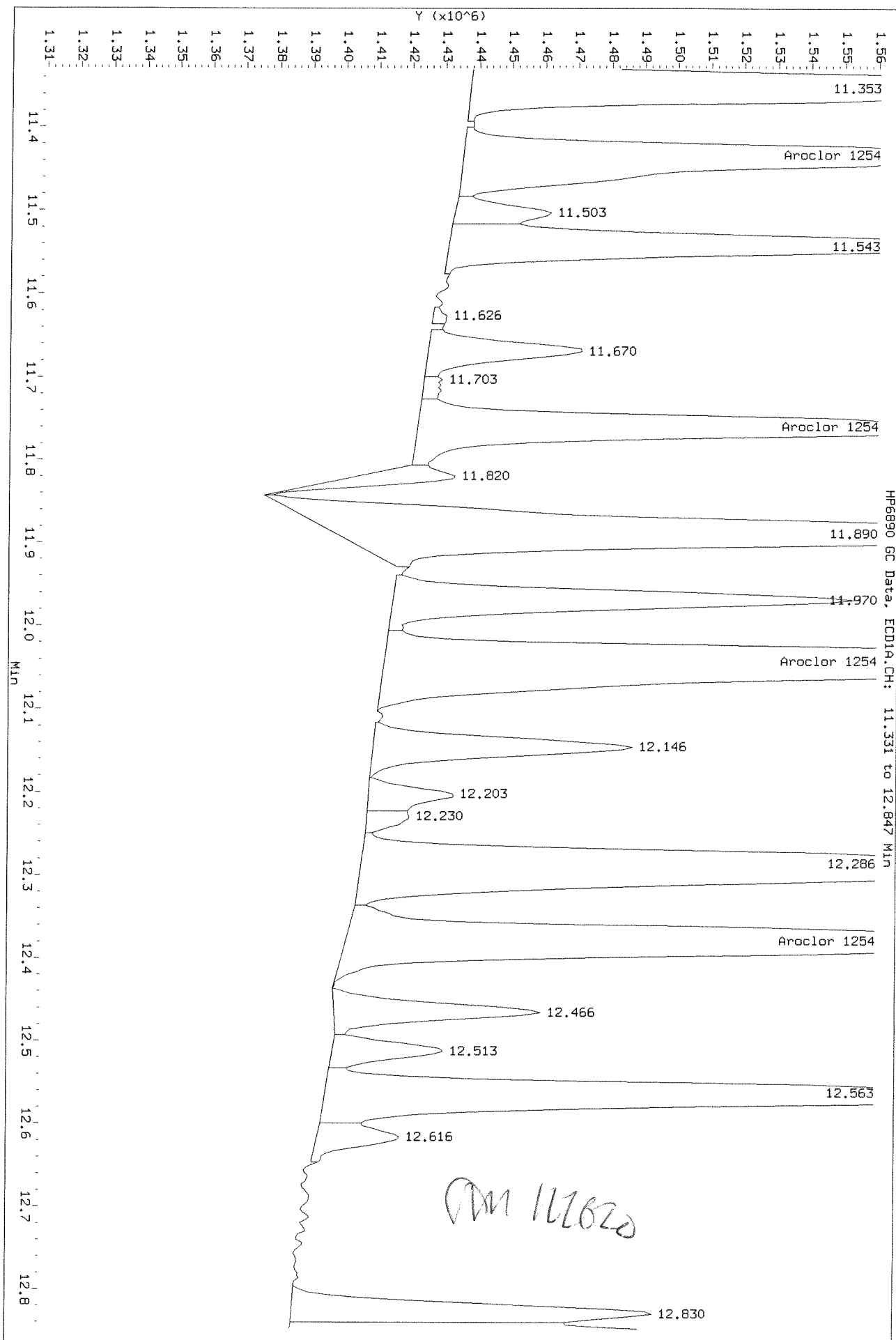
Data File: \\nakisw003\instdata\GC27\Data\1217201CAL.b\1217F017.D
Injection Date: 18-DEC-2020 01:58
Instrument: GC27.1
Client Sample ID:

Before



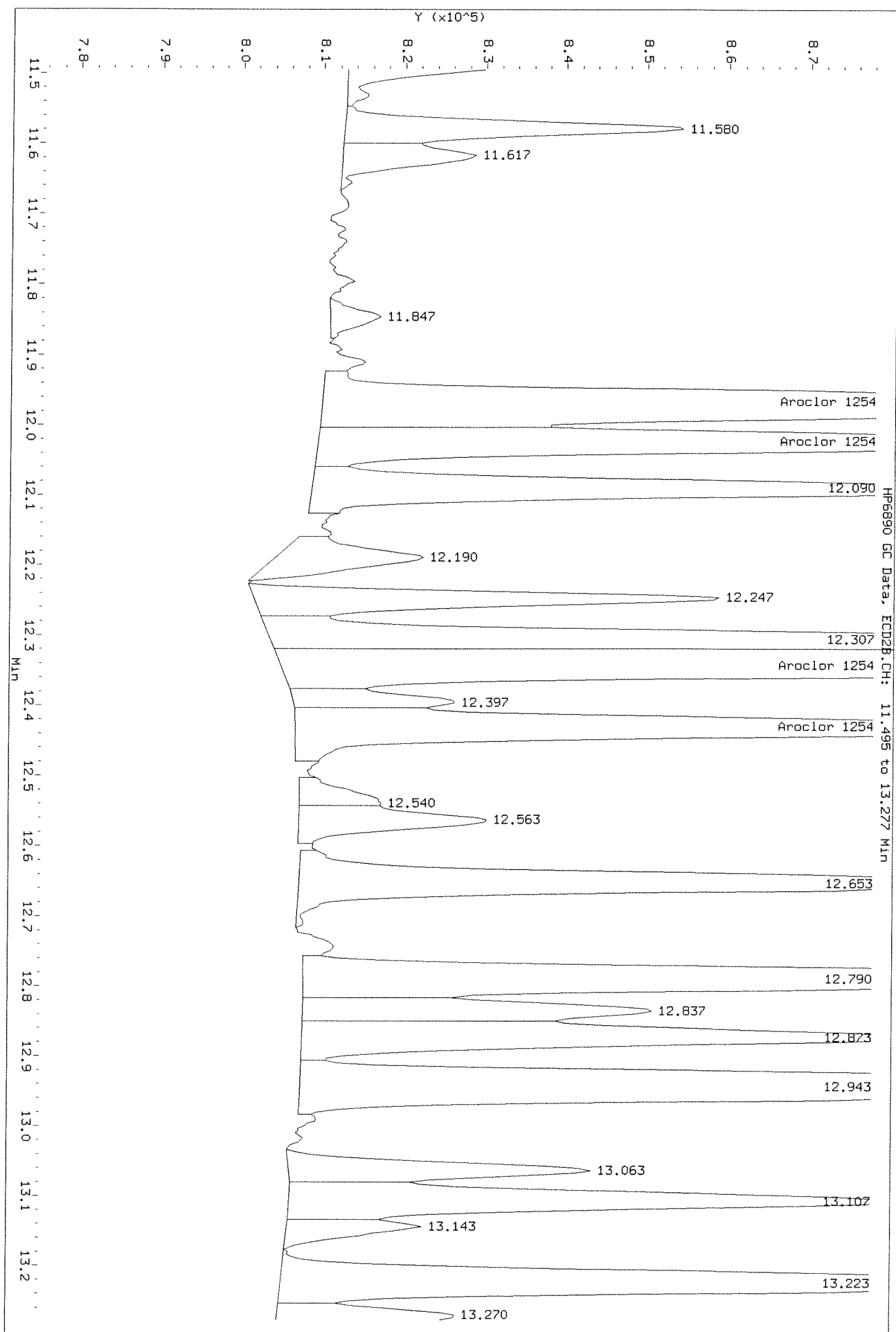
Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F017.D
Injection Date: 18-DEC-2020 01:58
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2020



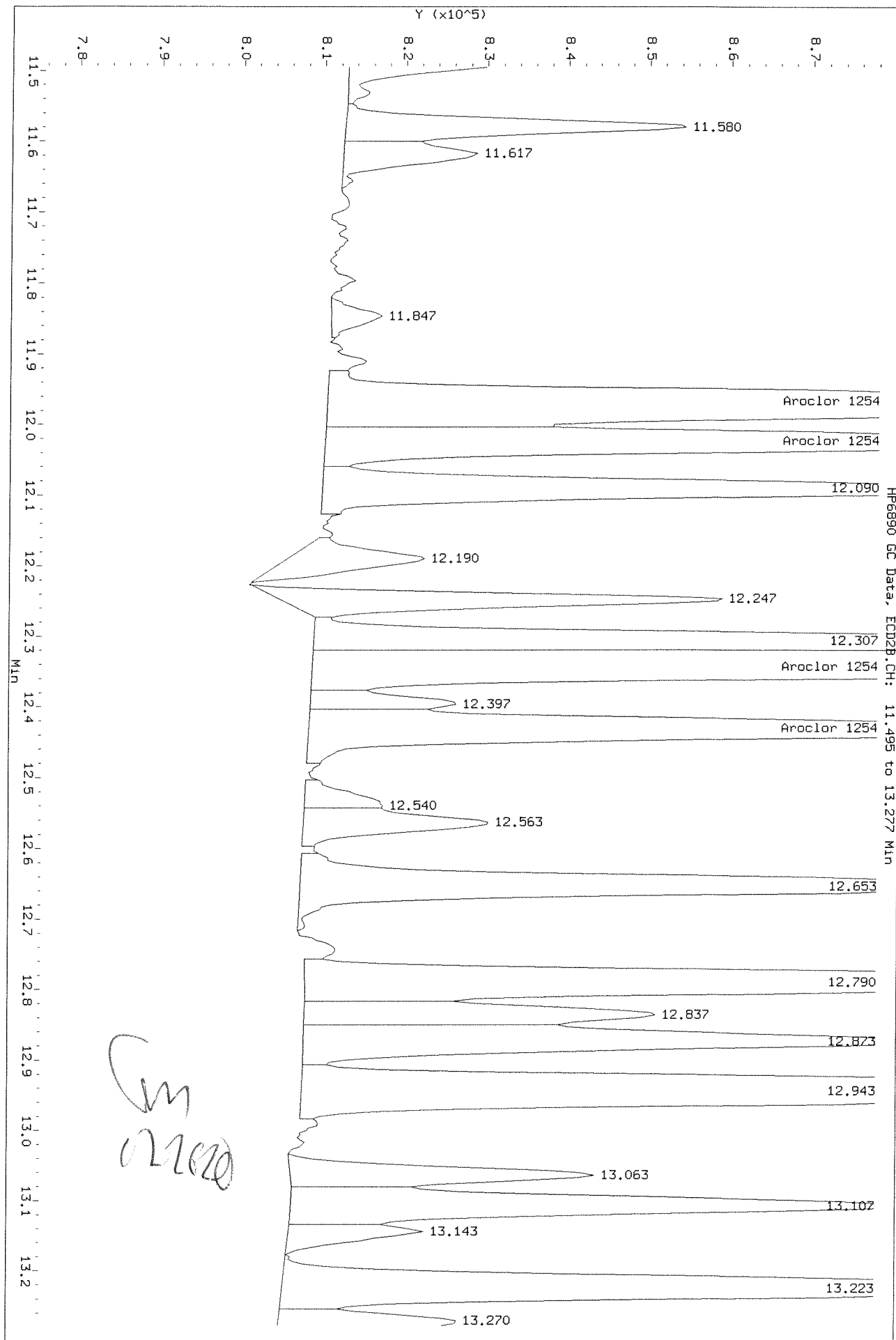
Data File: \\nakslw003\instdata\GC27\Data\121720ICAL_r.b\1217F017.D
Injection Date: 18-DEC-2020 01:56
Instrument: GC27.1
Client Sample ID:

Before



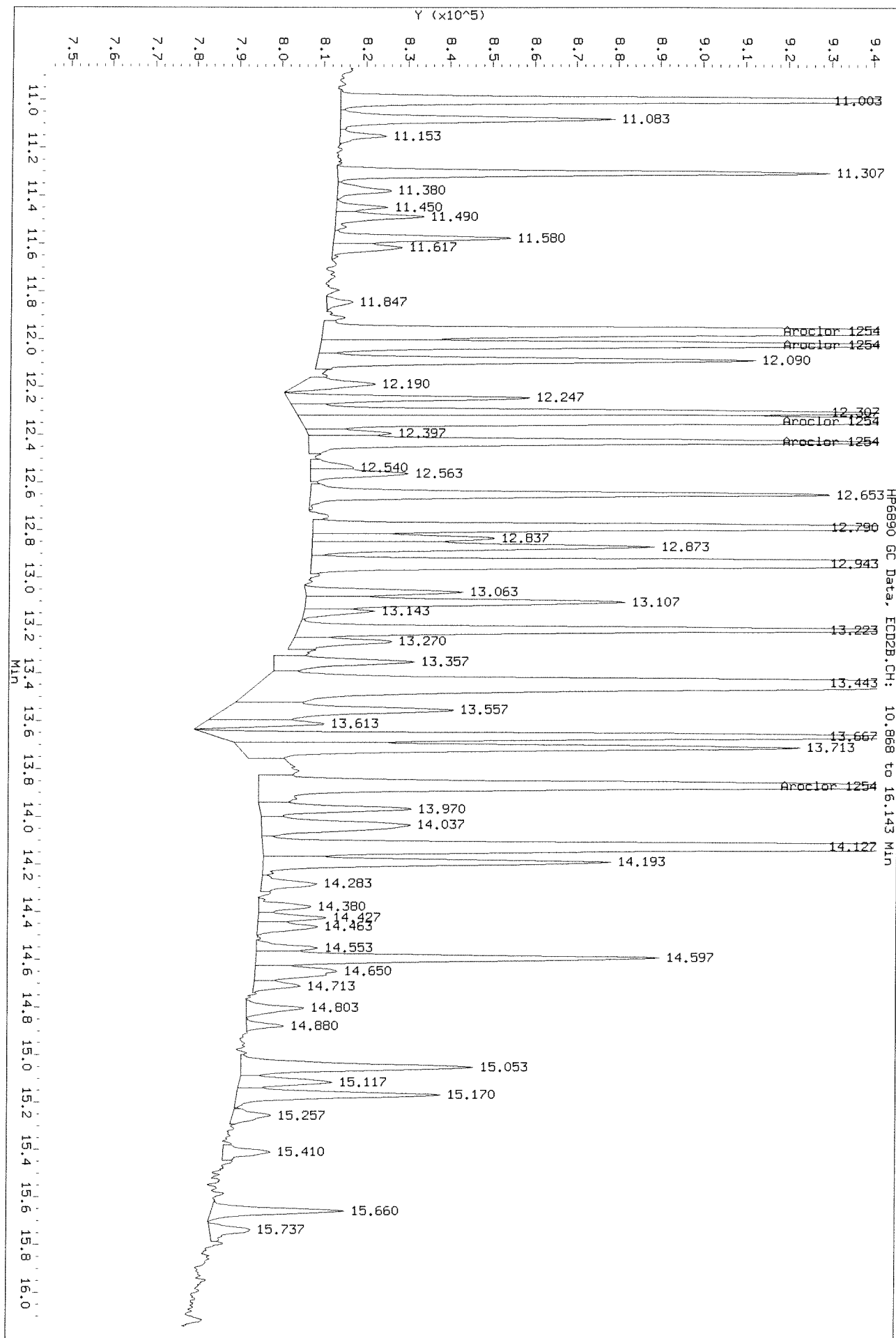
Data File: \\naklsus003\instdata\GC27\Data\121720ICAL_r.b\1217F017.D
Injection Date: 18-DEC-2020 01:58
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20

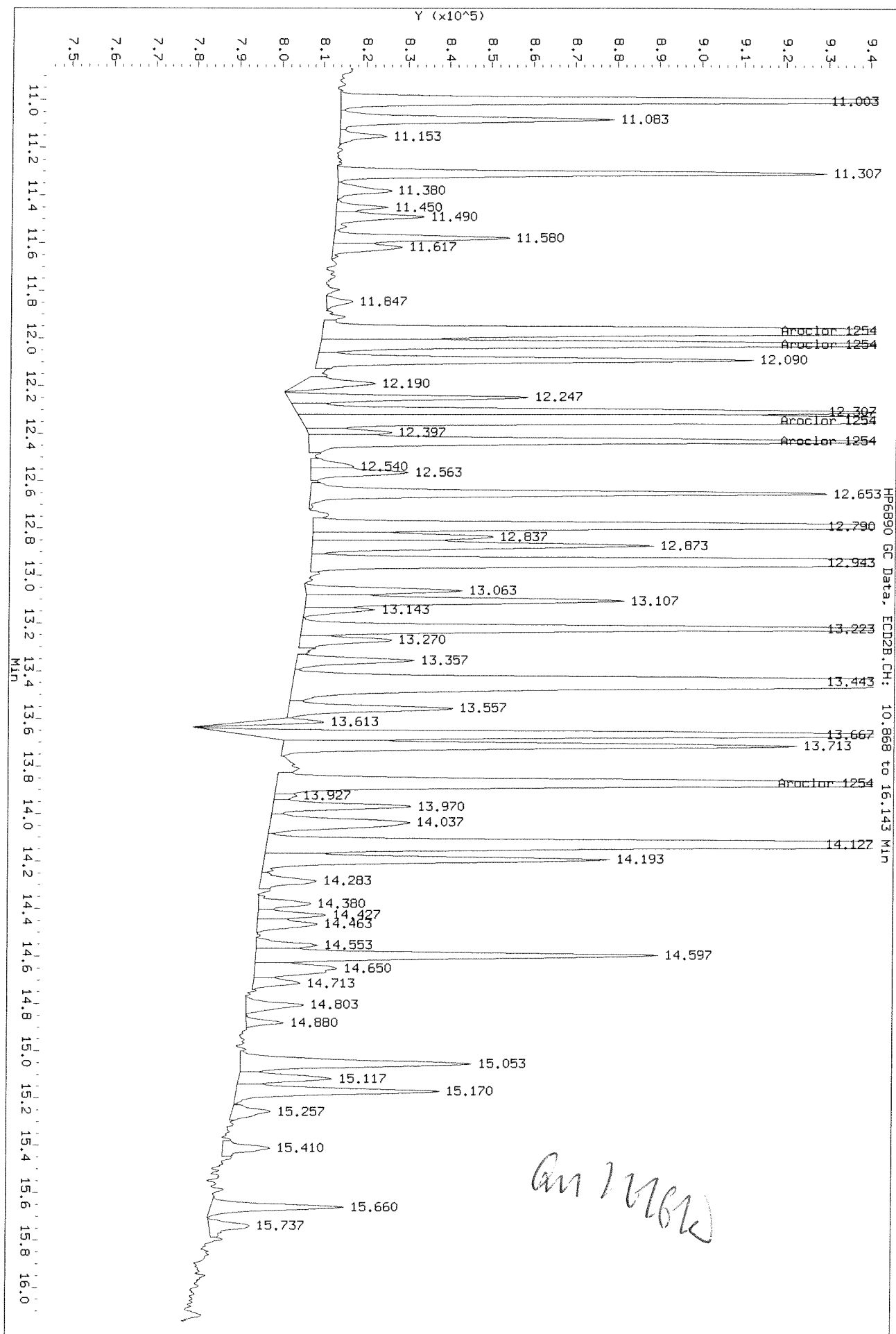


Data File: \\naklsws003\instdata\GC27\Data\1217201CAL_r.b\1217F017.D
Injection Date: 18-DEC-2020 01:58
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naksls003\instdata\GC27\Data\1217201CAL_r.b\1217F017.D
Injection Date: 18-DEC-2020 01:38
Instrument: GC27.1
Client Sample ID:



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F018.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F018.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F018.D
Inj Date : 18-DEC-2020 02:29
Sample Info: PCB8-64D 2154 20-40PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 2154.sub
Sub List #2 : 2154.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	7.283	8.323	807646	290423	39.4	38.9	80.00- 120.00	100.00
	7.519	8.476	516017	301879	36.6	39.6	51.27- 76.90	63.89
	7.679	8.659	1917824	1075016	38.1	40.3	190.41- 285.62	237.46
	Average of Peak Amounts =				38.0	39.6		
Aroclor 1254	11.436	11.969	805037	909160	19.7	20.0	80.00- 120.00	100.00 (M)
	12.043	12.026	2392011	480827	19.0	19.8	244.22- 366.32	297.13 (M)
	12.286	12.339	1154358	1057503	19.0	20.3	115.71- 173.56	143.39 (M)
	12.379	12.433	1425430	442422	19.1	20.2	147.40- 221.10	177.06 (M)
	13.136	13.873	1630092	719623	17.9	19.0	167.70- 251.55	202.49 (M)
	Average of Peak Amounts =				18.9	19.9		

QC Flag Legend

M - Compound response manually integrated.

W
12/23/20

SA 12/23/20

Data File: \\nak1s003\instdata\GC27\Data\121720ICAL.b\1217F018.D

Date : 18-DEC-2020 02:29

Client ID:

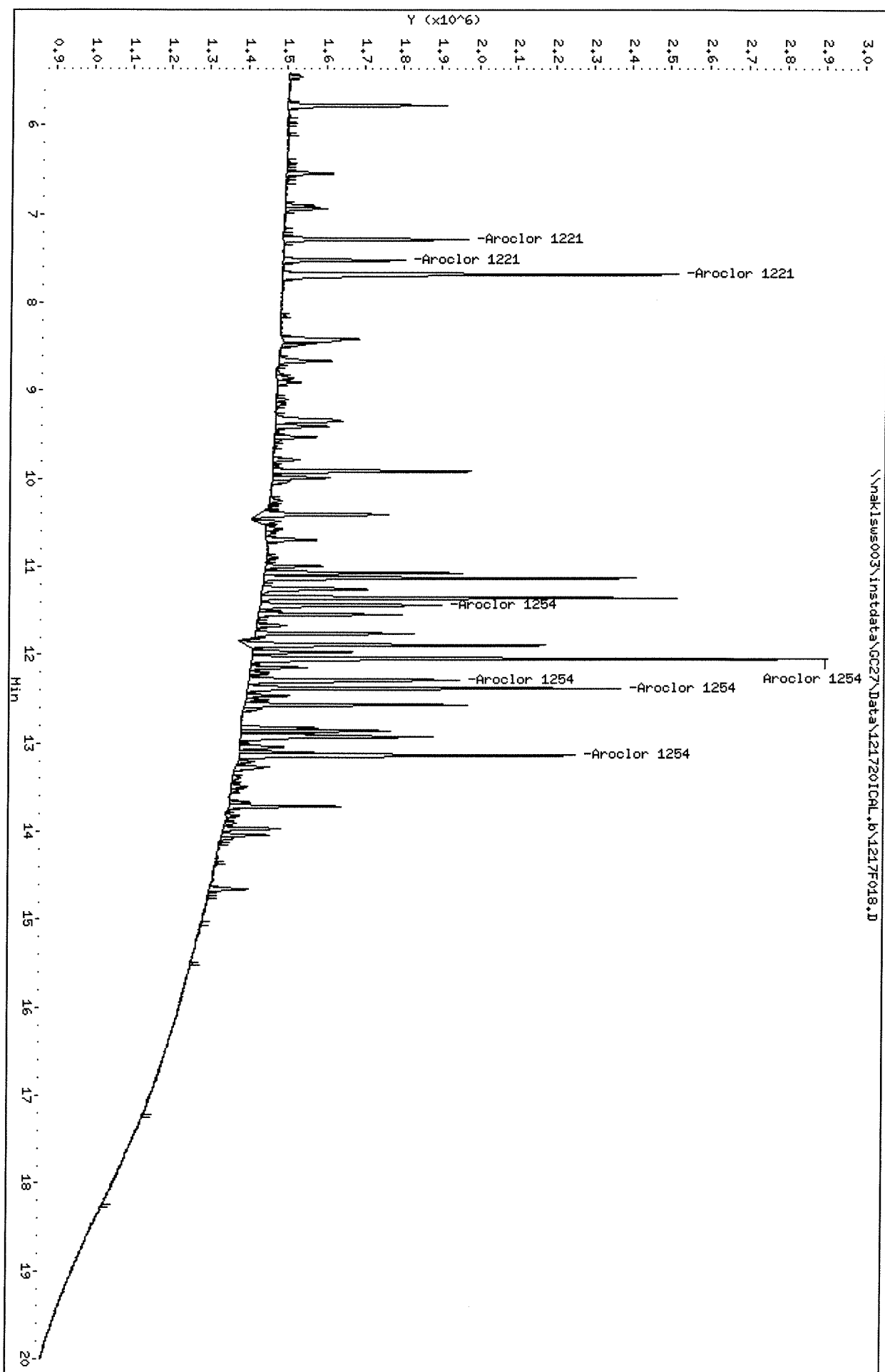
Sample Info: PCB8-64D 2154 20-40PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nakisus003\instdata\GC27\Data\121720IC1.r.b\1217F018.D

Date : 18-DEC-2020 02:29

Client ID:

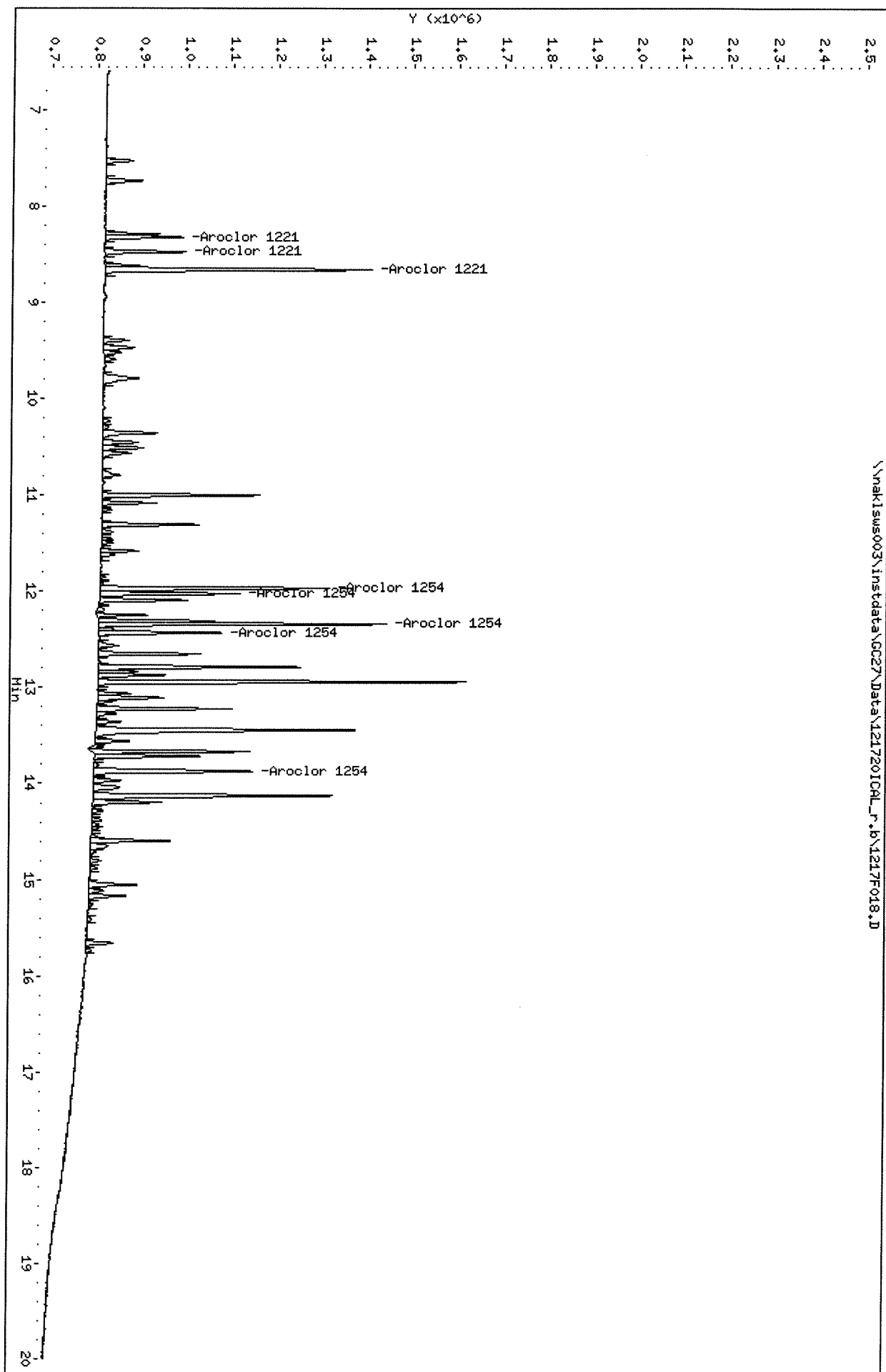
Sample Info: PCB8-64D 2154 20-40PPB

Column phase: DB-XLB

Instrument: GC27.1

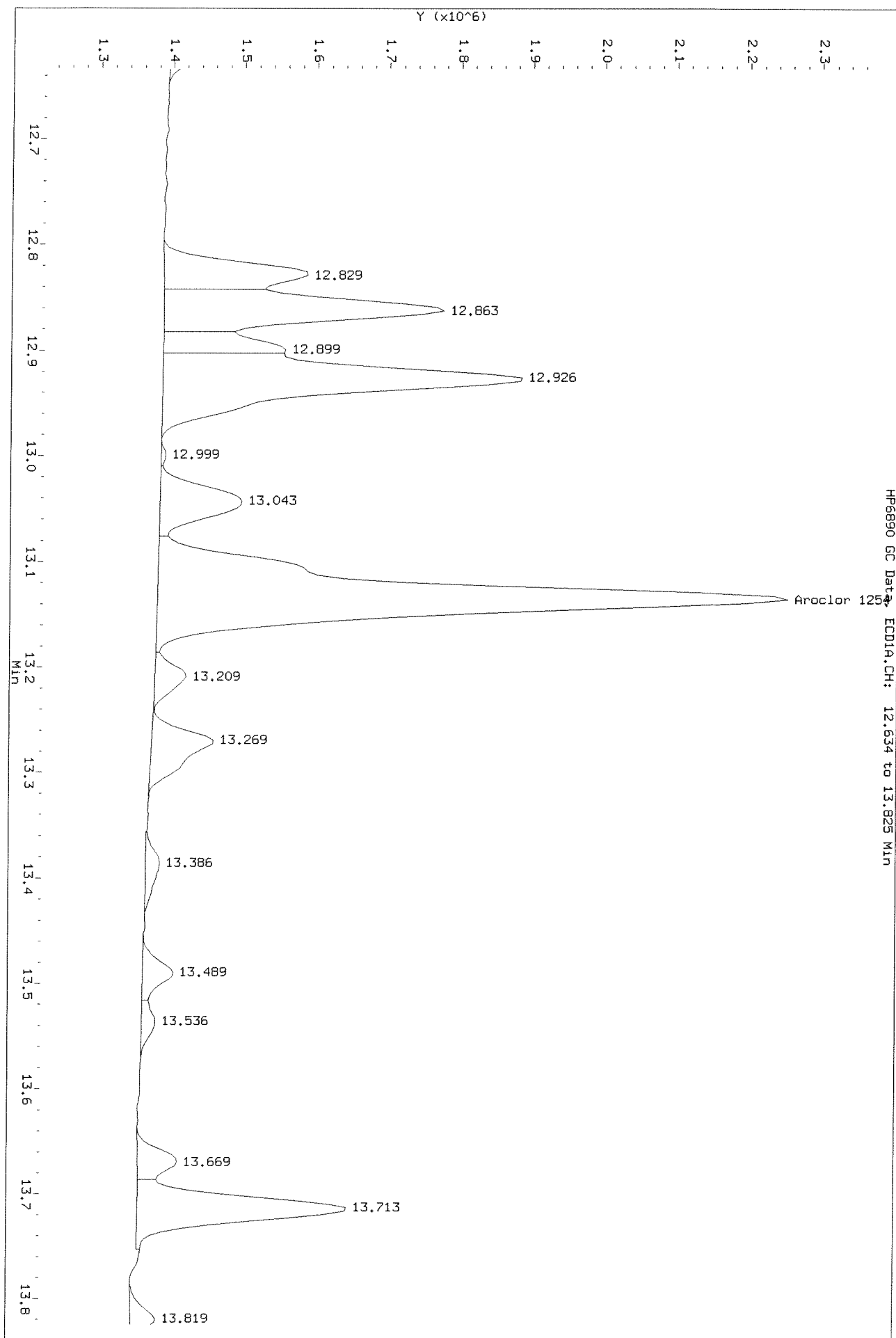
Operator: SAH

Column diameter: 0.32



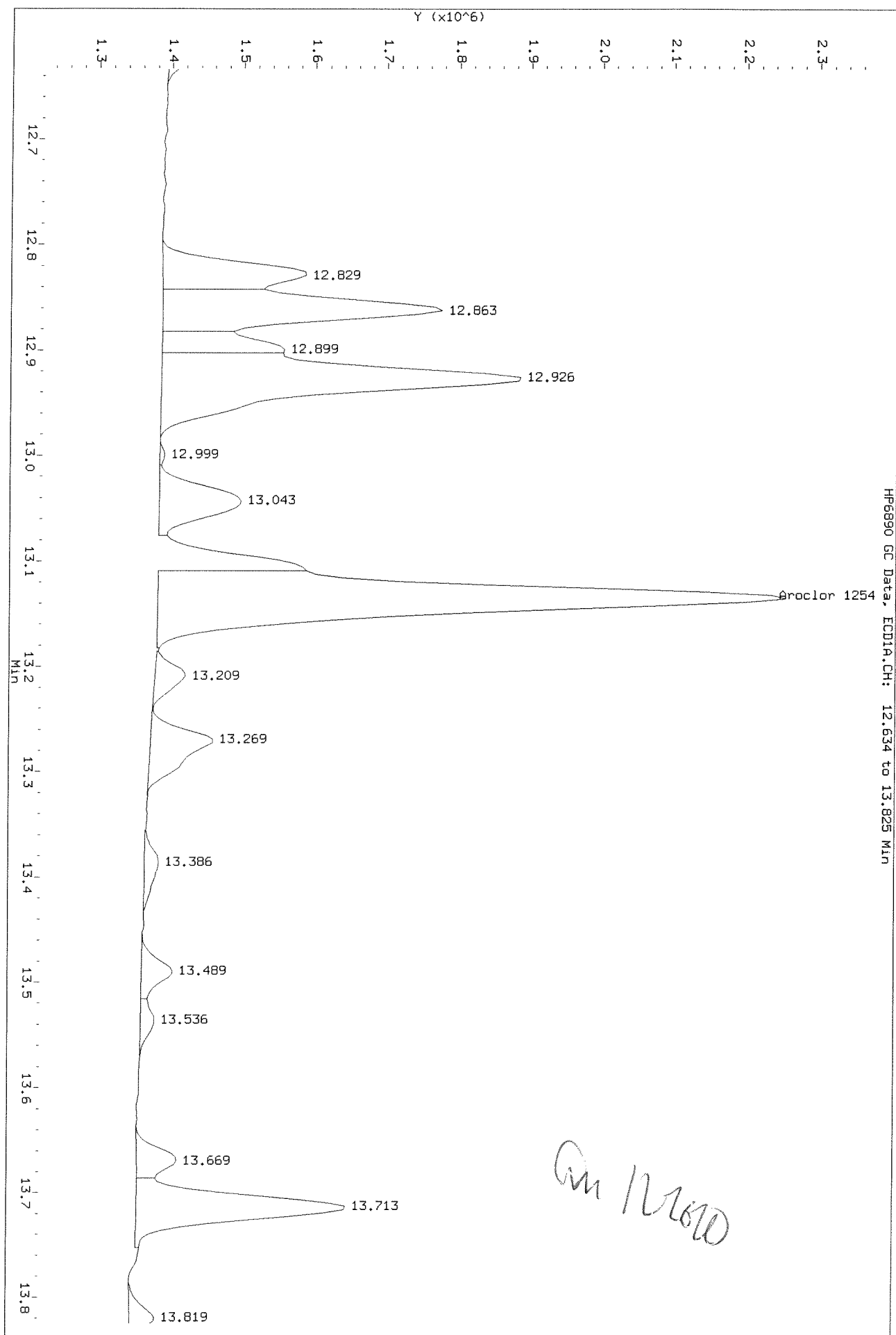
Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F018.D
Injection Date: 18-DEC-2020 02:29
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakjsws003\instdata\GC27\Data\1217201CAL.b\1217F016.D
Injection Date: 18-DEC-2020 02:29
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 12.634 to 13.825 Min

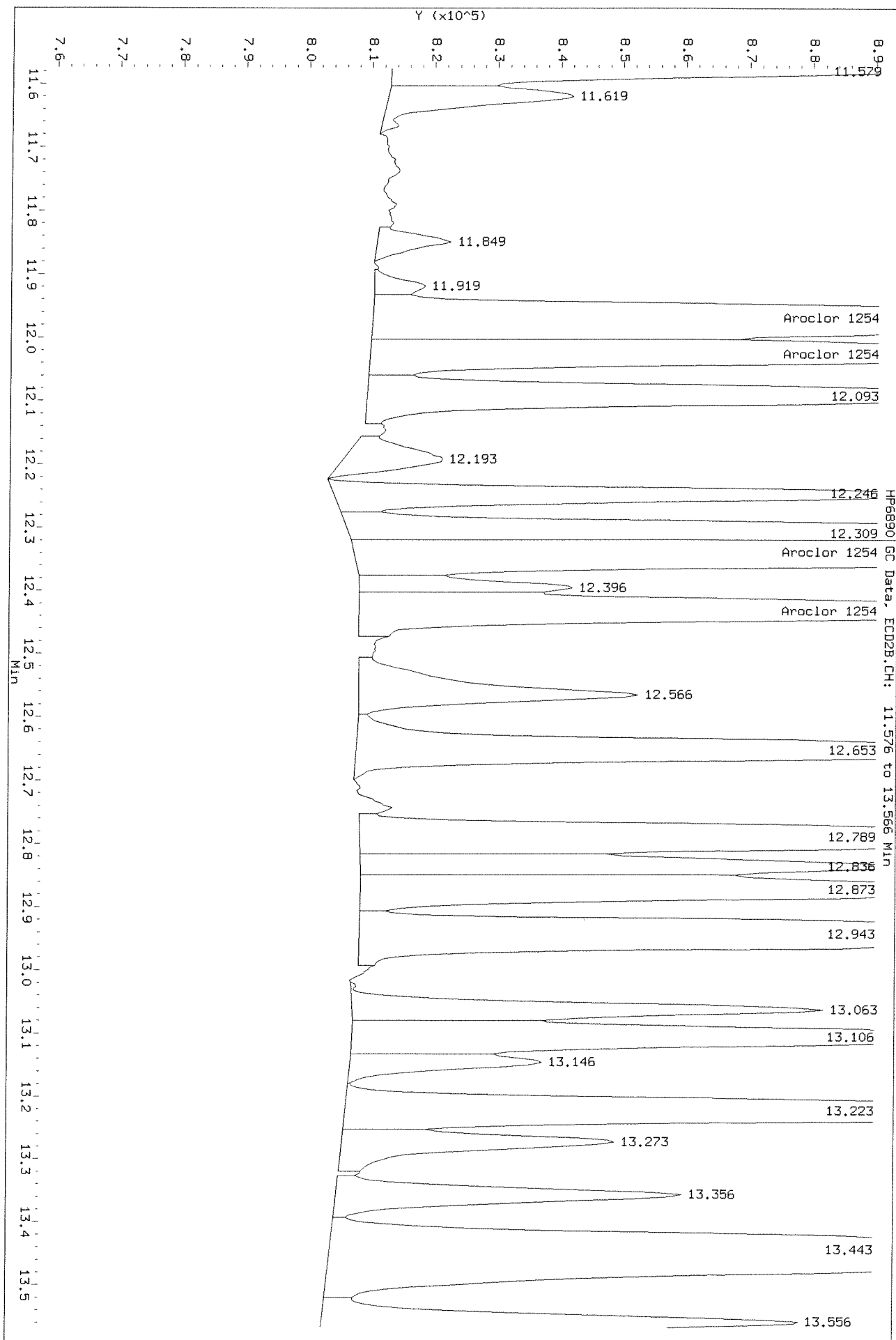


After shoulder 12/23/20

Am 12/26/20

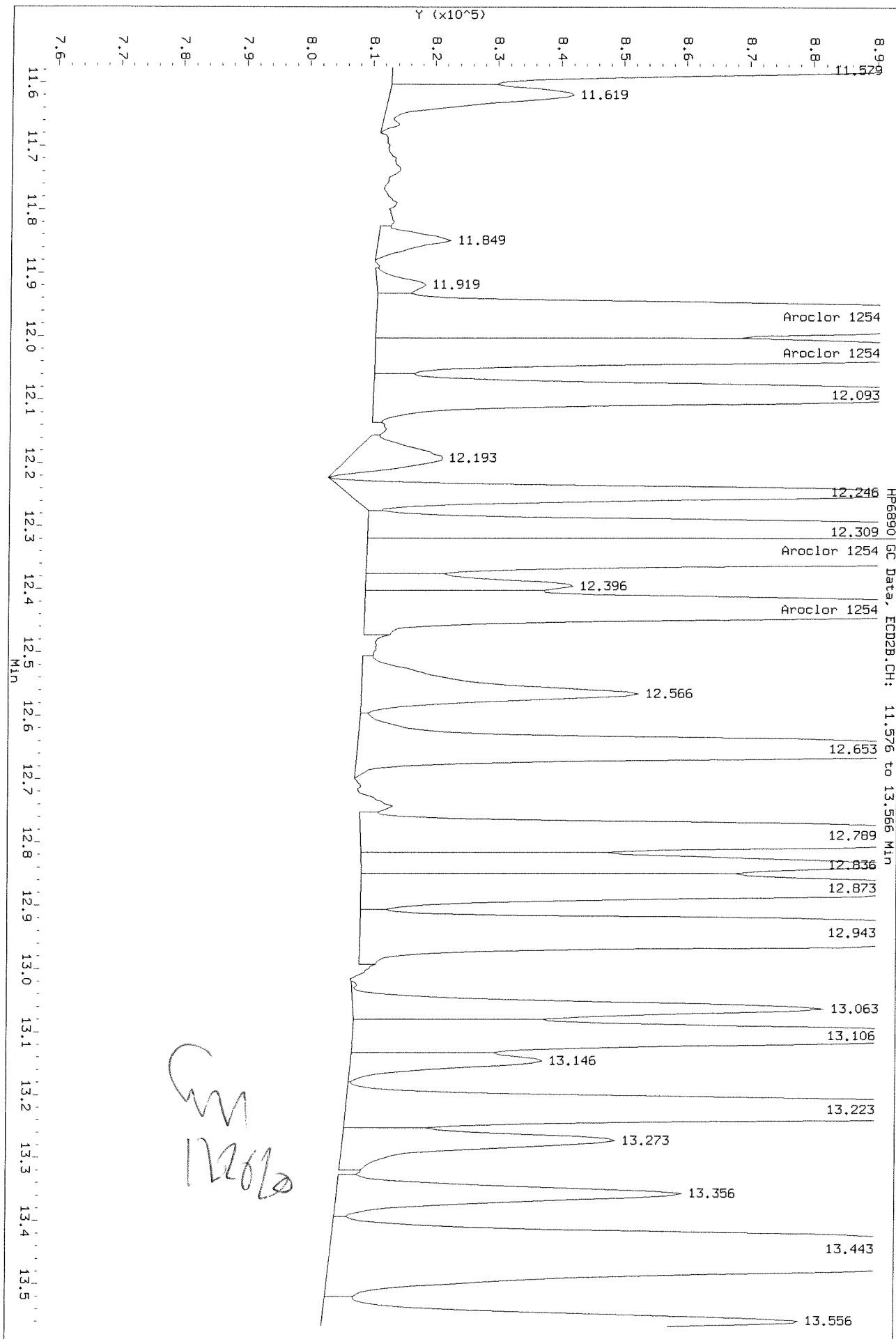
Data File: \\naklsms003\instdata\GC27\Data\121720ICAL_r.b\1217F018.D
Injection Date: 18-DEC-2020 02:29
Instrument: GC27.1
Client Sample ID:

Be fore



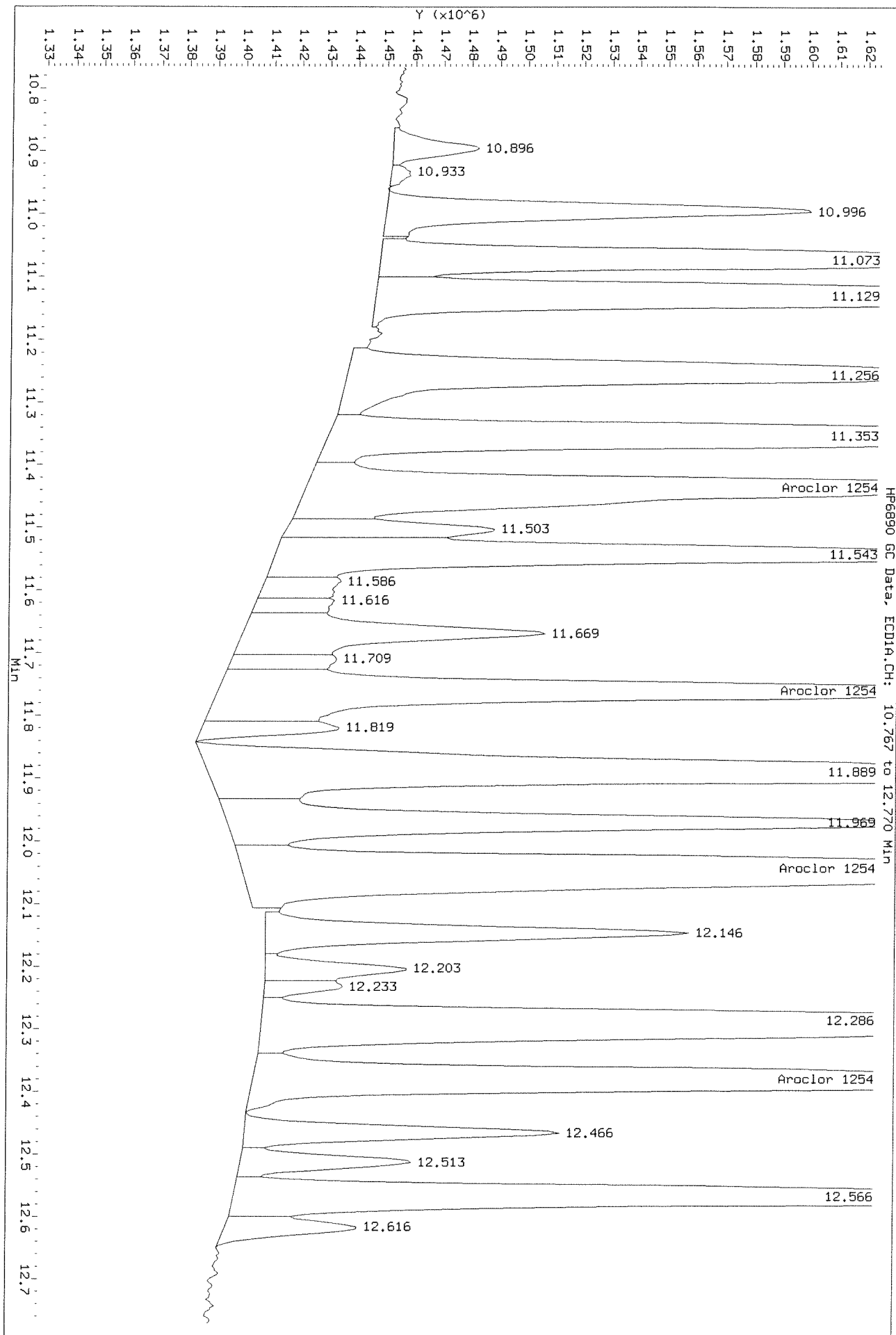
Data File: \\naklsws003\instdata\GC27\Data\1217201CAL_r.b\1217F018.D
Injection Date: 18-DEC-2020 02:29
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20

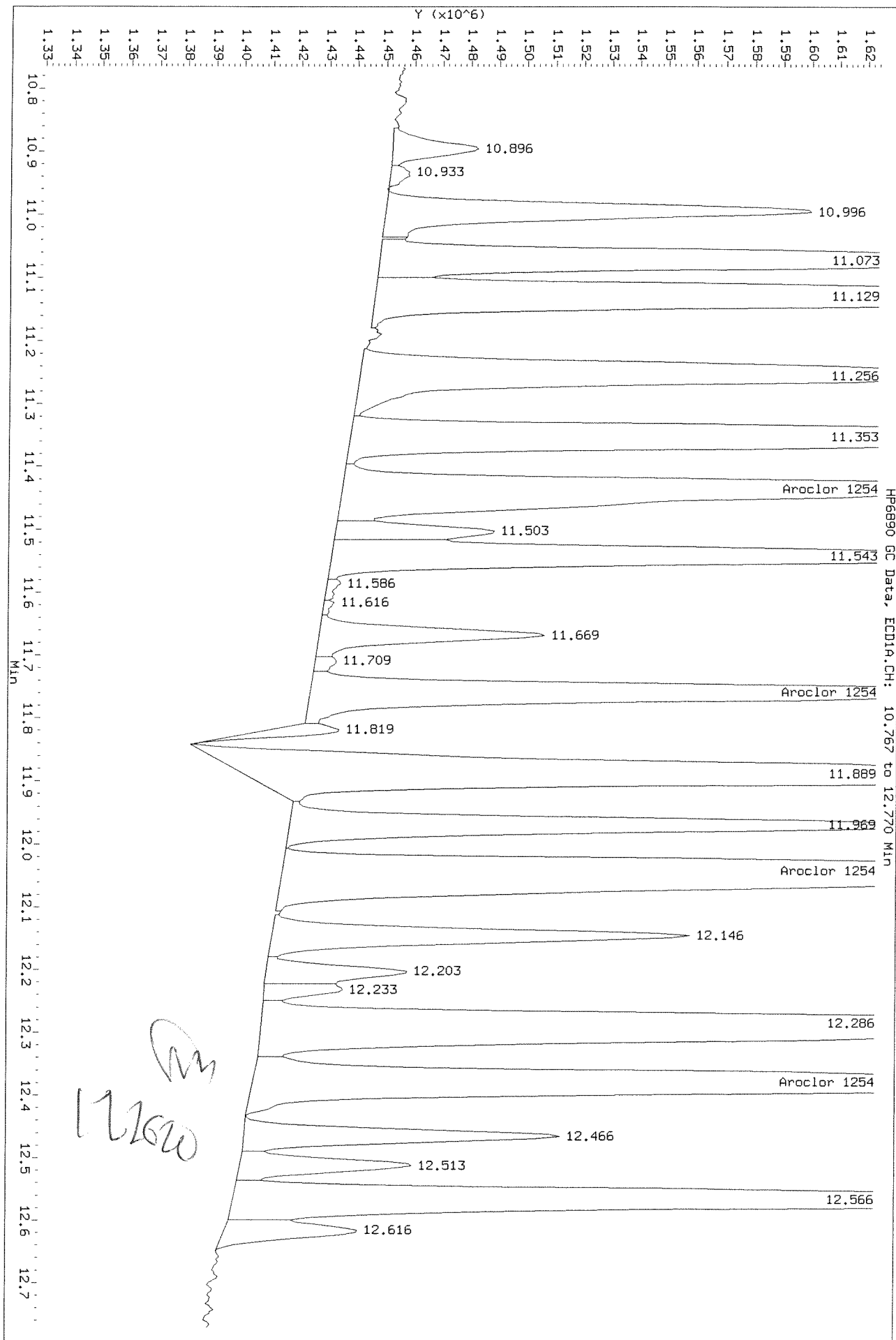


Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F018.D
Injection Date: 18-DEC-2020 02:29
Instrument: GC27.1
Client Sample ID:

Before

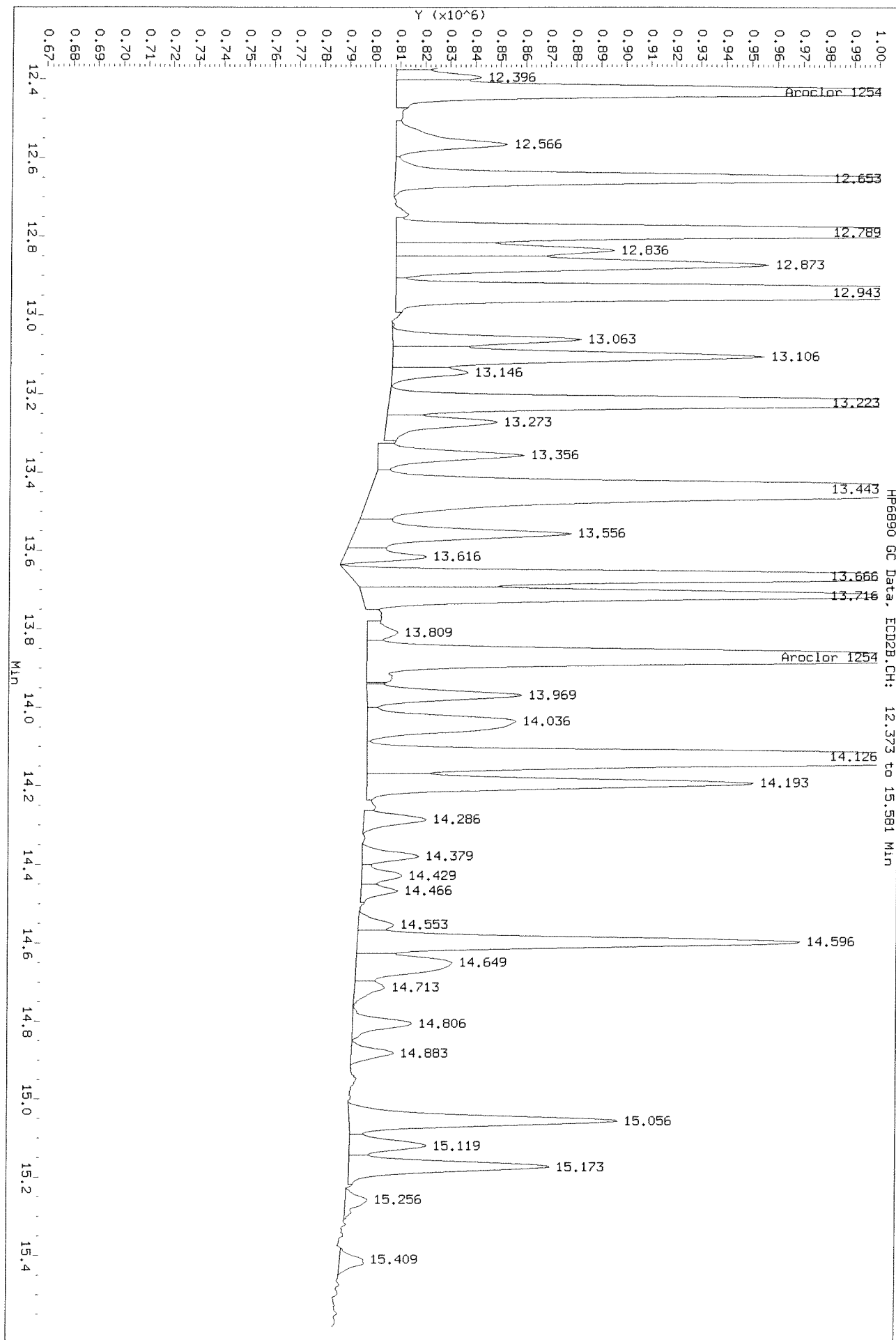


Data File: \\naklsws003\instdata\GC27\Data\12172010AL.b\1217F018.D
Injection Date: 18-DEC-2020 02:29
Instrument: GC27.1
Client Sample ID:



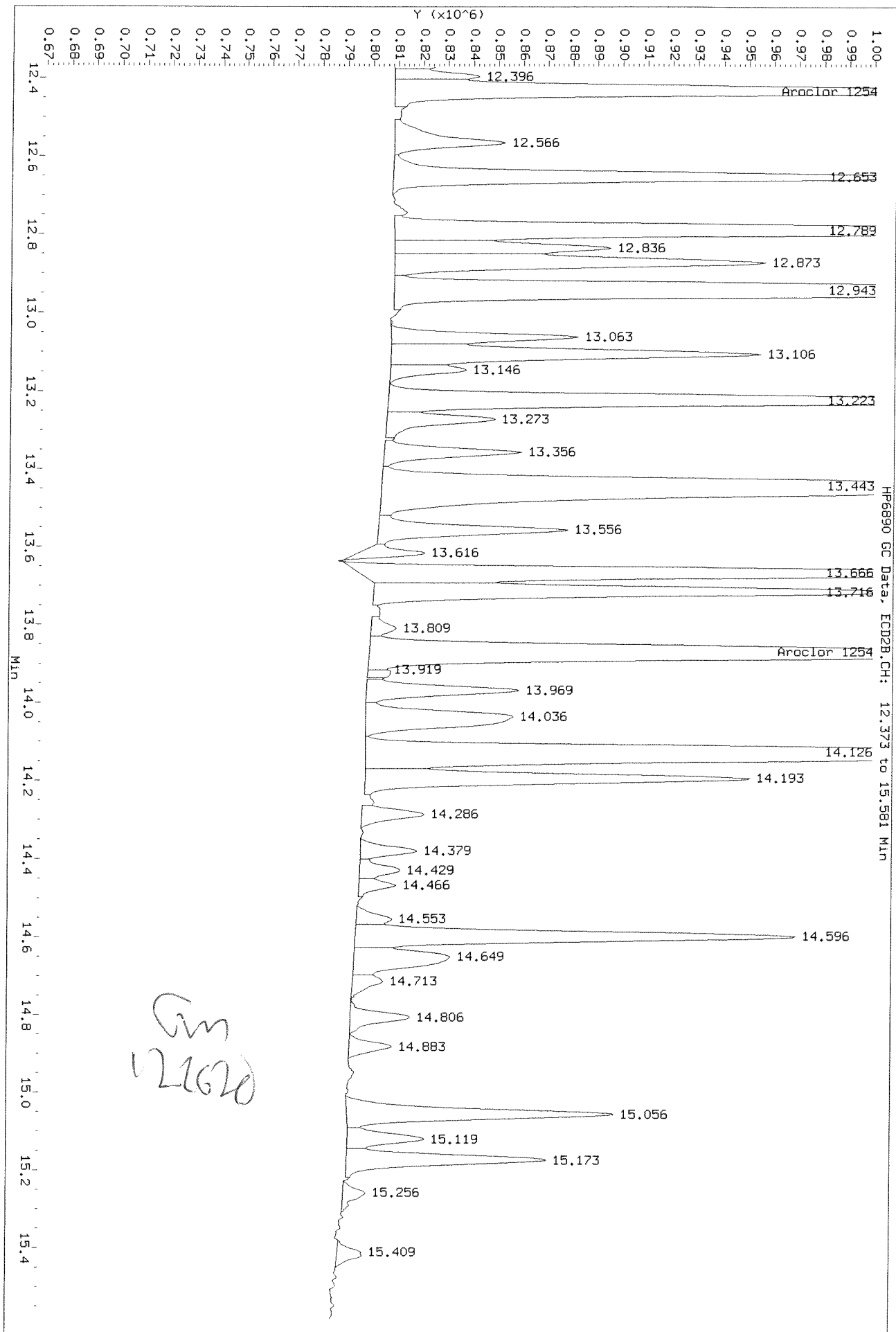
Data File: \\nakjlews003\instdata\GC27\Data\1217201CAL_r.b\1217F018.D
Injection Date: 18-DEC-2020 02:29
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakjsws003\instdata\GC27\Data\1217201CAL_r.b\12171018.D
Injection Date: 18-DEC-2020 02:29
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20



Sim
12/23/20

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F019.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F019.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F019.D
Inj Date : 18-DEC-2020 03:01
Sample Info: PCB8-64E 2154 50-100PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 2154.sub
Sub List #2 : 2154.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	7.283	8.323	1859270	699118	90.6	93.7	80.00- 120.00	100.00
	7.519	8.476	1196850	736989	84.9	96.6	51.27- 76.90	64.37
	7.676	8.660	4492791	2427577	89.3	91.1	190.41- 285.62	241.64
	Average of Peak Amounts =				88.3	93.8		
Aroclor 1254	11.433	11.970	1861919	2016293	45.5	44.5	80.00- 120.00	100.00 (M)
	12.043	12.023	5570747	1132157	44.3	46.5	244.22- 366.32	299.19 (M)
	12.286	12.340	2682051	2259219	44.2	43.4	115.71- 173.56	144.05 (M)
	12.379	12.430	3368084	1008654	45.2	46.0	147.40- 221.10	180.89 (M)
	13.136	13.870	3856424	1650008	42.4	43.6	167.70- 251.55	207.12 (M)
	Average of Peak Amounts =				44.3	44.8		

QC Flag Legend

M - Compound response manually integrated.

W 12/20

A 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL_r.b\1217F019.D

Date : 18-DEC-2020 03:01

Client ID:

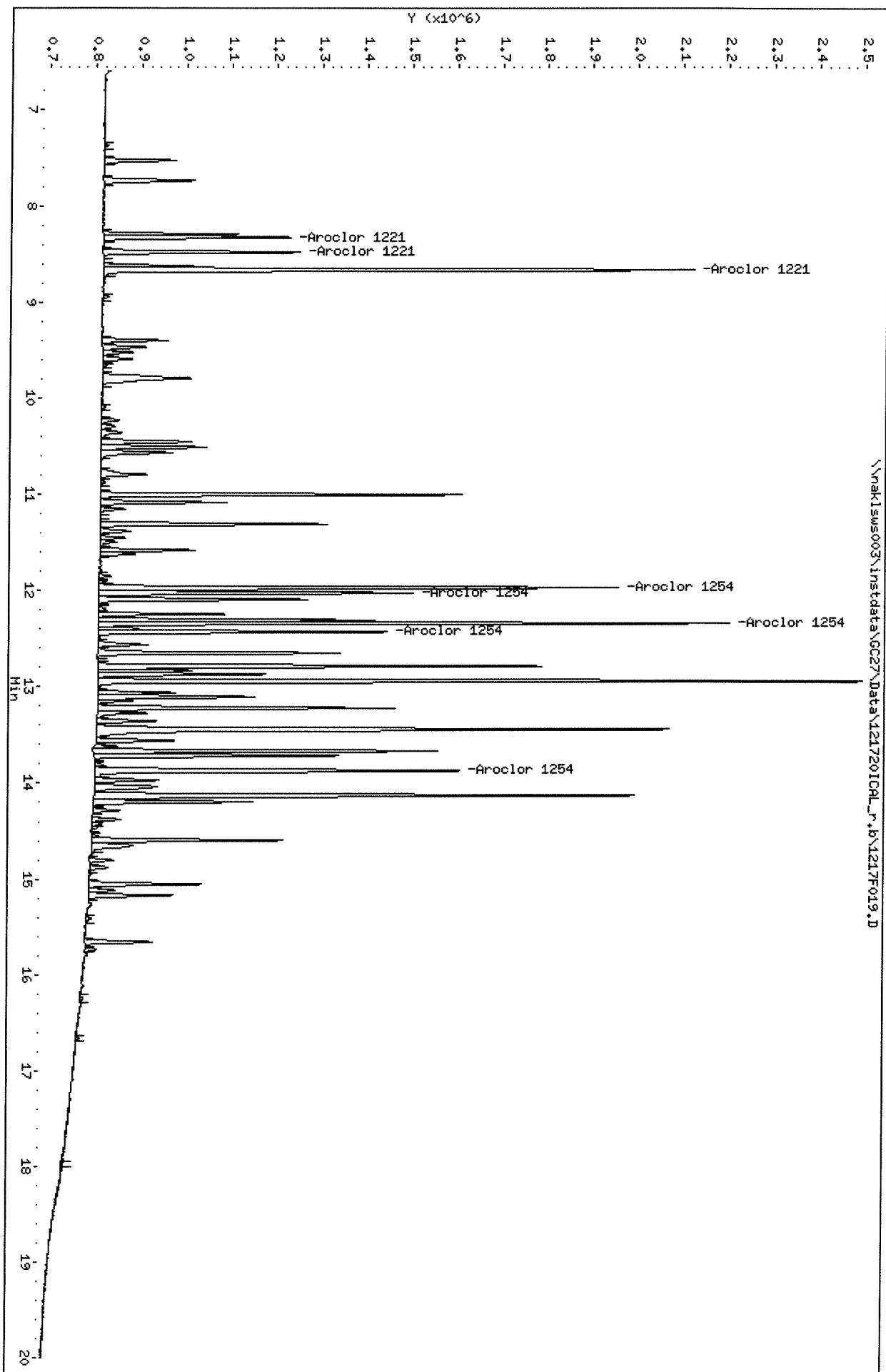
Sample Info: PCB8-64E 2154 50-100PPB

Column phase: DB-XLB

Instrument: GC27.i

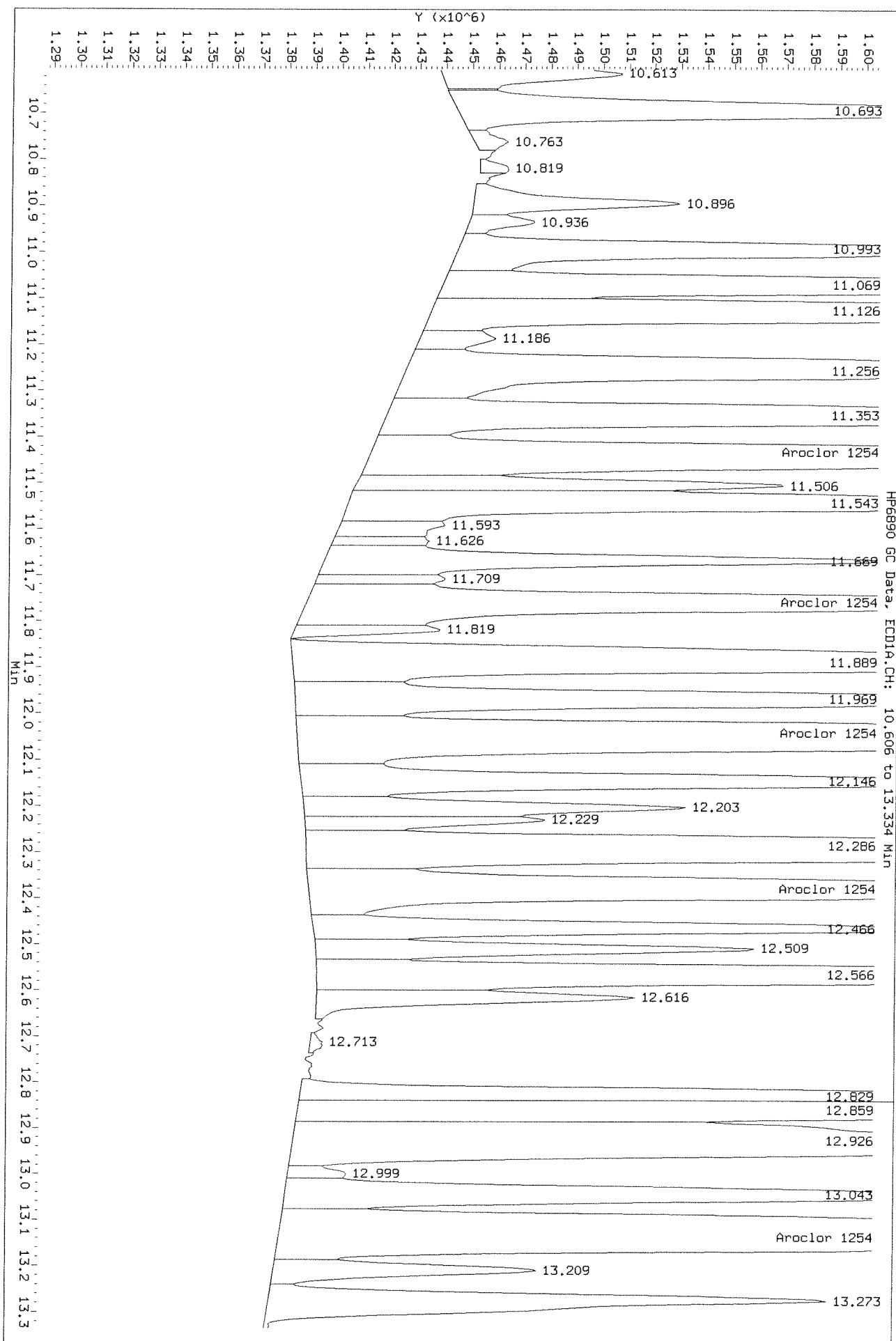
Operator: SAA

Column diameter: 0.32



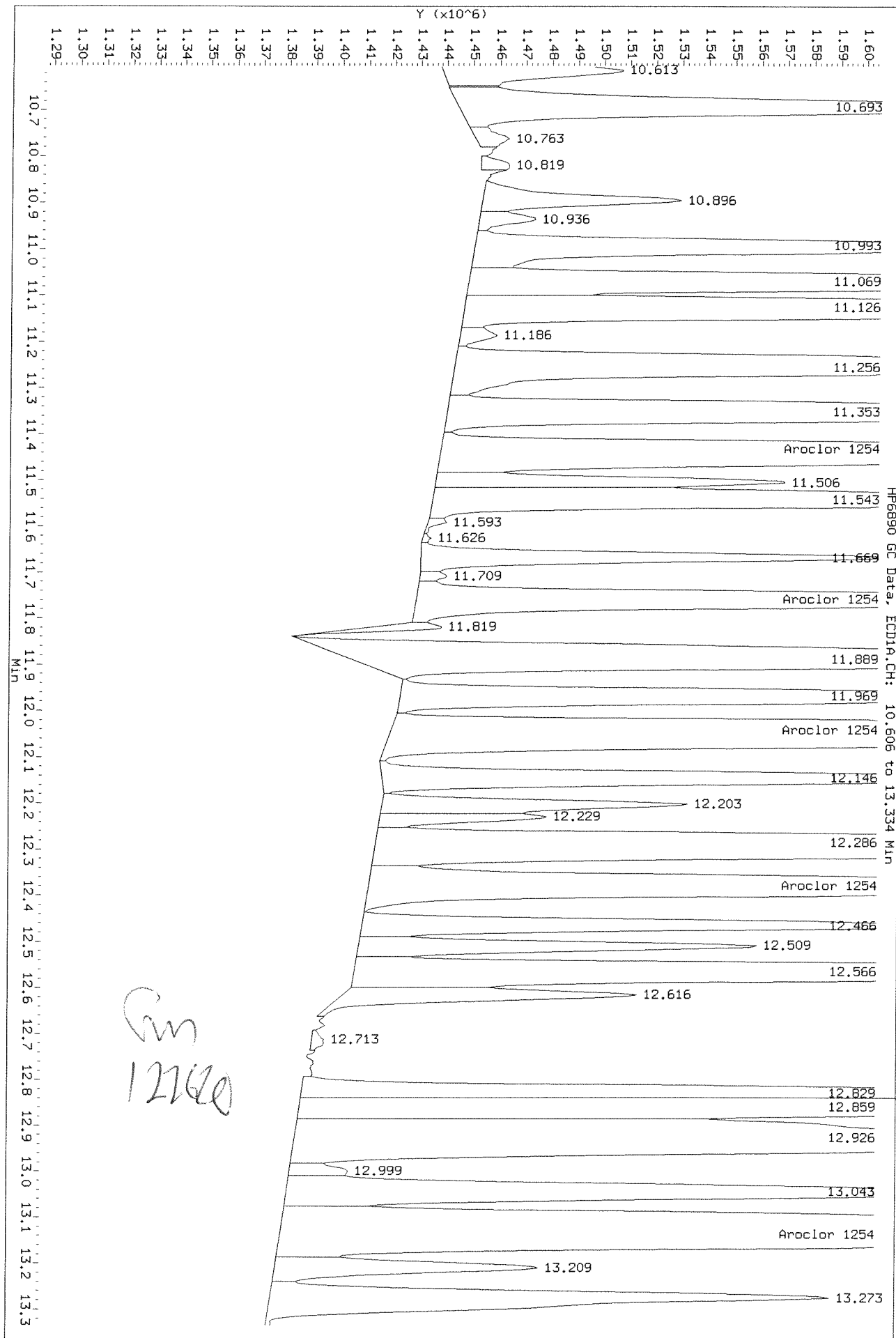
Data File: \\naklms003\instdata\GC27\Data\121720ICAL.b\1217F019.D
Injection Date: 18-DEC-2020 03:01
Instrument: GC27.1
Client Sample ID:

Before



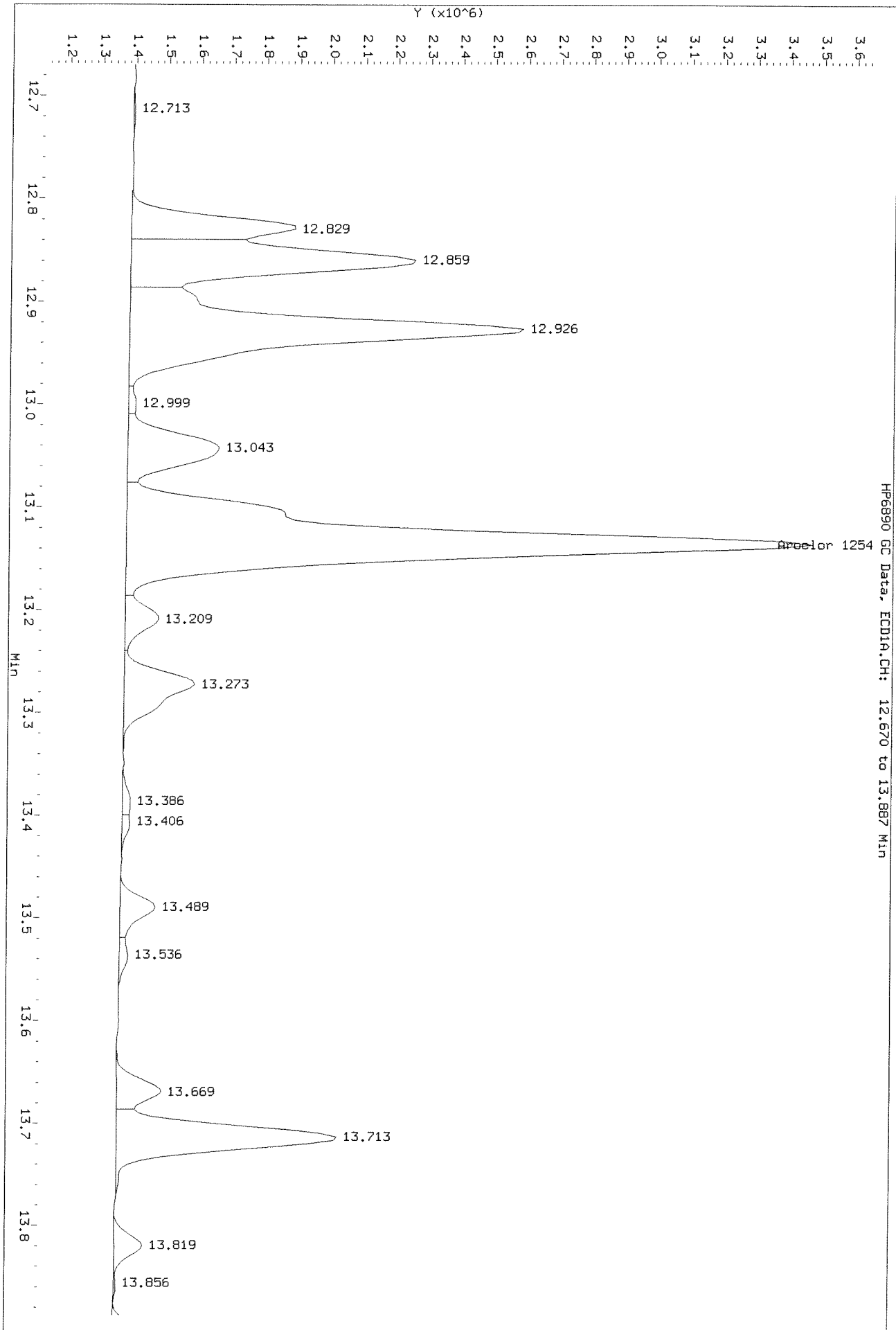
Data File: \\makls003\instdata\GC27\Data\1217201CAL.b\1217F019.D
Injection Date: 18-DEC-2020 03:01
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2020



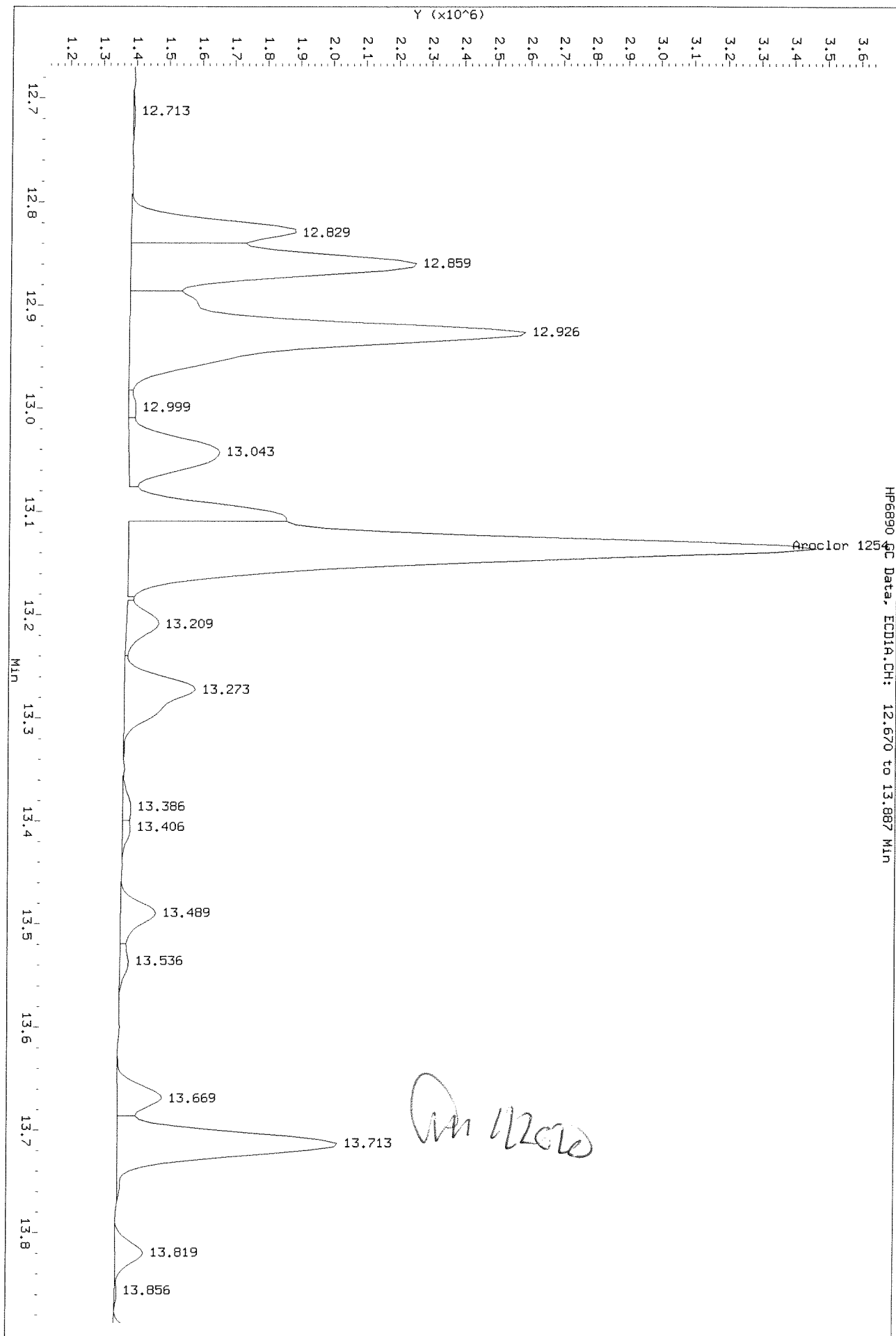
Data File: \\nakisws003\instdata\GC27\Data\121720ICAL.b\1217F019.D
Injection Date: 18-DEC-2020 03:01
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\makisus003\instdata\GC27\Data\1217201CAL.b\1217F019.D
Injection Date: 18-DEC-2020 03:01
Instrument: GC27.1
Client Sample ID:

After shoulder 12/23/20



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F020.D
Report Date: 23-Dec-2020 14:52

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F020.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F020.D
Inj Date : 18-DEC-2020 03:32
Sample Info: PCB8-64F 2154 100-200PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 2154.sub
Sub List #2 : 2154.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	7.285	8.322	3672649	1407907	179	189	80.00- 120.00	100.00
	7.518	8.475	2337975	1428641	166	187	51.27- 76.90	63.66
	7.678	8.659	8708938	4609165	173	173	190.41- 285.62	237.13
	Average of Peak Amounts =				173	183		
Aroclor 1254	11.435	11.969	3653718	3796502	89.2	83.7	80.00- 120.00	100.00 (M)
	12.045	12.025	10948974	2119715	87.0	87.1	244.22- 366.32	299.67 (M)
	12.288	12.342	5317095	4144044	87.7	79.7	115.71- 173.56	145.53 (M)
	12.382	12.432	6706951	1920166	90.1	87.5	147.40- 221.10	183.57 (M)
	13.138	13.872	7504682	3086034	82.5	81.6	167.70- 251.55	205.40 (M)
Average of Peak Amounts =					87.3	83.9		

QC Flag Legend

M - Compound response manually integrated.

RM

12/23/20

A 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F020.D

Date : 18-DEC-2020 03:32

Client ID:

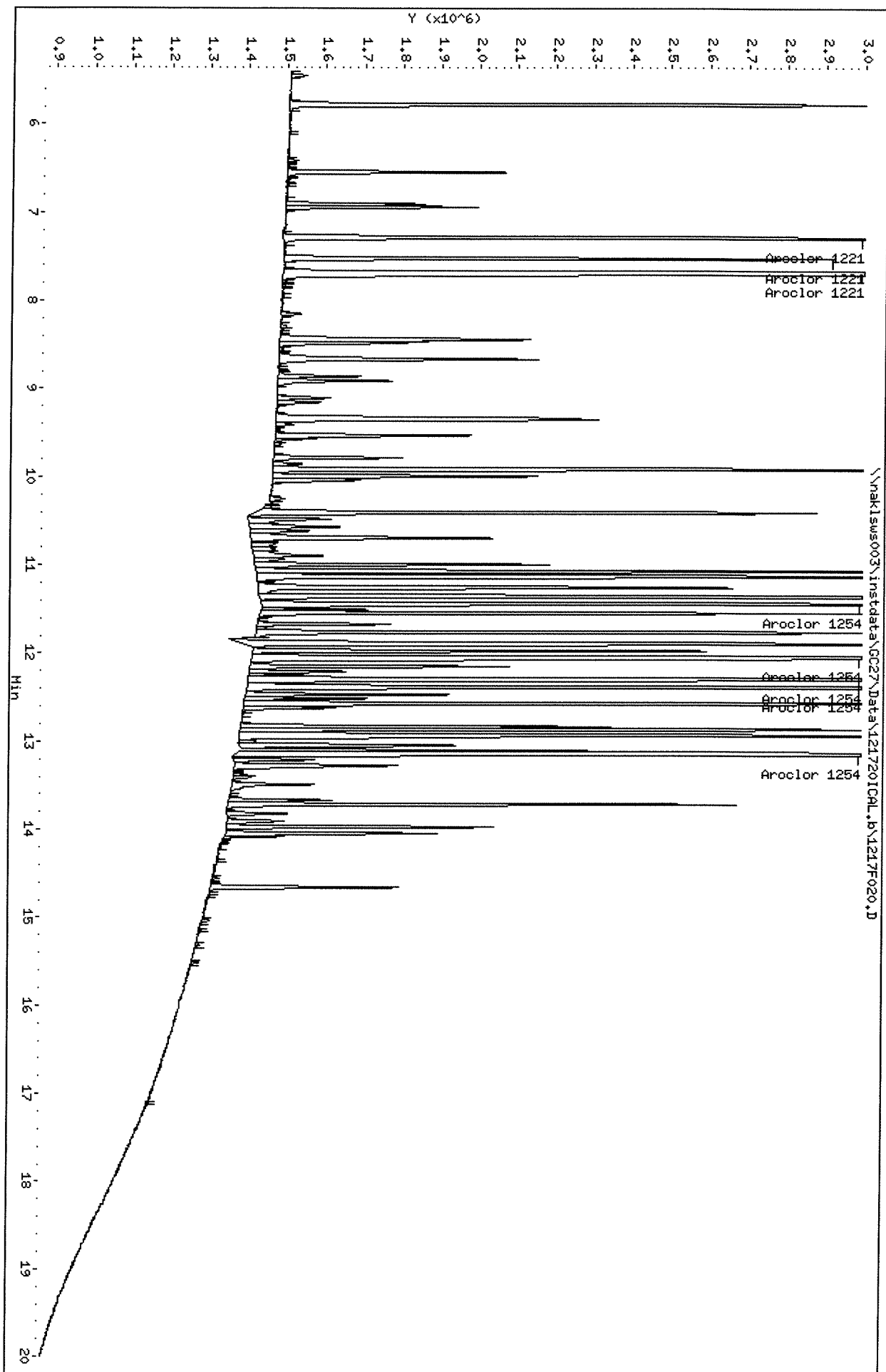
Sample Info: PCB8-64F 2154 100-200PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sus003\instdata\GC27\Data\1217201CQL_r.b\1217F020.D

Date: 18-DEC-2020 03:32

Client ID:

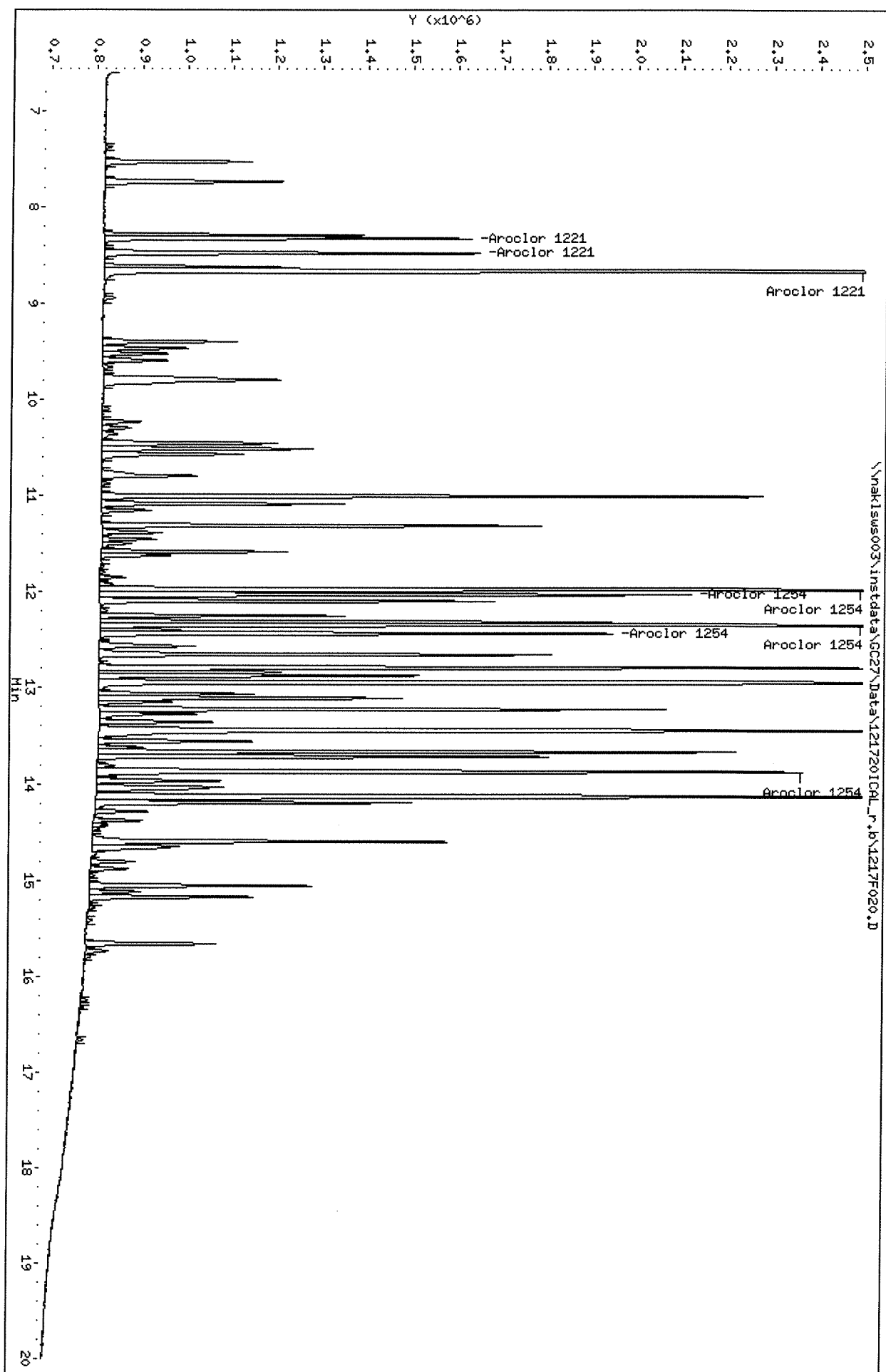
Sample Info: PCB8-64F 2154 100-200PPB

Column phase: DB-XLB

Instrument: GC27.i

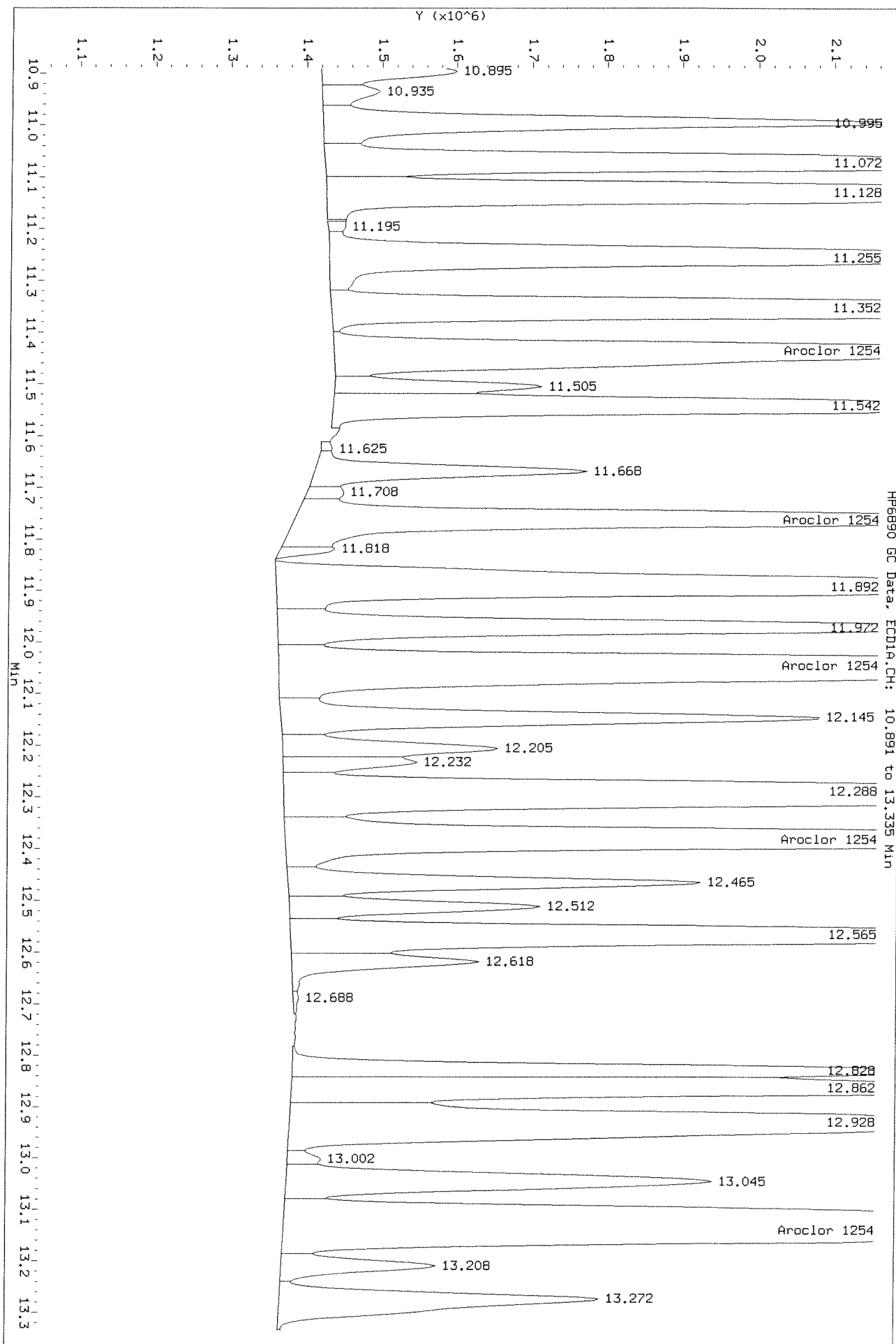
Operator: SAA

Column diameter: 0.32



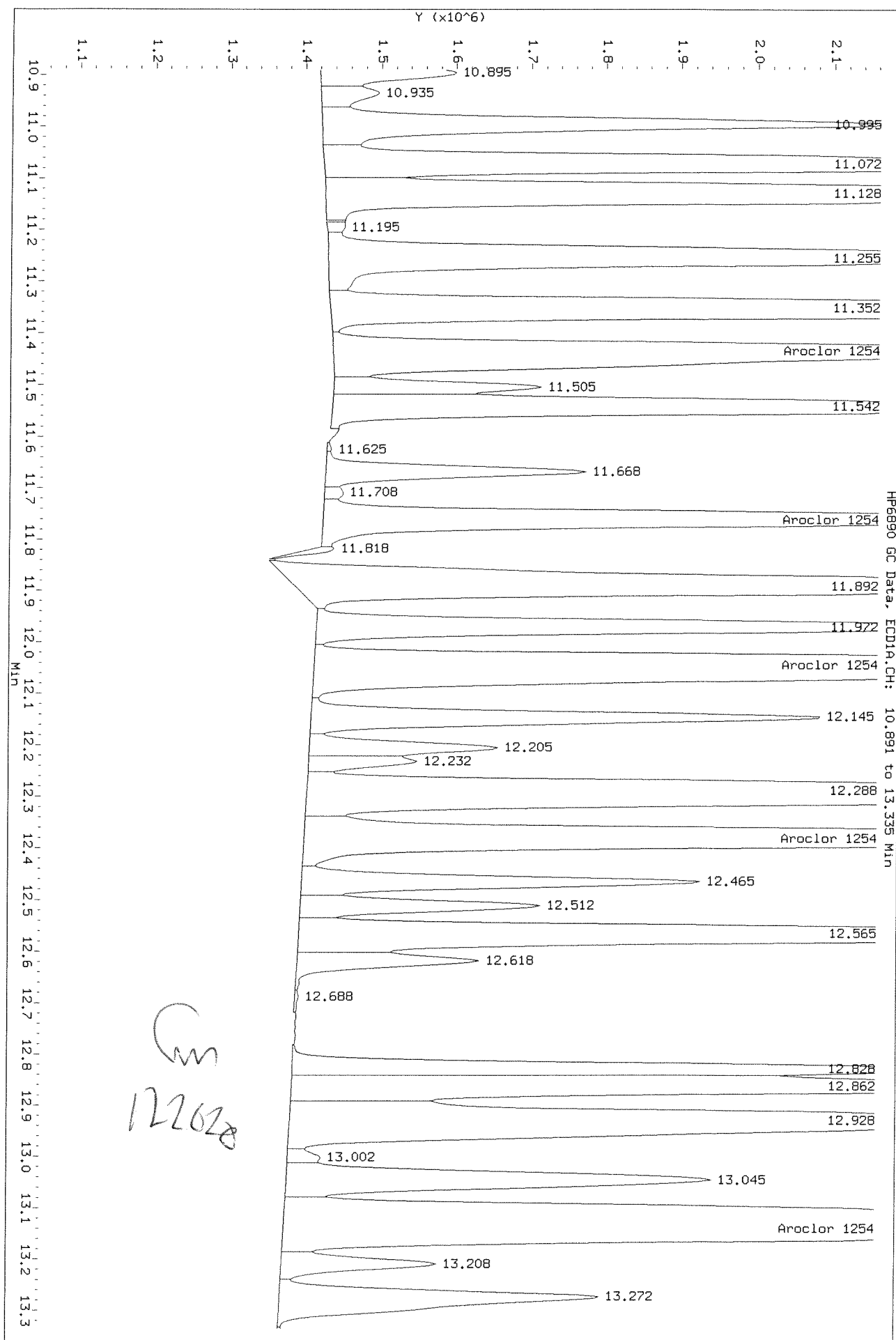
Data File: \\nakiswms003\instdata\GC27\Data\121720ICAL.b\1217F020.D
Injection Date: 18-DEC-2020 03:32
Instrument: GC27.1
Client Sample ID:

Before



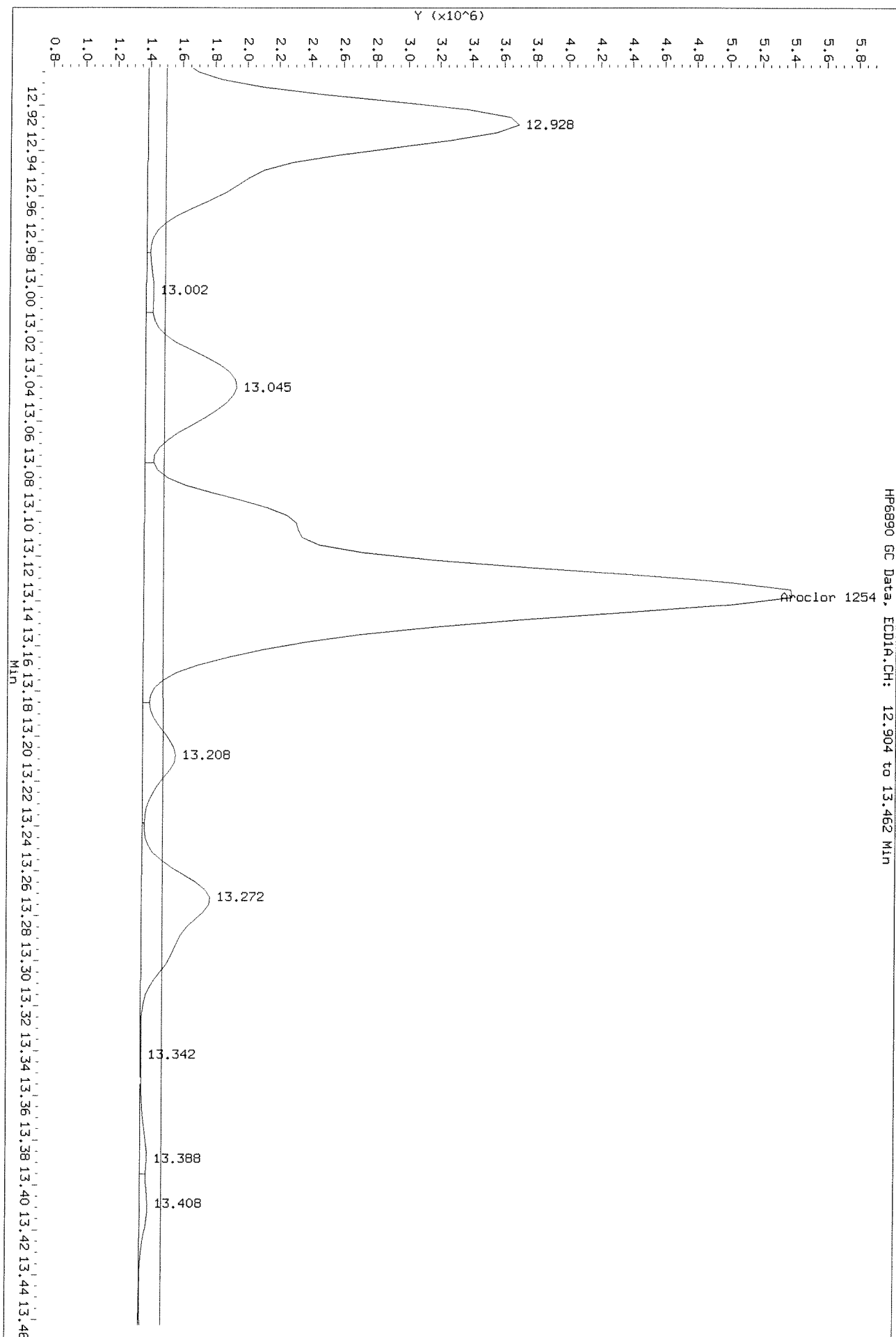
Data File: \\naklsm003\instdata\GC27\Data\1217201CAL.b\1217F020.D
Injection Date: 18-DEC-2020 03:32
Instrument: GC27.1
Client Sample ID:

AKK baseline 12/23/20 AK



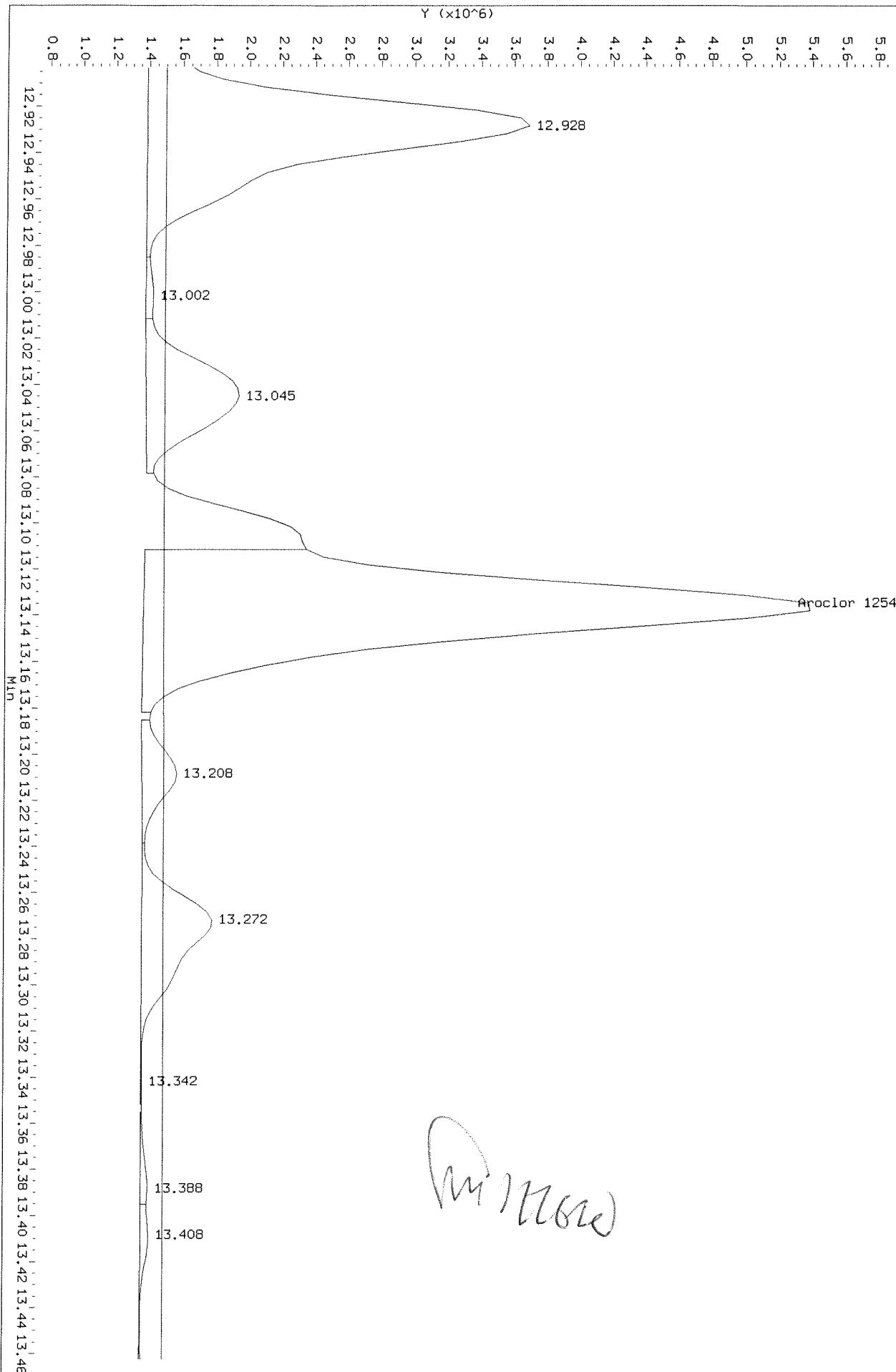
Data File: \\nakisw003\instdata\GC27\Data\121720ICAL.b\1217F020.D
Injection Date: 18-DEC-2020 03:32
Instrument: GC27.1
Client Sample ID:

B. Clare



Data File: \\nakisw003\inst\data\GC27\Data\121720ICAL.b\1217F020.D
Injection Date: 18-DEC-2020 03:32
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 12.904 to 13.462 Min



After Sample 12/23/2020

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F021.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F021.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F021.D
Inj Date : 18-DEC-2020 04:03
Sample Info: PCB8-64C 2154 200-400PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 2154.sub
Sub List #2 : 2154.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	7.284	8.320	7379060	2774722	360	372	80.00- 120.00	100.00
	7.517	8.474	4728702	2786069	335	365	51.27- 76.90	64.08
	7.677	8.657	17563191	8973580	349	337	190.41- 285.62	238.01
	Average of Peak Amounts =				348	358		
Aroclor 1254	11.434	11.967	7389325	7402391	180	163	80.00- 120.00	100.00 (M)
	12.044	12.024	22557435	4162007	179	171	244.22- 366.32	305.27 (M)
	12.287	12.340	10687550	8159815	176	157	115.71- 173.56	144.63 (M)
	12.380	12.430	13614686	3737948	183	170	147.40- 221.10	184.25 (M)
	13.134	13.874	15489714	6136126	170	162	167.70- 251.55	209.62 (M)
	Average of Peak Amounts =				178	165		

QC Flag Legend

M - Compound response manually integrated.

M 11/26/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F021.D

Date : 18-DEC-2020 04:03

Client ID:

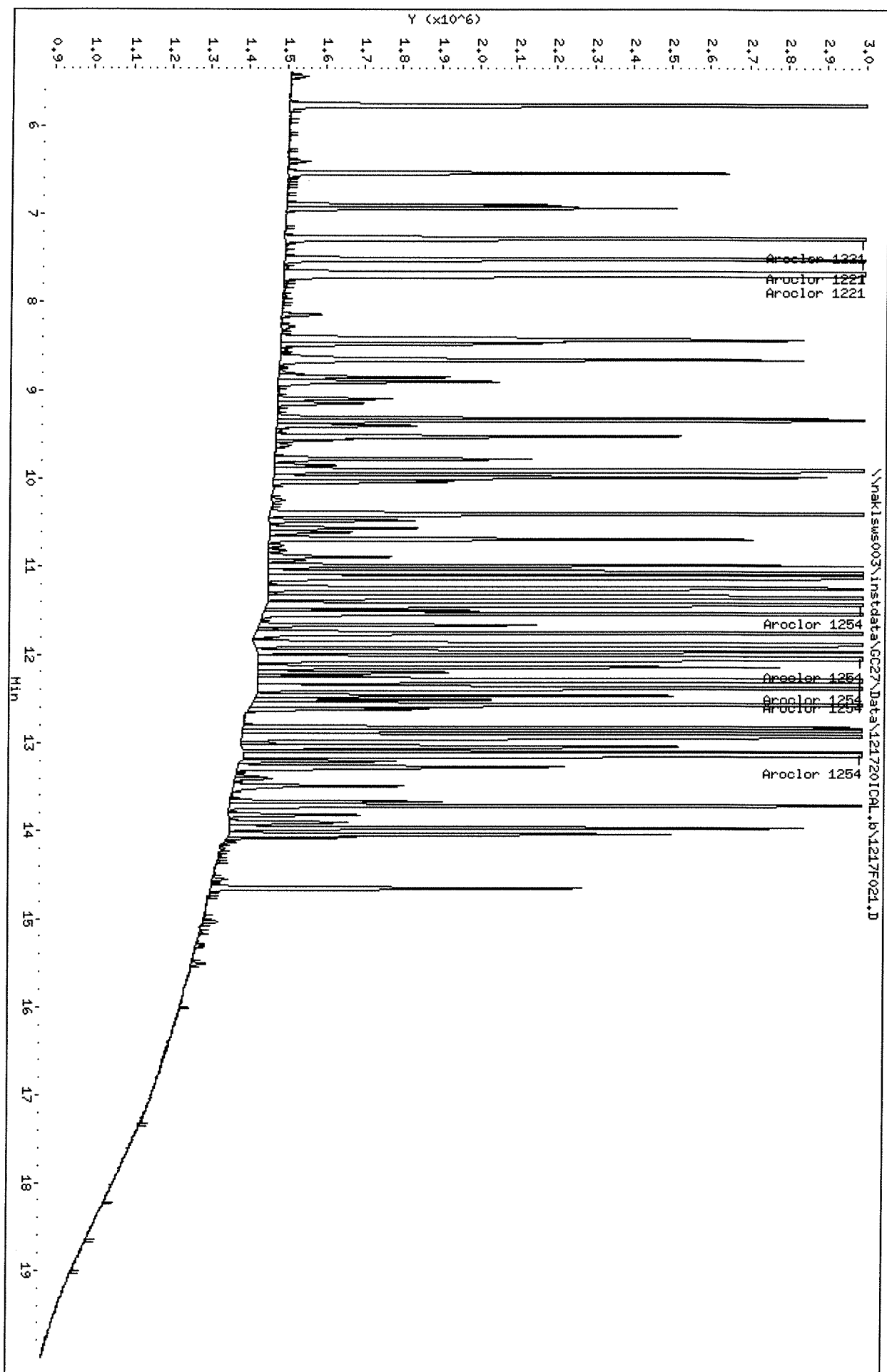
Sample Info: PCB8-64C 2154 200-400PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\1217201CL_r.b\1217F021.D

Date : 18-DEC-2020 04:03

Client ID:

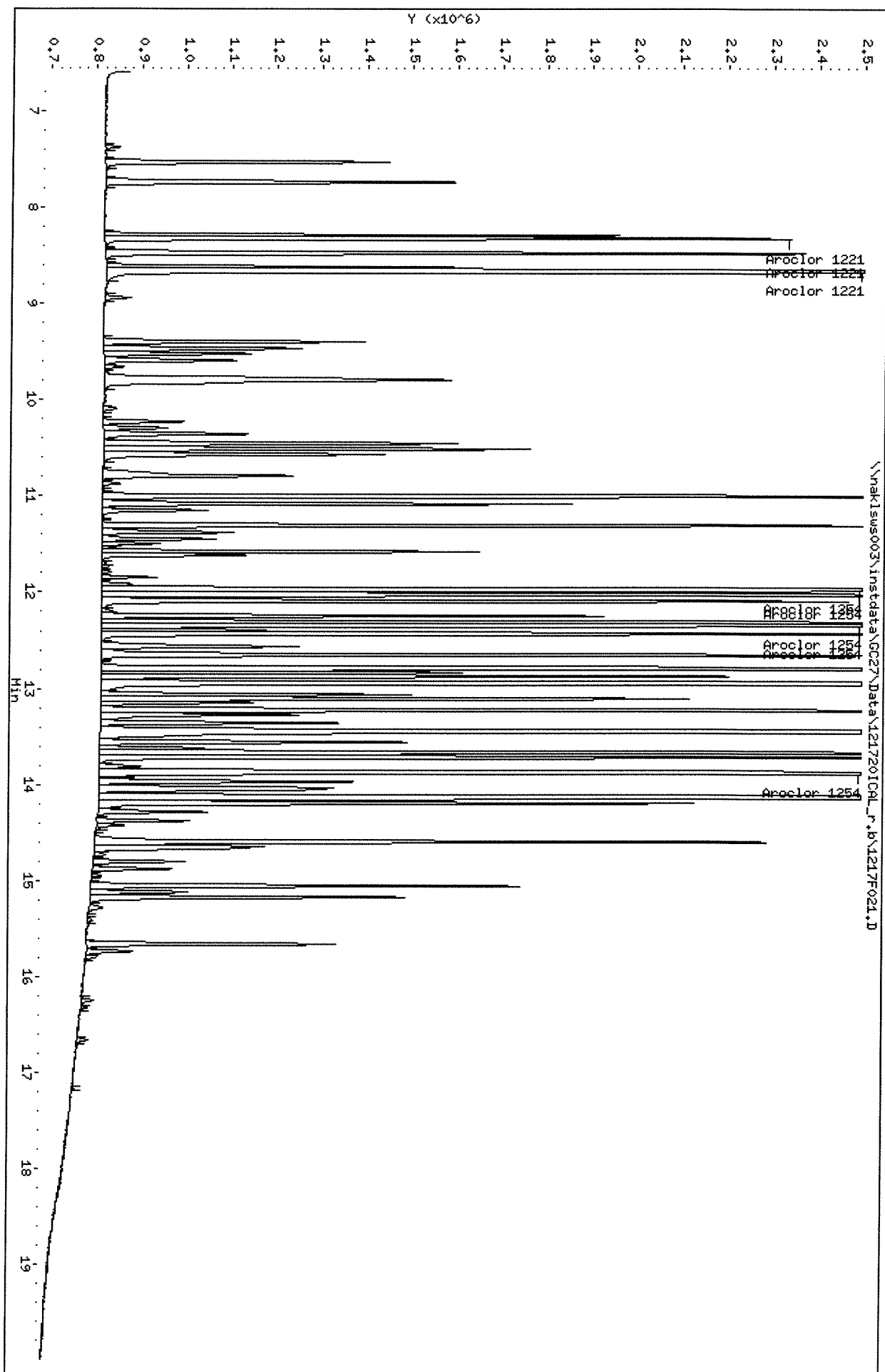
Sample Info: PCB8-64C 2154 200-400PPB

Column phase: DB-XLB

Instrument: GC27.i

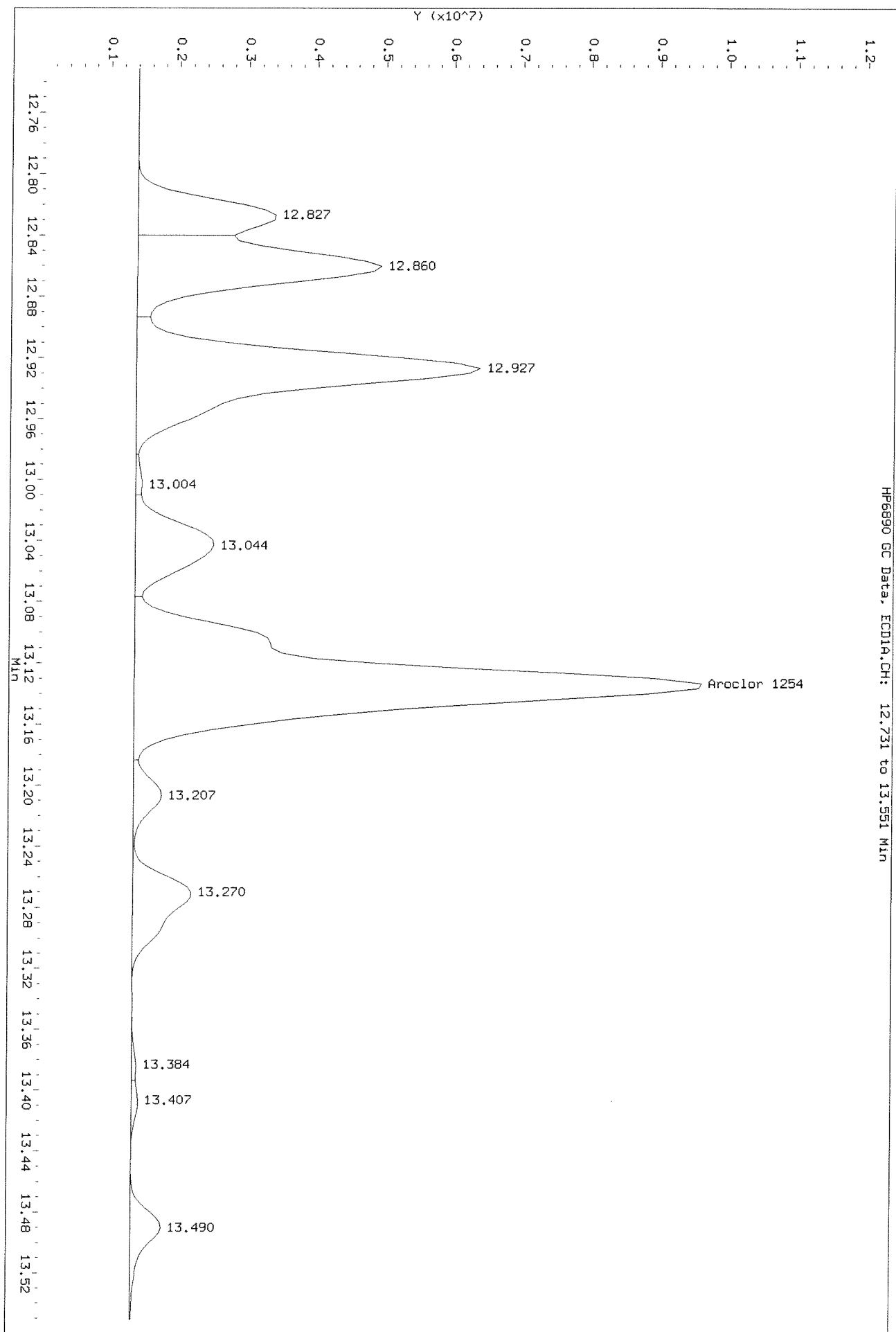
Operator: SAA

Column diameter: 0.32



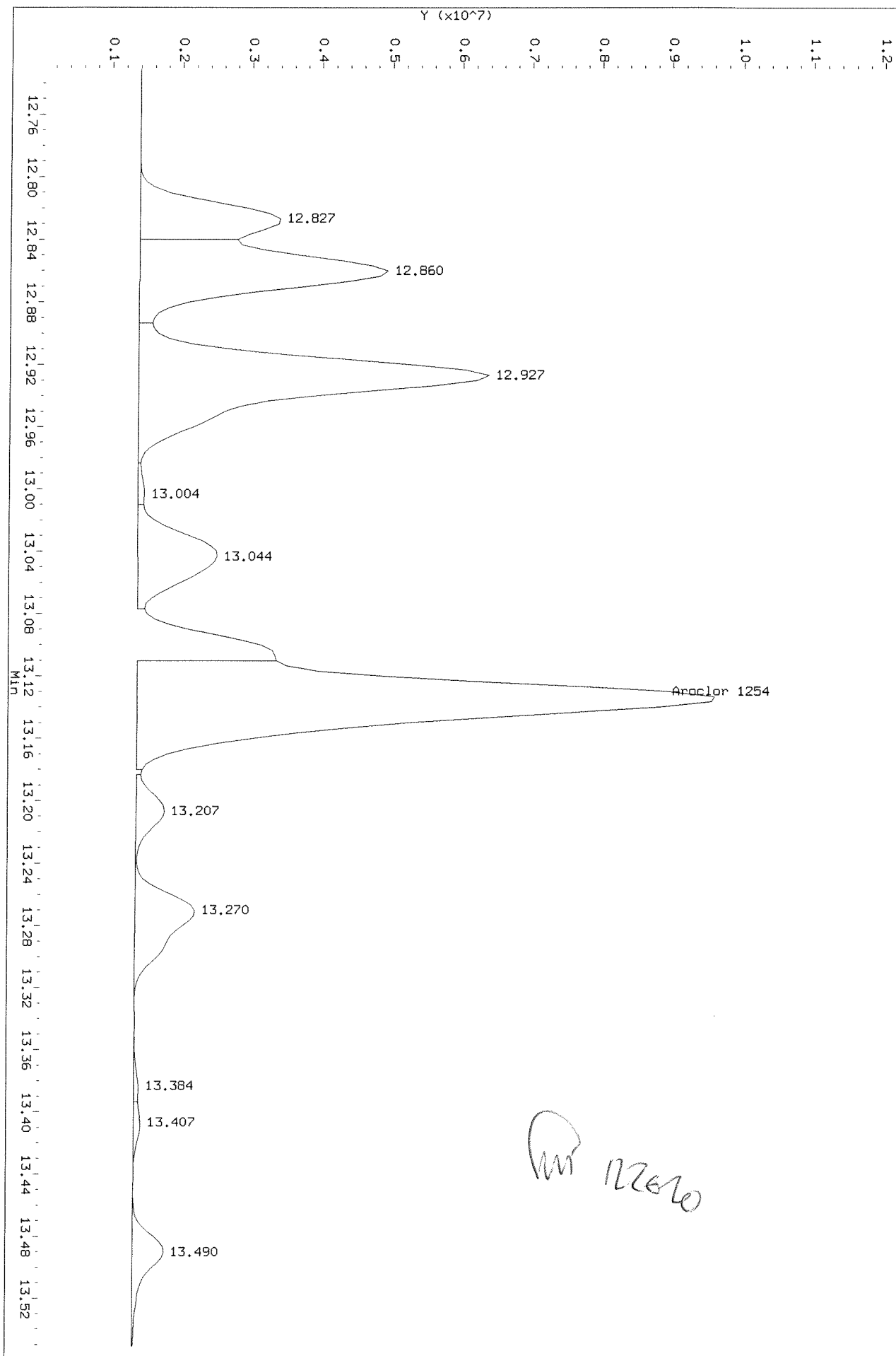
Data File: \\nakjsws003\instdata\GC27\Data\1217201CAL.b\1217F021.D
Injection Date: 18-DEC-2020 04:03
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F021.D
Injection Date: 18-DEC-2020 04:03
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 12.731 to 13.561 Min



After shoulder 12/23/20

12/26/20

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F022.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F022.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F022.D
Inj Date : 18-DEC-2020 04:34
Sample Info: PCB8-65E 3262 1PPB @ 5X
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 3262.sub
Sub List #2 : 3262.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	7.282	8.662	21026	29122	1.26	1.10	80.00- 120.00	100.00 (M)
	7.679	9.396	46161	16144	0.995	1.13	236.59- 354.88	219.54 (M)
	8.445	9.772	43706	11889	1.06	1.17	198.03- 297.04	207.87 (M)
	9.349	10.456	69182	23596	1.40	1.13	237.24- 355.86	329.03 (M)
	9.529	10.512	30643	24826	1.17	1.04	133.07- 199.60	145.74 (M)
	Average of Peak Amounts =				1.18	1.11		
Aroclor 1262	13.209	14.286	140991	82566	1.28	1.21	80.00- 120.00	100.00
	13.669	14.379	108565	33440	1.14	1.19	72.87- 109.30	77.00
	14.042	14.646	204912	64484	1.18	1.21	136.64- 204.97	145.34
	14.659	15.169	160287	139941	1.25	1.24	97.41- 146.11	113.69
	15.515	16.659	55414	37904	1.11	1.12	39.34- 59.01	39.30
	Average of Peak Amounts =				1.19	1.19		

QC Flag Legend

M - Compound response manually integrated.

11/12/20

12/23/20

Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F022.D
Date : 18-DEC-2020 04:34

Client ID:

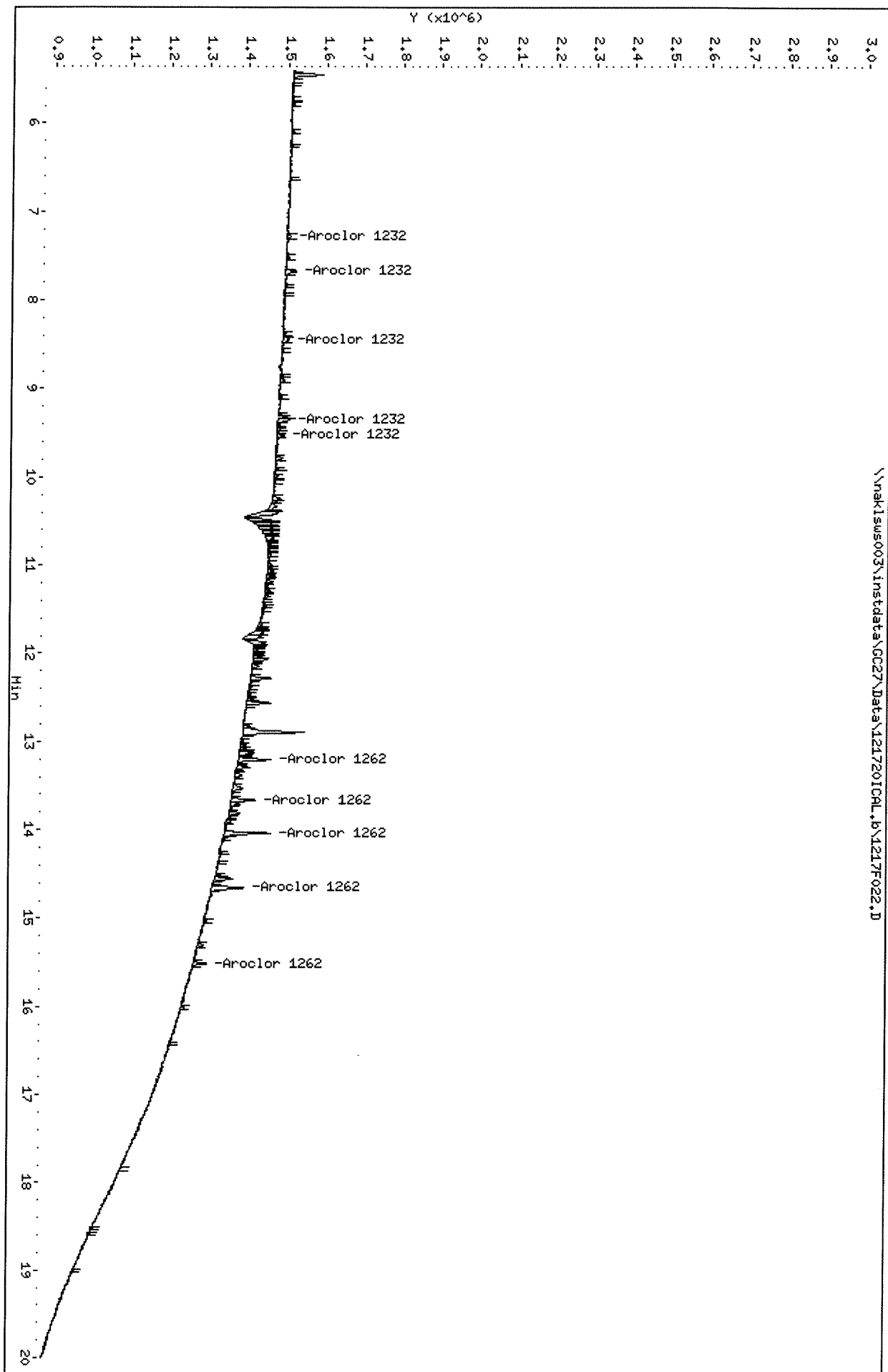
Sample Info: PCB8-6SE 3262 1PPB @ SX

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sus003\instdata\GC27\Data\121720ICAL_r.b\1217F022.D

Date : 18-DEC-2020 04:34

Client ID:

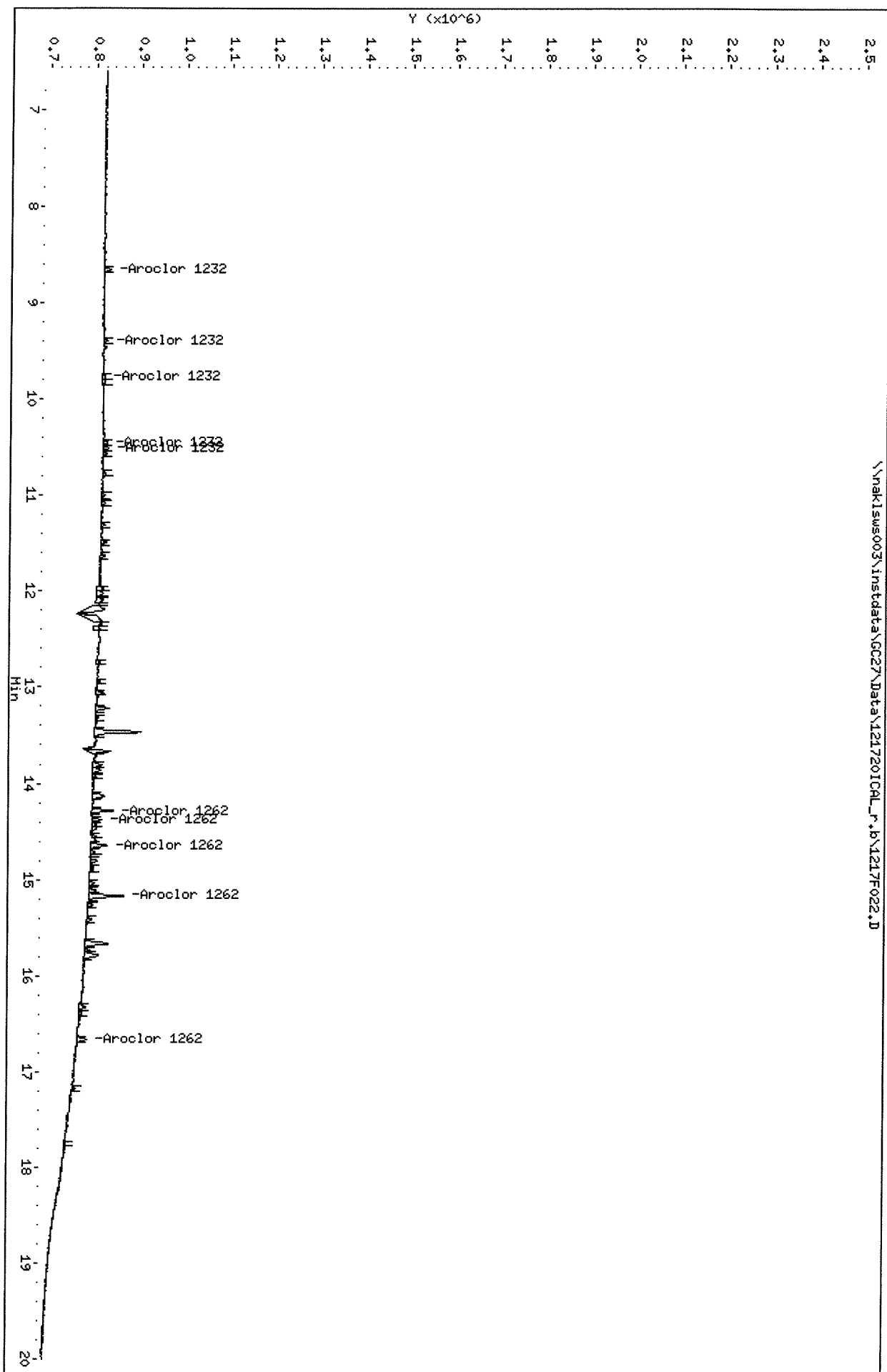
Sample Info: PCB8-65E 3262 1PPB @ 5X

Column phase: DB-XLB

Instrument: GC27.i

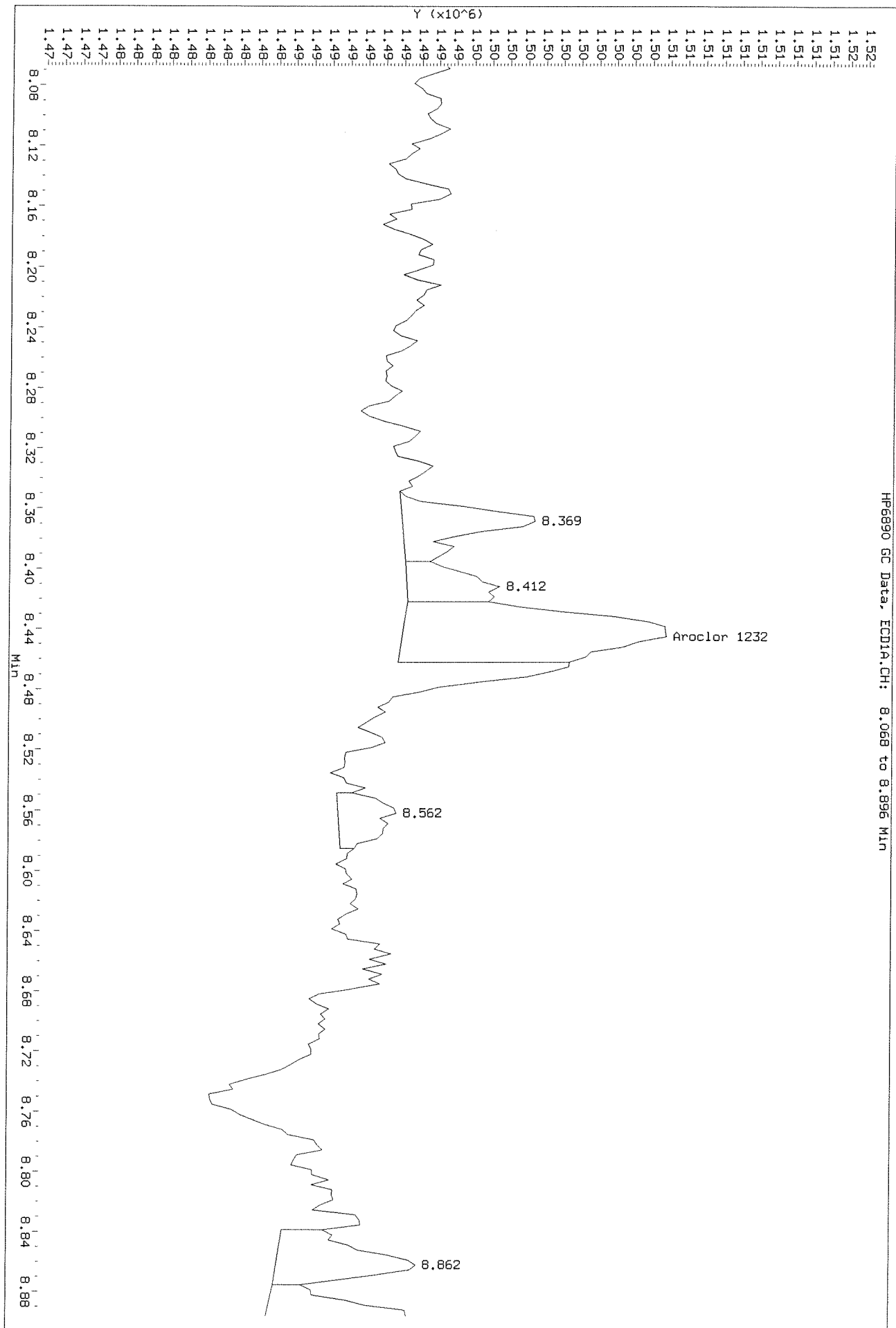
Operator: SAA

Column diameter: 0.32



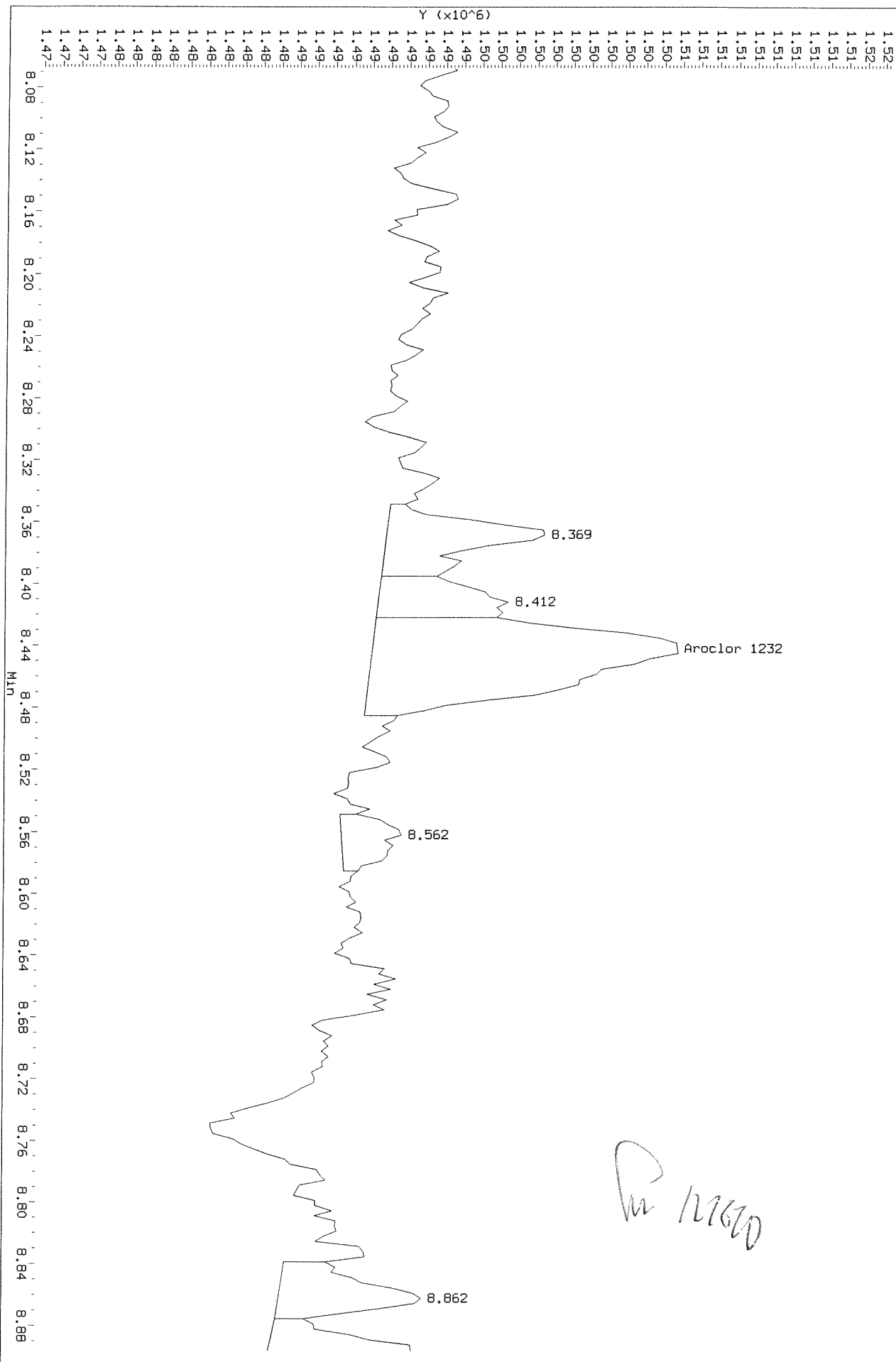
Data File: \\naklsws003\inst\data\GC27\Data\1217201CAL.b\1217F022.D
Injection Date: 18-DEC-2020 04:34
Instrument: GC27.1
Client Sample ID:

Before



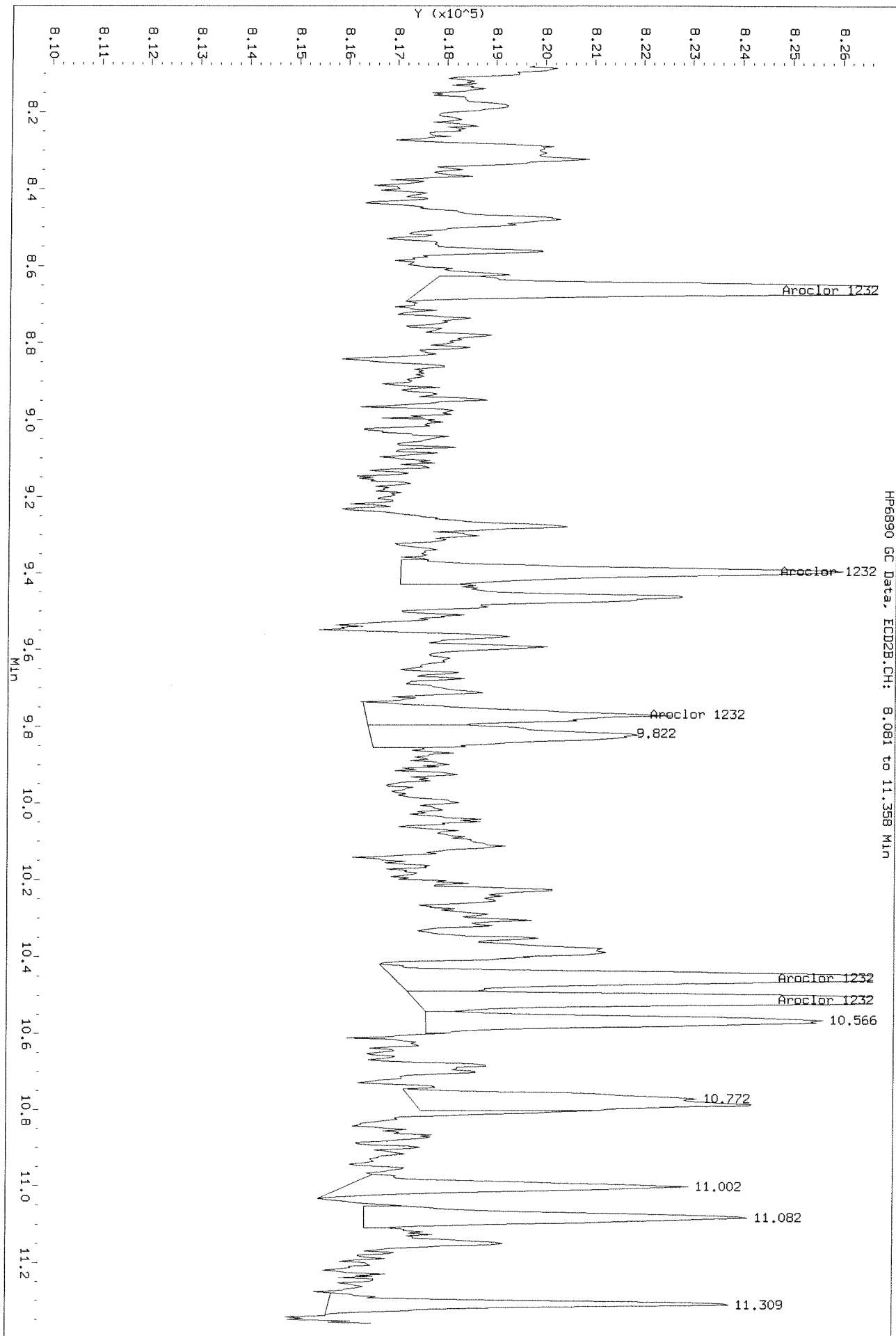
Data File: \\nakisws003\instdata\GC27\Data\1217201CAL.b\1217F022.D
 Injection Date: 18-DEC-2020 04:34
 Instrument: GC27.1
 Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.068 to 8.896 Min



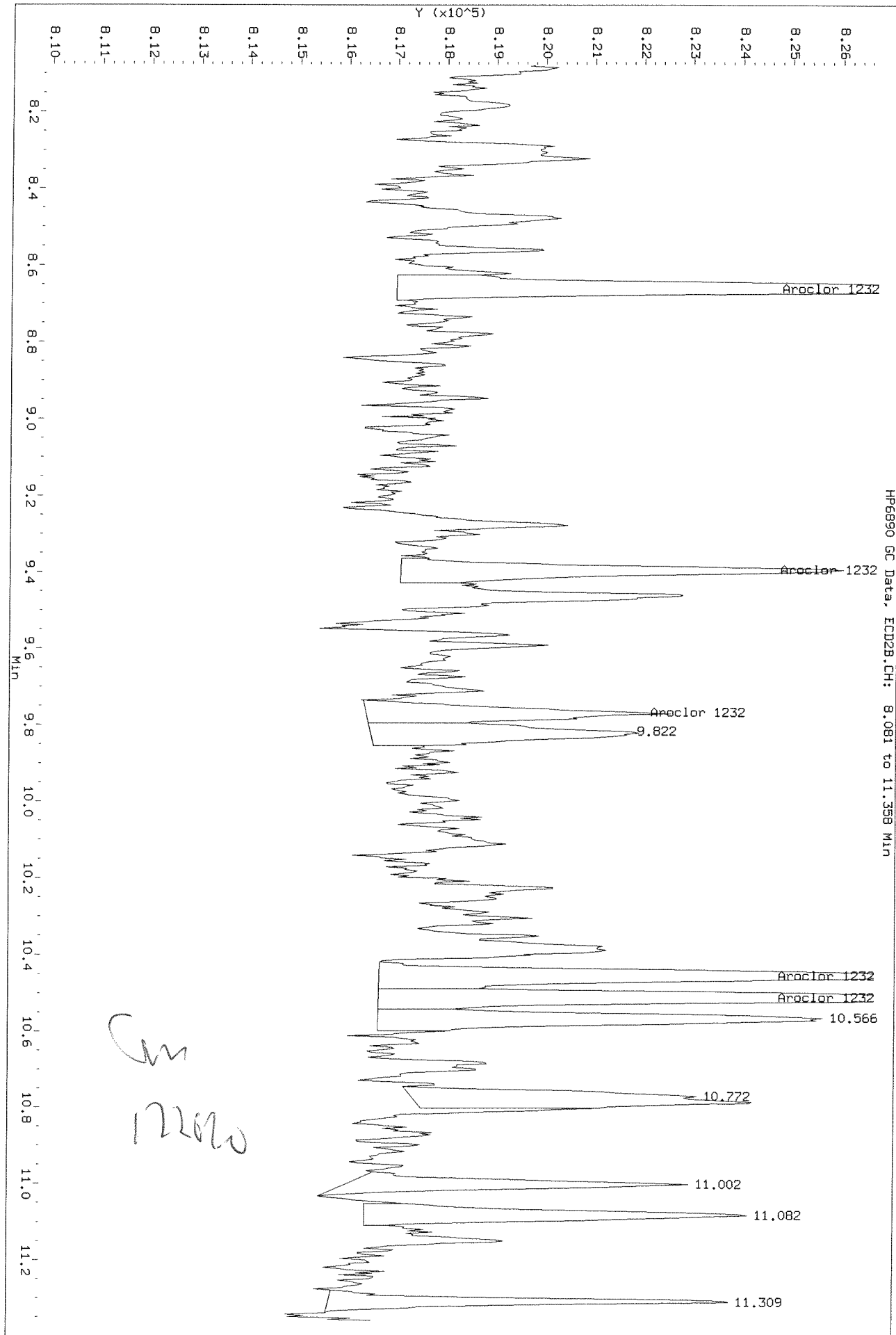
Data File: \\nakisw003\inst\data\GC27\Data\121720ICAL_r.b\1217F022.D
Injection Date: 18-DEC-2020 04:34
Instrument: GC27.1
Client Sample ID:

Before



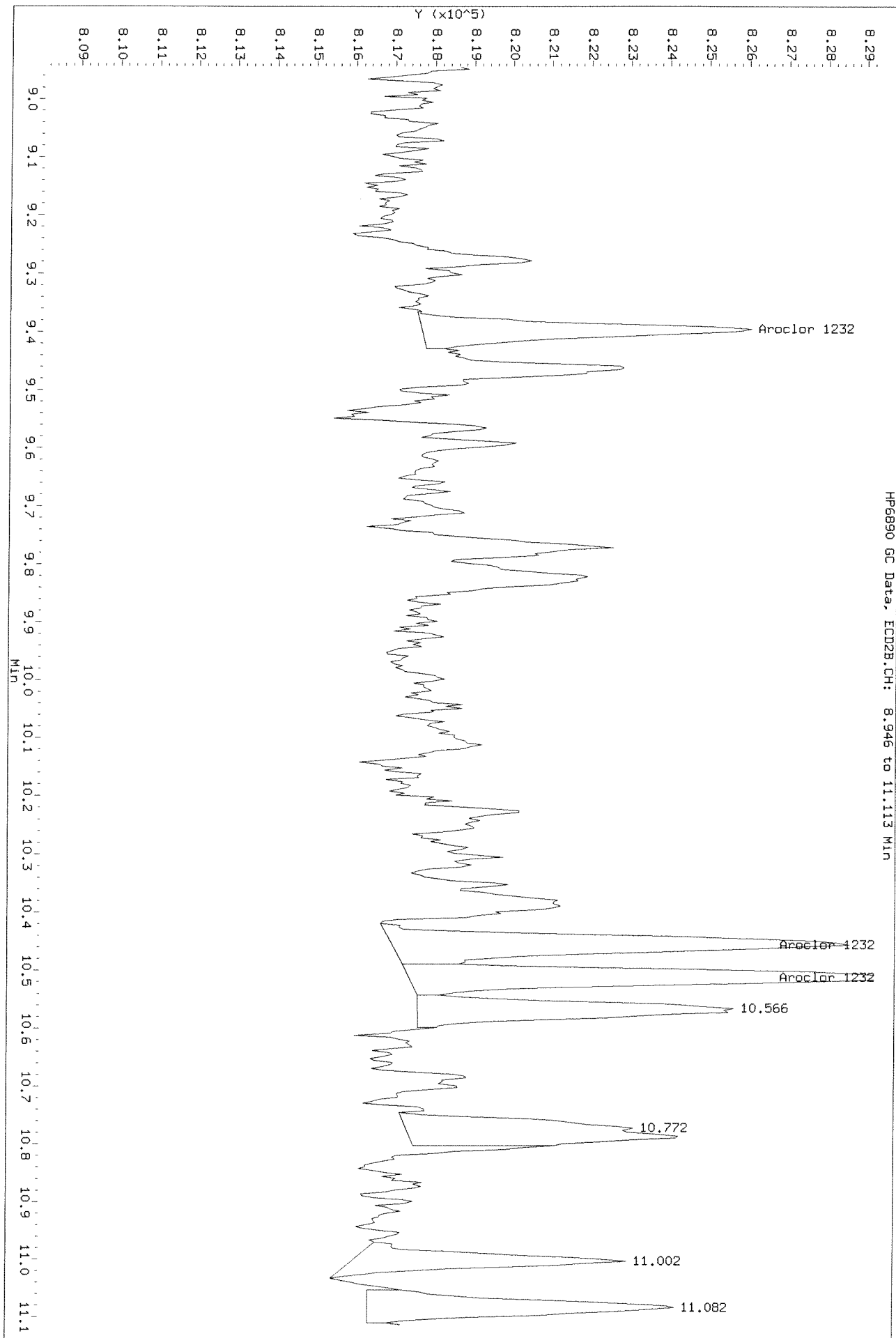
Data File: \\nakisws003\instdata\GC27\Data\121720ICAL_r.b\1217F022.D
Injection Date: 18-DEC-2020 04:34
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2020



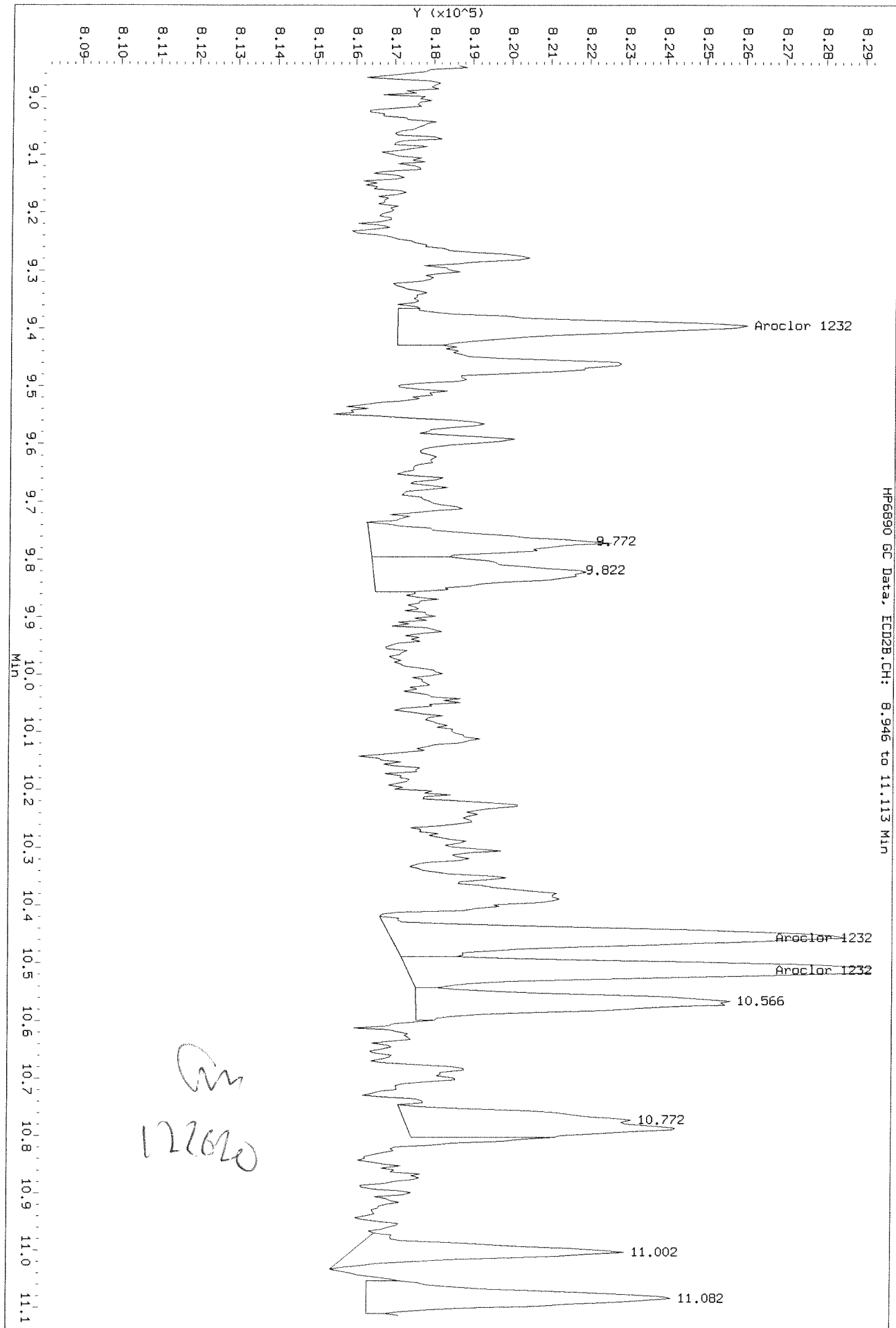
Data File: \\nakisw003\instdata\GC27\Data\121720ICAL_r.b\1217F022.D
Injection Date: 18-DEC-2020 04:34
Instrument: GC27.1
Client Sample ID:

Before



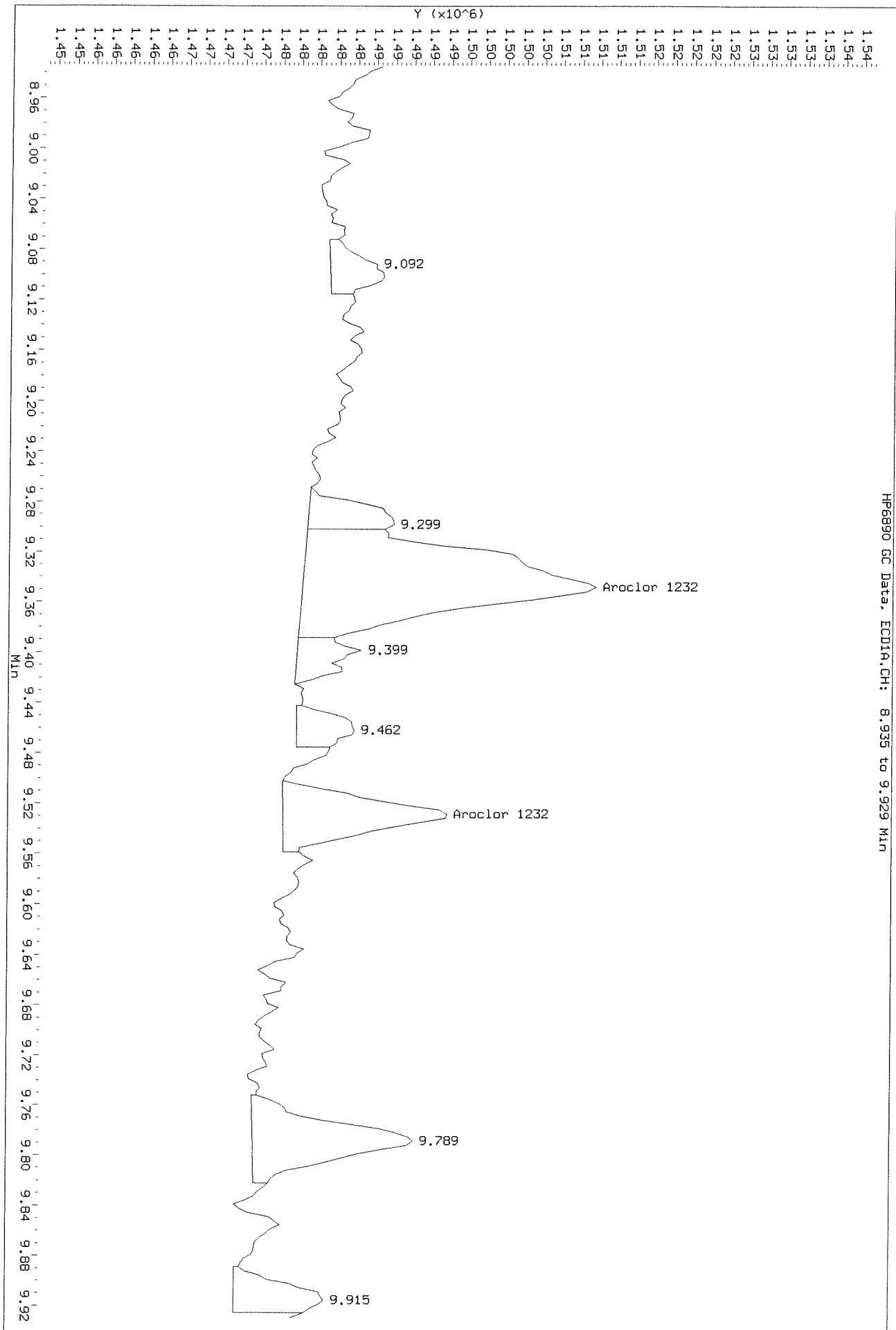
Data File: \\nakisw003\instdata\GC27\Data\121720ICL-r.b\1217F022.D
Injection Date: 18-DEC-2020 04:34
Instrument: GC27.1
Client Sample ID:

After missed peak 12/23/20 st



Data File: \\nakjsms003\instdata\GC27\Data\121720ICL.b\1217F022.D
Injection Date: 18-DEC-2020 04:34
Instrument: GC27.1
Client Sample ID:

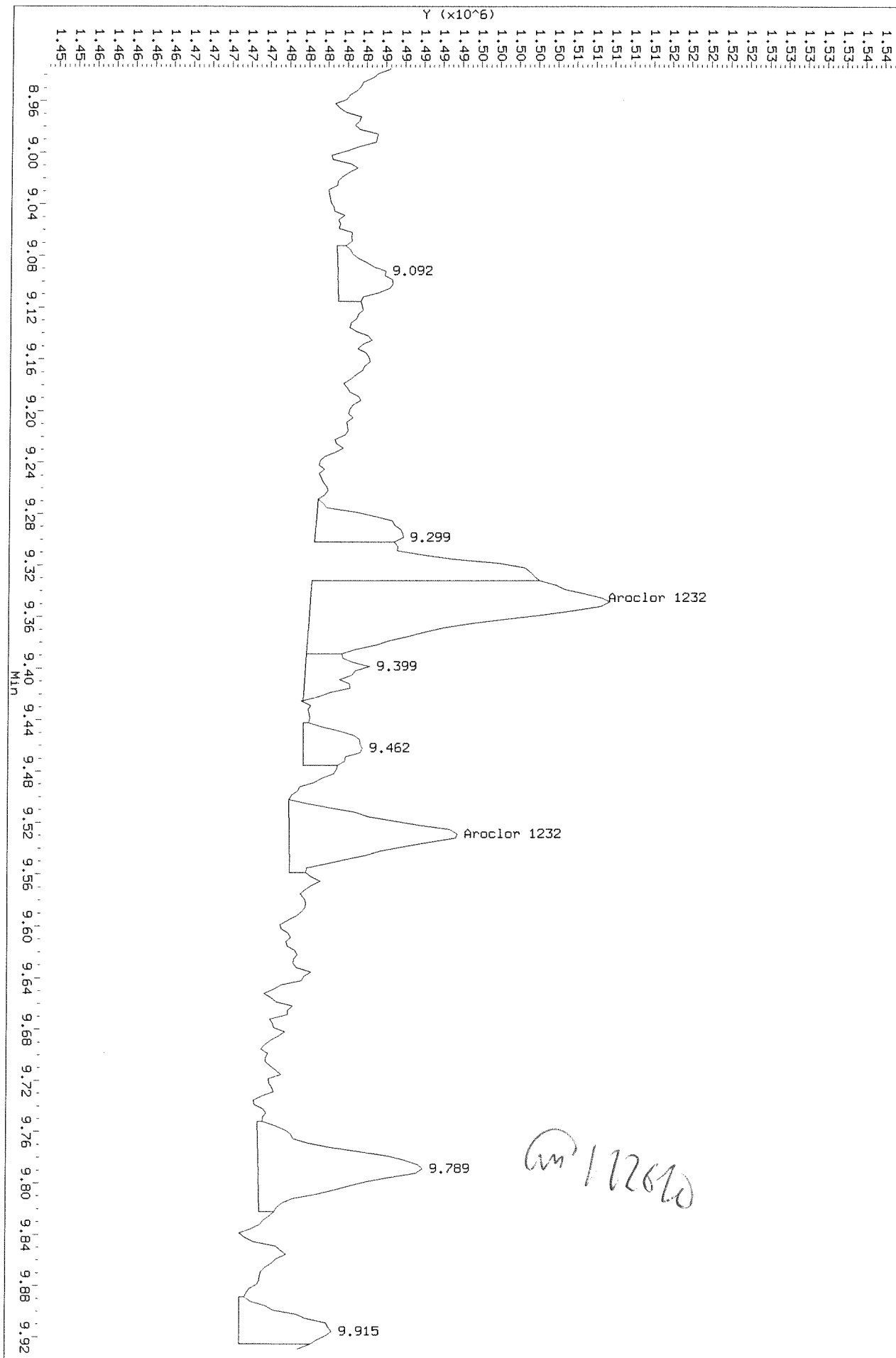
Before



Data File: \\nakisws003\instdata\GC27\Data\121720ICAL.b\1217F022.D
Injection Date: 18-DEC-2020 04:34
Instrument: GC27.1
Client Sample ID:

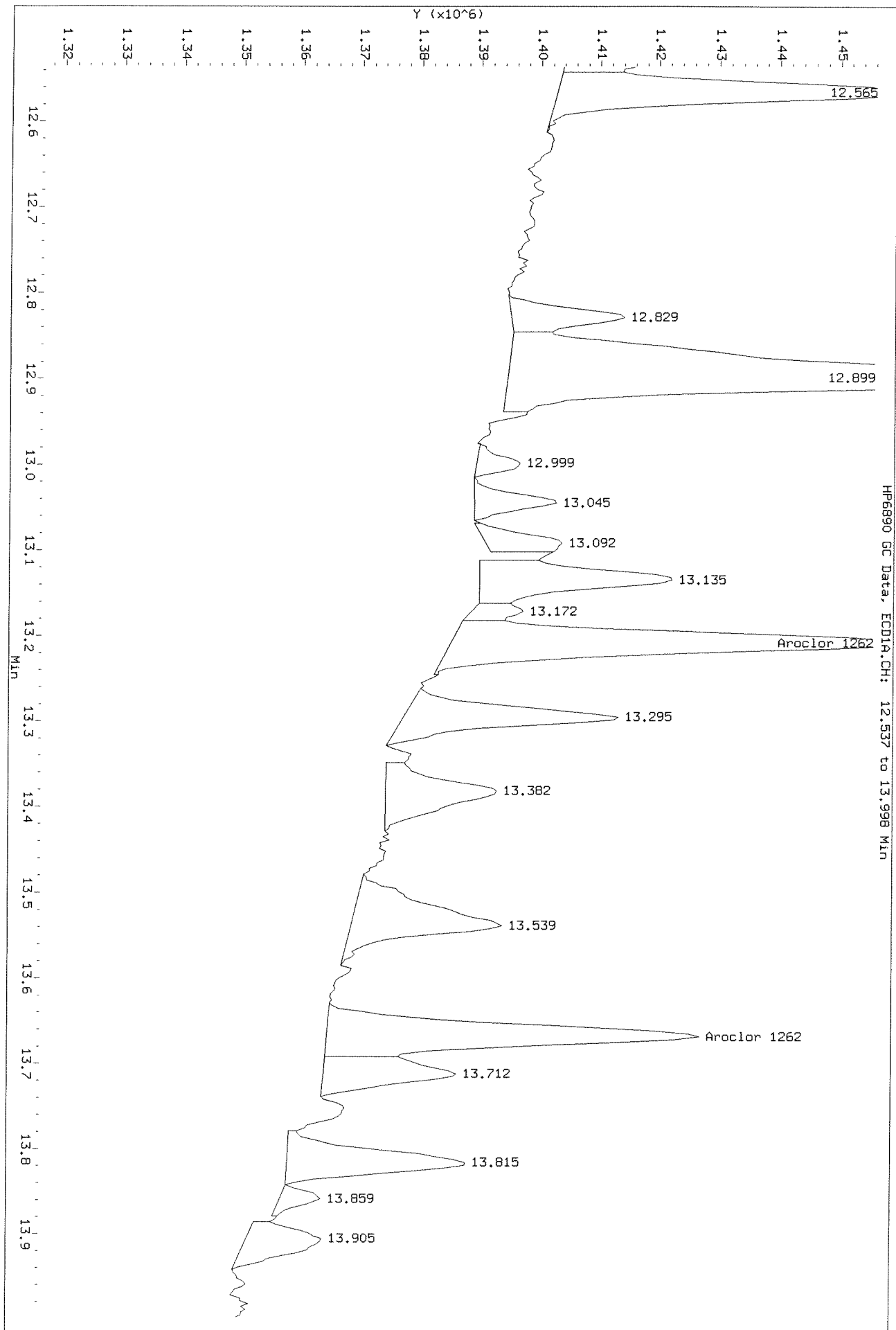
After shoulder 12/23/2020

HP6890 GC Data, ECD1A.CH: 8.935 to 9.929 Min



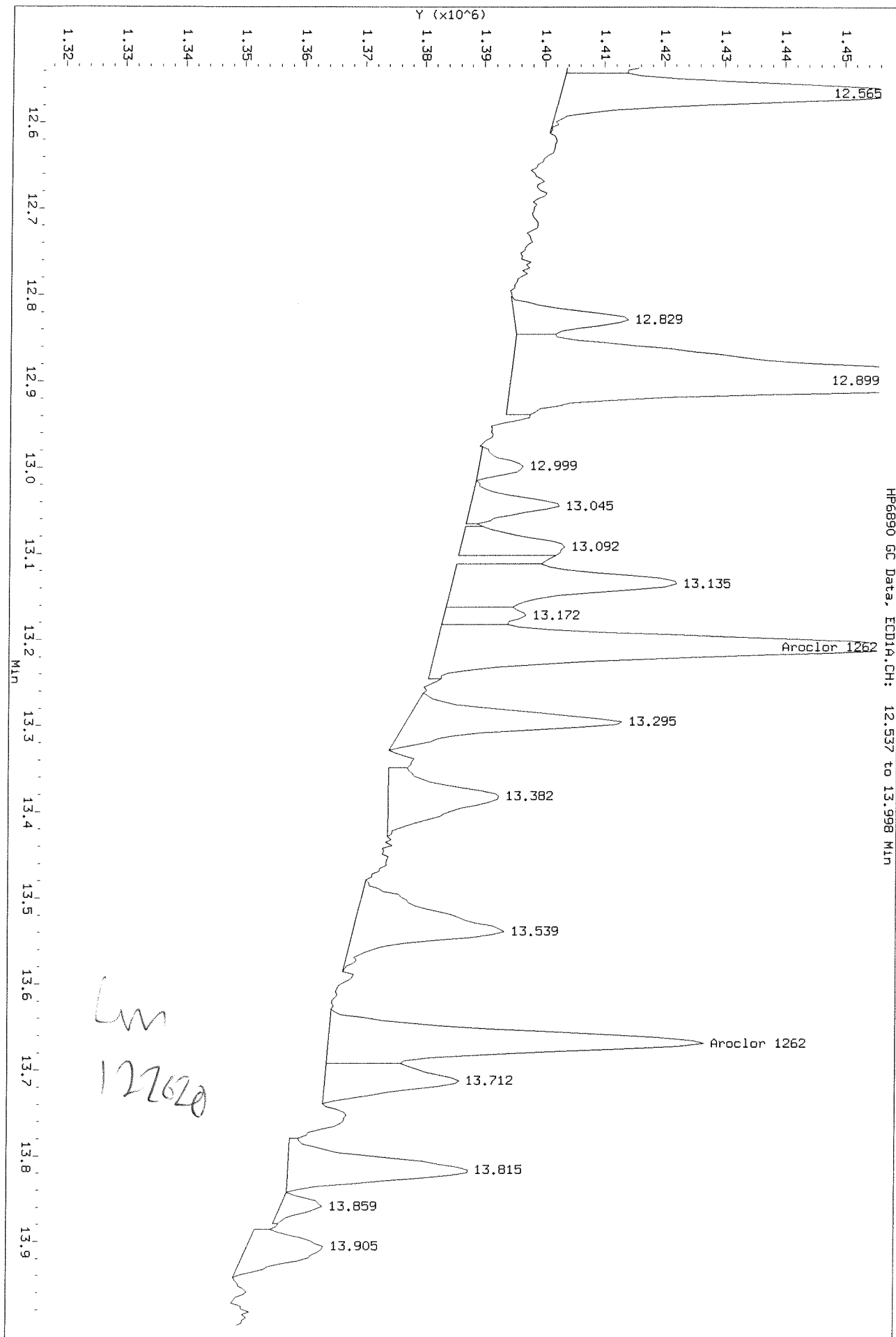
Data File: \\nakjsms003\instdata\GC27\Data\121720ICL.b\1217F022.D
Injection Date: 18-DEC-2020 04:34
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakisws003\instdata\GC27\Data\1217201CAL.b\1217F022.D
Injection Date: 18-DEC-2020 04:34
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2020



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F023.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F023.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F023.D
Inj Date : 18-DEC-2020 05:05
Sample Info: PCB8-65D 3262 2PPB @ 5X
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 3262.sub
Sub List #2 : 3262.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	7.283	8.660	35906	56317	2.16	2.12	80.00- 120.00	100.00 (M)
	7.680	9.396	93982	30188	2.03	2.11	236.59- 354.88	261.74 (M)
	8.440	9.770	89724	15694	2.17	1.55	198.03- 297.04	249.89 (M)
	9.350	10.453	108579	40413	2.20	1.93	237.24- 355.86	302.40 (M)
	9.530	10.513	50865	46857	1.94	1.97	133.07- 199.60	141.66 (M)
	Average of Peak Amounts =				2.10	1.94		
Aroclor 1262	13.210	14.286	246323	151106	2.24	2.22	80.00- 120.00	100.00
	13.670	14.380	206162	58013	2.16	2.06	72.87- 109.30	83.70
	14.043	14.646	383535	117214	2.21	2.19	136.64- 204.97	155.70
	14.660	15.173	285626	260689	2.23	2.31	97.41- 146.11	115.96
	15.516	16.663	107233	78054	2.16	2.30	39.34- 59.01	43.53
	Average of Peak Amounts =				2.20	2.22		

QC Flag Legend

M - Compound response manually integrated.

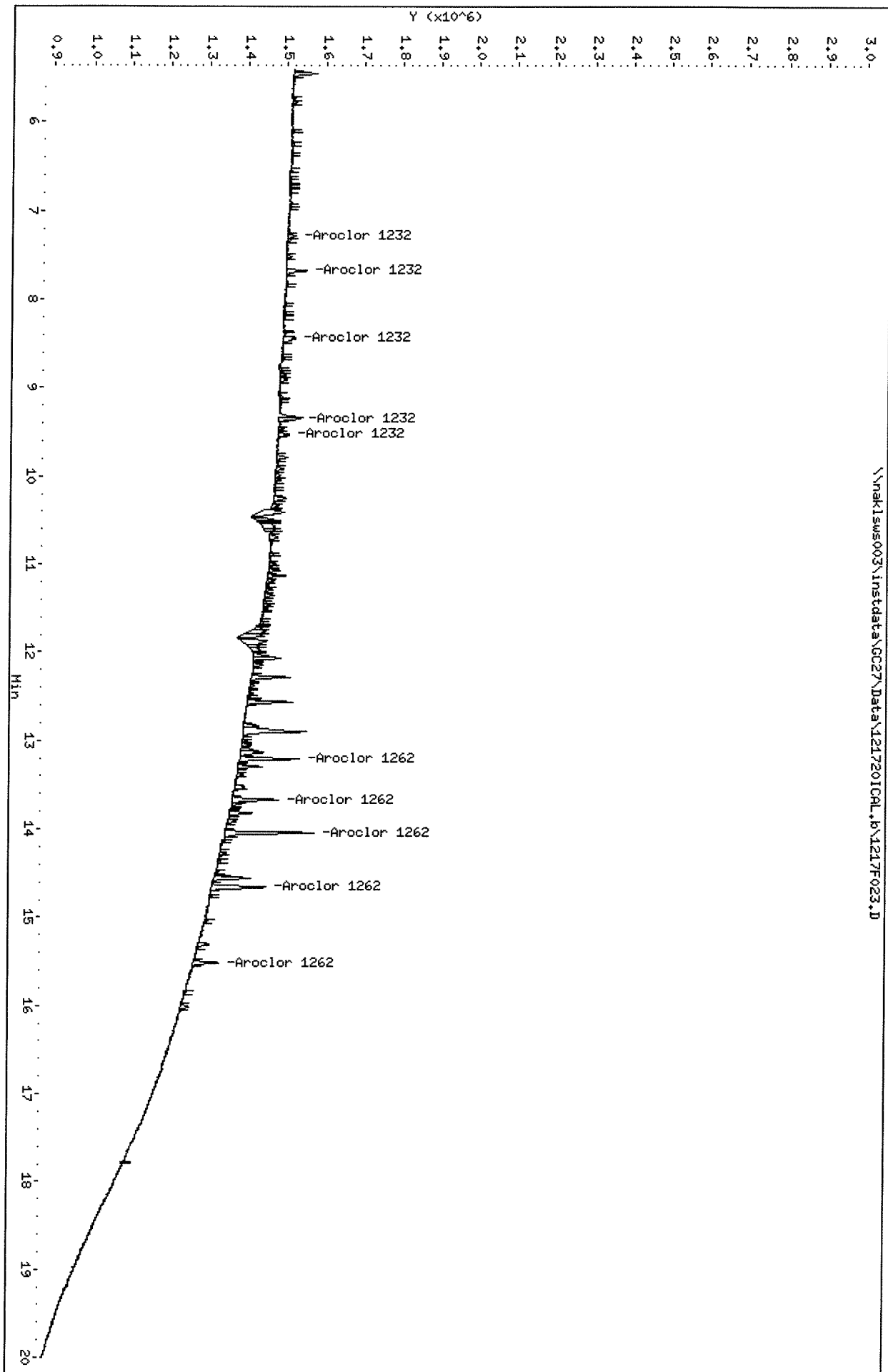
CM

121720

12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F023.D
Date : 18-DEC-2020 05:05
Client ID:
Sample Info: PCB8-65D 3262 2PPB @ 5X
Column phase: DB-35MS

Instrument: GC27.i
Operator: SAA
Column diameter: 0.32



Data File: \\nak1sus003\instdata\GC27\Data\121720IC9L_r.b\1217F023.D

Date : 18-DEC-2020 05:05

Client ID:

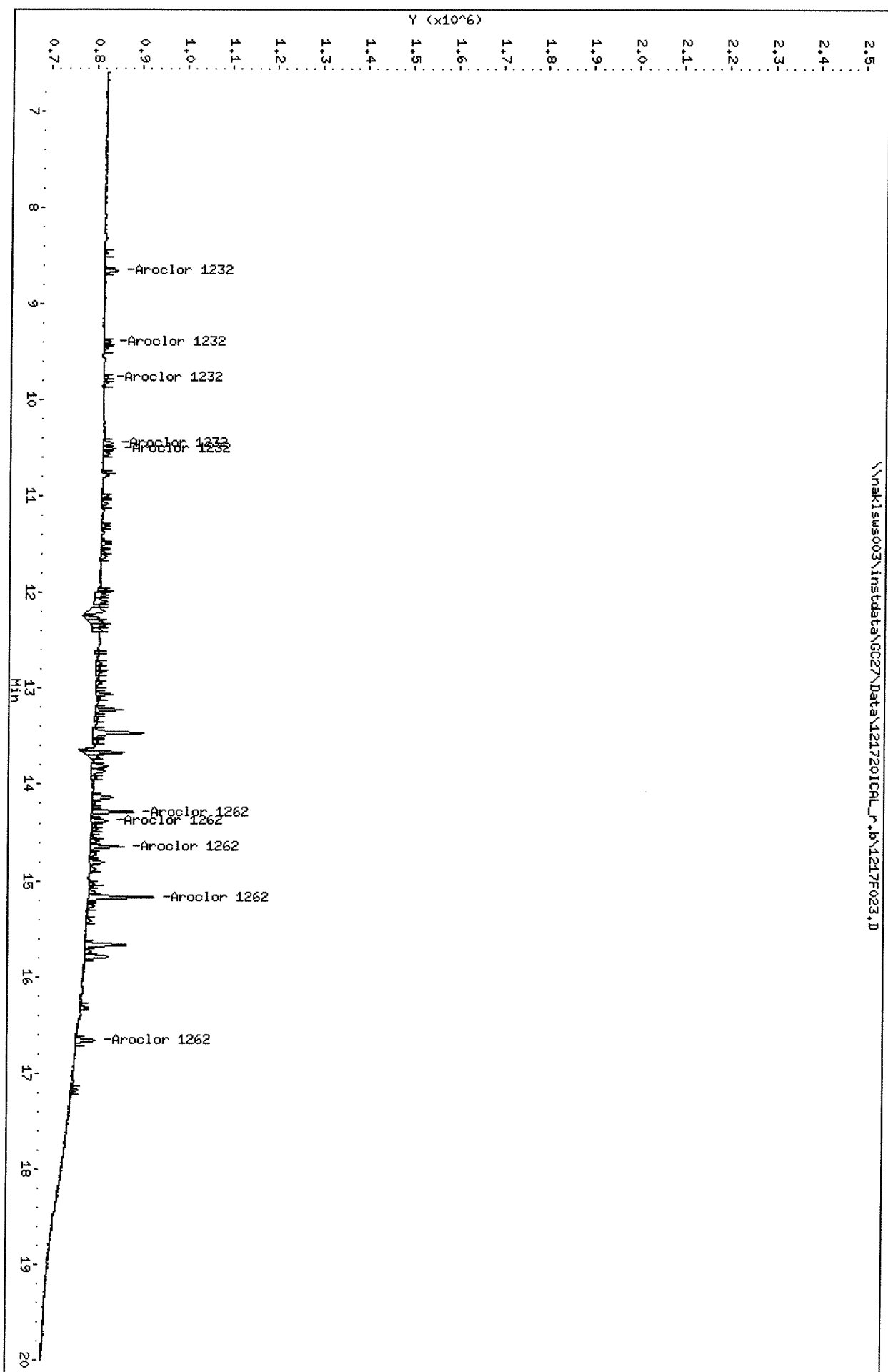
Sample Info: PCB8-65D 3262 2PPB @ 5X

Column phase: DB-XLB

Instrument: GC27.i

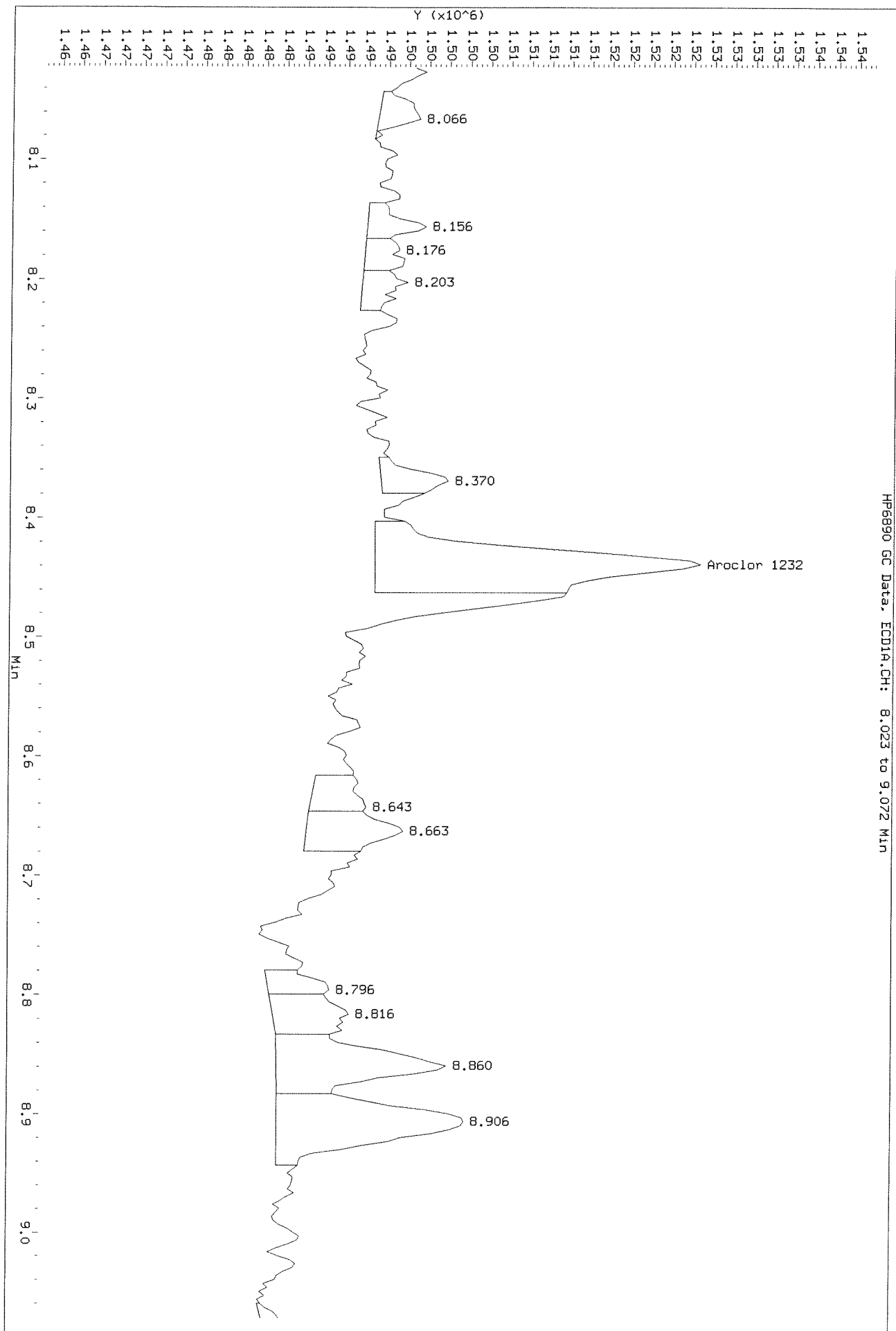
Operator: SRA

Column diameter: 0.32



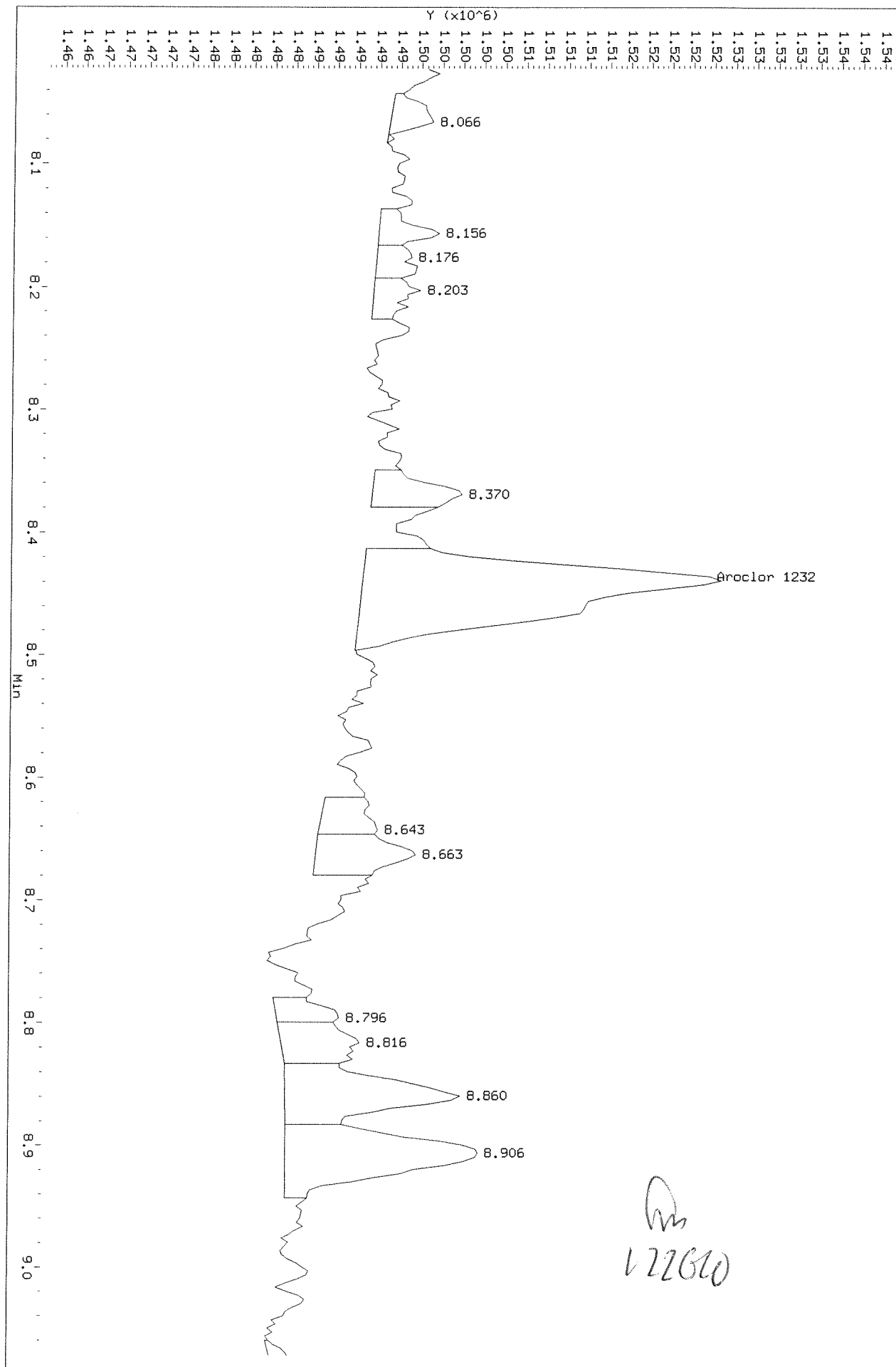
Data File: \\nakjsws003\instdata\GC27\Data\121720ICL.b\1217F023.D
Injection Date: 18-DEC-2020 05:05
Instrument: GC27.1
Client Sample ID:

Refer



Data File: \\nakisws003\instdata\GC27\Data\121720ICAL.b\1217F023.D
Injection Date: 18-DEC-2020 05:05
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.023 to 9.072 Min

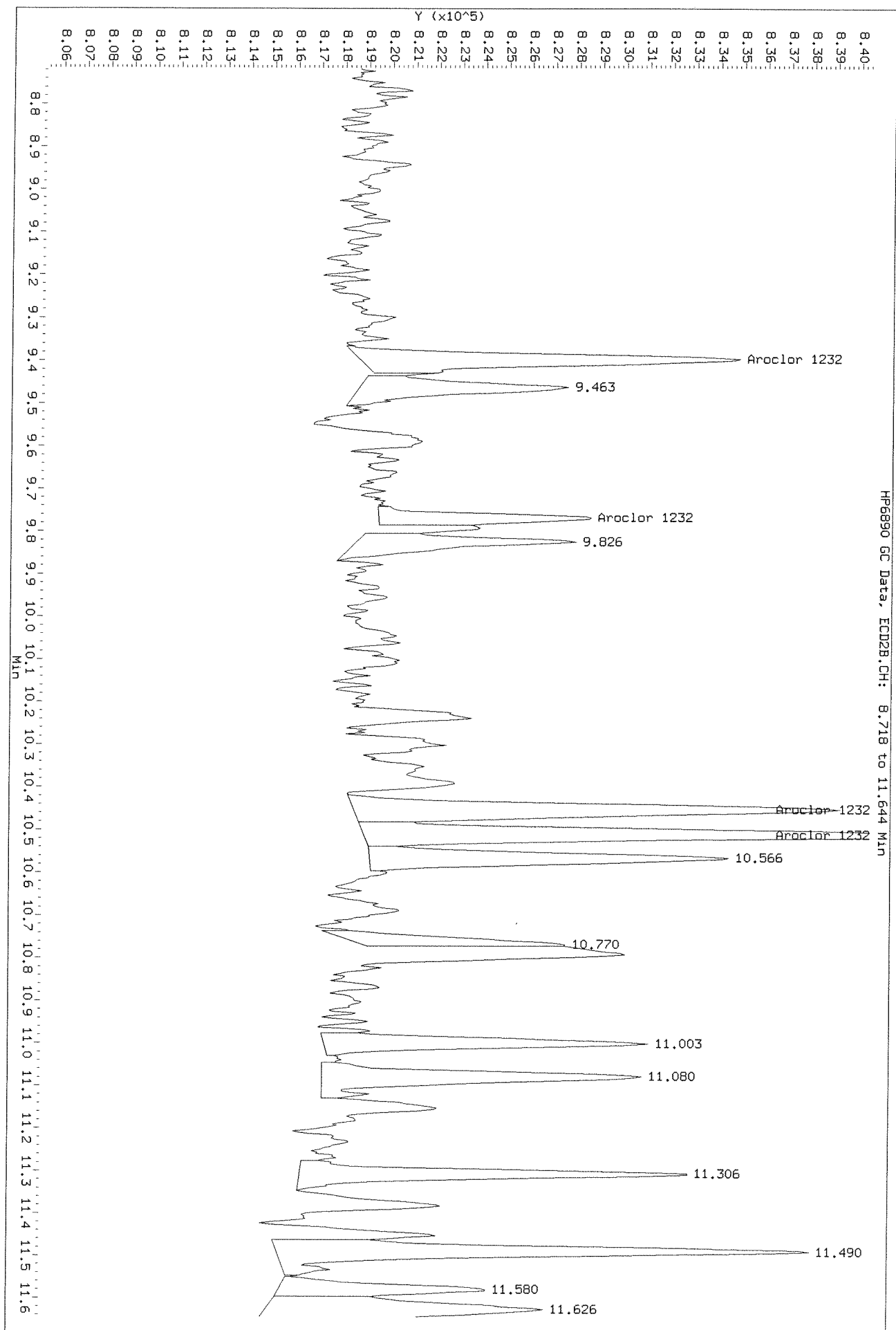


APK baseline 12/23/2020

122610

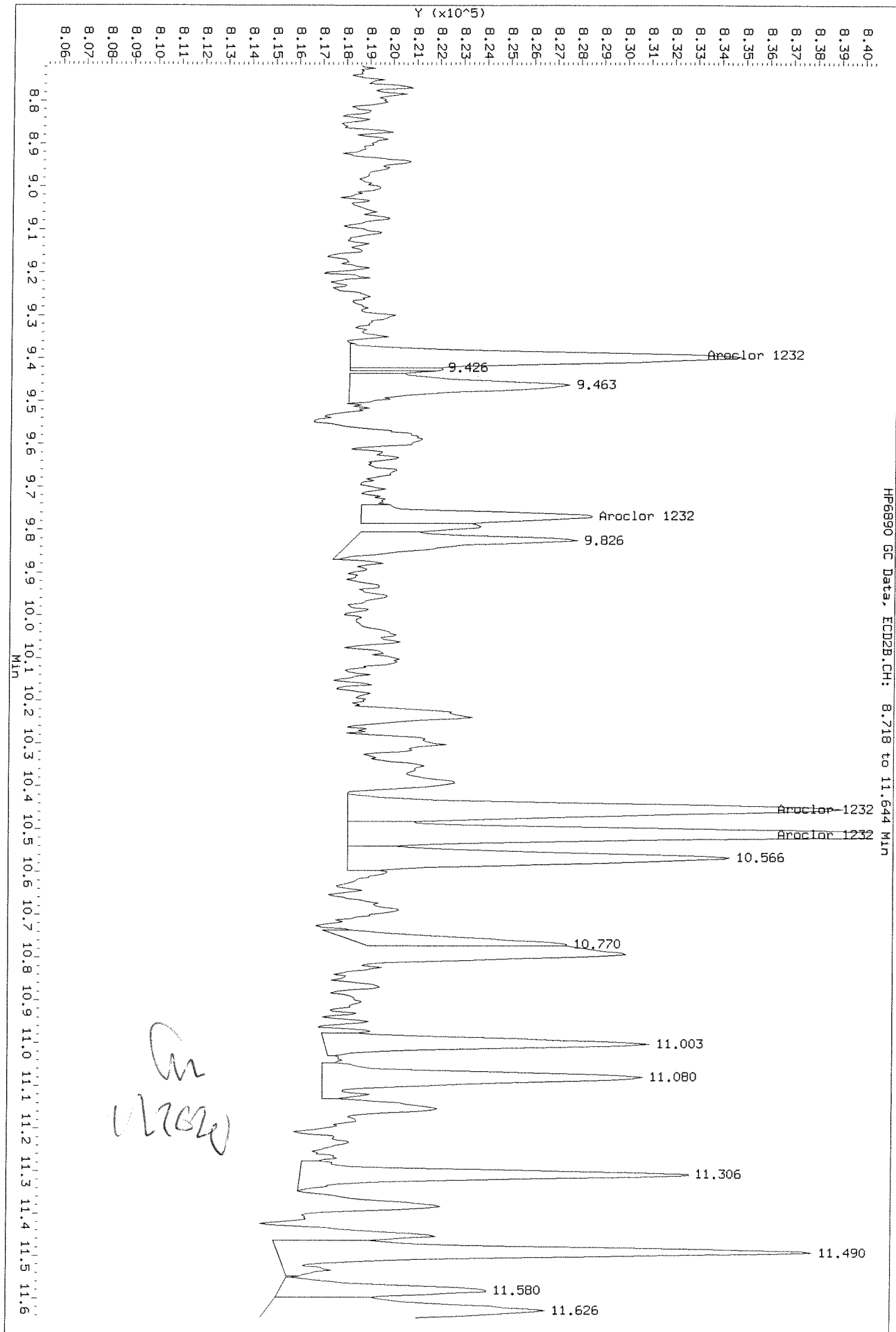
Data File: \\nakisws003\instdata\GC27\Data\121720ICAL_r.b\1217F023.D
Injection Date: 18-DEC-2020 05:05
Instrument: GC27.1
Client Sample ID:

Before



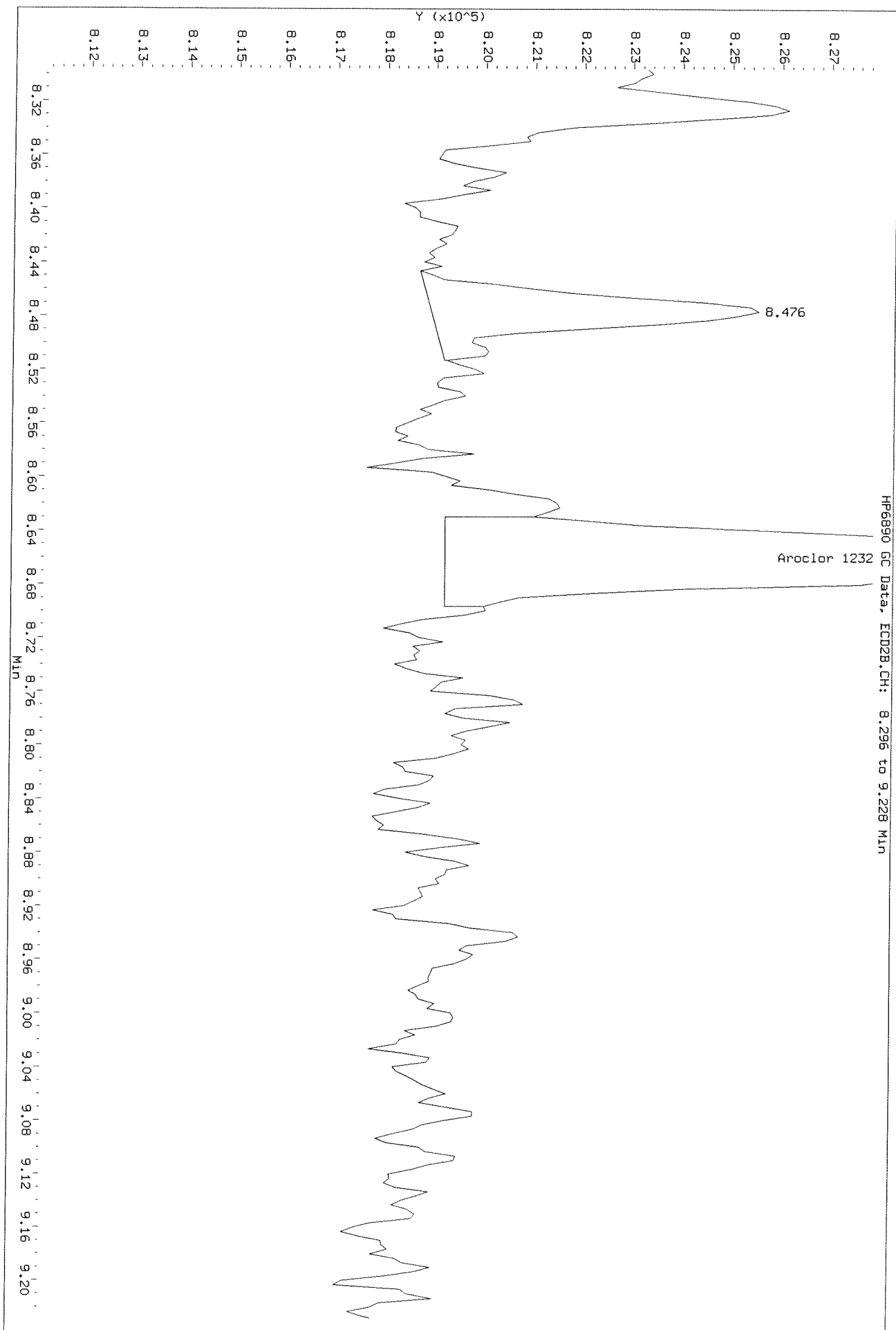
Data File: \\nakisw003\instdata\GC27\Data\121720ICL-r.b\1217F023.D
 Injection Date: 18-DEC-2020 05:05
 Instrument: GC27.1
 Client Sample ID:

After baseline 12/23/2018



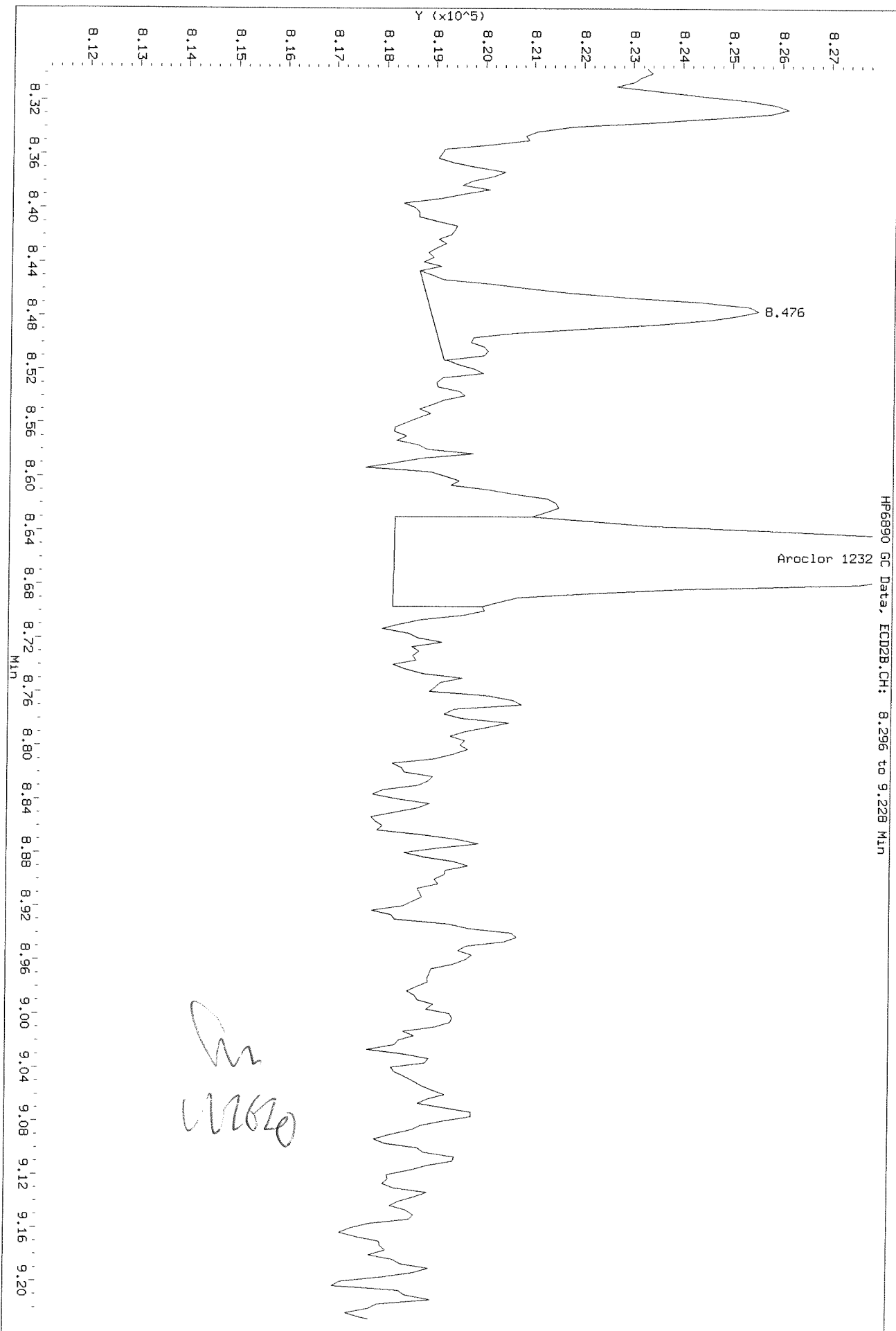
Data File: \\nakisws003\instdata\GC27\Data\121720ICAL_r.b\1217F023.D
Injection Date: 18-DEC-2020 05:05
Instrument: GC27.1
Client Sample ID:

Before



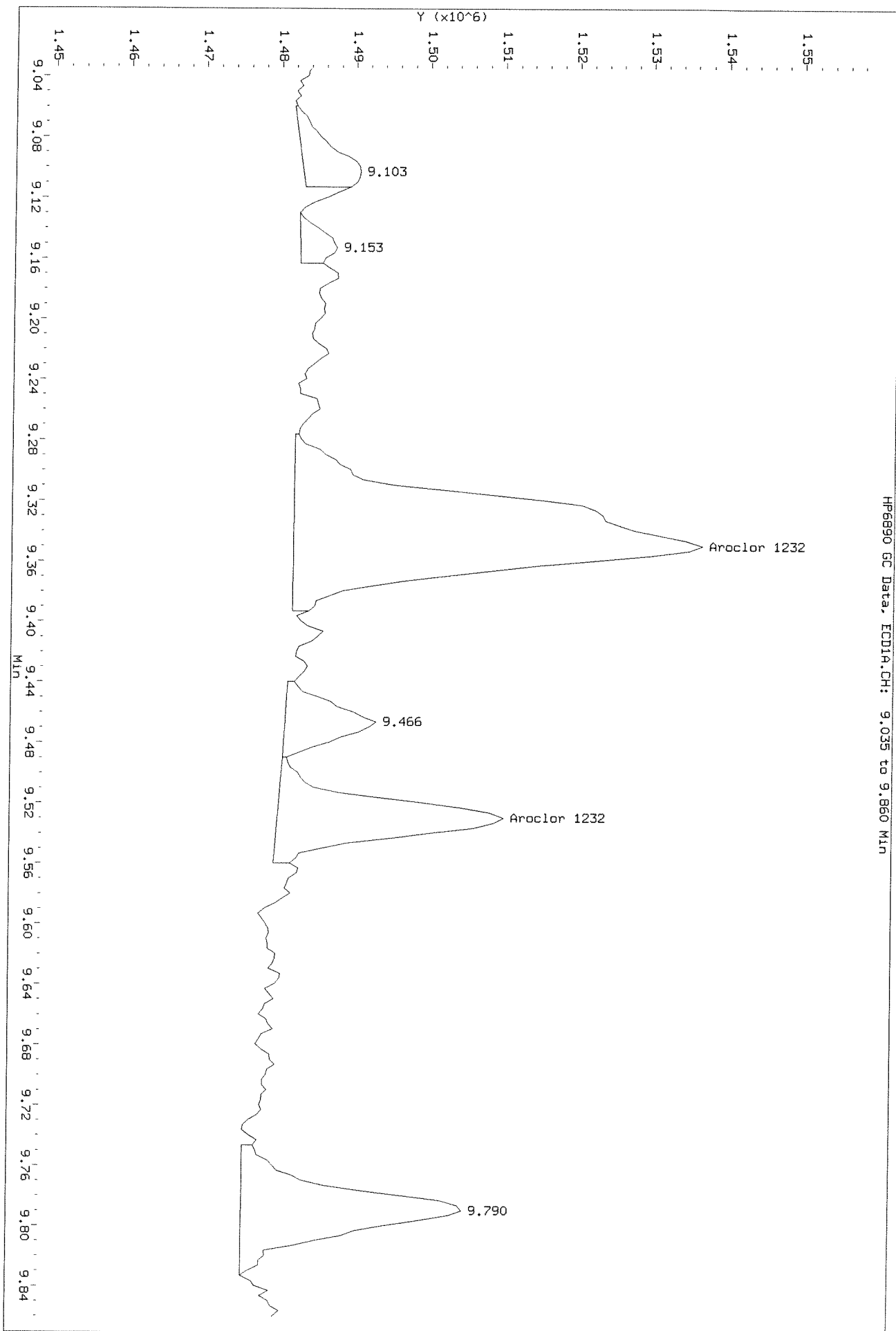
Data File: \\naklsw003\instdata\GC27\Data\1217201CAL_r.b\1217023.D
Injection Date: 18-DEC-2020 05:05
Instrument: GC27.1
Client Sample ID:

After baseline 1217390



Data File: \\nak1sws003\instdata\GC27\Data\121720ICL.b\1217F023.D
Injection Date: 18-DEC-2020 05:05
Instrument: GC27.1
Client Sample ID:

Before

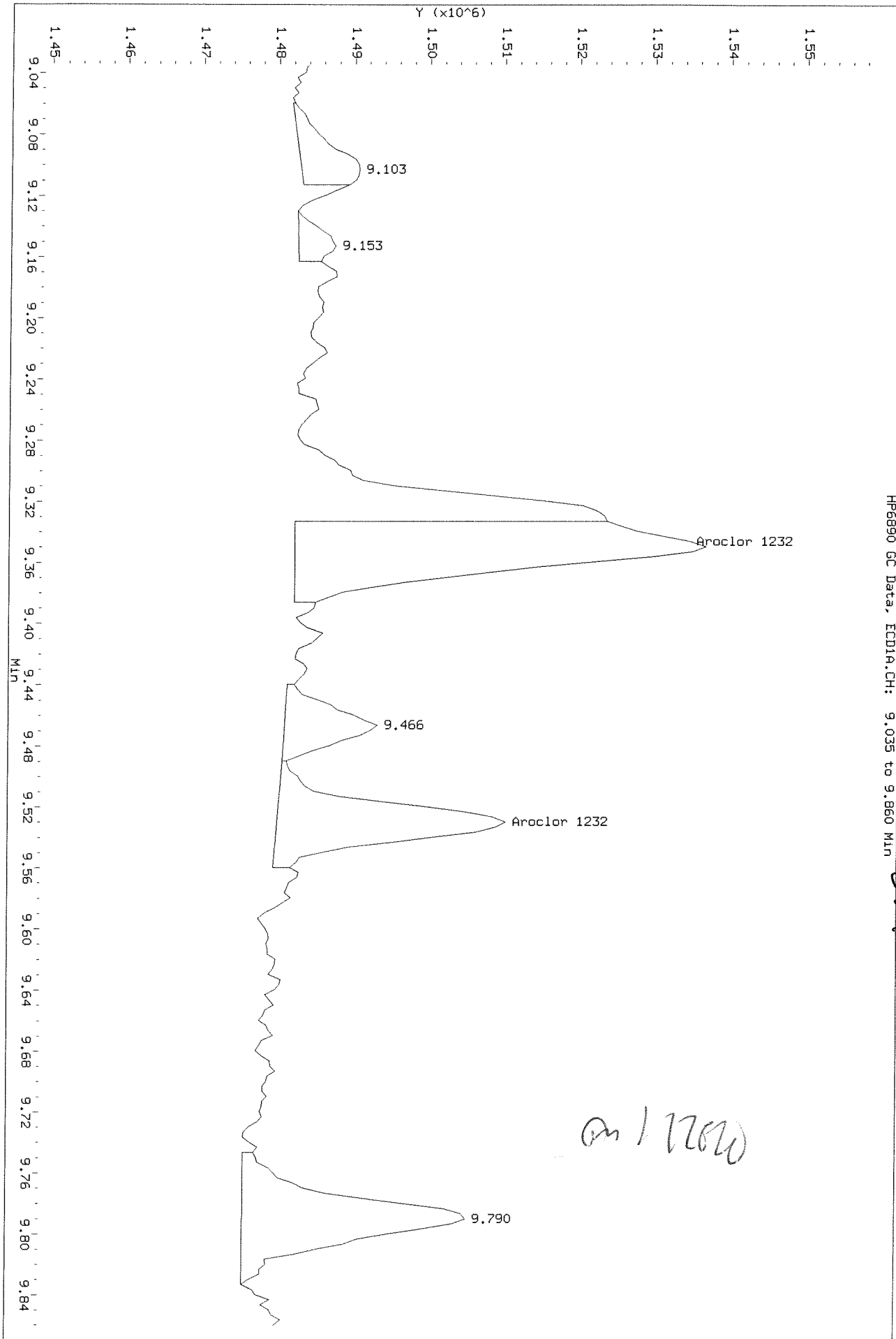


Data File: \\nakisw003\instdata\GC27\Data\121720ICAL.b\1217F023.D
Injection Date: 18-DEC-2020 05:05
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 9.035 to 9.860 Min

wrong peak
After search 12/23/20
EE 12/23/20

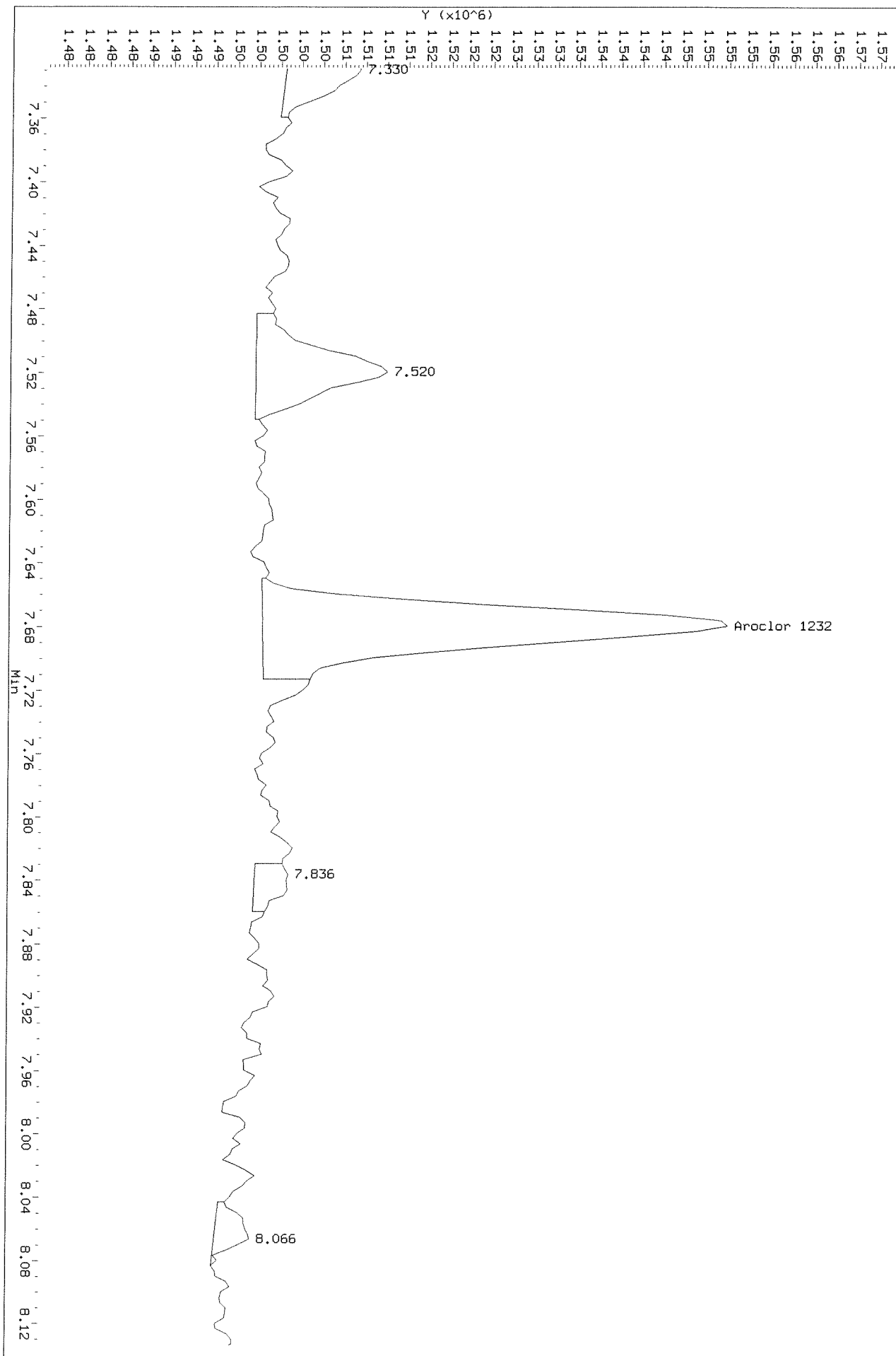
on 12/20



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F023.D
Injection Date: 18-DEC-2020 05:05
Instrument: GC27.1
Client Sample ID:

Before

HP6890 GC Data, ECD1A.CH: 7.329 to 8.133 MIN

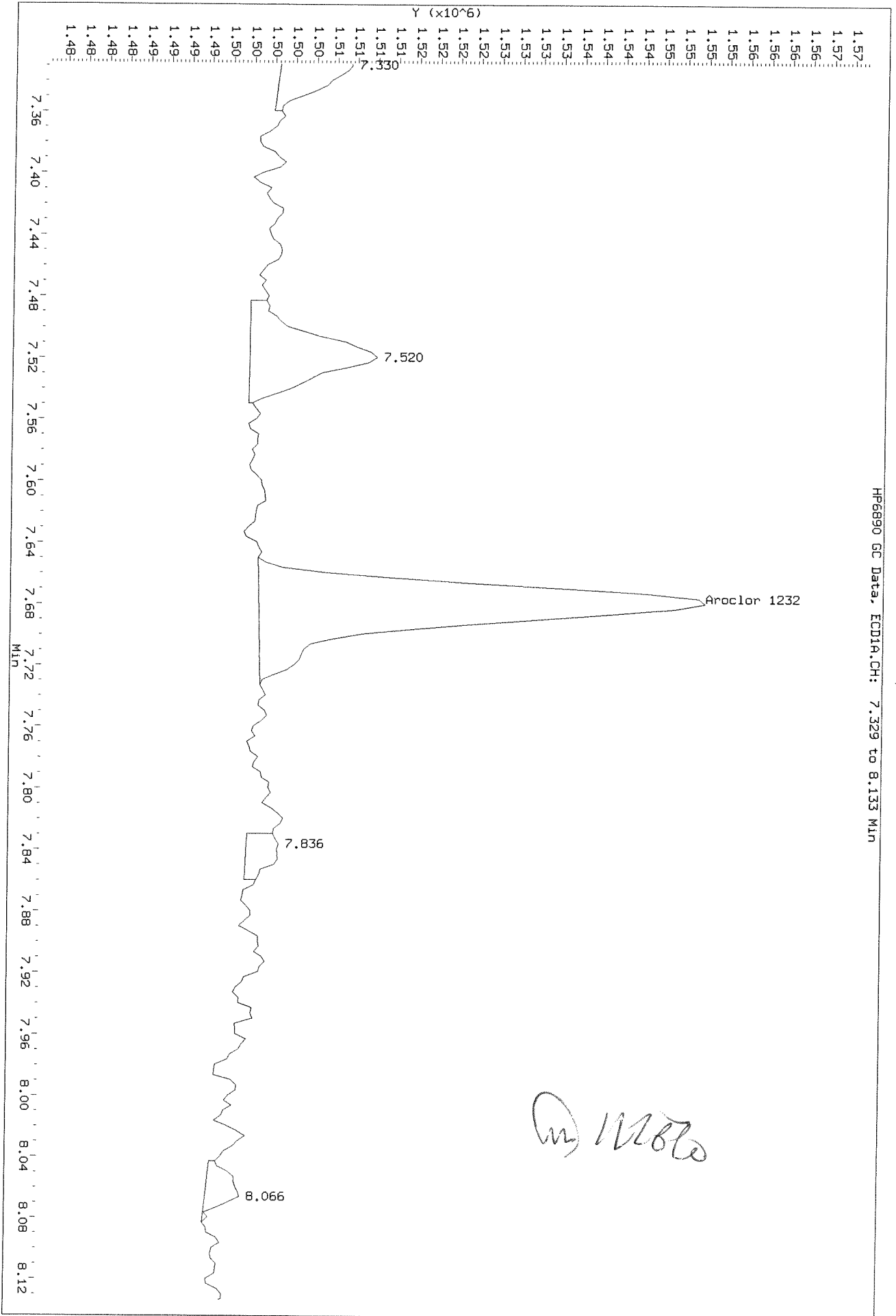


Data File: \\nakjs003\instdata\GC27\Data\121720ICL.b\1217F023.D
Injection Date: 18-DEC-2020 05:05
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 7.329 to 8.133 Min

After baseline 12/23/2020

12/23/20



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F024.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F024.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F024.D
Inj Date : 18-DEC-2020 05:37
Sample Info: PCB8-65E 3262 5PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 3262.sub
Sub List #2 : 3262.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	7.287	8.660	87001	141695	5.22	5.35	80.00- 120.00	100.00 (M)
	7.680	9.397	258034	72778	5.56	5.10	236.59- 354.88	296.59 (M)
	8.440	9.770	214335	52144	5.19	5.15	198.03- 297.04	246.36 (M)
	9.347	10.457	256861	108620	5.21	5.20	237.24- 355.86	295.24 (M)
	9.530	10.510	139379	123217	5.32	5.17	133.07- 199.60	160.20 (M)
	Average of Peak Amounts =				5.30	5.19		
Aroclor 1262	13.210	14.284	595802	390523	5.41	5.75	80.00- 120.00	100.00
	13.667	14.380	522046	160929	5.48	5.72	72.87- 109.30	87.62
	14.043	14.647	920106	299827	5.30	5.60	136.64- 204.97	154.43
	14.660	15.174	687394	647142	5.36	5.74	97.41- 146.11	115.37
	15.517	16.660	261619	187706	5.26	5.54	39.34- 59.01	43.91
	Average of Peak Amounts =				5.36	5.67		

QC Flag Legend

M - Compound response manually integrated.

Am 12/20

SA 12/23/20

Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F024.D
Date : 18-DEC-2020 05:37

Client ID:

Sample Info: PCB8-6SE 3262 SPPB

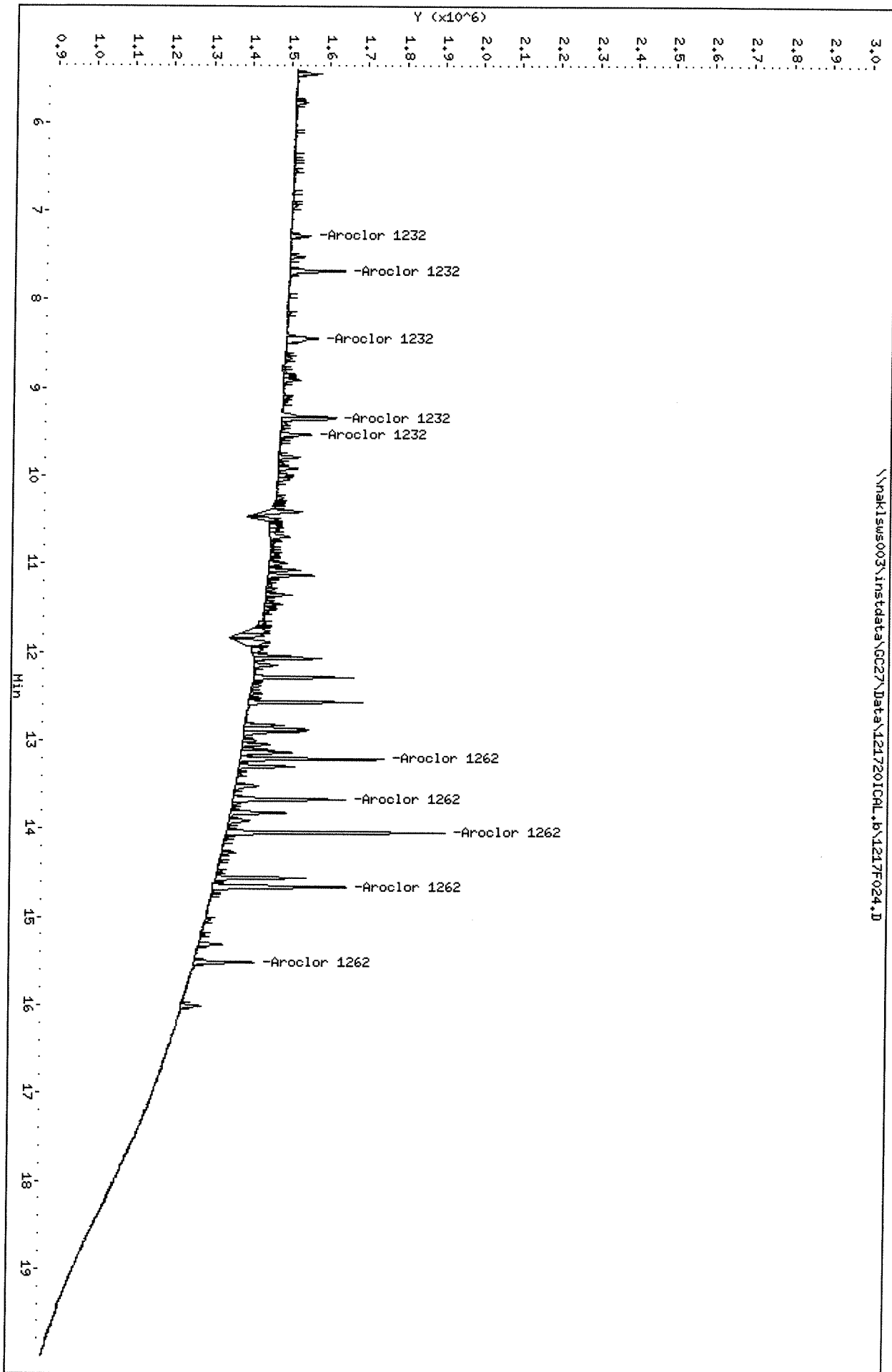
Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32

\\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F024.D



Data File: \\nakisus003\instdata\GC27\Data\121720ICL_r.b\1217F024.D
Date : 18-DEC-2020 06:37

Client ID:

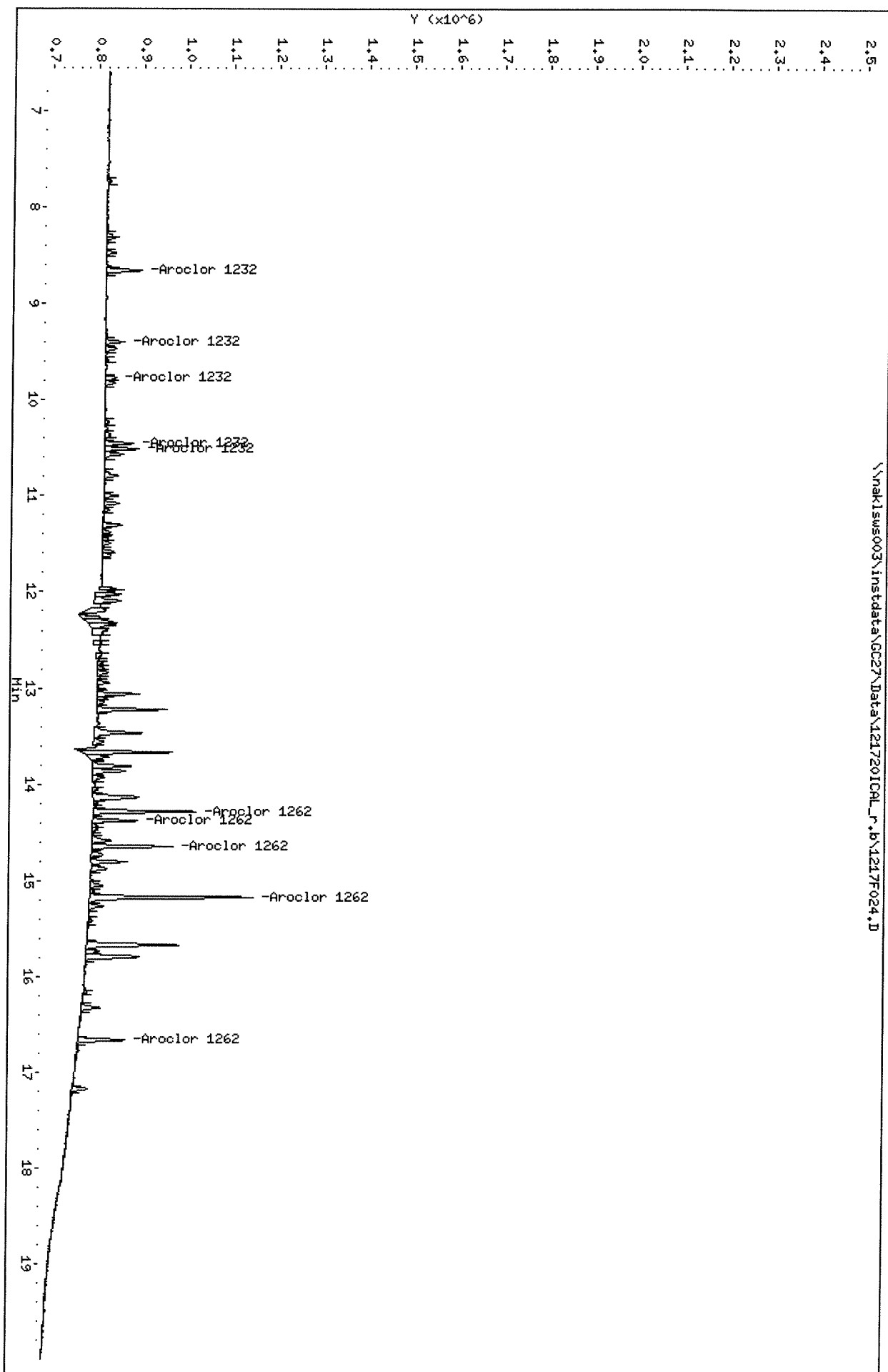
Sample Info: PCB8-6SE 3262 SPPB

Column phase: DB-XLB

Instrument: GC27.1

Operator: SAA

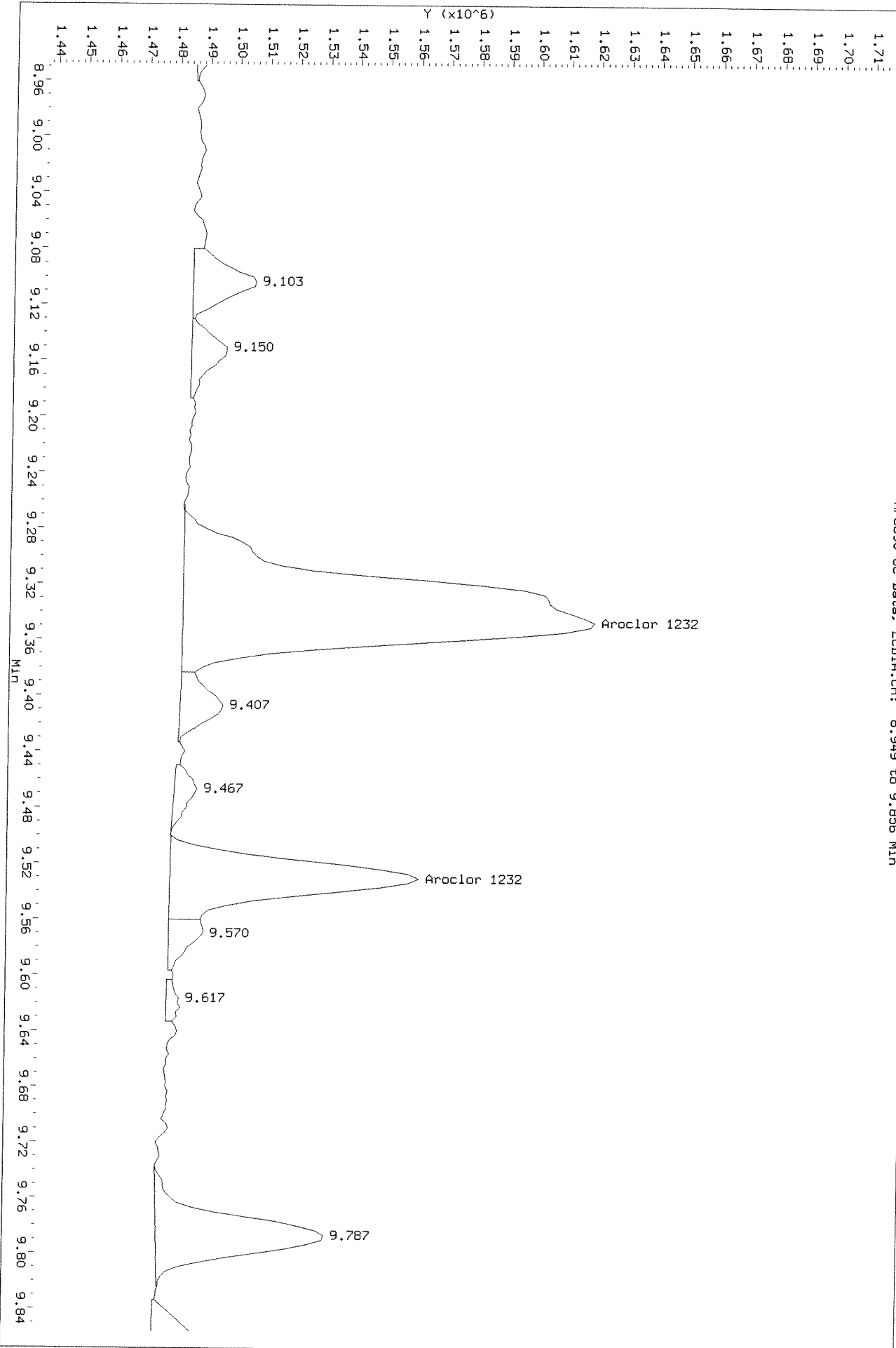
Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F024.D
Injection Date: 18-DEC-2020 05:37
Instrument: GC27.1
Client Sample ID:

Belton

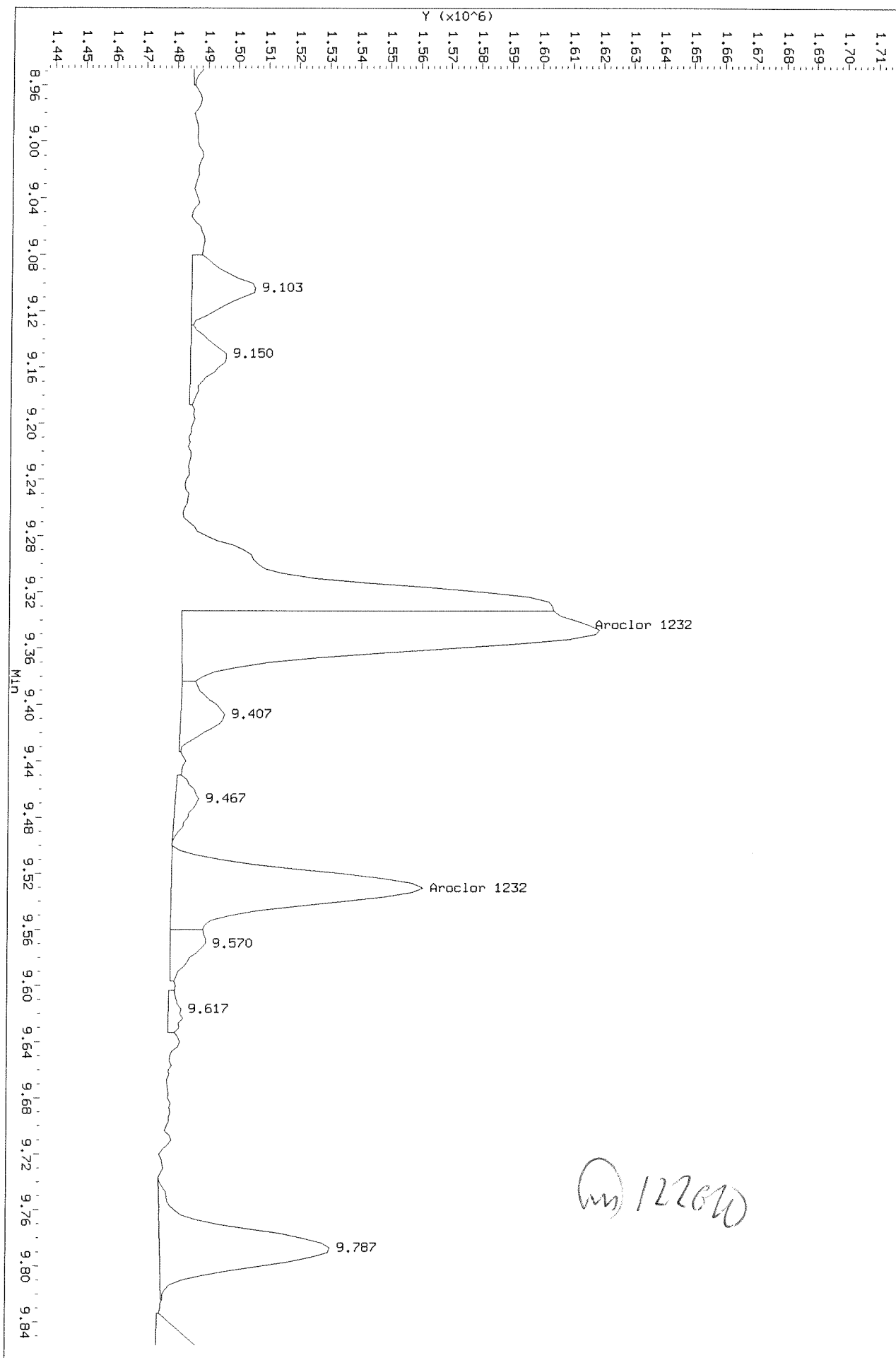
HP6890 GC Data, ECD1A.CH: 8.949 to 9.856 Min



Data File: \\naklsms003\inst\data\GC27\Data\121720ICAL.b\1217F024.D
Injection Date: 18-DEC-2020 05:37
Instrument: GC27.1
Client Sample ID:

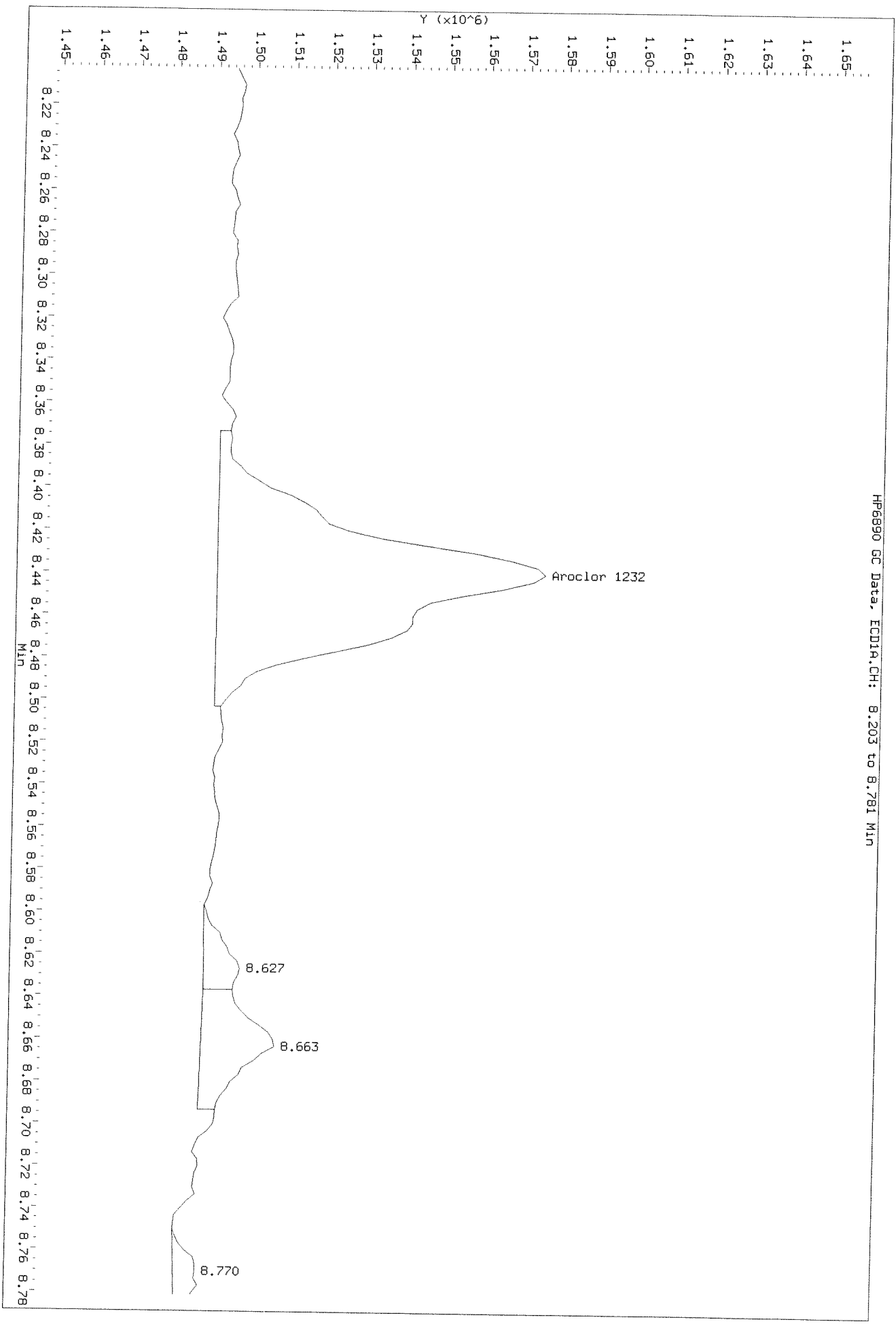
AKK wrong peak 12/23/20

HP6890 GC Data, ECD1A.CH: 8.949 to 9.856 Min



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F024.D
Injection Date: 18-DEC-2020 05:37
Instrument: GC27.i
Client Sample ID:

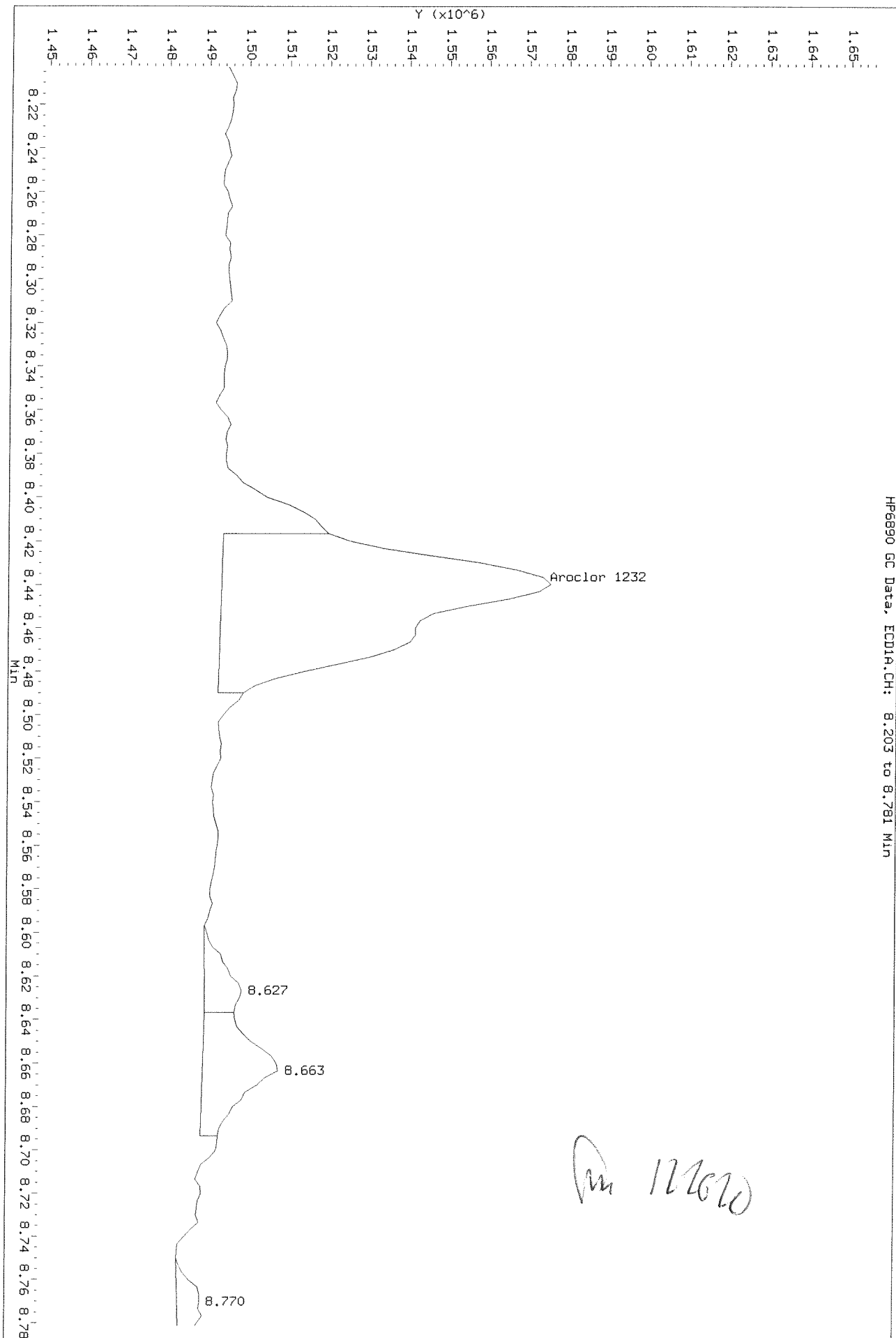
Before



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F024.D
Injection Date: 18-DEC-2020 05:37
Instrument: GC27.1
Client Sample ID:

After shoulder 12/23/2024

12/26/20



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F025.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F025.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F025.D
Inj Date : 18-DEC-2020 06:08
Sample Info: PCB8-65D 3262 10PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 3262.sub
Sub List #2 : 3262.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	7.286	8.660	169387	271240	10.2	10.2	80.00- 120.00	100.00 (M)
	7.680	9.400	487967	140336	10.5	9.83	236.59- 354.88	288.08 (M)
	8.440	9.773	460586	98414	11.2	9.72	198.03- 297.04	271.91 (M)
	9.350	10.453	465285	211250	9.44	10.1	237.24- 355.86	274.69 (M)
	9.530	10.510	268432	245175	10.3	10.3	133.07- 199.60	158.47 (M)
	Average of Peak Amounts =				10.3	10.0		
Aroclor 1262	13.210	14.286	1094201	720486	9.94	10.6	80.00- 120.00	100.00
	13.670	14.380	958710	287342	10.1	10.2	72.87- 109.30	87.62
	14.043	14.646	1693766	559831	9.75	10.5	136.64- 204.97	154.79
	14.660	15.173	1257252	1169768	9.80	10.4	97.41- 146.11	114.90
	15.516	16.660	502165	343246	10.1	10.1	39.34- 59.01	45.89
	Average of Peak Amounts =				9.94	10.4		

QC Flag Legend

M - Compound response manually integrated.

Rm 126670

SA 121370

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F025.D

Date : 18-DEC-2020 06:08

Client ID:

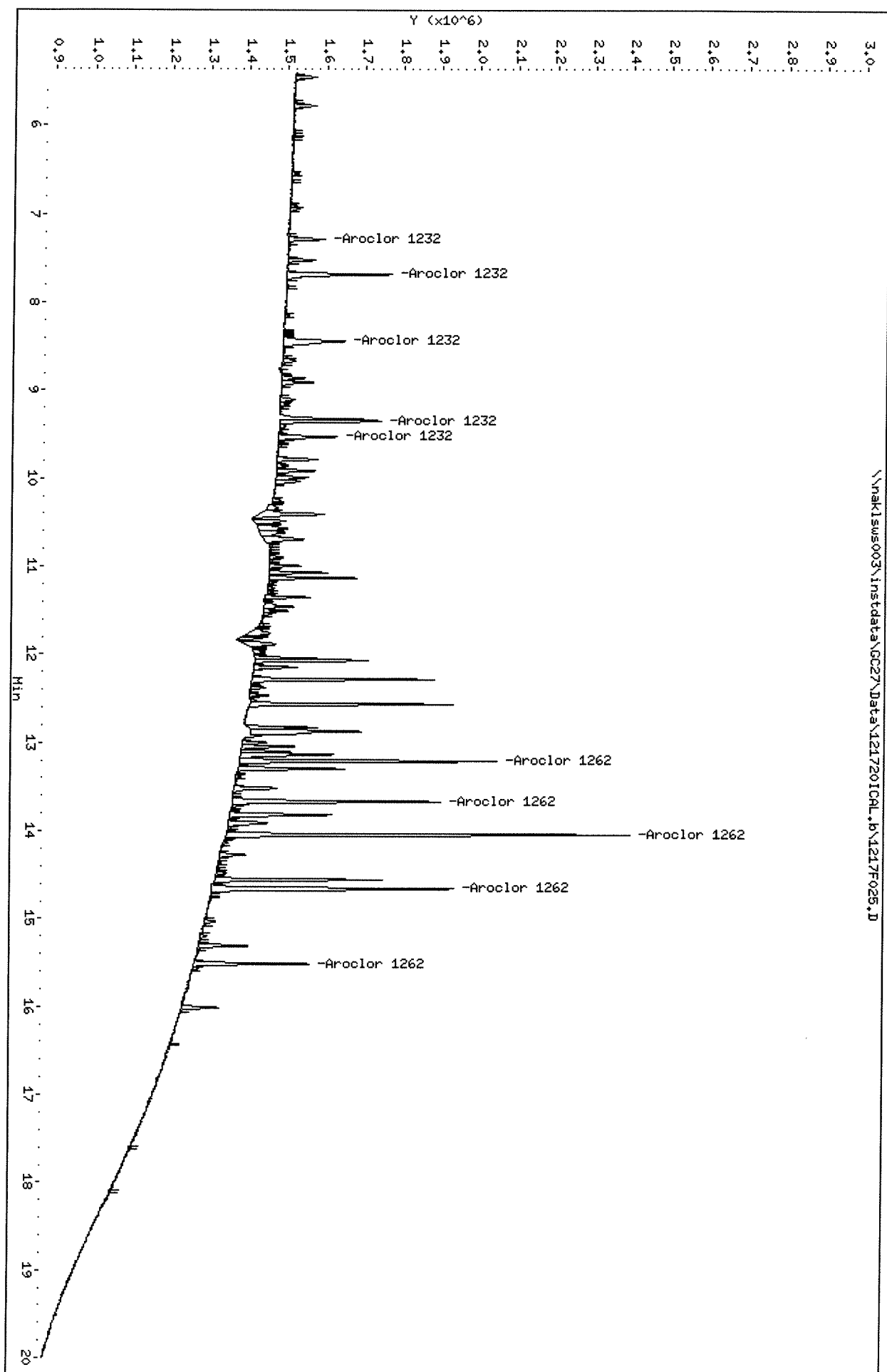
Sample Info: PCB8-65D 3262 10PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\121720ICAL_r.b\1217F025.D

Date : 18-DEC-2020 06:08

Client ID:

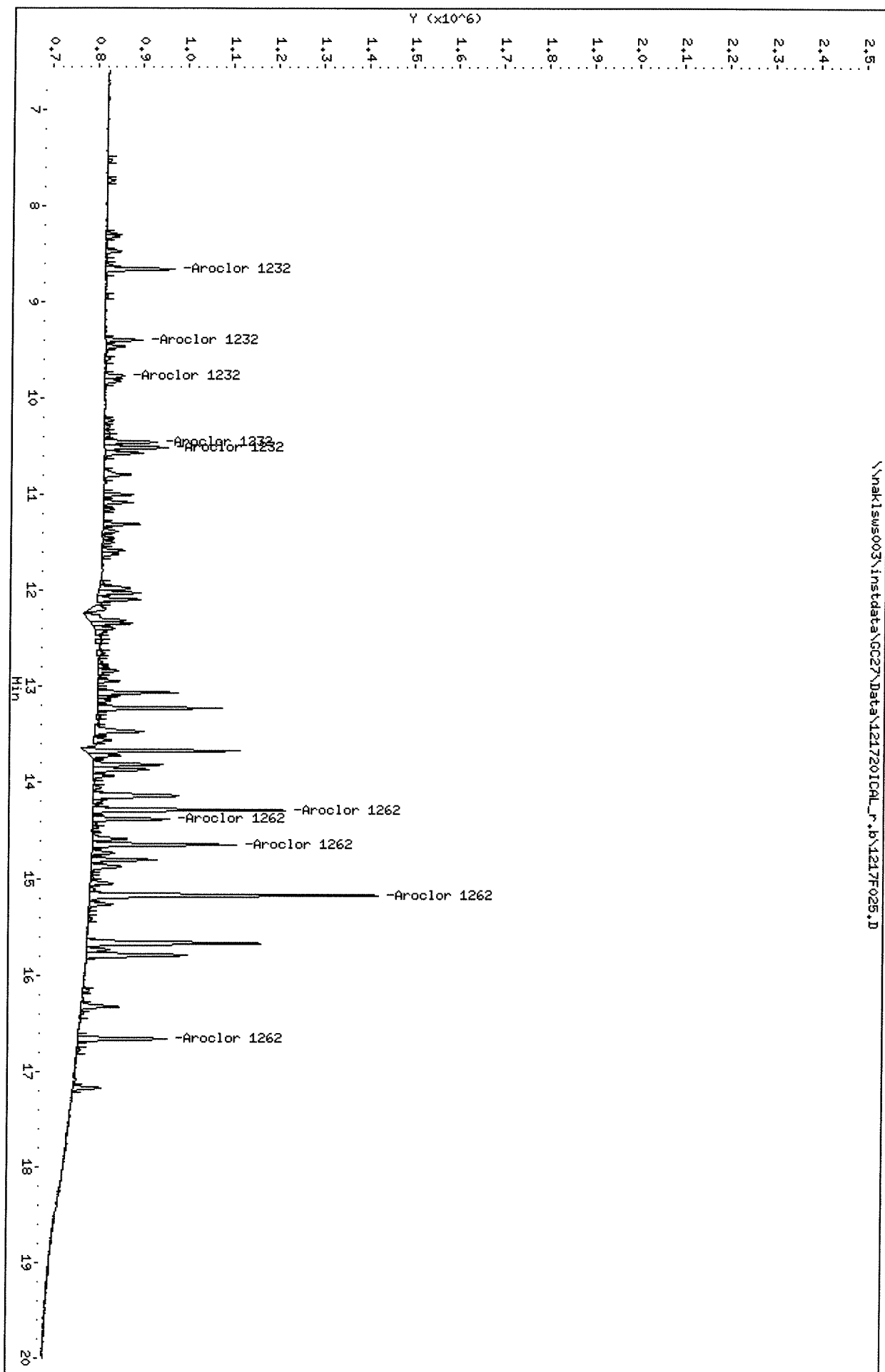
Sample Info: PCB8-6SD 3262 10PPB

Column phase: DB-XLB

Instrument: GC27.i

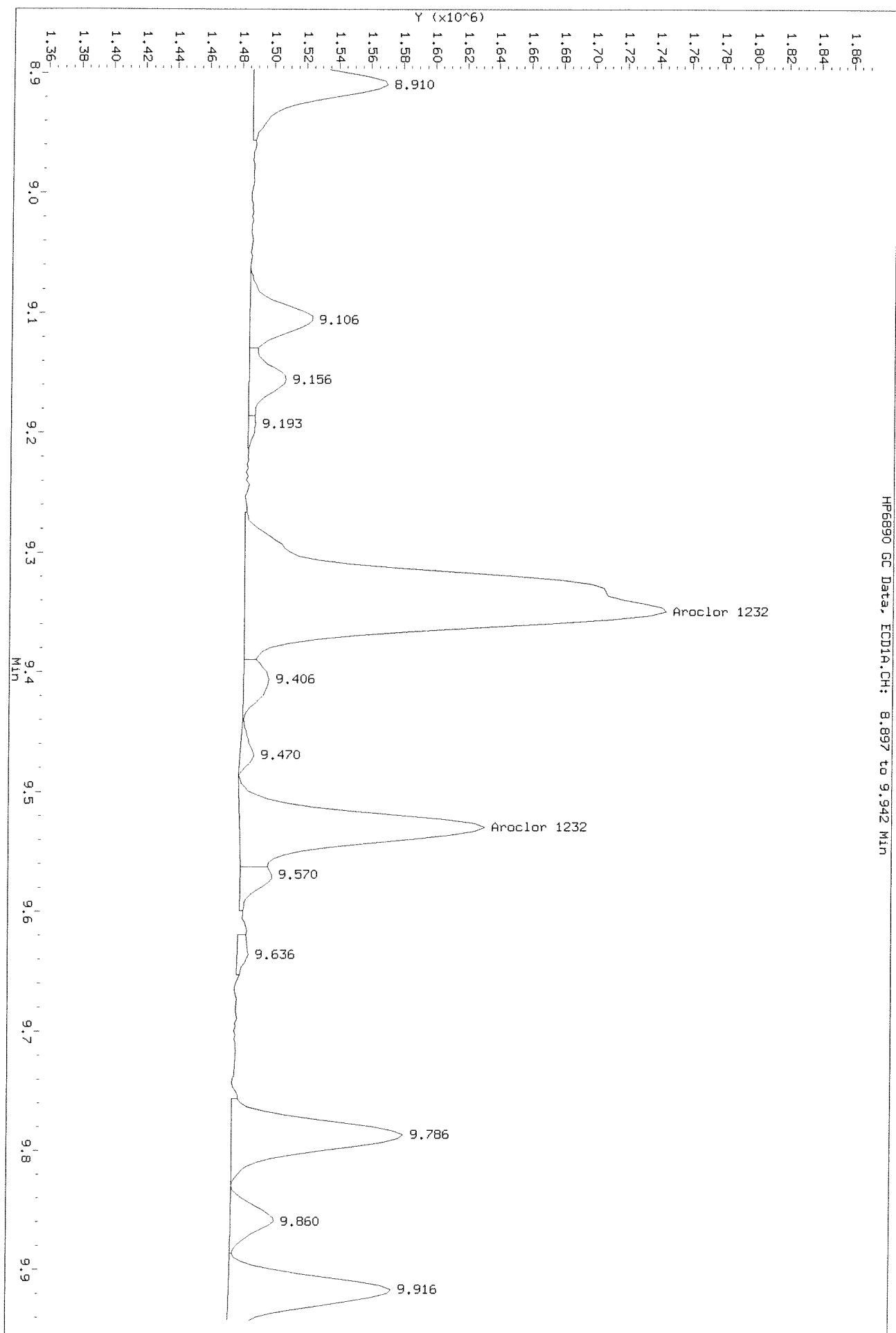
Operator: SAA

Column diameter: 0.32



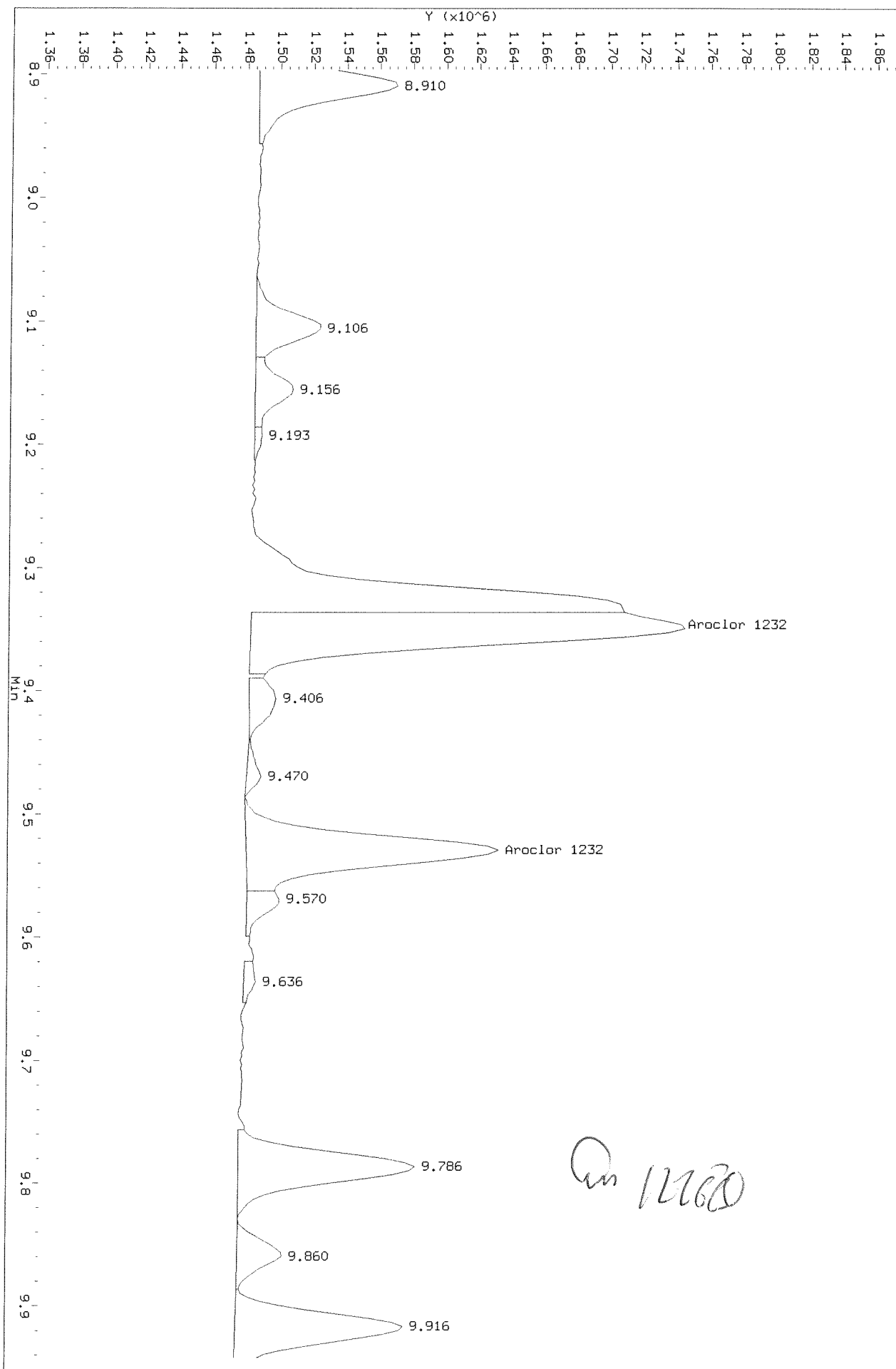
Data File: \\nakls003\instdata\GC27\Data\1217201CAL.b\1217F025.D
Injection Date: 18-DEC-2020 06:08
Instrument: GC27.1
Client Sample ID:

Before



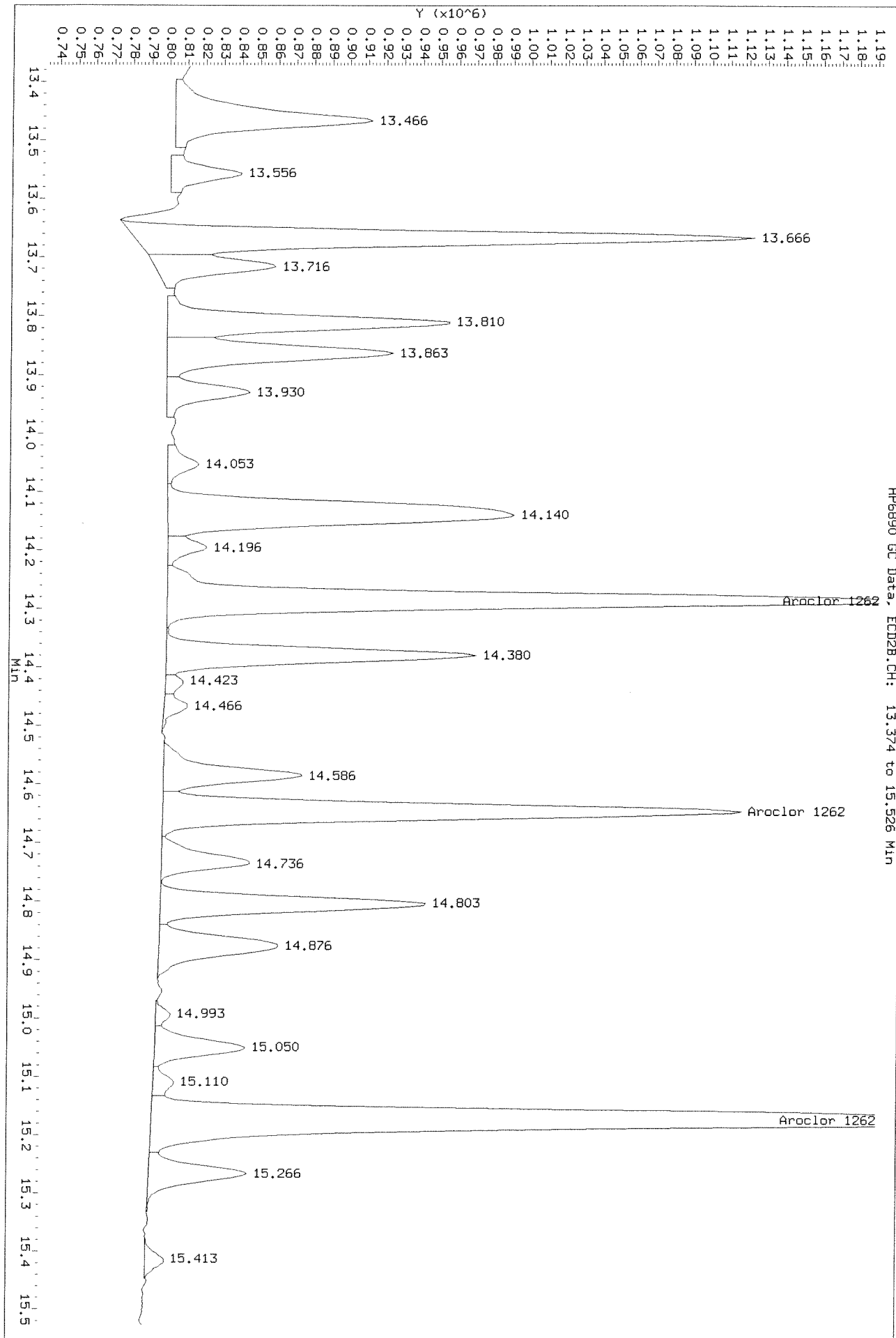
Data File: \\nakjsms003\instdata\GC27\Data\121720ICL.b\1217F025.D
Injection Date: 19-DEC-2020 06:08
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.897 to 9.942 Min



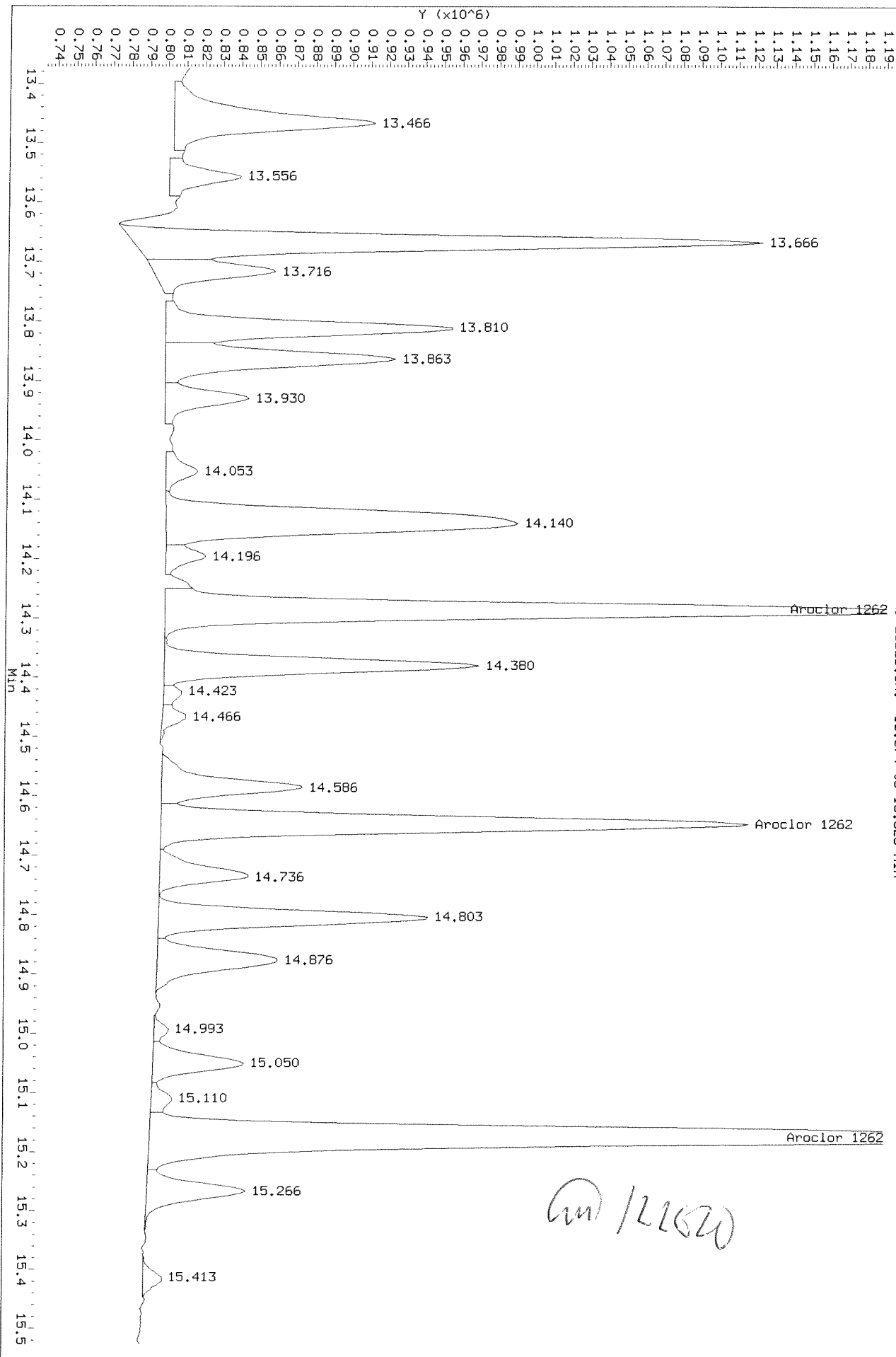
Data File: \\nakisw003\instdata\GC27\Data\121720ICL_r.b\1217025.D
Injection Date: 18-DEC-2020 06:08
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakisw003\instdata\GC27\Data\121720ICAL_r.b\1217F025.D
Injection Date: 18-DEC-2020 06:08
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD2B.CH: 13.374 to 15.526 Min



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F026.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F026.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F026.D
Inj Date : 18-DEC-2020 06:39
Sample Info: PCB8-64H 3262 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 3262.sub
Sub List #2 : 3262.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	7.285	8.661	319563	526730	19.2	19.9	80.00- 120.00	100.00 (M)
	7.678	9.398	931725	279754	20.1	19.6	236.59- 354.88	291.56 (M)
	8.438	9.771	868562	201473	21.0	19.9	198.03- 297.04	271.80 (M)
	9.348	10.455	886758	421986	18.0	20.2	237.24- 355.86	277.49 (M)
	9.528	10.511	509668	485665	19.5	20.4	133.07- 199.60	159.49 (M)
	Average of Peak Amounts =				19.6	20.0		
Aroclor 1262	13.208	14.285	2030803	1314366	18.5	19.3	80.00- 120.00	100.00
	13.668	14.378	1813067	557971	19.0	19.8	72.87- 109.30	89.28
	14.041	14.648	3252039	1055418	18.7	19.7	136.64- 204.97	160.14
	14.658	15.171	2340168	2131895	18.2	18.9	97.41- 146.11	115.23
	15.515	16.661	944656	657464	19.0	19.4	39.34- 59.01	46.52
	Average of Peak Amounts =				18.7	19.4		

QC Flag Legend

M - Compound response manually integrated.

Am 12/26/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F026.D
Date : 18-DEC-2020 06:39

Client ID:

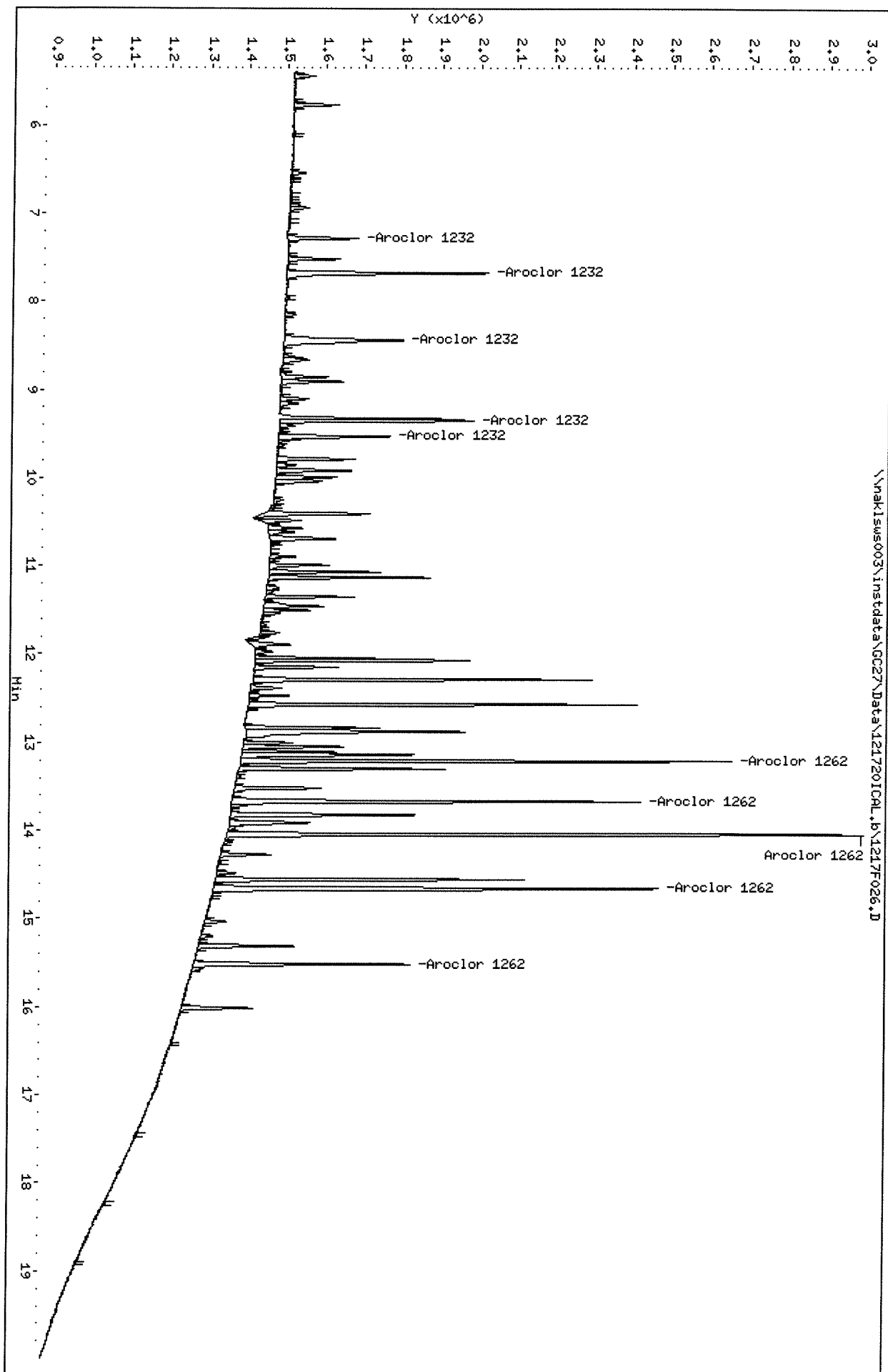
Sample Info: PCB8-64H 3262 20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\121720ICAL_r.b\1217F026.D

Date : 18-DEC-2020 06:39

Client ID:

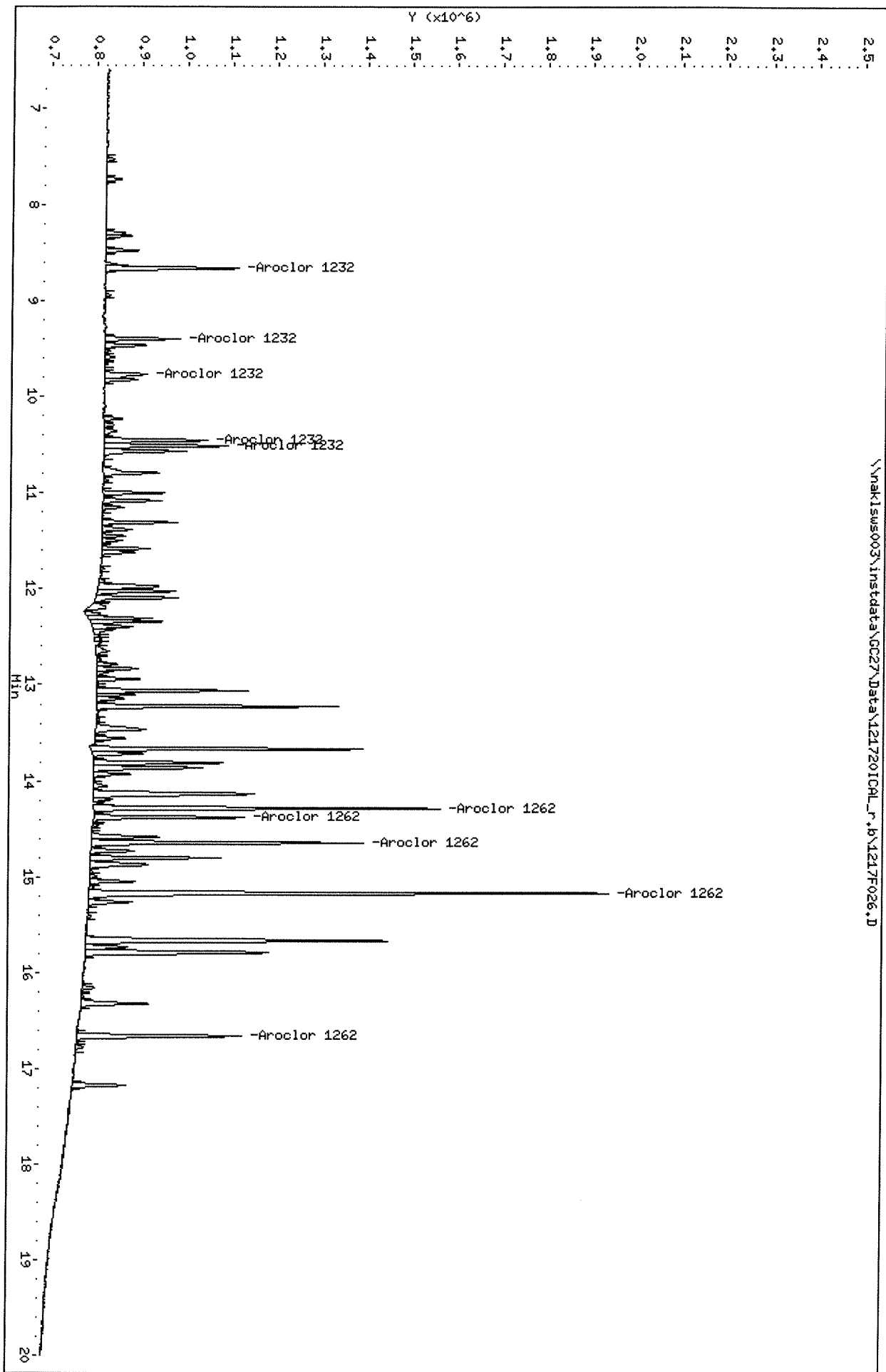
Sample Info: PCB8-64H 3262 20PPB

Column phase: DB-XLB

Instrument: GC27.i

Operator: SAA

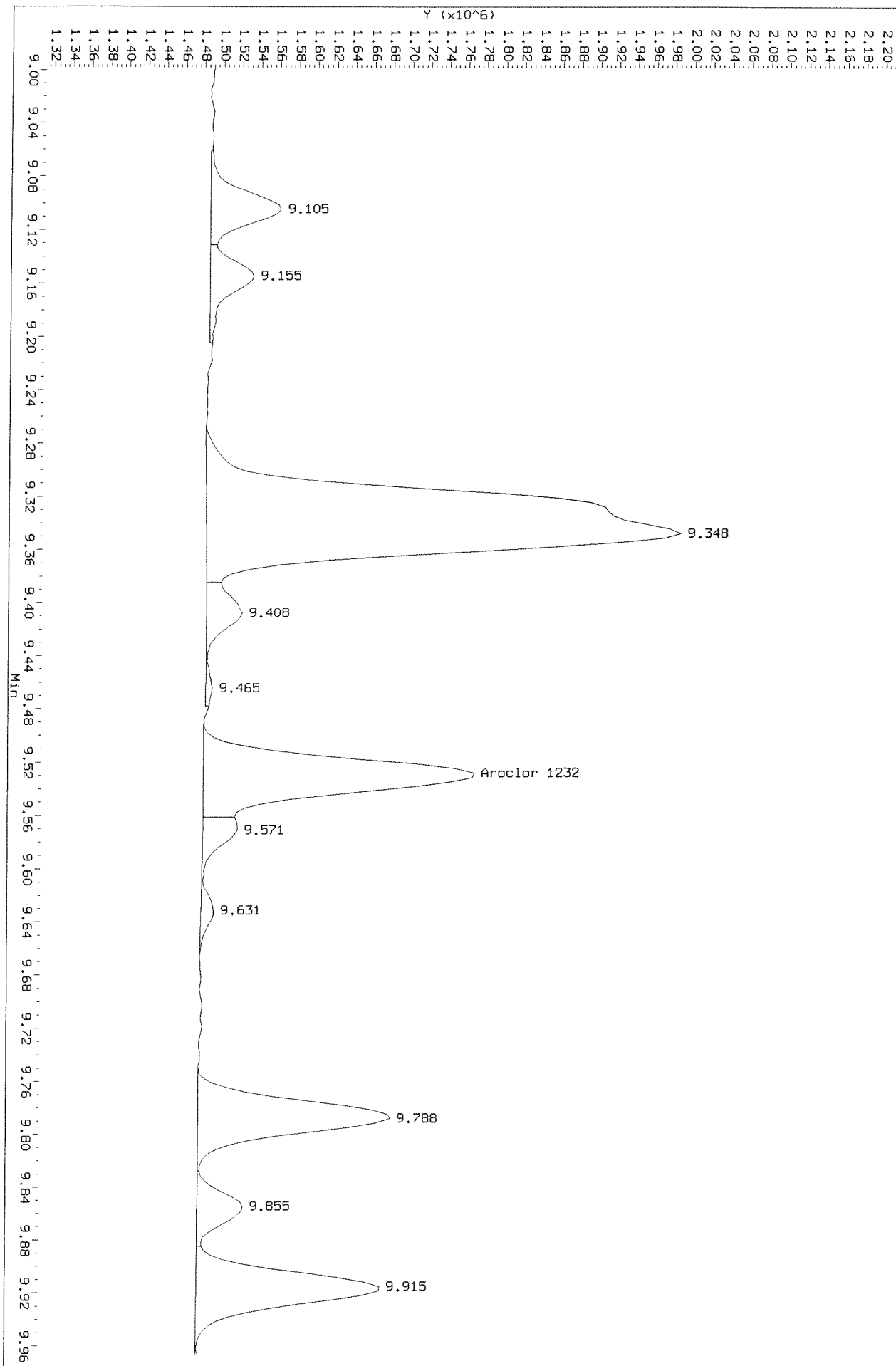
Column diameter: 0.32



Data File: \\nakjlsws003\instdata\GC27\Data\1217201CAL.b\1217F026.D
Injection Date: 18-DEC-2020 06:39
Instrument: GC27.1
Client Sample ID:

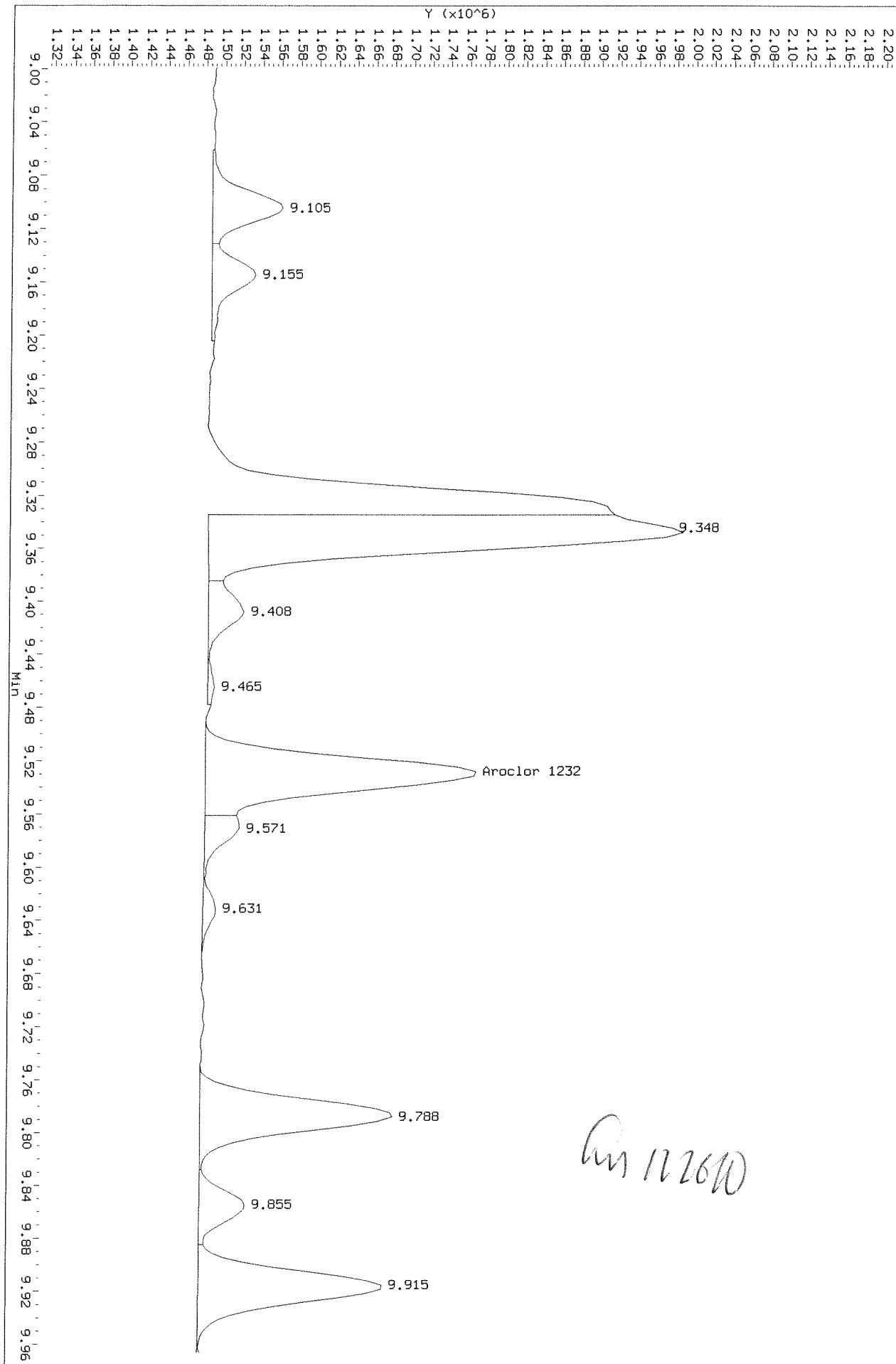
Before

HP6890 GC Data, ECD1A.CH: 8.999 to 9.966 Min



Data File: \\nakisw003\instdata\GC27\Data\121720ICAL.b\1217F026.D
Injection Date: 18-DEC-2020 06:39
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.999 to 9.966 Min

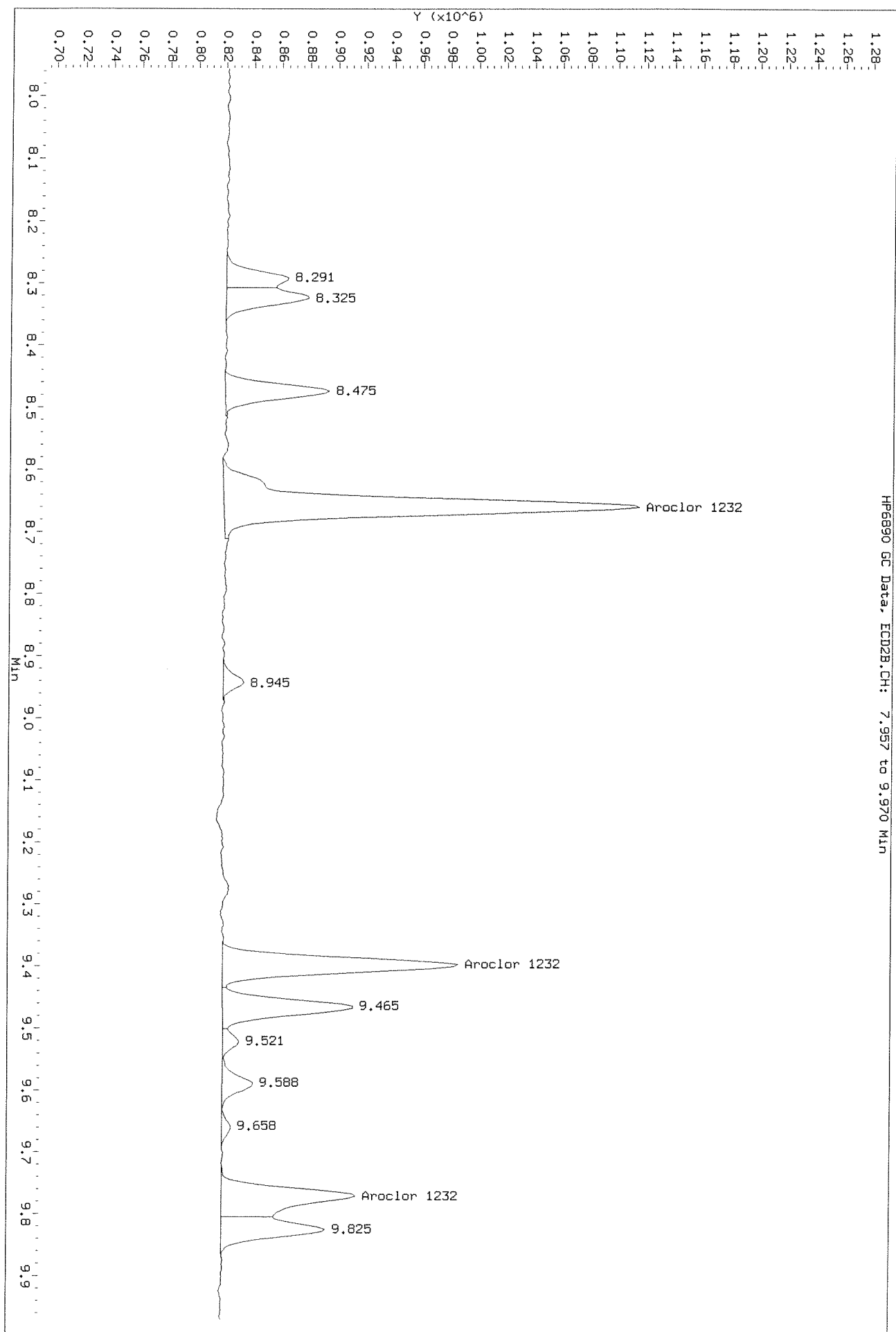


After wrong peak 12/23/2020

Am 112610

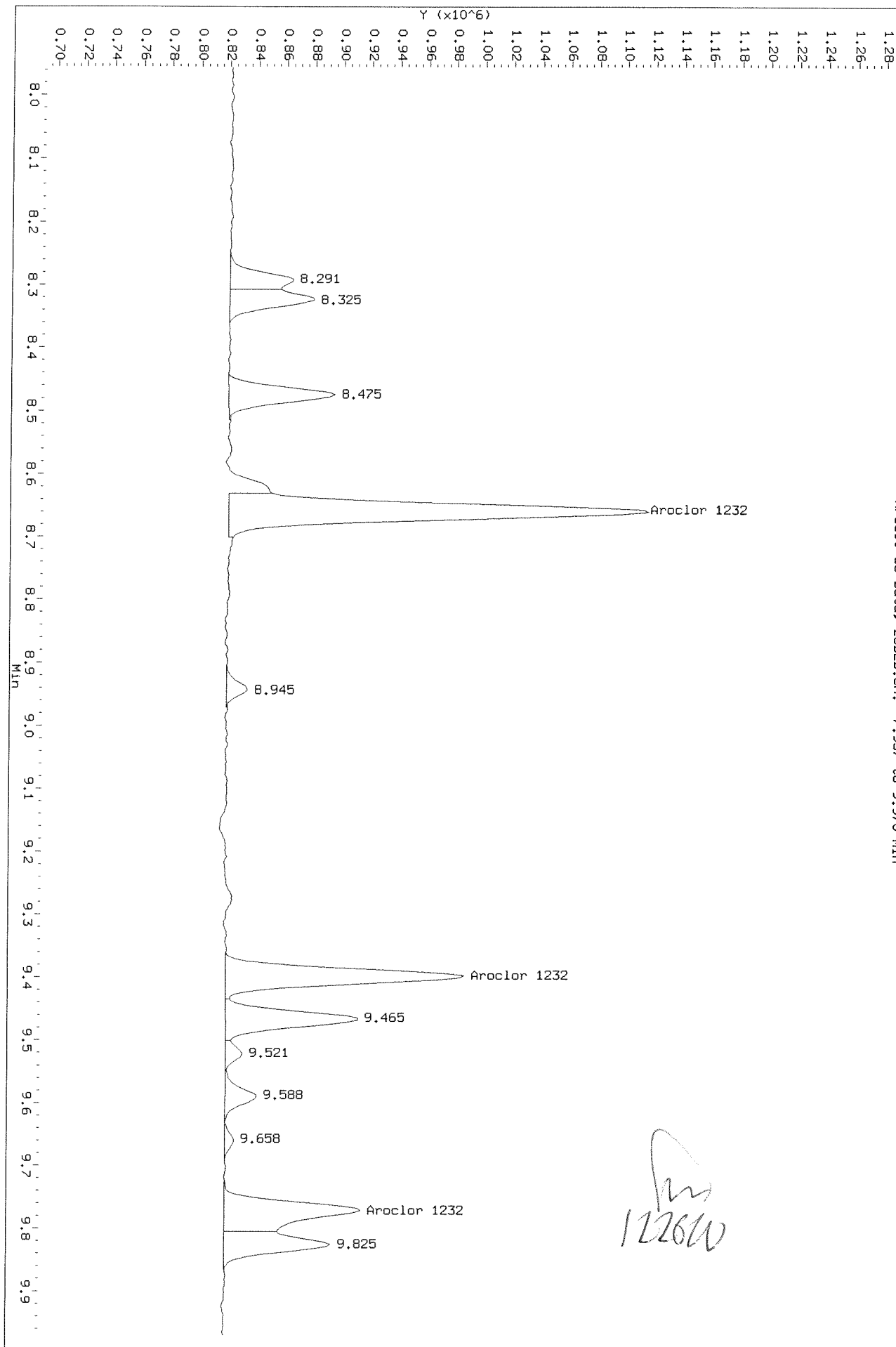
Data File: \\naklsws003\Instdata\GC27\Data\1217201CAL_r.b\1217F026.D
Injection Date: 18-DEC-2020 06:39
Instrument: GC27.1
Client Sample ID:

Before



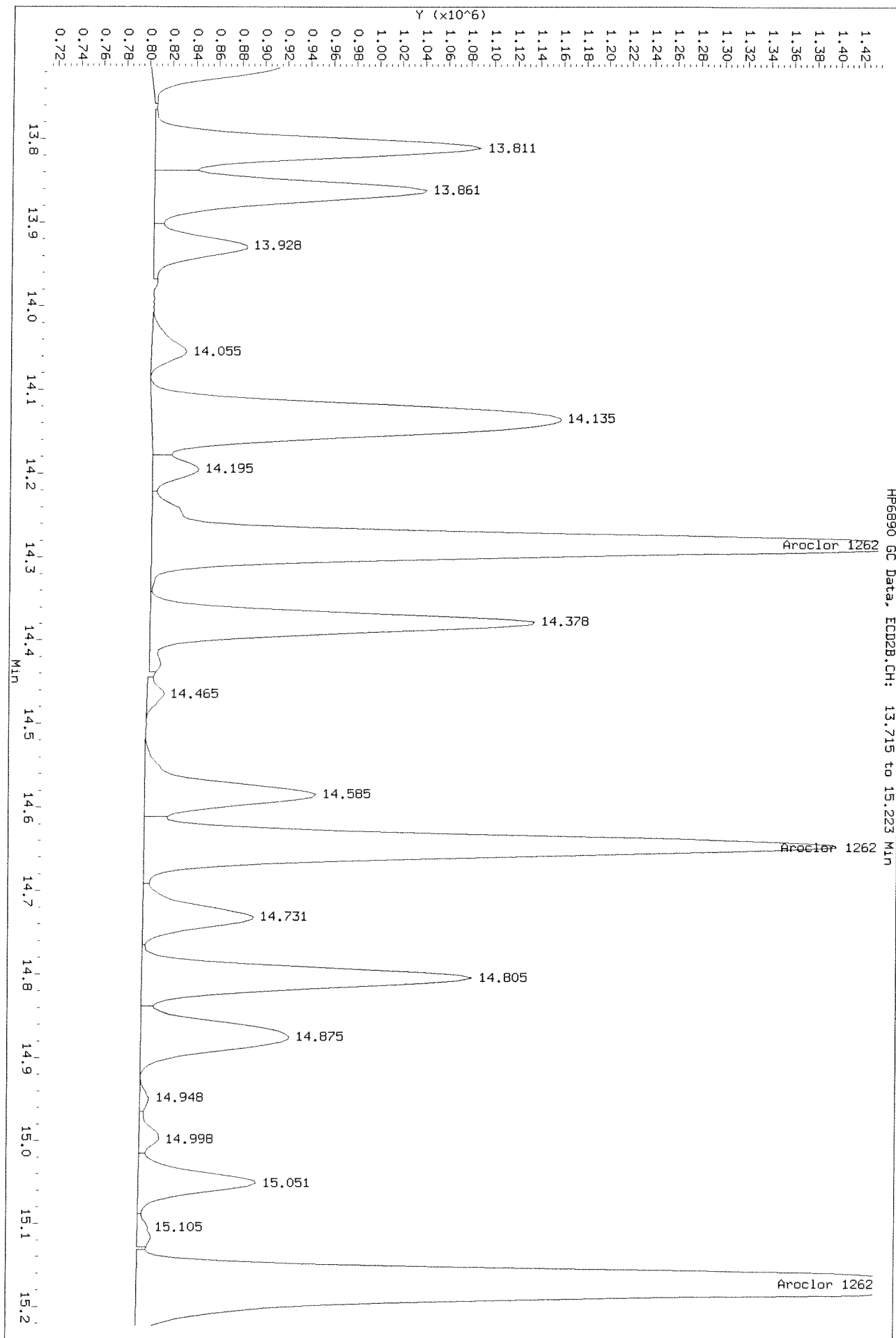
Data File: \\naklsw003\inst\data\GC27\Data\1217201CL-r.b\12171026.D
Injection Date: 18-DEC-2020 06:39
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD2B.CH: 7.957 to 9.970 Min



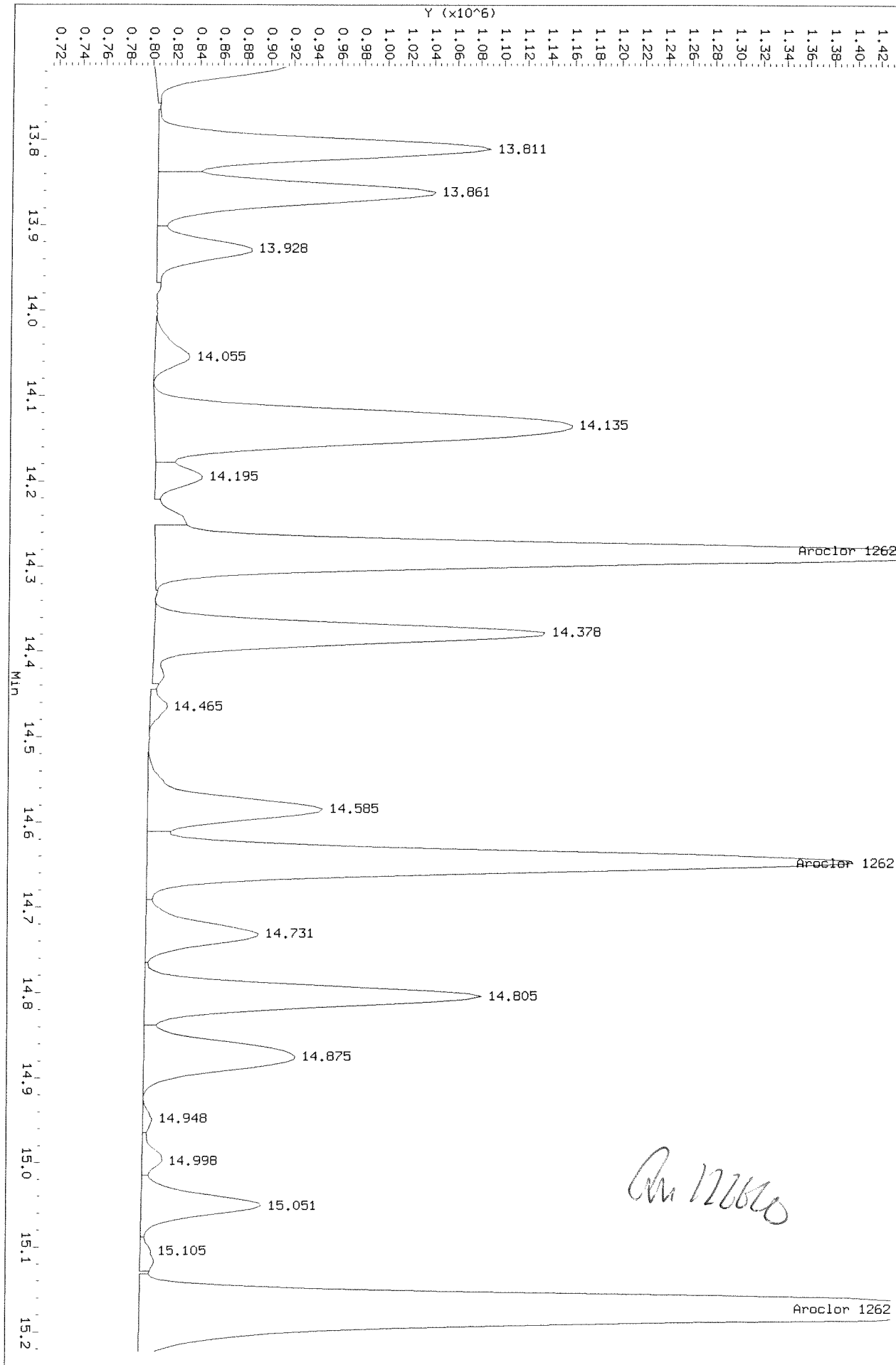
Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL_r.b\1217026.D
Injection Date: 18-DEC-2020 06:39
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakisw003\instdata\GC27\Data\121720ICAL_r.b\1217F026.D
Injection Date: 18-DEC-2020 06:39
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD2B.CH: 13.715 to 15.223 Min



After shoulder 12/23/2018

Am 12/23/20

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F027.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F027.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F027.D
Inj Date : 18-DEC-2020 07:11
Sample Info: PCB8-61H 3262 50PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 3262.sub
Sub List #2 : 3262.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	7.286	8.659	755133	1290738	45.3	48.7	80.00- 120.00	100.00 (M)
	7.679	9.399	2227020	702738	48.0	49.2	236.59- 354.88	294.92 (M)
	8.439	9.769	1867620	522001	45.2	51.5	198.03- 297.04	247.32 (M)
	9.349	10.453	2206616	1029828	44.8	49.3	237.24- 355.86	292.22 (M)
	9.529	10.509	1221954	1187641	46.7	49.9	133.07- 199.60	161.82 (M)
	Average of Peak Amounts =				46.0	49.7		
Aroclor 1262	13.206	14.286	4838192	2989761	44.0	44.0	80.00- 120.00	100.00
	13.666	14.379	4369521	1280955	45.9	45.5	72.87- 109.30	90.31
	14.043	14.643	7870212	2402676	45.3	44.9	136.64- 204.97	162.67
	14.659	15.169	5703612	4861909	44.5	43.1	97.41- 146.11	117.89
	15.516	16.659	2313229	1556213	46.5	45.9	39.34- 59.01	47.81
	Average of Peak Amounts =				45.2	44.7		

QC Flag Legend

M - Compound response manually integrated.

Handwritten:
12/26/20
SA 12/23/20

Data File: \\nak1s003\instdata\GC27\Data\12172010AL.b\1217F027.D
Date : 18-DEC-2020 07:11

Client ID:

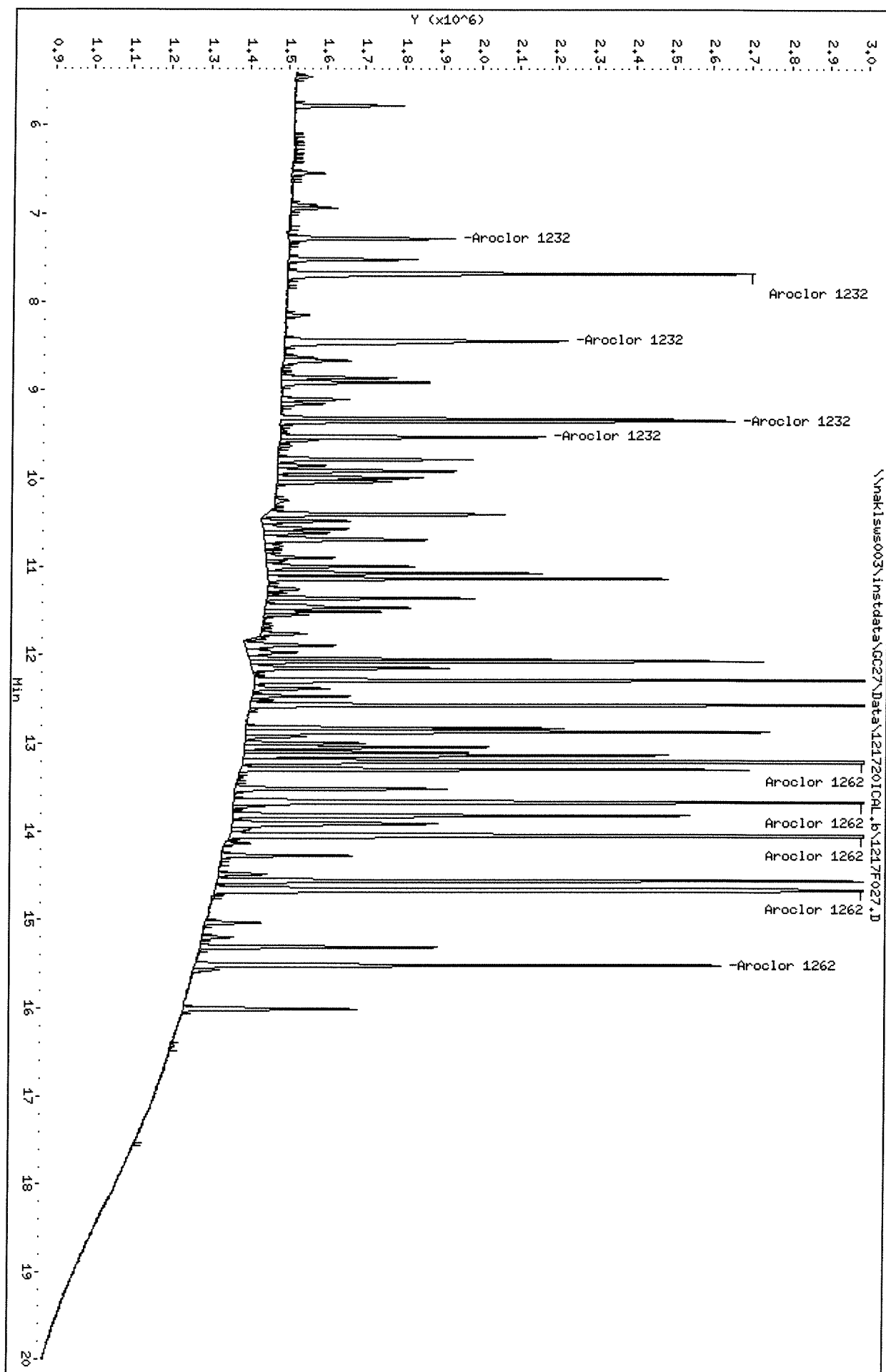
Sample Info: PCB8-61H 3262 SOPPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL_r.b\1217F027.D
Date : 18-DEC-2020 07:11

Client ID:

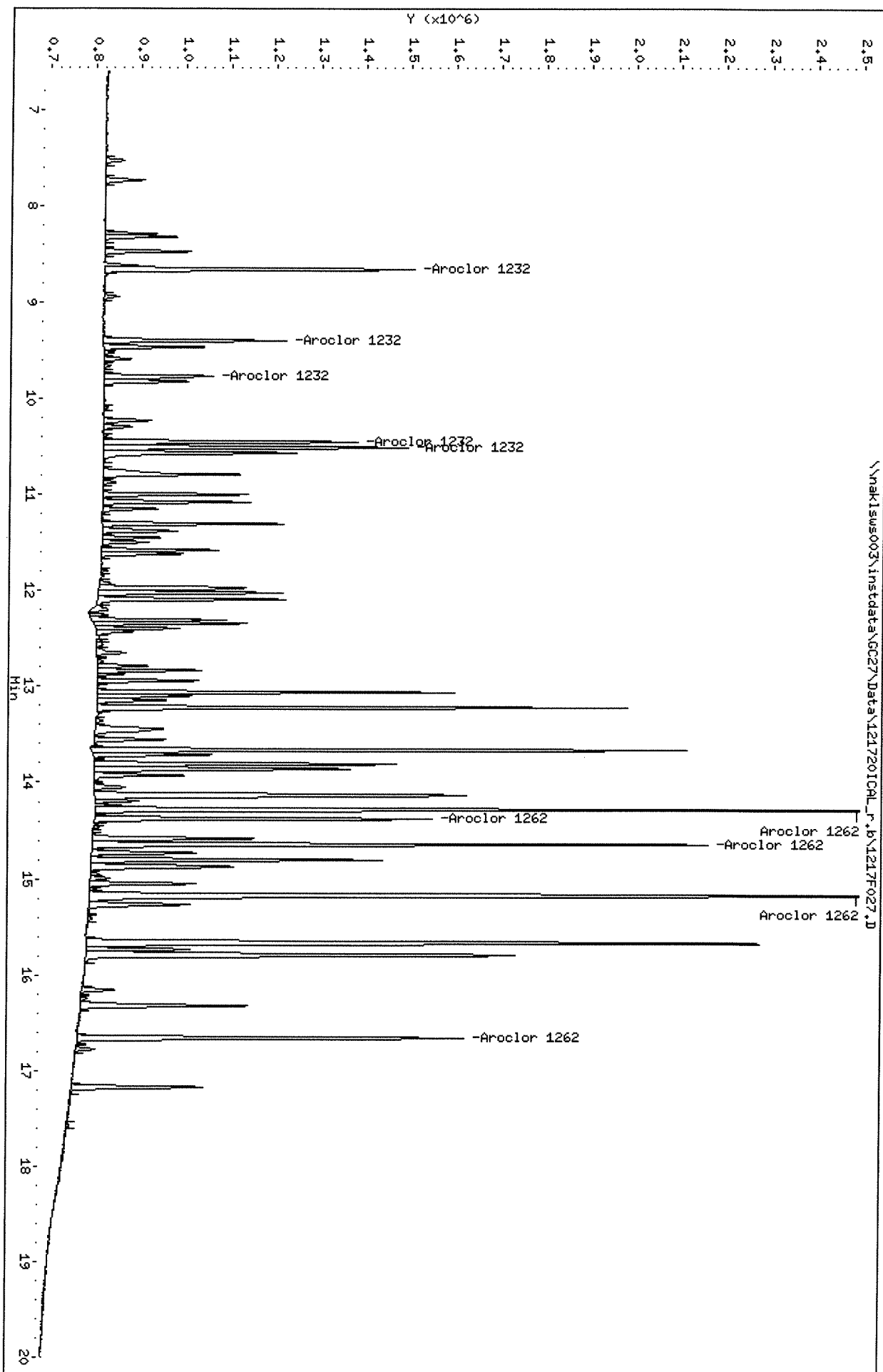
Sample Info: PCB8-61H 3262 50PPB

Column phase: DB-XLB

Instrument: GC27.i

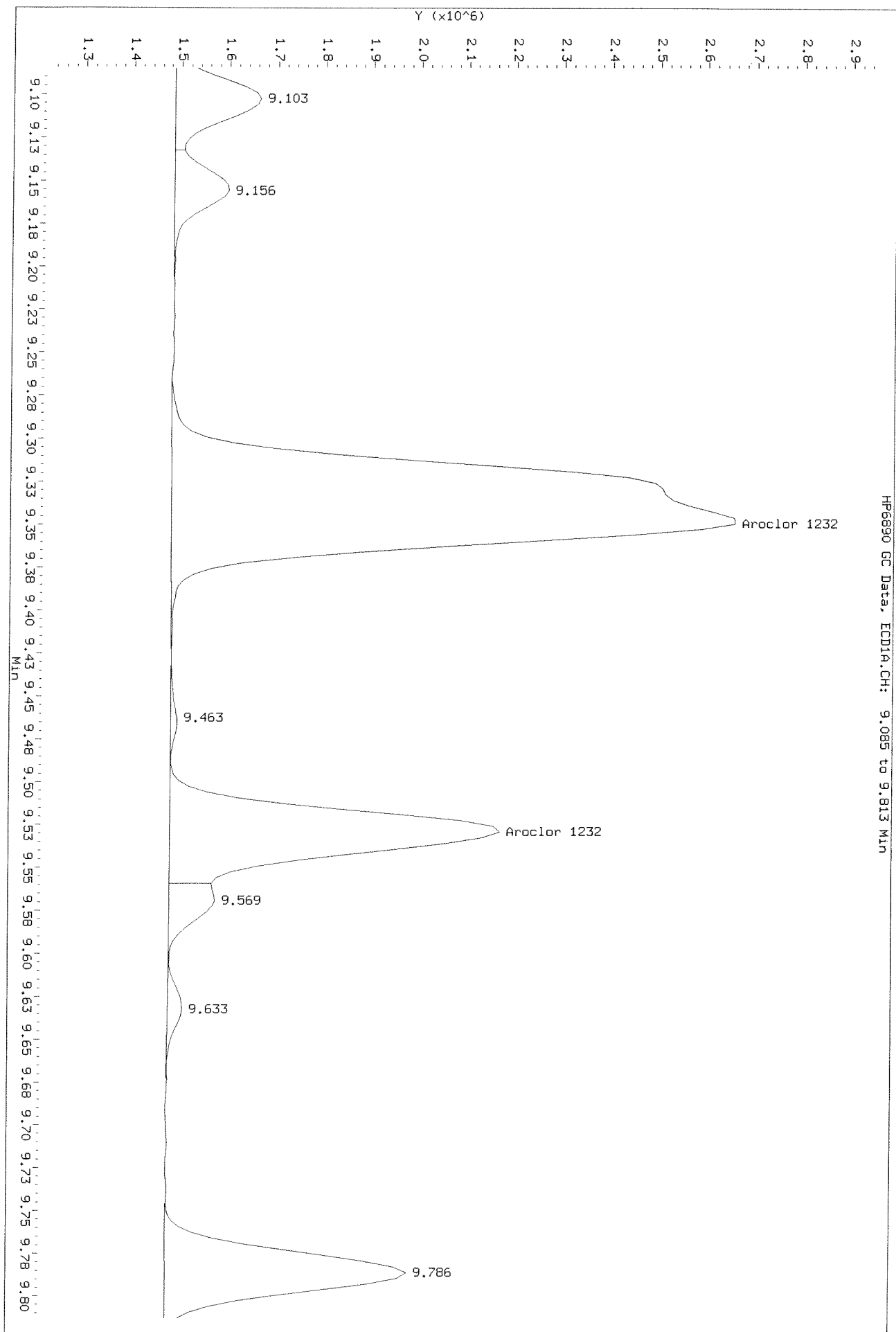
Operator: SAA

Column diameter: 0.32



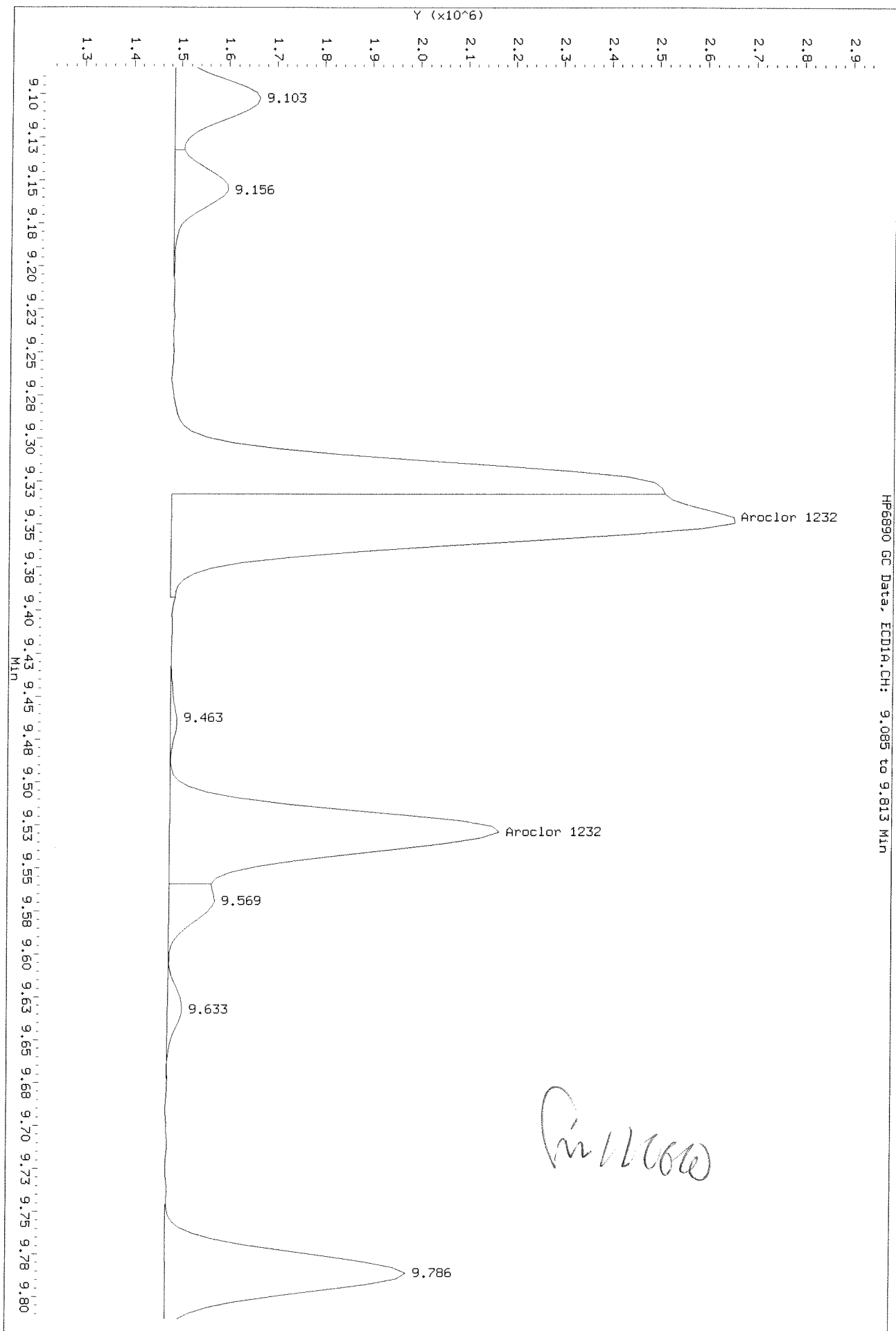
Data File: \\nak1s003\instdata\GC27\Data\121720ICAL.b\1217F027.D
Injection Date: 18-DEC-2020 07:11
Instrument: GC27.1
Client Sample ID:

Before



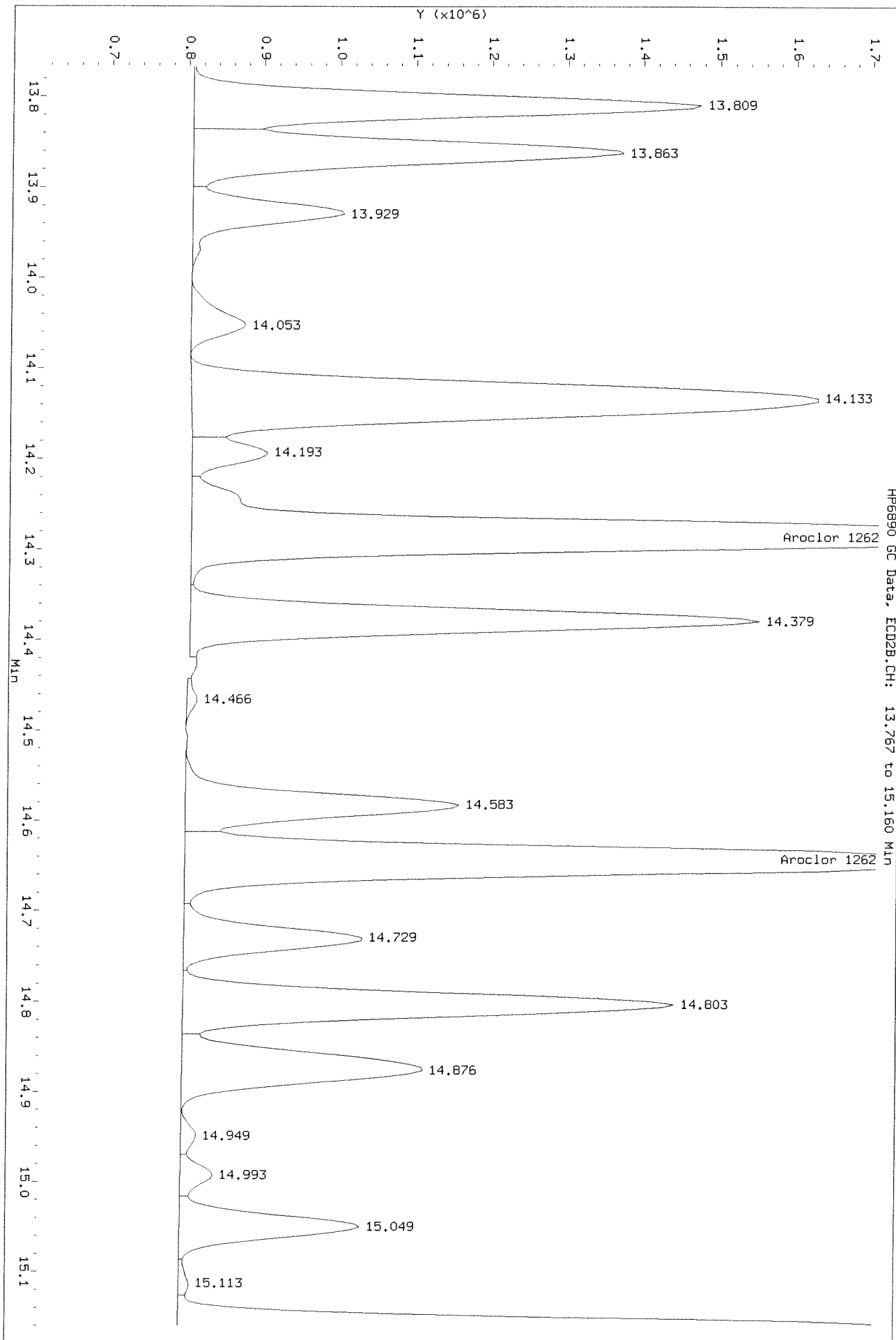
Data File: \\naklsms003\instdata\GC27\Data\1217201CPL.b\1217F027.D
Injection Date: 18-DEC-2020 07:11
Instrument: GC27.1
Client Sample ID:

After using peak 1232



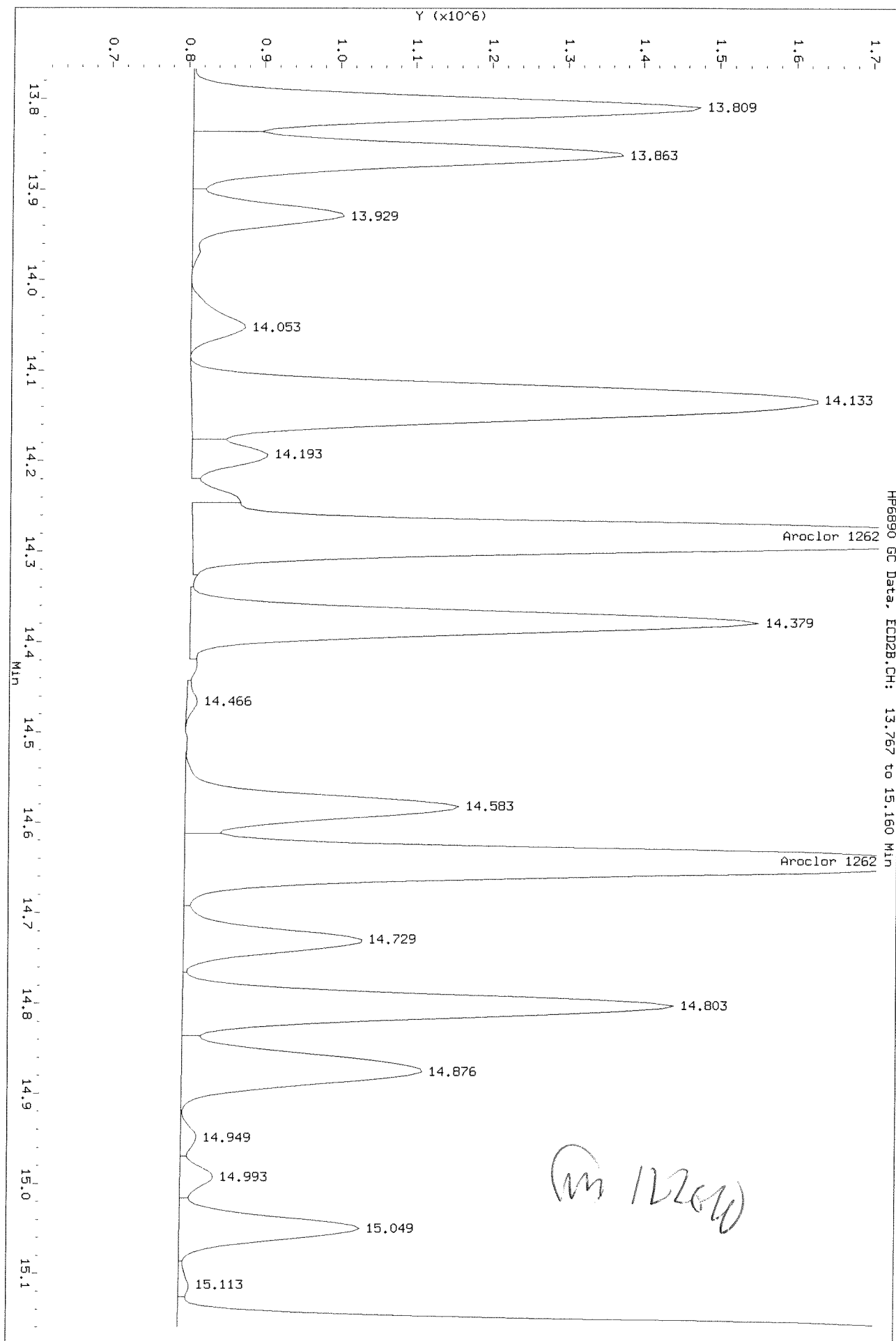
Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL-r.b\1217f027.D
Injection Date: 18-DEC-2020 07:11
Instrument: GC27.1
Client Sample ID:

Before



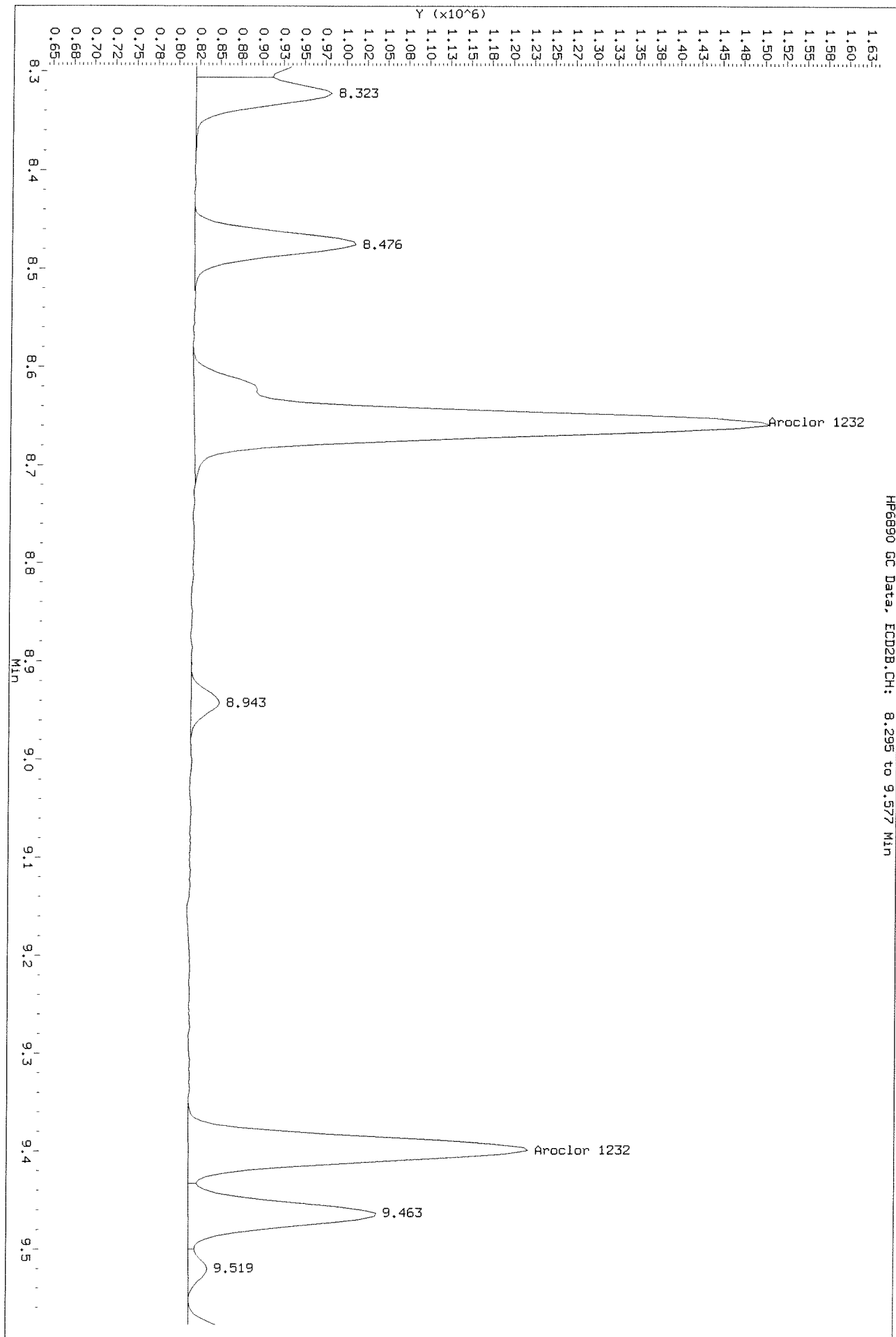
Data File: \\nakjews003\instdata\GC27\Data\1217201CAL_r.b\1217F027.D
Injection Date: 18-DEC-2020 07:11
Instrument: GC27.1
Client Sample ID:

After shoulder 12/23/20



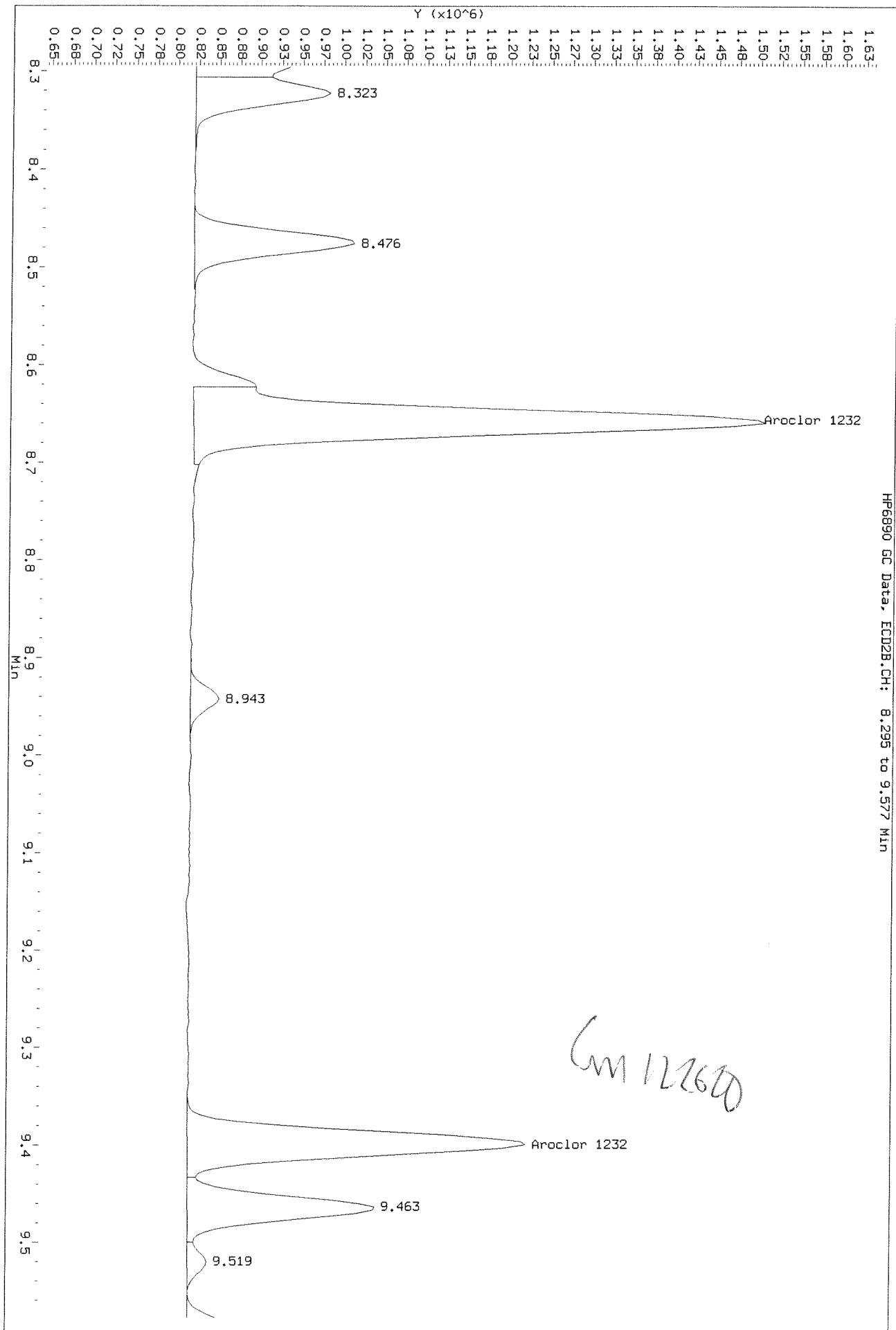
Data File: \\naklsms003\instdata\GC27\Data\1217201CAL_r.b\1217F027.D
Injection Date: 18-DEC-2020 07:11
Instrument: GC27.1
Client Sample ID:

Before



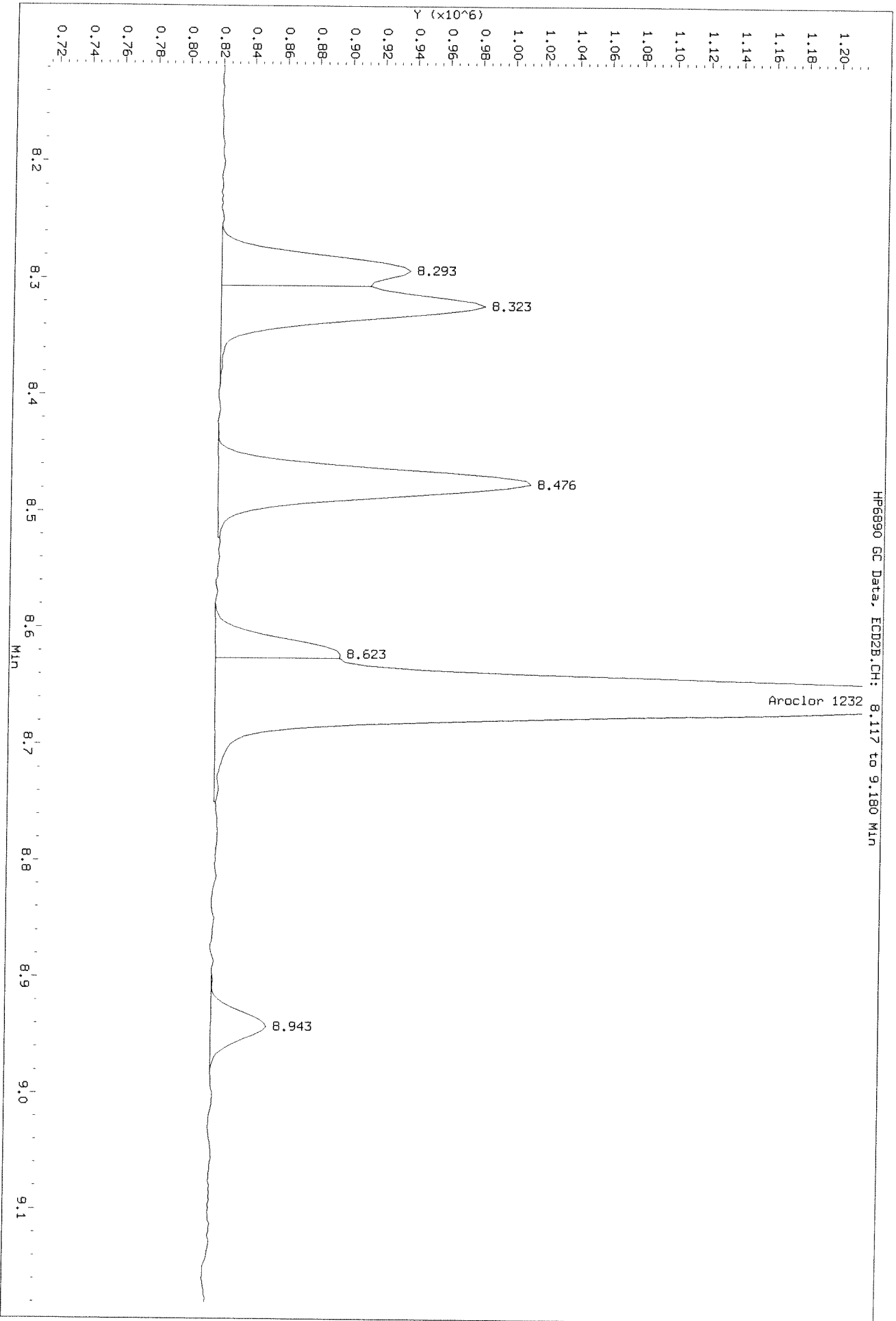
Data File: \\naklsws003\instdata\GC27\Data\1217201CAL-r.b\1217F027.D
Injection Date: 18-DEC-2020 07:11
Instrument: GC27.1
Client Sample ID:

After Shoulder 12/23/20



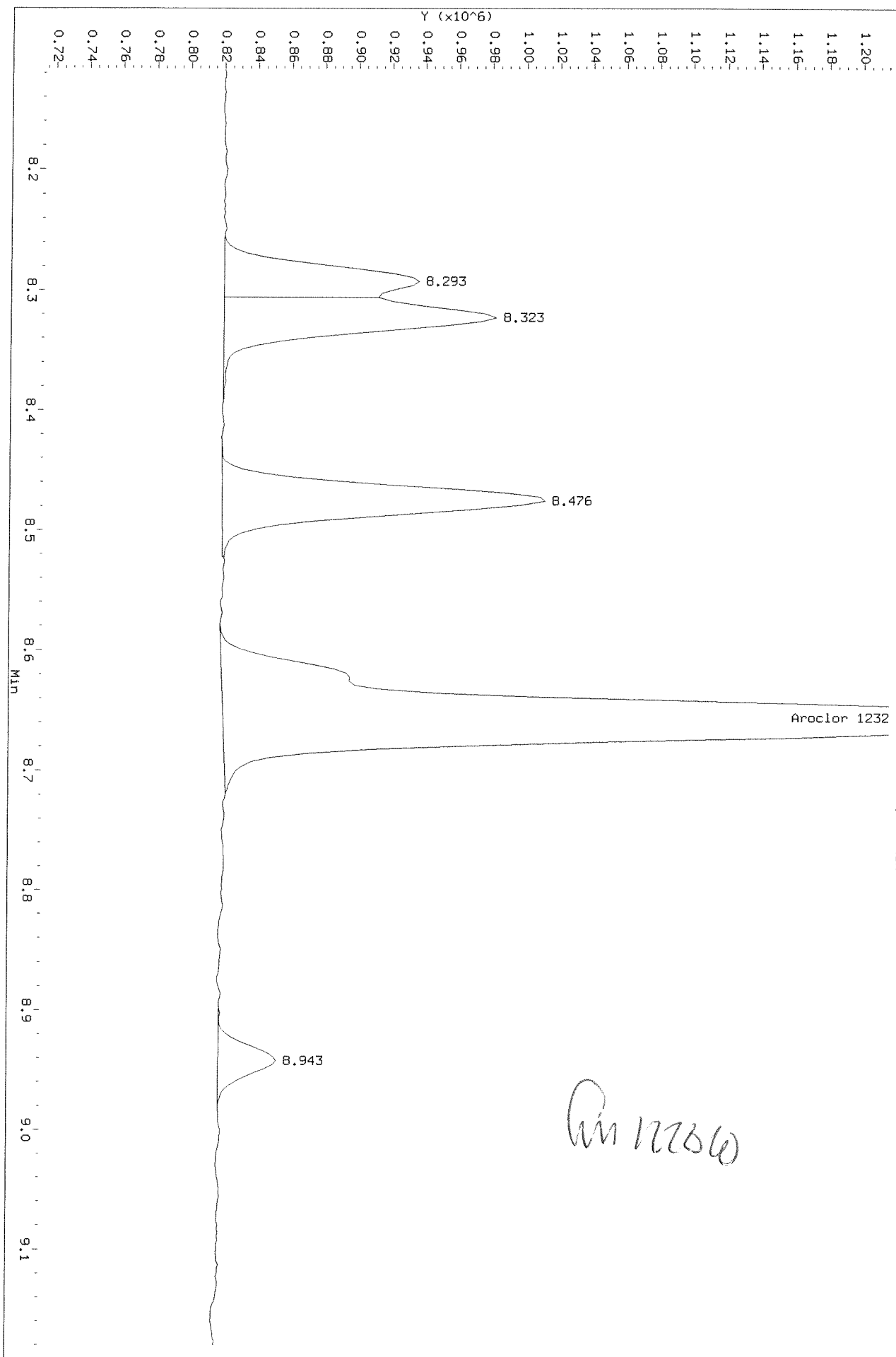
Data File: \\naklsws003\Instdata\GC27\Data\1217201CAL_r.b\1217F027.D
Injection Date: 18-DEC-2020 07:11
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakjsws003\Instdata\GC27\Data\1217201CAL_r.b\1217F027.D
Injection Date: 18-DEC-2020 07:11
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD2B.CH: 8.117 to 9.180 Min



AKK
baseline
12/23/20 A

Pin 122860

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F028.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F028.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F028.D
Inj Date : 18-DEC-2020 07:42
Sample Info: PCB8-61C 3262 100PPB @ 2X
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 3262.sub
Sub List #2 : 3262.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	7.285	8.658	1455448	2434245	87.4	91.8	80.00- 120.00	100.00 (M)
	7.678	9.398	4404362	1362918	95.0	95.5	236.59- 354.88	302.61 (M)
	8.438	9.772	3668945	1030667	88.9	102	198.03- 297.04	252.08 (M)
	9.348	10.455	4201236	1994086	85.3	95.5	237.24- 355.86	288.66 (M)
	9.531	10.512	2496173	2321651	95.3	97.5	133.07- 199.60	171.51 (M)
	Average of Peak Amounts =				90.4	96.5		
Aroclor 1262	13.208	14.285	9609058	5683585	87.3	83.6	80.00- 120.00	100.00
	13.668	14.378	8721233	2496871	91.5	88.7	72.87- 109.30	90.76
	14.041	14.645	16014334	4581860	92.2	85.6	136.64- 204.97	166.66
	14.658	15.172	11536545	9317065	89.9	82.6	97.41- 146.11	120.06
	15.515	16.662	4680206	3010900	94.1	88.8	39.34- 59.01	48.71
	Average of Peak Amounts =				91.0	85.9		

QC Flag Legend

M - Compound response manually integrated.

127610

12/23/20

Data File: \\nak1sus003\instadata\GC27\Data\1217201CAL.b\1217F028.D

Date : 18-DEC-2020 07:42

Client ID:

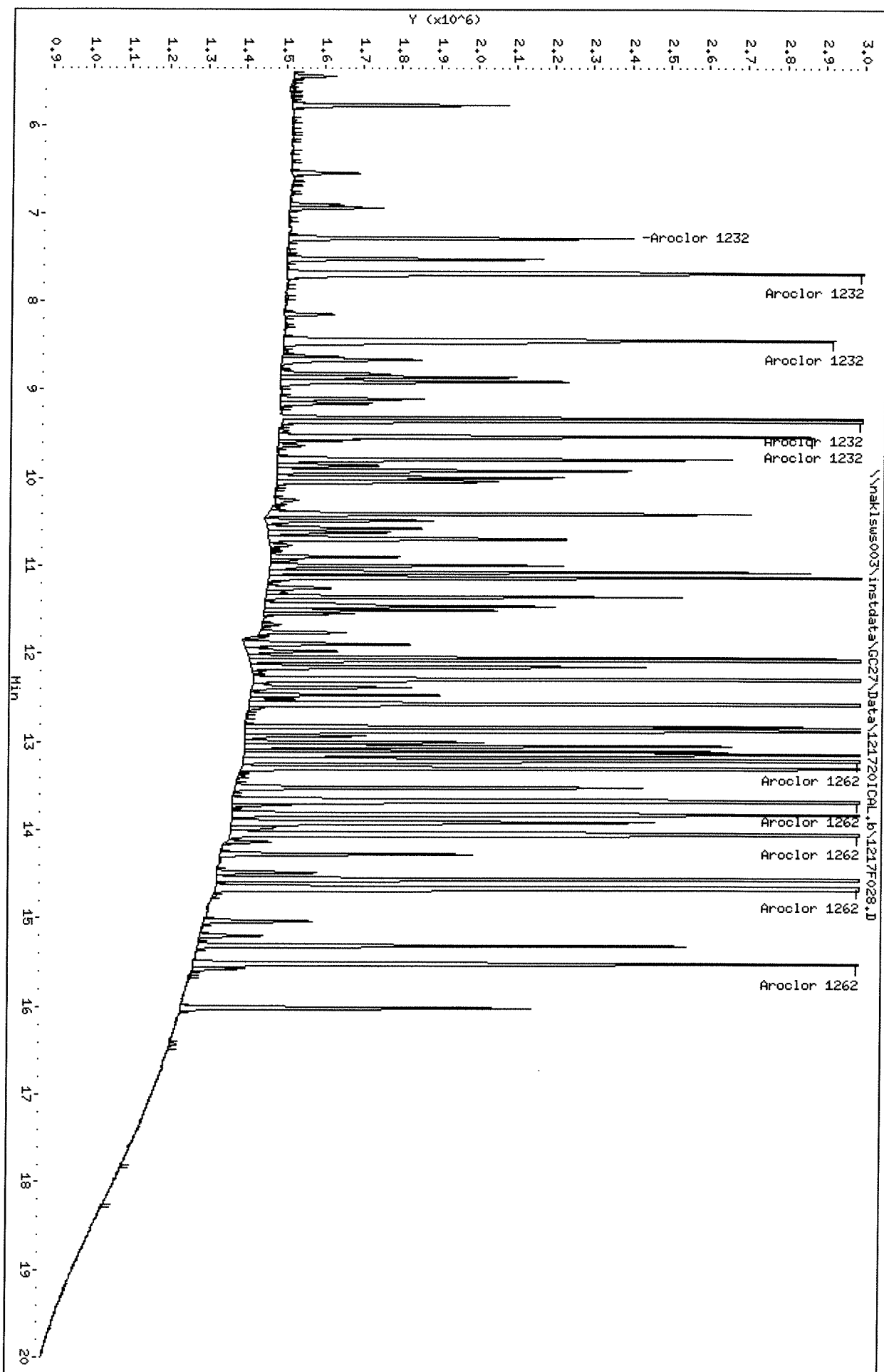
Sample Info: PCB8-61C 3262 100PPB @ 2X

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL_r.b\1217F028.D

Date : 18-DEC-2020 07:42

Client ID:

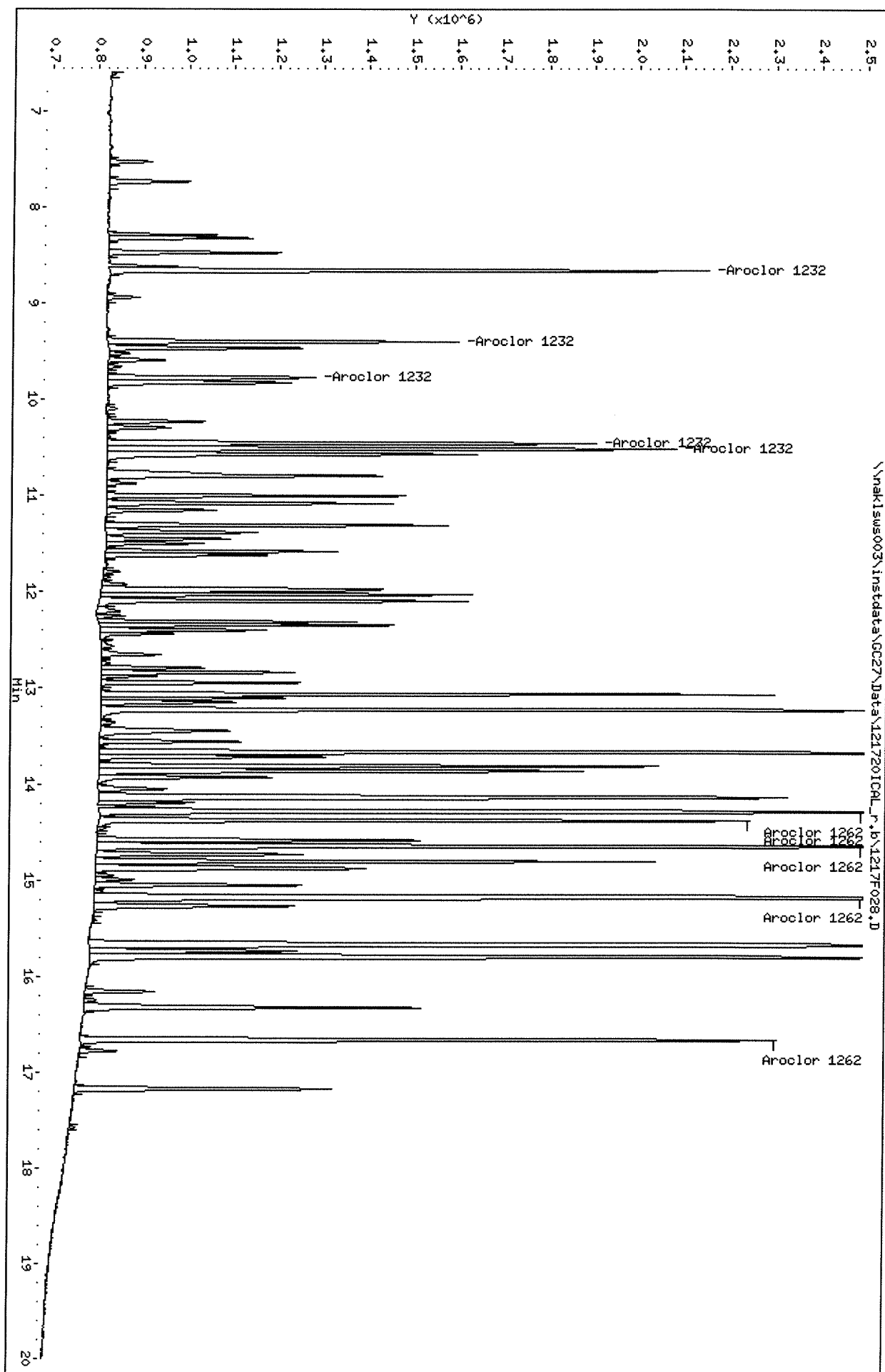
Sample Info: PCB8-64C 3262 100PPB @ 2X

Column phase: DB-XLB

Instrument: GC27.i

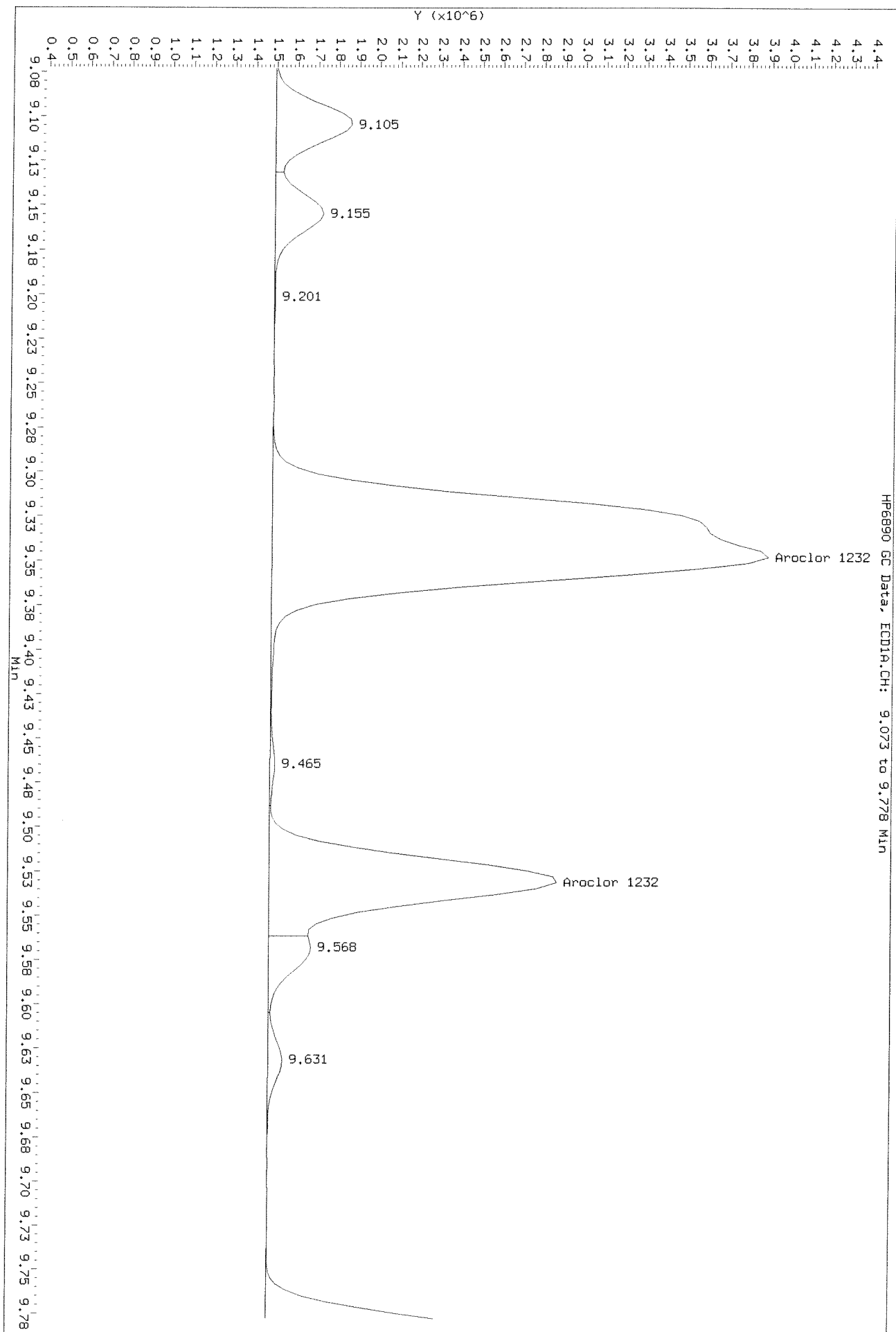
Operator: SAA

Column diameter: 0.32



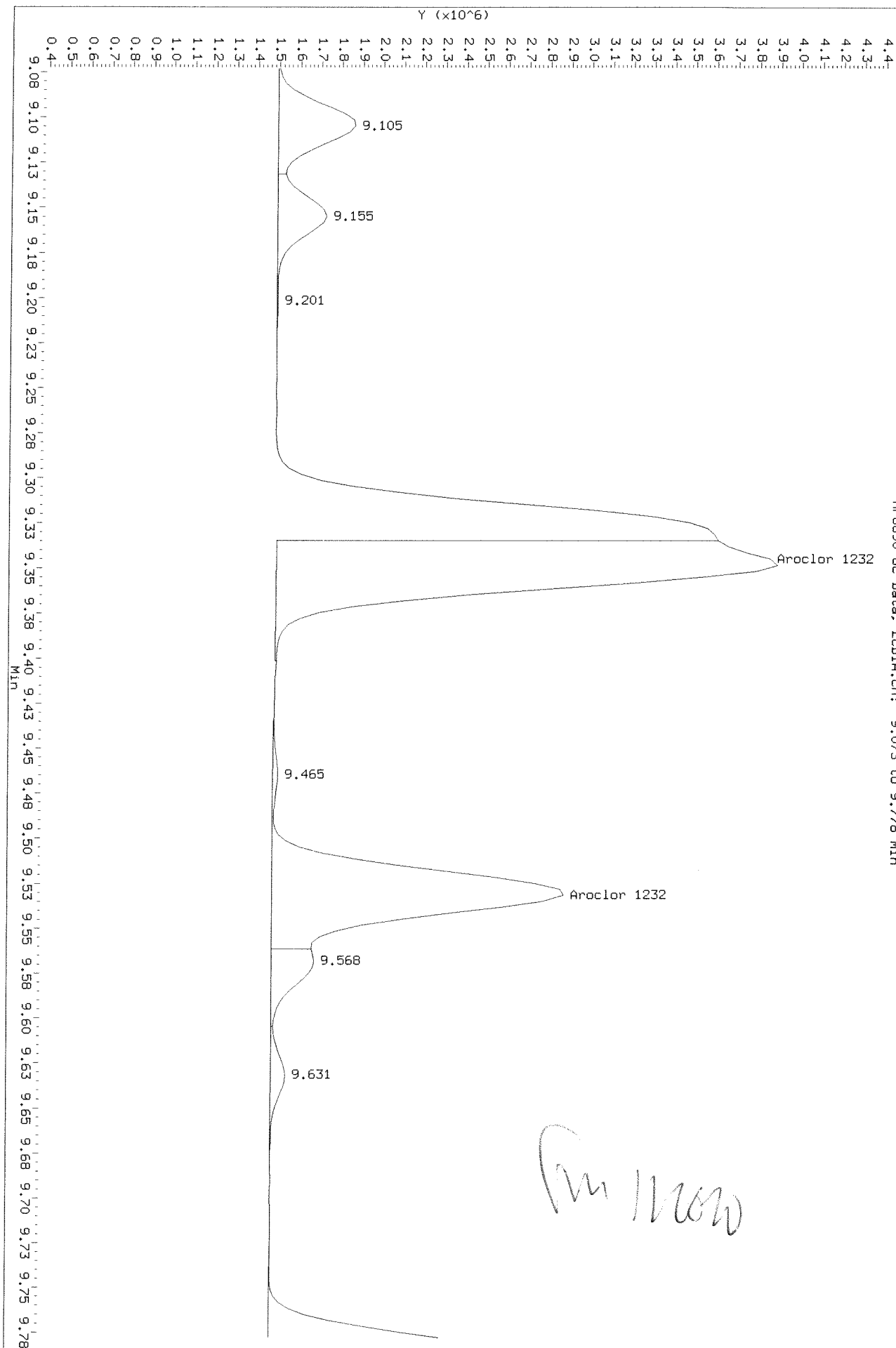
Data File: \\naklsws003\instdata\GC27\Data\1217201CL.b\1217F028.D
Injection Date: 18-DEC-2020 07:42
Instrument: GC27.1
Client Sample ID:

Before



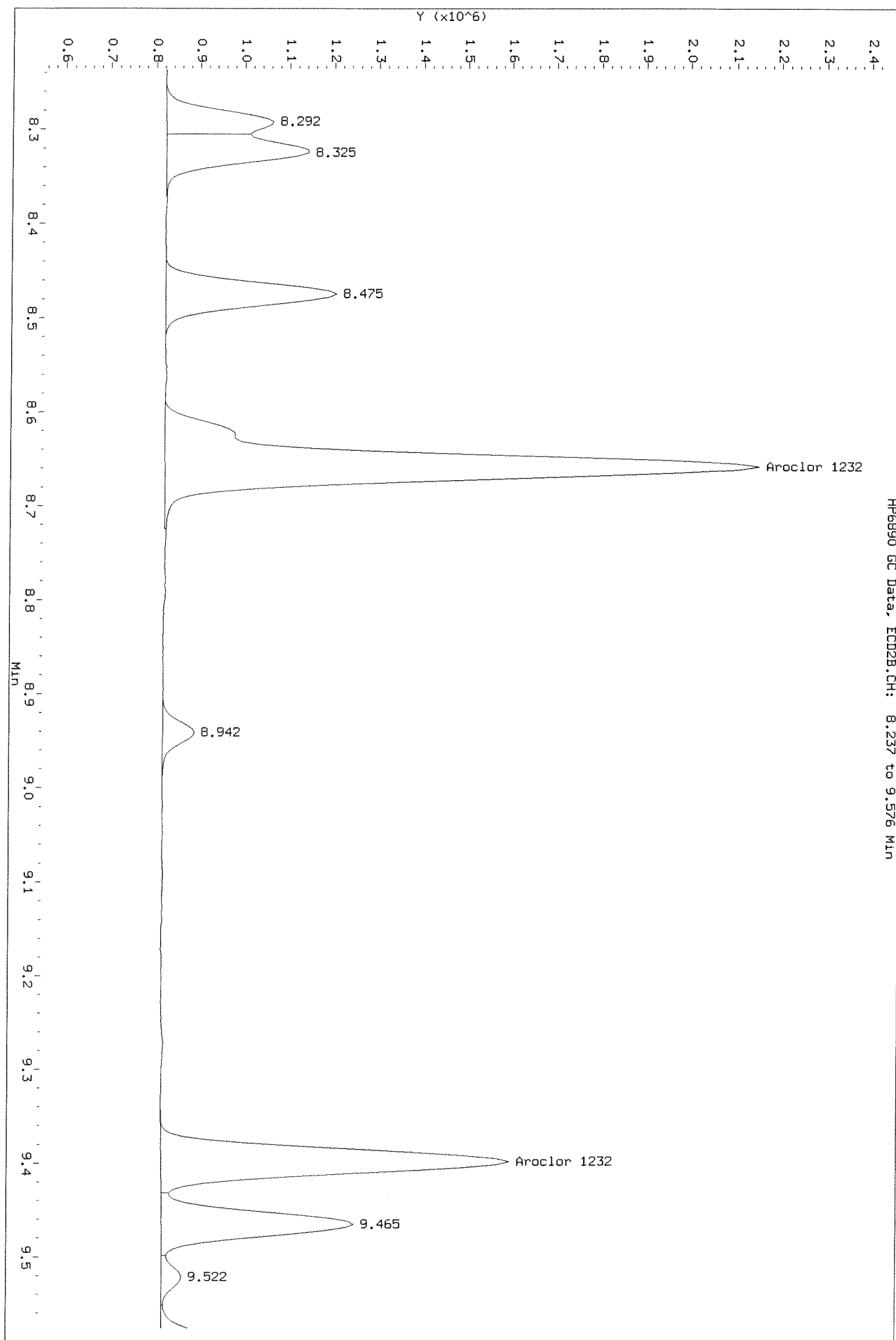
Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F028.D
Injection Date: 18-DEC-2020 07:42
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 9.073 to 9.778 Min



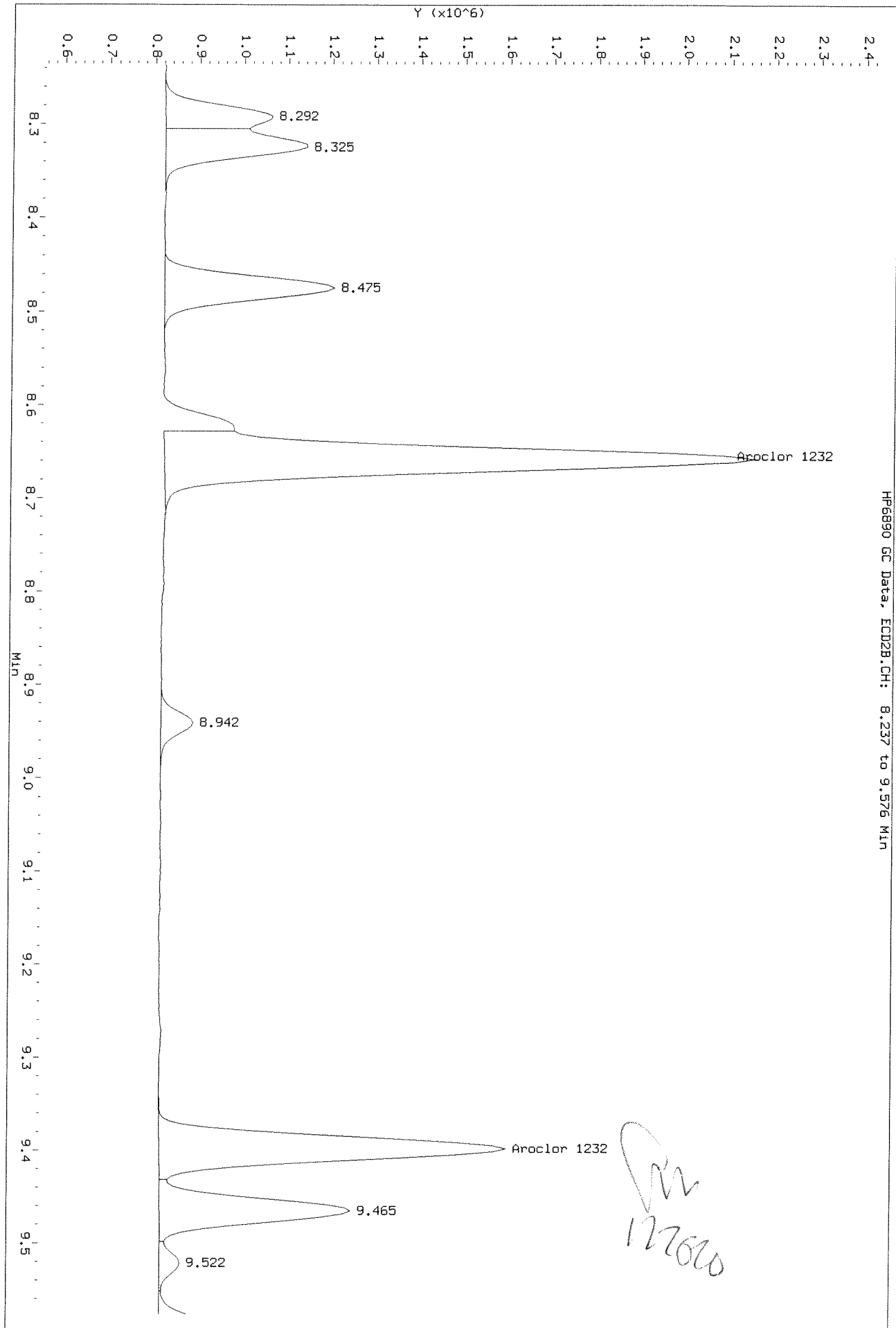
Data File: \\naki\ms003\inst\data\GC27\Data\121720ICL-r.b\1217F028.D
Injection Date: 18-DEC-2020 07:42
Instrument: GC27.1
Client Sample ID:

Before



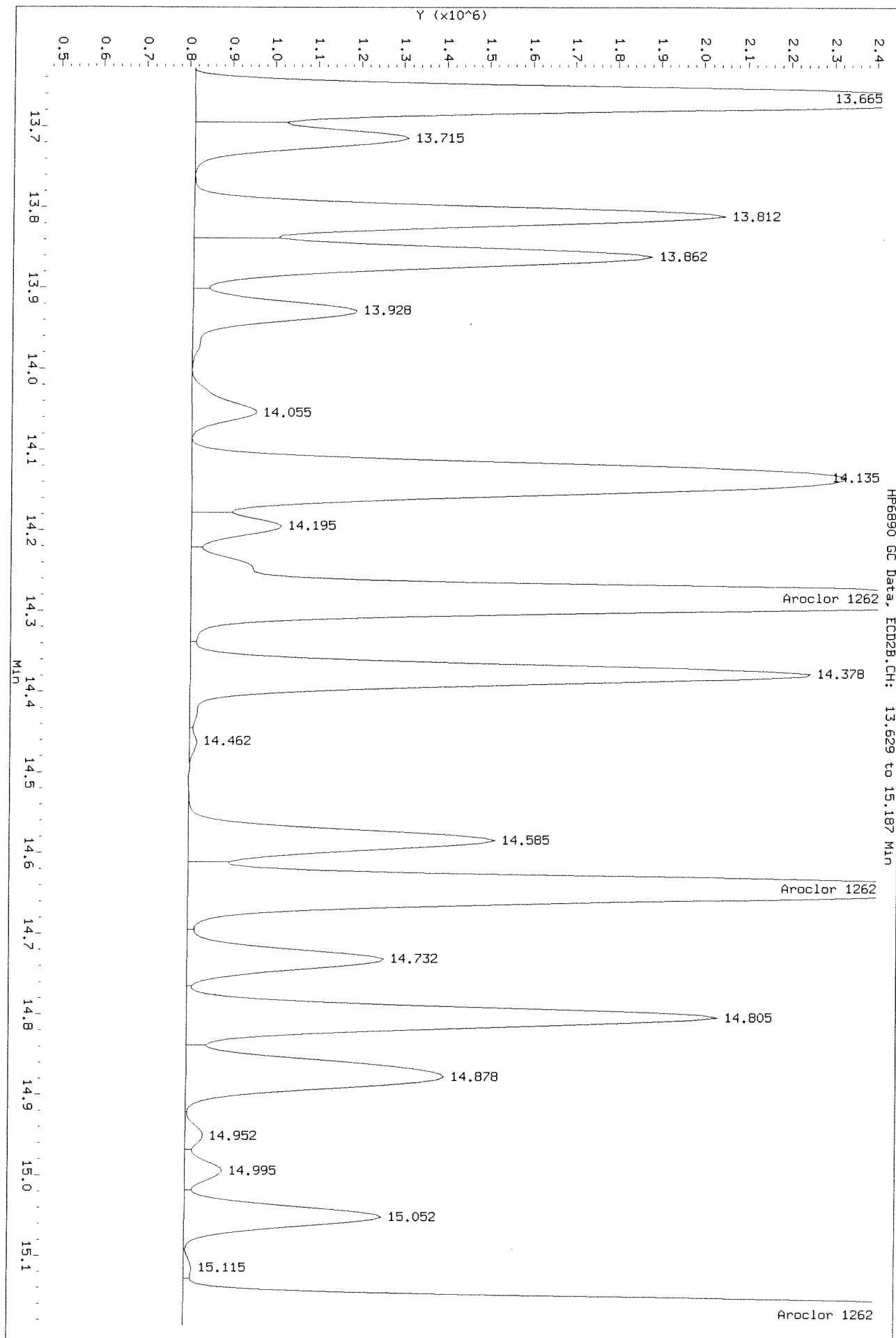
Data File: \\nakls003\instdata\GC27\Data\121720ICL_r.b\1217F028.D
Injection Date: 18-DEC-2020 07:42
Instrument: GC27.1
Client Sample ID:

After shoulder 12/23/20



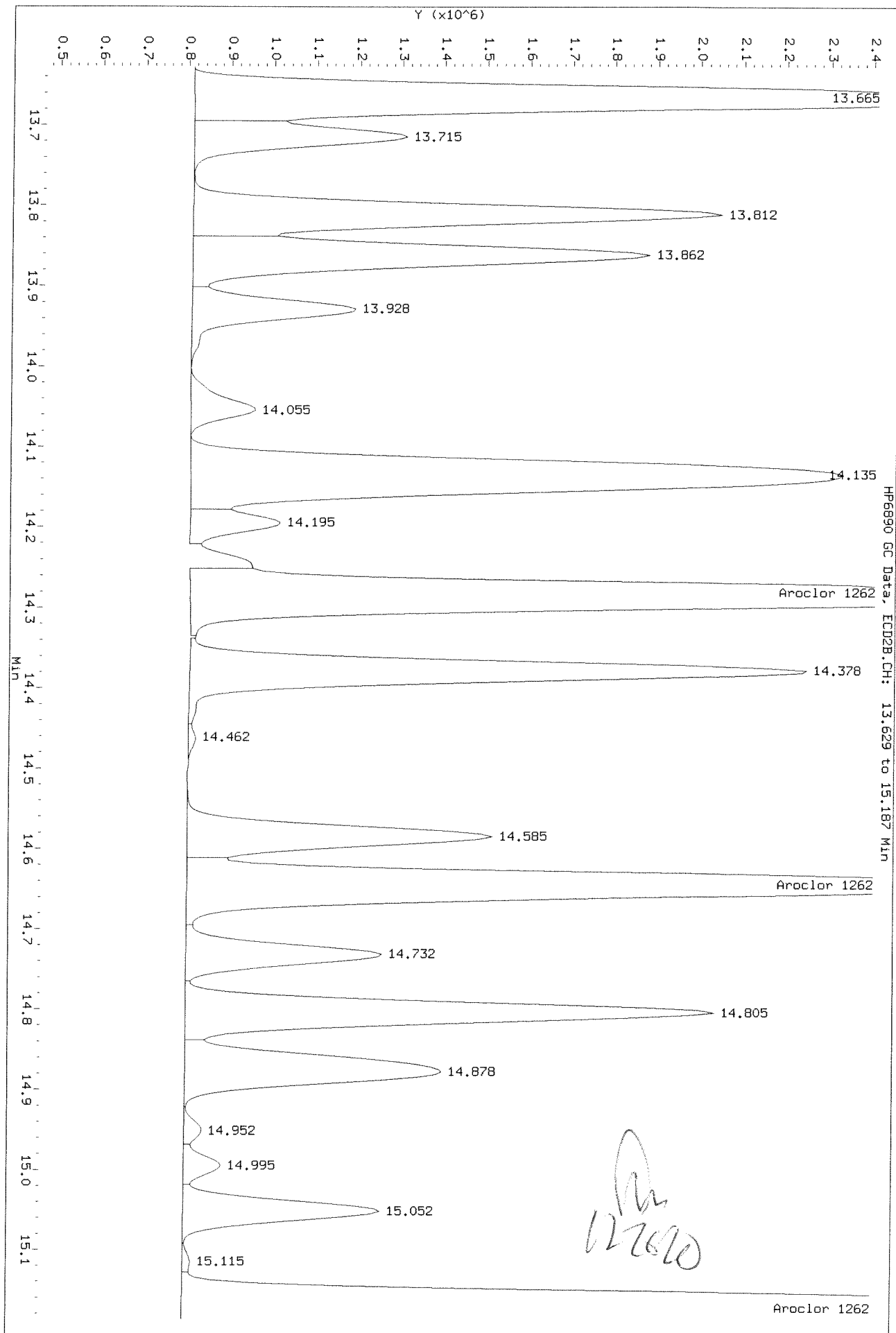
Data File: \\nakisw003\instdata\GC27\Data\121720ICAL_r.b\1217F028.D
Injection Date: 18-DEC-2020 07:42
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakjs003\instdata\GC27\Data\121720ICL-r.b\1217F026.D
Injection Date: 18-DEC-2020 07:42
Instrument: GC27.1
Client Sample ID:

After shoulder 12/23/20 at



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F029.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F029.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F029.D
Inj Date : 18-DEC-2020 08:13
Sample Info: PCB8-61C 3262 200PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 3262.sub
Sub List #2 : 3262.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	7.283	8.657	2858332	4557290	172	172	80.00- 120.00	100.00 (M)
	7.677	9.397	8453116	2545168	182	178	236.59- 354.88	295.74 (M)
	8.440	9.770	7075438	2036997	171	201	198.03- 297.04	247.54 (M)
	9.347	10.453	8476487	3761455	172	180	237.24- 355.86	296.55 (M)
	9.530	10.510	4754319	4371531	182	184	133.07- 199.60	166.33 (M)
	Average of Peak Amounts =				176	183		
Aroclor 1262	13.207	14.283	18681070	10627834	170	156	80.00- 120.00	100.00
	13.670	14.380	17016041	4643632	179	165	72.87- 109.30	91.09
	14.043	14.647	31908191	8483440	184	159	136.64- 204.97	170.80
	14.657	15.170	22745777	17713520	177	157	97.41- 146.11	121.76
	15.513	16.660	9186146	5654214	185	167	39.34- 59.01	49.17
	Average of Peak Amounts =				179	161		

QC Flag Legend

M - Compound response manually integrated.

Am
12/23/20

SA 12/23/20

Data File: \\nakisus003\inst\data\GC27\Data\1217201CAL.b\1217F029.D
Date : 18-DEC-2020 08:13

Client ID:

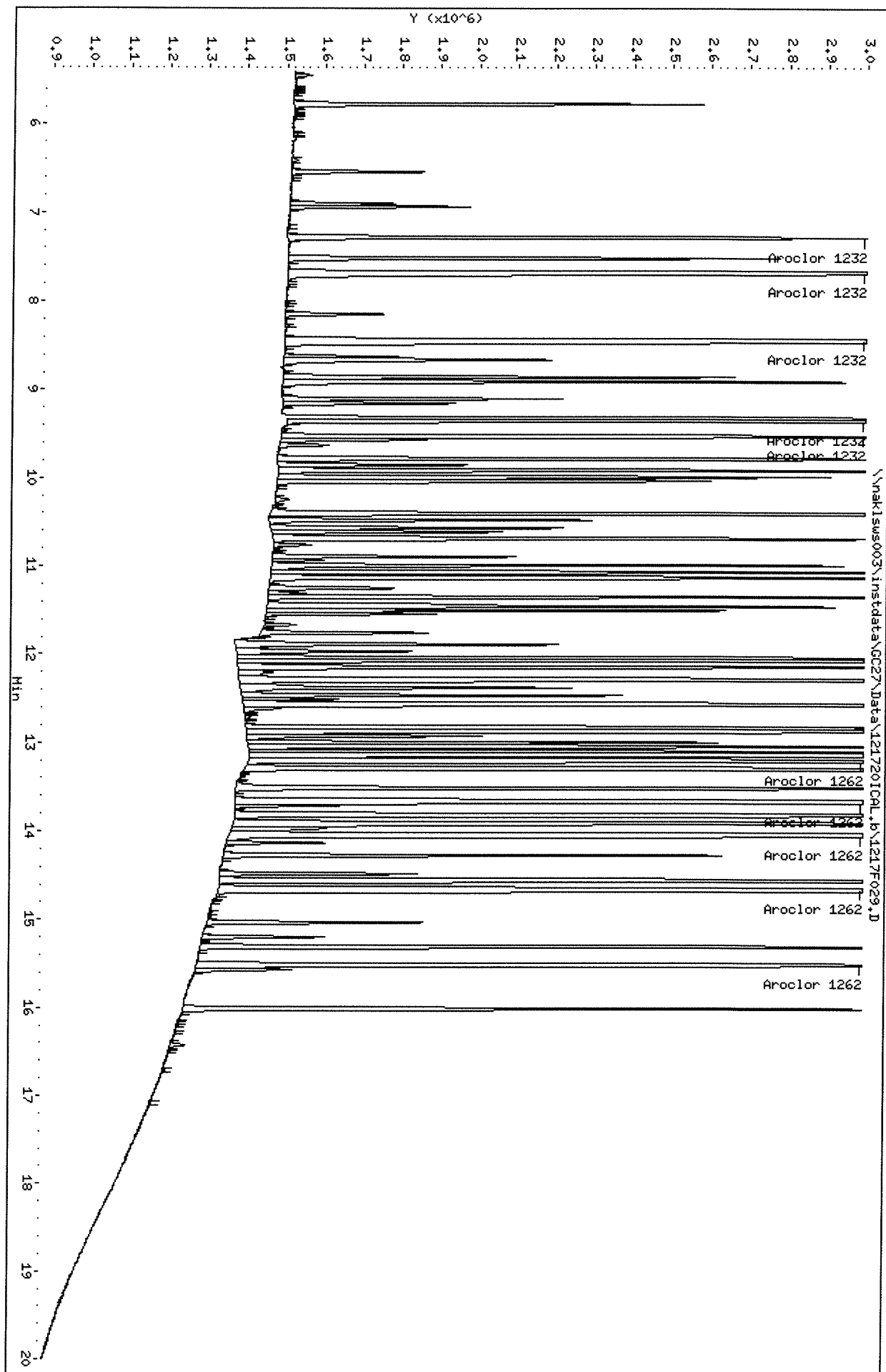
Sample Info: PCB8-61C 3262 200PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL_r.b\1217F029.D
Date : 18-DEC-2020 08:13

Client ID:

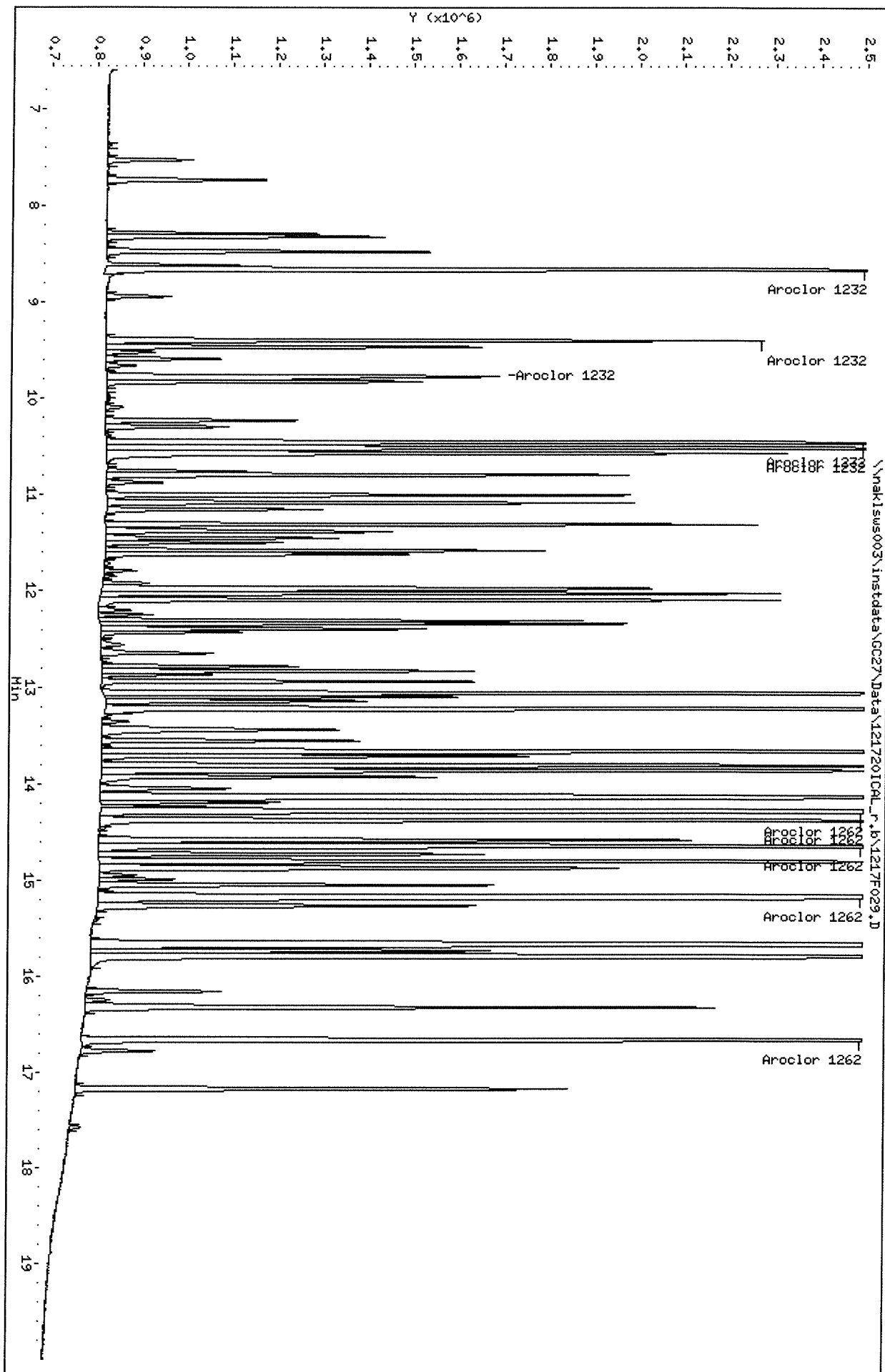
Sample Info: PCB8-61C 3262 200PPB

Column phase: DB-XLB

Instrument: GC27.i

Operator: SAA

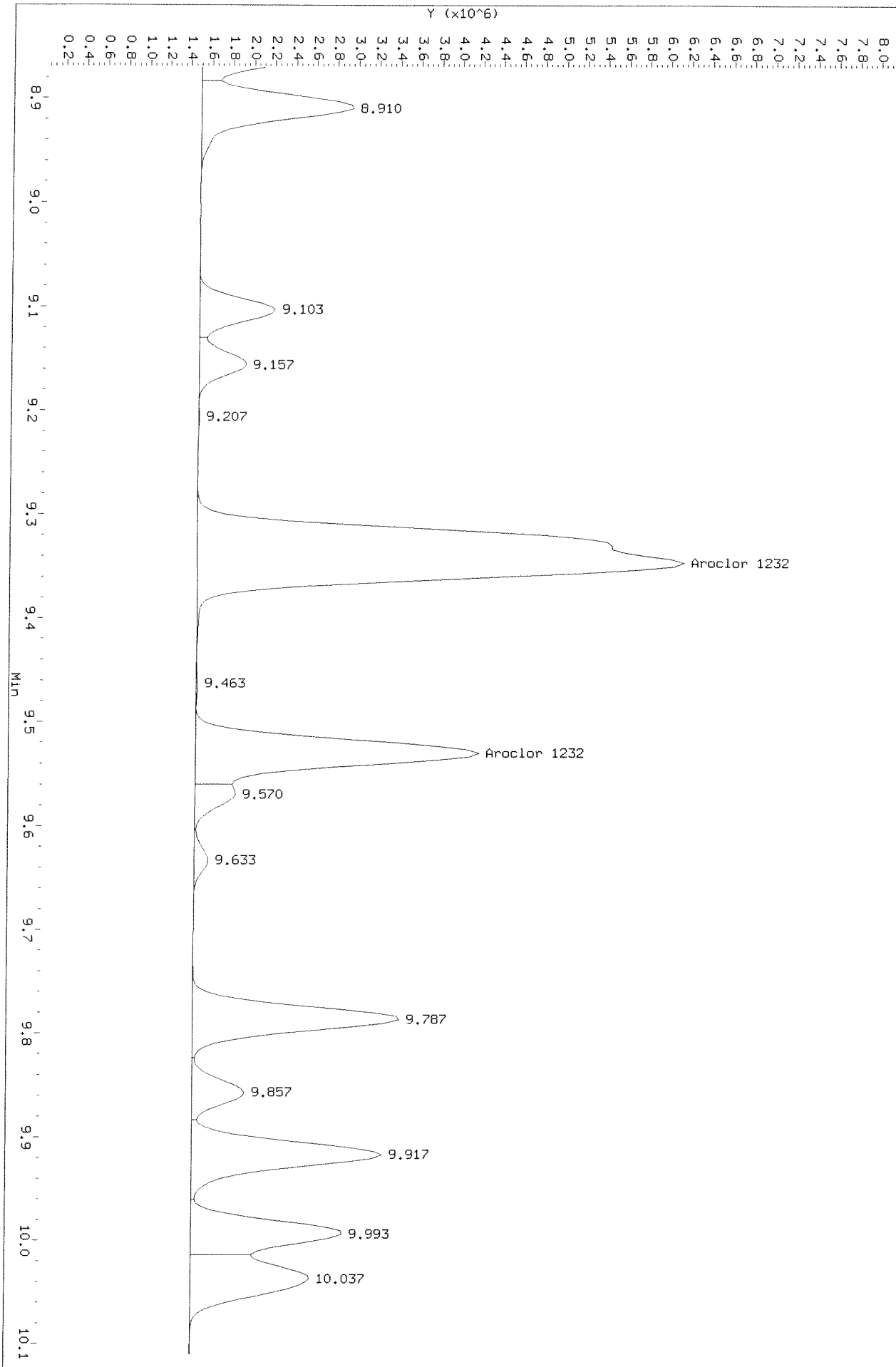
Column diameter: 0.32



Data File: \\nakjsws003\inst\data\GC27\Data\121720ICAL.b\1217F029.D
Injection Date: 18-DEC-2020 08:13
Instrument: GC27.1
Client Sample ID:

Before

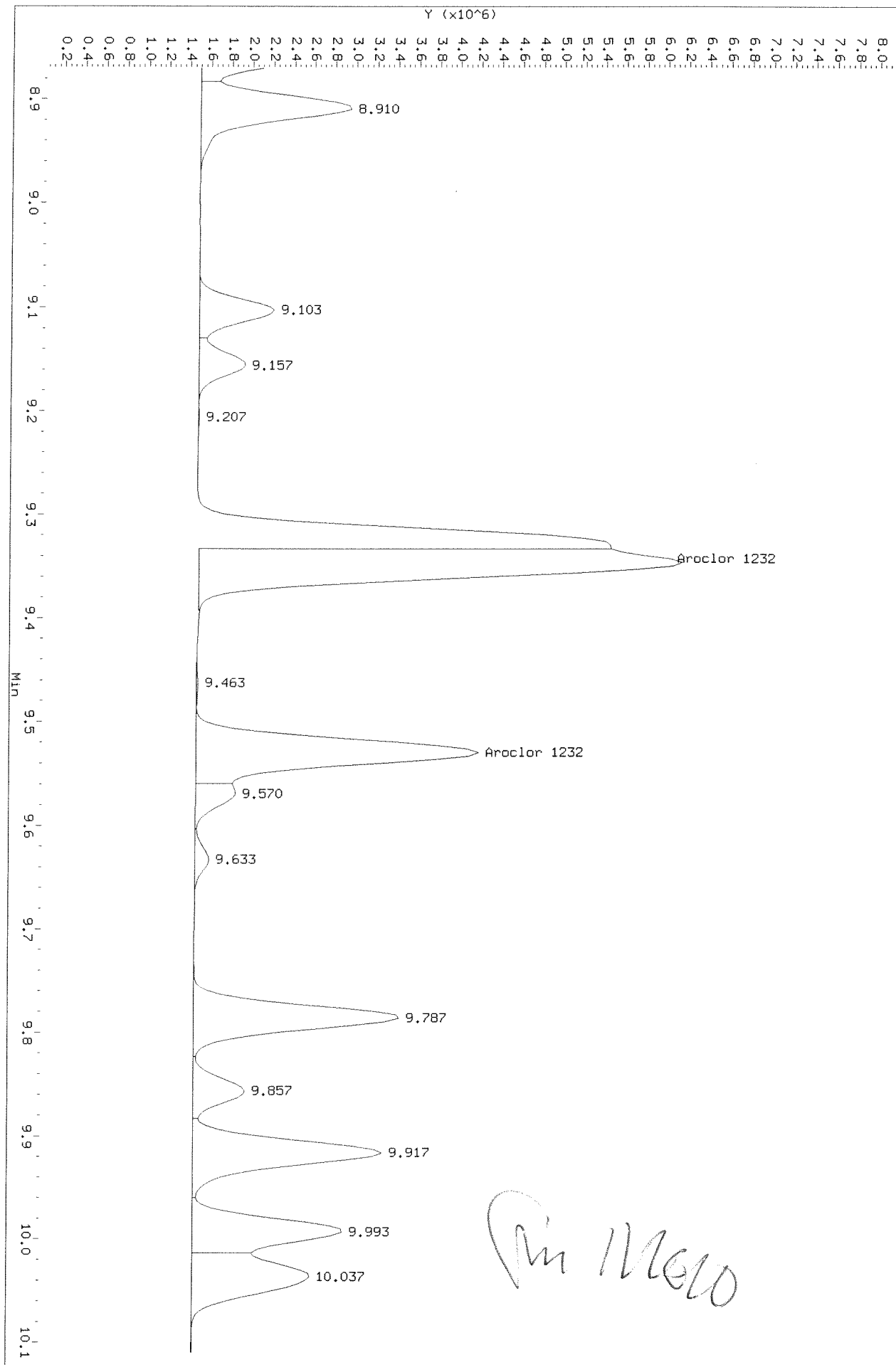
HP6890 GC Data, ECD1A.CH: 8.871 to 10.109 Min



Data File: \\nakisw003\instdata\GC27\Data\121720ICL.b\1217F029.D
Injection Date: 18-DEC-2020 08:13
Instrument: GC27.1
Client Sample ID:

After using product 123 per 4

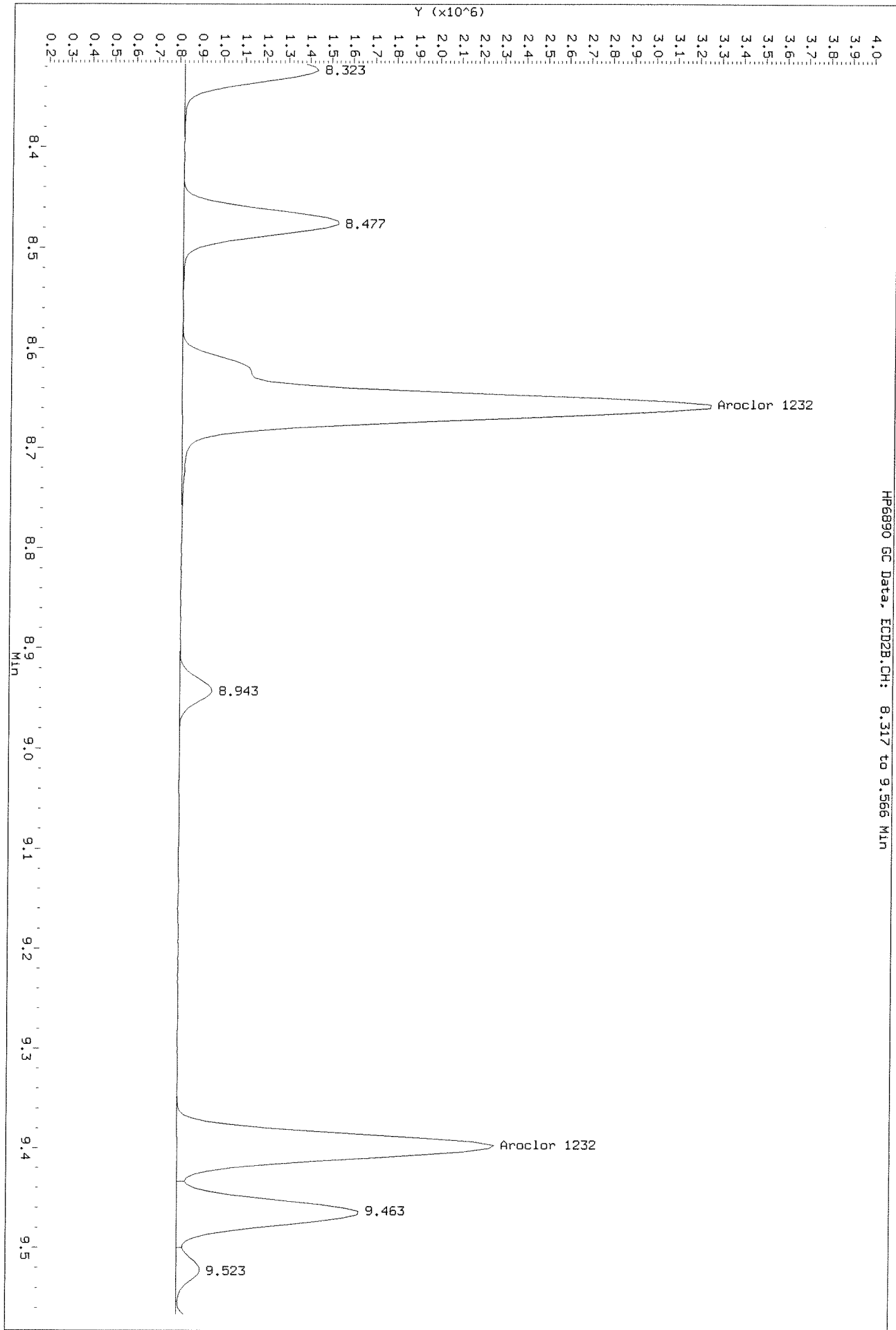
HP6890 GC Data, ECD1A.CH: 8.871 to 10.109 Min



Pin 11/6/10

Data File: \\naksjw003\insdata\GC27\Data\121720ICL_r.b\1217F029.D
Injection Date: 18-DEC-2020 08:13
Instrument: GC27.1
Client Sample ID:

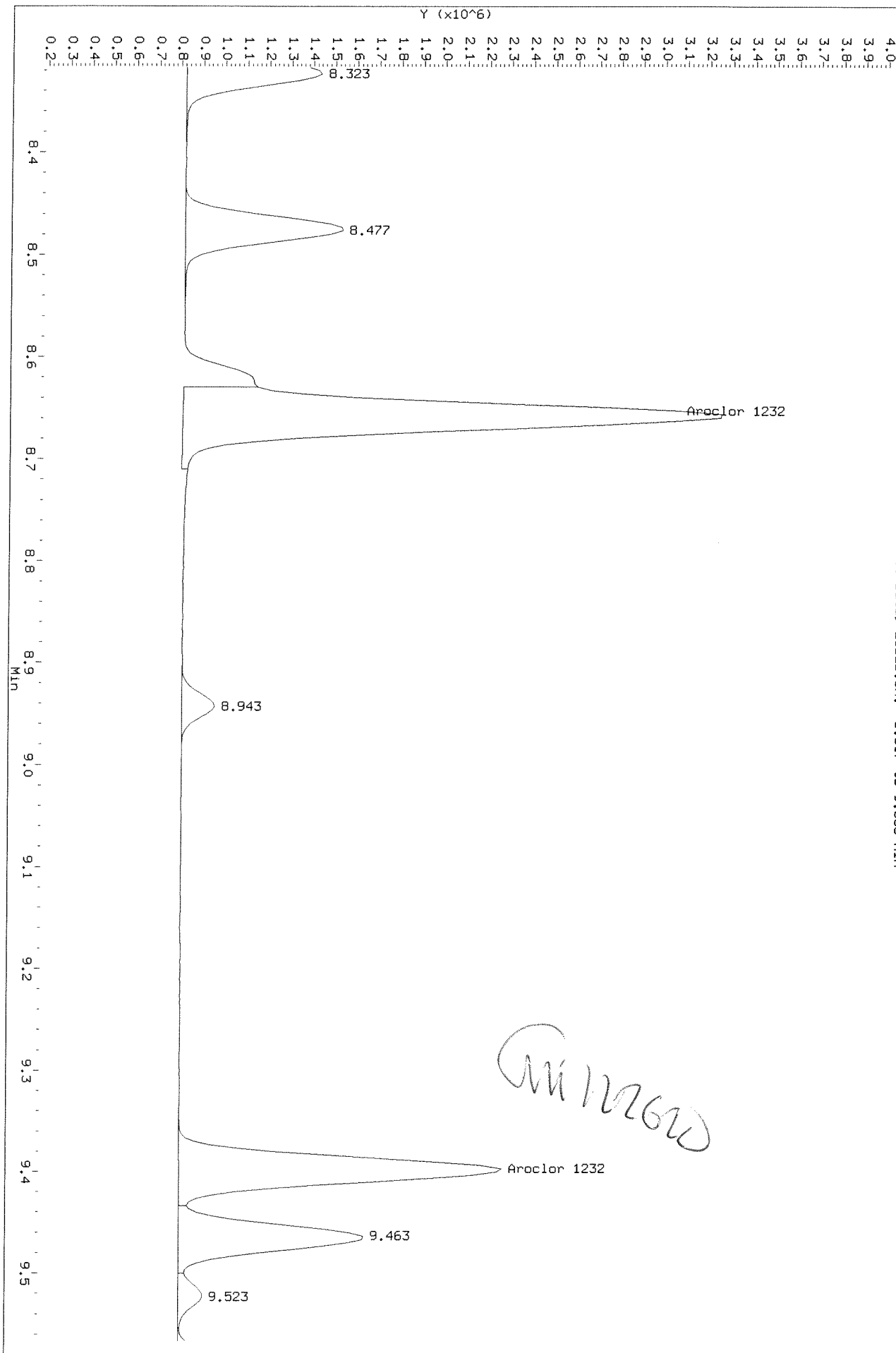
Before



Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL_r.b\1217F029.D
Injection Date: 18-DEC-2020 08:13
Instrument: GC27.1
Client Sample ID:

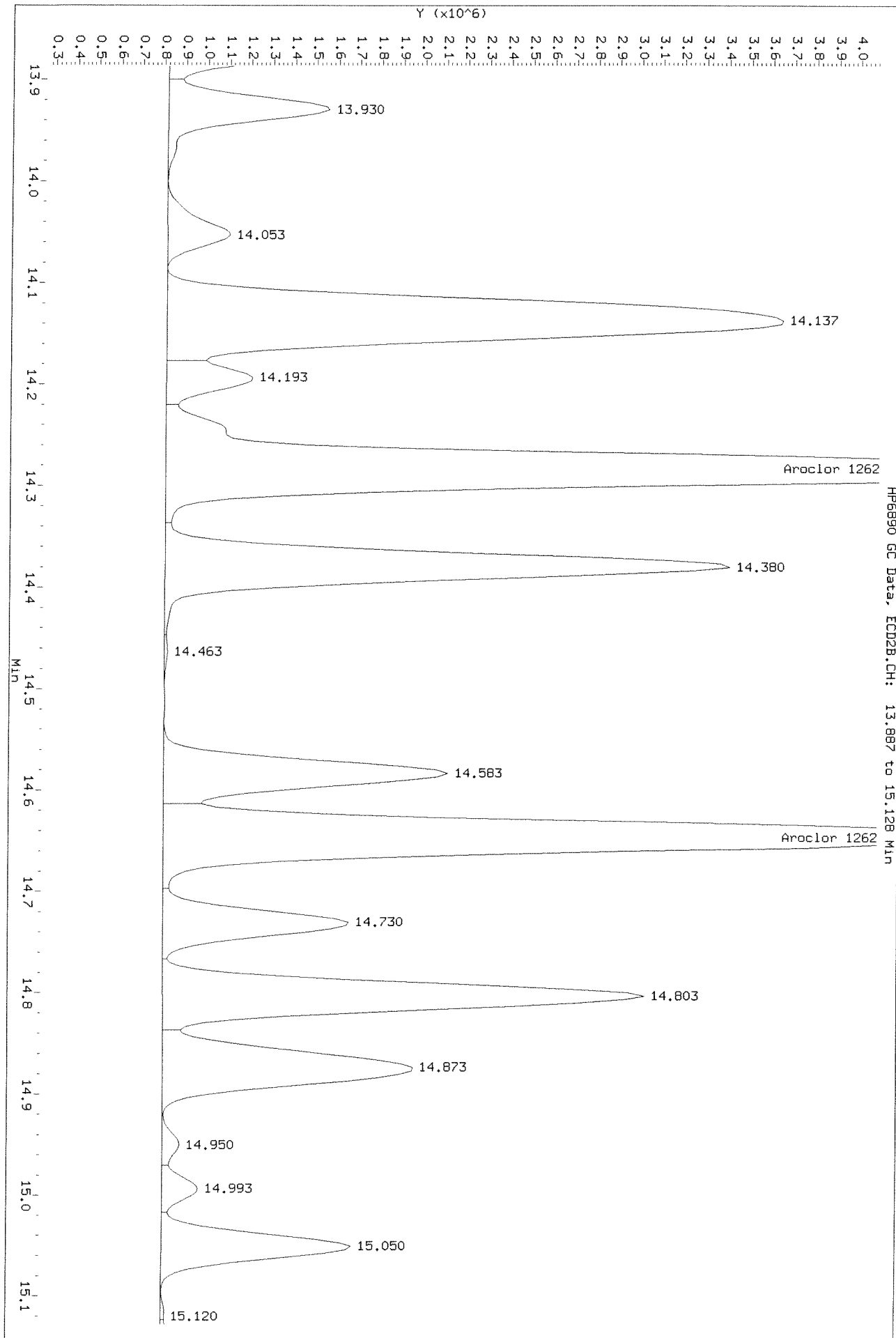
After Shoulder 12/23/2020

HP6890 GC Data, ECD2B.CH: 8.317 to 9.566 Min



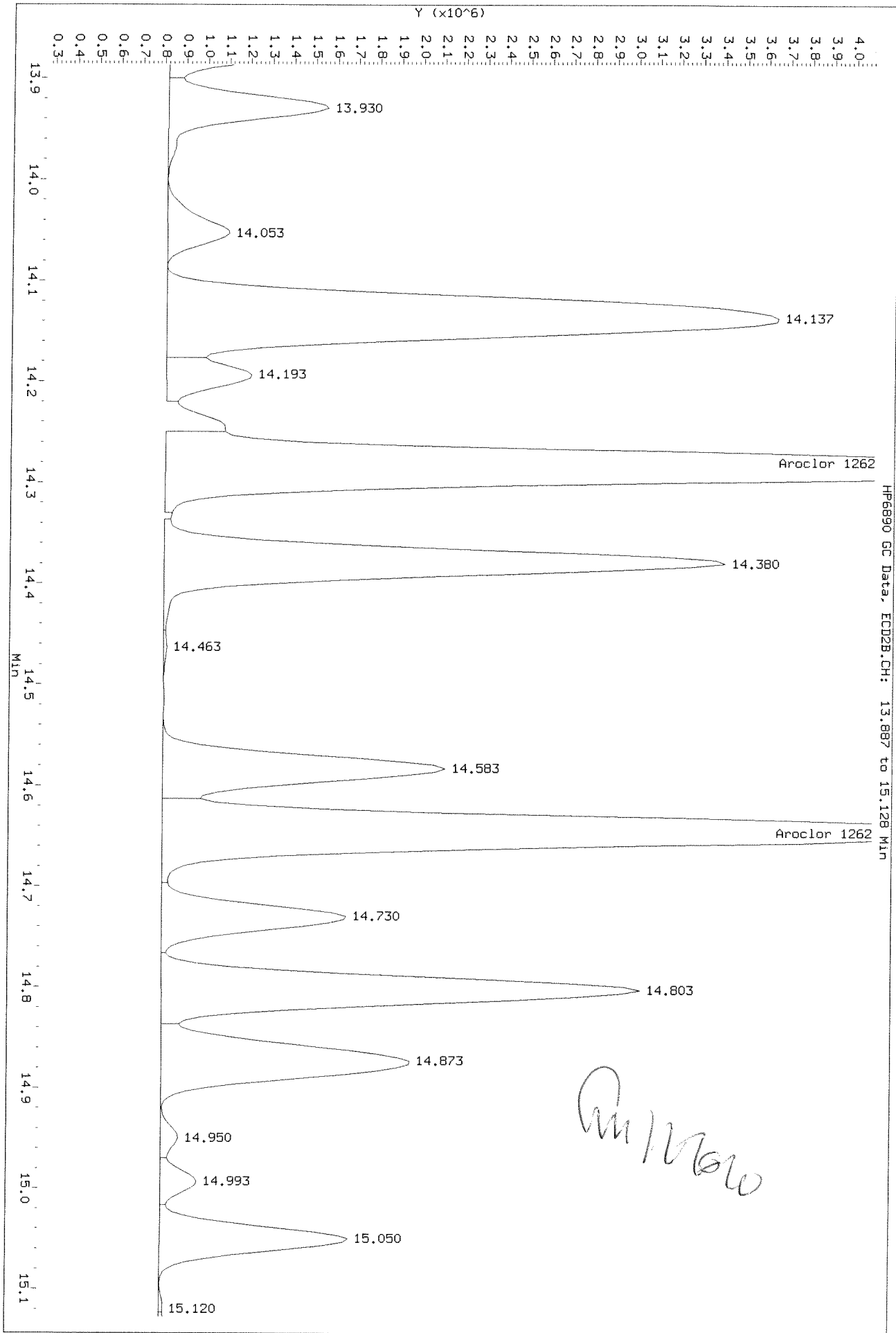
Data File: \\nakisw003\instdata\GC27\Data\121720ICAL_r.b\1217F029.D
Injection Date: 18-DEC-2020 08:13
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakjs003\instdata\GC27\Data\121720ICAL-R.b\1217029.D
Injection Date: 18-DEC-2020 08:13
Instrument: GC27.1
Client Sample ID:

After shoulder 12/23/20 A



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F031.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F031.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F031.D
Inj Date : 18-DEC-2020 09:16
Sample Info: PCB8-65F 4268 2PPB @ 5X
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 4268.sub
Sub List #2 : 4268.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	7.680	8.660	61161	33959	1.99	1.93	80.00- 120.00	100.00 (MH)
	8.910	9.400	57961	53903	2.27	2.11	65.11- 97.66	94.77 (MH)
	9.350	10.457	170489	73900	2.27	2.05	188.97- 283.46	278.75 (MH)
	9.530	10.513	90503	80242	2.04	1.99	105.86- 158.79	147.98 (MH)
	9.917	10.793	60729	54106	1.98	2.34	82.30- 123.45	99.29 (MH)
	Average of Peak Amounts =				2.11	2.08		
Aroclor 1268	14.557	15.673	469312	327668	2.30	2.49	80.00- 120.00	100.00
	14.657	15.797	402286	284786	2.24	2.49	73.22- 109.83	85.72
	15.037	16.160	327679	216176	2.18	2.26	57.94- 86.91	69.82
	16.017	17.173	796661	559663	2.16	2.34	140.63- 210.94	169.75
	Average of Peak Amounts =				2.22	2.40		

QC Flag Legend

M - Compound response manually integrated.
H - Operator selected an alternate compound hit.

Am
12/23/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\12172010AL.b\1217F031.D

Date : 18-DEC-2020 09:16

Client ID:

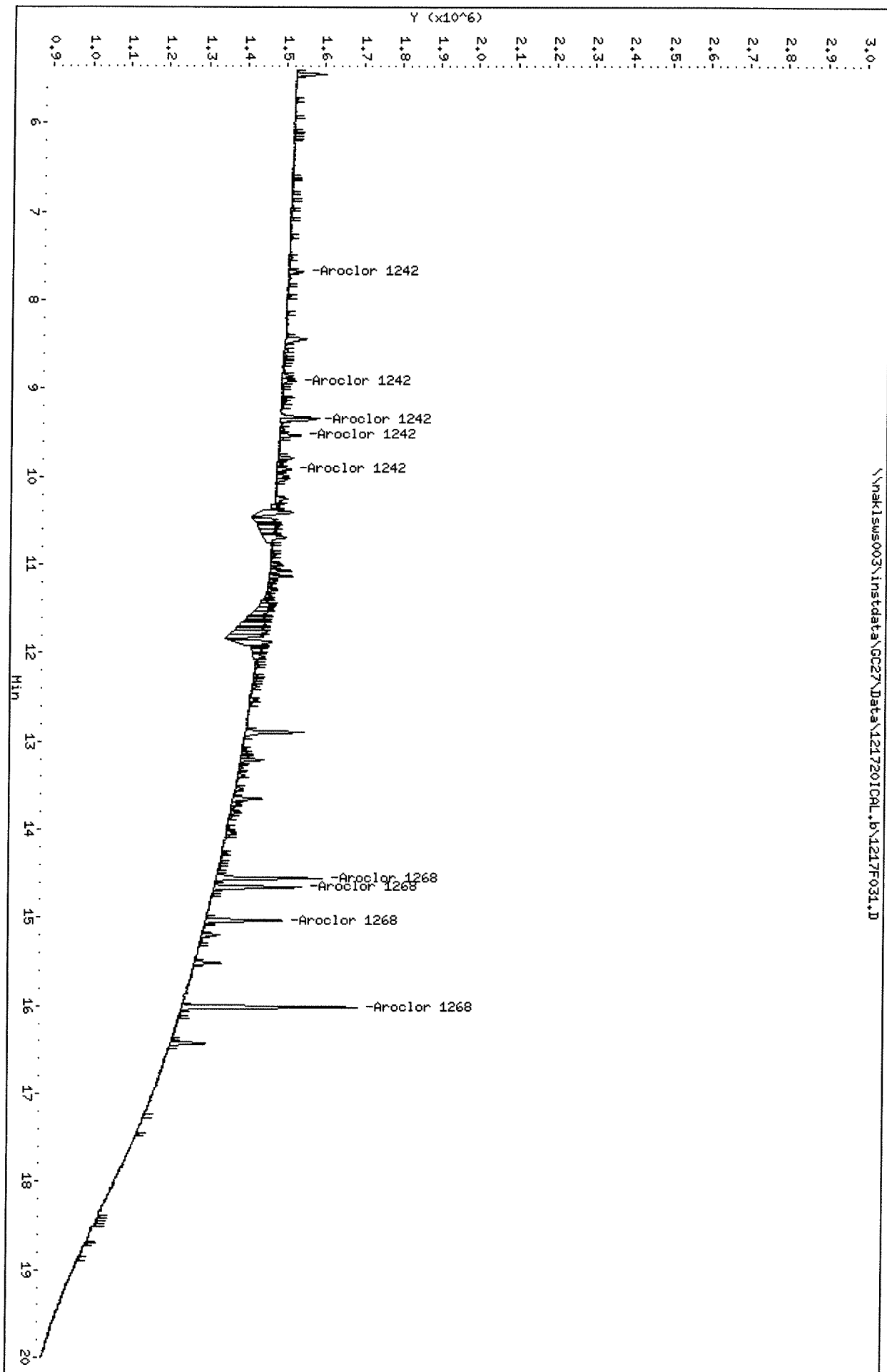
Sample Info: PCB8-6SF 4268 2PPB @ 5X

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL_r.b\1217F031.D

Date : 18-DEC-2020 09:16

Client ID:

Sample Info: PCB8-6SF 4268 2PPB @ 5X

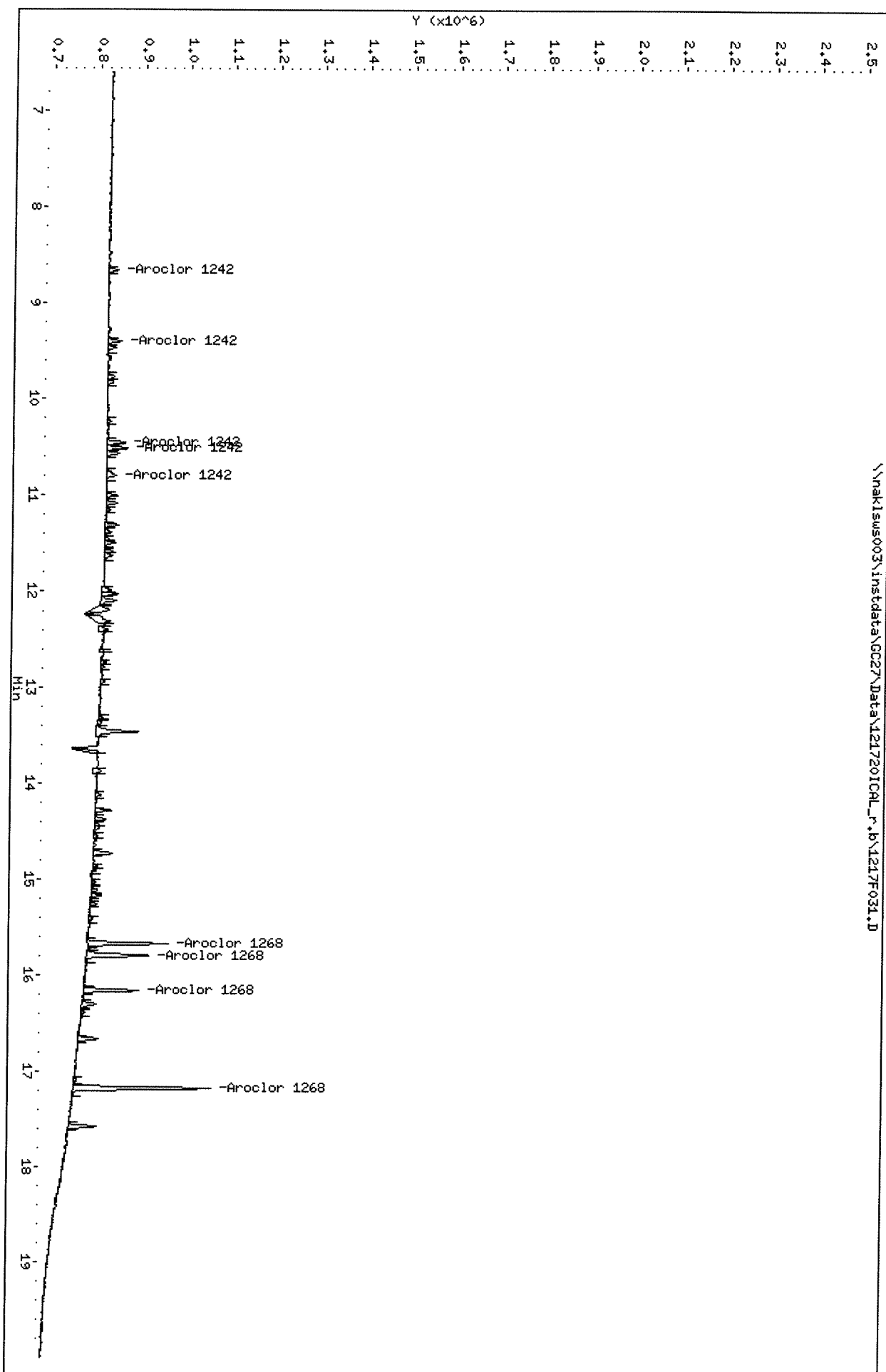
Instrument: GC27.i

Column phase: DB-XLB

Operator: SAA

Column diameter: 0.32

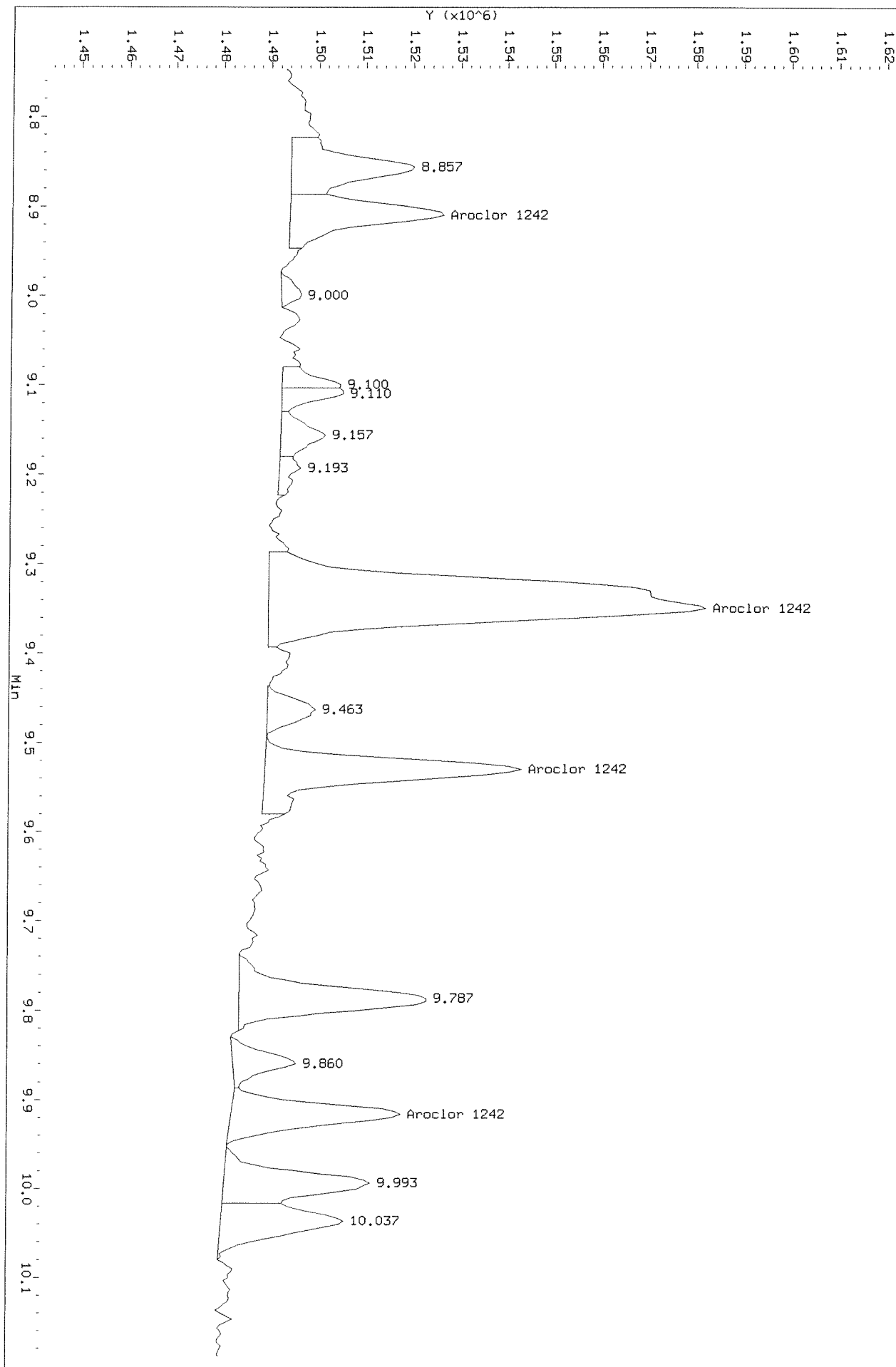
\\nak1sws003\instdata\GC27\Data\1217201CAL_r.b\1217F031.D



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F031.D
Injection Date: 18-DEC-2020 09:16
Instrument: GC27.1
Client Sample ID:

Before

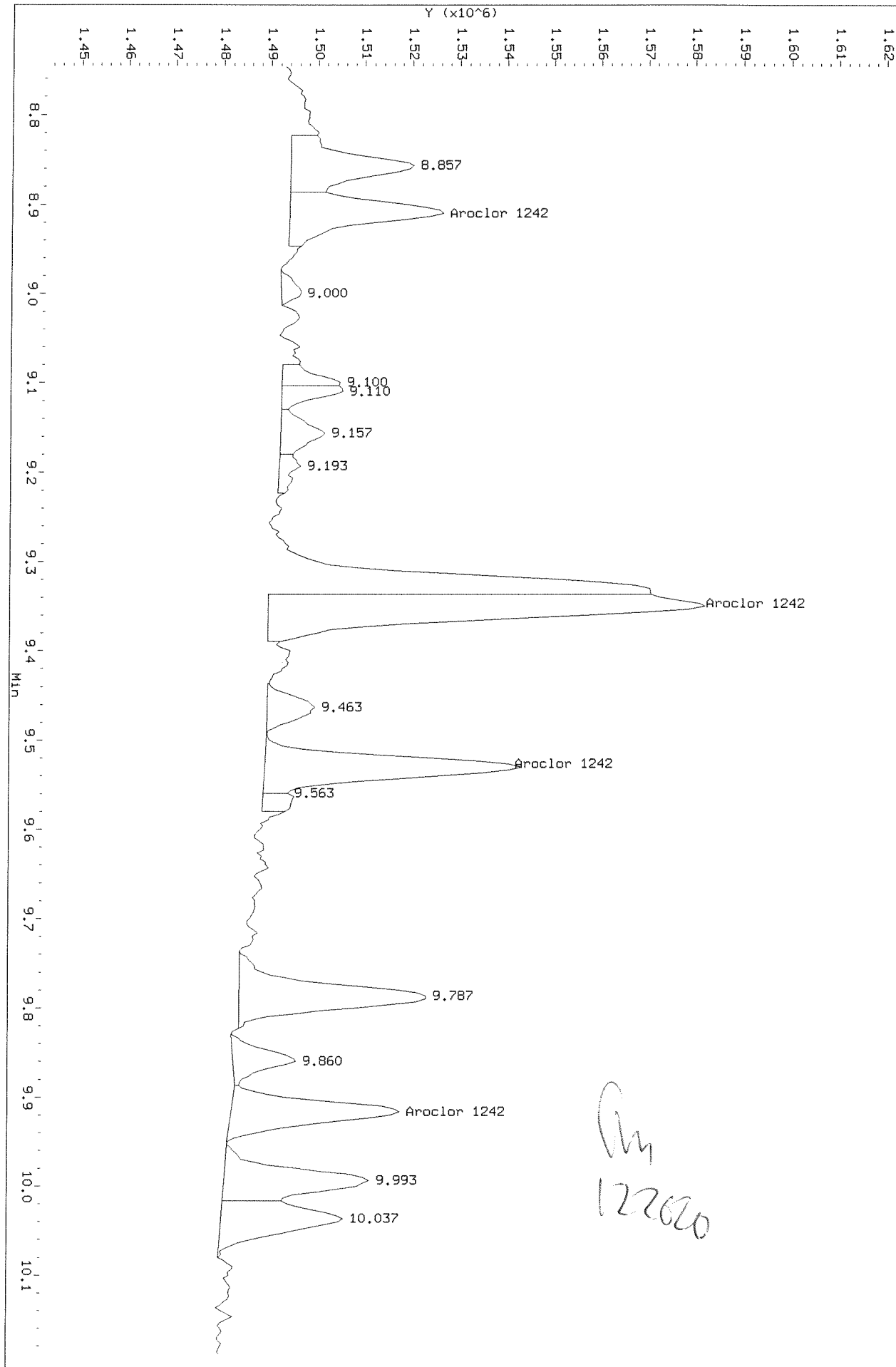
HP6890 GC Data, ECD1A.CH: 8.747 to 10.188 Min



Data File: \\nakisws003\inst\data\GC27\Data\121720ICAL.b\1217F031.D
Injection Date: 18-DEC-2020 09:16
Instrument: GC27.1
Client Sample ID:

After wrong peak 12/23/20

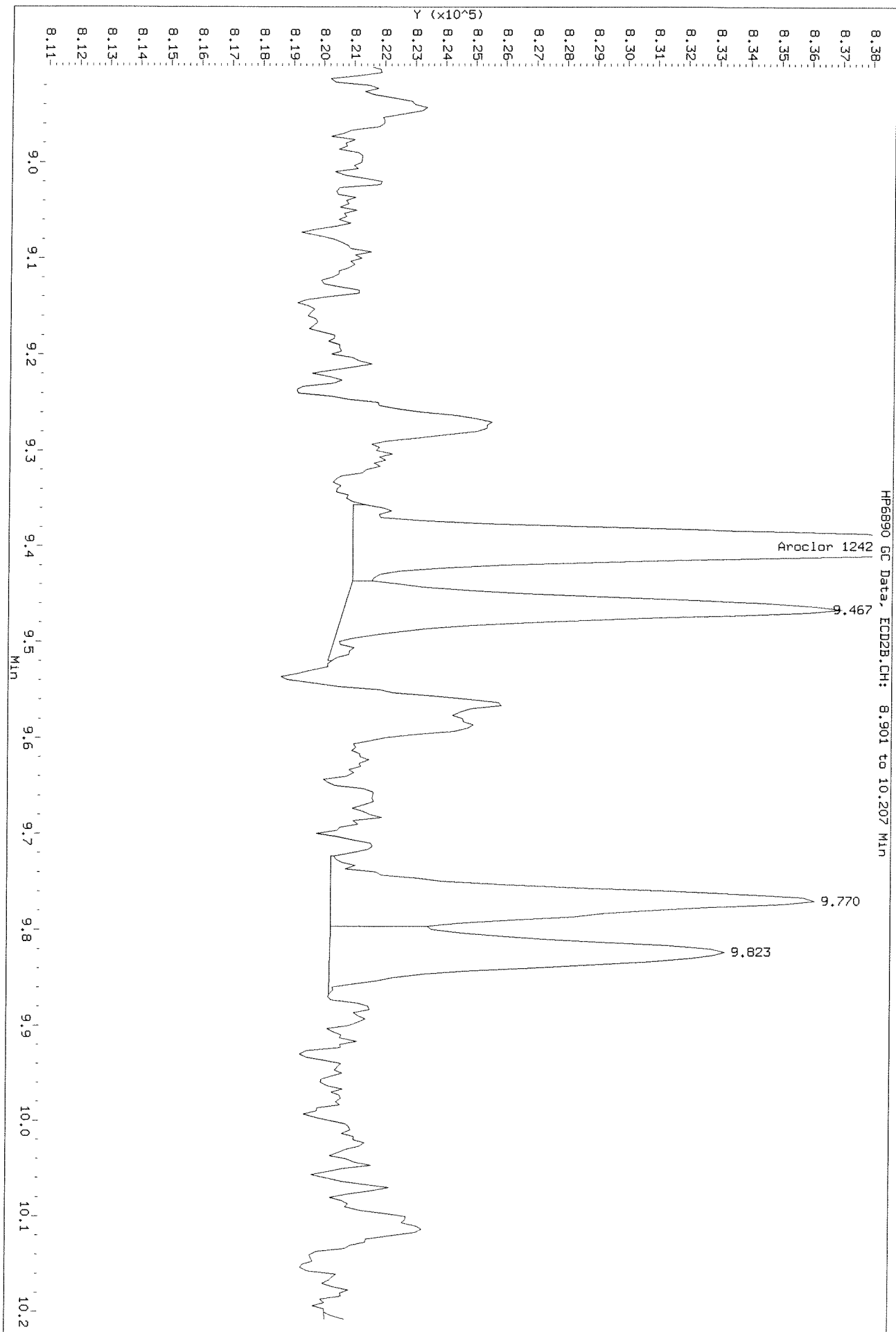
HP6890 GC Data, ECD1A.CH: 8.747 to 10.188 Min



Am
122620

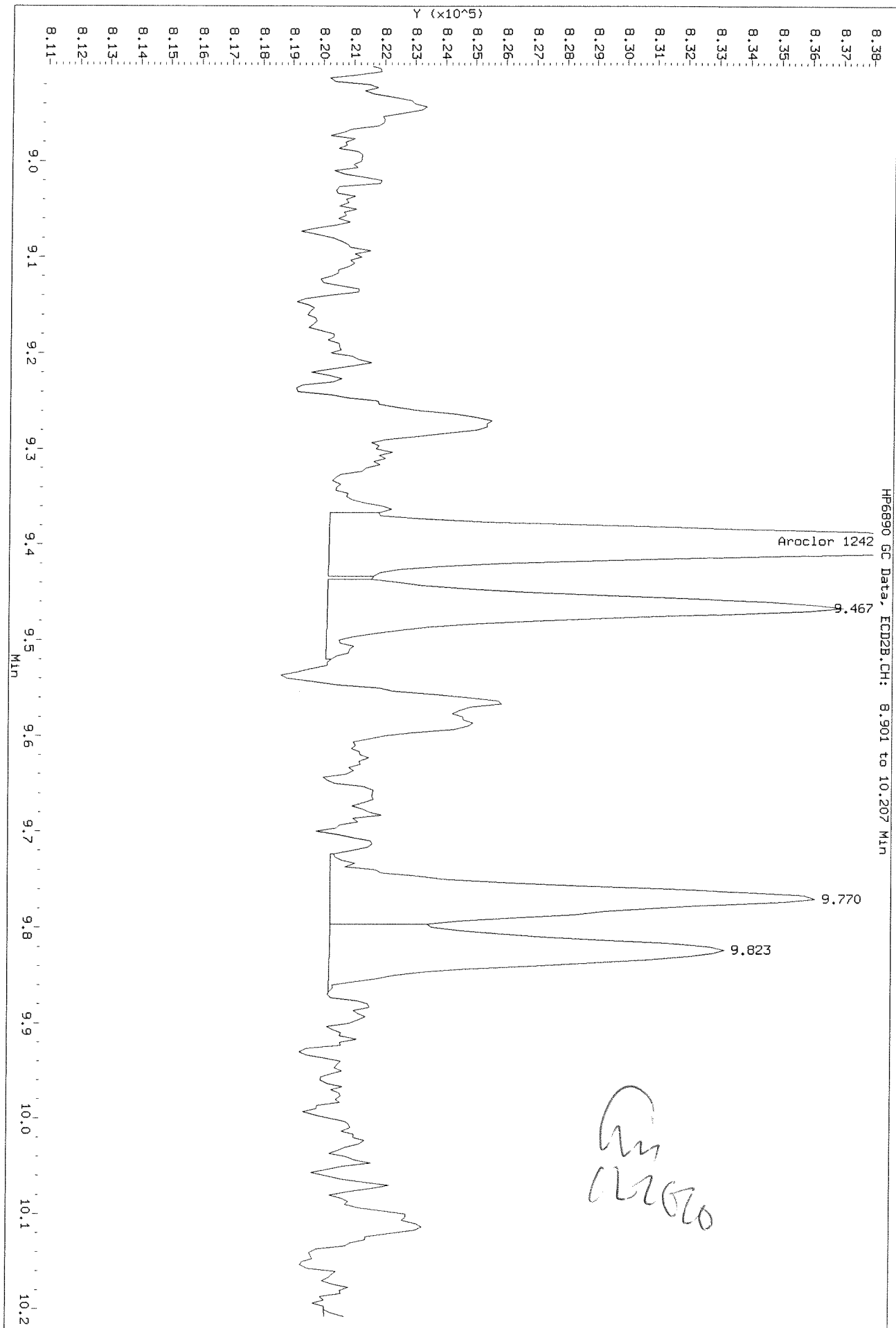
Data File: \\nakisws003\instdata\GC27\Data\121720ICL_r.b\1217F031.D
Injection Date: 18-DEC-2020 09:16
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsms003\inst\data\GC27\Data\1217201CAL_r.b\1217F031.D
Injection Date: 18-DEC-2020 09:16
Instrument: GC27.1
Client Sample ID:

AKC basehelixceller 12/23/2020



ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F032.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F032.D
Inj Date : 18-DEC-2020 09:47
Sample Info: PCB8-65G 4268 5PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 4268.sub
Sub List #2 : 4268.sub
Col #1 Phase : DB-35MS
Col #2 Phase : DB-XLB

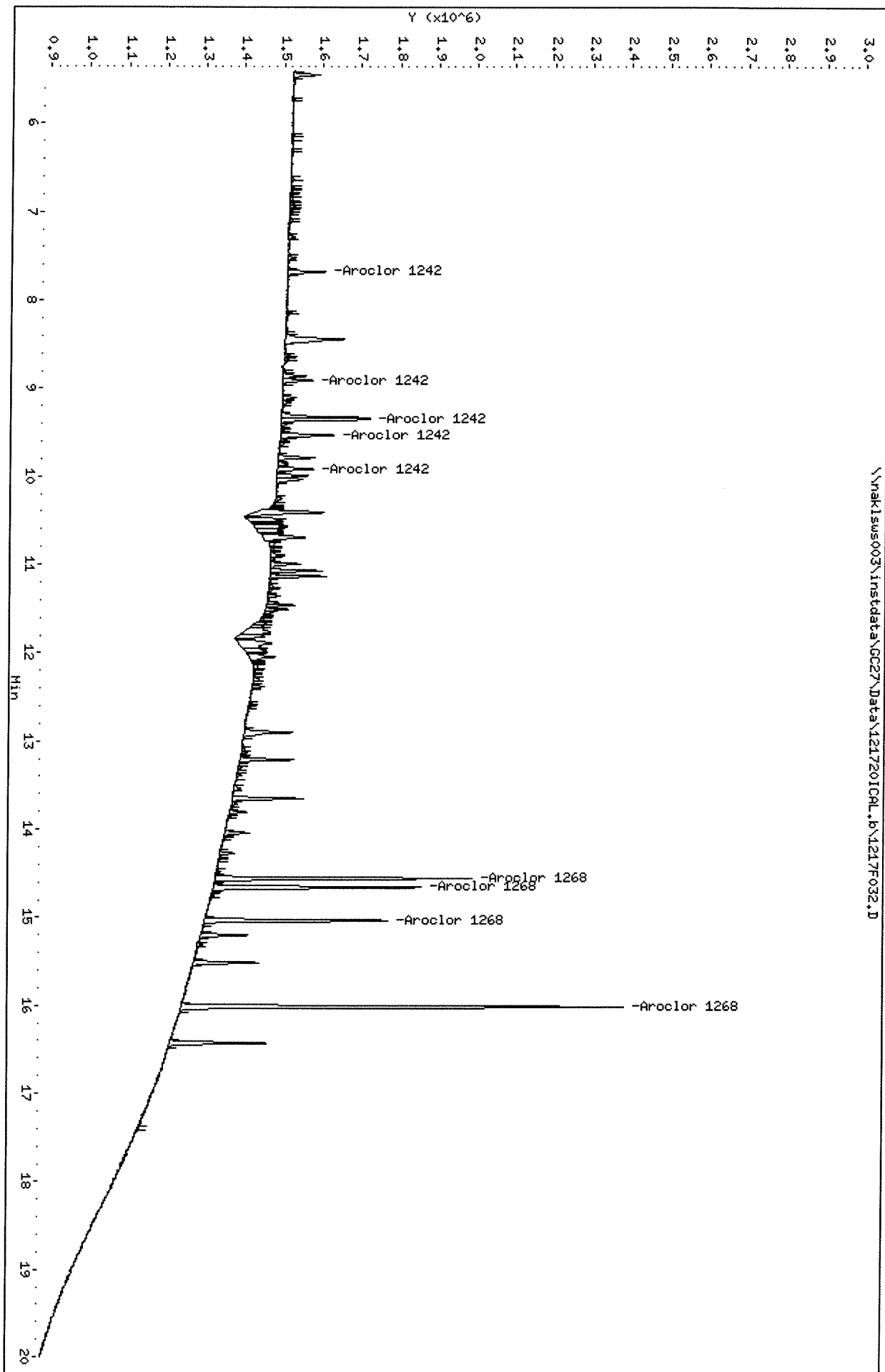
Compound	RT#1	RT#2	Resp#1	Resp#2	Conc#1	Conc#2	Target	Range	Ratio
=====									
Aroclor 1242	7.679	8.663	159955	87143	5.21	4.94	80.00-	120.00	100.00
	8.913	9.403	137702	135441	5.39	5.30	65.11-	97.66	86.09
	9.349	10.456	406925	195206	5.42	5.41	188.97-	283.46	254.40
	9.533	10.513	243760	220657	5.51	5.48	105.86-	158.79	152.39
	9.919	10.796	164160	119758	5.35	5.18	82.30-	123.45	102.63
	Average of Peak Amounts =				5.38	5.26			
Aroclor 1268	14.559	15.676	1090231	742952	5.34	5.65	80.00-	120.00	100.00
	14.659	15.799	949451	637936	5.28	5.58	73.22-	109.83	87.09
	15.036	16.159	818674	546613	5.44	5.72	57.94-	86.91	75.09
	16.019	17.176	1978039	1357895	5.37	5.68	140.63-	210.94	181.43
	Average of Peak Amounts =				5.36	5.66			

Handwritten signature
12/20/20

Handwritten signature
A 12/23/20

Data File: \\nak1sus003\instdata\GC27\Data\1217201CAL.b\1217F032.D
Date : 18-DEC-2020 09:47
Client ID:
Sample Info: PCB8-65C 4268 SPPB
Column phase: DB-35MS

Instrument: GC27.i
Operator: SAA
Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\1217201CAL_r.b\1217F032.D

Date : 18-DEC-2020 09:47

Client ID:

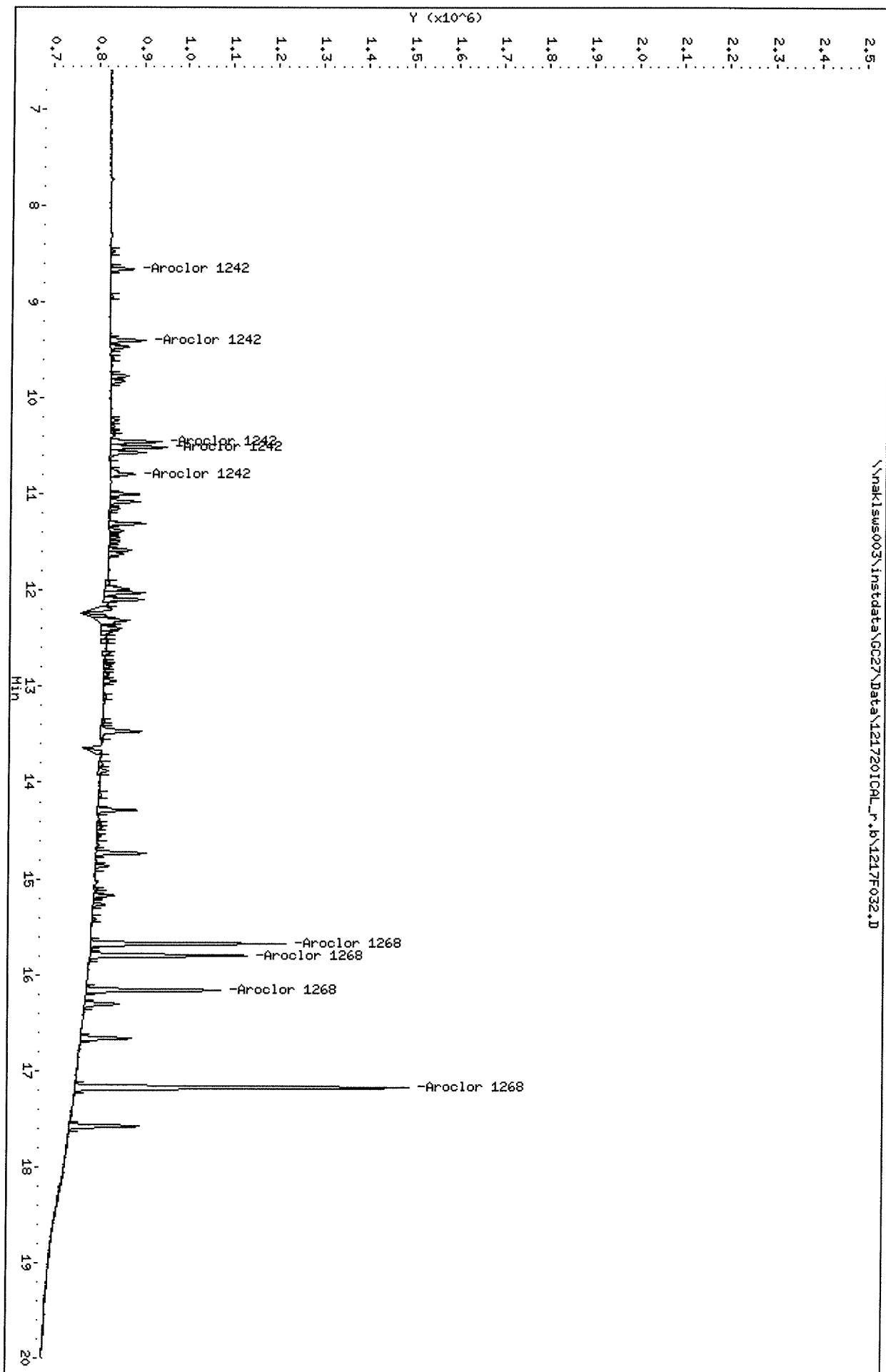
Sample Info: PCB8-65G 4268 SPPB

Column phase: DB-XLB

Instrument: GC27.i

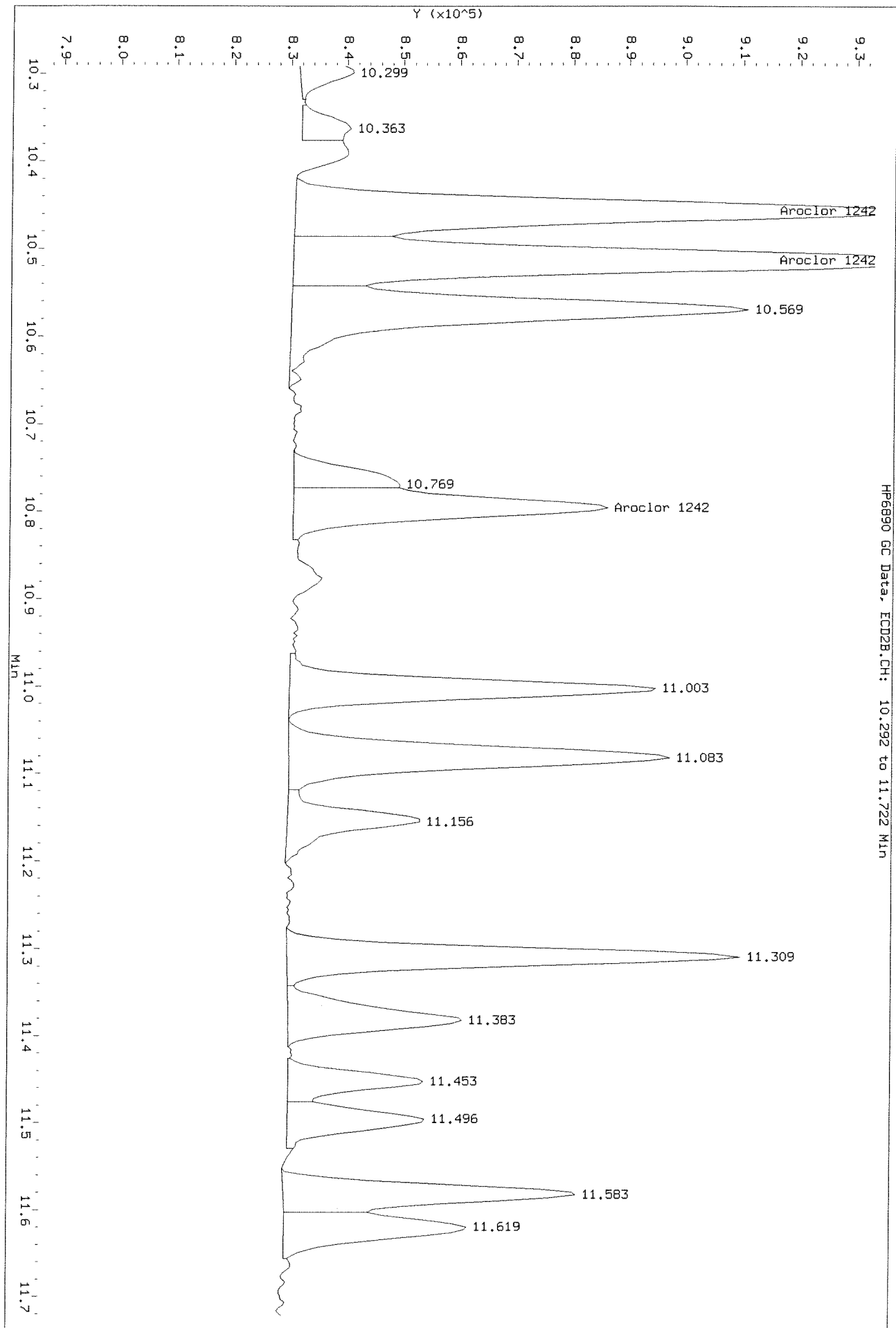
Operator: SAA

Column diameter: 0.32



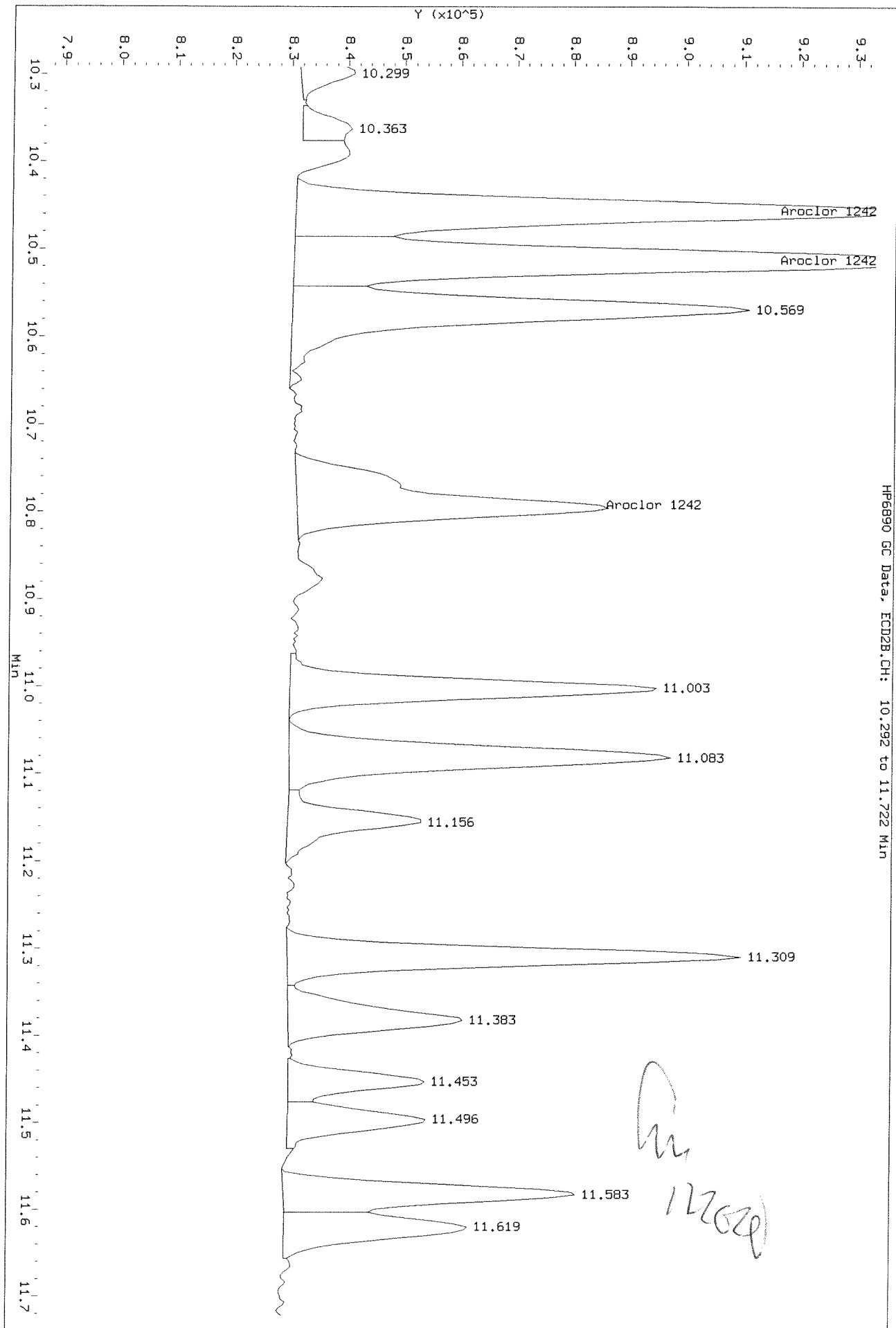
Data File: \\nakjsws003\instdata\GC27\Data\121720ICL_r.b\1217032.D
Injection Date: 18-DEC-2020 09:47
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakls003\instdata\GC27\Data\121720ICL-r.b\1217F032.D
Injection Date: 18-DEC-2020 09:47
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2020



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F033.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F033.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F033.D
Inj Date : 18-DEC-2020 10:18
Sample Info: PCB8-65F 4268 10PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 4268.sub
Sub List #2 : 4268.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	7.679	8.660	318825	180141	10.4	10.2	80.00- 120.00	100.00 (M)
	8.909	9.396	262654	269350	10.3	10.5	65.11- 97.66	82.38 (M)
	9.346	10.453	764184	383560	10.2	10.6	188.97- 283.46	239.69 (M)
	9.529	10.510	454592	432136	10.3	10.7	105.86- 158.79	142.58 (M)
	9.916	10.793	315344	236524	10.3	10.2	82.30- 123.45	98.91 (M)
	Average of Peak Amounts =				10.3	10.4		
Aroclor 1268	14.556	15.670	2078944	1384689	10.2	10.5	80.00- 120.00	100.00
	14.656	15.796	1802696	1201550	10.0	10.5	73.22- 109.83	86.71
	15.033	16.156	1524999	1024774	10.1	10.7	57.94- 86.91	73.35
	16.013	17.173	3746567	2490667	10.2	10.4	140.63- 210.94	180.21
	Average of Peak Amounts =				10.1	10.5		

QC Flag Legend

M - Compound response manually integrated.

Am
12/20/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL.b\1217F033.D

Date : 18-DEC-2020 10:18

Client ID:

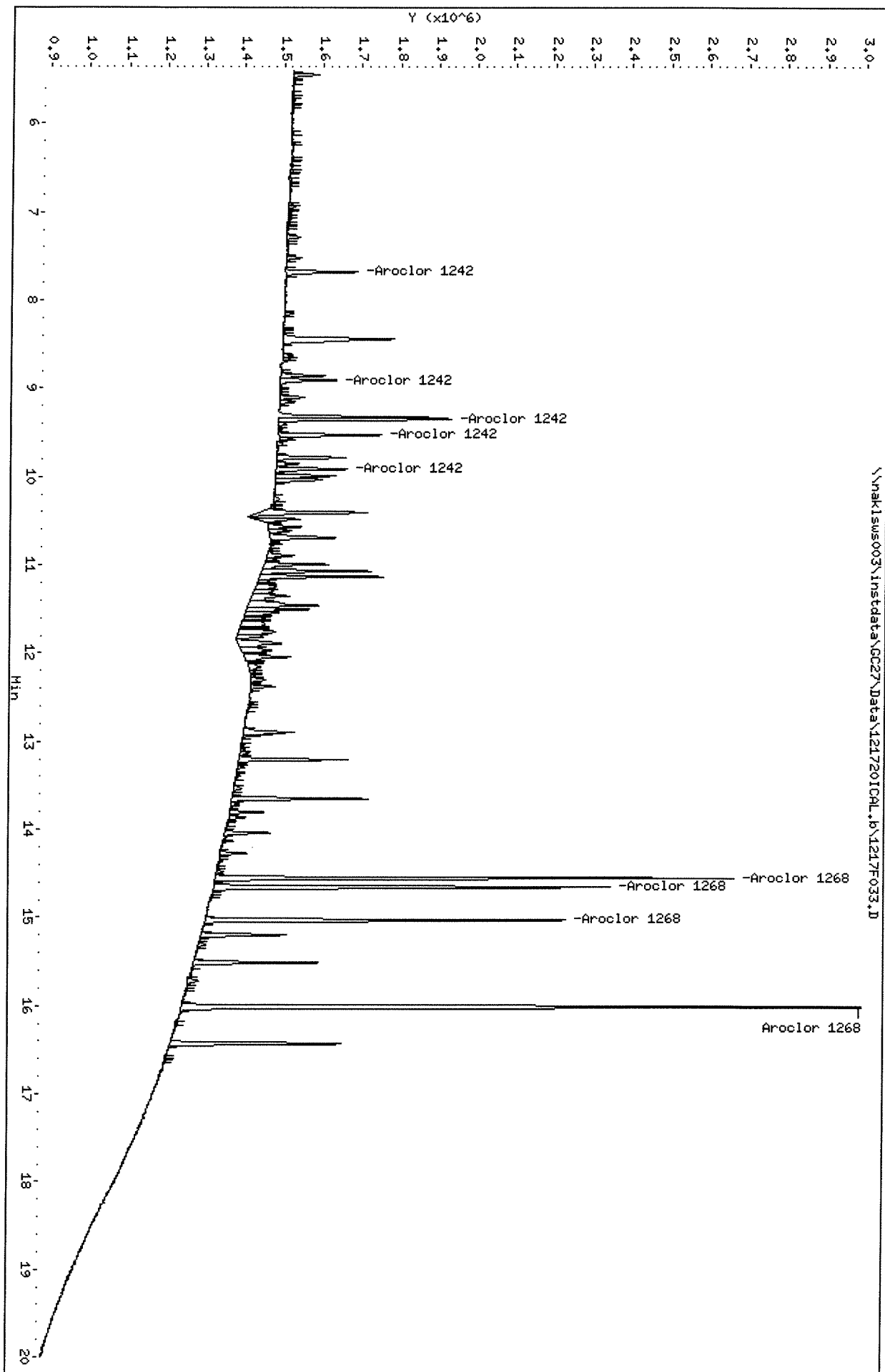
Sample Info: PCB8-6SF 4268 10PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL_r.b\1217F033.D

Date : 18-DEC-2020 10:18

Client ID:

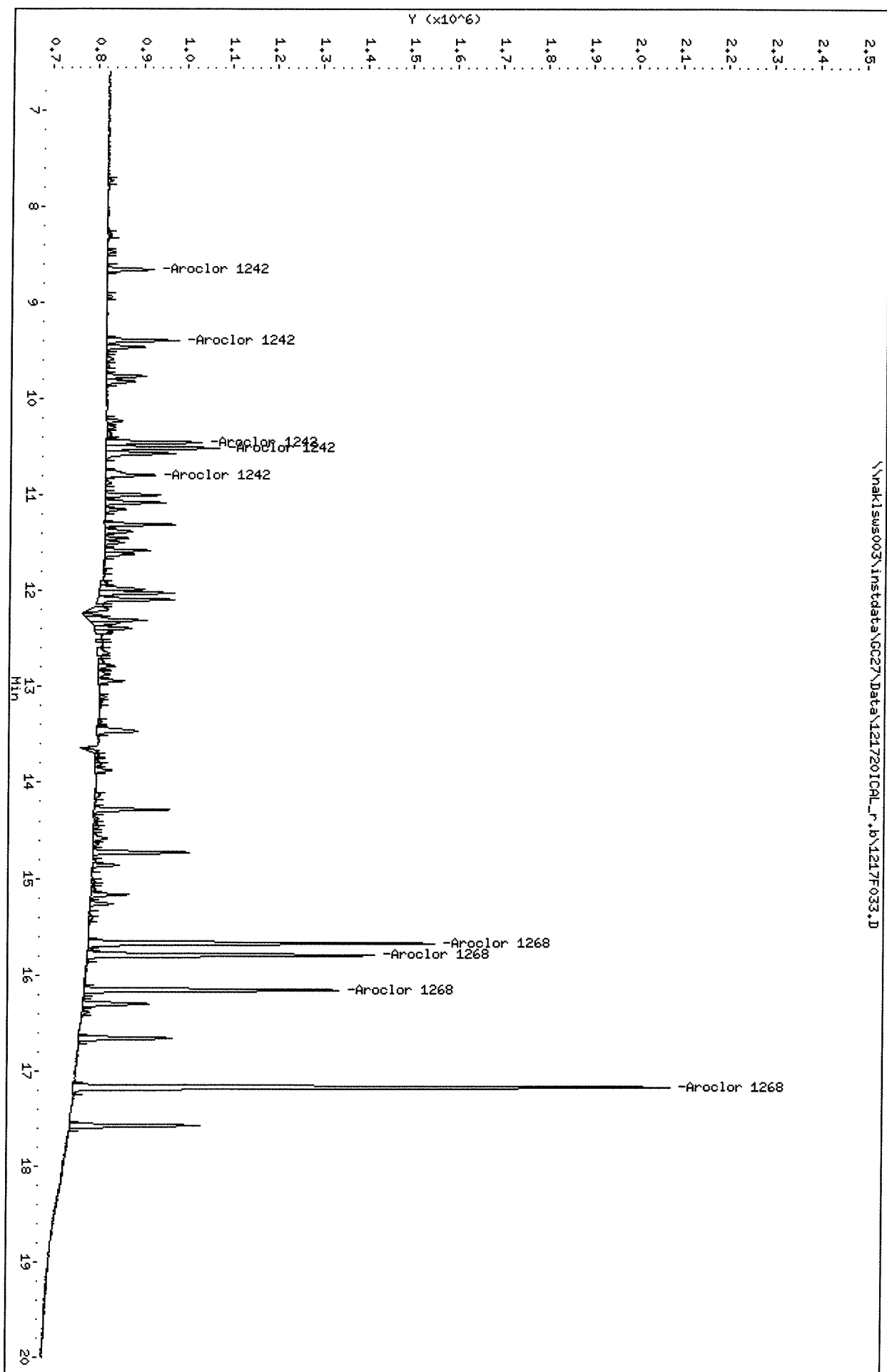
Sample Info: PCB8-65F 4268 10PPB

Column phase: DB-XLB

Instrument: GC27.i

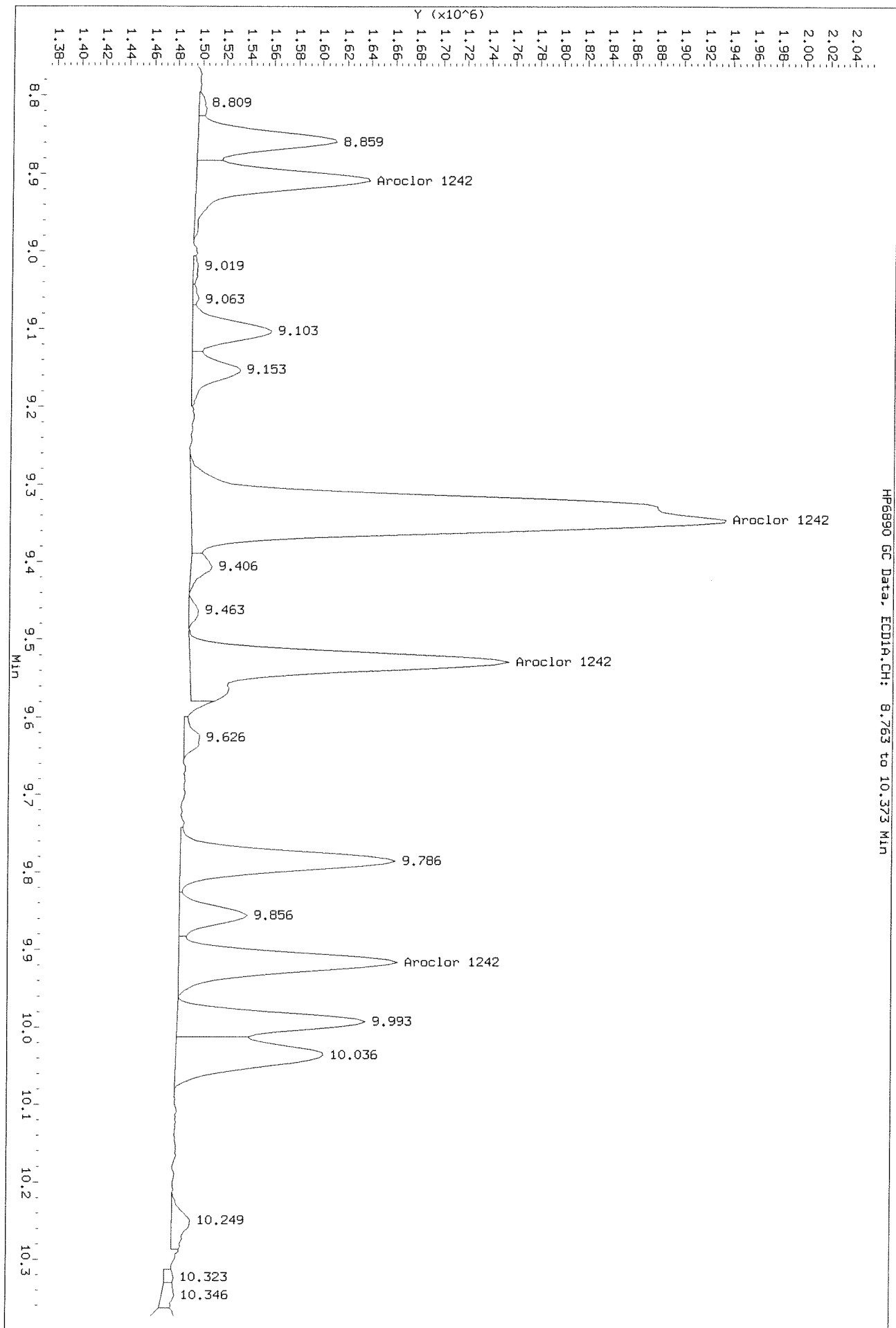
Operator: SAA

Column diameter: 0.32



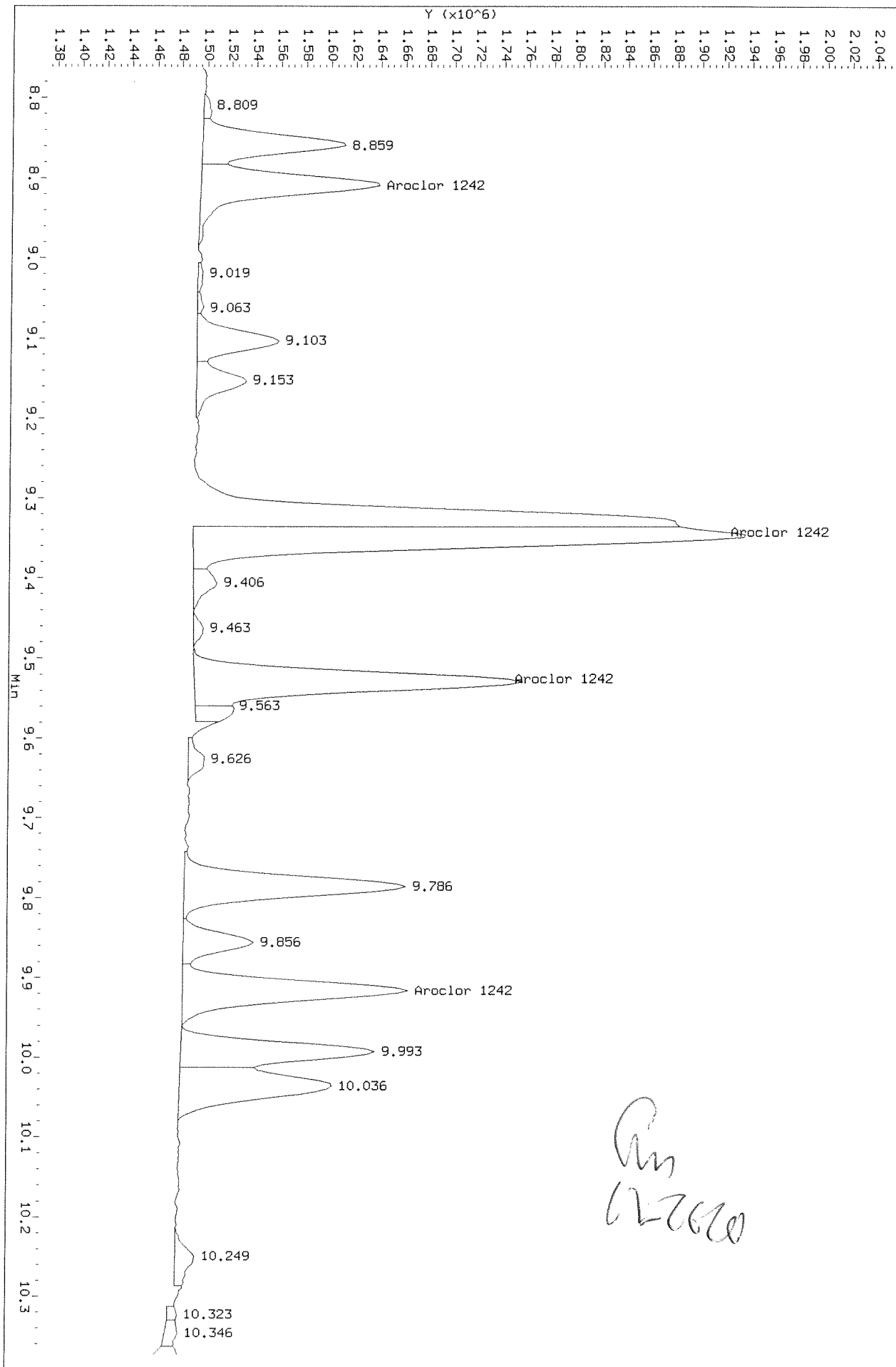
Data File: \\nakjs003\instdata\GC27\Data\121720ICL.b\1217F033.D
 Injection Date: 18-DEC-2020 10:18
 Instrument: GC27.1
 Client Sample ID:

Before



Data File: \\nakisw003\instdata\GC27\Data\1217201CAL.b\1217F033.D
Injection Date: 18-DEC-2020 10:18
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.763 to 10.373 Min



Am
12/26/20

After every peak/shoulder 12/23/20

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F034.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F034.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F034.D
Inj Date : 18-DEC-2020 10:50
Sample Info: PCB8-65I 4268 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 4268.sub
Sub List #2 : 4268.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	7.679	8.659	621342	353239	20.2	20.0	80.00- 120.00	100.00
	8.909	9.399	491111	508393	19.2	19.9	65.11- 97.66	79.04
	9.349	10.453	1347138	729599	17.9	20.2	188.97- 283.46	216.81
	9.529	10.509	859922	824800	19.4	20.5	105.86- 158.79	138.40
	9.916	10.793	596380	455147	19.4	19.7	82.30- 123.45	95.98
	Average of Peak Amounts =				19.2	20.1		
Aroclor 1268	14.556	15.673	3881351	2492086	19.0	19.0	80.00- 120.00	100.00
	14.656	15.796	3391650	2205033	18.9	19.3	73.22- 109.83	87.38
	15.032	16.156	2905466	1871457	19.3	19.6	57.94- 86.91	74.86
	16.012	17.172	7015603	4470304	19.1	18.7	140.63- 210.94	180.75
	Average of Peak Amounts =				19.1	19.2		

Ph

12/23/20

SA 12/23/20

Data File: \\nakisus003\inst\data\GC27\Data\1217201CAL.b\1217F034.D

Date : 18-DEC-2020 10:50

Client ID:

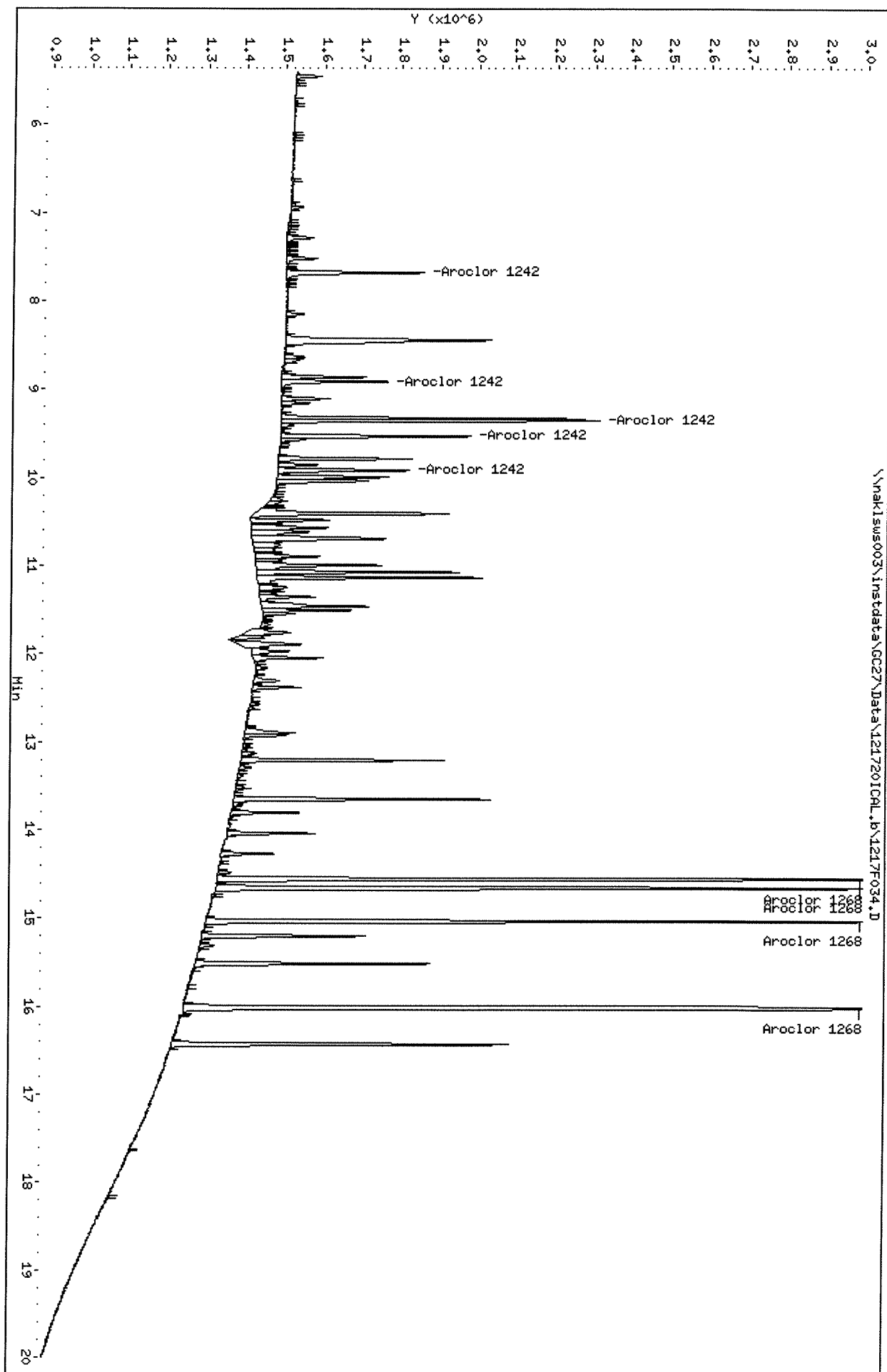
Sample Info: PCB8-651 4268 20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL_r.b\1217F034.D

Date : 18-DEC-2020 10:50

Client ID:

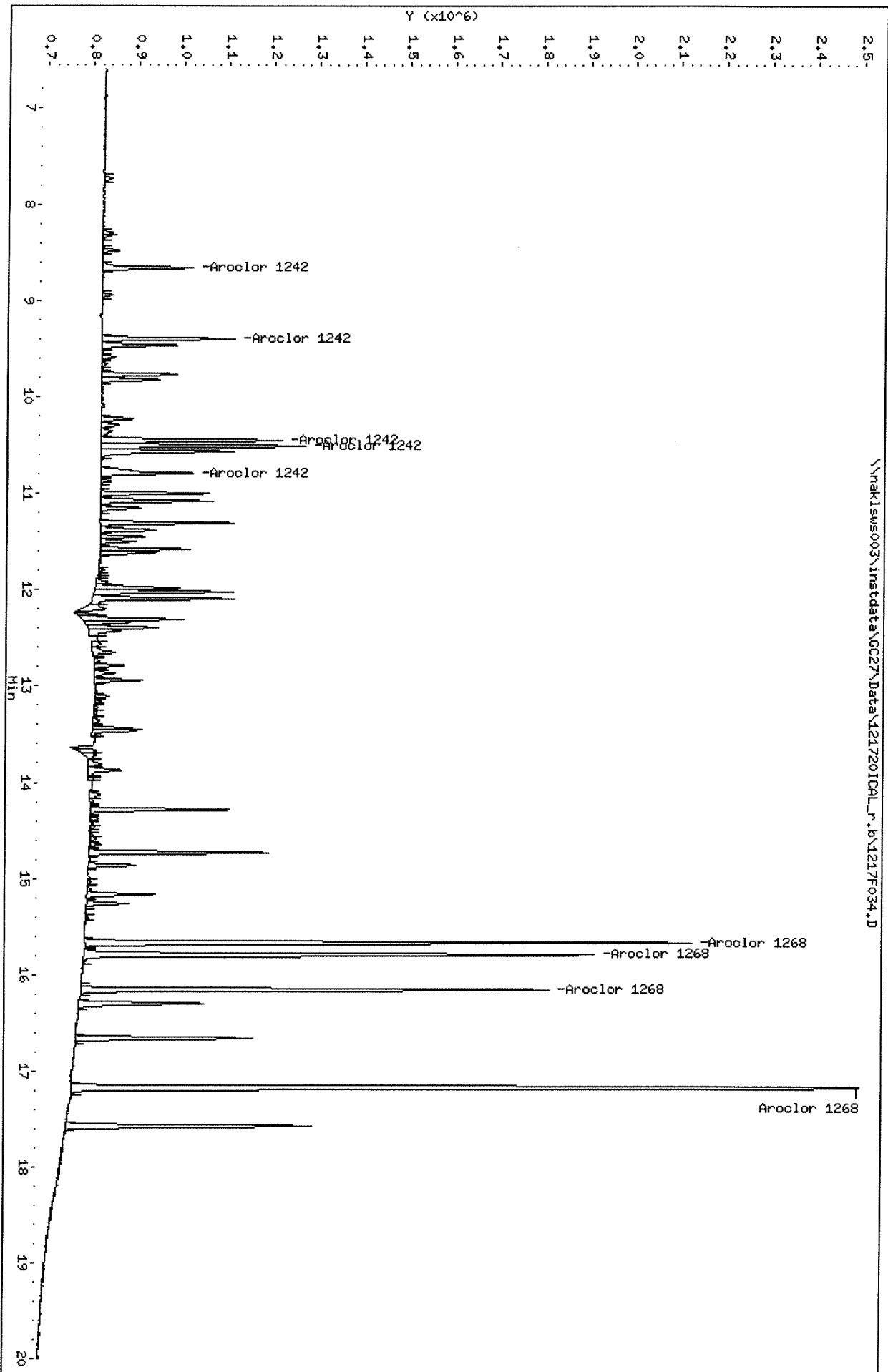
Sample Info: PCB8-641 4268 20PPB

Column phase: DB-XLB

Instrument: GC27.i

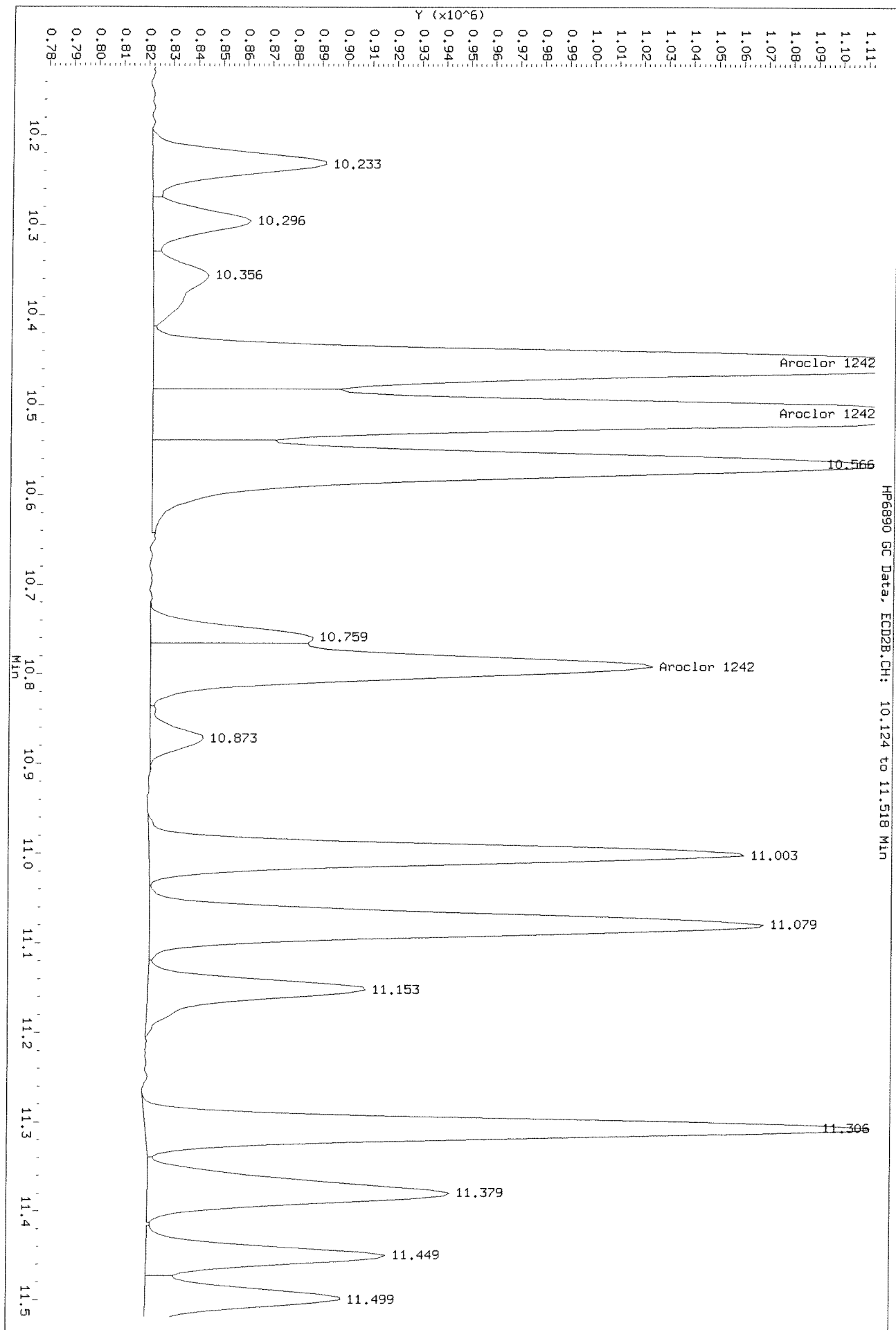
Operator: SAA

Column diameter: 0.32



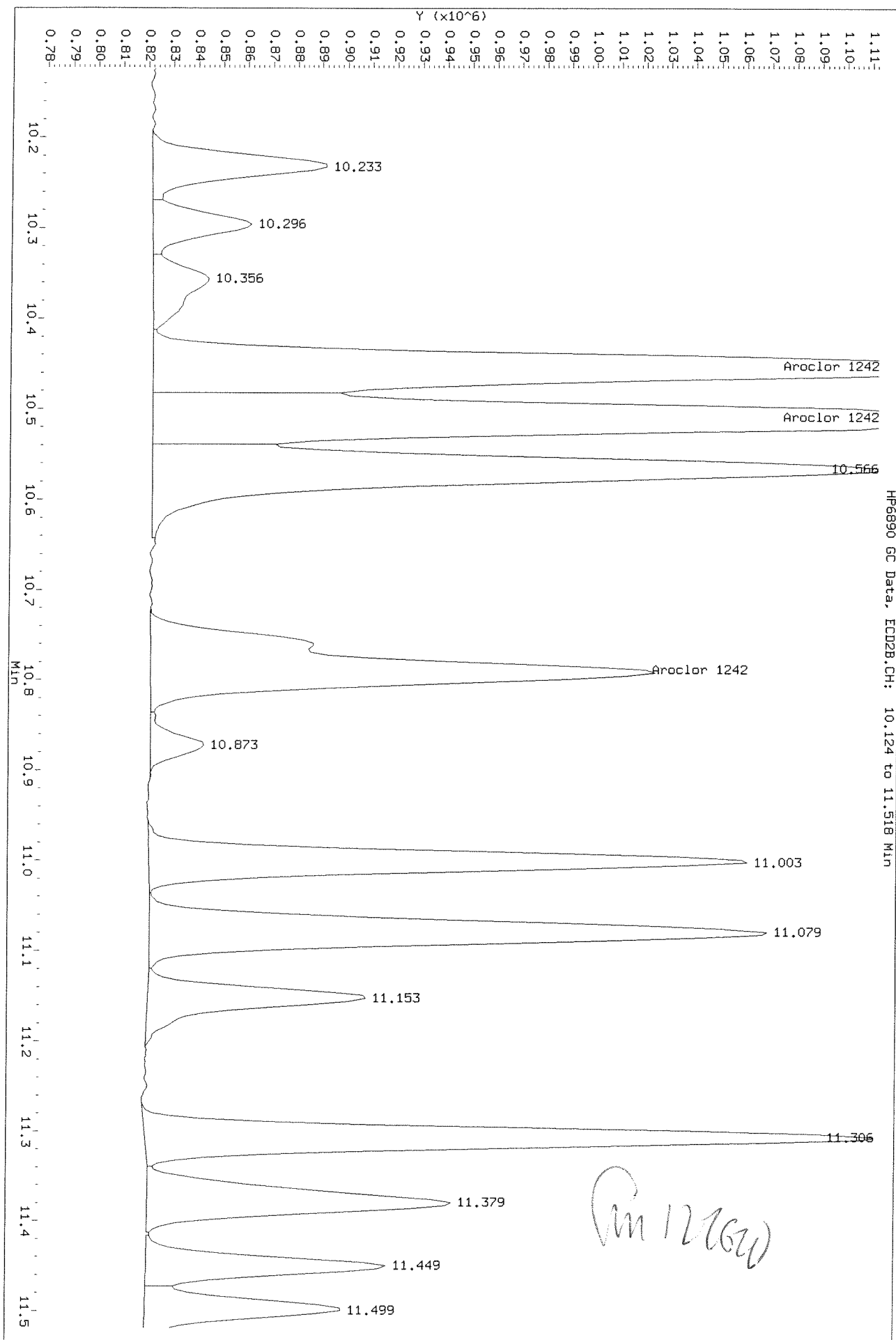
Data File: \\hakjsws003\instdata\GC27\Data\121720ICL_r.b\1217F034.D
Injection Date: 18-DEC-2020 10:50
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naksls003\instdata\GC27\Data\1217201CAL_r.b\1217F034.D
Injection Date: 18-DEC-2020 10:50
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F035.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F035.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F035.D
Inj Date : 18-DEC-2020 11:21
Sample Info: PCB8-61I 4268 50 PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 4268.sub
Sub List #2 : 4268.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	7.681	8.661	1505193	925308	49.0	52.5	80.00- 120.00	100.00
	8.907	9.401	1208060	1281418	47.3	50.1	65.11- 97.66	80.26
	9.347	10.454	3790887	1826728	50.5	50.6	188.97- 283.46	251.85
	9.531	10.514	2204976	2056116	49.8	51.1	105.86- 158.79	146.49
	9.917	10.794	1511071	1175361	49.2	50.8	82.30- 123.45	100.39
	Average of Peak Amounts =				49.2	51.0		
Aroclor 1268	14.557	15.674	9831918	5942332	48.1	45.2	80.00- 120.00	100.00
	14.661	15.797	8651277	5296690	48.1	46.3	73.22- 109.83	87.99
	15.037	16.161	7324351	4501763	48.7	47.1	57.94- 86.91	74.50
	16.017	17.174	17979623	10903380	48.8	45.6	140.63- 210.94	182.87
	Average of Peak Amounts =				48.4	46.1		

12/20/20

SA 12/23/20

Data File: \\nakisus003\inst\data\GC27\Data\1217201CAL.b\1217F035.D

Date : 18-DEC-2020 11:21

Client ID:

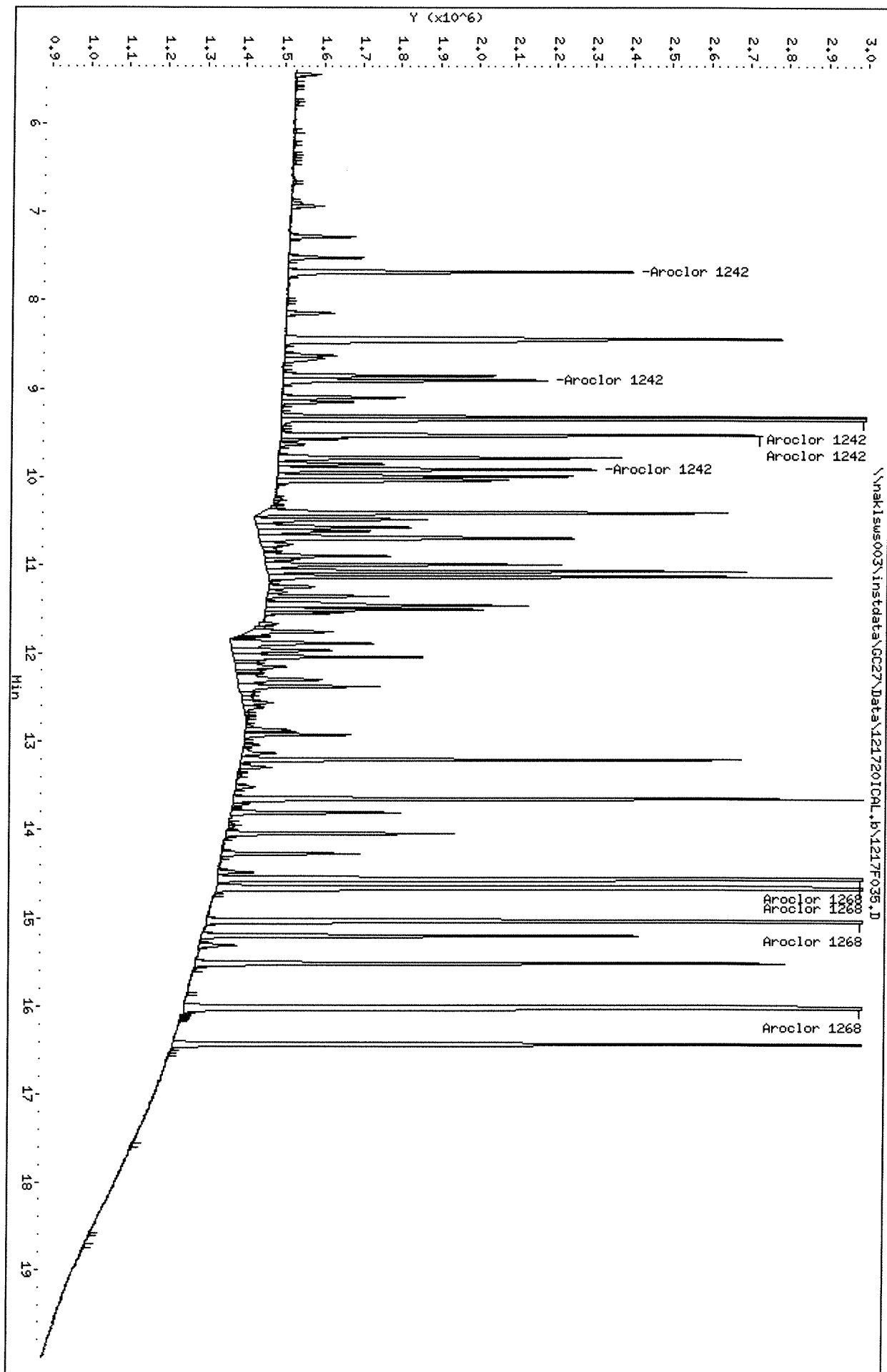
Sample Info: PCB8-61I 4268 50 PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\maklsws003\instdata\GC27\Data\1217201CAL_r.b\1217F035.D
Date : 18-DEC-2020 11:24

Client ID:

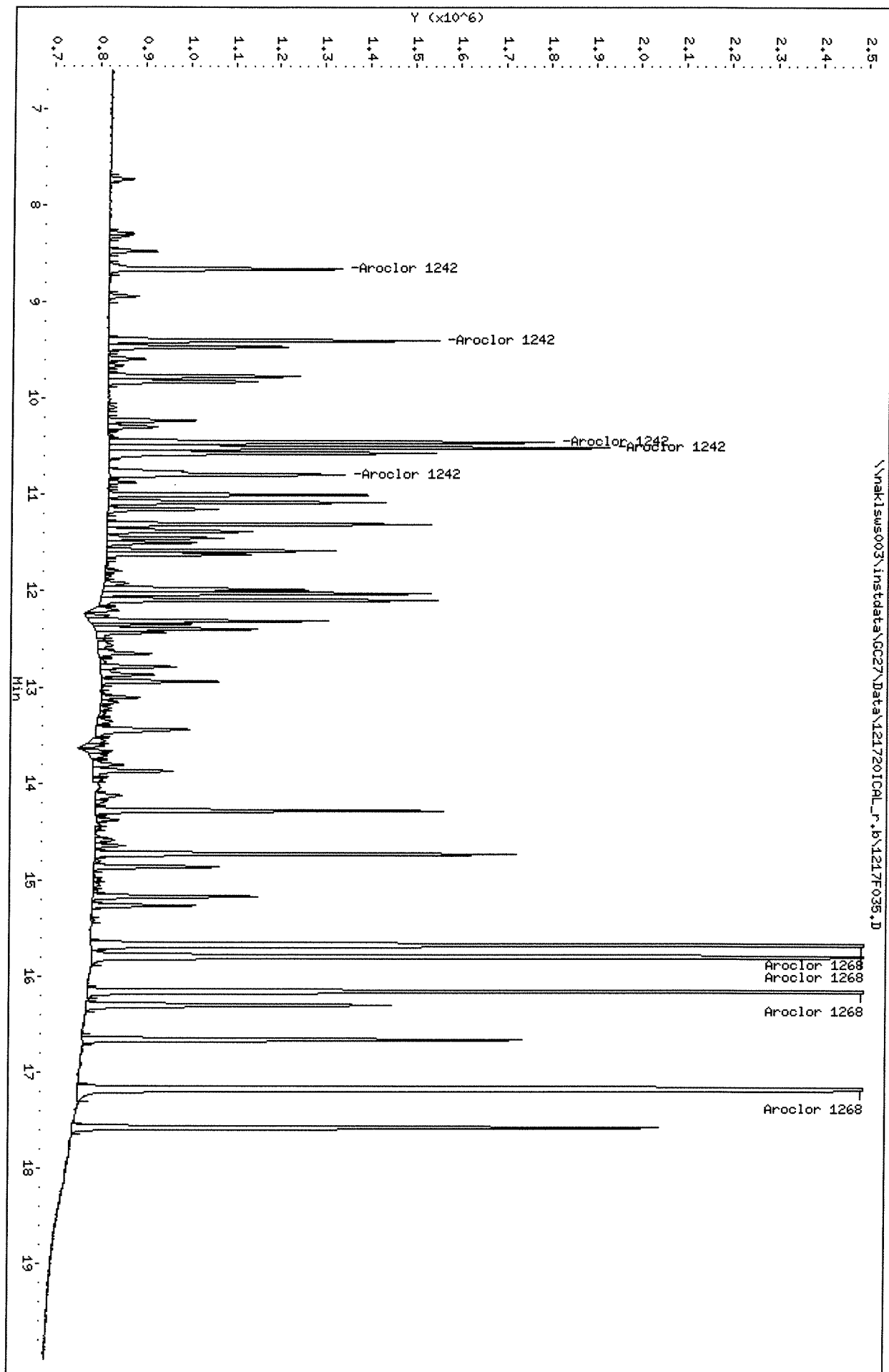
Sample Info: PCB8-64I 4268 50 PPB

Column phase: DB-XLB

Instrument: GC27.i

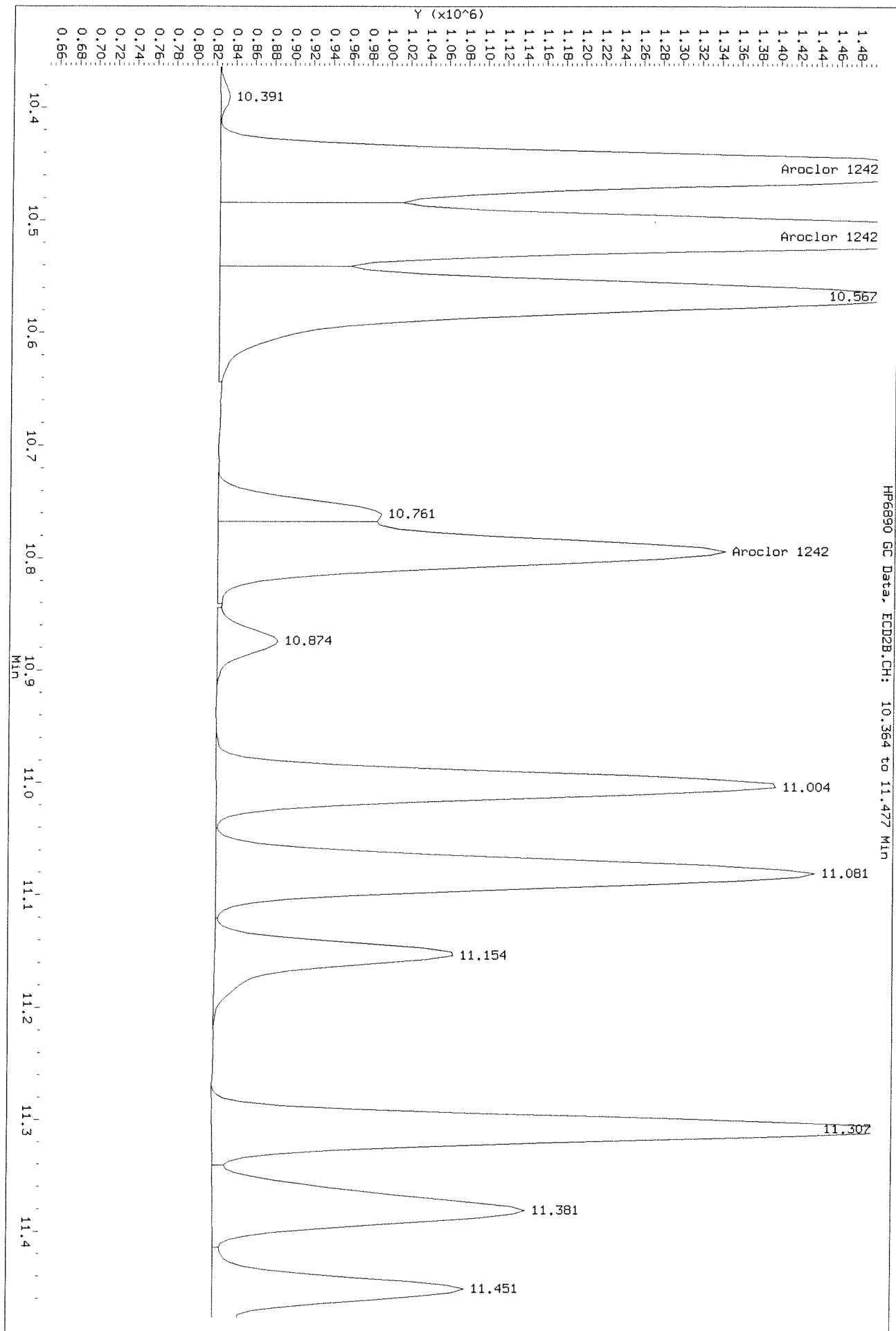
Operator: SAA

Column diameter: 0.32



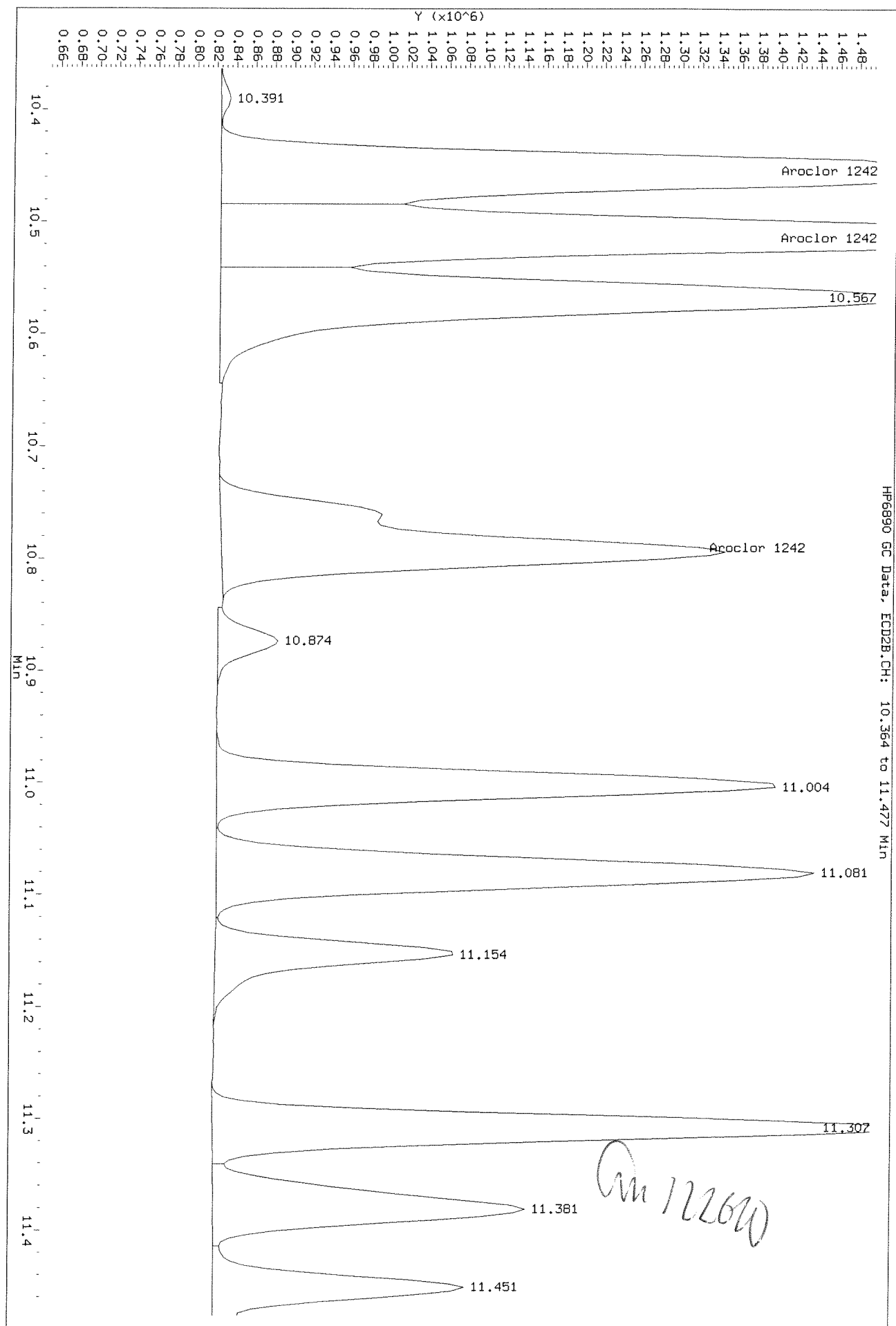
Data File: \\naksus003\instdata\GC27\Data\121720ICL.r.b\1217F035.D
Injection Date: 18-DEC-2020 11:21
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakisw003\instdata\GC27\Data\1217201CAL_r.b\1217F035.D
Injection Date: 18-DEC-2020 11:21
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2020



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F036.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F036.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F036.D
Inj Date : 18-DEC-2020 11:52
Sample Info: PCB8-61D 4268 100PPB @ 2X
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 4268.sub
Sub List #2 : 4268.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	7.678	8.658	2846084	1714064	92.6	97.2	80.00- 120.00	100.00 (M)
	8.908	9.398	2295121	2321699	89.8	90.8	65.11- 97.66	80.64 (M)
	9.348	10.455	6644044	3349488	88.4	92.8	188.97- 283.46	233.45 (M)
	9.528	10.512	4168533	3755366	94.2	93.3	105.86- 158.79	146.47 (M)
	9.918	10.792	2826967	2207358	92.1	95.5	82.30- 123.45	99.33 (M)
	Average of Peak Amounts =				91.4	93.9		
Aroclor 1268	14.558	15.675	18679689	10797651	91.4	82.1	80.00- 120.00	100.00
	14.658	15.798	16568644	9727315	92.2	85.1	73.22- 109.83	88.70
	15.038	16.158	13990451	8232022	93.0	86.2	57.94- 86.91	74.90
	16.015	17.175	34833477	20227641	94.6	84.6	140.63- 210.94	186.48
	Average of Peak Amounts =				92.8	84.5		

QC Flag Legend

M - Compound response manually integrated.

Am

121620

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F036.D

Date : 18-DEC-2020 11:52

Client ID:

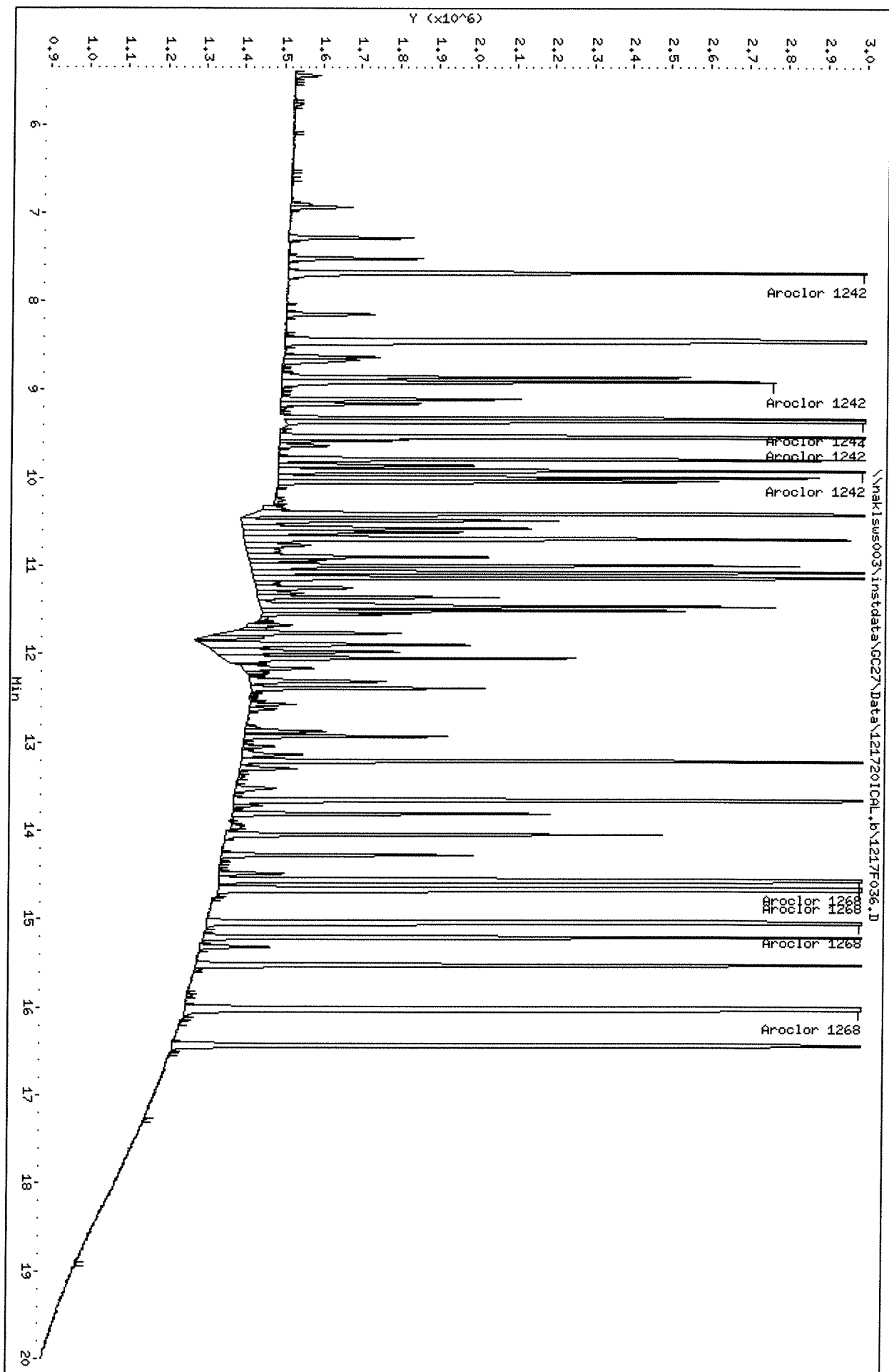
Sample Info: PCB8-61D 4268 100PPB @ 2X

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\12172010AL_r.b\1217F036.D
Date : 18-DEC-2020 11:52

Client ID:

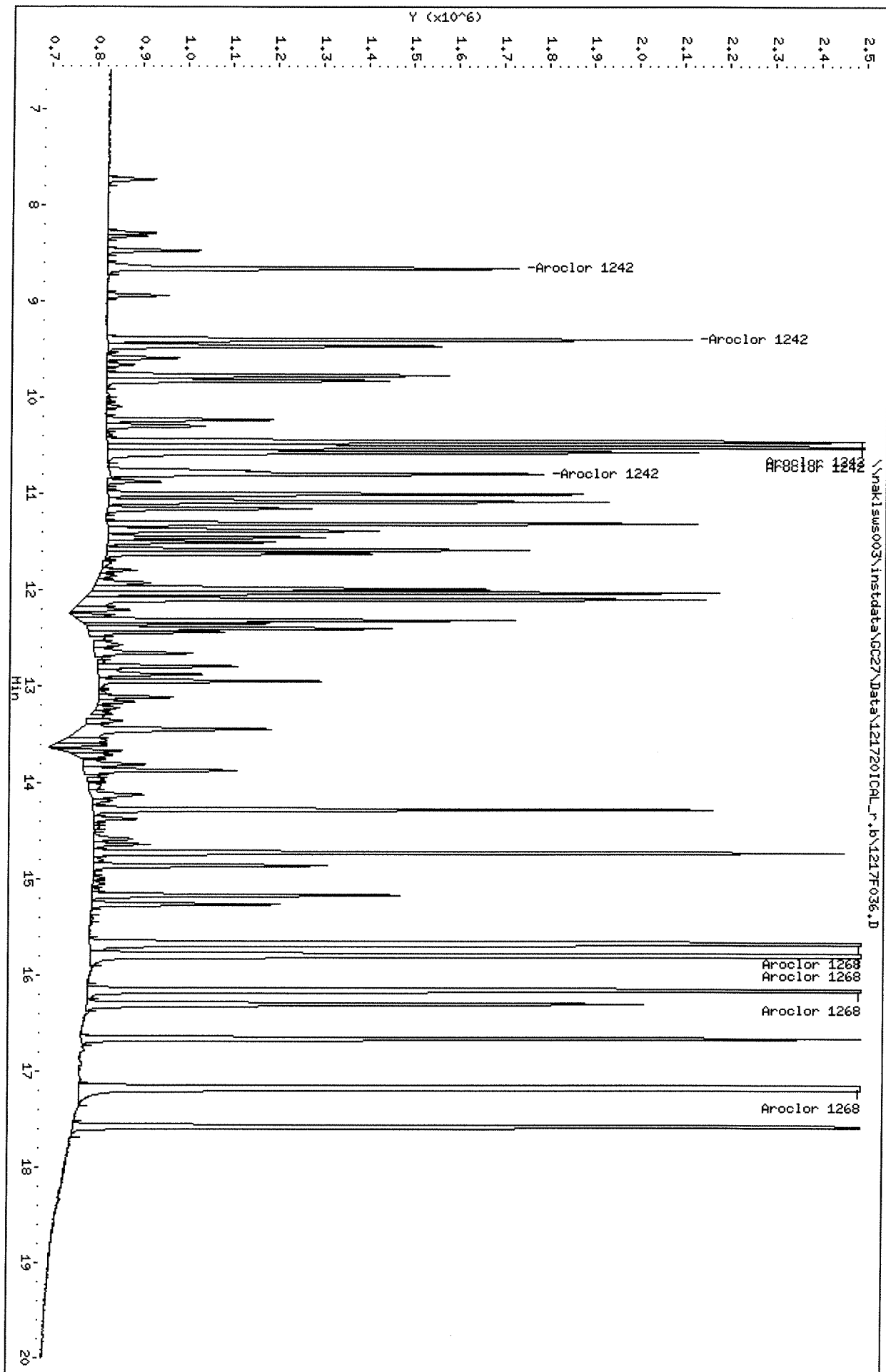
Sample Info: PCB8-61D 4268 100PPB @ 2X

Column phase: DB-XLB

Instrument: GC27.i

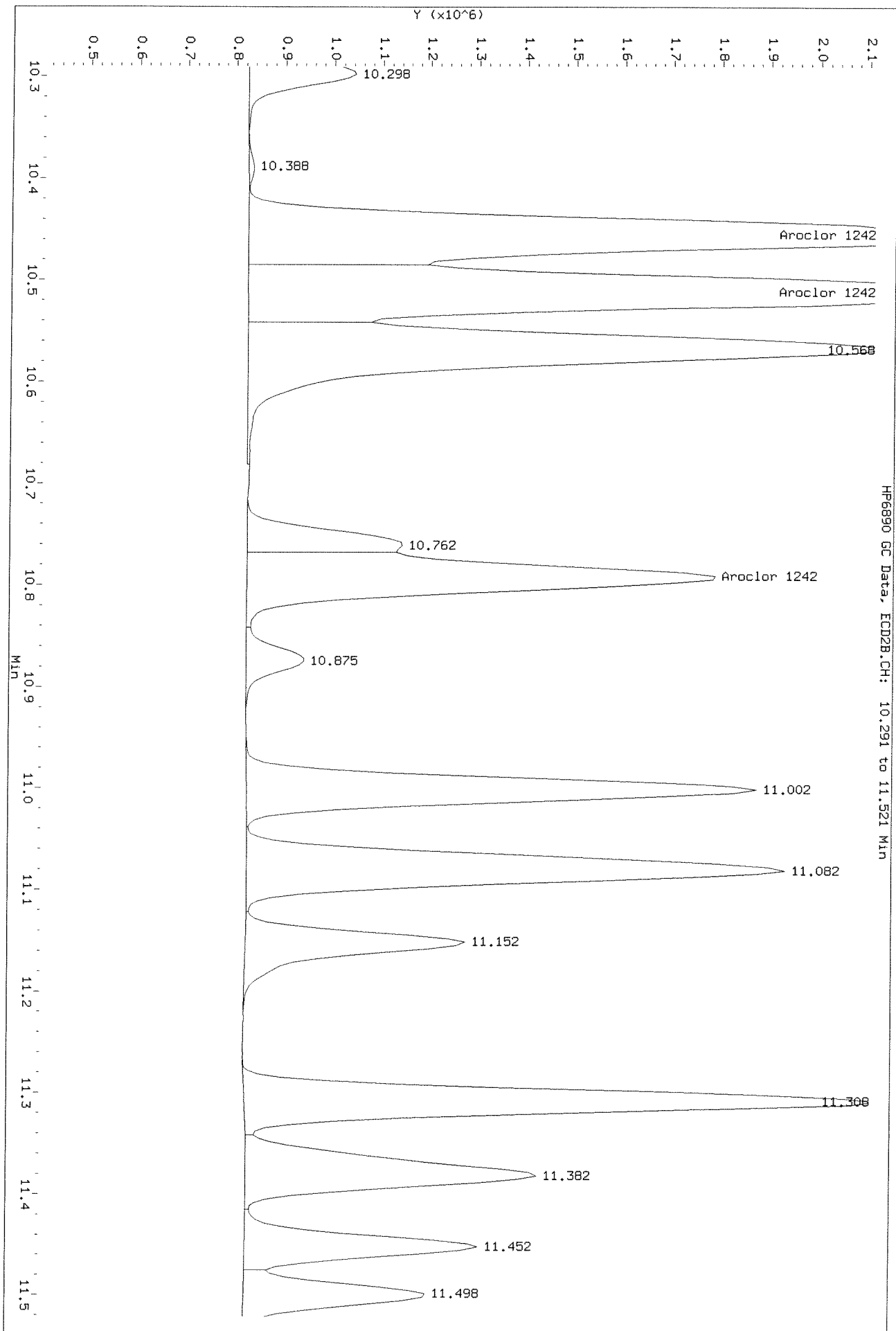
Operator: SAA

Column diameter: 0.32



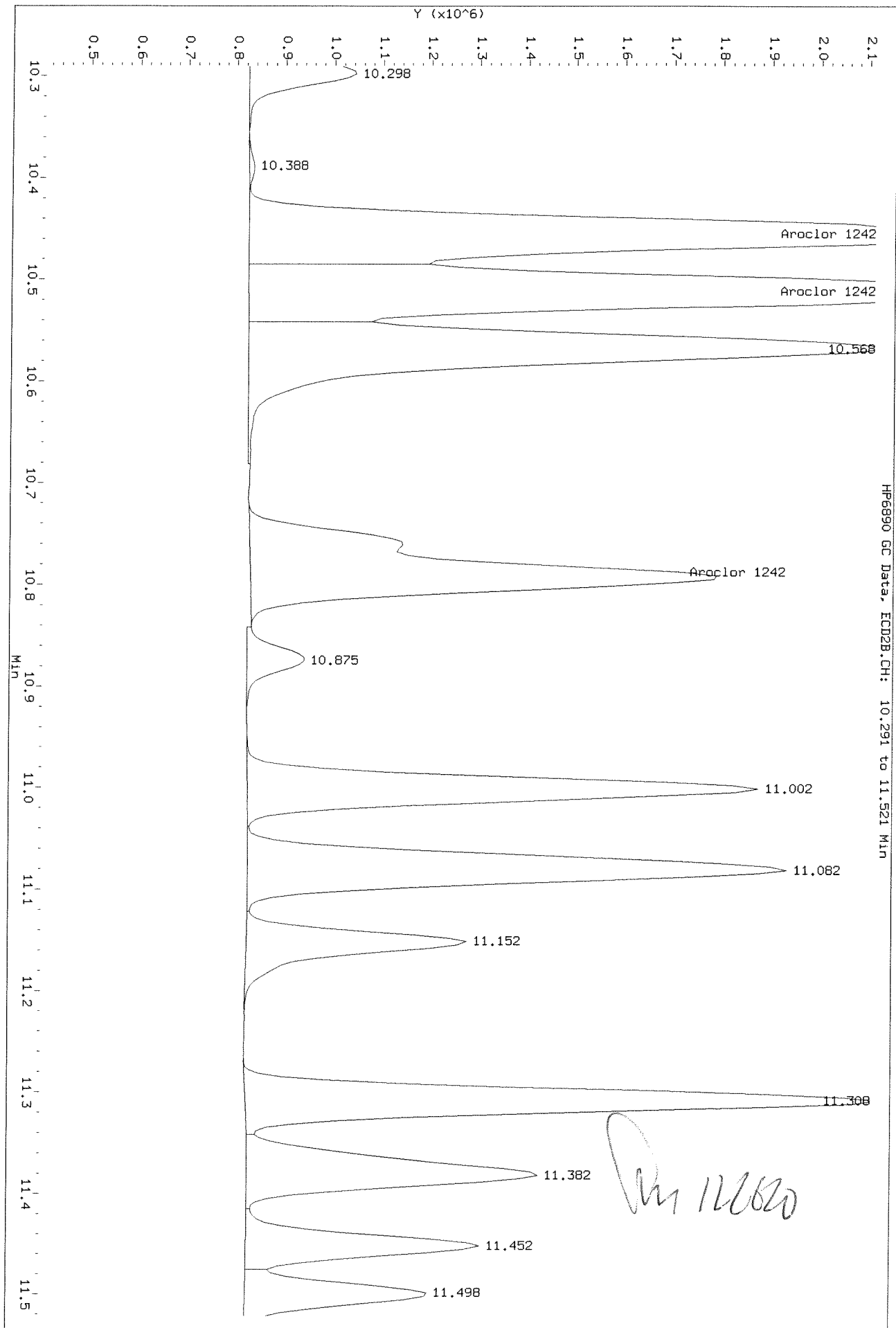
Data File: \\nakjs003\inst\data\GC27\Data\121720ICHL_r.b\1217F036.D
Injection Date: 18-DEC-2020 11:52
Instrument: GC27.1
Client Sample ID:

Before



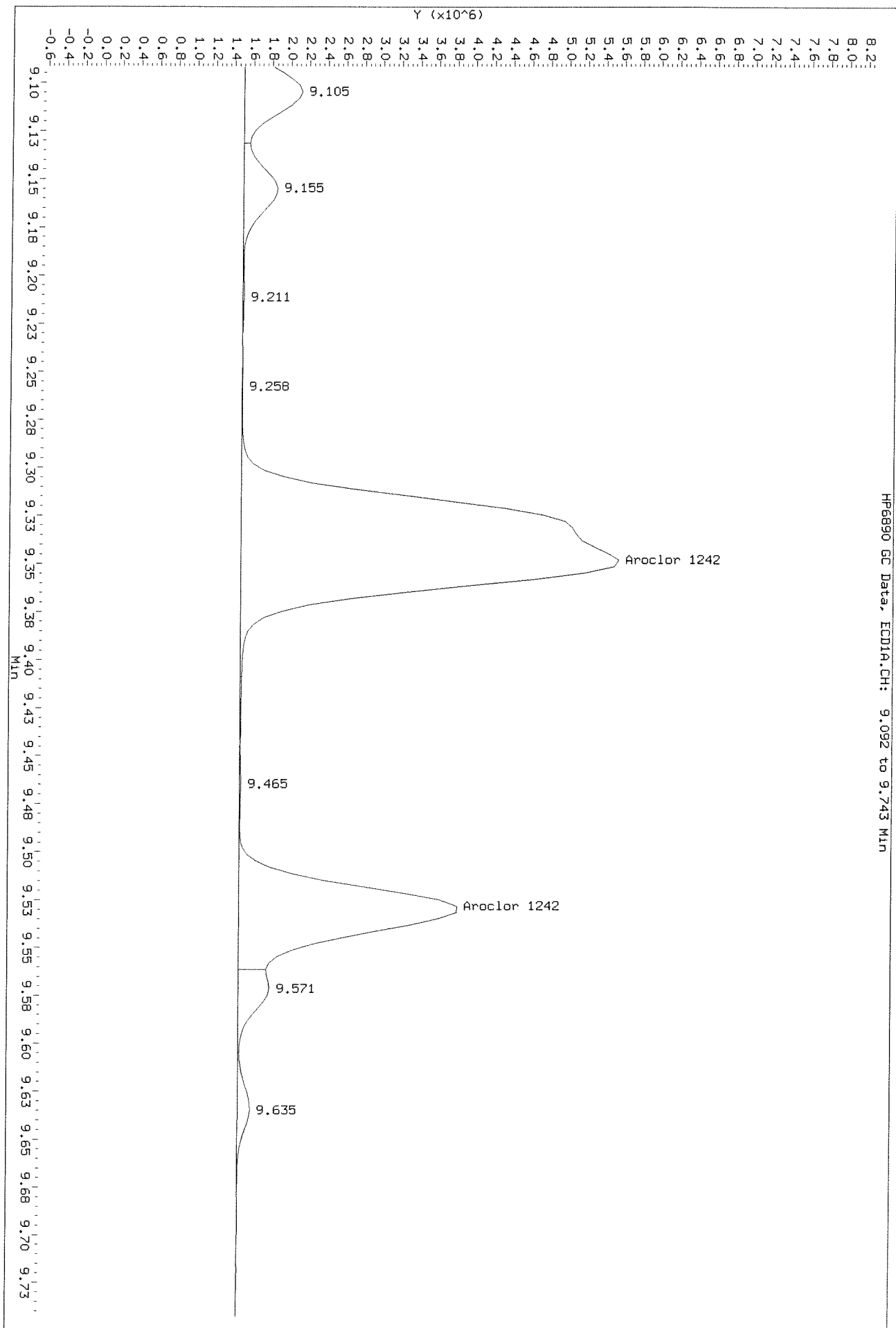
Data File: \\nakisw003\instdata\GC27\Data\121720ICL.r.b\1217F036.D
Injection Date: 18-DEC-2020 11:52
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20



Data File: \\nakisw003\instdata\GC27\Data\121720ICL.b\1217F036.D
Injection Date: 18-DEC-2020 11:52
Instrument: GC27.1
Client Sample ID:

Before

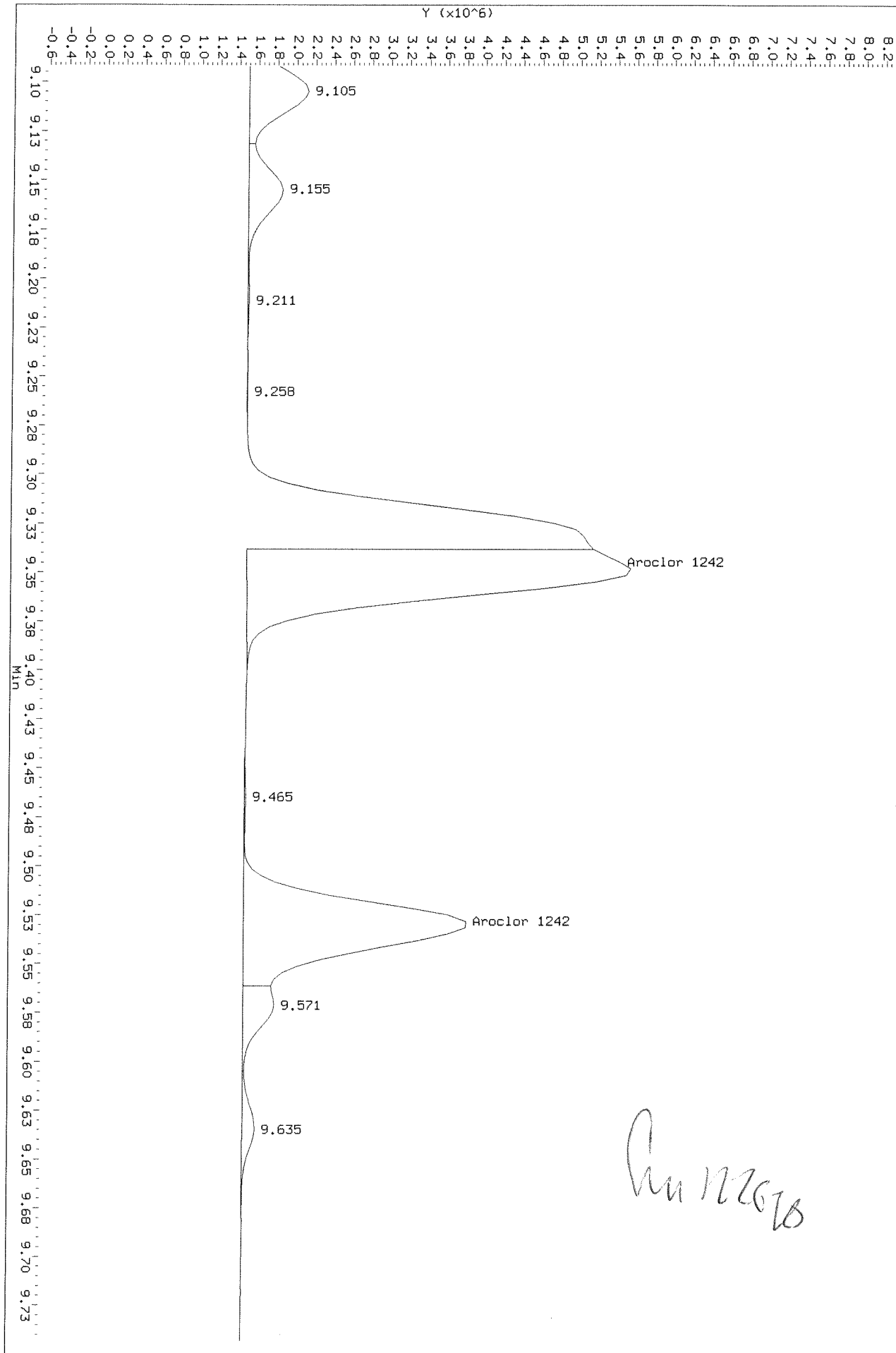


Data File: \\nakisw003\instdata\GC27\Data\121720ICAL.b\1217F036.D
Injection Date: 18-DEC-2020 11:52
Instrument: GC27.1
Client Sample ID:

After waxy peak 12123120

Run 122670

HP6890 GC Data, ECD1A.CH: 9.092 to 9.743 Min



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F037.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F037.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F037.D
Inj Date : 18-DEC-2020 12:24
Sample Info: PCB8-61D 4268 200PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 4268.sub
Sub List #2 : 4268.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	7.678	8.658	5392373	3172102	176	180	80.00- 120.00	100.00
	8.908	9.398	4356365	4246277	170	166	65.11- 97.66	80.79
	9.348	10.455	13245009	6100212	176	169	188.97- 283.46	245.62
	9.528	10.512	7992832	7125201	181	177	105.86- 158.79	148.22
	9.915	10.792	5354557	4106536	174	178	82.30- 123.45	99.30
	Average of Peak Amounts =				175	174		
Aroclor 1268	14.558	15.672	36210432	20090980	177	153	80.00- 120.00	100.00
	14.658	15.795	32285248	18062299	180	158	73.22- 109.83	89.16
	15.035	16.158	27170891	15256258	181	160	57.94- 86.91	75.04
	16.015	17.175	68080505	38217082	185	160	140.63- 210.94	188.01
	Average of Peak Amounts =				181	158		

Am
122610

SA 12/23/20

Data File: \\nakisw003\instdata\GC27\Data\1217201CAL.b\1217F037.D

Date : 18-DEC-2020 12:24

Client ID:

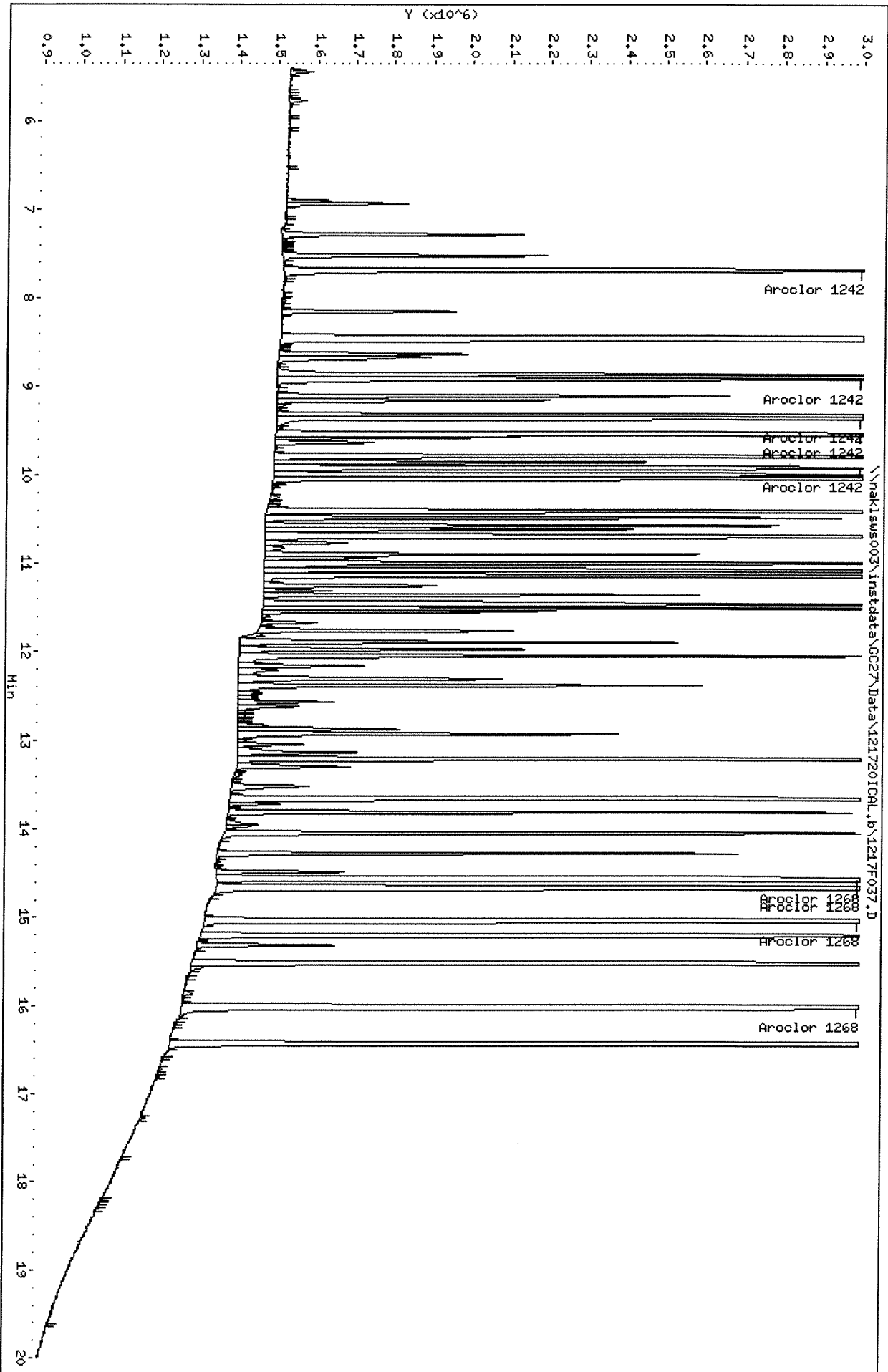
Sample Info: PCB8-6LD 4268 200PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sus003\instdata\GC27\Data\1217201CAL_r.b\1217F037.D

Date : 18-DEC-2020 12:24

Client ID:

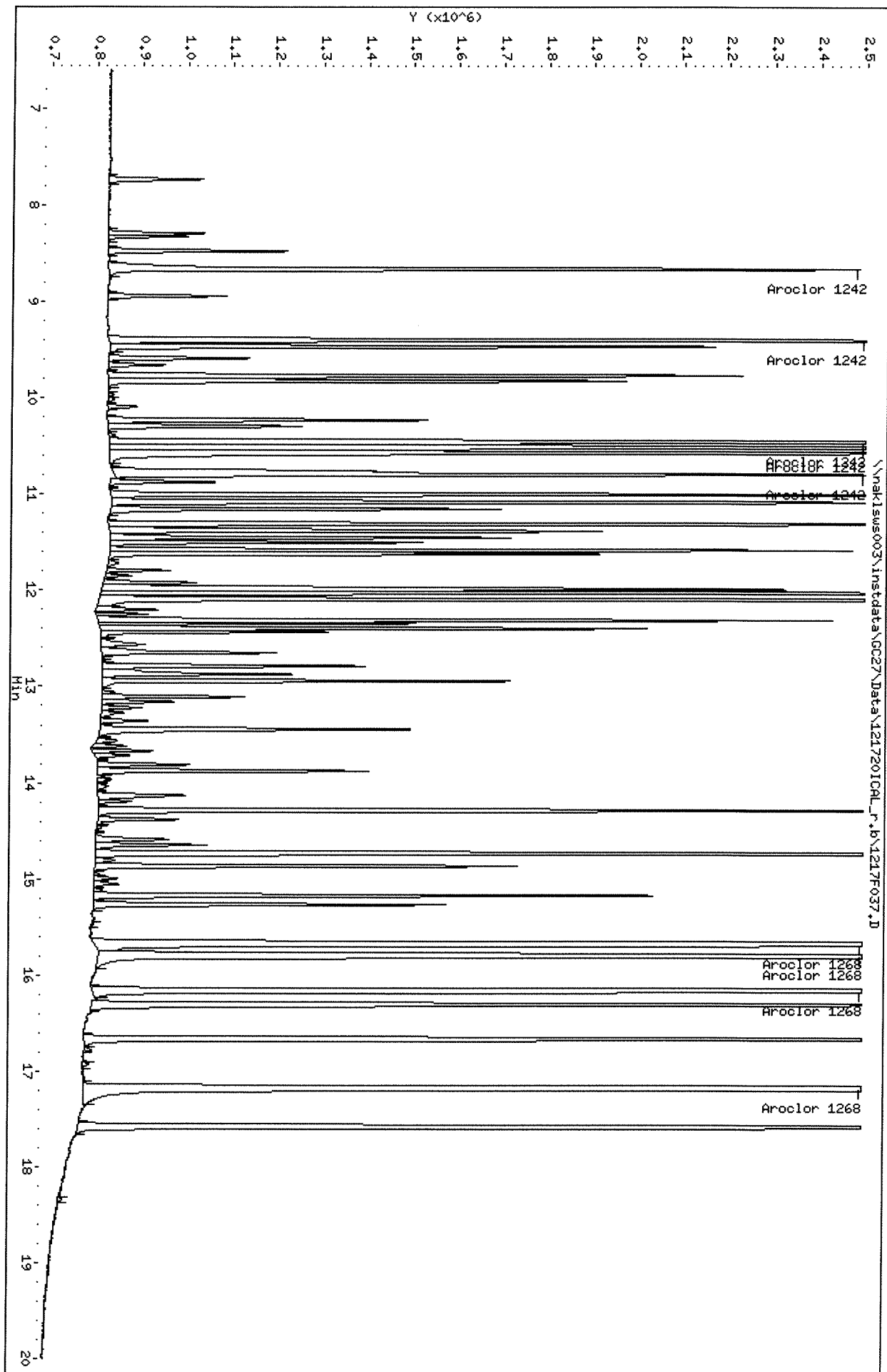
Sample Info: PCB8-61D 4268 200PPB

Column phase: DB-XLB

Instrument: GC27.i

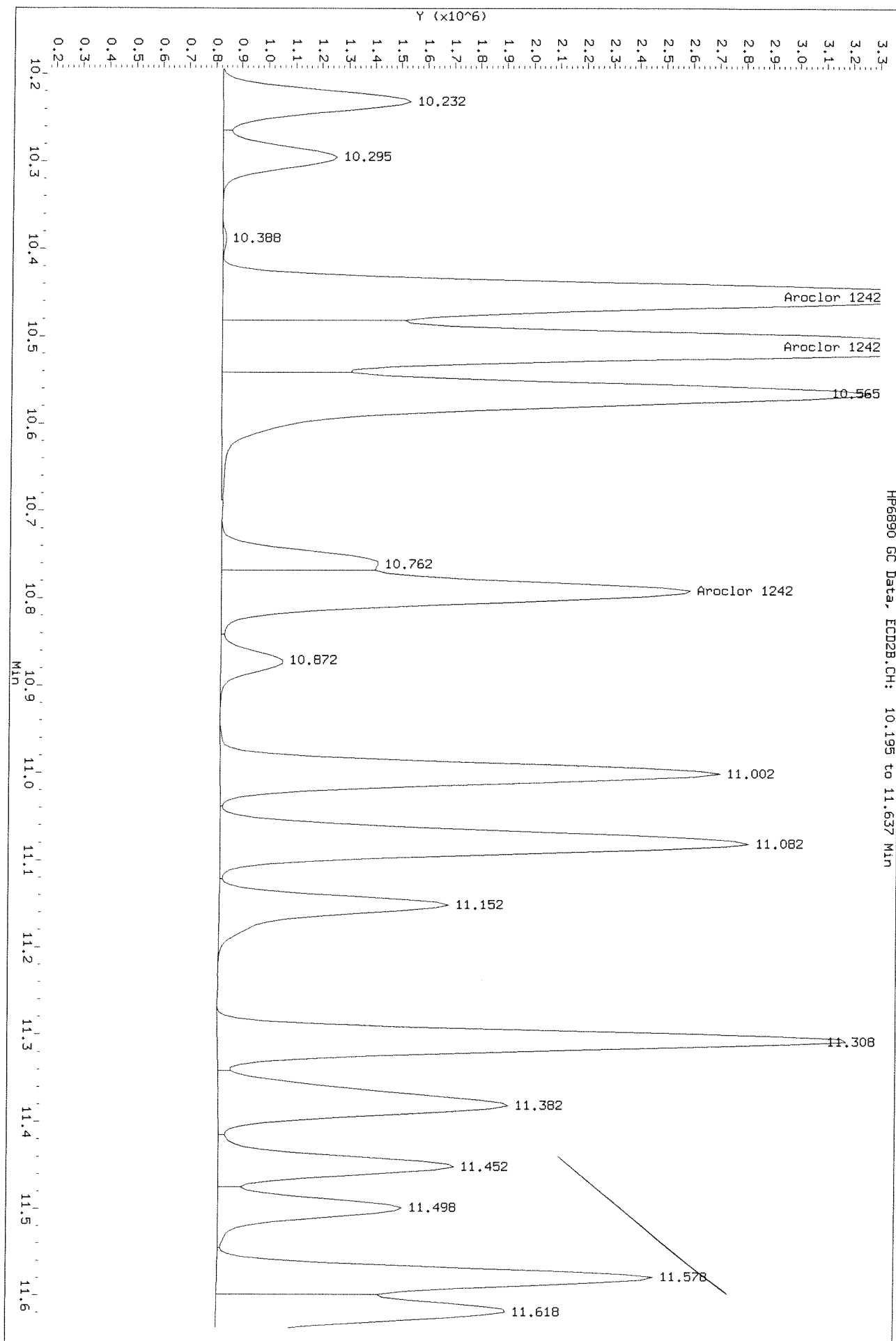
Operator: SAA

Column diameter: 0.32



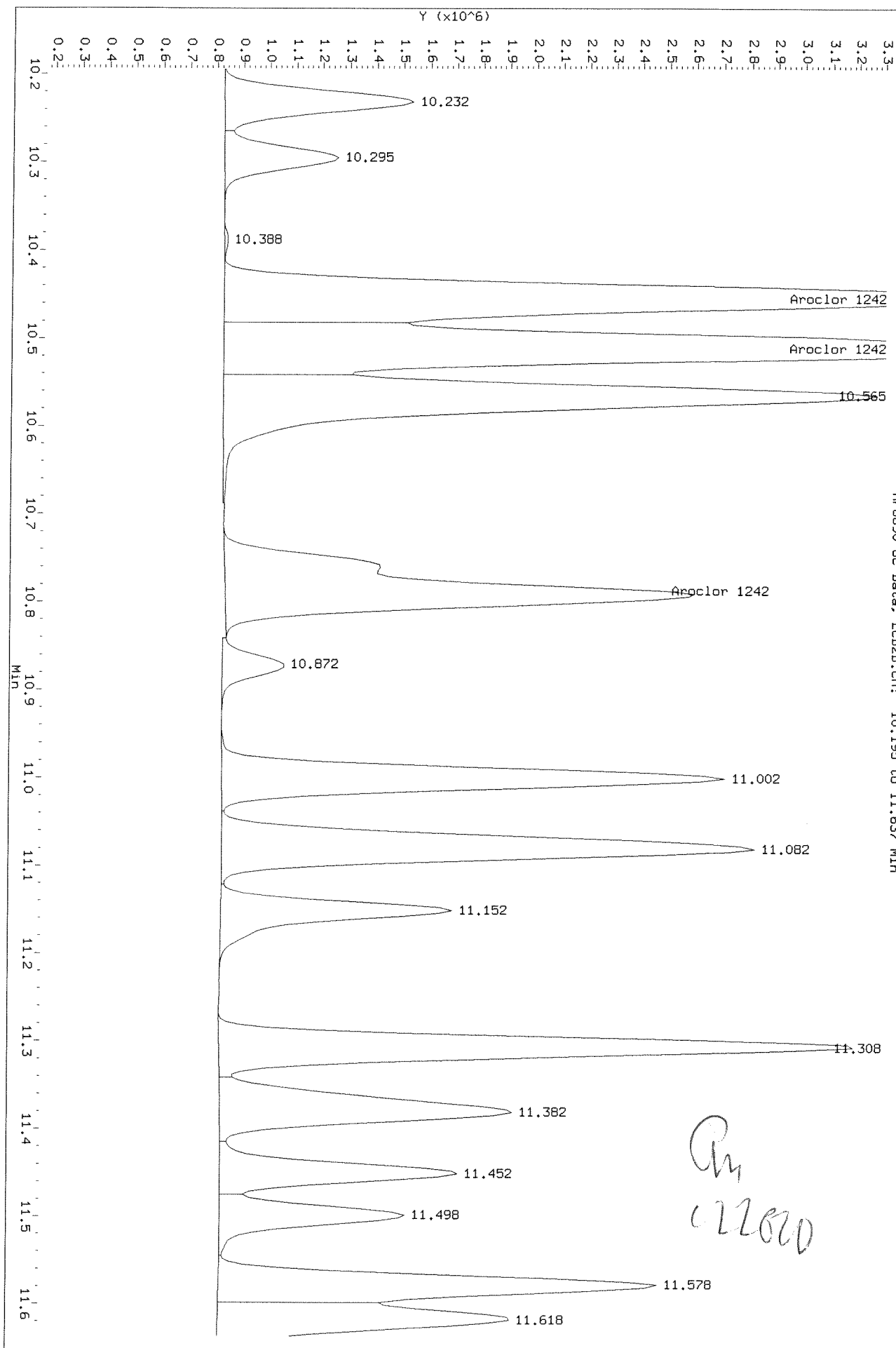
Data File: \\nak1swe003\instdata\GC27\Data\121720ICAL_r.b\1217F037.D
Injection Date: 18-DEC-2020 12:24
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nak1s003\instdata\GC27\Data\1217201CAL_r.b\1217F037.D
Injection Date: 18-DEC-2020 12:24
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD2B.CH: 10.195 to 11.637 Min



After baseline 12/23/2020

PM
12/23/2020

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F038.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F038.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F038.D
Inj Date : 18-DEC-2020 12:55
Sample Info: PCB8-65I 1248 1PPB @ 5X
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 48.SUB
Sub List #2 : 48.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	9.327	10.454	50408	27924	1.11	0.980	80.00-	120.00	100.00 (M)
	9.530	10.510	32252	19122	1.17	0.827	49.98-	74.97	63.98 (M)
	10.693	11.080	64163	34368	1.19	1.08	96.54-	144.81	127.29 (M)
	10.993	11.580	40739	26050	1.01	1.08	72.00-	108.00	80.82 (M)
	11.460	12.090	35934	44183	1.00	1.05	65.22-	97.84	71.29 (M)
	Average of Peak Amounts =				1.10	1.00			

QC Flag Legend

M - Compound response manually integrated.

Am
12/23/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL.b\1217F038.D

Date : 18-DEC-2020 12:55

Client ID:

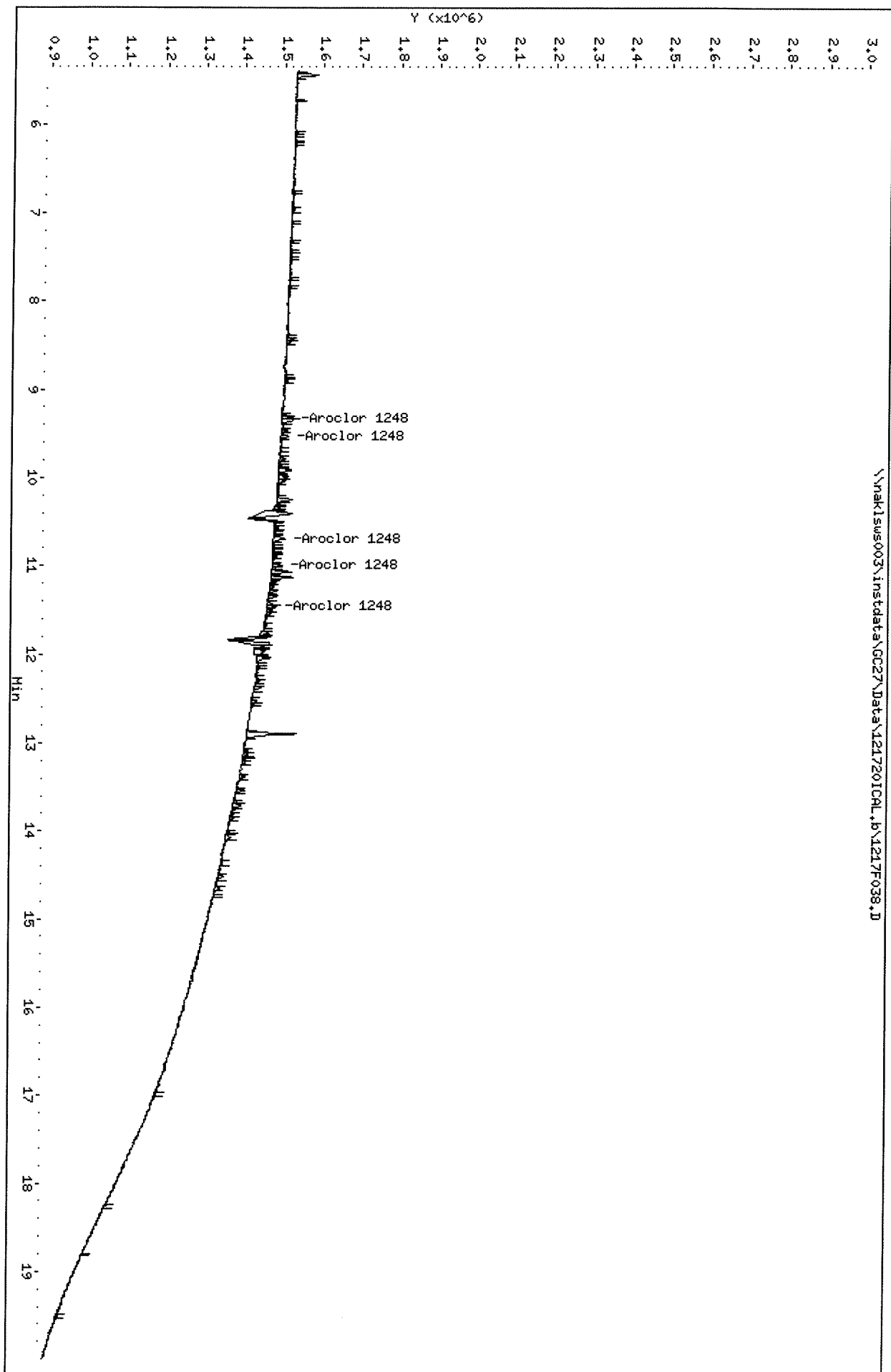
Sample Info: PCB8-651 1248 1PPB @ 5X

Column phase: DB-35MS

Instrument: GC27.i

Operator: S99

Column diameter: 0.32



Data File: \\nakisw003\instdata\GC27\Data\1217201CQL_r.b\1217F038.D

Date : 18-DEC-2020 12:55

Client ID:

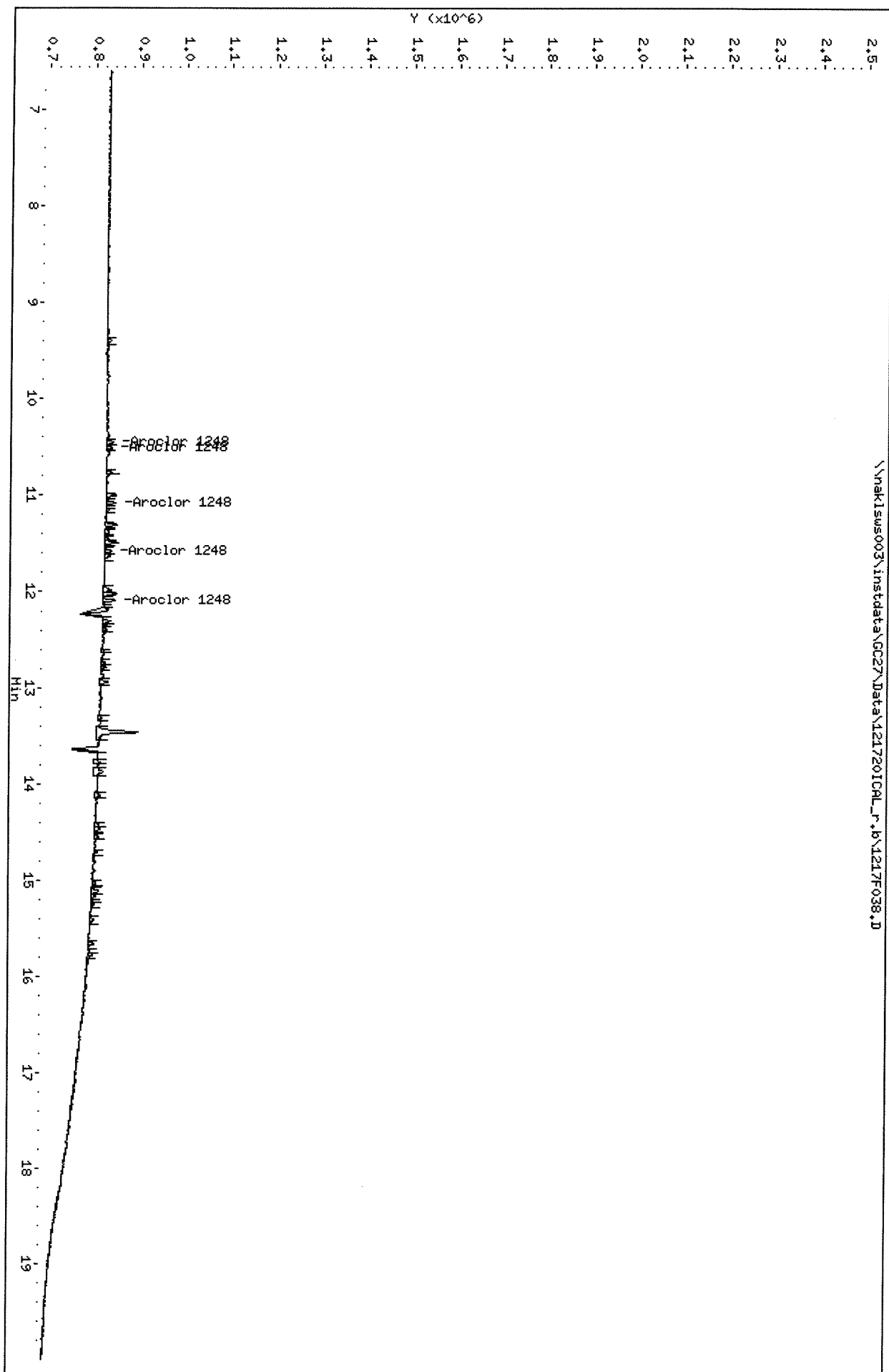
Sample Info: PCB8-651 1248 1PP8 @ 5X

Column phase: DB-XLB

Instrument: GC27.i

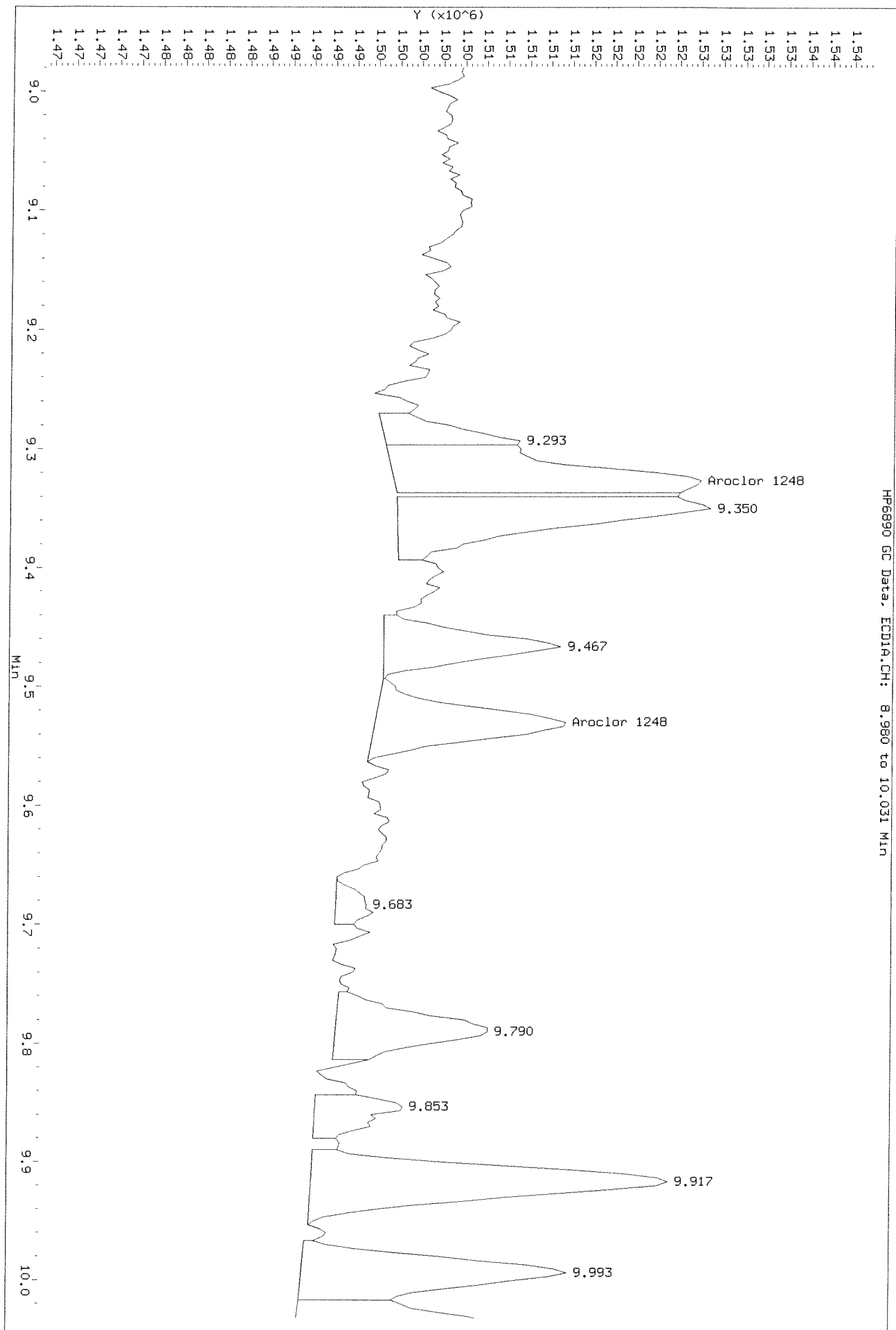
Operator: SAA

Column diameter: 0.32



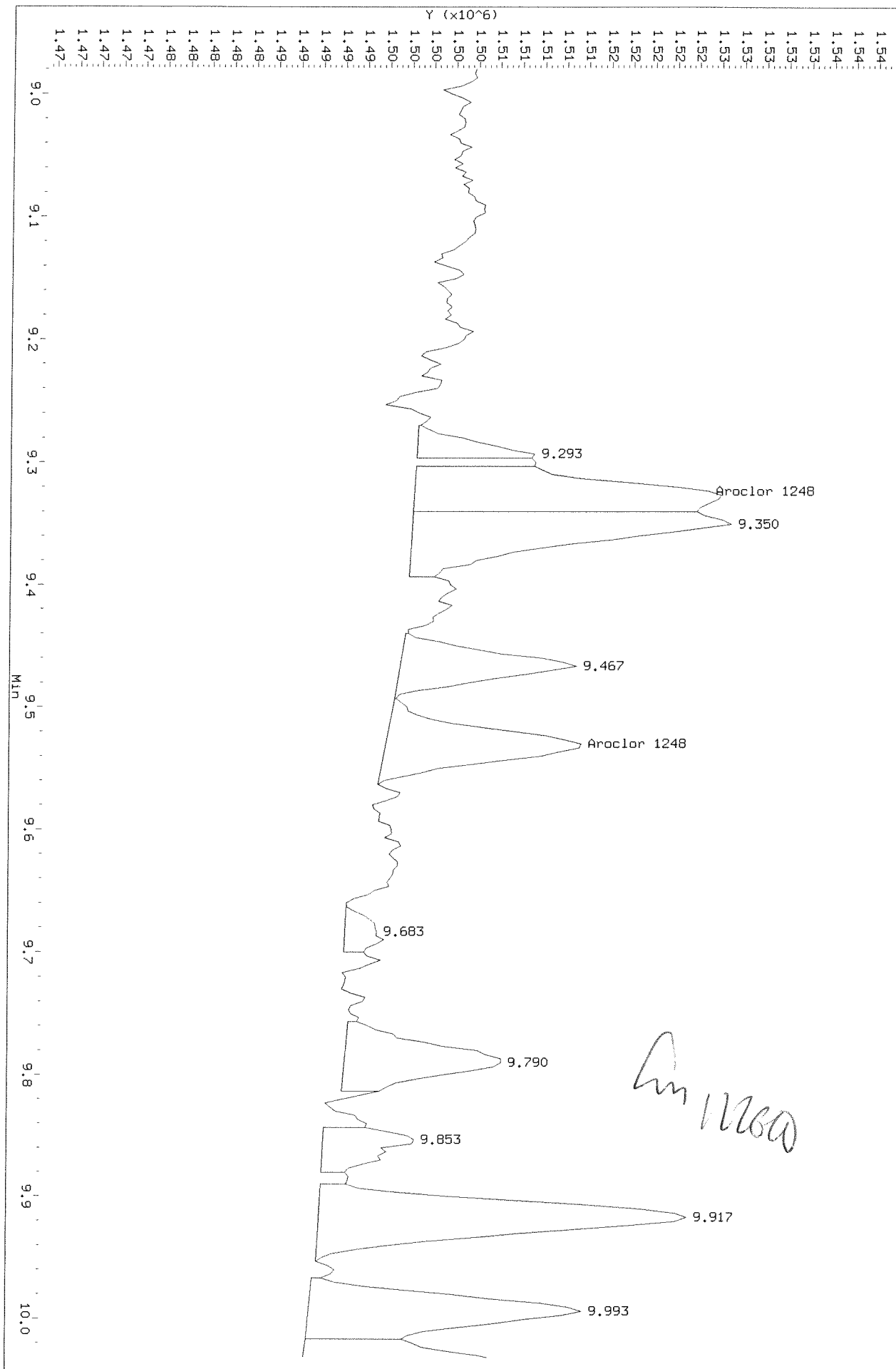
Data File: \\naklsus003\instdata\GC27\Data\1217201CAL.b\1217F036.D
Injection Date: 18-DEC-2020 12:55
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\12172010AL.b\12171038.D
Injection Date: 18-DEC-2020 12:55
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.980 to 10.031 Min

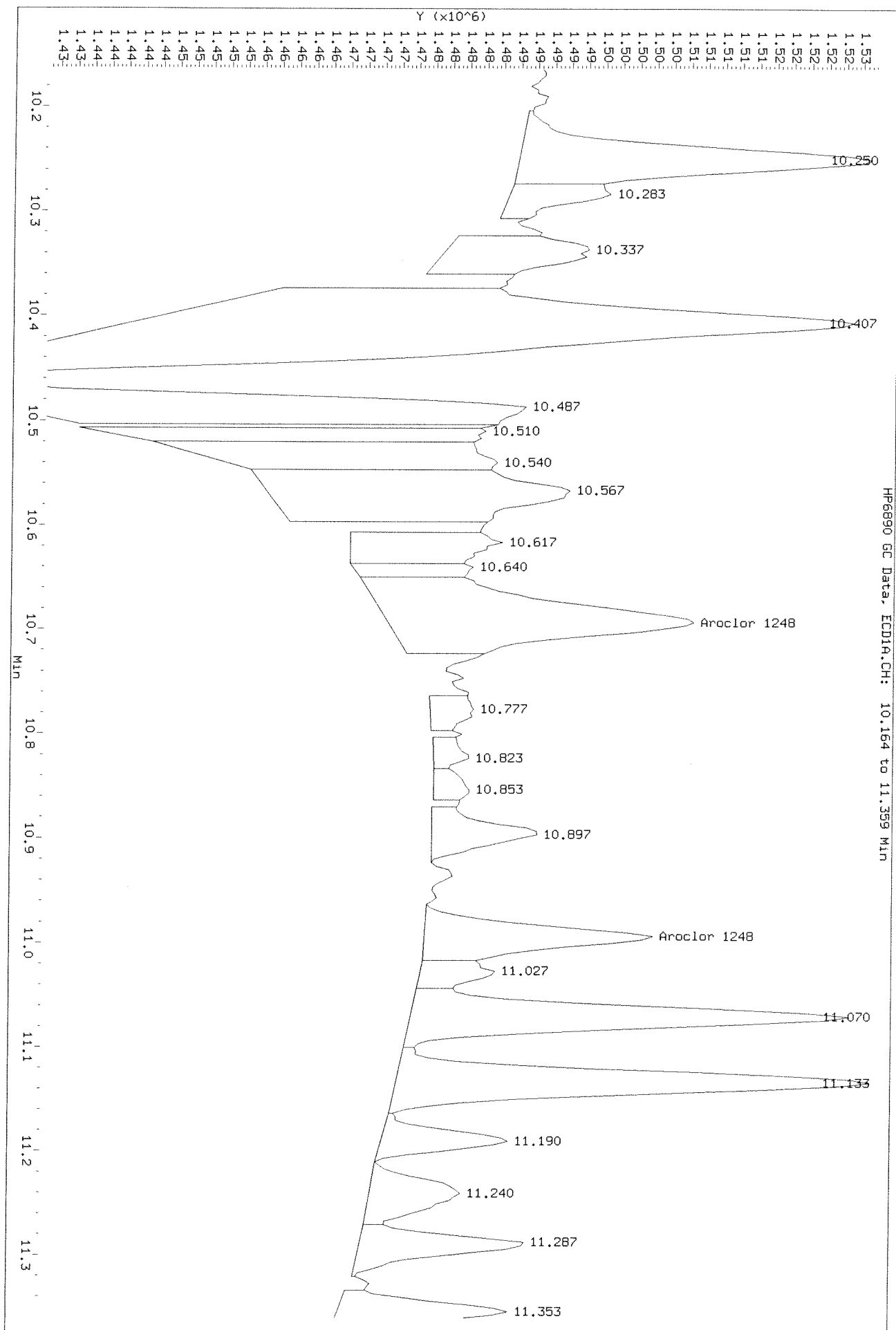


baseline
After shoulder
12/23/20

Am 11/26/20

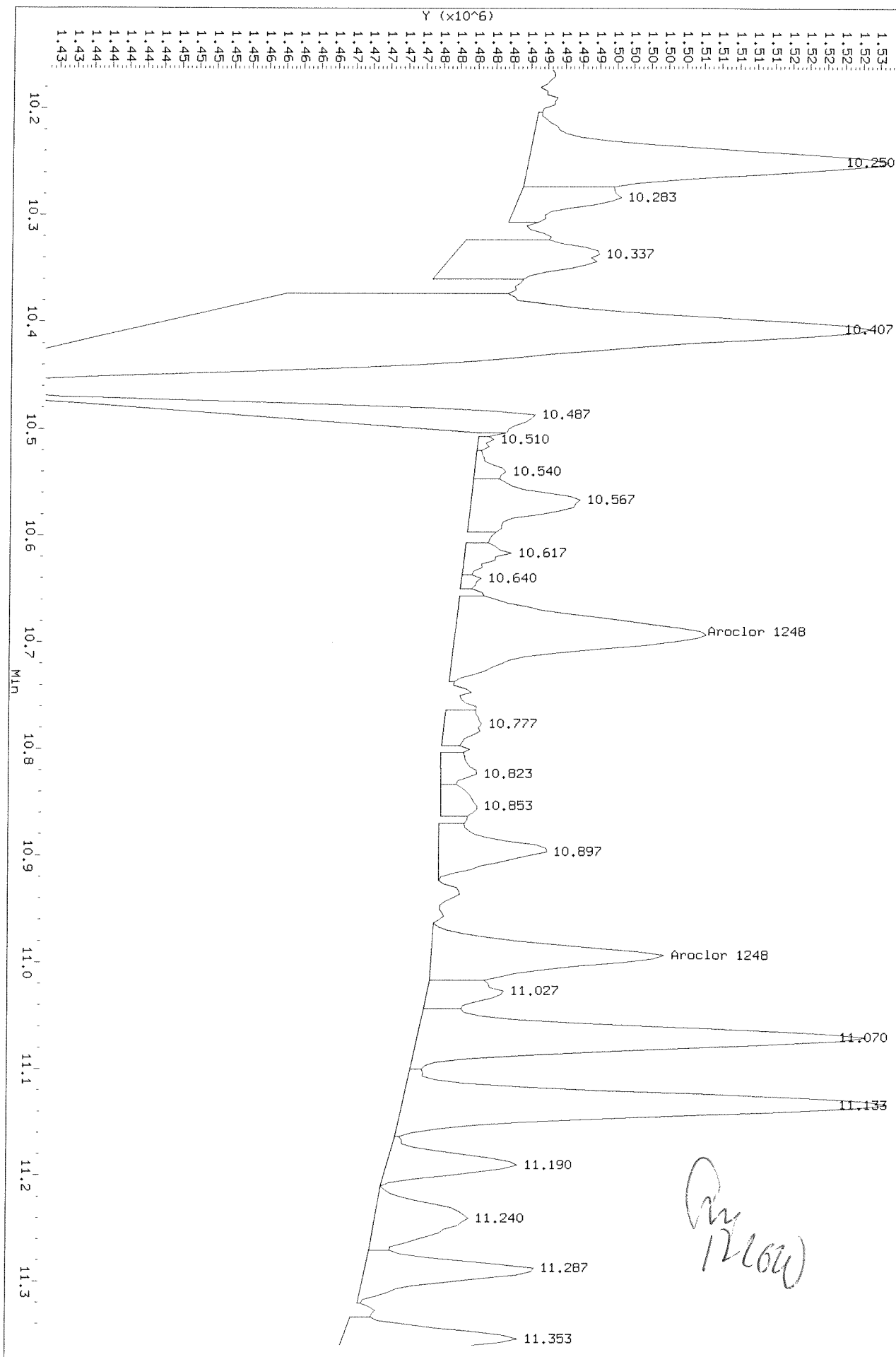
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F038.D
Injection Date: 18-DEC-2020 12:55
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217038.D
Injection Date: 18-DEC-2020 12:55
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 10.164 to 11.359 Min



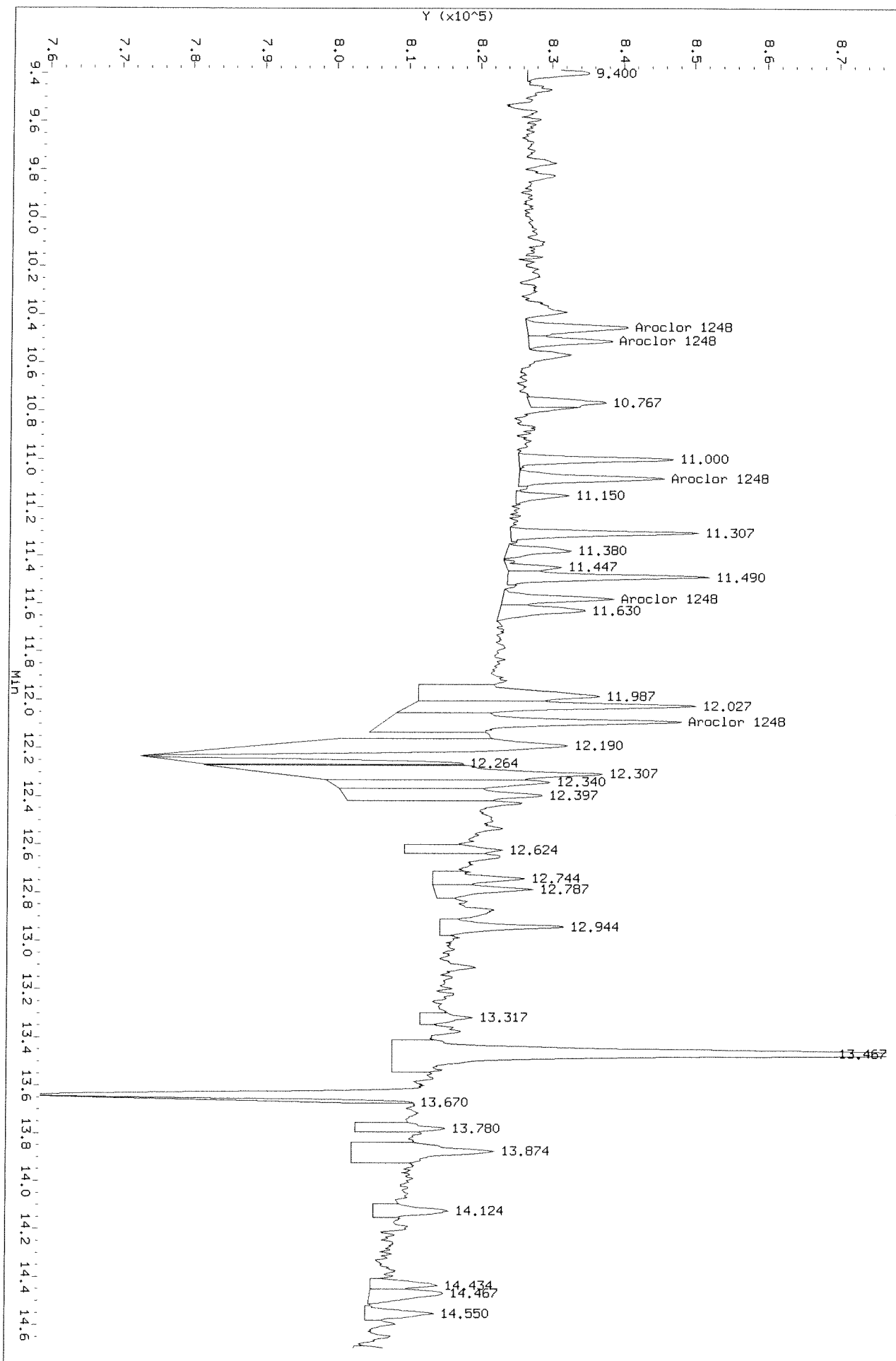
After baseline 12/23/2020

Py 12/20/20

Data File: \\nakslws003\unstdata\GC27\Data\121720ICAL.r.b\1217F038.D
Injection Date: 18-DEC-2020 12:55
Instrument: GC27.1
Client Sample ID:

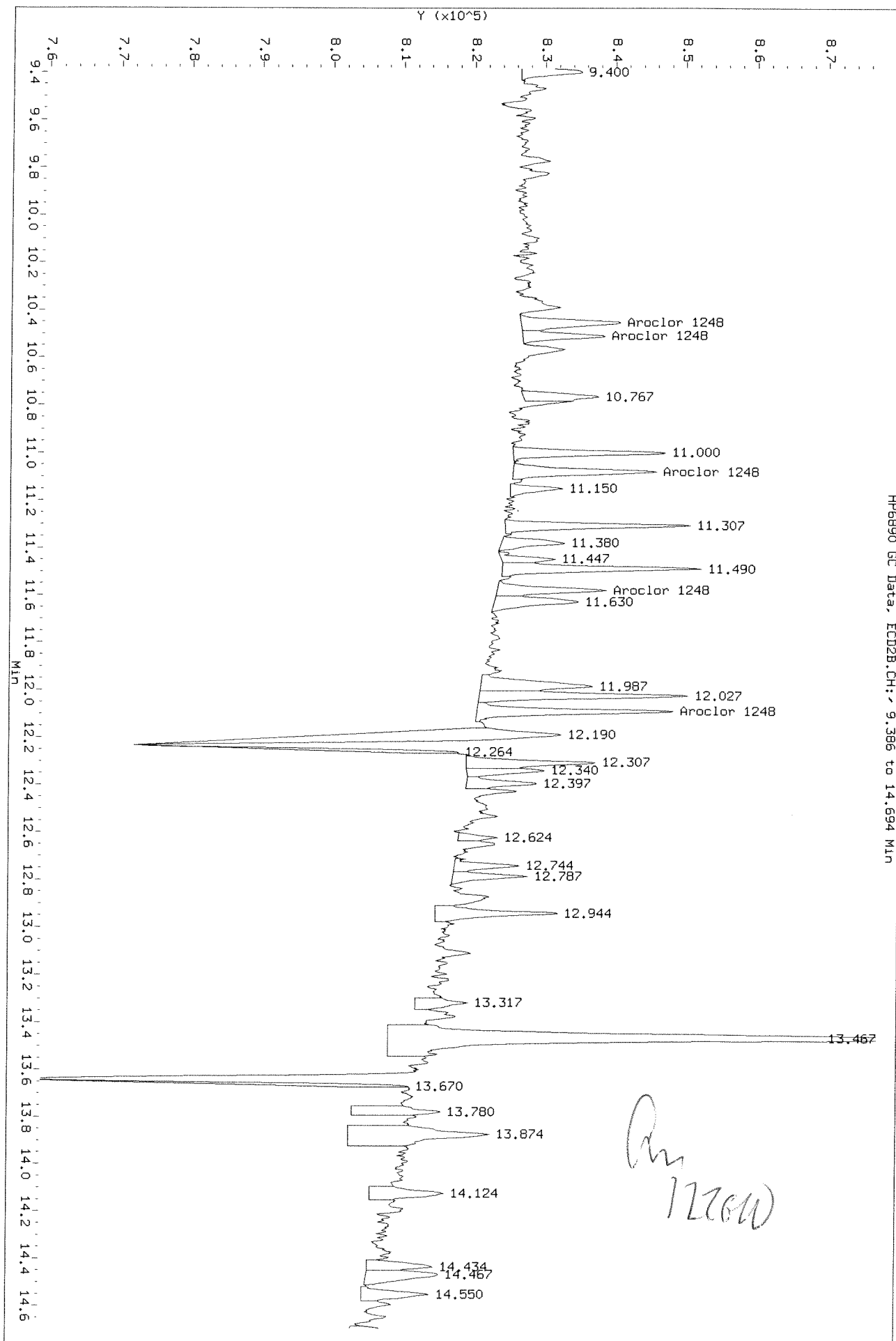
HP6890 GC Data, ECD2B.CH: 9.386 to 14.694 Min

Before



Data File: \\nakls003\instdata\GC27\Data\1217201CAL_r.b\1217F038.D
Injection Date: 18-DEC-2020 12:55
Instrument: GC27.1
Client Sample ID:

HF6890 GC Data, ECD2B.CH: 9.386 to 14.694 Min



After baseline 12/23/20 PA

Am 12/23/20

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F039.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F039.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F039.D
Inj Date : 18-DEC-2020 13:26
Sample Info: PCB8-65H 1248 2PPB @ 5X
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 48.SUB
Sub List #2 : 48.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	9.328	10.455	96810	56685	2.13	1.99	80.00- 120.00	100.00 (M)
	9.532	10.512	59004	46749	2.14	2.02	49.98- 74.97	60.95 (M)
	10.695	11.082	117339	67438	2.18	2.11	96.54- 144.81	121.21 (M)
	10.995	11.578	92574	43458	2.30	1.80	72.00- 108.00	95.62 (M)
	11.462	12.092	74904	90402	2.09	2.16	65.22- 97.84	77.37 (M)
	Average of Peak Amounts =				2.17	2.02		

QC Flag Legend

M - Compound response manually integrated.

CA
12/23/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F039.D

Date : 18-DEC-2020 13:26

Client ID:

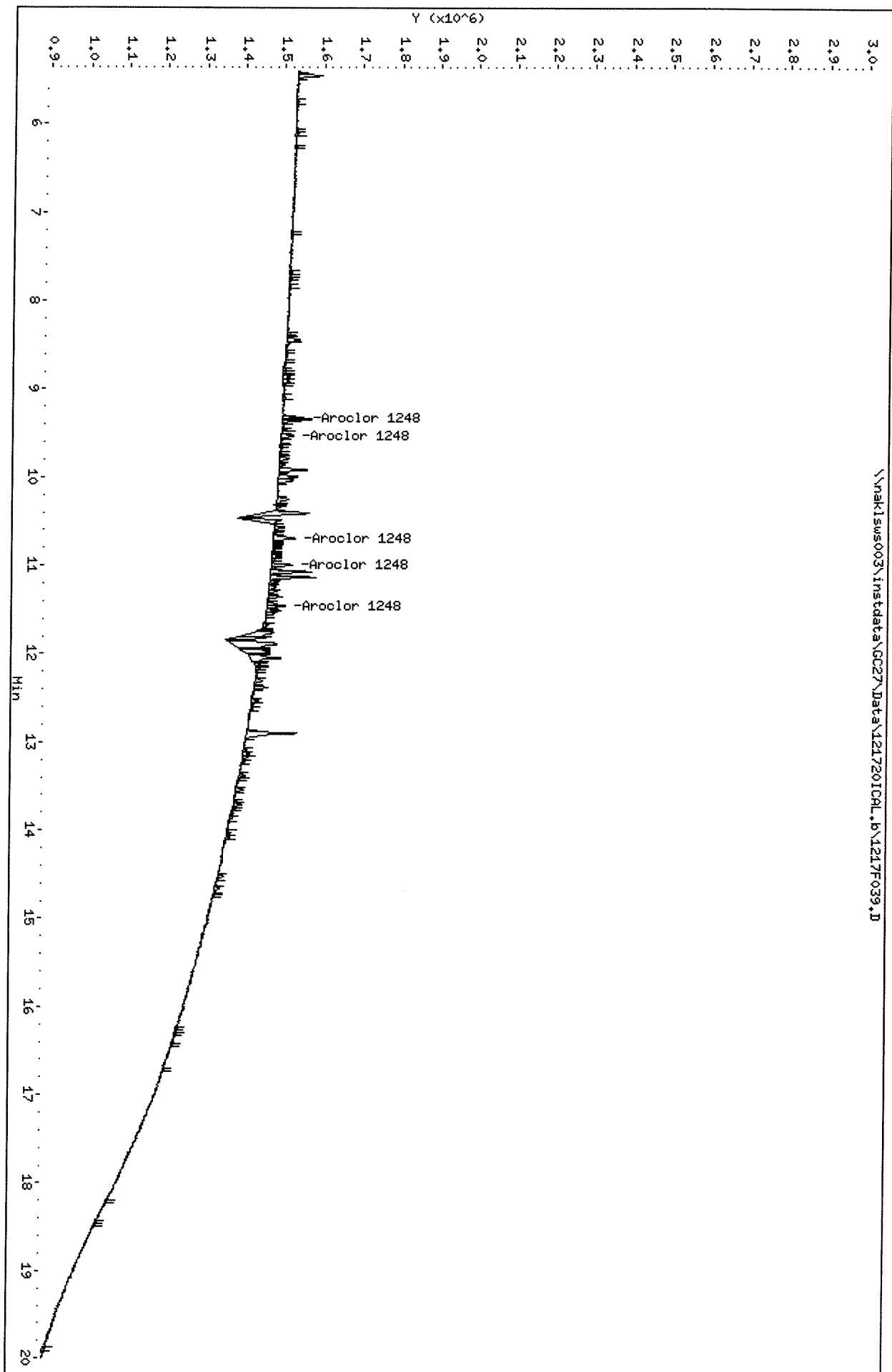
Sample Info: PCB8-65H 1248 2PPB @ 5X

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nakisw003\instdata\GC27\Data\1217201CAL_r.b\1217F039.D

Date : 18-DEC-2020 13:26

Client ID:

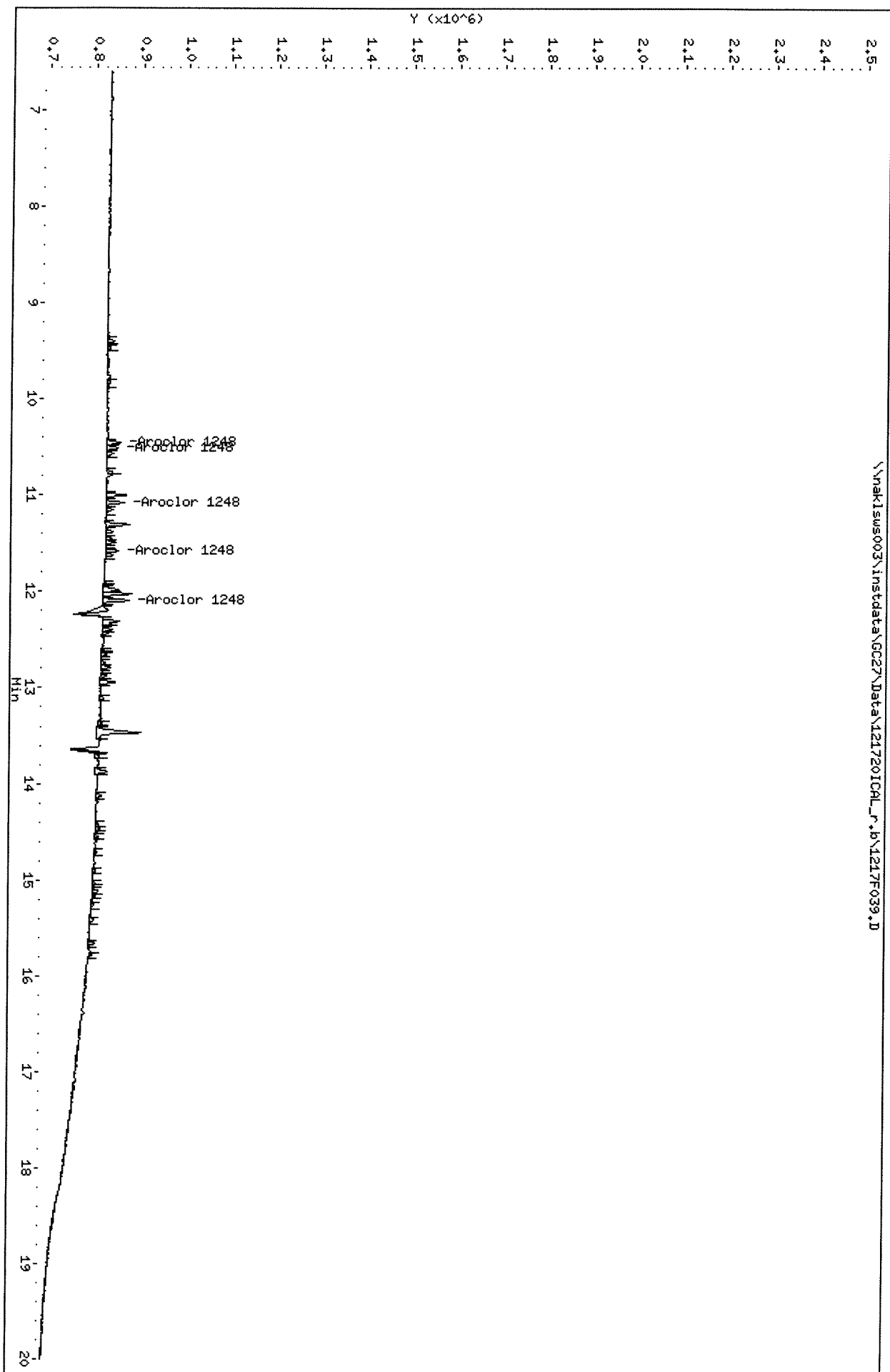
Sample Info: PCB8-6SH 1248 2PPB @ 5X

Column phase: DB-XLB

Instrument: GC27.i

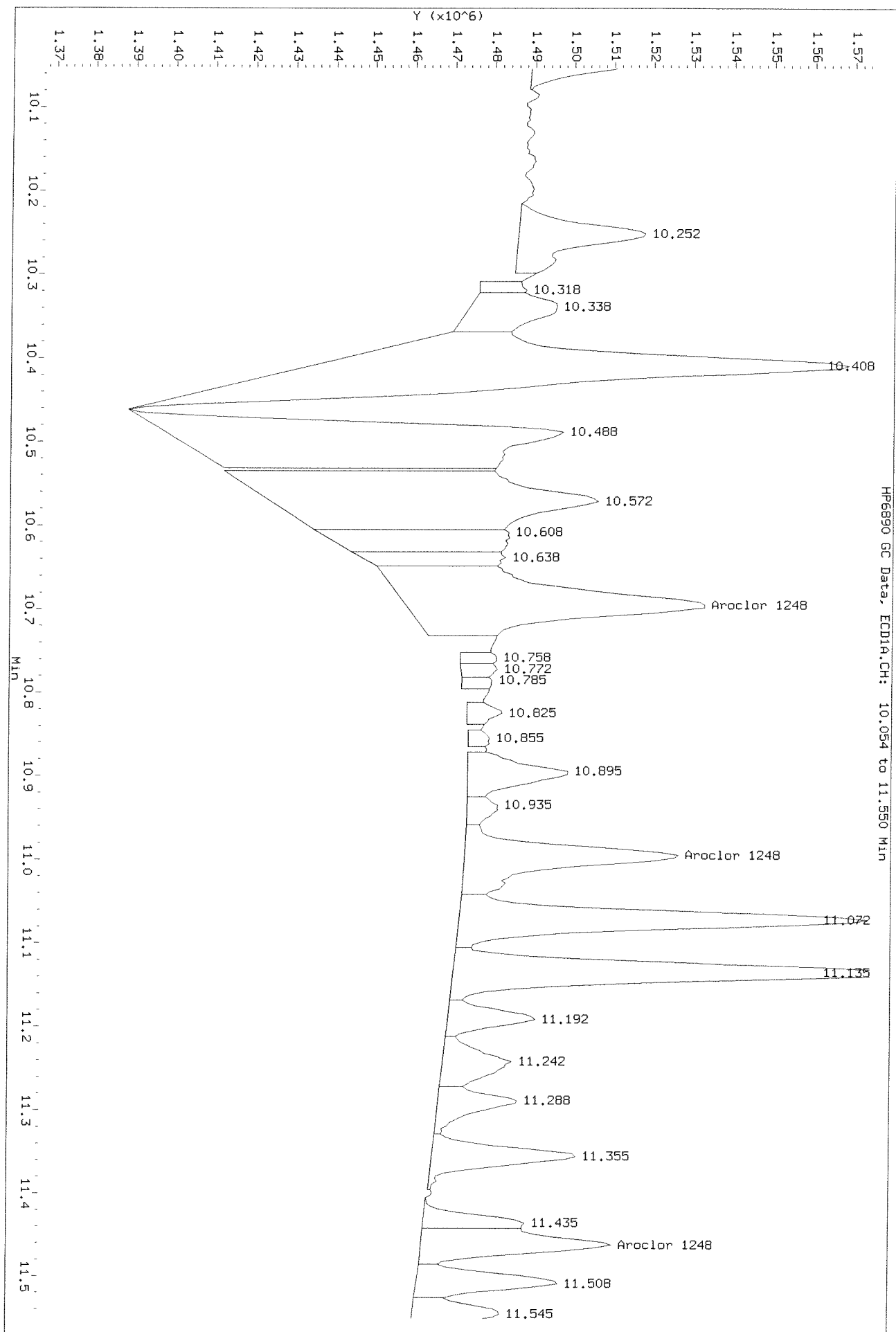
Operator: SAA

Column diameter: 0.32



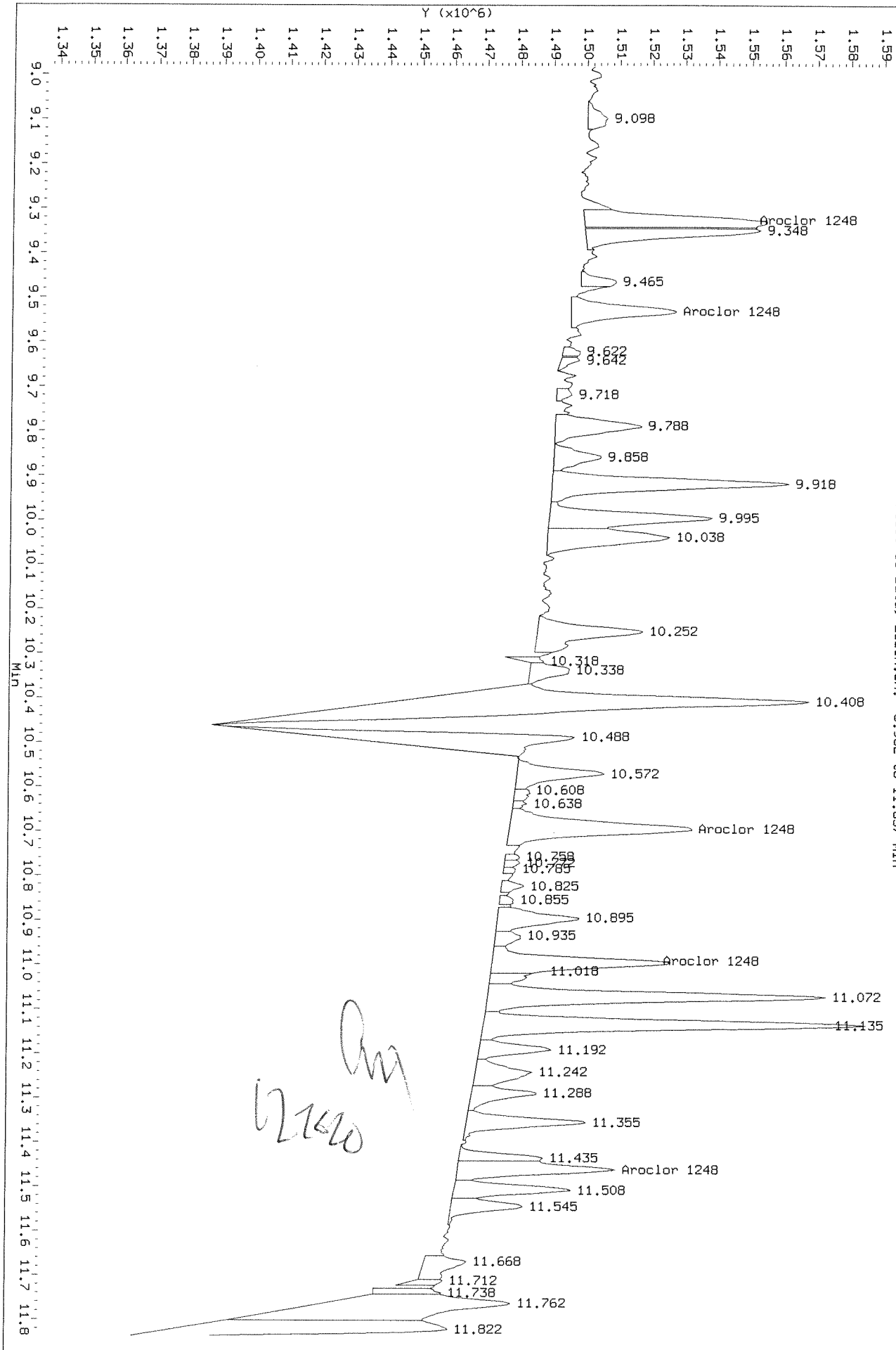
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217039.D
Injection Date: 18-DEC-2020 13:26
Instrument: GC27.1
Client Sample ID:

Befor



Data File: \\naekls003\instdata\GC27\Data\1217201CAL.b\1217F039.D
 Injection Date: 18-DEC-2020 13:26
 Instrument: GC27.1
 Client Sample ID:

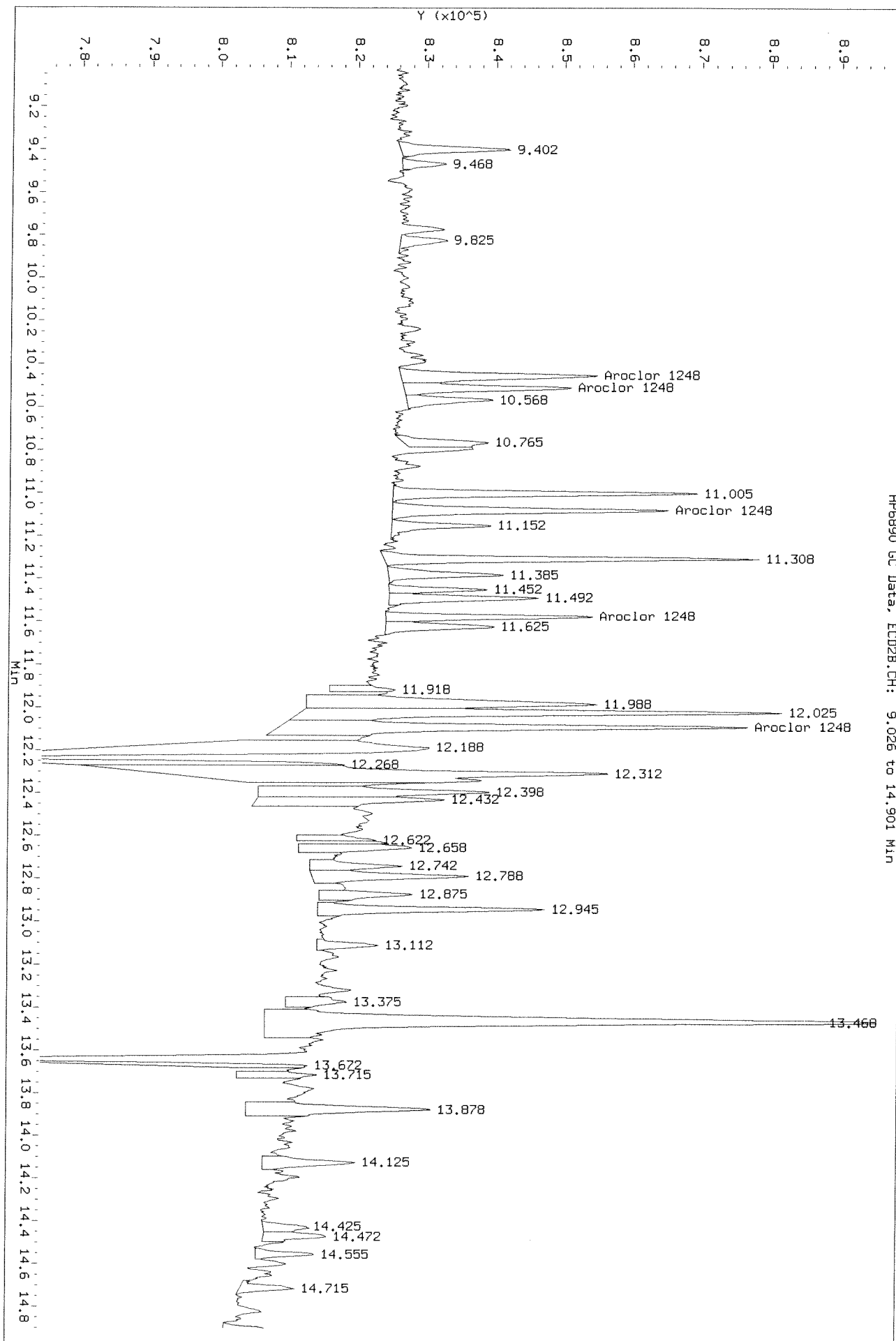
HP6890 GC Data, ECD1A.CH: 8.982 to 11.837 Min



Data File: \\maklsus003\instdata\GC27\Data\1217201CAL_r.b\1217F039.D
Injection Date: 18-DEC-2020 13:26
Instrument: GC27.1
Client Sample ID:

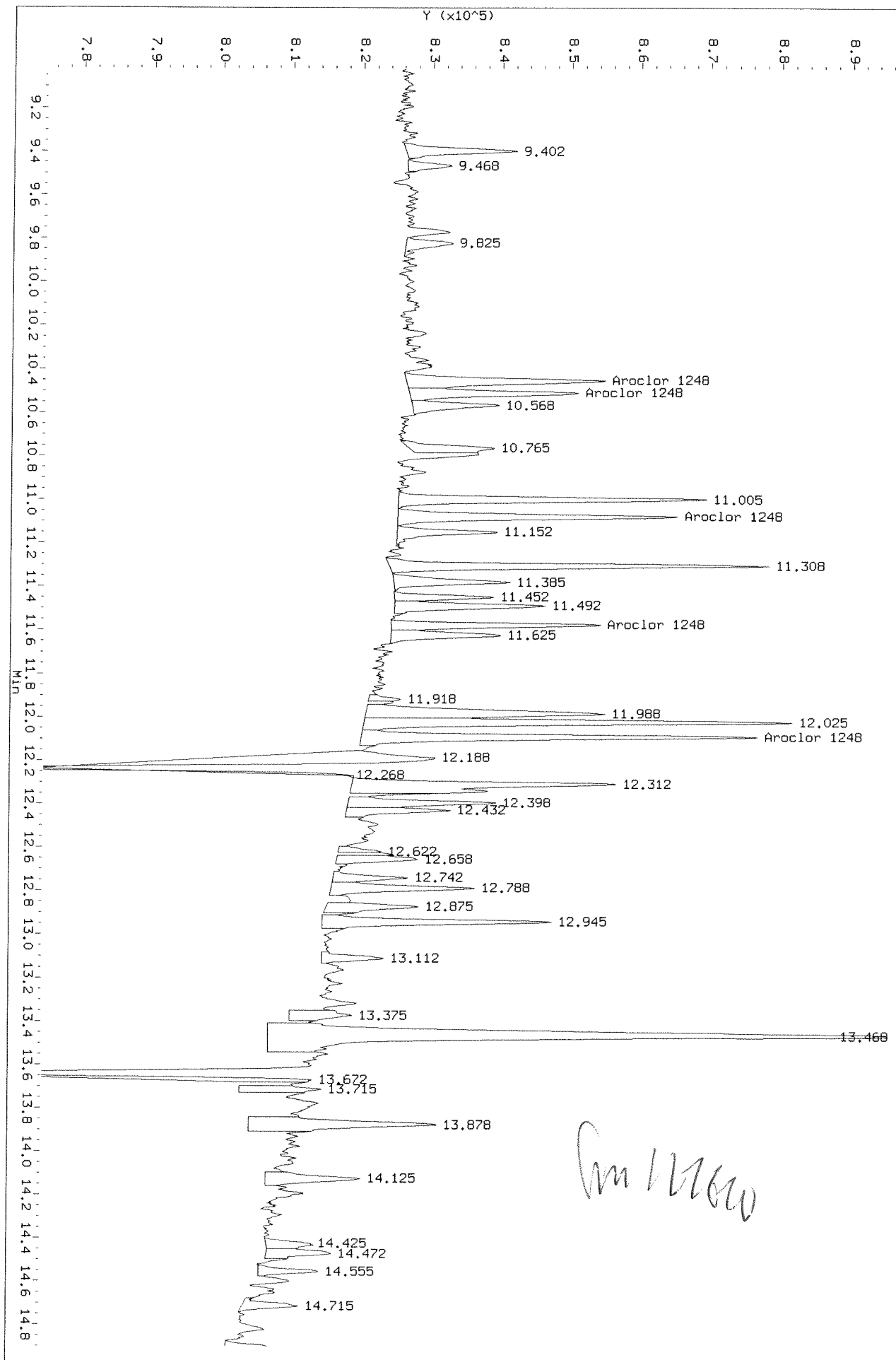
HP6890 GC Data, ECD2B.CH: 9.026 to 14.901 Min

Before



Data File: \\nakls003\instdata\GC27\Data\121720ICAL_r.b\1217F039.D
Injection Date: 18-DEC-2020 13:26
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD2B.CH: 9.026 to 14.901 Min

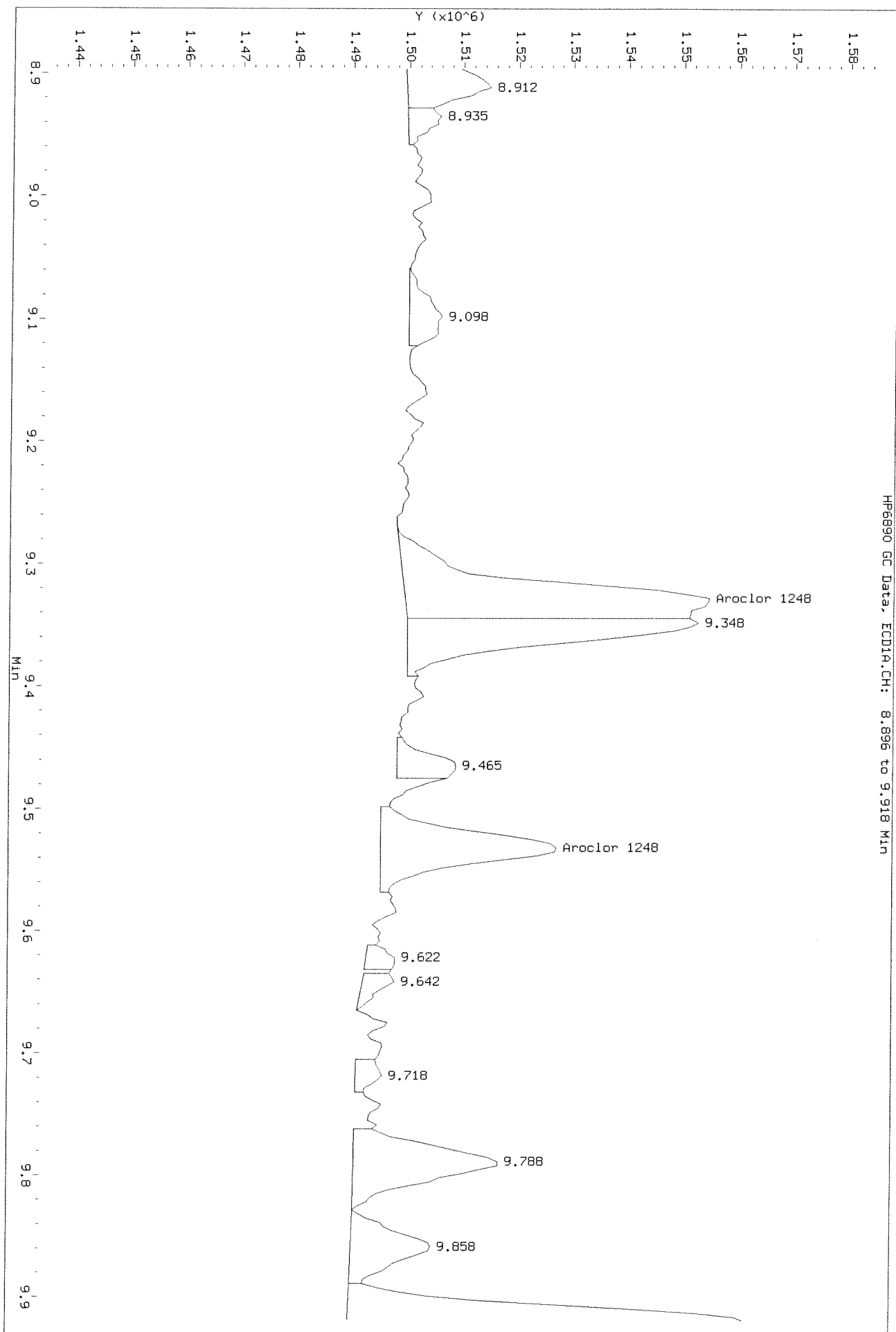


After baseline 12/23/20 A

GC 12/26/20

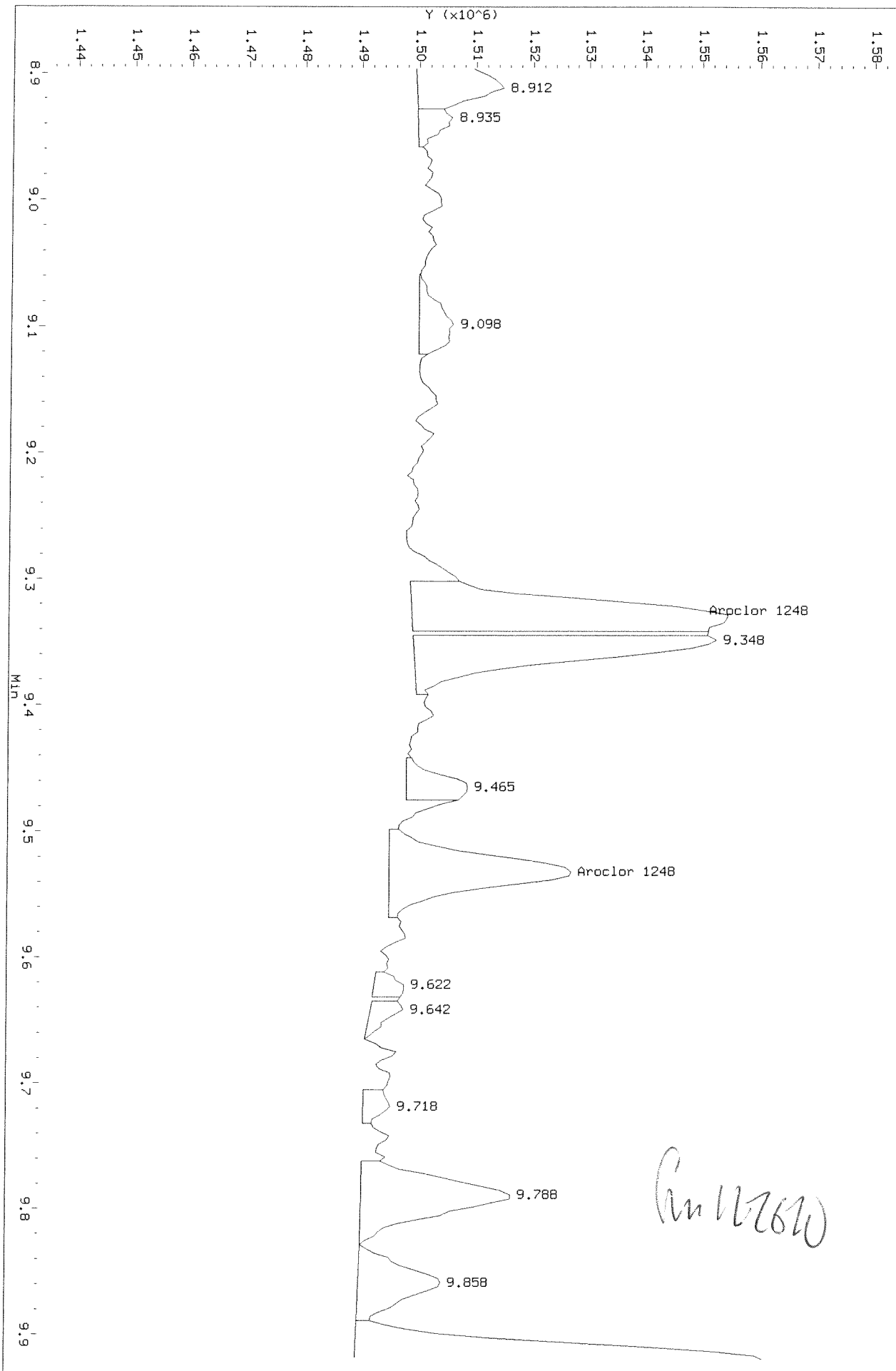
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F039.D
Injection Date: 18-DEC-2020 13:26
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklms003\Instdata\GC27\Data\121720ICAL.b\1217F039.D
Injection Date: 18-DEC-2020 13:26
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.896 to 9.918 Min

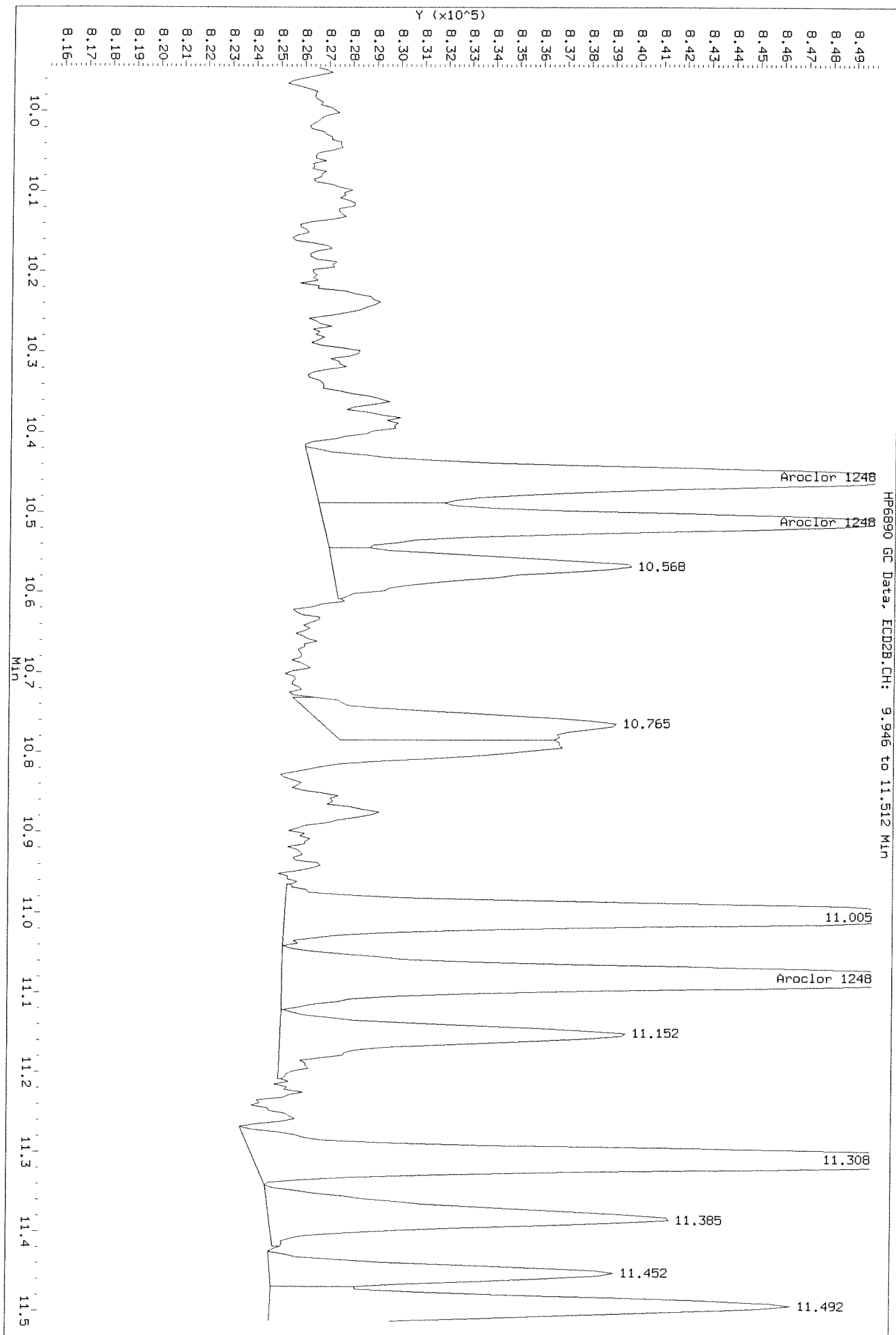


After sample 12/23/2018

Run 121720

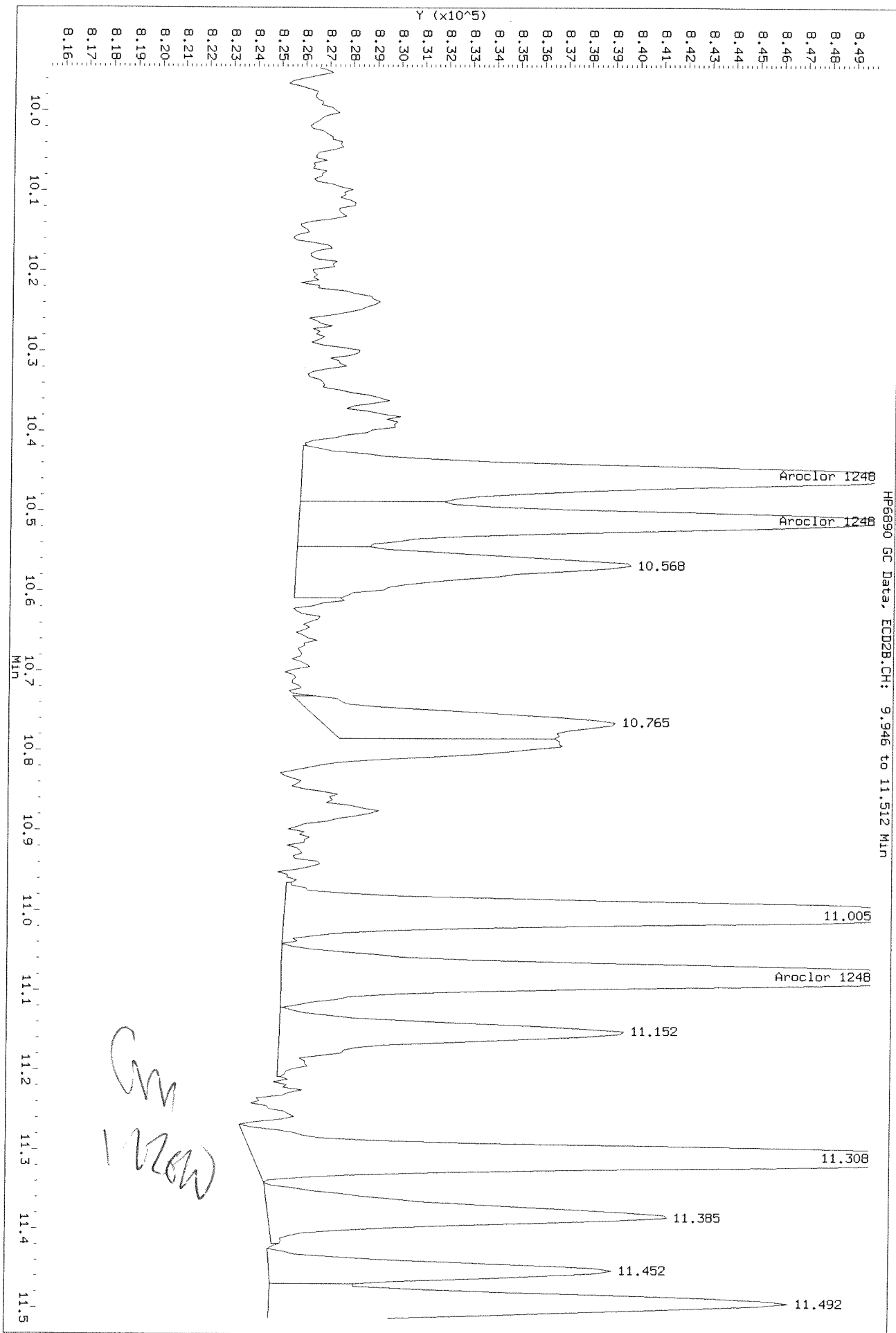
Data File: \\nakls003\instdata\GC27\Data\121720ICAL_r.b\1217F039.D
Injection Date: 18-DEC-2020 13:26
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\12172010AL_r.b\1217F039.D
Injection Date: 18-DEC-2020 13:26
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2024



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F040.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F040.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F040.D
Inj Date : 18-DEC-2020 13:57
Sample Info: PCB8-65I 1248 5PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 48.SUB
Sub List #2 : 48.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	9.330	10.457	263039	151540	5.80	5.32	80.00- 120.00	100.00 (M)
	9.533	10.513	136297	121806	4.95	5.27	49.98- 74.97	51.82 (M)
	10.697	11.083	280385	172709	5.21	5.42	96.54- 144.81	106.59 (M)
	10.997	11.580	219772	125797	5.46	5.20	72.00- 108.00	83.55 (M)
	11.463	12.093	191049	226923	5.33	5.41	65.22- 97.84	72.63 (M)
	Average of Peak Amounts =				5.35	5.32		

QC Flag Legend

M - Compound response manually integrated.

[Handwritten signature]
12/23/20

SA 12/23/20

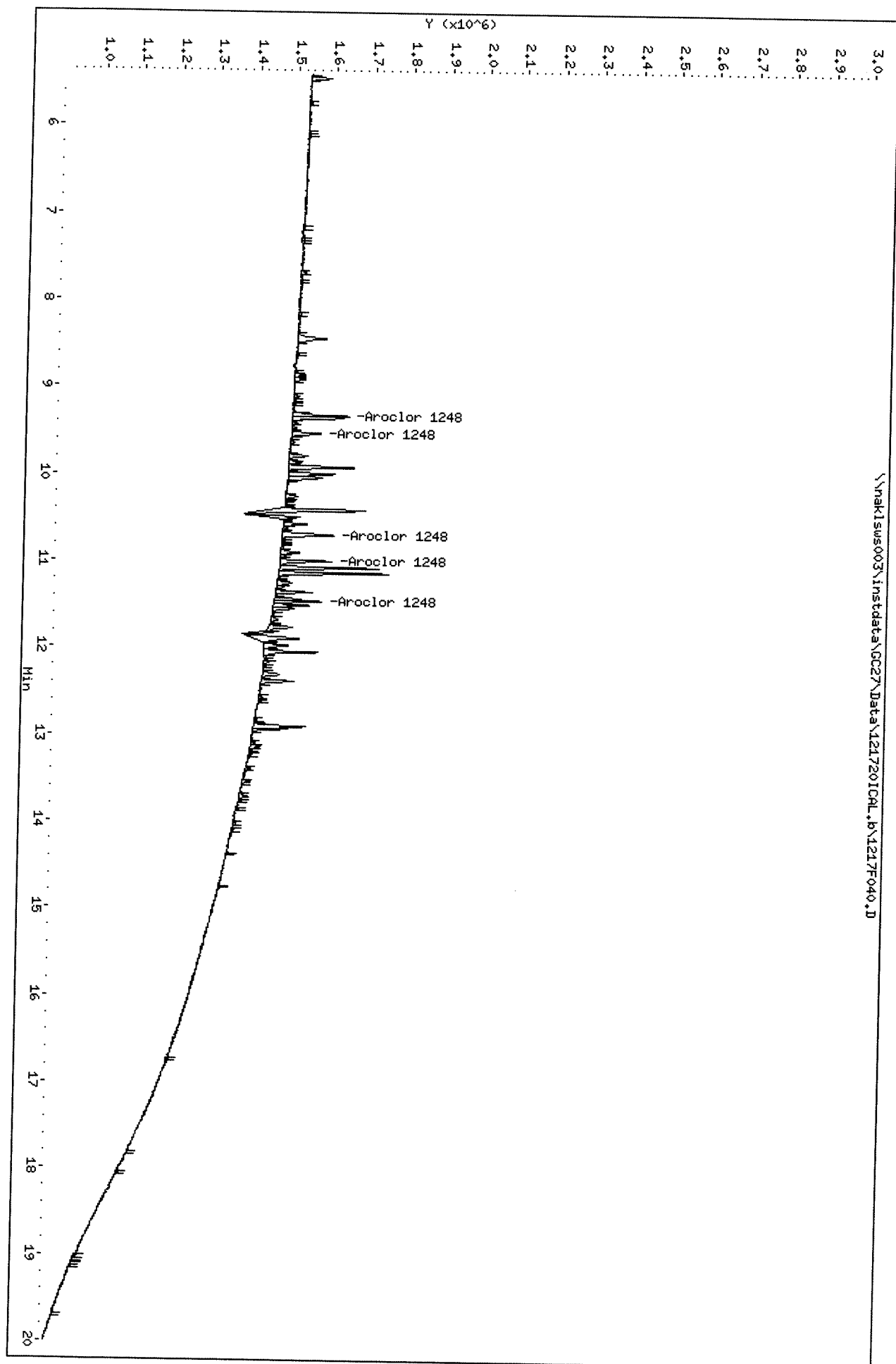
Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F040.D
Date : 18-DEC-2020 13:57
Client ID:

Sample Info: PCB8-661 1248 5PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA
Column diameter: 0.32



Data File: \\nak1sus003\instadata\GC27\Data\121720ICAL_r.b\1217F040.D
Date : 18-DEC-2020 13:57

Client ID:

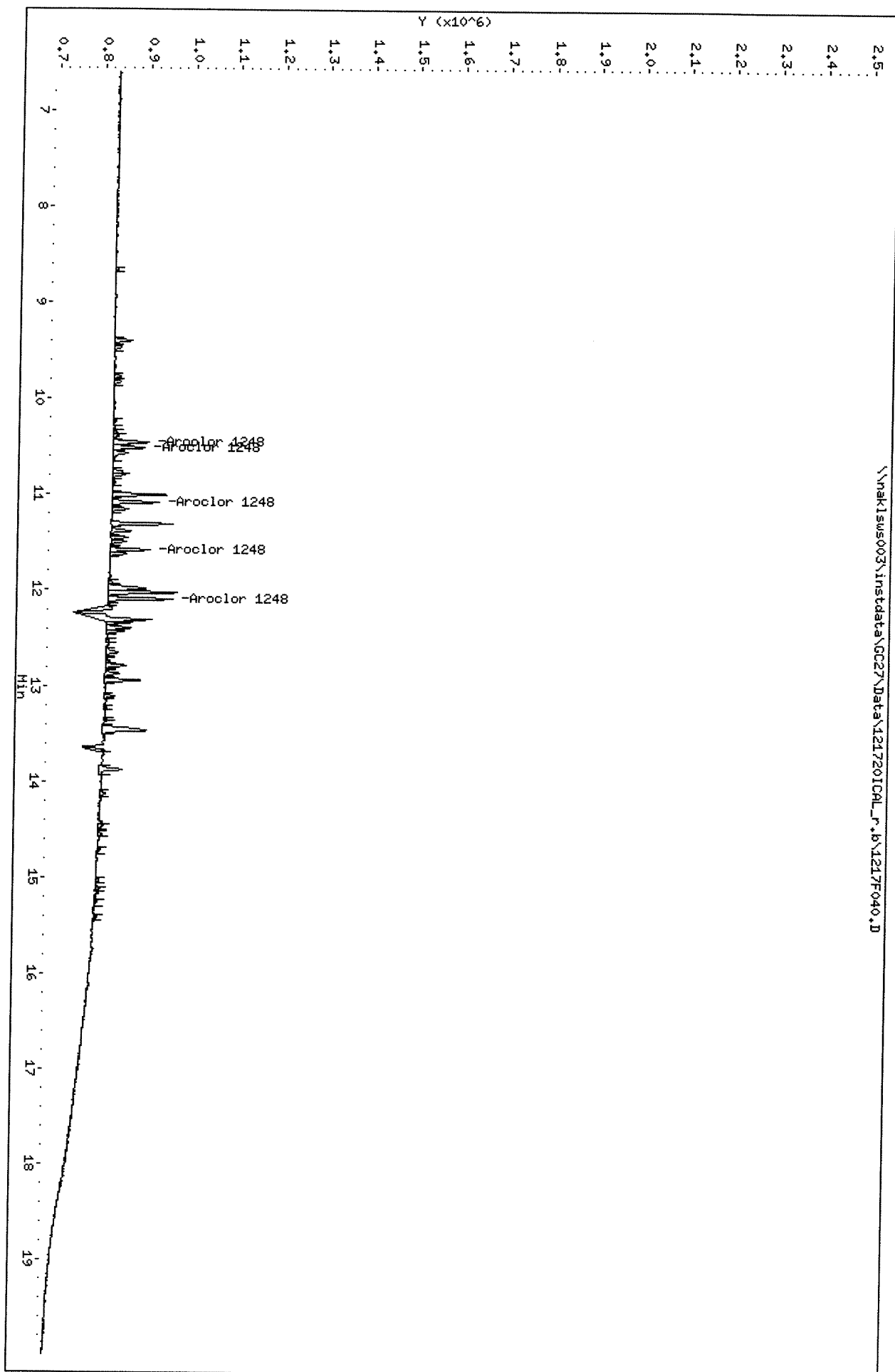
Sample Info: PCB8-651 1248 SPPB

Column phase: DB-XLB

Instrument: GC27.i

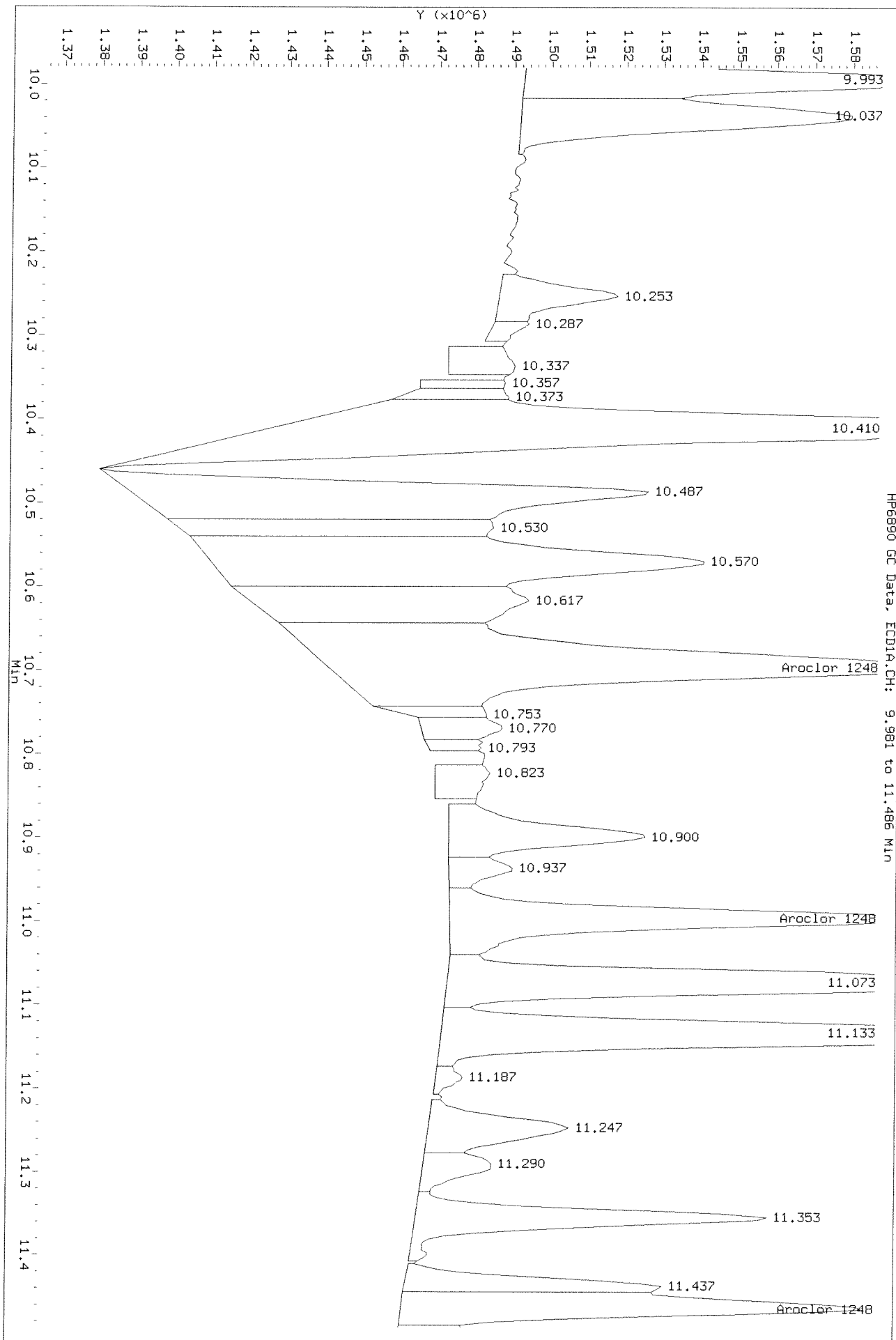
Operator: SAA

Column diameter: 0.32



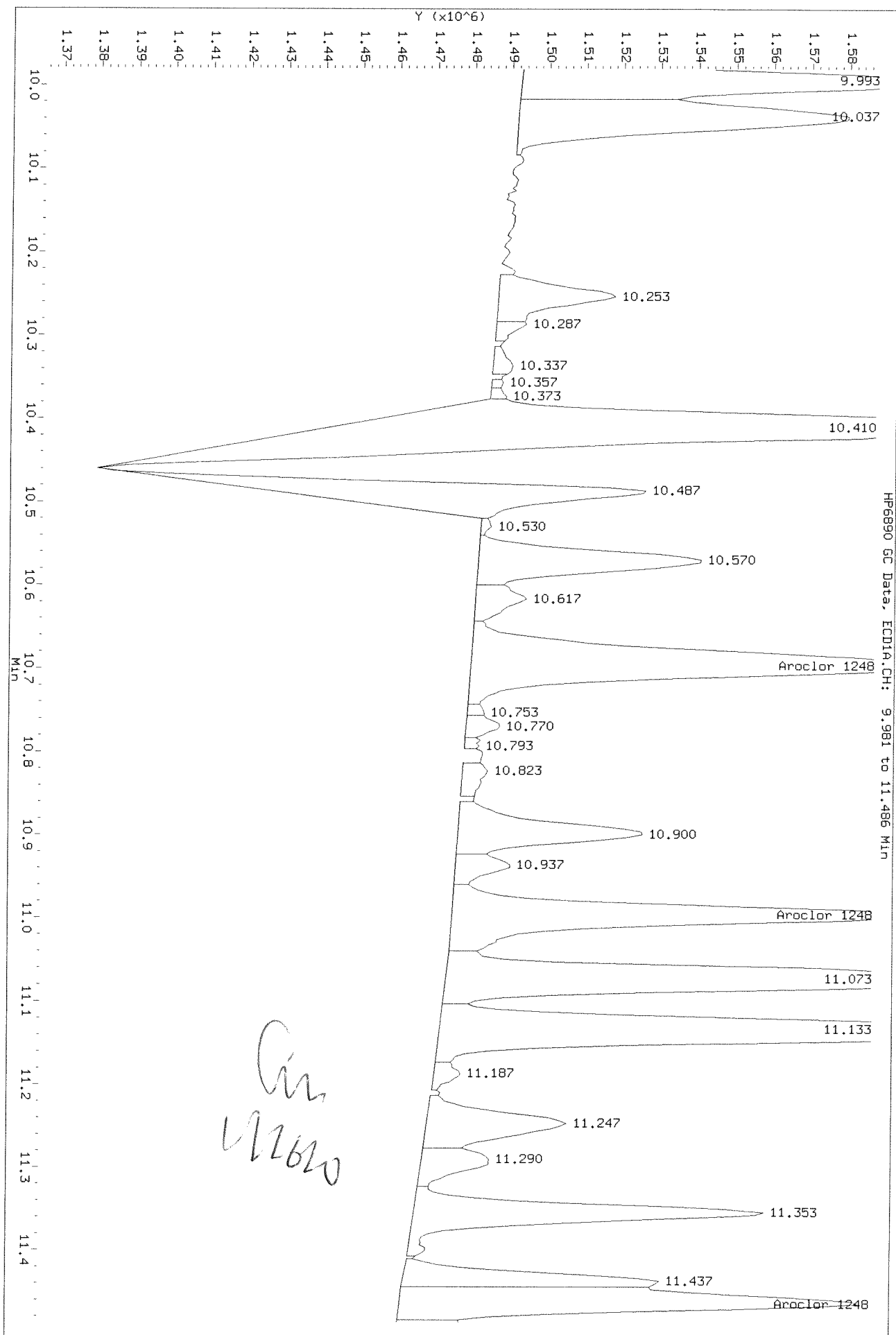
Data File: \\nakisw003\instdata\GC27\Data\1217201CAL.b\1217F040.D
Injection Date: 18-DEC-2020 13:57
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F040.D
Injection Date: 18-DEC-2020 13:57
Instrument: GC27.1
Client Sample ID:

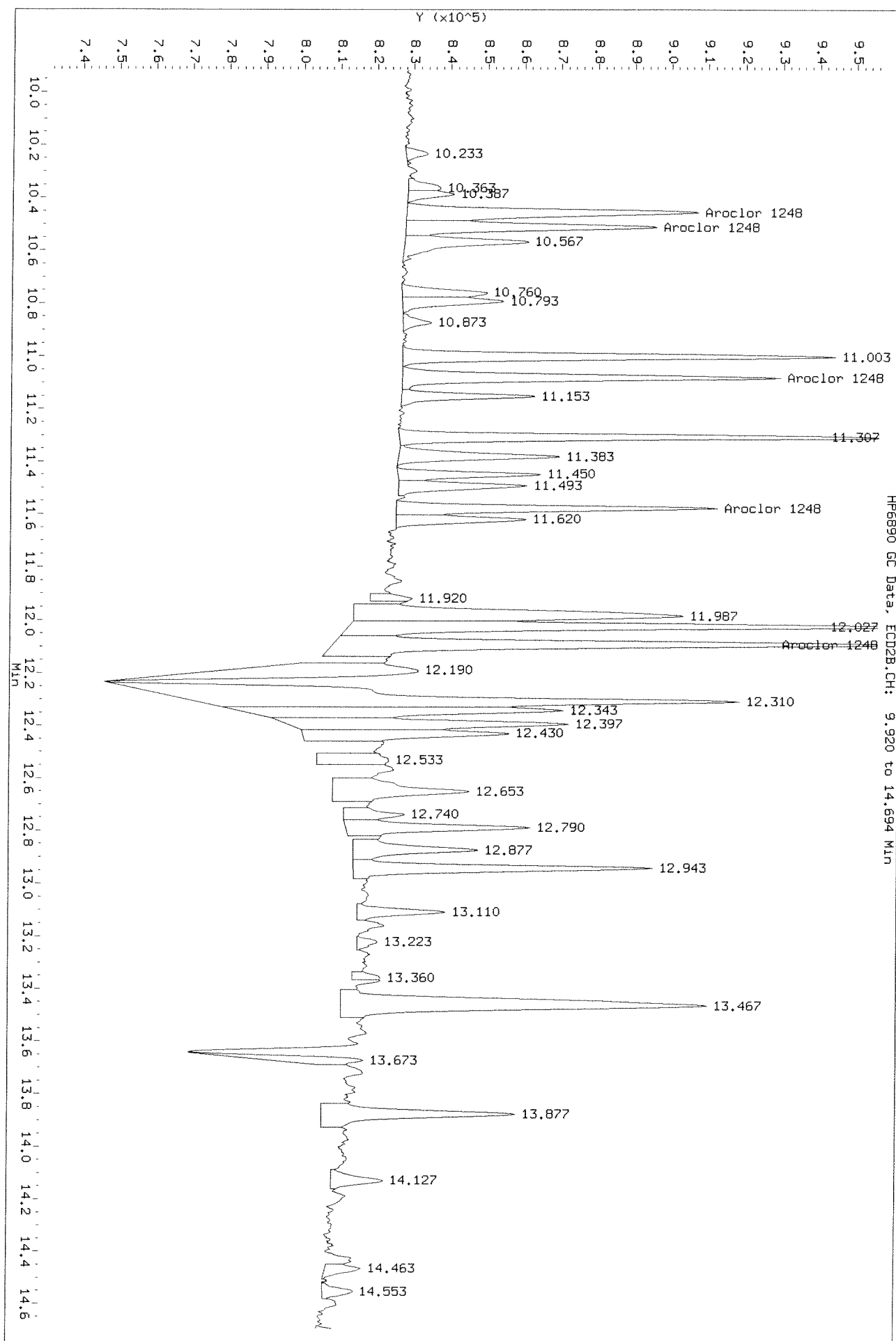
After baseline 12/23/2020



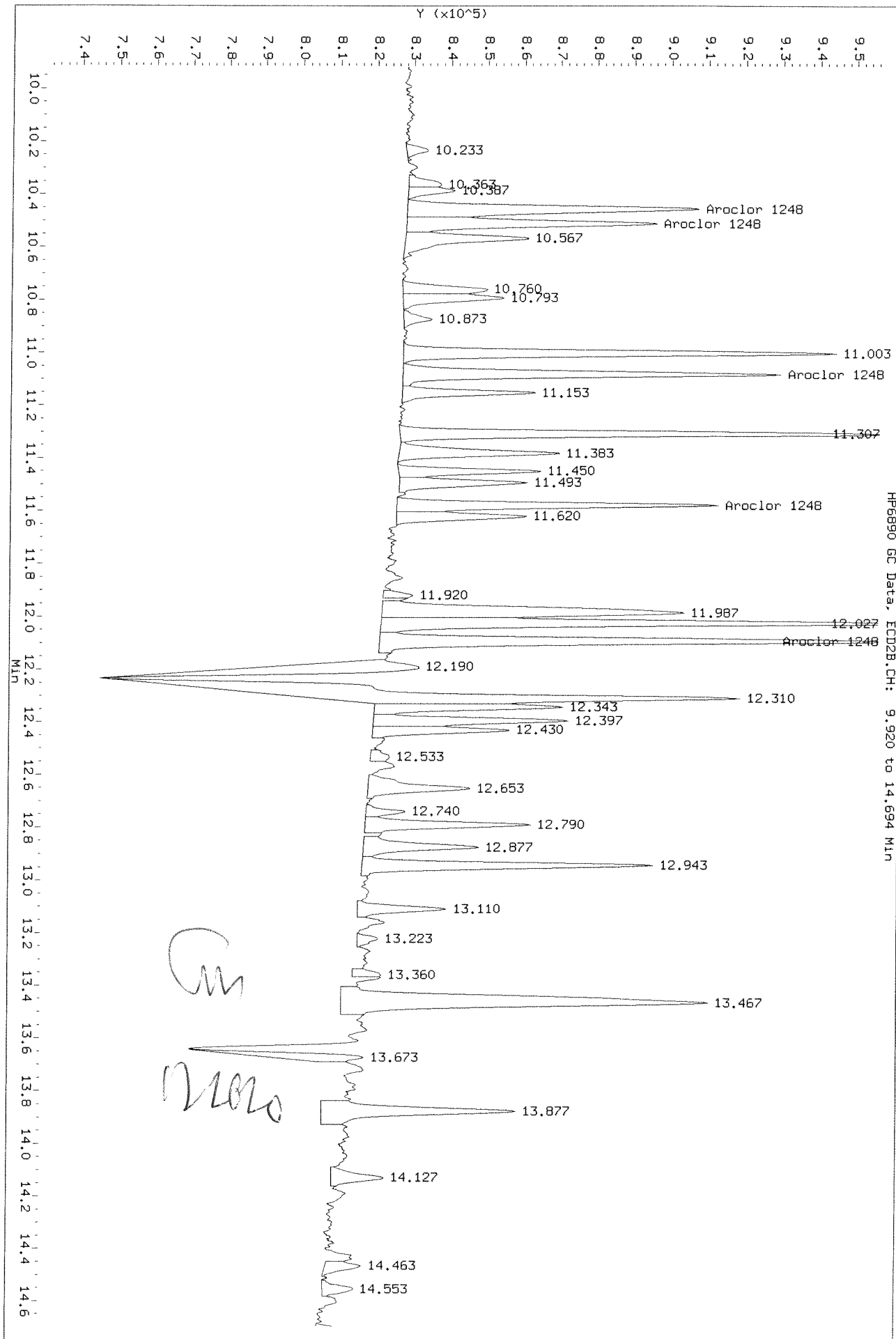
in
12/20/20

Data File: \\makisus003\instdata\GC27\Data\121720ICAL_r.b\1217F040.D
Injection Date: 18-DEC-2020 13:57
Instrument: GC27.1
Client Sample ID:

Before



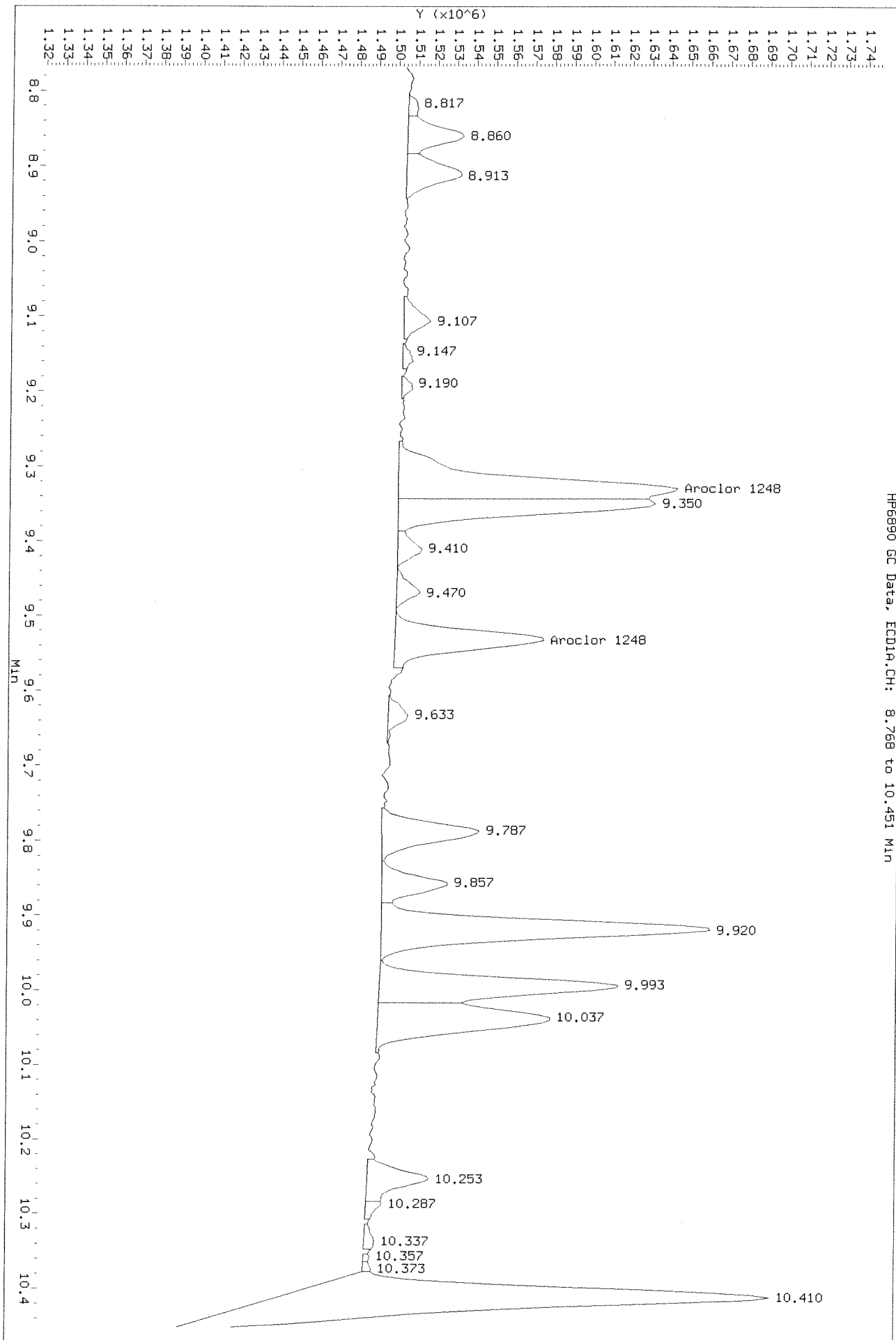
Data File: \\nakisus003\inst\data\GC27\Data\121720ICL_r.b\1217F040.D
Injection Date: 18-DEC-2020 13:57
Instrument: GC27.1
Client Sample ID:



After baseline 12/23/20 ✓

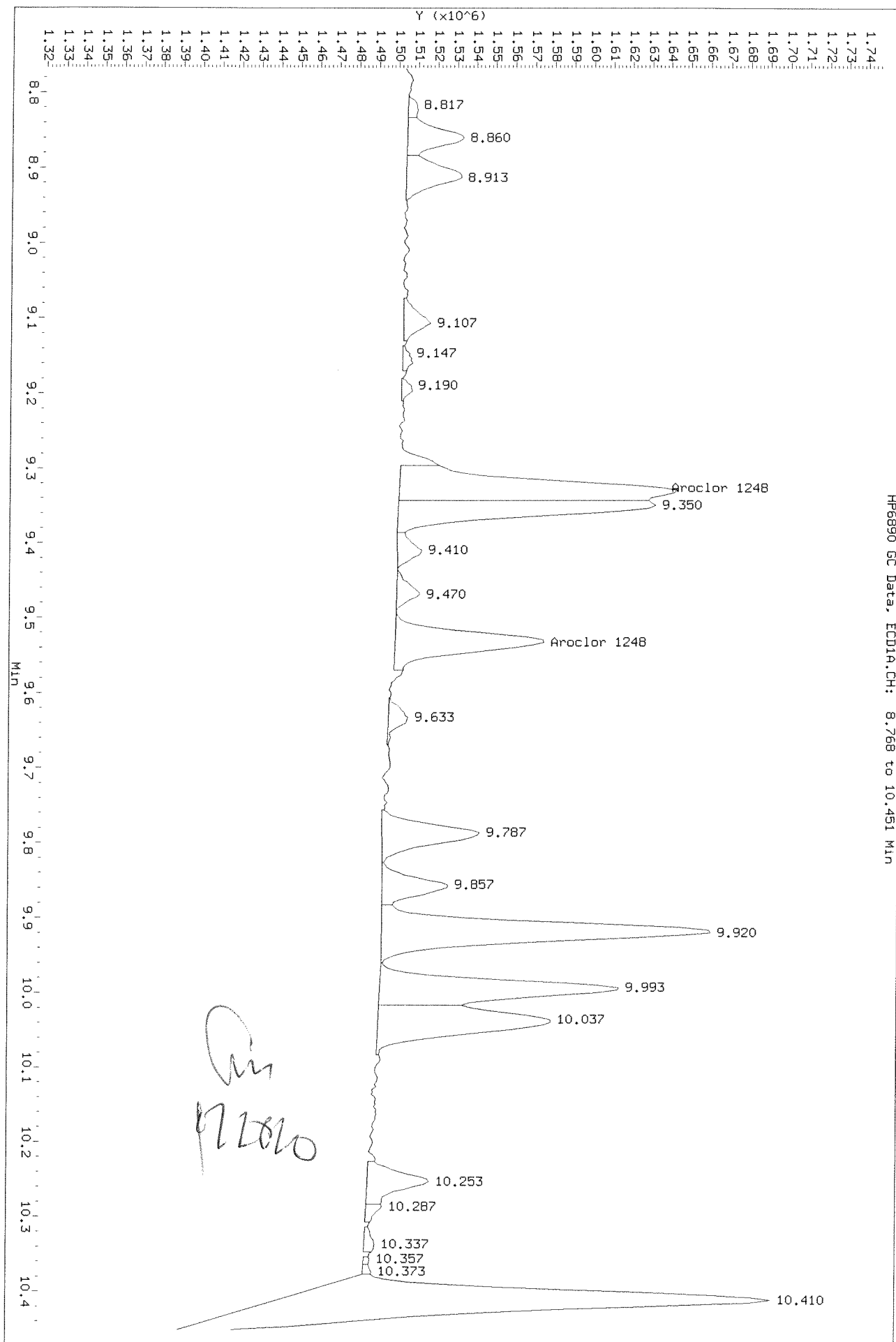
Data File: \\naklsu003\instdata\GC27\Data\121720ICAL.b\1217F040.D
Injection Date: 18-DEC-2020 13:57
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F040.D
Injection Date: 18-DEC-2020 13:57
Instrument: GC27.1
Client Sample ID:

After Shoulder 12/23/2020



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F041.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F041.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F041.D
Inj Date : 18-DEC-2020 14:29
Sample Info: PCB8-65H 1248 10PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 48.SUB
Sub List #2 : 48.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	9.328	10.455	446210	300984	9.84	10.6	80.00- 120.00	100.00 (M)
	9.532	10.512	282051	251404	10.2	10.9	49.98- 74.97	63.21 (M)
	10.695	11.082	541437	339693	10.1	10.7	96.54- 144.81	121.34 (M)
	10.995	11.579	417489	257883	10.4	10.7	72.00- 108.00	93.56 (M)
	11.462	12.092	351481	455039	9.80	10.9	65.22- 97.84	78.77 (M)
	Average of Peak Amounts =				10.1	10.8		

QC Flag Legend

M - Compound response manually integrated.

GM
12/23/20

SA 12/23/20

Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217F041.D

Date : 18-DEC-2020 14:29

Client ID:

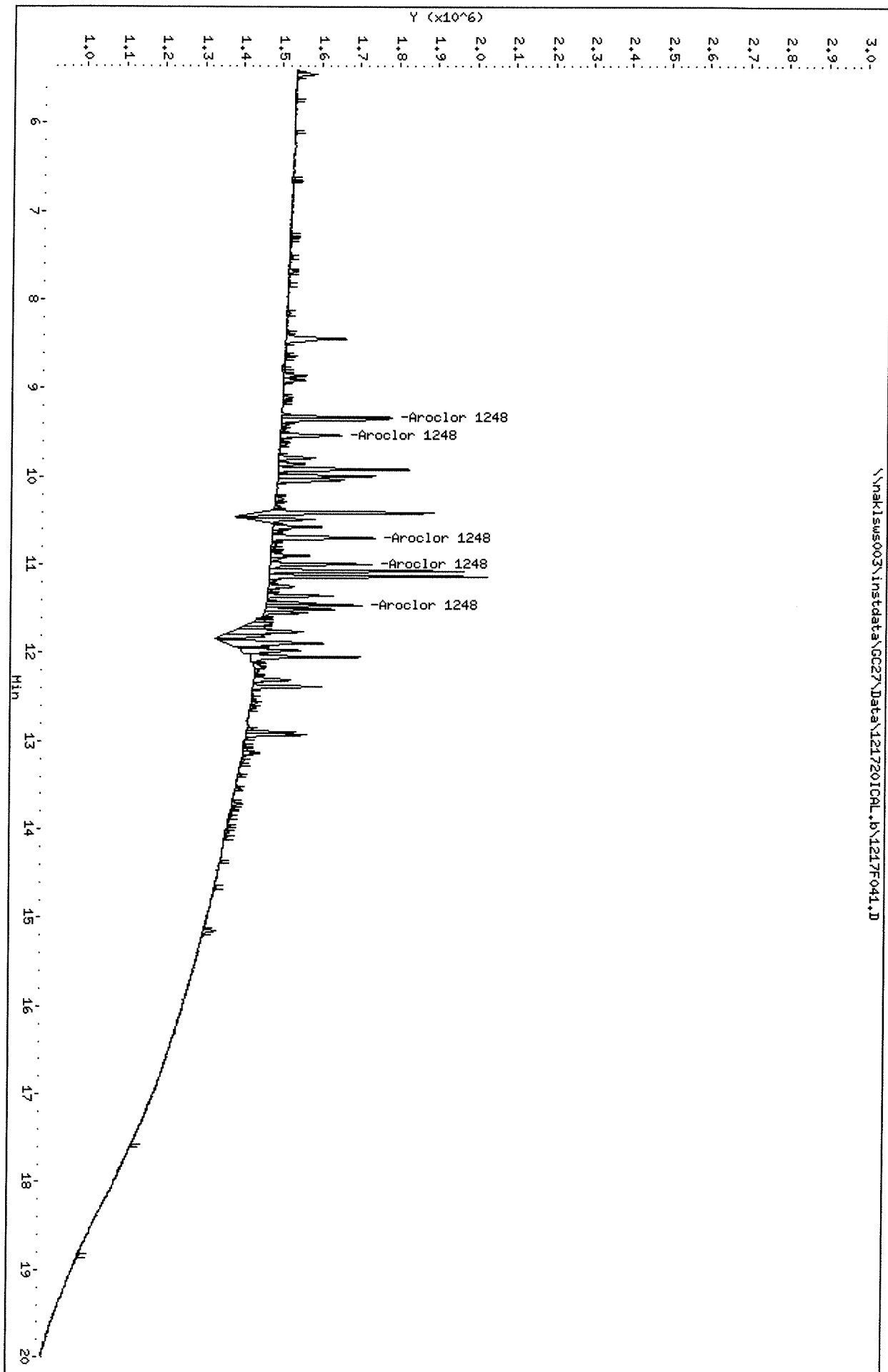
Sample Info: PCB8-65H 1248 10PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sus003\instdata\GC27\Data\121720ICAL_r.b\1217F041.D

Date : 18-DEC-2020 14:29

Client ID:

Sample Info: PCB8-6SH 1248 10PPB

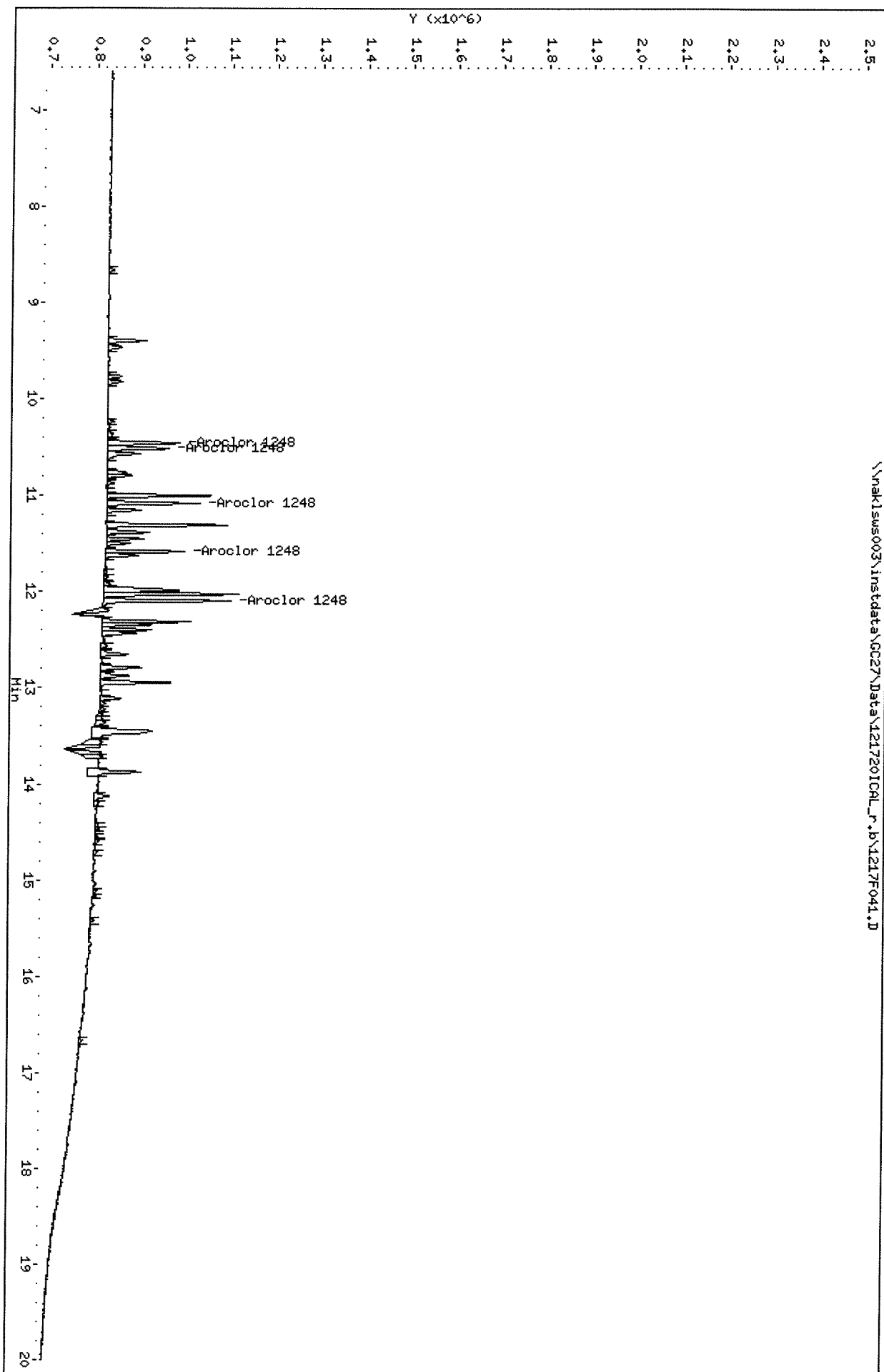
Column Phase: DB-XLB

Instrument: GC27.i

Operator: SAA

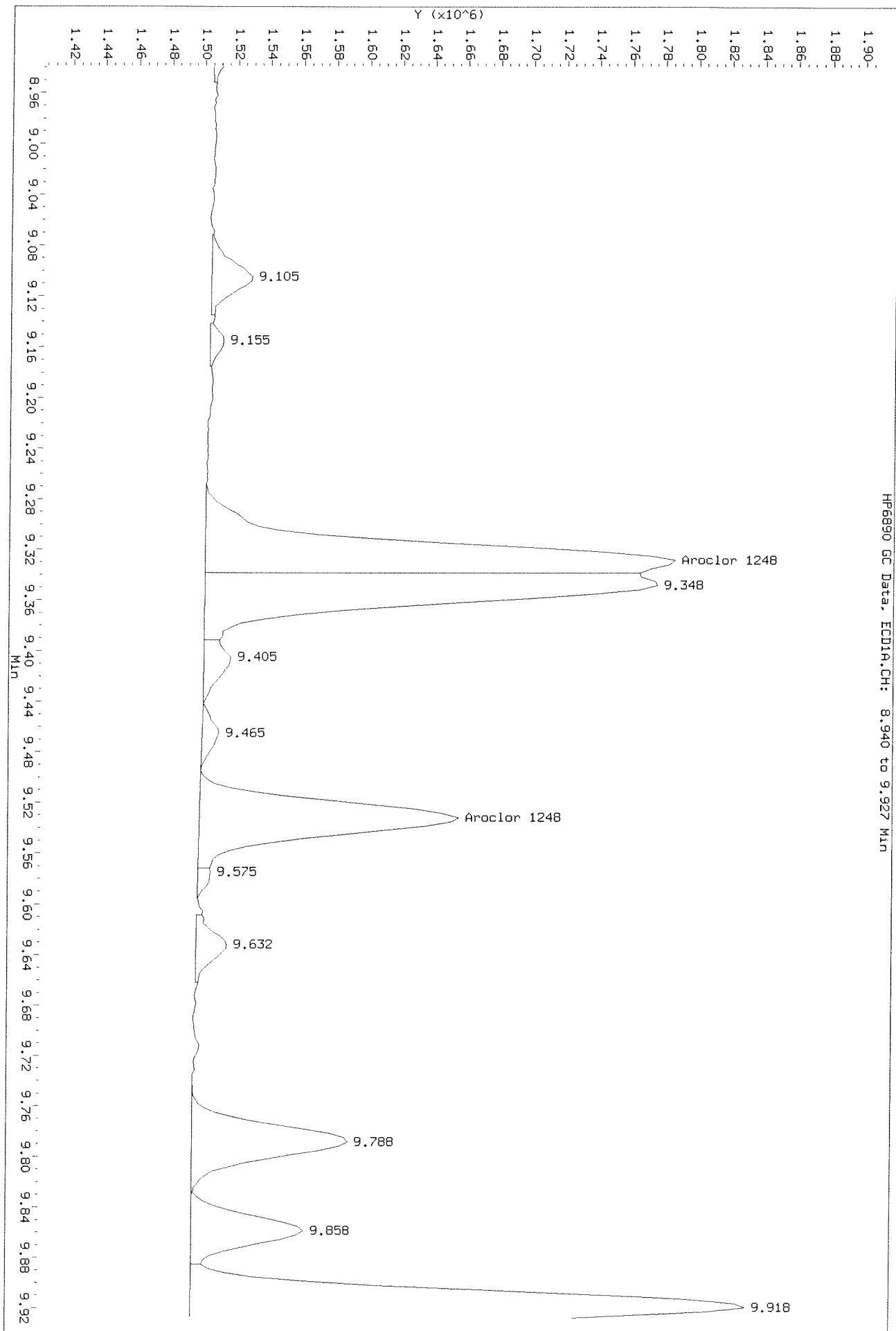
Column diameter: 0.32

\\nak1sus003\instdata\GC27\Data\121720ICAL_r.b\1217F041.D



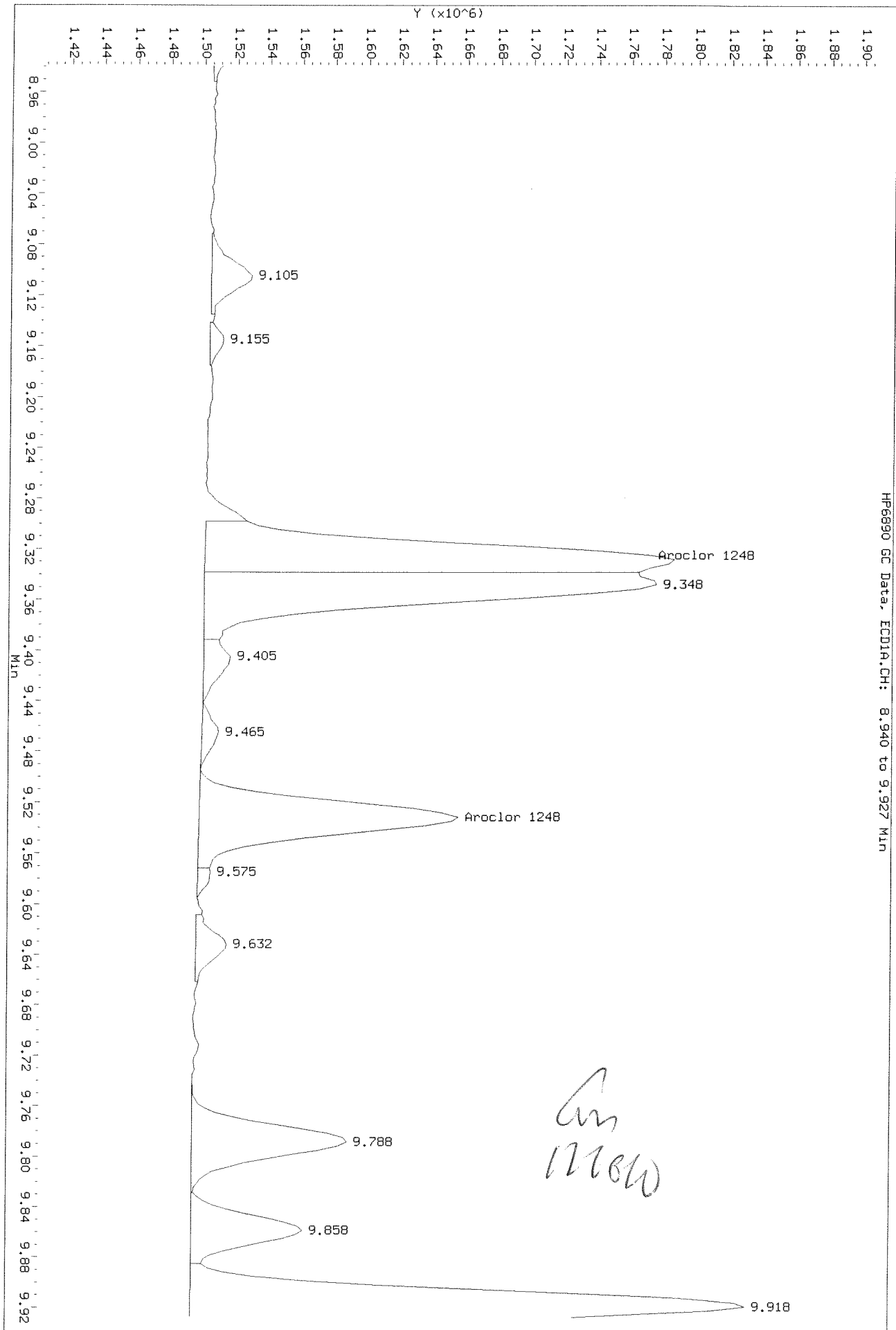
Data File: \\nakjs003\instdata\GC27\Data\121720ICL.b\1217F041.D
Injection Date: 18-DEC-2020 14:29
Instrument: GC27.1
Client Sample ID:

Before



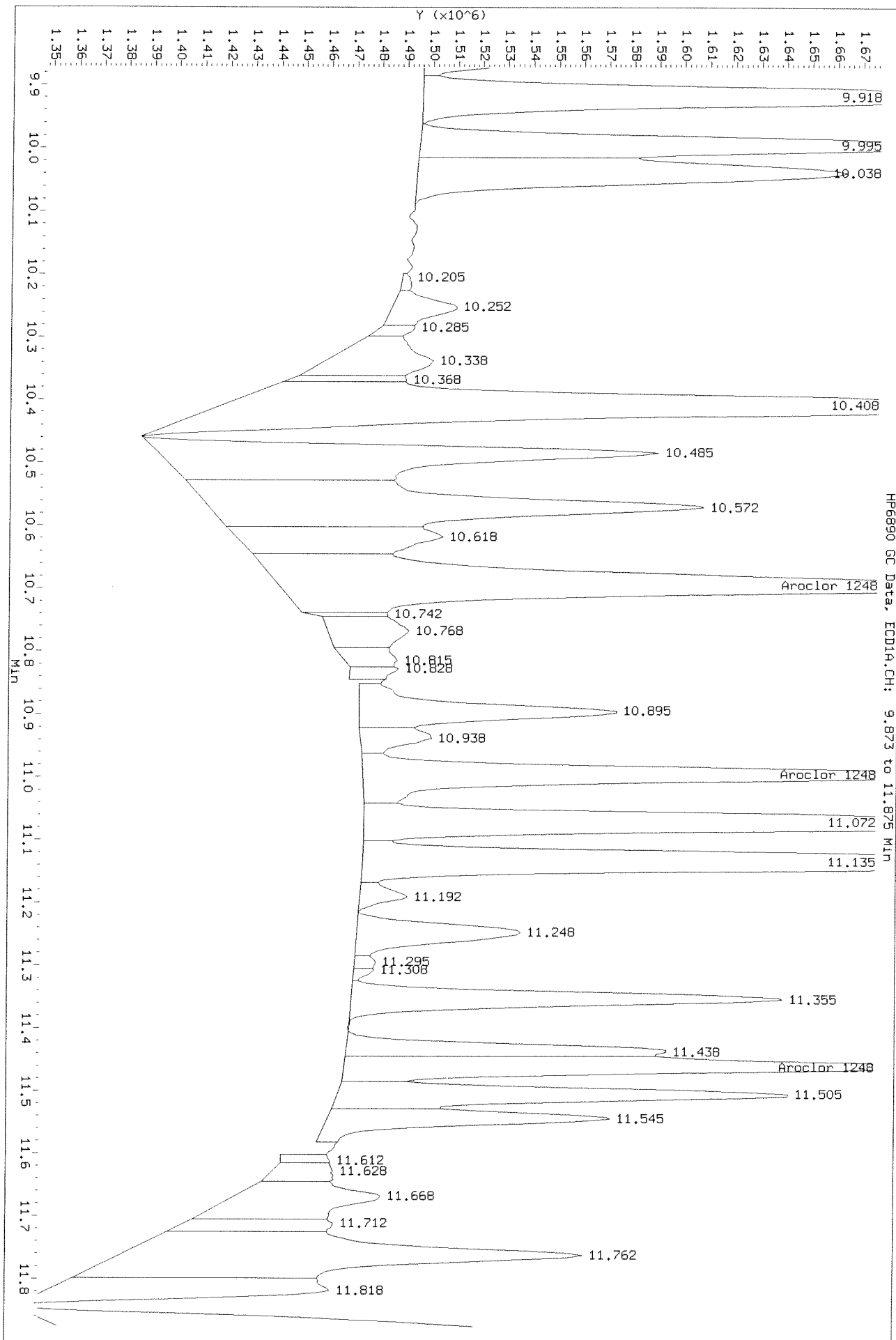
Data File: \\nakisw003\instdata\GC27\Data\121720ICL.b\1217F041.D
 Injection Date: 18-DEC-2020 14:29
 Instrument: GC27.1
 Client Sample ID:

After shoulder 12/23/2020



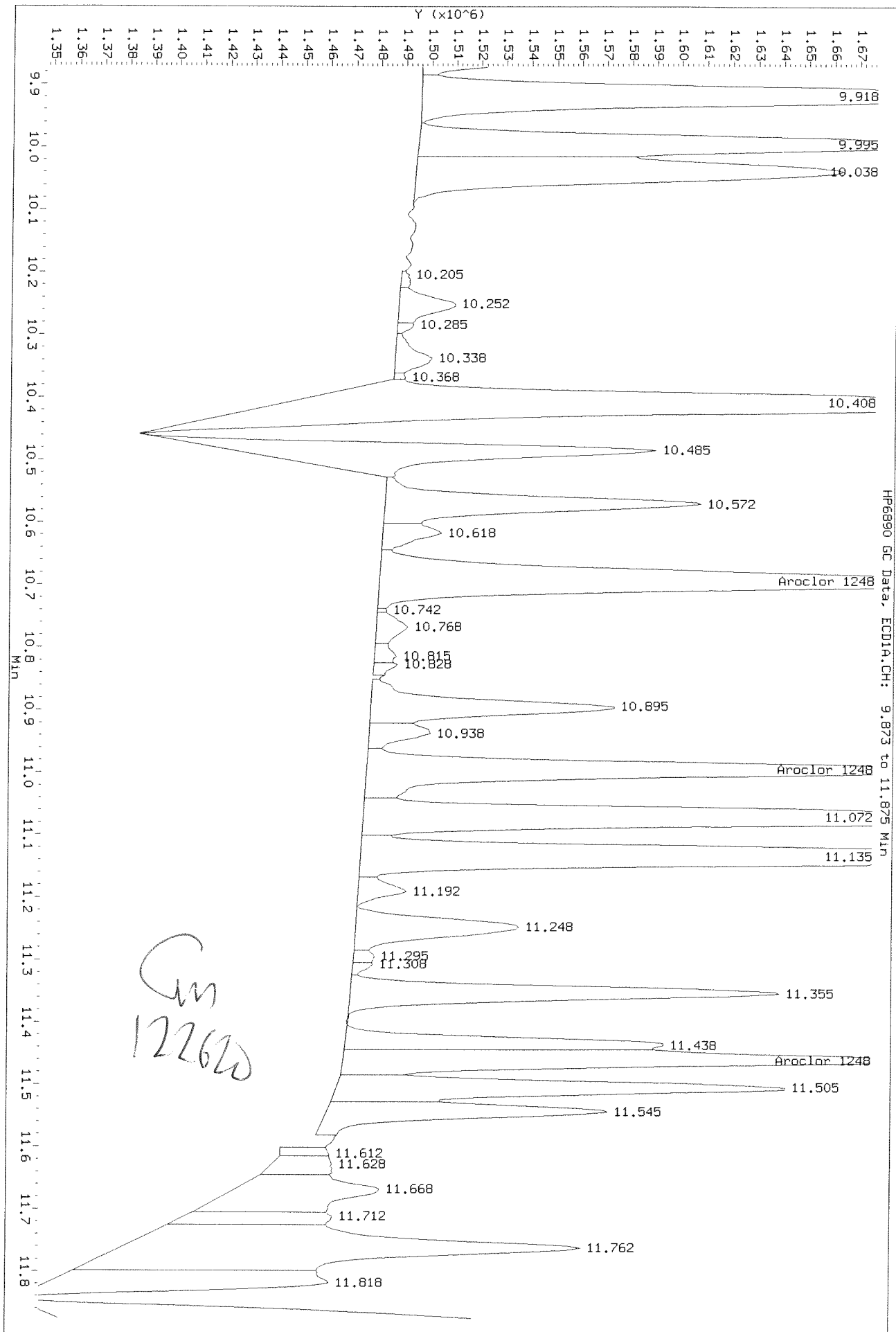
Data File: \\nakisw003\instdata\GC27\Data\1217201CAL.b\1217F041.D
Injection Date: 18-DEC-2020 14:29
Instrument: GC27.1
Client Sample ID:

Before



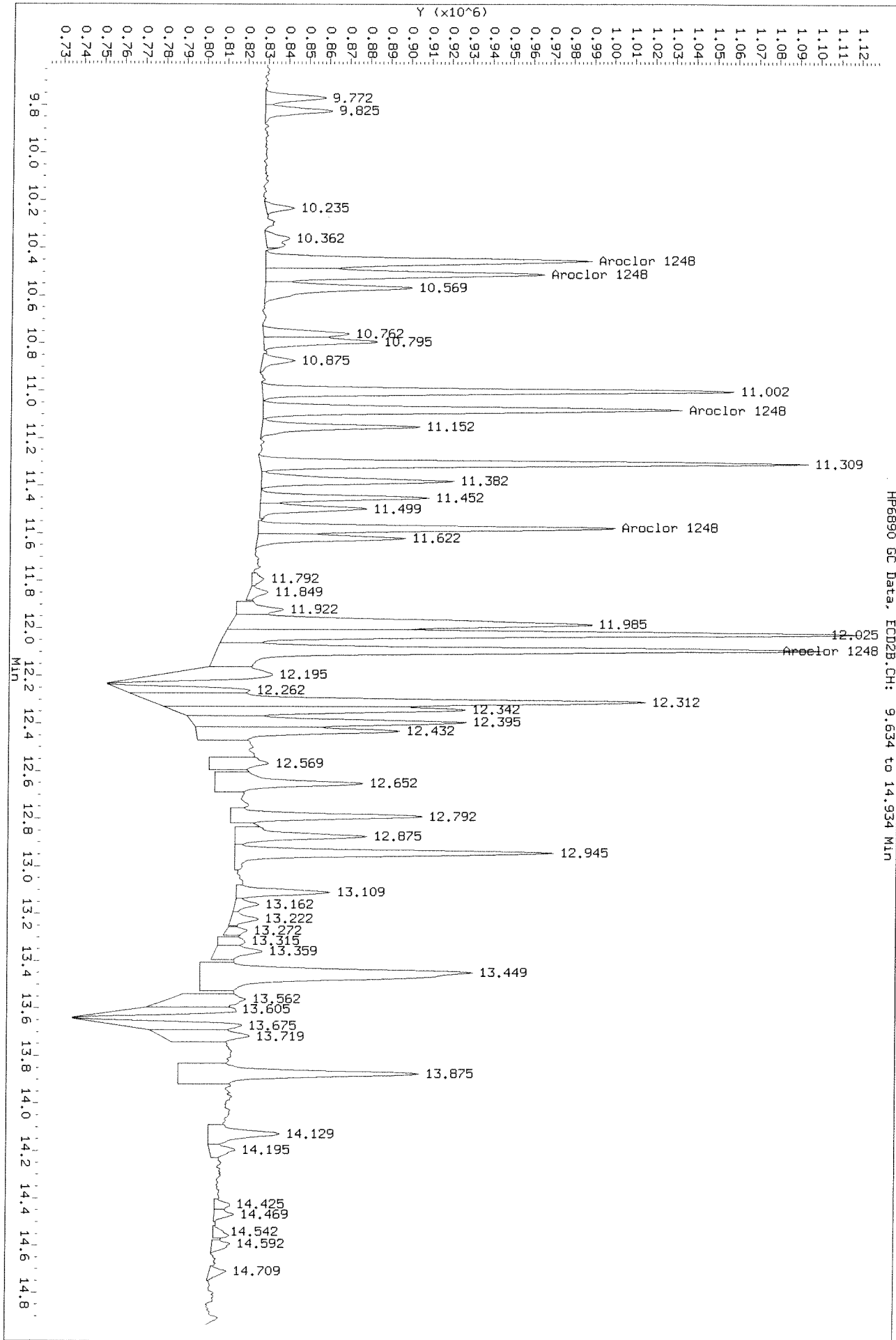
Data File: \\naklsms003\instdata\GC27\Data\1217201CAL.b\1217F041.D
Injection Date: 18-DEC-2020 14:29
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2018

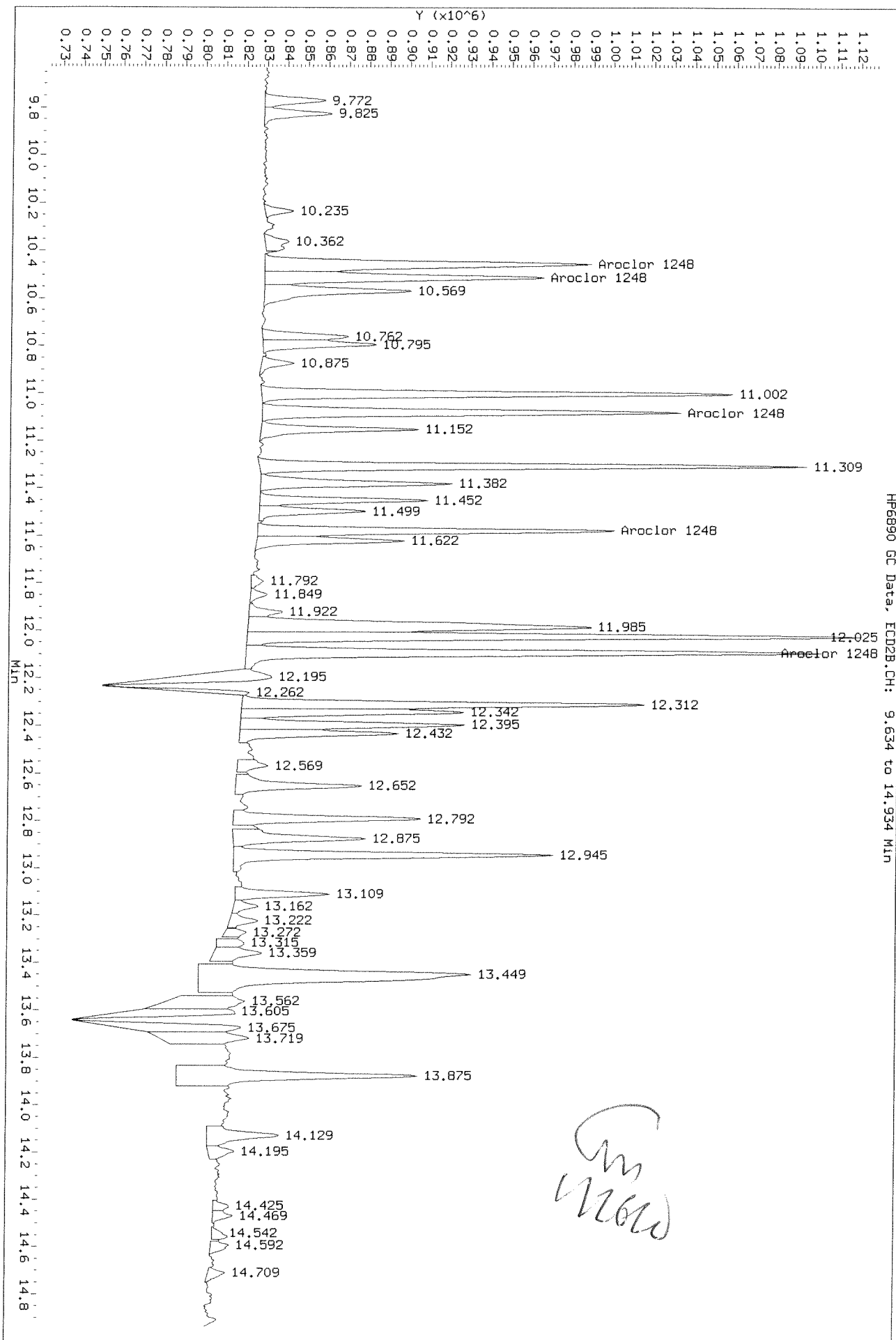


Data File: \\nakisw003\instdata\GC27\Data\121720ICAL_r.b\1217F041.D
 Injection Date: 18-DEC-2020 14:29
 Instrument: GC27.1
 Client Sample ID:

Before



Data File: \\nakjsws003\instdata\GC27\Data\121720ICHL_r.b\1217F041.D
Injection Date: 18-Dec-2020 14:29
Instrument: GC27.1
Client Sample ID:



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F042.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F042.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F042.D
Inj Date : 18-DEC-2020 15:00
Sample Info: PCB8-65J 1248 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:15
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 48.SUB
Sub List #2 : 48.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	9.330	10.457	933781	581939	20.6	20.4	80.00-	120.00	100.00 (M)
	9.533	10.513	529202	491314	19.2	21.3	49.98-	74.97	56.67 (M)
	10.697	11.083	1022989	646195	19.0	20.3	96.54-	144.81	109.55 (M)
	10.997	11.580	775148	503010	19.2	20.8	72.00-	108.00	83.01 (M)
	11.460	12.093	743490	854858	20.7	20.4	65.22-	97.84	79.62 (M)
Average of Peak Amounts =					19.7	20.6			

QC Flag Legend

M - Compound response manually integrated.


12/23/20

A 12/23/20

Data File: \\nakisw003\instdata\GC27\Data\121720ICAL.b\1217F042.D

Date : 18-DEC-2020 15:00

Client ID:

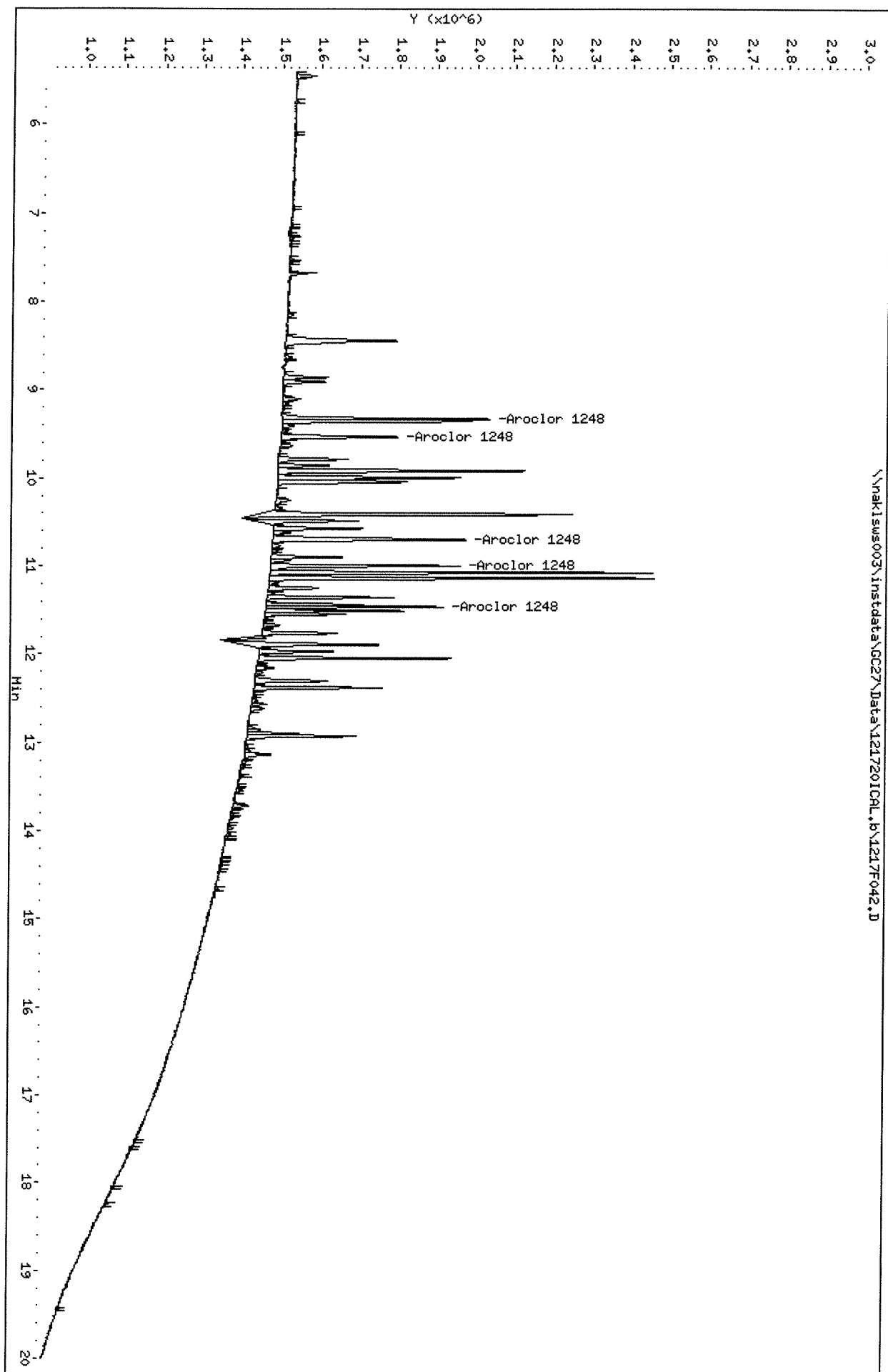
Sample Info: PCB8-65J 1248 20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL_r.b\1217F042.D

Date : 18-DEC-2020 15:00

Client ID:

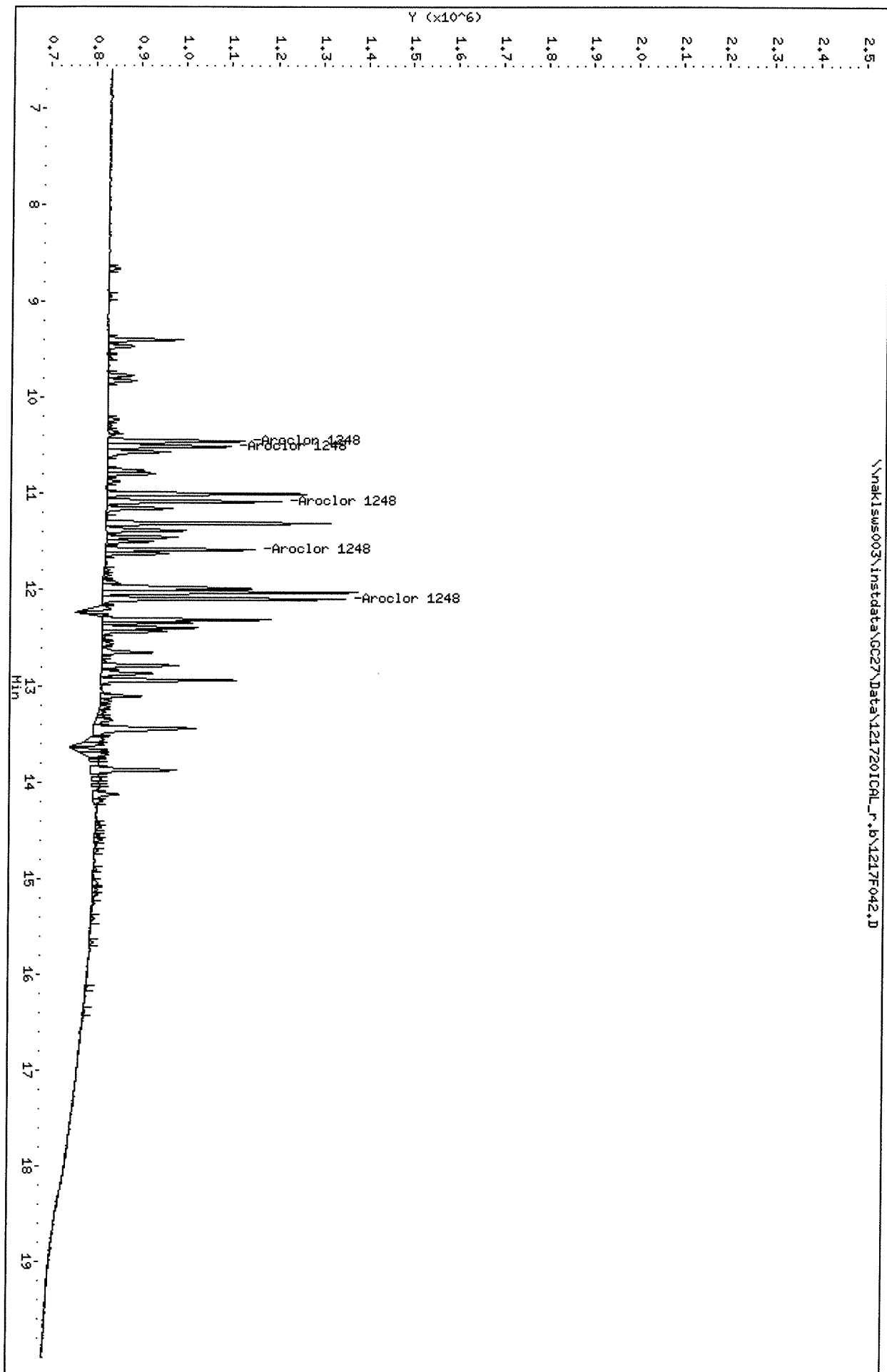
Sample Info: PCB8-65J 1248 20PPB

Column phase: DB-XLB

Instrument: GC27.i

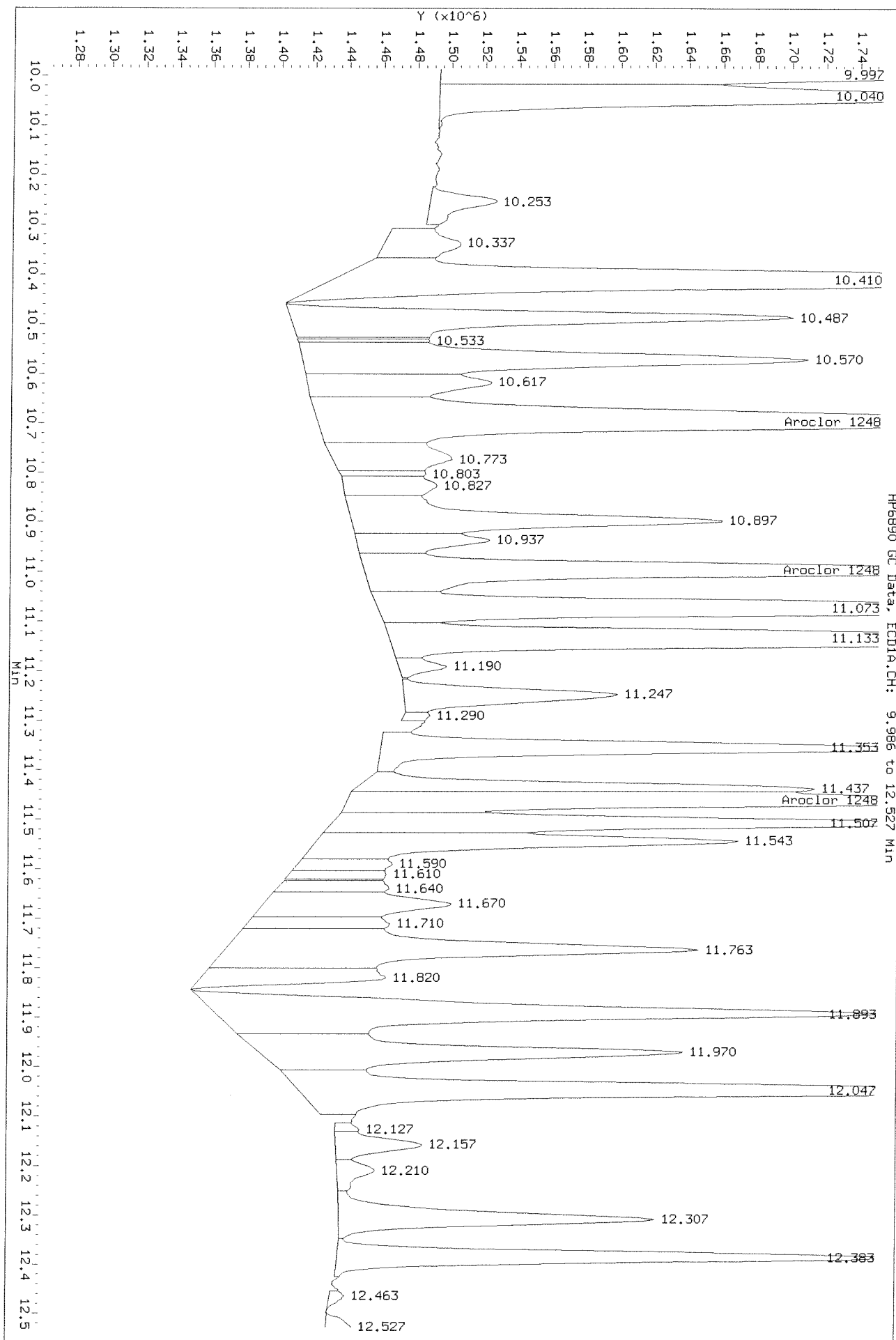
Operator: SAA

Column diameter: 0.32



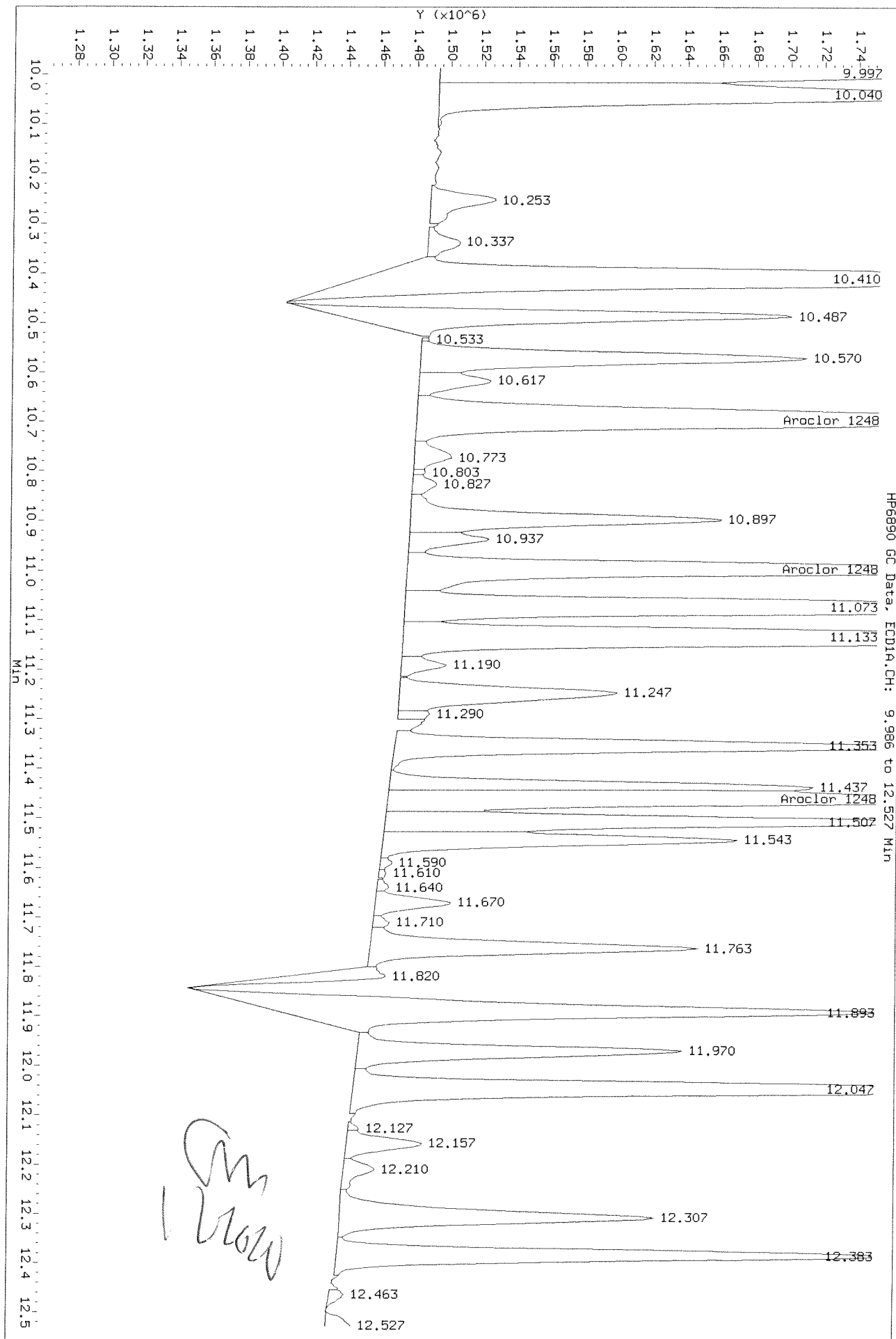
Data File: \\nakiswms003\inst\data\GC27\Data\121720ICL.b\1217F042.D
Injection Date: 18-DEC-2020 15:00
Instrument: GC27.1
Client Sample ID:

Before



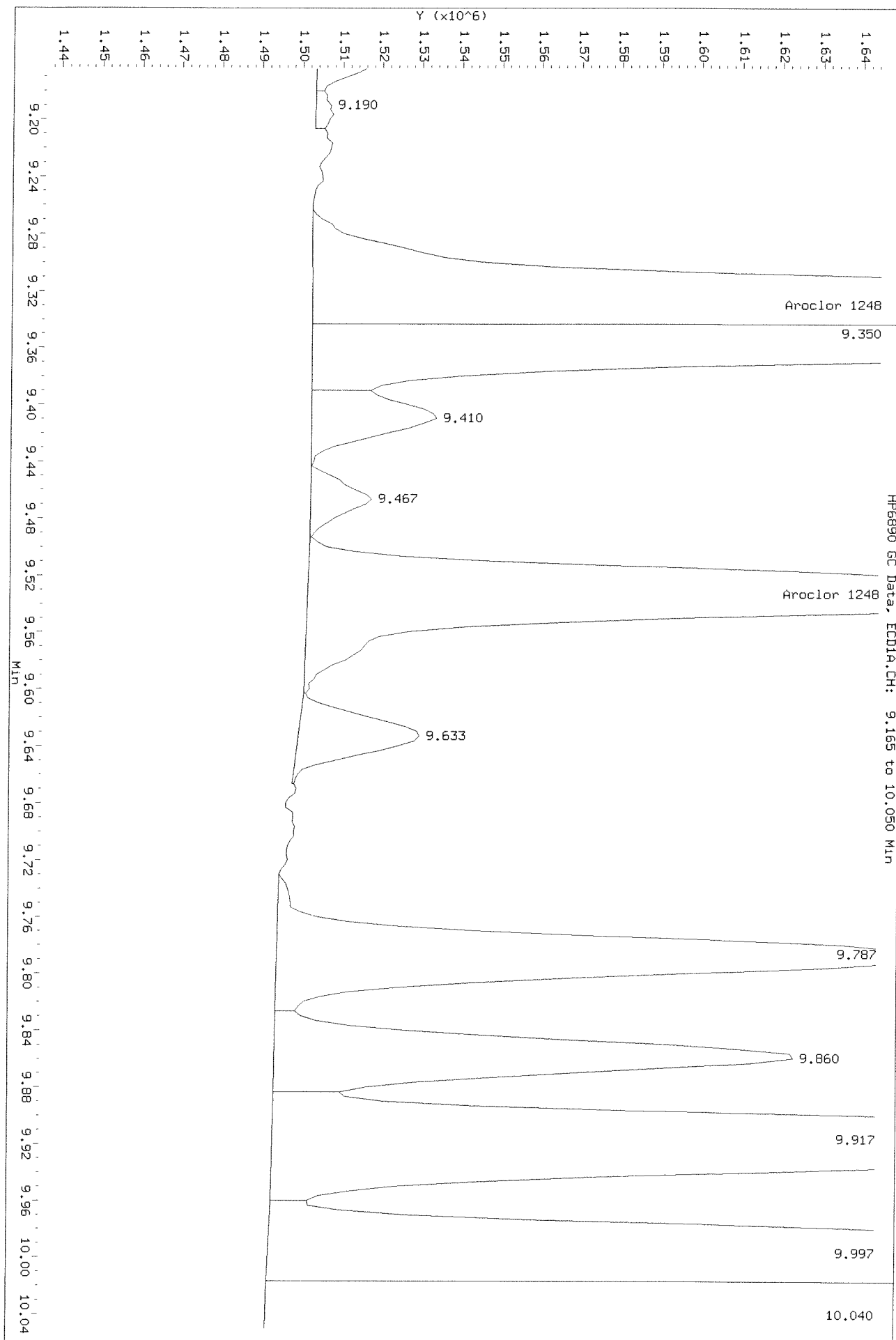
Data File: \\nakisw003\inst\data\GC27\Data\121720ICL.b\1217F042.D
Injection Date: 18-DEC-2020 15:00
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20



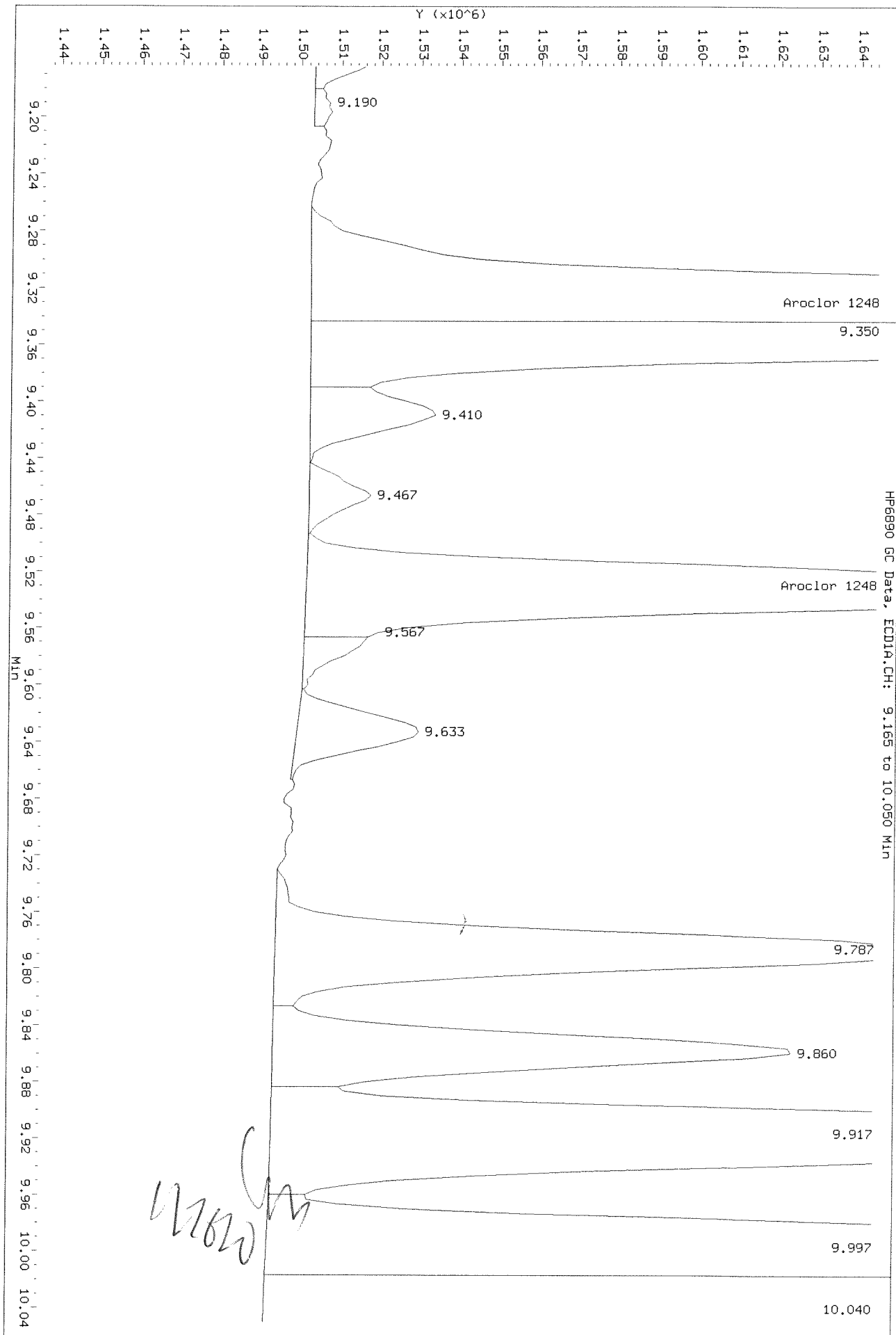
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F042.D
Injection Date: 18-DEC-2020 15:00
Instrument: GC27.1
Client Sample ID:

Before



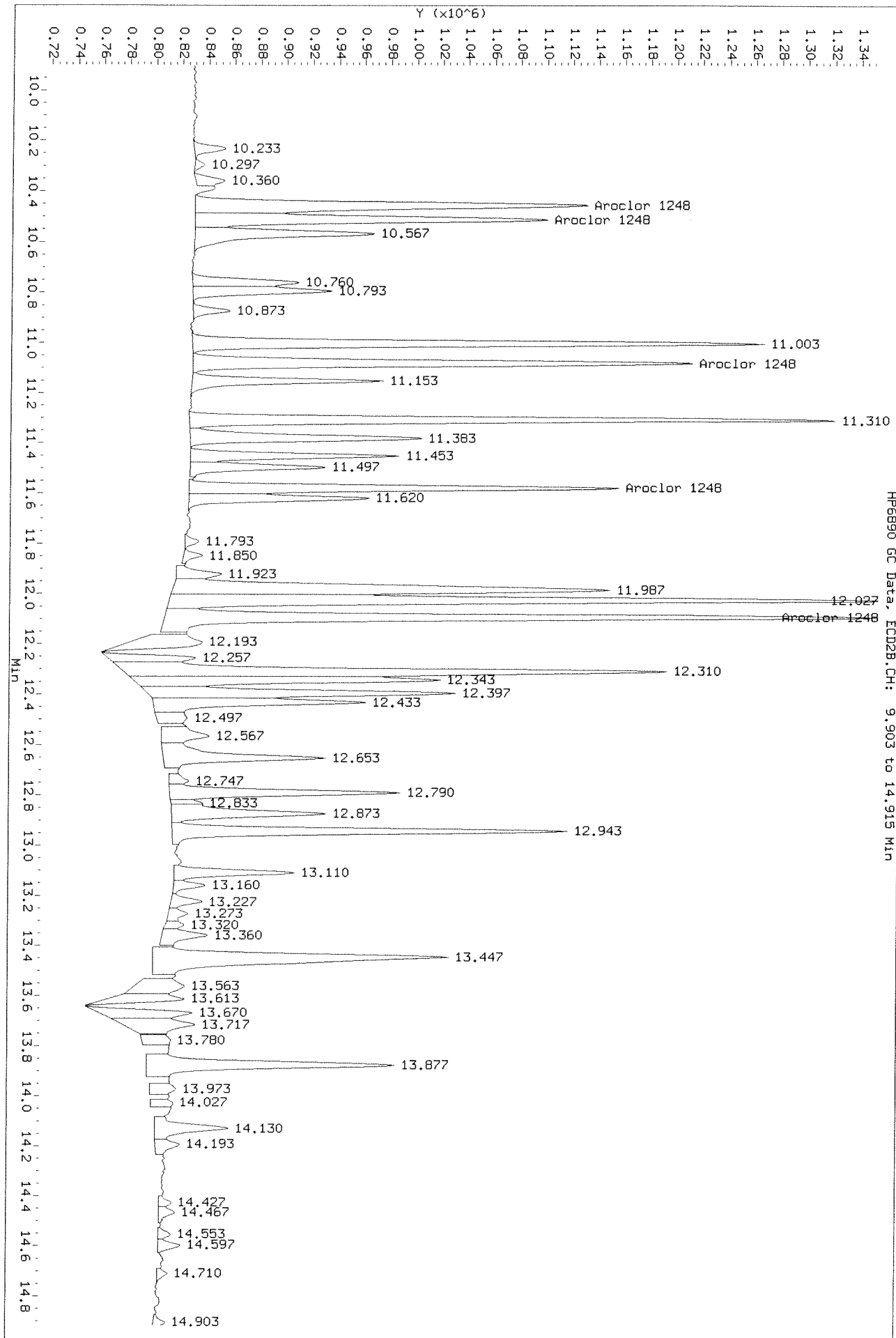
Data File: \\nakisws003\inst\data\GC27\Data\1217201CAL.b\1217F042.D
Injection Date: 18-DEC-2020 15:00
Instrument: GC27.1
Client Sample ID:

After Shoulder 12/23/20



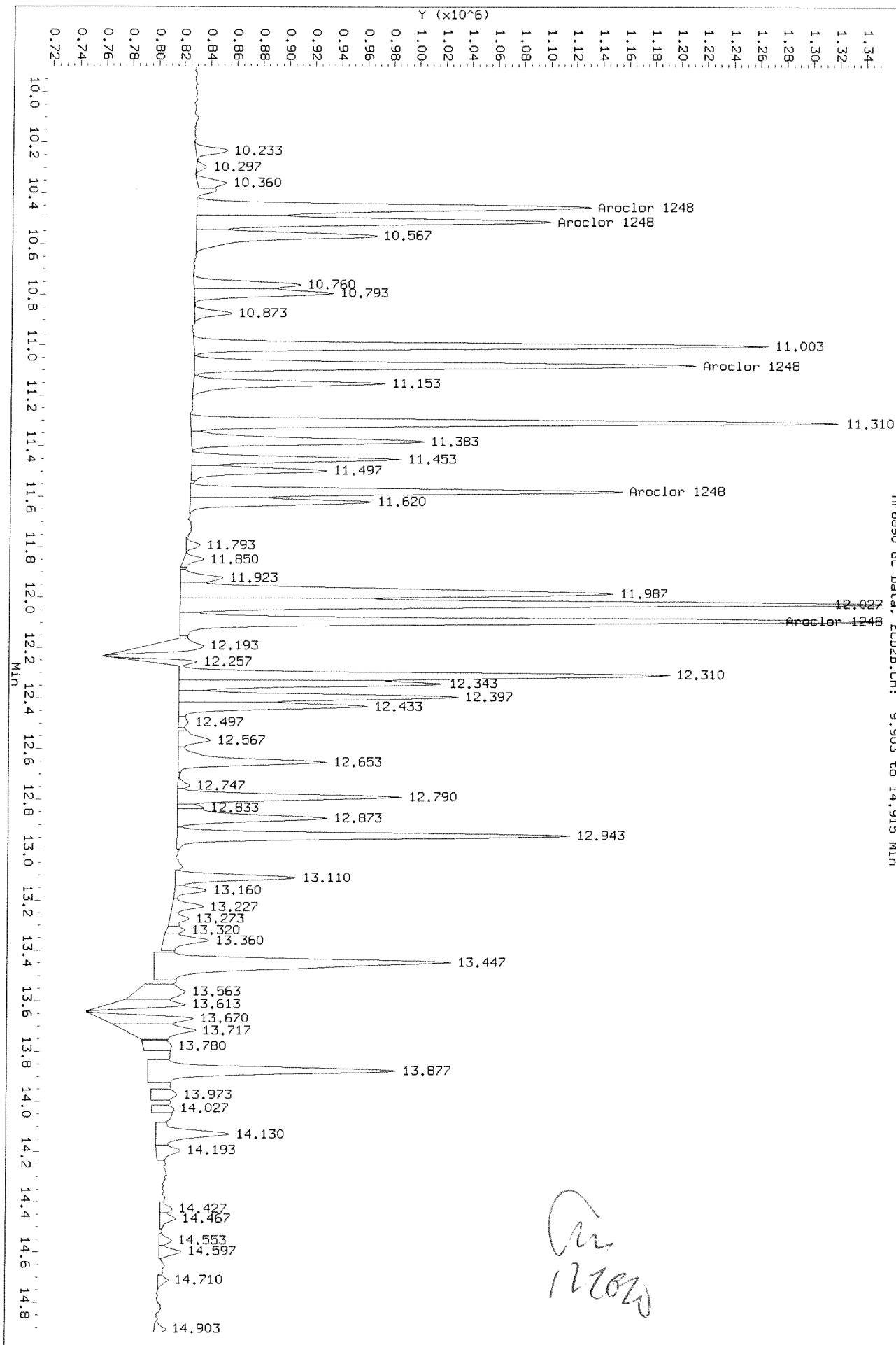
Data File: \\nakisw003\instdata\GC27\Data\121720ICAL_r.b\1217F042.D
Injection Date: 18-DEC-2020 15:00
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakisws003\instdata\GC27\Data\121720ICL_r.b\1217F042.D
Injection Date: 18-DEC-2020 15:00
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD2B.CH: 9.903 to 14.915 Min



After baseline 12/23/20

12/20/20

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F043.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F043.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F043.D
Inj Date : 18-DEC-2020 15:31
Sample Info: PCB8-61J 1248 50PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 48.SUB
Sub List #2 : 48.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	9.328	10.452	1967179	1437099	43.4	50.5	80.00- 120.00	100.00 (M)
	9.532	10.508	1296694	1191509	47.1	51.6	49.98- 74.97	65.92 (M)
	10.695	11.082	2475515	1528908	46.0	47.9	96.54- 144.81	125.84 (M)
	10.995	11.578	1897149	1220749	47.1	50.5	72.00- 108.00	96.44 (M)
	11.462	12.092	1788291	1972064	49.9	47.0	65.22- 97.84	90.91 (M)
	Average of Peak Amounts =				46.7	49.5		

QC Flag Legend

M - Compound response manually integrated.

GM
12/23/20

SF 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1217F043.D

Date : 18-DEC-2020 15:31

Client ID:

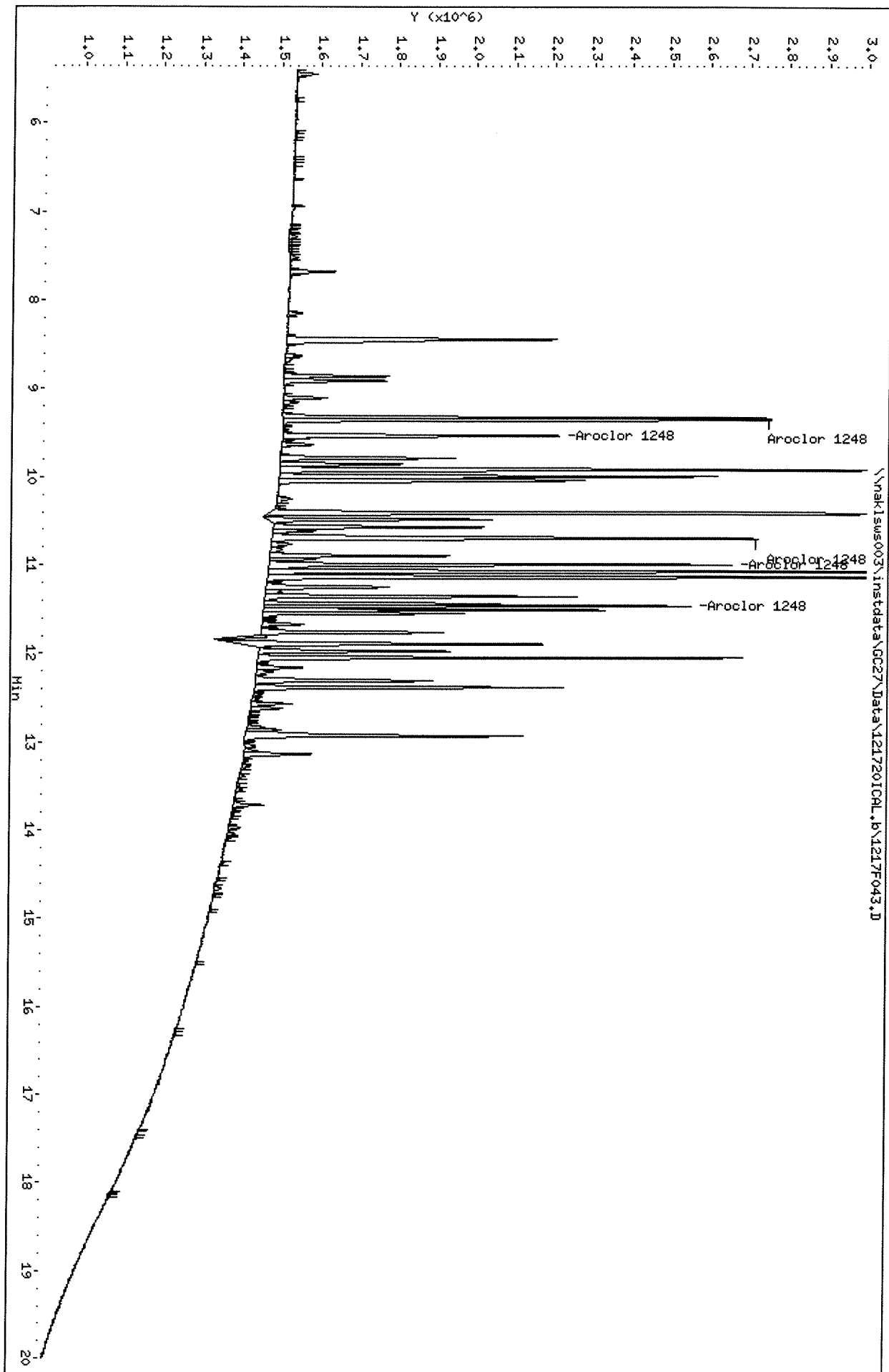
Sample Info: PCB8-61J 1248 50PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\maklsws003\instdata\GC27\data\1217201CAL_r.b\1217F043.D
Date : 18-DEC-2020 15:31

Client ID:

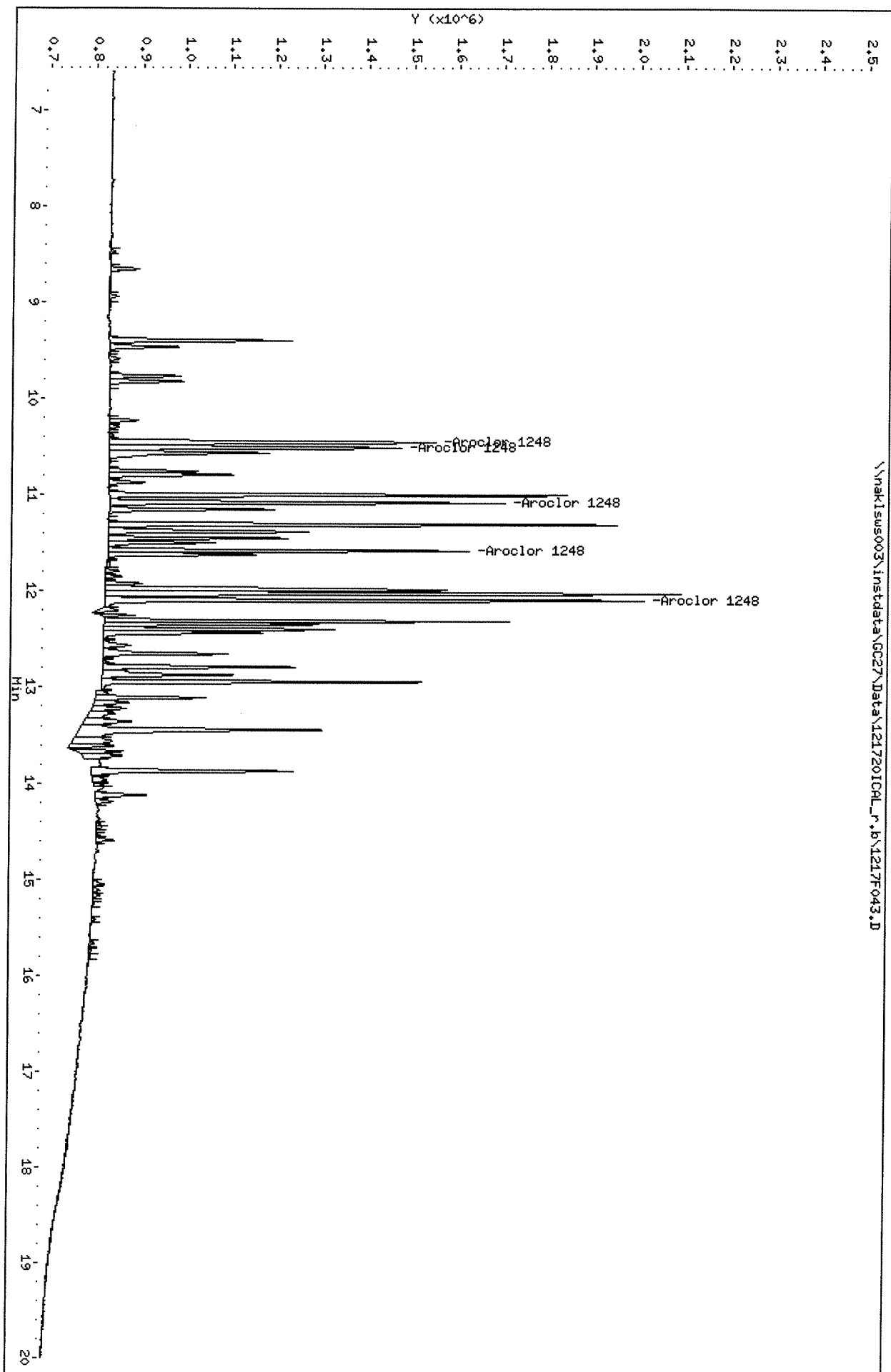
Sample Info: PCB8-61J 1248 50PPB

Column phase: DB-XLB

Instrument: GC27.i

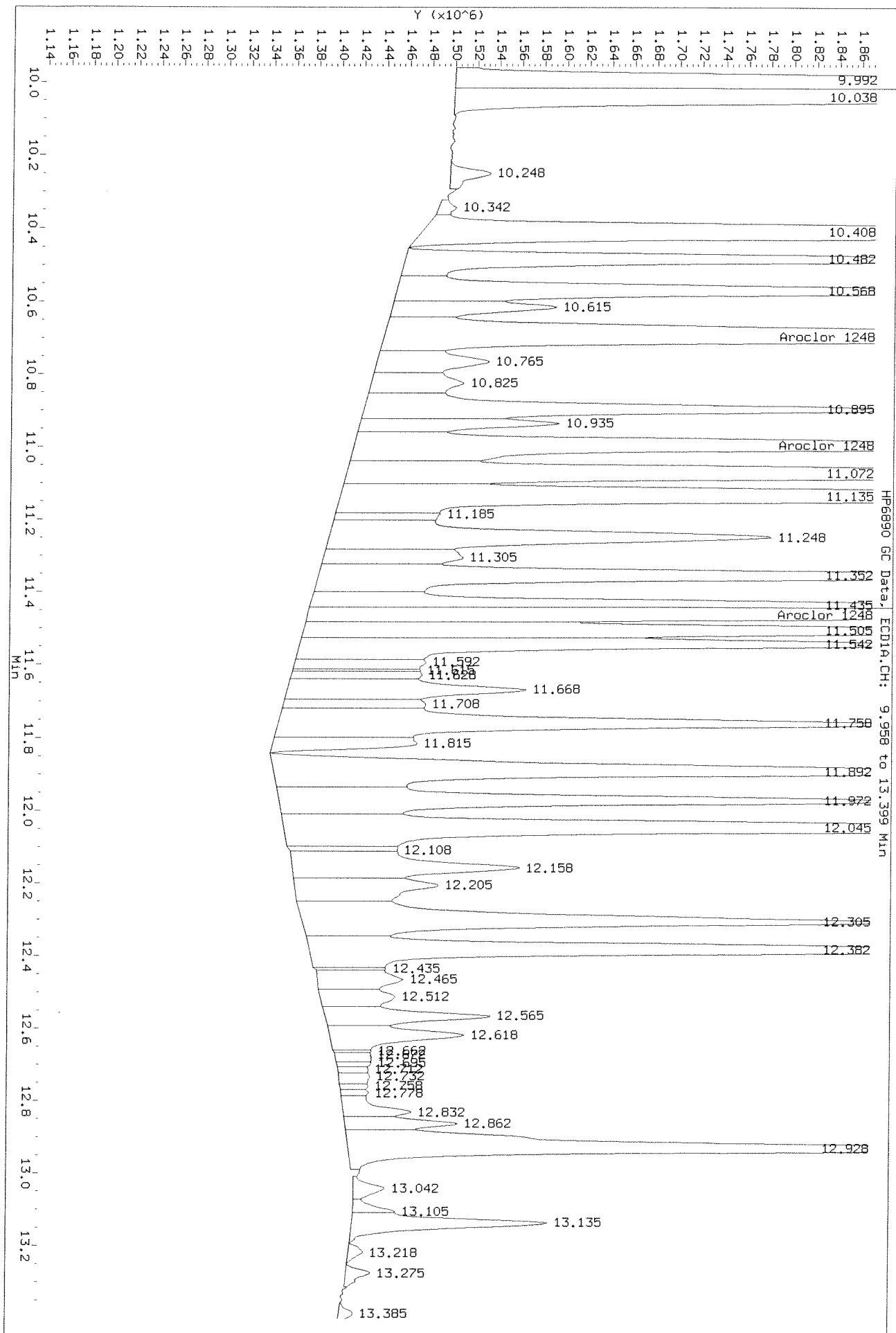
Operator: SAA

Column diameter: 0.32

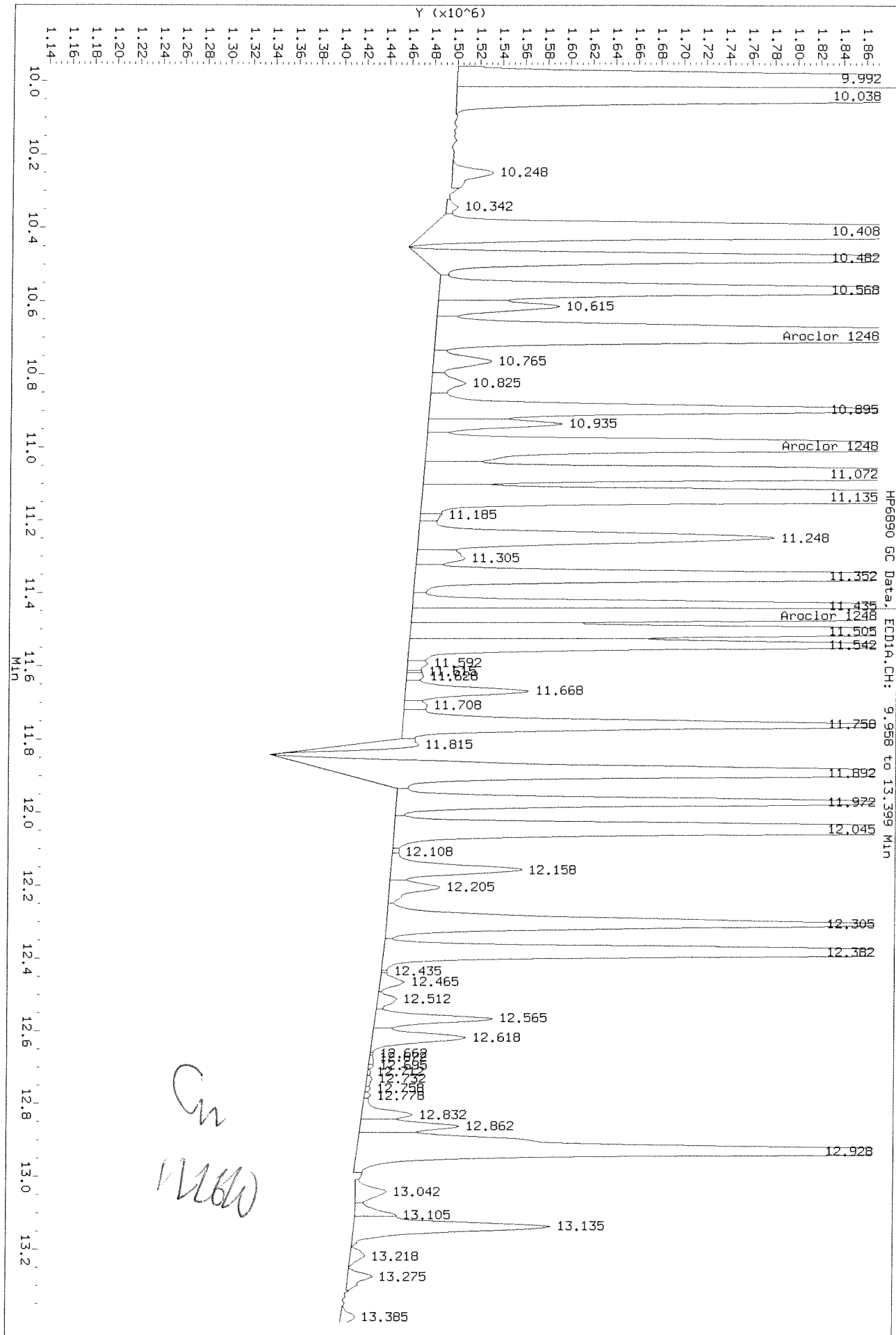


Data File: \\naklsms003\insdata\GC27\Data\1217201CAL.b\1217F043.D
Injection Date: 18-DEC-2020 15:31
Instrument: GC27.1
Client Sample ID:

Before



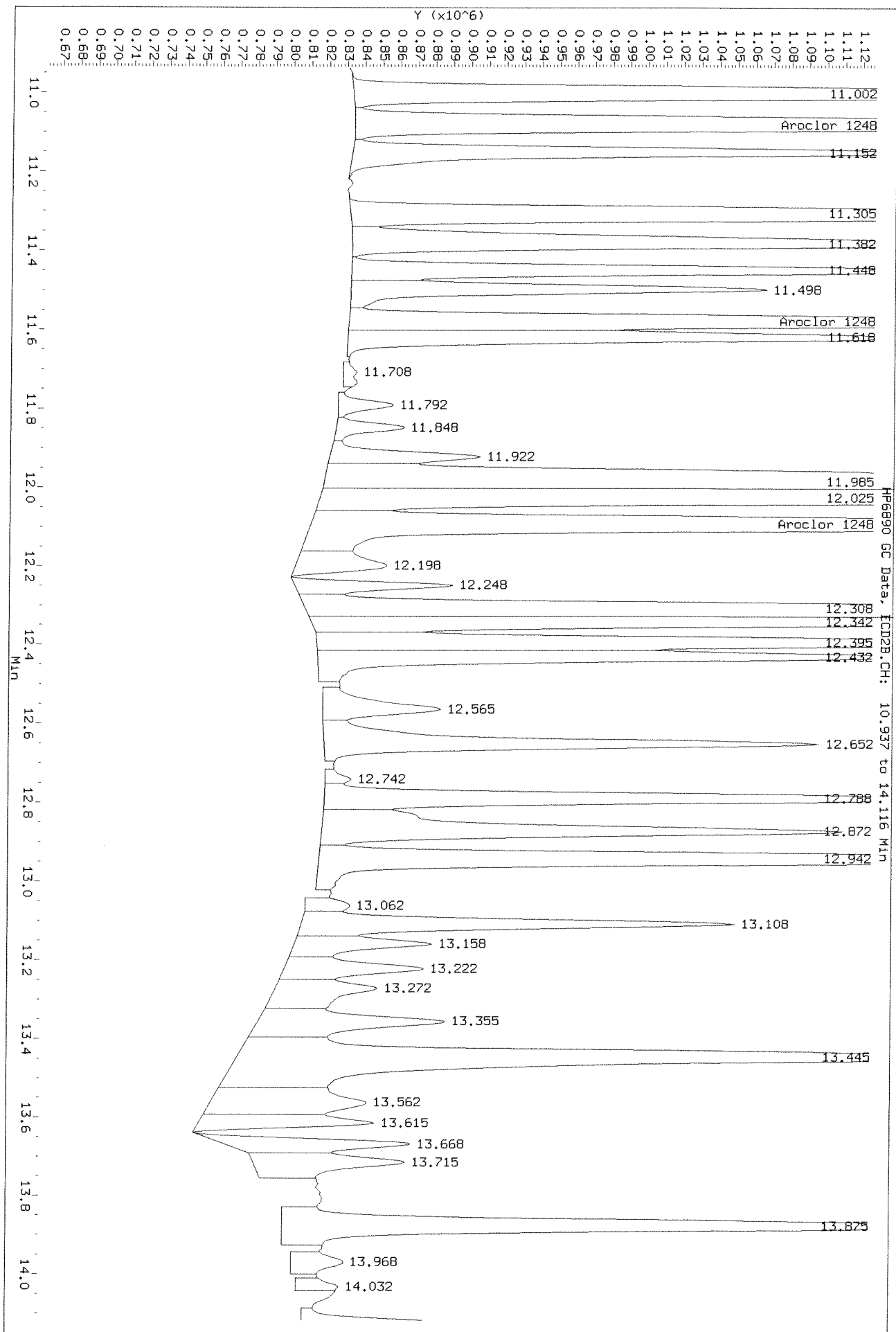
Data File: \\nakslw003\inst\data\GC27\Data\121720ICL.b\1217F043.D
Injection Date: 18-DEC-2020 15:31
Instrument: GC27.1
Client Sample ID:



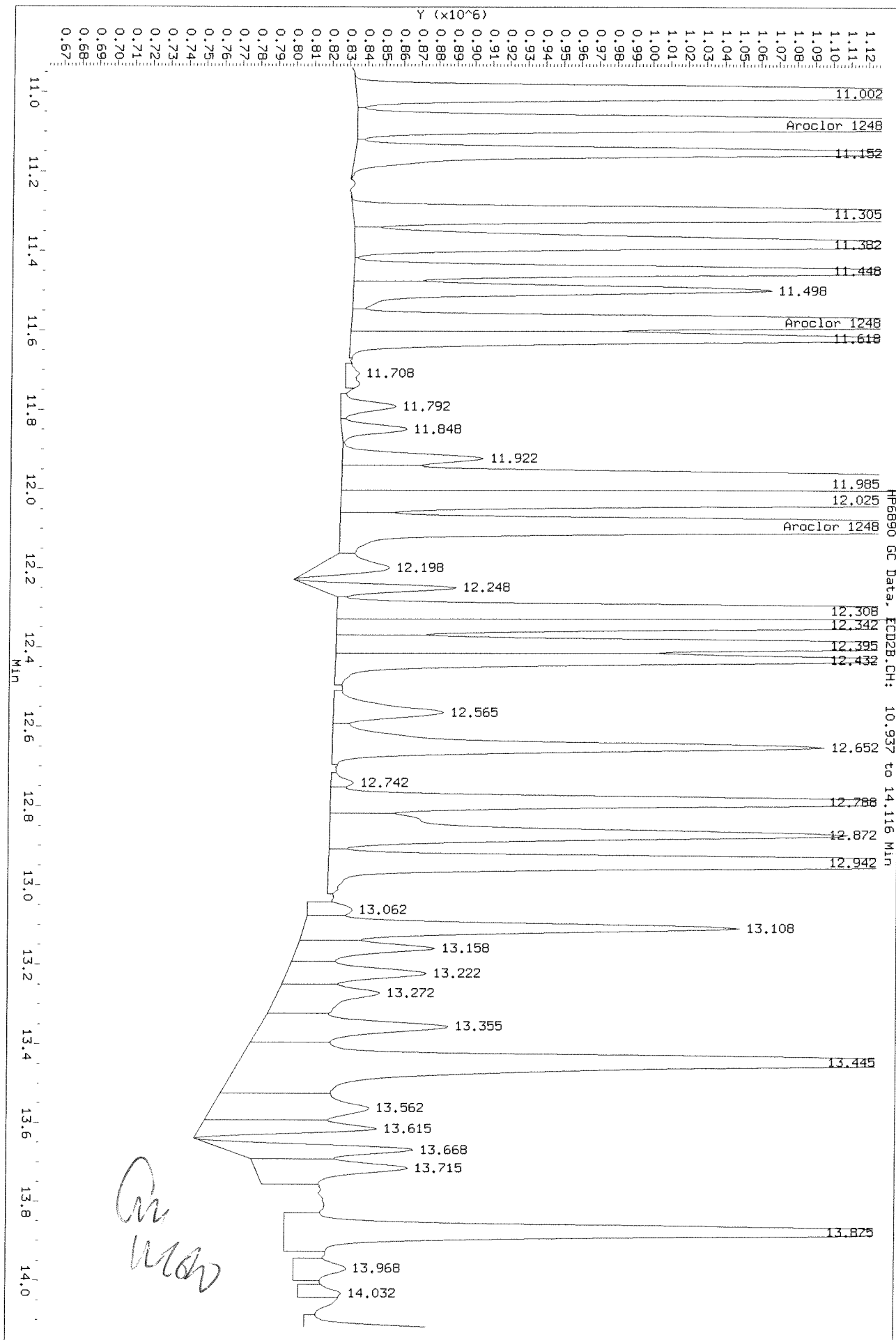
After baseline 12/23/20 ✓

Data File: \\nakslw003\inst\data\GC27\Data\1217201CAL_r.b\1217F043.D
Injection Date: 18-DEC-2020 15:31
Instrument: GC27.1
Client Sample ID:

Before

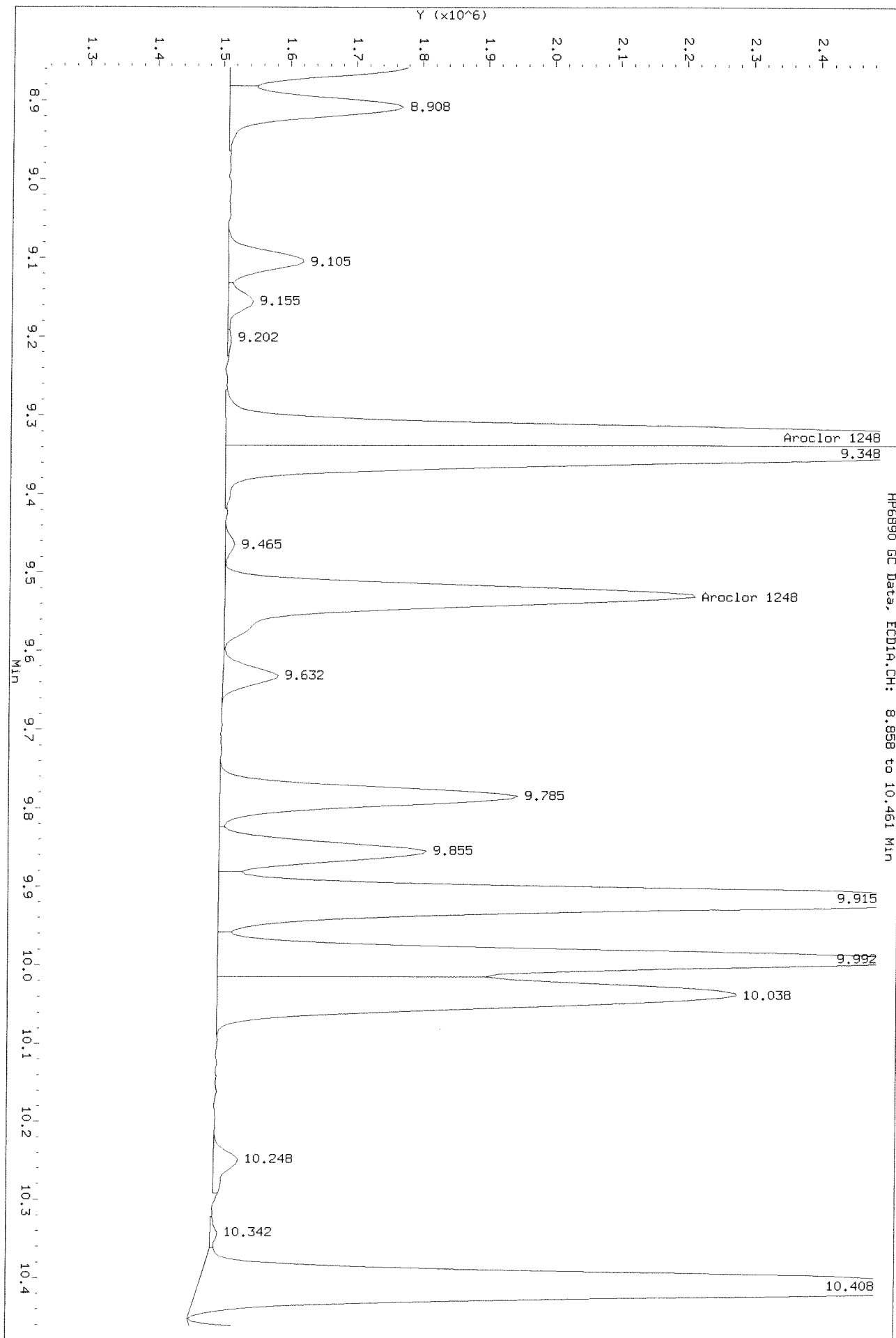


Data File: \\naklsws003\inst\data\GC27\Data\121720ICAL_r.b\1217F043.D
 Injection Date: 18-DEC-2020 15:31
 Instrument: GC27.1
 Client Sample ID:



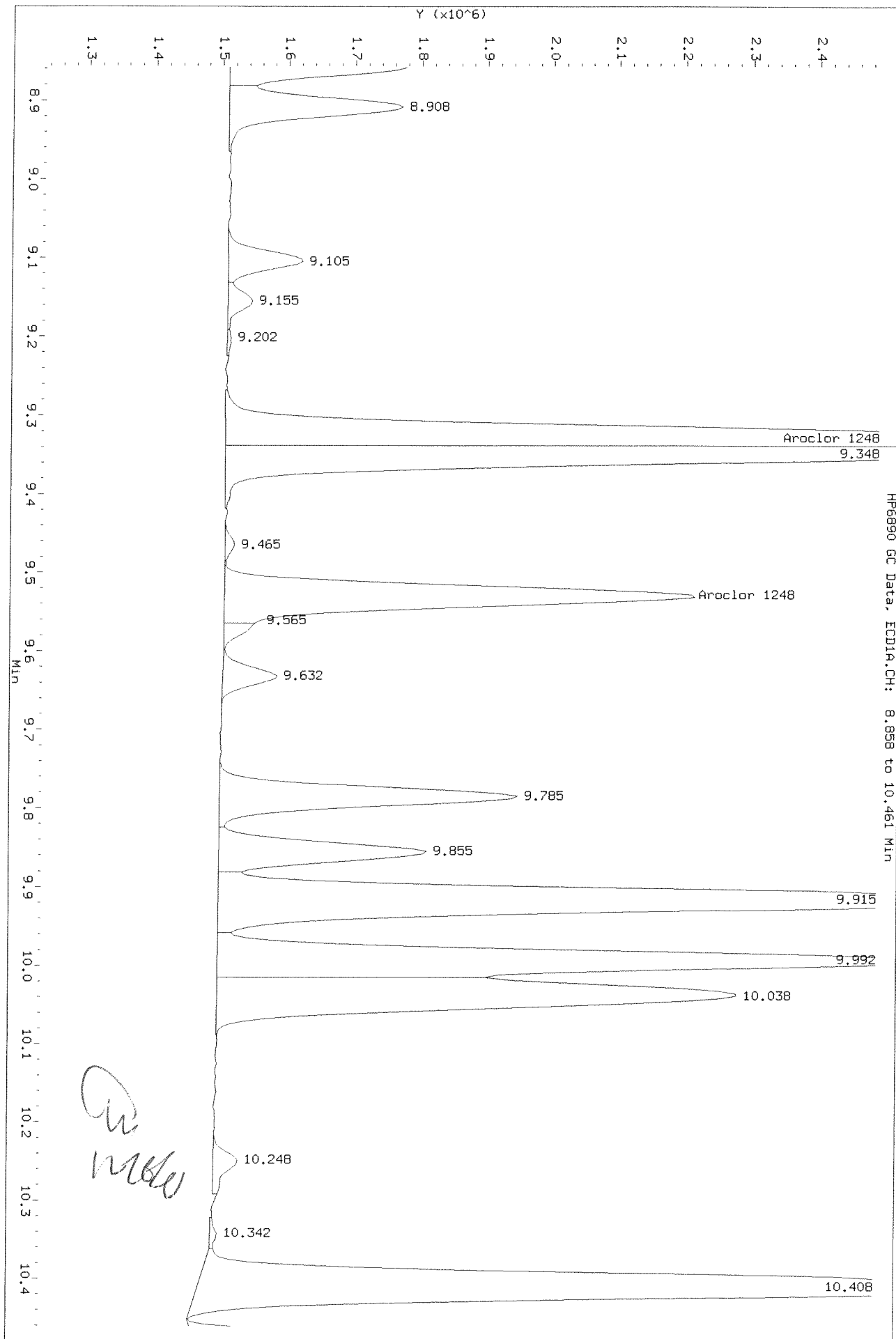
Data File: \\nakisus003\instdata\GC27\Data\121720ICAL.b\1217T043.D
Injection Date: 18-DEC-2020 15:31
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakisw003\instdata\GC27\Data\121720ICAL.b\1217F043.D
Injection Date: 18-DEC-2020 15:31
Instrument: GC27.1
Client Sample ID:

After Shoulder 12123120 A



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F044.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F044.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F044.D
Inj Date : 18-DEC-2020 16:03
Sample Info: PCB8-61E 1248 100PPB @ 2X
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 48.SUB
Sub List #2 : 48.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	9.330	10.454	4108936	2756825	90.6	96.8	80.00- 120.00	100.00 (M)
	9.534	10.511	2580498	2295214	93.7	99.3	49.98- 74.97	62.80 (M)
	10.697	11.081	4897152	2877028	91.0	90.2	96.54- 144.81	119.18 (M)
	10.997	11.581	3698763	2328287	91.8	96.2	72.00- 108.00	90.02 (M)
	11.460	12.094	3479728	3742901	97.0	89.3	65.22- 97.84	84.69 (M)
	Average of Peak Amounts =				92.8	94.4		

QC Flag Legend

M - Compound response manually integrated.

Cur
12/23/20

SA 12/23/20

Data File: \\nakisus003\instdata\GC27\Data\1217201CQL.b\1217F044.D

Date : 18-DEC-2020 16:03

Client ID:

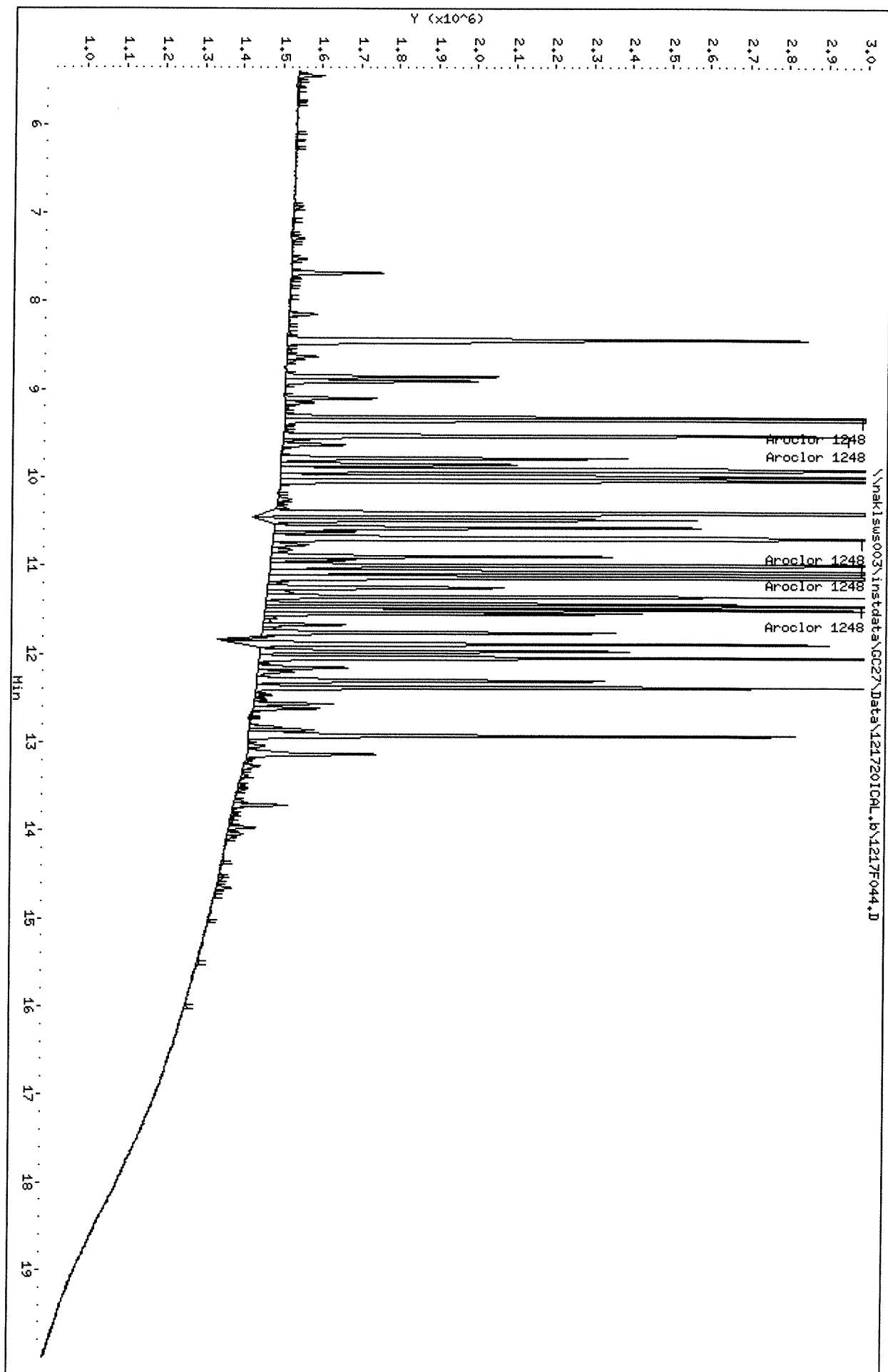
Sample Info: PCB8-61E 1248 100PPB @ 2X

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\121720ICAL_r.b\1217F044.D

Date : 18-DEC-2020 16:03

Client ID:

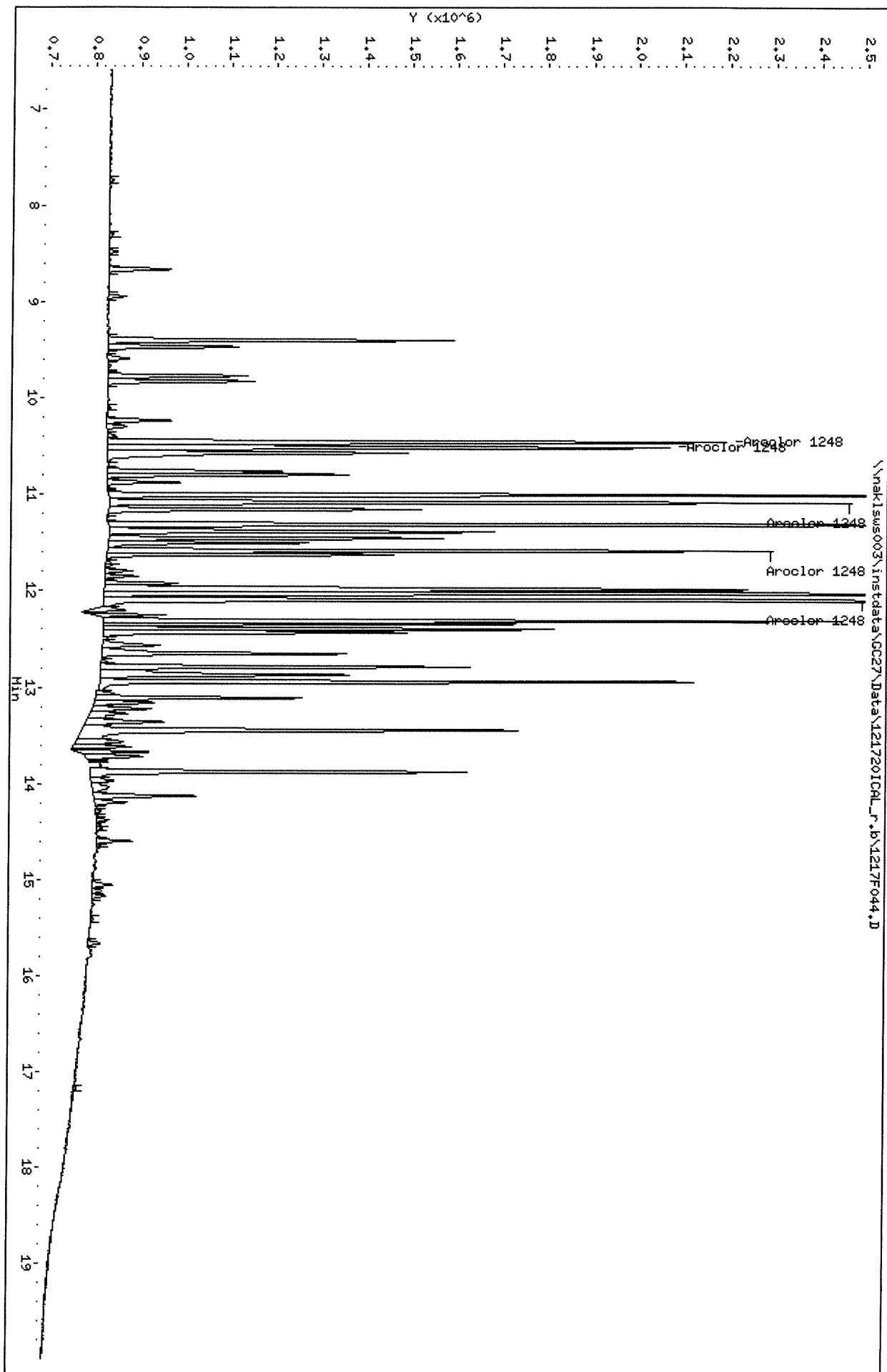
Sample Info: PCB8-61E 1248 100PPB @ 2X

Column phase: DB-XLB

Instrument: GC27.i

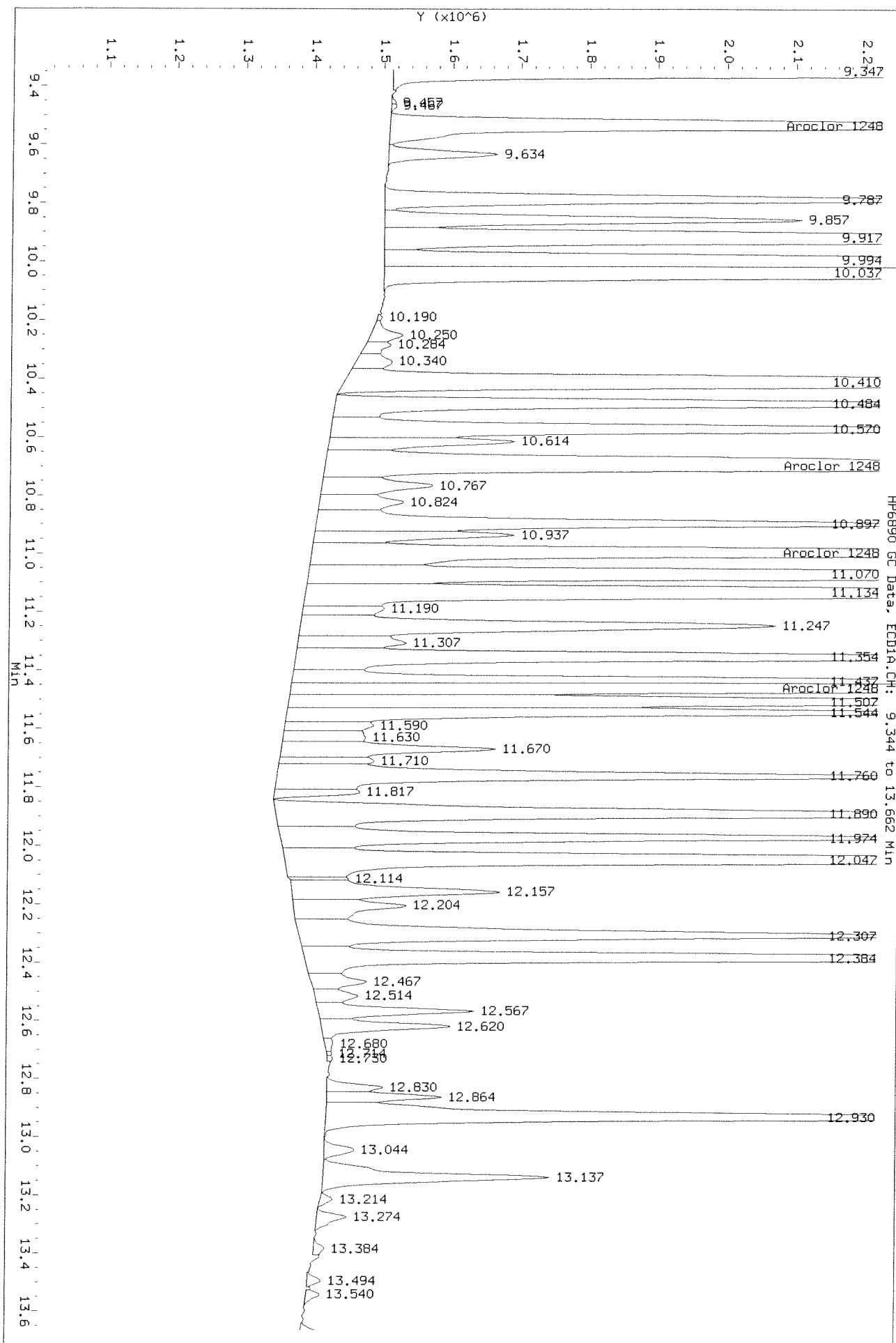
Operator: SAA

Column diameter: 0.32

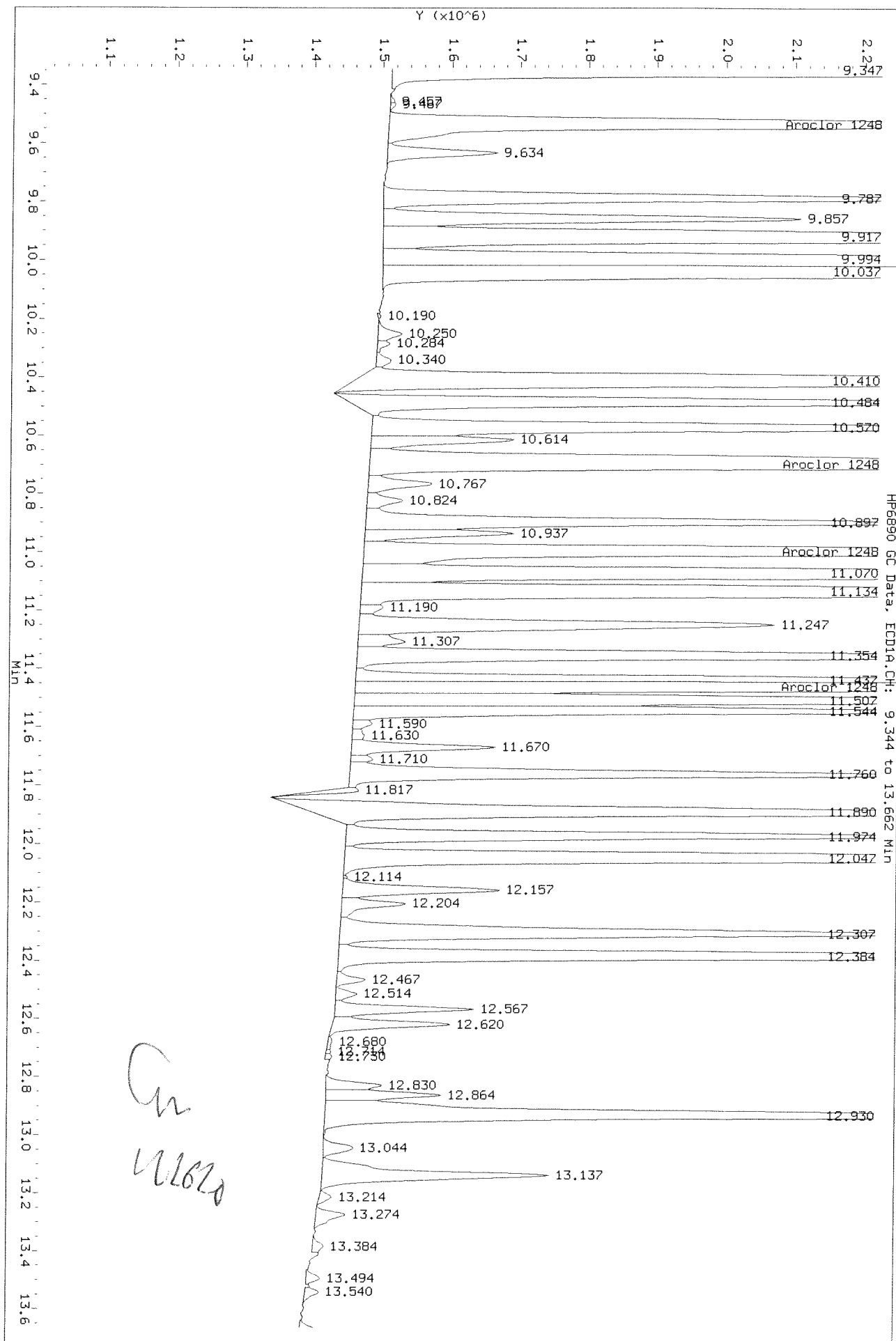


Data File: \\naklsws003\inetdata\GC27\Data\121720ICAL.b\1217F044.D
Injection Date: 18-DEC-2020 16:03
Instrument: GC27.1
Client Sample ID:

Before

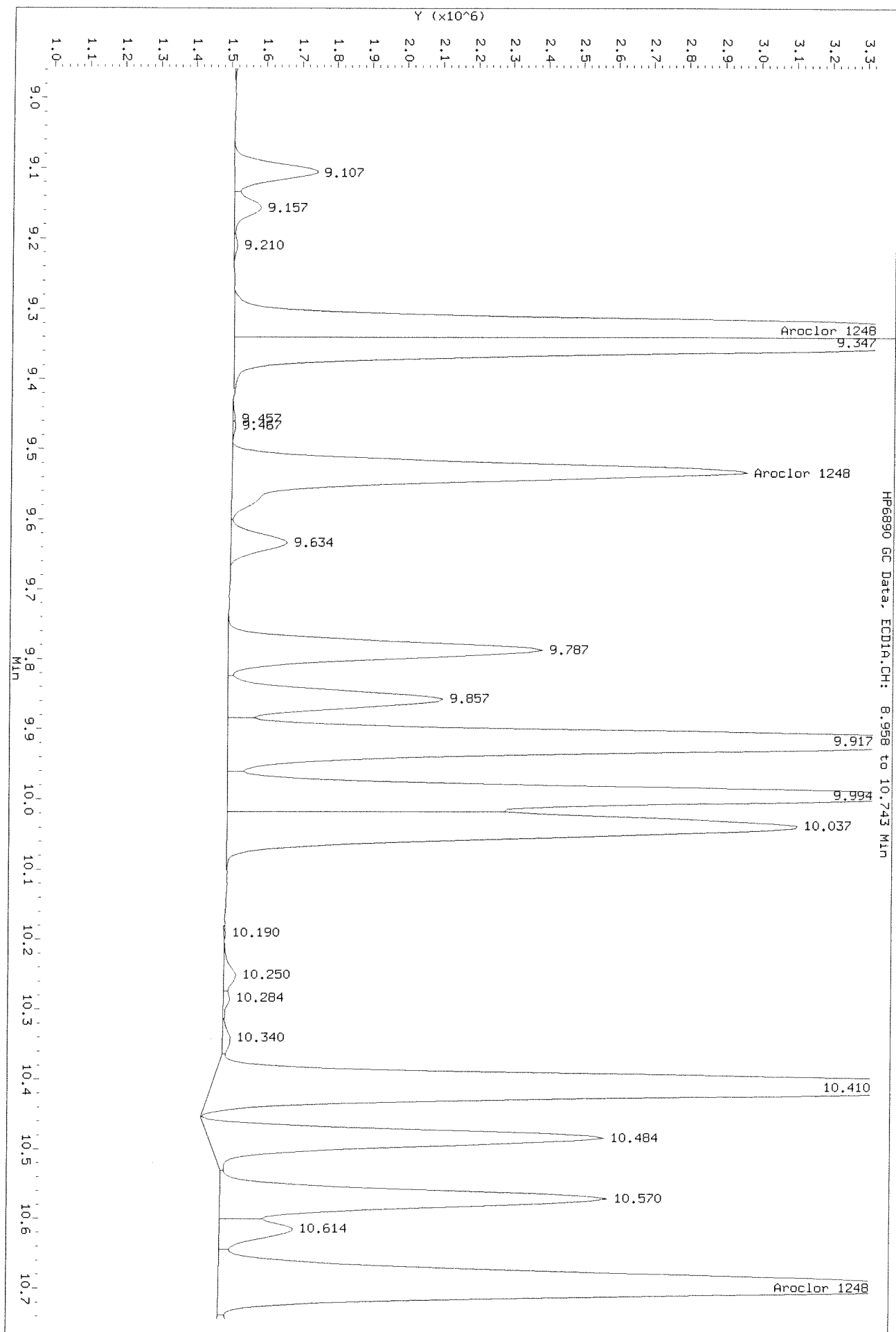


Data File: \\nakiswms003\instdata\GC27\Data\121720ICL.b\1217F044.D
Injection Date: 18-DEC-2020 16:03
Instrument: GC27.1
Client Sample ID:



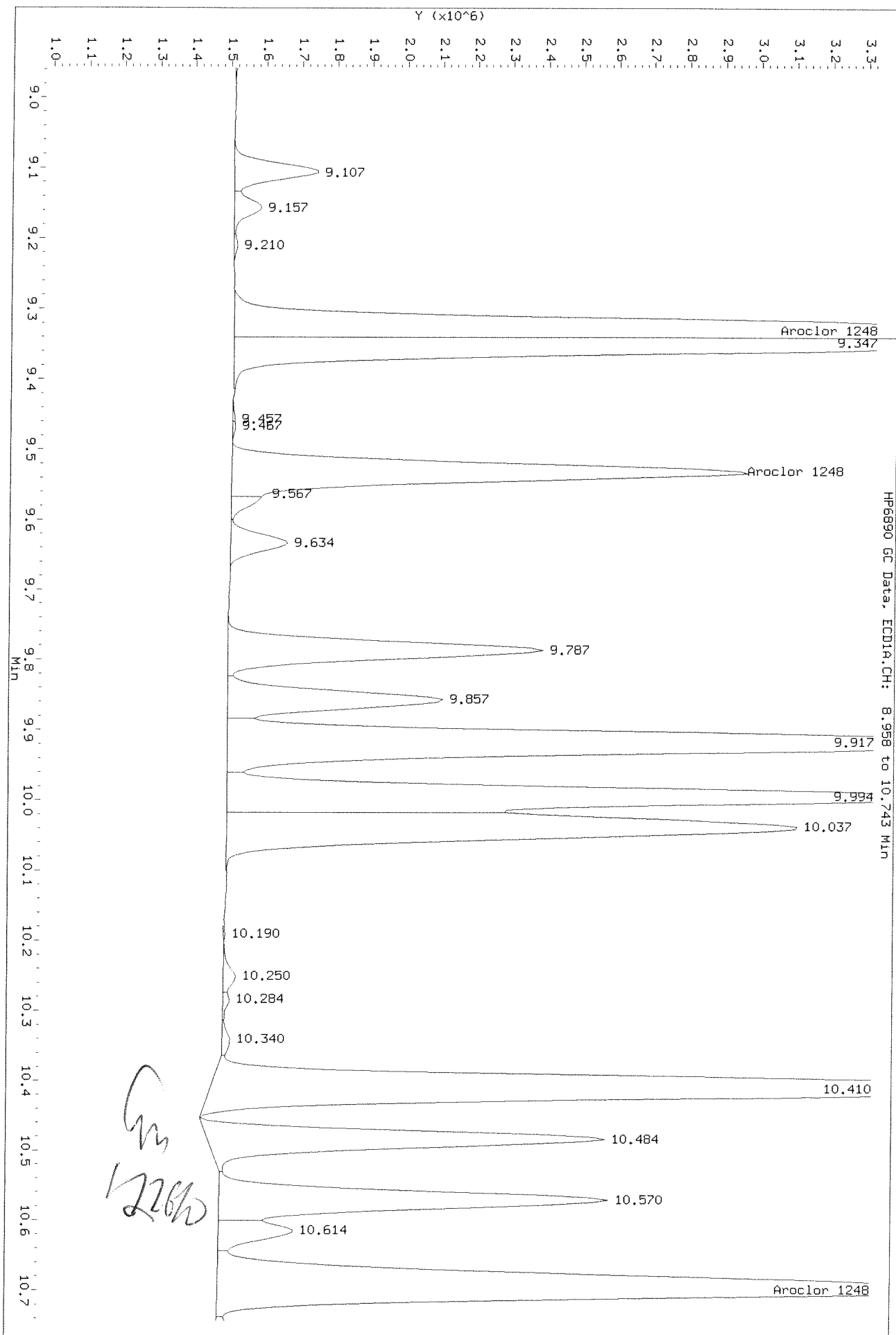
Data File: \\nakjswe003\instdata\GC27\Data\121720ICL.b\1217F044.D
Injection Date: 18-DEC-2020 16:03
Instrument: GC27.1
Client Sample ID:

Before



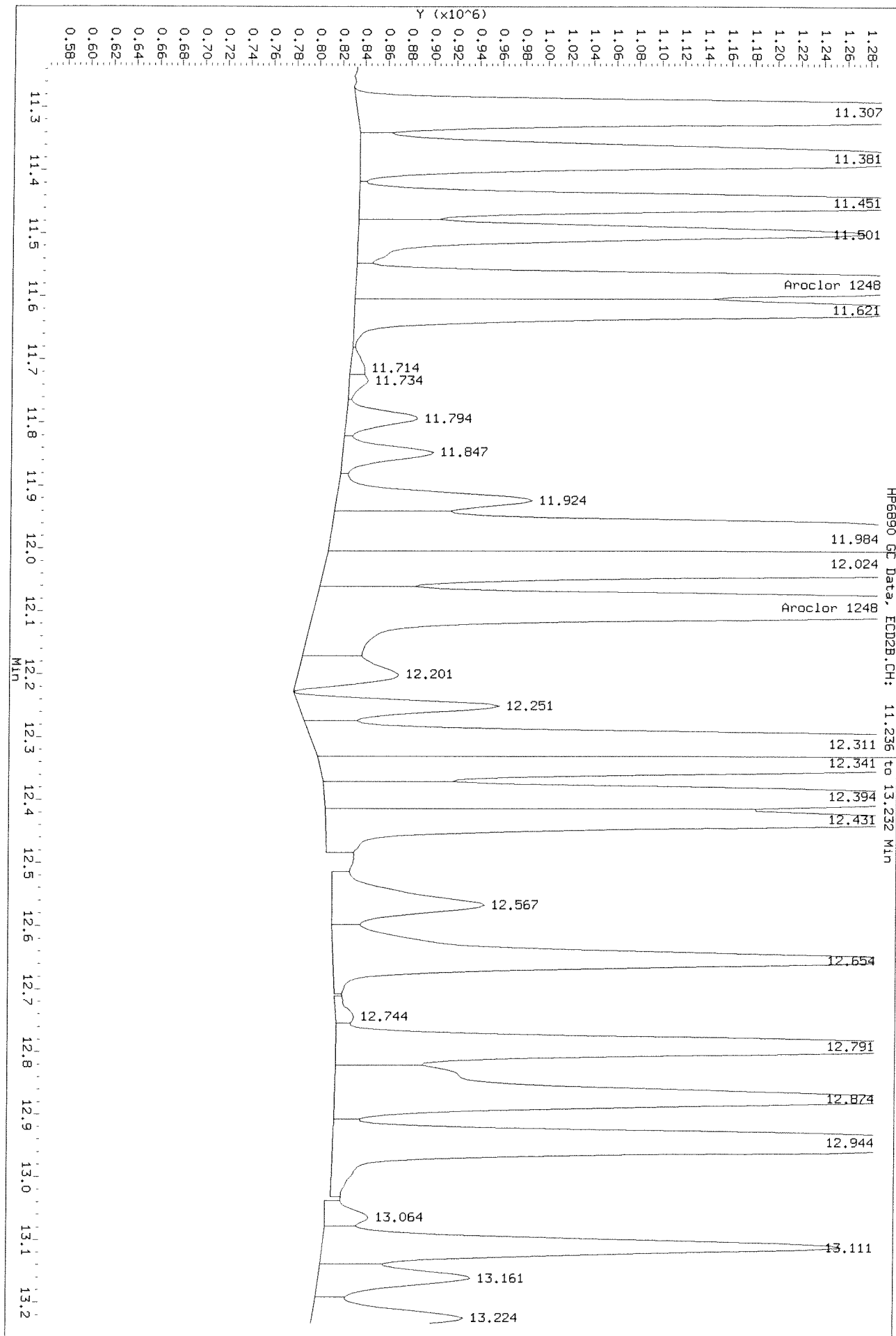
Data File: \\naklsw003\inst\data\GC27\Data\121720ICAL.b\1217F044.D
Injection Date: 18-DEC-2020 16:03
Instrument: GC27.1
Client Sample ID:

After shoulder 12/23/20 A



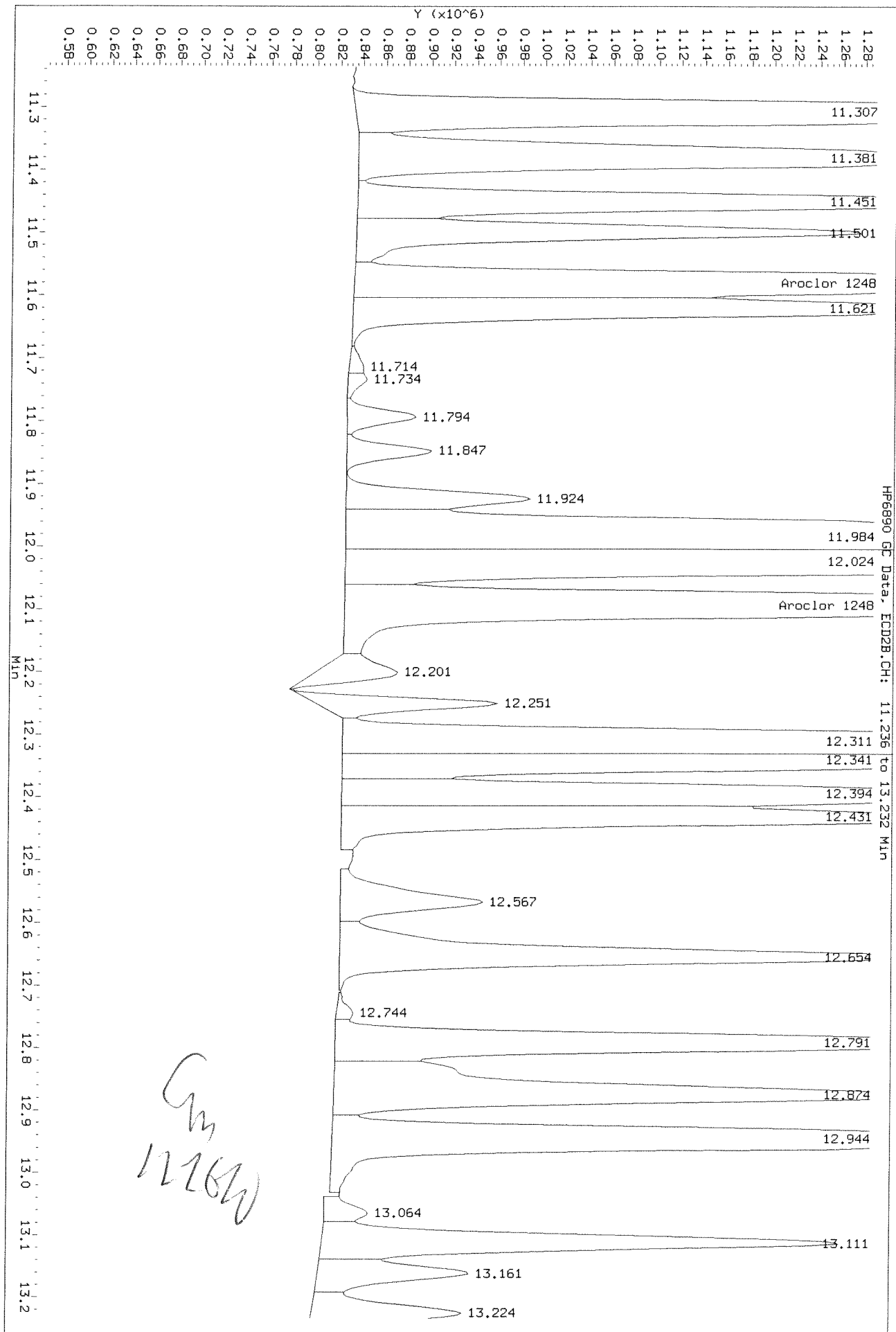
Data File: \\nakisus003\instdata\GC27\Data\121720ICL_r.b\1217F044.D
Injection Date: 18-DEC-2020 16:03
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakslws003\inst\data\GC27\Data\121720ICAL_r.b\1217F044.D
 Injection Date: 18-DEC-2020 16:03
 Instrument: GC27.1
 Client Sample ID:

After baseline 12/23/20



12/26/20

Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F045.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F045.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F045.D
Inj Date : 18-DEC-2020 16:34
Sample Info: PCB8-61E 1248 200PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 48.SUB
Sub List #2 : 48.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	9.331	10.454	7957757	5159737	175	181	80.00- 120.00	100.00 (M)
	9.531	10.511	4971688	4305710	181	186	49.98- 74.97	62.48 (M)
	10.694	11.081	9603076	5369388	178	168	96.54- 144.81	120.68 (M)
	10.994	11.578	7161910	4398821	178	182	72.00- 108.00	90.00 (M)
	11.461	12.091	6487894	7090136	181	169	65.22- 97.84	81.53 (M)
	Average of Peak Amounts =				179	177		

QC Flag Legend

M - Compound response manually integrated.

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Data File: \\nak1s003\instdata\GC27\Data\1217201CAL.b\1217F045.D

Date : 18-DEC-2020 16:34

Client ID:

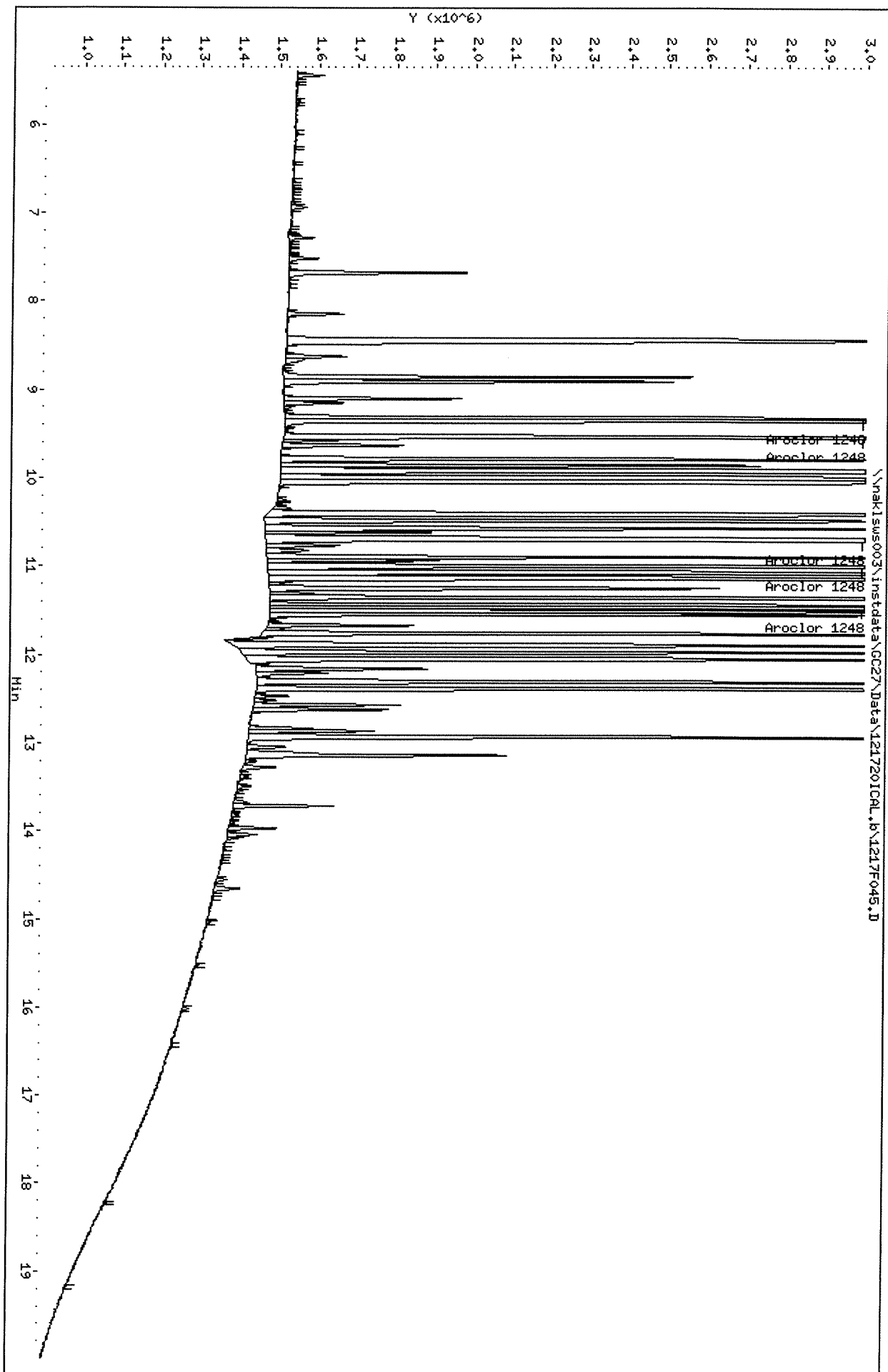
Sample Info: PCB8-61E 1248 200PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\insdata\GC27\Data\1217201CAL_r.b\1217F045.D

Date : 18-DEC-2020 16:34

Client ID:

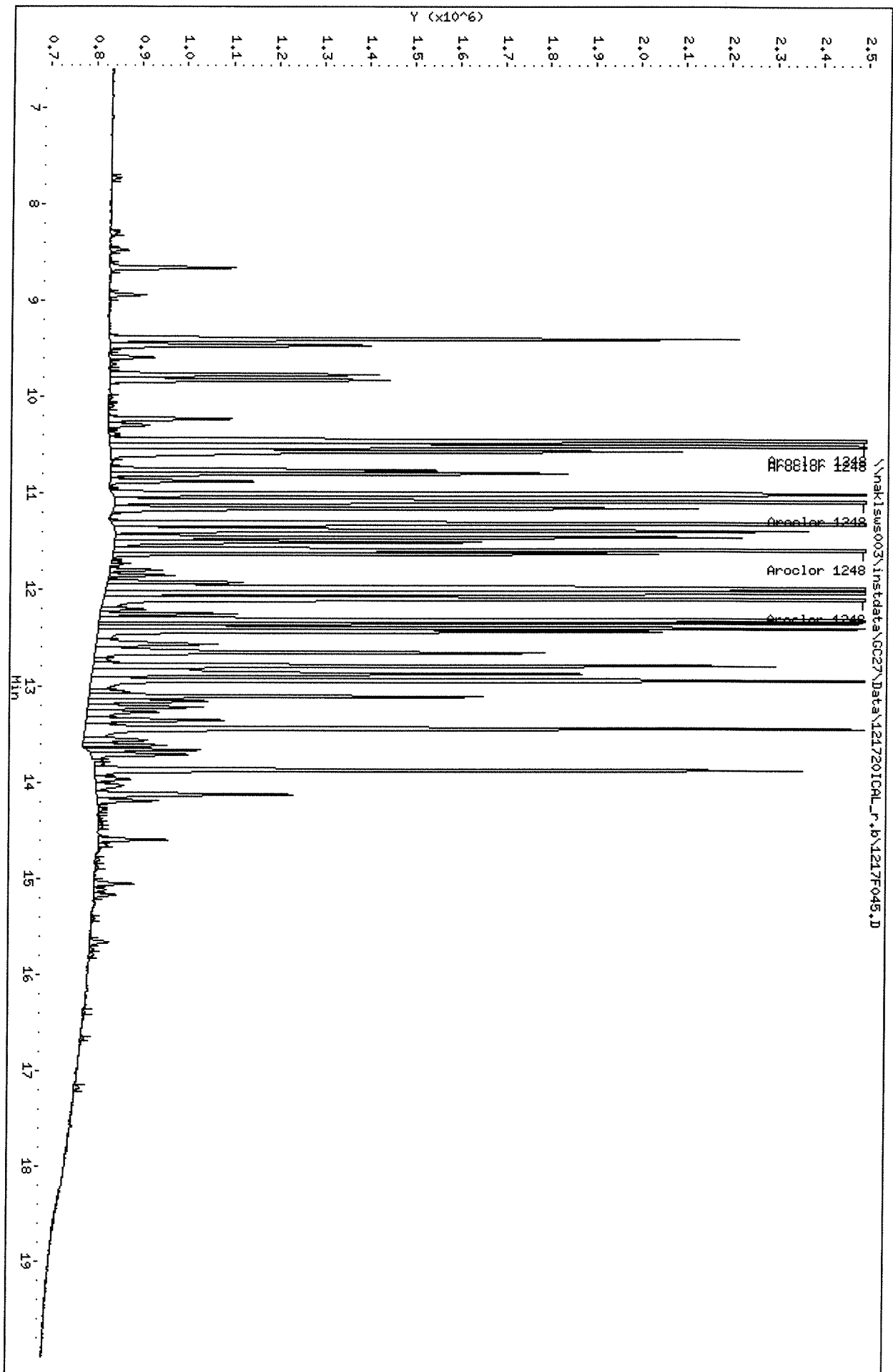
Sample Info: PCB8-61E 1248 200PPB

Column phase: DB-XLB

Instrument: GC27.i

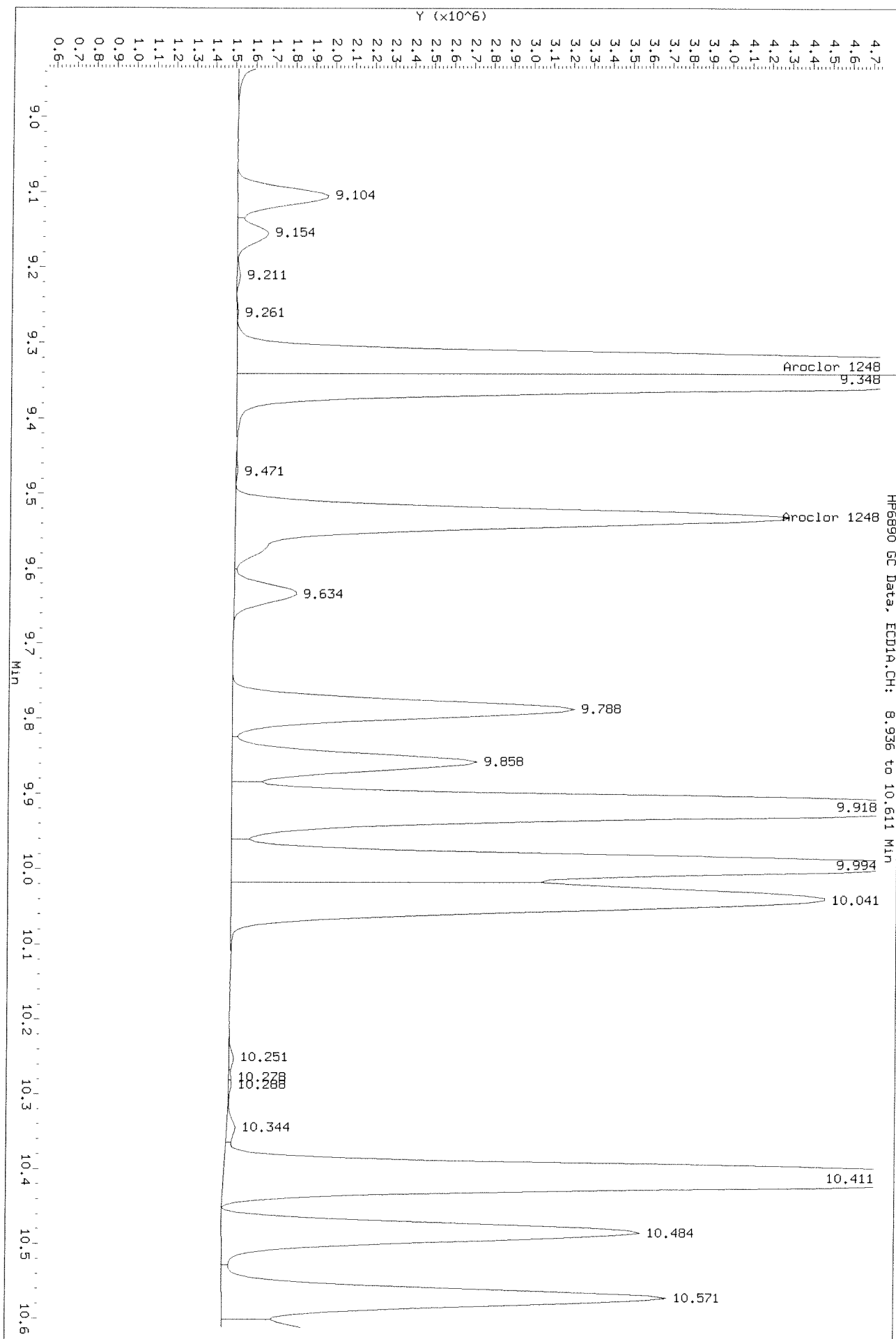
Operator: SAA

Column diameter: 0.32



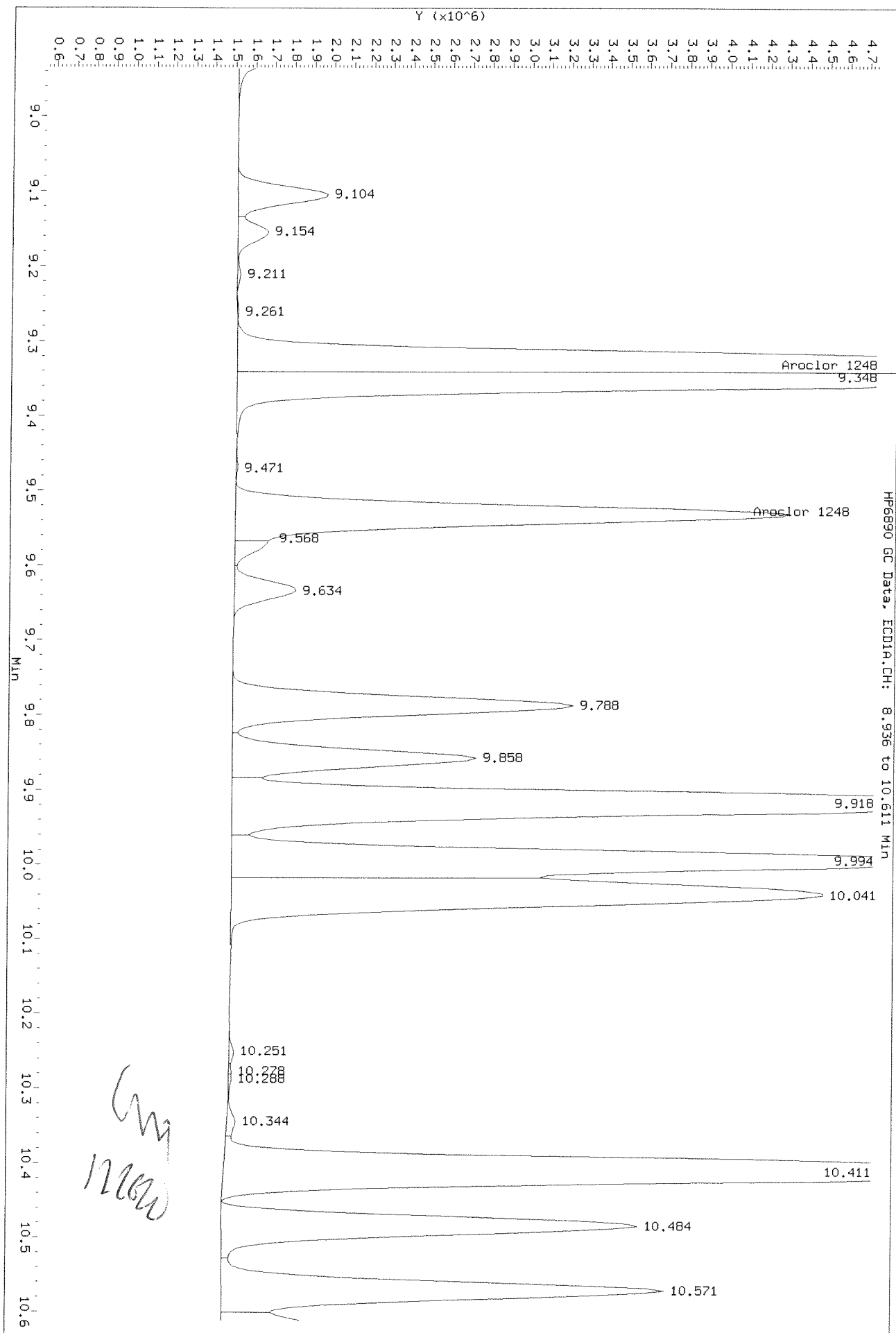
Data File: \\nakisw003\instdata\GC27\Data\121720ICAL.b\1217F045.D
Injection Date: 18-DEC-2020 16:34
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsus003\inst\data\GC27\Data\1217201CAL.b\1217F045.D
Injection Date: 18-DEC-2020 16:34
Instrument: GC27.1
Client Sample ID:

After shoulder 12/23/2020



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F046.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F046.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F046.D
Inj Date : 18-DEC-2020 17:05
Sample Info: PCB8-68M 1016 ICV @ 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	7.682	8.662	782650	475121	19.7	21.2	80.00- 120.00	100.00
	8.912	9.399	634935	668066	17.8	19.5	67.46- 101.19	81.13
	9.349	10.569	1956930	760512	18.7	19.5	216.24- 324.36	250.04
	9.532	11.082	1142124	555682	18.2	18.4	124.98- 187.48	145.93
	9.789	11.309	739993	550947	16.9	19.9	85.08- 127.62	94.55
	Average of Peak Amounts =				18.3	19.7		

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SA 12/23/20

Data File: \\nakisw003\inst\data\GC27\Data\1217201CPL.b\1217F046.D

Date: 18-DEC-2020 17:05

Client ID:

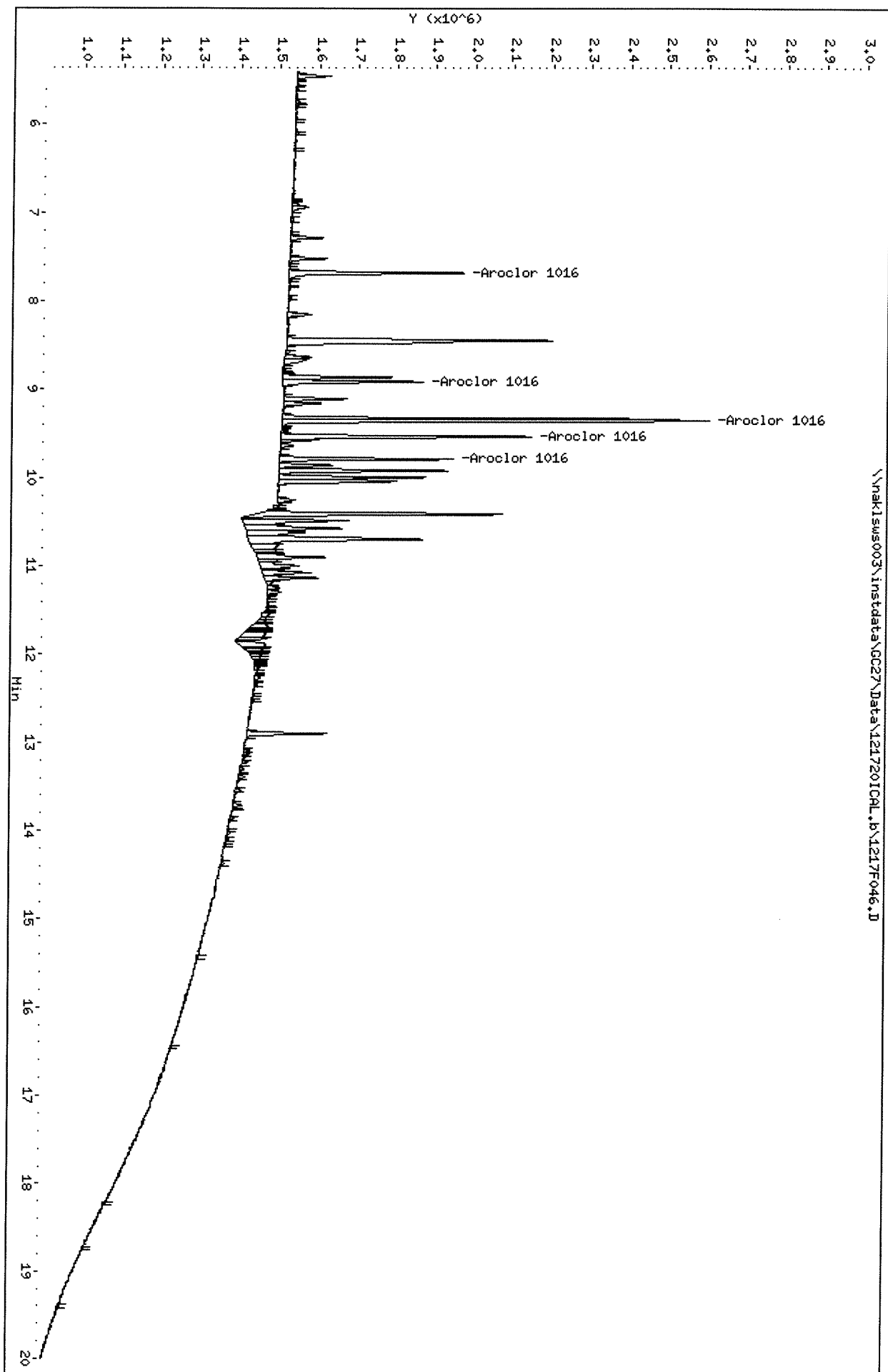
Sample Info: PCB8-68H 1016 ICV @ 20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\1217201CAL_r.b\1217F046.D
Date : 18-DEC-2020 17:05

Client ID:

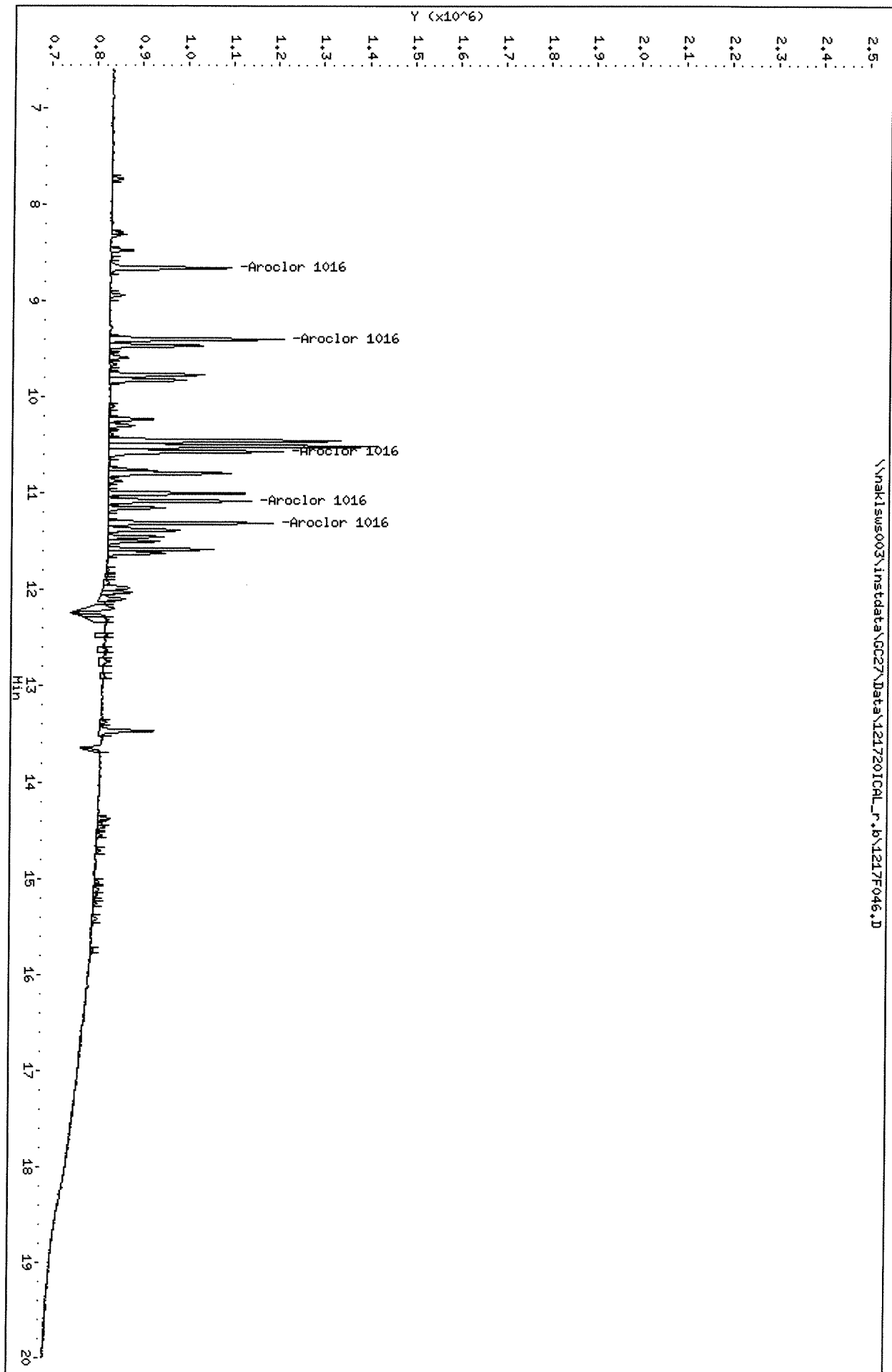
Sample Info: PCB8-68M 1016 ICV @ 20PPB

Column phase: DB-XLB

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F048.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F048.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F048.D
Inj Date : 18-DEC-2020 18:08
Sample Info: PCB8-68N 1232 ICV @ 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	7.286	8.659	319940	527590	19.2	19.9	80.00- 120.00	100.00
	7.679	9.399	952214	266995	20.5	18.7	236.59- 354.88	297.62
	8.442	9.773	729270	189784	17.7	18.7	198.03- 297.04	227.94
	9.349	10.456	755982	380143	15.3	18.2	237.24- 355.86	236.29
	9.532	10.513	456812	424284	17.4	17.8	133.07- 199.60	142.78
	Average of Peak Amounts =				18.0	18.7		

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Data File: \\nakisw003\instdata\GC27\Data\121720ICL.b\1217F048.D

Date: 18-DEC-2020 18:08

Client ID:

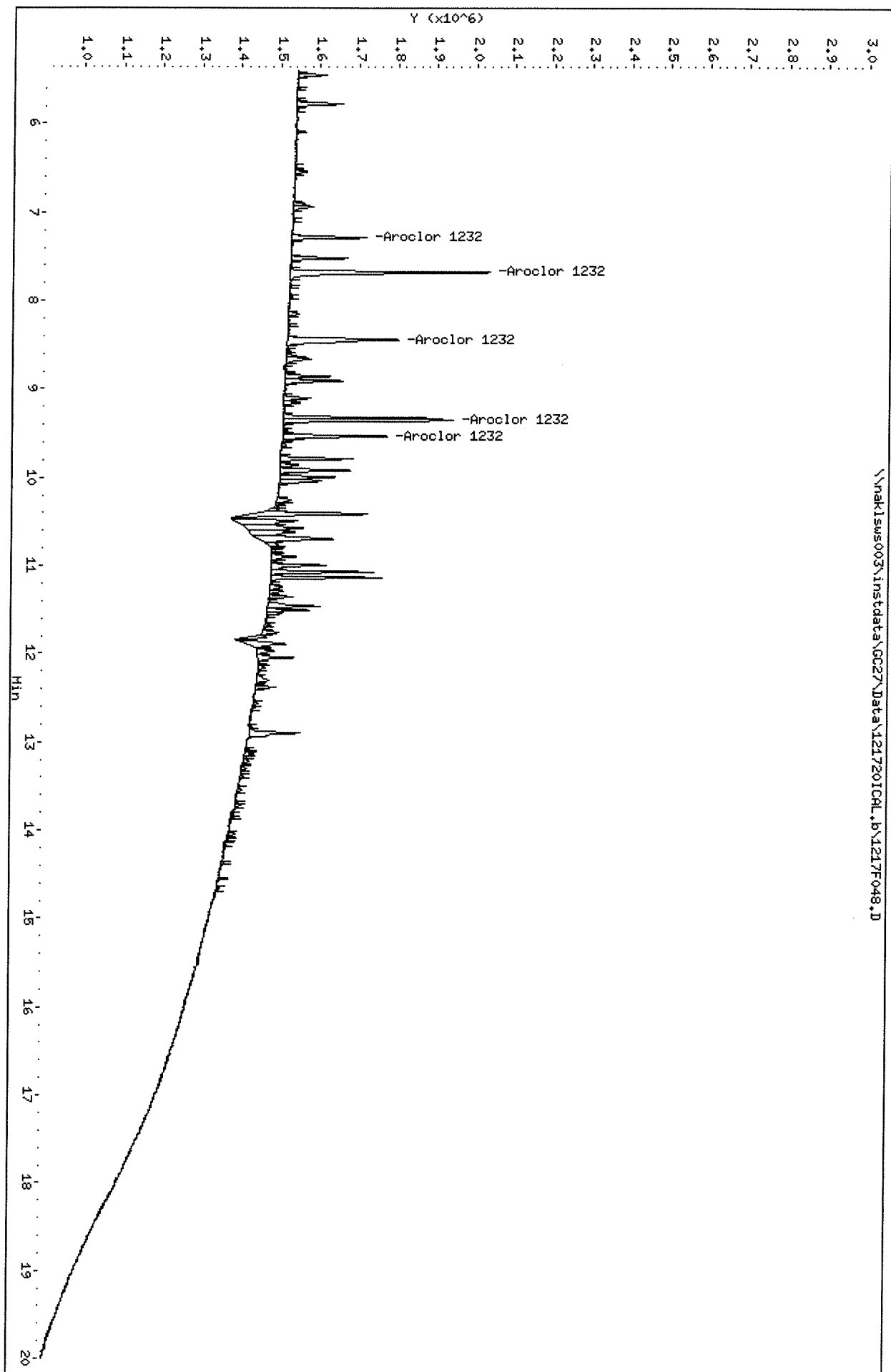
Sample Info: PCB8-68N 1232 ICV @ 20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nakslus003\inst\data\GC27\Data\1217201CAL_r.b\1217F048.D

Date: 18-DEC-2020 18:08

Client ID:

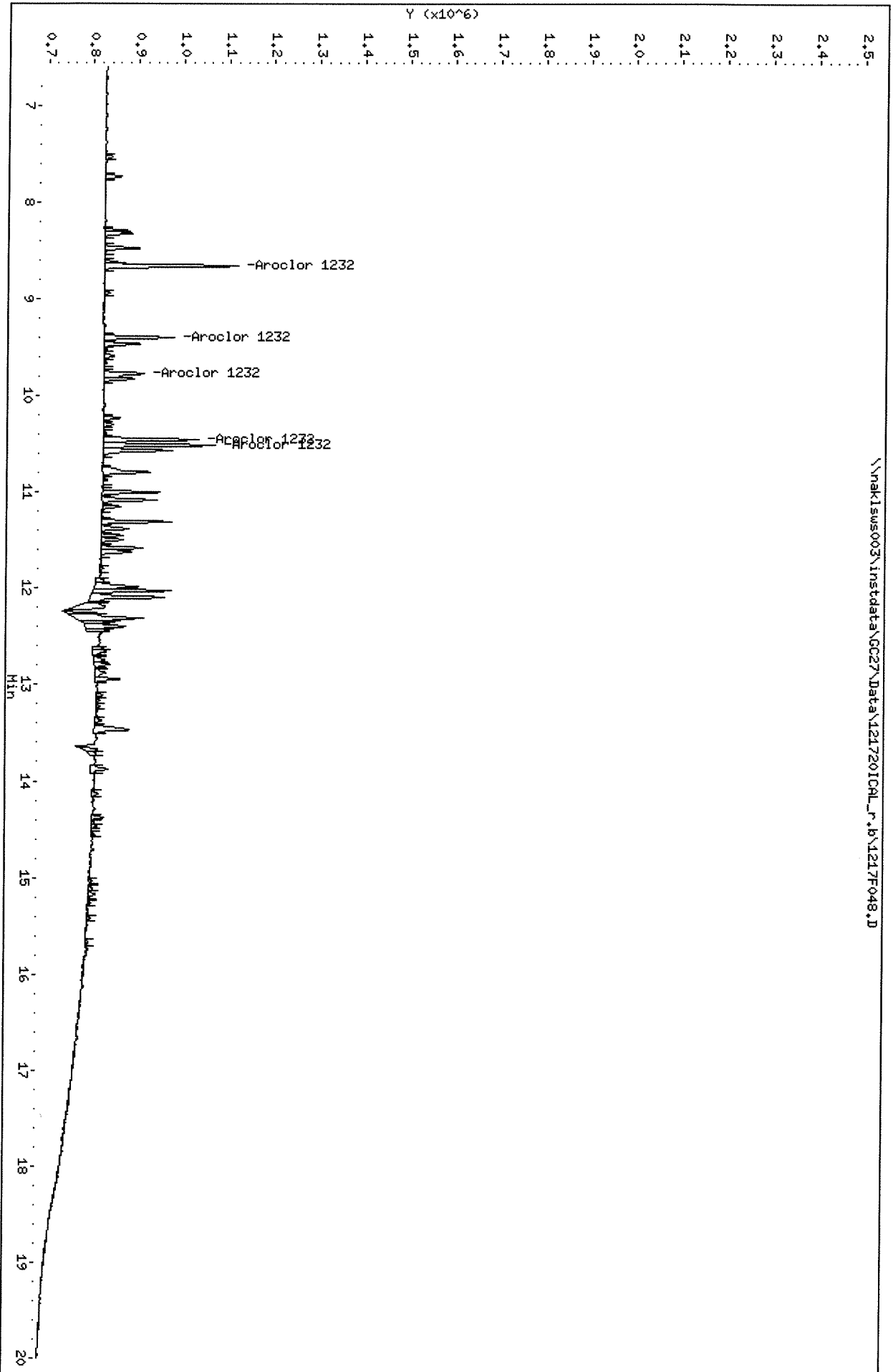
Sample Info: PCB8-68N 1232 ICV @ 20PPB

Column phase: DB-XLB

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F050.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F050.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F050.D
Inj Date : 18-DEC-2020 19:10
Sample Info: PCB8-69B 1248 ICV @ 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 48.SUB
Sub List #2 : 48.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	9.333	10.456	811609	609823	17.9	21.4	80.00- 120.00	100.00 (M)
	9.533	10.513	569288	523595	20.7	22.7	49.98- 74.97	71.75 (M)
	10.696	11.083	1020676	646975	19.0	20.3	96.54- 144.81	125.76 (M)
	10.996	11.580	805213	495074	20.0	20.5	72.00- 108.00	99.21 (M)
	11.463	12.093	710383	808276	19.8	19.3	65.22- 97.84	87.53 (M)
Average of Peak Amounts =					19.5	20.8		

QC Flag Legend

M - Compound response manually integrated.

12/23/20

SA 12/23/20

Data File: \\nakisus003\instdata\GC27\Data\1217201CAL.b\1217F050.D

Date: 18-DEC-2020 19:10

Client ID:

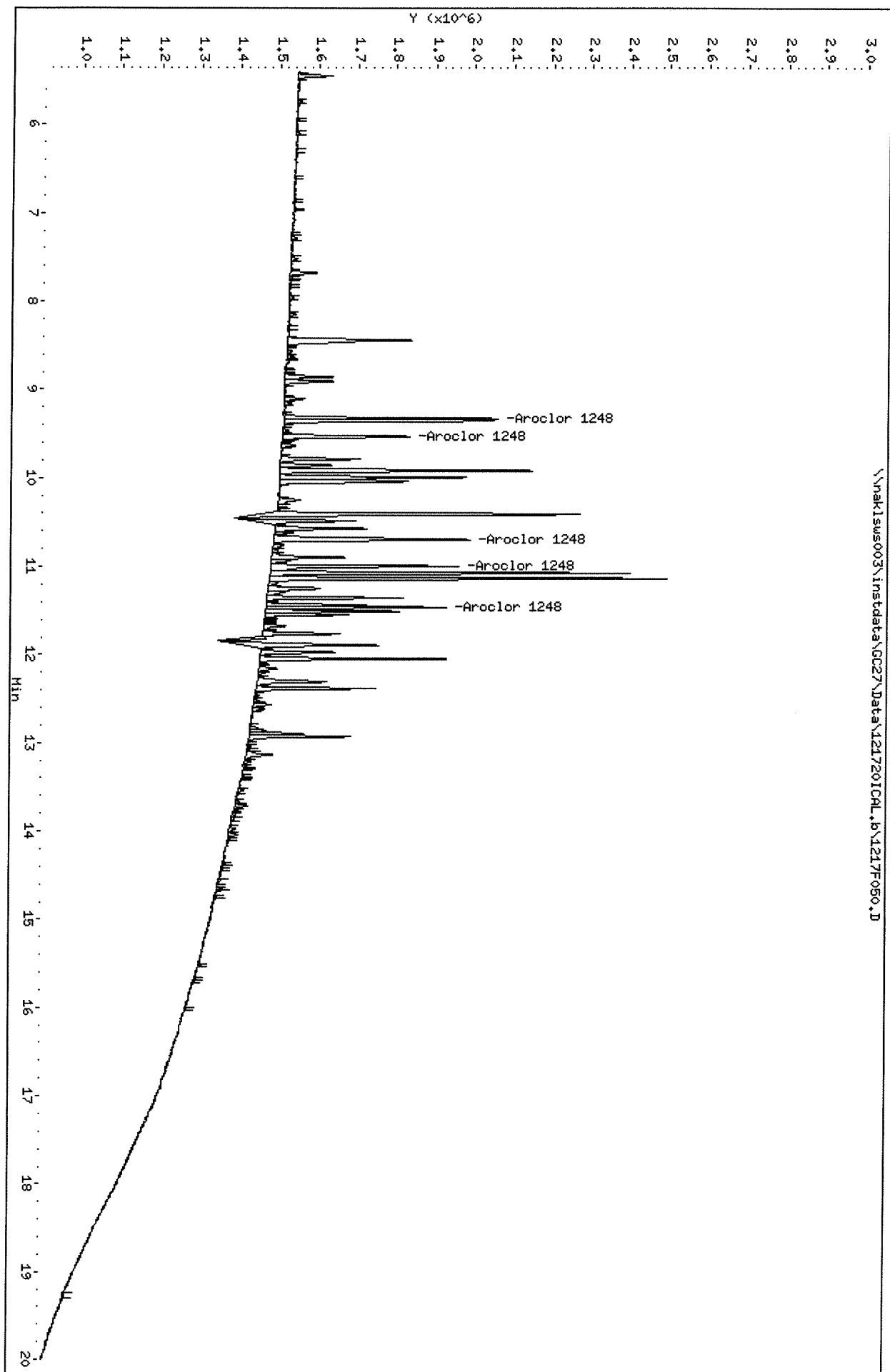
Sample Info: PCB8-69B 1248 ICV @ 20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL_r.b\1217F050.D
Date : 18-DEC-2020 19:10

Client ID:

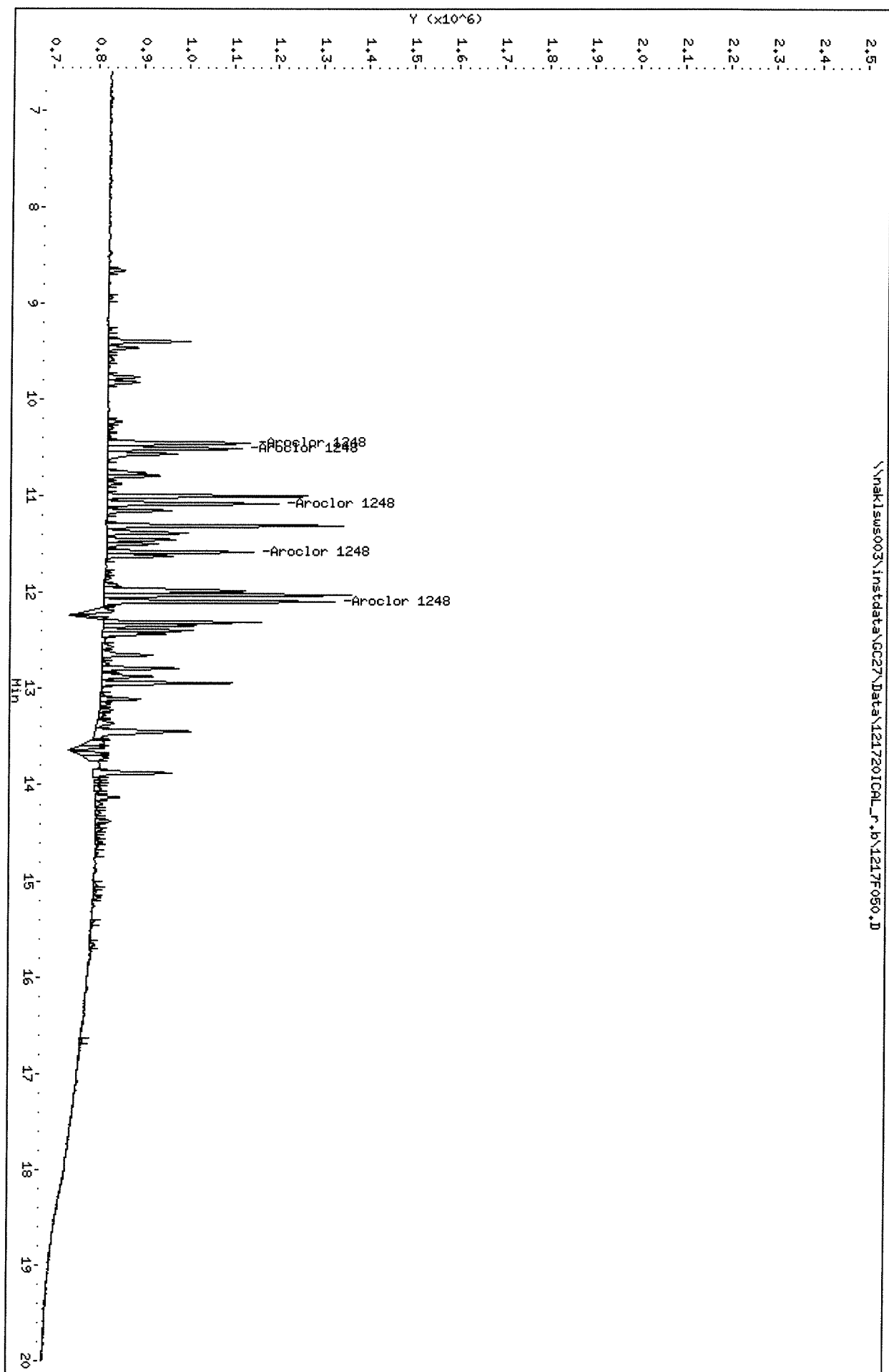
Sample Info: PCB8-69B 1248 ICV @ 20PPB

Column phase: DB-XLB

Instrument: GC27.i

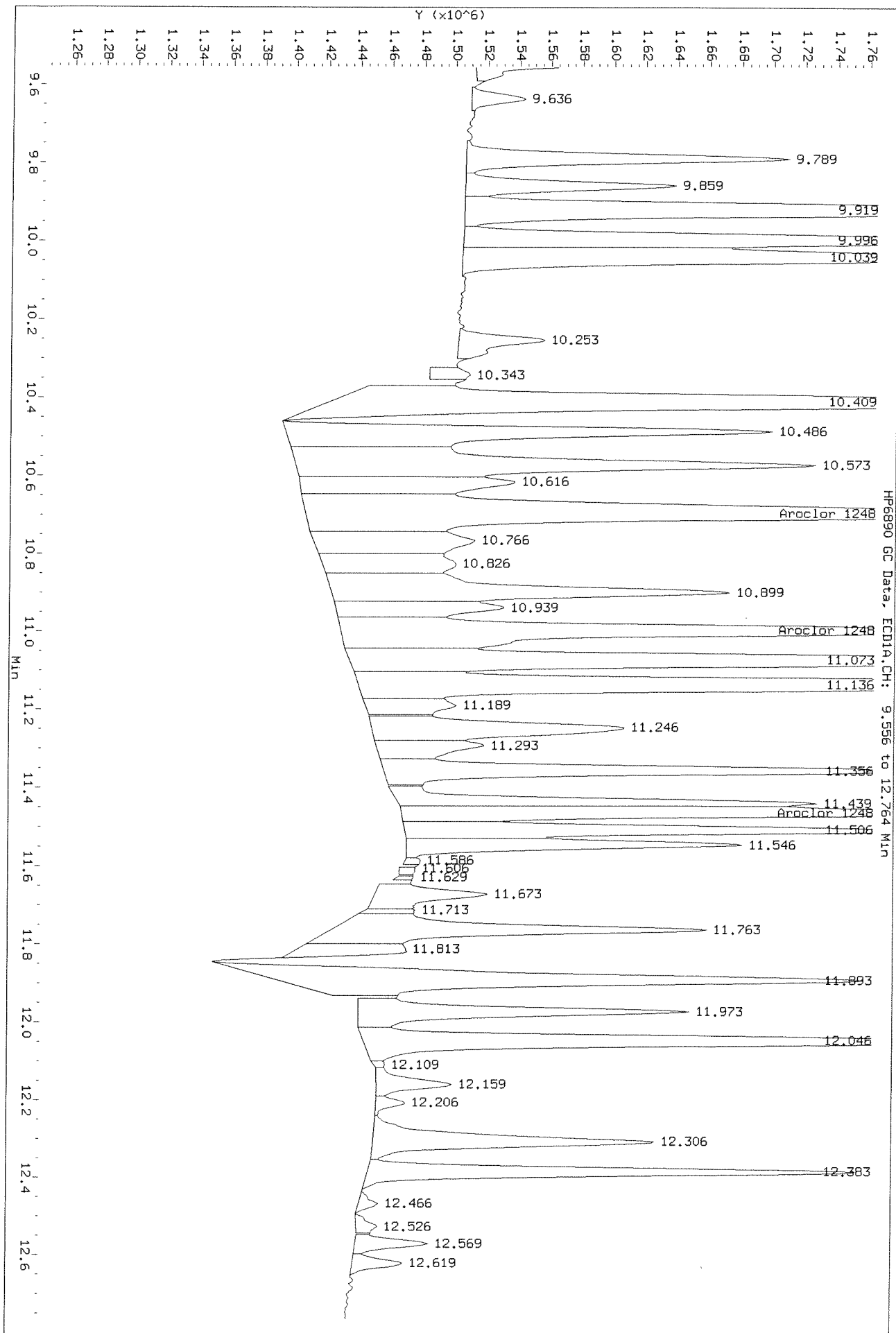
Operator: SAA

Column diameter: 0.32



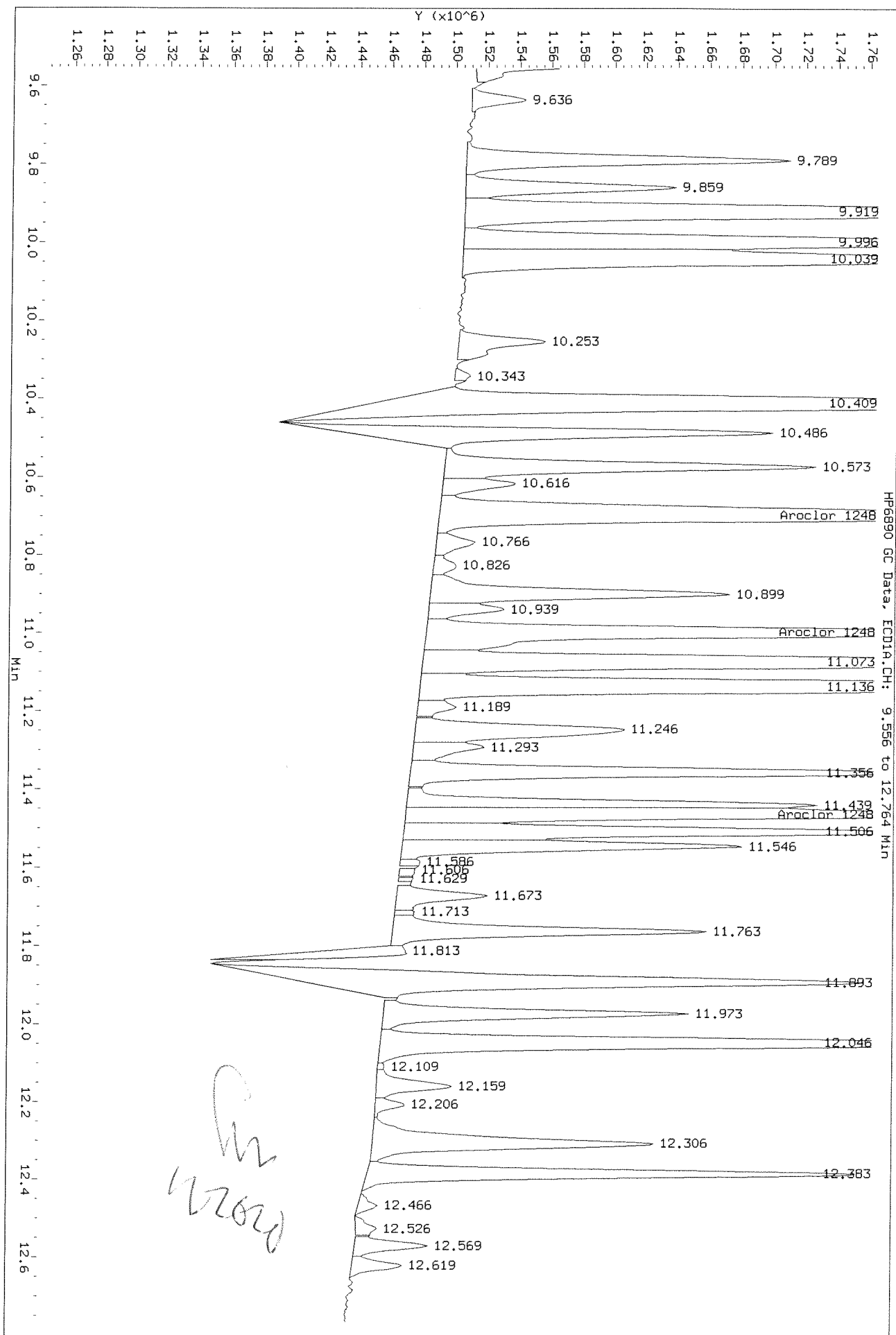
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F050.D
Injection Date: 18-DEC-2020 19:10
Instrument: GC27.1
Client Sample ID:

Before



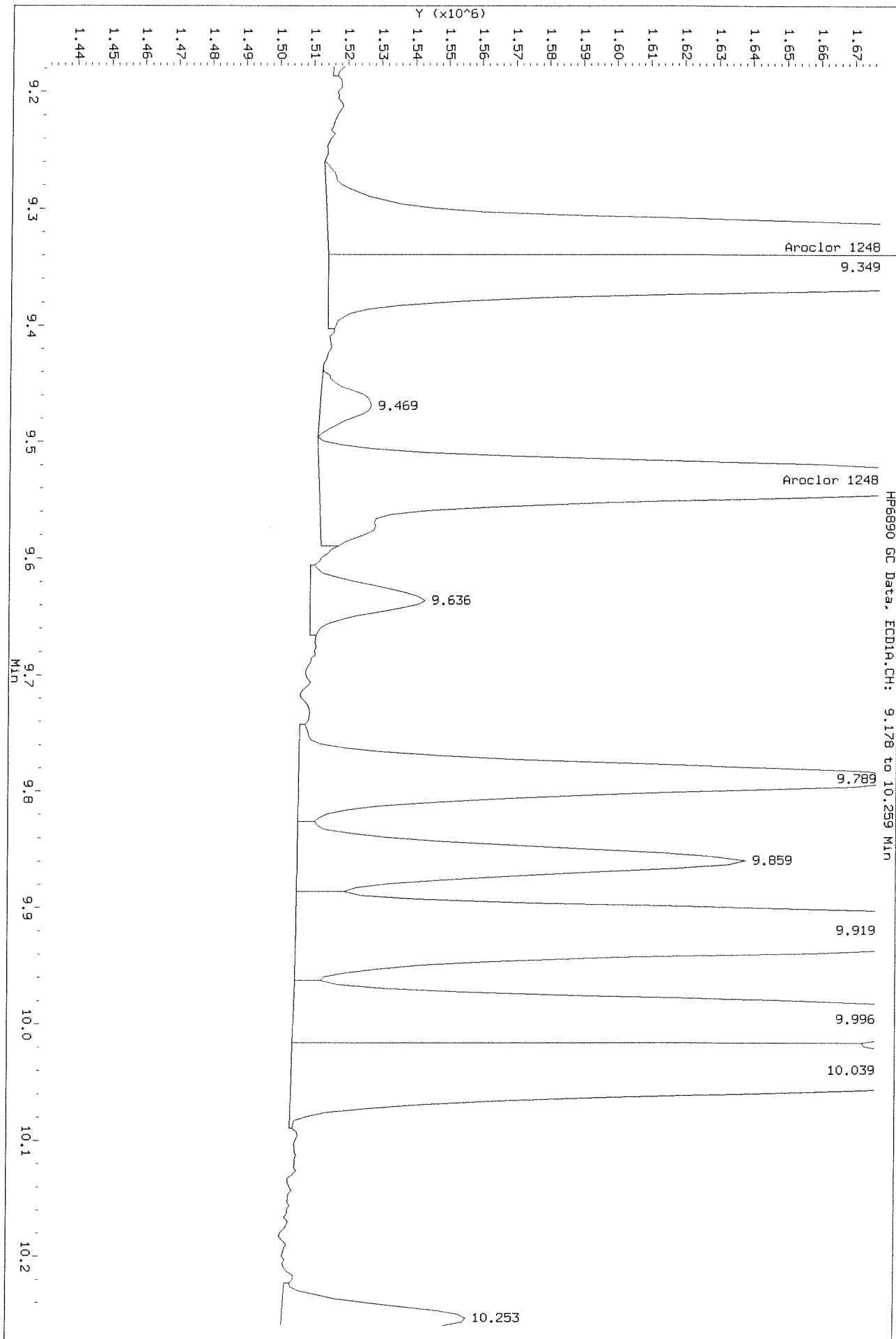
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217T050.D
Injection Date: 18-DEC-2020 19:10
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2020



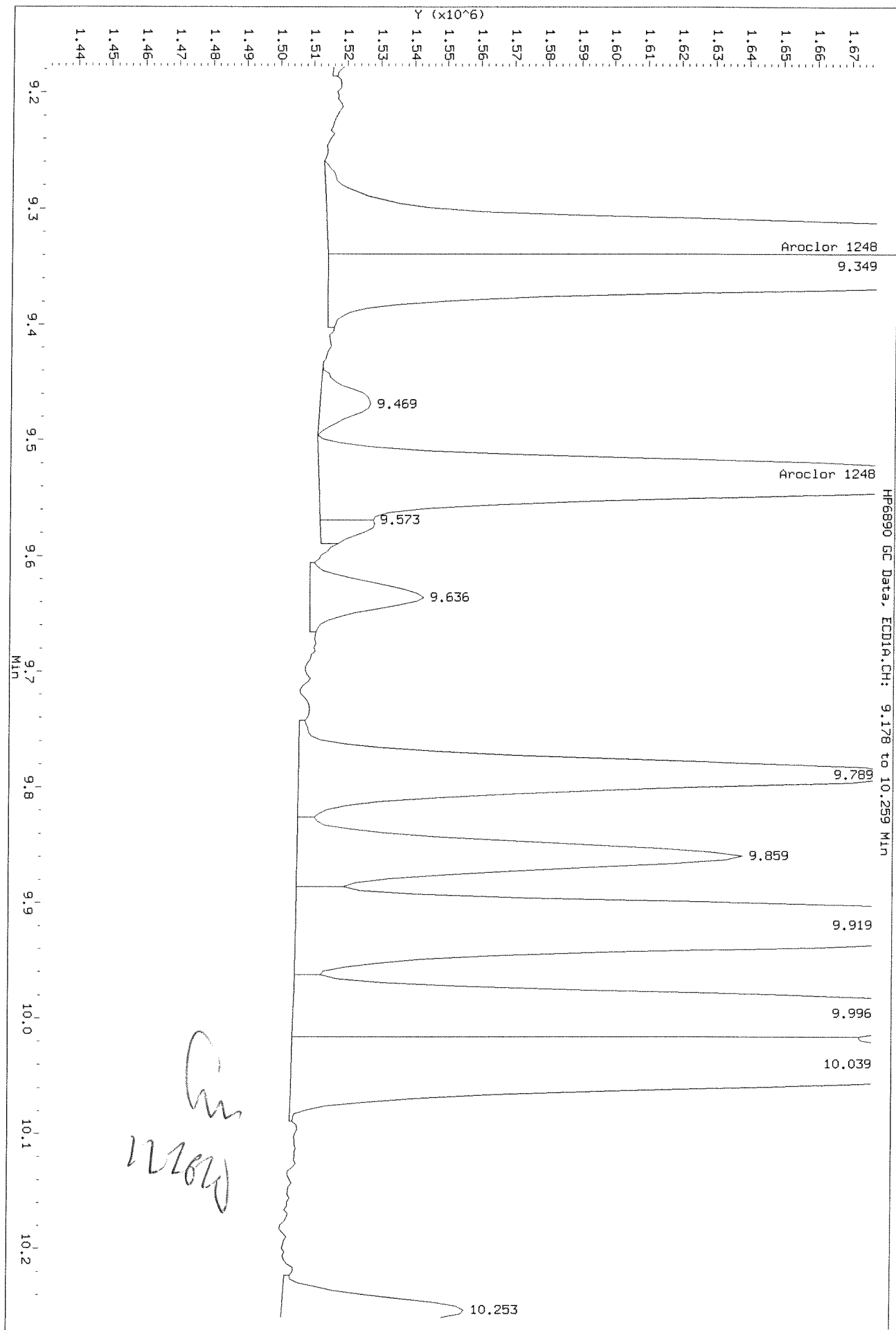
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Injection Date: 18-DEC-2020 19:10
Instrument: GC27.1
Client Sample ID:

Before



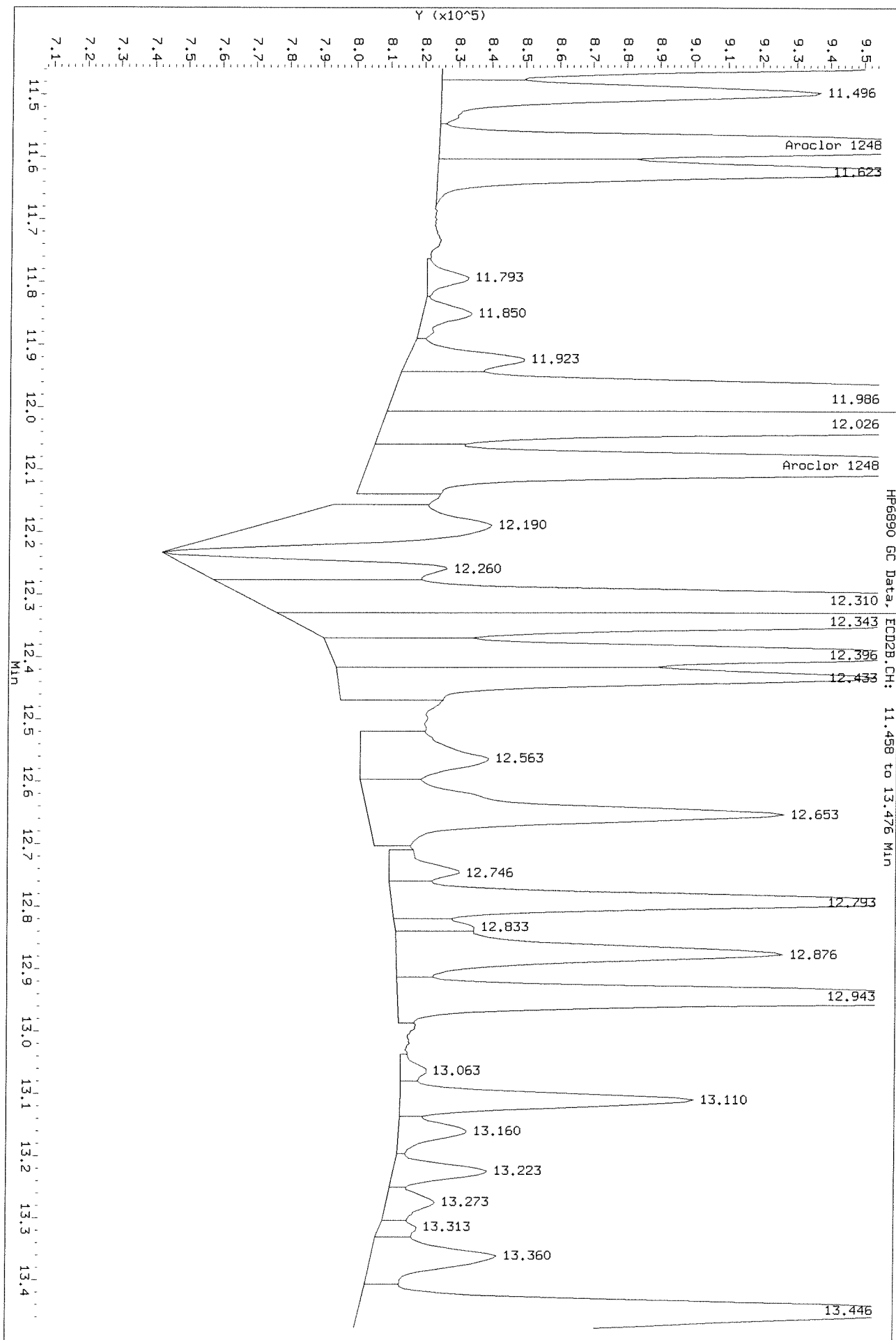
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F050.D
 Injection Date: 18-DEC-2020 19:10
 Instrument: GC27.1
 Client Sample ID:

After shoulder 12/23/20



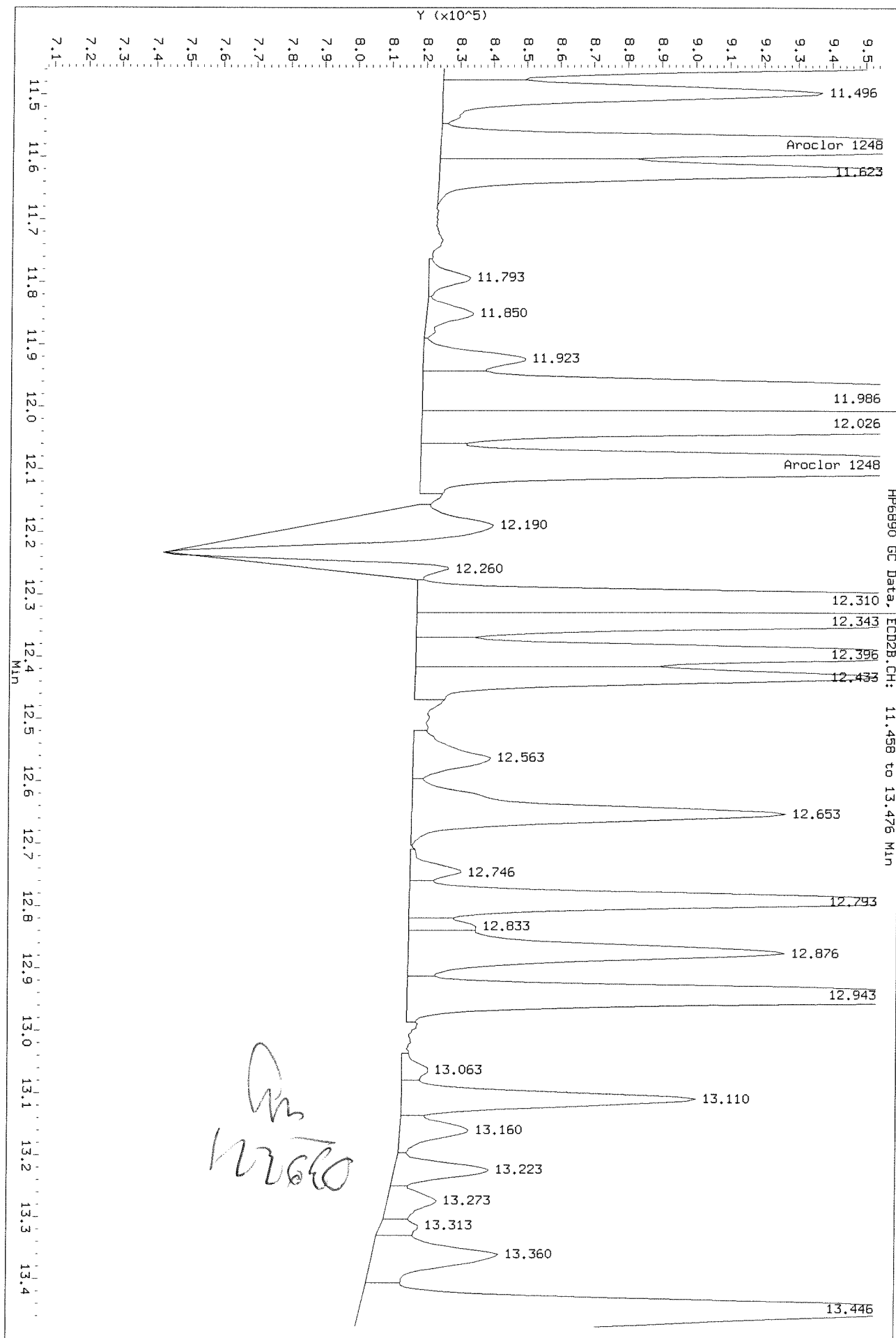
Data File: \\nakisw003\instdata\GC27\Data\121720ICAL_r.b\1217F050.D
Injection Date: 18-DEC-2020 19:10
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nak1sws003\inetdata\GC27\Data\121720ICAL_r.b\1217F050.D
Injection Date: 18-DEC-2020 13:10
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2024



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F051.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F051.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F051.D
Inj Date : 18-DEC-2020 19:41
Sample Info: PCB8-69C 1254 ICV @ 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	11.436	11.970	692044	843784	16.9	18.6	80.00- 120.00	100.00 (M)
	12.046	12.027	2281067	389846	18.1	16.0	244.22- 366.32	329.61 (M)
	12.290	12.343	1160058	1020236	19.1	19.6	115.71- 173.56	167.63 (M)
	12.383	12.433	1383319	422515	18.6	19.3	147.40- 221.10	199.89 (M)
	13.136	13.873	1643634	675881	18.1	17.9	167.70- 251.55	237.50 (M)
	Average of Peak Amounts =				18.2	18.3		

QC Flag Legend

M - Compound response manually integrated.

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12/23/20

Handwritten signature
12/23/20

Data File: \\nakisw003\instdata\GC27\Data\1217201CL.b\1217F051.D
Date : 18-DEC-2020 19:41

Client ID:

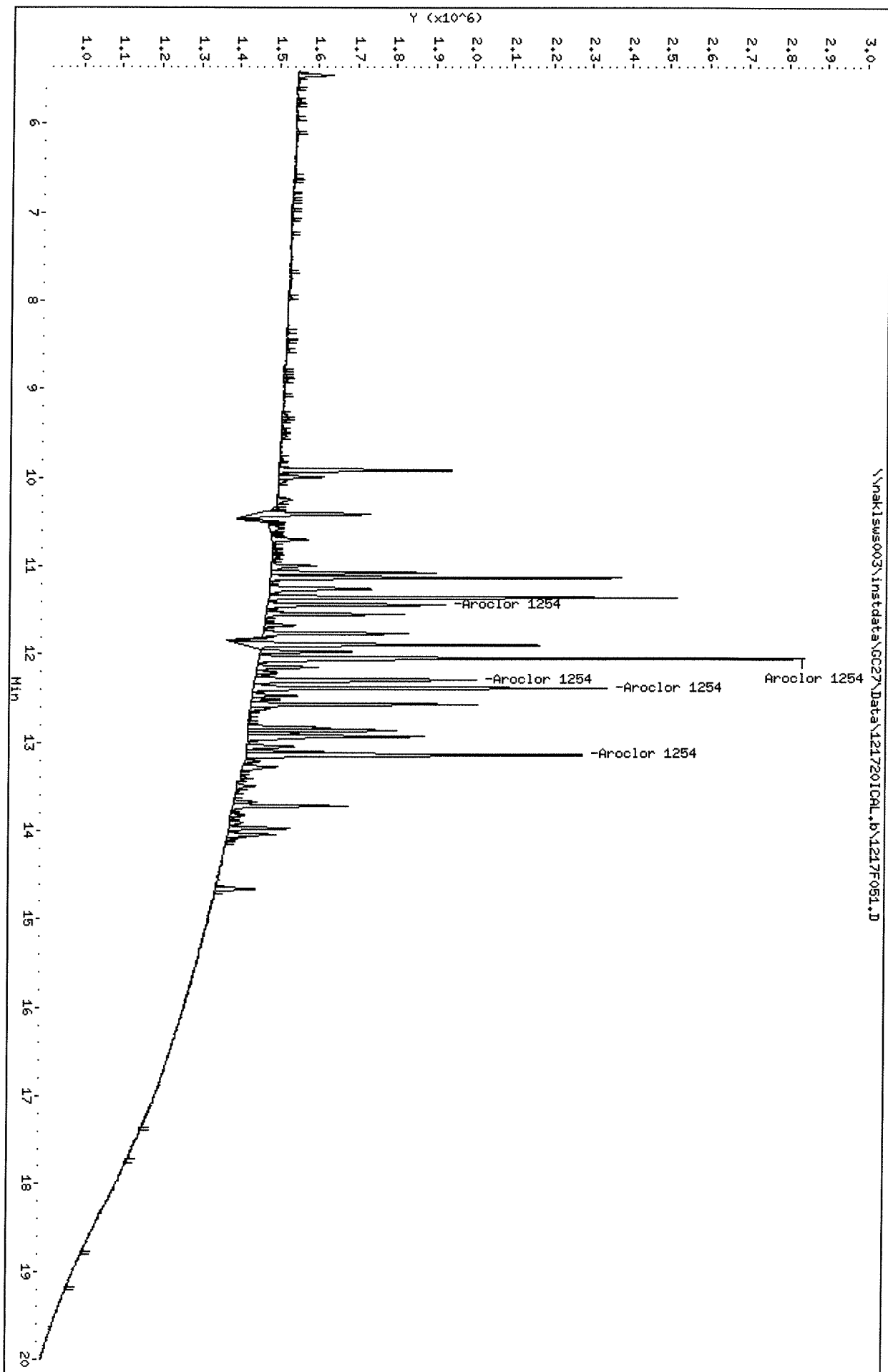
Sample Info: PCB8-69C 1254 ICV @ 20PPB

Column phase: DB-35MS

Instrument: GC27.1

Operator: SAA

Column diameter: 0.32



Data File: \\nakisw003\instdata\GC27\Data\1217201CL_r.b\1217F051.D
Date : 18-DEC-2020 19:41

Client ID:

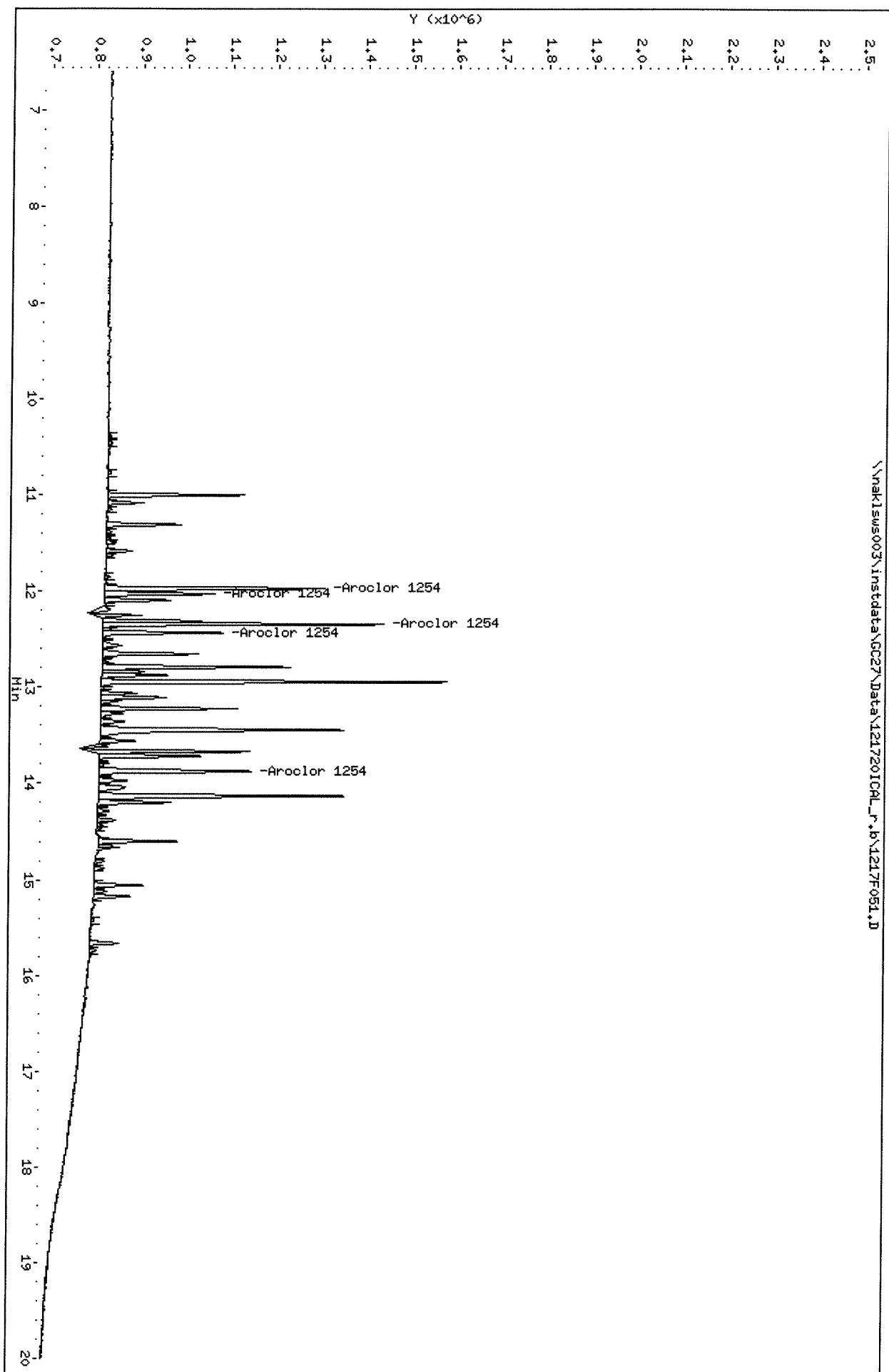
Sample Info: PCB8-69C 1254 ICV @ 20PPB

Column phase: DB-XLB

Instrument: GC27.i

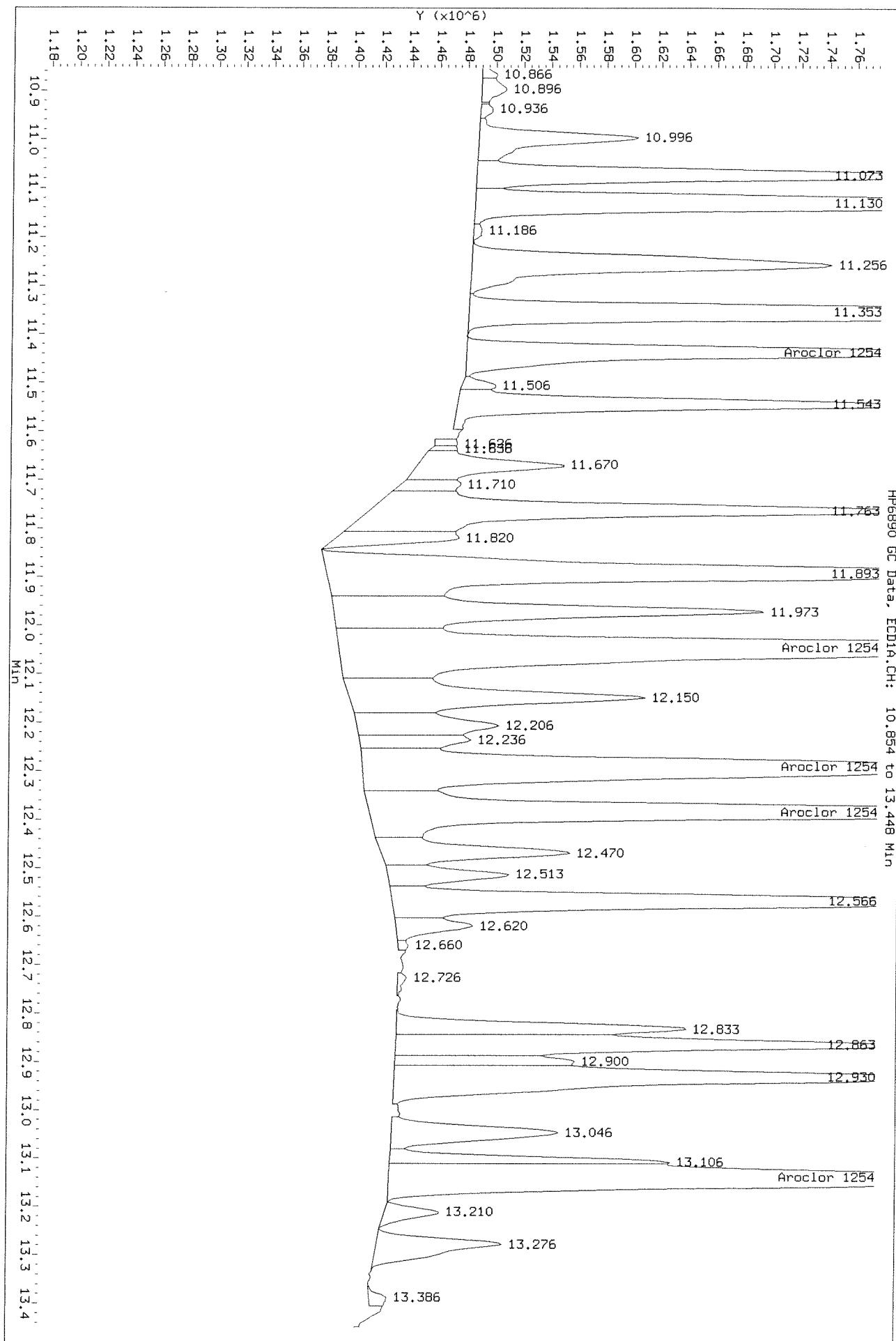
Operator: SAA

Column diameter: 0.32



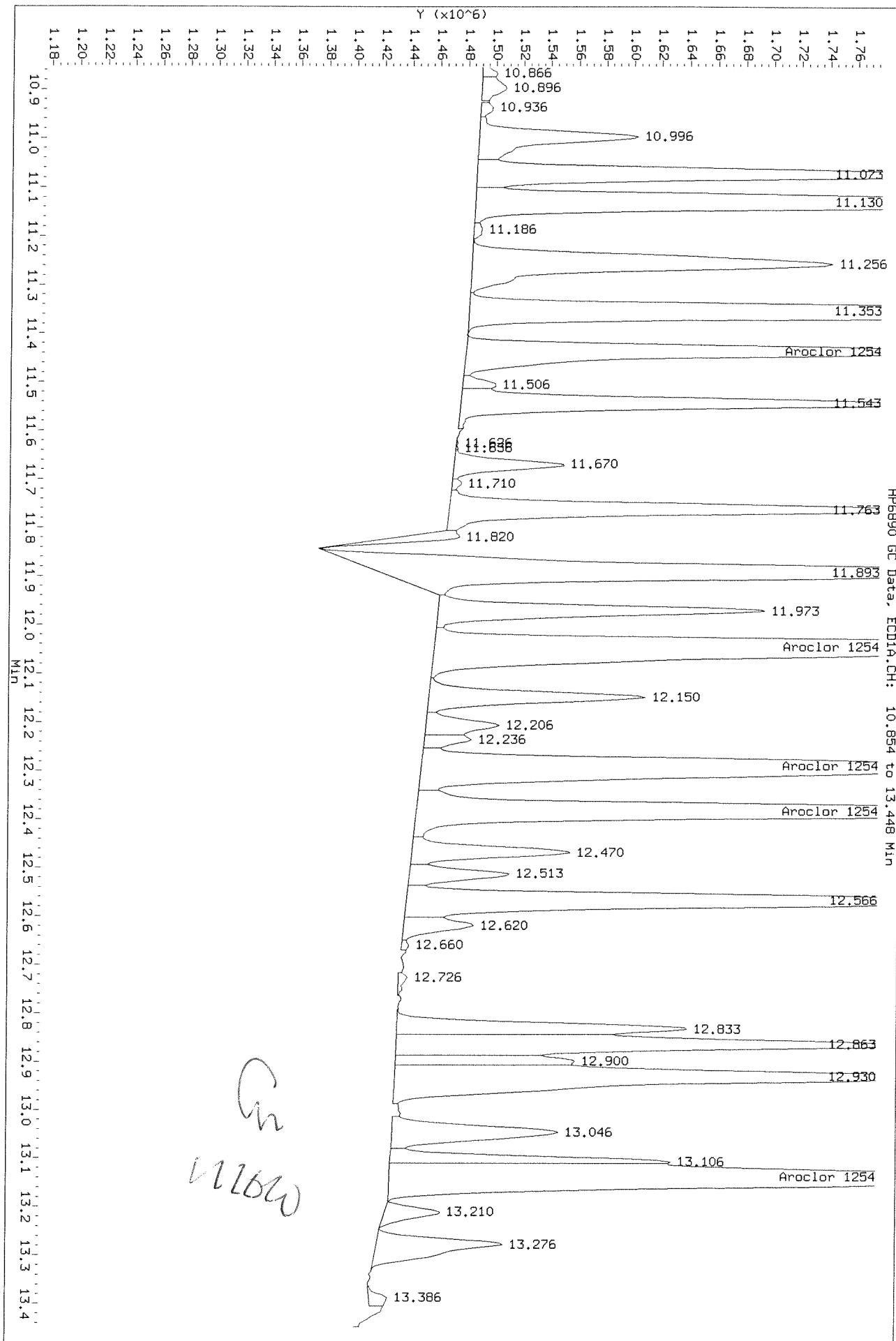
Data File: \\naklsws003\instdata\GC27\Data\1217201CAL.b\1217051.D
Injection Date: 18-DEC-2020 19:41
Instrument: GC27.1
Client Sample ID:

Before



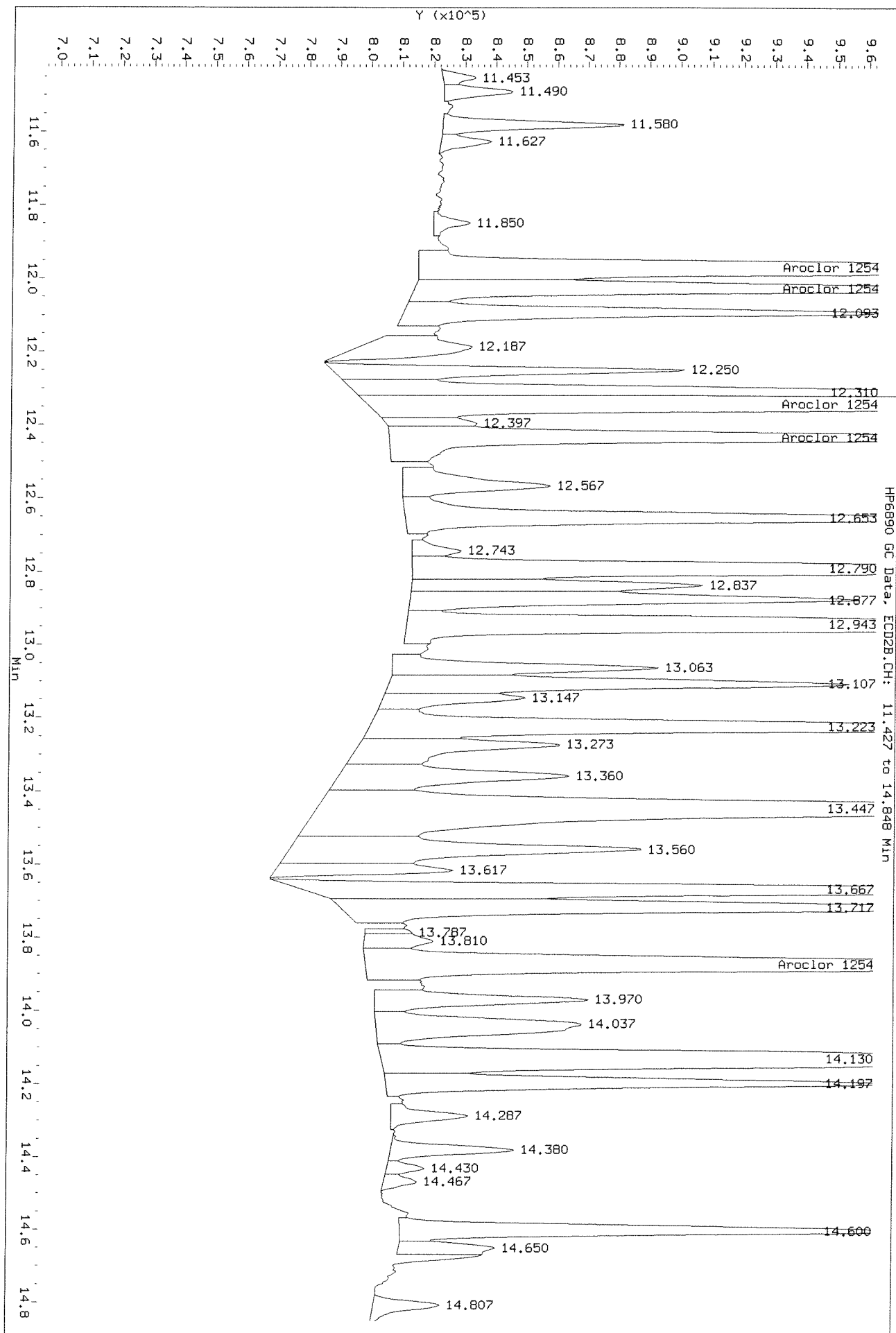
Data File: \\naklsws003\Instdata\GC27\Data\1217201CAL.b\1217F051.D
Injection Date: 18-DEC-2020 19:41
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20 dr

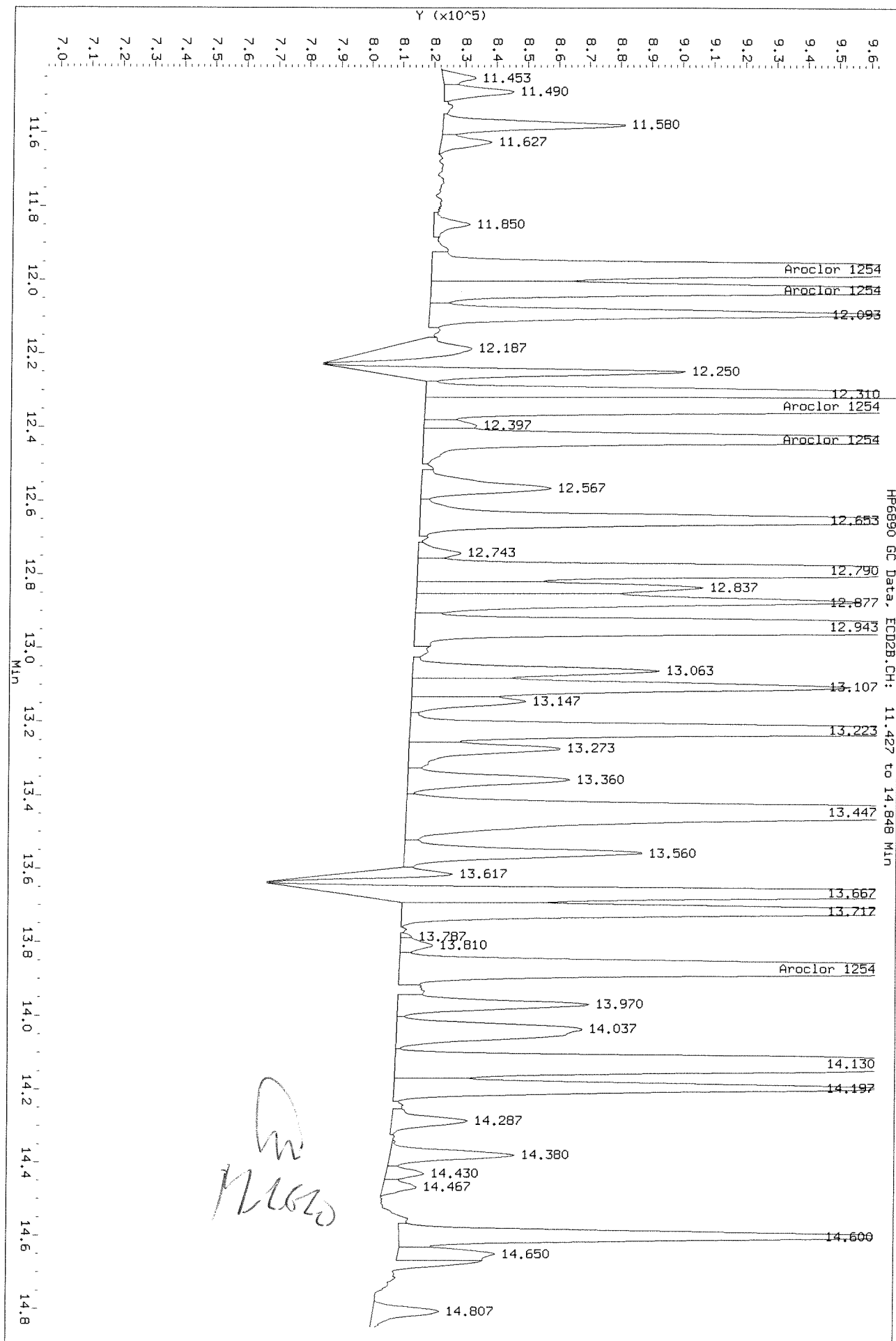


Data File: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F051.D
Injection Date: 18-DEC-2020 19:41
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL_r.b\1217F051.D
Injection Date: 18-DEC-2020 19:41
Instrument: GC27.1
Client Sample ID:



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F052.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F052.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F052.D
Inj Date : 18-DEC-2020 20:13
Sample Info: PCB8-65N 1260 ICV @ 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	12.832	13.066	886557	633639	19.4	23.5	80.00- 120.00	100.00
	13.672	14.289	1696326	1079187	22.9	24.7	121.62- 182.42	191.34
	13.826	14.382	934254	581100	22.9	24.1	66.59- 99.89	105.38
	14.049	14.649	3503736	1075493	23.0	23.5	261.33- 391.99	395.21
	14.662	15.176	2546436	2250152	22.2	22.4	190.43- 285.65	287.23
	Average of Peak Amounts =				22.1	23.6		

12/23/20

SA 12/23/20

Data File: \\haklsws003\instdata\GC27\Data\121720ICM.b\1217F052.D

Date : 18-DEC-2020 20:13

Client ID:

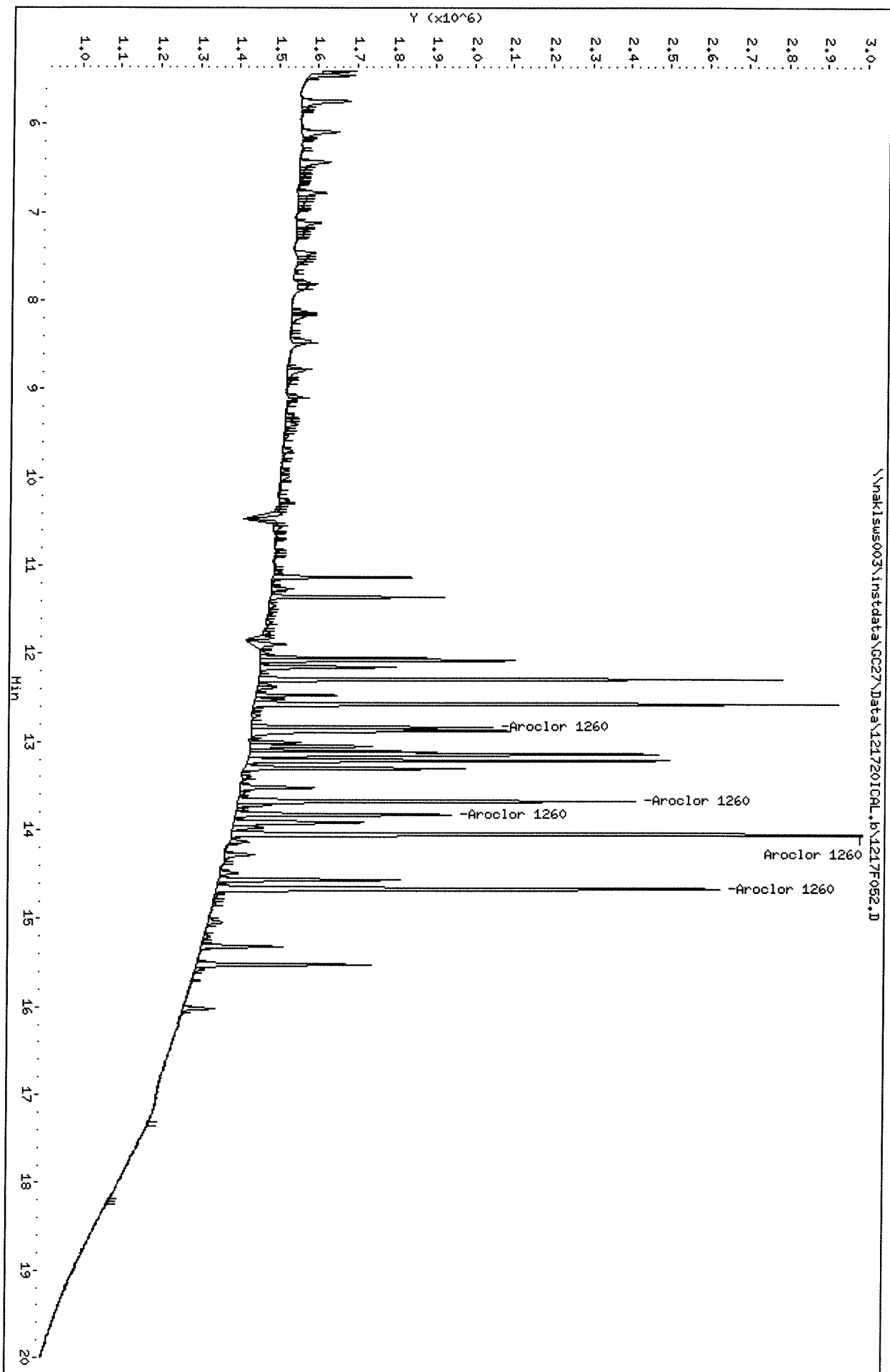
Sample Info: PCB8-65N 1260 ICV @ 20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nakisus003\instdata\GC27\Data\121720IC1.r.b\1217F052.D

Date : 18-DEC-2020 20:13

Client ID:

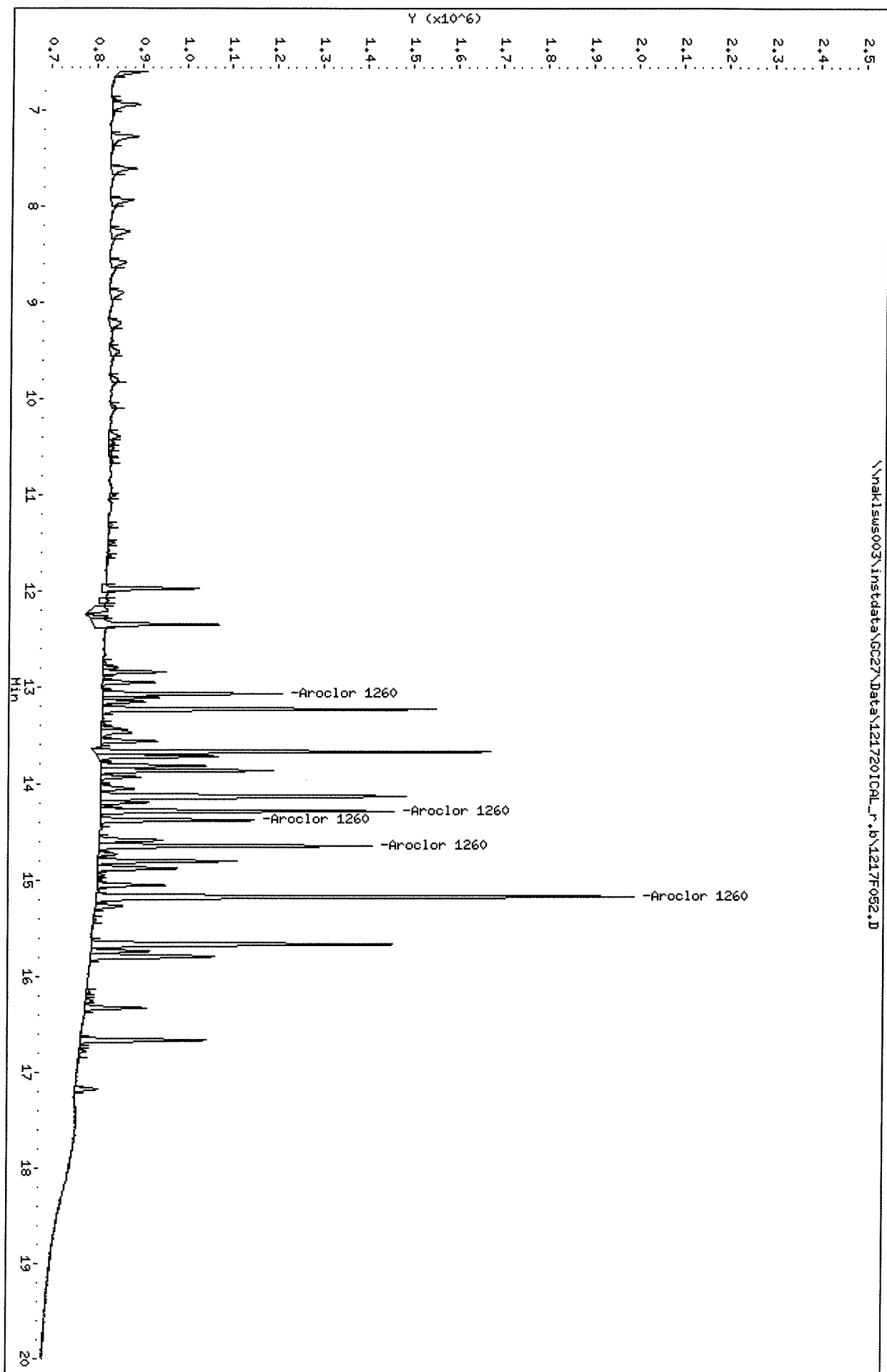
Sample Info: PCB8-66N 1260 ICV @ 20PPB

Column phase: DB-XLB

Instrument: GC27.1

Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F053.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1217F053.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1217F053.D
Inj Date : 18-DEC-2020 20:44
Sample Info: PCB8-69D 1262 ICV @ 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	13.211	14.291	2182395	1378527	19.8	20.3	80.00-	120.00	100.00
	13.671	14.384	1926089	569335	20.2	20.2	72.87-	109.30	88.26
	14.047	14.647	3493888	1086099	20.1	20.3	136.64-	204.97	160.09
	14.664	15.174	2511957	2212031	19.6	19.6	97.41-	146.11	115.10
	15.521	16.664	1021286	699614	20.5	20.6	39.34-	59.01	46.80
	Average of Peak Amounts =				20.0	20.2			

12/23/20

12/23/20

Data File: \\nak1sus003\instdata\GC27\Data\1217201CAL.b\1217F053.D

Date : 18-DEC-2020 20:44

Client ID:

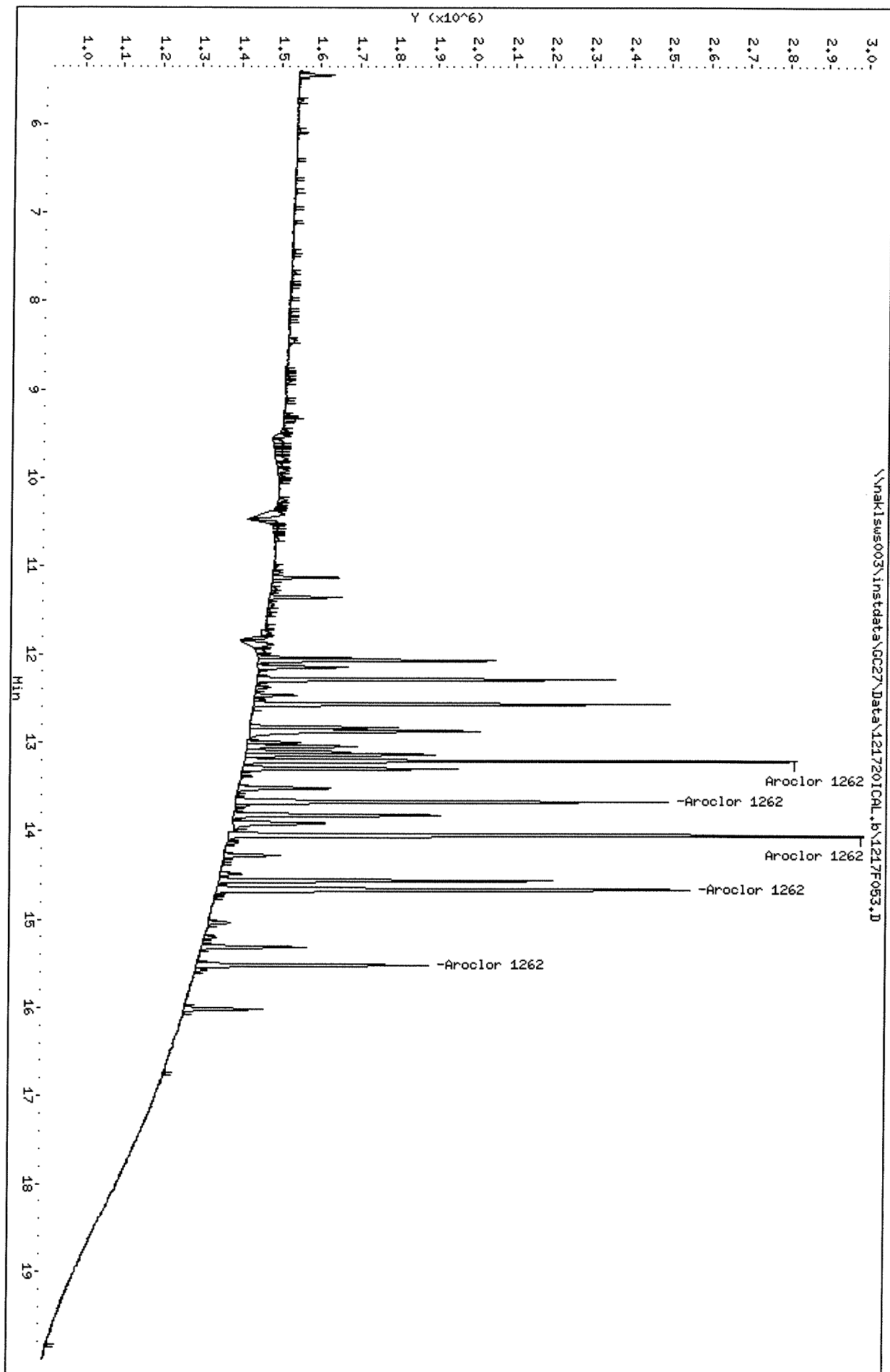
Sample Info: PCB8-69D 1262 ICV @ 20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sus003\instdata\GC27\Data\1217201CAL_r.b\1217F053.D
Date : 18-DEC-2020 20:44

Client ID:

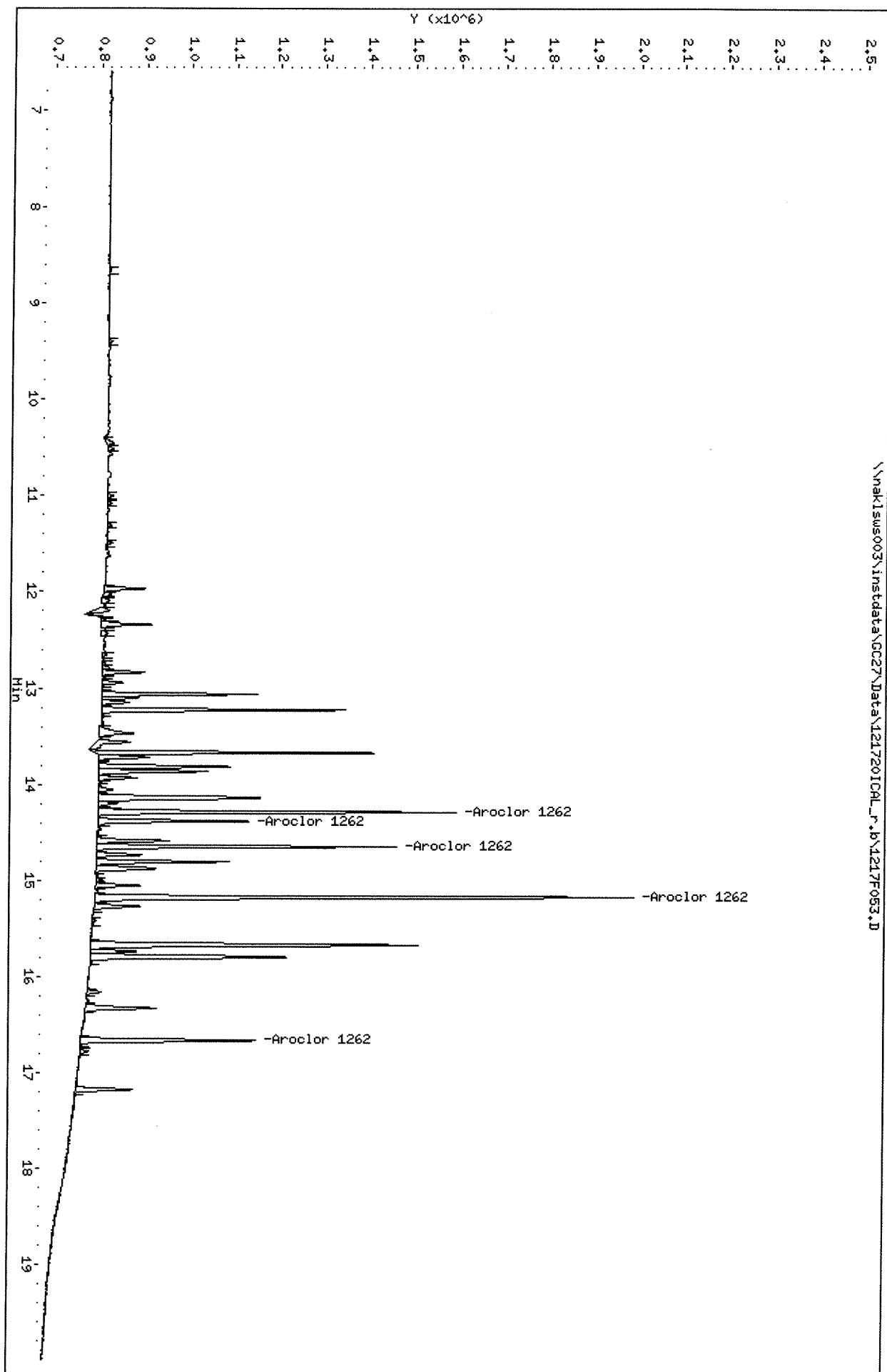
Sample Info: PCB8-63D 1262 ICV @ 20PPB

Column phase: DB-XLB

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1222F003.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1222F003.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1222F003.D
Inj Date : 22-DEC-2020 14:28
Sample Info: IB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	6.631	0.000	48510	0	0.0221	0.000		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

GW
12/26/20

S-12/23/20

Data File: \\nak1s003\instdata\GC27\Data\121720ICL.b\1222F003.D

Date : 22-DEC-2020 14:28

Client ID:

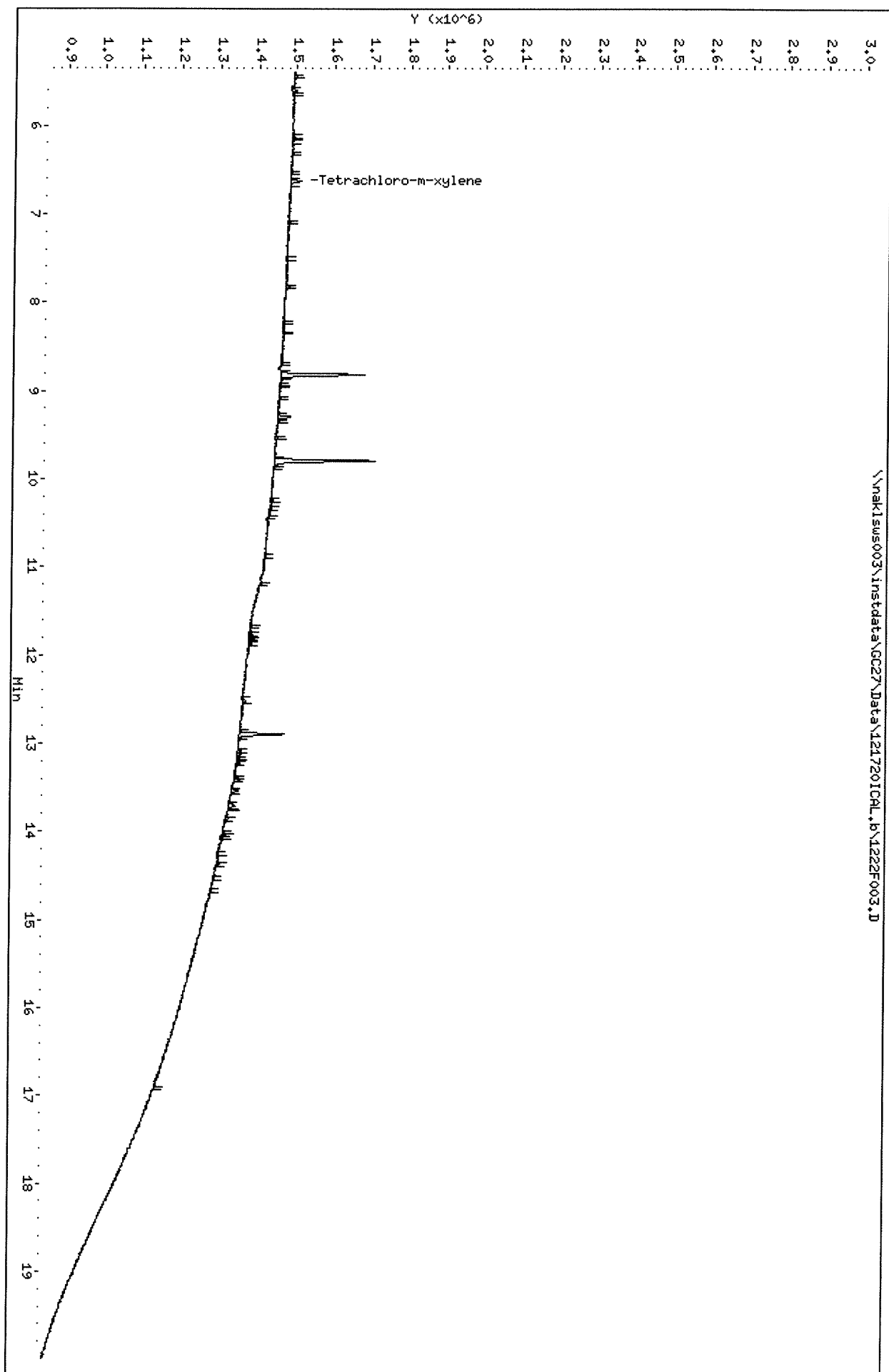
Sample Info: IB

Instrument: GC27.i

Column phase: DB-35MS

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL_r.b\1222F003.D

Date : 22-DEC-2020 14:28

Client ID:

Sample Info: IB

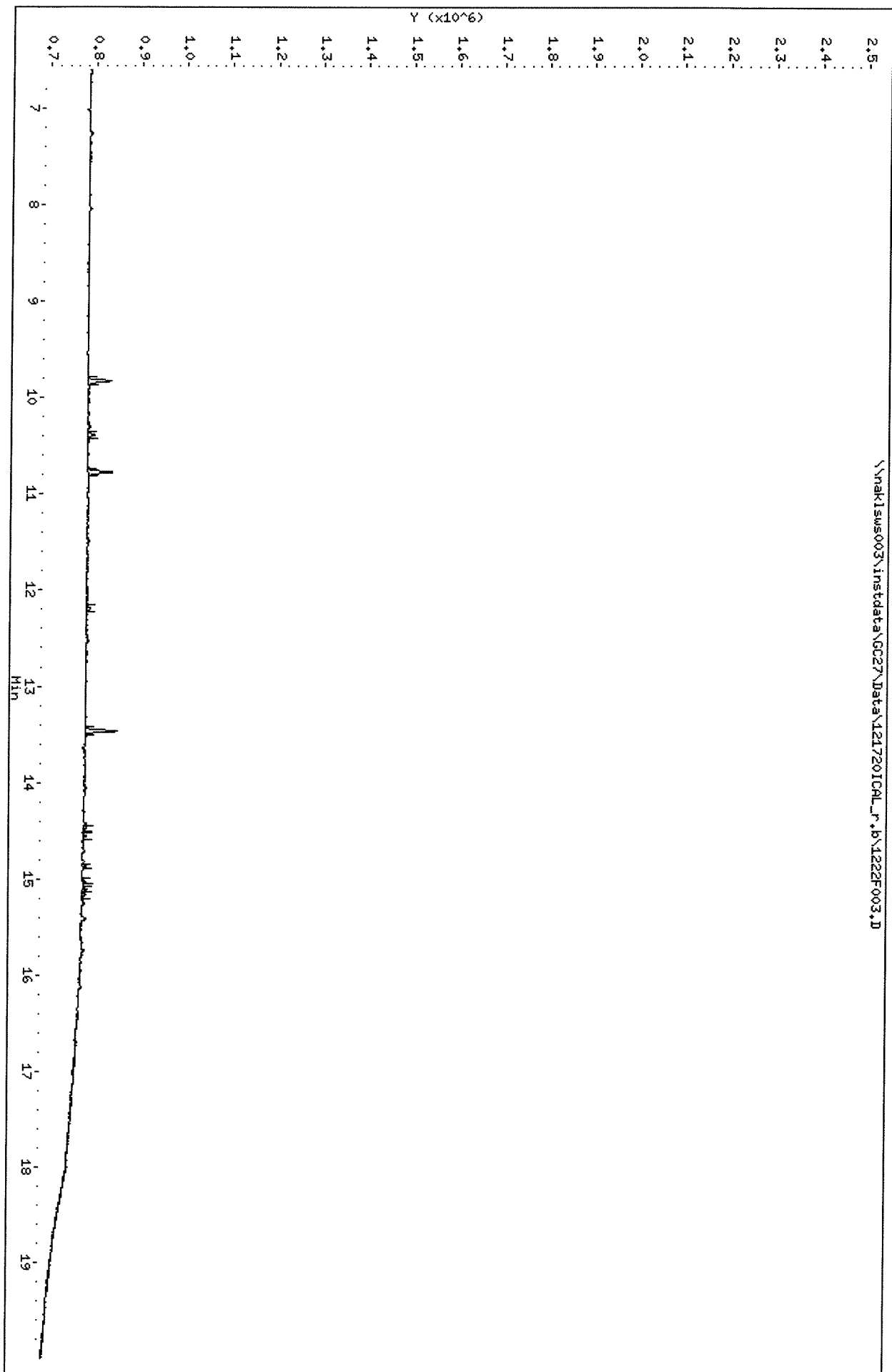
Instrument: GC27.i

Column phase: DB-XLB

Operator: SAA

Column diameter: 0.32

\\nak1sws003\instdata\GC27\Data\1217201CAL_r.b\1222F003.D



ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1222F006.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1222F006.D
Inj Date : 22-DEC-2020 16:49
Sample Info: PCB8-65F 4268 1PPB @ 10X
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_r.m
Sub List #1 : 4268.sub
Sub List #2 : 4268.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	7.687	8.654	34750	19427	1.13	1.10	80.00- 120.00	100.00 (M)
	8.917	9.394	28281	27989	1.11	1.10	65.11- 97.66	81.38 (M)
	9.357	10.450	82085	37286	1.09	1.03	188.97- 283.46	236.22 (M)
	9.534	10.507	45984	38997	1.04	0.969	105.86- 158.79	132.33 (M)
	9.924	10.787	35749	21438	1.16	0.927	82.30- 123.45	102.87 (M)
	Average of Peak Amounts =				1.11	1.03		
Aroclor 1268	14.560	15.670	214954	149226	1.05	1.13	80.00- 120.00	100.00
	14.660	15.794	196733	120989	1.09	1.06	73.22- 109.83	91.52
	15.037	16.157	155685	102232	1.04	1.07	57.94- 86.91	72.43
	16.017	17.170	377856	276876	1.03	1.16	140.63- 210.94	175.78
	Average of Peak Amounts =				1.05	1.11		

QC Flag Legend

M - Compound response manually integrated.

Ph
12/23/20

SA 12/23/20

Data File: \\nak1s003\instdata\GC27\Data\1217201CAL.b\1222F006.D

Date : 22-DEC-2020 16:49

Client ID:

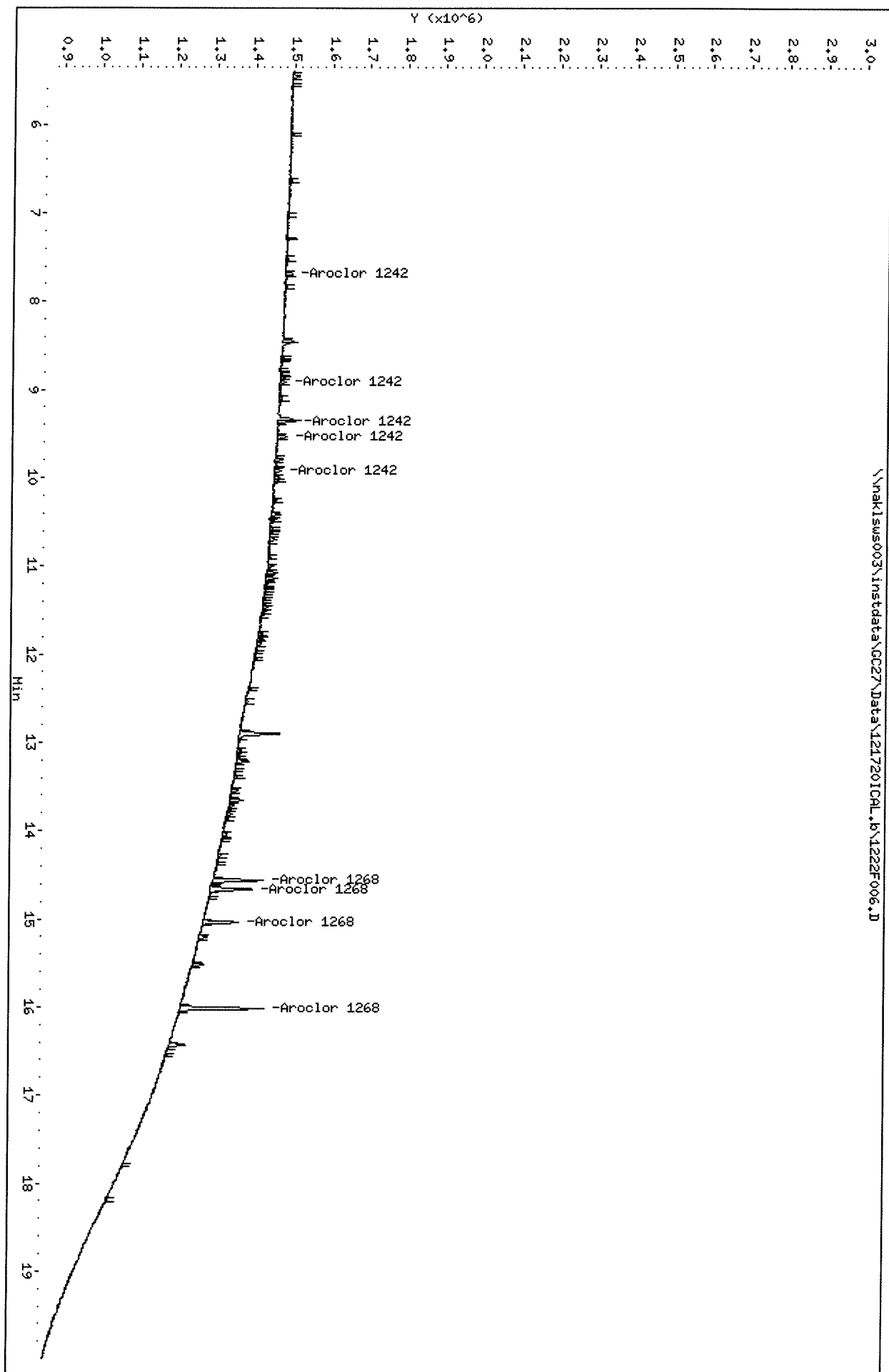
Sample Info: PCB8-66F 4268 1PPB @ 10X

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nakisw003\instdata\GC27\Data\1217201CAL_r.b\1222F006.D

Date : 22-DEC-2020 16:49

Client ID:

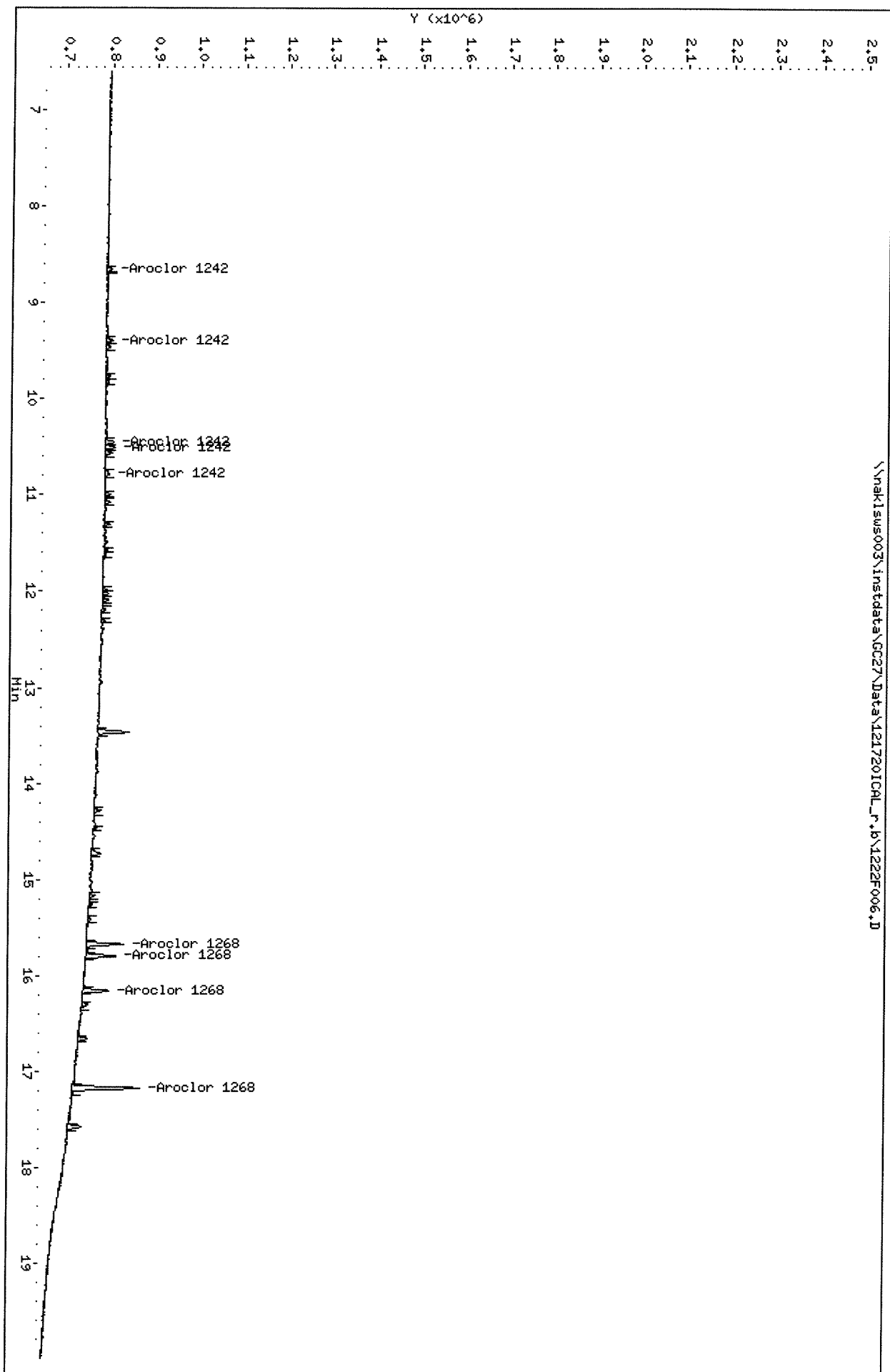
Sample Info: PCB8-65F 4268 1PPB @ 10X

Column phase: DB-XLB

Instrument: GC27.i

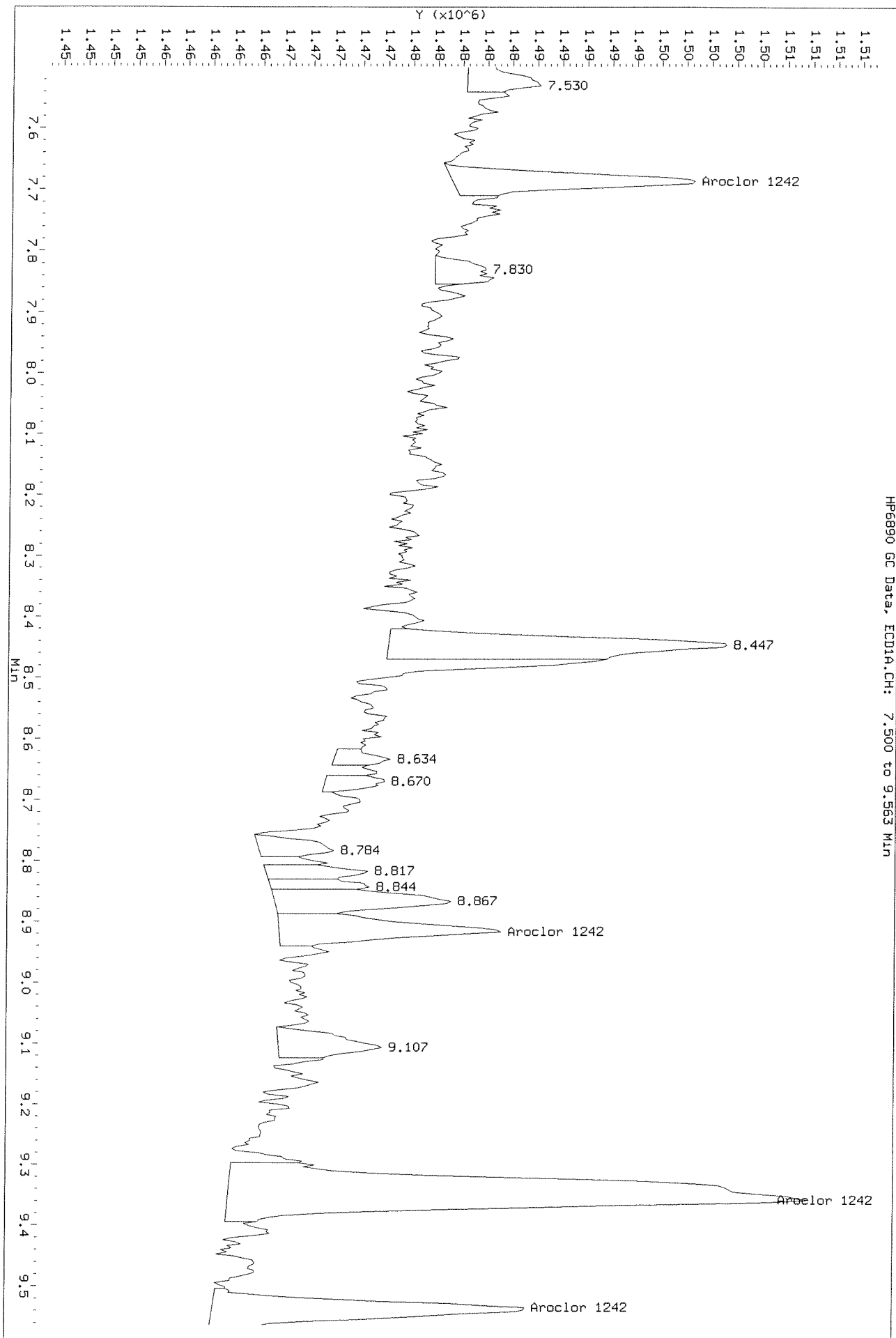
Operator: SAA

Column diameter: 0.32



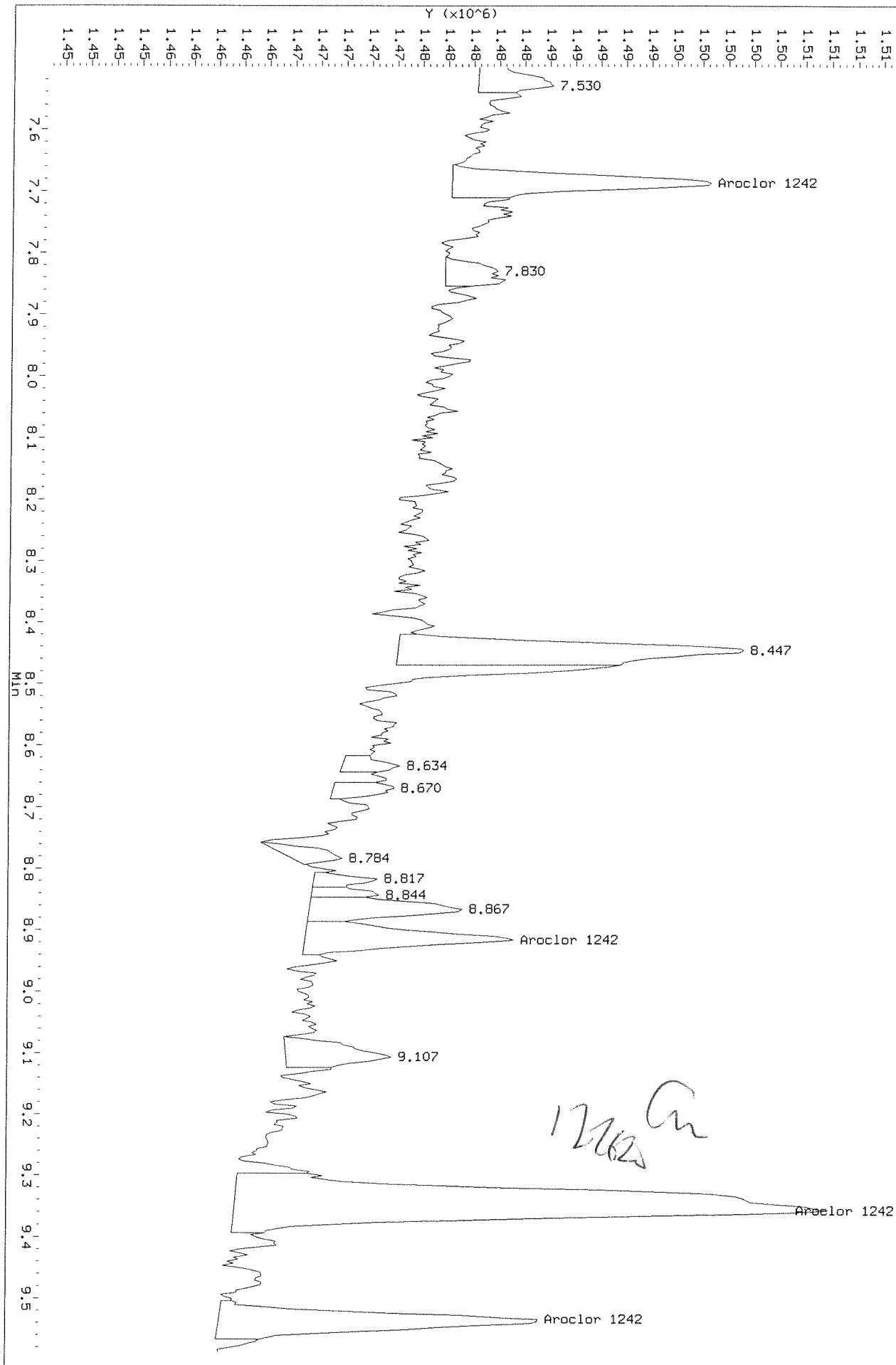
Data File: \\naklsws003\Instdata\GC27\Data\1217201CAL.b\1222F006.D
Injection Date: 22-DEC-2020 16:49
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\nakjsws003\instdata\GC27\Data\1217201CAL.b\1222F006.D
Injection Date: 22-DEC-2020 16:49
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 7.500 to 9.588 Min

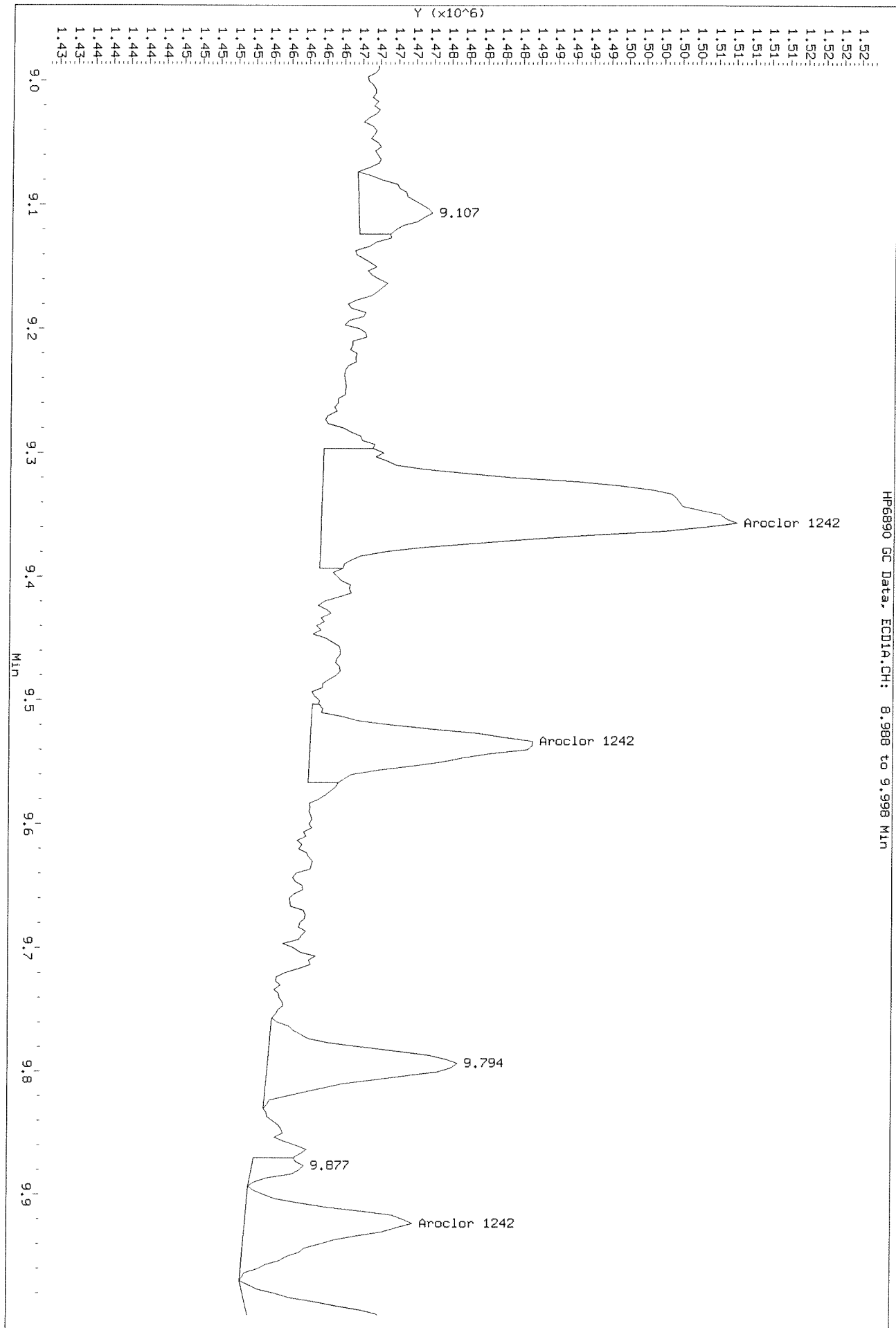


After baseline 12/23/20 ✓

12/23/20

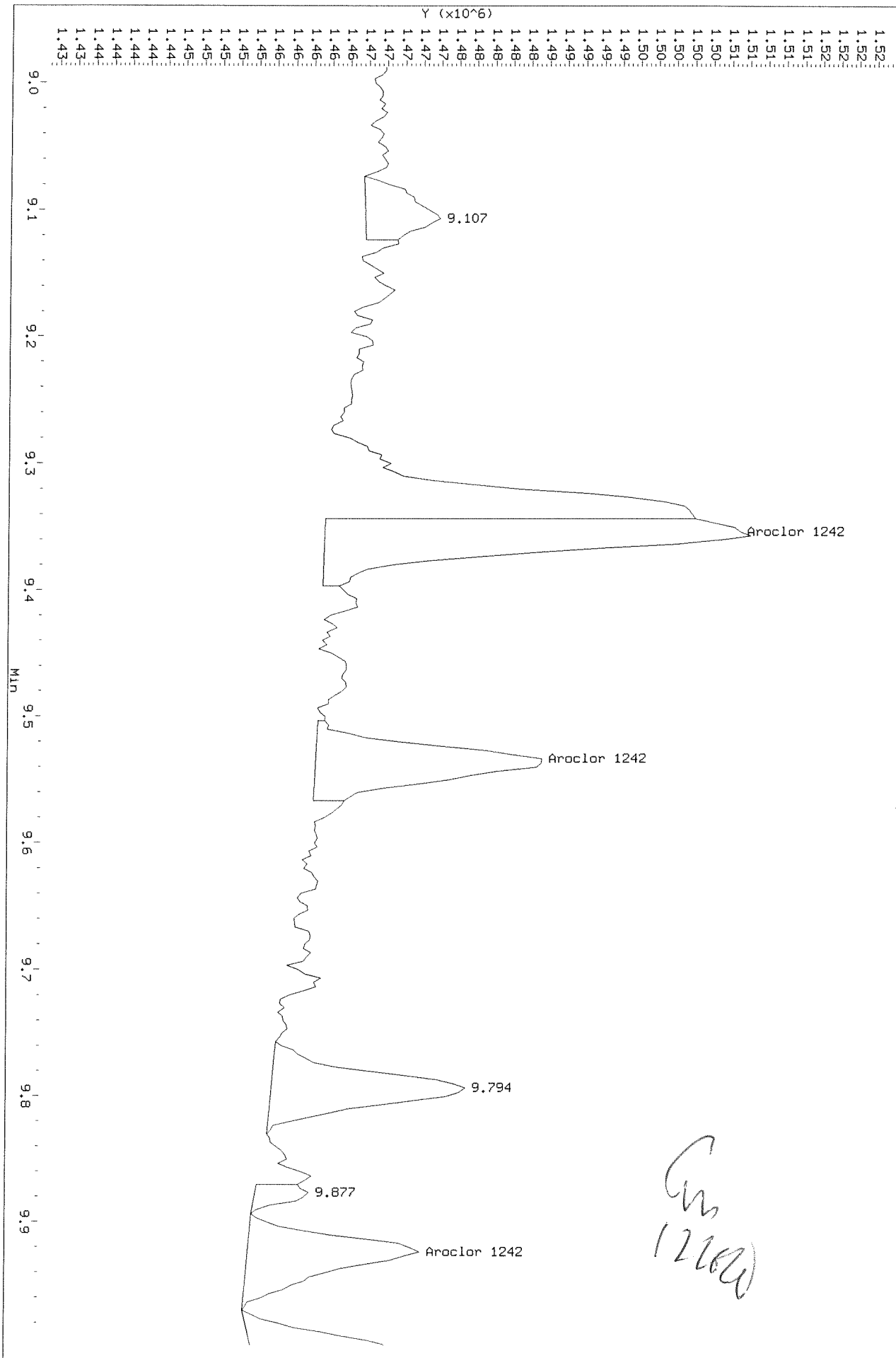
Data File: \\naklsws003\instdata\GC27\Data\1217201CL.b\1222F006.D
Injection Date: 22-DEC-2020 16:49
Instrument: GC27.1
Client Sample ID:

Before



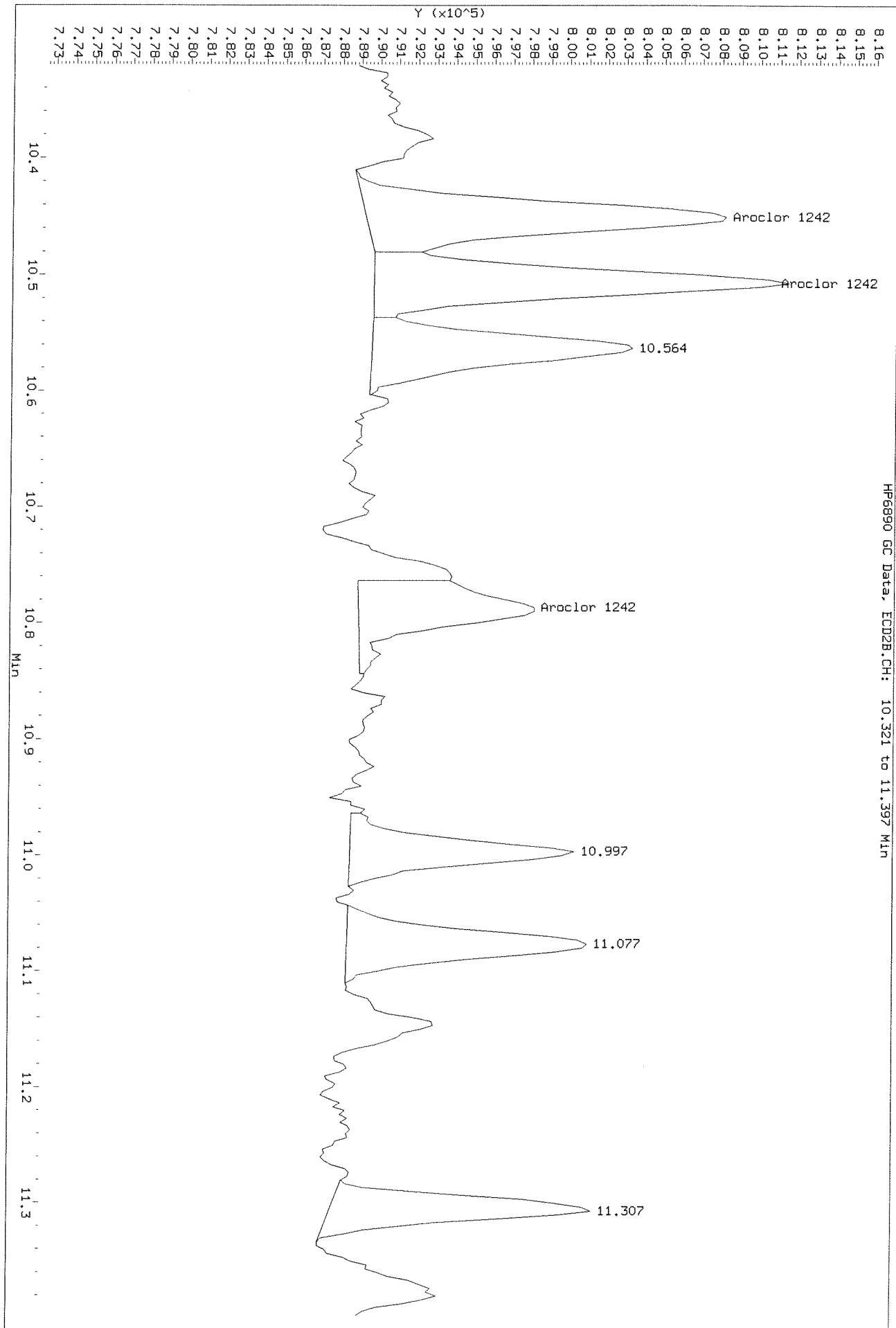
Data File: \\naklsws003\Instdata\GC27\Data\1217201CAL.b\1222F006.D
Injection Date: 22-DEC-2020 16:49
Instrument: GC27.1
Client Sample ID:

HP6890 GC Data, ECD1A.CH: 8.988 to 9.998 Min



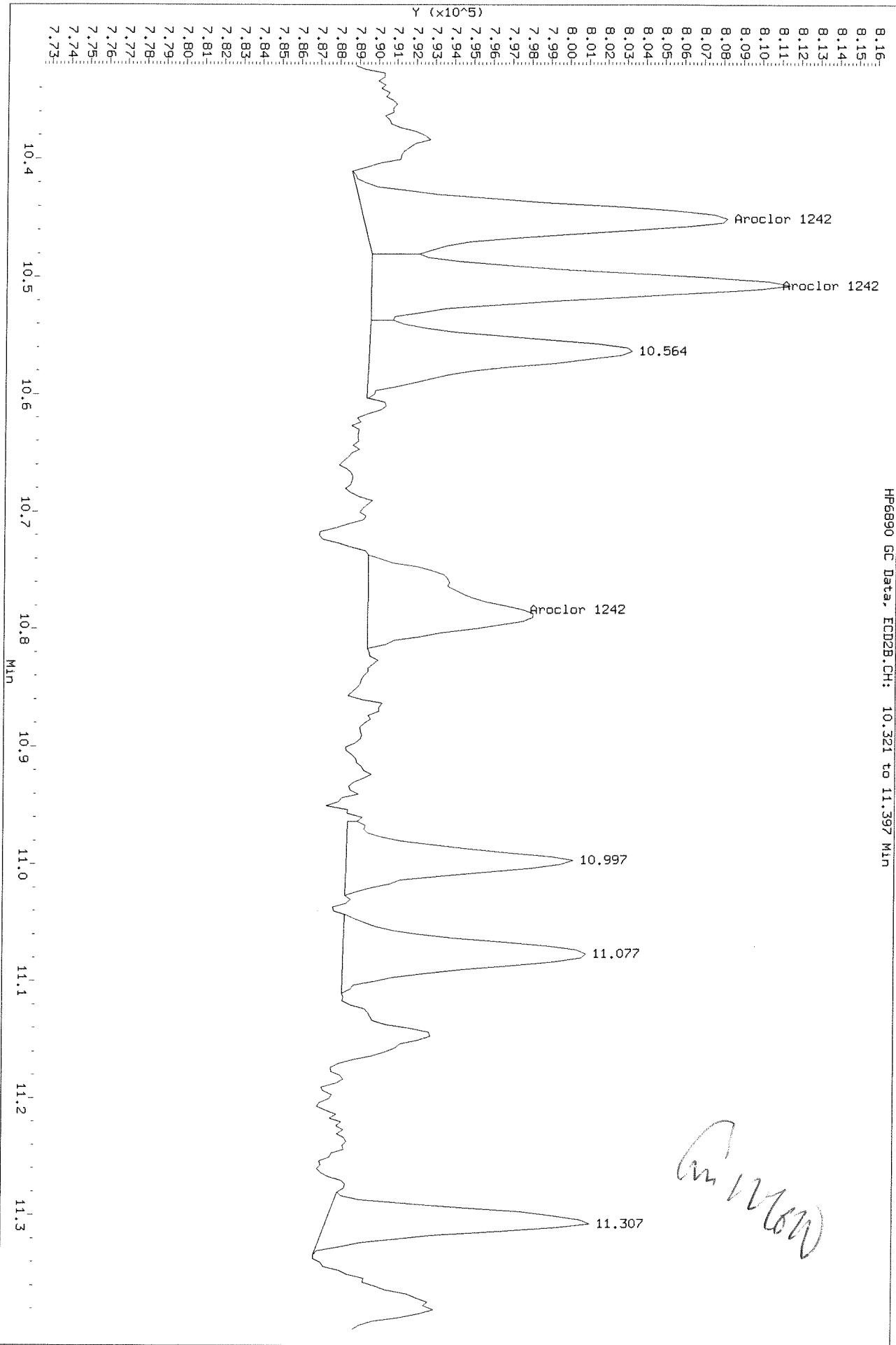
Data File: \\naklsws003\instdata\GC27\Data\1217201CAL_r.b\1222F006.D
 Injection Date: 22-DEC-2020 16:49
 Instrument: GC27.1
 Client Sample ID:

Before



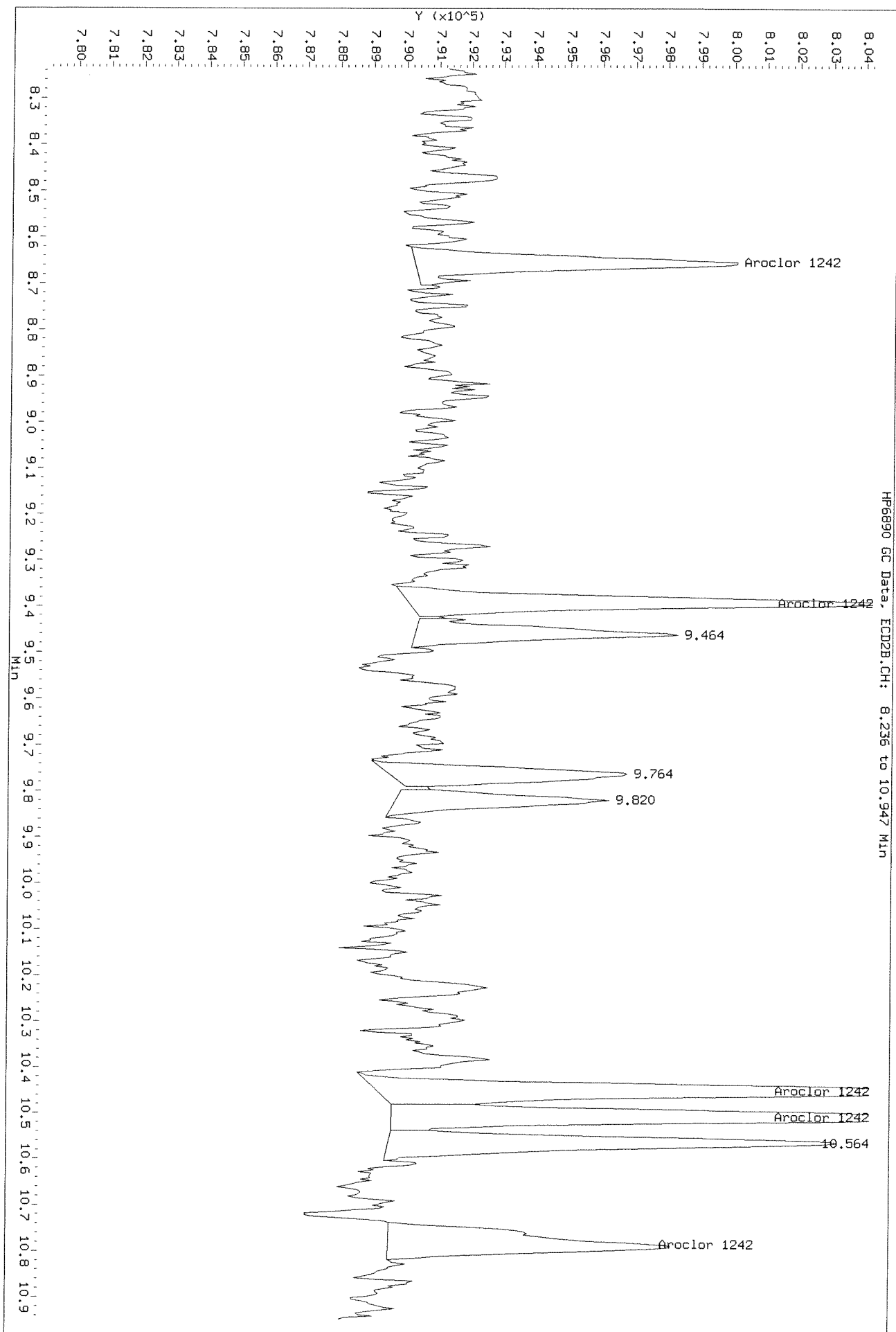
Data File: \\naklms003\instdata\GC27\Data\1217201CAL_r.b\1222F006.D
Injection Date: 22-DEC-2020 16:49
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/2019



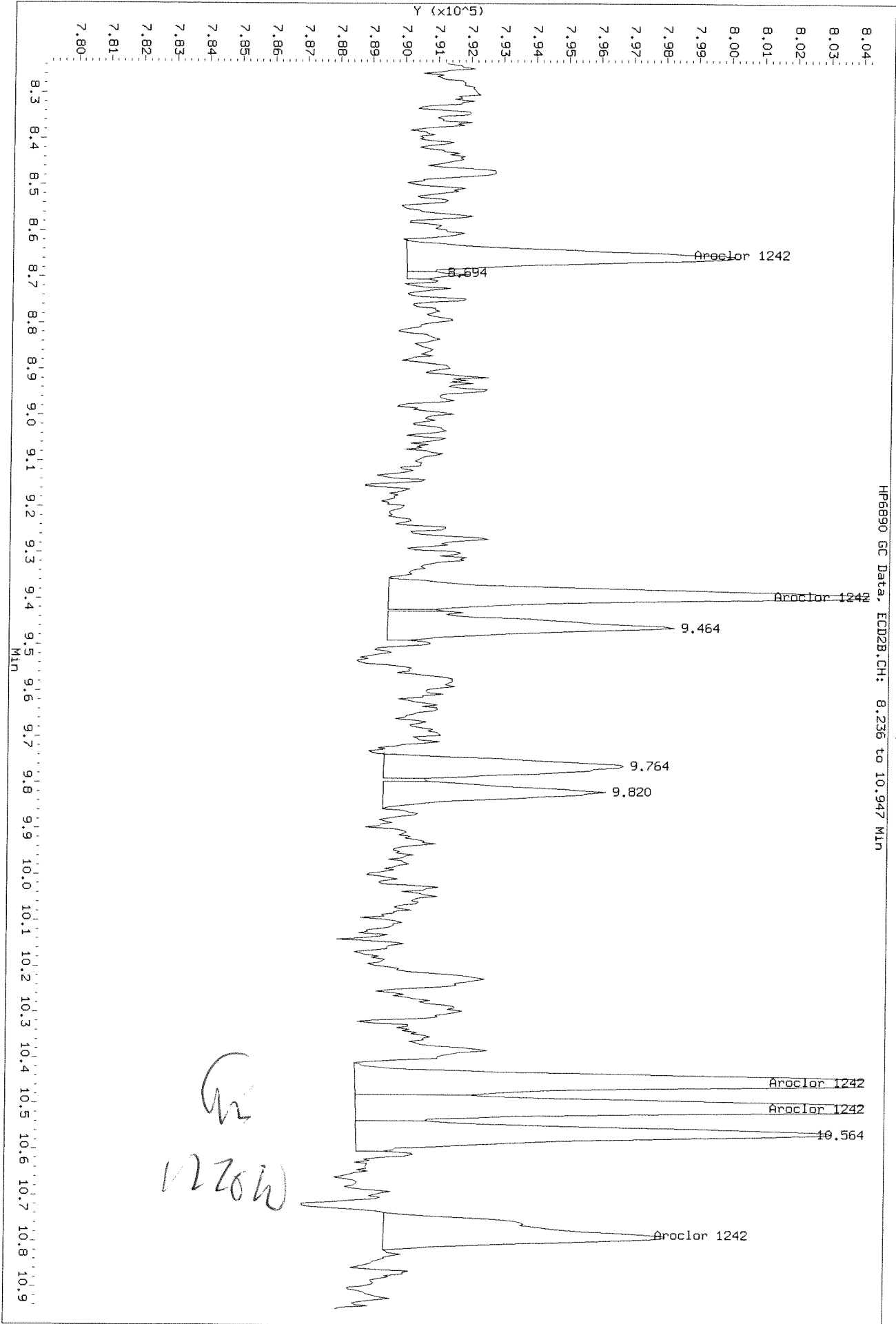
Data File: \\naklsws003\instdata\GC27\Data\1217201CAL_r.b\1222f006.D
Injection Date: 22-DEC-2020 16:49
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsws003\instdata\GC27\Data\1217201CAL_r.b\1222F006.D
Injection Date: 22-DEC-2020 16:49
Instrument: GC27.1
Client Sample ID:

After baseline shoulder 12/23/20



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1222F007.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1222F007.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1222F007.D
Inj Date : 22-DEC-2020 17:21
Sample Info: PCB8-69A 1242 ICV @ 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	7.679	8.659	570244	328246	18.6	18.6	80.00- 120.00	100.00
	8.905	9.395	465378	477706	18.2	18.7	65.11- 97.66	81.61
	9.345	10.452	1406329	684766	18.7	19.0	188.97- 283.46	246.62
	9.529	10.509	841628	764954	19.0	19.0	105.86- 158.79	147.59
	9.915	10.792	619689	425851	20.2	18.4	82.30- 123.45	108.67
	Average of Peak Amounts =				18.9	18.7		

Handwritten signature
12/23/20

Handwritten signature
12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1222F007.D

Date : 22-DEC-2020 17:21

Client ID:

Sample Info: PCB8-69A 1242 ICV @ 20PPB

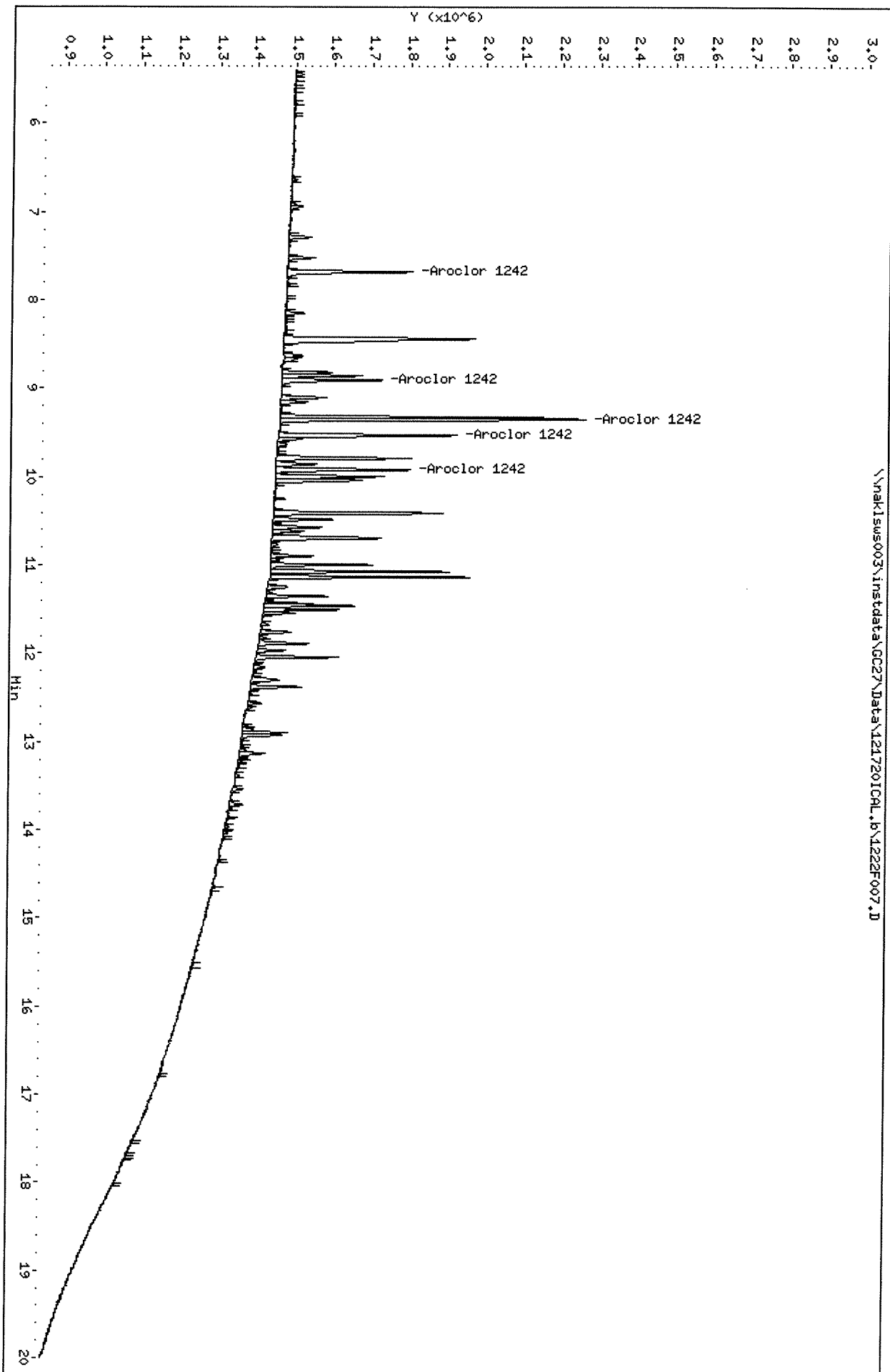
Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32

\\nak1sws003\instdata\GC27\Data\1217201CAL.b\1222F007.D



Data File: \\naki1sws003\instdata\GC27\Data\1217201CAL_r.b\1222F007.D
Date : 22-DEC-2020 17:21

Client ID:

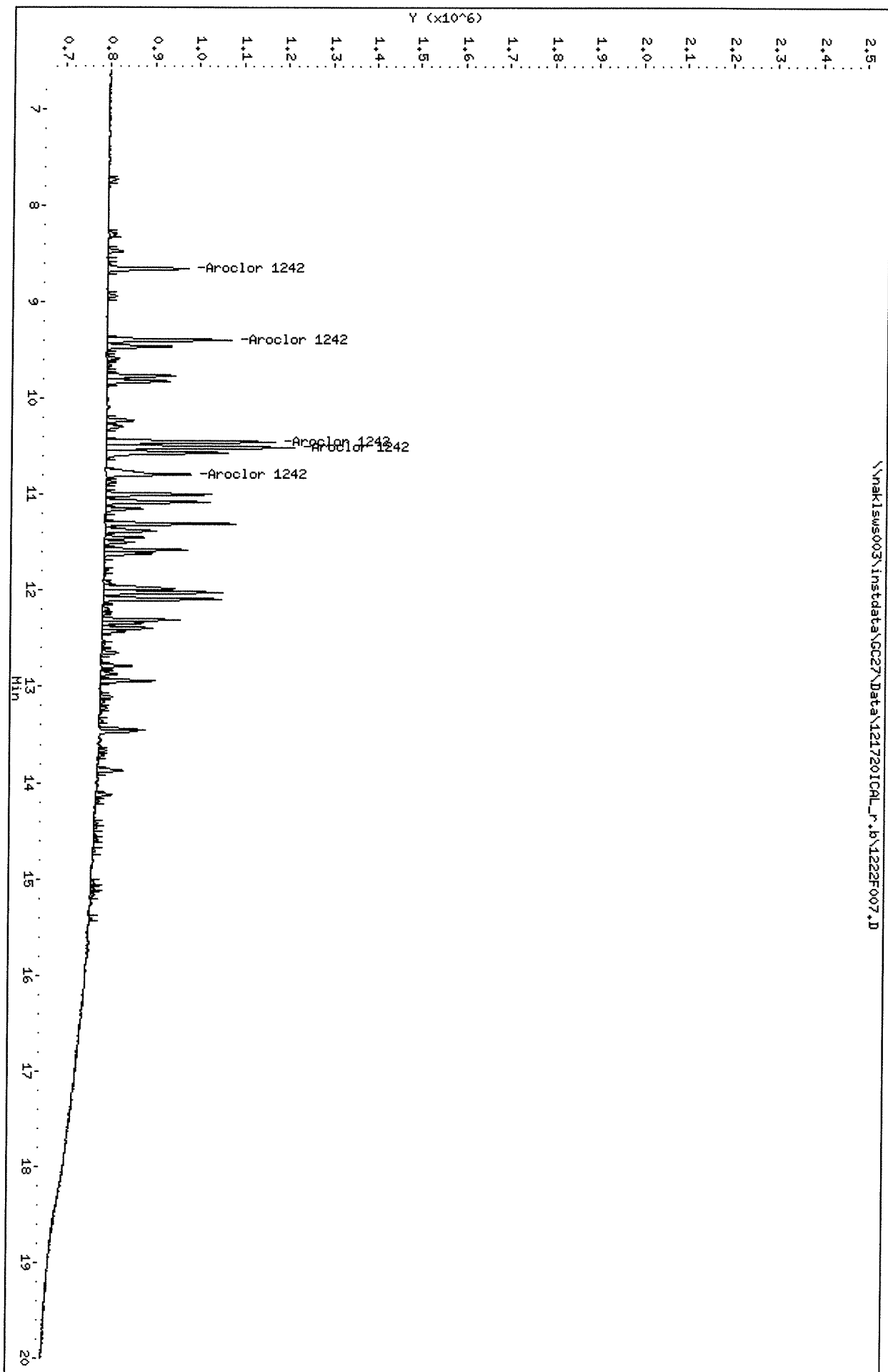
Sample Info: PCB8-69A 1242 ICV @ 20PPB

Column phase: DB-XLB

Instrument: GC27.i

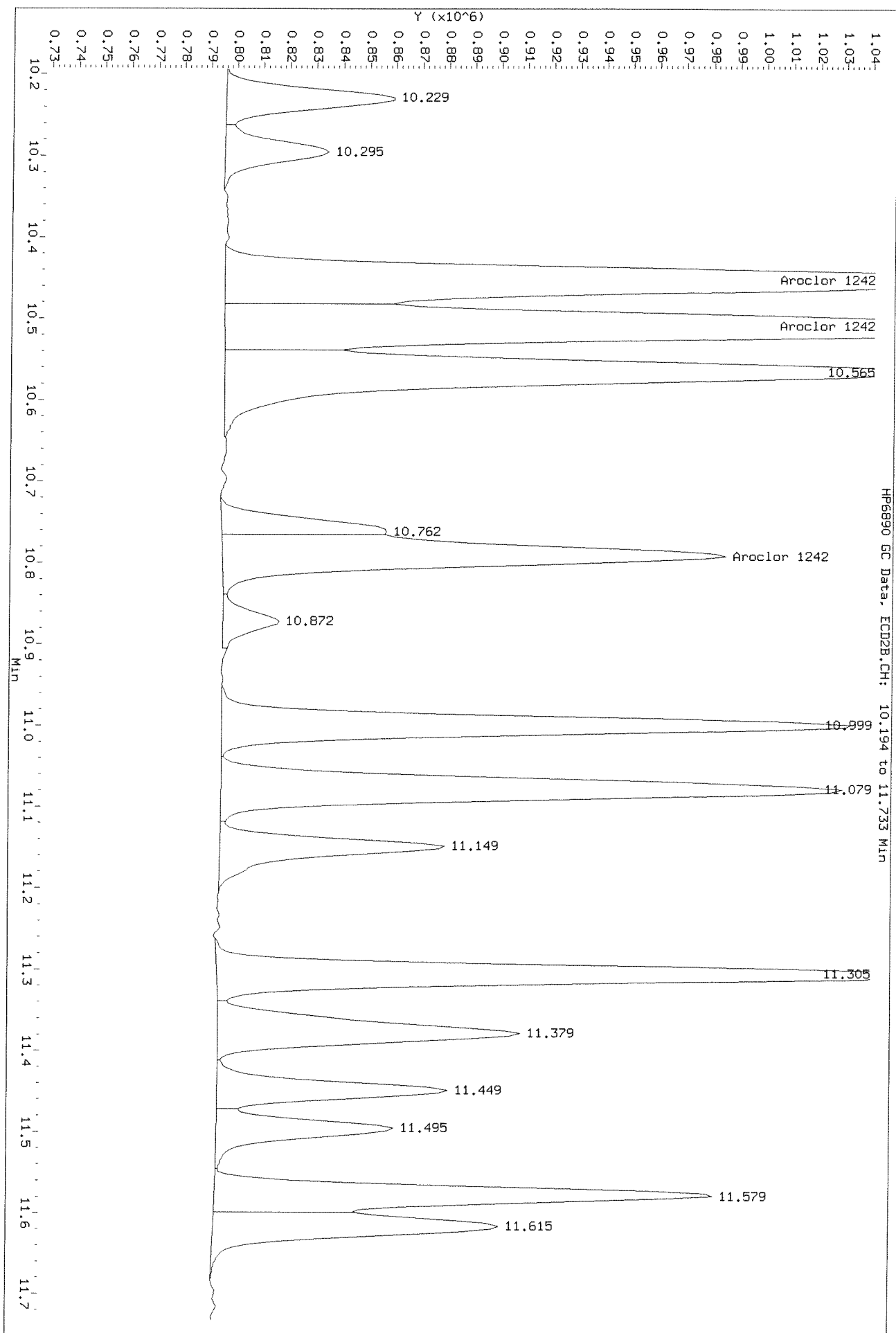
Operator: SAH

Column diameter: 0.32



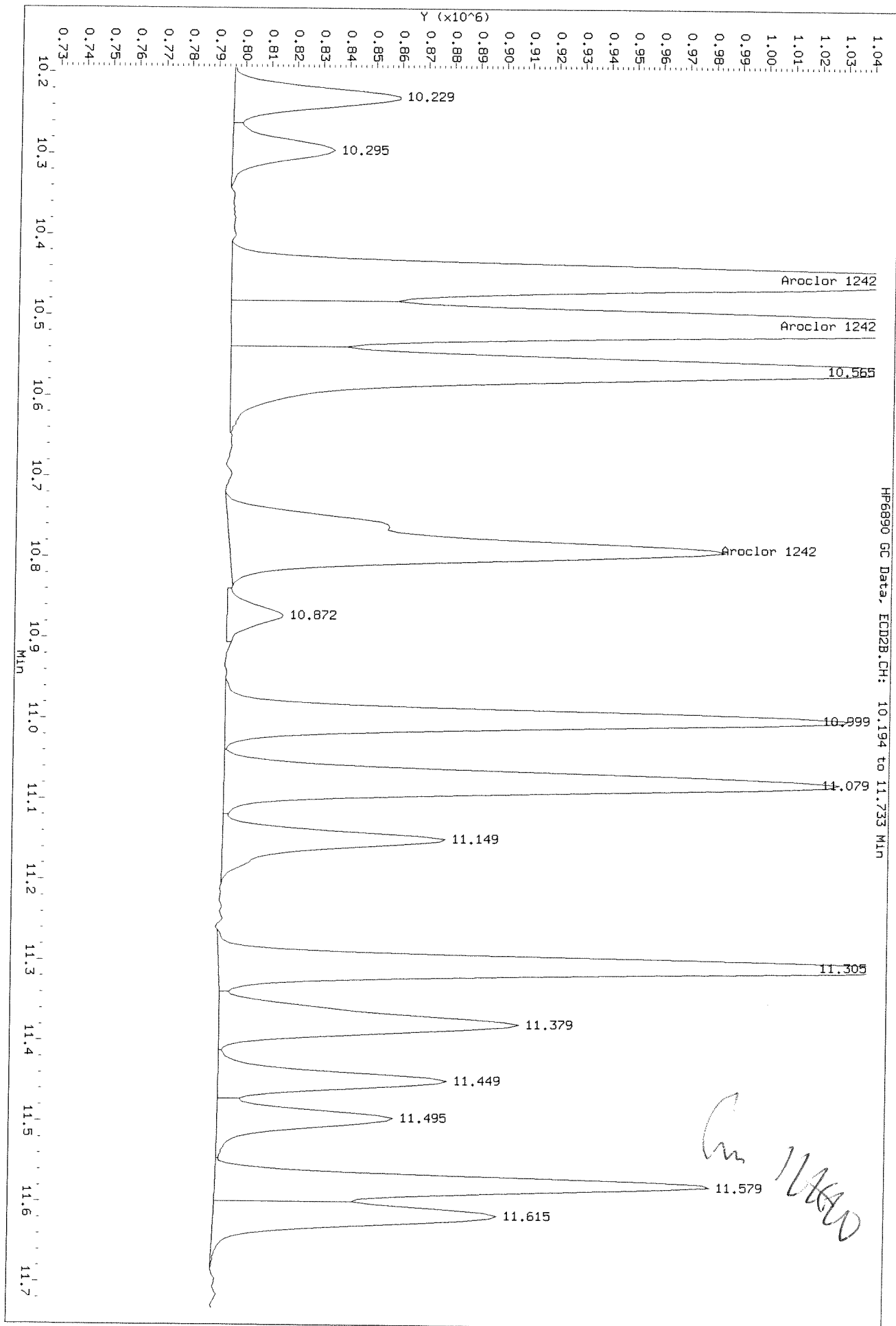
Data File: \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1222F007.D
Injection Date: 22-DEC-2020 17:21
Instrument: GC27.1
Client Sample ID:

Before



Data File: \\naklsms003\instdata\GC27\Data\121720ICAL_r.b\1222F007.D
Injection Date: 22-DEC-2020 17:21
Instrument: GC27.1
Client Sample ID:

After baseline 12/23/20 A



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1222F008.D
Report Date: 23-Dec-2020 14:53

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1222F008.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1222F008.D
Inj Date : 22-DEC-2020 17:52
Sample Info: PCB8-69E 1268 ICV @ 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	14.555	15.672	3759191	2428441	18.4	18.5	80.00- 120.00	100.00
	14.655	15.792	3338858	2196028	18.6	19.2	73.22- 109.83	88.82
	15.032	16.156	2781426	1833899	18.5	19.2	57.94- 86.91	73.99
	16.012	17.169	6895159	4501197	18.7	18.8	140.63- 210.94	183.42
Average of Peak Amounts =					18.6	18.9		

12/23/20

SA 12/23/20

Data File: \\nak1sws003\instdata\GC27\Data\1217201CAL.b\1222F008.D

Date : 22-DEC-2020 17:52

Client ID:

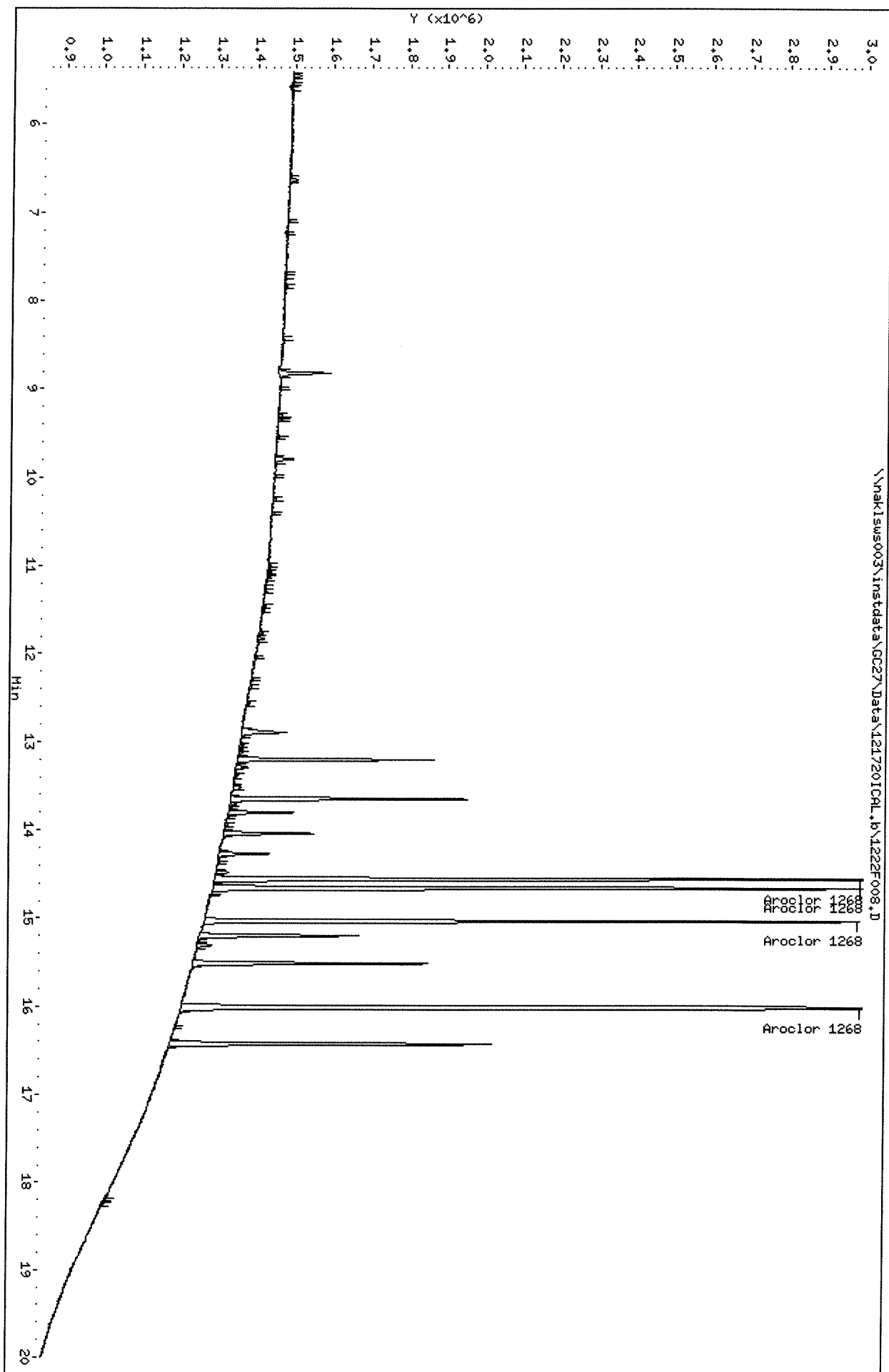
Sample Info: PCB8-69E 1268 ICV @ 20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1s003\instdata\GC27\Data\1217201CAL_r.b\1222F008.D

Date : 22-DEC-2020 17:52

Client ID:

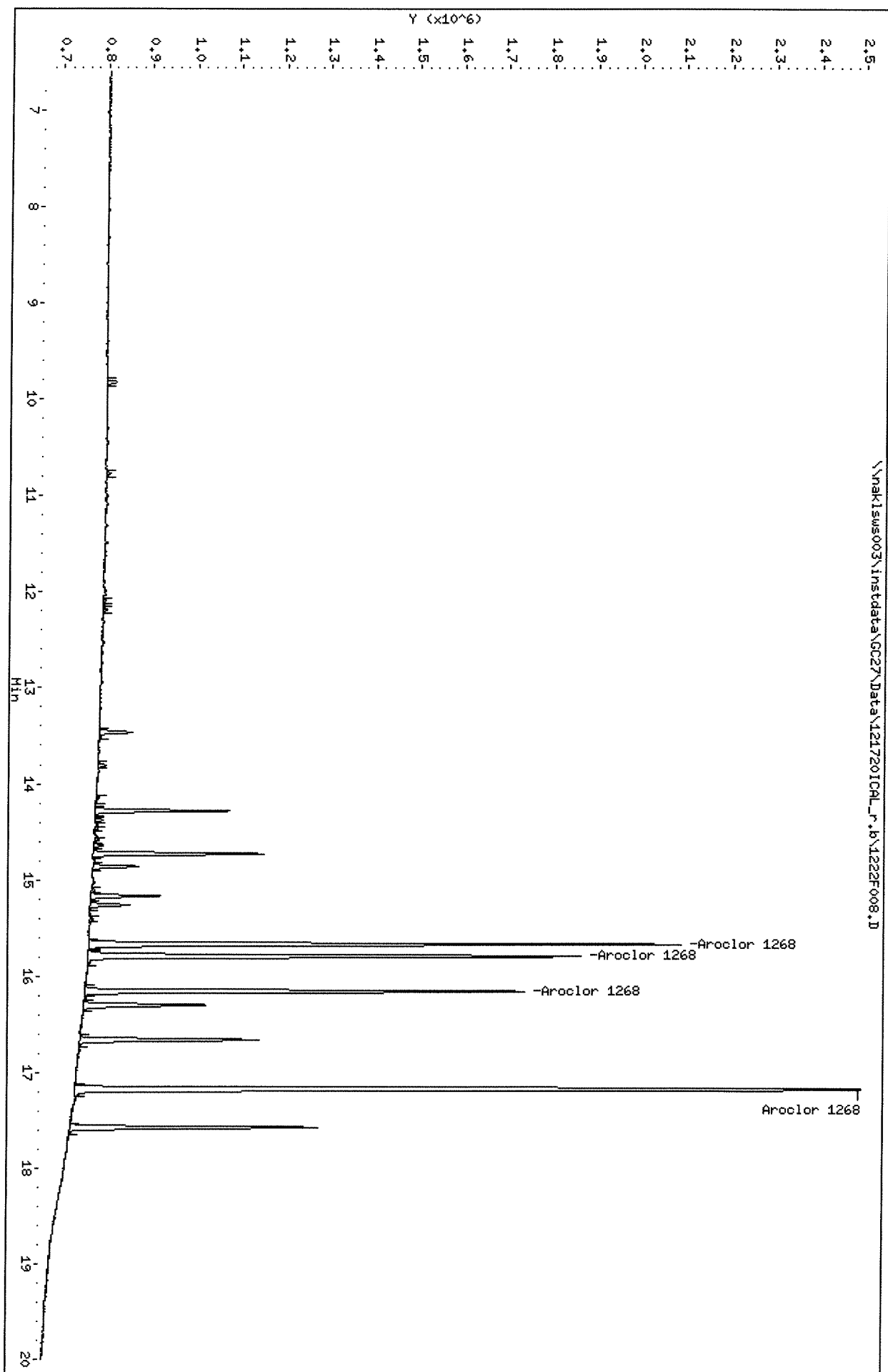
Sample Info: PCB8-69E 1268 ICV @ 20PPB

Column phase: DB-XLB

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1223F002.D
Report Date: 23-Dec-2020 14:54

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1223F002.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1223F002.D
Inj Date : 23-DEC-2020 12:09
Sample Info: IB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	6.630	0.000	56234	0	0.0256	0.000		100.00(R)

QC Flag Legend

R - Spike/Surrogate failed recovery limits.

12/23/20

SA 12/23/20

Data File: \\nak1sus003\instdata\GC27\Data\121720ICAL.b\1223F002.D

Date : 23-DEC-2020 12:09

Client ID:

Sample Info: IB

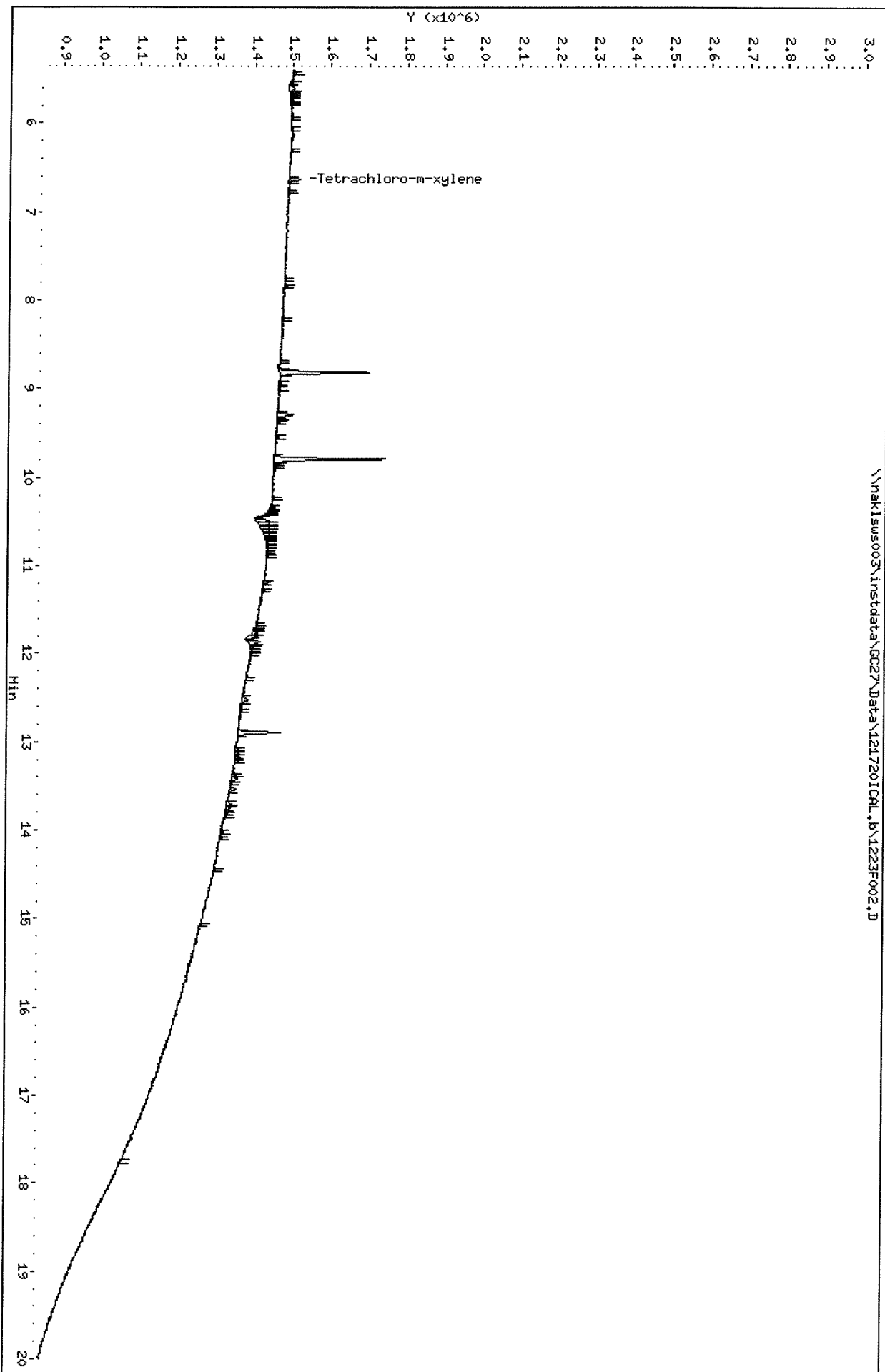
Instrument: GC27.i

Operator: SAA

Column diameter: 0.32

Column phase: DB-35MS

\\nak1sus003\instdata\GC27\Data\121720ICAL.b\1223F002.D



Data File: \\nak1sus003\instdata\GC27\Data\121720IC9L_r.b\1223F002.D

Date : 23-DEC-2020 12:09

Client ID:

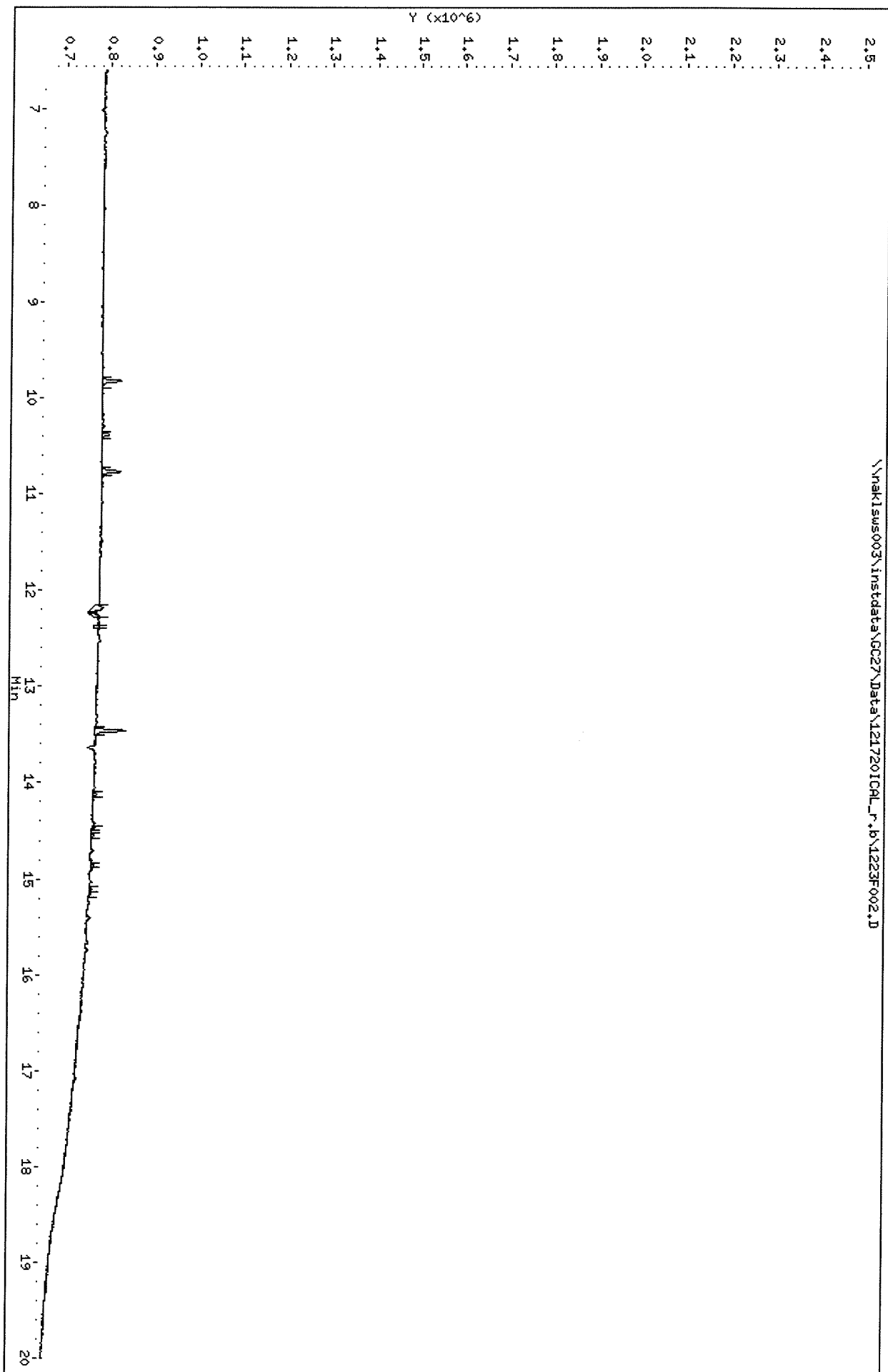
Sample Info: IB

Instrument: GC27.i

Column phase: DB-XLB

Operator: SAA

Column diameter: 0.32



Data File: \\naklsws003\instdata\GC27\Data\121720ICAL.b\1223F003.D
Report Date: 23-Dec-2020 14:54

ALS Environmental - Kelso

Sample #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\1223F003.D
Sample #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\1223F003.D
Inj Date : 23-DEC-2020 12:40
Sample Info: PCB8-69L 1221 ICV @ 20PPB
Misc Info :
Cal Date : 23-DEC-2020 10:16
Operator : SAA
Inst ID : GC27.i
Dil Factor : 1.000000

Method #1 : \\naklsws003\instdata\GC27\Data\121720ICAL.b\121720ul_f.m
Method #2 : \\naklsws003\instdata\GC27\Data\121720ICAL_r.b\121720_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	7.283	8.320	481205	167577	23.4	22.5	80.00- 120.00	100.00
	7.517	8.473	319305	173203	22.6	22.7	51.27- 76.90	66.36
	7.677	8.657	1160699	625022	23.1	23.4	190.41- 285.62	241.21
	Average of Peak Amounts =				23.0	22.9		

1726W
SAH/20

Data File: \\nak1s003\instdata\GC27\Data\1217201CAL.b\1223F003.D

Date : 23-DEC-2020 12:40

Client ID:

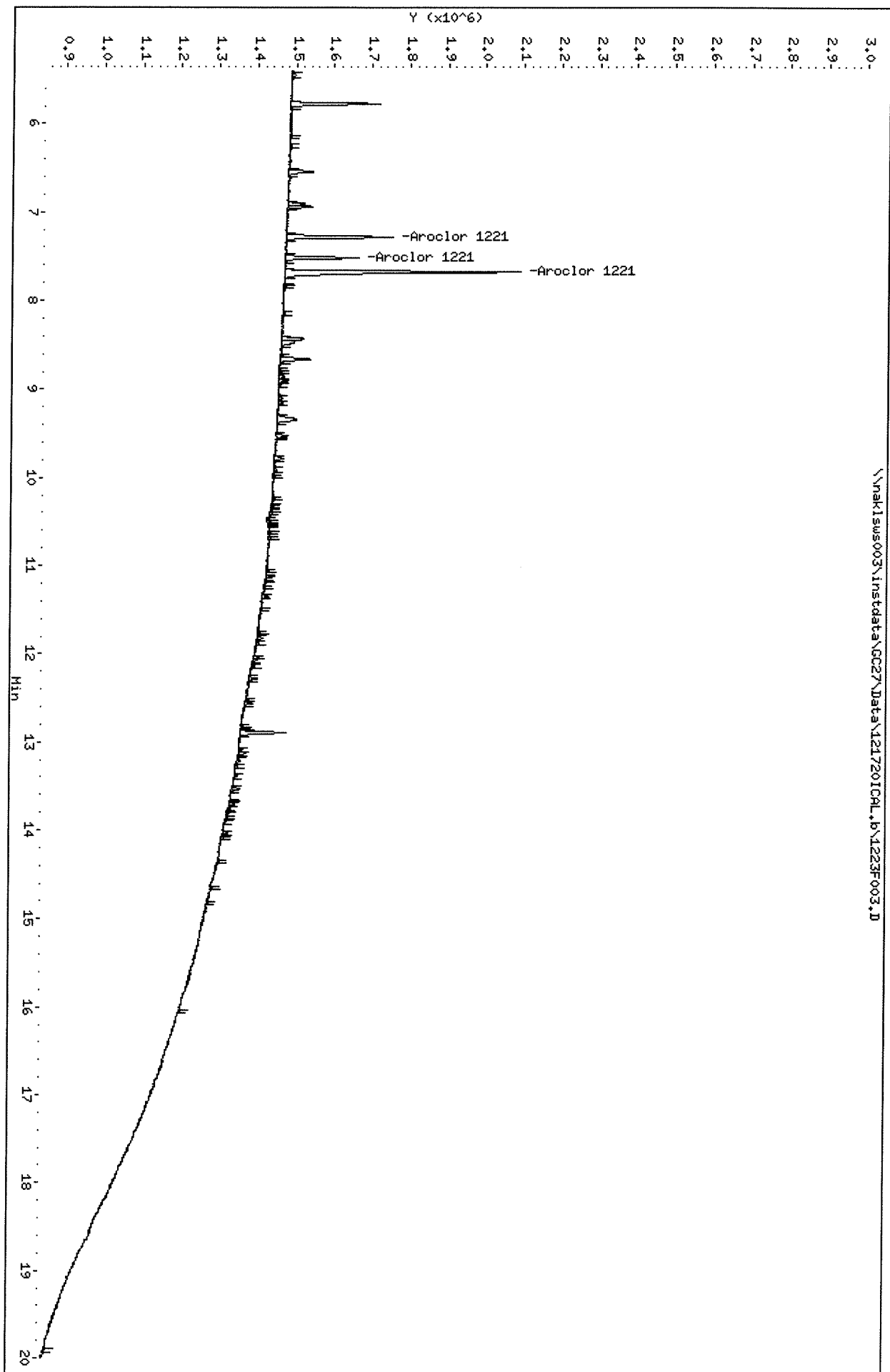
Sample Info: PCB8-69L 1221 ICV @ 20PPB

Column phase: DB-35MS

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32



Data File: \\nak1sws003\insdata\GC27\Data\1217201CAL_r.b\1223F003.D

Date : 23-DEC-2020 12:40

Client ID:

Sample Info: PCB8-69L 1221 ICV @ 20PPB

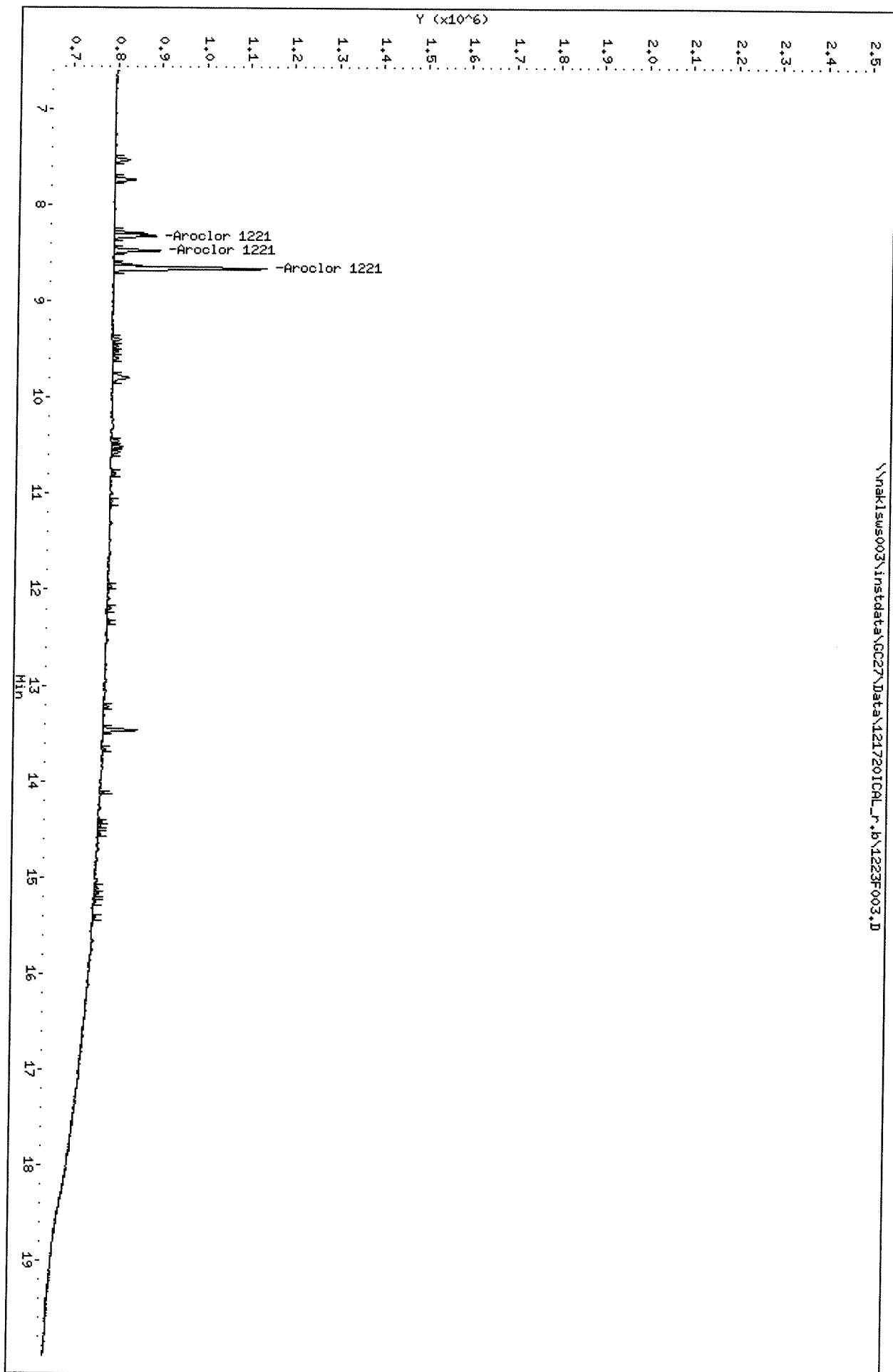
Column phase: DB-XLB

Instrument: GC27.i

Operator: SAA

Column diameter: 0.32

\\nak1sws003\insdata\GC27\Data\1217201CAL_r.b\1223F003.D





Polycyclic Aromatic Hydrocarbons by GC/MS SIM

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 371385

Team: Semivoa GCMS/BGREER

Number of Copies to make: 1

Prep Workflow: OrgExtSimS(14)

Prep Method: EPA 3546

Status: Prepped

Prep Date/Time: 12/14/20 07:00

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	K2011446-001	DSL BG003(0.0-0.5)-SP01	.01	8270D/PAH SIM		Soil	10.9010g	10.00mL	LMORTENSEN K-BALANCE-48
2	K2011446-002	DSL BG003(0.0-0.5)-SP02	.01	8270D/PAH SIM		Soil	10.2090g	10.00mL	LMORTENSEN K-BALANCE-48
3	K2011446-005	DSL BG007(0.0-0.5)-SP01	.01	8270D/PAH SIM		Soil	10.2710g	10.00mL	LMORTENSEN K-BALANCE-48
4	KQ2019929-01	K2011446-005 MS	.01	8270D/PAH SIM		Solid	10.1850g	10.00mL	
5	KQ2019929-02	K2011446-005 DMS	.01	8270D/PAH SIM		Solid	10.3120g	10.00mL	
6	KQ2019929-03	LCS		8270D/PAH SIM		Solid	10.00g	10.00mL	
7	KQ2019929-04	MB		8270D/PAH SIM		Solid	10.4010g	10.00mL	

Spiking Solutions

Name: 8270 SIM-PAH Matrix Spike 25ppm	Inventory ID 213237	Logbook Ref: SVM64-68E	Expires On: 03/11/2021
KQ2019929-01 200.00µL	KQ2019929-02 200.00µL	KQ2019929-03 200.00µL	

Name: 8270 ALL PURPOSE SURROGATE	Inventory ID 213629	Logbook Ref: SVM64-92D	Expires On: 04/24/2021
K2011446-001 20.00µL	K2011446-002 20.00µL	K2011446-005 20.00µL	
KQ2019929-04 20.00µL		KQ2019929-01 20.00µL	KQ2019929-02 20.00µL
			KQ2019929-03 20.00µL

Preparation Steps

Step:	Weight	Step:	Extraction	Step:	Final Volume
Started:	12/14/20 07:00	Started:	12/14/20 07:45	Started:	12/14/20 12:20
Finished:	12/14/20 07:02	Finished:	12/14/20 08:30	Finished:	12/14/20 15:30
By:	MEBBERT	By:	MEBBERT	By:	TNORRIS
Comments		Comments	BGREER	Comments	

Comments:

IS = SVM64-74F

Reviewed By: [Signature] Date: 12.17.2020

Chain of Custody

Relinquished By: Thoni Date: 12/14/20

Received By: [Signature] Date: 12/18/20

Extracts Examined
Yes No

Preparation Information Benchsheet

Prep Run#: 371385

Team: Semivoa GCMS/BGREER

Number of Copies to make: 1

Prep Workflow: OrgExtSims(14)

Prep Method: EPA 3546

Status: Draft

Prep Date/Time: 12/11/20 12:46 PM

#	Lab Code	Client ID	B#	Method / Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	K2011446-001	DSL.BG003(0.0-0.5)-SP01	.01	8270D / PAH SIM	Soil	10.401	N/A	40	10	30	200
2	K2011446-002	DSL.BG003(0.0-0.5)-SP02	.01	8270D / PAH SIM	Soil	10.209		40	10		
3	K2011446-005	DSL.BG007(0.0-0.5)-SP01	.01	8270D / PAH SIM	Soil	10.271		40	10		
4	KQ2019929-01	K2011446-005 MS	.01	8270D / PAH SIM	Solid	10.185		40	10		200
5	KQ2019929-02	K2011446-005 DMS	.01	8270D / PAH SIM	Solid	10.312		40	10		
6	KQ2019929-03	LCS		8270D / PAH SIM	Solid	10.000		40	10		
7	KQ2019929-04	MB		8270D / PAH SIM	Solid	10.401		40	10		

Comments:

Surrogate ID: AP: Sym64-9AD 100150ppm MeOH xp: 4/24/21 20µL Spike ID: PAH: Sym64-68E MeOH xp: 3/11/21 200µL

Witnessed By: *[Signature]* 12-14-20

Analyst: *BGreer*

Assisted By: *Morgan K. West*

Printed 12/11/20 12:47

Preparation Information Benchsheet

**ALS Environmental
Extraction Analyst Notes**

Service Request: K 2011446

Prep Group: KQ 2019929

Topic	Notes	Initials/Date
No Anomalies: <input checked="" type="checkbox"/>		
Sample Anomalies: <input type="checkbox"/>		
Organics Present (sticks, leaves, bugs): <input type="checkbox"/>		
Fuel Odors: <input type="checkbox"/>		
Sulfur Odors, Precipitate: <input type="checkbox"/>		
General Notes:		

Additional Prep Information for EPA 3546
PAH in Soil

Service Request # K2011446 Work Group # KQ2019929

4:1 Hexane:Acetone Lot # 18EXT034Y Sulfate Lot # 2020020328

Extraction Start (time/date/initial): 0745 12/14/20 BG

Extraction Stop (time/date/initial): 0830 12/14/20 ME

Aliquot Amount: 4 mL Verified (date/initials): 12/14/20 ME

Pipette Lot # (2 mL) _____

N-Evap (time/date/initial): 12:20 12/14/20 AA N-Evap Thermometer ID: X-Sum-010

Temp as measured: 20 °C Correction factor: 0 °C Adjusted temp: 20 °C

Hexane Exchange for Silica Gel (Time/Date/Initial): 12:50 12/14/20 AA

Hexane Lot # 956076

Silica Gel Clean-up (3630) (Time/Date/Initial): 1400 12/14/20 TW

Silica Column Lot # 19EXT018K 1:1 Hexane/DCM Reagent Lot # 19EXT01245

Turbovap (Time/Date/Initial): 1415 12/14/20 TW Turbopap Therm. ID: TURBOVAP05

Temp as measured: 25 °C Correction factor: 0 °C Adjusted temp: 25 °C

DCM Lot # 299200

Pipette Lot # (1 mL) 147106

Completed by (Time/Date/Initial): 1530 12/14/20 TW

Vial: green Vial Storage: KMADK

Archived Extract Storage: _____

Additional Comments: _____

Bench Sheet Review Check List	
<input checked="" type="checkbox"/>	Hold times met; if no, reason: _____
<input checked="" type="checkbox"/>	Prep date, time, method, department, product code correct
<input checked="" type="checkbox"/>	Spike information and Q.C. correct (insufficient volume or mass recorded if no Q.C.)
<input checked="" type="checkbox"/>	Weights/Volumes and units correct on raw and final bench sheets
<input checked="" type="checkbox"/>	Sample IDs have been checked - bottle numbers appended if required
<input checked="" type="checkbox"/>	Names present for: started by, completed by, relinquished by, and witnessed by
<input checked="" type="checkbox"/>	Extract storage recorded
<input checked="" type="checkbox"/>	Additional prep sheet completely filled out (NA or line out blanks)
<input checked="" type="checkbox"/>	All clean-ups have been noted on additional prep sheet

Preparation Information Benchsheet

Prep Run#: 371210

Team: Semiova GCMS/BGREER

Number of Copies to make: 1

Prep Workflow: OrgExtSims(14)

Prep Method: EPA 3546

Status: Prepped

Prep Date/Time: 12/9/20 08:34

837

#	Lab Code	Client ID	#	Method /Test	pH	Matrix	Amt. Ext.	Final Vol	Sample Description
1	K2011446-004	USRBG001(0.0-0.5)-SP01	.01	8270D/PAH SIM		Soil	10.026g	10.00mL	LMORTENSEN K-BALANCE-48
2	KQ2019722-01	K2011446-004 MS	.01	8270D/PAH SIM		Solid	10.005g	10.00mL	LMORTENSEN K-BALANCE-48
3	KQ2019722-02	K2011446-004 DMS	.01	8270D/PAH SIM		Solid	10.074g	10.00mL	LMORTENSEN K-BALANCE-48
4	KQ2019722-03	LCS		8270D/PAH SIM		Solid	10.00g	10.00mL	
5	KQ2019722-04	MB		8270D/PAH SIM		Solid	10.0740g	10.00mL	

Spiking Solutions

Name:	8270 SIM-PAH Matrix Spike 25ppm	Inventory ID	213237	Logbook Ref:	SVM64-68E	Expires On:	03/11/2021
K2011446-004	200.00µL	KQ2019722-01	200.00µL	KQ2019722-02	200.00µL	KQ2019722-03	200.00µL
Name:	8270 ALL PURPOSE SURROGATE	Inventory ID	213629	Logbook Ref:	SVM64-92D	Expires On:	04/24/2021
K2011446-004	20.00µL	KQ2019722-01	20.00µL	KQ2019722-02	20.00µL	KQ2019722-03	20.00µL
		KQ2019722-01	20.00µL	KQ2019722-02	20.00µL	KQ2019722-03	20.00µL
		KQ2019722-01	20.00µL	KQ2019722-02	20.00µL	KQ2019722-03	20.00µL

Preparation Steps

Step: Weigh **837** Step: Extraction Started: 12/1/20 10:05 Step: Final Volume Started: 12/1/20 07:15
 Started: 12/9/20 08:34 Finished: 12/1/20 10:05 Finished: 12/1/20 10:50
 By: **WVANDERHOFF** By: **WVANDERHOFF** By: **WVANDERHOFF**
 Comments: **LMORTENSEN** Comments: **LMORTENSEN** Comments: **LMORTENSEN**

12.15.20

Comments:

IS = SVM 64-74F

Reviewed By: *[Signature]* Date: *12.15.2020*

Chain of Custody

Relinquished By: *[Signature]* Date: *12/11/20*
 Received By: *[Signature]* Date: *12/16/20*
 Extracts Examined ☒ Yes ☐ No

Preparation Information Benchsheet

Prep Run#: 371210

Prep WorkFlow: OrgExtSimS(14)

Status: Draft

Team: Semivoa GCMS/BGREER

Prep Method: EPA 3546

Prep Date/Time: 12/9/20 08:34 AM

Number of Copies to make: 1

#	Lab Code	Client ID	B#	Method / Test	Matrix	Amt. Ext.	pH	Int. Vol	Final Vol	Surr Amt	Spike Amt
1	K2011446-001	DSL.BG003(0.0-0.5)-SP01	.01	8270D / PAH SIM	Soil	9	N/A	ML	ML	40	40
2	K2011446-002	DSL.BG003(0.0-0.5)-SP02	.01	8270D / PAH SIM	Soil	7					
3	K2011446-004	USRBG001(0.0-0.5)-SP01	.01	8270D / PAH SIM	Soil	7					
4	K2011446-005	DSL.BG007(0.0-0.5)-SP01	.01	8270D / PAH SIM	Soil	7					
5	KQ2019722-01	K2011446-004 MS	.01	8270D / PAH SIM	Solid	7		40	10		200
6	KQ2019722-02	K2011446-004 DMS	.01	8270D / PAH SIM	Solid	7		40	10		
7	KQ2019722-03	LCS		8270D / PAH SIM	Solid	10.000		40	10		
8	KQ2019722-04	MB		8270D / PAH SIM	Solid	10.074		40	10		

Comments:

*See preprep sheet

Surrogate ID:

AP SUM64-970 100/150 ppm MeOH x 4/24/21

Spike ID:

SUM64-68E MeOH x 3/11/21 200µl

Witnessed By:

Gregory B. Greer

Analyst:

B. Greer

Assisted By:

Printed 12/10/20 9:21

Preparation Information Benchsheet

Pre-Prep Information Benchsheet

Prep Run #: 371210

Container Lot No: 110920-1BNU

Prep Due Date: Dec-11-2020

#	Lab Code	Bottle	Test Name	Weight	Sample Comments	Test Comments
1	K2011446-001	.01	PAH SIM : 8270D/	10.025g		LMORTENSEN K-BALANCE-48
2	K2011446-002	.01	PAH SIM : 8270D/	10.021g		LMORTENSEN K-BALANCE-48
3	K2011446-004	.01	PAH SIM : 8270D/	10.026g		LMORTENSEN K-BALANCE-48
4	K2011446-004 MS KQ2019722-01	.01	PAH SIM : 8270D/	10.005g		LMORTENSEN K-BALANCE-48
5	K2011446-004 DMS KQ2019722-02	.01	PAH SIM : 8270D/	10.074g		LMORTENSEN K-BALANCE-48
6	K2011446-005	.01	PAH SIM : 8270D/	10.024g		LMORTENSEN K-BALANCE-48

Relinquished By: <i>LM</i>	Date/Time: 12/9/20 8:37	Received By: <i>B Green</i>	Date/Time: 12/10/20 0915
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ALS Environmental Extraction Analyst Notes

Service Request: K2011446

Prep Group: KQ 2019722

Topic	Notes	Initials/Date
No Anomalies: <input checked="" type="checkbox"/>		
Sample Anomalies: <input type="checkbox"/>		
Organics Present (sticks, leaves, bugs): <input type="checkbox"/>		
Fuel Odors: <input type="checkbox"/>		
Sulfur Odors, Precipitate: <input type="checkbox"/>		
General Notes: ①	Vented in microwave. Re-weighed and re-extracted in a new batch. Taken out of this batch.	BG 12/11/20

Additional Prep Information for EPA 3546
PAH in Soil

Service Request # KZ011446 Work Group # KQZ019722

4:1 Hexane:Acetone Lot # 18Ext034x Sulfate Lot # 2020030385

Extraction Start (time/date/initial): 10:05am 12/11/10 -RZ

Extraction Stop (time/date/initial): 10:50am 12/11/10 -RZ

Aliquot Amount: _____ Verified (date/initials): _____

Pipette Lot # (2 mL) _____

N-Evap (time/date/initial): 0715 12/11/10 D N-Evap Thermometer ID: X4MM000

Temp as measured: 20 °C Correction factor: 0 °C Adjusted temp: 20 °C

Hexane Exchange for Silica Gel (Time/Date/Initial): 0740 12/11/10 D

Hexane Lot # 250074

Silica Gel Clean-up (3630) (Time/Date/Initial): 1130 12/11/10 D

Silica Column Lot # 19Ext01 BR 1:1 Hexane/DCM Reagent Lot # 19Ext01245

Turbovap (Time/Date/Initial): 1150 12/11/10 D Turbovap Therm. ID: FTM2B0UAP05

Temp as measured: 25 °C Correction factor: 0 °C Adjusted temp: 25 °C

DCM Lot # 199200

Pipette Lot # (1 mL) 11106

Completed by (Time/Date/Initial): 1575 12/11/10 D

Vial: green Vial Storage: KMundra

Archived Extract Storage: Squirtle

Additional Comments: _____

Bench Sheet Review Check List	
<input checked="" type="checkbox"/>	Hold times met; if no, reason: _____
<input checked="" type="checkbox"/>	Prep date, time, method, department, product code correct
<input checked="" type="checkbox"/>	Spike information and Q.C. correct (insufficient volume or mass recorded if no Q.C.)
<input checked="" type="checkbox"/>	Weights/Volumes and units correct on raw and final bench sheets
<input checked="" type="checkbox"/>	Sample IDs have been checked - bottle numbers appended if required
<input checked="" type="checkbox"/>	Names present for: started by, completed by, relinquished by, and witnessed by
<input checked="" type="checkbox"/>	Extract storage recorded
<input checked="" type="checkbox"/>	Additional prep sheet completely filled out (NA or line out blanks)
<input checked="" type="checkbox"/>	All clean-ups have been noted on additional prep sheet

Validation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File: J:\MS14\DATA\121720\1217F036.D\
Lab ID: K2011446-001
RunType: N/A
Matrix: Soil

Date Acquired: 12/17/20 22:28:00
Batch ID: 707540
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pyrene	-21		20	OK, <40

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121720\1217F036.D\	Instrument:	K-MS-14
Acqu Date:	12/17/20 22:28:00	Vial:	3
Run Type:	N/A	Dilution:	1
Lab ID:	K2011446-001	Raw Units:	ng/mL

Bottle ID:	K2011446-001.01	Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707540	Prep Lot:	371385	Report Group:	K2011446
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/14/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.13		32454	200.00	OK
Chrysene-d12	9.83	+0.01	100109	200.00	OK
Naphthalene-d8	4.55		58958	200.00	OK
Perylene-d12	12.72	+0.04	128034	200.00	OK
Phenanthrene-d10	7.37	-0.01	67694	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.36		61467	152.14	76	38 - 104	Y
Fluorene-d10	6.57		30125	154.64	77	39 - 109	Y
Terphenyl-d14	8.70	+0.01	64922	144.24	72	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.31		1033	5.68	17		Y
2-Methylnaphthalene	5.23		1707	8.73	27		Y
Acenaphthene	6.16		1190	5.94	18		Y
Acenaphthylene	6.01		4643	14.31	44		Y
Anthracene	7.44		8628	24.10	74		Y
Benz(a)anthracene	9.81		103135	164.04	500		Y
Benzo(a)pyrene	12.57	+0.04	157444	212.61	650		Y
Benzo(b)fluoranthene	11.75	+0.03	238074	307.60	940		Y
Benzo(g,h,i)perylene	15.55	+0.03	137744	164.51	500		Y
Benzo(k)fluoranthene	11.81	+0.03	95568	127.13	390		Y
Chrysene	9.86	+0.01	131059	223.54	690		Y
Dibenz(a,h)anthracene	15.21	+0.03	28292	35.62	110		Y
Fluoranthene	8.38		154277	326.62	1000		Y

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121720\1217F036.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/17/20 22:28:00	Vial:	3	
Run Type:	N/A	Dilution:	1	
Lab ID:	K2011446-001	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.60		2886	12.59	39		Y
Indeno(1,2,3-cd)pyrene	15.18	+0.03	124571	169.36	520		Y
Naphthalene	4.57		3550	11.89	36		Y
Phenanthrene	7.39		37646	99.87	310		Y
Pyrene	8.56		152493	249.87	770		Y

Prep Amount: 10.9010 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 29.90

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

Printed: 12/18/20 10:04

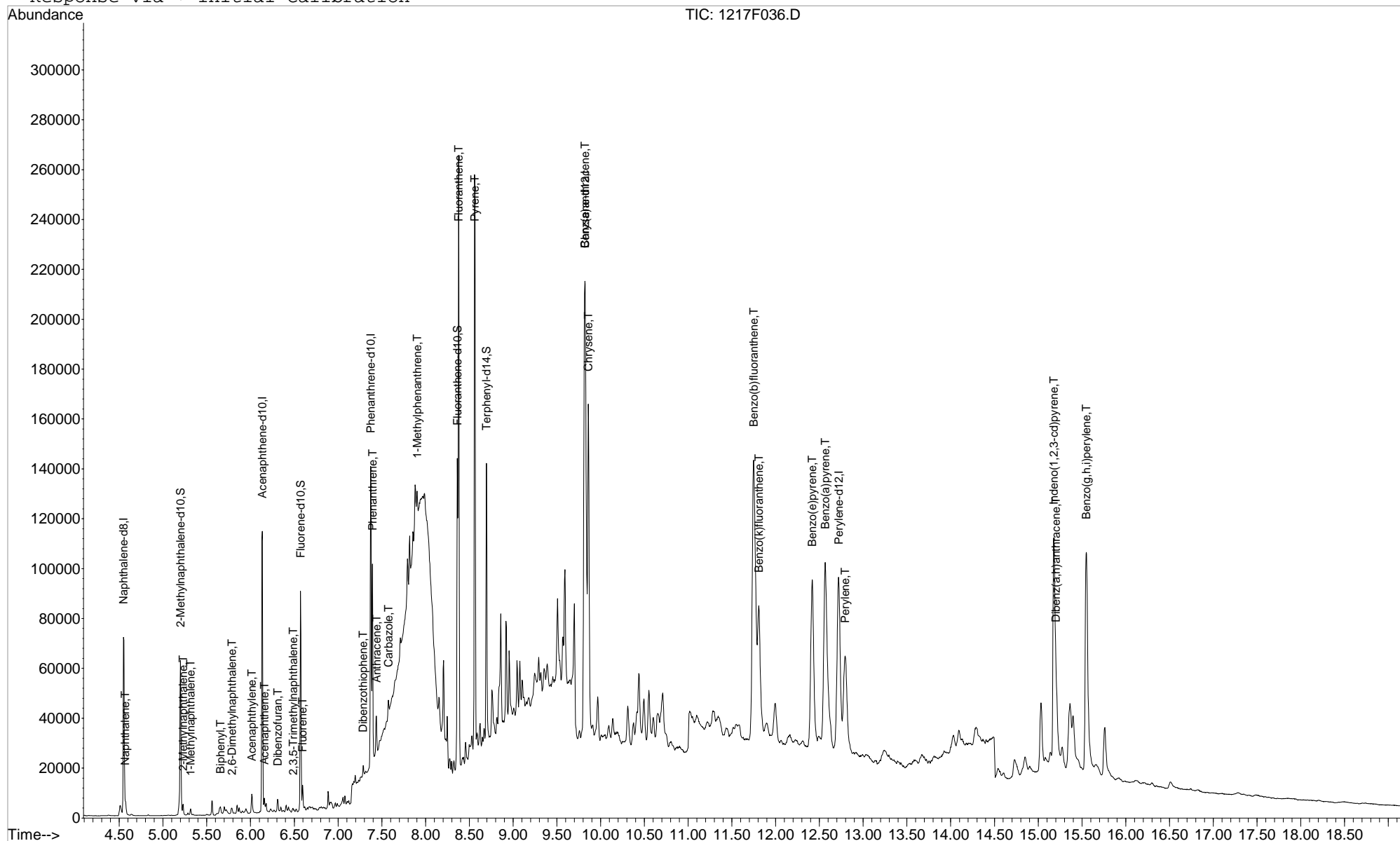
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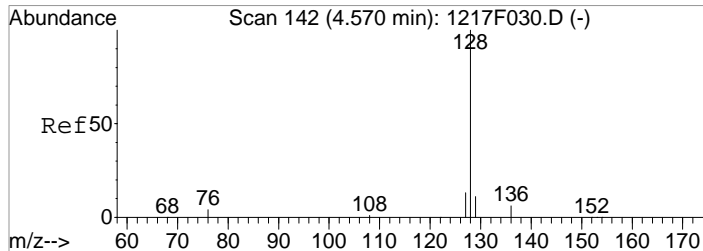
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Sample : K2011446-001
Misc :
MS Integration Params: RTEINT.P
Quant Time: Dec 18 7:35 2020

Vial: 31
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

Quant Results File: 101320PAH.RES

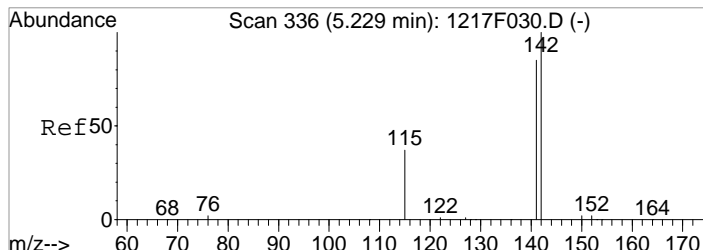
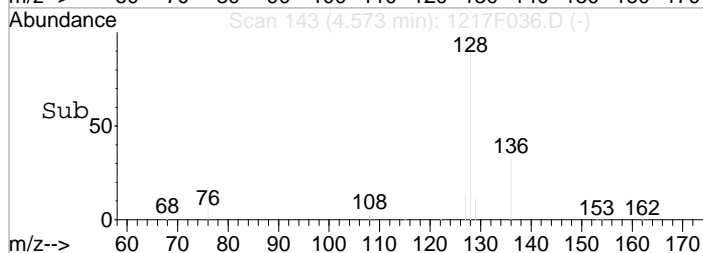
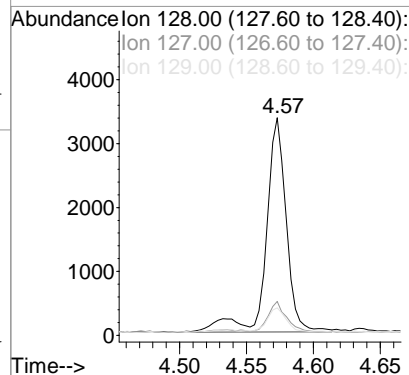
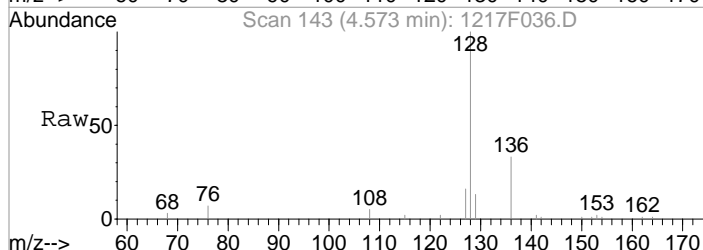
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Last Update : Fri Dec 18 07:27:27 2020
Response via : Initial Calibration





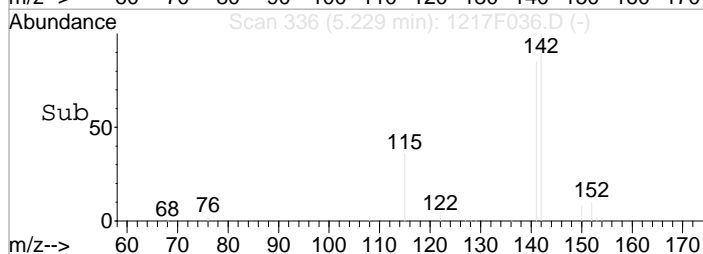
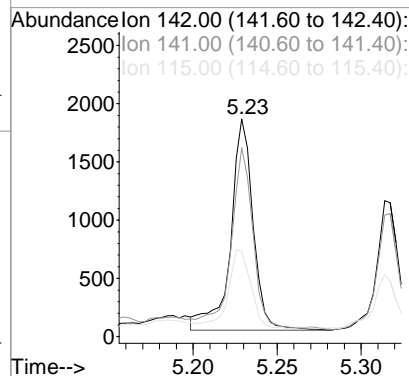
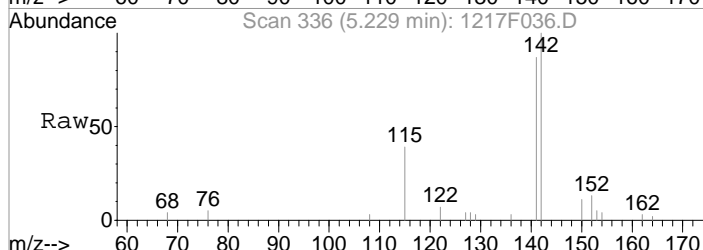
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 Naphthalene
 Concen: 11.89 ng/ml m
 RT: 4.57 min Scan# 143
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

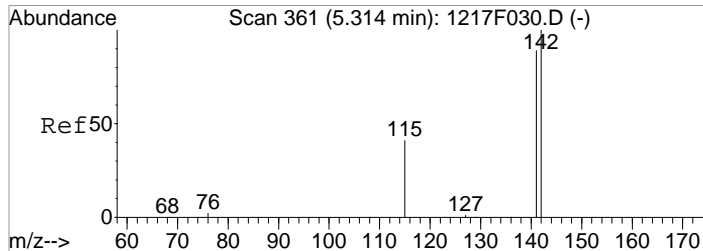
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Ion Ratio	Lower	Upper
128	100	
127	15.6	0.0 42.7
129	12.7	0.0 30.8



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 2-Methylnaphthalene
 Concen: 8.73 ng/ml m
 RT: 5.23 min Scan# 336
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

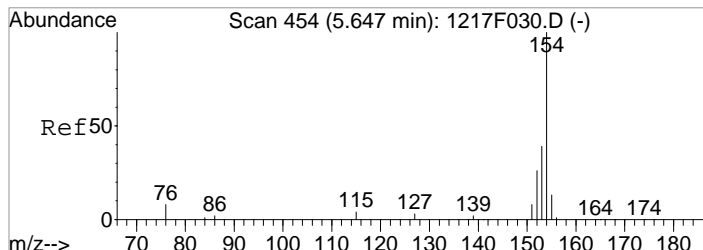
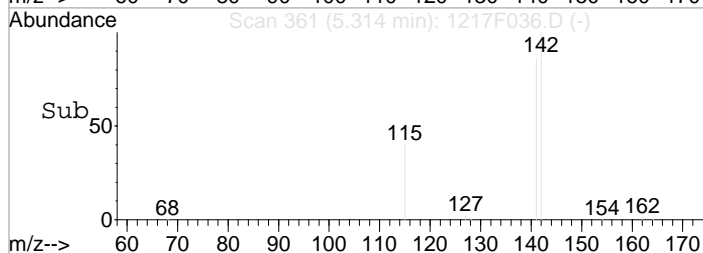
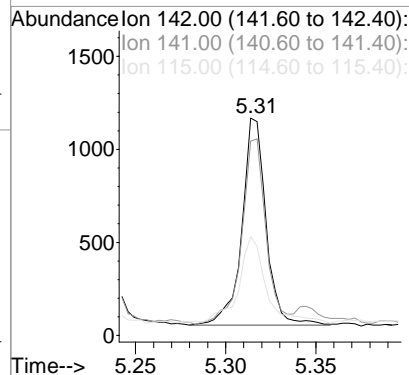
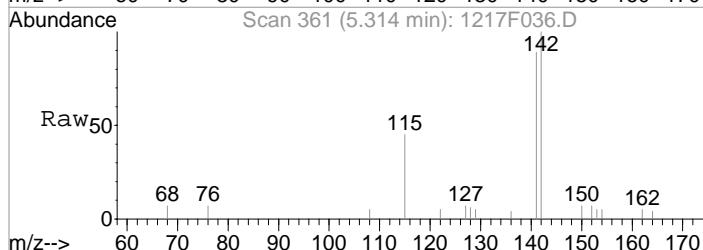
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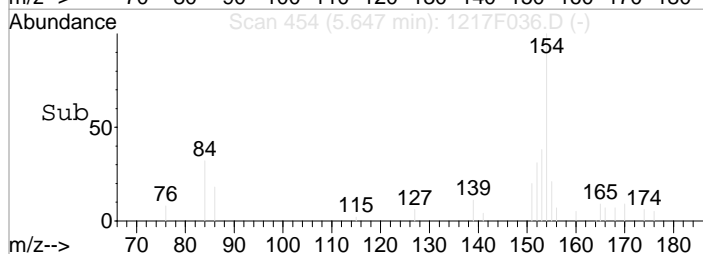
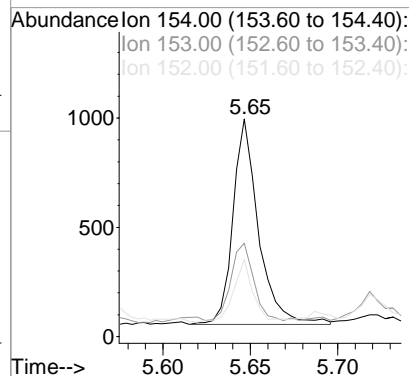
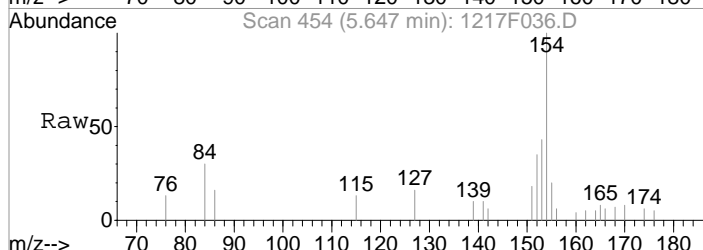
#5
 1-Methylnaphthalene
 Concen: 5.68 ng/ml
 RT: 5.31 min Scan# 361
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

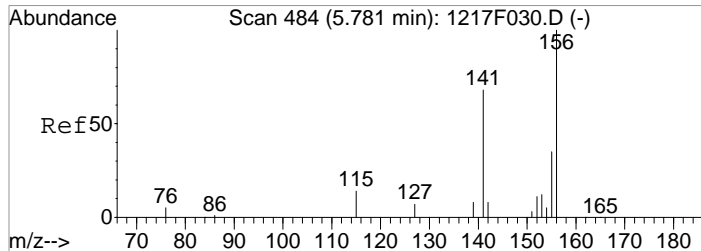
Tgt Ion:142	Resp:	1033
Ion Ratio	Lower	Upper
142	100	
141	87.5	57.0 117.0
115	41.7	17.7 57.7



#6
 Biphenyl
 Concen: 4.03 ng/ml
 RT: 5.65 min Scan# 454
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

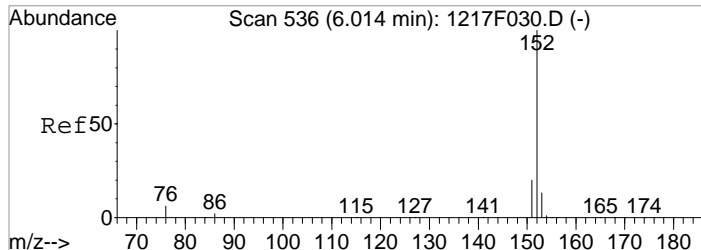
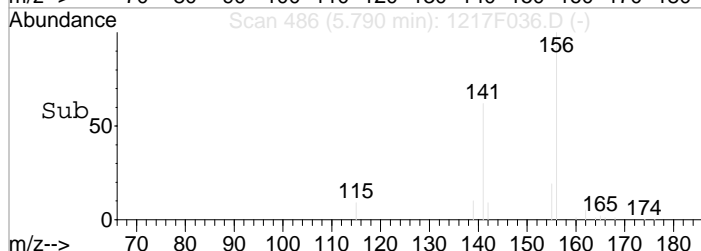
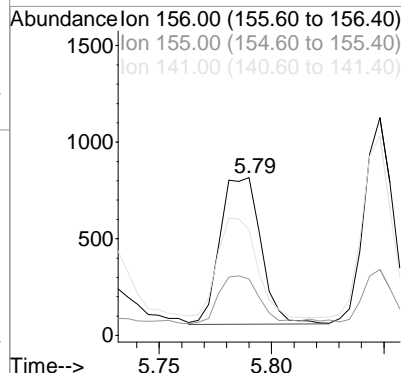
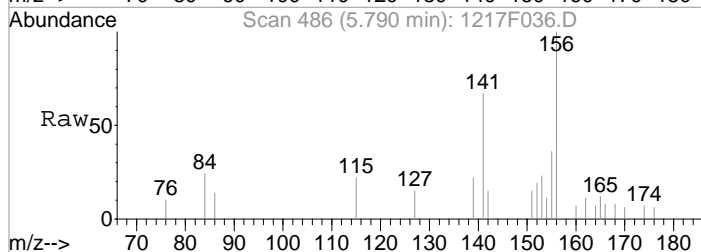
Tgt Ion:154	Resp:	956
Ion Ratio	Lower	Upper
154	100	
153	37.5	8.8 68.8
152	30.1	6.0 46.0





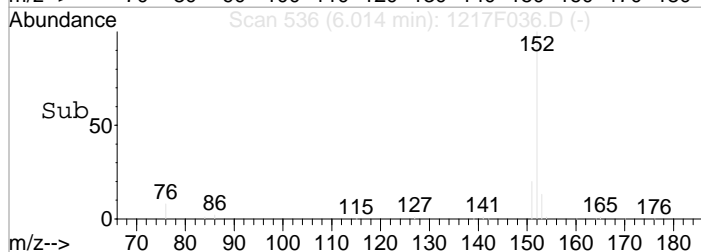
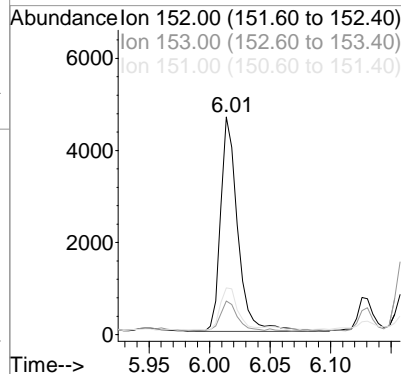
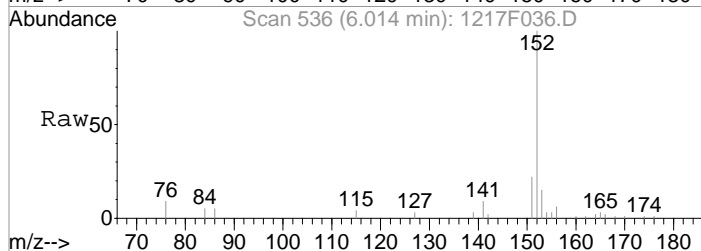
#7
 2,6-Dimethylnaphthalene
 Concen: 5.49 ng/ml
 RT: 5.79 min Scan# 486
 Delta R.T. 0.00 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

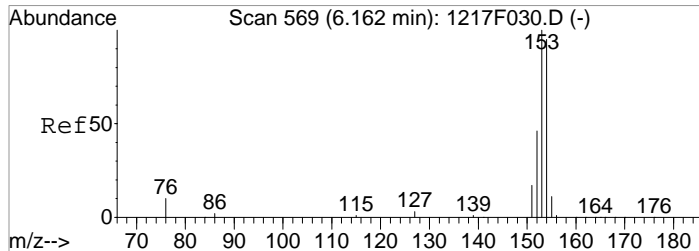
Tgt Ion:	156	Resp:	957
Ion Ratio	Lower	Upper	
156	100		
155	30.7	4.4	64.4
141	60.0	46.0	86.0



#9
 Acenaphthylene
 Concen: 14.31 ng/ml
 RT: 6.01 min Scan# 536
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

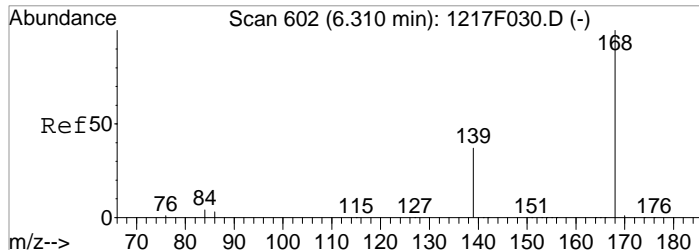
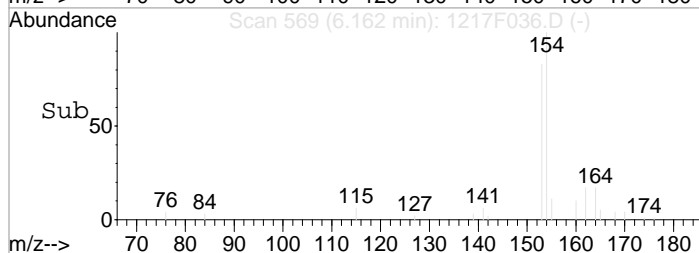
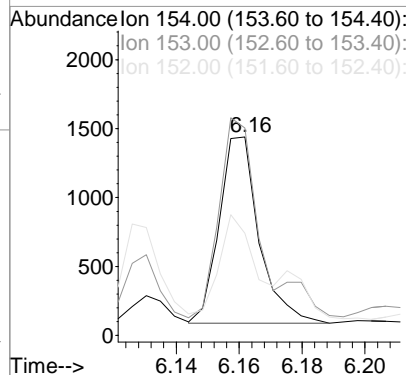
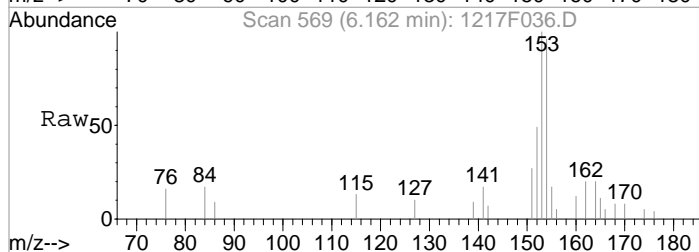
Tgt Ion:	152	Resp:	4643
Ion Ratio	Lower	Upper	
152	100		
153	13.9	0.0	43.0
151	19.5	0.0	39.4





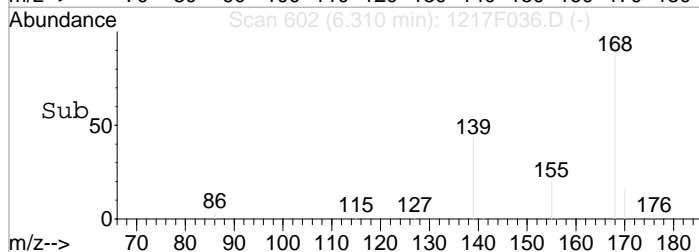
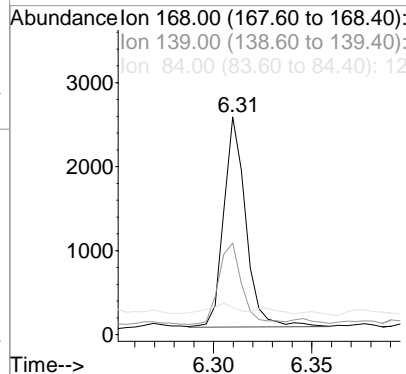
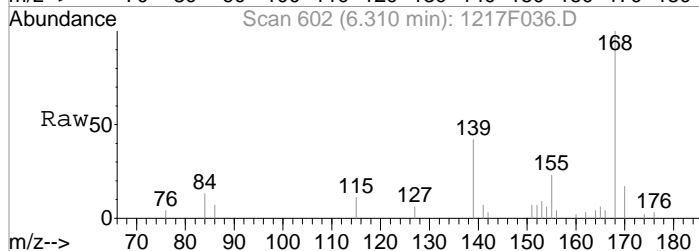
#10
Acenaphthene
Concen: 5.94 ng/ml
RT: 6.16 min Scan# 569
Delta R.T. -0.01 min
Lab File: 1217F036.D
Acq: 17 Dec 2020 10:28 pm

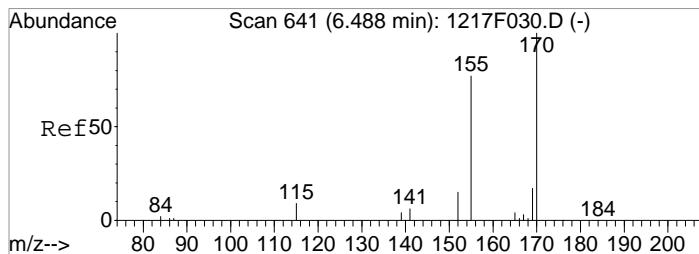
Tgt Ion	Ratio	Lower	Upper
154	100		
153	101.9	74.5	134.5
152	45.0	18.5	78.5



#11
Dibenzofuran
Concen: 6.41 ng/ml
RT: 6.31 min Scan# 602
Delta R.T. -0.01 min
Lab File: 1217F036.D
Acq: 17 Dec 2020 10:28 pm

Tgt Ion	Ratio	Lower	Upper
168	100		
139	38.8	8.2	68.2
84	3.3	0.0	23.9



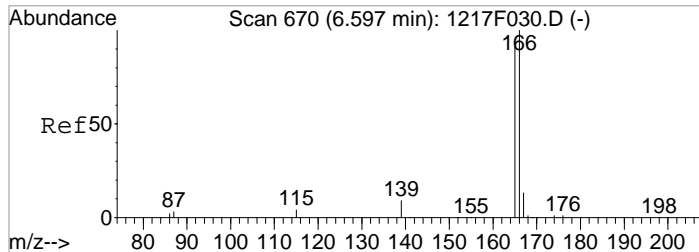
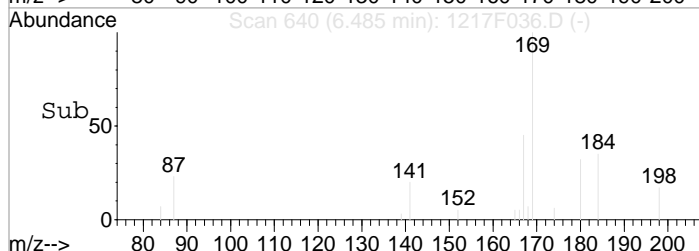
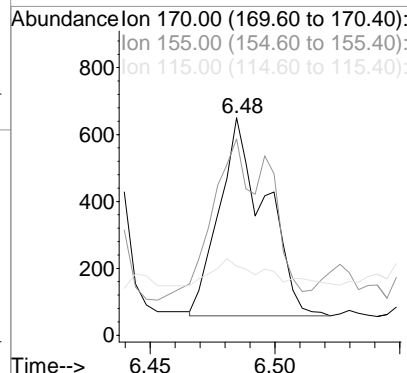
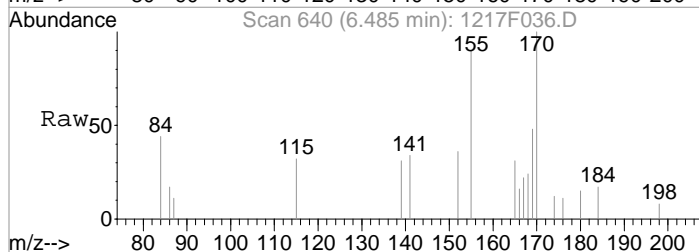


#12
 2,3,5-Trimethylnaphthalene
 Concen: 3.96 ng/ml
 RT: 6.48 min Scan# 640
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

1st *Ca* 12/18/20

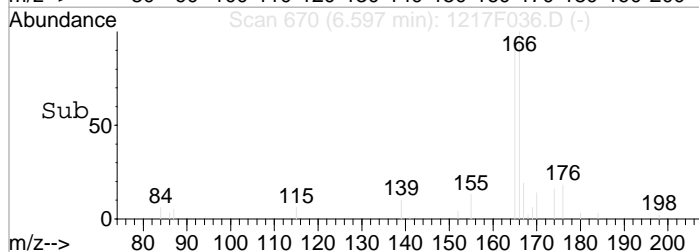
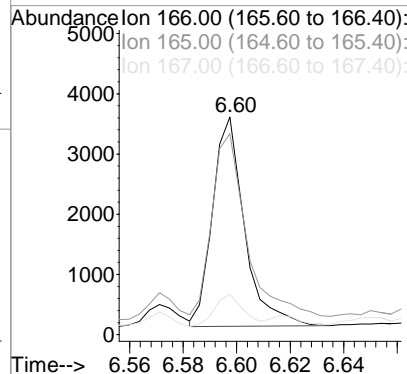
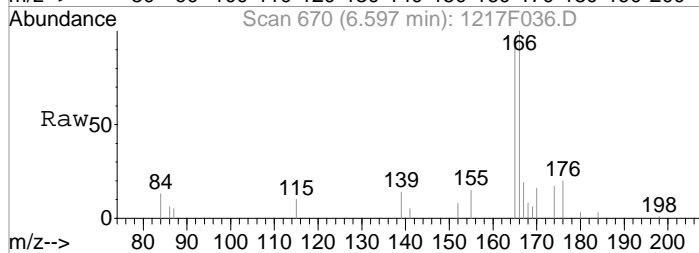
2nd *Q* 12/18/20

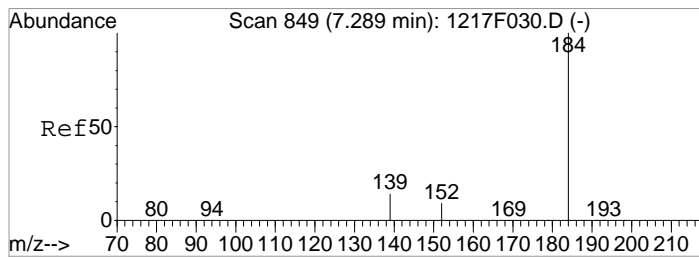
Tgt Ion	Resp	Lower	Upper
170	100		
155	73.1	55.5	115.5
115	9.8	0.0	30.2



#14
 Fluorene
 Concen: 12.59 ng/ml
 RT: 6.60 min Scan# 670
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

Tgt Ion	Resp	Lower	Upper
166	100		
165	87.7	59.6	119.6
167	15.7	0.0	33.2

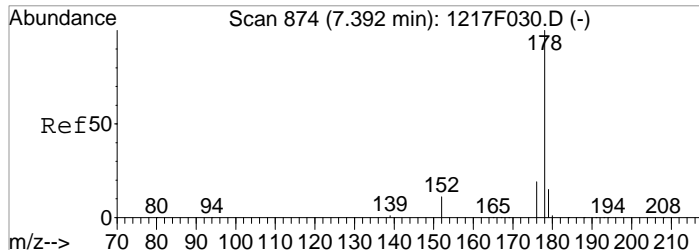
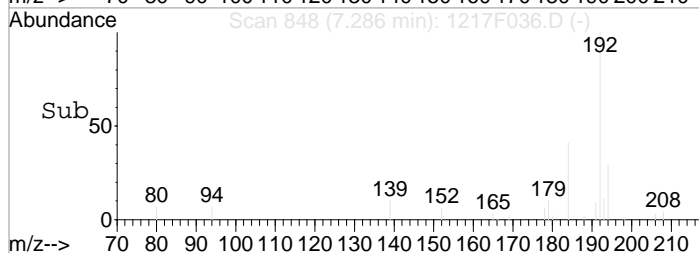
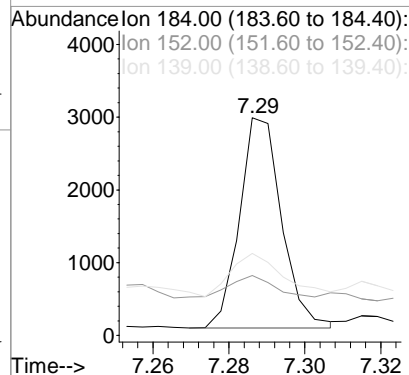
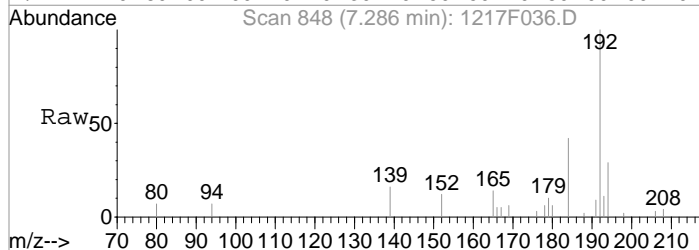




#16
Dibenzenothioophene
Concen: 6.18 ng/ml
RT: 7.29 min Scan# 848
Delta R.T. -0.01 min
Lab File: 1217F036.D
Acq: 17 Dec 2020 10:28 pm

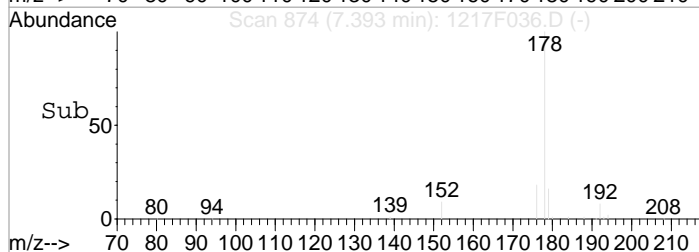
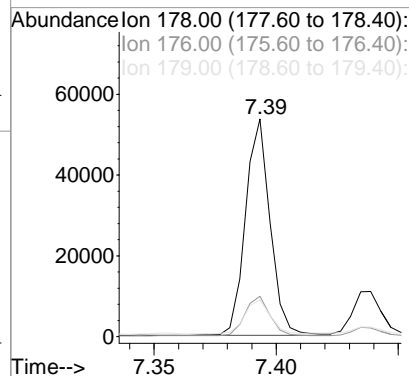
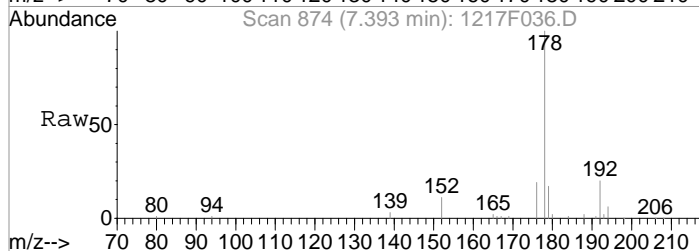
1st *Ca* 12/18/20
2nd *Q* 12/18/20

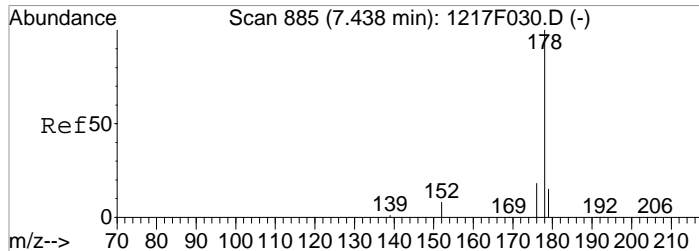
Tgt Ion	Resp		
184	2237		
Ion	Ratio	Lower	Upper
184	100		
152	10.2	0.0	39.6
139	18.5	0.0	35.4



#17
Phenanthrene
Concen: 99.87 ng/ml
RT: 7.39 min Scan# 874
Delta R.T. -0.01 min
Lab File: 1217F036.D
Acq: 17 Dec 2020 10:28 pm

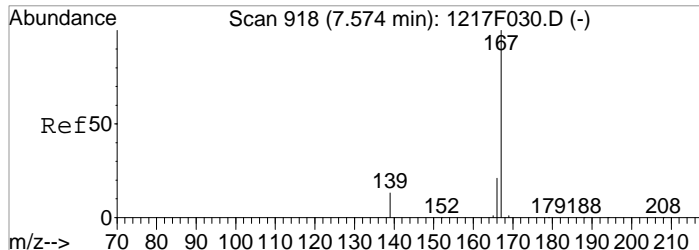
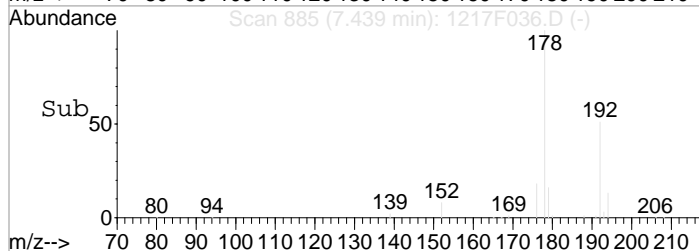
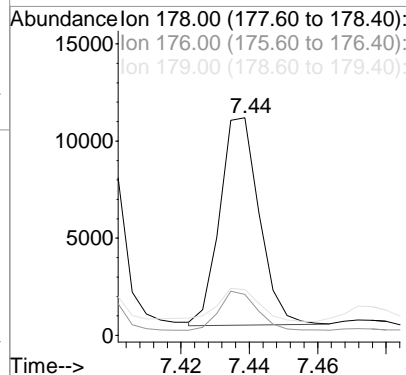
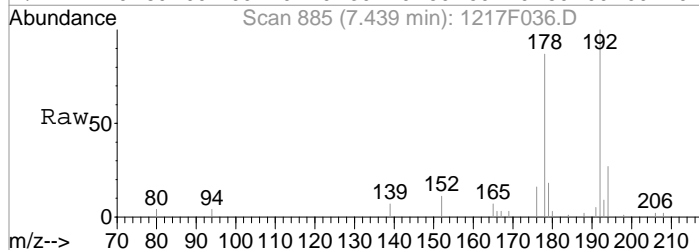
Tgt Ion	Resp		
178	37646		
Ion	Ratio	Lower	Upper
178	100		
176	18.3	0.0	48.0
179	15.8	0.0	35.6





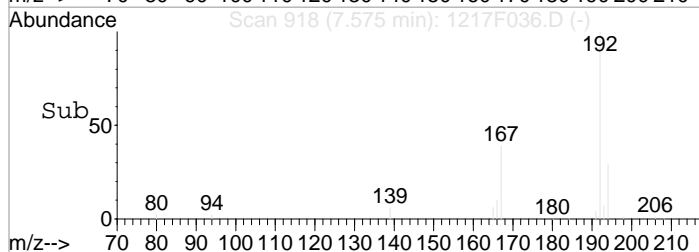
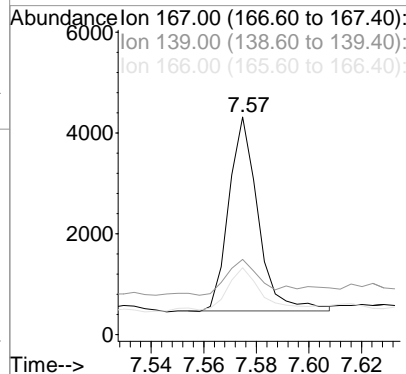
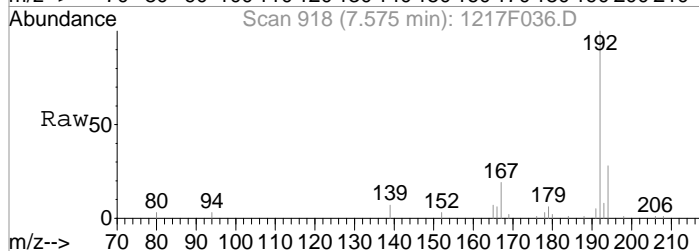
#18
 Anthracene
 Concen: 24.10 ng/ml
 RT: 7.44 min Scan# 885
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

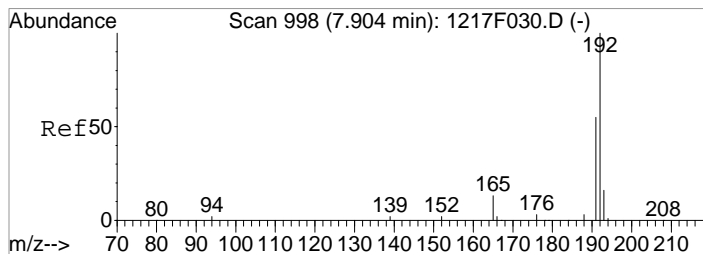
Tgt Ion	Ion	Ratio	Lower	Upper
178	100			
176	17.5	0.0	47.6	
179	14.0	0.0	35.4	



#19
 Carbazole
 Concen: 8.55 ng/ml
 RT: 7.57 min Scan# 918
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

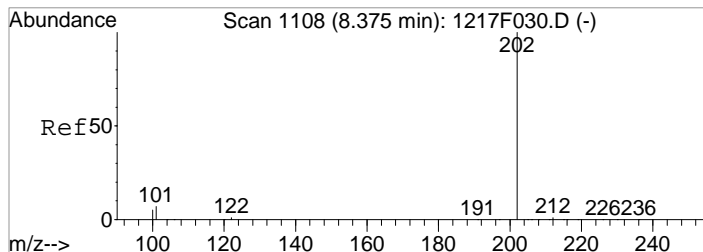
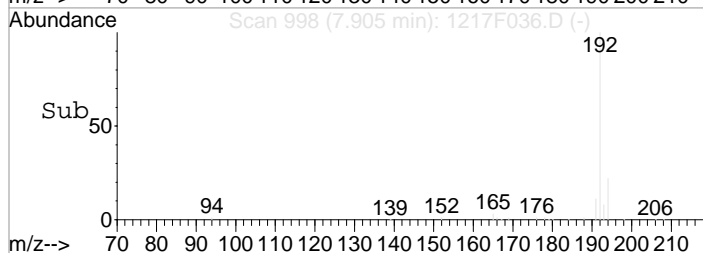
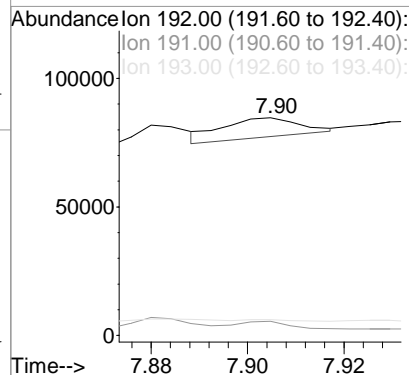
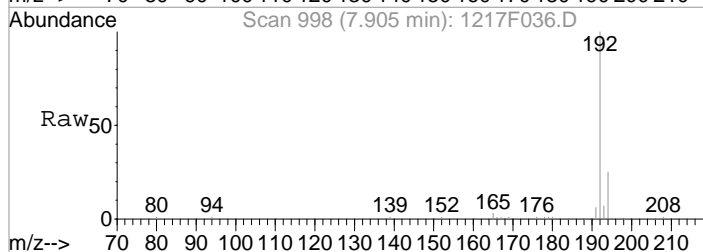
Tgt Ion	Ion	Ratio	Lower	Upper
167	100			
139	17.6	0.0	41.7	
166	20.8	0.0	39.9	





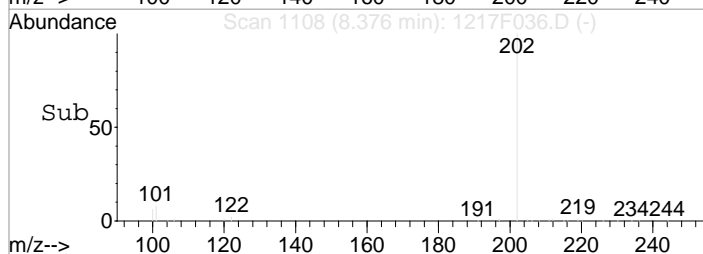
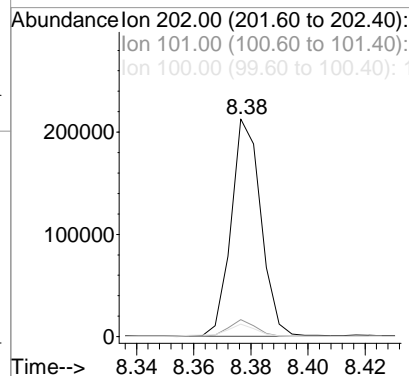
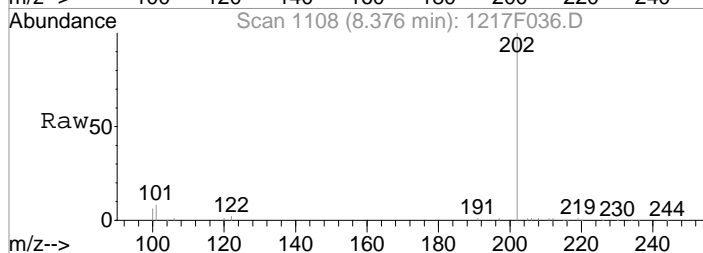
#20
 1-Methylphenanthrene
 Concen: 30.59 ng/ml m
 RT: 7.90 min Scan# 998
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

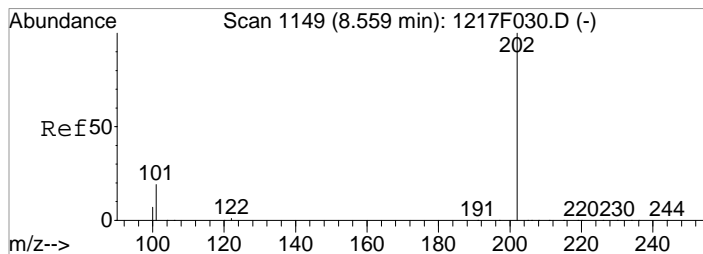
Tgt Ion	192	Resp	8883
Ion Ratio	Lower	Upper	
192	100		
191	6.4	24.4	84.4#
193	7.2	0.0	45.6



#21
 Fluoranthene
 Concen: 326.62 ng/ml
 RT: 8.38 min Scan# 1108
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

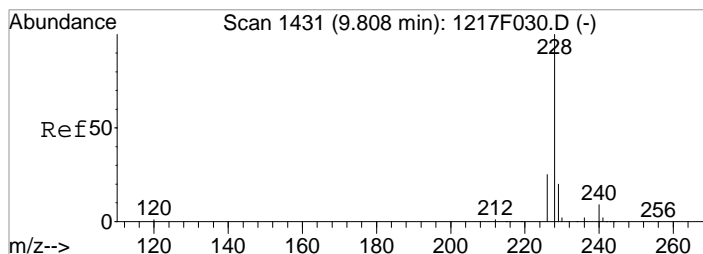
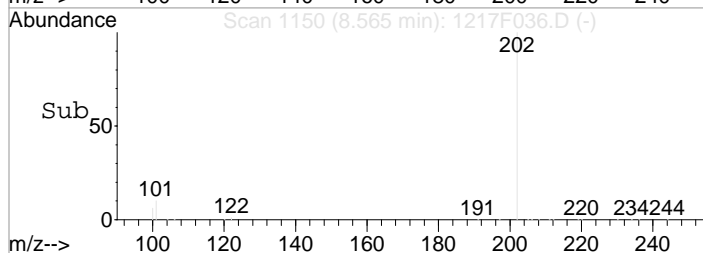
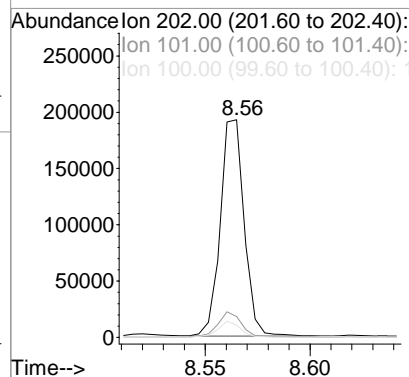
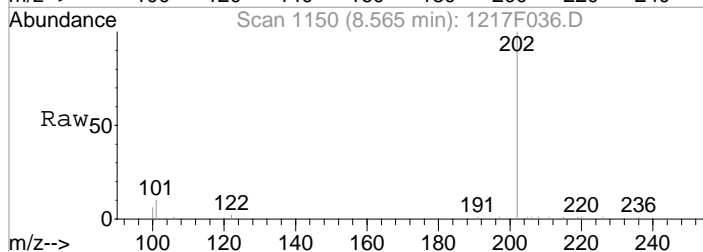
Tgt Ion	202	Resp	154277
Ion Ratio	Lower	Upper	
202	100		
101	7.8	0.0	37.3
100	5.6	0.0	25.2





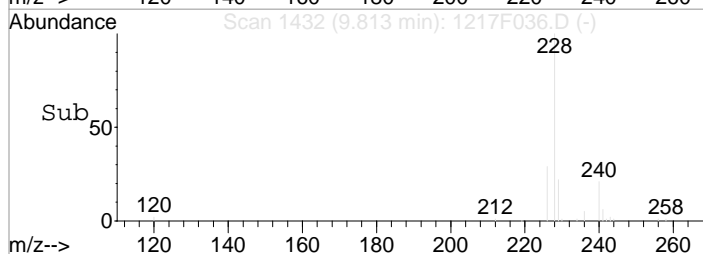
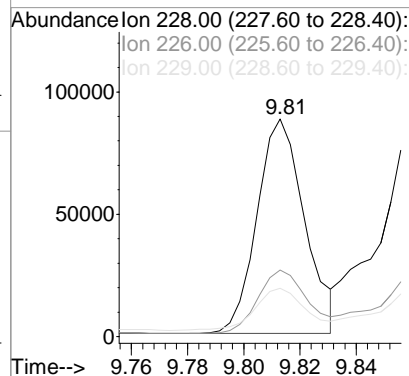
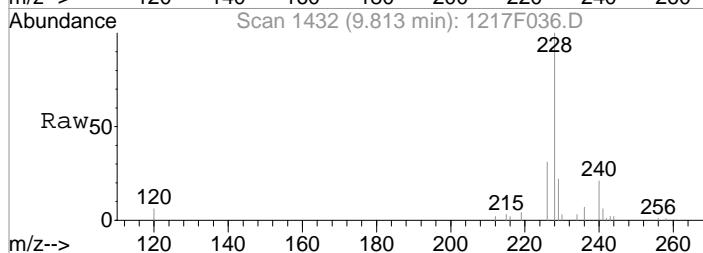
#24
 Pyrene
 Concen: 249.87 ng/ml
 RT: 8.56 min Scan# 1150
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

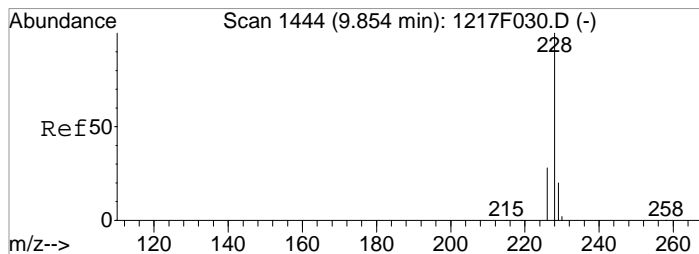
Tgt Ion	Ion	Ratio	Lower	Upper
202	100			
101	9.5	0.0	39.5	
100	5.5	0.0	25.4	



#26
 Benz(a)anthracene
 Concen: 164.04 ng/ml
 RT: 9.81 min Scan# 1432
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

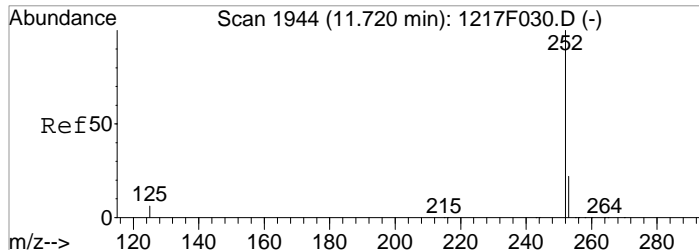
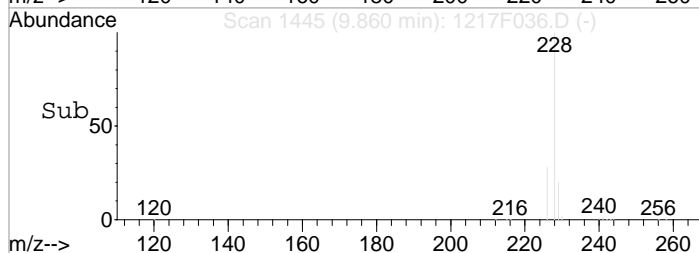
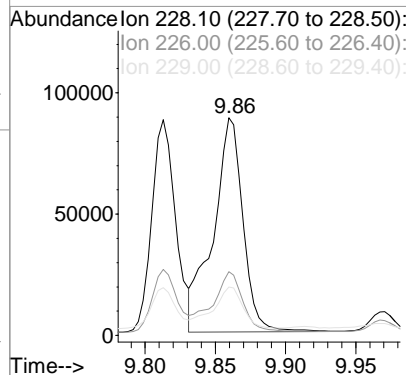
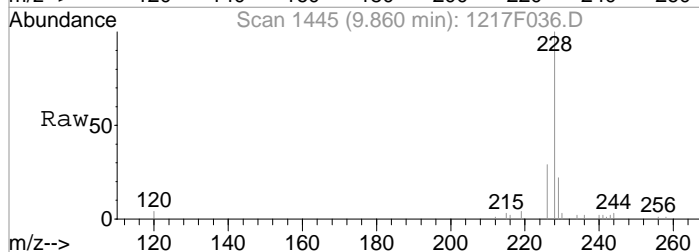
Tgt Ion	Ion	Ratio	Lower	Upper
228	100			
226	29.6	0.0	55.5	
229	19.4	0.0	39.9	





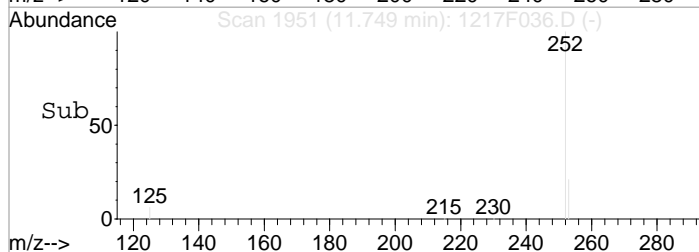
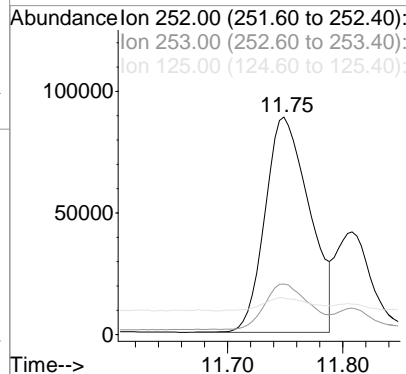
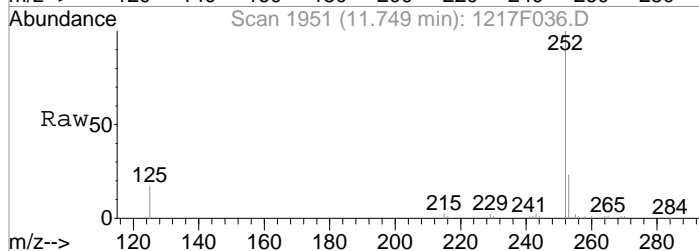
#27
 Chrysene
 Concen: 223.54 ng/ml
 RT: 9.86 min Scan# 1445
 Delta R.T. -0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

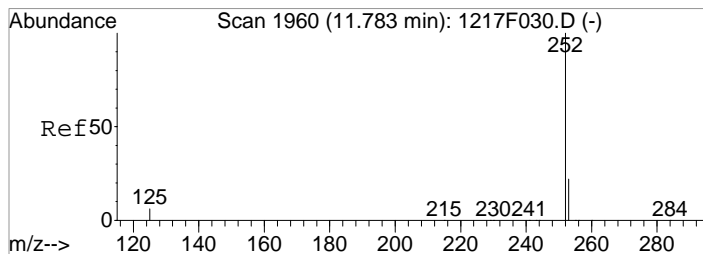
Tgt Ion	Ratio	Lower	Upper
228	100		
226	27.9	0.0	57.9
229	19.1	0.0	39.6



#29
 Benzo(b)fluoranthene
 Concen: 307.60 ng/ml
 RT: 11.75 min Scan# 1951
 Delta R.T. 0.00 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

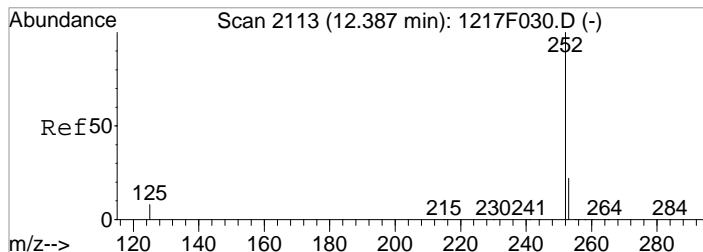
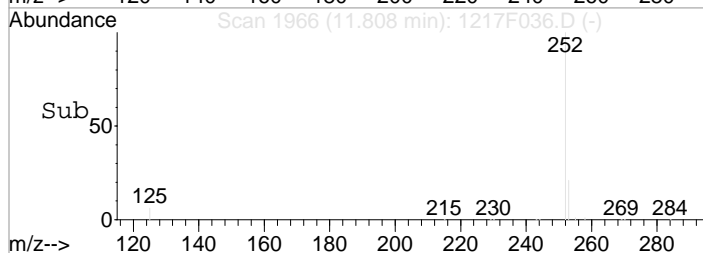
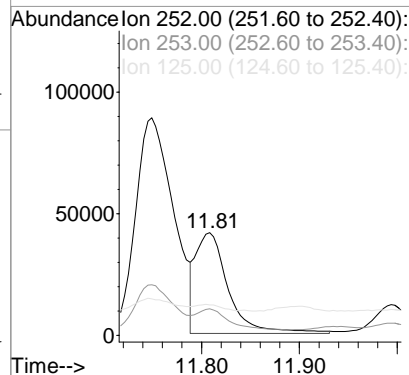
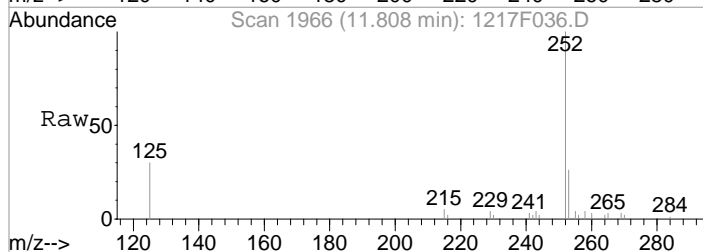
Tgt Ion	Ratio	Lower	Upper
252	100		
253	21.1	0.0	51.8
125	5.8	0.0	25.2





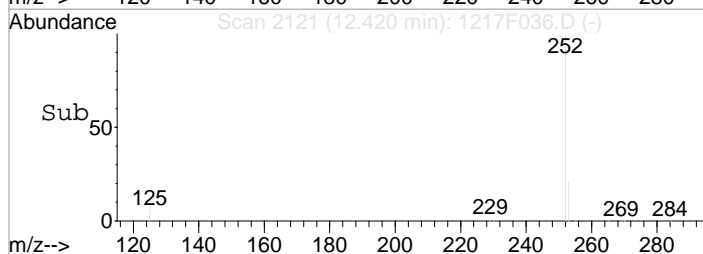
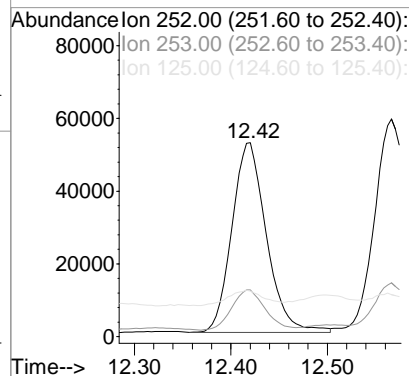
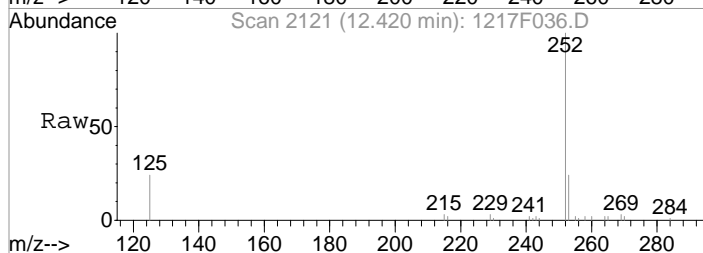
#30
 Benzo(k)fluoranthene
 Concen: 127.13 ng/ml m
 RT: 11.81 min Scan# 1966
 Delta R.T. 0.00 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

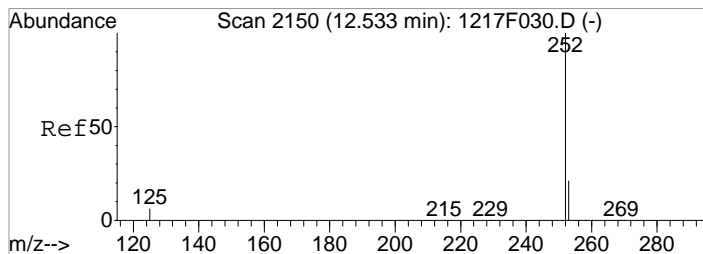
Tgt Ion	Ratio	Lower	Upper
252	100		
253	25.9	0.0	51.8
125	29.7	0.0	25.6#



#31
 Benzo(e)pyrene
 Concen: 179.41 ng/ml
 RT: 12.42 min Scan# 2121
 Delta R.T. 0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

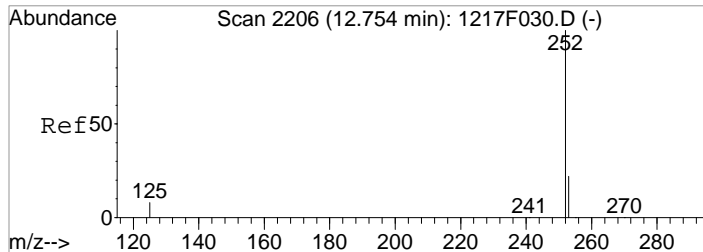
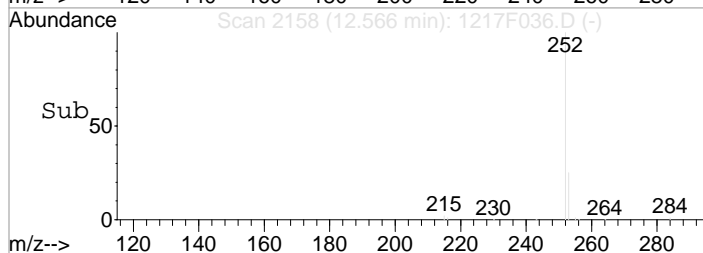
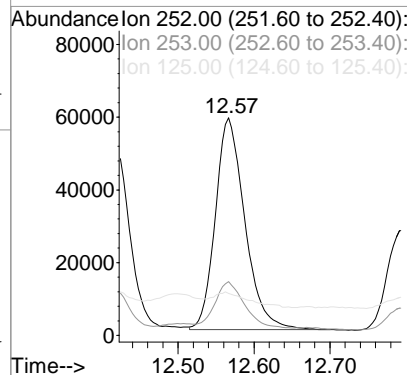
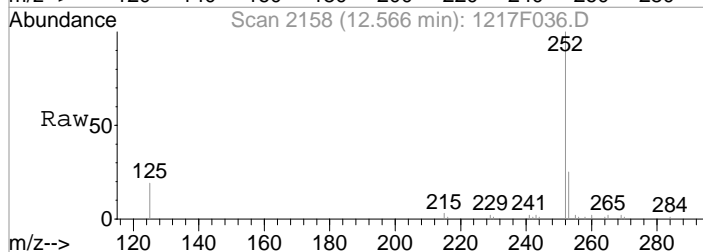
Tgt Ion	Ratio	Lower	Upper
252	100		
253	20.7	0.0	51.7
125	7.7	0.0	27.8





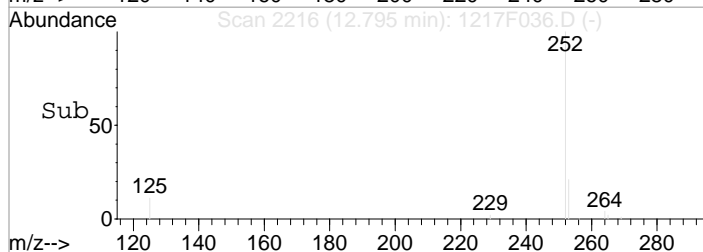
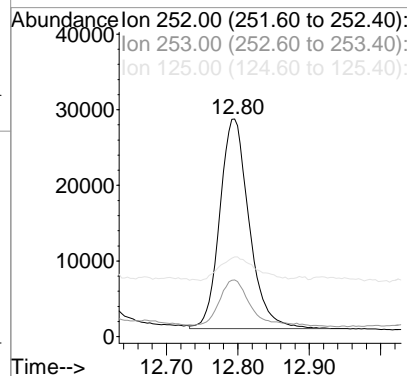
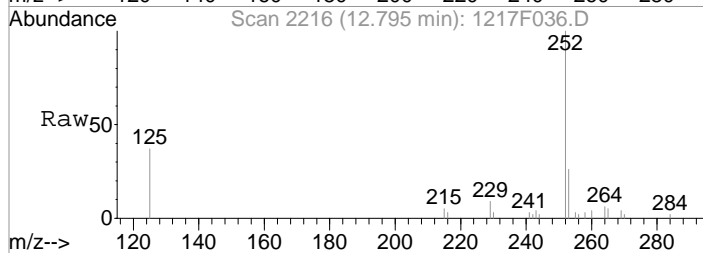
#32
 Benzo(a)pyrene
 Concen: 212.61 ng/ml
 RT: 12.57 min Scan# 2158
 Delta R.T. 0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

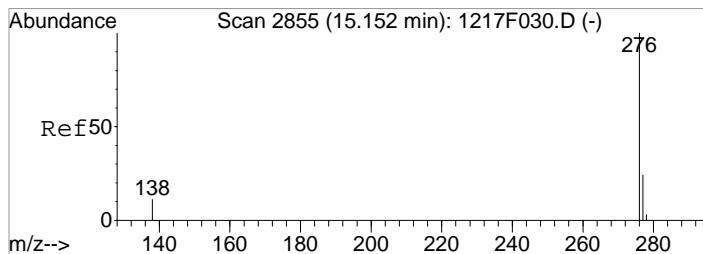
Tgt Ion	Ratio	Lower	Upper
252	100		
253	22.4	0.0	51.9
125	6.4	0.0	25.9



#33
 Perylene
 Concen: 115.95 ng/ml
 RT: 12.80 min Scan# 2216
 Delta R.T. 0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

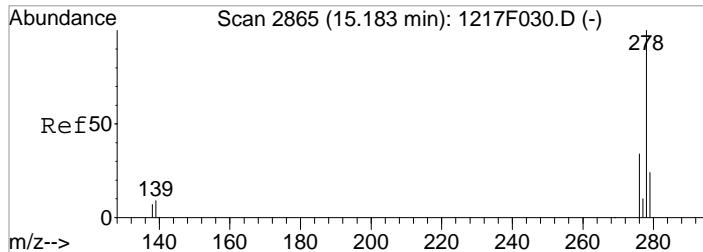
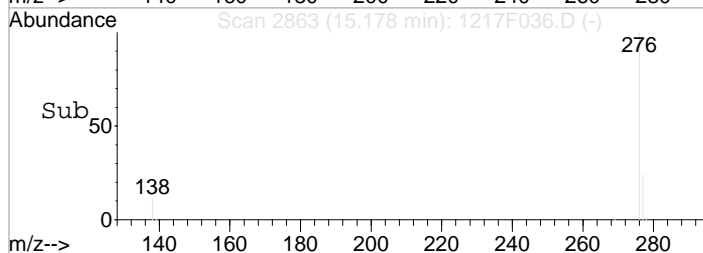
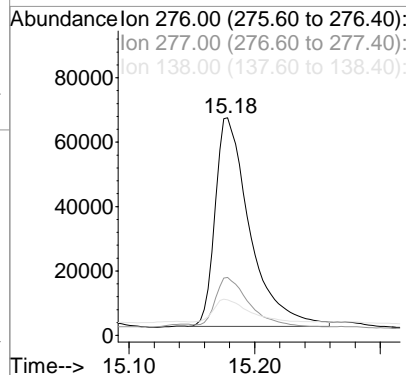
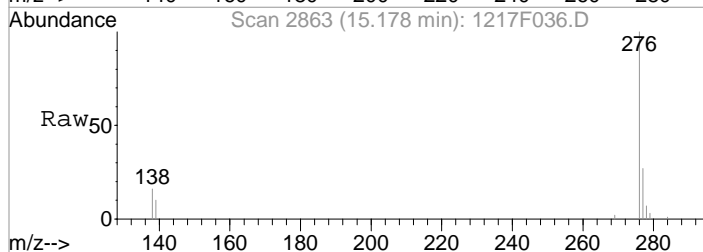
Tgt Ion	Ratio	Lower	Upper
252	100		
253	22.1	0.0	51.7
125	11.1	0.0	28.2





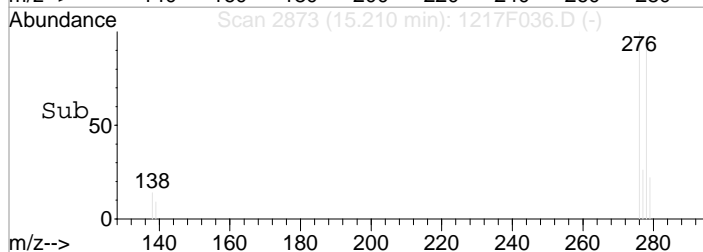
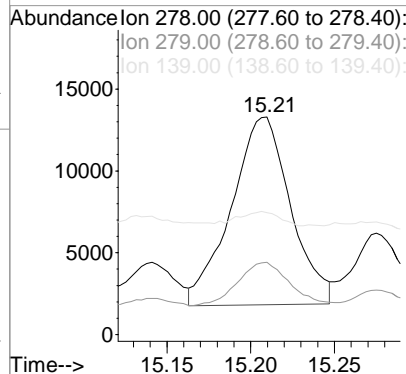
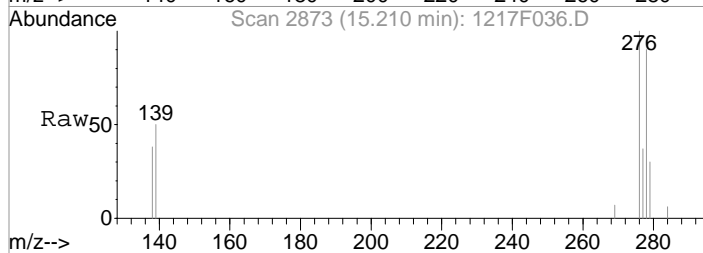
#34
 Indeno(1,2,3-cd)pyrene
 Concen: 169.36 ng/ml
 RT: 15.18 min Scan# 2863
 Delta R.T. 0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

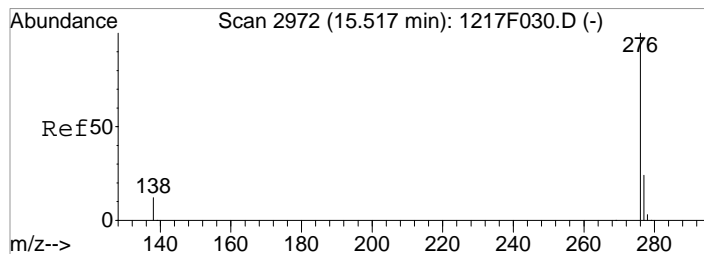
Tgt Ion	Ratio	Lower	Upper
276	100		
277	23.6	0.0	54.1
138	10.7	0.0	30.5



#35
 Dibenz(a,h)anthracene
 Concen: 35.62 ng/ml
 RT: 15.21 min Scan# 2873
 Delta R.T. 0.01 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

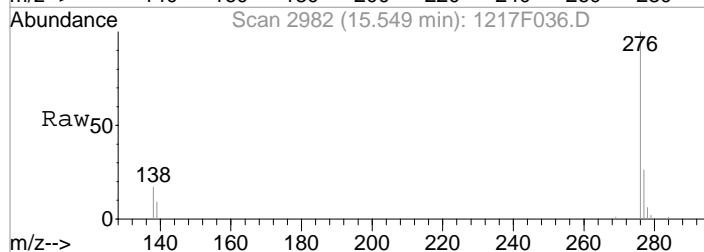
Tgt Ion	Ratio	Lower	Upper
278	100		
279	25.3	0.0	53.9
139	7.1	0.0	28.6



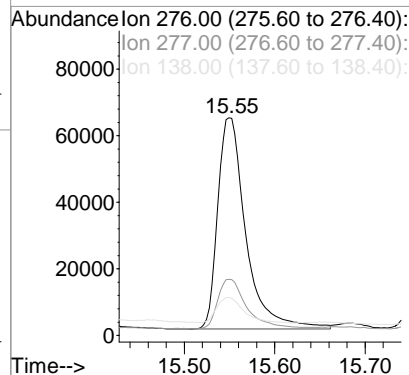
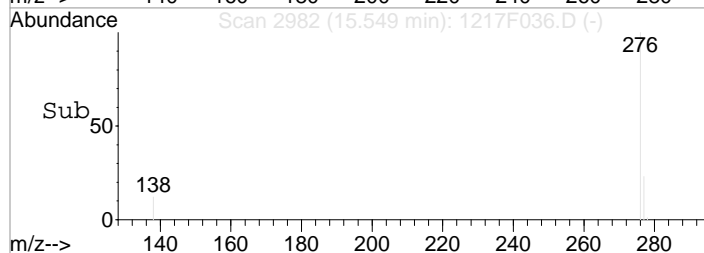


#36
 Benzo(g,h,i)perylene
 Concen: 164.51 ng/ml
 RT: 15.55 min Scan# 2982
 Delta R.T. 0.02 min
 Lab File: 1217F036.D
 Acq: 17 Dec 2020 10:28 pm

1st *Ca* 12/18/20
 2nd *Q* 12/18/20



Tgt Ion:	276	Resp:	137744
Ion Ratio	Lower	Upper	
276	100		
277	23.3	0.0	53.8
138	11.6	0.0	31.5



Data File : J:\MS14\DATA\121720\1217F036.D

Acq On : 17 Dec 2020 10:28 pm

Sample : K2011446-001

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 05:23:58 2020

Vial: 31

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.55	136	58958m	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.13	164	32454	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.37	188	67694	200.00	ng/ml	-0.01
23) Chrysene-d12	9.83	240	100109	200.00	ng/ml	0.00
28) Perylene-d12	12.72	264	128034	200.00	ng/ml	0.00

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.20	152	23019	143.19	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	14.32%	
13) Fluorene-d10	6.57	176	30125	154.64	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	15.46%	
22) Fluoranthene-d10	8.36	212	61467	152.14	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	15.21%	
25) Terphenyl-d14	8.70	244	64922	144.24	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	14.42%	

Target Compounds

						Qvalue
2) Naphthalene	4.57	128	3550m	11.89	ng/ml	
4) 2-Methylnaphthalene	5.23	142	1707m	8.73	ng/ml	
5) 1-Methylnaphthalene	5.31	142	1033	5.68	ng/ml	98
6) Biphenyl	5.65	154	956	4.03	ng/ml	95
7) 2,6-Dimethylnaphthalene	5.79	156	957	5.49	ng/ml	93
9) Acenaphthylene	6.01	152	4643	14.31	ng/ml	99
10) Acenaphthene	6.16	154	1190	5.94	ng/ml	97
11) Dibenzofuran	6.31	168	1964	6.41	ng/ml	99
12) 2,3,5-Trimethylnaphthalene	6.48	170	766	3.96	ng/ml	88
14) Fluorene	6.60	166	2886	12.59	ng/ml	97
16) Dibenzothiophene	7.29	184	2237	6.18	ng/ml	95
17) Phenanthrene	7.39	178	37646	99.87	ng/ml	99
18) Anthracene	7.44	178	8628	24.10	ng/ml	98
19) Carbazole	7.57	167	2991	8.55	ng/ml	93
20) 1-Methylphenanthrene	7.90	192	8883m	30.59	ng/ml	
21) Fluoranthene	8.38	202	154277	326.62	ng/ml	99
24) Pyrene	8.56	202	152493	249.87	ng/ml	100
26) Benz(a)anthracene	9.81	228	103135	164.04	ng/ml	95
27) Chrysene	9.86	228	131059	223.54	ng/ml	100
29) Benzo(b)fluoranthene	11.75	252	238074	307.60	ng/ml	98
30) Benzo(k)fluoranthene	11.81	252	95568m	127.13	ng/ml	
31) Benzo(e)pyrene	12.42	252	130103	179.41	ng/ml	98
32) Benzo(a)pyrene	12.57	252	157444	212.61	ng/ml	99
33) Perylene	12.80	252	79450	115.95	ng/ml	97
34) Indeno(1,2,3-cd)pyrene	15.18	276	124571	169.36	ng/ml	99
35) Dibenz(a,h)anthracene	15.21	278	28292	35.62	ng/ml	97
36) Benzo(g,h,i)perylene	15.55	276	137744	164.51	ng/ml	99

Data File : J:\MS14\DATA\121720\1217F036.D

Acq On : 17 Dec 2020 10:28 pm

Sample : K2011446-001

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 5:23 2020

Vial: 31

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

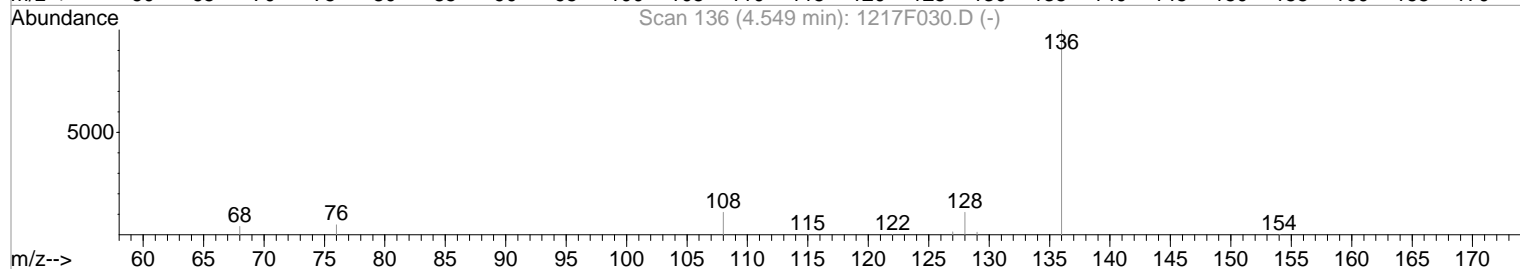
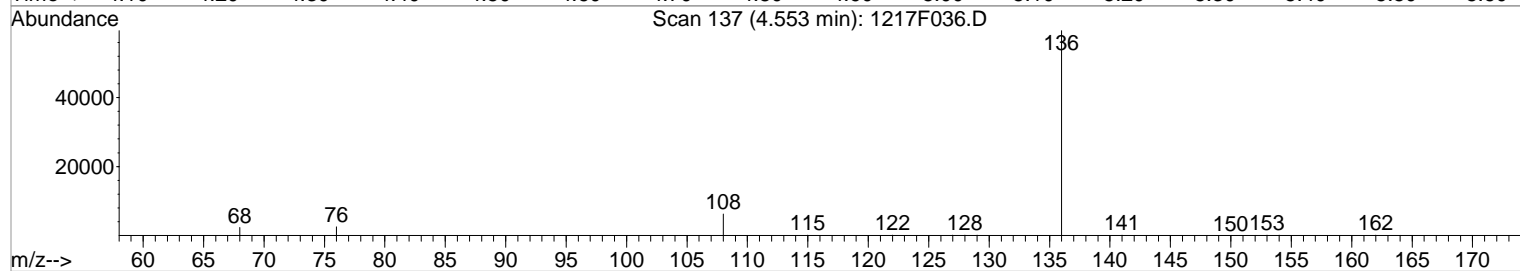
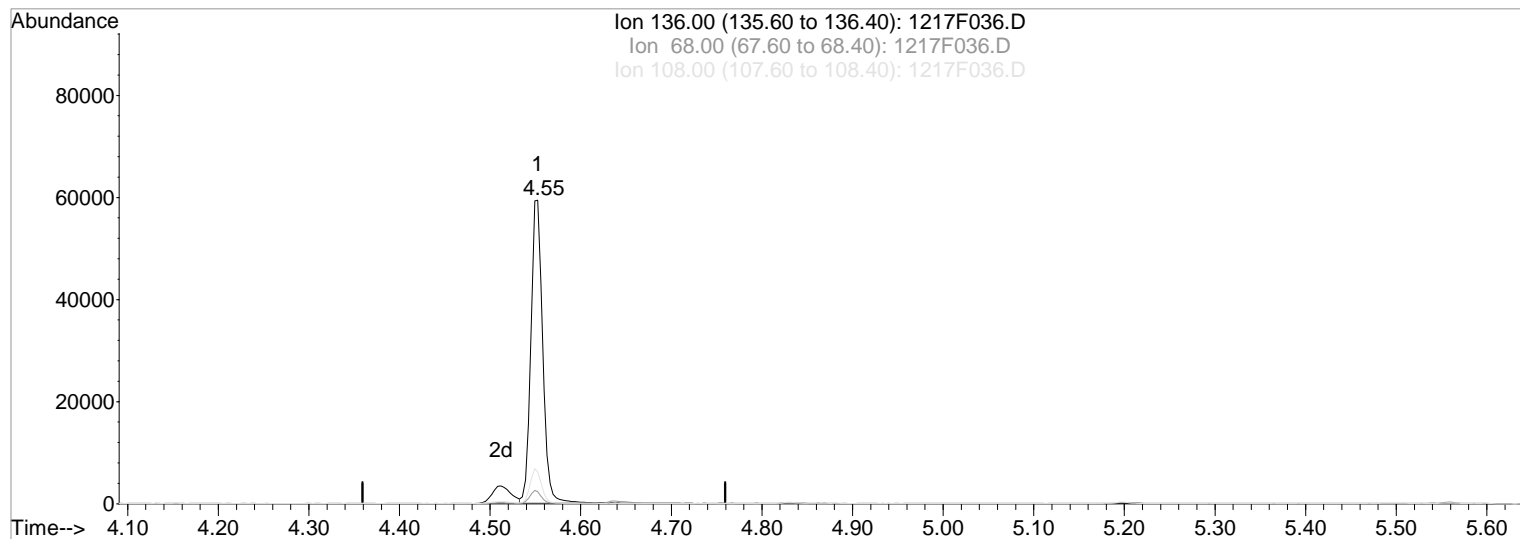
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F036.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.55min 200.00ng/ml

Before

response 53618

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	3.77
108.00	10.90	10.37
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F036.D

Acq On : 17 Dec 2020 10:28 pm

Sample : K2011446-001

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:34 2020

Vial: 31

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

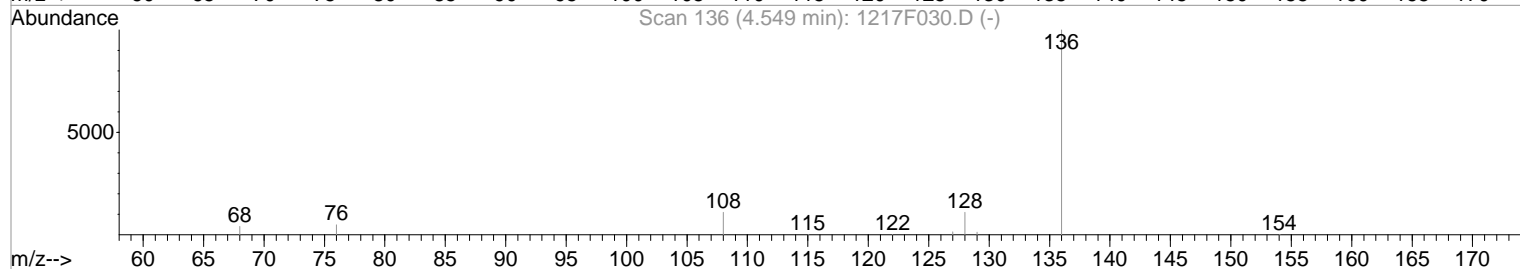
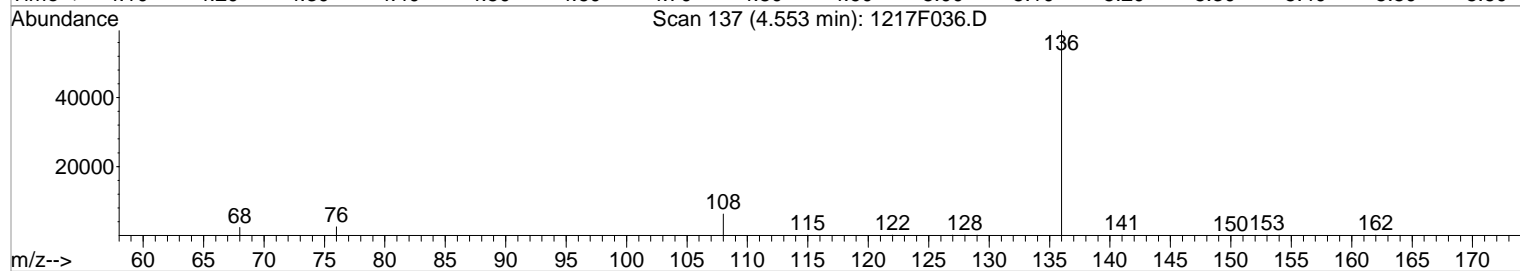
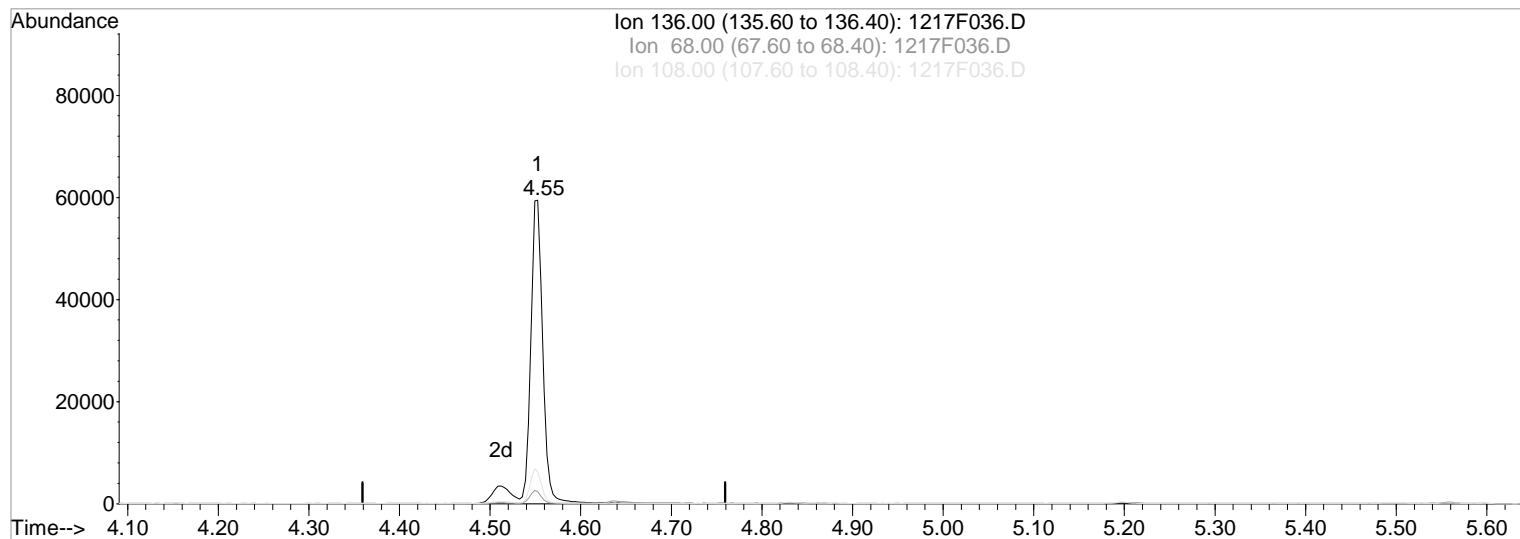
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F036.D

(1) Naphthalene-d8 (I)

4.55min 200.00ng/ml m

response 58958

Ion	Exp%	Act%
-----	------	------

136.00	100	100
--------	-----	-----

68.00	4.00	3.97
-------	------	------

108.00	10.90	10.45
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F036.D

Acq On : 17 Dec 2020 10:28 pm

Sample : K2011446-001

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:34 2020

Vial: 31

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

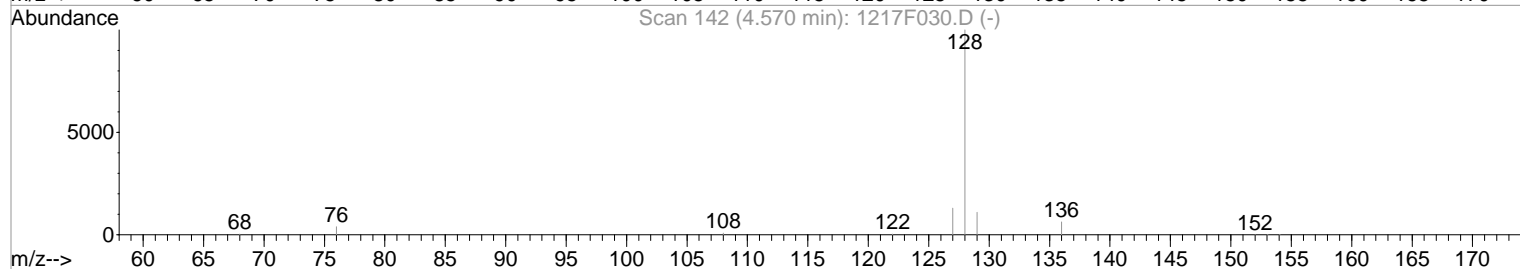
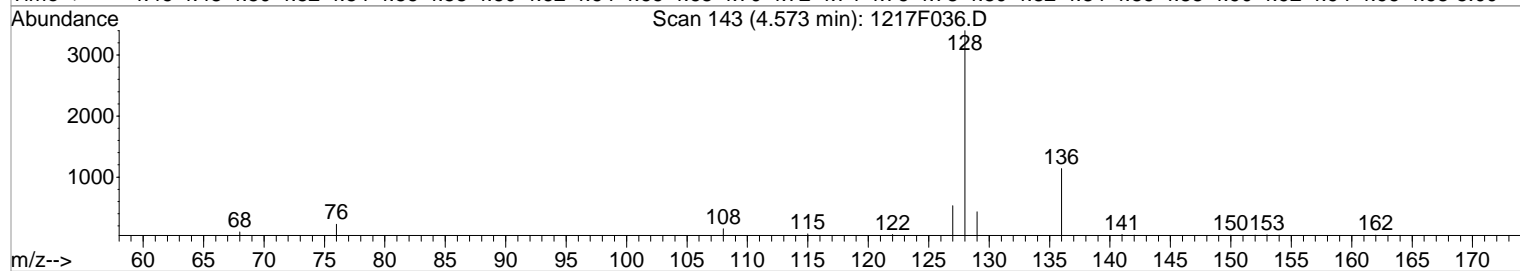
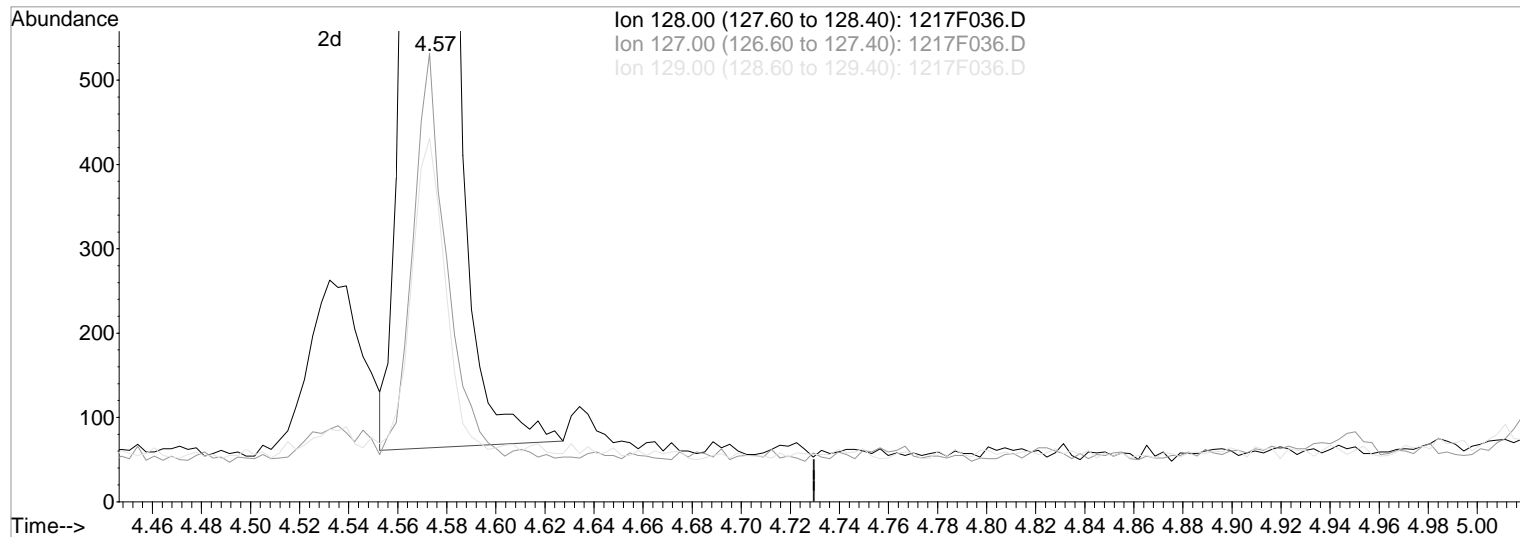
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F036.D

(2) Naphthalene (T)

Manual Integration:

4.57min 10.65ng/ml

Before

response 3182

Ion	Exp%	Act%
-----	------	------

12/18/20

128.00	100	100
--------	-----	-----

127.00	12.70	14.38
--------	-------	-------

129.00	10.80	11.23
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121720\1217F036.D

Acq On : 17 Dec 2020 10:28 pm

Sample : K2011446-001

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:35 2020

Vial: 31

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

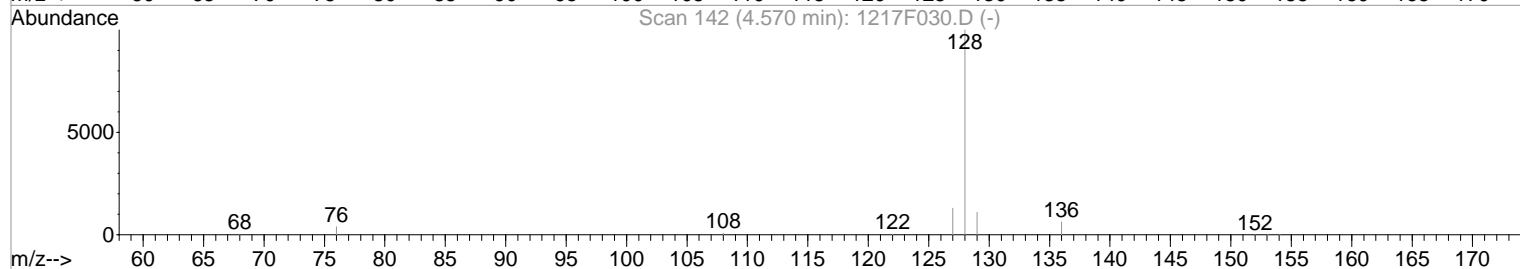
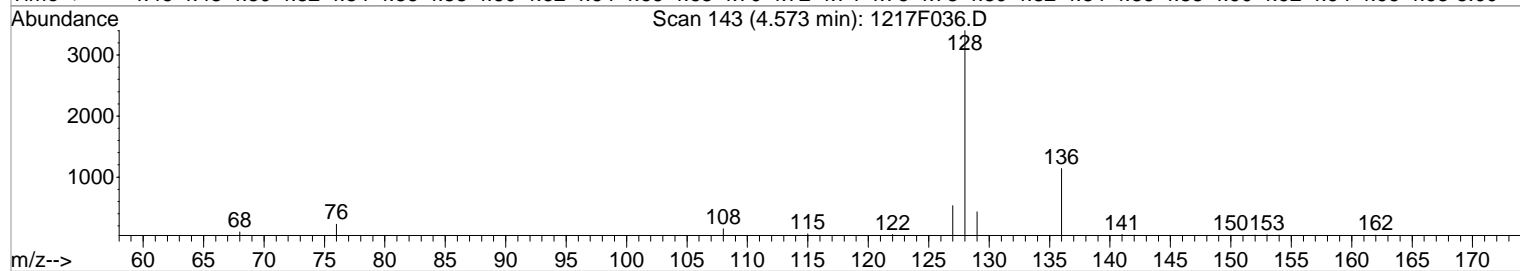
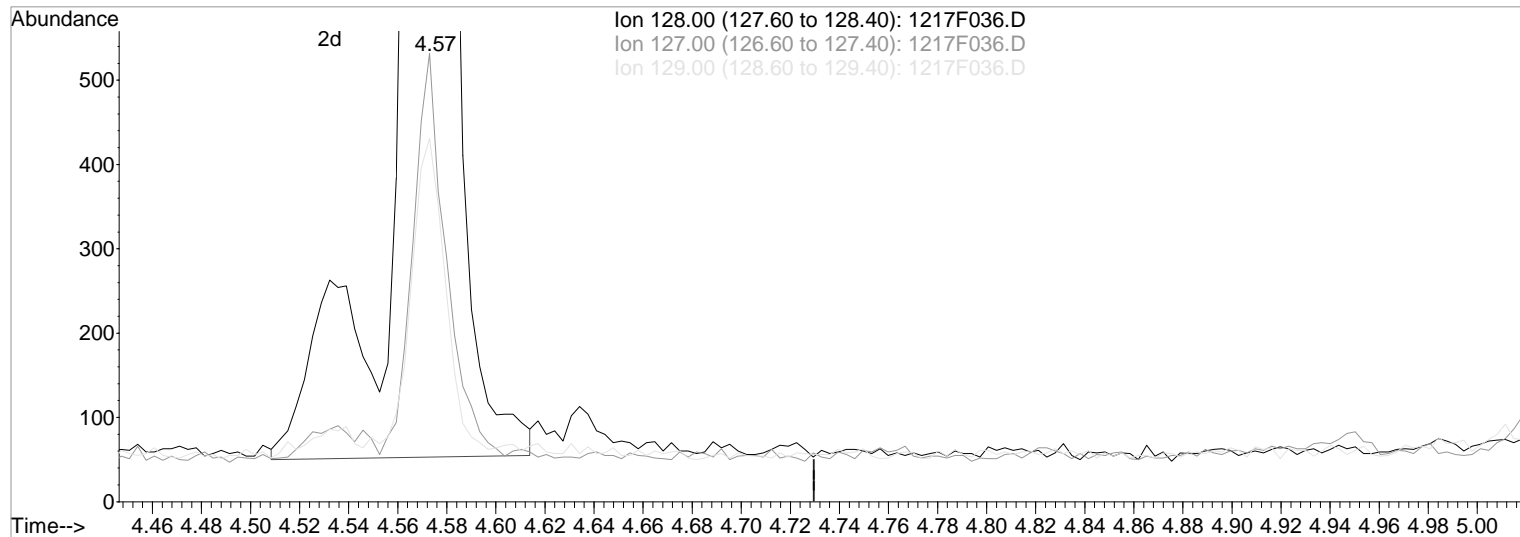
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F036.D

(2) Naphthalene (T)

4.57min 11.89ng/ml m

response 3550

Ion Exp% Act%

128.00 100 100

127.00 12.70 15.64

129.00 10.80 12.67

0.00 0.00 0.00

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F036.D

Acq On : 17 Dec 2020 10:28 pm

Sample : K2011446-001

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:35 2020

Vial: 31

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

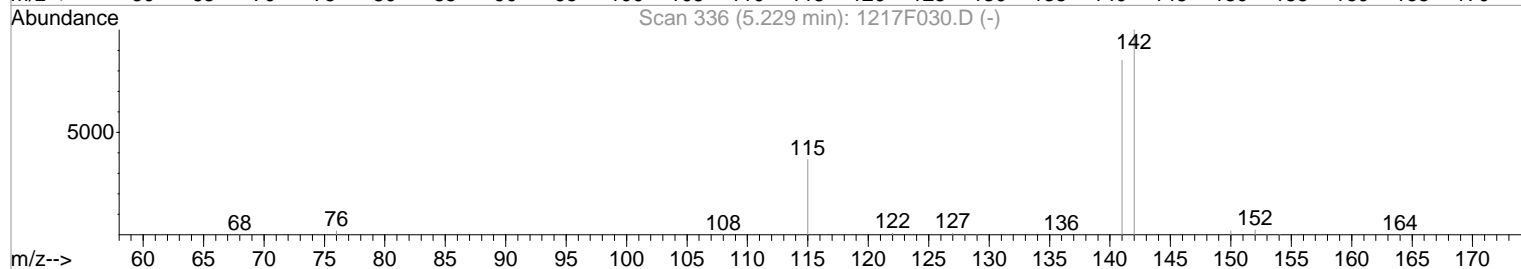
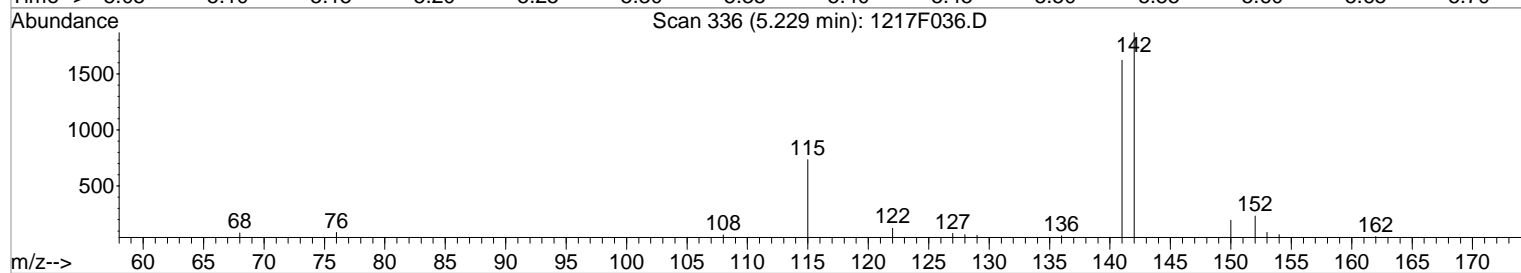
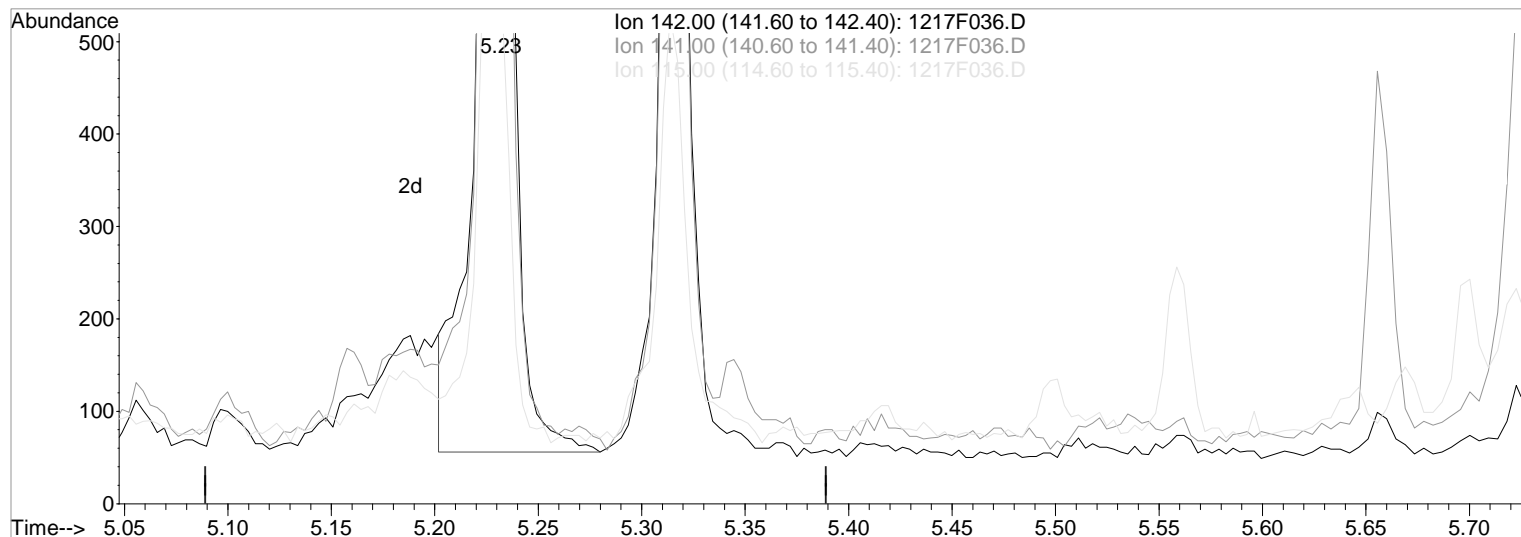
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F036.D

(4) 2-Methylnaphthalene (T)

Manual Integration:

5.23min 8.57ng/ml

Before

response 1675

Ion	Exp%	Act%
-----	------	------

12/18/20

142.00	100	100
--------	-----	-----

141.00	83.50	85.65
--------	-------	-------

115.00	33.20	36.64
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121720\1217F036.D

Acq On : 17 Dec 2020 10:28 pm

Sample : K2011446-001

Misc :

Vial: 31

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:35 2020

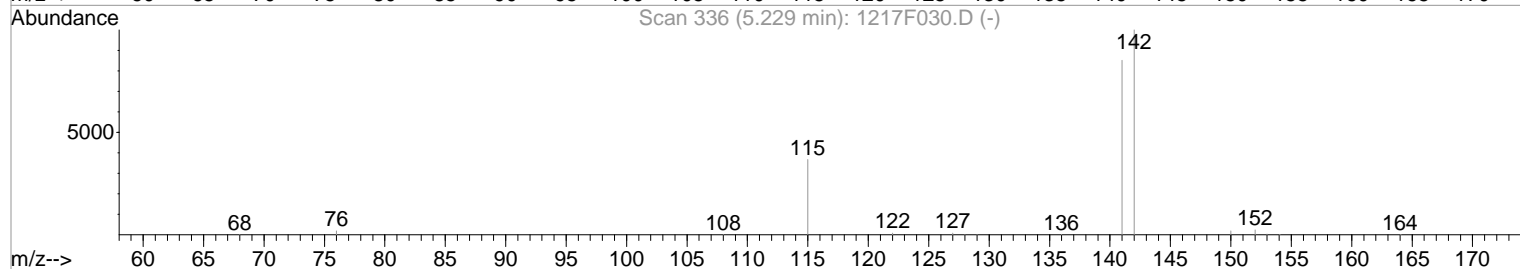
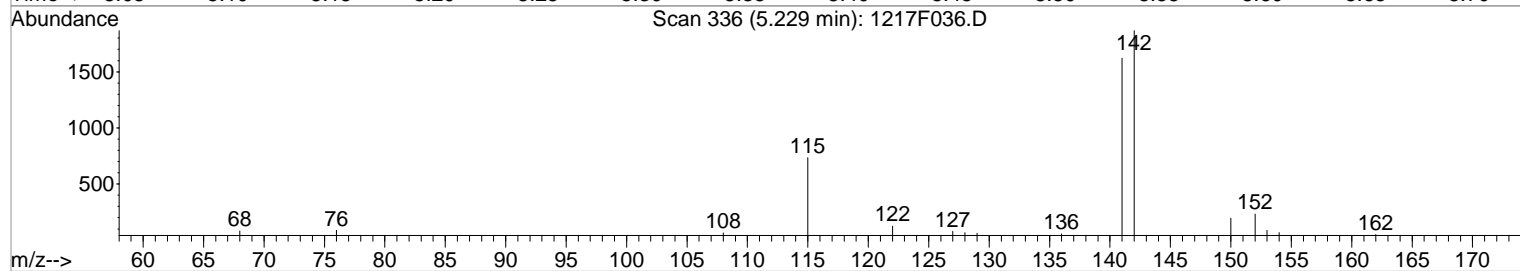
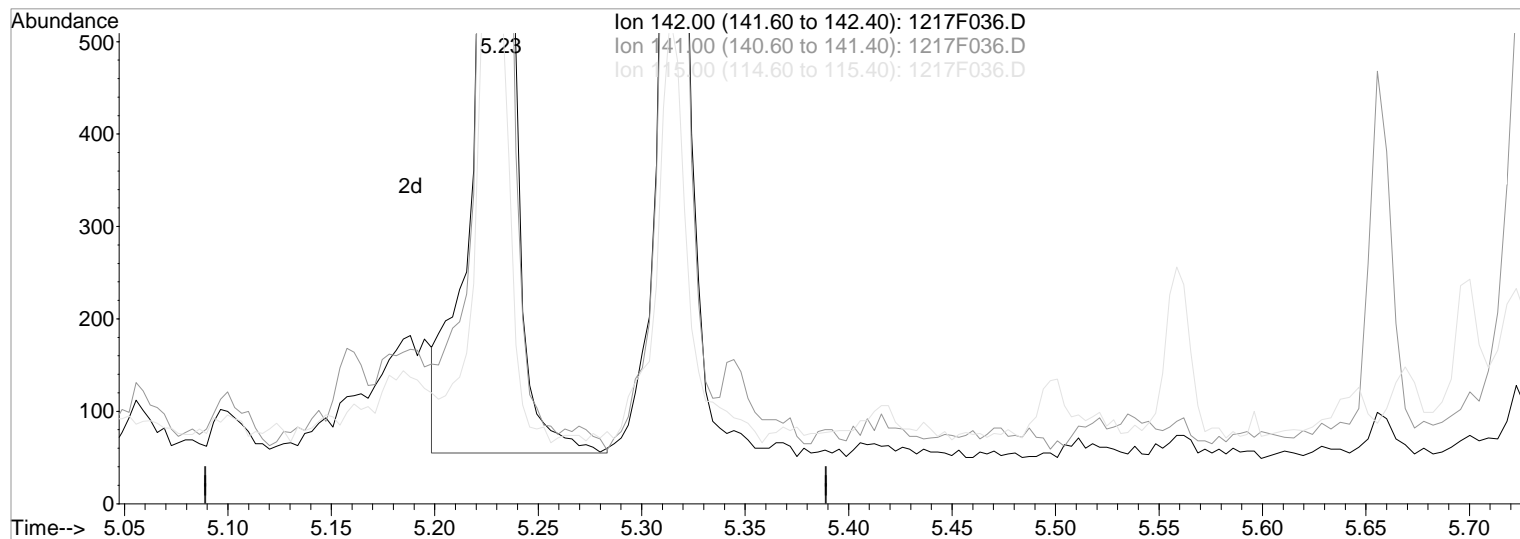
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F036.D

(4) 2-Methylnaphthalene (T)

5.23min 8.73ng/ml m

response 1707

Ion	Exp%	Act%
142.00	100	100
141.00	83.50	86.83
115.00	33.20	39.35
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F036.D

Acq On : 17 Dec 2020 10:28 pm

Sample : K2011446-001

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:35 2020

Vial: 31

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

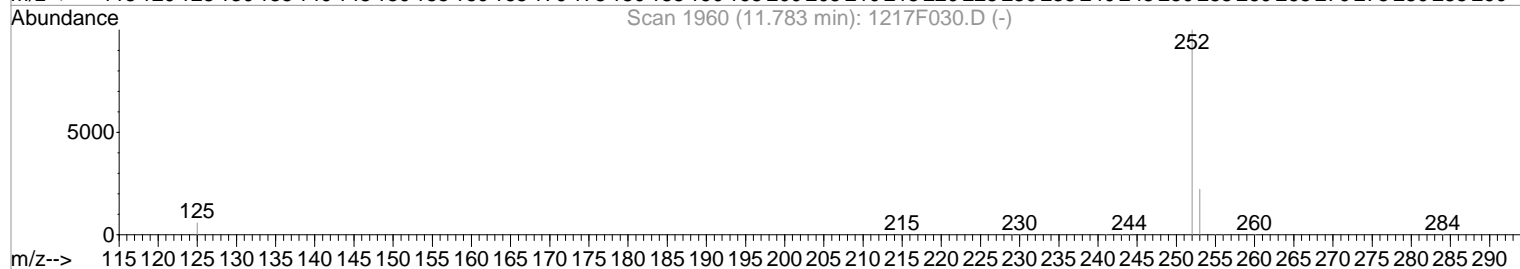
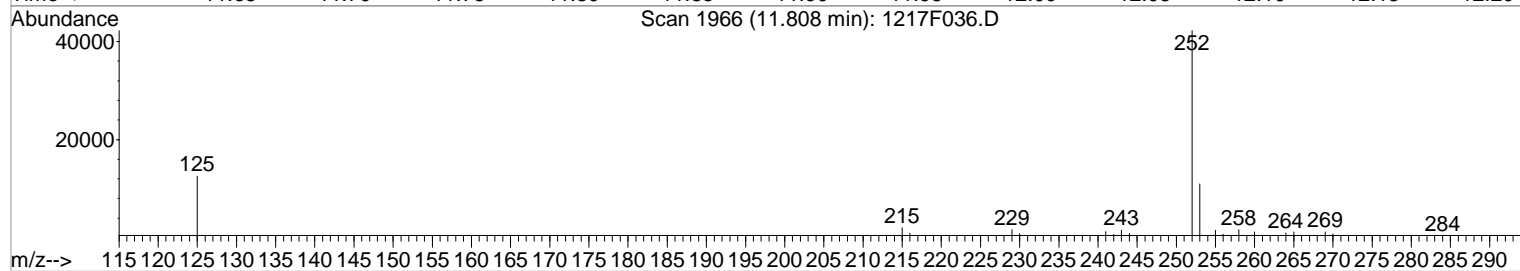
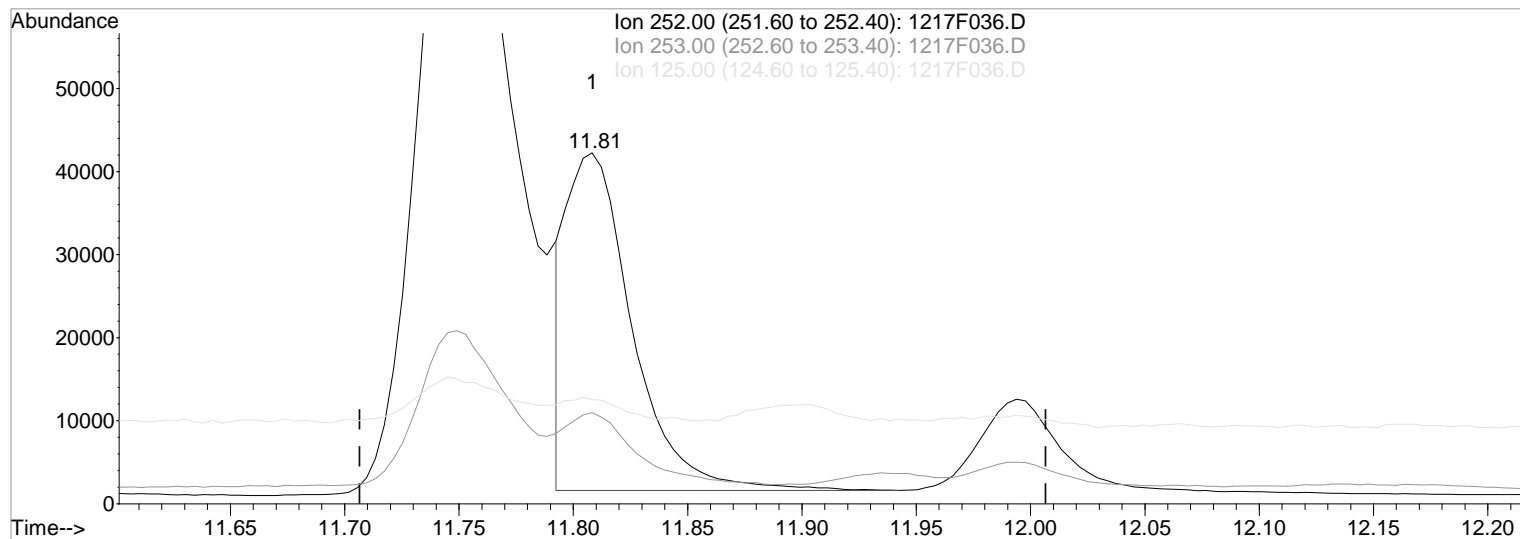
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F036.D

(30) Benzo(k)fluoranthene (T)

Manual Integration:

11.81min 108.82ng/ml

Before

response 81809

Ion	Exp%	Act%
-----	------	------

12/18/20

252.00	100	100
--------	-----	-----

253.00	21.80	17.98
--------	-------	-------

125.00	5.60	5.85
--------	------	------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121720\1217F036.D

Acq On : 17 Dec 2020 10:28 pm

Sample : K2011446-001

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:35 2020

Vial: 31

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

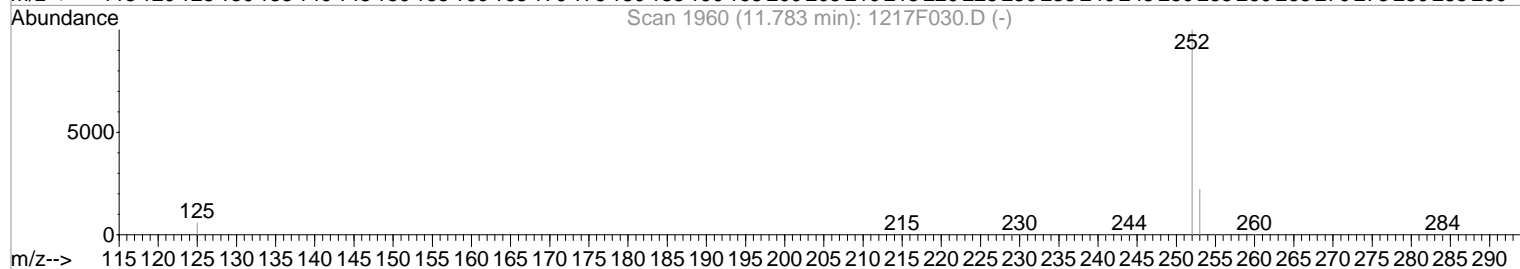
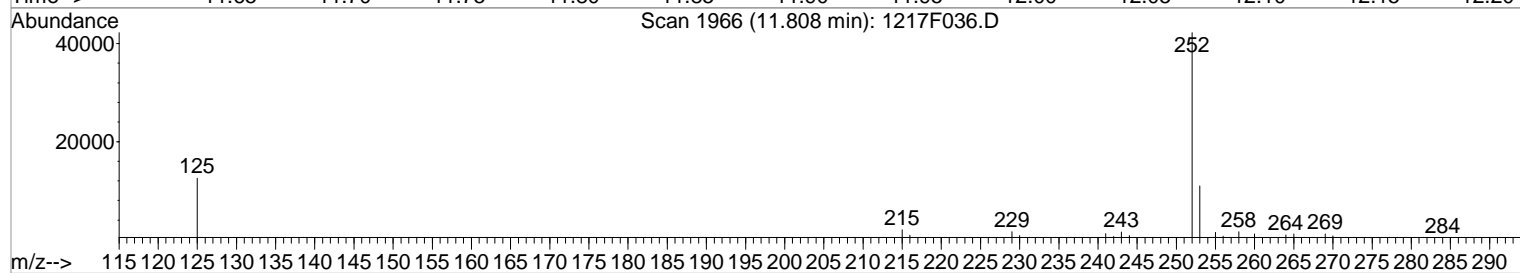
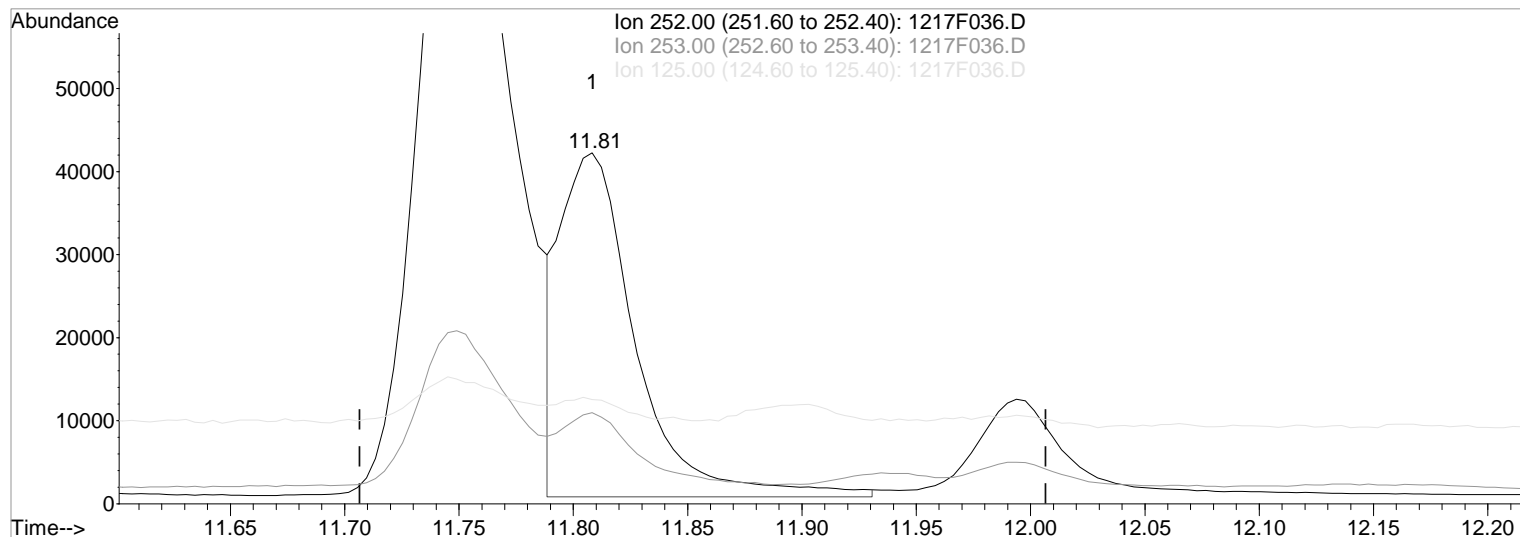
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F036.D

(30) Benzo(k)fluoranthene (T)

11.81min 127.13ng/ml m

response 95568

Ion	Exp%	Act%
-----	------	------

252.00	100	100
--------	-----	-----

253.00	21.80	25.94
--------	-------	-------

125.00	5.60	29.71#
--------	------	--------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Validation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File: J:\MS14\DATA\121720\1217F037.D\
Lab ID: K2011446-002
RunType: N/A
Matrix: Soil

Date Acquired: 12/17/20 22:54:00
Batch ID: 707540
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pyrene	-21		20	OK, <40

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121720\1217F037.D\	Instrument:	K-MS-14
Acqu Date:	12/17/20 22:54:00	Vial:	4
Run Type:	N/A	Dilution:	1
Lab ID:	K2011446-002	Raw Units:	ng/mL

Bottle ID:	K2011446-002.01	Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707540	Prep Lot:	371385	Report Group:	K2011446
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/14/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.13		36167	200.00	OK
Chrysene-d12	9.82		105373	200.00	OK
Naphthalene-d8	4.55		77607	200.00	OK
Perylene-d12	12.71	+0.03	131397	200.00	OK
Phenanthrene-d10	7.37	-0.01	73677	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.36		64055	145.67	73	38 - 104	Y
Fluorene-d10	6.57		31642	145.75	73	39 - 109	Y
Terphenyl-d14	8.69		67326	142.11	71	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.32	+0.01	1113	4.65	16	J	Y
2-Methylnaphthalene	5.23		1538	5.98	20		Y
Acenaphthene	6.16		1065	4.77	16	J	Y
Acenaphthylene	6.01		3905	10.80	36		Y
Anthracene	7.44		7725	19.83	67		Y
Benz(a)anthracene	9.81		96972	146.53	490		Y
Benzo(a)pyrene	12.56	+0.03	139083	183.00	610		Y
Benzo(b)fluoranthene	11.75	+0.03	210156	264.58	890		Y
Benzo(g,h,i)perylene	15.54	+0.02	120112	139.78	470		Y
Benzo(k)fluoranthene	11.80	+0.02	75251	97.54	330		Y
Chrysene	9.86	+0.01	123631	200.34	670		Y
Dibenz(a,h)anthracene	15.20	+0.02	25418	31.18	100		Y
Fluoranthene	8.38		150054	291.88	980		Y

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

Printed: 12/18/20 10:04

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121720\1217F037.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/17/20 22:54:00	Vial:	4	
Run Type:	N/A	Dilution:	1	
Lab ID:	K2011446-002	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.60		2459	9.63	32		Y
Indeno(1,2,3-cd)pyrene	15.17	+0.02	111097	147.18	490		Y
Naphthalene	4.57		3328	8.46	28		Y
Phenanthrene	7.39		34856	84.96	290		Y
Pyrene	8.56		148106	230.56	770		Y

Prep Amount: 10.2090 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 29.20

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

Printed: 12/18/20 10:04

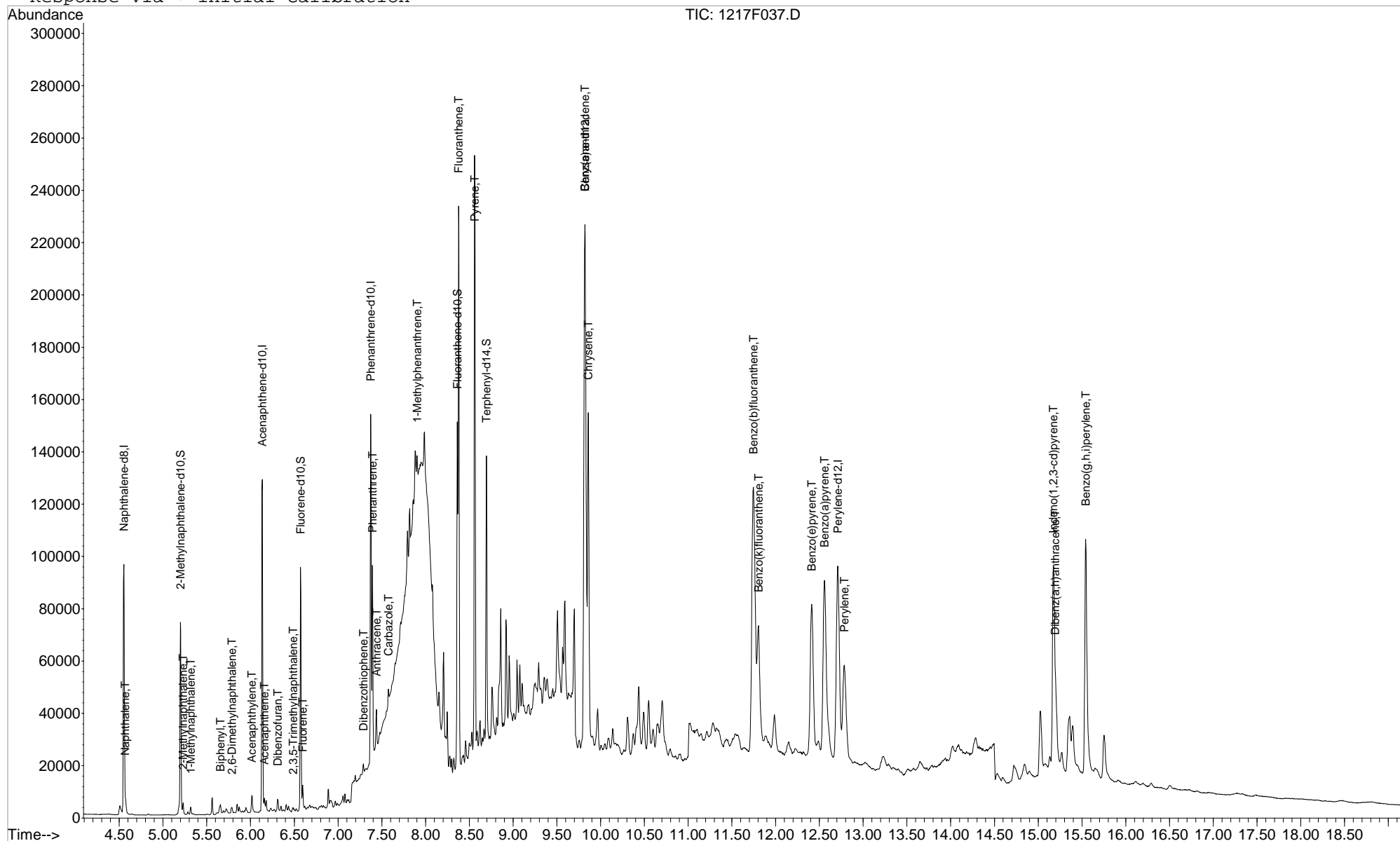
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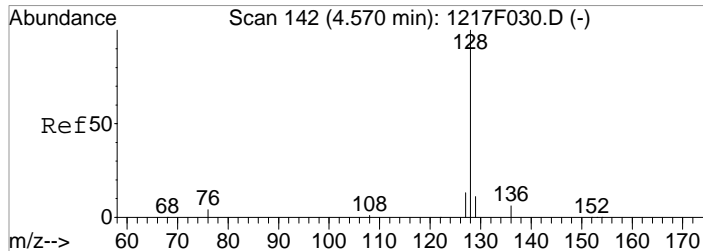
Data File : J:\MS14\DATA\121720\1217F037.D
Acq On : 17 Dec 2020 10:54 pm
Sample : K2011446-002
Misc :
MS Integration Params: RTEINT.P
Quant Time: Dec 18 7:36 2020

Vial: 32
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

Quant Results File: 101320PAH.RES

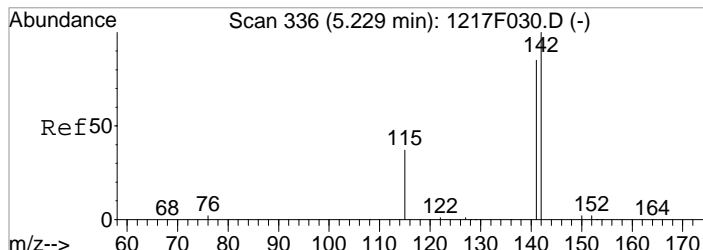
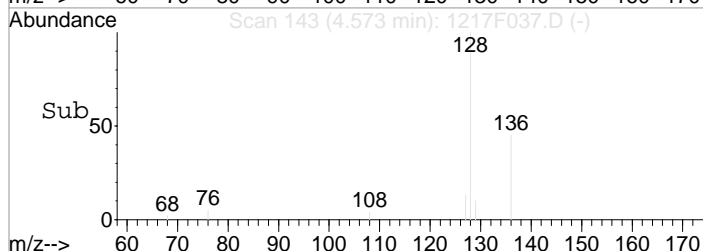
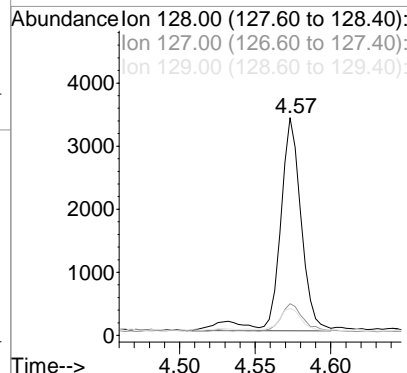
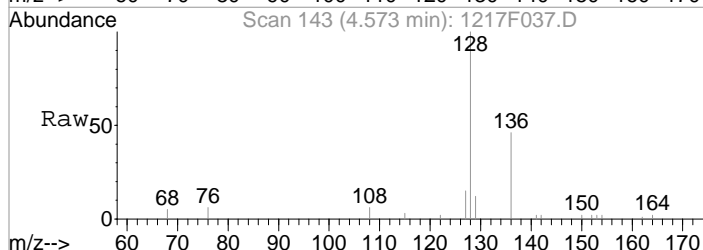
Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Dec 18 07:27:27 2020
Response via : Initial Calibration





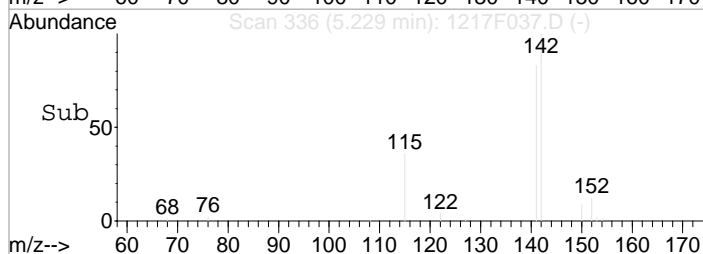
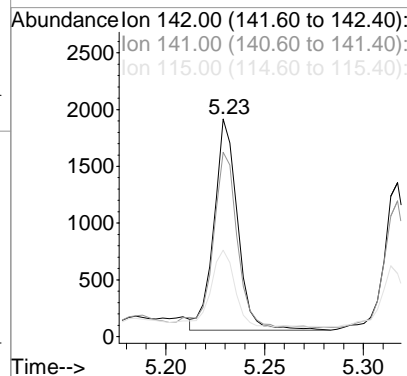
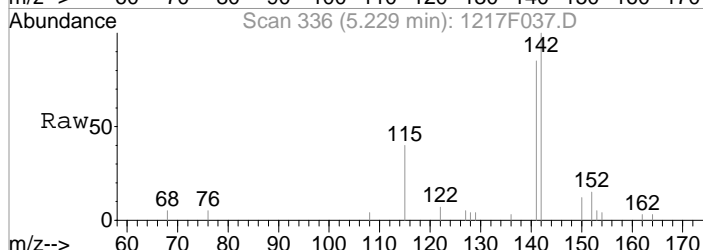
#2
Naphthalene
Concen: 8.46 ng/ml m
RT: 4.57 min Scan# 143
Delta R.T. -0.01 min
Lab File: 1217F037.D
Acq: 17 Dec 2020 10:54 pm

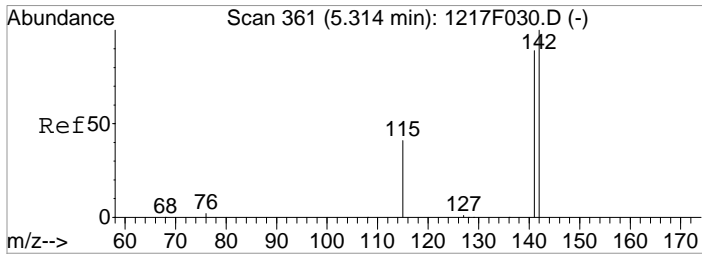
Tgt Ion:128	Resp:	3328
Ion Ratio	Lower	Upper
128	100	
127	14.6	0.0 42.7
129	12.4	0.0 30.8



#4
2-Methylnaphthalene
Concen: 5.98 ng/ml
RT: 5.23 min Scan# 336
Delta R.T. -0.01 min
Lab File: 1217F037.D
Acq: 17 Dec 2020 10:54 pm

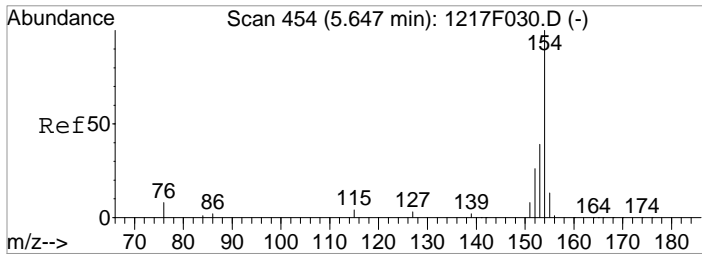
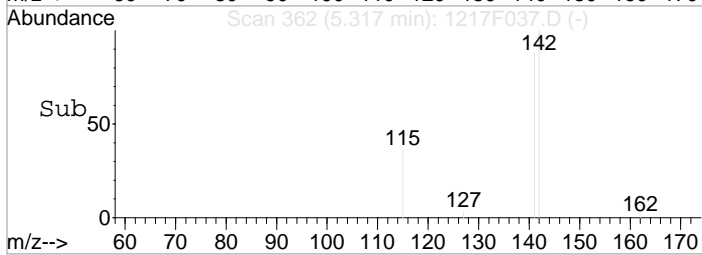
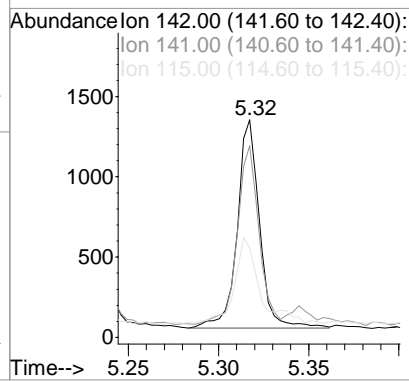
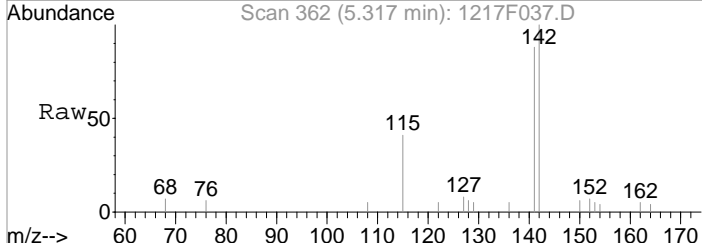
Tgt Ion:142	Resp:	1538
Ion Ratio	Lower	Upper
142	100	
141	82.9	53.5 113.5
115	36.1	13.2 53.2





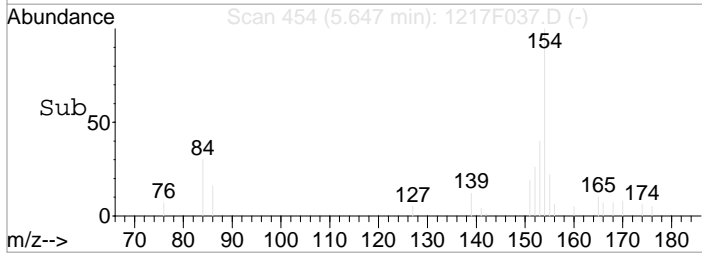
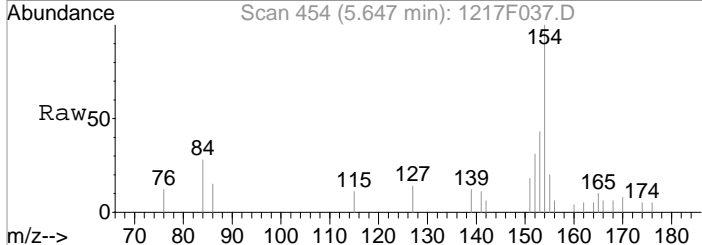
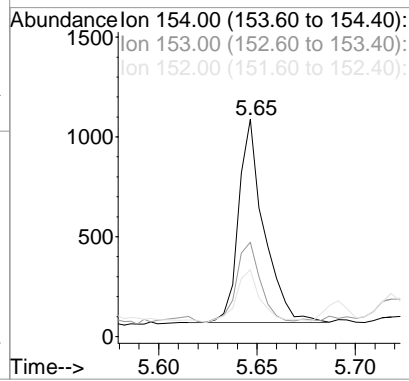
#5
 1-Methylnaphthalene
 Concen: 4.65 ng/ml
 RT: 5.32 min Scan# 362
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

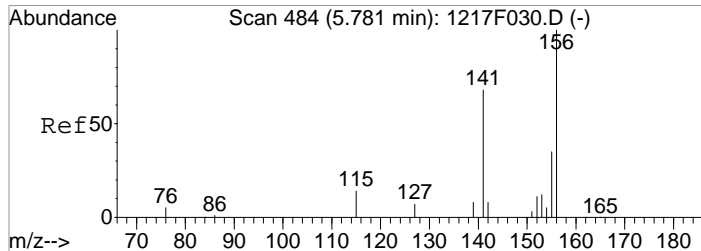
Tgt Ion:142	Resp:	1113
Ion Ratio	Lower	Upper
142	100	
141	85.7	57.0 117.0
115	35.7	17.7 57.7



#6
 Biphenyl
 Concen: 2.92 ng/ml
 RT: 5.65 min Scan# 454
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

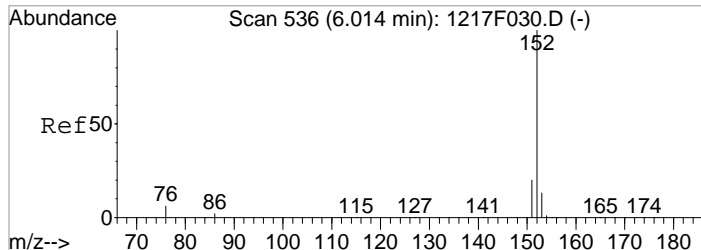
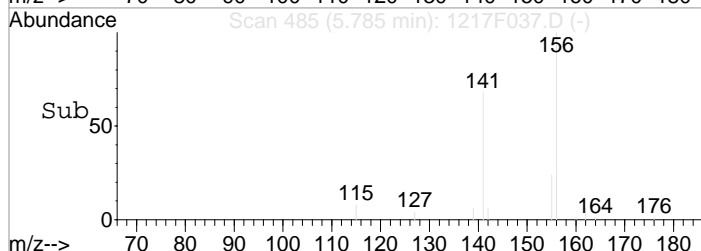
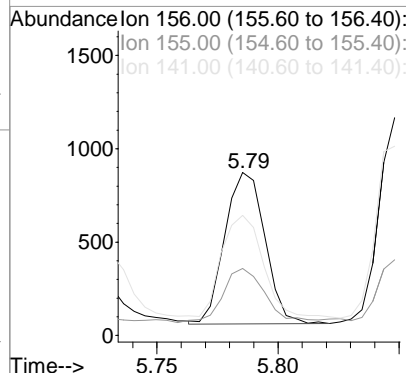
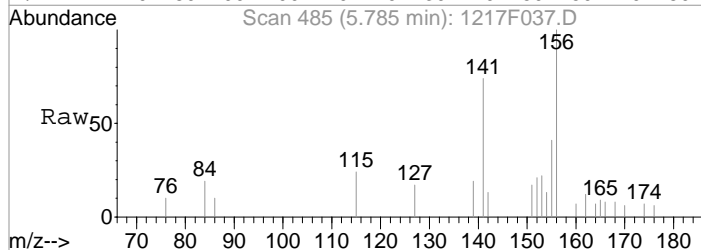
Tgt Ion:154	Resp:	912
Ion Ratio	Lower	Upper
154	100	
153	36.4	8.8 68.8
152	24.6	6.0 46.0





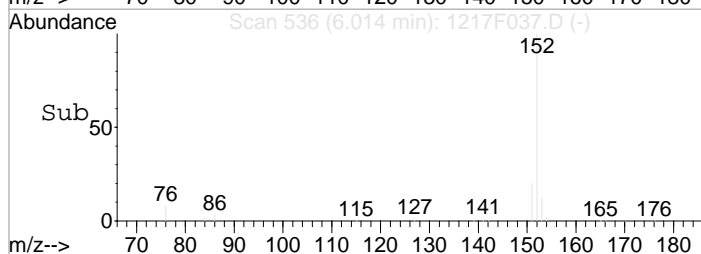
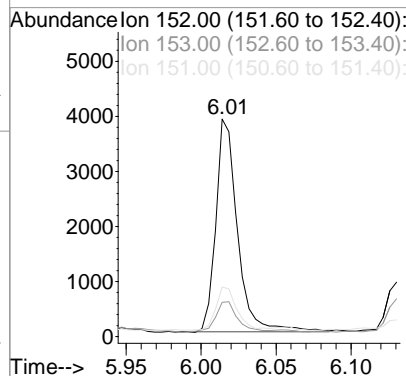
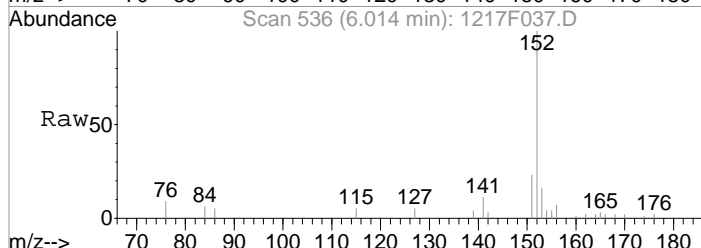
#7
2,6-Dimethylnaphthalene
Concen: 4.07 ng/ml
RT: 5.79 min Scan# 485
Delta R.T. -0.00 min
Lab File: 1217F037.D
Acq: 17 Dec 2020 10:54 pm

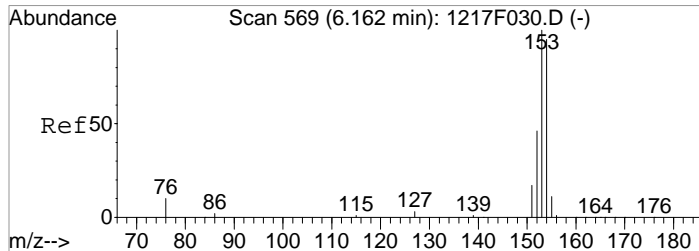
Tgt Ion:	156	Resp:	935
Ion Ratio	Lower	Upper	
156	100		
155	34.5	4.4	64.4
141	67.4	46.0	86.0



#9
Acenaphthylene
Concen: 10.80 ng/ml
RT: 6.01 min Scan# 536
Delta R.T. -0.01 min
Lab File: 1217F037.D
Acq: 17 Dec 2020 10:54 pm

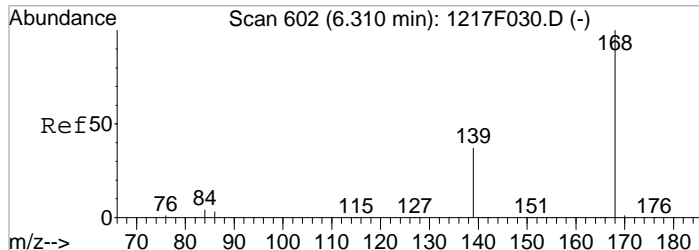
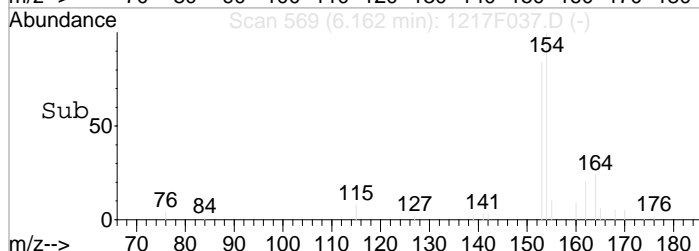
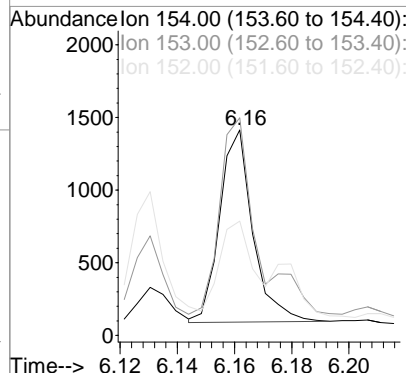
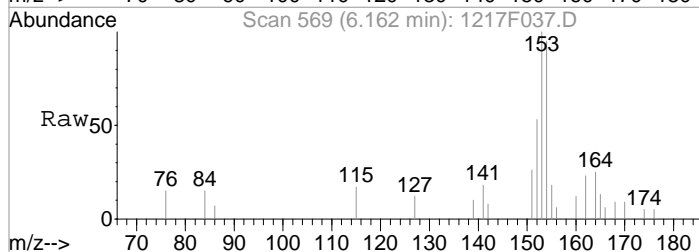
Tgt Ion:	152	Resp:	3905
Ion Ratio	Lower	Upper	
152	100		
153	13.8	0.0	43.0
151	20.3	0.0	39.4





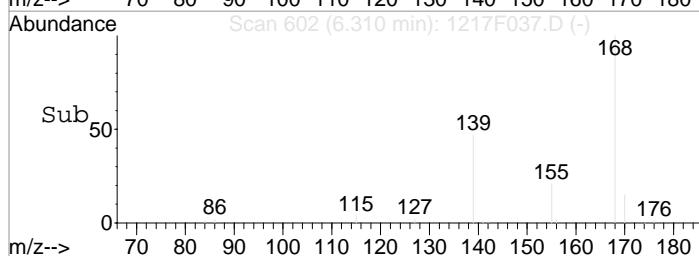
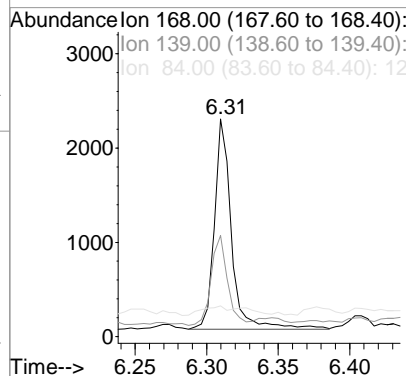
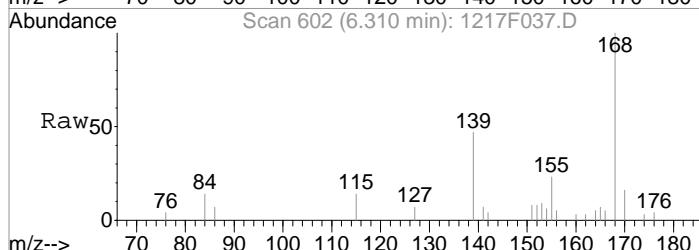
#10
Acenaphthene
Concen: 4.77 ng/ml
RT: 6.16 min Scan# 569
Delta R.T. -0.01 min
Lab File: 1217F037.D
Acq: 17 Dec 2020 10:54 pm

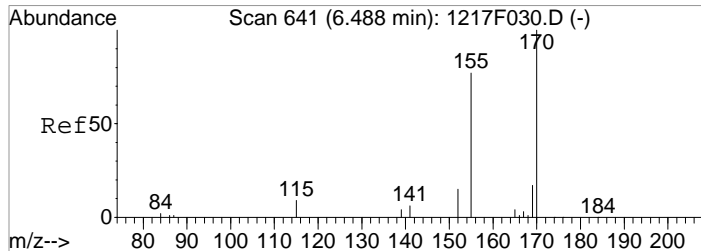
Tgt Ion	Ion	Ratio	Lower	Upper
154	100			
153	102.5	74.5	134.5	
152	49.5	18.5	78.5	



#11
Dibenzofuran
Concen: 5.42 ng/ml
RT: 6.31 min Scan# 602
Delta R.T. -0.01 min
Lab File: 1217F037.D
Acq: 17 Dec 2020 10:54 pm

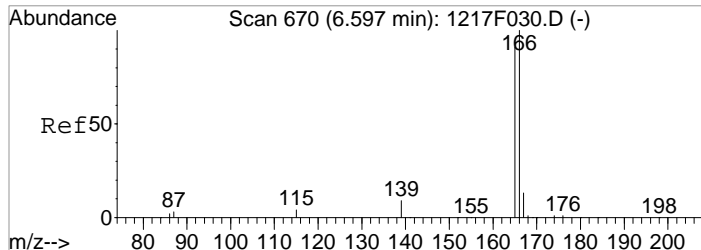
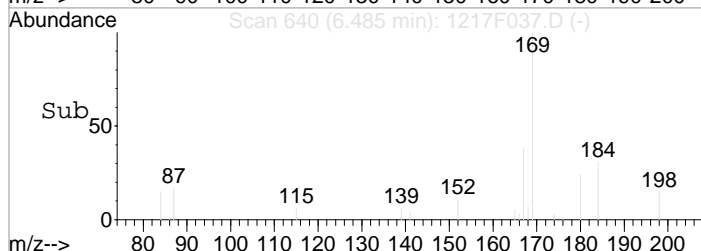
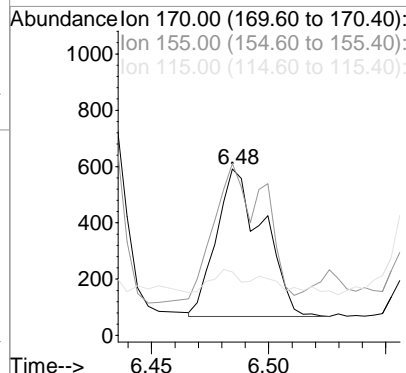
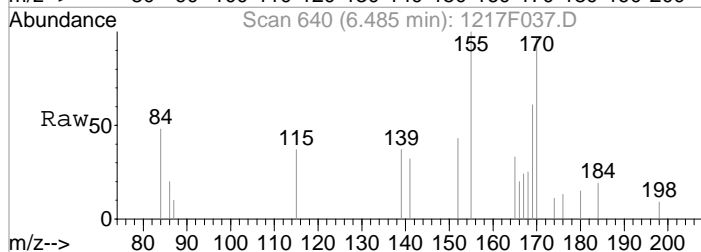
Tgt Ion	Ion	Ratio	Lower	Upper
168	100			
139	42.8	8.2	68.2	
84	4.4	0.0	23.9	





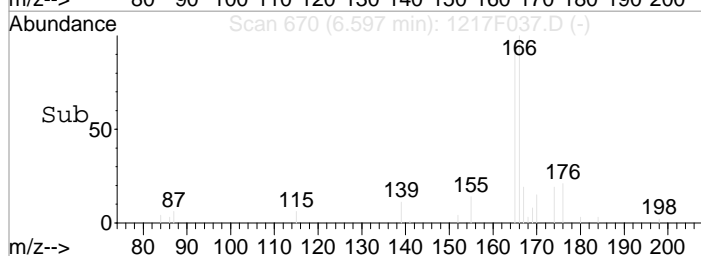
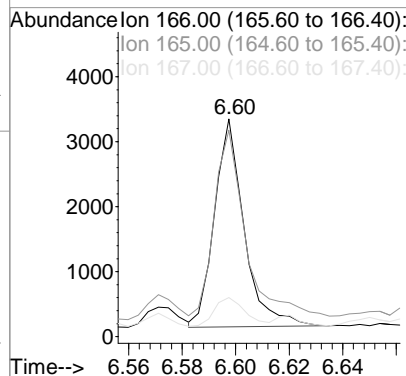
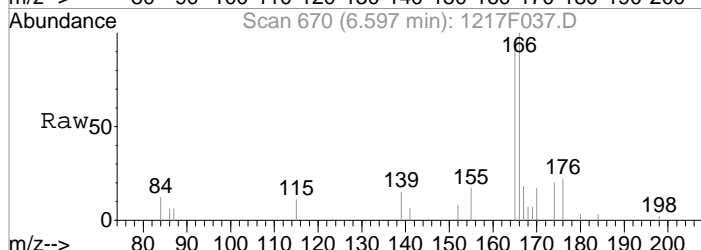
#12
 2,3,5-Trimethylnaphthalene
 Concen: 3.39 ng/ml
 RT: 6.48 min Scan# 640
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

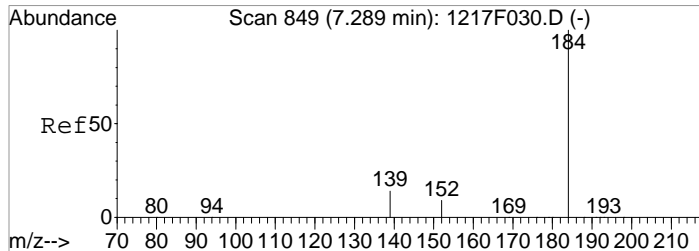
Tgt Ion:170	Resp:	731
Ion Ratio	Lower	Upper
170	100	
155	91.6	55.5 115.5
115	13.7	0.0 30.2



#14
 Fluorene
 Concen: 9.63 ng/ml
 RT: 6.60 min Scan# 670
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

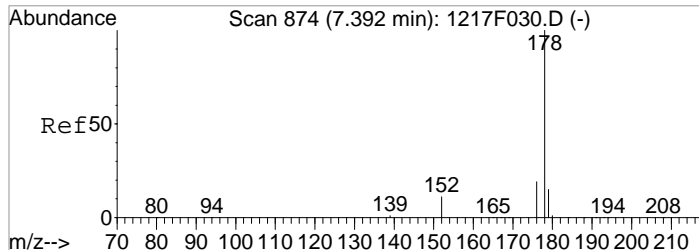
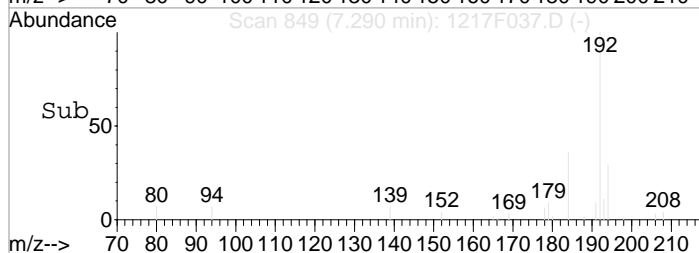
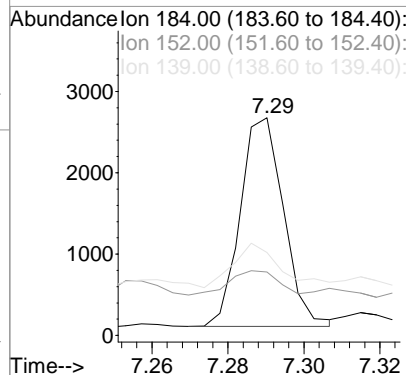
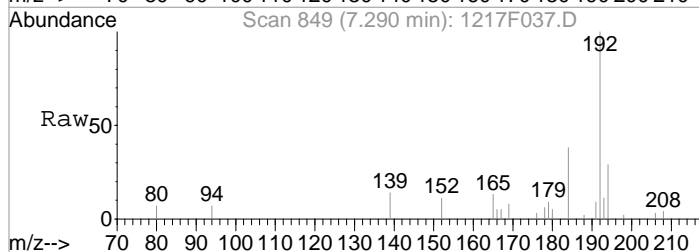
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Ion Ratio	Lower	Upper
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165	90.1	59.6 119.6
167	13.9	0.0 33.2





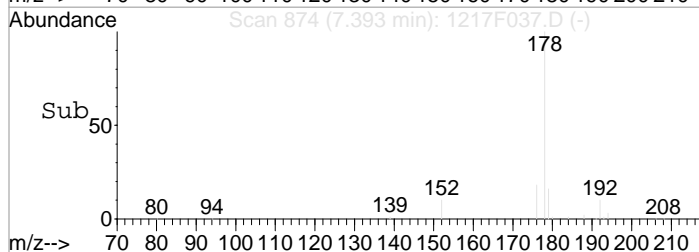
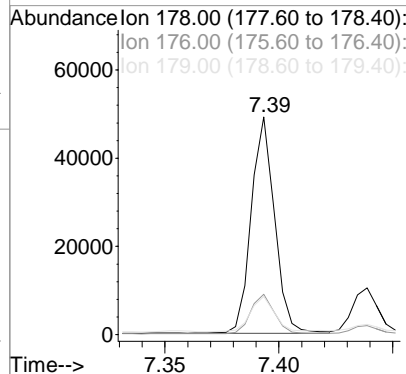
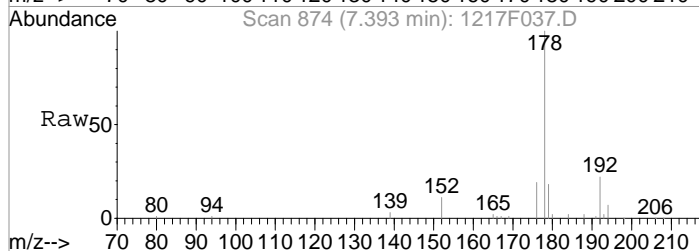
#16
 Dibenzenothiophene
 Concen: 5.18 ng/ml
 RT: 7.29 min Scan# 849
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

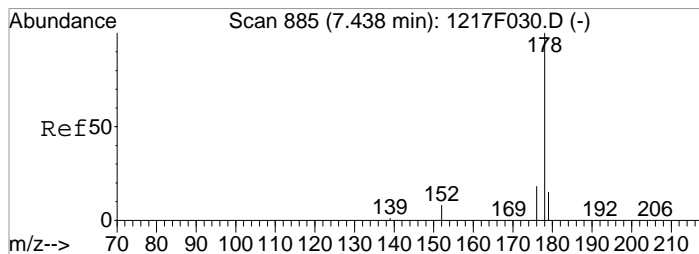
Tgt Ion:184	Resp:	2039
Ion Ratio	Lower	Upper
184	100	
152	11.1	0.0 39.6
139	14.7	0.0 35.4



#17
 Phenanthrene
 Concen: 84.96 ng/ml
 RT: 7.39 min Scan# 874
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

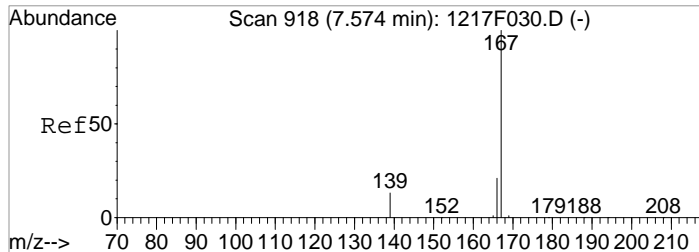
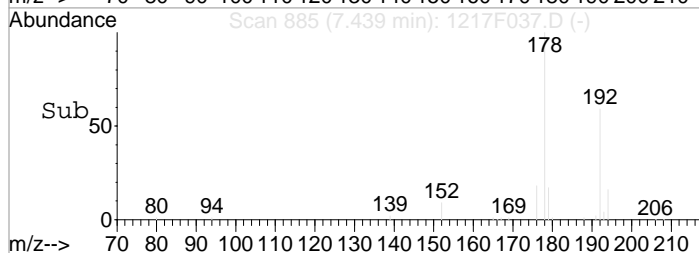
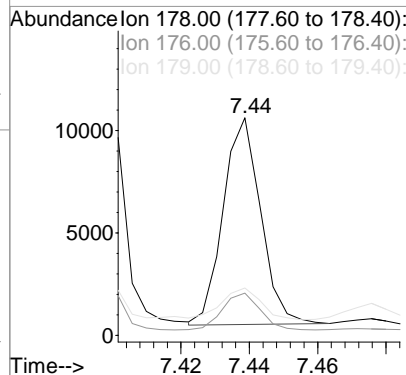
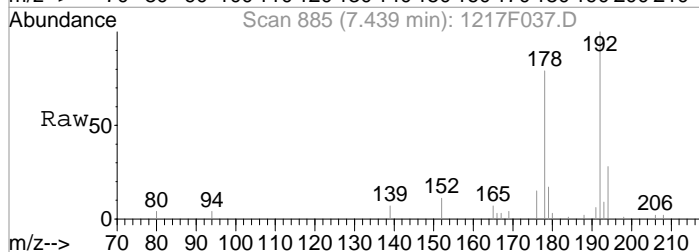
Tgt Ion:178	Resp:	34856
Ion Ratio	Lower	Upper
178	100	
176	18.3	0.0 48.0
179	16.1	0.0 35.6





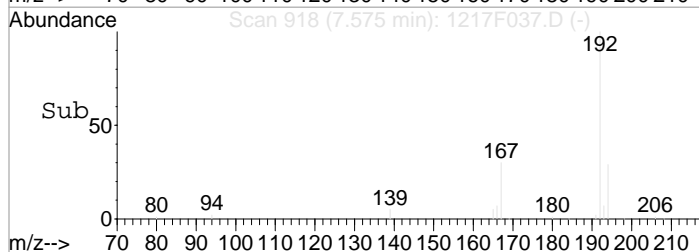
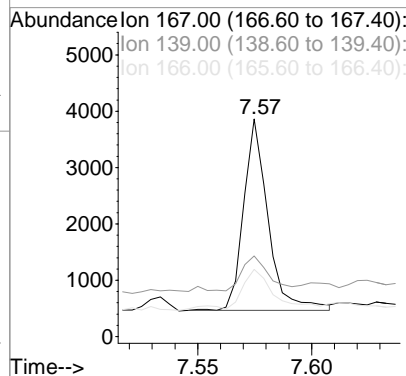
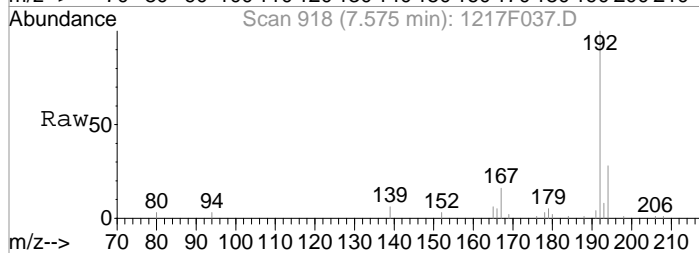
#18
 Anthracene
 Concen: 19.83 ng/ml
 RT: 7.44 min Scan# 885
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

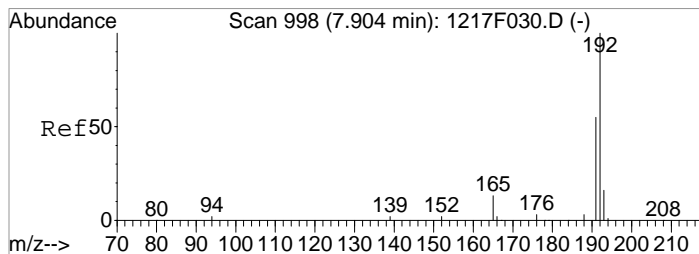
Tgt Ion:178	Resp:	7725
Ion Ratio	Lower	Upper
178	100	
176	17.7	0.0 47.6
179	14.7	0.0 35.4



#19
 Carbazole
 Concen: 6.66 ng/ml
 RT: 7.57 min Scan# 918
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

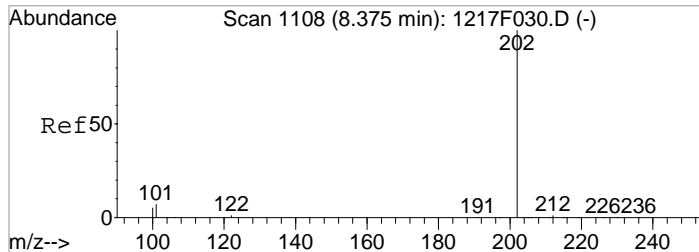
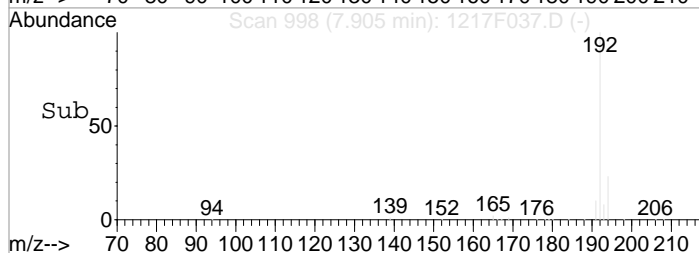
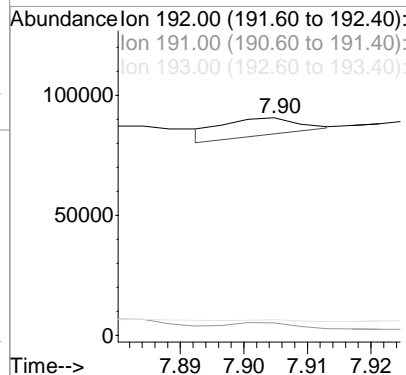
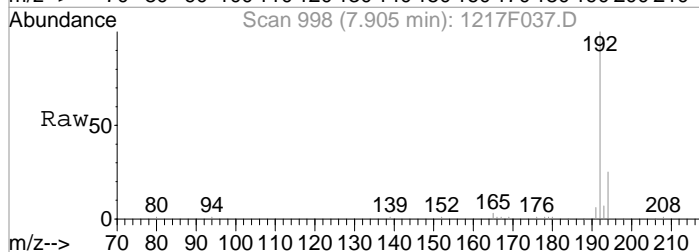
Tgt Ion:167	Resp:	2536
Ion Ratio	Lower	Upper
167	100	
139	18.6	0.0 41.7
166	20.8	0.0 39.9





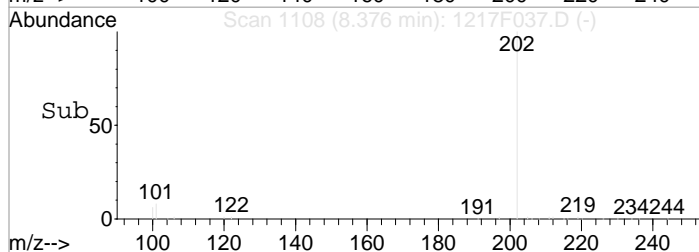
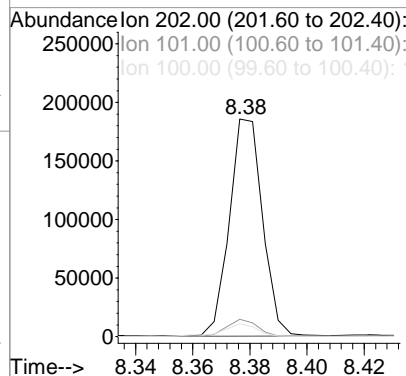
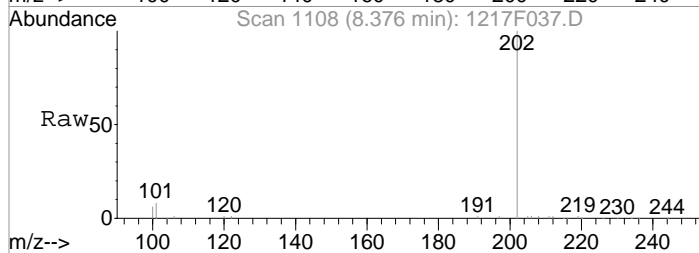
#20
 1-Methylphenanthrene
 Concen: 20.69 ng/ml m
 RT: 7.90 min Scan# 998
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

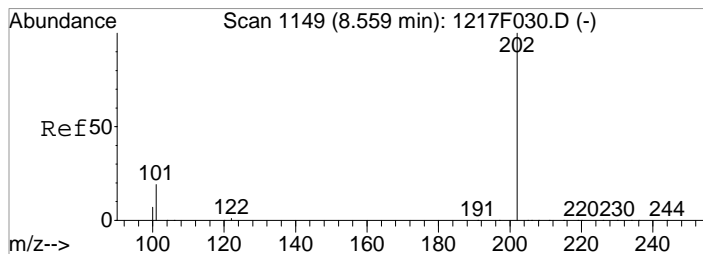
Tgt Ion	192	191	193
Resp	6539	5.8	7.2
Ratio	100	24.4	0.0
Lower		84.4	45.6
Upper			



#21
 Fluoranthene
 Concen: 291.88 ng/ml
 RT: 8.38 min Scan# 1108
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

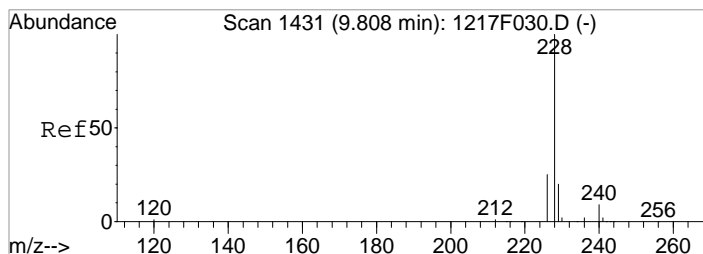
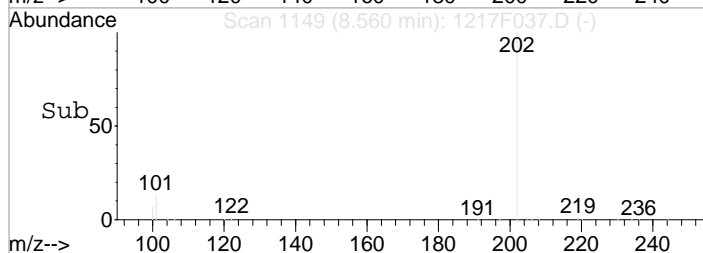
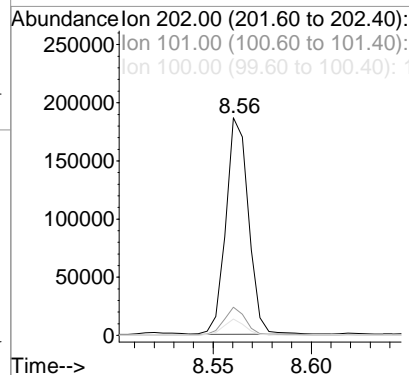
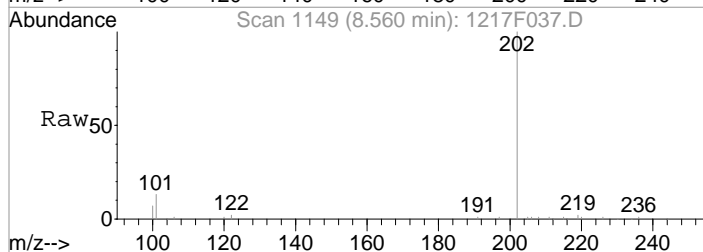
Tgt Ion	202	101	100
Resp	150054	7.9	5.7
Ratio	100	0.0	0.0
Lower		37.3	25.2
Upper			





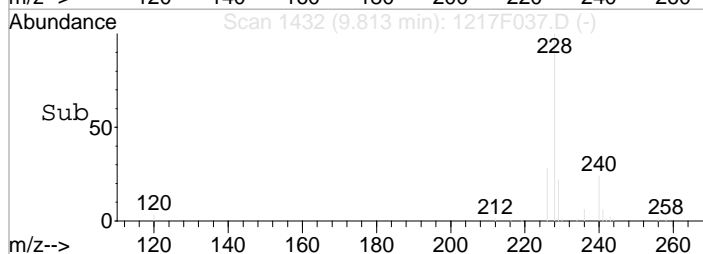
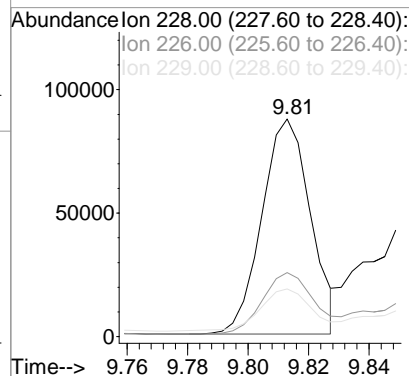
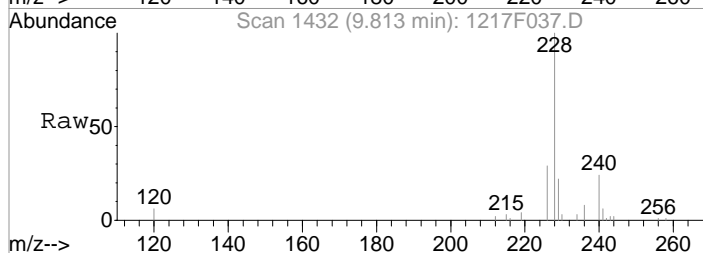
#24
 Pyrene
 Concen: 230.56 ng/ml
 RT: 8.56 min Scan# 1149
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

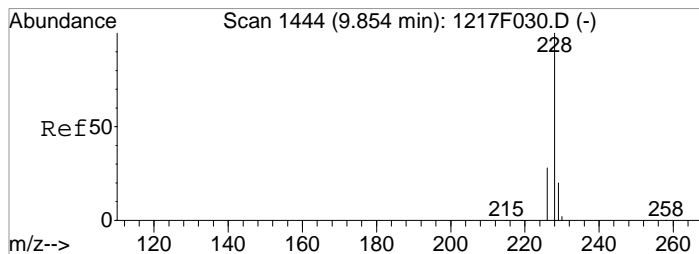
Tgt Ion	Ion	Ratio	Lower	Upper
202	100			
101	12.9	0.0	39.5	
100	7.3	0.0	25.4	



#26
 Benz(a)anthracene
 Concen: 146.53 ng/ml
 RT: 9.81 min Scan# 1432
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

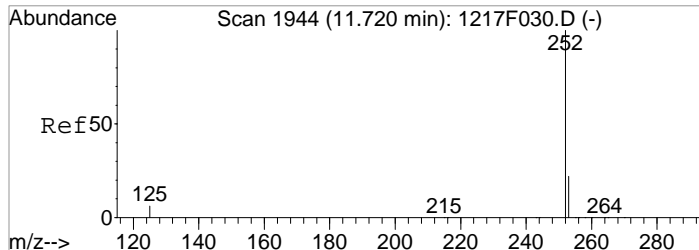
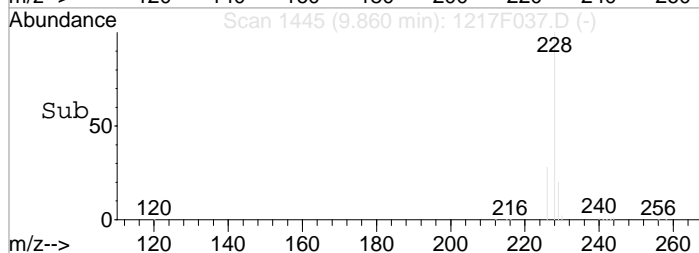
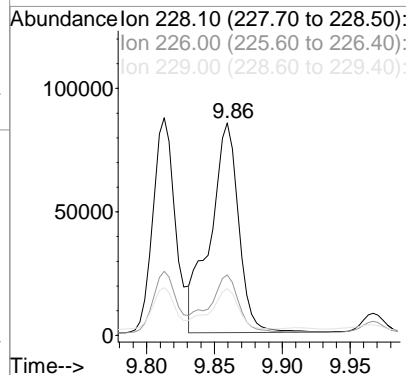
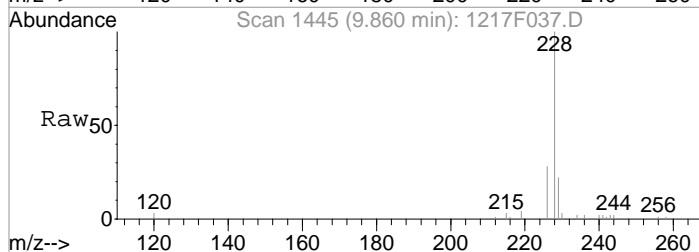
Tgt Ion	Ion	Ratio	Lower	Upper
228	100			
226	28.5	0.0	55.5	
229	19.4	0.0	39.9	





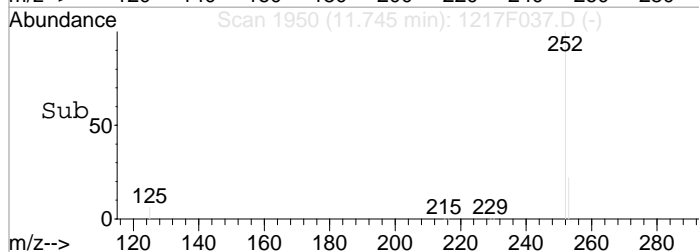
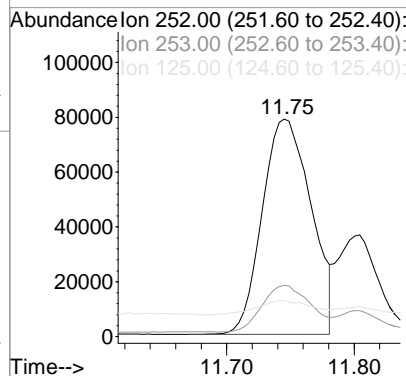
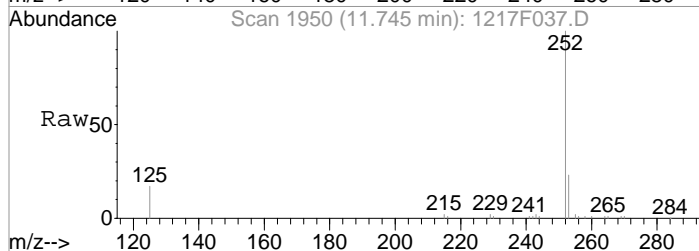
#27
 Chrysene
 Concen: 200.34 ng/ml
 RT: 9.86 min Scan# 1445
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

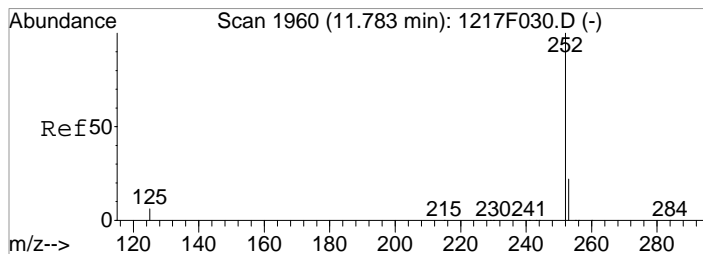
Tgt Ion	Ratio	Lower	Upper
228	100		
226	27.4	0.0	57.9
229	19.3	0.0	39.6



#29
 Benzo(b)fluoranthene
 Concen: 264.58 ng/ml
 RT: 11.75 min Scan# 1950
 Delta R.T. -0.00 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

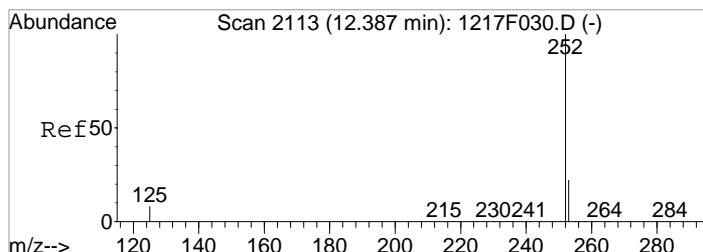
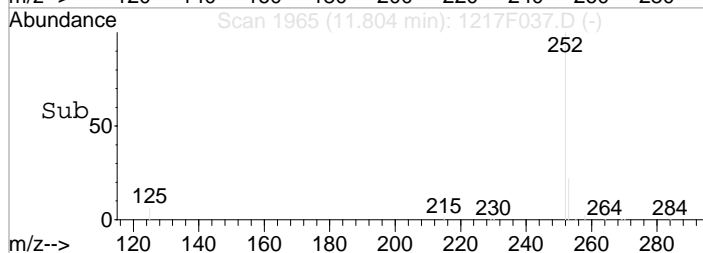
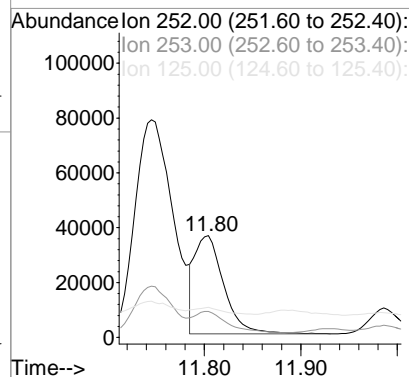
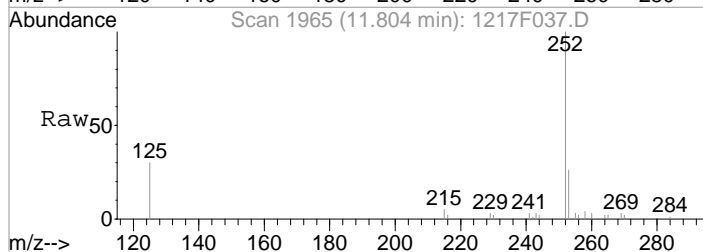
Tgt Ion	Ratio	Lower	Upper
252	100		
253	21.5	0.0	51.8
125	6.3	0.0	25.2





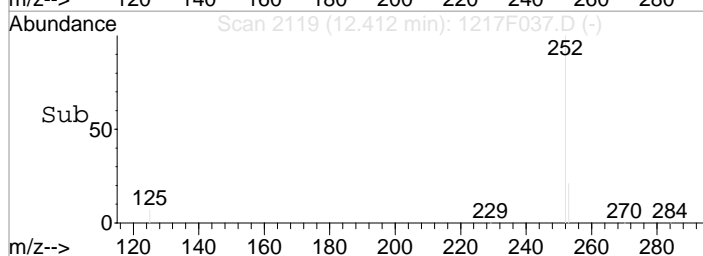
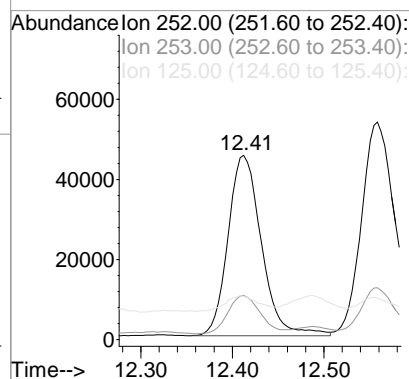
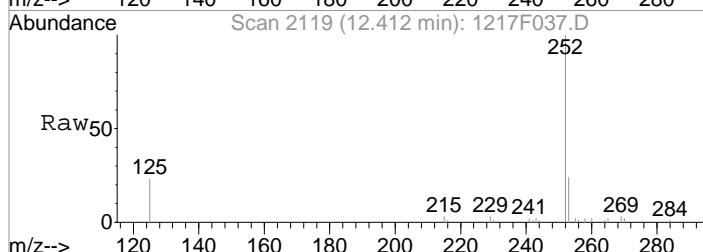
#30
 Benzo(k)fluoranthene
 Concen: 97.54 ng/ml
 RT: 11.80 min Scan# 1965
 Delta R.T. -0.00 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

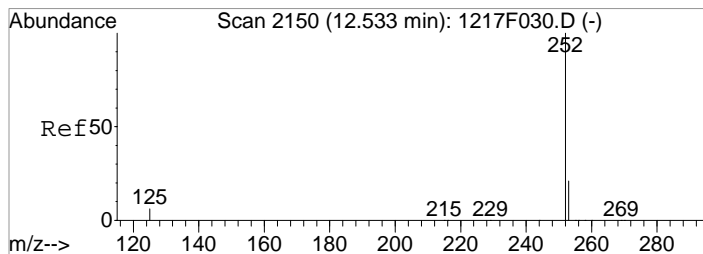
Tgt Ion	252	253	125
Ratio	100	17.7	7.2
Lower	0.0	0.0	0.0
Upper	51.8	51.8	25.6



#31
 Benzo(e)pyrene
 Concen: 153.42 ng/ml
 RT: 12.41 min Scan# 2119
 Delta R.T. -0.00 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

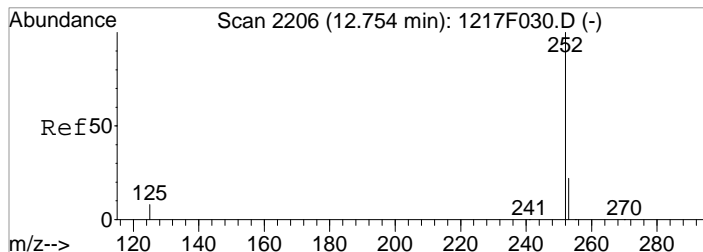
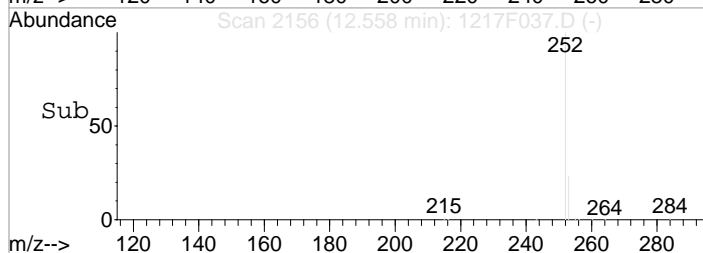
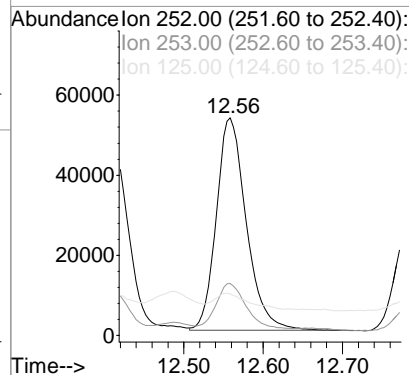
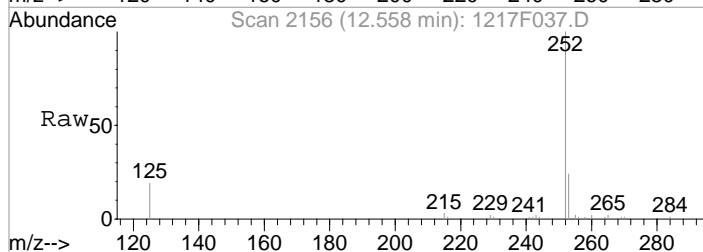
Tgt Ion	252	253	125
Ratio	100	21.0	8.0
Lower	0.0	0.0	0.0
Upper	51.7	51.7	27.8





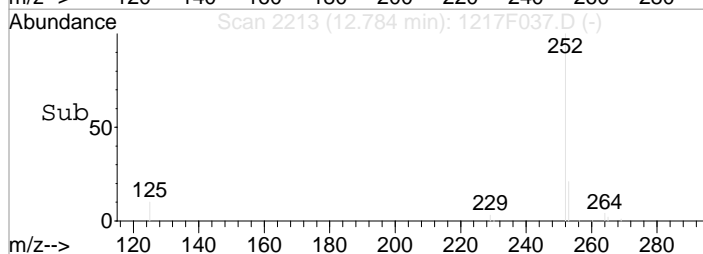
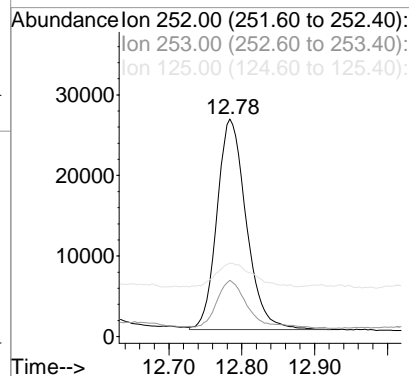
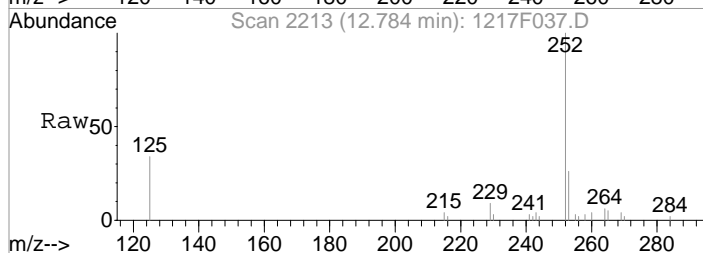
#32
 Benzo(a)pyrene
 Concen: 183.00 ng/ml
 RT: 12.56 min Scan# 2156
 Delta R.T. 0.00 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

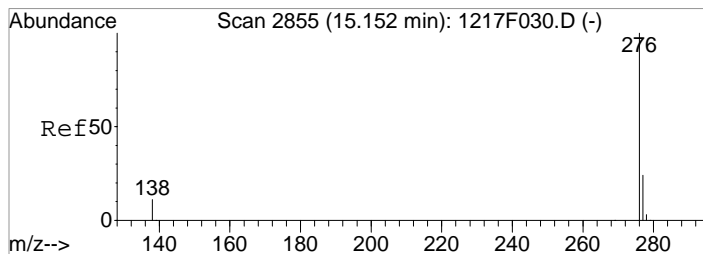
Tgt Ion	Ratio	Lower	Upper
252	100		
253	21.5	0.0	51.9
125	7.7	0.0	25.9



#33
 Perylene
 Concen: 103.87 ng/ml
 RT: 12.78 min Scan# 2213
 Delta R.T. -0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

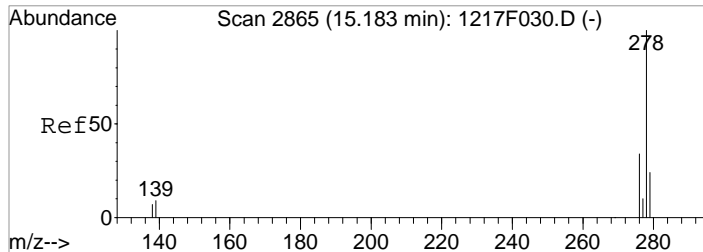
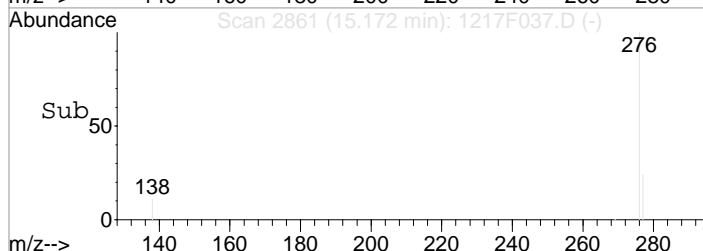
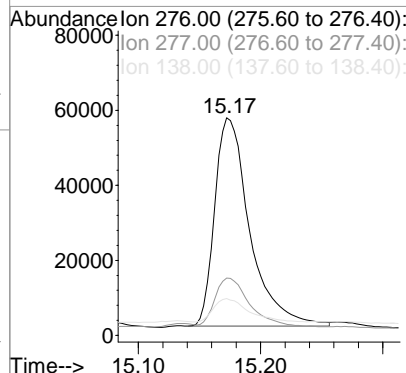
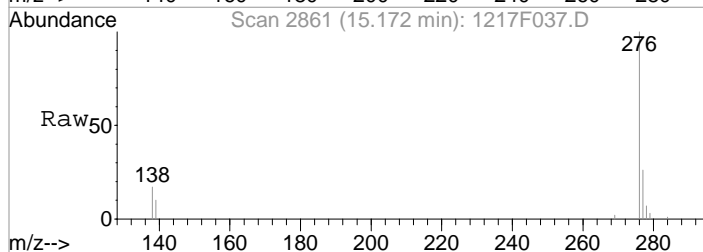
Tgt Ion	Ratio	Lower	Upper
252	100		
253	22.9	0.0	51.7
125	11.2	0.0	28.2





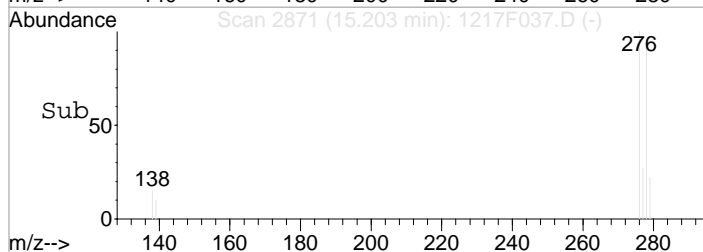
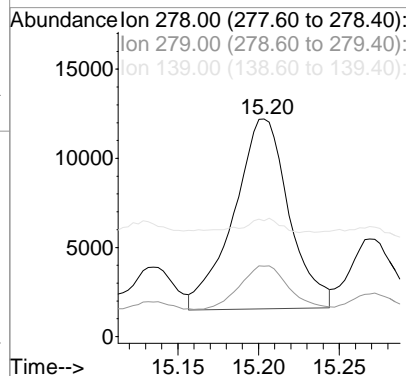
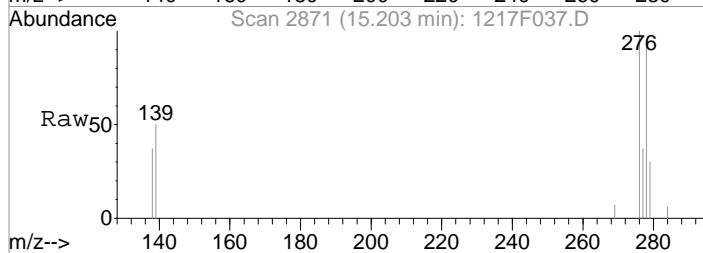
#34
 Indeno(1,2,3-cd)pyrene
 Concen: 147.18 ng/ml
 RT: 15.17 min Scan# 2861
 Delta R.T. 0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

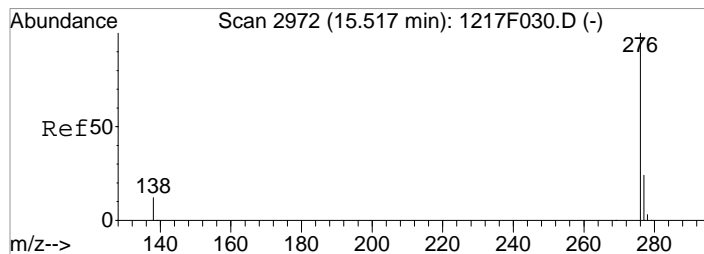
Tgt Ion	Ion	Ratio	Lower	Upper
276	100			
277	23.3	0.0	54.1	
138	11.0	0.0	30.5	



#35
 Dibenz(a,h)anthracene
 Concen: 31.18 ng/ml
 RT: 15.20 min Scan# 2871
 Delta R.T. 0.00 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

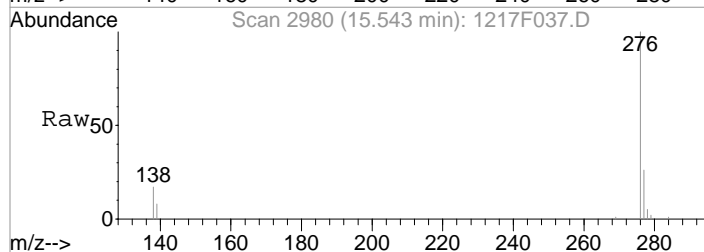
Tgt Ion	Ion	Ratio	Lower	Upper
278	100			
279	24.3	0.0	53.9	
139	6.0	0.0	28.6	



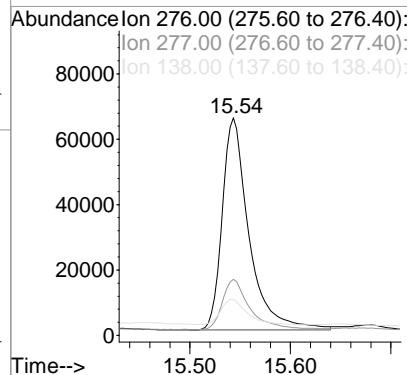
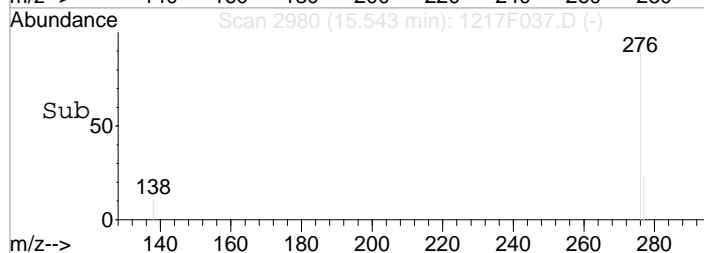


#36
 Benzo(g,h,i)perylene
 Concen: 139.78 ng/ml
 RT: 15.54 min Scan# 2980
 Delta R.T. 0.01 min
 Lab File: 1217F037.D
 Acq: 17 Dec 2020 10:54 pm

1st *Ca* 12/18/20
 2nd *Q* 12/18/20



Tgt Ion	Ratio	Lower	Upper
276	100		
277	23.7	0.0	53.8
138	11.8	0.0	31.5



Data File : J:\MS14\DATA\121720\1217F037.D

Acq On : 17 Dec 2020 10:54 pm

Sample : K2011446-002

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 05:24:01 2020

Vial: 32

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.55	136	77607m	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.13	164	36167	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.37	188	73677	200.00	ng/ml	-0.01
23) Chrysene-d12	9.82	240	105373	200.00	ng/ml	0.00
28) Perylene-d12	12.71	264	131397	200.00	ng/ml	0.00

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.20	152	25896	122.38	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	12.24%	
13) Fluorene-d10	6.57	176	31642	145.75	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	14.57%	
22) Fluoranthene-d10	8.36	212	64055	145.67	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	14.57%	
25) Terphenyl-d14	8.69	244	67326	142.11	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	14.21%	

Target Compounds

						Qvalue
2) Naphthalene	4.57	128	3328m	8.46	ng/ml	
4) 2-Methylnaphthalene	5.23	142	1538	5.98	ng/ml	98
5) 1-Methylnaphthalene	5.32	142	1113	4.65	ng/ml	98
6) Biphenyl	5.65	154	912	2.92	ng/ml	97
7) 2,6-Dimethylnaphthalene	5.79	156	935	4.07	ng/ml	99
9) Acenaphthylene	6.01	152	3905	10.80	ng/ml	98
10) Acenaphthene	6.16	154	1065	4.77	ng/ml	98
11) Dibenzofuran	6.31	168	1850	5.42	ng/ml	93
12) 2,3,5-Trimethylnaphthalene	6.48	170	731	3.39	ng/ml	93
14) Fluorene	6.60	166	2459	9.63	ng/ml	99
16) Dibenzothiophene	7.29	184	2039	5.18	ng/ml	97
17) Phenanthrene	7.39	178	34856	84.96	ng/ml	99
18) Anthracene	7.44	178	7725	19.83	ng/ml	99
19) Carbazole	7.57	167	2536	6.66	ng/ml	92
20) 1-Methylphenanthrene	7.90	192	6539m	20.69	ng/ml	
21) Fluoranthene	8.38	202	150054	291.88	ng/ml	98
24) Pyrene	8.56	202	148106	230.56	ng/ml	92
26) Benz(a)anthracene	9.81	228	96972	146.53	ng/ml	96
27) Chrysene	9.86	228	123631	200.34	ng/ml	99
29) Benzo(b)fluoranthene	11.75	252	210156	264.58	ng/ml	99
30) Benzo(k)fluoranthene	11.80	252	75251	97.54	ng/ml	92
31) Benzo(e)pyrene	12.41	252	114173	153.42	ng/ml	99
32) Benzo(a)pyrene	12.56	252	139083	183.00	ng/ml	98
33) Perylene	12.78	252	73044	103.87	ng/ml	96
34) Indeno(1,2,3-cd)pyrene	15.17	276	111097	147.18	ng/ml	98
35) Dibenz(a,h)anthracene	15.20	278	25418	31.18	ng/ml	97
36) Benzo(g,h,i)perylene	15.54	276	120112	139.78	ng/ml	100

Data File : J:\MS14\DATA\121720\1217F037.D

Acq On : 17 Dec 2020 10:54 pm

Sample : K2011446-002

Misc :

Vial: 32

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 5:24 2020

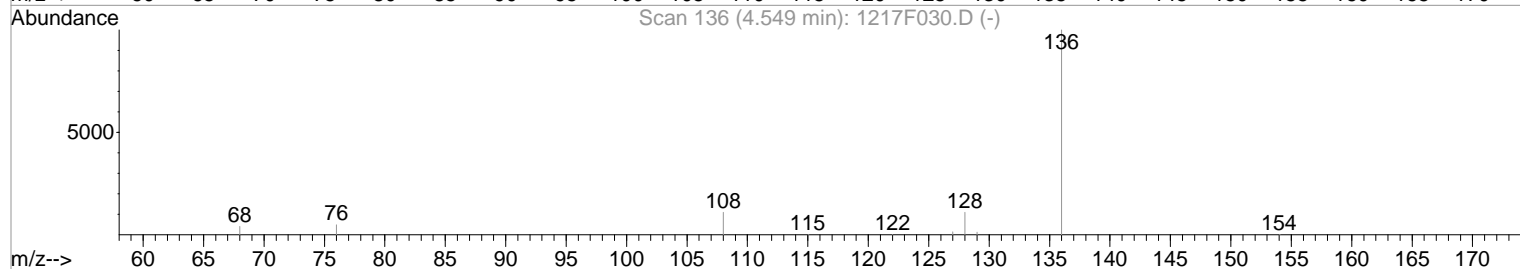
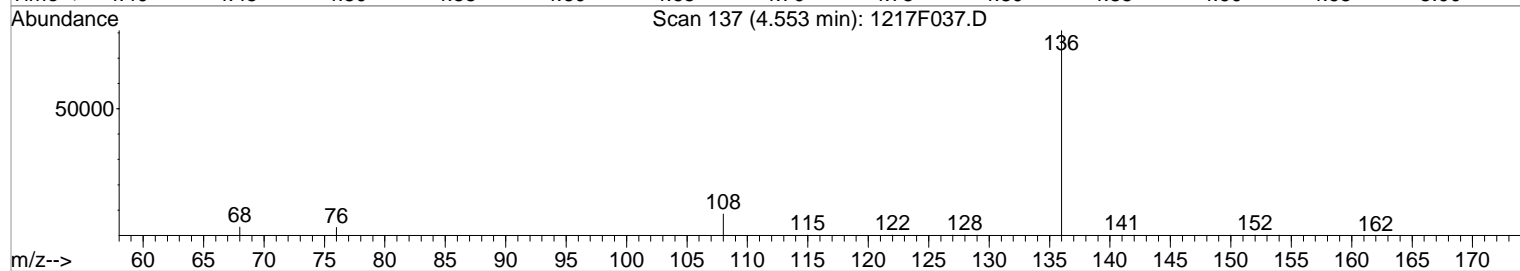
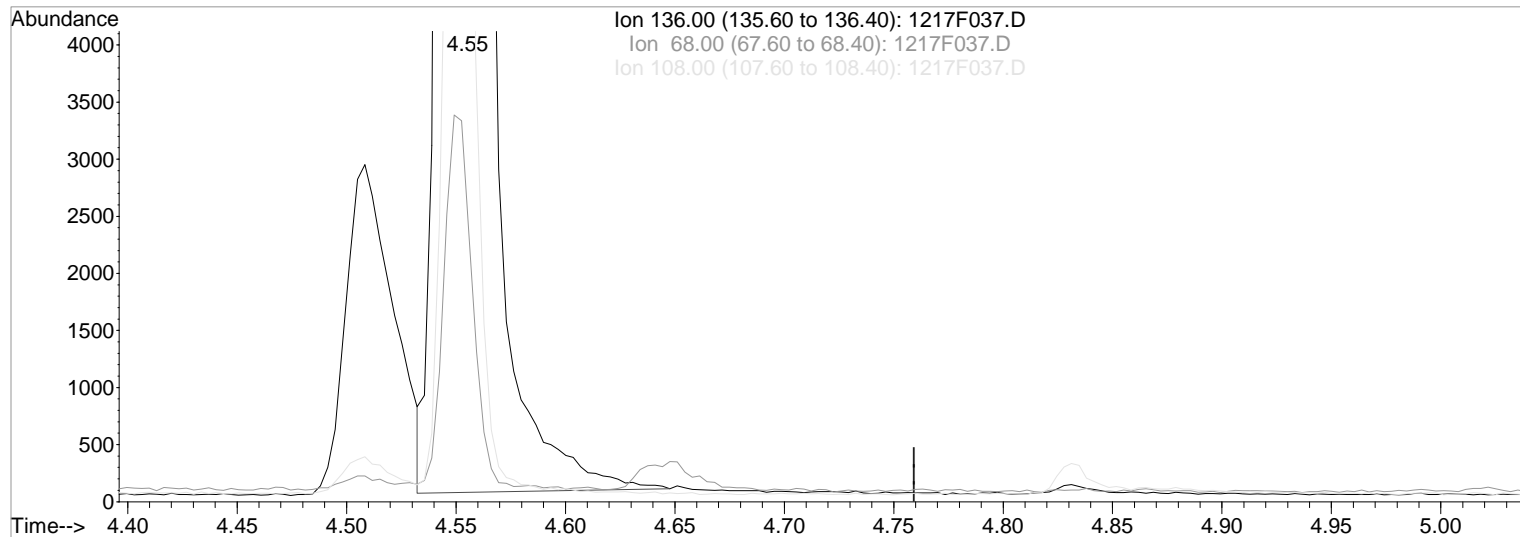
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F037.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.55min 200.00ng/ml

Before

response 73074

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	3.94
108.00	10.90	10.42
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F037.D

Acq On : 17 Dec 2020 10:54 pm

Sample : K2011446-002

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:36 2020

Vial: 32

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

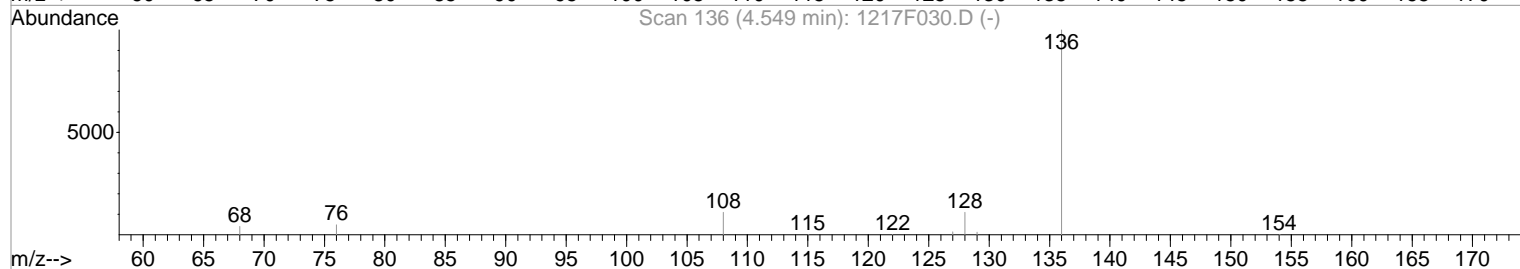
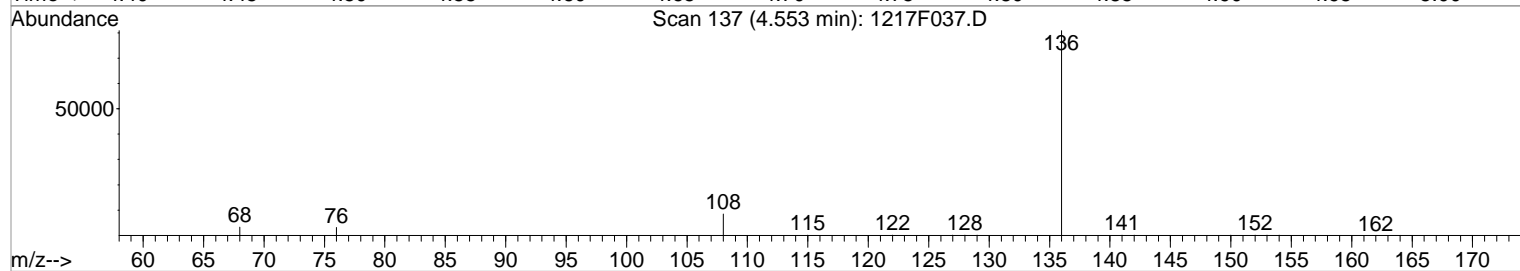
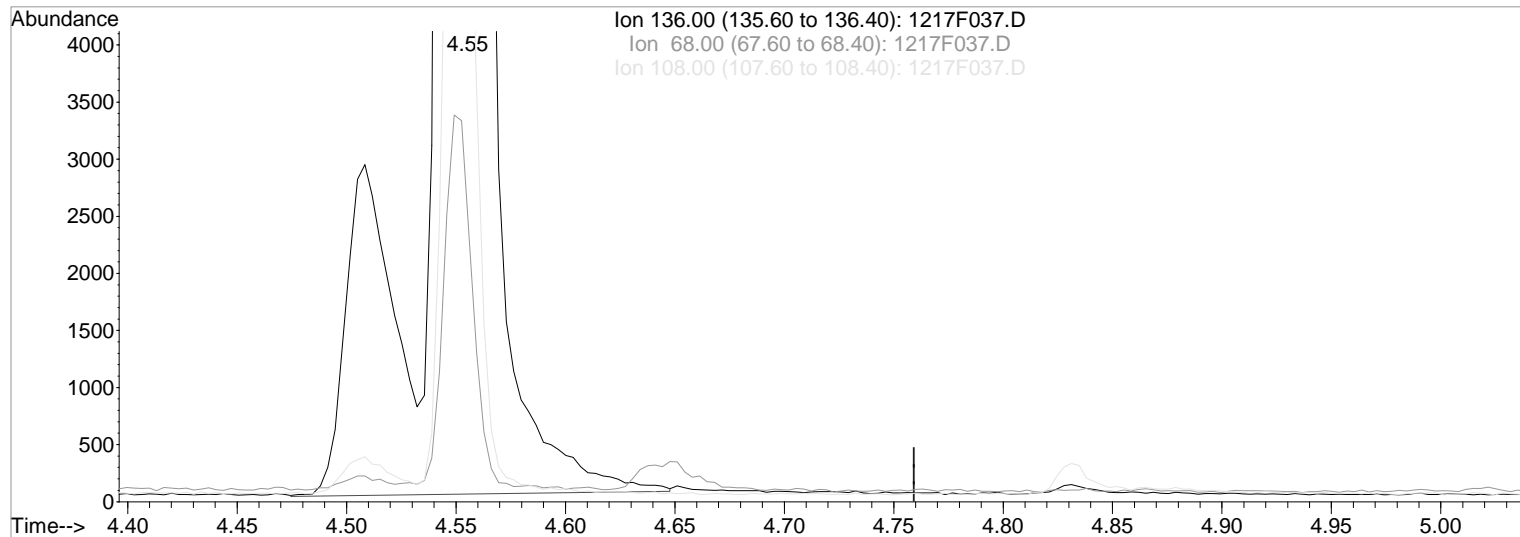
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F037.D

(1) Naphthalene-d8 (I)

4.55min 200.00ng/ml m

response 77607

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	4.13
108.00	10.90	10.50
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F037.D

Acq On : 17 Dec 2020 10:54 pm

Sample : K2011446-002

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:36 2020

Vial: 32

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

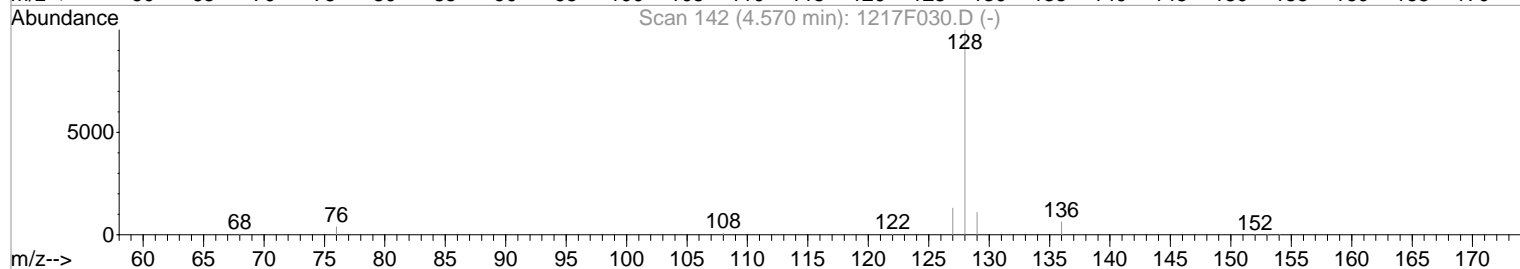
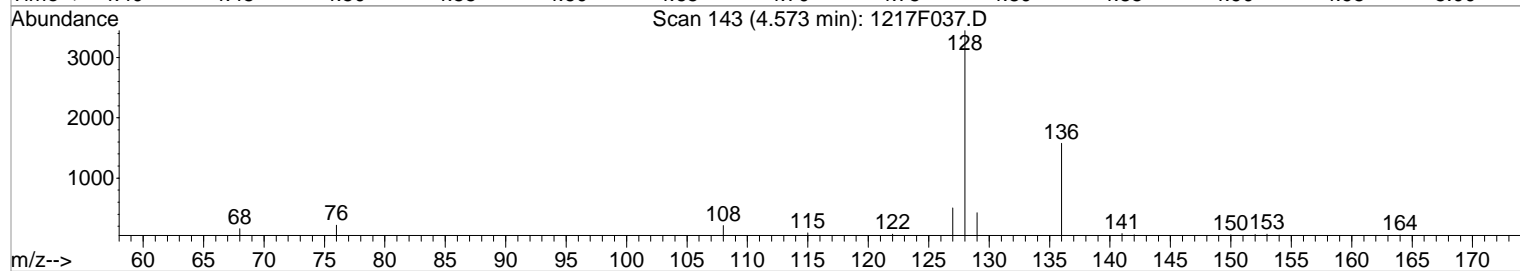
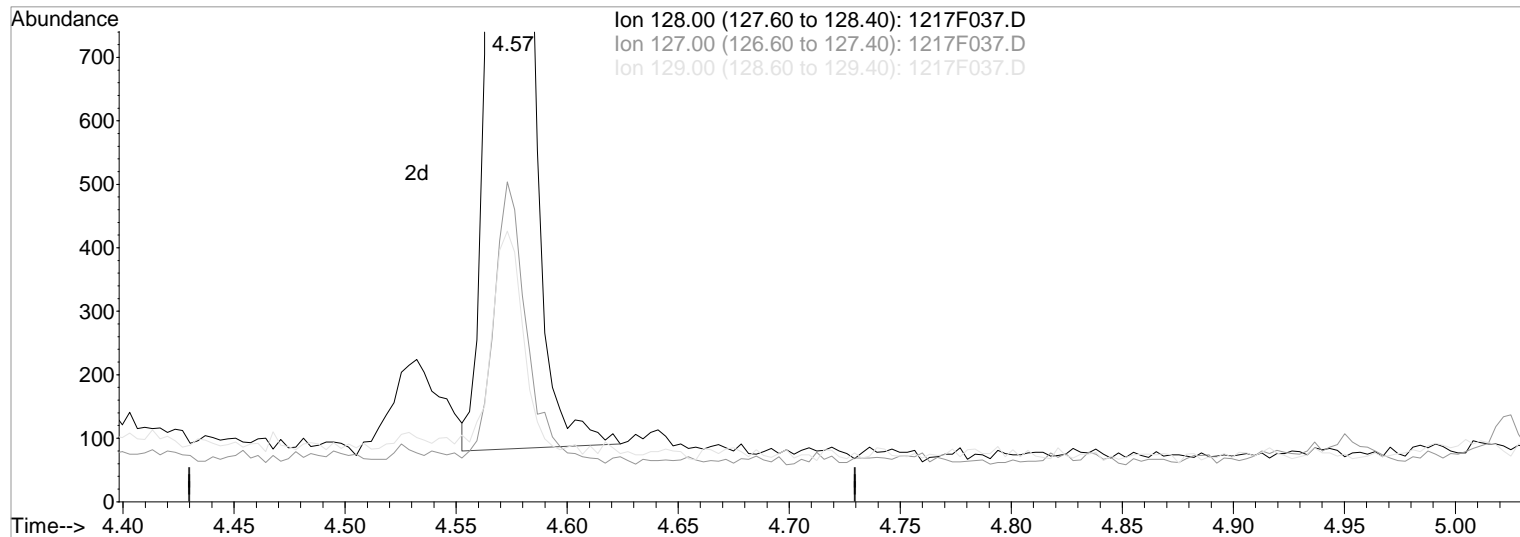
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F037.D

(2) Naphthalene (T)

Manual Integration:

4.57min 7.87ng/ml

Before

response 3096

Ion	Exp%	Act%
-----	------	------

12/18/20

128.00	100	100
--------	-----	-----

127.00	12.70	12.96
--------	-------	-------

129.00	10.80	10.43
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121720\1217F037.D

Acq On : 17 Dec 2020 10:54 pm

Sample : K2011446-002

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:36 2020

Vial: 32

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

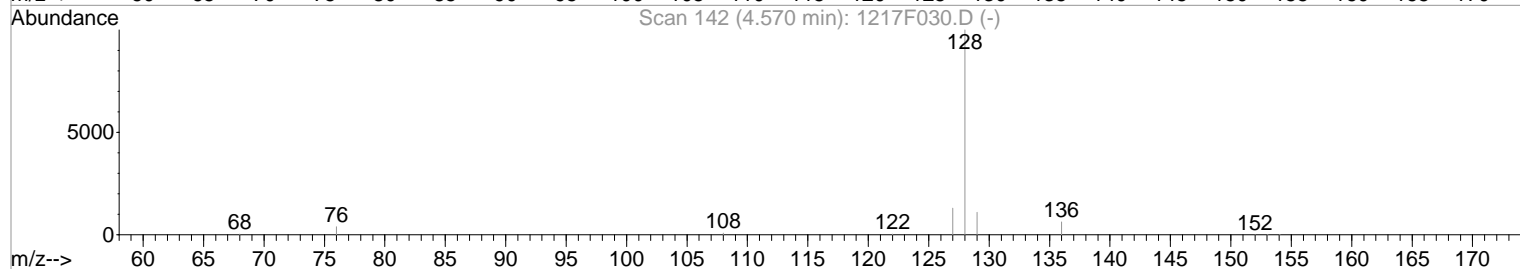
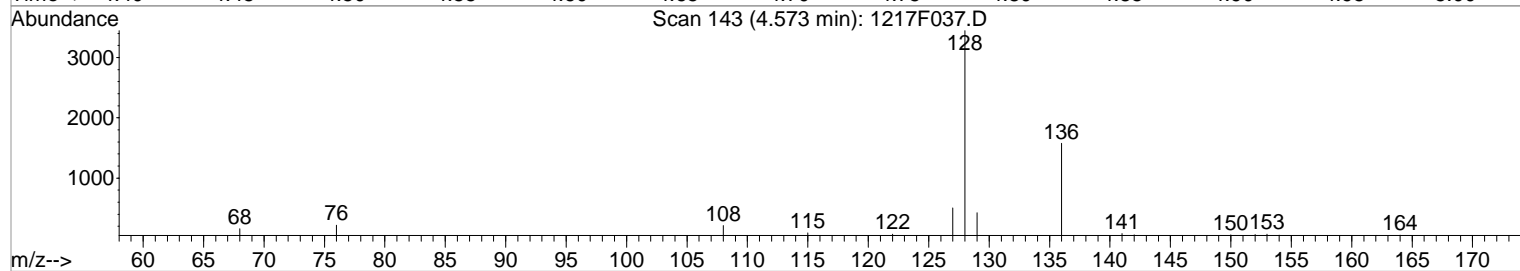
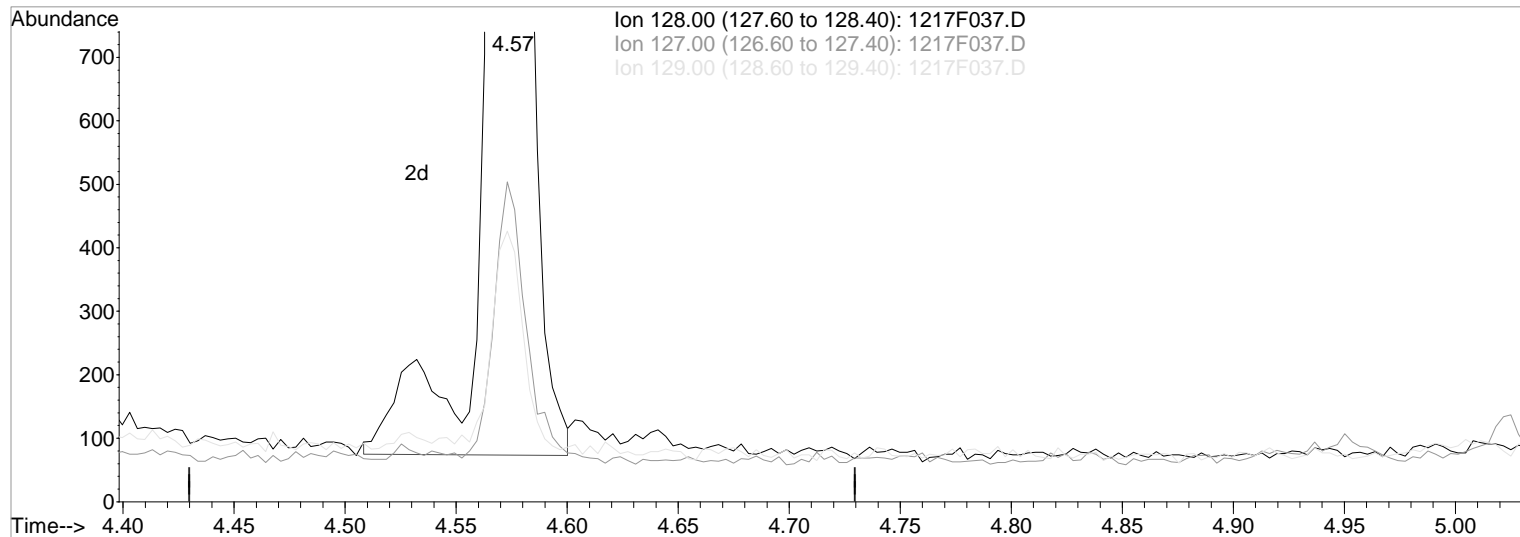
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F037.D

(2) Naphthalene (T)

4.57min 8.46ng/ml m

response 3328

Ion	Exp%	Act%
-----	------	------

128.00	100	100
--------	-----	-----

127.00	12.70	14.62
--------	-------	-------

129.00	10.80	12.35
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Validation Report

1st *Ca* 12/17/20
2nd *Q* 12/17/20

Data File: J:\MS14\DATA\121620\1216F047.D\
Lab ID: K2011446-004
RunType: N/A
Matrix: Soil

Date Acquired: 12/17/20 00:13:00
Batch ID: 707391
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121620\1216F047.D\	Instrument:	K-MS-14
Acqu Date:	12/17/20 00:13:00	Vial:	8
Run Type:	N/A	Dilution:	1
Lab ID:	K2011446-004	Raw Units:	ng/mL

Bottle ID:	K2011446-004.01	Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/3/20	Receive Date:	12/8/20

Analysis Lot:	707391	Prep Lot:	371210	Report Group:	K2011446
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/9/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.15		40310	200.00	OK
Chrysene-d12	9.84	-0.01	106334	200.00	OK
Naphthalene-d8	4.57		84267	200.00	OK
Perylene-d12	12.73		124148	200.00	OK
Phenanthrene-d10	7.39		82820	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.38		42640	86.26	43	38 - 104	Y
Fluorene-d10	6.59		21588	89.22	45	39 - 109	Y
Terphenyl-d14	8.71		46132	96.50	48	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.33		359	1.38	2.9	J	Y
2-Methylnaphthalene	5.25		622	2.23	4.7	J	Y
Acenaphthene	6.18		989	3.97	8.4	J	Y
Acenaphthylene	6.03		1638	4.06	8.5	J	Y
Anthracene	7.45	-0.01	5523	12.61	27		Y
Benz(a)anthracene	9.83		50950	76.29	160		Y
Benzo(a)pyrene	12.58		65373	91.04	190		Y
Benzo(b)fluoranthene	11.77	+0.01	108198	144.17	300		Y
Benzo(g,h,i)perylene	15.55		60108	74.03	160		Y
Benzo(k)fluoranthene	11.83		38700	53.09	110		Y
Chrysene	9.88		66982	107.56	230		Y
Dibenz(a,h)anthracene	15.22	+0.01	12493	16.22	34		Y
Fluoranthene	8.39		103295	178.74	380		Y

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

Printed: 12/18/20 10:10

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121620\1216F047.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/17/20 00:13:00	Vial:	8	
Run Type:	N/A	Dilution:	1	
Lab ID:	K2011446-004	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.61		1507	5.30	11		Y
Indeno(1,2,3-cd)pyrene	15.19	+0.01	54655	76.63	160		Y
Naphthalene	4.59		1599	3.75	7.9	J	Y
Phenanthrene	7.41		33137	71.86	150		Y
Pyrene	8.58		92833	143.21	300		Y

Prep Amount: 10.026 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 47.40

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

Printed: 12/18/20 10:10

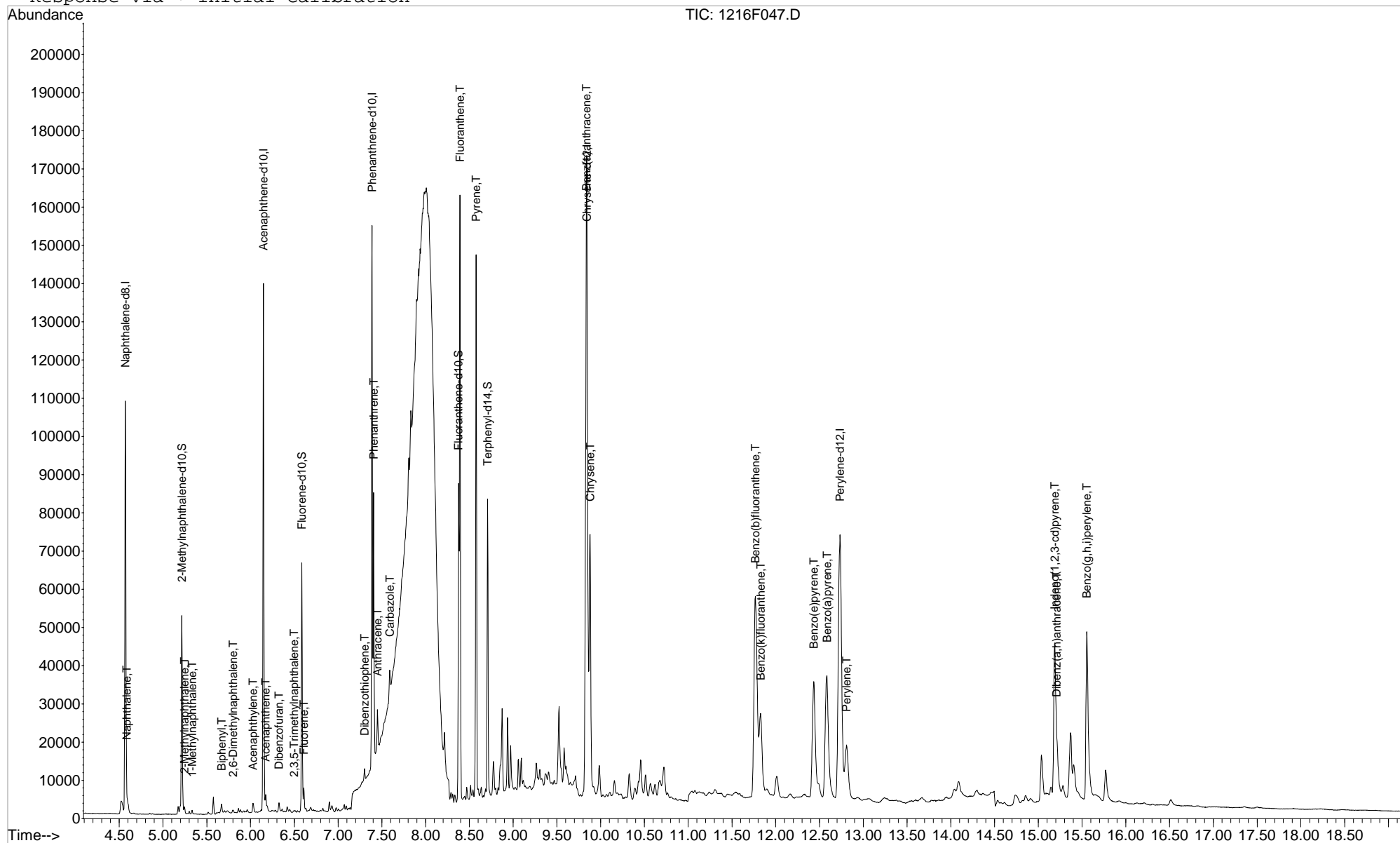
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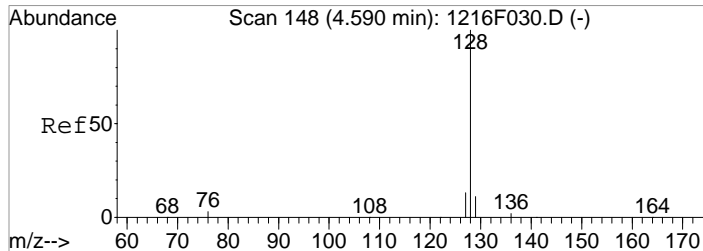
Data File : J:\MS14\DATA\121620\1216F047.D
Acq On : 17 Dec 2020 12:13 am
Sample : K2011446-004
Misc :
MS Integration Params: RTEINT.P
Quant Time: Dec 17 8:42 2020

Vial: 45
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

Quant Results File: 101320PAH.RES

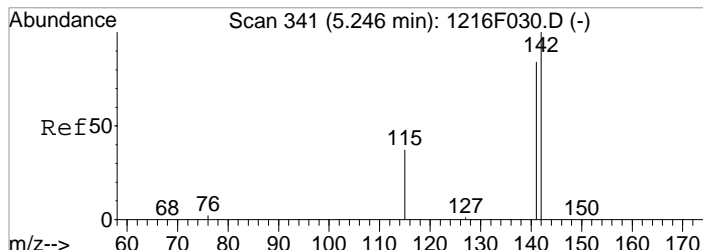
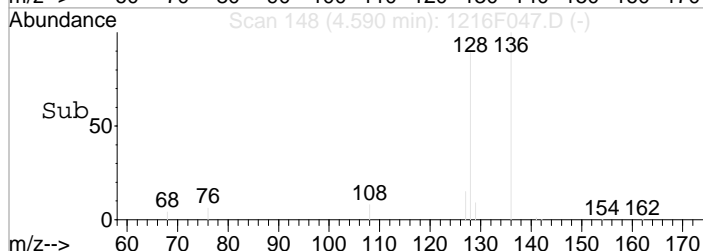
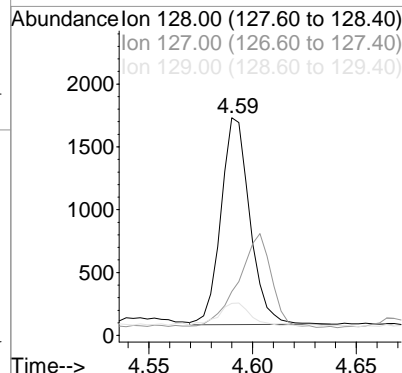
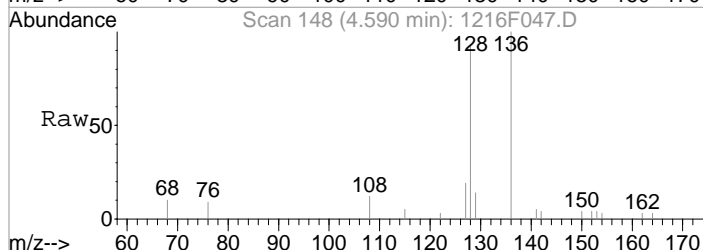
Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Initial Calibration





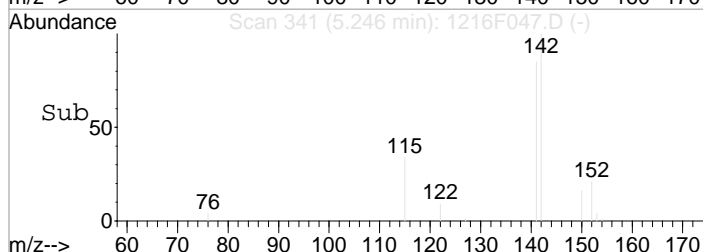
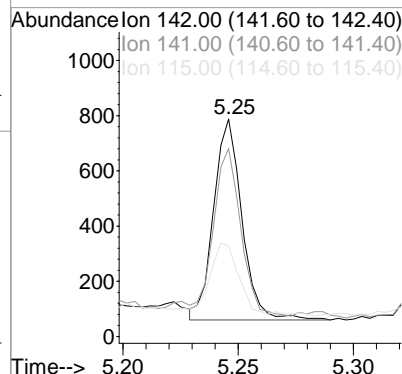
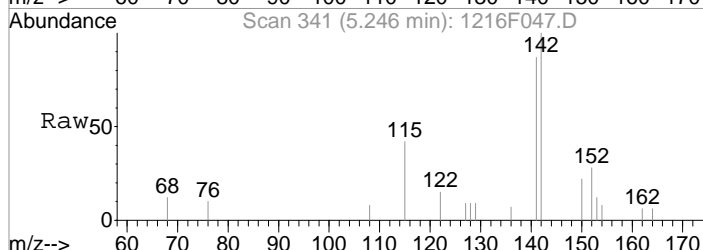
#2
Naphthalene
Concen: 3.75 ng/ml
RT: 4.59 min Scan# 148
Delta R.T. 0.01 min
Lab File: 1216F047.D
Acq: 17 Dec 2020 12:13 am

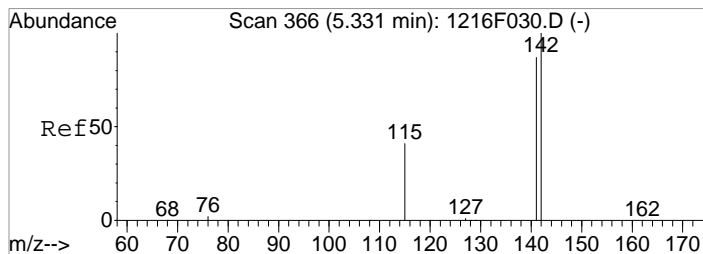
Tgt Ion	128	127	129
Resp	1599		
Ratio	100	16.8	10.7
Lower		0.0	0.0
Upper		42.7	30.8



#4
2-Methylnaphthalene
Concen: 2.23 ng/ml
RT: 5.25 min Scan# 341
Delta R.T. 0.01 min
Lab File: 1216F047.D
Acq: 17 Dec 2020 12:13 am

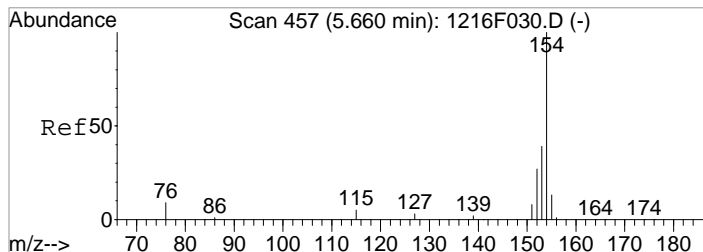
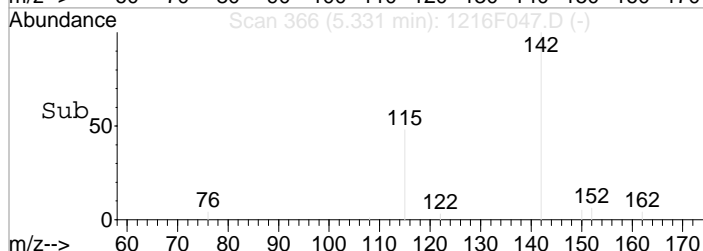
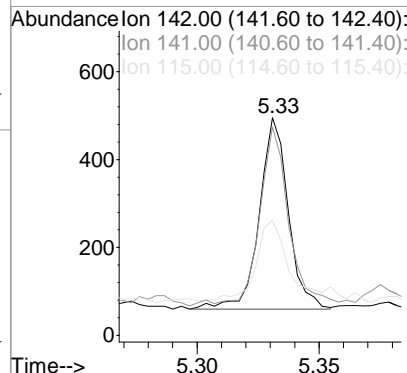
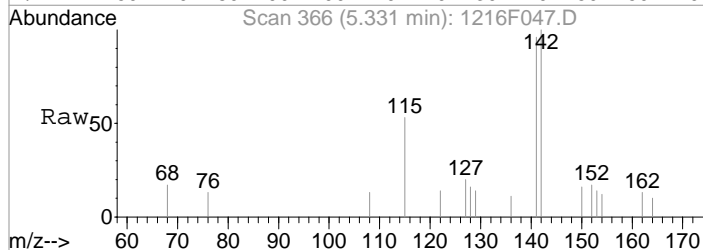
Tgt Ion	142	141	115
Resp	622		
Ratio	100	83.0	33.9
Lower		53.5	13.2
Upper		113.5	53.2





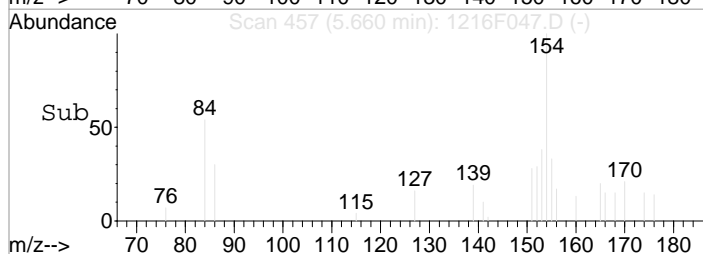
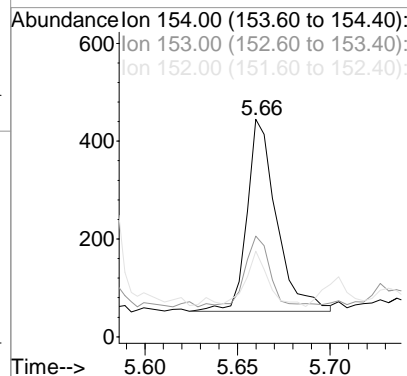
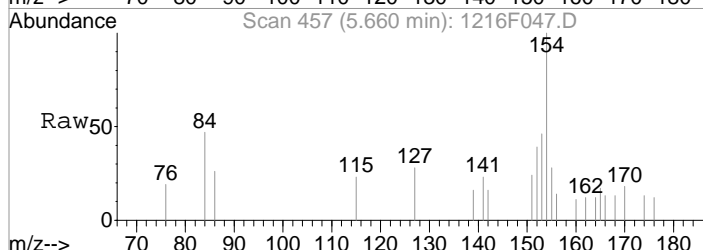
#5
 1-Methylnaphthalene
 Concen: 1.38 ng/ml
 RT: 5.33 min Scan# 366
 Delta R.T. 0.01 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

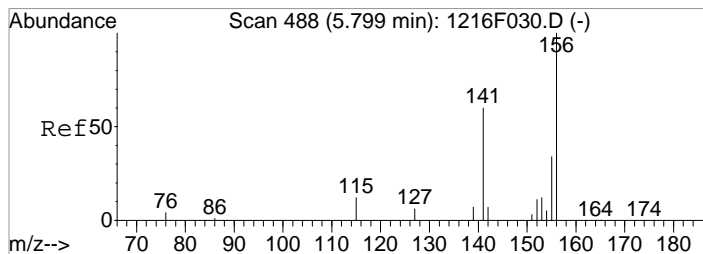
Tgt Ion:142	Resp:	359
Ion Ratio	Lower	Upper
142	100	
141	93.6	57.0 117.0
115	41.1	17.7 57.7



#6
 Biphenyl
 Concen: 1.28 ng/ml
 RT: 5.66 min Scan# 457
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

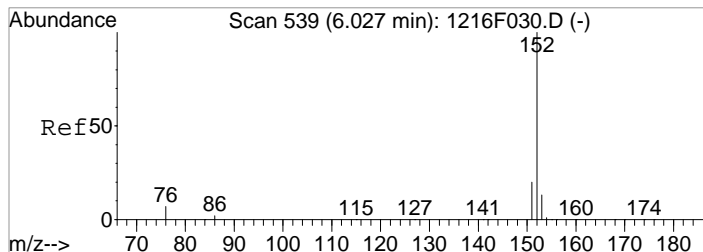
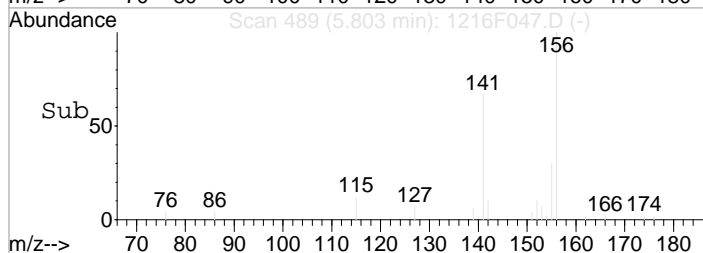
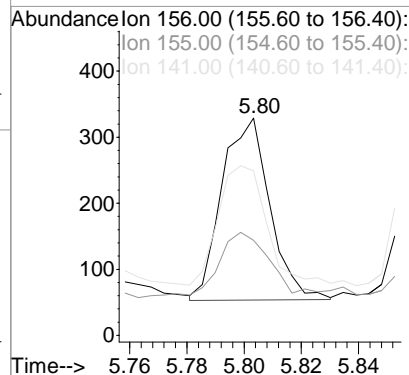
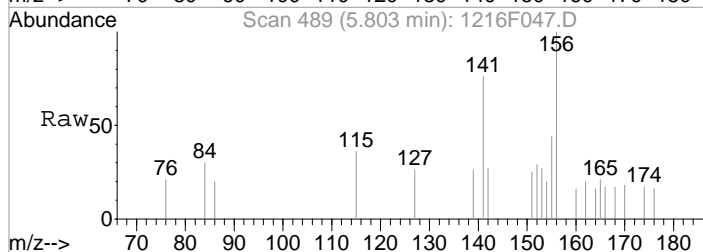
Tgt Ion:154	Resp:	436
Ion Ratio	Lower	Upper
154	100	
153	34.9	8.8 68.8
152	28.2	6.0 46.0





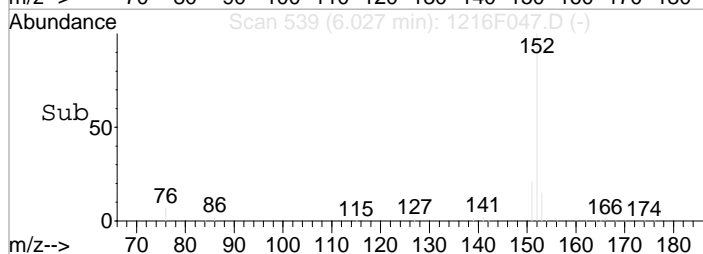
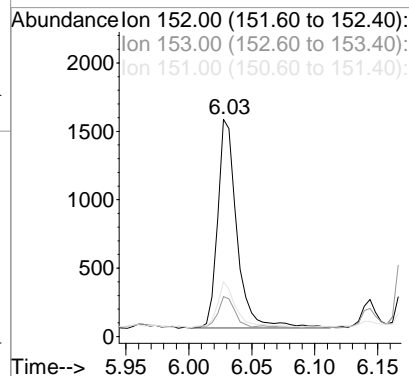
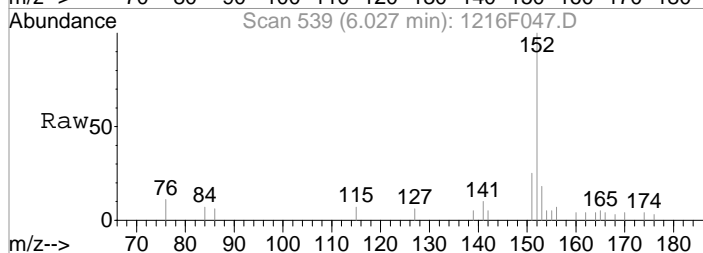
#7
 2,6-Dimethylnaphthalene
 Concen: 1.29 ng/ml
 RT: 5.80 min Scan# 489
 Delta R.T. 0.01 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

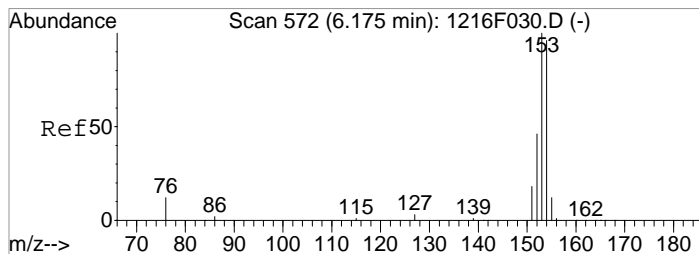
Tgt Ion:156	Resp:	321
Ion Ratio	Lower	Upper
156	100	
155	30.5	4.4 64.4
141	63.6	46.0 86.0



#9
 Acenaphthylene
 Concen: 4.06 ng/ml
 RT: 6.03 min Scan# 539
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

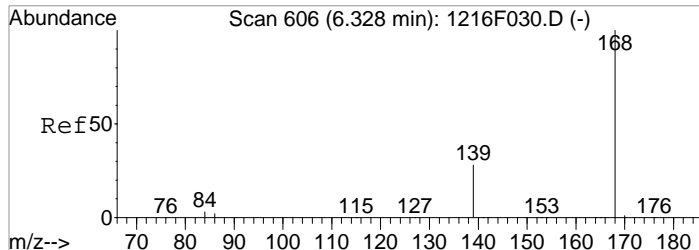
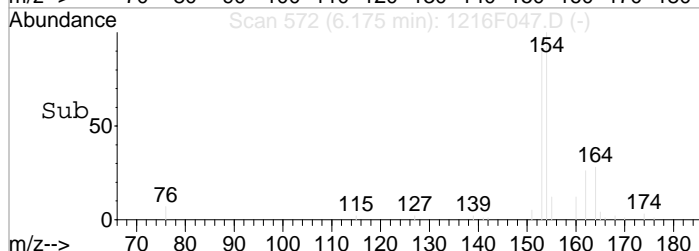
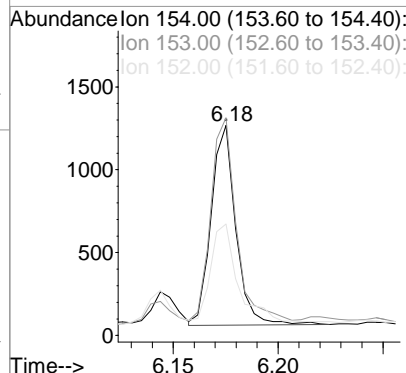
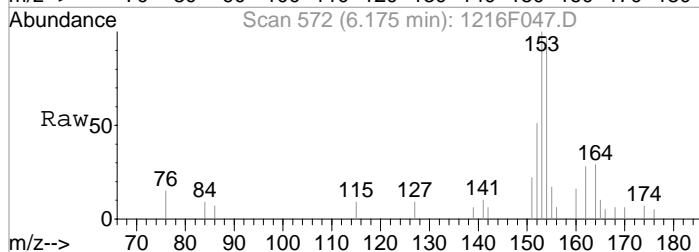
Tgt Ion:152	Resp:	1638
Ion Ratio	Lower	Upper
152	100	
153	15.1	0.0 43.0
151	22.1	0.0 39.4





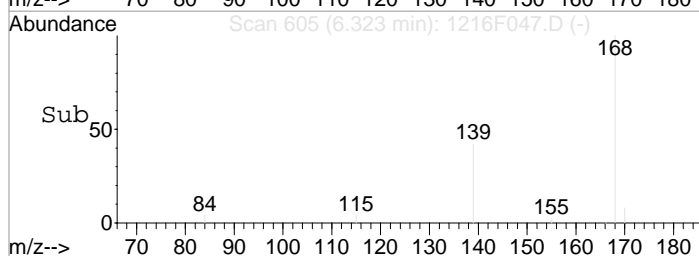
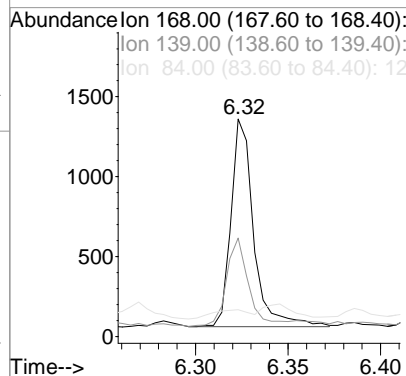
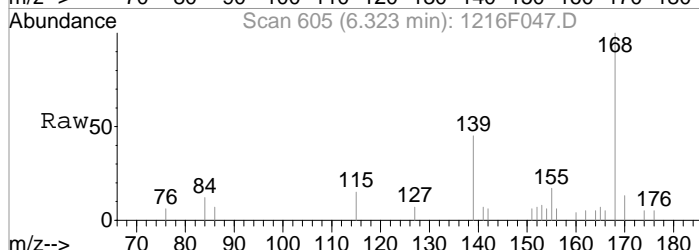
#10
 Acenaphthene
 Concen: 3.97 ng/ml
 RT: 6.18 min Scan# 572
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

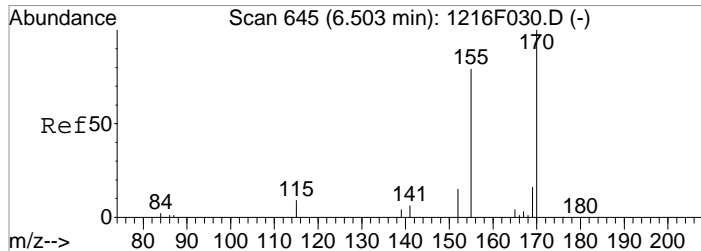
Tgt Ion:154	Resp:	989
Ion Ratio	Lower	Upper
154	100	
153	101.7	74.5 134.5
152	49.0	18.5 78.5



#11
 Dibenzofuran
 Concen: 2.91 ng/ml
 RT: 6.32 min Scan# 605
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

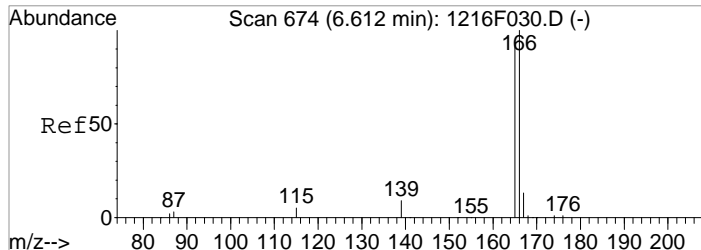
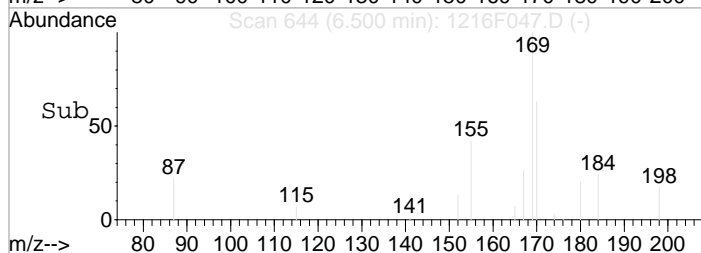
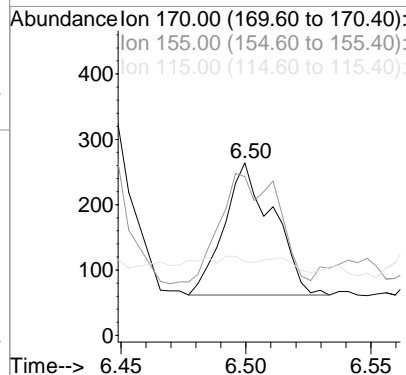
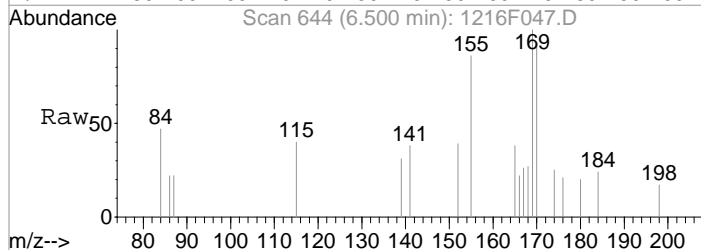
Tgt Ion:168	Resp:	1108
Ion Ratio	Lower	Upper
168	100	
139	42.4	8.2 68.2
84	4.5	0.0 23.9





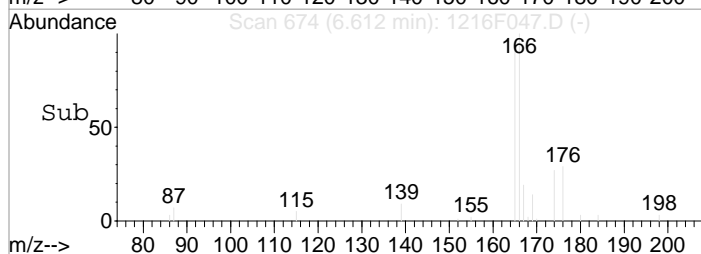
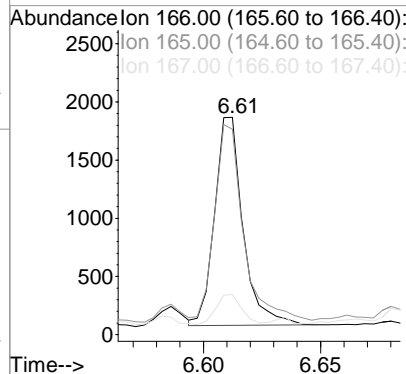
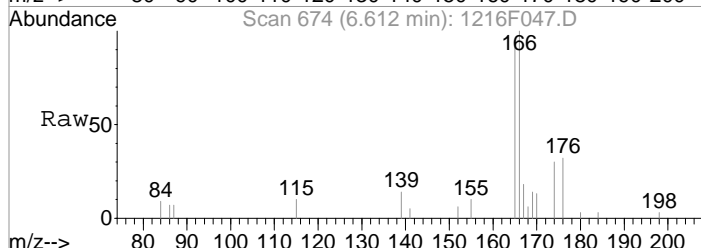
#12
 2,3,5-Trimethylnaphthalene
 Concen: 1.15 ng/ml
 RT: 6.50 min Scan# 644
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

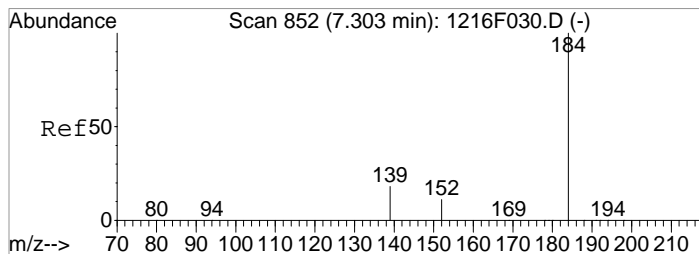
Tgt Ion:170	Resp:	276
Ion Ratio	Lower	Upper
170	100	
155	79.7	55.5 115.5
115	4.0	0.0 30.2



#14
 Fluorene
 Concen: 5.30 ng/ml
 RT: 6.61 min Scan# 674
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

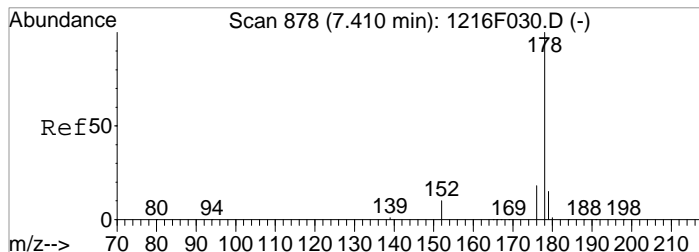
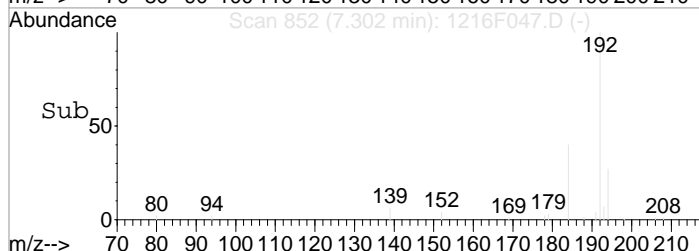
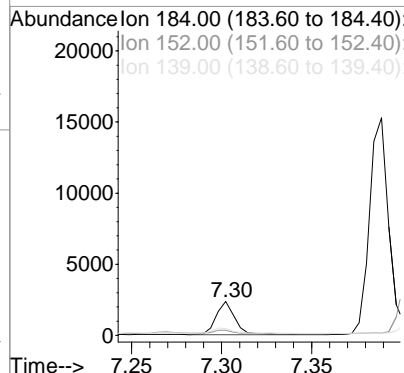
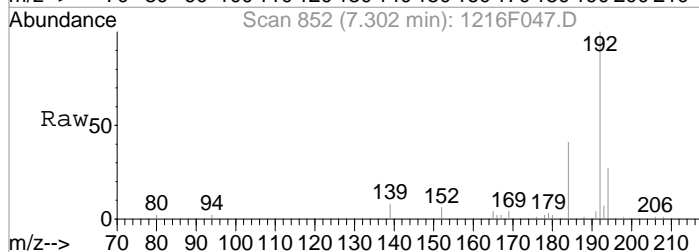
Tgt Ion:166	Resp:	1507
Ion Ratio	Lower	Upper
166	100	
165	91.3	59.6 119.6
167	13.8	0.0 33.2





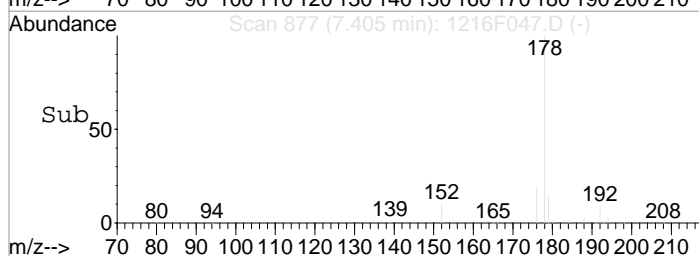
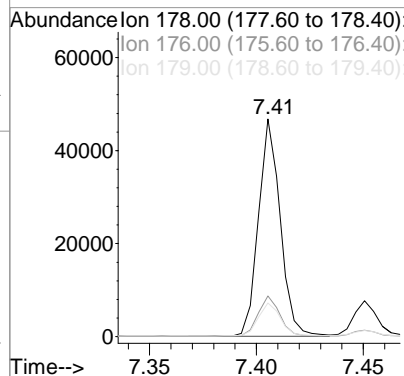
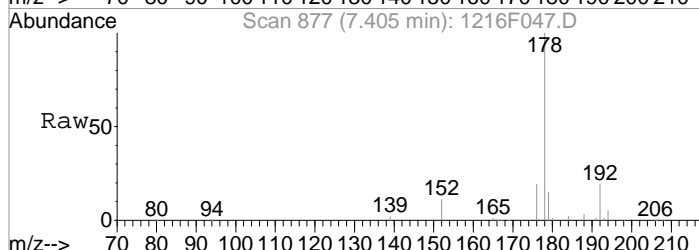
#16
 Dibenzothiophene
 Concen: 3.82 ng/ml
 RT: 7.30 min Scan# 852
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

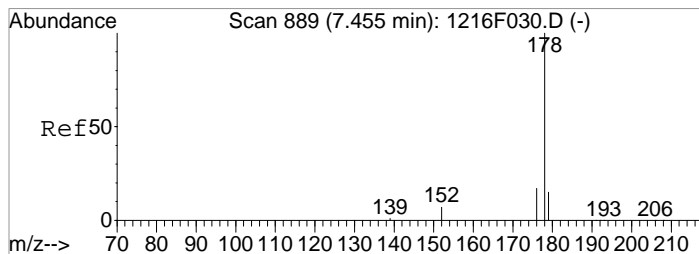
Tgt Ion:184	Resp:	1690
Ion Ratio	Lower	Upper
184	100	
152	9.4	0.0 39.6
139	14.2	0.0 35.4



#17
 Phenanthrene
 Concen: 71.86 ng/ml
 RT: 7.41 min Scan# 877
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

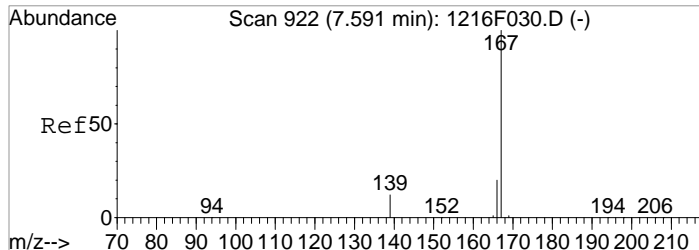
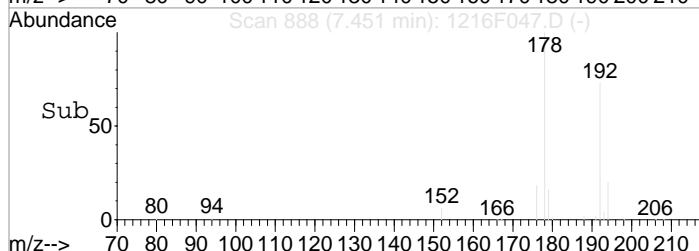
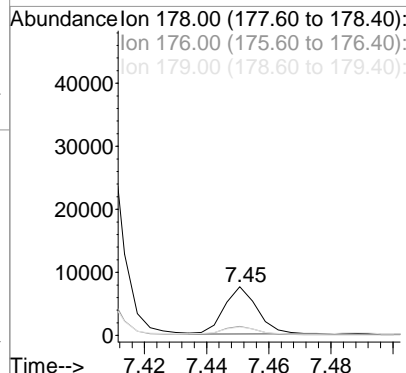
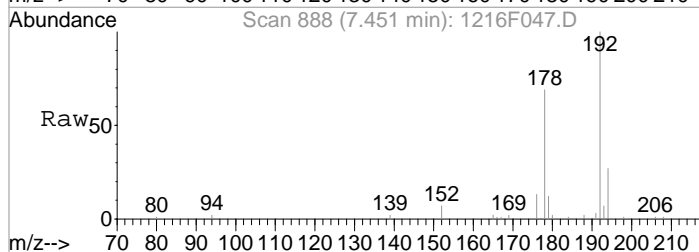
Tgt Ion:178	Resp:	33137
Ion Ratio	Lower	Upper
178	100	
176	18.5	0.0 48.0
179	15.1	0.0 35.6





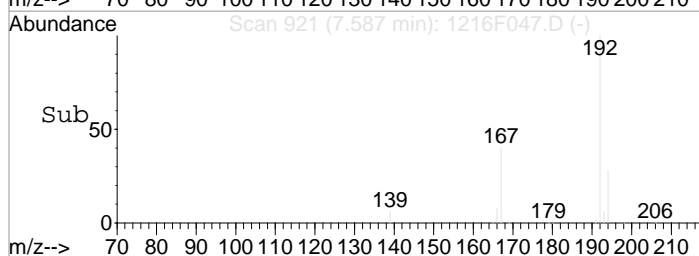
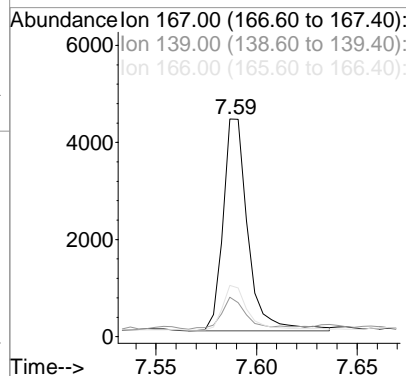
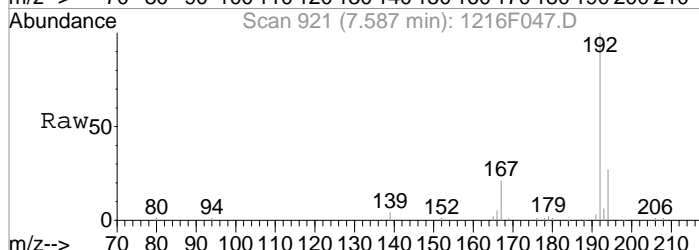
#18
 Anthracene
 Concen: 12.61 ng/ml
 RT: 7.45 min Scan# 888
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

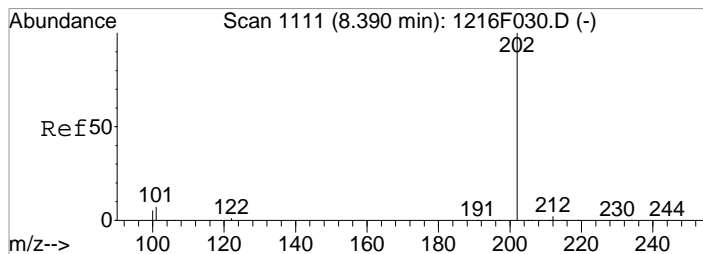
Tgt Ion:178	Resp:	5523
Ion Ratio	Lower	Upper
178	100	
176	17.4	0.0 47.6
179	14.1	0.0 35.4



#19
 Carbazole
 Concen: 8.80 ng/ml
 RT: 7.59 min Scan# 921
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

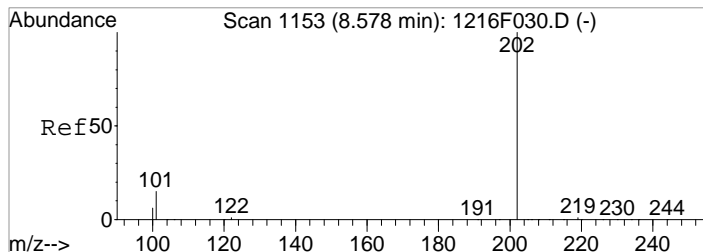
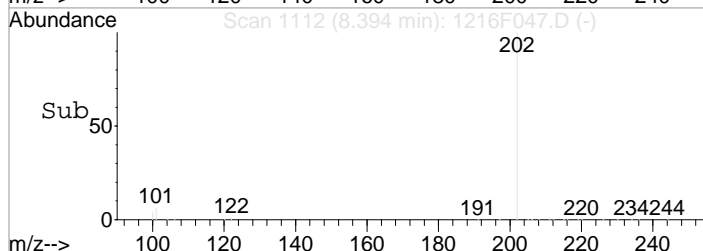
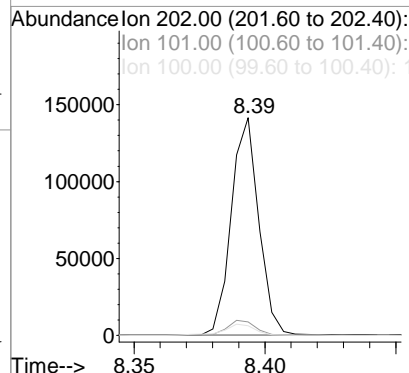
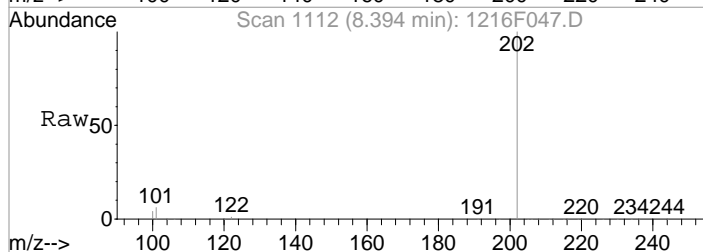
Tgt Ion:167	Resp:	3766
Ion Ratio	Lower	Upper
167	100	
139	15.2	0.0 41.7
166	21.1	0.0 39.9





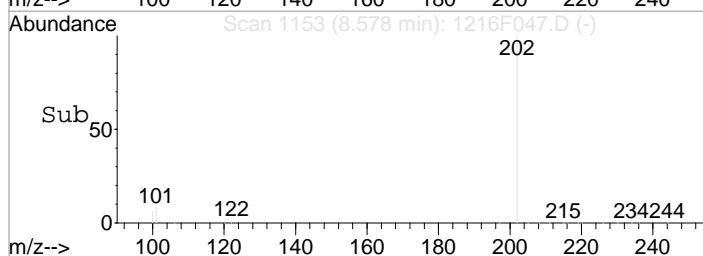
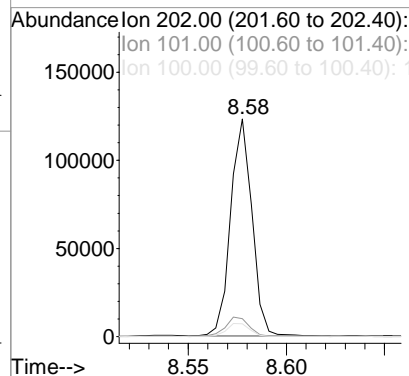
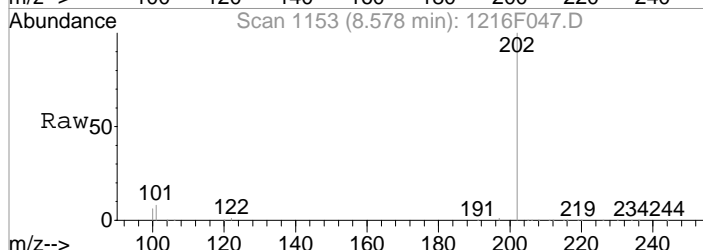
#21
 Fluoranthene
 Concen: 178.74 ng/ml
 RT: 8.39 min Scan# 1112
 Delta R.T. 0.01 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

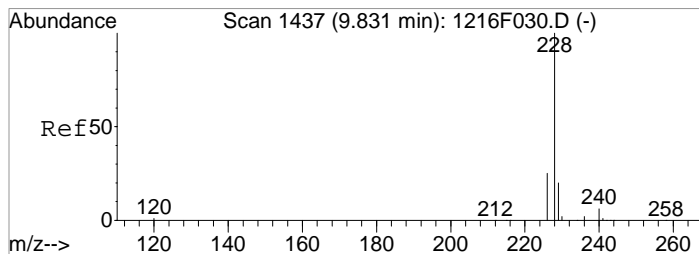
Tgt Ion	Ratio	Lower	Upper
202	100		
101	6.2	0.0	37.3
100	4.4	0.0	25.2



#24
 Pyrene
 Concen: 143.21 ng/ml
 RT: 8.58 min Scan# 1153
 Delta R.T. 0.00 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

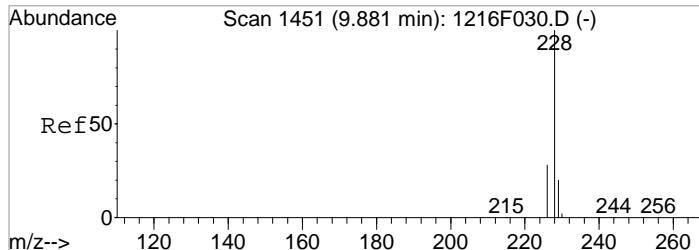
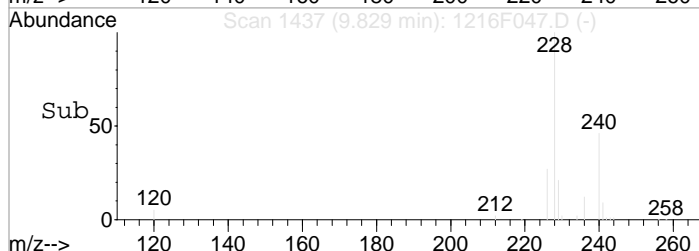
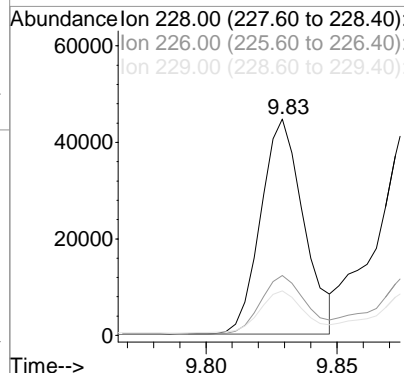
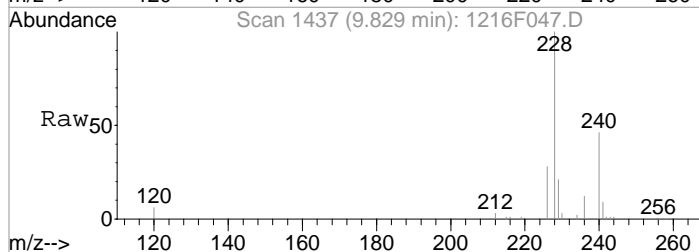
Tgt Ion	Ratio	Lower	Upper
202	100		
101	8.1	0.0	39.5
100	5.8	0.0	25.4





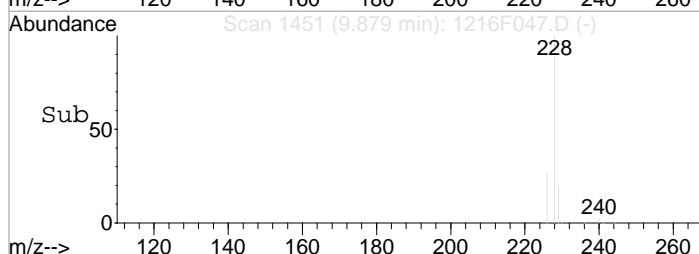
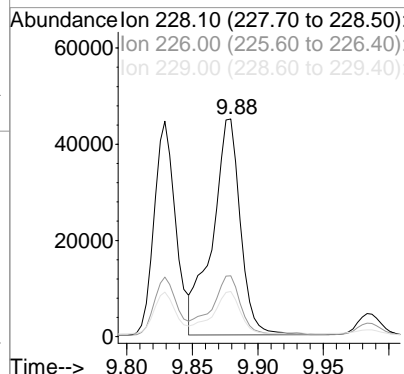
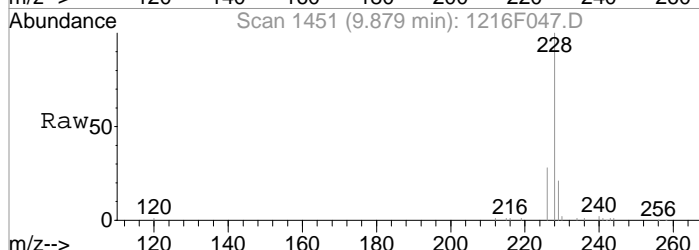
#26
 Benz(a)anthracene
 Concen: 76.29 ng/ml
 RT: 9.83 min Scan# 1437
 Delta R.T. 0.01 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

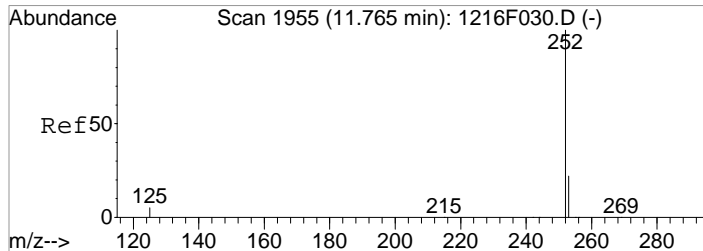
Tgt Ion	228	226	229
Ratio	100	27.3	19.6
Lower		0.0	0.0
Upper		55.5	39.9



#27
 Chrysene
 Concen: 107.56 ng/ml
 RT: 9.88 min Scan# 1451
 Delta R.T. 0.01 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

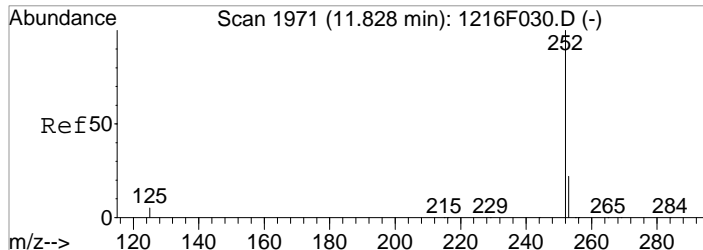
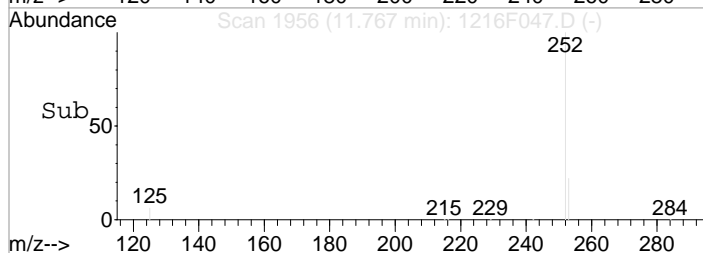
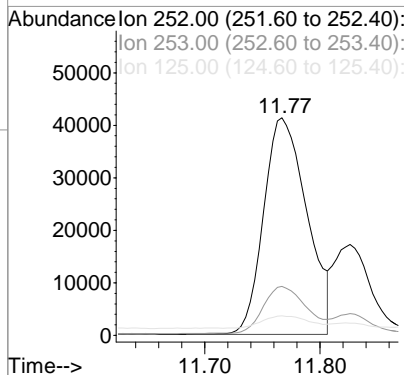
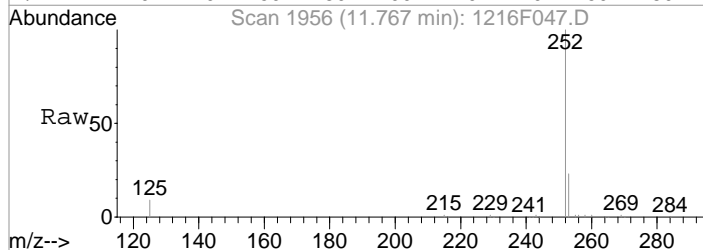
Tgt Ion	228	226	229
Ratio	100	27.4	19.5
Lower		0.0	0.0
Upper		57.9	39.6





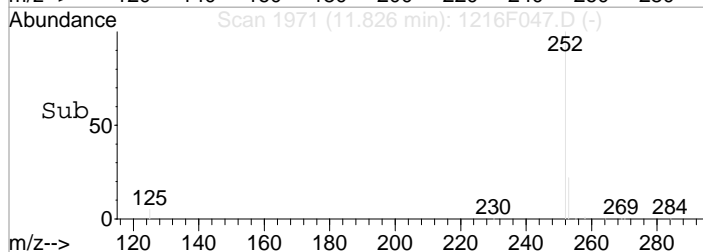
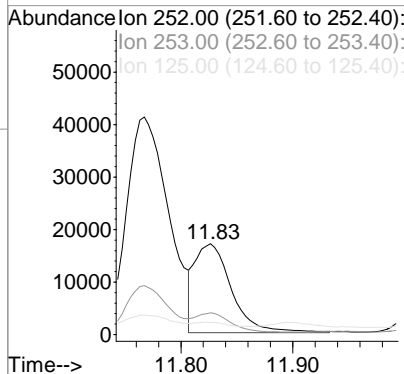
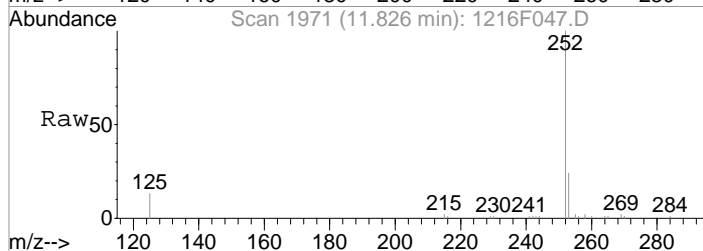
#29
 Benzo(b)fluoranthene
 Concen: 144.17 ng/ml
 RT: 11.77 min Scan# 1956
 Delta R.T. 0.02 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

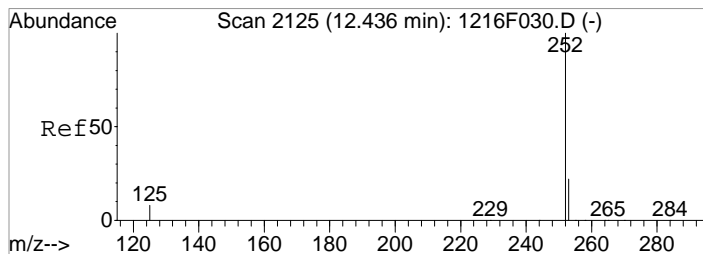
Tgt Ion	Ion	Ratio	Lower	Upper
252	100			
253	21.8	0.0	51.8	
125	5.7	0.0	25.2	



#30
 Benzo(k)fluoranthene
 Concen: 53.09 ng/ml m
 RT: 11.83 min Scan# 1971
 Delta R.T. 0.02 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

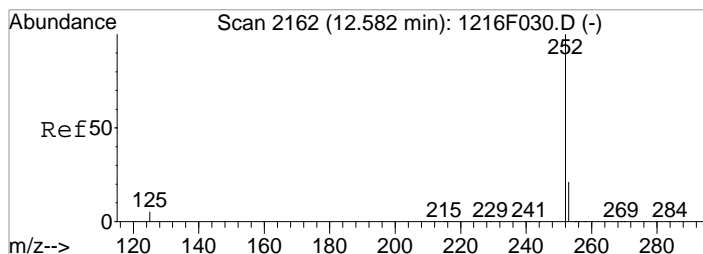
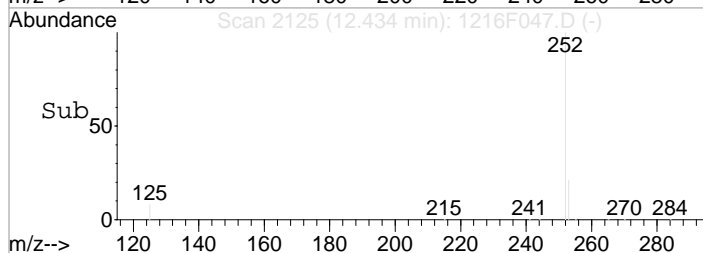
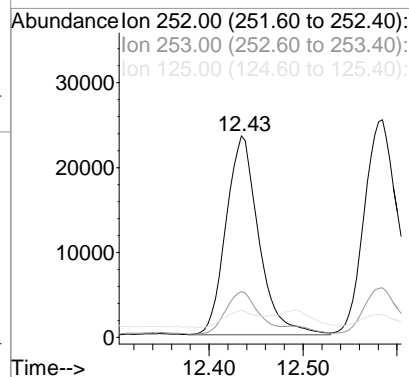
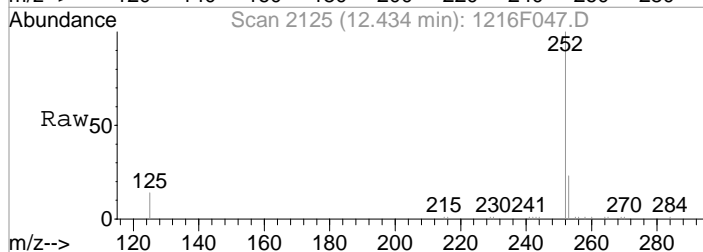
Tgt Ion	Ion	Ratio	Lower	Upper
252	100			
253	24.0	0.0	51.8	
125	13.4	0.0	25.6	





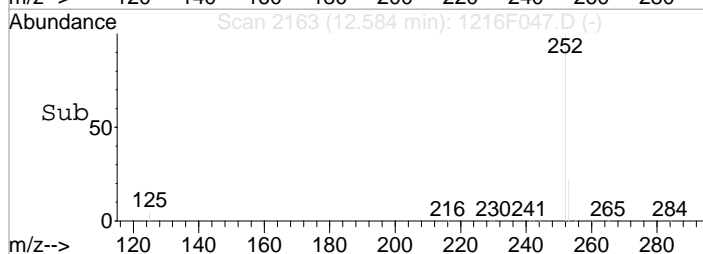
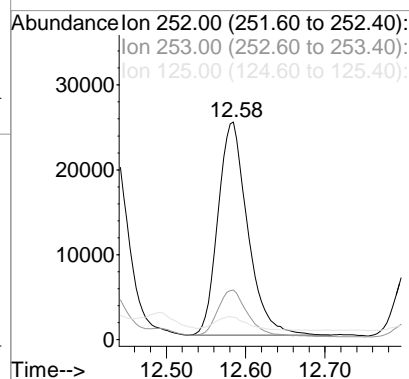
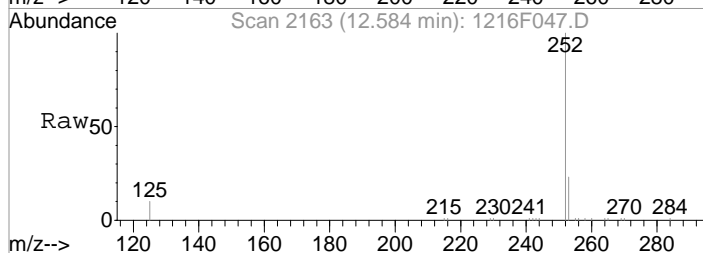
#31
 Benzo(e)pyrene
 Concen: 80.75 ng/ml
 RT: 12.43 min Scan# 2125
 Delta R.T. 0.02 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

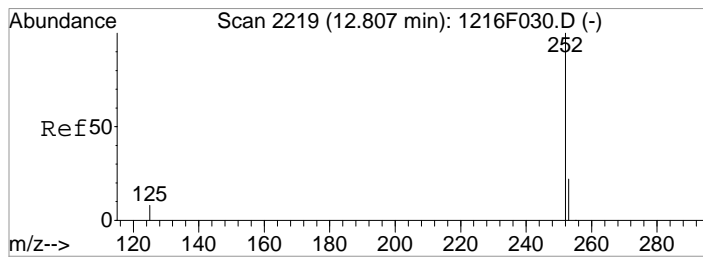
Tgt Ion	Ratio	Lower	Upper
252	100		
253	21.3	0.0	51.7
125	8.5	0.0	27.8



#32
 Benzo(a)pyrene
 Concen: 91.04 ng/ml
 RT: 12.58 min Scan# 2163
 Delta R.T. 0.03 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

Tgt Ion	Ratio	Lower	Upper
252	100		
253	21.9	0.0	51.9
125	6.0	0.0	25.9

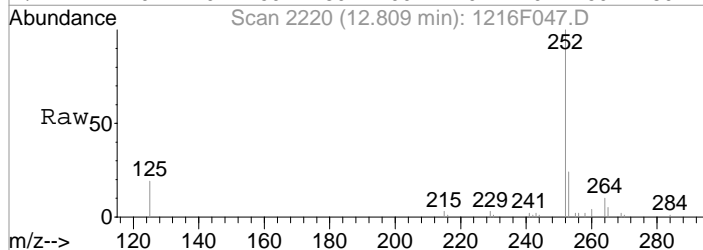




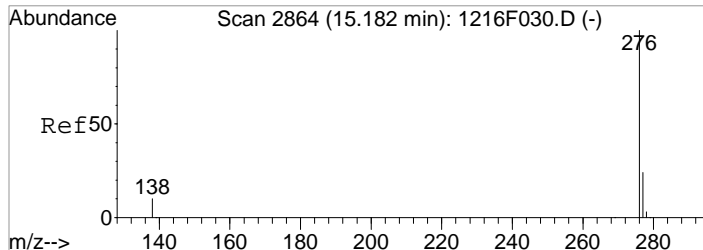
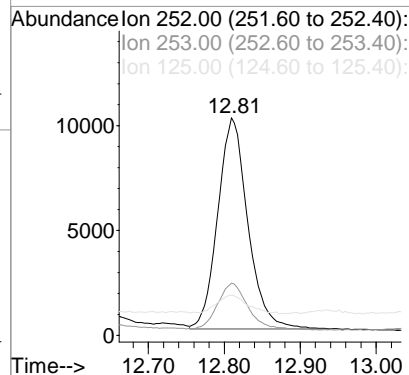
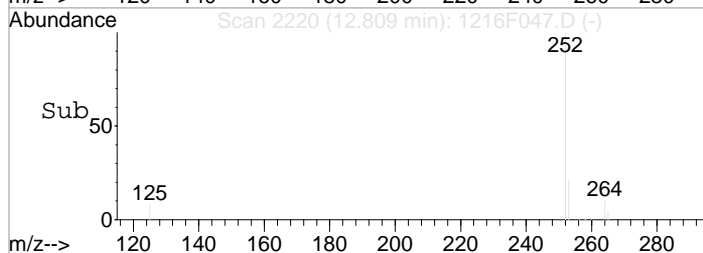
#33
Perylene
Concen: 41.61 ng/ml
RT: 12.81 min Scan# 2220
Delta R.T. 0.02 min
Lab File: 1216F047.D
Acq: 17 Dec 2020 12:13 am

1st *Ca* 12/17/20

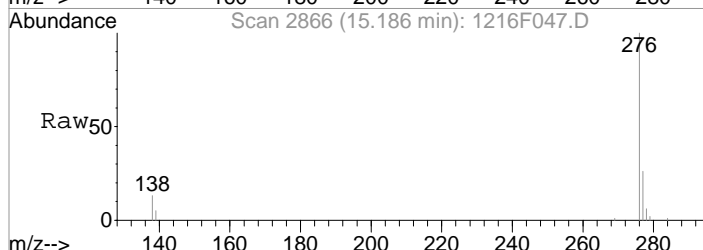
2nd *Q* 12/17/20



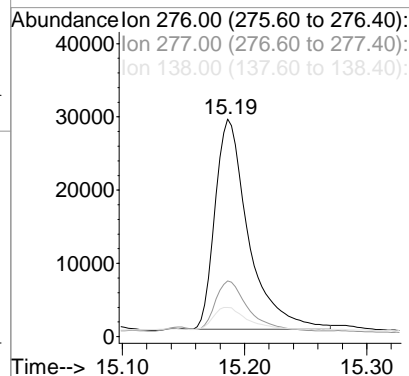
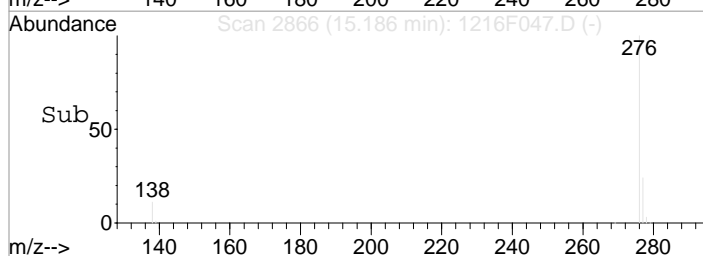
Tgt Ion: 252 Resp: 27649
Ion Ratio Lower Upper
252 100
253 22.0 0.0 51.7
125 8.6 0.0 28.2

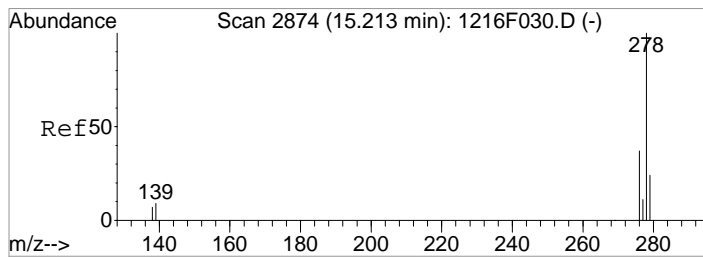


#34
Indeno(1,2,3-cd)pyrene
Concen: 76.63 ng/ml
RT: 15.19 min Scan# 2866
Delta R.T. 0.02 min
Lab File: 1216F047.D
Acq: 17 Dec 2020 12:13 am



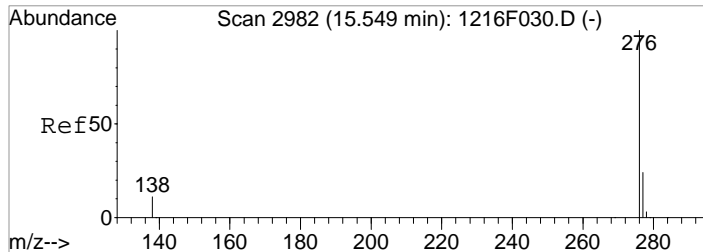
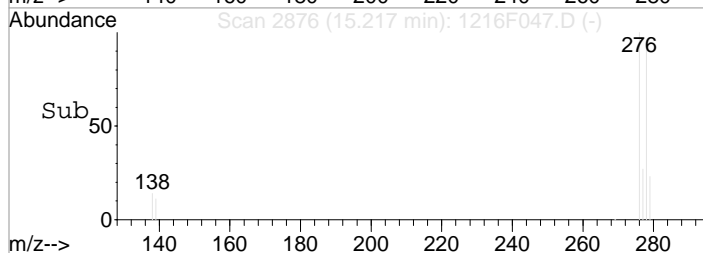
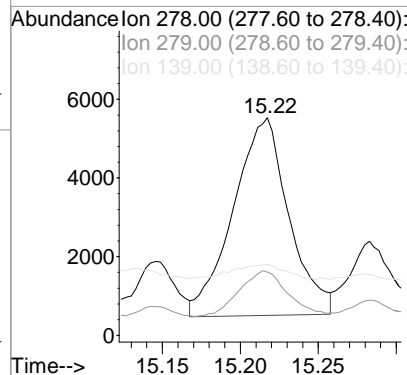
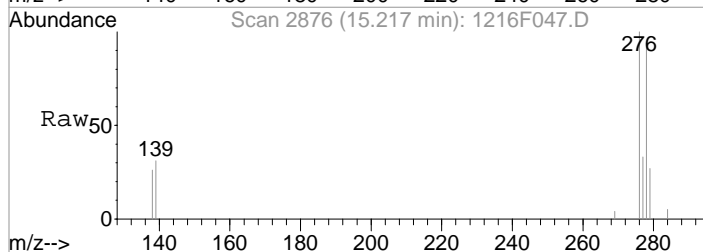
Tgt Ion: 276 Resp: 54655
Ion Ratio Lower Upper
276 100
277 23.8 0.0 54.1
138 10.6 0.0 30.5





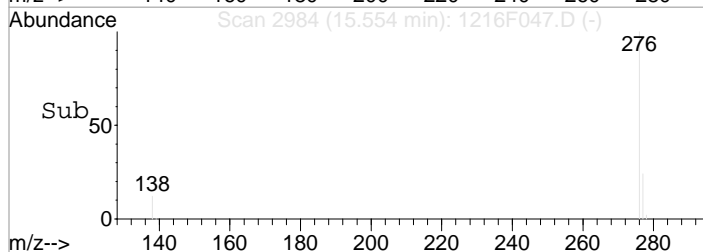
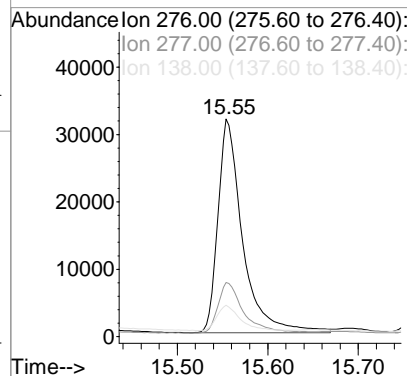
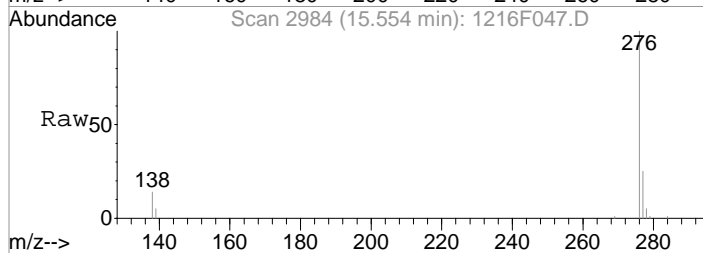
#35
 Dibenz(a,h)anthracene
 Concen: 16.22 ng/ml
 RT: 15.22 min Scan# 2876
 Delta R.T. 0.02 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

Tgt Ion:278	Resp:	12493
Ion Ratio	Lower	Upper
278	100	
279	23.9	0.0 53.9
139	8.4	0.0 28.6



#36
 Benzo(g,h,i)perylene
 Concen: 74.03 ng/ml
 RT: 15.55 min Scan# 2984
 Delta R.T. 0.02 min
 Lab File: 1216F047.D
 Acq: 17 Dec 2020 12:13 am

Tgt Ion:276	Resp:	60108
Ion Ratio	Lower	Upper
276	100	
277	23.6	0.0 53.8
138	11.8	0.0 31.5



Data File : J:\MS14\DATA\121620\1216F047.D

Acq On : 17 Dec 2020 12:13 am

Sample : K2011446-004

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 05:02:17 2020

Vial: 45

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.57	136	84267m	200.00	ng/ml	0.01
8) Acenaphthene-d10	6.15	164	40310	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.39	188	82820	200.00	ng/ml	0.00
23) Chrysene-d12	9.84	240	106334	200.00	ng/ml	0.00
28) Perylene-d12	12.73	264	124148	200.00	ng/ml	0.02

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.22	152	18259	79.47	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	7.95%	
13) Fluorene-d10	6.59	176	21588	89.22	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	8.92%	
22) Fluoranthene-d10	8.38	212	42640	86.26	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	8.63%	
25) Terphenyl-d14	8.71	244	46132	96.50	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	9.65%	

Target Compounds

						Qvalue
2) Naphthalene	4.59	128	1599	3.75	ng/ml	94
4) 2-Methylnaphthalene	5.25	142	622	2.23	ng/ml	99
5) 1-Methylnaphthalene	5.33	142	359	1.38	ng/ml	93
6) Biphenyl	5.66	154	436	1.28	ng/ml	94
7) 2,6-Dimethylnaphthalene	5.80	156	321	1.29	ng/ml	96
9) Acenaphthylene	6.03	152	1638	4.06	ng/ml	94
10) Acenaphthene	6.18	154	989	3.97	ng/ml	98
11) Dibenzofuran	6.32	168	1108	2.91	ng/ml	93
12) 2,3,5-Trimethylnaphthalene	6.50	170	276	1.15	ng/ml	93
14) Fluorene	6.61	166	1507	5.30	ng/ml	98
16) Dibenzothiophene	7.30	184	1690	3.82	ng/ml	98
17) Phenanthrene	7.41	178	33137	71.86	ng/ml	99
18) Anthracene	7.45	178	5523	12.61	ng/ml	98
19) Carbazole	7.59	167	3766	8.80	ng/ml	95
21) Fluoranthene	8.39	202	103295	178.74	ng/ml	97
24) Pyrene	8.58	202	92833	143.21	ng/ml	97
26) Benz(a)anthracene	9.83	228	50950	76.29	ng/ml	98
27) Chrysene	9.88	228	66982	107.56	ng/ml	99
29) Benzo(b)fluoranthene	11.77	252	108198	144.17	ng/ml	100
30) Benzo(k)fluoranthene	11.83	252	38700m	53.09	ng/ml	
31) Benzo(e)pyrene	12.43	252	56783	80.75	ng/ml	99
32) Benzo(a)pyrene	12.58	252	65373	91.04	ng/ml	100
33) Perylene	12.81	252	27649	41.61	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.19	276	54655	76.63	ng/ml	99
35) Dibenz(a,h)anthracene	15.22	278	12493	16.22	ng/ml	100
36) Benzo(g,h,i)perylene	15.55	276	60108	74.03	ng/ml	99

Data File : J:\MS14\DATA\121620\1216F047.D

Acq On : 17 Dec 2020 12:13 am

Sample : K2011446-004

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 5:02 2020

Vial: 45

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

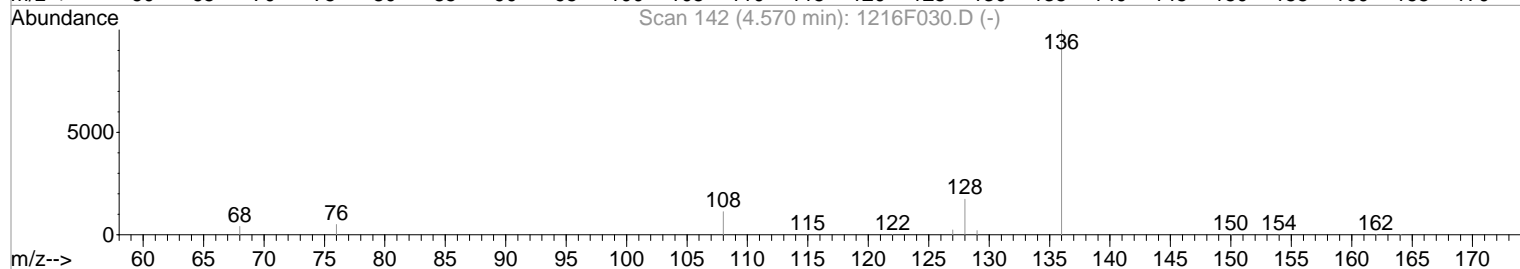
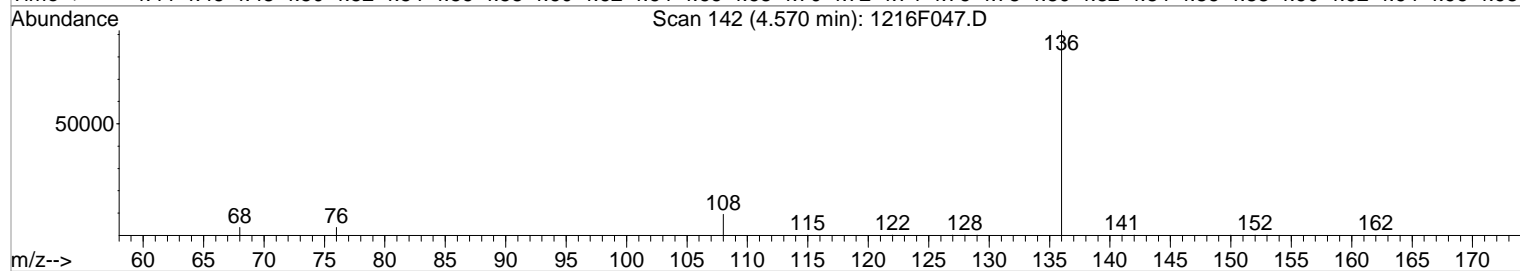
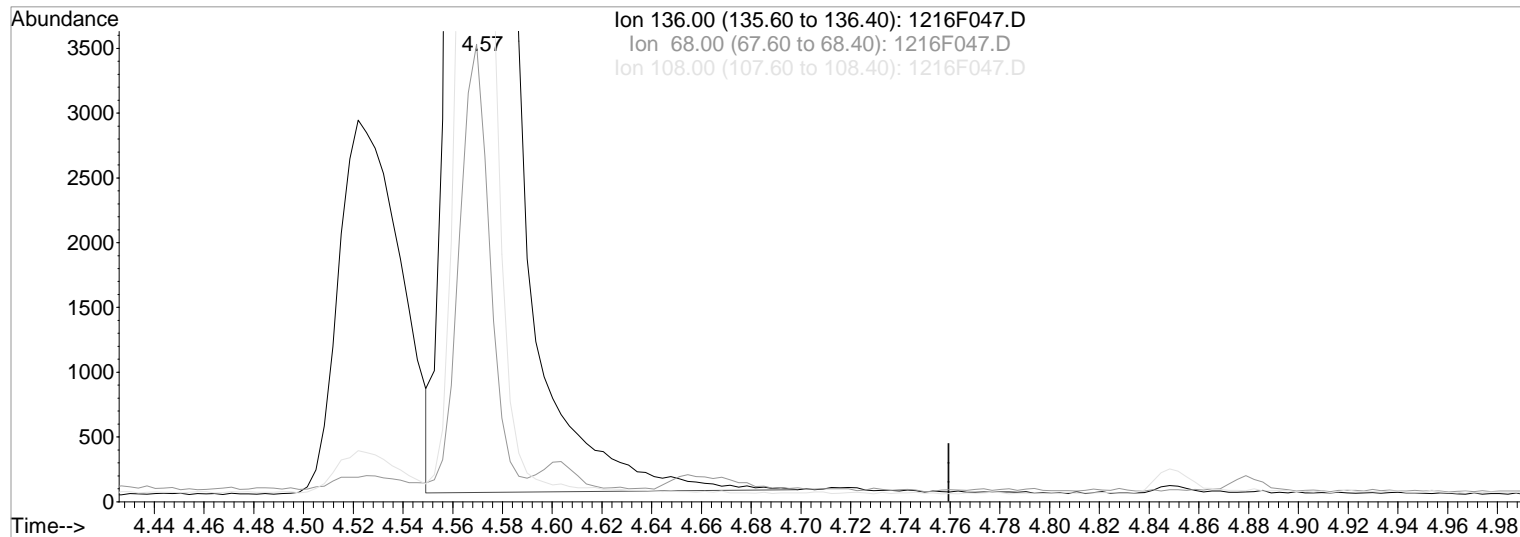
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F047.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.57min 200.00ng/ml

Before

response 79290

Ion Exp% Act%

12/17/20

136.00 100 100

68.00 4.00 3.74

108.00 10.90 10.16

0.00 0.00 0.00

Data File : J:\MS14\DATA\121620\1216F047.D

Acq On : 17 Dec 2020 12:13 am

Sample : K2011446-004

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:41 2020

Vial: 45

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

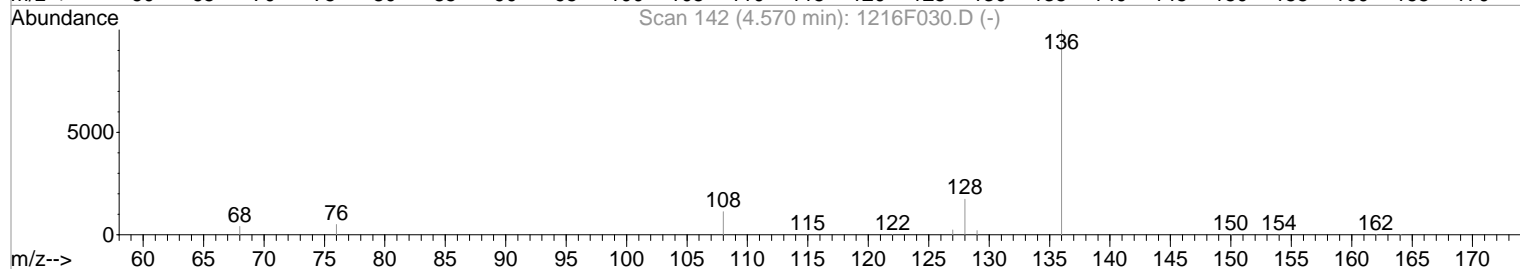
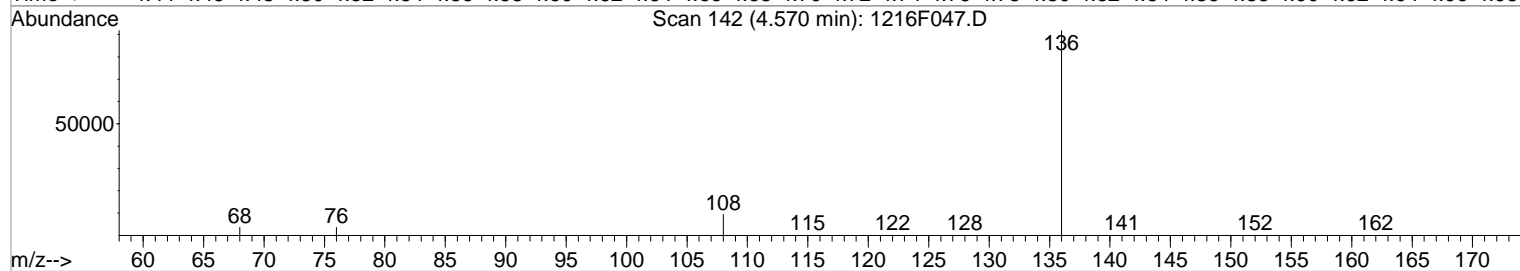
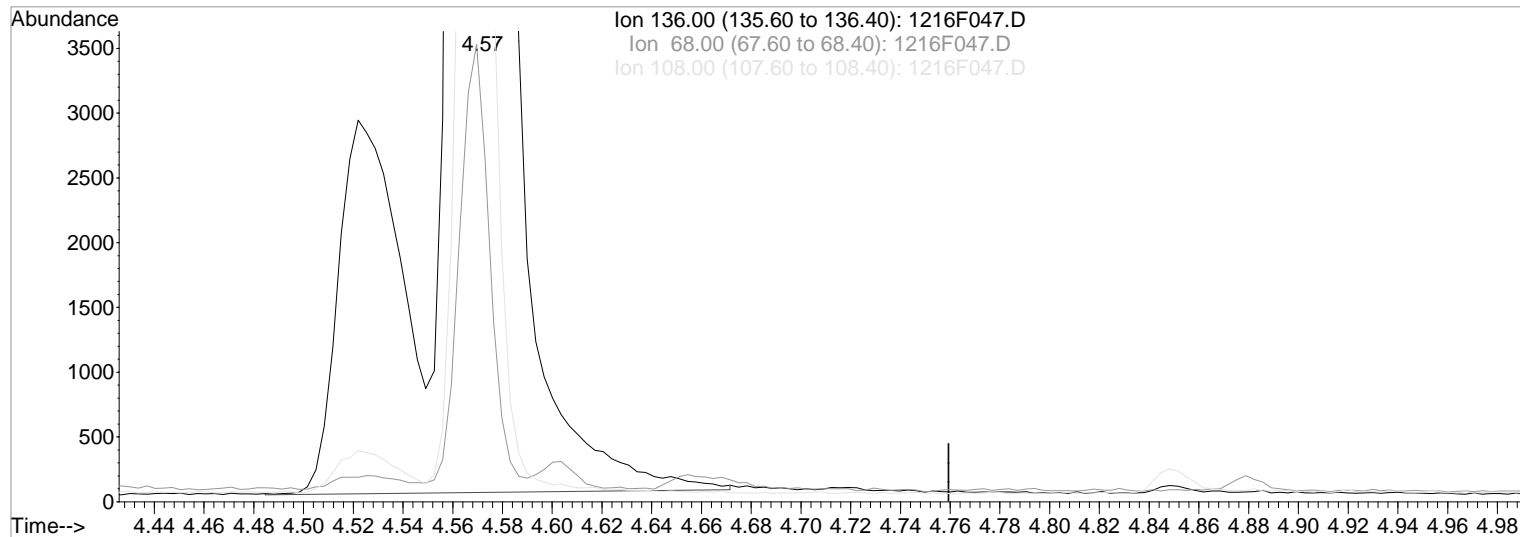
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F047.D

(1) Naphthalene-d8 (I)

4.57min 200.00ng/ml m

response 84267

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	3.85
108.00	10.90	10.23
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

12/17/20

Data File : J:\MS14\DATA\121620\1216F047.D

Acq On : 17 Dec 2020 12:13 am

Sample : K2011446-004

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:42 2020

Vial: 45

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

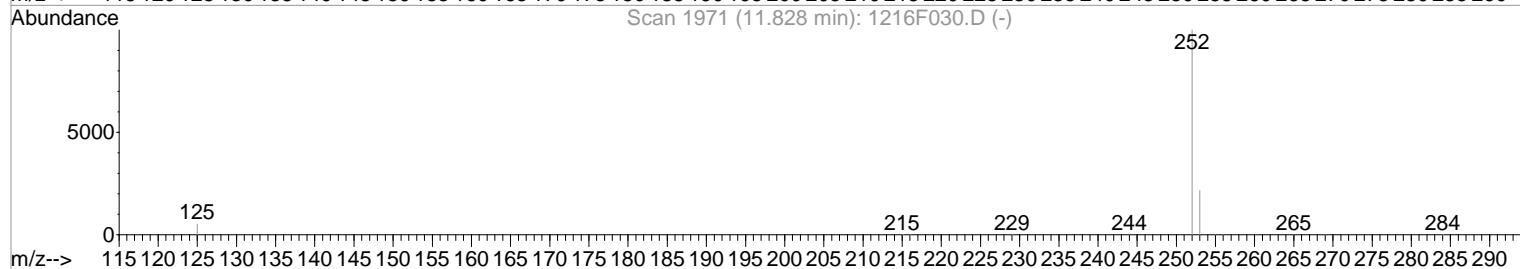
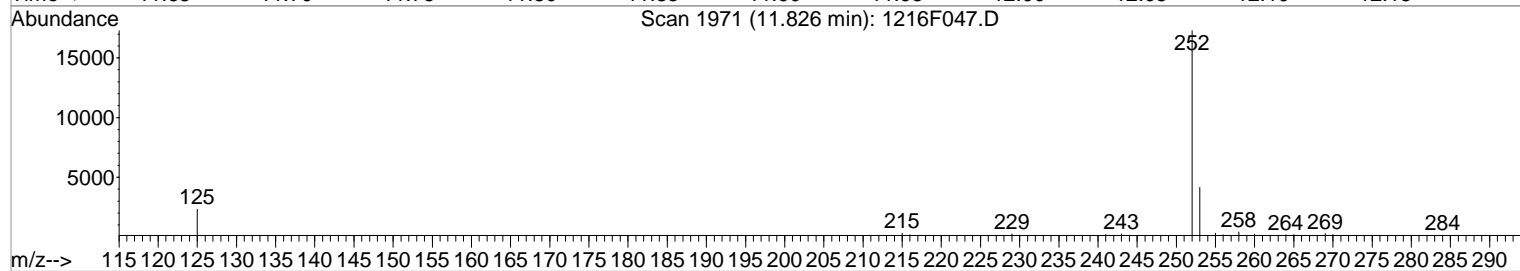
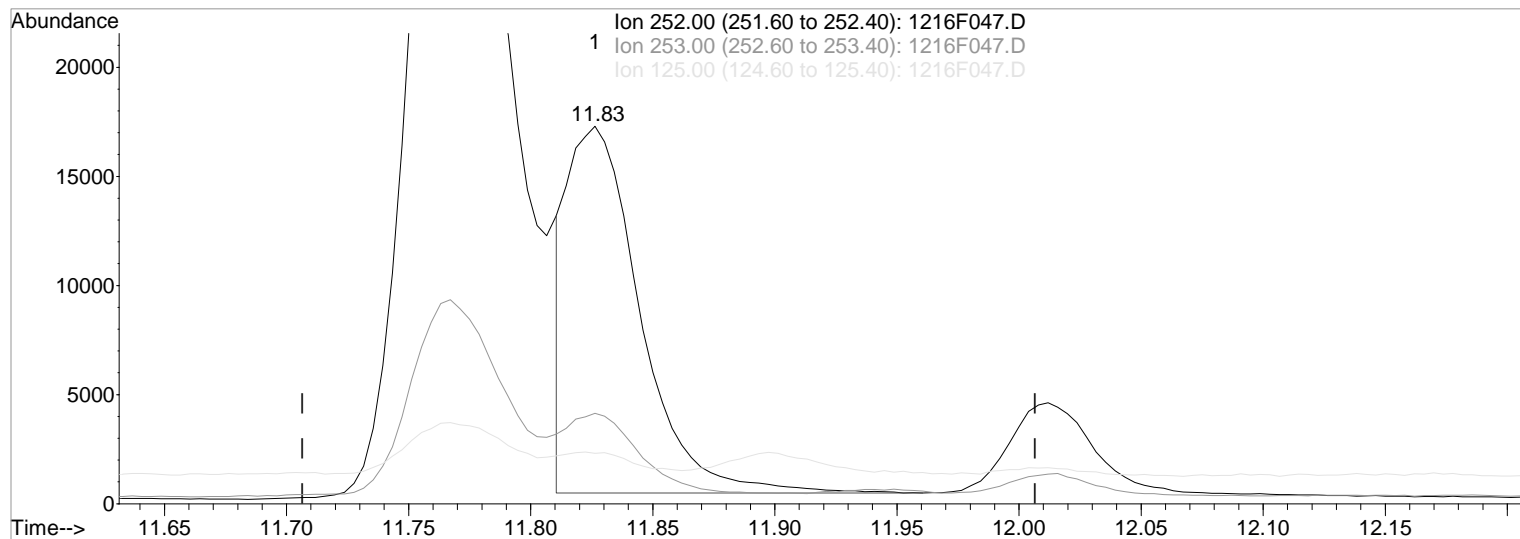
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F047.D

(30) Benzo(k)fluoranthene (T)

Manual Integration:

11.83min 48.04ng/ml

Before

response 35020

Ion	Exp%	Act%
252.00	100	100
253.00	21.80	21.24
125.00	5.60	5.31
0.00	0.00	0.00

12/17/20

Data File : J:\MS14\DATA\121620\1216F047.D

Acq On : 17 Dec 2020 12:13 am

Sample : K2011446-004

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:42 2020

Vial: 45

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

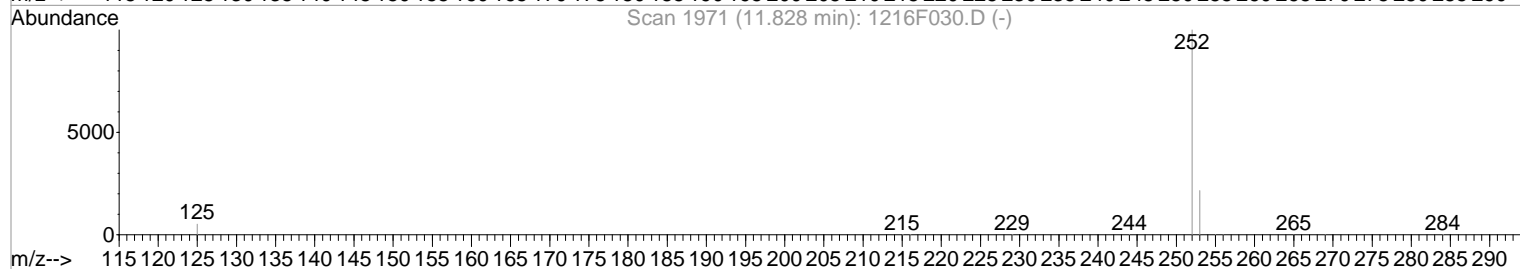
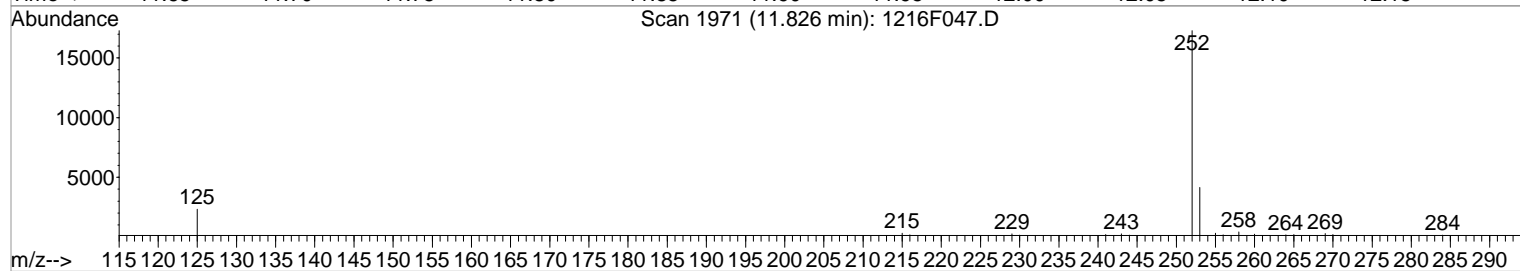
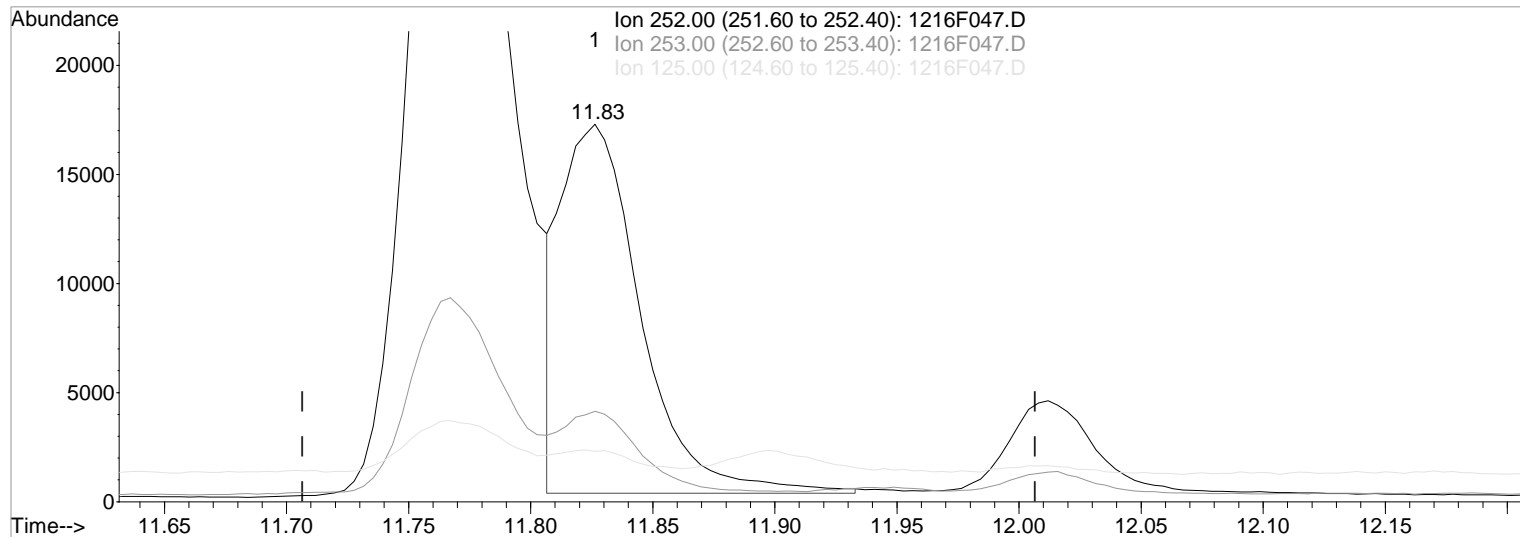
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F047.D

(30) Benzo(k)fluoranthene (T)

11.83min 53.09ng/ml m

response 38700

Ion	Exp%	Act%
-----	------	------

252.00	100	100
--------	-----	-----

253.00	21.80	23.95
--------	-------	-------

125.00	5.60	13.40
--------	------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/17/20

Validation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File: J:\MS14\DATA\121720\1217F038.D\
Lab ID: K2011446-005
RunType: N/A
Matrix: Soil

Date Acquired: 12/17/20 23:20:00
Batch ID: 707540
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Preparation Hold Time	X	
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Lab Control Sample Recovery	X	
Method Blank	X	
Method Blank Surrogates	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pyrene	-21		20	OK, <40

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121720\1217F038.D\	Instrument:	K-MS-14
Acqu Date:	12/17/20 23:20:00	Vial:	5
Run Type:	N/A	Dilution:	1
Lab ID:	K2011446-005	Raw Units:	ng/mL

Bottle ID:	K2011446-005.01	Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/4/20	Receive Date:	12/8/20

Analysis Lot:	707540	Prep Lot:	371385	Report Group:	K2011446
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/14/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.13		37732	200.00	OK
Chrysene-d12	9.82		106869	200.00	OK
Naphthalene-d8	4.55		80873	200.00	OK
Perylene-d12	12.70	+0.02	133801	200.00	OK
Phenanthrene-d10	7.37	-0.01	76379	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.36		63930	140.24	70	38 - 104	Y
Fluorene-d10	6.57		31288	138.14	69	39 - 109	Y
Terphenyl-d14	8.70	+0.01	65799	136.95	68	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.32	+0.01	836	3.35	13	J	Y
2-Methylnaphthalene	5.23		1529	5.70	23		Y
Acenaphthene	6.16		785	3.37	14	J	Y
Acenaphthylene	6.01		3244	8.60	35		Y
Anthracene	7.44		6680	16.54	67		Y
Benz(a)anthracene	9.81		77595	115.61	470		Y
Benzo(a)pyrene	12.55	+0.02	115000	148.60	600		Y
Benzo(b)fluoranthene	11.74	+0.02	184700	228.36	920		Y
Benzo(g,h,i)perylene	15.53	+0.01	108444	123.93	500		Y
Benzo(k)fluoranthene	11.79	+0.01	72102	91.78	370		Y
Chrysene	9.86	+0.01	84723	135.37	540		Y
Dibenz(a,h)anthracene	15.20	+0.02	22714	27.36	110		Y
Fluoranthene	8.38		133013	249.58	1000		Y

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

Printed: 12/18/20 10:04

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121720\1217F038.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/17/20 23:20:00	Vial:	5	
Run Type:	N/A	Dilution:	1	
Lab ID:	K2011446-005	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.60		2162	8.12	33		Y
Indeno(1,2,3-cd)pyrene	15.17	+0.02	98179	127.73	510		Y
Naphthalene	4.57		2752	6.72	27		Y
Phenanthrene	7.39		29113	68.45	280		Y
Pyrene	8.56		128363	197.03	790		Y

Prep Amount: 10.2710 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 24.20

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

Printed: 12/18/20 10:04

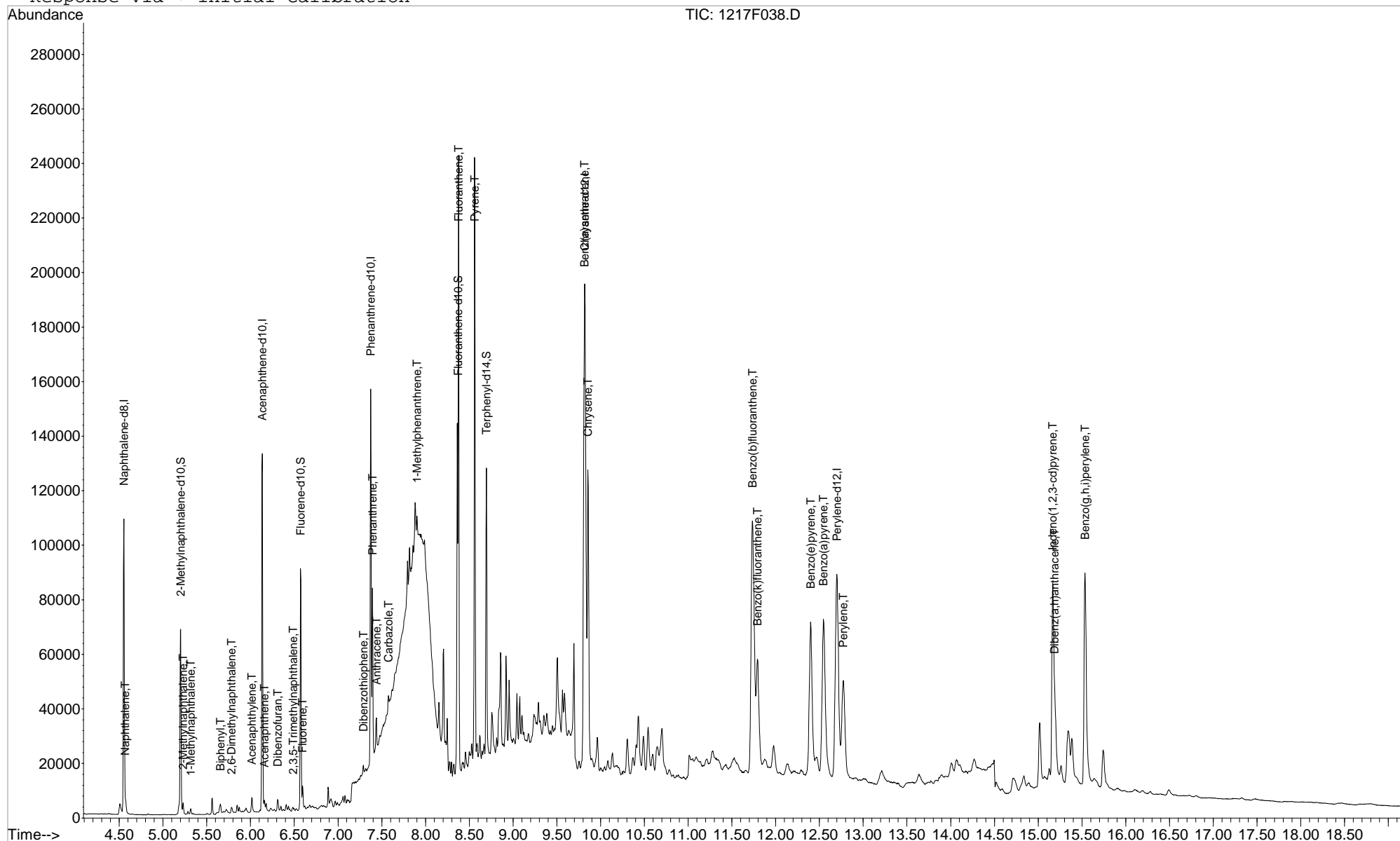
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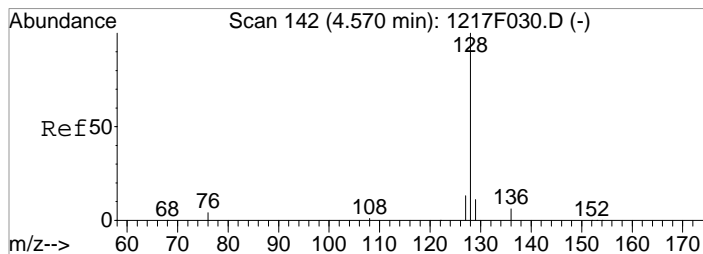
Data File : J:\MS14\DATA\121720\1217F038.D
Acq On : 17 Dec 2020 11:20 pm
Sample : K2011446-005
Misc :
MS Integration Params: RTEINT.P
Quant Time: Dec 18 7:38 2020

Vial: 33
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

Quant Results File: 101320PAH.RES

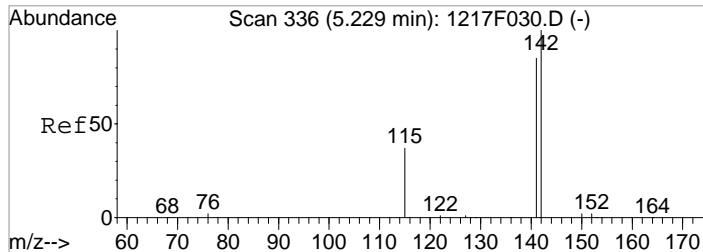
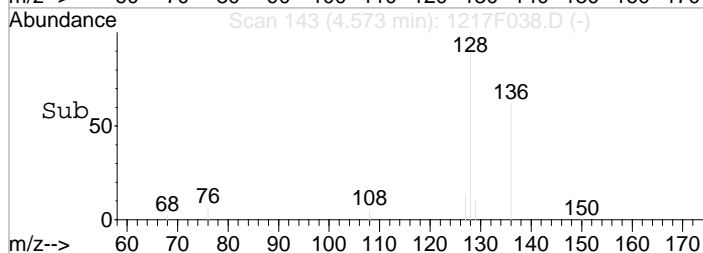
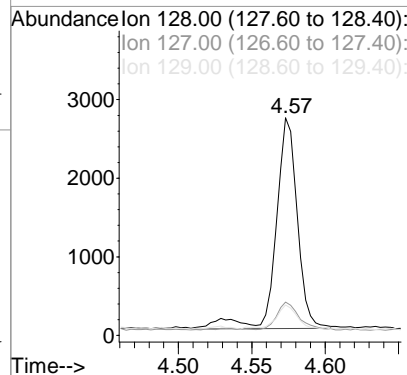
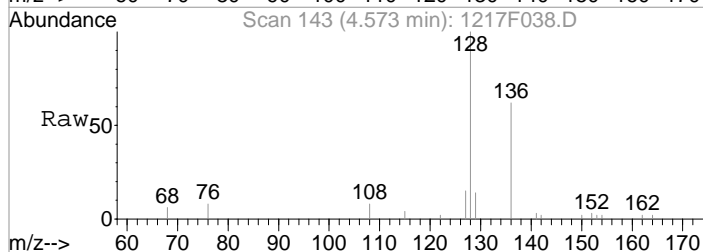
Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Dec 18 07:27:27 2020
Response via : Initial Calibration





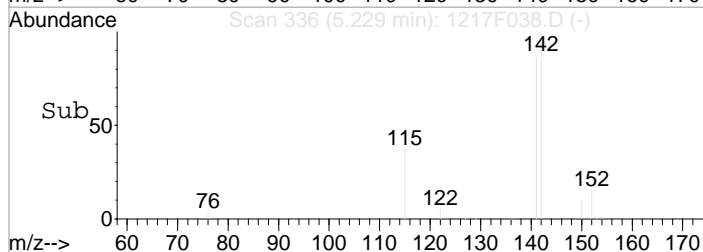
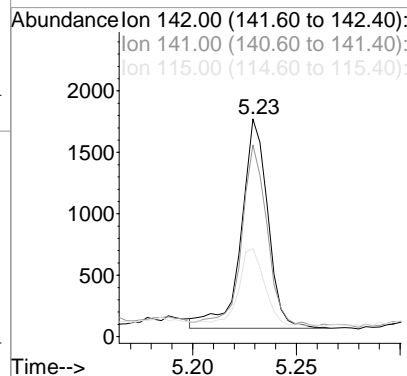
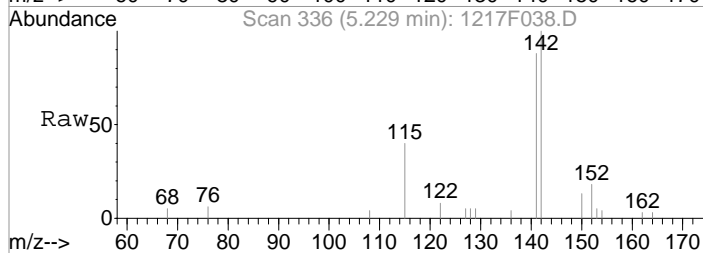
#2
 Naphthalene
 Concen: 6.72 ng/ml m
 RT: 4.57 min Scan# 143
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

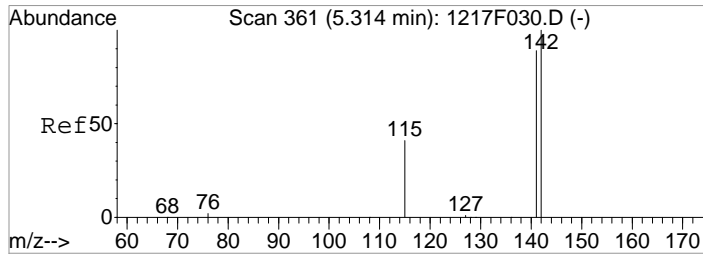
Tgt Ion:128	Resp:	2752
Ion Ratio	Lower	Upper
128	100	
127	15.4	0.0 42.7
129	14.0	0.0 30.8



#4
 2-Methylnaphthalene
 Concen: 5.70 ng/ml
 RT: 5.23 min Scan# 336
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

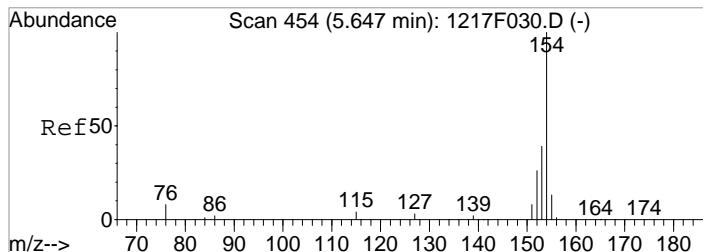
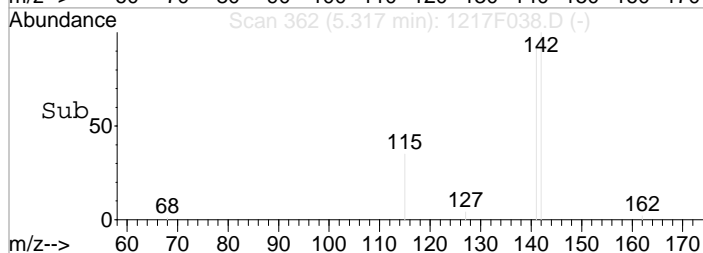
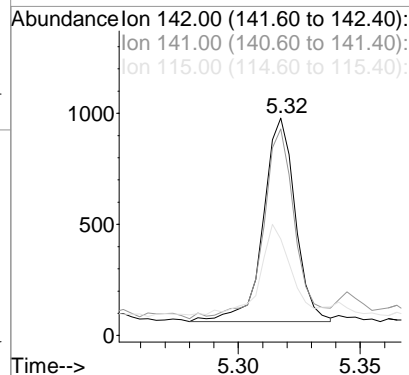
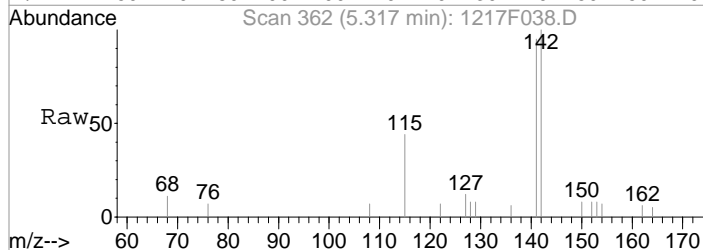
Tgt Ion:142	Resp:	1529
Ion Ratio	Lower	Upper
142	100	
141	86.0	53.5 113.5
115	36.5	13.2 53.2





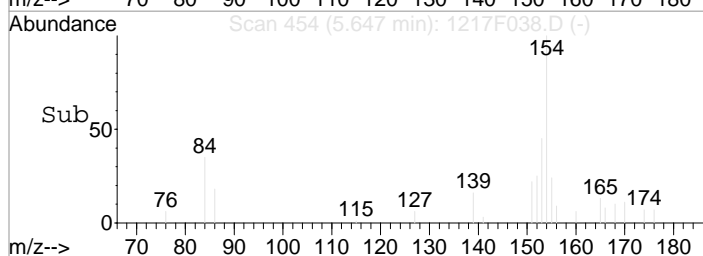
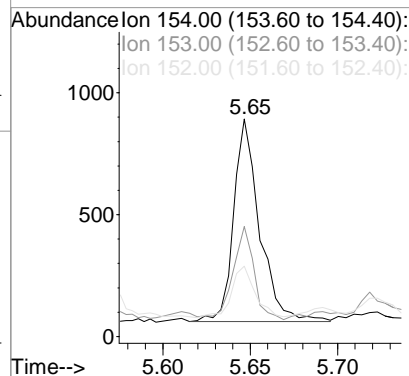
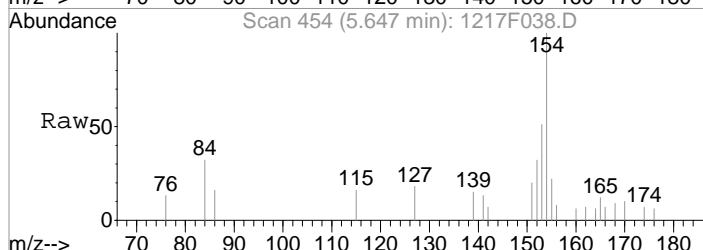
#5
1-Methylnaphthalene
Concen: 3.35 ng/ml
RT: 5.32 min Scan# 362
Delta R.T. -0.01 min
Lab File: 1217F038.D
Acq: 17 Dec 2020 11:20 pm

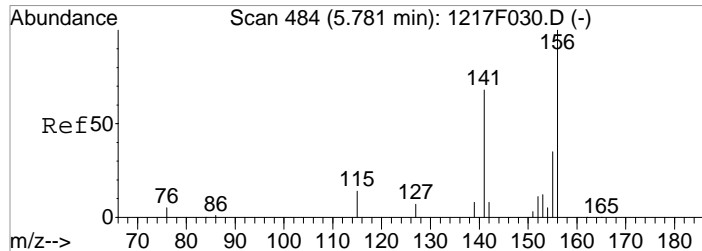
Tgt Ion:142	Resp:	836
Ion Ratio	Lower	Upper
142	100	
141	93.0	57.0 117.0
115	37.2	17.7 57.7



#6
Biphenyl
Concen: 2.63 ng/ml
RT: 5.65 min Scan# 454
Delta R.T. -0.01 min
Lab File: 1217F038.D
Acq: 17 Dec 2020 11:20 pm

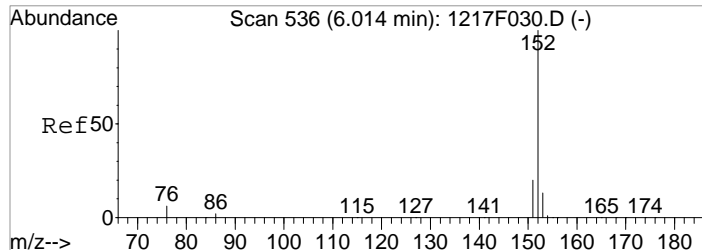
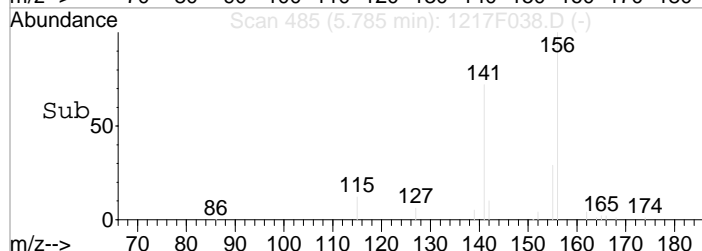
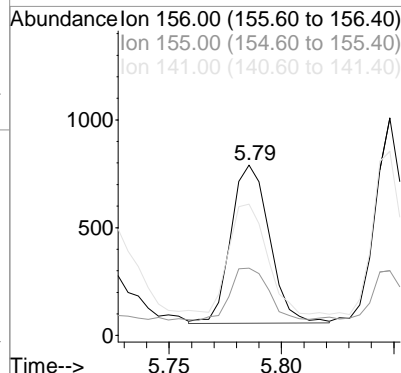
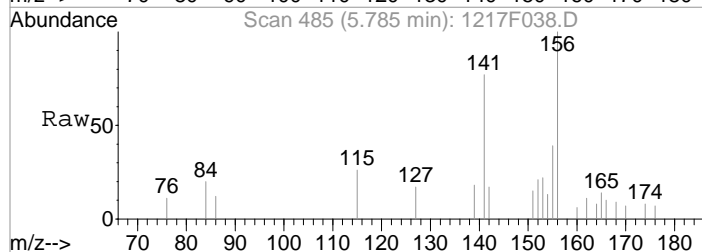
Tgt Ion:154	Resp:	855
Ion Ratio	Lower	Upper
154	100	
153	43.0	8.8 68.8
152	25.1	6.0 46.0





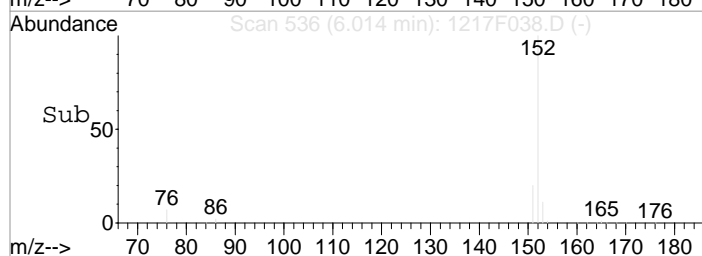
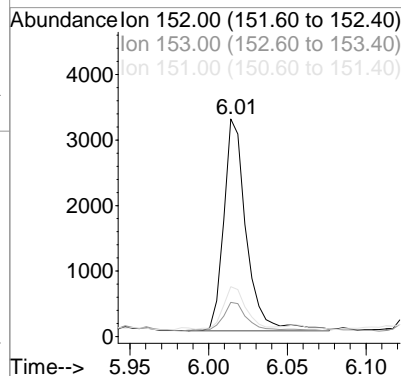
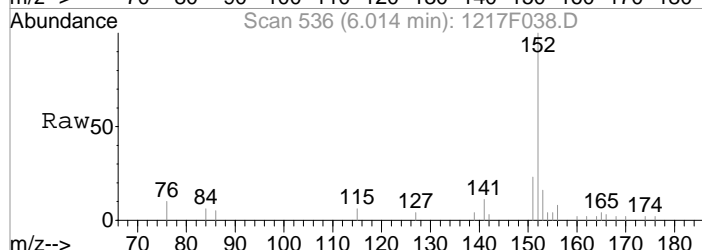
#7
 2,6-Dimethylnaphthalene
 Concen: 3.65 ng/ml
 RT: 5.79 min Scan# 485
 Delta R.T. -0.00 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

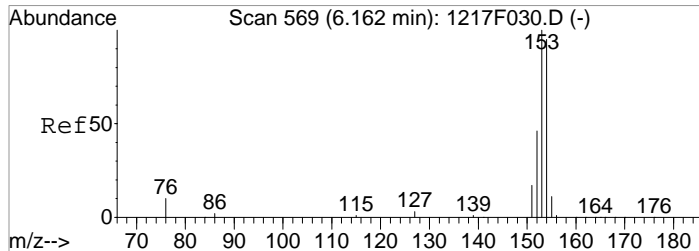
Tgt Ion:156	Resp:	874
Ion Ratio	Lower	Upper
156	100	
155	33.0	4.4 64.4
141	70.3	46.0 86.0



#9
 Acenaphthylene
 Concen: 8.60 ng/ml
 RT: 6.01 min Scan# 536
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

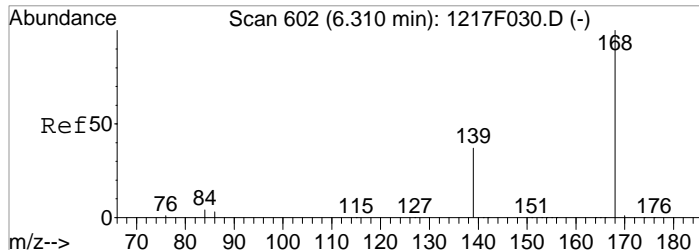
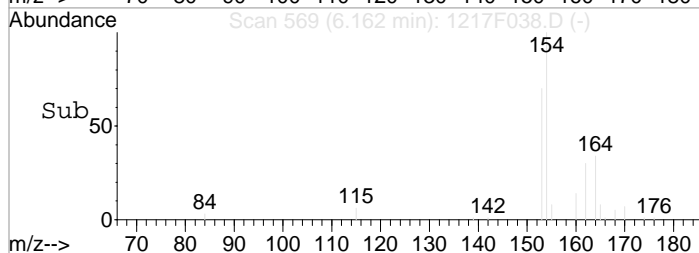
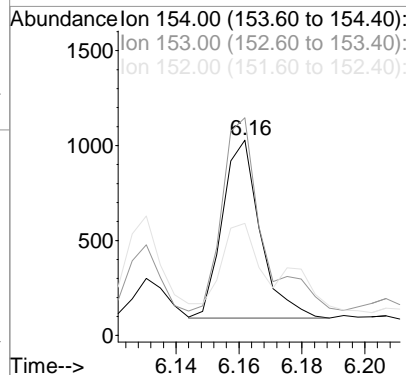
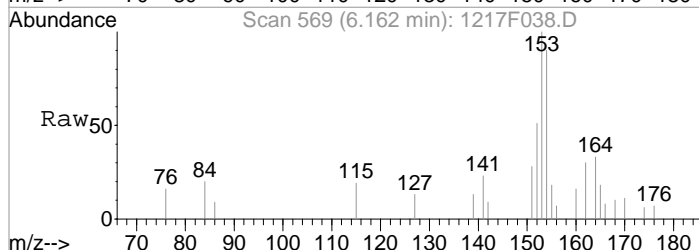
Tgt Ion:152	Resp:	3244
Ion Ratio	Lower	Upper
152	100	
153	13.1	0.0 43.0
151	20.0	0.0 39.4





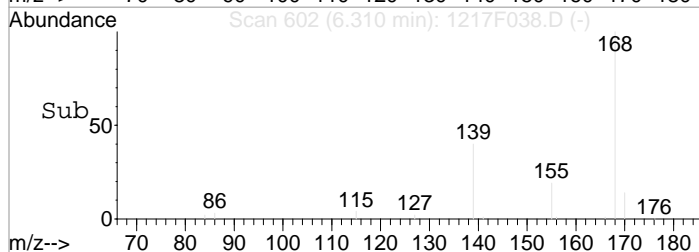
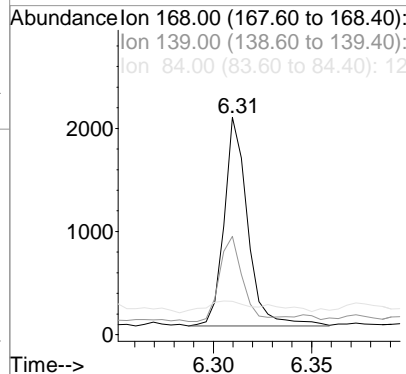
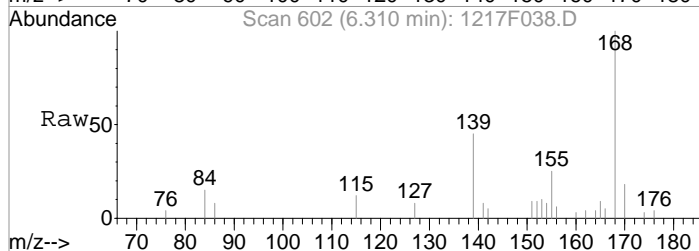
#10
Acenaphthene
Concen: 3.37 ng/ml
RT: 6.16 min Scan# 569
Delta R.T. -0.01 min
Lab File: 1217F038.D
Acq: 17 Dec 2020 11:20 pm

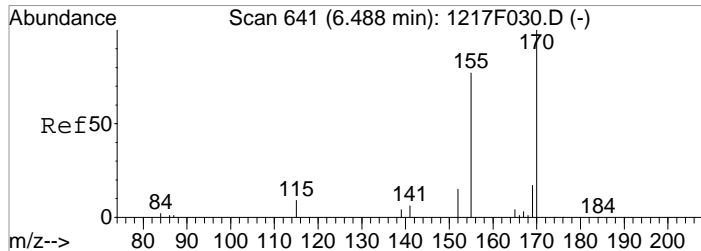
Tgt Ion	Ratio	Lower	Upper
154	100		
153	108.5	74.5	134.5
152	46.4	18.5	78.5



#11
Dibenzofuran
Concen: 4.74 ng/ml
RT: 6.31 min Scan# 602
Delta R.T. -0.01 min
Lab File: 1217F038.D
Acq: 17 Dec 2020 11:20 pm

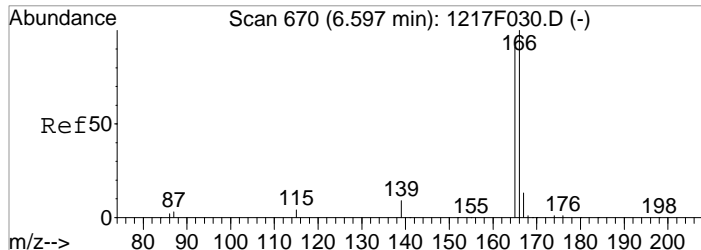
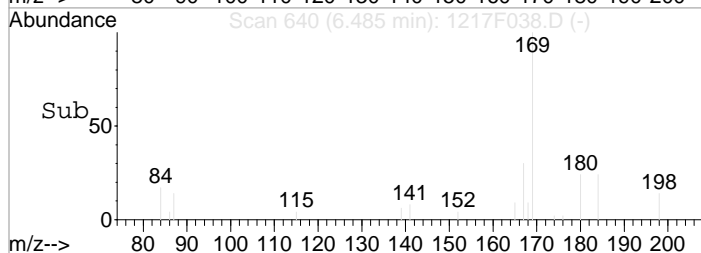
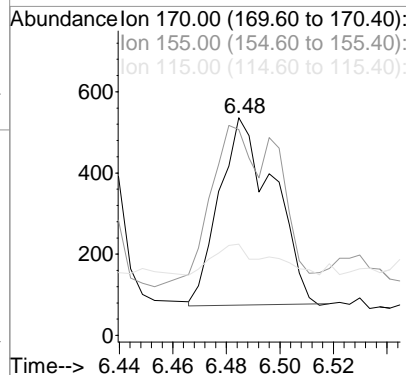
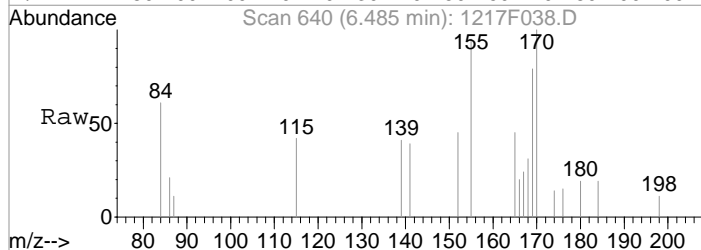
Tgt Ion	Ratio	Lower	Upper
168	100		
139	40.7	8.2	68.2
84	4.3	0.0	23.9





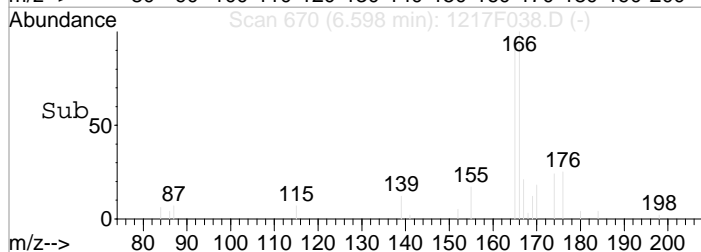
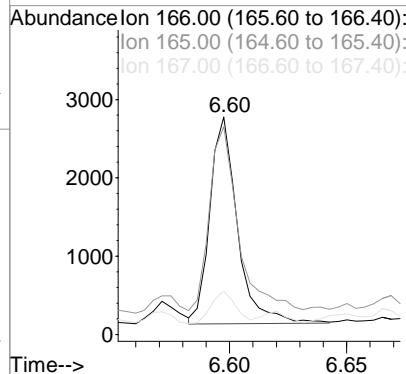
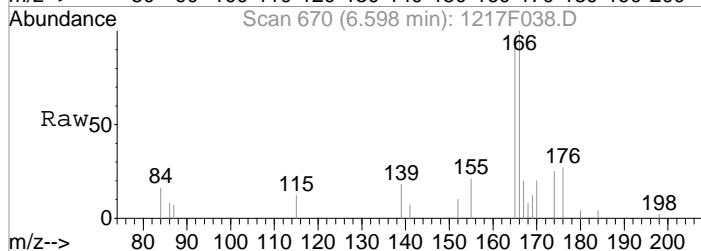
#12
 2,3,5-Trimethylnaphthalene
 Concen: 2.90 ng/ml
 RT: 6.48 min Scan# 640
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

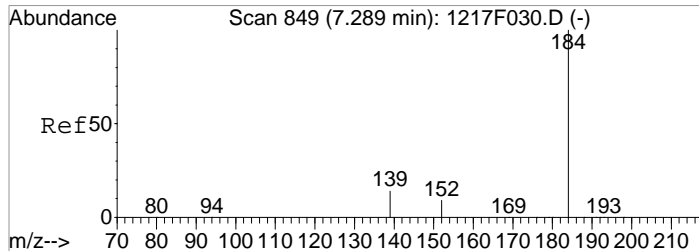
Tgt Ion:170	Resp:	652
Ion Ratio	Lower	Upper
170	100	
155	77.9	55.5 115.5
115	16.8	0.0 30.2



#14
 Fluorene
 Concen: 8.12 ng/ml
 RT: 6.60 min Scan# 670
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

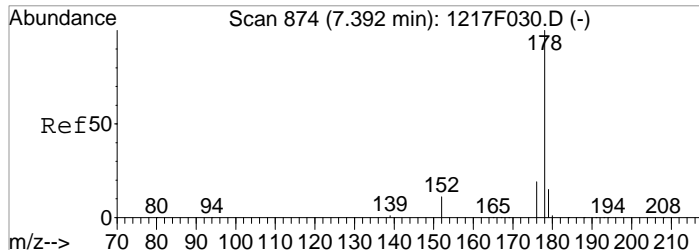
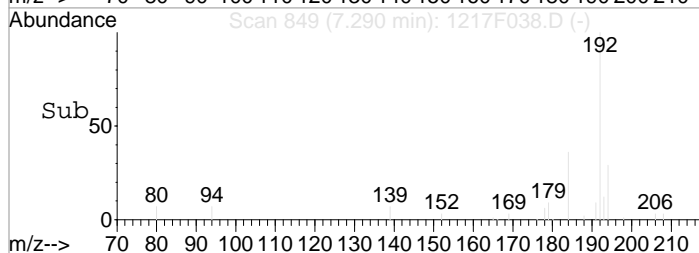
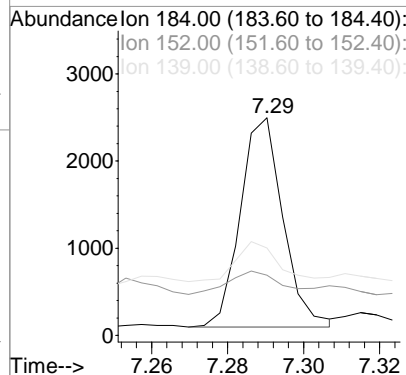
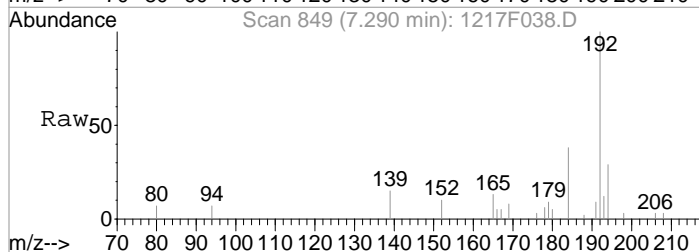
Tgt Ion:166	Resp:	2162
Ion Ratio	Lower	Upper
166	100	
165	89.7	59.6 119.6
167	15.8	0.0 33.2





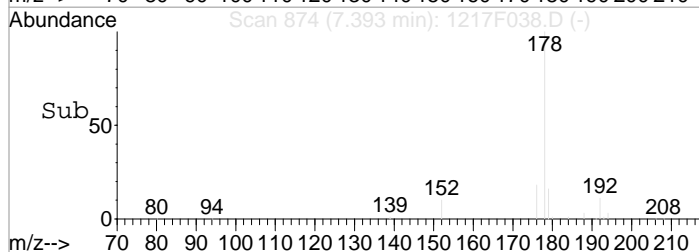
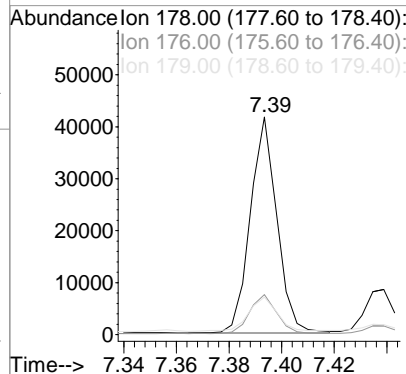
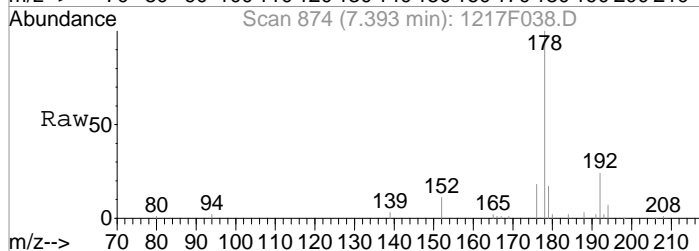
#16
Dibenzenothiophene
Concen: 4.61 ng/ml
RT: 7.29 min Scan# 849
Delta R.T. -0.01 min
Lab File: 1217F038.D
Acq: 17 Dec 2020 11:20 pm

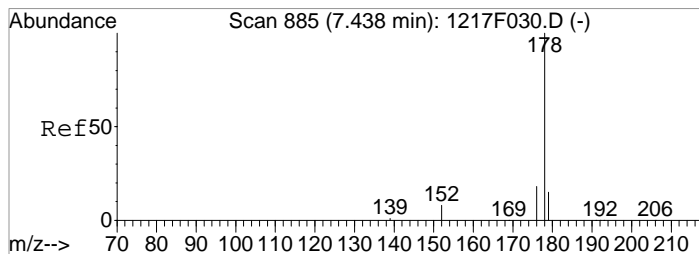
Tgt Ion	Ion	Ratio	Lower	Upper
184	184	100		
152	152	9.2	0.0	39.6
139	139	15.9	0.0	35.4



#17
Phenanthrene
Concen: 68.45 ng/ml
RT: 7.39 min Scan# 874
Delta R.T. -0.01 min
Lab File: 1217F038.D
Acq: 17 Dec 2020 11:20 pm

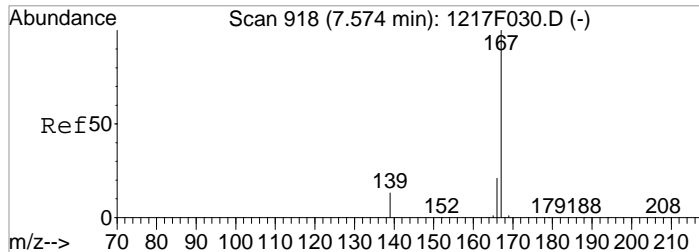
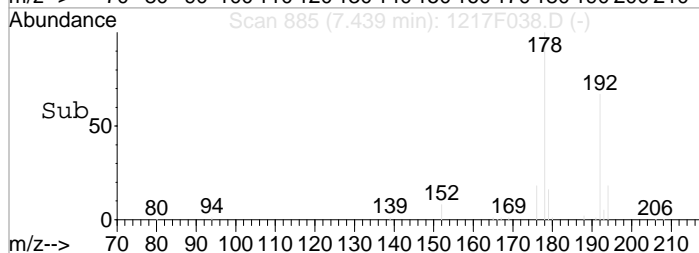
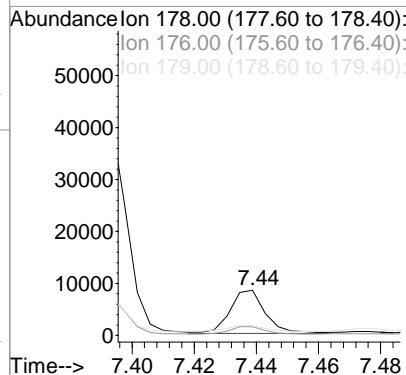
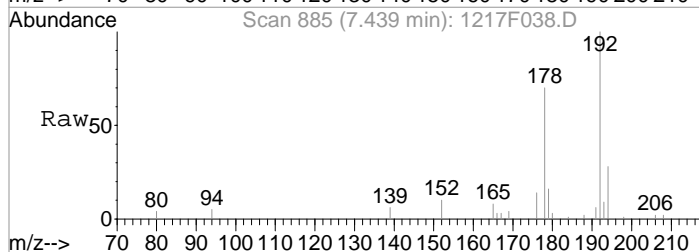
Tgt Ion	Ion	Ratio	Lower	Upper
178	178	100		
176	176	18.1	0.0	48.0
179	179	15.8	0.0	35.6





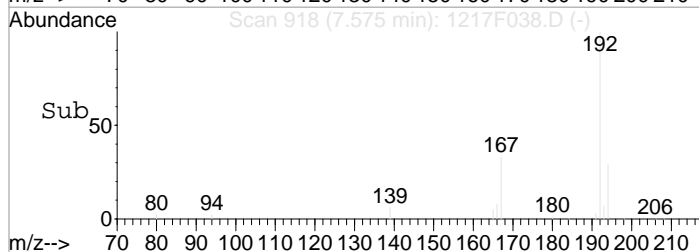
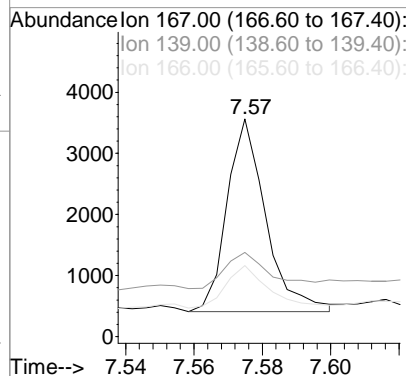
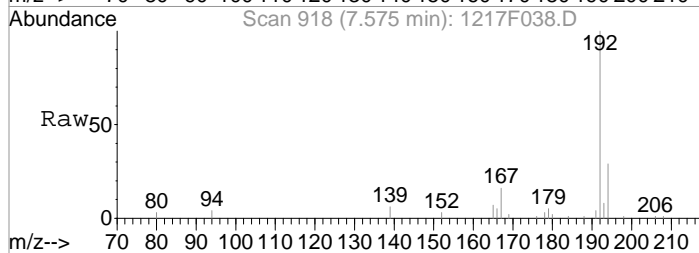
#18
 Anthracene
 Concen: 16.54 ng/ml
 RT: 7.44 min Scan# 885
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

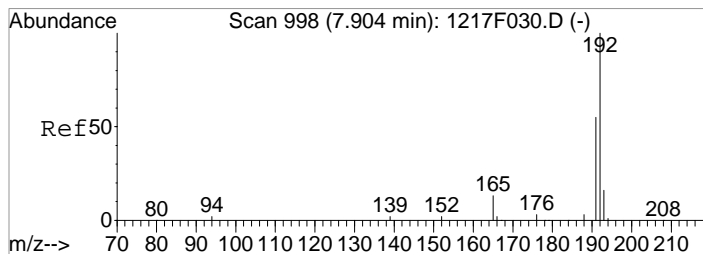
Tgt Ion:178	Resp:	6680
Ion Ratio	Lower	Upper
178	100	
176	17.9	0.0 47.6
179	14.0	0.0 35.4



#19
 Carbazole
 Concen: 6.32 ng/ml
 RT: 7.57 min Scan# 918
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

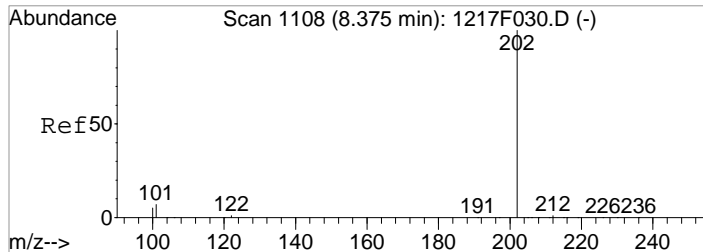
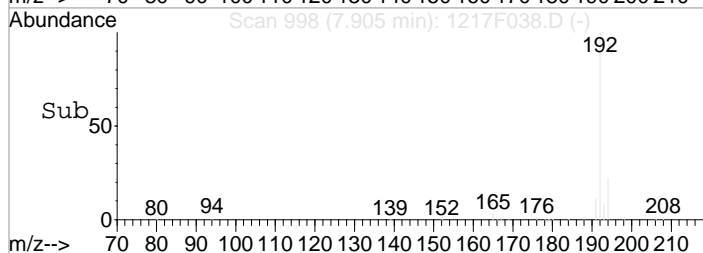
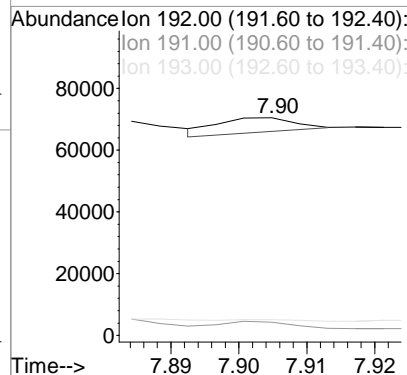
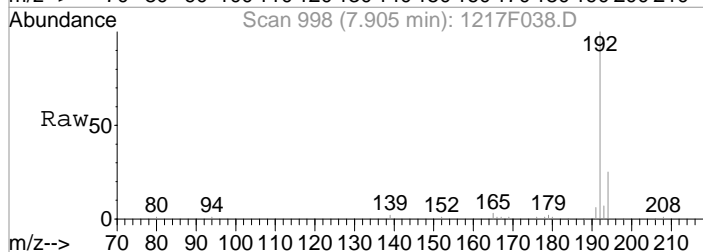
Tgt Ion:167	Resp:	2493
Ion Ratio	Lower	Upper
167	100	
139	18.7	0.0 41.7
166	22.0	0.0 39.9





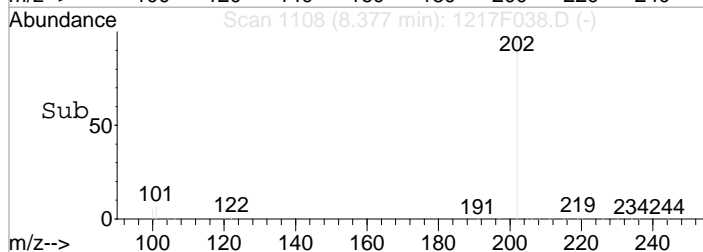
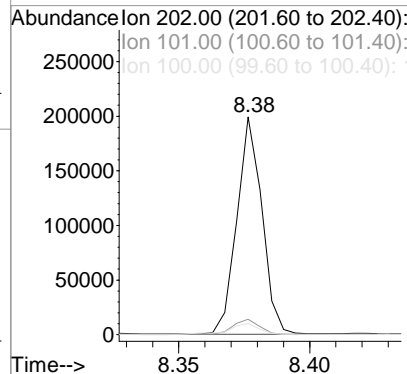
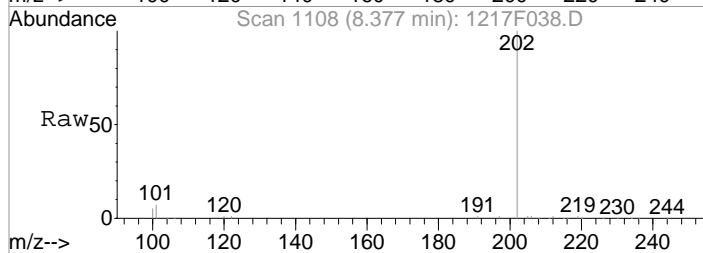
#20
 1-Methylphenanthrene
 Concen: 12.24 ng/ml m
 RT: 7.90 min Scan# 998
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

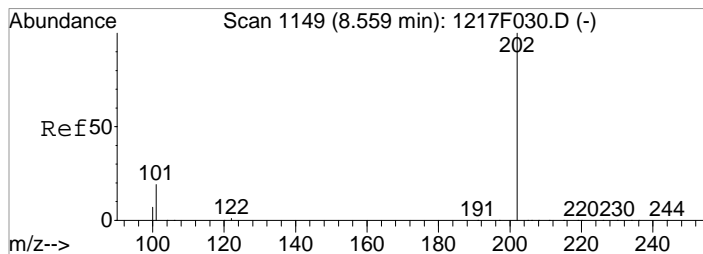
Tgt Ion	192	191	193
Ratio	100	6.1	7.2
Lower		24.4	0.0
Upper		84.4	45.6



#21
 Fluoranthene
 Concen: 249.58 ng/ml
 RT: 8.38 min Scan# 1108
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

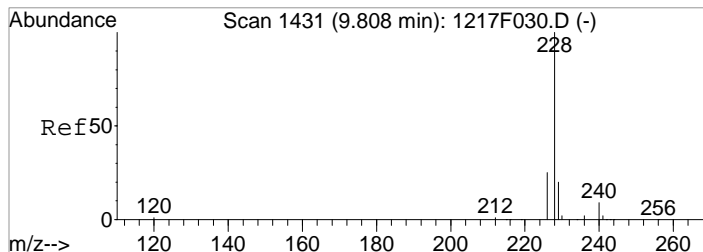
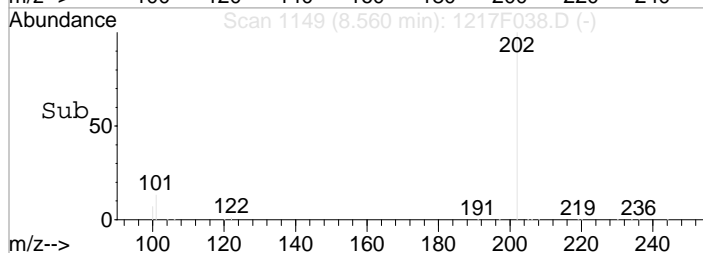
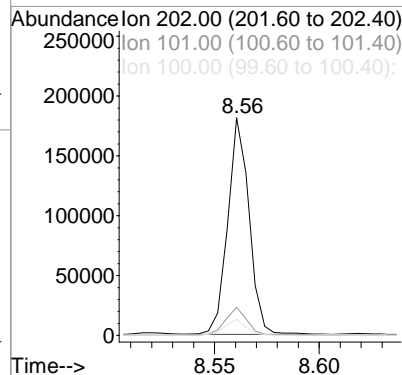
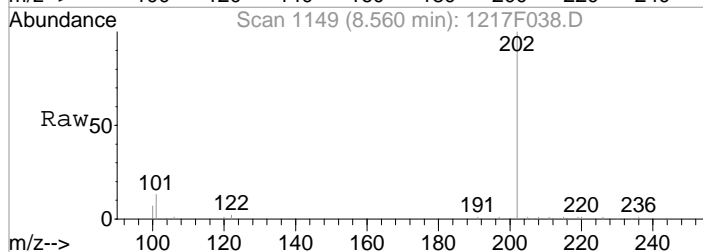
Tgt Ion	202	101	100
Ratio	100	7.1	5.0
Lower		0.0	0.0
Upper		37.3	25.2





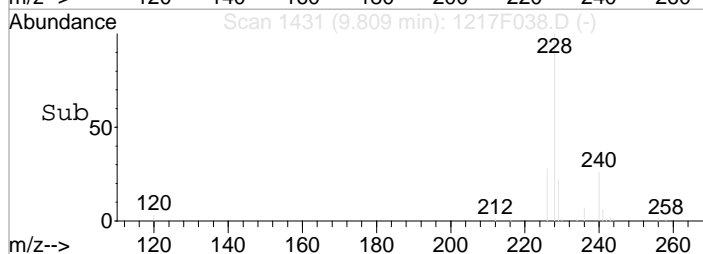
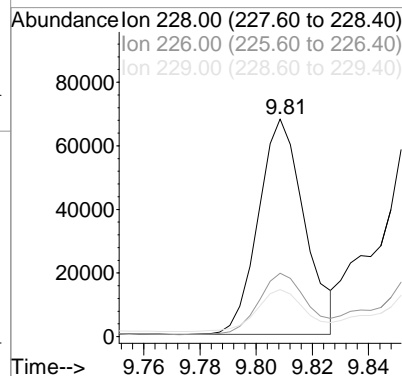
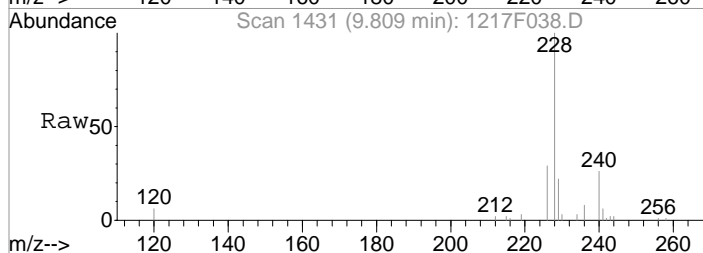
#24
 Pyrene
 Concen: 197.03 ng/ml
 RT: 8.56 min Scan# 1149
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

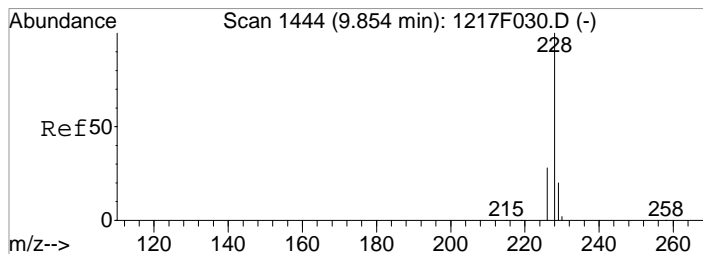
Tgt Ion	Ion	Ratio	Lower	Upper
202	100			
101	13.0	0.0	39.5	
100	7.2	0.0	25.4	



#26
 Benz(a)anthracene
 Concen: 115.61 ng/ml
 RT: 9.81 min Scan# 1431
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

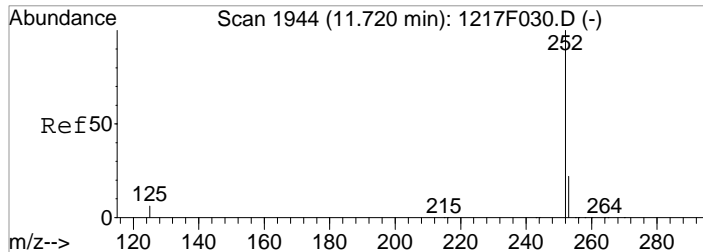
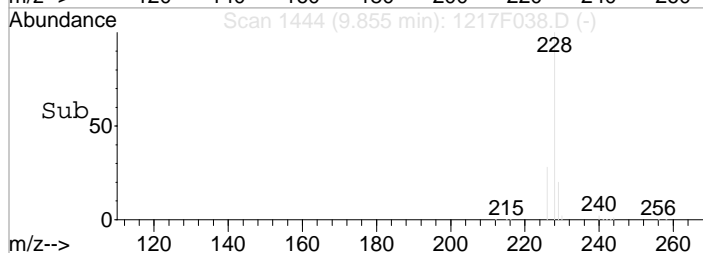
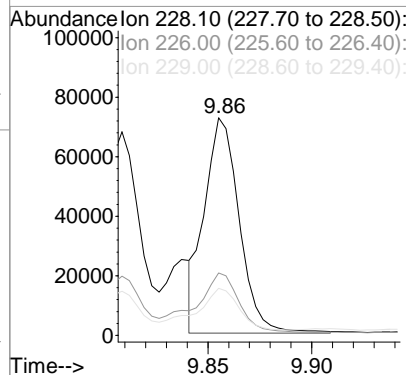
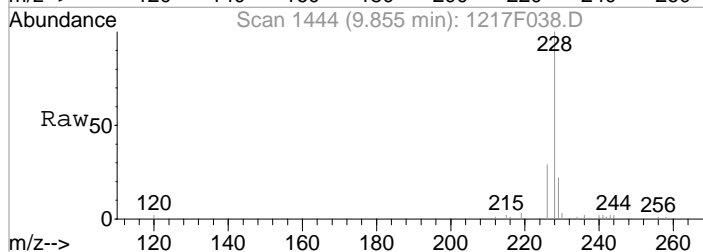
Tgt Ion	Ion	Ratio	Lower	Upper
228	100			
226	28.4	0.0	55.5	
229	19.5	0.0	39.9	





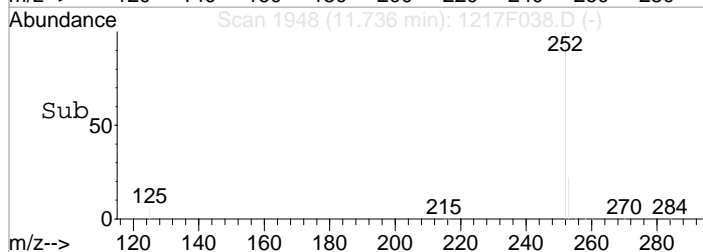
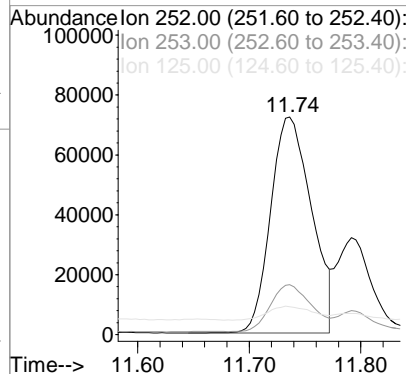
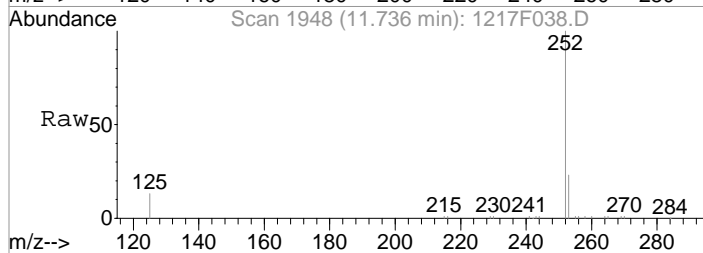
#27
 Chrysene
 Concen: 135.37 ng/ml m
 RT: 9.86 min Scan# 1444
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

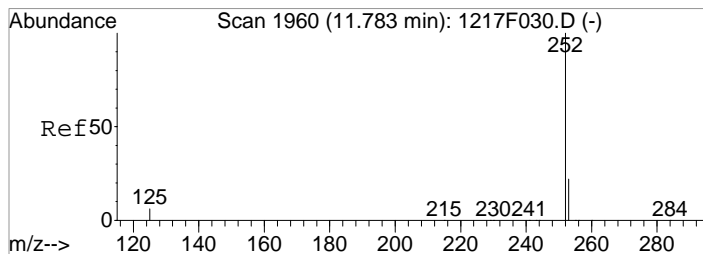
Tgt Ion	228	226	229
Ratio	100	28.8	21.6
Lower	0.0	0.0	0.0
Upper	57.9	39.6	



#29
 Benzo(b)fluoranthene
 Concen: 228.36 ng/ml
 RT: 11.74 min Scan# 1948
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

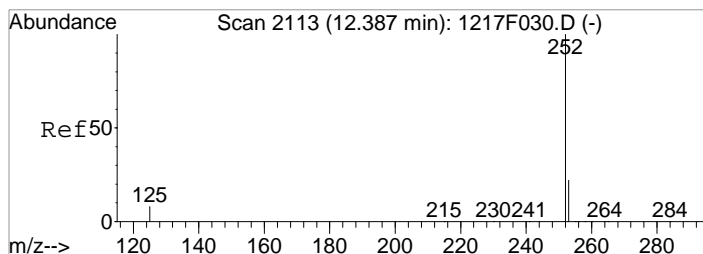
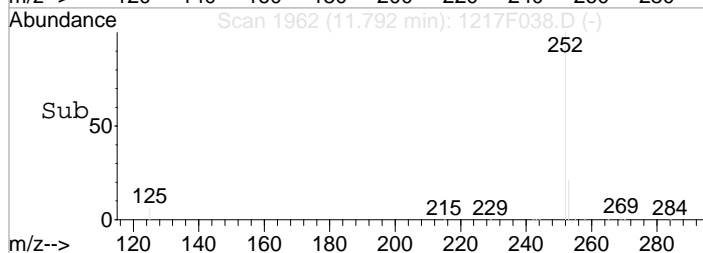
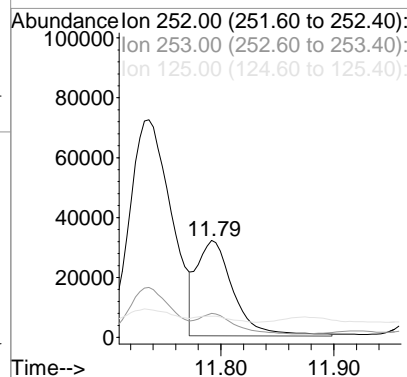
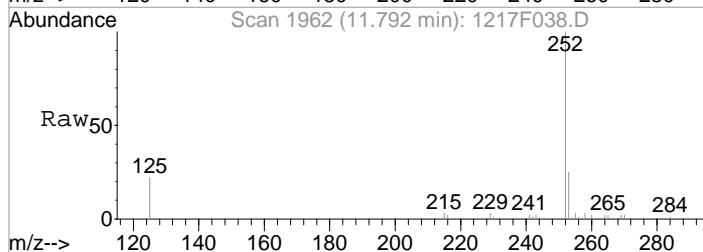
Tgt Ion	252	253	125
Ratio	100	21.8	5.8
Lower	0.0	0.0	0.0
Upper	51.8	25.2	





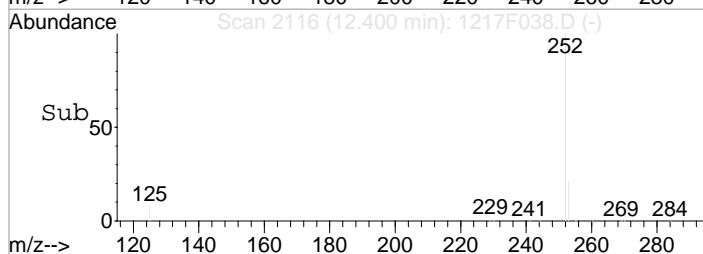
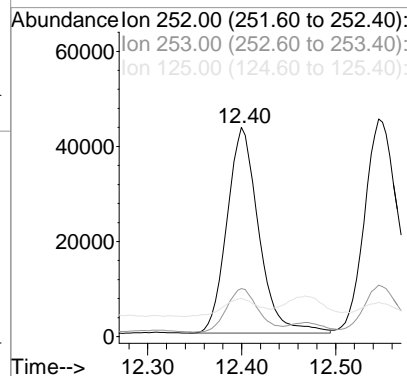
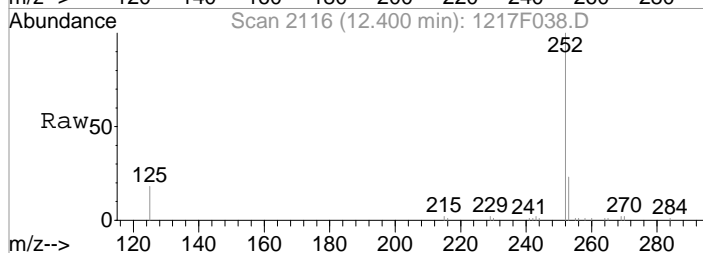
#30
 Benzo(k)fluoranthene
 Concen: 91.78 ng/ml m
 RT: 11.79 min Scan# 1962
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

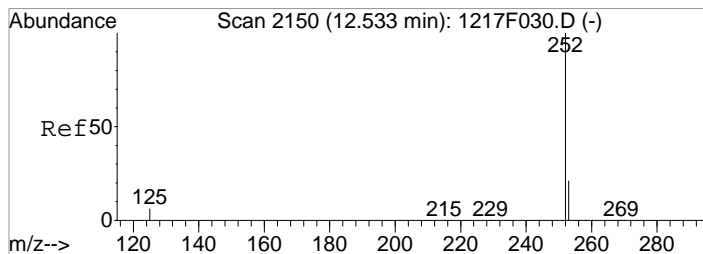
Tgt Ion	Ratio	Lower	Upper
252	100		
253	24.7	0.0	51.8
125	21.8	0.0	25.6



#31
 Benzo(e)pyrene
 Concen: 134.85 ng/ml
 RT: 12.40 min Scan# 2116
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

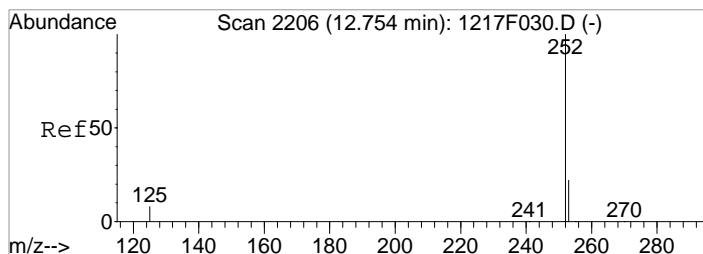
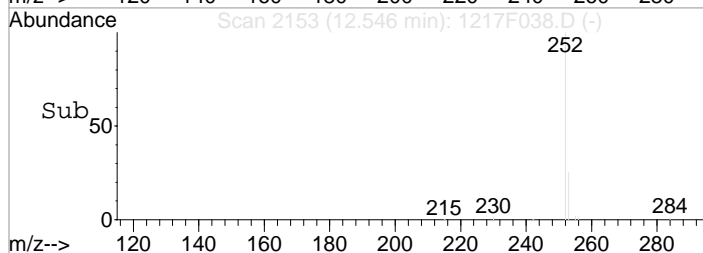
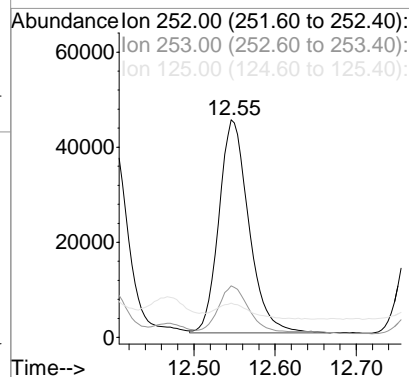
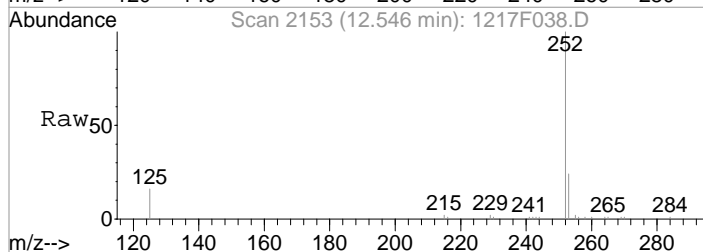
Tgt Ion	Ratio	Lower	Upper
252	100		
253	21.0	0.0	51.7
125	8.7	0.0	27.8





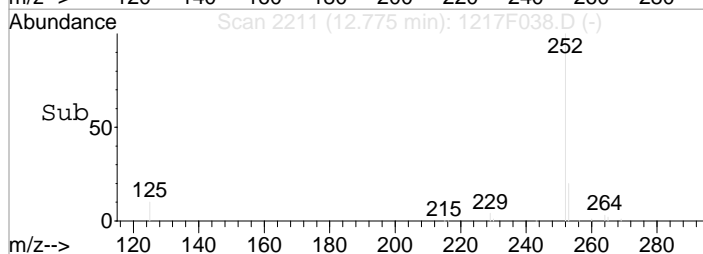
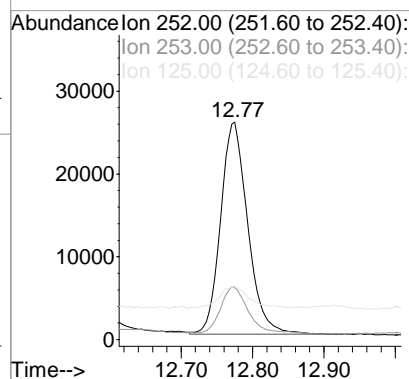
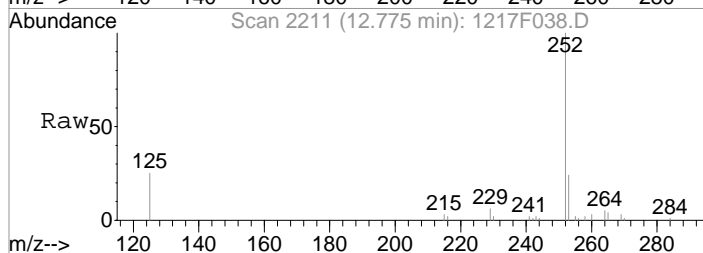
#32
 Benzo(a)pyrene
 Concen: 148.60 ng/ml
 RT: 12.55 min Scan# 2153
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

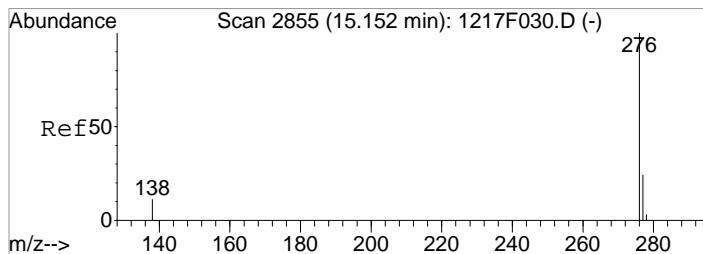
Tgt Ion	252	253	125
Ion Ratio	100	22.0	7.2
Lower	0.0	0.0	0.0
Upper	51.9	51.9	25.9



#33
 Perylene
 Concen: 94.21 ng/ml
 RT: 12.77 min Scan# 2211
 Delta R.T. -0.01 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

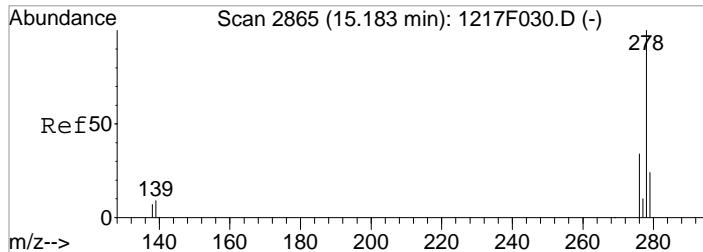
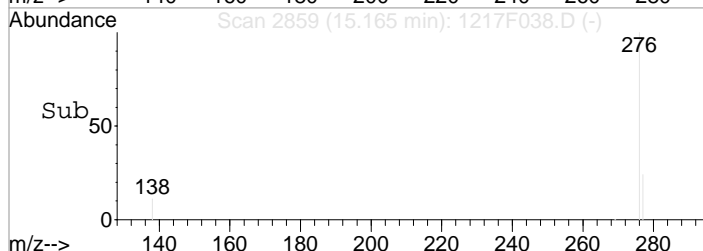
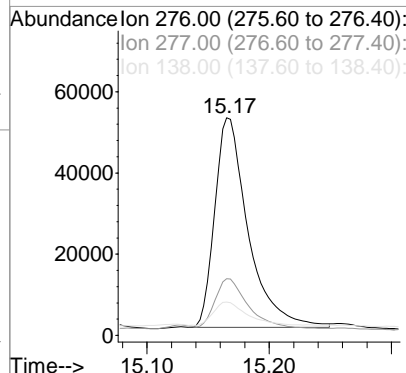
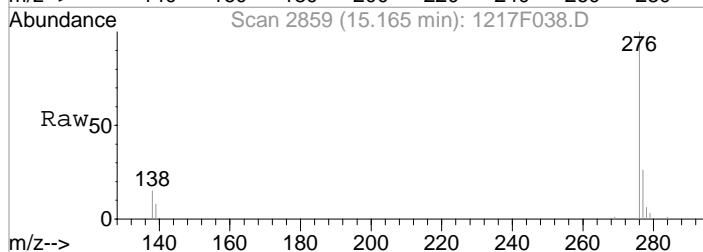
Tgt Ion	252	253	125
Ion Ratio	100	21.8	10.4
Lower	0.0	0.0	0.0
Upper	51.7	51.7	28.2





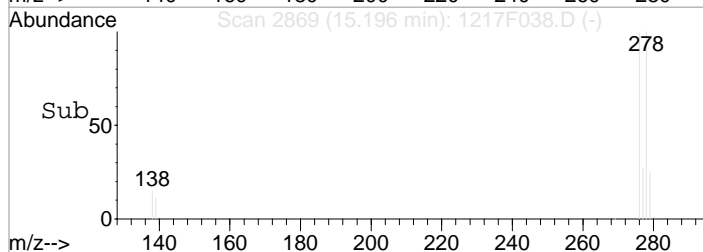
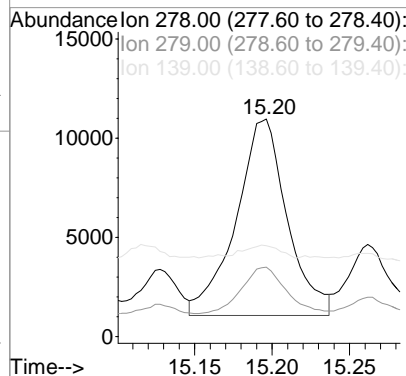
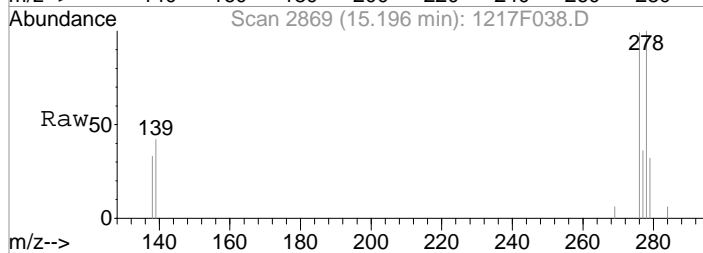
#34
 Indeno(1,2,3-cd)pyrene
 Concen: 127.73 ng/ml
 RT: 15.17 min Scan# 2859
 Delta R.T. 0.00 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

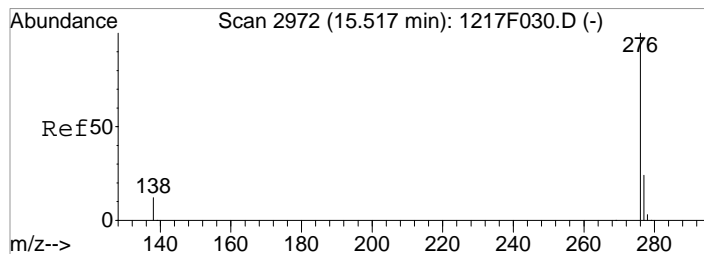
Tgt Ion	276	Resp	98179
Ion Ratio	Lower	Upper	
276	100		
277	23.7	0.0	54.1
138	11.1	0.0	30.5



#35
 Dibenz(a,h)anthracene
 Concen: 27.36 ng/ml m
 RT: 15.20 min Scan# 2869
 Delta R.T. -0.00 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

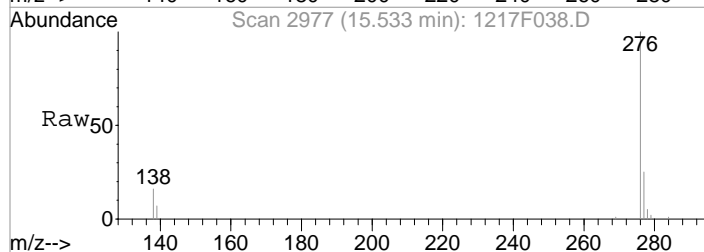
Tgt Ion	278	Resp	22714
Ion Ratio	Lower	Upper	
278	100		
279	31.9	0.0	53.9
139	41.8	0.0	28.6#



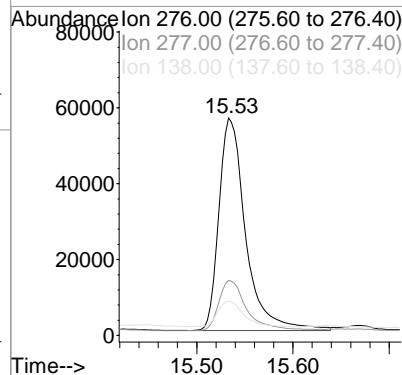
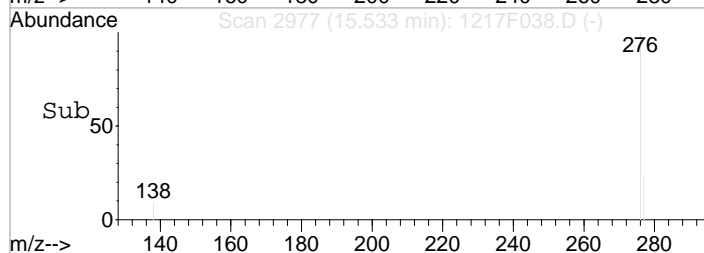


#36
 Benzo(g,h,i)perylene
 Concen: 123.93 ng/ml
 RT: 15.53 min Scan# 2977
 Delta R.T. 0.00 min
 Lab File: 1217F038.D
 Acq: 17 Dec 2020 11:20 pm

1st *Ca* 12/18/20
 2nd *Q* 12/18/20



Tgt Ion:	276	Resp:	108444
Ion Ratio	Lower	Upper	
276	100		
277	23.6	0.0	53.8
138	12.0	0.0	31.5



Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 05:24:05 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.55	136	80873m	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.13	164	37732	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.37	188	76379	200.00	ng/ml	-0.01
23) Chrysene-d12	9.82	240	106869	200.00	ng/ml	0.00
28) Perylene-d12	12.70	264	133801	200.00	ng/ml	-0.01

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.20	152	25127	113.95	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	11.40%	
13) Fluorene-d10	6.57	176	31288	138.14	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	13.81%	
22) Fluoranthene-d10	8.36	212	63930	140.24	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	14.02%	
25) Terphenyl-d14	8.70	244	65799	136.95	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	13.69%	

Target Compounds

						Qvalue
2) Naphthalene	4.57	128	2752m	6.72	ng/ml	
4) 2-Methylnaphthalene	5.23	142	1529	5.70	ng/ml	96
5) 1-Methylnaphthalene	5.32	142	836	3.35	ng/ml	95
6) Biphenyl	5.65	154	855	2.63	ng/ml	95
7) 2,6-Dimethylnaphthalene	5.79	156	874	3.65	ng/ml	96
9) Acenaphthylene	6.01	152	3244	8.60	ng/ml	99
10) Acenaphthene	6.16	154	785	3.37	ng/ml	96
11) Dibenzofuran	6.31	168	1688	4.74	ng/ml	96
12) 2,3,5-Trimethylnaphthalene	6.48	170	652	2.90	ng/ml	91
14) Fluorene	6.60	166	2162	8.12	ng/ml	99
16) Dibenzothiophene	7.29	184	1881	4.61	ng/ml	99
17) Phenanthrene	7.39	178	29113	68.45	ng/ml	100
18) Anthracene	7.44	178	6680	16.54	ng/ml	98
19) Carbazole	7.57	167	2493	6.32	ng/ml	90
20) 1-Methylphenanthrene	7.90	192	4011m	12.24	ng/ml	
21) Fluoranthene	8.38	202	133013	249.58	ng/ml	99
24) Pyrene	8.56	202	128363	197.03	ng/ml	92
26) Benz(a)anthracene	9.81	228	77595	115.61	ng/ml	96
27) Chrysene	9.86	228	84723m	135.37	ng/ml	
29) Benzo(b)fluoranthene	11.74	252	184700	228.36	ng/ml	100
30) Benzo(k)fluoranthene	11.79	252	72102m	91.78	ng/ml	
31) Benzo(e)pyrene	12.40	252	102196	134.85	ng/ml	98
32) Benzo(a)pyrene	12.55	252	115000	148.60	ng/ml	99
33) Perylene	12.77	252	67461	94.21	ng/ml	98
34) Indeno(1,2,3-cd)pyrene	15.17	276	98179	127.73	ng/ml	99
35) Dibenz(a,h)anthracene	15.20	278	22714m	27.36	ng/ml	
36) Benzo(g,h,i)perylene	15.53	276	108444	123.93	ng/ml	99

Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 5:24 2020

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

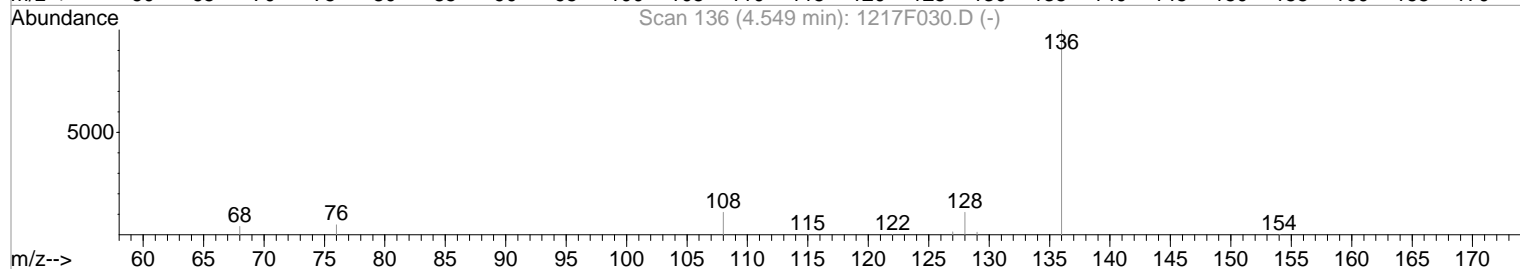
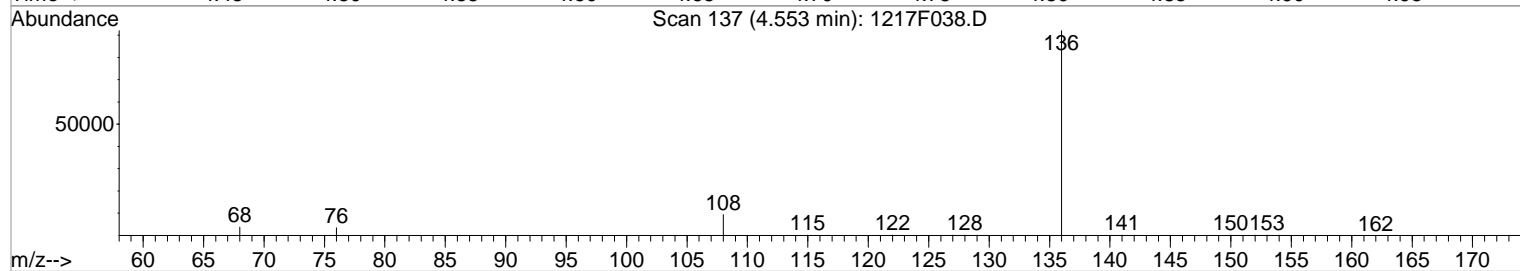
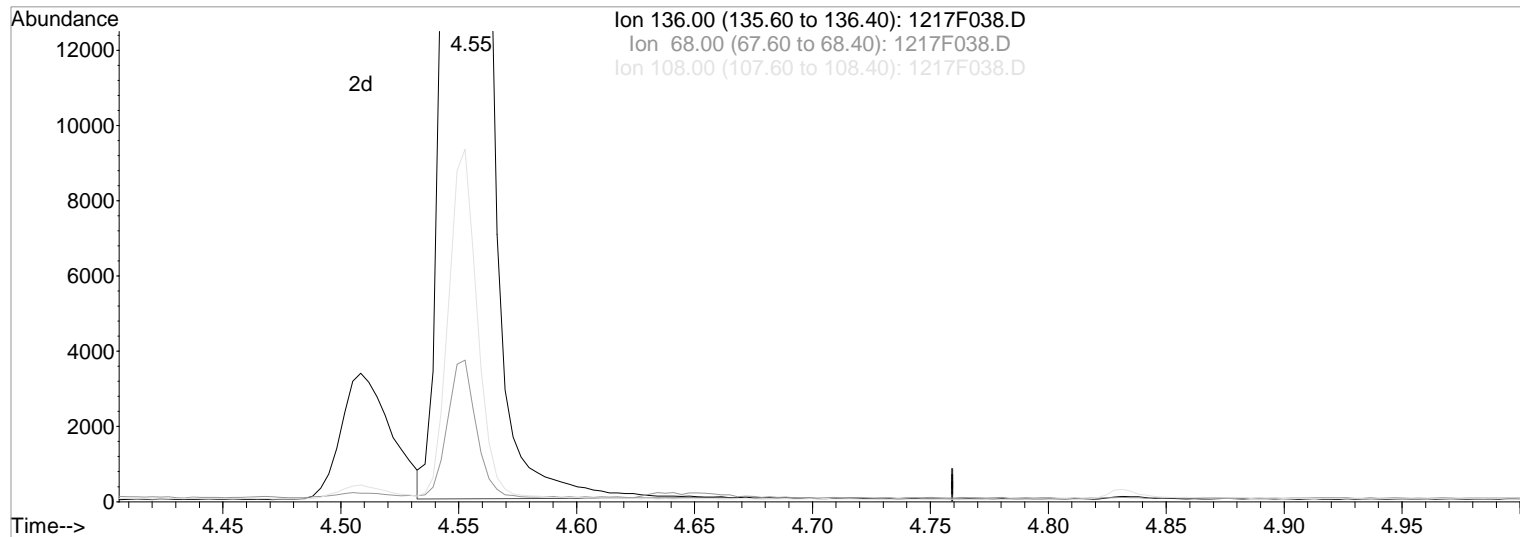
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F038.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.55min 200.00ng/ml

Before

response 75693

Ion Exp% Act%

12/18/20

136.00 100 100

68.00 4.00 3.94

108.00 10.90 10.10

0.00 0.00 0.00

Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:37 2020

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

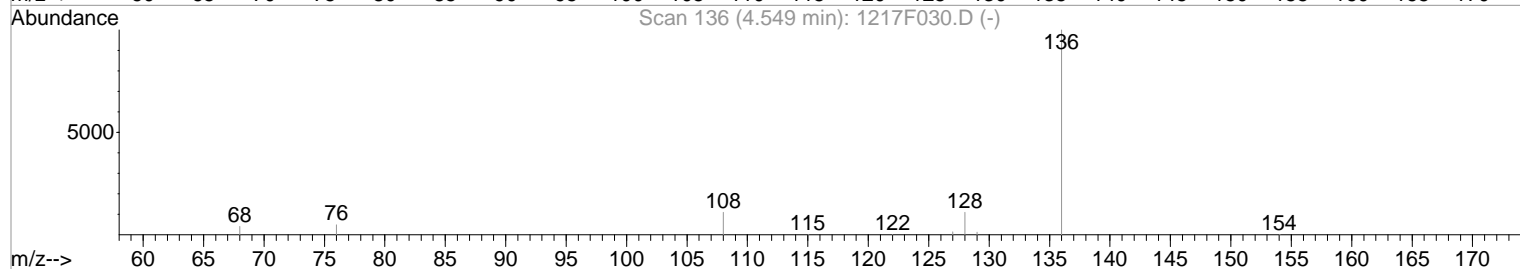
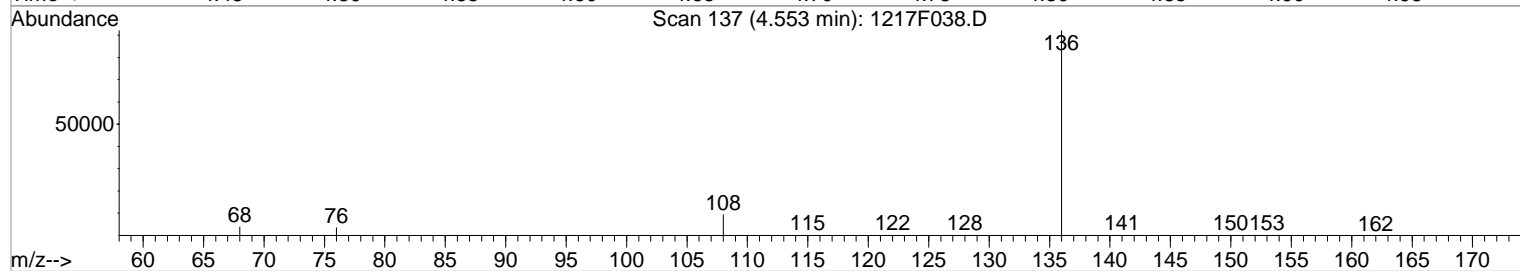
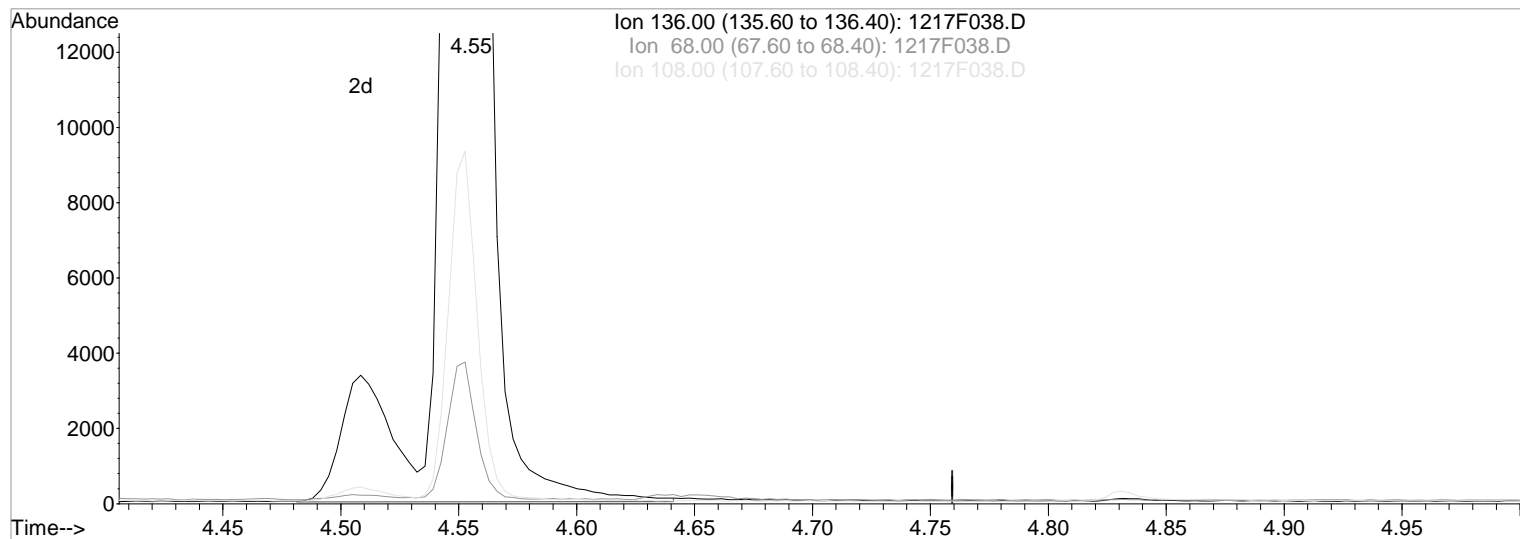
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F038.D

(1) Naphthalene-d8 (I)

4.55min 200.00ng/ml m

response 80873

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	4.09
108.00	10.90	10.17
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:37 2020

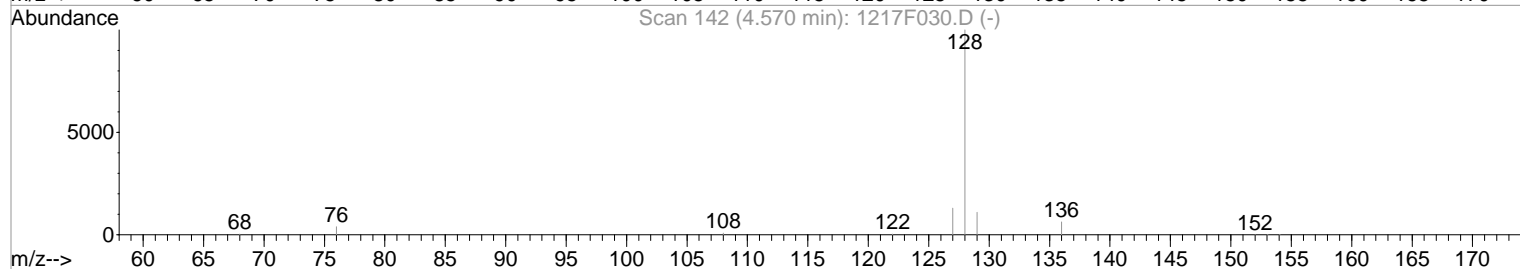
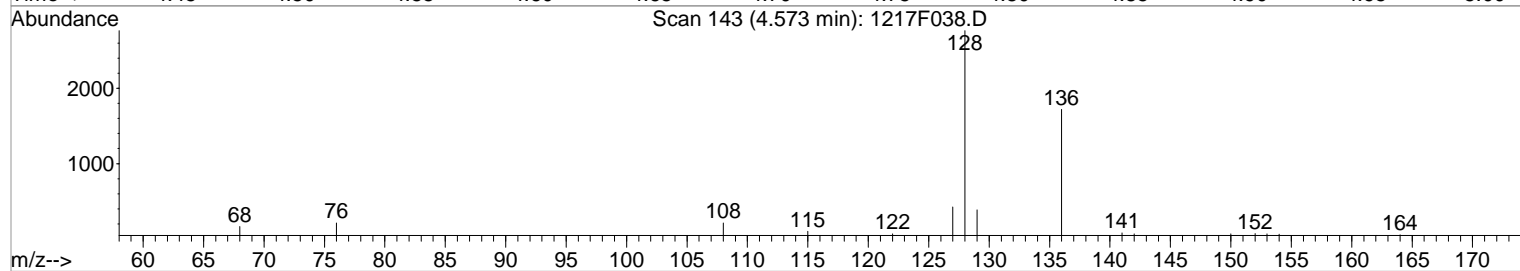
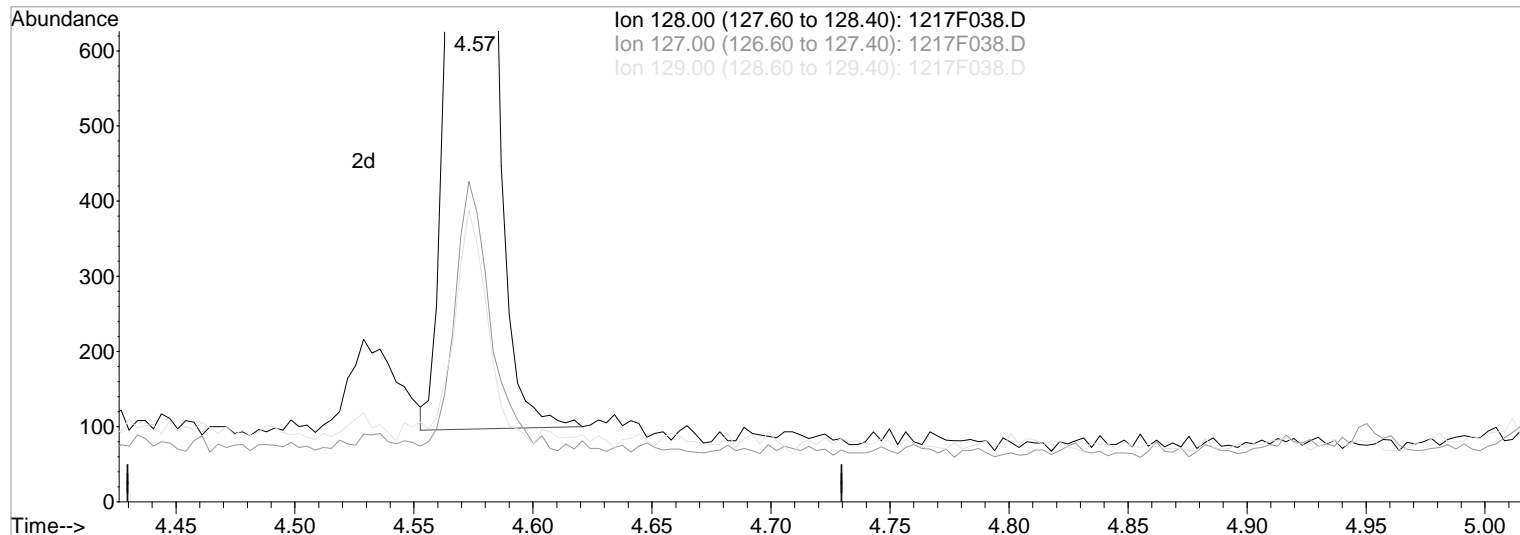
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F038.D

(2) Naphthalene (T)

Manual Integration:

4.57min 6.19ng/ml

Before

response 2536

Ion	Exp%	Act%
128.00	100	100
127.00	12.70	13.19
129.00	10.80	11.21
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:37 2020

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

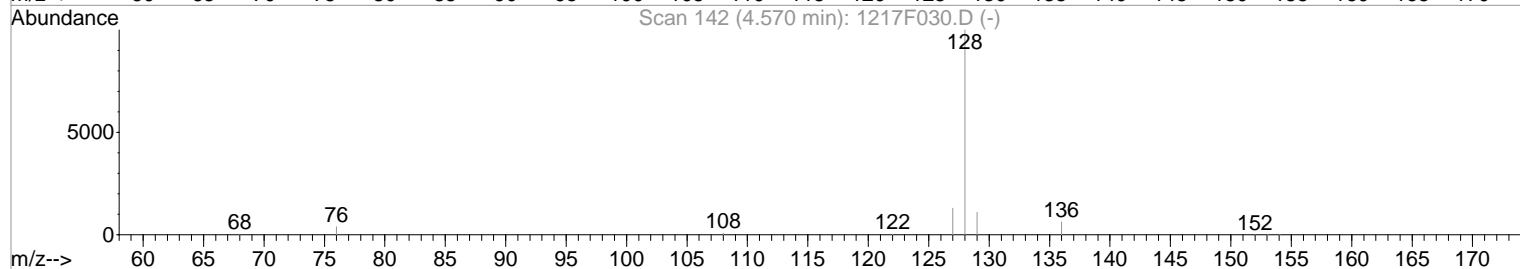
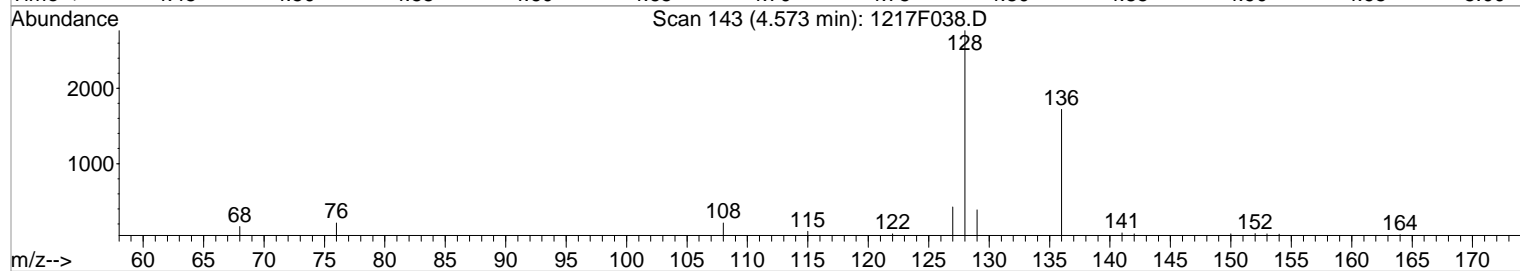
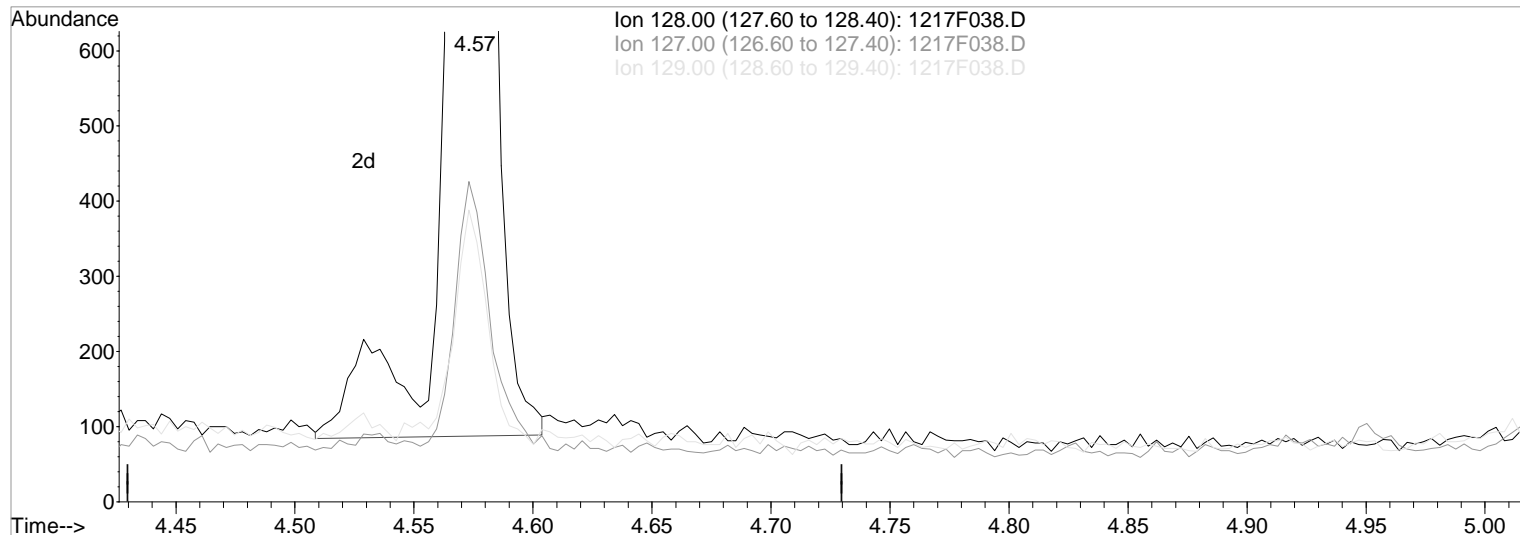
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F038.D

(2) Naphthalene (T)

4.57min 6.72ng/ml m

response 2752

Ion	Exp%	Act%
-----	------	------

128.00	100	100
--------	-----	-----

127.00	12.70	15.39
--------	-------	-------

129.00	10.80	14.02
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:37 2020

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

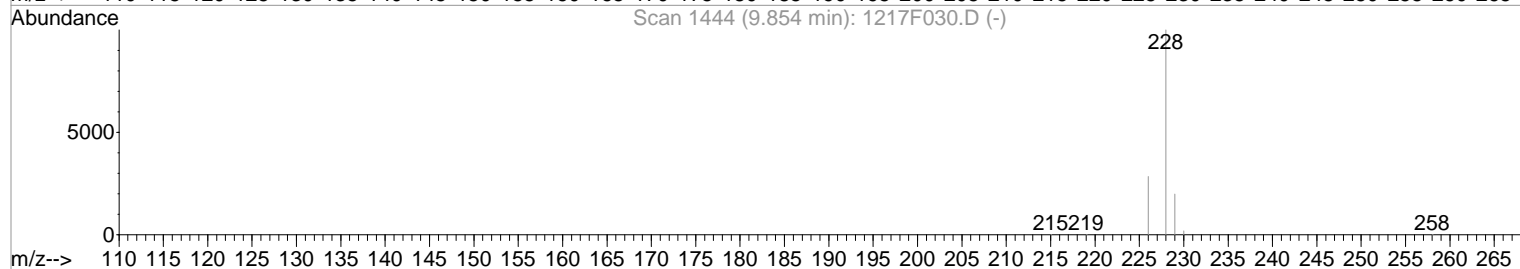
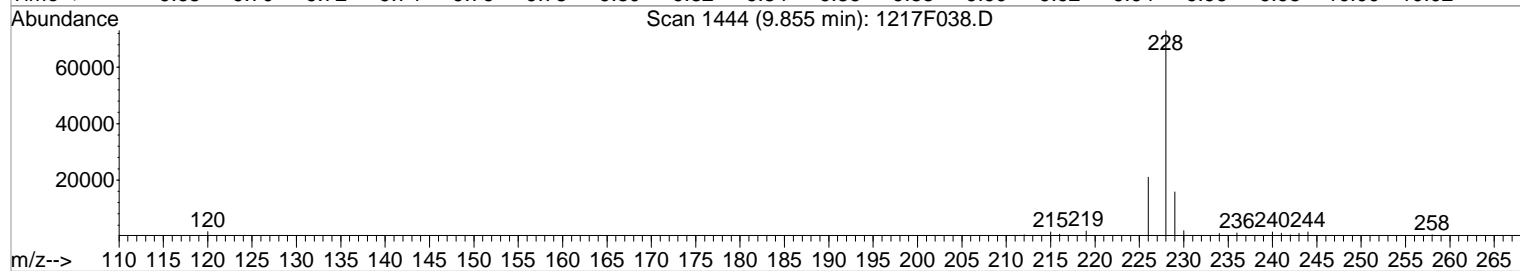
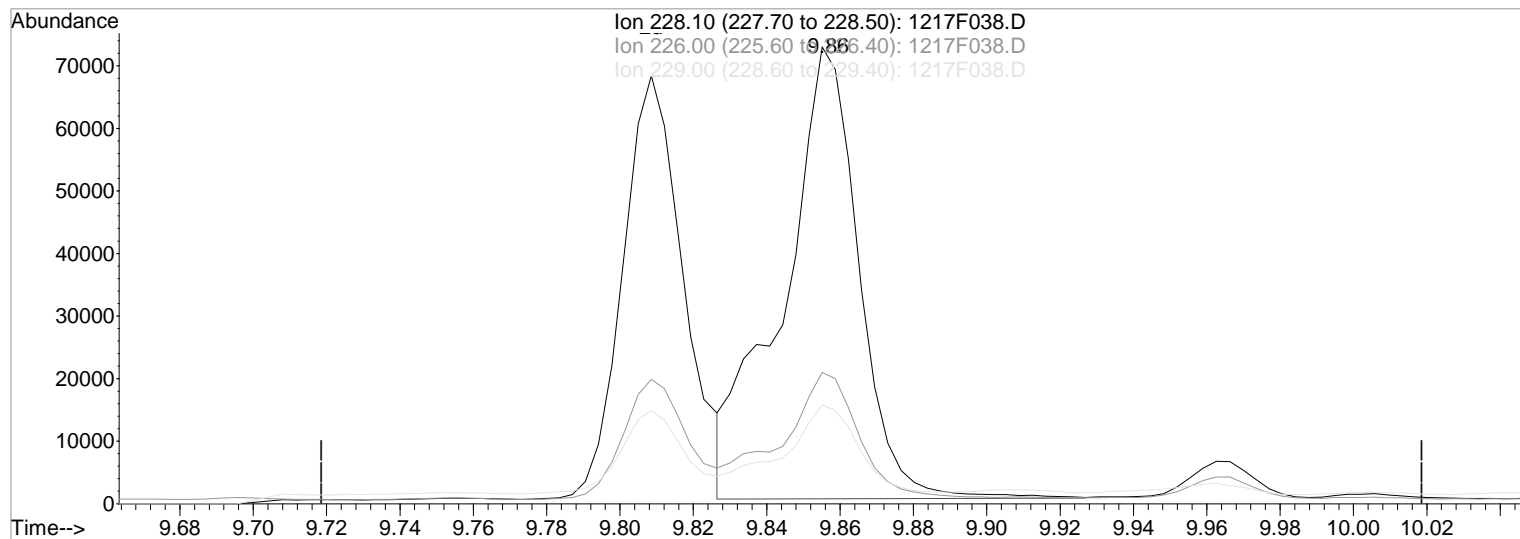
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F038.D

(27) Chrysene (T)

Manual Integration:

9.86min 166.14ng/ml

Before

response 103983

Ion	Exp%	Act%
228.10	100	100
226.00	27.90	27.88
229.00	19.60	19.41
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:37 2020

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

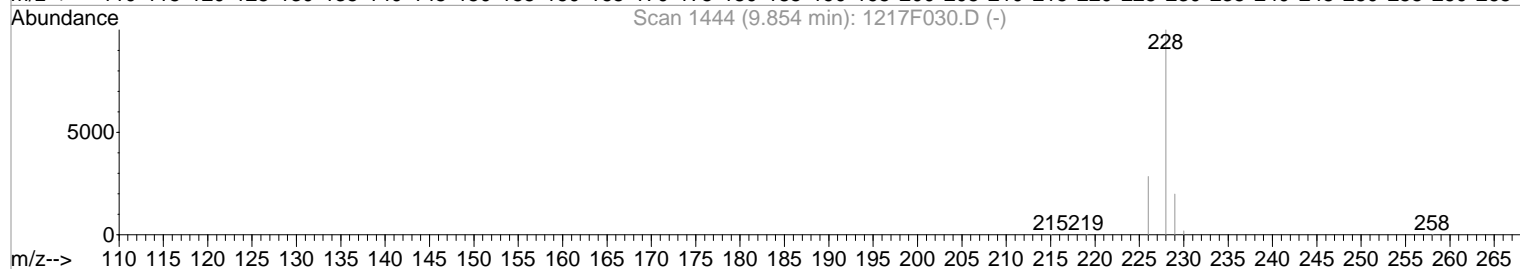
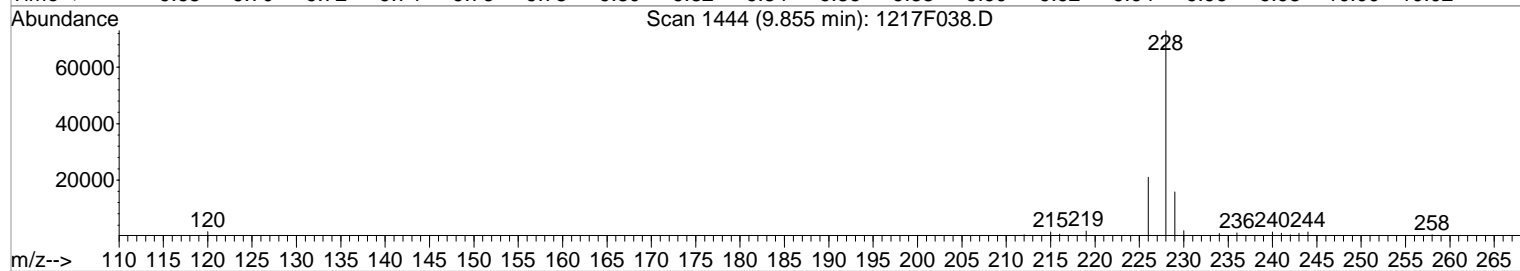
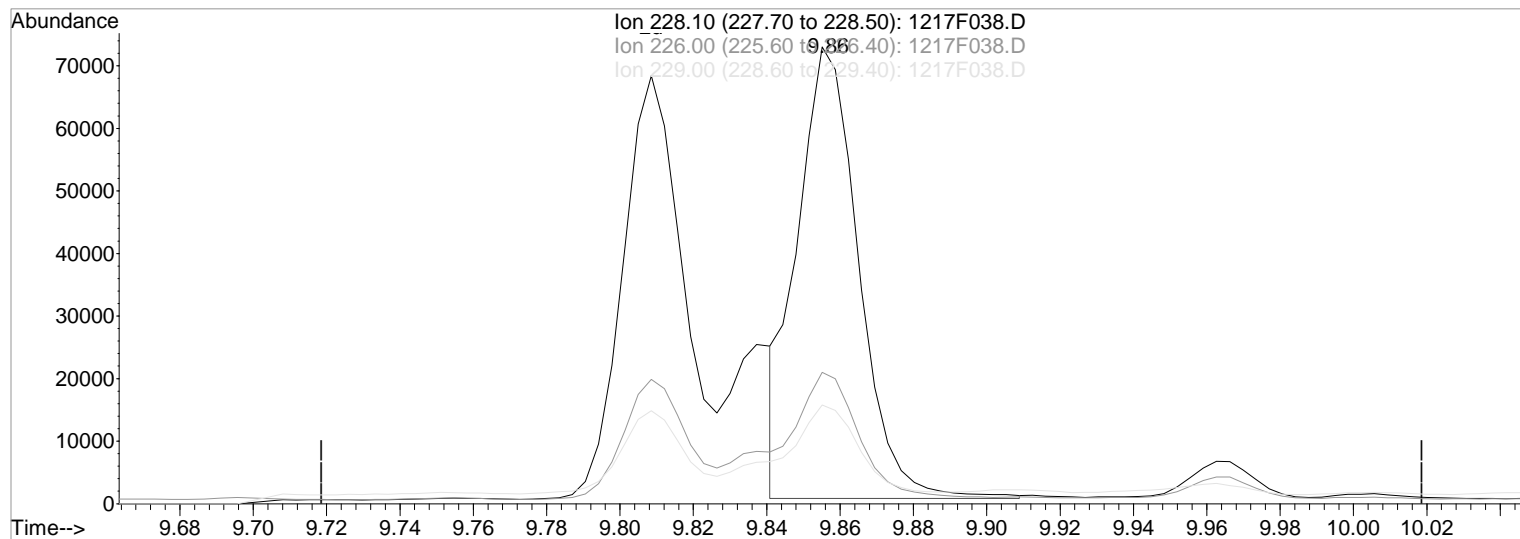
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F038.D

(27) Chrysene (T)

9.86min 135.37ng/ml m

response 84723

Ion	Exp%	Act%
228.10	100	100
226.00	27.90	28.75
229.00	19.60	21.62
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

12/18/20

Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:37 2020

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

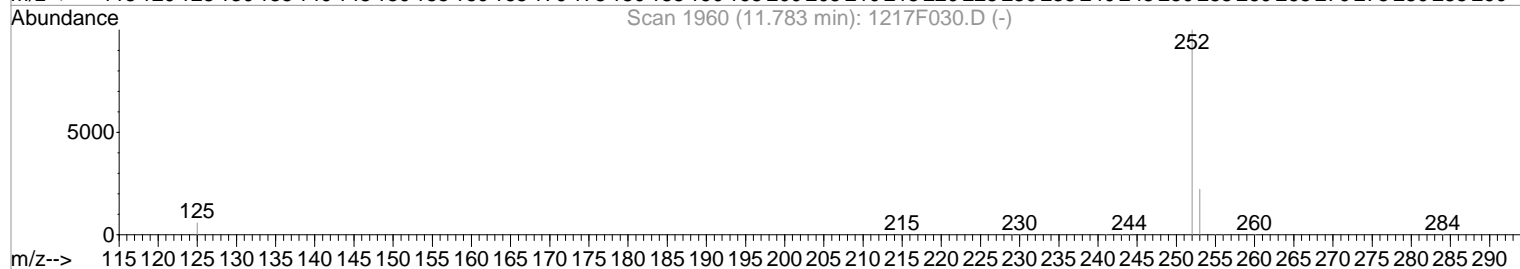
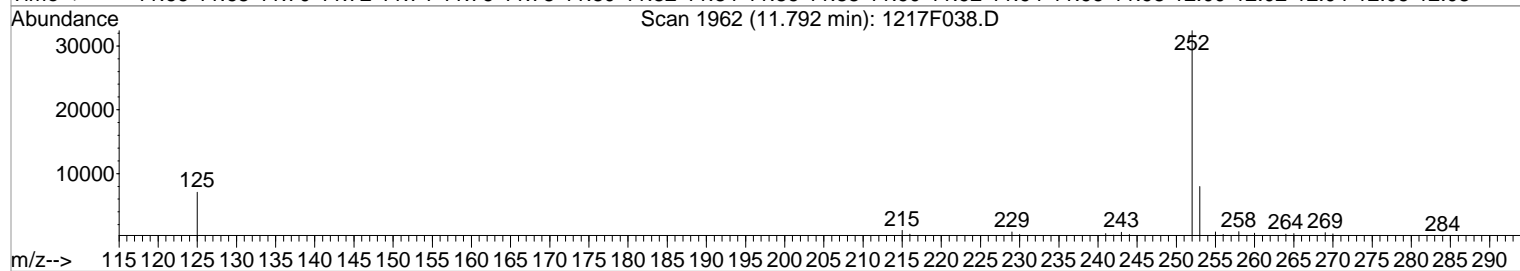
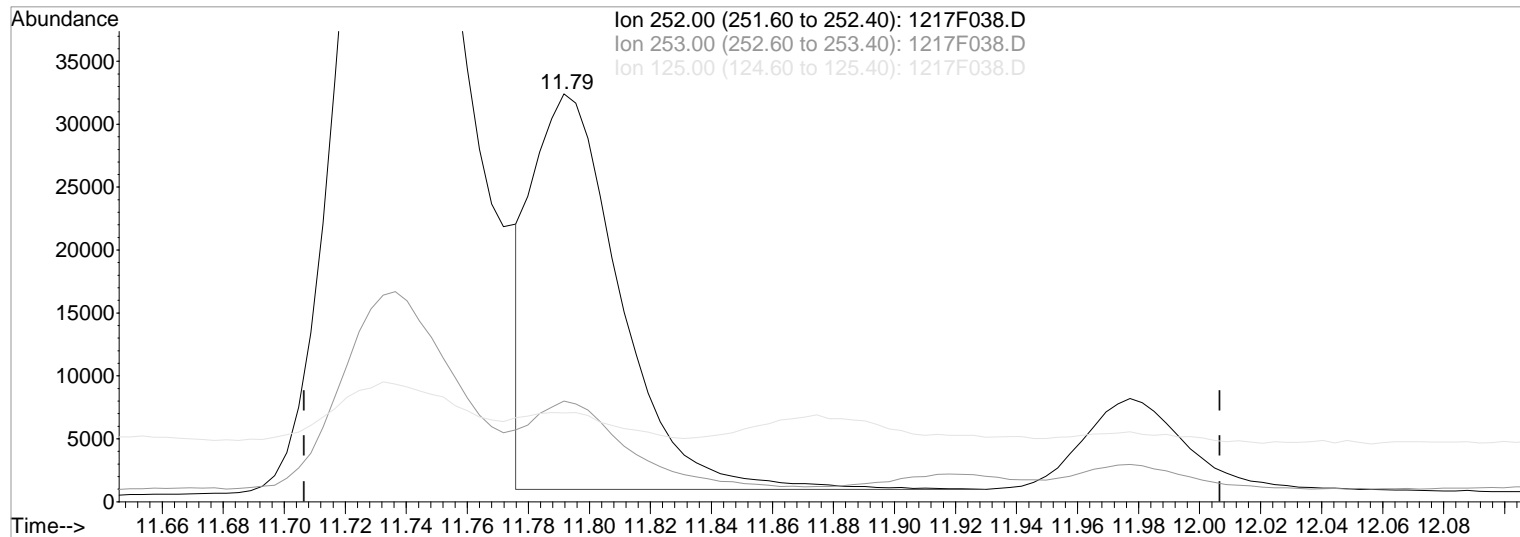
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F038.D

(30) Benzo(k)fluoranthene (T)

Manual Integration:

11.79min 80.80ng/ml

Before

response 63474

Ion	Exp%	Act%
252.00	100	100
253.00	21.80	18.95
125.00	5.60	6.19
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:37 2020

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

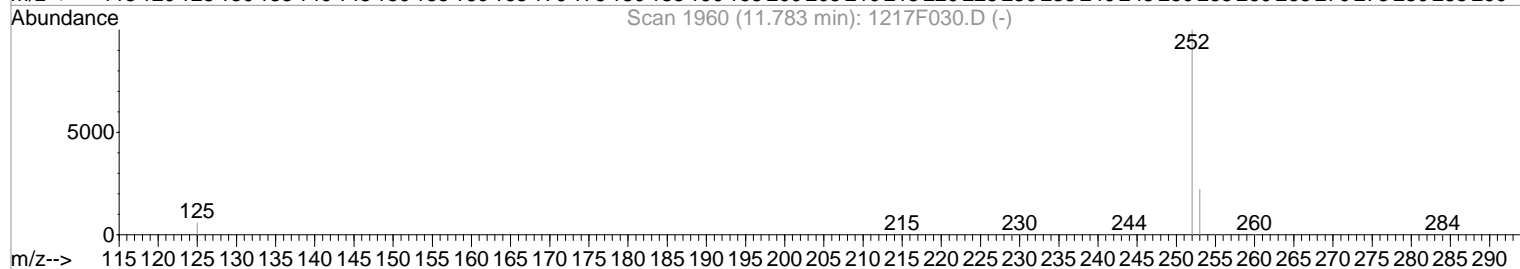
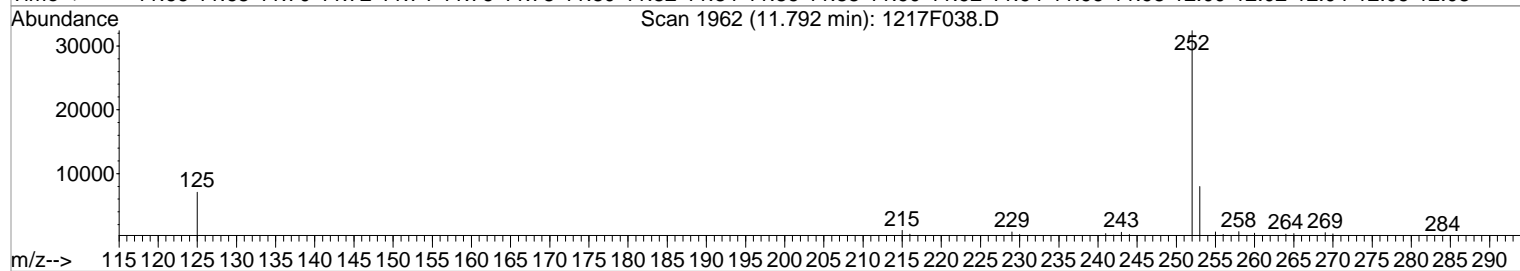
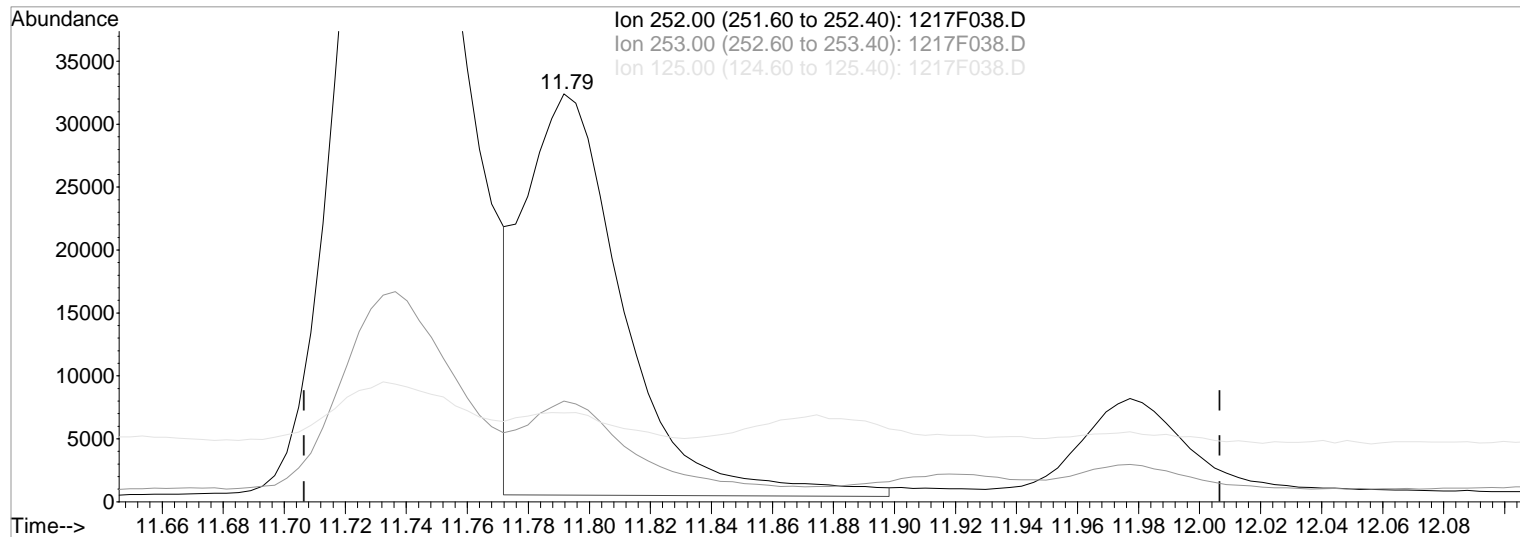
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F038.D

(30) Benzo(k)fluoranthene (T)

11.79min 91.78ng/ml m

response 72102

Ion	Exp%	Act%
-----	------	------

252.00	100	100
--------	-----	-----

253.00	21.80	24.65
--------	-------	-------

125.00	5.60	21.81
--------	------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:37 2020

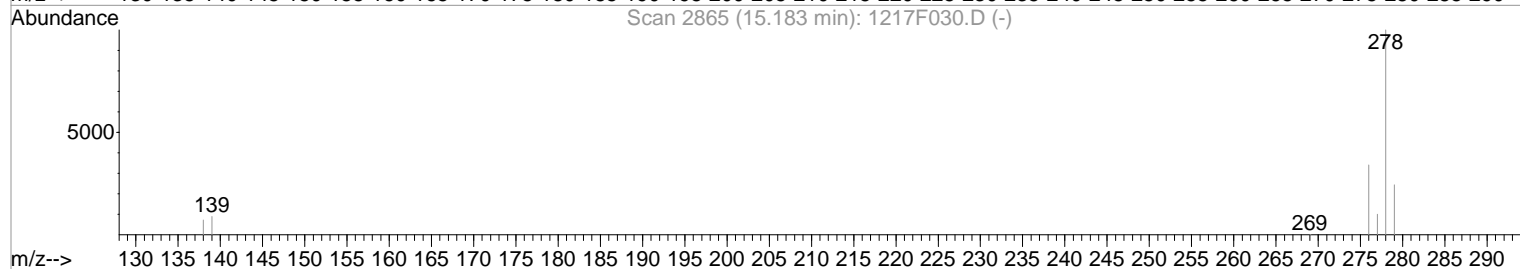
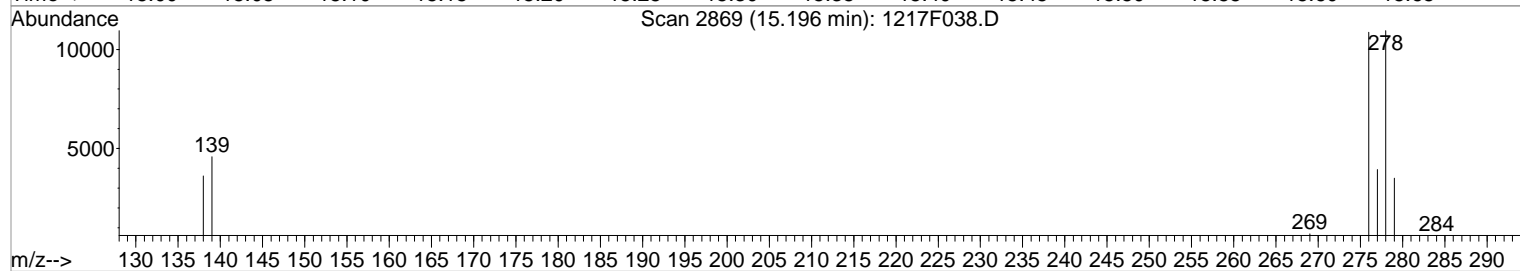
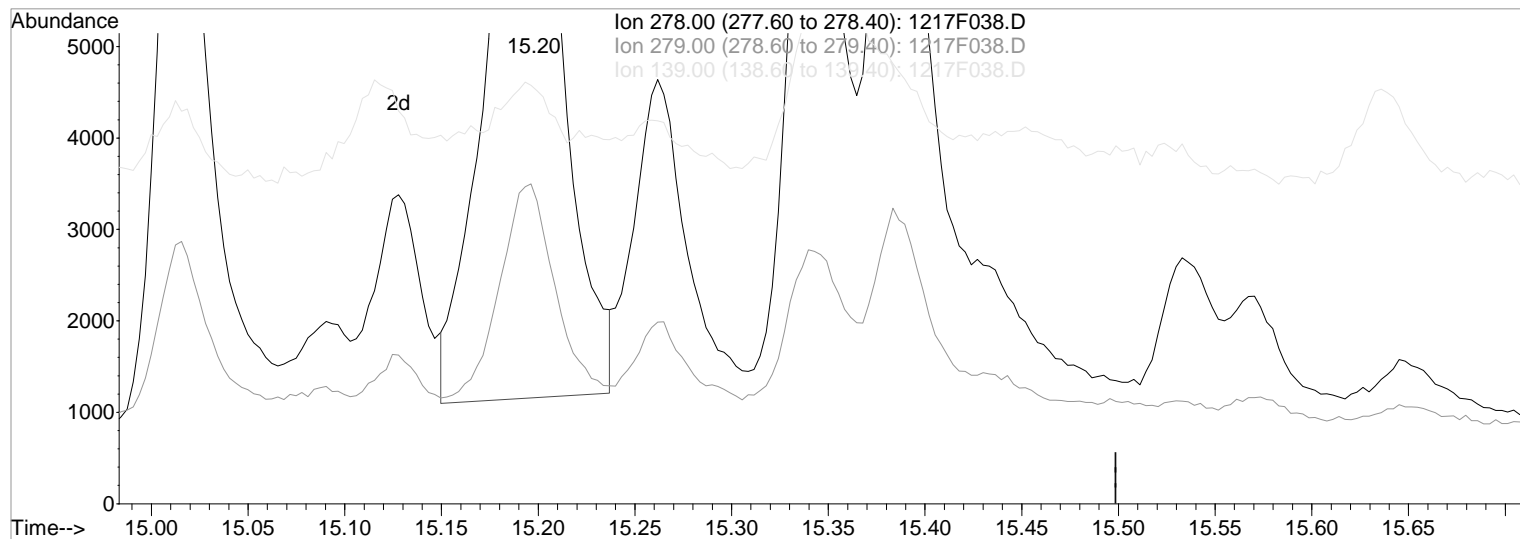
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F038.D

(35) Dibenz(a,h)anthracene (T)

Manual Integration:

15.20min 26.66ng/ml

Before

response 22129

Ion	Exp%	Act%
278.00	100	100
279.00	23.90	25.79
139.00	8.60	6.56
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F038.D

Acq On : 17 Dec 2020 11:20 pm

Sample : K2011446-005

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:38 2020

Vial: 33

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

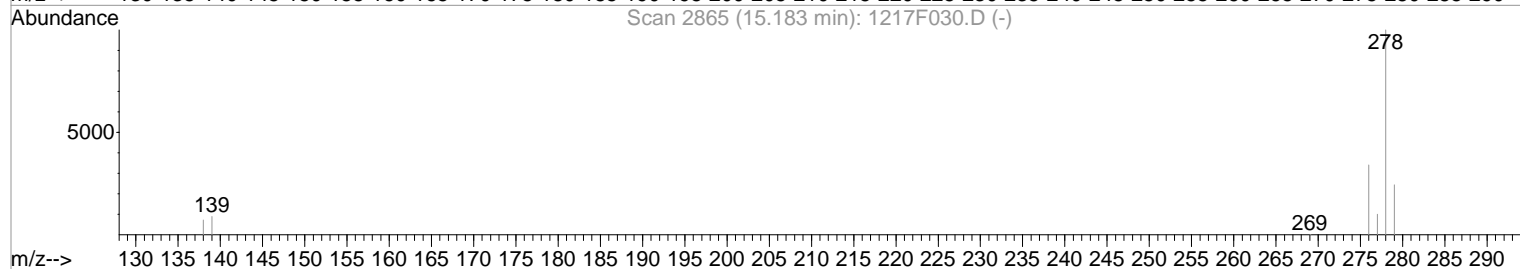
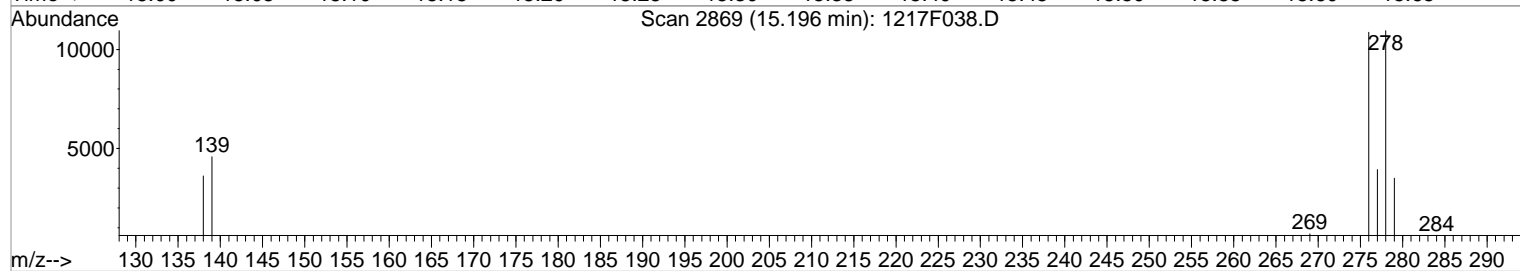
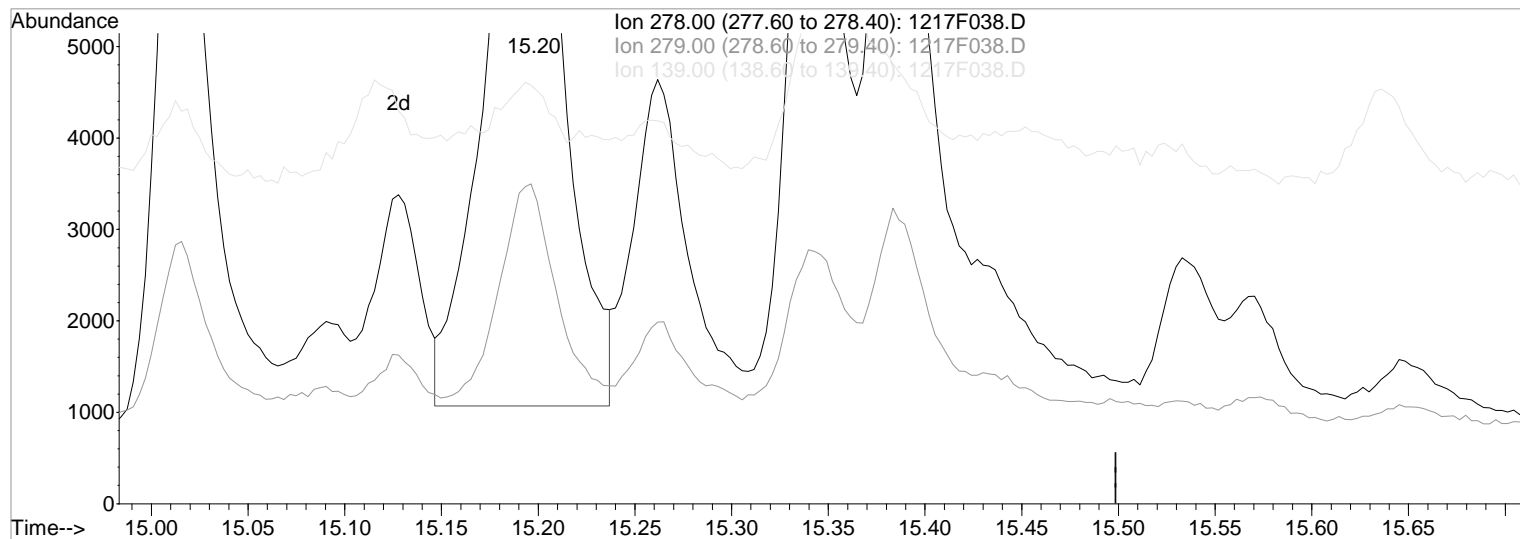
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F038.D

(35) Dibenz(a,h)anthracene (T)

15.20min 27.36ng/ml m

response 22714

Ion	Exp%	Act%
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278.00	100	100
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279.00	23.90	31.94
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139.00	8.60	41.78#
--------	------	--------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

BLC

12/18/20

Validation Report

1st *Ca* 12/17/20
2nd *Q* 12/17/20

Data File: J:\MS14\DATA\121620\1216F043.D\
Lab ID: KQ2019722-04
RunType: MB
Matrix: Soil

Date Acquired: 12/16/20 22:36:00
Batch ID: 707391
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121620\1216F043.D\	Instrument:	K-MS-14
Acqu Date:	12/16/20 22:36:00	Vial:	4
Run Type:	MB	Dilution:	1
Lab ID:	KQ2019722-04	Raw Units:	ng/mL

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707391	Prep Lot:	371210	Report Group:	KQ2019722
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/9/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.15		28609	200.00	OK
Chrysene-d12	9.84	-0.01	79167	200.00	OK
Naphthalene-d8	4.57		58620	200.00	OK
Perylene-d12	12.73		89212	200.00	OK
Phenanthrene-d10	7.39		62338	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.38		64971	174.63	87	38 - 104	Y
Fluorene-d10	6.59		28313	164.87	82	39 - 109	Y
Terphenyl-d14	8.71		65127	182.98	91	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.33		31	0.17	0.17	U	Y
2-Methylnaphthalene	5.25		56	0.29	0.29	U	Y
Acenaphthene	0.00		0	0.00	0	U	Y
Acenaphthylene	0.00		0	0.00	0	U	Y
Anthracene	0.00		0	0.00	0	U	Y
Benz(a)anthracene	0.00		0	0.00	0	U	Y
Benzo(a)pyrene	0.00		0	0.00	0	U	Y
Benzo(b)fluoranthene	0.00		0	0.00	0	U	Y
Benzo(g,h,i)perylene	0.00		0	0.00	0	U	Y
Benzo(k)fluoranthene	0.00		0	0.00	0	U	Y
Chrysene	0.00		0	0.00	0	U	Y
Dibenz(a,h)anthracene	0.00		0	0.00	0	U	Y
Fluoranthene	8.39		492	1.13	1.1	J	Y

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

Printed: 12/18/20 10:10

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121620\1216F043.D\	Instrument:	K-MS-12nd	<i>Q</i> 12/18/20
Acqu Date:	12/16/20 22:36:00	Vial:	4	
Run Type:	MB	Dilution:	1	
Lab ID:	KQ2019722-04	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.61		63	0.31	0.31	U	Y
Indeno(1,2,3-cd)pyrene	0.00		0	0.00	0	U	Y
Naphthalene	4.59		273	0.92	0.91	J	Y
Phenanthrene	7.41		769	2.22	2.2	J	Y
Pyrene	8.58		421	0.87	0.86	J	Y

Prep Amount: 10.0740 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 100.00

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

Printed: 12/18/20 10:10

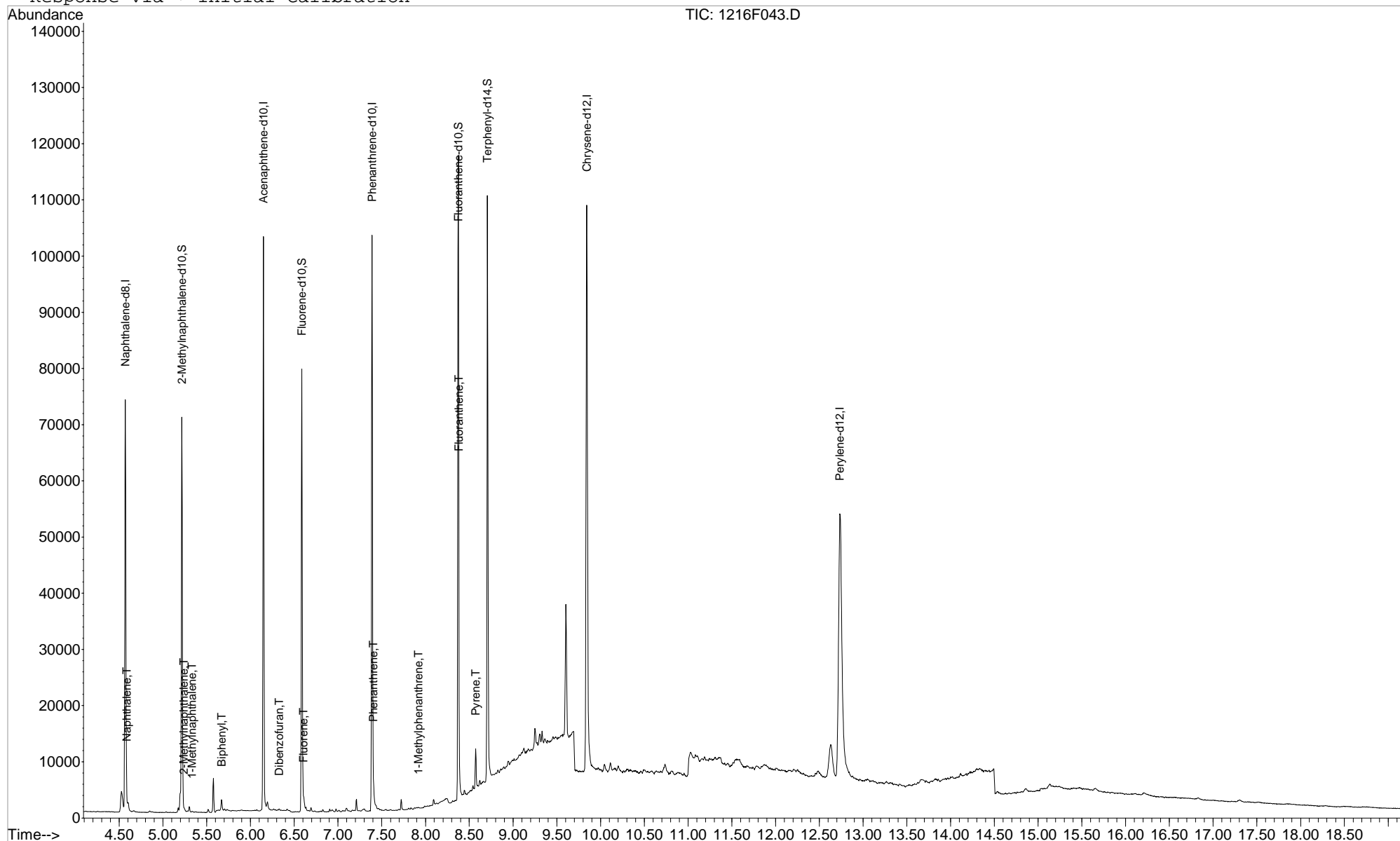
\\alprews001\starlims\LIMSReps\QuantValidation.rpt

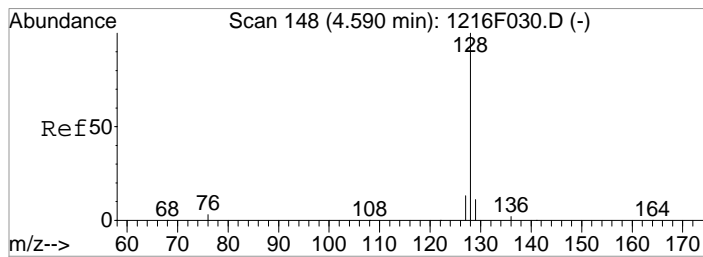
Data File : J:\MS14\DATA\121620\1216F043.D
Acq On : 16 Dec 2020 10:36 pm
Sample : KQ2019722-04 MB
Misc :
MS Integration Params: RTEINT.P
Quant Time: Dec 17 8:38 2020

Vial: 41
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Initial Calibration





#2

Naphthalene

Concen: 0.92 ng/ml

RT: 4.59 min Scan# 148

Delta R.T. 0.01 min

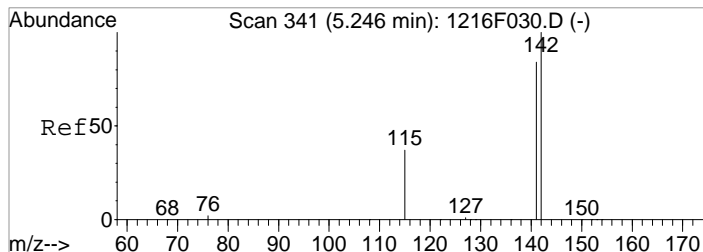
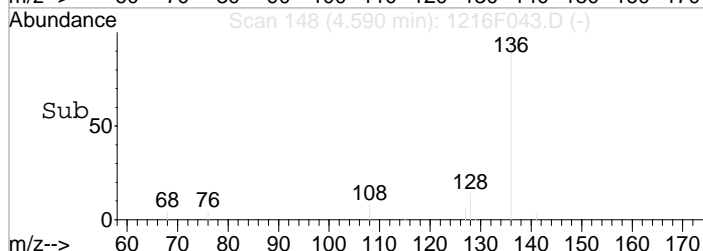
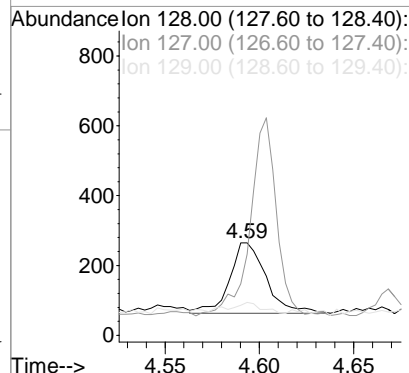
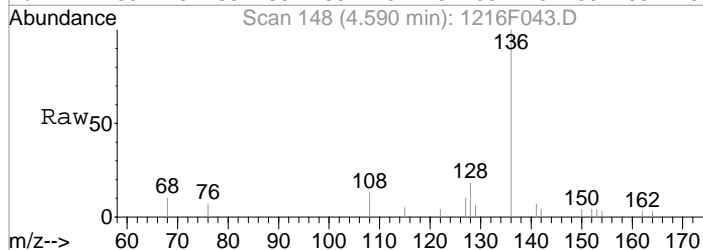
Lab File: 1216F043.D

Acq: 16 Dec 2020 10:36 pm

1st *Ca* 12/17/20

2nd *Q* 12/17/20

Tgt Ion:128	Resp:	273
Ion Ratio	Lower	Upper
128	100	
127	44.6	0.0 42.7#
129	14.4	0.0 30.8



#4

2-Methylnaphthalene

Concen: 0.29 ng/ml

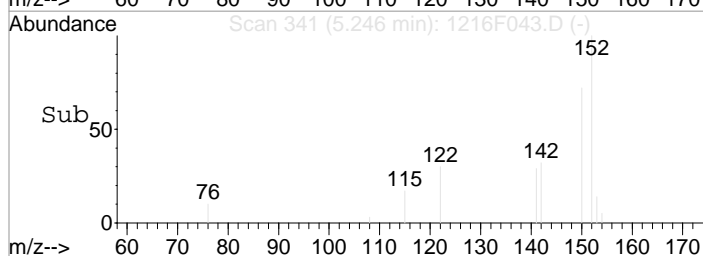
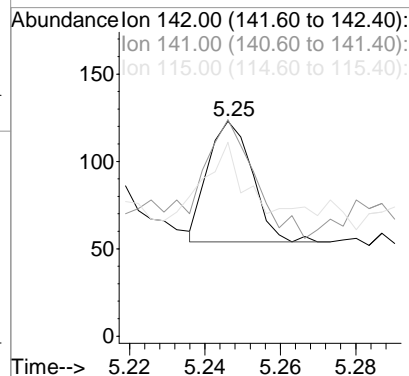
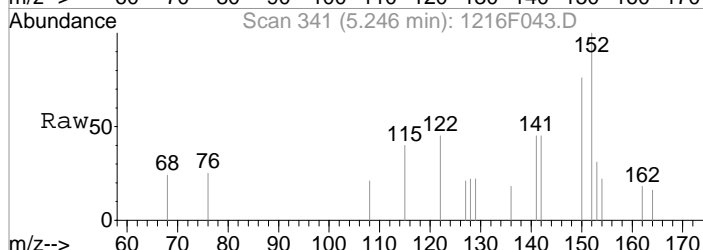
RT: 5.25 min Scan# 341

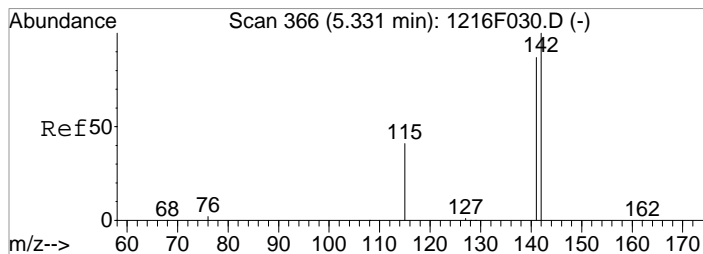
Delta R.T. 0.01 min

Lab File: 1216F043.D

Acq: 16 Dec 2020 10:36 pm

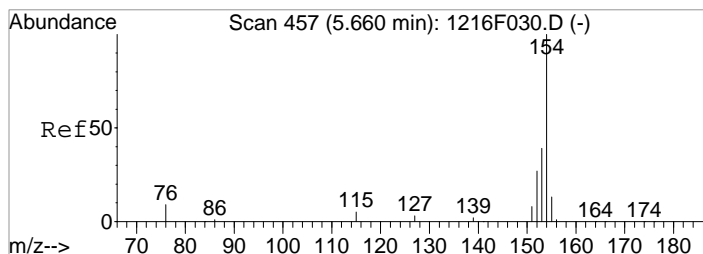
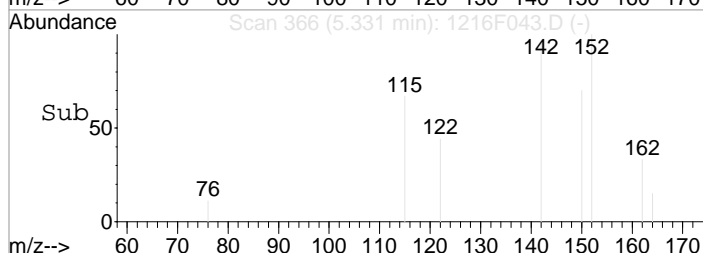
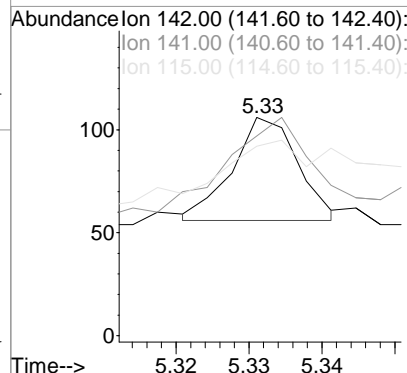
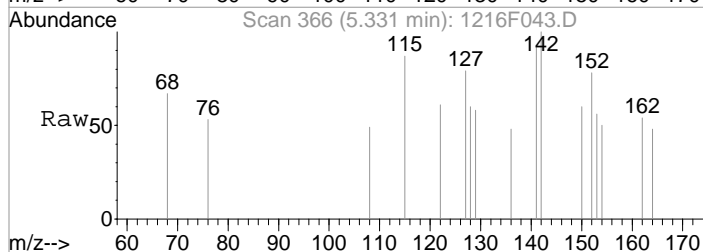
Tgt Ion:142	Resp:	56
Ion Ratio	Lower	Upper
142	100	
141	82.6	53.5 113.5
115	47.8	13.2 53.2





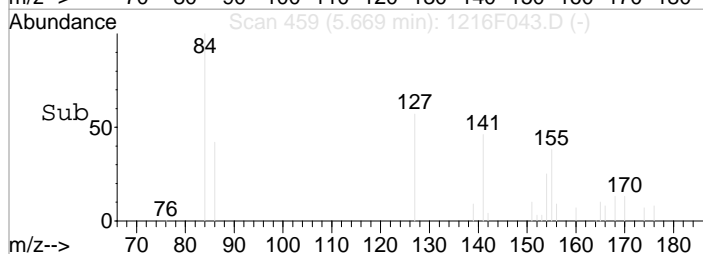
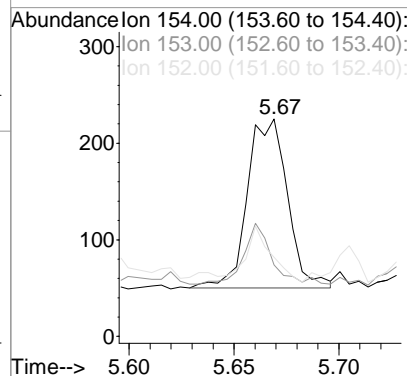
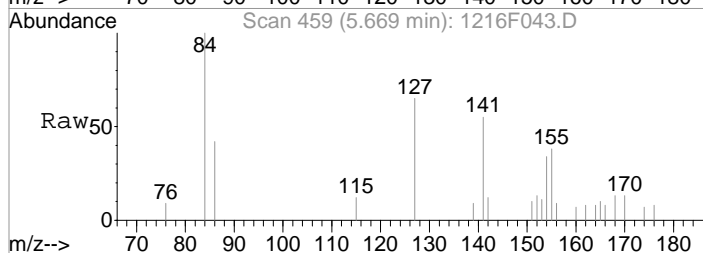
#5
 1-Methylnaphthalene
 Concen: 0.17 ng/ml m
 RT: 5.33 min Scan# 366
 Delta R.T. 0.01 min
 Lab File: 1216F043.D
 Acq: 16 Dec 2020 10:36 pm

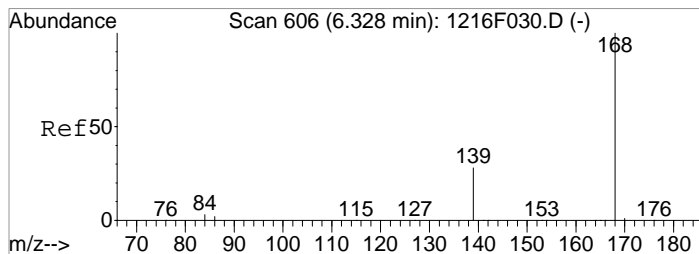
Tgt Ion:142	Resp:	31
Ion Ratio	Lower	Upper
142	100	
141	91.5	57.0 117.0
115	86.8	17.7 57.7#



#6
 Biphenyl
 Concen: 0.99 ng/ml
 RT: 5.67 min Scan# 459
 Delta R.T. 0.01 min
 Lab File: 1216F043.D
 Acq: 16 Dec 2020 10:36 pm

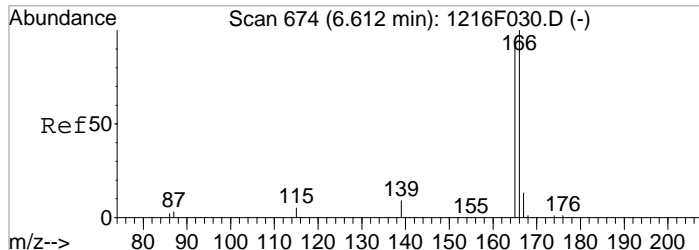
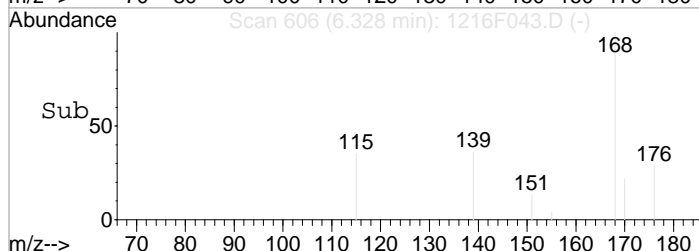
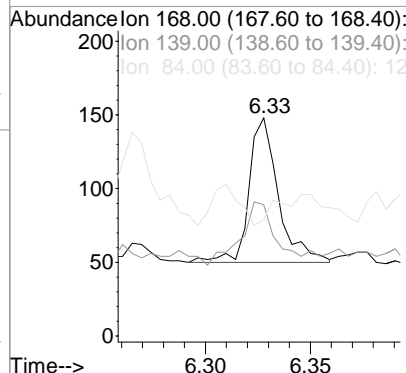
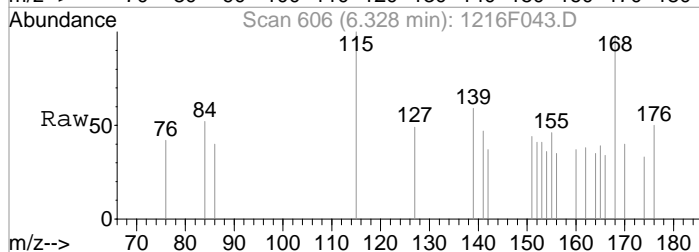
Tgt Ion:154	Resp:	233
Ion Ratio	Lower	Upper
154	100	
153	11.4	8.8 68.8
152	12.0	6.0 46.0





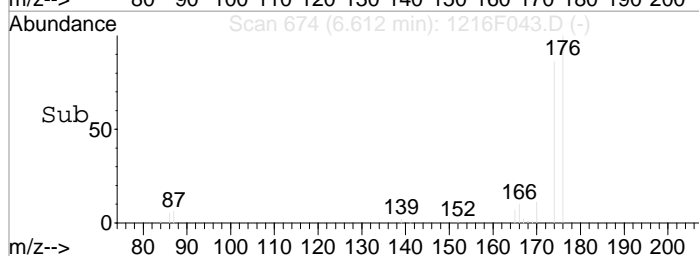
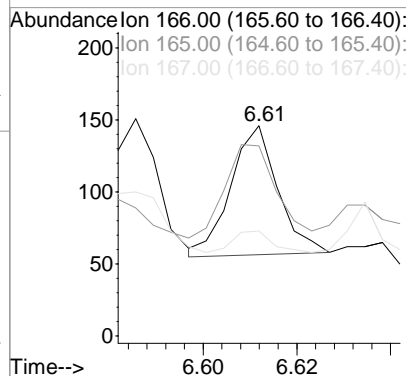
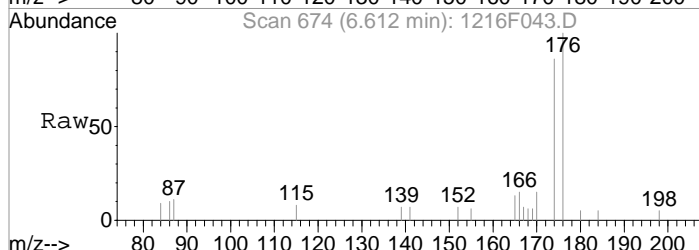
#11
 Dibenzenofuran
 Concen: 0.35 ng/ml
 RT: 6.33 min Scan# 606
 Delta R.T. 0.01 min
 Lab File: 1216F043.D
 Acq: 16 Dec 2020 10:36 pm

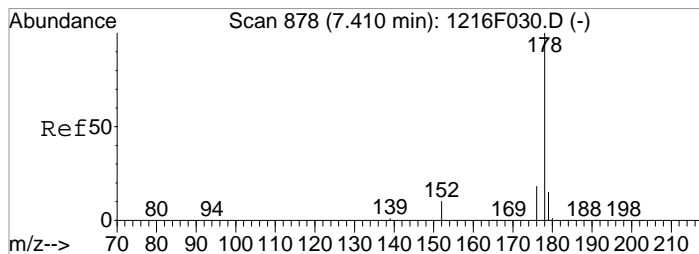
Tgt Ion:168	Resp:	95
Ion Ratio	Lower	Upper
168	100	
139	35.7	8.2 68.2
84	0.0	0.0 23.9



#14
 Fluorene
 Concen: 0.31 ng/ml
 RT: 6.61 min Scan# 674
 Delta R.T. 0.00 min
 Lab File: 1216F043.D
 Acq: 16 Dec 2020 10:36 pm

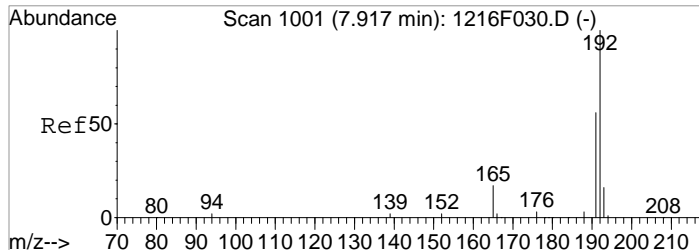
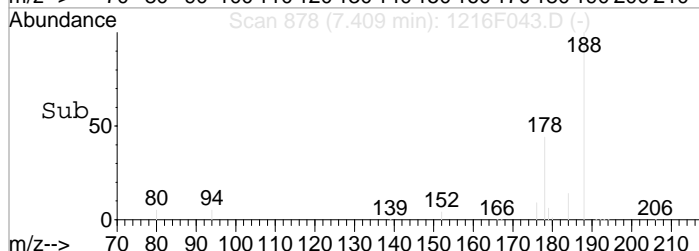
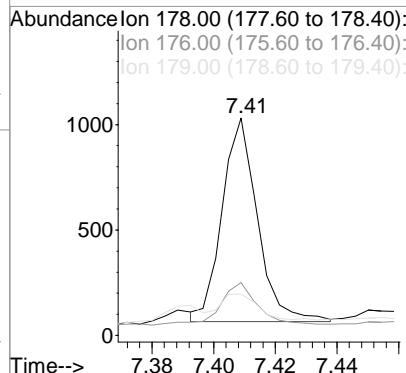
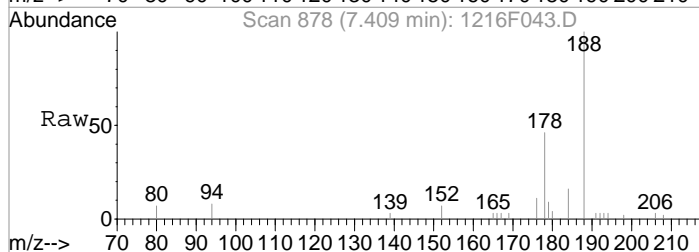
Tgt Ion:166	Resp:	63
Ion Ratio	Lower	Upper
166	100	
165	72.7	59.6 119.6
167	14.8	0.0 33.2





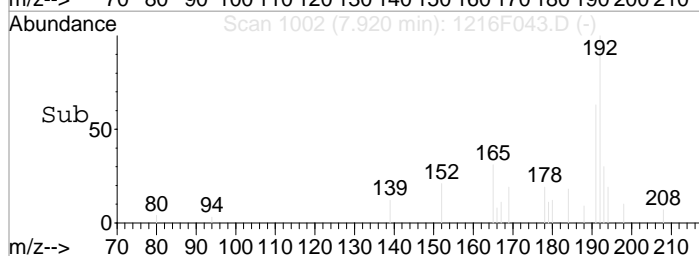
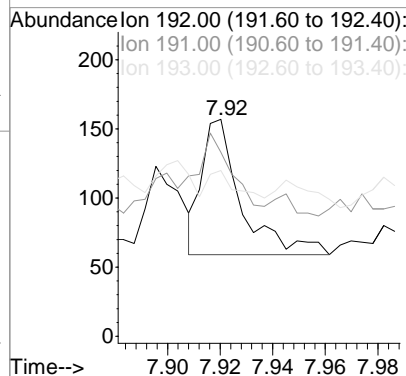
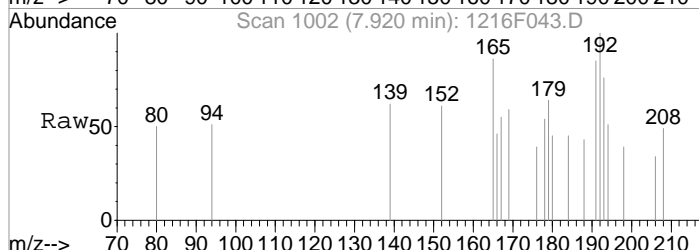
#17
 Phenanthrene
 Concen: 2.22 ng/ml m
 RT: 7.41 min Scan# 878
 Delta R.T. 0.00 min
 Lab File: 1216F043.D
 Acq: 16 Dec 2020 10:36 pm

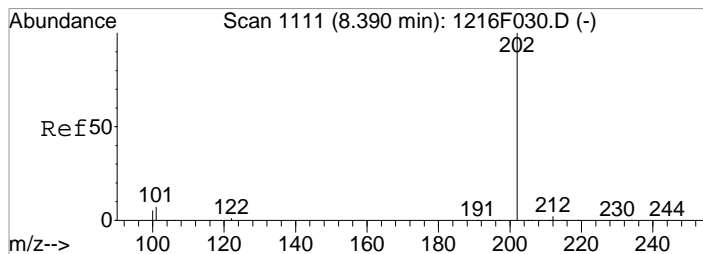
Tgt Ion:178	Resp:	769
Ion Ratio	Lower	Upper
178	100	
176	24.2	0.0 48.0
179	19.0	0.0 35.6



#20
 1-Methylphenanthrene
 Concen: 0.38 ng/ml
 RT: 7.92 min Scan# 1002
 Delta R.T. 0.01 min
 Lab File: 1216F043.D
 Acq: 16 Dec 2020 10:36 pm

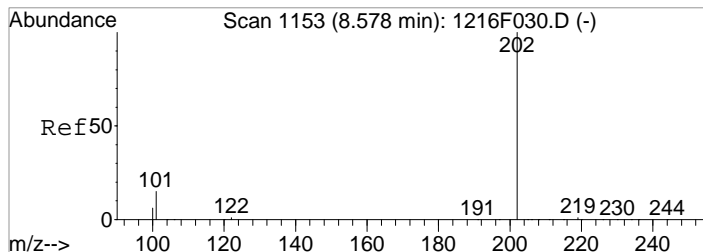
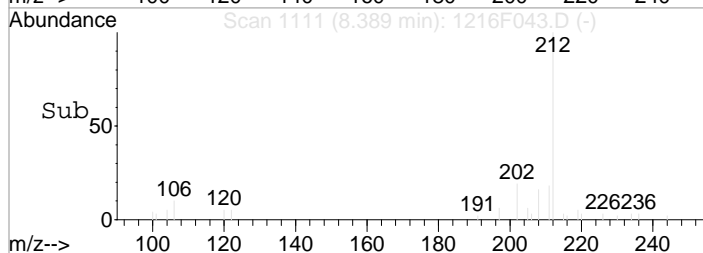
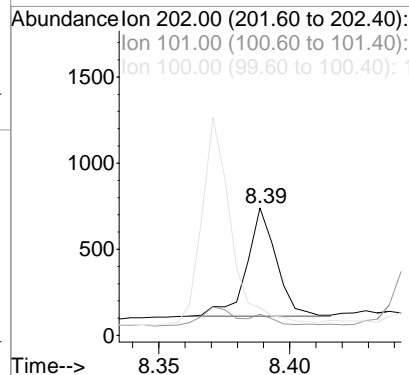
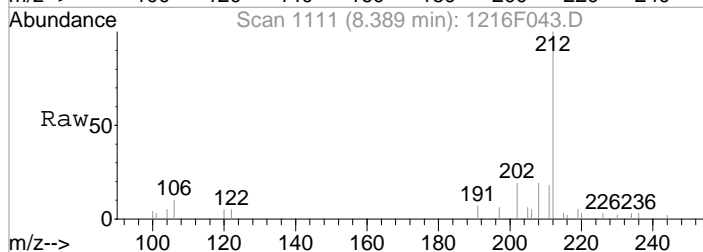
Tgt Ion:192	Resp:	102
Ion Ratio	Lower	Upper
192	100	
191	41.8	24.4 84.4
193	21.4	0.0 45.6





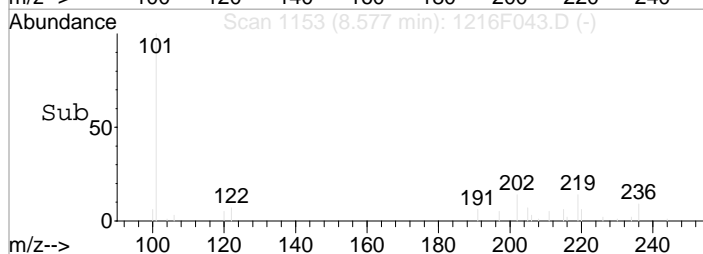
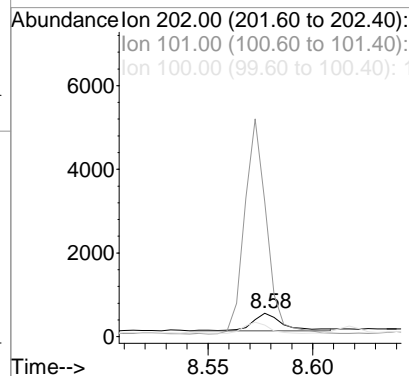
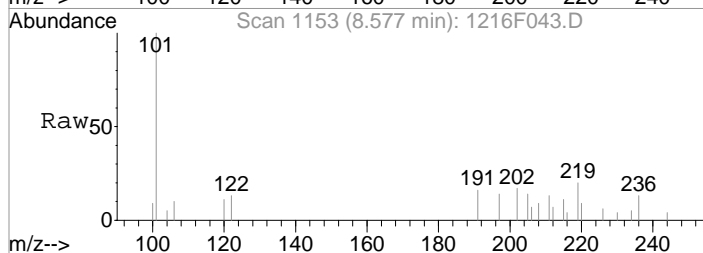
#21
 Fluoranthene
 Concen: 1.13 ng/ml
 RT: 8.39 min Scan# 1111
 Delta R.T. 0.00 min
 Lab File: 1216F043.D
 Acq: 16 Dec 2020 10:36 pm

Tgt Ion:202	Resp:	492
Ion Ratio	Lower	Upper
202	100	
101	9.1	0.0 37.3
100	11.8	0.0 25.2



#24
 Pyrene
 Concen: 0.87 ng/ml
 RT: 8.58 min Scan# 1153
 Delta R.T. 0.00 min
 Lab File: 1216F043.D
 Acq: 16 Dec 2020 10:36 pm

Tgt Ion:202	Resp:	421
Ion Ratio	Lower	Upper
202	100	
101	748.8	0.0 39.5#
100	40.0	0.0 25.4#



Data File : J:\MS14\DATA\121620\1216F043.D

Acq On : 16 Dec 2020 10:36 pm

Sample : KQ2019722-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 05:02:03 2020

Vial: 41

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.57	136	58620m	200.00	ng/ml	0.01
8) Acenaphthene-d10	6.15	164	28609	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.39	188	62338	200.00	ng/ml	0.00
23) Chrysene-d12	9.84	240	79167	200.00	ng/ml	0.01
28) Perylene-d12	12.73	264	89212	200.00	ng/ml	0.02

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.22	152	23981	150.04	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	15.00%	
13) Fluorene-d10	6.59	176	28313	164.87	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	16.49%	
22) Fluoranthene-d10	8.38	212	64971	174.63	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	17.46%	
25) Terphenyl-d14	8.71	244	65127	182.98	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	18.30%	

Target Compounds

	R.T.	QIon	Response	Conc	Units	Qvalue
2) Naphthalene	4.59	128	273	0.92	ng/ml#	52
4) 2-Methylnaphthalene	5.25	142	56	0.29	ng/ml	92
5) 1-Methylnaphthalene	5.33	142	31m	0.17	ng/ml	
6) Biphenyl	5.67	154	233	0.99	ng/ml	62
11) Dibenzofuran	6.33	168	95	0.35	ng/ml	95
14) Fluorene	6.61	166	63	0.31	ng/ml	84
17) Phenanthrene	7.41	178	769m	2.22	ng/ml	
20) 1-Methylphenanthrene	7.92	192	102	0.38	ng/ml	83
21) Fluoranthene	8.39	202	492	1.13	ng/ml	89
24) Pyrene	8.58	202	421	0.87	ng/ml#	1

Data File : J:\MS14\DATA\121620\1216F043.D

Acq On : 16 Dec 2020 10:36 pm

Sample : KQ2019722-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 5:02 2020

Vial: 41

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

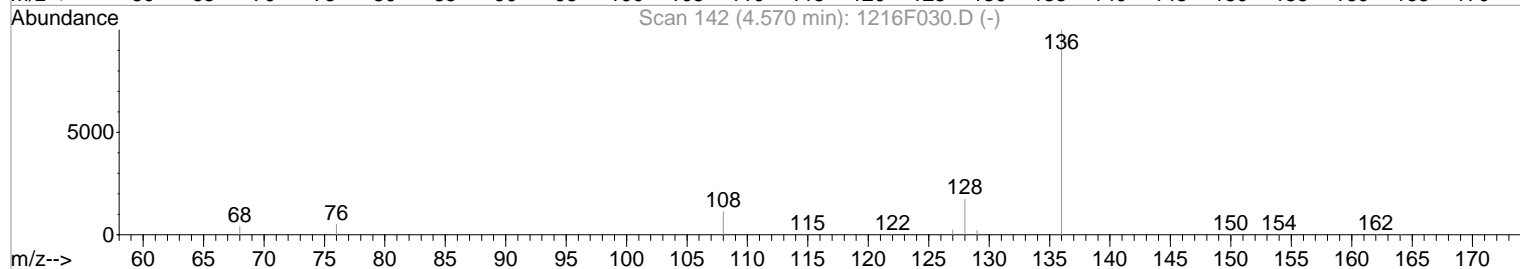
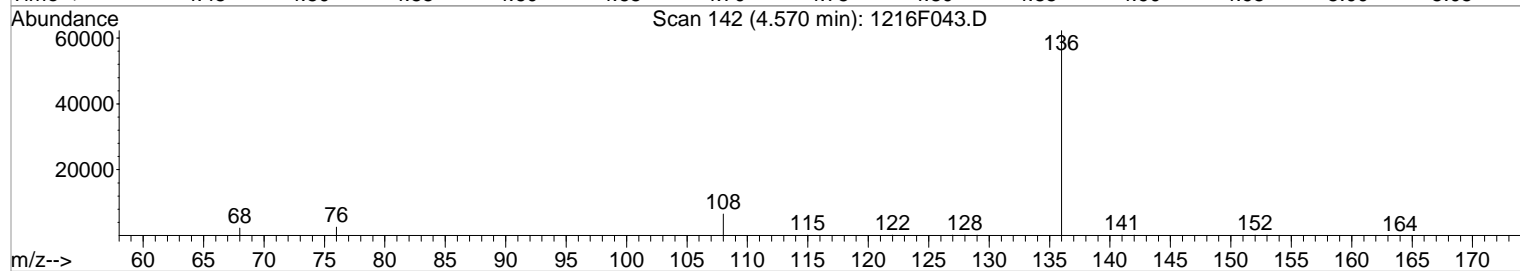
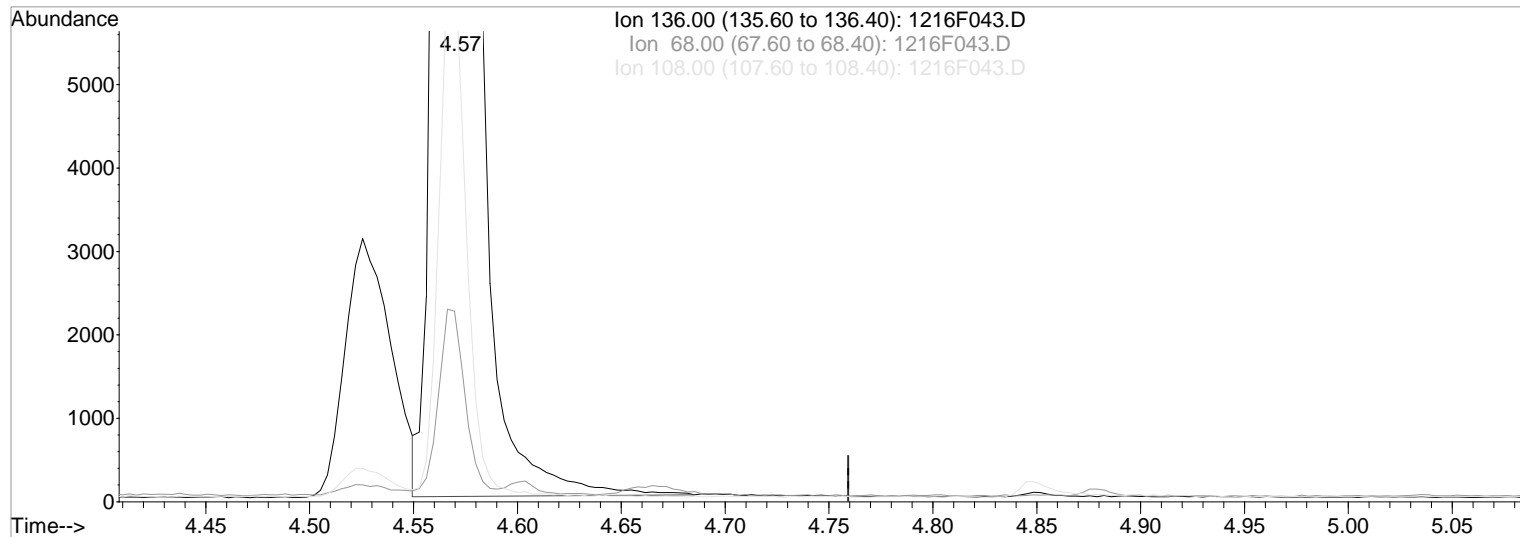
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F043.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.57min 200.00ng/ml

Before

response 53785

Ion	Exp%	Act%
-----	------	------

12/17/20

136.00	100	100
--------	-----	-----

68.00	4.00	3.48
-------	------	------

108.00	10.90	10.37
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121620\1216F043.D

Acq On : 16 Dec 2020 10:36 pm

Sample : KQ2019722-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:37 2020

Vial: 41

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

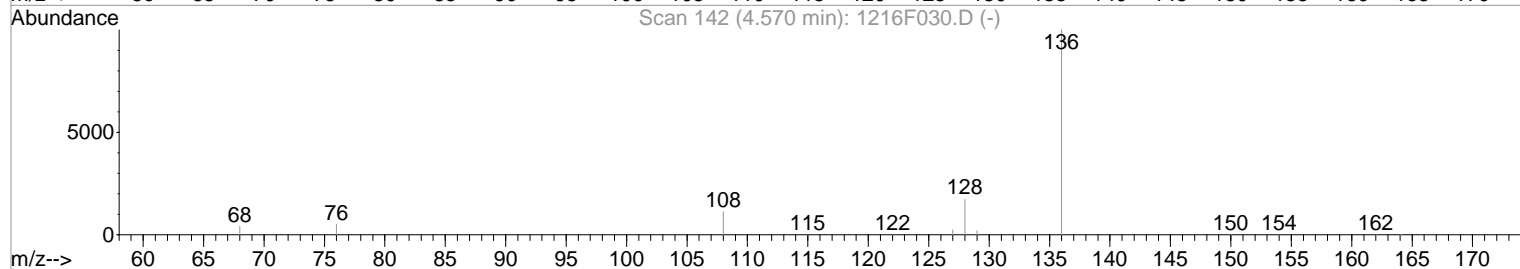
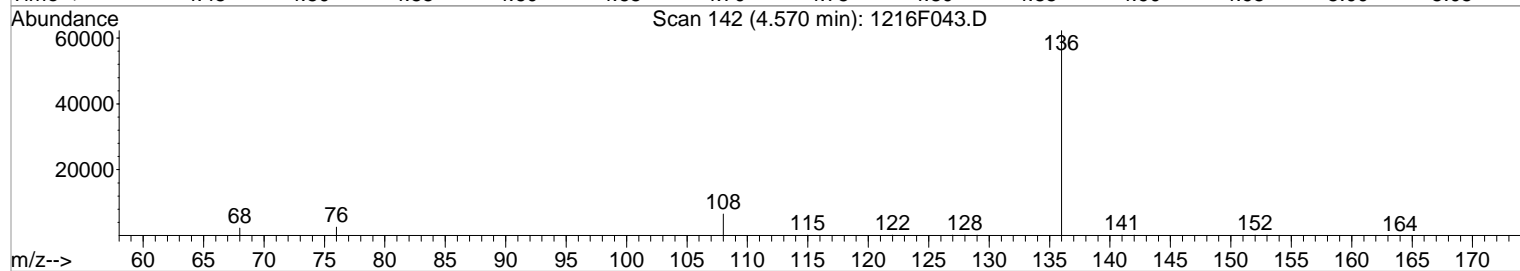
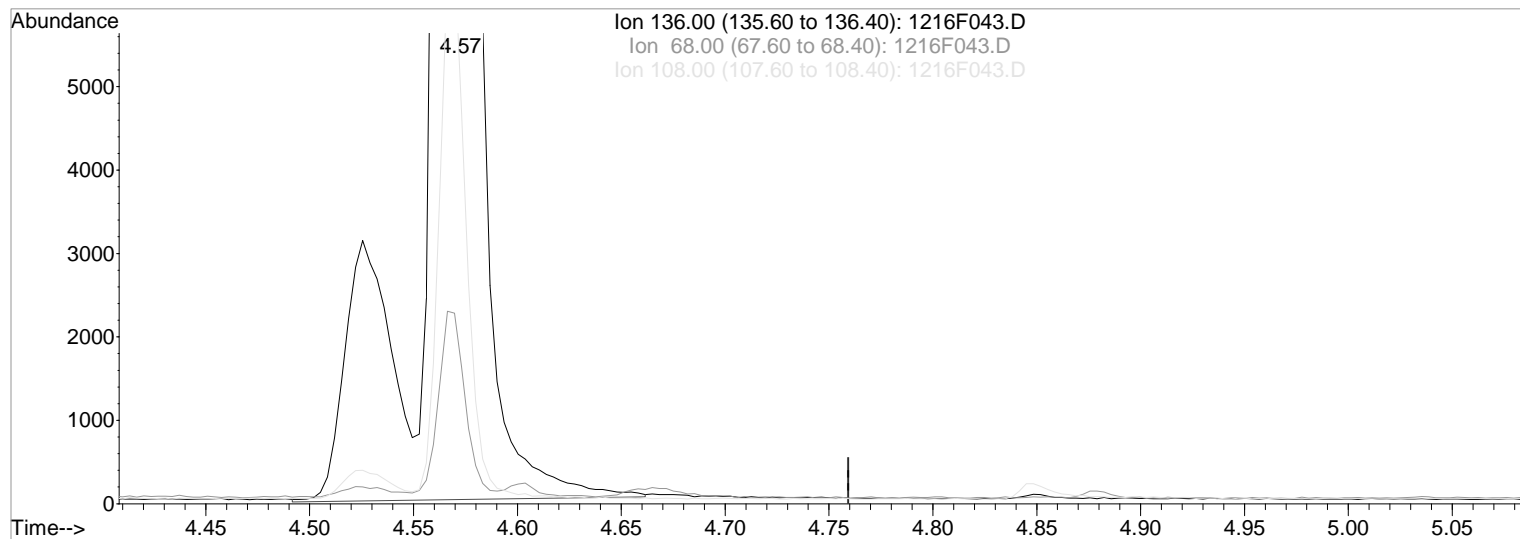
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F043.D

(1) Naphthalene-d8 (I)

4.57min 200.00ng/ml m

response 58620

Ion	Exp%	Act%
-----	------	------

136.00	100	100
--------	-----	-----

68.00	4.00	3.67
-------	------	------

108.00	10.90	10.47
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/17/20

Data File : J:\MS14\DATA\121620\1216F043.D

Acq On : 16 Dec 2020 10:36 pm

Sample : KQ2019722-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:37 2020

Vial: 41

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

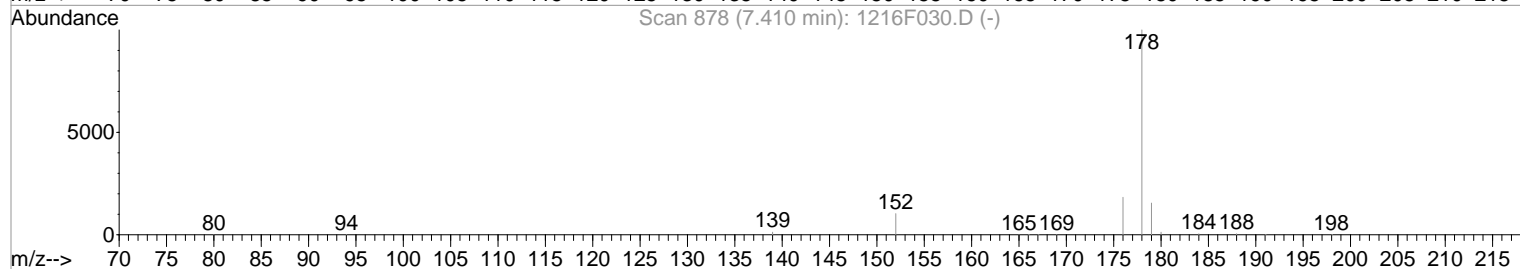
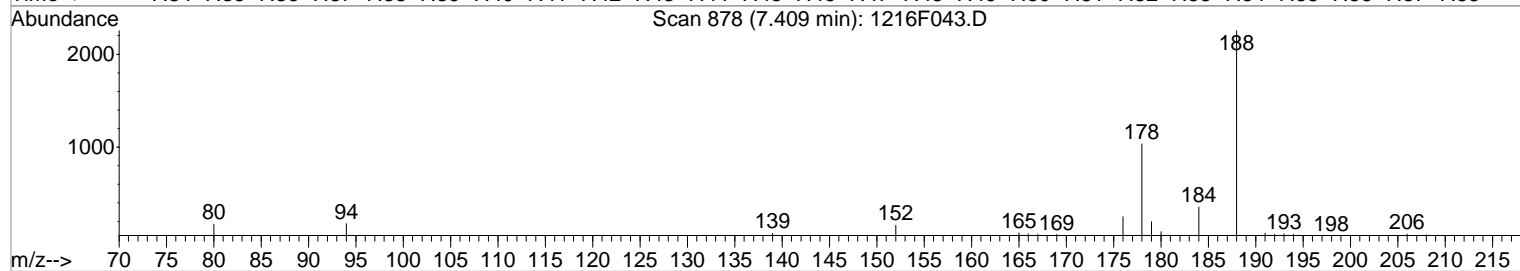
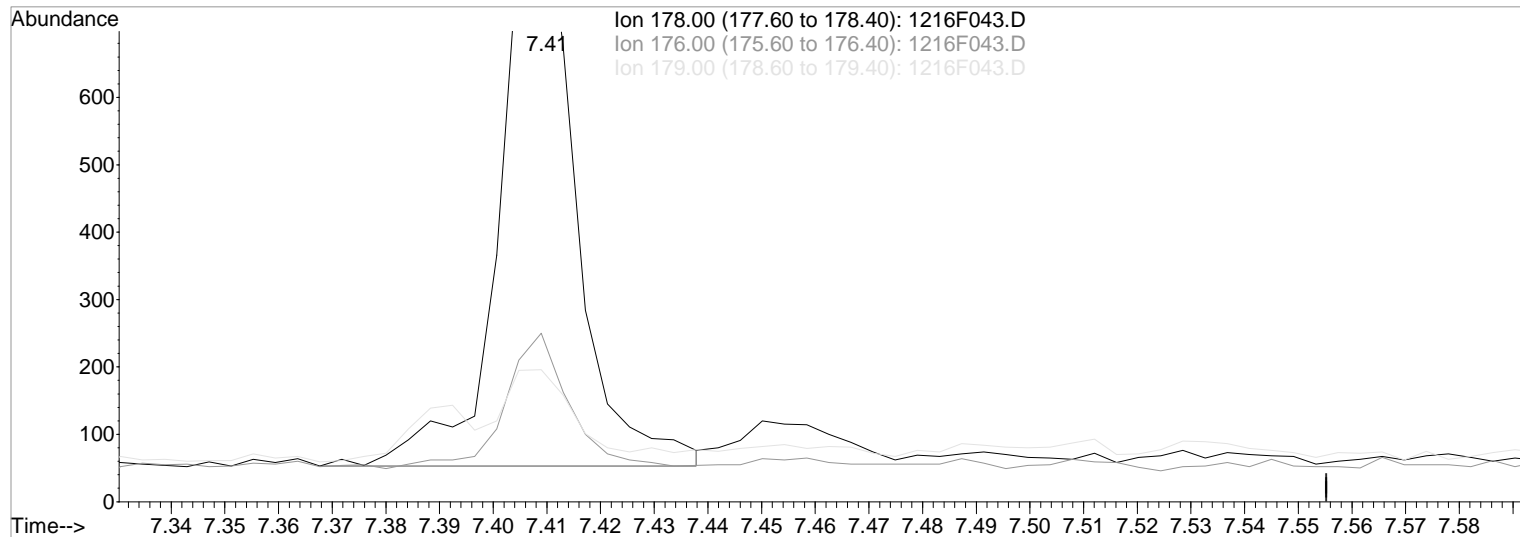
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F043.D

(17) Phenanthrene (T)

Manual Integration:

7.41min 2.45ng/ml

Before

response 852

Ion Exp% Act%

12/17/20

178.00 100 100

176.00 18.00 20.22

179.00 15.60 13.99

0.00 0.00 0.00

Data File : J:\MS14\DATA\121620\1216F043.D

Acq On : 16 Dec 2020 10:36 pm

Sample : KQ2019722-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:37 2020

Vial: 41

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

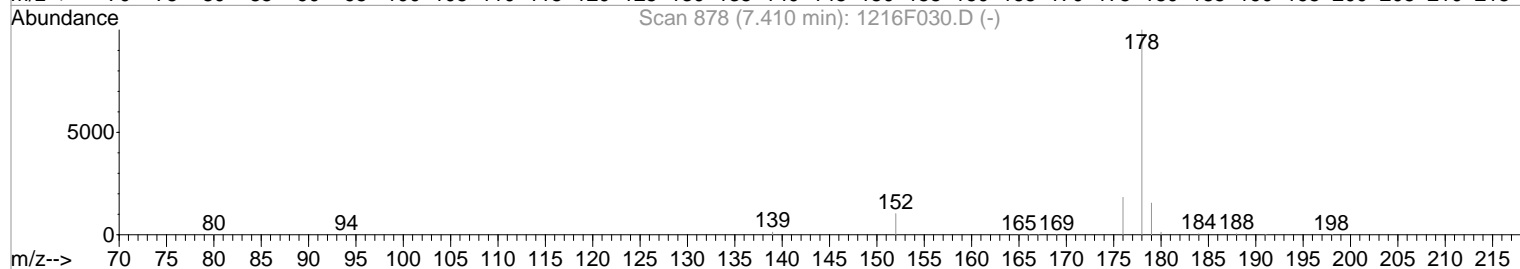
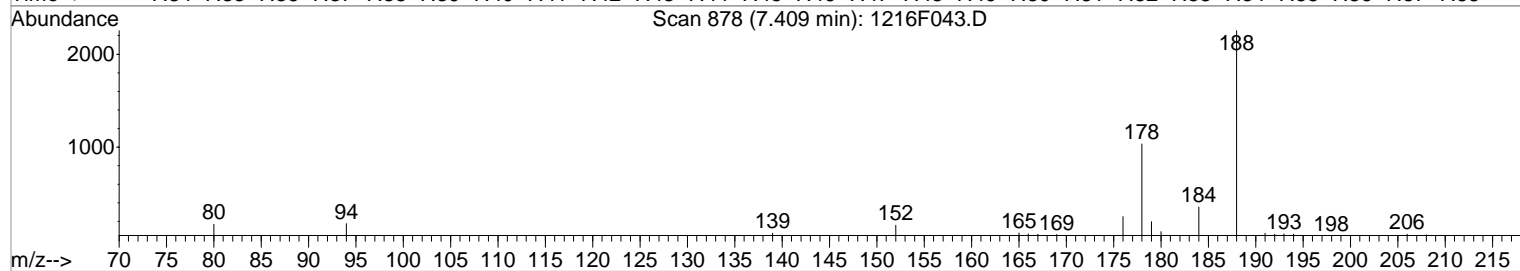
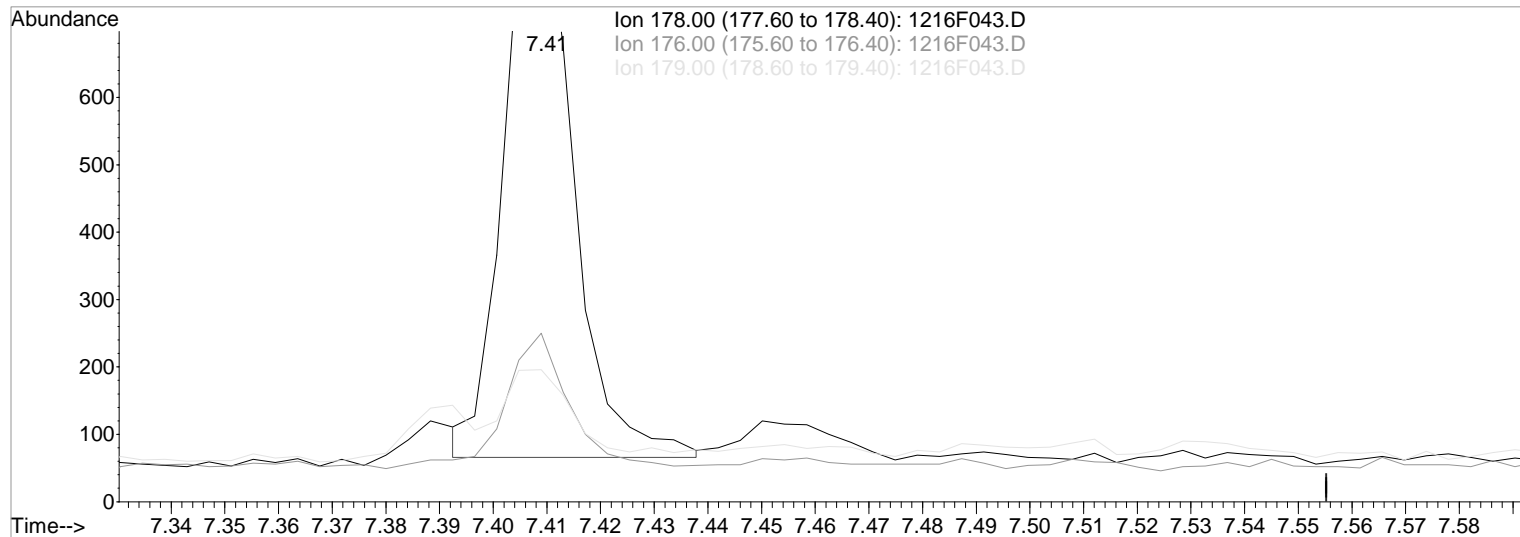
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F043.D

(17) Phenanthrene (T)

7.41min 2.22ng/ml m

response 769

Ion	Exp%	Act%
-----	------	------

178.00	100	100
--------	-----	-----

176.00	18.00	24.22
--------	-------	-------

179.00	15.60	18.99
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Overintegrated

12/17/20

Validation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File: J:\MS14\DATA\121720\1217F042.D\
Lab ID: KQ2019929-04
RunType: MB
Matrix: Soil

Date Acquired: 12/18/20 01:04:00
Batch ID: 707540
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pyrene	-21		20	OK, <40

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121720\1217F042.D\	Instrument:	K-MS-14
Acqu Date:	12/18/20 01:04:00	Vial:	9
Run Type:	MB	Dilution:	1
Lab ID:	KQ2019929-04	Raw Units:	ng/mL

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/4/20	Receive Date:	12/8/20

Analysis Lot:	707540	Prep Lot:	371385	Report Group:	KQ2019929
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/14/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.13		37219	200.00	OK
Chrysene-d12	9.82		118204	200.00	OK
Naphthalene-d8	4.55		86131	200.00	OK
Perylene-d12	12.70	+0.02	139668	200.00	OK
Phenanthrene-d10	7.37	-0.01	81692	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.36		89528	183.62	92	38 - 104	Y
Fluorene-d10	6.57		37350	167.18	84	39 - 109	Y
Terphenyl-d14	8.70	+0.01	88203	165.97	83	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.32	+0.01	105	0.40	0.38	J	Y
2-Methylnaphthalene	5.23		154	0.54	0.52	J	Y
Acenaphthene	6.16		120	0.52	0.50	J	Y
Acenaphthylene	6.01		90	0.24	0.23	U	Y
Anthracene	7.44		189	0.44	0.42	J	Y
Benz(a)anthracene	9.81		1147	1.55	1.5	J	Y
Benzo(a)pyrene	12.55	+0.02	839	1.04	1.0	J	Y
Benzo(b)fluoranthene	11.74	+0.02	1120	1.33	1.3	J	Y
Benzo(g,h,i)perylene	15.54	+0.02	469	0.51	0.49	J	Y
Benzo(k)fluoranthene	0.00		0	0.00	0	U	Y
Chrysene	9.86	+0.01	912	1.32	1.3	J	Y
Dibenz(a,h)anthracene	0.00		0	0.00	0	U	Y
Fluoranthene	8.38		2124	3.73	3.6	J	Y

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121720\1217F042.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/18/20 01:04:00	Vial:	9	
Run Type:	MB	Dilution:	1	
Lab ID:	KQ2019929-04	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.60		153	0.58	0.56	U	Y
Indeno(1,2,3-cd)pyrene	15.18	+0.03	503	0.63	0.61	J	Y
Naphthalene	4.57		1027	2.35	2.3	J	Y
Phenanthrene	7.39		1713	3.77	3.6	J	Y
Pyrene	8.56		1630	2.26	2.2	J	Y

Prep Amount: 10.4010 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 100.00

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

Printed: 12/18/20 10:04

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\MS14\DATA\121720\1217F042.D

Acq On : 18 Dec 2020 1:04 am

Sample : KQ2019929-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:42 2020

Vial: 37

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

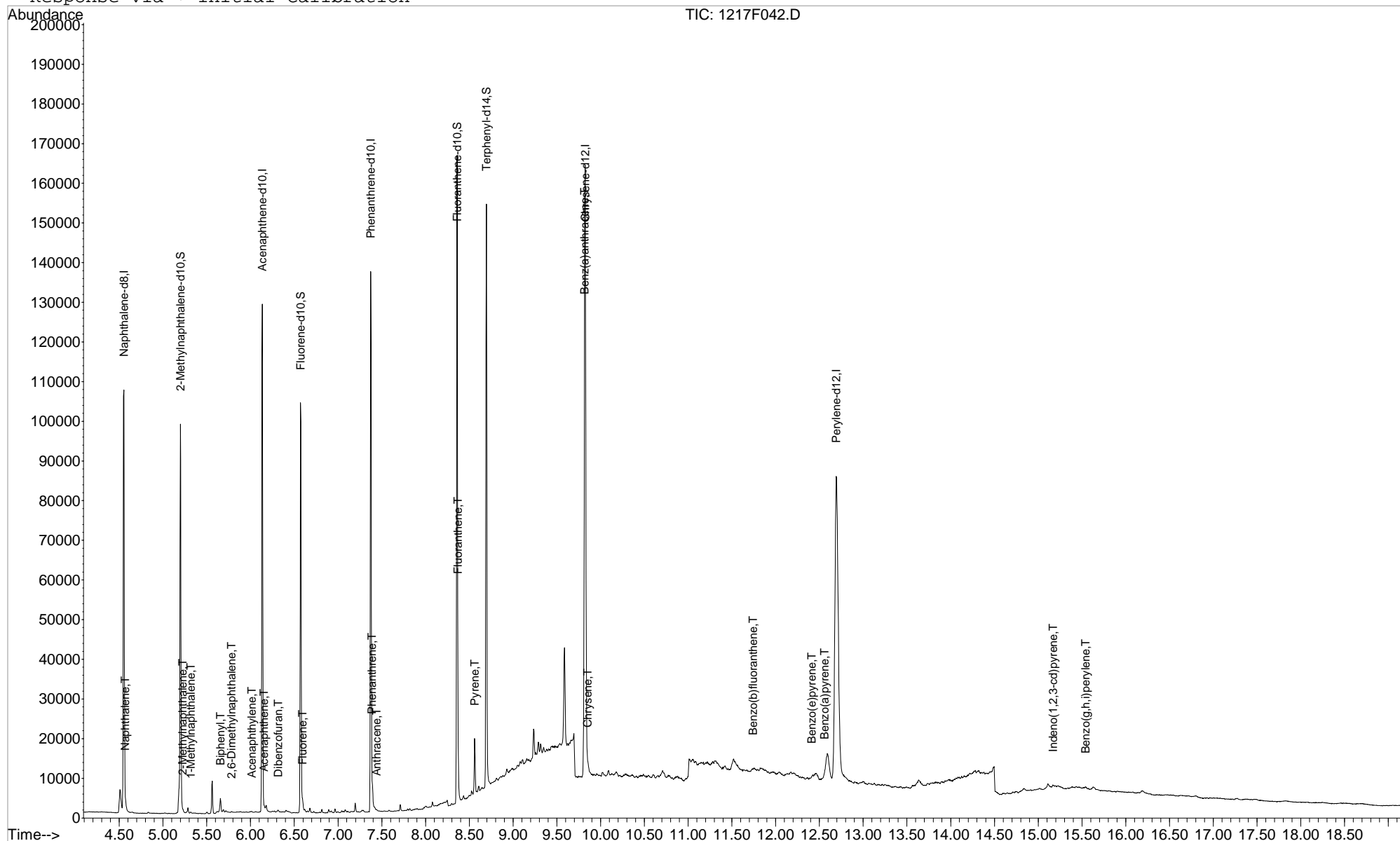
Quant Results File: 101320PAH.RES

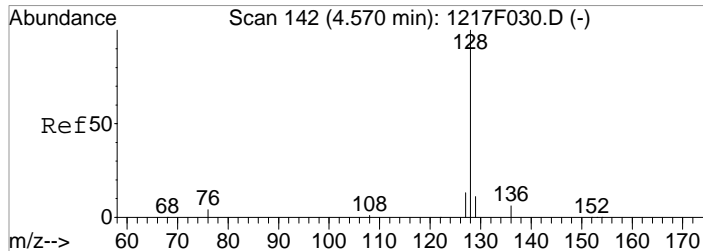
Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

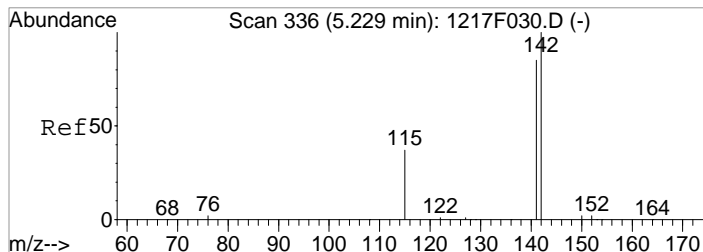
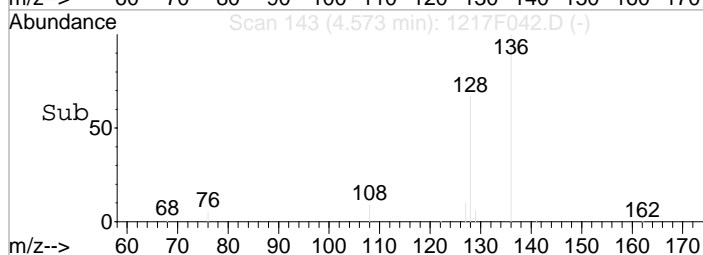
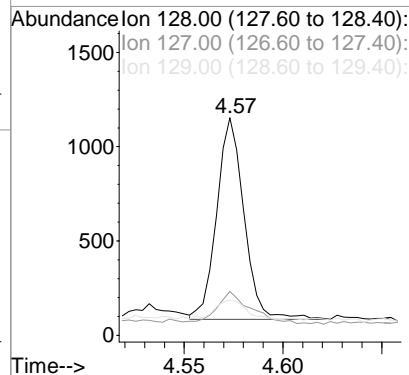
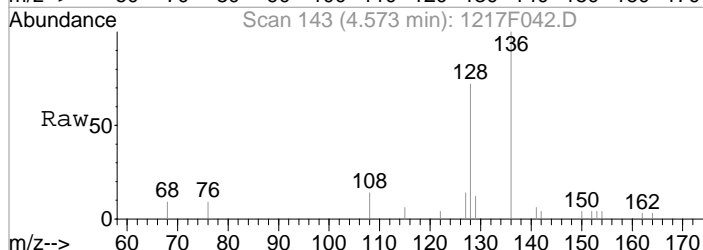
Response via : Initial Calibration





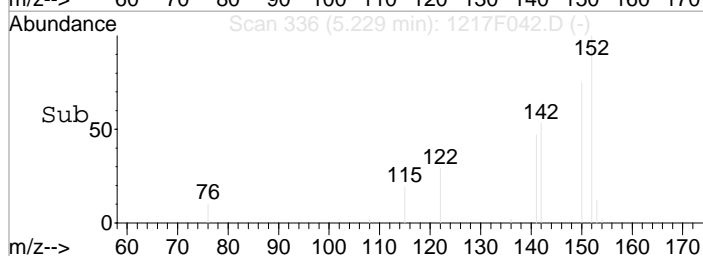
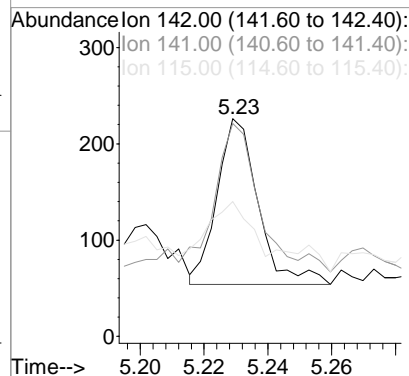
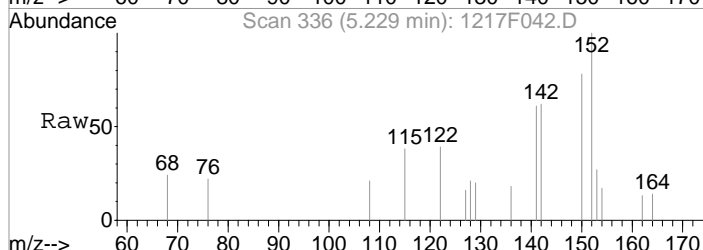
#2
 Naphthalene
 Concen: 2.35 ng/ml
 RT: 4.57 min Scan# 143
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

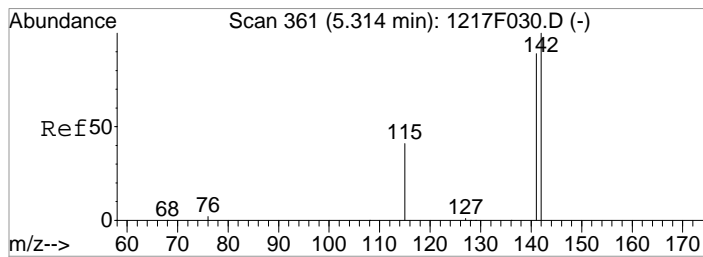
Tgt Ion:128	Resp:	1027
Ion Ratio	Lower	Upper
128	100	
127	15.1	0.0 42.7
129	9.7	0.0 30.8



#4
 2-Methylnaphthalene
 Concen: 0.54 ng/ml
 RT: 5.23 min Scan# 336
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

Tgt Ion:142	Resp:	154
Ion Ratio	Lower	Upper
142	100	
141	89.5	53.5 113.5
115	42.4	13.2 53.2





#5

1-Methylnaphthalene

Concen: 0.40 ng/ml

RT: 5.32 min Scan# 362

Delta R.T. -0.01 min

Lab File: 1217F042.D

Acq: 18 Dec 2020 1:04 am

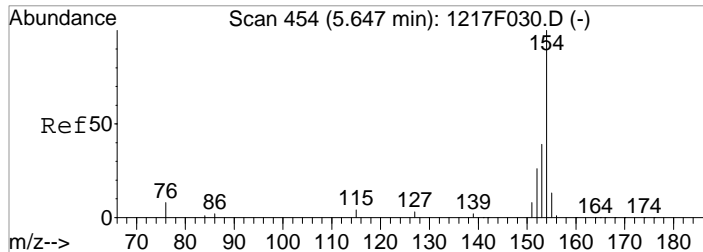
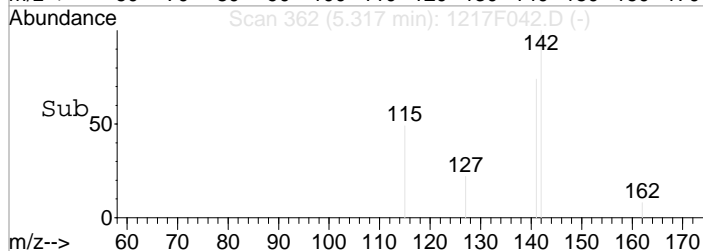
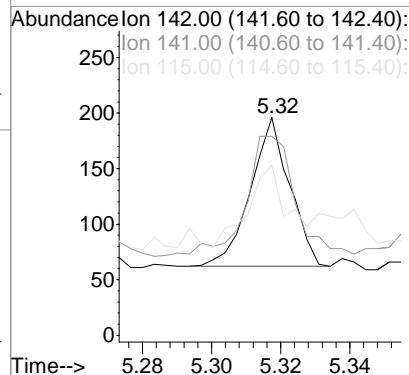
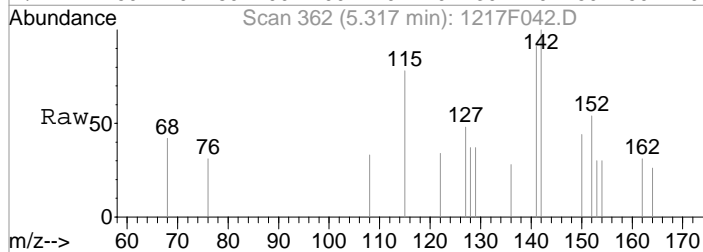
Tgt Ion:142 Resp: 105

Ion Ratio Lower Upper

142 100

141 79.1 57.0 117.0

115 42.5 17.7 57.7



#6

Biphenyl

Concen: 1.05 ng/ml

RT: 5.65 min Scan# 454

Delta R.T. -0.01 min

Lab File: 1217F042.D

Acq: 18 Dec 2020 1:04 am

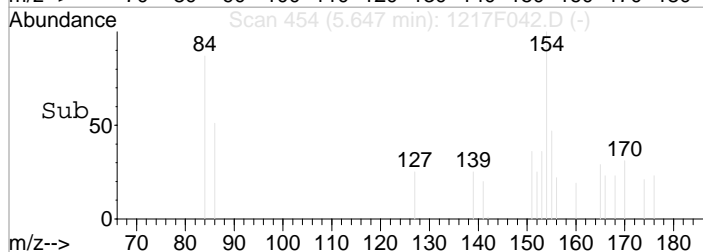
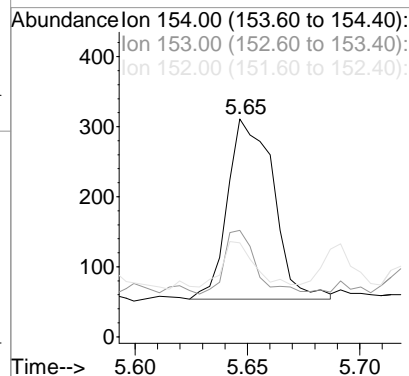
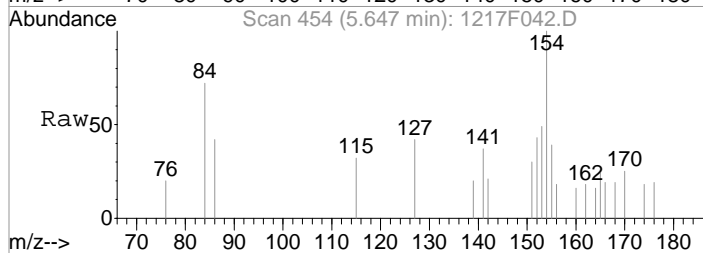
Tgt Ion:154 Resp: 363

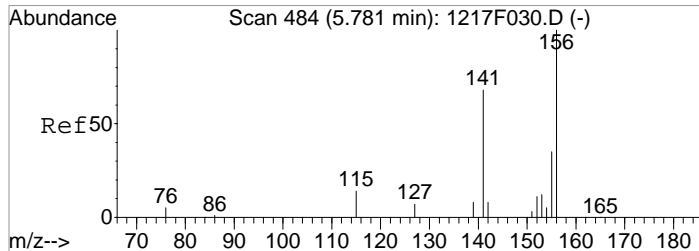
Ion Ratio Lower Upper

154 100

153 34.2 8.8 68.8

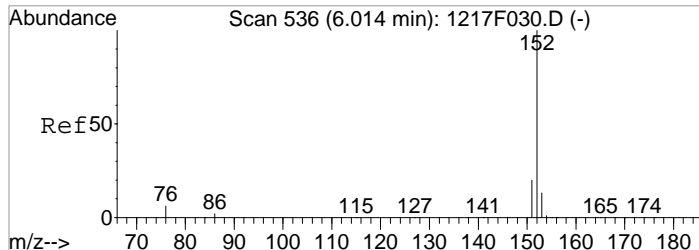
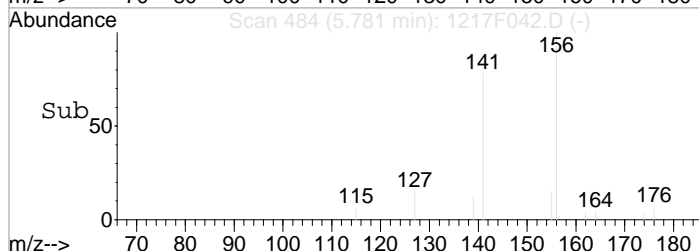
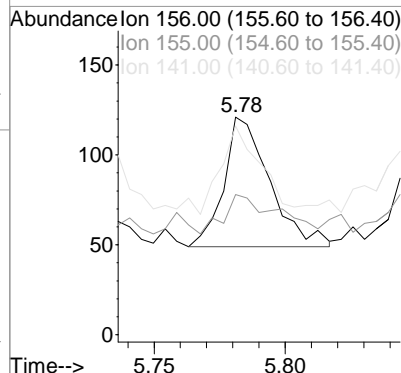
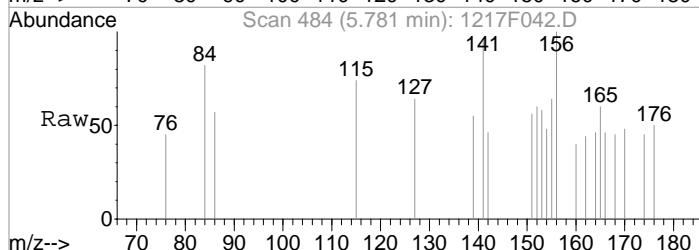
152 24.1 6.0 46.0





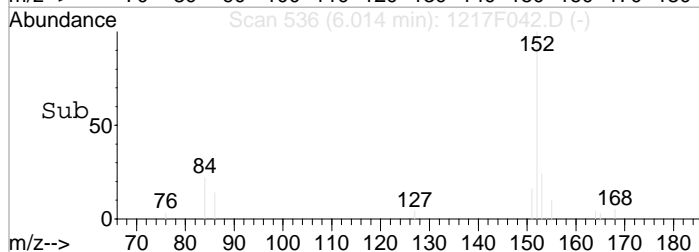
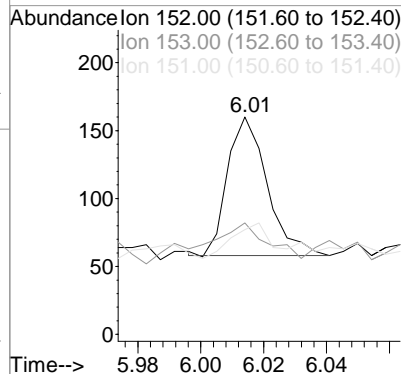
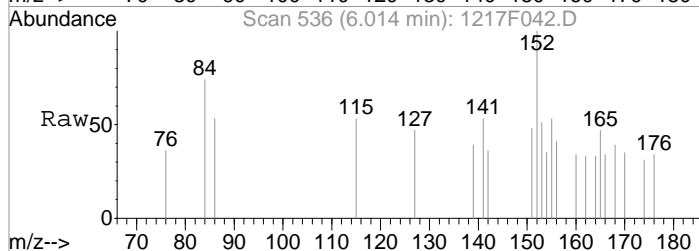
#7
 2,6-Dimethylnaphthalene
 Concen: 0.35 ng/ml
 RT: 5.78 min Scan# 484
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

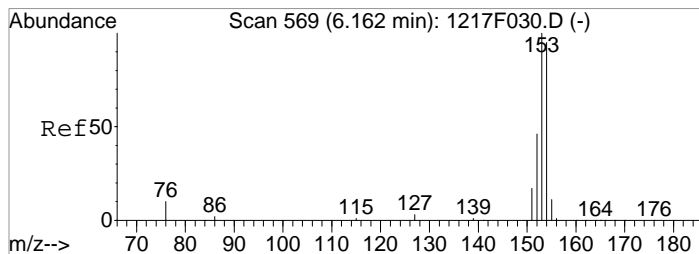
Tgt Ion:	156	Resp:	88
Ion Ratio	Lower	Upper	
156	100		
155	23.6	4.4	64.4
141	56.9	46.0	86.0



#9
 Acenaphthylene
 Concen: 0.24 ng/ml
 RT: 6.01 min Scan# 536
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

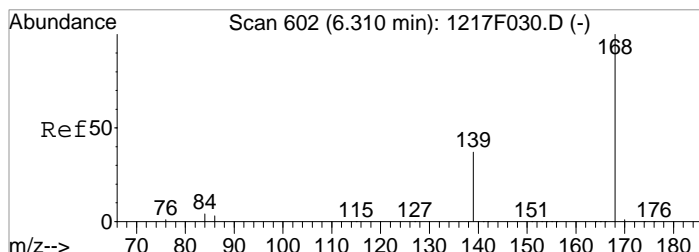
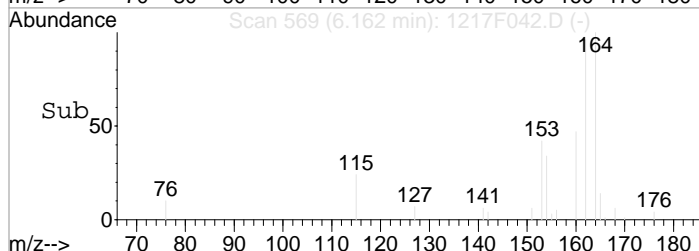
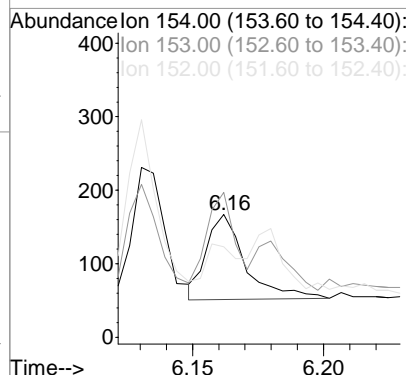
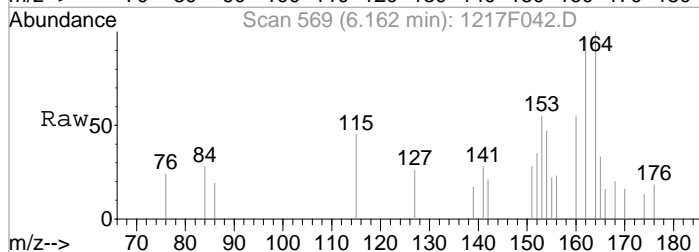
Tgt Ion:	152	Resp:	90
Ion Ratio	Lower	Upper	
152	100		
153	18.6	0.0	43.0
151	16.7	0.0	39.4





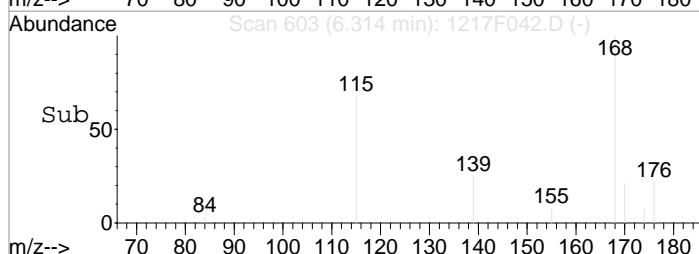
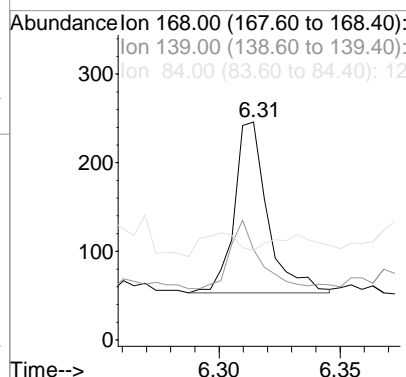
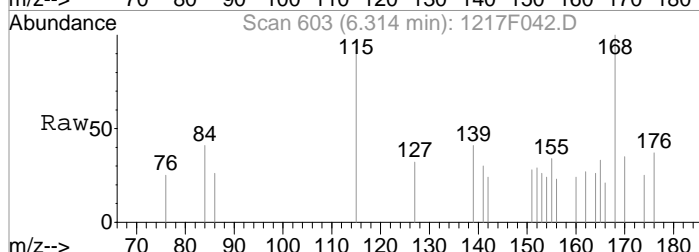
#10
Acenaphthene
Concen: 0.52 ng/ml
RT: 6.16 min Scan# 569
Delta R.T. -0.01 min
Lab File: 1217F042.D
Acq: 18 Dec 2020 1:04 am

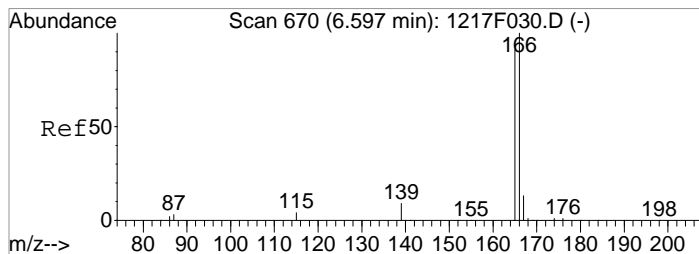
Tgt Ion:	154	Resp:	120
Ion Ratio	Lower	Upper	
154	100		
153	107.9	74.5	134.5
152	50.9	18.5	78.5



#11
Dibenzofuran
Concen: 0.53 ng/ml
RT: 6.31 min Scan# 603
Delta R.T. -0.00 min
Lab File: 1217F042.D
Acq: 18 Dec 2020 1:04 am

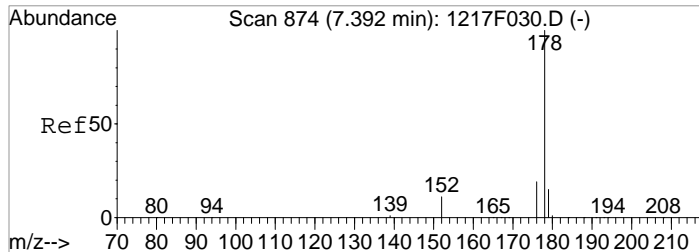
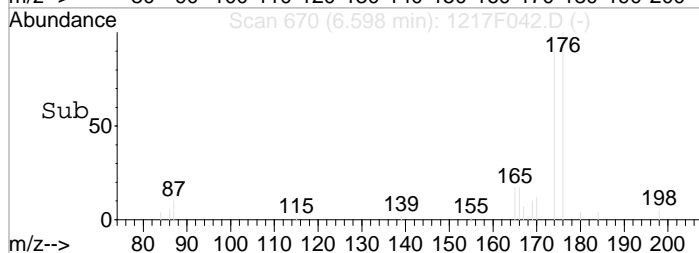
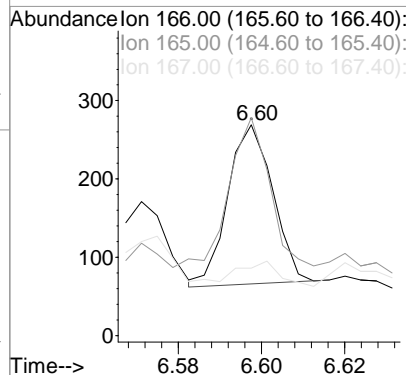
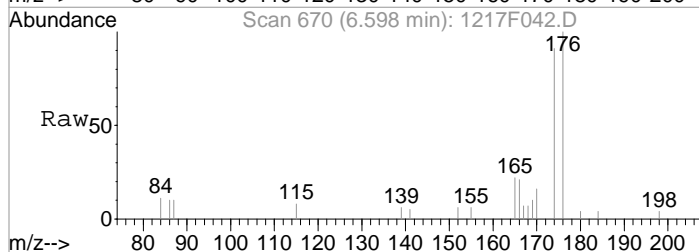
Tgt Ion:	168	Resp:	185
Ion Ratio	Lower	Upper	
168	100		
139	22.8	8.2	68.2
84	3.6	0.0	23.9





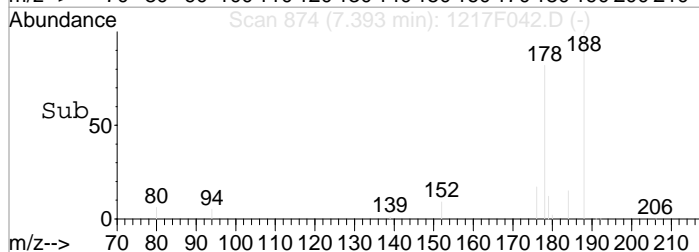
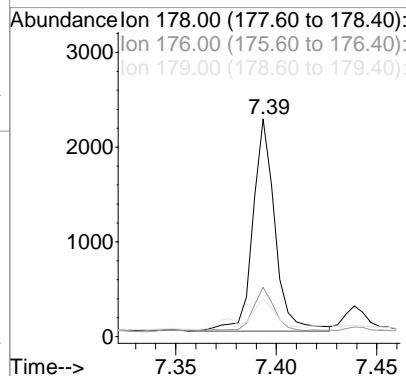
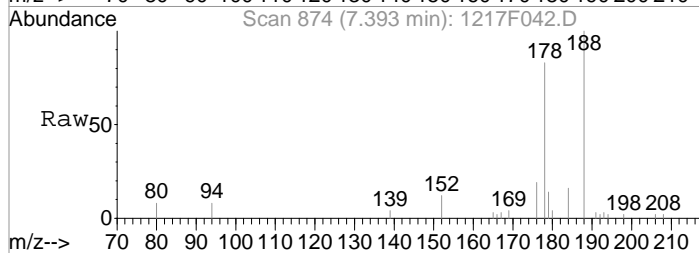
#14
Fluorene
Concen: 0.58 ng/ml
RT: 6.60 min Scan# 670
Delta R.T. -0.01 min
Lab File: 1217F042.D
Acq: 18 Dec 2020 1:04 am

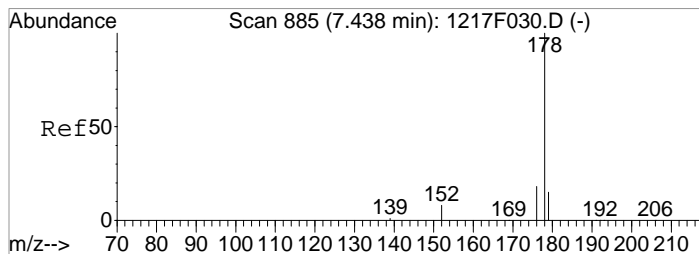
Tgt Ion:166	Resp:	153
Ion Ratio	Lower	Upper
166	100	
165	92.9	59.6 119.6
167	8.6	0.0 33.2



#17
Phenanthrene
Concen: 3.77 ng/ml
RT: 7.39 min Scan# 874
Delta R.T. -0.01 min
Lab File: 1217F042.D
Acq: 18 Dec 2020 1:04 am

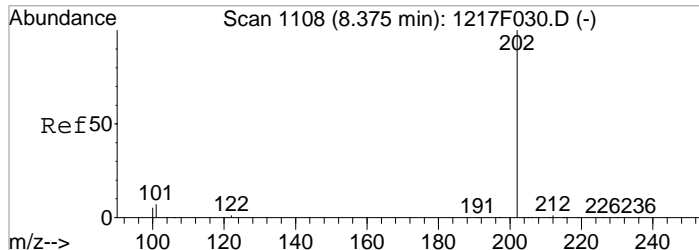
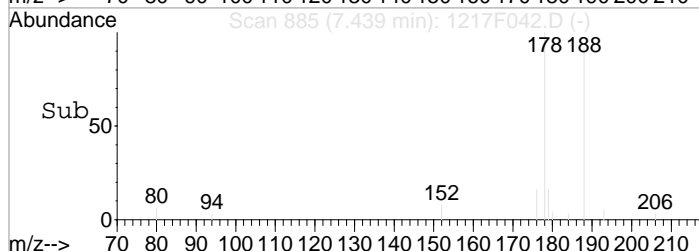
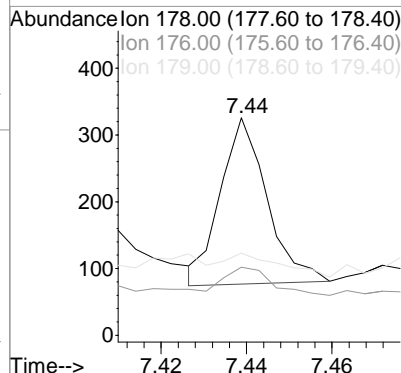
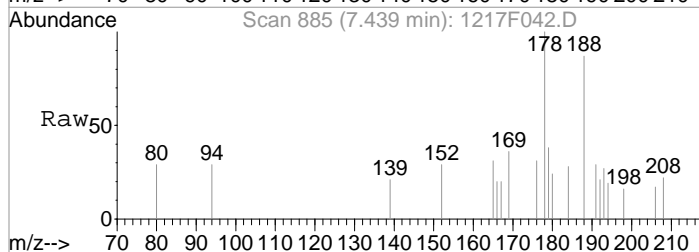
Tgt Ion:178	Resp:	1713
Ion Ratio	Lower	Upper
178	100	
176	20.1	0.0 48.0
179	14.3	0.0 35.6





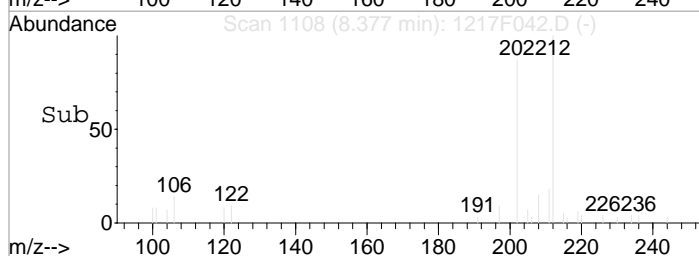
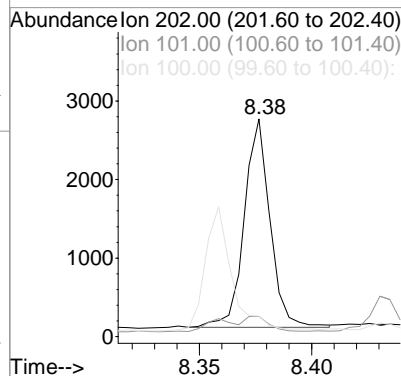
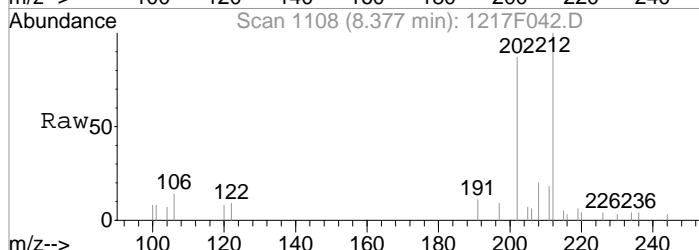
#18
 Anthracene
 Concen: 0.44 ng/ml
 RT: 7.44 min Scan# 885
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

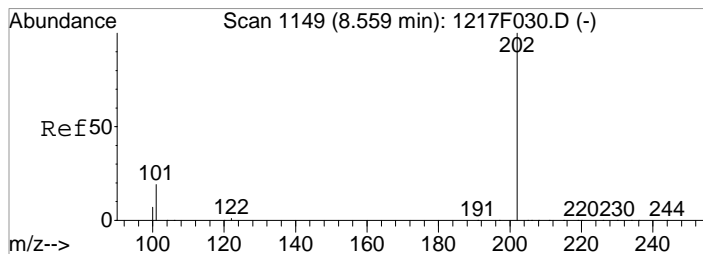
Tgt Ion:178	Resp:	189
Ion Ratio	Lower	Upper
178	100	
176	17.1	0.0 47.6
179	14.7	0.0 35.4



#21
 Fluoranthene
 Concen: 3.73 ng/ml
 RT: 8.38 min Scan# 1108
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

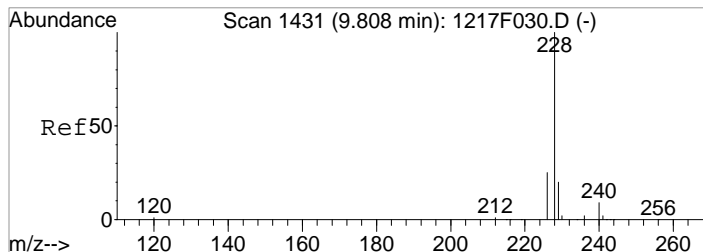
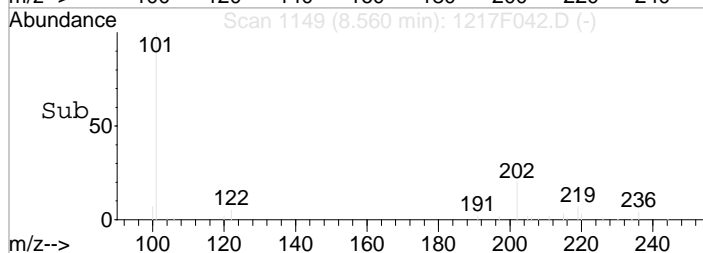
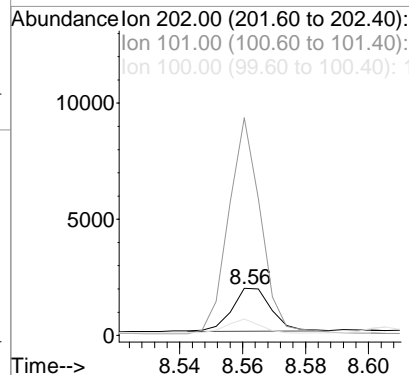
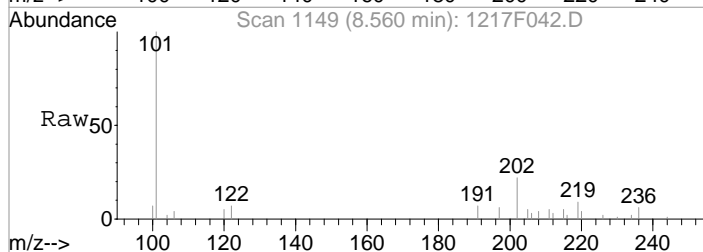
Tgt Ion:202	Resp:	2124
Ion Ratio	Lower	Upper
202	100	
101	7.2	0.0 37.3
100	6.1	0.0 25.2





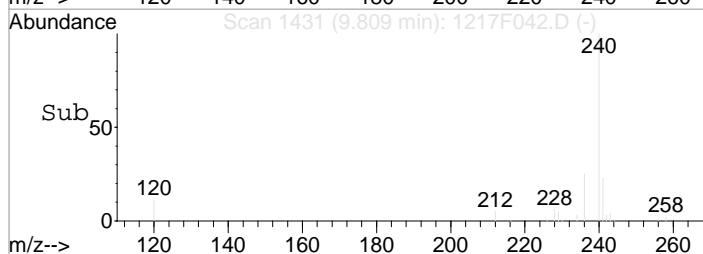
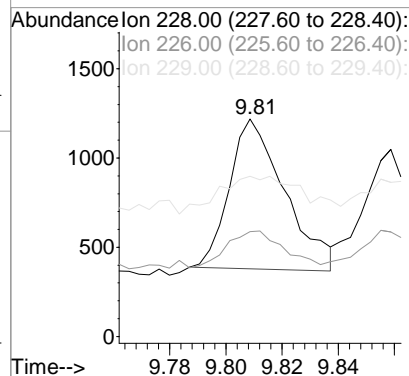
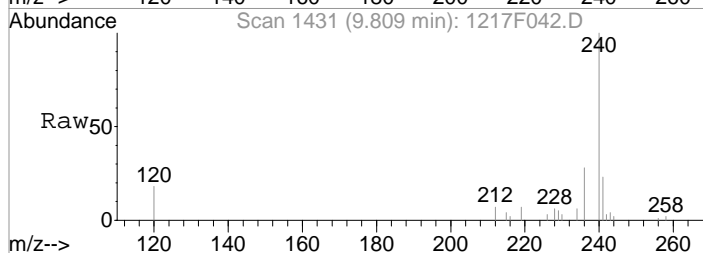
#24
 Pyrene
 Concen: 2.26 ng/ml m
 RT: 8.56 min Scan# 1149
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

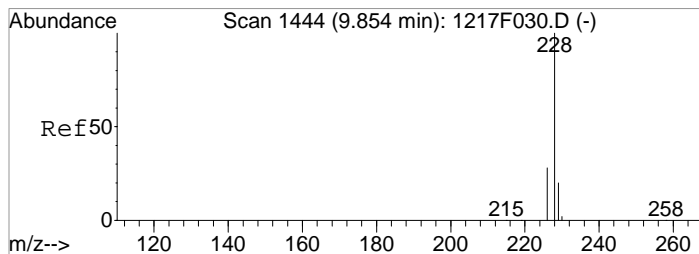
Tgt Ion: 202	Resp: 1630
Ion Ratio	Lower Upper
202	100
101	461.2 0.0 39.5#
100	34.6 0.0 25.4#



#26
 Benz(a)anthracene
 Concen: 1.55 ng/ml
 RT: 9.81 min Scan# 1431
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

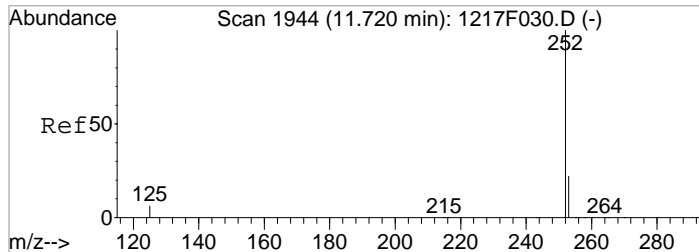
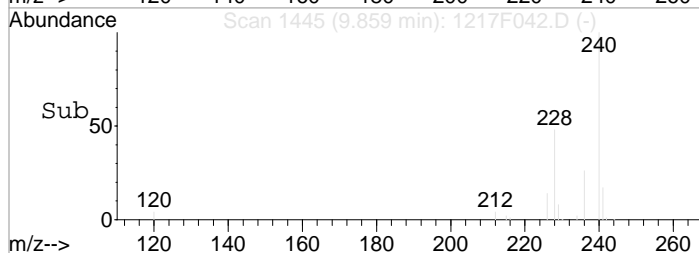
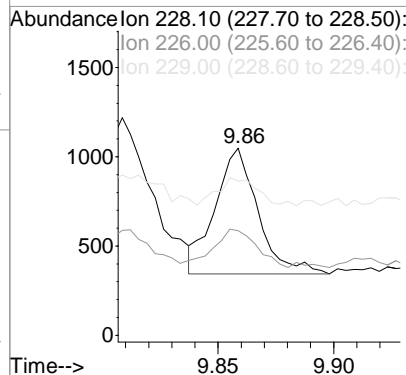
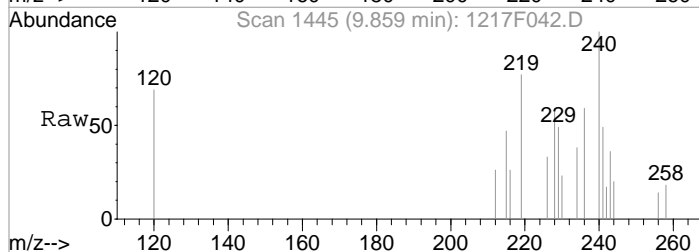
Tgt Ion: 228	Resp: 1147
Ion Ratio	Lower Upper
228	100
226	24.5 0.0 55.5
229	18.7 0.0 39.9





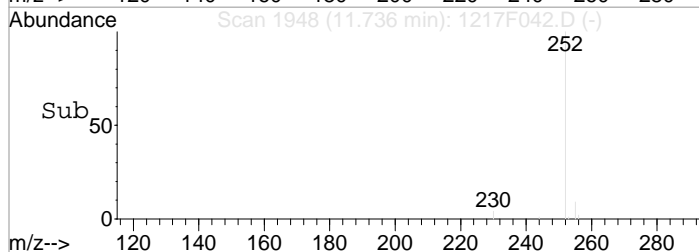
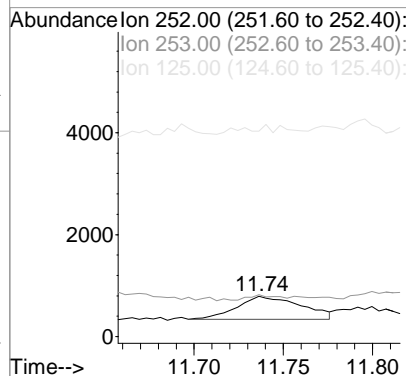
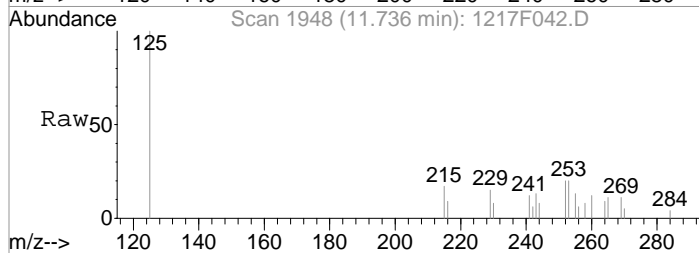
#27
 Chrysene
 Concen: 1.32 ng/ml
 RT: 9.86 min Scan# 1445
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

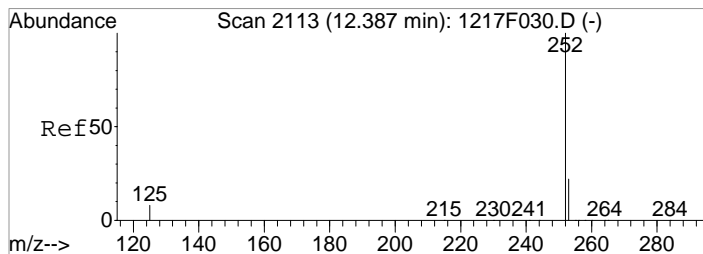
Tgt Ion: 228	Resp: 912
Ion Ratio	Lower Upper
228	100
226	29.4 0.0 57.9
229	16.6 0.0 39.6



#29
 Benzo(b)fluoranthene
 Concen: 1.33 ng/ml
 RT: 11.74 min Scan# 1948
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

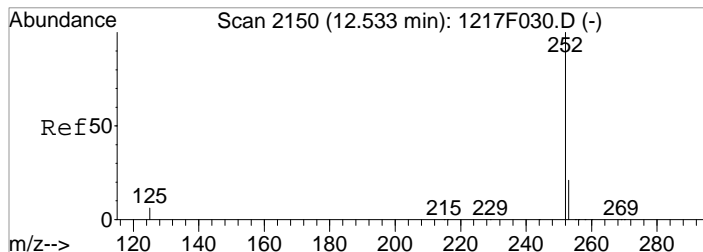
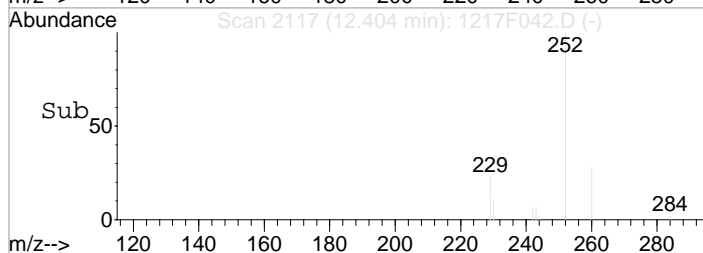
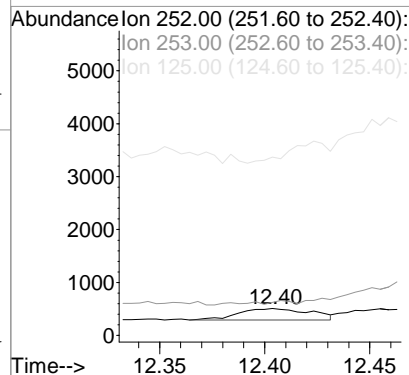
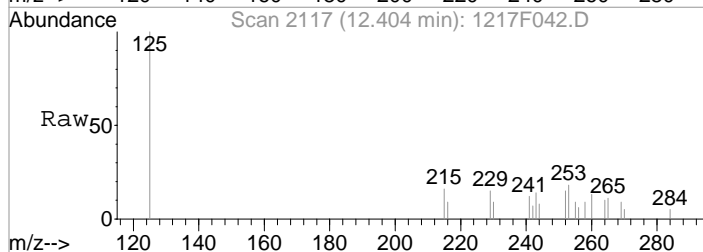
Tgt Ion: 252	Resp: 1120
Ion Ratio	Lower Upper
252	100
253	11.5 0.0 51.8
125	0.0 0.0 25.2





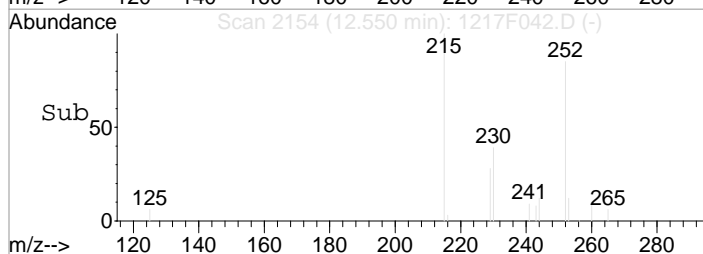
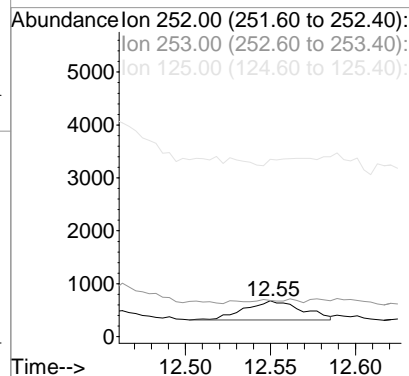
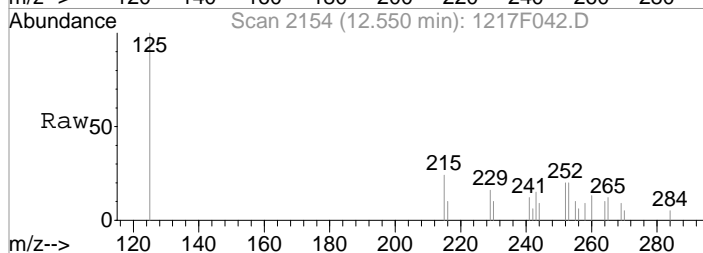
#31
 Benzo(e)pyrene
 Concen: 0.66 ng/ml
 RT: 12.40 min Scan# 2117
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

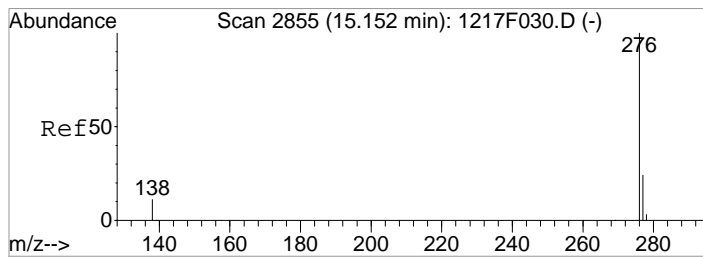
Tgt Ion:	252	Resp:	520
Ion Ratio	Lower	Upper	
252	100		
253	9.3	0.0	51.7
125	0.0	0.0	27.8



#32
 Benzo(a)pyrene
 Concen: 1.04 ng/ml
 RT: 12.55 min Scan# 2154
 Delta R.T. -0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

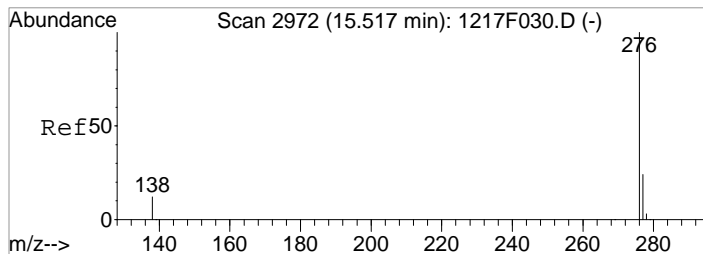
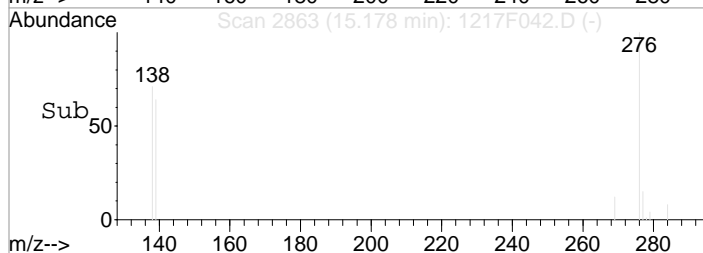
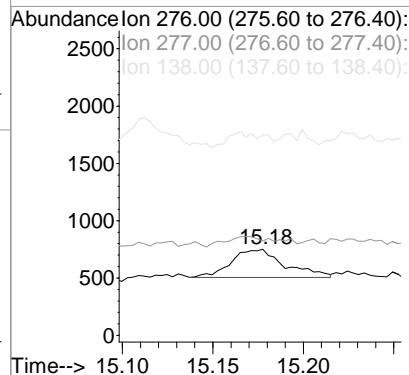
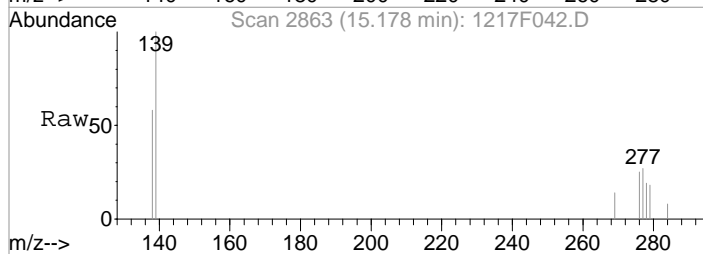
Tgt Ion:	252	Resp:	839
Ion Ratio	Lower	Upper	
252	100		
253	5.6	0.0	51.9
125	2.5	0.0	25.9





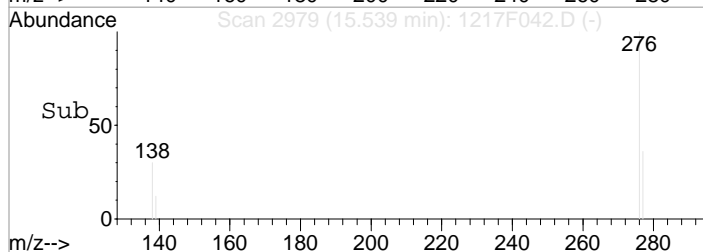
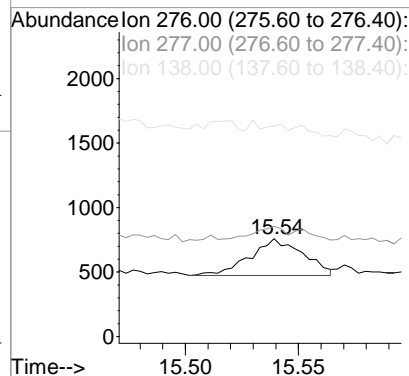
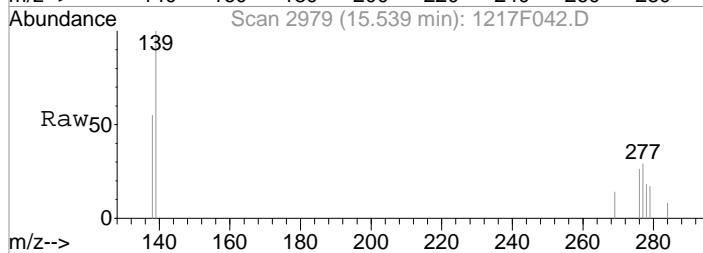
#34
 Indeno(1,2,3-cd)pyrene
 Concen: 0.63 ng/ml
 RT: 15.18 min Scan# 2863
 Delta R.T. 0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

Tgt	Ion:276	Resp:	503
Ion	Ratio	Lower	Upper
276	100		
277	10.6	0.0	54.1
138	35.4	0.0	30.5#



#36
 Benzo(g,h,i)perylene
 Concen: 0.51 ng/ml
 RT: 15.54 min Scan# 2979
 Delta R.T. 0.01 min
 Lab File: 1217F042.D
 Acq: 18 Dec 2020 1:04 am

Tgt	Ion:276	Resp:	469
Ion	Ratio	Lower	Upper
276	100		
277	37.4	0.0	53.8
138	25.5	0.0	31.5



Data File : J:\MS14\DATA\121720\1217F042.D

Acq On : 18 Dec 2020 1:04 am

Sample : KQ2019929-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 05:24:20 2020

Vial: 37

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.55	136	86131m	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.13	164	37219	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.37	188	81692	200.00	ng/ml	-0.01
23) Chrysene-d12	9.82	240	118204	200.00	ng/ml	0.00
28) Perylene-d12	12.70	264	139668	200.00	ng/ml	-0.01

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.20	152	34482	146.83	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	14.68%	
13) Fluorene-d10	6.57	176	37350	167.18	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	16.72%	
22) Fluoranthene-d10	8.36	212	89528	183.62	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	18.36%	
25) Terphenyl-d14	8.70	244	88203	165.97	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	16.60%	

Target Compounds

						Qvalue
2) Naphthalene	4.57	128	1027	2.35	ng/ml	95
4) 2-Methylnaphthalene	5.23	142	154	0.54	ng/ml	91
5) 1-Methylnaphthalene	5.32	142	105	0.40	ng/ml	92
6) Biphenyl	5.65	154	363	1.05	ng/ml	94
7) 2,6-Dimethylnaphthalene	5.78	156	88	0.35	ng/ml	86
9) Acenaphthylene	6.01	152	90	0.24	ng/ml	91
10) Acenaphthene	6.16	154	120	0.52	ng/ml	97
11) Dibenzofuran	6.31	168	185	0.53	ng/ml	77
14) Fluorene	6.60	166	153	0.58	ng/ml	95
17) Phenanthrene	7.39	178	1713	3.77	ng/ml	96
18) Anthracene	7.44	178	189	0.44	ng/ml	99
21) Fluoranthene	8.38	202	2124	3.73	ng/ml	99
24) Pyrene	8.56	202	1630m	2.26	ng/ml	
26) Benz(a)anthracene	9.81	228	1147	1.55	ng/ml	98
27) Chrysene	9.86	228	912	1.32	ng/ml	96
29) Benzo(b)fluoranthene	11.74	252	1120	1.33	ng/ml	79
31) Benzo(e)pyrene	12.40	252	520	0.66	ng/ml	75
32) Benzo(a)pyrene	12.55	252	839	1.04	ng/ml	71
34) Indeno(1,2,3-cd)pyrene	15.18	276	503	0.63	ng/ml#	61
36) Benzo(g,h,i)perylene	15.54	276	469	0.51	ng/ml	69

Data File : J:\MS14\DATA\121720\1217F042.D

Acq On : 18 Dec 2020 1:04 am

Sample : KQ2019929-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 5:24 2020

Vial: 37

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

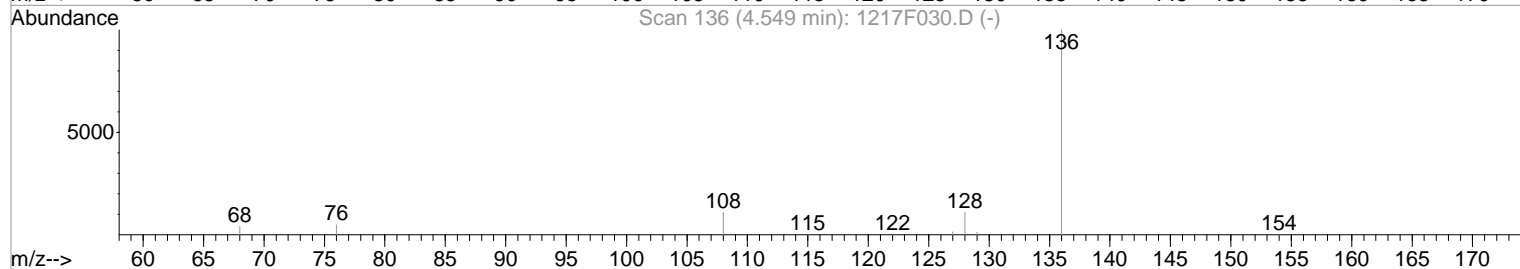
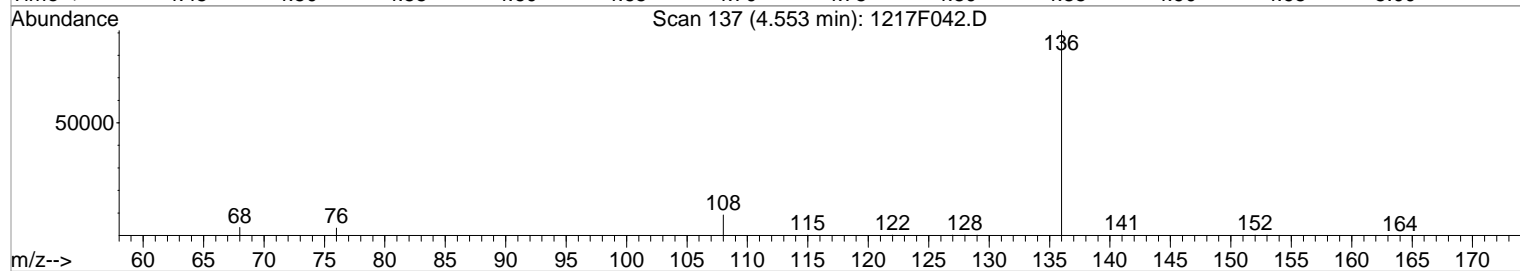
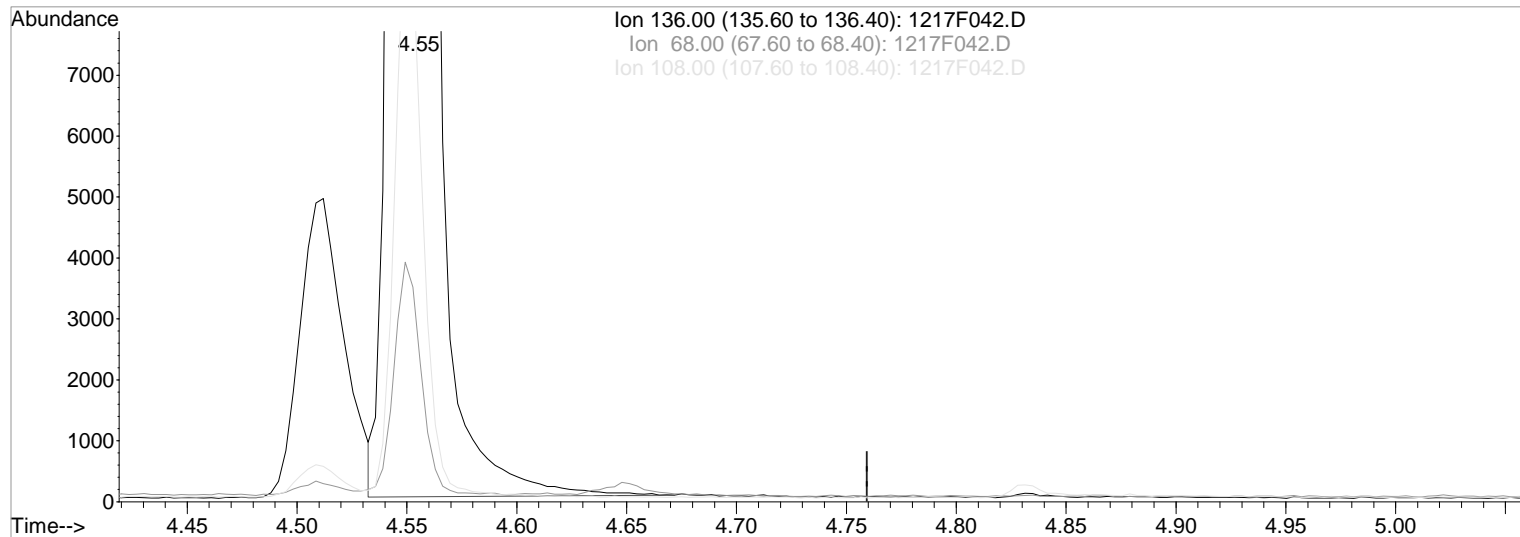
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F042.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.55min 200.00ng/ml

Before

response 79155

Ion Exp% Act%

12/18/20

136.00 100 100

68.00 4.00 3.73

108.00 10.90 9.93

0.00 0.00 0.00

Data File : J:\MS14\DATA\121720\1217F042.D

Acq On : 18 Dec 2020 1:04 am

Sample : KQ2019929-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:41 2020

Vial: 37

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

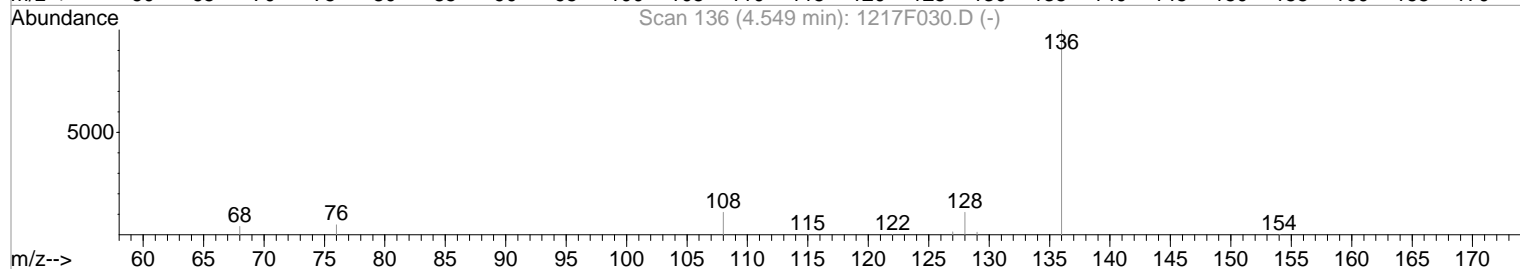
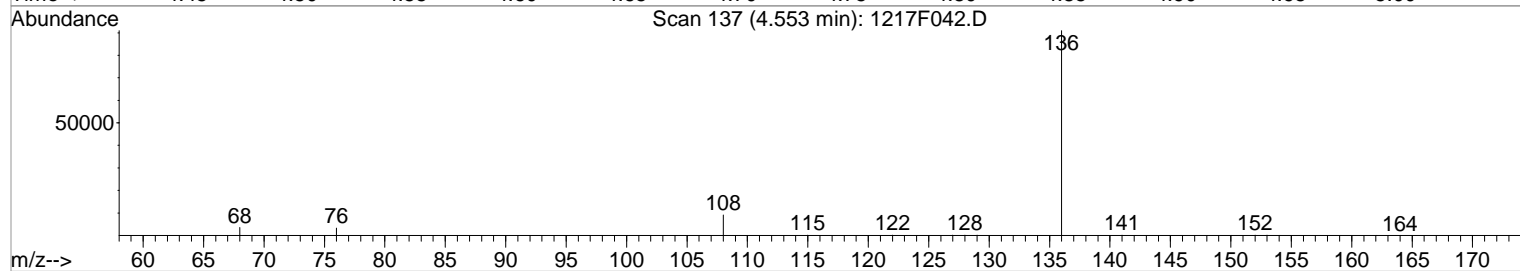
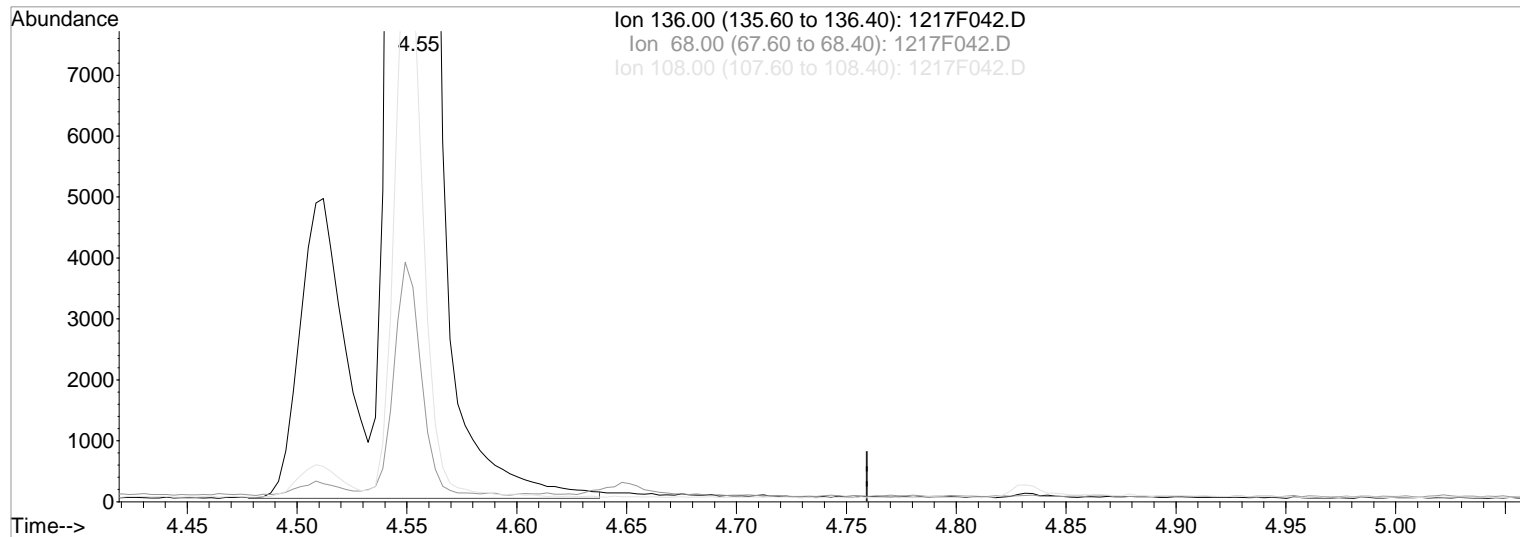
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F042.D

(1) Naphthalene-d8 (I)

4.55min 200.00ng/ml m

response 86131

Ion Exp% Act%

136.00 100 100

68.00 4.00 3.87

108.00 10.90 10.00

0.00 0.00 0.00

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F042.D

Acq On : 18 Dec 2020 1:04 am

Sample : KQ2019929-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:42 2020

Vial: 37

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

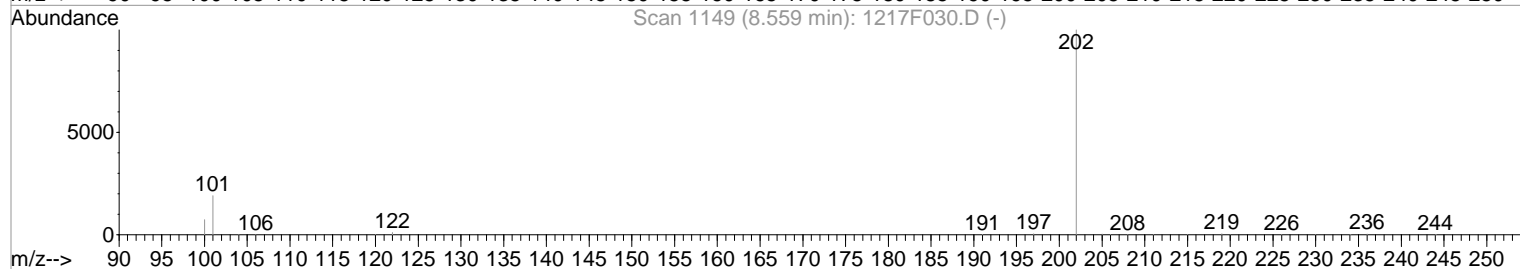
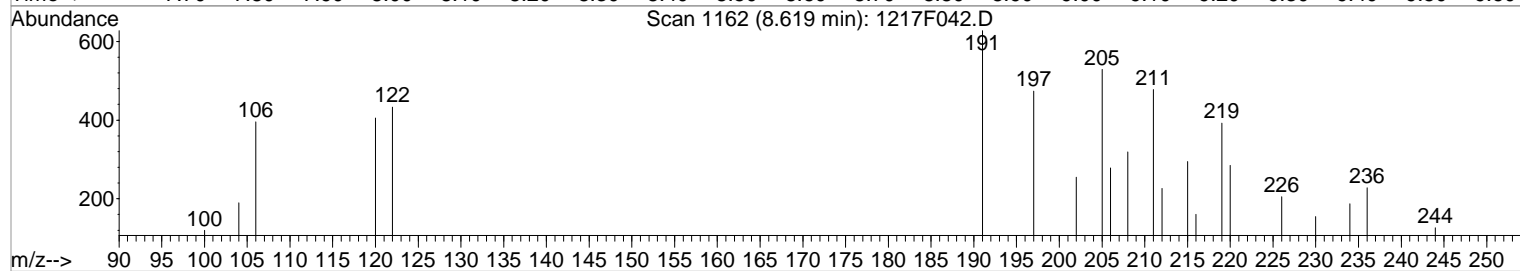
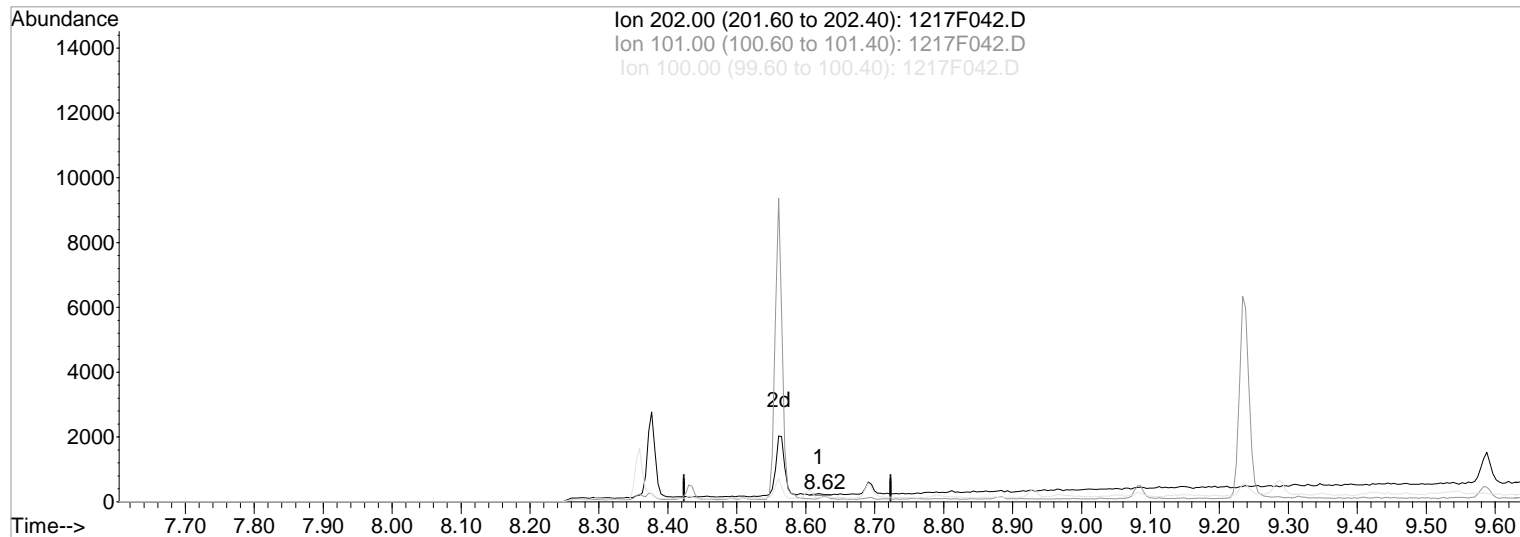
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F042.D

(24) Pyrene (T)

Manual Integration:

8.62min 0.07ng/ml

Before

response 54

Ion	Exp%	Act%
202.00	100	100
101.00	9.50	32.08
100.00	5.40	0.00
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F042.D

Acq On : 18 Dec 2020 1:04 am

Sample : KQ2019929-04 MB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:42 2020

Vial: 37

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

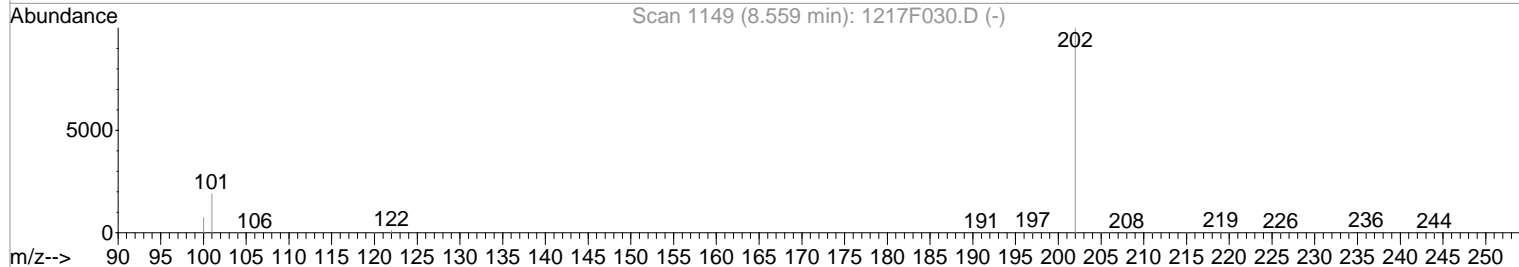
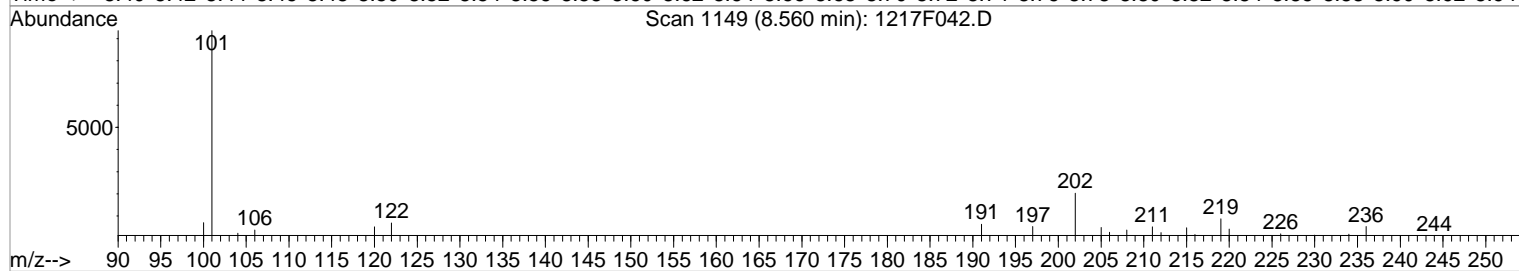
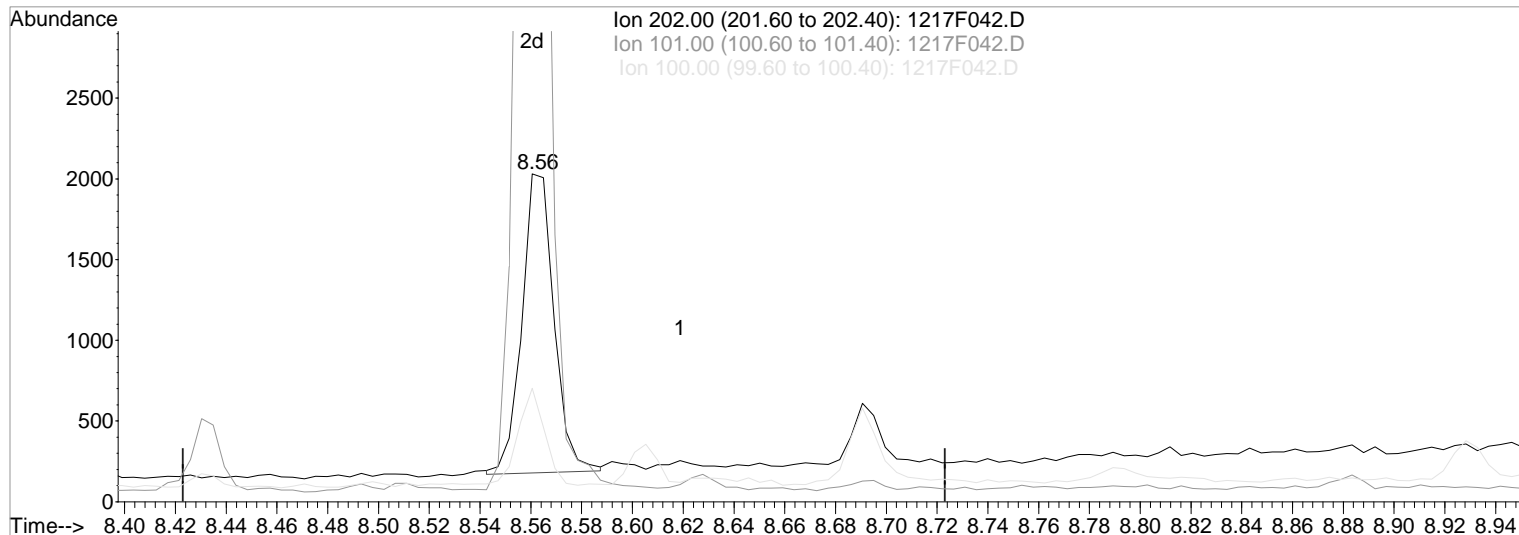
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F042.D

(24) Pyrene (T)

8.56min 2.26ng/ml m

response 1630

Ion Exp% Act%

202.00 100 100

101.00 9.50 461.20#

100.00 5.40 34.56#

0.00 0.00 0.00

Manual Integration:

After

WP

12/18/20

Validation Report

1st *Ca* 12/17/20
2nd *Q* 12/17/20

Data File: J:\MS14\DATA\121620\1216F044.D\
Lab ID: KQ2019722-03
RunType: LCS
Matrix: Soil

Date Acquired: 12/16/20 23:00:00
Batch ID: 707391
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121620\1216F044.D\	Instrument:	K-MS-14
Acqu Date:	12/16/20 23:00:00	Vial:	5
Run Type:	LCS	Dilution:	1
Lab ID:	KQ2019722-03	Raw Units:	ng/mL

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707391	Prep Lot:	371210	Report Group:	KQ2019722
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/9/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.15		26871	200.00	OK
Chrysene-d12	9.84	-0.01	77401	200.00	OK
Naphthalene-d8	4.57		59556	200.00	OK
Perylene-d12	12.75	+0.02	92481	200.00	OK
Phenanthrene-d10	7.39		60004	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.37	-0.01	60074	167.75	84	38 - 104	Y
Fluorene-d10	6.59		25113	155.70	78	39 - 109	Y
Terphenyl-d14	8.71		60350	173.43	87	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.33		55102	299.97	300		Y
2-Methylnaphthalene	5.25		61236	310.07	310		Y
Acenaphthene	6.18		55330	333.39	333		Y
Acenaphthylene	6.03		86040	320.29	320		Y
Anthracene	7.45	-0.01	112942	355.91	356		Y
Benz(a)anthracene	9.83		174280	358.52	359		Y
Benzo(a)pyrene	12.60	+0.02	178801	334.27	334		Y
Benzo(b)fluoranthene	11.77	+0.01	195436	349.59	350		Y
Benzo(g,h,i)perylene	15.56	+0.01	204850	338.71	339		Y
Benzo(k)fluoranthene	11.84	+0.01	199454	367.32	367		Y
Chrysene	9.88		172966	381.57	382		Y
Dibenz(a,h)anthracene	15.23	+0.02	200893	350.16	350		Y
Fluoranthene	8.39		153807	367.35	367		Y

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

Printed: 12/18/20 10:10

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121620\1216F044.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/16/20 23:00:00	Vial:	5	
Run Type:	LCS	Dilution:	1	
Lab ID:	KQ2019722-03	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.61		68994	363.66	364		Y
Indeno(1,2,3-cd)pyrene	15.20	+0.02	153245	288.44	288		Y
Naphthalene	4.59		94381	312.81	313		Y
Phenanthrene	7.41		111019	332.28	332		Y
Pyrene	8.57	-0.01	165098	349.89	350		Y

Prep Amount: 10.00 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 100.00

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

Printed: 12/18/20 10:10

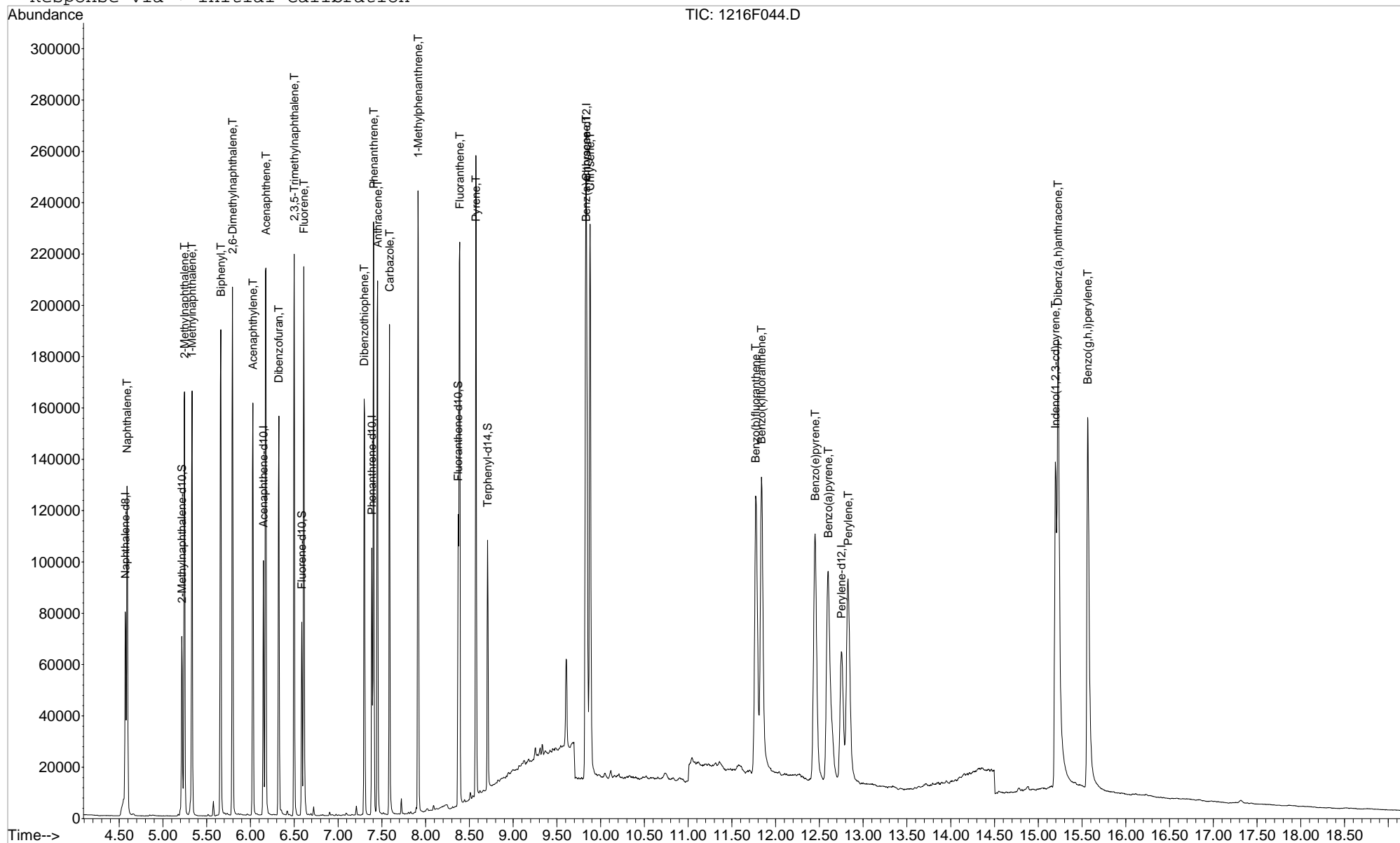
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Data File : J:\MS14\DATA\121620\1216F044.D
Acq On : 16 Dec 2020 11:00 pm
Sample : KQ2019722-03 LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Dec 17 8:39 2020

Vial: 42
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\121620\1216F044.D

Acq On : 16 Dec 2020 11:00 pm

Sample : KQ2019722-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 05:02:06 2020

Vial: 42

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.57	136	59556m	200.00	ng/ml	0.01
8) Acenaphthene-d10	6.15	164	26871	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.39	188	60004	200.00	ng/ml	0.00
23) Chrysene-d12	9.84	240	77401	200.00	ng/ml	0.01
28) Perylene-d12	12.75	264	92481	200.00	ng/ml	0.04

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.22	152	22884	140.93	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	14.09%	
13) Fluorene-d10	6.59	176	25113	155.70	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	15.57%	
22) Fluoranthene-d10	8.37	212	60074	167.75	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	16.78%	
25) Terphenyl-d14	8.71	244	60350	173.43	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	17.34%	

Target Compounds

						Qvalue
2) Naphthalene	4.59	128	94381m	312.81	ng/ml	
4) 2-Methylnaphthalene	5.25	142	61236	310.07	ng/ml	99
5) 1-Methylnaphthalene	5.33	142	55102	299.97	ng/ml	99
6) Biphenyl	5.66	154	73067	304.68	ng/ml	99
7) 2,6-Dimethylnaphthalene	5.79	156	55358	314.21	ng/ml	99
9) Acenaphthylene	6.03	152	86040	320.29	ng/ml	100
10) Acenaphthene	6.18	154	55330	333.39	ng/ml	99
11) Dibenzofuran	6.32	168	82782	326.52	ng/ml	91
12) 2,3,5-Trimethylnaphthalene	6.50	170	58991	368.57	ng/ml	96
14) Fluorene	6.61	166	68994	363.66	ng/ml	97
16) Dibenzothiophene	7.30	184	97929	305.24	ng/ml	94
17) Phenanthrene	7.41	178	111019	332.28	ng/ml	99
18) Anthracene	7.45	178	112942	355.91	ng/ml	99
19) Carbazole	7.59	167	101590	327.71	ng/ml	99
20) 1-Methylphenanthrene	7.91	192	93811	364.48	ng/ml	99
21) Fluoranthene	8.39	202	153807	367.35	ng/ml	96
24) Pyrene	8.57	202	165098	349.89	ng/ml	96
26) Benz(a)anthracene	9.83	228	174280	358.52	ng/ml	99
27) Chrysene	9.88	228	172966	381.57	ng/ml	99
29) Benzo(b)fluoranthene	11.77	252	195436	349.59	ng/ml	100
30) Benzo(k)fluoranthene	11.84	252	199454	367.32	ng/ml	99
31) Benzo(e)pyrene	12.45	252	190672	364.02	ng/ml	99
32) Benzo(a)pyrene	12.60	252	178801	334.27	ng/ml	99
33) Perylene	12.83	252	167341	338.11	ng/ml	100
34) Indeno(1,2,3-cd)pyrene	15.20	276	153245m	288.44	ng/ml	
35) Dibenz(a,h)anthracene	15.23	278	200893	350.16	ng/ml	100
36) Benzo(g,h,i)perylene	15.56	276	204850	338.71	ng/ml	99

Data File : J:\MS14\DATA\121620\1216F044.D

Acq On : 16 Dec 2020 11:00 pm

Sample : KQ2019722-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 5:02 2020

Vial: 42

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

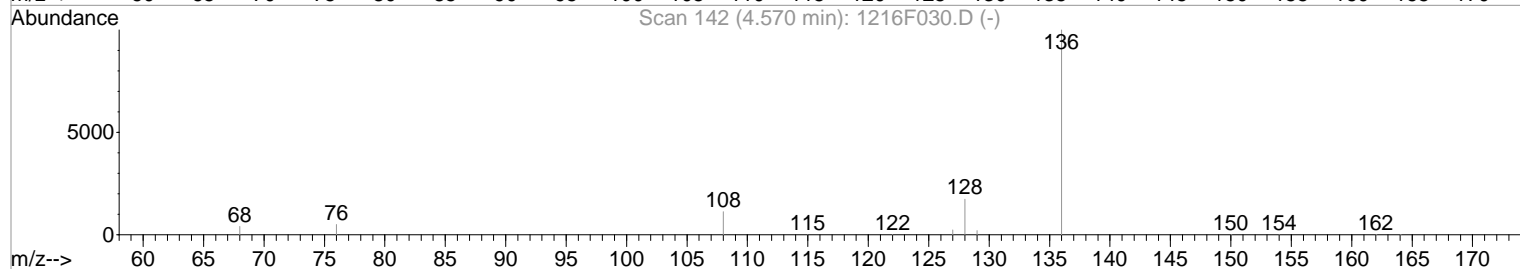
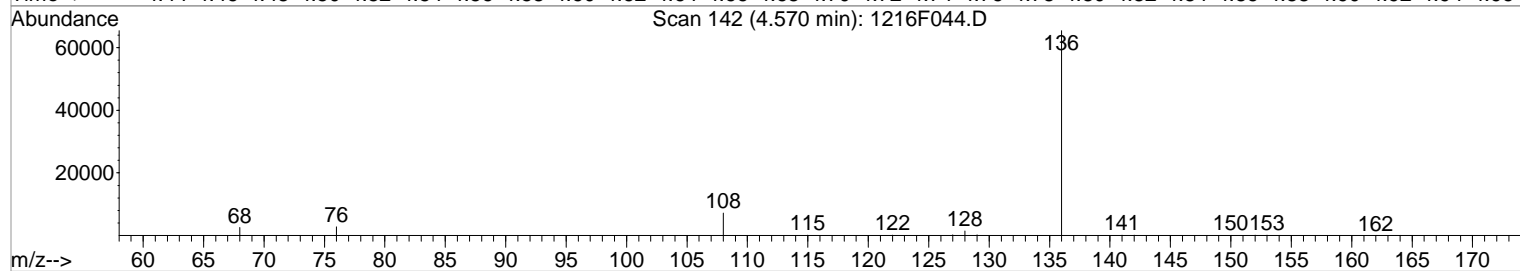
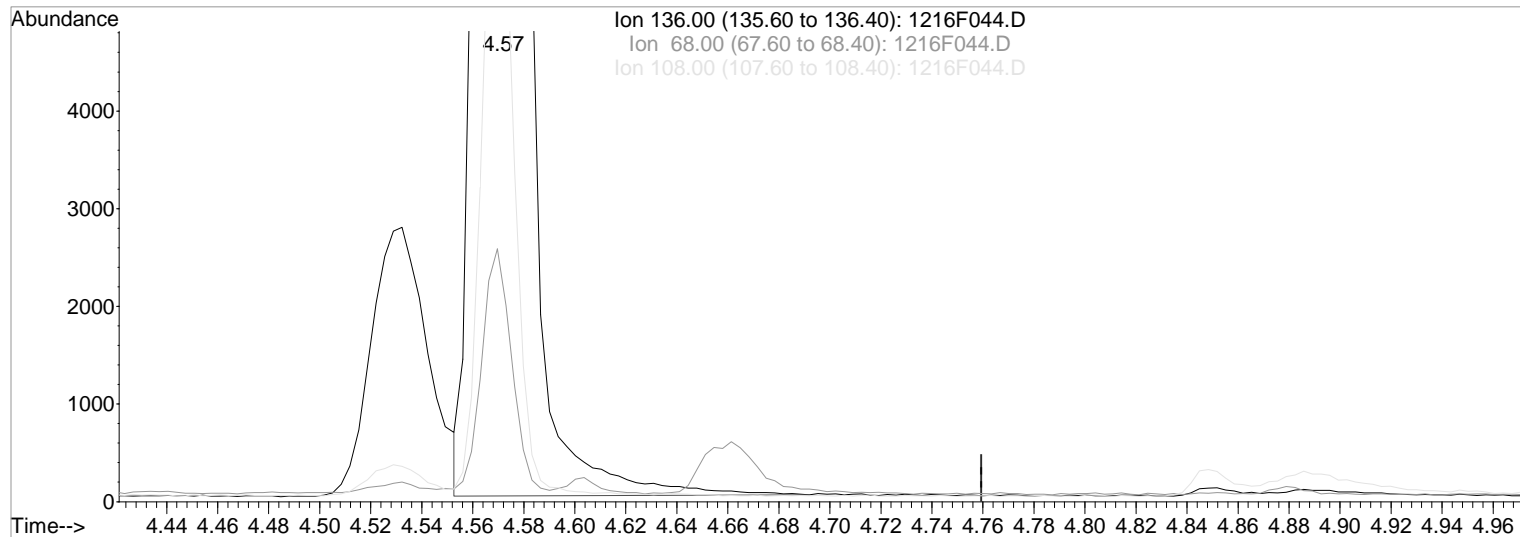
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F044.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.57min 200.00ng/ml

Before

response 55182

Ion	Exp%	Act%
-----	------	------

12/17/20

136.00	100	100
--------	-----	-----

68.00	4.00	3.76
-------	------	------

108.00	10.90	10.85
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121620\1216F044.D

Acq On : 16 Dec 2020 11:00 pm

Sample : KQ2019722-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:39 2020

Vial: 42

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

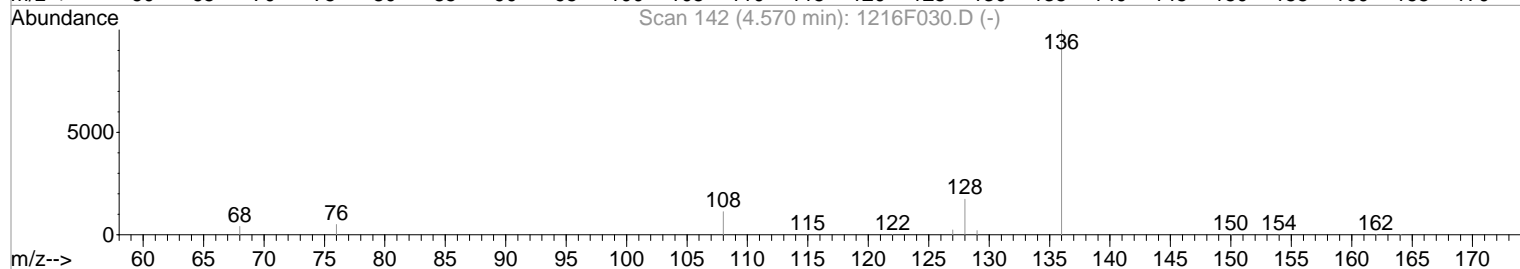
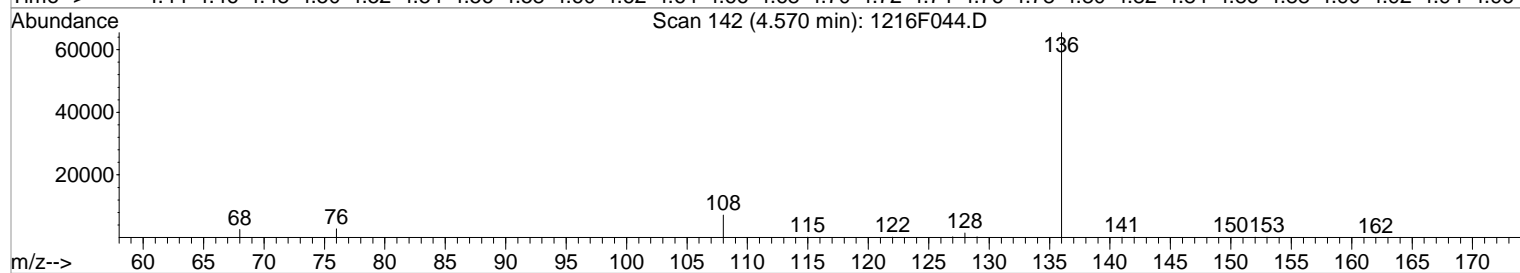
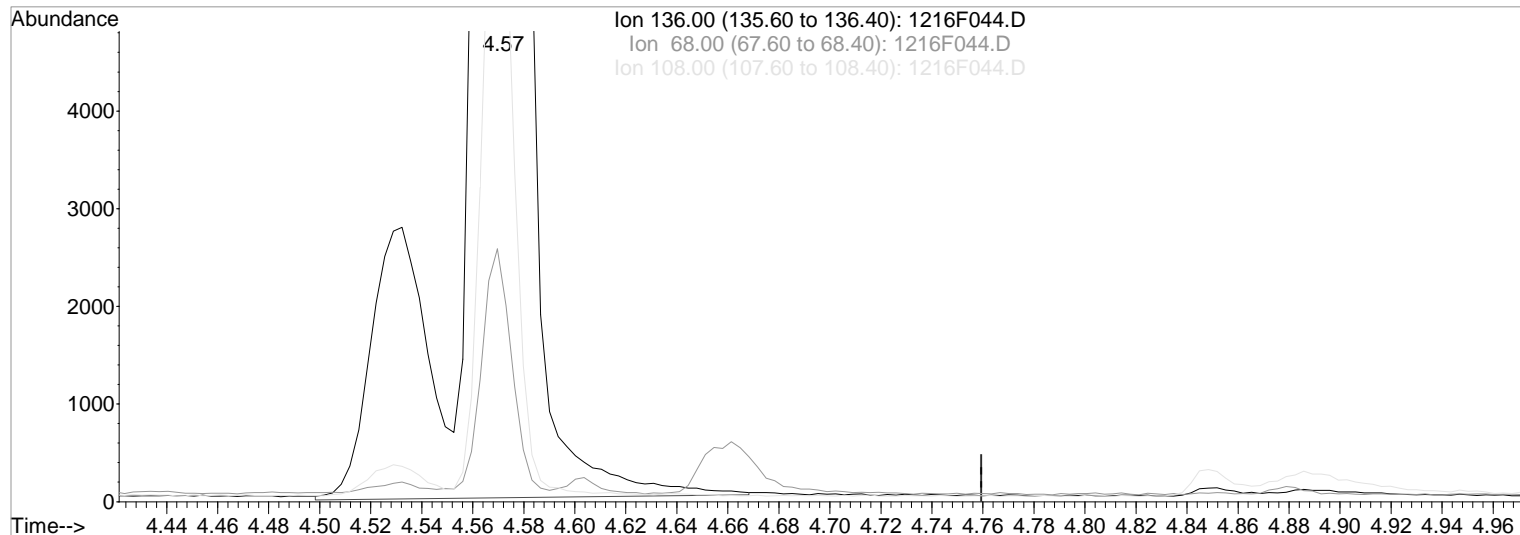
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F044.D

(1) Naphthalene-d8 (I)

4.57min 200.00ng/ml m

response 59556

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	3.95
108.00	10.90	10.93
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

12/17/20

Data File : J:\MS14\DATA\121620\1216F044.D

Acq On : 16 Dec 2020 11:00 pm

Sample : KQ2019722-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:39 2020

Vial: 42

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

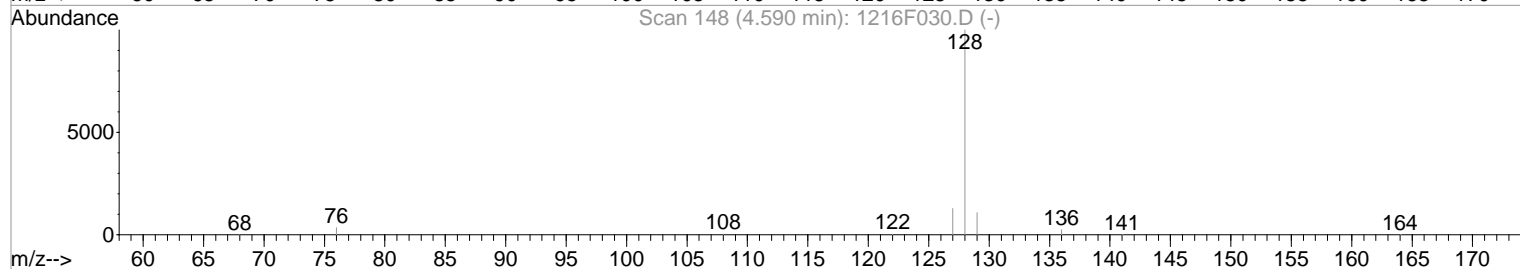
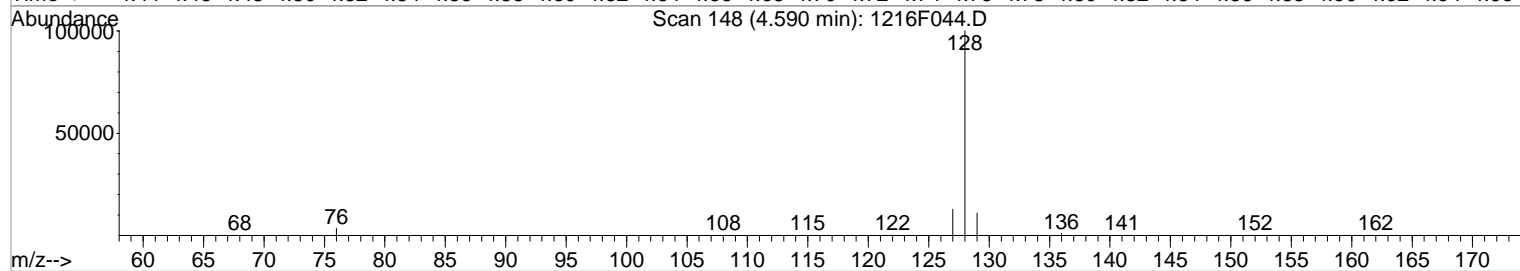
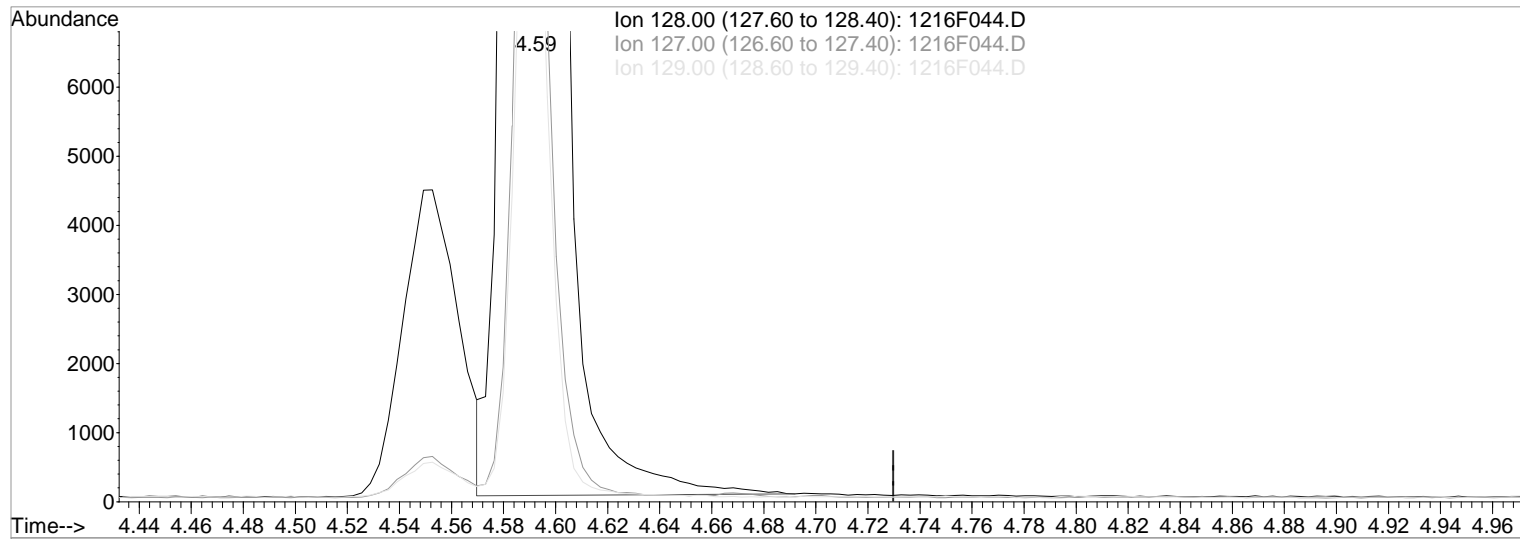
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F044.D

(2) Naphthalene (T)

Manual Integration:

4.59min 289.31ng/ml

Before

response 87291

Ion Exp% Act%

12/17/20

128.00 100 100

127.00 12.70 12.77

129.00 10.80 10.88

0.00 0.00 0.00

Data File : J:\MS14\DATA\121620\1216F044.D

Acq On : 16 Dec 2020 11:00 pm

Sample : KQ2019722-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:39 2020

Vial: 42

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

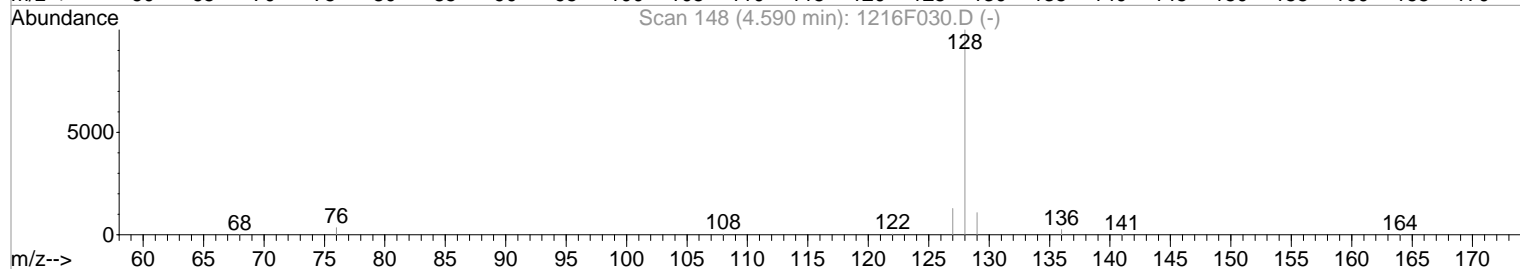
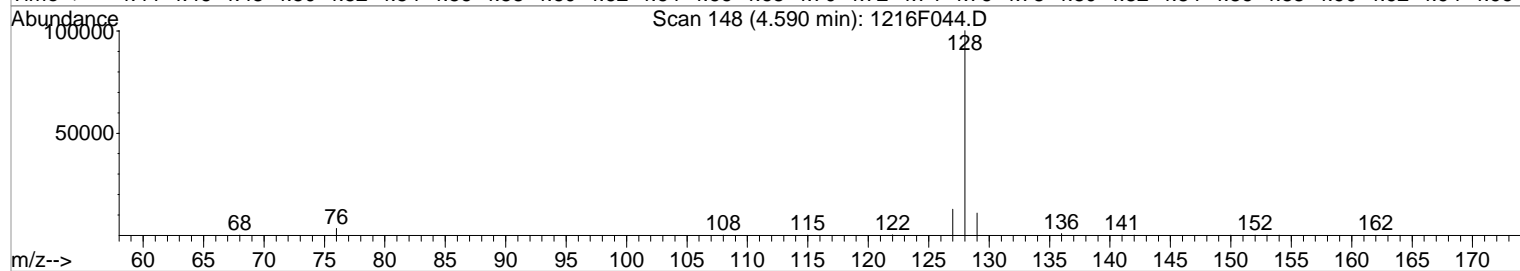
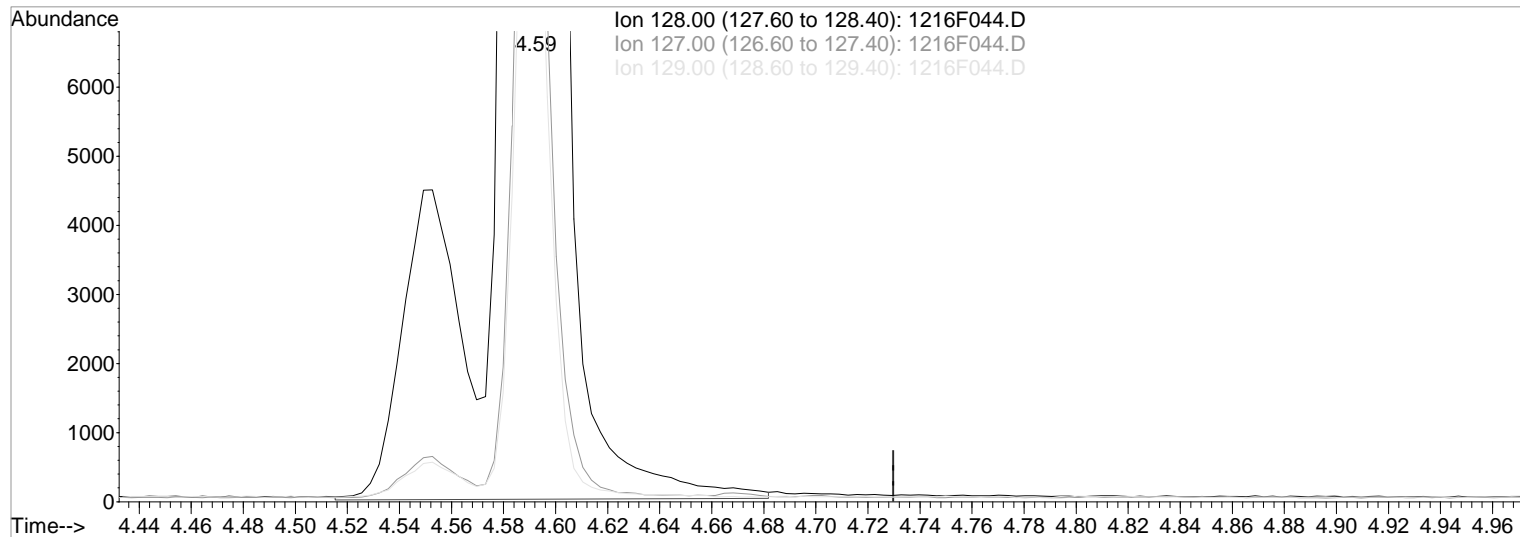
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F044.D

(2) Naphthalene (T)

4.59min 312.81ng/ml m

response 94381

Ion	Exp%	Act%
-----	------	------

128.00	100	100
--------	-----	-----

127.00	12.70	12.83
--------	-------	-------

129.00	10.80	10.93
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/17/20

Data File : J:\MS14\DATA\121620\1216F044.D

Acq On : 16 Dec 2020 11:00 pm

Sample : KQ2019722-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:39 2020

Vial: 42

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

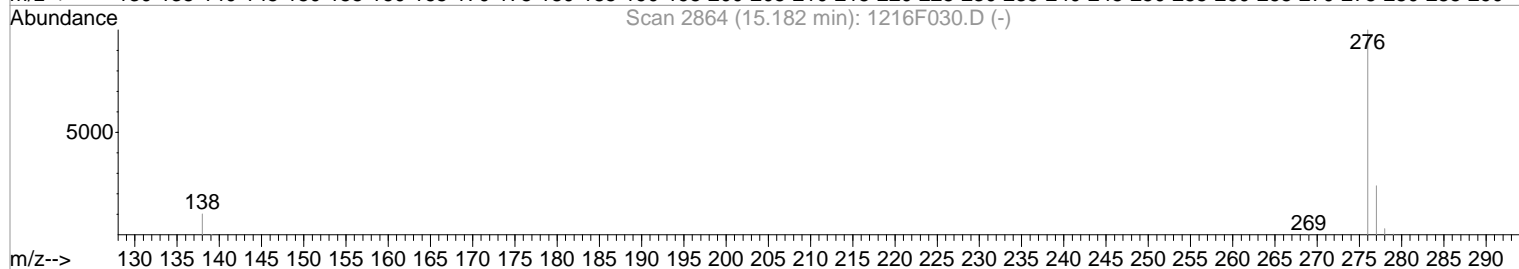
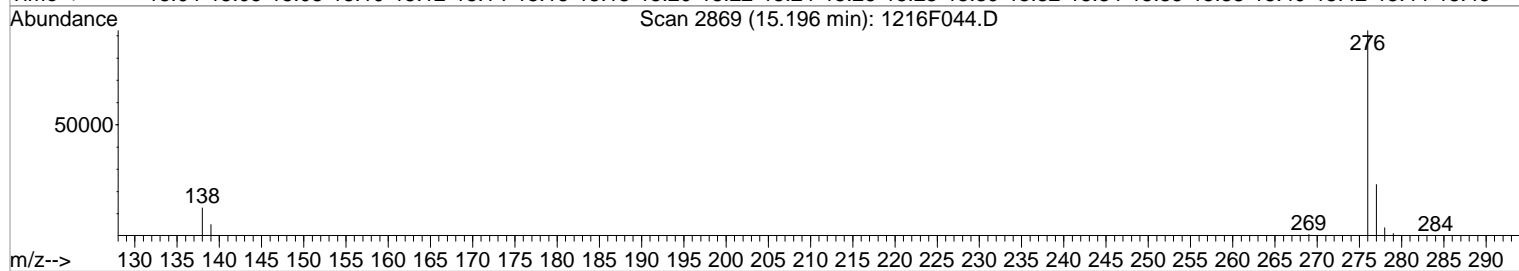
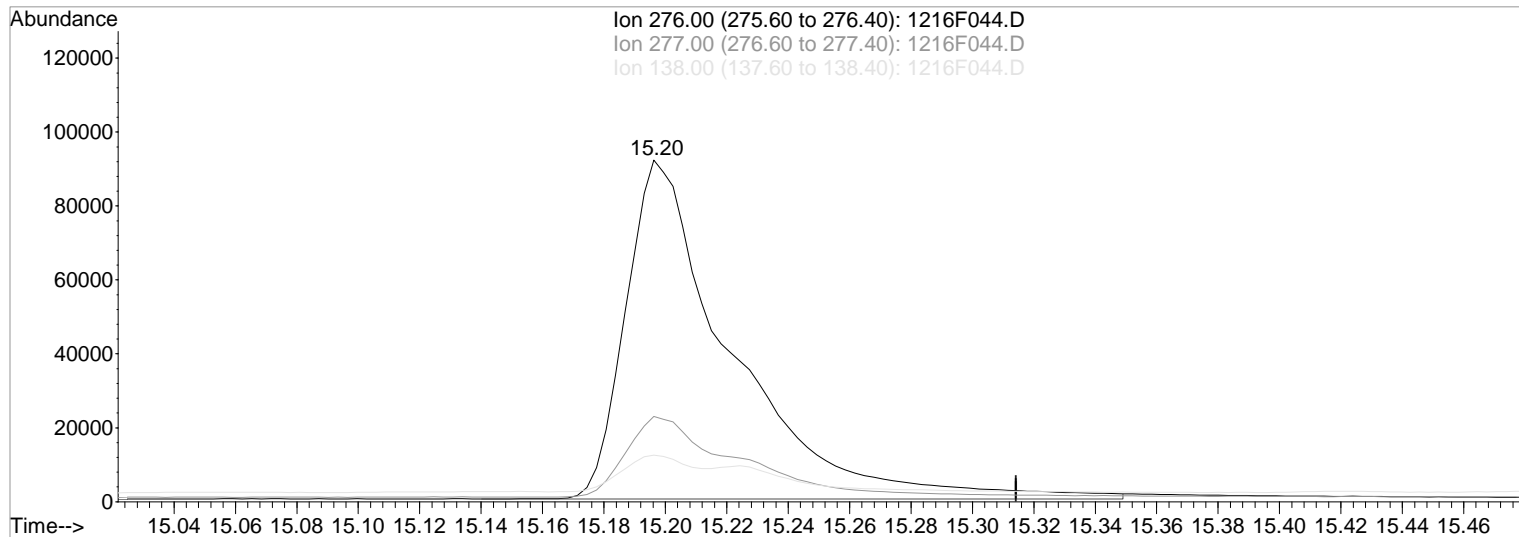
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F044.D

(34) Indeno(1,2,3-cd)pyrene (T)

Manual Integration:

15.20min 414.09ng/ml

Before

response 219999

Ion	Exp%	Act%
-----	------	------

12/17/20

276.00	100	100
--------	-----	-----

277.00	24.10	23.83
--------	-------	-------

138.00	10.50	10.90
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121620\1216F044.D

Acq On : 16 Dec 2020 11:00 pm

Sample : KQ2019722-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:39 2020

Vial: 42

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

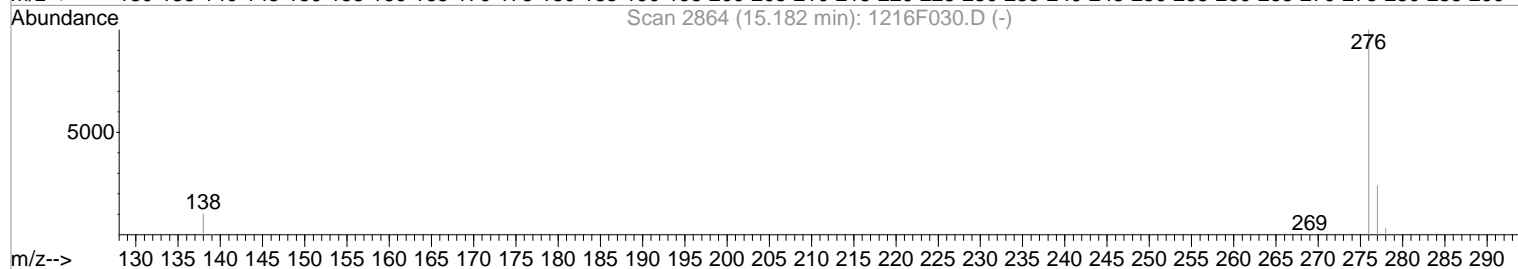
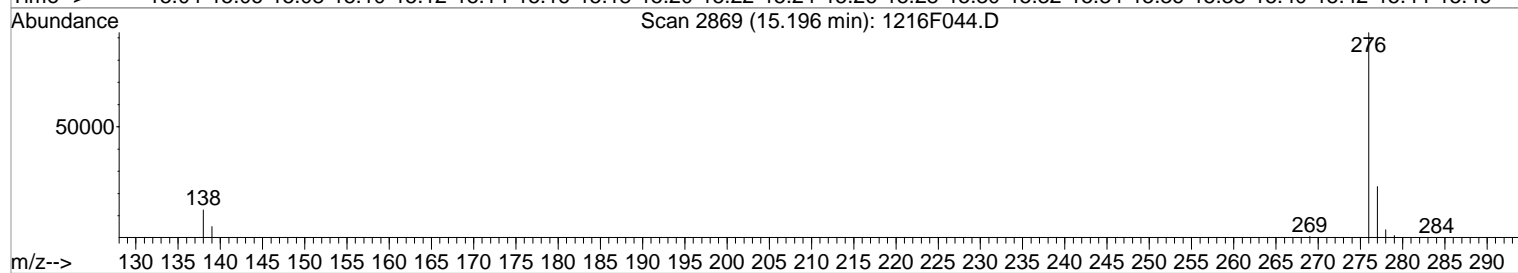
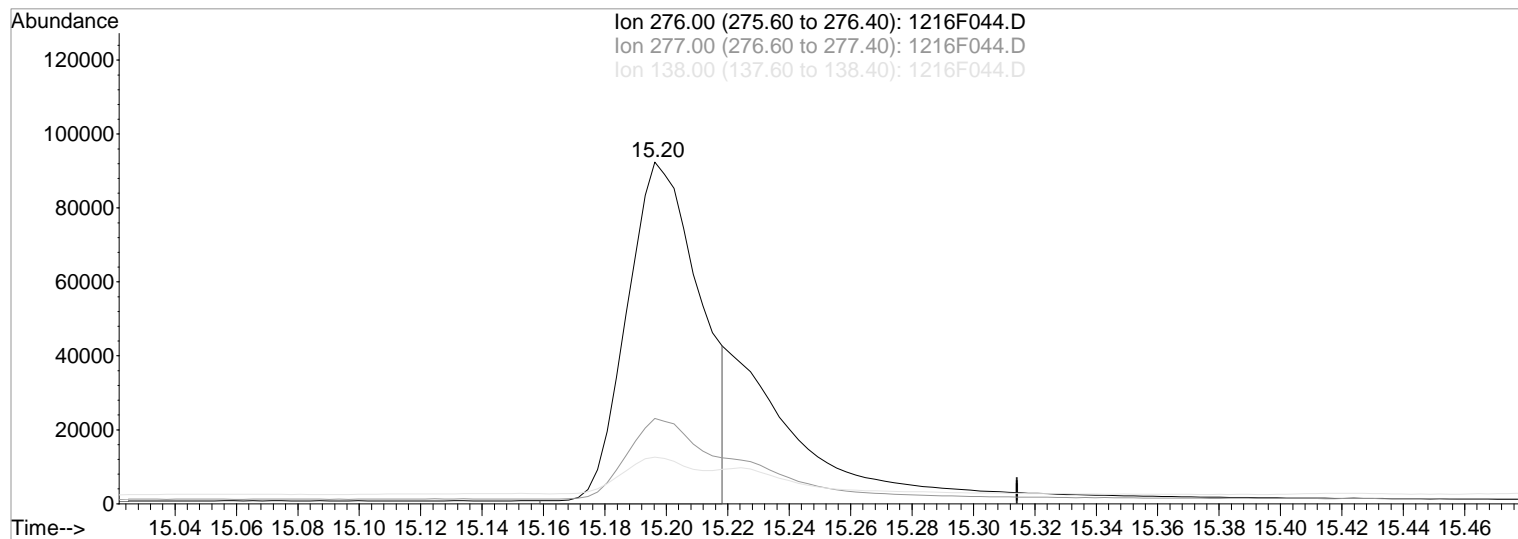
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F044.D

(34) Indeno(1,2,3-cd)pyrene (T)

15.20min 288.44ng/ml m

response 153245

Ion	Exp%	Act%
276.00	100	100
277.00	24.10	24.99
138.00	10.50	13.64
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

12/17/20

Validation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File: J:\MS14\DATA\121720\1217F041.D\
Lab ID: KQ2019929-03
RunType: LCS
Matrix: Soil

Date Acquired: 12/18/20 00:38:00
Batch ID: 707540
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pyrene	-21		20	OK, <40

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121720\1217F041.D\	Instrument:	K-MS-14
Acqu Date:	12/18/20 00:38:00	Vial:	8
Run Type:	LCS	Dilution:	1
Lab ID:	KQ2019929-03	Raw Units:	ng/mL

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/4/20	Receive Date:	12/8/20

Analysis Lot:	707540	Prep Lot:	371385	Report Group:	KQ2019929
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/14/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.13		35396	200.00	OK
Chrysene-d12	9.82		112191	200.00	OK
Naphthalene-d8	4.55		85204	200.00	OK
Perylene-d12	12.69	+0.01	136989	200.00	OK
Phenanthrene-d10	7.37	-0.01	79573	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.36		82522	173.76	87	38 - 104	Y
Fluorene-d10	6.57		33236	156.43	78	39 - 109	Y
Terphenyl-d14	8.69		80697	159.99	80	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.32	+0.01	78247	297.75	298		Y
2-Methylnaphthalene	5.23		87710	310.43	310		Y
Acenaphthene	6.16		74301	339.87	340		Y
Acenaphthylene	6.01		116048	327.95	328		Y
Anthracene	7.44		153968	365.87	366		Y
Benz(a)anthracene	9.81		258417	366.76	367		Y
Benzo(a)pyrene	12.54	+0.01	273821	345.59	346		Y
Benzo(b)fluoranthene	11.73	+0.01	298546	360.52	361		Y
Benzo(g,h,i)perylene	15.52		303084	338.31	338		Y
Benzo(k)fluoranthene	11.79	+0.01	300142	373.16	373		Y
Chrysene	9.85		249443	379.64	380		Y
Dibenz(a,h)anthracene	15.19	+0.01	302052	355.42	355		Y
Fluoranthene	8.38		212544	382.80	383		Y

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

Printed: 12/18/20 10:04

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121720\1217F041.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/18/20 00:38:00	Vial:	8	
Run Type:	LCS	Dilution:	1	
Lab ID:	KQ2019929-03	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.60		92485	370.07	370		Y
Indeno(1,2,3-cd)pyrene	15.16	+0.01	260337	330.80	331		Y
Naphthalene	4.57		140115	324.60	325		Y
Phenanthrene	7.39		151234	341.32	341		Y
Pyrene	8.56		232587	340.07	340		Y

Prep Amount: 10.00 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 100.00

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

Printed: 12/18/20 10:04

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\MS14\DATA\121720\1217F041.D

Acq On : 18 Dec 2020 12:38 am

Sample : KQ2019929-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:41 2020

Vial: 36

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

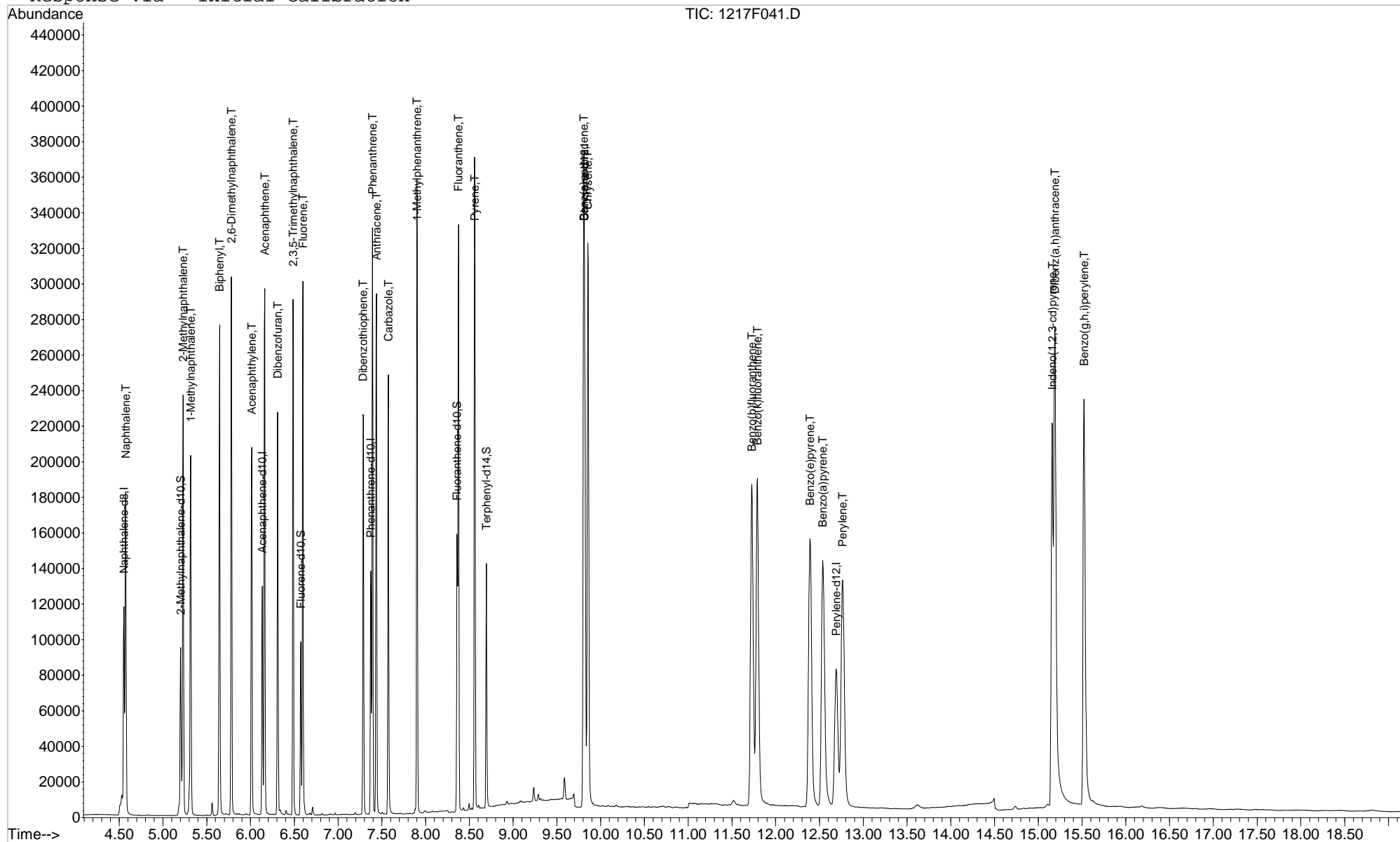
Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Initial Calibration



Data File : J:\MS14\DATA\121720\1217F041.D

Acq On : 18 Dec 2020 12:38 am

Sample : KQ2019929-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 05:24:16 2020

Vial: 36

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.55	136	85204m	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.13	164	35396	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.37	188	79573	200.00	ng/ml	-0.01
23) Chrysene-d12	9.82	240	112191	200.00	ng/ml	-0.01
28) Perylene-d12	12.69	264	136989	200.00	ng/ml	-0.02

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.20	152	32157	138.42	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	13.84%	
13) Fluorene-d10	6.57	176	33236	156.43	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	15.64%	
22) Fluoranthene-d10	8.36	212	82522	173.76	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	17.38%	
25) Terphenyl-d14	8.69	244	80697	159.99	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	16.00%	

Target Compounds

						Qvalue
2) Naphthalene	4.57	128	140115m	324.60	ng/ml	
4) 2-Methylnaphthalene	5.23	142	87710	310.43	ng/ml	99
5) 1-Methylnaphthalene	5.32	142	78247	297.75	ng/ml	97
6) Biphenyl	5.65	154	108843	317.24	ng/ml	100
7) 2,6-Dimethylnaphthalene	5.78	156	77881	308.99	ng/ml	99
9) Acenaphthylene	6.01	152	116048	327.95	ng/ml	100
10) Acenaphthene	6.16	154	74301	339.87	ng/ml	99
11) Dibenzofuran	6.31	168	109872	329.00	ng/ml	96
12) 2,3,5-Trimethylnaphthalene	6.48	170	88617	420.32	ng/ml	92
14) Fluorene	6.60	166	92485	370.07	ng/ml	99
16) Dibenzothiophene	7.29	184	136885	321.74	ng/ml	95
17) Phenanthrene	7.39	178	151234	341.32	ng/ml	99
18) Anthracene	7.44	178	153968	365.87	ng/ml	100
19) Carbazole	7.57	167	136459	331.94	ng/ml	99
20) 1-Methylphenanthrene	7.90	192	127845	374.56	ng/ml	98
21) Fluoranthene	8.38	202	212544	382.80	ng/ml	99
24) Pyrene	8.56	202	232587	340.07	ng/ml	93
26) Benz(a)anthracene	9.81	228	258417	366.76	ng/ml	99
27) Chrysene	9.85	228	249443	379.64	ng/ml	100
29) Benzo(b)fluoranthene	11.73	252	298546	360.52	ng/ml	100
30) Benzo(k)fluoranthene	11.79	252	300142	373.16	ng/ml	100
31) Benzo(e)pyrene	12.39	252	288863	372.30	ng/ml	100
32) Benzo(a)pyrene	12.54	252	273821	345.59	ng/ml	99
33) Perylene	12.77	252	260187	354.90	ng/ml	100
34) Indeno(1,2,3-cd)pyrene	15.16	276	260337m	330.80	ng/ml	
35) Dibenz(a,h)anthracene	15.19	278	302052	355.42	ng/ml	99
36) Benzo(g,h,i)perylene	15.52	276	303084	338.31	ng/ml	99

Data File : J:\MS14\DATA\121720\1217F041.D

Acq On : 18 Dec 2020 12:38 am

Sample : KQ2019929-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 5:24 2020

Vial: 36

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

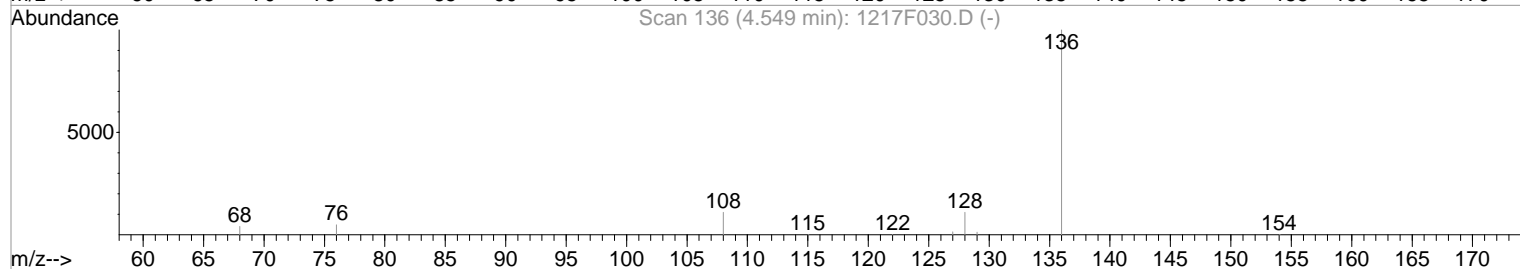
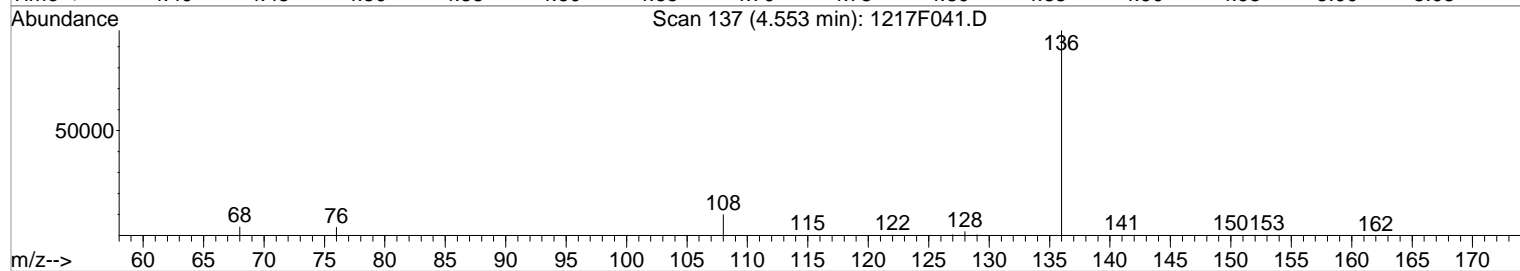
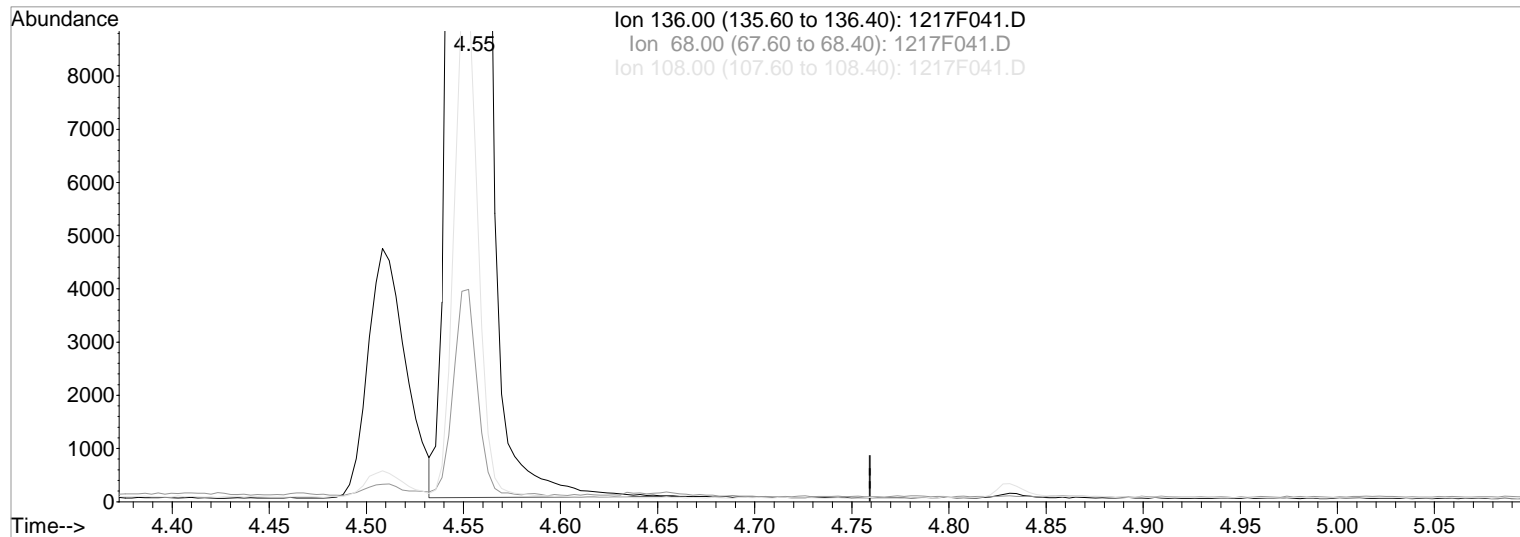
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F041.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.55min 200.00ng/ml

Before

response 78815

Ion Exp% Act%

12/18/20

136.00 100 100

68.00 4.00 3.95

108.00 10.90 10.09

0.00 0.00 0.00

Data File : J:\MS14\DATA\121720\1217F041.D

Acq On : 18 Dec 2020 12:38 am

Sample : KQ2019929-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:41 2020

Vial: 36

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

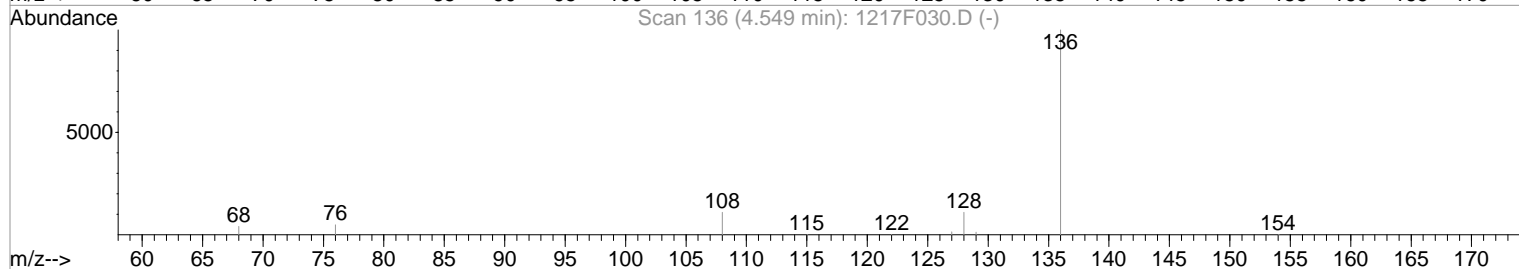
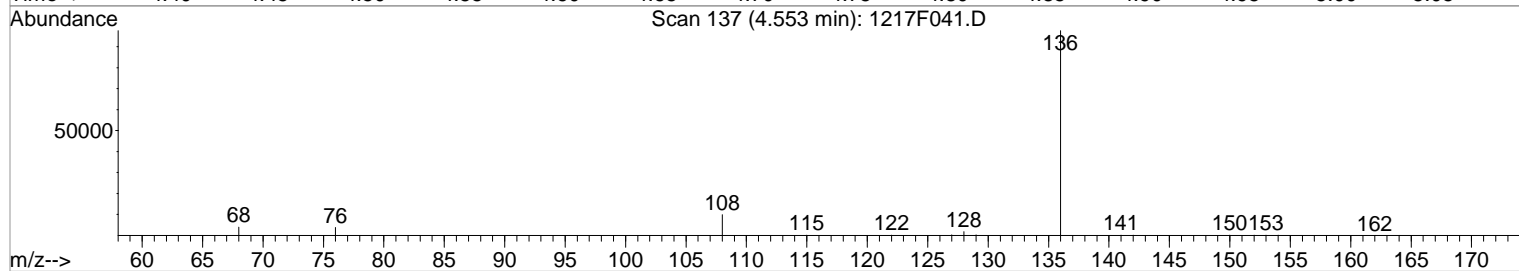
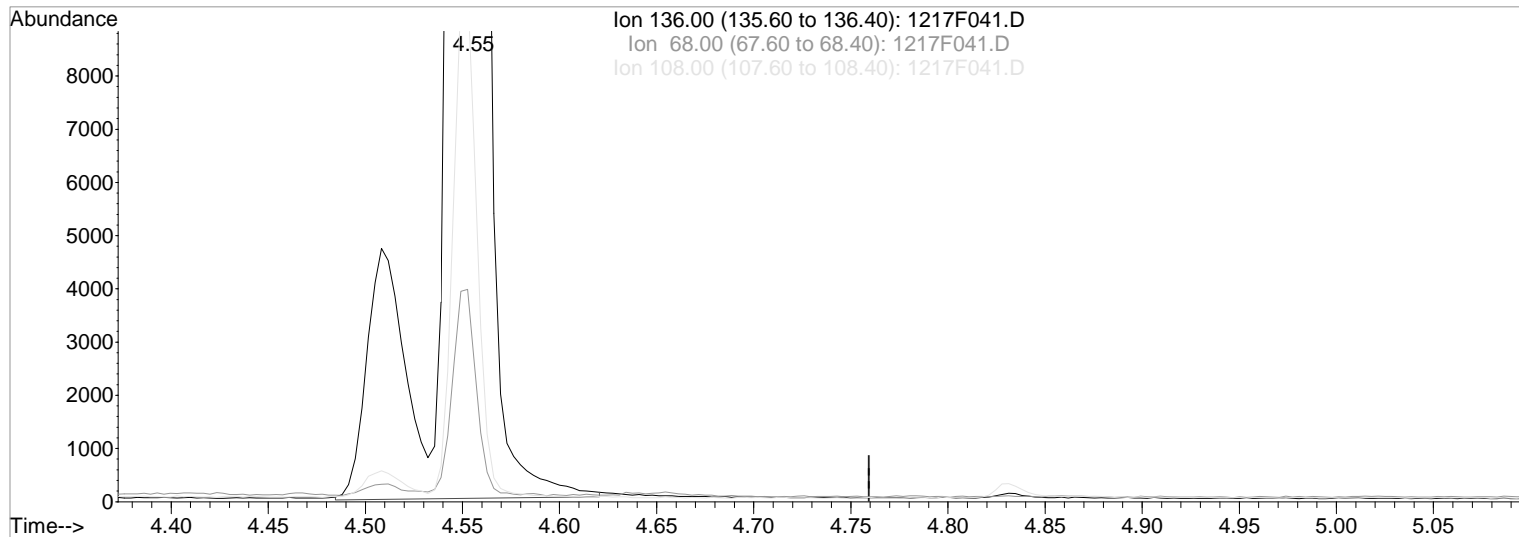
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F041.D

(1) Naphthalene-d8 (I)

4.55min 200.00ng/ml m

response 85204

Ion	Exp%	Act%
-----	------	------

136.00	100	100
--------	-----	-----

68.00	4.00	4.09
-------	------	------

108.00	10.90	10.15
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F041.D

Acq On : 18 Dec 2020 12:38 am

Sample : KQ2019929-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:41 2020

Vial: 36

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

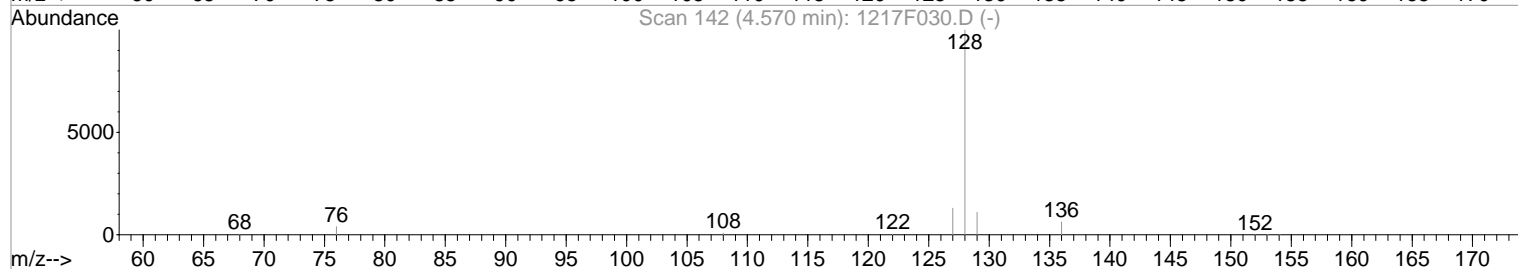
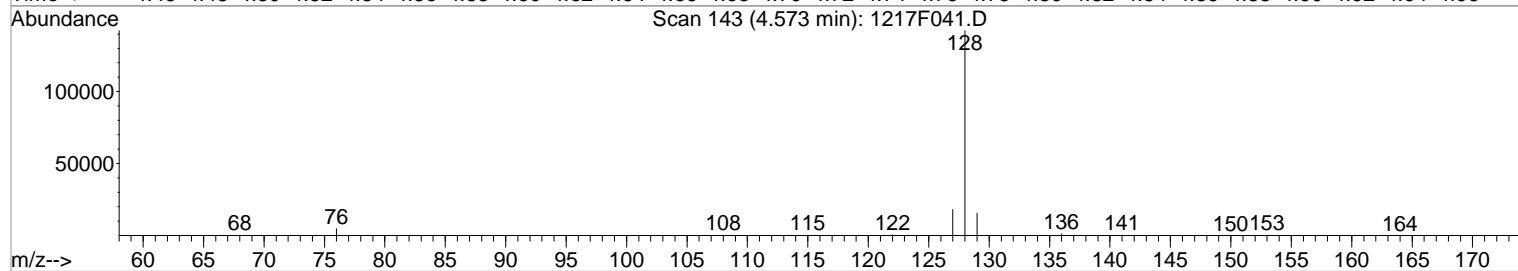
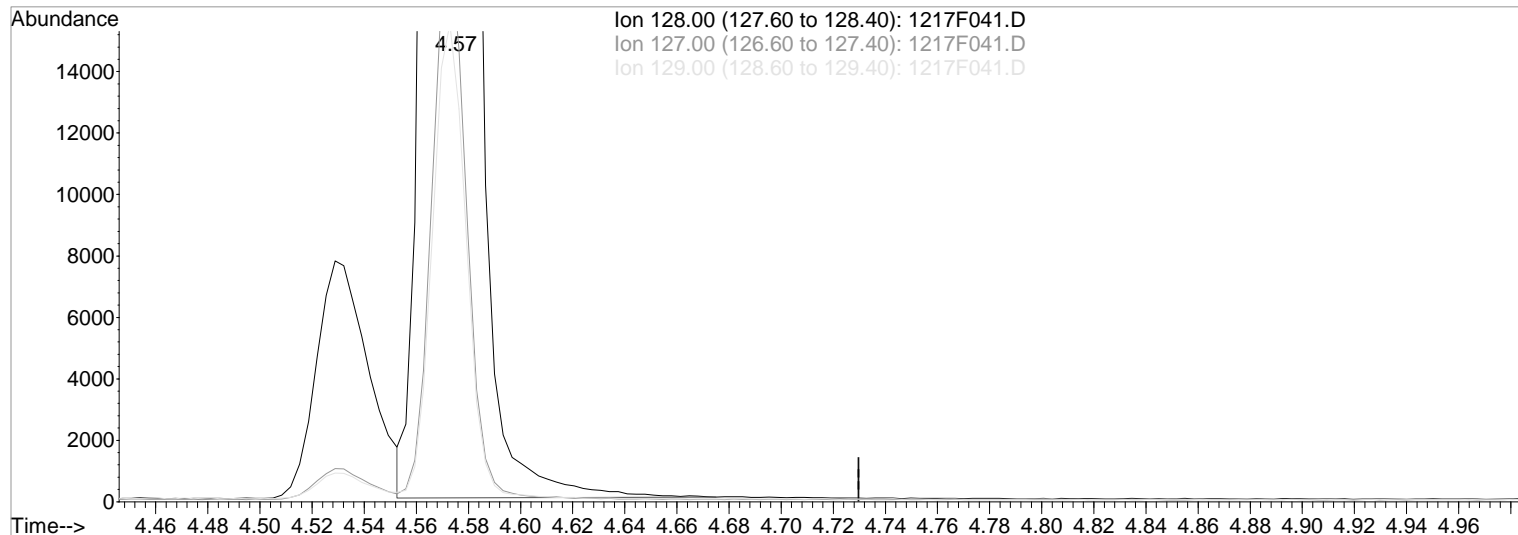
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F041.D

(2) Naphthalene (T)

Manual Integration:

4.57min 298.59ng/ml

Before

response 128890

Ion Exp% Act%

12/18/20

128.00 100 100

127.00 12.70 12.59

129.00 10.80 10.86

0.00 0.00 0.00

Data File : J:\MS14\DATA\121720\1217F041.D

Acq On : 18 Dec 2020 12:38 am

Sample : KQ2019929-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:41 2020

Vial: 36

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

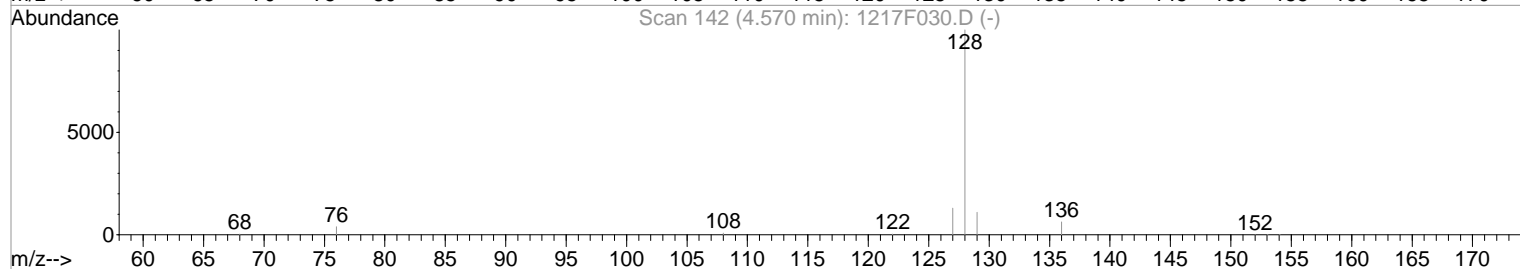
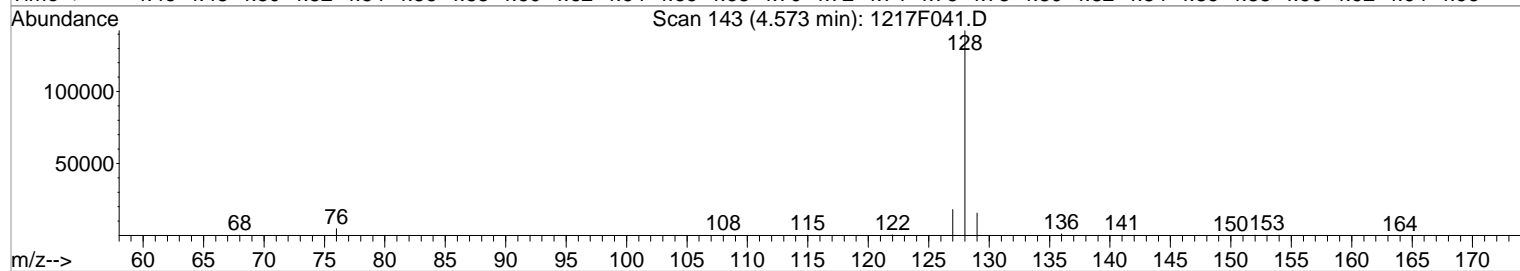
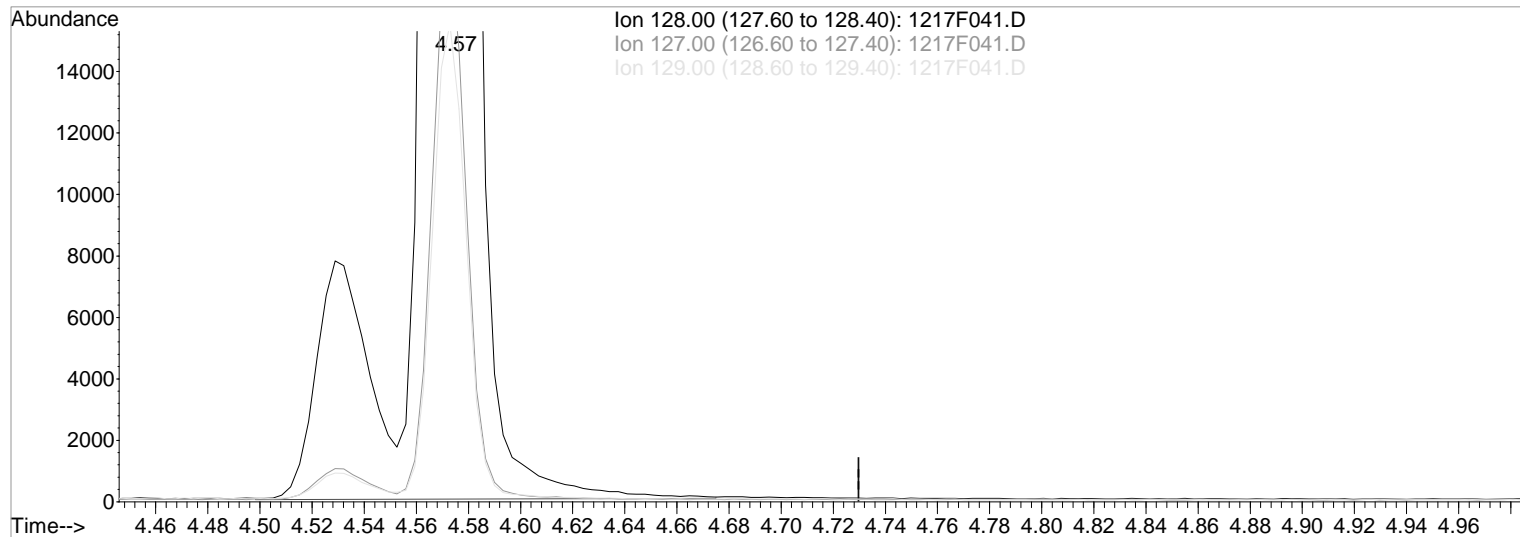
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F041.D

(2) Naphthalene (T)

4.57min 324.60ng/ml m

response 140115

Ion	Exp%	Act%
-----	------	------

128.00	100	100
--------	-----	-----

127.00	12.70	12.63
--------	-------	-------

129.00	10.80	10.92
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F041.D

Acq On : 18 Dec 2020 12:38 am

Sample : KQ2019929-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:41 2020

Vial: 36

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

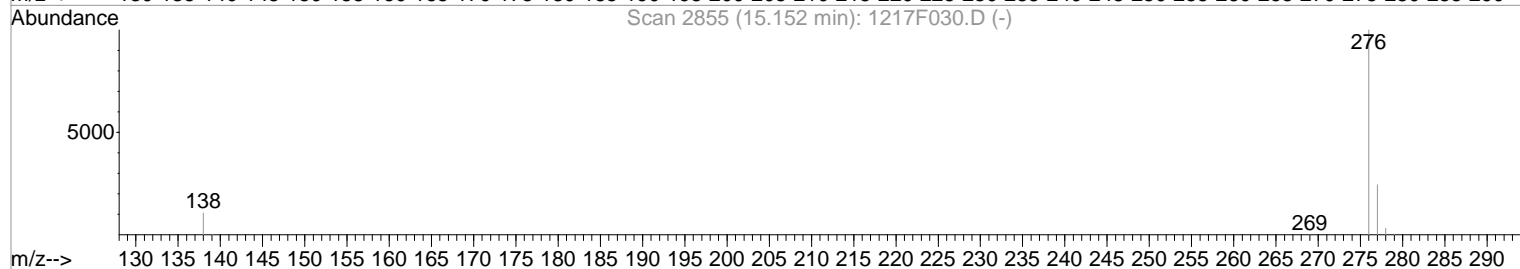
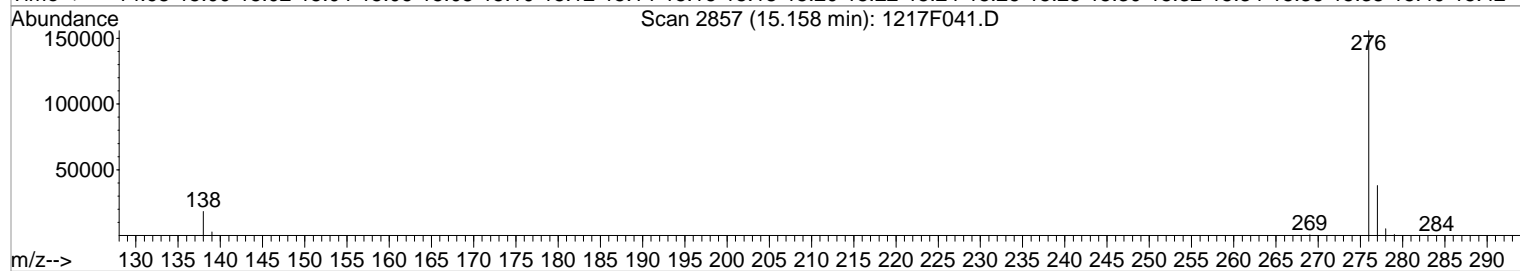
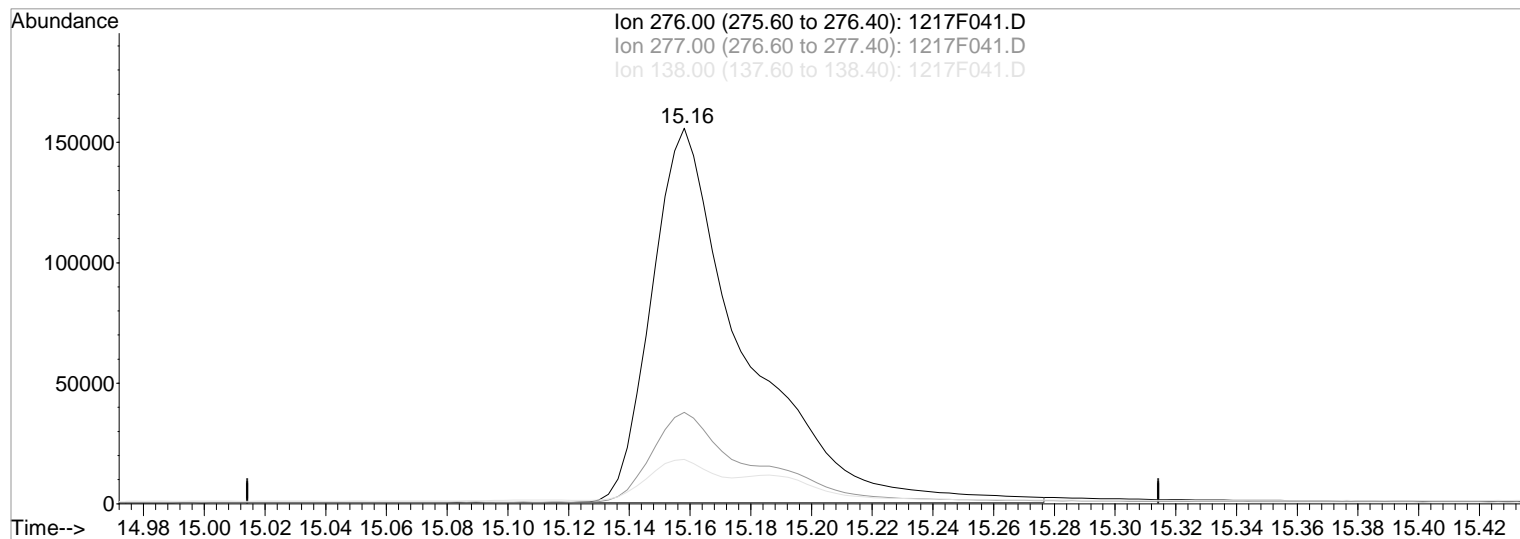
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F041.D

(34) Indeno(1,2,3-cd)pyrene (T)

Manual Integration:

15.16min 421.20ng/ml

Before

response 331478

Ion	Exp%	Act%
276.00	100	100
277.00	24.10	24.01
138.00	10.50	10.90
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F041.D

Acq On : 18 Dec 2020 12:38 am

Sample : KQ2019929-03 LCS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:41 2020

Vial: 36

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

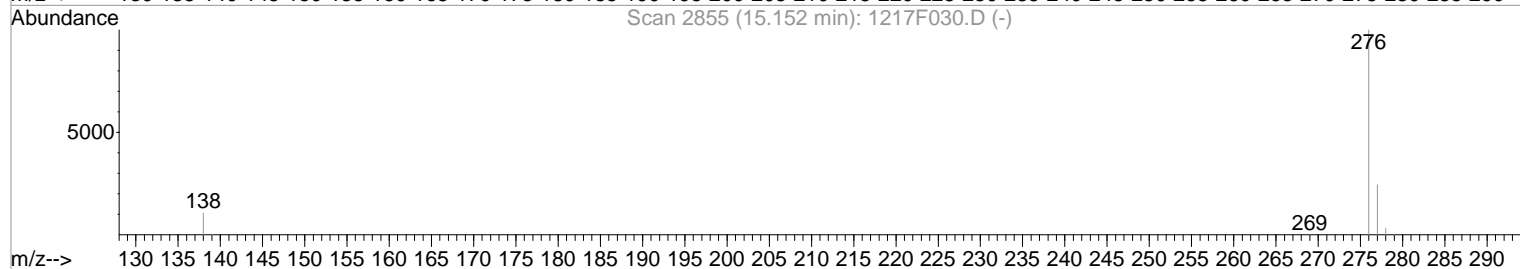
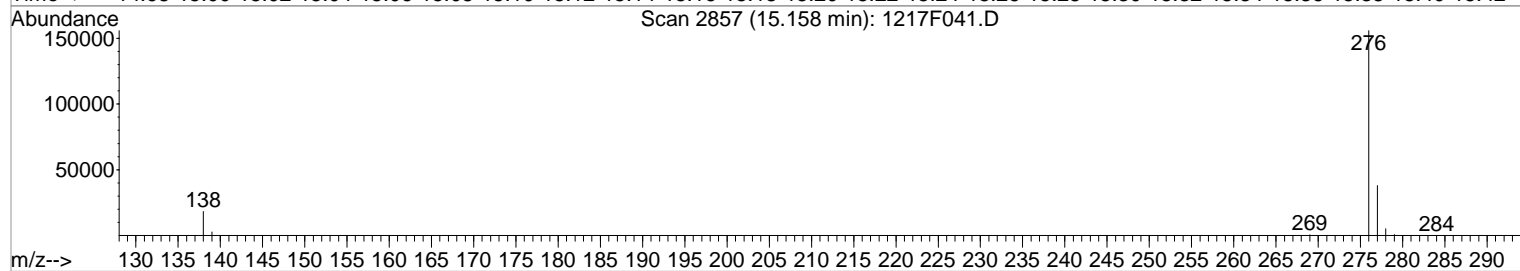
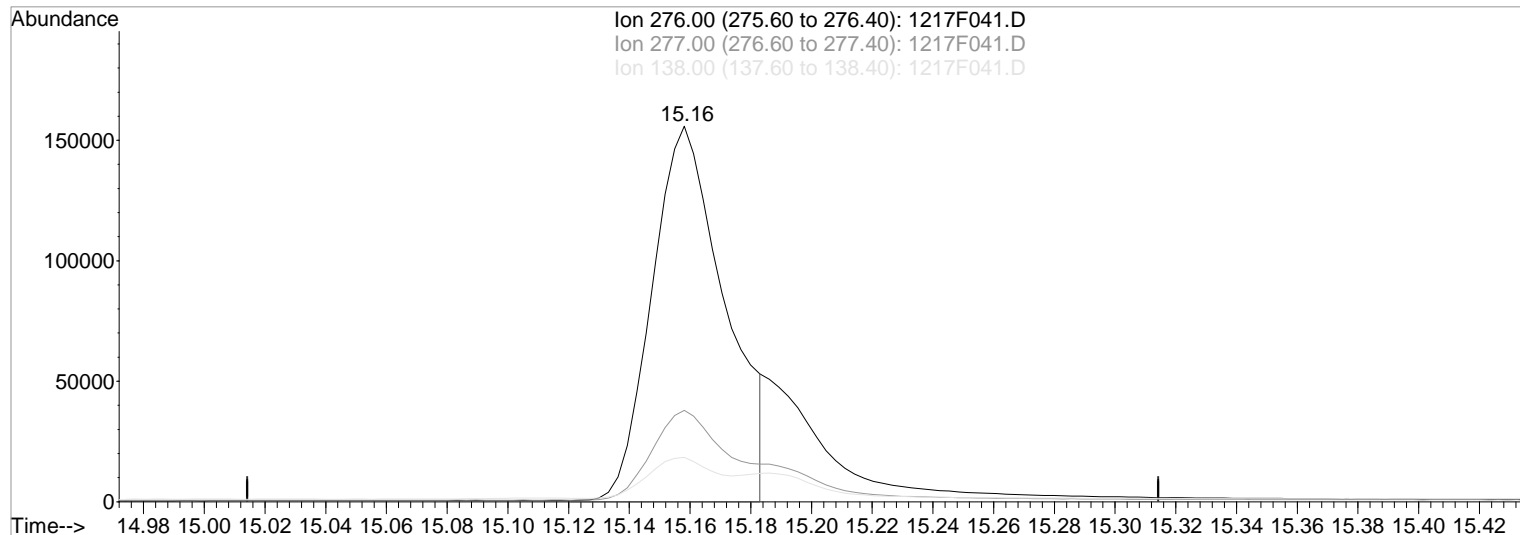
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F041.D

(34) Indeno(1,2,3-cd)pyrene (T)

15.16min 330.80ng/ml m

response 260337

Ion	Exp%	Act%
-----	------	------

276.00	100	100
--------	-----	-----

277.00	24.10	24.36
--------	-------	-------

138.00	10.50	11.78
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Overintegrated

12/18/20

Validation Report

1st *Ca* 12/17/20
2nd *Q* 12/17/20

Data File: J:\MS14\DATA\121620\1216F045.D\
Lab ID: KQ2019722-01
RunType: MS
Matrix: Soil

Date Acquired: 12/16/20 23:24:00
Batch ID: 707391
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121620\1216F045.D\	Instrument:	K-MS-14
Acqu Date:	12/16/20 23:24:00	Vial:	6
Run Type:	MS	Dilution:	1
Lab ID:	KQ2019722-01	Raw Units:	ng/mL

Bottle ID:	K2011446-004.01	Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/3/20	Receive Date:	12/8/20

Analysis Lot:	707391	Prep Lot:	371210	Report Group:	KQ2019722
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/9/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.15		34647	200.00	OK
Chrysene-d12	9.85		98923	200.00	OK
Naphthalene-d8	4.57		77960	200.00	OK
Perylene-d12	12.78	+0.05	127489	200.00	OK
Phenanthrene-d10	7.39		75792	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.38		60817	134.45	67	38 - 104	Y
Fluorene-d10	6.59		26869	129.20	65	39 - 109	Y
Terphenyl-d14	8.71		61814	138.99	69	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.33		54404	226.25	477		Y
2-Methylnaphthalene	5.24	-0.01	60920	235.65	497		Y
Acenaphthene	6.17	-0.01	56800	265.43	560		Y
Acenaphthylene	6.03		91001	262.73	554		Y
Anthracene	7.45	-0.01	130051	324.46	684		Y
Benz(a)anthracene	9.84	+0.01	277877	447.27	943		Y
Benzo(a)pyrene	12.62	+0.04	325592	441.55	931		Y
Benzo(b)fluoranthene	11.79	+0.03	365549	474.32	1000		Y
Benzo(g,h,i)perylene	15.59	+0.04	309781	371.55	783		Y
Benzo(k)fluoranthene	11.85	+0.02	271912	363.25	766		Y
Chrysene	9.88		285741	493.21	1040		Y
Dibenz(a,h)anthracene	15.25	+0.04	236268	298.73	630		Y
Fluoranthene	8.39		309920	586.02	1240		Y

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

Printed: 12/18/20 10:10

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121620\1216F045.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/16/20 23:24:00	Vial:	6	
Run Type:	MS	Dilution:	1	
Lab ID:	KQ2019722-01	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.61		75470	308.51	651		Y
Indeno(1,2,3-cd)pyrene	15.21	+0.03	327006	446.48	941		Y
Naphthalene	4.59		95260	241.19	509		Y
Phenanthrene	7.41		156731	371.37	783		Y
Pyrene	8.58		314287	521.16	1100		Y

Prep Amount: 10.005 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 47.40

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

Printed: 12/18/20 10:10

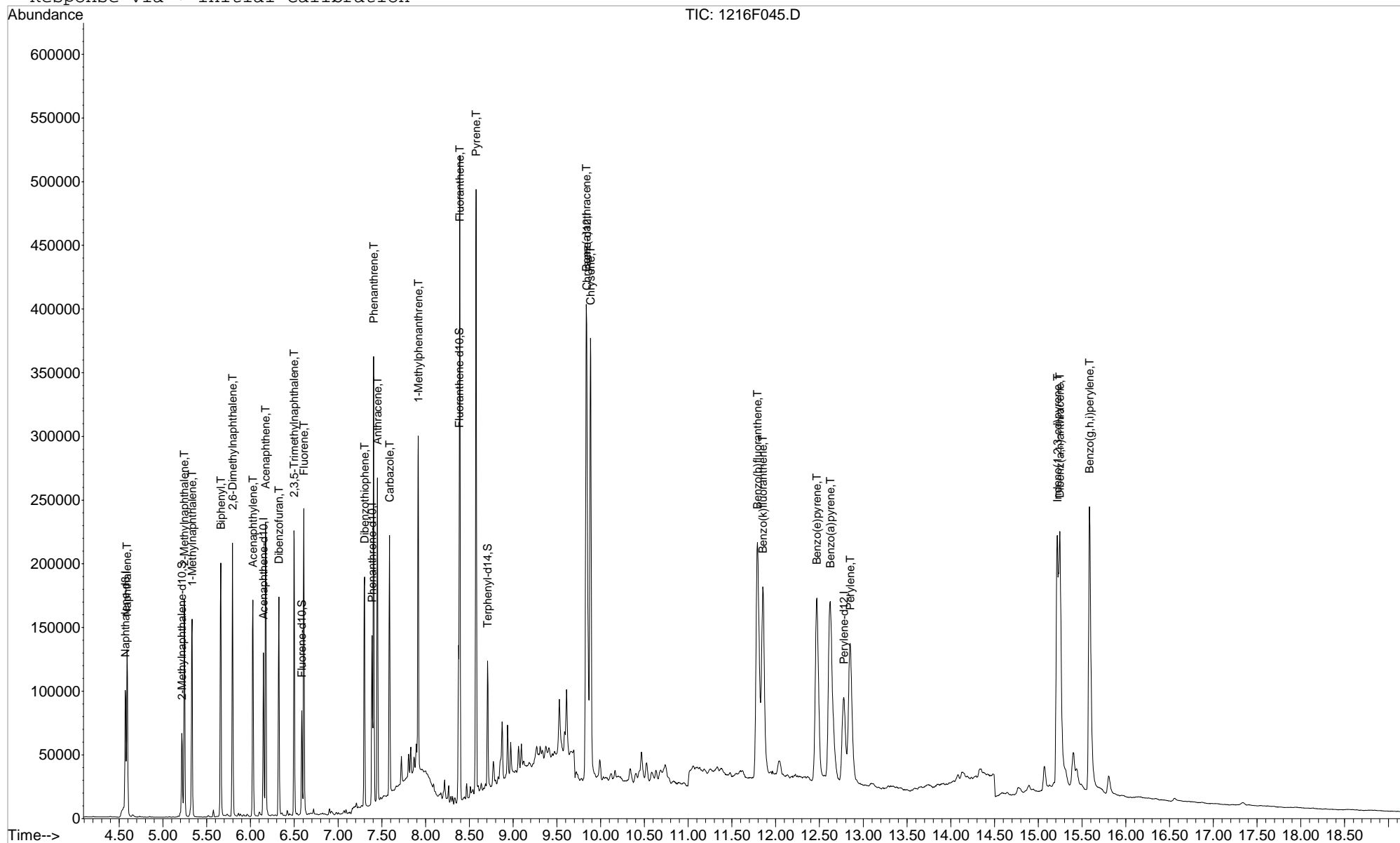
\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\MS14\DATA\121620\1216F045.D
Acq On : 16 Dec 2020 11:24 pm
Sample : KQ2019722-01 K2011446-004MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Dec 17 8:40 2020

Vial: 43
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\121620\1216F045.D

Vial: 43

Acq On : 16 Dec 2020 11:24 pm

Operator: LWeiskopf

Sample : KQ2019722-01 K2011446-004MS

Inst : MS14

Misc :

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 17 05:02:10 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.57	136	77960m	200.00	ng/ml	0.01
8) Acenaphthene-d10	6.15	164	34647	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.39	188	75792	200.00	ng/ml	0.00
23) Chrysene-d12	9.85	240	98923	200.00	ng/ml	0.01
28) Perylene-d12	12.78	264	127489	200.00	ng/ml	0.07

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.22	152	22330	105.05	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	10.50%	
13) Fluorene-d10	6.59	176	26869	129.20	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	12.92%	
22) Fluoranthene-d10	8.38	212	60817	134.45	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	13.44%	
25) Terphenyl-d14	8.71	244	61814	138.99	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	13.90%	

Target Compounds

						Qvalue
2) Naphthalene	4.59	128	95260m	241.19	ng/ml	
4) 2-Methylnaphthalene	5.24	142	60920	235.65	ng/ml	96
5) 1-Methylnaphthalene	5.33	142	54404	226.25	ng/ml	98
6) Biphenyl	5.66	154	77859	248.02	ng/ml	100
7) 2,6-Dimethylnaphthalene	5.79	156	56314	244.18	ng/ml	99
9) Acenaphthylene	6.03	152	91001	262.73	ng/ml	99
10) Acenaphthene	6.17	154	56800	265.43	ng/ml	97
11) Dibenzofuran	6.32	168	86668	265.13	ng/ml	94
12) 2,3,5-Trimethylnaphthalene	6.50	170	63689	308.62	ng/ml	95
14) Fluorene	6.61	166	75470	308.51	ng/ml	98
16) Dibenzothiophene	7.30	184	107923	266.32	ng/ml	95
17) Phenanthrene	7.41	178	156731	371.37	ng/ml	100
18) Anthracene	7.45	178	130051	324.46	ng/ml	99
19) Carbazole	7.59	167	108029	275.89	ng/ml	99
20) 1-Methylphenanthrene	7.92	192	99083m	304.77	ng/ml	
21) Fluoranthene	8.39	202	309920	586.02	ng/ml	100
24) Pyrene	8.58	202	314287	521.16	ng/ml	97
26) Benz(a)anthracene	9.84	228	277877	447.27	ng/ml	98
27) Chrysene	9.88	228	285741	493.21	ng/ml	99
29) Benzo(b)fluoranthene	11.79	252	365549	474.32	ng/ml	99
30) Benzo(k)fluoranthene	11.85	252	271912	363.25	ng/ml	98
31) Benzo(e)pyrene	12.47	252	297517	412.03	ng/ml	99
32) Benzo(a)pyrene	12.62	252	325592	441.55	ng/ml	99
33) Perylene	12.85	252	244979	359.06	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.21	276	327006	446.48	ng/ml	100
35) Dibenz(a,h)anthracene	15.25	278	236268	298.73	ng/ml	99
36) Benzo(g,h,i)perylene	15.59	276	309781	371.55	ng/ml	99

Data File : J:\MS14\DATA\121620\1216F045.D

Acq On : 16 Dec 2020 11:24 pm

Sample : KQ2019722-01 K2011446-004MS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 5:02 2020

Vial: 43

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

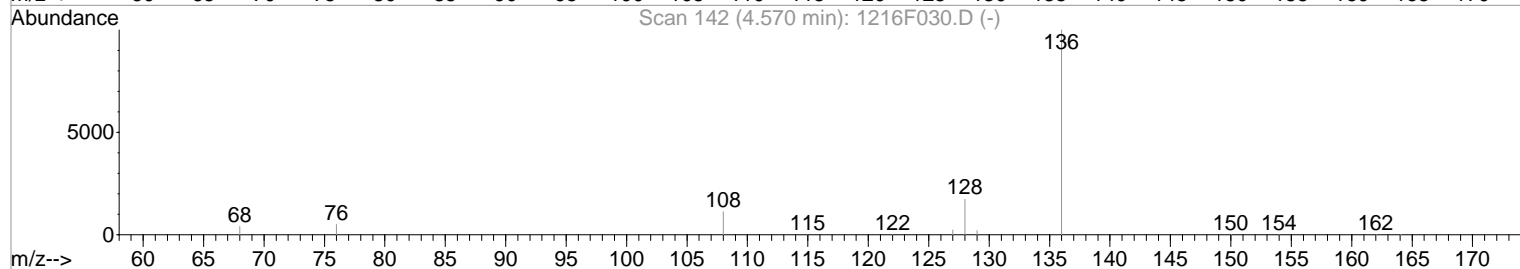
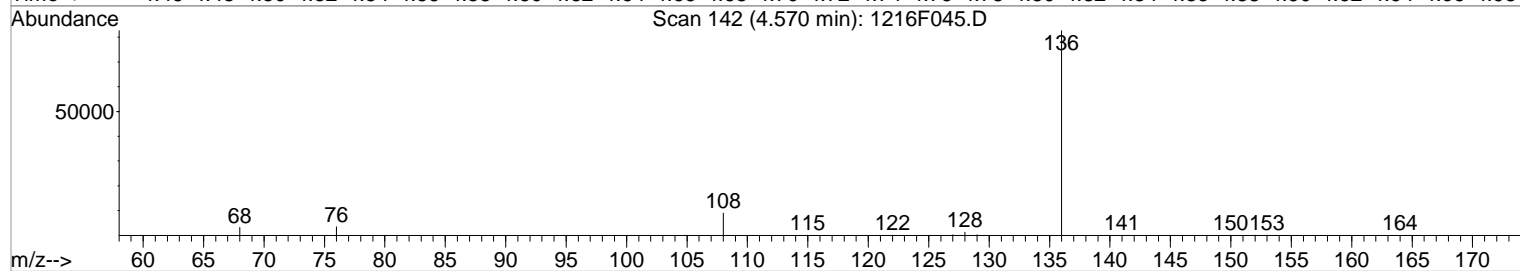
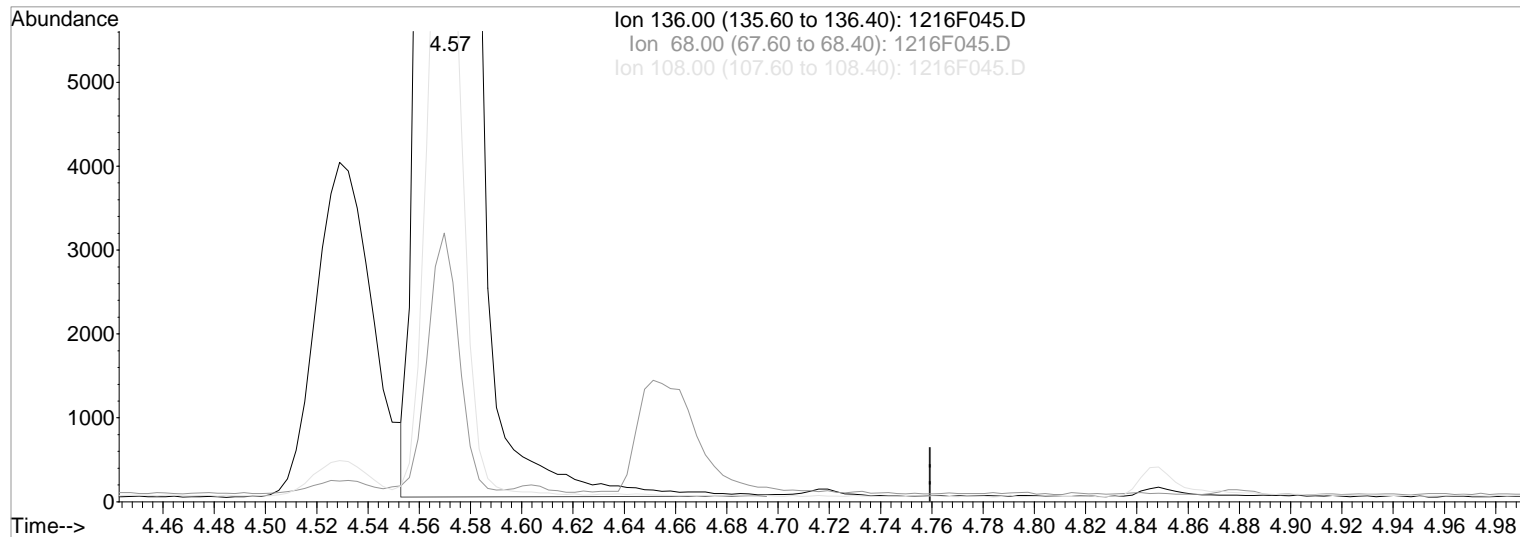
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F045.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.57min 200.00ng/ml

Before

response 71947

Ion	Exp%	Act%
-----	------	------

12/17/20

136.00	100	100
--------	-----	-----

68.00	4.00	3.67
-------	------	------

108.00	10.90	10.87
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121620\1216F045.D

Acq On : 16 Dec 2020 11:24 pm

Sample : KQ2019722-01 K2011446-004MS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:39 2020

Vial: 43

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

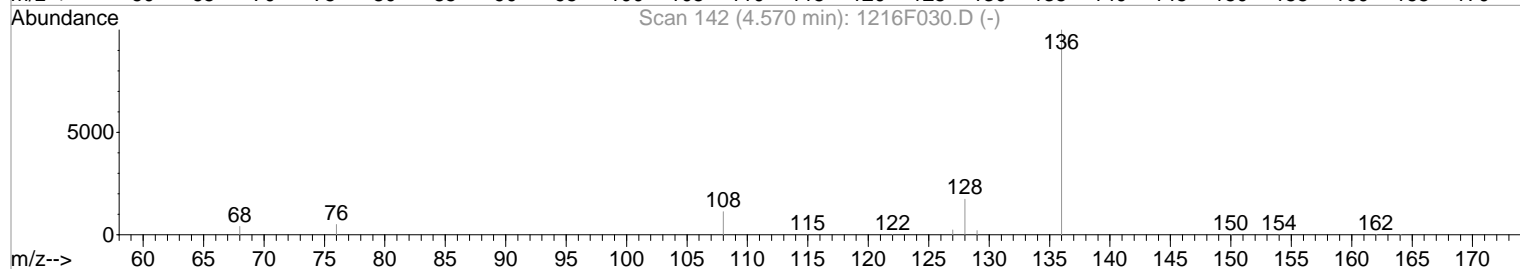
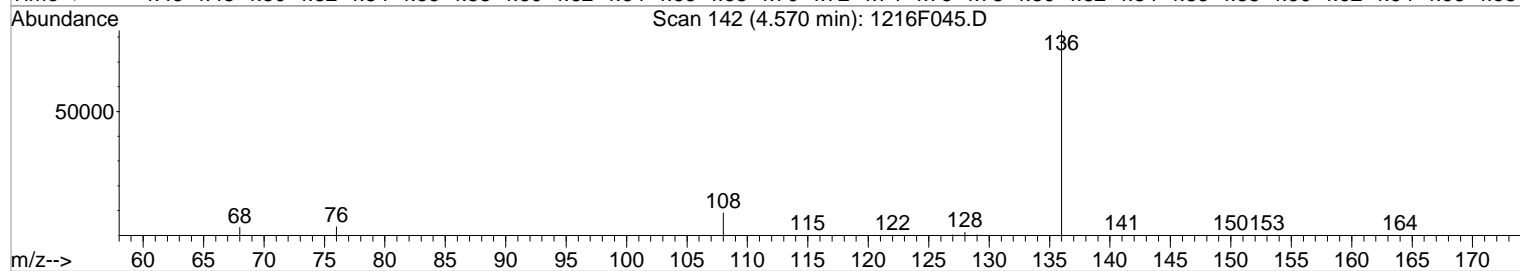
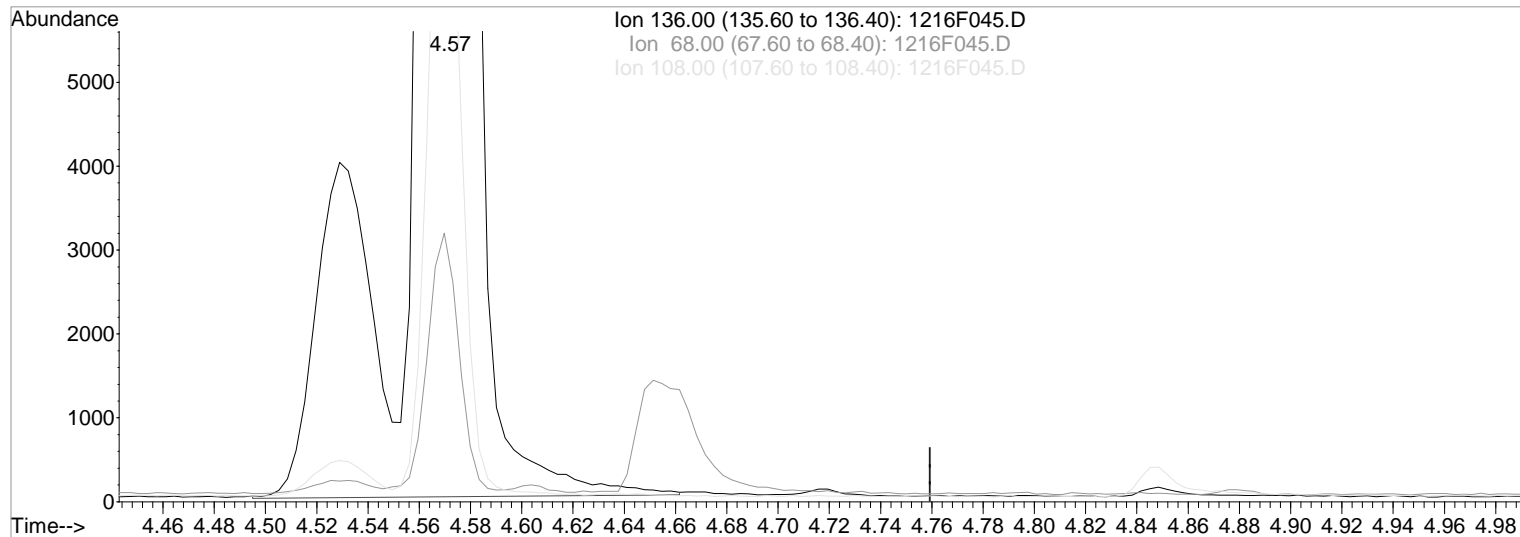
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F045.D

(1) Naphthalene-d8 (I)

4.57min 200.00ng/ml m

response 77960

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	3.87
108.00	10.90	10.95
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

12/17/20

Data File : J:\MS14\DATA\121620\1216F045.D

Acq On : 16 Dec 2020 11:24 pm

Sample : KQ2019722-01 K2011446-004MS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:39 2020

Vial: 43

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

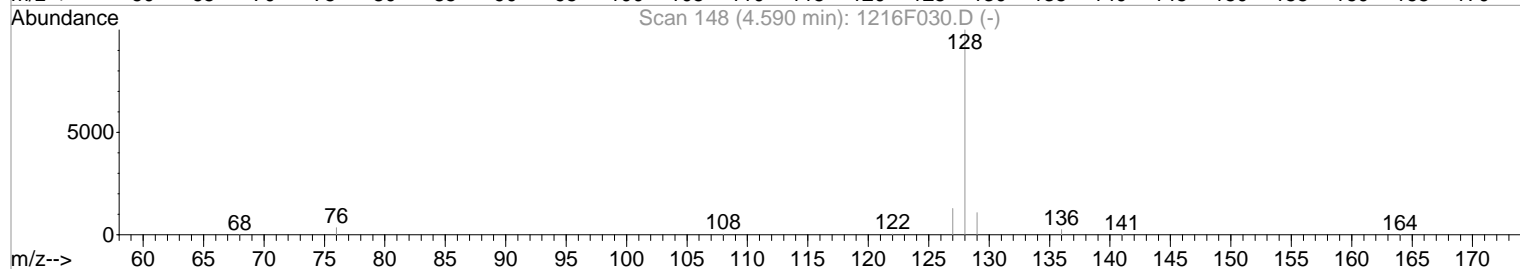
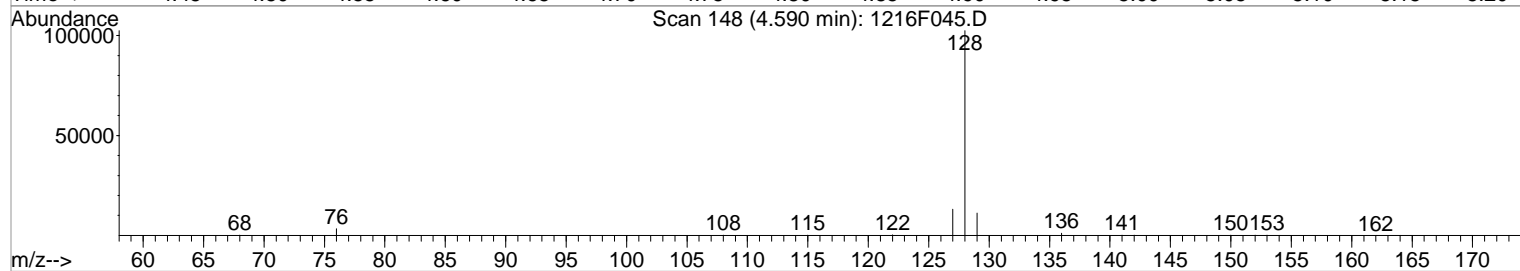
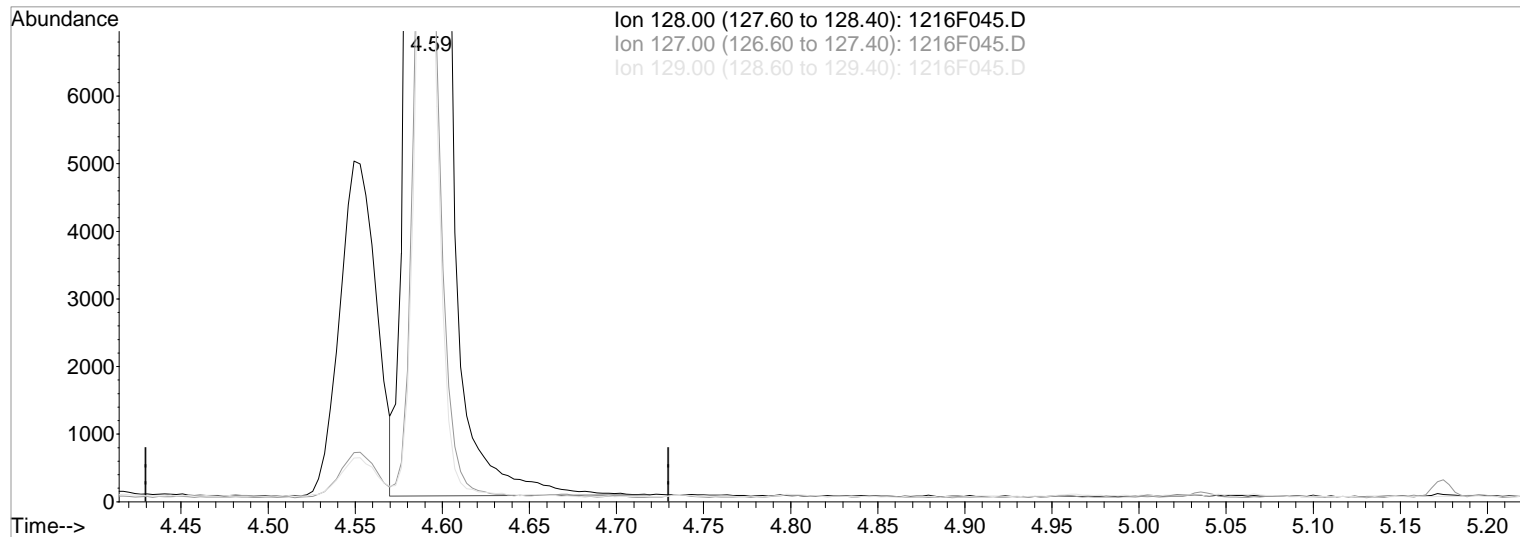
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F045.D

(2) Naphthalene (T)

Manual Integration:

4.59min 220.96ng/ml

Before

response 87270

Ion	Exp%	Act%
-----	------	------

12/17/20

128.00	100	100
--------	-----	-----

127.00	12.70	12.69
--------	-------	-------

129.00	10.80	10.90
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121620\1216F045.D

Acq On : 16 Dec 2020 11:24 pm

Sample : KQ2019722-01 K2011446-004MS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:40 2020

Vial: 43

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

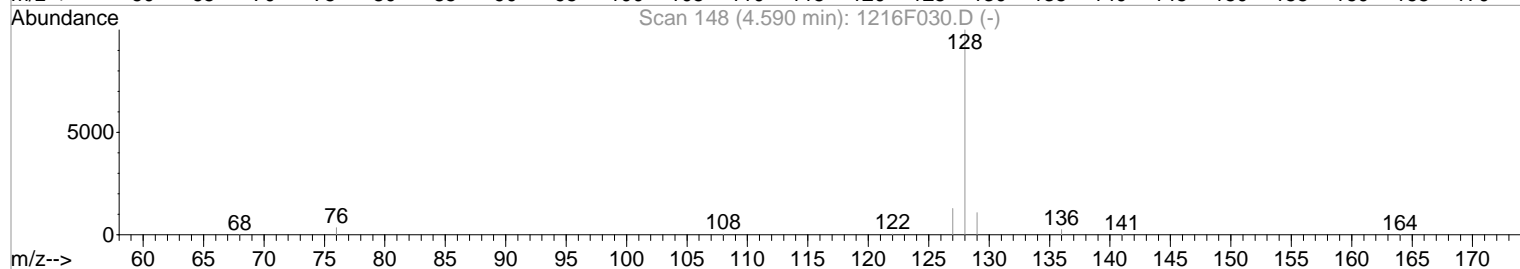
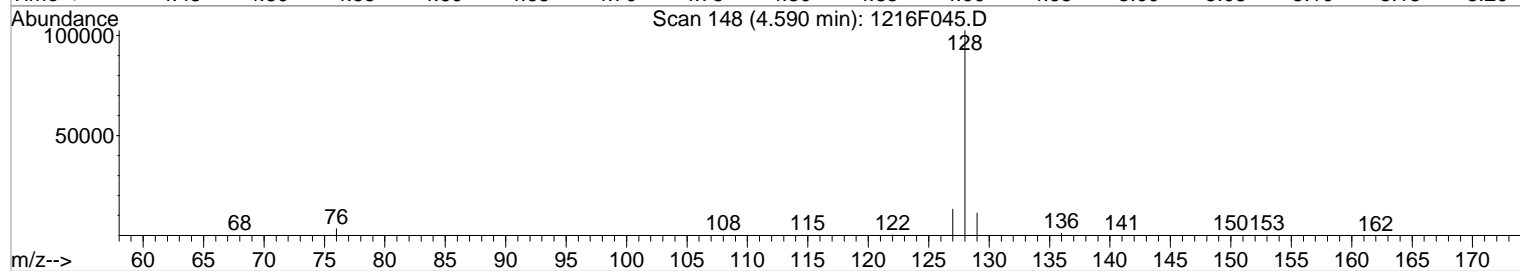
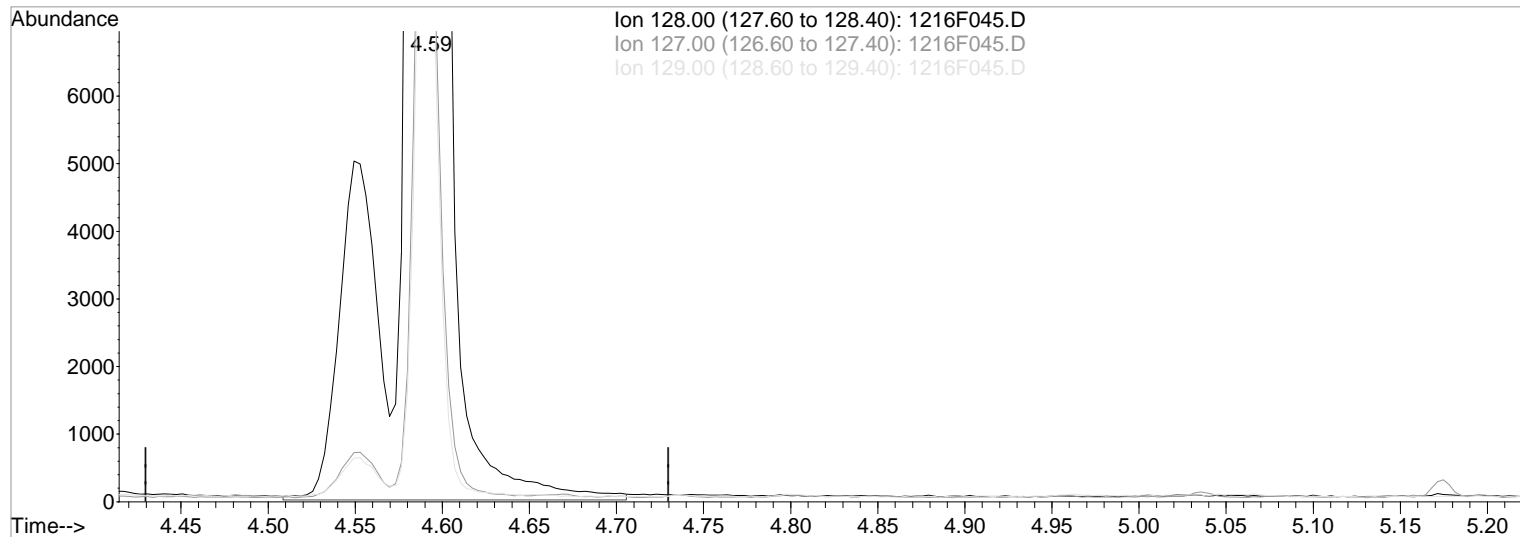
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F045.D

(2) Naphthalene (T)

4.59min 241.19ng/ml m

response 95260

Ion	Exp%	Act%
-----	------	------

128.00	100	100
--------	-----	-----

127.00	12.70	12.74
--------	-------	-------

129.00	10.80	10.96
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/17/20

Validation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File: J:\MS14\DATA\121720\1217F039.D\
Lab ID: KQ2019929-01
RunType: MS
Matrix: Soil

Date Acquired: 12/17/20 23:46:00
Batch ID: 707540
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pyrene	-21		20	OK, <40

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121720\1217F039.D\	Instrument:	K-MS-14
Acqu Date:	12/17/20 23:46:00	Vial:	6
Run Type:	MS	Dilution:	1
Lab ID:	KQ2019929-01	Raw Units:	ng/mL

Bottle ID:	K2011446-005.01	Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/4/20	Receive Date:	12/8/20

Analysis Lot:	707540	Prep Lot:	371385	Report Group:	KQ2019929
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/14/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.13		35790	200.00	OK
Chrysene-d12	9.83	+0.01	107203	200.00	OK
Naphthalene-d8	4.55		83672	200.00	OK
Perylene-d12	12.72	+0.04	137065	200.00	OK
Phenanthrene-d10	7.37	-0.01	76571	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.36		71210	155.82	78	38 - 104	Y
Fluorene-d10	6.57		32591	151.70	76	39 - 109	Y
Terphenyl-d14	8.70	+0.01	73687	152.89	76	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.31		67113	260.05	1060		Y
2-Methylnaphthalene	5.23		75032	270.42	1100		Y
Acenaphthene	6.16		67825	306.83	1240		Y
Acenaphthylene	6.01		105765	295.60	1200		Y
Anthracene	7.43	-0.01	147957	365.37	1480		Y
Benz(a)anthracene	9.82	+0.01	313443	465.55	1890		Y
Benzo(a)pyrene	12.57	+0.04	363105	458.02	1860		Y
Benzo(b)fluoranthene	11.75	+0.03	453274	547.06	2220		Y
Benzo(g,h,i)perylene	15.55	+0.03	380361	424.33	1720		Y
Benzo(k)fluoranthene	11.81	+0.03	340547	423.15	1720		Y
Chrysene	9.86	+0.01	329150	524.26	2130		Y
Dibenz(a,h)anthracene	15.21	+0.03	292340	343.80	1390		Y
Fluoranthene	8.38		311769	583.52	2370		Y

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

Printed: 12/18/20 10:04

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121720\1217F039.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/17/20 23:46:00	Vial:	6	
Run Type:	MS	Dilution:	1	
Lab ID:	KQ2019929-01	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.60		89426	353.89	1440		Y
Indeno(1,2,3-cd)pyrene	15.18	+0.03	401053	509.33	2070		Y
Naphthalene	4.57		119899	282.85	1150		Y
Phenanthrene	7.39		169029	396.44	1610		Y
Pyrene	8.56		326876	500.17	2030		Y

Prep Amount: 10.1850 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 24.20

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

Printed: 12/18/20 10:04

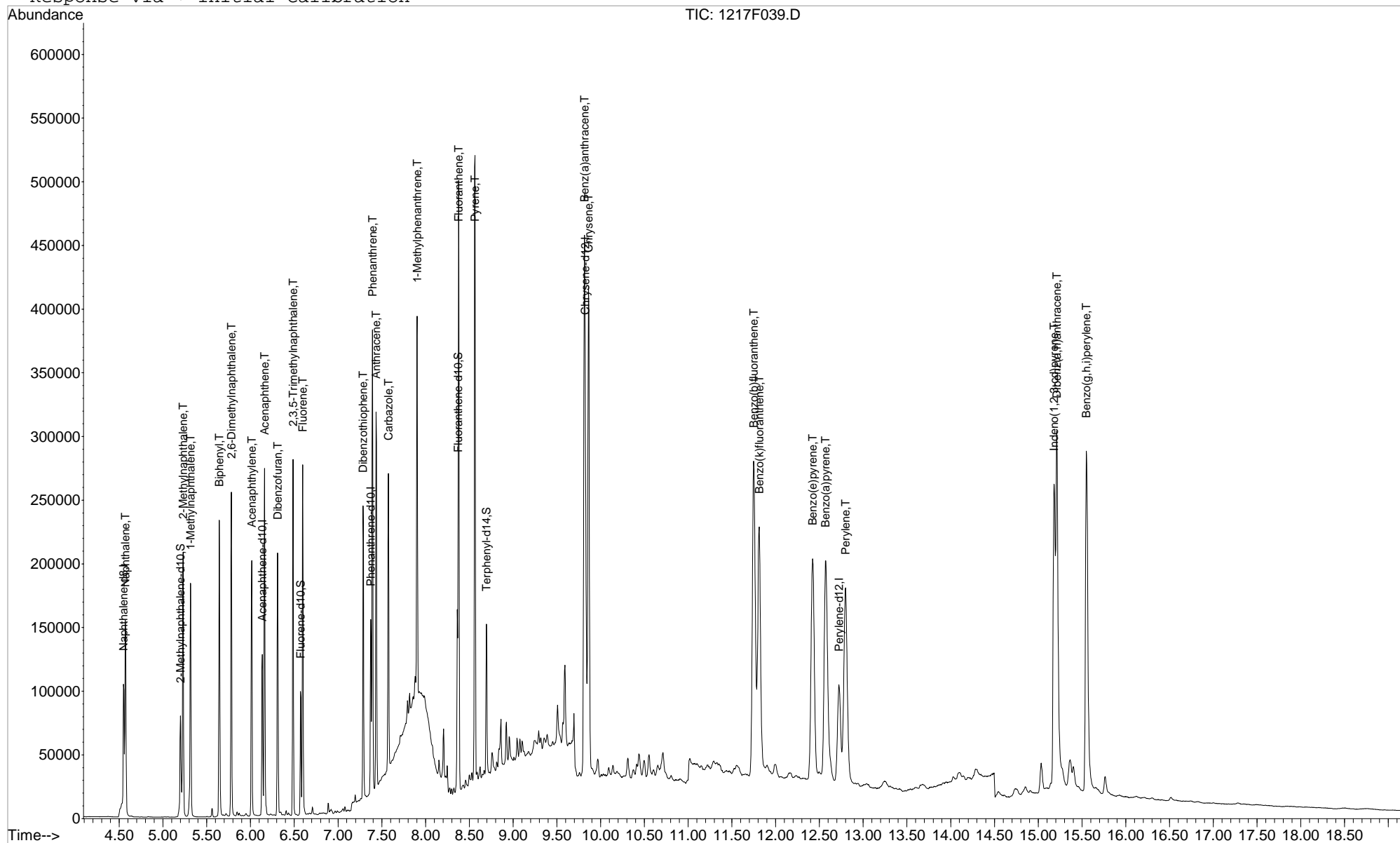
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Data File : J:\MS14\DATA\121720\1217F039.D
Acq On : 17 Dec 2020 11:46 pm
Sample : K2011446-005MS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Dec 18 7:40 2020

Vial: 34
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Dec 18 07:27:27 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\121720\1217F039.D

Vial: 34

Acq On : 17 Dec 2020 11:46 pm

Operator: LWeiskopf

Sample : K2011446-005MS

Inst : MS14

Misc :

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 05:24:09 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.55	136	83672m	200.00	ng/ml	-0.01
8) Acenaphthene-d10	6.13	164	35790	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.37	188	76571	200.00	ng/ml	-0.01
23) Chrysene-d12	9.83	240	107203	200.00	ng/ml	0.00
28) Perylene-d12	12.72	264	137065	200.00	ng/ml	0.01

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.20	152	28451	124.71	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	12.47%	
13) Fluorene-d10	6.57	176	32591	151.70	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	15.17%	
22) Fluoranthene-d10	8.36	212	71210	155.82	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	15.58%	
25) Terphenyl-d14	8.70	244	73687	152.89	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	15.29%	

Target Compounds

						Qvalue
2) Naphthalene	4.57	128	119899m	282.85	ng/ml	
4) 2-Methylnaphthalene	5.23	142	75032	270.42	ng/ml	99
5) 1-Methylnaphthalene	5.31	142	67113	260.05	ng/ml	98
6) Biphenyl	5.64	154	95378	283.08	ng/ml	98
7) 2,6-Dimethylnaphthalene	5.78	156	68523	276.84	ng/ml	99
9) Acenaphthylene	6.01	152	105765	295.60	ng/ml	100
10) Acenaphthene	6.16	154	67825	306.83	ng/ml	99
11) Dibenzofuran	6.31	168	101970	301.98	ng/ml	97
12) 2,3,5-Trimethylnaphthalene	6.48	170	84192	394.94	ng/ml	96
14) Fluorene	6.60	166	89426	353.89	ng/ml	99
16) Dibenzothiophene	7.29	184	128537	313.96	ng/ml	95
17) Phenanthrene	7.39	178	169029	396.44	ng/ml	100
18) Anthracene	7.43	178	147957	365.37	ng/ml	99
19) Carbazole	7.57	167	123492	312.17	ng/ml	99
20) 1-Methylphenanthrene	7.90	192	105029	319.77	ng/ml	100
21) Fluoranthene	8.38	202	311769	583.52	ng/ml	98
24) Pyrene	8.56	202	326876	500.17	ng/ml	99
26) Benz(a)anthracene	9.82	228	313443	465.55	ng/ml	99
27) Chrysene	9.86	228	329150	524.26	ng/ml	100
29) Benzo(b)fluoranthene	11.75	252	453274	547.06	ng/ml	99
30) Benzo(k)fluoranthene	11.81	252	340547	423.15	ng/ml	99
31) Benzo(e)pyrene	12.42	252	357864	460.98	ng/ml	100
32) Benzo(a)pyrene	12.57	252	363105	458.02	ng/ml	99
33) Perylene	12.80	252	318884	434.72	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.18	276	401053	509.33	ng/ml	99
35) Dibenz(a,h)anthracene	15.21	278	292340	343.80	ng/ml	99
36) Benzo(g,h,i)perylene	15.55	276	380361	424.33	ng/ml	99

Data File : J:\MS14\DATA\121720\1217F039.D

Acq On : 17 Dec 2020 11:46 pm

Sample : K2011446-005MS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 5:24 2020

Vial: 34

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

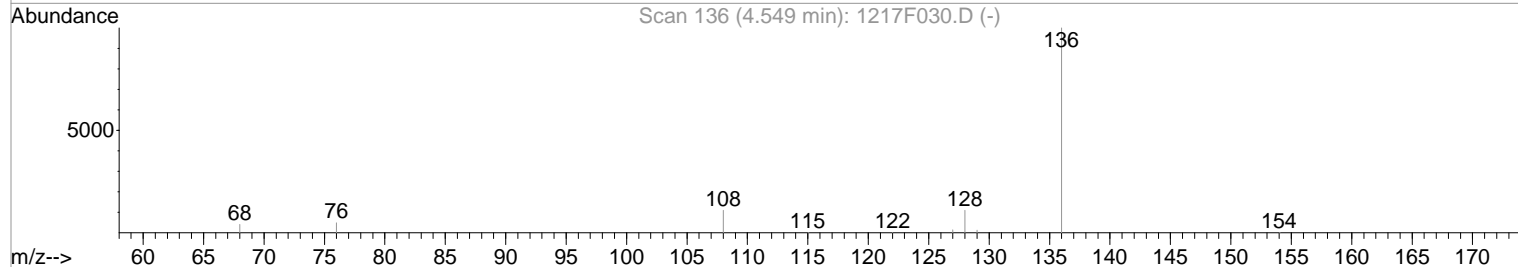
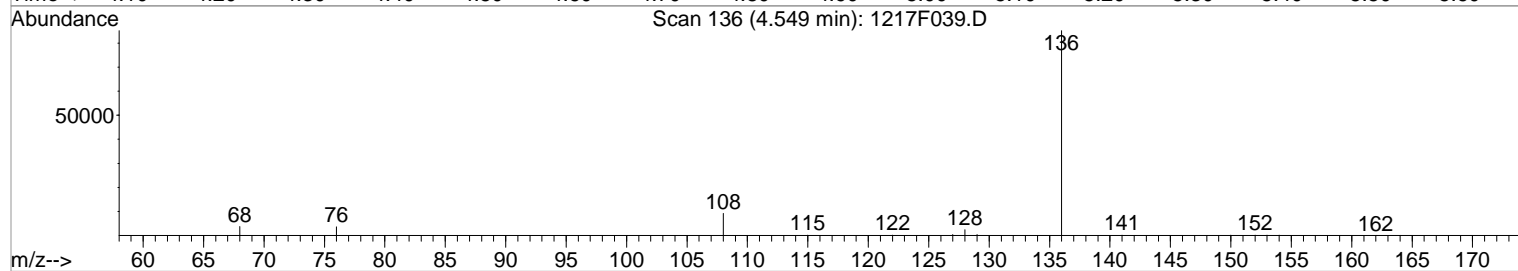
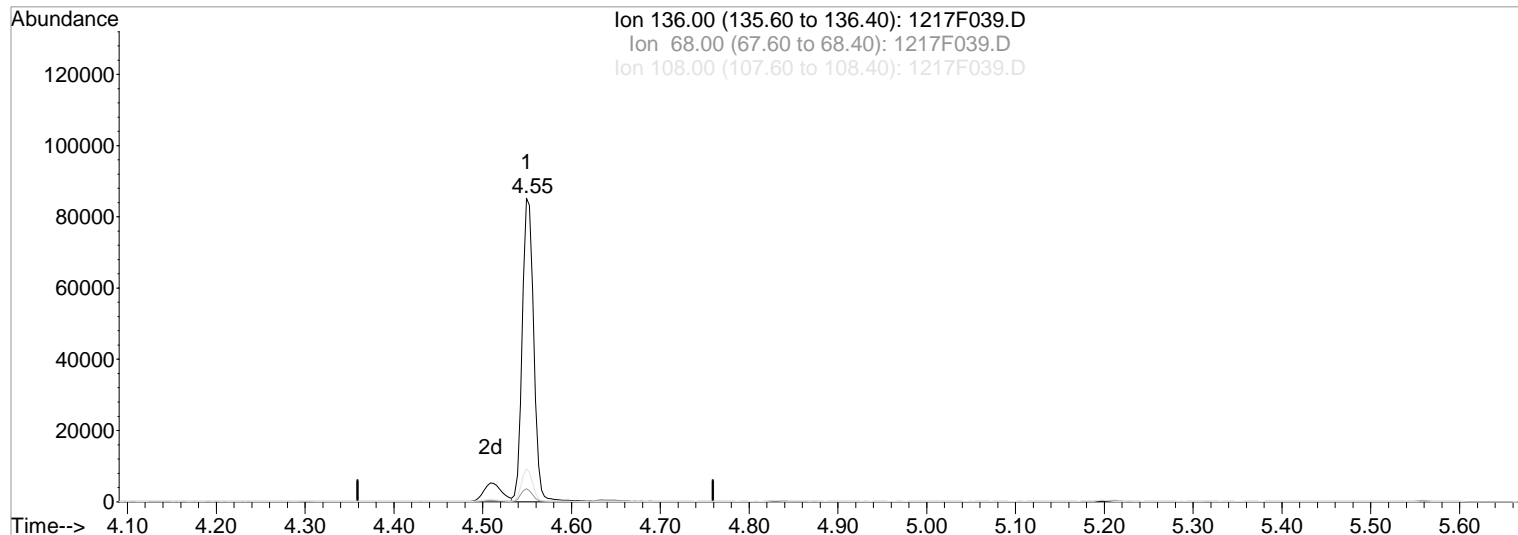
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F039.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.55min 200.00ng/ml

Before

response 76421

Ion	Exp%	Act%
-----	------	------

12/18/20

136.00	100	100
--------	-----	-----

68.00	4.00	4.11
-------	------	------

108.00	10.90	10.70
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121720\1217F039.D

Acq On : 17 Dec 2020 11:46 pm

Sample : K2011446-005MS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:39 2020

Vial: 34

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

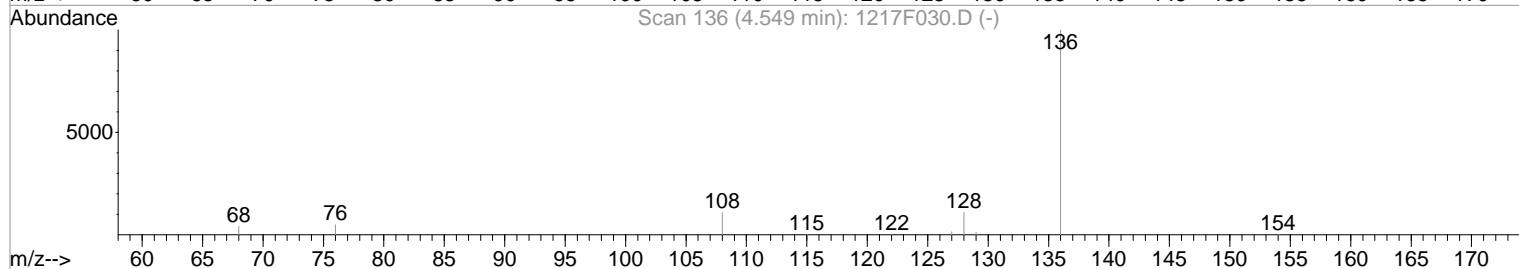
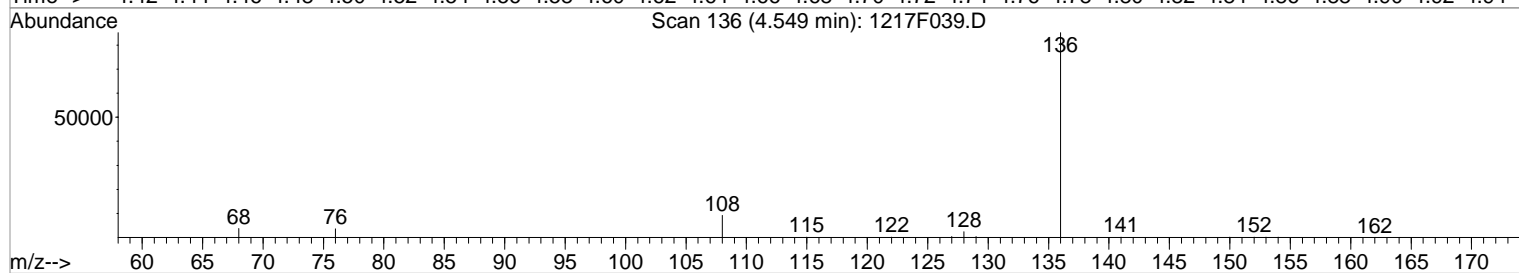
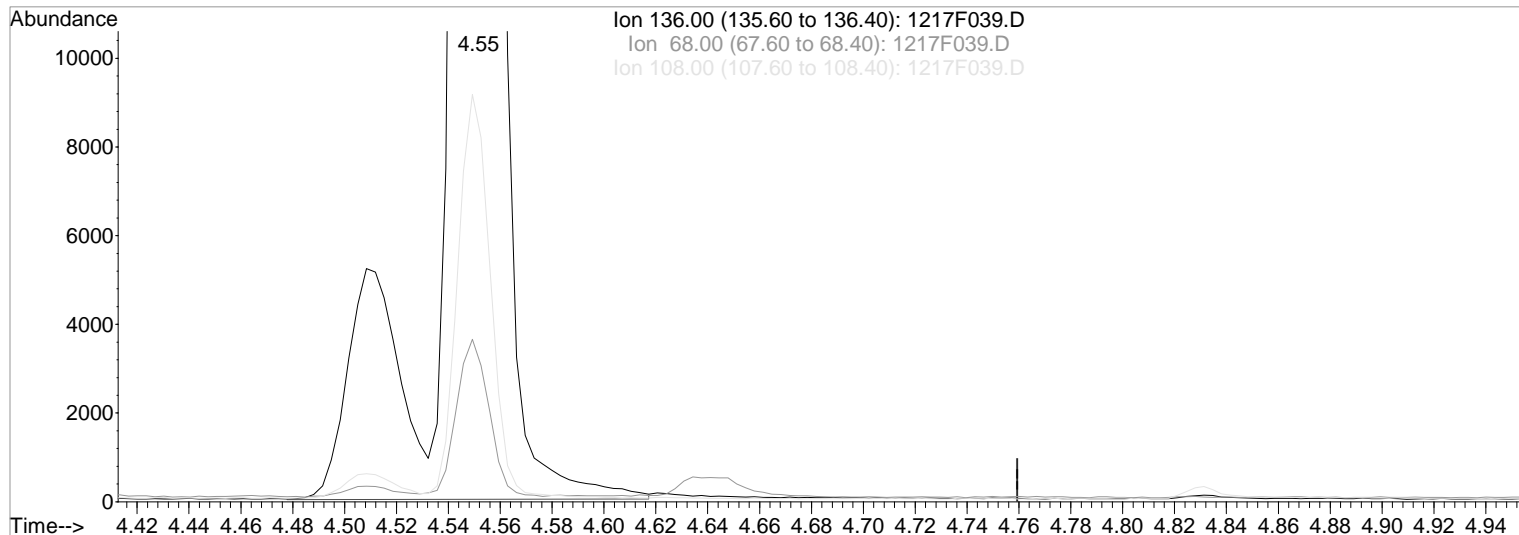
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F039.D

(1) Naphthalene-d8 (I)

4.55min 200.00ng/ml m

response 83672

Ion	Exp%	Act%
-----	------	------

136.00	100	100
--------	-----	-----

68.00	4.00	4.30
-------	------	------

108.00	10.90	10.77
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F039.D

Acq On : 17 Dec 2020 11:46 pm

Sample : K2011446-005MS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:39 2020

Vial: 34

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

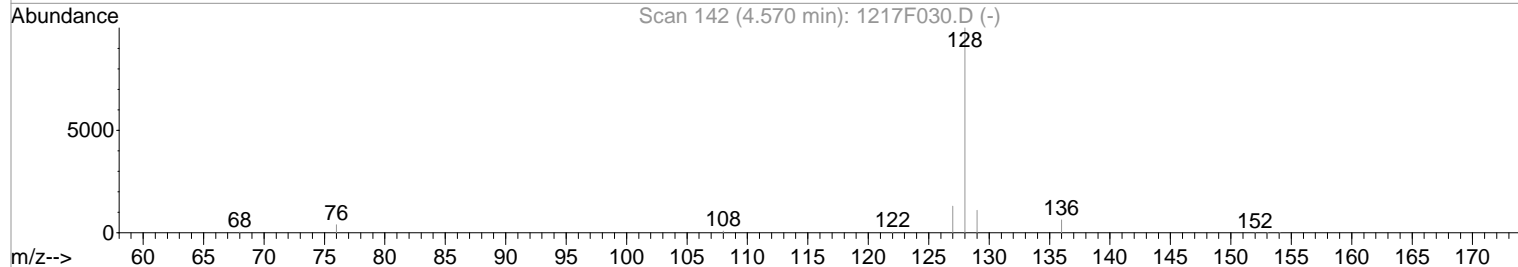
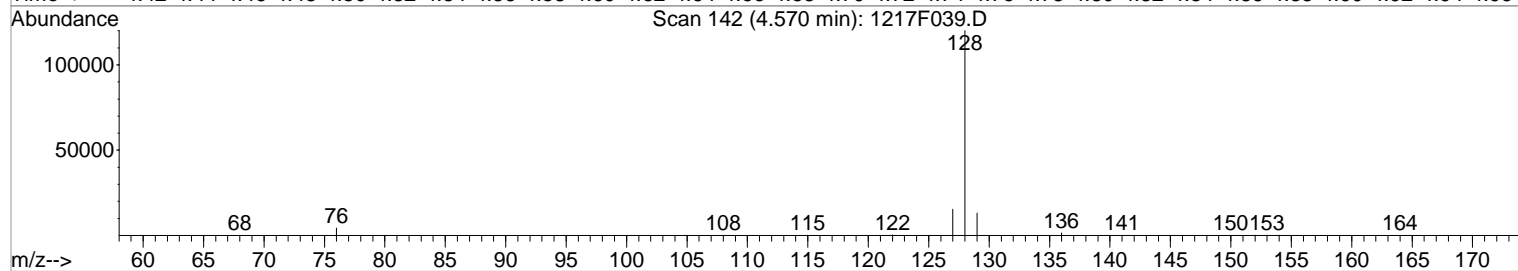
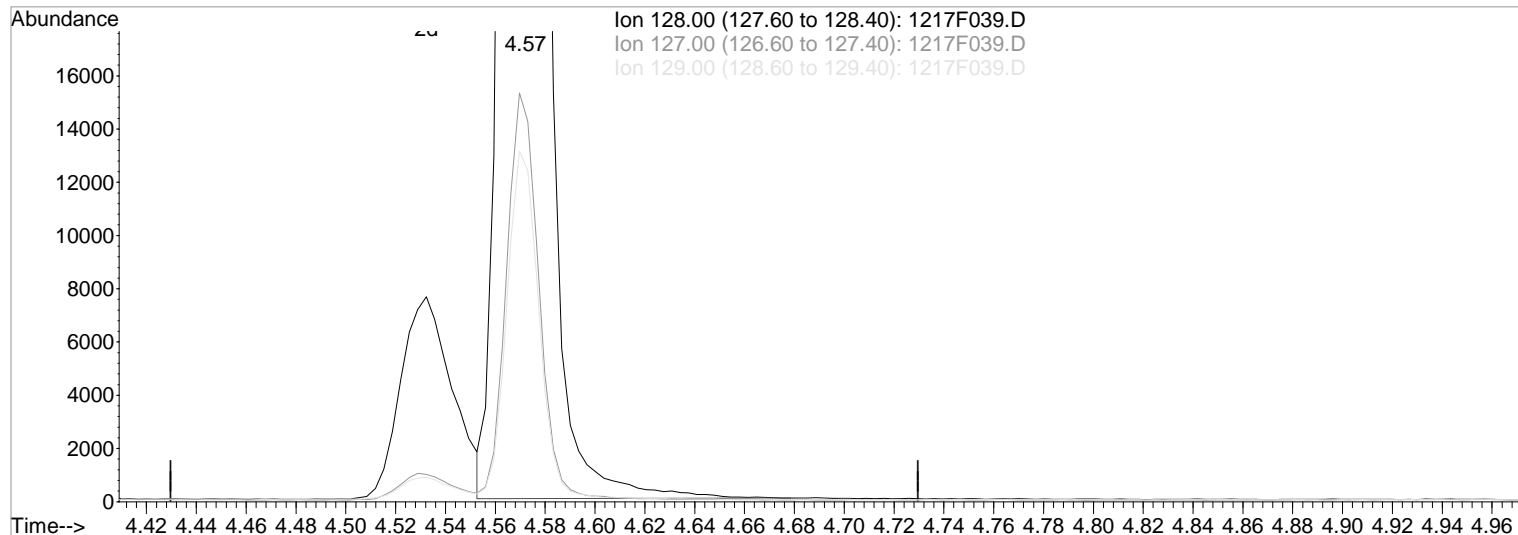
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F039.D

(2) Naphthalene (T)

Manual Integration:

4.57min 256.54ng/ml

Before

response 108746

Ion	Exp%	Act%
128.00	100	100
127.00	12.70	12.74
129.00	10.80	10.91
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F039.D

Acq On : 17 Dec 2020 11:46 pm

Sample : K2011446-005MS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:40 2020

Vial: 34

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

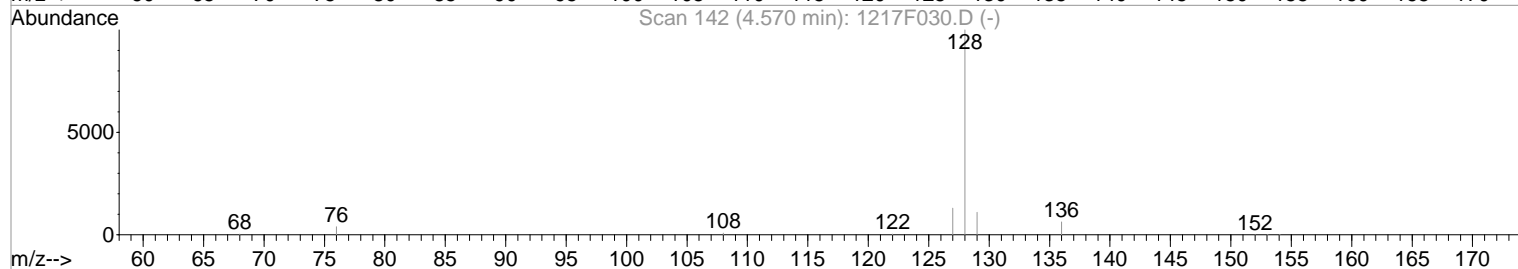
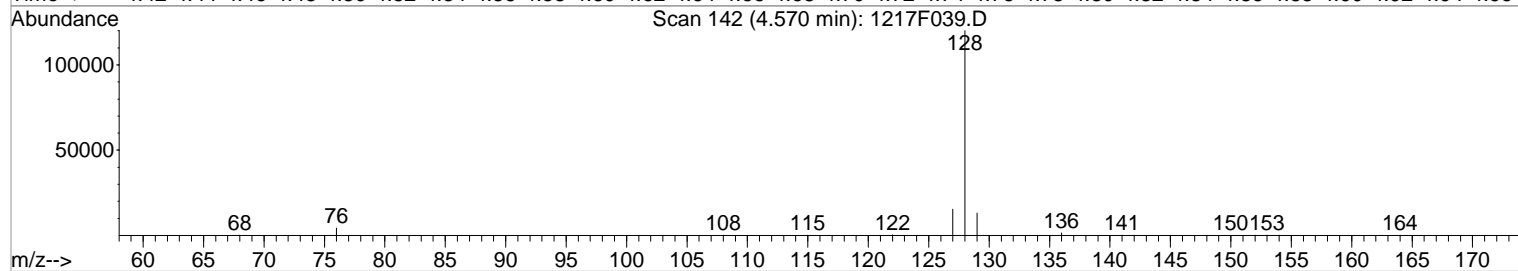
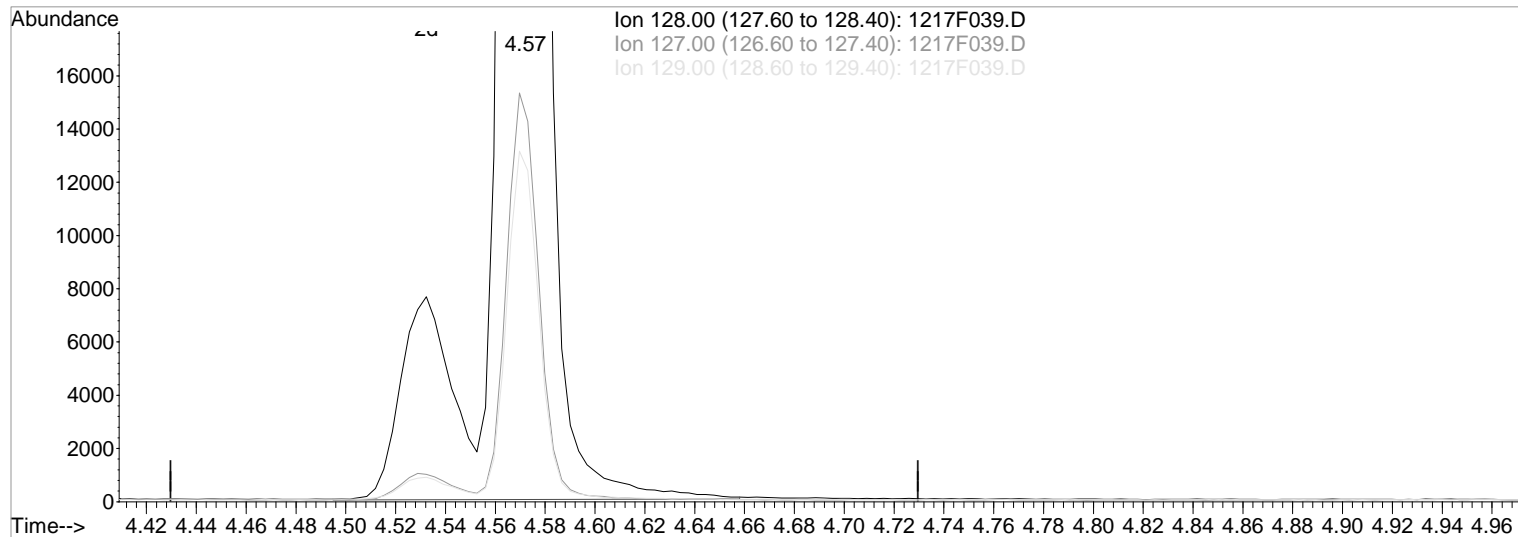
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F039.D

(2) Naphthalene (T)

4.57min 282.85ng/ml m

response 119899

Ion	Exp%	Act%
128.00	100	100
127.00	12.70	12.78
129.00	10.80	10.96
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

12/18/20

Validation Report

1st *Ca* 12/17/20
2nd *Q* 12/17/20

Data File: J:\MS14\DATA\121620\1216F046.D\
Lab ID: KQ2019722-02
RunType: DMS
Matrix: Soil

Date Acquired: 12/16/20 23:48:00
Batch ID: 707391
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery	X	
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121620\1216F046.D\	Instrument:	K-MS-14
Acqu Date:	12/16/20 23:48:00	Vial:	7
Run Type:	DMS	Dilution:	1
Lab ID:	KQ2019722-02	Raw Units:	ng/mL

Bottle ID:	K2011446-004.01	Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/3/20	Receive Date:	12/8/20

Analysis Lot:	707391	Prep Lot:	371210	Report Group:	KQ2019722
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/9/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.15		36043	200.00	OK
Chrysene-d12	9.84	-0.01	98866	200.00	OK
Naphthalene-d8	4.57		80375	200.00	OK
Perylene-d12	12.74	+0.01	127782	200.00	OK
Phenanthrene-d10	7.39		78596	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.37	-0.01	53215	113.44	57	38 - 104	Y
Fluorene-d10	6.59		23728	109.67	55	39 - 109	Y
Terphenyl-d14	8.71		54126	121.77	61	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.33		49392	199.24	417		Y
2-Methylnaphthalene	5.25		56278	211.15	442		Y
Acenaphthene	6.18		50860	228.47	478		Y
Acenaphthylene	6.03		78365	217.49	455		Y
Anthracene	7.45	-0.01	113620	273.35	572		Y
Benz(a)anthracene	9.83		210493	339.01	710		Y
Benzo(a)pyrene	12.59	+0.01	241966	327.38	686		Y
Benzo(b)fluoranthene	11.77	+0.01	282673	365.95	766		Y
Benzo(g,h,i)perylene	15.56	+0.01	249979	299.14	626		Y
Benzo(k)fluoranthene	11.83		220385	293.74	615		Y
Chrysene	9.88		219076	378.36	792		Y
Dibenz(a,h)anthracene	15.22	+0.01	194962	245.94	515		Y
Fluoranthene	8.39		251307	458.24	960		Y

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121620\1216F046.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/16/20 23:48:00	Vial:	7	
Run Type:	DMS	Dilution:	1	
Lab ID:	KQ2019722-02	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.61		67421	264.94	555		Y
Indeno(1,2,3-cd)pyrene	15.19	+0.01	264894	360.85	756		Y
Naphthalene	4.59		84914	208.53	437		Y
Phenanthrene	7.41		136694	312.34	654		Y
Pyrene	8.57	-0.01	254555	422.35	884		Y

Prep Amount: 10.074 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 47.40

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

Printed: 12/18/20 10:10

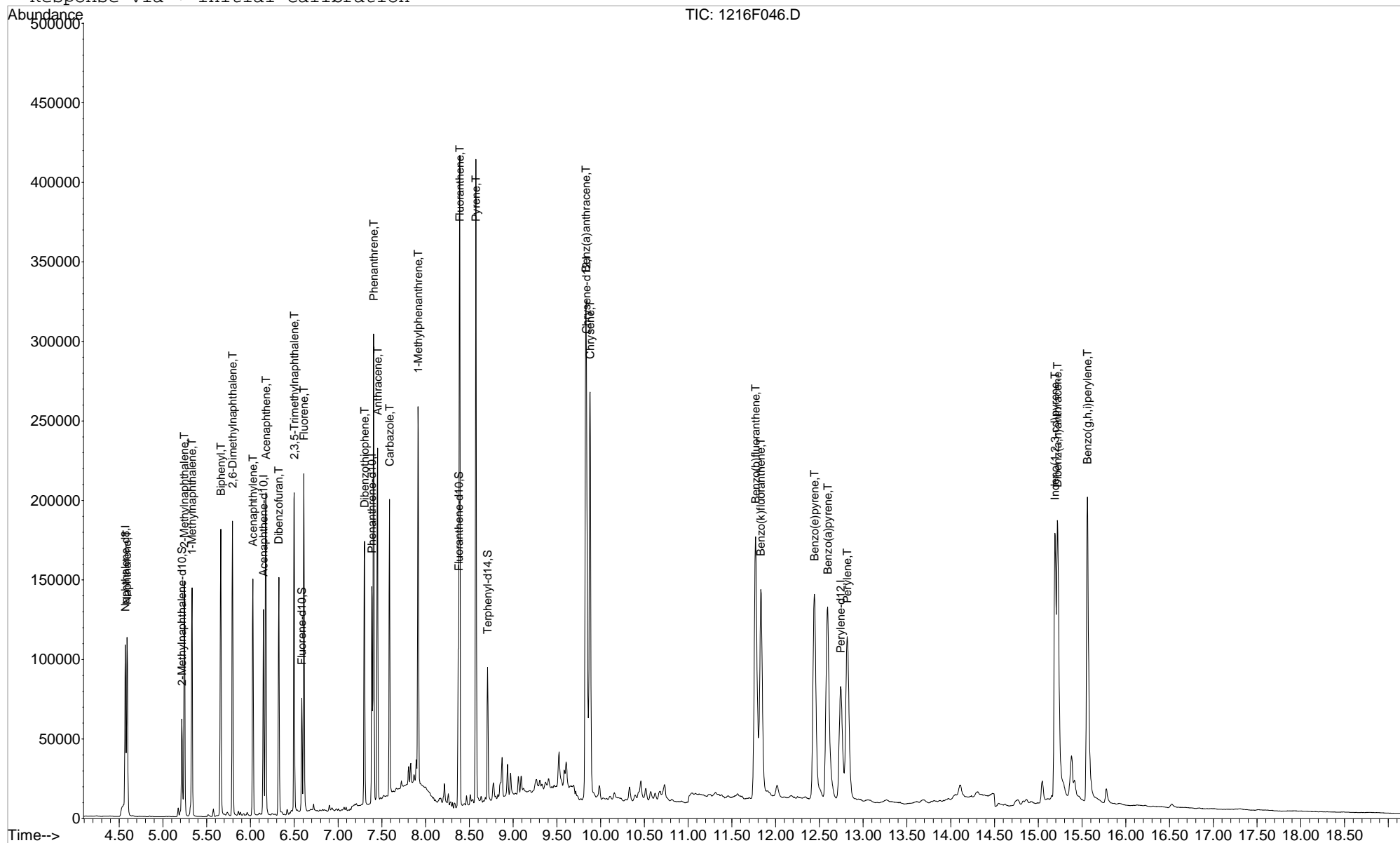
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Data File : J:\MS14\DATA\121620\1216F046.D
Acq On : 16 Dec 2020 11:48 pm
Sample : KQ2019722-02 K2011446-004DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Dec 17 8:41 2020

Vial: 44
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\121620\1216F046.D

Vial: 44

Acq On : 16 Dec 2020 11:48 pm

Operator: LWeiskopf

Sample : KQ2019722-02 K2011446-004DMS

Inst : MS14

Misc :

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 17 05:02:13 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.57	136	80375m	200.00	ng/ml	0.01
8) Acenaphthene-d10	6.15	164	36043	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.39	188	78596	200.00	ng/ml	0.00
23) Chrysene-d12	9.84	240	98866	200.00	ng/ml	0.01
28) Perylene-d12	12.74	264	127782	200.00	ng/ml	0.03

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.22	152	20208	92.21	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	9.22%	
13) Fluorene-d10	6.59	176	23728	109.67	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	10.97%	
22) Fluoranthene-d10	8.37	212	53215	113.44	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	11.34%	
25) Terphenyl-d14	8.71	244	54126	121.77	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	12.18%	

Target Compounds

						Qvalue
2) Naphthalene	4.59	128	84914m	208.53	ng/ml	
4) 2-Methylnaphthalene	5.25	142	56278	211.15	ng/ml	98
5) 1-Methylnaphthalene	5.33	142	49392	199.24	ng/ml	99
6) Biphenyl	5.66	154	65599	202.68	ng/ml	100
7) 2,6-Dimethylnaphthalene	5.79	156	50875	213.97	ng/ml	99
9) Acenaphthylene	6.03	152	78365	217.49	ng/ml	100
10) Acenaphthene	6.18	154	50860	228.47	ng/ml	99
11) Dibenzofuran	6.32	168	77246	227.15	ng/ml	94
12) 2,3,5-Trimethylnaphthalene	6.50	170	56829	264.71	ng/ml	94
14) Fluorene	6.61	166	67421	264.94	ng/ml	98
16) Dibenzothiophene	7.30	184	97160	231.21	ng/ml	95
17) Phenanthrene	7.41	178	136694	312.34	ng/ml	99
18) Anthracene	7.45	178	113620	273.35	ng/ml	100
19) Carbazole	7.59	167	97275	239.56	ng/ml	99
20) 1-Methylphenanthrene	7.91	192	87306m	258.97	ng/ml	
21) Fluoranthene	8.39	202	251307	458.24	ng/ml	97
24) Pyrene	8.57	202	254555	422.35	ng/ml	99
26) Benz(a)anthracene	9.83	228	210493	339.01	ng/ml	99
27) Chrysene	9.88	228	219076	378.36	ng/ml	99
29) Benzo(b)fluoranthene	11.77	252	282673	365.95	ng/ml	99
30) Benzo(k)fluoranthene	11.83	252	220385	293.74	ng/ml	98
31) Benzo(e)pyrene	12.44	252	242082	334.49	ng/ml	100
32) Benzo(a)pyrene	12.59	252	241966	327.38	ng/ml	100
33) Perylene	12.82	252	202359	295.91	ng/ml	100
34) Indeno(1,2,3-cd)pyrene	15.19	276	264894	360.85	ng/ml	99
35) Dibenz(a,h)anthracene	15.22	278	194962	245.94	ng/ml	100
36) Benzo(g,h,i)perylene	15.56	276	249979	299.14	ng/ml	100

Data File : J:\MS14\DATA\121620\1216F046.D

Acq On : 16 Dec 2020 11:48 pm

Sample : KQ2019722-02 K2011446-004DMS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 5:02 2020

Vial: 44

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

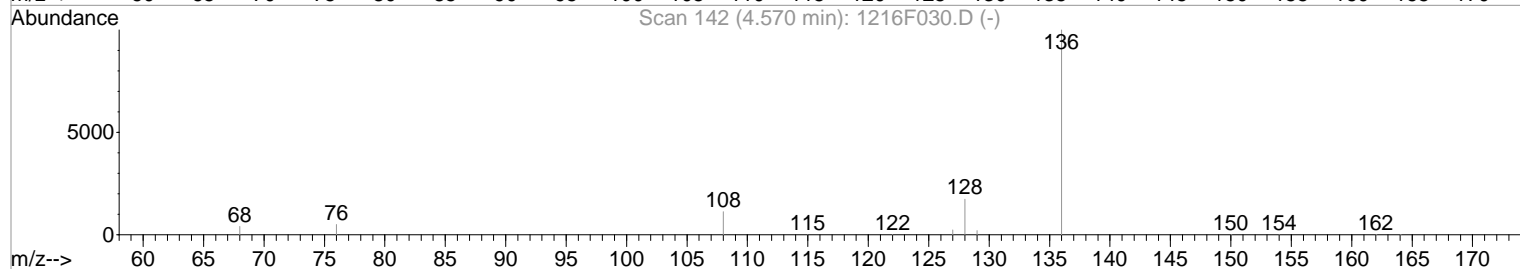
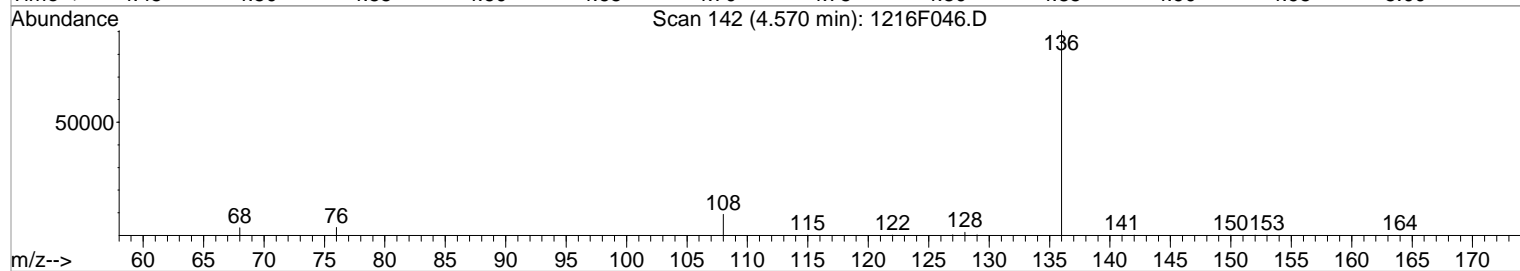
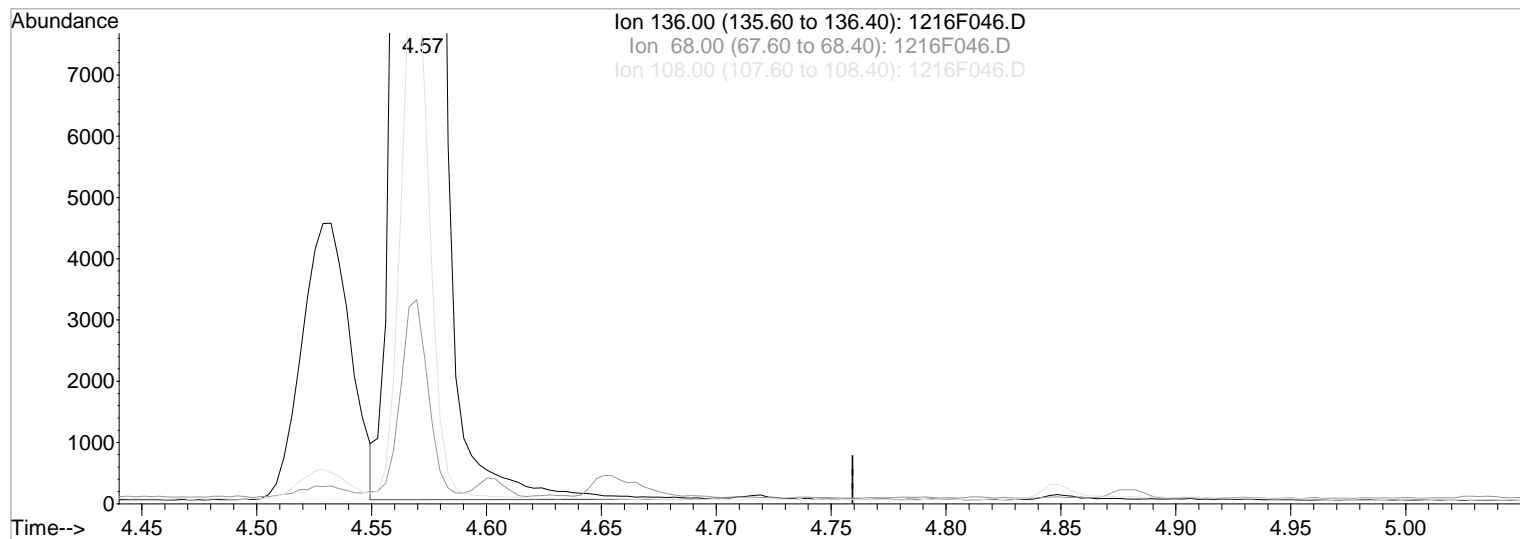
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F046.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.57min 200.00ng/ml

Before

response 73624

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	3.54
108.00	10.90	10.16
0.00	0.00	0.00

12/17/20

Data File : J:\MS14\DATA\121620\1216F046.D

Acq On : 16 Dec 2020 11:48 pm

Sample : KQ2019722-02 K2011446-004DMS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:40 2020

Vial: 44

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

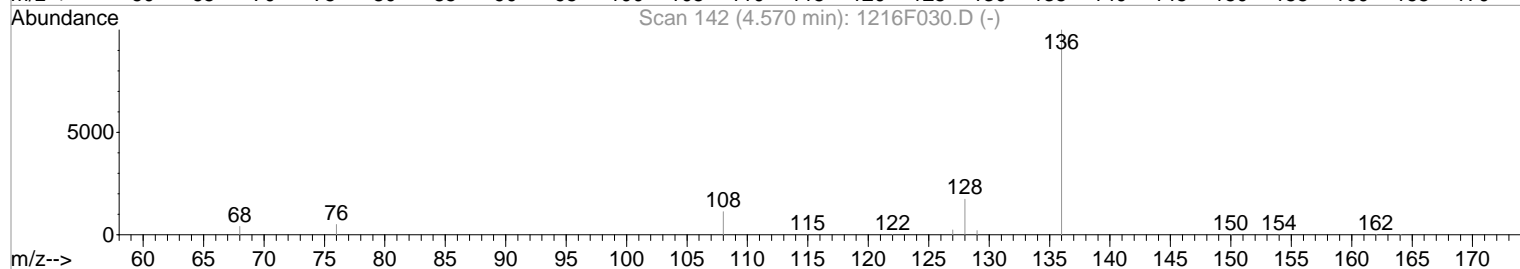
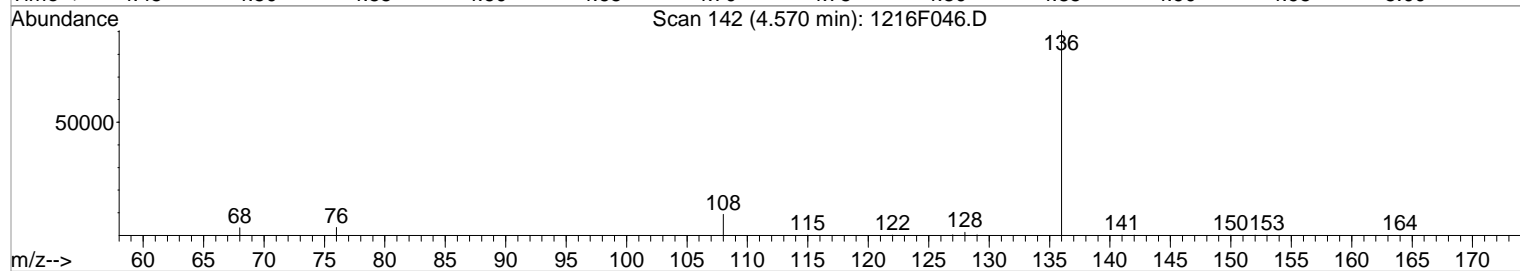
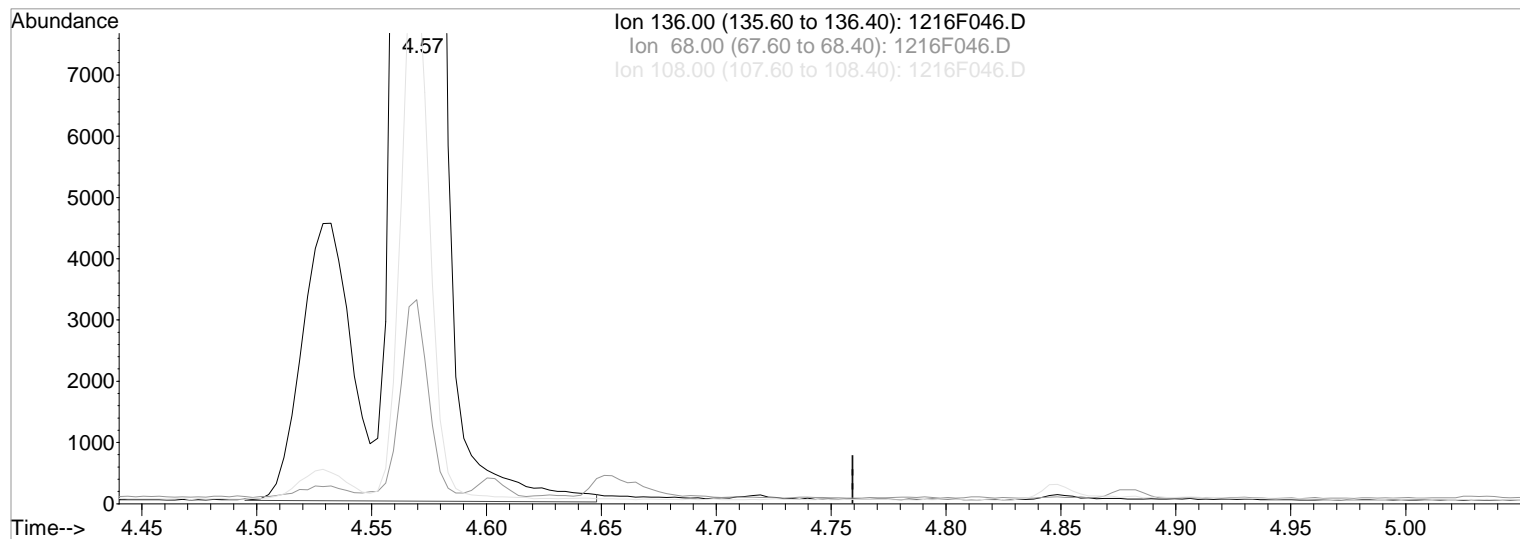
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F046.D

(1) Naphthalene-d8 (I)

4.57min 200.00ng/ml m

response 80375

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	3.68
108.00	10.90	10.24
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

12/17/20

Data File : J:\MS14\DATA\121620\1216F046.D

Acq On : 16 Dec 2020 11:48 pm

Sample : KQ2019722-02 K2011446-004DMS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:40 2020

Vial: 44

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

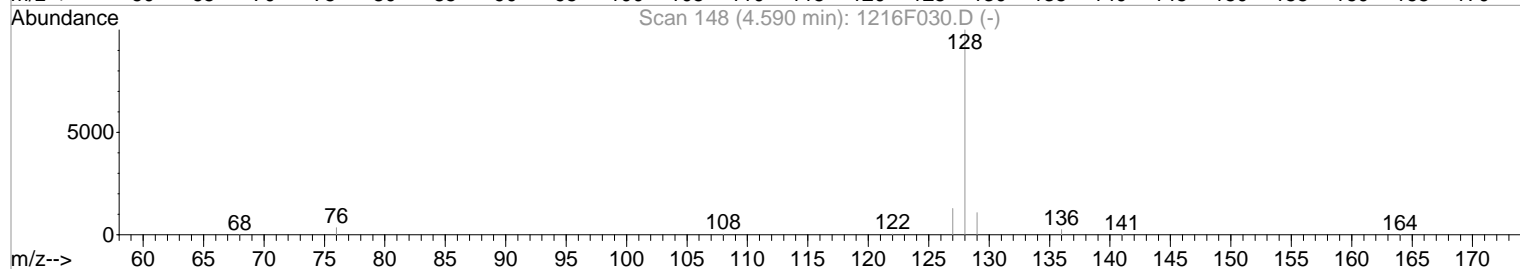
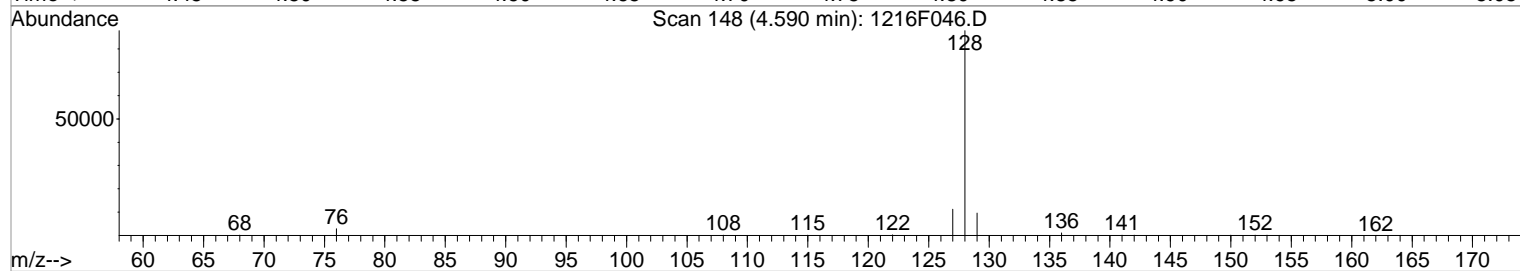
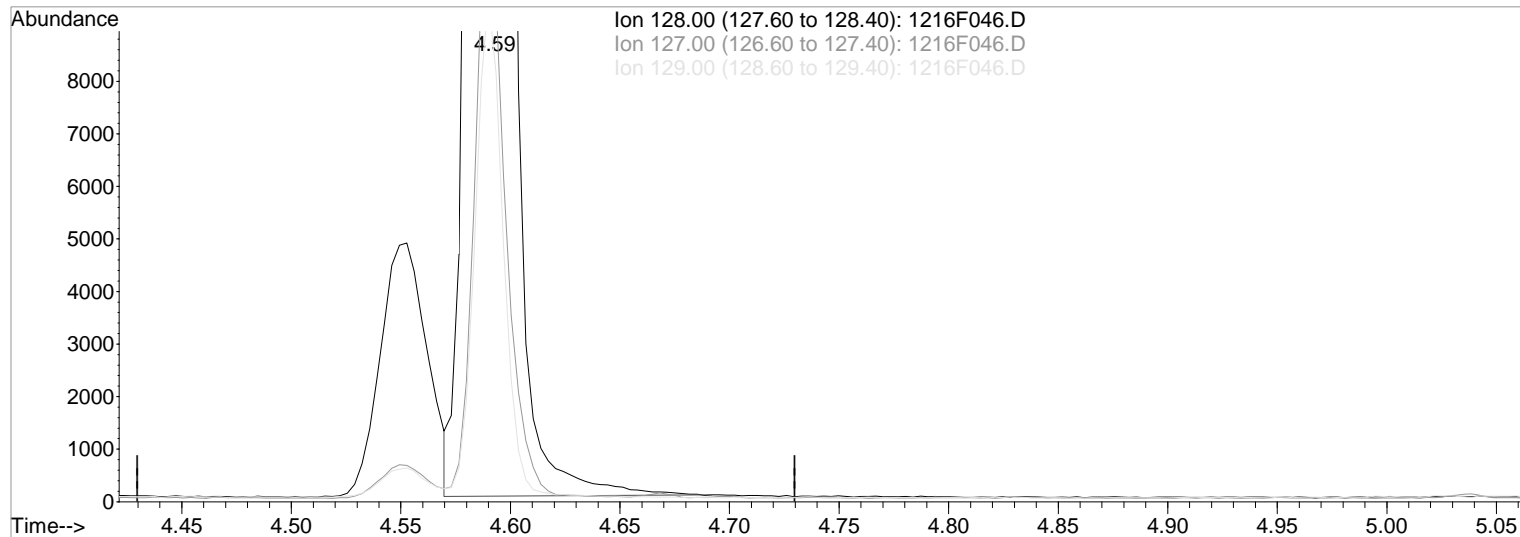
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F046.D

(2) Naphthalene (T)

Manual Integration:

4.59min 190.26ng/ml

Before

response 77475

Ion	Exp%	Act%
-----	------	------

12/17/20

128.00	100	100
--------	-----	-----

127.00	12.70	12.66
--------	-------	-------

129.00	10.80	10.79
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121620\1216F046.D

Acq On : 16 Dec 2020 11:48 pm

Sample : KQ2019722-02 K2011446-004DMS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:40 2020

Vial: 44

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

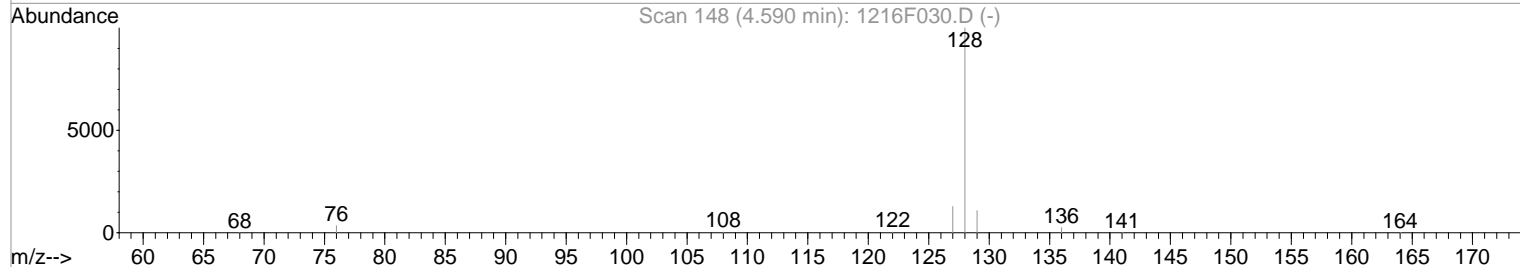
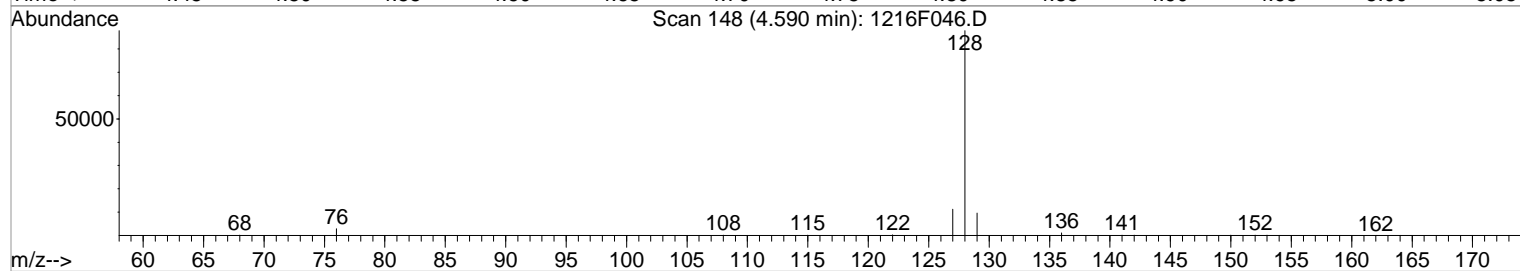
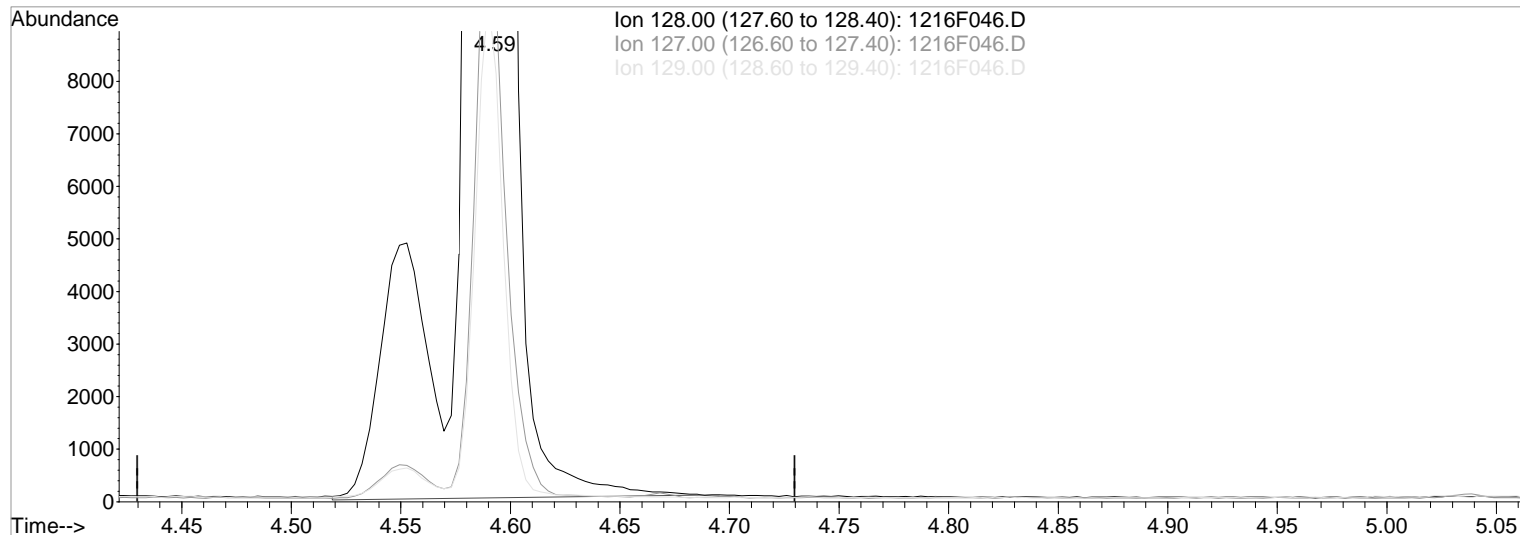
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Multiple Level Calibration



TIC: 1216F046.D

(2) Naphthalene (T)

4.59min 208.53ng/ml m

response 84914

Ion	Exp%	Act%
-----	------	------

128.00	100	100
--------	-----	-----

127.00	12.70	12.74
--------	-------	-------

129.00	10.80	10.86
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/17/20

Validation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File: J:\MS14\DATA\121720\1217F040.D\
Lab ID: KQ2019929-02
RunType: DMS
Matrix: Soil

Date Acquired: 12/18/20 00:12:00
Batch ID: 707540
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Analytical Hold Time	X	
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Continuing Calibration Recovery		X
Internal Standards	X	
Surrogates	X	
Std MRL Unsupported by ICAL	X	
Above Highest ICAL Level	X	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
Continuing Calibration Recovery	Pyrene	-21		20	OK, <40

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *ca* 12/18/20
2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121720\1217F040.D\	Instrument:	K-MS-14
Acqu Date:	12/18/20 00:12:00	Vial:	7
Run Type:	DMS	Dilution:	1
Lab ID:	KQ2019929-02	Raw Units:	ng/mL

Bottle ID:	K2011446-005.01	Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/4/20	Receive Date:	12/8/20

Analysis Lot:	707540	Prep Lot:	371385	Report Group:	KQ2019929
Analysis	8270D	Prep Method:	EPA 3546		
		Prep Date:	12/14/20		

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.13		35162	200.00	OK
Chrysene-d12	9.83	+0.01	109123	200.00	OK
Naphthalene-d8	4.55		81637	200.00	OK
Perylene-d12	12.73	+0.05	133720	200.00	OK
Phenanthrene-d10	7.37	-0.01	76032	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	% Rec	% Rec Criteria	Rpt?
Fluoranthene-d10	8.36		72835	160.51	80	38 - 104	Y
Fluorene-d10	6.57		33026	156.47	78	39 - 109	Y
Terphenyl-d14	8.70	+0.01	75476	153.84	77	38 - 113	Y

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
1-Methylnaphthalene	5.31		74227	294.79	1180		Y
2-Methylnaphthalene	5.23		83389	308.04	1230		Y
Acenaphthene	6.16		74284	342.05	1370		Y
Acenaphthylene	6.01		116898	332.55	1330		Y
Anthracene	7.44		161714	402.18	1610		Y
Benz(a)anthracene	9.81		345293	503.83	2020		Y
Benzo(a)pyrene	12.58	+0.05	409296	529.19	2120		Y
Benzo(b)fluoranthene	11.76	+0.04	514493	636.48	2550		Y
Benzo(g,h,i)perylene	15.56	+0.04	417639	477.58	1910		Y
Benzo(k)fluoranthene	11.82	+0.04	373237	475.38	1900		Y
Chrysene	9.87	+0.02	365279	571.57	2290		Y
Dibenz(a,h)anthracene	15.22	+0.04	290617	350.33	1400		Y
Fluoranthene	8.38		360706	679.90	2720		Y

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121720\1217F040.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/18/20 00:12:00	Vial:	7	
Run Type:	DMS	Dilution:	1	
Lab ID:	KQ2019929-02	Raw Units:	ng/mL	

Target Compounds

Final Conc.Units: ug/Kg

Parameter Name	RT	RT Dev	Response	Solution Conc	Final Conc	Q	Rpt?
Fluorene	6.60		97466	392.60	1570		Y
Indeno(1,2,3-cd)pyrene	15.19	+0.04	443187	576.92	2310		Y
Naphthalene	4.57		131195	317.21	1270		Y
Phenanthrene	7.39		189501	447.61	1790		Y
Pyrene	8.56		372561	560.04	2240		Y

Prep Amount: 10.3120 g **Dilution:** 1
Prep Final Amount: 10.00 mL **Basis Factor:** 24.20

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

Printed: 12/18/20 10:04

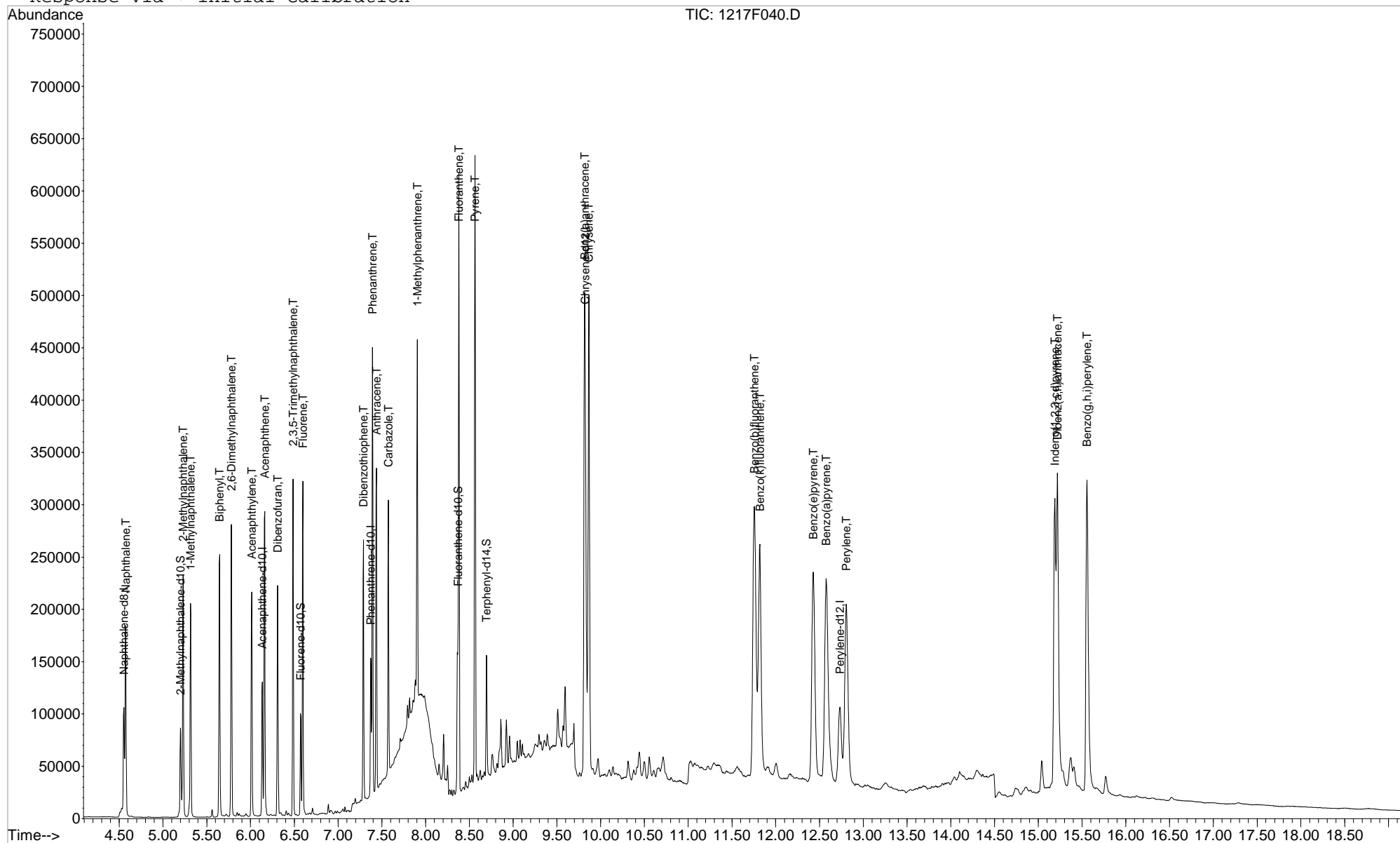
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Data File : J:\MS14\DATA\121720\1217F040.D
Acq On : 18 Dec 2020 12:12 am
Sample : K2011446-005DMS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Dec 18 7:40 2020

Vial: 35
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Dec 18 07:27:27 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\121720\1217F040.D

Acq On : 18 Dec 2020 12:12 am

Sample : K2011446-005DMS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 05:24:13 2020

Vial: 35

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.55	136	81637m	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.13	164	35162	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.37	188	76032	200.00	ng/ml	-0.01
23) Chrysene-d12	9.83	240	109123	200.00	ng/ml	0.00
28) Perylene-d12	12.73	264	133720	200.00	ng/ml	0.02

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.20	152	29424	132.19	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	13.22%	
13) Fluorene-d10	6.57	176	33026	156.47	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	15.65%	
22) Fluoranthene-d10	8.36	212	72835	160.51	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	16.05%	
25) Terphenyl-d14	8.70	244	75476	153.84	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	15.38%	

Target Compounds

						Qvalue
2) Naphthalene	4.57	128	131195m	317.21	ng/ml	
4) 2-Methylnaphthalene	5.23	142	83389	308.04	ng/ml	98
5) 1-Methylnaphthalene	5.31	142	74227	294.79	ng/ml	98
6) Biphenyl	5.65	154	105178	319.95	ng/ml	100
7) 2,6-Dimethylnaphthalene	5.78	156	74945	310.33	ng/ml	100
9) Acenaphthylene	6.01	152	116898	332.55	ng/ml	100
10) Acenaphthene	6.16	154	74284	342.05	ng/ml	98
11) Dibenzofuran	6.31	168	111773	336.92	ng/ml	90
12) 2,3,5-Trimethylnaphthalene	6.48	170	91721	437.94	ng/ml	97
14) Fluorene	6.60	166	97466	392.60	ng/ml	100
16) Dibenzothiophene	7.29	184	139873	344.07	ng/ml	97
17) Phenanthrene	7.39	178	189501	447.61	ng/ml	99
18) Anthracene	7.44	178	161714	402.18	ng/ml	100
19) Carbazole	7.57	167	132560	337.47	ng/ml	99
20) 1-Methylphenanthrene	7.90	192	118978m	364.81	ng/ml	
21) Fluoranthene	8.38	202	360706	679.90	ng/ml	100
24) Pyrene	8.56	202	372561	560.04	ng/ml	99
26) Benz(a)anthracene	9.81	228	345293	503.83	ng/ml	99
27) Chrysene	9.87	228	365279	571.57	ng/ml	100
29) Benzo(b)fluoranthene	11.76	252	514493	636.48	ng/ml	99
30) Benzo(k)fluoranthene	11.82	252	373237	475.38	ng/ml	98
31) Benzo(e)pyrene	12.43	252	394415	520.77	ng/ml	100
32) Benzo(a)pyrene	12.58	252	409296	529.19	ng/ml	99
33) Perylene	12.81	252	348211	486.58	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.19	276	443187	576.92	ng/ml	99
35) Dibenz(a,h)anthracene	15.22	278	290617	350.33	ng/ml	99
36) Benzo(g,h,i)perylene	15.56	276	417639	477.58	ng/ml	99

Data File : J:\MS14\DATA\121720\1217F040.D

Acq On : 18 Dec 2020 12:12 am

Sample : K2011446-005DMS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 5:24 2020

Vial: 35

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

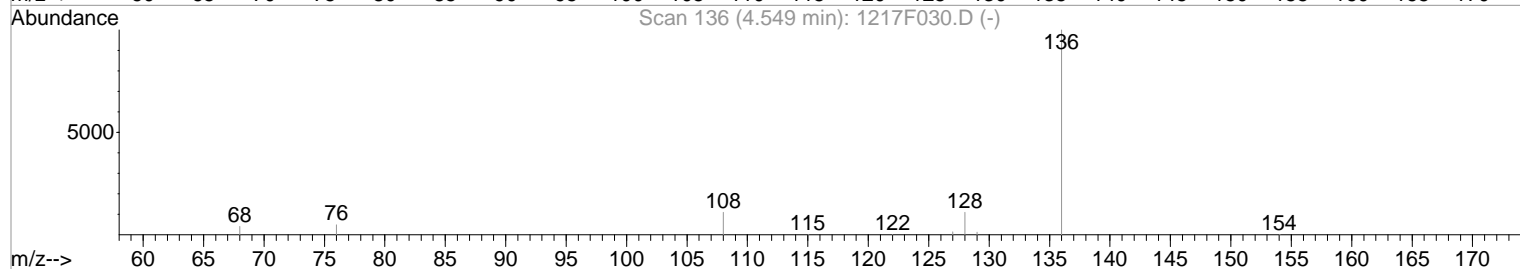
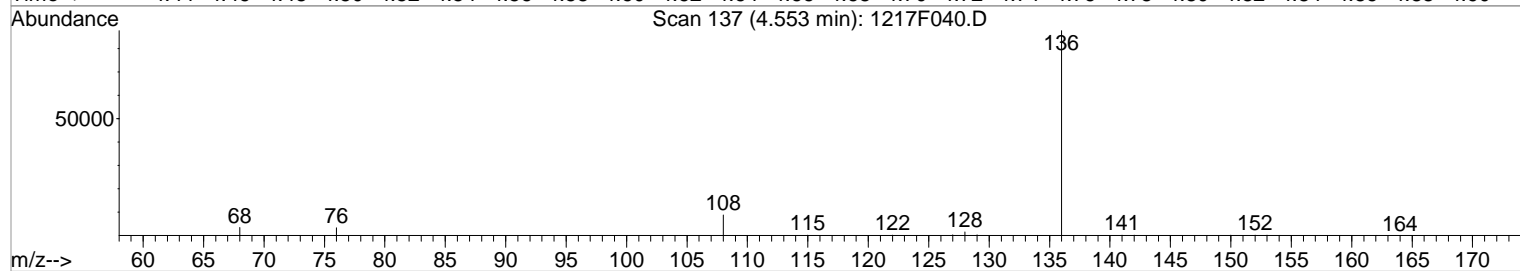
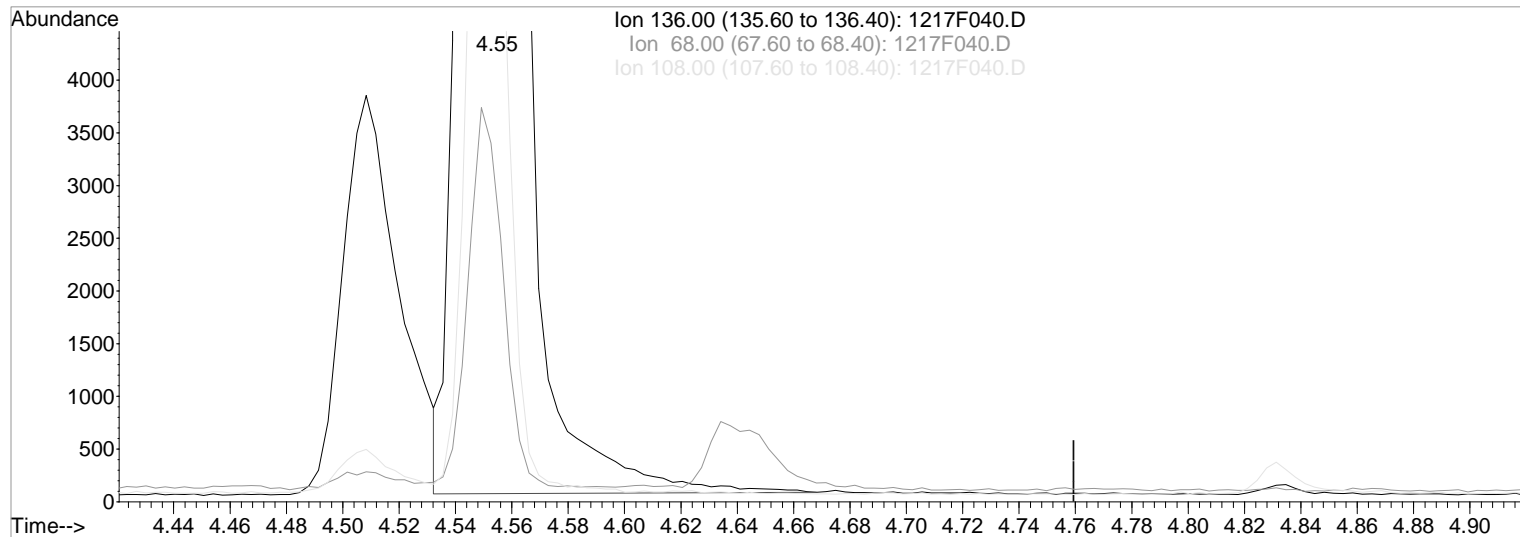
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F040.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.55min 200.00ng/ml

Before

response 76316

Ion Exp% Act%

12/18/20

136.00 100 100

68.00 4.00 3.68

108.00 10.90 9.87

0.00 0.00 0.00

Data File : J:\MS14\DATA\121720\1217F040.D

Acq On : 18 Dec 2020 12:12 am

Sample : K2011446-005DMS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:40 2020

Vial: 35

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

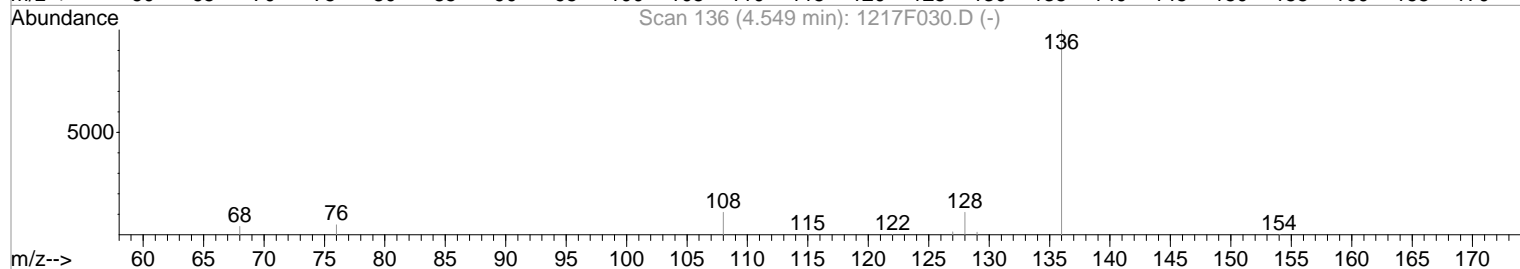
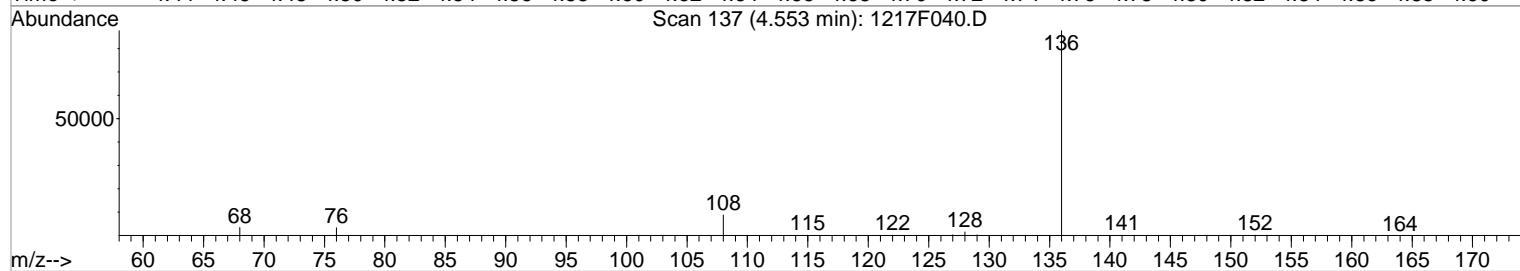
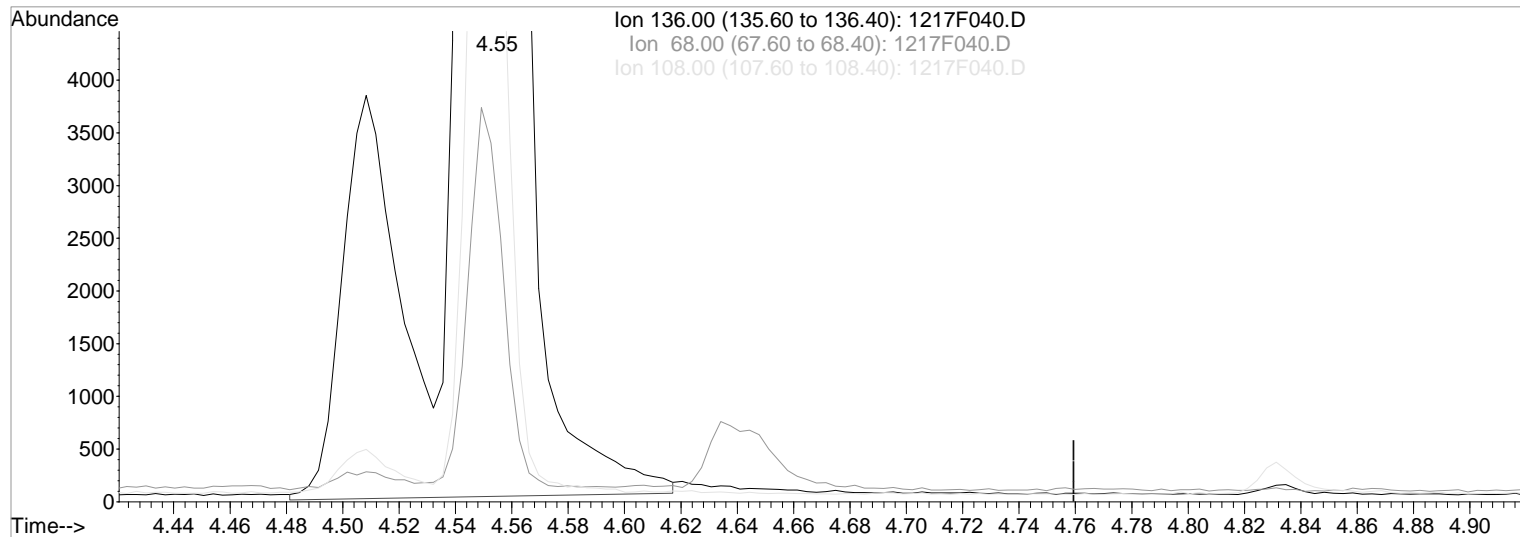
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F040.D

(1) Naphthalene-d8 (I)

4.55min 200.00ng/ml m

response 81637

Ion	Exp%	Act%
-----	------	------

136.00	100	100
--------	-----	-----

68.00	4.00	3.88
-------	------	------

108.00	10.90	9.95
--------	-------	------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F040.D

Acq On : 18 Dec 2020 12:12 am

Sample : K2011446-005DMS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:40 2020

Vial: 35

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

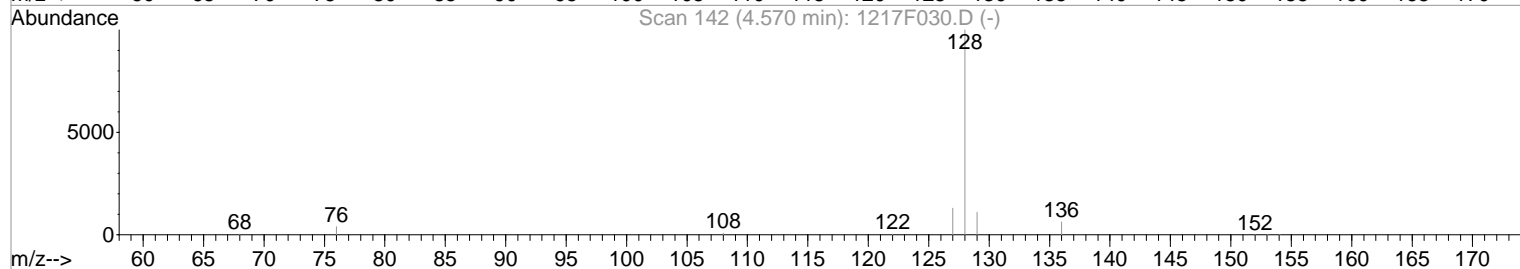
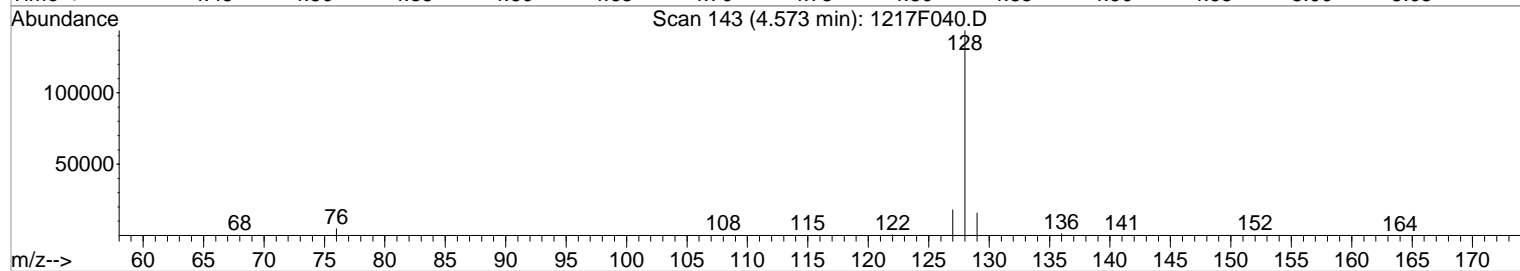
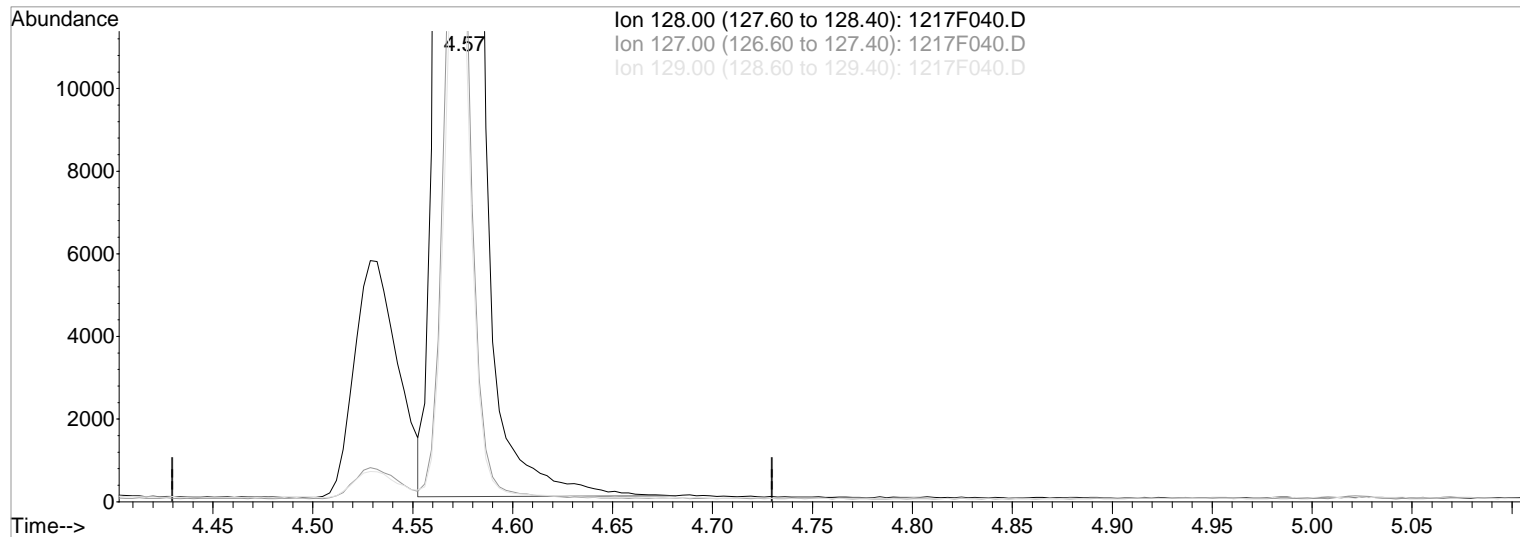
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F040.D

(2) Naphthalene (T)

Manual Integration:

4.57min 295.16ng/ml

Before

response 122074

Ion	Exp%	Act%
128.00	100	100
127.00	12.70	12.45
129.00	10.80	10.84
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F040.D

Acq On : 18 Dec 2020 12:12 am

Sample : K2011446-005DMS

Misc :

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:40 2020

Vial: 35

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

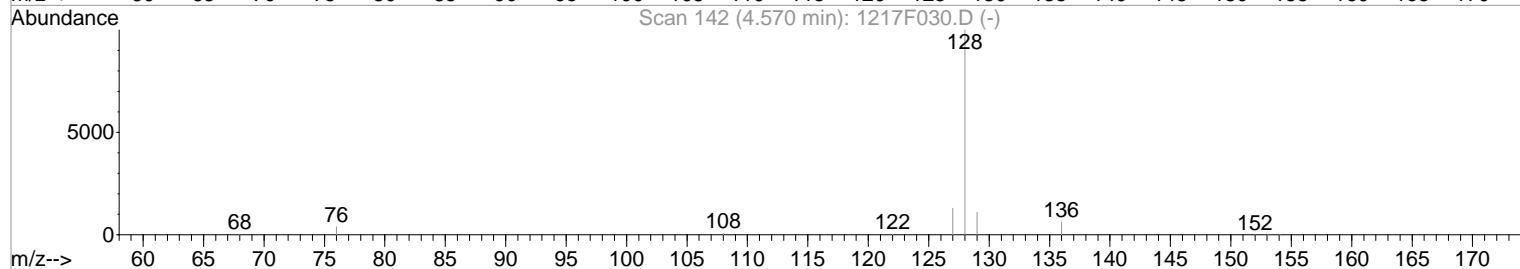
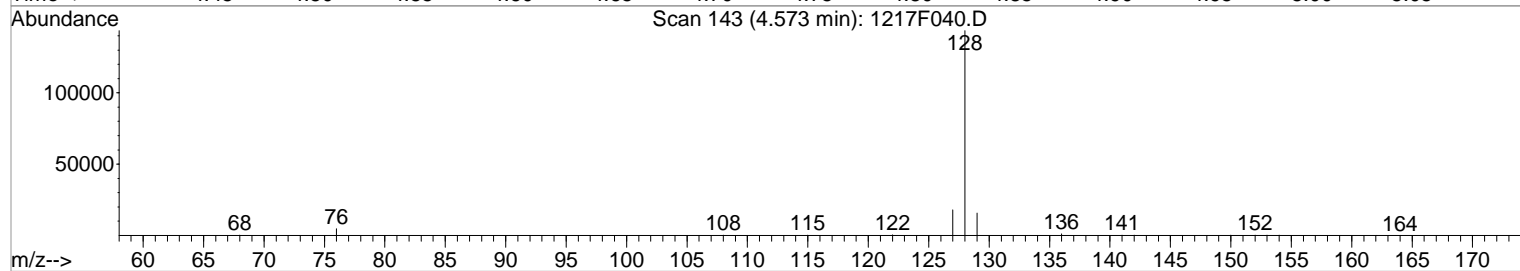
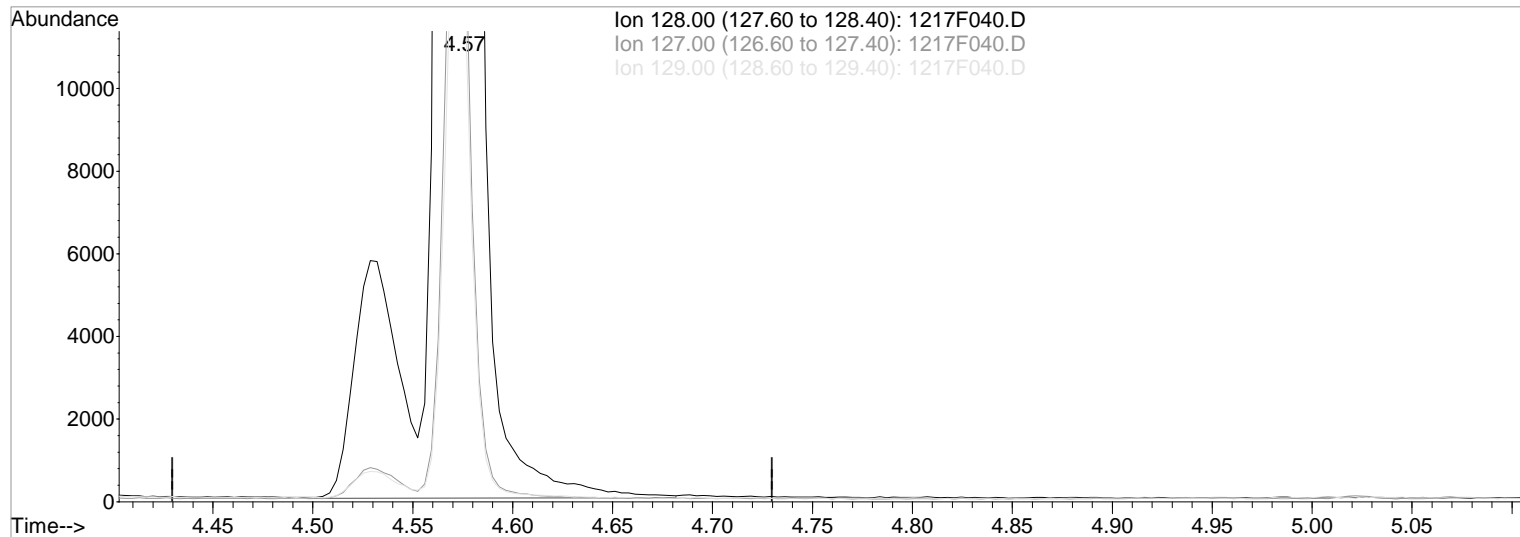
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Fri Dec 18 07:27:27 2020

Response via : Multiple Level Calibration



TIC: 1217F040.D

(2) Naphthalene (T)

4.57min 317.21ng/ml m

response 131195

Ion	Exp%	Act%
-----	------	------

128.00	100	100
--------	-----	-----

127.00	12.70	12.49
--------	-------	-------

129.00	10.80	10.89
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Validation Report

1st *Ca* 12/17/20
2nd *Q* 12/17/20

Data File: J:\MS14\DATA\121620\1216F030.D\
Lab ID: KQ2020281-01
RunType: CCV
Matrix: Soil

Date Acquired: 12/16/20 17:20:00
Batch ID: 707391
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards	X	
Above Highest ICAL Level	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/17/20

2nd *Q* 12/17/20

Data File:	J:\MS14\DATA\121620\1216F030.D\	Instrument:	K-MS-14
Acqu Date:	12/16/20 17:20:00	Vial:	2
Run Type:	CCV	Dilution:	1
Lab ID:	KQ2020281-01	Raw Units:	ng/mL

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/2/20	Receive Date:	12/4/20

Analysis Lot:	707391	Prep Lot:		Report Group:	KQ2020281
Analysis	8270D	Prep Method:			
		Prep Date:			

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	18998

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.15		31580	200.00	OK
Chrysene-d12	9.85		97416	200.00	OK
Naphthalene-d8	4.57		66000	200.00	OK
Perylene-d12	12.73		109852	200.00	OK
Phenanthrene-d10	7.39		74138	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
Fluoranthene-d10	8.38		170491	385.31	Y
Fluorene-d10	6.59		73626	388.40	Y
Terphenyl-d14	8.71		167153	381.65	Y

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
2-Methylnaphthalene	5.25		76453	349.32	Y
Acenaphthene	6.18		71522	366.69	Y
Acenaphthylene	6.03		110197	349.05	Y
Anthracene	7.46		139829	356.63	Y
Benz(a)anthracene	9.83		219801	359.27	Y
Benzo(a)pyrene	12.58		220455	346.97	Y
Benzo(b)fluoranthene	11.76		252163	379.73	Y
Benzo(g,h,i)perylene	15.55		247876	345.04	Y
Benzo(k)fluoranthene	11.83		250922	389.03	Y
Chrysene	9.88		208290	365.09	Y
Dibenz(a,h)anthracene	15.21		247752	363.55	Y
Dibenzofuran	6.33		106937	358.90	Y
Fluoranthene	8.39		184614	356.87	Y

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

Printed: 12/18/20 10:10

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

		1st	<i>Ca</i>	12/17/20
Data File:	J:\MS14\DATA\121620\1216F030.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/17/20
Acqu Date:	12/16/20 17:20:00	Vial:	2	
Run Type:	CCV	Dilution:	1	
Lab ID:	KQ2020281-01	Raw Units:	ng/mL	

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
Fluorene	6.61		88527	397.04	Y
Indeno(1,2,3-cd)pyrene	15.18		202810	321.37	Y
Naphthalene	4.59		118277	353.73	Y
Phenanthrene	7.41		148341	359.34	Y
Pyrene	8.58		210229	354.00	Y

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

Printed: 12/18/20 10:10

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\MS14\DATA\121620\1216F030.D
Acq On : 16 Dec 2020 5:20 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

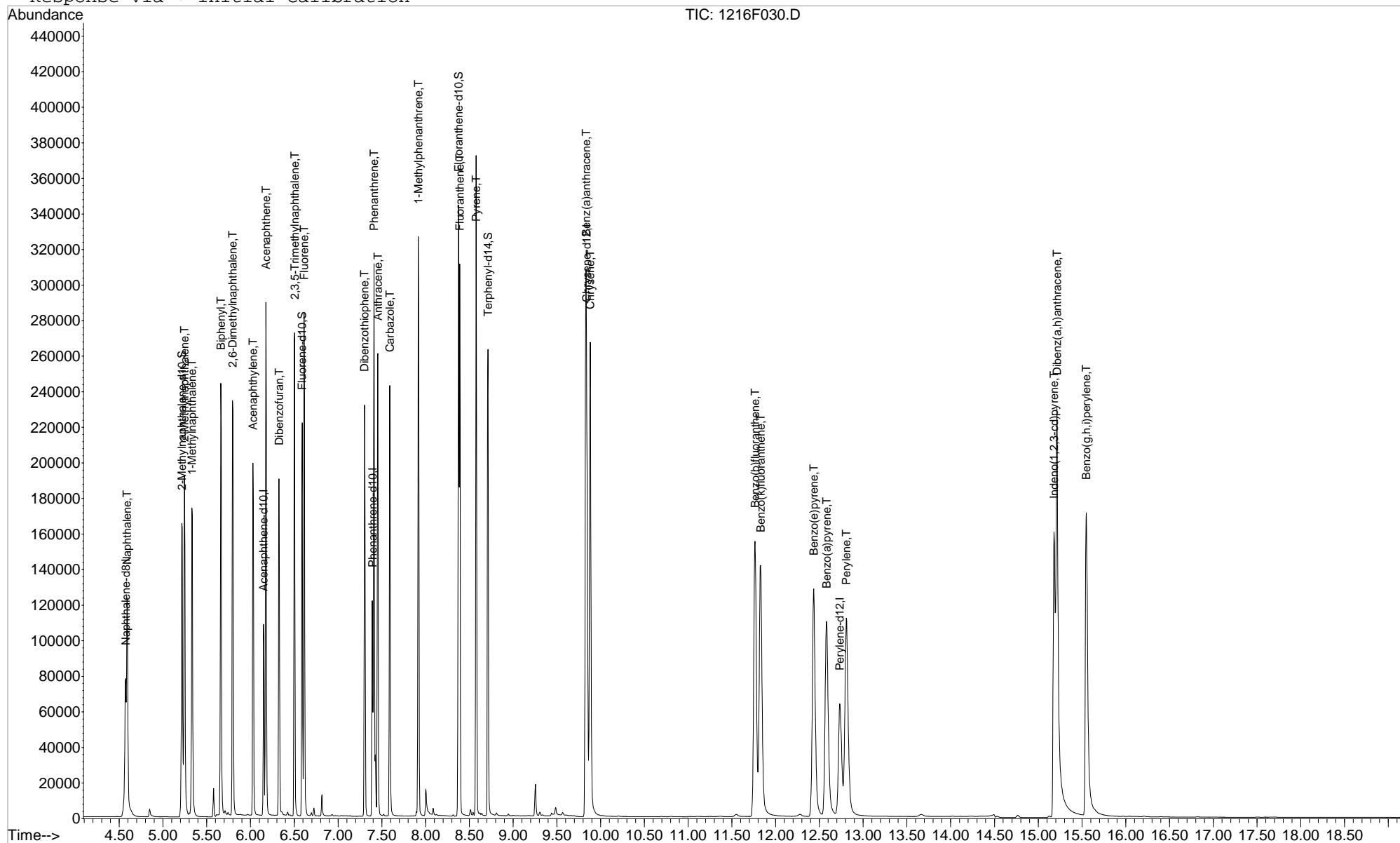
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:01 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Dec 17 08:01:58 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\121620\1216F030.D
 Acq On : 16 Dec 2020 5:20 pm
 Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
 Misc :

Vial: 2
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P
 Quant Time: Dec 17 05:00:47 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.57	136	66000	200.00	ng/ml	0.01
8) Acenaphthene-d10	6.15	164	31580	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.39	188	74138	200.00	ng/ml	0.00
23) Chrysene-d12	9.85	240	97416	200.00	ng/ml	0.01
28) Perylene-d12	12.73	264	109852	200.00	ng/ml	0.02

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.22	152	66687	370.58	ng/ml	0.01
Spiked Amount 1000.000			Recovery =	37.06%		
13) Fluorene-d10	6.59	176	73626	388.40	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	38.84%		
22) Fluoranthene-d10	8.38	212	170491	385.31	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	38.53%		
25) Terphenyl-d14	8.71	244	167153	381.65	ng/ml	0.00
Spiked Amount 1000.000			Recovery =	38.16%		

Target Compounds

						Qvalue
2) Naphthalene	4.59	128	118277	353.73	ng/ml	100
4) 2-Methylnaphthalene	5.25	142	76453	349.32	ng/ml	98
5) 1-Methylnaphthalene	5.33	142	69954	343.64	ng/ml	98
6) Biphenyl	5.66	154	95836	360.60	ng/ml	99
7) 2,6-Dimethylnaphthalene	5.80	156	71503	366.23	ng/ml	94
9) Acenaphthylene	6.03	152	110197	349.05	ng/ml	99
10) Acenaphthene	6.18	154	71522	366.69	ng/ml	100
11) Dibenzofuran	6.33	168	106937	358.90	ng/ml	85
12) 2,3,5-Trimethylnaphthalene	6.50	170	77581	412.44	ng/ml	93
14) Fluorene	6.61	166	88527	397.04	ng/ml	98
16) Dibenzothiophene	7.30	184	138501	349.40	ng/ml	95
17) Phenanthrene	7.41	178	148341	359.34	ng/ml	99
18) Anthracene	7.46	178	139829	356.63	ng/ml	99
19) Carbazole	7.59	167	130620	341.03	ng/ml	99
20) 1-Methylphenanthrene	7.92	192	123969	389.83	ng/ml	99
21) Fluoranthene	8.39	202	184614	356.87	ng/ml	99
24) Pyrene	8.58	202	210229	354.00	ng/ml	89
26) Benz(a)anthracene	9.83	228	219801	359.27	ng/ml	100
27) Chrysene	9.88	228	208290	365.09	ng/ml	100
29) Benzo(b)fluoranthene	11.76	252	252163	379.73	ng/ml	100
30) Benzo(k)fluoranthene	11.83	252	250922	389.03	ng/ml	99
31) Benzo(e)pyrene	12.44	252	230947	371.19	ng/ml	100
32) Benzo(a)pyrene	12.58	252	220455	346.97	ng/ml	99
33) Perylene	12.81	252	217156	369.38	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.18	276	202810m	321.37	ng/ml	
35) Dibenz(a,h)anthracene	15.21	278	247752	363.55	ng/ml	100
36) Benzo(g,h,i)perylene	15.55	276	247876	345.04	ng/ml	99

Data File : J:\MS14\DATA\121620\1216F030.D
Acq On : 16 Dec 2020 5:20 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

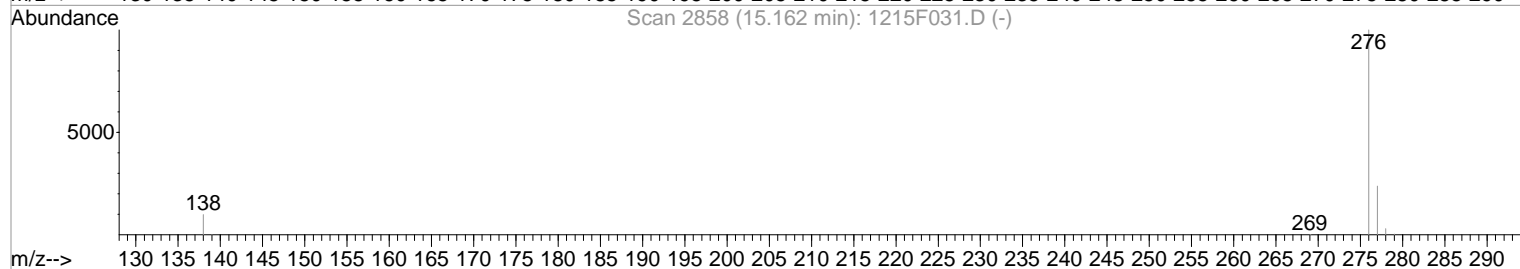
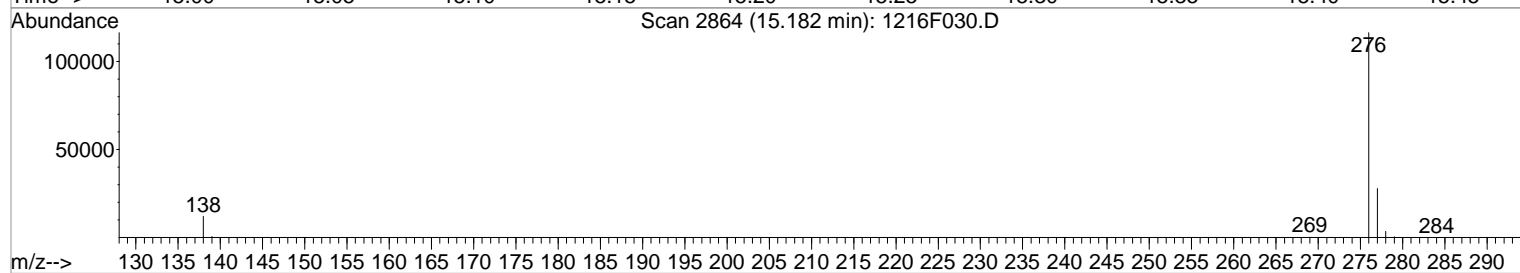
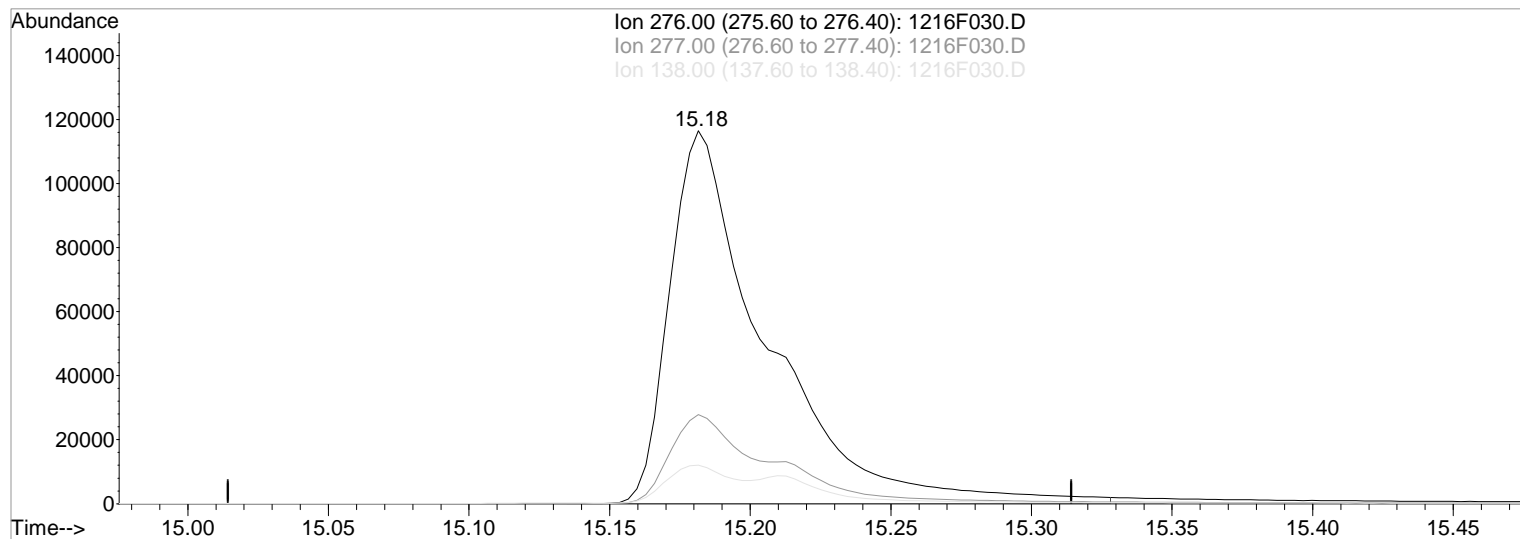
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 17 5:00 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Multiple Level Calibration



TIC: 1216F030.D

(34) Indeno(1,2,3-cd)pyrene (T)

Manual Integration:

15.18min 442.63ng/ml

Before

response 279338

Ion	Exp%	Act%
-----	------	------

12/17/20

276.00	100	100
--------	-----	-----

277.00	24.10	23.84
--------	-------	-------

138.00	10.50	10.15
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121620\1216F030.D
Acq On : 16 Dec 2020 5:20 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

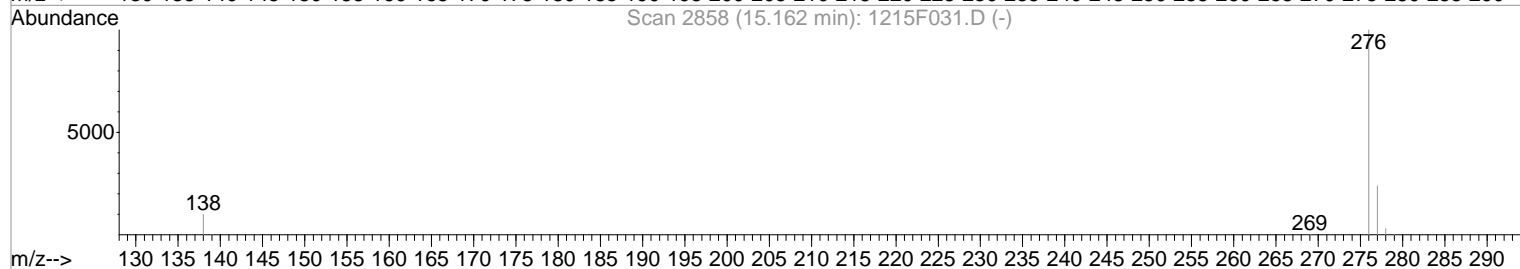
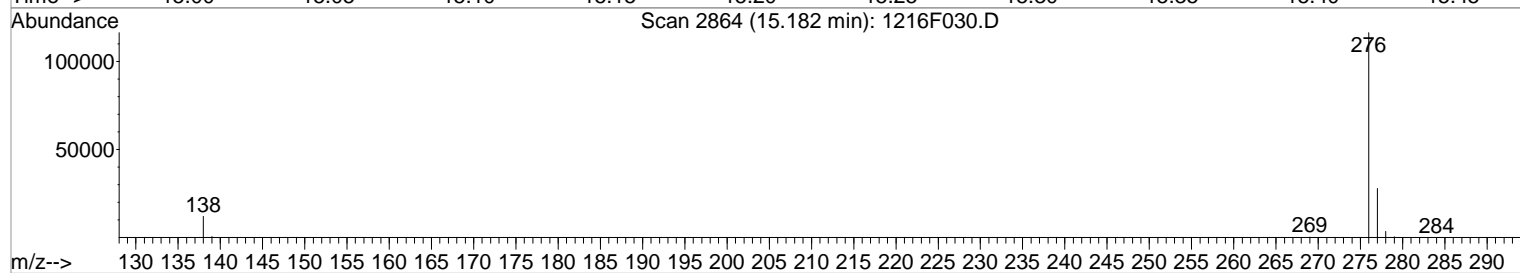
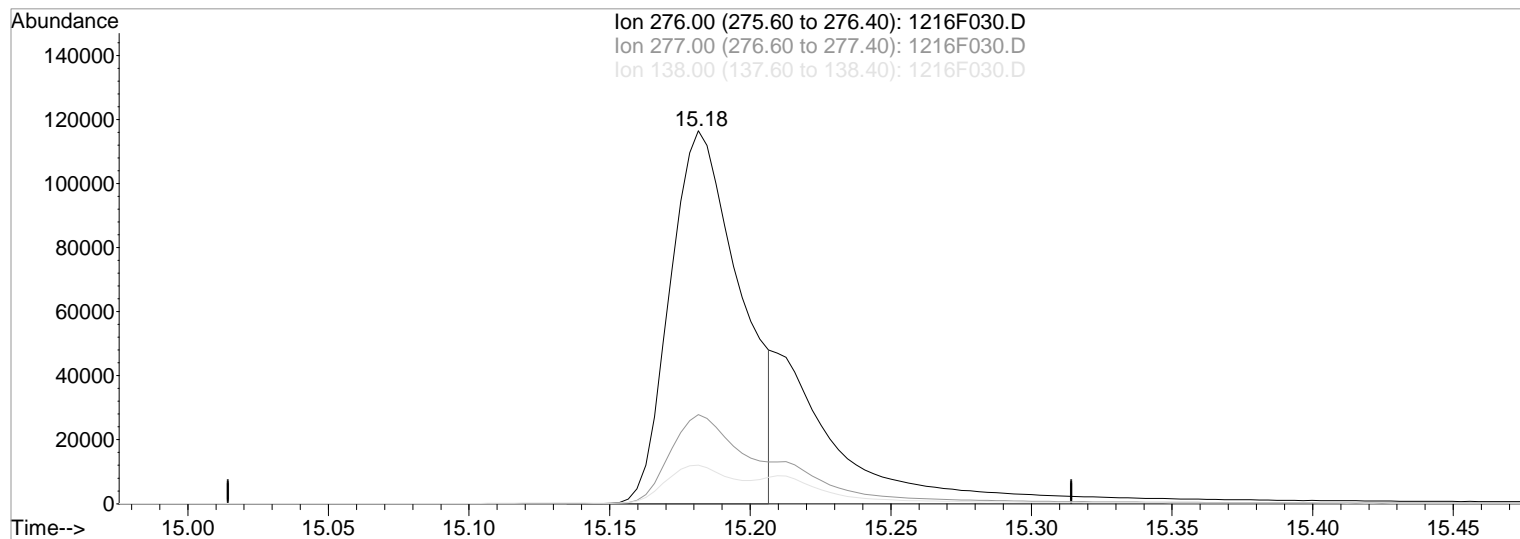
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:01 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Multiple Level Calibration



TIC: 1216F030.D

(34) Indeno(1,2,3-cd)pyrene (T)

Manual Integration:

15.18min 321.37ng/ml m

After

response 202810

IC-Overintegrated

Ion	Exp%	Act%
276.00	100	100
277.00	24.10	23.88
138.00	10.50	10.36
0.00	0.00	0.00

12/17/20

Data File : J:\MS14\DATA\121620\1216F030.D
 Acq On : 16 Dec 2020 5:20 pm
 Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
 Misc :
 MS Integration Params: RTEINT.P

Vial: 2
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
 Title : PAHS and ALKYLATED HOMOLOGS
 Last Update : Wed Dec 16 09:25:53 2020
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Naphthalene-d8	1.000	1.000	0.0	87	0.01
2 T	Naphthalene	1.013	0.896	11.5	80	0.01
3 S	2-Methylnaphthalene-d10	0.545	0.505	7.3	87	0.01
4 T	2-Methylnaphthalene	0.663	0.579	12.7	84	0.00
5 T	1-Methylnaphthalene	0.617	0.530	14.1	85	0.00
6 T	Biphenyl	0.805	0.726	9.8	89	0.00
7 T	2,6-Dimethylnaphthalene	0.592	0.542	8.4	91	0.00
8 I	Acenaphthene-d10	1.000	1.000	0.0	97	0.00
9 T	Acenaphthylene	1.999	1.745	12.7	86	0.00
10 T	Acenaphthene	1.235	1.132	8.3	91	0.00
11 T	Dibenzofuran	1.887	1.693	10.3	93	0.00
12 T	2,3,5-Trimethylnaphthalene	1.191	1.228	-3.1	100	0.00
13 S	Fluorene-d10	1.201	1.166	2.9	98	0.00
14 T	Fluorene	1.412	1.402	0.7	97	0.00
15 I	Phenanthrene-d10	1.000	1.000	0.0	116	0.00
16 T	Dibenzothiophene	1.069	0.934	12.6	102	0.00
17 T	Phenanthrene	1.114	1.000	10.2	107	0.00
18 T	Anthracene	1.058	0.943	10.9	105	0.00
19 T	Carbazole	1.033	0.881	14.7	101	0.00
20 T	1-Methylphenanthrene	0.858	0.836	2.6	113	0.00
21 T	Fluoranthene	1.396	1.245	10.8	106	0.00
22 S	Fluoranthene-d10	1.194	1.150	3.7	111	0.00
23 I	Chrysene-d12	1.000	1.000	0.0	119	0.01
24 T	Pyrene	1.219	1.079	11.5	111	0.00
25 S	Terphenyl-d14	0.899	0.858	4.6	118	0.00
26 T	Benz(a)anthracene	1.256	1.128	10.2	114	0.01
27 T	Chrysene	1.171	1.069	8.7	115	0.01
28 I	Perylene-d12	1.000	1.000	0.0	123	0.02
29 T	Benzo(b)fluoranthene	1.209	1.148	5.0	114	0.02
30 T	Benzo(k)fluoranthene	1.174	1.142	2.7	118	0.02
31 T	Benzo(e)pyrene	1.133	1.051	7.2	115	0.02
32 T	Benzo(a)pyrene	1.157	1.003	13.3	110	0.03
33 T	Perylene	1.070	0.988	7.7	114	0.02
34 T	Indeno(1,2,3-cd)pyrene	1.149	0.923	19.7	99	0.02
35 T	Dibenz(a,h)anthracene	1.241	1.128	9.1	116	0.01
36 T	Benzo(g,h,i)perylene	1.308	1.128	13.8	111	0.02

Data File : J:\MS14\DATA\121620\1216F030.D
Acq On : 16 Dec 2020 5:20 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

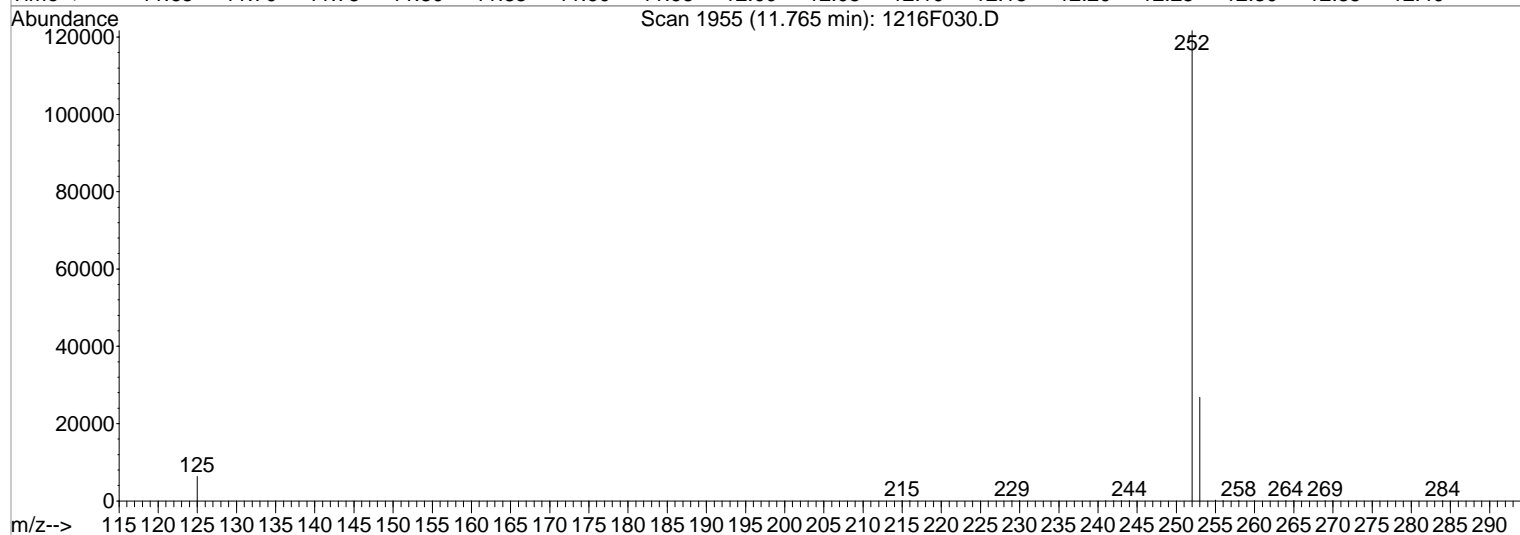
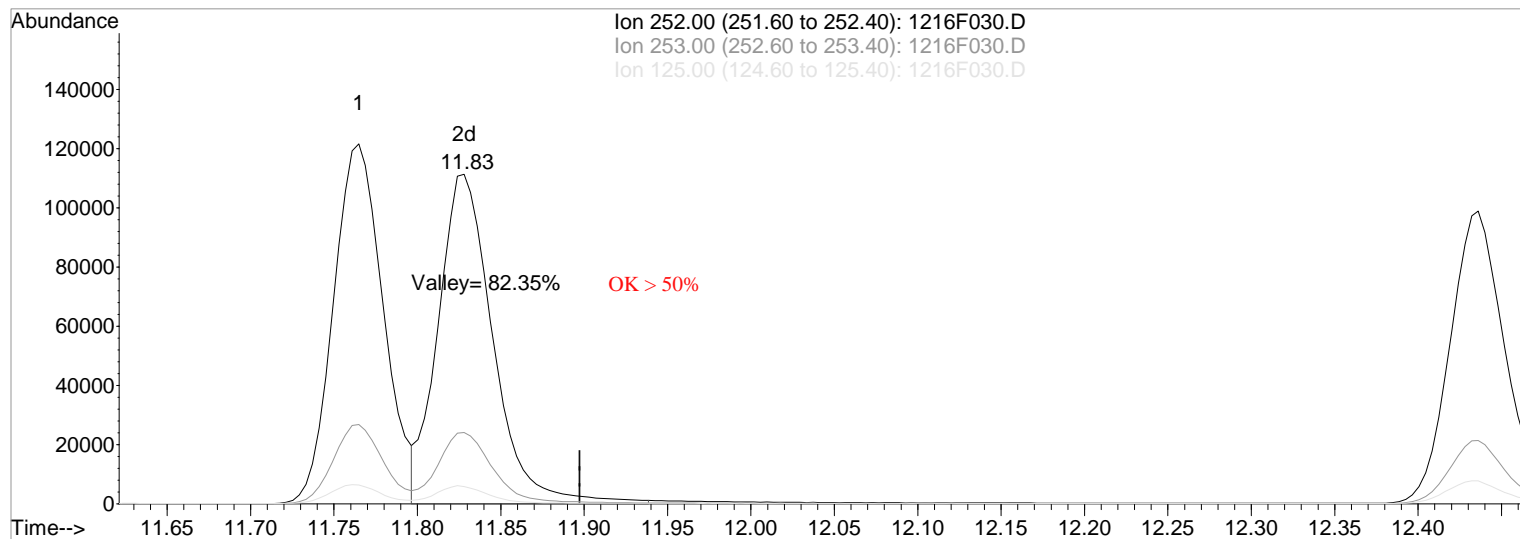
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 17 8:01 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Thu Dec 17 08:01:58 2020
Response via : Multiple Level Calibration



TIC: 1216F030.D

(29) Benzo(b)fluoranthene (T)

11.76min 379.73ng/ml

response 252163

Ion	Exp%	Act%
252.00	100	100
253.00	21.80	21.95
125.00	5.20	5.11
0.00	0.00	0.00

Validation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File: J:\MS14\DATA\121720\1217F030.D\
Lab ID: KQ2020371-03
RunType: CCV
Matrix: Soil

Date Acquired: 12/17/20 19:53:00
Batch ID: 707540
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
ICAL Analyte Recovery	X	
Second Source ICAL Verification	X	
Internal Standards	X	
Above Highest ICAL Level	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20

2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121720\1217F030.D\	Instrument:	K-MS-14
Acqu Date:	12/17/20 19:53:00	Vial:	2
Run Type:	CCV	Dilution:	1
Lab ID:	KQ2020371-03	Raw Units:	ng/mL

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707540	Prep Lot:		Report Group:	KQ2020371
Analysis	8270D	Prep Method:			
		Prep Date:			

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Internal Standard Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Area Criteria
Acenaphthene-d10	6.13		30846	200.00	OK
Chrysene-d12	9.82		109740	200.00	OK
Naphthalene-d8	4.55		63316	200.00	OK
Perylene-d12	12.68		134392	200.00	OK
Phenanthrene-d10	7.38		62525	200.00	OK

Surrogate Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
Fluoranthene-d10	8.36		145637	390.27	Y
Fluorene-d10	6.57		70078	378.48	Y
Terphenyl-d14	8.69		163139	330.65	Y

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
1-Methylnaphthalene	5.31		75498	386.60	Y
2-Methylnaphthalene	5.23		82405	392.48	Y
Acenaphthene	6.16		76583	401.98	Y
Acenaphthylene	6.01		116716	378.49	Y
Anthracene	7.44		126599	382.86	Y
Benz(a)anthracene	9.81		273987	397.54	Y
Benzo(a)pyrene	12.53		304003	391.09	Y
Benzo(b)fluoranthene	11.72		335848	413.40	Y
Benzo(g,h,i)perylene	15.52		353355	402.05	Y
Benzo(k)fluoranthene	11.78		332659	421.57	Y
Chrysene	9.85		259612	403.94	Y
Dibenz(a,h)anthracene	15.18		356422	427.50	Y
Fluoranthene	8.38		176372	404.26	Y

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

Printed: 12/18/20 10:04

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

		1st	<i>Ca</i>	12/18/20
Data File:	J:\MS14\DATA\121720\1217F030.D\	Instrument:	K-MS-14 nd	<i>Q</i> 12/18/20
Acqu Date:	12/17/20 19:53:00	Vial:	2	
Run Type:	CCV	Dilution:	1	
Lab ID:	KQ2020371-03	Raw Units:	ng/mL	

Target Compounds

Parameter Name	RT	RT Dev	Response	Solution Conc	Rpt?
Fluorene	6.60		91883	421.89	Y
Indeno(1,2,3-cd)pyrene	15.15		291772	377.91	Y
Naphthalene	4.57		124933	389.48	Y
Phenanthrene	7.39		138500	397.81	Y
Pyrene	8.56		212374	317.45	Y

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

Printed: 12/18/20 10:04

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\MS14\DATA\121720\1217F030.D
Acq On : 17 Dec 2020 7:53 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

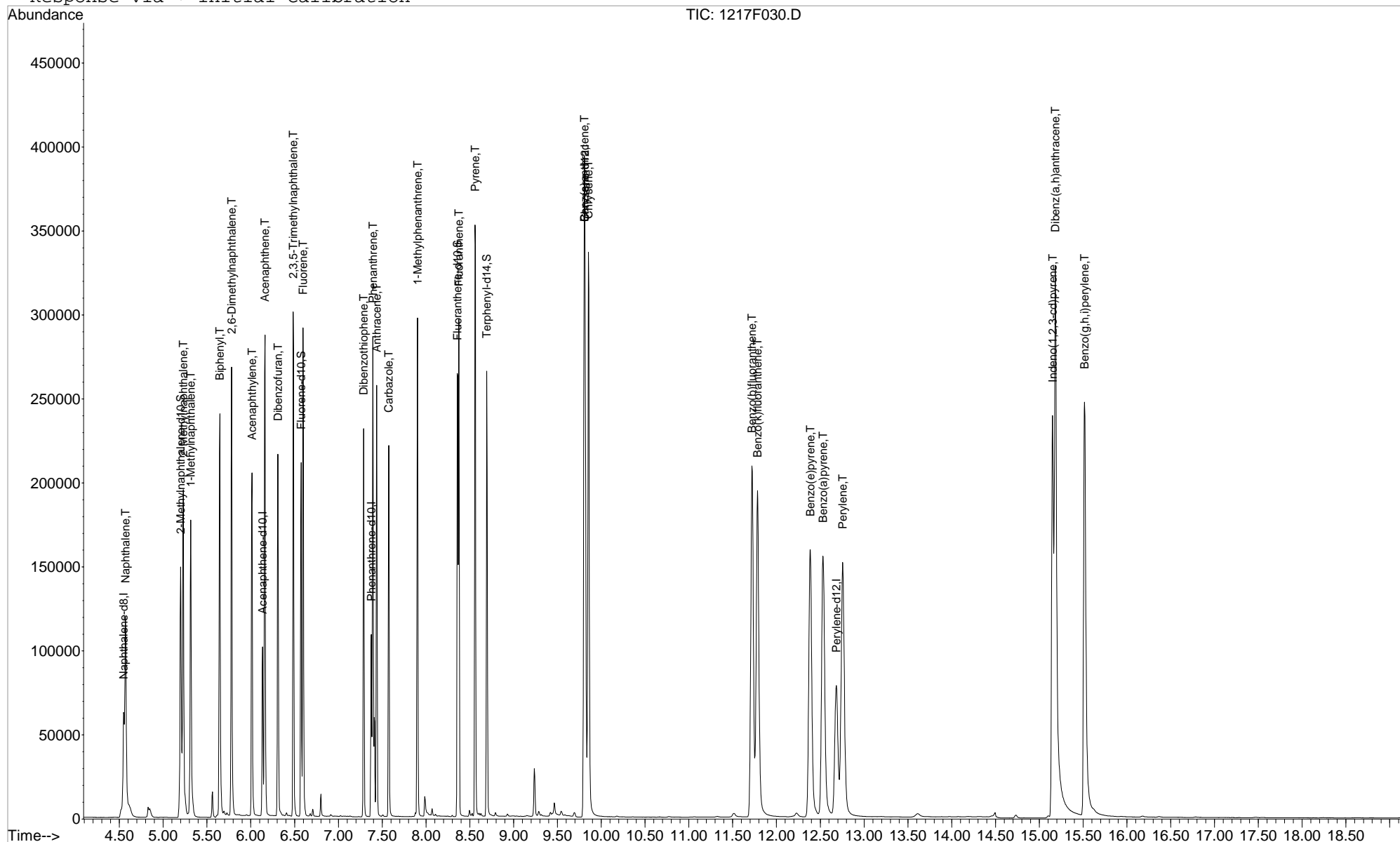
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:27 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Dec 18 07:27:27 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\121720\1217F030.D
 Acq On : 17 Dec 2020 7:53 pm
 Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
 Misc :

Vial: 2
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 07:26:24 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Wed Dec 16 09:25:53 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.55	136	63316m	200.00	ng/ml	-0.01
8) Acenaphthene-d10	6.13	164	30846	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.38	188	62525	200.00	ng/ml	0.00
23) Chrysene-d12	9.82	240	109740	200.00	ng/ml	-0.01
28) Perylene-d12	12.68	264	134392	200.00	ng/ml	-0.03

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.20	152	65595	379.96	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	38.00%	
13) Fluorene-d10	6.57	176	70078	378.48	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	37.85%	
22) Fluoranthene-d10	8.36	212	145637	390.27	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	39.03%	
25) Terphenyl-d14	8.69	244	163139	330.65	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	33.06%	

Target Compounds

						Qvalue
2) Naphthalene	4.57	128	124933m	389.48	ng/ml	
4) 2-Methylnaphthalene	5.23	142	82405	392.48	ng/ml	97
5) 1-Methylnaphthalene	5.31	142	75498	386.60	ng/ml	97
6) Biphenyl	5.65	154	106942	419.45	ng/ml	99
7) 2,6-Dimethylnaphthalene	5.78	156	76988	411.04	ng/ml	98
9) Acenaphthylene	6.01	152	116716	378.49	ng/ml	100
10) Acenaphthene	6.16	154	76583	401.98	ng/ml	99
11) Dibenzofuran	6.31	168	112522	386.64	ng/ml	98
12) 2,3,5-Trimethylnaphthalene	6.49	170	82581	449.47	ng/ml	91
14) Fluorene	6.60	166	91883	421.89	ng/ml	98
16) Dibenzothiophene	7.29	184	129159	386.35	ng/ml	98
17) Phenanthrene	7.39	178	138500	397.81	ng/ml	99
18) Anthracene	7.44	178	126599	382.86	ng/ml	100
19) Carbazole	7.57	167	120644	373.49	ng/ml	98
20) 1-Methylphenanthrene	7.90	192	111130	414.36	ng/ml	100
21) Fluoranthene	8.38	202	176372	404.26	ng/ml	99
24) Pyrene	8.56	202	212374	317.45	ng/ml	81
26) Benz(a)anthracene	9.81	228	273987	397.54	ng/ml	100
27) Chrysene	9.85	228	259612	403.94	ng/ml	99
29) Benzo(b)fluoranthene	11.72	252	335848	413.40	ng/ml	99
30) Benzo(k)fluoranthene	11.78	252	332659	421.57	ng/ml	99
31) Benzo(e)pyrene	12.39	252	293825	386.02	ng/ml	100
32) Benzo(a)pyrene	12.53	252	304003	391.09	ng/ml	99
33) Perylene	12.75	252	293558	408.16	ng/ml	100
34) Indeno(1,2,3-cd)pyrene	15.15	276	291772m	377.91	ng/ml	
35) Dibenz(a,h)anthracene	15.18	278	356422	427.50	ng/ml	99
36) Benzo(g,h,i)perylene	15.52	276	353355	402.05	ng/ml	100

Data File : J:\MS14\DATA\121720\1217F030.D
Acq On : 17 Dec 2020 7:53 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

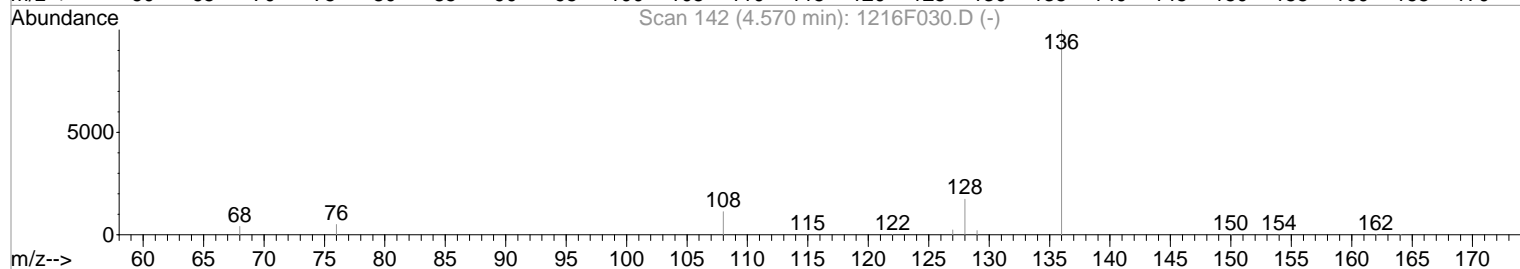
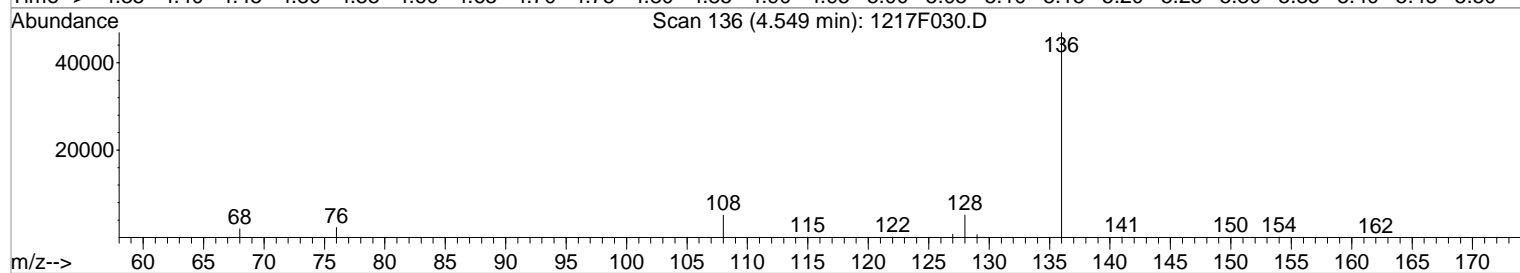
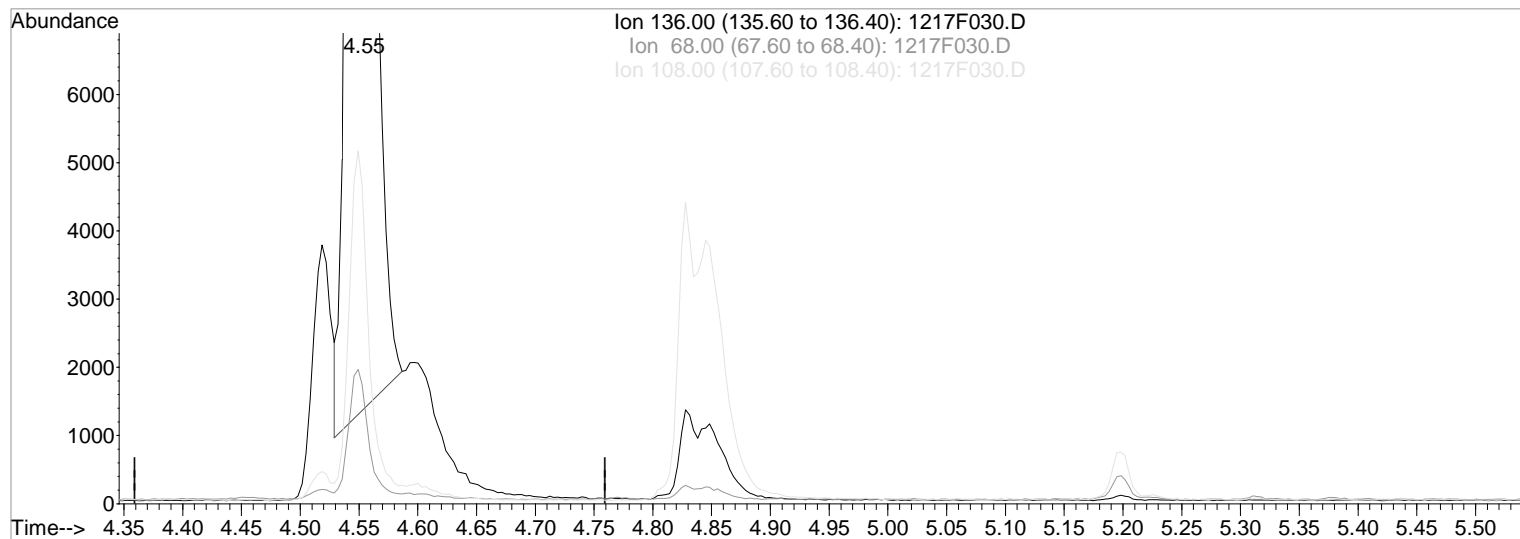
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:26 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Multiple Level Calibration



TIC: 1217F030.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.55min 200.00ng/ml

Before

response 49654

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	4.07
108.00	10.90	10.90
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F030.D
Acq On : 17 Dec 2020 7:53 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

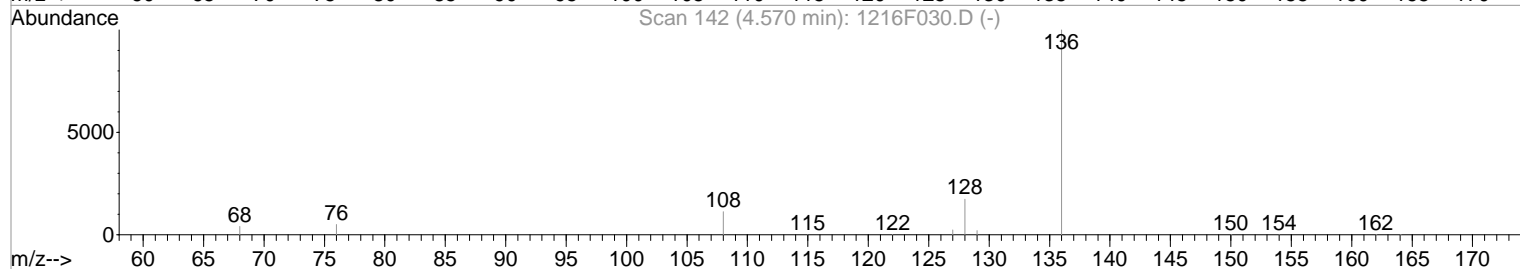
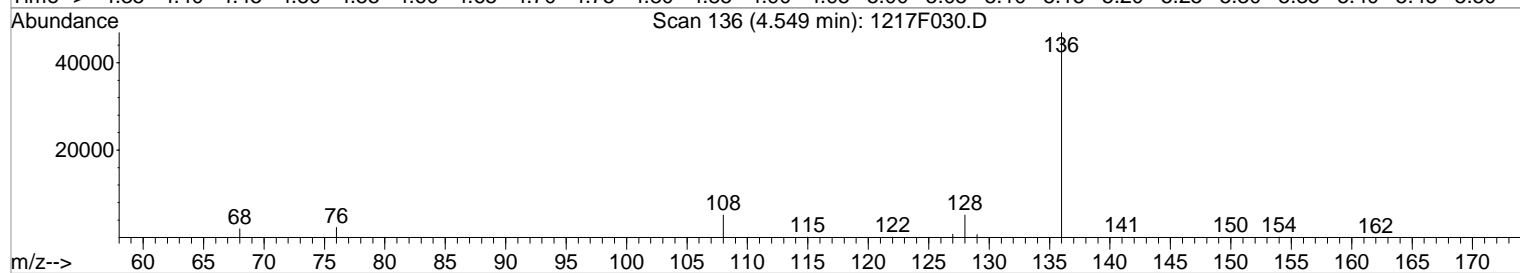
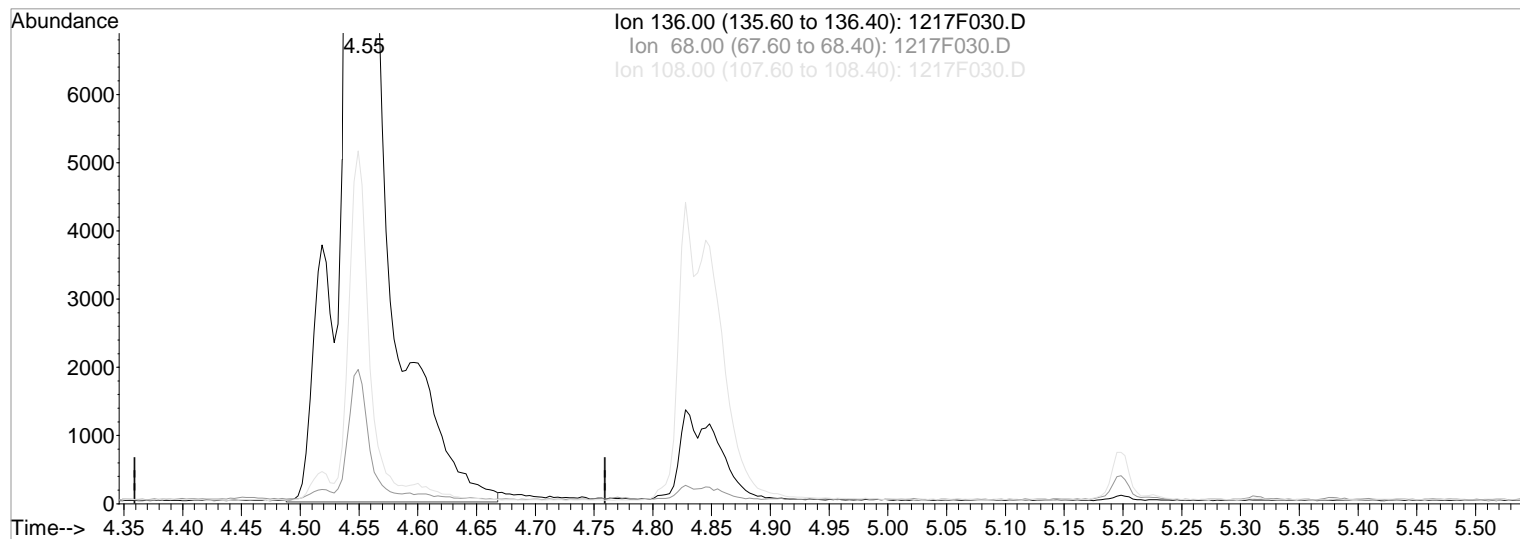
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:26 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Multiple Level Calibration



TIC: 1217F030.D

(1) Naphthalene-d8 (I)

4.55min 200.00ng/ml m

response 63316

Ion	Exp%	Act%
136.00	100	100
68.00	4.00	4.20
108.00	10.90	11.02
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F030.D
Acq On : 17 Dec 2020 7:53 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

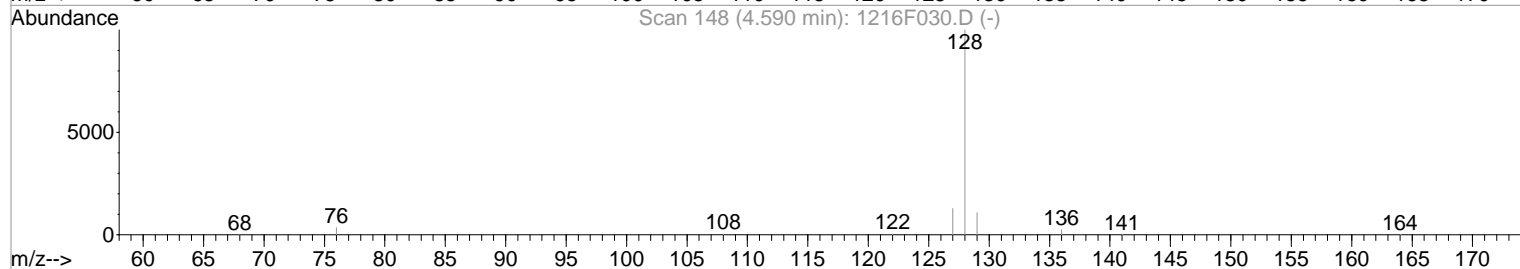
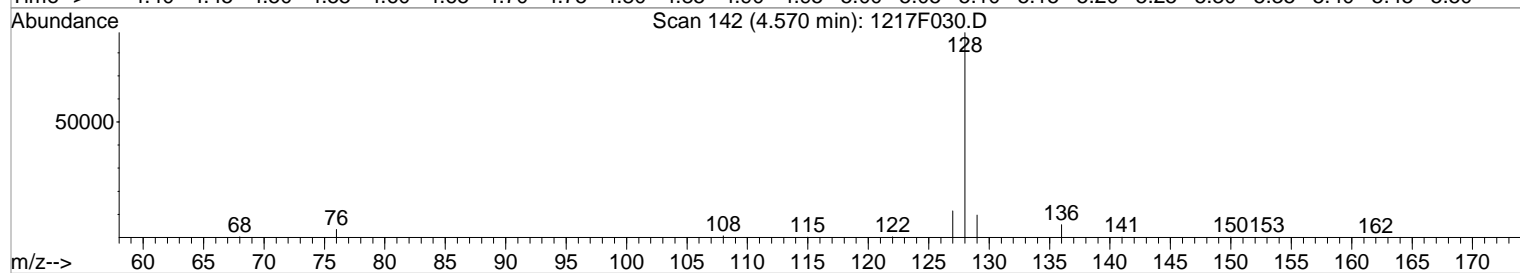
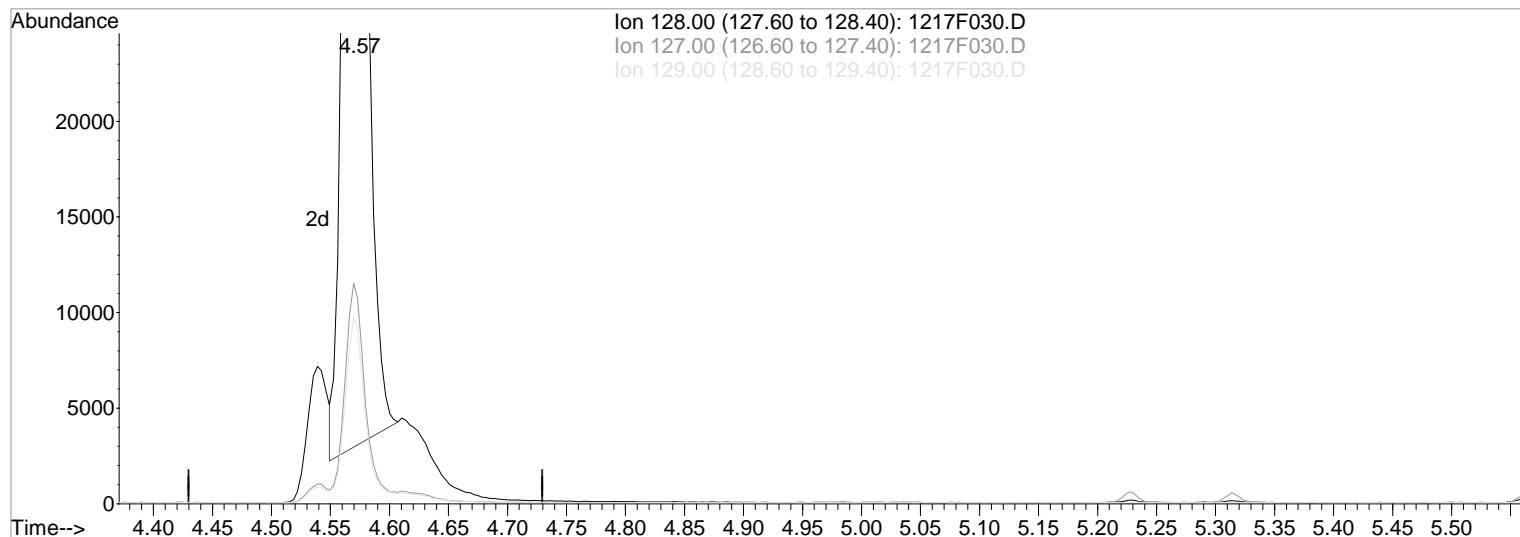
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:26 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Multiple Level Calibration



TIC: 1217F030.D

(2) Naphthalene (T)

Manual Integration:

4.57min 299.30ng/ml

Before

response 96008

Ion	Exp%	Act%
-----	------	------

12/18/20

128.00	100	100
--------	-----	-----

127.00	12.70	12.93
--------	-------	-------

129.00	10.80	10.88
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121720\1217F030.D
Acq On : 17 Dec 2020 7:53 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

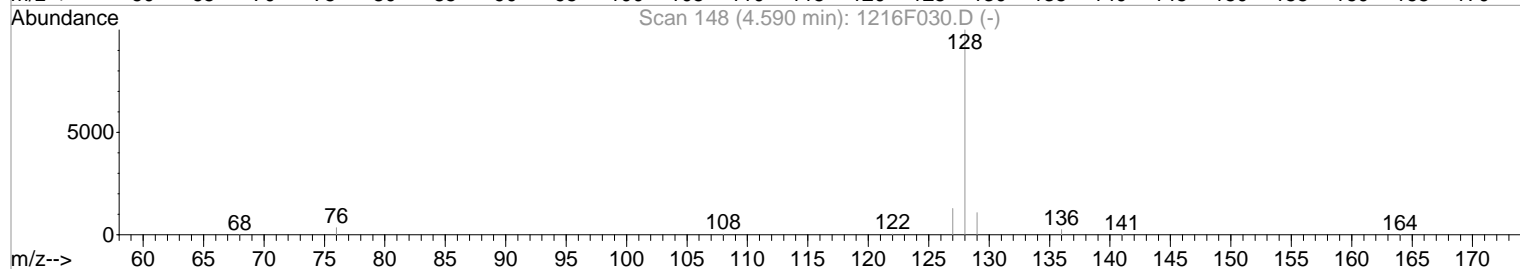
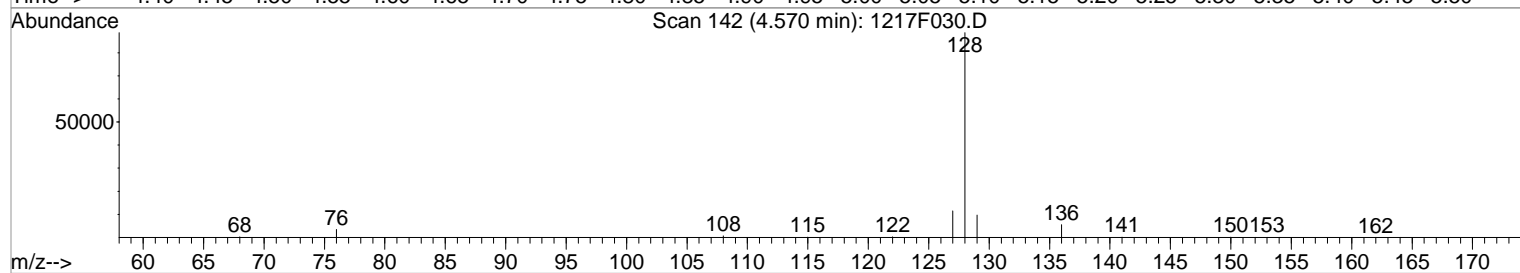
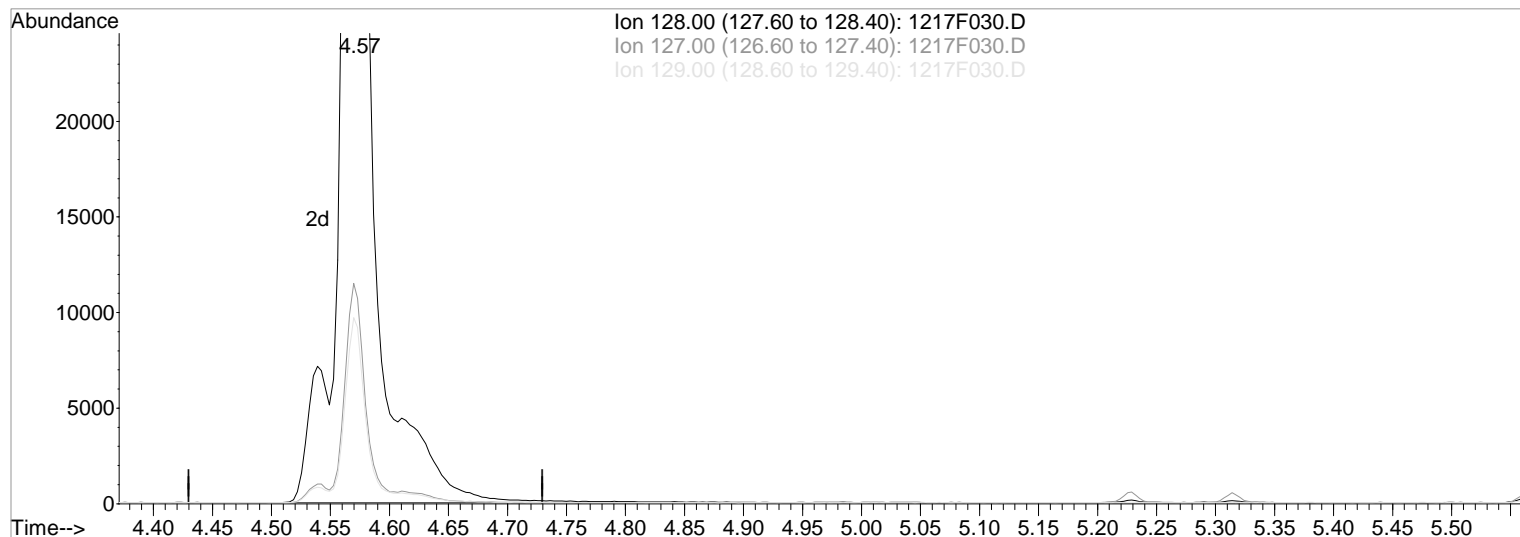
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:26 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Multiple Level Calibration



TIC: 1217F030.D

(2) Naphthalene (T)

4.57min 389.48ng/ml m

response 124933

Ion	Exp%	Act%
-----	------	------

128.00	100	100
--------	-----	-----

127.00	12.70	12.98
--------	-------	-------

129.00	10.80	10.97
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

IC-Incomplete

12/18/20

Data File : J:\MS14\DATA\121720\1217F030.D
Acq On : 17 Dec 2020 7:53 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

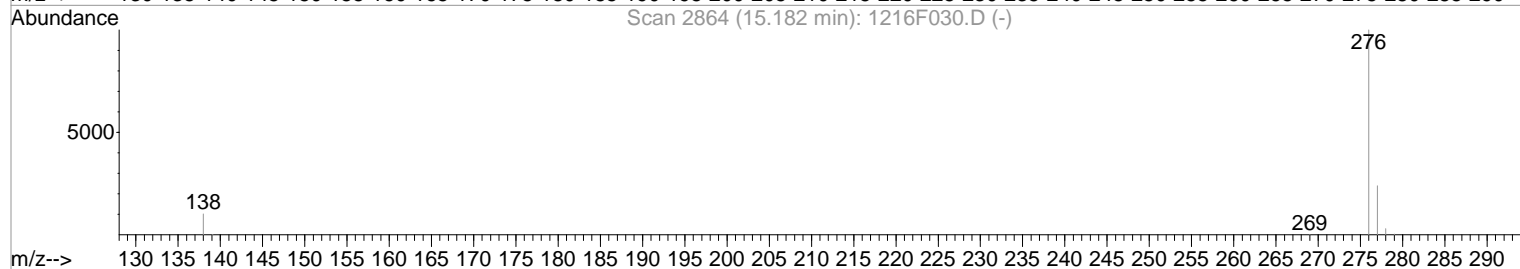
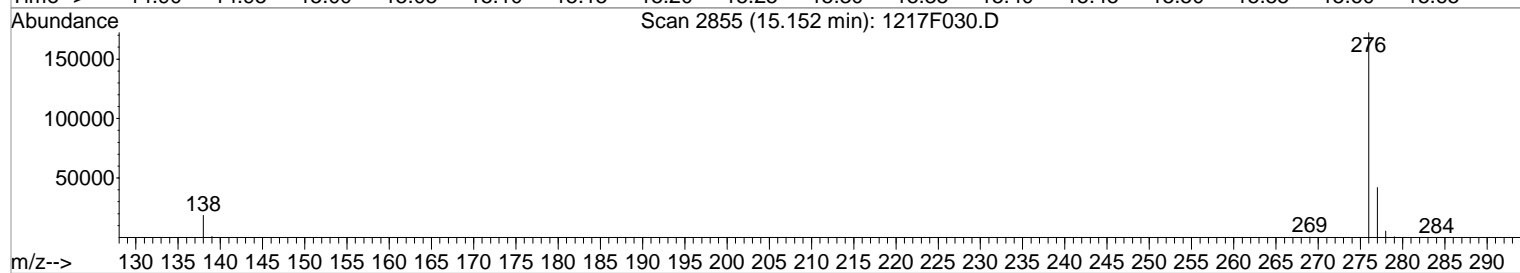
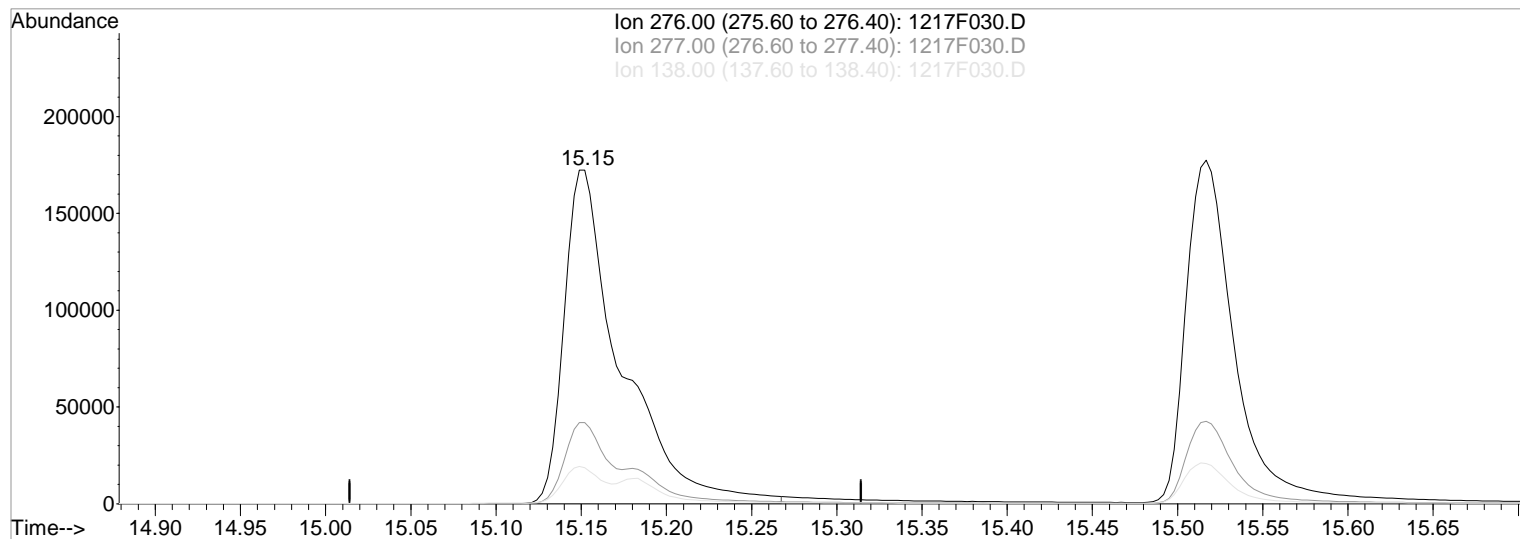
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:26 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Multiple Level Calibration



TIC: 1217F030.D

(34) Indeno(1,2,3-cd)pyrene (T)

Manual Integration:

15.15min 518.23ng/ml

Before

response 400102

Ion	Exp%	Act%
-----	------	------

12/18/20

276.00	100	100
--------	-----	-----

277.00	24.10	24.32
--------	-------	-------

138.00	10.50	10.63
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\121720\1217F030.D
Acq On : 17 Dec 2020 7:53 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

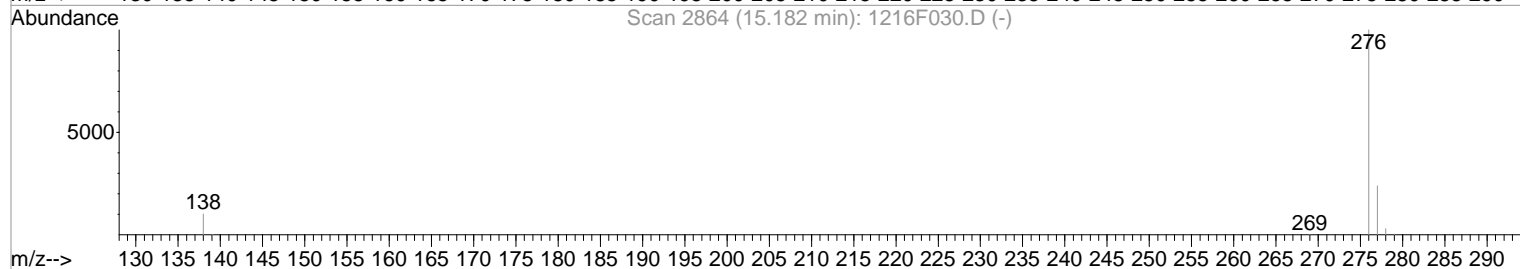
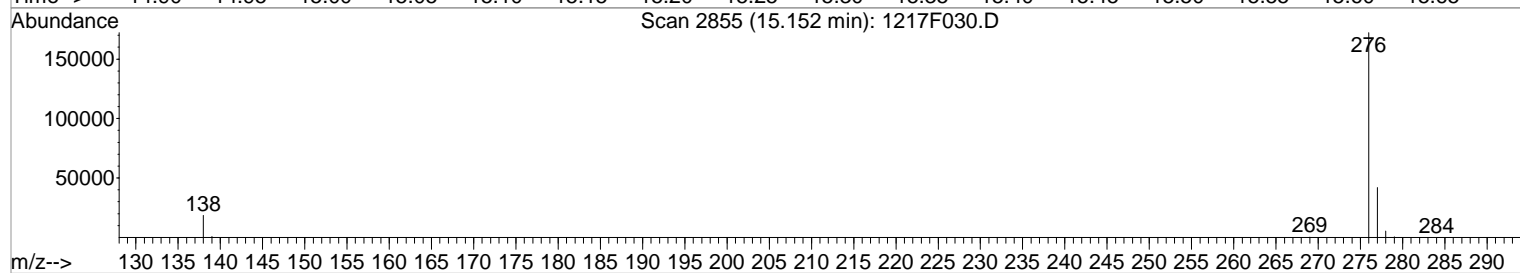
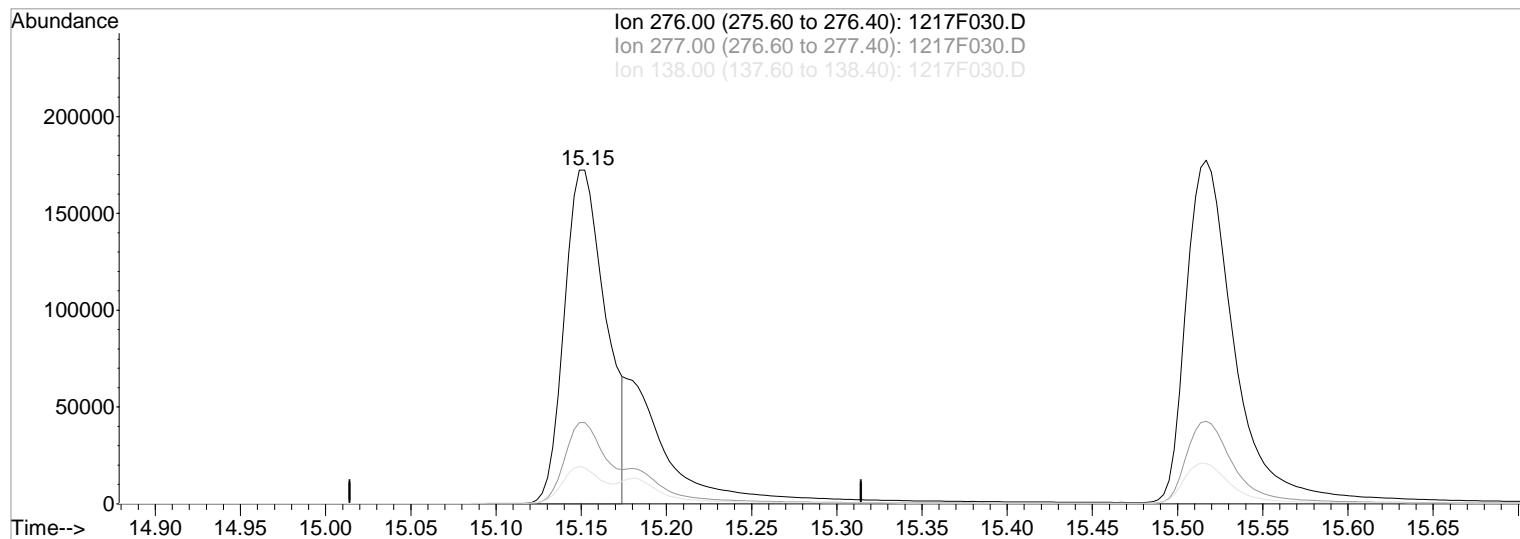
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:27 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Wed Dec 16 09:25:53 2020
Response via : Multiple Level Calibration



TIC: 1217F030.D

(34) Indeno(1,2,3-cd)pyrene (T)

Manual Integration:

15.15min 377.91ng/ml m

After

response 291772

IC-Overintegrated

Ion	Exp%	Act%
276.00	100	100
277.00	24.10	24.35
138.00	10.50	10.80
0.00	0.00	0.00

12/18/20

Data File : J:\MS14\DATA\121720\1217F030.D
 Acq On : 17 Dec 2020 7:53 pm
 Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
 Misc :
 MS Integration Params: RTEINT.P

Vial: 2
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
 Title : PAHS and ALKYLATED HOMOLOGS
 Last Update : Wed Dec 16 09:25:53 2020
 Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
 Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Naphthalene-d8	1.000	1.000	0.0	83	-0.01
2 T	Naphthalene	1.013	0.987	2.6	85	-0.01
3 S	2-Methylnaphthalene-d10	0.545	0.518	5.0	85	-0.01
4 T	2-Methylnaphthalene	0.663	0.651	1.8	91	-0.01
5 T	1-Methylnaphthalene	0.617	0.596	3.4	91	-0.01
6 T	Biphenyl	0.805	0.845	-5.0	100	0.00
7 T	2,6-Dimethylnaphthalene	0.592	0.608	-2.7	98	0.00
8 I	Acenaphthene-d10	1.000	1.000	0.0	95	0.00
9 T	Acenaphthylene	1.999	1.892	5.4	91	0.00
10 T	Acenaphthene	1.235	1.241	-0.5	97	0.00
11 T	Dibenzofuran	1.887	1.824	3.3	98	0.00
12 T	2,3,5-Trimethylnaphthalene	1.191	1.339	-12.4	107	0.00
13 S	Fluorene-d10	1.201	1.136	5.4	93	0.00
14 T	Fluorene	1.412	1.489	-5.5	101	-0.01
15 I	Phenanthrene-d10	1.000	1.000	0.0	97	0.00
16 T	Dibenzothiophene	1.069	1.033	3.4	96	0.00
17 T	Phenanthrene	1.114	1.108	0.5	100	-0.01
18 T	Anthracene	1.058	1.012	4.3	95	0.00
19 T	Carbazole	1.033	0.965	6.6	93	-0.01
20 T	1-Methylphenanthrene	0.858	0.889	-3.6	102	0.00
21 T	Fluoranthene	1.396	1.410	-1.0	101	0.00
22 S	Fluoranthene-d10	1.194	1.165	2.4	95	0.00
23 I	Chrysene-d12	1.000	1.000	0.0	135	-0.01
24 T	Pyrene	1.219	0.968	20.6#	113	-0.01
25 S	Terphenyl-d14	0.899	0.743	17.4	115	0.00
26 T	Benz(a)anthracene	1.256	1.248	0.6	142	-0.01
27 T	Chrysene	1.171	1.183	-1.0	143	-0.01
28 I	Perylene-d12	1.000	1.000	0.0	150	-0.03
29 T	Benzo(b)fluoranthene	1.209	1.250	-3.4	152	-0.03
30 T	Benzo(k)fluoranthene	1.174	1.238	-5.5	156	-0.02
31 T	Benzo(e)pyrene	1.133	1.093	3.5	146	-0.03
32 T	Benzo(a)pyrene	1.157	1.131	2.2	151	-0.02
33 T	Perylene	1.070	1.092	-2.1	153	-0.04
34 T	Indeno(1,2,3-cd)pyrene	1.149	1.086	5.5	143	-0.01
35 T	Dibenz(a,h)anthracene	1.241	1.326	-6.8	167	-0.02
36 T	Benzo(g,h,i)perylene	1.308	1.315	-0.5	159	-0.02

Data File : J:\MS14\DATA\121720\1217F030.D
Acq On : 17 Dec 2020 7:53 pm
Sample : SIM-PAH CCV @ 0.4ug/mL SVM65-21C
Misc :

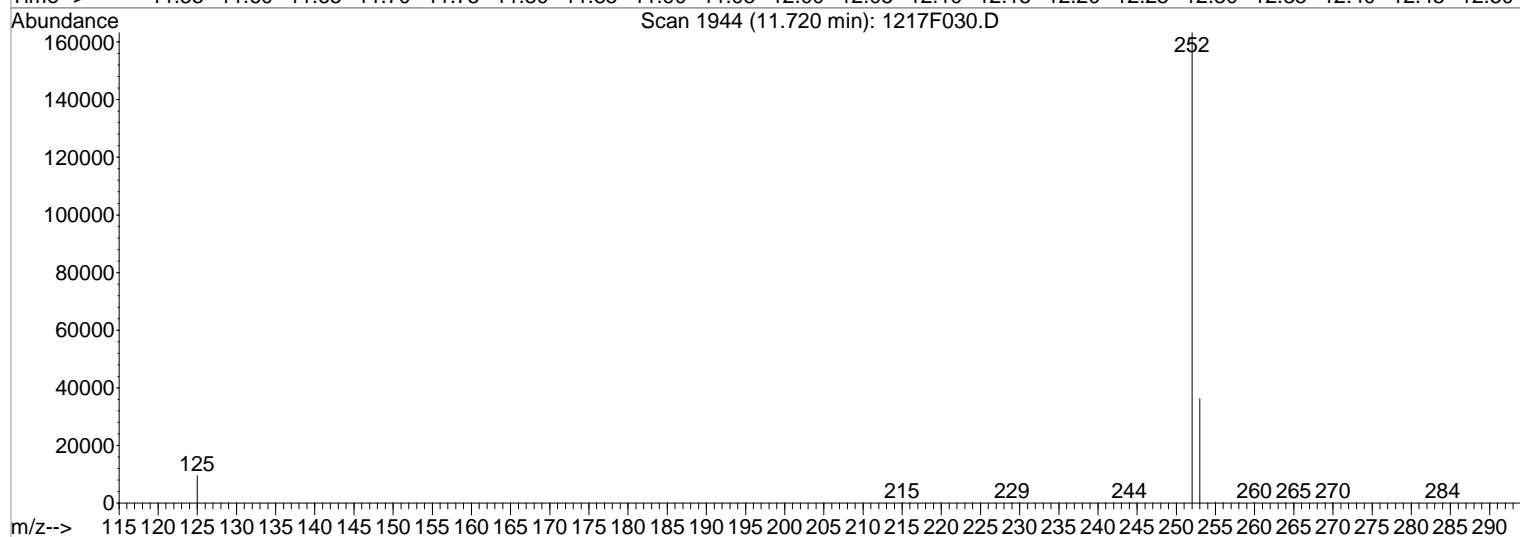
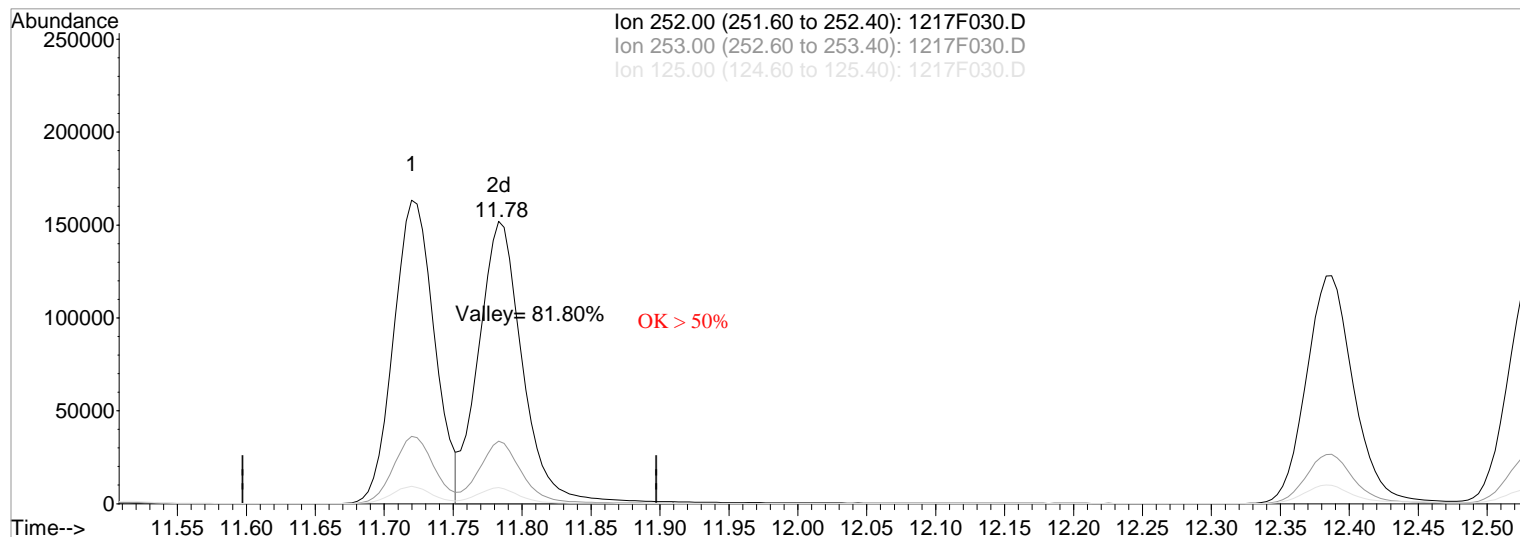
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Dec 18 7:27 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Fri Dec 18 07:27:27 2020
Response via : Multiple Level Calibration



TIC: 1217F030.D

(29) Benzo(b)fluoranthene (T)

11.72min 413.40ng/ml

response 335848

Ion	Exp%	Act%
252.00	100	100
253.00	21.80	22.12
125.00	5.20	5.72
0.00	0.00	0.00

Validation Report

1st *Ca* 12/17/20
2nd *Q* 12/17/20

Data File: J:\MS14\DATA\121620\1216F029.D\
Lab ID: KQ2020281-02
RunType: TUNE
Matrix: Soil

Date Acquired: 12/16/20 16:56:00
Batch ID: 707391
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Tune Ion Ratio	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/17/20
2nd *Q* 12/17/20

Data File:	J:\MS14\DATA\121620\1216F029.D\	Instrument:	K-MS-14
Acqu Date:	12/16/20 16:56:00	Vial:	1
Run Type:	TUNE	Dilution:	1
Lab ID:	KQ2020281-02	Raw Units:	

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/2/20	Receive Date:	12/4/20

Analysis Lot:	707391	Prep Lot:		Report Group:	KQ2020281
Analysis	8270D	Prep Method:			
		Prep Date:			

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	18998

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	25.66	204147	Pass
68	69	0	2	0.09	174	Pass
69	198	0	100	24.94	198389	Pass
70	69	0	2	0.61	1201	Pass
127	198	10	80	38.61	307136	Pass
197	198	0	2	0.88	6986	Pass
198	442	30	100	34.22	795520	Pass
199	198	5	9	6.87	54670	Pass
275	198	10	60	39.93	317613	Pass
365	442	1	50	2.98	69202	Pass
441	443	0.01	100	72.68	342144	Pass
442	442	30	100	100.00	2324650	Pass
443	442	15	24	20.25	470741	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

Printed: 12/18/20 10:10

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\MS14\DATA\121620\1216F029.D

Vial: 1

Acq On : 16 Dec 2020 4:56 pm

Operator: LWeiskopf

Sample : DFTPP @ 10ug/mL SVM64-93N

Inst : MS14

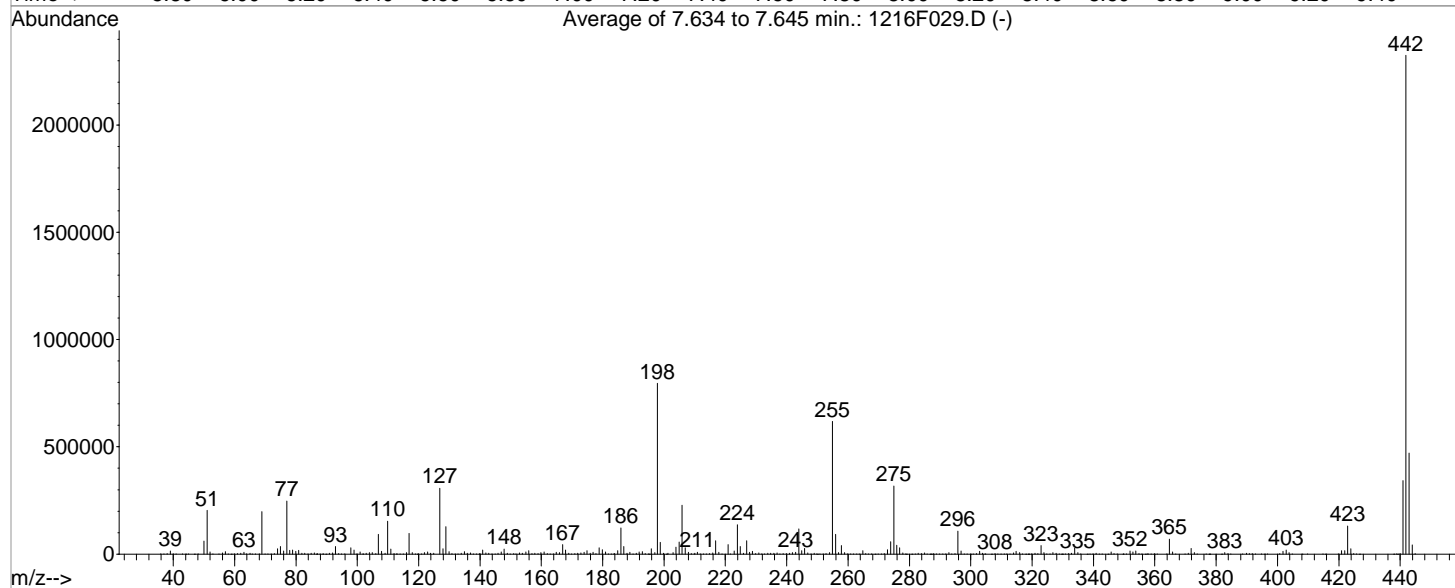
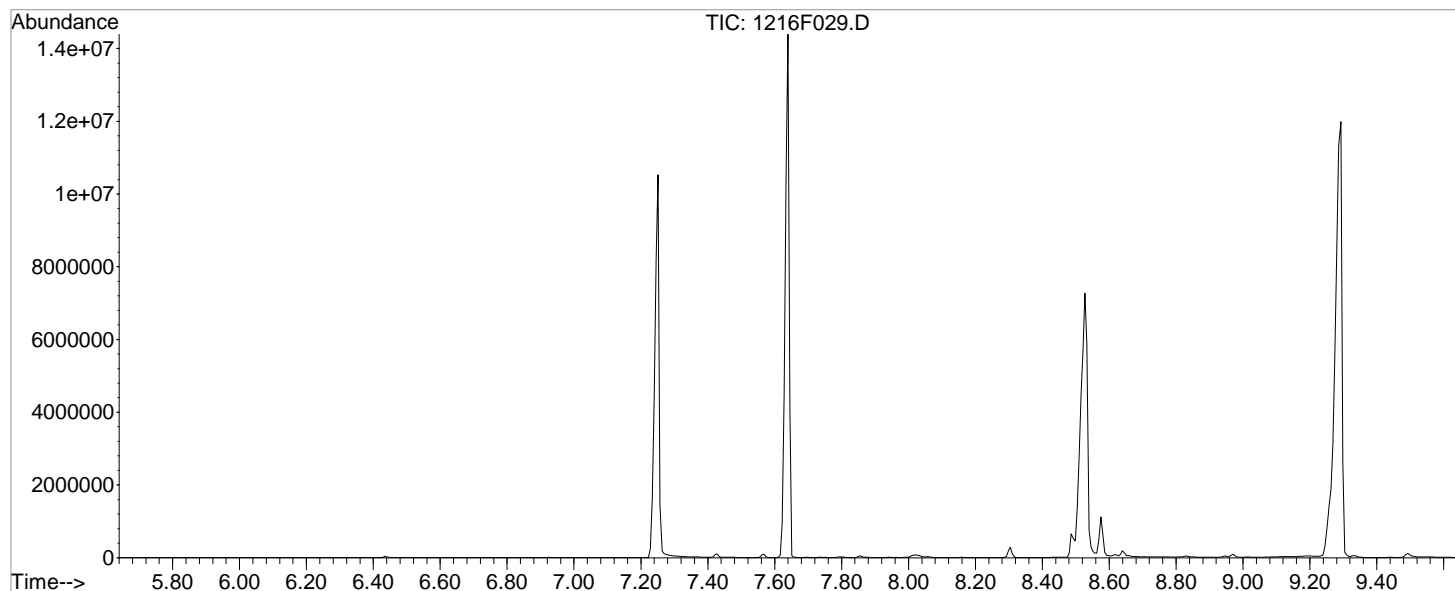
Misc :

Multiplr: 1.00

MS Integration Params: rteint.p

Method : J:\MS14\METHODS\SIM\A_DFTPP.M (RTE Integrator)

Title : dftpp tune mix



AutoFind: Scans 603, 604, 605; Background Corrected with Scan 597

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	25.7	204147	PASS
68	69	0.00	2	0.1	174	PASS
69	198	0.00	100	24.9	198389	PASS
70	69	0.00	2	0.6	1201	PASS
127	198	10	80	38.6	307136	PASS
197	198	0.00	2	0.9	6986	PASS
198	442	30	100	34.2	795520	PASS
199	198	5	9	6.9	54670	PASS
275	198	10	60	39.9	317613	PASS
365	442	1	50	3.0	69202	PASS
441	443	0.01	100	72.7	342144	PASS
442	442	30	100	100.0	2324650	PASS
443	442	15	24	20.2	470741	PASS

Average of 7.634 to 7.645 min.: 1216F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	141	50.00	61206	61.95	3256	73.00	2211
37.00	974	51.00	204147	63.00	7817	74.00	25198
38.00	3045	52.00	9841	63.90	1071	74.95	34573
39.00	13621	52.95	350	65.00	3776	76.00	14276
39.95	596	54.95	1232	65.80	300	77.00	247141
40.90	237	56.00	5512	66.80	164	78.00	16550
43.00	249	57.00	12013	68.00	174	78.90	18924
44.00	111	57.90	587	68.90	198389	79.90	13087
44.95	320	58.90	76	69.90	1201	80.90	17738
46.85	123	59.90	205	70.90	143	81.90	4465
48.10	304	60.95	2528	71.95	224	82.90	3607

Average of 7.634 to 7.645 min.: 1216F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
83.95	424	92.90	35239	103.90	7175	113.90	288
84.90	3169	93.95	2082	104.90	6937	115.00	476
85.95	5562	94.90	764	106.00	2612	116.00	6035
86.70	78	95.95	1401	106.90	91249	116.90	96840
86.95	2458	97.90	29290	107.90	12879	117.90	6203
87.90	809	98.90	18819	109.00	3566	118.95	674
88.80	197	99.90	1614	109.90	153639	119.60	56
88.95	361	100.90	9964	110.90	23444	119.85	1085
89.70	58	101.80	228	111.95	2989	120.95	603
90.90	4271	102.00	274	112.80	502	121.90	6696
91.90	5454	102.90	4065	113.00	441	122.90	9906

Average of 7.634 to 7.645 min.: 1216F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
123.90	4581	135.90	4584	145.90	3611	156.90	2898
124.90	4184	136.90	5592	146.90	9970	157.85	3675
126.90	307136	137.80	1271	147.90	23472	158.90	2818
127.90	24338	138.90	804	148.90	4446	159.85	6069
128.90	127133	139.70	83	149.85	955	160.90	9188
129.90	10812	139.95	1702	151.00	2348	161.90	2542
130.90	2307	140.90	18546	151.75	1571	162.85	687
131.90	969	141.90	5826	152.90	5883	163.90	1196
132.85	624	142.90	4085	153.85	4235	164.90	8338
133.90	3917	143.90	1163	154.90	10372	165.90	6121
134.90	10553	144.90	935	155.90	15825	166.90	43641

Average of 7.634 to 7.645 min.: 1216F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
167.90	18072	178.85	29324	188.90	7702	198.80	54670
168.90	3185	179.90	19905	189.85	1422	199.85	4350
169.85	1279	180.90	9359	190.90	3251	200.75	59
170.90	1847	181.85	1546	191.90	9503	201.30	3417
171.90	3487	182.80	809	192.90	11106	202.90	6250
172.90	4703	183.60	173	193.90	2418	203.90	32444
173.90	8802	183.90	2324	194.90	1227	204.90	55737
174.90	15664	184.90	15773	195.10	101	205.90	227402
175.90	4145	185.90	121613	195.90	24130	206.90	29346
176.85	8049	186.90	35433	197.00	6986	207.90	8008
177.80	2556	187.90	3622	197.80	795520	208.85	2402

Average of 7.634 to 7.645 min.: 1216F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
209.80	251	220.90	44449	231.85	980	242.90	8280
210.05	3427	221.60	743	232.80	1029	243.90	116522
210.90	9087	222.90	14115	233.85	3950	244.90	15575
211.80	133	223.90	136981	234.80	4571	245.85	25587
212.85	669	224.90	34545	235.85	3262	246.85	4844
213.80	336	225.90	3571	236.80	4676	247.90	1028
214.85	2804	226.90	61880	237.80	700	248.90	4240
215.90	5579	227.85	8546	238.85	2638	249.75	786
216.80	61561	228.85	12284	239.85	1997	250.00	71
217.85	7997	229.85	1830	240.90	3369	250.80	1132
218.90	765	230.90	4755	241.90	7429	251.90	1181

Average of 7.634 to 7.645 min.: 1216F029.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
252.85	2742	263.70	1104	274.90	317613	285.80	1033
254.00	6377	264.85	16506	275.90	41641	286.70	70
254.90	618645	265.75	2272	276.85	29824	287.00	52
255.90	92381	266.65	314	277.85	4838	287.70	114
256.90	7374	267.65	195	278.80	904	287.90	180
257.85	39548	268.80	67	279.00	99	288.85	1113
258.85	6197	269.85	1009	280.80	61	289.85	1056
259.80	1033	270.85	1502	281.90	708	290.85	664
260.85	1151	271.80	1895	282.85	3504	291.80	1496
261.80	193	272.85	20651	283.90	2376	292.85	6656
262.80	337	273.85	57024	284.90	5122	293.85	1661

Average of 7.634 to 7.645 min.: 1216F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
294.90	2389	304.90	223	316.85	1322	326.80	7220
295.80	106520	306.75	105	317.90	96	327.80	3555
296.85	14763	307.85	1789	318.70	77	328.90	666
297.85	977	308.80	1021	318.90	100	329.60	91
298.80	243	309.90	1589	319.80	464	329.90	76
299.90	73	310.90	284	320.90	4090	330.90	189
300.80	1276	311.75	355	321.90	2089	331.85	2881
301.85	1866	312.75	1006	322.90	39082	332.85	3909
302.85	12556	313.90	5752	323.85	7054	333.90	27157
303.85	3529	314.80	12790	324.80	713	334.90	7116
304.65	186	315.90	7311	325.85	844	335.90	782

Average of 7.634 to 7.645 min.: 1216F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
337.90	75	349.85	390	359.70	60	373.80	822
338.85	659	350.80	860	359.95	183	376.75	663
339.80	622	351.90	14194	360.75	285	377.70	50
340.85	4456	352.85	9535	363.90	368	377.90	119
341.90	1369	353.85	14875	364.80	69202	381.80	90
342.85	149	354.80	2603	365.80	9480	382.80	7538
344.70	120	355.75	278	366.80	693	383.80	2136
345.80	9108	356.90	96	369.85	1448	384.80	663
346.75	1721	357.65	137	370.90	4020	388.70	163
347.75	300	357.90	146	371.90	26987	389.85	3848
349.60	64	358.85	1114	372.90	6734	390.85	2851

Average of 7.634 to 7.645 min.: 1216F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
391.80	2178	409.85	523	437.90	52		
392.80	359	414.85	843	438.85	306		
394.80	197	415.70	105	439.10	115		
395.70	91	419.85	290	440.00	1766		
396.80	404	420.85	16124	440.90	342144		
400.75	1857	421.90	15744	441.90	2324650		
401.80	12257	422.90	130797	442.90	470741		
402.80	18504	423.90	25168	443.90	42664		
403.80	6331	424.90	2270	444.90	2565		
404.80	919	425.80	132				
408.00	72	426.70	61				

Validation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File: J:\MS14\DATA\121720\1217F029.D\
Lab ID: KQ2020371-04
RunType: TUNE
Matrix: Soil

Date Acquired: 12/17/20 19:28:00
Batch ID: 707540
Analysis Method: 8270D/PAH SIM

Validations

Validation Categories	Pass	Fail
Tune Ion Ratio	X	

Primary Review: _____

Secondary Review: _____

Quantitation Report

1st *Ca* 12/18/20
2nd *Q* 12/18/20

Data File:	J:\MS14\DATA\121720\1217F029.D\	Instrument:	K-MS-14
Acqu Date:	12/17/20 19:28:00	Vial:	1
Run Type:	TUNE	Dilution:	1
Lab ID:	KQ2020371-04	Raw Units:	

Bottle ID:		Tier:	IV	Matrix:	Soil
Prod Code:	PAH SIM	Collect Date:	12/2/20	Receive Date:	12/8/20

Analysis Lot:	707540	Prep Lot:		Report Group:	KQ2020371
Analysis	8270D	Prep Method:			
		Prep Date:			

Title:	Polycyclic Aromatic Hydrocarbons by GC/MS SIM	Calibration ID:	KC2000546
		Report List ID:	21910

Tune Results

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail
51	198	10	80	26.50	133311	Pass
68	69	0	2	1.20	1504	Pass
69	198	0	100	24.97	125647	Pass
70	69	0	2	0.56	707	Pass
127	198	10	80	38.25	192461	Pass
197	198	0	2	0.80	4037	Pass
198	442	30	100	36.81	503133	Pass
199	198	5	9	6.93	34844	Pass
275	198	10	60	39.26	197512	Pass
365	442	1	50	3.35	45808	Pass
441	443	0.01	100	74.82	200570	Pass
442	442	30	100	100.00	1366805	Pass
443	442	15	24	19.61	268066	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

Printed: 12/18/20 10:04

\\alprews001\starlims\LIMSReps\QuantValidation.rpt

Data File : J:\MS14\DATA\121720\1217F029.D

Vial: 1

Acq On : 17 Dec 2020 7:28 pm

Operator: LWeiskopf

Sample : DFTPP @ 10ug/mL SVM64-93N

Inst : MS14

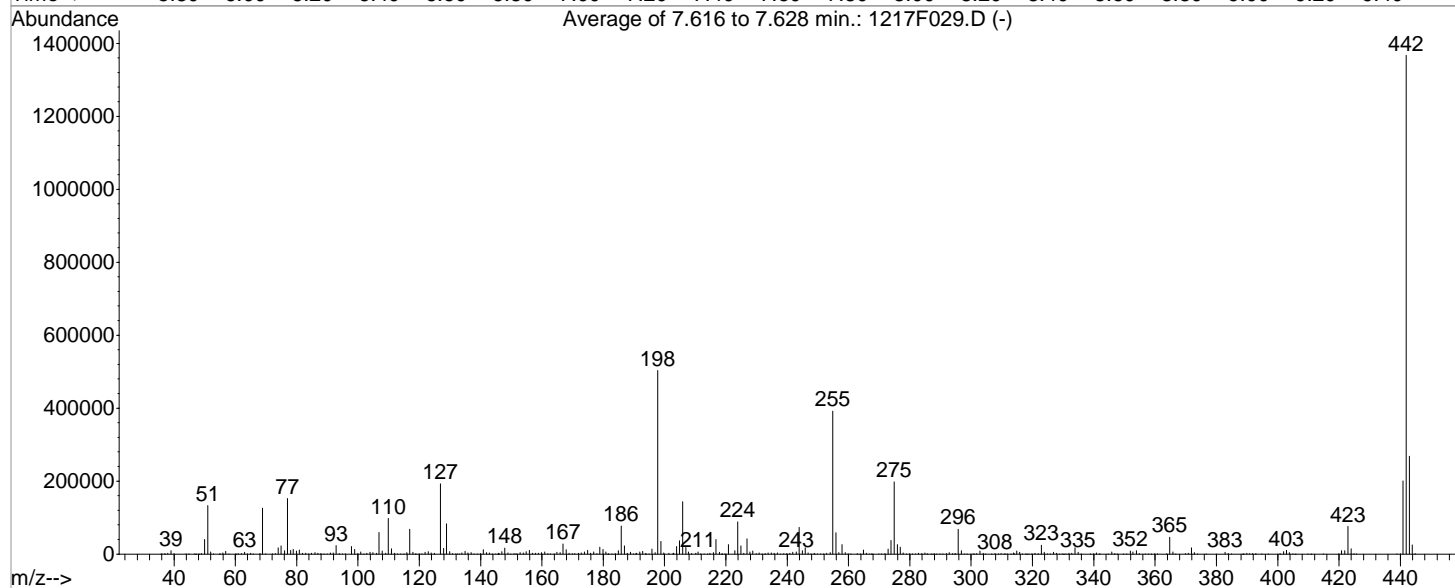
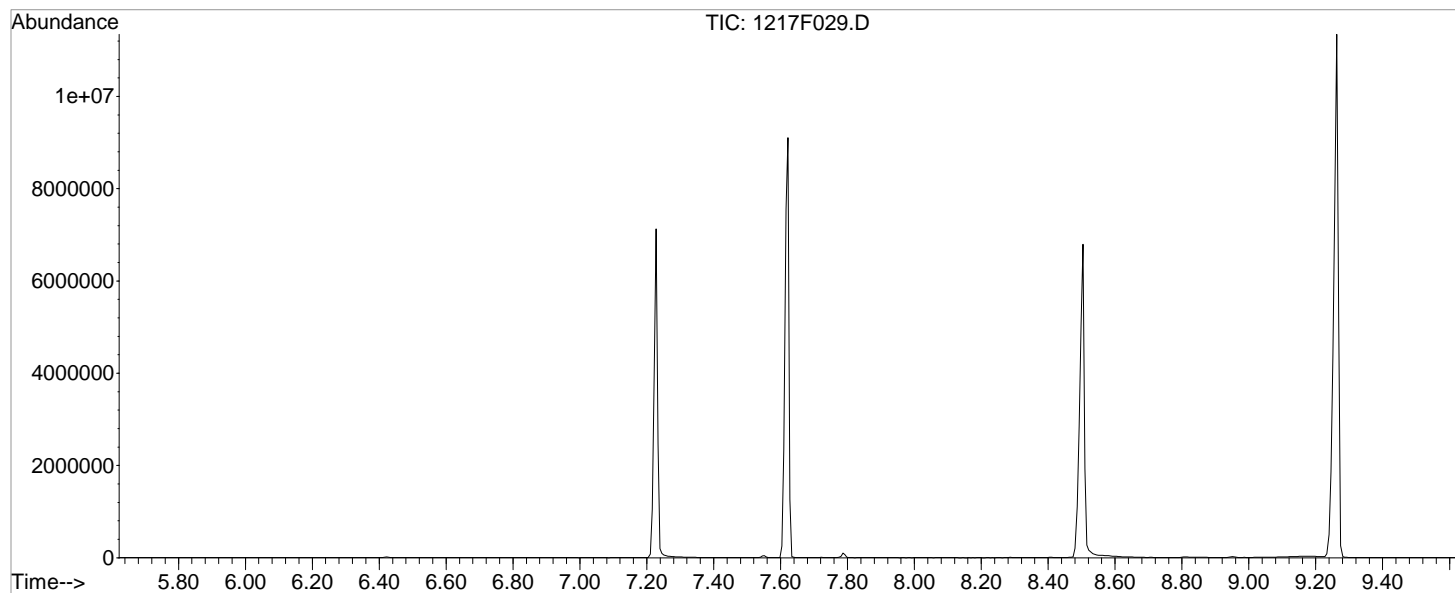
Misc :

Multiplr: 1.00

MS Integration Params: rteint.p

Method : J:\MS14\METHODS\SIM\A_DFTPP.M (RTE Integrator)

Title : dftpp tune mix



AutoFind: Scans 600, 601, 602; Background Corrected with Scan 594

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	26.5	133311	PASS
68	69	0.00	2	1.2	1504	PASS
69	198	0.00	100	25.0	125647	PASS
70	69	0.00	2	0.6	707	PASS
127	198	10	80	38.3	192461	PASS
197	198	0.00	2	0.8	4037	PASS
198	442	30	100	36.8	503133	PASS
199	198	5	9	6.9	34844	PASS
275	198	10	60	39.3	197512	PASS
365	442	1	50	3.4	45808	PASS
441	443	0.01	100	74.8	200570	PASS
442	442	30	100	100.0	1366805	PASS
443	442	15	24	19.6	268066	PASS

Average of 7.616 to 7.628 min.: 1217F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.70	63	48.00	53	60.10	55	73.00	1538
36.10	82	48.95	1644	60.95	1462	73.95	16824
36.90	508	50.00	39682	61.95	1735	74.90	22125
37.10	200	51.00	133311	63.00	4877	76.05	9253
38.00	2219	52.00	6092	63.95	809	77.00	151825
39.00	8958	52.85	200	64.95	2007	78.00	10039
39.90	397	54.90	395	65.80	82	78.90	12829
43.90	181	55.10	328	68.00	1504	79.95	8654
44.85	247	55.90	3522	68.90	125647	80.90	11240
46.70	69	56.90	7243	69.95	707	81.90	2521
47.00	60	57.90	324	72.10	143	82.90	2343

Average of 7.616 to 7.628 min.: 1217F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
83.85	415	93.90	1528	106.00	2027	116.90	68417
84.85	2156	95.00	345	106.90	59020	117.90	4641
85.95	4098	95.85	712	107.90	8409	118.80	187
86.95	1815	97.90	21044	109.00	1936	119.00	198
87.80	408	98.90	12624	109.90	97732	119.90	718
88.00	248	99.95	1052	110.90	14758	120.80	145
88.90	229	100.90	6134	111.95	1902	121.90	4699
89.90	65	101.95	402	112.90	580	122.90	6465
90.95	2875	102.90	2484	113.95	142	123.90	2865
91.90	3211	103.90	4794	114.95	366	124.90	2613
92.90	23678	104.90	4396	115.90	3868	126.90	192461

Average of 7.616 to 7.628 min.: 1217F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
127.90	15171	137.85	737	146.90	6996	156.95	1882
128.90	82893	138.85	470	147.90	16463	157.85	2362
129.90	6872	139.90	1410	148.90	2993	158.80	1872
130.90	1408	140.90	11975	149.85	842	159.90	3803
131.95	674	141.90	3643	150.90	1379	160.90	5439
132.55	294	142.90	2702	151.50	493	161.95	1653
133.10	172	143.80	789	151.85	942	162.80	364
133.90	2712	144.95	571	152.85	3918	163.90	737
134.90	7204	145.60	58	153.90	2698	164.85	4761
135.90	2924	145.85	2352	154.90	6767	165.90	3932
136.90	3740	146.10	64	155.90	10308	166.90	27486

Average of 7.616 to 7.628 min.: 1217F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
167.90	12188	178.85	19026	188.85	5151	197.80	503133
168.90	2133	179.90	12439	189.80	828	198.80	34844
169.85	1031	180.90	5666	190.60	130	199.80	3131
170.75	1034	181.50	51	190.90	2105	201.40	2384
171.90	2561	181.80	844	191.90	5952	202.80	2098
172.85	2789	182.80	588	192.90	7248	203.00	2507
173.90	5498	183.90	1604	193.85	1455	203.90	20835
174.90	10537	184.90	9524	194.10	76	204.90	36294
175.80	2540	185.90	76718	194.90	812	205.90	143778
176.85	5361	186.90	22714	195.85	13974	206.90	18389
177.95	1750	187.90	2406	196.90	4037	207.80	5538

Average of 7.616 to 7.628 min.: 1217F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
208.85	1678	218.80	637	230.85	2998	240.85	2540
210.15	2415	219.70	256	231.80	760	241.85	5122
210.90	5629	220.85	25820	232.70	306	242.95	5414
211.70	678	222.90	9172	232.90	374	243.90	72953
212.85	360	223.90	88004	233.80	2807	244.90	9462
214.00	95	224.90	22032	234.80	2963	245.85	16853
214.80	2147	225.85	2126	235.80	2248	246.85	3353
215.90	3660	226.90	42052	236.85	2990	247.80	764
216.80	39578	227.85	6132	237.80	385	248.80	2445
217.90	5116	228.80	7973	238.85	1555	249.00	113
218.50	53	229.90	1043	239.85	1141	249.85	493

Average of 7.616 to 7.628 min.: 1217F029.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
250.90	662	262.80	93	272.90	13420	283.90	1487
251.85	756	263.00	138	273.90	37208	284.90	3000
252.85	1808	263.85	729	274.90	197512	285.70	279
254.00	4059	264.85	11023	275.90	26334	285.90	472
254.90	391424	265.80	2011	276.85	19115	286.90	57
255.90	58186	266.80	199	277.85	3041	287.80	97
256.85	4215	267.50	101	278.85	623	288.00	152
257.85	26194	267.75	3	279.90	78	288.80	822
258.90	4080	269.85	550	280.80	124	289.80	631
259.90	774	270.80	850	281.85	489	290.80	517
260.80	729	271.90	1290	282.80	2114	291.95	982

Average of 7.616 to 7.628 min.: 1217F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
292.90	4116	302.90	8494	313.80	3575	322.90	24368
293.85	1121	303.90	2270	314.10	243	323.90	4527
294.60	76	304.80	242	314.85	8578	324.90	440
294.90	1453	306.75	116	315.85	4695	325.85	580
295.80	68310	307.75	1046	316.80	704	326.85	4832
296.85	9429	308.90	708	317.80	74	327.85	2121
297.85	764	309.80	964	318.10	59	328.90	535
298.70	238	310.80	76	318.80	129	329.70	160
300.70	292	311.10	87	319.75	305	330.10	63
300.95	691	311.75	208	320.85	2543	330.90	96
301.80	1303	312.95	853	321.85	1342	331.90	1904

Average of 7.616 to 7.628 min.: 1217F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
332.85	2644	346.70	123	358.85	721	373.80	414
333.90	17182	346.95	905	359.85	197	376.70	396
334.90	4607	347.70	84	360.75	108	382.80	4634
335.85	538	349.75	189	363.70	104	383.85	1278
338.85	351	350.80	487	364.80	45808	384.95	463
339.90	345	351.90	8554	365.80	6028	388.60	56
340.90	2930	352.80	6035	366.75	461	388.95	149
341.80	686	353.90	9320	369.85	1068	389.90	2435
342.00	84	354.85	1763	370.85	2573	390.85	1455
344.70	133	356.85	129	371.90	16714	391.80	1088
345.85	5754	357.90	210	372.85	4050	392.70	83

Average of 7.616 to 7.628 min.: 1217F029.D

DFTPP @ 10ug/mL SVM64-93N

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
392.90	92	414.85	506	441.90	1366805		
394.80	210	419.90	67	442.90	268066		
396.90	211	420.85	9492	443.90	24763		
400.80	1064	421.85	9314	444.85	1339		
401.90	6950	422.90	75682				
402.90	10537	423.90	14595				
403.80	3682	424.90	1376				
404.95	486	425.70	71				
405.70	61	438.90	194				
409.85	273	440.00	746				
410.80	63	440.90	200570				

Injection Log

Directory: J:\MS14\DATA\101320

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1013F001.D	1.	DFTPP @ 10ug/mL SVM64-79B		13 Oct 2020 05:14
2	2	1013F002.D	1.	IB		13 Oct 2020 06:13
3	3	1013F003.D	1.	SIM-PAH ICAL @0.002ug/mL SVM64-75A		13 Oct 2020 06:39
4	4	1013F004.D	1.	SIM-PAH ICAL @0.004ug/mL SVM64-75B		13 Oct 2020 07:05
5	5	1013F005.D	1.	SIM-PAH ICAL @0.008ug/mL SVM64-75C		13 Oct 2020 07:30
6	6	1013F006.D	1.	SIM-PAH ICAL @0.02ug/mL SVM64-75D		13 Oct 2020 07:56
7	7	1013F007.D	1.	SIM-PAH ICAL @0.1ug/mL SVM64-75E		13 Oct 2020 08:23
8	8	1013F008.D	1.	SIM-PAH ICAL @0.2ug/mL SVM64-75F		13 Oct 2020 08:49
9	9	1013F009.D	1.	SIM-PAH ICAL @0.4ug/mL SVM64-75G		13 Oct 2020 10:31
10	10	1013F010.D	1.	SIM-PAH ICAL @1.0ug/mL SVM64-75H		13 Oct 2020 10:57
11	11	1013F011.D	1.	SIM-PAH ICAL @1.6ug/mL SVM64-75I		13 Oct 2020 11:22
12	12	1013F012.D	1.	SIM-PAH ICAL @2.0ug/mL SVM64-75J		13 Oct 2020 11:48
13	1	1013F013.D	1.	DFTPP @ 10ug/mL SVM64-79B		13 Oct 2020 12:15
14	2	1013F014.D	1.	SIM-PAH ICV @0.4ug/mL SVM64-87M		13 Oct 2020 12:41

KC 2000546

on 10/14/20

10-22-2020

Data File : J:\MS14\DATA\101320\1013F001.D

Vial: 1

Acq On : 13 Oct 2020 5:14 am

Operator: LWeiskopf

Sample : DFTPP @ 10ug/mL SVM64-79B

Inst : MS14

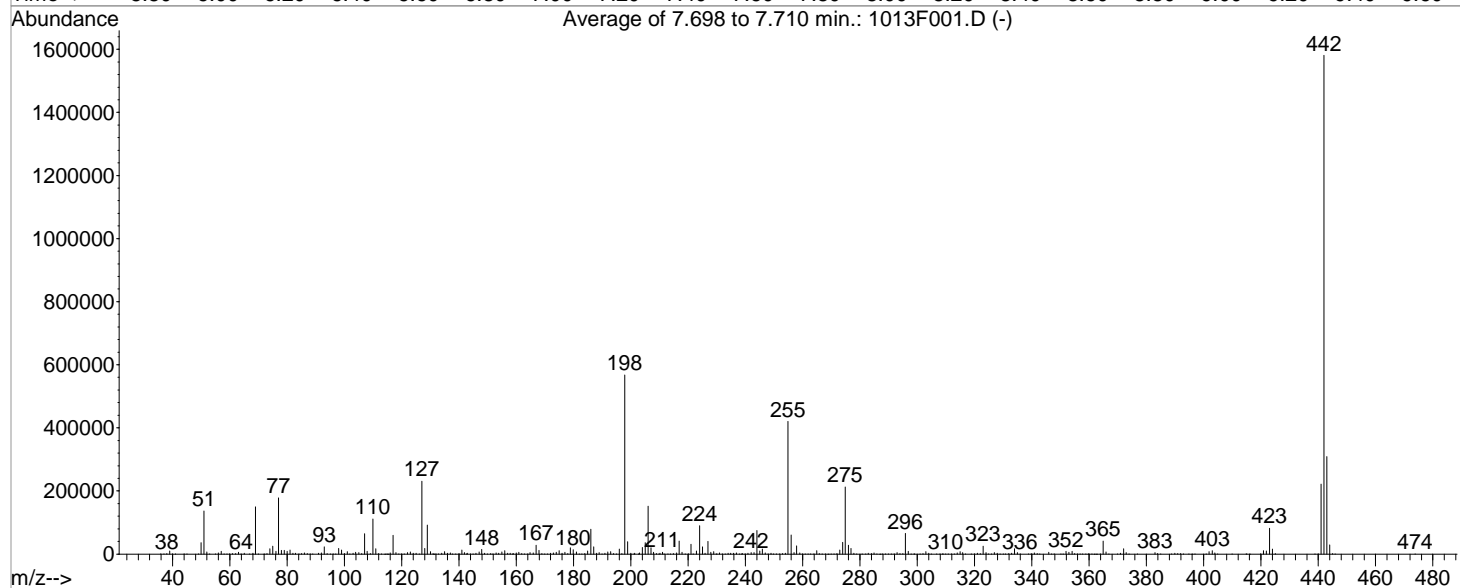
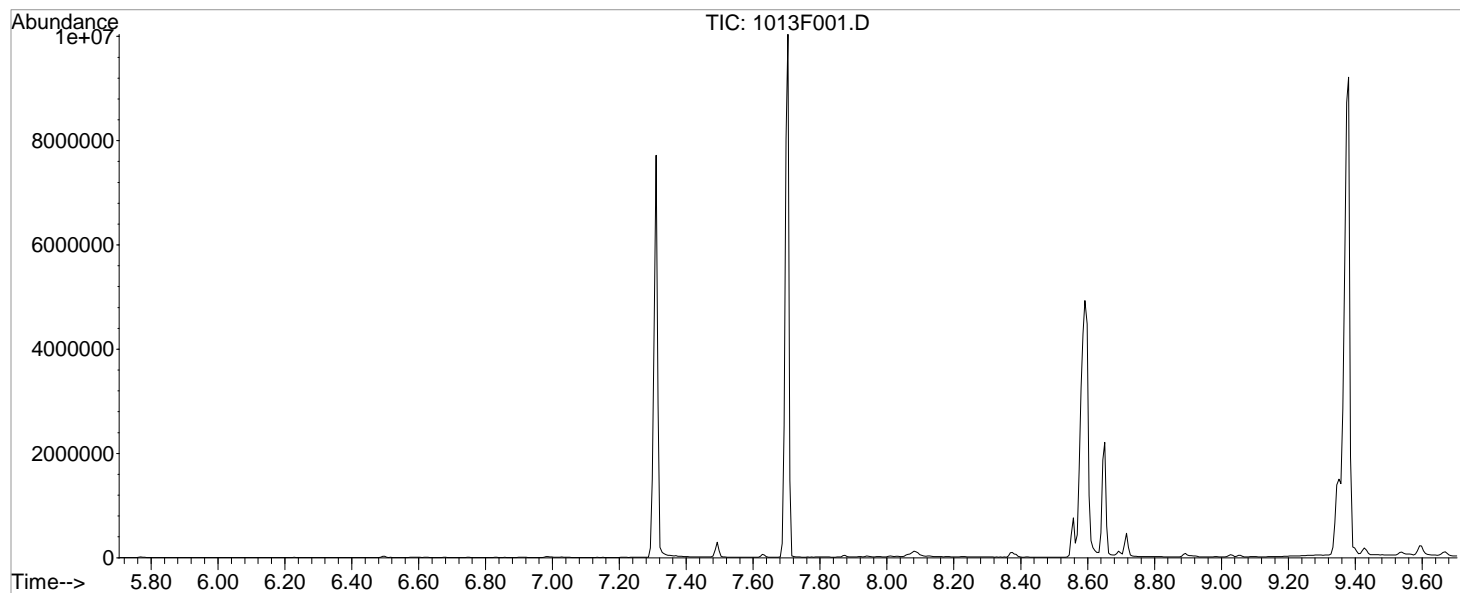
Misc :

Multiplr: 1.00

MS Integration Params: rteint.p

Method : J:\MS14\METHODS\SIM\A_DFTPP.M (RTE Integrator)

Title : dftpp tune mix



AutoFind: Scans 614, 615, 616; Background Corrected with Scan 608

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	24.0	136500	PASS
68	69	0.00	2	1.6	2364	PASS
69	198	0.00	100	26.3	149621	PASS
70	69	0.00	2	0.6	937	PASS
127	198	10	80	40.6	230579	PASS
197	198	0.00	2	0.2	1299	PASS
198	442	30	100	35.9	567912	PASS
199	198	5	9	6.8	38808	PASS
275	198	10	60	37.4	212488	PASS
365	442	1	50	2.6	41621	PASS
441	443	0.01	100	71.8	221650	PASS
442	442	30	100	100.0	1580565	PASS
443	442	15	24	19.5	308864	PASS

Average of 7.698 to 7.710 min.: 1013F001.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.90	75	52.00	6942	63.90	246	77.00	178046
37.00	568	53.00	328	65.00	2277	78.05	11499
38.05	1777	55.00	588	66.95	77	78.95	11487
39.05	9519	56.00	3746	68.00	2364	80.00	9035
40.00	479	57.00	8745	69.00	149621	81.00	12811
41.00	191	58.00	395	70.00	937	82.00	3012
44.00	122	59.00	76	71.90	52	82.90	2842
45.05	273	59.95	148	73.00	1165	84.10	253
49.05	923	60.95	1583	74.00	16339	85.00	1840
50.00	36463	62.00	2021	75.00	24809	86.00	3650
51.00	136500	63.05	5508	76.05	8942	87.00	1578

Average of 7.698 to 7.710 min.: 1013F001.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
88.00	664	99.95	1166	111.00	16479	120.95	400
88.95	283	101.00	7221	111.95	2075	122.00	4510
91.00	2790	101.95	432	112.95	670	123.00	6599
92.00	3354	103.00	2435	114.10	53	124.00	2991
93.00	22674	103.95	5167	114.85	288	125.00	2899
94.00	1473	105.00	4969	115.10	62	126.10	952
95.05	299	106.05	1498	116.00	3769	127.00	230579
96.05	1066	107.00	64549	117.00	59360	128.00	17455
96.95	632	107.95	9080	118.00	4226	128.95	91797
97.95	17631	109.00	1837	119.00	510	130.00	7568
99.00	13202	110.00	111209	120.00	900	130.95	1442

Average of 7.698 to 7.710 min.: 1013F001.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
131.20	60	141.95	4309	151.80	1076	161.90	1801
131.95	792	142.70	102	152.95	3840	162.95	403
132.80	304	142.95	2825	153.90	2987	164.00	655
133.95	2842	144.00	675	154.95	7086	164.85	4978
134.95	7290	144.90	740	156.00	10787	165.95	3918
135.95	3115	145.95	2400	156.95	2208	166.95	27775
137.00	3841	147.00	6498	157.90	2437	167.95	11634
137.80	980	147.95	15101	158.70	88	168.95	1997
138.85	453	148.95	2963	158.95	1797	169.95	905
139.95	1155	149.95	713	159.95	4017	170.90	1086
141.00	12602	151.10	1710	160.90	6121	171.90	2366

Average of 7.698 to 7.710 min.: 1013F001.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
172.95	3141	183.90	1750	194.95	791	205.00	36600
174.00	5819	184.95	9803	195.95	15816	206.00	151441
175.00	10494	186.00	78386	196.90	1299	207.00	19697
175.95	3063	187.00	22512	197.90	567912	207.95	5243
176.95	5281	188.00	2240	198.90	38808	208.90	1537
178.00	1585	188.95	4739	200.00	2984	209.80	128
178.90	20251	189.90	815	201.10	144	210.15	2591
179.90	13761	190.95	2336	201.35	2454	211.00	5993
180.95	6440	191.95	6444	202.70	126	211.60	93
181.95	1060	193.00	7209	203.00	3981	212.95	422
182.90	579	193.95	1505	204.00	21330	213.90	128

Average of 7.698 to 7.710 min.: 1013F001.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
214.90	1862	225.95	2147	235.90	2116	245.90	15680
216.00	3140	226.90	39808	236.90	3349	246.90	3137
216.90	41102	227.95	5579	237.95	523	247.90	612
217.90	5143	228.90	7575	238.70	67	248.90	2851
219.00	531	229.80	594	238.95	1436	249.85	478
220.10	425	230.00	565	239.90	1068	250.85	580
221.00	30998	230.95	3351	240.90	2361	251.90	662
221.80	280	231.90	474	242.00	5023	252.90	1672
222.90	9273	232.95	743	242.95	4960	254.00	2443
224.00	90270	233.95	2341	244.00	74807	254.90	420074
225.00	22892	234.90	2872	245.00	9458	255.95	60790

Average of 7.698 to 7.710 min.: 1013F001.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
256.95	4449	267.90	272	278.85	606	290.90	400
257.90	25548	268.80	58	280.80	74	291.95	869
259.00	3769	269.90	587	281.95	461	292.90	4484
259.95	716	270.90	920	282.90	2354	293.95	1116
260.90	724	271.90	1109	283.95	1500	294.95	1231
261.90	153	272.95	12926	284.95	3411	295.90	65176
262.75	243	273.90	36619	285.95	599	296.90	9066
263.90	788	274.90	212488	286.90	60	297.90	629
264.90	10232	275.95	27657	287.75	262	298.90	144
265.85	1604	276.90	18020	288.90	809	299.10	77
266.85	155	277.90	2957	289.90	757	301.00	800

Average of 7.698 to 7.710 min.: 1013F001.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
301.95	1088	312.90	722	324.95	427	335.90	568
302.95	7829	313.95	3625	325.90	493	338.85	441
303.95	2167	314.90	8129	326.90	4552	339.70	67
304.90	310	315.90	4606	327.90	2589	339.95	374
306.85	112	316.85	798	328.95	375	340.90	3186
307.90	1070	318.85	144	330.00	127	341.90	1090
308.80	266	319.95	249	330.80	134	342.80	78
309.00	435	320.95	2331	331.95	1882	345.90	6000
309.90	937	321.95	1181	332.90	2353	346.95	1014
310.85	158	322.95	24753	333.95	16781	347.80	68
311.95	254	324.00	4494	334.95	4597	350.10	200

Average of 7.698 to 7.710 min.: 1013F001.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
350.95	468	361.00	123	373.90	439	395.80	57
351.95	8725	361.80	50	376.90	502	396.95	196
352.95	5959	362.60	62	382.95	4660	400.90	1038
354.00	8992	363.85	273	383.90	1341	401.90	7807
354.95	1709	364.90	41621	385.00	368	402.95	10943
355.95	169	365.90	6320	388.80	82	403.90	4063
356.85	149	366.85	424	389.90	2434	404.85	531
357.75	107	369.95	865	390.95	1788	409.95	315
358.85	684	370.90	2263	391.90	1253	414.80	604
359.60	56	372.00	16511	392.90	209	415.10	65
359.90	72	372.95	4134	394.85	133	415.90	52

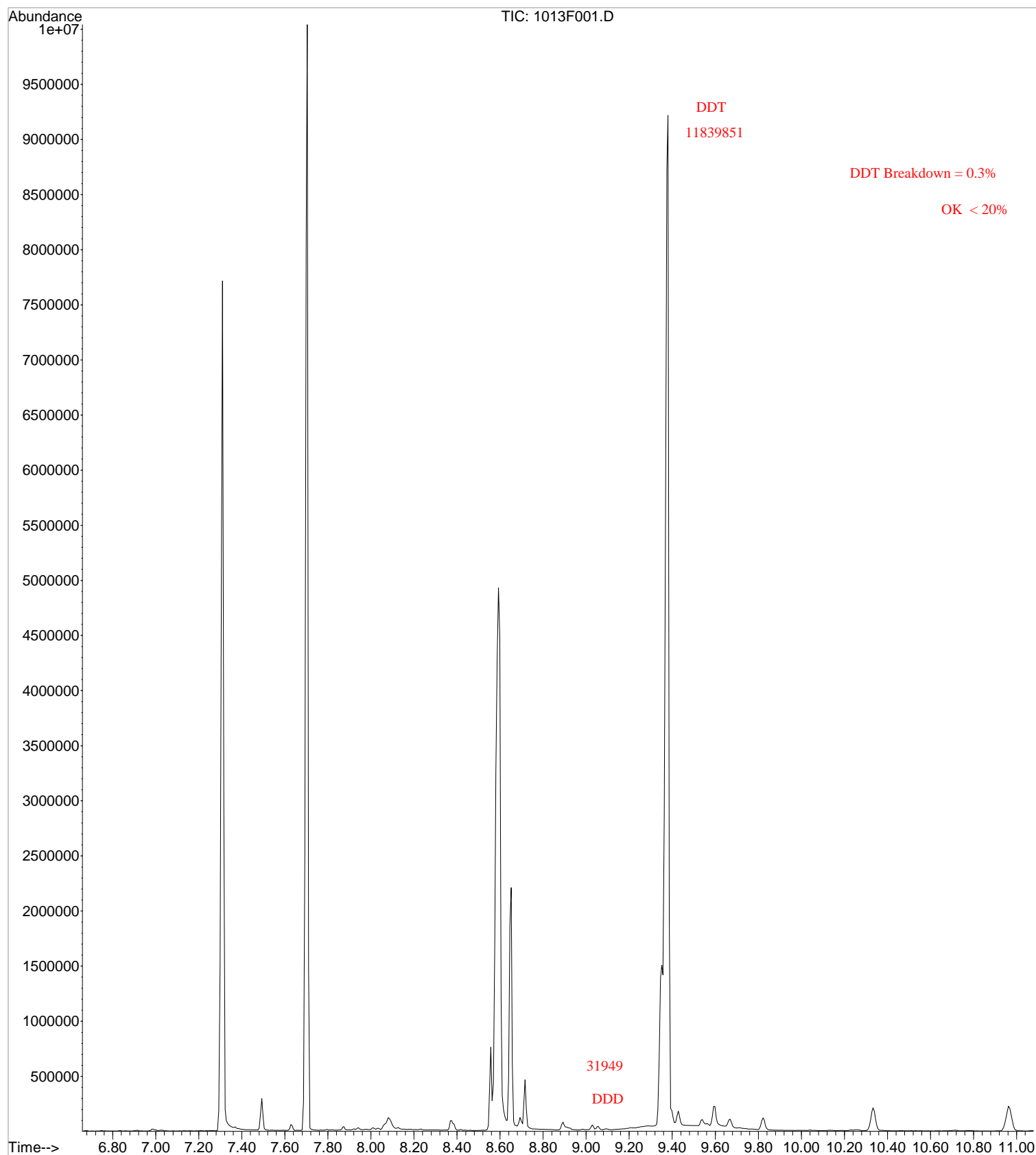
Average of 7.698 to 7.710 min.: 1013F001.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
419.90	81	444.00	28916				
420.90	10294	444.95	1499				
421.90	9397	445.90	64				
423.00	81232	473.85	215				
424.00	15846						
425.00	1532						
438.80	115						
439.95	366						
441.00	221650						
442.00	1580565						
443.00	308864						

File : J:\MS14\DATA\101320\1013F001.D
Operator : LWeiskopf
Acquired : 13 Oct 2020 5:14 am using AcqMethod SIMLOC
Instrument : MS14
Sample Name: DFTPP @ 10ug/mL SVM64-79B
Misc Info :
Vial Number: 1



Data File : J:\MS14\DATA\101320\1013F001.D

Acq On : 13 Oct 2020 5:14 am

Sample : DFTPP @ 10ug/mL SVM64-79B

Misc :

Vial: 1

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Oct 13 5:55 2020

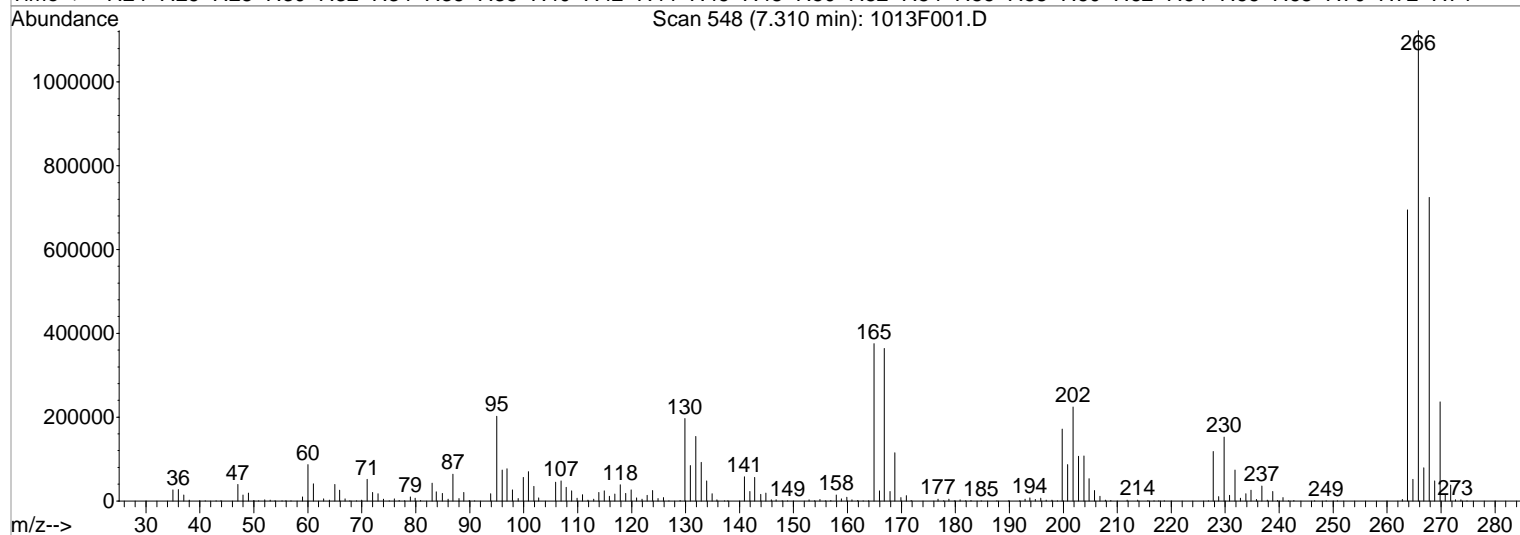
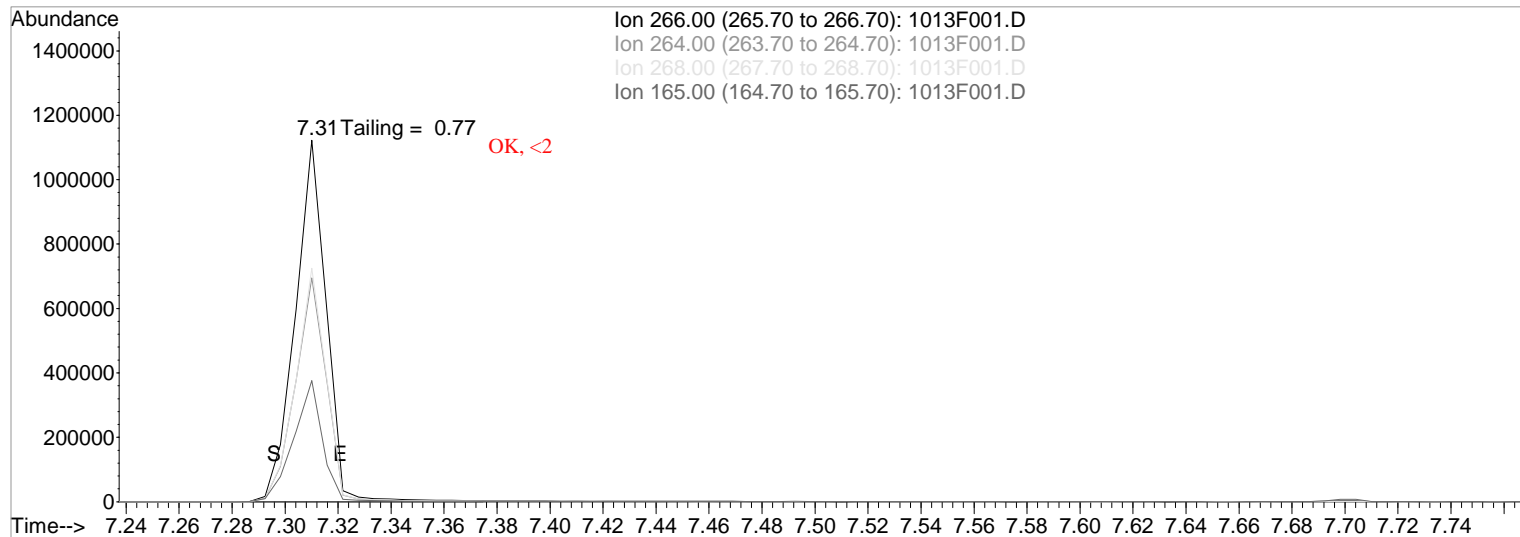
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\A_DFTPP.M (RTE Integrator)

Title : dftpp tune mix

Last Update : Thu Mar 26 08:43:52 2020

Response via : Single Level Calibration



TIC: 1013F001.D

(1) Pentachlorophenol

8.44min 0.00ng/ml

response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	62.30	0.00#
268.00	72.30	0.00#
165.00	42.00	0.00#

Data File : J:\MS14\DATA\101320\1013F001.D

Acq On : 13 Oct 2020 5:14 am

Sample : DFTPP @ 10ug/mL SVM64-79B

Misc :

MS Integration Params: rteint.p

Quant Time: Oct 13 5:55 2020

Vial: 1

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

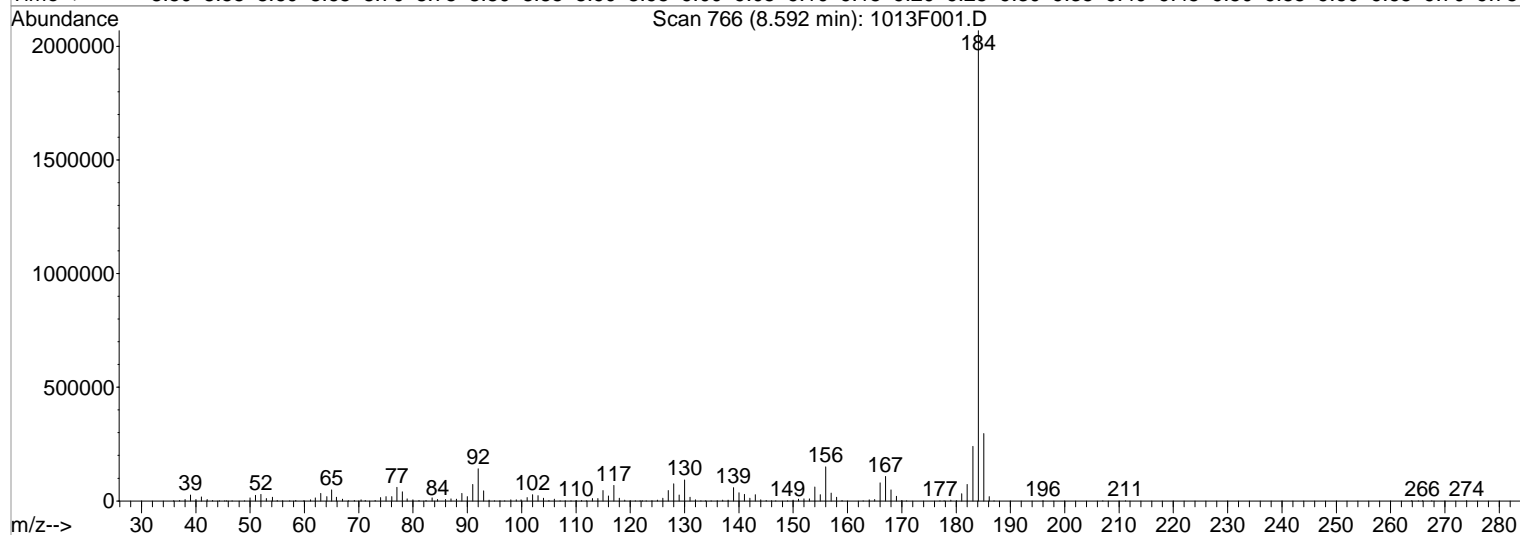
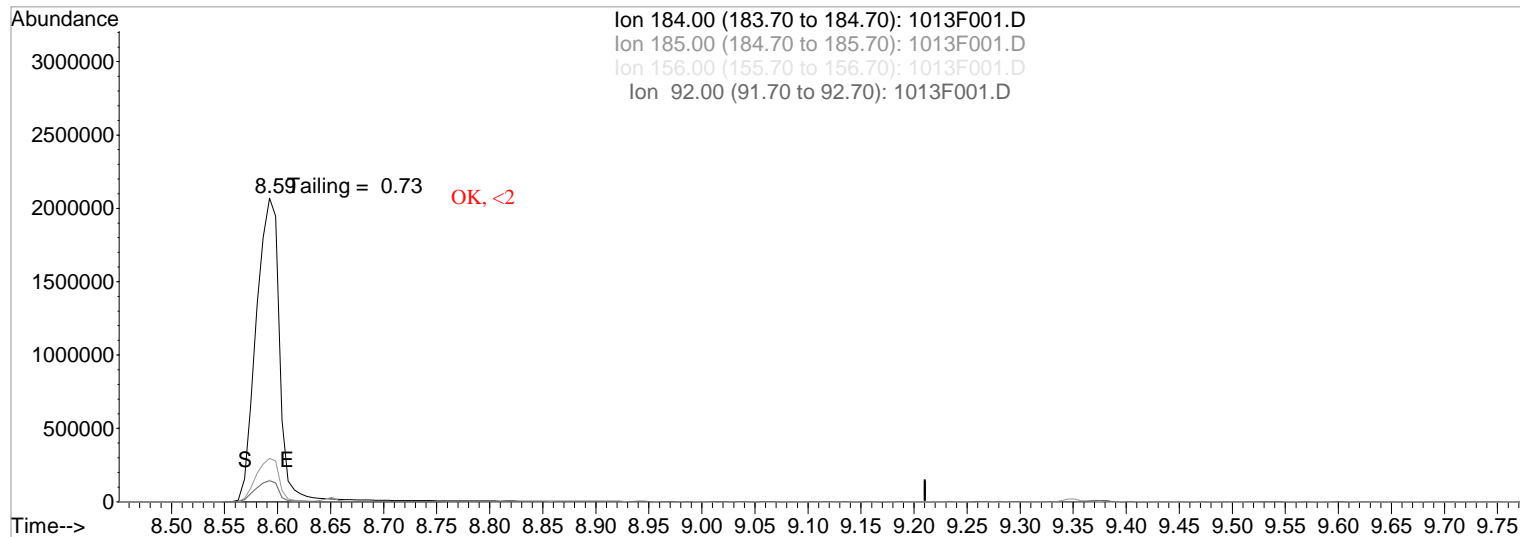
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\A_DFTPP.M (RTE Integrator)

Title : dftpp tune mix

Last Update : Thu Mar 26 08:43:52 2020

Response via : Single Level Calibration



TIC: 1013F001.D

(3) Benzdine (T)

8.59min 55.48ug/ml

response 3197667

Ion	Exp%	Act%
184.00	100	100
185.00	0.00	14.33
156.00	0.00	7.24
92.00	6000.00	6.87#

Data File : J:\MS14\DATA\101320\1013F002.D

Acq On : 13 Oct 2020 6:13 am

Sample : IB

Misc :

Vial: 2

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 06:32:58 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.64	136	61372	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.22	164	36217	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.46	188	71398	200.00	ng/ml	0.00
23) Chrysene-d12	9.95	240	86345	200.00	ng/ml	-0.02
28) Perylene-d12	12.94	264	93150	200.00	ng/ml	-0.05
System Monitoring Compounds						
3) 2-Methylnaphthalene-d10	0.00	152	0	0.00	ng/ml	
Spiked Amount 1000.000			Recovery	=	0.00%	
13) Fluorene-d10	6.65	176	78	0.37	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.04%	
22) Fluoranthene-d10	0.00	212	0	0.00	ng/ml	
Spiked Amount 1000.000			Recovery	=	0.00%	
25) Terphenyl-d14	0.00	244	0	0.00	ng/ml	
Spiked Amount 1000.000			Recovery	=	0.00%	
Target Compounds						
26) Benz(a)anthracene	9.95	228	222	0.43	ng/ml	Qvalue 79 < 1/2 MRL

Data File : J:\MS14\DATA\101320\1013F002.D

Acq On : 13 Oct 2020 6:13 am

Sample : IB

Misc :

MS Integration Params: RTEINT.P

Quant Time: Oct 14 10:25 2020

Vial: 2

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

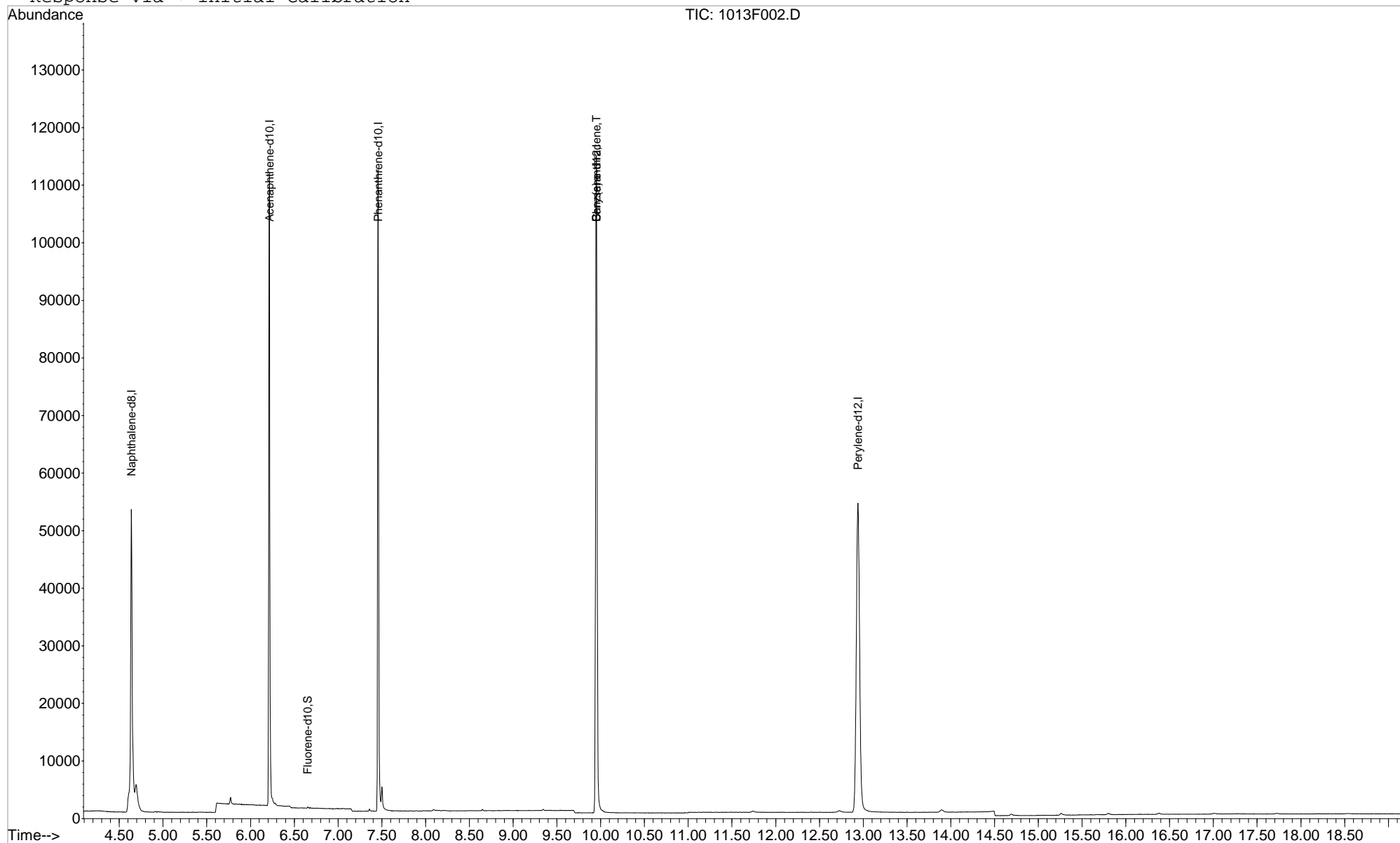
Quant Results File: 101320PAH.RES

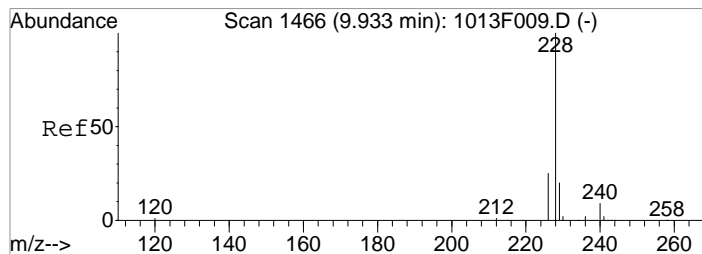
Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 12:48:30 2020

Response via : Initial Calibration

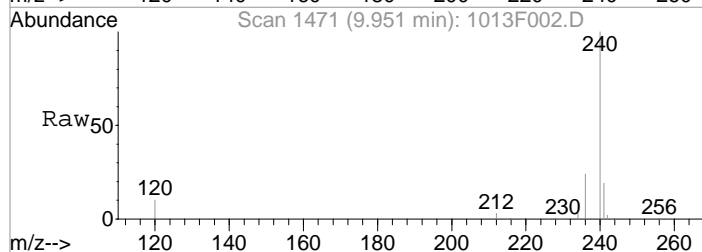




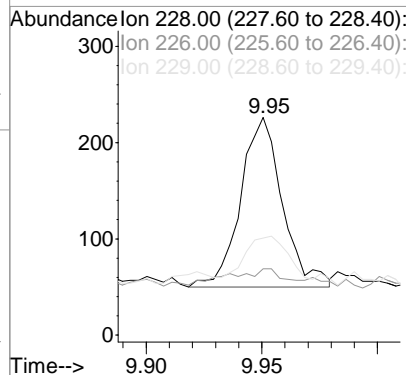
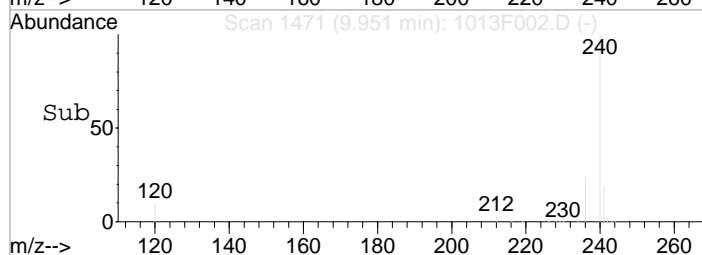
#26
Benz(a)anthracene
Concen: 0.43 ng/ml
RT: 9.95 min Scan# 1471
Delta R.T. -0.00 min
Lab File: 1013F002.D
Acq: 13 Oct 2020 6:13 am

1st *Ca* 10/14/20

2nd *Ab* 10/22/20



Tgt Ion	Ratio	Lower	Upper
228	100		
226	9.7	0.0	55.0
229	23.9	0.0	39.6



Data File : J:\MS14\DATA\101320\1013F003.D
 Acq On : 13 Oct 2020 6:39 am
 Sample : SIM-PAH ICAL @0.002ug/mL SVM64-75A
 Misc :

Vial: 3
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39:53 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.64	136	70644m	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.22	164	35884	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.46	188	69486	200.00	ng/ml	0.00
23) Chrysene-d12	9.95	240	86442	200.00	ng/ml	-0.02
28) Perylene-d12	12.94	264	95093	200.00	ng/ml	-0.06

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.28	152	428	2.15	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.22%	
13) Fluorene-d10	6.65	176	512	2.43	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.24%	
22) Fluoranthene-d10	8.45	212	824	2.24	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.22%	
25) Terphenyl-d14	8.79	244	821	2.26	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.23%	

Target Compounds

						Qvalue
2) Naphthalene	4.66	128	747	2.01	ng/ml	97
4) 2-Methylnaphthalene	5.31	142	570	2.33	ng/ml	97
5) 1-Methylnaphthalene	5.40	142	519	2.29	ng/ml	95
6) Biphenyl	5.72	154	686	2.31	ng/ml	99
7) 2,6-Dimethylnaphthalene	5.86	156	499	2.32	ng/ml	93
9) Acenaphthylene	6.09	152	780	2.17	ng/ml	96
10) Acenaphthene	6.24	154	485	2.17	ng/ml	98
11) Dibenzofuran	6.39	168	785	2.42	ng/ml	91
12) 2,3,5-Trimethylnaphthalene	6.57	170	451	2.10	ng/ml	92
14) Fluorene	6.68	166	518	2.03	ng/ml	98
16) Dibenzothiophene	7.37	184	794	2.10	ng/ml	95
17) Phenanthrene	7.47	178	842m	2.17	ng/ml	
18) Anthracene	7.52	178	779	2.16	ng/ml	92
19) Carbazole	7.66	167	745	2.18	ng/ml	97
20) 1-Methylphenanthrene	7.99	192	626	2.22	ng/ml	94
21) Fluoranthene	8.46	202	1011	2.38	ng/ml	98
24) Pyrene	8.65	202	1127	2.33	ng/ml#	44
26) Benz(a)anthracene	9.94	228	1297	2.48	ng/ml	96
27) Chrysene	9.98	228	1032	2.04	ng/ml	99
29) Benzo(b)fluoranthene	11.93	252	1103	1.99	ng/ml	97
30) Benzo(k)fluoranthene	12.00	252	1129	2.05	ng/ml	96
31) Benzo(e)pyrene	12.62	252	1120	2.10	ng/ml	97
32) Benzo(a)pyrene	12.78	252	1172	2.50	ng/ml	94
33) Perylene	13.01	252	1042	2.12	ng/ml	98
34) Indeno(1,2,3-cd)pyrene	15.30	276	1125	2.62	ng/ml	93
35) Dibenz(a,h)anthracene	15.34	278	1146	2.28	ng/ml	99
36) Benzo(g,h,i)perylene	15.68	276	1365	2.53	ng/ml	97

Data File : J:\MS14\DATA\101320\1013F003.D
Acq On : 13 Oct 2020 6:39 am
Sample : SIM-PAH ICAL @0.002ug/mL SVM64-75A
Misc :

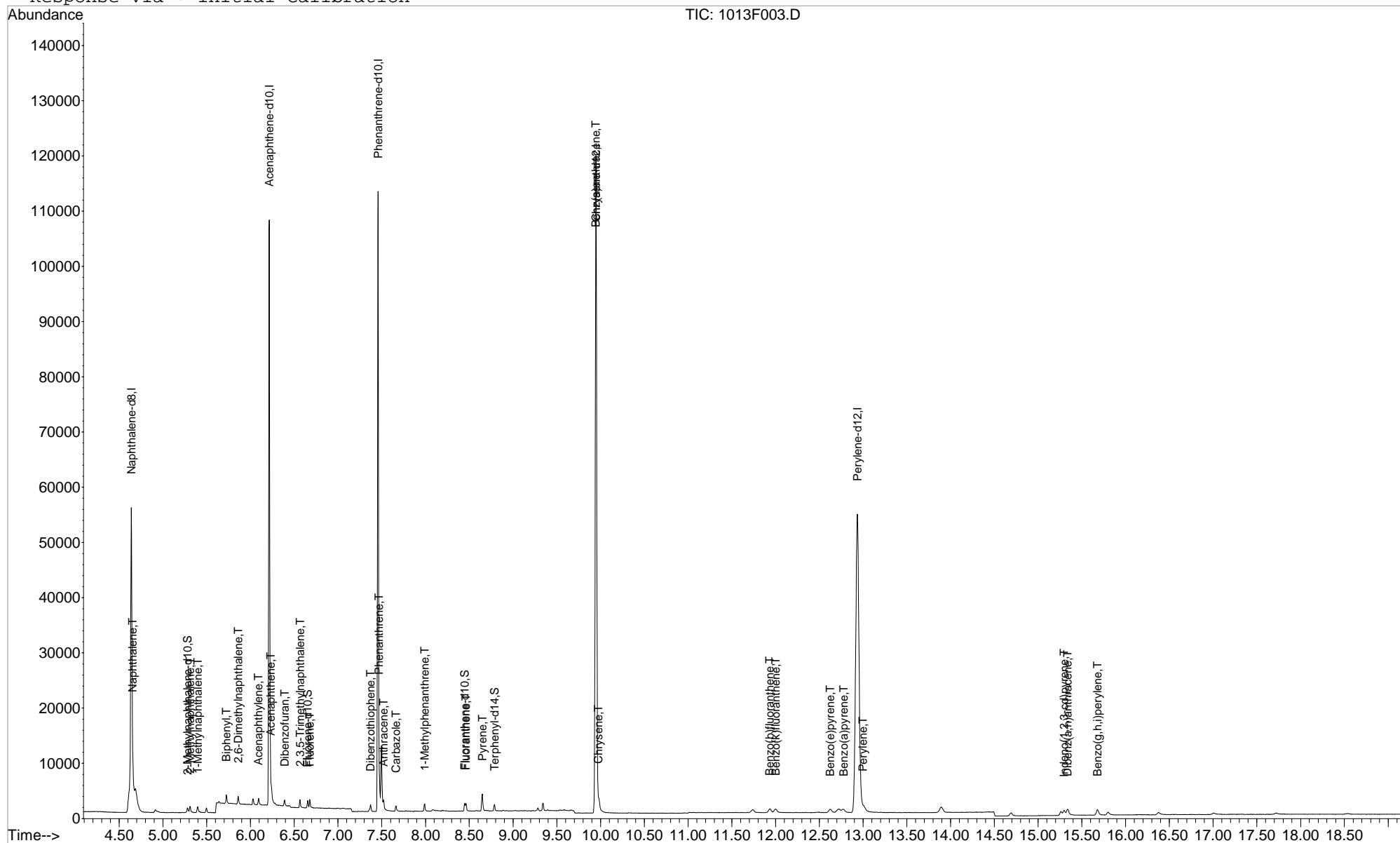
Vial: 3
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:41 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 12:48:30 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\101320\1013F003.D
Acq On : 13 Oct 2020 6:39 am
Sample : SIM-PAH ICAL @0.002ug/mL SVM64-75A
Misc :

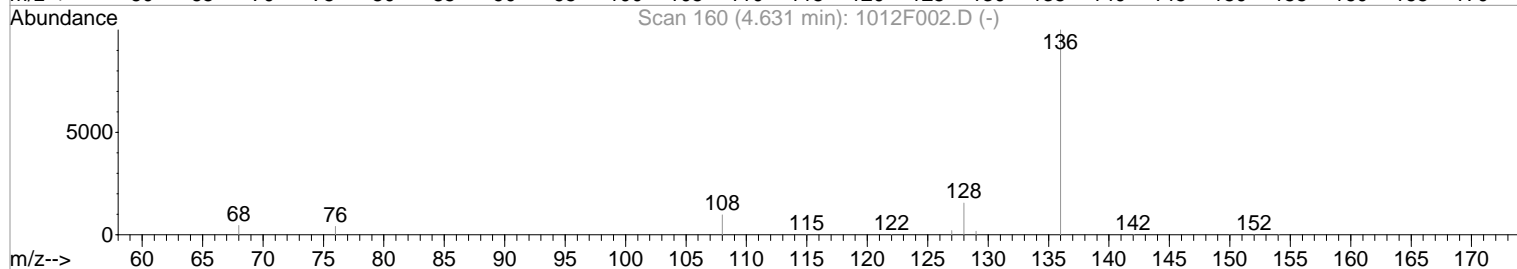
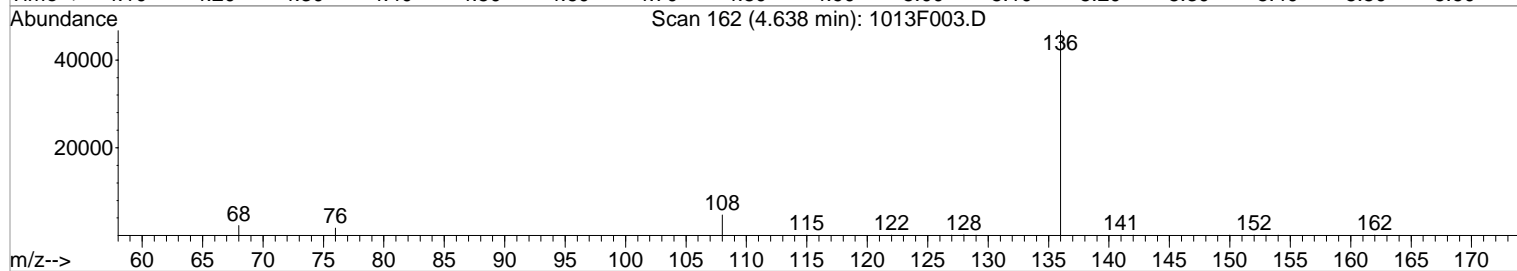
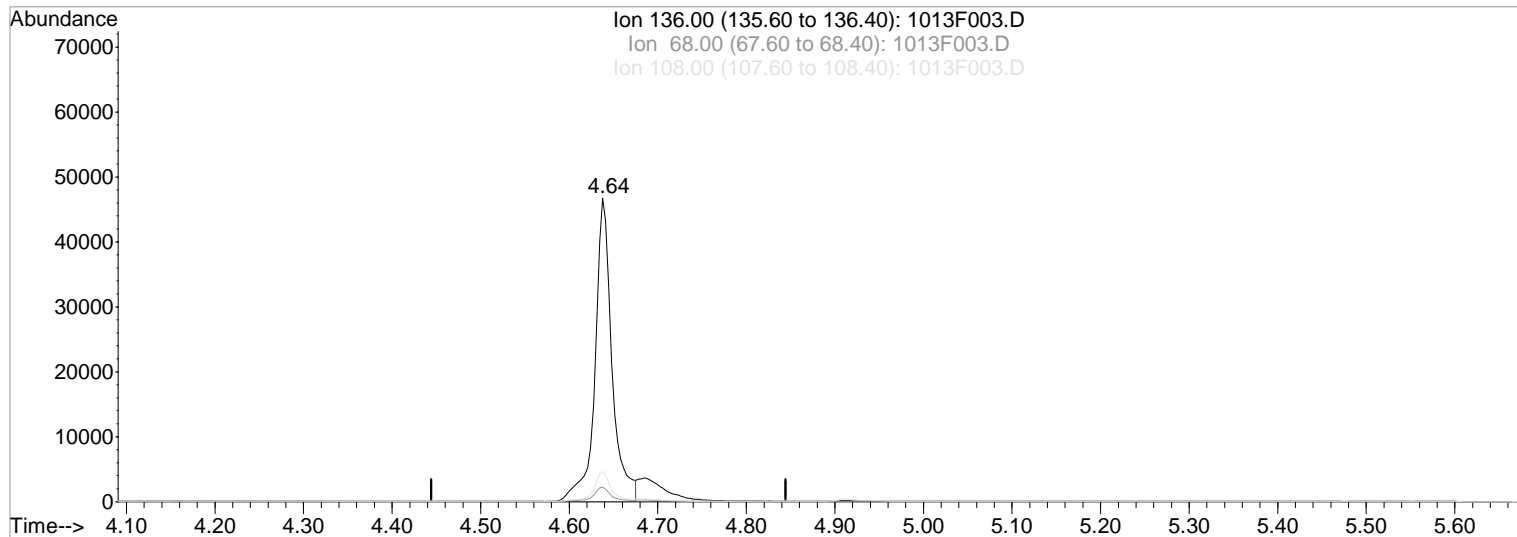
Vial: 3
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F003.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.64min 200.00ng/ml

Before

response 62447

Ion	Exp%	Act%
136.00	100	100
68.00	5.10	4.66
108.00	8.80	9.88
0.00	0.00	0.00

10/13/20

Data File : J:\MS14\DATA\101320\1013F003.D
Acq On : 13 Oct 2020 6:39 am
Sample : SIM-PAH ICAL @0.002ug/mL SVM64-75A
Misc :

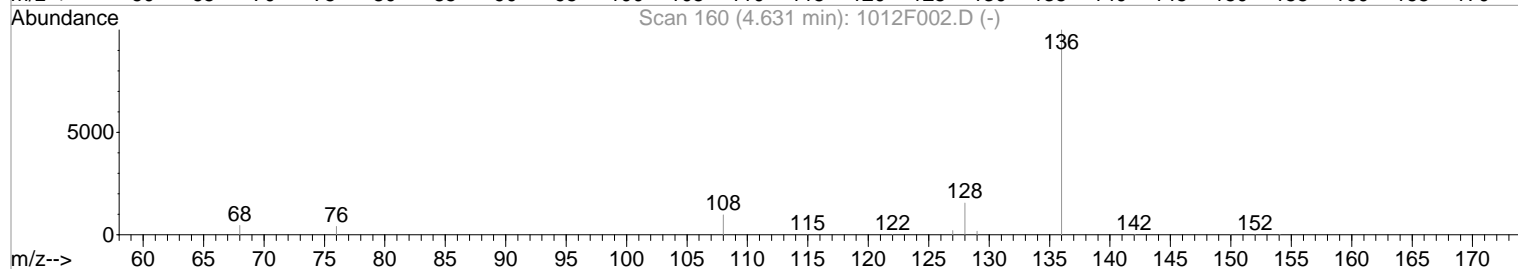
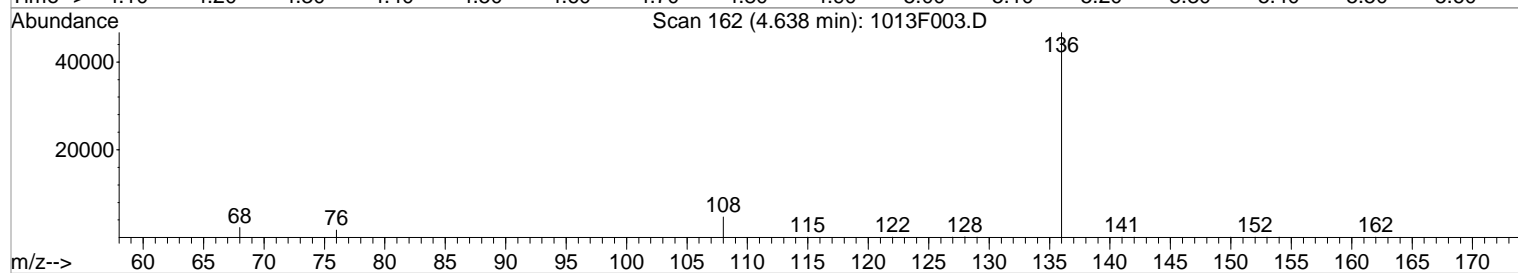
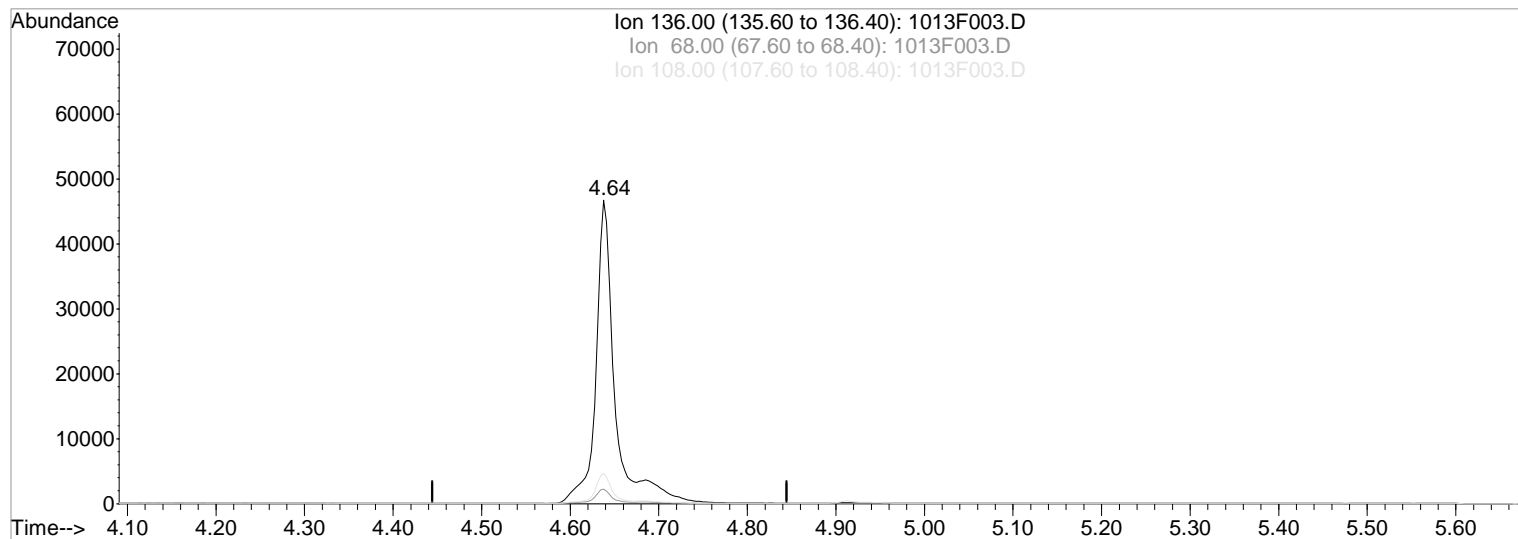
Vial: 3
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:40 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F003.D

(1) Naphthalene-d8 (I)

4.64min 200.00ng/ml m

response 70644

Ion	Exp%	Act%
136.00	100	100
68.00	5.10	4.84
108.00	8.80	10.02
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

10/13/20

Data File : J:\MS14\DATA\101320\1013F003.D
Acq On : 13 Oct 2020 6:39 am
Sample : SIM-PAH ICAL @0.002ug/mL SVM64-75A
Misc :

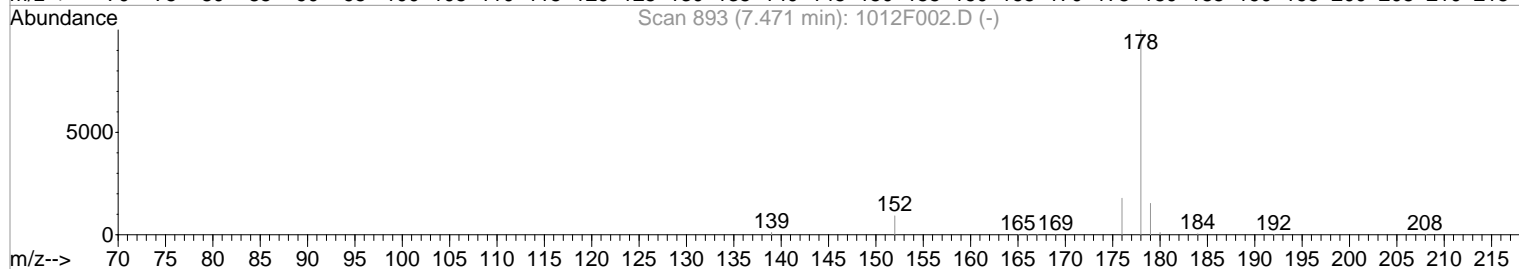
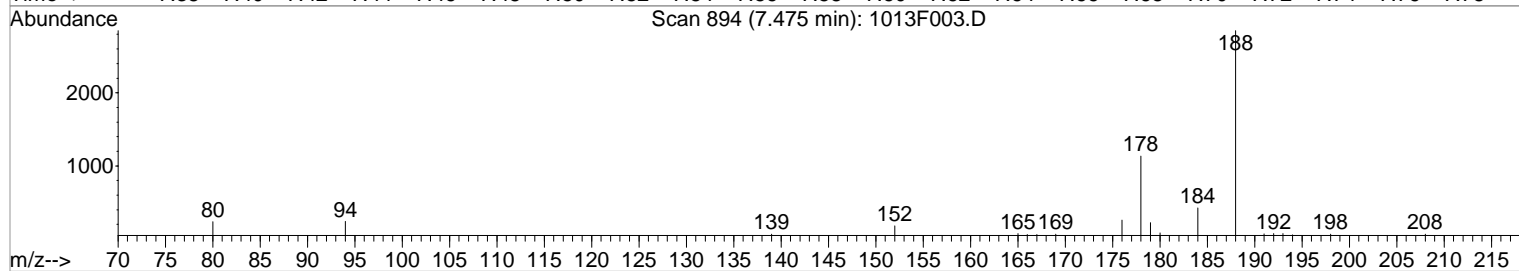
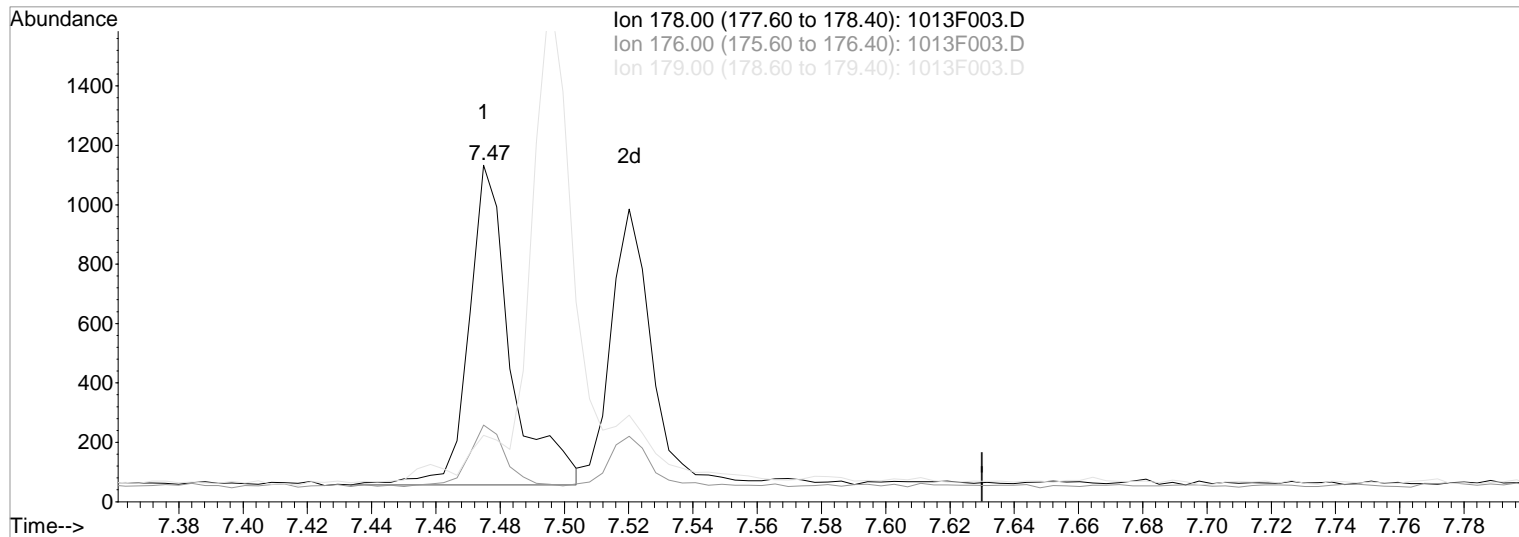
Vial: 3
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:40 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F003.D

(17) Phenanthrene (T)

Manual Integration:

7.47min 2.50ng/ml

Before

response 970

Ion	Exp%	Act%
178.00	100	100
176.00	18.20	19.24
179.00	15.30	14.87
0.00	0.00	0.00

10/13/20

Data File : J:\MS14\DATA\101320\1013F003.D
Acq On : 13 Oct 2020 6:39 am
Sample : SIM-PAH ICAL @0.002ug/mL SVM64-75A
Misc :

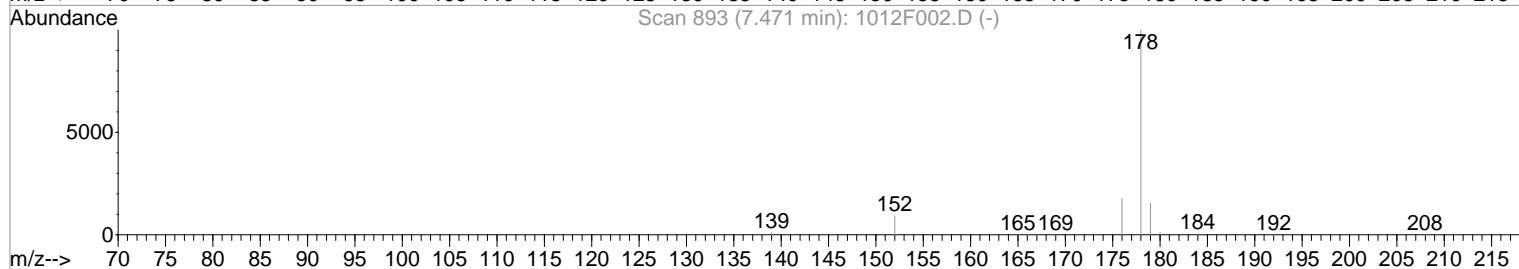
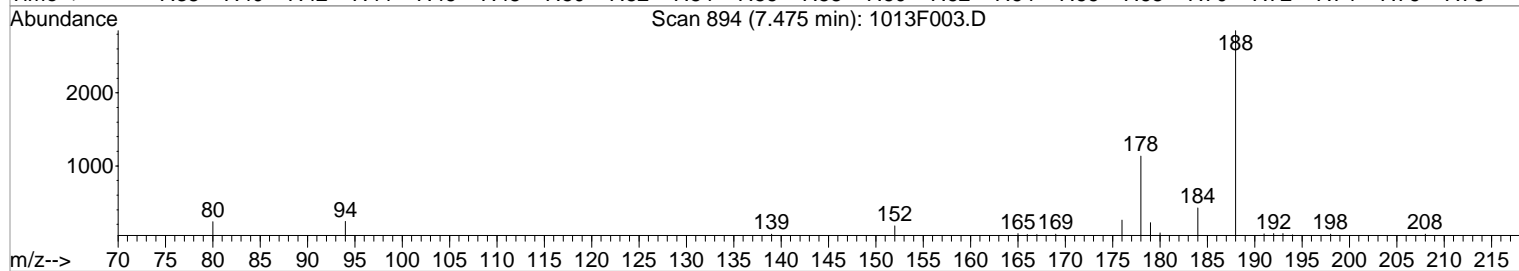
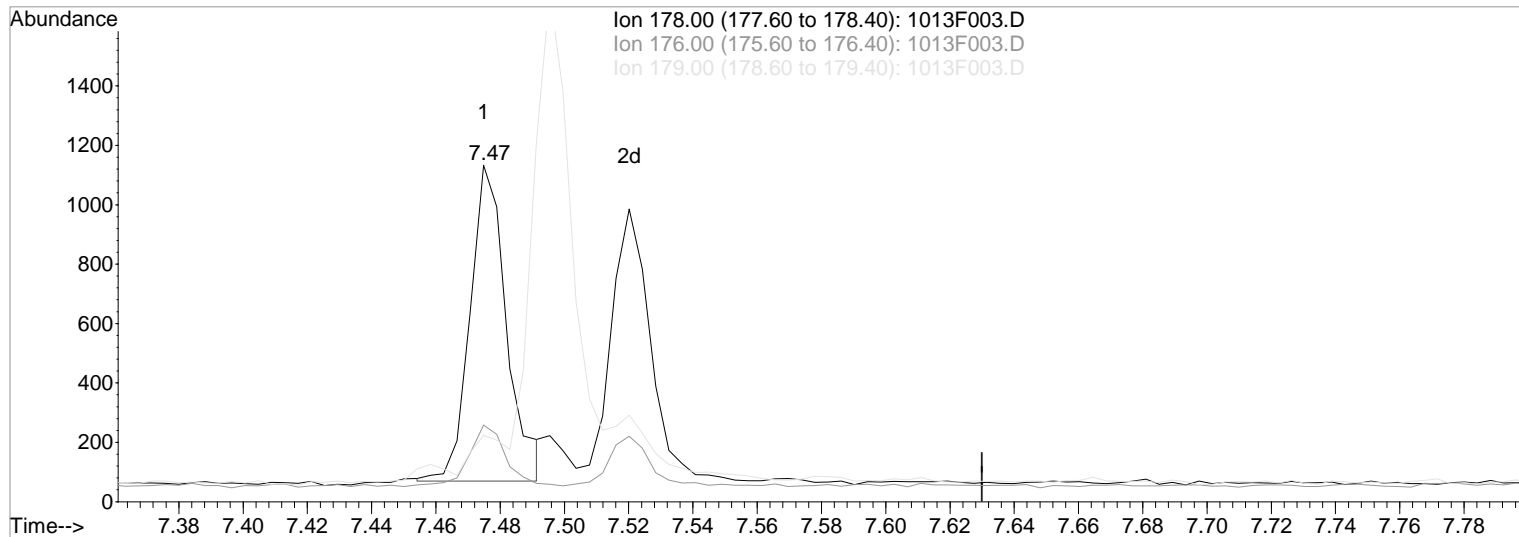
Vial: 3
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:41 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F003.D

(17) Phenanthrene (T)

7.47min 2.17ng/ml m

response 842

Ion	Exp%	Act%
178.00	100	100
176.00	18.20	22.77
179.00	15.30	19.77
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

10/13/20

Data File : J:\MS14\DATA\101320\1013F004.D
 Acq On : 13 Oct 2020 7:05 am
 Sample : SIM-PAH ICAL @0.004ug/mL SVM64-75B
 Misc :

Vial: 4
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39:54 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.64	136	69854	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.21	164	35547	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.46	188	68274	200.00	ng/ml	0.00
23) Chrysene-d12	9.95	240	85771	200.00	ng/ml	-0.02
28) Perylene-d12	12.94	264	95228	200.00	ng/ml	-0.06

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.28	152	808	4.10	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.41%	
13) Fluorene-d10	6.65	176	875	4.18	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.42%	
22) Fluoranthene-d10	8.45	212	1584	4.39	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.44%	
25) Terphenyl-d14	8.79	244	1604	4.45	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.45%	

Target Compounds

						Qvalue
2) Naphthalene	4.66	128	1536	4.18	ng/ml	97
4) 2-Methylnaphthalene	5.31	142	992	4.09	ng/ml	98
5) 1-Methylnaphthalene	5.40	142	947	4.22	ng/ml	96
6) Biphenyl	5.72	154	1195	4.06	ng/ml	98
7) 2,6-Dimethylnaphthalene	5.86	156	915	4.30	ng/ml	91
9) Acenaphthylene	6.09	152	1388	3.90	ng/ml	98
10) Acenaphthene	6.24	154	877	3.96	ng/ml	99
11) Dibenzofuran	6.39	168	1236	3.85	ng/ml	88
12) 2,3,5-Trimethylnaphthalene	6.57	170	797	3.75	ng/ml	92
14) Fluorene	6.68	166	947	3.75	ng/ml	99
16) Dibenzothiophene	7.37	184	1456	3.92	ng/ml	98
17) Phenanthrene	7.47	178	1629m	4.28	ng/ml	
18) Anthracene	7.52	178	1490	4.21	ng/ml	95
19) Carbazole	7.66	167	1377	4.09	ng/ml	98
20) 1-Methylphenanthrene	7.99	192	1156	4.18	ng/ml	99
21) Fluoranthene	8.46	202	1926	4.61	ng/ml	99
24) Pyrene	8.65	202	2188	4.55	ng/ml	84
26) Benz(a)anthracene	9.94	228	2245	4.33	ng/ml	99
27) Chrysene	9.98	228	2017	4.02	ng/ml	97
29) Benzo(b)fluoranthene	11.93	252	2174	3.91	ng/ml	99
30) Benzo(k)fluoranthene	12.00	252	2127	3.85	ng/ml	96
31) Benzo(e)pyrene	12.62	252	2123	3.97	ng/ml	99
32) Benzo(a)pyrene	12.77	252	2242m	4.77	ng/ml	
33) Perylene	13.01	252	1950	3.96	ng/ml	98
34) Indeno(1,2,3-cd)pyrene	15.30	276	2255	5.25	ng/ml	92
35) Dibenz(a,h)anthracene	15.34	278	2508m	4.98	ng/ml	
36) Benzo(g,h,i)perylene	15.68	276	2686	4.97	ng/ml	100

Data File : J:\MS14\DATA\101320\1013F004.D
Acq On : 13 Oct 2020 7:05 am
Sample : SIM-PAH ICAL @0.004ug/mL SVM64-75B
Misc :

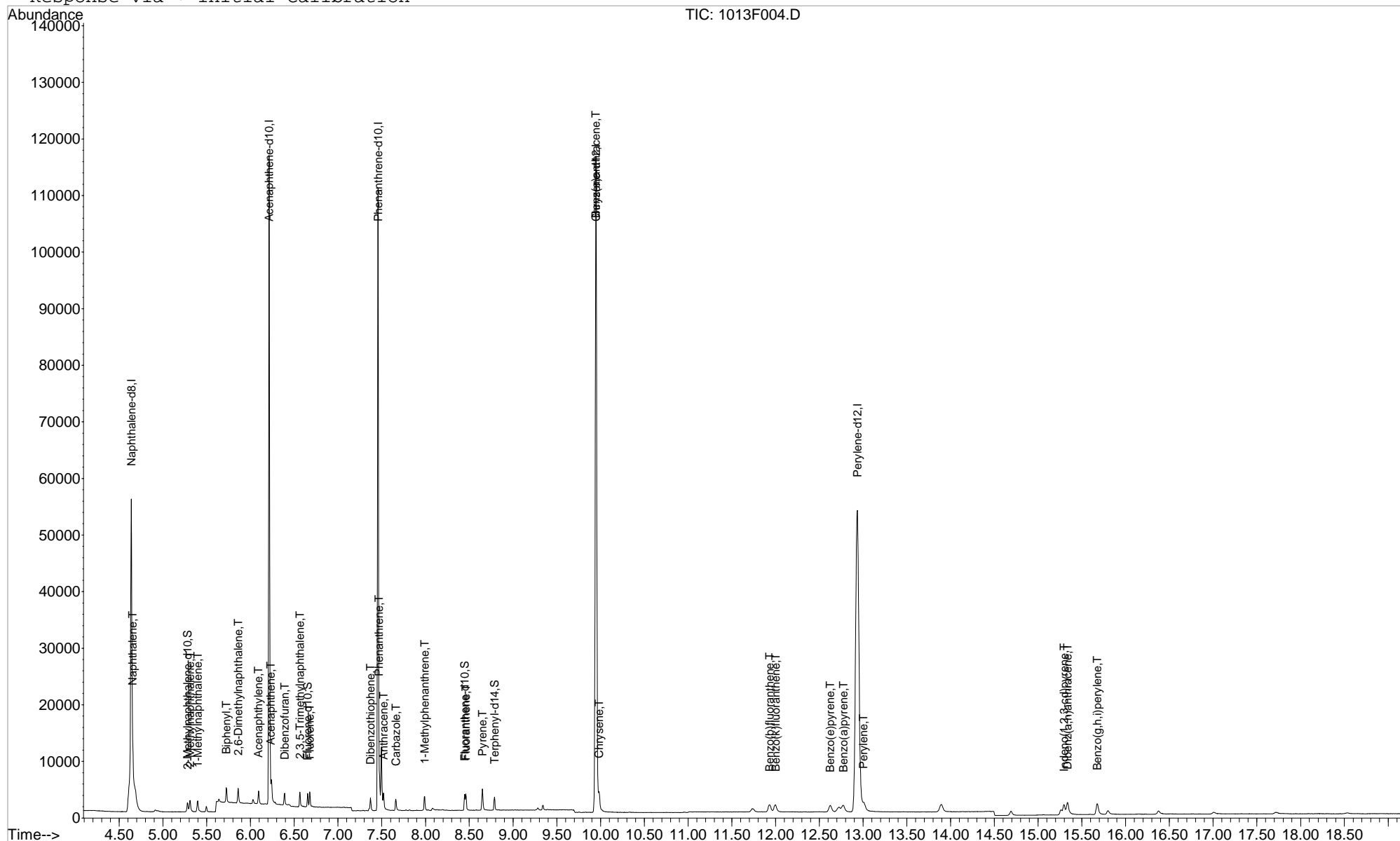
Vial: 4
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:42 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 12:48:30 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\101320\1013F004.D
Acq On : 13 Oct 2020 7:05 am
Sample : SIM-PAH ICAL @0.004ug/mL SVM64-75B
Misc :

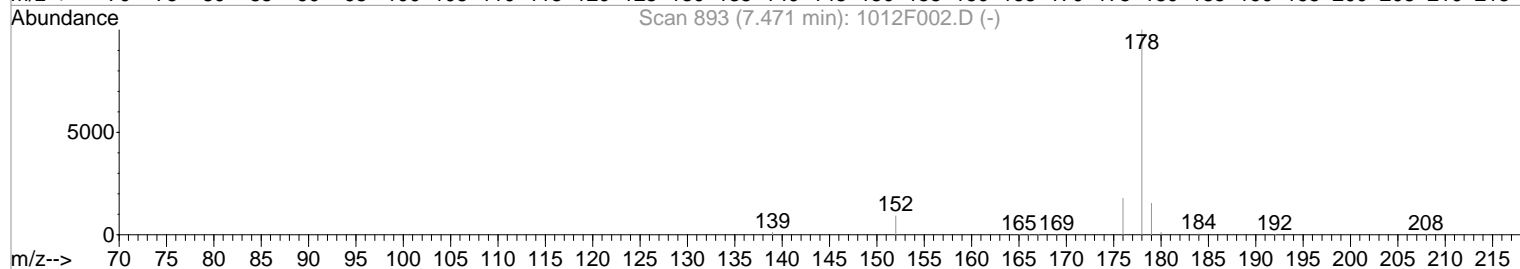
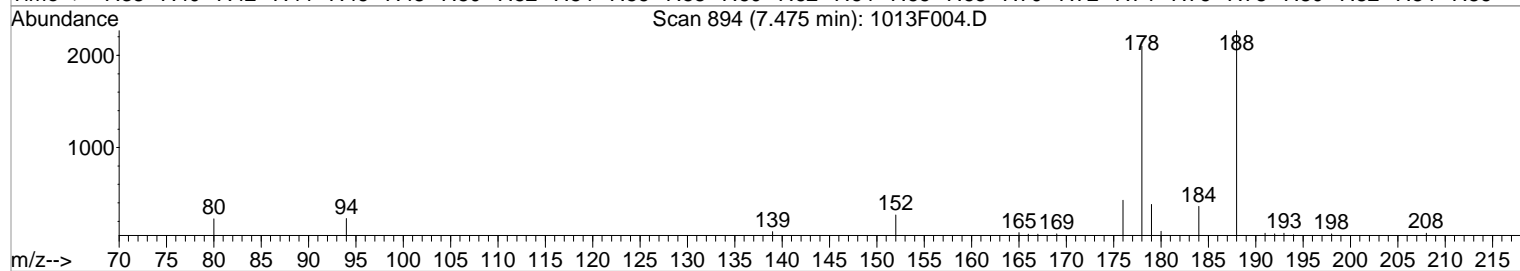
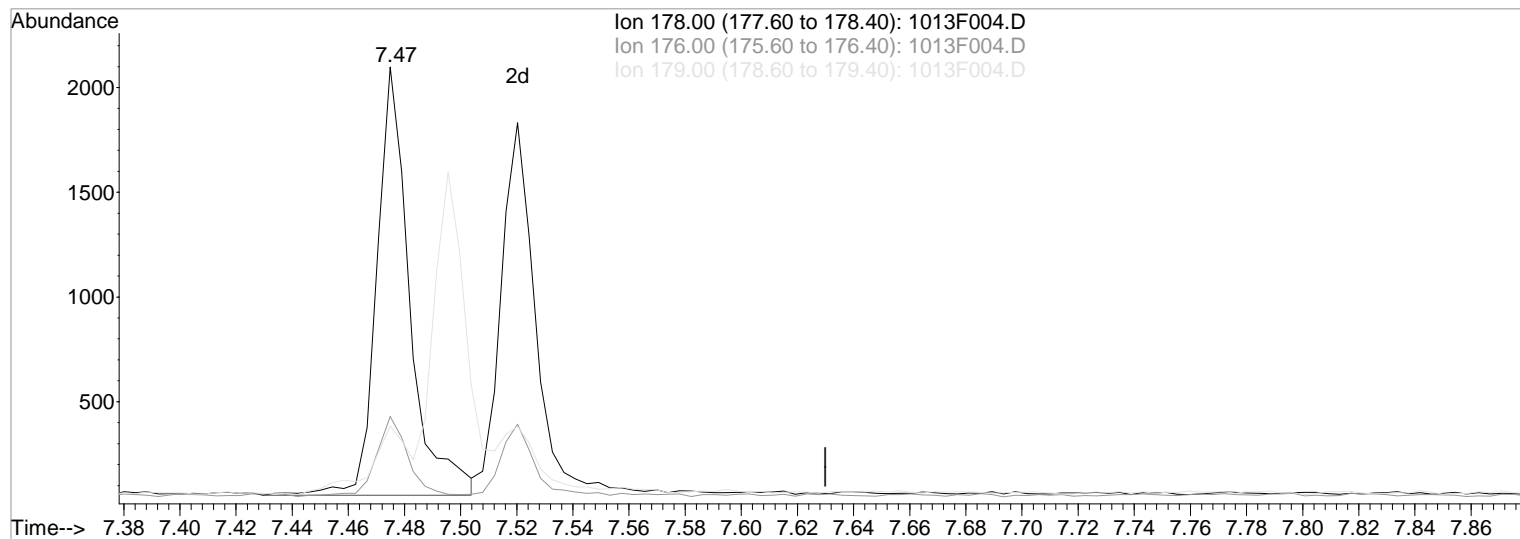
Vial: 4
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F004.D

(17) Phenanthrene (T)

Manual Integration:

7.47min 4.41ng/ml

Before

response 1679

Ion Exp% Act%

10/13/20

178.00 100 100

176.00 18.20 18.15

179.00 15.30 15.70

0.00 0.00 0.00

Data File : J:\MS14\DATA\101320\1013F004.D
Acq On : 13 Oct 2020 7:05 am
Sample : SIM-PAH ICAL @0.004ug/mL SVM64-75B
Misc :

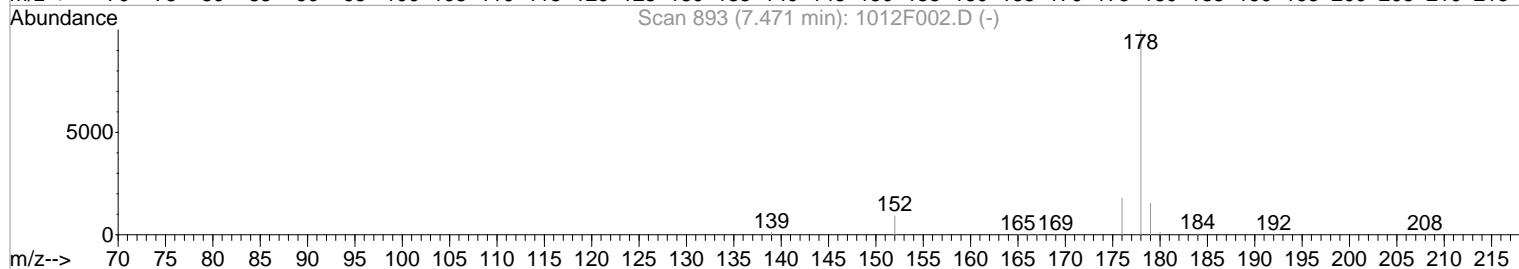
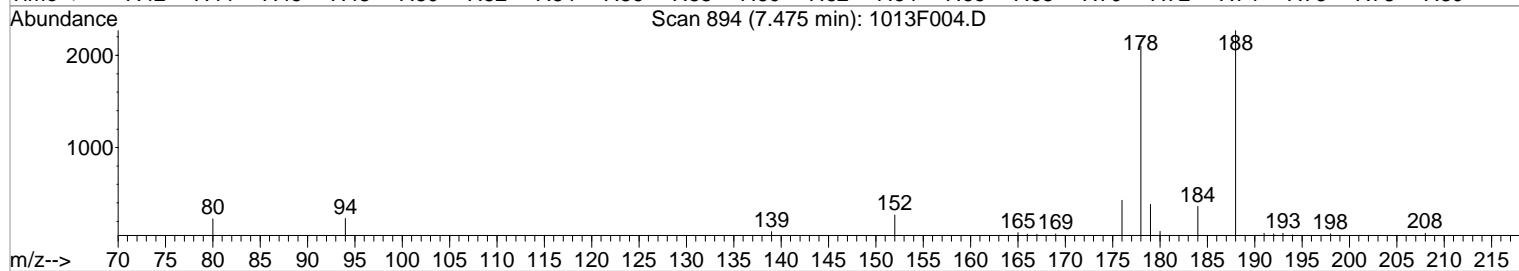
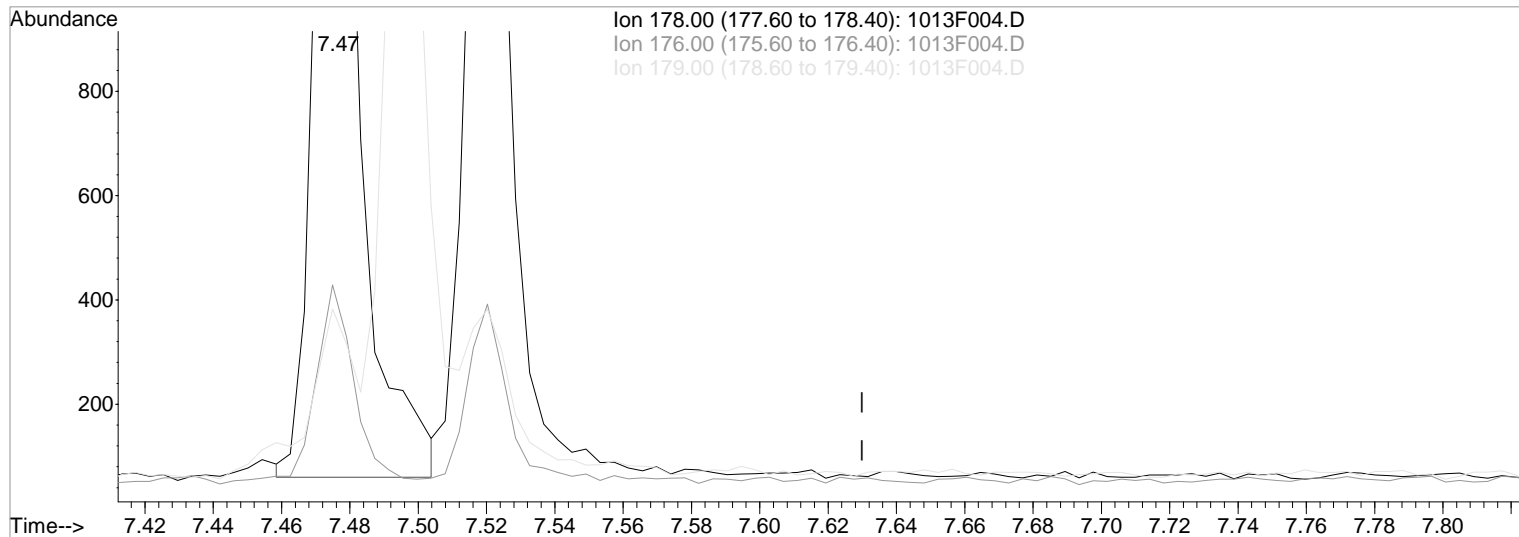
Vial: 4
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:41 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F004.D

(17) Phenanthrene (T)

7.47min 4.28ng/ml m

response 1629

Ion	Exp%	Act%
-----	------	------

178.00	100	100
--------	-----	-----

176.00	18.20	20.45
--------	-------	-------

179.00	15.30	18.26
--------	-------	-------

0.00	0.00	0.00
------	------	------

Manual Integration:

After

BLC

10/13/20

Data File : J:\MS14\DATA\101320\1013F004.D
Acq On : 13 Oct 2020 7:05 am
Sample : SIM-PAH ICAL @0.004ug/mL SVM64-75B
Misc :

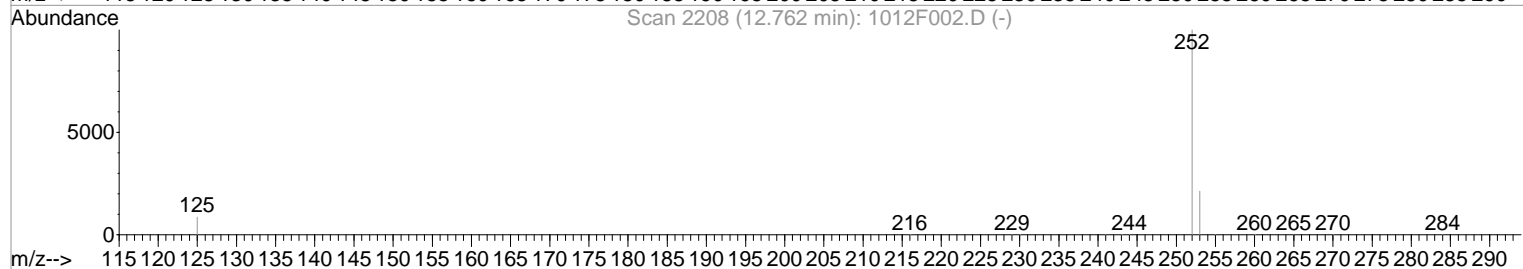
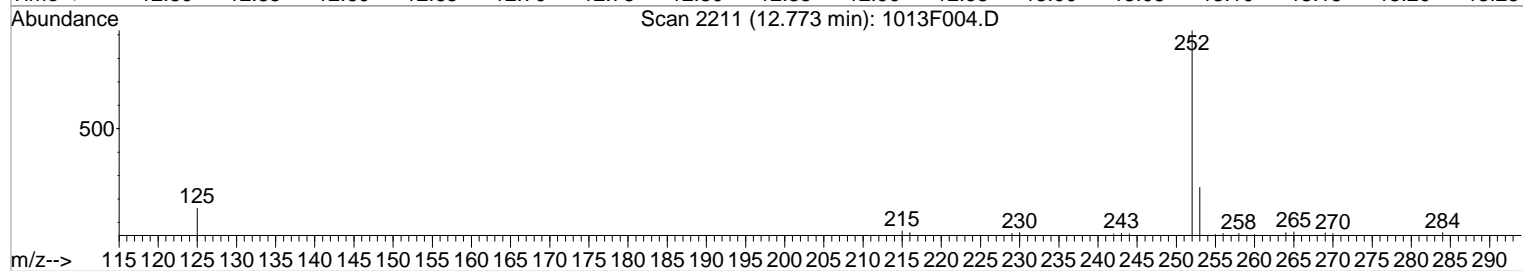
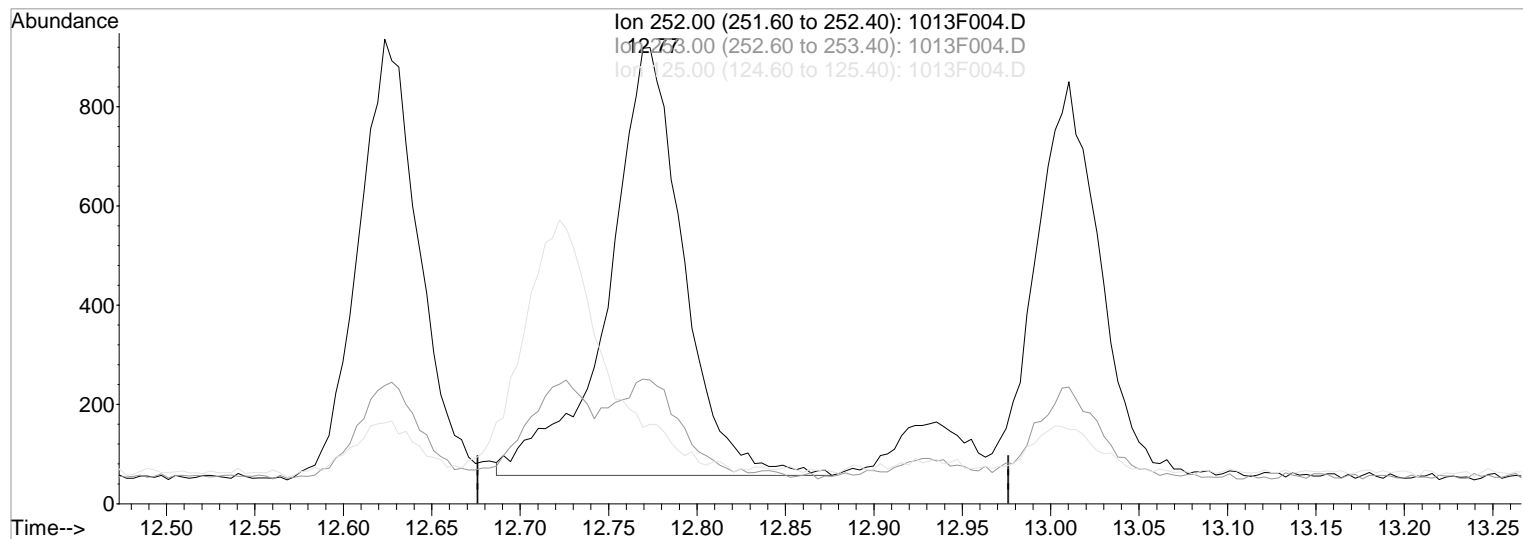
Vial: 4
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:41 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F004.D

(32) Benzo(a)pyrene (T)

Manual Integration:

12.77min 5.40ng/ml

Before

response 2537

Ion Exp% Act%

10/13/20

252.00 100 100

253.00 21.60 22.51

125.00 8.70 11.02

0.00 0.00 0.00

Data File : J:\MS14\DATA\101320\1013F004.D
Acq On : 13 Oct 2020 7:05 am
Sample : SIM-PAH ICAL @0.004ug/mL SVM64-75B
Misc :

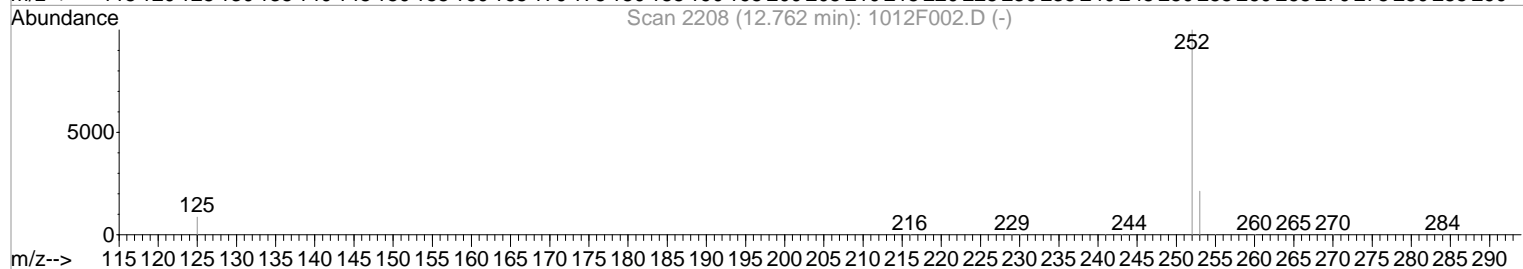
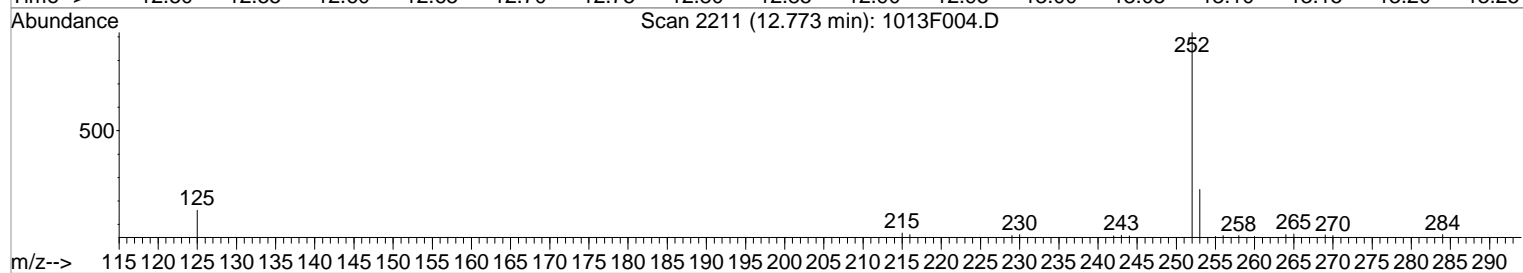
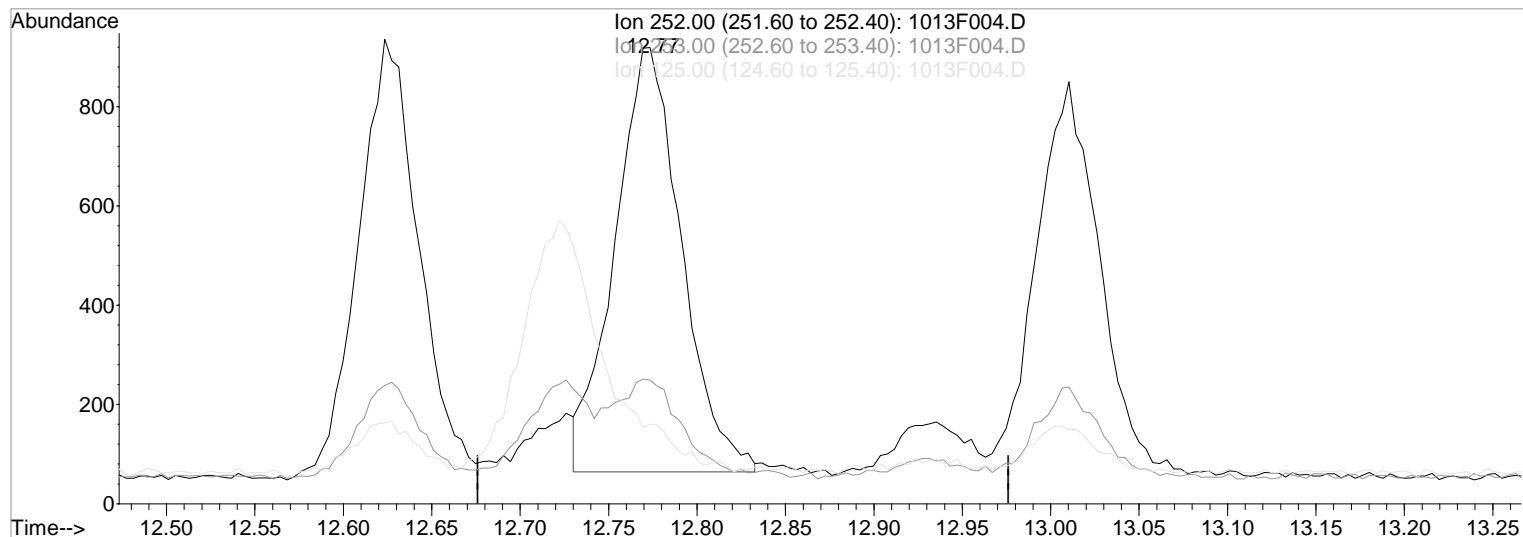
Vial: 4
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:42 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F004.D

(32) Benzo(a)pyrene (T)

12.77min 4.77ng/ml m

response 2242

Ion	Exp%	Act%
252.00	100	100
253.00	21.60	27.09
125.00	8.70	17.41
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

10/13/20

Data File : J:\MS14\DATA\101320\1013F004.D
Acq On : 13 Oct 2020 7:05 am
Sample : SIM-PAH ICAL @0.004ug/mL SVM64-75B
Misc :

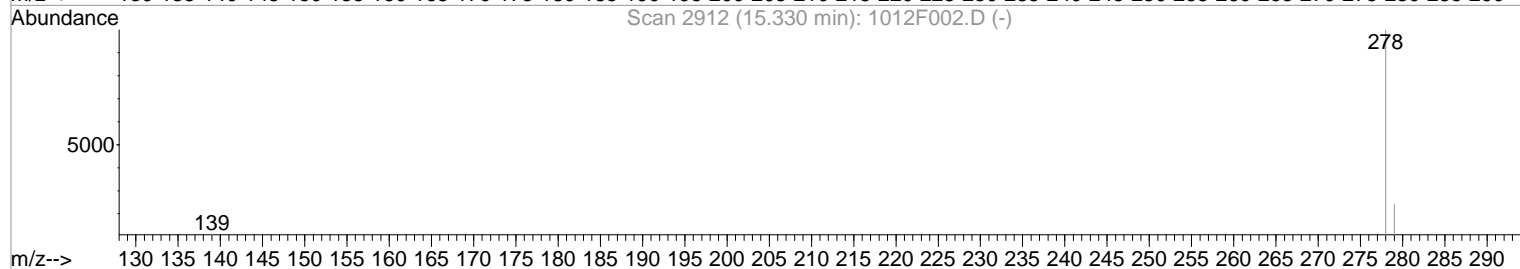
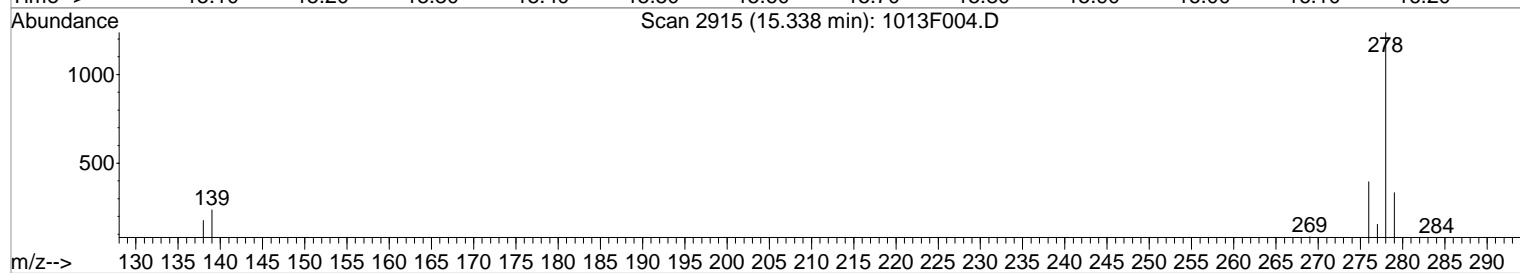
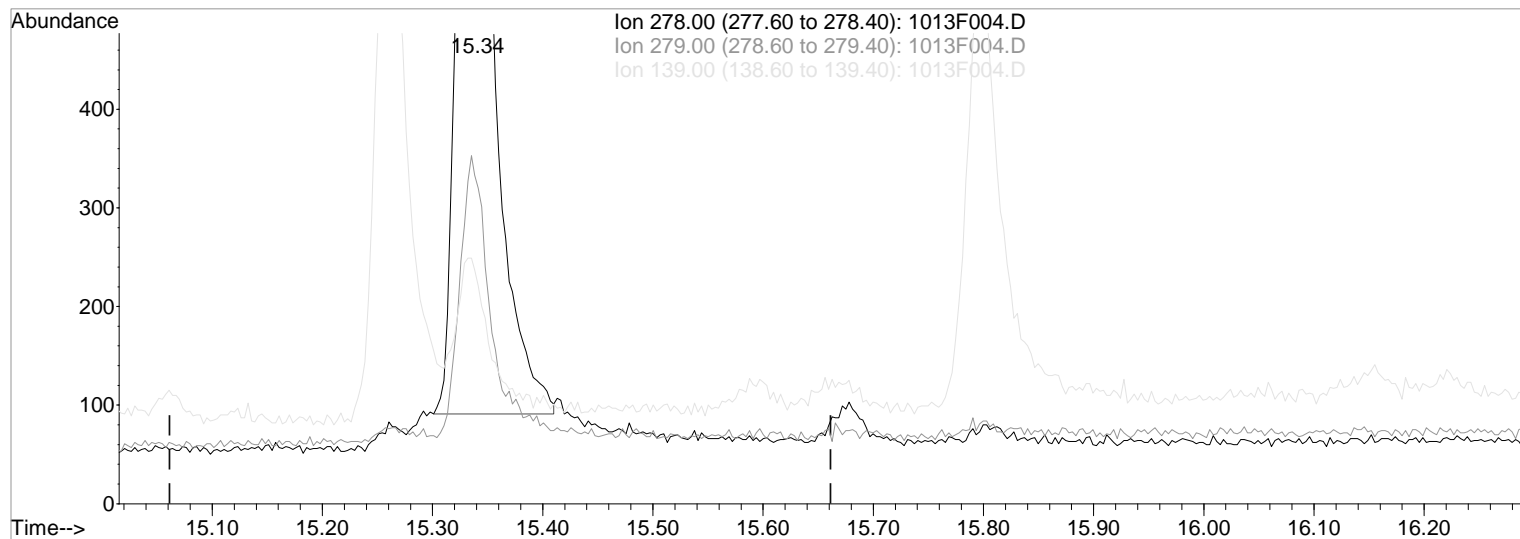
Vial: 4
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:42 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F004.D

(35) Dibenz(a,h)anthracene (T)

Manual Integration:

15.34min 4.32ng/ml

Before

response 2176

Ion	Exp%	Act%
-----	------	------

10/13/20

278.00	100	100
--------	-----	-----

279.00	24.00	23.04
--------	-------	-------

139.00	12.50	11.87
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\101320\1013F004.D
Acq On : 13 Oct 2020 7:05 am
Sample : SIM-PAH ICAL @0.004ug/mL SVM64-75B
Misc :

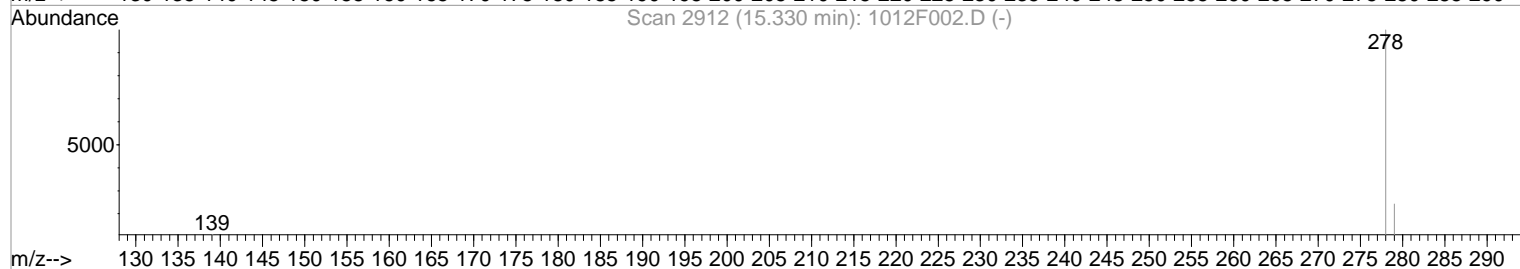
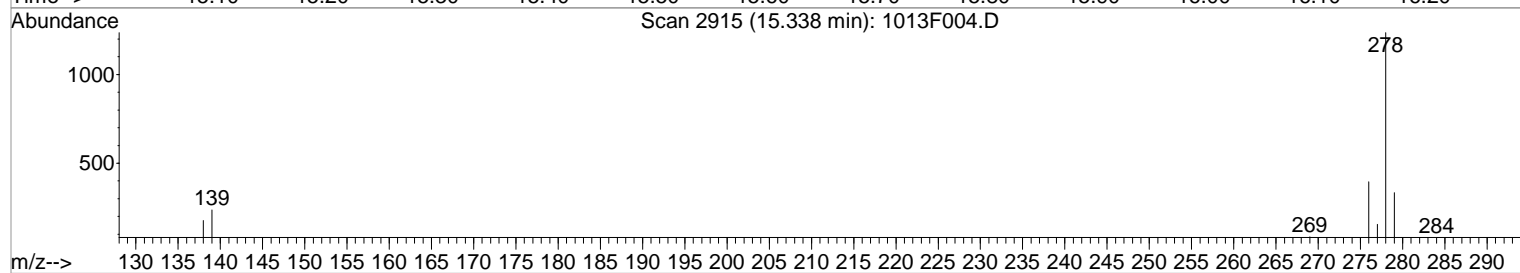
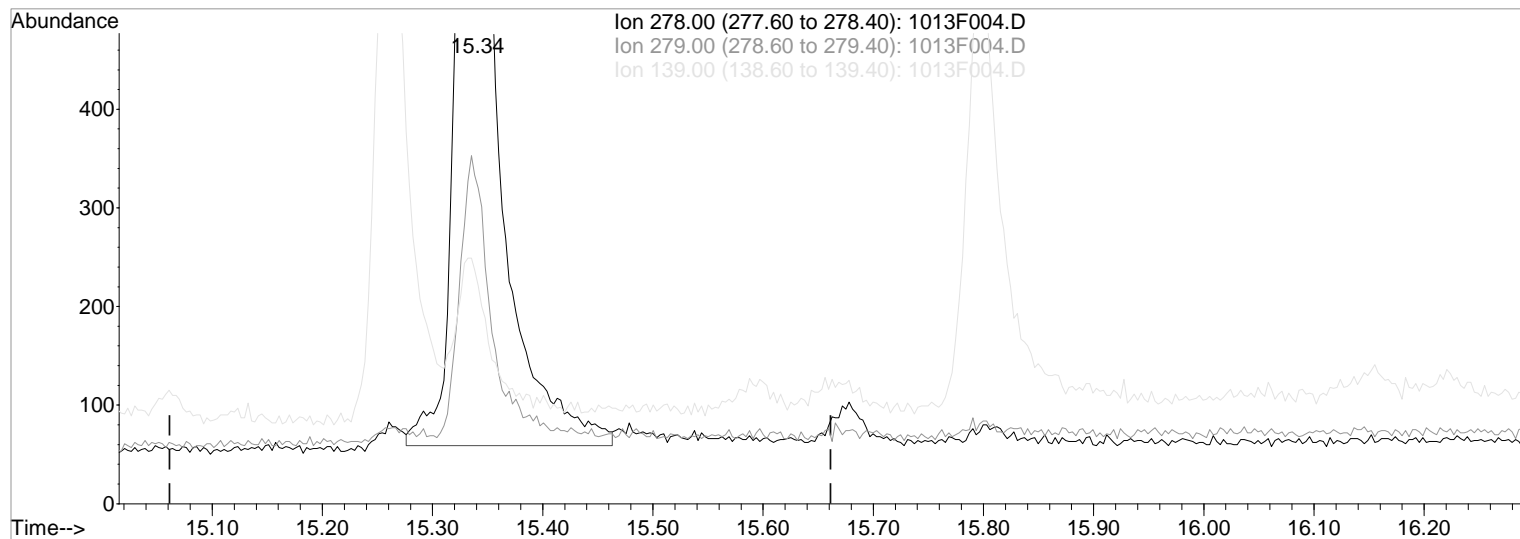
Vial: 4
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:42 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F004.D

(35) Dibenz(a,h)anthracene (T)

Manual Integration:

15.34min 4.98ng/ml m

After

response 2508

BLC

Ion	Exp%	Act%
-----	------	------

10/13/20

278.00	100	100
--------	-----	-----

279.00	24.00	26.92
--------	-------	-------

139.00	12.50	19.16
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\101320\1013F005.D
 Acq On : 13 Oct 2020 7:30 am
 Sample : SIM-PAH ICAL @0.008ug/mL SVM64-75C
 Misc :

Vial: 5
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39:55 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.64	136	69784	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.22	164	35051	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.46	188	68358	200.00	ng/ml	0.00
23) Chrysene-d12	9.95	240	85935	200.00	ng/ml	-0.02
28) Perylene-d12	12.93	264	95169	200.00	ng/ml	-0.06

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.28	152	1541	7.82	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.78%	
13) Fluorene-d10	6.65	176	1661	8.06	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.81%	
22) Fluoranthene-d10	8.45	212	3195	8.84	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.88%	
25) Terphenyl-d14	8.79	244	3258	9.03	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	0.90%	

Target Compounds

						Qvalue
2) Naphthalene	4.66	128	2872	7.82	ng/ml	99
4) 2-Methylnaphthalene	5.31	142	1890	7.81	ng/ml	99
5) 1-Methylnaphthalene	5.40	142	1762	7.86	ng/ml	94
6) Biphenyl	5.73	154	2334	7.95	ng/ml	98
7) 2,6-Dimethylnaphthalene	5.86	156	1680	7.91	ng/ml	93
9) Acenaphthylene	6.09	152	2702	7.70	ng/ml	98
10) Acenaphthene	6.24	154	1631	7.47	ng/ml	96
11) Dibenzofuran	6.39	168	2588	8.17	ng/ml	85
12) 2,3,5-Trimethylnaphthalene	6.57	170	1618	7.73	ng/ml	92
14) Fluorene	6.68	166	1964	7.90	ng/ml	99
16) Dibenzothiophene	7.37	184	2863	7.70	ng/ml	96
17) Phenanthrene	7.47	178	3034m	7.96	ng/ml	
18) Anthracene	7.52	178	2879	8.12	ng/ml	95
19) Carbazole	7.66	167	2890	8.58	ng/ml	100
20) 1-Methylphenanthrene	7.99	192	2285	8.25	ng/ml	97
21) Fluoranthene	8.46	202	4337	10.37	ng/ml	100
24) Pyrene	8.65	202	4810	9.98	ng/ml	76
26) Benz(a)anthracene	9.93	228	4600	8.85	ng/ml	99
27) Chrysene	9.98	228	4613	9.18	ng/ml	99
29) Benzo(b)fluoranthene	11.93	252	5151	9.27	ng/ml	100
30) Benzo(k)fluoranthene	12.00	252	4718	8.55	ng/ml	99
31) Benzo(e)pyrene	12.62	252	4771	8.94	ng/ml	99
32) Benzo(a)pyrene	12.77	252	4950	10.54	ng/ml	99
33) Perylene	13.01	252	4124	8.37	ng/ml	97
34) Indeno(1,2,3-cd)pyrene	15.29	276	4824	11.23	ng/ml	97
35) Dibenz(a,h)anthracene	15.33	278	5083	10.11	ng/ml	99
36) Benzo(g,h,i)perylene	15.67	276	5871	10.88	ng/ml	99

Data File : J:\MS14\DATA\101320\1013F005.D
Acq On : 13 Oct 2020 7:30 am
Sample : SIM-PAH ICAL @0.008ug/mL SVM64-75C
Misc :

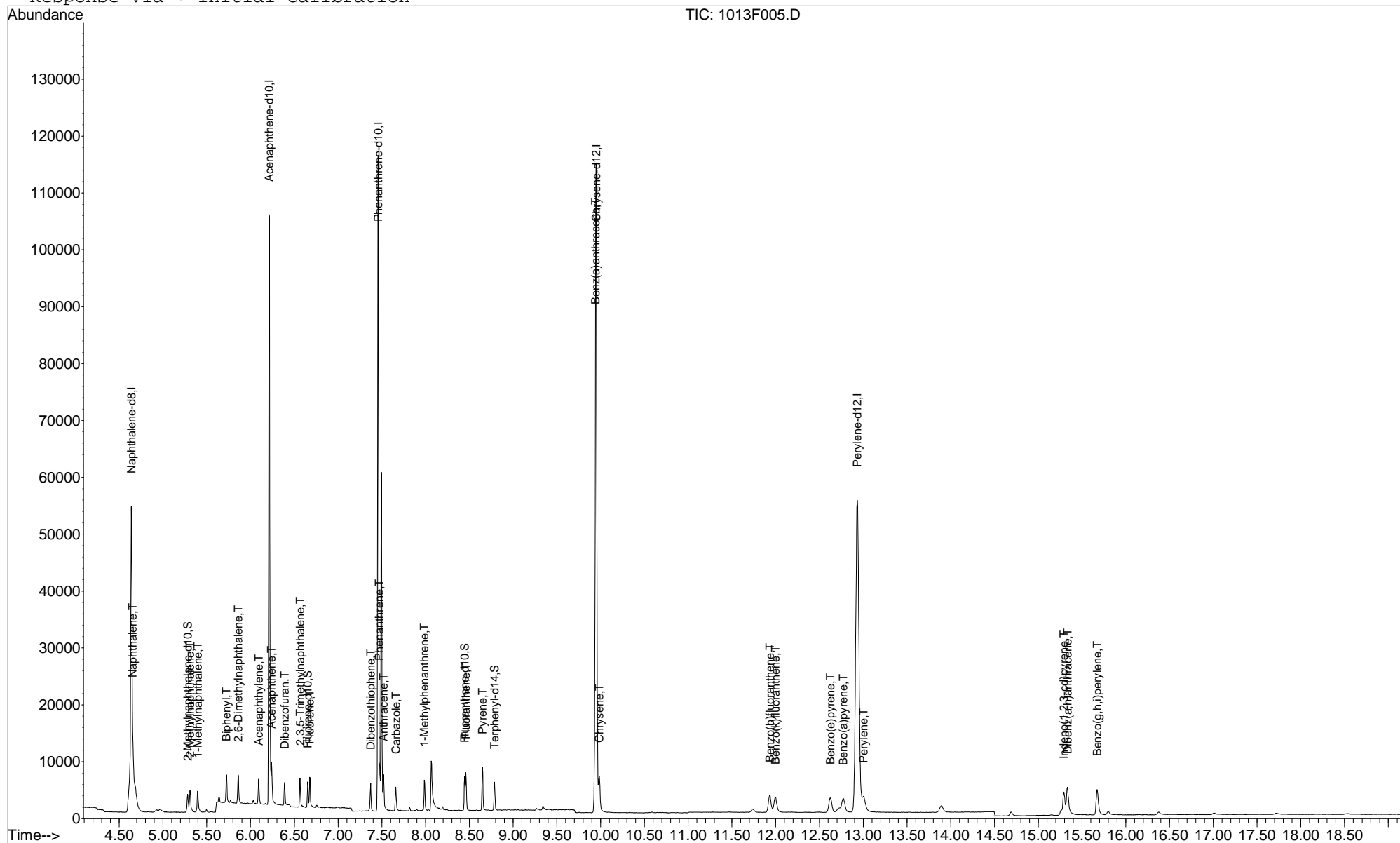
Vial: 5
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:42 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 12:48:30 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\101320\1013F005.D
Acq On : 13 Oct 2020 7:30 am
Sample : SIM-PAH ICAL @0.008ug/mL SVM64-75C
Misc :

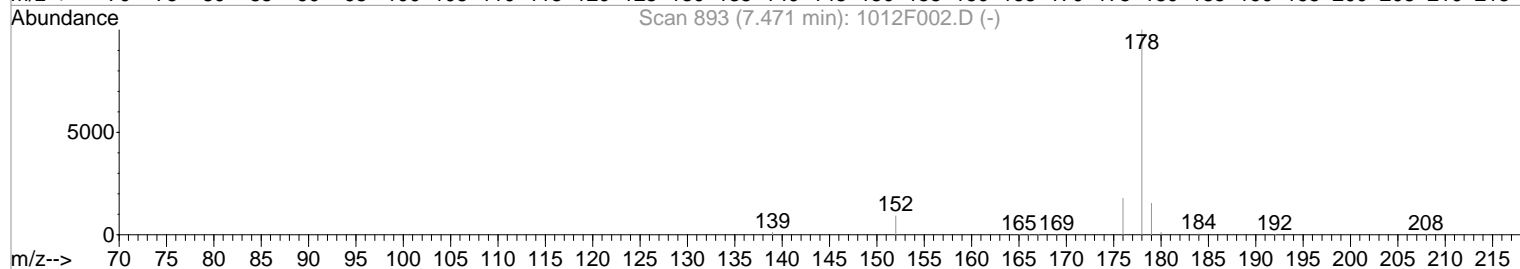
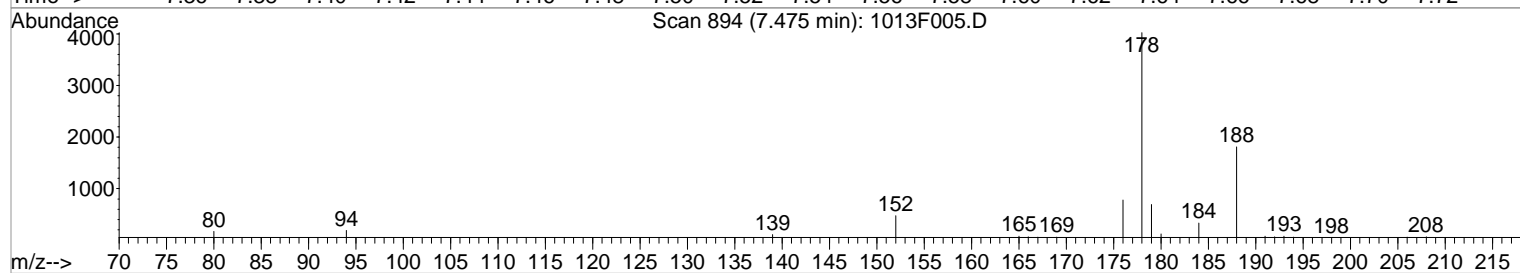
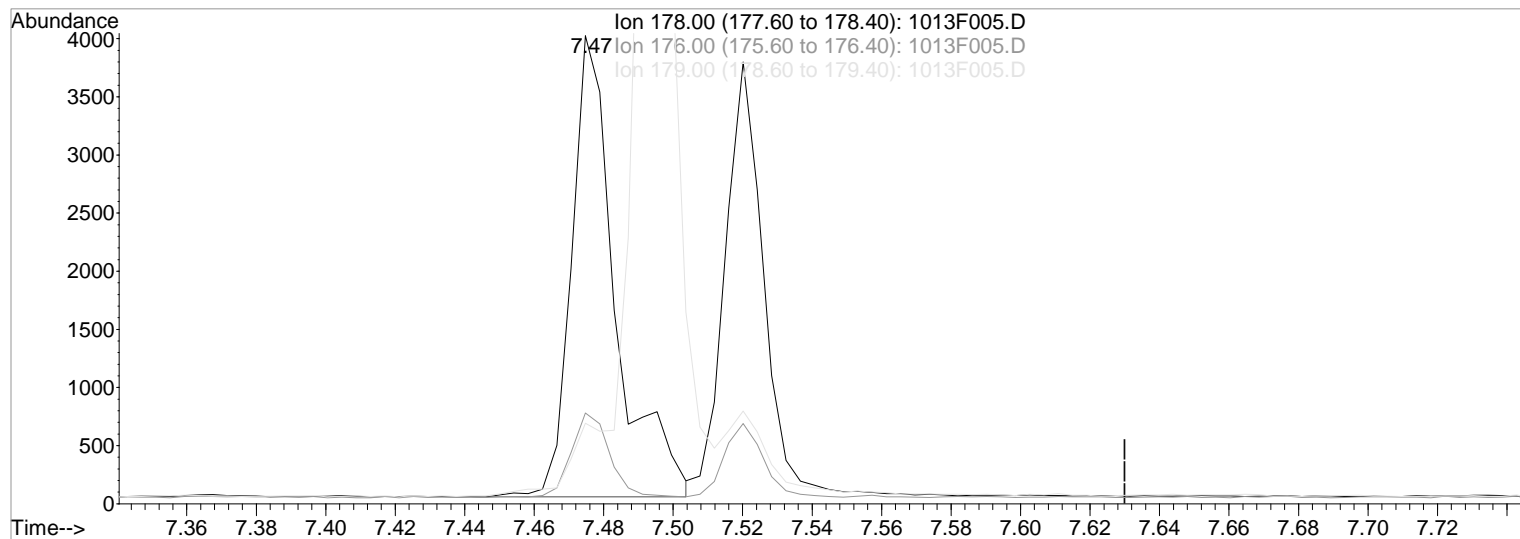
Vial: 5
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F005.D

(17) Phenanthrene (T)

Manual Integration:

7.47min 9.18ng/ml

Before

response 3496

Ion	Exp%	Act%
-----	------	------

10/13/20

178.00	100	100
--------	-----	-----

176.00	18.20	18.36
--------	-------	-------

179.00	15.30	15.89
--------	-------	-------

0.00	0.00	0.00
------	------	------

Data File : J:\MS14\DATA\101320\1013F005.D
 Acq On : 13 Oct 2020 7:30 am
 Sample : SIM-PAH ICAL @0.008ug/mL SVM64-75C
 Misc :

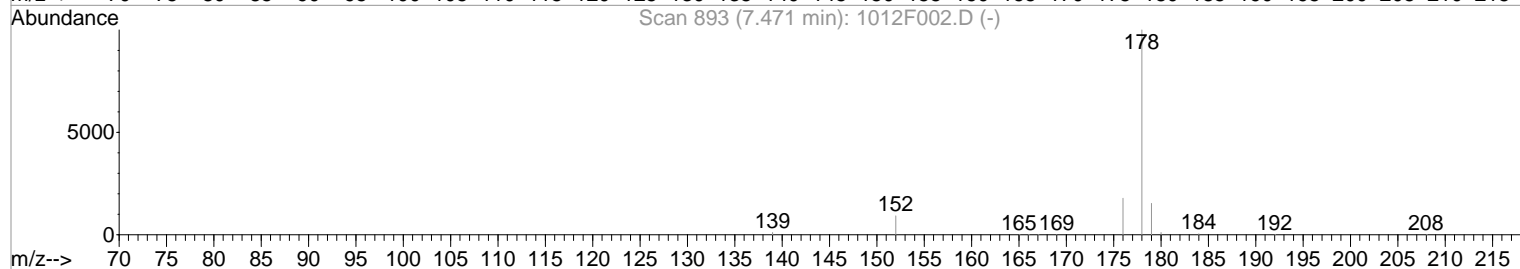
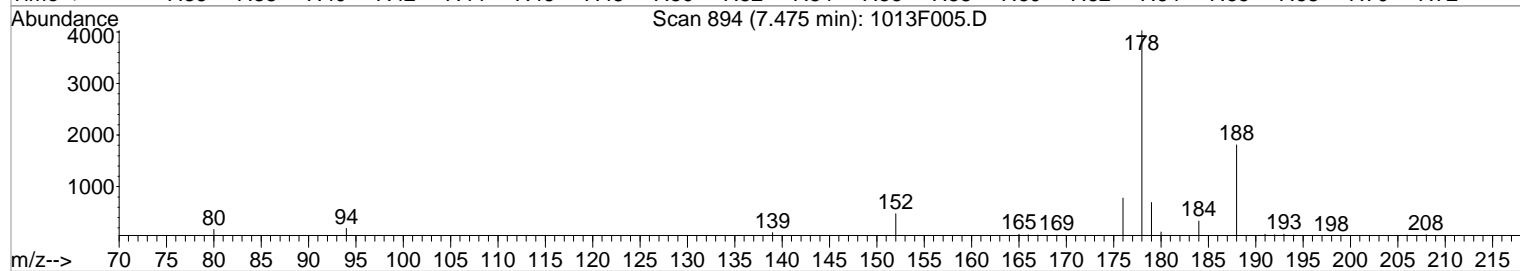
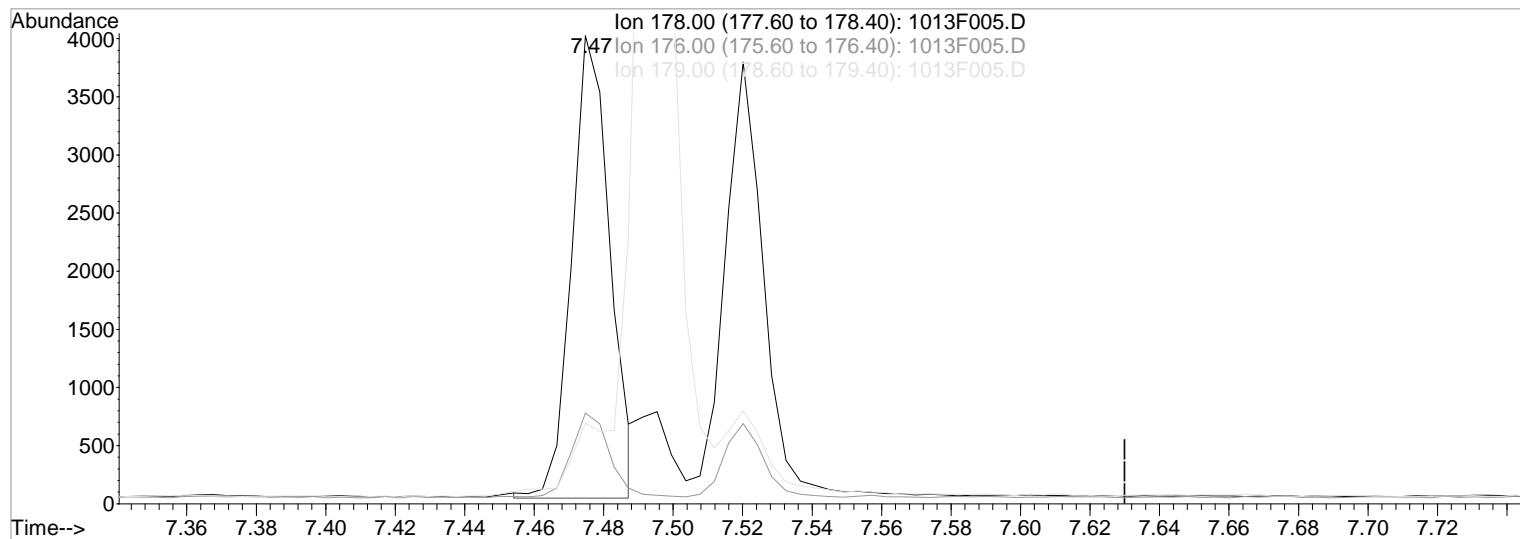
Vial: 5
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:42 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
 Title : PAHS and ALKYLATED HOMOLOGS
 Last Update : Tue Oct 13 06:00:48 2020
 Response via : Multiple Level Calibration



TIC: 1013F005.D

(17) Phenanthrene (T)

7.47min 7.96ng/ml m

response 3034

Ion	Exp%	Act%
178.00	100	100
176.00	18.20	19.40
179.00	15.30	17.19
0.00	0.00	0.00

Manual Integration:

After

IC-Overintegrated

10/13/20

Data File : J:\MS14\DATA\101320\1013F006.D
 Acq On : 13 Oct 2020 7:56 am
 Sample : SIM-PAH ICAL @0.02ug/mL SVM64-75D
 Misc :

Vial: 6
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39:55 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.64	136	68511	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.22	164	34066	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.46	188	65956	200.00	ng/ml	0.00
23) Chrysene-d12	9.95	240	82022	200.00	ng/ml	-0.02
28) Perylene-d12	12.93	264	90685	200.00	ng/ml	-0.06

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.28	152	3943	20.39	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	2.04%	
13) Fluorene-d10	6.65	176	4081	20.36	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	2.04%	
22) Fluoranthene-d10	8.45	212	7528	21.60	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	2.16%	
25) Terphenyl-d14	8.79	244	7375	21.42	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	2.14%	

Target Compounds

						Qvalue
2) Naphthalene	4.66	128	7316	20.30	ng/ml	99
4) 2-Methylnaphthalene	5.31	142	4882	20.54	ng/ml	97
5) 1-Methylnaphthalene	5.40	142	4543	20.65	ng/ml	97
6) Biphenyl	5.72	154	5956	20.66	ng/ml	98
7) 2,6-Dimethylnaphthalene	5.86	156	4218	20.23	ng/ml	93
9) Acenaphthylene	6.09	152	6821	19.99	ng/ml	99
10) Acenaphthene	6.24	154	4291	20.22	ng/ml	99
11) Dibenzofuran	6.39	168	6122	19.89	ng/ml	93
12) 2,3,5-Trimethylnaphthalene	6.57	170	4076	20.03	ng/ml	91
14) Fluorene	6.68	166	5018	20.76	ng/ml	99
16) Dibenzothiophene	7.37	184	7014	19.54	ng/ml	97
17) Phenanthrene	7.47	178	7386	20.09	ng/ml	99
18) Anthracene	7.52	178	7076	20.69	ng/ml	100
19) Carbazole	7.66	167	6671	20.53	ng/ml	99
20) 1-Methylphenanthrene	7.99	192	5445	20.37	ng/ml	99
21) Fluoranthene	8.46	202	8852	21.94	ng/ml	97
24) Pyrene	8.65	202	9841	21.40	ng/ml	87
26) Benz(a)anthracene	9.93	228	9741	19.64	ng/ml	99
27) Chrysene	9.98	228	9571	19.96	ng/ml	100
29) Benzo(b)fluoranthene	11.93	252	10421	19.69	ng/ml	100
30) Benzo(k)fluoranthene	12.00	252	10308	19.60	ng/ml	99
31) Benzo(e)pyrene	12.62	252	9905	19.47	ng/ml	99
32) Benzo(a)pyrene	12.77	252	10402	23.25	ng/ml	99
33) Perylene	13.01	252	9444	20.12	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.29	276	10368	25.32	ng/ml	97
35) Dibenz(a,h)anthracene	15.33	278	12158	25.37	ng/ml	99
36) Benzo(g,h,i)perylene	15.67	276	12058	23.45	ng/ml	100

Data File : J:\MS14\DATA\101320\1013F006.D

Acq On : 13 Oct 2020 7:56 am

Sample : SIM-PAH ICAL @0.02ug/mL SVM64-75D

Misc :

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39 2020

Vial: 6

Operator: LWeiskopf

Inst : MS14

Multiplr: 1.00

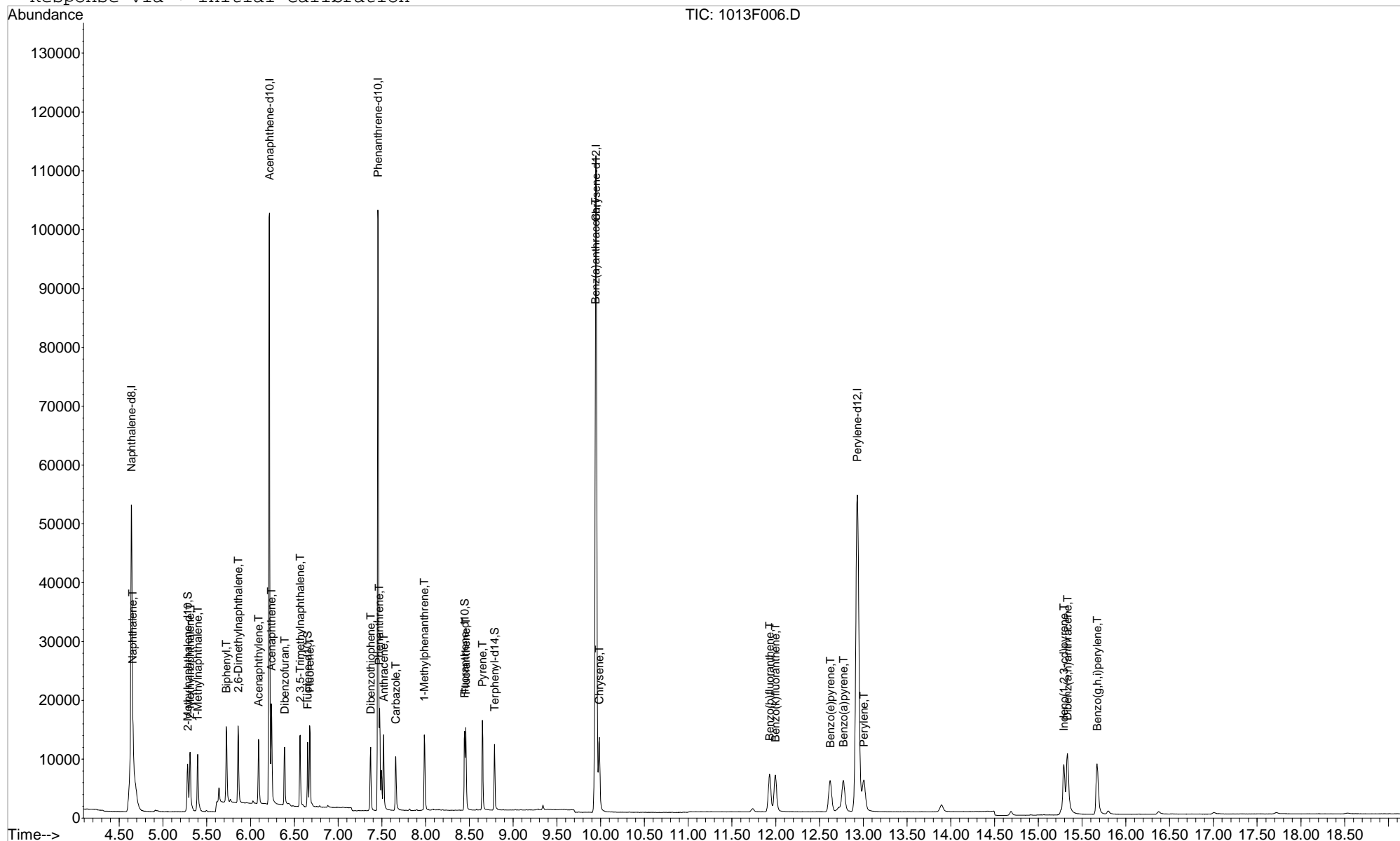
Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 12:48:30 2020

Response via : Initial Calibration



Data File : J:\MS14\DATA\101320\1013F007.D
 Acq On : 13 Oct 2020 8:23 am
 Sample : SIM-PAH ICAL @0.1ug/mL SVM64-75E
 Misc :

Vial: 7
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P
 Quant Time: Oct 13 12:39:56 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.64	136	69505	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.21	164	32914	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.45	188	64261	200.00	ng/ml	0.00
23) Chrysene-d12	9.95	240	82225	200.00	ng/ml	-0.02
28) Perylene-d12	12.93	264	90462	200.00	ng/ml	-0.06

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.28	152	19822	101.03	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	10.10%	
13) Fluorene-d10	6.65	176	20017	103.38	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	10.34%	
22) Fluoranthene-d10	8.44	212	38836	114.37	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	11.44%	
25) Terphenyl-d14	8.79	244	37599	108.93	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	10.89%	

Target Compounds

						Qvalue
2) Naphthalene	4.66	128	36550	99.96	ng/ml	100
4) 2-Methylnaphthalene	5.31	142	24218	100.41	ng/ml	99
5) 1-Methylnaphthalene	5.40	142	22387	100.31	ng/ml	95
6) Biphenyl	5.72	154	28937	98.92	ng/ml	98
7) 2,6-Dimethylnaphthalene	5.86	156	21025	99.38	ng/ml	95
9) Acenaphthylene	6.09	152	34310	104.08	ng/ml	99
10) Acenaphthene	6.24	154	21344	104.07	ng/ml	100
11) Dibenzofuran	6.39	168	32646	109.75	ng/ml	94
12) 2,3,5-Trimethylnaphthalene	6.57	170	20649	105.01	ng/ml	89
14) Fluorene	6.68	166	24968	106.92	ng/ml	100
16) Dibenzothiophene	7.37	184	35406	101.24	ng/ml	100
17) Phenanthrene	7.47	178	37371	104.34	ng/ml	99
18) Anthracene	7.52	178	35237	105.74	ng/ml	99
19) Carbazole	7.66	167	34233	108.11	ng/ml	99
20) 1-Methylphenanthrene	7.99	192	28163	108.16	ng/ml	100
21) Fluoranthene	8.46	202	46237	117.65	ng/ml	95
24) Pyrene	8.65	202	49088	106.49	ng/ml	97
26) Benz(a)anthracene	9.93	228	49336	99.24	ng/ml	100
27) Chrysene	9.98	228	48420	100.75	ng/ml	100
29) Benzo(b)fluoranthene	11.93	252	55844	105.77	ng/ml	100
30) Benzo(k)fluoranthene	11.99	252	55339	105.47	ng/ml	99
31) Benzo(e)pyrene	12.62	252	51137	100.77	ng/ml	99
32) Benzo(a)pyrene	12.77	252	53407	119.65	ng/ml	99
33) Perylene	13.01	252	49343	105.40	ng/ml	100
34) Indeno(1,2,3-cd)pyrene	15.29	276	53653	131.37	ng/ml	98
35) Dibenz(a,h)anthracene	15.33	278	58086	121.52	ng/ml	98
36) Benzo(g,h,i)perylene	15.67	276	60723	118.36	ng/ml	100

Data File : J:\MS14\DATA\101320\1013F007.D
Acq On : 13 Oct 2020 8:23 am
Sample : SIM-PAH ICAL @0.1ug/mL SVM64-75E
Misc :

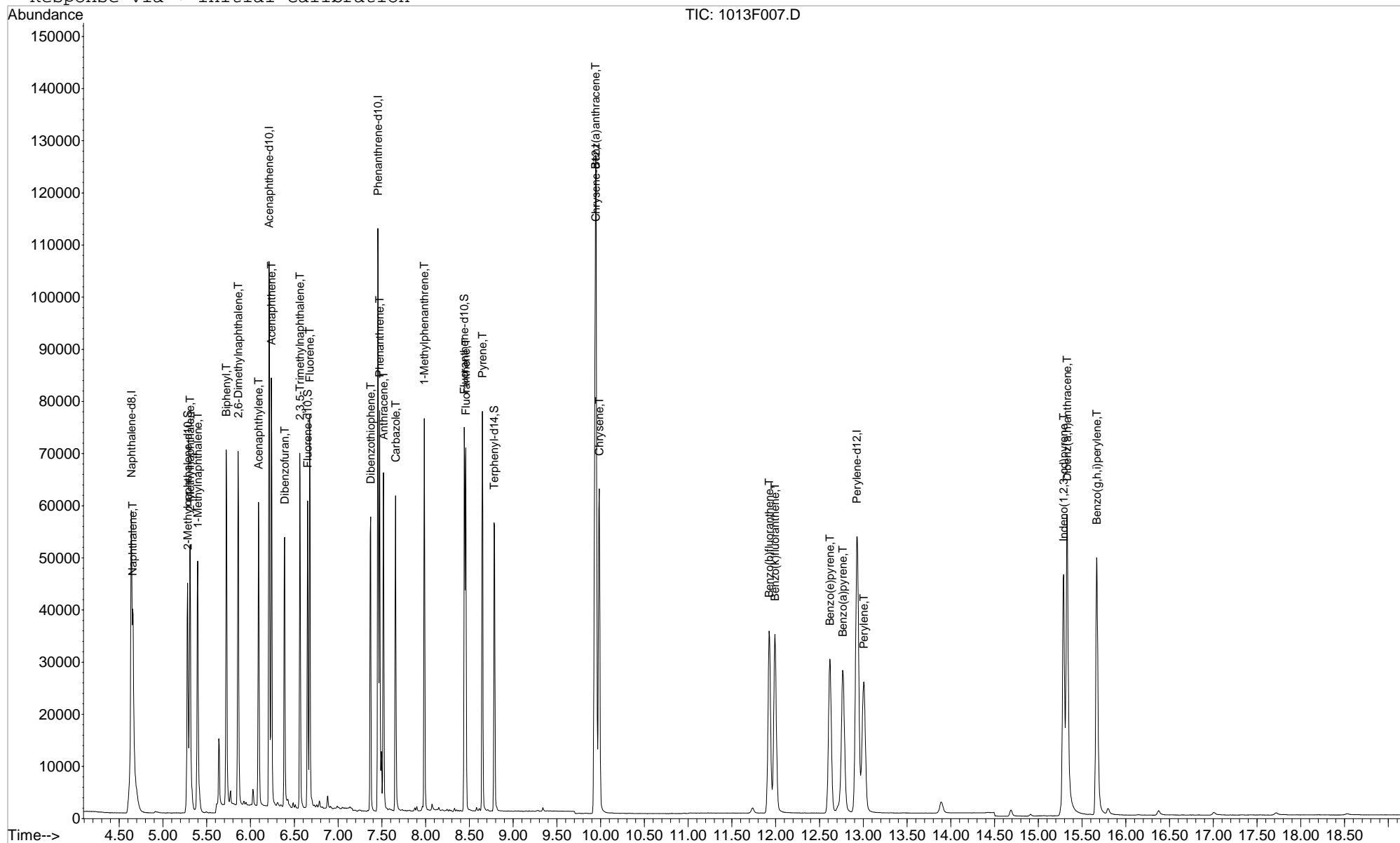
Vial: 7
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 12:48:30 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\101320\1013F008.D
 Acq On : 13 Oct 2020 8:49 am
 Sample : SIM-PAH ICAL @0.2ug/mL SVM64-75F
 Misc :

Vial: 8
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P
 Quant Time: Oct 13 12:39:57 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.64	136	67197	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.21	164	31513	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.45	188	61943	200.00	ng/ml	0.00
23) Chrysene-d12	9.94	240	79662	200.00	ng/ml	-0.03
28) Perylene-d12	12.93	264	87220	200.00	ng/ml	-0.06

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.28	152	36982	194.96	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	19.50%	
13) Fluorene-d10	6.65	176	37897	204.42	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	20.44%	
22) Fluoranthene-d10	8.44	212	74824	228.59	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	22.86%	
25) Terphenyl-d14	8.78	244	70598	211.11	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	21.11%	

Target Compounds

						Qvalue
2) Naphthalene	4.66	128	68200	192.92	ng/ml	100
4) 2-Methylnaphthalene	5.31	142	45018	193.07	ng/ml	98
5) 1-Methylnaphthalene	5.40	142	41073	190.35	ng/ml	97
6) Biphenyl	5.72	154	53784	190.18	ng/ml	99
7) 2,6-Dimethylnaphthalene	5.86	156	39305	192.16	ng/ml	95
9) Acenaphthylene	6.09	152	64836	205.43	ng/ml	100
10) Acenaphthene	6.24	154	39867	203.03	ng/ml	99
11) Dibenzofuran	6.39	168	61607	216.32	ng/ml	95
12) 2,3,5-Trimethylnaphthalene	6.56	170	39034	207.33	ng/ml	96
14) Fluorene	6.68	166	46870	209.62	ng/ml	99
16) Dibenzothiophene	7.37	184	67495	200.22	ng/ml	91
17) Phenanthrene	7.47	178	69748	202.02	ng/ml	99
18) Anthracene	7.52	178	67258	209.38	ng/ml	100
19) Carbazole	7.66	167	64884	212.58	ng/ml	99
20) 1-Methylphenanthrene	7.99	192	53884	214.69	ng/ml	100
21) Fluoranthene	8.46	202	86420	228.12	ng/ml	99
24) Pyrene	8.65	202	92660	207.48	ng/ml	100
26) Benz(a)anthracene	9.93	228	95503	198.29	ng/ml	100
27) Chrysene	9.98	228	91649	196.83	ng/ml	99
29) Benzo(b)fluoranthene	11.93	252	107874	211.92	ng/ml	100
30) Benzo(k)fluoranthene	11.99	252	106720	210.95	ng/ml	100
31) Benzo(e)pyrene	12.62	252	98508	201.33	ng/ml	99
32) Benzo(a)pyrene	12.77	252	100524	233.58	ng/ml	100
33) Perylene	13.00	252	94672	209.74	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.29	276	103615	263.13	ng/ml	98
35) Dibenz(a,h)anthracene	15.33	278	110030	238.75	ng/ml	98
36) Benzo(g,h,i)perylene	15.67	276	114397	231.27	ng/ml	99

Data File : J:\MS14\DATA\101320\1013F008.D
Acq On : 13 Oct 2020 8:49 am
Sample : SIM-PAH ICAL @0.2ug/mL SVM64-75F
Misc :

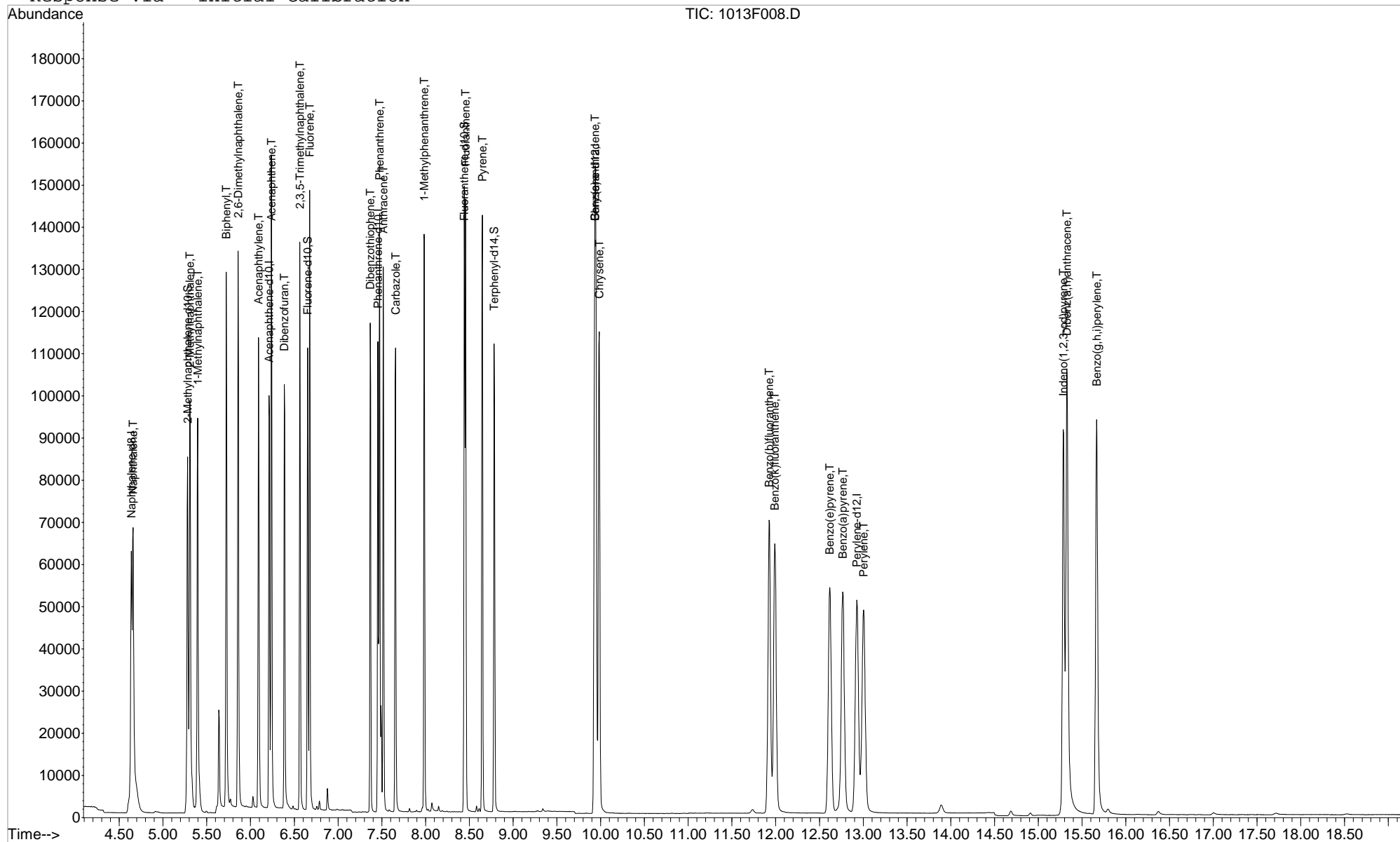
Vial: 8
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 12:48:30 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\101320\1013F009.D
 Acq On : 13 Oct 2020 10:31 am
 Sample : SIM-PAH ICAL @0.4ug/mL SVM64-75G
 Misc :

Vial: 9
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P
 Quant Time: Oct 13 12:39:57 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	76088m	200.00	ng/ml	-0.01
8) Acenaphthene-d10	6.21	164	32630	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.45	188	64180	200.00	ng/ml	0.00
23) Chrysene-d12	9.95	240	81528	200.00	ng/ml	-0.02
28) Perylene-d12	12.94	264	89618	200.00	ng/ml	-0.06

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.28	152	76881	357.94	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	35.79%	
13) Fluorene-d10	6.65	176	74968	390.54	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	39.05%	
22) Fluoranthene-d10	8.44	212	154057	454.25	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	45.42%	
25) Terphenyl-d14	8.79	244	142086	415.15	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	41.51%	

Target Compounds

						Qvalue
2) Naphthalene	4.65	128	147037m	367.33	ng/ml	
4) 2-Methylnaphthalene	5.31	142	90838	344.05	ng/ml	98
5) 1-Methylnaphthalene	5.40	142	82530	337.79	ng/ml	98
6) Biphenyl	5.72	154	107342	335.21	ng/ml	100
7) 2,6-Dimethylnaphthalene	5.86	156	78527	339.05	ng/ml	98
9) Acenaphthylene	6.09	152	127900	391.38	ng/ml	100
10) Acenaphthene	6.24	154	78684	387.00	ng/ml	98
11) Dibenzofuran	6.39	168	114626	388.71	ng/ml	76
12) 2,3,5-Trimethylnaphthalene	6.56	170	77381	396.95	ng/ml	98
14) Fluorene	6.68	166	91315	394.42	ng/ml	98
16) Dibenzothiophene	7.37	184	135239	387.20	ng/ml	92
17) Phenanthrene	7.47	178	138322	386.68	ng/ml	99
18) Anthracene	7.52	178	132804	399.02	ng/ml	100
19) Carbazole	7.66	167	129907	410.79	ng/ml	99
20) 1-Methylphenanthrene	7.99	192	109230	420.03	ng/ml	100
21) Fluoranthene	8.46	202	174131	443.62	ng/ml	94
24) Pyrene	8.65	202	188708	412.87	ng/ml	100
26) Benz(a)anthracene	9.93	228	193328	392.21	ng/ml	100
27) Chrysene	9.98	228	181697	381.29	ng/ml	100
29) Benzo(b)fluoranthene	11.93	252	220842	422.23	ng/ml	99
30) Benzo(k)fluoranthene	12.00	252	213031	409.83	ng/ml	99
31) Benzo(e)pyrene	12.62	252	201071	399.95	ng/ml	99
32) Benzo(a)pyrene	12.77	252	201157	454.91	ng/ml	99
33) Perylene	13.01	252	191248	412.36	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.29	276	204742	506.03	ng/ml	98
35) Dibenz(a,h)anthracene	15.33	278	212887	449.58	ng/ml	98
36) Benzo(g,h,i)perylene	15.67	276	222637	438.06	ng/ml	99

Data File : J:\MS14\DATA\101320\1013F009.D
Acq On : 13 Oct 2020 10:31 am
Sample : SIM-PAH ICAL @0.4ug/mL SVM64-75G
Misc :

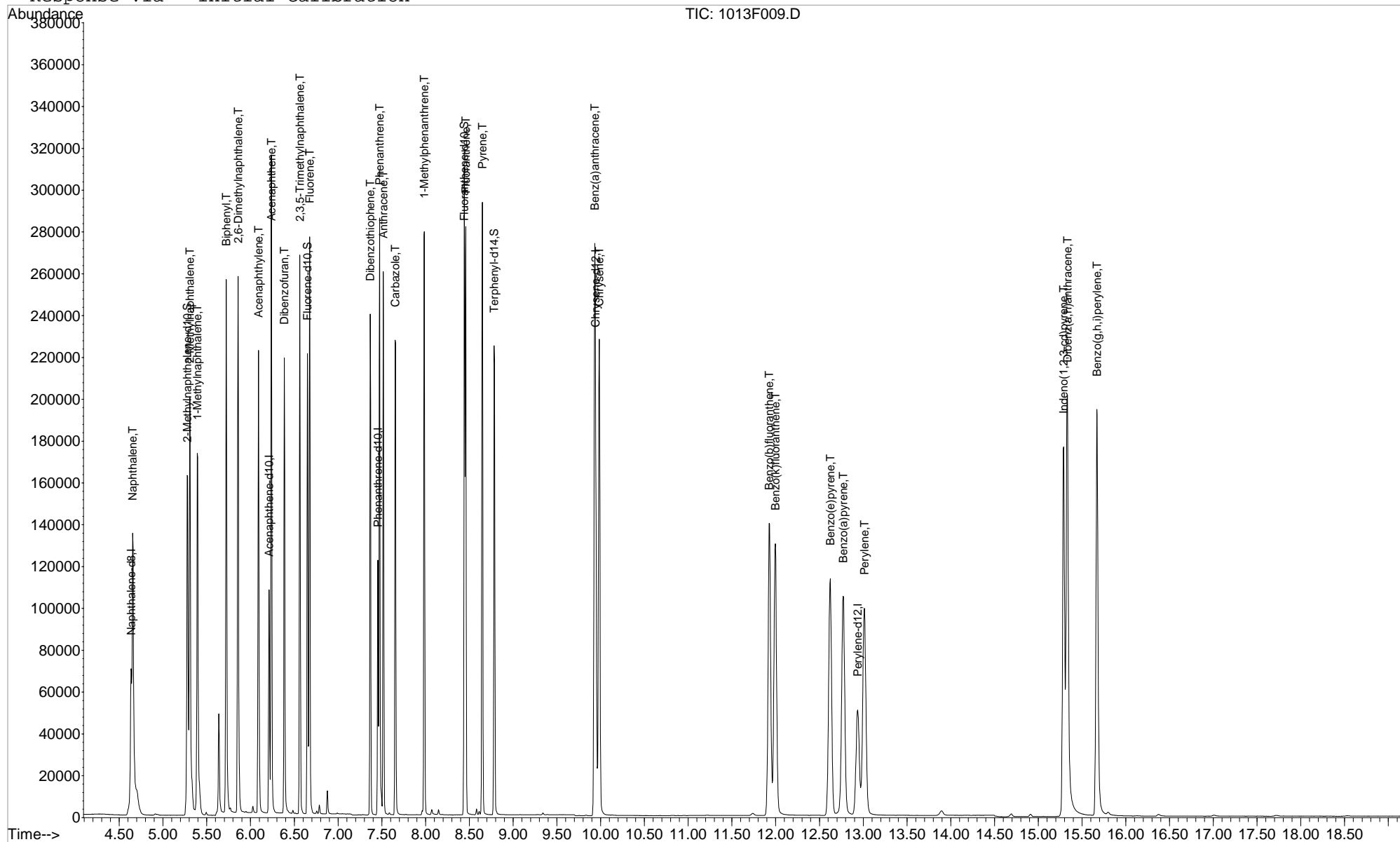
Vial: 9
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:44 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 12:48:30 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\101320\1013F009.D
Acq On : 13 Oct 2020 10:31 am
Sample : SIM-PAH ICAL @0.4ug/mL SVM64-75G
Misc :

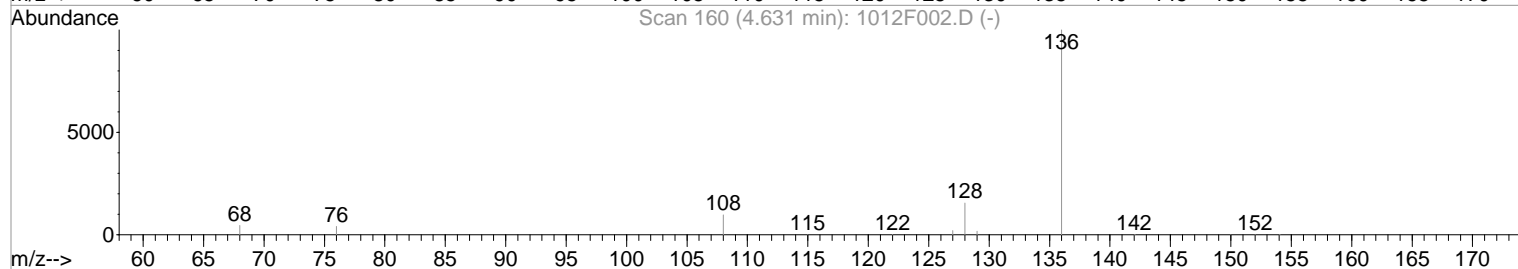
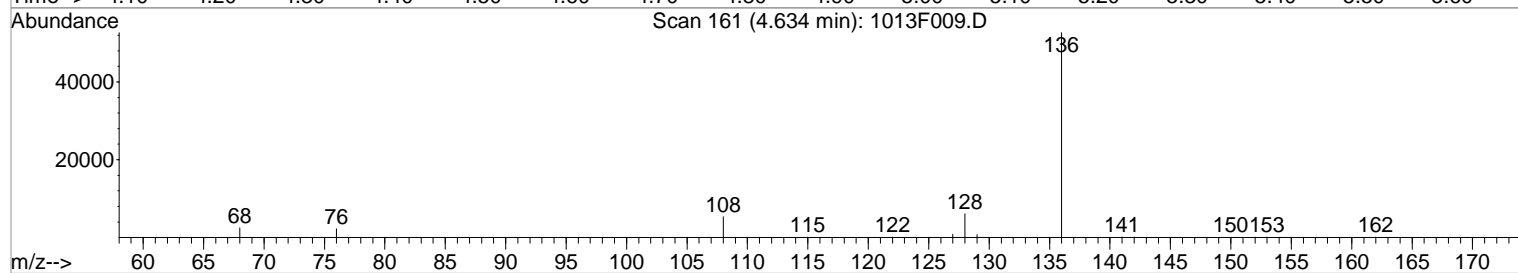
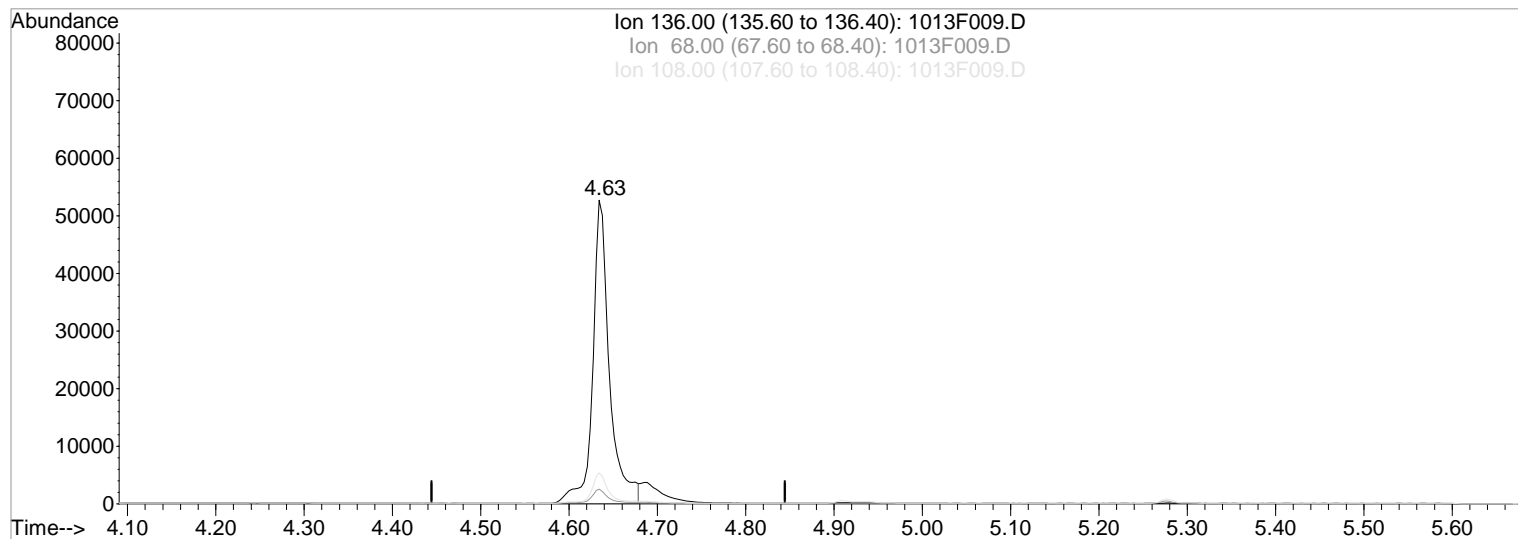
Vial: 9
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F009.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.63min 200.00ng/ml

Before

response 69542

Ion	Exp%	Act%
136.00	100	100
68.00	5.10	4.60
108.00	8.80	10.09
0.00	0.00	0.00

10/13/20

Data File : J:\MS14\DATA\101320\1013F009.D
Acq On : 13 Oct 2020 10:31 am
Sample : SIM-PAH ICAL @0.4ug/mL SVM64-75G
Misc :

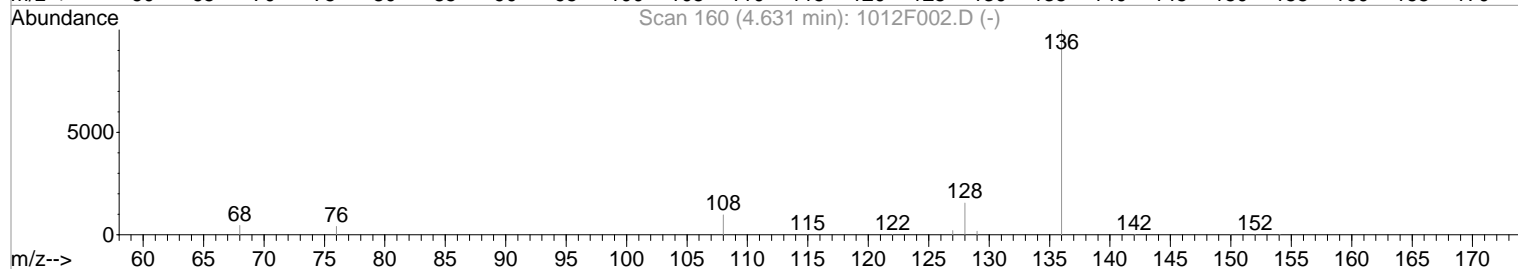
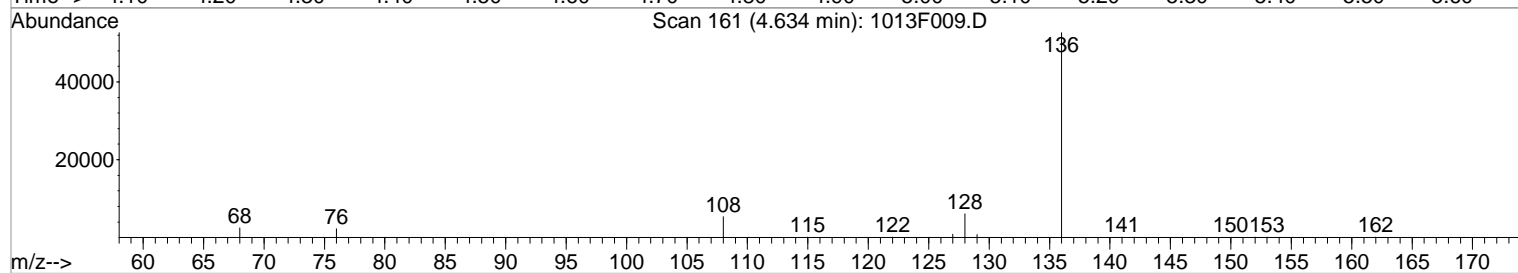
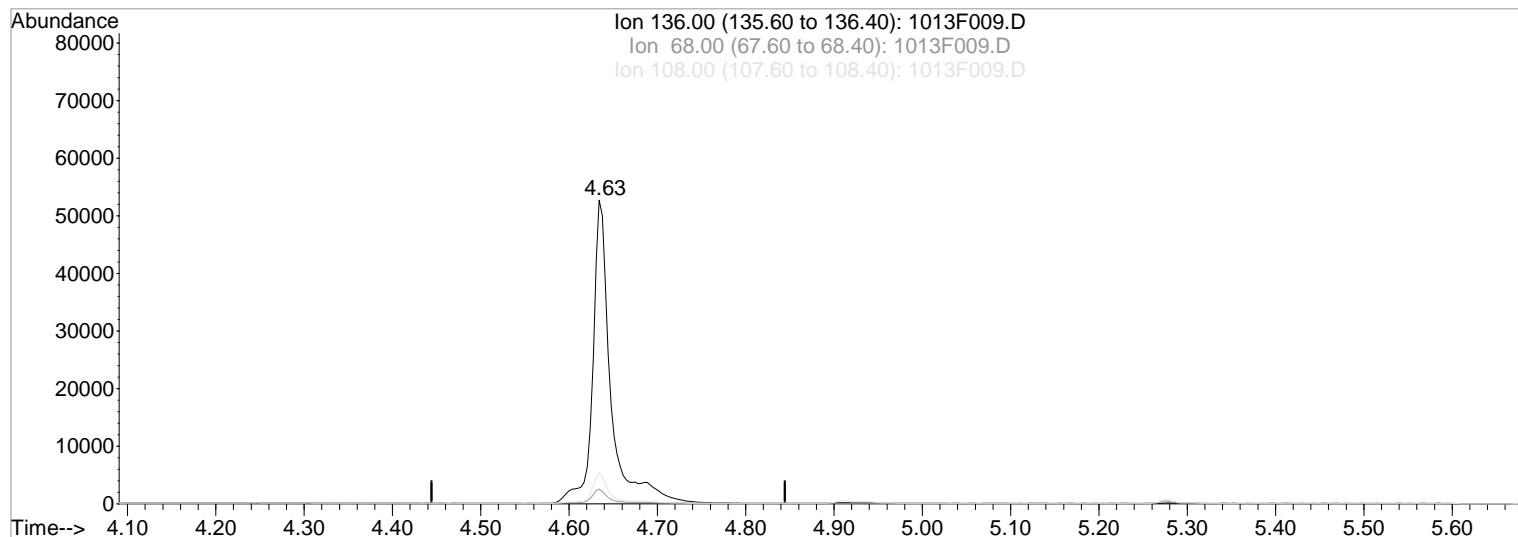
Vial: 9
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:44 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F009.D

(1) Naphthalene-d8 (I)

4.63min 200.00ng/ml m

response 76088

Ion	Exp%	Act%
136.00	100	100
68.00	5.10	4.77
108.00	8.80	10.21
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

10/13/20

Data File : J:\MS14\DATA\101320\1013F009.D
Acq On : 13 Oct 2020 10:31 am
Sample : SIM-PAH ICAL @0.4ug/mL SVM64-75G
Misc :

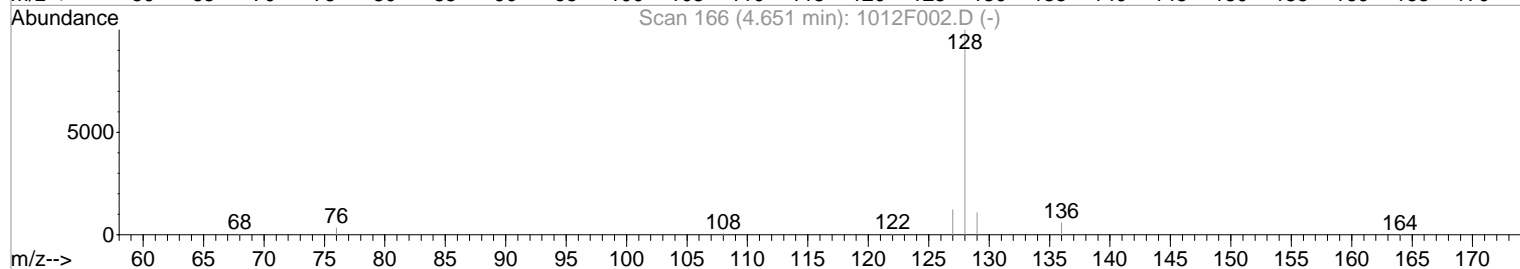
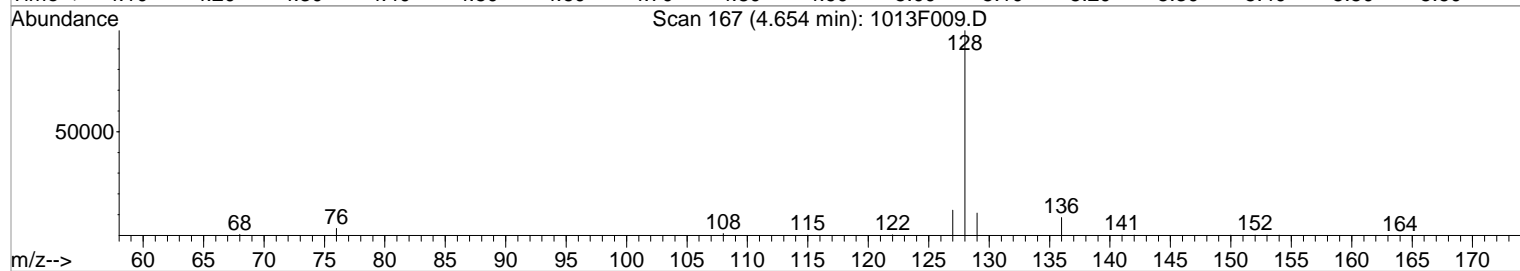
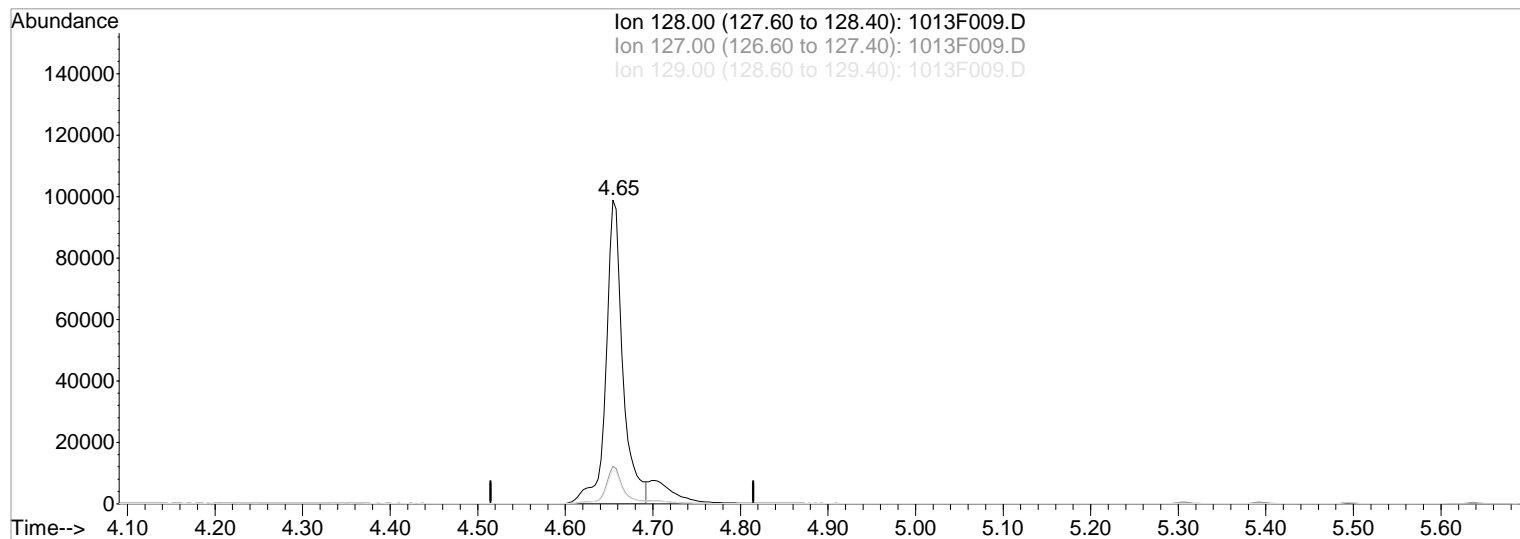
Vial: 9
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:44 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F009.D

(2) Naphthalene (T)

Manual Integration:

4.65min 328.75ng/ml

Before

response 131594

10/13/20

Ion	Exp%	Act%
128.00	100	100
127.00	12.30	12.23
129.00	11.00	10.87
0.00	0.00	0.00

Data File : J:\MS14\DATA\101320\1013F009.D
Acq On : 13 Oct 2020 10:31 am
Sample : SIM-PAH ICAL @0.4ug/mL SVM64-75G
Misc :

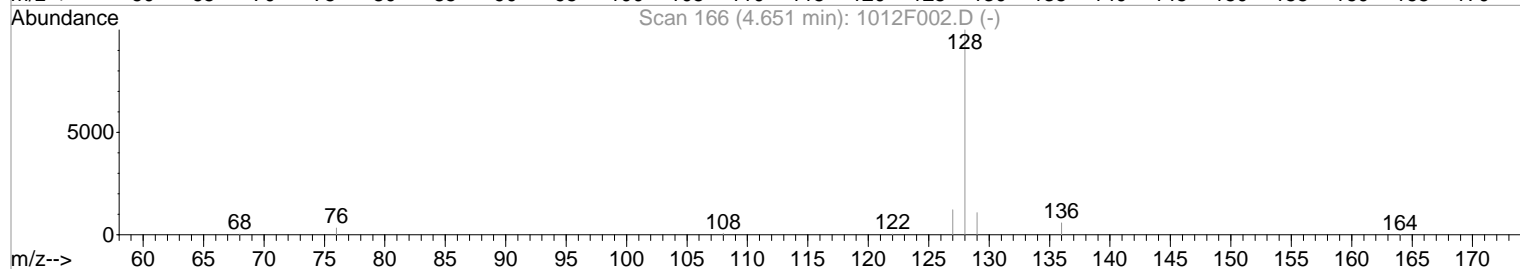
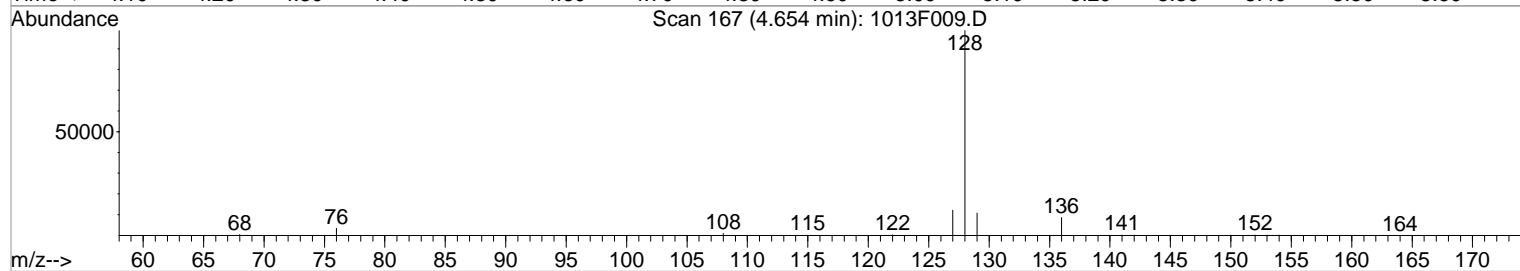
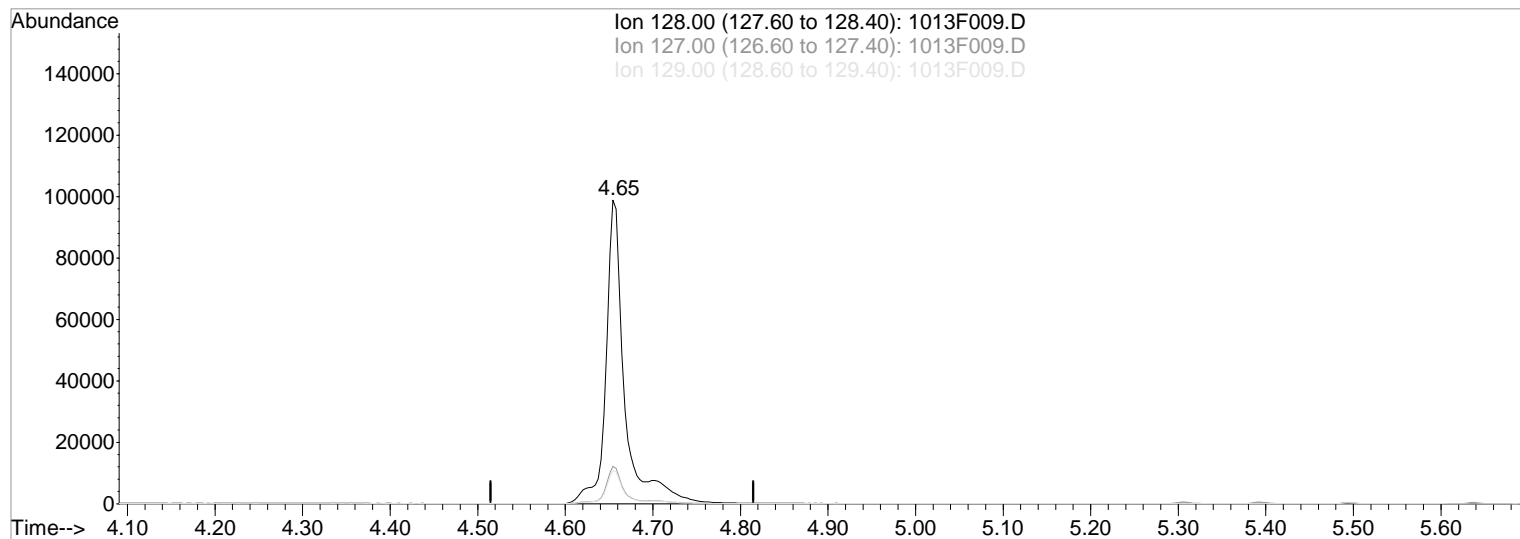
Vial: 9
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:44 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F009.D

(2) Naphthalene (T)

4.65min 367.33ng/ml m

response 147037

Ion	Exp%	Act%
128.00	100	100
127.00	12.30	12.29
129.00	11.00	10.95
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

10/13/20

Data File : J:\MS14\DATA\101320\1013F010.D
 Acq On : 13 Oct 2020 10:57 am
 Sample : SIM-PAH ICAL @1.0ug/mL SVM64-75H
 Misc :

Vial: 10
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39:58 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	68031m	200.00	ng/ml	-0.01
8) Acenaphthene-d10	6.21	164	30991	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.46	188	59381	200.00	ng/ml	0.00
23) Chrysene-d12	9.95	240	76674	200.00	ng/ml	-0.02
28) Perylene-d12	12.93	264	88047	200.00	ng/ml	-0.06
System Monitoring Compounds						
3) 2-Methylnaphthalene-d10	5.28	152	173464	903.26	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	90.33%	
13) Fluorene-d10	6.65	176	175839	964.47	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	96.45%	
22) Fluoranthene-d10	8.44	212	361664	1152.57	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	115.26%	
25) Terphenyl-d14	8.78	244	332386	1032.66	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	103.27%	
Target Compounds						
2) Naphthalene	4.65	128	324335	906.22	ng/ml	Qvalue 100
4) 2-Methylnaphthalene	5.31	142	201000	851.45	ng/ml	98
5) 1-Methylnaphthalene	5.39	142	188761	864.10	ng/ml	96
6) Biphenyl	5.72	154	248910	869.35	ng/ml	99
7) 2,6-Dimethylnaphthalene	5.86	156	184695	891.89	ng/ml	99
9) Acenaphthylene	6.09	152	304449	980.90	ng/ml	99
10) Acenaphthene	6.24	154	185716	961.75	ng/ml	97
11) Dibenzofuran	6.39	168	292154	1043.13	ng/ml	72
12) 2,3,5-Trimethylnaphthalene	6.56	170	182407	985.19	ng/ml	95
14) Fluorene	6.68	166	211114	960.10	ng/ml	98
16) Dibenzothiophene	7.37	184	316798	980.33	ng/ml	99
17) Phenanthrene	7.47	178	315833	954.27	ng/ml	100
18) Anthracene	7.52	178	304269	988.09	ng/ml	99
19) Carbazole	7.65	167	303946	1038.80	ng/ml	99
20) 1-Methylphenanthrene	7.98	192	253328	1052.86	ng/ml	99
21) Fluoranthene	8.46	202	394189	1085.41	ng/ml	99
24) Pyrene	8.65	202	441040	1026.04	ng/ml	95
26) Benz(a)anthracene	9.93	228	468757	1011.19	ng/ml	100
27) Chrysene	9.98	228	434795	970.18	ng/ml	100
29) Benzo(b)fluoranthene	11.93	252	536216	1043.50	ng/ml	99
30) Benzo(k)fluoranthene	12.00	252	508542	995.80	ng/ml	99
31) Benzo(e)pyrene	12.63	252	493010	998.13	ng/ml	99
32) Benzo(a)pyrene	12.78	252	483659	1113.31	ng/ml	99
33) Perylene	13.01	252	475335	1043.19	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.29	276	484877	1219.79	ng/ml	98
35) Dibenz(a,h)anthracene	15.33	278	527363	1133.56	ng/ml	98
36) Benzo(g,h,i)perylene	15.67	276	525306	1052.02	ng/ml	99

Data File : J:\MS14\DATA\101320\1013F010.D
Acq On : 13 Oct 2020 10:57 am
Sample : SIM-PAH ICAL @1.0ug/mL SVM64-75H
Misc :

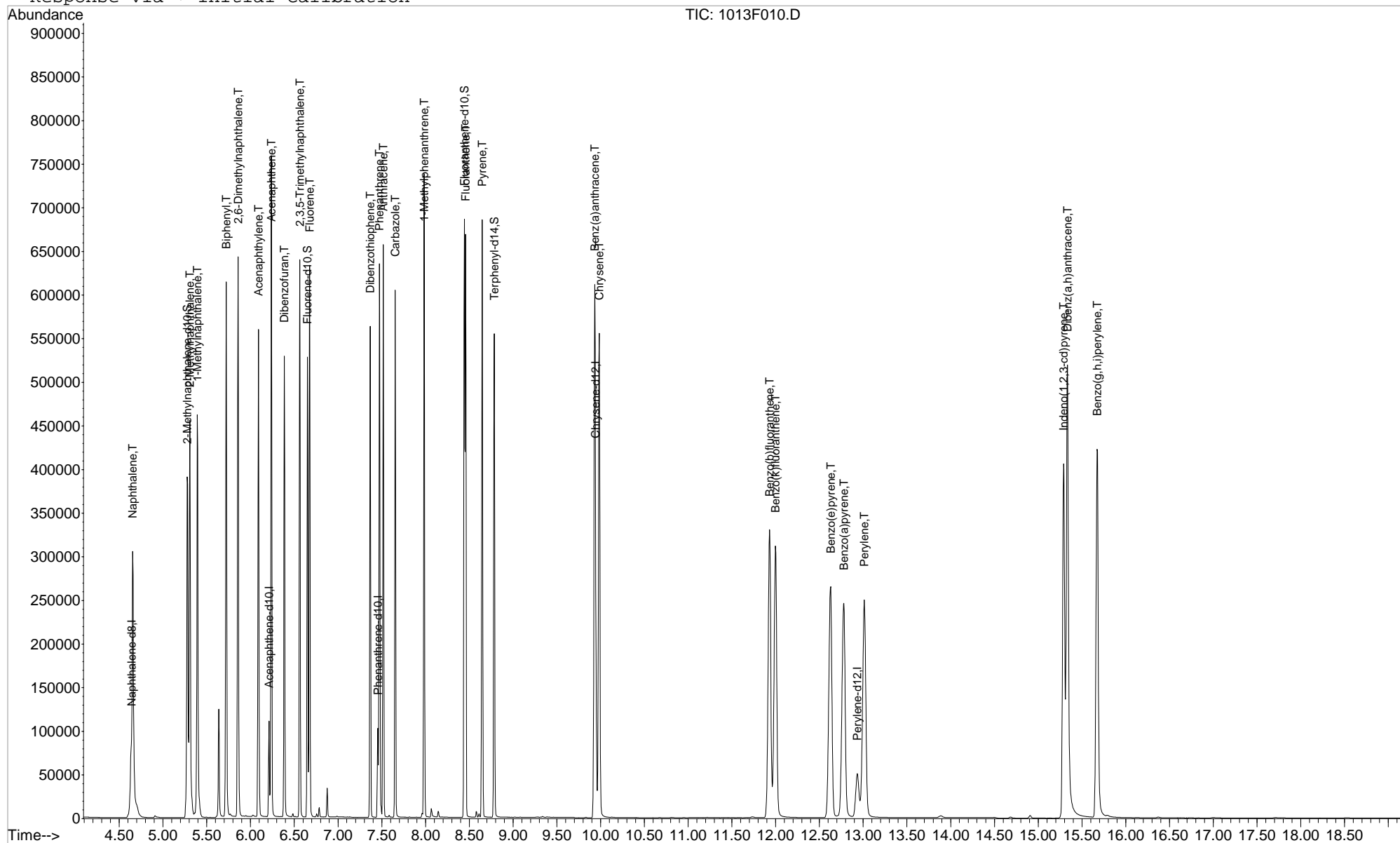
Vial: 10
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:45 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 12:48:30 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\101320\1013F010.D
Acq On : 13 Oct 2020 10:57 am
Sample : SIM-PAH ICAL @1.0ug/mL SVM64-75H
Misc :

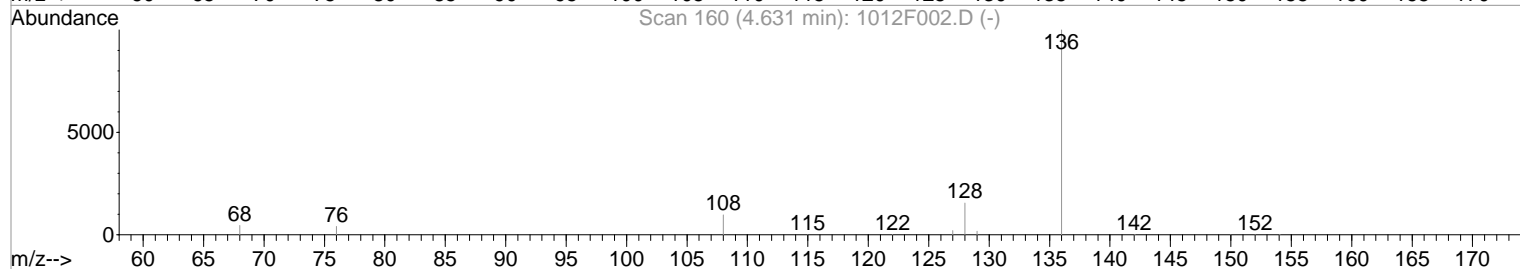
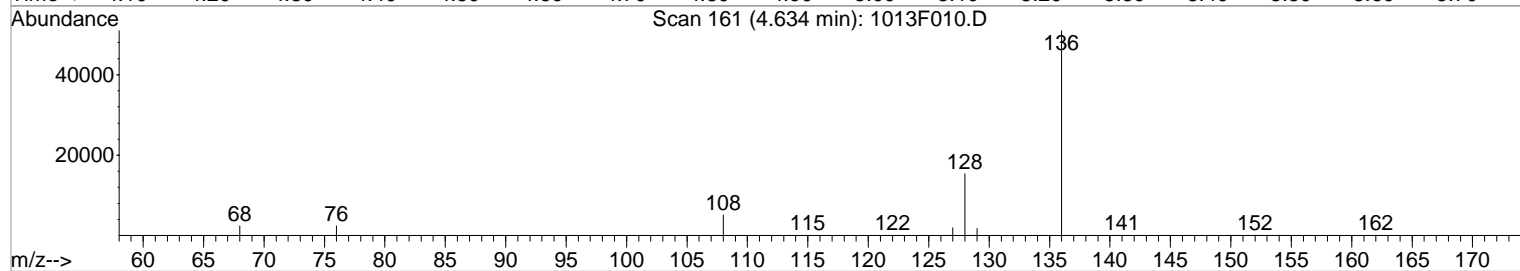
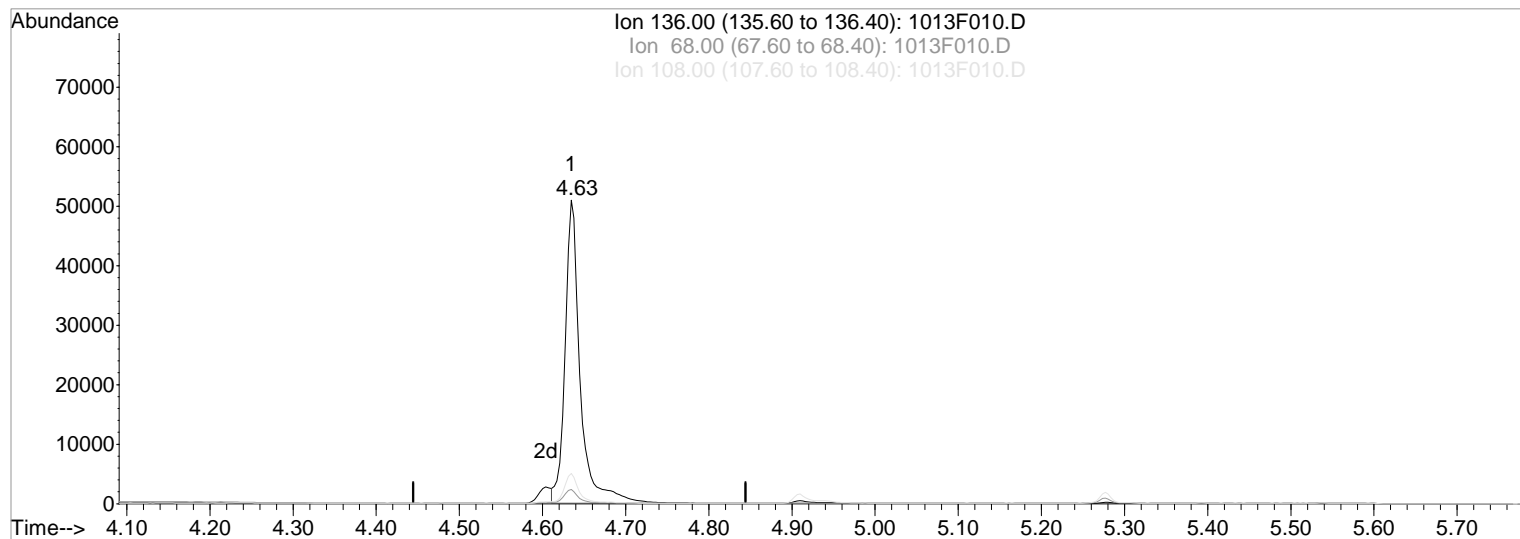
Vial: 10
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F010.D

(1) Naphthalene-d8 (I)

Manual Integration:

4.63min 200.00ng/ml

Before

response 64595

Ion	Exp%	Act%
136.00	100	100
68.00	5.10	4.55
108.00	8.80	9.87
0.00	0.00	0.00

10/13/20

Data File : J:\MS14\DATA\101320\1013F010.D
Acq On : 13 Oct 2020 10:57 am
Sample : SIM-PAH ICAL @1.0ug/mL SVM64-75H
Misc :

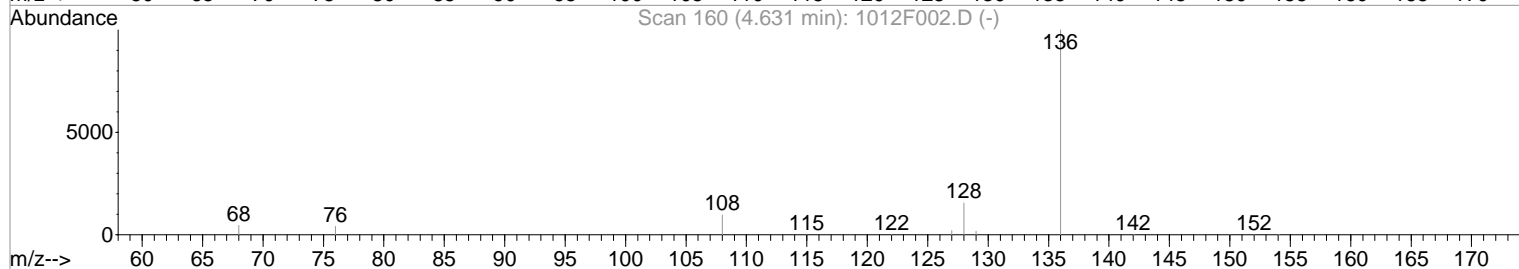
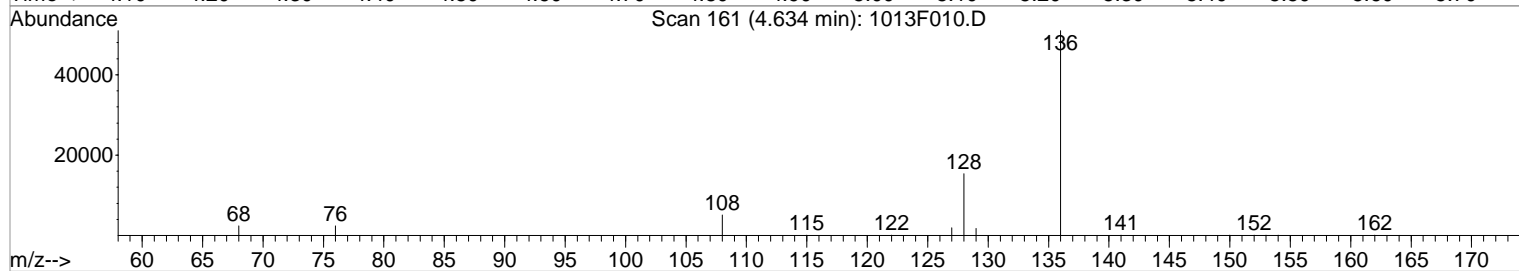
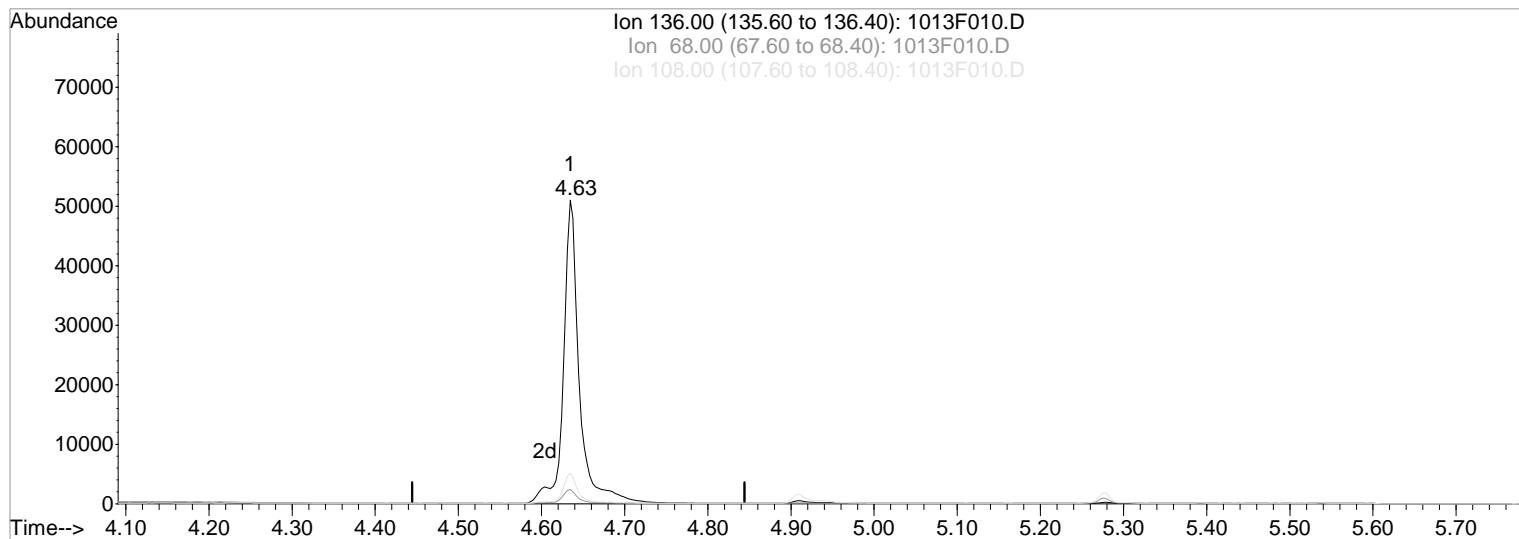
Vial: 10
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:45 2020

Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 06:00:48 2020
Response via : Multiple Level Calibration



TIC: 1013F010.D

(1) Naphthalene-d8 (I)

4.63min 200.00ng/ml m

response 68031

Ion	Exp%	Act%
136.00	100	100
68.00	5.10	4.73
108.00	8.80	9.99
0.00	0.00	0.00

Manual Integration:

After

IC-Incomplete

10/13/20

Data File : J:\MS14\DATA\101320\1013F011.D
 Acq On : 13 Oct 2020 11:22 am
 Sample : SIM-PAH ICAL @1.6ug/mL SVM64-75I
 Misc :

Vial: 11
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39:58 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	69347	200.00	ng/ml	-0.01
8) Acenaphthene-d10	6.21	164	32023	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.45	188	62808	200.00	ng/ml	0.00
23) Chrysene-d12	9.95	240	79260	200.00	ng/ml	-0.02
28) Perylene-d12	12.94	264	92713	200.00	ng/ml	-0.06
System Monitoring Compounds						
3) 2-Methylnaphthalene-d10	5.28	152	282097	1441.06	ng/ml	-0.01
Spiked Amount 1000.000			Recovery	=	144.11%	
13) Fluorene-d10	6.65	176	292925	1554.91	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	155.49%	
22) Fluoranthene-d10	8.45	212	615265	1853.77	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	185.38%	
25) Terphenyl-d14	8.79	244	551494	1657.48	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	165.75%	
Target Compounds						
2) Naphthalene	4.65	128	531153	1455.93	ng/ml	Qvalue 100
4) 2-Methylnaphthalene	5.31	142	328165	1363.75	ng/ml	97
5) 1-Methylnaphthalene	5.40	142	310444	1394.16	ng/ml	97
6) Biphenyl	5.72	154	406178	1391.71	ng/ml	99
7) 2,6-Dimethylnaphthalene	5.86	156	305595	1447.70	ng/ml	99
9) Acenaphthylene	6.09	152	499565	1557.67	ng/ml	99
10) Acenaphthene	6.24	154	307038	1538.78	ng/ml	97
11) Dibenzofuran	6.39	168	482501	1667.25	ng/ml	73
12) 2,3,5-Trimethylnaphthalene	6.57	170	302344	1580.35	ng/ml	89
14) Fluorene	6.68	166	350861	1544.22	ng/ml	98
16) Dibenzothiophene	7.37	184	525706	1538.03	ng/ml	90
17) Phenanthrene	7.47	178	527067	1505.61	ng/ml	99
18) Anthracene	7.52	178	508562	1561.41	ng/ml	99
19) Carbazole	7.66	167	515512	1665.74	ng/ml	100
20) 1-Methylphenanthrene	7.99	192	434027	1705.44	ng/ml	100
21) Fluoranthene	8.46	202	669949	1744.07	ng/ml	99
24) Pyrene	8.65	202	753732	1696.28	ng/ml	97
26) Benz(a)anthracene	9.94	228	779187	1625.99	ng/ml	99
27) Chrysene	9.99	228	725539	1566.12	ng/ml	99
29) Benzo(b)fluoranthene	11.94	252	886659	1638.64	ng/ml	99
30) Benzo(k)fluoranthene	12.01	252	854239	1588.54	ng/ml	99
31) Benzo(e)pyrene	12.64	252	823044	1582.45	ng/ml	99
32) Benzo(a)pyrene	12.79	252	811312	1773.52	ng/ml	99
33) Perylene	13.03	252	802114	1671.77	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.30	276	793772	1896.37	ng/ml	98
35) Dibenz(a,h)anthracene	15.34	278	860786	1757.14	ng/ml	98
36) Benzo(g,h,i)perylene	15.68	276	849745	1616.13	ng/ml	98

Data File : J:\MS14\DATA\101320\1013F011.D
Acq On : 13 Oct 2020 11:22 am
Sample : SIM-PAH ICAL @1.6ug/mL SVM64-75I
Misc :

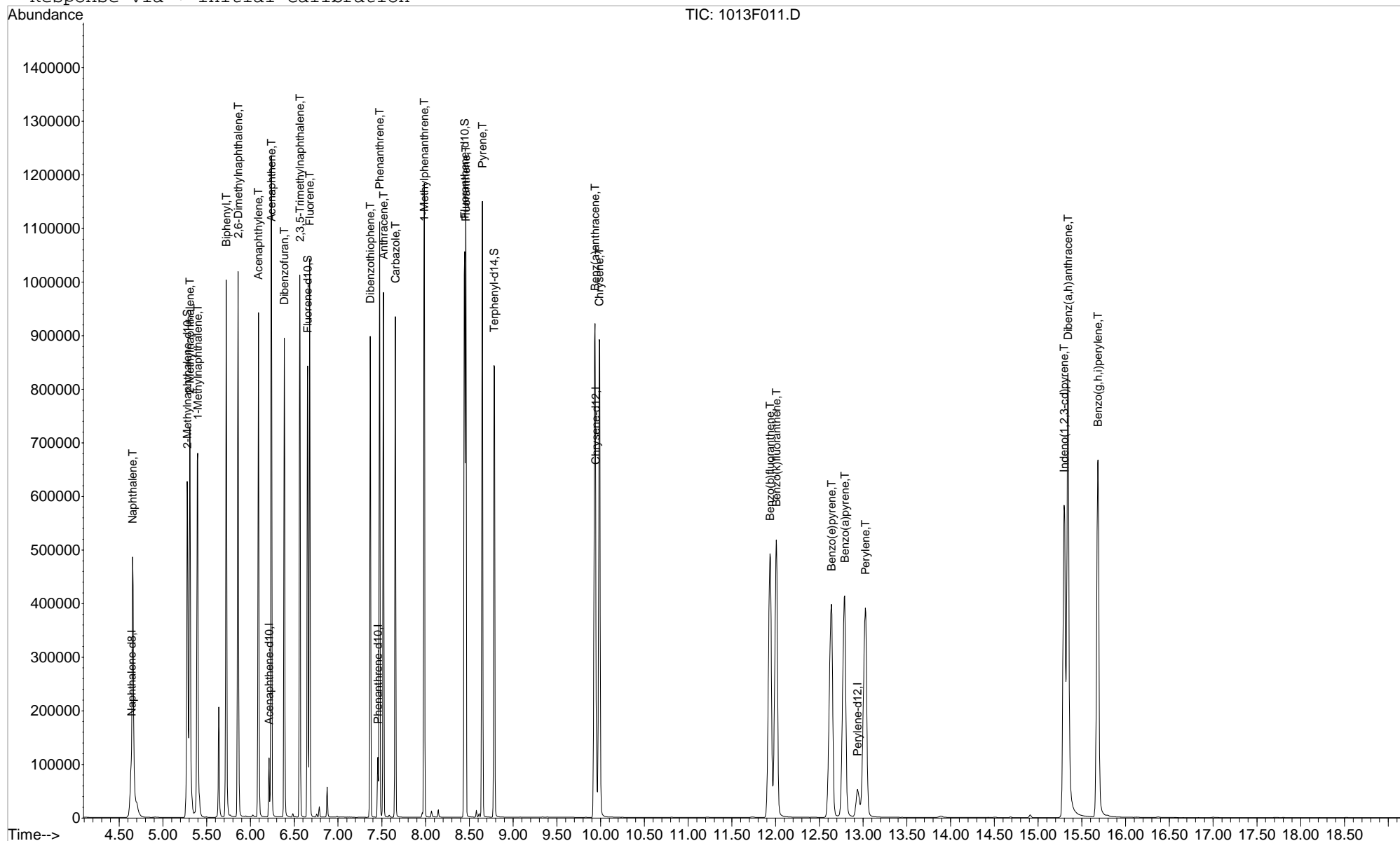
Vial: 11
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:39 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 12:48:30 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\101320\1013F012.D
 Acq On : 13 Oct 2020 11:48 am
 Sample : SIM-PAH ICAL @2.0ug/mL SVM64-75J
 Misc :

Vial: 12
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P
 Quant Time: Oct 13 12:39:59 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 06:00:48 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	64907	200.00	ng/ml	-0.01
8) Acenaphthene-d10	6.21	164	30067	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.45	188	59254	200.00	ng/ml	0.00
23) Chrysene-d12	9.95	240	76528	200.00	ng/ml	-0.02
28) Perylene-d12	12.94	264	88889	200.00	ng/ml	-0.05
System Monitoring Compounds						
3) 2-Methylnaphthalene-d10	5.28	152	322575	1760.55	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	176.06%	
13) Fluorene-d10	6.65	176	336464	1902.22	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	190.22%	
22) Fluoranthene-d10	8.45	212	723802	2311.59	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	231.16%	
25) Terphenyl-d14	8.79	244	651364	2027.52	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	202.75%	
Target Compounds						
2) Naphthalene	4.65	128	606889	1777.32	ng/ml	Qvalue 100
4) 2-Methylnaphthalene	5.31	142	376034	1669.57	ng/ml	97
5) 1-Methylnaphthalene	5.40	142	356718	1711.55	ng/ml	97
6) Biphenyl	5.72	154	466859	1709.04	ng/ml	98
7) 2,6-Dimethylnaphthalene	5.86	156	349109	1766.98	ng/ml	97
9) Acenaphthylene	6.09	152	577799	1918.81	ng/ml	99
10) Acenaphthene	6.24	154	354709	1893.34	ng/ml	96
11) Dibenzofuran	6.39	168	552237	2032.35	ng/ml	70
12) 2,3,5-Trimethylnaphthalene	6.56	170	345103	1921.20	ng/ml	97
14) Fluorene	6.68	166	401625	1882.64	ng/ml	98
16) Dibenzothiophene	7.37	184	601760	1866.13	ng/ml	91
17) Phenanthrene	7.47	178	606113	1835.26	ng/ml	99
18) Anthracene	7.52	178	583629	1899.36	ng/ml	99
19) Carbazole	7.66	167	597836	2047.61	ng/ml	99
20) 1-Methylphenanthrene	7.99	192	507080	2112.00	ng/ml	100
21) Fluoranthene	8.46	202	776178	2141.81	ng/ml	99
24) Pyrene	8.65	202	888068	2069.95	ng/ml	96
26) Benz(a)anthracene	9.94	228	910398	1967.62	ng/ml	98
27) Chrysene	9.99	228	852199	1905.19	ng/ml	99
29) Benzo(b)fluoranthene	11.94	252	1039412	2003.58	ng/ml	99
30) Benzo(k)fluoranthene	12.01	252	995976	1931.79	ng/ml	98
31) Benzo(e)pyrene	12.64	252	958451	1922.07	ng/ml	99
32) Benzo(a)pyrene	12.79	252	944743	2154.05	ng/ml	99
33) Perylene	13.03	252	937351	2037.67	ng/ml	99
34) Indeno(1,2,3-cd)pyrene	15.30	276	910259	2268.22	ng/ml	97
35) Dibenz(a,h)anthracene	15.34	278	993358	2114.99	ng/ml	98
36) Benzo(g,h,i)perylene	15.69	276	1001504	1986.70	ng/ml	98

Data File : J:\MS14\DATA\101320\1013F012.D
Acq On : 13 Oct 2020 11:48 am
Sample : SIM-PAH ICAL @2.0ug/mL SVM64-75J
Misc :

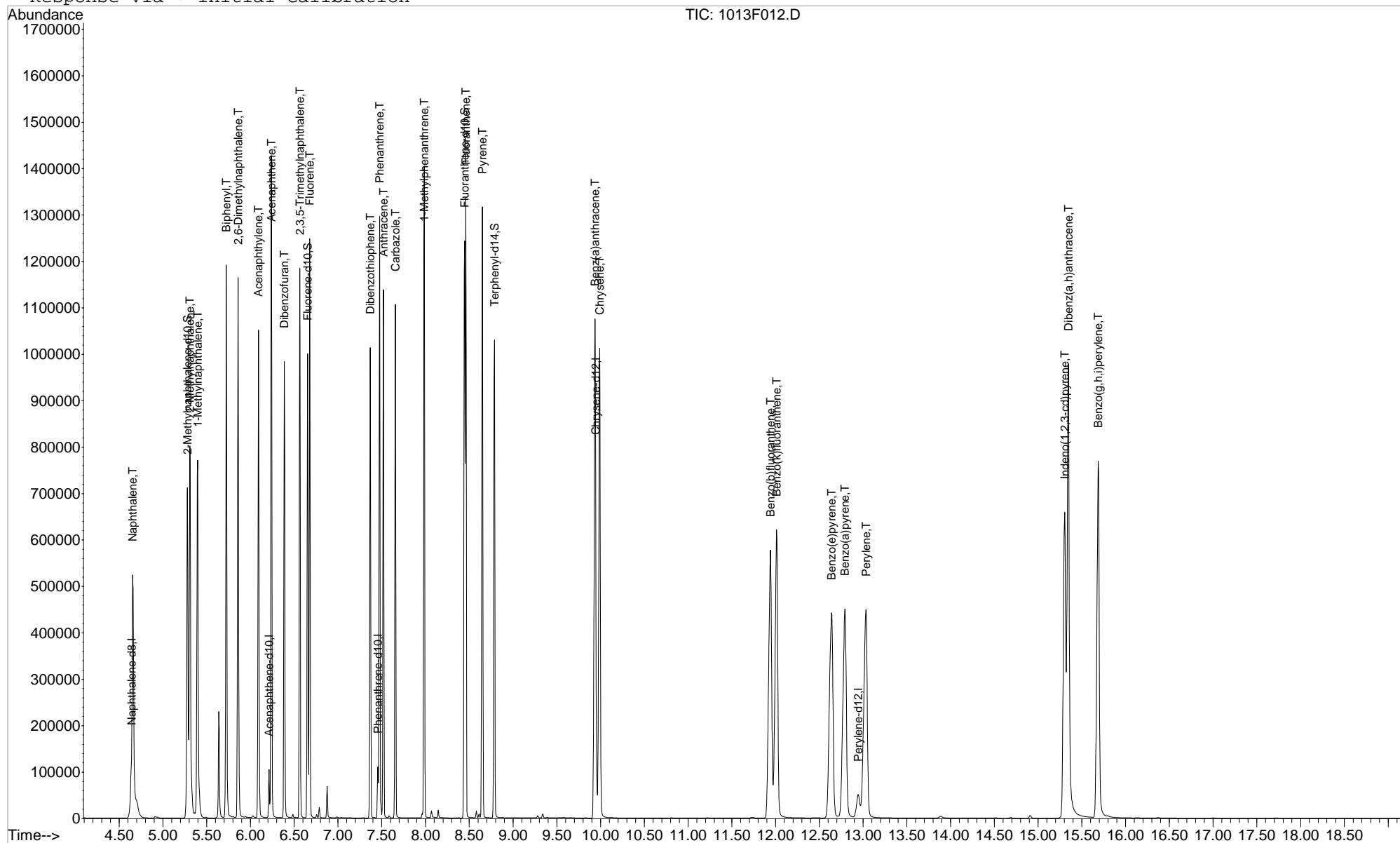
Vial: 12
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 13 12:40 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 12:48:30 2020
Response via : Initial Calibration



Data File : J:\MS14\DATA\101320\1013F013.D

Vial: 1

Acq On : 13 Oct 2020 12:15 pm

Operator: LWeiskopf

Sample : DFTPP @ 10ug/mL SVM64-79B

Inst : MS14

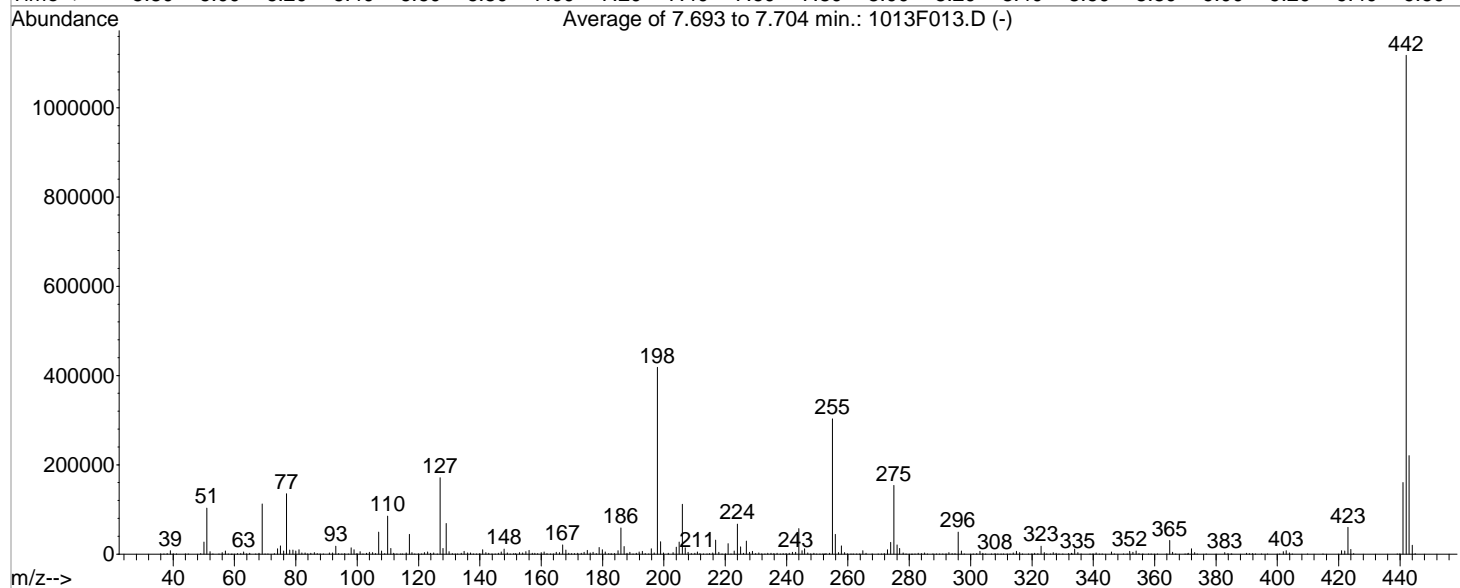
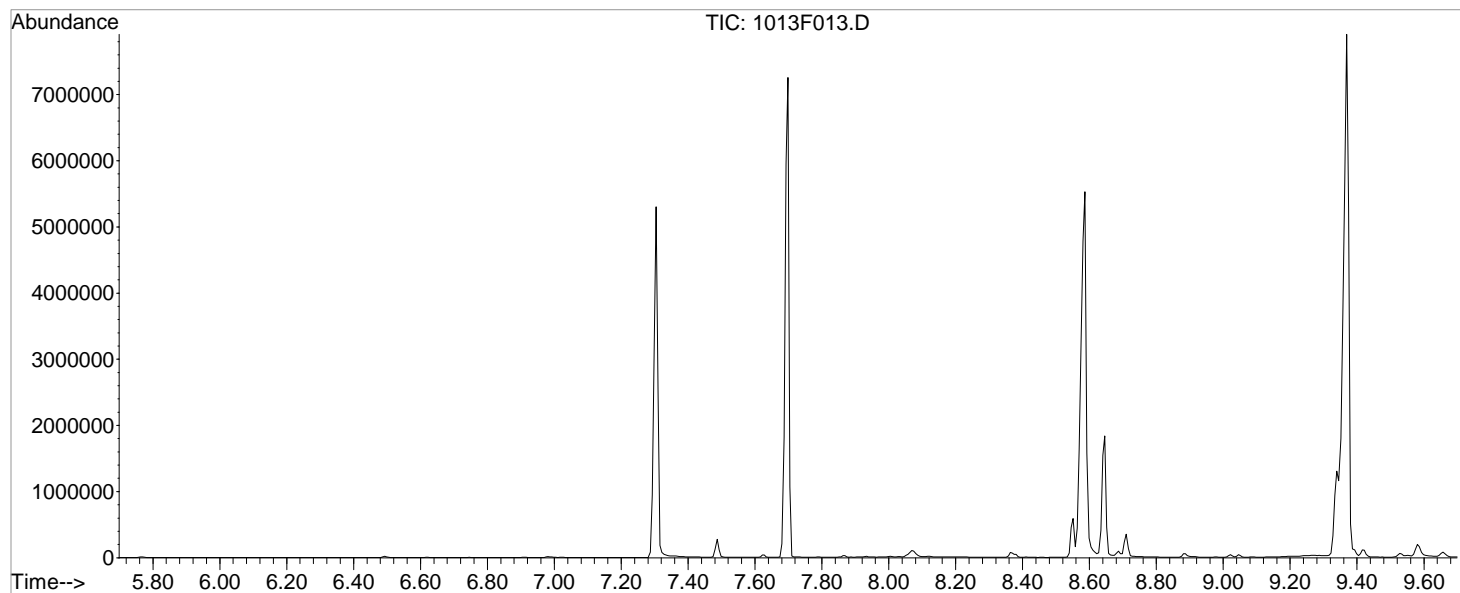
Misc :

Multiplr: 1.00

MS Integration Params: rteint.p

Method : J:\MS14\METHODS\SIM\A_DFTPP.M (RTE Integrator)

Title : dftpp tune mix



AutoFind: Scans 613, 614, 615; Background Corrected with Scan 607

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	24.6	102983	PASS
68	69	0.00	2	1.9	2139	PASS
69	198	0.00	100	26.9	112569	PASS
70	69	0.00	2	0.6	649	PASS
127	198	10	80	40.8	170948	PASS
197	198	0.00	2	0.5	2241	PASS
198	442	30	100	37.5	418509	PASS
199	198	5	9	6.7	27850	PASS
275	198	10	60	36.7	153640	PASS
365	442	1	50	2.7	30475	PASS
441	443	0.01	100	72.8	160296	PASS
442	442	30	100	100.0	1117226	PASS
443	442	15	24	19.7	220336	PASS

Average of 7.693 to 7.704 min.: 1013F013.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	146	52.00	5341	64.95	1996	78.00	8806
37.05	507	53.00	281	66.90	70	79.00	9231
38.05	1306	55.00	421	67.95	2139	80.00	7032
39.10	7362	56.00	2996	69.00	112569	81.00	9768
40.00	390	57.00	7020	70.00	649	82.00	2468
41.05	376	58.00	244	70.95	150	83.00	2377
43.95	89	58.90	56	73.00	953	83.85	118
44.95	169	60.95	1145	74.00	11742	84.90	1697
49.00	816	62.00	1459	75.00	18100	86.00	3308
50.05	27123	63.00	4431	76.05	6647	87.00	1257
50.95	102983	63.90	586	77.00	135292	87.95	437

Average of 7.693 to 7.704 min.: 1013F013.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
88.95	217	100.95	5575	111.95	1582	122.95	4998
90.95	2323	101.90	290	113.00	559	123.90	2102
91.95	2674	103.00	1792	114.20	123	124.95	2269
93.00	17352	104.00	3984	114.85	169	126.05	699
94.00	1202	105.00	3597	116.00	2745	127.00	170948
95.00	334	106.00	1070	117.00	44275	128.00	12557
96.00	774	107.00	49156	117.90	3002	129.00	68726
97.10	223	108.00	7113	118.85	346	129.95	5718
98.00	13742	109.00	1427	119.95	625	131.00	1272
99.00	9503	109.95	84893	120.95	285	131.95	637
99.90	851	111.00	12855	121.95	3416	132.80	260

Average of 7.693 to 7.704 min.: 1013F013.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
133.95	2084	145.00	567	156.00	8046	166.95	20546
134.90	5813	146.00	1930	157.05	1675	168.00	9117
136.00	2290	147.00	4823	157.90	1667	169.00	1561
137.00	2883	147.90	11204	158.90	1400	169.95	770
137.85	700	148.90	2185	160.00	3079	170.90	816
138.95	394	149.90	559	160.95	4470	171.95	1669
140.00	865	151.00	1145	161.90	1460	173.00	2158
140.95	9399	151.70	799	163.00	326	173.95	4243
141.95	3004	152.90	3079	163.95	469	175.00	7949
142.95	2074	153.95	2377	164.90	3845	176.00	2189
143.90	573	154.95	5085	165.95	3086	176.90	3687

Average of 7.693 to 7.704 min.: 1013F013.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
177.95	1210	187.95	1627	198.90	27850	210.95	4476
178.90	14667	188.90	3724	199.90	2300	211.75	942
179.90	9919	189.95	637	201.40	1890	212.90	348
180.90	4476	190.95	1578	202.95	3128	214.00	72
182.00	776	191.90	4755	204.00	15465	214.90	1363
182.80	216	193.00	5813	204.95	26580	215.90	2350
183.00	192	193.95	1104	206.00	111442	216.90	31568
183.90	1295	195.05	588	206.95	13992	217.95	4016
185.00	7665	195.95	12048	207.90	3731	218.95	436
186.00	58567	196.80	2241	208.90	1089	220.10	250
187.00	17013	197.90	418509	210.10	1756	220.95	23068

Average of 7.693 to 7.704 min.: 1013F013.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
221.90	164	232.90	526	244.00	56831	254.00	1776
222.90	7216	233.90	1968	245.00	7434	254.90	303170
224.00	66834	234.90	2000	245.90	11722	255.90	43856
225.00	16216	235.90	1443	246.90	2220	256.90	3243
225.95	1827	236.90	2075	247.90	589	257.90	18033
226.90	29393	237.95	298	248.90	2084	258.90	3013
227.90	4069	238.90	1270	249.85	342	259.90	523
228.90	5808	239.85	1044	250.85	449	260.95	448
229.95	1016	240.90	1703	251.85	512	261.70	66
230.95	2697	241.95	3754	252.20	50	262.85	187
231.90	425	243.00	3823	252.90	1175	263.85	648

Average of 7.693 to 7.704 min.: 1013F013.D

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
264.90	7451	278.00	2197	290.90	258	303.95	1543
265.90	1495	278.95	494	292.00	673	304.90	189
267.90	110	280.70	52	292.90	3231	306.80	64
269.90	392	281.85	277	293.95	861	307.90	779
270.90	639	282.90	1603	294.95	881	308.90	480
271.85	860	283.90	1068	295.90	49260	309.90	682
272.90	10045	285.00	2550	296.95	6724	310.80	80
273.90	26514	285.90	420	297.95	497	311.90	225
274.95	153640	287.75	160	300.90	655	312.90	397
276.00	20597	288.85	583	301.95	773	313.90	2711
276.90	12963	289.95	444	303.00	5825	314.90	6070

Average of 7.693 to 7.704 min.: 1013F013.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
315.95	3511	327.90	1738	340.95	2216	355.90	59
316.90	563	328.80	366	341.95	665	358.00	69
318.90	65	330.10	66	342.90	65	358.90	460
319.90	214	331.90	1336	345.90	4445	360.90	108
320.90	1609	332.90	1873	346.90	641	363.95	228
321.95	854	333.10	160	349.85	210	364.90	30475
323.00	17904	333.95	11401	351.00	394	365.90	4036
324.00	3421	334.95	3031	351.90	6471	366.90	285
324.90	317	336.00	338	352.95	4343	369.90	693
325.95	355	338.90	236	354.00	6614	370.70	159
326.90	3418	339.85	247	354.90	1332	370.95	1540

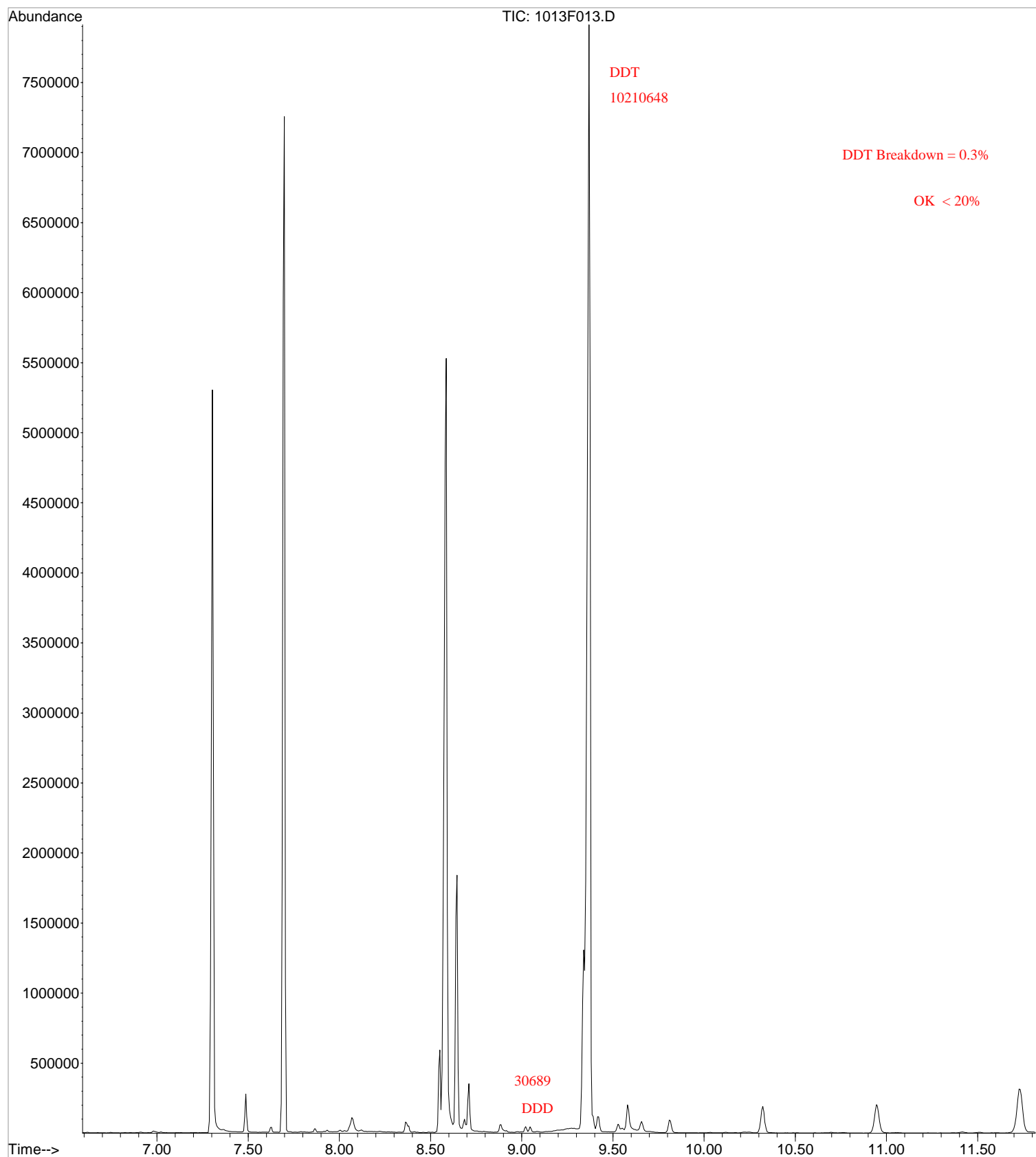
Average of 7.693 to 7.704 min.: 1013F013.D

DFTPP @ 10ug/mL SVM64-79B

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
372.00	11696	392.90	115	421.95	6732		
373.00	3034	394.90	75	423.00	59613		
373.85	259	396.80	97	423.95	10574		
376.85	257	400.85	745	424.95	1032		
382.90	3370	401.90	5659	439.10	67		
383.90	920	402.90	7935	439.90	161		
384.90	243	403.95	2822	441.00	160296		
385.10	65	404.85	460	442.00	1117226		
389.90	1617	409.85	212	443.00	220336		
390.90	1260	414.85	345	444.00	19781		
391.95	919	420.95	7243	444.95	1105		

File : J:\MS14\DATA\101320\1013F013.D
Operator : LWeiskopf
Acquired : 13 Oct 2020 12:15 pm using AcqMethod SIMLOC
Instrument : MS14
Sample Name: DFTPP @ 10ug/mL SVM64-79B
Misc Info :
Vial Number: 1



Data File : J:\MS14\DATA\101320\1013F013.D

Vial: 1

Acq On : 13 Oct 2020 12:15 pm

Operator: LWeiskopf

Sample : DFTPP @ 10ug/mL SVM64-79B

Inst : MS14

Misc :

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Oct 13 12:35 2020

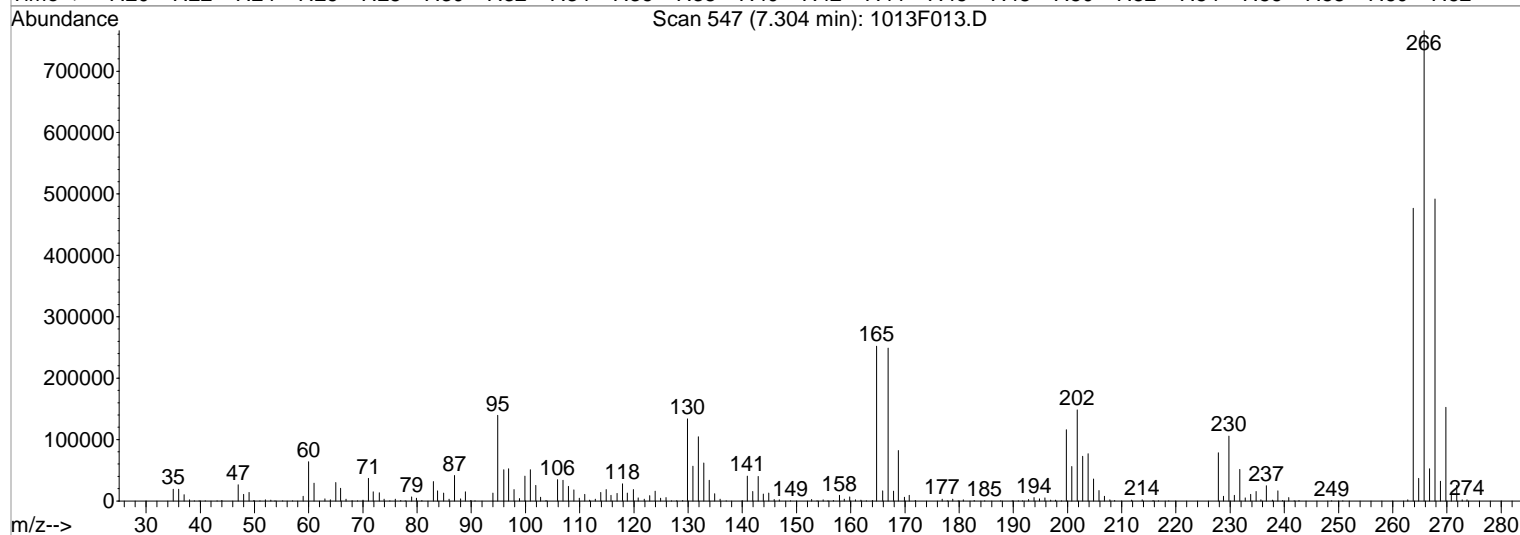
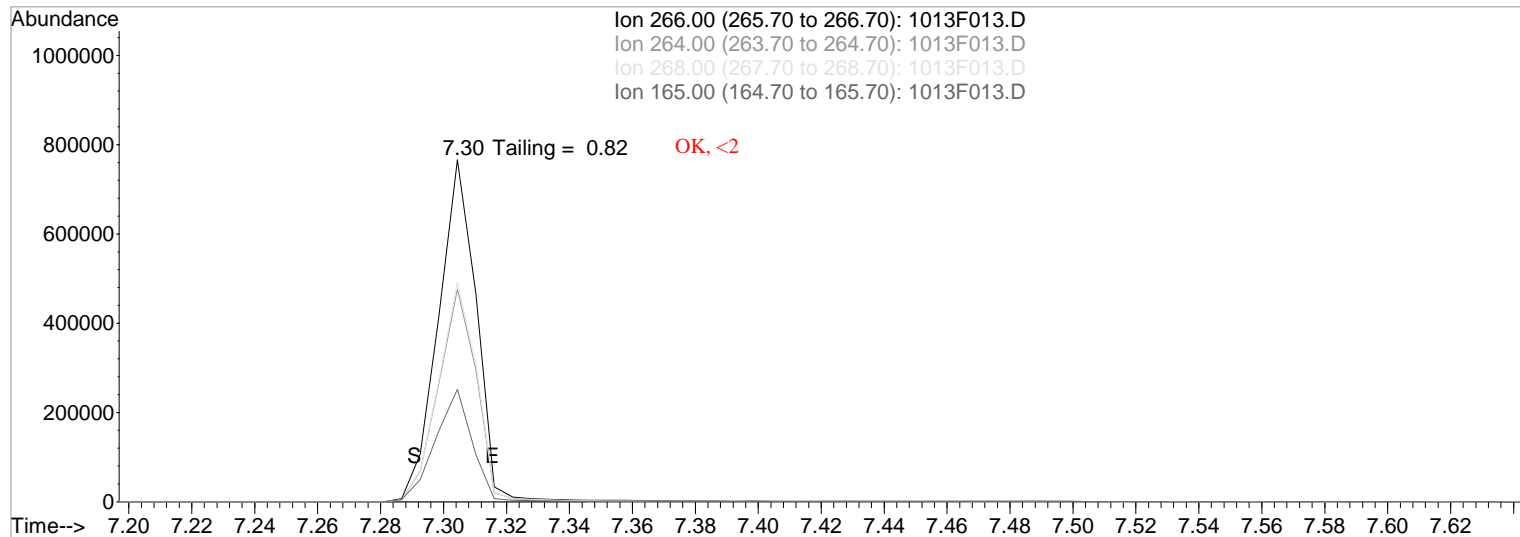
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\A_DFTPP.M (RTE Integrator)

Title : dftpp tune mix

Last Update : Thu Mar 26 08:43:52 2020

Response via : Single Level Calibration



TIC: 1013F013.D

(1) Pentachlorophenol

8.44min 0.00ng/ml

response 0

Ion	Exp%	Act%
266.00	100	0.00
264.00	62.30	0.00#
268.00	72.30	0.00#
165.00	42.00	0.00#

Data File : J:\MS14\DATA\101320\1013F013.D

Vial: 1

Acq On : 13 Oct 2020 12:15 pm

Operator: LWeiskopf

Sample : DFTPP @ 10ug/mL SVM64-79B

Inst : MS14

Misc :

Multiplr: 1.00

MS Integration Params: rteint.p

Quant Time: Oct 13 12:35 2020

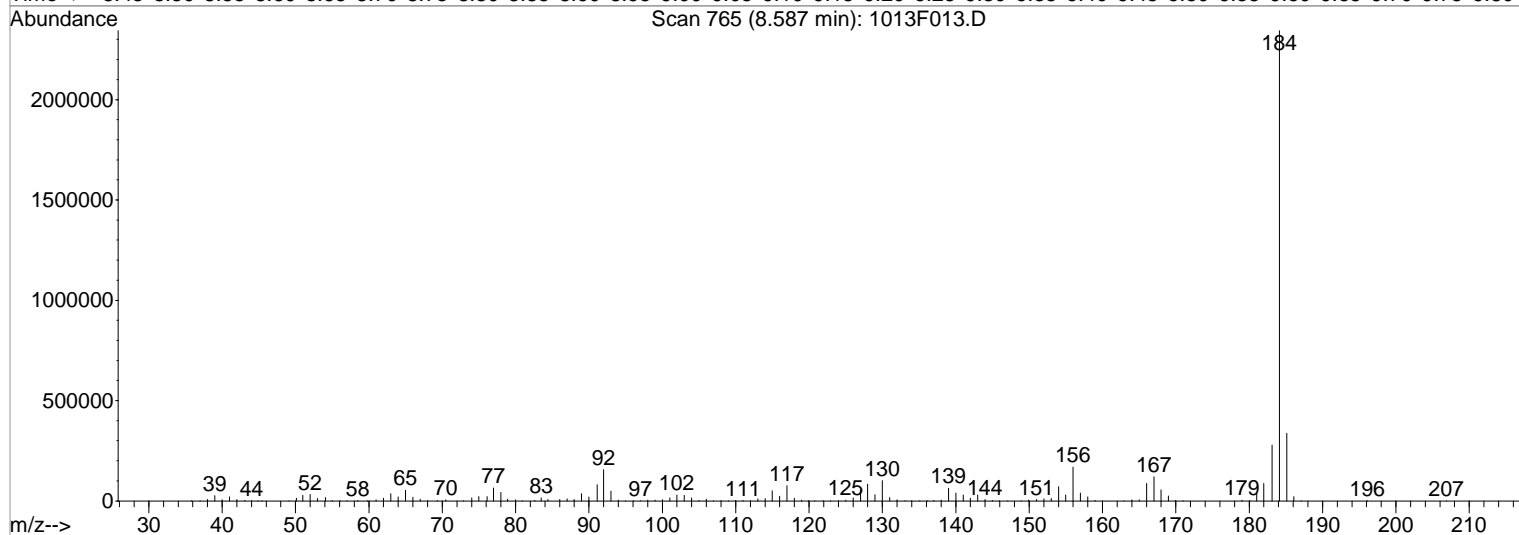
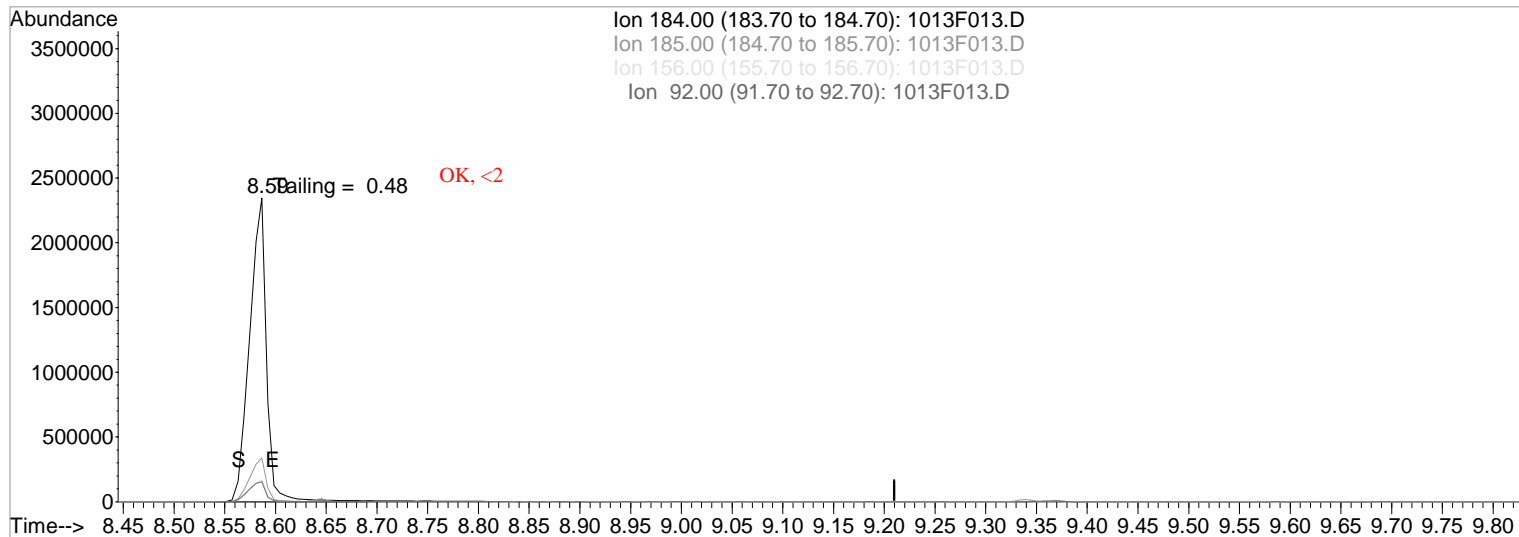
Quant Results File: temp.res

Method : J:\MS14\METHODS\SIM\A_DFTPP.M (RTE Integrator)

Title : dftpp tune mix

Last Update : Thu Mar 26 08:43:52 2020

Response via : Single Level Calibration



TIC: 1013F013.D

(3) Benzydine (T)

8.59min 47.47ug/ml

response 2736368

Ion	Exp%	Act%
184.00	100	100
185.00	0.00	14.42
156.00	0.00	7.20
92.00	6000.00	6.61#

Data File : J:\MS14\DATA\101320\1013F014.D
 Acq On : 13 Oct 2020 12:41 pm
 Sample : SIM-PAH ICV @0.4ug/mL SVM64-87M
 Misc :

Vial: 2
 Operator: LWeiskopf
 Inst : MS14
 Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 14 05:33:57 2020

Quant Results File: 101320PAH.RES

Quant Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)

Title : PAHS and ALKYLATED HOMOLOGS

Last Update : Tue Oct 13 12:48:30 2020

Response via : Initial Calibration

DataAcq Meth : A_PAHAT05

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Naphthalene-d8	4.63	136	63167	200.00	ng/ml	0.00
8) Acenaphthene-d10	6.21	164	30319	200.00	ng/ml	0.00
15) Phenanthrene-d10	7.45	188	60269	200.00	ng/ml	0.00
23) Chrysene-d12	9.94	240	79617	200.00	ng/ml	0.00
28) Perylene-d12	12.92	264	87293	200.00	ng/ml	-0.02

System Monitoring Compounds

3) 2-Methylnaphthalene-d10	5.28	152	71240	413.63	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	41.36%	
13) Fluorene-d10	6.65	176	75107	412.69	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	41.27%	
22) Fluoranthene-d10	8.44	212	151635	421.55	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	42.16%	
25) Terphenyl-d14	8.78	244	144437	403.51	ng/ml	0.00
Spiked Amount 1000.000			Recovery	=	40.35%	

Target Compounds

						Qvalue
2) Naphthalene	4.65	128	128633	401.96	ng/ml	100
4) 2-Methylnaphthalene	5.30	142	79219	378.20	ng/ml	100
5) 1-Methylnaphthalene	5.39	142	72235	370.76	ng/ml	99
6) Biphenyl	5.72	154	96873	380.85	ng/ml	98
7) 2,6-Dimethylnaphthalene	5.86	156	70760	378.68	ng/ml	93
9) Acenaphthylene	6.09	152	123428	407.22	ng/ml	99
10) Acenaphthene	6.24	154	71123	379.81	ng/ml	99
11) Dibenzofuran	6.39	168	108875	380.61	ng/ml	89
12) 2,3,5-Trimethylnaphthalene	6.56	170	68047	376.80	ng/ml	91
14) Fluorene	6.67	166	86096	402.19	ng/ml	99
16) Dibenzothiophene	7.37	184	120656	374.43	ng/ml	92
17) Phenanthrene	7.47	178	126711	377.57	ng/ml	99
18) Anthracene	7.52	178	126158	395.81	ng/ml	99
19) Carbazole	7.65	167	118398	380.25	ng/ml	99
20) 1-Methylphenanthrene	7.98	192	99065	383.20	ng/ml	99
21) Fluoranthene	8.46	202	160093	380.69	ng/ml	98
24) Pyrene	8.64	202	170405	351.09	ng/ml	97
26) Benz(a)anthracene	9.93	228	185817	371.62	ng/ml	99
27) Chrysene	9.98	228	171501	367.81	ng/ml	100
29) Benzo(b)fluoranthene	11.92	252	211628	401.05	ng/ml	99
30) Benzo(k)fluoranthene	11.98	252	203546	397.13	ng/ml	100
31) Benzo(e)pyrene	12.62	252	186270	376.75	ng/ml	100
32) Benzo(a)pyrene	12.76	252	193477	383.20	ng/ml	100
33) Perylene	13.00	252	182745	391.18	ng/ml	100
34) Indeno(1,2,3-cd)pyrene	15.28	276	210067	418.89	ng/ml	100
35) Dibenz(a,h)anthracene	15.32	278	200002	369.32	ng/ml	99
36) Benzo(g,h,i)perylene	15.66	276	205947	360.76	ng/ml	100

Data File : J:\MS14\DATA\101320\1013F014.D
Acq On : 13 Oct 2020 12:41 pm
Sample : SIM-PAH ICV @0.4ug/mL SVM64-87M
Misc :

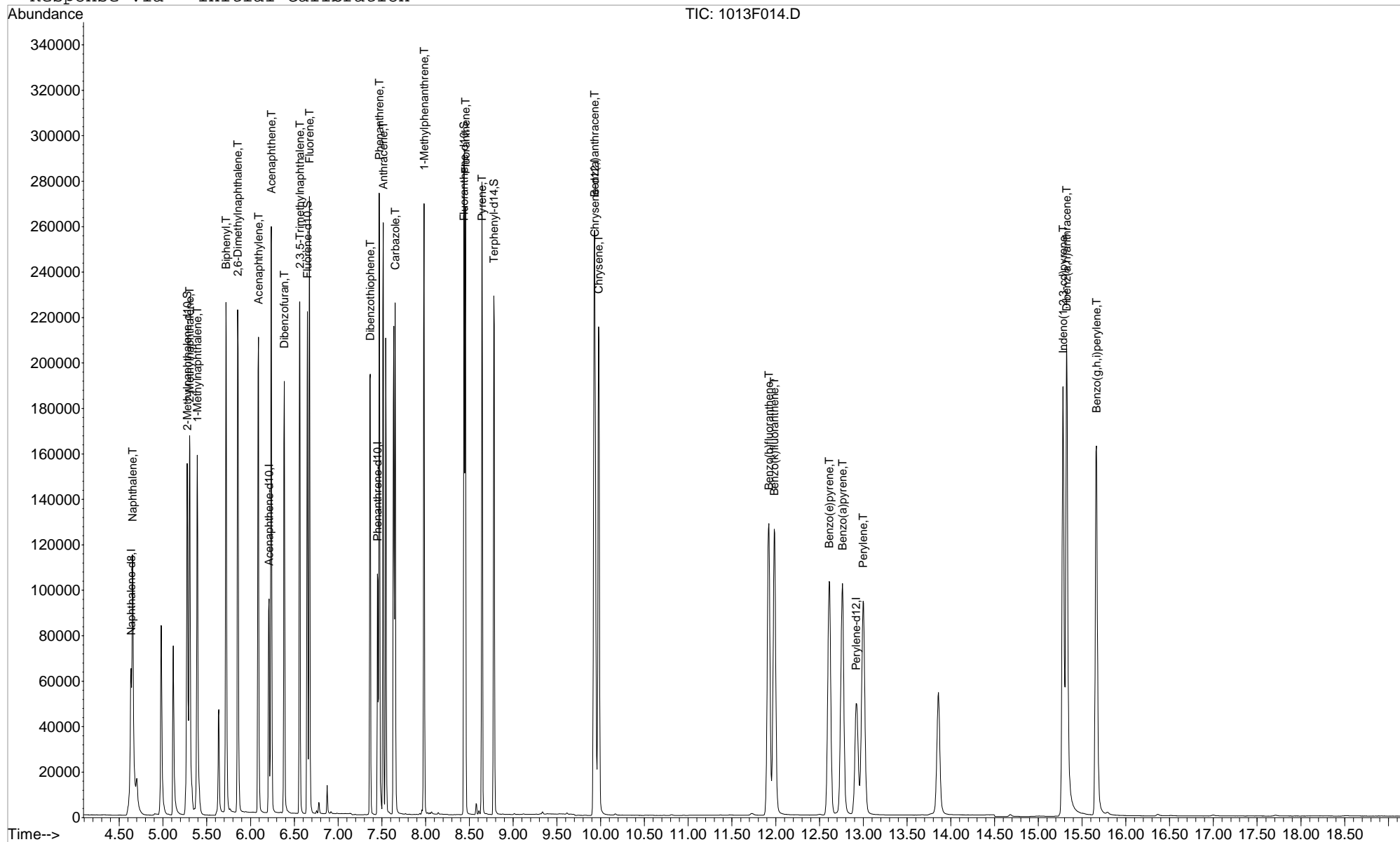
Vial: 2
Operator: LWeiskopf
Inst : MS14
Multiplr: 1.00

MS Integration Params: RTEINT.P

Quant Time: Oct 14 5:33 2020

Quant Results File: 101320PAH.RES

Method : J:\MS14\METHODS\SIM\101320PAH.M (RTE Integrator)
Title : PAHS and ALKYLATED HOMOLOGS
Last Update : Tue Oct 13 12:48:30 2020
Response via : Initial Calibration



Injection Log

Directory: J:\MS14\DATA\121720

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1217F001.D	1.	DFTPP @ 10ug/mL SVM64-93N		17 Dec 2020 06:47
2	2	1217F002.D	1.	SIM-PAH CCV @ 0.4ug/mL SVM65-21C		17 Dec 2020 07:13
3	2	1217F003.D	1.	PR		17 Dec 2020 07:47
4	1	1217F004.D	1.	DFTPP @ 10ug/mL SVM64-93N		17 Dec 2020 08:13
5	2	1217F005.D	1.	SIM-PAH CCV @ 0.4ug/mL SVM65-21C		17 Dec 2020 09:05
6	3	1217F006.D	1.	KQ2019826-09 MB		17 Dec 2020 09:34
7	4	1217F007.D	1.	KQ2020021-06 MB		17 Dec 2020 10:00
8	5	1217F008.D	1.	KQ2020021-01 LOD/LOQ		17 Dec 2020 10:26
9	6	1217F009.D	1.	KQ2020021-02 LOD/LOQ		17 Dec 2020 10:51
10	7	1217F010.D	1.	KQ2020021-03 LOD/LOQ		17 Dec 2020 11:18
11	8	1217F011.D	1.	KQ2020021-04 LOD/LOQ		17 Dec 2020 11:43
12	9	1217F012.D	1.	KQ2020021-05 LOD/LOQ		17 Dec 2020 12:09
13	10	1217F013.D	1.	K2011010-007		17 Dec 2020 12:35
14	11	1217F014.D	1.	K2011010-006		17 Dec 2020 13:01
15	12	1217F015.D	1.	KQ2020005-05 MB		17 Dec 2020 13:27
16	13	1217F016.D	1.	KQ2020005-01 LOD/LOQ		17 Dec 2020 13:52
17	14	1217F017.D	1.	KQ2020005-02 LOD/LOQ		17 Dec 2020 14:18
18	15	1217F018.D	1.	KQ2020005-03 LOD/LOQ		17 Dec 2020 14:44
19	16	1217F019.D	1.	KQ2020005-04 LOD/LOQ		17 Dec 2020 15:10
20	17	1217F020.D	1.	KQ2019826-07 LOQ		17 Dec 2020 15:36
21	18	1217F021.D	1.	KQ2019826-01 LOD		17 Dec 2020 16:02
22	19	1217F022.D	1.	KQ2019826-02 LOD		17 Dec 2020 16:28
23	20	1217F023.D	1.	KQ2019826-03 LOD		17 Dec 2020 16:54
24	21	1217F024.D	1.	KQ2019826-04 LOD		17 Dec 2020 17:20
25	22	1217F025.D	1.	KQ2019826-05 LOD		17 Dec 2020 17:45
26	23	1217F026.D	1.	KQ2019826-06 MB		17 Dec 2020 18:11
27	24	1217F027.D	1.	K2011232-001DIL 5X		17 Dec 2020 18:37
28	25	1217F028.D	1.	K2011232-001DIL 50X		17 Dec 2020 19:02
29	1	1217F029.D	1.	DFTPP @ 10ug/mL SVM64-93N		17 Dec 2020 19:28
30	2	1217F030.D	1.	SIM-PAH CCV @ 0.4ug/mL SVM65-21C		17 Dec 2020 19:53
31	26	1217F031.D	1.	KQ2019875-04 MB		17 Dec 2020 20:19
32	27	1217F032.D	1.	K2011426-001		17 Dec 2020 20:45
33	28	1217F033.D	1.	KQ2019875-02 LCS		17 Dec 2020 21:10
34	29	1217F034.D	1.	KQ2019875-03 DLCS		17 Dec 2020 21:36
35	30	1217F035.D	1.	K2011425-001MS		17 Dec 2020 22:02
36	31	1217F036.D	1.	K2011446-001		17 Dec 2020 22:28
37	32	1217F037.D	1.	K2011446-002		17 Dec 2020 22:54
38	33	1217F038.D	1.	K2011446-005		17 Dec 2020 23:20
39	34	1217F039.D	1.	K2011446-005MS		17 Dec 2020 23:46
40	35	1217F040.D	1.	K2011446-005DMS		18 Dec 2020 00:12
41	36	1217F041.D	1.	KQ2019929-03 LCS		18 Dec 2020 00:38
42	37	1217F042.D	1.	KQ2019929-04 MB		18 Dec 2020 01:04

*LIMS # 707 540
KC 2000 946
On 12/18/20

Injection Log

Directory: J:\MS14\DATA\121620

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1216F001.D	1.	DFTPP @ 10ug/mL SVM64-93N		16 Dec 2020 04:56
2	2	1216F002.D	1.	SIM-PAH CCV @ 0.4ug/mL SVM65-21C		16 Dec 2020 05:22
3	3	1216F003.D	1.	KQ2019678-04 MB		16 Dec 2020 05:49
4	4	1216F004.D	1.	KQ2019678-03 LCS		16 Dec 2020 06:15
5	5	1216F005.D	1.	K2011330-001MS		16 Dec 2020 06:41
6	6	1216F006.D	1.	K2011330-001DMS		16 Dec 2020 07:06
7	7	1216F007.D	1.	K2011330-001		16 Dec 2020 07:32
8	8	1216F008.D	1.	K2011330-005DIL 50X		16 Dec 2020 07:58
9	9	1216F009.D	1.	K2011330-006DIL 20X		16 Dec 2020 08:24
10	10	1216F010.D	1.	K2011330-007DIL 20X		16 Dec 2020 08:50
11	11	1216F011.D	1.	K2011330-010DIL 20X		16 Dec 2020 09:15
12	12	1216F012.D	1.	K2011330-002		16 Dec 2020 09:41
13	13	1216F013.D	1.	K2011330-003		16 Dec 2020 10:06
14	14	1216F014.D	1.	K2011330-004		16 Dec 2020 10:32
15	15	1216F015.D	1.	K2011330-008		16 Dec 2020 10:58
16	16	1216F016.D	1.	K2011330-009		16 Dec 2020 11:23
17	17	1216F017.D	1.	K2011327-005DIL 10X		16 Dec 2020 11:48
18	18	1216F018.D	1.	K2011327-010DIL 2X		16 Dec 2020 12:16
19	19	1216F019.D	1.	K2011327-017DIL 5X		16 Dec 2020 12:40
20	20	1216F020.D	1.	K2011327-002DIL 25X		16 Dec 2020 13:06
21	21	1216F021.D	1.	K2011327-003DIL 25X		16 Dec 2020 13:32
22	22	1216F022.D	1.	K2011327-006DIL 100X		16 Dec 2020 13:58
23	23	1216F023.D	1.	K2011327-007DIL 50X		16 Dec 2020 14:24
24	24	1216F024.D	1.	KQ2019825-04 LOQ		16 Dec 2020 14:49
25	25	1216F025.D	1.	KQ2019825-01 LOD		16 Dec 2020 15:15
26	26	1216F026.D	1.	KQ2019825-02 LOD		16 Dec 2020 15:40
27	27	1216F027.D	1.	KQ2019825-03 LOD		16 Dec 2020 16:06
28	28	1216F028.D	1.	KQ2019825-06 MB		16 Dec 2020 16:31
29	1	1216F029.D	1.	DFTPP @ 10ug/mL SVM64-93N		16 Dec 2020 16:56
30	2	1216F030.D	1.	SIM-PAH CCV @ 0.4ug/mL SVM65-21C		16 Dec 2020 17:20
31	29	1216F031.D	1.	KQ2019875-04 MB <i>MB</i>		16 Dec 2020 17:46
32	34	1216F036.D	1.	K2011330-010DIL 200X		16 Dec 2020 19:47
33	41	1216F043.D	1.	KQ2019722-04 MB		16 Dec 2020 22:36
34	42	1216F044.D	1.	KQ2019722-03 LCS		16 Dec 2020 23:00
35	43	1216F045.D	1.	KQ2019722-01 K2011446-004MS		16 Dec 2020 23:24
36	44	1216F046.D	1.	KQ2019722-02 K2011446-004DMS		16 Dec 2020 23:48
37	45	1216F047.D	1.	K2011446-004		17 Dec 2020 00:13
38	5	1216F100.D	1.	PR <i>PR</i>		17 Dec 2020 06:20

* Lims # 707391
 KC 2000 546
 On 12/17/20 9/12/17/20

MS14

Prepared by: Lapiskoj

Solvent Lot #: DV 723

[illegible]

9/4/76

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